AD-A166 282

DNA-TR-85-52

AD-A166 282

NUCLEAR WEAPON EFFECT RESEARCH AT PSR—1983

Acute Radiation Effects on Individual Crewmember Performance

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31 August 1984

20000801160

Technical Report

CONTRACT No. DNA 001-83-C-0015

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AD-A166 282

Nuclear Weapon Effect Research at PSR-1983. [redacted]
Acute Radiation Effects on Individual Crewmember Performance

Pacific-Sierra Research Corporation
Los Angeles, CA

31 Aug 84

18. SUBJECT TERMS (Continued).

Questionnaires; Tanks (combat vehicles); Statistical Analysis; Nuclear Radiation.

19. ABSTRACT (Continued). Keywords: → FCD 8

between dose/time and the task performance estimates provided by supervisors of combat crews.

We focus on soldiers representing four different crews, from the artillery (both gun and fire direction center crews), armor, and antiarmor, because their operations include the prospect of decisive encounters where one of the combatant crews will probably be put out of action. The crews are small, with three or four members, and the encounters are usually brief, typically lasting between 30 and 90 sec, so crew missions, operational scenarios, and crewmembers' tasks can be readily modeled.

Performance data from questionnaires administered to 161 senior noncommissioned officers from the combat crews were evaluated. Twenty-four respondents were excluded because of either lack of experience, background, self-disqualification, or missing questionnaires. Another 21 were rejected because of noncompliance with instructions or unreasonable response patterns, leaving a total of 116, or 73 percent.

A linear regression analysis is performed on respondent data to obtain the parameters for predicting performance of each of the 15 crewmember positions. The logit form is used to model the response data, so as to guarantee that all predicted performance values, including the upper and lower confidence limits, lie within the interval (0, 1), as consistent with the dependent variable (performance) input data.

Performance predictions are mapped onto the dose/time plane with specified boundary conditions by applying numerical techniques to a framework of symptom complexes. Three-dimensional representations of performance as a function of dose and time are developed for 15 crewmember positions by applying a "french curve" algorithm to translate performance data input on a grid of 18 dose by 39 time points into a smooth surface. A similar numerical procedure was used to generate isoperformance contour plots that are 10 percent incremental coplanar projections of the performance surface onto the dose/time plane.

Computed performance, given in both graphic and tabular form, is consistent with the acute symptomatology from medical observations. Also, despite the subjective basis of the performance estimates correlated with dose and time, the computed results represent reasonable expectations. Physically demanding tasks are associated with greater performance degradation; crewmembers with similar tasks across crews indicate correlated degradation when grouped. Since we find it difficult to stipulate a sound comprehensive measure of uncertainty in the results we present, the results should be applied with caution.

N O T I C E

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SUMMARY

In this report, quantitative estimates of the performance levels of individual combat crewmembers exposed to prompt ionizing radiation are developed. The data described here are designed to help plan military field operations and training for combat crews in a nuclear weapon environment. The estimates of crewmember performance are expressed graphically and tabulated in terms of two critical values: radiation dose (free-in-air), and time following exposure. Performance estimates are provided for each of the 15 different types of crewmembers selected to represent typical short-term (from 0.5 to 1.5 min) battlefield engagement scenarios for a small combat crew (three to four members). The crewmembers selected for study are from the following four groups: (1) field artillery gun crews, (2) field artillery fire direction center (FDC) crews, (3) tank crews, and (4) antitank guided missile (improved TOW vehicle) crews.

The quantitative estimates of degraded performance are based on two bodies of information developed for the Intermediate Dose Program (IDP). The first comes from the comprehensive symptomatology review of human irradiation experience, and the second comes from the U.S. Army combat crew questionnaires. Symptom descriptions quantified in terms of five levels of severity, and the formation of symptom complexes based on the symptomatology investigation, made it possible to obtain performance judgments from the questionnaires administered to army personnel.

Performance data, derived from the army crew supervisors who were asked to judge how typical crewmembers might be able to perform if they had acute radiation symptoms described to them, are correlated with dose and time. Questionnaire responses are evaluated to improve the quality of the data base used for the regression analyses to develop smoothed, expanded, and consistent performance input data used for mapping the dose-time domain provided by a framework of symptom complexes.

Numerical procedures are applied in order to map and generate the three-dimensional performance surfaces and contour plots as a function of dose and time. Since data available from the symptomatology

investigations are not sufficient to allow uncertainties to be succinctly specified, and the performance levels are developed for particular types of combat crewmembers and scenarios, application of the results obtained is recommended with caution.

PREFACE

This report was prepared as one volume of a set comprising the Pacific-Sierra Research Corporation (PSR) final report for the Defense Nuclear Agency (DNA) under contract DNA001-83-C-0015. The work done under this contract spans a wide range of nuclear weapon effects research covering intermediate-dose radiation, cratering, fire research, analytical models, underground testing, instrumentation, and microwave energy.

This volume reports on material provided for the DNA Intermediate Dose Program (IDP) to assess the effects of nuclear weapon radiation on military troop performance. It also represents one of a series of volumes comprising the DNA IDP report.

Quantitative estimates of combat troop performance are developed, using information and data from other IDP investigations. Along with the IDP Core Group, DNA staff members David L. Auton and Robert W. Young of Science and Technology, Biomedical Effects (STBE) guided this effort. The authors acknowledge the valuable assistance provided by G. Hall, who performed the statistical data analysis and authored Appendix F, "Performance Data Regression Modeling"; and Elizabeth M. Niccum for providing special computer programming assistance in analyzing the questionnaires.

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SECTION 1

INTRODUCTION

This report describes the development of dose/time performance profiles for individual crewmembers exposed to the initial prompt ionizing radiation from a nuclear weapon burst. The individual performance profiles are an integral part of the Defense Nuclear Agency (DNA) Intermediate Dose Program (IDP), whose objective is to estimate the effect of prompt radiation on the battlefield performance of combat crews and units.

Crewmembers representing four different crews were specifically selected for study, because their operations include the prospect of decisive encounters with the enemy. The term "decisive" means that one of the combatant crews will probably be put out of action as a consequence of the encounter. The crews are small, with three or four members, and the encounters are usually brief, typically lasting between 30 and 90 sec. Accordingly, the crew missions, operational scenarios, and members' tasks can be readily modeled. The four crews studied were

- A field artillery gun crew (155 mm self-propelled howitzer).
- A field artillery fire-direction-center (FDC) crew (on manual operation).
- A tank crew (M60A3).
- An antitank guided missile crew in an improved TOW vehicle (ITV).*

The procedural methodology for developing the dose/time individual performance relationships follows from preceding efforts involving IDP program objectives and investigation strategy [Intermediate Dose Program Group, 1983]; a comprehensive review and assessment of acute radiation effects and symptomatology in humans [Baum et al., 1983]; the description and quantification of radiation sickness in terms of five

*Hereafter referred to as simply the TOW crew.

levels of severity, and the aggregation of symptom groups into symptom complexes [Anno and Wilson, 1983]; and the gathering of judgment data on military task performance from questionnaires administered to U.S. Army combat crew personnel [Glickman et al., 1983].

The descriptions of the symptom complexes were used on questionnaires administered to senior noncommissioned officers (NCO) to obtain their estimates on the performance of individual crewmembers. Evaluation of the questionnaire responses is described in Sec. 2. Based on that evaluation, some respondents were excluded as unqualified because they did not meet criteria to ensure that the estimates collected were made by senior NCOs who had recent experience supervising typical crewmembers on current equipment. Other respondents were excluded because they were unresponsive to the questionnaire.

Performance estimates from those respondents found to be reliable were processed through a regression analysis procedure, described in Sec. 3. The regression analysis (1) fits smooth curves to the data, (2) provides a structure for making consistent performance predictions, (3) interpolates and extrapolates the data to make performance estimates for symptom complexes not included in the questionnaire, and (4) provides a means to assess the importance placed on the various symptom complex components as reflected by the data.

The process we use to construct the map of symptom complexes over time for various doses is described in Sec. 4. It maps predictions of individual performance for the symptom complexes, as determined by the regression analysis, on the dose/time plane. Section 5 discusses the following step, which includes selection of the dose, time, and performance mapping points; the output grid structure; the boundary value specifications; and the procedure for generating performance surface and isoperformance contours.

Finally, Sec. 6 presents graphical representations of individual performance profiles for the 15 members of the crews studied. Plots of performance and isoperformance contours versus dose and time are displayed for each crewmember, as well as groups of crewmembers according to similarity of tasks.

Appendixes to this report contain tabular data, graphs, and additional narratives that are related to the technical discussion and materials presented in various sections of the main body of this report. Because of the large quantity and detailed nature of those data, they are not included in the text itself.

SECTION 2

EVALUATION OF PERFORMANCE ESTIMATES

In this section, evaluation of the questionnaires [Glickman et al., 1983] is described. The criteria by which some respondents were excluded before their answers were recorded are defined. Those criteria were rank, time in specialty, and number of crewmembers supervised. Then, the method by which respondents with unresponsive estimates were rejected is outlined. The standards for rejection were the occurrence of any of the following patterns: (1) noncompliance with the instructions; (2) a preponderance of answers at the extremes of the performance range; (3) excessive consistency for many tasks within a symptom complex; or (4) many reversals, where performance under more severe symptoms was better than performance under less severe symptoms.

Table 1 lists the number of questionnaires administered to respondents from each type of crew, and the reasons for eliminating respondents from the sample. Each of the items listed in the table is discussed in the present section. We also discuss how the answers were used to evaluate the structure of the questionnaire itself. After the excluded and rejected respondents were eliminated, the performance estimates from respondents remaining in the sample constituted the data used for the regression analysis (Sec. 3). Appendix A lists all performance time estimates from each accepted respondent.

THE RESPONDENTS

The judgments desired were of soldiers who had directed the activities of many crewmembers, who were familiar with current equipment, and who had recent experience supervising soldiers operating that equipment. We therefore asked that the questionnaires be administered to students attending the Advanced Noncommissioned Officers Classes (ANOC) at the Artillery, Armor, and Infantry schools. The exact groups of respondents requested at the Armor and Infantry schools were obtained, but scheduling difficulties prevented the participation of ANOC students at the

Table 1. Disposition of questionnaires.

	Respondent Specialty				
	Gun Crew	FDC Crew	Tank Crew	TOW Crew	Grand Total
Respondents Polled					
Pilot run	8	4	0	5[a]	12
Full questionnaire	31	24	44	41	140
Post run	0	9	0	0	9
Total administered	39	37	44	41	161
Respondents Eliminated					
Exclusions[b]					
Grade <E4	0	4	0	0	4
Time in specialty <12 months	0	1	0	0	1
Supervised <5 soldiers	6	7	1	1	15
Self-disqualified	0	0	0	2	2
Missing manuscript	1	0	1	0	2
Subtotal	7	12	2	3	24
Rejections[c]					
Noncompliance	1	0	0	0	1
Estimates at extremes	1	0	2	0	3
Excessive consistency	0	0	1	0	1
Reversals	2	3	1	1	7
Combined causes	3	1	4	1	9
Subtotal	7	4	8	2	21
Total eliminated	14	16	10	5	45
Respondents remaining	25	21	34	36	116

[a]Not recorded.

[b]Before analysis.

[c]After analysis.

Artillery school. Instead, a number of NCOs from the training cadres at Fort Sill answered the artillery questionnaires.

At least 24 acceptable respondents were desired for each type of crew. Since it was not expected that all of the respondents would produce acceptable questionnaires, our initial intention was to obtain

estimates from about 30 qualified respondents of each type. The tank and TOW crew samples each contained more than 40 respondents, and each produced more than 30 acceptable questionnaires.

However, at first an adequate number of respondents for artillery crews was not obtained. We started with 31 gun crew and 24 FDC crew respondents from the training cadres. After eliminating the unacceptable respondents, only 21 from the gun crews and 16 from the FDC crews remained. Because those numbers were low, qualified respondents were added from pilot runs* of the gun and FDC crews and the questionnaire was administered to a second group of 9 FDC crewmembers. Adding questionnaires from those groups increased the total number of acceptable questionnaires to 25 and 21, respectively (see Table 1). Although the number of acceptable FDC questionnaires was lower than that desired, the pattern of responses gives no cause to reject the body of data as unsound. Therefore, the FDC crew data was included in the total of 116 respondents as input for the regression analysis.

THE QUESTIONNAIRE

The questionnaire and the procedures for its administration are described in Glickman et al. [1983]. Briefly, a standard format was used for each crew; every page was identical except for the symptom description at the top of the page (see Fig. 1 for a typical page from the TOW crew questionnaire). Several tasks were listed, together with the usual time for a well crewmember to perform them (Table 2), and the respondent was asked to indicate how long it would take a typical crewmember to perform each task if that crewmember were suffering the symptoms described at the top of that page.

The tasks were divided into two types: about ten tasks were of the type the respondent had been supervising, and six were ordinary tasks

*In order to verify that the questionnaire was understandable to the population from which we intended to draw our sample, we had administered a preliminary version of the questionnaire to several small groups of gun crew and FDC crew supervisors. The questionnaire for this pilot run was almost identical to the final version, with a few differences in language and normal time values, and with six fewer symptom complexes.

DESCRIPTION OF ILLNESS: 415 314

Vomited once or twice; nauseated and may vomit again; exhausted with almost no strength; unsteady upon standing quickly; extremely dry mouth, throat, skin and very painful headache; has difficulty moving; short of breath; burning skin and eyes.

CREW TASKS

Tasks CREWMEMBER	The usual time for each task is about:	How long do you think it would take a crewmember to do each task if he had these symptoms?		
		No increase in time	Amount of time (sec)	Could not do it at all
SQUAD LEADER - Designate azimuth and target	4 sec			
Command driver to firing position	2 sec			
GUNNER - Set superelevation, erect, slew 170° to 10° azimuth	17 sec			
Adjust magnification, acquire targets, identify, arm, & fire.	7 sec			
DRIVER - From standstill, drive forward 40 ft. & stop	20 sec			
LOADER - Reload	60 sec			
Rearrange ready rack	60 sec			

Target Tracking Accuracy

Estimate the chance of staying on target during the last 6 seconds of flight (usual chance 90%). _____%

ORDINARY TASKS

Climb two flights of stairs briskly	15 sec			
Lift five heavy boxes of books from the floor to a 3 ft high table	20 sec			

1. How many flights of stairs could a crewmember climb quickly before becoming breathless? _____ flights
2. How long could a crewmember keep walking at a brisk pace before his legs get tired? _____ minutes
3. How many heavy boxes could a crewmember keep lifting from the floor to a table before he would have to stop and rest? _____ boxes
4. How long would it take a crewmember to open a simple 3-number combination lock? _____ seconds

How much confidence do you have in your estimates?

1 None	2 Not Much	3 Some	4 A Lot	5 Certain

Figure 1. Sample page from questionnaire (TOW crew).

Table 2. Crew tasks.

Crew Type[a]	Position	Task Number	Crewmember	Description of Task	Usual Time (sec)
				Gun Crew	
1	1	1	Chief of section	Receive fire order and call quadrant elevation, deflection, projectile, charge, fuze	3
1	2	2	Gunner	Set deflection	7
1	2	3		Traverse tube and level bubble	7
1	3	4	Assistant gunner	Set quadrant elevation	7
1	3	5		Elevate tube and level bubble	3
1	4	6	Loader	Lift projectile to tray	2
1	4	7		Position and operate hydraulic rammer	5[b]
1	4	8		Place charge and release breech block	2
1	4	9		Insert primer and close firing lock	1.5
1	4	10		Attach lanyard and fire	1.5
1	4	11		Swab tube and inspect bore	3
				FDC Crew	
2	1	1	Fire direction officer	Announce fire order	2
2	1	2		Review calculations	5
2	1	3		Announce fire mission	3
2	2	4	Horizontal control operator	Plot target location on chart	5
2	2	5		Orient range-deflection protractor	3
2	2	6		Read range-deflection protractor	3
2	3	7	Computer	Calculate fuze setting, deflection, and quadrant elevation	15
2	3	8		Announce fire commands to guns	3

Table 2. Crew tasks (Concluded).

			Tank Crew		
3	1	1	Tank commander	Issue fire command	1
3	1	2		Range the target	5
3	1	3		Depress and lay gun for direction	3
3	1	4		Issue subsequent fire command	4
3	2	5	Gunner	Identify target	1
3	2	6		Aim and fire	6
3	2	7		Apply fire adjustment and fire	7
3	3	8	Loader	Arm	1
3	3	9		Load and arm	5
3	4	10	Driver	Stop	4
			TOW Crew		
4	1	1	Squad leader	Designate azimuth and target	4
4	1	2		Command driver to firing position	2
4	2	3	Gunner	Set superelevation, erect, slew 170 deg to 10 deg azimuth	17[c]
4	2	4		Adjust magnification, acquire targets, identify, arm, and fire	7
4	3	5	Driver	From standstill, drive forward 40 ft and stop	20
4	4	6	Loader	Reload	60
4	4	7		Rearrange ready rack	60
4	2[d]	8	Gunner	Target tracking accuracy (probability of staying on target during last 6 sec of flight)	90%[d]

[a]Crew type is indicated by the following numbers: 1, gun crew; 2, FDC crew; 3, tank crew; 4, TOW crew.

[b]Includes 2 sec machine time.

[c]Includes 15 sec machine time.

[d]Performance on this task is measured in terms of accuracy; therefore, usual performance is expressed in terms of probability of staying on target rather than time to perform the task. To emphasize that difference, the question was formatted differently on the questionnaire and presented in a different order from the other gunner tasks (see Fig. 1).

familiar to both military and nonmilitary persons. Four of the ordinary tasks did not have stipulated normal values. For cross-calibration purposes, the questions about ordinary tasks with unstipulated norms were to be included on a questionnaire intended to be administered to a group of persons who had experienced radiation sickness from radiotherapy.

Three categories were provided for answers to the questions with stipulated norms: (1) no increase in time (relative to the usual time), (2) amount of time (if longer than usual time), and (3) could not do it at all. All of the questions about crew tasks, with the single exception of the tracking accuracy question on the TOW crew questionnaire, pertained to the time to perform a task. No account was taken of the possible increase in errors that might accompany the increase in time for a sick crewmember to do a task. Although an increase in errors is to be expected of a sick crewmember, we found that concept difficult for the soldiers to accept, especially when coupled with the fact that they viewed many tasks as either being "completed" or "not completed." Since reliable, consistent estimates could not be obtained from the soldiers on that topic without an extensive introductory discussion, the questions were framed about time only.

Performance

Some crewmember tasks include a fixed time for mechanical equipment to perform some function. In the questionnaire, the tasks were presented with the human and equipment times combined because the soldiers had experienced it that way, and discussed it that way when the questionnaire was being developed. An example is shown in Fig. 1. For the gunner's first task, "Set superelevation, erect, slew 170 deg (17 sec)," the ITV turret takes 15 sec to erect and slew, and it takes the gunner 2 sec to initiate the sequence, so the entire sequence takes 17 sec to complete. Our interest focused on the 2 sec portion for *human* performance. We therefore deducted 15 sec from both the "usual time" and the estimates of "time when sick" when we calculated performance.

When the replies were processed, they could be treated in one of three ways:

1. $t - t_0$: the difference between "time when sick" and "usual time."
2. t/t_0: the ratio of "time when sick" to "usual time."
3. t_0/t: the ratio of "usual time" to "time when sick."

Treating the responses as t_0/t enables performance to be expressed in the interval extending from 1.0 to 0, where 1.0 represents "usual time" and 0 represents "could not do it." Using t_0/t also accommodates the indefinite boundary between "amount of time" and "could not do it." It was apparent from the soldiers' answers that that boundary differed widely between respondents. Some respondents did not give any answers larger than 30 times the usual time, whereas others gave answers as large as 300 times the usual time. In terms of the t_0/t scale, however, that difference falls between a performance of 0.03 and 0.003, where the distinction is unimportant.

Symptom Complexes

The symptom description at the top of the questionnaire can be represented by a six-digit symptom complex number, such as 415314. Each place in that code corresponds to one of six symptom categories, and the value of each digit indicates the severity level for one of the symptoms. The symptom categories, in the order that they appear in the symptom complex number, are as follows: upper gastrointestinal distress; lower gastrointestinal distress; fatigability and weakness; hypotension; infection, bleeding, and fever; fluid loss and electrolyte imbalance. Thus, the above sample code number (415314) indicates the following: no effect for the second and fifth symptom categories (lower gastrointestinal distress, and infection and bleeding); an effect of severity level 4 for the first symptom category (upper gastrointestinal distress), level 5 for the third symptom category (fatigability and weakness), level 3 for the fourth symptom category (hypotension), and level 4 for the sixth category (fluid loss and electrolyte imbalance).

EXCLUSIONS

The first page of the questionnaire (Fig. 2) was designed to collect demographic information about the respondents. The complete body of demographic data is listed in Appendix B, and summarized in Table 3.

A histogram of the demographic responses is shown in Fig. 3. The vertical dotted line denotes the threshold for exclusion used in Glickman et al. [1983]. The preponderance of respondents for tank and TOW crews cluster toward the high end of all three histograms; "Grade," "Time in specialty," and "Number supervised." Only one respondent for each of those crews (302, 414)* failed to meet the criteria. Respondents for the artillery crews (gun crews and FDC crews), on the other hand, cluster more closely toward the exclusion thresholds. Indeed, 18 of those respondents failed to meet the criteria. That difference suggests that the artillery sample was unlike the tank and TOW crew samples and might perhaps make different judgments.

Any respondent who failed to meet one of the criteria was excluded. Some respondents failed to meet more than one criterion. Four were excluded because their rank indicated insufficient responsibility. Two of those four could also have been excluded on the basis of insufficient time in their specialty. One other respondent was excluded on the basis of both insufficient time in his specialty and insufficient supervisory experience.

In all, 15 respondents reported insufficient supervisory experience. But there was one peculiar aspect of responses to the question about supervisory experience; some respondents with 10 years in their specialty, for example, claimed to have supervised only 10 or 20 crewmembers. Most respondents with that much experience claimed to have supervised more than 50 crewmembers. It may be that some respondents interpreted the

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*The respondent numbers are given here to permit readers to examine the demographic data for each excluded respondent, which are listed in Table 3, and to examine the full set of answers from each of the 21 rejected respondents listed in Appendix D. Each respondent is signified by a three-digit code, with the first digit indicating the type of crew they had supervised (see Table 2). Gun crews are designated as 1, FDC crews as 2, tank crews as 3, and TOW crews as 4. The last two digits indicate the order in which the respondents completed the questionnaire.

To help us understand the characteristics of this group we are asking you to supply some information about your military experience. Please note that all your questionnaire responses will be strictly anonymous and there will be no attempt to link these responses to you as an individual. The answers to the information below will be used only for descriptive purposes. Please supply the following information about yourself:

Your present grade and MOS?_____

How long have you been in the Army?_____

How long have you been in anti-armor?_____

Have you been in combat? Yes_____ No _____ When_____

Have you been in anti-armor combat? Yes_____ No_____

When_____

Have you served as a:	When?	How long?
Squad Leader		
Gunner		
Loader		
Driver		

Approximately how many crewmen have you supervised in Mounted TOWs?

2 5 10 20 50 More than 50

Briefly describe your military duties during the past year:

_____

_____

_____

_____

_____

_____

Figure 2. Sample of demographic data sheet.

Table 3. Demographic summary.

Respondent	Grade	Time (months)	Number Supervised	Respondent	Grade	Time (months)	Number Supervised
101	5	36	5	211	1[d]	121	5
102[a]	5	96	5	212	5	42	5
103[a,b]	5	31	5	213	5	48	--
104[a]	6	120	10	214	6	84	10
105[a]	5	51	20	215	4	30	5
106[a]	5	120	5	216	5	54	10
107[a]	5	60	10	217[c]	6	102	2[c]
108[a]	5	46	5	218	7	192	>50
109[a]	6	120	10	219[c,e]	4	11[e]	0[c]
110	5	72	10	220	5	48	10
111	5	50	20	221	5	12	5
112	5	39	5	222[c]	5	62	2[c]
113	5	96	5	223	4	48	5
114	5	48	10	224	4	24	5
115	6	48	10	225	4	25	5
116[c]	5	42	2[c]	226[c]	6	108	0[c]
117	4	32	--	227	6	60	10
118	6	120	10	228	7	156	<50
119	7	177	10	229[f]	--	--	--
120	6	96	50	230[f]	--	--	--
121	5	≈12	10	231[c,g]	4	24	2[c]
122	5	40	5	232[g]	4	30	5
123[c]	5	84	0[c]	233[d,g,h]	3[d]	12	--[h]
124	5	72	5	234[c,g,h]	4	12	0[c,h]
125[c]	5	48	0[c]	235[g]	5	36	5
126	6	24	5	236[g]	5	48	--
127	5	46	20	237[g]	4	30	--
128	5	14	5	238[g]	4	30	10
129[c]	5	48	0[c]	239[c,g]	4	30	2[c]
130	7	156	10	301	6	96	20
131	7	144	>50	302[c]	6	60	0[c]
132	5	40	5	303	6	96	>50
133	5	36	5	304	6	84	>50
134	5	30	20	305	6	166	>50
135[c]	5	30	0[c]	306	6	108	>50
136[c]	5	52	0[c]	307	6	96	10
137	6	84	5	308	7	84	>50
138	5	36	10	309	6	60	>50
139	6	84	10	310	6	96	20
201[a]	7	72	10	311	6	120	>50
202[a,c,d,e]	3[d]	9[e]	0[c]	312	6	108	20
203[a,c]	4	28	0[c]	313	6	120	50
204[a]	4	62	5	314	6	108	>50
205	4	28	5	315	6	102	50
206[c,d,e]	2[d]	6[e]	0[c]	316	6	84	20
207	5	24	5	317	6	96	20
208	4	30	--	318	7	90	>50
209	4	29	5	319	6	108	50
210	6	60	10	320	6	126	>50

Table 3. Demographic summary (Concluded).

Respondent	Grade	Time (months)	Number Supervised	Respondent	Grade	Time (months)	Number Supervised
321	6	133	20	416	7	72	>50
322	7	72	>50	417	6	54	>50
323	6	132	50	418	6	108	>50
324	6	96	>50	419	6	72	>50
325	6	126	>50	420	6	96	50
326[i]	6	78	>50	421	6	84	50
327	6	96	20	422	6	72	50
328	6	72	50	423	6	126	50
329	6	120	>50	424	6	36	>50
330	6	120	20	425	6	132	>50
331	7	174	50	426	6	104	20
332	6	96	>50	427	6	96	50
333	6	138	>50	428	6	96	50
334	6	160	20	429[j]	7	72	20[j]
335[b]	6	101	>50	430	7	60	>50
336	6	126	50	431[j]	6	36	10[j]
337	6	132	>50	432	6	60	>50
338	7	135	>50	433	6	84	>50
339	6	120	>50	434	7	72	10
340[i]	7	132	>50	435	6	84	>50
341	6	120	>50	436	6	72	20
342[i]	7	132	>50	437	6	84	>50
343	6	126	50	438	6	84	50
344	6	96	20	439	6	48	20
401	6	60	>50	440	6	54	50
402	6	132	>50	441	6	36	>50
403	6	120	10				
404	6	120	50				
405	6	120	>50				
406	6	108	50				
407	6	68	20				
408	6	72	50				
409	6	48	20				
410	7	204	>50				
411	6	84	20				
412	6	96	>50				
413	6	48	50				
414[c]	6	36	0[c]				
415	6	102	50				

NOTE: Respondent numbers consist of a single-digit crew number (see Table 2) and a two-digit number indicating the order in which respondents finished the questionnaires.

[a]Pilot questionnaire.

[b]Manuscript missing; respondent excluded.

[c]<5 supervised; respondent excluded.

[d]<E4; respondent excluded.

[e]<12 months; respondent excluded.

[f]Questionnaire not administered.

[g]Postrun; symptom complexes in reverse order.

[h]Disqualified self--no experience.

[i]USMC.

[j]No ITV experience.

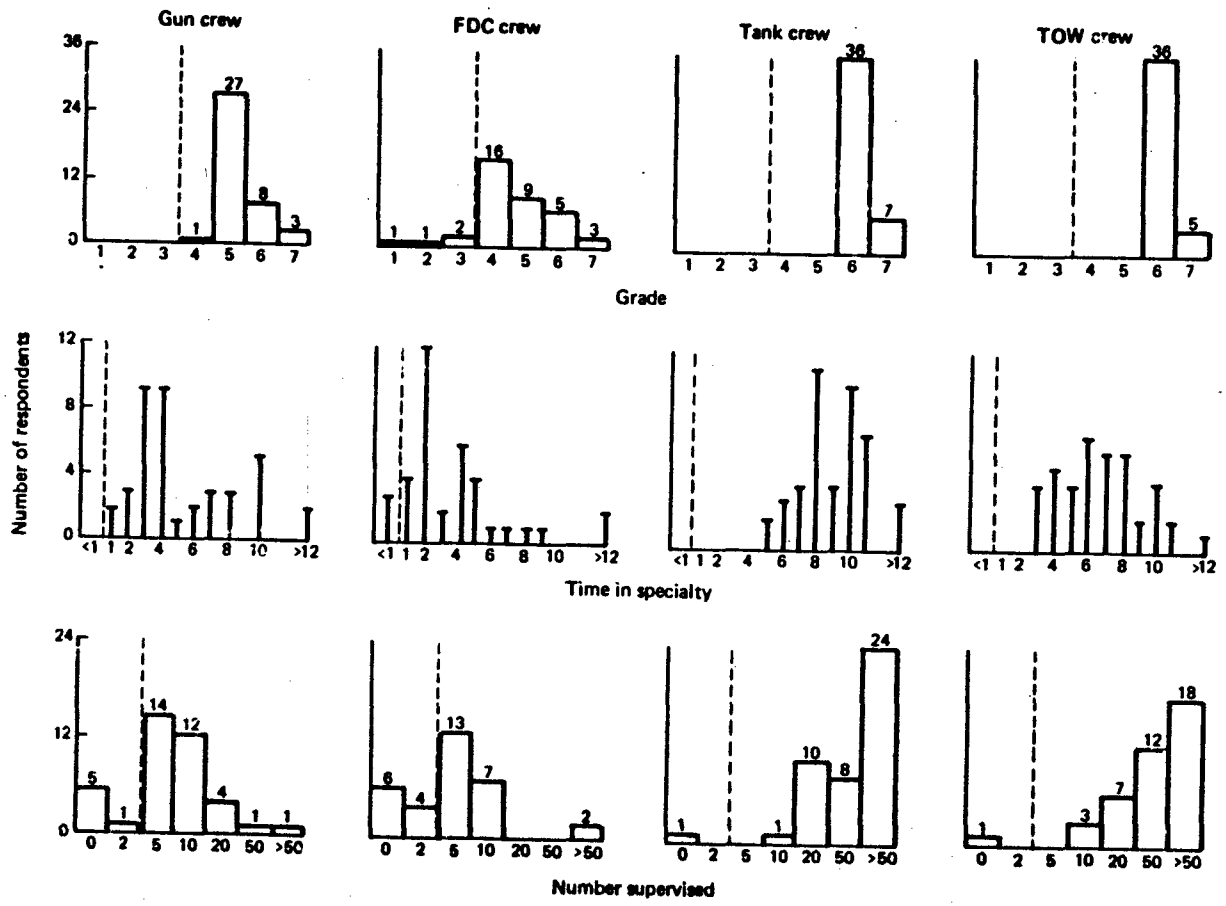


Figure 3. Histograms of demographic responses.

question to be "How many crewmembers have you supervised *at any one time?*" In that case, a tank platoon sergeant would claim 20. And, indeed, the tank crew respondents do show a bimodal distribution, perhaps due to that interpretation of the question. A bimodal distribution of number supervised also appears for the gun crews and FDC crews. That possible misinterpretation did not have any serious consequences for the tank and TOW crew samples, as they lost only one respondent each. However, the gun crew and FDC crew samples lost 6 and 7 respondents, respectively. Those figures represent a loss of 16 and 21 percent of the gun crew and FDC crew samples, as opposed to 3 percent of the tank and TOW crew samples.

Two of the respondents (429, 431) disqualified themselves. They noted on their demographic sheets that, although they had antiarmor experience, they did not feel qualified to make estimates about the TOW crews because they had had no ITV experience.

In two cases, manuscript questionnaires were missing. Responses from one respondent (103) had been transcribed into the data base. But the computer data could not be checked against the manuscript; thus, that respondent was excluded. In the other case (335), no responses had been entered into the computer, so the respondent was excluded.

REJECTIONS

Unlike the excluded respondents, who were eliminated before their answers were recorded, rejected respondents were eliminated on the basis of the answers themselves. The reasons for rejecting those respondents fall into four categories: (1) noncompliance with the instructions, (2) concentration of answers at the extremes, (3) excessive consistency, and (4) reversals. Some respondents were rejected because of a combination of those factors. The rejected respondents' answers are shown in Appendix D.

Noncompliance

One of the respondents (124) did not comply with the instructions to estimate the amount of time for a sick crewmember to perform each task (see Fig. 1). He marked the first sheet of his questionnaire

correctly, but all of the subsequent sheets contained checkmarks in column 2 instead of numerical estimates. Some respondents occasionally entered task times that were less than the usual time. Those entries were recorded as "no reply." In cases where they were numerous, however, they were considered, together with other nonresponsive answers, as one of the combined causes of rejection.

Extremes

Three respondents (113, 301, 304) submitted estimates that were predominantly at either of the two ends of the performance range: "no increase in time," or, "could not do it at all," with very few estimates in the range of degraded performance between the two extremes. That pattern was inconsistent with the pattern of the other respondents, who produced estimates indicating that they expected many of the symptom complexes to cause performance to be partially degraded.

Excessive Consistency

One respondent (303) was found to respond to many symptom complexes with the usual time for each different task multiplied by the same constant, or with the same constant added to the usual time for many different tasks. That respondent was removed from the sample because his estimates apply to the effect of the symptom complex on performance in general, rather than to the effect of the symptom complex on the performance of particular tasks.

Combined Causes

Eight respondents (115, 121, 218, 307, 309, 316, 338, and 403) were found to have many instances of excessive consistency, but not enough to provide conclusive grounds for rejection. When combined with other causes, each also individually insufficient for rejection, excessive consistency and the other combined causes do provide conclusive grounds for rejection. One respondent (403) was rejected for combined causes, plus reversals. Reversals are computed in a way that precludes adding the percentage of their incidence to the percentage of the incidence of other rejection causes.

Reversals

After removal of the extreme and consistent respondents, the estimates were reviewed to identify those instances where performance improved when sickness intensified. A few such instances should be expected for each respondent because (1) time was not provided for the respondents to cross-check their estimates, (2) the format of the questionnaire did not facilitate cross-checking, and (3) the questionnaire did not suggest cross-checking.

For each respondent, performance estimates were compared with tasks where the symptom complex differed in only one symptom, which we called an adjacent symptom complex. For example, a respondent's estimate for symptom complex 312111 would be compared with his estimates for symptom complexes 212111, 412111, 313111, and if no comparison with 313111 was possible, 314111. If the estimated performance for the adjacent symptom complex was the same, it was not counted. If it was different, it was counted as an "opportunity" (to detect a reversal). If the respondent had estimated that the more serious symptom produced higher performance than the less serious symptom, it was counted as a "reversal." The number of reversals was compared with the number of opportunities to obtain the percentage of reversals.

There are no clear cases where the percentage of reversals by a particular respondent approached or exceeded random guessing (50 percent). Six respondents (106, 138, 232, 238, 438) were rejected because the percentage of reversals indicated that their replies were not consistent with the intended graduation of symptom complexes.

QUESTIONABLE SYMPTOM DESCRIPTIONS

The percentage of reversals was also used as an index to judge the clarity of the symptom complex descriptions. That analysis showed that some symptom complexes produced many more reversals than average. A case in point is symptom complex 411111, which should be considered with care in any further analysis. We sought to resolve that and other uncertainties by revisiting the military facilities where the initial questionnaires were administered, and giving follow-up questionnaires to all of the original respondents still available.

To determine if the order of presentation of the symptom complexes had any effect upon the estimates of the respondents, the number of reversals were plotted against order of presentation. The plot, with lines connecting complexes of similar symptom groupings (Fig. 4), shows a pronounced learning curve with three characteristics: (1) the respondents made 10 percent more reversals on the first page of the questionnaire than they made on the worst of the other pages; (2) the respondents made more reversals the first time they encountered a symptom combination than they did on subsequent encounters, and, in general, the more times they encountered a symptom combination the fewer reversals they made; (3) the ability of the respondents to accommodate new symptom combinations appeared to deteriorate with increasing length of questionnaire.

Although the first symptom complex (411111) usually engendered more reversals than other symptom complexes, the difference between that symptom complex and the next worst complex was insufficient to justify deletion of all replies for complex 411111. In their indication of the confidence that they had in their estimates, the respondents did not show an awareness of the learning curve effect.

INTERPRETATION OF SYMPTOM DESCRIPTIONS

In the follow-up questionnaire, the respondents were asked how they interpreted our symptom descriptions. Figure 5 shows the format used to ask that question, and Figs. 6 through 13 are bar graphs of their answers.

The bar graphs indicate that the different groups of respondents sometimes said they interpreted the symptom descriptions quite differently. The less severe upper gastrointestinal distress symptom in Fig. 6a. for example, was correctly interpreted by about 80 percent of the TOW crew respondents so that "vomited once or twice; nauseated and may vomit again" meant that a crewmember did not vomit during the task in question, but only about 20 percent of the tank crew respondents said they gave the description that interpretation. The more severe upper gastrointestinal distress symptom in Fig. 6b was correctly interpreted by only 25 to 30 percent of the respondents. However, the upper gastrointestinal distress question was the first on the follow-up questionnaire, so we suspect that it is likely to have more errors than subsequent questions.

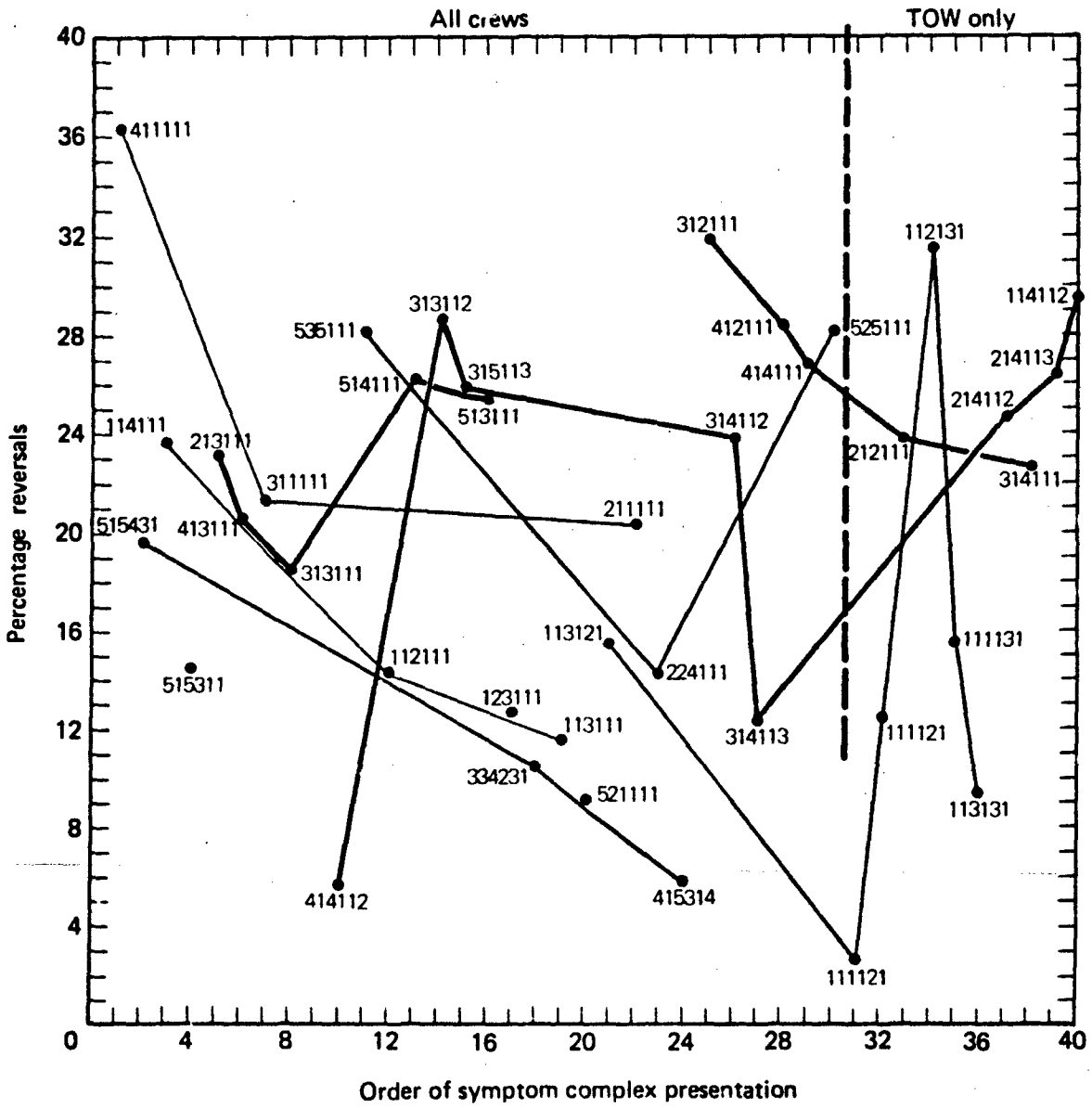


Figure 4. Learning curve.

WHEN WE SAID:	DID THAT MEAN TO YOU: (Check one)	
Vomited once or twice; nauseated and may vomit again	Vomiting occurred during the task	
	Vomited before and after but not during the task	
Vomited several times, including the dry heaves; severely nauseated and will soon vomit again	Vomiting occurred during the task	
	Vomited before and after, but not during the task	
Occasional diarrhea, recently defecated and may again	Defecating during the task	
	Defecated before and after, but not during the task	
Frequent diarrhea and cramps, defecated several times and will again soon	During the task:	
	Defecated	
	Had cramps	
	Both	
	Before and after, but not during the task:	
	Defecated	
	Had cramps	
	Both	
Doesn't want to eat	Must be pretty sick	
	Doesn't matter	
Difficulty in stopping any bleeding	Bleeding	
	Not bleeding	
	Doesn't matter	

Figure 5. Questions on symptom descriptions.

Unsteady upon standing quickly	Loaders are unsteady	
	Loaders are not unsteady	
	Tank commanders are unsteady	
	Tank commanders are not unsteady	
Faints upon standing quickly	Loaders faint	
	Loaders do not faint	
	Tank commanders faint	
	Tank commanders do not faint	
Weak and faint	Faints	
	If careful, can keep from fainting	
	Doesn't faint	
	Only loaders faint	
May faint with moderate exertion	Faints	
	If careful, can keep from fainting	
	Doesn't faint	
	Only loaders faint	
Joints ache	Affects everybody	
	Affects only those who have to move around a lot	
	Affects only those who have to move heavy objects	
	Doesn't matter	

Figure 5. Questions on symptom descriptions (Continued).

Aches all over	Affects everybody	
	Affects only those who have to move around a lot	
	Affects only those who have to move heavy objects	
	Doesn't matter	
Has difficulty moving	Affects everybody	
	Affects only those who have to move around a lot	
	Affects only those who have to move heavy objects	
	Doesn't matter	
Headache	Affects aiming and tracking targets	
	Affects calculating	
	Affects attention and concentration	
	Affects aggressiveness	
	Doesn't matter	
Very painful headache	Affects aiming and tracking targets	
	Affects calculating	
	Affects attention and concentration	
	Affects aggressiveness	
	Doesn't matter	

Figure 5. Questions on symptom descriptions (Concluded).

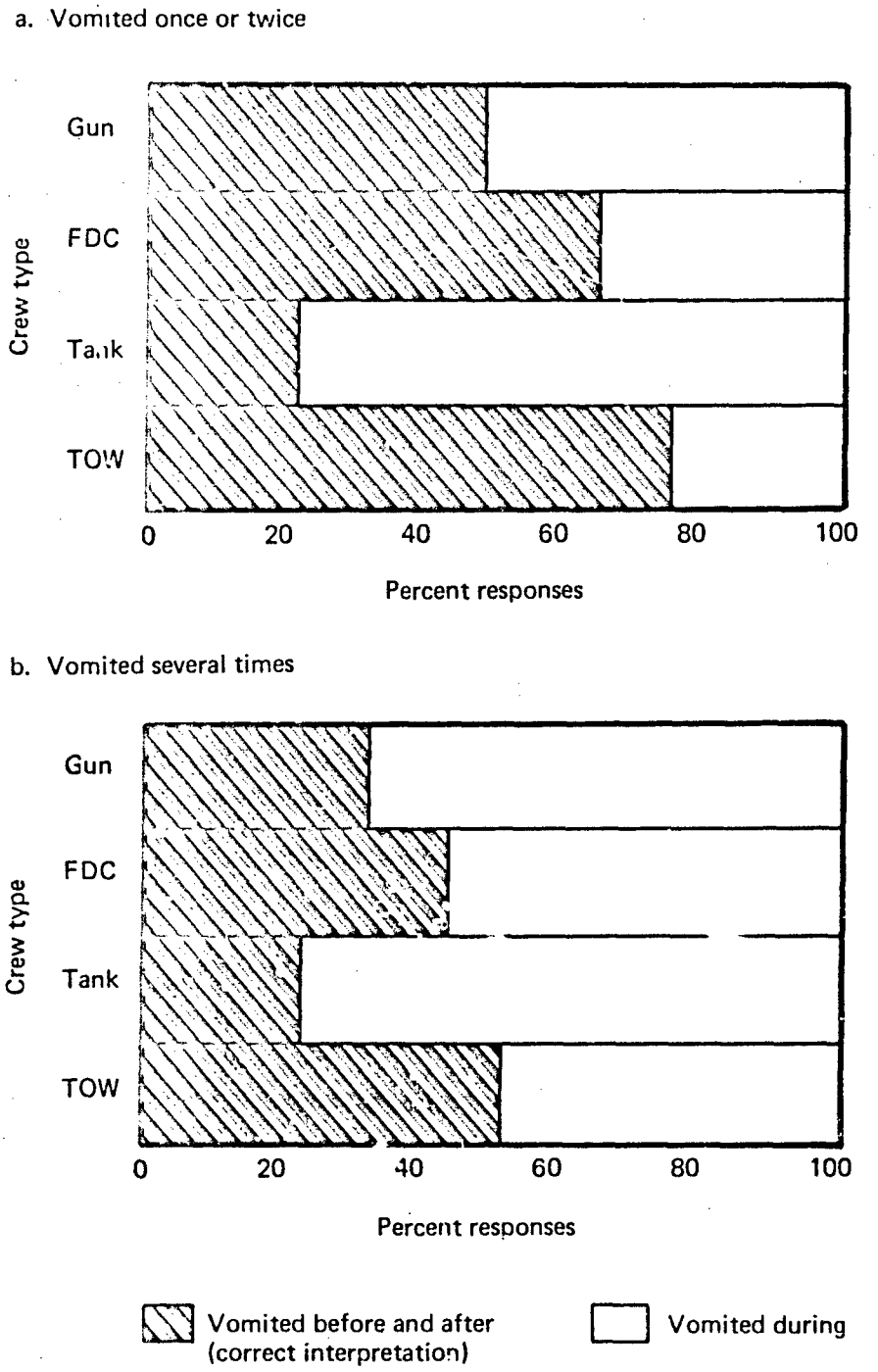


Figure 6. Interpretation of upper gastric symptoms.

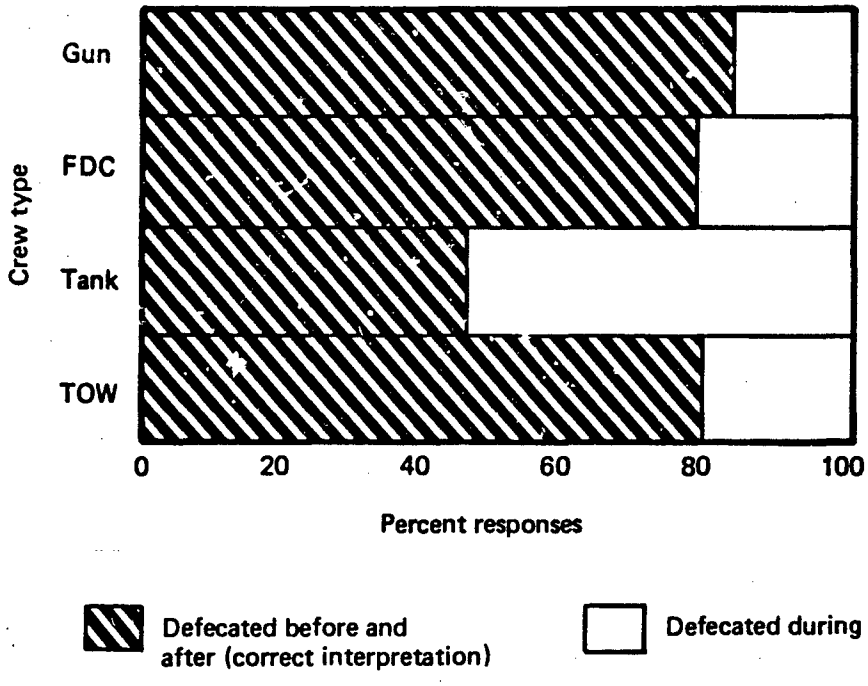
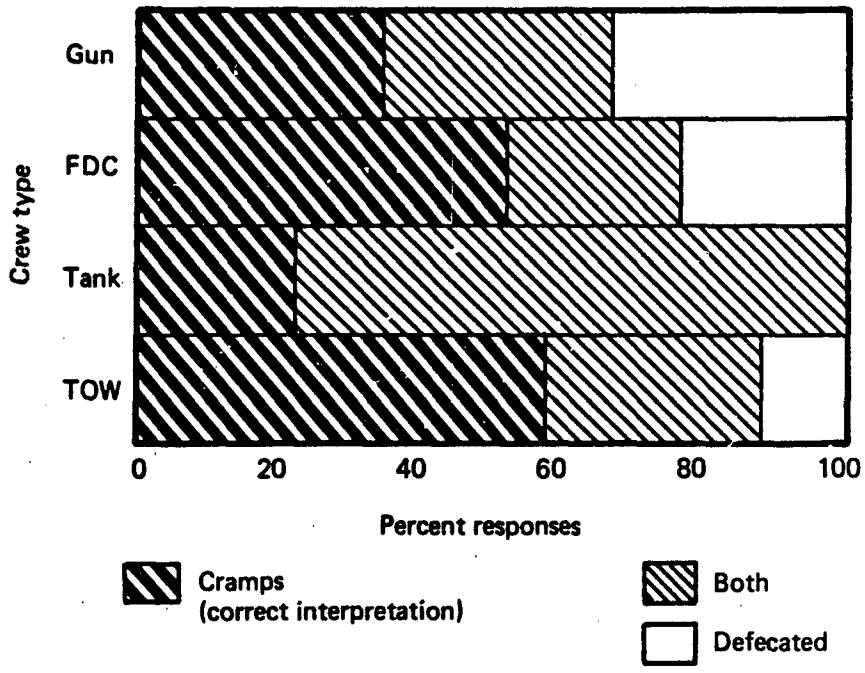


Figure 7. Interpretation of lower gastric symptoms: occasional diarrhea.

a. During the task



b. Before and after, but not during

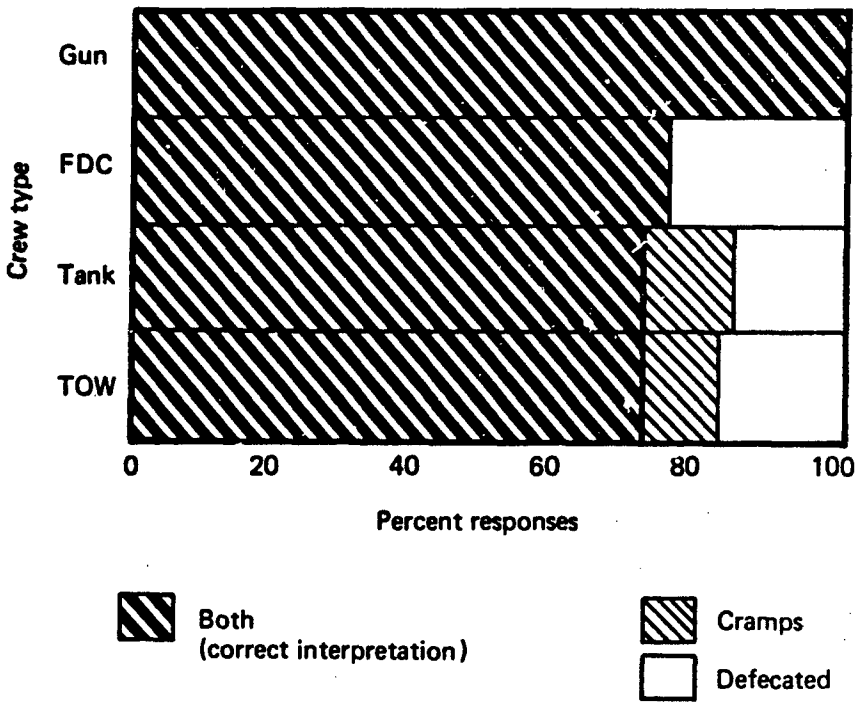


Figure 8. Interpretation of lower gastric symptoms: frequent diarrhea and cramps, defecated several times and will again soon.

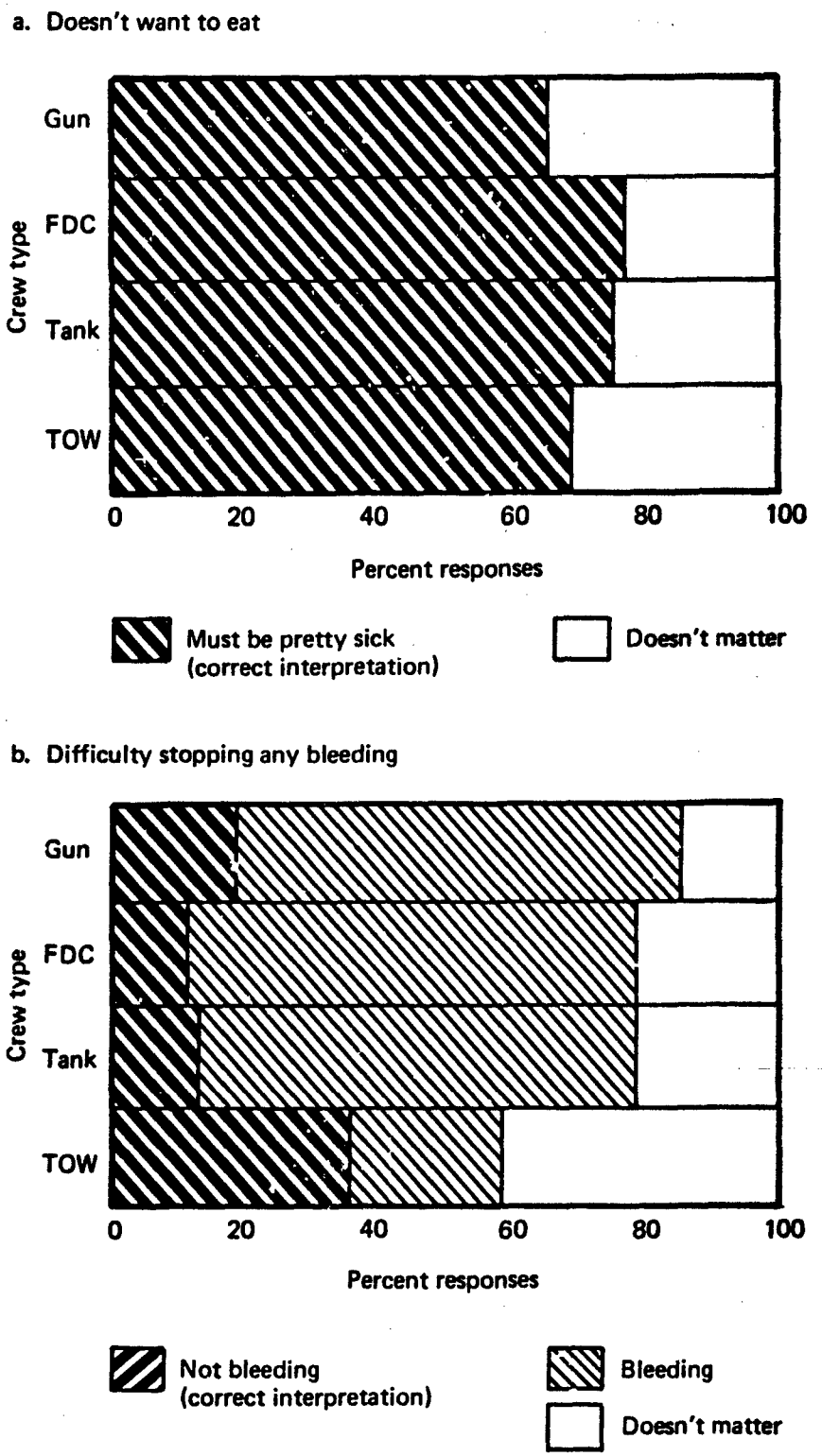


Figure 9. Interpretation of anorexia and bleeding symptoms.

The less severe lower gastrointestinal distress symptom (Fig. 7) was correctly interpreted by about 80 percent of the respondents, for all crews except the tank crew, where about 45 percent of the respondents interpreted the description correctly. The more severe lower gastrointestinal distress symptoms were correctly interpreted by 20 to 60 percent of the respondents for the period during the task (Fig. 8a). On the other hand, for the period before and after the task (Fig. 8b), the symptom was correctly interpreted by 75 to 100 percent of the respondents.

Figure 9 shows that 60 to 75 percent of the respondents interpreted anorexia as we had intended, but only 15 to 35 percent of the respondents correctly interpreted "difficulty in stopping any bleeding."

Correct interpretation of the less severe hypotension symptoms (Figs. 10a and b) varies from about 60 to 100 percent, except for the TOW crew respondents' interpretation of tank commanders (i.e., TOW squad leaders) fainting upon standing quickly (Fig. 10b). Correct interpretation of the more severe hypotension symptoms (Figs. 10c and d) fell between 60 and 85 percent for respondents from all crews.

Between 45 and 85 percent of the respondents correctly interpreted the reduction in loss of mobility that accompanies infections (Fig. 11). The other respondents usually said there would be some effect, but many FDC crew respondents (20 to 40 percent) said that mobility difficulties would not matter. That answer may reflect the sedentary nature of operations within the FDC during those times that the FDC is directing fire rather than moving from place to place.

Unlike the interpretation of the effects of hypotension, which appears to be crew-related, the general effect of headache (Fig. 12) is interpreted by the respondents to affect performance of all crews, but particular effects (Fig. 13) are assessed to apply less to activities that the crew does not perform. For example, the gun crew does aiming but no calculating, and the FDC crew does calculating but no aiming and tracking. Respondents from those crews estimated that there would be a significant (40 to 65 percent) headache effect on the kinds of activities their own crew performed, and little or no headache effect (0 to 2 percent) on the kinds of activities their crew did not perform.

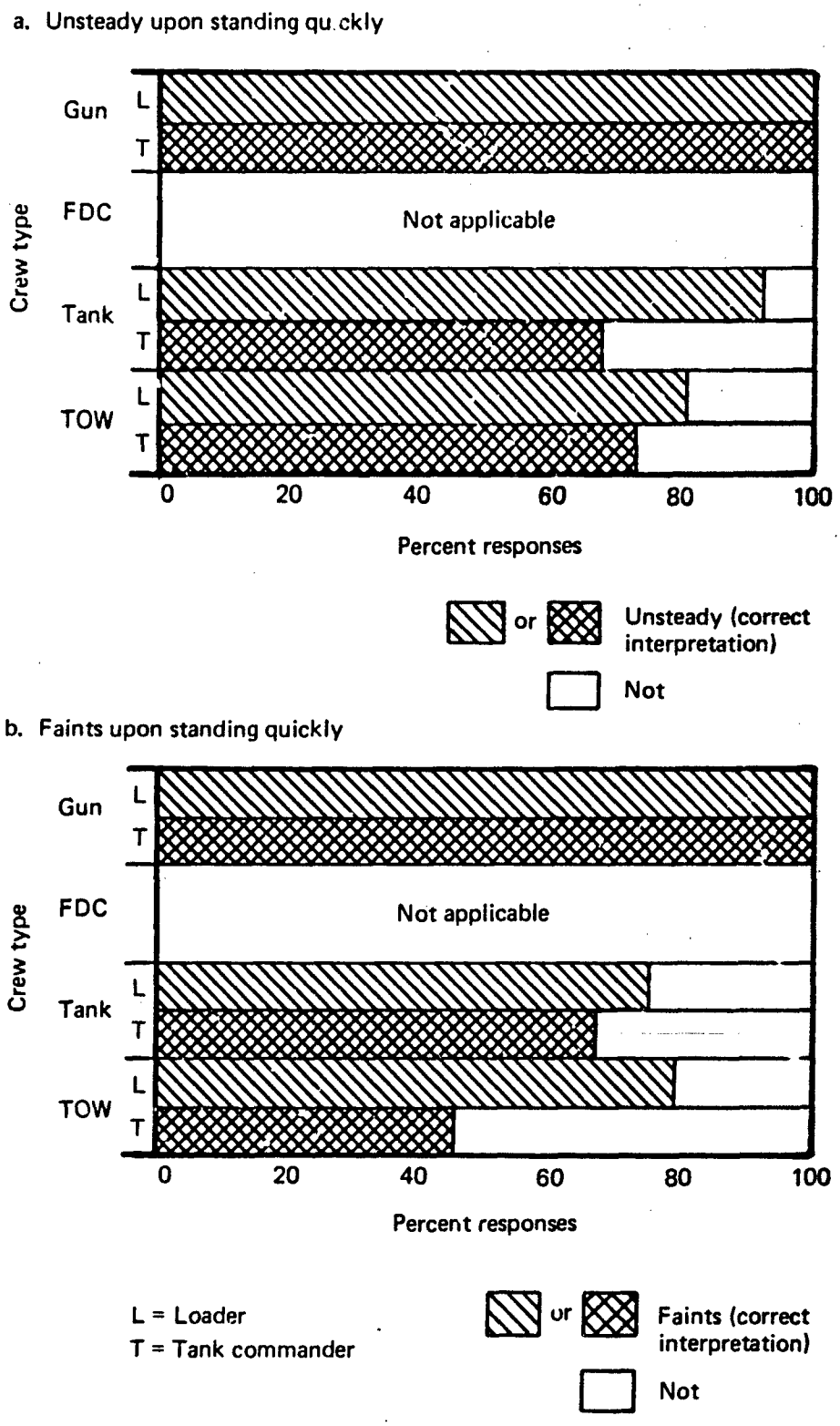
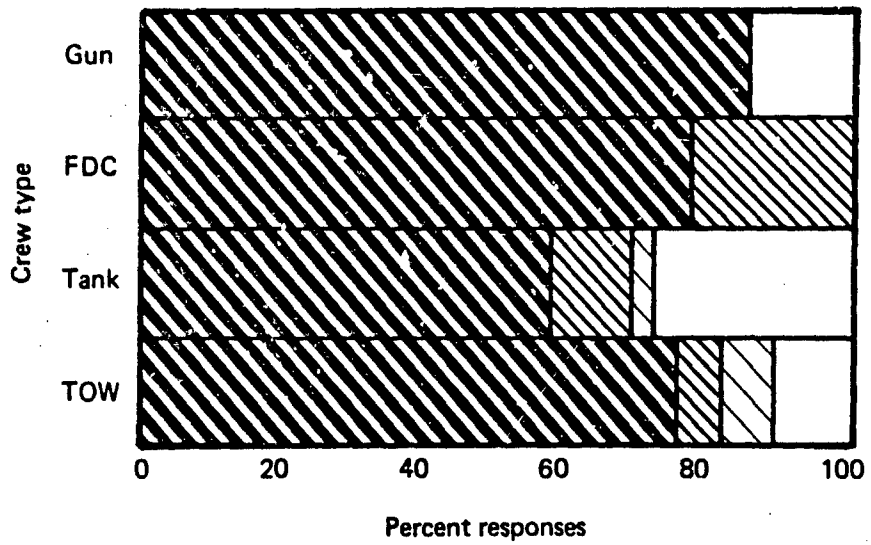
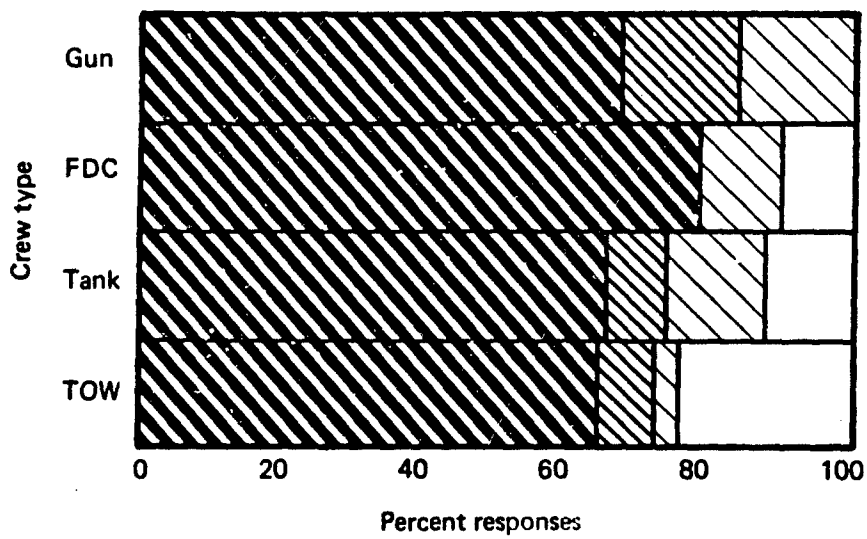


Figure 10. Interpretation of hypotension symptoms.

c. Weak and faint



d. May faint with moderate exertion



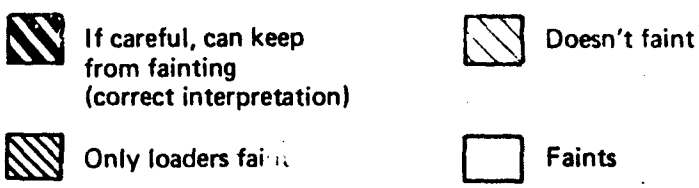


Figure 10. Interpretation of hypotension symptoms (Concluded).

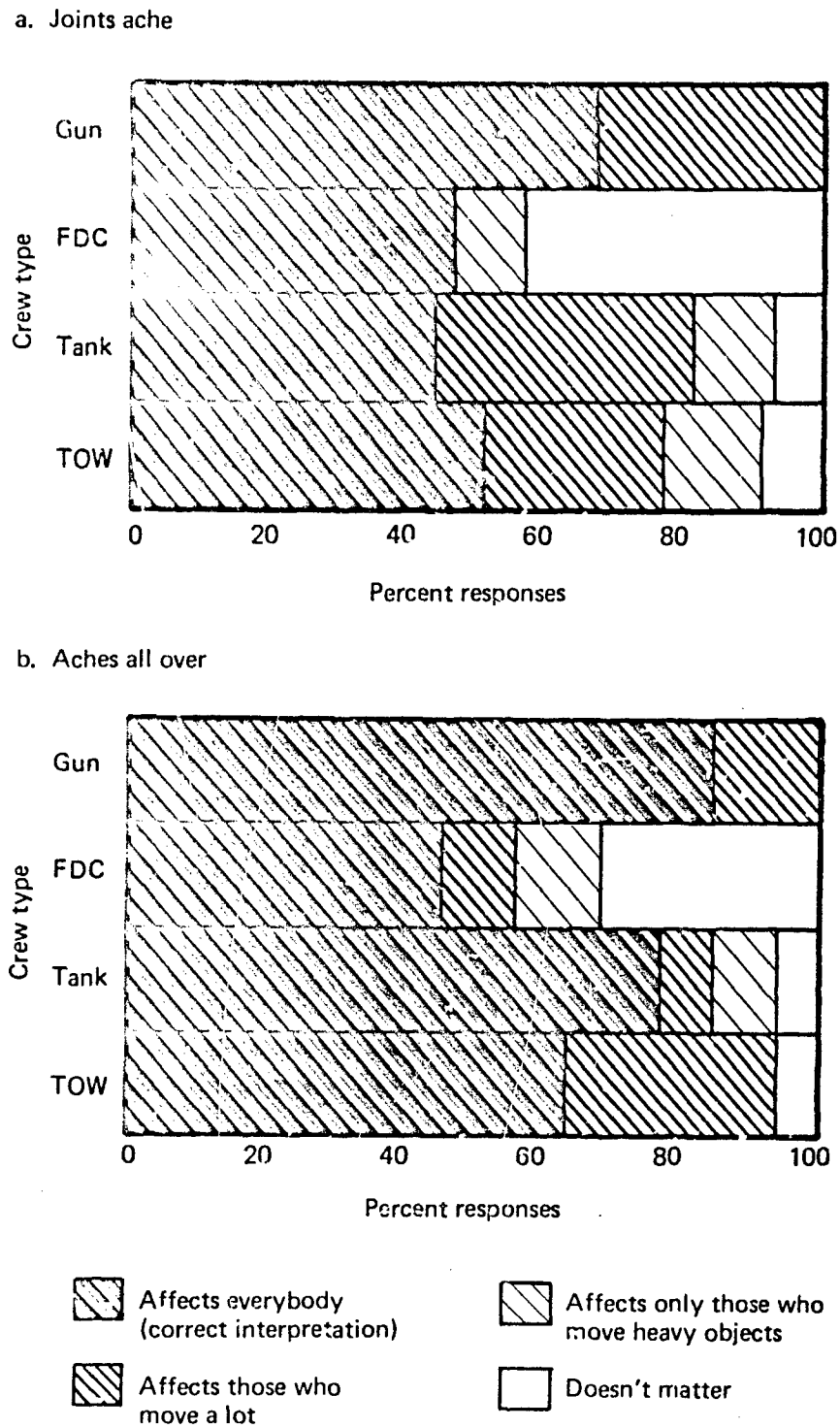


Figure 11. Interpretation of infection symptoms (mobility).

c. Difficulty moving

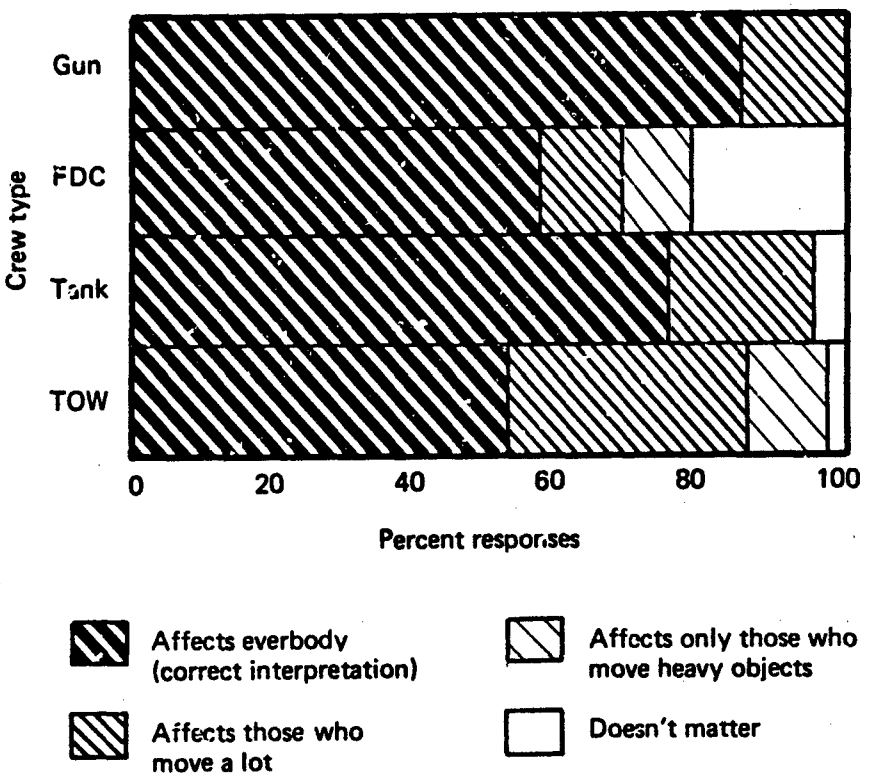


Figure 11. Interpretation of infection symptoms (Concluded).

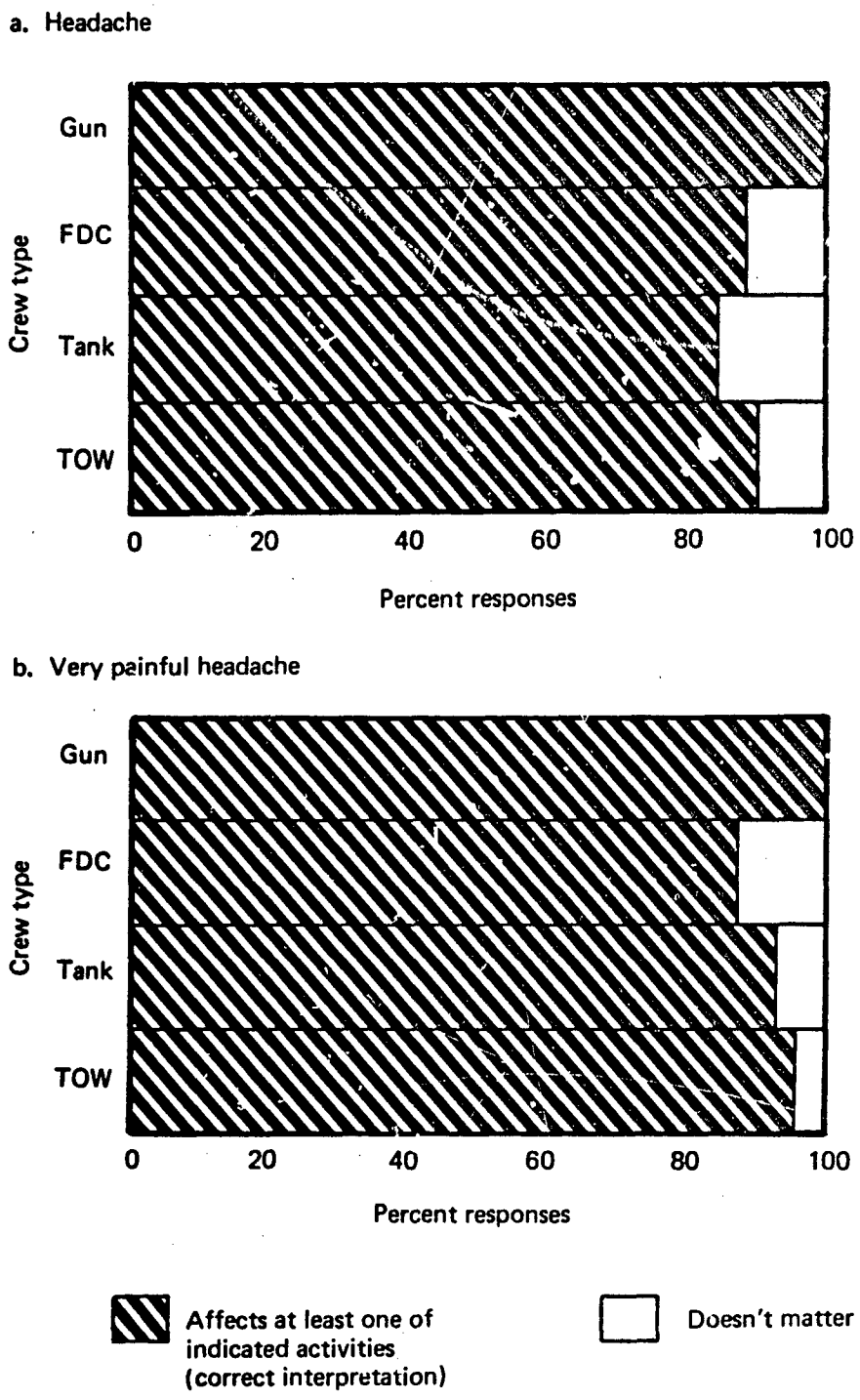
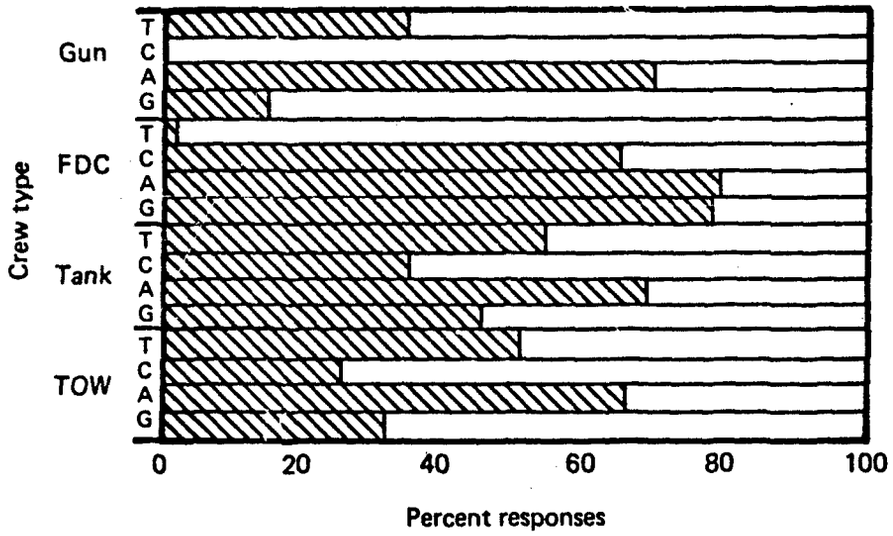
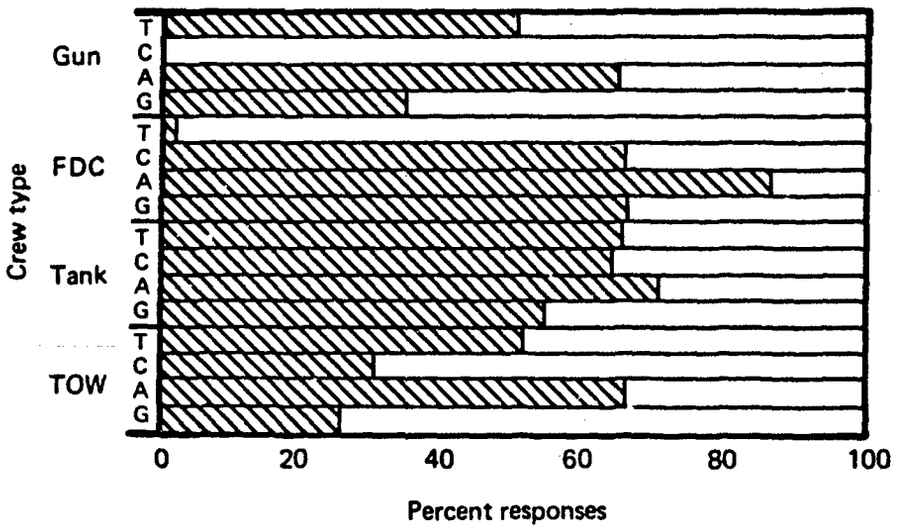


Figure 12. Interpretation of headache symptoms.

a. Headache



b. Very painful headache



T = Aiming and tracking
C = Calculating
A = Attention and concentration
G = Aggressiveness

Affects that category

Does not affect that category

Figure 13. Activities affected by headache.

Unfortunately, the number of respondents who answered the follow-up questionnaire for the artillery (6 for the gun crew and 10 for the FDC crew) was much smaller than for the tank and TOW crews (27 and 40). Consequently, the follow-up questionnaire does not permit a confident assessment of the effect of symptom interpretations upon the answers of the artillery respondents.

Also, that part of the follow-up questionnaire required the respondents to recall the opinions they had acted upon some 2 months previously when they filled in the questionnaire. It may be that the interpretations were less obvious to the respondents when the symptom descriptions were embedded in the fabric of the questionnaires than they were when explicitly described by the follow-up questionnaire.

TASKS WITH UNSTIPULATED NORMS

Six of the tasks in the original questionnaire were ordinary (nonmilitary) tasks, as opposed to combat crew tasks. The ordinary tasks concerned climbing stairs, walking, carrying boxes, and opening combination locks (see Fig. 1). Four of those ordinary tasks had no "usual" reference times stipulated. In administering the questionnaire to TOW crewmembers, we asked them to stipulate their own estimates of "usual" values for the performance of a typical crewmember when unaffected by sickness. We then compared their estimates for best performance of those ordinary tasks by a sick crewmember with their estimates for performance by a well crewmember. Figure 14 shows how the responses were typically distributed. About one-third of the estimates of best performance when sick were equal to performance when well, which is reasonable. Such a finding indicates that about one-third of the respondents believed that at least one of the symptom complexes would cause no deterioration in normal performance.

Somewhat less than one-half of the respondents estimated that best performance when sick would not exceed performance when well. That too is reasonable. But somewhat more than one-quarter of the respondents estimated that sick performance, for at least one symptom complex, would exceed well performance. A possible explanation is that those respondents did not recall the precise estimate of well performance that they

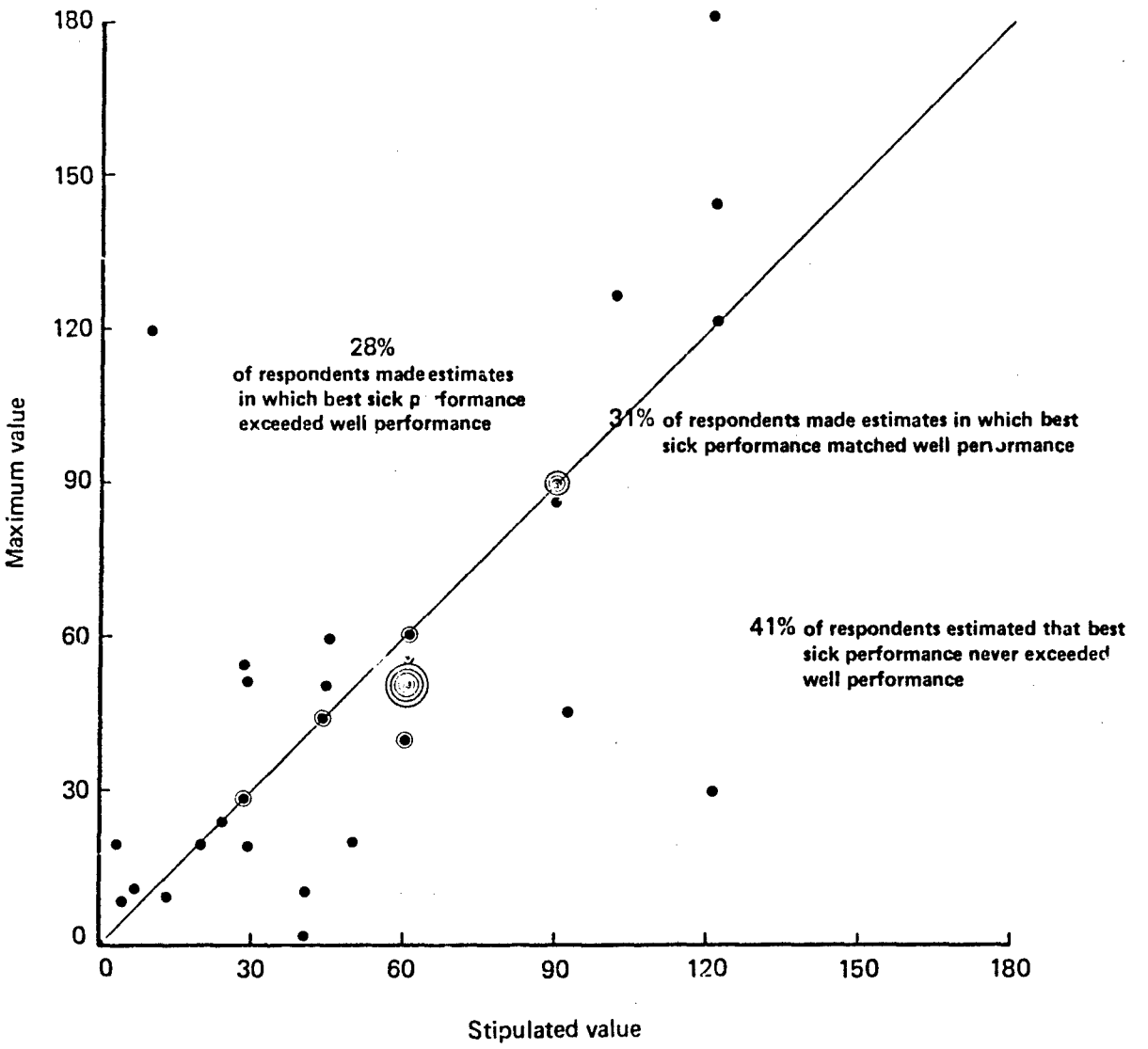


Figure 14. Tasks with unstipulated norms: "How long could a crewmember keep walking . . .?"

specified at the beginning of the questionnaire. Such a lack of recall may have permitted them to make subsequent estimates of sick performance that exceeded their estimates of well performance.

That kind of reversal did not occur in significant numbers for the two ordinary tasks for which the usual times were stipulated on the questionnaire. We thus conclude that: (1) up to 25 percent reversals should be anticipated and be regarded as normal, and (2) the use of questions with unstipulated norms should be avoided.

SINGLE SYMPTOM

The regression analysis of Sec. 3 was intended to fill the gaps in the sequence of symptom complexes because there was not time to ask the soldiers to estimate performance for all of the probable complexes. The estimates that we did obtain from the soldiers can be plotted to show how patterns of performance change with the increase in severity of a single symptom in a complex. This subsection explains that process, and shows that the soldiers estimated that, in most cases, performance declines fairly uniformly as symptom intensity increases, so that a linear regression to fill the gaps between estimates is a reasonable procedure for most of the individual tasks treated here.

The symptom complexes are descriptions of discrete sickness states. Each symptom level is intended to be more severe than the preceding level, but was not intended to be a regular increment along some scale. Also, the scales do not imply that performance at any particular symptom level is necessarily worse than that at the preceding symptom level. It was expected that in some instances performance might remain constant as symptom intensity increased, particularly in cases where the increase in severity occurs in a symptom that does not have a strong influence on the task being plotted. In fact, the soldiers estimated that this would happen in several instances.

Furthermore, it was expected that, in some instances, performance might decline more drastically from one symptom level to the next than for the preceding or following symptom level. And, in fact, the soldiers estimated that this would happen in several instances, as shown in Appendix C. Those plots compare performance estimates for two or three

symptom complexes where symptom severity levels differ in only one symptom, and severity levels for all other symptoms in the complex are held constant. Figure 15 is an example of a single-symptom plot showing the estimated performance of a typical tank crew loader for symptom complexes 411111, 412111, 413111, and 414111. Because the severity level for only one symptom category (fatigability and weakness) changes in this comparison, performance should either decrease or remain the same as the level of fatigability and weakness increases. And it does just that in this case, as in most of the plots in Appendix C. Figure 16, an example of the format used in Appendix C, shows the single-symptom plots for both the tasks performed by the tank crew loader.

VARIANCE

If our description of symptoms was ambiguous, we should expect to see some consistency in the occurrence of wide interquartile ranges for one symptom complex at many tasks. Such consistency occasionally occurs. The most pronounced cases are listed in Table 4. However, there is no occurrence of consistently wide interquartile ranges for all tasks with any of the symptom complexes, so we can conclude that the symptom descriptions do not contain serious ambiguity.

DATA BASE FOR PERFORMANCE ESTIMATES

The performance data base used for the performance regression analyses, described in Sec. 3, is composed of the soldiers' estimates, with the exclusion and rejection of the respondents identified in this section. We believe that the data base represents the aggregate professional estimate of soldiers who are expert in supervising crewmembers performing the tasks described on the questionnaire, and that the most serious of the spurious estimates have been filtered out of the data.

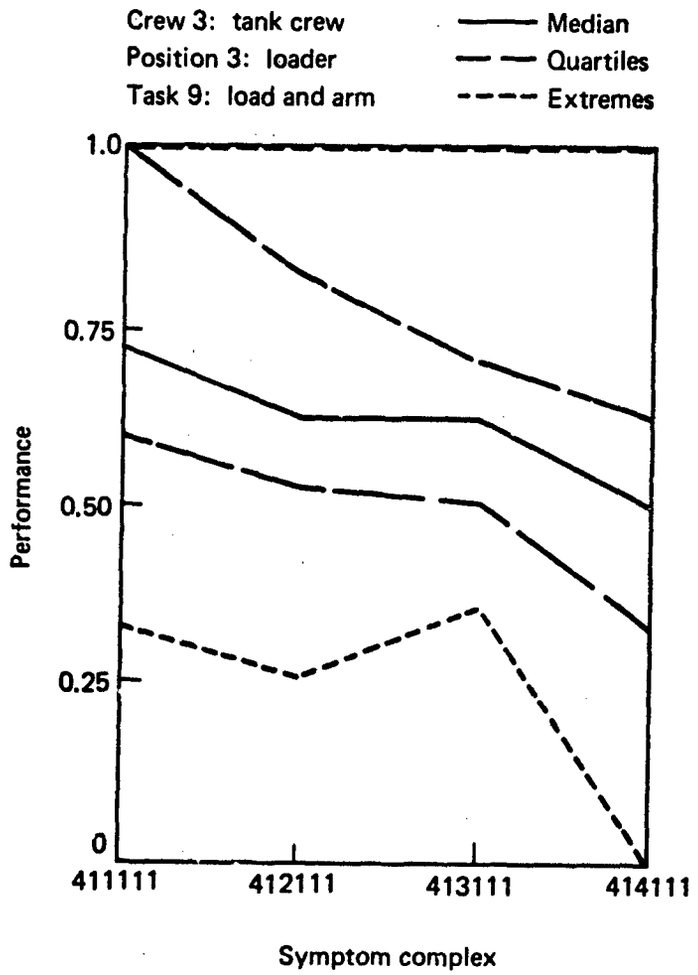


Figure 15. Example of single symptom description.

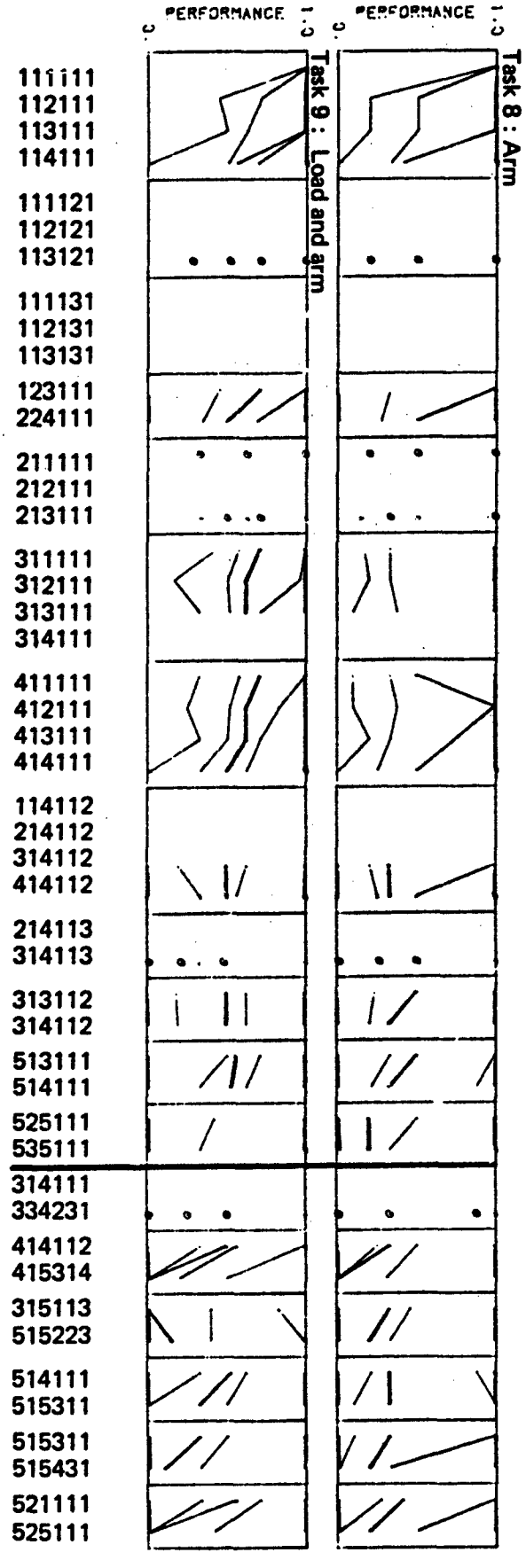


Figure 16. Example of a series of single symptom plots for all tasks in one crew position.

Table 4. Widest interquartile ranges.

Symptom Complex	Crew	Task	Median t_0/t	Interquartile Range
111131	4	3	0.40	0.87
113111	1	6	0.50	0.78
114111	3	1	0.42	0.80
		5	0.42	0.75
114112	4	5	0.57	0.80
123111	1	7	0.50	0.73
		11	0.60	0.70
211111	1	6	0.40	0.80
		9	0.75	0.70
213111	3	1	0.50	0.73
		5	0.50	0.73
214113	4	5	0.50	0.80
224111	1	7	0.60	0.75
	3	1	0.33	0.77
		3	0.46	0.73
		5	0.33	0.84
		8	0.50	0.73
311111	3	5	0.50	0.75
312111	3	1	0.33	0.75
	4	3	0.40	0.80
313111	2	8	0.60	0.70
	4	3	0.40	0.80
313112	3	8	0.50	0.77
314112	3	8	0.33	0.80
314113	1	2	0.48	0.72
		4	0.48	0.70
	3	6	0.52	0.72
		7	0.48	0.74
		10	0.45	0.77
334231	1	2	0.47	0.70
		4	0.47	0.70
	3	6	0.52	0.75
		7	0.46	0.70
		8	0.33	0.88
411111	4	4	0.40	0.80
412111	1	1	0.55	0.70
		10	0.75	0.70
414111	1	7	0.60	0.81
	3	1	0.33	0.80
		5	0.33	0.80
		8	0.50	0.75
414112	4	3	0.50	0.72
513111	1	7	0.60	0.83
		10	0.50	0.77
	3	1	0.33	0.82
		5	0.33	0.80
514111	1	7	0.38	0.77
515311	3	8	0.33	0.90
521111	1	7	0.75	0.71
		8	0.45	0.27
		10	0.75	0.70
	3	5	0.33	0.80
		8	0.42	0.73
	4	3	0.40	0.87
515223	2	3	0.60	0.85
525111	1	2	0.48	0.70
		3	0.47	0.70
		4	0.52	0.72
	3	6	0.40	0.83
		7	0.31	0.70
	4	5	0.51	0.80
535111	3	6	0.40	0.73

SECTION 3

PERFORMANCE REGRESSION ANALYSIS

This section describes the procedure used to develop linear least squares regression models based upon the army questionnaire data discussed in Sec. 2. The models provide the means to (1) fit smooth curves to the original data, (2) generate consistent predictions of performance, (3) interpolate and extrapolate performance for symptom complexes other than those from the questionnaire data, and (4) assess the relative importance of each of the specific symptoms in the complexes.

Since the original data consist of estimates of time required to complete a task, a consistent method of converting those estimates to relative performance values is needed. Additionally, a procedure had to be developed that combines data for several different tasks into a single set of estimates for a given crew position. The regression analysis used here fits selected models to the data. It provides relationships for estimating performance and the associated variances in fitting the data. The performance values that we calculate with the models can then be applied to a dose/time mapping framework (Sec. 4) to yield predictions of overall performance as a function of dose and time.

As discussed in Sec. 2, army personnel were asked to answer questions regarding the length of time it would take crewmembers to perform normal combat tasks if experiencing specific physiological symptoms. Each given combination of those symptoms is referred to as a symptom complex. Questionnaires presented to members of artillery gun crews, artillery FDC crews, and tank crews contained 30 different symptom complex descriptions; the mounted TOW crew questionnaire contained ten additional symptom complex descriptions. Table 5 gives summary information on the structure of the questionnaire data used in the regression analysis. A more detailed summary of task descriptions, reference performance times, and numbering is provided in Table 2.

Regression analysis of the performance data was done with the SAS [Ray et al., 1982] and STATLIB [Brelsford and Relles, 1981] software

Table 5. Combat crew summary for regression analysis.

Combat Crew[a]	Number of Respondents	Number of Symptom Complexes	Crew Position[a]	Tasks[b]
1--Artillery, gun	25	30	1--Chief of section	1
			2--Gunner	2, 3
			3--Assistant gunner	4, 5
			4--Loader	6, 7, 8, 9, 10, 11
2--Artillery, fire direction center	21	30	1--Fire direction officer	1, 2, 3
			2--Horizontal control operator	4, 5, 6
			3--Computer	7, 8
3--Armor, tank	34	30	1--Tank commander	1, 2, 3, 4
			2--Gunner	5, 6, 7
			3--Loader	8, 9
			4--Driver	10
4--Antiarmor, mounted TOW	36	40	1--Squad leader	1, 2
			2--Gunner	3, 4
			3--Driver	5
			4--Loader	6, 7

[a]Numbers refer to indices used in computer codes.

[b]See Table 8 for task descriptions.

systems. Those software systems provide comprehensive diagnostic options that guide selection of the model appropriate for the questionnaire data. A discussion detailing the regression analysis procedure is given in Appendix F.

INPUT DATA

Since the fundamental response variable obtained from the questionnaires was the estimated time t required to complete a task against a stated reference time t_0, the basic index chosen as a measure of performance was the ratio of the reference time to the estimated time (t_0/t) to perform a particular task when experiencing acute radiation symptoms. If we make the following index assignments, ignoring any particular

combat crew: i for respondent, j for task, and k for symptom complex, then t_{ijk}, given in Appendix A, represents the performance time estimate provided by the *ith* respondent for the *jth* task, given the *kth* symptom complex; t_{0j} (given in Table 2) is the reference time for performing the *jth* task. Recalling from the response options provided in the questionnaire (discussed in Sec. 2 above), values for task performance are assigned based on the assumptions shown in Table 6.

Table 6. Performance index.

Questionnaire Response	t_{0j}/t_{ijk}
Could not do it at all (assumes $t_{ijk} = \infty$)	0
Increase in time (i.e., $t_{0j} < t_{ijk} < \infty$)	$0 < (t_{0j}/t_{ijk}) < 1$
No increase in time (assumes $t_{ijk} = t_{0j}$)	1

In performing the regression analysis for tasks, values of the performance measure specified f the dependent variable include averaging over respondents. Averaging the data guarantees that the performance dependent variables for the task *and* positions lie between zero and one, but are not equal to either one or zero, shown in Appendix E. That condition makes it possible to apply the logit transformation for the dependent variable in modeling the data for the regression analysis. The logit model, which is a logarithmic transformation of the dependent variable, is attractive for application to the fractional type of data we have, since the relationships guarantee that all predicted performance values lie within the interval (0, 1).

For the *jth* task, the performance measure is the average over N respondents for a particular crew, i.e.,

$$\bar{P}_{jk} = \frac{1}{N} \sum_{i=1}^{N} \left(\frac{t_{0j}}{t_{ijk}} \right) , \qquad (1)$$

where, based on the assumptions above, $0 < (t_{0j}/t_{ijk}) < 1$. Values of $\bar{P}_{jk}$ are given in Appendix E, where $0 < \bar{P}_{jk} < 1$.

For a given crew position, where a crewmember may perform more than a single task (see Table 5), the measure of performance is assumed to be the ratio of the sum of reference task performance times to the sum of average estimated times to perform the tasks when experiencing acute radiation symptoms, or

$$\bar{P}_k = \frac{\sum_{j=1}^{J} t_{0j}}{\sum_{j=1}^{J} \bar{t}_{jk}} , \qquad 0 < \bar{P}_k < 1 , \qquad (2)$$

where the estimated time to perform the task (with symptoms) is

$$\bar{t}_{jk} = \left(\frac{t_{0j}}{\bar{P}_{jk}} \right) , \qquad 1 < \bar{t}_{jk} < \infty . \qquad (3)$$

The $\bar{P}_k$ values, given in Appendix E, are input for analyzing the relationships that predict individual performance for each crewmember position.

LINEAR REGRESSION MODELING

We limited regression analysis to linear models, assuming that performance can be expressed as some function of a linear combination of the factor (explanatory) variables, i.e., symptom severity levels. The six basic symptom complex variables are designated as follows:

x_1 = Upper gastrointestinal distress (UG),
x_2 = Lower gastrointestinal distress (LG),
x_3 = Fatigability and weakness (FW),
x_4 = Hypotension (HY),
x_5 = Infection, bleeding, and fever (IB),
x_6 = Fluid loss and electrolyte imbalance (FL),

where each x-variable takes on integer values (corresponding to severity level) from 1 to 5. The implicit assumption is made that, given one of the six symptom categories above, severity can be represented in integer multiples. Whether or not that assumption is precisely true was not determined with the linear regression models employed here. It would require complex generalized nonlinear regression analysis, which is beyond the scope of the present effort. Moreover, limitation on the number of symptom complexes allowed in the questionnaires and the selection guidelines followed, based on dose and time considerations, evolved a data set that probably lacks the quantity and type of information required for such an analysis.

Considering only 30 to 40 complexes and possibly a large number of independent parameters p, would place a severe limitation on the number of degrees of freedom available (30 to 40 minus p). More balance in the data is also required, and entails expanding the variety of severity levels across symptom complexes. The symptom complexes selected for the combat crew questionnaires and the data that the present analysis is based on, favors the UG, LG, and FW symptom categories where severity level integers that are greater than one appear more frequently than HY, IB, and to a lesser extent, FL.

In addition to the data limitations and additional complexity required, we did not employ nonlinear regression modeling because we judged that the data could be reasonably represented by a linear model. That model may be expressed as follows.

If performance measure is designated by P_k, which corresponds to the k*th* symptom complex, e.g., for either crewmember position $\overline{P}_k$ or task $\overline{P}_{jk}$, the linear regression model can be expressed as

$$P_k = \underset{\sim}{x}_k'\beta + \varepsilon_k \ , \qquad 1 \le k \le K \ , \tag{4}$$

where $\underset{\sim}{x}_k' = (1, x_{k1}, x_{k2}, \ldots, x_{k6})$ is a vector of integers ($1 \le x_{k\ell} \le 5$) denoting symptom severity level for the k*th* symptom complex and *ℓth* symptom category. The weight $\beta' = (\beta_0, \beta_1, \ldots, \beta_6)$ is a vector of regression coefficients β_ℓ that are estimated. Both $\underset{\sim}{x}_k'$ and β' (transpose of β) each contain seven ($p = 7$) components corresponding to the six symptom categories discussed above plus the intercept. If additional parameters are to be estimated such as may be required for quadratic models that include squared ($x_{k\ell}^2$) and cross-product ($x_{km}x_{kn}$) terms, then the vector lengths may be larger than seven.

Linear quadratic model forms were applied to the data to investigate how well a prediction relationship, including squared and cross-product terms, could represent the data. Based on that analysis (discussed in Appendix F, "Transforming Factor Variables"), we concluded that a quadratic form cannot be developed to model the data for predicting individual performance. The main problem uncovered from the regression diagnostics was multicollinearity (i.e., linear combinations formed by the independent variables). Certain quadratic and cross-product terms form linear combinations with the original six symptom categories, resulting in a noninvertible ($X'X$) matrix. That difficulty arises primarily from the lack of balance in the data set mentioned above.

In linear regression modeling, a usual assumption is that the error terms $\varepsilon_k = P_k - \underset{\sim}{x}_k'\beta$ (actual values minus conditional mean values) are independent, have a common variance, and are normally distributed with a mean equal to zero, i.e., var $(\varepsilon_k) = \sigma^2$. The present regression analysis generally indicated the residuals to be normally distributed.

Writing the linear regression model in matrix notation, we have

$$Y = X\beta + \varepsilon \ , \tag{5}$$

where

$$X = \begin{bmatrix} x_1 \\ x_2 \\ \vdots \\ x_k \end{bmatrix} = \begin{bmatrix} 1, & x_{11}, & x_{12}, & \cdots & x_{16} \\ 1, & x_{21}, & x_{22}, & \cdots & x_{26} \\ \vdots & \vdots & \vdots & & \vdots \\ 1, & x_{k1}, & x_{k2}, & \cdots & x_{k6} \end{bmatrix} ,$$

$$Y = \begin{bmatrix} P_1 \\ P_2 \\ \vdots \\ P_k \end{bmatrix} , \quad \beta = \begin{bmatrix} \beta_0 \\ \beta_1 \\ \vdots \\ \beta_6 \end{bmatrix} , \quad \varepsilon = \begin{bmatrix} \varepsilon_1 \\ \varepsilon_2 \\ \vdots \\ \varepsilon_k \end{bmatrix} .$$

The β-parameter estimates are given by

$$\hat{\beta} = (X'X)^{-1}X'Y , \tag{6}$$

and the covariance of β is given by

$$\text{cov } \hat{\beta} = \hat{\sigma}^2(X'X)^{-1} , \tag{7}$$

where the estimate of the variance of the errors (or mean square error of residuals) for p parameters is

$$\hat{\sigma}^2 = \frac{(Y - X\hat{\beta})'(Y - X\hat{\beta})}{K - p} \tag{8}$$

CONFIDENCE BOUNDS

Two types of confidence bounds can be constructed about the regression line for predicted performance values (Appendix F, "General Linear Model"). One is based on the variance $\hat{\sigma}_m^2$ of the expected value of performance for any given symptom complex $\underset{\sim}{x}_k$, which reflects the uncertainty in the β-parameter estimates; $\hat{\sigma}_m^2$ is often referred to as the variance of the predicted value of the conditional *mean*. Another is based on the

variance $\hat{\sigma}_0^2$ of the input performance data relative to the expected values of performance, i.e., relative to the regression line. Often, $\hat{\sigma}_0^2$ is referred to as the variance of the predicted value of a further *observed* value, i.e., additional performance input data.

Upper and lower 95 percent confidence bounds for the expected performance values predicted by the regression relationships are given as

$$L_{95,m} = \underset{\sim}{x}_k'\hat{\beta} \pm 2.08\hat{\sigma}_m \ , \tag{9}$$

where 2.08 is the 95 percent cutoff of the t-distribution for a sample size of 30 or 40 (i.e., the number of symptom complexes used in the analysis). The quantities $\underset{\sim}{x}_k'$ and $\underset{\sim}{x}_k$ are row and column vectors, respectively, each containing unity for the first element followed by six integer values $(x_1, x_2, \ldots, x_6)$ designating symptom severity levels for a *kth* symptom complex.

The prediction of a further observation for a given symptom complex $\underset{\sim}{x}_k'$ would also have a value of $\underset{\sim}{x}_k'\hat{\beta}$. However, the variance is

$$\hat{\sigma}_0^2 = \hat{\sigma}_m^2 + \hat{\sigma}^2 \tag{10}$$

$$= \hat{\sigma}^2[1 + \underset{\sim}{x}_k'(X'X)^{-1}\underset{\sim}{x}_k] \ .$$

Upper and lower 95 percent confidence bounds for a further observed value are

$$L_{95,0} = \underset{\sim}{x}_k'\hat{\beta} \pm 2.08\hat{\sigma}_0^2 \ . \tag{11}$$

The $L_{95,0}$ confidence bounds will be wider than the $L_{95,m}$ confidence bounds and should contain about 95 percent of the observed values (input data) whereas a smaller percentage of the observed values will be included within the $L_{95,m}$ bounds.

CORRELATION OF RESPONSES

Estimates of the effects of correlation between responses from the questionnaire data were made using STATLIB [Brelsford and Relles, 1981]. Analysis of the data (discussed in Appendix F, "Correlation among Model Error Terms") showed significant positive correlation with estimated correlation coefficients ranging from $\rho = 0.2$ to 0.4. The correlation coefficient ρ is a measure of individual response bias of the respondents. So, for example, with 35 individuals, each providing judgments of performance on a common set of 30 different symptom complex descriptions, some will offer consistently low values, some consistently high values, and others somewhere in between. On the other hand, purely independent responses would result in a zero correlation ($\rho = 0$).

It can be shown theoretically that least squares linear regression yields β-parameter estimates ($\hat{\beta}$) that are unbiased. Therefore, ordinary least squares regression analysis is suitable for estimating β. However, when $\rho \neq 0$, estimates of the variance σ^2 are biased downward (see Appendix F, "Correlation among Model Error Terms"). Because of the strong assumption of normality for the joint distribution of 30 error terms (i.e., jointly correlated with one another) required by STATLIB, it was not possible to precisely determine the extent of the downward bias with the *generalized* least squares regression model package. That package was not designed to give robust estimates of σ for the expanded data set (i.e., when not averaged over individual respondents) from the questionnaires. Furthermore, we are unaware of any existing package designed to develop reliable estimates of σ for the kind of data set developed from the questionnaires. However, from theoretical considerations an inflation factor can be developed to estimate an adjustment from the upper and lower confidence limits. Since it can be shown that σ, as determined by ordinary least squares regression (which assumes $\rho \neq 0$), has a downward bias by a factor of $\sqrt{1 - \rho}$, multiplication of $\hat{\sigma}$ by $1/\sqrt{1 - \rho}$ corrects the bias when $\rho \neq 0$. Since we estimated values ranging from $\rho = 0.2$ to 0.4, a factor of from 1.12 to 1.29 can be used to increase the upper and lower confidence limits,

$$L_{95,m}(\text{adjusted}) = \underset{\sim}{x}_k'\hat{\beta} \pm \left(\frac{1}{\sqrt{1-\rho}}\right) 2.08\hat{\sigma}_m \ ,$$

$$L_{95,0}(\text{adjusted}) = \underset{\sim}{x}_k'\hat{\beta} \pm \left(\frac{1}{\sqrt{1-\rho}}\right) 2.08\hat{\sigma}_0 \ . \tag{12}$$

The magnitude of such an adjustment is not large; it extends the upper and lower bounds by about 12 to 30 percent.

INDIVIDUAL PERFORMANCE PREDICTIONS

Predictions of individual performance were made using the logit form of the linear regression model. Preliminary analyses were performed on the data using two alternative forms of the linear regression model, and with seven first power terms (intercept plus six symptom categories) for the independent variables ($\underset{\sim}{x}_k'$). The analyses indicated no significant difference between the two forms in fitting the data, one where the logit transformation, $\ln[P/(1 - P)]$ is made on the dependent variable (performance), and the other where it is not made. However, predictions of performance using the logit form guarantee that all predicted performance values including the upper and lower confidence limits lie within the interval (0, 1), which is consistent with the input data set. Predictions using the form where the dependent variable is not transformed can yield values outside that interval. Accordingly, the logit form was applied to the data for the regression analysis.

Making the logit transformation of the dependent variable P_k (performance response) gives the form

$$\ln \frac{P_k}{1 - P_k} = \underset{\sim}{x}_k'\beta + \varepsilon_k \ , \qquad 1 \le k \le K \ , \tag{13}$$

where $\ln[P_k/(1 - P_k)]$ was regressed on the $\underset{\sim}{x}_k'$ variables to obtain estimates $\hat{\beta}$ of the β-parameters. Using the data given in Appendix E, regression parameters were obtained for crewmember positions given in Tables 7 through 10 for the gun, FDC, tank, and TOW crews, respectively. The

Table 7. Gun crew regression parameters.

SYMPTOM	CHIEF OF SECTION BETA PARAMETER	CHIEF OF SECTION STANDARD ERROR	CHIEF OF SECTION STUDENT T	GUNNER BETA PARAMETER	GUNNER STANDARD ERROR	GUNNER STUDENT T
INTERCEPT	2.808356	0.257279	10.916	3.292434	0.216134	15.233
UPPER GASTRO	-0.225827	0.049776	-4.537	-0.146315	0.041816	-3.499
LOWER GASTRO	-0.365274	0.125597	-2.908	-0.361714	0.105511	-3.428
FATIGUE/WEAK	-0.181312	0.062324	-2.909	-0.244968	0.052357	-4.679
HYPOTENSION	-0.066167	0.129619	-0.510	-0.173207	0.108890	-1.591
INFECT/BLEED	-0.352418	0.158464	-2.224	-0.179993	0.133122	-1.352
FLUID LOSS	-0.434346	0.092686	-4.686	-0.439715	0.077863	-5.647
	R SQUARED = 0.8715			R SQUARED = 0.9080		
	RMS ERROR = 0.339175			RMS ERROR = 0.284933		
	DGF = 23			DGF = 23		

SYMPTOM	ASSISTANT GUNNER BETA PARAMETER	ASSISTANT GUNNER STANDARD ERROR	ASSISTANT GUNNER STUDENT T	LOADER BETA PARAMETER	LOADER STANDARD ERROR	LOADER STUDENT T
INTERCEPT	3.113833	0.190724	16.326	2.518392	0.147253	17.103
UPPER GASTRO	-0.134983	0.036900	-3.658	-0.146718	0.028469	-5.150
LOWER GASTRO	-0.366702	0.093107	-3.939	-0.293360	0.071885	-4.081
FATIGUE/WEAK	-0.256687	0.046202	-5.556	-0.300109	0.035671	-8.413
HYPOTENSION	-0.130065	0.096088	-1.354	-0.195549	0.074187	-2.636
INFECT/BLEED	-0.215799	0.117471	-1.837	-0.235970	0.090697	-2.602
FLUID LOSS	-0.435395	0.068709	-6.337	-0.439888	0.053049	-8.292
	R SQUARED = 0.9254			R SQUARED = 0.9623		
	RMS ERROR = 0.251434			RMS ERROR = 0.194126		
	DGF = 23			DGF = 23		

Table 8. FDC crew regression parameters.

SYMPTOM	FIRE DIRECTION OFFICER BETA PARAMETER	FIRE DIRECTION OFFICER STANDARD ERROR	FIRE DIRECTION OFFICER STUDENT T	HORIZONTAL CONTROL OPERATOR BETA PARAMETER	HORIZONTAL CONTROL OPERATOR STANDARD ERROR	HORIZONTAL CONTROL OPERATOR STUDENT T
INTERCEPT	3.442455	0.346776	9.927	2.461669	0.191858	12.831
UPPER GASTRO	-0.229368	0.067091	-3.419	-0.189613	0.037119	-5.108
LOWER GASTRO	-0.524898	0.169288	-3.101	-0.344844	0.093660	-3.682
FATIGUE/WEAK	-0.069726	0.084004	-0.830	-0.097654	0.046476	-2.101
HYPOTENSION	-0.168636	0.174709	-0.965	-0.134423	0.096659	-1.391
INFECT/BLEED	-0.240984	0.213588	-1.128	-0.097338	0.118170	-0.824
FLUID LOSS	-0.484706	0.124928	-3.880	-0.320908	0.069118	-4.643
	R SQUARED = 0.7757			R SQUARED = 0.8697		
	RMS ERROR = 0.457161			RMS ERROR = 0.252929		
	DGF = 23			DGF = 23		

SYMPTOM	COMPUTER BETA PARAMETER	COMPUTER STANDARD ERROR	COMPUTER STUDENT T
INTERCEPT	2.875132	0.189877	15.142
UPPER GASTRO	-0.162319	0.036736	-4.419
LOWER GASTRO	-0.422774	0.092693	-4.561
FATIGUE/WEAK	-0.073737	0.045997	-1.603
HYPOTENSION	-0.214650	0.095662	-2.244
INFECT/BLEED	-0.052900	0.116950	-0.452
FLUID LOSS	-0.352097	0.068404	-5.147
	R SQUARED = 0.8757		
	RMS ERROR = 0.250318		
	DGF = 23		

Table 9. Tank crew regression parameters.

SYMPTOM	TANK COMMANDER BETA PARAMETER	TANK COMMANDER STANDARD ERROR	TANK COMMANDER STUDENT T	GUNNER BETA PARAMETER	GUNNER STANDARD ERROR	GUNNER STUDENT T
INTERCEPT	3.739408	0.252659	14.800	4.150500	0.240619	17.249
UPPER GASTRO	-0.304504	0.048882	-6.229	-0.307994	0.046553	-6.616
LOWER GASTRO	-0.499096	0.123342	-4.046	-0.583071	0.117464	-4.964
FATIGUE/WEAK	-0.237838	0.061205	-3.886	-0.183404	0.058288	-3.146
HYPOTENSION	-0.179232	0.127292	-1.408	-0.212194	0.121226	-1.750
INFECT/BLEED	-0.043841	0.155619	-0.282	0.032174	0.148203	0.217
FLUID LOSS	-0.476924	0.091022	-5.240	-0.544823	0.086684	-6.285
	R SQUARED = 0.9110			R SQUARED = 0.9185		
	RMS ERROR = 0.333085			RMS ERROR = 0.317212		
	DGF = 23			DGF = 23		

SYMPTOM	LOADER BETA PARAMETER	LOADER STANDARD ERROR	LOADER STUDENT T	DRIVER BETA PARAMETER	DRIVER STANDARD ERROR	DRIVER STUDENT T
INTERCEPT	3.353334	0.210557	15.926	3.815458	0.226685	16.832
UPPER GASTRO	-0.225547	0.040737	-5.537	-0.210782	0.043857	-4.806
LOWER GASTRO	-0.448839	0.102789	-4.367	-0.506874	0.110662	-4.580
FATIGUE/WEAK	-0.300574	0.051006	-5.893	-0.309476	0.054913	-5.636
HYPOTENSION	-0.181349	0.106080	-1.710	-0.184998	0.114206	-1.620
INFECT/BLEED	0.006172	0.129687	-0.048	-0.012318	0.139621	-0.088
FLUID LOSS	-0.520462	0.075854	-6.861	-0.439561	0.081664	-5.383
	R SQUARED = 0.9367			R SQUARED = 0.9229		
	RMS ERROR = 0.277580			RMS ERROR = 0.298843		
	DGF = 23			DGF = 23		

Table 10. TOW crew regression parameters.

SYMPTOM	SQUAD LEADER BETA PARAMETER	SQUAD LEADER STANDARD ERROR	SQUAD LEADER STUDENT T	GUNNER BETA PARAMETER	GUNNER STANDARD ERROR	GUNNER STUDENT T
INTERCEPT	3.861355	0.277212	13.929	3.568425	0.276925	12.886
UPPER GASTRO	-0.229213	0.053150	-4.313	-0.242815	0.053095	-4.573
LOWER GASTRO	-0.268881	0.136572	-1.969	-0.233592	0.136431	-1.712
FATIGUE/WEAK	-0.368688	0.064496	-5.716	-0.377513	0.064430	-5.859
HYPOTENSION	0.051657	0.132217	0.391	0.001518	0.132081	0.011
INFECT/BLEED	-0.396030	0.111644	-3.547	-0.400014	0.111528	-3.587
FLUID LOSS	-0.507480	0.098002	-5.178	-0.462964	0.097901	-4.933
	R SQUARED = 0.8659			R SQUARED = 0.8721		
	RMS ERROR = 0.391040			RMS ERROR = 0.390636		
	DGF = 33			DGF = 33		

SYMPTOM	DRIVER BETA PARAMETER	DRIVER STANDARD ERROR	DRIVER STUDENT T	LOADER BETA PARAMETER	LOADER STANDARD ERROR	LOADER STUDENT T
INTERCEPT	5.122940	0.324222	15.801	4.261434	0.292214	14.583
UPPER GASTRO	-0.244408	0.062164	-3.932	-0.251266	0.056027	-4.485
LOWER GASTRO	-0.299380	0.159732	-1.874	-0.265417	0.143963	-1.844
FATIGUE/WEAK	-0.486197	0.075434	-6.445	-0.523345	0.067987	-7.698
HYPOTENSION	0.127268	0.154639	0.823	0.057344	0.139373	0.411
INFECT/BLEED	-0.508780	0.130577	-3.896	-0.390862	0.117686	-3.321
FLUID LOSS	-0.612157	0.114622	-5.341	-0.622272	0.103306	-6.024
	R SQUARED = 0.8723			R SQUARED = 0.9048		
	RMS ERROR = 0.457354			RMS ERROR = 0.412203		
	DGF = 33			DGF = 33		

standard error of the β's listed in the tables is the square root of the diagonals of the variance-covariance matrix of β

$$\sqrt{(\mathrm{cov}\ \hat{\beta})_{ii}} = \hat{\sigma}\sqrt{(X'X)^{-1}_{ii}}\ . \tag{14}$$

Also given in those tables, for each crew type and symptom category, is a Student's t-statistic. That statistic is the ratio of the estimated β-parameter to the standard error. The Student's t values are a measure of each symptom category's importance. For the data analyzed with 23 to 33 degrees of freedom, values of $|t|$ less than about two indicate that the symptom category becomes nonsignificant. The regression analysis indicates that all crews considered both the FL and UG symptom categories as important (i.e., where $|t| \geq 2$), with FL the most important. The HY and IB categories were considered the least important compared with the others. Table 11 is a summary by crew position of the symptom categories judged to be the least significant (i.e., where $|t| \leq 2$).

The R^2 values are a global measure of goodness of fit of the data given by

$$R^2 = 1 - \frac{\sum_{k=1}^{K} (P_k - \hat{P}_k)^2}{\sum_{k=1}^{K} (P_k - \overline{P})^2}\ , \tag{15}$$

where P_k and $\overline{P}$ are performance input and average performance input data, respectively, and $\hat{P}_k$ are predicted values. The R^2 values are all quite large, indicating a good fit of the regression model with the data. The RMS error is the square root of the estimated variance of the residuals, indicated in the text above as $\hat{\sigma}$.

The regression diagnostics do not indicate any significant problem with collinearity (a linear combination formed by two independent variables). The seven eigenvalues of the normalized (X'X) matrix are listed

Table 11. Least significant symptom categories.

Crew	Crew Position	Symptom Category LG	FW	HY	IB
Gun	Chief of section			x	
	Gunner			✓	✓
	Assistant gunner			✓	✓
	Loader				
FDC	Fire direction officer		x	x	✓
	Horizontal control operator			✓	x
	Computer		✓		x
Tank	Tank commander			✓	x
	Gunner			✓	x
	Loader			✓	x
	Driver			✓	x
TOW	Squad leader	✓		x	
	Gunner	✓		x	
	Driver	✓		x	
	Loader	✓		x	

NOTE: x = Student's $|t| < 1$,
✓ = $1 \leq$ Student's $|t| < 2$.

in Table 12 with the *condition index*, which is obtained by dividing the square root of the top eigenvalue $\sqrt{6.203}$ by the square root of the others (including itself). All values of the condition index are much less than about 30, which indicates no significant collinearity relationship.

Applying the inverse transformation to the logit regression relationship yields the formula for predicting expected values of performance $\hat{p}_k$ for the *kth* symptom complex given by

$$\hat{p}_k = \frac{1}{1 + \exp\,(-\underset{\sim}{x}_k'\hat{\beta})} \quad . \tag{16}$$

Table 12. Eigenvalue condition indexes.

Eigenvalue (V_i)	Condition Index $\left(\sqrt{V_1/V_i}\right)$
6.203	1.0
0.282040	4.690
0.215428	5.366
0.134011	6.803
0.073825	9.166
0.051828	10.940
0.039971	12.457

The upper and lower 95 percent confidence bounds for the predicted expected values of performance are given by

$$UL_{95,m} = \frac{1}{\{1 + \exp\,[\,-\,(\underset{\sim}{x}_k'\hat{\beta} + 2.08\hat{\sigma}_m)\,]\}}\,, \tag{17}$$

and

$$LL_{95,m} = \frac{1}{\{1 + \exp\,[\,-\,(\underset{\sim}{x}_k'\hat{\beta} - 2.08\hat{\sigma}_m)\,]\}}\,. \tag{18}$$

The upper and lower 95 percent confidence bounds for further predicted observed values of performance are given by

$$UL_{95,0} = \frac{1}{\{1 + \exp\,[\,-\,(\underset{\sim}{x}_k'\hat{\beta} + 2.08\hat{\sigma}_0)\,]\}}\,, \tag{19}$$

and

$$LL_{95,0} = \frac{1}{\{1 + \exp\,[\,-\,(\underset{\sim}{x}_k'\hat{\beta} - 2.08\hat{\sigma}_0)\,]\}}\,. \tag{20}$$

Tables 13 through 27 list the predicted expected and actual (observed) data performance values for crewmember positions, the upper and lower 95 percent confidence bounds $UL_{95,m}$ and $LL_{95,m}$, for each of 30 symptom complexes ($\underset{\sim}{x}_k'$) for the artillery (gun and FDC) and tank crews; and each of 40 symptom complexes for the TOW crew. The listing order in the tables is arranged from highest to lowest value of performance predicted by the regression formula. The values of $(1 - P_k)$ termed performance degradation are also listed.

Figures 17 through 31 are plots of the crewmember performance data given in Tables 13 through 27. Performance P_k is plotted against $(1 - P_k)$, which yields the straight line shown. For purposes of illustration, values of performance predicted by the regression relationship lie along the straight line at coordinates $[(1 - \hat{P}_k), \hat{P}_k]$ for each *kth* symptom complex. The actual data values are given by the asterisks, which have coordinates $[(1 - \hat{P}_k), P_k]$. The unevenly spaced tick marks along the top edge of the abscissa correspond to each of the ordered symptom complexes listed in Tables 13 through 27. The two sets of error bars each designate upper and lower 95 percent confidence bounds for the prediction of performance along the regression line. The solid line bars are for the expected mean performance values that correspond to the $UL_{95,m}$ and $LL_{95,m}$ bounds. The wider dotted line bars are for further data observations that correspond to the $UL_{95,0}$ and $LL_{95,0}$ bounds. The plots indicate a substantial portion of the data included even within the narrower predicted mean value confidence bounds. A much larger portion of the data is included within the wider 95 percent confidence bounds as would be expected for further observed values of performance (i.e., additional data). Expanding the confidence limits by 12 to 30 percent by multiplying them by the inflation factor $1/\sqrt{1 - \rho}$ to account for correlated response data, where estimates are $\rho = 0.2$ to 0.4, would include essentially all of the data. However, the extent to which variation in response data about the regression line can be attributed to either nonlinearities that might exist in the symptom severity levels (integer values 1 through 5 were assumed) or simply variations in performance judgment, cannot be ascertained for reasons previously discussed (see p. 59).

Table 13. Gun crew individual performance: chief of section.

	SYMPTOM COMPLEX	PERFORMANCE DEGRADATION	PREDICTED VALUE	ACTUAL VALUE	CONFIDENCE LEVELS LOW 95%	HIGH 95%
1	112111	0.2685	0.73145	0.81306	0.67478	0.78126
2	211111	0.2774	0.72256	0.67100	0.66149	0.77626
3	113111	0.3057	0.69432	0.81107	0.63454	0.74819
4	311111	0.3249	0.67510	0.69600	0.61140	0.73302
5	114111	0.3455	0.65454	0.69100	0.57861	0.72334
6	213111	0.3556	0.64441	0.60500	0.59741	0.68879
7	312111	0.3659	0.63415	0.61200	0.58877	0.67726
8	411111	0.3762	0.62376	0.53000	0.54979	0.69237
9	113121	0.3851	0.61490	0.55500	0.52196	0.70016
10	123111	0.3881	0.61185	0.64200	0.52799	0.68958
11	313111	0.4088	0.59115	0.65800	0.54948	0.63155
12	412111	0.4196	0.58035	0.55700	0.52531	0.63347
13	413111	0.4643	0.53567	0.55900	0.48626	0.58438
14	224111	0.4880	0.51199	0.36200	0.43957	0.58391
15	414111	0.5096	0.49040	0.49100	0.42870	0.55239
16	313112	0.5164	0.48360	0.46900	0.43661	0.53088
17	513111	0.5207	0.47928	0.51500	0.41373	0.54555
18	521111	0.5214	0.47862	0.53000	0.37414	0.58501
19	314112	0.5614	0.43858	0.39400	0.39014	0.48822
20	514111	0.5657	0.43432	0.40900	0.36244	0.50908
21	414112	0.6160	0.38397	0.36800	0.33381	0.43672
22	515311	0.6406	0.35942	0.38700	0.25578	0.47812
23	314113	0.6640	0.33598	0.25200	0.26982	0.40927
24	525111	0.6923	0.30772	0.28700	0.24104	0.38348
25	315113	0.7032	0.29680	0.25502	0.23130	0.37188
26	535111	0.7642	0.23577	0.26096	0.16219	0.32966
27	334231	0.7882	0.21182	0.22097	0.13424	0.31762
28	515431	0.7940	0.20603	0.15499	0.12909	0.31245
29	415314	0.8396	0.16043	0.15499	0.09850	0.25049
30	515223	0.8498	0.15020	0.28900	0.10603	0.20850

Table 14. Gun crew individual performance: gunner.

	SYMPTOM COMPLEX	PERFORMANCE DEGRADATION	PREDICTED VALUE	ACTUAL VALUE	CONFIDENCE LEVELS LOW 95%	HIGH 95%
1	211111	0.1680	0.83202	0.82807	0.79560	0.86307
2	112111	0.1821	0.81787	0.81593	0.78126	0.84941
3	311111	0.1894	0.81061	0.87303	0.77206	0.84396
4	411111	0.2128	0.78718	0.73100	0.74097	0.82693
5	113111	0.2215	0.77851	0.85705	0.73711	0.81487
6	312111	0.2299	0.77012	0.70900	0.74039	0.79738
7	213111	0.2479	0.75213	0.78600	0.71957	0.78211
8	113121	0.2541	0.74593	0.70000	0.68077	0.80155
9	412111	0.2567	0.74326	0.72800	0.70586	0.77730
10	114111	0.2666	0.73341	0.73000	0.67723	0.78279
11	313111	0.2761	0.72391	0.78194	0.69445	0.75157
12	123111	0.2901	0.70989	0.70700	0.64719	0.76549
13	413111	0.3063	0.69374	0.69400	0.65733	0.72788
14	521111	0.3101	0.68988	0.69800	0.60807	0.76133
15	513111	0.3382	0.66180	0.64300	0.61020	0.70981
16	414111	0.3606	0.63938	0.60000	0.58994	0.68603
17	313112	0.3719	0.62814	0.63100	0.59030	0.66447
18	224111	0.3767	0.62330	0.54000	0.56445	0.67873
19	514111	0.3950	0.60500	0.59200	0.54336	0.66348
20	314112	0.4306	0.56937	0.50900	0.52782	0.60996
21	414112	0.4668	0.53319	0.53500	0.48740	0.57843
22	314113	0.5400	0.45998	0.41700	0.39545	0.52587
23	515311	0.5412	0.45884	0.53400	0.35964	0.56141
24	525111	0.5450	0.45504	0.40600	0.38636	0.52547
25	315113	0.6000	0.40001	0.40400	0.33410	0.46976
26	334231	0.6313	0.36874	0.38400	0.26910	0.48099
27	535111	0.6323	0.36771	0.41400	0.28215	0.46251
28	515431	0.6678	0.33221	0.27500	0.23704	0.44334
29	515223	0.7410	0.25903	0.39900	0.20005	0.32826
30	415314	0.7922	0.20784	0.16995	0.14088	0.29567

Table 15. Gun crew individual performance: assistant gunner.

	SYMPTOM COMPLEX	PERFORMANCE DEGRADATION	PREDICTED VALUE	ACTUAL VALUE	CONFIDENCE LEVELS LOW 95%	HIGH 95%
1	211111	0.1917	0.80630	0.80298	0.77312	0.83916
2	112111	0.2112	0.78885	0.78801	0.75325	0.82039
3	311111	0.2135	0.78651	0.83202	0.74988	0.81906
4	411111	0.2370	0.76296	0.74895	0.71963	0.80155
5	113111	0.2571	0.74288	0.82201	0.70301	0.77903
6	312111	0.2596	0.74039	0.70000	0.71215	0.76656
7	213111	0.2838	0.71623	0.71100	0.68518	0.74536
8	412111	0.2865	0.71352	0.70900	0.67860	0.74612
9	113121	0.3005	0.69952	0.67500	0.63721	0.75528
10	114111	0.3091	0.69086	0.69000	0.63771	0.73943
11	313111	0.3120	0.68802	0.76296	0.66032	0.71443
12	123111	0.3331	0.66688	0.67000	0.60822	0.72080
13	521111	0.3390	0.66096	0.65800	0.58652	0.72821
14	413111	0.3417	0.65833	0.65200	0.62462	0.69052
15	513111	0.3726	0.62736	0.58200	0.58029	0.67212
16	414111	0.4015	0.59849	0.56100	0.55349	0.64189
17	313112	0.4121	0.58794	0.57500	0.55358	0.62147
18	224111	0.4250	0.57504	0.50100	0.52169	0.62670
19	514111	0.4343	0.56567	0.54400	0.51035	0.61940
20	314112	0.4753	0.52467	0.47900	0.48767	0.56141
21	414112	0.5091	0.49095	0.49000	0.45066	0.53136
22	515311	0.5628	0.43718	0.51500	0.35067	0.52769
23	314113	0.5834	0.41663	0.37100	0.36133	0.47411
24	525111	0.5888	0.41116	0.37000	0.35245	0.47251
25	315113	0.6441	0.35588	0.35900	0.30065	0.41522
26	535111	0.6739	0.32610	0.37700	0.25502	0.40609
27	334231	0.6815	0.31845	0.32100	0.23722	0.41251
28	515431	0.6930	0.30698	0.25200	0.22618	0.40155
29	515223	0.7701	0.22988	0.36100	0.18168	0.28631
30	415314	0.8060	0.19404	0.16097	0.13729	0.26718

Table 16. Gun crew individual performance: loader.

	SYMPTOM COMPLEX	PERFORMANCE DEGRADATION	PREDICTED VALUE	ACTUAL VALUE	CONFIDENCE LEVELS LOW 95%	HIGH 95%
1	211111	0.3186	0.68137	0.65000	0.64467	0.71595
2	311111	0.3513	0.64871	0.65300	0.61163	0.68408
3	112111	0.3528	0.64718	0.69000	0.61091	0.68184
4	411111	0.3854	0.61459	0.56500	0.57241	0.65512
5	312111	0.4223	0.57768	0.55600	0.55078	0.60412
6	113111	0.4239	0.57605	0.69700	0.53813	0.61309
7	412111	0.4585	0.54154	0.52000	0.50974	0.57300
8	213111	0.4601	0.53988	0.54200	0.51136	0.56814
9	113121	0.4824	0.51764	0.47300	0.46334	0.57154
10	521111	0.4934	0.50664	0.55000	0.44548	0.56760
11	123111	0.4967	0.50330	0.50200	0.45435	0.55220
12	313111	0.4967	0.50329	0.55900	0.47895	0.52760
13	114111	0.4984	0.50162	0.45200	0.45566	0.54755
14	413111	0.5333	0.46666	0.49600	0.43860	0.49492
15	513111	0.5696	0.43038	0.39600	0.39357	0.46798
16	313112	0.6051	0.39490	0.38700	0.36933	0.42107
17	224111	0.6067	0.39326	0.33000	0.35432	0.43361
18	414111	0.6068	0.39325	0.37000	0.35984	0.42768
19	514111	0.6412	0.35884	0.36200	0.32029	0.39930
20	314112	0.6741	0.32589	0.34400	0.30128	0.35149
21	414112	0.7055	0.29451	0.29500	0.26924	0.32112
22	314113	0.7626	0.23740	0.22305	0.20636	0.27153
23	525111	0.7639	0.23613	0.22794	0.20327	0.27259
24	515311	0.7811	0.21892	0.24899	0.17480	0.27072
25	535111	0.8126	0.18740	0.18694	0.15008	0.23148
26	315113	0.8126	0.18740	0.17902	0.15963	0.21874
27	334231	0.8236	0.17639	0.18801	0.13517	0.22671
28	515431	0.8742	0.12576	0.10997	0.09449	0.16548
29	515223	0.8995	0.10047	0.13401	0.08166	0.12314
30	415314	0.9202	0.07980	0.06998	0.05925	0.10679

Table 17. FDC crew individual performance: fire direction officer.

	SYMPTOM COMPLEX	PERFORMANCE DEGRADATION	PREDICTED VALUE	ACTUAL VALUE	CONFIDENCE LEVELS LOW 95%	HIGH 95%
1	112111	0.1606	0.83943	0.90602	0.78381	0.88298
2	113111	0.1701	0.82991	0.94401	0.77259	0.87512
3	114111	0.1802	0.81980	0.77903	0.74668	0.87534
4	211111	0.1832	0.81683	0.70200	0.75176	0.86784
5	213111	0.2051	0.79495	0.80799	0.74763	0.83548
6	113121	0.2069	0.79315	0.70400	0.69666	0.86483
7	311111	0.2201	0.77989	0.77799	0.70899	0.83753
8	312111	0.2322	0.76781	0.69300	0.71870	0.81046
9	313111	0.2449	0.75510	0.78701	0.71025	0.79495
10	123111	0.2573	0.74269	0.77903	0.64507	0.82083
11	411111	0.2619	0.73808	0.69700	0.65112	0.80969
12	412111	0.2756	0.72438	0.76692	0.66058	0.78023
13	413111	0.2898	0.71025	0.82201	0.65246	0.76188
14	414111	0.3043	0.69569	0.69800	0.62048	0.76170
15	224111	0.3185	0.68150	0.48200	0.59113	0.76006
16	513111	0.3391	0.66088	0.60900	0.57668	0.73595
17	313112	0.3450	0.65503	0.65000	0.59534	0.71021
18	514111	0.3549	0.64508	0.62500	0.54795	0.73165
19	314112	0.3609	0.63911	0.54900	0.57498	0.69864
20	414112	0.4153	0.58471	0.62700	0.51199	0.65392
21	521111	0.4300	0.56998	0.59700	0.42644	0.70264
22	515311	0.4525	0.54748	0.50900	0.38453	0.70085
23	314113	0.4783	0.52169	0.42800	0.41659	0.62490
24	315113	0.4957	0.50427	0.47300	0.39196	0.61615
25	525111	0.4993	0.50072	0.49400	0.38934	0.61202
26	515431	0.6130	0.38696	0.35300	0.22882	0.57320
27	535111	0.6276	0.37238	0.41100	0.24031	0.52661
28	334231	0.6557	0.34430	0.37000	0.20021	0.52407
29	515223	0.7008	0.29917	0.42400	0.19957	0.42227
30	415314	0.7377	0.26231	0.27100	0.14332	0.43034

Table 18. FDC crew individual performance: horizontal control operator.

	SYMPTOM COMPLEX	PERFORMANCE DEGRADATION	PREDICTED VALUE	ACTUAL VALUE	CONFIDENCE LEVELS LOW 95%	HIGH 95%
1	112111	0.2352	0.76477	0.79803	0.72642	0.79931
2	211111	0.2522	0.74782	0.69700	0.70539	0.78600
3	113111	0.2531	0.74687	0.86105	0.70708	0.78279
4	113121	0.2721	0.72795	0.65300	0.66837	0.78040
5	114111	0.2721	0.72789	0.74307	0.67782	0.77277
6	311111	0.2895	0.71047	0.67400	0.66602	0.75120
7	213111	0.2907	0.70930	0.69200	0.67763	0.73904
8	312111	0.3100	0.68998	0.68500	0.65869	0.71962
9	123111	0.3237	0.67628	0.69300	0.61797	0.72959
10	411111	0.3300	0.66997	0.67200	0.61777	0.71830
11	313111	0.3313	0.66871	0.64400	0.64002	0.69620
12	412111	0.3520	0.64803	0.69300	0.60925	0.68495
13	413111	0.3746	0.62545	0.67200	0.59029	0.65933
14	224111	0.3895	0.61051	0.46100	0.55788	0.63793
15	414111	0.3977	0.60231	0.59600	0.55715	0.64579
16	313112	0.4058	0.59422	0.62400	0.55978	0.62776
17	513111	0.4199	0.58009	0.53300	0.53122	0.62743
18	314112	0.4295	0.57048	0.55800	0.53365	0.60654
19	514111	0.4439	0.55613	0.55000	0.50034	0.61055
20	521111	0.4567	0.54329	0.55400	0.46350	0.62092
21	414112	0.4765	0.52353	0.56900	0.48286	0.56388
22	314113	0.5093	0.49072	0.45300	0.43255	0.54915
23	315113	0.5336	0.46636	0.43900	0.40440	0.52937
24	515311	0.5352	0.46480	0.44000	0.37598	0.55592
25	525111	0.5540	0.44596	0.46700	0.38518	0.50839
26	334231	0.6021	0.39793	0.43100	0.30496	0.49890
27	515431	0.6154	0.38459	0.37900	0.29155	0.48691
28	535111	0.6369	0.36312	0.37800	0.28707	0.44668
29	515223	0.6783	0.32175	0.35000	0.26057	0.38979
30	415314	0.7138	0.28615	0.28700	0.20899	0.37823

Table 19. FDC crew individual performance: computer.

	SYMPTOM COMPLEX	PERFORMANCE DEGRADATION	PREDICTED VALUE	ACTUAL VALUE	CONFIDENCE LEVELS LOW 95%	HIGH 95%
1	112111	0.1790	0.82098	0.86704	0.78951	0.84864
2	113111	0.1902	0.80984	0.88205	0.77747	0.83849
3	211111	0.1925	0.80752	0.74193	0.77242	0.83835
4	113121	0.1985	0.80155	0.78701	0.75325	0.84251
5	114111	0.2018	0.79819	0.76906	0.75731	0.83383
6	213111	0.2164	0.78364	0.77903	0.75750	0.80752
7	311111	0.2189	0.78108	0.76296	0.74403	0.81412
8	312111	0.2318	0.76817	0.74706	0.74212	0.79233
9	313111	0.2451	0.75491	0.76206	0.73085	0.77730
10	411111	0.2479	0.75213	0.72500	0.70767	0.79167
11	412111	0.2619	0.73808	0.75399	0.70505	0.76852
12	123111	0.2639	0.73614	0.73100	0.68822	0.78245
13	413111	0.2764	0.72357	0.82201	0.69343	0.75176
14	414111	0.2914	0.70858	0.69300	0.66928	0.74498
15	513111	0.3100	0.68995	0.66000	0.64654	0.73026
16	224111	0.3121	0.68791	0.56800	0.64007	0.73204
17	313112	0.3160	0.68405	0.72200	0.65311	0.71344
18	514111	0.3260	0.67396	0.64000	0.62348	0.72071
19	314112	0.3321	0.66790	0.66200	0.63442	0.69976
20	414112	0.3690	0.63097	0.64900	0.59274	0.66763
21	521111	0.3718	0.62822	0.64200	0.55182	0.69871
22	314113	0.4142	0.58580	0.55500	0.52864	0.64073
23	315113	0.4322	0.56780	0.53700	0.50578	0.62777
24	525111	0.4428	0.55716	0.55800	0.49541	0.61720
25	515311	0.4444	0.55555	0.56800	0.46537	0.64221
26	515431	0.5243	0.47569	0.44400	0.37502	0.57837
27	334231	0.5288	0.47123	0.50400	0.37270	0.57206
28	535111	0.5481	0.45187	0.47900	0.36882	0.53770
29	515223	0.5792	0.42084	0.44100	0.35120	0.49379
30	415314	0.6617	0.33831	0.34600	0.25275	0.43583

Table 20. Tank crew individual performance: tank commander.

	SYMPTOM COMPLEX	PERFORMANCE DEGRADATION	PREDICTED VALUE	ACTUAL VALUE	CONFIDENCE LEVELS LOW 95%	HIGH 95%
1	112111	0.1468	0.85321	0.89003	0.81653	0.88360
2	211111	0.1554	0.84462	0.85705	0.80392	0.87825
3	113111	0.1792	0.82083	0.90203	0.77868	0.85644
4	113121	0.1857	0.81427	0.84198	0.75120	0.86436
5	311111	0.1996	0.80043	0.77206	0.75325	0.84051
6	114111	0.2169	0.78313	0.68500	0.72476	0.83216
7	213111	0.2283	0.77171	0.73808	0.73517	0.80440
8	312111	0.2403	0.75969	0.72000	0.72380	0.79233
9	411111	0.2527	0.74725	0.68000	0.68659	0.79979
10	123111	0.2644	0.73556	0.76296	0.66515	0.79576
11	313111	0.2863	0.71367	0.75306	0.67835	0.74649
12	412111	0.3001	0.69986	0.75306	0.65197	0.74384
13	413111	0.3523	0.64766	0.69200	0.60216	0.69064
14	224111	0.3820	0.61795	0.56700	0.54865	0.68277
15	313112	0.3926	0.60739	0.52300	0.56229	0.65073
16	414111	0.4083	0.59169	0.63300	0.53163	0.64913
17	513111	0.4245	0.57549	0.60300	0.51085	0.63764
18	521111	0.4302	0.56976	0.56300	0.46496	0.66865
19	314112	0.4505	0.54947	0.46900	0.50058	0.59743
20	514111	0.4834	0.51661	0.48800	0.44307	0.58943
21	414112	0.5265	0.47353	0.48800	0.42060	0.52707
22	314113	0.5692	0.43085	0.33500	0.35732	0.50756
23	315113	0.6263	0.37373	0.35400	0.29973	0.45416
24	515311	0.6295	0.37055	0.37800	0.26678	0.48791
25	334231	0.6433	0.35671	0.31700	0.24435	0.48747
26	525111	0.6616	0.33839	0.27300	0.26894	0.41569
27	515431	0.6893	0.31072	0.26096	0.20636	0.43865
28	535111	0.7631	0.23685	0.31200	0.16410	0.32925
29	515223	0.7938	0.20620	0.33200	0.14931	0.27758
30	415314	0.8397	0.16030	0.17393	0.09930	0.24843

Table 21. Tank crew individual performance: gunner.

	SYMPTOM COMPLEX	PERFORMANCE DEGRADATION	PREDICTED VALUE	ACTUAL VALUE	CONFIDENCE LEVELS LOW 95%	HIGH 95%
1	112111	0.1027	0.89734	0.94202	0.87147	0.91849
2	211111	0.1148	0.88524	0.87900	0.85508	0.90987
3	113121	0.1174	0.88257	0.89798	0.84037	0.91467
4	113111	0.1209	0.87911	0.92498	0.84980	0.90344
5	114111	0.1417	0.85827	0.79899	0.81757	0.89110
6	311111	0.1499	0.85005	0.82506	0.81382	0.88027
7	213111	0.1576	0.84237	0.81306	0.81593	0.86565
8	312111	0.1748	0.82520	0.78194	0.79786	0.84954
9	411111	0.1936	0.80643	0.75194	0.75786	0.84723
10	123111	0.1977	0.80234	0.82807	0.74649	0.84839
11	313111	0.2029	0.79706	0.81995	0.77012	0.82171
12	412111	0.2237	0.77626	0.81199	0.73788	0.81031
13	413111	0.2573	0.74269	0.78398	0.70585	0.77643
14	224111	0.2870	0.71298	0.65500	0.65427	0.76531
15	414111	0.2938	0.70620	0.71700	0.65574	0.75213
16	313112	0.3050	0.69499	0.62900	0.65623	0.73126
17	513111	0.3203	0.67970	0.70800	0.62339	0.73126
18	314112	0.3452	0.65479	0.57000	0.61142	0.69573
19	514111	0.3615	0.63853	0.64500	0.57148	0.70059
20	521111	0.3691	0.63091	0.64300	0.53369	0.71855
21	414112	0.4177	0.58229	0.58200	0.53197	0.63095
22	314113	0.4762	0.52382	0.45500	0.45052	0.59610
23	515311	0.5097	0.49030	0.51800	0.37816	0.60343
24	315113	0.5220	0.47800	0.47000	0.40021	0.55687
25	334231	0.5322	0.46779	0.43400	0.34461	0.59504
26	515431	0.5465	0.45347	0.39400	0.32948	0.58353
27	525111	0.5492	0.45079	0.37500	0.37478	0.52917
28	535111	0.6858	0.31420	0.38600	0.22846	0.41474
29	515223	0.7077	0.29233	0.43000	0.22149	0.37498
30	415314	0.7966	0.20343	0.20702	0.13147	0.30107

Table 22. Tank crew individual performance: loader.

	SYMPTOM COMPLEX	PERFORMANCE DEGRADATION	PREDICTED VALUE	ACTUAL VALUE	CONFIDENCE LEVELS LOW 95%	HIGH 95%
1	211111	0.1908	0.80923	0.81503	0.77030	0.84290
2	112111	0.2026	0.79738	0.84104	0.75896	0.83090
3	311111	0.2281	0.77189	0.74097	0.72941	0.80954
4	113111	0.2556	0.74441	0.83603	0.70044	0.78398
5	113121	0.2567	0.74326	0.74193	0.67962	0.79803
6	411111	0.2702	0.72983	0.70400	0.67777	0.77626
7	312111	0.2852	0.71478	0.66600	0.68185	0.74555
8	213111	0.3008	0.69924	0.66300	0.66376	0.73243
9	114111	0.3168	0.68323	0.59400	0.62366	0.73730
10	412111	0.3333	0.66667	0.68100	0.62498	0.70591
11	123111	0.3497	0.65031	0.68300	0.58411	0.71118
12	313111	0.3502	0.64980	0.68300	0.61749	0.68079
13	413111	0.4031	0.59691	0.64200	0.55741	0.63519
14	521111	0.4208	0.57917	0.54400	0.49208	0.66159
15	513111	0.4583	0.54167	0.60700	0.48742	0.59495
16	313112	0.4756	0.52440	0.44400	0.48569	0.56282
17	224111	0.4764	0.52355	0.51800	0.46412	0.58233
18	414111	0.4770	0.52299	0.52100	0.47214	0.57337
19	514111	0.5333	0.46667	0.49200	0.40625	0.52809
20	314112	0.5505	0.44945	0.43400	0.40941	0.49016
21	414112	0.6055	0.39450	0.44600	0.35273	0.43787
22	314113	0.6733	0.32666	0.25407	0.27278	0.38553
23	334231	0.6843	0.31566	0.33500	0.22741	0.41966
24	515311	0.6893	0.31071	0.32600	0.23183	0.40239
25	525111	0.7074	0.29257	0.24694	0.23903	0.35253
26	515431	0.7292	0.27082	0.20603	0.19016	0.37004
27	315113	0.7358	0.26425	0.20505	0.21400	0.32149
28	535111	0.7912	0.20883	0.21501	0.15277	0.27887
29	515223	0.8406	0.15936	0.24694	0.12036	0.20817
30	415314	0.8941	0.10593	0.12100	0.06978	0.15776

Table 23. Tank crew individual performance: driver.

	SYMPTOM COMPLEX	PERFORMANCE DEGRADATION	PREDICTED VALUE	ACTUAL VALUE	CONFIDENCE LEVELS LOW 95%	HIGH 95%
1	211111	0.1255	0.87446	0.86796	0.84396	0.89971
2	112111	0.1368	0.86319	0.89604	0.83230	0.88904
3	311111	0.1506	0.84941	0.87501	0.81533	0.87815
4	113111	0.1777	0.82230	0.91003	0.78516	0.85433
5	113121	0.1795	0.82054	0.81802	0.76585	0.86471
6	411111	0.1796	0.82039	0.78108	0.77730	0.85668
7	312111	0.1947	0.80534	0.75101	0.77765	0.83048
8	213111	0.2105	0.78951	0.79803	0.75878	0.81728
9	114111	0.2274	0.77259	0.67200	0.71896	0.81862
10	412111	0.2297	0.77030	0.77206	0.73361	0.80313
11	313111	0.2477	0.75232	0.77294	0.72332	0.77920
12	123111	0.2639	0.73614	0.71700	0.67335	0.79051
13	413111	0.2890	0.71098	0.76296	0.67388	0.74536
14	521111	0.3097	0.69028	0.65200	0.60432	0.76477
15	513111	0.3342	0.66583	0.69000	0.61190	0.71574
16	313112	0.3382	0.66181	0.57600	0.62354	0.69808
17	414111	0.3565	0.64352	0.63500	0.59183	0.69207
18	224111	0.3763	0.62372	0.62400	0.56195	0.68171
19	514111	0.4062	0.59385	0.63500	0.52874	0.65582
20	314112	0.4105	0.58950	0.53600	0.54633	0.63134
21	414112	0.4623	0.53771	0.56500	0.48970	0.58502
22	314113	0.5194	0.48059	0.44000	0.41228	0.54964
23	515311	0.5743	0.42566	0.39800	0.32485	0.53306
24	315113	0.5956	0.40441	0.32800	0.33507	0.47778
25	334231	0.6039	0.39606	0.39000	0.28782	0.51553
26	525111	0.6074	0.39259	0.35100	0.32464	0.46496
27	515431	0.6246	0.37538	0.33200	0.26835	0.49609
28	535111	0.7198	0.28023	0.33300	0.20522	0.36995
29	515223	0.7322	0.26776	0.36400	0.20457	0.34198
30	415314	0.8033	0.19671	0.22794	0.13011	0.28604

Table 24. TOW crew individual performance: squad leader.

	SYMPTOM COMPLEX	PERFORMANCE DEGRADATION	PREDICTED VALUE	ACTUAL VALUE	CONFIDENCE LEVELS LOW 95%	HIGH 95%
1	211111	0.1285	0.87147	0.87900	0.83548	0.90043
2	112111	0.1450	0.85495	0.89898	0.81847	0.88514
3	111121	0.1484	0.85157	0.93401	0.81275	0.88350
4	311111	0.1566	0.84343	0.82607	0.80187	0.87761
5	212111	0.1758	0.82419	0.83299	0.79167	0.85246
6	411111	0.1892	0.81077	0.74307	0.75639	0.85545
7	113111	0.1970	0.80298	0.86796	0.75768	0.84158
8	112121	0.2013	0.79867	0.89100	0.75969	0.83272
9	111131	0.2057	0.79429	0.67600	0.72351	0.85056
10	312111	0.2115	0.78852	0.71000	0.75343	0.81965
11	213111	0.2358	0.76423	0.79101	0.72684	0.79803
12	123111	0.2431	0.75694	0.76602	0.68373	0.81787
13	412111	0.2524	0.74763	0.76995	0.69955	0.79051
14	114111	0.2617	0.73827	0.71800	0.67164	0.79543
15	113121	0.2672	0.73282	0.81306	0.68240	0.77799
16	112131	0.2725	0.72750	0.61500	0.64910	0.79397
17	521111	0.2775	0.72252	0.72200	0.62251	0.80440
18	313111	0.2795	0.72050	0.69600	0.68359	0.75473
19	413111	0.3279	0.67210	0.69900	0.62280	0.71788
20	113131	0.3513	0.64869	0.64800	0.55545	0.73184
21	314111	0.3593	0.64066	0.58000	0.58381	0.69382
22	224111	0.3685	0.63148	0.60500	0.55730	0.69992
23	114112	0.3707	0.62929	0.48900	0.56305	0.69100
24	513111	0.3802	0.61975	0.59200	0.54876	0.68596
25	313112	0.3919	0.60813	0.51300	0.56269	0.65176
26	414111	0.4136	0.58638	0.64800	0.52120	0.64867
27	214112	0.4256	0.57443	0.45200	0.52189	0.62535
28	514111	0.4701	0.52992	0.54200	0.44894	0.60934
29	314112	0.4823	0.51768	0.49800	0.46926	0.56577
30	515311	0.5363	0.46367	0.40200	0.35061	0.58059
31	414112	0.5395	0.46047	0.49500	0.40379	0.51818
32	214113	0.5517	0.44831	0.34300	0.37157	0.52758
33	314113	0.6075	0.39252	0.40200	0.32116	0.46879
34	525111	0.6266	0.37338	0.37800	0.29555	0.45836
35	334231	0.6682	0.33183	0.28700	0.22426	0.46033
36	535111	0.6871	0.31289	0.36500	0.21806	0.42659
37	315113	0.6911	0.30887	0.32500	0.24269	0.38383
38	515431	0.7081	0.29194	0.26698	0.18422	0.42943
39	415314	0.8083	0.19170	0.21098	0.11899	0.29406
40	515223	0.8331	0.16687	0.31800	0.11816	0.23041

Table 25. TOW crew individual performance: gunner.

	SYMPTOM COMPLEX	PERFORMANCE DEGRADATION	PREDICTED VALUE	ACTUAL VALUE	CONFIDENCE LEVELS LOW 95%	HIGH 95%
1	211111	0.1694	0.83062	0.85296	0.78617	0.86738
2	112111	0.1891	0.81092	0.86495	0.76638	0.84851
3	111121	0.1926	0.80737	0.91396	0.76024	0.84710
4	311111	0.2064	0.79364	0.75007	0.74307	0.83658
5	212111	0.2292	0.77083	0.74193	0.73184	0.80565
6	411111	0.2488	0.75120	0.65800	0.68619	0.80643
7	113111	0.2539	0.74612	0.83005	0.69283	0.79298
8	112121	0.2581	0.74193	0.86295	0.69607	0.78279
9	111131	0.2625	0.73750	0.61300	0.65581	0.80550
10	312111	0.2749	0.72510	0.63800	0.68391	0.76278
11	123111	0.3006	0.69940	0.71900	0.61758	0.77030
12	213111	0.3025	0.69745	0.62700	0.65429	0.73730
13	412111	0.3258	0.67417	0.75007	0.61919	0.72474
14	114111	0.3317	0.66830	0.59600	0.59382	0.73517
15	113121	0.3367	0.66329	0.76799	0.60677	0.71550
16	112131	0.3418	0.65825	0.55700	0.57175	0.73536
17	521111	0.3479	0.65208	0.63300	0.54287	0.74725
18	313111	0.3561	0.64391	0.65600	0.60252	0.68326
19	413111	0.4135	0.58651	0.60400	0.53333	0.63775
20	113131	0.4309	0.56905	0.57600	0.47198	0.66109
21	224111	0.4442	0.55579	0.53900	0.47903	0.62998
22	114112	0.4458	0.55417	0.42500	0.48555	0.62079
23	314111	0.4465	0.55351	0.49100	0.49384	0.61169
24	313112	0.4727	0.52733	0.45400	0.48058	0.57360
25	513111	0.4733	0.52666	0.51100	0.45369	0.59851
26	214112	0.5063	0.49368	0.41600	0.44093	0.54658
27	414111	0.5070	0.49302	0.54500	0.42755	0.55872
28	314112	0.5666	0.43338	0.41200	0.38657	0.48140
29	514111	0.5673	0.43272	0.46700	0.35545	0.51341
30	214113	0.6244	0.37561	0.25597	0.30452	0.45249
31	414112	0.6250	0.37498	0.41500	0.32259	0.43047
32	515311	0.6559	0.34406	0.28200	0.24675	0.45638
33	314113	0.6794	0.32059	0.31600	0.25693	0.39183
34	525111	0.7072	0.29279	0.33700	0.22583	0.37019
35	334231	0.7410	0.25903	0.20899	0.16924	0.37509
36	535111	0.7531	0.24694	0.28700	0.16714	0.34862
37	315113	0.7557	0.24435	0.27800	0.18847	0.31071
38	515431	0.8091	0.19093	0.17902	0.11456	0.30099
39	415314	0.8642	0.13576	0.18005	0.08211	0.21602
40	515223	0.8822	0.11784	0.16995	0.08211	0.16645

Table 26. TOW crew individual performance: driver.

	SYMPTOM COMPLEX	PERFORMANCE DEGRADATION	PREDICTED VALUE	ACTUAL VALUE	CONFIDENCE LEVELS LOW 95%	HIGH 95%
1	211111	0.0544	0.94558	0.94501	0.92539	0.96053
2	112111	0.0683	0.93169	0.96401	0.90888	0.94912
3	311111	0.0685	0.93150	0.92601	0.90687	0.95003
4	111121	0.0697	0.93028	0.97301	0.90585	0.94868
5	212111	0.0856	0.91443	0.88205	0.89321	0.93176
6	411111	0.0858	0.91420	0.92301	0.87964	0.93952
7	113111	0.1065	0.89350	0.91698	0.86021	0.91961
8	312111	0.1068	0.89321	0.85396	0.86898	0.91341
9	112121	0.1087	0.89129	0.94799	0.86283	0.91451
10	111131	0.1109	0.88914	0.78006	0.83576	0.92663
11	213111	0.1322	0.86784	0.85594	0.83916	0.89216
12	412111	0.1324	0.86761	0.89302	0.83174	0.89678
13	123111	0.1385	0.86152	0.87303	0.80218	0.90508
14	521111	0.1392	0.86081	0.77609	0.78381	0.91349
15	114111	0.1623	0.83767	0.78600	0.77989	0.88247
16	313111	0.1627	0.83726	0.90097	0.80721	0.86354
17	113121	0.1655	0.83452	0.89501	0.79117	0.87034
18	112131	0.1685	0.83146	0.77101	0.76242	0.88340
19	413111	0.1988	0.80123	0.82707	0.75786	0.83849
20	314111	0.2401	0.75988	0.70100	0.70504	0.80721
21	513111	0.2407	0.75933	0.72900	0.69142	0.81638
22	113131	0.2481	0.75194	0.75306	0.65758	0.82721
23	224111	0.2503	0.74970	0.78499	0.67618	0.81123
24	114112	0.2633	0.73672	0.52800	0.66955	0.79429
25	313112	0.2639	0.73614	0.64100	0.69143	0.77643
26	414111	0.2875	0.71248	0.74097	0.64531	0.77136
27	214112	0.3134	0.68657	0.57400	0.63083	0.73730
28	514111	0.3401	0.65995	0.70000	0.57034	0.73943
29	314112	0.3683	0.63175	0.58600	0.57761	0.68276
30	515311	0.3938	0.60621	0.53000	0.47023	0.72751
31	414112	0.4267	0.57330	0.58600	0.50622	0.63778
32	214113	0.4571	0.54289	0.45500	0.45019	0.63271
33	314113	0.5181	0.48190	0.45500	0.39245	0.57253
34	525111	0.5306	0.46941	0.46800	0.36986	0.57146
35	334231	0.5835	0.41650	0.39100	0.27491	0.57334
36	535111	0.6039	0.39606	0.45700	0.26973	0.53797
37	515431	0.6128	0.38725	0.34400	0.23812	0.56093
38	315113	0.6361	0.36386	0.44200	0.27948	0.45755
39	415314	0.7615	0.23849	0.30100	0.13955	0.37704
40	515223	0.8067	0.19325	0.31500	0.13022	0.27715

Table 27. TOW crew individual performance: loader.

	SYMPTOM COMPLEX	PERFORMANCE DEGRADATION	PREDICTED VALUE	ACTUAL VALUE	CONFIDENCE LEVELS LOW 95%	HIGH 95%
1	211111	0.1177	0.88226	0.87599	0.84684	0.91036
2	111121	0.1330	0.86704	0.93002	0.82935	0.89743
3	311111	0.1464	0.85358	0.83299	0.81169	0.88745
4	112111	0.1491	0.85094	0.87203	0.81153	0.88340
5	411111	0.1806	0.81936	0.78499	0.76351	0.86436
6	212111	0.1838	0.81623	0.78801	0.78074	0.84710
7	111131	0.1848	0.81518	0.69900	0.74536	0.86921
8	112121	0.2057	0.79429	0.85705	0.75250	0.83076
9	312111	0.2244	0.77556	0.76495	0.73711	0.80984
10	113111	0.2281	0.77189	0.88205	0.71903	0.81728
11	521111	0.2699	0.73010	0.68700	0.62566	0.81412
12	412111	0.2712	0.72879	0.75602	0.67572	0.77609
13	213111	0.2753	0.72465	0.70300	0.68125	0.76423
14	112131	0.2768	0.72323	0.62000	0.63964	0.79364
15	123111	0.2782	0.72182	0.74801	0.63835	0.79233
16	113121	0.3041	0.69594	0.82405	0.63884	0.74763
17	313111	0.3282	0.67181	0.73000	0.62954	0.71148
18	114111	0.3328	0.66721	0.55800	0.58835	0.73769
19	413111	0.3858	0.61423	0.68600	0.55901	0.66666
20	113131	0.3924	0.60759	0.62800	0.50637	0.70034
21	513111	0.4467	0.55326	0.56700	0.47632	0.62774
22	314111	0.4519	0.54811	0.50100	0.48508	0.60964
23	224111	0.4554	0.54461	0.60600	0.46353	0.62338
24	313112	0.4765	0.52351	0.44600	0.47418	0.57239
25	114112	0.4817	0.51832	0.34400	0.44590	0.58998
26	414111	0.5146	0.48545	0.52500	0.41661	0.55484
27	214112	0.5444	0.45563	0.37700	0.40088	0.51147
28	514111	0.5768	0.42324	0.46800	0.34258	0.50821
29	314112	0.6057	0.39431	0.39700	0.34670	0.44402
30	414112	0.6638	0.33615	0.39800	0.28410	0.39252
31	515311	0.6722	0.32780	0.23505	0.22899	0.44475
32	214113	0.6900	0.30998	0.19093	0.24324	0.38578
33	314113	0.7410	0.25903	0.20702	0.20101	0.32676
34	334231	0.7431	0.25693	0.25105	0.16356	0.37943
35	525111	0.7499	0.25011	0.17393	0.18725	0.32554
36	535111	0.7964	0.20359	0.23308	0.13227	0.30022
37	515431	0.8089	0.19108	0.16798	0.11135	0.30828
38	315113	0.8285	0.17150	0.21199	0.12731	0.22706
39	415314	0.9117	0.08835	0.13000	0.05083	0.14931
40	515223	0.9177	0.08234	0.13599	0.05546	0.12057

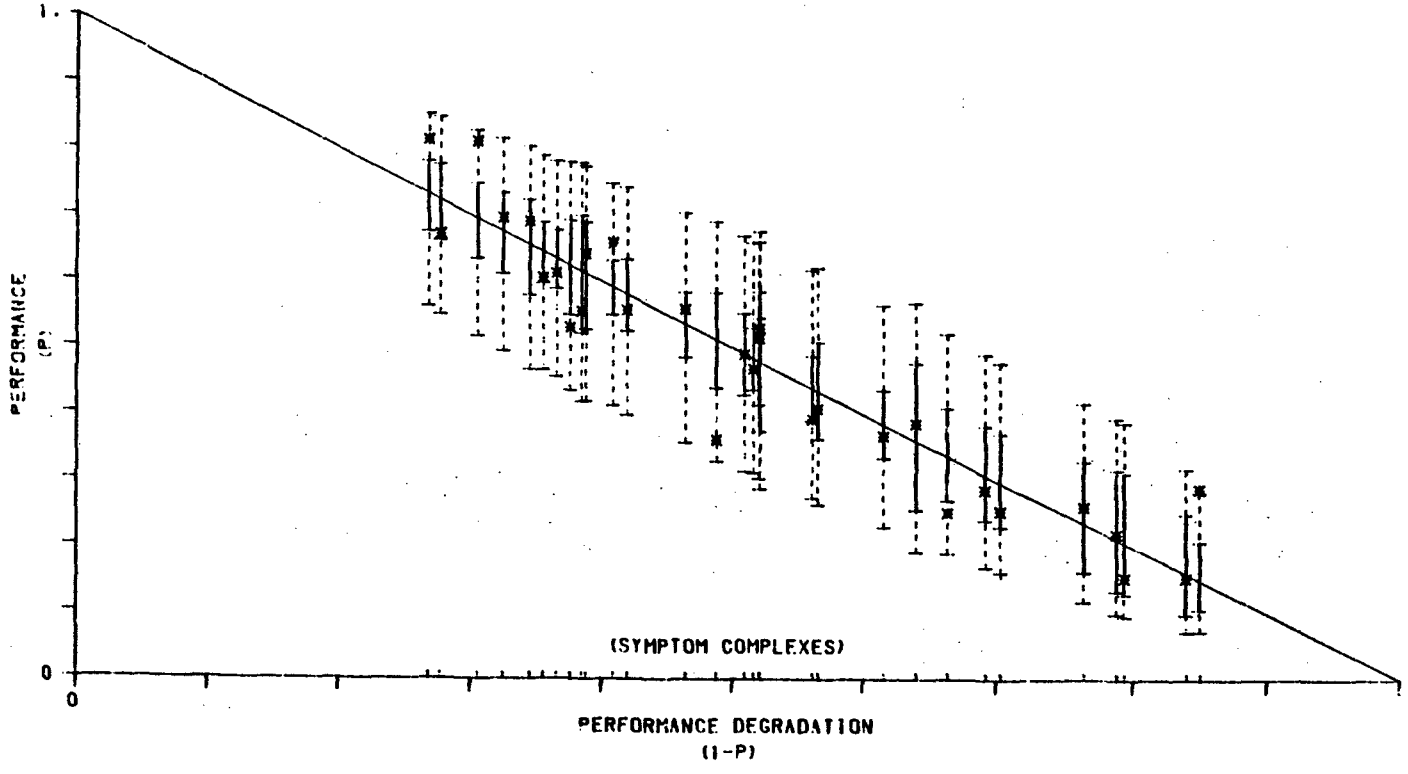


Figure 17. Gun crew individual performance: chief of section.

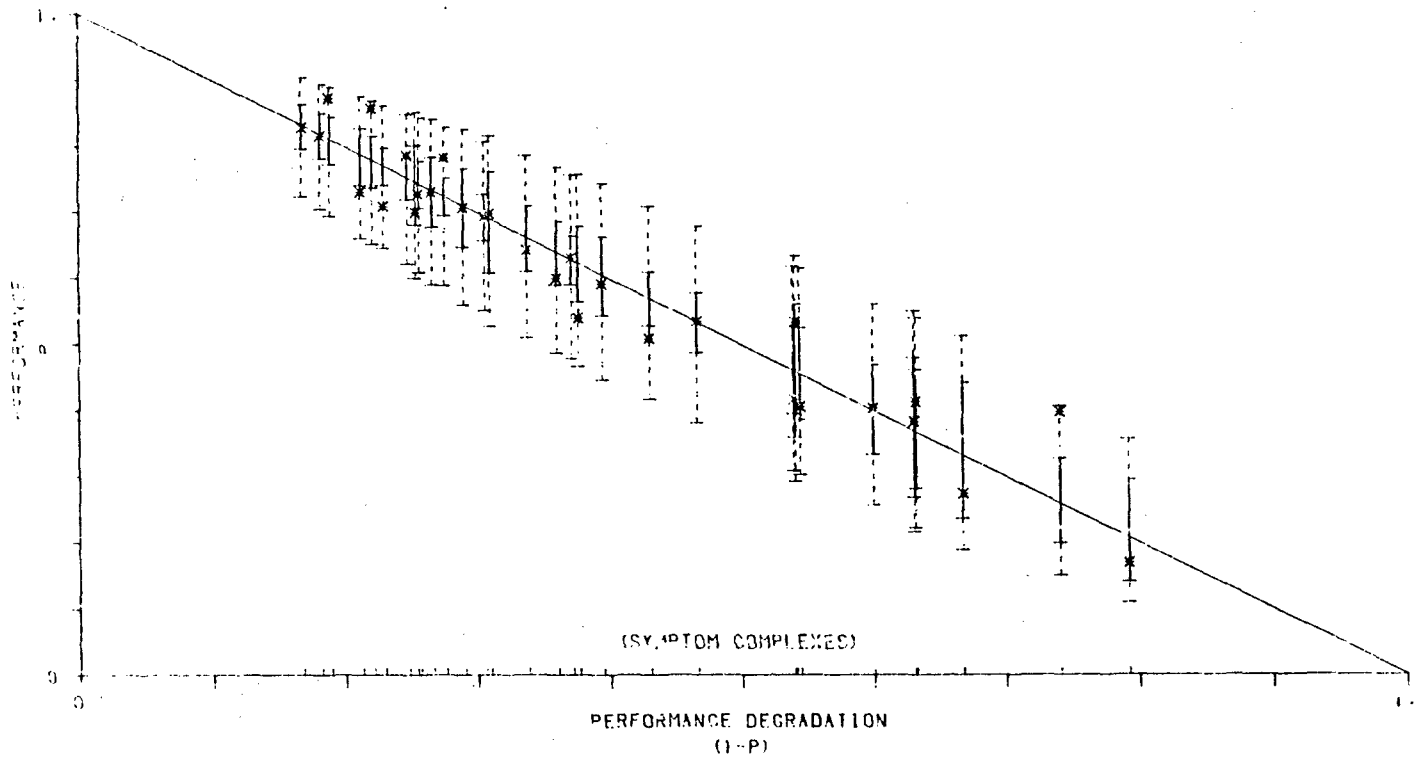


Figure 18. Gun crew individual performance: gunner.

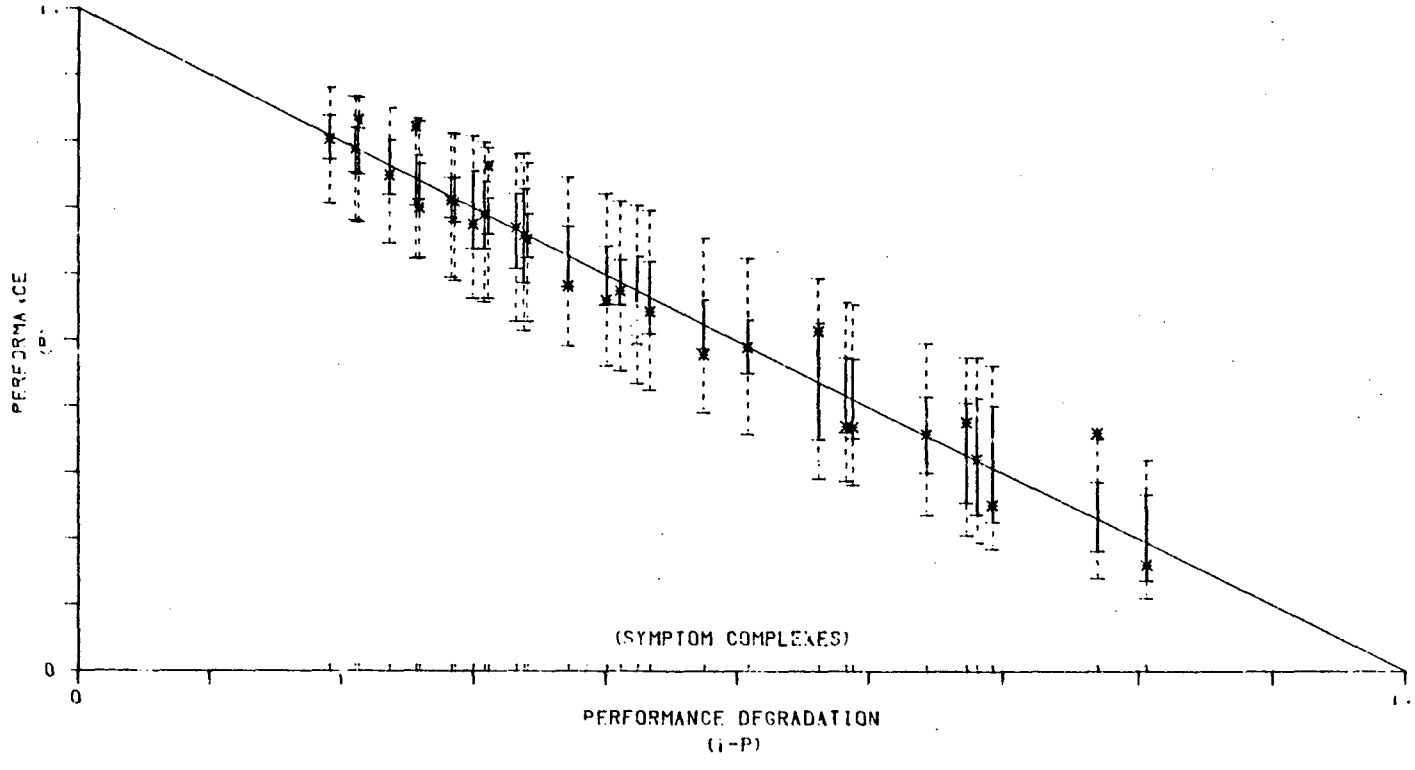


Figure 19. Gun crew individual performance: assistant gunner.

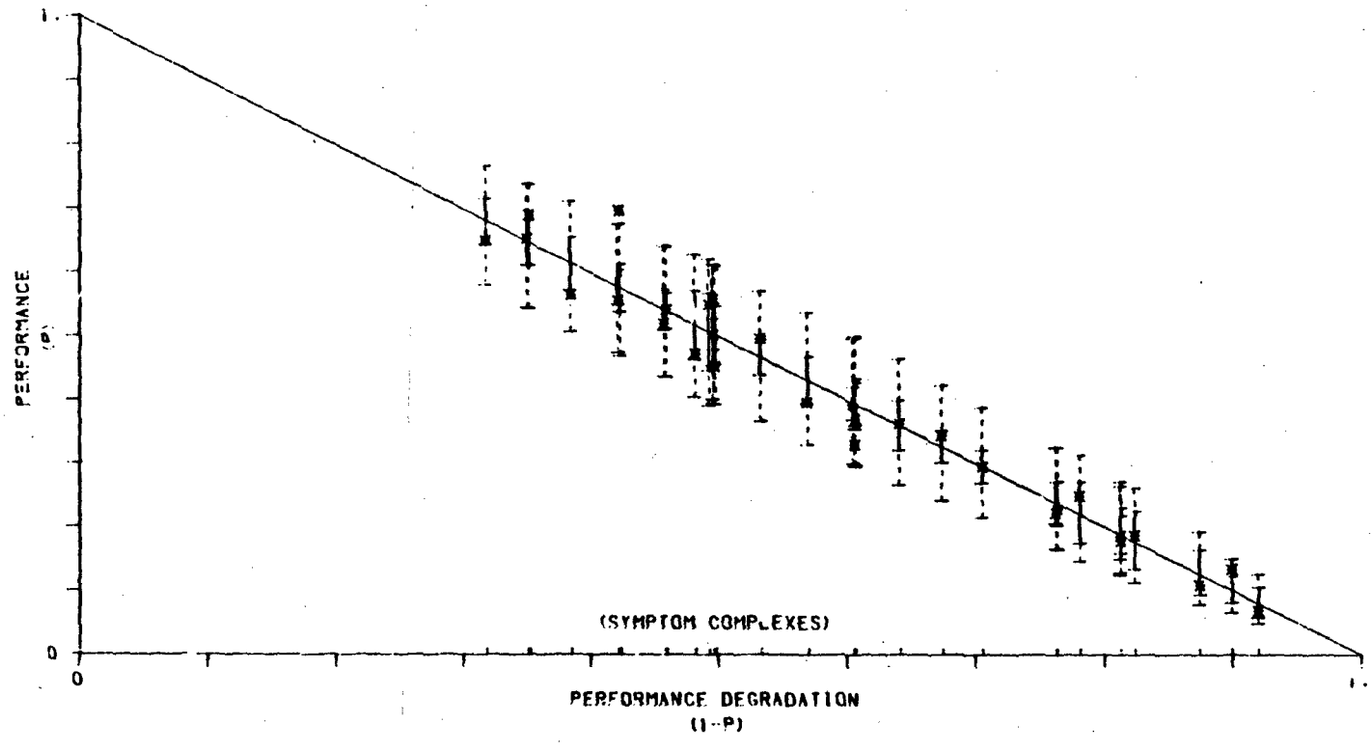


Figure 20. Gun crew individual performance: loader.

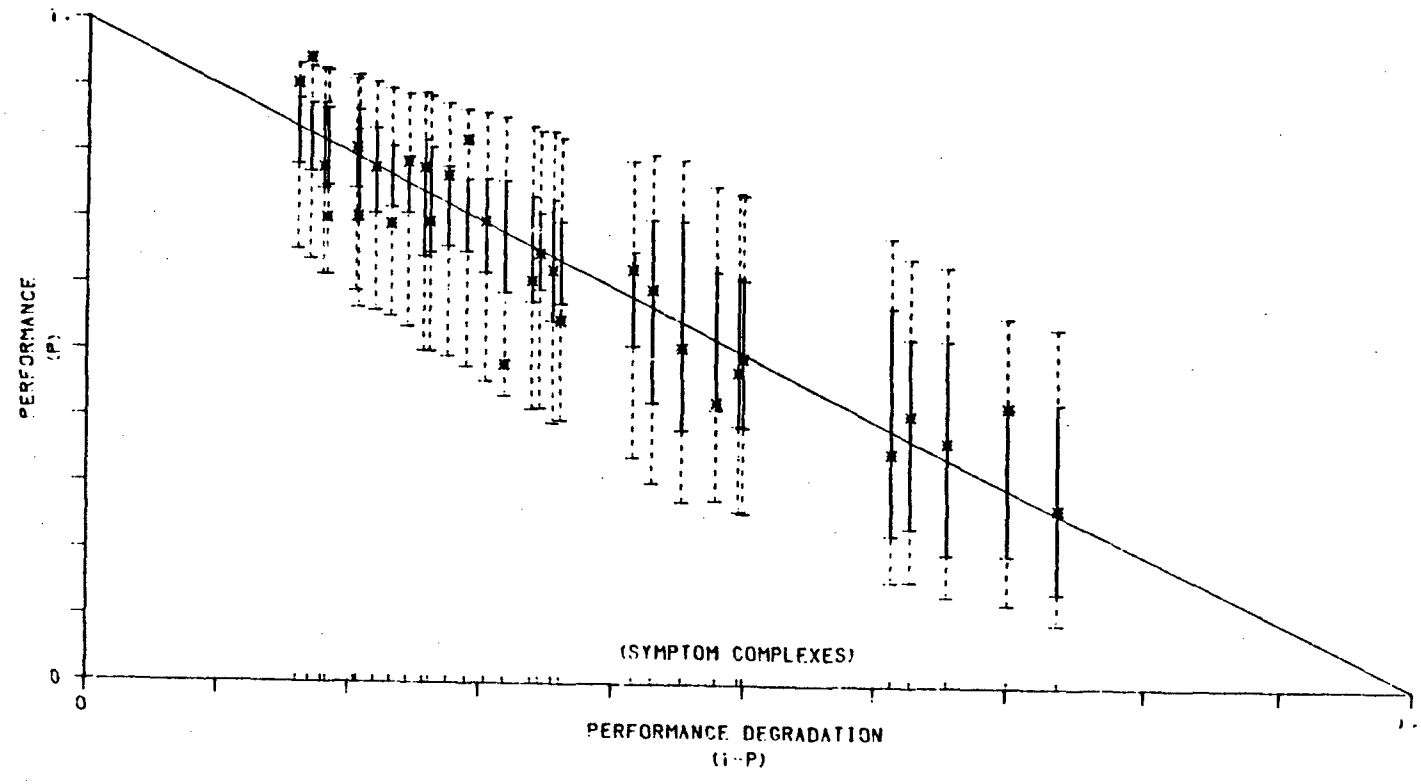


Figure 21. FDC crew individual performance: fire direction officer.

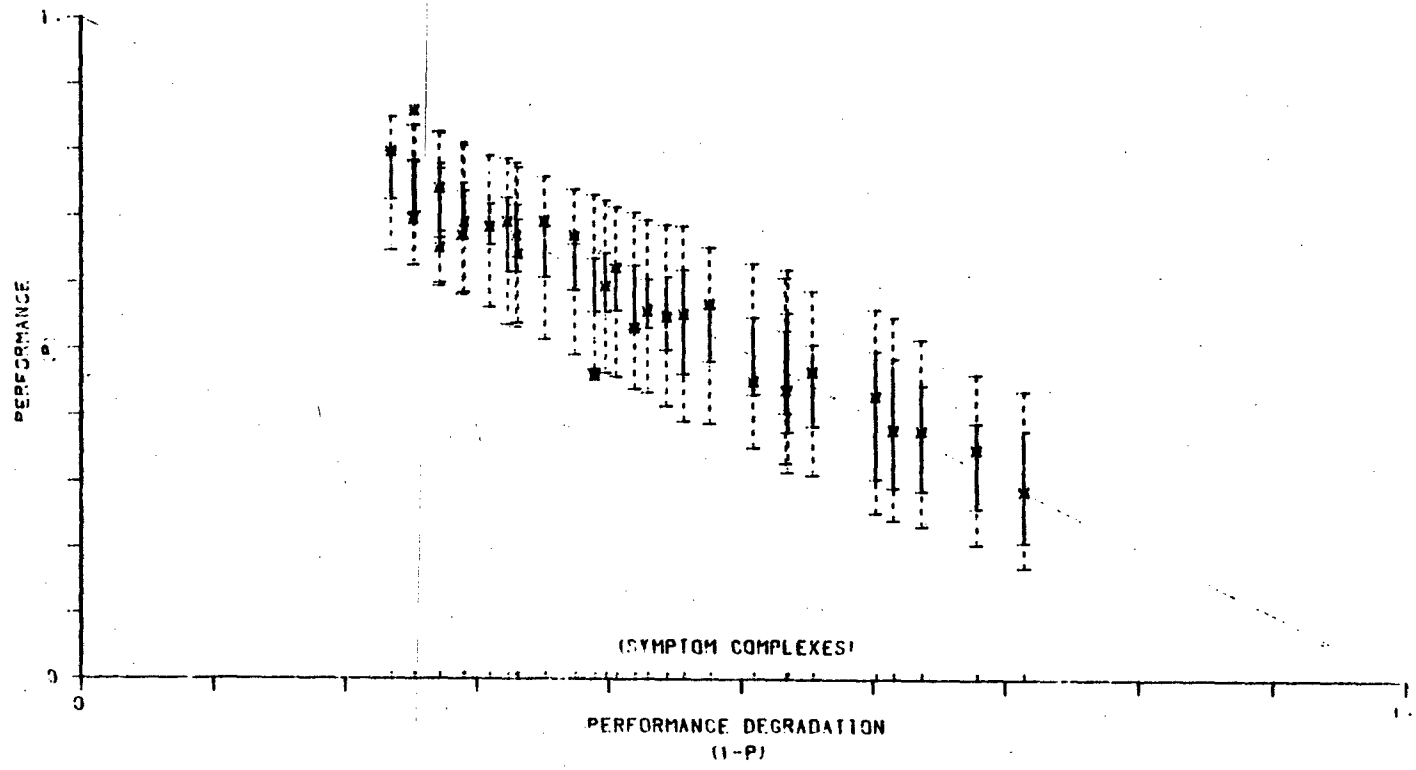


Figure 22. FDC crew individual performance: horizontal control operator.

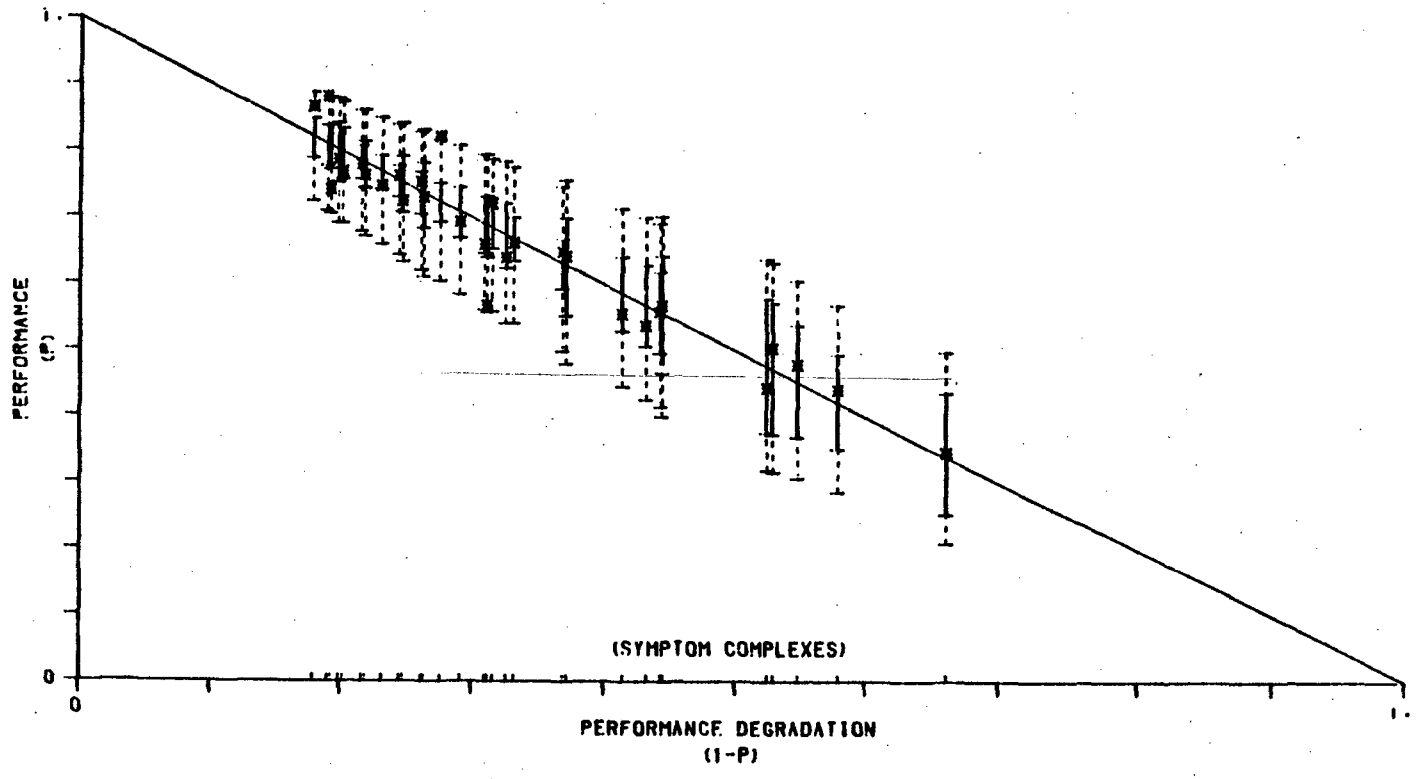


Figure 23. FDC crew individual performance: computer.

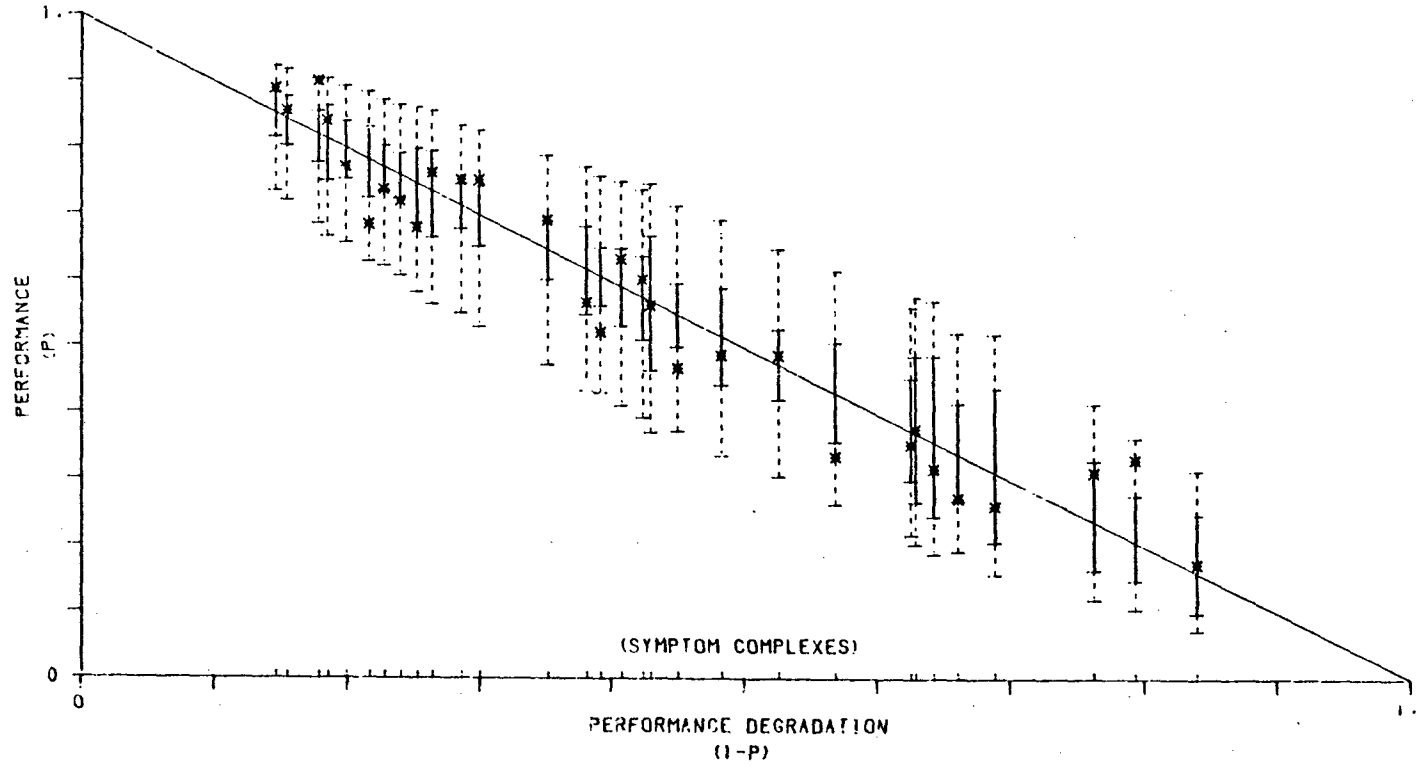


Figure 24. Tank crew individual performance: tank commander.

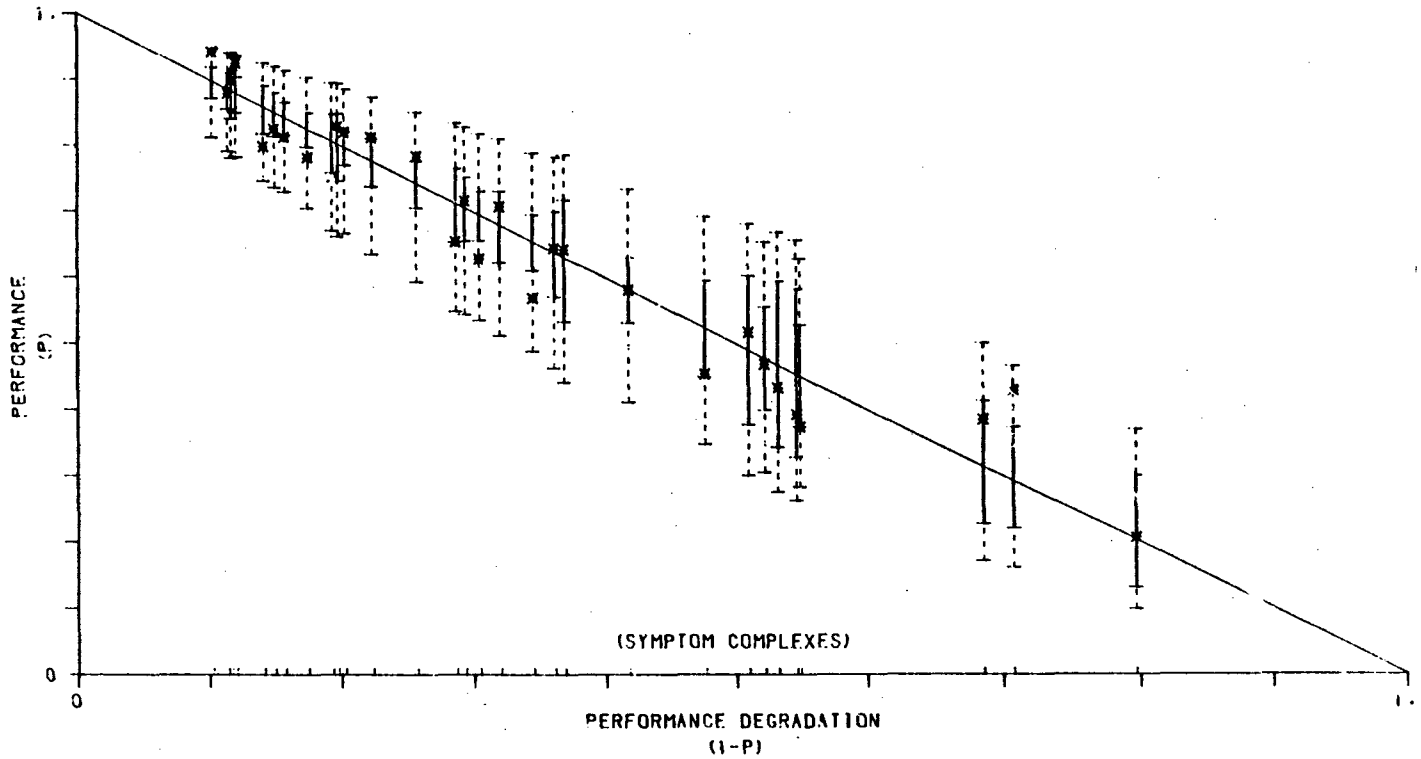


Figure 25. Tank crew individual performance: gunner.

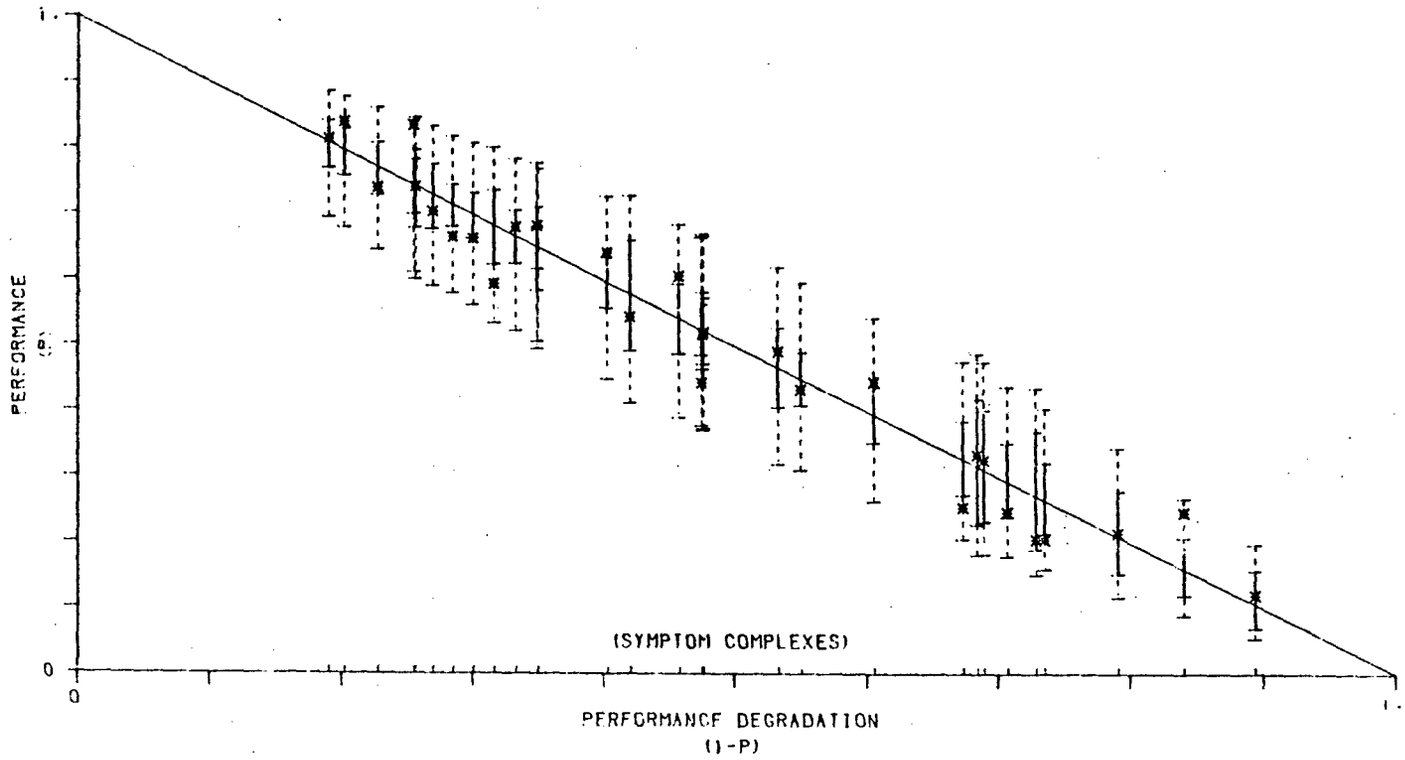


Figure 26. Tank crew individual performance: loader.

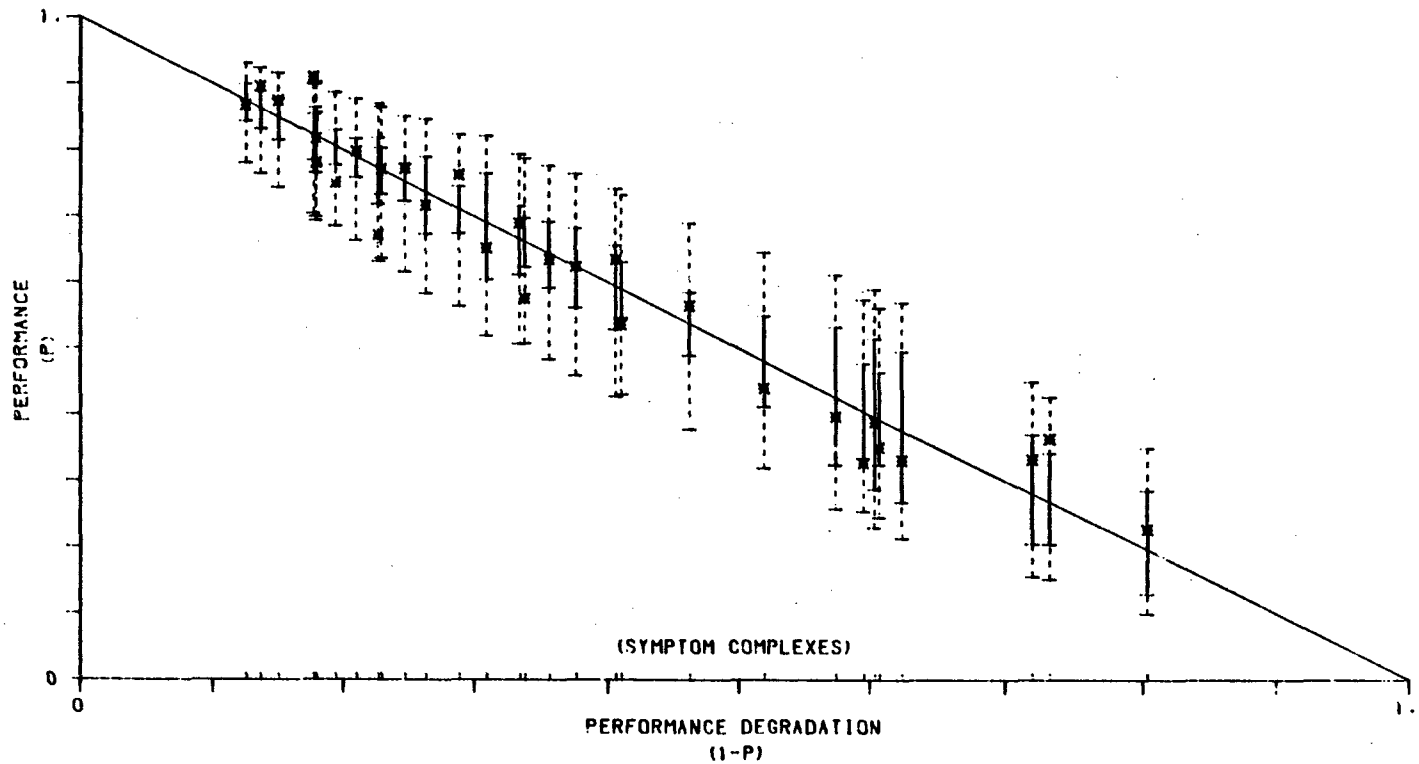


Figure 27. Tank crew individual performance: driver.

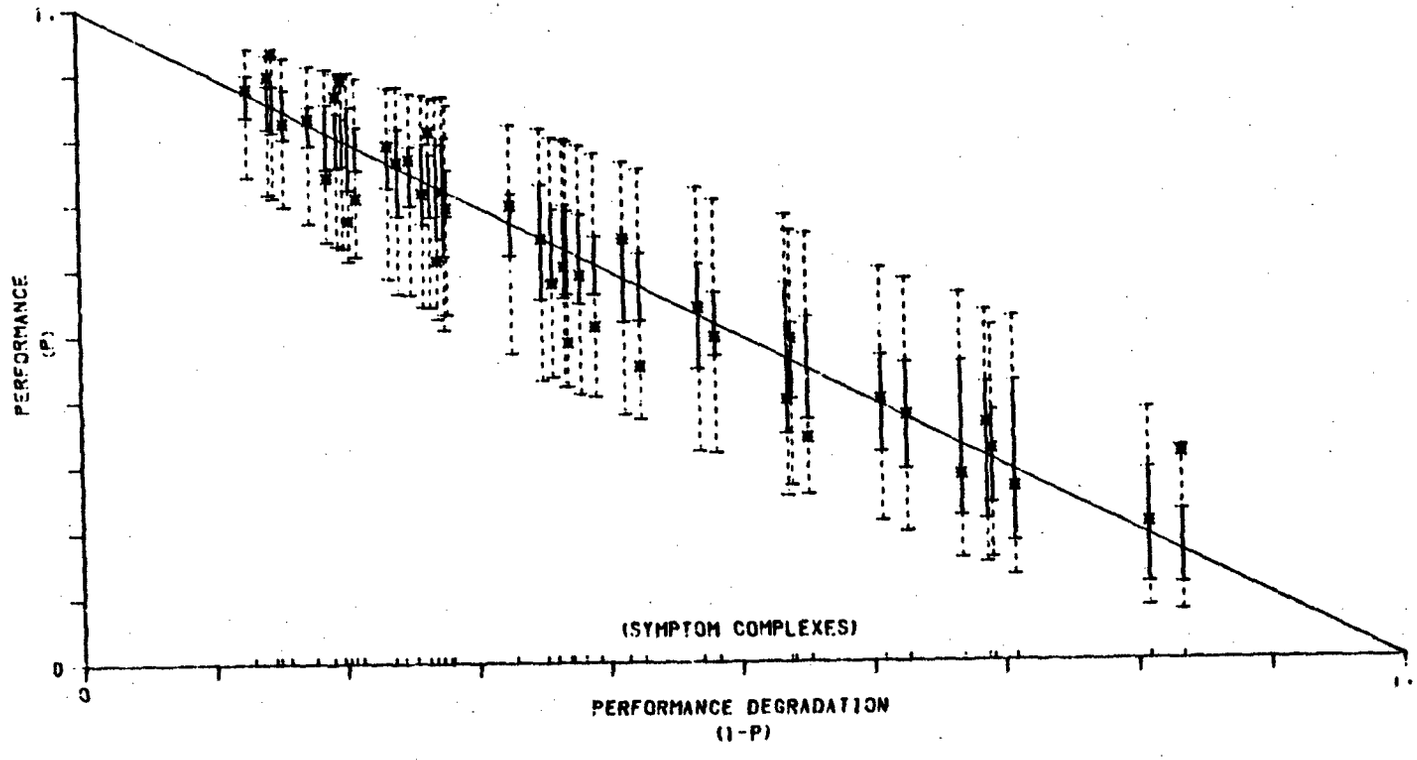


Figure 28. TOW crew individual performance: squad leader.

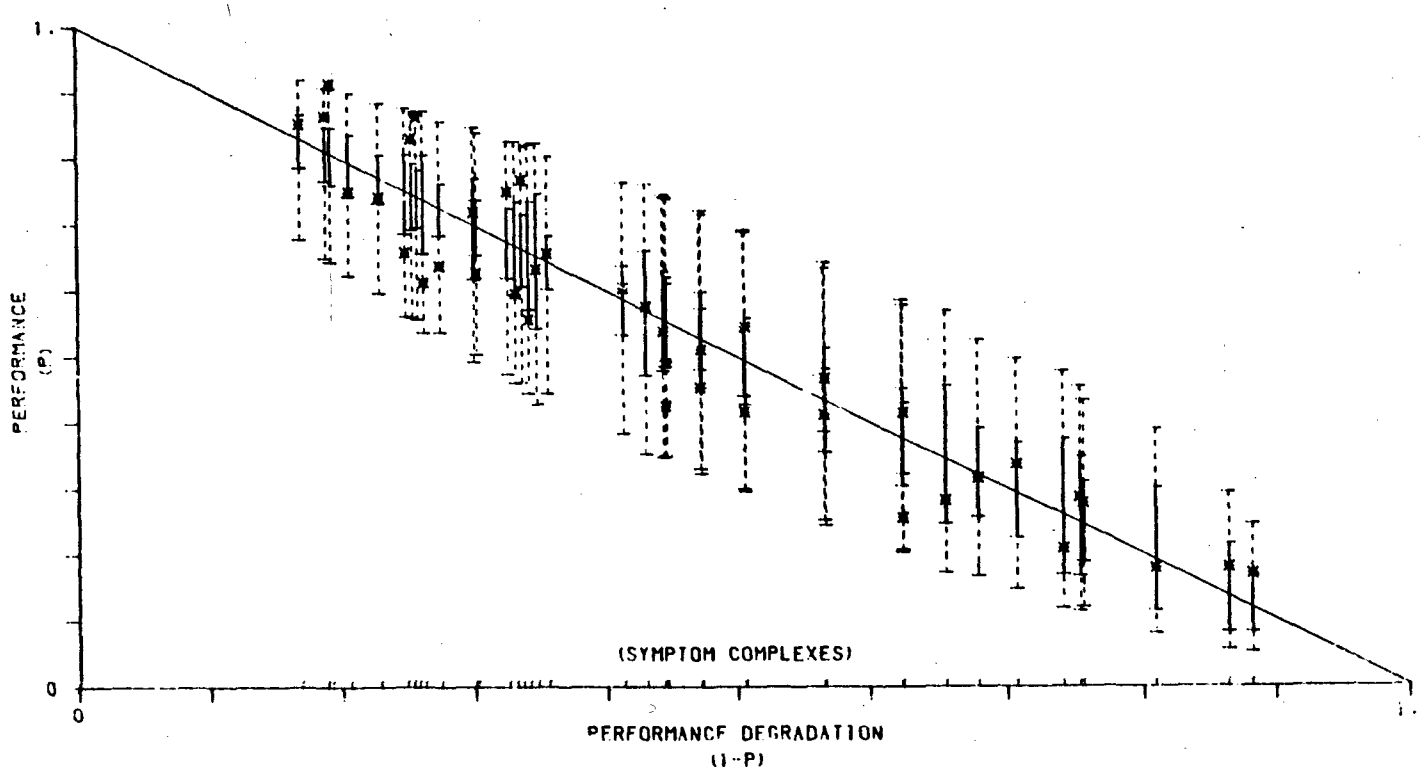


Figure 29. TOW crew individual performance: gunner.

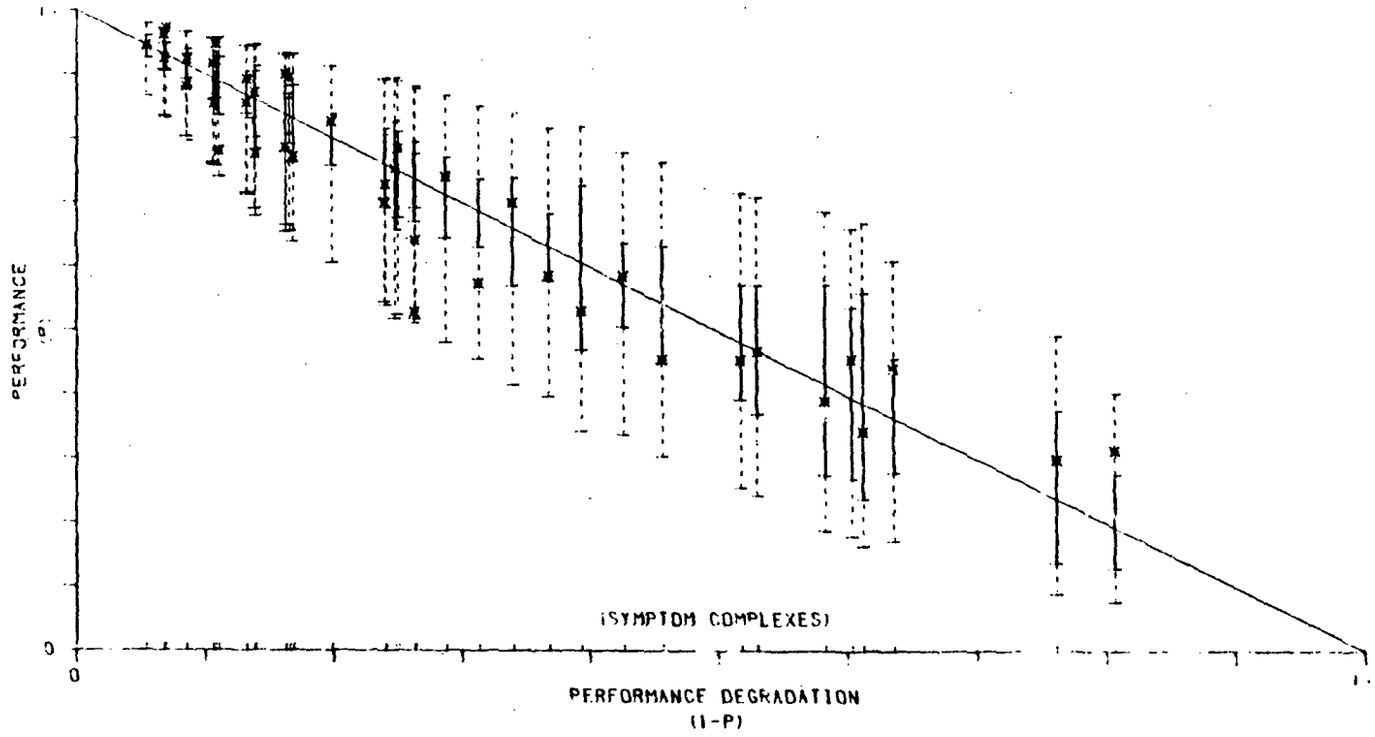


Figure 30. TOW crew individual performance: driver.

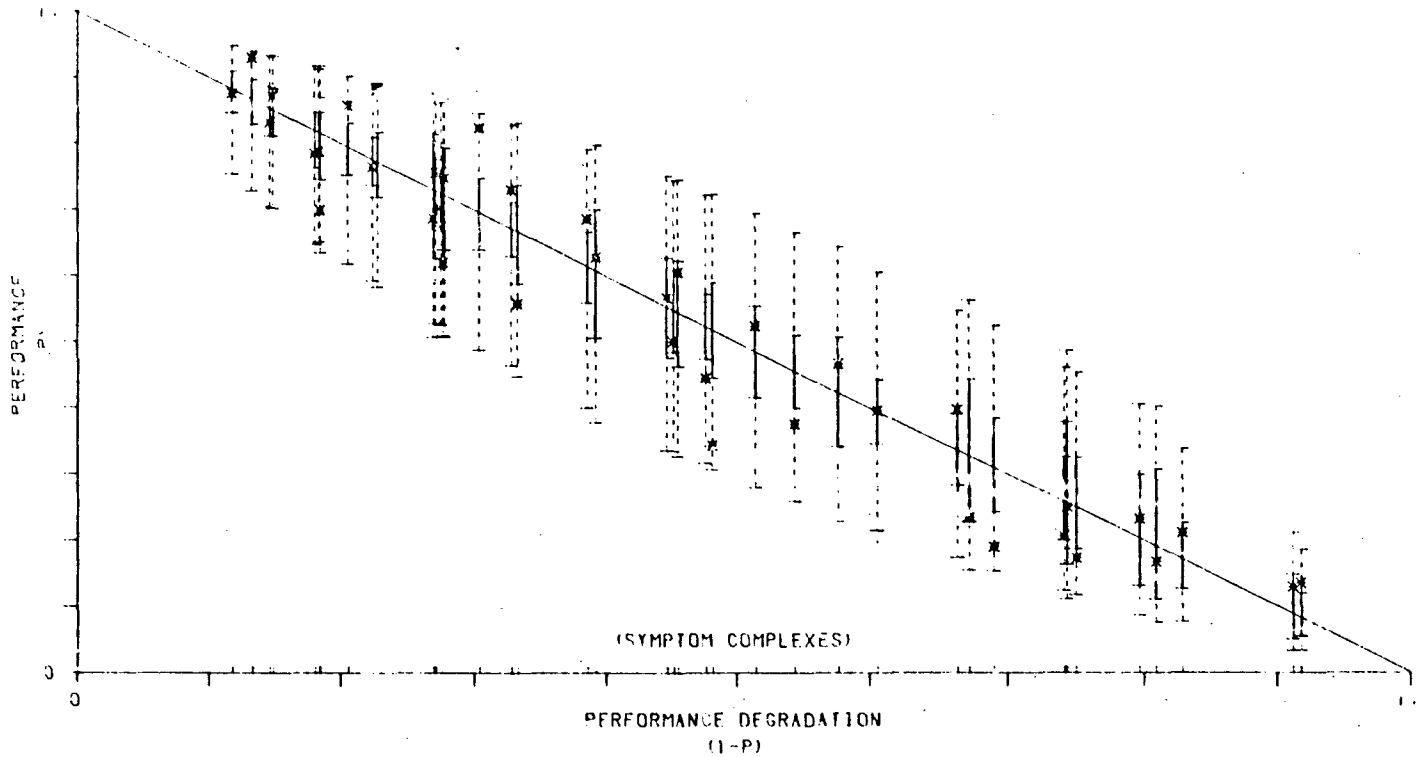


Figure 31. TOW crew individual performance: loader.

The performance plots indicate relative trends for each crew position such as tendencies toward high, low, and middle of clustering responses along the straight line. High and low clustering would indicate skewed distributions, and those tending to cluster toward the middle may indicate a more symmetric distribution. The lowest estimates of performance are provided for the artillery gun crew loader, whose tasks are probably the most physically demanding. On the other hand, the highest estimates of performance are provided for the FDC crew computer position, whose activity is the least physically demanding, consisting wholly of cognitive tasks. Some crewmembers show a near-threshold-like effect even for the most benign symptom complexes where performance drops from 100 to between 70 and 80 percent.

Also noteworthy are the relative widths of the error bar patterns. For example, the gun crew loader plot also shows the narrowest error bar widths, indicating the most consistency in the response data. On the other hand, the fire direction officer plot shows perhaps the widest error bar spread, indicating a relative lack of consistency in the response data.

Differences between input data and regression prediction performance values are seen to occur more frequently for symptom complexes 112111, 113111, 224111, and 515223. Table 28 lists those cases, termed outliers, where the data values lie outside the 95 percent confidence limits of the regression mean value predictions. Data values for complexes 112111 and 113111 are consistently higher than the regression values. Moreover, data values for symptom complex 113111 are consistently, although only slightly higher, than complex 112111. Based on our evaluation of the data (Sec. 2) and this analysis, we are unable to positively explain those differences. However, we point out that the regression analysis served to predict performance for symptom complexes 112111 and 113111 in the order that one would expect, i.e., a lower value of performance for 113111 than for 112111.

In Figs. 17 through 23, symptom complex 224111, for the artillery gun, and FDC crews, is associated with lower values from the data relative to the regression values, whereas symptom complex 515223 is associated with substantially higher values. We are also unable to explain

Table 28. Significant outliers: percentage variation of performance data prediction relative to regression performance prediction.

Crew	Crewmember	Symptom Complex[a] 112111	113111	224111[b]	515223[b]	Performance Data Difference between 224111 and 515223
Gun	Chief of section	11.0	14.0	-29 (0.36)	92 (0.29)	0.07
	Gunner	--	10.0	-13 (0.54)	54 (0.40)	0.14
	Assistant gunner	--	--	13 (0.50)	57 (0.36)	0.14
	Loader	6.6[c]	21.0	-16 (0.33)	33[c] (0.13)	0.20
FDC	Fire direction officer	7.9	14.0	-29 (0.48)	41[c] (0.42)	0.06
	Horizontal control operator	13.0	29.0	-44 (0.23)	-- (0.22)	0.01
	Computer	5.6	8.9	-17 (0.57)	-- (0.44)	0.13
Tank	Commander	4.3	9.9	-- (0.57)	61 (0.33)	0.24
	Gunner	5.0	5.2[c]	-- (0.66)	47 (0.43)	0.23
	Loader	5.5[c]	12.0	-- (0.52)	55 (0.25)	0.27
	Driver	3.8	11.0	-- (0.62)	36 (0.36)	0.26
TOW	Squad leader	5.2[c]	8.1	-- (0.61)	91 (0.32)	0.29
	Gunner	6.6[c]	11.0	-- (0.54)	44[c] (0.17)	0.34
	Driver	3.5	8.9[c]	-- (0.78)	63 (0.32)	0.45
	Loader	--	14.0	-- (0.61)	65[c] (0.14)	0.47

[a]Negative values indicate data values less than regression values.

[b]Data predictions are in parentheses.

[c]Indicates near upper 95 percent confidence limit.

these differences based on the treatment of the data. However, we do observe that the spread (given in the last column of Table 28) in data performance values between complexes 224111 and 515223 given for the gun and FDC crews (parenthetical values in Table 28) appears narrow given the differences in the severity levels of the two complexes. A wider spread in values as predicted by the regression relationship seems more reasonable considering the two complexes.

In addition to the crewmember positions, regression analyses were performed for the separate tasks under each crew position, using the task response data given in Appendix E. Results of predicted task performance are graphically compared with predicted position performance in Appendix G. The regression parameters for task performance prediction are also listed in tables given in Appendix G.

The regression analysis described in this section serves to develop performance input data for further extending individual crewmember performance to dose and time based on the numerical procedures described in Sec. 5. After improvements were made to the army questionnaire raw data discussed in Sec. 2, performance data were analyzed and prepared for mapping onto the dose/time framework developed in Sec. 4. Section 5 then describes the process of joining the individual crewmember performance data with the dose and time variables to develop the performance dose/time relationships.

SECTION 4

DOSE/TIME SYMPTOM COMPLEXES

In this section, we build a framework for expressing the performance prediction estimates of Sec. 3 as a function of dose and time. Using time-dependent symptom profiles, a dose/time structure is developed, which consists of discrete regions that represent the various symptom complexes. From the symptomatology descriptions of the acute radiation syndromes in humans (developed from actual case experience of irradiated individuals [Baum et al., 1983]), time-dependent profiles are constructed to typify the symptom severity for each of eight subdivisions of the intermediate dose range [75 to 4500 rads (cGy)*] [Anno and Wilson, 1983]. Time boundaries are assigned to the symptom complexes according to symptom severity level. Finally, the symptom complex areas are joined for each of the eight dose ranges--according to dose--to form a dose/time map of symptom complexes.

Figures 32 through 39 plot symptom severity level against the logarithm of postexposure time for each of eight free-in-air dose ranges [75-150, 150-300, 300-530, 530-830, 830-1100, 1100-1500, 1500-3000, and 3000-4500 rads (cGy)] for the six symptom categories developed in Baum et al. [1983]; those categories are as follows:

1. Upper gastrointestinal distress (UG).
2. Lower gastrointestinal distress (LG).
3. Fatigability and weakness (FW).
4. Hypotension (HY).
5. Infection, bleeding, and fever (IB).
6. Fluid loss and electrolyte imbalance (FL).

The severity profiles developed in Anno and Wilson [1983] for each of the six symptom categories are represented in the figures by the "curves" formed by the connected sloping and parallel straight lines. The curves are also shown as step functions where vertical lines connect

*One centigray (cGy) is equal to one rad.

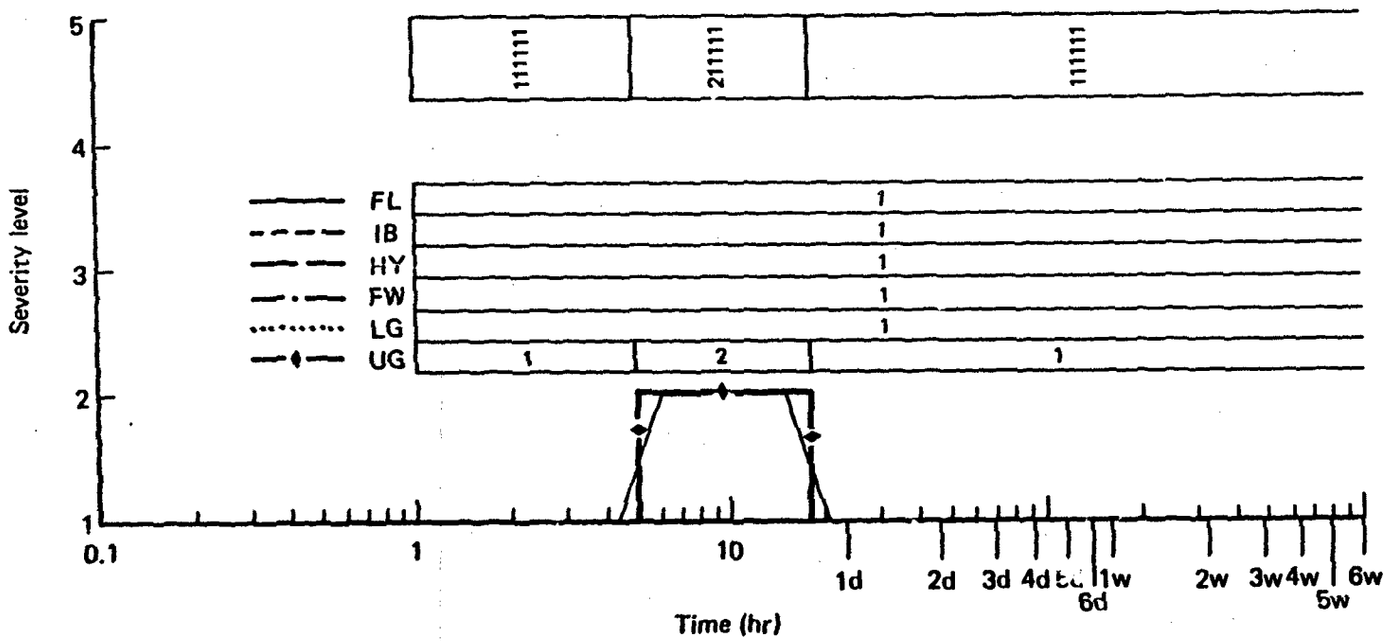


Figure 32. Symptom severity level: 75 to 150 rads (cGy) free-in-air dose.

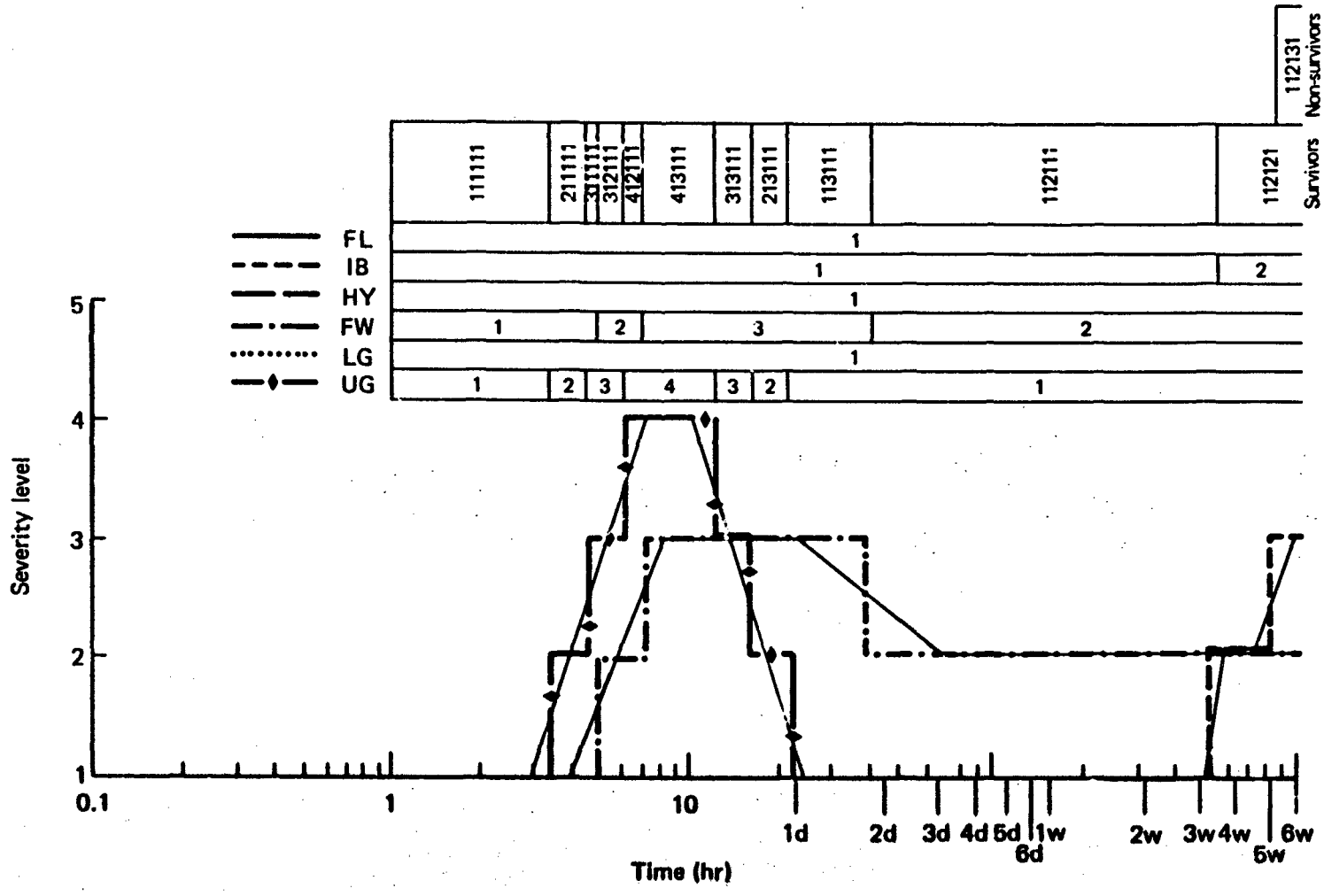


Figure 33. Symptom severity level: 150 to 300 rads (cGy) free-in-air dose.

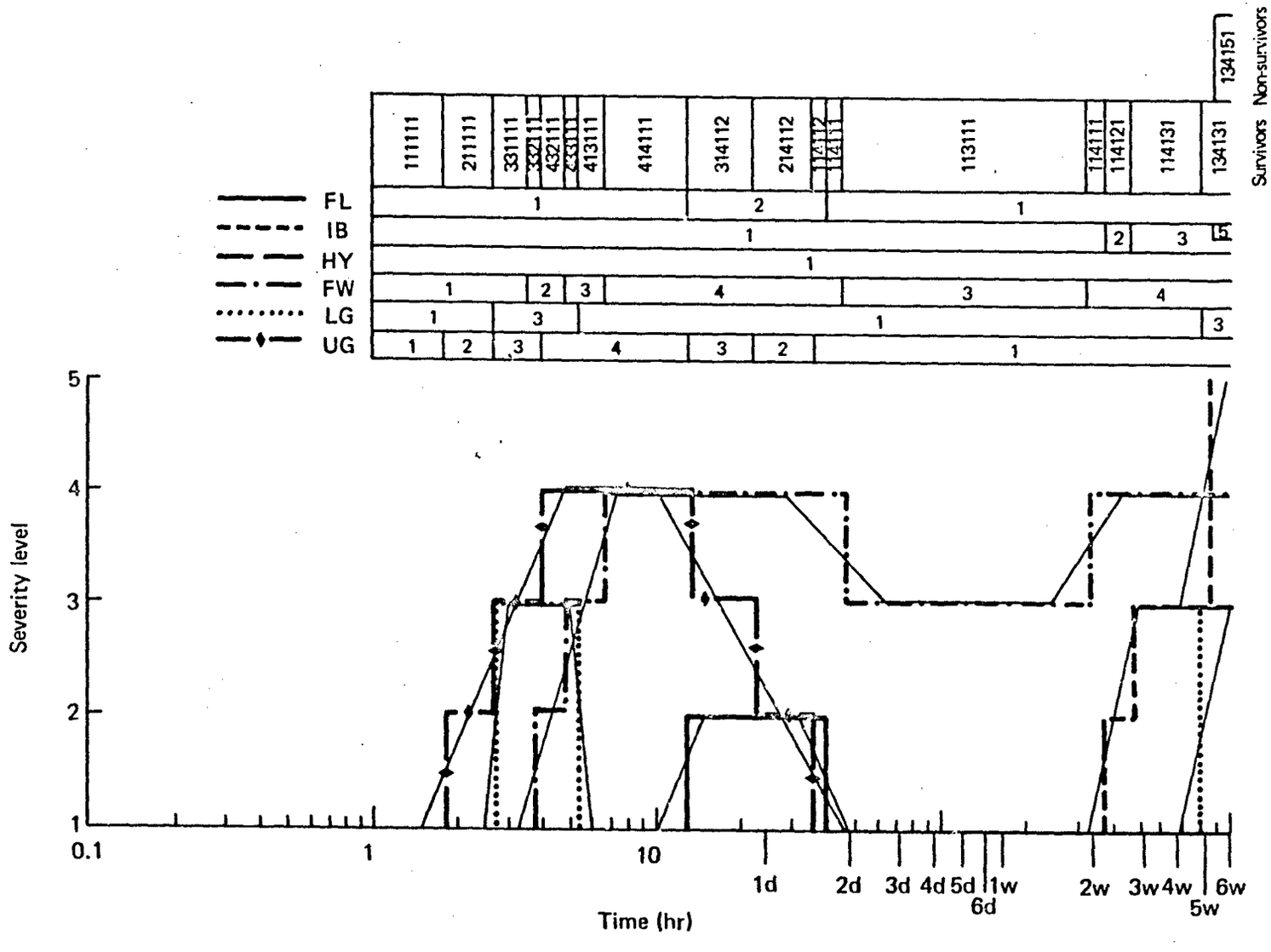


Figure 34. Symptom severity level: 300 to 530 rads (cGy) free-in-air dose.

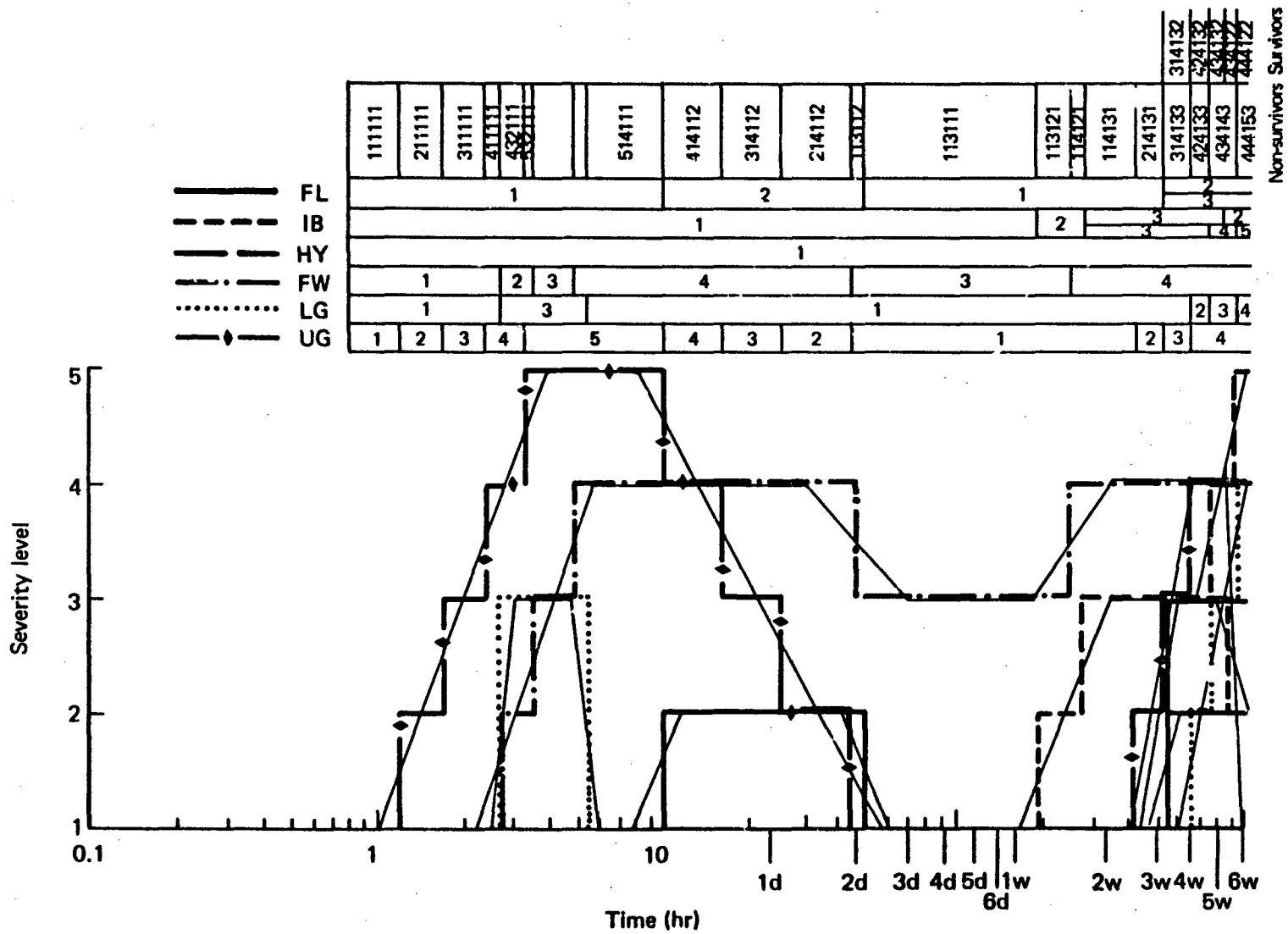


Figure 35. Symptom severity level: 530 to 830 rads (cGy) free-in-air dose.

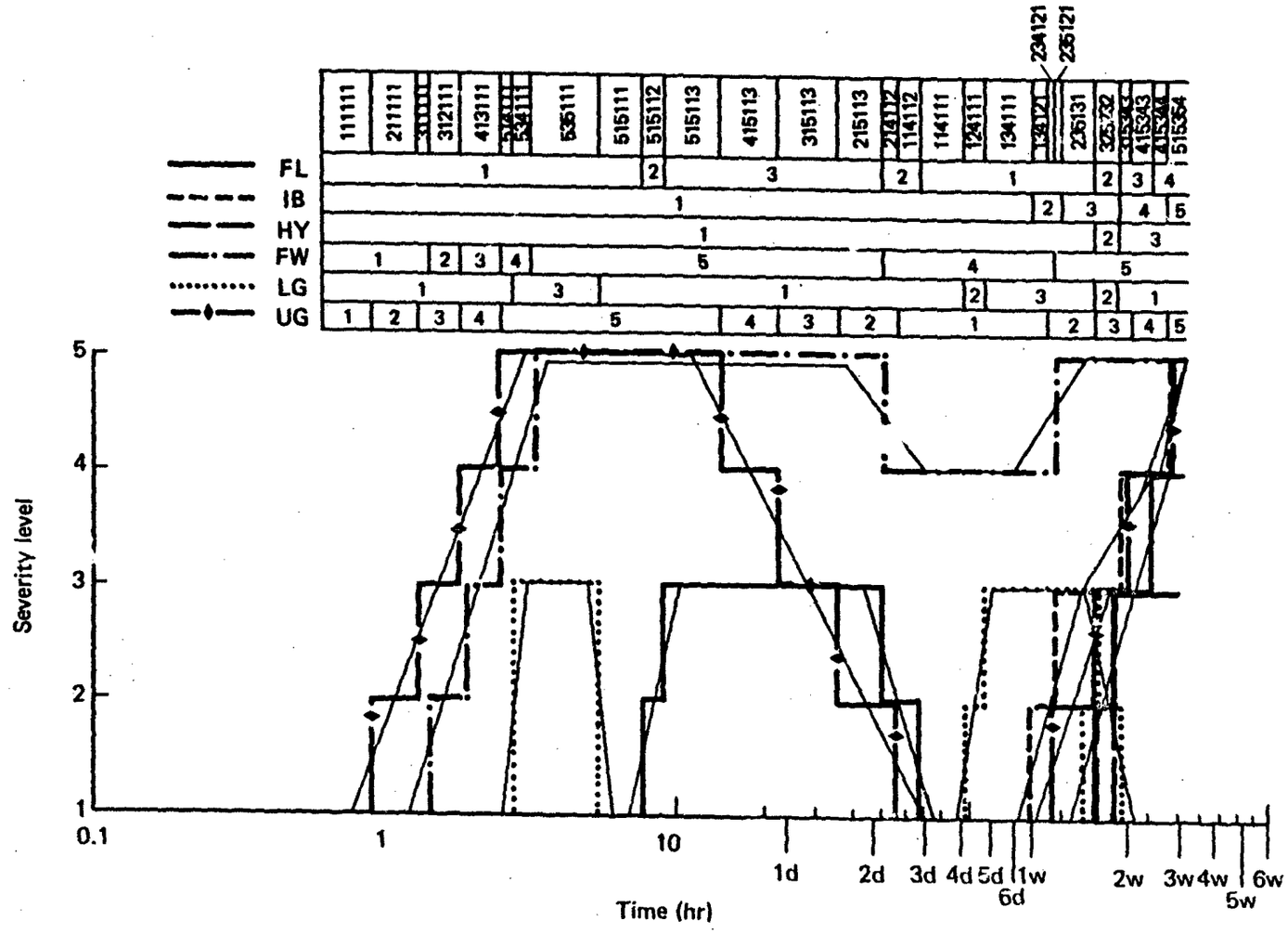


Figure 36. Symptom severity level: 830 to 1100 rads (cGy) free-in-air dose.

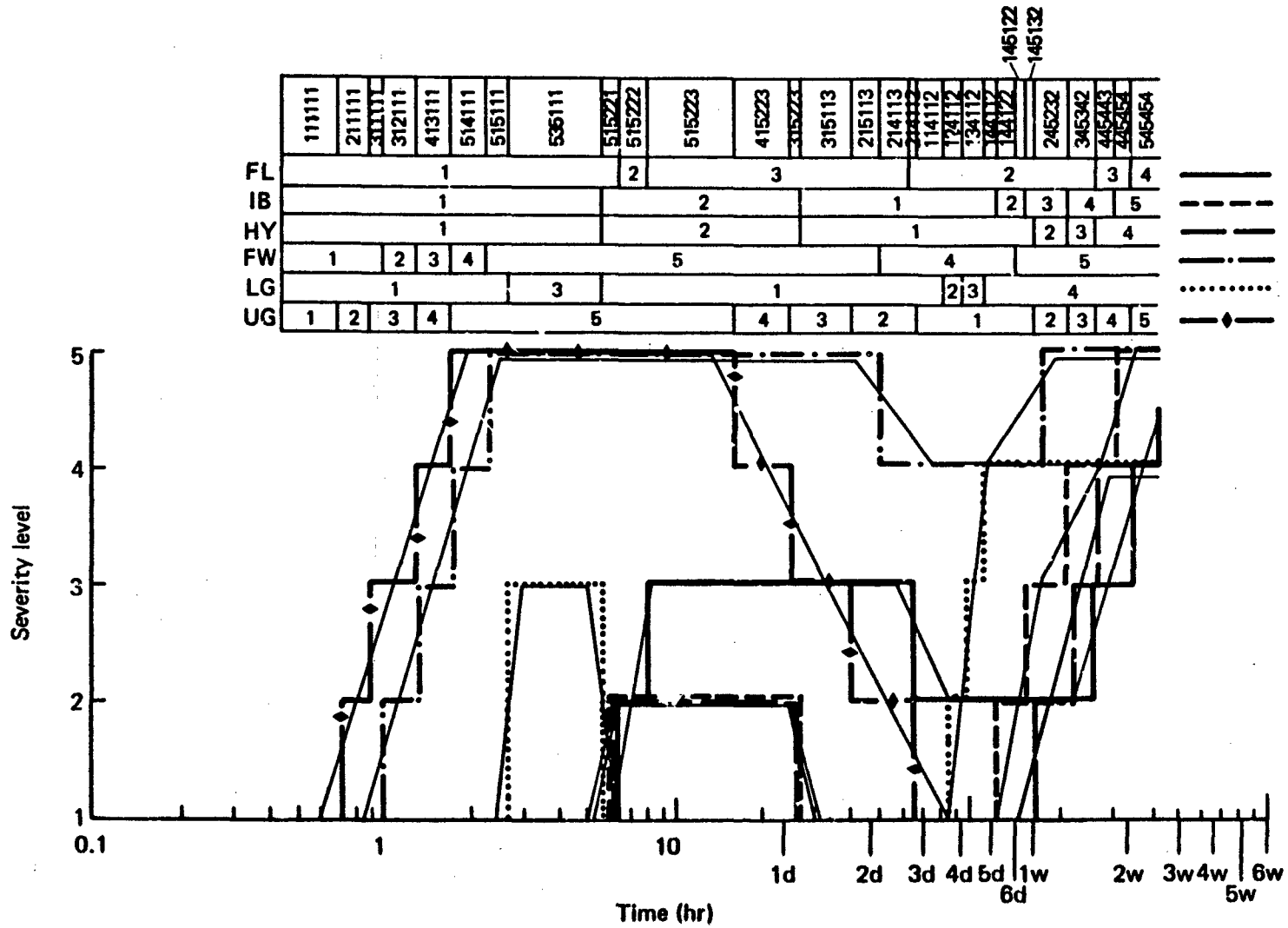


Figure 37. Symptom severity level: 1100 to 1500 rads (cGy) free-in-air dose.

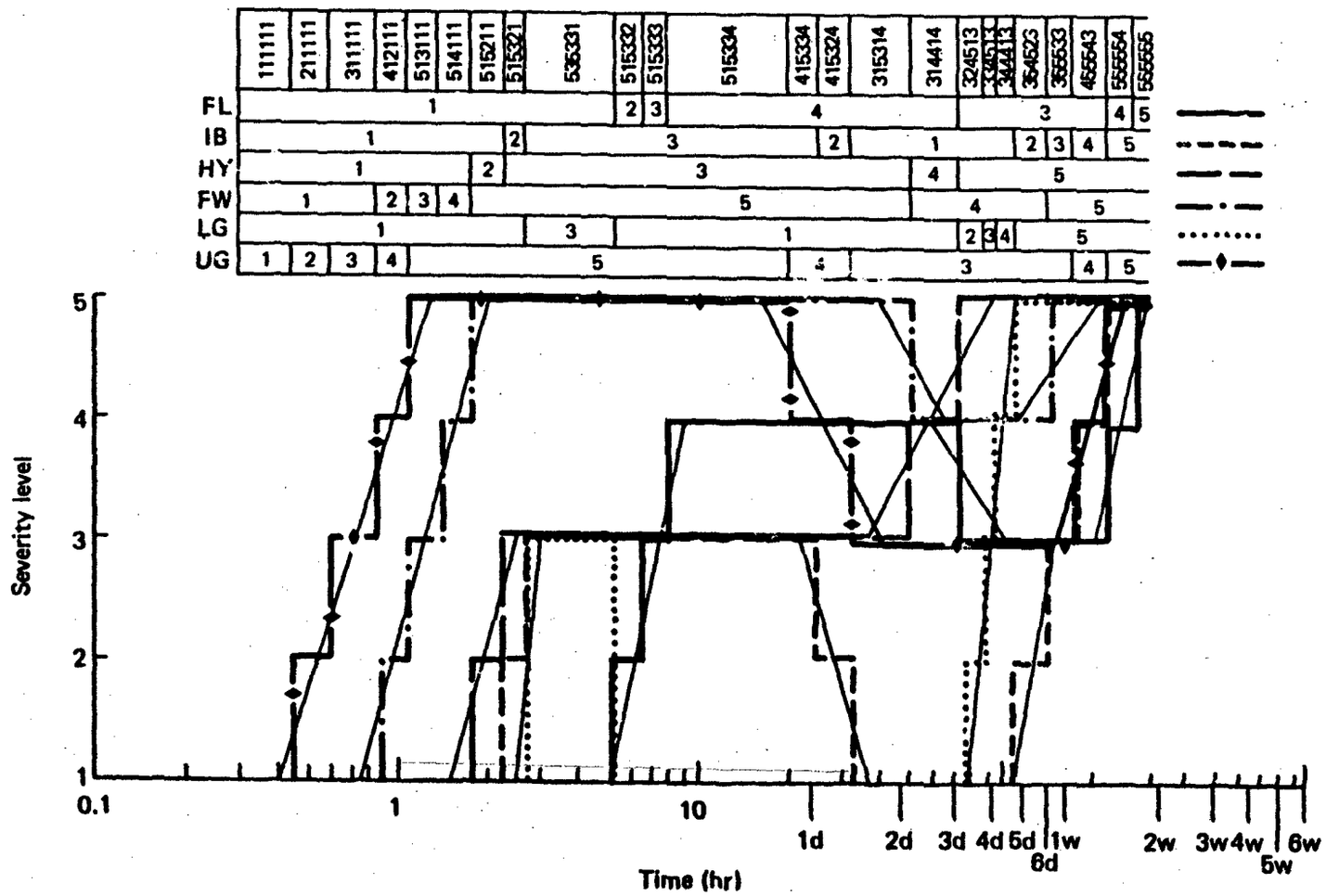


Figure 38. Symptom severity level: 1500 to 3000 rads (cGy) free-in-air dose.

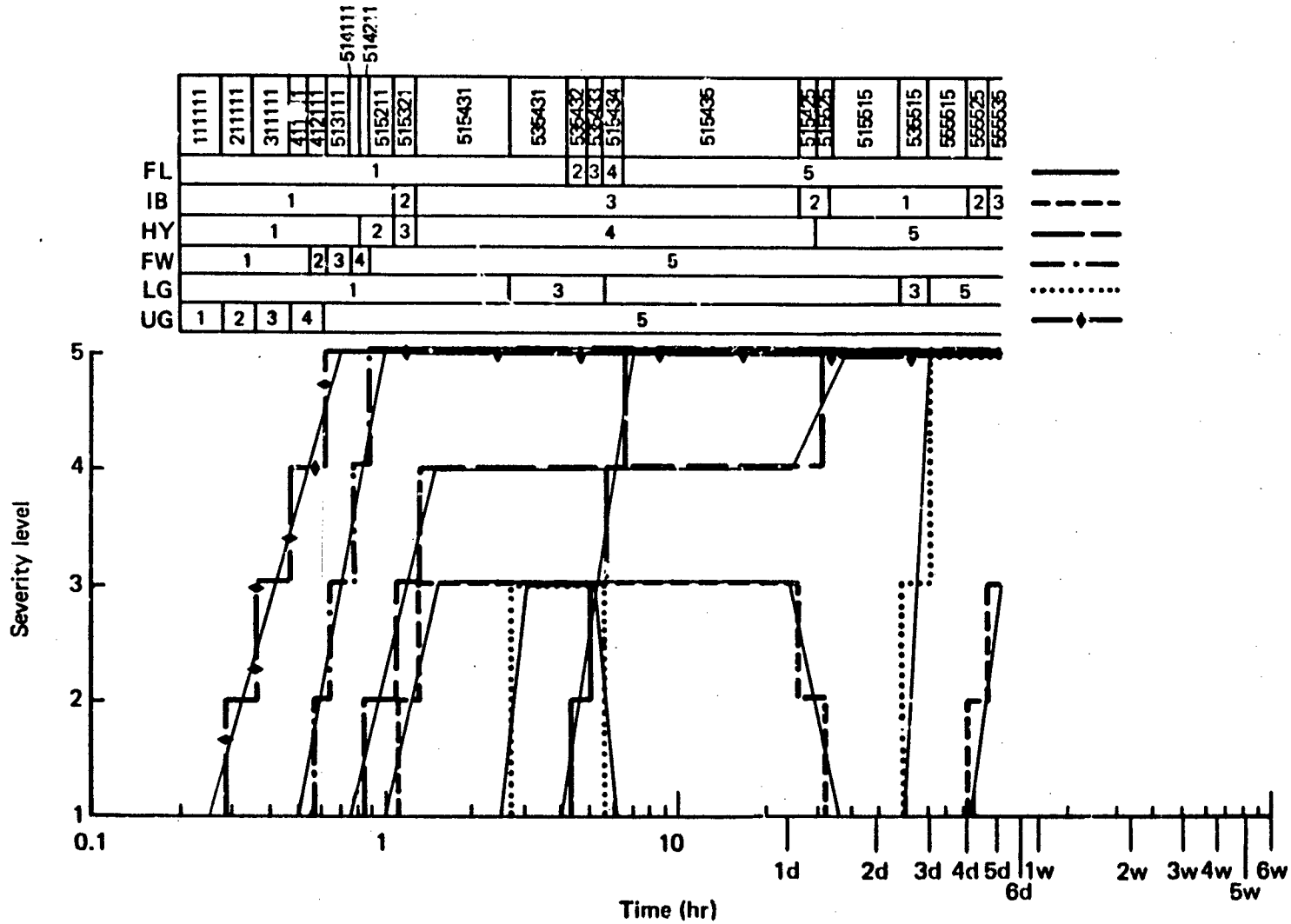


Figure 39. Symptom severity level: 3000 to 4500 rads (cGy) free-in-air dose.

the levels. Thus, symptom severity is represented in terms of discrete levels consistent with the formation of the severity level descriptions in Anno and Wilson [1983]. The step function profiles are constructed such that approximately equal areas under the sloping curves are maintained.

Above those curves, each of the symptom categories is shown as a horizontal band spanning time and is divided into a series of rectangles of varying length. The symptom category bands contain integers that designate the severity level and associated time period. Above the group of rectangles is another band that defines the symptom complexes in terms of a six-digit code. Those coded rectangles merely "collapse" the separate bands of each of the six symptom categories depicted below them into the symptom complexes. The position of each digit in the code corresponds to one of the six symptom categories shown earlier, and in the order indicated. However, the *value* of each individual digit indicates the severity level of each symptom category.

For example, in Fig. 34, for the dose range 300 to 530 rads (cGy), symptom complex 314112, existing between 13 and 22 hr following exposure, consists of symptom categories in the following order: upper gastrointestinal distress (UG), severity level 3; lower gastrointestinal distress (LG), level 1; fatigability and weakness (FW), level 4; hypotension (HY), level 1; infection, bleeding, and fever (IB), level 1; and fluid loss and electrolyte imbalance (FL), level 2. The description for this symptom complex [Anno and Wilson, 1983] used in the army combat crew questionnaire [Glickman et al., 1983] is as follows: "Nauseated, considerable sweating, swallows frequently to avoid vomiting; very tired and weak; thirsty and has dry mouth, weak and faint."

Except for the early LG distress, we estimate that all other symptom categories represented by the symptom severity profiles in Figs. 32 through 39 are applicable to about 50 percent (except for the 75 to 150 rads [cGy] dose range) or more of those irradiated, and are thus typically representative. The profile for LG distress, shown by a dotted line between 2.5 and 5.5 hr in Figs. 34 through 39, is a brief one- or two-time episode of diarrhea that may occur in the early or prodromal phase following radiation exposure in about 10 percent of those irradiated up to a dose of about

1500 rads (cGy). That threshold may increase to a maximum of about 30 percent up to a dose of 4500 rads (cGy). Since our focus in this report is on the effects on performance of the "typical" acute radiation syndrome and symptom sequelae, we have omitted the *early* LG effect from the main calculations of performance for typical combat crewmembers as a function of dose and time. However, additional calculations have been made that do take the early LG effect into account (see Appendix H).

At the extreme ends of Figs. 33, 34, and 35, two sets of symptom complexes are indicated at corresponding or similar times to reflect the possible sequelae of "survivors" and "nonsurvivors." In Fig. 33, for the 150 to 300 rad (cGy) dose range, a small number of lethalities, less than or equal to about 5 percent, may be expected to occur sometime after the fifth week following exposure [Baum et al., 1983]. Accordingly, we have represented the nonsurvivors by complex [12131] as the offset rectangle. In Fig. 34, for the 300 to 530 rad (cGy) dose range, up to 50 percent lethalities may be expected sometime after the fourth week following exposure [Baum et al., 1983]. Similarly, we have represented nonsurvivors by symptom complex [13415] as the offset rectangle. However, in Fig. 35 for the 530 to 830 rad (cGy) dose range, 50 to 99 percent lethalities may be expected starting at the end of the third week following exposure [Baum et al., 1983]. In that case the survivors, rather than the nonsurvivors, are represented by the offset rectangles containing symptom complex designations.

Figure 40 gives the dose/time locations of all the symptom complexes. The symptom complexes in the upper band of rectangles in Figs. 37 through 39, for each of the eight dose ranges, are combined. The percent (incidence) of individuals expected to have acute radiation symptoms represented by the symptom complexes are indicated by dose range to the left of the ordinate [Baum et al., 1983]. The various complexes typify expected states of acute radiation sickness following a prompt period of exposure. However, since each complex is composed of six different symptomatic components, it is not a straightforward matter to quantify each in terms of an overall state or condition measured on some uniform scale. This is because we cannot stipulate the degree of severity level equivalence or symptom dependence across the symptom categories. It is

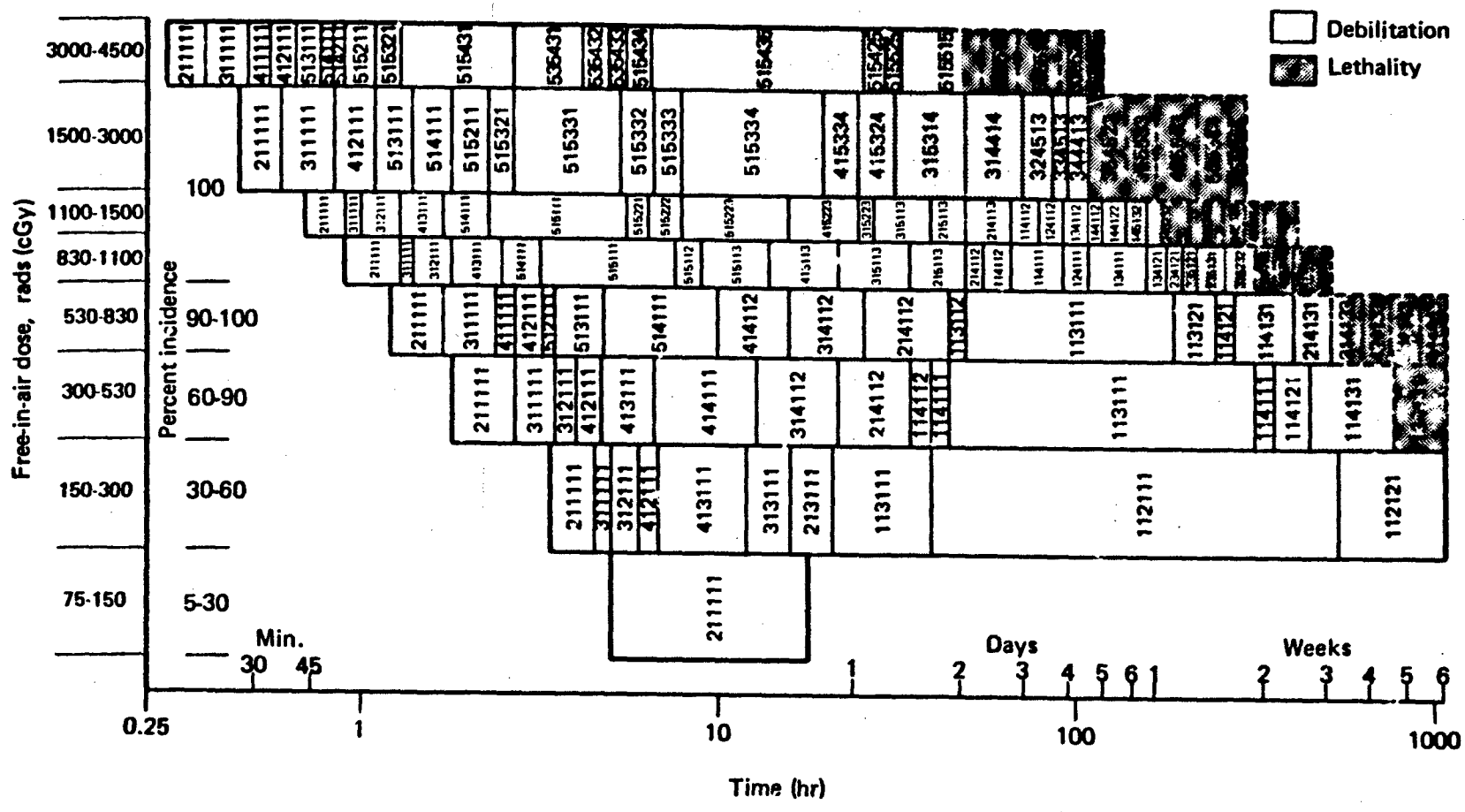


Figure 40. Symptom complexes.

possible, however, to indicate where severe conditions such as debilitation and lethality can be expected. In Fig. 40 the dark shaded areas indicate the occurrence of lethality. Although not shown in the figure, possibly a small number of lethalities may occur after 5 weeks for the 150 to 300 rad (cGy) dose range. The lightly shaded areas indicate severe debilitation ranging from shock, prostration, and fainting at the high dose ranges to infection, fever, weakness, and exhaustion at the low dose ranges.

The severe conditions (debilitation and lethality) indicated in Fig. 40 are where the radiobiological considerations alone suggest extreme functional impairment and are therefore useful to guide the development of performance boundary conditions to combine with the performance estimates from the regression analysis estimates. Figure 40 provides the dose/time framework for the numerical performance mapping process described in Sec. 5, which follows.

SECTION 5

DOSE/TIME PERFORMANCE MAPPING

In the last section, a dose/time framework of symptom complexes was constructed; here, the quantitative relationship of crewmember performance with dose and postexposure time is established. The procedure consists of a one-to-one numerical mapping of crewmember performance values obtained from the regression analysis onto the dose/time framework of symptom complexes. Through numerical methods described below, we extend the input performance values from the regression analysis (Sec. 3), ranging from 0 to 100 percent, to produce output performance surfaces and isoperformance contour levels as a function of dose and postexposure time. The discussion that follows details the procedure and lists the numerical values used to obtain the performance dose/time output relationship.

INPUT DATA

Performance values developed from the regression analysis of the combat crew questionnaire responses, together with the appropriate dose and time values, constitute the basic input data. The crew questionnaire responses on which the regression analysis is based do not correspond to all symptom complexes indicated in Fig. 41, owing to a limitation on the number of symptom complexes allowed in the combat crew questionnaires [Glickman et al., 1983]. However, a substantial portion of the dose/time domain, shown by the lightly shaded areas, corresponds to the symptom complexes where questionnaire response data were obtained.

Table 29 lists the input values used for the dose/time performance mapping. For each dose range, the symptom complexes, time ranges, times, and corresponding performance predictions from the regression analysis are given. The performance values are for the chief of section of the gun crew, as a generic case, although the same input format holds for all crew positions (see Appendix I). Graphically, the time range values correspond to the time boundaries of the symptom complex rectangles shown

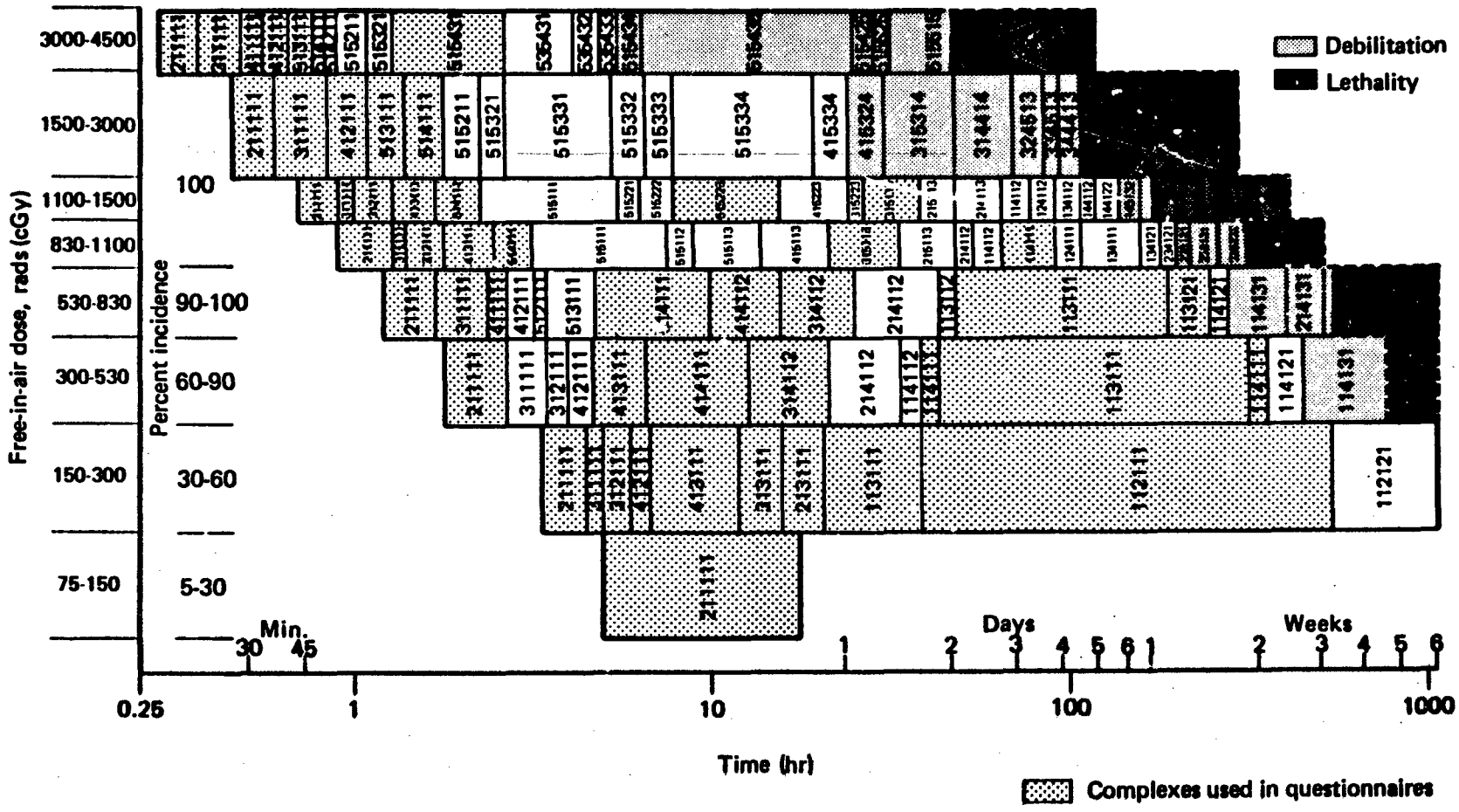


Figure 41. Symptom complexes including those from questionnaires.

in Fig. 41. The time value where performance input is specified is the midpoint of the horizontal length of those rectangles. Since the time axis is logarithmic, the midpoint is given by the square root of the product of the time boundaries.

Referring to Fig. 41, input boundary conditions are specified at the outer periphery of the connected collection of symptom complex areas. This is done by specifying the performance with a series of relationships described below that designate where the performance is 100 percent (symptom-free) or assumed to be 0 percent (extreme symptom severity or lethality).

COMPUTATIONAL PROCEDURE

In order to create a three-dimensional representation of performance as a function of dose and time, we take the symptom map (Fig. 41) plus imposed boundary conditions to build a smooth surface that both covers the regions of interest and passes through each performance input data point. To do this, a "french curve" algorithm (FCA) is used to translate the input data into an evenly spaced (logarithmic) grid of performance predictions for 18 values of dose and 39 values of time.

We chose the particular dose/time grid structure to allow full resolution of the underlying symptom map without adding an excessive amount of easily interpolated information. Within the areas defined by boundary conditions there are 143 irregularly spaced input points and about 400 output values. Since the only regularities in the structure of the input data are the 8 dose bands, the dose grid lines are chosen to correspond to the middle of the bands to the extent possible. No such regularity is present in the time structure of the input data, so the grid lines are chosen for calculational convenience.

Figure 42 shows the output grid structure, along with the locations assigned to the input data and the imposed boundaries. The dose grid lines are indexed i, where i = 1, 2, ..., 18, which correspond to dose values listed in Table 30, given by

$$D_i = 10^{(0.11i+1.67609)} \quad \text{rads (cGy)} \quad . \tag{21}$$

Table 29. Input data for dose/time analysis of gun crew, chief of section.

Dose Range [rads (cGy)]	Complex	Time Range (hr)		Time (hr)	Performance Value for Input Data
75-150	211111	5.00	18.00	9.49	0.7226
150-300	211111	3.40	4.50	3.91	0.7226
	311111	4.50	5.00	4.74	0.6751
	312111	5.00	6.00	5.48	0.6341
	412111	6.00	6.80	6.39	0.5804
	413111	6.80	12.00	9.03	0.5357
	313111	12.00	16.00	13.86	0.5912
	213111	16.00	21.00	18.33	0.6444
	113111	21.00	40.00	28.98	0.6943
	112111	40.00	540.00	146.97	0.7314
	112121	540.00	1060.00	756.57	0.6568
300-530	211111	1.80	2.70	2.20	0.7226
	311111	2.70	3.50	3.07	0.6751
	312111	3.50	3.90	3.69	0.6341
	412111	3.90	4.60	4.24	0.5804
	413111	4.60	6.60	5.51	0.5357
	414111	6.60	13.00	9.26	0.4904
	314112	13.00	22.00	16.91	0.4386
	214112	22.00	35.00	27.75	0.4947
	114112	35.00	40.00	37.42	0.5510
	114111	40.00	45.00	42.43	0.6545
	113111	45.00	320.00	120.00	0.6943
	114111	320.00	360.00	339.41	0.6545
	114121	360.00	450.00	402.49	0.5712
	114131	450.00	780 00	592.45	0.4836
	134131	780.00	1080.00	917.82	0.3108
530-830	211111	1.20	1.70	1.43	0.7226
	311111	1.70	2.40	2.02	0.6751
	411111	2.40	2.70	2.55	0.6238
	412111	2.70	3.25	2.96	0.5804
	512111	3.25	3.50	3.37	0.5246
	513111	3.50	4.80	4.10	0.4793
	514111	4.80	10.00	6.93	0.4343
	414112	10.00	16.00	12.65	0.3840
	314112	16.00	26.00	20.40	0.4386
	214112	26.00	45.00	34.21	0.4947
	113112	45.00	50.00	47.43	0.5953
	113111	50.00	190.00	97.47	0.6943
	113121	190.00	250.00	217.95	0.6149
	114121	250.00	280.00	264.58	0.5712
	114131	280.00	410.00	338.82	0.4836
	214131	410.00	520.00	461.74	0.4276

Table 29. Input data for dose/time analysis of gun crew, chief of section (Continued).

Dose Range [rads (cGy)]	Complex	Time Range (hr)		Time (hr)	Performance Value for Input Data
530-830 (cont.)	314133	520.00	630.00	572.36	0.2000
	424133	630.00	760.00	691.95	0.1216
	434143	760.00	910.00	831.62	0.0633
	444153	910.00	1080.00	991.36	0.0319
830-1100	211111	0.90	1.30	1.08	0.7226
	311111	1.30	1.40	1.35	0.6751
	312111	1.40	1.80	1.59	0.6341
	4.3111	1.80	2.50	2.12	0.5357
	514111	2.50	3.20	2.83	0.4343
	515111	3.20	7.60	4.93	0.3904
	515112	7.60	9.00	8.27	0.2932
	515113	9.00	14.00	11.22	0.2118
	415113	14.00	22.00	17.55	0.2519
	315113	22.00	35.00	27.75	0.2968
	215113	35.00	50.00	41.83	0.3460
	214112	50.00	56.00	52.91	0.4947
	114112	56.00	67.00	61.25	0.5510
	114111	67.00	92.00	78.51	0.6545
	124111	92.00	110.00	100.60	0.5680
	134111	110.00	160.00	132.66	0.4771
	134121	160.00	180.00	169.71	0.3908
	234121	180.00	190.00	184.93	0.3386
	235121	190.00	200.00	194.94	0.2992
	235131	200.00	260.00	228.04	0.2309
	325232	260.00	320.00	288.44	0.1730
	315343	320.00	360.00	339.41	0.1138
	415343	360.00	410.00	384.19	0.0930
	414344	410.00	460.00	434.28	0.0622
	515354	460.00	520.00	489.08	0.0359
1100-1500	211111	0.70	0.90	0.79	0.7226
	311111	0.90	1.00	0.95	0.6751
	312111	1.00	1.30	1.14	0.6341
	413111	1.30	1.70	1.49	0.5357
	514111	1.70	2.30	1.98	0.4343
	515111	2.30	5.30	3.49	0.3904
	515221	5.30	5.70	5.50	0.2965
	515222	5.70	8.00	6.75	0.2144
	515223	8.00	16.00	11.31	0.1502
	415223	16.00	25.00	20.00	0.1814
	315223	25.00	27.00	25.98	0.2174
	315113	27.00	40.00	32.86	0.2968
	215113	40.00	50.00	44.72	0.3460
	214113	50.00	66.00	57.45	0.3881

Table 29. Input data for dose/time analysis of gun crew, chief of section (Continued).

Dose Range [rads (cGy)]	Complex	Time Range (hr)		Time (hr)	Performance Value for Input Data
1100-1500 (cont.)	114112	66.00	80.00	72.66	0.5510
	124112	80.00	92.00	85.79	0.4600
	134112	92.00	110.00	100.60	0.3715
	144112	110.00	120.00	114.89	0.2909
	144122	120.00	140.00	129.61	0.2238
	145132	140.00	160.00	149.67	0.1446
	245232	160.00	210.00	183.30	0.1121
	345342	210.00	260.00	233.67	0.0622
	445443	260.00	300.00	279.29	0.0311
	454454	300.00	340.00	319.37	0.0120
	545454	340.00	420.00	377.89	0.0115
1500-3000	211111	0.45	0.60	0.52	0.7726
	311111	0.60	0.84	0.71	0.6751
	412111	0.84	1.10	0.96	0.5804
	513111	1.10	1.40	1.24	0.4793
	514111	1.40	1.80	1.59	0.4343
	515211	1.80	2.30	2.03	0.3748
	515321	2.30	2.70	2.49	0.2829
	515331	2.70	5.40	3.82	0.2171
	515332	5.40	6.60	5.97	0.1523
	515333	6.60	8.00	7.27	0.1042
	515334	8.00	20.00	12.65	0.0701
	415334	20.00	24.00	21.91	0.0863
	415324	24.00	32.00	27.71	0.1184
	315314	32.00	50.00	40.00	0.1932
	314414	50.00	72.00	60.00	0.2118
	324513	72.00	86.00	78.69	0.2123
	334513	86.00	96.00	90.86	0.1576
	344413	96.00	110.00	102.76	0.1218
	354523	110.00	140.00	124.10	0.0596
	355533	140.00	170.00	154.27	0.0358
	455543	170.00	220.00	193.39	0.0204
	555554	220.00	270.00	243.72	0.0000
	555555	270.00	300.00	284.61	0.0000
3000-4500	211111	0.28	0.36	0.32	0.7226
	311111	0.36	0.48	0.42	0.6751
	411111	0.48	0.56	0.52	0.6238
	412111	0.56	0.66	0.61	0.5804
	513111	0.66	0.77	0.71	0.4793
	514111	0.77	0.84	0.80	0.4343
	514211	0.84	0.90	0.87	0.4181
	515211	0.90	1.10	0.99	0.3748

Table 29. Input data for dose/time analysis of gun crew, chief of section (Concluded).

Dose Range [rads (cGy)]	Complex	Time Range (hr)		Time (hr)	Performance Value for Input Data
3000-4500 (cont.)	515321	1.10	1.30	1.20	0.2829
	515431	1.30	2.70	1.87	0.2061
	535431	2.70	4.20	3.37	0.1111
	535432	4.20	5.00	4.58	0.0749
	535433	5.00	5.60	5.29	0.0498
	515434	5.60	6.60	6.08	0.0659
	515435	6.60	26.00	13.10	0.0437
	515425	26.00	30.00	27.93	0.0610
	515525	30.00	33.00	31.46	0.0573
	515515	33.00	55.00	42.60	0.0796
	535515	55.00	70.00	62.05	0.0400
	555515	70.00	91.00	79.81	0.0197
	555525	91.00	110.00	100.05	0.0139
	555535	110.00	120.00	114.89	0.0000

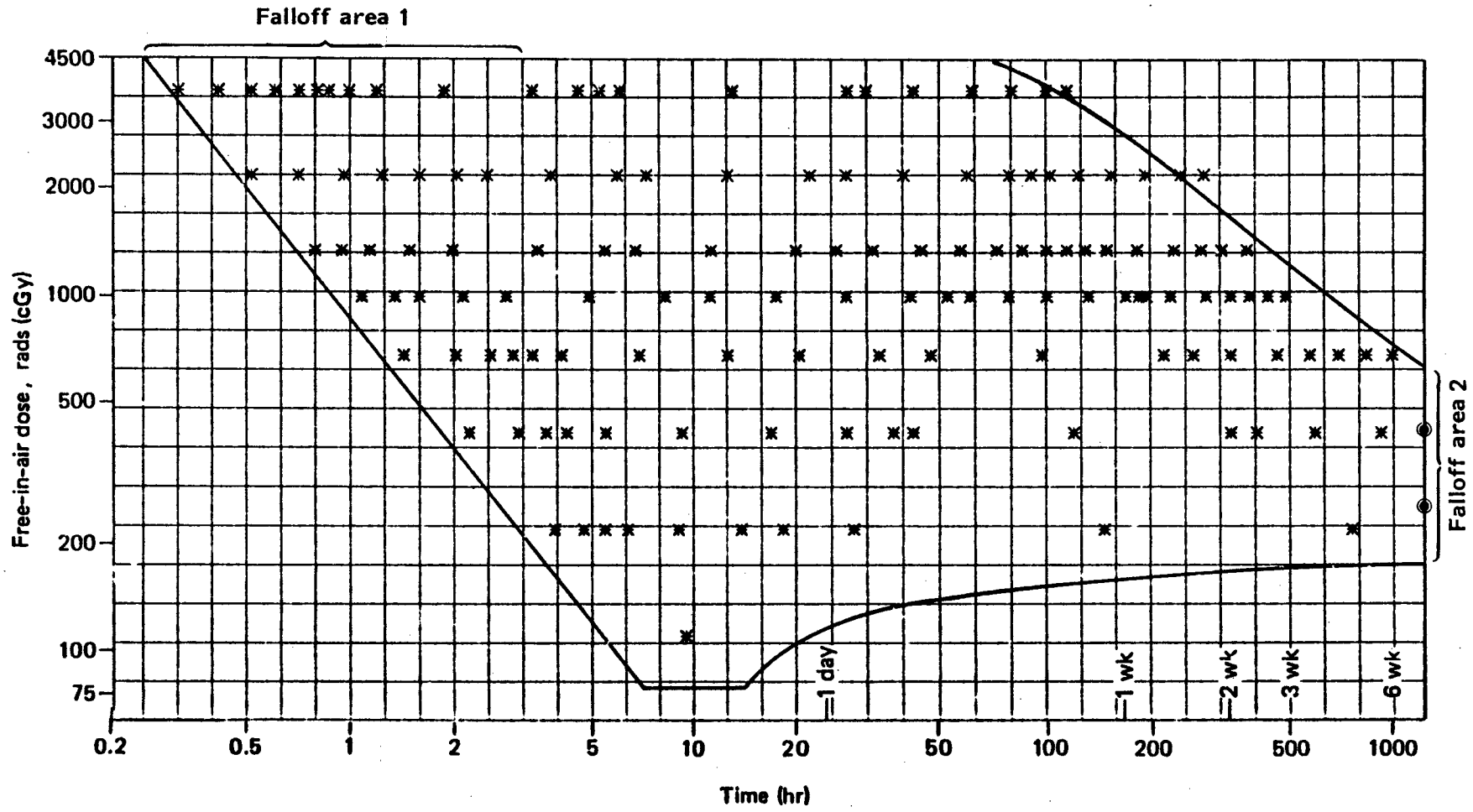


Figure 42. Data points and boundaries.

Table 30. Dose/time grid lines.

Range [rads (cGy)]	Dose (free-in-air) Index (i)	Dose (free-in-air) Grid Line [rads (cGy)]	Time Index (j)	Time Grid Line (hr)	Time Index (j)	Time Grid Line (hr)
75-150	1	61.11	1	0.20	21	19.95
	2	78.72	2	0.25	22	25.12
	3	104.42	3	0.32	23	31.62
	4	130.65	4	0.40	24	39.81
150-300	5	168.30	5	0.50	25	50.12
	6	216.81	6	0.63	26	63.10
	7	279.32	7	0.79	27	79.43
300-530	8	359.82	8	1.00	28	100.00
	9	463.55	9	1.26	29	125.89
530-830	10	597.17	10	1.58	30	158.49
	11	769.29	11	2.00	31	199.53
830-1100	12	991.04	12	2.51	32	251.19
1100-1500	13	1276.71	13	3.16	33	316.23
1500-3000	14	1644.72	14	3.98	34	398.11
	15	2118.81	15	5.01	35	501.19
	16	2729.55	16	6.31	36	630.96
3000-4500	17	3516.35	17	7.94	37	794.33
	18	4529.94	18	10.00	38	1000.00
	--	--	19	12.59	39	1258.93
	--	--	20	15.85	--	--

Similarly, the time grid lines, indexed by j, j = 1, 2, ..., 39, represent time values listed in Table 30, and are given by

$$t_j = 10^{(0.10j-0.8)} \quad \text{hr} . \tag{22}$$

Note that the outermost grid lines in both cases fall just outside the area covered by the symptom map.

The boundary conditions were chosen by making a priori assumptions regarding the extremes where performance is 100 percent (nondegraded) or

0 percent (totally degraded). Those particular boundary conditions were derived to ensure a smooth transition of the performance surface between the boundaries and the interior regions. The functional forms of the following boundary value formulas are not based on any specific theoretical model, but yield curves that are not inconsistent with the data and represent the perceived effects of radiation exposure on humans at the boundary extremes. Those boundary conditions, specified in terms of performance fraction p, will be described in terms of four areas of the grid in the same manner in which they were implemented in the analysis. Dose values are in rads (cGy), time in hours.

1. Upper edge ($D = 4529.928$) (23)

   $0.1995 \le t \le 0.2606$: $p = 1.0$

   $0.2606 \le t \le 3.1623$: $p = (1 + \varepsilon) \exp [- (a + b \log_{10} t)] - \varepsilon$

   $a = 1.32819$

   $b = 2.27430$

   $\varepsilon = 0.0928716$

   $3.1623 \le t \le 1258.925$: $p = 0.$

   The shape and effect of this boundary condition are particularly evident on the three-dimensional plots and correspond to falloff area 1 indicated in Fig. 42.

2. Right edge ($t = 1258.925$)

   $61.107 \le D \le 168.303$: $p = 1.0$

   $597.161 \le D \le 4529.928$: $p = 0$

   $168.303 \le D \le 597.161$: This falloff area, indicated in Fig. 42, is the least well known on the grid. A smooth transition from the data area was achieved most often by setting

$$p = a - b \log_{10} D \qquad (24)$$

$$a = 4.31952$$

$$b = 1.58364$$

   for two points at $D = 141.421$ and $D = 264.575$. The french curve algorithm (discussed below) was then used to generate a

curve through these points (see Fig. 42). The actual shape is evident on the three-dimensional plots and corresponds to fall-off area 2 in Fig. 42.

3. $p = 0$ limit (upper-right boundary)

   $D \geq 597.161$

   $t \geq 70.795$

$$\log_{10} D = \frac{1.43}{1 + \exp\,(a \log_{10} t - b)} + 2.44609 \tag{25}$$

$$a = 2.32698$$

$$b = 6.00965.$$

   This curve is easily seen on the contour plots.

4. $p = 1.0$ limit (left and lower boundary)

   $0.1995 \leq t \leq 0.2606$: All doses; same as upper edge limit

   $0.2606 \leq t \leq 6.9314$: $\log_{10} D = 2.92609 - 1.25 \log_{10} t$

   $6.9314 \leq t \leq 13.8523$: $D = 75.0$

   $13.8523 \leq t \leq 1258.9254$: $\log_{10} D = a + b\,\ell n\,(\log_{10} t - c)$ (26)

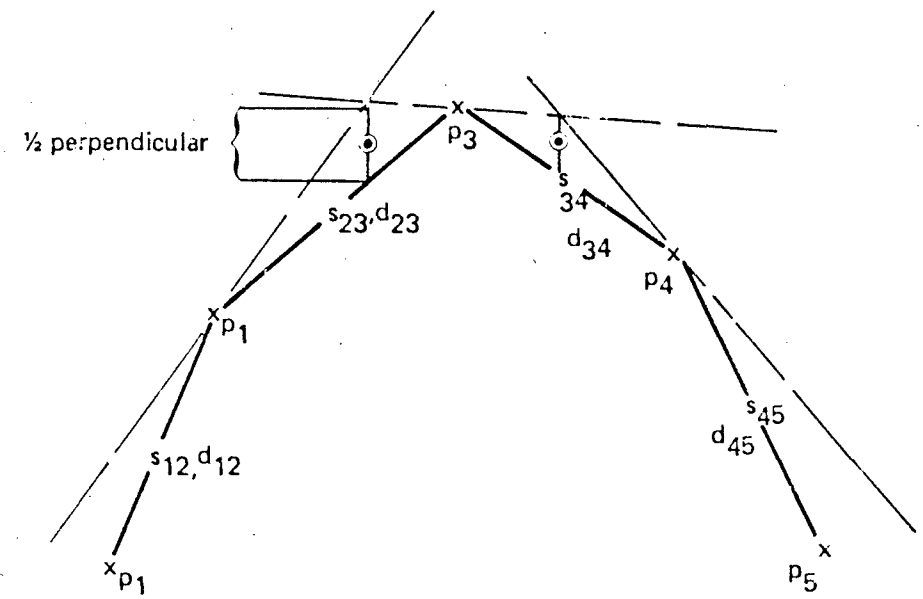
$$a = 2.16549$$

$$b = 0.0877468$$

$$c = 1.105.$$

   Again, this curve is clearly evident on the contour plots and in Fig. 42.

The actual procedure for generating time output data uses the FCA mentioned previously. That algorithm fits as smooth a curve as possible to irregularly spaced values for a single independent variable. Figure 43 shows the basic technique, which is to estimate the slope at two adjacent points and then find the intersection (if any) of their tangents. A new point on the curve is generated by dropping a perpendicular from that intersection to the line connecting the original points and choosing the new point halfway between. This procedure is done for each adjacent



s - Slope
d - Distance between points (logrithmic)
x - Regression data points (N)
⊙ - New points

	(N – 1)
Total	2N – 1
	⋮
	etc.
	⋮
Grand Total	~ 900

$$s(p_2) = \frac{s_{12}(1/d_{12}) + s_{23}(1/d_{23})}{(1/d_{12}) + (1/d_{23})}$$

$$s(p_3) = \frac{s_{23}(1/d_{23}) + s_{34}(1/d_{34})}{(1/d_{23}) + (1/d_{34})}$$

⋮ ⋮

etc.

Figure 43. "French curve" algorithm.

pair of points, so if N points are originally given, N - 1 new points are generated. The entire procedure is then repeated on all those 2N - 1 points, etc., until a desired density of points is achieved.

The algorithm has many desirable properties. It is capable of finding a peak (or valley) higher (or lower) than either of the original points that straddle it. Also, the density of points will be greatest where the curve is changing most rapidly, which is where the most resolution is needed. Most important, the FCA yields a curve that always passes through each and every original data point.

For purposes of fitting to the performance data, a three-step procedure is used. The first step is to generate an essentially continuous curve for each of the eight original dose bands. Input data to the FCA consists of the performance and time values for each of the locations (asterisks) on a given row in Fig. 42. Also included are additional data points corresponding to the boundary condition, the edge of the grid, and halfway between. This is done at both ends of the dose band, and yields six extra data points. Thus, even for the lowest dose band, which has only a single performance input point, a total of seven points, ranging over the entire time range of the grid, is input to the FCA. The result is eight curves of performance versus time.

The second step is to generate 39 different "continuous" curves of performance versus dose, each corresponding to one of the time grid lines. Input data to the FCA are eight performance and dose values (from the eight curves generated in step one) plus additional points for the edges of the grid and boundary conditions. This is done 39 times to yield the desired curves.

Finally, the third step is to generate 18 curves of performance versus time, corresponding to the dose grid lines instead of to the original dose bands. Each of these curves is found by using the FCA with input consisting of 39 data points (from the curves generated in step two) plus boundary conditions.

Three-dimensional plots (given in Sec. 6) result from plotting those 39 constant time curves and 18 constant dose curves as seen from the

appropriate perspective. Note that the tables of output values, given in Appendix J, contain only the performance values at the intersections of the grid lines, and thus do *not* reflect the full resolution shown in the plots.

CONTOUR PLOTS

A similar procedure was used to generate contour plots. The first step, generating the eight performance-versus-time curves, is the same as above. Step two, however, is different. Instead of only 39 time-constant curves, a total of 875 such curves are generated. That procedure yields the performance surface to a very high resolution. (On the scale of Fig. 42, if those 875 vertical lines are drawn, the spacing between them would be less than the width of the lines, i.e., the figure would appear as a solid black block.) Each of these "continuous" curves is in fact not continuous, but consists of 885 points. Thus, the surface is represented by a massive array of 875 × 885 = 774,375 points.

Next, each and every one of those points is compared with each of its neighboring points. If one of them is greater than a specified contour level, and the adjacent point is less than that level, then a dot is drawn on the plot for the original point, which then becomes one of the points that forms the contour. The resulting plot is simply a pattern of small dots that appears to the eye as continuous contour lines.

This approach, though tedious, eliminates the need for fitting local analytic approximations to describe the surface, which is the procedure used by most traditional contour plot algorithms. As a result the very detailed resolution of the FCA is preserved in the final contour plots.

Using the numerical procedures detailed above, we describe three-dimensional crewmember performance surfaces and isoperformance contours as a function of dose and postexposure time. In the following section, the overall picture of crewmember performance provided by three-dimensional plots, as well as the isoperformance contours that enable numerical performance estimates to be made graphically is described.

SECTION 6

RESULTS AND DISCUSSION

This section details the relationships of individual crewmember performance with acute radiation dose and time after exposure. The relationships are expressed graphically, based on the calculational methods described in Sec. 5 for the 15 artillery, tank, and TOW combat crewmember positions. Comparisons of the performance of five different types of crewmembers according to task similarities are detailed as a function of dose and time following exposure. Also presented and discussed are the confidence bounds associated with our individual performance predictions in order to illustrate the conditional uncertainty associated with the regression predictions of Sec. 3.

PERFORMANCE SURFACES

Three-dimensional surface representations of the relationship of individual performance to dose and time following a single prompt exposure are shown in Figs. 44 through 58 for each of the 15 crewmembers. The figures provide an overall picture of individual performance as a function of dose and time. Individual performance in percent is expressed as the vertical axis, with dose and time along the horizontal axis. Dose and time are both expressed logarithmically in order to include the entire intermediate dose range of 75 to 4500 rads (cGy) and time (minutes to 6 weeks) on each graph. Accordingly, a visual distortion is introduced where the slope of the surface for small doses and/or early times appears much more pronounced than that of large doses and/or times.

The particular orientation of the axes with the large values of dose and time at the bottom of the graphs enables a more revealing view of the performance surface than if the axes were oriented in the conventional manner with the smaller values at the bottom. The orthogonal lines along the surface are the 18-dose by 39-dose grid lines specified in Sec. 5. The end segments of the grid lines extending to the axes are dashed to indicate the span between input data and specified boundary conditions (discussed in Sec. 5), also shown as dashed lines. Insofar

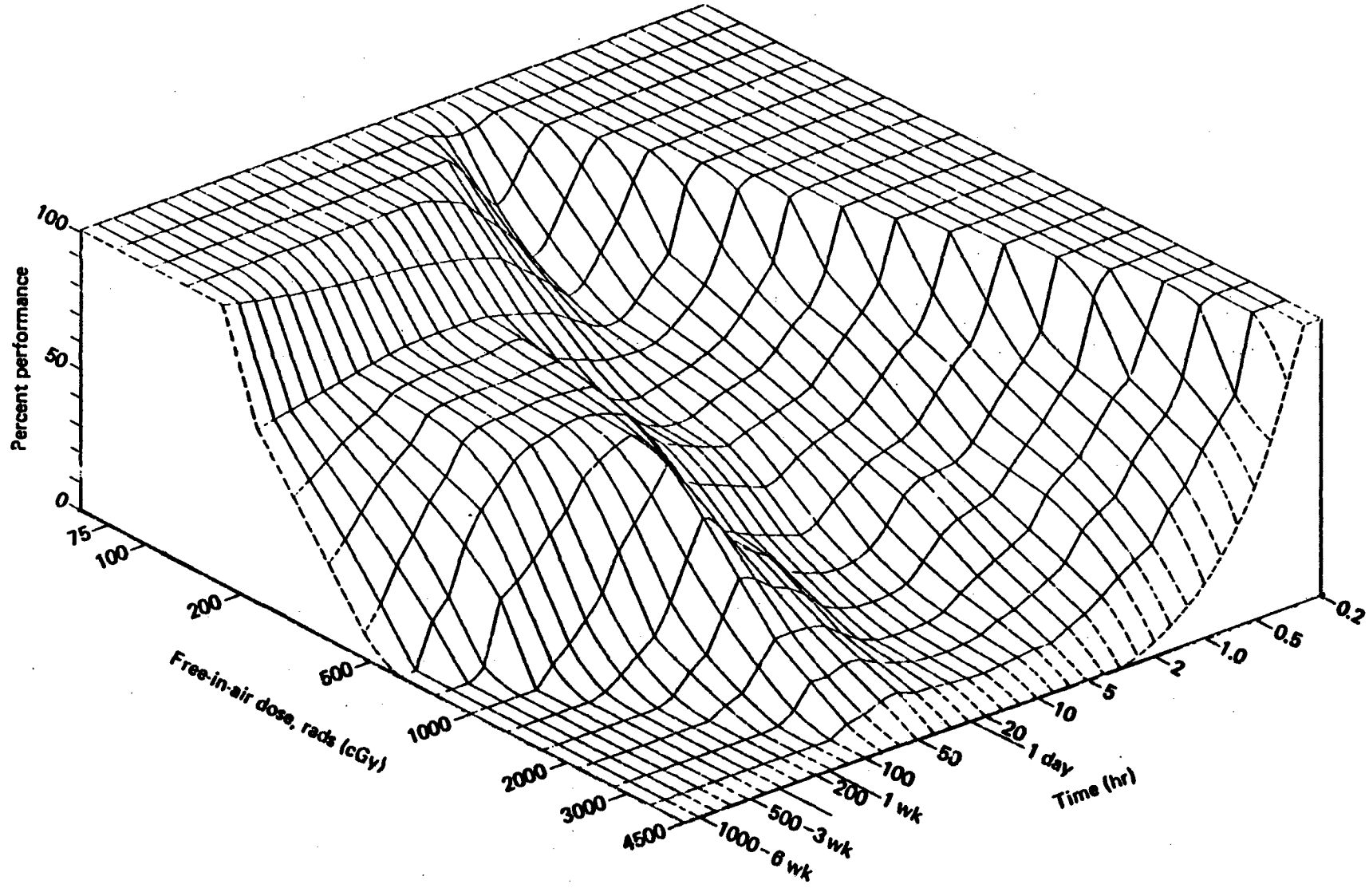


Figure 44. Performance surface: gun crew, chief of section.

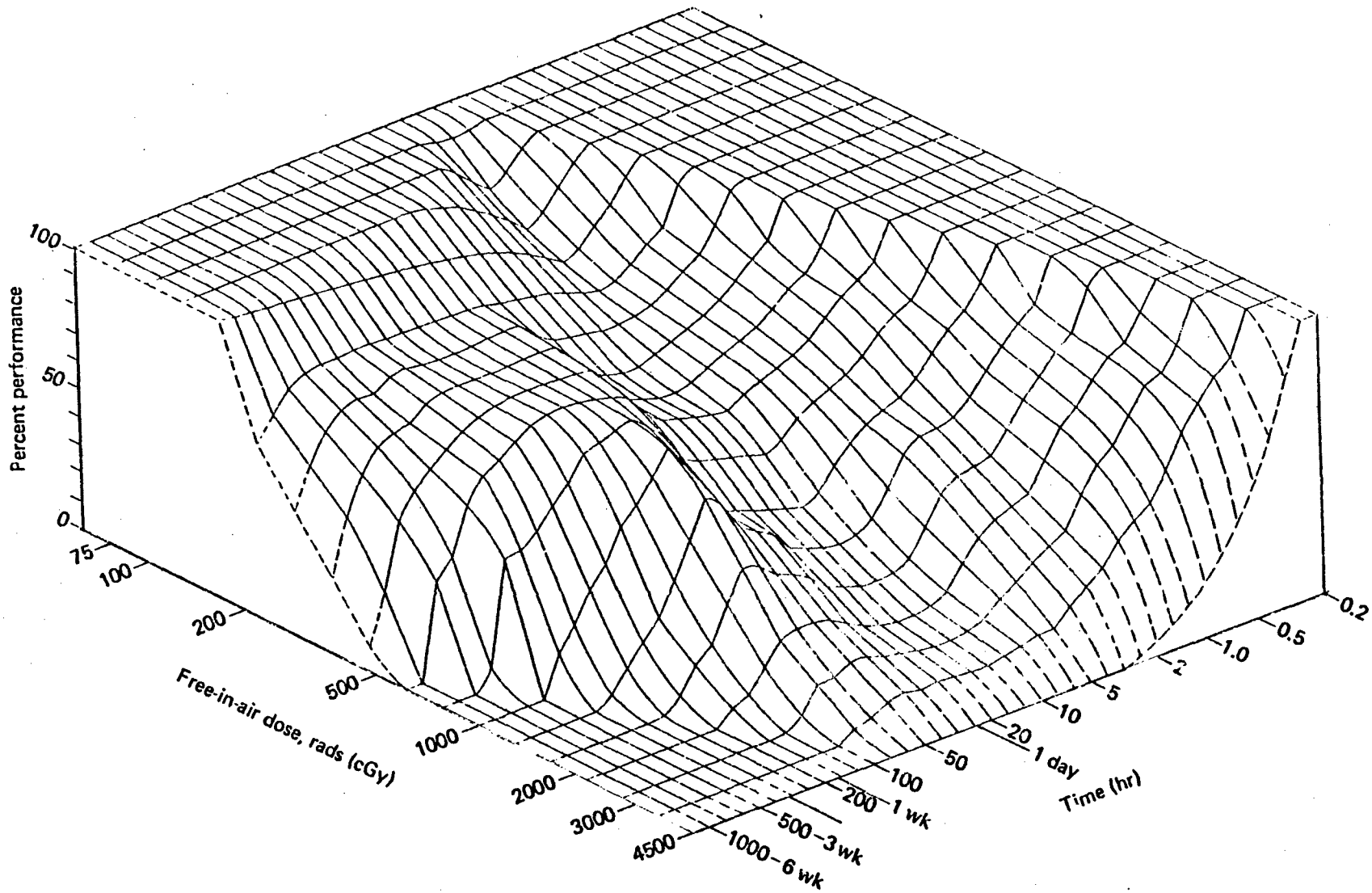


Figure 45. Performance surface: gun crew, gunner.

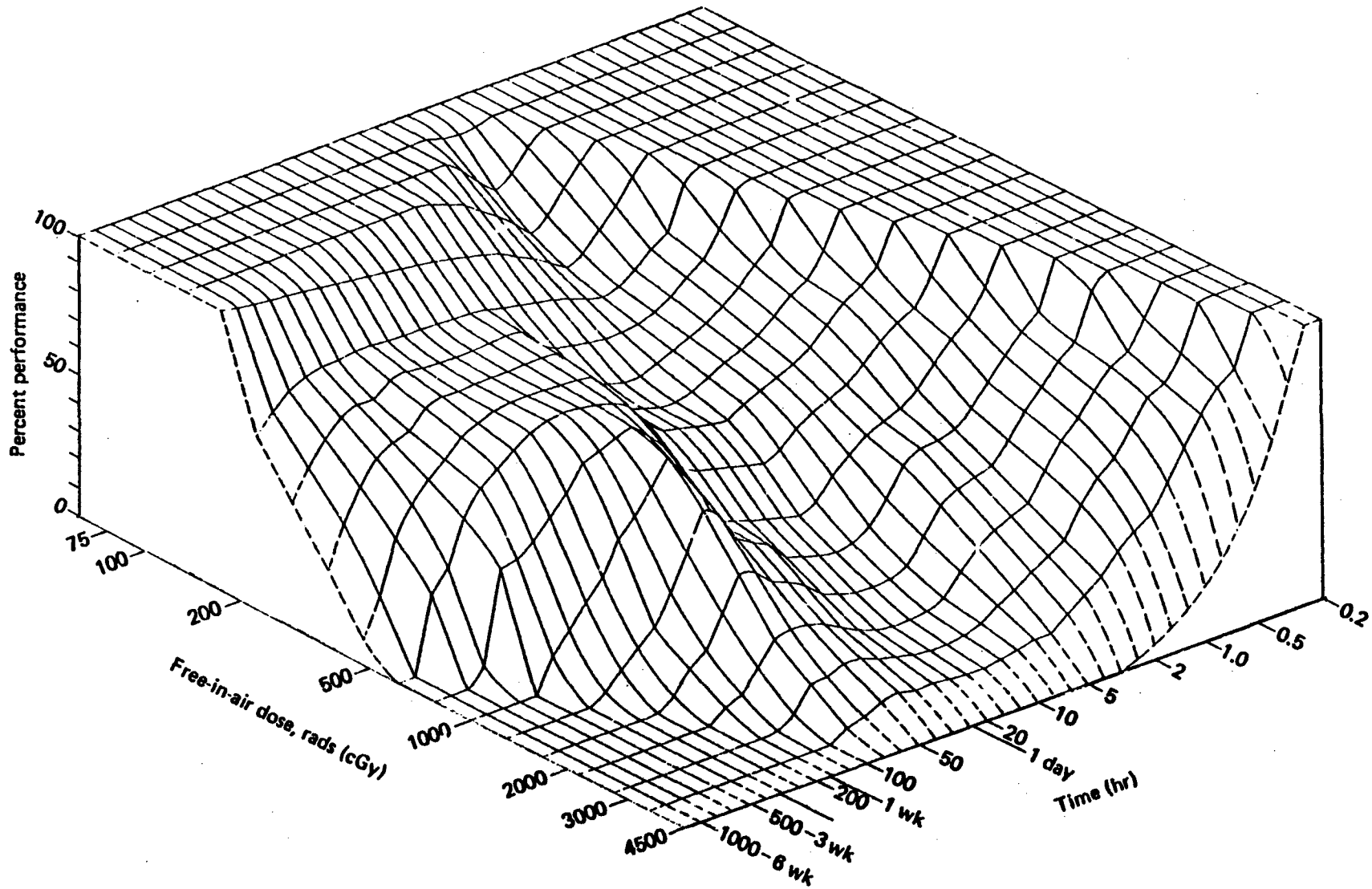


Figure 46. Performance surface: gun crew, assistant gunner.

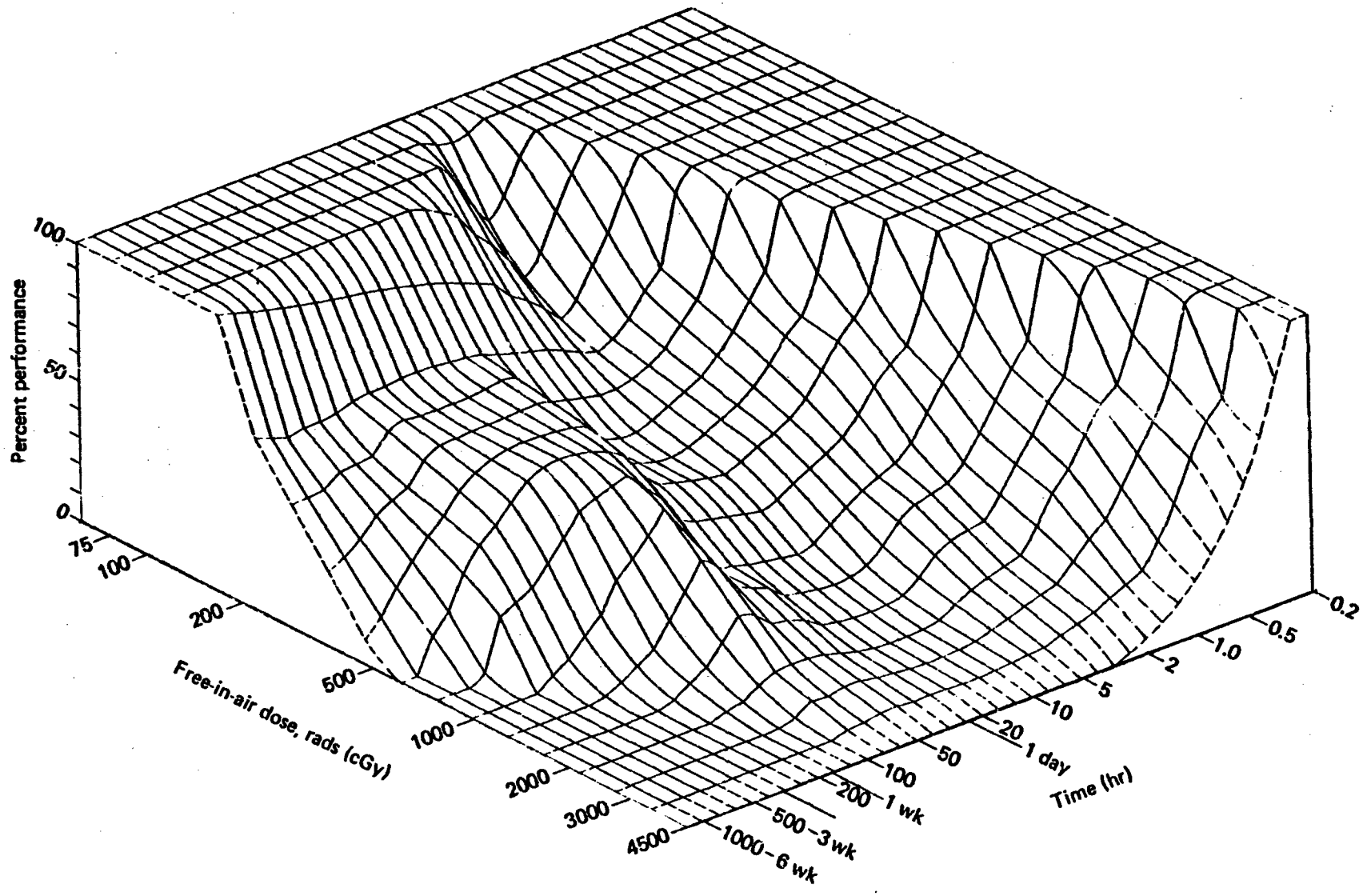


Figure 47. Performance surface: gun crew, loader.

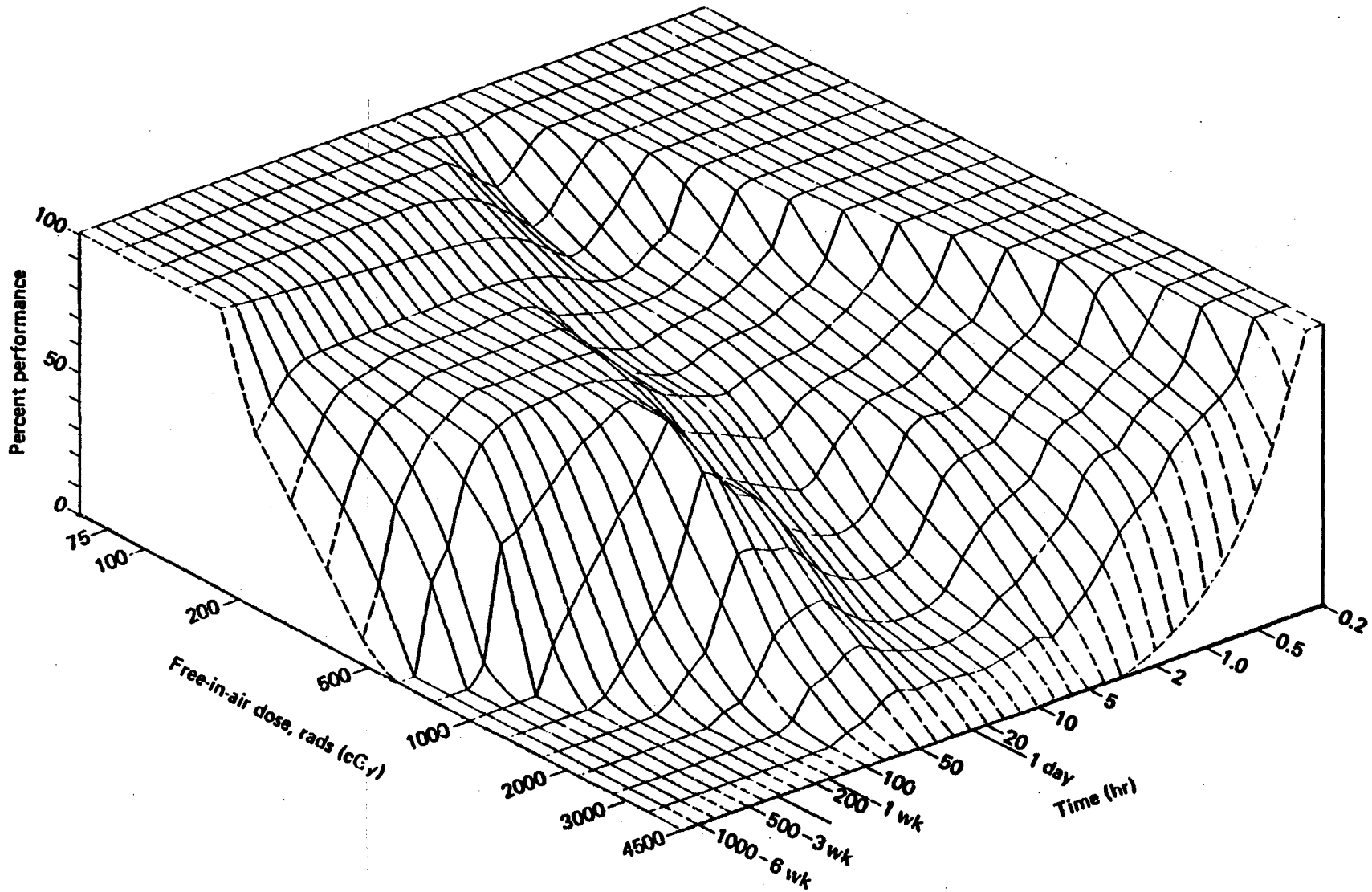


Figure 48. Performance surface: FDC crew, fire direction officer.

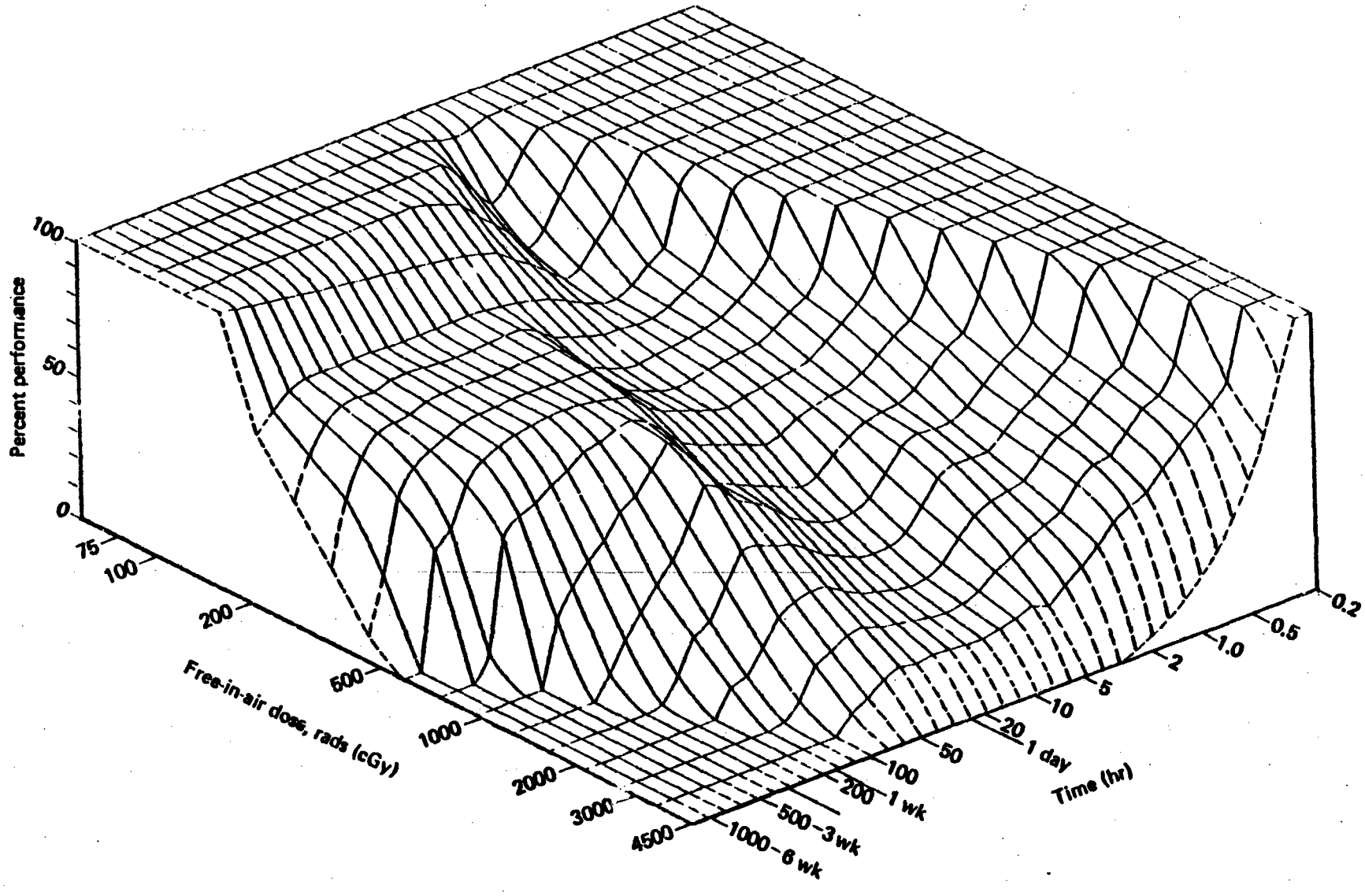


Figure 49. Performance surface: FDC crew, horizontal control operator.

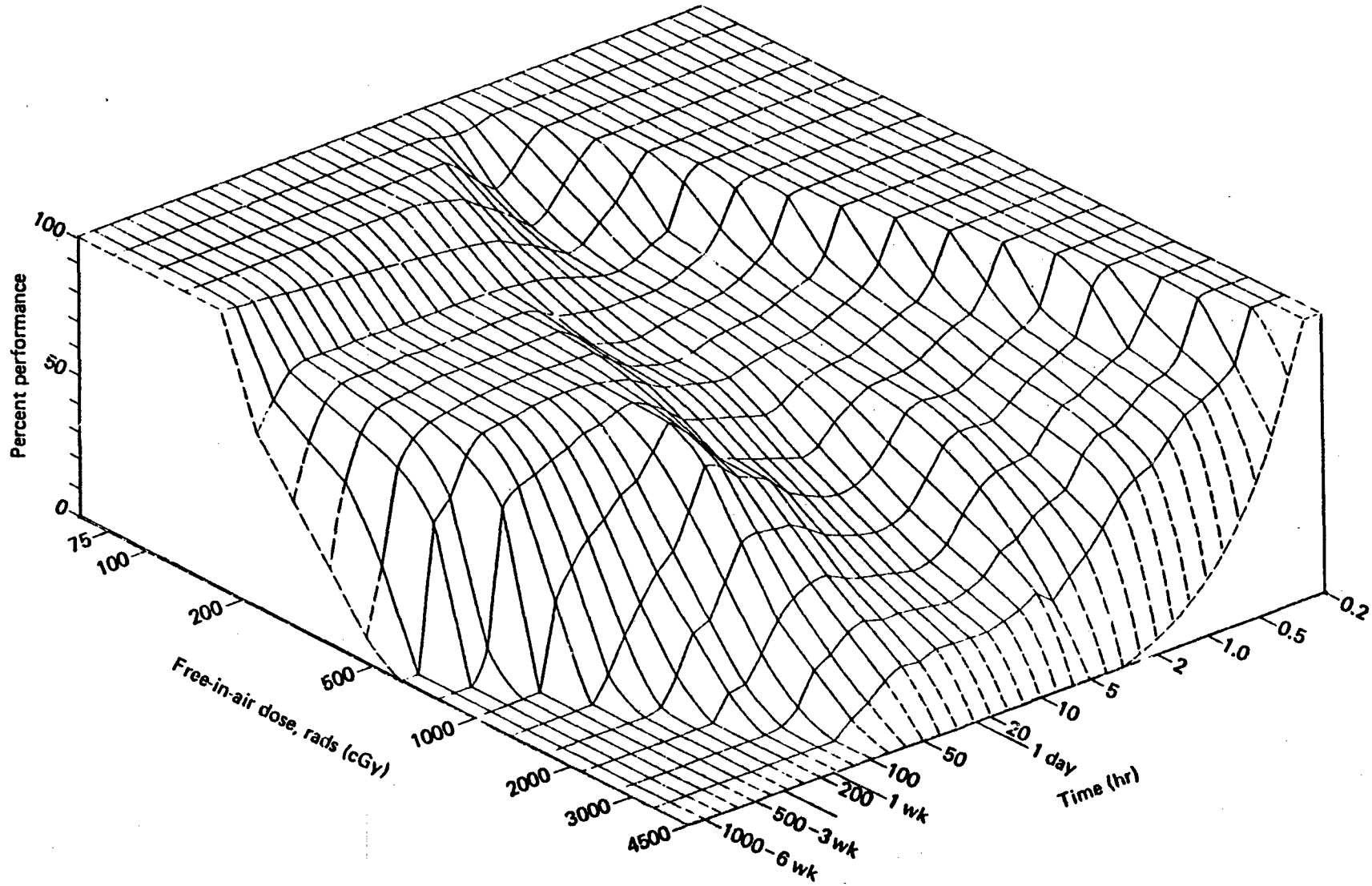


Figure 50. Performance surface: FDC crew, computer.

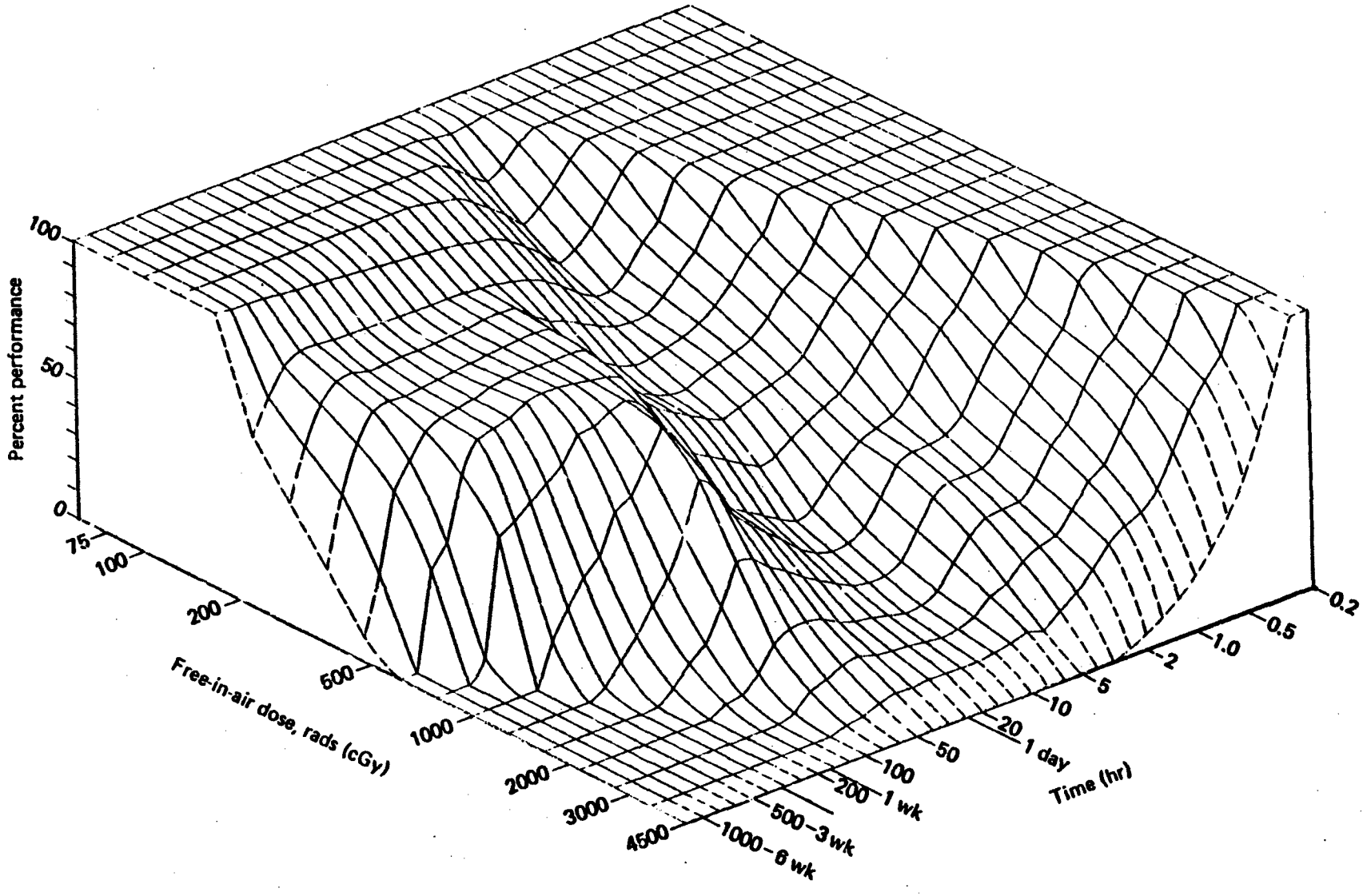


Figure 51. Performance surface: tank crew, tank commander.

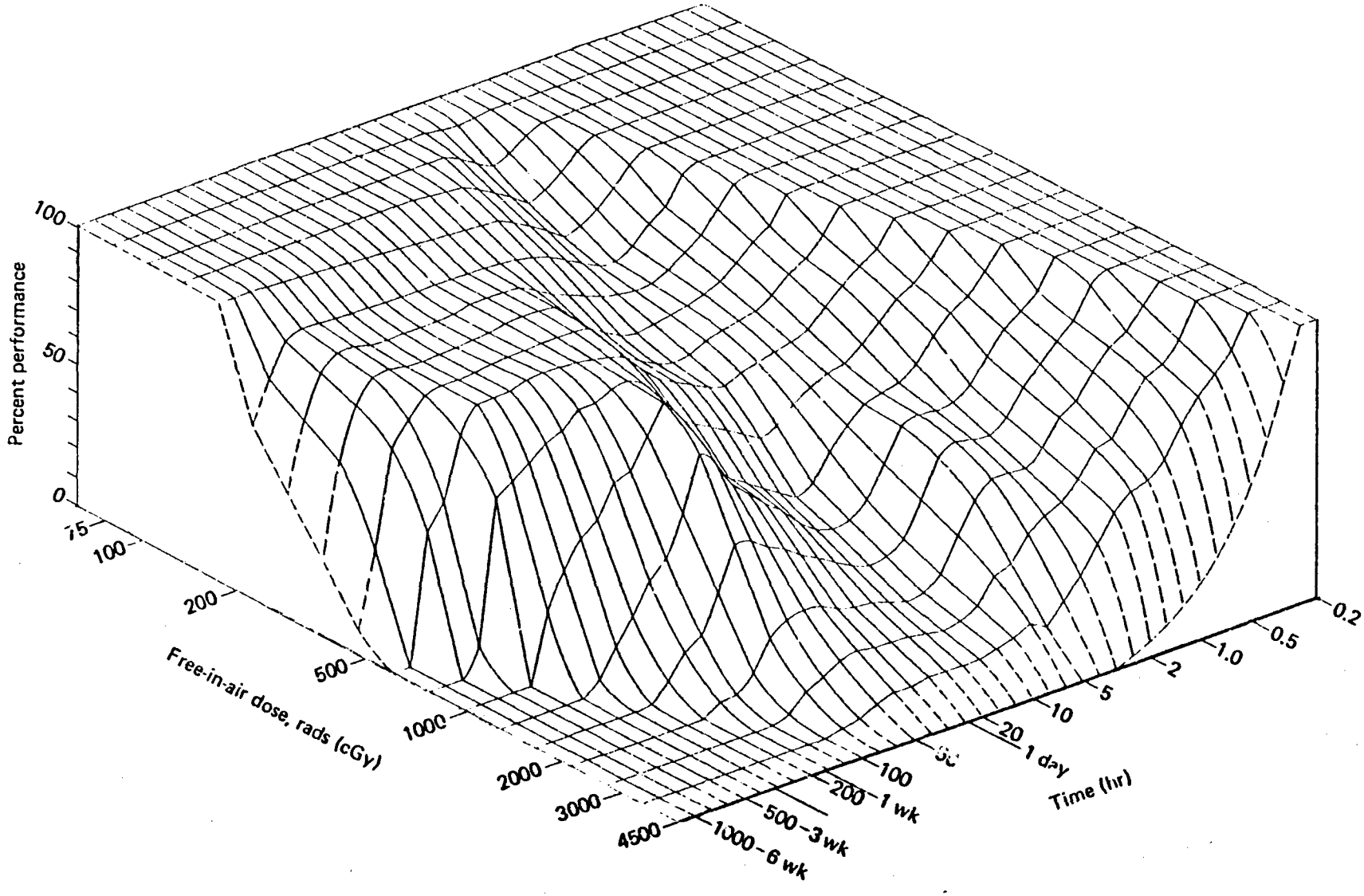


Figure 52. Performance surface: tank crew, gunner.

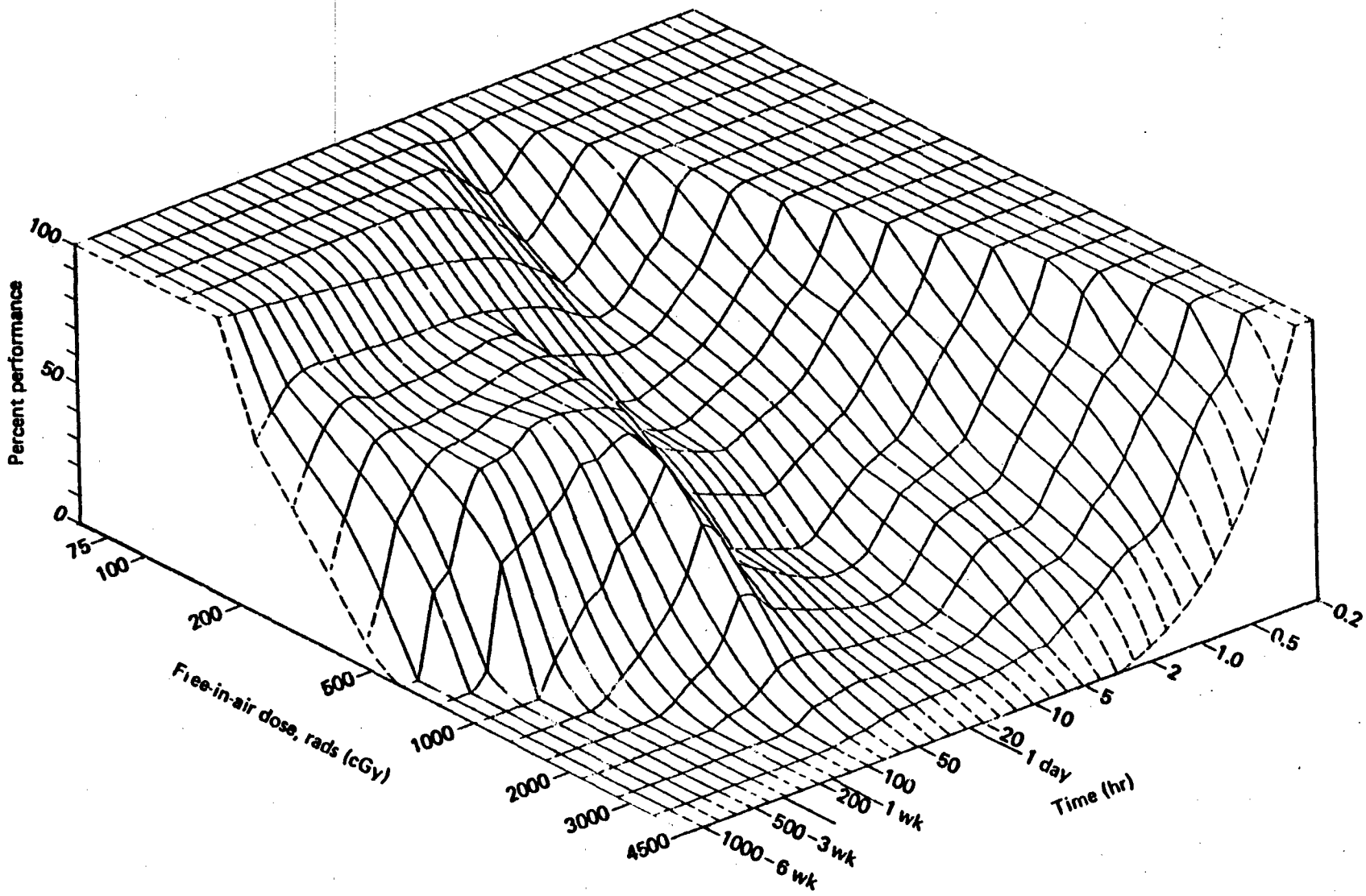


Figure 53. Performance surface: tank crew, loader.

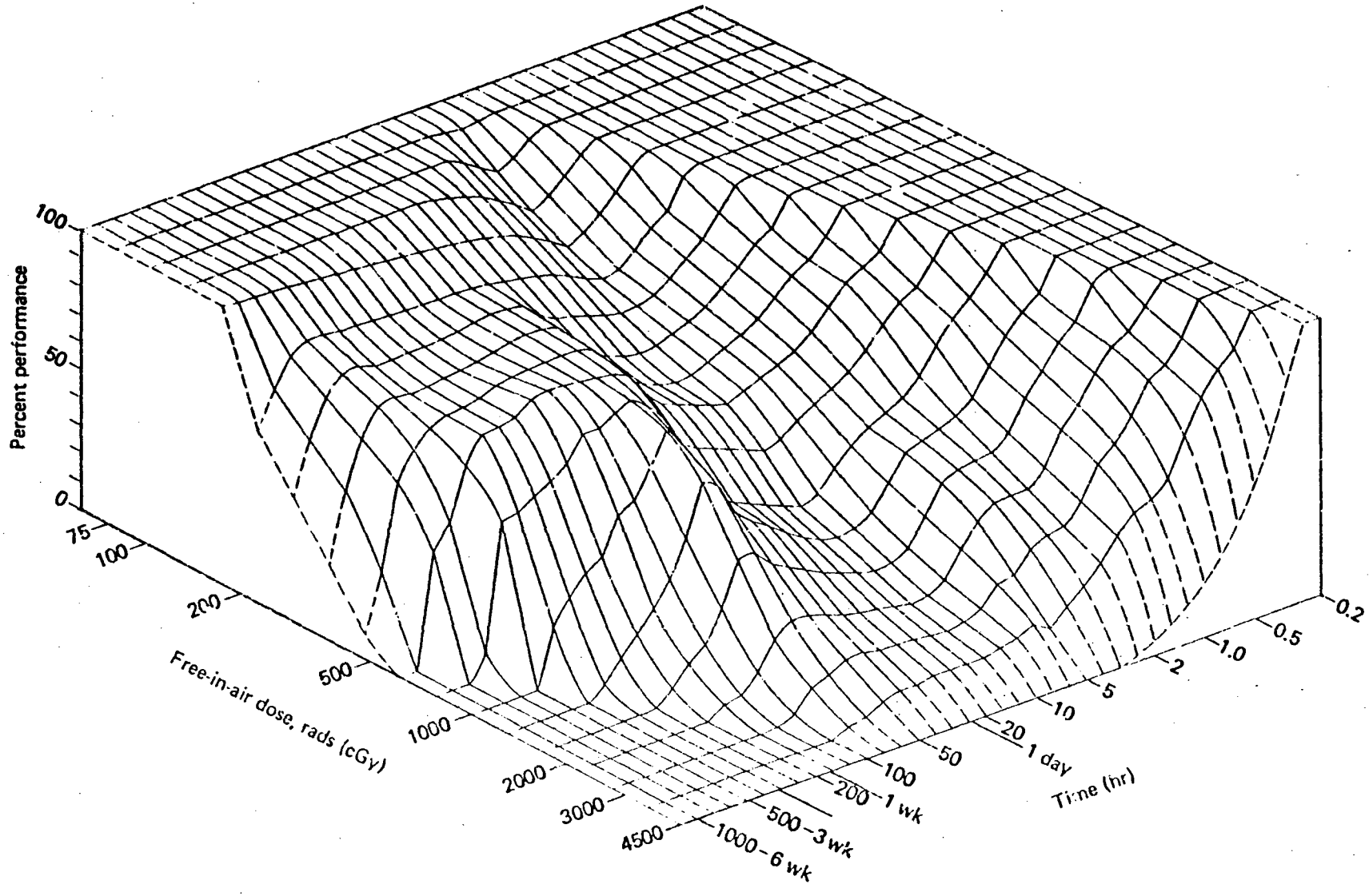


Figure 54. Performance surface: tank crew, driver.

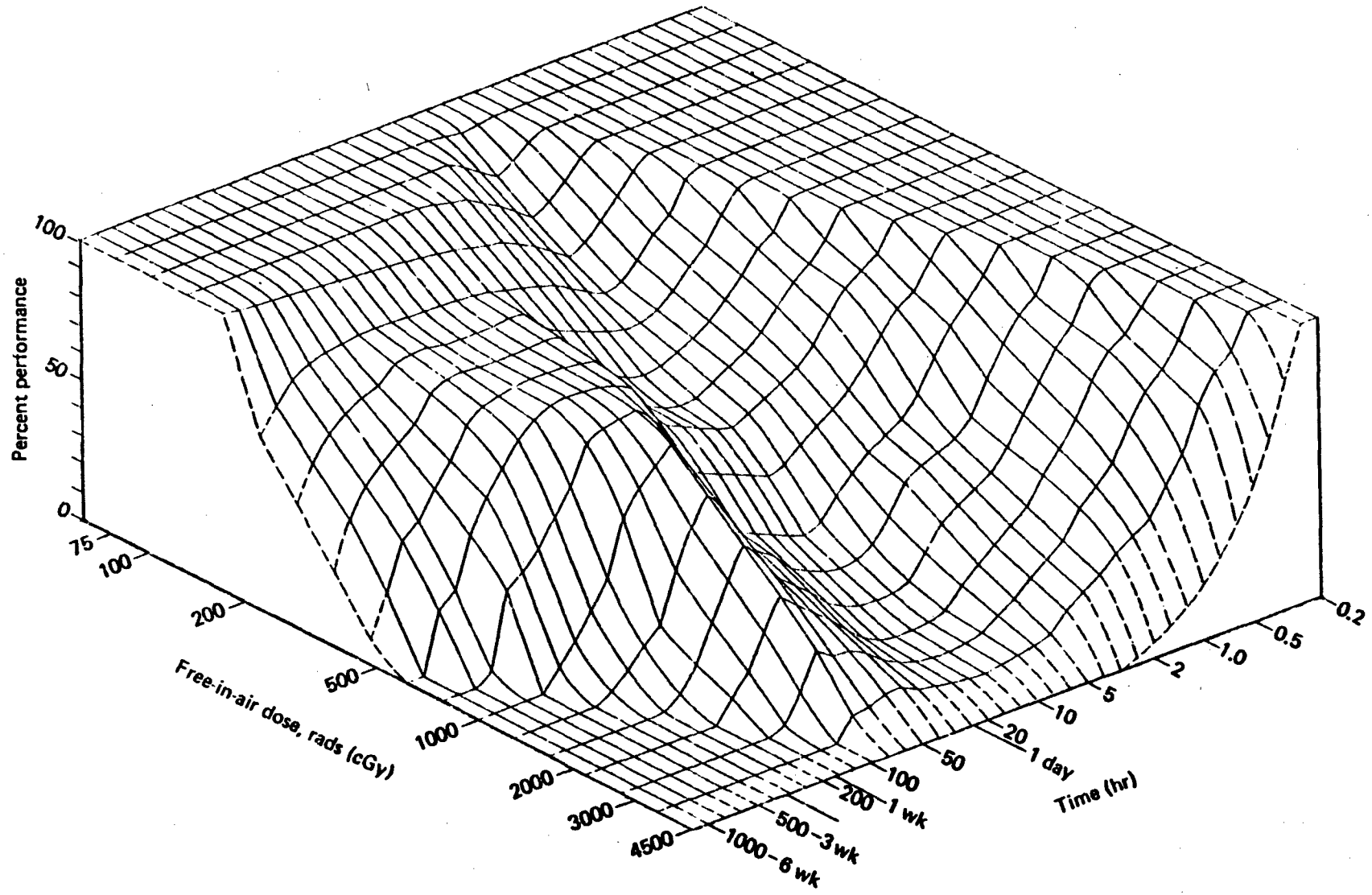


Figure 55. Performance surface: TOW crew, squad leader.

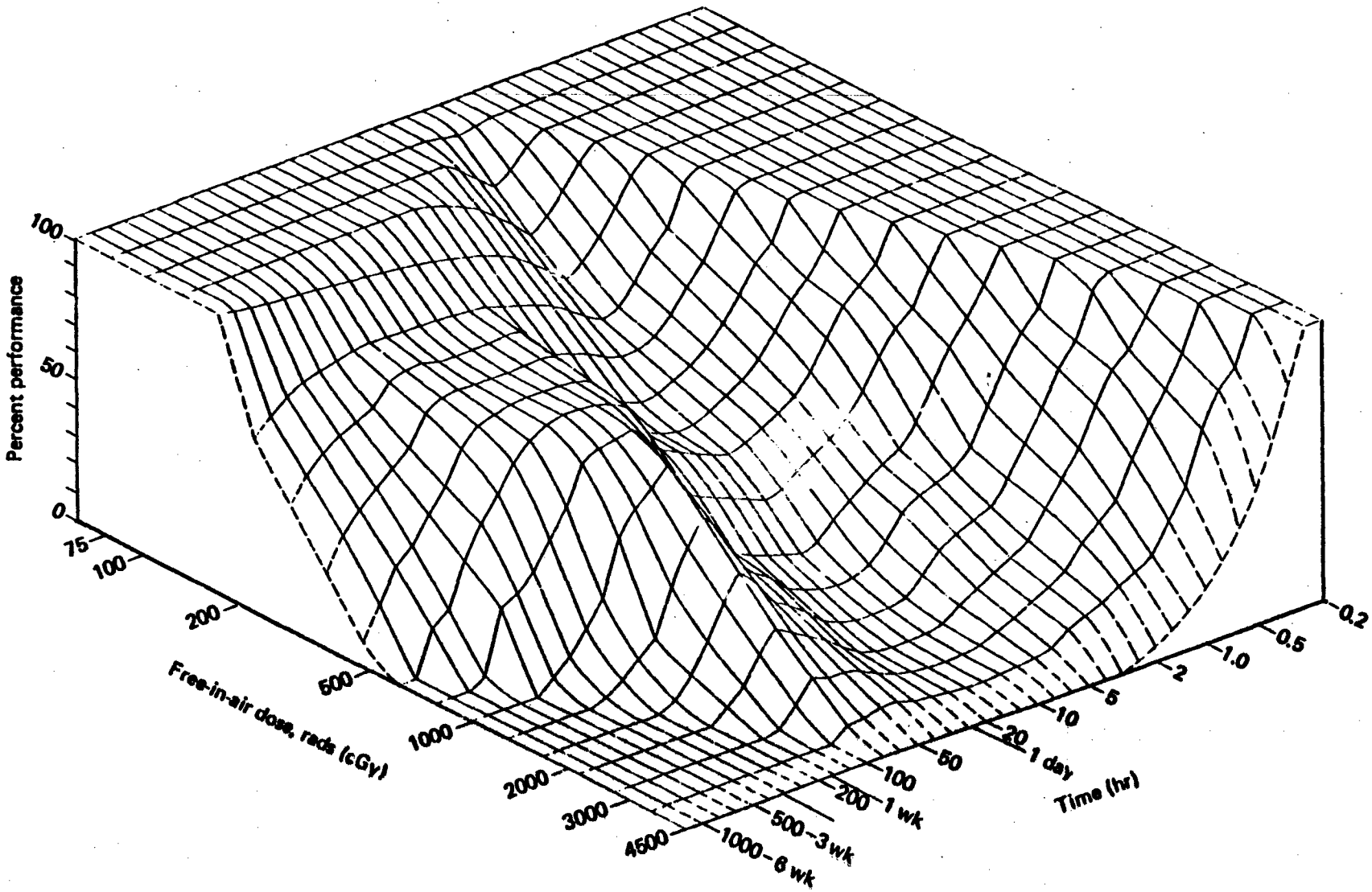


Figure 56. Performance surface: TOW crew, gunner.

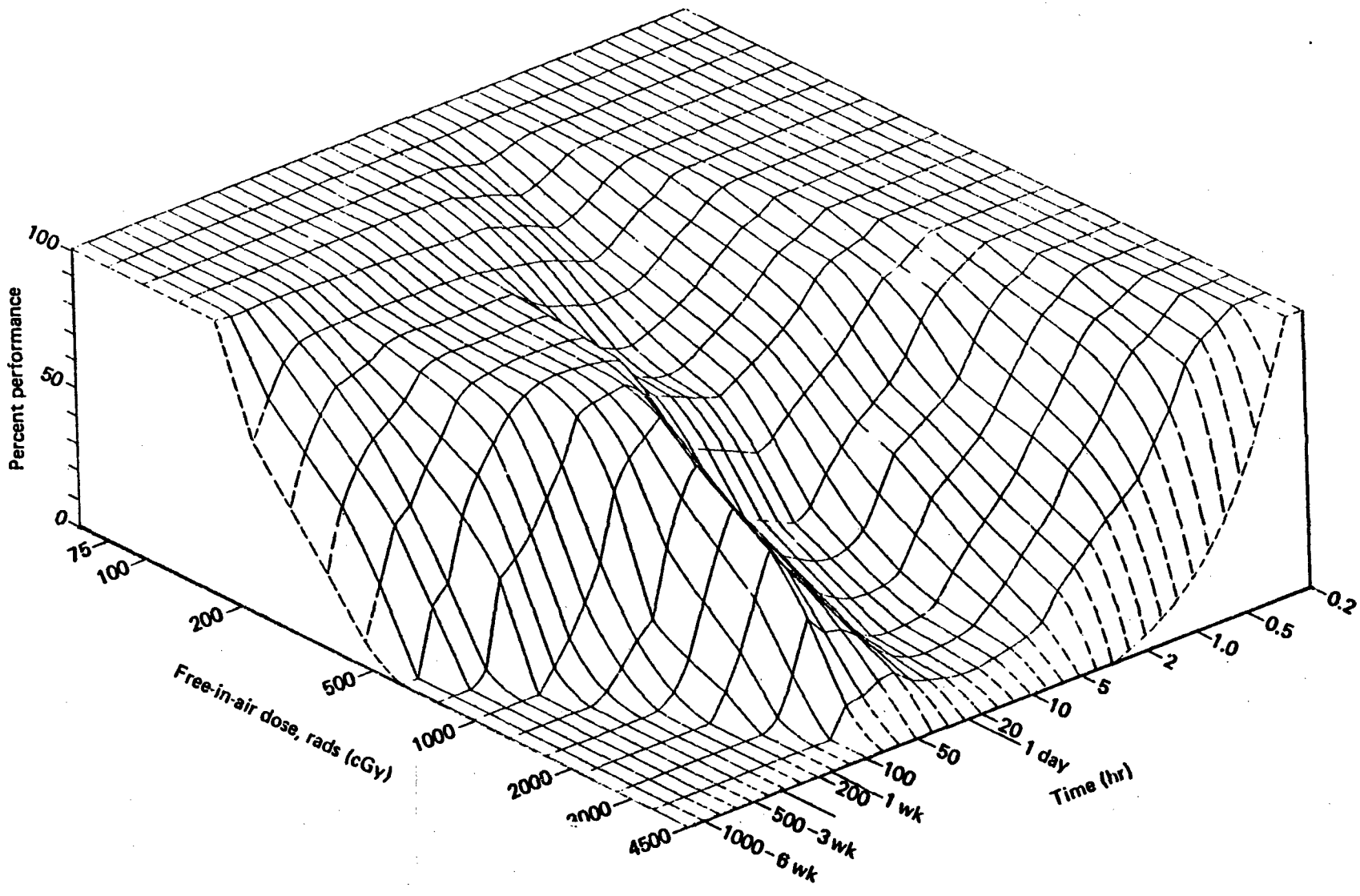


Figure 57. Performance surface: TOW crew, driver.

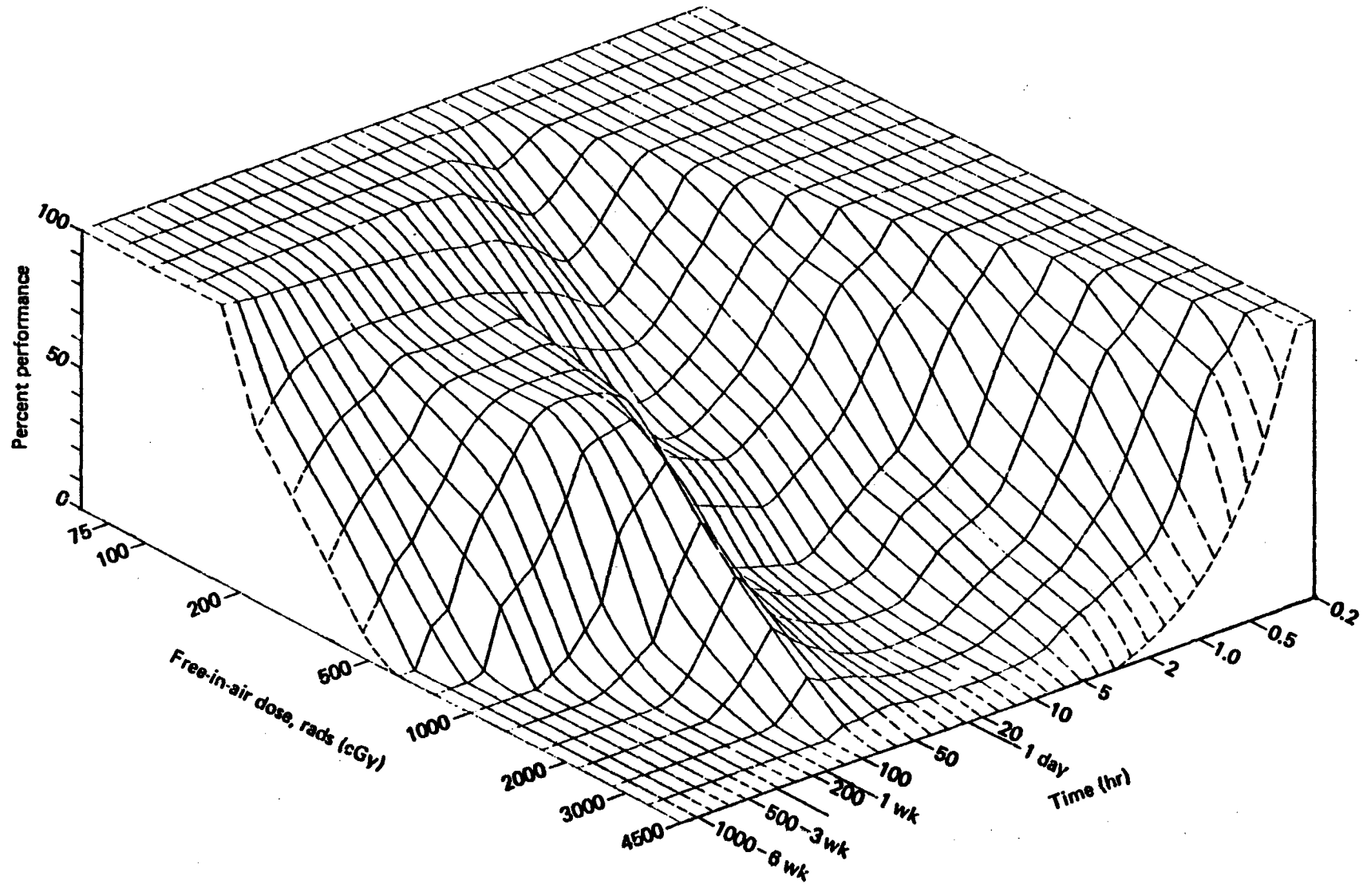


Figure 58. Performance surface: TOW crew, loader.

as the boundary conditions are not based explicitly on input data, the dashed portions reflect a greater degree of uncertainty as compared with the solid grid lines.

Surface depressions indicate where performance becomes degraded. The initial overall depression is related to the prodromal symptomatology, which includes nausea, vomiting, fatigue, weakness, and initial fluid loss [also hypotension and fever at the higher doses beginning at around 1100 to 1500 rads (cGy)]; gastrointestinal effects, because of their relatively lower expected incidence--10 to 30 percent [Baum et al., 1983]--are not included in Figs. 44 through 58.* The broad rise in the performance surfaces toward the left side of the graphs is related to some remission of the prodromal symptoms, prior to the onset of delayed ones (manifest illness period) such as infection, bleeding, fever, lower gastrointestinal distress, fluid loss, and reoccurrence of symptoms such as nausea, vomiting, fatigability, and weakness. For doses exceeding around 600 rads (cGy), the height and width of the rise progressively disappear, reflecting reduced recovery consistent with the increasingly severe symptomatology [Baum et al., 1983].

At the high-dose edge of the plots, the downward slope of the surface near the boundary is more apparent the higher the performance estimates, e.g., as in Fig. 50 for the FDC computer crewmember. That effect is due to matching the boundary condition using the logit model for the regression predictions. For example, in excess of about 3 hr, the boundary condition is assumed to be zero, whereas the logit form predicts values that approach but do not equal zero.

ISOPERFORMANCE CONTOURS

Isoperformance levels for the 15 crewmembers as a function of dose and time after exposure are given in Figs. 59 through 73. The contour level plots, shown in increments of 10 percent, can be used to extract performance estimates. The plots also contain estimates of the percent incidence of those expected to suffer from the effects of radiation

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*Performance surfaces that include early lower gastrointestinal effects are provided in Appendix H.

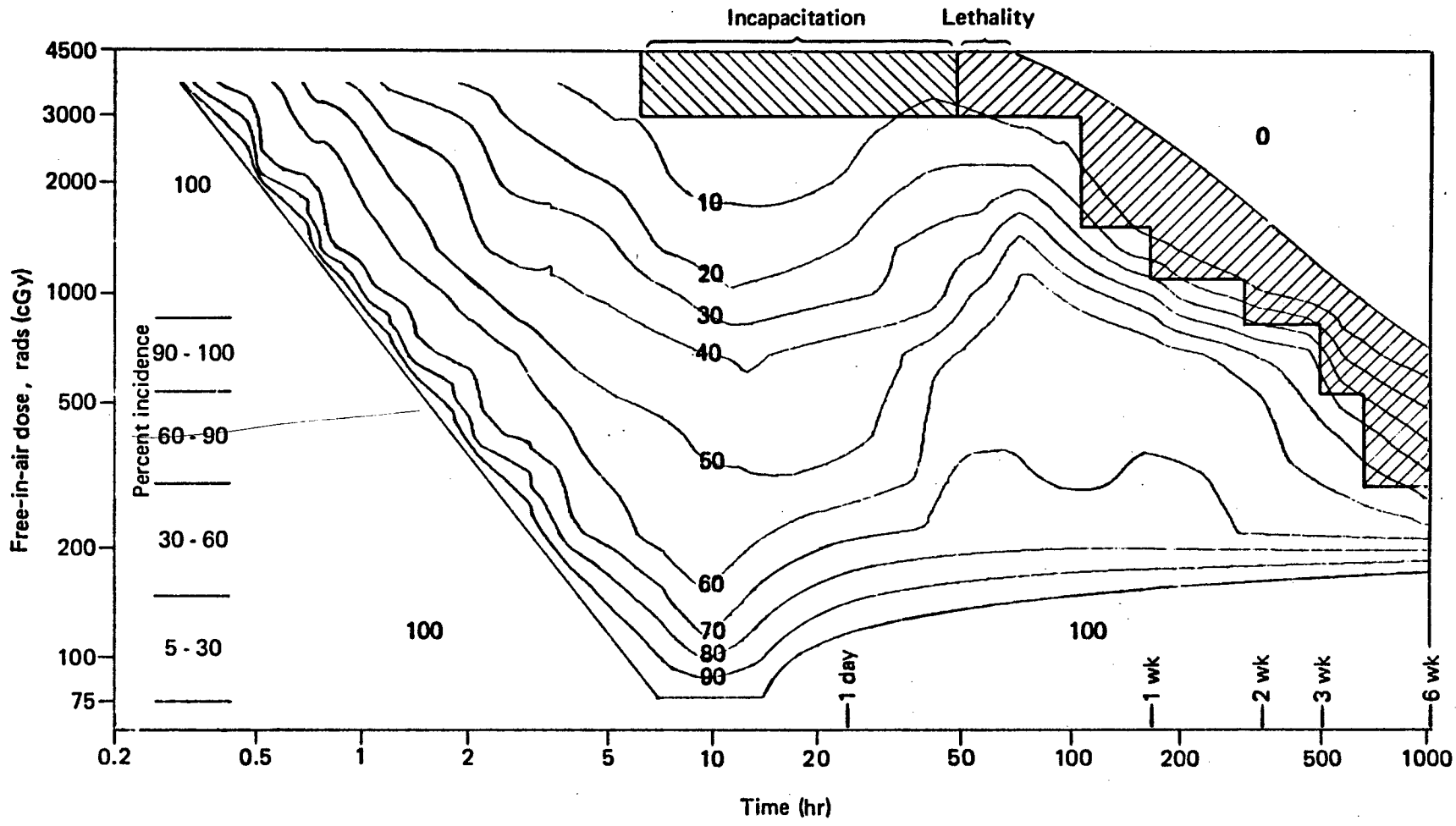

Figure 59. Performance contours, 10 percent performance intervals: gun crew, chief of section.

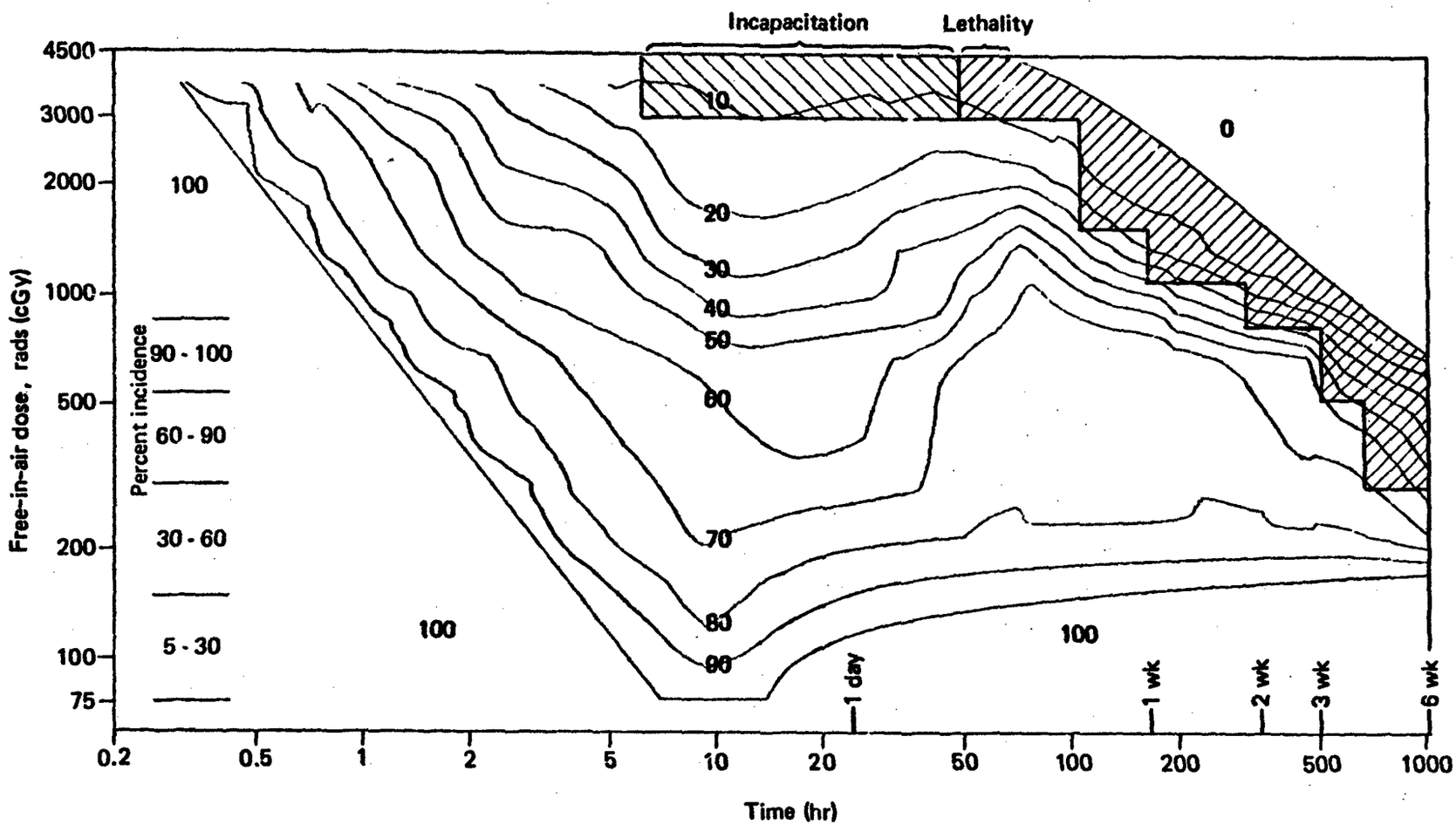

Figure 60. Performance contours, 10 percent performance intervals: gun crew, gunner.

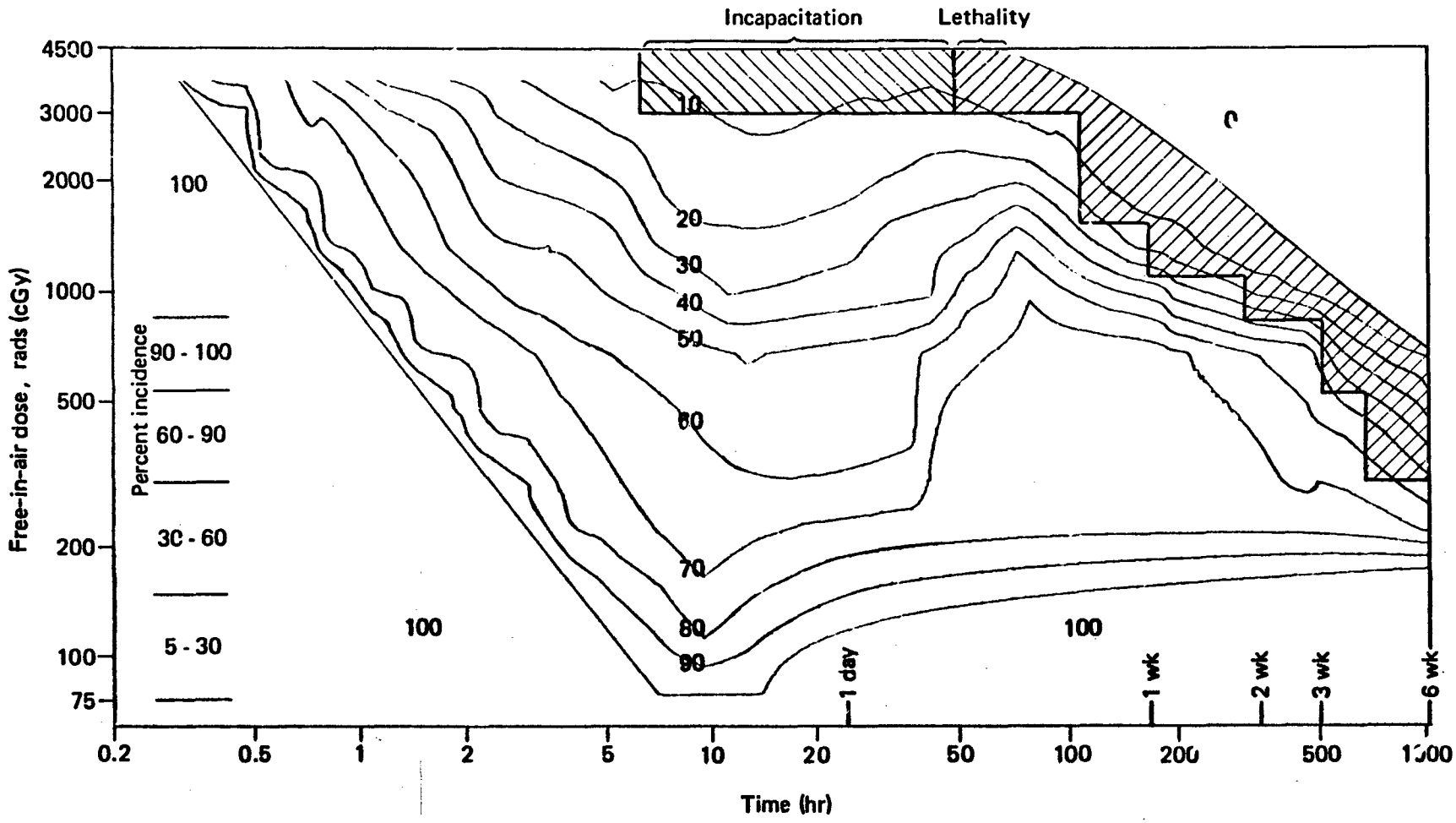

Figure 61. Performance contours, 10 percent performance intervals: gun crew, assistant gunner.

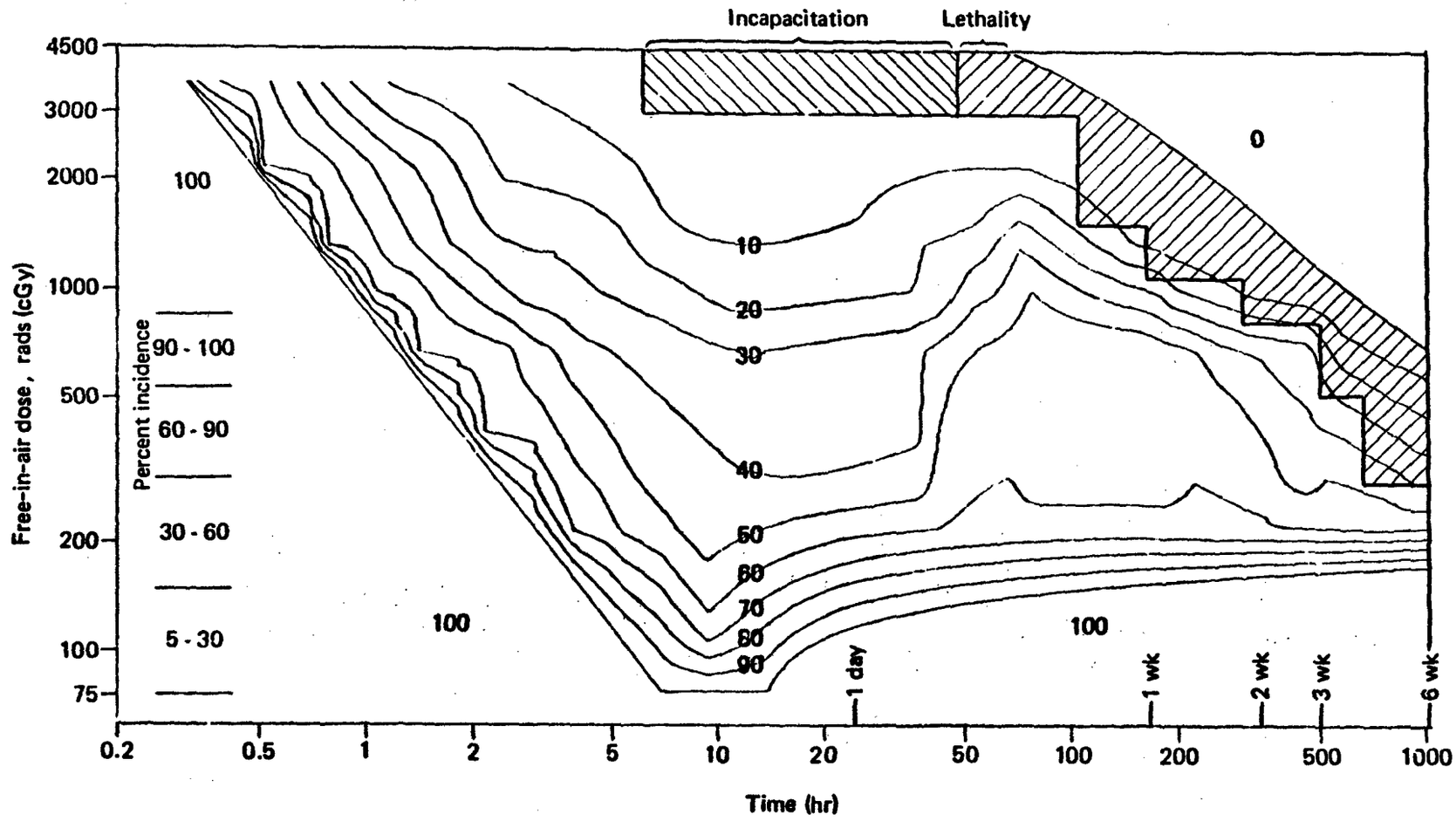

Figure 62. Performance contours, 10 percent performance intervals: gun crew, loader.

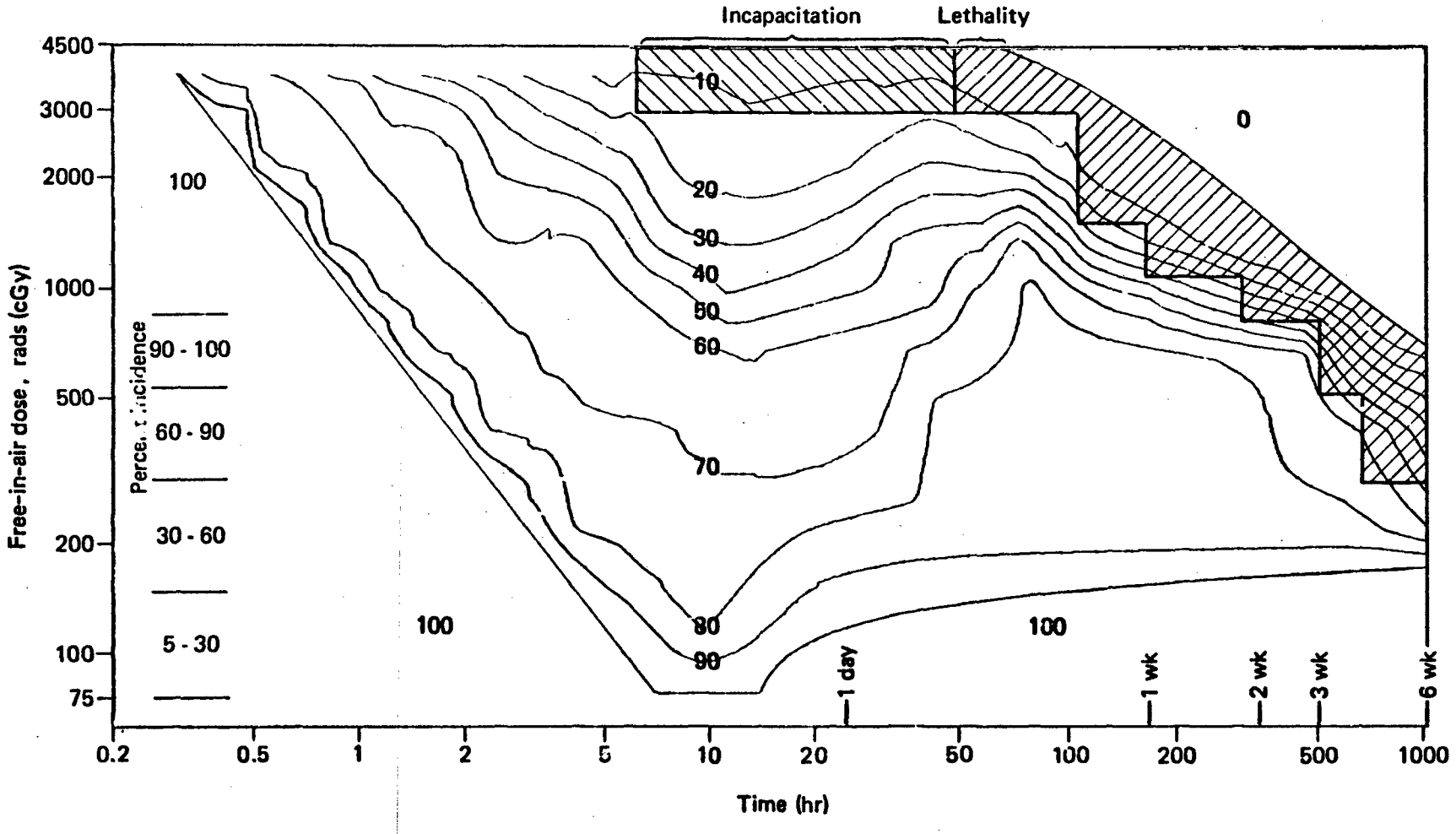

Figure 63. Performance contours, 10 percent performance intervals: FDC crew, fire direction officer.

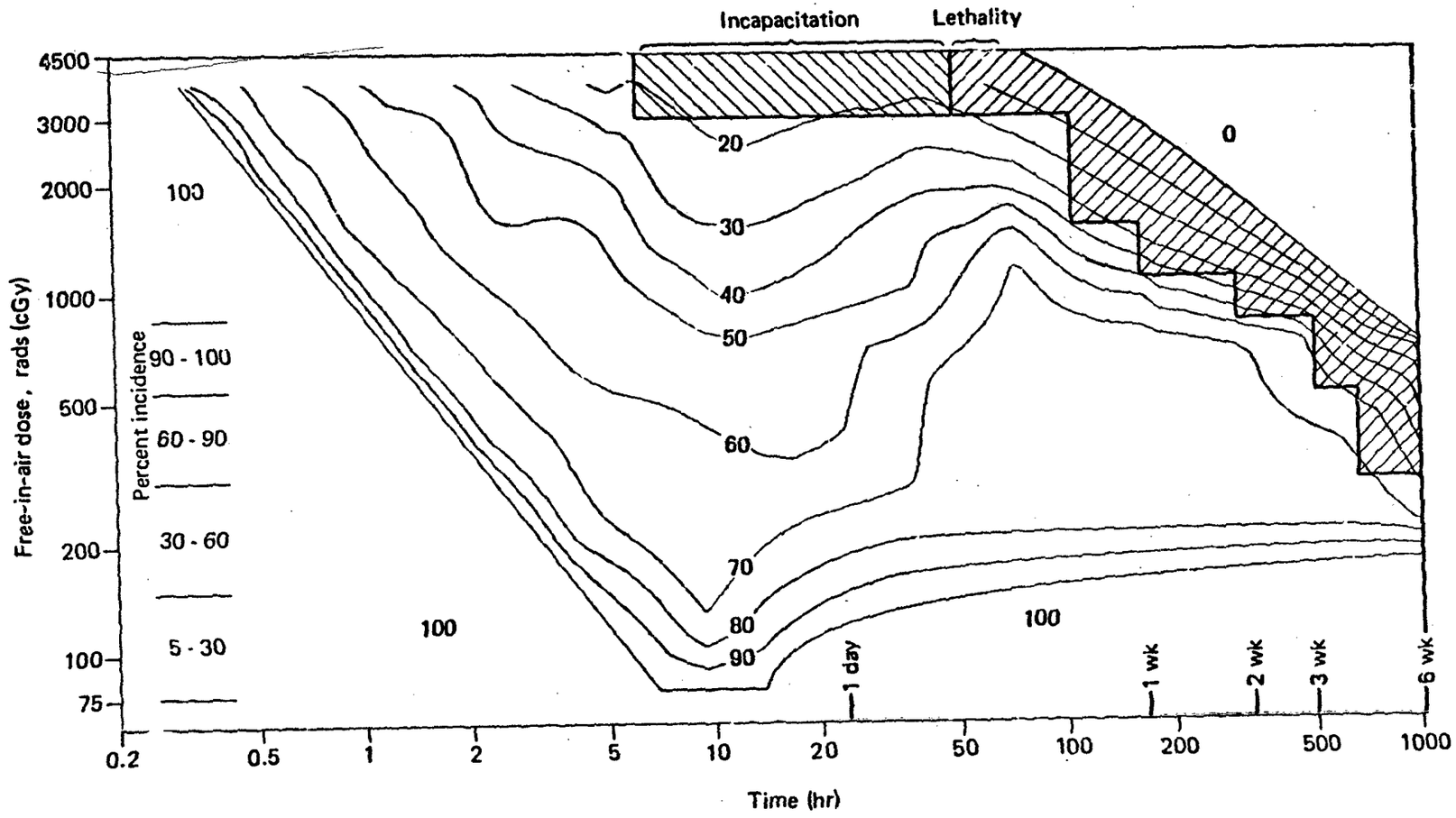

Figure 64. Performance contours, 10 percent performance intervals: FDC crew, horizontal control operator.

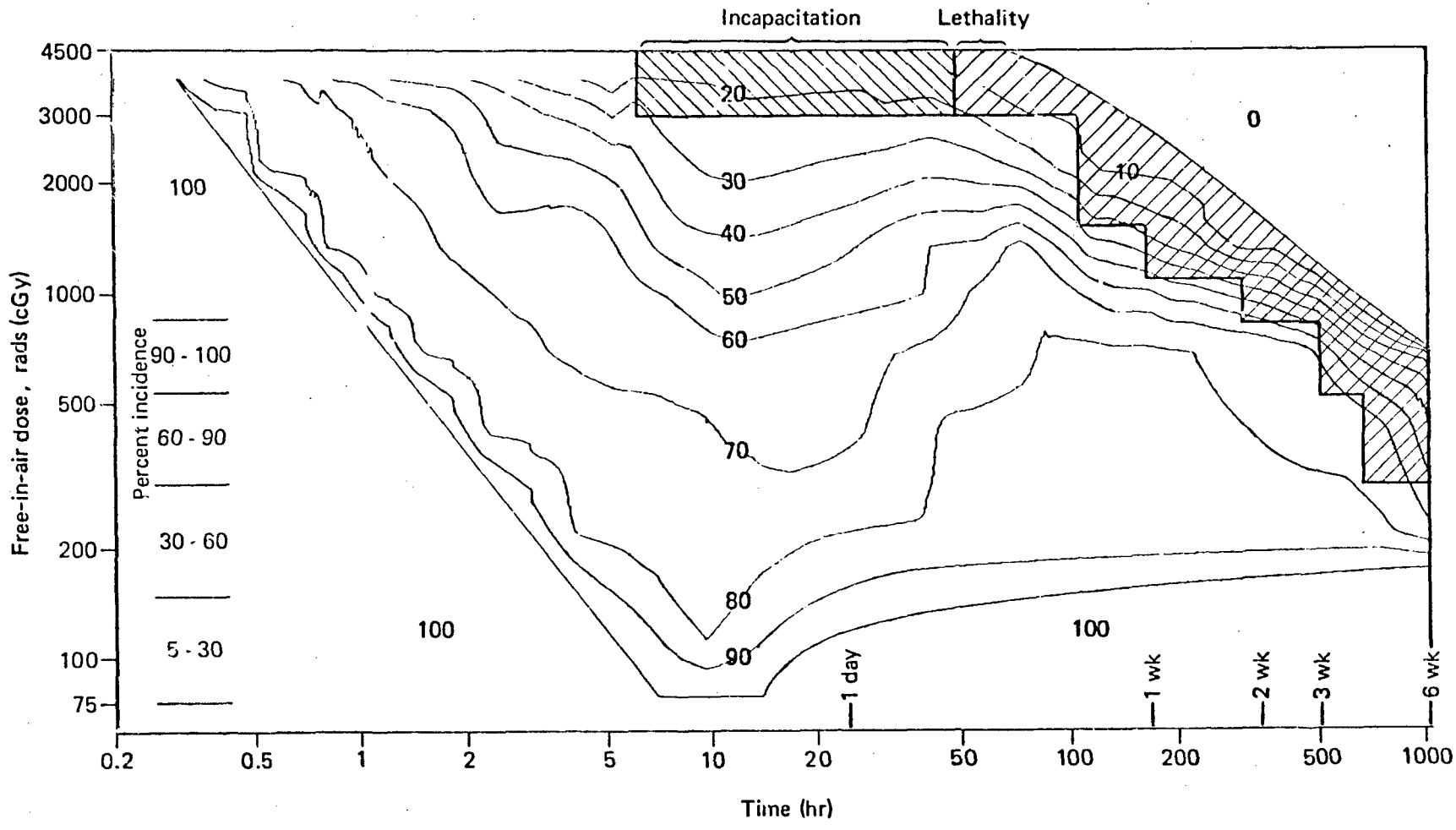

Figure 65. Performance contours, 10 percent performance intervals: FDC crew, computer.

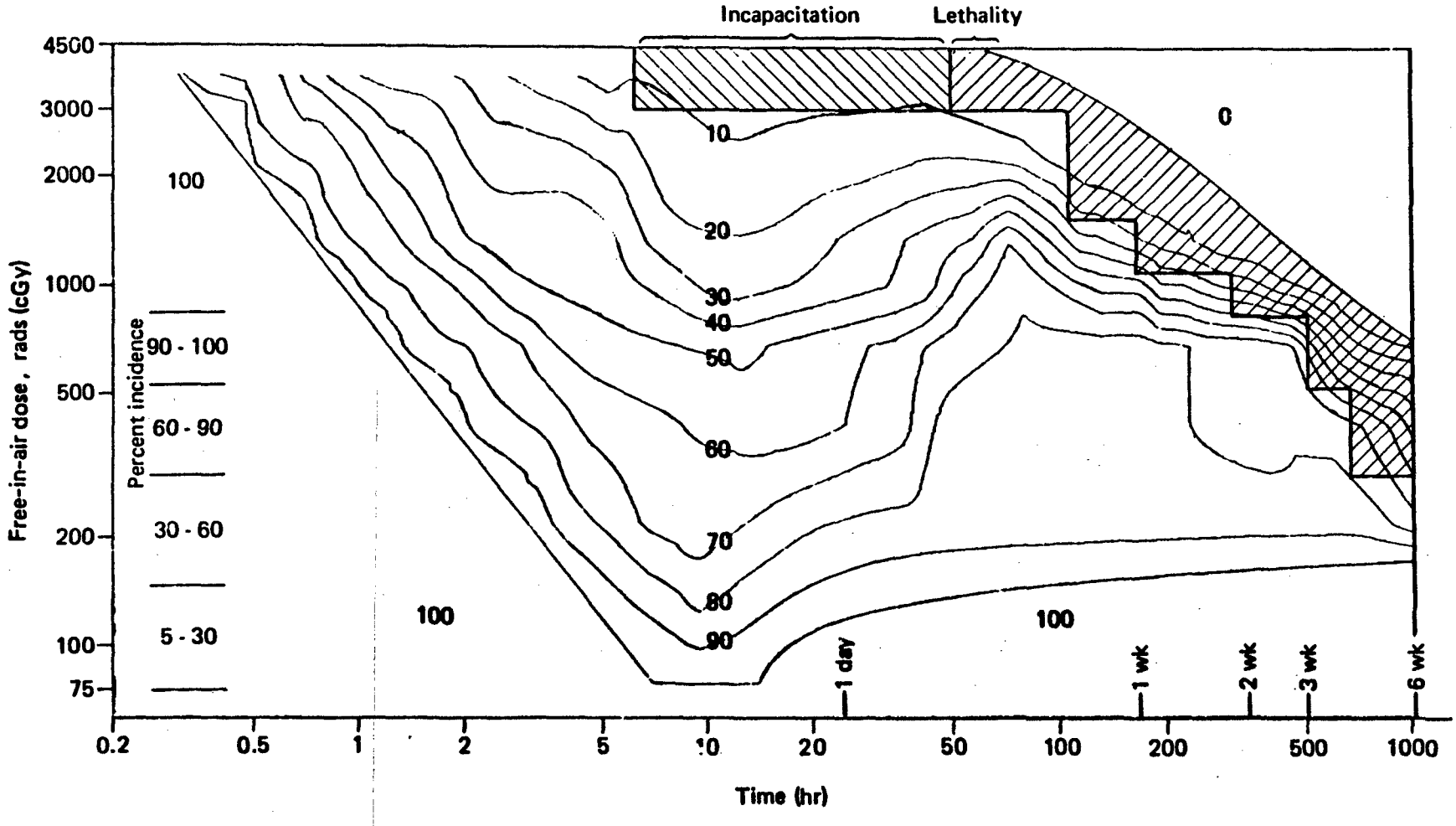

Figure 66. Performance contours, 10 percent performance intervals: tank crew, tank commander.

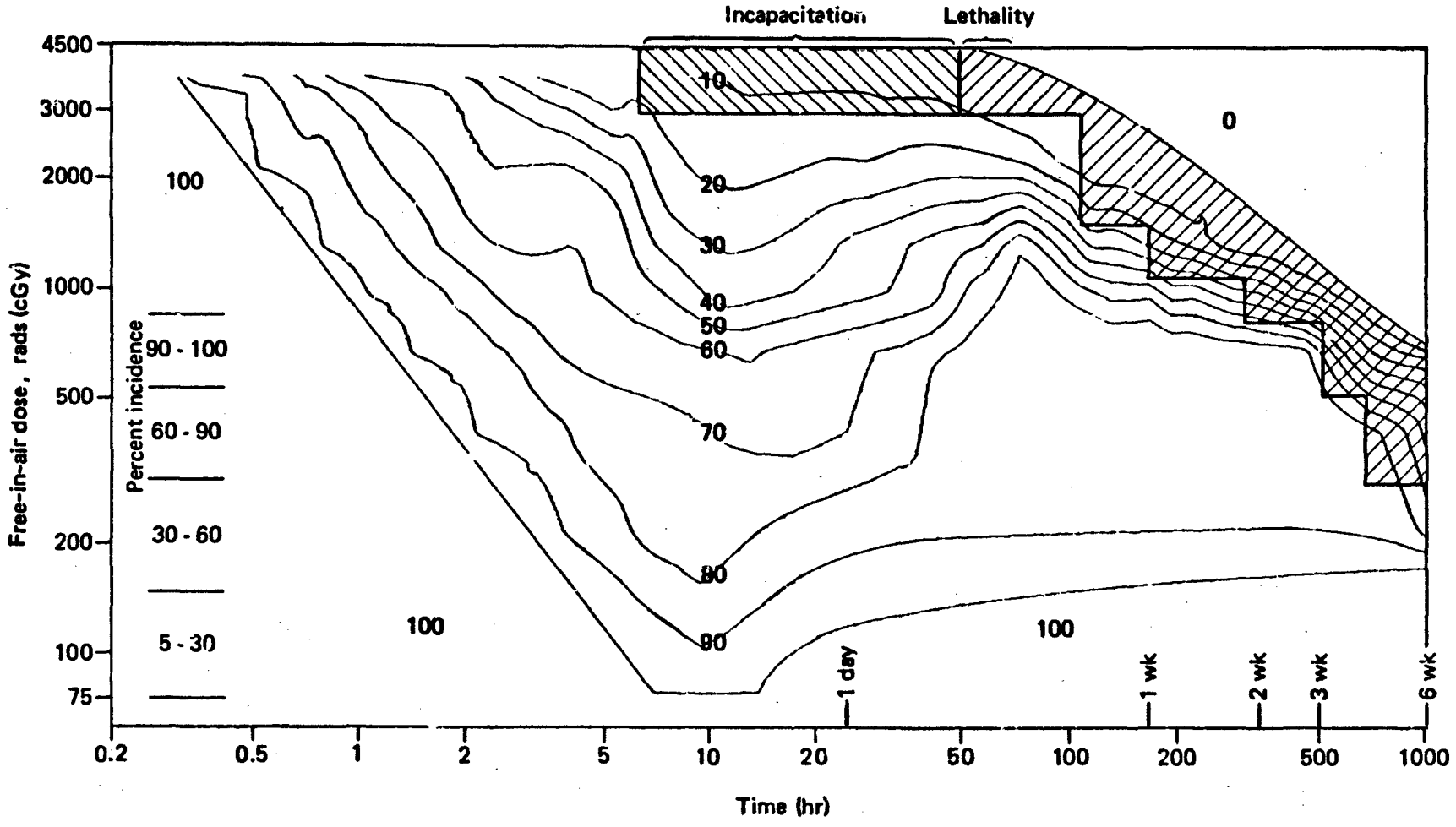

Figure 67. Performance contours, 10 percent performance intervals: tank crew, gunner.

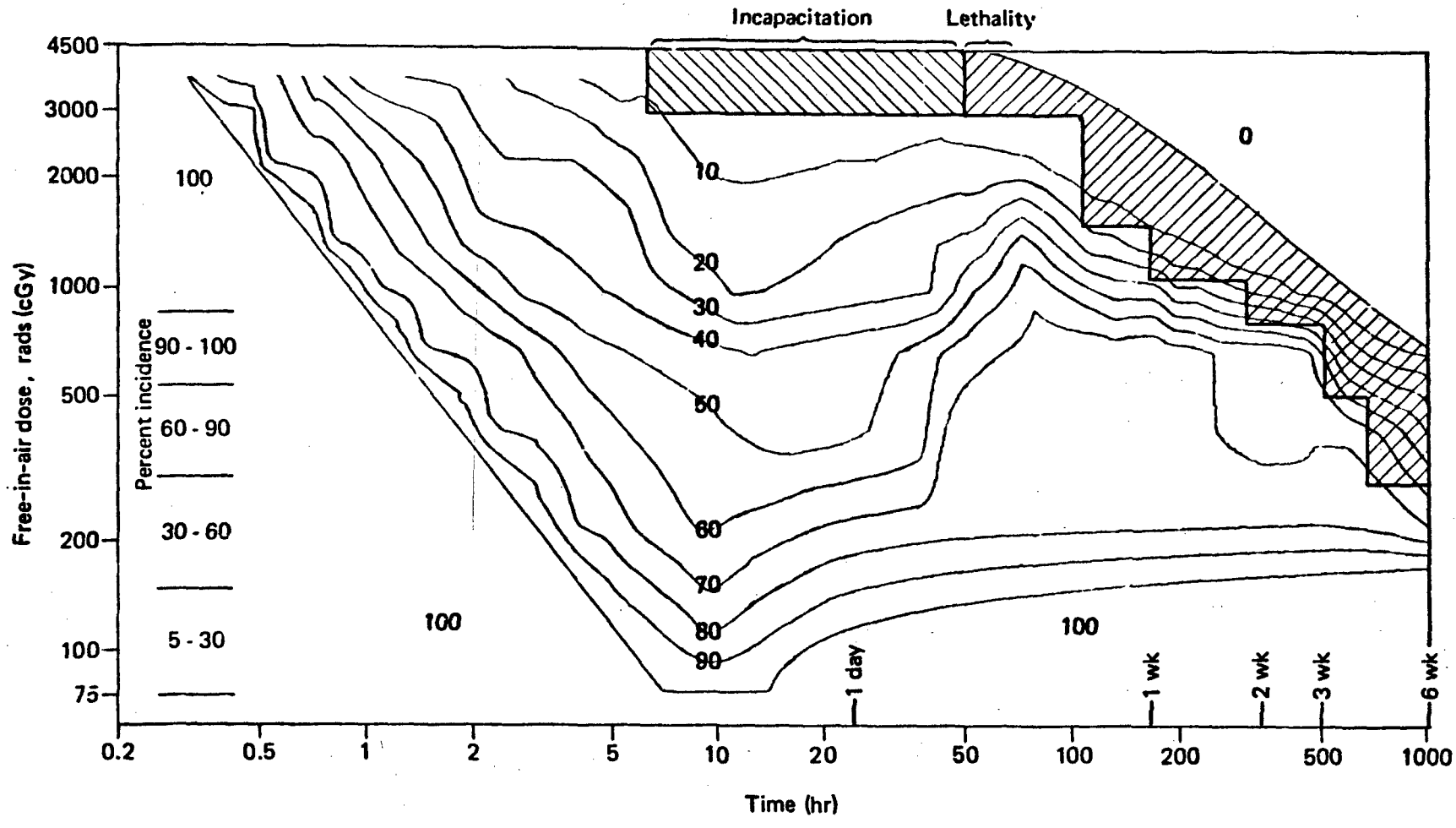

Figure 68. Performance contours, 10 percent performance intervals: tank crew, loader.

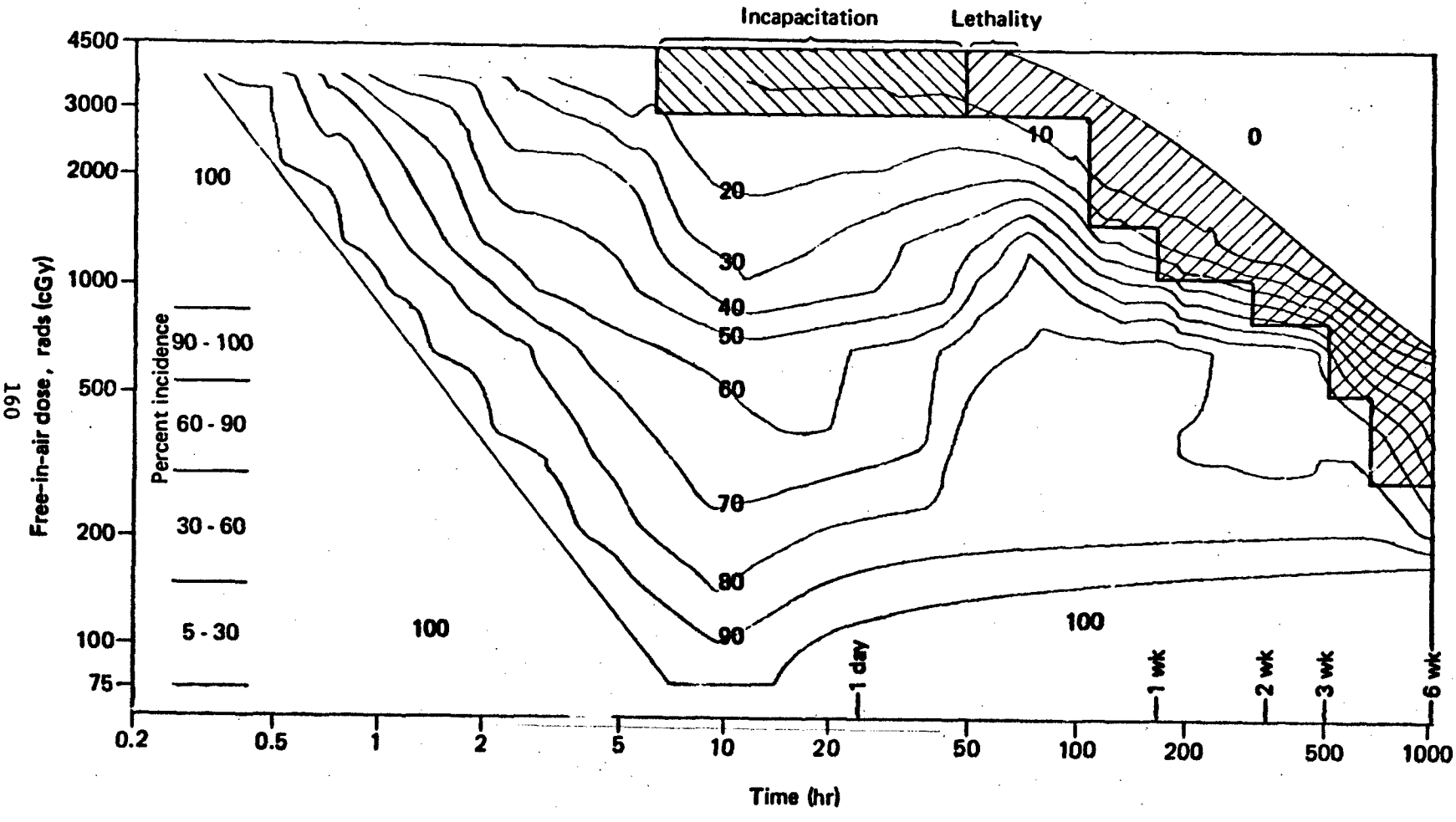

Figure 69. Performance contours, 10 percent performance intervals: tank crew, driver.

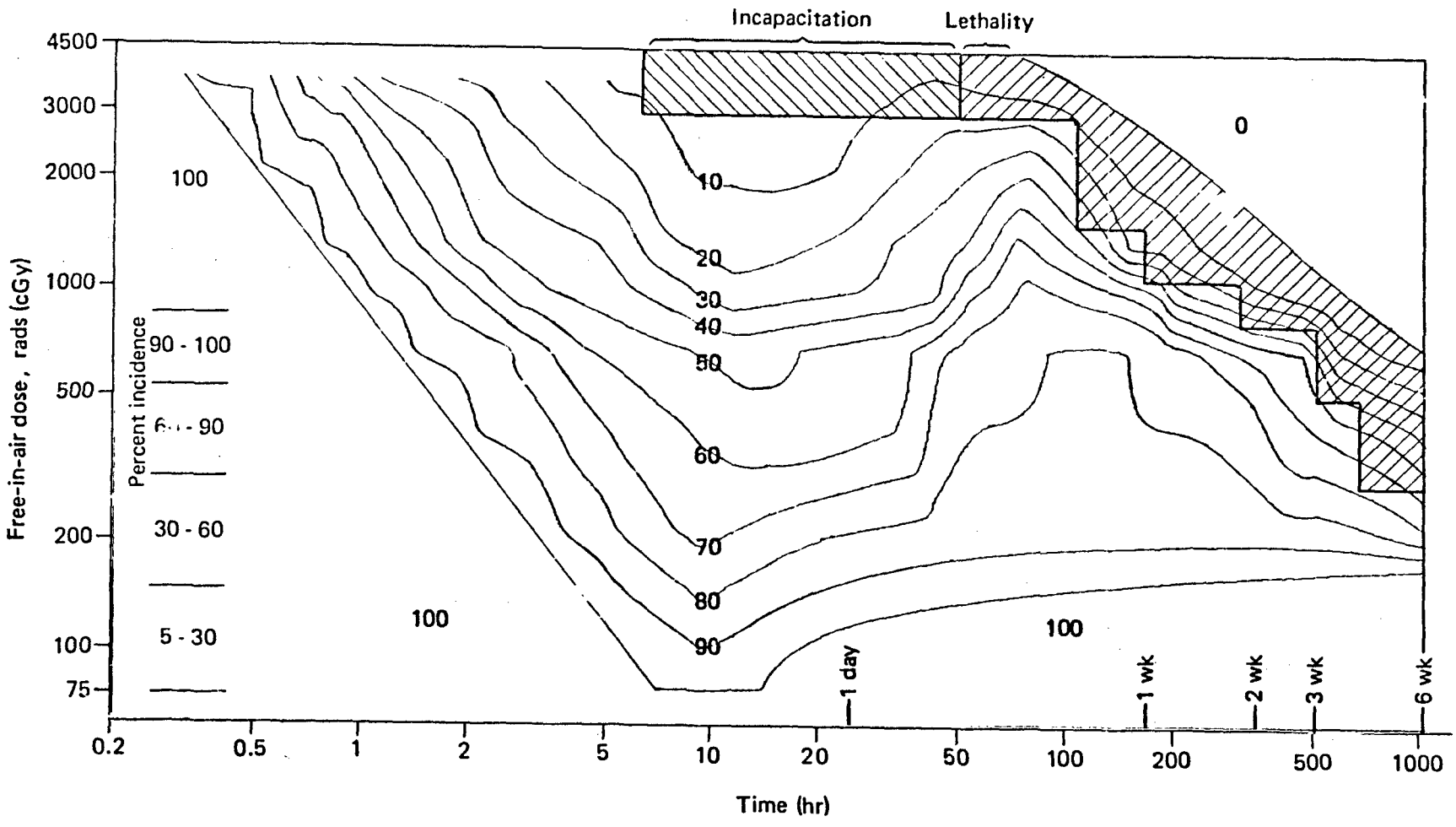

Figure 70. Performance contours, 10 percent performance intervals: TOW crew, squad leader.

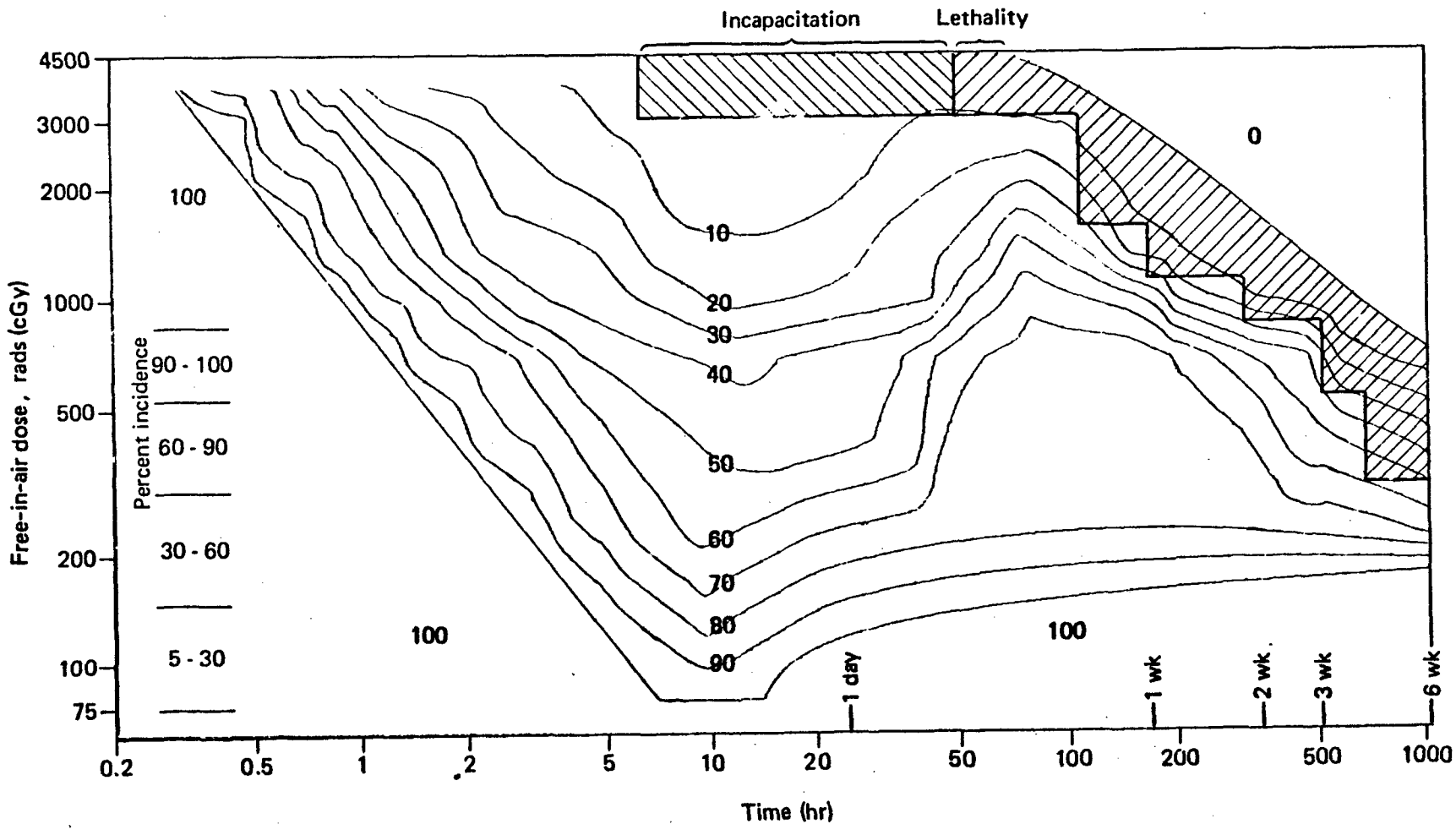

Figure 71. Performance contours, 10 percent performance intervals: TOW crew, gunner.

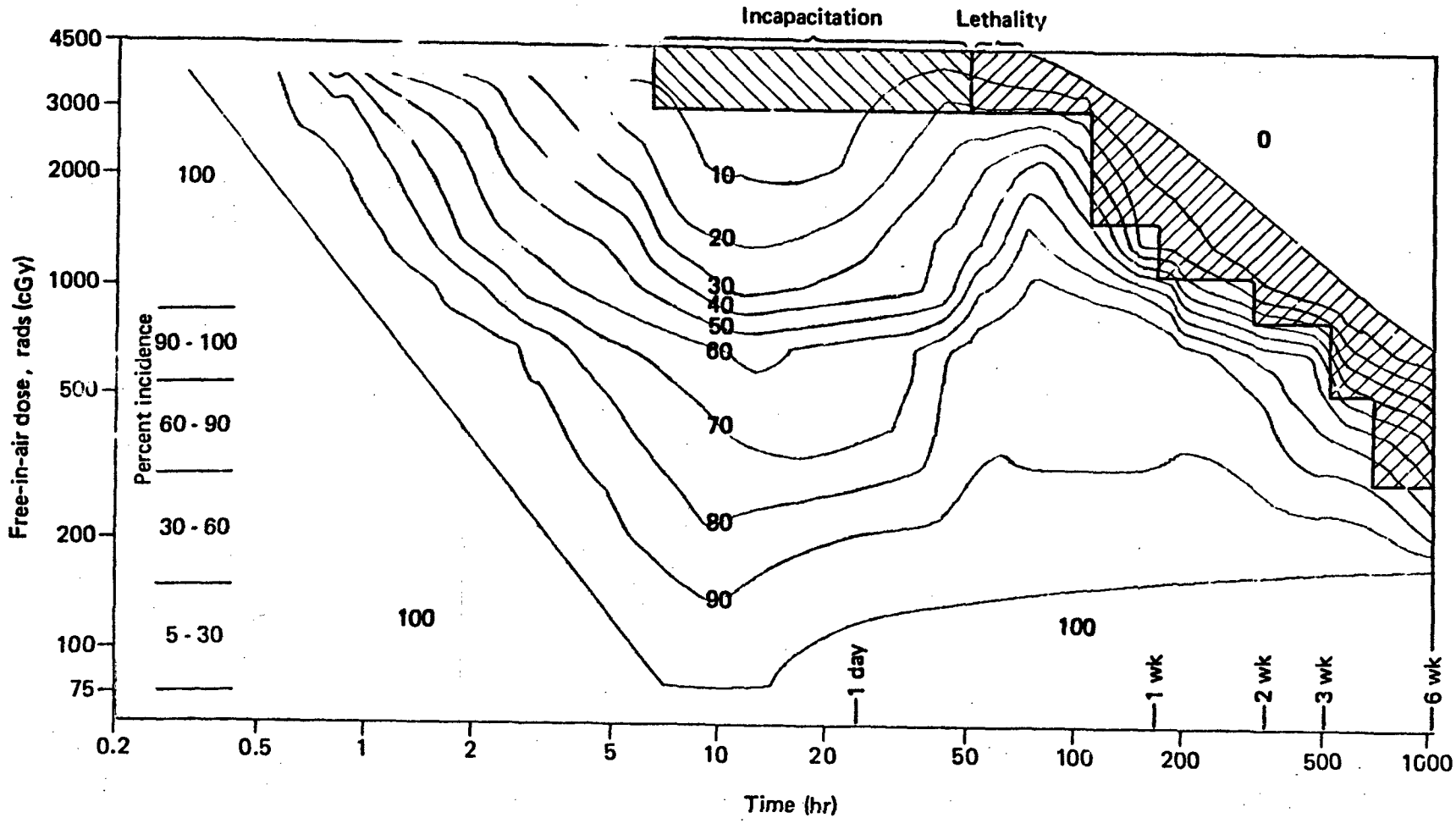

Figure 72. Performance contours, 10 percent performance intervals: TOW crew, driver.

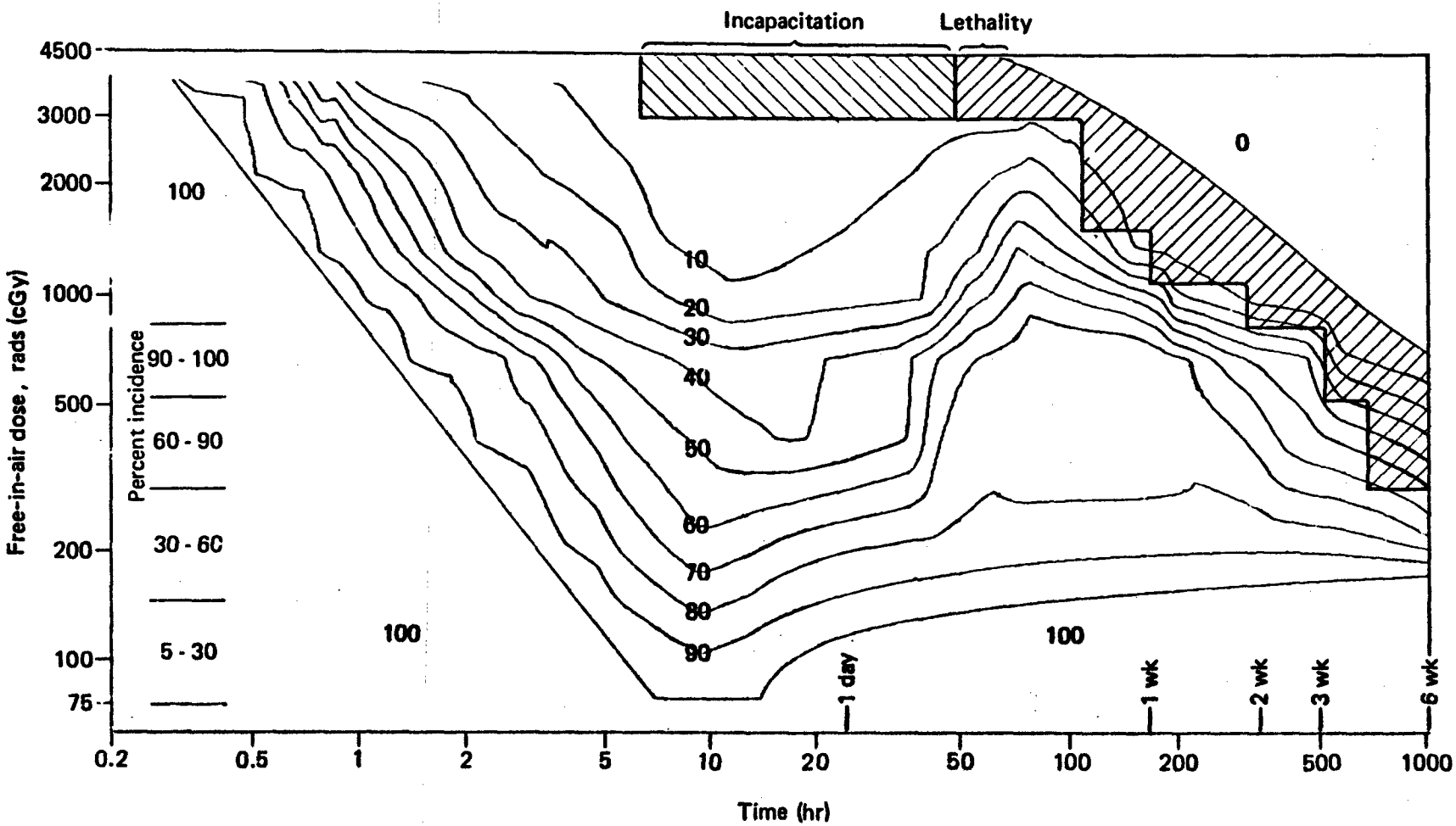

Figure 73. Performance contours, 10 percent performance intervals: TOW crew, loaded.

exposure based on Baum et al. [1983] which affect performance as indicated on the plots. The percent incidence is given along the left side of the plots for the designated dose ranges, commencing from 5 to 30 percent for the lowest dose range [75 to 150 rads (cGy)] and reaching 100 percent at and above 830 rads (cGy).

Any point along the isoperformance contour curves defines a dose level and postexposure time that correspond to the performance level of the contour. The performance profile over time, following exposure to a given dose, can be readily constructed from the performance contour plots by ascertaining the times where a given dose level intersects with the performance contour curves. For example, in Fig. 60 the estimated performance for the gun crew gunner exposed to 500 rads (cGy) would be 100 percent up to 1.5 hr following exposure; about 90 percent close to 1.8 hr; 80 percent at 3 hr; 70 percent at 4.5 hr; 60 percent at 10 hr; between 50 and 60 percent from 10 to 30 hr; 70 percent at 40 hr; between 70 and 80 percent from 40 hr to 2 weeks; etc.

The performance contour levels for all crewmember positions are constrained within a common dose/time boundary, since a uniform set of boundary conditions were specified [0 percent for the upper-right-hand corner and top of the 4500 rads (cGy) dose level, and 100 percent on the left-hand and bottom portions].

However, we point out here that the stairstep boundary beginning at 48 hr for the highest dose range [3000 to 4500 rads (cGy)] indicates where lethality commences [Baum et al., 1983] (see also Figs. 40 and 41). The time increment between the stairstep boundary and the outermost curve in the upper-right-hand corner, which we designate as the zero performance boundary for the performance level computations, represents the period over which the vast majority of lethalities would be expected to take place. Accordingly, we believe that although our computations indicate some level of performance in the period shown by the contour curves, they should be regarded with extreme caution. The authors also point out that the period extending from about 7 to 48 hr for the highest dose range [3000 to 4500 rads (cGy)] is spanned by symptom complexes (Figs. 40 and 41) that correspond to symptom descriptions including "exhausted with almost no strength," "faints upon standing quickly,"

"in shock," and "prostrate" [Anno and Wilson, 1983]. Again, the performance contours in that region, which we term as "incapacitation" in the contour plots, should be similarly regarded with caution. Also, along the upper portion of the plots between 0.4 and 5 hr, we have not connected the contour lines to the upper boundary at the 4500 rad (cGy) level. That region represents an area of relative uncertainty, because of the effect of the imposed boundary condition where there are no explicit data (discussed on p. 149).

Along the left-hand edge of the contour plots near the boundary, the wave-like appearance of the 80 to 90 percent performance contour lines, as well as the 70 percent line for some cases, are a consequence of the selected discrete dose range structure (see Sec. 4) and the numerical mapping procedure described in Sec. 5. For convenience, those portions of the contour lines could be considered as straight lines, running diagonally between the "peaks and valleys," and be well within the uncertainty of the calculated values.

Differences in performance among the various crewmembers are more noticeable in the contour plots than in the three-dimensional surface plots. For example, let us examine the contour differences between the gun crew loader in Fig. 62 and the FDC crew computer in Fig. 65, which represent two extreme cases. The gun crew loader performs the most physically demanding set of tasks, which includes loading the heavy (about 100 lb) artillery projectile, whereas the computer in the FDC crew performs the least physically demanding tasks, which include selecting tabulated numerical data, performing computations with a hand-held calculator, and verbally communicating data.

CREWMEMBER ROLE GROUPS

Graphical comparisons of the performance contours have been made by dividing the 15 combat crewmembers into five different groups based on the similarity of combat tasks they perform in each crew; the five groups and crewmembers included in each are shown in Table 31. The numbers in the column labeled "Identification" help in labeling the plots discussed below. The last group listed, FDC, consists of the horizontal control

Table 31. Crewmember groups.

Group	Crewmember	Identification
Leader	Artillery--chief of section	1
	FDC--fire direction officer	5
	Tank--tank commander	8
	TOW--squad leader	12
Gunner	Artillery--gunner	2
	Artillery--assistant gunner	3
	Tank--gunner	9
	TOW--gunner	13
Loader	Artillery--loader	4
	Tank--loader	10
	TOW--loader	15
Driver	Tank--driver	11
	TOW--driver	14
FDC	FDC--horizontal control operator	6
	FDC--computer	7

operator and the computer. Those crewmembers primarily perform cognitive, or the least physically demanding tasks. Graphical comparisons are made by plotting the contours for each of the five groups separately for three different performance levels: 30, 50, and 70 percent.

Thirty Percent Performance

Figures 74 through 78 are plots of the five groups at the 30 percent performance level. Figure 74 shows a fairly close grouping over dose and time with the fire direction officer generally at somewhat higher dose levels. Figure 75 shows a close grouping between the gunner and assistant gunner of the artillery crew, which makes sense, since they both perform essentially similar tasks. The tank and TOW gunners are at the high and low dose extremes, respectively. The loaders in Fig. 76 show a fairly consistent pattern--at least over the first two days following exposure--where the 50 percent performance level for the artillery, TOW, and tank loaders, respectively, are each at decreasing dose values. Since much of the loaders' tasks consist of handling

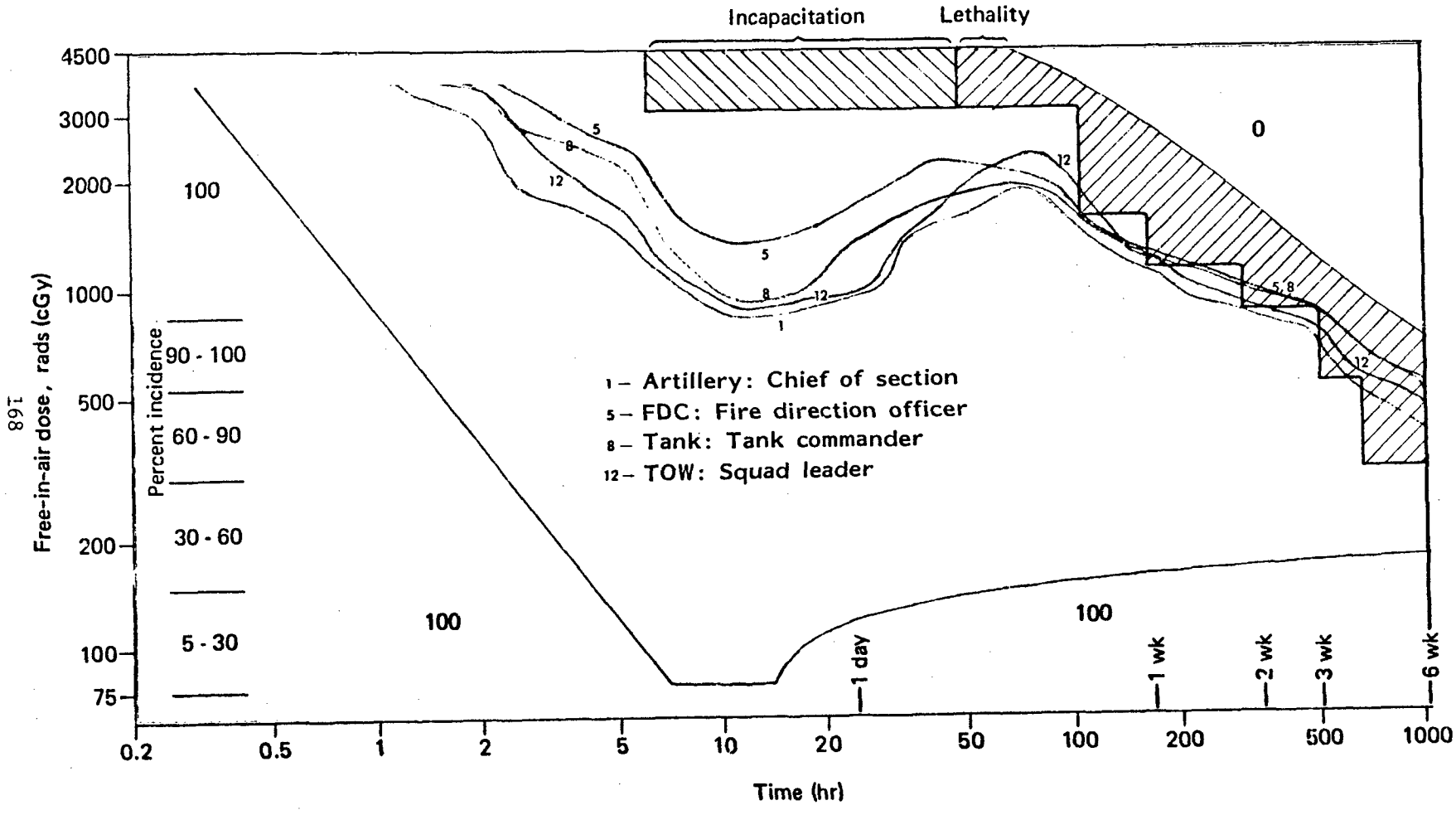

Figure 74. Crew leaders, 30 percent performance.

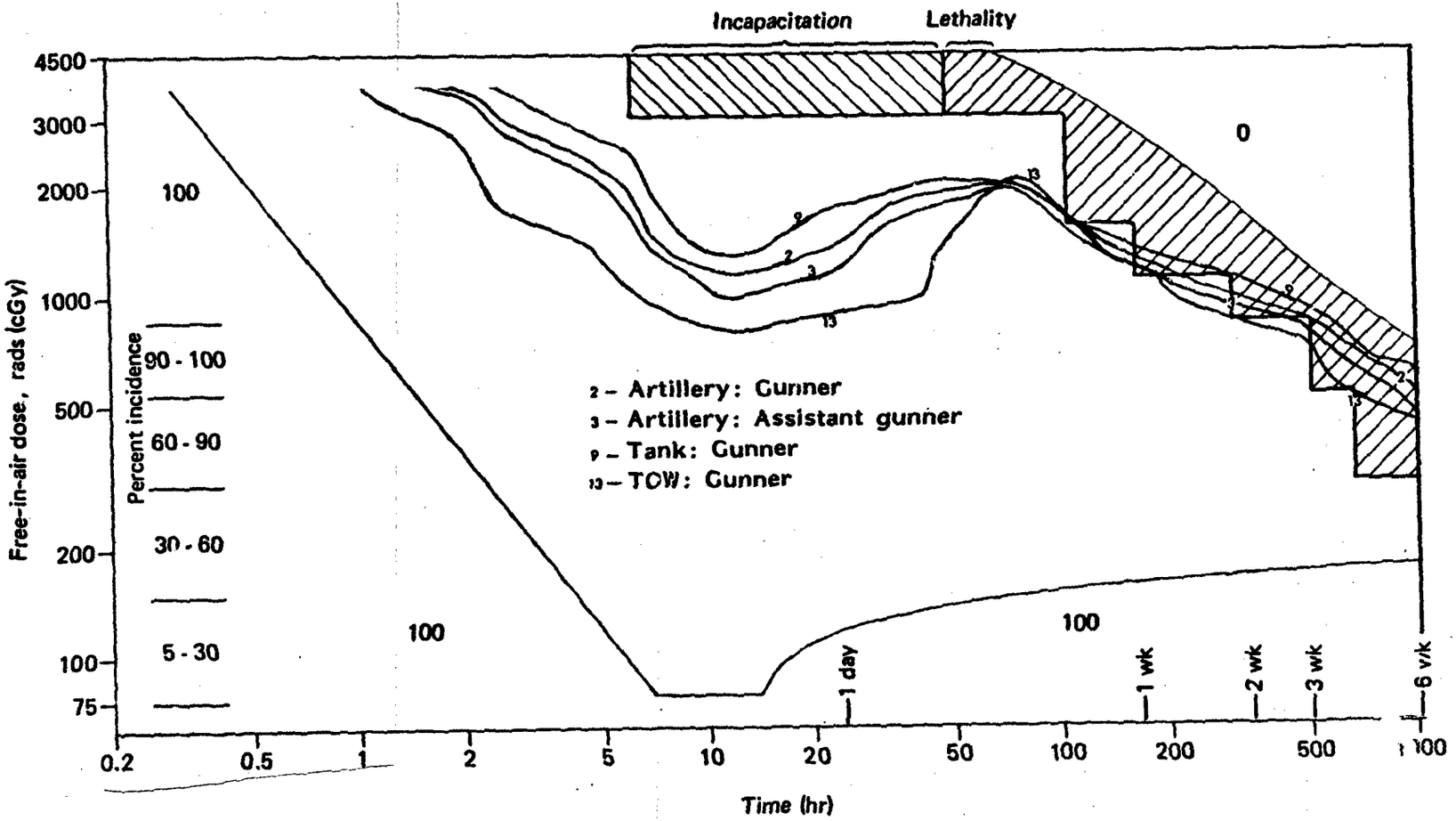

Figure 75. Crew gunners, 30 percent performance.

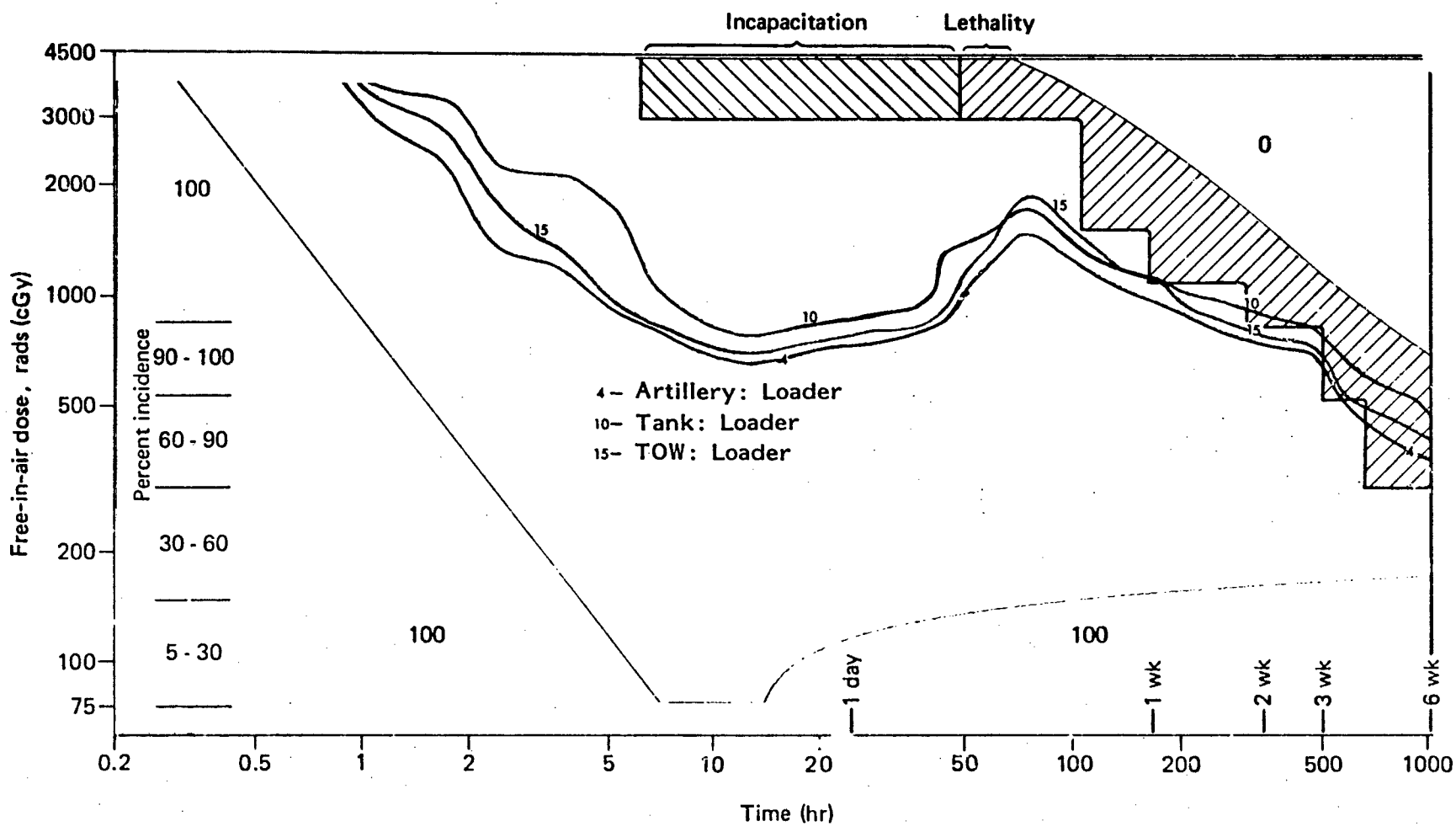

Figure 76. Crew loaders, 30 percent performance.

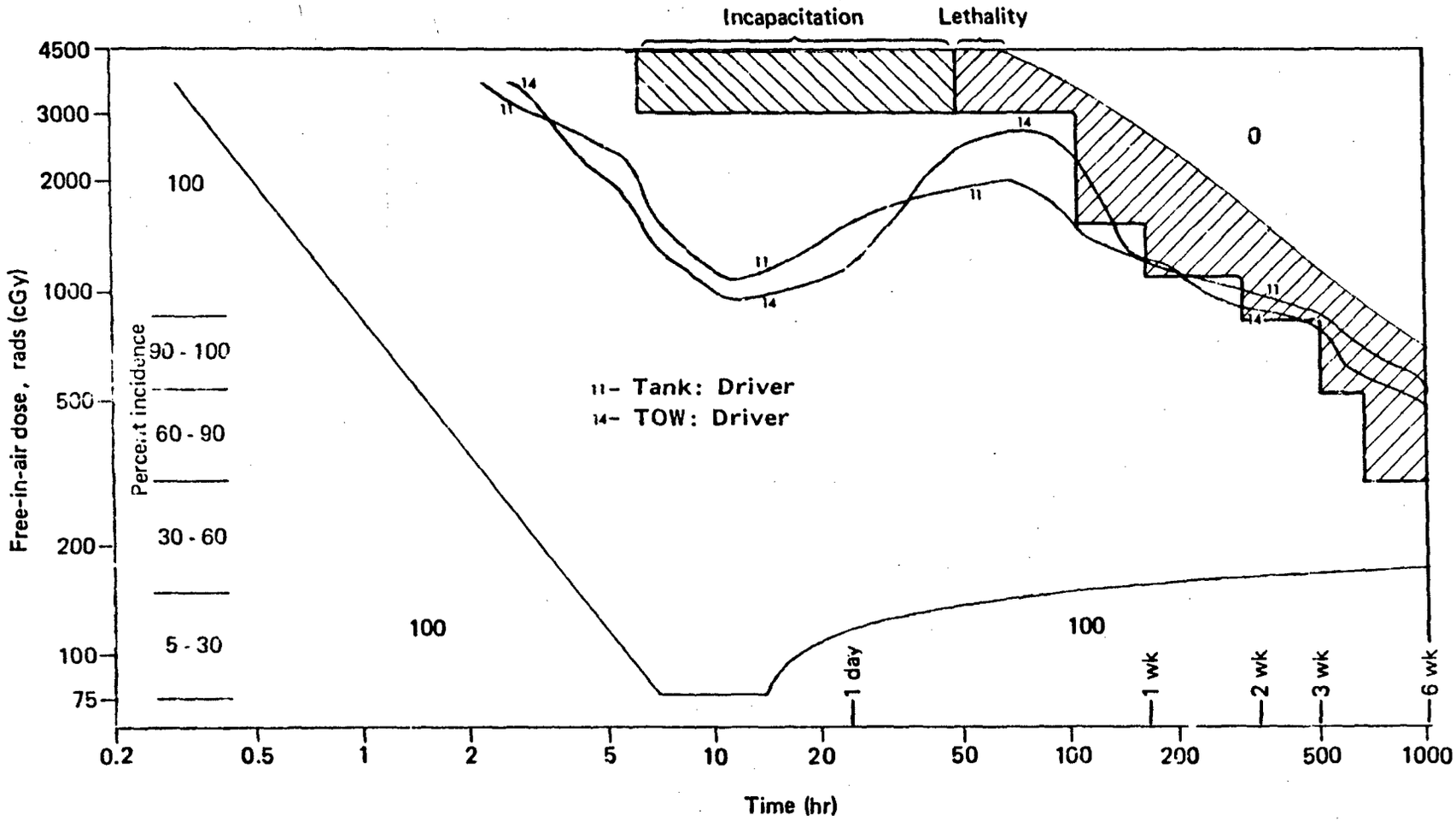

Figure 77. Crew drivers, 30 percent performance.

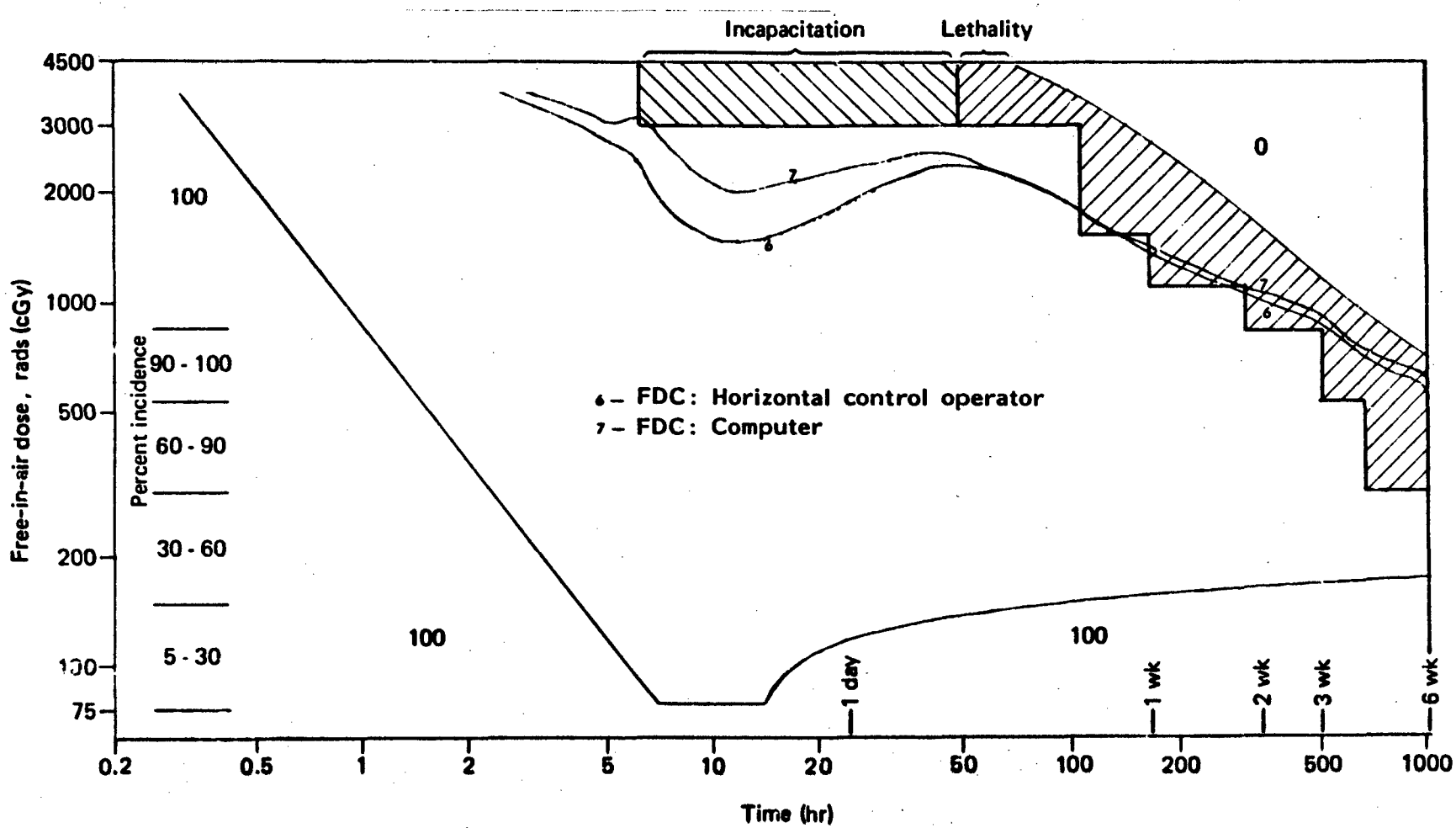

Figure 78. FDC crew, 30 percent performance.

munitions, the order of difficulty and the decreasing order of affecting dose are consistent with the weight of the munition, i.e., the artillery loader handles a 100 lb projectile, the TOW loader a 54 lb missile, and the tank loader a 30 lb projectile.

Figure 77 indicates a fairly close contour resemblance for the tank and TOW drivers except between about one and one-half to several days, where the TOW driver appears to require a somewhat higher dose to reduce performance to 30 percent. Figure 78 shows the two crewmembers that require the highest dose to reduce performance to 30 percent; as previously mentioned above, they have the least physically demanding tasks. In particular the computer is shown to be the least affected dosewise.

Fifty Percent Performance

The 50 percent performance contours for the five groups of crewmembers are given in Figs. 79 through 83. At this level, there is a relative widening of all the performance contours compared to the 30 percent level with the exception of the drivers in Fig. 82, which even become comparatively narrower. The widening is most apparent in the deviation toward lower doses of the artillery chief of section, TOW gunner, and artillery loader relative to the others in their respective groups. That is, lower doses that produce 50 percent performance, as compared with higher doses that produce 30 percent performance, have a relatively greater effect on performance for those positions as compared with the others in their respective groups. Such a widening effect is also seen for the horizontal control operator/computer group. However, since there are only the two members in the group, it is not readily apparent from the plots which position accounts for the widening. The driver group does not show the widening effect when comparing the 30 percent and 50 percent performance contours.

In Fig. 79, performance contours for the leaders of the tank and TOW crews are essentially the same, whereas the fire direction officer requires the highest dose and the artillery chief of section requires the lowest dose to be affected at the 50 percent performance level. The relative position of the contour for the chief of section is somewhat

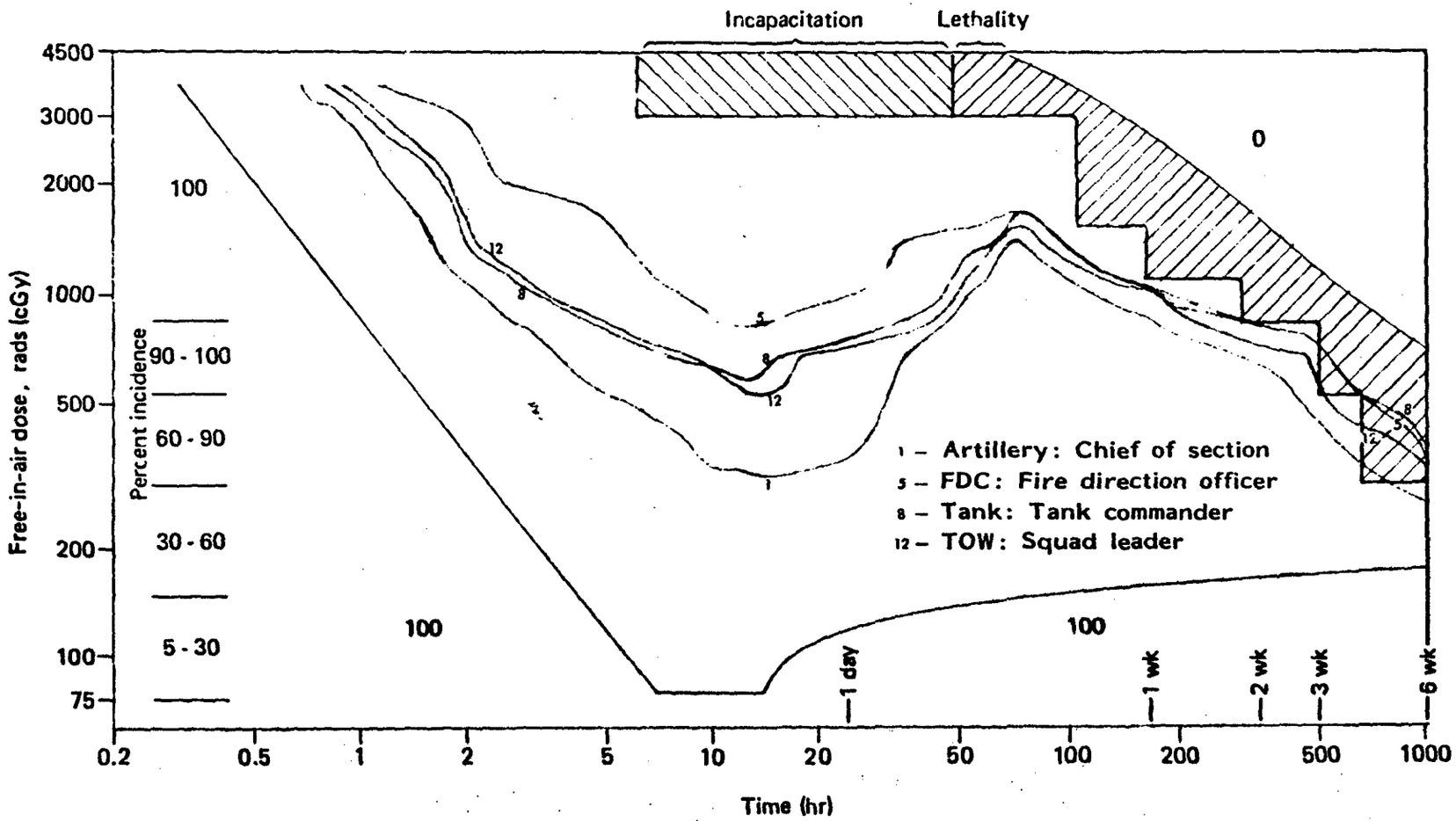

Figure 79. Crew leaders, 50 percent performance.

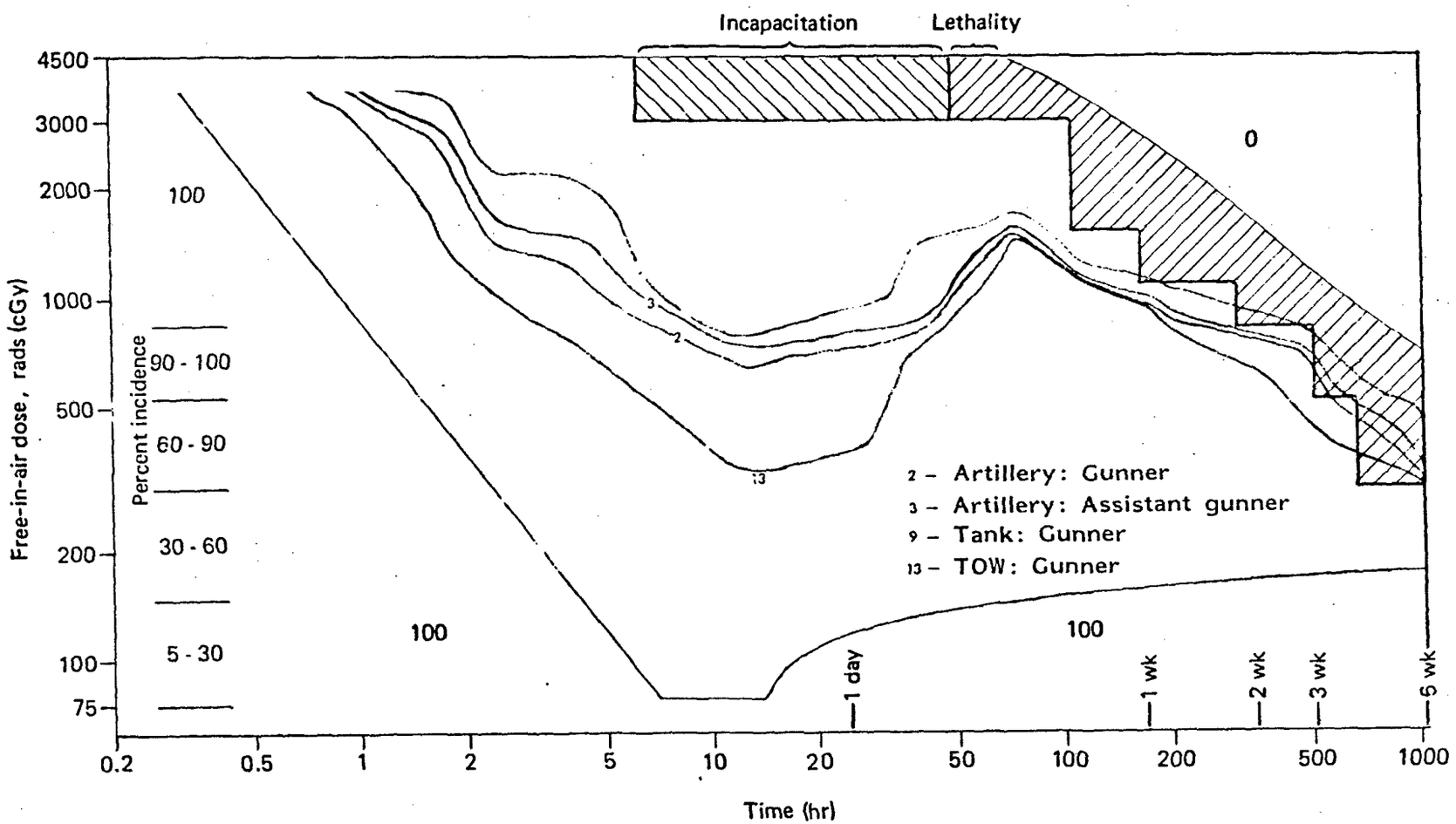

Figure 80. Crew gunners, 50 percent performance.

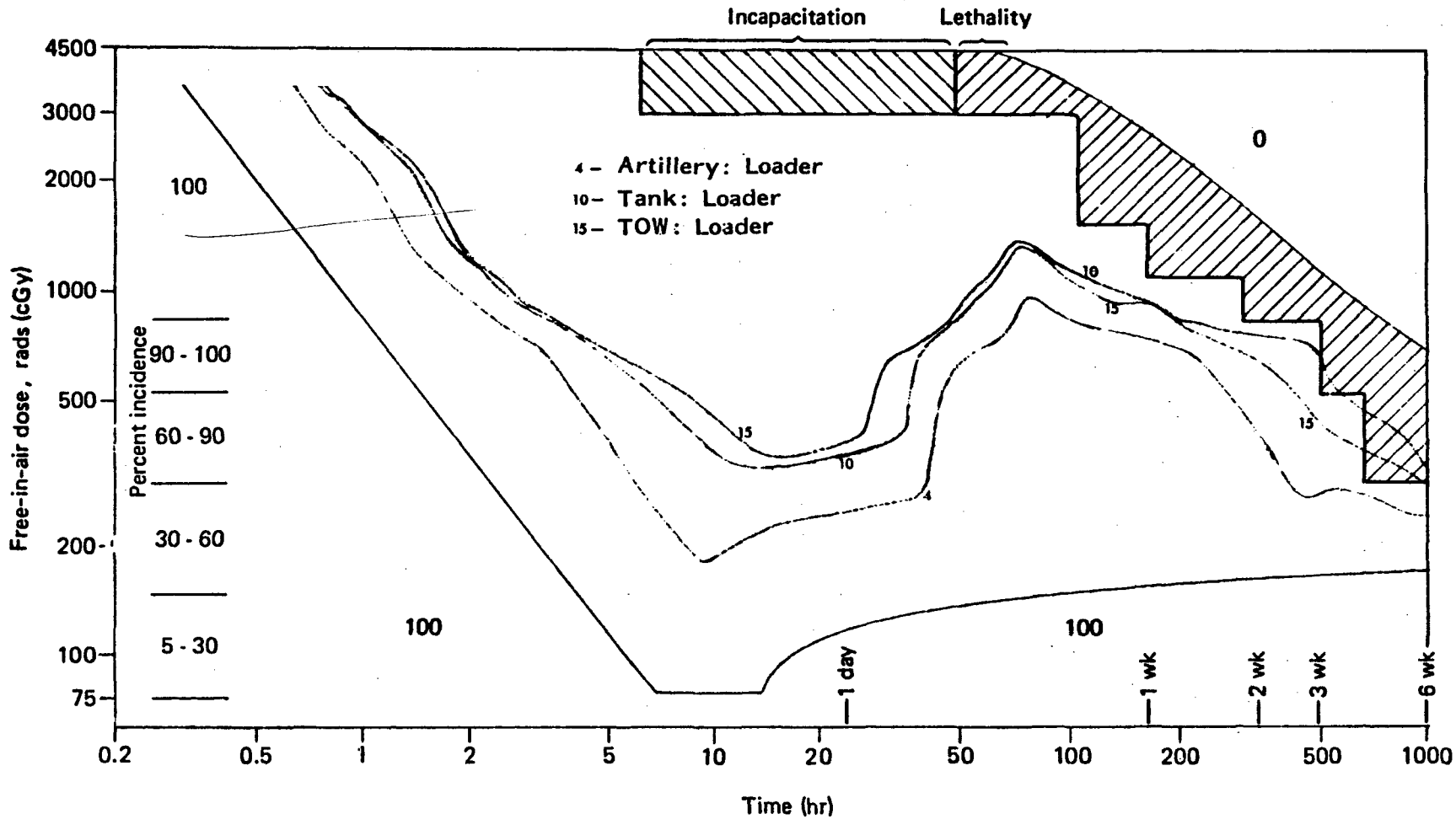

Figure 81. Crew loaders, 50 percent performance.

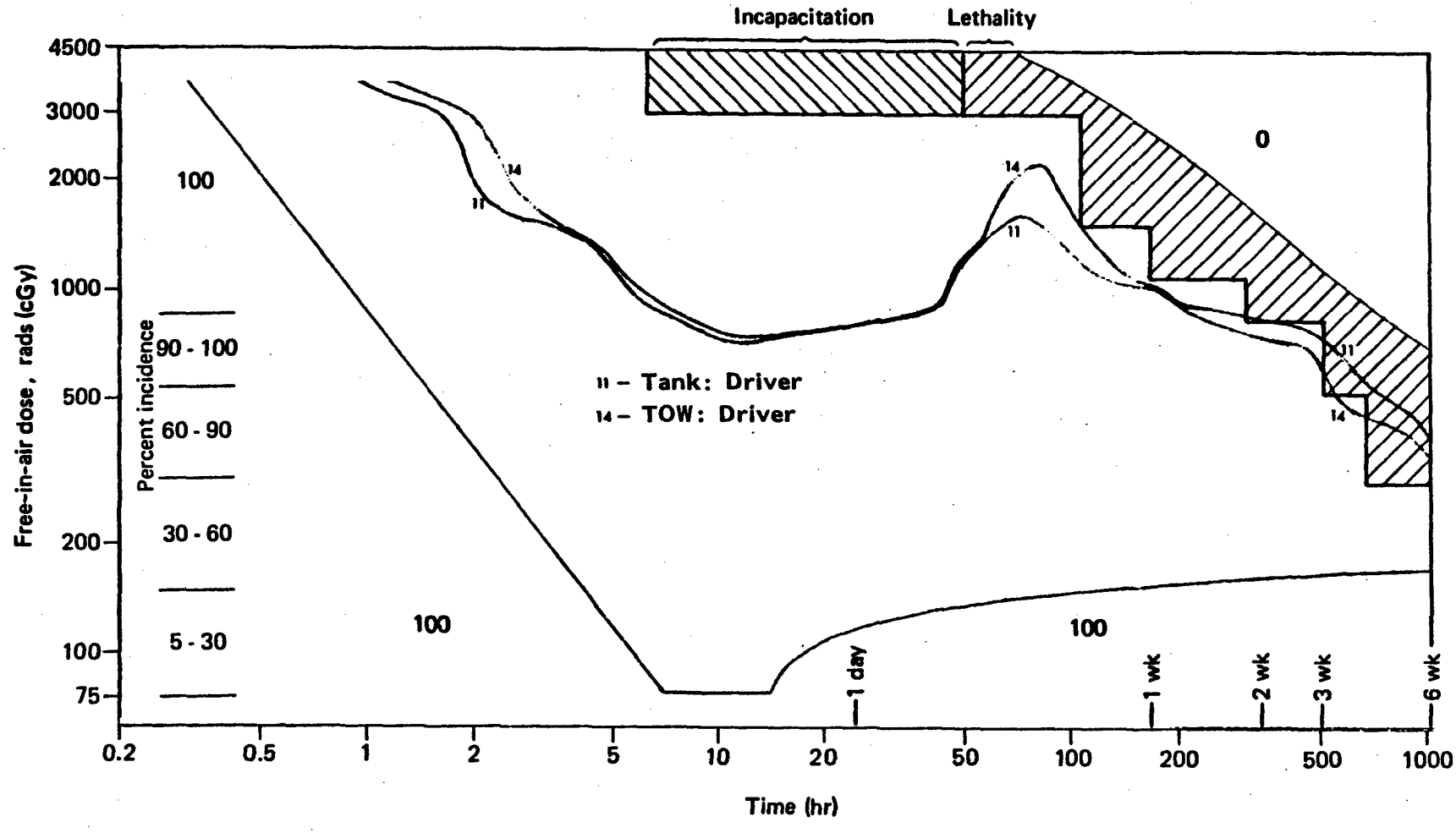

Figure 82. Crew drivers, 50 percent performance.

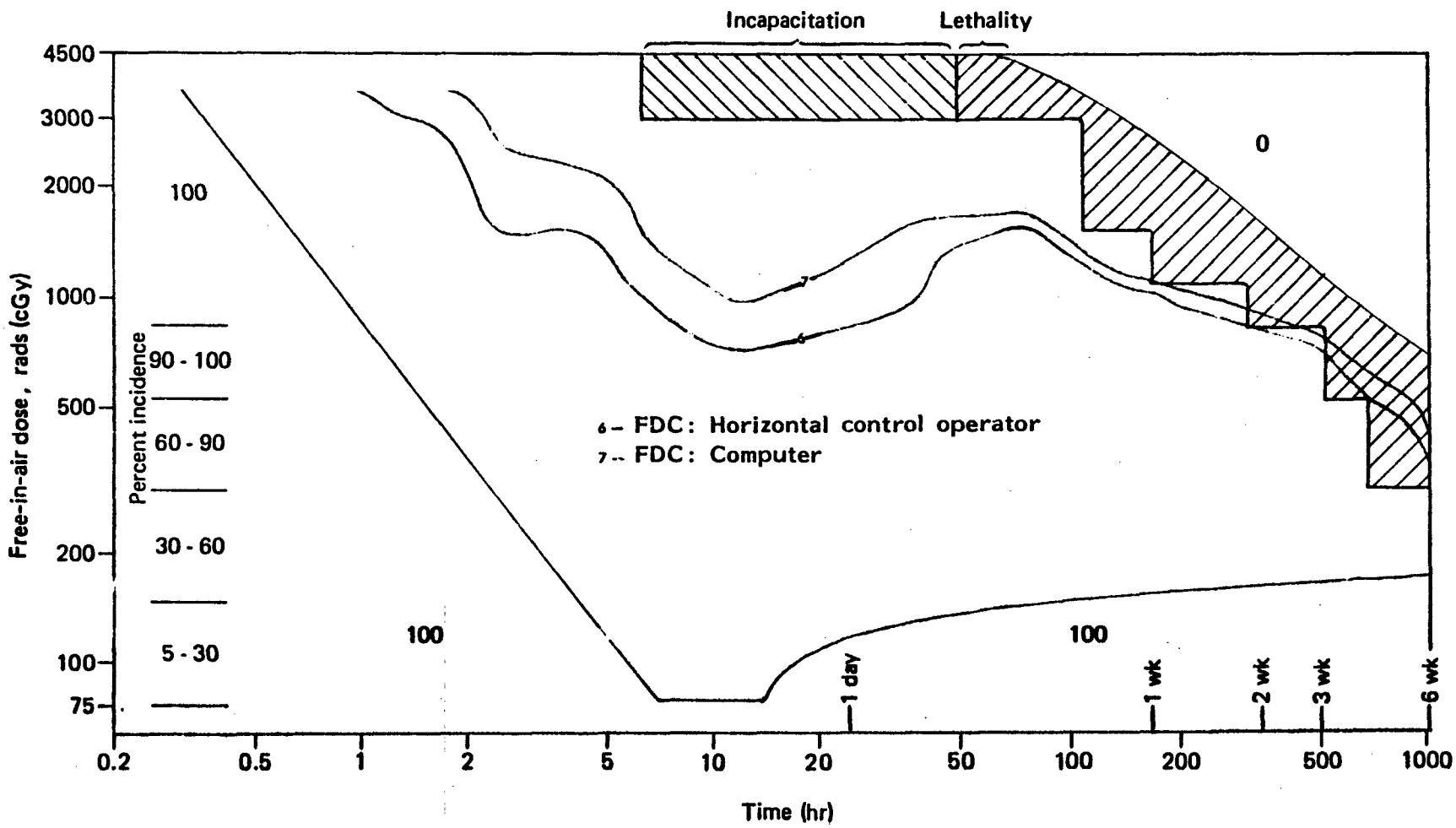

Figure 83. FDC crew, 50 percent performance.

contrary to expectations when, realizing that compared with others, his tasks are no more demanding. Moreover, like the fire direction officer, his tasks are performed while stationary as compared with the tank commander and TOW squad leader who are mobile--a situation that can aggravate the symptoms associated with acute radiation sickness.

Relatively smaller doses reduce the level of performance of the TOW gunner to 50 percent as compared with the other gunners (Fig. 80); the tank gunner requires the highest dose to be at the 50 percent performance level. As would be expected the performance of the artillery loader is reduced to 50 percent at lower doses compared to the tank and TOW loaders, as shown in Fig. 81. Again, as shown in Fig. 83, the FDC group appears to be among the least affected dosewise, with the computer requiring the highest dose to reduce performance to the 50 percent level.

Seventy Percent Performance

The 70 percent performance contours are given in Figs. 84 through 88. Again, the relative contour positions are similar to the 50 percent performance levels although at lower doses. As shown in Fig. 84, the significant relative deviation to lower doses of the chief of section from the others in the leader group is again somewhat puzzling; this becomes particularly more apparent for times between a couple of days to a couple of weeks. At the 70 percent level, the tank gunner shown in Fig. 85 appears not to be affected until relatively higher doses compared with the other gunners. At the 70 percent performance level, again, the artillery loader is affected at relatively lower doses as shown in Fig. 86. Noteworthy are the low dose levels that reduce performance to 70 percent commencing within a few hours following exposure. Figures 87 and 88 show a relative widening of the performance contour compared to the 50 percent performance level for the driver and FDC groups, respectively.

Contour Plot Summaries--30, 50, and 70 Percent Performance

Graphical summaries for 30, 50, and 70 percent performance contour levels for all five groups are shown in Figs. 89 through 91. In those

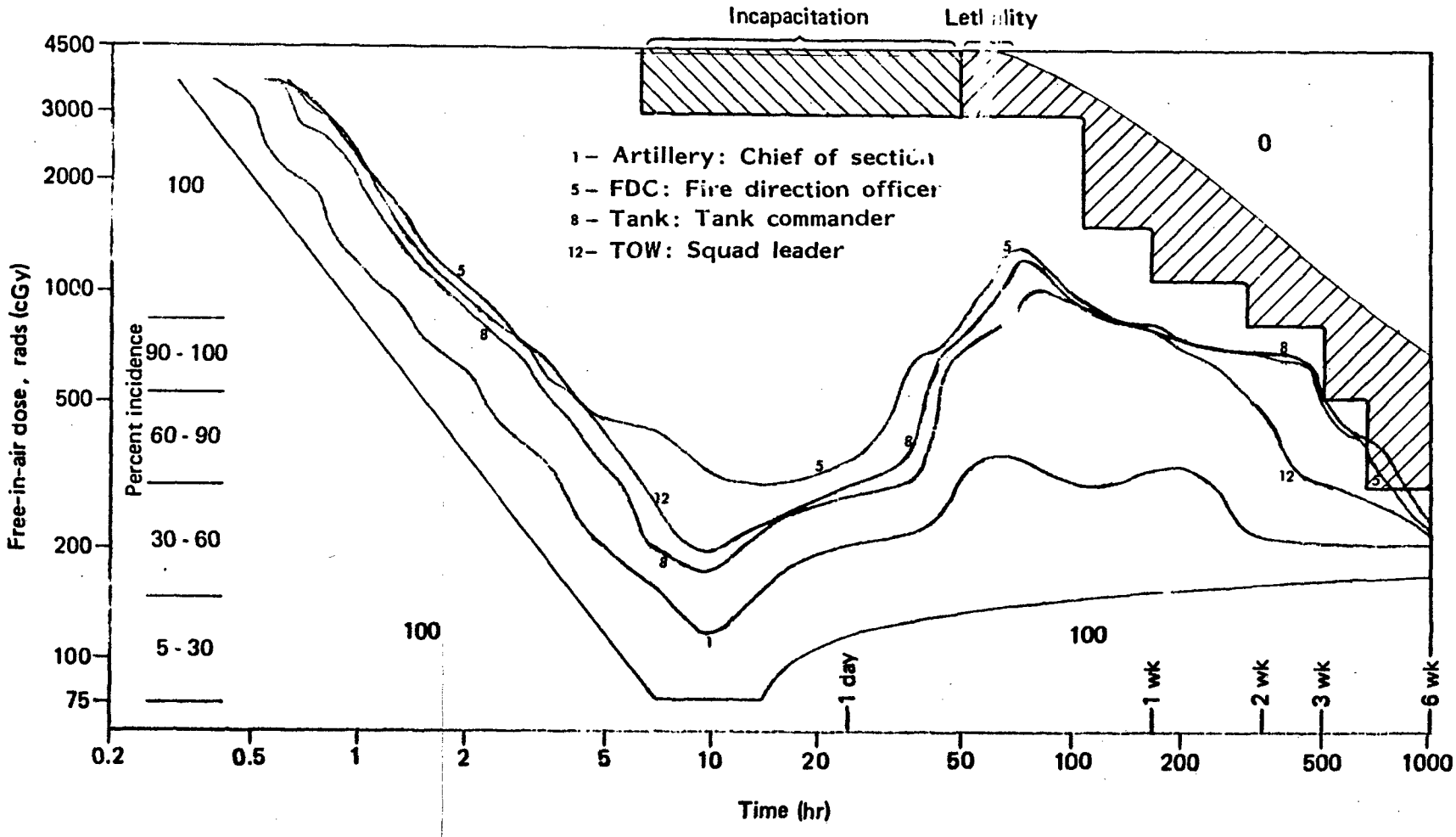

Figure 84. Crew leaders, 70 percent performance.

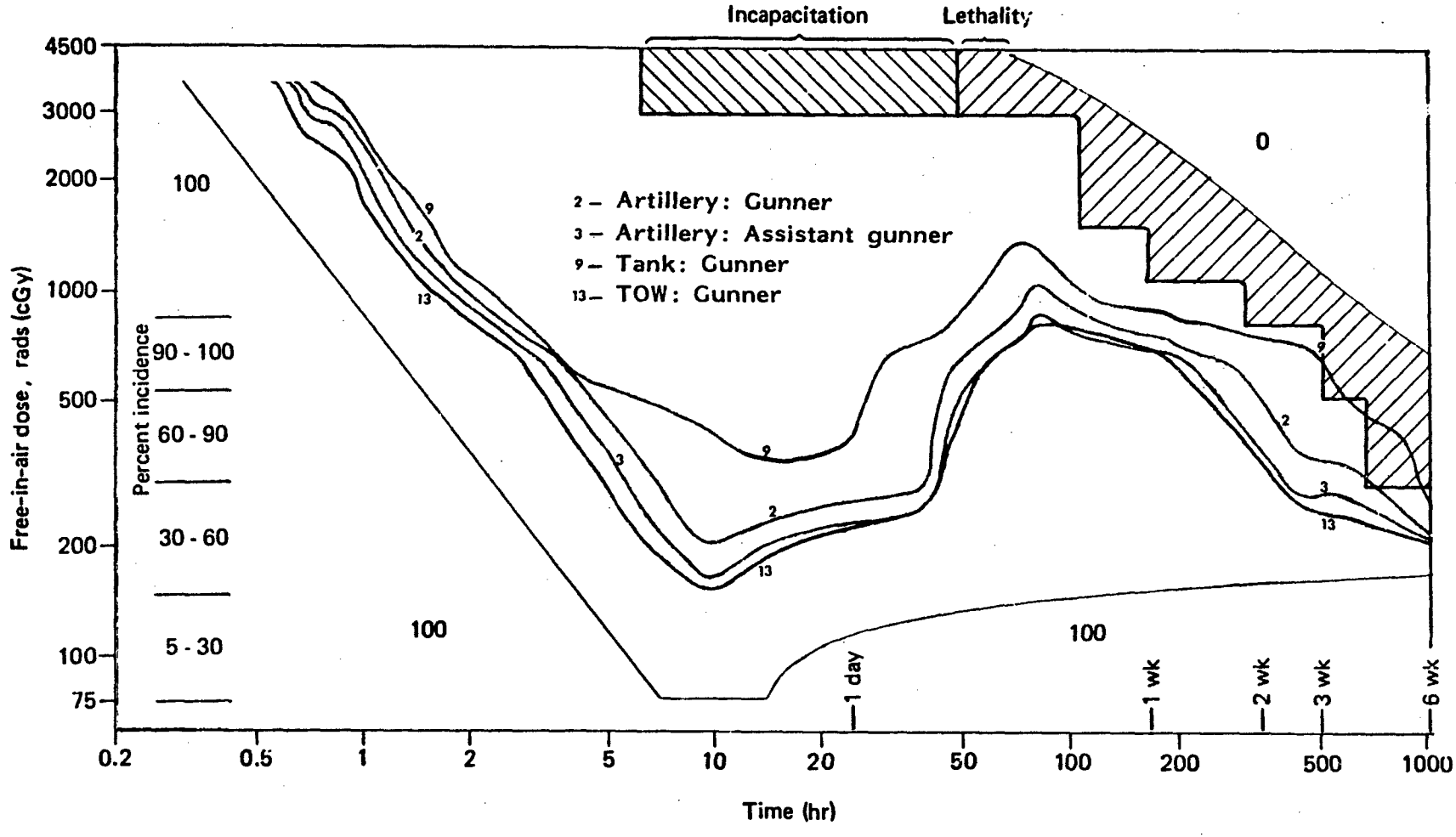

Figure 85. Crew gunners, 70 percent performance.

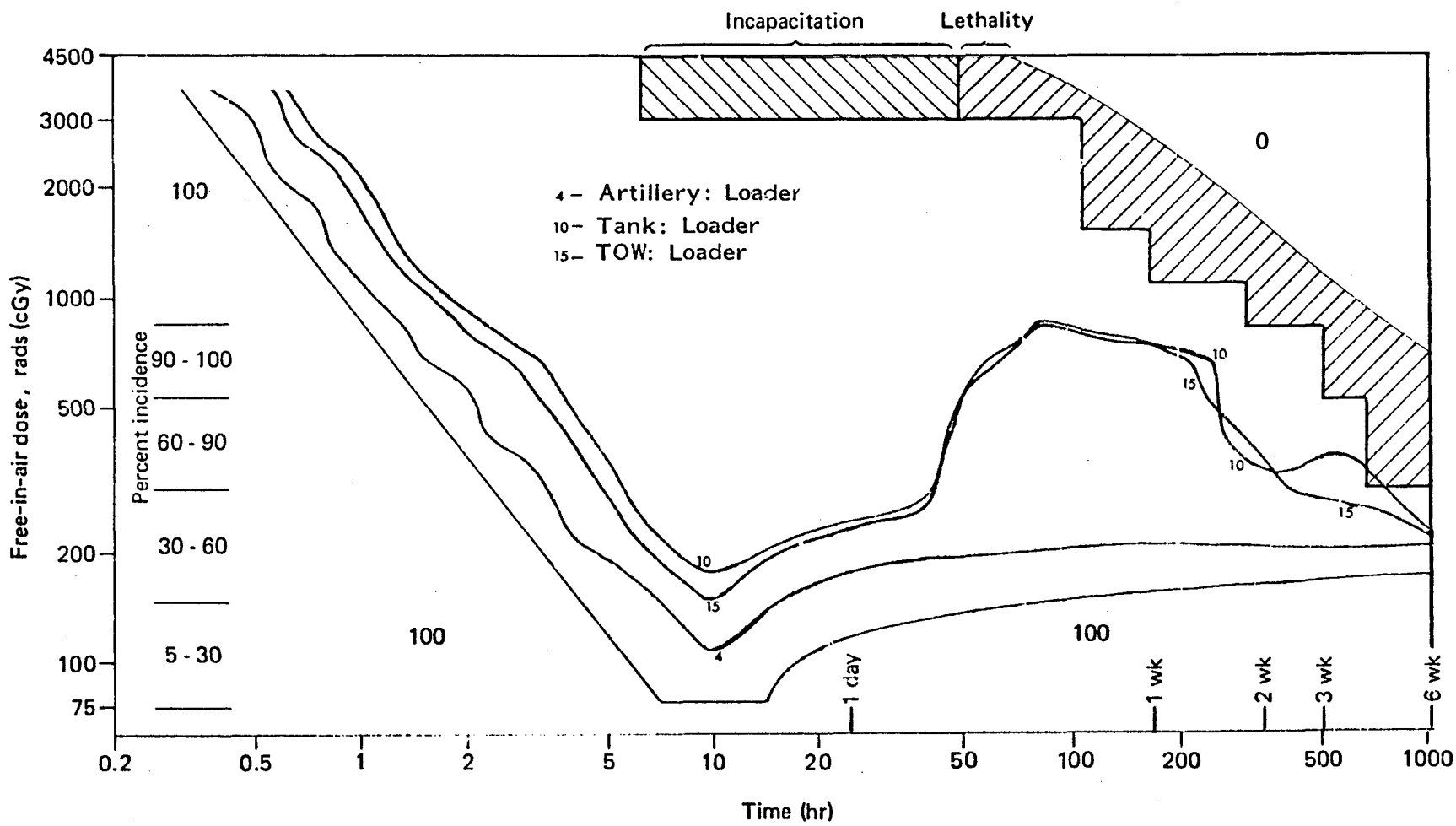

Figure 86. Crew loaders, 70 percent performance.

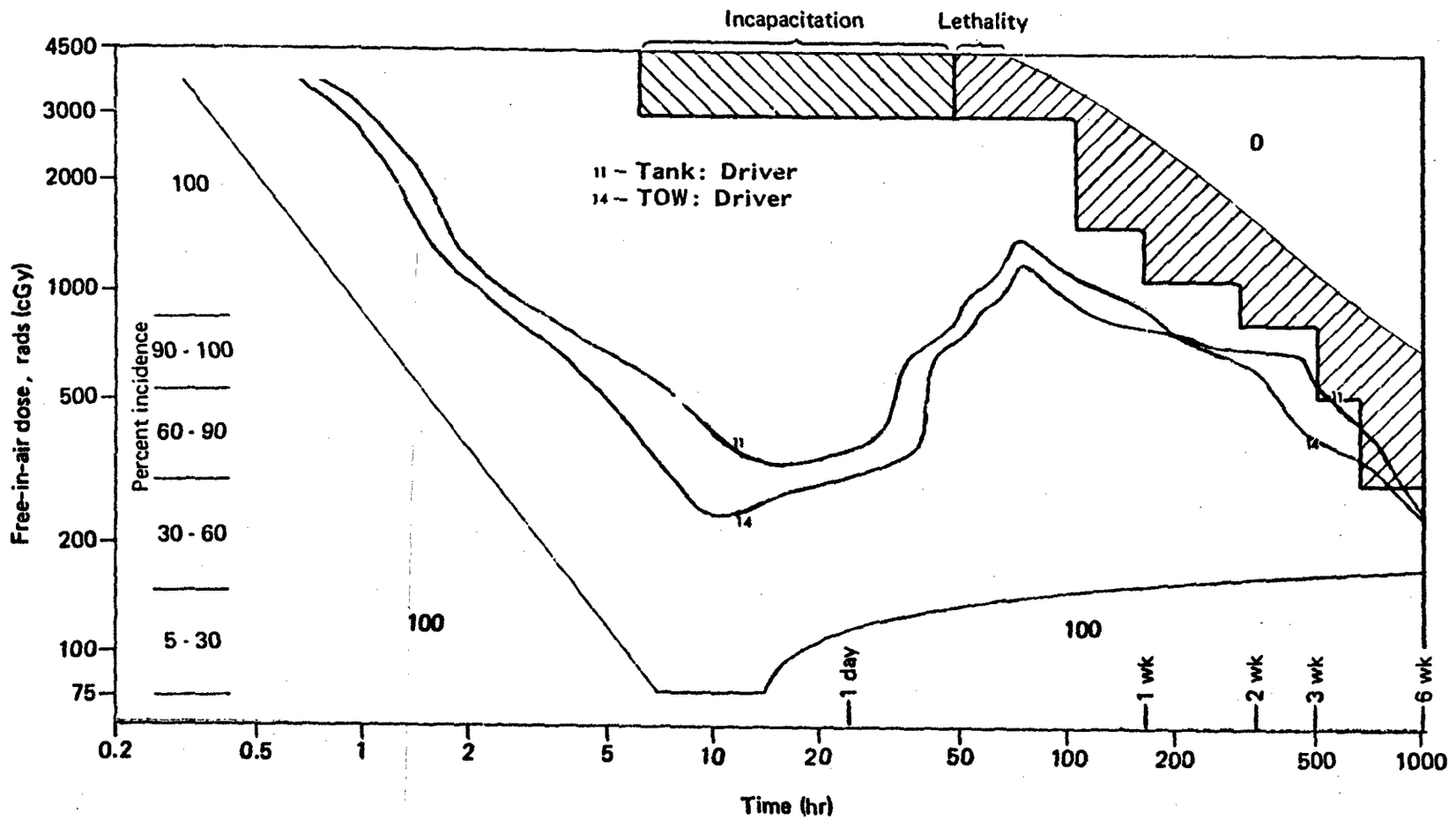

Figure 87. Crew drivers, 70 percent performance.

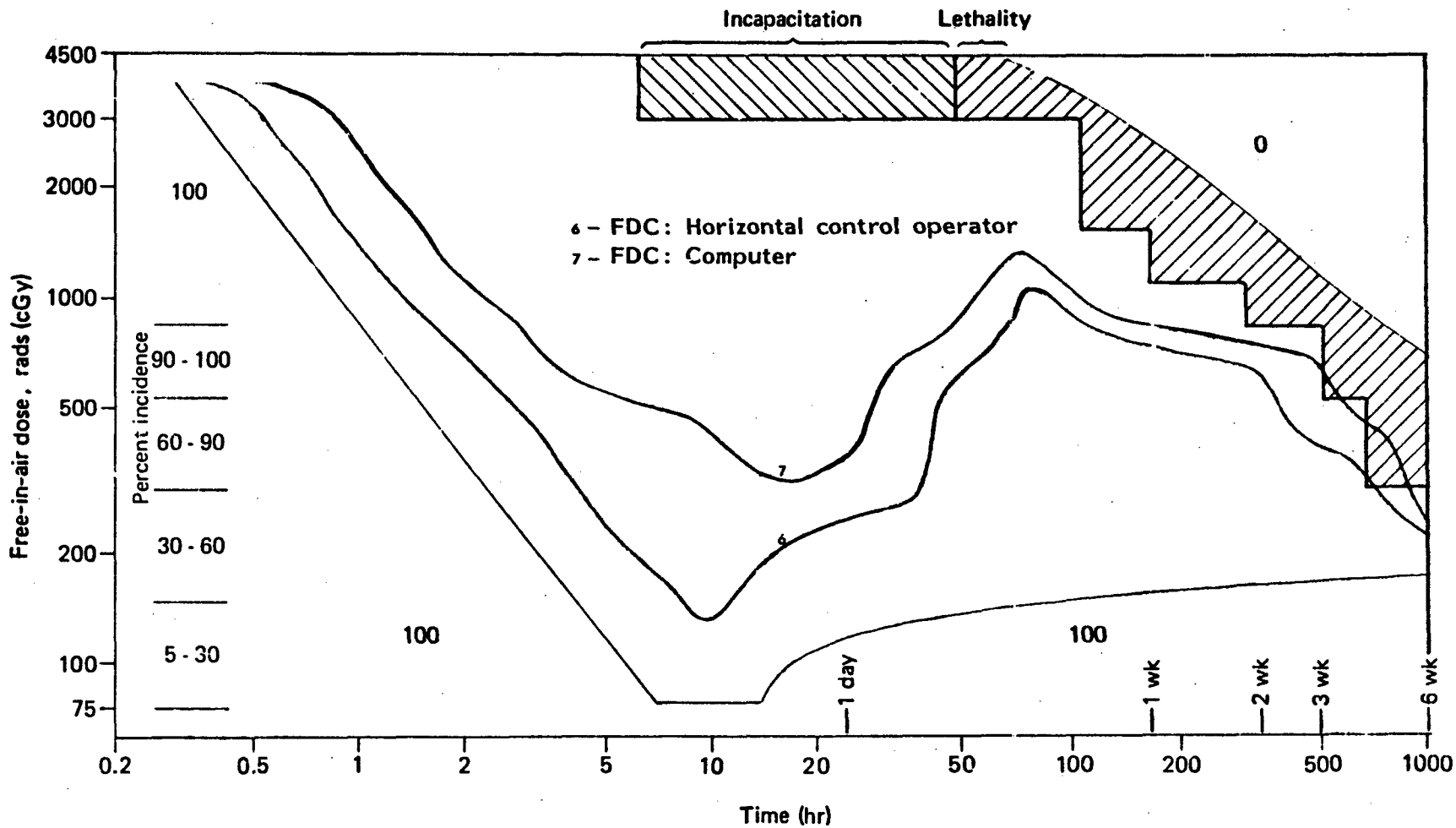

Figure 88. FDC crew, 70 percent performance.

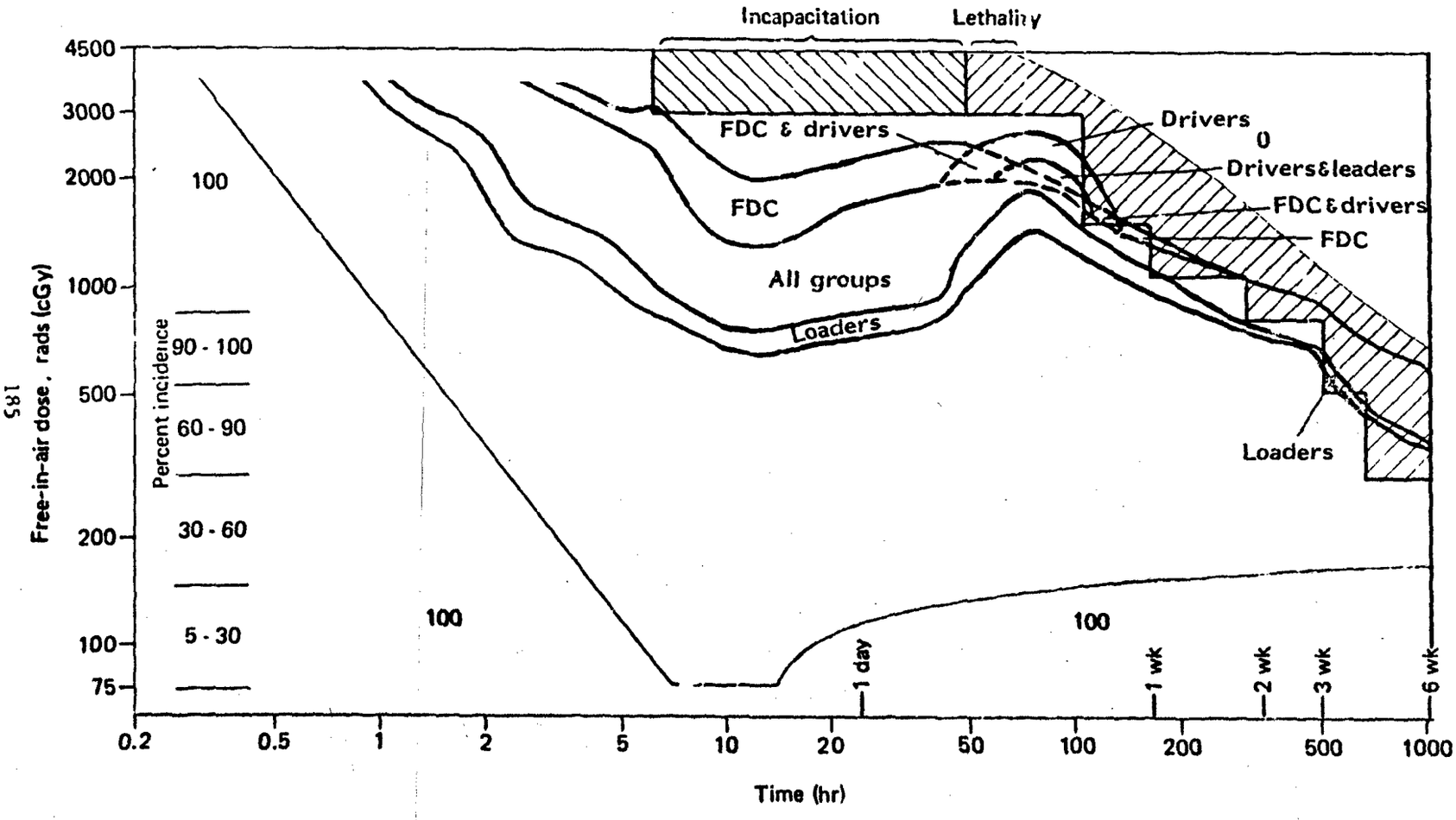

Figure 89. Summary of 30 percent performance.

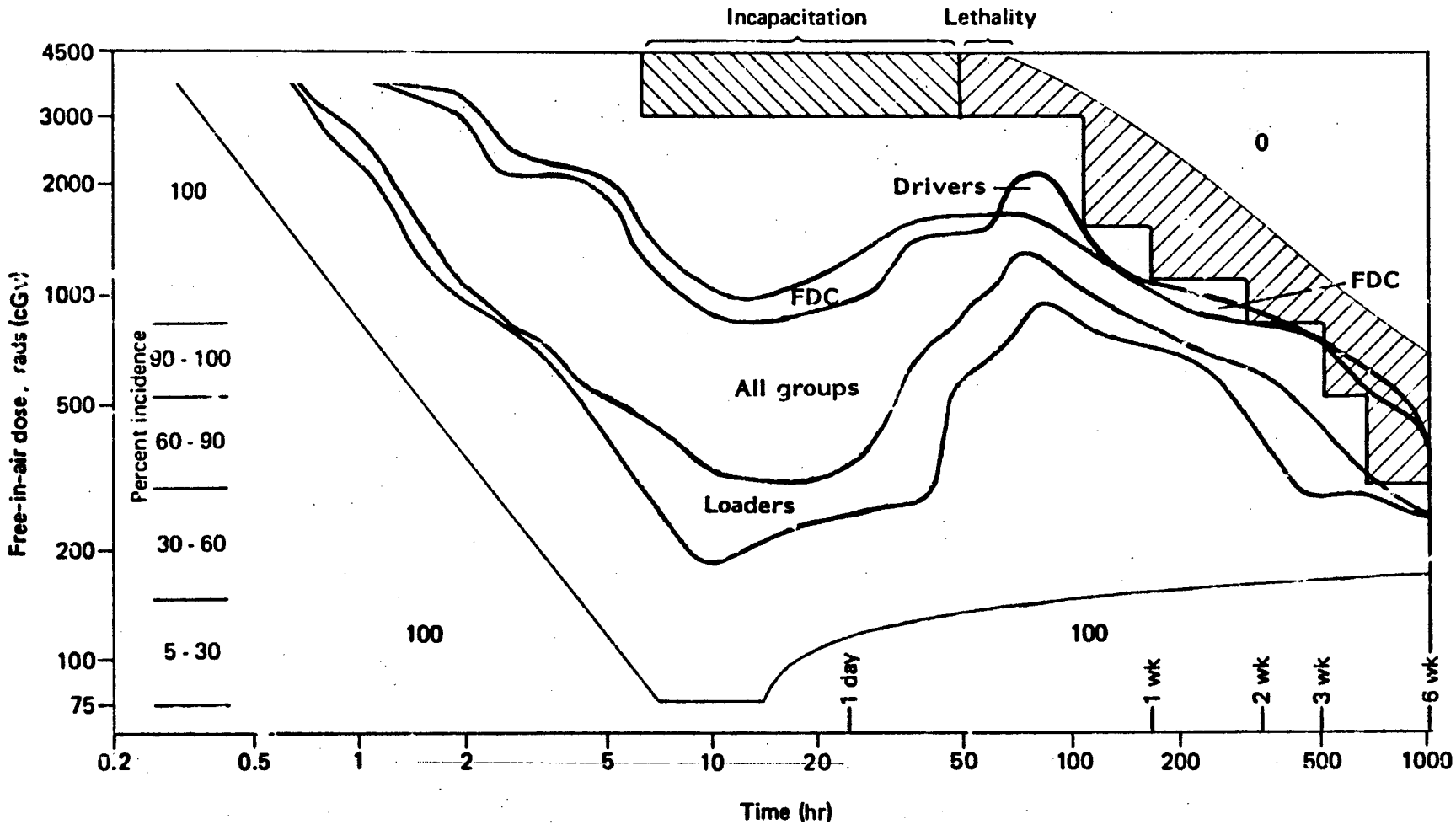

Figure 90. Summary of 50 percent performance.

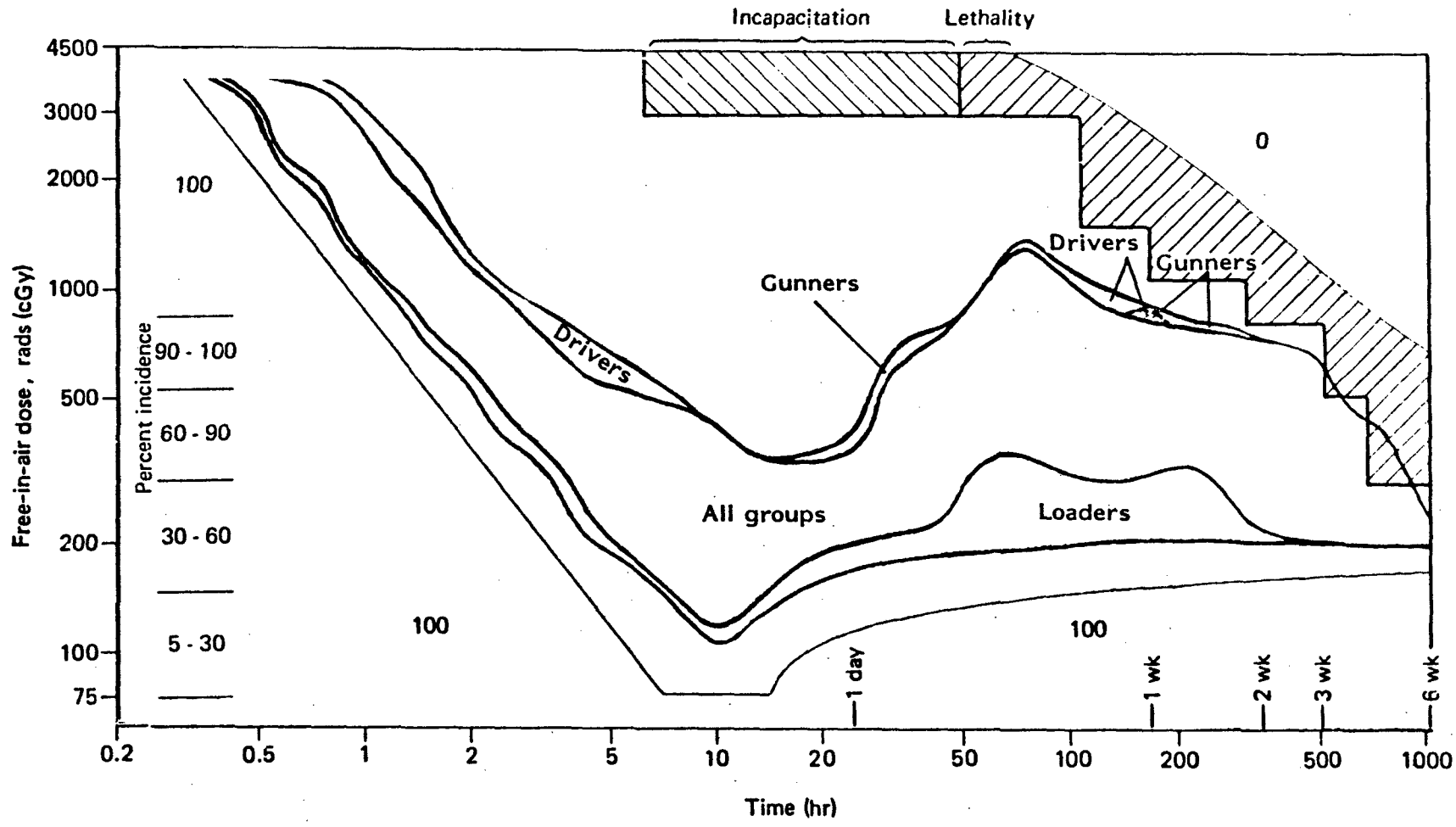

Figure 91. Summary of 70 percent performance.

figures, we show isoperformance bands represented by any groups formed by the two outer level contours. For example in Fig. 90 the lowermost band labeled "Loaders," includes only loaders; the uppermost band labeled "FDC" includes only FDC crew positions. In one region, the uppermost band labeled "Drivers" includes only drivers. The middle band labeled "All Groups" is composed of all other groups, although some loaders, FDC crewmembers, or drivers could also be included because the outermost isoperformance contours represent their respective group extremes. In the interest of clarity, we have not presented a more extensive collection of performance profiles.

The contour summaries all show the meandering band pattern, reflecting the period of remission between initial prodromal symptoms and manifest illness [Baum et al., 1983], which becomes less apparent with decreasing performance level, i.e., with increasing dose. At the 30 and 50 percent performance levels, the middle band, which includes all groups, is bordered primarily by the loaders on the low dose and the FDC group on the high dose end, except for the few "outcroppings" of other groups between about 50 and 100 hr following exposure. There the drivers compete with the FDC group for the high dose values. At the 70 percent level, the loaders border the low dose side of the middle band that includes all groups, whereas the drivers and gunners alternatively form the border at the high dose end rather than the FDC group. Any particular reason for outcropping is not apparent.

Some generalizations regarding performance can be made from Figs. 89 through 91. A dose of at least 500 rads (cGy) is required to reduce performance levels of all groups to 30 percent 2 weeks following exposure. Doses of from only about 150 to 350 rads (cGy) reduce the performance of the loader group to 50 percent between a few hours to a couple of days following exposure; the performance of other groups are reduced to 50 percent during the same period after high exposures--from about 350 rads (cGy) to about 1100 rads (cGy). Doses from about 130 rads (cGy) reduce performance of all groups to 70 percent from a few hours to a couple of days following exposure. Doses as low as 100 rads (cGy) reduce performance for the artillery gun crew loader and chief of section to 70 percent between several to about 15 hr following exposure.

CONFIDENCE BOUNDS--CONDITIONAL MEAN PERFORMANCE

The approximate 95 percent confidence bound (L_{95}) of the performance predictions given by the regression relationships are indicated in Fig. 92. The values presented are based on the variance of the conditional mean ($\hat{\sigma}_m^2$) as predicted by the regression relationships given in Sec. 3. The L_{95} values represent the average percent deviation from the predicted (mean) value for the 95 percent confidence bound (Student's t-distribution) given as follows:

$$L_{95} = \frac{\frac{1}{2}\,(UL_{95,m} + LL_{95,m})}{\hat{P}_k} \times 100 \ ,$$

where $UL_{95,m}$ and $LL_{95,m}$ are upper and lower 95 percent confidence bounds, respectively, and $\hat{P}_k$ is the performance prediction (given in Sec. 3). The L_{95} map given in Fig. 92 is a composite representation applicable to the 15 different crewmember positions and, hence, is approximate. The L_{95} ranges are given for the regions bounded within the curved lines.

The scale of Fig. 74 matches those of Figs. 59 through 73; accordingly, approximate L_{95} values can be related to the performance contours. Although the regression prediction L_{95} values do vary somewhat among the different crewmembers (see Table 28), the variations are not large enough to merit individual attention. Some exceptions, however, can be specifically pointed out. For symptom complex 113111, the performance data estimates exceeded the upper 95 percent conditional mean confidence bounds of the regression prediction, being higher than the mean value predicted by the regression relationship as follows (see Table 28): gun crew, chief of section--14 percent; gun crew, loader--21 percent; FDC crew, fire direction officer--14 percent; FDC crew, horizontal control operator--29 percent; and TOW crew, loader--14 percent.

The rectangular enclosures bordered by the dotted lines in Fig. 92 correspond to the regions where symptom complex 113111 is stipulated (see Fig. 44). The FDC crew horizontal control operator and gun crew loader crewmembers represent the most extreme cases and may merit special consideration when making performance estimates, depending on

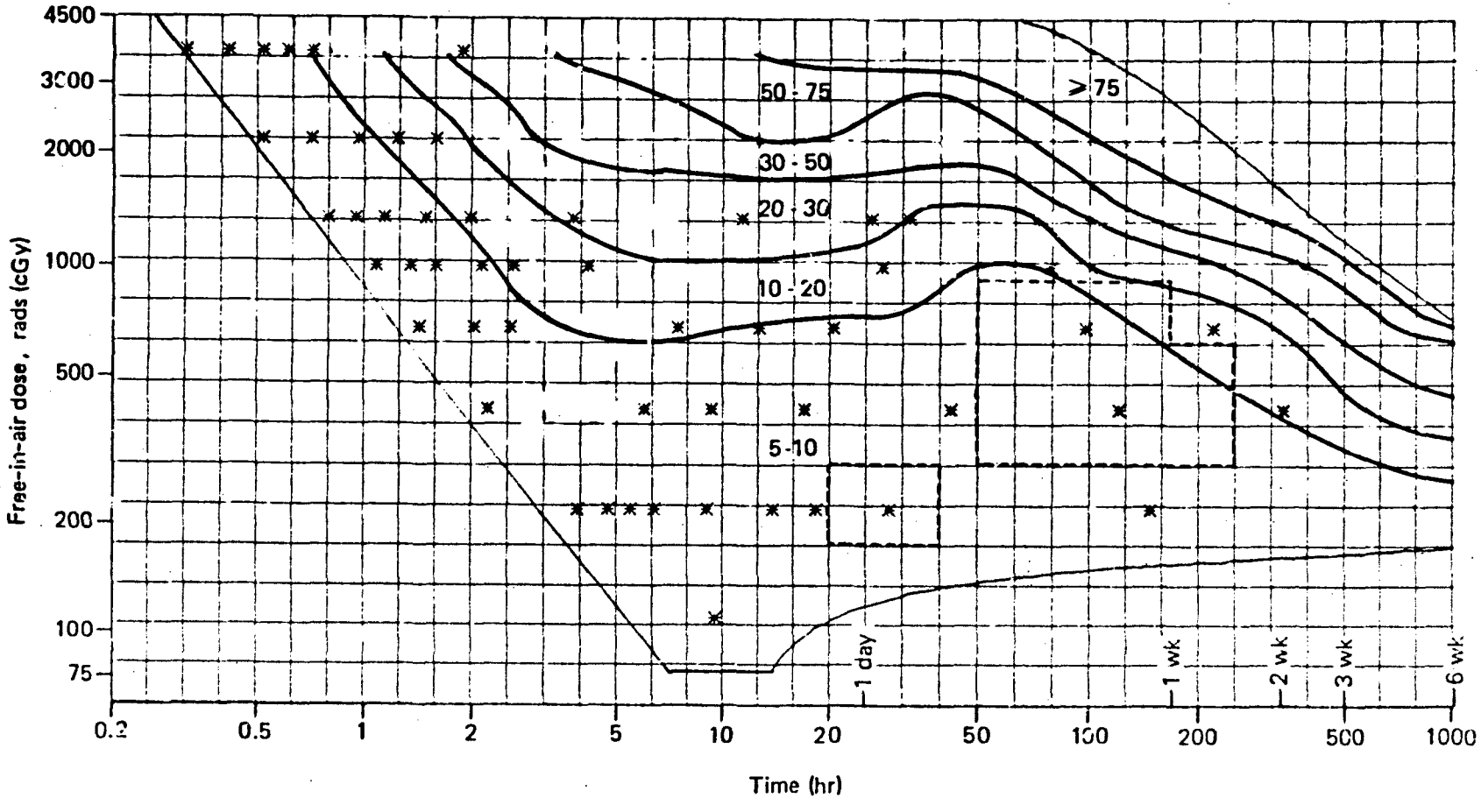

Figure 92. Individual performance prediction confidence bounds.

whether or not conservative estimates are desired. It should be noted here that the performance data for symptom complex 113111, although exceeding the conditional mean bounds, do not lie outside the 95 percent confidence bounds for a *further data* observation based on the variance $\hat{\sigma}_0^2$, discussed in Sec. 3.

The L_{95} contours represented in Fig. 92 are only applicable to the performance values at a particular dose and time. We have not attempted to relate them to lateral variations in dose and/or time although, in principle, estimates of that type can be made. The L_{95} contour pattern shows the correlation with input data points associated with symptom complexes used in the questionnaires (given by the asterisks). In general, L_{95} values increase in regions devoid of the asterisks, where regression predictions were made for symptom complexes not included in the questionnaires. Large increases are situated in regions of high dose and/or long times, where caution should be exercised. Consider the upper-right-hand region where the L_{95} value is indicated as ≥75 percent. If a performance value of 10 percent were estimated from one of the contour plots, and an error of 100 percent chosen from Fig. 92, the estimated upper and lower 95 percent limits based on the regression analysis would be 0 to 20 percent. Depending upon the dose, 20 percent may be unreasonably excessive or 0 percent may be too severe; that is a judgment that must be made by each individual user of the information presented here.

SUMMARY AND CONCLUSIONS

In this report, the performance levels of individual combat crewmembers have been estimated following prompt ionizing radiation exposure. The estimates have been developed to serve as the basis for planning military field operations and training for combat in a nuclear weapon radiation environment. We have expressed performance as a function of two critical variables, dose (free-in-air) and time.

Performance levels have been expressed both graphically and in tabular form. The overall picture is given by the three-dimensional plots prepared for each of the 15 different crewmembers selected to represent typical short-term (from 30 to [illegible] sec) battlefield engagement

scenarios for small combat crews--3 to 4 members. Isoperformance plots and the numerical data given in Appendix J provide working data for selecting or developing further numerical estimates of performance.

Unfortunately, we cannot in any succinct manner assign numerical degrees of uncertainty to the dose/time performance estimates provided (other than the conditional confidence bounds discussed above). That problem is caused by a lack of quantitative data associated with the source of information we combined to formulate the estimates of performance. The performance results we developed rely on two basic bodies of information. The first comes from the comprehensive symptomatology review of human irradiation experience [Baum et al., 1983], and the second comes from the army questionnaires. Based on those two sources some guidance can be provided for utilizing the performance estimates presented.

From the review of acute radiation sickness and symptomatology, we are confident that the dose/time framework (Sec. 4) of symptom complexes describes the typical acute sequelae for humans even though considerable variation in response has been observed in symptom severity and time of expression.

The symptom complexes used to construct the dose/time framework represent well over 50 percent of those exposed to doses of from 300 rads (cGy) and above, from 30 to 60 percent of those exposed to doses of 150 to 300 rads (cGy), and from 5 to 30 percent of those exposed to doses of from 75 to 150 rads (cGy) [Baum et al., 1983]. Therefore, since the performance response data obtained from the army questionnaires were based on the symptom descriptions appearing in the dose/time framework, our performance estimates as a function of dose and time correspond to those percentages.

The performance data correlated with dose and time were derived from army personnel who were asked to judge how they might be able to perform if they had acute radiation symptoms described to them. Accordingly, we have no clear direct way to quantify in a comprehensive manner just how reliable their judgments might be, although the respondents selected for the questionnaires were combat crewmembers trained in

performing the tasks and operating the equipment we focused upon. We can point out, however, that after making some improvements in the response data, our analysis indicates reasonable consistency in the performance trends with symptom severity (and dose level) and the type of crewman (i.e., type of tasks performed). In view of the fact that we cannot prescribe a sound quantitative measure of uncertainty, other than the conditional variation in the response data, we encourage a measure of understanding with regard to purpose in its application.

LIST OF REFERENCES

Anno, G. H., and D. B. Wilson, *Levels of Severity and Symptom Complexes for Acute Radiation Effects: Symptom Description and Quantification*, Pacific-Sierra Research Corporation, 1983 (in progress).

Baum, S. J., et al., *Symptomatology of Acute Radiation Effects in Humans Given Exposure to Doses of 75 to 4500 rads (rad) Free-in-Air*, Pacific-Sierra Research Corporation, Note 581, June 1983.

Belsley, D. A., E. Kuh, and R. E. Welsch, *Regression Diagnostics*, Wiley, New York, 1980.

Brelsford, W. M., and D. A. Relles, *STATLIB--A Statistical Computing Library*, Prentice-Hall, Englewood Cliffs, New Jersey, 1981.

Cook, R. D., and S. Weisberg, *Residuals and Influence in Regression*, Chapman and Hall, New York, 1982.

Daniel, C., and F. S. Wood, *Fitting Equations to Data*, 2d ed., Wiley, New York, 1980.

Draper, N. R., and H. Smith, *Applied Regression Analysis*, 2d ed., Wiley, New York, 1981.

Glickman, A. S., et al., *Behavioral Effects of Intermediate Levels of Nuclear Radiation upon the Performance of Military Tasks: A Questionnaire Assessment*, Organizational Research Group of Tidewater, Inc., Norfolk, Virginia, Technical Report 82-2/3-1, March 1983 (subsequently published as Vol. 11 of PSR Report 1422, August 1984).

Intermediate Dose Program Core Group, "Intermediate Dose Program (IDP) Strategy," 1983 (in progress).

Mosteller, F., and J. W. Tukey, *Data Analysis and Regression*, Addision-Wesley, Reading, Massachusetts, 1977.

Ray, A. A., et al. (eds.), *SAS User's Guide: Statistics*, SAS Institute, Cary, North Carolina, 1982.

Searle, S. R., *Linear Models*, Wiley, New York, 1971.

Seber, G.A.F., *Linear Regression Analysis*, Wiley, New York, 1977.

Appendix A

RESPONSES TO QUESTIONNAIRES

This appendix contains all of the responses from each questionnaire administered to acceptable respondents (116 total). The data are entered in the form of time in seconds. Table 1 in Sec. 2 itemizes the disposition of all the questionnaires (161 total). The responses to the 24 questionnaires were not recorded from the excluded respondents because they did not lie within the population we wished to poll. Appendix D contains the responses to the 21 questionnaires from respondents who were rejected because their answers were unresponsive.

DEMOGRAPHIC DATA

GRADE :E-5
MOS :13B20
IN ARMY : 6YR
IN ARTILLERY : 6YR
WHEN
COMBAT :N
ARTIL. COMBAT:N

CH.OF SECTION: WHEN HOW LONG
MO YR YR MO
3 4
GUNNER :
AS.GUNNER :
LOADER :

#SUPERVISED : 10

155 S.P. GUN CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

			ORDINARY TASKS						CREW TASKS										
									CH.SECT	GUNNER		AST.GUNNER		LOADER					
CREW RESP	SYMP COMP	LOW	CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CALL QUAD ELEV	SET DEF	TRAV LEVEL	SET QUAD ELEV	ELEV LEVEL	LIFT PRJCTL	POS OP RAMMER	PLACE CHARGE	INS PRIM	FIRE	SWAB INSPECT
USUAL TIME,SEC			15	20	UNSTIPULATED				3	7	7	7	3	2	5	2	1.5	1.5	3
1	10	411111	3	0	0	2	3	4	5	6	0	6	0	0	5	0	0	2	0	0
1	10	515431	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1	10	114111	2	0	0	1	3	2	4	10	0	0	0	5	20	15	0	0	0	0
1	10	515311	2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1	10	213111	3	0	0	3	4	2	1	5	10	15	17	5	4	6	4	2	2	0
1	10	413111	1	0	0	3	2	4	1	5	10	10	15	5	3	6	4	2	2	5
1	10	311111	3	0	3	2	1	2	10	0	0	0	0	0	3	0	0	0	0	0
1	10	313111	2	0	0	2	2	3	1	0	0	0	0	0	3	0	3	0	0	0
1	10	515223	4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1	10	414112	4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1	10	535111	4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1	10	112111	2	0	25	1	3	2	4	6	14	20	10	6	5	0	4	2	2	10
1	10	514111	4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1	10	313112	3	30	40	1	3	1	4	6	20	25	14	6	4	10	4	3	3	10
1	10	315113	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1	10	513111	4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1	10	123111	3	20	30	2	4	1	4	6	20	14	16	6	4	10	4	4	4	6
1	10	334231	4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1	10	113111	3	25	35	2	4	1	4	15	14	20	15	7	4	10	5	3	3	9
1	10	521111	2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1	10	113121	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1	10	211111	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1	10	224111	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1	10	415314	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1	10	312111	3	20	25	1	2	2	4	10	25	25	20	9	7	14	5	3	3	9
1	10	314112	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1	10	314113	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1	10	412111	4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1	10	414111	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1	10	525111	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1

CHIEF OF SECTION + SPECIAL WEAPONS TEAM CHIEF, SUPERVISING A 10 MAN GUN CREW + A 4 MAN SPECIAL WPNS. TEAM.

DEMOGRAPHIC DATA

				WHEN	HOW LONG		
				HO YR	YR	HO	
GRADE	:E-5		CH.OF SECTION:		1	8	
MOS	:13B20		GUNNER	:		8	
IN ARMY	: 4YR	2MO	AS.GUNNER	:		2	
IN ARTILLERY	: 4YR	2	LOADER	:	1		
		WHEN					
COMBAT	:N						
ARTIL. COMBAT	:N		#SUPERVISED : 20				

155 S.P. GUN CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW REF	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: CH.SECT CALL QUAD ELEV	GUNNER SET DEF	GUNNER TRAV LEVEL	ASS.GUNNER SET QUAD ELEV	ASS.GUNNER ELEV LEVEL	LOADER LIFT PRJCTL	LOADER POS OP RAMMER	LOADER PLACE CHARGE	LOADER INS PRIM	LOADER FIRE	LOADER SWAB INSPECT
USUAL TIME,SEC			15	20	UNSTIPULATED				3	7	7	7	3	2	5	2	1.5	1.5	3
1 11	411111	4	30	90	2	30	15	30	0	0	0	0	0	4	0	5	0	0	0
1 11	515431	3	-1	-1	-1	1	-1	90	60	60	60	40	30	-1	-1	-1	20	15	25
1 11	114111	4	20	30	2	5	10	30	0	0	0	0	0	5	7	5	3	0	5
1 11	515311	3	-1	-1	1	1	1	60	10	10	10	10	5	-1	15	-1	7	5	15
1 11	213111	4	30	40	3	10	5	30	0	0	0	0	0	0	0	0	0	0	0
1 11	413111	4	0	0	4	15	10	30	0	0	0	0	0	5	0	0	0	0	0
1 11	311111	3	30	40	3	10	0	45	0	0	0	0	0	5	0	0	0	0	0
1 11	313111	4	55	50	2	3	2	60	10	10	10	10	6	10	10	5	4.5	3.5	6
1 11	515223	4	-1	-1	-1	-1	-1	120	10	10	10	10	10	-1	-1	-1	-1	-1	-1
1 11	414112	4	75	60	2	3	2	60	10	14	14	14	10	12	15	12	6.5	6.5	0
1 11	535111	4	-1	-1	-1	-1	-1	120	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1 11	112111	4	0	0	5	30	0	30	0	0	0	0	0	0	0	0	0	0	0
1 11	514111	3	75	80	1	2	1	60	10	14	14	14	10	12	10	3	7.5	4.5	0
1 11	313112	3	45	60	1	1	1	90	0	0	0	0	0	12	15	12	7.5	6.5	5
1 11	315113	3	-1	-1	-1	-1	-1	180	15	17	14	14	8	-1	-1	-1	6.5	2.5	0
1 11	513111	3	-1	-1	-1	-1	-1	120	13	17	17	17	13	-1	-1	-1	11.5	6.5	10
1 11	123111	4	0	0	5	10	5	30	0	0	0	0	0	0	0	0	0	0	0
1 11	334251	4	-1	-1	-1	-1	-1	120	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1 11	113111	4	0	0	5	15	5	30	0	0	0	0	0	0	0	0	0	0	0
1 11	521111	3	45	50	1	1	1	60	10	14	14	12	6	8	0	0	0	0	0
1 11	113121	4	0	0	7	20	8	30	0	0	0	0	0	0	0	0	0	0	0
1 11	211111	4	0	0	1	10	3	45	0	0	0	0	0	0	0	0	0	0	0
1 11	224111	2	-1	-1	-1	-1	-1	120	-1	-1	-1	-1	-1	-1	-1	-1	6.5	4.5	0
1 11	415314	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1 11	312111	3	45	65	1	2	1	120	0	0	0	0	0	12	10	5	0	0	0
1 11	314112	3	-1	-1	-1	-1	-1	-1	13	14	14	17	13	-1	-1	-1	0	0	0
1 11	314113	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1 11	412111	3	-1	-1	-1	-1	-1	-1	13	17	17	22	18	-1	-1	-1	6.5	6.5	63
1 11	414111	4	-1	-1	-1	-1	-1	-1	18	17	17	17	13	-1	-1	-1	5	5	5
1 11	525111	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1

I'VE BEEN A 13B ALL OF MY ARMY CAREER. I'M ALSO IN SPECATL WEAPONS AND HAVE BEEN FOR THE PAST 3 YEARS.

DEMOGRAPHIC DATA

				WHEN MO YR	HOW LONG YR MO
GRADE	:E-5		CH.OF SECTION:		
MOS	:13B20		GUNNER	: 6 82	5
IN ARMY	: 3YR	3MO	AS.GUNNER	:	
IN ARTILLERY	: 3YR	3	LOADER	:	
		WHEN			
COMBAT	:N				
ARTIL. COMBAT	:N		#SUPERVISED :	5	

155 S.P. GUN CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: CH.SECT CALL QUAD ELEV	GUNNER SET DEF	GUNNER TRAV LEVEL	AST.GUNNER SET QUAD ELEV	AST.GUNNER ELEV LEVEL	LOADER LIFT PRJCTL	LOADER POS OP RAMMER	LOADER PLACE CHARGE	LOADER INS PRIM	LOADER FIRE	LOADER SWAB INSPECT
USUAL TIME,SEC			15	20	UNSTIPULATED				3	7	7	7	3	2	5	2	1.5	1.5	3
1 12	411111	3	290	50	1	15	4	10	5	0	10	0	10	20	0	5	15	0	5
1 12	515431	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1 12	114111	3	180	45	1	30	2	10	0	0	9	0	9	5	0	0	5	2	0
1 12	515311	4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1 12	213111	3	180	100	1	20	2	10	0	0	10	0	10	10	7	5	5	3	0
1 12	413111	3	180	100	2	20	2	12	5	0	15	0	12	30	8	5	5	3	10
1 12	311111	3	45	60	2	45	3	7	5	0	10	0	10	10	0	0	5	3	0
1 12	313111	4	70	40	1	15	3	7	0	0	15	0	10	45	0	0	5	3	0
1 12	515223	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1 12	414112	4	-1	-1	-1	-1	-1	-1	5	0	30	0	30	-1	0	0	8	5	5
1 12	535111	4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1 12	112111	4	45	60	1	15	2	7	0	0	10	0	10	20	0	0	5	3	0
1 12	514111	3	60	40	1	15	2	7	0	0	10	0	15	30	0	0	5	3	0
1 12	313112	3	60	60	1	15	20	9	8	0	20	0	15	60	0	5	5	3	0
1 12	315133	4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1 12	513111	4	90	60	1	15	1	7	5	0	15	0	15	90	0	5	5	3	0
1 12	123111	3	-1	-1	-1	-1	-1	8	5	0	15	0	10	-1	0	5	5	3	0
1 12	334231	4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1 12	113111	4	60	60	1	15	2	8	5	0	10	0	10	45	0	0	3	3	0
1 12	521111	3	30	45	1	15	2	7	5	0	10	0	10	50	0	0	3	3	0
1 12	113121	4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1 12	211111	3	45	45	1	15	2	7	5	0	10	0	10	45	0	5	5	3	0
1 12	224111	2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1 12	415314	4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1 12	312111	3	60	60	1	10	1	7	5	0	15	0	10	45	0	0	5	3	0
1 12	314112	3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1 12	314113	3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1 12	412111	3	60	60	1	15	2	7	5	0	10	0	10	30	0	0	3	3	0
1 12	414111	3	-1	-1	-1	-1	-1	7	5	0	15	0	10	-1	0	0	3	3	0
1 12	525111	3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1

DEMOGRAPHIC DATA

			WHEN MO	WHEN YR	HOW LONG YR	HOW LONG MO
GRADE	:E-5	CH.OF SECTION:	10	82		2
MOS	:13B20	GUNNER :		81		10
IN ARMY	: 3YR	AS.GUNNER :		81		4
IN ARTILLERY	: 3YR	LOADER :				
COMBAT	:N					
ARTIL. COMBAT	:N	#SUPERVISED : 5				

155 S.P. GUN CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW	SYMP	CDN	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: CH.SECT CALL QUAD ELEV	GUNNER SET DEF	GUNNER TRAV LEVEL	ASS.GUNNER SET QUAD ELEV	ASS.GUNNER ELEV LEVEL	LOADER LIFT PROJCTL	LOADER POS OP RAMMER	LOADER PLACE CHARGE	LOADER INS PRIM	LOADER FIRE	LOADER SWAB INSPECT
USUAL TIME,SEC			15	20	UNSTIPULATED				3	7	7	7	3	2	5	2	1.5	1.5	3
1	1	411111	3	35	35	2	4	4	20	5	8	10	0	5	6	0	4	4	0	0
1	1	515431	5	-1	-1	-1	-1	-1	-1	120	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1	1	114111	4	40	35	1	1	3	15	0	9	9	0	0	5	0	3	2	0	0
1	1	513311	3	35	30	1	1	3	25	0	9	9	8	5	6	0	4	2	0	0
1	1	213111	3	20	25	2	4	5	20	5	0	0	0	0	4	0	3	2	0	0
1	1	413111	3	25	25	1	3	4	20	0	0	0	0	0	3	0	3	2	0	0
1	1	311111	3	25	25	2	4	4	20	0	0	0	0	0	3	0	0	2	0	0
1	1	313111	3	30	25	1	2	5	20	0	0	0	0	0	4	0	3	2	0	0
1	1	513223	4	-1	-1	1	1	1	40	15	15	20	15	15	-1	-1	-1	-1	-1	-1
1	1	414112	3	40	40	1	1	2	30	10	10	10	10	10	6	0	4	4	0	0
1	1	535111	4	-1	-1	-1	-1	-1	40	30	25	25	15	20	-1	-1	-1	-1	-1	-1
1	1	112111	4	20	25	4	4	8	15	0	0	0	0	0	0	0	0	0	0	0
1	1	514111	4	40	60	1	-1	2	40	7	8	8	8	5	8	0	3	2	0	0
1	1	313112	3	45	40	1	1	2	25	10	9	9	9	5	3	0	0	2	0	0
1	1	315113	4	-1	-1	-1	-1	-1	50	20	15	15	12	15	-1	-1	-1	-1	-1	-1
1	1	513111	3	35	35	1	2	2	25	12	10	12	8	5	4	0	0	0	0	0
1	1	123111	2	30	25	2	2	3	25	0	0	0	0	0	3	0	3	2	2	0
1	1	334231	5	-1	-1	-1	-1	-1	60	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1	1	113111	4	18	25	2	4	4	15	5	8	8	0	0	3	0	0	0	0	0
1	1	521111	4	20	25	2	2	2	20	10	0	0	0	0	0	0	0	0	0	0
1	1	113121	3	20	25	2	3	3	25	6	0	0	0	0	3	0	0	0	0	0
1	1	211111	4	20	25	2	8	5	18	0	0	0	0	0	0	0	0	0	0	0
1	1	224111	3	30	35	1	2	2	25	12	9	9	9	6	5	0	0	2	0	0
1	1	415314	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1	1	312111	4	25	30	1	2	2	20	6	9	9	9	5	3	0	0	2	0	0
1	1	314112	4	30	30	1	1	1	30	20	12	15	10	8	6	0	0	2	0	0
1	1	314113	4	-1	-1	-1	-1	-1	45	20	15	18	10	8	-1	-1	-1	-1	-1	-1
1	1	412111	3	25	30	2	2	2	30	0	0	0	0	0	4	0	0	2	0	0
1	1	414111	3	25	25	2	3	3	30	6	9	9	8	5	3	0	3	2	0	0
1	1	525111	3	30	35	1	3	3	25	6	10	10	9	5	4	0	3	2	0	0

DEMOGRAPHIC DATA

				WHEN MO	HOW LONG YR	MO
GRADE	:E-5	CH.OF SECTION	:10	81	1	
MOS	:13B20	GUNNER	:	78	3	
IN ARMY	: 8YR	AS.GUNNER	:	75	3	
IN ARTILLERY	: 8YR	LOADER	:	74	1	
COMBAT	:N					
ARTIL. COMBAT	:N	#SUPERVISED : 5				

155 S.P. GUN CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW RESP	SYMP COMP	LOW	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: CH.SECT CALL QUAD ELEV	GUNNER SET DEF	GUNNER TRAV LEVEL	AST.GUNNER SET QUAD ELEV	AST.GUNNER ELEV LEVEL	LOADER LIFT PROJCTL	LOADER POS OP RAMMER	LOADER PLACE CHARGE	LOADER INS PRIM	LOADER FIRE	LOADER SWAB INSPECT
USUAL TIME,SEC			15	20	UNSTIPULATED				3	7	7	7	3	2	5	2	1.5	1.5	3
1	2	411111	3	25	45	2	15	15	20	5	0	14	0	10	7	0	0	5	0	0
1	2	515431	3	-1	-1	1	5	5	25	15	20	30	20	25	-1	-1	10	10	7	10
1	2	114111	3	30	30	2	10	5	20	0	0	15	0	15	7	7	5	5	0	0
1	2	513311	3	30	50	1	5	5	20	15	15	25	15	20	-1	15	7	5	5	10
1	2	213111	3	0	0	3	10	7	7	0	0	10	0	10	5	0	0	0	0	0
1	2	413111	3	0	35	3	10	7	7	5	0	15	0	10	5	0	0	0	0	0
1	2	311111	3	0	0	3	15	10	10	0	0	10	0	10	5	0	0	3	0	0
1	2	313111	3	30	60	3	10	5	10	5	0	15	0	10	5	0	5	5	5	10
1	2	515223	3	-1	-1	-1	5	-1	20	5	10	20	10	20	-1	-1	5	5	5	10
1	2	414112	3	45	-1	2	10	4	10	5	10	25	10	25	-1	0	0	5	0	10
1	2	535111	3	-1	-1	-1	-1	-1	15	5	15	40	15	35	-1	-1	7	7	5	10
1	2	112111	3	0	0	3	15	10	5	0	0	0	0	10	5	0	0	0	0	0
1	2	514111	3	30	40	2	5	5	10	5	0	0	0	10	5	0	0	0	0	10
1	2	313113	3	40	-1	2	-1	-1	10	5	10	25	10	25	-1	0	5	5	0	10
1	2	513111	3	30	50	2	5	5	10	0	0	0	0	7	10	0	5	5	0	10
1	2	123111	3	0	0	3	15	10	5	0	0	0	0	10	0	0	0	0	0	0
1	2	334231	3	-1	-1	-1	-1	-1	15	10	15	25	15	25	-1	-1	5	5	5	15
1	2	113111	3	0	0	3	15	10	5	0	0	0	0	10	0	0	0	0	0	0
1	2	521111	3	30	45	2	5	5	10	5	0	0	0	10	5	0	0	0	0	0
1	2	211111	3	0	0	3	15	10	5	0	0	0	0	0	0	0	0	0	0	0
1	2	224111	3	30	40	2	5	4	10	0	0	0	0	0	5	0	0	0	5	10
1	2	415314	3	-1	-1	-1	-1	-1	15	10	-1	-1	-1	-1	-1	-1	15	10	5	20
1	2	214131	3	30	50	2	5	5	8	5	0	0	0	10	5	0	0	0	0	10
1	2	112121	3	0	0	3	15	10	5	0	0	0	0	10	0	0	0	0	0	0

SUPERVISE AND TRAIN THE PERSONNEL IN MY SECTION AND BATTERY, PERFORM DUTIES AS A SECTION CHIEF.

DEMOGRAPHIC DATA

			WHEN MO	WHEN YR	HOW LONG YR	HOW LONG MO
GRADE	:E-4	LH.OF SELTION:		75	8	
MOS	:13P30	GUNNER	:			
IN ARMY	:10YR	AS.GUNNER	:			
IN ARTILLERY	:10YR	LOADER	:			
COMBAT	:					
ARTIL. COMBATIN		#SUPERVISED : 10				

155 S.P. GUN CREW

0=NO INCREASE ABOVE USUAL TIME
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9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

	ORDINARY TASKS								CREW TASKS										
									LH.SELCT	GUNNER		AST.GUNNER		LOADER					
CREW RESP	STMP COMP	CON	CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT DOORS	OPEN LOCK	CALL QUAD ELEV	SET DEF	TRAV LEVEL	SET QUAD ELEV	ELEV LEVEL	LIFT PRJCTL	POS OP RAMMER	PLACE CHARGE	INS PRIM	FIRE	SWAB INSPECT
USUAL TIME,SEC			15	20	UNSTIPULATED				3	7	7	7	3	2	5	2	1.5	1.5	3
1	4 411111	A	20	60	3	10	3	10	10	10	20	10	15	8	10	5	4	3	10
1	4 515451	A	-1	-1	1	3	1	1.2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1	4 114111	A	60	-1	-1	-1	1	300	5	10	15	10	8	-1	-1	-1	5	5	15
1	4 515311	A	-1	-1	-1	-1	-1	-1	15	10	20	10	15	-1	-1	-1	-1	-1	-1
1	4 213111	A	20	30	2	10	4	360	5	0	0	0	5	5	8	5	3	3	7
1	4 413111	A	0	40	3	15	4	120	6	0	10	0	8	5	8	4	2.5	2	6
1	4 311111	A	0	45	3	10	5	15	7	0	10	0	5	6	10	5	2	0	6
1	4 313111	A	20	-1	1	5	2	240	10	0	15	0	10	10	10	5	4	2	8
1	4 515223	A	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1	4 414112	A	-1	-1	-1	7	1	300	-1	15	20	15	15	-1	15	-1	10	5	-1
1	4 535111	A	-1	-1	1	-1	1	180	20	10	15	10	10	-1	-1	10	5	5	20
1	4 112111	A	0	0	10	20	4	60	0	0	0	0	0	0	0	0	0	0	0
1	4 514111	A	-1	-1	-1	-1	-1	-1	10	0	10	0	10	-1	-1	-1	-1	-1	-1
1	4 315113	A	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1	4 513111	A	20	120	3	8	4	60	4	0	10	0	5	15	10	10	3	3.5	10
1	4 123111	A	20	60	2	5	4	40	5	0	10	0	5	10	15	10	3	2	15
1	4 334231	A	-1	-1	-1	1	1	600	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1	4 113111	A	0	30	6	15	7	120	0	0	0	0	0	0	0	0	0	0	0
1	4 521111	A	60	60	3	10	5	180	0	0	10	0	0	15	15	15	10	5	15
1	4 211111	A	0	60	5	10	6	30	0	0	0	0	0	10	10	0	0	0	10
1	4 224111	A	-1	-1	-1	-1	-1	180	-1	15	20	15	10	-1	-1	-1	15	10	15
1	4 415311	A	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1	4 214131	A	-1	-1	-1	-1	-1	-1	-1	15	-1	15	-1	-1	-1	-1	-1	-1	-1
1	4 112121	A	-1	-1	1	3	1	40	5	0	0	0	0	15	0	10	0	0	10

DEMOGRAPHIC DATA

			WHEN MO YR	HOW LONG YR MO
GRADE	:E-5	CH.OF SECTION:	6 82	1
MOS	:13B20	GUNNER	:11 80	2 1
IN ARMY	: 4YR 3.10	AS.GUNNER	:	
IN ARTILLERY	: 4YR 3	LOADER	:	
	WHEN			
COMBAT	:N			
ARTIL. COMBAT	:N	#SUPERVISED :	20	

155 S.P. GUN CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW RESP	SYMP COMP	LOW CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CH.SECT CALL QUAD ELEV	GUNNER SET DEF	GUNNER TRAV LEVEL	ASI.GUNNER SET QUAD ELEV	ASI.GUNNER FLEV LEVEL	LOADER LIFT PRJCTL	LOADER POS OP RAMMER	LOADER PLACE CHARGE	LOADER INS PRIM	LOADER FIRE	LOADER SMAB INSPECT
		CREW TASKS																
		ORDINARY TASKS																
USUAL TIME,SEC		15	20	UNSTIPULATED				3	7	7	7	3	2	5	2	1.5	1.5	3
1	5 411111 5	25	40	10	25	15	12	5	0	12	10	0	6	0	0	3	0	6
1	5 515731 8	-1	-1	1	12	2	20	7	10	12	10	10	-1	0	8	-1	3	5
1	5 114111 5	25	40	5	5	3	6	0	0	0	0	0	4	0	0	2	0	0
1	5 515711 8	-1	65	2	5	2	10	6	9	10	0	6	4	0	4	3	0	5
1	5 213111 5	60	50	3	2	4	12	6	10	12	9	6	4	0	5	3.5	0	5
1	5 413111 5	30	40	3	8	2	12	7	10	12	9	6	6	0	4	3.5	0	6
1	5 311111 5	20	30	10	10	5	6	5	0	9	0	5	0	0	0	0	0	0
1	5 313111 8	20	40	10	15	5	8	5	0	9	0	5	0	0	4	2.5	0	4
1	5 515223 5	-1	-1	2	10	4	12	-1	12	15	12	7	-1	7	5	4	2	6
1	5 414112 5	30	40	5	20	4	8	5	10	12	9	5	5	0	4	2.5	0	5
1	5 535111 8	30	40	6	20	6	8	5	10	15	9	6	4	0	5	3	0	50
1	5 112111 5	20	25	10	20	6	8	0	0	9	0	5	4	0	0	2	0	0
1	5 514111 5	20	30	10	15	8	10	5	10	12	10	5	3	0	0	2	0	0
1	5 315113 5	60	-1	2	10	2	12	10	12	15	10	6	5	7	4	3	2	5
1	5 513111 5	20	25	12	15	6	8	5	0	9	0	5	0	0	0	2	0	0
1	5 123111 5	20	28	12	15	6	8	0	0	10	0	6	3	0	0	2	0	4
1	5 334231 8	30	40	5	10	5	12	7	10	12	0	5	4	0	0	2	0	5
1	5 113111 5	20	25	20	25	8	8	0	0	0	0	0	0	0	0	0	0	0
1	5 521111 5	20	30	10	20	8	6	0	0	9	0	5	0	0	0	2	0	4
1	5 211111 5	17	30	12	20	10	8	0	0	0	0	0	0	0	0	0	0	0
1	5 224111 5	25	35	10	25	6	8	5	10	12	10	5	4	0	3	2	0	5
1	5 415314 5	-1	-1	-1	2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1	5 214131 5	40	50	4	15	5	10	7	10	12	10	7	4	7	4	2.5	2	5
1	5 112121 8	25	30	10	20	6	8	6	0	10	0	7	3	0	4	2	0	0

I HAVE TO SUPERVISE MY PEOPLE IN THE MORNING, WICH IS 7 PEOPLE, IN CLEANING UP THEIR ROOM AND GETTING READY FOR THE JOB. I HAVE A MILITARY DISCIPLIN, THAT I HAVE TO MAKE SURE THE PROPER PREVENTIVE MAINTENANCE + CHECKS AND SERVICES ARE DONE. I HAVE TO BE ACCOUNTABLE FOR MY TOOLS AND SERVICABILITY

DEMOGRAPHIC DATA

			WHEN MO	WHEN YR	HOW LONG YR	HOW LONG MO
GRADE	:E-5	CH.OF SECTION:	10	82	1	
MOS	:13B20	GUNNER :		81		8
IN ARMY	: 5YR	AS.GUNNER :		79	2	
IN ARTILLERY	: 5YR	LOADER :		78	1	8
	WHEN					
COMBAT	:N					
ARTIL. COMBAT	:N	#SUPERVISED : 10				

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

155 S.P. GUN CREW

			ORDINARY TASKS						CREW TASKS										
									CH.SECT	GUNNER		ASST.GUNNER		LOADER					
CREW RESP	SERP COMP	CON	CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CALL QUAD ELEV	SET DEF	TRAV LEVEL	SET QUAD ELEV	ELEV LEVEL	LIFT PRJCTL	POS OP RAMMER	PLACE CHARGE	INS PRIM	FIRE	SWAB INSPECT
USUAL TIME,SEC			15	20	MANIPULATED				3	7	7	7	3	2	5	2	1.5	1.5	3
1	7	411111	A	40	50	8	30	10	10	7	0	0	10	0	6	0	0	3	0	4
1	7	515431	A	-1	-1	-1	-1	-1	120	120	180	190	180	195	-1	195	190	-1	-1	-1
1	7	114111	A	120	-1	2	5	1	40	20	30	30	20	20	-1	10	15	10	5	8
1	7	515311	A	-1	-1	-1	-1	-1	45	65	60	60	30	60	-1	60	40	-1	-1	-1
1	7	213111	A	120	120	2	2	2	40	10	10	12	10	15	30	12	10	8	6	12
1	7	413111	A	120	125	2	2	1	30	10	15	18	15	15	-1	-1	10	10	6	10
1	7	311111	A	45	60	2	2	2	25	5	0	0	8	5	10	8	5	3	3	5
1	7	313111	A	120	-1	1	2	2	25	5	0	10	0	8	12	10	5	3	3	5
1	7	515223	5	-1	-1	-1	-1	-1	195	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1	7	414112	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	300	-1	-1	-1	-1	-1	-1	-1
1	7	535111	A	-1	-1	-1	-1	-1	300	300	-1	-1	300	-1	-1	-1	-1	-1	300	-1
1	7	112111	A	35	65	5	10	5	30	10	10	10	10	5	8	10	7	5	3	5
1	7	514111	A	-1	-1	-1	-1	-1	75	60	29	30	30	30	-1	35	19	10	7	12
1	7	315113	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1	7	513111	A	120	-1	2	5	2	25	15	20	25	20	25	-1	20	15	10	6	8
1	7	123111	A	120	195	2	5	4	20	9	29	30	25	20	25	15	10	10	10	15
1	7	334251	A	-1	-1	-1	-1	-1	145	300	300	300	300	300	-1	300	300	210	120	300
1	7	113111	A	65	190	3	5	4	20	0	0	10	10	7	6	7	5	3	3	5
1	7	521111	A	25	40	3	8	6	20	5	0	0	0	0	5	0	5	3	3	5
1	7	211111	A	-1	-1	-1	1	-1	45	5	10	10	10	12	10	10	5	3	3	6
1	7	224111	A	120	-1	2	1	-1	20	10	12	12	15	15	-1	10	10	5	3	8
1	7	415314	3	-1	-1	-1	-1	-1	75	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1	7	214131	A	-1	-1	-1	-1	-1	49	120	60	65	60	60	-1	35	39	25	20	35
1	7	112121	A	69	-1	2	1	1	45	0	0	0	0	0	7	0	5	3	3	6

AS CHIEF OF SECTION MY DUTIES HAS BEEN TO TRAIN MY MEN TO DO THEIR ASSIGN TASK SO THAT THE UNIT MAY DO ITS MISSION ALSO TO TRAIN THEM IN THE BEST MEANS POSSIBLE IN THEIR ASSIGN MOS.

DEMOGRAPHIC DATA

				WHEN MO YR	HOW LONG YR MO
GRADE	:E-6	CH.OF SECTION	:	70	10
MOS	:13B5PU	GUNNER	:		
IN ARMY	:12YR	AS.GUNNER	:		
IN ARTILLERY	:10YR	LOADER	:		
	WHEN				
COMBAT	:Y 70 72				
ARTIL. COMBAT	:Y 70 72	#SUPERVISED	: 10		

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

155 S.P. GUN CREW

CREW RESP	SIMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: CH.SECT CALL QUAD ELEV	GUNNER SET DEF	GUNNER TRAV LEVEL	AST.GUNNER SET QUAD ELEV	AST.GUNNER ELEV LEVEL	LOADER LIFT PRJCTL	LOADER POS OP RAMMER	LOADER PLACE CHARGE	LOADER INS PRIM	LOADER FIRE	LOADER SWAB INSPECT
USUAL TIME,SEC			15	20	UNSTIPULATED				3	7	7	7	3	2	5	2	1.5	1.5	3
1	9	411111	A	30	-1	10	15	10	60	5	0	10	0	7	-1	0	0	4.5	3	10
1	9	515431	A	120	-1	2	2	1	3	30	30	40	30	40	-1	-1	-1	15	10	40
1	9	114111	S	30	100	5	-1	2	1	0	0	10	0	5	5	0	3	3	0	0
1	9	515311	A	40	-1	2	1	-1	100	0	0	15	0	10	-1	20	10	5	5	20
1	9	213111	3	25	45	8	10	15	60	0	0	0	0	0	3	0	3	3	3	10
1	9	413111	3	30	60	10	5	5	60	5	0	15	0	10	10	0	5	5	5	15
1	9	311111	3	0	60	6	15	15	60	5	0	0	0	9	5	0	5	3	3	0
1	9	313111	A	25	80	6	5	10	60	5	0	0	0	7	5	0	5	3	3	10
1	9	515223	A	-1	-1	-1	1	-1	90	15	15	20	15	20	-1	20	10	10	5	20
1	9	414112	A	40	-1	5	1	3	90	10	15	20	15	20	-1	20	10	10	5	20
1	9	535111	A	-1	-1	-1	-1	-1	60	10	15	20	15	20	-1	20	10	10	5	20
1	9	112111	A	0	40	10	5	20	60	0	0	0	0	7	0	0	0	3	0	0
1	9	514111	3	-1	-1	-1	2	-1	120	5	15	20	15	20	-1	15	10	10	3	15
1	9	315113	0	-1	-1	-1	1	-1	120	5	14	14	20	20	-1	25	10	5	3	15
1	9	513111	A	30	60	5	5	10	75	0	0	0	0	7	10	0	5	3	0	10
1	9	123111	A	0	25	8	10	10	60	0	0	0	0	7	0	0	0	3	0	10
1	9	334231	A	-1	-1	-1	-1	-1	12	10	20	30	20	30	-1	-1	15	15	10	30
1	9	113111	A	0	30	10	10	15	60	0	0	0	0	7	0	0	0	3	0	10
1	9	521111	A	0	0	10	15	20	60	0	0	0	0	7	0	0	0	3	0	10
1	9	211111	A	0	45	6	15	20	60	5	0	0	0	7	0	0	0	3	0	10
1	9	224111	A	-1	-1	2	3	10	60	10	10	15	10	15	-1	10	10	5	3	15
1	9	415310	3	-1	-1	1	2	2	120	10	20	30	20	30	-1	15	10	10	3	20
1	9	214131	0	-1	-1	-1	1	-1	120	10	15	20	15	20	-1	20	10	10	5	17.5
1	9	112121	A	0	35	8	10	20	60	0	0	0	0	7	0	0	0	3	0	5

I AM A CHIEF OF SECTION OF 155 SP. HOWAR AND THAT IS WHAT I HAVE DONE AND SUGERI TRAINA SODIER. A C 3/18FA

DEMOGRAPHIC DATA — WHEN: NO YR; HOW LONG: YR MO

GRADE :E-5 — CH.OF SECTION: 2 4
MOS :13B20 — GUNNER : 1
IN ARMY : 4YR — ASS.GUNNER : 1
IN ARTILLERY : 4YR — LOADER :
WHEN
COMBAT :N
ARTIL. COMBAT:N — #SUPERVISED : 10

155 S.P. GUN CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

			ORDINARY TASKS						CREW TASKS: CH.SECT	GUNNER		ASST.GUNNER		LOADER					
CREW RESP	SYMP COMP	LDR	CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CALL QUAD ELEV	SET DEF	TRAV LEVEL	SET QUAD ELEV	ELEV LEVEL	LIFT PROJCTL	POS OP RAMMER	PLACE CHARGE	INS PRIM	FIRE	SWAB INSPECT
USUAL TIME,SEC			15	20	HYPOTHETICAL				5	7	7	7	5	2	5	2	1.5	1.5	5
1	14	411111	0	35	45	6	2	4	3	6	0	14	0	5	40	0	3	2	0	0
1	14	515331	0	-1	-1	1	40	1	20	6	25	20	-1	-1	-1	-1	-1	-1	14	30
1	14	114111	0	-1	-1	2	40	2	-1	6	0	0	8	0	-1	8	6	10	8	8
1	14	515311	0	-1	-1	-1	25	-1	8	6	0	0	0	6	22	10	4	2	0	4
1	14	213111	0	-1	-1	-1	1	1	9	-1	-1	-1	-1	-1	-1	30	8	-1	-1	-1
1	14	413111	0	30	-1	-1	-1	1	45	6	-1	-1	-1	-1	-1	-1	-1	4	-1	-1
1	14	311111	0	30	40	3	2	-1	4	10	0	12	8	10	20	15	5	0	0	10
1	14	313111	0	0	0	1	5	2	10	7	10	10	0	6	25	10	12	5	0	8
1	14	515223	0	-1	-1	-1	-1	4	8	6	13	-1	10	-1	-1	25	-1	8	2	10
1	14	414112	0	-1	0	-1	10	2	5	7	0	10	0	10	-1	15	9	0	0	14
1	14	535111	0	0	-1	2	5	4	3	8	0	10	14	8	-1	-1	-1	-1	-1	-1
1	14	112111	0	-1	40	2	10	1	3	-1	-1	-1	-1	-1	-1	-1	4	4	-1	4
1	14	514111	0	30	-1	2	3	1	-1	-1	-1	-1	8	4	-1	-1	-1	-1	-1	-1
1	14	313112	0	-1	-1	3	2	1	-1	8	8	0	-1	-1	-1	-1	-1	-1	4	5
1	14	315113	0	-1	-1	2	5	1	-1	10	999	8	8	-1	-1	-1	-1	-1	-1	-1
1	14	513111	0	-1	40	2	3	2	1	6	0	-1	-1	-1	-1	-1	-1	-1	-1	-1
1	14	123111	0	999	999	1	2	1	-1	-1	-1	-1	-1	-1	10	-1	4	3	0	0
1	14	334231	0	30	-1	1	-1	-1	4	8	0	0	-1	999	-1	-1	-1	-1	-1	-1
1	14	113111	0	-1	0	4	5	4	3	6	0	0	0	4	9	-1	-1	-1	-1	-1
1	14	521111	0	-1	-1	1	3	4	7	6	-1	0	0	0	-1	0	3	0	0	-1
1	14	113121	3	30	40	2	5	6	3	8	-1	0	9	4	-1	0	-1	-1	-1	-1
1	14	211111	3	-1	-1	1	2	3	2	5	-1	0	8	4	4	-1	0	-1	0	0
1	14	224111	0	30	25	2	3	2	1	4	-1	0	8	-1	-1	-1	-1	-1	-1	-1
1	14	415314	2	-1	0	2	10	2	4	6	8	-1	-1	-1	-1	-1	4	3	0	6
1	14	312111	0	-1	0	2	4	-1	-1	8	-1	-1	-1	0	0	0	4	3	2	4
1	14	314112	0	999	999	2	1	5	2	0	-1	0	0	4	0	0	-1	-1	0	0
1	14	314113	0	30	40	2	1	7	-1	-1	0	10	10	-1	-1	-1	-1	-1	-1	-1
1	14	412111	0	-1	0	-1	-1	2	1	-1	10	0	0	0	0	10	-1	-1	-1	-1
1	14	414111	0	-1	0	2	1	-1	15	4	10	0	8	4	5	6	0	-1	-1	-1
1	14	525111	0	-1	0	-1	2	1	7	-1	-1	-1	-1	-1	-1	-1	-1	0	999	0

I HAVE BEING A NUCLEAR ASSEMBLER AND HEADER ON THE SPECIAL WEAPONS SECTION (AF HQ ...) ALSO I BEEN AIRY NBC NCO, AND ALTERNATE ENLISTED NBC NCO.

DEMOGRAPHIC DATA

			WHEN MO YR	HOW LONG YR MO
GRADE	:E-4	CH.OF SECTION:		2
MOS	:	GUNNER	:	1
IN ARMY	: 2YR AMO	AS.GUNNER	:	7
IN ARTILLERY	: 2YR 8 WHEN	LOADER	:	
COMBAT	:N			
ANTIL. COMBAT	:N	#SUPERVISED : 10		

155 S.P. GUN CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

				ORDINARY TASKS						CREW TASKS											
										CH.SECT	GUNNER		AST.GUNNER		LOADER						
CREW RESP	SIMP COMP	CON	CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CALL QUAD ELEV	SET DEF	TRAV LEVEL	SET QUAD ELEV	ELEV LEVEL	LIFT PROJCTL	POS OP RAMMER	PLACE CHARGE	INS PRIM	FIRE	SWAB INSPECT
USUAL TIME,SEC			15	20	MANIPULATED				3	7	7	7	3	2	5	2	1.5	1.5	3
1 17	411111	A	60	30	1	3	3	5	25	15	30	0	7	10	15	10	0	0	7
1 17	515431	A	-1	-1	-1	-1	-1	1	45	40	60	30	35	-1	25	-1	15	5	-1
1 17	114111	A	-1	-1	1	2	-1	3	30	10	15	0	10	-1	15	-1	7	0	7
1 17	515311	A	-1	-1	-1	-1	-1	15	30	0	15	0	7	-1	10	-1	3	0	15
1 17	213111	A	60	60	2	5	1	5	10	0	10	0	7	7	10	10	0	0	6
1 17	413111	A	90	120	1	3	3	5	7	0	10	0	10	8	7	10	5	0	10
1 17	311111	A	30	60	2	5	2	5	0	0	0	0	0	8	0	6	0	0	5
1 17	313111	A	25	30	1	3	2	5	0	0	0	0	0	10	7	10	0	0	5
1 17	515223	A	-1	-1	-1	-1	-1	10	15	25	15	10	7	-1	-1	-1	10	5	-1
1 17	414112	A	999	999	1	3	1	6	5	0	10	0	7	10	8	10	0	0	0
1 17	535111	5	-1	-1	-1	-1	-1	-1	15	28	35	15	20	-1	10	-1	5	0	10
1 17	112111	A	0	0	3	7	5	4	0	0	0	0	0	5	0	5	0	0	5
1 17	514111	A	-1	-1	-1	-1	-1	-1	10	8	12	10	10	-1	10	-1	5	0	5
1 17	313112	A	35	110	1	5	3	7	5	0	0	0	0	15	10	10	5	0	5
1 17	315113	A	-1	-1	-1	-1	-1	-1	20	15	25	10	10	-1	-1	-1	15	5	7
1 17	513111	A	45	-1	1	2	-1	9	5	9	12	10	7	10	8	10	5	3	5
1 17	123111	A	60	120	2	4	-1	10	0	0	0	0	0	15	10	10	5	3	5
1 17	334231	A	-1	-1	-1	-1	-1	12	5	0	10	0	10	-1	-1	-1	6	3	10
1 17	113111	A	25	35	1	3	2	5	0	0	0	0	0	10	6	10	3	2	5
1 17	521111	A	999	999	2	3	2	6	7	9	10	8	9	10	7	8	3	2	4
1 17	113121	A	45	60	1	5	3	10	0	0	0	0	0	10	10	8	5	3	4
1 17	211111	A	-1	30	2	3	3	5	0	0	0	0	0	10	7	8	5	3	5
1 17	224111	A	-1	-1	-1	-1	-1	15	5	10	15	10	15	-1	6	-1	5	3	7
1 17	415314	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	10	10	10
1 17	312111	A	0	30	2	3	-1	8	0	0	0	0	0	10	10	12	3	0	0
1 17	314112	A	-1	-1	-1	-1	-1	10	5	10	15	10	15	-1	-1	-1	-1	3	10
1 17	314113	A	-1	-1	-1	-1	-1	10	8	10	17	15	10	-1	-1	-1	10	5	10
1 17	412111	A	20	30	3	5	3	5	5	9	10	0	0	8	7	8	2	0	0
1 17	414111	A	-1	-1	-1	-1	-1	12	5	10	14	10	10	-1	-1	-1	5	3	8
1 17	525111	A	-1	-1	-1	-1	-1	8	7	8	10	9	5	-1	-1	-1	3	3	5

DETACHMENT SGT. OPERATIONS NCO, GUNNERY SGT. CHIEF OF SECTION, RE-ENLISTMENT NCO.

DEMOGRAPHIC DATA

			WHEN DO YR	HOW LONG YR MO
GRADE	:E-6	CH.OF SECTION:	74	8
MOS	:	GUNNER :	73	1
IN ARMY	:10YR	AS.GUNNER :	73	3
IN ARTILLERY	:10YR	LOADER :	72	1
	WHEN			
COMBAT	:N			
ARTIL. COMBAT	:N	#SUPERVISED : 10		

155 S.P. GUN CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW RESP	SYMP COMP	LDR	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: CH.SECT CALL QUAD ELEV	GUNNER SET DEF	GUNNER TRAV LEVEL	AST.GUNNER SET QUAD ELEV	AST.GUNNER ELEV LEVEL	LOADER LIFT PROJCTL	LOADER POS OP RAMMER	LOADER PLACE CHARGE	LOADER INS PRIM	LOADER FIRE	LOADER SNAP INSPECT
USUAL TIME,SEC			15	20	MANIPULATED				3	7	7	7	3	2	5	2	1.5	1.5	3
1 18 411111	A		40	-1	2	3	3	-1	12	0	2	0	10	-1	9	6	5	0	12
1 18 515431	A		-1	-1	1	1	1	-1	15	0	20	0	17	-1	12	13	7	0	16
1 18 114111	A		45	-1	6	5	3	40	0	0	10	0	5	8	0	4	0	0	3
1 18 515311	A		40	-1	2	3	2	60	5	0	12	0	6	-1	8	5	3	4	6
1 18 213111	A		30	90	2	8	3	50	7	0	12	0	8	17	9	6	3	2	7
1 18 413111	A		30	120	3	8	3	40	5	0	20	0	12	18	8	5	4	4	9
1 18 311111	A		20	0	5	10	5	30	0	0	0	0	0	5	0	5	5	0	6
1 18 313111	A		0	35	3	6	4	30	0	0	10	0	5	10	0	5	3	2	5
1 18 515223	A		-1	-1	1	2	1	50	5	0	13	0	10	-1	8	-1	5	5	5
1 18 414112	A		40	-1	2	3	2	50	5	0	10	0	8	-1	8	-1	5	5	10
1 18 535111	A		60	-1	2	2	-1	60	10	0	15	0	10	-1	10	-1	5	5	10
1 18 112111	A		0	30	4	6	4	20	0	0	0	0	0	6	0	4	0	0	5
1 18 514111	A		35	-1	3	3	2	25	5	0	10	0	6	-1	8	-1	4	5	15
1 18 313112	A		40	-1	3	6	3	32	0	0	9	0	5	10	8	6	5	4	12
1 18 315113	A		-1	-1	1	3	1	60	9	0	12	0	10	-1	10	-1	5	5	15
1 18 513111	A		-1	-1	1	3	1	50	5	0	9	0	6	-1	0	-1	5	5	9
1 18 123111	A		25	-1	3	4	-1	20	0	0	8	0	5	-1	0	-1	3	4	7
1 18 334231	A		35	0	2	3	-1	30	6	0	10	0	9	-1	7	-1	5	5	9
1 18 113111	A		25	30	7	10	6	30	0	0	0	0	0	10	0	5	5	5	9
1 18 521111	A		-1	-1	1	2	-1	35	8	0	15	0	12	-1	12	-1	5	5	17
1 18 113121	A		0	30	5	8	3	30	0	0	8	0	5	8	0	4	3	3	6
1 18 211111	A		20	-1	4	6	3	30	5	0	8	0	6	6	0	4	0	0	5
1 18 224111	A		40	-1	4	8	-1	30	5	0	10	0	7	-1	6	-1	4	4	9
1 18 415314	A		50	-1	1	2	2	40	10	0	15	0	7	-1	10	-1	5	5	11
1 18 312111	A		35	50	2	7	3	30	5	0	10	0	8	12	8	5	5	5	9
1 18 314112	A		40	-1	1	3	-1	40	7	0	13	0	10	-1	8	-1	5	5	11
1 18 314113	A		-1	-1	1	3	-1	40	8	0	10	0	8	-1	8	-1	6	5	14
1 18 412111	A		18	30	4	8	2	30	0	0	0	0	0	5	0	4	3	0	5
1 18 414111	A		20	30	5	9	4	20	7	0	10	0	9	12	7	4	5	4	11
1 18 525111	A		40	-1	2	8	3	35	5	0	10	0	6	-1	8	-1	5	5	9

MY UNITES WERE DEC NCO IN GERMANY AND SECURITY STIF NCO ALONG W/GERMAN SOLDIERS CUSTODIAL GUARDS FOR 155 NUKE RD. TRANSFER HERE TO FT. SILL BECAME CHIEF FIRING DIRY FOR 2/12TH. * VIETNAM

DEMOGRAPHIC DATA

			WHEN MO	WHEN YR	HOW LONG YR MO
GRADE	:E-7	CH.OF SECTION:	71		9
MOS	:139	GUNNER :	68		1
IN ARMY	:14YR 11MO	AS.GUNNER :	68		1
IN ARTILLERY	:14YR 11	LOADER :	66		1
	WHEN				
COMBAT	:Y 66 69*				
ARTIL. COMBAT	:Y 68 69*	#SUPERVISED : 10			

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

155 S.P. GUN CREW

			ORDINARY TASKS						CREW TASKS										
									CH.SECT	GUNNER		AST.GUNNER		LOADER					
CREW RESP	SYMP COMP	LOW	CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CALL QUAD ELEV	SET DEF	TRAV LEVEL	SET QUAD ELEV	ELEV LEVEL	LIFT PRJCTL	POS OP RAMMER	PLACE CHARGE	INS PRIM	STRF	SWAB INSPECT
USUAL TIME,SEC			15	20	UNSTIPULATED				3	7	7	7	3	2	5	2	1.5	1.5	3
1	19	411111	A	20	-1	2	5	-1	-1	7	10	10	10	5	40	8	5	6	3	4
1	19	515331	S	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1	19	114111	A	17	40	3	20	3	15	5	0	0	0	5	8	7	4	3	2	5
1	19	515311	S	-1	-1	-1	-1	-1	-1	12	9	9	8	5	-1	20	5	8	5	5
1	19	213111	A	20	25	2	20	3	40	5	0	0	0	5	40	8	4	5	2	4
1	19	413111	A	30	50	2	5	1	45	8	9	8	8	8	30	10	8	3	3	5
1	19	311111	A	0	0	4	60	7	30	8	0	0	0	0	5	0	0	0	0	0
1	19	313111	A	0	0	4	60	4	30	4	0	0	0	0	0	0	0	0	0	0
1	19	515223	S	-1	-1	-1	-1	-1	-1	20	12	12	12	8	-1	7	9	4	3	4
1	19	414112	A	20	30	2	10	2	40	8	0	0	0	5	15	6	3	4	2	0
1	19	535111	A	-1	-1	1	5	2	40	10	0	0	0	5	30	8	4	3	2	4
1	19	112111	S	0	0	3	30	8	20	0	0	0	0	0	6	0	3	0	0	0
1	19	514111	A	25	30	3	10	3	40	6	0	0	0	5	8	0	5	4	2	4
1	19	313112	A	20	30	3	10	3	40	6	0	0	0	5	10	0	3	3	2	0
1	19	315113	A	20	25	2	5	1	-1	10	0	0	0	6	15	0	8	6	3	4
1	19	513111	A	20	30	2	5	3	40	8	0	0	0	6	30	0	5	3	3	0
1	19	123111	A	0	0	3	15	5	30	0	0	0	0	0	5	0	4	3	3	0
1	19	334231	A	45	-1	2	2	-1	-1	10	9	9	9	10	-1	20	15	8	5	5
1	19	113111	S	0	0	3	30	10	20	0	0	0	0	0	0	0	0	0	0	0
1	19	521111	A	20	45	2	5	5	40	6	15	15	15	10	-1	15	6	8	4	4
1	19	113121	A	0	0	3	15	5	25	5	0	0	0	5	5	0	4	3	4	4
1	19	211111	A	0	0	3	10	5	30	0	0	0	0	0	5	0	0	0	0	0
1	19	224111	A	20	30	3	5	5	30	4	0	0	0	6	10	0	0	3	2	4
1	19	413314	S	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1	19	312111	A	25	25	3	11	5	30	5	0	0	0	6	4	0	3	2	2	0
1	19	314112	A	25	30	2	5	5	35	6	8	8	8	6	10	10	6	4	3	4
1	19	314113	A	25	30	2	4	4	40	6	8	8	8	5	6	0	4	3	3	0
1	19	412111	A	0	0	2	15	6	35	6	0	0	0	6	5	0	0	2	2	0
1	19	414111	A	30	30	2	5	5	40	6	0	0	0	6	10	0	5	3	3	4
1	19	525111	A	25	30	3	5	5	40	7	0	0	0	6	15	6	3	3	3	0

SUPERVISE THE MAINTENANCE AND ACCOUNTABILITY OF SEC. EQUIP AND TRAINING OF PERSONNEL BOTH INDIVIDUAL AND COLECTIVE TRAINING. SUPPORT AND ENCOURAGE CAREER DEVELOPMENT OF SUBORDINATE SOLDIERS.

DEMOGRAPHIC DATA

			WHEN MO	WHEN YR	HOW LONG YR	HOW LONG MO
GRADE	:E-6	CH.OF SECTION:		79	4	
MOS	:13B30	GUNNER	:	78	1	
IN ARMY	: 9YR	AS.GUNNER	:	76	1	
IN ARTILLERY	: 8YR	LOADER	:	75	1	
	WHEN					
COMBAT	:N					
ARTIL. COMBAT	:N					

#SUPERVISED : 50

155 S.P. GUN CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW RESP	SYMP COMP	LOW	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: CH.SECT CALL QUAD ELEV	GUNNER SET DEF	GUNNER TRAV LEVEL	AST.GUNNER SET QUAD ELEV	AST.GUNNER ELEV LEVEL	LOADER LIFT PRJCTL	LOADER POS OP RAMMER	LOADER PLACE CHARGE	LOADER INS PRIM	LOADER FIRE	LOADER SWAB INSPECT
USUAL TIME,SEC			15	20	UNSTIPULATED				3	7	7	7	3	2	5	2	1.5	1.5	3
1 20	411111	3	60	40	7	60	3	10	4	8	10	8	11	20	0	10	0	0	6
1 20	515451	8	130	-1	0.5	5	-1	60	15	10	30	10	30	-1	15	-1	5	5	25
1 20	114111	3	30	40	3	20	3	7	0	0	10	0	10	30	0	10	0	0	4
1 20	515311	3	60	40	1	15	1	15	4	8	10	8	10	-1	10	10	5	5	6
1 20	213111	3	20	30	2	30	3	10	0	0	8	0	8	15	0	5	0	0	6
1 20	413111	3	20	30	2	30	2	8	4	0	8	0	8	15	6	8	2	2	4
1 20	311111	3	0	23	4	60	4	6	0	0	8	0	4	5	0	5	0	0	0
1 20	313111	3	20	30	2	30	2	10	0	0	8	0	4	10	6	5	0	0	5
1 20	515223	3	60	-1	1	5	-1	20	4	9	10	9	10	-1	10	15	5	5	7
1 20	414112	3	20	30	3	30	2	10	4	10	12	10	7	60	7	6	2	0	5
1 20	535111	3	-1	-1	0.5	5	-1	30	10	10	15	10	8	-1	10	-1	6	6	8
1 20	112111	3	20	30	2	30	2	15	0	0	0	0	0	5	0	3	0	0	4
1 20	514111	3	120	60	1	10	1	10	15	20	20	20	15	20	10	5	5	5	10
1 20	313112	3	20	40	0.5	10	1	10	5	8	8	8	5	25	10	10	5	5	8
1 20	515113	3	-1	-1	-1	1	-1	20	10	15	-1	15	-1	-1	12	-1	6	6	10
1 20	513111	3	20	25	1	10	1	10	0	0	0	0	0	10	0	5	0	0	6
1 20	123111	3	-1	-1	-1	-1	-1	60	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1 20	334231	3	-1	-1	-1	1	-1	60	20	30	-1	30	-1	-1	-1	-1	10	10	-1
1 20	113111	3	20	25	2	15	2	10	0	0	0	0	0	5	0	4	0	0	0
1 20	521111	3	20	25	2	15	2	10	4	8	8	8	6	5	6	5	2	2	6
1 20	113121	3	30	35	1.5	10	1	10	4	10	10	10	5	10	8	5	2	2	6
1 20	211111	3	0	0	4	60	4	5	0	0	0	0	0	5	0	0	0	0	0
1 20	224111	3	30	30	1	10	2	10	10	8	-1	8	-1	-1	-1	-1	5	5	10
1 20	415310	3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1 20	312111	3	20	25	2	10	2	10	0	0	9	0	5	10	0	5	0	0	6
1 20	314112	3	-1	-1	0.5	5	1	10	5	10	-1	10	-1	-1	-1	-1	5	5	10
1 20	314113	3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1 20	412111	3	25	35	1	10	1	10	4	0	9	0	6	10	8	5	0	0	6
1 20	414111	3	-1	-1	1	10	-1	10	4	12	12	12	5	-1	-1	-1	8	8	12
1 20	525111	3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1

I WAS AN ASSEMBLER ON THE 155 SYSTEM IN NORTHERN GERMANY. I WAS AT THE 18TH USAFAD. I POSTED TO FT. SILL WHERE I AM NOW A GUNNER ON A SECTION * DEF AND ON

DEMOGRAPHIC DATA

				WHEN NO YR	HOW LONG YR MO
GRADE	:E-5	CH.OF SECTION:		A1	1 2A
MOS	:13B20	GUNNER	:	A2	1
IN ARMY	: 3YR AND	AS.GUNNER	:		
IN ARTILLERY	: 3YR 4 WHEN	LOADER	:		
COMBAT	:N				
ARTIL. COMBAT	:N				

#SUPERVISED : 50

155 S.P. GUN CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW RESP	SYMP COMP	LON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: CH.SECT CALL QUAD ELEV	GUNNER SET DEF	GUNNER TRAV LEVEL	AST.GUNNER SET QUAD ELEV	AST.GUNNER ELEV LEVEL	LOADER LIFT PROJCTL	LOADER POS OP RAMMER	LOADER PLACE CHARGE	LOADER INS PRIM	LOADER FIRE	LOADER SWAB INSPECT
USUAL TIME,SEC			15	20	UNSTIPULATED				3	7	7	7	3	2	5	2	1.5	1.5	3
1	22	411111	A	30	80	2	2	4	4	10	0	10	0	7	5	0	3	0	2	0
1	22	515431	3	-1	-1	1	1	2	4	-1	9	14	11	5	9	0	3	2	4	0
1	22	114111	3	-1	-1	1	1	2	4	5	10	12	10	12	4	0	3	2	2	0
1	22	515311	3	-1	-1	1	1	1	4	10	12	15	10	7	4	0	3	2	3	0
1	22	213111	3	30	60	2	1	3	4	5	0	0	0	0	4	0	0	0	0	0
1	22	413111	3	65	90	1	1	2	4	6	9	11	9	5	4	0	3	2	3	0
1	22	311111	3	25	40	3	2	3	4	6	0	0	0	0	4	0	0	2	2	0
1	22	313111	3	30	35	2	1	4	4	7	9	8	8	5	4	0	3	2	2	0
1	22	515223	3	20	-1	1	1	2	6	-1	14	16	12	6	4	0	4	2	2	0
1	22	414112	3	120	65	1	1	2	5	-1	14	16	12	6	5	0	4	2	3	0
1	22	535111	3	60	30	2	1	2	5	10	15	13	13	6	4	0	3	2	2	0
1	22	112111	4	25	35	4	3	6	4	0	0	0	0	0	0	0	0	0	0	0
1	22	514111	3	60	120	2	1	2	5	6	9	10	8	5	3	0	3	2	2	0
1	22	313112	3	45	60	2	1	2	4	10	10	12	9	5	3	0	3	2	2	0
1	22	315113	4	9	150	1	1	1	4	-1	10	12	9	5	3	0	3	2	2	0
1	22	513111	3	40	60	2	1	2	4	5	0	0	0	0	3	0	3	0	0	0
1	22	123111	4	20	60	3	2	2	4	0	0	0	0	0	3	0	0	0	0	0
1	22	334231	3	40	60	2	1	2	4	-1	9	10	8	5	4	0	3	2	2	0
1	22	113111	4	0	0	3	3	4	4	0	0	0	0	0	0	0	0	0	0	0
1	22	521111	4	20	30	3	2	3	4	5	0	0	0	0	0	0	0	0	0	0
1	22	113121	4	0	0	3	3	3	4	0	0	0	0	0	0	0	0	0	0	0
1	22	211111	4	20	30	3	2	3	4	5	0	0	0	0	0	0	0	0	0	0
1	22	224111	3	20	40	2	1	2	4	5	0	0	0	0	3	0	0	0	0	0
1	22	415314	3	60	120	1	1	1	7	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1	22	312111	3	20	35	2	1	2	4	5	0	0	0	0	3	0	0	0	0	0
1	22	314112	3	20	40	2	1	2	4	5	0	0	0	0	0	0	0	0	0	0
1	22	314113	3	25	30	2	1	2	4	6	0	0	0	0	0	0	0	0	0	0
1	22	412111	3	20	35	2	1	2	4	0	0	0	0	0	3	0	0	0	0	0
1	22	414111	3	25	35	2	1	2	4	6	9	10	8	5	3	0	3	2	2	0
1	22	525111	3	30	45	2	1	2	4	7	11	12	10	5	3	0	3	2	2	0

SECTION CHIEF 155MM SP, GUNNERY SGT , AMMO P/T, FT. SILL * AT THE AGE OF 18 ** VIETNAM

DEMOGRAPHIC DATA

				WHEN MO YR	HOW LONG YR MO
GRADE	:E-6	CH.OF SECTION:		82	1
MOS	:13B	GUNNER	:		
IN ARMY	:	* AS.GUNNER	:		
IN ARTILLERY	: 2YR	LOADER	:		
	WHEN				
COMBAT	:Y *				
ARTIL. COMBAT	:N	*SUPERVISED	: 5		

155 S.P. GUN CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: CH.SECT CALL QUAD ELEV	GUNNER SET DEF	GUNNER TRAV LEVEL	ASI.GUNNER SET QUAD ELEV	ASI.GUNNER ELEV LEVEL	LOADER LIFT PROJCTL	LOADER POS OP RAMMER	LOADER PLACE CHARGE	LOADER INS PRIM	LOADER FIRE	LOADER SWAB INSPECT
USUAL TIME,SEC			15	20	UNSTIPULATED				3	7	7	7	3	2	5	2	1.5	1.5	3
1 26	411111	Y	25	30	4	15	5	40	5	9	10	9	6	5	7	5	3	3	5
1 26	515431	Y	-1	-1	-1	-1	-1	60	15	20	25	20	25	35	30	30	15	15	30
1 26	114111	Y	80	40	3	1	1	45	7	10	10	10	8	15	12	7	5	5	7
1 26	515311	Y	60	-1	-1	-1	-1	60	15	15	15	15	10	20	15	15	10	10	15
1 26	213111	Y	80	40	1	1	2	40	10	10	10	10	8	8	8	8	5	5	6
1 26	413111	Y	30	40	2	2	2	30	5	10	10	10	5	5	7	5	5	5	5
1 26	311111	Y	20	25	4	4	6	30	5	9	9	9	5	5	8	5	5	5	5
1 26	313111	Y	30	30	4	4	4	40	7	12	12	12	7	7	10	5	5	5	5
1 26	515223	Y	-1	-1	-1	-1	-1	-1	15	20	20	20	15	-1	-1	20	20	20	35
1 26	414112	Y	85	45	1	1	1	60	10	12	12	12	7	15	10	7	7	7	7
1 26	535111	Y	-1	-1	-1	-1	-1	60	15	15	20	15	15	20	15	15	15	15	20
1 26	112111	Y	20	25	6	8	8	30	9	9	9	9	5	6	6	4	4	4	6
1 26	514111	Y	85	45	1	1	1	50	7	12	12	12	7	10	10	7	7	7	7
1 26	313112	Y	60	60	-1	-1	-1	60	10	15	15	15	10	15	15	10	10	10	15
1 26	315113	Y	-1	-1	-1	-1	-1	60	15	15	15	15	10	30	20	15	10	10	10
1 26	513111	Y	30	40	2	1	3	40	5	10	10	10	7	10	10	7	7	7	8
1 26	123111	Y	30	40	1	1	2	40	10	10	10	10	7	10	10	7	7	7	10
1 26	334231	Y	-1	-1	-1	-1	-1	60	15	15	20	15	15	-1	20	20	15	15	15
1 26	113111	Y	30	35	2	2	2	40	7	10	10	10	7	10	10	10	7	7	10
1 26	521111	Y	85	45	1	1	1	60	10	12	12	12	10	7	7	7	5	5	5
1 26	113121	Y	80	45	2	2	2	45	10	10	10	10	7	10	7	10	10	10	10
1 26	211111	Y	30	30	3	3	3	30	7	10	10	10	7	7	7	5	5	5	7
1 26	224111	Y	85	45	1	1	1	60	12	12	12	12	10	15	15	10	10	10	10
1 26	415314	Y	-1	-1	-1	-1	-1	60	15	15	15	15	15	30	25	25	20	15	30
1 26	312111	Y	30	40	2	2	2	40	7	10	10	10	7	10	10	7	5	5	5
1 26	314112	Y	-1	-1	-1	-1	-1	60	15	15	15	15	15	40	35	30	30	30	40
1 26	314113	Y	-1	-1	-1	-1	-1	60	15	15	15	15	15	-1	30	25	20	20	35
1 26	412111	Y	85	45	2	2	2	40	7	10	10	10	7	15	15	10	10	10	10
1 26	414111	Y	85	45	1	1	1	40	12	12	12	12	10	25	20	20	12	12	20
1 26	525111	Y	-1	-1	-1	-1	-1	60	15	15	15	15	15	-1	30	30	25	20	25

I WAS A GUNNER IN A * TROOP UNIT IN GERMANY AND THEN IN FEBRUARY 1962 I PCS TO FT. SILL AND I WAS A GUNNER UNTIL 2 JUNE 1982 THEN I BECAME SECTION CHIEF ON A 155MM HOWITZER

DEMOGRAPHIC DATA

				WHEN NO	WHEN YR	HOW LONG YR	HOW LONG MO
GR	:E-5		CH.OF SECTION	: 6	82		6
MOS	:13P		GUNNER	: 3	81	1	3
IN ARMY	: 4YR	1MO	AS.GUNNER	: 6	80		9
IN ARTILLERY	: 4YR	1	LOADER	: 3	79		6

COMBAT :N
ARTIL. COMBAT:N #SUPERVISED : 20

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

155 S.P. GUN CREW

			ORDINARY TASKS						CREW TASKS										
									CH.SECT	GUNNER		AST.GUNNER		LOADER					
CREW RESP	SYMP COMP	CON	CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CALL QUAD ELEV	SET DEF	TRAV LEVEL	SET QUAD ELEV	ELEV LEVEL	LIFT PRJCTL	POS OP RAMMER	PLACE CHARGE	INS PRIM	FIRE	SWAB INSPECT
USUAL TIME,SEC			15	20	UNSTIPULATED				3	7	7	7	3	2	5	2	1.5	1.5	3
1	27	411111	A	18	25	12	20	14	5	0	0	8	0	4	0	0	0	2	0	4
1	27	515831	A	-1	-1	1	3	-1	30	10	15	20	15	15	-1	8	6	5	4	8
1	27	114111	A	25	35	2	5	2	20	5	0	10	0	6	10	0	3	2	0	5
1	27	515311	A	25	-1	1	3	-1	30	6	8	10	8	6	-1	0	4	3	3	6
1	27	213111	A	25	40	2	3	1	20	5	8	12	8	7	10	6	3	2	2	5
1	27	413111	A	25	35	2	4	1	20	5	9	13	9	6	10	7	4	2	2	6
1	27	311111	A	18	26	7	10	6	5	0	0	8	0	4	4	0	0	0	0	0
1	27	313111	A	25	35	3	5	3	15	4	8	12	8	7	10	6	3	2	2	5
1	27	515223	A	28	40	3	4	2	30	0	18	25	18	15	13	10	6	5	5	10
1	27	414112	A	20	35	4	8	3	15	5	8	11	8	6	[illegible]	6	3	2	2	5
1	27	535111	A	20	40	2	3	1	15	5	10	18	10	10	10	[illegible]	4	2	2	6
1	27	112131	A	18	25	7	15	6	5	0	0	8	0	4	3	0	0	0	0	4
1	27	514111	A	23	32	4	10	3	15	4	8	10	8	6	5	6	3	2	2	5
1	27	313112	A	25	35	2	5	2	15	5	9	15	9	9	10	7	4	3	3	6
1	27	315113	A	30	40	1	2	1	30	7	10	15	10	10	12	8	5	3	3	7
1	27	513111	A	20	30	3	6	3	10	4	8	10	8	7	6	6	3	2	2	5
1	27	123111	A	20	30	6	10	4	9	4	8	10	8	5	4	6	3	2	2	5
1	27	334231	A	30	45	1	3	2	20	6	12	15	12	10	12	8	5	3	3	7
1	27	113111	A	20	25	6	10	4	10	0	0	10	0	5	4	6	3	2	2	5
1	27	521111	A	25	30	4	8	3	10	4	9	12	9	7	5	6	3	2	2	5
1	27	113121	A	20	30	3	6	2	10	4	8	10	8	5	5	6	3	2	2	5
1	27	211111	A	20	30	4	6	2	10	4	8	10	8	5	5	6	4	2	2	5
1	27	224111	A	30	40	2	4	2	10	5	10	15	10	7	8	7	4	3	3	6
1	27	415314	A	30	40	1	2	1	30	6	14	20	14	10	10	10	6	4	4	7
1	27	312111	A	20	30	3	6	2	12	4	9	12	9	5	5	6	4	3	3	5
1	27	314112	A	22	31	2	6	2	13	4	8	12	8	6	4	6	4	2	2	5
1	27	314113	A	30	40	2	4	2	16	5	9	12	9	6	5	7	4	3	3	6
1	27	412111	A	19	28	4	8	3	9	0	0	9	0	4	4	6	3	2	2	4
1	27	414111	A	30	40	1	4	1	20	4	8	10	8	4	4	6	4	3	3	6
1	27	525111	A	22	34	2	4	1	20	4	8	10	8	5	4	6	3	2	2	5

GUNNER, SECTION CHIEF + 2 MONTHS

DEMOGRAPHIC DATA

				WHEN	HOW LONG
				60 YR	YR MO
GRADE	:E-5	CH.OF SECTION	:10 A2		2
MOS	:13P	GUNNER	:		1 4
IN ARMY	: 3YR	AS.GUNNER	:		
IN ARTILLERY	:	LOADER	:		
	WHEN				
COMBAT	:N				
ARTIL. COMBAT	:N	#SUPERVISED	: 5		

155 S.P. GUN CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
7990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW RESP	SYMP COMP	LOW	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: CH.SECT CALL QUAD ELEV	GUNNER SET DEF	GUNNER TRAV LEVEL	AST.GUNNER SET QUAD ELEV	AST.GUNNER FLEV LEVEL	LOADER LIFT PRJCTL	LOADER POS OP RAMMER	LOADER PLACE CHARGE	LOADER INS PRIM	LOADER FIRE	LOADER SWAB INSPECT
USUAL TIME,SEC			15	20	UNSTIPULATED				5	7	7	7	3	2	5	2	1.5	1.5	3
1 28	411111	A	50	55	3	5	5	15	7	10	12	0	8	6	10	7	10	5	10
1 28	515431	A	80	60	2	3	3	30	20	15	20	15	10	8	7	6	6	5	8
1 28	114111	3	80	60	1	3	2	40	10	10	15	10	8	10	10	8	7	5	7
1 28	515311	3	60	50	2	999	999	999	10	10	15	12	9	8	10	8	7	6	8
1 28	213111	3	60	50	2	5	2	30	8	8	10	9	12	10	10	10	12	7	7
1 28	413111	3	60	50	2	5	4	30	10	15	15	15	10	9	12	9	7	7	10
1 28	311111	3	60	50	2	5	4	30	10	15	15	15	10	9	12	9	7	7	9
1 28	313111	3	60	50	2	4	4	30	10	15	15	15	10	9	12	9	7	7	9
1 28	515223	3	65	55	1	3	4	30	10	15	15	15	10	9	12	9	7	7	9
1 28	414112	3	65	60	1	2	2	30	10	16	16	16	11	10	9	10	7	7	9
1 28	535111	3	70	70	0.5	1	2	40	9	15	15	15	10	11	13	10	10	10	15
1 28	112111	3	75	70	0.3	1	1	40	10	15	15	15	10	10	11	9	7	7	12
1 28	514111	3	75	70	0.3	1	1	40	10	15	15	15	10	11	12	9	9	9	15
1 28	313112	3	70	70	1	1	1	8	10	15	15	15	9	10	10	7	7	7	9
1 28	315113	3	70	70	1	1	1	40	10	15	15	15	15	9	12	9	7	7	9
1 28	513111	3	75	70	0.3	1	1	40	10	15	15	15	10	9	13	9	7	7	9
1 28	123111	3	65	50	0.5	2	2	40	10	15	15	15	9	9	13	9	7	7	10
1 28	334231	3	80	90	0.3	0.5	1	40	10	15	15	15	10	9	13	9	7	5	10
1 28	113111	3	70	75	2	2	3	30	10	15	15	15	10	10	13	10	7	5	10
1 28	521111	3	65	70	1	1	1	35	10	15	15	15	10	10	13	5	5	7	9
1 28	113121	3	50	55	2	3	4	20	10	15	15	15	10	9	13	9	5	7	5
1 28	211111	3	55	50	2	2	3	25	10	15	15	15	10	10	12	6	7	5	1
1 28	224111	3	80	45	2	3	4	25	10	15	15	15	10	9	12	9	7	5	6
1 28	415314	3	70	60	0.3	1	1	40	10	20	20	20	15	15	13	10	9	10	15
1 28	312111	3	80	45	2	2	2	20	10	15	15	15	9	9	10	8	7	5	9
1 28	314112	3	74	65	0.3	1	1	40	11	17	17	17	10	10	10	9	7	5	10
1 28	314113	3	75	65	0.3	0.5	1	40	10	15	15	15	9	15	10	10	10	8	9
1 28	412111	3	80	45	2	2	3	25	10	16	17	15	8	7	8	9	5	7	9
1 28	414111	3	55	60	0.5	2	2	30	10	15	15	15	10	9	10	10	7	8	9
1 28	525111	3	80	75	0.5	0.5	1	50	10	15	15	15	9	10	12	10	7	8	15

DEMOGRAPHIC DATA

			WHEN MO YR	HOW LONG YR MO
GRADE	:E-7	CH.OF SECTION:	72	4
MOS	:13B40	GUNNER :		
IN ARMY	:16YR	AS.GUNNER :		
IN ARTILLERY	:15YR	LOADER :		
	WHEN			
COMBAT	:N			
ARTIL. COMBAT	:N	#SUPERVISED : 10		

155 S.P. GUN CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

	ORDINARY TASKS							CREW TASKS: CH.SECT	GUNNER		AST.GUNNER		LOADER					
CREW RESP	SYMP COMP	LOW CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CALL QUAD ELEV	SET DEF	TRAV LEVEL	SET QUAD ELEV	ELEV LEVEL	LIFT PRJCTL	POS OP RAMMER	PLACE CHARGE	INS PRIM	FIRE	SMAB INSPECT
USUAL TIME,SEC		15	20	UNSTIPULATED				3	7	7	7	3	2	5	2	1.5	1.5	3
1 30	411111 3	30	40	3	15	4	20	15	20	20	15	15	10	7	5	3	3	7
1 30	515831 3	85	45	2	5	3	40	35	28	35	28	30	25	10	10	8	8	10
1 30	114111 3	20	25	5	15	5	8	0	0	9	0	6	5	7	4	2	2	0
1 30	515311 3	47	50	2	5	3	25	7	12	17	12	13	15	8	6	4	4	5
1 30	213111 3	0	0	6	25	6	6	0	0	9	0	5	5	0	0	0	0	0
1 30	413111 3	18	25	5	20	6	8	5	0	9	0	5	5	0	0	0	0	4
1 30	311111 3	0	0	6	25	6	5	0	0	0	0	0	4	0	3	0	0	0
1 30	313111 3	20	25	5	18	5	8	0	0	9	0	5	5	0	0	0	0	5
1 30	515223 3	-1	-1	1	5	2	18	10	14	25	14	19	20	10	10	8	8	10
1 30	414112 3	35	45	3	10	4	12	5	10	13	10	10	12	8	5	3	3	5
1 30	535111 3	-1	-1	1	5	2	12	10	12	17	12	12	18	7	5	5	5	5
1 30	112111 3	25	40	3	13	3	7	0	0	10	0	5	5	0	4	3	3	5
1 30	514111 3	40	50	2	10	4	13	5	9	10	9	7	10	7	5	4	4	5
1 30	313112 3	47	56	2	5	2	18	6	11	17	11	14	15	8	6	4	4	6
1 30	315113 3	-1	-1	1	3	2	20	6	15	20	15	9	13	7	5	5	5	6
1 30	513111 3	22	35	5	12	1	8	5	9	12	9	8	7	6	3	3	3	5
1 30	123111 3	22	37	4	17	5	6	5	8	9	8	6	5	6	4	2	2	5
1 30	334231 3	-1	-1	1	3	2	10	7	12	15	12	11	12	7	4	4	4	6
1 30	113111 3	0	0	6	20	6	6	0	0	8	0	4	0	0	0	0	0	0
1 30	521111 3	20	23	5	15	4	9	0	0	9	0	5	6	0	0	2	2	4
1 30	113121 3	19	26	5	10	4	9	5	9	11	9	7	10	7	3	3	3	5
1 30	211111 3	0	0	6	22	5	7	0	0	0	0	0	5	0	0	0	0	0
1 30	224111 3	21	29	4	15	4	8	5	9	11	9	7	8	7	3	4	4	5
1 30	415314 3	-1	-1	2	7	2	11	7	10	15	10	11	17	8	5	6	6	7
1 30	312111 3	21	29	5	12	4	9	0	0	11	[illegible]	5	5	0	0	2	2	4
1 30	314112 3	45	59	2	5	2	11	5	9	11	9	7	11	7	3	3	3	5
1 30	314113 3	-1	-1	1	6	2	13	7	11	15	11	12	13	7	5	3	3	5
1 30	412111 3	17	28	6	15	5	10	0	0	0	0	0	5	0	0	0	0	0
1 30	414111 3	24	31	4	10	4	17	0	9	11	9	7	7	6	0	2	2	4
1 30	525111 3	-1	-1	1	8	1	15	7	10	13	10	10	18	8	4	4	8	6

CHIEF OF FIRING PLT. SUPERVISE AND TRAIN CHIEF OF SECTION TO BE LEADER, TO DEVELOPED THE YOUNG SOLDIER OF TOMMORROW, HOW TO SURVIVE IN COMBAT.

DEMOGRAPHIC DATA

			WHEN MO	HOW LONG YR	HO
GRADE	:E-7	CH.OF SECTION:	73	4	
MOS	:13B40	GUNNER :	70	4	
IN ARMY	:15YR	AS.GUNNER :	69	1	
IN ARTILLERY	:12YR	LOADER :	68	1	
COMBAT	:N				
ARTIL. COMBAT	:N	#SUPERVISED :>50			

155 S.P. GUN CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW	SYMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: CH.SECT CALL QUAD ELEV	GUNNER SET DEF	GUNNER TRAV LEVEL	AST.GUNNER SET QUAD ELEV	AST.GUNNER ELEV LEVEL	LOADER LIFT PRJCTL	LOADER POS OP RAMMER	LOADER PLACE CHARGE	LOADER INS PRIM	LOADER FIRE	LOADER SWAB INSPECT
RESP																			
USUAL TIME,SEC			15	20	UNSTIPULATED				3	7	7	7	3	2	5	2	1.5	1.5	3
1 31 411111	A		0	-1	3	15	10	60	0	0	10	0	5	-1	0	5	0	0	5
1 31 515431	A		-1	-1	0.5	2	2	60	20	20	30	20	30	-1	-1	-1	10	5	10
1 31 114111	A		20	30	3	1	9	60	10	15	15	15	15	20	10	4	3	0	6
1 31 515311	3		45	60	2	1	3	60	10	15	25	15	25	30	30	20	10	3	10
1 31 213111	A		20	30	5	2	15	60	5	9	9	9	7	5	8	4	3	2	5
1 31 413111	A		25	60	2	3	6	60	5	9	10	9	10	15	12	5	3	2	5
1 31 311111	5		20	30	5	5	10	60	6	9	10	9	5	5	6	3	3	2	5
1 31 313111	A		20	30	8	5	10	60	5	10	15	10	8	5	7	3	2	0	5
1 31 515223	A		45	-1	2	1	2	60	15	20	20	20	15	-1	-1	10	6	4	6
1 31 414112	3		-1	-1	1	0.3	2	90	20	45	45	45	30	-1	-1	-1	10	10	15
1 31 535111	3		45	-1	1	0.3	2	60	20	20	30	20	20	-1	-1	-1	10	10	15
1 31 112111	9		999	999	999	999	999	999	999	999	999	999	999	999	999	999	999	999	999
1 31 514111	A		45	60	3	5	10	60	8	15	15	15	10	30	20	10	5	5	6
1 31 313112	A		45	-1	2	1	3	60	30	45	45	30	25	-1	20	-1	10	10	10
1 31 315113	A		-1	-1	1	0.3	3	60	30	30	30	20	30	-1	-1	-1	10	5	8
1 31 513111	3		45	-1	3	1	5	60	15	20	20	20	15	-1	-1	-1	10	10	8
1 31 123111	A		-1	-1	1	0.3	3	25	7	10	10	10	8	-1	-1	-1	5	5	5
1 31 334231	5		-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1 31 113111	5		20	30	10	15	20	30	5	10	10	10	6	4	7	3	2	2	4
1 31 521111	3		45	60	0.5	2	10	60	10	12	15	10	10	25	15	10	5	5	8
1 31 113121	A		20	25	10	10	20	30	10	10	15	10	10	20	15	10	5	5	8
1 31 211111	A		25	40	10	3	15	45	7	10	15	10	10	25	15	10	3	3	7
1 31 224111	3		-1	-1	-1	0.3	-1	45	30	30	30	25	20	-1	-1	-1	6	4	6
1 31 415314	5		-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1 31 312111	A		25	30	5	3	10	60	6	15	15	15	10	15	10	6	5	5	5
1 31 314112	A		-1	-1	2	1	3	60	20	30	30	20	25	-1	-1	-1	10	5	10
1 31 314113	3		-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1 31 412111	A		25	30	6	3	10	60	10	15	15	15	10	8	10	3	2	2	5
1 31 414111	A		-1	-1	1	-1	-1	45	10	15	15	15	10	-1	-1	-1	6	3	10
1 31 525111	5		-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1

A YEAR AGO I WAS STATIONED IN TURKEY. ALL OF MY DUTIES THERE WERE SPECIAL WEAPONS RELATED. I WAS ASSIGNED HERE THE END OF JUNE.

DEMOGRAPHIC DATA

				WHEN NO YR	HOW LONG YR NO
GRADE	:E-5		CH.OF SECTION:		
MOS	:13B		GUNNER	: 7 82	4
IN ARMY	: 3YR	8MO	AS.GUNNER	:	*
IN ARTILLERY	: 3YR	8	LOADER	:	*
		WHEN			
COMBAT	:N				
ARTIL. COMBAT	:N		#SUPERVISED :	5	

155 S.P. GUN CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

			ORDINARY TASKS						CREW TASKS										
									CH.SECT	GUNNER		AST.GUNNER		LOADER					
CREW RESP	SYMP COMP	CON	CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CALL QUAD ELEV	SET DEF	TRAV LEVEL	SET QUAD ELEV	ELEV LEVEL	LIFT PRJCTL	POS OP RAMMER	PLACE CHARGE	INS PRIM	FIRE	SWAB INSPECT
USUAL TIME,SEC			15	20	UNSTIPULATED				3	7	7	7	3	2	5	2	1.5	1.5	3
1	32	411111	3	30	30	3	15	5	10	5	10	15	10	7	10	10	4	3	0	5
1	32	515431	3	35	60	2	15	3	15	12	10	15	10	15	-1	12	8	5	3	10
1	32	114111	3	30	-1	1.5	10	2	20	4	9	10	8	5	-1	7	-1	999	2.5	5
1	32	515311	3	30	-1	2	10	3	15	5	15	15	12	10	-1	10	-1	5	6	10
1	32	213111	3	20	30	3	20	4	10	0	0	9	0	5	5	0	5	3	0	5
1	32	413111	3	25	45	4	12	4	15	4	9	10	10	5	5	0	5	3	2	5
1	32	311111	3	20	35	4.5	20	5	10	5	0	10	0	6	15	7	5	5	3	5
1	32	313111	3	30	45	3	20	4	10	4	8	8	0	5	12	6	5	3	4	5
1	32	515223	3	45	-1	2	10	2	15	7	10	12	10	12	-1	10	-1	5	4	10
1	32	414112	3	30	-1	3	15	2	10	7	10	10	10	8	-1	10	-1	4	5	6
1	32	535111	3	-1	-1	1	7	1	12	12	15	15	15	15	-1	12	-1	5	4	10
1	32	112111	3	20	25	4.5	15	4	8	0	0	0	0	0	5	6	4	0	2	4
1	32	514111	3	30	40	2.5	10	2	11	5	9	9	9	9	12	7	5	4	3	5
1	32	313112	3	-1	-1	-1	7	1	20	7	14	14	14	10	-1	8	-1	5	4	4
1	32	315113	3	-1	-1	-1	7	1	20	5	10	12	10	7	-1	11	-1	5	5	12
1	32	513111	3	-1	-1	-1	6	1	20	7	20	15	11	7	-1	-1	-1	5	4	10
1	32	123111	3	30	35	2	13	3	12	5	10	10	9	6	-1	8	-1	4	3	5
1	32	334231	3	-1	-1	1	6	1	15	10	12	15	12	10	-1	-1	-1	10	6	-1
1	32	113111	3	20	25	4.5	15	4	8	0	0	0	0	0	5	6	4	0	2	4
1	32	521111	3	30	40	2.5	12	3	12	5	9	9	10	5	4	10	5	3	3	4
1	32	113121	3	30	40	2.5	10	2	10	7	10	10	10	6	-1	7	-1	5	4	6
1	32	211111	3	0	0	4	12	3	10	0	0	0	0	0	6	0	5	0	0	0
1	32	224111	3	30	35	1.5	10	2	10	-1	10	10	10	6	-1	7	-1	5	4	5
1	32	415314	3	-1	-1	1	5	1	25	7	10	-1	10	6	-1	-1	-1	6	5	4
1	32	312111	3	30	45	3	20	4	10	4	8	8	0	5	12	6	5	3	4	5
1	32	314112	3	30	-1	-1	10	2	15	5	9	8	9	6	-1	7	-1	3	3	4
1	32	314113	3	-1	-1	-1	7	1	20	7	14	14	14	10	-1	8	-1	5	4	4
1	32	412111	3	30	30	3	15	5	10	5	10	15	10	7	10	10	4	3	0	5
1	32	414111	3	30	45	1	7	1	17	7	12	15	10	8	-1	7	-1	4	4	6
1	32	523111	3	-1	-1	1	6	1	17	7	10	10	10	8	-1	-1	-1	4	4	5

I HAVE BEEN A OPERATOR OF AN 155 SP HOWITZER AS WELL AS A GUNNER AND CHIEF OF SECTION I ALSO SERVED IN WEST BERLIN GERMANY FOR 2 YEARS.

DEMOGRAPHIC DATA

			WHEN MO	WHEN YR	HOW LONG YR	HO
GRADE	:E-5	CH.OF SECTION:	10	82		3
MOS	:13P	GUNNER :		82		
IN ARMY	: 5YR	AS.GUNNER :		81		
IN ARTILLERY	: 5YR	LOADER :		90	1	
COMBAT	:N					
ARTIL. COMBAT	:N	#SUPERVISED :	5			

155 S.P. GUN CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW	SYMP COMP	ORDINARY TASKS: CON CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: CH.SECT CALL QUAD ELEV	GUNNER SET DEF	GUNNER TRAV LEVEL	AST.GUNNER SET QUAD ELEV	AST.GUNNER ELEV LEVEL	LOADER LIFT PRJCTL	LOADER POS OP RAMMER	LOADER PLACE CHARGE	LOADER INS PRIM	LOADER FIRE	LOADER SWAB INSPECT
USUAL TIME,SEC		15	20	UNSTIPULATED				5	7	7	7	3	2	5	2	1.5	1.5	3
1 33 411111	3	30	25	4	-1	-1	40	5	0	0	0	0	0	0	0	4	0	0
1 33 515551	3	-1	-1	0.5	2	1	70	5	10	15	10	5	-1	10	4	3	2	6
1 33 11311[illegible]	0	70	50	4	2	3	30	0	0	10	0	5	7	7	4	3	3	6
1 33 515311	0	-1	-1	-1	-1	-1	60	6	0	12	0	6	6	8	4	3	2	7
1 33 213111	3	30	60	4	5	4	35	4	0	10	0	4	4	7	3	2	2	4
1 33 413111	0	30	30	3	10	3	15	5	0	9	0	5	4	7	3	2	2	5
1 33 311111	0	30	40	4	10	6	20	0	0	0	0	5	4	7	3	2	2	4
1 33 315111	3	30	30	4	15	5	20	4	8	10	0	5	3	7	3	2	999	6
1 33 515223	3	-1	-1	-1	1	-1	40	6	9	12	10	6	-1	12	4	3	3	6
1 33 414112	3	30	45	2	0.2	2	30	6	10	10	0	7	5	7	4	2	2	6
1 33 535111	0	40	-1	2	5	-1	45	7	10	10	10	5	6	8	4	3	3	6
1 33 112111	0	20	30	6	15	5	20	0	0	0	0	4	4	6	3	2	2	4
1 33 514111	0	40	40	4	5	4	30	0	0	8	0	5	4	7	3	2	2	6
1 33 313112	3	40	60	4	5	4	30	4	6	6	8	6	4	7	4	2	2	4
1 33 315113	0	-1	1	2	-1	3	45	6	10	10	10	6	-1	7	4	3	3	6
1 33 513111	3	45	90	2	5	4	30	4	0	10	10	6	6	7	4	3	3	5
1 33 123111	3	-1	-1	1	1	-1	35	5	10	10	10	6	-1	8	4	3	3	6
1 33 334231	3	-1	-1	2	2	-1	35	6	10	10	10	6	6	10	3	3	3	6
1 33 113111	0	20	30	6	15	5	20	0	0	0	0	0	0	0	0	0	0	0
1 33 521111	0	25	30	4	15	5	30	0	0	10	0	6	4	7	3	3	3	6
1 33 113121	0	30	40	4	10	5	30	5	0	0	0	4	4	7	3	2	2	4
1 33 211111	0	30	40	4	8	4	30	0	0	0	0	4	4	6	3	3	3	4
1 33 224111	3	-1	-1	-1	2	-1	40	6	10	10	10	4	4	7	4	3	3	6
1 33 415314	0	-1	-1	-1	-1	-1	60	7	12	12	12	6	-1	-1	4	4	4	7
1 33 312111	0	30	50	4	5	4	30	0	0	0	0	4	4	6	3	2	2	4
1 33 314112	0	40	60	4	5	4	30	7	10	10	10	6	4	7	3	3	3	6
1 33 314113	0	-1	-1	2	1	-1	35	6	10	10	10	4	-1	7	4	3	3	6
1 33 412111	3	30	45	4	8	4	30	0	0	0	0	4	4	7	3	2	2	4
1 33 414111	0	40	60	4	8	4	30	4	10	10	10	4	4	7	4	3	3	6
1 33 525111	0	-1	-1	-1	-1	-1	45	6	10	10	10	6	-1	-1	4	3	3	6

SECTION CHIEF, NOC NCOIC FOR 3/18 FA A BTRY, I HAVE BEEN WITH 3/18 FOR 2 1/2 YRS AND HAVE WORKED WITH NBC, AND OTHER MAJOR

DEMOGRAPHIC DATA

			WHEN MO YR	HOW LONG YR MO
GRADE	:E-5	CH.OF SECTION:	9 81	1 2
MOS	:13B20	GUNNER	: 5 81	5
IN ARMY	: 2YR AND	AS.GUNNER	: 2 81	8
IN ARTILLERY	: 2YR & WHEN	LOADER	:	
COMBAT	:N			
ARTIL. COMBAT	:N	#SUPERVISED : 20		

155 S.P. GUN CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

					ORDINARY TASKS				CREW TASKS										
									CH.SECT	GUNNER		AST.GUNNER		LOADER					
CREW RESP	SYMP COMP	CON	CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CALL QUAD ELEV	SET DEF	TRAV LEVEL	SET QUAD ELEV	ELEV LEVEL	LIFT PRJCTL	POS OP RAMMER	PLACE CHARGE	INS PRIM	FIRE	SWAB INSPECT
USUAL TIME,SEC			15	20	UNSTIPULATED				3	7	7	7	3	2	5	2	1.5	1.5	3
1	34	411111	5	30	120	1	4	6	23	55	20	25	13	10	30	10	10	6	8	20
1	34	515431	5	-1	-1	1	3	2	55	75	35	45	45	30	-1	30	55	35	30	45
1	34	114111	5	-1	-1	1	2	2	55	80	65	70	45	50	-1	-1	95	45	30	75
1	34	515311	5	-1	-1	-1	1	-1	120	-1	-1	-1	95	90	-1	-1	-1	-1	90	-1
1	34	213111	5	-1	-1	1	-1	1	60	65	50	50	50	60	-1	90	45	45	30	50
1	34	413111	5	35	65	2	4	4	45	65	50	50	45	50	55	50	45	30	25	30
1	34	311111	5	70	65	2	3	4	60	75	-1	-1	70	65	-1	70	35	30	25	40
1	34	313111	5	45	60	2	3	4	65	120	60	55	50	50	-1	-1	60	55	50	45
1	34	515223	5	-1	-1	-1	-1	-1	160	-1	-1	-1	120	-1	-1	-1	-1	80	65	65
1	34	414112	5	-1	-1	-1	-1	-1	160	-1	-1	180	90	120	-1	-1	-1	120	120	160
1	34	535111	5	-1	-1	-1	-1	-1	180	-1	-1	-1	-1	-1	-1	-1	-1	-1	180	210
1	34	112111	5	90	120	2	3	2	100	120	90	90	75	120	-1	180	85	70	60	65
1	34	514111	5	120	-1	-1	1	-1	120	120	90	90	65	80	-1	-1	-1	90	65	80
1	34	313112	5	-1	-1	-1	1	-1	160	-1	-1	-1	160	180	-1	-1	-1	120	90	160
1	34	312113	5	-1	-1	-1	-1	-1	230	-1	-1	-1	-1	-1	-1	-1	-1	-1	190	210
1	34	513111	5	85	-1	2	1	-1	180	90	90	120	80	95	-1	-1	-1	65	60	80
1	34	123111	5	160	-1	2	2	-1	195	160	120	120	85	90	-1	-1	-1	90	85	110
1	34	334231	5	-1	-1	-1	-1	-1	210	-1	-1	-1	190	160	-1	-1	-1	120	160	-1
1	34	113111	5	160	-1	2	2	-1	190	160	140	140	90	120	-1	210	180	180	110	130
1	34	521111	5	120	-1	3	1	-1	160	120	80	80	75	80	-1	120	80	65	70	120
1	34	113121	5	65	-1	1	2	-1	100	30	25	45	40	50	120	80	45	50	45	60
1	34	211111	5	70	130	2	4	3	115	30	25	25	30	30	80	65	50	35	35	45
1	34	224111	5	75	160	1	2	-1	170	120	80	80	65	65	-1	-1	-1	45	45	50
1	34	415314	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	190	-1
1	34	312111	5	180	-1	1	2	-1	180	180	120	160	180	190	-1	-1	-1	120	65	110
1	34	314112	5	-1	-1	-1	-1	-1	190	-1	-1	-1	-1	-1	-1	-1	-1	210	190	-1
1	34	314113	5	-1	-1	-1	1	-1	200	-1	-1	-1	-1	-1	-1	-1	-1	210	190	210
1	34	412111	5	180	-1	1	2	-1	190	120	90	100	80	120	-1	-1	-1	120	90	130
1	34	414111	5	-1	-1	-1	1	-1	190	-1	-1	-1	190	-1	-1	-1	-1	170	110	150
1	34	525111	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	210	-1	-1	-1	-1	-1	-1	-1

RN. AMMO SGT. HERE AT FI. SILL

DEMOGRAPHIC DATA

				WHEN MO YR	HOW LONG YR MO
GRADE	:E-6	CH.OF SECTION:		79	3
MOS	:13B	GUNNER	:	77	2
IN ARMY	: 8YR 10	AS.GUNNER	:	76	1
IN ARTILLERY	: 7YR 6	LOADER	:	75	1
	"PLM"				
COMBAT	:N				
ARTIL. COMBAT	:N	#SUPERVISED :		5	

155 S.P. GUN CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW RESP	SYMP COMP	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: CH.SECT CALL QUAD ELEV	GUNNER SET DEF	GUNNER TRAV LEVEL	AST.GUNNER SET QUAD ELEV	AST.GUNNER ELEV LEVEL	LOADER LIFT PRJCTL	LOADER POS OP RAMMER	LOADER PLACE CHARGE	LOADER INS PRIM	LOADER FIRE	LOADER SWAB INSPECT
USUAL TIME,SEC		15	20	UNSTIPULATED				3	7	7	7	3	2	5	2	1.5	1.5	3
1 37 411111	3	18	25	6	35	20	5	5	10	0	9	4	0	0	3	2	0	0
1 37 5[illegible]31	3	35	45	1	5	5	15	30	25	28	15	10	-1	15	-1	6	4	7
1 37 114111	3	50	45	2	3	5	10	0	14	20	14	10	-1	15	-1	4	3	5
1 37 515311	3	-1	-1	-1	-1	-1	10	5	14	19	14	17	-1	15	-1	5	3	5
1 37 213111	3	25	30	3	10	30	10	7	0	9	0	5	7	7	4	3	3	5
1 37 413111	3	40	60	2	5	15	7	6	10	15	9	5	6	7	10	3	2.5	5
1 37 312111	3	25	30	5	10	20	5	5	0	8	0	0	10	7	5	3	0	0
1 37 313111	3	20	30	6	12	15	8	6	10	10	0	5	6	8	5	3	2	5
1 37 515223	3	60	-1	2	2	-1	10	10	15	17	11	10	-1	15	-1	4	3	6
1 37 414112	3	-1	-1	-1	-1	-1	10	8	10	11	10	6	-1	10	-1	3	2	5
1 37 535111	3	60	-1	2	3	-1	12	6	10	12	10	8	-1	15	-1	3	2	5
1 37 112111	3	25	30	8	5	12	6	8	10	13	10	8	7	10	6	3	3	5
1 37 514111	3	45	-1	4	3	-1	8	10	14	14	10	8	-1	10	-1	3	2	5
1 37 313112	3	60	-1	4	2	-1	7	12	15	12	14	9	-1	10	-1	2	3	5
1 37 313113	3	-1	-1	-1	-1	-1	10	17	14	13	11	8	-1	10	-1	4	3	6
1 37 513111	3	25	30	5	5	10	5	10	11	14	10	8	5	8	5	3	2	5
1 37 123111	3	30	35	6	5	10	6	7	10	9	0	5	3	9	7	3	2	5
1 37 534231	3	60	60	2	4	7	10	-1	14	16	10	9	5	0	7	3	2	5
1 37 113111	3	25	40	2	2	7	10	0	9	10	8	5	3	6	4	2	2	0
1 37 521111	3	20	25	4	5	10	11	6	10	9	0	5	0	0	4	2	0	5
1 37 113121	3	22	30	3	4	8	10	0	0	0	0	0	3	6	4	3	2	5
1 37 211111	3	20	30	4	5	10	10	10	0	9	0	5	0	7	5	2	2	4
1 37 224111	3	25	40	3	3	9	12	10	9	16	9	7	4	6	5	3	2	5
1 37 415314	3	-1	-1	-1	-1	-1	15	15	20	20	20	12	-1	10	5	3	2	5
1 37 312111	3	25	35	6	5	9	10	7	10	12	10	8	5	7	4	2	0	5
1 37 314112	3	25	40	3	4	8	10	11	11	14	10	8	4	7	4	2	3	5
1 37 314113	3	-1	-1	-1	-1	-1	10	10	14	16	11	9	3	0	4	3	2	5
1 37 412111	3	25	40	5	5	10	10	10	9	11	10	8	5	6	5	3	2	6
1 37 414111	3	-1	-1	-1	-1	-1	10	12	11	15	11	9	-1	7	-1	3	3	6
1 37 525111	3	-1	-1	-1	-1	-1	10	12	14	16	12	10	-1	7	-1	3	3	7

SECTION CHIEF ON 155 SP, ANCOC-CA STUDENT, S W CHIEF, SECTION CHIEF ON 155 SP

DEMOGRAPHIC DATA

			WHEN MO	WHEN YR	HOW LONG YR	HOW LONG MO
GRADE	:E-6	CH.OF SECTION:		76	5	
MOS	:13B	GUNNER	:	76		7
IN ARMY	: /YR	AS.GUNNER	:	75		3
IN ARTILLERY	: /YR	LOADER	:	75		4

WHEN
COMBAT :Y 70 71
ARTIL. COMBAT:N #SUPERVISED : 10

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

155 S.P. GUN CREW

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: CH.SECT CALL QUAD ELEV	GUNNER SET DEF	GUNNER TRAV LEVEL	AST.GUNNER SET QUAD ELEV	AST.GUNNER ELEV LEVEL	LOADER LIFT PRJCTL	LOADER POS OP RAMMER	LOADER PLACE CHARGE	LOADER INS PRIM	LOADER FIRE	LOADER SWAB INSPECT
USUAL TIME,SEC			15	20	UNSIMULATED				3	7	7	7	3	2	5	2	1.5	1.5	3
1 39	411111	A	-1	40	3	30	5	15	5	0	15	0	5	6	10	7	4	3	4
1 39	515431	3	-1	-1	-1	-1	0.1	30	15	21	21	14	9	10	8	5	4.5	4.5	9
1 39	114111	A	30	40	1	20	3	[illegible]	0	0	10	0	6	5	0	6	3	3	0
1 39	515311	A	-1	45	1	12	3	25	6	10	10	10	0	10	7	5	3	3	0
1 39	213111	A	25	30	4	30	5	15	6	0	0	0	5	4	0	4	3	0	0
1 39	413111	A	20	30	3	25	6	15	5	0	0	0	0	4	0	0	0	0	0
1 39	311111	A	0	0	6	70	6	15	4	0	0	0	0	0	0	0	0	0	0
1 39	313111	4	20	27	4	40	4	15	4	0	0	0	0	4	0	3	2	0	0
1 39	515223	5	-1	-1	-1	-1	-1	20	0	10	10	10	7	-1	0	4	3	0	0
1 39	414112	A	-1	-1	-1	2	1	15	6	14	15	0	6	-1	10	-1	3	3	6
1 39	535111	A	-1	50	-1	-1	1	15	9	18	15	15	7	-1	10	-1	4	4	6
1 39	112111	A	0	0	7	70	7	8	0	0	0	0	0	0	0	0	0	0	0
1 39	514111	A	20	35	6	20	1	15	6	15	14	18	5	6	0	6	4	3	0
1 39	313112	4	25	50	3	20	2	8	5	12	10	8	5	4	0	4	3	0	0
1 39	315113	A	-1	-1	-1	-1	-1	15	10	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1 39	513111	A	20	0	3	30	4	[illegible]	5	15	15	12	0	5	0	4	3	0	0
1 39	123111	A	0	35	4	60	1	8	0	0	0	0	0	6	0	4	3	0	5
1 39	334231	A	-1	-1	-1	5	1	25	9	15	20	15	6	-1	10	6	6	3	6
1 39	113111	A	0	0	6	70	5	8	0	0	0	0	0	0	0	0	0	0	0
1 39	521111	A	20	35	6	60	5	8	7	15	15	15	7	6	0	4	0	0	0
1 39	113121	A	20	0	3	50	3	8	6	10	10	10	5	4	0	4	0	0	0
1 39	211111	A	20	30	5	60	2	10	6	0	0	0	0	4	0	0	4	3	0
1 39	224111	A	-1	-1	-1	15	1	10	9	15	15	10	6	-1	0	5	4	3	0
1 39	415314	A	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1 39	312111	A	20	30	4	60	4	8	6	0	0	0	0	4	0	4	0	0	0
1 39	314112	A	-1	-1	-1	10	1	8	6	15	15	15	10	-1	8	-1	4	4	6
1 39	314113	A	-1	-1	-1	-1	-1	20	6	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1 39	412111	A	20	30	3	35	2	8	6	0	0	0	0	4	0	4	0	0	0
1 39	414111	A	25	35	2	35	1	8	0	10	10	10	6	5	0	4	3	0	0
1 39	525111	A	-1	-1	-1	10	1	10	6	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1

RECLASSIFIED INTO ARTILLERY: MY DUTIES AS FDC NCOIC OF A BRIGADE TACFIRE, SUPPORT OF BN ARTEP'S

DEMOGRAPHIC DATA

			WHEN HO YR	HOW LONG YR MO
GRADE	:E-7	FDC HCO	:	
MOS	:13C4T	FDC COMPUTER	:10 82	6
IN ARMY	:15YR MO			
IN ARTILLERY	: 6			
	WHEN			
COMBAT	:Y 70 72			
ARTIL. COMBAT	:N	#SUPERVISED	: 10	

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

FIRE DIRECTION CENTER CREW

CREW RESP	SYMP COMP	CDC	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: FDO: SAY MISN	REVIEW CALC	SAY ORDER	HCO: PLOT TGT	ORIENT RDP	READ RANGE	COMPUTER: CALC D U	SAY SET
USUAL TIME,SEC			15	20	UNSTIPULATED				2	5	3	1	1	3	15	3
2	1	411111	3	-1	30	1	15	8	20	3	7	0	8	4	4	17	0
2	1	515331	8	-1	-1	-1	-1	-1	35	5	9	6	10	6	7	25	6
2	1	114111	3	30	35	-1	3	2	30	3	8	4	9	6	7	25	4
2	1	513311	8	-1	-1	-1	2	-1	30	3	9	4	9	6	5	23	3
2	1	213111	8	27	35	2	6	7	25	3	8	4	7	5	5	22	4
2	1	311111	3	25	30	2	5	8	25	0	7	4	7	5	4	20	4
2	1	313111	8	28	35	1	5	6	30	3	8	4	7	5	4	23	4
2	1	515223	8	-1	-1	-1	-1	1	50	4	11	6	8	5	7	30	6
2	1	414112	8	-1	-1	-1	-1	-1	45	4	8	5	8	6	5	35	5
2	1	535111	8	-1	-1	-1	1	1	50	4	10	7	8	6	7	35	7
2	1	112111	5	20	25	3	10	10	20	0	6	0	6	4	4	18	4
2	1	514111	5	-1	-1	-1	-1	-1	50	3	8	4	6	4	5	35	4
2	1	315113	5	-1	-1	-1	-1	-1	50	3	8	4	6	4	5	30	4
2	1	513111	8	27	32	2	5	6	35	3	7	4	6	4	4	23	4
2	1	123111	8	-1	-1	1	-1	-1	45	3	6	4	6	4	5	25	4
2	1	334231	3	25	30	1	5	6	40	3	8	4	6	4	4	23	4
2	1	113111	8	20	25	3	15	10	25	0	6	0	0	4	0	17	0
2	1	521111	8	25	29	2	8	5	35	3	7	4	6	4	4	19	4
2	1	211111	8	25	28	3	8	7	35	3	6	4	0	0	4	22	4
2	1	224111	5	-1	-1	-1	-1	-1	50	3	8	4	6	4	4	30	4
2	1	415314	5	-1	-1	-1	-1	-1	60	4	13	6	7	5	7	40	6
2	1	214131	5	-1	-1	-1	-1	-1	50	4	8	5	7	5	5	35	5
2	1	112121	8	30	35	3	7	6	35	0	7	0	0	0	4	27	4

WORKED IN BATTALION FDC AS A BATTERY COMPUTER. PRESENTLY JUST COMPLETED A STAGE OF ACTING SECTION CHIEF AND PRESENTLY A BATTERY COMPUTER IN A BATTERY FDC.

DEMOGRAPHIC DATA

				WHEN MO	WHEN YR	HOW LONG YR	HOW LONG MO
GRADE	:E-4	FDC HCO	:	1	76	3	1
MOS	:13F10	FDC COMPUTER	:	2	81	1	9

IN ARMY : 5YR 2MO
IN ARTILLERY : 5YR 2
WHEN
COMBAT :N
ARTIL. COMBAT:N #SUPERVISED : 5

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

FIRE DIRECTION CENTER CREW

				ORDINARY TASKS						CREW TASKS							
										FDO			HCO			COMPUTER	
CREW RESP	SYMP COMP	CON	CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK		SAY MISN	REVIEW CALC	SAY ORDER	PLOT TGT	ORIENT RDP	READ RANGE	CALC D Q	SAY SET
USUAL TIME,SEC			15	20	UNSTIPULATED					2	5	3	1	1	3	15	3
2	4	411111	3	45	60	1	0.5	2	40	4	8	6	10	0	8	30	13
2	4	515031	4	-1	-1	0.2	-1	-1	-1	122	-1	0	-1	0	63	-1	-1
2	4	114111	3	45	60	3	1	3	60	7	10	4	7	0	5	20	5
2	4	515311	3	-1	-1	-1	-1	1	-1	62	-1	5	-1	6	-1	-1	13
2	4	213111	3	30	40	3	2	4	35	12	10	5	8	0	13	30	8
2	4	311111	3	25	50	3	2	5	35	5	8	5	8	0	10	25	8
2	4	313111	3	30	50	3	1.5	3	35	5	8	5	8	0	10	30	13
2	4	515223	3	-1	-1	-1	-1	1	-1	22	-1	23	-1	-1	-1	-1	-1
2	4	414112	3	60	-1	2	0.5	2	60	12	15	13	7	0	5	25	13
2	4	535111	3	-1	-1	-1	-1	-1	-1	60	-1	-1	-1	-1	-1	-1	-1
2	4	112111	3	20	25	3	2	6	20	0	0	0	0	0	0	20	5
2	4	514111	3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
2	4	315113	3	-1	-1	-1	-1	-1	-1	30	-1	30	32	7	10	30	10
2	4	513111	3	-1	-1	-1	-1	-1	-1	60	-1	30	-1	6	-1	-1	13
2	4	123111	3	20	25	2	1	5	20	3	6	4	0	0	0	20	5
2	4	334231	3	30	160	2	0.5	3	60	12	15	13	10	0	10	30	13
2	4	113111	3	20	30	3	2	6	20	0	0	0	0	0	0	0	0
2	4	521111	3	-1	-1	-1	-1	-1	-1	60	-1	15	30	6	-1	-1	13
2	4	211111	3	20	25	3	1.5	5	30	30	15	0	0	0	5	20	5
2	4	224111	3	20	25	3	2	3	25	30	30	20	25	0	5	25	5
2	4	415314	3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
2	4	214131	3	30	-1	2	1	-1	45	-1	30	-1	10	0	-1	60	-1
2	4	112121	3	20	30	3	2	4	35	12	20	20	10	0	10	25	7

DIRECTION. OF FIRE FOR BATTALION. MAINTANANCE: SECTION. EQUIPMENT-VEHICLES : PHYSICAL ENVIRONMENT; CUTTIG GRASS,SWEEPING ASPHALT
STAYING OUT OF LEGAL/FINANCIAL TROUBLES

DEMOGRAPHIC DATA

			WHEN HO YR	HOW LONG YR MO
GRADE	:E-4	FDC HCO	:	
MOS	:13C	FDC COMPUTER	:10 A2	2
IN ARMY	: 2YR 8MO			
IN ARTILLERY	: 2YR 8MO			
COMBAT	:N			
ARTIL. COMBAT	:N	NSUPERVISED : 5		

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

FIRE DIRECTION CENTER CREW

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: FDO: SAY MISN	FDO: REVIEW CALC	FDO: SAY ORDER	HCO: PLOT TGT	HCO: ORIENT RDP	HCO: READ RANGE	COMPUTER: CALC D U	COMPUTER: SAY SET
USUAL TIME,SEC			15	20	UNSTIMULATED				2	5	3	1	1	3	15	3
2	5	411111	2	40	0	3	10	3	60	5	0	0	0	6	0	0	0
2	5	515431	1	100	100	1	1	2	100	10	0	0	0	5	0	0	0
2	5	114111	2	30	35	5	2	10	37	0	0	0	0	0	0	0	0
2	5	515311	1	60	100	2	2	2	180	0	0	0	10	20	20	0	0
2	5	213111	1	40	40	1	1	2	60	0	0	0	10	8	0	0	15
2	5	413111	2	30	0	1	1	2	60	0	0	0	10	8	0	0	0
2	5	311111	2	0	0	1	1	2	40	4	10	6	10	10	4	0	10
2	5	313111	1	45	40	1	1	2	60	4	6	6	10	20	5	0	0
2	5	515223	2	45	50	1	1	2	80	4	9	0	10	10	6	0	10
2	5	414112	2	40	50	1	1	2	60	10	10	10	15	15	20	0	10
2	5	535111	2	45	60	1	1	2	80	10	10	5	10	10	7	0	6
2	5	112111	2	20	30	2	5	4	50	0	0	0	10	10	0	0	0
2	5	514111	2	25	40	1	2	2	60	4	10	6	10	15	6	0	6
2	5	313112	2	35	0	2	2	3	60	10	15	10	10	10	6	0	6
2	5	315113	2	80	120	1	1	2	120	5	10	5	10	10	6	0	6
2	5	513111	2	40	40	1	1	3	60	4	10	6	10	10	15	0	6
2	5	123111	2	25	0	2	3	4	60	0	0	0	10	5	0	0	0
2	5	334231	2	80	60	1	1	2	120	4	10	6	10	10	10	0	10
2	5	113111	3	25	40	4	5	5	40	0	0	0	10	5	0	0	0
2	5	521111	2	25	50	2	2	2	60	4	10	6	10	30	15	0	6
2	5	113121	2	30	45	3	3	4	60	4	10	6	10	10	10	0	7
2	5	211111	2	30	0	3	3	4	60	4	10	5	10	10	10	0	5
2	5	224111	2	80	45	2	2	4	60	10	10	10	15	15	15	25	0
2	5	415314	2	120	120	1	1	2	120	6	10	6	4	10	10	0	6
2	5	312111	2	30	30	2	2	3	60	4	10	6	5	6	4	0	6
2	5	314112	2	35	35	1	1	3	60	6	6	6	10	10	10	0	6
2	5	314113	3	120	120	1	1	2	120	5	10	5	10	10	15	0	10
2	5	412111	3	35	35	2	2	3	60	4	10	6	10	10	6	0	6
2	5	414111	3	30	40	2	2	4	80	0	0	0	10	10	10	0	0
2	5	525111	2	45	45	2	1	3	120	4	10	6	6	10	10	0	6

TACFIRE COMPUTER SPECIALIST, ASST SECTION CHIEF, OVERSEES MAINT ON ALL VEHICLES RELATED TO TACFIRE UNIT, AND TRAINING ON ALL SECTION PERSONNEL

DEMOGRAPHIC DATA

			WHEN YR	HOW LONG YR MO
GRADE	:E-5	FDC HCO :		
MOS	:13C	FDC COMPUTER :	A1	1
IN ARMY	: 6YR			
IN ARTILLERY	: 2YR			
COMBAT	:N			
ARTIL. COMBAT	:N	#SUPERVISED :	5	

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

FIRE DIRECTION CENTER CREW

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: FDO: SAY MISN	REVIEW CALC	SAY ORDER	HCO: PLOT TGT	ORIENT RDP	READ RANGE	COMPUTER: CALC D Q	SAY SET
USUAL TIME,SEC			15	20	UNSTIPULATED				2	5	3	1	1	3	15	3
2	7	411111	4	0	50	6	45	25	30	5	10	10	10	7	8	0	10
2	7	515431	4	-1	-1	2	20	4	30	10	7	8	10	7	10	20	15
2	7	114111	4	30	50	3	25	5	35	5	0	0	0	0	0	0	10
2	7	515311	4	-1	60	2	15	2	45	10	7	10	8	5	7	30	10
2	7	213111	4	20	35	4	35	7	30	0	0	0	0	0	0	0	0
2	7	413111	4	20	35	5	40	7	40	0	0	0	0	0	0	0	0
2	7	311111	4	0	35	4	45	7	30	5	7	10	0	0	0	0	0
2	7	313111	4	20	60	4	35	6	30	5	9	10	10	6	7	0	10
2	7	515223	3	-1	-1	-1	15	5	60	15	10	20	10	7	10	20	10
2	7	414112	4	45	75	2	25	10	35	7	10	9	8	10	7	20	10
2	7	535111	4	-1	-1	2	25	4	30	15	10	10	10	10	10	25	10
2	7	112111	4	0	40	4	55	6	25	0	0	0	10	7	6	0	0
2	7	514111	4	35	55	4	30	5	40	5	10	10	7	7	6	0	10
2	7	313112	4	25	45	4	30	6	35	5	10	10	8	7	6	0	10
2	7	315113	4	30	65	2	25	3	45	5	10	10	10	8	6	20	10
2	7	513111	4	25	60	2	55	3	20	6	7	7	6	6	7	0	10
2	7	123111	4	0	45	0	60	5	15	0	0	0	0	0	0	0	10
2	7	334231	3	30	60	2	25	3	45	10	10	10	7	8	7	0	10
2	7	113111	4	35	45	3	25	6	30	5	7	6	7	5	6	0	10
2	7	521111	5	0	40	2	50	4	20	3	0	6	7	8	5	0	10
2	7	113121	3	30	40	2	30	4	45	6	10	7	10	6	6	0	10
2	7	211111	3	0	40	2	45	3	45	5	7	5	10	6	7	0	10
2	7	224111	4	30	60	2	40	3	25	10	15	10	10	7	6	0	10
2	7	415310	4	60	-1	2	25	-1	20	10	10	10	10	7	6	6	10
2	7	312111	4	20	40	2	20	2	15	6	10	7	10	7	5	0	10
2	7	314112	3	40	60	2	25	6	35	5	10	7	7	7	6	0	10
2	7	314113	3	45	60	2	25	6	25	0	0	0	0	0	0	0	10
2	7	412111	3	30	65	2	35	4	25	0	0	0	0	0	0	0	10
2	7	414111	4	30	60	2	25	3	25	0	0	0	0	0	0	0	10
2	7	525111	4	45	75	2	25	4	35	5	10	7	10	7	6	0	10

FDC RELATED DUTIES AS HCO VCO COMPUTER, HDC ASSISTANT.

DEMOGRAPHIC DATA

			WHEN MO	WHEN YR	HOW LONG YR	HOW LONG MO
GRADE	:E-4	FDC HCO :	80		1	
MOS	:13F	FDC COMPUTER :	81		1	6
IN ARMY	: 2YR 6MO					
IN ARTILLERY	: 2YR 6					
	WHEN					
COMBAT	:N					
ARTIL. COMBAT	:N	#SUPERVISED : 5				

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

FIRE DIRECTION CENTER CREW

				ORDINARY TASKS					CREW TASKS							
									FDO			HCO			COMPUTER	
CREW RESP	SYMP TOMP	LOW	CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	SAY MISN	REVIEW CALC	SAY ORDER	PLOT TGT	ORIENT RDP	READ RANGE	CALC D U	SAY SET
USUAL TIME,SEC			15	20	UNSTIPULATED				2	5	3	1	1	3	15	3
2	8	411111	3	20	30	6	15	5	8	4	0	0	10	0	0	20	6
2	8	515431	3	-1	-1	2	5	2	15	5	10	5	15	5	6	25	8
2	8	114111	4	0	30	4	10	5	5	0	0	0	7	0	4	20	5
2	8	515311	4	-1	30	3	5	7	6	3	0	0	10	0	5	20	0
2	8	213111	4	0	0	10	10	8	4	0	0	0	7	0	4	0	5
2	8	413111	4	17	0	10	8	5	5	0	0	0	6	4	4	0	5
2	8	311111	4	0	0	8	10	10	5	0	0	0	7	0	4	0	5
2	8	313111	4	0	0	7	10	10	6	0	0	0	7	4	4	0	4
2	8	515223	4	30	35	3	5	4	8	5	0	0	10	5	5	20	7
2	8	414112	4	25	-1	2	4	3	8	3	7	0	8	4	4	0	5
2	8	535111	4	40	40	1	2	4	7	3	7	0	10	4	5	0	5
2	8	112111	4	0	0	10	10	8	5	0	0	0	7	0	4	0	4
2	8	514111	4	20	25	6	10	7	7	0	0	0	7	4	5	0	4
2	8	313112	4	0	0	10	10	8	5	0	0	0	7	4	4	0	4
2	8	315113	4	-1	-1	3	4	4	10	3	7	0	8	5	4	10	4
2	8	513111	4	20	0	10	10	8	7	0	0	0	7	4	4	0	4
2	8	123111	4	0	0	10	10	8	4	0	0	0	0	0	0	0	0
2	8	334231	4	30	-1	2	3	3	10	4	0	0	10	5	5	20	5
2	8	113111	4	0	0	10	10	8	5	0	0	0	7	0	4	0	0
2	8	521111	4	20	30	8	8	5	7	0	0	0	7	4	4	0	4
2	8	113121	4	0	0	8	10	8	7	0	0	0	7	4	4	0	4
2	8	211111	4	0	0	10	10	8	5	0	0	0	6	4	4	0	4
2	8	224111	4	0	0	8	10	6	5	0	0	0	7	5	5	0	4
2	8	415310	4	-1	-1	1	-1	1	12	5	10	4	12	5	6	25	6
2	8	312111	4	0	0	8	10	7	5	0	0	0	7	4	0	0	4
.	8	314112	4	0	0	8	10	6	5	0	0	0	6	4	4	0	4
2	8	314113	4	-1	-1	3	5	3	7	3	0	0	7	4	4	0	4
2	8	412111	4	0	0	8	10	6	5	0	0	0	6	4	4	0	4
2	8	414111	4	0	0	7	10	5	7	0	0	0	6	4	4	0	4
2	8	525111	4	-1	-1	2	5	3	8	4	7	0	10	4	4	20	5

MY DUTIES AS A FDC MEN HAVE RANGED ANYWHERE FROM 57A1 (TRACK) MAINTANCE TO COMPUTER; RIO; FDC HCO, FDC VCO, TO CHEMICAL SURVEY TEAM. * OFF AND ON

DEMOGRAPHIC DATA

			WHEN MO YR	HOW LONG YR MO
GRADE	:E-4	FDC HCO :	80	2 5*
MOS	:13E10	FDC COMPUTER :	80	2 5*
IN ARMY	: 2YR 500*			
IN ARTILLERY	: 2YR 5 *			
COMBAT	:N			
ARTIL. COMBAT	:N	/SUPERVISED : 5		

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

FIRE DIRECTION CENTER CREW

				ORDINARY TASKS				CREW TASKS							
								FDO			HCO			COMPUTER	
CREW RESP	SYMP COMP	LOW	CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	SAY MISN	REVIEW CALC	SAY ORDER	PLOT TGT	ORIENT RDP	READ RANGE	CALC D Q	SAY SET
USUAL TIME,SEC			15	20	UNSTIPULATED				2	5	3	1	1	3	15	3
2	9	411111	4	21	26	3	30	5	10	4	0	6	8	0	5	0	5
2	9	515431	4	-1	35	1	5	5	23	5	10	6	9	5	6	25	7
2	9	114111	4	18	23	3	15	5	12	5	0	0	0	0	4	20	5
2	9	515311	4	-1	-1	1	3	1	25	5	7	0	7	5	5	20	5
2	9	213111	5	17	22	3	25	3	18	5	0	0	6	0	4	17	4
2	9	413111	5	19	24	2	20	3	15	6	0	0	7	0	5	19	5
2	9	311111	4	17	22	3	25	3	15	4	0	0	6	4	4	0	4
2	9	313111	4	18	23	3	20	3	15	4	0	0	6	4	4	17	4
2	9	515223	5	-1	-1	1	3	2	22	6	7	0	10	0	6	23	8
2	9	414112	4	25	21	3	20	3	19	5	6	0	6	0	4	19	5
2	9	535111	5	-1	-1	1	10	1	20	6	9	0	8	0	7	27	8
2	9	112111	5	17	21	3	30	4	18	0	0	0	0	0	0	17	0
2	9	514111	4	30	40	1	15	2	21	4	7	0	7	5	5	23	6
2	9	313112	4	-1	-1	1	15	2	19	4	6	0	6	0	4	20	5
2	9	315113	4	-1	-1	1	7	1	25	6	9	0	6	0	6	29	7
2	9	513111	4	20	25	1	20	2	19	5	7	0	6	0	999	17	4
2	9	123111	4	23	27	1	18	2	19	3	6	0	6	0	4	17	4
2	9	334231	5	-1	33	1	5	2	22	5	6	0	7	0	5	22	6
2	9	113111	4	18	23	3	15	5	12	5	0	0	0	0	4	20	5
2	9	521111	4	25	21	3	20	5	19	5	6	0	6	0	4	19	5
2	9	113121	5	20	25	3	25	3	17	4	0	0	6	0	0	18	4
2	9	211111	5	-0	0	3	25	3	18	3	6	0	6	0	0	18	4
2	9	224111	4	29	31	1	10	2	20	5	8	0	9	0	6	21	6
2	9	413114	5	-1	-1	1	4	1	30	11	15	0	11	0	10	40	10
2	9	312111	5	19	24	2	15	3	19	4	6	0	0	0	0	18	5
2	9	314112	4	26	29	2	12	2	21	5	9	0	8	0	7	21	7
2	9	31411	4	-1	41	1	8	2	22	6	9	0	10	0	9	22	9
2	9	412111	5	20	25	3	25	3	17	4	0	0	6	0	0	18	4
2	9	414111	5	19	26	3	20	2	19	5	0	0	7	0	0	17	5
2	9	525111	5	-1	-1	1	6	1	27	9	13	0	10	6	8	31	8

IN THE PAST YEAR I HAVE SUPERVISED THE OPERATION OF THE BIRY FDC AND BDC, WHILE ALSO OPERATING AS THE CHIEF COMPUTER.

DEMOGRAPHIC DATA

			WHEN MO	WHEN YR	HOW LONG YR	HOW LONG MO
GRADE	:E-6	FDC HCO :		78		6
MOS	:13C30	FDC COMPUTER :		78	4	
IN ARMY	: 5YR					
IN ARTILLERY	: 5YR					
COMBAT	:N					
ARTIL. COMBAT	:N	#SUPERVISED : 10				

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

FIRE DIRECTION CENTER CREW

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: FDO: SAY MISN	REVIEW CALC	SAY ORDER	HCO: PLOT TGT	ORIENT RDP	READ RANGE	COMPUTER: CALC D U	SAY SET
USUAL TIME,SEC			15	20	UNSTIPULATED				2	5	3	1	1	3	15	3
2 10	411111	A	17	21	6	30	10	15	3	6	0	7	0	5	19	6
2 10	515031	S	-1	-1	1	5	2	20	6	8	0	10	0	7	23	8
2 10	114111	A	17	23	3	15	5	17	0	0	0	6	0	4	18	0
2 10	515111	S	30	-1	1	3	1	17	5	8	0	9	0	7	20	7
2 10	213111	S	16	22	7	20	6	15	4	0	0	6	0	5	0	5
2 10	413111	A	18	26	4	12	7	17	5	0	0	7	0	5	18	6
2 10	311111	S	16	21	8	30	9	15	3	0	0	0	0	4	0	4
2 10	313111	S	19	26	3	10	4	17	3	0	0	6	0	4	17	4
2 10	515223	S	-1	-1	1	3	2	18	5	8	0	7	0	6	20	6
2 10	414112	A	-1	-1	1	3	2	16	4	6	0	7	0	6	20	5
2 10	535111	S	-1	-1	1	2	1	18	5	7	0	8	0	6	20	6
2 10	112111	S	16	22	5	16	7	15	0	0	0	0	0	0	16	0
2 10	514111	A	999	-1	2	6	3	17	4	6	0	7	0	6	19	6
2 10	313112	A	22	26	2	10	5	15	3	6	0	6	0	4	17	5
2 10	315113	A	-1	-1	1	1	1	17	3	6	0	7	0	4	18	4
2 10	513111	S	22	26	3	6	6	15	5	7	0	8	0	5	20	5
2 10	123111	S	17	28	6	15	6	15	0	0	0	0	0	0	17	0
2 10	334231	A	-1	-1	1	2	2	18	5	8	0	8	0	6	25	6
2 10	113111	S	16	22	6	20	7	15	0	0	0	0	0	0	17	0
2 10	521111	A	18	28	5	12	5	16	4	6	0	7	0	4	18	5
2 10	113121	A	19	25	3	8	4	15	3	6	0	6	0	4	18	0
2 10	211111	S	0	21	6	12	5	15	3	0	0	0	0	4	0	4
2 10	224111	A	20	-1	2	6	3	17	4	6	0	7	0	5	20	5
2 10	415314	S	-1	-1	1	2	2	22	5	7	0	9	0	7	22	6
2 10	312111	A	16	25	3	20	7	17	3	0	0	6	0	4	18	5
2 10	314112	A	-1	-1	2	8	4	16	3	6	0	6	0	4	18	5
2 10	314113	S	-1	-1	1	2	2	16	3	6	0	7	0	4	18	4
2 10	412111	A	20	28	4	8	7	15	4	6	0	7	0	5	18	5
2 10	414111	A	24	-1	3	4	2	16	4	6	0	7	0	5	19	5
2 10	525111	S	-1	-1	1	2	2	17	4	6	0	7	0	5	19	4

[illegible] MOS A LITTLE OVER A YEAR AND CAME

DEMOGRAPHIC DATA

			WHEN MO YR	HOW LONG YR MO
GRADE	:E-5	FDC HCO :	81	5
MOS	:13E20	FDC COMPUTER :	82	4
IN ARMY	: 3YR 6MO			
IN ARTILLERY	: 3YR 6 MOS			
COMBAT	:N			
ARTIL. COMBAT	:N	#SUPERVISED : 5		

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

FIRE DIRECTION CENTER CREW

CREW RESP	COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: FDO: SAY MISN	REVIEW CALC	SAY ORDER	HCO: PLOT TGT	ORIENT RDP	READ RANGE	COMPUTER: CALC D Q	SAY SET
USUAL TIME,SEC			15	20	UNSTIMULATED				2	5	3	1	1	3	15	3
2 12	411111	4	20	20	3	30	20	7	3	0	0	0	0	0	0	4
2 12	515431	3	45	50	2	5	3	9	8	12	7	9	6	6	20	7
2 12	114111	4	0	0	4	60	12	5	0	0	0	0	0	0	0	0
2 12	515311	3	25	40	2	5	7	5	5	7	7	7	5	5	20	5
2 12	213111	4	20	25	4	50	8	5	0	0	0	6	4	0	0	0
2 12	413111	4	25	30	2	25	5	7	3	0	4	6	4	0	16	4
2 12	311111	4	35	35	1	20	3	9	4	6	4	7	6	5	18	5
2 12	313111	3	30	28	2	20	3	7	5	7	5	7	5	5	18	6
2 12	515223	*	50	50	1	5	2	10	6	7	7	15	8	6	22	7
2 12	414112	3	20	30	4	25	7	5	3	0	4	6	4	0	0	4
2 12	535111	4	30	50	1	1	1	10	8	8	6	10	6	6	20	7
2 12	112111	4	0	0	6	60	12	5	0	0	0	0	0	0	0	0
2 12	514111	3	23	30	2	20	5	8	4	6	4	6	4	5	18	5
2 12	313112	3	20	30	2	10	6	7	3	0	4	7	5	0	0	5
2 12	315113	3	40	50	2	5	3	7	5	8	6	10	6	5	20	7
2 12	513111	3	35	45	2	15	3	8	4	7	5	7	5	5	17	6
2 12	123111	3	0	0	4	30	7	5	0	0	0	0	0	0	0	0
2 12	334231	3	25	35	2	15	3	7	4	7	5	7	5	5	18	5
2 12	113111	4	0	0	6	60	10	5	0	0	0	0	0	0	0	0
2 12	521111	3	20	40	1	5	3	7	5	7	5	7	6	5	20	7
2 12	113121	3	20	30	5	50	8	5	0	0	0	0	0	0	0	0
2 12	211111	3	10	25	5	60	8	6	3	0	4	0	0	4	0	4
2 12	224111	3	28	45	3	30	4	7	4	8	6	7	5	6	17	7
2 12	415314	3	40	60	1	1	1	10	6	10	6	10	9	7	25	7
2 12	312111	3	0	0	4	30	5	5	0	0	0	0	0	0	0	0
2 12	314112	3	20	40	3	20	3	7	3	6	4	6	4	4	16	4
2 12	314113	3	50	60	1	5	1	8	5	7	5	7	5	4	17	5
2 12	412111	3	20	30	4	40	3	7	0	0	0	0	0	0	0	0
2 12	414111	3	20	30	4	30	4	6	0	0	0	0	0	0	0	0
2 12	525111	3	35	45	1	5	1	7	5	7	6	7	5	7	19	7

I HAVE BEEN TACTICAL OPERATION SPECIALIST, ALSO AS ADDITIONAL DUTY I HAVE BEEN BN SCHOOL, A & R AND TRG NCO. * ALTERNATED

DEMOGRAPHIC DATA

			WHEN MO	WHEN YR	HOW LONG YR	HOW LONG MO
GRADE	:E-5	FDC HCO :	79		1	
MOS	:13F20	FDC COMPUTER :	79		1	6
TH ARMY	: 4YR					
TH ARTILLERY	: 4YR					
	WHEN					
COMBAT	:N					
ARTIL. COMBAT	:N	#SUPERVISED : 5				

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

FIRE DIRECTION CENTER CREW

CREW RESP	SYMP COMP	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: FDO: SAY MISN	REVIEW CALC	SAY ORDER	HCO: PLOT TGT	ORIENT RDP	READ RANGE	COMPUTER: CALC D O	SAY SET
USUAL TIME,SEC		15	20	UNSTIPULATED				2	5	3	1	1	3	15	3
2 13 411111	0	20	40	3	8	3	20	0	7	0	9	8	10	30	7
2 13 515431	0	-1	-1	-1	-1	-1	-1	15	15	10	-1	-1	-1	-1	-1
2 13 114111	0	25	45	4	5	8	20	10	0	0	11	12	10	25	7
2 13 515311	0	35	60	2	3	2	8	5	0	0	11	12	8	25	10
2 13 213111	0	25	35	3	5	4	12	0	0	0	9	12	7	25	7
2 13 413111	3	20	0	8	15	18	25	4	0	0	9	7	5	20	5
2 13 311111	0	25	28	15	25	20	10	0	0	0	9	6	9	25	9
2 13 313111	3	25	25	10	15	13	15	0	0	0	9	10	12	35	15
2 13 515223	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
2 13 414112	8	25	40	5	10	7	15	10	10	5	14	12	15	25	10
2 13 535111	5	-1	-1	-1	-1	-1	-1	7	10	6	11	17	10	30	10
2 13 112111	4	20	30	10	20	15	15	0	0	0	8	7	5	20	5
2 13 514111	0	-1	-1	-1	-1	-1	-1	7	10	8	-1	-1	-1	-1	-1
2 13 313112	3	20	40	2	10	8	20	10	7	5	14	7	7	35	12
2 13 315113	0	-1	-1	-1	-1	-1	-1	10	12	10	-1	-1	-1	-1	-1
2 13 513111	0	30	40	15	20	10	15	0	0	0	11	12	10	30	7
2 13 123111	3	30	40	5	10	6	20	0	0	0	9	7	5	25	7
2 13 334231	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
2 13 113111	0	30	25	20	25	15	15	0	0	0	8	5	6	20	7
2 13 521111	0	30	30	15	20	20	20	0	0	0	9	7	5	25	7
2 13 113121	4	20	0	5	10	10	15	7	10	6	9	7	6	20	5
2 13 211111	2	20	0	4	5	10	15	0	0	0	7	7	5	20	6
2 13 224111	3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
2 13 415314	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
2 13 312111	0	25	30	4	3	20	12	7	10	6	9	7	5	30	7
2 13 314112	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
2 13 314113	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
2 13 412111	5	20	25	6	10	10	15	0	0	0	11	9	6	20	6
2 13 414111	5	-1	-1	-1	-1	-1	-1	7	10	6	9	7	5	30	10
2 13 525111	0	25	40	2	-1	-1	20	7	10	7	9	0	5	20	6

[illegible] AS FIRE CONTROL HCO AND SUPERVISED ALL PERSONELL THAT WORKS UNDER HE.

DEMOGRAPHIC DATA

			WHEN MO	WHEN YR	HOW LONG YR	HOW LONG MO
GRADE	:E-6	FDC HCO :		75	1	
MOS	:13C30	FDC COMPUTER :		76	4	
IN ARMY	:13YR					
IN ARTILLERY	: 7YR					
COMBAT	:Y 69 71					
ARTIL. COMBAT	:N	#SUPERVISED : 10				

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

FIRE DIRECTION CENTER CREW

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: FDO: SAY MISN	REVIEW CALC	SAY ORDER	HCO: PLOT TGT	ORIENT RDP	READ RANGE	COMPUTER: CALC D Q	SAY SET
USUAL TIME,SEC			15	20	UNSTIPULATED				2	5	3	1	1	3	15	3
2 14	411111	A	20	0	3	30	10	10	0	0	7	0	0	5	20	5
2 14	515431	A	-1	-1	1	-1	-1	-1	-1	-1	-1	19	12	20	25	30
2 14	114111	A	0	35	3	20	4	10	0	0	0	0	0	0	0	0
2 14	515311	A	30	45	-1	-1	-1	20	10	12	0	11	7	10	20	8
2 14	213111	A	0	25	3	20	2	5	0	0	0	9	7	7	18	7
2 14	413111	A	0	30	3	30	7	10	0	8	0	9	7	9	0	0
2 14	311111	A	0	0	4	60	8	5	0	0	0	11	9	10	20	8
2 14	313111	A	20	35	3	45	4	5	0	0	0	9	9	10	20	5
2 14	515223	A	-1	-1	-1	-1	-1	10	4	7	5	9	5	8	20	10
2 14	414112	A	20	25	1	-1	-1	10	0	0	0	0	0	0	20	10
2 14	535111	A	20	40	3	10	-1	10	4	7	5	19	9	10	20	15
2 14	112111	A	0	0	4	60	10	5	0	0	0	0	0	0	0	0
2 14	514111	A	25	50	1	5	1	10	0	0	0	14	7	8	20	8
2 14	313112	A	17	22	1	10	1	10	4	7	5	11	7	5	17	5
2 14	315113	A	10	23	-1	-1	-1	-1	5	8	6	12	8	6	18	6
2 14	513111	A	0	0	3	50	4	10	7	0	0	14	10	15	25	8
2 14	123111	A	0	0	4	60	3	10	0	0	0	12	7	10	0	0
2 14	334231	A	25	-1	-1	-1	-1	10	-1	-1	-1	14	10	0	0	0
2 14	113111	A	20	40	4	90	7	10	0	0	0	0	0	0	0	0
2 14	521111	A	25	40	5	90	7	5	0	0	0	0	0	0	0	0
2 14	113121	A	25	35	4	65	4	10	0	0	0	13	0	10	0	0
2 14	211111	A	0	0	9	120	7	5	0	10	0	0	0	10	20	0
2 14	224111	A	30	60	1	10	1	10	7	10	0	12	0	10	20	8
2 14	415314	A	60	90	-1	-1	-1	20	20	30	0	14	0	20	30	45
2 14	312111	A	0	0	3	45	5	10	0	0	0	14	12	15	20	10
2 14	314112	A	0	0	2	10	3	10	0	8	10	19	0	10	0	0
2 14	314113	A	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	20	10
2 14	412111	A	20	25	4	90	5	10	0	0	0	12	7	5	20	8
2 14	414111	A	60	120	9	120	8	5	0	0	0	12	7	10	25	20
2 14	525111	A	25	60	3	45	3	10	0	0	0	14	10	15	20	10

SUPPORTING BN FDC IN TARGETING AND ACCURACY OF LANDING A ROUND ON TARGET/ HE / NUC AND VARIOUS COMBINATIONS OF ROUNDS. VOICE AND COMMAND OPERATIONS FOR ENCYRPT MESSAGES.

DEMOGRAPHIC DATA

GRADE :E-4
MOS :13C10
IN ARMY : 5YR 6MO
IN ARTILLERY : 2YR 6 WHEN
COMBAT :N
ARTIL. COMBAT:N

FDC HCO :
FDC COMPUTER : 1 R1 2

#SUPERVISED : 5

WHEN NO YR | HOW LONG YR MO

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

FIRE DIRECTION CENTER CREW

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	CALK	LIFT BOXES	OPEN LOCK	CREW TASKS: FDO: SAY MISN	REVIEW CALC	SAY ORDER	HCO: PLOT TGT	ORIENT RDP	READ RANGE	COMPUTER: CALC D G	SAY SET
USUAL TIME,SEC			15	20	UNSTIPULATED				2	5	3	1	1	3	15	3
2 15	411111	5	30	45	5	40	7	10	0	10	0	0	0	9	0	0
2 15	515431	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
2 15	114111	4	45	53	3	15	5	12	4	10	5	14	12	15	30	0
2 15	515311	5	87	120	3	10	5	15	5	10	6	13	6	15	33	0
2 15	213111	3	0	30	4	20	6	10	0	0	0	0	0	10	20	0
2 15	413111	4	0	0	6	20	7	10	0	10	0	17	12	9	23	0
2 15	311111	5	0	0	8	40	8	5	0	0	0	11	5	15	20	0
2 15	313111	3	0	0	7	20	5	10	0	0	0	12	0	15	20	0
2 15	515223	3	30	60	3	15	8	15	0	-1	0	-1	9	-1	-1	10
2 15	414112	5	0	30	4	22	6	7	0	0	0	12	7	12	25	0
2 15	535111	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
2 15	112111	5	0	25	5	40	9	7	0	0	0	0	0	0	18	0
2 15	514111	3	34	40	4	15	6	12	8	10	6	17	11	9	30	6
2 15	313112	3	30	27	3	1	4	15	8	15	9	13	6	15	35	5
2 15	315113	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
2 15	513111	4	19	33	6	20	7	10	0	10	0	11	5	10	23	0
2 15	123111	4	-1	-1	-1	-1	-1	-1	0	-1	-1	-1	-1	-1	-1	-1
2 15	334251	4	-1	-1	-1	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
2 15	113111	5	0	0	9	40	10	7	0	0	0	0	0	0	0	0
2 15	521111	3	0	35	5	15	5	12	8	10	0	11	6	10	25	0
2 15	113121	5	0	40	5	30	7	9	6	15	12	11	9	18	33	0
2 15	211111	5	0	0	8	45	12	7	0	0	0	0	0	0	0	0
2 15	224111	3	-1	-1	3	10	5	12	0	-1	0	-1	-1	-1	-1	0
2 15	415313	5	-1	-1	1	5	2	15	-1	-1	-1	-1	-1	-1	-1	-1
2 15	312111	3	0	30	4	20	6	10	0	10	0	11	6	6	20	0
2 15	314112	3	30	40	4	20	5	10	4	-1	6	12	11	9	30	6
2 15	314113	4	-1	-1	1	10	3	12	-1	-1	-1	-1	-1	-1	-1	-1
2 15	412111	3	30	40	5	30	6	12	4	10	6	11	9	11	22	6
2 15	414111	5	0	0	7	45	9	7	0	0	0	0	0	0	0	0
2 15	525111	5	-1	-1	1	5	3	18	-1	-1	-1	-1	-1	-1	-1	-1

HEAVY MAINTENANCE ON VEHICLES, TRAINING FOR AN ARTEP, SUPPORTING STR POWER UP THE SHELTER, MAINTAIN HE CCU, SET UP, TURN DOWN THE NET ! MAINTAIN 5 TON GENERATOR. * YES

DEMOGRAPHIC DATA

			WHEN MO YR	HOW LONG YR MO
GRADE	:E-5	FDC HCO :		*
MOS	:13C20	FDC COMPUTER :		*
IN ARMY	: 5YR 6MO			
IN ARTILLERY	: 4YR 6			
	WHEN			
COMBAT	:N			
ARTIL. COMBAT	:N	#SUPERVISED : 10		

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

FIRE DIRECTION CENTER CREW

CREW RESP	SYMP COMP	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: FDO: SAY MISN	REVIEW CALC	SAY ORDER	HCO: PLOT TGT	ORIENT HDP	READ RANGE	COMPUTER: CALC D Q	SAY SET
USUAL TIME,SEC		15	20	UNSTIPULATED				2	5	3	1	1	3	15	3
2 16	411111 A	60	60	3	7	10	6	5	10	0	8	5	8	50	10
2 16	515431 A	-1	-1	-1	-1	1	190	30	90	7	165	65	80	120	90
2 16	114111 A	-1	-1	2	3	5	20	6	40	0	30	20	10	40	10
2 16	515311 A	-1	-1	-1	1	2	60	50	70	0	60	15	15	50	20
2 16	213111 A	25	65	2	4	5	10	10	30	0	15	8	10	30	0
2 16	413111 3	50	50	2	10	8	10	4	10	0	9	9	10	30	15
2 16	311111 3	45	60	2	5	5	10	4	15	2	10	5	6	20	10
2 16	313111 3	50	65	2	2	6	20	4	10	5	10	6	10	50	20
2 16	515223 A	-1	-1	-1	-1	-1	95	25	165	30	150	65	40	85	40
2 16	414112 3	-1	260	-1	-1	1	90	55	95	50	90	80	40	50	55
2 16	535111 A	-1	-1	1	1	1	65	65	130	30	120	55	90	120	70
2 16	112111 A	25	40	3	12	10	20	0	7	0	8	5	5	20	5
2 16	514111 3	-1	-1	-1	-1	-1	75	12	20	10	25	40	80	60	35
2 16	313112 3	110	150	1	2	5	60	20	45	10	55	50	40	65	30
2 16	315113 A	-1	-1	-1	-1	-1	120	40	65	25	125	60	100	180	50
2 16	513111 A	-1	-1	-1	-1	1	60	40	65	20	70	70	120	75	30
2 16	123111 A	35	-1	3	5	1	60	-1	-1	5	-1	-1	-1	-1	-1
2 16	334231 A	-1	-1	-1	-1	-1	70	45	120	15	150	160	60	120	50
2 16	113111 A	55	65	2	4	5	30	0	0	0	7	6	6	25	6
2 16	521111 A	-1	-1	-1	-1	-1	65	25	50	25	110	60	90	70	60
2 16	113121 A	45	75	2	5	5	35	20	40	30	55	50	45	60	40
2 16	211111 A	45	70	2	4	5	40	20	15	0	10	15	15	25	10
2 16	224111 A	-1	-1	-1	-1	-1	70	40	45	7	-1	-1	-1	-1	15
2 16	415314 A	-1	-1	-1	-1	-1	-1	45	-1	20	-1	-1	-1	-1	45
2 16	312111 A	70	80	2	4	4	60	20	20	10	25	20	15	40	10
2 16	314112 A	-1	-1	-1	-1	-1	65	20	45	10	40	70	55	60	25
2 16	314113 A	-1	-1	-1	-1	-1	60	20	40	10	80	40	40	55	15
2 16	412111 A	65	75	2	3	3	50	15	20	10	20	25	40	55	40
2 16	414111 A	-1	-1	-1	2	2	75	20	35	15	40	40	40	60	15
2 16	525111 A	-1	-1	-1	-1	-1	65	30	-1	20	-1	-1	-1	-1	45

I HAVE BEEN A SUPERVISER FOR A FDC SECTION FOR THE PAST YEAR

DEMOGRAPHIC DATA

			WHEN MO YR	HOW LONG YR MO
GRADE	:E-5	FDC HCO	: 78	
MOS	:13E20	FDC COMPUTER	: 79	
IN ARMY	: 4YR			
IN ARTILLERY	: 4YR			
	WHEN			
COMBAT	:N			
ARTIL. COMBAT	:N	#SUPERVISED : 10		

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

FIRE DIRECTION CENTER CREW

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: FDO SAY MISN	FDO REVIEW CALC	FDO SAY ORDER	HCO PLOT TGT	HCO ORIENT RDP	HCO READ RANGE	COMPUTER CALC D Q	COMPUTER SAY SET
USUAL TIME,SEC			15	20	UNSTIPULATED				2	5	3	1	1	3	15	3
2	20	411111	3	30	60	7	1	4	35	8	15	7	10	0	10	25	11
2	20	515031	4	-1	-1	4	1	2	60	7	15	11	20	10	15	40	18
2	20	114111	4	35	60	6	1	2	6	8	11	7	0	0	5	22	11
2	20	515311	4	-1	-1	-1	-1	2	30	10	15	13	15	0	13	40	10
2	20	213111	5	0	0	30	4	7	10	0	0	0	0	0	0	0	0
2	20	413111	4	0	0	20	5	8	10	0	0	0	8	0	7	20	0
2	20	311111	4	20	22	20	5	4	10	5	6	4	6	5	0	0	0
2	20	313111	3	0	0	4	7	8	13	0	0	[illegible]	0	0	0	0	0
2	20	515223	3	-1	-1	-1	-1	-1	17	-1	-1	-1	-1	-1	-1	-1	-1
2	20	413112	3	30	40	-1	-1	-1	11	7	10	8	12	4	6	30	6
2	20	575111	2	-1	-1	-1	-1	-1	9	8	-1	9	-1	6	9	40	9
2	20	112111	3	0	0	3	10	80	7	0	0	0	0	0	0	0	0
2	20	514111	4	25	25	4	4	6	9	0	0	8	7	0	5	17	50
2	20	313112	4	20	30	-1	-1	4	16	0	0	6	8	0	0	0	0
2	20	315113	4	-1	-1	-1	-1	-1	13	0	0	13	18	0	9	19	11
2	20	513111	4	20	25	2	8	7	9	0	0	0	0	0	0	0	0
2	20	123111	3	30	35	7	6	7	9	0	0	0	6	4	4	17	5
2	20	334231	3	-1	-1	-1	-1	-1	9	-1	0	-1	8	0	7	20	7
2	20	113111	3	0	0	7	8	9	10	0	0	0	0	0	0	0	0
2	20	521111	4	-1	-1	-1	-1	-1	15	-1	-1	-1	-1	-1	-1	-1	-1
2	20	113121	4	20	25	3	3	4	12	0	0	0	7	4	4	17	4
2	20	211111	4	-1	-1	7	4	4	9	-1	-1	-1	-1	-1	-1	-1	-1
2	20	224111	4	30	40	3	3	4	14	3	7	6	7	6	6	20	6
2	20	415314	4	-1	-1	-1	-1	-1	20	-1	-1	-1	-1	-1	-1	-1	-1
2	20	312111	4	0	0	1	2	4	10	4	7	6	0	0	6	20	6
2	20	314112	3	-1	-1	-1	-1	4	13	4	10	7	7	5	7	20	7
2	20	314113	4	-1	-1	-1	-1	-1	17	6	13	13	10	6	10	30	7
2	20	412111	4	20	25	2	3	4	7	0	0	0	0	0	0	0	0
2	20	414111	3	30	35	2	2	3	13	5	11	9	9	5	9	20	9
2	20	525111	4	-1	-1	-1	-1	-1	15	6	7	7	10	0	9	30	9

NOC HCO AND ORDERLY ROOM CLERK PRIOR TO TAKING OVER FDC SECTION

DEMOGRAPHIC DATA

			WHEN MO YR	HOW LONG YR MO
GRADE	:E-5	FDC HCO :	0	0
MOS	:13E	FDC COMPUTER :	0	0
IN ARMY	:10YR			
IN ARTILLERY	: 1YR			
	WHEN			
COMBAT	:N			
ARTIL. COMBAT	:N	#SUPERVISED : 5		

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

FIRE DIRECTION CENTER CREW

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: FDO: SAY MISN	REVIEW CALC	SAY ORDER	HCO: PLOT TGT	ORIENT RDP	READ RANGE	COMPUTER: CALC D Q	SAY SET
USUAL TIME,SEC			15	20	UNSTIPULATED				2	5	3	1	1	3	15	3
2 21	411111	3	-1	-1	1	30	5	20	8	12	6	11	7	5	35	6
2 21	515431	3	-1	-1	-1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
2 21	114111	4	25	30	2	3	4	12	5	0	0	6	4	0	20	0
2 21	515311	4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
2 21	213111	3	20	25	3	7	11	13	3	7	5	6	4	4	20	4
2 21	413111	3	30	30	2	1	5	20	5	8	5	10	6	4	22	999
2 21	311111	4	20	25	3	2	10	15	0	0	0	0	0	0	0	0
2 21	313111	4	20	25	2	2	8	13	0	0	0	0	0	0	0	0
2 21	515223	4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
2 21	414112	3	-1	-1	-1	-1	-1	-1	7	-1	8	-1	-1	-1	-1	-1
2 21	535111	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
2 21	112111	3	20	25	5	5	10	13	3	6	0	6	4	4	18	4
2 21	514111	4	40	50	-1	2	4	20	5	10	5	10	6	5	25	5
2 21	313112	3	20	25	2	3	15	12	3	0	0	6	0	0	20	0
2 21	315113	2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
2 21	513111	3	22	28	3	3	6	15	8	11	6	10	9	5	30	5
2 21	123111	3	25	30	3	4	7	14	4	8	5	10	8	5	25	7
2 21	334231	4	999	999	-1	-1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1
2 21	113111	4	25	30	2	3	4	12	3	0	0	6	4	0	20	0
2 21	521111	4	40	50	-1	2	4	20	10	20	5	10	6	5	25	5
2 21	113121	3	20	25	3	7	11	13	3	7	5	6	4	4	20	4
2 21	211111	3	20	25	3	7	11	13	3	7	5	6	4	4	20	4
2 21	224111	3	30	40	2	2	7	15	6	12	8	12	10	7	30	7
2 21	415314	3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
2 21	312111	3	20	25	2	3	15	12	3	0	0	6	0	0	20	0
2 21	314112	3	25	28	2	2	6	15	8	12	7	10	9	5	27	6
2 21	314113	3	25	23	2	1	4	16	8	12	7	10	9	5	27	6
2 21	412111	3	25	35	1	28	4	18	7	11	5	10	6	4	30	5
2 21	414111	3	-1	-1	1	30	5	20	8	12	6	11	7	5	35	6
2 21	525111	3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1

I HAVE BEEN SECITON CHIEF IN FDC FOR 4 MONTHS AND BEFORE THAT I WAS THE CHIEF COMPUTER

DEMOGRAPHIC DATA

GRADE :E-4
MOS :13E20
IN ARMY : 2YR
IN ARTILLERY : 2YR
UNLN
COMBAT :N
ARTIL. COMBAT:N

FDC HCO : WHEN MO YR 80, HOW LONG YR MO 5
FDC COMPUTER : WHEN MO YR 91, HOW LONG YR MO 6

#SUPERVISED : 5

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

FIRE DIRECTION CENTER CREW

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: FDO: SAY MISN	REVIEW CALC	SAY ORDER	HCO: PLOT TGT	ORIENT RDP	READ RANGE	COMPUTER: CALC D Q	SAY SET
USUAL TIME,SEC			15	20	UNSTIPULATED				2	5	3	1	1	3	15	3
2 23 411111		3	25	30	3	2	4	10	4	10	0	8	8	4	20	10
2 23 515431		3	-1	-1	1	1	2	10	10	-1	5	15	5	10	30	15
2 23 114111		3	25	25	3	2	5	10	0	8	0	7	4	4	0	5
2 23 515311		3	-1	-1	5	2	1	10	5	10	4	8	4	5	20	5
2 23 213111		3	10	25	2	2	3	10	3	10	0	6	0	4	20	5
2 23 413111		3	0	0	4	3	6	5	3	0	0	8	0	0	0	0
2 23 311111		3	20	25	4	3	5	5	4	0	0	0	0	4	20	5
2 23 313111		3	20	25	4	3	4	5	4	8	0	8	4	5	20	5
2 23 515223		3	-1	-1	-1	0.5	1	10	5	10	0	10	5	5	25	5
2 23 414[illegible]		3	25	30	3	3	3	5	5	10	0	10	4	5	25	5
2 23 5351[illegible]		3	-1	-1	-1	-1	-1	20	70	-1	5	10	5	10	35	10
2 23 112111		3	20	30	3	2	6	5	4	0	0	8	0	0	18	5
2 23 514111		3	30	35	2	1	5	10	4	8	0	8	4	5	20	5
2 23 313112		3	20	30	2	1	5	10	10	10	4	9	4	6	25	6
2 23 315113		3	-1	-1	0.5	0.5	1	10	8	10	5	10	4	6	25	10
2 23 513111		3	-1	-1	1	1	2	15	5	10	5	8	4	5	20	5
2 23 123111		4	-1	35	-1	1	3	10	10	-1	4	10	4	5	30	5
2 23 334231		4	-1	-1	-1	-1	-1	15	10	-1	5	10	5	10	30	10
2 23 113111		4	20	25	5	3	6	5	0	0	0	0	0	0	18	0
2 23 521111		3	30	-1	2	1	2	10	5	8	0	8	4	4	20	5
2 23 113121		3	30	-1	2	1	2	10	5	8	4	8	4	5	25	8
2 23 211111		4	25	30	3	1.5	5	10	5	10	4	8	4	5	20	8
2 23 224111		4	35	-1	2	-1	1	15	10	15	5	10	4	7	30	7
2 23 415314		4	-1	-1	-1	-1	-1	30	20	-1	8	15	5	15	45	10
2 23 312111		3	30	40	2	1	5	10	10	10	6	10	6	7	25	8
2 23 314112		3	25	-1	2	1	3	12	10	10	5	10	5	4	20	8
2 23 314113		4	-1	-1	1	0.5	2	15	15	15	8	10	7	5	25	6
2 23 412111		4	20	40	2	1	5	10	8	10	4	9	4	6	23	8
2 23 414111		4	25	30	3	2	5	10	8	10	4	10	4	6	20	8
2 23 525111		4	-1	-1	-1	-1	1	15	10	15	5	10	7	10	35	10

WORKING IN FDC IN KOREA AND THE USA, USING BOTH THE 198 AND 109A3 HOWITZERS. I HAVE LATELY BEEN WORKING AS COMPUTER FOR C 2/37 FA DURING EXAMS AND ALSO WAS COMPUTER DURING XM825 SMOKE TEST FOR THE U.S. ARMY FIELD ARTILLERY BOARD.

DEMOGRAPHIC DATA

				WHEN MO YR	HOW LONG YR MO
GRADE	:E-4	FDC HCO	:		2
MOS	:13F10	FDC COMPUTER	:		6
IN ARMY	: 2YR				
IN ARTILLERY	: 2YR				
COMBAT	:N (WHEN)				
ARTIL. COMBAT	:N	#SUPERVISED	: 5		

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

FIRE DIRECTION CENTER CREW

			ORDINARY TASKS						CREW TASKS							
									FDO			HCO			COMPUTER	
CREW RESP	SYMP COMP	CON	CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	SAY MISN	REVIEW CALC	SAY ORDER	PLOT TGT	ORIENT RDP	READ RANGE	CALC D Q	SAY SET
USUAL TIME,SEC			15	20	UNSTIPULATED				2	5	3	1	1	3	15	3
2	24	411111	A	20	0	4	10	7	10	0	0	0	0	0	0	0
2	24	515431	S	30	90	1	3	2	15	10	7	5	12	7	7	20	5
2	24	114111	A	17	0	5	12	5	10	0	0	0	7	4	4	17	0
2	24	515311	A	45	-1	3	5	1	30	5	4	0	9	0	6	20	5
2	24	213111	A	0	25	5	12	7	10	0	0	0	8	5	0	17	0
2	24	413111	A	0	25	4	10	6	15	5	7	4	10	5	5	17	0
2	24	311111	A	0	25	5	15	5	12	3	0	0	12	6	5	20	5
2	24	313111	A	10	30	4.5	12	5	14	3	6	0	13	7	5	23	5
2	24	515223	A	-1	-1	-1	3	1	30	7	7	5	15	12	8	30	7
2	24	414112	A	20	25	5	15	7	12	4	0	0	9	5	5	20	5
2	24	535111	A	-1	-1	[illegible]	5	1	30	5	7	5	15	7	7	27	5
2	24	112111	A	17	23	6	17	7	10	0	6	0	7	5	4	0	0
2	24	514111	A	25	25	4	11	5	13	4	0	0	10	5	0	17	0
2	24	313112	A	30	30	5	12	5	17	5	7	4	7	4	4	17	4
2	24	315113	A	60	-1	1	5	3	25	6	8	6	12	10	6	30	6
2	24	513111	A	25	30	3	8	5	17	4	0	0	9	5	5	17	5
2	24	123111	A	20	25	6	15	6	12	4	7	5	7	5	5	17	5
2	24	334231	A	40	-1	3	7	3	21	7	10	7	14	7	7	30	7
2	24	113111	A	17	23	5	14	6	11	3	6	4	7	5	4	17	4
2	24	521111	A	20	27	5	13	0	12	4	0	0	7	4	4	17	4
2	24	113121	A	20	25	5	10	6	15	3	6	0	7	4	0	0	0
2	24	211111	A	30	21	5	12	5	15	3	4	0	8	5	4	18	5
2	24	224111	A	25	27	4	12	5	17	4	7	5	9	5	5	18	5
2	24	415314	A	-1	-1	1	3	2	20	7	10	7	15	10	7	30	7
2	24	312111	A	26	25	[illegible]	10	6	12	4	6	0	7	4	0	17	4
2	24	314112	A	30	35	4	10	4	15	4	7	4	10	5	4	22	5
2	24	314113	A	-1	-1	1	4	1	25	5	9	7	15	7	7	30	8
2	24	412111	A	17	23	4	12	6	17	3	6	0	7	4	4	19	4
2	24	414111	A	25	30	4	10	0	13	4	6	4	8	6	0	17	4
2	24	525111	A	-1	-1	1	5	2	15	5	9	5	12	6	5	22	6

I WORKED IN AN FDC SECTION UNTIL I RECEIVED A PREGNANT. PROFILE,KEEPING ME FROM GOING TO THE FIELD. NOW I AM WORKING AS CLERK/ TYPIST IN THE S-3 SECTION.

DEMOGRAPHIC DATA

			WHEN MO YR	HOW LONG YR MO
GRADE	:E-4	FDC HFU	:10 81	5
MOS	:13E10	FDC COMPUTER	: 1 82	8
IN ARMY	: 2YR 11MO			
IN ARTILLERY	: 2YR 1			
COMBAT	:N			
ARTIL. COMBAT:N		*SUPERVISED : 5		

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

FIRE DIRECTION CENTER CREW

CREW RESP	SYMP COMP	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: FDO SAY MISN	FDO REVIEW CALC	FDO SAY ORDER	HCO PLOT TGT	HCO ORIENT HDP	HCO READ RANGE	COMPUTER CALC D Q	COMPUTER SAY SET
USUAL TIME,SEC		15	20	UNSTIPULATED				2	5	3	1	1	3	15	3
2 25	411111 4	25	35	1	2	1	8	4	0	0	7	7	5	0	0
2 25	515231 4	-1	-1	-1	1	-1	8	10	10	8	8	5	5	25	6
2 25	114111 5	-1	-1	1	-1	1	12	0	0	0	6	4	0	0	5
2 25	515311 5	25	25	1	1	1	10	7	6	0	10	10	5	0	7
2 25	213111 5	-1	-1	1	1	1	10	5	8	4	8	5	8	20	0
2 25	413111 5	25	25	1	1	2	10	0	7	0	6	5	5	0	5
2 25	311111 5	20	25	2	2	2	10	0	0	0	0	0	0	0	4
2 25	313111 5	-1	-1	1	-1	-1	15	4	7	4	8	8	12	0	10
2 25	515223 5	-1	-1	-1	-1	-1	20	20	25	15	-1	-1	-1	30	15
2 25	414112 5	20	25	2	2	3	10	4	6	5	8	5	8	0	8
2 25	535111 5	-1	-1	-1	1	-1	15	15	20	15	-1	15	15	30	18
2 25	112111 8	0	0	2	3	5	10	0	0	0	0	0	0	0	0
2 25	514111 4	21	0	1	1	5	10	4	8	4	6	0	0	0	4
2 25	313112 5	-1	-1	-1	-1	-1	20	4	6	4	8	6	0	21	5
2 25	315113 5	-1	-1	-1	-1	-1	20	-1	25	20	-1	10	10	30	7
2 25	513111 5	21	25	4	1	3	15	4	6	5	8	4	4	0	5
2 25	123111 5	22	30	1	2	3	10	0	0	0	0	0	0	18	0
2 25	334231 5	-1	-1	-1	-1	-1	25	-1	20	-1	18	10	-1	25	18
2 25	113111 5	20	25	4	2	3	10	0	0	0	6	0	0	0	0
2 25	521111 5	20	22	2	1	3	11	8	6	4	8	5	5	21	8
2 25	113121 5	21	26	2	1	3	11	4	6	4	8	6	8	18	5
2 25	211111 5	20	25	2	1	3	12	4	0	4	0	0	5	18	10
2 25	224111 8	22	22	1	1	3	16	6	9	5	10	8	8	20	6
2 25	415314 3	-1	-1	-1	-1	-1	35	-1	-1	-1	-1	-1	-1	40	-1
2 25	312111 3	18	28	2	1	2	10	5	8	4	8	5	5	20	5
2 25	314112 2	22	23	2	1	2	10	6	6	5	8	6	5	20	5
2 25	314113 3	22	25	2	1	2	11	-1	20	-1	10	7	16	25	5
2 25	412111 5	21	25	2	2	3	15	6	0	5	9	0	5	0	5
2 25	414111 5	21	25	2	2	3	15	6	0	5	9	0	5	0	5
2 25	525111 8	18	23	1	1	3	16	8	9	5	10	6	6	20	5

FDC CHIEF/SIP HCO/A & R HCO AND CCC HCO. MY TIME IS SPENT IN ONE OF THESE AREA'S ALMOST ALL OF THE TIME! * 6-8 MONTHS

DEMOGRAPHIC DATA

			WHEN MO YR	HOW LONG YR MO
GRADE	:E-6	FDC HCO :	77	*
MOS	:13E30	FDC COMPUTER :	78	2
IN ARMY	: 5YR			
IN ARTILLERY	: 5YR			
	WHEN			
COMBAT	:N			
ARTIL. COMBAT	:N	#SUPERVISED : 10		

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

FIRE DIRECTION CENTER CREW

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: FDO: SAY MISN	FDO: REVIEW CALC	FDO: SAY ORDER	HCO: PLOT TGT	HCO: ORIENT RDP	HCO: READ RANGE	COMPUTER: CALC D Q	COMPUTER: SAY SET
USUAL TIME,SEC			15	20	UNSTIPULATED				2	5	3	1	1	3	15	3
2	27	411111	A	17	25	5	3	6	8	3	6	4	7	0	5	20	4
2	27	515431	A	35	50	1	1	3	12	6	11	5	12	6	6	30	10
2	27	114111	A	20	25	4	3	5	7	0	7	0	6	0	4	19	4
2	27	515311	3	20	27	3	2	3	7	4	7	4	8	5	5	20	5
2	27	213111	A	17	23	5	4	6	7	0	0	0	6	0	0	17	0
2	27	413111	A	18	23	5	5	6	7	0	6	0	7	0	0	18	0
2	27	311111	A	17	23	4	5	6	6	0	0	0	6	0	0	20	0
2	27	313111	A	17	23	3	4	5	8	0	6	0	7	0	4	21	0
2	27	515223	A	30	30	2	2	3	9	4	9	4	10	5	6	30	7
2	27	414112	A	23	28	4	3	4	8	3	6	4	10	4	4	20	5
2	27	535111	A	25	31	3	3	5	9	4	12	5	10	5	6	23	7
2	27	112111	A	0	0	8	10	10	6	0	0	0	0	0	0	0	0
2	27	514111	A	24	30	4	4	5	9	4	7	5	10	4	5	20	6
2	27	313112	3	20	27	3	2	3	7	3	7	4	7	4	5	20	5
2	27	313113	A	30	35	2	2	3	9	4	8	4	9	5	6	28	6
2	27	513111	A	24	30	4	4	3	9	4	7	5	10	4	5	20	6
2	27	123111	A	20	28	4	5	6	6	0	0	0	6	0	0	17	0
2	27	334231	A	35	50	1	1	3	10	5	10	4	10	5	5	30	10
2	27	113111	A	0	0	7	6	7	6	0	0	0	0	0	0	0	0
2	27	521111	A	21	26	3	3	5	7	4	7	5	8	5	5	21	7
2	27	113121	A	0	23	5	4	6	7	0	0	0	0	0	0	17	0
2	27	211111	A	17	21	5	4	6	6	0	0	0	6	0	0	17	0
2	27	224111	A	21	28	4	3	4	7	3	6	4	6	4	4	19	5
2	27	415314	A	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	10	-1	-1	10
2	27	312111	A	18	25	5	4	5	6	4	7	4	6	4	0	20	4
2	27	314112	A	22	27	4	4	4	7	5	8	5	6	6	4	22	4
2	27	314113	A	20	32	3	3	3	9	5	8	4	7	4	6	22	7
2	27	412111	A	18	25	5	4	5	6	4	7	4	6	4	0	20	4
2	27	414111	A	21	28	4	4	5	7	3	7	0	6	0	5	19	0
2	27	525111	A	28	32	2	3	2	8	6	9	4	10	5	5	22	6

NOV 81-FEB 82 HHB 130 FEB 82-NOV 82 OPN SGT

DEMOGRAPHIC DATA

			WHEN NO YR	HOW LONG YR NO
GRADE	:E-7	FDC HCO :	72	3
MOS	:13C4M	FDC COMPUTER :	75	5
IN ARMY	:13YR			
IN ARTILLERY	:13YR			
	WHEN			
COMBAT	:Y 70			
ARTIL. COMBAT	:0	#SUPERVISED	:>50	

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

FIRE DIRECTION CENTER CREW

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: FDO: SAY MISN	REVIEW CALC	SAY ORDER	HCO: PLOT TGT	ORIENT RDP	READ RANGE	COMPUTER: CALC D Q	SAY SET
USUAL TIME,SEC			15	20	UNSTIPULATED				2	5	3	1	1	3	15	3
2 28	411111	A	0	0	8	20	10	10	0	0	0	6	0	4	0	0
2 28	515431	A	-1	-1	1	5	3	10	4	10	4	15	0	5	20	5
2 28	114111	A	20	25	4	10	8	8	0	7	0	7	0	0	0	0
2 28	515311	A	120	60	3	5	6	10	6	10	5	15	5	5	25	5
2 28	213111	A	20	23	10	30	10	5	0	0	0	0	0	4	17	0
2 28	413111	3	0	0	15	30	15	5	0	0	0	0	0	5	20	0
2 28	311111	A	0	0	10	35	15	5	0	0	0	0	0	0	0	0
2 28	313111	3	0	0	10	30	10	5	0	0	0	0	0	0	0	0
2 28	515223	A	-1	-1	1	10	2	15	5	10	5	20	10	10	25	10
2 28	414112	3	25	30	4	20	6	8	0	0	0	0	0	5	18	0
2 28	535111	A	60	120	3	10	8	10	5	7	5	15	5	5	30	10
2 28	112111	A	0	0	10	35	15	5	0	0	0	0	0	0	0	0
2 28	514111	2	30	60	4	10	8	5	5	10	8	10	7	8	30	10
2 28	313112	A	30	40	4	15	8	5	0	0	0	8	5	5	20	5
2 28	315113	3	30	40	5	30	8	5	0	0	0	0	0	0	0	0
2 28	513111	A	20	30	8	30	8	5	4	8	5	10	0	5	25	5
2 28	123111	A	20	30	5	25	10	8	0	10	0	15	0	10	20	10
2 28	334231	3	45	60	4	15	8	5	5	10	5	10	8	10	45	15
2 28	113111	A	30	40	6	20	8	5	0	8	0	10	0	0	25	5
2 28	521111	A	20	30	6	20	6	5	0	0	0	0	0	0	0	0
2 28	113121	3	25	40	6	20	10	5	0	0	0	0	0	0	0	0
2 28	211111	A	0	0	10	40	15	5	0	0	0	0	0	0	0	0
2 28	224111	A	60	120	3	10	6	10	10	30	10	15	5	10	45	10
2 28	415314	2	300	300	1	5	3	15	-1	-1	-1	-1	-1	-1	-1	-1
2 28	312111	3	20	25	5	25	10	5	0	0	0	0	0	0	0	0
2 28	314112	3	30	60	4	20	6	10	5	10	4	15	5	0	25	10
2 28	314113	3	-1	-1	0.5	5	2	10	10	20	10	25	5	10	30	15
2 28	412111	3	25	50	5	20	8	5	0	0	0	0	0	0	0	0
2 28	414111	3	60	60	4	15	8	5	5	10	0	20	5	15	45	10
2 28	525111	3	60	120	4	10	6	5	10	30	10	20	5	10	50	10

RESPONSIBLE FOR THE SUPERVISION, TRAINING AND THE FUNCTION OF THE FDC

DEMOGRAPHIC DATA

				WHEN NO YR	HOW LONG YR NO
GRADE	:E-5	FDC HCO	:		1
MOS	:13F	FDC COMPUTER	:		
IN ARMY	: 3YR				
IN ARTILLERY	: 3YR				
	WHEN				
COMBAT	:N				
ARTIL. COMBAT	:N	#SUPERVISED :	5		

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

FIRE DIRECTION CENTER CREW

			ORDINARY TASKS					CREW TASKS							
								FDO			HCO			COMPUTER	
CREW RESP	SYMP COMP	CON	CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	SAY MISN	REVIEW CALC	SAY ORDER	PLOT TGT	ORIENT RDP	READ RANGE	CALC D Q	SAY SET
USUAL TIME,SEC			15	20	SELF-STIMULATED VALUES 4	45	10	5	2	5	3	1	1	3	15	3
					CONFIDENCE= 4											
2	35	525111	3	50	-1	1	5	2	10	10	12	10	15	7	7	25	10
2	35	414111	3	30	40	2	10	4	7	5	8	5	8	5	5	20	5
2	35	412111	3	20	30	3	20	7	7	5	7	4	7	5	0	15	5
2	35	314113	3	40	60	1	5	2	8	10	30	10	15	10	10	25	10
2	35	314112	3	45	-1	1	5	2	10	10	15	10	20	15	15	30	10
2	35	312111	3	20	40	3	30	7	6	5	7	5	0	0	5	0	5
2	35	415314	3	-1	-1	1	2	-1	15	10	20	10	20	15	20	40	10
2	35	224111	3	40	60	1	5	3	6	3	8	5	6	5	0	0	4
2	35	211111	3	20	30	2	20	6	5	4	8	4	0	0	0	0	5
2	35	113121	3	20	30	3	30	6	5	0	0	0	0	0	0	0	0
2	35	123111	3	20	30	3	30	5	5	0	0	0	0	0	0	0	0
2	35	354231	3	30	45	1	5	2	7	6	10	6	10	7	7	20	5
2	35	113111	3	20	25	3	30	4	5	0	0	0	0	0	0	0	0
2	35	521111	3	25	40	2	15	3	7	5	0	5	0	0	5	0	5
2	35	513111	3	25	35	2	15	4	6	5	10	5	10	5	5	20	5
2	35	315113	3	-1	-1	-1	5	-1	10	8	12	8	15	10	8	25	8
2	35	313112	3	30	40	2	15	3	5	5	0	5	0	0	5	0	5
2	35	514111	3	40	-1	1	5	2	7	7	10	7	10	5	7	20	7
2	35	112111	3	0	25	3	35	8	5	0	0	0	0	0	0	0	0
2	35	535111	3	-1	-1	-1	2	-1	10	10	15	10	20	15	10	25	10
2	35	414112	3	30	50	1	5	2	7	5	7	5	7	5	5	20	5
2	35	515223	3	-1	-1	1	-1	-1	8	5	8	5	10	8	7	25	7
2	35	313111	3	30	45	3	15	5	6	8	10	8	10	7	8	30	8
2	35	311111	3	25	35	3	30	7	5	5	0	5	0	0	5	0	5
2	35	413111	3	25	40	3	15	4	6	5	7	5	8	5	5	30	5
2	35	213111	3	20	30	2	20	4	6	4	6	4	6	0	4	20	4
2	35	515311	3	-1	-1	-1	-1	-1	10	5	7	5	8	5	5	25	5
2	35	114111	3	35	50	1	4	-1	5	0	6	0	7	0	0	20	0
2	35	515431	3	-1	-1	1	5	7	7	6	10	6	10	8	8	40	8
2	35	411111	3	17	22	3	35	6	5	0	0	0	0	0	0	0	0

CHART OPERATOR TROOP OVER SEFER WHEN CHIEF IS NOT AROUND

DEMOGRAPHIC DATA

			WHEN MO YR	HOW LONG YR MO
GRADE	:E-5	FDC HCD	: 6 81	1
MOS	:13F20	FDC COMPUTER :		
IN ARMY	: 4YR			
IN ARTILLERY	: 4YR			
	WHEN			
COMBAT	:N			
ARTIL. COMBAT	:N	#SUPERVISED : 5		

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

FIRE DIRECTION CENTER CREW

CREW RESP	SYMP COMP	LON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: FDO: SAY MISN	REVIEW CALC	SAY ORDER	HCD: PLOT TGT	ORIENT RDP	READ RANGE	COMPUTER: CALC D U	SAY SET
					SELF-STIPULATED VALUES											
USUAL TIME,SEC			15	20	2	30	10	7	2	5	3	1	1	3	15	3
					CONFIDENCE= 4											
2 36	525111	3	40	120	2	25	6	9	10	30	12	15	9	14	45	25
2 36	414111	3	50	130	1	15	4	12	11	35	14	18	12	15	50	30
2 36	818113	3	80	180	2	20	8	18	18	30	18	20	18	18	40	28
2 36	314112	3	30	60	2	30	10	7	4	15	5	15	9	12	30	10
2 36	312111	3	30	60	2	30	10	7	4	15	5	15	9	12	30	10
2 36	415314	3	100	150	1	3	1	25	14	50	20	-1	-1	-1	-1	40
2 36	224111	3	30	60	2	30	10	7	4	15	5	15	9	12	30	10
2 36	211111	3	30	60	2	30	10	7	4	15	5	15	9	12	30	12
2 36	113121	3	30	63	2	35	8	9	6	20	7	17	10	13	32	12
2 36	123111	3	30	60	2	30	10	7	4	15	5	15	9	12	30	10
2 36	334231	3	65	140	1	7	2	15	15	45	25	25	20	20	65	35
2 36	113111	3	20	25	2	30	8	6	3	10	6	8	5	5	20	5
2 36	521111	3	30	100	2	28	8	8	9	9	6	10	12	12	30	20
2 36	513111	3	20	75	2	30	9	6	8	8	5	8	11	10	20	15
2 36	315113	3	40	120	2	25	6	9	10	30	12	15	9	14	45	25
2 36	313112	3	20	30	2	28	8	8	4	8	5	10	5	6	20	6
2 36	514111	3	30	50	1	25	6	8	8	12	6	12	6	10	30	9
2 36	112111	3	18	25	2	30	9	8	0	6	0	7	4	5	20	5
2 36	535111	3	40	120	2	25	6	9	10	30	12	15	9	14	45	25
2 36	414112	3	30	50	1	25	6	8	8	12	6	12	6	10	30	9
2 36	515223	3	40	120	2	25	6	9	10	32	13	15	9	14	45	30
2 36	313111	3	30	60	2	30	10	7	4	15	5	15	9	12	30	10
2 36	311111	3	30	50	2	30	10	8	3	7	5	8	5	6	25	10
2 36	413111	3	40	60	2	35	9	7	5	10	9	10	6	6	20	6
2 36	213111	3	40	62	2	35	9	7	4	8	5	7	5	7	25	6
2 36	515311	3	40	60	2	30	9	7	5	10	6	10	6	6	30	6
2 36	114111	3	60	125	1	25	8	7	4	10	6	10	6	6	40	7
2 36	515431	3	-1	-1	-1	40	3	8	8	10	5	-1	-1	-1	30	6
2 36	411111	3	20	30	2	28	9	8	3	7	5	8	5	6	20	6

DEMOGRAPHIC DATA

			WHEN MO	WHEN YR	HOW LONG YR	HOW LONG MO
GRADE	:E-6	TANK COMMANDER		71	11	
MOS	:19E5P	GUNNER	:		0	0
IN ARMY	:13YR 10MO	LOADER	:	70		
IN ARTILLERY	:13YR 10	DRIVER	:	70		
	WHEN					
COMBAT	:N					
ARTIL. COMBAT	:N	#SUPERVISED	:>50			

M60 TANK CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: TANK COMMANDER: ISSUE FIRE CMD	RANGE	DEF LAY	ISSUE SUBSQ CMD	GUNNER: IDENT TGT	AIM FIRE	APPLY CORR	LOADER: ARM	LOAD ARM	DR: STOP
USUAL TIME,SEC			15	20	UNSTIPULATED				1	5	3	4	1	6	7	1	5	4
3	5	411111	5	-1	-1	-1	-1	-1	30	0	10	10	10	5	0	10	5	10	10
3	5	515431	5	-1	-1	-1	-1	-1	-1	30	30	30	15	15	10	15	30	30	15
3	5	114111	5	-1	-1	-1	-1	-1	30	5	10	10	8	5	10	10	5	10	10
3	5	515311	5	-1	-1	-1	-1	-1	-1	10	10	15	10	5	10	10	10	15	10
3	5	213111	9	-1	-1	-1	-1	-1	40	0	10	6	0	3	10	0	3	10	8
3	5	413111	5	-1	-1	-1	-1	-1	50	5	0	10	0	5	0	0	5	10	10
3	5	311111	5	-1	-1	-1	-1	-1	30	5	10	10	10	5	10	15	5	10	10
3	5	313111	5	-1	-1	-1	-1	-1	30	5	10	10	10	5	10	10	5	10	10
3	5	515223	5	-1	-1	-1	-1	-1	-1	15	25	25	15	5	20	15	-1	-1	30
3	5	414112	5	-1	-1	-1	-1	-1	30	10	10	15	10	10	10	10	5	15	10
3	5	535111	5	-1	-1	-1	-1	-1	-1	10	30	30	10	10	15	15	-1	-1	-1
3	5	112111	5	50	120	4	10	5	10	0	0	0	0	0	0	0	5	10	10
3	5	514111	5	-1	-1	-1	-1	-1	50	10	15	15	10	10	15	20	-1	-1	15
3	5	313112	5	-1	-1	-1	-1	-1	50	10	15	15	10	5	15	15	-1	-1	15
3	5	315113	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	5	513111	5	-1	-1	-1	-1	-1	40	10	15	15	10	10	10	15	10	15	10
3	5	123111	5	-1	-1	-1	-1	-1	30	10	30	10	10	5	15	15	10	15	10
3	5	334231	5	-1	-1	-1	-1	-1	50	30	30	30	30	15	20	20	15	30	15
3	5	113111	5	30	40	2	5	5	30	5	0	10	0	5	10	10	5	10	0
3	5	521111	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	5	113121	5	30	60	-1	-1	-1	20	0	0	0	0	0	0	0	5	0	8
3	5	211111	5	-1	-1	-1	-1	-1	30	5	10	6	8	5	12	14	5	10	8
3	5	224111	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	5	415310	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	5	312111	5	-1	-1	-1	-1	-1	40	5	10	10	10	5	12	15	5	10	8
3	5	314112	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	5	314113	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	5	412111	5	-1	-1	-1	-1	-1	40	10	15	10	10	5	15	15	10	20	10
3	5	414111	5	-1	-1	-1	-1	-1	60	15	25	25	15	15	20	20	-1	-1	15
3	5	525111	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1

PLATOON SGT OVER 10 PERSONEL ALSO COMPANY MASTER GUNNER

DEMOGRAPHIC DATA

			APEN MO	APEN YR	HOW LONG YR MO
GRADE	:E-6	TANK COMMANDER		79	3
MOS	:19E30C5	GUNNER	:	78	1
TN ARMY	: 9YR	LOADER	:		
TN ARTILLERY	: 9YR	DRIVER	:	73	6
	WHEN				
COMBAT	:N				
ARTIL. COMBAT	:N	#SUPERVISED	:>50		

M60 TANK CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: TANK COMMANDER: ISSUE FIRE CMD	RANGE	DEP LAY	ISSUE SUBSQ CMD	GUNNER: IDENT TGT	AIM FIRE	APPLY CORR	LOADER: ARM	LOAD ARM	DR STOP
USUAL TIME,SEC			15	20	UNSTIPULATED				1	5	3	4	1	6	7	1	5	4
3	6	411111	3	85	-1	1	3	2	10	6	10	12	8	7	12	9	2	15	8
3	6	515431	3	-1	-1	-1	-1	-1	30	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	6	114111	3	0	0	4	5	2	5	0	0	0	0	0	0	0	0	0	0
3	6	515311	3	-1	-1	1	2	1	15	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	6	213111	0	30	60	1	1	1	10	9	12	10	12	4	13	9	3	13	12
3	6	413111	3	0	0	3	3	3	8	0	0	0	0	0	0	0	0	0	0
3	6	311111	3	0	0	4	5	4	5	0	0	0	0	0	0	0	0	0	0
3	6	313111	3	20	30	2	3	1	10	3	7	4	6	3	7	8	3	9	6
3	6	515223	3	-1	-1	1	1	-1	20	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	6	414112	3	30	60	2	5	3	15	5	20	9	8	3	12	13	3	15	8
3	6	535111	3	-1	-1	-1	-1	-1	60	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	6	112111	3	0	0	4	7	4	4	0	0	0	0	0	0	0	0	0	0
3	6	514111	3	20	40	2	10	2	6	4	10	12	6	3	10	14	3	10	9
3	6	313112	3	0	0	3	8	3	7	0	0	0	0	0	0	0	0	0	0
3	6	315113	3	25	45	2	5	2	8	3	25	13	7	8	10	14	3	20	7
3	6	513111	3	0	0	2	11	3	4	0	0	0	0	0	0	0	0	0	0
3	6	123111	3	0	0	1	3	1	5	0	0	0	0	0	0	0	0	0	0
3	6	334231	3	-1	-1	-1	-1	-1	15	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	6	113111	3	0	0	3	0	3	4	0	0	0	0	0	0	0	0	0	0
3	6	521111	3	40	42	2	6	1	8	3	15	6	8	3	7	8	3	15	10
3	6	113121	3	0	0	3	8	4	4	0	0	0	0	0	0	0	0	0	0
3	6	211111	3	0	0	1.5	3	2	5	0	0	0	0	0	0	0	0	0	0
3	6	224111	3	0	0	3	6	4	3	0	0	0	0	0	0	0	0	0	0
3	6	415318	3	-1	-1	-1	-1	-1	35	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	6	312111	3	30	35	1	1	1	15	4	25	6	12	3	11	15	3	30	12
3	6	314112	3	0	0	2	3	1	8	0	0	0	0	0	0	0	0	0	0
3	6	314113	3	0	0	1	3	1.5	9	0	0	0	0	0	0	0	0	15	0
3	6	412111	3	0	0	1.5	2.5	3	6.5	0	0	8	6	0	0	0	0	20	0
3	6	414111	3	0	0	2.5	3.5	1.5	8	0	0	0	0	0	0	0	0	30	0
3	6	525111	3	-1	-1	1	1.5	1	15	-1	-1	-1	0	-1	0	-1	0	-1	-1

DEMOGRAPHIC DATA

			WHEN MO	WHEN YR	HOW LONG YR	HOW LONG MO
GRADE	:E-7	TANK COMMANDER		76	6	
MOS	:19E4XBR	GUNNER	:	75	1	
IN ARMY	:13YR	LOADER	:			*
IN ARTILLERY	: 7YR	DRIVER	:			*
COMBAT	WHEN :Y 69					
ARTIL. COMBAT	:N	#SUPERVISED	:>50			

M60 TANK CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW	SYMP COMP	CON RESP	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: TANK COMMANDER: ISSUE FIRE CMD	RANGE	DEF LAY	ISSUE SUBSQ CMD	GUNNER: IDENT TGT	AIM FIRE	APPLY CORR	LOADER: ARM	LOAD ARM	DR STOP
USUAL TIME,SEC			15	20	UNSTIPULATED				1	5	3	4	1	6	7	1	5	4
3	8	411111	0	0	0	4	30	5	30	3	0	5	0	3	0	0	0	0
3	8	515431	0	-1	-1	2	10	3	30	15	15	15	15	15	10	10	5	-1
3	8	114111	0	30	30	3	15	5	6	5	10	5	5	5	0	10	3	10
3	8	515311	0	-1	-1	1	2	2	15	5	10	5	5	10	10	10	5	-1
3	8	213111	0	0	0	4	15	5	15	0	0	0	0	5	0	0	0	10
3	8	413111	0	0	0	4	10	5	15	0	0	5	0	5	0	10	5	10
3	8	311111	0	0	60	4	10	4	15	0	0	5	0	5	0	0	0	9
3	8	313111	0	30	-1	1	2	1	15	3	0	5	5	5	0	0	0	9
3	8	515223	0	30	60	2	2	4	15	5	10	15	10	10	10	10	5	15
3	8	414112	0	60	-1	1	1	2	15	5	10	10	10	10	10	15	5	-1
3	8	535111	0	0	0	5	10	5	15	15	15	15	15	15	15	5	-1	10
3	8	112111	0	0	0	5	10	4	10	0	0	0	0	0	0	0	0	0
3	8	514111	0	0	0	5	10	3	15	5	0	5	5	5	0	0	0	9
3	8	313112	0	0	0	1	1	1	15	0	0	0	0	0	0	0	0	0
3	8	315113	0	-1	-1	4	10	4	15	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	8	513111	0	0	0	3	10	4	15	0	0	0	0	0	0	0	0	0
3	8	123111	0	0	0	3	10	4	15	3	0	0	5	5	5	5	0	5
3	8	334231	0	0	0	4	10	5	15	5	0	0	0	0	0	0	0	0
3	8	113111	0	0	0	5	10	4	15	0	0	0	0	0	0	0	0	0
3	8	521111	0	0	0	4	10	4	15	0	0	0	0	0	0	0	0	0
3	8	113121	0	0	0	5	10	4	15	0	0	0	0	0	0	0	0	0
3	8	211111	0	0	0	4	5	4	15	0	0	0	0	0	0	0	0	0
3	8	224111	0	-1	-1	-1	2	-1	15	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	8	415324	0	0	0	4	10	4	15	0	0	0	0	0	0	0	0	0
3	8	312111	0	0	0	3	10	4	15	0	0	0	0	0	0	0	0	0
3	8	314112	0	0	0	3	10	4	15	0	0	0	0	0	0	0	0	0
3	8	314113	0	0	0	3	10	4	15	3	0	5	0	0	10	0	0	9
3	8	412111	0	0	0	3	3	2	30	0	0	0	0	0	0	0	0	0
3	8	414111	0	0	0	3	2	-1	30	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	8	525111	0	-1	-1	-1	2	-1	30	-1	-1	-1	-1	-1	-1	-1	-1	-1

TANK CMDR, SUPERVISOR OF 3-20 PEOPLE AND TOOK OVER AS PLT SERGEANT

DEMOGRAPHIC DATA

			WHEN MO	WHEN YR	HOW LONG YR	HOW LONG MO
GRADE	:E-6	TANK COMMANDER	10	82	3	
MOS	:19E30	GUNNER	:	77	2	
IN ARMY	: 8YR	LOADER	:	76	1	
IN ARTILLERY	: 8YR	DRIVER	:	75	1	
COMBAT	:N					
ARTIL. COMBAT	:N	#SUPERVISED : 20				

M60 TANK CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW RESP	SYMP COMP	LDN	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: TANK COMMANDER: ISSUE FIRE CMD	RANGE	DEP LAY	ISSUE SUBSD CMD	GUNNER: IDENT TGT	AIM FIRE	APPLY CORR	LOADER: ARM	LOAD ARM	DR: STOP
USUAL TIME,SEC			15	20	UNSTIPULATED				1	5	3	4	1	6	7	1	5	4
3	10	411111	3	20	25	2	15	3	45	0	0	0	0	0	0	0	4	0	0
3	10	515431	1	45	30	1	1	1	60	10	-1	-1	-1	15	-1	-1	25	20	10
3	10	114111	2	30	35	3	10	5	15	25	35	10	10	7	9	14	6	10	10
3	10	515311	2	40	35	1	-1	2	35	7	9	8	7	8	9	10	7	8	8
3	10	213111	3	25	35	1	-1	-1	-1	3	9	9	7	4	8	9	6	7	7
3	10	413111	3	-1	-1	-1	-1	-1	-1	3	7	7	7	4	8	9	4	7	5
3	10	311111	4	25	35	2	20	1	20	3	7	5	6	3	8	9	3	7	5
3	10	313111	2	0	0	9	20	7	15	0	0	0	0	0	0	0	0	0	0
3	10	515223	5	-1	-1	-1	-1	-1	50	5	8	5	7	3	8	9	3	7	7
3	10	414112	4	30	50	-1	-1	-1	35	0	0	0	0	3	8	9	3	7	0
3	10	535111	4	0	0	999	999	999	999	0	0	0	0	0	0	0	0	0	0
3	10	112111	1	0	0	4	25	3	5	0	0	0	0	0	0	0	0	0	0
3	10	514111	1	25	30	-1	-1	-1	35	3	7	5	6	3	9	9	5	7	6
3	10	313112	3	-1	-1	-1	-1	-1	55	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	10	315113	1	20	25	9	7	-1	10	3	7	5	6	2	8	8	3	6	5
3	10	513111	3	0	0	1	1	1	10	0	0	0	0	0	0	0	0	0	0
3	10	123111	2	0	0	1	5	2	30	0	0	0	0	0	0	0	0	0	0
3	10	334231	2	25	25	2	3	1	25	-1	-1	-1	-1	3	8	9	3	6	5
3	10	115111	3	0	0	2	5	1	30	0	0	0	0	3	8	0	0	0	0
3	10	521111	3	0	0	2	10	3	15	0	0	0	0	0	0	0	0	0	0
3	10	113121	3	0	0	2	5	1	10	0	0	0	0	0	0	0	0	0	0
3	10	211111	3	0	0	2	15	2	10	0	0	0	0	0	0	0	0	0	0
3	10	224111	3	0	0	1	10	1	10	0	0	0	0	0	0	0	0	0	0
3	10	415314	2	-1	-1	-1	-1	-1	35	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	10	312111	3	0	0	2	5	2	15	0	0	0	0	0	0	0	0	0	0
3	10	314112	4	20	25	-1	-1	-1	25	2	7	5	6	2	8	9	3	7	6
3	10	314113	4	20	25	-1	-1	-1	5	3	7	6	6	2	8	9	2	7	6
3	10	412111	4	20	25	1.5	10	2	15	0	0	0	0	0	9	9	3	9	5
3	10	414111	3	0	0	999	999	999	10	0	0	0	0	0	0	0	0	0	0
3	10	525111	5	-1	-1	-1	-1	-1	82	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1

PLT SLT - MAINTAIN 5 USUAL TANKS WITH A PLT OF APPROX 20 CREW MEMBERS.

DEMOGRAPHIC DATA

			WHEN MO	WHEN YR	HOW LONG YR MO
GRADE	:E-6	TANK COMMANDER		77	5
MOS	:19F30	GUNNER	:	75	1
IN ARMY	:10YR	LOADER	:	73	2
IN ARTILLERY	:10YR	DRIVER	:	73	2
	WHEN				
COMBAT	:N				
ARTIL. COMBAT	:N	#SUPERVISED :>50			

M60 TANK CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: TANK COMMANDER: ISSUE FIRE CMD	RANGE	DEP LAY	ISSUE SURSQ CMD	GUNNER: IDENT TGT	AIM FIRE	APPLY CORR	LOADER: ARM	LOAD ARM	DR: STOP
USUAL TIME,SEC			15	20	UNSTIPULATED				1	5	3	4	1	6	7	1	5	4
3	11	411111	3	0	0	4	10	5	30	0	0	0	0	0	0	0	3	0	0
3	11	515431	3	-1	-1	1	1	2	60	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	11	114111	3	20	30	1	1	2	3	0	0	0	0	0	0	0	3	6	6
3	11	515311	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	11	213111	3	0	0	3	10	5	30	0	0	0	0	0	0	0	0	0	0
3	11	413111	3	0	0	3	5	3	20	3	7	4	5	3	8	9	4	7	0
3	11	311111	3	25	35	2	5	5	30	0	0	0	0	3	8	10	3	7	0
3	11	313111	3	20	30	3	5	4	30	0	0	0	0	0	0	0	0	0	0
3	11	515223	3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	11	414112	3	0	0	3	5	5	30	4	7	6	7	3	8	10	4	8	0
3	11	535111	3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	11	112111	3	20	30	3	5	3	30	0	0	0	0	0	0	0	0	0	0
3	11	514111	3	20	30	3	5	3	30	3	7	5	6	3	8	9	3	8	0
3	11	313112	3	25	30	1	3	2	30	3	7	5	6	3	8	9	3	7	0
3	11	315113	3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	11	513111	3	25	30	2	3	2	30	2	7	5	6	3	8	9	3	7	0
3	11	123111	3	0	0	3	10	5	30	0	0	0	0	0	0	0	0	0	0
3	11	334231	3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	11	113111	3	0	0	5	10	3	30	0	0	0	0	0	0	0	0	0	0
3	11	521111	3	25	30	3	5	3	30	3	7	5	6	3	8	9	3	7	0
3	11	113121	3	0	0	2	3	5	30	0	0	0	0	0	0	0	0	0	0
3	11	211111	3	0	0	3	5	3	30	0	0	0	0	0	0	0	0	0	0
3	11	224111	3	25	30	3	5	3	30	3	7	5	6	3	8	9	3	7	0
3	11	415314	3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	11	312111	3	25	30	3	5	3	30	3	7	5	6	3	8	9	3	7	0
3	11	314112	3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	11	314113	3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	11	412111	3	25	30	3	5	5	30	3	7	5	6	3	8	9	3	7	0
3	11	414111	3	25	30	3	5	3	30	3	7	5	6	3	8	9	3	7	0
3	11	523111	3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1

CAV. TANK SECTION SGT. , TANK COMMANDER

DEMOGRAPHIC DATA

			WHEN 60 YR	HOW LONG YR MO
GRADE	:E-6	TANK COMMANDER		6
MOS	:19E30	GUNNER	:	1
IN ARMY	:10YR	LOADER	:	1
IN ARTILLERY	:10YR	DRIVER	:	2
	WHEN			
COMBAT	:N			
ARTIL. COMBAT	:N	#SUPERVISED : 50		

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

M60 TANK CREW

CREW RESP	SYMP COMP	LOW CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	TANK COMMANDER: ISSUE FIRE CMD	RANGE	DEF LAY	ISSUE SUBSD CMD	GUNNER: IDENT TGT	AIM FIRE	APPLY CORR	LOADER: ARM	LOAD ARM	DR STOP
		ORDINARY TASKS						CREW TASKS									
USUAL TIME,SEC		15	20	UNSTIPULATED				1	5	3	4	1	6	7	1	5	4
3 13 411111	4	25	45	1	2	3	60	10	15	15	10	10	15	15	10	10	0
3 13 515451	3	-1	-1	-1	-1	1	999	25	30	20	20	-1	25	25	0	-1	15
3 13 114111	3	30	60	1	1	4	60	5	0	0	0	0	0	0	0	8	0
3 13 515311	4	-1	-1	-1	-1	1	999	10	15	10	12	10	20	15	0	-1	10
3 13 213111	3	20	30	2	2	4	30	4	10	8	8	5	10	10	0	8	0
3 13 413111	4	25	-1	1	-1	-1	45	6	12	10	10	8	12	15	0	10	0
3 13 311111	3	25	40	1	2	2	35	2	8	5	7	2.5	8	10	0	10	0
3 13 313111	3	30	40	1	2	1	40	2	8	5	7	3	8	10	0	10	0
3 13 515223	3	35	45	-1	-1	-1	45	5	10	7	7	3	8	10	5	10	0
3 13 414112	3	30	45	-1	-1	-1	45	2	8	5	7	3	8	10	0	10	0
3 13 535111	3	50	-1	-1	-1	-1	45	6	12	10	10	8	12	15	0	-1	0
3 13 112111	0	0	0	2	2	3	20	0	0	0	0	0	0	0	0	0	0
3 13 514111	3	30	40	1	1	1	25	8	10	9	8	8	11	12	0	8	0
3 13 313112	3	30	40	1	1	1	25	8	10	9	8	8	11	12	0	8	0
3 13 315113	3	-1	-1	-1	-1	-1	50	8	10	9	8	8	11	12	0	-1	0
3 13 513111	3	30	50	1	1	1	40	8	10	9	8	8	11	12	0	10	0
3 13 123111	3	0	40	2	2	1	40	0	0	0	0	0	0	0	0	0	0
3 13 334231	3	-1	-1	-1	-1	-1	50	8	10	9	8	8	11	12	0	8	0
3 13 113111	3	20	40	1	1	1	30	0	0	0	0	0	0	0	0	0	0
3 13 521111	3	30	40	1	-1	1	30	8	10	9	8	8	11	12	0	8	0
3 13 123121	3	0	0	2	2	2	20	0	0	0	0	0	0	0	0	0	0
3 13 211111	3	20	30	2	2	2	15	0	0	0	0	0	0	0	0	0	0
3 13 224111	3	30	40	1	1	1	30	8	10	9	8	8	11	12	0	8	0
3 13 415314	3	-1	-1	-1	-1	-1	45	8	10	10	10	10	10	18	0	10	0
3 13 312111	3	25	40	1	1	1	25	5	7	8	5	5	10	10	0	10	0
3 13 314112	3	25	40	1	1	1	25	5	7	8	5	5	10	10	0	10	0
3 13 314113	3	-1	-1	-1	-1	-1	-1	8	10	9	8	8	11	12	0	8	0
3 13 412111	3	30	40	1	1	1	30	8	10	9	8	8	11	12	0	8	0
3 13 414111	3	30	40	1	1	1	30	8	10	9	8	8	11	12	0	8	0
3 13 525111	3	-1	-1	-1	-1	-1	-1	8	10	9	8	8	11	12	0	8	0

TANK PLT SGT/ MASTER GUNNER FOR AN ARMOR TANK UNIT

DEMOGRAPHIC DATA

			WHEN MO	WHEN YR	HOW LONG YR	HOW LONG MO
GRADE	:E-4	TANK COMMANDER		77	6	
MOS	:19E5C5	GUNNER	:	76	1	
IN ARMY	: 9YR	LOADER	:	74	1	
IN ARTILLERY	: 9YR	DRIVER	:	75	1	
	WHEN					
COMBAT	:N					
ARTIL. COMBAT	:N	#SUPERVISED	:>50			

M60 TANK CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: TANK COMMANDER: ISSUE FIRE CMD	RANGE	DEP LAY	ISSUE SUBSD CMD	GUNNER: IDENT TGT	AIM FIRE	APPLY CORR	LOADER: ARM	LOAD ARM	DR: STOP
USUAL TIME,SEC			15	20	UNSTIPULATED				1	5	3	4	1	6	7	1	5	4
3	14	411111	0	30	40	2	15	5	60	3	10	5	7	5	10	10	3	8	8
3	14	515431	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	14	114111	0	45	60	1	15	3	10	5	10	8	8	5	12	14	5	15	12
3	14	515311	0	0	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	14	213111	0	45	60	1	15	5	60	5	15	12	16	5	12	14	7	15	12
3	14	413111	0	25	30	2	20	7	45	3	7	5	7	3	8	9	3	10	8
3	14	311111	0	20	40	3	30	10	40	3	10	5	7	10	10	10	3	8	8
3	14	313111	0	20	25	2	25	7	60	2	7	6	8	3	8	9	3	7	8
3	14	515223	0	0	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	14	414112	0	0	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	14	535111	0	0	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	14	112111	0	30	40	3	25	8	50	3	8	7	9	3	8	9	3	10	12
3	14	514111	0	20	30	3	30	10	45	3	10	6	8	3	8	10	3	8	8
3	14	313112	0	0	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	14	315113	3	30	60	2	10	5	60	3	10	6	8	3	8	9	3	-1	-1
3	14	513111	0	30	40	2	20	5	50	3	10	9	12	3	12	14	3	10	12
3	14	123111	3	0	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	14	334231	0	0	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	14	113111	0	20	30	3	25	7	45	3	10	9	12	3	12	14	3	10	8
3	14	521111	3	20	40	3	30	10	45	3	10	5	7	10	10	10	3	8	8
3	14	113121	0	45	60	1	15	3	60	4	10	9	12	3	10	14	3	10	8
3	14	211111	0	30	50	2	20	5	50	3	10	9	12	3	12	14	3	15	12
3	14	224111	3	0	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	14	415314	0	0	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	14	312111	3	30	45	2	20	5	45	3	15	9	12	3	12	14	3	10	12
3	14	314112	3	0	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	14	314113	3	0	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	14	412111	0	45	60	2	15	3	60	3	15	9	12	3	12	14	3	15	12
3	14	414111	3	60	60	2	15	3	60	4	20	12	16	4	18	21	4	15	12
3	14	525111	0	0	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1

TANK PLT SGT AND MASTER GUNNER FOR HY COMPANY

DEMOGRAPHIC DATA

			WHEN MO	WHEN YR	HOW LONG YR	HOW LONG MO
GRADE	:E-6	TANK COMMANDER		76	5	
MOS	:19E30	GUNNER	:	75	1	
IN ARMY	: 8YR 4MO	LOADER	:	74	1	
IN ARTILLERY	: 8YR 4 WHEN	DRIVER	:	74	1	
COMBAT	:N					
ARTIL. COMBAT	:N	#SUPERVISED : 50				

M60 TANK CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW RESP	SYMP COMP	CON CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	TANK COMMANDER: ISSUE FIRE CMD	TANK COMMANDER: RANGE	TANK COMMANDER: DEP LAY	TANK COMMANDER: ISSUE SURSQ CMD	GUNNER: IDENT TGT	GUNNER: AIM FIRE	GUNNER: APPLY CORR	LOADER: ARM	LOADER: LOAD ARM	DR: STOP
		ORDINARY TASKS						CREW TASKS									
USUAL TIME,SEC		15	20	UNSTIPULATED				1	5	3	4	1	6	7	1	5	4
3 15 411111	3	20	60	4	20	4	15	0	0	0	0	0	0	0	0	0	0
3 15 515451	3	-1	-1	-1	5	-1	30	9	10	20	10	9	20	20	-1	-1	10
3 15 114111	3	20	30	4	10	3	15	0	0	0	0	0	0	0	5	10	0
3 15 515311	3	-1	-1	-1	-1	-1	15	10	15	20	10	5	10	15	-1	-1	10
3 15 213111	3	25	60	3	20	4	10	3	0	7	10	0	15	15	5	15	6
3 15 413111	3	25	60	3	20	3	15	6	10	15	7	7	15	10	5	10	0
3 15 311111	3	30	60	3	20	4	15	5	7	10	10	5	10	10	3	10	0
3 15 313111	4	20	60	3	20	4	15	6	7	10	7	6	10	10	5	10	7
3 15 515223	3	-1	-1	-1	-1	-1	-1	6	10	20	10	7	10	20	-1	-1	10
3 15 414112	3	20	60	2	20	3	15	5	10	20	10	5	10	10	5	10	5
3 15 535111	4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 15 112111	4	0	0	3	40	5	10	0	0	0	0	0	0	0	0	0	0
3 15 514111	3	-1	-1	-1	-1	-1	-1	5	10	10	10	5	10	10	5	10	5
3 15 313112	3	20	40	3	20	3	15	5	10	20	10	5	10	10	5	15	5
3 15 315113	3	-1	-1	-1	-1	-1	15	7	10	20	10	10	10	15	5	15	10
3 15 513111	3	30	40	3	20	3	15	5	10	15	10	5	10	15	5	10	0
3 15 123111	3	20	40	3	20	3	15	0	0	0	0	0	0	0	5	15	10
3 15 334231	3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 15 113111	3	0	0	4	30	5	15	0	0	0	0	0	0	0	0	0	0
3 15 521111	3	20	60	3	20	3	15	10	10	20	10	10	10	15	10	15	10
3 15 113121	3	0	0	3	30	4	15	0	0	0	0	0	0	0	5	10	0
3 15 211111	3	0	0	5	40	5	15	0	0	0	0	0	0	0	0	0	0
3 15 224111	3	20	60	3	20	3	15	5	10	20	15	5	10	15	5	10	5
3 15 415314	3	-1	-1	-1	-1	-1	15	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 15 312111	3	20	60	3	30	4	15	5	10	15	10	5	10	15	5	10	5
3 15 314112	3	20	60	3	20	3	15	5	10	20	10	5	10	10	5	10	5
3 15 314113	3	30	60	3	20	5	15	5	10	20	10	5	10	20	5	15	5
3 15 412111	3	0	0	3	20	3	0.5	0	0	0	0	0	0	0	0	0	0
3 15 414111	3	0	0	3	20	3	15	5	10	20	10	5	10	10	5	15	5
3 15 525111	3	-1	-1	-1	-1	-1	15	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1

PLT SGT, SECTION SGT TANK COMMANDER

DEMOGRAPHIC DATA

			WHEN MO YR	HOW LONG YR MO
GRADE	:E-6	TANK COMMANDER		6
MOS	:19E	GUNNER	: 74	1
IN ARMY	: 8YR	LOADER	:	
IN ARTILLERY	: 8YR	DRIVER	:	
	WHEN			
COMBAT	:N			
ARTIL. COMBAT	:N	#SUPERVISED : 20		

M60 TANK CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: TANK COMMANDER: ISSUE FIRE CMD	RANGE	DEP LAY	ISSUE SUBSQ CMD	GUNNER: IDENT TGT	AIM FIRE	APPLY CORR	LOADER: ARM	LOAD ARM	DR: STOP
USUAL TIME,SEC			15	20	UNSTIPULATED				1	5	3	4	1	6	7	1	5	4
3 17	411111	2	17	25	2	20	20	7	5	10	4	8	5	12	14	3	0	7
3 17	515431	2	30	40	-1	-1	1	20	10	15	7	8	6	12	14	0	10	8
3 17	114111	3	0	0	3	20	15	3	2	0	0	0	2	0	0	0	0	0
3 17	515311	2	40	-1	1	3	-1	5	5	15	12	8	3	12	14	3	10	8
3 17	213111	2	25	30	3	25	5	2	0	0	0	0	0	0	0	0	7	0
3 17	413111	2	17	21	3	25	10	2	2	7	4	8	2	8	9	2	7	6
3 17	311111	3	0	0	4	25	10	2	2	0	0	0	2	0	0	2	0	0
3 17	313111	2	0	0	3	20	10	2	2	0	0	0	2	0	0	2	0	0
3 17	515223	2	-1	-1	-1	-1	-1	8	5	15	10	8	5	12	14	5	-1	8
3 17	414112	2	20	30	2	3	-1	6	5	10	6	8	5	12	9	2	10	7
3 17	535111	2	-1	-1	0.5	2	-1	6	5	10	-1	8	5	12	14	5	-1	8
3 17	112111	3	0	0	5	30	10	2	0	0	0	0	0	0	0	0	0	0
3 17	514111	2	17	21	3	10	5	3	3	7	5	6	3	7	8	3	6	5
3 17	313112	2	0	0	10	25	10	3	2	0	0	0	2	0	0	2	0	0
3 17	315113	2	-1	-1	-1	-1	-1	3	2	6	4	5	2	7	8	2	10	8
3 17	513111	2	18	23	2	5	5	3	0	8	6	7	0	9	10	0	10	7
3 17	123111	2	0	0	5	10	5	2	0	0	0	0	0	0	0	0	0	0
3 17	334231	2	-1	-1	-1	-1	-1	10	-1	15	-1	12	3	18	21	3	-1	12
3 17	113111	2	0	0	5	10	10	2	0	0	0	0	0	0	0	0	0	0
3 17	521111	2	30	45	2	2	-1	3	3	8	5	8	3	7	10	3	6	5
3 17	113121	4	0	0	5	15	7	3	0	0	0	0	0	0	0	0	0	0
3 17	211111	3	0	0	10	25	10	2	0	0	0	0	0	0	0	0	0	0
3 17	224111	2	17	22	3	5	2	3	3	7	5	6	3	8	9	3	7	6
3 17	415314	2	3	45	1	2	-1	6	5	10	6	8	5	12	15	5	15	8
3 17	312111	2	0	0	5	15	6	3	0	0	0	0	0	0	0	0	0	0
3 17	314112	2	30	35	3	5	2	6	6	10	6	8	6	12	14	6	7	6
3 17	314113	2	-1	-1	-1	-1	-1	6	6	12	15	10	6	12	15	6	-1	10
3 17	412111	2	0	0	5	25	1	2	0	0	0	0	0	0	0	0	0	0
3 17	414111	2	30	40	2	5	2	3	2	10	6	8	2	12	14	2	10	8
3 17	525111	1	-1	-1	-1	-1	-1	8	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1

INSTRUCTOR AT AN NCO ACADEMY. INSTRUCT BASIC NON COMMISIONED OFFICERS COURSE 19ECMF.

DEMOGRAPHIC DATA

			WHEN MO YR	HOW LONG YR MO
GRADE	:E-7	TANK COMMANDER		5 6
MOS	:19E4H	GUNNER :		2
IN ARMY	:13YR 6MO	LOADER :		
IN ARTILLERY	: 7YR 6	DRIVER :		
	WHEN			
COMBAT	:Y 66 69			
ARTIL. COMBAT	:N	#SUPERVISED : 50		

M60 TANK CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: TANK COMMANDER: ISSUE FIRE CMD	RANGE	DEP LAY	ISSUE SUBSQ CMD	GUNNER: IDENT TGT	AIM FIRE	APPLY CORR	LOADER: ARM	LOAD ARM	DR: STOP
USUAL TIME,SEC			15	20	UNSTIPULATED				1	5	3	4	1	6	7	1	5	4
3 18	411111	A	25	30	2	15	10	30	6	10	10	9	5	8	11	4	0	5
3 18	515431	S	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 18	114111	S	18	23	4	15	12	25	3	7	5	6	3	8	9	3	7	6
3 18	515311	A	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 18	213111	A	23	27	3	16	14	23	6	10	8	9	5	10	11	5	10	5
3 18	413111	9	17	22	3	18	13	25	4	7	4	6	2	7	9	0	7	0
3 18	311111	A	16	21	3	18	15	20	2	6	4	5	2	7	8	0	6	0
3 18	313111	S	0	0	3	18	15	20	0	0	0	0	0	0	0	0	0	0
3 16	515223	A	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 18	414112	A	21	26	3	15	12	26	5	10	8	9	2	10	11	0	7	0
3 18	535111	A	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 18	112111	A	0	0	3	18	15	20	0	0	0	0	0	0	0	0	0	0
3 18	514111	A	20	25	3	15	10	25	4	9	7	8	0	9	10	0	7	0
3 16	313112	A	20	24	3	15	13	23	5	8	6	7	0	9	10	0	7	0
3 18	315113	A	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 18	513111	A	18	23	3	17	14	22	3	8	6	7	0	9	10	0	8	0
3 18	123111	A	0	0	3	18	15	20	0	0	0	0	0	0	0	0	0	0
3 18	334231	A	21	24	3	16	13	24	5	9	8	9	0	11	12	0	7	0
3 18	113111	A	0	0	3	18	15	20	0	0	0	0	0	0	0	0	0	0
3 16	521111	A	16	21	3	18	12	22	4	9	7	8	0	9	10	0	6	0
3 16	113121	A	0	0	3	18	15	20	0	0	0	0	0	0	0	0	0	0
3 18	211111	A	0	0	3	18	15	20	0	0	0	0	0	0	0	0	0	0
3 18	224111	A	19	24	3	17	13	23	4	9	7	8	0	10	11	0	7	0
3 18	415314	A	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 18	312111	A	0	0	3	18	15	20	0	0	0	0	0	0	0	0	0	0
3 18	314112	A	18	23	3	17	12	23	3	8	6	7	0	9	10	0	7	0
3 18	314113	A	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 16	412111	A	17	22	3	17	14	23	3	7	5	6	0	8	9	0	7	0
3 18	414111	A	0	0	-1	-1	-1	-1	0	0	0	0	0	0	0	0	0	0
3 18	525111	A	16	23	3	17	12	23	5	8	6	7	0	9	10	0	8	0

P/T SEARGENT 6 MONTHS, BN MASTER GUNNER 6 MONTHS

DEMOGRAPHIC DATA

			WHEN MO	WHEN YR	HOW LONG YR MO
GRADE	:E-6	TANK COMMANDER	76		6
MOS	:19C30S	GUNNER	74		1
IN ARMY	: 9YR	LOADER	73		1
IN ARTILLERY	: 9YR	DRIVER			
	WHEN				
COMBAT	:N				
ARTIL. COMBAT	:N	#SUPERVISED : 50			

M60 TANK CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: TANK COMMANDER: ISSUE FIRE CMD	RANGE	DEP LAY	ISSUE SUBSQ CMD	GUNNER: IDENT TGT	AIM FIRE	APPLY CORR	LOADER: ARM	LOAD ARM	DR STOP
USUAL TIME,SEC			15	20	UNSTIPULATED				1	5	3	4	1	6	7	1	5	4
3 19	411111	3	25	25	20	15	10	15	5	10	5	5	6	12	14	2	10	5
3 19	515431	3	-1	40	5	5	10	20	-1	15	9	-1	5	15	10	3	-1	6
3 19	114111	4	20	30	15	20	8	6	0	0	0	0	0	0	0	0	7	0
3 19	515311	3	30	40	15	7	9	15	6	6	4	0	4	7	9	0	9	6
3 19	213111	4	20	30	15	30	13	9	0	0	0	0	0	0	0	0	6	0
3 19	413111	3	17	25	15	25	10	9	3	0	0	5	0	0	0	0	7	6
3 19	311111	4	0	0	20	60	20	5	0	0	0	0	0	0	0	0	0	0
3 19	313111	3	22	26	15	39	10	9	0	0	0	0	0	0	0	0	0	0
3 19	515223	3	-1	-1	2	5	5	20	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 19	414112	3	30	40	10	15	5	10	5	7	6	6	3	8	9	2	10	10
3 19	535111	3	40	40	3	4	4	20	9	7	9	7	4	9	9	3	15	10
3 19	112111	4	0	0	20	60	10	5	0	0	0	0	0	0	0	0	0	0
3 19	514111	3	31	40	10	21	4	7	4	7	4	9	4	7	9	3	13	6
3 19	313112	3	25	30	10	20	10	7	3	8	6	6	3	9	9	3	20	6
3 19	315113	3	29	35	5	10	4	12	0	0	0	5	0	7	8	3	6	5
3 19	513111	3	29	30	10	35	6	9	4	0	0	5	0	0	0	0	7	6
3 19	123111	3	19	25	18	50	8	7	0	0	0	0	0	0	0	0	0	0
3 19	334231	2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 19	113111	3	18	23	19	40	6	6	0	0	0	0	0	0	0	0	6	0
3 19	521111	3	26	33	10	20	6	9	5	0	4	8	3	9	8	3	9	5
3 19	113121	4	0	0	20	60	10	5	0	0	0	0	0	0	0	0	0	0
3 19	211111	4	0	0	19	49	10	9	0	0	0	0	0	0	0	0	0	0
3 19	224111	3	19	31	10	50	4	9	3	0	0	6	2	7	0	0	8	6
3 19	415314	3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 19	312111	3	0	0	15	40	10	9	3	0	0	5	0	7	8	0	9	0
3 19	314112	3	30	40	10	45	10	6	6	10	6	9	2	9	8	2	15	6
3 19	314113	3	29	40	10	20	6	6	4	9	4	9	2	9	8	2	15	6
3 19	412111	3	0	0	15	55	10	9	0	0	0	0	0	0	0	0	0	0
3 19	414111	3	19	30	10	40	6	7	4	9	4	6	3	9	9	2	10	5
3 19	525111	3	21	40	12	20	10	6	6	10	6	9	2	9	9	2	20	6

I HAVE SERVED AS PLATOON SGT. FOR THE LAST YEAR, CONTROLLING AND SUPERVISING 20-24 MEN BOTH IN GARRISON AND THE FIELD IN ADDITION I ALSO TEACH THEM ON SGT TASK.

DEMOGRAPHIC DATA

			WHEN HD YR	HOW LONG YR MO
GRADE	:E-6	TANK COMMANDER	74	8
MOS	:19E3HOA	GUNNER	:	
IN ARMY	:10YR 6MO	LOADER	:	
IN ARTILLERY	:10YR 6	DRIVER	:	
	WHEN			
COMBAT	:N			
ARTIL. COMBAT	:N	#SUPERVISED	:>50	

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

M60 TANK CREW

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: TANK COMMANDER: ISSUE FIRE CMD	RANGE	DEP LAY	ISSUE SUBSQ CMD	GUNNER: IDENT TGT	AIM FIRE	APPLY CORR	LOADER: ARM	LOAD ARM	DR STOP
USUAL TIME,SEC			15	20	UNSTIPULATED				1	5	3	4	1	6	7	1	5	4
3	20	411111	5	0	0	999	90	20	6	0	0	0	0	0	0	0	0	7	0
3	20	515431	4	20	30	2	30	30	10	0	0	4	999	3	0	0	0	9	0
3	20	114111	5	25	35	2	30	20	15	0	0	4	0	3	0	0	0	9	0
3	20	515311	5	30	40	2	-1	4	17	0	0	5	0	3	0	0	0	10	5
3	20	213111	5	0	0	999	90	999	6	0	0	0	0	0	0	0	0	0	0
3	20	413111	5	0	0	999	90	999	6	0	0	0	0	0	0	0	0	0	0
3	20	311111	5	0	0	999	150	999	6	0	0	0	0	0	0	0	0	0	0
3	20	313111	5	0	0	999	150	999	6	0	0	0	0	0	0	0	0	8	0
3	20	515223	5	-1	-1	3	60	5	999	0	0	0	0	0	0	0	0	15	9
3	20	414112	5	20	30	3	60	5	6	3	0	0	0	3	0	0	0	9	7
3	20	535111	5	25	35	2	-1	3	8	5	0	5	0	3	0	0	0	9	6
3	20	112111	5	0	0	999	150	999	3	0	0	0	0	0	0	0	0	0	0
3	20	514111	5	20	30	2	30	3	7	3	0	6	0	3	0	0	0	9	0
3	20	313112	5	25	30	2	30	3	7	3	0	0	0	3	0	0	0	9	0
3	20	315113	5	25	35	2	-1	3	8	5	0	0	0	4	0	0	0	10	6
3	20	513111	5	0	0	999	90	999	6	0	0	0	0	0	0	0	0	0	0
3	20	123111	5	0	0	999	150	999	6	0	0	0	0	0	0	0	0	0	0
3	20	334231	5	30	35	4	30	3	7	3	0	0	5	3	0	0	0	9	8
3	20	113111	5	0	0	999	150	999	5	0	0	0	0	0	0	0	0	0	0
3	20	521111	5	0	0	999	90	999	6	0	0	0	0	0	0	0	0	6	0
3	20	113121	5	20	30	999	90	999	7	0	0	0	0	0	0	0	0	9	0
3	20	211111	5	0	0	999	150	999	5	0	0	0	0	0	0	0	0	0	0
3	20	224111	5	20	30	999	90	999	6	3	0	0	5	0	0	0	0	9	0
3	20	415310	5	35	40	999	30	999	7	3	0	0	5	3	0	0	0	10	0
3	20	312111	5	0	0	999	150	999	6	0	0	0	0	0	0	0	0	0	0
3	20	314112	5	25	30	999	30	3	8	3	0	0	5	3	0	0	0	12	0
3	20	314113	5	25	30	-1	120	3	9	3	0	0	5	3	0	0	0	10	5
3	20	412111	5	0	0	999	150	999	6	0	0	0	0	0	0	0	0	0	0
3	20	414111	5	20	30	3	999	3	8	3	0	0	5	3	0	0	0	10	5
3	20	525111	5	30	35	999	20	3	9	3	0	0	6	3	0	0	0	12	5

PLATOON SGT. OF A TANK PLATOON IN EUROPE.

DEMOGRAPHIC DATA

			WHEN MO YR	HOW LONG YR MO
GRADE	:E-6	TANK COMMANDER	2 76	6
MOS	:19E30	GUNNER	:	
IN ARMY	:11YR 1MO	LOADER	:	
IN ARTILLERY	:11YR 1	DRIVER	:	
	WHEN			
COMBAT	:N			
ARTIL. COMBAT	:N	#SUPERVISED : 20		

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

M60 TANK CREW

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: TANK COMMANDER: ISSUE FIRE CMD	RANGE	DEP LAY	ISSUE SUBSQ CMD	GUNNER: IDENT TGT	AIM FIRE	APPLY CORR	LOADER: ARM	LOAD ARM	DR STOP
USUAL TIME,SEC			15	20	UNSTIPULATED				1	5	3	4	1	6	7	1	5	5
3 21	411111	3	10	15	5	30	10	10	3	0	0	5	0	0	10	0	0	5
3 21	515431	3	10	20	5	30	10	10	4	0	0	5	0	0	10	0	0	5
3 21	114111	3	0	25	5	30	7	15	5	0	0	6	0	0	11	0	0	6
3 21	515311	3	0	25	5	25	7	15	5	0	0	6	0	0	11	0	0	6
3 21	213111	3	0	30	4	25	6	15	5	0	0	7	0	0	12	3	3	7
3 21	413111	3	0	30	4	25	6	15	6	6	0	7	2	0	13	3	3	7
3 21	311111	3	10	0	8	30	10	10	0	0	0	0	0	0	0	0	0	0
3 21	313111	3	10	0	4	30	10	10	0	0	0	0	0	0	0	0	0	0
3 21	515223	2	0	0	5	10	7	8	0	0	0	0	0	0	0	0	0	0
3 21	414112	2	30	60	2	10	3	30	10	8	5	0	3	0	0	4	0	10
3 21	535111	3	30	60	1	5	1	30	10	8	5	5	5	0	0	5	0	10
3 21	112111	0	0	0	5	30	7	10	0	0	0	0	0	0	0	0	0	0
3 21	514111	3	0	0	5	30	7	10	0	0	0	0	0	0	0	0	0	0
3 21	313112	3	30	60	1	10	1	60	5	0	0	0	5	0	10	10	10	10
3 21	315113	3	30	60	1	10	1	6	0	0	0	0	0	0	0	-1	-1	-1
3 21	513111	3	0	0	2	10	5	30	0	0	0	0	0	0	0	0	0	0
3 21	123111	3	0	0	1	10	1	10	0	0	0	0	0	0	0	0	0	0
3 21	334231	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 21	113111	5	0	0	5	30	5	10	0	0	0	0	0	0	0	0	0	0
3 21	521111	3	20	30	1	10	1	10	0	0	0	0	0	0	0	5	10	5
3 21	113121	3	0	0	1	10	1	10	0	0	0	0	0	0	0	0	0	0
3 21	211111	0	0	0	2	15	7	10	0	0	0	0	0	0	0	0	0	0
3 21	224111	0	0	30	1	30	2	10	0	0	0	0	0	0	0	0	0	0
3 21	415314	3	-1	-1	1	5	-1	30	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 21	312111	3	0	0	1	10	7	5	0	0	0	0	0	0	0	0	0	0
3 21	314112	3	30	0	1	5	1	10	5	0	5	5	3	0	0	5	0	0
3 21	314113	0	-1	-1	-1	5	1	15	5	10	0	5	5	8	0	-1	-1	0
3 21	412111	3	0	0	1	10	1	5	0	0	0	0	0	0	0	0	0	0
3 21	414111	3	0	0	1	10	1	5	0	0	0	0	0	0	0	0	0	0
3 21	525111	3	0	0	1	5	1	10	0	0	0	0	0	0	0	0	0	0

PLT SGT/PLT LDR, RESPONSIBLE FOR THE TRAINING OF 10 S.M., AND IDENTIFING TRAINING DEFFICIENCIES, AND TAKING STEPS TO CORRECT THESE DEFFICIENCIES. * DEC 66 - JUL 67

DEMOGRAPHIC DATA

			WHEN MO	WHEN YR	HOW LONG YR	HOW LONG MO
GRADE	:E-7	TANK COMMANDER		78	4	6
MOS	:19E40B	GUNNER	:	77		6
IN ARMY	:12YR	LOADER	:	76		6
IN ARTILLERY	: 6YR	DRIVER	:	76		6
	WHEN					
COMBAT	:Y 66 67*					
ARTIL. COMBAT	:N	%SUPERVISED	:>50			

M60 TANK CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: TANK COMMANDER: ISSUE FIRE CMD	RANGE	DEF LAY	ISSUE SURSQ CMD	GUNNER: IDENT TGT	AIM FIRE	APPLY CORR	LOADER: ARM	LOAD ARM	DR: STOP
USUAL TIME,SEC			15	20	UNSTIPULATED				1	5	3	4	1	6	7	1	5	4
3 22	411111	5	20	27	3	3	15	10	0	8	6	0	0	8	11	0	9	0
3 22	515831	5	29	30	2.5	2	10	12	5	7	5	7	5	8	9	3	7	6
3 22	114111	5	20	25	3	3	11	10	0	6	4	0	0	7	8	0	7	6
3 22	515311	5	30	35	2.5	2	5	10	3	7	5	5	3	7	9	2	9	6
3 22	213111	5	0	25	3	5	10	10	2	0	4	5	0	7	0	0	7	0
3 22	413111	5	17	25	3	3	10	10	2	7	5	5	2	0	0	0	7	0
3 22	311111	5	0	25	3	3	14	10	0	0	4	0	0	0	0	0	7	0
3 22	313111	5	17	999	3	3	11	10	0	0	4	0	0	0	0	0	7	0
3 22	515223	5	20	30	1	2	4	14	3	8	6	7	4	9	10	4	8	7
3 22	414112	5	20	30	2	2	5	14	2	7	5	5	3	9	10	2	9	7
3 22	535111	5	30	40	1.5	2	4	14	2	7	5	5	3	8	4	3	8	7
3 22	112111	5	0	0	3	5	15	10	0	0	0	0	0	0	0	0	0	0
3 22	514111	5	25	30	2.5	2.5	9	10	3	8	5	7	4	9	10	2	8	7
3 22	313112	5	20	30	2.5	2	7	14	4	8	6	7	2	8	9	2	8	7
3 22	315113	5	35	45	1	1.5	3	17	4	9	8	8	3	10	11	3	10	8
3 22	513111	5	25	30	2.5	2	9	11	3	7	5	6	2	8	9	2	9	6
3 22	123111	5	20	25	3	4.5	10	10	0	0	0	0	0	0	0	0	7	0
3 22	334231	5	35	45	1	1	4	15	5	9	8	9	4	11	12	3	10	9
3 22	113111	5	0	0	3	5	12	10	0	0	0	0	0	0	0	0	0	0
3 22	521111	5	20	30	2.5	2.5	9	10	3	8	6	7	2	9	10	2	9	7
3 22	113121	5	20	30	3	3.5	11	10	0	0	0	0	0	0	0	0	7	0
3 22	211111	5	20	27	3	4.5	10	10	3	0	0	0	0	0	0	0	7	0
3 22	224111	5	25	30	2.5	2	8	10	2	7	5	5	2	7	8	2	9	5
3 22	415314	5	35	45	1.5	1	4	15	2	8	6	7	4	9	10	3	10	7
3 22	312111	5	20	30	3	3.5	10	10	0	0	0	0	0	0	0	0	7	0
3 22	314112	5	40	45	1	1	2	15	7	10	11	7	5	11	12	3	11	8
3 22	314113	9	-1	-1	-1	-1	-1	20	4	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 22	412111	5	20	30	3	5	9	10	0	0	0	0	0	0	0	0	7	0
3 22	414111	5	25	40	2.5	2	4	10	0	0	0	0	0	0	0	0	9	8
3 22	525111	5	40	50	0.5	0.5	1	15	5	10	6	8	2	12	14	2	10	8

DEMOGRAPHIC DATA

			WHEN MO	YR	HOW LONG YR	MO
GRADE	:E-4	TANK COMMANDER		78	4	
MOS	:19E34	GUNNER	:	77	1	
IN ARMY	:11YR	LOADER	:	75	2	
IN ARTILLERY	:11YR	DRIVER	:	74	1	
COMBAT	WHEN :Y 66 70					
ARTIL. COMBAT	:N	#SUPERVISED : 50				

M60 TANK CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW RESP	SYMP COMP	LOW CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: TANK COMMANDER: ISSUE FIRE CMD	RANGE	DEF LAY	ISSUE SUBSQ CMD	GUNNER: IDENT TGT	AIM FIRE	APPLY CORR	LOADER: ARM	LOAD ARM	DR: STOP
USUAL TIME,SEC		15	20	UNSTIPULATED				1	5	3	4	1	6	7	1	5	4
3 23 411111	5	30	35	3	3	2	40	4	0	6	8	3	8	9	3	6	6
3 23 515431	4	-1	-1	-1	-1	-1	60	6	8	10	12	4	8	14	-1	-1	-1
3 23 114111	4	-1	-1	-1	0.5	-1	30	0	10	7	0	0	0	9	7	12	7
3 23 515311	4	-1	-1	-1	-1	-1	40	3	8	6	8	2	9	10	4	10	6
3 23 213111	4	30	0	2	2	3	30	2	7	4	6	2	0	9	2	8	0
3 23 413111	4	20	0	2	3	3	30	2	0	5	6	0	7	9	0	7	0
3 23 311111	5	0	0	3	4	3	20	0	0	0	0	0	0	0	0	0	0
3 23 313111	5	30	0	1	1	1	30	3	0	5	6	0	0	8	0	8	6
3 23 515223	5	30	40	-1	-1	1	50	3	7	5	8	3	0	9	3	8	6
3 23 414112	4	30	40	-1	0.5	1	30	3	6	5	6	3	0	9	3	10	8
3 23 535111	4	-1	40	-1	-1	1	50	3	0	5	6	2	0	9	3	10	6
3 23 112111	5	0	30	2	3	3	20	0	0	0	0	0	0	0	0	8	0
3 23 514111	4	30	40	1	-1	1	30	3	0	5	7	0	8	9	3	10	6
3 23 313112	5	30	40	1	1	1	30	3	0	0	7	0	0	9	3	10	6
3 23 315113	5	30	50	-1	-1	1	40	3	7	5	7	0	8	10	4	10	6
3 23 513111	5	30	30	1	2	2	30	0	0	5	6	0	0	9	3	10	6
3 23 123111	4	30	30	1	1	1	30	0	0	0	0	0	0	0	3	10	6
3 23 334231	4	30	40	1	1	1	30	0	0	6	6	0	8	9	3	10	6
3 23 113111	5	0	0	3	4	3	20	0	0	0	0	0	0	0	0	0	0
3 23 521111	5	30	40	1	1	1	30	0	0	0	0	0	0	0	0	8	6
3 23 113121	5	30	40	1	1	1	30	0	0	0	6	0	0	9	2	8	6
3 23 211111	5	0	0	2	3	3	20	0	0	0	0	0	0	0	0	0	0
3 23 224111	5	30	40	1	2	1	30	0	0	4	6	0	0	9	3	10	6
3 23 415314	5	-1	-1	-1	-1	-1	40	3	6	5	6	2	8	10	3	10	8
3 23 312111	5	30	40	1	2	1	30	0	0	4	6	0	0	9	0	8	6
3 23 314112	5	30	40	1	1	1	40	0	0	5	6	0	0	9	0	8	6
3 23 314113	5	-1	-1	-1	-1	-1	40	0	8	5	6	0	0	9	3	10	6
3 23 412111	5	30	40	1	2	1	30	0	0	0	0	0	0	0	0	7	0
3 23 414111	5	30	40	1	1	1	30	0	0	0	0	0	0	0	0	8	6
3 23 525111	5	30	40	-1	-1	-1	40	0	0	5	5	0	0	9	0	10	6

PLT SARGEANT

DEMOGRAPHIC DATA

			WHEN MO	WHEN YR	HOW LONG YR	HOW LONG MO
GRADE	:E-6	TANK COMMANDER		78	4	
MOS	:19E	GUNNER	:	76	2	
IN ARMY	: 8YR	LOADER	:	75	1	
IN ARTILLERY	: 6YR	DRIVER	:			
COMBAT	:N					
ARTIL. COMBAT	:N	#SUPERVISED	:>50			

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

M60 TANK CREW

CREW RESP	SYMP COMP	LOW	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: TANK COMMANDER: ISSUE FIRE CMD	RANGE	DEP LAY	ISSUE SUBSD CMD	GUNNER: IDENT TGT	AIM FIRE	APPLY CORR	LOADER: ARM	LOAD ARM	DR: STOP
USUAL TIME,SEC			15	20	UNSTIPULATED				1	5	3	4	1	6	7	1	5	4
3 24 411111	A		0	0	6	30	15	15	0	0	0	0	0	0	0	0	0	0
3 24 515431	A		50	60	-1	2	2	45	5	10	8	8	5	10	13	5	15	15
3 24 114111	A		25	45	3	4	5	20	0	7	8	0	0	0	0	3	10	8
3 24 515311	A		40	60	2	3	4	25	3	10	15	6	5	8	10	5	20	15
3 24 213111	A		20	30	4	5	8	18	0	0	0	0	0	0	0	0	9	7
3 24 413111	A		35	40	3	4	4	25	0	7	5	0	0	0	0	0	10	9
3 24 311111	A		20	25	5	10	10	17	0	0	0	0	0	0	0	0	0	0
3 24 313111	A		25	40	3	4	5	20	0	0	0	0	0	0	0	0	7	6
3 24 515223	A		50	60	1	3	3	40	5	10	10	6	5	10	15	8	-1	10
3 24 414112	A		40	50	2	5	4	25	4	8	5	7	4	9	10	8	10	10
3 24 535111	A		50	60	-1	1	2	50	4	10	10	7	4	10	10	5	-1	-1
3 24 112111	A		20	25	5	10	8	20	0	0	0	0	0	0	0	0	0	0
3 24 514111	A		25	40	2	4	5	25	4	7	5	6	2	8	9	5	10	8
3 24 313112	A		40	60	1	3	5	30	4	8	5	6	3	8	8	5	-1	10
3 24 315113	A		60	110	-1	-1	-1	50	10	15	-1	10	10	15	20	8	-1	-1
3 24 513111	A		50	60	1	2	3	20	5	10	15	8	3	9	10	3	10	10
3 24 123111	A		25	40	3	4	5	20	0	0	0	0	0	0	0	0	8	7
3 24 334231	A		-1	60	1	-1	3	40	5	-1	-1	10	4	15	20	5	-1	-1
3 24 113111	A		25	40	3	5	5	17	0	0	0	0	0	0	0	0	8	6
3 24 521111	A		0	0	5	20	10	15	0	0	0	0	0	0	0	0	0	0
3 24 113121	A		20	30	3	5	4	25	0	0	0	0	0	0	0	0	8	6
3 24 211111	A		0	0	5	25	10	15	0	0	0	0	0	0	0	0	0	0
3 24 224111	A		25	45	2	5	4	20	0	0	0	0	0	0	0	0	8	6
3 24 415310	A		-1	-1	-1	-1	-1	50	5	-1	-1	6	-1	-1	-1	5	-1	-1
3 24 312111	A		0	0	4	10	10	20	0	0	0	0	0	0	0	0	0	0
3 24 314112	A		20	35	2	3	4	25	0	0	0	0	0	0	0	0	8	6
3 24 314113	A		-1	-1	-1	-1	-1	50	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 24 412111	A		25	50	2	5	4	30	0	0	0	0	0	0	0	0	8	10
3 24 414111	A		20	30	3	4	5	25	0	0	0	0	0	0	0	0	8	10
3 24 525111	A		-1	-1	-1	-1	-1	50	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1

DEMOGRAPHIC DATA

			WHEN MO	WHEN YR	HOW LONG YR	HOW LONG MO
GRADE	:E-6	TANK COMMANDER		76	6	
MOS	:19E30B	GUNNER	:	75	2	*
IN ARMY	:11YR HO	LOADER	:	70	1	
IN ARTILLERY	:10YR 6	DRIVER	:	66	1	
	WHEN					
COMBAT	:N					
ARTIL. COMBAT	:N	#SUPERVISED :>50				

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

M60 TANK CREW

			ORDINARY TASKS						CREW TASKS									
									TANK COMMANDER				GUNNER			LOADER		DR
CREW RESP	SYMP COMP	CON	CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	ISSUE FIRE CMD	RANGE	DEP LAY	ISSUE SURSQ CMD	IDENT TGT	AIM FIRE	APPLY CORR	ARM	LOAD ARM	STOP
USUAL TIME,SEC			15	20	UNSTIPULATED				1	5	3	4	1	6	7	1	5	4
3	25	411111	A	20	40	3	12	3	15	0	0	0	0	0	0	0	0	8	0
3	25	515431	A	-1	-1	0.5	-1	1	40	3	7	4	6	3	8	9	2	-1	8
3	25	114111	A	25	40	3	2	3	18	0	0	0	5	0	0	0	0	9	6
3	25	515311	A	50	110	-1	1	1	18	0	8	5	6	0	0	0	0	-1	7
3	25	213111	A	20	30	3	9	4	15	0	0	0	0	0	0	0	0	0	0
3	25	413111	A	20	30	3	8	3	15	0	0	0	0	0	0	0	0	7	6
3	25	311111	A	20	40	20	8	3	16	0	0	0	0	0	0	0	0	7	6
3	25	313111	A	30	50	3	6	3	18	0	0	0	0	0	0	0	0	8	6
3	25	515223	A	-1	-1	-1	-1	-1	30	2	7	4	6	2	8	9	2	-1	7
3	25	414112	A	30	60	3	5	2	18	0	6	4	5	0	7	9	0	9	5
3	25	535111	A	05	-1	1	-1	-1	20	3	7	5	7	2	7	9	2	-1	7
3	25	112111	A	0	0	4	12	5	15	0	0	0	0	0	0	0	0	0	0
3	25	514111	A	17	45	2	9	3	18	0	6	4	5	0	7	8	0	8	0
3	25	313112	A	20	35	3	5	2	19	3	7	5	6	2	7	8	0	9	7
3	25	315113	A	-1	-1	-1	1	-1	20	3	8	6	6	2	8	8	2	-1	7
3	25	513111	A	16	30	2	4	3	18	0	6	4	0	0	0	0	0	7	5
3	25	123111	A	25	50	3	6	2	17	0	6	4	0	0	0	0	0	7	5
3	25	334231	A	35	60	2	5	2	18	2	6	4	5	0	7	9	0	10	7
3	25	113111	A	0	0	5	15	9	12	0	0	0	0	0	0	0	0	0	0
3	25	521111	A	20	53	1	6	2	20	0	0	4	5	0	0	0	0	7	5
3	25	113121	A	16	25	3	9	4	16	0	0	0	0	0	0	0	0	0	0
3	25	211111	A	16	25	3	9	4	18	0	0	0	0	0	0	0	0	0	0
3	25	224111	A	25	40	2	5	3	16	0	6	4	5	0	0	0	0	9	6
3	25	415316	A	-1	-1	-1	-1	-1	22	4	7	6	5	3	9	10	3	-1	10
3	25	312111	A	25	40	1	5	1	20	0	0	0	0	0	0	0	0	7	8
3	25	314112	A	35	50	1.5	3	2	16	2	6	4	6	2	7	9	0	7	9
3	25	314113	A	40	60	1	3	2	18	2	7	5	6	2	7	8	2	-1	6
3	25	412111	A	20	45	2	8	3	18	0	0	0	0	0	0	0	0	7	6
3	25	414111	A	35	55	1	5	3	15	0	6	5	6	0	7	9	0	9	6
3	25	525111	A	-1	-1	-1	-1	-1	25	3	7	6	6	2	7	9	3	-1	8

PLT. SGT./TANK SECTION LDR. USMC

DEMOGRAPHIC DATA

			WHEN NO YR	HOW LONG YR NO
GRADE	:E-6	TANK COMMANDER		6
MOS	: 1611	GUNNER	:	
IN ARMY	: 6YR 6MO	LOADER	:	
IN ARTILLERY	: 6YR 6	DRIVER	:	
	WHEN			
COMBAT	:N			
ARTIL. COMBAT	:N	#SUPERVISED	:>50	

M60 TANK CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW RESP	SYMP COMP	ORDINARY TASKS: CON CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: TANK COMMANDER: ISSUE FIRE CMD	RANGE	DEP LAY	ISSUE SUBSQ CMD	GUNNER: IDENT TGT	AIM FIRE	APPLY CORR	LOADER: ARM	LOAD ARM	DR: STOP
USUAL TIME,SEC		15	20	UNSTIPULATED				1	5	3	4	1	6	7	1	5	4
3 26	411111 A	0	0	5	60	10	10	6	0	0	0	5	0	0	3	0	0
3 26	515831 A	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 26	114111 A	20	0	3	20	5	10	5	0	0	0	3	0	0	3	0	0
3 26	515311 A	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 26	213111 A	0	0	5	30	10	10	4	0	0	0	3	0	0	3	0	0
3 26	413111 A	0	0	3	20	10	10	5	0	0	0	3	0	0	3	0	0
3 26	311111 A	0	0	2	10	5	15	5	0	0	0	3	0	0	3	0	0
3 26	313111 A	20	0	1	3	5	15	8	0	5	0	5	0	0	5	0	0
3 26	515223 A	30	0	1	3	2	15	10	10	7	0	10	7	0	10	0	0
3 26	414112 A	0	0	3	10	3	5	4	0	0	0	3	0	0	2	0	0
3 26	535111 A	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 26	112111 A	0	0	5	30	10	5	4	0	0	0	3	0	0	3	0	0
3 26	514111 A	60	120	-1	1	2	30	15	10	5	4	5	0	0	10	0	0
3 26	313112 A	20	30	3	10	5	10	5	0	0	0	3	0	0	3	0	0
3 26	315113 A	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 26	513111 A	30	30	2	2	3	10	10	10	5	10	10	0	0	10	0	0
3 26	123111 A	0	0	1	-1	1	15	10	0	0	0	3	0	0	5	0	0
3 26	334231 A	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 26	113111 A	0	0	4	30	5	5	5	0	0	0	3	0	0	3	0	0
3 26	521111 A	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 26	113121 A	30	25	1	5	2	15	10	7	6	10	5	0	0	5	0	0
3 26	211111 A	20	0	3	3	3	10	5	0	0	0	3	0	0	3	0	0
3 26	224111 A	20	25	2	3	2	15	10	0	0	0	3	0	0	3	0	0
3 26	415314 A	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 26	312111 A	20	0	1	5	2	10	10	7	5	10	4	0	0	5	0	0
3 26	314112 A	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 26	314113 A	25	25	1	1	-1	15	30	15	10	25	5	0	0	10	0	0
3 26	412111 A	20	25	2	10	2	10	8	7	4	8	4	0	0	5	0	0
3 26	414111 A	25	30	1	5	2	10	10	0	0	1	5	0	0	5	0	0
3 26	525111 A	25	25	1	3	1	10	30	15	10	30	15	0	0	5	0	0

THE RLF A TANK COMMANDER [illegible] WENT THRU 3 COMMENDS ABTER AND NUMERIOUS OTHER DUTIES. AND MISSIONS.

DEMOGRAPHIC DATA

			WHEN MO	WHEN YR	HOW LONG YR	HOW LONG MO
GRADE	:E-6	TANK COMMANDER		74	7	
MOS	:19E30	GUNNER	:			
IN ARMY	:10YR	LOADER	:			
IN ARTILLERY	: 6YR	DRIVER	:			6
COMBAT	:N					
ARTIL. COMBAT	:N	#SUPERVISED : 20				

M60 TANK CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

			ORDINARY TASKS						CREW TASKS									
									TANK COMMANDER				GUNNER			LOADER		DR
CREW RESP	SYMP COMP	CON	CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	ISSUE FIRE CMD	RANGE	DEP LAY	ISSUE SUBSD CMD	IDENT TGT	AIM FIRE	APPLY CORR	ARM	LOAD ARM	STOP
USUAL TIME,SEC			15	20	UNSTIPULATED				1	5	3	4	1	6	7	1	5	4
3	27	411111	4	30	35	5	15	10	30	20	10	9	10	5	9	15	6	10	8
3	27	515431	3	60	50	1	2	2	60	60	25	30	45	15	20	25	15	25	10
3	27	114111	4	20	30	6	10	7	50	10	10	12	10	5	8	15	3	10	7
3	27	513311	3	55	60	2	5	1	60	60	60	60	60	40	35	50	25	35	15
3	27	213111	3	30	30	6	10	8	25	8	15	20	20	8	0	10	3	10	5
3	27	413111	3	40	45	2	2	5	35	15	10	10	15	10	8	15	4	10	8
3	27	311111	3	25	35	5	10	5	40	6	15	20	25	8	10	15	6	11	7
3	27	313111	3	35	35	1	2	2	30	15	20	20	25	10	15	20	10	15	10
3	27	515223	4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	27	414112	3	40	40	2	1	1	40	20	35	40	30	15	20	35	10	25	15
3	27	535111	3	50	45	1	-1	1	60	55	50	50	50	30	30	40	15	25	20
3	27	112111	4	30	25	5	15	10	20	3	8	10	10	3	8	11	3	10	6
3	27	514111	3	30	30	2	3	2	30	45	45	35	50	15	15	25	[illegible]	15	8
3	27	313112	3	45	40	1	1	1	25	45	45	45	45	15	20	25	10	25	15
3	27	315113	3	60	55	1	1	1	50	60	60	60	60	55	50	60	50	60	40
3	27	513111	2	35	40	2	5	4	45	20	35	30	35	15	15	20	10	20	10
3	27	123111	3	50	30	1	1	2	35	10	15	15	15	15	10	15	6	10	6
3	27	334231	3	50	45	1	1	1	40	45	55	55	60	25	25	35	15	25	10
3	27	113111	4	20	25	6	15	10	10	3	6	5	6	3	8	10	2	8	5
3	27	521111	3	30	30	2	5	3	25	15	20	25	25	5	15	20	5	15	8
3	27	113121	3	20	30	6	10	6	30	4	8	8	10	6	7	10	3	10	7
3	27	211111	3	20	25	6	10	5	20	3	7	5	7	2	8	10	3	10	5
3	27	224111	3	25	30	3	3	2	25	15	20	25	15	8	10	15	5	10	7
3	27	415314	4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	27	312111	3	30	30	3	5	5	25	7	8	10	10	6	10	15	4	10	8
3	27	314112	3	25	30	2	2	2	35	10	25	25	25	15	10	20	10	15	10
3	27	314113	3	25	30	1	2	1	30	20	25	30	35	5	15	20	10	15	10
3	27	412111	3	25	25	5	10	3	30	7	10	10	10	5	8	15	3	10	7
3	27	414111	3	35	30	2	5	3	25	15	20	10	10	10	10	15	10	20	10
3	27	525111	3	30	30	1	2	1	40	25	35	35	40	15	20	35	10	15	15

BRIEFED ALL NATO FORCES ON OPFOR VEH. AND PERFORMED MAINTANCE ON 162,1-62-A, 154, T54B, PT76, BTR152, BTR60PB, GAZ-69 AND BMP.
TANK SEC. LEADER.

DEMOGRAPHIC DATA

				WHEN MO YR	HOW LONG YR MO
GRADE	:E-6	TANK COMMANDER		76	1
MOS	:19E30	GUNNER	:5		
IN ARMY	:10YR	LOADER	:		
IN ARTILLERY	: 6YR	DRIVER	:		
	WHEN				
COMBAT	:N				
ARTIL. COMBAT	:N	#SUPERVISED	: 50		

M60 TANK CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: TANK COMMANDER: ISSUE FIRE CMD	RANGE	DEP LAY	ISSUE SUBSQ CMD	GUNNER: IDENT TGT	AIM FIRE	APPLY CORR	LOADER: ARM	LOAD ARM	DR: STOP
USUAL TIME,SEC			15	20	UNSITPULATED				1	5	3	4	1	6	7	1	5	4
3	28	411111	3	45	40	4	5	8	30	3	7	10	6	4	9	10	2	8	7
3	28	515431	3	65	80	1	5	3	70	9	15	12	10	9	14	11	3	15	12
3	28	114111	3	20	60	6	30	15	45	3	6	5	3	6	8	10	2	6	7
3	28	515311	2	20	70	1	5	3	45	7	6	11	6	8	5	11	3	15	11
3	26	213111	3	0	0	8	120	20	45	2	0	4	0	5	0	0	2	7	7
3	28	413111	3	16	0	6	60	15	45	3	0	6	0	4	0	8	2	8	7
3	26	311111	3	0	0	7	120	20	45	2	0	6	0	4	0	0	2	6	7
3	28	313111	3	0	0	7	100	15	45	3	0	7	0	4	0	0	2	7	7
3	28	515223	3	35	45	1	5	2	85	8	10	15	8	15	15	20	4	12	14
3	28	414112	3	25	50	3	45	4	45	3	0	8	0	5	0	9	2	10	10
3	28	535111	3	45	50	2	40	3	70	5	9	12	7	10	15	19	3	15	11
3	28	112111	3	0	0	8	120	15	45	2	0	5	0	4	0	0	2	7	7
3	28	514111	2	45	60	2	30	3	50	10	15	15	10	15	17	12	2	15	12
3	28	313112	3	0	30	6	30	3	45	3	0	6	0	5	0	0	2	7	7
3	28	315113	2	25	45	1	5	2	60	3	0	7	0	8	0	9	2	15	8
3	28	513111	3	0	0	6	60	7	45	3	0	6	0	5	0	8	2	8	7
3	28	123111	3	0	0	6	60	6	45	3	0	6	0	5	0	8	2	7	7
3	28	334231	3	25	40	3	25	3	55	3	0	7	0	9	10	12	2	15	12
3	26	113111	3	0	0	10	120	20	45	0	0	0	0	0	0	0	0	0	0
3	28	521111	3	20	35	3	40	3	55	3	7	7	0	7	8	10	2	10	11
3	28	113121	2	18	25	6	40	3	60	3	0	7	0	5	0	0	2	8	9
3	28	211111	3	0	0	6	120	12	45	3	0	7	0		0	0	2	8	7
3	28	224111	2	20	40	3	30	6	55	3	0	8	0	7	8	10	2	13	10
3	28	415314	2	-1	-1	1	5	1	75	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	28	312111	2	20	30	3	30	6	50	3	0	7	0	8	0	9	2	8	8
3	28	314112	2	25	35	3	40	6	55	4	8	10	6	10	10	10	3	17	10
3	28	314113	2	-1	-1	1	5	1	70	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	28	412111	2	0	0	3	60	6	50	3	0	7	0	6	0	0	2	8	9
3	28	414111	2	30	40	3	15	4	75	3	0	7	0	6	0	0	2	8	7
3	28	525111	2	-1	-1	1	10	2	70	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1

WAS IN GERMANY IN 2ND AT ARDOR. ENDORSED ERG WAS A PLATOON SERGENT FOR 10 ENTIRE YEAR.

DEMOGRAPHIC DATA

			WHEN MO YR	HOW LONG YR MO
GRADE	:E-6	TANK COMMANDER		7
MOS	:19E30H	GUNNER	:	3
IN ARMY	:12YR 6MO	LOADER	:	1
IN ARTILLERY	:10YR	DRIVER	:	1
	WHEN			
COMBAT	:N			
ARTIL. COMBAT	:N	#SUPERVISED :>50		

M60 TANK CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: TANK COMMANDER: ISSUE FIRE CMD	RANGE	DEP LAY	ISSUE SUBSD CMD	GUNNER: IDENT TGT	AIM FIRE	APPLY CORR	LOADER: ARM	LOAD ARM	DR STOP
USUAL TIME,SEC			15	20	UNSTIPULATED				1	5	3	4	1	6	7	1	5	4
3 29	411111	3	30	50	3	20	2	10	3	0	0	0	3	0	0	3	7	0
3 29	515431	3	-1	-1	-1	-1	-1	-1	5	15	6	7	3	10	13	10	15	5
3 29	114111	3	45	-1	2	10	1	16	3	9	5	8	2	8	9	4	10	8
3 29	515311	3	50	-1	2	5	1	21	4	10	12	10	3	9	10	10	15	7
3 29	213111	3	25	35	3	12	2	16	2	6	4	7	0	0	9	2	10	0
3 29	413111	8	20	50	3	10	3	12	2	10	7	8	3	0	10	0	7	0
3 29	311111	8	20	30	5	20	3	12	0	7	6	5	0	7	8	0	7	0
3 29	313111	8	25	45	3	15	3	12	3	7	7	6	2	0	10	0	10	0
3 29	515223	3	-1	-1	1	5	1	20	4	10	6	8	3	7	9	3	15	8
3 29	414112	3	80	-1	2	10	-1	12	3	10	6	8	3	7	10	0	15	6
3 29	535111	3	-1	-1	-1	-1	-1	-1	3	10	10	7	4	7	12	5	-1	6
3 29	112111	3	0	0	999	999	999	999	0	0	0	0	0	0	0	0	0	0
3 29	514111	3	50	-1	1	5	-1	20	4	15	12	10	3	0	14	3	20	10
3 29	313112	3	40	60	2	10	3	12	3	8	6	6	2	9	12	2	7	6
3 29	315113	3	-1	-1	-1	-1	-1	-1	4	10	14	7	3	7	8	2	-1	6
3 29	513111	3	30	60	2	15	3	14	4	10	10	11	3	7	12	2	10	7
3 29	123111	3	60	-1	2	20	-1	12	0	7	7	0	0	0	12	0	15	10
3 29	334231	3	-1	-1	-1	-1	-1	-1	7	10	6	10	3	7	13	2	20	8
3 29	115111	3	30	40	4	20	4	10	0	0	0	0	0	0	0	0	8	0
3 29	521111	3	30	40	2	20	3	12	3	10	7	8	3	12	14	3	15	6
3 29	113121	3	20	30	3	20	4	10	2	0	0	0	0	0	0	0	10	0
3 29	211111	3	0	0	4	20	4	8	0	0	0	0	0	0	0	0	0	0
3 29	224111	3	-1	-1	-1	5	-1	8	4	10	12	7	3	0	10	2	15	8
3 29	415310	3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 29	312111	3	30	40	1	10	3	10	3	10	6	7	2	8	9	3	15	8
3 29	314112	3	-1	-1	-1	-1	-1	8	3	10	7	6	2	8	10	2	15	6
3 29	314113	3	-1	-1	-1	-1	-1	9	4	-1	-1	8	3	7	10	2	-1	6
3 29	412111	3	30	40	2	20	3	8	2	6	4	6	2	7	8	0	8	0
3 29	414111	3	60	50	2	10	3	10	3	8	7	8	3	8	10	2	15	6
3 29	525111	3	-1	-1	-1	-1	-1	12	3	-1	-1	6	2	7	12	2	-1	8

INSTRUCTOR M60A3 NEIT TEAM TEACHING FIRE CONTROL, LASING ABILITY OF A-3 SYSTEM1

DEMOGRAPHIC DATA

			WHEN MO	WHEN YR	HOW LONG YR	HOW LONG MO
GRADE	:E-6	TANK COMMANDER		74	7	
MOS	:19E30	GUNNER	:	73	1	6
IN ARMY	:10YR	LOADER	:			
IN ARTILLERY	:10YR	DRIVER	:	72		8

COMBAT :N
ARTIL. COMBAT:N #SUPERVISED : 20

M60 TANK CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: TANK COMMANDER: ISSUE FIRE CMD	RANGE	DEP LAY	ISSUE SURSQ CMD	GUNNER: IDENT TGT	AIM FIRE	APPLY CORR	LOADER: ARM	LOAD ARM	DR STOP
USUAL TIME,SEC			15	20	UNSTIPULATED				1	5	3	4	1	6	7	1	5	4
3	30	411111	3	999	999	2	15	2	30	7	7	10	15	4	5	11	6	0	6
3	30	515431	3	999	999	1	15	2	60	10	15	10	20	4	12	15	3	10	8
3	30	114111	8	999	999	2	20	2	15	4	11	8	10	3	9	15	3	11	6
3	30	515311	4	999	999	1	10	-1	60	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	30	213111	8	999	999	3	45	4	15	7	6	4	7	4	8	10	3	7	6
3	30	413111	8	999	999	2	30	2	20	4	8	7	10	5	9	10	4	11	7
3	30	311111	3	999	999	3	60	4	15	5	7	5	8	5	8	9	4	7	6
3	30	313111	3	999	999	2	30	3	25	7	9	6	9	4	8	15	5	9	7
3	30	515223	3	999	999	1	5	-1	60	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	30	414112	3	999	999	1	15	2	30	10	15	15	19	10	9	20	3	10	8
3	30	535111	8	999	999	-1	5	-1	30	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	30	112111	8	999	999	4	60	40	15	5	7	5	7	3	8	9	3	7	6
3	30	514111	8	999	999	2	25	2	30	9	10	7	8	5	9	11	4	9	7
3	30	313112	3	999	999	1	20	2	20	9	10	9	11	5	9	15	3	10	8
3	30	315113	3	999	999	-1	5	-1	30	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	30	513111	8	999	999	2	30	3	20	7	9	9	8	5	9	15	3	9	8
3	30	123111	8	999	999	3	45	3	15	5	10	6	9	5	10	15	3	9	8
3	30	334231	3	999	999	1	15	1	30	6	10	9	10	6	8	18	4	10	8
3	30	113111	7	999	999	3	50	3	10	5	8	6	10	3	8	10	2	8	6
3	30	521111	8	999	999	2	45	2	20	4	11	6	1	4	9	15	3	7	6
3	30	113121	8	999	999	2	40	2	25	7	10	6	9	4	8	12	4	9	8
3	30	211111	8	999	999	3	60	3	10	7	9	5	7	3	8	10	3	9	6
3	30	224111	0	999	999	1	20	4	25	10	9	6	10	5	9	15	4	9	8
3	30	415310	0	999	999	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	30	312111	0	999	999	2	45	2	15	7	9	7	8	5	9	9	3	9	6
3	30	314112	0	999	999	-1	10	1	30	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	30	314113	3	999	999	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	30	412111	8	999	999	3	60	3	10	7	9	5	8	3	8	10	3	8	6
3	30	414111	8	999	999	2	25	2	20	9	10	7	9	4	9	11	4	9	8
3	30	525111	3	999	999	-1	5	-1	30	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1

DURING THE PAST YEAR TECH INTEL ANALYST SOVIET ARMOR

DEMOGRAPHIC DATA

			WHEN NO YR	HOW LONG YR MO
GRADE	:E-7	TANK COMMANDER	70	12
MOS	:19E4A	GUNNER	:	
IN ARMY	:14YR 6MO	LOADER	:	
IN ARTILLERY	:14YR 6	DRIVER	: 69	1
	WHEN			
COMBAT	:Y 69 70			
ARTIL. COMBAT	:Y 69 70	#SUPERVISED : 50		

M60 TANK CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW RESP	SYMP COMP	CON CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	TANK COMMANDER: ISSUE FIRE CMD	RANGE	DEP LAY	ISSUE SUBSD CMD	GUNNER: IDENT TGT	AIM FIRE	APPLY CORR	LOADER: ARM	LOAD ARM	DR: STOP
		ORDINARY TASKS						CREW TASKS									
USUAL TIME,SEC		15	20	DISTRIBUTED				1	5	3	4	1	6	7	1	5	4
3 31 411111	3	999	999	4	15	15	15	5	10	0	8	4	0	10	0	10	10
3 31 515431	3	120	300	1	5	1	60	30	45	60	45	15	30	40	5	45	40
3 31 114111	3	30	60	2	5	3	15	2	10	10	5	3	0	10	2	10	8
3 31 515311	3	60	120	1	3	2	20	15	30	20	30	10	12	20	3	30	10
3 31 213111	3	20	30	2	10	6	30	2	10	6	8	2	0	14	0	15	8
3 31 413111	3	30	60	2	10	3	30	10	15	6	15	3	20	20	5	15	8
3 31 311111	3	20	60	2	5	7	40	4	7	0	8	3	8	0	2	10	0
3 31 313111	3	15	30	3	5	3	45	4	0	0	8	3	12	9	2	10	8
3 31 515223	3	120	180	1	3	2	60	3	20	18	30	20	15	30	5	30	10
3 31 414112	3	120	180	1	2	2	60	10	20	30	10	3	12	14	4	20	8
3 31 535111	3	120	180	1	1	1	80	20	30	20	25	4	18	26	3	25	8
3 31 112111	3	0	0	3	15	8	30	2	6	4	5	2	8	8	2	6	0
3 31 514111	3	180	240	1	1	2	60	20	10	15	20	3	8	14	3	30	8
3 31 313112	3	200	300	1	1	1	40	10	8	15	10	4	12	14	2	30	8
3 31 315113	3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 31 513111	3	30	120	1	1	3	60	10	15	15	10	8	14	14	4	10	8
3 31 123111	3	0	0	2	10	2	60	2	0	4	0	0	0	0	3	0	6
3 31 334231	3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 31 113111	3	0	25	2	15	3	40	2	0	4	0	2	0	0	2	0	0
3 31 521111	3	-1	-1	-1	-1	2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 31 113121	3	0	0	3	15	10	30	2	0	0	0	3	0	0	2	0	0
3 31 211111	3	0	30	3	15	6	40	2	0	0	0	3	0	0	0	0	0
3 31 224111	3	-1	-1	-1	-1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 31 415314	3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 31 312111	3	20	25	2	10	3	40	2	0	4	0	2	0	0	0	10	6
3 31 314112	3	-1	-1	1	-1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 31 314113	3	-1	-1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 31 412111	3	20	30	2	4	2	60	2	0	0	0	3	0	10	2	0	0
3 31 414111	3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 31 525111	3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1

TANK SECTION LEADER IN A CAV TROOP. SUPERVISE TANK SECTION AND 20 PEOPLE, LEAD TANK SECTION IN MANUVERS AND GUNNERY EXERCISES.

DEMOGRAPHIC DATA

			WHEN MO	WHEN YR	HOW LONG YR	HOW LONG MO
GRADE	:E-6	TANK COMMANDER	2	78	5	
MOS	:19E30	GUNNER	:	77	1	
IN ARMY	: 8YR	LOADER	:			
IN ARTILLERY	: 8YR	DRIVER	:	76	1	
COMBAT	:N					
ARTIL. COMBAT	:N					

WHEN

#SUPERVISED :>50

M60 TANK CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: TANK COMMANDER: ISSUE FIRE CMD	RANGE	DEF LAY	ISSUE SUBSQ CMD	GUNNER: IDENT TGT	AIM FIRE	APPLY CORR	LOADER: ARM	LOAD ARM	DR STOP
USUAL TIME,SEC			15	20	UNSTIPULATED				1	5	3	4	1	6	7	1	5	4
3	32	411111	3	20	30	3.5	5.5	9	20	3	8	7	6	3	9.5	10	0	8	0
3	32	515431	3	-1	-1	-1	-1	-1	30	5	-1	-1	8	5	10	12.5	0	-1	-1
3	32	114111	3	25	30	1	2	1	20	0	0	4	0	0	0	0	0	9.5	5
3	32	515311	3	-1	-1	-1	5	1.5	20	2	-1	9	6	3	8	9	0	10	6
3	32	213111	8	25	30	2	8	4	15	0	6	4	5	2	7	8	0	6	0
3	32	413111	3	20	25	4	8	3	10	0	7	5	0	2	0	0	0	6	0
3	32	311111	3	20	25	3	10	4	10	0	6	4	5	2	7	8	3	6	0
3	32	313111	3	30	30	1.5	5	3	20	0	7	5	0	2	7.5	8.5	0	7	6
3	32	515223	8	-1	-1	-1	0.5	-1	30	2	-1	-1	-1	2	-1	-1	2	-1	-1
3	32	414112	8	-1	-1	-1	-1	-1	20	0	3	6	5	2	6.5	7.5	0	6	6
3	32	535111	3	-1	-1	-1	-1	-1	20	2	-1	-1	6	2	-1	-1	2	-1	-1
3	32	112111	3	20	25	2	6	4	10	0	6	4	0	0	0	0	0	6	0
3	32	514111	3	-1	-1	-1	-1	-1	15	2	-1	-1	5.5	2	7	8.5	0	7	5
3	32	313112	3	-1	-1	-1	-1	-1	20	2	-1	-1	6	2	7	8	0	-1	-1
3	32	315113	3	-1	-1	-1	-1	-1	12	2	-1	-1	5	2	7	8	0	-1	-1
3	32	513111	3	20	30	2	6	3	10	0	7	5	5	2	7	8	0	8	6
3	32	123111	3	-1	-1	-1	-1	-1	10	2	-1	-1	5	2	7	8	0	-1	-1
3	32	334231	3	20	25	2	4	1	12.5	2	7	5	6	2	8	0	0	7	6
3	32	113111	3	17	23	3.5	10	3	10	0	0	0	0	0	0	0	0	6	0
3	32	521111	3	-1	-1	-1	-1	-1	12	2	7	5	6	2	8	9	0	7	5.5
3	32	113121	3	20	25	1	2	2	12	2	6	0	5	2	7	8	0	6	5
3	32	211111	8	15	20	4	10	5	8	0	0	0	0	0	0	0	0	0	0
3	32	224111	3	-1	-1	-1	-1	-1	10	2	6	4	5	2	7	8	0	6	5
3	32	415314	8	-1	-1	-1	-1	-1	10	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	32	312111	8	16.5	20.5	2	5.5	2	10	2	6	4	5	2	7	8	0	6	5
3	32	314112	3	17	23	1	2	1.5	10	2	7	5	5	2	7	8.5	0	7.5	5.5
3	32	314113	3	-1	-1	-1	-1	-1	10	2	6	4	6	2	7	8	0	7.5	5.5
3	32	412111	3	20	25	2	4	2	12	0	6	4	0	2	7	8	0	6	4.5
3	32	414111	3	-1	-1	-1	-1	-1	10	2	7	5	5	2	8	9	0	7	5.5
3	32	525111	3	-1	-1	-1	-1	-1	12	0	7	5	0	2	7	8	0	7.5	5.5

PLATOON SERGEANT OF A 30 MAN TANK PLATOON WITH 7 TANKS SUPPORTING THE TRAINING GIVEN AT THE U.S. ARMY ARMOR SCHOOL FT. KNOX, KY.

DEMOGRAPHIC DATA

			WHEN MO	WHEN YR	HOW LONG YR	HO
GRADE	:E-6	TANK COMMANDER		77	6	
MOS	:19E3	GUNNER	:	76	2	
IN ARMY	: 9YR 6MO	LOADER	:	74		6
IN ARTILLERY	: 9YR 6	DRIVER	:	75	1	

WHEN

COMBAT :N

ARTIL. COMBAT:N #SUPERVISED :>50

M60 TANK CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: TANK COMMANDER: ISSUE FIRE CMD	RANGE	DEP LAY	ISSUE SURSQ CMD	GUNNER: IDENT TGT	AIM FIRE	APPLY CORR	LOADER: ARM	LOAD ARM	DR: STOP
USUAL TIME,SEC			15	20	UNSTIPULATED				1	5	3	4	1	6	7	1	5	4
3	33	411111	4	20	25	2	5	5	5	3	7	5	0	3	10	10	0	7	5
3	33	515431	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	33	114111	4	60	120	1	1	2	30	5	10	10	5	2	10	10	0	15	10
3	33	515311	4	60	60	1	1	2	20	5	30	30	15	5	10	10	2	20	10
3	33	213111	4	20	30	2	4	8	10	2	7	5	5	2	8	8	0	8	5
3	33	413111	4	0	0	3	5	7	15	3	6	5	5	2	8	8	0	7	0
3	33	311111	4	20	30	2	5	5	15	3	8	5	5	2	8	8	0	8	0
3	33	313111	4	20	30	2	4	5	10	3	10	10	5	2	10	10	0	15	5
3	33	515223	4	45	60	1	0.5	2	25	10	20	30	10	5	20	25	5	35	10
3	33	414112	4	25	40	1	1	3	20	5	10	20	15	5	25	15	2	15	5
3	33	535111	4	60	80	2	2	5	10	4	20	12	16	4	24	28	2	20	15
3	33	112111	4	20	25	2	5	5	5	0	0	0	0	0	0	0	0	7	5
3	33	514111	4	60	60	1	1	3	20	5	20	15	20	5	30	20	2	25	10
3	33	313112	4	45	60	2	3	5	15	3	15	10	10	5	20	20	2	15	10
3	33	315113	4	75	90	1	1	3	20	6	30	20	25	6	35	40	3	30	20
3	33	513111	4	30	45	2	2	5	10	2	10	5	10	2	15	10	2	15	10
3	33	123111	4	30	45	2	2	4	15	2	10	10	10	2	10	15	2	15	10
3	33	334231	4	90	120	1	1	2	15	6	30	20	25	6	35	30	6	30	20
3	33	113111	4	0	0	2	5	5	10	0	0	0	0	0	0	0	0	8	5
3	33	521111	4	45	60	2	3	5	10	4	20	12	16	4	25	25	4	20	5
3	33	113121	4	20	30	2	5	5	5	2	10	5	10	2	10	10	2	15	5
3	33	211111	4	45	60	2	3	5	10	3	15	10	10	3	20	15	3	15	10
3	33	224111	4	60	80	1	1	5	15	5	25	15	15	5	30	30	5	35	10
3	33	415314	4	120	240	0.5	0.5	2	20	10	50	45	40	10	30	30	5	45	15
3	33	312111	4	45	60	2	3	5	15	3	15	10	10	3	20	20	2	15	10
3	33	314112	4	45	60	1	1	3	10	5	25	15	15	5	30	30	3	30	20
3	33	314113	4	-1	-1	-1	-1	-1	25	10	45	30	45	10	45	45	2	-1	-1
3	33	412111	4	70	40	2	3	5	15	3	10	10	10	3	15	10	2	10	10
3	33	414111	4	60	120	1	1	3	20	5	20	15	20	5	30	30	5	30	15
3	33	525111	4	-1	-1	-1	-1	-1	30	15	45	60	60	15	40	40	5	-1	-1

I HAVE A PLT SGT AND A HA PIT SGT

DEMOGRAPHIC DATA

			WHEN MO	YR	HOW LONG YR	MO
GRADE	:E-6	TANK COMMANDER		74	8	
MOS	:19E3	GUNNER	:	73	1	6
IN ARMY	:11YR 8MO	LOADER	:			
IN ARTILLERY	:11YR 4 WHEN	DRIVER	:	72	1	8
COMBAT	:N					
ARTIL. COMBAT	:N	#SUPERVISED : 20				

M60 TANK CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: TANK COMMANDER: ISSUE FIRE CMD	RANGE	DEP LAY	ISSUE SUBSD CMD	GUNNER: IDENT TGT	AIM FIRE	APPLY CORR	LOADER: ARM	LOAD ARM	DR: STOP
USUAL TIME,SEC			15	20	UNSTIPULATED				1	5	3	4	1	6	7	1	5	4
3	34	411111	A	20	45	4.5	20	12	30	4	7	5	6	3	8	9	3	9	8
3	34	515431	A	-1	-1	-1	-1	-1	300	8	15	15	10	6	10	15	-1	-1	-1
3	34	114111	A	-1	-1	-1	-1	-1	360	10	-1	-1	15	10	15	15	-1	-1	-1
3	34	515311	A	-1	-1	-1	-1	-1	300	5	8	7	7	0	0	0	0	8	10
3	34	213111	A	20	30	4	8	14	20	0	0	0	0	0	0	0	0	0	0
3	34	413111	A	20	35	3	5	10	30	0	0	0	0	0	0	0	0	10	9
3	34	311111	A	0	0	5	10	15	25	3	8	5	6	4	10	13	0	9	0
3	34	313111	A	20	45	3.5	5	14	45	3	8	7	6	3	8	9	0	9	8
3	34	515223	A	-1	-1	-1	-1	-1	120	3	9	-1	6	6	12	10	0	-1	-1
3	34	414112	A	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	34	535111	A	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	5	-1	-1
3	34	112111	A	0	0	5	15	20	25	0	0	0	0	0	0	0	0	0	0
3	34	514111	A	-1	-1	-1	-1	-1	-1	5	8	7	8	10	-1	-1	5	-1	-1
3	34	313112	A	-1	-1	-1	-1	-1	-1	5	9	7	6	5	10	-1	0	-1	-1
3	34	315113	A	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	8	15	-1	0	-1	-1
3	34	513111	A	25	35	2	5	7	45	3	8	6	7	5	10	15	0	15	15
3	34	123111	A	25	40	4	8	11	48	3	6	5	8	3	9	10	0	12	10
3	34	334231	A	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	34	113111	A	0	0	5	15	20	15	0	0	0	0	0	0	0	0	8	7
3	34	521111	A	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	34	113121	A	0	0	4.5	10	20	30	0	0	0	0	0	0	0	0	7	6
3	34	211111	A	0	0	5	15	16	45	0	0	0	0	0	0	0	0	0	0
3	34	224111	A	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0	-1	15
3	34	415310	A	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	34	312111	A	25	45	3.5	5	10	55	0	0	5	6	5	9	9	0	12	10
3	34	314112	A	-1	-1	-1	-1	-1	-1	5	-1	-1	10	5	12	15	5	-1	-1
3	34	314113	A	-1	-1	-1	-1	-1	-1	6	-1	-1	10	6	15	18	5	-1	-1
3	34	412111	A	25	45	3	5	6	50	0	8	6	7	5	9	10	3	15	12
3	34	414111	A	-1	-1	-1	-1	-1	-1	5	10	8	6	5	9	9	3	-1	-1
3	34	525111	A	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1

PLT SGT IN A ARMOR CAVALRY

DEMOGRAPHIC DATA

			WHEN MO YR	HOW LONG YR MO
GRADE	:E-6	TANK COMMANDER	75	7
MOS	:19E	GUNNER	: 72	3
IN ARMY	:10YR 6MO	LOADER	:	
IN ARTILLERY	:10YR 6	DRIVER	:	
	WHEN			
COMBAT	:N			
ARTIL. COMBAT	:N	#SUPERVISED : 50		

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

M60 TANK CREW

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS — TANK COMMANDER: ISSUE FIRE CMD	RANGE	DEPLAY	ISSUE SUBSD CMD	GUNNER: IDENT TGT	AIM FIRE	APPLY CORR	LOADER: ARM	LOAD ARM	DR: STOP
USUAL TIME,SEC			15	20	UNSTIPULATED				1	5	3	4	1	6	7	1	5	4
3	36	411111	4	20	25	8	20	20	10	2	0	0	0	2	0	0	2	7	0
3	36	515431	4	-1	-1	999	999	999	60	4	10	7	8	6	10	12	3	15	10
3	36	114111	4	30	45	5	8	9	11	2	8	5	6	3	0	10	3	10	6
3	36	515311	3	60	100	2	5	4	40	4	8	6	10	5	9	11	3	12	10
3	36	213111	3	30	45	4	6	8	20	2	0	0	6	3	0	0	2	0	0
3	36	413111	3	60	-1	4	4	3	40	3	0	5	7	3	0	8	3	8	6
3	36	311111	3	45	70	3	4	3	20	3	6	5	6	4	9	11	3	9	8
3	36	313112	4	20	30	8	20	15	15	3	0	0	5	2	0	9	0	7	6
3	36	515223	2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	36	414112	3	60	120	-1	-1	-1	-1	5	10	10	10	6	14	15	4	13	12
3	36	535111	3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	36	112111	4	30	40	4	5	10	15	2	0	5	6	3	0	0	2	7	6
3	36	514111	4	60	80	2	2	4	30	5	10	7	8	5	9	12	4	10	12
3	36	313112	3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	36	315113	4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	36	513111	4	-1	-1	999	999	999	999	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	36	123111	3	60	100	3	4	5	30	4	7	8	9	4	10	10	4	11	12
3	36	334231	3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	36	113111	4	30	40	4	5	10	15	2	0	5	6	3	0	0	2	7	6
3	36	521111	4	75	120	2	2	5	40	4	8	9	10	4	10	14	5	14	12
3	36	113121	4	80	90	2	2	5	20	4	8	8	7	5	10	10	4	12	13
3	36	211111	3	45	999	4	3	2	30	4	0	6	10	5	10	12	3	10	10
3	36	224111	3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	36	415314	4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	36	312111	4	60	60	2	2	3	45	4	10	9	9	4	11	14	3	10	14
3	36	314112	4	60	60	2	2	3	45	4	10	9	9	4	11	14	3	10	14
3	36	314113	4	45	999	2	-1	-1	999	6	10	10	14	9	12	15	3	12	12
3	36	412111	4	20	30	8	20	15	15	3	0	0	5	2	0	9	0	7	6
3	36	414111	4	40	30	2	2	3	30	4	9	8	10	7	10	12	3	10	8
3	36	525111	3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1

PLT SGT ARMORED CAV PLT. SUPERVISED PATNT OF 5 BITRAI 4 MOGAI TRAINING OF BOTH 19D AND 19E E-6 AND BELOW

DEMOGRAPHIC DATA

			WHEN MO	WHEN YR	HOW LONG YR	HOW LONG MO
GRADE	:E-6	TANK COMMANDER		74	8	
MOS	:19E30	GUNNER	:	74		5
IN ARMY	:11YR	LOADER	:	73		4
IN ARTILLERY	:11YR	DRIVER	:	72	1	6
	WHEN					
COMBAT	:N					
ARTIL. COMBAT	:N	#SUPERVISED :>50				

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
5990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

M60 TANK CREW

		ORDINARY TASKS						CREW TASKS: TANK COMMANDER				GUNNER			LOADER		DR
	SYMP COMP	CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	ISSUE FIRE CMD	RANGE	DEP LAY	ISSUE SUBSQ CMD	IDENT TGT	AIM FIRE	APPLY CORR	ARM	LOAD ARM	STOP
USUAL TIME,SEC		15	20	UNSTIPULATED				1	5	3	4	1	6	7	1	5	4
3 37 411111	3	25	35	6	15	5	35	3	6	5	6	3	9	9	0	7	0
3 37 515431	3	-1	-1	1	2	1	60	11	15	-1	11	-1	15	15	2	-1	15
3 37 114111	3	30	40	2	5	4	60	2	8	6	0	3	8	8	0	9	5
3 37 515311	3	-1	-1	1	2	2	85	3	15	8	5	5	12	12	0	30	15
3 37 213111	3	25	35	4	5	5	35	3	0	4	0	2	0	10	0	8	0
3 37 413111	3	35	50	2	6	5	60	4	10	6	8	3	9	11	0	11	5
3 37 311111	3	30	40	4	5	5	60	2	6	4	6	2	8	8	0	8	0
3 37 313111	3	45	50	2	5	5	60	3	8	5	5	3	9	11	0	11	0
3 37 515223	3	-1	-1	0.5	2	1	95	6	15	15	7	5	17	20	5	-1	15
3 37 414112	3	-1	-1	0.5	1	1	95	5	15	9	12	5	15	17	3	-1	8
3 37 535111	3	-1	-1	0.5	0.5	1	95	8	20	25	10	10	20	21	8	-1	15
3 37 112111	3	20	30	3	5	5	50	3	8	6	6	3	8	9	0	11	0
3 37 514111	3	-1	-1	0.5	0.5	1	95	5	20	20	12	5	11	13	3	15	6
3 37 313112	3	-1	-1	0.5	0.5	1	90	6	18	15	8	9	15	15	3	-1	10
3 37 315113	3	-1	-1	0.5	0.5	1	95	8	30	30	10	10	25	28	3	-1	15
3 37 513111	3	40	60	2	5	3	95	8	15	15	9	5	15	17	2	15	8
3 37 123111	3	30	40	2	2	1	85	3	10	7	7	5	9	10	0	11	0
3 37 334231	3	-1	-1	0.5	0.5	1	120	9	15	12	10	5	12	14	2	-1	10
3 37 113111	3	20	35	4	5	6	55	3	7	5	6	3	8	9	0	8	0
3 37 521111	3	30	60	3	4	1	60	5	15	15	8	5	13	15	0	11	0
3 37 113121	3	-1	-1	1	1	1	60	3	9	7	8	4	10	12	0	18	5
3 37 211111	3	30	40	2	4	1	70	3	8	6	5	4	13	15	0	12	0
3 37 224111	3	-1	-1	1	1	1	110	5	12	10	7	7	16	17	3	35	8
3 37 415314	3	-1	-1	-1	-1	1	240	10	-1	15	10	-1	-1	-1	5	-1	15
3 37 312111	3	-1	-1	-1	-1	2	120	5	15	15	7	4	15	16	2	18	6
3 37 314112	3	45	-1	2	2	1	105	8	25	25	12	8	20	25	3	-1	8
3 37 314113	3	-1	-1	0.5	0.5	1	200	8	25	25	10	15	25	30	3	-1	10
3 37 412111	3	40	55	2	1	1	220	5	12	12	8	6	14	16	2	13	6
3 37 414111	3	-1	-1	0.5	0.5	1	225	5	15	15	8	5	12	15	5	20	8
3 37 525111	3	-1	-1	0.5	0.5	1	225	9	25	25	12	15	22	25	3	-1	10

DEMOGRAPHIC DATA

			WHEN MO	WHEN YR	HOW LONG YR	HOW LONG MO
GRADE	:E-6	TANK COMMANDER	8	75	7	6
MOS	:19E30	GUNNER	:	74	1	
IN ARMY	:10YR	LOADER	:	72	2	
IN ARTILLERY	:10YR	DRIVER	:			
COMBAT	:N					
ANTIL. COMBAT	:N	#SUPERVISED	:>50			

M60 TANK CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: TANK COMMANDER: ISSUE FIRE CMD	RANGE	DEP LAY	ISSUE SUBSD CMD	GUNNER: IDENT TGT	AIM FIRE	APPLY CORR	LOADER: ARM	LOAD ARM	DR: STOP
USUAL TIME,SEC			15	20	UNSTIPULATED				1	5	3	4	1	6	7	1	5	4
3 39	411111	A	30	60	3	20	5	20	8	10	9	7	5	8	9	3	6	6
3 39	515431	A	-1	-1	1	5	1	30	10	12	10	10	9	8	10	3	12	12
3 39	114111	A	-1	-1	1	10	3	30	7	10	10	7	5	8	10	3	8	8
3 39	515311	A	-1	-1	2	5	2	25	8	10	12	9	7	8	10	3	10	8
3 39	213111	A	20	30	5	20	6	20	5	6	5	5	3	0	8	3	7	6
3 39	413111	A	20	30	3	20	5	16	6	6	5	6	3	0	9	3	8	8
3 39	311111	A	19	22	6	30	7	15	3	7	10	6	4	0	0	3	0	5
3 39	313111	A	19	30	6	30	6	18	5	7	6	6	3	0	8	3	0	5
3 39	515223	A	-1	-1	1	5	1	35	7	8	10	8	3	0	10	5	12	12
3 39	414112	A	10	60	2	10	2	25	10	11	10	10	10	9	10	6	10	9
3 39	535111	A	-1	-1	1	3	-1	25	10	12	12	9	5	8	10	10	13	10
3 39	112111	A	15	30	4	20	5	15	5	0	5	6	3	0	0	3	0	6
3 39	514111	A	-1	-1	1	3	-1	15	10	9	10	8	3	8	9	5	9	8
3 39	313112	A	20	-1	1	5	2	15	6	8	8	8	5	0	0	5	10	8
3 39	315113	A	-1	-1	1	5	-1	15	8	8	8	8	5	0	8	5	12	9
3 39	513111	A	15	20	5	15	5	10	6	6	6	6	3	0	0	3	0	5
3 39	123111	A	15	20	6	20	5	15	5	6	4	5	3	0	0	3	0	5
3 39	334231	A	-1	-1	-1	3	-1	15	10	10	9	8	3	8	0	3	7	8
3 39	113111	A	15	20	4	21	5	15	5	0	6	5	3	0	0	3	0	5
3 39	521111	A	-1	-1	-1	5	2	15	5	0	5	5	3	0	0	3	0	6
3 39	113121	A	25	30	5	17	5	15	6	0	6	6	3	0	0	3	8	7
3 39	211111	A	15	20	6	30	5	13	5	0	5	7	3	0	0	3	7	8
3 39	224111	A	-1	-1	1	3	-1	20	9	10	8	9	5	0	0	3	11	10
3 39	415314	A	-1	-1	-1	2	-1	25	10	12	12	9	5	0	10	4	999	10
3 39	312111	A	15	40	3	7	3	15	8	7	6	7	3	0	9	3	8	6
3 39	314112	A	-1	-1	-1	2	-1	20	10	8	6	8	5	7	8	4	10	9
3 39	314113	A	-1	-1	-1	2	-1	20	10	10	6	8	4	8	9	3	10	8
3 39	412111	A	15	35	2	10	3	15	6	6	5	6	4	0	0	4	8	6
3 39	414111	A	18	35	2	13	3	12	10	8	9	8	3	0	9	4	10	8
3 39	525111	A	-1	-1	1	5	-1	15	10	9	6	8	4	0	10	6	12	9

LOGISTICS CHIEF, TANK PLT SGT, GUNNERY AND TACTICS INSTRUCTOR, 25 MM CHAINGUN INSTRUCTOR, COMPANY TANK LDR, USMC

DEMOGRAPHIC DATA

			WHEN MO	WHEN YR	HOW LONG YR	HOW LONG MO
GRADE	:E-7	TANK COMMANDER		75	3	
MOS	: 1811	GUNNER	:	74	2	
IN ARMY	:11YR	LOADER	:	71	2	
IN ARTILLERY	:11YR	DRIVER	:	72	3	
	WHEN					
COMBAT	:N					
ARTIL. COMBAT	:N	#SUPERVISED :>50				

M60 TANK CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW RESP	SYMP COMP	LDN	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: TANK COMMANDER: ISSUE FIRE CMD	RANGE	DEP LAY	ISSUE SURSD CMD	GUNNER: IDENT IGT	AIM FIRE	APPLY CURR	LOADER: ARM	LOAD ARM	DR: STOP
USUAL TIME,SEC			15	20	UNSTIPULATED				1	5	3	4	1	6	7	1	5	4
3	40	411111	A	40	50	3	10	3	15	2	6	5	5	2	7	9	2	8	5
3	40	515431	3	-1	-1	1	2	1	45	5	12	15	10	4	10	15	4	50	12
3	40	114111	A	25	40	3.5	8	4	15	0	0	0	0	0	0	0	0	8	0
3	40	515311	A	-1	-1	-1	0.5	-1	30	4	10	10	20	8	9	15	3	10	8
3	40	213111	A	17	30	4	17	5	15	3	8	7	6	2	9	12	2	9	5
3	40	413111	A	20	30	5	20	4	15	2	0	4	6	0	8	10	0	7	0
3	40	311111	A	16	30	4	15	5	15	0	0	0	0	0	0	0	0	7	0
3	40	313111	A	[illegible]	40	4	15	5	17	0	0	0	0	0	0	0	0	7	0
3	40	515223	A	57	90	1	5	5	25	4	11	9	10	3	9	12	2	10	7
3	40	414112	A	80	75	4	8	5	27	2	7	5	10	3	9	12	2	10	5
3	40	535111	A	45	-1	3	4	2	30	3	9	7	[illegible]	3	10	15	2	11	6
3	40	112111	A	17	25	5	20	7	15	0	0	0	0	0	0	0	0	6	0
3	40	514111	A	19	45	3	10	4	18	2	7	6	8	2	8	9	2	8	5
3	40	313112	A	40	80	2	5	3	16	3	9	7	9	3	9	10	2	9	5
3	40	315113	A	-1	-1	-1	2	1	23	3	10	9	8	3	10	14	3	12	7
3	40	513111	A	20	55	3	5	2	17	2	7	5	6	3	7	10	0	7	5
3	40	123111	A	17	21	4	10	3	17	2	7	5	6	2	8	9	2	2	6
3	40	334231	A	0	0	4	12	3	16	0	0	0	0	0	0	0	0	0	0
3	40	113111	A	0	0	5	20	5	15	0	0	0	0	0	0	0	0	6	0
3	40	521111	A	999	999	4	20	4	15	0	0	0	0	0	7	9	0	8	0
3	40	113121	A	0	0	5	30	2	15	0	0	0	0	0	0	0	0	0	0
3	40	211111	A	0	22	5	20	6	15	0	0	0	0	0	0	0	0	6	0
3	40	224111	A	0	0	3	10	4	15	0	0	0	0	0	0	0	0	6	5
3	40	415314	A	20	40	2	7	2	30	3	8	9	10	3	10	12	2	10	5
3	40	312111	A	17	25	3	10	5	15	0	0	0	0	0	0	0	0	0	0
3	40	314112	A	18	30	2	4	2	17	0	6	7	9	0	0	9	0	7	0
3	40	314113	3	20	35	4	5	2	25	3	8	7	8	3	9	10	3	10	5
3	40	412111	A	17	30	4	20	4	15	0	0	0	0	0	0	0	0	6	0
3	40	414111	A	25	999	5	15	4	17	0	0	0	0	0	0	0	0	7	0
3	40	525111	A	40	70	2	5	3	20	3	10	7	10	3	9	10	3	12	7

DEMOGRAPHIC DATA

			WHEN MO	WHEN YR	HOW LONG YR	HOW LONG MO
GRADE	:E-6	TANK COMMANDER		75	3	
MOS	:19E	GUNNER :		75	1	6
IN ARMY	:10YR	LOADER :		74	1	
IN ARTILLERY	:10YR	DRIVER :		73	1	
COMBAT	:N					
ARTIL. COMBAT	:N	#SUPERVISED :>50				

M60 TANK CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: TANK COMMANDER: ISSUE FIRE CMD	RANGE	DEP LAY	ISSUE SURGO CMD	GUNNER: IDENT TGT	AIM FIRE	APPLY CURR	LOADER: ARM	LOAD ARM	DR: STOP
USUAL TIME,SEC			15	20	UNSTIPULATED				1	5	3	4	1	6	7	1	5	4
3 41	411111	A	10	30	4	10	8	8	2	7	4	7	2	8	8	2	7	5
3 41	515431	A	40	65	2	1	2	20	6	15	9	12	6	15	15	4	12	8
3 41	114111	A	20	35	3	2	4	15	4	8	8	8	4	8	10	3	8	6
3 41	513311	A	50	80	1	-1	-1	20	5	15	10	12	5	16	18	5	15	12
3 41	213111	A	20	40	4	5	4	15	3	7	6	8	3	10	10	2	8	6
3 41	413111	A	20	40	4	5	4	15	3	7	6	8	3	10	10	2	8	6
3 41	311111	A	20	35	4	5	4	12	2	6	5	7	2	8	8	2	7	6
3 41	313111	A	20	40	4	5	4	15	3	7	6	8	3	10	10	2	8	6
3 41	515223	A	-1	-1	-1	-1	-1	20	6	15	12	15	6	16	17	6	20	12
3 41	414112	A	50	80	1	-1	-1	20	5	15	10	12	5	16	18	5	15	12
3 41	535111	A	-1	-1	1	-1	-1	20	6	15	12	15	6	16	17	6	20	12
3 41	112111	A	10	23	5	5	5	12	2	6	4	5	2	7	8	2	6	5
3 41	514111	A	35	65	2	-1	2	20	6	15	12	15	6	16	17	6	20	12
3 41	313112	A	20	40	3	2	3	20	4	8	7	9	4	12	11	3	9	7
3 41	315113	A	50	80	1	-1	-1	20	6	17	12	14	6	18	20	7	17	10
3 41	513111	A	20	40	3	2	3	20	4	8	7	9	4	12	11	3	9	7
3 41	123111	A	25	70	4	-1	-1	15	3	7	6	8	3	10	10	2	12	6
3 41	334231	A	40	70	-1	-1	1	20	6	15	12	15	6	16	17	6	20	12
3 41	113111	A	20	40	4	5	4	15	2	6	5	7	2	8	8	2	7	5
3 41	521111	A	20	-1	1	-1	-1	20	3	7	6	8	3	10	10	2	8	6
3 41	113121	A	20	40	4	5	4	15	3	7	6	8	3	10	10	2	8	6
3 41	211111	A	20	40	4	5	4	15	3	7	6	8	3	10	10	2	8	6
3 41	224111	A	20	60	-1	-1	-1	20	4	8	8	0	4	12	12	4	10	6
3 41	415314	A	-1	-1	-1	-1	-1	20	5	10	12	12	5	13	14	6	25	10
3 41	312111	A	20	40	4	5	4	15	3	7	6	8	3	10	10	2	8	6
3 41	314112	A	20	40	4	5	4	15	3	7	6	8	3	10	10	2	8	6
3 41	314113	A	40	70	-1	-1	1	20	6	15	12	15	6	16	17	6	20	12
3 41	412111	A	20	40	4	5	4	15	3	7	6	8	3	10	10	2	8	6
3 41	414111	A	30	50	2	2	2	20	4	8	7	9	4	12	12	4	10	8
3 41	523111	A	-1	-1	-1	-1	-1	25	5	20	10	18	5	22	20	5	15	10

PLATOON COMMANDER TANK PLATOON STATIONED OKINAWA, JAPAN AND REPUBLIC OF KOREA AND REPUBLIC OF PHILIPPINES, USMC

DEMOGRAPHIC DATA

			WHEN MO	WHEN YR	HOW LONG YR	HOW LONG MO
GRADE	:E-7	TANK COMMANDER		72	5	
MOS	: 1811	GUNNER	:	71	6	
IN ARMY	:13YR	LOADER	:	71	6	
IN ARTILLERY	:11YR	DRIVER	:	70	6	
	WHEN					
COMBAT	:Y 69 70					
ARTIL. COMBAT	:N	#SUPERVISED :>50				

M60 TANK CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW RESP	SYMP COMP	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: TANK COMMANDER: ISSUE FIRE CMD	RANGE	DEP LAY	ISSUE SUBSD CMD	GUNNER: IDENT TGT	AIM FIRE	APPLY CORR	LOADER: ARM	LOAD ARM	DR: STOP
USUAL TIME,SEC		15	20	UNSTIMULATED				1	5	3	4	1	6	7	1	5	4
3	42 411111	A	40	60	2	10	2	60	5	10	7	7	5	8	9	4	8	5
3	42 515431	A	-1	-1	-1	2	-1	70	20	30	25	20	10	25	20	10	40	6
3	42 114111	A	30	50	1	5	3	40	6	10	10	7	4	9	9	2	9	5
3	42 515321	A	60	-1	1	5	2	45	4	7	7	6	3	7	9	3	10	5
3	42 213111	3	20	40	2	10	3	30	0	6	4	0	3	7	0	3	7	0
3	42 415111	A	30	45	1	5	3	45	3	7	6	5	3	7	9	3	9	5
3	42 311111	3	40	60	1	5	2	40	3	7	5	5	3	9	10	3	9	5
3	42 313111	A	40	50	1	3	2	45	3	7	7	6	3	9	9	3	9	5
3	42 515223	A	-1	-1	-1	1	-1	60	5	10	10	8	4	12	15	3	15	7
3	42 414112	3	30	40	1	5	2	30	2	7	7	6	3	8	10	2	9	5
3	42 535111	A	-1	-1	-1	1	-1	70	4	9	8	6	3	10	12	3	15	6
3	42 112111	A	20	40	2	5	3	45	2	7	5	5	2	8	8	0	7	0
3	42 514111	A	-1	-1	1	1	-1	70	5	9	8	10	4	9	12	3	9	6
3	42 313112	A	-1	-1	1	2	2	50	2	6	5	0	2	0	9	0	8	0
3	42 315113	3	-1	-1	1	3	1	60	4	6	5	6	2	8	9	3	9	5
3	42 513111	3	25	60	1	5	2	50	4	6	5	6	2	7	9	2	9	0
3	42 123111	3	35	60	2	1	2	45	2	6	4	5	3	7	9	2	9	6
3	42 334231	A	-1	-1	1	2	-1	60	5	9	7	8	3	9	10	2	10	6
3	42 113111	A	20	40	2	5	2	45	2	6	5	6	3	7	8	2	9	6
3	42 521111	A	-1	-1	1	1	-1	60	4	8	9	7	4	8	9	2	12	6
3	42 113121	A	40	50	1	2	1	40	3	7	6	6	2	8	9	2	10	6
3	42 211111	A	40	60	1	4	2	40	4	6	6	6	2	8	9	2	10	6
3	42 224111	3	20	40	1	5	2	40	3	7	8	8	3	8	9	2	10	6
3	42 415314	A	-1	-1	-1	-1	-1	70	5	12	10	12	3	10	13	3	16	7
3	42 312111	3	20	40	1	2	2	40	3	6	6	5	3	7	9	2	7	6
3	42 314112	3	40	60	1	2	1	60	2	6	6	5	2	8	9	2	10	6
3	42 314113	A	-1	-1	-1	1	-1	60	4	8	6	5	3	9	10	3	15	7
3	42 412111	9	40	60	1	2	1	60	3	7	6	5	2	9	8	2	9	6
3	42 414111	A	-1	-1	-1	1	-1	60	4	6	7	6	3	8	9	2	12	6
3	42 525111	A	-1	-1	-1	1	-1	70	5	12	9	7	4	10	15	3	15	7

DEMOGRAPHIC DATA

			WHEN MO	WHEN YR	HOW LONG YR	HOW LONG MO
GRADE	:	TANK COMMANDER		75	5	
MOS	:19E3YR9	GUNNER	:	75	1	
IN ARMY	:10YR 4MO	LOADER	:	71	1	
IN ARTILLERY	:10YR 6	DRIVER	:	72	2	
	WHEN					
COMBAT	:N					
ARTIL. COMBAT	:N	#SUPERVISED : 50				

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

M60 TANK CREW

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: TANK COMMANDER: ISSUE FIRE CMD	RANGE	DEP LAY	ISSUE SUBSQ CMD	GUNNER: IDENT TGT	AIM FIRE	APPLY CORR	LOADER: ARM	LOAD ARM	DR: STOP
USUAL TIME,SEC			15	20	UNSTIPULATED				1	5	3	4	1	6	7	1	5	4
3	43	411111	4	25	60	4	3	6	45	0	0	7	10	7	0	0	0	7	7
3	43	515431	4	-1	-1	-1	-1	-1	60	7	15	20	10	0	0	10	0	-1	15
3	43	114111	4	20	40	2	2	3	30	0	0	0	0	0	0	0	0	10	10
3	43	515311	4	30	-1	2	1	2	30	0	7	10	0	0	0	0	0	10	10
3	43	213111	4	0	25	2	2	4	30	0	0	0	0	0	0	0	0	10	8
3	43	413111	4	25	60	2	2	3	35	0	0	0	0	0	0	0	0	10	10
3	43	311111	4	20	25	3	3	4	35	0	0	0	0	0	0	0	0	0	0
3	43	313111	4	20	35	3	3	3	35	0	0	0	0	0	0	0	0	15	10
3	43	515123	3	-1	-1	1	1	2	40	0	10	20	20	10	0	10	0	20	10
3	43	414112	3	30	-1	2	2	2	40	0	0	10	20	10	0	0	0	20	10
3	43	535111	3	-1	-1	1	40	1	45	0	7	10	10	10	0	15	0	20	10
3	43	112111	5	20	40	4	4	5	45	0	0	0	0	0	0	0	0	8	0
3	43	514111	3	30	40	2	2	3	40	0	0	10	10	0	0	10	0	15	10
3	43	313112	3	-1	-1	1	1	1	40	0	0	10	10	0	0	10	0	20	10
3	43	315113	2	-1	-1	-1	30	-1	-1	5	10	10	10	0	0	10	5	-1	15
3	43	513111	4	30	30	2	3	3	40	0	0	0	0	0	0	0	0	10	10
3	43	123111	5	20	30	3	4	4	40	0	0	0	0	0	0	0	0	0	0
3	43	334231	3	30	60	2	1	3	40	3	10	15	15	0	0	10	0	10	8
3	43	113111	5	0	30	2	4	3	40	0	0	0	0	0	0	0	0	0	0
3	43	521111	3	30	60	2	3	3	40	0	0	10	10	0	8	10	0	10	8
3	43	113121	5	30	30	2	3	3	40	0	0	0	0	0	0	0	0	10	6
3	43	211111	5	0	0	2	4	4	40	0	0	0	0	0	0	0	0	0	0
3	43	224111	4	30	-1	1	2	3	40	0	10	15	15	0	0	10	0	15	10
3	43	415314	3	-1	-1	-1	10	-1	60	10	25	20	15	15	10	20	0	-1	10
3	43	312111	4	25	70	2	1	2	40	0	0	0	0	0	0	0	0	10	0
3	43	314112	3	-1	-1	1	1	2	40	5	10	20	15	5	10	20	0	20	10
3	43	314113	3	-1	-1	-1	0.5	1	40	5	20	15	15	10	10	10	5	30	15
3	43	412111	4	25	60	2	3	3	40	0	0	0	0	0	0	0	0	10	8
3	43	414111	4	-1	-1	1	30	1	40	0	0	0	0	0	0	0	0	20	10
3	43	525111	3	-1	-1	-1	-1	1	60	5	15	30	30	10	10	20	5	30	15

DRILL SARGEANT

DEMOGRAPHIC DATA

			WHEN MO	WHEN YR	HOW LONG YR	HOW LONG MO
GRADE	:E-4	TANK COMMANDER		79	2	
MOS	:19K3X	GUNNER	:	75	0	
IN ARMY	: 8YR	LOADER	:			
IN ARTILLERY	: 8YR	DRIVER	:	75		
COMBAT	:N					
ARTILL. COMBAT	:N	#SUPERVISED : 20				

M60 TANK CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: TANK COMMANDER: ISSUE FIRE CMD	RANGE	DEP LAY	ISSUE SUBSQ CMD	GUNNER: IDENT TGT	AIM FIRE	APPLY CORR	LOADER: ARM	LOAD ARM	DR: STOP
USUAL TIME,SEC			15	20	UNSTIPULATED				1	5	3	4	1	6	7	1	5	4
3	44	411111	5	20	60	2	3	3	40	3	8	5	8	3	9	10	0	9	6
3	44	515831	5	90	-1	1	0.5	1	60	15	30	20	40	10	15	20	5	30	15
3	44	114111	5	20	50	2	1	4	30	2	7	5	6	2	7	9	0	8	6
3	44	515311	5	60	90	1	0.5	2	45	2	10	12	8	3	8	11	0	10	8
3	44	213111	5	20	40	2	2	5	20	2	6	5	6	3	7	10	0	8	0
3	44	413111	5	20	40	4	3	5	15	3	8	6	8	3	9	10	0	8	0
3	44	311111	5	0	30	4	2	5	10	0	6	5	6	2	0	0	0	8	0
3	44	313111	5	18	40	4	10	4	30	0	7	4	6	2	8	10	0	8	0
3	44	515223	5	30	90	1	1	3	60	8	15	20	20	5	10	15	2	20	6
3	44	414112	5	25	40	2	1	3	45	2	8	9	12	4	10	10	2	20	8
3	44	535111	5	30	60	2	1	3	30	6	15	10	12	3	9	14	3	20	10
3	44	112111	5	0	0	4	4	5	20	0	6	5	7	0	0	0	0	8	0
3	44	514111	5	20	40	2	1	5	20	2	8	5	8	3	0	0	0	20	8
3	44	313112	5	30	90	1	1	2	60	4	8	7	9	3	8	10	0	25	6
3	44	315113	5	30	120	1	1	2	45	5	15	9	12	4	9	14	2	25	9
3	44	513111	5	25	45	3	2	5	30	2	6	5	8	3	8	10	0	10	0
3	44	123111	5	0	30	4	2	5	15	0	0	5	8	0	0	0	0	8	0
3	44	334231	5	20	30	3	1	5	20	2	8	6	9	3	8	10	0	10	6
3	44	113111	5	0	0	6	3	5	15	0	0	0	0	0	0	0	0	8	0
3	44	521111	5	0	25	5	2	5	20	2	6	5	6	0	0	0	0	9	0
3	44	113121	5	0	0	7	3	5	10	0	0	0	0	0	0	0	0	7	0
3	44	211111	5	0	30	4	2	5	15	0	0	0	0	0	0	0	0	7	0
3	44	224111	5	20	70	3	1	5	15	2	7	5	7	2	8	10	0	10	0
3	44	415314	5	20	40	2	1	5	15	6	15	12	12	3	10	15	2	20	6
3	44	312111	5	0	0	3	2	5	15	0	0	0	0	0	0	0	0	8	0
3	44	314112	5	0	0	4	2	5	20	0	0	4	5	0	0	0	0	8	0
3	44	314113	5	30	60	2	1	5	20	3	15	20	12	4	12	14	2	20	8
3	44	412111	5	20	40	3	2	5	10	3	10	6	8	3	10	10	2	10	8
3	44	414111	5	20	50	3	2	5	20	3	10	6	8	2	9	10	2	10	6
3	44	525111	5	20	40	2	1	5	30	4	10	6	8	2	8	10	0	15	6

TUW-5YRS ITV-3YRS * OFF AND ON

DEMOGRAPHIC DATA

			WHEN NO YR	HOW LONG YR MO
GRADE	:E-6	SQUAD LEADER :	78	2
MOS	:11B5	GUNNER :		2 4
IN ARMY	:10YR	LOADER :		2 4
IN ARTILLERY	: 5YR	DRIVER :		2 4
COMBAT	:Y WHEN 67 68			
ARTIL. COMBAT	:N	NSUPERVISED :>50		

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

IMPROVED TOW VEHICLE CREW

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: SQUAD LEADER: DESIG TGT AZ	CD DRIVER	GUNNER: SET ELEVT SLEW	ACQUIR ARM FIRE	DR: START DRIVE STOP	LOADER: RELOAD	READY RACK	GUNNER: TARGET TRACKING ACCURACY
			SELF-STIPULATED VALUES													
USUAL TIME,SEC			15	20	3	40	5	15	4	2	17	7	20	60	60	90%
					CONFIDENCE= 3											
4	1	411111	3	0	0	3	3	4	10	0	0	0	0	0	75	80	50
4	1	513431	3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4	1	114111	3	60	90	1	-1	1	10	6	3	20	10	0	-1	-1	20
4	1	515311	3	-1	-1	-1	-1	-1	-1	10	-1	60	30	-1	-1	-1	0
4	1	213111	3	0	0	3	2	3	10	0	0	0	0	0	70	90	0
4	1	413111	3	0	60	1	1	2	10	0	0	0	0	0	90	120	40
4	1	311111	3	0	0	3	2	5	10	0	0	0	0	0	0	0	80
4	1	313111	3	30	90	1	-1	3	10	0	0	0	0	0	75	80	50
4	1	515223	3	-1	-1	-1	-1	-1	-1	10	0	-1	-1	-1	-1	-1	0
4	1	414112	3	-1	-1	-1	-1	-1	-1	20	10	-1	15	-1	-1	-1	0
4	1	535111	3	-1	-1	-1	-1	-1	-1	60	-1	-1	-1	-1	-1	-1	0
4	1	112111	3	0	0	5	1	6	10	0	0	0	0	0	0	0	85
4	1	514111	3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4	1	313112	3	-1	-1	-1	-1	-1	-1	10	4	30	15	-1	-1	-1	10
4	1	315113	4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4	1	513111	3	30	60	1	1	3	10	0	0	0	0	0	90	120	20
4	1	123111	3	0	0	5	2	6	10	0	0	0	0	0	0	0	0
4	1	334231	3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4	1	113111	3	0	0	5	1	5	10	0	0	0	0	0	0	0	80
4	1	531111	3	60	180	1	-1	3	10	30	5	30	10	30	180	300	10
4	1	113121	3	0	0	4	2	3	10	0	0	0	0	0	0	0	80
4	1	211111	3	20	30	2	1	5	10	0	0	0	0	0	75	80	0
4	1	224111	3	30	60	1	-1	3	10	0	0	0	0	0	30	180	40
4	1	415314	4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4	1	312111	3	0	0	2	1	3	10	0	0	0	0	0	0	0	50
4	1	314112	3	-1	-1	-1	-1	-1	-1	0	0	0	0	40	-1	-1	20
4	1	314113	4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4	1	412111	3	30	60	-1	-1	2	10	0	0	0	0	0	90	90	50
4	1	414111	3	-1	-1	-1	-1	-1	-1	6	3	30	10	40	-1	-1	10
4	1	525111	4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4	1	111121	4	0	0	3	1	5	10	0	0	0	0	0	0	0	50
4	1	212111	3	0	0	3	1	5	10	0	0	0	0	0	C	0	60
4	1	112121	3	20	30	1	-1	3	10	0	0	0	0	0	70	90	50
4	1	112131	3	-1	-1	-1	-1	-1	10	5	4	20	10	30	-1	-1	20
4	1	111131	3	-1	-1	-1	-1	-1	-1	-1	-1	45	30	-1	-1	-1	10
4	1	113131	3	-1	-1	-1	-1	1	-1	0	0	0	10	30	180	300	20
4	1	214112	3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4	1	314111	3	-1	-1	-1	-1	-1	20	7	4	20	10	30	-1	-1	10
4	1	214113	3	-1	-1	-1	-1	-1	10	30	25	60	30	90	-1	-1	5
4	1	114112	3	-1	-1	-1	-1	-1	20	20	5	60	20	60	-1	-1	5

WORK WITH MORTARS AS A PLT. LEADER 3 YEARS WORK WITH M220 TOW CARRIER FOR 6 YEARS WORK WITH M151 TOW CARRIER FOR 2 YEARS

DEMOGRAPHIC DATA

			WHEN MO YR	HOW LONG YR MO
GRADE	:E-5	SQUAD LEADER :		3
MOS	:11H30	GUNNER :		2
IN ARMY	:14YR	LOADER :		2
IN ARTILLERY	:11YR	DRIVER :		3
	WHEN			
COMBAT	:N			
ANTIL. COMBAT	:N	#SUPERVISED :>50		

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

IMPROVED 106 VEHICLE CREW

	ORDINARY TASKS						CREW TASKS							
							SQUAD LEADER		GUNNER		DR	LOADER		GUNNER
CREW RESP	SYMP COMP	CON CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	DESIG TGT AZ	CO DRIVER	SEI ERECT SLEW	ACQUIR AWM FIRE	START DRIVE STOP	RELOAD	READY RACK	TARGET TRACKING ACCURACY
USUAL TIME,SEC		15	20	SELF-STIMULATED VALUES 30	30	6	45	4	2	17	7	20	60	60	90%
				CONFIDENCE= A											
4 2 411111 4		16	22	20	15	4	35	6	4	20	10	22	65	65	0
4 2 515431 3		40	65	10	5	2	100	10	10	30	15	35	200	200	60
4 2 114111 4		0	0	60	30	6	45	0	0	0	0	0	0	0	0
4 2 515311 3		20	21	50	25	5	30	6	4	25	10	25	65	65	89
4 2 213111 3		0	0	60	30	6	45	0	0	0	0	0	0	0	0
4 2 413111 3		0	0	50	25	5	40	0	0	0	0	0	0	0	0
4 2 311111 3		0	0	55	27	5	42	0	0	0	0	0	0	0	0
4 2 313111 3		0	0	55	50	6	43	0	0	0	0	0	0	0	89
4 2 515223 3		20	25	30	30	3	65	6	4	20	10	22	65	65	87
4 2 414112 9		16	22	30	30	4	40	6	4	20	10	22	65	65	87
4 2 535111 3		30	40	15	10	1	120	15	7	30	15	40	75	120	60
4 2 112511 4		0	0	30	30	6	45	0	0	0	0	0	0	0	0
4 2 514111 4		0	0	30	30	6	45	0	0	0	0	0	0	0	0
4 2 313112 4		25	30	15	20	3	120	7	5	25	15	25	68	70	75
4 2 315113 4		30	40	20	20	3	120	10	10	34	14	30	75	75	60
4 2 513111 4		20	22	30	30	5	50	0	4	20	10	22	65	65	89
4 2 123111 4		16	23	20	20	5	50	6	4	20	10	22	65	65	80
4 2 334231 4		40	45	10	10	2	120	20	10	34	14	40	120	120	50
4 2 113111 4		0	0	35	35	6	45	0	0	0	0	0	0	0	0
4 2 521111 3		16	22	25	25	5	50	5	3	20	10	22	65	65	85
4 2 113121 4		0	0	50	30	6	45	0	0	0	0	0	0	0	0
4 2 211111 4		0	0	30	30	6	45	0	0	0	0	0	0	0	0
4 2 224111 4		20	25	20	20	5	60	6	4	20	16	22	65	65	85
4 2 415314 3		85	60	10	10	1	200	16	10	50	25	60	200	200	40
4 2 312111 3		20	22	20	25	5	50	6	4	20	10	22	65	65	85
4 2 314112 3		20	22	20	20	5	50	6	4	20	10	22	65	65	85
4 2 314113 3		20	25	25	25	5	60	6	5	20	10	25	65	65	80
4 2 412111 4		0	0	30	30	6	45	0	0	0	0	0	0	0	0
4 2 414111 4		0	0	30	30	6	45	0	0	0	0	0	0	0	0
4 2 525111 3		25	30	25	25	4	60	7	5	25	12	27	68	70	70
4 2 111121 3		0	0	25	25	5	45	0	0	0	0	0	0	0	0
4 2 212111 4		0	0	20	20	6	45	0	0	0	0	0	0	0	0
4 2 112121 3		0	0	25	25	6	45	0	0	0	0	0	0	0	0
4 2 112131 3		20	25	25	25	4	60	7	5	20	10	25	70	70	80
4 2 111131 3		20	25	20	20	4	50	7	5	20	10	25	65	65	80
4 2 113131 3		20	25	25	25	5	50	7	5	20	10	25	65	65	80
4 2 214112 3		25	35	20	15	3	120	10	80	25	15	30	70	70	65
4 2 314111 3		0	0	25	25	5	63	0	0	0	0	0	0	0	85
4 2 214113 3		20	35	15	20	3	120	10	8	25	14	25	70	75	70
4 2 114112 4		0	0	25	25	6	45	0	0	0	0	0	0	0	0

WORKING AS AN ANTI-TANK PLT SGT. TAKING CARE OF THE WELL FAIR OF 44 MEN, ALL 12 ITV AND ONE APC. ALSO MAKING SURE MY PLT. IS TRAINED AND PREPARE FOR COMBAT. ALSO TRAINING LT.'S WHO WORK AS PLT. LEADERS.

DEMOGRAPHIC DATA

			WHEN NO YR	HOW LONG YR MO
GRADE	:E-6	SQUAD LEADER :	75	6
MOS	:11H	GUNNER :	72	2
IN ARMY	:10YR	LOADER :		
IN ARTILLERY	:10YR	DRIVER :		
	WHEN			
COMBAT	:N			
ARTIL. COMBAT	:N	#SUPERVISED : 50		

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

IMPROVED TOW VEHICLE CREW

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: SQUAD LEADER: DESIG 1ST AZ	SQUAD LEADER: CO DRIVER	GUNNER: SET ERECT SLEW	GUNNER: ACQUIR ARM FIRE	DR: START DRIVE STOP	LOADER: RELOAD	LOADER: READY RACK	GUNNER: TARGET TRACKING ACCURACY
USUAL TIME,SEC			15	20	SELF-STIPULATED VALUES 3	45	10	10	4	2	17	7	20	60	60	90%
					CONFIDENCE= 2											
4	4 411111	4	0	0	3	25	10	15	0	0	0	0	0	0	0	70
4	4 515431	4	45	60	0.5	1	1	20	30	5	120	30	45	180	180	10
4	4 114111	4	25	25	2	5	4	15	0	0	21	0	30	70	70	60
4	4 515311	3	180	80	1	5	4	10	10	3	25	10	25	180	180	19
4	4 213111	3	60	30	1	5	4	10	0	0	25	10	25	90	90	80
4	4 413111	3	90	45	0.5	5	4	15	15	5	30	15	35	95	90	10
4	4 311111	3	60	45	1	5	4	15	7	5	30	15	30	90	90	60
4	4 313111	3	35	40	1	5	4	18	7	4	25	10	25	80	80	60
4	4 515223	4	180	120	1	2	2	30	20	10	45	15	60	120	120	15
4	4 414112	3	35	30	1	3	4	18	7	5	25	10	30	80	80	25
4	4 535111	4	120	120	1	1	1	30	15	10	35	20	60	180	120	8
4	4 112111	5	15	20	3	45	10	15	0	0	0	0	0	0	0	89
4	4 514111	5	45	45	1	3	4	35	7	5	25	10	30	90	90	20
4	4 313112	5	45	35	1	3	3	19	10	5	25	10	30	90	90	80
4	4 315113	5	39	40	1	3	2	30	25	10	35	15	60	120	120	60
4	4 513111	4	45	45	1	3	2	30	10	5	30	15	40	67	67	60
4	4 123111	5	-1	-1	3	45	10	10	-1	-1	-1	-1	-1	-1	-1	0
4	4 334231	5	45	50	1	1	2	15	10	5	30	15	45	180	180	80
4	4 113111	5	-1	-1	3	45	10	10	-1	-1	-1	-1	-1	-1	-1	0
4	4 521111	4	45	65	2	3	4	15	10	7	25	15	45	90	90	999
4	4 113121	5	-1	-1	3	30	9	19	-1	-1	-1	-1	-1	-1	-1	999
4	4 211111	5	-1	-1	3	45	10	10	-1	-1	-1	-1	-1	-1	-1	0
4	4 224111	4	45	60	2	15	4	10	10	7	25	10	40	90	90	60
4	4 415314	4	45	60	2	30	4	20	0	0	25	10	40	120	120	60
4	4 312111	5	999	999	3	45	10	10	0	0	0	0	0	0	0	0
4	4 314112	4	999	999	3	45	10	10	10	5	25	15	35	120	120	40
4	4 314113	4	45	60	3	45	10	10	0	0	25	15	40	80	80	0
4	4 412111	4	45	60	2	25	5	20	10	7	25	15	35	90	90	80
4	4 414111	4	60	80	2	15	4	20	10	7	25	15	45	120	120	60
4	4 525111	4	60	80	1	3	2	30	15	10	35	15	60	180	180	40
4	4 111121	5	0	0	3	45	10	10	0	0	0	0	0	0	0	0
4	4 212111	4	0	0	3	45	10	10	0	0	0	0	0	0	0	0
4	4 112121	5	0	0	3	45	10	10	0	0	0	0	0	0	0	0
4	4 112131	5	60	60	1	3	2	30	10	7	35	15	60	180	180	40
4	4 111131	3	60	40	1	5	4	30	15	10	35	25	60	180	180	60
4	4 113131	3	45	60	1	20	5	25	15	10	25	15	60	120	120	60
4	4 214112	2	45	60	2	15	4	30	15	5	25	10	60	80	80	70
4	4 314111	2	25	30	2	15	5	25	0	0	20	10	25	70	70	60
4	4 214113	1	42	60	2	18	4.5	20	15	7	30	15	35	70	70	85
4	4 114112	1	40	45	2	15	4	25	0	0	25	15	35	120	120	50

INSTRUCTOR ITV IN SITION TRAINER COURSE FT. BENNING TEACH APPROX. 4 STUDENTS EVERY 3 WEEKS ON HOW TO OPERATE, MAINTAIN, SHOOT THE ITV.

DEMOGRAPHIC DATA

			WHEN NO YR	HOW LONG YR MO
GRADE :E-6	SQUAD LEADER :		78	3
MOS :11H3H	GUNNER :		75	3
IN ARMY :10YR	LOADER :		73	3
IN ARTILLERY :10YR	DRIVER :			
WHEN				
COMBAT :N				
ARTIL. COMBAT:N	#SUPERVISED :>50			

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

IMPROVED TOW VEHICLE CREW

			ORDINARY TASKS						CREW TASKS							
									SQUAD LEADER		GUNNER		DR	LOADER		GUNNER
CREW COMP	SYMP COMP	LOW MOSP	CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	DESIG TGT AZ	CD DRIVER	SET ERECT SLEW	ACQUIR ARM FIRE	START DRIVE STOP	RELOAD	READY RACK	TARGET TRACKING ACCURACY
USUAL TIME,SEC			15	20	SELF-STIPULATED VALUES 6	60	10	15	4	2	17	7	20	60	60	90%
					CONFIDENCE= 3											
4	5	411111	4	30	40	4	45	6	25	8	0	25	10	0	120	120	70
4	5	515431	4	-1	-1	1	5	1	45	15	15	45	20	40	-1	-1	20
4	5	114111	4	30	30	5	50	8	20	8	4	40	10	0	180	180	70
4	5	515311	4	30	40	2	10	3	30	12	6	30	15	40	180	180	20
4	5	213111	4	20	30	4	40	5	30	0	0	0	0	0	90	90	80
4	5	413111	4	25	30	4	30	4	30	6	4	25	10	0	90	120	75
4	5	311111	4	0	0	999	999	999	999	0	0	0	0	0	0	0	0
4	5	313111	4	20	30	4	45	5	30	8	6	25	10	0	90	90	75
4	5	515223	4	30	40	2	5	3	40	8	4	30	20	-1	-1	-1	25
4	5	414112	4	30	40	2	15	2	30	6	4	25	10	0	90	90	60
4	5	535111	4	30	40	1	5	1	40	15	6	25	15	30	120	120	30
4	5	112111	4	20	25	4	45	6	35	6	3	20	10	0	90	90	0
4	5	514111	4	25	30	2	15	3	30	6	4	25	10	25	90	90	70
4	5	313112	4	20	30	2	15	4	30	6	4	25	15	30	120	180	70
4	5	315113	4	30	40	1	5	2	45	6	4	20	10	30	180	180	70
4	5	515111	4	25	35	3	15	4	30	6	4	20	10	25	120	120	80
4	5	123111	4	0	0	999	999	999	999	0	0	0	0	0	90	90	0
4	5	334231	4	40	50	1	5	1	45	15	10	35	15	30	180	180	25
4	5	113111	4	0	0	999	999	999	999	0	0	0	0	0	90	90	0
4	5	521111	4	0	0	999	999	999	999	0	0	0	0	0	0	0	0
4	5	113121	4	0	0	999	999	999	999	0	0	0	0	0	90	90	0
4	5	211111	4	0	0	999	999	999	999	0	0	0	0	0	0	0	0
4	5	224111	4	25	30	2	5	3	4	8	4	25	15	30	180	180	70
4	5	413314	4	-1	-1	999	999	999	999	-1	10	-1	-1	35	-1	-1	10
4	5	312111	4	25	30	2	10	3	30	6	4	20	10	25	120	120	0
4	5	314112	4	30	40	1	5	2	40	10	6	25	15	30	180	180	25
4	5	314113	4	-1	-1	999	999	999	999	6	4	20	10	25	-1	-1	35
4	5	412111	4	0	0	999	999	999	999	0	0	0	0	0	90	90	0
4	5	414111	4	30	40	2	10	2	40	6	4	20	10	25	180	180	0
4	5	525111	4	-1	-1	999	999	999	999	10	10	25	15	25	-1	-1	20
4	5	111121	4	0	0	999	999	999	999	0	0	0	0	0	0	0	0
4	5	212111	4	0	0	999	999	999	999	0	0	0	0	0	60	60	0
4	5	112121	4	0	0	999	999	999	999	0	0	0	0	0	0	0	0
4	5	112131	4	25	40	3	10	4	30	0	0	0	0	0	120	120	0
4	5	111131	4	20	30	4	30	5	30	0	0	0	0	0	90	90	0
4	5	113131	4	20	25	3	25	4	40	6	4	20	10	25	180	180	70
4	5	214112	4	-1	-1	999	999	999	999	10	8	25	15	30	-1	-1	25
4	5	314111	4	30	40	2	10	4	40	10	8	25	15	30	180	180	70
4	5	214113	4	-1	-1	999	999	999	999	15	10	30	15	40	-1	-1	25
4	5	114112	4	30	40	1	5	2	40	15	8	25	15	30	-1	-1	50

DEMOGRAPHIC DATA

GRADE	:E-6	SQUAD LEADER	: 1 83	6	
MOS	:11B30	GUNNER	:		
TO ARMY	:14YR	LOADER	:		
TO ARTILLERY	: 9YR	DRIVER	:		
	WHEN				
COMBAT	:N				
ARTIL. COMBAT	:N	#SUPERVISED	: 50		

0=NO INCREASE ABOVE NORMAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

IMPROVED TOW VEHICLE CREW

CREW RESP	SIMP COMP	CON STAIRS	CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	SQUAD LEADER DESIG TGT AZ	SQUAD LEADER CO DRIVER	GUNNER SET ERECT SLEW	GUNNER ACQUIR ARM FIRE	DR START DRIVE STOP	LOADER RELOAD	LOADER READY RACK	GUNNER TARGET TRACKING ACCURACY
		ORDINARY TASKS							CREW TASKS							
NORMAL TIME,SEC			15	20	SELF-SIMULATED VALUES 7	90	10	20	4	2	17	7	20	60	60	90%
					CONFIDENCE= 4											
4	6	411111	4	0	0	4	45	5	30	0	0	0	0	0	0	0	80
4	6	515431	3	40	-1	-1	8	-1	65	10	4	25	15	-1	-1	-1	60
4	6	114111	3	45	-1	-1	5	2	10	0	0	20	10	0	120	-1	80
4	6	515311	3	-1	-1	-1	5	2	20	0	0	25	15	40	-1	-1	65
4	6	213111	3	30	60	2	10	3	30	0	0	25	15	35	120	120	75
4	6	413111	3	40	40	2	10	2	45	0	0	20	10	25	100	95	80
4	6	311111	3	30	50	2	15	4	10	0	3	0	0	0	65	70	80
4	6	313111	3	32	50	2	10	3	30	0	0	0	0	25	120	100	75
4	6	515223	3	-1	-1	-1	2	-1	100	0	0	-1	-1	-1	-1	-1	10
4	6	414112	3	-1	-1	2	5	2	60	0	0	25	15	60	-1	-1	30
4	6	535111	3	45	60	1	10	4	60	0	0	20	10	-1	-1	-1	50
4	6	112111	3	60	45	2	10	3	60	0	0	0	0	0	100	120	75
4	6	514111	3	-1	-1	1	5	2	60	0	0	0	0	0	80	100	65
4	6	313112	2	-1	-1	-1	10	2	60	6	3	0	0	35	90	100	60
4	6	315113	3	-1	-1	-1	2	-1	60	0	0	0	0	0	90	85	80
4	6	513111	3	-1	-1	-1	3	2	60	0	0	0	0	25	85	100	80
4	6	123111	3	-1	-1	-1	2	-1	30	0	0	0	0	0	90	100	80
4	6	334231	2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4	6	113111	3	20	30	2	10	3	30	0	0	0	0	0	0	0	0
4	6	521111	3	30	30	2	10	4	30	0	0	0	0	0	0	0	0
4	6	113121	3	0	0	3	15	3	60	0	0	0	0	0	0	0	0
4	6	211111	3	0	0	4	15	4	20	0	0	0	0	0	0	0	0
4	6	224111	3	-1	-1	-1	5	2	30	0	0	0	0	0	80	95	80
4	6	415314	4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4	6	312111	3	45	60	2	10	3	30	0	0	0	0	0	70	90	80
4	6	314112	3	-1	-1	-1	-1	2	30	0	0	0	0	0	0	0	85
4	6	314113	2	-1	-1	-1	-1	-1	-1	0	0	0	0	0	0	0	30
4	6	412111	3	40	60	1	10	2	30	0	0	0	0	0	70	85	80
4	6	414111	3	45	30	1	10	2	30	0	0	0	0	0	0	0	80
4	6	525111	3	30	45	2	5	2	30	0	0	0	0	0	100	85	80
4	6	111121	3	0	40	2	15	4	15	0	0	0	0	0	0	0	0
4	6	212111	3	35	45	2	10	3	30	0	0	0	0	0	80	95	75
4	6	112121	3	0	0	3	15	4	15	0	0	0	0	0	0	0	80
4	6	112131	3	30	45	3	15	4	30	0	0	0	0	0	0	0	85
4	6	111131	3	25	35	2	10	3	30	0	0	0	0	0	0	0	80
4	6	113131	3	0	0	3	10	4	30	0	0	0	0	0	0	0	75
4	6	214112	3	35	45	2	10	3	30	4	4	0	0	0	80	75	75
4	6	314111	3	-1	-1	-1	5	2	30	0	0	0	0	0	80	70	75
4	6	214113	3	-1	-1	-1	5	2	30	-1	-1	-1	-1	-1	-1	-1	0
4	6	114112	3	-1	-1	-1	2	1	20	6	4	21	10	35	120	85	62

DURING THE PAST YEAR I HAVE BEEN ASSIGNED AS A DRILL SGT.

DEMOGRAPHIC DATA — WHEN: MO YR; HOW LONG: YR MO

GRADE	:E-6	SQUAD LEADER :	79	2
MOS	:11H5X	GUNNER :		
IN ARMY	:16YR 8MO	LOADER :		
IN ARTILLERY	: 5YR	DRIVER :		
	WHEN			
COMBAT	:N			
ANTI. COMBATIN		#SUPERVISED : 20		

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

IMPROVED IOW VEHICLE CREW

CREW NO	SIMP COMP	ORDINARY TASKS: LOW CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: SQUAD LEADER: DESIG TGT AZ	CO DRIVER	GUNNER: SET ERECT SLEW	ACQUIR ARM FIRE	DR: START DRIVE STOP	LOADER: RELOAD	READY RACK	GUNNER: TARGET TRACKING ACCURACY
USUAL TIME,SEC		15	20	12	120	11	5	4	2	17	7	20	60	60	90%
				SELF-STIPULATED VALUES											
				CONFIDENCE= 4											
4 / 511111	4	0	30	7	40	8	5	7	0	20	-1	0	0	90	35
4 / 515431	4	-1	-1	1	-1	-1	90	-1	0	-1	-1	-1	-1	-1	0
4 / 114111	4	20	30	11	60	10	5	0	0	0	0	0	0	120	0
4 / 515311	4	-1	-1	1	20	2	10	20	0	-1	-1	60	180	240	25
4 / 213111	4	0	30	5	70	7	5	0	0	20	10	0	0	120	80
4 / 413111	4	60	70	3	60	6	5	0	0	30	15	0	120	120	50
4 / 311111	4	0	0	10	90	20	4	0	0	0	0	0	0	0	0
4 / 313111	4	0	0	10	90	20	4	0	0	0	0	0	0	0	0
4 / 515223	4	0	0	1	10	3	5	25	7	-1	-1	70	-1	-1	20
4 / 414112	4	80	120	2	15	3	5	25	7	180	-1	100	-1	-1	30
4 / 555111	4	0	180	1	10	2	5	60	10	-1	-1	120	-1	-1	20
4 / 112111	4	0	0	15	180	20	4	0	0	0	0	0	0	0	0
4 / 514111	4	90	110	3	15	4	4	7	10	120	-1	60	180	180	20
4 / 313112	4	80	180	4	40	6	5	6	0	50	-1	50	120	120	50
4 / 315113	4	-1	180	-1	5	3	5	15	10	-1	-1	180	-1	-1	20
4 / 513111	4	-1	180	-1	5	2	5	10	10	-1	-1	180	-1	-1	20
4 / 123111	4	0	0	10	90	8	4	0	0	0	0	0	0	0	0
4 / 334231	4	-1	180	-1	10	2	5	10	10	-1	-1	180	-1	-1	10
4 / 113111	4	0	0	10	90	8	4	0	0	0	0	0	0	0	0
4 / 521111	4	180	180	2	20	5	5	0	6	180	-1	60	180	180	50
4 / 113121	4	0	0	10	70	7	5	0	0	0	0	0	0	0	85
4 / 211111	4	0	0	11	100	9	5	0	0	0	0	0	0	0	80
4 / 224111	4	40	50	7	40	6	5	8	6	20	40	20	0	0	60
4 / 415314	4	-1	180	-1	10	2	5	-1	40	180	-1	180	-1	-1	30
4 / 312111	4	40	60	6	40	6	5	6	4	20	50	50	0	180	65
4 / 314112	4	0	0	9	70	8	5	0	0	25	15	0	0	120	65
4 / 314113	4	-1	180	2	30	4	5	10	8	30	-1	50	0	180	40
4 / 412111	4	0	0	10	100	9	5	0	0	0	0	0	0	0	70
4 / 414111	4	30	40	6	40	8	5	0	0	0	120	40	0	120	65
4 / 523111	4	-1	120	-1	10	2	5	25	40	-1	-1	120	-1	-1	30
4 / 111121	4	0	0	10	12	12	4	0	0	0	0	0	0	0	0
4 / 212111	4	0	0	10	90	8	4	0	0	0	0	0	0	0	80
4 / 111121	4	0	0	11	120	10	4	0	0	0	0	0	0	0	0
4 / 112131	4	0	0	9	80	7	4	0	0	0	0	0	0	0	80
4 / 111131	4	0	0	10	90	8	4	0	0	0	0	0	0	0	80
4 / 113131	4	0	0	10	80	8	4	0	0	0	0	0	0	0	80
4 / 214112	4	20	25	6	50	6	5	6	8	20	15	30	0	120	75
4 / 314111	4	25	30	5	50	6	4	6	8	25	15	30	0	120	70
4 / 214113	4	-1	180	2	20	4	5	15	6	80	40	35	120	120	40
4 / 114112	4	0	25	9	90	9	4	0	0	0	0	0	0	0	80

I HAVE EXPERIENCE IN ALL IOW VEHICLES EXCEPT THE MULES. I'M A PLT.SGT. WORKING IOW JEEPS AT THE PRESENT TIME.

[illegible] DATA WHEN HOW LONG
HO YR YR HO

GRADE :E-6 SQUAD LEADER :
MOS :11H50 GUNNER :
IN ARMY :13YR LOADER :
IN ARTILLERY : 6YR DRIVER :
WHEN
COMBAT :Y 69 70
ARTIL. COMBAT:N #SUPERVISED : 50

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

IMPROVED 106 VEHICLE CREW

				ORDINARY TASKS						CREW TASKS										
										SQUAD LEADER		GUNNER		DR	LOADER			GUNNER
CREW	STRP COMP	CON	CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	DESTG TGT AZ	LD DRIVER	SET ERECT SLEW	ACQUIR ARM FIRE	START DRIVE STOP	RELOAD	READY RACK	TARGET TRACKING ACCURACY
RESP																
					SELF-STIMULATED VALUES											
USUAL TIME,SEC			15	20	5	45	3	10	4	2	17	7	20	60	60	90%
					CONFIDENCE= 4											
4	8	411111	1	20	20	3	30	3	15	0	4	0	10	0	0	0	70
4	8	515431	1	999	999	999	999	999	999	-1	-1	-1	-1	-1	-1	-1	999
4	8	114111	2	20	30	2	10	2	10	6	6	20	9	0	0	0	80
4	8	515311	2	25	40	2	15	2	10	5	4	25	10	0	70	70	70
4	8	213111	2	25	35	2	10	2	10	7	4	0	10	0	0	0	75
4	8	413111	2	30	45	2	10	1	10	7	4	0	10	0	65	0	50
4	8	311111	2	30	20	3	30	3	10	0	0	0	0	0	0	0	50
4	8	313121	3	20	0	3	30	2	10	7	6	0	10	0	0	65	70
4	8	515223	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4	8	414112	1	-1	-1	-1	-1	-1	-1	10	-1	-1	-1	-1	-1	-1	0
4	8	535111	3	0	0	1	5	1	15	10	6	0	10	0	90	90	70
4	8	112111	2	0	0	2	30	2	10	0	6	0	10	0	65	65	60
4	8	514111	3	0	0	1	30	2	3	10	6	0	10	50	65	65	75
4	8	313112	3	0	0	2	30	2	10	0	0	0	0	0	0	0	80
4	8	315113	1	-1	-1	-1	-1	-1	-1	10	-1	-1	-1	-1	-1	-1	0
4	8	513111	3	0	0	2	30	2	10	0	0	0	0	0	0	0	80
4	8	123111	2	0	0	2	30	2	10	0	0	0	0	0	0	0	60
4	8	334231	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	30
4	8	113111	2	25	30	2	30	2	10	10	6	0	10	25	65	67	50
4	8	521111	3	0	0	2	30	2	10	0	0	0	0	0	0	0	80
4	8	113121	3	0	0	2	25	3	10	20	10	0	10	0	0	0	70
4	8	211111	3	0	0	3	30	2	10	0	0	0	0	0	0	0	70
4	8	224111	2	25	25	2	35	2	10	10	10	20	12	0	0	0	60
4	8	415310	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4	8	312111	2	25	30	2	35	2	10	10	6	0	10	0	65	65	50
4	8	314112	2	-1	-1	-1	-1	-1	25	10	10	-1	10	25	120	120	50
4	8	314113	1	-1	-1	-1	-1	-1	-1	20	-1	-1	-1	-1	-1	-1	2
4	8	412111	2	30	50	2	50	3	10	20	10	20	15	30	120	120	60
4	8	414111	2	30	50	2	35	2	10	15	10	20	25	30	80	80	60
4	8	525111	2	30	50	1	10	1	15	10	11	0	0	0	120	120	70
4	8	111121	3	0	0	2	35	2	10	10	4	0	0	0	0	0	80
4	8	212111	3	25	40	2	15	2	10	15	10	0	12	0	90	90	70
4	8	112121	2	30	40	2	10	2	10	20	15	0	10	0	70	70	60
4	8	112131	3	30	40	2	15	2	10	10	6	0	0	0	0	0	70
4	8	111131	3	25	40	2	10	2	10	10	6	0	10	0	90	90	70
4	8	113131	3	25	30	2	10	1	10	15	10	0	0	0	70	70	70
4	8	214112	3	30	45	2	10	2	10	20	10	0	0	0	90	90	70
4	8	314111	3	25	35	2	10	2	10	20	10	0	0	0	120	120	70
4	8	214113	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4	8	114112	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0

AS AN INSTRUCTOR FOR PMCOC/CA IN THE 11B SERIES, ALL AREAS TIV'S PLT, SGT 2YR, EUROPE

DEMOGRAPHIC DATA

			WHEN	HOW LONG
			MO YR	YR MO
GRADE	:E-4	SQUAD LEADER :	70	1
MOS	:11M50H	GUNNER :		
IN ARMY	:10YR	LOADER :		
IN ARTILLERY	: 4YR	DRIVER :		
	WHEN			
COMBAT	:Y 80 70			
ARTILL. COMBAT	:N	#SUPERVISED : 20		

IMPROVED TOW VEHICLE CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW			ORDINARY TASKS						CREW TASKS							
									SQUAD LEADER		GUNNER		DR	LOADER		GUNNER
RESP	SYMP COMP	CON	CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	DESTG TGT AZ	CD DRIVER	SET RECT SLEW	ACQUIR ARM FIRE	START DRIVE STOP	RELOAD	READY RACK	TARGET TRACKING ACCURACY
					SELF-STIMULATED VALUES											
USUAL TIME,SEC			15	20	8	90	25	13	4	2	17	7	20	60	60	90%
					CONFIDENCE= 3											
4	9	41,111	3	19	25	7	67	20	18	7	6	20	10	24	64	999	80
4	9	515431	9	25	35	5	15	15	30	12	8	23	15	32	80	80	50
4	9	114111	9	0	0	8	90	25	15	0	0	0	0	0	0	0	999
4	9	515311	3	35	60	2	5	5	45	15	10	30	15	35	-1	-1	0
4	9	213111	3	20	30	8	60	20	15	8	6	19	9	22	65	65	80
4	9	413111	3	20	25	6	30	10	30	5	6	22	8	22	64	64	80
4	9	311111	3	17	22	6	60	15	20	6	4	19	9	22	64	64	85
4	9	313111	3	17	22	6	60	15	20	6	4	19	9	22	64	64	85
4	9	515223	4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4	9	414112	3	30	30	2	30	15	30	8	6	20	10	24	64	64	50
4	9	535111	3	25	30	2	15	10	20	12	8	20	12	25	70	70	50
4	9	112111	0	0	0	7	90	20	15	0	0	0	0	0	0	0	0
4	9	514111	3	20	25	5	30	10	30	8	6	20	10	25	65	65	999
4	9	313112	3	30	40	2	15	10	30	10	8	24	14	25	70	70	75
4	9	315113	3	35	30	2	15	5	30	10	8	24	15	30	-1	-1	25
4	9	513111	3	30	30	2	15	10	30	7	6	24	14	30	-1	-1	50
4	9	123111	3	20	30	2	15	10	30	6	4	19	10	25	75	75	999
4	9	334251	3	25	30	2	999	10	30	12	8	999	11	24	80	80	50
4	9	113111	3	0	0	5	60	15	20	0	0	0	0	0	0	0	85
4	9	521111	3	20	25	6	45	10	20	6	4	20	9	24	65	65	999
4	9	113121	3	0	0	6	60	15	20	0	0	0	0	0	0	0	999
4	9	211111	3	0	0	8	60	15	30	0	0	0	0	0	0	0	0
4	9	224111	3	20	25	6	45	10	20	6	4	20	10	25	65	65	80
4	9	415314	3	25	35	6	15	10	30	8	6	24	12	24	80	80	50
4	9	312111	3	25	30	4	15	10	25	8	6	24	10	30	70	70	75
4	9	314112	3	20	25	3	15	10	30	8	6	20	9	24	75	75	50
4	9	314113	3	-1	-1	1	10	5	30	-1	-1	-1	-1	-1	-1	-1	0
4	9	412111	3	20	25	6	30	10	30	6	4	20	10	25	70	70	80
4	9	414111	3	25	30	4	15	8	25	6	6	24	10	25	70	70	60
4	9	525111	3	-1	-1	2	5	5	30	-1	-1	-1	-1	-1	-1	-1	0
4	9	111121	3	0	0	6	45	15	20	0	0	0	0	0	0	0	0
4	9	112121	3	0	0	6	45	15	20	0	0	0	0	0	0	0	0
4	9	212111	3	0	0	6	45	15	20	0	0	0	0	0	0	0	0
4	9	112131	3	0	0	6	45	15	25	0	0	0	0	0	0	999	0
4	9	111131	3	0	0	6	45	15	25	0	0	0	0	0	0	0	0
4	9	113131	3	0	0	6	30	10	25	0	0	0	0	0	0	0	75
4	9	214112	3	25	30	0	15	10	25	8	6	22	10	25	70	70	80
4	9	314111	3	20	25	4	15	10	25	6	4	20	10	25	70	70	75
4	9	214113	3	25	30	4	15	8	25	8	6	24	14	25	-1	-1	50
4	9	114112	3	20	30	4	20	10	25	7	6	20	9	25	70	70	70

DEMOGRAPHIC DATA

			WHEN (YR)	HOW LONG (YR)
GRADE	:E-7	SQUAD LEADER :	68	6
MOS	:11H40(E)	GUNNER :	67	1
TH ARMY	:17YR	LOADER :	66	1
TH ARTILLERY	:17YR	DRIVER :	66	1
	WHEN			
COMBAT	:Y 66 67			
ARTIL. COMBAT	:Y 66 67	#SUPERVISED :>50		

0=NO INCREASE ABOVE USUAL TIME
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9=NO REPLY (FOR CONFIDENCE)

IMPROVED TOW VEHICLE CREW

	ORDINARY TASKS							CREW TASKS							
								SQUAD LEADER		GUNNER		DR	LOADER		GUNNER
CREW RESP	STMP COMP	CLIMB STAIRS	LIFT, CLIMB BOXES	STAIRS	WALK	LIFT BOXES	OPEN LOCK	DESIG TGT AZ	CO DRIVER	SET ERECT SCEN	ACQUIR ARM FIRE	START DRIVE STOP	RELOAD	READY RACK	TARGET TRACKING ACCURACY
USUAL TIME,SEC		15	20	SELF-STIMULATED VALUES 20	120	25	12	4	2	17	7	20	60	60	90%
				CONFIDENCE= 8											
4 10 411111	8	0	0	10	60	10	30	0	0	30	0	0	0	120	0
4 10 515431	2	-1	-1	20	120	3	120	-1	-1	-1	-1	-1	-1	-1	0
4 10 114111	3	30	40	20	30	2	90	8	4	34	14	40	120	120	45
4 10 515311	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4 10 413111	3	120	90	1	5	2	120	12	-1	-1	-1	-1	100	180	0
4 10 413111	3	60	110	2	5	4	20	16	8	60	30	60	120	120	60
4 10 311111	4	15	15	5	30	15	15	0	0	0	0	0	0	0	0
4 10 313111	8	30	45	3	30	15	25	0	4	20	10	25	0	90	85
4 10 515223	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4 10 414112	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4 10 533111	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4 10 112111	4	20	45	5	45	10	20	6	4	20	9	0	65	90	70
4 10 514111	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4 10 313112	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4 10 313113	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4 10 513111	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4 10 123111	3	30	60	2	45	6	3	6	4	20	14	30	90	90	65
4 10 534231	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4 10 113111	4	15	20	10	60	10	15	0	0	0	0	0	0	0	0
4 10 521111	3	45	45	5	30	3	45	16	10	45	21	40	90	90	60
4 10 113121	8	20	20	8	30	5	15	0	0	0	0	0	0	0	0
4 10 211111	5	15	20	10	60	10	15	0	0	0	0	0	0	0	0
4 10 224111	8	20	20	3	30	3	15	10	8	25	25	40	90	90	70
4 10 415314	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4 10 312111	3	45	45	3	30	3	25	10	8	45	25	40	120	120	65
4 10 314112	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4 10 314113	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4 10 412111	5	0	0	10	60	10	30	0	0	0	0	0	0	0	999
4 10 414111	3	45	40	5	45	5	20	8	4	35	25	45	90	90	75
4 10 525111	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4 10 111121	5	15	20	10	60	10	15	0	0	0	0	0	0	0	0
4 10 212111	8	45	60	5	45	5	20	6	4	25	14	25	75	75	75
4 10 112121	5	15	20	10	60	10	15	0	0	0	0	0	0	0	0
4 10 112131	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4 10 111131	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4 10 113131	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4 10 214112	3	45	45	5	45	2	25	20	10	45	25	60	120	120	65
4 10 314111	3	45	60	3	30	3	30	20	16	45	30	60	120	120	65
4 10 214113	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4 10 114112	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0

I HAVE BEEN A SECTION SGT FOR THE LAST 18 MONTH AND OUT OF THAT TIME MY TIV'S HAVE BEEN IN SUPORT ABOUT 5 TO 9 TIME FOR DIFFERENT THINGS AND MY TIV DON'T HAVE THAT MANY HOURS ON THE GUN.

DEMOGRAPHIC DATA

GRADE	:E-6	SQUAD LEADER :					
MOS	:11H	GUNNER	:				
TH ARMY	:11YR 7.0	LOADER	:				
IN ARTILLERY	: 7YR	DRIVER	:				
COMBAT	:N						
ARTIL. COMBAT	:N	#SUPERVISED : 20					

0=NO INCREASE ABOVE USUAL TIME
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9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

IMPROVED TOW VEHICLE CREW

CREW RESP	SYMP COMP	CROW CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOARDS	OPEN LOCK	SQUAD LEADER DESIG TGT AZ	SQUAD LEADER CO DRIVER	GUNNER SET ERECT SLEW	GUNNER ACQUIR ARM FIRE	DR START DRIVE STOP	LOADER RELOAD	LOADER READY RACK	GUNNER TARGET TRACKING ACCURACY
		ORDINARY TASKS						CREW TASKS							
USUAL TIME,SEC		15	20	SELF-STIPULATED VALUES 10	120	30	120	4	2	17	7	20	60	60	90%
				CONFIDENCE= 4											
4 11 411111	4	25	25	5	40	10	100	7	5	27	10	22	120	95	50
4 11 515451	4	300	300	-1	-1	4	300	12	10	27	14	45	-1	300	0
4 11 114111	4	60	60	1	5	3	120	0	0	0	0	0	120	85	70
4 11 515311	4	-1	-1	-1	-1	-1	300	12	6	25	21	40	-1	-1	0
4 11 213111	4	0	0	7	120	10	60	0	0	0	0	0	80	80	0
4 11 413111	4	25	27	4	120	15	60	0	0	0	0	30	90	85	75
4 11 311111	4	25	30	4	70	10	60	12	4	20	0	0	95	85	75
4 11 313111	4	30	30	3	100	10	60	12	8	25	10	0	80	85	65
4 11 515223	4	-1	-1	-1	-1	-1	300	12	8	-1	14	-1	-1	300	0
4 11 414112	4	-1	-1	-1	-1	-1	300	12	15	-1	14	-1	-1	-1	0
4 11 535111	4	-1	-1	-1	-1	-1	300	12	10	-1	25	-1	-1	-1	0
4 11 112111	4	0	0	7	120	30	60	0	0	0	0	0	0	0	95
4 11 514111	4	-1	-1	-1	-1	-1	300	12	10	-1	14	-1	-1	-1	0
4 11 313112	4	60	60	2	10	7	300	25	15	32	14	45	300	300	0
4 11 315113	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4 11 515111	4	-1	-1	-1	-1	-1	300	12	10	32	25	45	-1	-1	0
4 11 123111	4	0	0	4	60	25	60	0	0	0	0	0	0	0	95
4 11 334231	4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4 11 113111	4	25	30	4	60	15	80	8	4	25	10	30	80	80	75
4 11 521111	4	-1	-1	-1	-1	-1	300	8	6	32	14	40	-1	-1	0
4 11 113121	4	20	25	4	60	15	75	6	4	32	14	30	95	95	75
4 11 211111	4	0	0	10	120	30	60	0	0	0	0	0	0	0	95
4 11 224111	4	25	30	4	120	25	60	6	4	32	14	30	120	120	75
4 11 415314	4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4 11 312111	4	20	25	4	80	10	60	6	3	20	9	25	85	90	75
4 11 314112	4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4 11 314113	4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4 11 412111	4	25	25	4	120	25	60	6	4	19	10	30	95	95	65
4 11 414111	4	25	30	4	70	15	60	8	4	32	14	35	120	120	70
4 11 525111	4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4 11 111121	4	17	25	4	60	10	160	8	4	30	10	25	70	70	55
4 11 212111	4	25	30	5	120	10	60	6	4	20	9	25	120	120	55
4 11 112121	4	30	25	5	120	15	60	6	4	25	10	25	95	95	80
4 11 112131	4	20	25	4	70	10	16	10	4	30	13	35	120	120	65
4 11 111131	4	30	40	2	45	7	300	8	4	32	14	40	120	120	75
4 11 113131	4	25	25	4	70	10	60	8	4	32	10	30	120	120	60
4 11 214112	4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4 11 314111	4	30	40	4	80	10	120	8	4	30	14	35	105	120	85
4 11 214113	4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4 11 114112	4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0

DEMOGRAPHIC DATA — WHEN (MO YR) — HOW LONG (YR MO)

GRADE :
MOS :
IN ARMY :
IN ARTILLERY :
WHEN
COMBAT :
ARTIL. COMBAT:

SQUAD LEADER :
GUNNER :
LOADER :
DRIVER :

#SUPERVISED : 20

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

IMPROVED 10M VEHICLE CREW

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: SQUAD LEADER: DESTG TGT AZ	CD DRIVER	GUNNER: SET ERECT SLEW	ACQUIR ARM FIRE	DR: START DRIVE STOP	LOADER: RELOAD	READY RACK	GUNNER: TARGET TRACKING ACCURACY
USUAL TIME,SEC			15	20	SELF-STIMULATED VALUES 5	25	8	6	4	2	17	7	20	60	60	90%
					CONFIDENCE= 4											
4 12 411111		4	16	27	3	20	8	6	6	0	21	9	.	66	66	89
4 12 515431		3	-1	-1	-1	-1	-1	-1	20	8	-1	-1	110	-1	-1	2
4 12 114111		4	30	120	1	10	2	8	8	0	34	10	26	100	120	77
4 12 513311		3	-1	-1	-1	-1	-1	8	30	4	84	16	34	-1	-1	60
4 12 213111		3	30	45	2	20	5	6	6	0	24	12	22	72	76	87
4 12 413111		3	20	25	3	20	7	6	6	0	24	14	0	70	70	88
4 12 311111		3	20	25	2	15	5	6	0	0	21	10	0	0	0	84
4 12 313111		3	25	30	2	12	3	6	6	0	21	11	0	70	70	80
4 12 515223		3	0	0	-1	-1	-1	10	40	0	-1	-1	200	-1	-1	8
4 12 414112		3	-1	-1	-1	-1	-1	10	32	0	68	28	29	-1	-1	54
4 12 535111		3	-1	-1	-1	-1	-1	10	14	0	115	60	60	-1	-1	34
4 12 112111		3	30	40	3	15	3	6	6	0	20	10	0	69	70	60
4 12 514111		3	45	60	1	10	3	6	10	0	34	14	0	120	120	65
4 12 313112		3	-1	-1	-1	-1	1	8	8	0	68	28	30	-1	-1	44
4 12 315113		3	-1	-1	-1	-1	-1	12	-1	12	170	70	80	-1	-1	30
4 12 513111		3	30	40	2	15	3	6	0	0	29	19	0	80	80	71
4 12 123111		8	0	0	3	25	8	6	0	0	0	0	0	0	0	89
4 12 334231		3	30	40	2	10	4	6	6	0	24	14	0	78	78	70
4 12 113111		4	0	0	3	25	8	6	0	0	0	0	0	0	0	0
4 12 521111		3	17	25	3	20	6	6	0	0	20	10	0	65	65	80
4 12 113121		4	0	0	3	20	6	6	0	0	0	0	0	0	0	89
4 12 211111		4	19	24	3	15	6	6	6	0	19	9	0	64	64	82
4 12 224111		3	30	40	1	10	6	6	6	0	34	14	30	120	120	68
4 12 415314		3	-1	-1	-1	-1	-1	10	-1	8	170	70	60	-1	-1	44
4 12 312111		3	30	40	1	10	5	6	0	0	34	14	0	80	80	73
4 12 314112		3	-1	-1	-1	5	2	8	10	4	51	21	45	-1	-1	60
4 12 314113		3	-1	100	1	10	2	6	12	4	48	21	30	-1	-1	60
4 12 412111		4	20	25	2	15	5	6	0	0	0	0	0	70	70	89
4 12 414111		3	30	40	1	5	2	6	8	4	34	14	25	85	85	75
4 12 525111		3	-1	-1	1	-1	-1	10	16	6	68	28	40	-1	-1	54
4 12 111121		4	0	0	3	25	8	6	0	0	0	0	0	0	0	89
4 12 212111		3	20	25	2	15	6	6	0	0	20	10	0	65	65	85
4 12 112121		4	0	0	3	25	8	6	0	0	0	0	0	0	0	89
4 12 112131		3	30	40	2	20	5	6	6	0	24	14	0	80	80	70
4 12 111131		3	20	25	2	15	6	6	0	0	20	10	0	70	70	85
4 12 113131		3	25	30	2	10	4	6	6	4	34	14	28	75	75	70
4 12 214112		3	30	40	1	7	3	6	8	4	38	18	25	80	80	69
4 12 314111		3	25	30	1	8	3	6	0	0	24	14	0	80	80	75
4 12 214113		3	30	40	1	10	2	8	0	0	34	14	25	120	120	60
4 12 114112		3	45	60	1	5	3	8	0	4	68	28	35	200	200	48

DEMOGRAPHIC DATA

WHEN HOW LONG
HO YR YR MO

GRADE :
MOS :
IN ARMY :
IN ARTILLERY :
WHEN
COMBAT :
ARTIL. COMBAT:

SQUAD LEADER :
GUNNER :
LOADER :
DRIVER :
#SUPERVISED : 20

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

IMPROVED TOW VEHICLE CREW

CREW RESP	SYMP COMP	CON CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	SQUAD LEADER DESIG TGT AZ	CO DRIVER	GUNNER SET ERECT SLEW	ACQUIR AXM FIRE	DR START DRIVE STOP	LOADER RELOAD	READY RACK	GUNNER TARGET TRACKING ACCURACY
		ORDINARY TASKS						CREW TASKS							
		SELF-STIPULATED VALUES													
USUAL TIME,SEC		15	20	40	30	6	5	4	2	17	7	20	60	60	90%
				CONFIDENCE=											
4 13 411111	3	30	40	1	5	5	5	10	4	30	-1	40	120	120	0
4 13 515431	4	-1	-1	-1	-1	-1	10	10	10	-1	-1	-1	-1	-1	0
4 13 114111	3	-1	-1	-1	2	-1	10	6	4	30	15	0	180	180	10
4 13 515311	4	-1	-1	-1	-1	-1	10	-1	-1	-1	-1	-1	-1	-1	0
4 13 213111	3	30	30	2	20	10	7	6	4	30	15	30	180	180	10
4 13 413111	3	45	45	2	10	2	5	6	4	25	15	45	-1	-1	5
4 13 311111	3	30	30	3	10	5	5	6	0	25	20	0	120	180	10
4 13 313111	9	25	30	2	10	7	5	6	4	30	30	0	120	120	20
4 13 515223	5	-1	-1	-1	-1	-1	-1	10	7	-1	-1	-1	-1	-1	0
4 13 414112	5	-1	-1	-1	-1	-1	-1	10	8	-1	-1	-1	-1	-1	0
4 13 535111	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4 13 112111	4	20	30	2	15	5	4	0	0	20	10	0	100	100	60
4 13 514111	3	-1	-1	1	5	3	10	6	4	30	25	30	120	120	15
4 13 313112	5	-1	-1	-1	-1	-1	-1	15	8	-1	-1	-1	-1	-1	0
4 13 315113	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4 13 513111	3	-1	-1	-1	-1	-1	10	15	8	-1	-1	-1	-1	-1	0
4 13 123111	4	45	60	1	5	2	5	6	4	30	15	25	180	180	40
4 13 334231	5	-1	-1	-1	-1	-1	-1	15	10	-1	-1	-1	-1	-1	0
4 13 113111	3	20	0	8	15	6	4	0	0	20	12	0	0	0	60
4 13 521111	4	-1	-1	-1	-1	-1	-1	6	5	30	15	30	-1	-1	0
4 13 113121	.	20	25	6	30	8	5	0	0	0	0	0	0	0	60
4 13 211111	4	25	30	2	10	5	4	6	4	0	0	0	0	0	20
4 13 224111	3	-1	-1	-1	-1	-1	-1	6	4	25	14	30	-1	-1	0
4 13 415314	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4 13 312111	3	30	25	1	10	4	5	6	4	30	14	0	120	120	20
4 13 314112	5	-1	-1	-1	-1	-1	-1	8	6	-1	-1	-1	-1	-1	0
4 13 314113	5	-1	-1	-1	-1	-1	-1	10	10	-1	-1	-1	-1	-1	0
4 13 412111	4	30	30	1	10	5	5	6	4	30	14	25	180	180	0
4 13 414111	3	-1	-1	1	5	3	5	6	4	25	10	25	180	180	5
4 13 525111	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4 13 111121	4	20	25	2	15	6	3	0	0	0	0	0	0	0	50
4 13 212111	4	999	999	2	7	5	4	6	4	20	14	25	180	180	20
4 13 112121	4	25	25	2	15	7	4	0	0	0	0	0	75	80	4
4 13 112131	5	-1	-1	-1	-1	-1	-1	8	6	-1	-1	25	-1	-1	0
4 13 111131	4	-1	-1	1	5	-1	5	6	6	30	14	25	180	220	5
4 13 115131	3	30	45	1	5	3	4	8	6	36	20	25	180	220	10
4 13 214112	4	-1	-1	-1	-1	-1	-1	6	4	40	14	30	-1	-1	0
4 13 314111	5	-1	-1	-1	-1	-1	-1	6	6	-1	-1	-1	-1	-1	0
4 13 214113	5	-1	-1	-1	-1	-1	-1	10	10	-1	-1	-1	-1	-1	0
4 13 114112	3	-1	-1	-1	-1	1	15	6	4	30	20	-1	-1	-1	0

I AM THE MTSSLF LOGISTICS NCO FOR THE TOW PROJECT, REPUTIVE ARS I WAS AN ITV INSTRUCTOR AND LATER PLATOON SERGENT IN EUROPE AND SUPERVISED APPROX 30 PERSONNEL. I HAVE ALSO BEEN AN ANTI-ARMOR INSTRUCTOR AT FT BENNING, GA. FROM 1978-79.

DEMOGRAPHIC DATA

				WHEN MO	WHEN YR	HOW LONG YR	HOW LONG MO
GRADE	:E-6	SQUAD LEADER	:	76		1	6
MOS	:11H3HLO	GUNNER	:	75			11
IN ARMY	: 8YR 6MO	LOADER	:	75			2
IN ARTILLERY	: 8YR 6	DRIVER	:	74			8

WHEN

COMBAT :N

ARTIL. COMBAT:N #SUPERVISED : 50

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

IMPROVED 108 VEHICLE CREW

CREW RESP	SYMP COMP	CON	CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	SQUAD LEADER DESIG TGT AZ	SQUAD LEADER CO DRIVER	GUNNER SET ELECT SLEW	GUNNER ACQUIR ARM FIRE	DR START DRIVE STOP	LOADER RELOAD	LOADER READY RACK	GUNNER TARGET TRACKING ACCURACY
			ORDINARY TASKS						CREW TASKS							
USUAL TIME,SEC			15	20	SELF-STIMULATED VALUES 10	60	20	15	4	2	17	7	20	60	60	90%
						CONFIDENCE= 4										
4 15	411111	4	35	45	5	15	12	21	10	4	25	14	28	90	90	70
4 15	515431	5	-1	-1	1	3	-1	30	30	10	50	30	50	-1	-1	30
4 15	134111	5	25	35	5	10	5	15	6	0	20	10	0	90	90	60
4 15	515311	4	-1	-1	-1	-1	-1	20	10	5	40	40	40	-1	-1	30
4 15	213111	4	25	30	6	30	10	18	5	3	20	10	0	80	80	80
4 15	413111	4	30	40	3	5	5	20	15	8	25	15	30	90	90	65
4 15	311111	4	25	35	7	45	16	18	5	0	20	10	24	80	80	60
4 15	313111	3	30	40	4	10	6	20	10	5	25	15	25	90	90	76
4 15	515223	4	-1	-1	-1	-1	-1	20	15	8	40	25	35	-1	-1	50
4 15	414112	4	-1	-1	1	3	-1	20	10	5	25	20	30	160	160	60
4 15	535111	4	-1	-1	1	3	-1	20	25	10	35	50	40	-1	-1	20
4 15	112111	4	20	25	6	35	10	15	0	0	0	10	0	80	80	80
4 15	514111	4	-1	-1	1	2	1	25	20	8	25	35	30	180	180	20
4 15	313112	4	-1	-1	2	3	2	25	15	5	25	40	25	160	160	50
4 15	315113	9	-1	-1	1	1	-1	25	999	999	999	999	999	-1	-1	999
4 15	513111	4	-1	-1	1	3	1	20	15	5	25	40	25	160	160	30
4 15	123111	5	30	40	5	10	4	19	7	0	20	15	0	100	100	75
4 15	334231	4	-1	-1	1	3	2	25	15	10	25	60	25	160	180	30
4 15	113111	5	0	0	9	45	15	15	0	0	0	0	0	70	70	0
4 15	521111	4	25	30	8	30	10	20	10	5	25	30	25	80	80	70
4 15	113121	4	20	25	9	45	15	15	0	0	0	10	0	80	80	80
4 15	211111	4	20	25	9	35	10	20	0	0	0	15	0	70	70	80
4 15	224111	4	30	45	3	10	2	25	15	5	25	35	25	160	160	70
4 15	415314	5	-1	-1	-1	-1	-1	120	-1	5	35	-1	-1	-1	-1	0
4 15	312111	2	30	40	2	15	3	30	10	5	25	30	25	90	90	70
4 15	314112	4	30	-1	2	-1	1	25	15	5	20	25	30	180	180	60
4 15	314113	4	-1	-1	1	2	-1	40	15	5	30	100	50	-1	-1	20
4 15	412111	4	30	40	3	5	5	20	5	0	20	10	24	90	90	70
4 15	414111	4	40	40	3	5	2	25	10	5	25	40	25	180	180	60
4 15	525111	4	-1	-1	1	1	1	30	15	5	25	50	-1	-1	-1	30
4 15	111121	4	0	0	9	50	20	15	0	0	0	0	0	0	0	80
4 15	212111	3	30	40	5	15	5	30	15	5	25	30	30	100	100	65
4 15	112121	4	20	25	8	30	15	20	0	0	0	0	0	80	80	80
4 15	112131	4	25	35	4	10	8	25	15	5	25	35	30	120	120	70
4 15	111131	4	30	40	3	15	6	25	10	5	25	35	30	80	80	70
4 15	113131	4	25	35	3	10	8	20	8	5	25	35	25	90	90	70
4 15	214112	4	40	45	3	5	5	25	15	5	25	50	35	120	120	50
4 15	314111	4	-1	-1	-1	-1	-1	25	15	5	25	35	25	-1	-1	65
4 15	214113	4	-1	-1	-1	-1	-1	35	15	5	25	45	35	-1	-1	999
4 15	114112	4	-1	-1	-1	-1	-1	30	15	5	25	50	-1	-1	-1	60

TOW A PLT. SGT. A.T. PLAT. ITV'S A VIETNAM

DEMOGRAPHIC DATA — WHEN — HOW LONG

				60 YR	YR 60
GRADE	:E-7	SQUAD LEADER	:	78	2
MOS	:11B40	GUNNER	:		
IN ARMY	:15YR	LOADER	:		
IN ARTILLERY	: 6YR	DRIVER	:		
	WHEN				
COMBAT	:Y				
ARTIL. COMBAT	:N	#SUPERVISED	:>50		

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

IMPROVED 105 VEHICLE CREW

CREW	STMP COMP	CON	CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	SQUAD LEADER DESIG TGT AZ	SQUAD LEADER CD DRIVER	GUNNER SET ERECT SLEW	GUNNER ACQUIR ARM FIRE	DR START DRIVE STOP	LOADER RELOAD	LOADER READY RACK	GUNNER TARGET TRACKING ACCURACY
REGP																
USUAL TIME,SEC			15	20	SELF-STIPULATED VALUES 3	60	30	60	4	2	17	7	20	60	60	90%
					CONFIDENCE= 4											
4 16	411111	3	30	100	5	20	3	15	0	0	15	10	0	0	0	45
4 16	515431	4	-1	-1	-1	-1	-1	120	-1	-1	-1	-1	-1	-1	-1	0
4 16	114111	3	-1	-1	1	-1	-1	15	15	5	45	-1	40	-1	-1	0
4 16	515311	4	60	-1	-1	-1	-1	60	-1	-1	-1	-1	60	-1	-1	0
4 16	213111	3	30	100	2	10	3	40	0	5	30	30	0	-1	-1	35
4 16	415111	3	30	40	3	20	4	10	5	5	20	15	0	-1	-1	60
4 16	311111	4	0	30	5	2	4	10	0	0	10	10	0	90	90	75
4 16	313111	3	30	50	2	20	4	15	10	5	40	30	0	120	120	40
4 16	515223	4	120	-1	999	999	999	120	-1	60	-1	-1	60	-1	-1	0
4 16	414112	4	30	50	3	25	5	10	5	6	30	10	30	120	120	60
4 16	535111	3	25	45	2	10	4	15	20	10	-1	-1	40	-1	-1	20
4 16	112111	4	0	0	5	40	5	10	5	4	0	0	0	0	0	0
4 16	514111	3	40	100	3	15	4	15	10	5	40	20	30	90	90	25
4 16	313112	3	30	40	-1	-1	-1	20	15	10	30	30	40	120	120	40
4 16	315113	3	-1	-1	-1	-1	-1	60	60	30	-1	-1	-1	-1	-1	0
4 16	513111	3	30	40	3	10	4	15	10	5	30	15	40	120	120	50
4 16	123131	3	20	30	5	30	6	15	15	5	40	-1	50	-1	-1	0
4 16	334231	4	-1	-1	-1	-1	-1	120	-1	20	-1	-1	100	-1	-1	0
4 16	113111	3	0	0	4	30	5	10	5	4	20	10	0	80	80	0
4 16	521111	3	30	40	5	20	3	10	10	5	30	20	40	120	120	80
4 16	113121	3	30	40	3	15	4	10	10	5	30	25	40	90	90	80
4 16	211111	3	20	30	3	20	3	10	6	4	15	10	0	0	0	80
4 16	224111	3	30	40	5	15	4	10	10	5	30	20	30	90	90	75
4 16	415310	3	40	40	2	10	3	20	-1	10	-1	-1	-1	-1	-1	0
4 16	312111	3	20	25	4	30	4	10	10	5	40	20	30	90	90	75
4 16	314112	3	30	40	2	5	-1	10	15	6	40	-1	40	-1	-1	40
4 16	314113	3	-1	-1	-1	-1	-1	-1	-1	10	-1	-1	-1	-1	-1	0
4 16	412111	3	30	40	3	10	3	10	10	5	20	12	0	90	90	60
4 16	414111	3	30	40	2	10	3	15	6	5	15	10	0	120	120	60
4 16	525111	3	-1	-1	-1	-1	-1	-1	-1	5	-1	-1	-1	-1	-1	0
4 16	111121	3	0	0	5	20	4	10	6	4	15	8	0	80	80	80
4 16	212111	3	40	100	-1	5	-1	20	10	6	30	20	60	120	120	35
4 16	112121	3	30	40	2	5	1	15	10	6	30	20	40	120	120	40
4 16	112131	3	40	120	1	10	3	10	10	6	35	20	100	120	120	20
4 16	111131	3	80	120	1	5	3	15	10	6	25	20	100	120	120	30
4 16	113131	3	50	100	1	5	3	15	10	6	20	-1	40	-1	-1	0
4 16	214112	3	50	120	1	5	-1	20	10	6	40	20	100	180	180	0
4 16	314111	3	-1	-1	-1	-1	-1	20	10	8	-1	-1	50	-1	-1	40
4 16	214113	3	-1	-1	-1	-1	-1	30	-1	10	-1	-1	-1	-1	-1	0
4 16	114112	3	40	100	2	5	3	10	10	6	30	20	40	120	120	40

PLT SLT DI .N TIV PLT .TIH AL HEN IR TIVES TO A EUROPEAN AREA, GUN REPS AND 113E1 TUN CAP * VIETNAM,LAOS

DEMOGRAPHIC DATA

			WHEN MO YR	HOW LONG YR MO
GRADE	:E-6	SQUAD LEADER :		4
MOS	:11H5OE3	GUNNER :		
IN ARMY	:12YR MO	LOADER :		
IN ARTILLERY	: 4YR 6	DRIVER :		
	WHEN			
COMBAT	:Y 4			
ARTIL. COMBAT	:N	#SUPERVISED :>50		

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

IMPROVED TOW VEHICLE CREW

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: SQUAD LEADER: DESIG TGT AZ	LD DRIVER	GUNNER: SET ELECT SLEW	ACQUIR ARM FIRE	DR: START DRIVE STOP	LOADER: RELOAD	READY RACK	GUNNER: TARGET TRACKING ACCURACY
					SELF-STIPULATED VALUES											
USUAL TIME,SEC			15	20	4	15	8	10	4	2	17	7	20	60	60	90%
					CONFIDENCE= 4											
4 17	411111	4	45	25	2	10	4	21	6	4	25	10	22	95	120	40
4 17	515431	4	999	999	-1	2	2	22	6	5	30	20	30	-1	-1	0
4 17	114111	4	20	25	1	5	3	12	6	0	19	10	0	90	120	70
4 17	515311	4	45	40	1	5	-1	22	6	4	30	20	30	-1	-1	0
4 17	213111	4	25	30	2	10	3	11	0	0	10	9	0	70	80	70
4 17	413111	4	20	30	2	10	3	12	0	0	20	10	0	90	120	70
4 17	311111	4	20	25	2	10	3	13	5	3	18	9	0	90	120	60
4 17	313111	4	20	25	2	10	3	12	5	3	19	9	0	90	120	75
4 17	515223	9	-1	-1	1	5	1	20	10	6	35	19	30	-1	-1	30
4 17	414112	4	20	30	1	5	2	12	6	3	20	10	25	90	120	30
4 17	535111	4	-1	-1	1	5	1	15	7	5	25	20	40	-1	-1	20
4 17	112111	4	17	22	2	10	3	10	0	0	0	0	0	65	65	0
4 17	514111	4	-1	-1	1	5	1	15	8	6	25	10	40	-1	-1	10
4 17	313112	4	30	40	1	5	2	12	8	6	24	14	30	120	120	60
4 17	315113	4	999	999	1	5	1	15	8	4	24	14	30	-1	-1	10
4 17	513111	4	35	30	2	4	1	15	6	4	20	14	0	120	120	30
4 17	123111	4	20	25	3	10	3	16	0	0	0	0	0	75	75	0
4 17	334231	4	30	40	1	5	1	15	6	4	20	14	25	-1	-1	10
4 17	113111	4	20	25	2	10	3	12	0	0	0	0	0	90	90	85
4 17	521141	4	25	30	1	5	2	12	6	4	20	14	25	120	120	40
4 17	113121	4	20	30	1	10	3	12	0	0	0	0	0	65	65	65
4 17	211111	4	30	30	1	5	2	12	0	0	0	0	0	75	75	75
4 17	234141	4	25	30	1	5	2	12	0	0	0	0	0	75	75	80
4 17	415314	4	-1	-1	1	5	1	16	8	4	30	14	30	-1	-1	0
4 17	312111	4	25	25	1	5	3	13	0	0	0	0	0	90	90	60
4 17	314112	4	35	30	1	5	2	12	0	0	20	0	0	90	90	60
4 17	314113	4	30	30	1	5	2	13	6	4	30	14	30	-1	-1	40
4 17	412111	4	20	25	1	5	2	12	6	4	19	10	25	90	90	75
4 17	414111	4	20	25	1	5	2	12	6	4	20	10	30	120	120	75
4 17	525111	4	-1	-1	1	5	-1	16	6	6	20	10	30	-1	-1	40
4 17	111121	4	20	25	2	10	3	10	0	0	0	0	0	90	90	80
4 17	212111	4	20	25	1	10	2	12	0	0	0	0	25	90	90	70
4 17	112121	4	20	25	2	10	2	12	0	0	0	0	0	90	90	80
4 17	112131	4	20	25	1	10	2	12	6	4	20	14	25	120	120	70
4 17	111131	4	20	25	1	5	2	12	0	0	0	0	25	90	90	70
4 17	113131	4	20	25	1	10	2	12	0	0	0	0	25	75	75	70
4 17	214112	4	25	30	1	5	1	15	6	4	20	14	30	120	120	70
4 17	314111	4	30	40	1	5	2	12	6	4	20	14	30	120	120	60
4 17	214113	4	30	25	1	5	2	14	999	999	999	999	999	150	120	50
4 17	114112	4	30	30	1	5	2	15	6	4	20	14	25	150	120	70

ANTI TANK PLT SGT, ASSISTED IN THE TRAINING OF NCO'S AND ELISTEDMEN IN THE MAINT AND TACTICAL DEPLOYMENT OF ANTI ARMOR SQUADS AN
AND SECTION. + 2 YRS 106, 3 YRS JEEP 106, 2 YRS TOW TRACK, 2 YRS DRAGON SQD. LDR.

DEMOGRAPHIC DATA

				WHEN MO YR	HOW LONG YR MO
GRADE	:E-6	SQUAD LEADER	: 6 74	3 6	
MOS	:11H30	GUNNER	:12 73	6	
IN ARMY	: 9YR AND	LOADER	:		
IN ARTILLERY	: 9YR	* DRIVER	: 8 73	4	
	WHEN				
COMBAT	:N				
ARTIL. COMBAT	:N	#SUPERVISED	:>50		

IMPROVED 10M VEHICLE CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: SQUAD LEADER: DESIG TGT AZ	LD DRIVER	GUNNER: SET ERECT SLEW	ACQUIR ARM FIRE	DR: START DRIVE STOP	LOADER: RELOAD	READY RACK	GUNNER: TARGET TRACKING ACCURACY
USUAL TIME,SEC			15	20	8	40	15	5	4	2	17	7	20	60	60	90%
			SELF-STIPULATED VALUES													
					CONFIDENCE= 5											
4 18	411111	4	30	40	3	10	4	25	20	20	30	15	30	80	80	60
4 16	515431	5	-1	-1	-1	-1	0.1	60	-1	-1	-1	-1	-1	-1	-1	10
4 18	114111	4	60	1	1	2	2	4	10	10	30	20	40	120	120	15
4 18	515311	5	-1	-1	-1	1	1	40	-1	-1	-1	-1	-1	-1	-1	5
4 18	213111	5	60	60	2	2	2	40	20	15	45	30	40	120	120	20
4 18	413111	4	60	120	1	2	3	30	20	20	40	25	40	-1	-1	20
4 16	311111	5	60	90	1	1	2	20	30	30	45	40	45	-1	-1	10
4 16	313111	3	60	90	1	2	2	20	30	30	40	30	40	-1	-1	20
4 18	515223	5	-1	-1	-1	-1	-1	90	-1	-1	-1	-1	-1	-1	-1	0
4 18	414112	5	-1	-1	-1	-1	-1	90	-1	-1	-1	-1	-1	-1	-1	0
4 16	535111	5	-1	-1	-1	-1	-1	90	-1	-1	-1	-1	-1	-1	-1	0
4 18	112111	5	45	60	2	1.5	5	2	15	15	30	15	30	90	90	55
4 16	514111	5	-1	-1	1	-1	1	30	-1	-1	-1	-1	-1	-1	-1	0
4 18	313112	5	-1	-1	1	1	1	20	40	40	60	40	40	140	140	10
4 18	315113	5	-1	-1	-1	-1	-1	30	-1	-1	-1	-1	-1	-1	-1	0
4 16	513111	4	-1	-1	1	1	1	30	30	30	50	25	40	120	120	20
4 16	123111	4	40	40	2	1	2	20	15	15	25	15	30	80	80	40
4 16	334231	5	-1	-1	-1	-1	-1	30	-1	-1	-1	-1	-1	-1	-1	0
4 18	113111	5	40	60	2	1	2	20	20	15	25	20	40	90	90	60
4 18	521111	3	-1	-1	-1	-1	-1	20	-1	-1	-1	-1	-1	-1	-1	0
4 16	113121	9	45	60	2	2	1	30	30	30	30	20	40	90	90	30
4 16	211111	5	60	60	2	2	2	20	10	10	20	10	25	90	90	65
4 16	224111	4	60	120	2	1	1	3	30	20	25	20	45	100	100	40
4 16	415314	4	-1	-1	-1	-1	-1	30	-1	-1	-1	-1	-1	-1	-1	0
4 16	312111	5	60	60	2	1	5	20	20	20	25	20	40	100	100	40
4 16	314112	4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4 18	314113	5	-1	-1	-1	-1	-1	30	-1	-1	-1	-1	-1	-1	-1	0
4 15	412111	9	60	60	1	1	2	30	15	15	20	15	30	90	90	65
4 18	414111	5	-1	-1	-1	-1	-1	30	-1	-1	-1	-1	-1	-1	-1	0
4 16	525111	5	-1	-1	-1	-1	-1	3	-1	-1	-1	-1	-1	-1	-1	0
4 18	111121	5	0	0	4	6	5	5	0	0	0	0	0	0	0	0
4 18	212111	4	60	60	6	4	5	10	10	10	20	20	40	80	80	60
4 16	112121	5	0	0	4	6	6	5	0	0	0	0	0	0	0	0
4 16	112131	5	45	50	1	2	3	10	15	15	30	30	45	120	120	30
4 18	111131	4	0	0	4	2	2	10	0	0	0	0	0	0	0	80
4 18	113131	5	45	45	2	2	3	10	15	15	25	15	40	120	120	40
4 16	214112	5	-1	-1	1	1	2	15	-1	-1	-1	-1	-1	-1	-1	10
4 18	314111	4	-1	-1	-1	-1	-1	1.5	-1	-1	-1	-1	-1	-1	-1	0
4 18	214113	5	-1	-1	-1	-1	-1	30	-1	-1	-1	-1	-1	-1	-1	0
4 16	114112	9	-1	-1	-1	-1	-1	15	-1	-1	-1	-1	-1	-1	-1	0

3 YRS WITH 1ST IN. OF APC AND 3 YRS ON JEEP. I HAVE BEEN SQUAD LEADER AND SECTION LEADER.

DEMOGRAPHIC DATA

GRADE :E-6
MOS :11H5P
IN ARMY :12YR
IN ARTILLERY : 6YR
WHEN
COMBAT :N
ARTIL. COMBAT:N

SQUAD LEADER : WHEN 73 NOW YR 3
GUNNER :
LOADER :
DRIVER :

#SUPERVISED :>50

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

IMPROVED 10A VEHICLE CREW

			ORDINARY TASKS						CREW TASKS							
									SQUAD LEADER		GUNNER		DR	LOADER		GUNNER
CREW RESP	SYMP COMP	CON	CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	DESIG TGT AZ	CO DRIVER	SET ERECT SLEW	ACQUIR ARM FIRE	START DRIVE STOP	RELOAD	READY RACK	TARGET TRACKING ACCURACY
					SELF-STIMULATED VALUES											
USUAL TIME,SEC			15	20	2	30	5	10	4	2	17	7	20	60	60	90%
					CONFIDENCE= 9											
4 19	411111	3	30	30	1	20	5	10	7	5	20	10	25	90	90	80
4 19	515431	3	-1	-1	2	15	5	10	10	4	25	10	30	70	90	30
4 19	114111	3	40	45	1	10	3	10	0	0	20	10	25	90	90	60
4 19	515311	3	20	30	1	20	2	10	5	0	20	10	30	80	90	70
4 19	213111	4	15	25	2	20	3	10	5	4	20	10	25	70	80	80
4 19	413111	3	30	25	2	10	2	10	5	3	20	10	25	80	80	85
4 19	311111	3	25	30	1	20	2	10	0	4	20	10	0	80	80	60
4 19	313111	3	20	25	2	20	2	10	0	3	15	10	25	70	80	85
4 19	515223	3	30	30	1	10	2	15	5	5	25	10	25	90	90	0
4 19	414112	4	20	25	2	20	5	10	7	4	15	10	25	30	80	0
4 19	535111	4	20	25	2	20	5	10	5	5	25	8	25	95	80	0
4 19	112141	4	20	25	2	20	4	10	5	4	20	8	25	85	80	0
4 19	514111	4	30	30	1	10	2	10	5	8	20	10	30	90	90	0
4 19	313112	3	20	25	2	20	3	10	0	5	20	10	25	85	80	0
4 19	315113	2	25	30	1	15	3	15	5	8	25	15	30	85	90	85
4 19	513111	3	20	25	2	15	3	10	5	5	20	10	25	90	90	80
4 19	123111	4	20	25	2	15	3	10	5	5	20	10	25	80	80	80
4 19	334231	2	80	40	1	5	2	15	5	5	20	15	30	90	90	0
4 19	113111	4	20	25	2	15	4	10	0	4	20	10	25	90	90	0
4 19	521111	3	20	25	2	20	4	10	5	3	20	10	25	80	80	80
4 19	113121	3	30	40	1	10	2	10	0	4	20	15	30	80	80	80
4 19	211111	3	20	25	2	20	5	10	0	3	20	10	25	85	85	85
4 19	224111	3	30	30	1	10	1	10	0	4	20	10	25	80	80	80
4 19	415314	4	30	40	1	5	2	10	-1	5	20	10	-1	-1	-1	80
4 19	312111	3	20	25	2	20	4	10	0	4	20	10	25	-1	85	85
4 19	314112	3	30	35	1	10	1	10	0	4	20	10	-1	-1	80	80
4 19	314113	3	30	35	1	10	1	10	0	3	20	10	25	-1	-1	80
4 19	412111	3	25	30	1	20	3	5	0	3	20	10	25	80	80	80
4 19	414111	3	30	30	1	5	3	10	0	3	20	10	25	80	80	80
4 19	525111	4	30	30	1	10	2	10	5	3	20	10	25	80	80	80
4 19	111121	4	30	30	1	10	1	10	0	3	20	10	25	80	80	80
4 19	212111	3	30	30	1	15	2	10	0	3	20	10	25	80	80	80
4 19	112121	3	30	30	1	10	2	10	0	3	20	10	25	80	80	80
4 19	112131	3	30	30	1	10	2	10	5	4	25	10	25	80	80	80
4 19	111131	3	20	25	2	20	4	5	0	3	20	10	25	80	80	80
4 19	113131	2	30	30	1	15	4	5	6	3	20	10	25	-1	-1	80
4 19	214112	4	30	35	1	5	1	10	6	3	20	10	25	-1	-1	80
4 19	314111	3	30	30	1	10	2	5	6	3	20	10	25	80	80	80
4 19	214113	3	30	35	1	10	2	10	5	3	20	10	25	-1	-1	80
4 19	114112	4	30	30	1	5	1	5	6	3	20	10	25	80	80	80

PLT SGT ANTI TANK PLT, 6 GUNS 15 VEHICLES- ARTEP-

DEMOGRAPHIC DATA

				MOS YR	TOTAL YR
GRADE	:	SQUAD LEADER	: 12 75		2
MOS	:	GUNNER	: 9 75		3
IN ARMY	: 15YR	LOADER	: 6 74		3
	WHEN				
COMBAT	: N				
ARTIL. COMBAT	: N	#SUPERVISED	: 50		

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

IMPROVED TOW VEHICLE CREW IN ARTILLERY : 8YR DRIVER :

CREW	SIMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: SQUAD LEADER: DESIG TGT AZ	SQUAD LEADER: CO DRIVER	GUNNER: SET ERECT SLEW	GUNNER: ACQUIR ARM FIRE	DR: START DRIVE STOP	LOADER: RELOAD	LOADER: READY RACK	GUNNER: TARGET TRACKING ACCURACY
RESP USUAL	TIME,SEC		15	20	UNSTIPULATED				4	2	17	7	20	60	60	90%
4 20	411111	3	30	45	2	10	2	8	5	3	30	12	0	120	110	70
4 20	515431	4	80	120	1	1	1	20	8	4	45	16	35	-1	-1	30
4 20	114111	4	30	60	1	1	1	10	5	0	20	9	25	75	75	70
4 20	515311	4	-1	-1	-1	-1	-1	40	10	4	60	17	40	-1	-1	0
4 20	213111	4	17	22	3	50	6	7	0	0	19	8	0	70	70	85
4 20	413111	3	25	80	2	15	5	7	0	3	25	11	25	80	0	70
4 20	311111	4	20	25	2	30	5	7	0	0	19	9	0	60	80	70
4 20	313111	3	20	25	2	10	4	8	5	3	20	8	22	80	80	75
4 20	515223	5	-1	-1	-1	-1	-1	30	8	6	-1	29	-1	-1	-1	0
4 20	414112	3	30	40	2	10	4	8	0	4	22	9	25	60	80	70
4 20	535111	5	-1	-1	-1	-1	-1	18	16	6	60	26	60	-1	-1	0
4 20	112111	5	20	25	4	30	7	7	0	0	0	0	0	65	65	80
4 20	514111	3	30	40	1	1	-1	10	7	4	20	11	30	85	85	65
4 20	313112	3	45	110	-1	-1	-1	14	6	4	22	12	24	100	100	40
4 20	315113	3	-1	-1	-1	-1	-1	15	12	4	60	15	40	-1	-1	0
4 20	513111	3	80	120	1	2	1	10	7	4	30	12	26	95	90	60
4 20	123111	4	19	40	2	20	3	7	0	0	20	8	0	70	70	85
4 20	334231	4	-1	-1	-1	-1	1	10	6	4	30	12	35	90	90	15
4 20	113111	4	20	30	3	30	5	7	0	0	19	8	0	70	70	85
4 20	321111	3	45	60	-1	5	-1	8	8	4	35	14	35	85	85	60
4 20	113121	9	20	25	3	30	5	6	0	0	18	0	0	70	70	85
4 20	211111	3	20	60	2	5	-1	8	0	0	20	0	0	80	80	80
4 20	224111	3	35	65	2	2	1	7	8	4	35	19	35	130	130	60
4 20	415314	5	60	70	-1	-1	-1	20	9	5	40	15	40	-1	-1	0
4 20	312111	3	40	65	1	3	-1	10	8	4	25	10	20	80	80	65
4 20	314112	3	45	80	1	1	-1	10	8	4	36	14	44	136	135	0
4 20	314113	3	-1	-1	-1	-1	-1	15	12	4	40	21	48	-1	-1	0
4 20	412111	3	45	70	1	4	1	8	6	4	20	11	25	80	80	80
4 20	414111	3	-1	-1	-1	-1	-1	10	8	4	39	14	44	160	180	0
4 20	525111	3	-1	-1	-1	-1	-1	10	8	4	30	10	40	-1	-1	0
4 20	111121	3	20	25	2	25	2	8	0	0	10	9	0	70	70	85
4 20	212111	3	45	136	1.5	10	2	8	0	3	34	13	29	80	80	50
4 20	112121	3	30	40	2	10	4	8	0	0	20	10	25	80	80	70
4 20	112131	3	45	120	1	9	3	9	7	3	35	14	40	130	122	55
4 20	111131	3	45	120	1	9	3	9	7	3	35	14	40	130	20	999
4 20	113131	3	50	125	1	1	1	11	9	4	40	16	46	135	130	19
4 20	214112	9	-1	-1	-1	-1	-1	12	10	5	39	21	59	-1	-1	0
4 20	314111	3	40	45	2	2	1	8	9	3	30	12	30	80	80	20
4 20	214113	3	-1	-1	-1	-1	-1	15	12	5	50	21	60	-1	-1	0
4 20	114112	3	-1	-1	-1	-1	-1	15	12	5	40	21	60	-1	-1	0

I'M CURRENTLY ASSIGNED AS A DRILL SGT. HERE ON FT. BENNING. THE ONLY CONTACT IVE HAD WITH THE TOW AS BEEN IN SKILL LEVEL I TASKS THAT I HAD TO REINFORCE WITH MY TRAINEES.

DEMOGRAPHIC DATA

GRADE :E-6 SQUAD LEADER :
MOS :11H5X GUNNER :
IN ARMY : 7YR 6MO LOADER :
IN ARTILLERY : 7YR DRIVER :
CUMBAT :N
ARTIL. COMBAT:N #SUPERVISED : 50

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

IMPROVED 10M VEHICLE CREW

CREW RESP	SYMP COMP	LOW CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	SQUAD LEADER DESTG TGT AZ	CO DRIVER	GUNNER SET RECI SLEW	ACQUIR ARM FIRE	DR START DRIVE STOP	LOADER RELOAD	READY RACK	GUNNER TARGET TRACKING ACCURACY
		JOB-RELATED TASKS						CREW TASKS							
				SELF-STIMULATED VALUES											
USUAL TIME,SEC		15	20	7	60	10	12	4	2	17	7	20	60	60	90%
				CONFIDENCE= 8											
4 21 411111	4	0	24	3	40	8	15	0	0	0	0	0	65	75	36
4 21 515431	5	-1	-1	1	2	1	60	20	10	60	30	60	-1	-1	40
4 21 114111	3	60	90	2	4	4	20	15	0	25	15	35	120	180	60
4 21 515311	4	-1	-1	1	1	2	60	10	4	30	18	70	-1	-1	70
4 21 213111	3	25	30	3	5	4	20	6	0	25	12	0	70	100	85
4 21 413111	4	25	30	4	5	3	15	5	0	20	12	0	75	90	85
4 21 311111	4	0	0	6	10	6	12	0	0	0	0	0	0	0	87
4 21 313111	4	20	30	999	999	999	999	0	0	0	0	0	80	85	87
4 21 515223	5	-1	-1	1	-1	1	20	10	0	999	20	60	-1	-1	40
4 21 414112	4	-1	60	2	2	4	20	6	3	25	15	0	-1	-1	30
4 21 535111	4	-1	-1	1	2	1	12	6	4	24	15	60	-1	-1	40
4 21 112111	5	0	0	6	20	7	12	0	0	0	0	0	75	80	85
4 21 514111	4	20	30	3	3	4	12	0	0	24	10	0	120	120	70
4 21 313112	4	-1	60	3	2	4	12	7	0	30	15	40	-1	-1	65
4 21 313113	5	-1	-1	1	-1	-1	20	15	7	35	12	40	-1	-1	20
4 21 513112	4	85	60	3	4	5	17	7	5	30	15	40	90	120	70
4 21 123111	5	0	0	6	15	7	12	0	0	0	0	0	0	0	87
4 21 334231	4	-1	60	1	2	3	15	10	6	35	15	45	140	180	40
4 21 113111	5	0	0	6	20	10	12	0	0	0	0	0	0	0	89
4 21 521111	5	0	0	5	10	7	12	5	0	0	10	0	50	120	75
4 21 113121	4	0	0	4	10	7	12	0	0	0	0	0	70	90	85
4 21 211111	4	0	0	4	8	7	12	0	0	0	0	0	0	0	37
4 21 224111	4	30	40	3	4	4	12	0	0	0	12	25	75	90	82
4 21 415314	5	-1	-1	-1	-1	1	20	14	7	35	-1	60	-1	-1	10
4 21 312111	4	25	40	2	3	4	17	8	3	25	12	27	80	90	50
4 21 314112	5	-1	-1	-1	-1	1	12	30	10	40	-1	999	-1	-1	20
4 21 314113	5	-1	-1	-1	-1	1	17	14	7	50	30	45	-1	-1	30
4 21 412111	5	0	0	7	8	7	12	0	0	0	0	0	70	75	85
4 21 414111	4	30	45	3	1	2	17	7	0	30	18	45	90	120	40
4 21 525111	5	-1	-1	-1	-1	-1	25	12	10	60	40	60	-1	-1	10
4 21 111121	5	0	0	7	10	7	12	0	0	0	0	0	65	20	999
4 21 212111	4	0	0	999	7	7	12	0	0	0	0	0	0	0	85
4 21 112121	4	0	0	7	5	5	12	0	0	0	0	0	70	90	60
4 21 112131	4	40	70	2	1	3	20	7	5	25	17	35	120	180	50
4 21 111131	4	40	55	2	4	2	20	7	4	27	17	40	120	180	999
4 21 113131	4	25	30	2	1	2	17	7	5	27	17	40	100	130	85
4 21 214112	4	-1	-1	2	1	2	25	16	7	27	15	40	-1	-1	30
4 21 314111	5	25	40	3	2	4	20	0	0	20	10	25	70	95	75
4 21 214113	5	-1	-1	-1	-1	1	25	10	8	30	-1	50	-1	-1	10
4 21 114112	4	-1	-1	1	-1	1	20	10	5	27	14	60	-1	-1	40

SECTION SGT RESPONSIBLE FOR 6 E-4 AND 2 TOW VEHICLE, PRESENT DUTY IS PLT SGT OF 12 ITV AND 52 EM.

DEMOGRAPHIC DATA

GRADE :E-4
MOS :11H30
TH ARMY :11YR AND 6YR
TH ARTILLERY : 6YR
WHEN
COMBAT :N
ATTL. COMBAT:N

WHEN / HOW LONG
LD YR / YR MO
SQUAD LEADER : 7 74 / 6
GUNNER :
LOADER :
DRIVER :

#SUPERVISED : 50

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

IMPROVED TOW VEHICLE CREW

CREW RESP	SUPP COMP	LOW STAIRS	CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	SQUAD LEADER: DESIG TGT AZ	SQUAD LEADER: LD DRIVER	GUNNER: SET ERECT SLEW	GUNNER: ACQUIR AND FIRE	DR: START DRIVE STOP	LOADER: RELOAD	LOADER: READY RACK	GUNNER: TARGET TRACKING ACCURACY
USUAL TIME,SEC		15		20	SELF-STIPULATED VALUES 2	5	2	30	4	2	17	7	20	60	60	90%
					CONFIDENCE= 4											
4 22 411111	4	0		40	2	5	3	15	0	4	0	0	0	120	0	85
4 22 515451	4	-1		-1	-1	-1	-1	60	-1	-1	30	-1	-1	-1	-1	0
4 22 114111	4	120		60	1	3	2	15	6	3	0	0	45	130	100	85
4 22 515311	3	-1		-1	-1	-1	-1	15	30	100	20	60	35	-1	90	80
4 22 213111	3	60		150	3	5	3	15	0	0	90	30	35	0	70	40
4 22 413111	3	10		25	2	15	5	12	8	3	12	9	110	90	90	85
4 22 311111	3	0		0	4	20	6	15	0	0	0	10	0	0	0	80
4 22 313111	3	0		30	4	6	3	12	0	0	0	0	0	90	0	75
4 22 515223	4	30		-1	-1	3	-1	90	10	6	20	16	70	120	80	35
4 22 414112	3	30		220	2	5	3	12	12	6	0	0	60	120	95	63
4 22 535111	3	30		30	2	3	2	12	8	12	30	20	110	90	100	85
4 22 112111	4	0		0	4	18	5	10	0	0	0	0	0	0	0	88
4 22 514111	3	45		35	1	10	2	9	12	6	23	14	0	90	85	78
4 22 313112	4	-1		60	1	4	1	20	8	6	0	12	35	120	95	68
4 22 313113	4	-1		-1	-1	2	-1	20	12	9	120	145	100	-1	90	48
4 22 513111	4	20		30	3	10	3	15	6	5	25	9	30	90	90	80
4 22 123111	3	10		90	3	3	1	12	10	9	0	0	0	100	95	78
4 22 334231	4	-1		-1	-1	-1	-1	300	-1	-1	-1	-1	-1	-1	-1	0
4 22 113111	3	0		0	4	15	4	6	0	0	0	0	0	0	0	89
4 22 321111	3	30		25	3	6	2	9	0	0	0	0	0	0	0	80
4 22 113121	3	20		30	3	15	4	6	0	0	0	0	0	0	0	82
4 22 211111	3	0		0	4	12	4	4	0	0	0	0	0	0	0	80
4 22 224111	3	20		30	4	10	3	9	9	6	0	0	25	100	90	0
4 22 415314	3	60		70	2	8	3	9	15	9	0	0	25	90	70	88
4 22 312111	3	10		26	3	12	4	5	0	0	0	0	0	75	80	89
4 22 314112	3	30		26	1	4	1	12	9	6	31	22	40	80	90	75
4 22 314113	3	30		40	1	12	1	6	9	6	34	9	30	160	120	70
4 22 412111	3	0		0	4	10	4	6	0	0	0	0	0	0	0	80
4 22 414111	3	40		25	2	12	4	9	0	0	0	0	0	70	80	85
4 22 525111	3	40		50	2	8	2	9	8	9	34	16	30	90	95	70
4 22 111121	3	0		0	4	15	4	6	0	0	0	0	0	0	0	0
4 22 212111	3	10		25	2	9	2	9	0	0	20	12	30	65	70	80
4 22 112121	3	0		25	3	12	4	6	0	0	0	0	0	0	0	0
4 22 112131	3	30		25	2	12	2	12	12	9	36	21	35	100	95	70
4 22 111131	3	40		35	2	6	1	12	19	12	30	21	35	80	70	65
4 22 113131	3	40		45	1	3	2	9	12	10	26	19	35	70	80	60
4 22 214112	3	40		50	3	6	2	12	0	0	30	18	40	90	80	70
4 22 314111	3	30		45	1	3	1	12	19	12	38	14	35	90	90	65
4 22 214113	3	35		35	2	2	-1	15	12	10	40	20	45	95	95	60
4 22 114112	3	30		40	2	1	2	15	15	9	26	14	40	95	95	70

I AM CURRENTLY AN ITV SECTION LEADER IN A COHORT UNIT. I HAVE TRAINED SOLDIERS ON ALL DIFFERENT MODE OF TOW'S. I HAVE BEEN A TOW

DEMOGRAPHIC DATA

			WHEN (MO YR)	HOW LONG (YR MO)
GRADE	:E-6	SQUAD LEADER :	75	7
MOS	:11H5HEP	GUNNER :	73	6
IN ARMY	:10YR 6MO	LOADER :	74	5
IN ARTILLERY	:10YR 6	DRIVER :	74	6
	WHEN			
COMBAT	:N			
ARTIL. COMBAT	:N	#SUPERVISED : 50		

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

IMPROVED TOW VEHICLE CREW

CREW RESP	SYMP CONV	LOW CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOARDS	OPEN LOCK	SQUAD LEADER DESIG TGT AZ	SQUAD LEADER DO DRIVER	GUNNER SET ERECT SLEW	GUNNER ACQUIR ARM FIRE	DR START DRIVE STOP	LOADER RELOAD	LOADER READY RACK	GUNNER TARGET TRACKING ACCURACY
		ORDINARY TASKS						CREW TASKS							
				SELF-STIMULATED VALUES											
USUAL TIME,SEC		15	20	0	60	15	7	4	2	17	7	20	60	60	90%
				CONFIDENCE= .8											
4 23 411111	4	0	23	3	45	5	9	0	0	20	10	0	70	70	60
4 23 515431	3	-1	-1	1	-1	-1	60	60	15	35	25	35	-1	-1	0
4 23 414111	3	20	35	3	20	3	10	10	5	27	15	85	120	90	20
4 23 315311	3	-1	250	1	1	1	20	30	10	25	15	25	120	50	20
4 23 213111	4	17	23	5	50	12	8	0	0	0	0	0	90	0	75
4 23 413111	4	30	35	3	30	12	10	0	3	21	9	25	90	70	77
4 23 311111	3	40	60	20	15	4	15	10	10	30	15	25	130	90	66
4 23 313111	4	90	40	2	5	3	10	15	15	30	17	30	140	90	60
4 23 515223	4	-1	-1	-1	-1	-1	30	60	30	70	30	60	-1	-1	23
4 23 414112	3	-1	-1	1	1	1	25	30	15	40	20	60	-1	-1	20
4 23 535111	4	-1	-1	-1	-1	1	30	45	20	30	30	60	-1	-1	10
4 23 112111	4	0	0	5	50	14	9	0	0	0	0	0	70	65	79
4 23 314111	4	25	30	3	30	3	10	20	10	23	12	0	100	80	60
4 23 313112	3	30	30	2	20	4	12	15	10	25	12	23	180	90	40
4 23 313113	4	-1	45	-1	3	1	15	25	15	30	22	30	-1	120	15
4 23 513111	4	25	30	2	25	3	12	12	8	25	15	25	120	90	70
4 23 125111	4	23	27	4	40	6	10	8	4	22	12	25	90	75	80
4 23 334231	4	-1	120	1	5	2	17	60	30	-1	-1	45	-1	120	25
4 23 113111	4	10	23	4	45	12	10	0	0	0	0	0	75	65	87
4 23 521111	4	30	37	2	20	3	10	20	8	30	14	27	140	90	45
4 23 113121	4	20	25	3	35	7	8	8	0	20	10	0	95	65	77
4 23 211111	5	17	25	5	55	13	8	0	0	0	0	0	66	0	83
4 23 224111	4	25	33	4	40	3	10	15	0	25	13	0	145	70	79
4 23 415314	4	45	45	1	5	1	20	-1	30	45	40	45	-1	-1	5
4 23 312111	4	20	27	3	25	3	12	0	0	0	0	0	90	75	80
4 23 314112	3	-1	45	2	3	1	15	25	12	30	21	30	-1	-1	20
4 23 314113	4	-1	60	1	-1	1	18	25	15	40	23	45	-1	120	50
4 23 412111	3	25	30	3	10	2	15	30	10	20	15	27	90	75	67
4 23 414111	4	25	35	1	5	1	15	30	10	30	15	25	140	90	45
4 23 525111	4	-1	-1	1	-1	1	25	45	15	45	15	40	-1	-1	15
4 23 111121	4	0	0	5	45	13	10	0	0	0	0	0	70	0	87
4 23 212111	4	0	0	4	35	6	10	0	0	0	0	0	70	0	85
4 23 112121	4	20	0	3	40	3	10	0	0	0	0	0	80	67	70
4 23 112131	3	25	30	2	30	3	10	25	8	30	12	25	90	65	80
4 23 111131	4	0	0	3	20	3	10	10	0	23	12	0	70	0	75
4 23 113131	4	20	28	2	25	2	10	0	0	23	10	0	75	65	70
4 23 214112	4	-1	60	1	3	1	18	30	15	30	20	30	-1	-1	30
4 23 314111	3	30	30	2	15	3	15	8	0	23	15	0	125	80	70
4 23 214113	4	30	45	1	3	1	15	25	10	30	20	25	130	80	30
4 23 114112	4	20	25	3	40	3	10	15	6	23	15	25	120	80	80

I HAVE BEEN A PLATOON SERGEANT M220-JEEPS WITH THE 101ST FOR THE PAST 8 MTS. I WAS APLATOON SERGENT M901 WITH 3RD ARMOR DIVISION PRIOR TO GETTING TO 101ST.

DEMOGRAPHIC DATA

				WHEN HO	YR	HOW LONG YR	HO
GRADE	:E-6	SQUAD LEADER	:		78		6
MOS	:11B	GUNNER	:				
IN ARMY	:10YR 3MO	LOADER	:				
IN ARTILLERY	: 4YR	DRIVER	:				
	WHEN						
COMBAT	:N						
ARTIL. COMBAT	:N	#SUPERVISED	:>50				

IMPROVED 10m VEHICLE CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

	ORDINARY TASKS						CREW TASKS							
							SQUAD LEADER		GUNNER		DR	LOADER		GUNNER
CREW RESP	SYMP CON PUMP	CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	DESIG TGT AZ	CO DRIVER	SET ERECT SLEW	ACQUIR ARM FIRE	START DRIVE STOP	RELOAD	READY RACK	TARGET TRACKING ACCURACY
				SELF-STIMULATED VALUES											
USUAL TIME,SEC	15	20		4	30	10	20	4	2	17	7	20	60	60	90%
				CONFIDENCE= 8											
4 24 411111 3	21	30		2.5	40	25	40	5	3	20	9	21	150	80	75
4 24 515431 3	29	120		1	15	18	20	10	8	30	15	30	190	100	50
4 24 114111 3	17	30		3	20	35	20	5	0	19	8	0	120	100	80
4 24 515311 3	30	40		1	5	10	30	6	4	24	10	25	180	120	50
4 24 213111 3	20	25		2	10	20	25	6	3	19	8	22	90	90	70
4 24 413111 3	999	990		2	10	18	25	5	3	19	9	21	90	75	80
4 24 311111 3	20	35		2	15	30	35	6	3	20	10	22	90	90	80
4 24 313111 3	20	30		2	15	30	35	6	3	20	10	22	90	90	75
4 24 515223 3	40	60		1	5	2	30	8	5	35	30	30	220	180	50
4 24 414112 0	25	40		2	10	10	25	6	4	20	10	22	90	69	75
4 24 533111 3	20	25		3	5	10	20	5	3	20	10	22	80	90	80
4 24 112111 9	17	28		3.5	55	20	30	5	3	16	8	0	80	70	89
4 24 514111 9	35	35		1	5	15	30	6	3	20	9	22	120	100	65
4 24 313112 3	25	40		2	5	10	35	6	4	20	15	35	120	120	60
4 24 315113 3	30	45		1	4	5	40	9	19	30	15	40	180	180	50
4 24 513111 3	24	30		3	15	20	30	6	4	19	9	22	100	90	75
4 24 123111 3	25	30		3	10	15	15	0	0	0	0	0	90	70	80
4 24 334231 3	25	40		1	4	8	30	7	5	24	18	30	180	120	55
4 24 113111 8	20	25		4	15	20	10	5	0	18	0	0	70	65	80
4 24 521111 3	20	25		3	10	15	25	6	4	20	9	23	90	70	75
4 24 113121 3	17	25		4	15	15	25	5	0	19	8	0	70	65	85
4 24 211111 3	18	23		4	15	17	15	5	0	18	8	0	75	65	80
4 24 224111 3	25	30		2	10	10	25	7	0	20	12	25	180	120	60
4 24 415314 3	85	60		1	4	3	60	15	10	24	15	30	180	120	35
4 24 312111 3	20	25		4	15	15	20	5	3	19	8	0	70	65	70
4 24 314112 3	20	25		3	10	15	30	6	4	22	9	22	120	90	70
4 24 314113 3	30	40		3	5	5	30	6	4	19	12	25	180	90	60
4 24 412111 3	20	25		3	10	10	25	5	3	19	8	0	120	90	65
4 24 414111 3	20	25		3	10	10	25	5	3	19	8	0	120	90	75
4 24 523111 3	20	25		3	10	10	25	6	4	20	9	22	120	90	60
4 24 111121 3	20	22		4	15	10	25	0	3	19	8	21	90	65	75
4 24 212111 3	20	25		7	10	10	25	5	3	19	8	0	120	90	70
4 24 112121 3	20	21		4	15	12	20	0	3	19	8	21	90	65	75
4 24 112131 3	20	22		4	15	15	25	0	3	19	8	21	90	65	75
4 24 111131 3	20	22		4	15	15	25	0	3	18	9	21	90	65	75
4 24 113131 3	20	22		4	15	10	25	0	3	18	10	22	90	90	75
4 24 214112 3	20	25		4	10	0	25	5	3	19	8	0	120	90	75
4 24 314111 3	20	25		4	10	5	20	5	3	19	8	22	120	90	78
4 24 214113 3	25	40		3	5	7	25	6	4	20	14	25	180	120	60
4 24 114112 3	20	25		4	15	12	20	5	3	19	8	0	120	90	75

I AM A BATTL. LEADER SGT IN EUROPE WHERE I HAVE 3 TOW TIV SECTIONS & 1TV'S THAT I AM RESPONSIBLE TO LEAD AND TRAIN I HAVE BEEN IN THAT POSITION 1 YEAR. + 10 YEARS ACTIVE, 3 YEARS RESERVE, 11H, 10A'S ** KVN, HELICOPTER DOOR GUNNER *** SECTION LEADER OR HIGHER 76-A.

DEMOGRAPHIC DATA

			WHEN NO YR	HOW LONG YR MO
GRADE	:E-6	SQUAD LEADER :	75	1 6
MOS	:11H	GUNNER :	72	1
IN ARMY	:10YR	* LOADER :		
IN ARTILLERY	:11YR	DRIVER :		
	WHEN			
COMBAT	:Y 70 *			
ARTIL. COMBAT	:N	#SUPERVISED :>50*		

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

IMPROVED TOW VEHICLE CREW

CREW RESP.	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: SQUAD LEADER: DESIG TGT AZ	CO DRIVER	GUNNER: SET ERECT SLEW	ACQUIR ARM FIRE	DR: START DRIVE STOP	LOADER: RELOAD	READY RACK	GUNNER: TARGET TRACKING ACCURACY
			SELF-STIPULATED VALUES													
NORM	TIME,SEC		15	20	9	90	100	10	4	2	17	7	20	60	60	90%
					CONFIDENCE= 4											
4	25	411111	4	16	22	8.5	85	95	10	0	0	18	0	0	65	65	87
4	25	515431	4	-1	-1	1	-1	2	45	8	4	36	15	30	210	190	35
4	25	114111	4	20	30	4	10	20	11	0	0	19	8	22	65	70	89
4	25	515711	4	-1	-1	0.5	2	2	25	5	3	23	14	22	200	180	65
4	25	213111	4	17	22	8	80	90	10	0	0	0	0	0	62	62	0
4	25	413111	4	16	25	8	70	60	12	0	0	16	8	21	62	63	89
4	25	311111	4	16	21	9	85	95	10	0	0	0	0	0	0	0	0
4	25	313111	4	0	0	9	85	90	10	0	0	0	0	0	0	0	0
4	25	515223	4	-1	-1	-1	2	1	35	6	3	25	10	30	200	200	40
4	25	414112	4	90	120	1	10	10	12	5	0	19	9	22	90	90	60
4	25	535111	4	-1	-1	-1	2	1	30	7	4	30	15	25	240	240	50
4	25	112111	4	0	0	8.5	85	80	10	0	0	0	0	0	0	0	0
4	25	514111	4	45	50	5	40	20	12	5	3	19	8	22	120	120	75
4	25	313112	4	50	100	3	30	40	15	0	0	0	0	22	100	100	80
4	25	315113	4	280	300	-1	2	1	20	10	10	25	15	29	-1	-1	40
4	25	513111	4	45	60	4	40	57	15	6	3	21	10	25	90	90	80
4	25	123111	4	240	300	2	30	10	13	0	0	0	0	25	90	90	65
4	25	334231	4	-1	-1	-1	-1	-1	15	6	8	23	10	30	120	120	30
4	25	113111	4	19	29	8	80	80	10	0	0	0	0	0	0	0	0
4	25	521111	4	20	30	8	60	80	11	0	0	0	0	21	65	65	80
4	25	113121	4	20	25	7	70	60	12	0	0	0	0	21	62	62	80
4	25	211111	4	0	0	9	70	70	11	0	0	0	0	0	0	0	65
4	25	224111	4	60	100	4	2	50	15	5	3	20	10	23	90	90	60
4	25	415314	4	-1	-1	-1	-1	-1	60	20	10	60	-1	40	-1	-1	5
4	25	312111	4	40	50	3	10	20	20	0	0	0	0	21	79	78	80
4	25	314112	4	60	100	2	15	20	15	6	5	25	10	23	90	90	70
4	25	314113	4	-1	100	-1	5	5	15	10	8	30	15	30	240	240	999
4	25	412111	4	30	40	7	60	30	20	0	0	0	0	0	70	70	76
4	25	414111	4	60	120	3	15	5	12	0	0	19	0	23	90	90	78
4	25	525111	4	-1	-1	-1	1	1	19	10	6	25	12	25	-1	-1	0
4	25	111121	4	0	0	9	85	95	10	0	0	0	0	0	0	0	89
4	25	212111	4	30	40	7	60	40	12	0	0	0	0	22	90	90	60
4	25	112121	4	20	30	8	70	60	12	0	0	0	0	0	65	65	80
4	25	112131	4	25	35	5	40	30	12	6	0	19	10	22	70	70	80
4	25	111131	4	25	45	3	20	20	15	6	0	20	9	21	85	85	69
4	25	113131	4	25	35	4	15	20	19	0	0	18	10	25	90	90	63
4	25	214112	4	30	50	4	20	20	19	5	0	19	10	22	95	95	79
4	25	314111	4	30	50	4	20	20	15	6	5	20	10	22	90	90	60
4	25	214113	4	-1	-1	-1	-1	-1	20	10	7	30	15	40	-1	-1	30
4	25	114112	4	-1	-1	-1	-1	-1	20	9	5	25	10	30	180	180	40

HAVE SERVED AS A GROUP LEADER OF A GROUP WHICH CONSISTED OF APPROXIMATELY 21 PERSONNEL, 3 SECTIONS, 6 TOW WEAPON SYSTEMS. SYSTEMS ARE MOUNTED ON M151 A2. I HAVE USED THE TOW IN THE M113, 1/2 TON MULE, AND THE M151 1/4 TON.

DEMOGRAPHIC DATA — WHEN — NO YR — YR NO

GRADE :E-6 — SQUAD LEADER : 75 0
MOS :11B30 — GUNNER :
IN ARMY : 9YR 9MO — LOADER :
IN ARTILLERY : 5YR 9 — DRIVER :
WHEN
COMBAT :N
ARTIL. COMBAT:N — #SUPERVISED : 20

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

IMPROVED TOW VEHICLE CREW

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOARDS	OPEN LOCK	CREW TASKS — SQUAD LEADER: DESIG TGT AZ	CD DRIVER	GUNNER: SET RECI SLEW	ACQUIR ARM FIRE	DR: START DRIVE STOP	LOADER: RELOAD	READY RACK	GUNNER: TARGET TRACKING ACCURACY
USUAL TIME,SEC			15	20	SELF-STIPULATED VALUES 3	60	10	15	4	2	17	7	20	60	60	90%
					CONFIDENCE= 4											
4 26	411111	4	0	0	3	60	50	15	0	0	20	10	0	0	0	88
4 26	515431	5	-1	-1	-1	2	1	60	8	0	-1	30	-1	-1	-1	10
4 26	114111	4	45	60	1	10	3	17	0	0	25	10	0	120	120	75
4 26	515311	4	-1	-1	-1	2	1	40	10	4	-1	21	60	-1	-1	60
4 26	213111	4	30	30	1	30	5	20	0	0	20	10	0	90	120	78
4 26	413111	4	20	25	2	30	6	17	0	0	20	0	0	70	70	85
4 26	311111	4	20	25	2	40	5	17	0	0	16	8	0	70	70	88
4 26	313111	4	30	40	1	30	4	20	0	0	34	14	0	90	90	80
4 26	515223	5	-1	-1	-1	-1	-1	120	0	0	-1	21	0	-1	-1	15
4 26	414112	4	30	40	1	10	2	30	8	6	34	14	40	150	150	45
4 26	535111	4	-1	-1	-1	2	1	60	12	6	40	25	40	240	240	40
4 26	112111	4	20	25	2	45	4	17	0	0	0	0	0	0	0	89
4 26	514111	4	45	60	1	20	3	30	0	0	20	12	0	80	80	85
4 26	313112	4	-1	-1	-1	2	1	40	12	4	60	28	60	-1	-1	50
4 26	313113	4	60	80	1	5	1	40	0	0	28	18	30	120	140	60
4 26	513111	4	35	43	1	20	3	30	8	6	34	21	25	150	160	65
4 26	123111	4	30	40	2	20	5	30	0	0	23	10	0	120	130	70
4 26	334231	4	-1	-1	-1	2	-1	60	12	9	50	28	40	-1	-1	30
4 26	113111	4	0	0	3	55	8	16	0	0	0	0	0	0	0	80
4 26	521111	4	0	0	3	50	8	17	0	0	0	0	0	90	90	85
4 26	113121	4	0	25	3	45	6	17	0	0	0	0	0	0	0	82
4 26	211111	4	20	25	3	45	5	20	0	0	0	0	0	80	90	78
4 26	224111	4	25	30	1	30	3	30	0	0	20	12	0	100	100	60
4 26	415314	4	-1	-1	-1	5	1	40	0	0	30	14	0	80	-1	47
4 26	512111	4	30	60	2	15	2	30	0	0	40	21	0	80	90	70
4 26	314112	4	80	90	1	2	1	45	16	8	70	28	40	-1	-1	10
4 26	314113	4	80	90	1	2	1	40	16	8	70	28	40	-1	-1	10
4 26	412111	4	30	40	2	30	1	30	0	0	0	0	0	120	120	70
4 26	414111	4	40	50	1	30	1	30	0	0	0	0	0	130	140	60
4 26	525111	4	-1	-1	-1	2	1	60	0	0	50	14	60	-1	-1	50
4 26	111121	4	20	40	2	30	2	18	0	0	0	0	0	100	100	68
4 26	212111	4	45	60	1	10	1	18	0	0	0	0	0	180	180	70
4 26	112121	4	30	40	1	30	2	20	0	0	0	0	0	120	120	75
4 26	112131	4	-1	-1	-1	2	1	30	8	4	34	14	40	-1	-1	50
4 26	111131	4	30	-1	1	5	1	30	0	0	34	0	0	120	120	65
4 26	113131	4	-1	-1	1	2	1	40	8	6	50	28	60	-1	-1	40
4 26	214112	4	50	-1	1	3	1	45	12	6	50	21	60	-1	-1	35
4 26	314111	4	45	80	1	5	2	20	8	4	20	14	22	80	90	70
4 26	214113	4	-1	-1	-1	1	1	60	8	4	-1	21	40	-1	-1	37
4 26	114112	4	30	40	1	15	2	30	0	0	0	0	0	80	80	75

I'VE WORKED WITH JEEP MOUNTED TOW AND M113 TOW, TOW CAP VEHICLE, MY PRESENT JOB IS PNCOC INSTRUCTOR

DEMOGRAPHIC DATA

				WHEN MO	WHEN YR	HOW LONG YR	HOW LONG MO
GRADE	:E-6	SQUAD LEADER	:	76	4		
MOS	:11H3H	GUNNER	:	76			8
IN ARMY	: 9YR 7MO	LOADER	:	75			6
IN ARTILLERY	: 8YR	DRIVER	:	75			6
	WHEN						
COMBAT	:N						
ARTIL. COMBAT	:N	%SUPERVISED : 50					

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

IMPROVED TOW VEHICLE CREW

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOARDS	OPEN LOCK	CREW TASKS: SQUAD LEADER: DESIG IGT AZ	LD DRIVER	GUNNER: SET LRECT SLEW	ACQUIR ANM FIRE	DR: START DRIVE STOP	LOADER: RELOAD	READY RACK	GUNNER: TARGET TRACKING ACCURACY
			SELF-STIPULATED VALUES													
USUAL TIME,SEC			15	20	6	45	5	30	4	2	17	7	20	60	60	90%
			CONFIDENCE= %													
4 27 411111	4		20	25	5	30	8	10	0	0	0	0	0	0	0	88
4 27 515431	4		-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	999
4 27 114111	3		30	40	2	10	4	25	5	0	19	9	30	70	90	85
4 27 515311	4		-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4 27 213111	4		0	0	5.5	30	5	20	0	0	0	0	0	0	0	0
4 27 413111	3		20	30	6	35	6	25	6	3	20	10	23	65	70	80
4 27 311111	4		20	25	5	30	5	20	6	3	21	10	23	0	0	85
4 27 313111	4		15	90	2	20	5	30	8	4	20	10	35	90	90	65
4 27 513223	4		-1	-1	1	-1	-1	60	-1	-1	-1	-1	-1	-1	-1	0
4 27 414112	3		40	100	4	15	3	20	12	4	25	15	40	70	120	60
4 27 535111	4		-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4 27 112111	3		0	0	6	45	5	20	0	0	0	0	0	0	0	0
4 27 514111	3		25	40	4	30	3	25	6	4	24	12	25	65	75	60
4 27 313112	3		30	40	4	20	5	25	8	4	20	10	25	0	80	60
4 27 313113	3		30	40	3	20	3	30	8	4	20	10	25	65	80	70
4 27 513111	3		25	35	4	25	4	20	8	4	20	10	25	0	75	80
4 27 123111	3		20	30	5	30	3	20	0	0	19	9	25	0	0	999
4 27 334231	4		-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4 27 113111	3		20	30	4	40	5	20	0	0	18	8	22	0	0	0
4 27 521111	4		0	0	5	60	5	20	0	0	0	0	0	0	0	0
4 27 113121	4		0	0	5	45	5	20	0	0	0	0	0	0	0	0
4 27 211111	4		0	0	5	45	5	20	0	0	0	0	0	0	0	0
4 27 224111	4		25	30	4	30	5	20	6	4	19	10	25	65	75	80
4 27 415314	4		-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	40
4 27 312111	4		45	90	2	20	5	30	8	4	20	10	35	90	90	65
4 27 314112	3		30	40	4	20	5	25	8	4	20	10	25	0	80	60
4 27 314113	3		-1	-1	-1	10	1	20	6	4	19	12	30	-1	-1	70
4 27 412111	4		0	0	6	50	5	20	0	0	0	0	0	0	0	0
4 27 414111	4		20	25	4	20	5	20	0	0	19	9	22	0	0	0
4 27 525111	3		-1	-1	-1	10	-1	20	8	6	25	12	25	-1	-1	70
4 27 111121	4		0	0	6	40	5	20	0	0	0	0	0	0	0	0
4 27 212111	4		16	25	4	40	5	20	0	0	0	0	0	0	65	85
4 27 112121	4		0	0	5	40	5	20	0	0	0	0	0	0	0	0
4 27 112131	4		20	30	4	35	4	20	0	0	0	0	0	0	0	0
4 27 111131	4		0	0	6	40	5	20	0	0	0	0	0	0	0	0
4 27 113131	3		20	30	4	30	5	20	5	3	19	8	0	0	0	88
4 27 214112	3		25	40	2	15	3	20	0	0	0	0	0	0	70	88
4 27 314111	3		20	30	4	20	4	20	5	3	18	9	22	0	70	80
4 27 214113	3		-1	-1	-1	10	-1	20	6	4	20	10	24	65	80	65
4 27 114112	3		-1	-1	-1	-1	-1	20	6	4	20	12	24	-1	-1	65

IN 1975 I STARTED WITH THE GROUND MI. SYSTEM AND WORKED WITH IT MOSTLY AS A SQD. LD. AND SECTION SGT. I STARTED WITH THE I V IN JAN PI UNTIL NOW AS A SECTION SGT IN GERMANY

DEMOGRAPHIC DATA

				WHEN	HOW LONG
				MO YR	YR MO
GRADE	:E-6	SQUAD LEADER	:	75	0
MOS	:11H5OL9	GUNNER	:	75	6
IN ARMY	:14YR	LOADER	:		
IN ARTILLERY	: 6YR	DRIVER	:		
	WHEN				
COMBAT	:N				
ARTIL. COMBAT	:N	#SUPERVISED : 50			

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

IMPROVED 10W VEHICLE CREW

				UPDTNARY TASKS				CREW TASKS							
								SQUAD LEADER		GUNNER		DR	LOADER		GUNNER
CREW RESP	SYMP COMP	CON CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	DESIG TGT AZ	CO DRIVER	SET ERECT SLEW	ACQUIR ARM FIRE	START DRIVE STOP	RELOAD	READY RACK	TARGET TRACKING ACCURACY
				SELF-STIPULATED VALUES											
USUAL TIME,SEC		15	20	10	45	5	15	4	2	17	7	20	60	60	90%
				CONFIDENCE= 3											
4 26 411111	3	20	30	5	45	5	20	8	4	25	12	0	0	0	75
4 28 515431	4	-1	-1	1	10	1	90	15	8	35	20	30	-1	-1	45
4 28 114111	4	35	60	1	8	2	90	10	8	30	25	30	-1	-1	65
4 28 515311	4	-1	-1	1	2	1	60	10	5	30	14	25	-1	-1	60
4 26 213111	4	25	35	2	10	5	60	8	4	25	12	25	180	180	65
4 28 413111	4	30	60	1	5	5	10	8	4	20	10	25	0	0	65
4 28 311111	3	30	60	2	10	5	10	8	4	21	10	25	0	0	65
4 28 313111	3	30	60	2	5	2	10	8	4	22	14	0	-1	-1	65
4 26 515223	4	60	60	1	2	2	60	15	10	60	60	30	-1	-1	999
4 28 414112	4	60	60	1	2	1	60	10	6	35	25	25	-1	-1	999
4 26 535111	3	60	60	1	2	1	15	8	7	35	15	25	-1	-1	60
4 28 112111	4	20	25	3	15	3	8	8	4	21	10	0	0	0	999
4 28 514111	4	20	25	1	5	3	10	6	4	25	15	0	-1	-1	65
4 28 313112	3	20	25	1	5	1	10	8	4	20	10	0	-1	-1	60
4 28 315113	4	20	25	2	5	2	10	8	4	30	14	30	-1	-1	60
4 28 513111	3	20	25	1	5	2	10	10	6	30	14	0	70	70	65
4 28 123111	4	20	25	2	10	3	10	8	4	20	10	0	0	0	999
4 28 334231	4	30	30	1	2	1	10	10	6	30	25	-1	-1	-1	55
4 26 113111	4	20	25	3	20	4	10	6	4	20	10	0	0	0	75
4 28 521111	4	20	22	4	15	5	10	0	0	0	14	0	0	0	75
4 26 113121	4	20	25	1	10	2	10	6	4	19	10	0	0	0	75
4 26 211111	4	20	25	1	5	3	10	0	0	20	10	0	0	0	70
4 26 224111	3	20	25	2	10	5	10	8	4	21	10	0	-1	-1	999
4 26 415314	3	35	45	1	4	1	15	15	15	60	60	-1	-1	-1	50
4 28 312111	3	25	30	1	10	4	15	10	10	14	10	0	0	0	70
4 26 314112	3	30	30	2	10	3	10	10	10	25	20	-1	-1	-1	65
4 28 314113	4	35	45	1	3	1	25	15	10	35	30	-1	-1	-1	45
4 26 412111	4	20	25	3	15	3	20	8	4	25	20	0	0	0	75
4 28 414111	4	20	25	1	5	4	15	8	0	25	15	25	-1	-1	65
4 26 525111	4	30	40	-1	5	1	20	10	8	30	20	-1	-1	-1	50
4 26 111121	4	16	22	4	20	5	10	5	3	20	10	0	0	0	80
4 28 212111	4	20	23	1	10	2	10	8	4	18	10	0	0	0	75
4 28 112121	4	16	22	3	15	4	10	8	4	19	10	0	0	0	80
4 26 112131	3	20	23	1	5	1	15	6	4	20	12	0	0	0	60
3 26 111131	3	20	22	1	10	2	25	8	4	20	10	0	0	0	65
4 26 113131	3	20	25	1	10	1	20	8	4	19	10	0	0	0	70
4 28 214112	4	20	25	1	5	1	25	8	4	25	20	-1	-1	-1	60
4 28 314111	3	25	30	1	10	1	15	8	4	24	20	-1	-1	-1	60
4 26 214113	4	30	40	1	5	1	30	8	4	20	10	-1	-1	-1	60
4 26 114112	4	30	40	1	10	4	30	10	6	35	30	-1	-1	-1	50

TVC WORKED WITH THE TOW HPM SYSTEM ON A REGULAR 113, AN IMPROVED 113 THEN ON THE ITV. * 1 TIME

DEMOGRAPHIC DATA

			WHEN (MO YR)	HOW LONG (YR MO)
GRADE	:E-7	SQUAD LEADER :	75	4
MOS	:11H4X	GUNNER :	79	
IN ARMY	:12YR	LOADER :		
IN ARTILLERY	: 5YR	DRIVER :		
	WHEN			
COMBAT	:Y 71			
ARTIL. COMBAT	:N	#SUPERVISED :>50		

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

IMPROVED 10m VEHICLE CREW

CREW RESP	SYMP COMP	ORDINARY TASKS: CON LEIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: SQUAD LEADER: DESTG IGT AZ	CO DRIVER	GUNNER: SET ERECT SLEW	ACQUIR ARM FIRE	DR: START DRIVE STOP	LOADER: RELOAD	READY RACK	GUNNER: TARGET TRACKING ACCURACY
		SELF-STIPULATED VALUES													
USUAL TIME,SEC		15	20	4	30	5	10	4	2	17	7	20	60	60	90%
				CONFIDENCE= 4											
4 30	411111 3	45	60	2	30	3	60	10	0	30	30	0	120	120	85
4 30	515431 2	160	300	-1	-1	-1	60	30	10	60	-1	-1	-1	-1	50
4 30	114111 3	-1	-1	-1	-1	-1	-1	0	0	60	60	-1	-1	-1	60
4 30	515311 3	-1	-1	-1	-1	-1	-1	30	20	-1	-1	-1	-1	-1	30
4 30	213111 3	45	60	2	10	2	10	6	0	60	15	30	90	90	85
4 30	413111 3	30	60	2	10	2	60	6	0	30	15	30	120	100	80
4 30	311111 2	-1	-1	-1	5	1	60	6	4	60	60	30	90	100	80
4 30	313111 3	60	120	2	5	2	15	30	10	120	35	30	100	120	80
4 30	515223 3	-1	-1	-1	-1	-1	-1	-1	15	-1	-1	-1	-1	-1	0
4 30	414112 3	-1	-1	-1	-1	-1	-1	15	8	60	45	-1	-1	-1	50
4 30	535111 2	-1	-1	-1	-1	-1	45	60	10	-1	-1	-1	-1	-1	10
4 30	112111 3	100	40	1	5	4	40	6	0	35	30	40	120	100	85
4 30	514111 3	-1	-1	-1	-1	-1	60	15	4	60	60	-1	-1	-1	60
4 30	313112 3	-1	-1	-1	-1	-1	-1	15	5	120	70	-1	-1	-1	30
4 30	315113 3	-1	-1	-1	-1	-1	-1	50	10	-1	-1	-1	-1	-1	1
4 30	513111 3	120	-1	1	2	-1	30	6	4	100	60	60	120	120	70
4 30	123111 3	-1	-1	-1	-1	-1	-1	10	4	60	120	60	180	180	40
4 30	334231 3	-1	-1	-1	-1	-1	-1	50	6	-1	-1	-1	-1	-1	0
4 30	113111 3	120	60	1	1	-1	30	8	0	45	35	40	120	100	85
4 30	521111 3	-1	-1	1	3	1	30	16	4	60	60	60	120	100	70
4 30	113121 3	-1	-1	-1	-1	-1	60	6	4	145	40	60	-1	-1	60
4 30	211111 3	60	60	1	-1	1	40	10	4	60	35	30	180	100	60
4 30	224111 3	-1	-1	-1	-1	-1	60	15	6	-1	-1	-1	-1	-1	0
4 30	415314 3	-1	-1	-1	-1	-1	-1	-1	15	-1	-1	-1	-1	-1	0
4 30	312111 3	60	90	1	2	1	60	15	5	35	40	60	90	100	80
4 30	314112 3	-1	-1	-1	-1	-1	60	30	10	-1	-1	-1	-1	-1	0
4 30	314113 2	-1	-1	-1	-1	-1	120	70	10	-1	-1	-1	-1	-1	0
4 30	412111 2	-1	-1	1	2	2	60	8	0	30	40	40	-1	-1	50
4 30	414111 2	-1	-1	-1	-1	-1	70	10	4	60	60	-1	-1	-1	10
4 30	525111 2	-1	-1	-1	-1	-1	40	6	4	-1	-1	-1	-1	-1	1
4 30	111121 2	60	100	2	1	2	80	6	0	45	30	30	80	100	60
4 30	212111 2	110	60	3	4	4	60	8	0	50	60	40	120	180	60
4 30	112121 3	60	60	2	2	2	45	6	4	40	15	20	80	100	80
4 30	112131 3	-1	-1	1	-1	1	40	10	6	60	60	40	120	100	60
4 30	111131 3	-1	-1	1	3	-1	50	30	10	60	45	60	-1	-1	30
4 30	113131 3	-1	-1	-1	-1	-1	60	10	10	-1	-1	-1	-1	-1	30
4 30	214112 2	-1	-1	-1	-1	-1	60	15	10	-1	-1	-1	-1	-1	10
4 30	314111 3	-1	-1	-1	-1	-1	90	20	5	60	60	-1	-1	-1	30
4 30	214113 2	-1	-1	-1	-1	-1	60	30	15	-1	-1	-1	-1	-1	0
4 30	114112 3	-1	-1	-1	-1	-1	-1	60	15	-1	-1	-1	-1	-1	0

* WORK UP THE PAGE AS AN INSTRUCTION FOR ITV. * 1 WEEK

DEMOGRAPHIC DATA

			WHEN 60 YR	HOW LONG YR MO
GRADE	:E-6	SQUAD LEADER :	77	2
MOS	:11B	GUNNER :	77	*
IN ARMY	: 9YR 7MO	LOADER :	77	*
IN ARTILLERY	: 5YR	DRIVER :	77	*

WHEN

COMBAT :N

ARTIL. COMBAT:N #SUPERVISED :>50

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

IMPROVED FOR VEHICLE CREW

CREW	SIMP COMP	LOW CLIMB STAIRS	LIFT ROYES	CLIMB STAIRS	ALL	LIFT BOARD	OPEN LOCK	SQUAD LEADER DESIG TGT AZ	CO DRIVER	GUNNER SET ERECT SLEW	ACQUIR ARM FIRE	DR START DRIVE STOP	LOADER RELOAD	READY RACK	GUNNER TARGET TRACKING ACCURACY
		ORDINARY TASKS						CREW TASKS							
				SELF-STIMULATED VALUES											
USUAL TIME,SEC		15	20	12	60	4	15	4	2	17	7	20	60	60	904
				CONFIDENCE=											
4 32 411111	3	25	30	7	40	4	20	0	0	0	0	0	80	75	80
4 32 515431	3	60	140	1	10	2	50	12	8	30	1	60	240	120	50
4 32 114111	3	25	45	9	40	4	15	6	0	0	9	30	65	75	85
4 32 515711	3	40	100	1	10	1	30	14	7	30	12	45	180	140	50
4 32 213111	3	40	40	7	20	3	20	6	3	0	0	0	80	80	80
4 32 413111	3	25	35	6	25	4	20	6	3	20	0	0	90	80	80
4 32 311111	3	20	25	10	40	6	12	0	0	0	0	0	0	0	85
4 32 313111	3	25	35	5	25	5	17	5	3	19	8	0	70	65	80
4 32 513223	3	45	50	2	5	1	20	10	6	25	11	25	180	90	60
4 32 414112	3	30	[illegible]	4	10	2	15	6	3	19	9	25	120	80	70
4 32 535111	3	45	50	2	10	2	20	8	6	24	10	30	120	90	70
4 32 112111	3	0	0	12	50	6	10	0	0	0	0	0	0	0	0
4 32 514111	3	25	35	6	20	4	12	6	5	19	4	25	80	70	80
4 32 313112	3	30	30	4	15	3	15	6	4	19	9	0	85	70	85
4 32 315113	3	-1	-1	-1	-1	-1	15	7	5	21	11	3	-1	-1	50
4 32 513111	3	35	40	4	20	4	15	6	4	19	9	22	80	70	80
4 32 123111	3	35	45	4	20	4	15	6	4	19	9	0	80	70	80
4 32 334231	3	30	40	4	15	2	10	6	4	21	11	30	80	75	70
4 32 113111	3	0	0	6	40	6	7	0	0	0	0	0	0	0	0
4 32 521111	3	20	35	2	20	4	10	0	0	0	0	0	0	0	0
4 32 113121	3	20	25	2	15	2	10	0	0	0	0	0	70	0	0
4 32 211111	3	25	30	3	20	4	10	0	0	0	0	0	0	0	0
4 32 224111	3	30	25	2	15	2	10	6	4	19	9	25	90	70	80
4 32 415314	3	45	50	2	10	2	10	6	4	19	9	25	90	70	70
4 32 312111	3	25	35	4	20	2	8	0	0	0	0	0	0	0	0
4 32 314112	3	45	50	2	15	2	10	6	5	20	9	25	90	75	70
4 32 315113	3	-1	-1	-1	-1	-1	20	8	0	21	11	30	-1	-1	60
4 32 412111	3	40	55	3	20	3	10	0	0	0	0	0	0	0	0
4 32 414111	3	-1	120	2	10	2	10	7	6	21	11	26	180	120	60
4 32 525111	3	-1	-1	-1	-1	-1	10	10	8	22	11	25	-1	-1	60
4 32 111121	3	0	0	6	30	4	8	0	0	0	0	0	0	0	0
4 32 212111	3	25	30	3	20	4	10	0	0	0	0	0	0	0	0
4 32 112121	3	45	55	3	25	4	10	6	3	20	9	22	90	75	0
4 32 112131	3	50	45	2	20	3	10	6	4	19	9	25	80	70	0
4 32 111131	3	45	50	2	20	3	10	0	0	0	0	0	70	0	0
4 32 113131	3	50	55	2	15	3	1	6	4	19	9	22	80	70	0
4 32 214112	3	-1	40	1	15	2	1	8	6	21	9	25	120	90	70
4 32 314111	3	-1	70	-1	10	2	10	6	4	19	9	25	180	120	70
4 32 214113	3	-1	-1	-1	-1	-1	15	8	7	24	14	30	-1	-1	60
4 32 114112	3	-1	70	-1	5	2	10	8	4	21	9	25	180	90	70

I HAVE BEEN PLT SGT OF AN AT PLT APPX TWICE IN THE PAST YR, RIGHT NOW I AM PRESENTLY A SECTION SGT OF AN ITV CREW IN CHARGE OF MAINTANCE, WELFARE, AS WELL SUPERVISION OF MY SECTION. US NAVY

DEMOGRAPHIC DATA

				WHEN	HOW LONG
				MO YR	YR MO
GRADE	:	SQUAD LEADER	:	76	3
MOS	:11B30	GUNNER	:	77	2
IN ARMY	:10YR	LOADER	:	76	1
IN ARTILLERY	: 7YR	DRIVER	:	75	8
	WHEN				
COMBAT	:Y 68 A				
ARTIL. COMBAT	:N	#SUPERVISED	:>50		

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

IMPROVED 10m VEHICLE CREW

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: SQUAD LEADER: DESIG TGT AZ	CO DRIVER	GUNNER: SET ELECT SLEW	ACQUIR ARM FIRE	DR: START DRIVE STOP	LOADER: RELOAD	READY RACK	GUNNER: TARGET TRACKING ACCURACY
			SELF-STIPULATED VALUES													
USUAL TIME,SEC			15	20	4	5	20	30	4	2	17	7	20	60	60	90%
					LOWFIDENCE= 4											
4 33	411111	4	30	40	5	8	20	30	0	0	0	9	0	0	0	85
4 33	515431	4	-1	-1	-1	0.5	1	30	12	0	60	10	25	120	70	0
4 33	114111	9	20	30	1	3	3	30	0	0	0	0	0	70	0	80
4 33	515311	3	45	40	1	1	2	2	0	0	30	10	0	-1	70	70
4 33	213111	4	20	40	1	1	5	40	0	0	20	8	0	120	70	70
4 33	413111	4	0	30	2	5	4	30	0	0	0	0	0	70	0	75
4 33	311111	4	0	0	2	5	5	20	0	0	0	0	0	70	0	80
4 33	313111	4	30	25	1	2	4	30	7	0	20	0	0	70	0	75
4 33	515223	4	-1	-1	-1	-1	-1	-1	15	0	30	15	30	-1	-1	0
4 33	414112	4	-1	-1	-1	-1	-1	40	10	0	30	15	30	-1	70	10
4 33	535111	3	-1	-1	-1	-1	-1	30	8	0	25	15	25	-1	-1	15
4 33	112111	4	20	30	1	2	4	30	0	0	0	0	0	70	0	70
4 33	514111	4	-1	-1	-1	-1	-1	40	8	0	0	10	0	-1	120	60
4 33	313112	3	-1	-1	-1	1	1	45	6	0	0	15	0	-1	0	60
4 33	315113	4	-1	-1	-1	-1	-1	45	8	0	0	0	0	-1	0	50
4 33	513111	4	0	40	1	1	1	30	0	0	0	0	0	70	0	70
4 33	123111	3	0	30	1	1	2	30	10	0	20	10	0	80	70	20
4 33	334231	4	-1	-1	-1	-1	-1	-1	15	0	30	21	30	-1	120	0
4 33	113111	4	0	0	1	1	3	30	0	0	0	0	0	0	0	80
4 33	521111	4	30	40	1	1	2	40	0	0	0	0	0	70	0	70
4 33	113121	4	30	40	1	1	2	30	0	0	0	0	0	70	0	70
4 33	211111	4	30	40	2	1	3	30	0	0	0	0	0	70	0	70
4 33	224111	3	-1	-1	-1	-1	-1	40	8	4	2	0	0	120	0	60
4 33	415314	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4 33	312111	4	30	40	1	1	2	40	0	0	0	0	0	70	0	70
4 33	314112	4	-1	-1	-1	-1	-1	-1	0	0	20	10	0	120	70	50
4 33	314113	4	-1	-1	-1	-1	-1	50	8	0	20	10	30	-1	-1	10
4 33	412111	4	30	40	1	1	2	35	0	0	0	0	0	70	70	70
4 33	414111	4	-1	-1	-1	-1	-1	45	8	0	30	10	30	-1	-1	40
4 33	525111	4	-1	-1	-1	-1	-1	50	10	0	30	10	30	-1	-1	0
4 33	111121	4	30	40	2	2	3	30	0	0	0	0	0	70	0	70
4 33	212111	4	0	0	2	3	3	30	0	0	0	0	0	0	0	80
4 33	112121	4	40	30	1	1	2	35	3	0	20	10	0	70	70	50
4 33	112131	9	30	40	2	2	3	40	0	0	20	0	0	75	65	70
4 33	111131	9	30	300.2	2	1	2	30	0	0	20	8	0	70	0	70
4 33	113131	4	20	30	1	1	2	30	0	0	20	6	0	70	0	70
4 33	214112	4	-1	-1	-1	-1	-1	45	8	0	20	10	30	-1	-1	0
4 33	314111	4	-1	-1	-1	-1	-1	45	10	0	20	10	0	-1	-1	0
4 33	214113	4	-1	-1	-1	-1	-1	60	10	0	30	-1	0	-1	-1	0
4 33	114112	4	-1	-1	-1	-1	-1	40	0	0	0	0	0	70	0	60

I HAVE BEEN A DRIVER TUSIPUCION AT FT DIX, N.J. WHICH IS VERY LONG HOURS AND MENTALLY VERY DIFFICULT.

DEMOGRAPHIC DATA

				WHEN MO YR	HOW LONG YR MO
GRADE	:E-5	SQUAD LEADER :		75	6
MOS	:11H40	GUNNER :			
IN ARMY	:13YR	LOADER :			
IN ARTILLERY	: 6YR	DRIVER :			
	WHEN				
COMBAT	:Y 70 71				
ARTIL. COMBAT	:N	#SUPERVISED : 10			

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

IMPROVED 10m VEHICLE CREW

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: SQUAD LEADER: DESIG IGT AZ	CD DRIVER	GUNNER: SET ERECT SLEW	ACQUIR ARM FIRE	DR: START DRIVE STOP	LOADER: RELOAD	READY RACK	GUNNER: TARGET TRACKING ACCURACY
					SELF-STIMULATED VALUES											
USUAL	TIME,SEC		15	20	4	120	50	40	4	2	17	7	20	60	60	90%
					CONFIDENCE= 4											
4 34	411111	4	30	30	3	20	3	20	0	0	20	10	30	0	0	80
4 34	515431	4	50	45	2	15	5	35	15	9	30	14	45	180	150	45
4 34	114111	4	45	60	2	15	4	2	0	0	30	14	40	180	180	30
4 34	515311	4	45	20	4	10	4	20	0	0	0	0	0	0	0	0
4 34	213111	4	45	40	2	15	5	20	0	0	20	10	40	120	120	80
4 34	413111	4	0	0	4	20	6	20	0	0	0	0	0	0	0	0
4 34	311111	4	0	0	6	22	7	20	0	0	0	0	0	0	0	0
4 34	313111	4	0	0	5	20	7	20	0	0	0	0	0	0	0	0
4 34	515223	4	-1	-1	-1	10	-1	40	30	15	45	21	40	-1	-1	49
4 34	414112	4	45	-1	1.5	10	1	20	0	0	0	0	0	240	240	50
4 34	535111	4	-1	-1	0.5	10	-1	20	0	0	0	0	0	-1	-1	50
4 34	112111	4	0	0	6	30	7	20	0	0	0	0	0	0	0	0
4 34	514111	4	45	35	2	10	4	20	0	0	0	0	0	180	180	55
4 34	313112	4	45	999	2	10	3	20	5	3	19	10	22	120	120	80
4 34	315113	4	-1	-1	0.5	5	1	20	10	8	34	10	60	120	120	60
4 34	513111	4	0	0	4	10	5	20	0	0	0	0	0	0	0	60
4 34	123111	4	0	0	6	15	6	20	0	0	0	0	0	0	0	0
4 34	334231	4	45	35	2	5	5	20	15	10	34	10	40	120	120	70
4 34	115111	4	0	0	4	20	6	20	0	0	0	0	0	0	0	0
4 34	521111	4	0	0	4	10	6	20	0	0	0	0	0	0	0	75
4 34	113121	4	0	0	3	10	5	20	0	0	0	0	0	0	0	0
4 34	211111	4	0	0	4	20	7	20	0	0	0	0	0	0	0	0
4 34	224111	4	30	60	3	10	3	20	0	0	0	0	0	120	120	999
4 34	415314	4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	40
4 34	312111	4	0	0	4	15	5	20	0	0	0	0	0	0	0	0
4 34	314112	4	0	0	4	10	3	20	0	0	0	0	0	0	0	0
4 34	314113	4	0	0	4	20	5	20	0	0	0	0	0	0	0	0
4 34	412111	4	0	0	4	18	3	20	0	0	0	0	0	0	0	0
4 34	414111	4	45	40	2	10	5	20	0	0	0	0	0	120	120	0
4 34	525111	4	30	40	2	10	4	2	0	0	0	0	0	180	180	65
4 34	111121	4	0	0	3	21	9	20	0	0	0	0	0	0	0	0
4 34	212111	4	0	0	4	22	6	20	0	0	0	0	0	0	0	0
4 34	112121	4	0	0	4	22	5	20	0	0	0	0	0	0	0	80
4 34	112131	4	30	45	4	15	4	20	0	0	0	0	0	120	120	75
4 34	111131	4	0	0	4	23	7	20	0	0	0	0	0	0	0	0
4 34	113131	4	0	0	4	20	6	20	0	0	0	0	0	0	0	0
4 34	214112	4	30	40	2	8	4	20	0	0	0	0	0	120	120	75
4 34	314111	4	30	40	2	5	4	20	0	0	0	0	0	180	180	75
4 34	214113	4	30	40	1	5	3	20	0	0	0	0	0	180	180	65
4 34	114112	4	30	40	2	10	4	20	0	0	0	0	0	120	120	75

TOP SECTION LURS, GERMANY, ON NCOIC IN CHARGE OF ALL 10m TRAINING. 10m INSTUCTOR FT POLK MOUNTED, JEEP, TRACK AND GUAI.
* VIETNAM ** GERMANY

DEMOGRAPHIC DATA

				WHEN HO YR	HOW LONG YR MO
GRADE	:	SQUAD LEADER	:	3	*
MOS	:11H3Y	GUNNER	:		6*
IN ARMY	:12YR	LOADER	:		
IN ARTILLERY	: 7YR	DRIVER	:		

	AHL
COMBAT	:Y 68 70*
ARTIL. COMBAT	:Y 68 70*

#SUPERVISED :>50

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

IMPROVED 10K VEHICLE CREW

CREW RESP	STMP COMP	LOW CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOARD	OPEN LOCK	SQUAD LEADER: DESIG TGT AZ	SQUAD LEADER: CO DRIVER	GUNNER: SET ERECT SLEW	GUNNER: ACQUIR ARM FIRE	DR: START DRIVE STOP	LOADER: RELOAD	LOADER: READY RACK	GUNNER: TARGET TRACKING ACCURACY
		ORDINARY TASKS						CREW TASKS							
				SELF-STIMULATED VALUES											
USUAL TIME,SEC		15	20	7	90	100	8	4	2	17	7	20	60	60	904
				CONFIDENCE= 5											
4 35	411111 5	16	26	6	75	70	8	6	0	23	10	23	68	68	75
4 35	515431 5	-1	-1	-1	-1	1	17	-1	5	-1	-1	-1	-1	-1	0
4 35	114111 5	25	30	5	30	30	10	10	5	25	11	25	78	75	80
4 35	515311 5	-1	-1	-1	1	-1	17	-1	7	-1	15	40	-1	-1	10
4 35	213111 5	20	25	6	49	52	8	0	0	18	0	22	65	65	0
4 35	413111 8	22	27	5	39	45	11	10	3	19	10	23	66	66	75
4 35	311111 5	17	22	7	50	60	7	0	0	0	0	22	62	62	79
4 35	313111 5	16	23	8	57	50	6	6	4	19	8	24	69	69	77
4 35	515223 5	-1	-1	-1	1	1	11	-1	5	-1	11	-1	-1	-1	0
4 35	414112 5	20	25	3	25	20	4	0	0	19	9	23	64	64	84
4 35	535111 5	-1	-1	-1	2	1	10	7	5	-1	-1	-1	-1	-1	30
4 35	112111 5	23	25	8	90	75	5	0	0	0	0	23	63	63	89
4 35	514111 5	-1	40	1	2	5	9	8	4	30	14	30	-1	-1	40
4 35	313112 5	999	999	1	1	2	8	5	4	25	14	33	-1	-1	34
4 35	315113 5	-1	-1	1	1	1	10	9	6	-1	14	-1	-1	-1	10
4 35	513111 5	-1	-1	1	4	1	7	9	5	25	11	40	-1	-1	34
4 35	123111 5	20	25	7	39	30	5	0	0	21	10	24	71	71	87
4 35	334231 5	-1	-1	1	1	1	8	7	5	-1	11	-1	-1	-1	29
4 35	113111 9	17	23	8	36	50	5	0	0	19	0	24	66	66	88
4 35	521111 5	35	45	3	6	1	7	0	0	27	10	-1	-1	-1	30
4 35	113121 5	23	30	5	25	10	7	0	0	19	9	25	65	65	75
4 35	211111 5	22	27	7	40	30	6	0	0	19	10	24	66	66	74
4 35	224141 5	20	25	6	35	29	7	0	0	20	11	26	66	66	70
4 35	415314 5	-1	-1	1	1	-1	9	8	4	-1	14	-1	-1	-1	0
4 35	312111 5	24	31	5	25	30	8	5	4	21	12	25	70	70	76
4 35	314112 5	999	999	1	2	-1	9	7	5	25	14	34	-1	-1	25
4 35	314113 5	-1	-1	-1	-1	-1	8	10	6	-1	11	-1	-1	-1	1
4 35	412111 5	20	25	4	20	15	7	6	4	23	12	26	71	71	68
4 35	414111 5	31	32	2	10	4	6	7	5	22	13	22	79	79	60
4 35	525111 5	-1	-1	1	1	-1	7	8	6	-1	15	-1	-1	-1	10
4 35	111121 5	17	23	8	40	35	5	0	0	20	10	25	65	65	88
4 35	212111 5	17	23	7	65	35	5	0	0	20	10	25	66	66	83
4 35	112121 5	19	23	8	50	39	5	0	0	19	0	24	65	65	85
4 35	112131 5	21	26	7	40	25	5	0	0	23	0	29	78	78	75
4 35	111131 5	21	24	5	30	25	5	5	3	23	11	26	76	76	75
4 35	113131 5	19	24	5	30	17	6	5	3	23	10	26	70	70	81
4 35	214112 5	27	33	6	25	17	7	8	4	27	14	27	78	78	77
4 35	314111 5	23	27	3	10	4	6	7	4	32	14	26	77	77	68
4 35	214113 5	-1	-1	1	4	1	7	8	4	-1	15	-1	-1	-1	5
4 35	114112 9	-1	-1	1	1	-1	7	8	4	-1	15	-1	-1	-1	999

1) ITV SECTION LEADER- RESPONSIBLE FOR SUPERVISION OF 7 PEOPLE AND 2 ITVS 2) WEAPONS PLT SGT-RESPONSIBLE FOR SUPERVISION OF 81 MM MORTAR SECTION AND 1 ITV SECTION.

DEMOGRAPHIC DATA

				SMLN MO	HOW LONG YR	MO
GRADE	:E-6	SQUAD LEADER	:	70	1	6
MOS	:11H5OL9	GUNNER	:	77		6
IN ARMY	: 0YR	LOADER	:			
IN ARTILLERY	: 0YR	DRIVER	:			
	MHLN					
COMBAT	:Y 69 70					
ARTIL. COMBAT:N		NSUPERVISED : 20				

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

IMPROVED TOW VEHICLE CREW

CREW	SYMP COMP	LOW CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	SQUAD LEADER DESIG TGT AZ	SQUAD LEADER CO DRIVER	GUNNER SET ERECT SLEW	GUNNER ACQUIR AMM FIRE	DR START DRIVE STOP	LOADER RELOAD	LOADER READY RACK	GUNNER TARGET TRACKING ACCURACY
RESP															
USUAL TIME,SEC		15	20	SELF-STIMULATED VALUES 10	60	18	5	4	2	17	7	20	60	60	90%
				CONFIDENCE= 4											
4 36 411111 3		45	55	5	15	7	10	7	5	25	16	29	130	85	50
4 36 515431 3		-1	-1	1	2	1	30	12	10	30	20	35	-1	100	30
4 36 114111 3		30	45	3	6	3	8	6	4	30	10	28	105	75	60
4 36 515311 3		40	-1	1	1	1	15	10	5	35	30	35	-1	110	40
4 36 213111 3		25	40	6	25	10	7	6	4	23	12	27	95	75	60
4 36 413111 3		35	50	3	2	3	15	7	5	35	25	30	150	90	60
4 36 311111 3		22	30	6	15	5	7	6	3	25	12	28	75	69	80
4 36 313111 3		23	35	4	10	2	7	6	4	22	13	26	85	70	80
4 36 515223 3		-1	-1	-1	1	1	12	10	5	30	30	35	-1	90	45
4 36 414112 3		30	-1	2	1.5	1	8	6	4	25	14	28	120	85	55
4 36 535111 3		35	60	3	2	2	8	7	5	30	35	30	250	95	5
4 36 112111 4		19	25	9	40	12	5	5	0	19	10	0	70	0	85
4 36 514111 3		25	35	2	2	2	7	6	3	25	13	25	150	90	70
4 36 313112 3		30	50	1	1	1	10	6	5	23	15	27	105	80	60
4 36 315113 3		50	-1	1	1	1	12	10	5	35	35	35	-1	125	40
4 36 513111 3		25	50	2	3	2	7	7	4	28	20	25	150	85	65
4 36 123111 3		10	25	7	30	10	6	5	3	19	10	21	70	65	75
4 36 334231 3		25	35	3	20	3	8	6	4	26	15	25	135	85	75
4 36 113111 3		20	25	8	45	14	5	0	0	19	10	0	75	0	88
4 36 521111 3		22	30	5	25	6	6	0	0	20	12	0	150	70	75
4 36 113121 3		10	25	6	30	8	6	0	0	25	12	0	90	65	85
4 36 211111 3		20	30	7	40	8	6	5	3	20	10	22	80	65	85
4 36 224111 3		30	40	3	15	2	8	6	4	28	15	30	100	100	70
4 36 415314 3		-1	-1	1	1	1	12	10	5	35	25	30	-1	120	40
4 36 312111 3		22	35	8	30	7	6	5	3	20	10	23	75	65	80
4 36 314112 3		25	35	2	15	3	7	5	3	30	15	25	200	85	60
4 36 314113 3		30	50	1	5	1	8	7	4	30	15	25	-1	120	55
4 36 412111 3		20	30	4	20	3	6	5	3	25	10	23	75	65	80
4 36 414111 3		30	40	2	10	2	7	6	4	25	13	25	150	95	65
4 36 525111 3		40	90	1	3	1	8	8	6	30	25	25	-1	999	45
4 36 111121 3		17	23	8	45	8	5	3	0	0	0	0	70	65	88
4 36 212111 3		22	31	5	25	4	6	0	0	22	10	0	85	70	80
4 36 112121 3		22	30	4	30	3	6	0	0	20	10	0	85	70	85
4 36 112131 3		25	40	3	20	3	7	5	3	26	15	0	95	75	70
4 36 111131 3		10	25	8	45	7	6	0	0	20	10	0	70	65	85
4 36 113131 3		25	40	3	25	3	6	0	0	20	10	0	85	70	80
4 36 214112 3		30	30	1	5	1	7	10	5	30	19	30	-1	95	50
4 36 314111 3		30	40	1	10	1	6	10	8	30	12	28	150	90	50
4 36 214113 3		40	60	1	2	1	8	10	5	30	20	30	-1	999	40
4 36 114112 3		35	40	3	20	2	7	12	6	35	15	35	-1	95	50

ORTH SUPERVISOR AT FT BENNY GEORGIA TRAINING IDEAS INITIAL ENTRY SOLDIERS

[illegible] DATA

GRADE :E-6 SQUAD LEADER : 76 3
MOS :11B30 GUNNER :
IN ARMY :12YR LOADER :
IN ARTILLERY : 7YR DRIVER :
WHEN
COMBAT :N
ARTIL. COMBAT:N #SUPERVISED :>50

NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

IMPROVED 105 VEHICLE CREW

CREW RESP	SYMP COMP	LOW CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOARD	OPEN LOCK	GRDTNARY TASKS: SQUAD LEADER DESIG TGT AZ	SQUAD LEADER LD DRIVER	GUNNER SET ERECT SLEW	GUNNER ACQUIR ARM FIRE	DR START DRIVE STOP	LOADER RELOAD	LOADER READY RACK	GUNNER TARGET TRACKING ACCURACY
				SELF-STIPULATED VALUES											
USUAL TIME,SEC		15	20	3	120	10	5	4	2	17	7	20	60	60	90%
				CONFIDENCE= 4											
4 37 411111	3	24	22	1	120	9	6	6	3	27	10	0	100	92	65
4 37 515431	4	50	60	-1	10	1	25	12	6	39	20	28	140	115	50
4 37 114111	3	55	45	-1	10	3	15	18	15	30	23	0	160	135	55
4 37 515311	3	0	35	-1	5	-1	23	17	8	41	27	25	160	140	45
4 37 213111	4	25	35	2	110	6	10	9	6	35	20	22	95	84	65
4 37 413111	4	45	35	3	90	8	15	12	9	40	30	23	149	124	45
4 37 311111	4	0	0	3	100	8	6	6	0	27	12	0	80	77	55
4 37 313111	4	0	21	3	89	9	7	8	0	27	13	0	80	75	70
4 37 515223	4	-1	-1	-1	5	-1	25	20	10	45	28	35	150	135	[illegible]
4 37 414112	4	25	27	3	20	6	8	11	8	23	15	0	95	90	60
4 37 535111	4	29	25	1	15	6	12	24	9	40	18	0	90	85	69
4 37 112111	4	0	0	10	120	10	5	0	0	0	0	0	0	0	0
4 37 514111	4	30	25	3	10	5	10	12	3	23	10	0	100	95	80
4 37 313112	4	25	21	3	20	5	5	12	6	21	11	0	100	95	80
4 37 315113	4	35	30	2	10	5	5	20	8	30	21	0	105	95	80
4 37 513111	4	17	6	3	15	7	9	8	4	19	9	0	80	75	70
4 37 123111	4	17	0	3	115	8	5	9	4	20	10	0	70	59	85
4 37 334231	4	45	40	-1	5	-1	10	15	10	37	17	0	125	120	35
4 37 113111	4	0	0	2	100	7	5	6	4	20	11	0	75	66	79
4 37 521111	4	17	21	2	70	9	5	6	4	19	9	0	69	63	80
4 37 113121	4	25	22	1	40	3	7	12	9	27	17	0	125	119	60
4 37 211111	4	21	22	2	30	4	10	11	5	21	9	0	95	89	55
4 37 224111	4	26	22	1	30	3	6	12	7	37	20	0	105	98	49
4 37 415319	4	40	31	-1	-1	-1	20	20	12	46	30	28	160	153	35
4 37 312111	4	20	21	2	45	7	6	6	4	30	12	0	80	72	60
4 37 314112	3	17	210	2	20	3	6	9	3	19	10	0	75	69	70
4 37 314113	3	31	24	-1	5	-1	11	15	9	25	16	22	130	110	35
4 37 412111	3	16	21	3	110	9	5	6	3	19	8	0	65	62	87
4 37 414111	4	19	21	1	25	3	10	10	7	24	11	0	115	98	62
4 37 525111	3	19	21	1	20	3	7	12	8	30	17	0	110	98	66
4 37 111121	4	0	0	3	100	10	5	0	0	0	0	0	0	0	85
4 37 212111	4	0	0	3	140	10	5	0	0	0	8	0	64	61	86
4 37 112121	4	16	21	3	140	9	5	5	3	10	8	0	62	61	79
4 37 112131	4	19	22	1	96	7	5	10	6	24	12	0	90	84	69
4 37 111131	3	17	21	1	90	6	7	12	6	30	13	0	95	89	60
4 37 113131	4	19	23	-1	35	4	5	12	7	31	14	0	105	98	50
4 37 214112	4	30	27	-1	-1	-1	5	12	7	37	17	0	115	105	45
4 37 314111	4	24	21	1	35	4	5	11	5	27	10	0	85	80	60
4 37 214113	4	30	24	-1	-1	2	5	12	7	37	17	0	115	105	35
4 37 114112	4	30	24	-1	-1	2	5	12	5	37	16	0	115	105	60

SECTION SGT. FOR A 105 WEAPONS SYSTEM MOUNTED ON AN M151A2

DEMOGRAPHIC DATA

			WHEN	HOW LONG
			10 YR	YR MO
GRADE	:E-6	SQUAD LEADER	:10 78	5
MOS	:11H30	GUNNER	:	
TH ARMY	:10YR	LOADER	:	
TH ARTILLERY	: 4YR	DRIVER	:	
	WHEN			
COMBAT	:N			
ANTIL. COMBAT	:N			

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9998=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

IMPROVED TOW VEHICLE CREW

PSUPERVISED : 20

CREW RESP	SYMP COMP	LDR	CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOARDS	OPEN LOCK	SQUAD LEADER DESIG (C) AZ	SQUAD LEADER CO DRIVER	GUNNER SET ERECT SLEW	GUNNER ACQUIR ARM FIRE	DR START DRIVE STOP	LOADER RELOAD	LOADER READY RACK	GUNNER TARGET TRACKING ACCURACY
					SELF-STIMULATED VALUES											
USUAL TIME,SEC		15	20		4	60	10	5	4	2	17	7	20	60	60	90%
					CONFIDENCE= 2											
4 39	411111	3	20	25	3	40	3	5	5	3	0	12	25	80	90	85
4 39	515431	3	60	120	1	5	1	20	10	5	45	20	60	180	180	30
4 39	114111	3	35	30	1	10	2	10	5	0	25	15	30	100	150	70
4 39	515311	3	35	30	1	5	2	10	0	4	30	15	30	150	120	60
4 39	213111	3	25	40	2	50	8	5	6	3	23	9	25	90	90	80
4 39	413111	3	20	30	3	60	0	5	6	0	25	0	25	70	90	85
4 39	311111	3	25	35	2	60	3	5	0	0	20	0	25	70	90	85
4 39	313111	3	25	30	2	45	3	5	0	0	23	10	25	70	90	85
4 39	515223	3	60	90	-1	10	1	10	12	6	40	14	50	180	180	30
4 39	414112	3	40	50	1	15	2	5	6	4	25	10	25	90	120	70
4 39	535111	3	35	100	-1	5	1	10	4	4	40	15	35	150	180	20
4 39	112111	3	20	30	2	45	5	5	0	0	20	0	0	70	90	85
4 39	515111	3	35	50	1	15	2	10	6	3	30	10	25	90	120	60
4 39	313112	3	40	60	1	10	1	5	8	4	40	12	40	120	150	70
4 39	315113	3	45	90	-1	-1	1	10	10	6	45	15	35	180	200	30
4 39	513111	3	20	30	1	10	2	5	0	0	20	0	0	90	120	60
4 39	123111	3	25	60	2	45	6	5	0	0	19	0	23	90	120	80
4 39	334231	3	35	60	1	5	1	10	12	6	45	15	40	180	200	20
4 39	113111	0	0	0	4	60	10	5	0	0	0	0	0	0	0	0
4 39	521111	3	25	30	2	45	5	5	0	0	20	0	25	80	120	85
4 39	113121	3	35	35	2	40	2	5	6	0	22	9	22	90	120	80
4 39	211111	0	0	25	3	45	3	5	0	0	0	0	0	70	0	85
4 39	224111	3	35	70	1	10	2	5	6	3	24	10	25	90	120	60
4 39	415314	4	60	120	-1	-1	1	10	14	5	45	20	45	180	240	10
4 39	312111	0	25	30	3	35	2	5	0	0	20	10	0	65	90	85
4 39	314112	3	45	100	-1	-1	1	5	8	4	30	10	30	120	180	50
4 39	314113	3	60	120	-1	-1	1	10	12	6	45	14	45	180	240	20
4 39	412111	3	20	30	3	45	3	5	0	0	20	0	0	90	120	85
4 39	414111	3	30	35	1	5	2	5	0	0	25	10	25	120	180	75
4 39	525111	3	45	60	-1	5	1	5	8	6	35	10	35	120	180	40
4 39	111121	3	0	25	2	60	3	5	0	0	0	0	0	70	0	85
4 39	212111	3	35	45	1	60	2	5	0	0	20	0	25	80	120	80
4 39	112121	3	20	25	2	45	1	5	0	0	0	0	0	75	80	85
4 39	112131	3	20	30	2	30	2	[illegible]	0	0	0	0	0	80	120	65
4 39	111131	3	20	30	1	30	2	5	0	0	0	0	0	80	120	85
4 39	113131	3	25	35	1	20	2	5	0	0	20	10	25	90	120	80
4 39	214112	3	35	60	1	30	2	5	0	0	25	10	30	120	180	70
4 39	314111	3	40	60	1	30	2	5	0	0	25	12	30	120	180	75
4 39	214113	3	45	30	-1	-1	1	10	8	6	40	12	30	180	240	40
4 39	114112	3	35	45	1	20	2	5	0	0	25	10	25	120	180	65

ALTED BRIEFLY AS PLT SGT FOR AN AT PLT, SECTION LDR FOR ANOTHER SHORT PERIOD OF TIME AND APPROX 9 MONTHS AS THE NCO AND POSSIBLY DUALREVING ON THE VEH (WORKED WITH THE ITW FOR APPROX 2 1/2 YEARS) WORKED WITH M220 TOW FOR 2 YEARS

DEMOGRAPHIC DATA — MEN: HOW LONG (MO YR, YR MO)

GRADE :E-6 SQUAD LEADER : 4 6
MOS :11B GUNNER :
TH ARMY :11YR 10 LOADER :
TH ARTILLERY : 4YR 6 DRIVER :
WHEN
COMBAT :N
ARTIL. COMBAT:N #SUPERVISED : 50

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

IMPROVED 106 VEHICLE CREW

CREW RESP	SYMP COMP	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOARD	OPEN LOCK	CREW TASKS: SQUAD LEADER: DESIG TGT AZ	LD DRIVER	GUNNER: SET ERECT SLEW	ACQUIR ARM FIRE	DR: START DRIVE STOP	LOADER: RELOAD	READY RACK	GUNNER: TARGET TRACKING ACCURACY
USUAL TIME,SEC		15	20	SELF-STIMULATED VALUES 6	20	10	12	4	2	17	7	20	60	60	90%
				CONFIDENCE= 3											
4 40	411111 4	20	25	4	12	9	13	5	4	0	10	0	80	100	88
4 40	515431 9	60	-1	1	5	1	25	12	8	23	12	38	150	-1	40
4 40	114111 4	-1	70	-1	-1	-1	30	5	3	19	10	28	150	180	60
4 40	515311 4	-1	65	-1	1	-1	30	7	4	23	12	30	180	-1	40
4 40	213111 4	25	30	5	5	5	14	6	4	19	12	23	75	90	70
4 40	413111 4	23	28	3	4	4	14	6	3	19	11	23	70	90	70
4 40	311111 4	17	23	5	15	6	13	0	0	0	8	0	0	0	88
4 40	313111 4	30	30	3	8	5	15	5	3	0	8	22	68	75	85
4 40	515223 4	-1	-1	-1	-1	-1	30	10	5	25	15	35	-1	-1	38
4 40	414112 4	45	50	1	1	2	20	7	3	20	12	25	100	180	60
4 40	535111 4	-1	-1	-1	-1	-1	30	15	8	25	15	30	-1	-1	30
4 40	112111 4	35	30	4	10	6	12	0	0	18	9	23	80	120	80
4 40	514111 4	-1	-1	-1	-1	-1	35	10	6	28	15	30	-1	-1	30
4 40	313112 4	-1	-1	1	-1	1	30	8	5	25	15	30	120	200	30
4 40	315113 4	-1	-1	-1	-1	-1	40	11	5	25	15	30	120	220	28
4 40	513111 4	33	35	2	4	3	15	0	3	19	9	23	80	110	75
4 40	123111 4	25	35	3	5	3	14	0	0	0	0	0	65	70	75
4 40	334231 4	-1	-1	1	1	1	18	12	8	23	12	32	140	300	30
4 40	113111 4	19	28	3	8	5	14	0	0	0	0	0	0	0	88
4 40	521111 4	30	35	2	2	3	17	7	4	20	9	22	70	110	50
4 40	113121 4	20	32	3	4	4	14	6	3	19	9	22	65	75	78
4 40	211111 4	0	0	6	20	10	12	0	0	0	0	0	0	0	88
4 40	224111 4	30	40	1	1	3	15	7	3	23	10	29	90	150	58
4 40	415314 4	-1	-1	-1	-1	-1	28	14	7	25	15	32	-1	-1	30
4 40	312111 4	22	27	3	4	4	14	5	3	19	9	23	65	78	80
4 40	314112 4	-1	-1	-1	-1	-1	28	13	4	25	11	40	-1	-1	30
4 40	314113 4	-1	-1	1	1	1	30	12	5	21	10	30	-1	-1	35
4 40	412111 4	30	35	3	5	6	15	6	4	20	10	23	75	100	75
4 40	414111 4	30	42	1	1	2	18	8	3	20	11	23	120	180	62
4 40	525111 4	-1	-1	-1	-1	-1	30	12	5	22	10	27	-1	-1	40
4 40	111121 4	22	28	4	10	6	14	5	3	0	9	0	0	0	85
4 40	212111 4	30	35	3	3	4	15	7	3	21	10	23	70	90	78
4 40	112121 4	30	35	3	4	5	13	6	3	19	9	23	65	70	78
4 40	112131 4	30	35	3	2	4	14	8	4	21	9	23	65	75	75
4 40	111131 3	20	33	5	6	6	15	6	3	20	9	21	65	80	75
4 40	113131 4	30	35	3	4	5	15	7	3	19	9	22	80	120	75
4 40	214112 4	35	50	2	3	3	24	7	3	20	10	28	120	300	45
4 40	314111 4	-1	-1	1	2	3	18	8	3	19	10	20	120	300	45
4 40	214113 4	-1	-1	-1	-1	-1	28	9	4	23	11	30	-1	-1	999
4 40	114112 4	35	50	1	1	2	26	8	3	22	11	27	120	300	44

I WAS A SECT. LDR. IN KOREA FOR 1 YR. AND NOW I HAVE BEEN A SECT. LDR IN GERMANY FOR 6 MONTHS.

DEMOGRAPHIC DATA

				WHEN	HOW LONG
				MO YR	YR MO
GRADE	:E-6	SQUAD LEADER :		76	6
MOS	:11B30	GUNNER	:		
IN ARMY	:10YR AND	LOADER	:		
IN ARTILLERY	: 6YR	DRIVER	:		
	WHEN				
COMBAT	:N				
ARTIL. COMBAT	:N	#SUPERVISED	:>50		

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

IMPROVED 106 VEHICLE CREW

		ORDINARY TASKS						CREW TASKS							
								SQUAD LEADER		GUNNER		DR	LOADER		GUNNER
CREW RESP	SYMP COMP	CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	DESIG TGT AZ	CD DRIVER	SET ERECT SLEW	ACQUIR ARM FIRE	START DRIVE STOP	RELOAD	READY RACK	TARGET TRACKING ACCURACY
				SELF-STIPULATED VALUES											
USUAL TIME,SEC		15	20	10	100	30	10	4	2	17	7	20	60	60	90%
				CONFIDENCE= 4											
4 41	411111 4	30	30	4	60	8	10	0	0	0	0	0	80	90	0
4 41	515431 4	45	60	3	30	5	15	6	10	40	12	30	150	150	60
4 41	114111 4	30	45	3	30	5	12	6	0	0	9	0	70	70	0
4 41	515311 4	45	60	3	30	5	15	6	10	60	14	30	150	150	60
4 41	213111 4	20	30	3	30	5	10	6	0	20	12	0	80	80	0
4 41	413111 4	10	25	4	45	5	10	0	0	19	9	0	60	80	0
4 41	311111 4	0	0	6	90	10	10	0	0	0	0	0	65	65	0
4 41	313111 4	0	0	6	90	10	10	0	0	0	0	0	65	65	0
4 41	515223 4	60	90	1	10	1	30	-1	-1	-1	-1	-1	-1	-1	0
4 41	414112 4	25	30	3	20	3	12	10	8	20	10	25	90	90	60
4 41	535111 4	25	30	3	18	3	10	6	4	20	10	25	90	90	60
4 41	112111 4	20	28	6	90	10	10	0	0	0	0	0	75	75	0
4 41	514111 4	30	30	4	60	6	10	0	0	20	10	0	90	90	0
4 41	313112 4	30	30	5	70	8	10	0	0	0	0	0	70	70	0
4 41	315113 4	60	90	2	20	2	20	-1	-1	-1	-1	30	-1	-1	10
4 41	513111 4	999	999	5	100	10	10	0	0	0	0	0	70	70	0
4 41	123111 4	0	0	6	90	10	10	0	0	0	0	0	65	65	0
4 41	334231 4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4 41	113111 4	0	0	8	140	20	10	0	0	0	0	0	0	0	0
4 41	521111 4	0	0	8	145	20	10	0	0	0	0	0	0	0	0
4 41	113121 4	20	25	6	100	20	10	6	4	20	9	0	70	70	0
4 41	211111 4	20	30	8	150	20	10	0	0	0	0	0	75	75	0
4 41	224111 4	20	25	7	145	10	10	6	4	20	9	0	70	70	0
4 41	415314 4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4 41	312111 4	0	0	7	145	20	10	5	3	19	9	0	75	75	0
4 41	314112 4	30	70	4	90	10	12	6	4	30	14	35	90	90	50
4 41	314113 4	30	30	4	90	10	12	6	4	30	14	35	90	90	50
4 41	412111 4	20	25	6	150	20	10	0	0	0	0	0	75	75	0
4 41	414111 4	20	30	9	140	20	10	0	0	0	0	0	70	70	0
4 41	525111 4	60	90	2	20	2	20	8	6	35	14	35	120	120	15
4 41	111121 4	0	0	20	170	20	10	0	0	0	0	0	0	0	0
4 41	212111 4	0	0	10	170	10	10	6	4	20	90	0	70	70	0
4 41	112121 4	0	0	20	180	20	10	0	0	0	0	0	0	0	0
4 41	112131 4	30	40	5	90	3	10	8	6	30	14	0	120	120	60
4 41	111131 4	20	30	8	150	17	10	8	6	30	14	30	70	70	80
4 41	113131 4	0	0	10	170	10	10	0	0	0	0	0	0	0	0
4 41	214112 4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	10
4 41	314111 4	30	40	10	90	6	10	6	4	30	14	30	90	90	30
4 41	214113 4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4 41	114112 4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0

Appendix B

DEMOGRAPHIC DATA

This appendix contains the complete returns from the demographic data sheets at the front of each questionnaire, and is divided into two parts. The first lists the fill-in-the-blank answers to explicit questions. The second contains the essay responses to the question: "Briefly describe your military duties during the past year," plus any remarks written anywhere in the questionnaire.

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CREW 1: GUN CREW

RESP	GRADE	RANK	MOS	IN ARMY YR	IN ARMY MO	IN ARTTL YR	IN ARTTL MO	COMBAT? WHEN	ARI COMBAT? WHEN	CHIEF OF SECTION WHEN MO	CHIEF OF SECTION WHEN YR	CHIEF OF SECTION HOW LONG YR	CHIEF OF SECTION HOW LONG MO	GUNNER WHEN MO	GUNNER WHEN YR	GUNNER HOW LONG YR	GUNNER HOW LONG MO	ASSIST GUNNER WHEN MO	ASSIST GUNNER WHEN YR	ASSIST GUNNER HOW LONG YR	ASSIST GUNNER HOW LONG MO	LOADER WHEN MO	LOADER WHEN YR	LOADER HOW LONG YR	LOADER HOW LONG MO	MEN SUPER-VISED
101	E-5		13B20	3		3		N	N	10	82		2		81		10		81		4					5
102	E-5		13B20	6		8		N	N	10	81	1			78	3			75	3			74	1		5
103	E-5		13B20	3	6		*	N	N		82		4		81		5		81		6		80	1	4	5
104	E-6		13B30	10		10			N		75	8														10
105	E-5		13B20	4	3	8	3	N	N	6	82		1	11	80	2	1									20
106	E-5	SGT	13B20	10		10		N	N		78	4														5
107	E-5	SGT	13B20	5		5		N	N	10	82	1			81		8		79	2			78	1	4	10
108	E-5		13B45	3	10	3	10	N	N					8	82		4									5
109	E-6		13B3PU	12		10		Y 70	72 Y 70	72	70	10														10
110	E-5		13B20	6		6		N	N			3	*													10
111	E-5		13B20	4	2	4	2	N	N			1	8				4				2			1		20
112	E-5		13B20	3	3	3	3	N	N					6	82		5									5
113	E-5		13B20	8		8		N	N		79	3			78	1			76	2			74	1	6	5
114	E-5		13B20	4		4		N	N			2	4			1				1						10
115	E-6		13B30	8		4		N	N	1	82		10													10
116	E-5			3	6	4	6	N	N	4	82		8		81	1			81	1			79		3	2
117	E-4	ASG		2	8	2	8	N	N				2				1				7					2
118	E-6	SSG		10		10		N	N		74	8			73	1			73		3		72	1		10
119	E-7	SFC	13B	14	11	14	11	Y 68	69* Y 68	69*	71	9			68	1			68	1			68	1		10
120	E-6		13B3C	9		8		N	N		79	4			78	1			76	1			75	1		50
121	E-5		13B	3	9			N	N				6		81	1					5					10
122	E-5	SGT	13B20	3	4	3	4	N	N		81	1	2*		82		1									10
123	E-5		13B	13				Y	69	Y	69		5								1				1	10
124	E-5		13B20	6	8	6		N	N	10	82					2				1						5
125	E-5		13B20	4		4		N	N		80		7		81	1			79	2	6					5
126	E-6		13B		*	2		Y	* N		82	1														5
127	E-5		13B	4	1	4	1	N	N	6	82		6	3	81	1	3	6	80		9	3	79		6	20
128	E-5		13B	3				N	N	10	82		2			1	*									5
129	E-5		13B20	4		4		N	N					9	80		*	9	80		*					5
130	E-7		13B40	16		13		N	N		72	4														10
131	E-7		13B40	15		12		N	N		73	4			70	4			69	1			68	1		>50
132	E-5		13B	3	4	3	4	N	N					7	82		4				*				*	5
133	E-5		13B	3		3		N	N	10	82		3		82				81				80	1		5
134	E-5		13B20	2	6	2	6	N	N	9	81	1	2	5	81		5	2	81		4					20
135	E-5		13B20	2	6	2	6	N	N																	20
136	E-5		13B20MS	4	6	4	6	N	N																	20
137	E-6		13B	8		7	6	N	N		79	3			77	2			76	1			75	1		5
138	E-5		13B30	3		3		N	N	9	82		2	6	81	1	3									10
139	E-6		13B	7		7		Y 70	71 N		76	5			76		7		75		3		75		4	10

CREW 1: DUTY DESCRIPTION

101 I HAVE BEEN A CHIEF OF SECTION FOR THE LAST 2 MONTHS ON 155 MM M109 A3 HOW. PRIOR TO THAT I WAS A GUNNER ON M1'0A3 203MMHOW.
102 TO SUPERVISE AND TRAIN THE MEN AS IF IT WERE AN ACTUAL COMBAT SITUATION AND HOW TO PROTECT THEMSELVES AND THE EQUIPMENT AND WHAT
TO DO IN CERTAIN SITUATIONS AND THERE JOBS IN COMBAT
103 I PLACE IN A POSITION AS GUNNER OF A SECTION LEARNING TO GUN THEM AT THE SAME TIME LEANING TO CHIEF THE SECTION. * SOME
104 SUPERVISE AND TRAIN THE PERSONNEL IN MY SECTION AND BATTERY, PERFORM DUTIES AS A SECTION CHIEF.
105
106 CHIEF OF SECTION I SUPERVISED AN ETVF TRAINING TO MY SECTION.
107 I HAVE TO SUPERVISE MY PEOPLE IN THE MORNING, WICH IS 7 PEOPLE, IN CLEANING UP THEIR ROOM AND GETTING READY FOR THE JOB. I HAVE
A M110A2 HOWITZER,8 INCH, THAT I HAVE TO MAKE SURE THE PROPER PREVENTIVE MAINTENANCE + CHECKS AND SERVICES ARE DONE. I HAVE TO
BE ACCOUNTABLE FOR MY TOOLS AND SERVICABILITY
108 I HAVE BEEN A ASEMBLER IN SPEAIL WEAPON FOR LAST YEAR
109 AS CHIEF OF SECTION MY DUTIES HAS BEEN TO TRAIN MY MEN TO DO THEIR ASSIGN TASK SO THAT THE UNIT MAY DO ITS MISSION
ALSO TO TRAIN THEM IN THE BEST MEANS POSSIBLE IN THEIR ASSIGN MOS.
110 I AM A CHIEF OF SECTION OF 155 SP. M109A3 AND THAT IS WHAT I HAVE DONE AND SUGERT TRAINA SODIER. * C 3/18FA
111 CHIEF OF SECTION + SPECIAL WEAPONS TEAM CHIEF, SUPERVISING A 10 MAN GUN CREW + A 4 MAN SPECIAL WPNS. TEAM.
112 I'VE BEEN A 13B ALL OF MY ARMY CAREER. I'M ALSO IN SPECAIL WEAPONS AND HAVE BEEN FOR THE PAST 3 YEARS.
113 DURING THE PAST YEAR I HAVE BEEN THE CHIEF OF A M103A3S.P. AND HAV I HAD ANYWERE FROM 3 TO 8 MEN WORKING FOR ME.
114
115 SUPERVISING THE PEOPLE IN MY SECTION, KEEPING A SAFE GUN
116 HAS BEEN SECTION CHIEF SINCE 1982
117 I HAVE BEING A NUCLEAR ASSEMBLER AND READER ON THE SPECIAL WEAPONS SECTION (** HOWT.) ALSO I BEEN BTRY NBC NCO, AND ALTERNATE
ENLISTED NBC NCO.
118 DETACHMENT SGT. OPERATIONS NCO, GUNNERY SGT. CHIEF OF SECTION, RE-ENLISIMENT NCO.
119 MY DUTIES WERE NBC NCO IN GERMANY AND SECURITY STIF NCO ALONG W/GERMAN SOLDIERS CUSTODIAL GUARDS FOR 155 NUKE RD. TRANSFER HERE
TO FT. SILL BECAME CHIEF FIRING BTRY FOR 2/12IH. * VIETNAM
120 SUPERVISE THE MAINTENANCE AND ACCOUNTABILITY OF SEC. EQUIP AND TRAINING OF PERSONNEL BOTH INDIVIDUAL AND COLECTIVE TRAINING.
SUPPORT AND ENCOURAGE CAREER DEVELOPMENT OF SUBORDINATE SOLDIERS.
121 DURING THE PAST YEAR I HAVE BEEN AMMO SECTION CHIEF AND HOWITZER SECTION CHIEF
122 I WAS AN ASSEMBLER ON THE 155 SYSTEM IN NORTHERN GREECE.I WAS AT TH E 18TH USAFAD.I PCS'ED TO FT. SILL WHERE I AM NOW A GUNNER
ON A SECTION * OFF AND ON
123 BEEN ASS. GUNNER AND #1 MAN THEN WENT TO CHIEF OF SECTION OF AMMO.
124 I HAVEN'T REALLY HAD ANY. MOST OF THE TIMES THIS PAST YEAR I HAVE BEEN MOVED AROUND A LOT.
125 MY MILITIARY DUTIES DURING THE PAST YEAR WAS BN AMMO AGENT RESPONSIBLE WHAT TO PICK UP AND DIVERLY AMMO TO ALL THE BATTERY IN THE
BN.
126 SECTION CHIEF 155MM SP, GUNNERY SGT , AMMO P/T. FT. SILL * AT THE AGE OF 18 ** VIETNAM
127 I WAS A GUNNER IN A 8 INCH UNIT IN GERMANY AND THEN IN FEBUARY 1982 I PCS TO FT. SILL AND I WAS A GUNNER UNTIL 2 JUNE 1982 THEN
I BECAME SECTION CHIEF ON A 155MM HOWITZER
128 GUNNER, SECTION CHIEF * 2 MONTHS
129 NONE * .5 MONTH
130 I WAS ASSIGNED AS 1SG OF A 155 MM HOW BATTERY C-BTRY 2/37 FT. SILL OK. 73503
131 CHIEF OF FIRING BTRY. SUPERVISE AND TRAIN CHIEF OF SECTION TO BE LEADER, TO DEVELOPED THE YOUNG SOLDIER OF TOMMORROW, HOW TO
SURVIVE IN COMBAT.
132 A YEAR AGO I WAS STATIONED IN TURKEY. ALL OF MY DUTIES THERE WERE SPECIAL WEAPONS RELATED. I WAS ASSIGNED HERE THE END OF JUNE.
* OCCASIONALLY
133 I HAVE BEEN A OPERATOR OF AN 155 SP HOWITZER AS WELL AS A GUNNER AND CHIEF OF SECTION I ALSO SERVED IN WEST BERLIN GERMANY FOR
2 YEARS.
134 SECTION CHIEF, NBC NCOIC FOR 3/18 FA A BTRY, I HAVE BEEN WITH 3/18 FOR 2 1/2 YRS AND HAVE WORKED WITH NBC, AND OTHER MAJOR
SCHOOLS.
135 I WAS IN AN AMMO SECTION DRIVING A 5-TON TRUCK AND CARRYING OUT NORMAL DUTIES, SINCE I MADE E-5 8 MONTHS AGO I AM AN AMMO AGENT.
MAKING SURE THE FIRING BATTERIES GET AMMO. FT. STILL IS THE ONLY PLACE I'VE BEEN SINCE IN THE ARMY AND HAVE NEVER BEEN ON A GUN.
136 CBR, AND SPECIAL WEAPONS, ATTENDED BNCOC/CA
137 BN. AMMO SGT. HERE AT FT. SILL
138 KOREA 80-81,MARCH/ ARMY TANDS 80, I WAS PROMOTED TO CPL. FROM PFC ON JUNE 81, BNCOC AUG 81,BNCOC OCT. 81,GUNNER FT. RILEY KA.
139 NOV. 81, CHIEF OF SECTION SEPT. 82, OCT.82 SGT. INSTRUCTOR
* NOT 155 BUT M110A2 8-INCH
140 SECTION CHIEF ON 155 SP, ANCOC-CA STUDENT, S W CHIEF, SECTION CHIEF ON 155 SP

CREW 2: FDC CREW

RESP	GRADE	RANK	MOS	IN ARMY YR	IN ARMY MO	IN ARTIL YR	IN ARTIL MO	COMBAT?	WHEN	ART COMBAT?	WHEN	FDC NCO WHEN MO	FDC NCO WHEN YR	FDC NCO HOW LONG YR	FDC NCO HOW LONG MO	COMPUTER WHEN MO	COMPUTER WHEN YR	COMPUTER HOW LONG YR	COMPUTER HOW LONG MO	MEN SUPER-VISED
201	E-7		13C4T	15			6	Y	70 72	N						10	82		0	10
202	E-3		13F		0		9	N		N										10
203	E-4	SP4	13F10	2	4	2	4	N		N			81		2				7*	10
204	E-4		13F10	5	2	5	2	N		N		1	78	3	1	2	81	1	9	5
205	E-4		13C	2	0	2	4	N		N						10	82	2		5
206	E-2		F.O.SPEC		10		6	N		N				0	0			0	0	5
207	E-5		13C	6		2		N		N							81	1		5
208	E-4	SP4	13F	2	6	2	6	N		N			80	1			81	1	6	5
209	E-4		13F10	2	5*	2	5*	N		N			80	2	5*		80	2	5*	5
210	E-6		13C30	5		5		N		N			78		6		78	4		10
211	E-1		13F10	1	2	1	2	N		N		7	82		*				*	5
212	E-5		13F20	3	6	3	6	N		N			81		5		82		4	5
213	E-5		13C20	4		4		N		N			79	1			79	1	*	5
214	E-6		13C30	13		7		Y	69 71	N			75	1			76	4		10
215	E-4		13C10	5	6	2	6	N		N						1	81	2		5
216	E-5		13C20	5	6	3	6	N		N					*				*	10
217	E-6		13F30	8	6	8	6	N		N							74	2		2
218	E-7	SFC	13C40	16		16		Y	71	N			64	2			66	10		>50
219	E-4	SP4	13C10	7			11	N		N				0	0			0	0	>50
220	E-5		13F20	4		4		N		N			78				79			10
221	E-5		13F	10		1		N		N				0	0			0	0	5
222	E-5		13C20	5	2	5	2	N		N		12	77	2		11	78	1		2
223	E-4	ASG	13F20	2		2		N		N			80		5		81		6	5
224	E-4	SP4	13F10	2		2		N		N				2					6	5
225	E-3	SP4	13F10	2	1	2	1	N		N		10	81		5	1	82		8	5
226	E-6		13C30	12	0	9		N		N		6	82		3	6	82		3	5
227	E-6	SSG	13F30	5		5		N		N			77		*		78	2		10
228	E-7		13C4M	13		13		Y	70	N			72	3			75	5		>50
231	E-4	SP4	13F	2	6	2		N		N						5	82		1	2
232	E-4		13F10	2	6	2	6	N		N							81			5
233	E-3		13F10	1		1		N		N										5
234	E-4		13F	1		1		N		N				0	0			0	0	5
235	E-5		13F	3		3		N		N				1						5
236	E-5	SP5	13E20	4		4		N		N		6	81	1						5
237	E-4		13F10	2	6	2	6	N		N			82		6		82		6	5
238		PFC	13F10	3		3							80		6		80	2	6	10
239	E-4		13F10	2	6	2	6	N		N							81	1		2

CREW 2: DUTY DESCRIPTION

201 RECLASSIFIED INTO ARTILLERY; MY DUTIES AS FDC NCOIC OF A BRIGADE TACFIRE. SUPPORT OF 3N ARTEP'S
202 FINISHED ATI IN JULY BEEN WITH MY PRESENT UNIT APPROX. 4 MONTHS WORKED AS RIO UP UNTIL NOW.
203 POLICE CALL, FORMATION, PULLING GUARD-SATB NATO GUARD MOTOR POOL GUARD , VEHICLE MAINT. DRILL AND CEREMONY , SQT TEST , P.T. TEST- MOS WORK. * LAST 7 MONTHS
204 WORKED IN BATTALION FDC AS A BATTERY COMPUTER. PRESENTLY JUST COMPLETED A STANCE OF ACTING SECTION CHIEF AND PRESENTLY A BATTERY COMPUTER IN A BATTERY FDC.
205 DIRECTION. OF FIRE FOR BATTALION. MAINTANANCE: SECTION. EQUIPMENT-VEHICLES : PHYSICAL ENVIRONMENT; CUTTIG GRASS,SWEEPING ASPHALT STAYING OUT OF LEGAL/FINANCIAL TROUBLES
206 I'VE WORKED ON CHARTS, DRIVE THE 577 VEHICLE THAT WE TAKE OUT ON FIELD MISSIONS , AND I HAVE BEEN THE RIO OR RADIO TRANSMITTER OPERATOR.
207 TACFIRE COMPUTER SPECIALIST, ASST SECTION CHIEF, OVERSEES MAINT ON ALL VEHICLES RELATED TO TACFIRE UNIT, AND TRAINING ON ALL SECTION PERSONNEL
208 FDC RELATED DUTIES AS NCO VCO COMPUTER. NBC ASSISTANT.
209 MY DUTIES AS A FDC MEN HAVE RANGED ANYWHERE FROM 577A1 (TRACK) MAINTANCE TO COMPUTER; RIO; FDC NCO, FDC VCO, TO CHEMICAL SURVEY TEAM. * OFF AND ON
210 IN THE PAST YEAR I HAVE SUPERVISED THE OPERATION OF THE BTRY FDC AND BDC, WHILE ALSO OPERATING AS THE CHIEF COMPUTER.
211 1) BE AT APPOINTED PLACE OF DUTY ON TIME 2) TO WORK IN THE 13E10 MOS. 3) PULL C.O. 4) WORK ON DETAILS 5) * 3 DAYS
212 I'M PRIOR SERVICE AND CAME IN A DIFFERENT MOS, LAST WAS 15D10. I'VE BEEN WORKING MY PRESENT MOS A LITTLE OVER A YEAR AND CAME TO BE COMPUTER.
213 I HAVE BEEN TACFIRE OPERATION SPECALIST, ALSO AS ADDITIONAL DUTY I HAVE BEEN BN SCHOOL, A & R AND TRG NCO. * ALTERNATED
214 FOR THE LAST YEAR I HAVE ACTED AS FIRE CONTROL NCO AND SUPERVISED ALL PERSONELL THAT WORKS UNDER ME.
215 SUPPORTING BN FDC IN TARGETING AND ACCURACY OF LANDING A ROUND ON TARGET/ HE / NBC AND VARIOUS COMBINATIONS OF ROUNDS. VOICE AND COMMAND OPERATIONS FOR EDCYRPT MESSAGES.
216 HEAVY MAINTENANCE ON VEHICLES, TRAINING FOR AN ARTEP, SUPPORTING STR POWER UP THE SHELTER, MAINTAIN HE CCU, SET UP, TURN DOWN THE NET ! MAINTAIN 5 TON GENERATOR. * YES
217 BDE NUCLEAR SURITY NCO. HELP MY BDE NUCLEAR UNITS TO PASS NSAV,NSI,IPI,IVI'S.
218 CURRENTLY WORKING AS BN FDC CHIEF IN A TACFIRE UNIT. I WAS MANUAL FDC 14 YRS PREVIOUS TO THIS. HAVE WORK EVERY LEVEL FROM BTRY TO DIVARTY USUALLY AS CHIEF OF FDC.
219 I WORKE WITH TACFIRE AND VEMED I AM NOT IN A POSTUSION TO SUPERVISE OR WORKE WITH MANUEL FDC. I HAVE WORKED AS AN RIO AND GEN MOVE.
220 I HAVE BEEN A SUPERVISER FOR A FDC SECTION FOR THE PAST YEAR
222 WORKING IN S-3 TRAINING SECTION AS PAPER-PUSHER. FIELD DUTY AS TACFIRE VEMED OPERATOR, ALSO M577 COMMAND POST DRIVER.
223 I HAVE BEEN SECTION CHIEF IN FDC FOR 4 MONTHS AND BEFORE THAT I WAS THE CHIEF COMPUTER
224 WORKING IN FDC IN KOREA AND THE USA. USING BOTH THE 198 AND 109A3 HOWITZERS.I HAVE LATELY BEEN WORKING AS COMPUTER FOR C 2/3' FA DURING FTX'S AND ALSO WAS COMPUTER DURING XM825 SMOKE TEST FOR THE U.S. ARMY FIELD ARTILLERY BOARD.
225 I WORKED IN AN FDC SECTION UNTIL I RECIEVED A PREMANT. PROFILE,KEEPING ME FROM GOING TO THE FIELD. NOW I AM WORKING AS CLERK/ TYPIST IN THE S-3 SECTION.
226 NBC NCO AND ORDERLY ROOM CLERK PRIOR TO TAKING OVER FDC SECITON
227 FDC CHIEF/SIP NCO/A & R NCO AND CCC NCO. MY TIME IS SPENT IN ONE OF THESE AREA'S ALMOST ALL OF THE TIME! * 6-8 MONTHS
228 NOV 81-FEB 82 HHB 1SG FEB 82-NOV 82 OPN SGT
229
230
231 OPERATIONS SPECIALIST AT FORT SILL, IN GERMANY I WAS A CHART OPERATOR, COMPUTER, AND TRACK DRIVER
232 I WAS SECTION CHIEF. I FOLLOWED OR LOOKED OVER AND TAUGHT MY MEN THE CORRECT WAYS TO COMPUTE DATA AND I FIGURED DATA FOR ALL TYPE OF ROUNDS WITH A 109A2 FIRING BATTERY.
233 CLERK (AMMO AND TRAINING AND USR ASST) TRAINING SCHEDULES AND AMMO FORECASTING AND RECORDS FOR THE BDE. (ACTIVLY ENVOLVED IN TACFIRE METT TRAINING)...
234 CLERK- 30-FOR
235 RESPONSIBLE FOT THE SUPERVISION, TRAINING AND THE FUNCTION OF THE FDC
236 CHART OPERATOR TROOP OVER SEFER WHEN CHIEF IS NOT AROUND
237 WELL FOR THE LAST 7 MONTHS I HAVE BEEN LEARNING AND STUDYING TACFIRE
238 HAVE BEEN TRAINING IN DESERT WARFARE AND TACFIRE. AND HAVE BEEN SUPPORTING THE OFFICER'S ADVANCED TRAINING COURSE, WITH MY EQUIP
239 WELL HERE AT FORT SILL, I HAVE HAD VERY LITTLE TRAINING IN MY MOS 13E10, LUCKLY I WENT TO GERMANY AFTER BASIC, BUT I'VE BEEN DOING PRIMARY CHART OPERATOR ANYTIME WE'RE IN THE FIELD HERE AND METS.

CREW 3: TANK CREW

RESP	GRADE	RANK	MOS	IN ARMY MO	IN ARMY YR	IN ARTL YR	IN ARTL MO	COMBAT?	COMBAT WHEN	TANK COMBAT?	TANK COMBAT WHEN	TANK COMMANDER WHEN MO	TANK COMMANDER WHEN YR	TANK COMMANDER HOW LONG YR	TANK COMMANDER HOW LONG MO	GUNNER WHEN MO	GUNNER WHEN YR	GUNNER HOW LONG YR	GUNNER HOW LONG MO	LOADER WHEN MO	LOADER WHEN YR	LOADER HOW LONG YR	LOADER HOW LONG MO	DRIVER WHEN MO	DRIVER WHEN YR	DRIVER HOW LONG YR	DRIVER HOW LONG MO	MEN SUPERVISED
301	E-6		19E3X	8		8		N		N					*				*				*				*	20
302	E-6		19E3X	14		5		N		N				0	0			0	0			0	0			0	0	20
303	E-6		19E3XBR	6		8		N		N		7	77	1	6	3	75	2	3									>50
304	E-6	SSG	19E	7		7		N		N			77	2	6		76	1										>50
305	E-6	SSG	19E3P	13	10	13	10	N		N			71	11				0	0		70				70			>50
306	E-6	SSG	19E30L5	9		9		N		N			79	3			78	1							73	6		>50
307	E-6		19E3C5	8		8		N		N			77	3			75	2			74		3					10
308	E-7	SFC	19E4YBR	13		7		Y	69	N			76	6			75	1					*				*	>50
309	E-6		19E	9		5		N		N			79	2			78	1										>50
310	E-6		19E30	8		8		N		N		10	82	3			77	2			76	1			75	1		20
311	E-6		19E30	10		10		N		N			77	5			75	1			73	2			73	2		>50
312		SSG	19E	9	8	9		N		N			77	1			75	2			75	2			75	2		20
313	E-6		19E30	10		10		N		N				6				1				1				2		50
314	E-6		19E3C5	9		9		N		N			77	6			76	1			74	1			75	1		>50
315	E-6		19E30	8	6	8	6	N		N			76	5			75	1			74	1			74	1		50
316			19E30	7		7		N		N			77	5			75	2										20
317	E-6	SGP	19E	8		8		N		N				6			74	1										20
318	E-7		19E4H	13	6	7	6	Y	68 69	N				5	6			2										50
319	E-6	SSG	19E3C5	9		9		N		N			76	6			74	1			73	1						50
320	E-6		19E3HBR	10	6	10	6	N		N			74	8														>50
321	E-6	SGP	19E30	11	1	11	1	N		N		9	76	6														20
322	E-7		19E40BR	12		5		Y	66 67*	N			78	4	6		77		6		76		6		76		6	>50
323	E-6		19E3H	11		11		Y	68 70	N			78	4			77	1			75	2			74	1		50
324	E-6		19E	8		8		N		N			78	4			76	2			75	1						>50
325	E-6		19E30BR	11		10	6	N		N			76	6			75	2	*		70	1			68	1		>50
326	E-6	SSG	1811	6	6	6	6	N		N				6														>50
327	E-6		19E30	10		8		N		N			74	7													6	20
328	E-6		19E30	10		6		N		N			76	1		5												50
329	E-6	P	19E30H	12	6	10		N		N				7				3				1				1		>50
330	E-6		19E30	10		10		N		N			74	7			73	1	6						72		8	20
331	E-7	SFC	19E4A	14	6	10	6	Y	69 70	Y	69 70		70	12											69	1		50
332	E-6		19E30	8		8		N		N		2	78	5			77	1							76	1		>50
333	E-6	SSG	19E3	9	6	9	6	N		N			77	6			76	2			74		6		75	1		>50
334	E-6	SSG	19E3	11	4	11	4	N		N			74	8			73	1	6						72	1	8	20
335	E-6	SGP	19E30X	3	5	8	5	N		N			75	7			74		7						74		5	>50
336	E-6	SSG	19E	10	6	10	6	N		N			75	7			72	3										50
337	E-6		19E30	11		11		N		N			74	8			74		5		73		4		72	1	6	>50
338	E-7		19K40	11	3	11	3	N		N			75	7			72	3			71	1						>50
339	E-6		19E30	10		10		N		N		4	75	7	6		74	1			72	2						>50
340	E-7	SGT	1811	11		11		N		N			75	3			74	2			71	2			72	3		>50
341	E-6		19E	10		10		N		N			75	3			75	1	6		74	1			73	1		>50
342	E-7	SSG	1811	13		11		Y	69 70	N			72	5			71	6			71	6			70	6		>50
343		SSG	19E3YBR	10	6	10	6	N		N			75	5			75	1			71	1			72	2		50
344	E-6		19E3X	8		8		N		N			79	2			75	6							75	6		20

CREW 3: DUTY DESCRIPTION

301 D.S. * YES
302 DRILL SERGEANT
303 INSTRUCTOR (DRILL SERGEANT SCHOOL) TAC NCO (PRIMARY NCO COURSE)
304 DRILL SARGEANT IN AN OSUT BDE
305 TANK COMMANDER, PLATOON SERGEANT
306 PLATOON SGT OVER 10 PERSONEL ALSO COMPANY MASTER GUNNER
307 I AM THE BATTALION MASTER GUNNER. I COORDINATE ALL TANK GUNNERY AND OBSERVE TURRET MAINTANCE.
308 DRILL SGT.-SUPERVISE AND TRAIN YOUNG CIVILIANS TO BECOME ARMOR CREWMAN. * OFF AND ON
309 DRILL SERGEANT AT FT KNOX
310 TANK CMDR, SUPERVISOR OF 3-20 PEOPLE AND TOOK OVER AS PLT SERGEANT
311 PLT SGT.- MAINTAIN 5 M60A1 TANKS WITH A PLT OF APPROX 20 CREW MEMBERS.
312 DRILL SGT.
313 CAV. TANK SECITON SGT. , TANK COMMANDER
314 TANK PLT SGT/ MASTER GUNNER FOR AN ARMOR TANK UNIT
315 TANK PLT SGT AND MASTER GUNNER FOR MY COMPANY
316 IN CHARGE OF A TANK PLATOON, RESPONSIBLE FOR MAINT OF VEHICLES, TRAINING AND WELFARE OF PERSONNEL
317 PLT SGT, SECTION SGT TANK COMMANDER
318 INSTRUCTOR AT AN NCO ACADEMY. INSTRUCT BASIC NON COMMISIONED OFFICERS COURSE 19ECMF.
319 P/T SEARGENT 6 MONTHS, BN MASTER GUNNER 6 MOUNTHS
320 I HAVE SERVED AS PLATOON SGT. FOR THE LAST YEAR. CONTROLLING AND SUPERVISING 20-24 MEN BOTH IN GARRISON AND THE FIELD IN ADDITION I ALSO TEACH THEM ON SGT TASK.
321 PLATOON SGT. OF A TANK PLATOON IN EUROPE.
322 PLT SGT/PLT LDR. RESPONSIBLE FOR THE TRAINING OF 19 S.M., AND IDENTIFING TRAINING DEFFICIENCIES, AND TAKING STEPS TO CORRECT THESE DEFFICIENCIES. * DEC 66 - JUL 67
323 I HAVE BEEN TRAINING AIT/OSUT TROOPS AND I AM NOW TRAINING ARMER OFFICIER BASIC.
324 PLT SARGEANT
325 PLATOON SERGEANT IN A CAV PLATOON, PERFORMING OUTPOST AND PATROL DUTY ALONG THE IRON CURTAIN. * ALSO 1971
326 PLT. SGT./TANK SECTION LDR. USMC
327 IVE BEEN A TANK COMMANDER, PLT SGT. WENT THUR 3 GUNNERYS. ARTEP AND NUMERIOUS OTHER DUTIES, AND MISSIONS.
328 BRIEFED ALL NATO FORCES ON OPFOR VEH. AND PERFORMED MAINTANCE ON T62,T-62-A, T54, T54B, PT76, BTR152, BTR60PB, GAZ-69 AND BMP. TANK SEC. LEADER.
329 WAS IN GERMANY IN 2BN 81 ARMOR. ENLONGED ERG WAS A PLATOON SERGENT FOR 10 ENTIRE YEAR.
330 INSTRUCTOR M60A3 WEIT TEAM TEACHING FIRE CONTROL, LASTING ABILITY OF A-3 SYSTEM!
331 DURNING THE PAST YEAR TECH INTEL ANILYST SOVIET ARMOR
332 TANK SECTION LEADER IN A CAV TROOP. SUPERVISE TANK SECTION AND 20 PEOPLE, LEAD TANK SECTION IN MANUVERS AND GUNNERY EXERCISES.
333 PLATOON SERGEANT OF A 30 MAN TANK PLATOON WITH 7 TANKS SUPPORTING THE TRAINING GIVEN AT THE U.S. ARMY ARMOR SCHOOL FT. KNOX, KY.
334 I HAVE A PLT SGT AND A HA PIT SGT
335 PLT SGT IN A ARMOR BN IN WEST GERMANY
336 PLT SGT IN A ARMOR CAVALRY
337 PLT SGT ARMORED CAV PLT. SUPERVISED MAINT OF 5 M113A1 4 M60A1 TRAINING OF BOTH 19D AND 19E E-6 AND BELOW
338 PLT SGT/ MASTER GUNNER OF M-1 TANK PLT.
339 TANK COMMANDER WITH A CREW OF 4. ALSO, BEING THE RANKING E-6, I WAS FULFILLING THE JOB AS ASSISTANCE PLATOON SERGEANT ALSO.
340 LOGISTICS CHIEF, TANK PLT SGT, GUNNERY AND TACTICS INSTRUCTOR, 25 MM CHAINGUN INSTRUCTOR, COMPANY TANK LDR, USMC
341 I HAVE BEEN AN ARMOR DRILL SGT. I HAVE BEEN TEACHING BASIC SKILLS AND ARMOR SUBJECTS.
342 PLATOON COMMANDER TANK PLATOON STATIONED OKINAWA, JAPAN AND REPUBLIC OF KOREA AND REPUBLIC OF PHILIPPINES. USMC
343 DRILL SGT TRAINING BASIC AND AIT SOLDIERS.
344 DRILL SARGEANT

CREW 4: TOW CREW

RESP	GRADE	RANK	MOS	IN ARMY YR	IN ARMY MO	IN APITL MO	IN APITL YR	COMBAT?	WHEN	ATGM COMBAT?	WHEN	SQUAD LEADER WHEN NO	SQUAD LEADER WHEN YR	SQUAD LEADER HOW LONG YR	SQUAD LEADER HOW LONG MO	GUNNER WHEN MO	GUNNER WHEN YR	GUNNER HOW LONG YR	GUNNER HOW LONG MO	LOADER WHEN MO	LOADER WHEN YR	LOADER HOW LONG YR	LOADER HOW LONG MO	DRIVER WHEN MO	DRIVER WHEN YR	DRIVER HOW LONG YR	DRIVER HOW LONG MO	MEN SUPER-VISED
401	E-6	SSG	11H3	10		5		Y	67 68	N			78	2				2	*			2	*			2	*	>50
402	E-6		11H30	14		11		N		N				3				2				2				3		>50
403	E-6		11H30E9	10		10		N		N			77	5			76	2							75	1		10
404	E-6	SSG	11H	10		10		N		N			75	8			72	2										50
405	E-6	SSG	11H3H	10		10		N		N			78	3			75	3			73	3						>50
406	E-6	SSG	11H30	14		9		N		N		1	83	6														50
407	E-6	SSG	11H3X	10	8	5		N		N			79	2														20
408	E-6	SSG	11H30	13		6		Y	69 70	N																		50
409	E-6		11H30H	10		9		Y	68 70	N			78	1														20
410	E-7		11H40XE9	17		17		Y	66 67	Y	66 67		68	6			67	1			66	1			66	1		>50
411	E-6	SSG	11H	11	7	7		N		N			76	3														20
412																												20
413																												20
414	E-6		11H3X	9	9	3		N		N							74				74							20
415	E-6		11H3HE9	8	6	8	6	N		N			76	1	6		75		11		75		2		74		8	50
416	E-7		11H40	15		6		Y	*	N			78	2														>50
417	E-6	SSG	11H30E9	12		8	6	Y	*	N				4														>50
418	E-6	SSG	11H30	9	6	9	*	N		N		6	74	3	6	12	73		6					8	73		4	>50
419	E-6	SSG	11H3P	12		6		N		N			73	3														>50
420		SSG		13		8		N		N		12	75	2		9	75		3	6	74		3	1	74		6	50
421	E-6	(P)	11H3X	7	6	7		N		N				5														50
422	E-6		11H30	11	6	6		N		N		7	74		6													50
423	E-6	SSG	11H3HE9	10	6	10	6	N		N			75	7			75		6		74		6		74		6	50
424	E-6		11H	10	8	8		N		N			78		6													>50
425	E-6		11H	10	*	11		Y	70 *	N			75	1	6		72	1										>50
426	E-6	SSG	11H30	9	8	8	8	N		N			75	6														20
427	E-6		11H3H	9	7	8		N		N			76	4			76		8		75		6		75		6	50
428	E-6		11H30E9	14		8		N		N			75	6			75		6									50
429	E-7		11H40	12		6		Y	71 72	N				0	0			0	0			0	0			0	0	20
430	E-7		11H4X	12		5		Y	71	N			75	4			79		*									>50
431	E-6		11H	11		3		N		N																		10
432	E-6		11H	9	7	5		N		N			77	2			77		*		77		*		77		*	>50
433			11H30	10		7		Y	68 *	N			78	3			77		2		76	1			75		8	>50
434	E-7	SFC	11H40	13		6		Y	70 71	N			75	6														10
435			11H3X	12		7		Y	68 70*	Y	68 70*			3	*				6*									>50
436	-6		11H30E9	8		6		Y	69 70	N			78	1	6		77		6									20
437	E-6	SSG	11H30	12		7		N		N			76	3														>50
438	E-6		11H	11		7		N		N			77	3			76	1			77		3		76		6	50
439	E-6	SSG	11H30	10		8		N		N		10	78	5														20
440	E-6		11H	11		8	6	N		N				4	6													50
441	E-6	SSG	11H30	10	6	6		N		N			76	6														>50
442	E-7		11H	13		13		Y	68 69	N			75	3			73	2			72	1						>50
443	E-7	SFC		15		8		Y	67 68	N			70	9														>50
444	E-6		11HE9	9		5		N		N			78	1														>50
445	E-6		11H30	7	8	7		N		N			77	6			76	1										50
446			11H4H	13		8		N		N			76	3		5	81	1		5	81	1		5	81	1		>50

CREW 4; DUTY DESCRIPTION

401 TOW-5YRS ITV-3YRS * OFF AND ON
402 WORK WITH M901 ITV AS A PLT. LEADER 3 YEARS WORK WITH M220 TOW CARRIER FOR 6 YEARS WORK WITH M151 TOW CARRIER FOR 2 YEARS
403 I HAVE BEEN IN AN ANTI ARMOR PLT. 10YRS. I HAVE WORK WITH THE JEEP TOW, THE M220 SYSTEM AND AT THE PRESENT TIME ON THE M901.
404 WORKING AS AN ANTI-TANK PLT SGT. TAKING CARE OF THE WELL FAIR OF 44 MEN. ALL 12 ITV AND ONE APC. ALSO MAKING SURE MY PLT. IS TRAINED AND PREPARE FOR COMBAT. ALSO TRAINING LT.'S WHO WORK AS PLT. LEADERS.
405 INSTRUCTOR ITV TRANSITION TRAINER COURSE FT. BENNING TEACH APPROX. 4 STUDENTS EVERY 3 WEEKS ON HOW TO OPERATE, MAINTAIN, SHOOT THE ITV.
406
407 DURING THE PAST YEAR I HAVE BEEN ASSIGNED AS A DRILL SGT.
408 I HAVE EXPERIENCE IN ALL TOW VEHICLES EXCEPT THE HULFS. I'M A PLT.SGT. WORKING TOW JEEPS AT THE PRESENT TIME.
409 AS AN INSTRUCTOR FOR PNCOC/CA IN THE 11B SERIES. ALL AREA'S ITV'S PLT. SGT 2YR. EUROPE
410 HEAVY ANTI-ARMOR CREWMAN SUPERVISOR. CHIEF SUPERVISOR SPECIALIZING IN NIGHT OPTIC
411 I HAVE BEEN A SECTION SGT FOR THE LAST 18 MONTH AND OUT OF THAT TIME MY ITV'S HAVE BEEN IN SUPORT ABOUT 5 TO 9 TIME FOR DIFFERENT THINGS AND MY ITV DON'T HAVE THAT MANY HOURS ON THE GUN.
412
413
414 I WAS AN 11H IN 1973+74 AND WAS THEN RECLASSIFIED AS AN 11B BY DA. IN 1979 WHEN DA RE-ESTABLISHED THE 11H MOS, I WAS AUTOMATICALLY SWITCHED BACK. SINCE THEN I HAVE BEEN IN A RANGER BN OR ON STATUS AS A DRILL SGT, SO I'M NOT YOUR BEST SOURCE OF INFORMATION
415 I AM THE MISSLE LOGISTICS NCO FOR THE TOW PROJECT, REDSTONE ARS I WAS AN ITV INSTRUCTOR AND LATER PLATOON SERGENT IN EUROPE AND SUPERVISED APPROX 30 PERSONNEL. I HAVE ALSO BEEN AN ANTI-ARMOR INSTRUCTOR AT FT BENNING, GA. FROM 1978-79.
416 I'M A PLT. SGT. A.T. PLAT. ITV'S * VIETNAM
417 PLT SGT OF AN ITV PLT. WITH AS HEN 18 ITV'S IN A EUROPEAN AREA. GUN JEEPS AND 113E1 TOW CAR * VIETNAM,LAOS
418 ANTI TANK PLT SGT. ASSISTED IN THE TRAINING OF NCO'S AND ENLISTEDMEN IN THE MAINT AND TACTICAL DEPLOYMENT OF ANTI ARMOR SQUADS AN AND SECTION. * 2 YRS 106, 3 YRS JEEP TOW, 2 YRS TOW TRACK, 2 YRS DRAGON SGD. LDR.
419 3 YRS WITH THE TOW ON APC AND 3 YRS ON JEEP. I HAVE BEEN SQUAD LEADER AND SECTION LEADER.
420 PLT SGT ANTI TANK PLT, 6 GUNS 13 VEHICLES- ARTEP-
421 I'M CURRENTLY ASSIGNED AS A DRILL SGT. HERE ON FT. BENNING. THE ONLY CONTACT IVE HAD WITH THE TOW AS BEEN IN SKILL LEVEL I TASKS THAT I HAD TO REINFORCE WITH MY TRAINEES.
422 SECTION SGT RESPONSIBLE FOR 6 E-M AND 2 TOW VEHICLE, PRESENT DUTY IS PLT SGT OF 12 ITV AND 53 EM.
423 I AM CURRENTLY AN ITV SECTION LEADER IN A COHORT UNIT. I HAVE TRAINED SOLDIERS ON ALL DIFFERENT MODE OF TOW'S. I HAVE BEEN A TOW SECTION SGT FOR THE LAST 7 YRS I HAVE ALSO BEEN AN INSTRUCTOR ON THE M220 TOW WITH THE 4TH DIV. ANTI ARMOR SCHOOL.
424 I HAVE BEEN A PLATOON SERGANT M220-JEEPS WITH THE 101ST FOR THE PAST 8 MTS. I WAS APLATOON SERGENT M901 WITH 3RD ARMOR DIVISION PRIOR TO GETTING TO 101ST.
425 I AM A BATTL. LEADER SGT IN EUROPE WHERE I HAVE 3 TOW ITV SECTIONS 6 ITV'S THAT I AM RESPONSIBLE TO LEAD AND TRAIN I HAVE BEEN IN THAT POSITION 1 YEAR. * 10 YEARS ACTIVE, 3 YEARS RESERVE, 11H, 106'S ** KVN, HELICOPTER DOOR GUNNER *** SECTION LEADER OR HIGHER 76-83
426 HAVE SERVED AS A GROUP LEADER OF A GROUP WHICH CONSISTED OF APPROXIMATELY 21 PERSONNEL, 3 SECTIONS, 6 TOW WEAPON SYSTEMS. SYSTEMS ARE MOUNTED ON M151 A2. I HAVE USED THE TOW IN THE M113, 1/2 TON MULE, AND THE M151 1/4 TON.
427 I'VE WORKED WITH JEEP MOUNTED TOW AND M113 TOW, TOW CAR VEHICLE, MY PRESENT JOB IS PNCOC INSTRUCTOR
428 IN 1975 I STARTED WITH THE GROUND MT. SYSTEM AND WORKED WITH IT MOSTLY AS A SGD. LD. AND SECTION SGT. I STARTED WITH THE ITV IN JAN 81 UNTIL NOW AS A SECTION SGT IN GERMANY
429 I STARTED WORKING IN TOW IN 1977, I DEPARTED FOR GERMANY IN 1979. THERE I WORK WITH WITH THE ITV, I RETURNED TO FT. CAMPBELL WHERE I AM PRESENTLY SERGENT.
430 IVE WORKED WITH THE TOW WPN SYSTEM ON A REGULAR 113, AN IMPROVED 113 THEN ON THE ITV. * 1 TIME
431 DRILL SERGEANT NO EXPERIENCE W/ITV
432 I WORK ON TEF RANGE AS AN INSTRUCTOR FOR ITV. * 1 WEEK
433 I HAVE BEEN PLT SGT OF AN AT PLT APPX TWICE IN THE PAST YR, RIGHT NOW I AM PRESENTLY A SECTION SGT OF AN ITV CREW IN CHARGE OF MAINTANE, WELFARE, AS WELL SUPERVISION OF MY SECTION * US NAVY
434 I HAVE BEEN A DRILL INSTRUCTOR AT FT DIX, N.J. WHICH IS VERY LONG HOURS AND MENTALLY VERY DIFFICULT.
435 TOW SECTION LDRS. GERMANY, BN NCOIC IN CHARGE OF ALL TOW TRAINING. TOW INSTUCTOR IT PULK MOUNTED, JEEP, TRACK AND GOAT.
* VIETNAM ** GERMANY
436 1) ITV SECTION LEADER- RESPONSIBLE FOR SUPERVISION OF 7 PEOPLE AND 2 ITVS 2) WEAPONS PLT SGT-RESPONSIBLE FOR SUPERVISION OF 81 MM MORTAR SECTION AND 1 ITV SECTION.
437 DRILL SERGEANT AT FT BENNY GEORGIA TRAINING TODAYS INITIAL ENTRY SOLDIERS
438 I WAS ITV INSTRUCTOR FROM 80-81 AFTER THAT I WAS SUPPLY SGT NOW I WORKING AS ITV PLATOON SGT

439 SECTION SGT. FOR A TOW WEAPONS SYSTEM MOUNTED ON AN M151A2
440 ACTED BRIEFLY AS PLT SGT FOR AN AT PLT, SECTION LDR FOR ANOTHER SHORT PERIOD OF TIME AND APPROX 9 MONTHS AS TNG NCO AND OCASIONALLY QUALIFYING ON THE ITV (WORKED WITH THE ITV FOR APPROX 2 1/2 YEARS) WORKED WITH M220 TOW FOR 2 YEARS
441 I WAS A SECT. LDR. IN KOREA FOR 1 YR. AND NOW I HAVE BEEN A SECT. LDR IN GERMANY FOR 6 MONTHS.
442 SENIOR INSTRUCTOR TOW GROUND MOUNT
443 SENIOR INSTRUCTOR ON TOW GUNNERY TRAINING COURSE, IMPROVED TOW VEHICLE AND DRAGON.
444 INSTRUCTOR OF ITV CREWMEN TRAINING FOUR CREWMEN FOR (E-9) ITV
445 I HAVE INSTRUCTED ITV CREWMAN FOR THE PAST YEAR. ALL STUDENT WERE INITIAL ENTRY STUDENT DURING BASIC AND ADVANCED TRAINING.
446 I HAVE BEEN ASSIGNED AS SR. INSTRUCTOR ON THE ITV FOR THE PAST 7 MONTHS. I HAVE HAD PREVIOUS EXPERIENCE ON ALL POSITIONS ON THE ITV AND TOW SYSTEMS.

Appendix C

SINGLE SYMPTOM EFFECT ON PERFORMANCE

Each figure of this appendix is devoted to one position within a crew. Figure C.2, for example, shows one strip of plots for each of the two tasks performed by crew 1 (gun crew) position 2 (gunner). Performance is plotted on the vertical axis ranging from 0 to 1.0. The horizontal axis is composed of symptom complexes that differ from one another in only one symptom (usually). The first plot shows symptom complex 11X 111 where X (fatigability and weakness) ranges from severity level 1 to severity level 4.

The heavy line connects the median values of the soldiers' performance estimates for each of the symptom complexes. The upper and lower lines connect the extreme estimates. The other two lines connect the upper and lower quartile points. In the first plot on this page, the upper extreme, the upper quartile, and the median all lie on 1.0 for all the symptom complexes.

If we have described the increasingly severe aspects of symptom complexes clearly, and the soldier estimates of performance are consistent with that description, the lines connecting the points on the plots should trend downward or should remain level. If one of the lines were to reverse (slope upward), it would indicate that performance improves as sickness becomes more severe.

There are several instances of reversals; not all are cause for concern. A reversal in one of the extremes can result from the estimates of a single respondent. A shallow reversal may be due to the scatter of the estimates about two values that are essentially the same. But if the reversal is steep, involves the median, and is repeated for several crews, it indicates a difficulty in symptom interpretation. There does seem to be a difficulty with the symptom complex pairs 112 111/113 111, 411 111/412 111, 214, 112/314 112/414 112, 314 113/315 113, and 525 111/535 111.

However, there is a more important aspect shown by the single-symptom plots; that is, there is a pronounced difference between tasks for some positions. For example in Fig. C.4, crew 1 (gun crew) position 4 (loader) tasks 6 and 7 have very different patterns, as do tasks 9 and 10--implying that those tasks will suffer different degradation patterns than other tasks performed by the same crewmember, and therefore should be analyzed separately.

Figure C.1. Single symptom plots: gun crew, chief of section (crew 1, position 1).

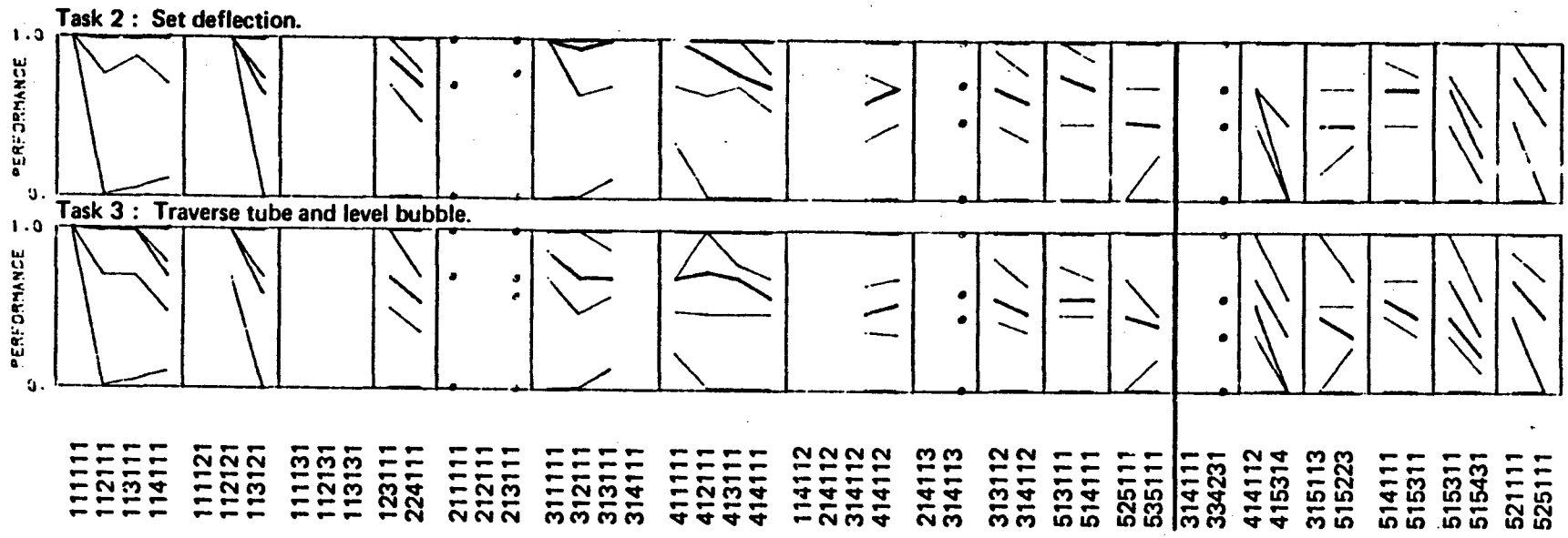

Figure C.2. Single symptom plots: gun crew, gunner (crew 1, position 2).

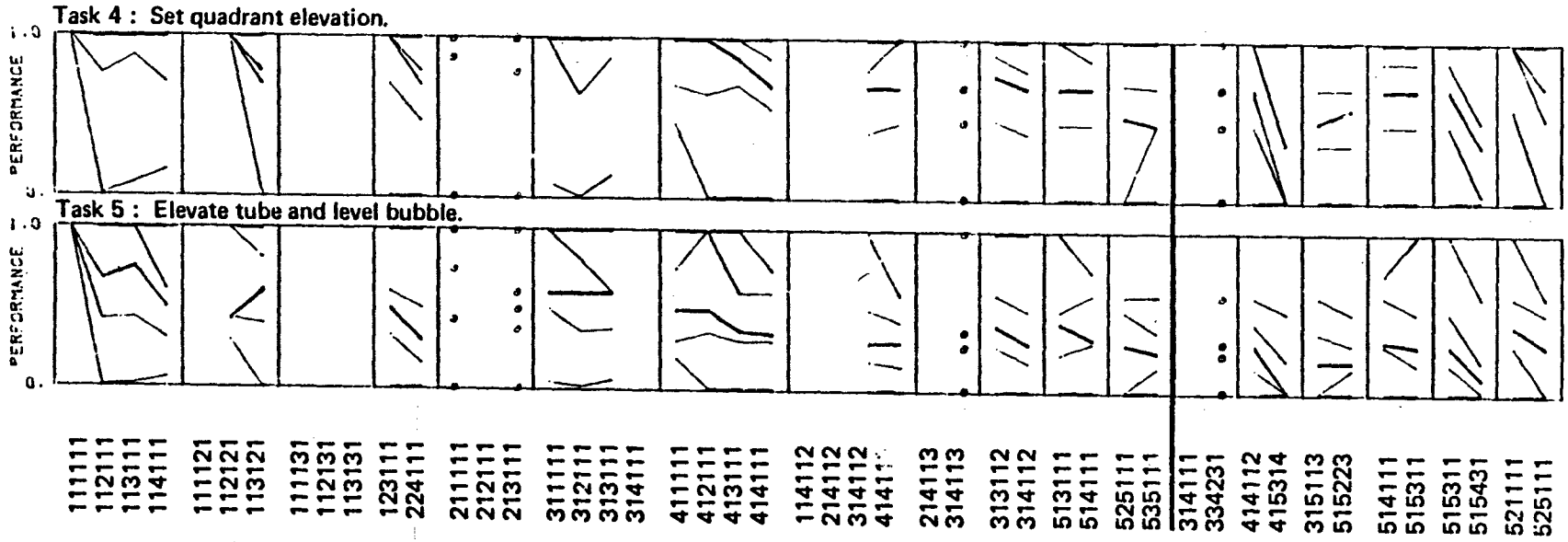

Figure C.3. Single symptom plots: gun crew, assistant gunner (crew 1, position 3).

Figure C.4. Single symptom plots: gun crew, loader (crew 1, position 4).

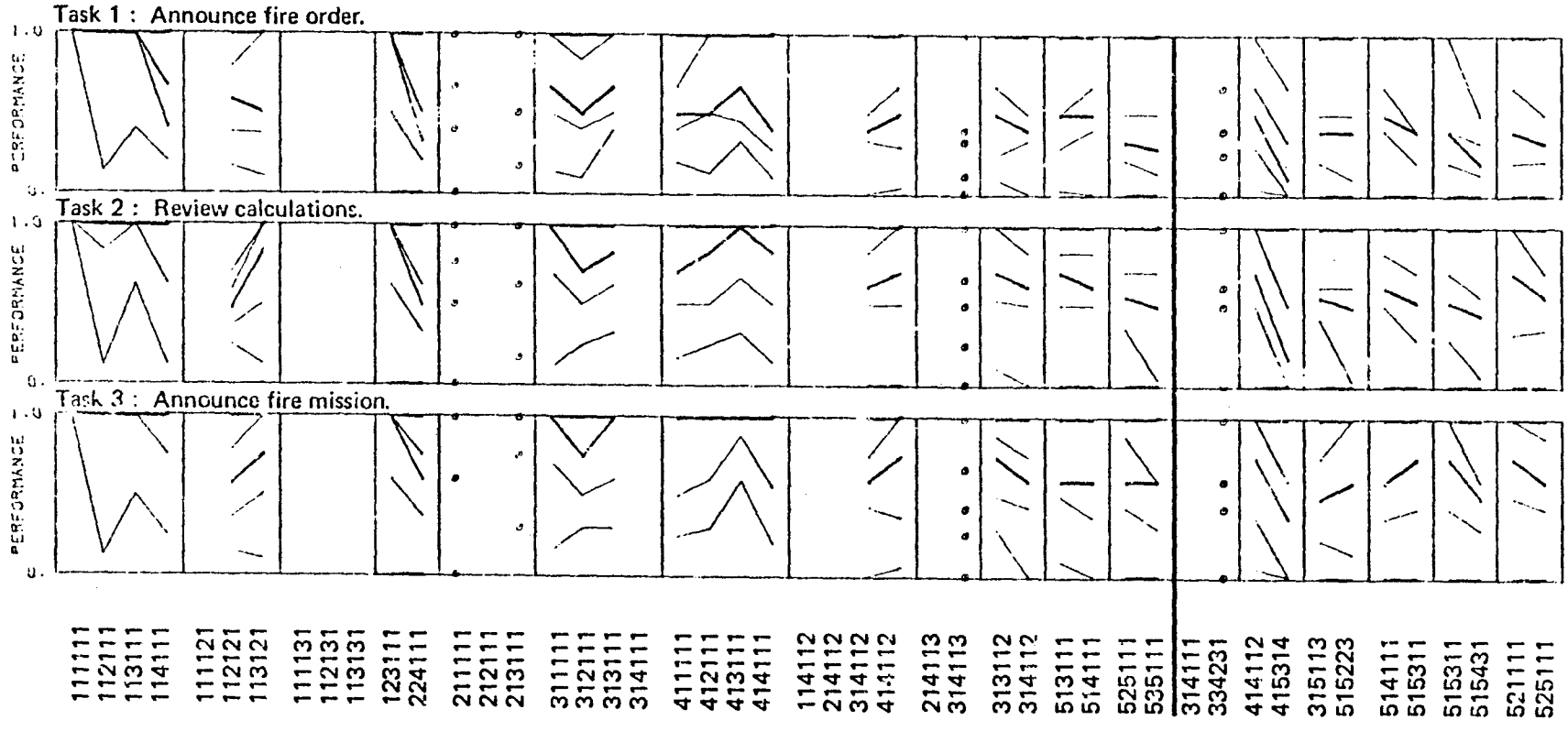

Figure C.5. Single symptom plots: FDC crew, fire direction officer (crew 2, position 1).

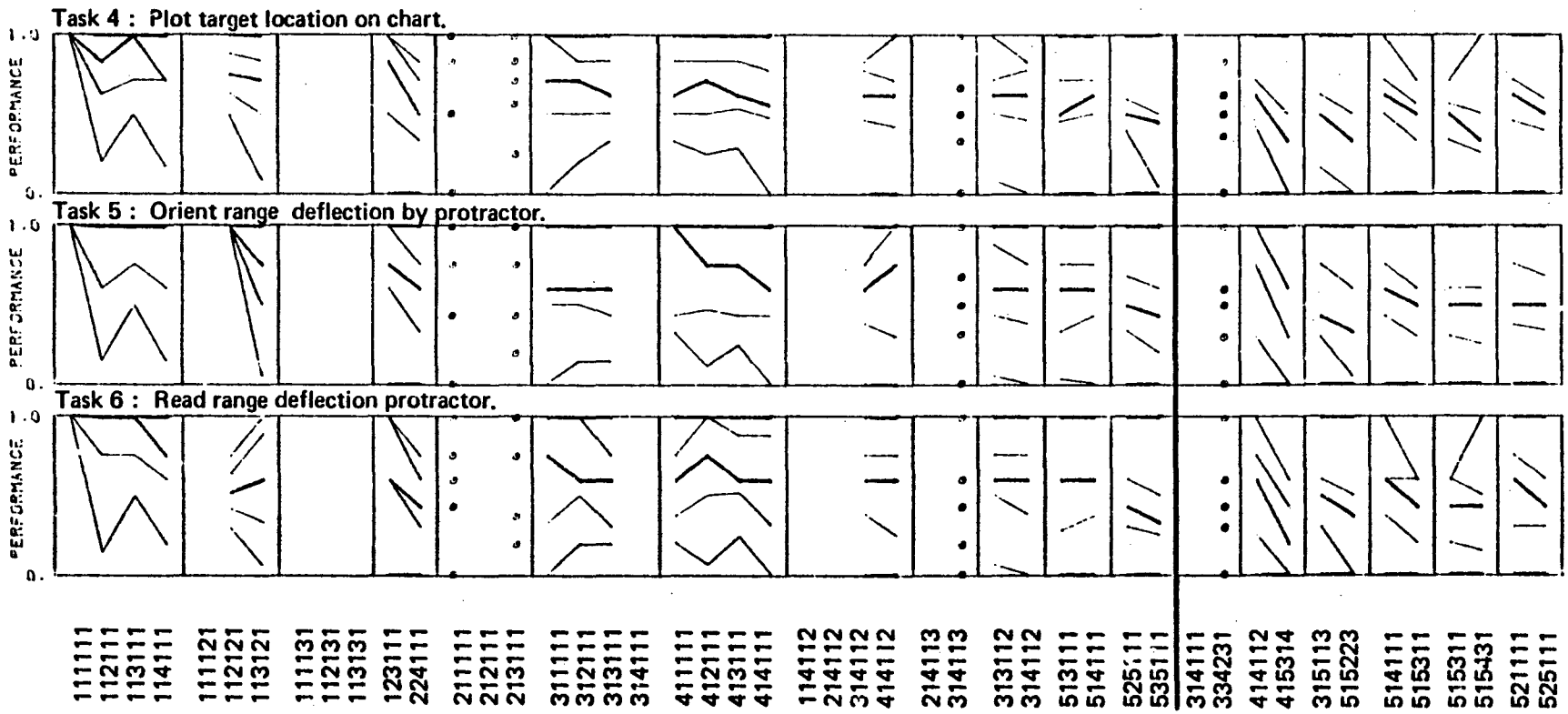

Figure C.6. Single symptom plots: FDC crew, horizontal control operator (crew 2, position 2).

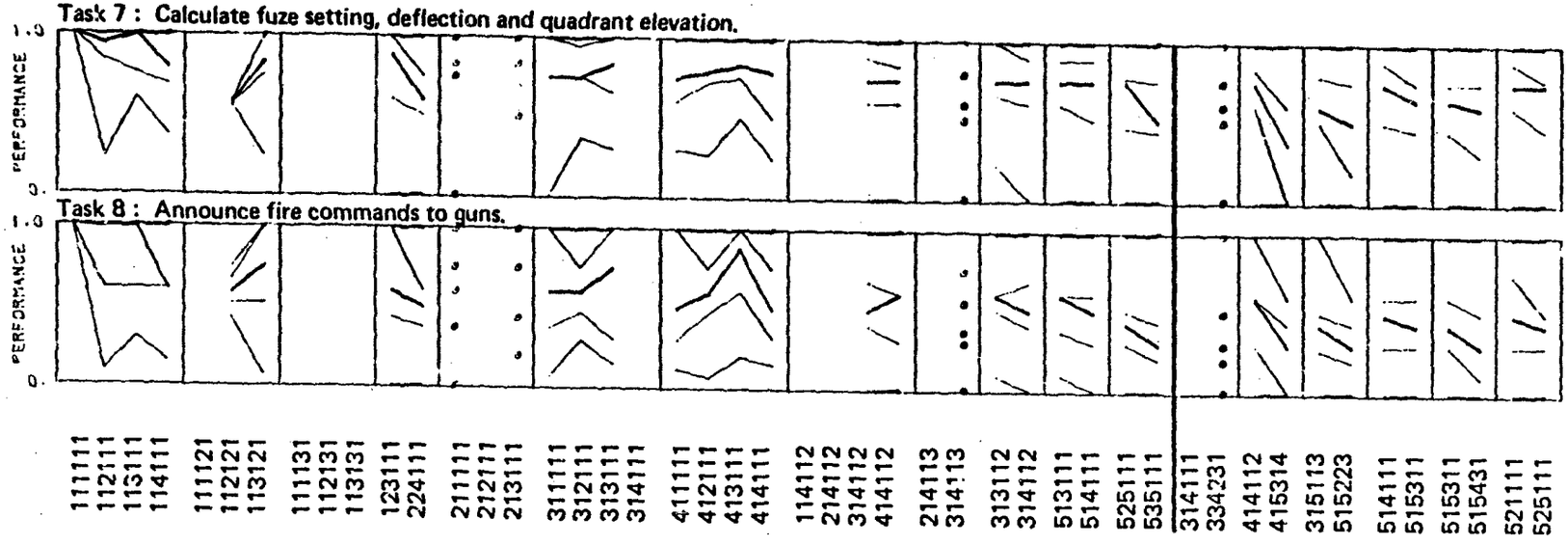

Figure C.7. Single symptom plots: FDC crew, computer (crew 2, position 3).

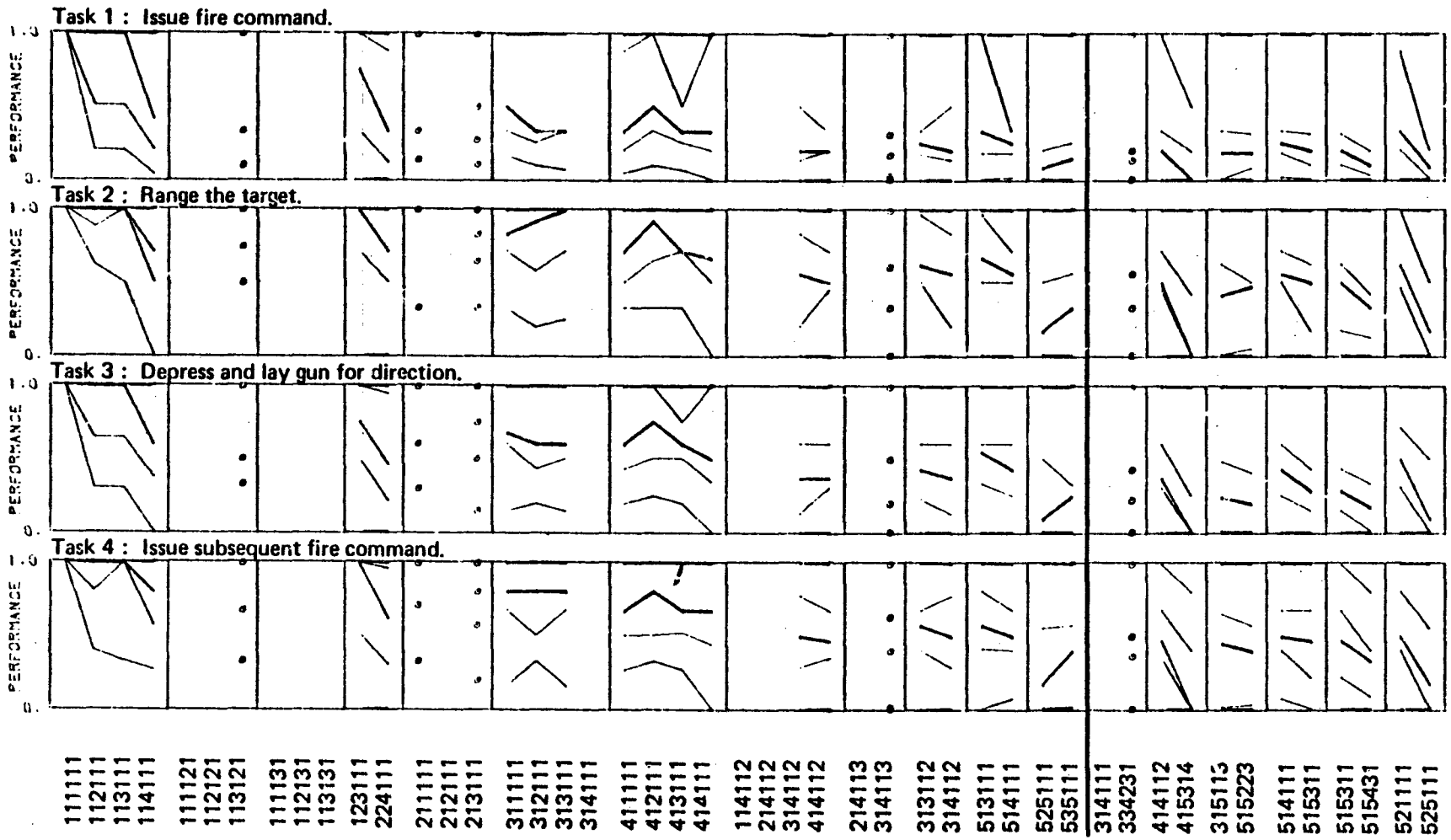

Figure C.8. Single symptom plots: tank crew, tank commander (crew 3, position 1).

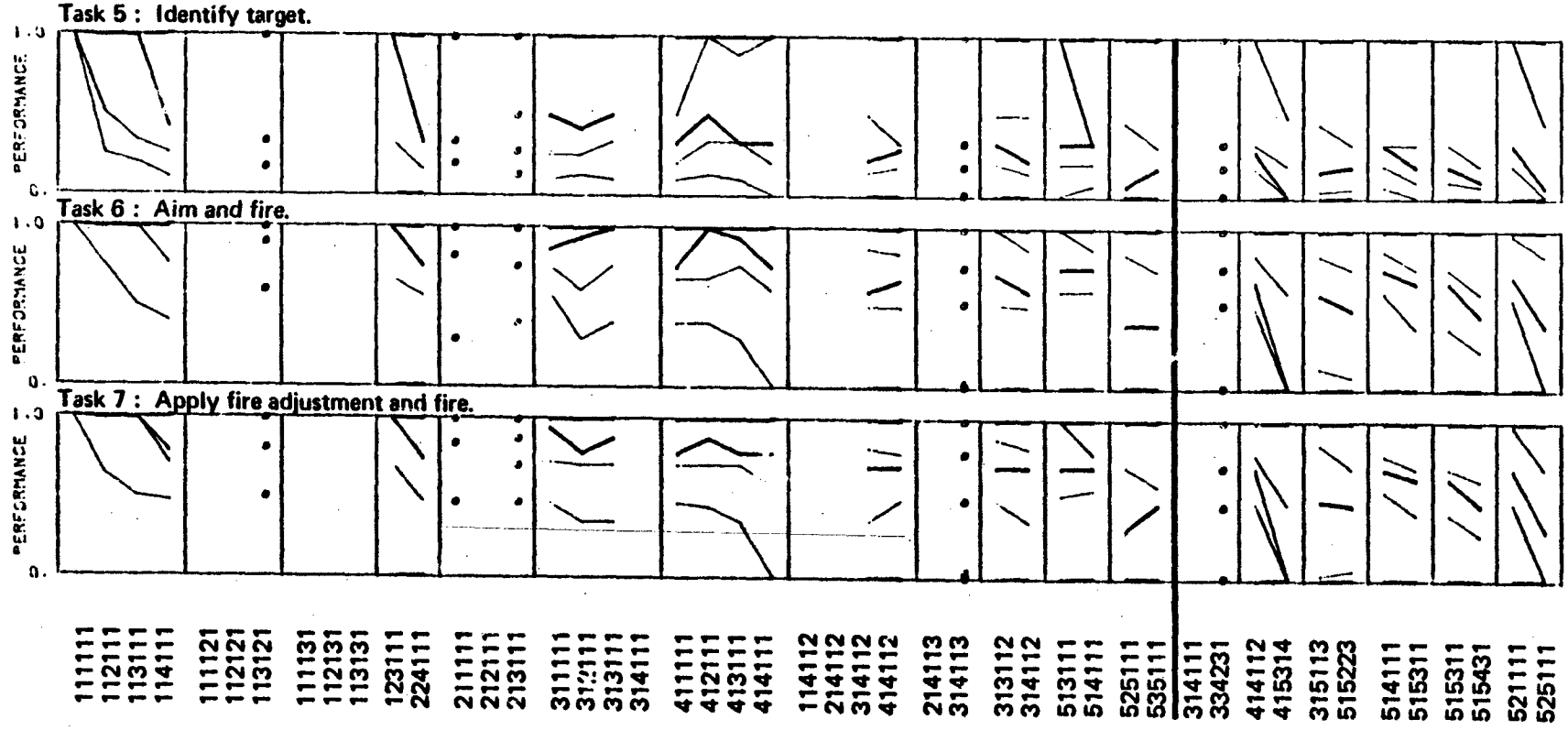

Figure C.9. Single symptom plots: tank crew, gunner (crew 3, position 2).

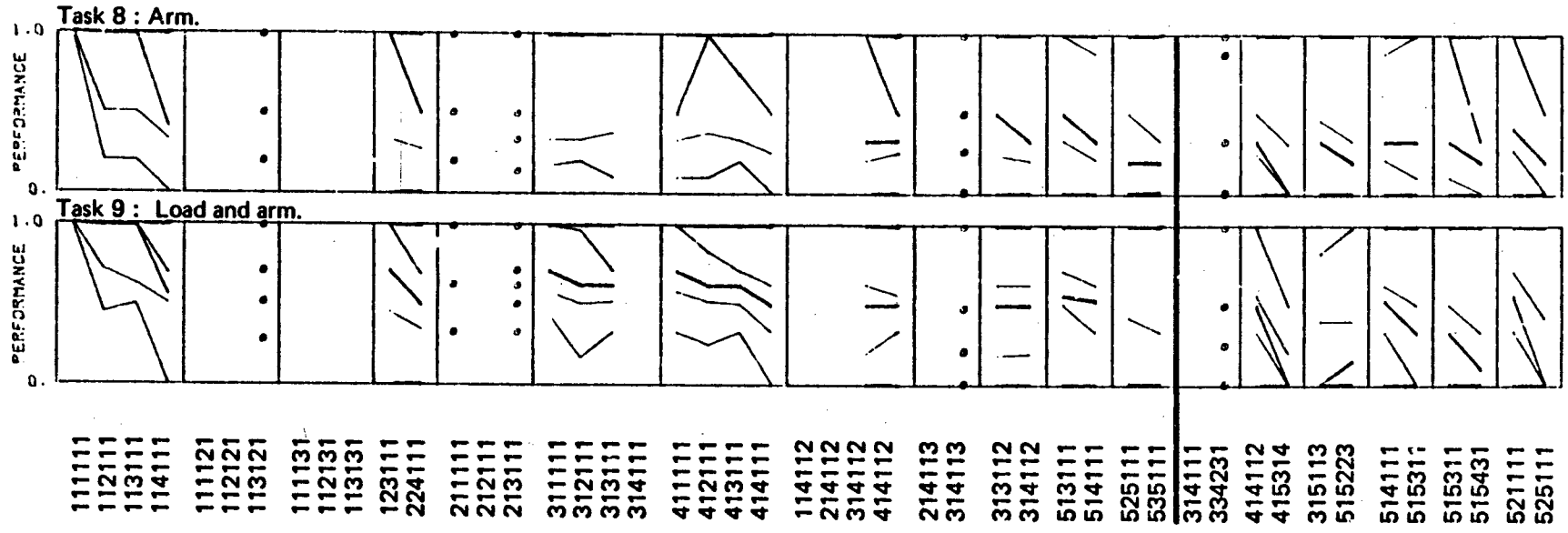

Figure C.10. Single symptom plots: tank crew, loader (crew 3, position 3).

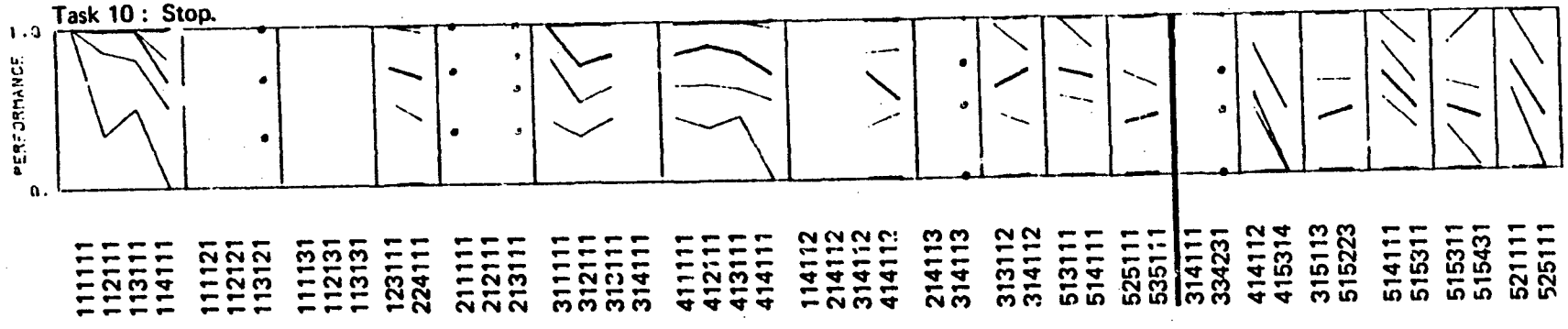

Figure C.11. Single symptom plots: tank crew, driver (crew 3, position 4).

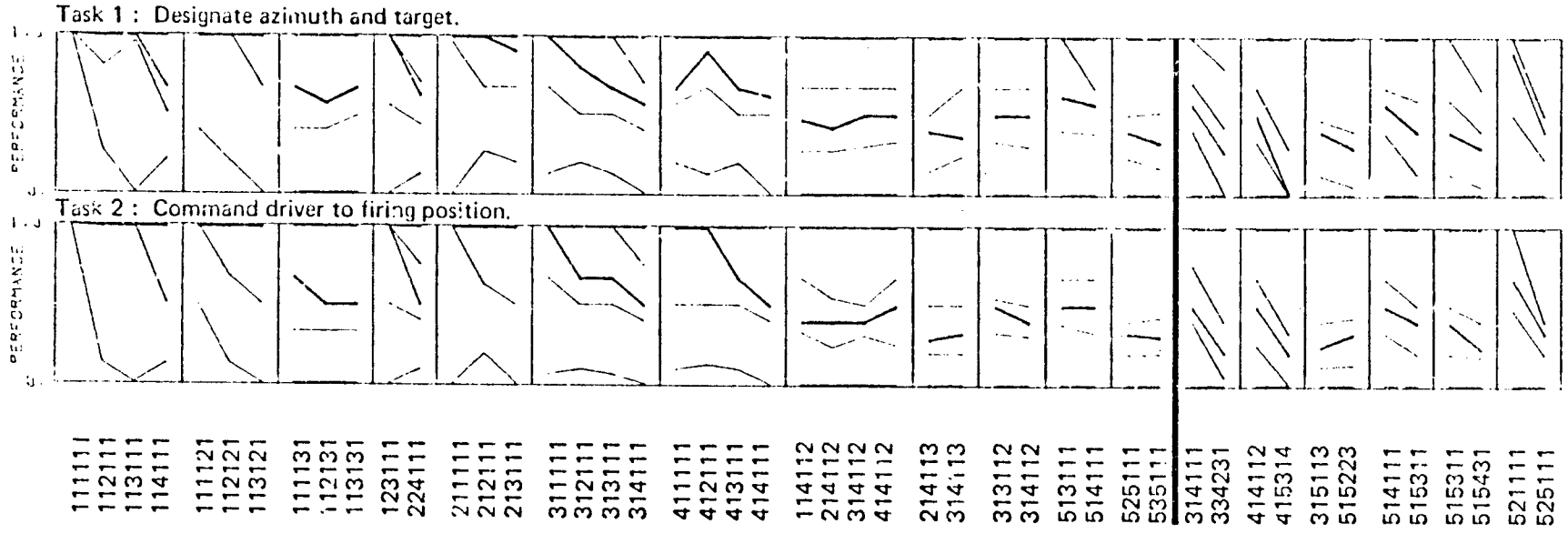

Figure C.12. Single symptom plots: TOW crew, squad leader (crew 4, position 1).

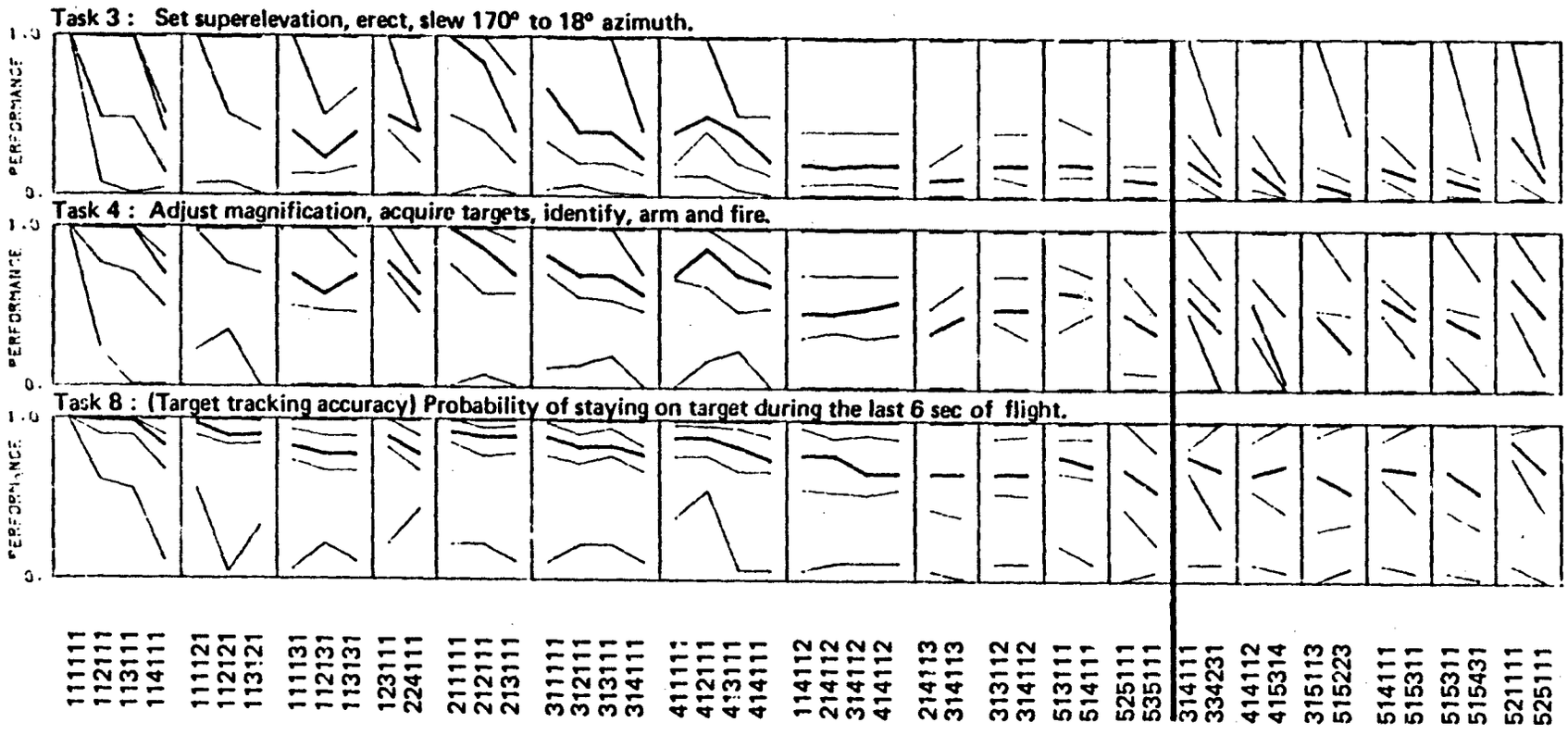

Figure C.13. Single symptom plots: TOW crew, gunner (crew 4, position 2).

Figure C.14. Single symptom plots: TOW crew, driver (crew 4, position 3).

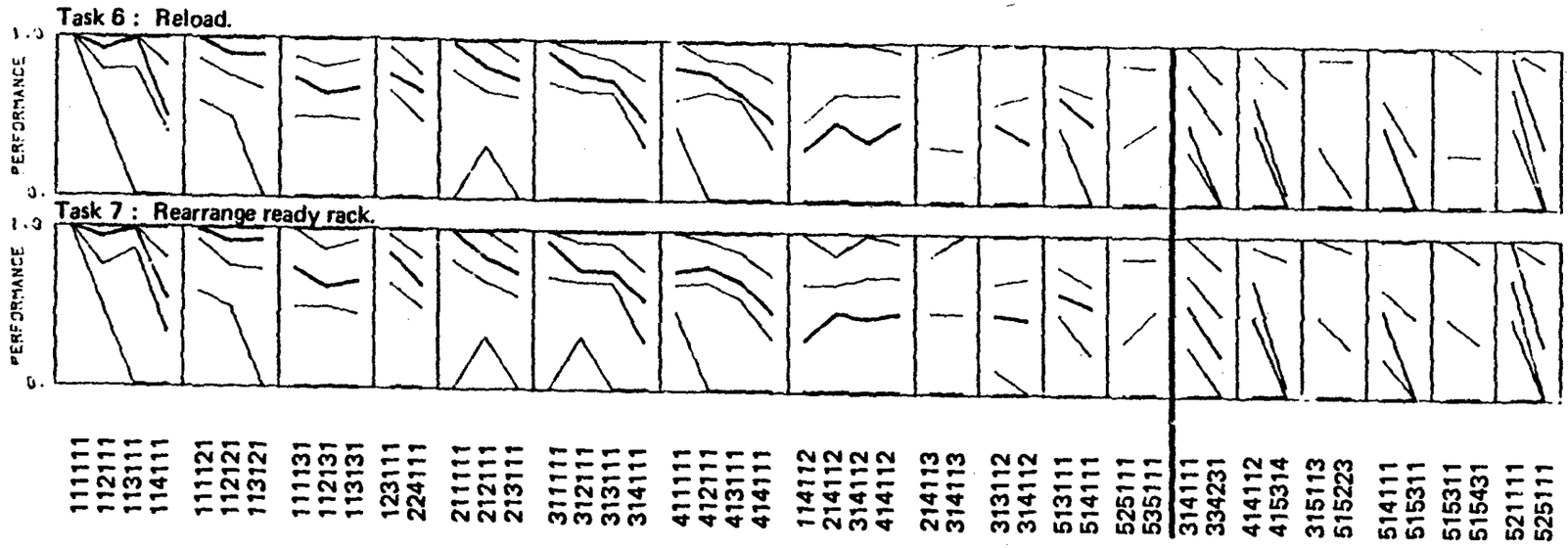

Figure C.15. Single symptom plots: TOW crew, loader (crew 4, position 4).

Appendix D

RETURNS FROM REJECTED RESPONDENTS' QUESTIONNAIRES

The format for the sheets in this appendix is the same as the format used in Appendix A.

Each sheet of this appendix contains the returns from the questionnaire of one of the 21 respondents who were rejected because their answers were not responsive. The nature of those unresponsive answers was described in Sec. 2, and is summarized in the table below.

Table D.1. Unresponsive answers.

Respondent Number	Percent Noncompliant	Percent Extremes	Percent Excessive Consistency	Percent Combined	Percent Reversals[a]
106		45			40[b]
108		19	54	73[b]	
113	5	81[b]		86	
115		47	47	94[b]	
121	10	55	16	81[b]	
124	97[b]				
138		26			40[b]
218		30	48	78[b]	
232					43[b]
237					47[b]
238					43[b]
301		99[b]			
303			95[b]		
304		91[b]			
307		53	31	84[b]	
309		43	39	82[b]	
312					38[b]
316		29	62	91[b]	
338		22	67	89[b]	
403		38	20	58[c]	28[c]
438					49[b]

[a]Fifty percent = random.

[b]Grounds for rejection.

[c]Rejected for combined causes plus reversals.

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DEMOGRAPHIC DATA

			WHEN MO	WHEN YR	HOW LONG YR	HOW LONG MO
GRADE	:E-5	CH.OF SECTION:	7	8	4	
MO	3020	GUNNER :				
IN ARMY	:10YR	AS.GUNNER :				
IN ARTILLERY	:10YR	LOADER :				
COMBAT	:N					
ARTIL. COMBAT	:N	#SUPERVISED : 5				

155 S.P. GUN CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: CH.SECT CALL QUAD ELEV	GUNNER SET DEF	GUNNER TRAV LEVEL	AST.GUNNER SET QUAD ELEV	AST.GUNNER ELEV LEVEL	LOADER LIFT PRJCTL	LOADER POS OP RAMMER	LOADER PLACE CHARGE	LOADER INS PRIM	LOADER FIRE	LOADER SWAB INSPECT
USUAL TIME,SEC			15	20	UNSTIPULATED				3	7	7	7	3	2	5	2	1.5	1.5	3
1	6	411111	3	20	35	8	17	10	12	0	0	0	0	0	6	0	0	3	0	0
1	6	515431	4	50	60	4	4	5	16	12	9	10	10	8	20	10	6	4	2	6
1	6	114111	3	30	45	4	4	3	12	0	0	0	0	5	8	0	4	3	0	6
1	6	515311	3	50	60	3	3	3	20	12	18	18	15	18	29	10	9	6	5	9
1	6	213111	3	50	60	2.5	2.5	3	25	9	16	16	17	17	30	14	9	7	5	7
1	6	413111	3	60	60	2	2	2	22	90	16	16	14	12	39	20	15	6	6	12
1	6	311111	3	30	40	3	5	3	7	16	14	14	14	9	4	8	5	3	3	6
1	6	313111	2	30	35	2	3	4	8	16	14	14	14	9	15	0	4	3	0	6
1	6	515223	4	-1	-1	1	1	1	90	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1	6	414112	3	60	60	1	1	1	12	60	45	45	45	45	-1	-1	40	50	30	30
1	6	535111	3	-1	-1	0.5	0.5	-1	60	-1	-1	-1	-1	-1	-1	-1	60	60	30	30
1	6	112111	0	0	0	8	15	8	6	0	0	0	0	0	0	0	0	0	0	0
1	6	514111	3	60	-1	1.5	2	1	30	-1	-1	-1	-1	-1	-1	-1	-1	30	20	30
1	6	315113	3	-1	-1	-1	-1	1	40	50	50	40	40	40	60	30	20	10	7	9
1	6	513111	3	30	40	3	3	3	12	12	21	14	21	9	18	10	10	12	0	9
1	6	123111	3	0	60	3	4	4	12	6	10	10	10	6	8	0	0	0	0	0
1	6	334231	2	-1	-1	-1	-1	-1	60	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1	6	113111	2	0	0	4	6	5	12	0	0	0	0	0	0	0	0	0	0	0
1	6	521111	3	40	60	2	3	3	9	9	13	13	9	9	6	8	0	3	0	6
1	6	211111	2	19	30	5	6	4	15	6	0	0	0	5	8	0	0	0	0	0
1	6	224111	3	30	60	3	2	3	35	9	14	14	14	9	-1	10	6	4	0	9
1	6	415314	3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1	6	214131	2	-1	-1	-1	-1	-1	60	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1	6	112121	3	0	0	4	6	4	12	10	14	14	14	9	10	7	0	0	0	0

I HAVE BEEN A ASFHLER IN SPEAIL WEAPON FOR LAST YEAR

DEMOGRAPHIC DATA

				WHEN MO YR	HOW LONG YR MO
GRADE	:E-5	CH.OF SECTION:			
MOS	:13B5	GUNNER	:	8 82	4
IN ARMY	: 3YR 10MO	AS.GUNNER	:		
IN ARTILLERY	: 3YR 10	LOADER	:		
	WHEN				
COMBAT	:N				
ARTIL. COMBAT	:N	#SUPERVISED :	5		

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

155 S.P. GUN CREW

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: CH.SECT CALL QUAD ELEV	GUNNER SET DEF	GUNNER TRAV LEVEL	AST.GUNNER SET QUAD ELEV	AST.GUNNER ELEV LEVEL	LOADER LIFT PRJCTL	LOADER POS OP RAMMER	LOADER PLACE CHARGE	LOADER INS PRIM	LOADER FIRE	LOADER SWAB INSPECT
USUAL TIME,SEC			15	20	UNSTIPULATED				3	7	7	7	3	2	5	2	1.5	1.5	3
1	8 411111	A	30	30	5	15	30	30	7	10	0	0	7	6	0	5	2	4	10
1	8 515431	A	30	40	7	15	20	20	20	15	0	0	7	5	10	10	3	3	5
1	8 114111	A	45	60	2	5	10	20	0	0	0	0	0	10	7	5	3	3	10
1	8 515311	A	40	40	3	10	10	10	7	12	14	10	5	10	10	0	2	0	5
1	8 213111	A	40	45	5	10	7	10	15	15	15	15	15	20	30	10	5	5	10
1	8 413111	A	20	40	4	10	7	10	5	10	10	14	7	9	8	5	3	3	4
1	8 311111	A	30	40	7	15	7	8	30	10	20	10	10	10	15	6	3	3	6
1	8 313111	A	30	40	5	10	5	10	10	8	14	14	5	4	7	4	2	2	999
1	8 515223	A	20	30	5	10	6	8	10	0	0	0	5	5	10	6	3	3	6
1	8 414112	A	30	40	5	10	7	5	7	10	10	10	5	4	9	5	3	3	6
1	8 535111	A	30	40	7	10	8	10	5	14	14	14	6	5	10	4	3	3	6
1	8 112111	A	20	25	7	15	10	10	6	9	0	9	0	3	0	0	0	3	0
1	8 521111	A	20	45	7	10	7	10	6	14	14	14	6	4	10	4	3	3	6
1	8 113111	A	30	40	6	10	7	8	0	0	0	0	6	4	10	4	3	0	6
1	8 334231	A	30	40	4	2	4	10	10	15	14	14	6	4	10	4	3	3	6
1	8 123111	A	20	40	10	15	8	8	0	0	0	0	0	0	0	0	0	0	6
1	8 513111	A	20	40	7	10	8	8	6	10	10	14	6	4	10	4	3	3	6
1	8 315113	A	-1	-1	2	3	2	8	7	14	14	14	7	-1	10	4	3	3	6
1	8 214131	A	30	40	7	7	8	8	6	14	14	14	7	4	10	4	3	4	6
1	8 514111	A	-1	-1	2	2	3	8	7	13	13	13	5	10	10	4	3	4	6
1	8 112121	A	30	40	6	5	7	8	0	0	0	0	0	4	7	5	0	0	6
1	8 211111	A	20	20	6	7	6	7	4	8	8	8	4	6	10	0	0	0	6
1	8 224111	A	40	40	5	6	7	8	8	14	14	14	6	5	10	0	0	0	6
1	8 415314	A	30	40	6	4	8	8	6	14	14	14	6	4	10	5	4	4	6

DURING THE PAST YEAR I HAVE BEEN THE CHIEF OF A M103A3S.P. AND HAVE HAD ANYWERE FROM 4 TO 8 MEN WORKING FOR ME.

DEMOGRAPHIC DATA

			WHEN MO	WHEN YR	HOW LONG YR	HOW LONG MO
GRADE	:E-5	CH.OF SECTION:	79		3	
MOS	:13P20	GUNNER :	78		1	
IN ARMY	: 8YR	AS.GUNNER :	76		2	
IN ARTILLERY	: 8YR	LOADER :	74		1	6
COMBAT	:N					
ARTIL. COMBAT	:N	#SUPERVISED : 5				

155 S.P. GUN CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: CH.SECT CALL QUAD ELEV	GUNNER SET DEF	GUNNER TRAV LEVEL	AST.GUNNER SET QUAD ELEV	AST.GUNNER ELEV LEVEL	LOADER LIFT PROJTL	LOADER POS OP RAMMER	LOADER PLACE CHARGE	LOADER INS PRIM	LOADER FIRE	LOADER SWAB INSPECT
USUAL TIME,SEC			15	20	UNSTIPULATED				3	7	7	7	3	2	5	2	1.5	1.5	3
1 13	411111	4	25	0	4	160	5	5	6	0	0	0	5	4	0	3	3	0	4
1 13	515431	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1 13	114111	4	0	0	3	140	6	5	0	0	0	0	0	0	0	0	2	0	0
1 13	515311	4	-1	-1	-1	10	-1	15	4	0	10	0	5	0	0	0	2	0	0
1 13	213111	4	0	0	5	80	10	5	0	0	0	0	4	0	0	3	2	0	0
1 13	415111	4	25	30	4	30	7	5	0	0	0	0	5	0	0	3.5	0	0	0
1 13	311111	4	0	0	5	60	8	3	0	0	0	0	0	0	0	0	0	0	0
1 13	313111	4	0	25	4	45	7	3	0	0	0	0	5	0	0	0	0	0	0
1 13	515223	4	-1	-1	-1	-1	-1	-1	10	0	0	0	10	-1	-1	-1	-1	-1	-1
1 13	414112	4	-1	-1	1	10	1	10	10	0	10	0	10	-1	15	-1	6	3	-1
1 13	535111	4	30	-1	1	10	-1	5	10	0	10	0	8	10	10	4	2	2	5
1 13	112111	4	0	0	8	120	10	3	0	0	0	0	0	0	0	0	0	0	0
1 13	514111	4	20	30	2	30	6	3	0	0	0	0	0	5	0	4	0	0	0
1 13	313112	4	30	30	3	15	6	3	0	0	0	0	0	3	0	3	2	2	0
1 13	315113	4	-1	-1	1	10	1	4	5	0	10	0	8	0	0	4	3	2	4
1 13	313111	4	25	30	2	15	5	4	0	0	0	0	0	0	0	0	0	0	0
1 13	123111	4	0	0	2	15	5	4	0	0	0	0	0	0	0	0	0	0	0
1 13	334231	4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1 13	113111	4	0	0	3	120	7	3	0	0	0	0	0	0	0	0	0	0	0
1 13	521111	4	30	30	2	15	5	3	0	0	0	0	0	0	0	0	2	2	0
1 13	113121	4	0	0	4	45	5	4	0	0	0	0	0	0	0	0	0	0	0
1 13	211111	4	0	0	2	30	5	4	0	0	0	0	0	0	0	0	0	0	0
1 13	224111	4	30	35	2	15	3	4	0	0	0	0	10	0	0	0	2	2	0
1 13	415314	4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1 13	312111	4	0	0	2	30	5	3	0	0	0	0	0	0	0	0	0	0	0
1 13	314112	4	0	0	2	20	5	4	0	0	0	0	0	0	0	0	0	0	0
1 13	314113	4	20	25	2	10	4	4	0	0	0	0	6	3	0	3	0	0	0
1 13	412111	4	0	0	3	30	5	4	0	0	0	0	0	0	0	0	0	0	0
1 13	414111	4	20	25	2	15	5	4	0	0	0	0	0	0	0	0	0	0	0
1 13	525111	4	20	30	2	10	4	4	0	0	0	0	4	0	0	0	2	2	0

SUPERVISING THE PEOPLE IN MY SECTION, KEEPING A SAFE GUN

DEMOGRAPHIC DATA

			WHEN MO YR	HOW LONG YR MO
GRADE	:F-6	CH.OF SECTION:	1 2	10
MOS	:13B30	GUNNER	:	
IN ARMY	: 8YR	AS.GUNNER	:	
IN ARTILLERY	: 4YR	LOADER	:	
	WHEN			
COMBAT	:N			
ARTIL. COMBAT	:N	#SUPERVISED : 10		

155 S.P. GUN CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: CH.SECT CALL QUAD ELEV	GUNNER SET DEF	GUNNER TRAV LEVEL	AST.GUNNER SET QUAD ELEV	AST.GUNNER ELEV LEVEL	LOADER LIFT PRJCTL	LOADER POS OP RAMMER	LOADER PLACE CHARGE	LOADER INS PRIM	LOADER FIRE	LOADER SWAB INSPECT
USUAL TIME,SEC			15	20	UNSTIPULATED				3	7	7	7	3	2	5	2	1.5	1.5	3
1 15	411111	0	999	999	999	999	999	999	0	0	0	0	0	4	0	0	0	0	0
1 15	515431	0	-1	40	999	999	999	20	-1	14	10	0	8	-1	10	0	0	0	6
1 15	114111	0	25	30	999	999	999	999	0	0	9	0	0	5	0	4	0	0	5
1 15	515311	5	-1	-1	999	999	999	999	10	9	9	8	7	10	8	6	3	0	4
1 15	213111	5	20	30	999	999	999	999	0	0	0	8	6	5	0	0	0	0	0
1 15	413111	5	20	25	999	999	999	999	5	0	0	0	0	6	0	0	0	0	0
1 15	311111	5	5	10	5	999	999	999	4	0	0	0	0	5	0	0	0	0	0
1 15	313111	3	5	10	999	999	999	999	3	2	2	0	2	5	0	0	0	0	2
1 15	515223	0	-1	-1	999	999	999	999	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1 15	414112	0	-1	-1	999	999	999	999	7	7	3	3	3	-1	5	4	1.5	1.5	3
1 15	535111	5	-1	-1	999	999	999	999	7	7	7	7	6	-1	3	-1	1.5	1.5	6
1 15	112111	5	2	2	999	999	999	999	0	0	2	0	2	2	0	0	0	0	0
1 15	514111	4	-1	-1	999	999	999	999	3	7	7	7	7	-1	5	2	1.5	1.5	6
1 15	313112	3	5	5	999	999	999	999	3	7	7	7	3	4	2	4	1.5	1.5	6
1 15	315113	0	-1	-1	999	999	999	999	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1 15	513111	0	-1	-1	999	999	999	999	4	6	6	5	3	4	2	4	1.5	1.5	6
1 15	123111	3	2	5	999	999	999	999	0	0	0	0	0	4	0	0	0	0	0
1 15	334231	5	-1	-1	999	999	999	999	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1 15	113111	5	2	2	999	999	999	999	0	0	0	0	0	2	2	1	0	0	0
1 15	521111	5	2	5	999	999	999	999	0	0	0	0	0	2	3	4	1.5	1.5	6
1 15	113121	4	-1	-1	999	999	999	999	3	7	7	7	6	-1	5	2	1.5	1.5	6
1 15	211111	3	2	5	999	999	999	999	3	3	3	3	3	4	2	2	1.5	1.5	6
1 15	224111	4	-1	-1	999	999	999	999	3	7	7	7	3	-1	5	2	1.5	1.5	6
1 15	415314	5	-1	-1	999	999	999	999	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1 15	312111	3	2	5	999	999	999	999	3	0	7	0	3	4	0	2	1.5	1.5	6
1 15	314112	3	2	5	999	999	999	999	3	3	3	0	3	2	5	2	1.5	1.5	6
1 15	314113	5	-1	-1	999	999	999	999	-1	-1	-1	-1	-1	-1	[illegible]	-1	-1	-1	-1
1 15	412111	4	2	5	999	999	999	999	0	0	3	0	3	2	5	2	1.5	1.5	6
1 15	414111	4	2	5	999	999	999	999	0	0	3	0	3	2	2	2	1.5	1.5	6
1 15	525111	0	-1	-1	999	999	999	999	6	7	7	7	3	-1	5	4	1.5	1.5	6

DURING THE PAST YEAR I HAVE BEEN AMMO SECTION CHIEF AND HOWITZER SECTION CHIEF

DEMOGRAPHIC DATA

				WHEN MO YR	HOW LONG YR MO
GRADE	:E-5	CH.OF SECTION:			6
MOS	:13B	GUNNER	:	81	1
IN ARMY	: 3YR 9MO	AS.GUNNER	:		5
IN ARTILLERY	:	LOADER	:		
	WHEN				
COMBAT	:N				
ARTIL. COMBAT	:N	#SUPERVISED : 10			

155 S.P. GUN CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: CH.SECT CALL QUAD ELEV	GUNNER SET DEF	GUNNER TRAV LEVEL	AST.GUNNER SET QUAD ELEV	AST.GUNNER ELEV LEVEL	LOADER LIFT PRJCTL	LOADER POS OP RAMMER	LOADER PLACE CHARGE	LOADER INS PRIM	LOADER FIRE	LOADER SWAB INSPECT
USUAL TIME,SEC			15	20	UNSTIPULATED				3	7	7	7	3	2	5	2	1.5	1.5	3
1 21	411111	3	5	10	4	35	3	20	0	0	0	0	10	5	0	3	3	2	0
1 21	515431	2	-1	-1	1	20	2	10	-1	10	10	0	10	-1	5	3	2	-1	-1
1 21	114111	3	30	25	1	25	3	20	5	0	10	0	10	-1	10	5	2	2	5
1 21	515311	2	-1	-1	1	10	1	25	5	0	5	0	5	-1	-1	5	3	-1	-1
1 21	213111	3	0	15	3	40	3	20	2	0	0	0	5	10	0	3	1	2	5
1 21	413111	3	0	5	3	3	3	25	2	0	0	0	2	5	2	3	2	0	0
1 21	311111	3	5	15	2	45	2	15	4	3	3	0	0	5	0	3	2	0	0
1 21	313111	2	-1	-1	2	30	3	20	5	0	0	0	5	-1	5	-1	5	3	7
1 21	515223	1	-1	-1	1	10	2	25	10	10	10	5	15	-1	-1	-1	10	5	-1
1 21	414112	3	-1	-1	2	20	2	20	0	0	0	0	5	10	5	3	3	0	7
1 21	535111	3	-1	20	3	25	3	15	5	0	10	0	10	-1	5	3	2	0	7
1 21	112111	3	5	5	4	60	4	7	0	0	0	0	3	5	0	0	2	0	0
1 21	514111	2	15	20	3	50	3	20	5	0	0	0	5	10	5	5	1	2	5
1 21	313112	2	-1	-1	1	20	2	20	3	0	0	0	2	-1	0	3	2	0	4
1 21	315113	2	-1	-1	1	10	1	20	4	5	5	5	10	-1	5	5	3	4	5
1 21	513111	3	15	15	2	45	3	15	6	0	0	0	4	10	5	2	3	0	0
1 21	123111	3	5	5	2	70	3	8	0	0	0	0	2	10	0	0	2	0	0
1 21	334231	0	-1	-1	2	55	2	10	10	0	0	0	5	10	0	5	2	3	5
1 21	113111	3	0	10	3	120	4	5	0	0	0	0	5	5	0	0	1	0	0
21	521111	3	10	5	2	35	3	10	0	0	0	0	2	3	0	0	0	0	0
1 21	113121	3	10	10	2	45	3	15	0	0	0	0	5	5	0	3	0	0	0
1 21	211111	3	10	5	3	35	2	12	0	0	0	0	2	-1	0	0	0	0	0
1 21	224111	2	-1	-1	1	50	2	10	0	5	10	5	10	10	0	3	0	0	0
1 21	415314	1	-1	-1	1	5	1	40	10	5	-1	5	-1	-1	-1	-1	-1	-1	-1
1 21	312111	3	20	15	3	80	2	20	0	0	0	0	5	10	0	0	0	0	0
1 21	314112	2	-1	-1	1	15	1	30	999	-1	-1	-1	-1	-1	10	5	-1	-1	-1
1 21	314113	2	-1	-1	1	10	1	40	10	10	10	10	10	15	5	4	5	0	5
1 21	412111	3	10	5	2	70	3	15	0	0	0	0	0	5	0	0	0	0	0
1 21	414111	3	-1	-1	1	60	2	15	999	10	10	5	10	15	0	0	0	0	0
1 21	525111	3	-1	-1	2	40	3	20	-1	-1	-1	-1	-1	-1	10	0	0	0	0

I HAVENT REALLY HAD ANY. MOST OF THE TIMES THIS PAST YEAR I HAVE BEEN MOVED AROUND A LOT.

DEMOGRAPHIC DATA

				WHEN MO YR	HOW LONG YR MO
GRADE	:E-5	CH.OF SECTION	:	10 82	
MOS	:13B20	GUNNER	:		2
IN ARMY	: 6YR 4MO	AS.GUNNER	:		1
IN ARTILLERY	: 6YR	LOADER	:		
	WHEN				
COMBAT	:N				
ARTIL. COMBAT	:N	#SUPERVISED :	5		

155 S.P. GUN CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)
888=UNSPECIFIED TIME, BUT LONGER THAN USUAL TIME

									CREW TASKS										
			ORDINARY TASKS						CH.SECT	GUNNER		AST.GUNNER		LOADER					
CREW RESP	SYMP COMP	LOW CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK		CALL QUAD ELEV	SET DEF	TRAV LEVEL	SET QUAD ELEV	ELEV LEVEL	LIFT PRJCTL	POS OP RAMMER	PLACE CHARGE	INS PRIM	FIRE	SWAB INSPECT
USUAL TIME,SEC		15	20	UNSTIPULATED					3	7	7	7	3	2	5	2	1.5	1.5	3
1 24	411111	0	20	0	4	3	2	2	3	3	0	0	6	4	3	5	3	1	2
1 24	515431	0	888	888	2	2	2	2	888	888	888	888	888	888	888	888	888	888	888
1 24	114115	0	888	888	1	1	1	1	888	888	888	888	888	888	888	888	888	888	888
1 24	515311	0	999	999	2	1	2	1	888	888	888	888	888	888	888	888	888	888	888
1 24	213111	0	888	0	2	1	1	2	888	888	888	0	888	888	888	888	888	888	888
1 24	413111	0	888	888	1	1	1	1	0	888	888	0	888	0	888	0	888	888	888
1 24	311111	0	0	0	3	3	2	3	0	0	0	0	0	0	0	888	888	0	888
1 24	313111	0	888	888	3	2	1	3	888	888	0	888	0	888	888	888	0	888	0
1 24	515223	1	888	888	1	1	1	1	888	888	0	888	888	0	888	0	888	888	888
1 24	414112	0	888	888	2	2	1	2	888	888	0	0	888	0	0	888	0	888	888
1 24	535111	0	0	888	1	2	2	1	-1	-1	-1	-1	888	-1	888	-1	-1	-1	-1
1 24	112111	0	888	888	2	10	2	4	0	0	0	0	0	0	888	888	0	0	888
1 24	514111	0	888	888	2	15	1	5	888	888	888	888	888	888	0	888	0	0	0
1 24	313112	0	888	888	2	18	2	10	888	888	888	888	888	888	888	888	888	888	888
1 24	315113	0	888	-1	1	30	1	25	-1	-1	-1	-1	888	888	888	-1	888	-1	888
1 24	513111	0	888	888	2	10	1	5	888	888	888	888	888	0	888	888	0	0	0
1 24	123111	0	888	888	3	20	2	10	888	0	0	0	888	888	0	888	0	0	0
1 24	334231	0	888	-1	2	10	1	10	888	888	888	888	888	-1	888	888	0	0	888
1 24	113111	0	0	0	3	20	1	18	888	888	888	888	888	888	888	888	0	0	0
1 24	521111	0	888	0	2	10	2	18	888	0	0	0	0	888	888	888	0	0	0
1 24	113121	0	888	0	2	15	1	20	888	888	888	888	888	888	888	888	888	888	888
1 24	211111	0	888	888	2	15	2	20	0	0	0	0	0	888	888	888	0	0	0
1 24	224111	0	888	888	2	10	1	10	888	888	888	888	888	888	888	0	0	0	0
1 24	415314	0	888	-1	2	10	1	10	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1 24	312111	0	888	888	2	15	2	15	888	888	888	888	888	888	888	888	888	888	888
1 24	314112	0	-1	-1	2	15	1	15	888	888	888	888	888	888	888	0	0	0	0
1 24	314113	0	888	888	2	20	1	30	888	888	888	888	888	888	888	0	0	0	0
1 24	412111	0	888	888	3	20	2	10	888	888	888	888	888	888	888	888	888	0	0
1 24	414111	0	-1	-1	2	10	2	20	888	888	888	888	888	-1	-1	888	888	888	888
1 24	525111	0	-1	-1	1	15	1	30	888	888	888	888	888	-1	888	888	0	0	0

KOREA 80-81, MARCH/ ARMY TAMMS AU, I WAS PROMOTED TO CPL. FROM PFC ON JUNE 81, BNCOC AUG 81, BNCOC OCT. 81, GUNNER FT. RILEY KA. NOV. 81, CHIEF OF SECTION SEPT. 82, PLT.SGT 501. INSTRUCTOR

DEMOGRAPHIC DATA

			WHEN MO YR	HOW LONG YR MO
GRADE	:E-5	CH.OF SECTION:	9 82	2
MOS	:13B30	GUNNER	: 6 81	1 3
IN ARMY	: 3YR	AS.GUNNER	:	
IN ARTILLERY	: 3YR	LOADER	:	
COMBAT	:N			
ARTIL. COMBAT	:N	#SUPERVISED	: 10*	

155 S.P. GUN CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

					ORDINARY TASKS					CREW TASKS										
										CH.SECT	GUNNER		AST.GUNNER		LOADER					
CREW RESP	SYMP COMP	CON	CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK		CALL QUAD ELEV	SET DEF	TRAV LEVEL	SET QUAD ELEV	ELEV LEVEL	LIFT PRJCTL	POS OP RAMMER	PLACE CHARGE	INS PRIM	FIRE	SWAB INSPECT
USUAL TIME,SEC			15	20	UNSTIPULATED					3	7	7	7	3	2	5	2	1.5	1.5	3
1	38	411111	4	40	50	4	40	30	30	15	10	10	10	7	5	8	5	4	0	4
1	38	515831	4	35	45	2	15	6	30	25	15	15	15	15	15	13	10	7	2.5	8
1	38	114111	8	30	40	2	3	10	20	13	16	16	16	8	20	15	8	4.5	3.5	9
1	38	515311	4	45	60	1	2	5	20	25	25	25	25	25	-1	25	25	2	20	18
1	38	213111	3	25	35	6	25	29	10	10	9	9	9	5	4	7	4	3.5	3.5	5
1	38	413111	2	30	40	3	10	13	45	7	11	11	11	11	13	10	10	7	7	10
1	38	311111	2	26	31	7	30	30	15	5	0	0	0	0	4	7	4	2.5	2	5
1	38	313111	2	25	30	7	15	13	18	7	0	9	0	5	5	6	5	3	0	4
1	38	515223	3	50	60	1	2	5	30	30	15	15	15	15	-1	20	20	15	7	15
1	38	414112	3	25	30	7	15	15	15	15	20	20	20	15	11	11	8	3	0	8
1	38	535111	3	45	50	2	10	10	30	25	18	18	18	18	18	18	18	10	5	15
1	38	112111	4	20	25	8	30	20	9	0	0	0	0	0	4	0	0	0	0	0
1	38	514111	3	30	30	6	15	25	19	5	9	9	9	6	4	7	5	3	3	7
1	38	313112	3	20	30	5	10	9	19	10	15	15	15	15	7	7	4	3.5	2	7
1	38	315113	2	30	40	2	7	10	19	-1	-1	-1	-1	-1	-1	-1	-1	2.5	2	8
1	38	513111	2	30	40	6	15	10	15	10	15	15	15	10	8	15	8	3	0	8
1	38	123111	3	30	40	6	15	10	20	10	20	20	20	10	8	10	8	5	3	9
1	38	334231	2	-1	-1	1	5	6	25	-1	-1	-1	-1	-1	-1	-1	-1	5	5	-1
1	38	113111	3	20	35	8	30	15	15	0	0	0	0	0	5	6	4	2	0	4
1	38	521111	3	30	40	6	15	15	20	5	10	10	10	8	8	11	5	4.5	2.5	8
1	38	113121	3	30	45	6	10	10	20	12	13	13	13	10	8	10	5	2.5	2.5	6
1	38	211111	3	35	45	6	15	10	20	10	0	0	0	0	0	0	0	0	0	8
1	38	224111	3	33	45	6	10	13	20	10	15	15	15	10	4	10	4	2.5	2	8
1	38	415314	2	-1	-1	1	2	3	30	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1	38	312111	3	30	43	6	10	15	20	10	15	15	15	10	9	12	5	3	2	8
1	38	314112	2	35	45	6	15	10	21	29	20	20	20	15	-1	10	12	3	2	6
1	38	314113	2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1	38	412111	2	35	40	4	15	12	21	10	15	15	15	10	8	7	8	3	2	8
1	38	414111	2	36	46	4	10	9	25	20	28	28	28	20	-1	20	48	5	4	8
1	38	525111	2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1

CURRENTLY WORKING AS NCO FOR CHIEF IN A TACFIRE UNIT. I WAS MANUAL FOR 14 YRS PREVIOUS TO THIS. HAVE WORK EVERY LEVEL FROM BTRY TO DIVARTY USUALLY AS CHIEF OF FDC.

DEMOGRAPHIC DATA

			WHEN MO	YR	HOW LONG YR	MO
GRADE	:E-7	FDC HCO :	64		2	
MOS	:13C40	FDC COMPUTER :	66		10	
IN ARMY	:16YR					
IN ARTILLERY	:16YR					
	WHEN					
COMBAT	:Y 71					
ARTIL. COMBAT	:N	#SUPERVISED :>50				

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

FIRE DIRECTION CENTER CREW

				ORDINARY TASKS				CREW TASKS							
								FDO			HCO			COMPUTER	
CREW RESP	SYMP COMP	CON	CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	SAY MISN	REVIEW CALC	SAY ORDER	PLOT TGT	ORIENT RDP	READ RANGE	CALC D Q	SAY SET
USUAL TIME,SEC			15	20	UNSTIPULATED				2	5	3	1	1	3	15	3
2	18	411111	3	20	2	5	20	10	20	0	0	0	0	0	0	0
2	18	515431	3	-1	-1	1	1	1	40	3	5	5	10	6	6	25	6
2	18	114111	3	35	60	3	1	3	30	0	0	0	7	5	[illegible]	20	5
2	18	515311	3	60	80	1	1	1	30	5	10	6	10	6	6	30	6
2	18	213111	3	60	80	2	5	2	25	5	8	6	8	6	7	20	10
2	18	413111	3	60	80	2	3	3	30	0	0	0	7	5	5	0	5
2	18	311111	3	30	40	4	10	5	30	5	6	5	7	5	5	20	6
2	18	313111	0	30	60	2	3	3	30	5	7	6	8	6	6	20	6
2	18	515223	3	-1	-1	1	1	1	30	6	15	9	15	9	9	30	9
2	18	414112	3	120	120	1	1	1	30	6	8	6	8	6	6	20	6
2	18	535111	3	-1	-1	1	1	1	30	6	8	6	10	6	6	20	6
2	18	112111	3	30	40	5	10	5	20	0	0	0	0	0	0	0	0
2	18	514111	3	60	80	2	3	2	30	4	8	6	8	6	6	20	6
2	18	313112	3	60	80	1	3	3	30	5	8	6	8	6	6	18	6
2	18	315113	0	-1	-1	1	1	1	30	5	8	6	10	6	6	20	6
2	18	513111	3	60	80	3	5	3	25	4	7	5	7	5	5	17	15
2	18	123111	3	60	80	2	3	3	30	0	0	0	0	0	0	0	0
2	18	334231	3	-1	-1	1	1	1	30	5	8	6	8	6	6	18	6
2	18	113111	3	20	30	5	10	5	30	0	0	0	0	0	0	0	0
2	18	521111	3	60	80	3	5	3	25	4	7	5	7	5	5	17	15
2	18	113121	3	45	60	3	5	5	30	0	0	0	0	0	0	0	0
2	18	211111	3	30	40	4	8	4	25	3	0	4	0	0	4	0	5
2	18	224111	3	60	80	1	1	1	30	3	0	4	0	0	4	0	5
2	18	415314	3	-1	-1	-1	1	1	40	6	15	9	15	9	9	30	10
2	18	312111	3	45	60	3	3	3	30	3	0	4	0	0	4	0	5
2	18	314112	3	60	60	1	1	1	30	3	0	4	0	0	4	0	5
2	18	314113	3	-1	-1	1	1	1	30	7	8	6	8	6	6	18	6
2	18	412111	3	60	80	2	3	3	30	3	0	4	0	0	4	0	4
2	18	414111	3	60	80	1	1	1	30	0	0	4	0	0	4	0	4
2	18	525111	3	-1	-1	-1	-1	-1	40	4	10	6	10	6	6	30	6

I WAS SECTION CHIEF. I FOLLOWED OR LOOKED OVER AND TAUGHT MY MEN THE CORRECT WAYS TO COMPUTE DATA AND I FIGURED DATA FOR ALL TYPE OF ROUNDS WITH A 105MM FIRING BATTERY.

DEMOGRAPHIC DATA

			WHEN MO YR	HOW LONG YR MO
GRADE	:E-4	FDC HCO	:	
MOS	:13F10	FDC COMPUTER	: A1	
IN ARMY	: 2YR 4MO			
IN ARTILLERY	: 2YR 6			
COMBAT	:N			
ARTIL. COMBAT	:N	#SUPERVISED :	5	

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

FIRE DIRECTION CENTER CREW

	ORDINARY TASKS							CREW TASKS							
								FDO			HCO			COMPUTER	
CREW RESP	SYMP COMP	CON	CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	SAY MISN	REVIEW CALC	SAY ORDER	PLOT TGT	ORIENT RDP	READ RANGE	CALC D Q	SAY SET
					SELF-STIPULATED VALUES											
USUAL TIME,SEC			15	20	10	10	20	5	2	5	3	1	1	3	15	3
					CONFIDENCE= 4											
2	32	525111	A	35	40	7	3	4	6	15	25	15	11	9	13	20	16
2	32	414111	A	60	45	2	3	3	7	7	10	7	10	5	15	26	30
2	32	412111	A	0	45	4	4	6	5	6	10	10	7	5	6	17	9
2	32	314113	A	55	65	2	1.5	3	A	20	30	20	12	7	8	48	50
2	32	314112	A	75	120	1	1	2	A	28	45	33	30	20	28	55	65
2	32	312111	A	18	30	4	4	3	5	8	10	9	8	4	6	0	10
2	32	415314	3	120	-1	2	1	2	A	100	120	85	60	15	30	48	85
2	32	224111	A	75	140	3	2	2	7	5	18	10	9	6	10	25	45
2	32	211111	A	25	30	5	4	5	5	5	10	12	A	4	6	17	25
2	32	113121	A	17	22	5	4	6	4	4	10	6	0	0	4	0	5
2	32	123111	A	17	25	3	3	4	3	4	6	4	7	0	8	0	17
2	32	334231	A	30	45	2	2	2	7	15	30	25	13	6	10	25	27
2	32	113111	A	22	45	4	3	3	4	5	10	8	999	999	7	999	15
2	32	521111	A	26	40	4	4	5	7	8	10	8	10	4	11	25	20
2	32	513111	A	45	60	3	3	3	6	4	10	9	7	4	5	27	30
2	32	315113	A	60	120	2	2	2	A	9	17	8	12	4	10	17	10
2	32	313112	A	20	45	4	3	3	7	10	15	12	10	4	12	0	15
2	32	514111	A	60	120	2	1	2	9	10	15	12	20	6	35	45	30
2	32	112111	A	25	35	6	4	4	6	5	10	8	7	0	8	0	10
2	32	535111	A	35	60	3	2	3	7	10	15	20	10	0	10	0	12
2	32	414112	A	20	45	4	3	3	A	10	12	10	A	0	9	0	10
2	32	515223	A	65	120	1	1	2	A	10	17	12	10	5	12	0	12
2	32	313111	A	20	35	4	3	3	A	7	10	7	0	0	10	999	10
2	32	311111	A	20	35	5	4	4	A	6	10	8	0	0	10	0	10
2	32	413111	A	0	40	3	4	4	5	7	10	7	0	0	A	0	A
2	32	213111	3	20	45	3	3	3	5	6	10	6	A	0	10	0	10
2	32	515311	A	20	45	4	3	4	5	8	12	8	7	4	9	0	10
2	32	114111	A	30	65	3	3	3	6	4	10	4	7	0	6	0	10
2	32	515431	A	30	65	2	2	2	5	10	12	10	A	0	9	0	25
2	32	411111	A	0	35	6	4	4	4	0	0	0	7	0	6	0	10

WELL FOR THE LAST 7 MONTHS I HAVE BEEN LEARNING AND STUDYING TACFIRE

DEMOGRAPHIC DATA

			WHEN NO YR	HOW LONG YR MO
GRADE	:E-4	FDC HCO :	82	6
MOS	:13E10	FDC COMPUTER :	82	6
IN ARMY	: 2YR 6MO			
IN ARTILLERY	: 2YR 6			
	WHEN			
COMBAT	:N			
ARTIL. COMBAT	:N	#SUPERVISED : 5		

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

FIRE DIRECTION CENTER CREW

CREW RESP	SYMP COMP	LOW CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	FDU SAY MISN	FDU REVIEW CALC	FDU SAY ORDER	HCO PLOT TGT	HCO ORIENT KDP	HCO READ RANGE	COMPUTER CALC D O	COMPUTER SA SEL
				SELF-STIPULATED VALUES											
USUAL TIME,SEC		15	20	20	45	5	4	2	5	3	1	1	3	15	3
				CONFIDENCE= 3											
2 37	525111	3 30	300	2	4	2	11	10	15	10	12	7	10	22	9
2 37	414111	4 20	60	5	9	4	5	5	10	6	7	13	7	19	7
2 37	412111	4 20	60	5	4	4	5	5	10	6	7	10	6	18	7
2 37	314113	4 480	-1	1	1	1	8	9	15	11	19	15	12	30	14
2 37	314112	3 -1	999	1	1	1	8	11	15	12	15	15	10	40	15
2 37	312111	3 20	30	4	4	4	7	9	12	9	12	13	7	23	9
2 37	415314	3 -1	-1	-1	-1	-1	15	30	32	15	20	18	20	38	21
2 37	224111	3 20	60	3	2	2	8	10	9	11	15	11	9	20	9
2 37	211111	3 14	25	5	5	6	7	6	8	6	8	10	6	18	8
2 37	113121	3 17	25	5	4	6	7	7	8	7	9	9	6	18	8
2 37	123111	3 17	24	5	4	6	7	7	8	7	9	8	6	18	6
2 37	334231	3 60	-1	1	1	1	7	21	18	13	17	14	14	32	13
2 37	113111	3 17	25	5	9	5	7	4	7	5	7	5	5	17	5
2 37	521111	3 30	40	4	4	5	7	10	15	10	11	11	13	25	15
2 37	513112	3 34	44	4	1	2	7	12	17	12	14	13	15	28	18
2 37	315113	3 -1	-1	1	1	1	7	22	25	26	35	23	23	40	32
2 37	313112	3 60	45	2	2	2	7	20	26	21	27	24	27	45	22
2 37	514111	3 40	55	1	1	1	7	24	28	28	29	25	23	43	25
2 37	112111	4 17	23	4	6	6	7	7	8	7	8	7	8	24	7
2 37	535111	3 -1	-1	1	1	1	7	30	32	[illegible]	22	20	23	40	25
2 37	414112	3 45	60	1	1	1	7	28	30	15	22	21	25	38	25
2 37	515223	3 40	-1	1	1	1	7	30	32	17	25	21	28	40	27
2 37	313111	3 35	60	1	1	1	7	22	27	29	34	29	28	30	25
2 3	311111	3 30	58	4	4	3	7	19	23	25	29	25	23	39	24
2 37	413111	3 30	36	4	3	2	7	22	25	28	27	25	23	35	23
2 37	213111	3 34	45	5	5	2	7	18	20	21	18	19	19	29	22
2 37	515311	3 -1	-1	-1	-1	-1	7	32	38	35	36	37	35	54	34
2 37	114111	3 29	34	4	5	3	7	15	15	13	13	15	12	20	11
2 37	515031	3 -1	-1	-1	-1	-1	7	34	38	35	36	30	31	45	32
2 37	411111	3 35	60	4	4	3	7	19	22	22	21	20	19	24	20

HAVE BEEN TRAINING IN DESERT WARFARE AND TACFIRE. AND HAVE BEEN SUPPORTING THE OFFICER'S ADVANCED TRAINING COURSE, WITH MY EQUIP

DEMOGRAPHIC DATA

			WHEN MO	WHEN YR	HOW LONG YR	HOW LONG MO
GRADE	:	FDC HCO :	80			6
MOS	:13F10	FDC COMPUTER :	80	2		6
IN ARMY	: 3YR					
IN ARTILLERY	: 3YR					
	WHEN					
COMBAT	:					
ARTIL. COMBAT	:	#SUPERVISED : 10				

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

FIRE DIRECTION CENTER CREW

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: FDO SAY MISN	FDO REVIEW CALC	FDO SAY ORDER	HCO PLOT TGT	HCO ORIENT ROP	HCO READ RANGE	COMPUTER CALC D Q	COMPUTER SAY SET
					SELF-SIMULATED VALUES											
USUAL	TIME,SEC		15	20	4	15	12	5	2	5	3	1	1	3	15	3
					CONFIDENCE= 4											
2 38	525111	A	30	50	2	5	4	10	10	18	10	15	10	12	20	20
2 38	414111	A	20	50	2	8	4	10	10	20	10	15	15	15	20	10
2 38	412111	A	20	50	2	8	4	10	10	20	10	15	10	12	999	17
2 38	314113	A	-1	-1	1	2	1	15	20	30	15	25	20	20	18	20
2 38	314112	A	-1	-1	1	5	2	12	20	30	15	20	15	20	20	20
2 38	312111	A	18	28	2	10	4	9	12	14	10	15	12	14	19	15
2 38	415314	A	-1	-1	1	3	1	45	30	45	25	50	45	40	-1	-1
2 38	224111	A	25	35	2	5	3	10	12	15	10	14	10	12	30	15
2 38	211111	A	20	30	3	7	3	8	10	14	10	15	12	10	20	12
2 38	113121	A	20	25	3	6	3	8	12	12	10	14	10	10	20	10
2 38	123111	A	22	25	2	5	2	10	12	14	11	14	10	10	21	12
2 38	334231	A	-1	-1	-1	-1	-1	60	55	65	45	-1	-1	-1	-1	-1
2 38	113111	A	20	25	4	10	3	7	8	10	7	10	8	8	17	10
2 38	521111	A	20	30	2	7	3	8	10	12	8	14	10	11	18	10
2 38	513111	A	25	30	2	7	3	8	10	12	7	14	8	8	18	10
2 38	315113	A	-1	-1	1	2	1	10	10	12	9	14	10	8	18	10
2 38	313112	A	20	28	2	6	3	8	10	13	8	14	10	8	20	8
2 38	514111	A	20	25	1	6	2	8	10	12	8	14	10	8	18	10
2 38	112111	A	17	23	5	13	4	7	6	8	5	10	6	5	16	7
2 38	535111	A	25	30	1	5	1	10	10	14	8	12	10	8	18	8
2 38	414112	A	25	35	1	2	1	10	12	14	10	15	10	9	20	10
2 38	515223	A	-1	-1	-1	1	1	10	12	14	8	13	10	7	18	6
2 38	313111	A	18	23	3	6	3	7	10	12	8	12	10	8	17	8
2 38	311111	A	20	25	2	5	2	8	10	12	8	14	10	8	16	8
2 38	413111	A	25	35	1	8	2	10	10	13	8	14	10	9	19	10
2 38	213111	A	25	30	2	8	2	8	10	12	8	14	10	7	18	8
2 38	515311	A	-1	-1	1	2	1	10	10	12	8	14	10	7	19	10
2 38	114111	A	20	25	3	6	3	7	10	12	8	14	10	7	17	7
2 38	515451	A	-1	35	1	2	2	10	14	20	10	18	12	10	25	12
2 38	411111	A	20	25	3	6	2	8	10	12	8	14	10	8	18	7

D.S. * YES

DEMOGRAPHIC DATA

			WHEN NO YR	HOW LONG YR MO
GRADE	:E-6	TANK COMMANDER		*
MOS	:19E3Y	GUNNER	:	*
IN ARMY	: 8YR	LOADER	:	*
IN ARTILLERY	: 8YR	DRIVER	:	*
COMBAT	:N			
ARTIL. COMBAT	:N	#SUPERVISED : 20		

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

M60 TANK CREW

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: TANK COMMANDER: ISSUE FIRE CMD	RANGE	DEP LAY	ISSUE SUBSQ CMD	GUNNER: IDENT TGT	AIM FIRE	APPLY CORR	LOADER: ARM	LOAD ARM	DR STOP
USUAL TIME,SEC			15	20	UNSTIPULATED				1	5	3	4	1	6	7	1	5	4
3 1 411111		3	0	0	4	5	30	15	0	0	0	0	0	0	0	0	0	0
3 1 515231		3	-1	-1	1	-1	-1	90	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 1 114111		4	0	0	21	5	30	15	0	0	0	0	0	0	0	0	0	0
3 1 515311		3	-1	-1	2	2	5	90	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 1 213111		3	0	0	4	5	30	15	0	0	0	0	0	0	0	0	0	0
3 1 413111		3	0	0	4	5	30	15	0	0	0	0	0	0	0	0	0	0
3 1 311111		3	0	0	4	5	30	15	0	0	0	0	0	0	0	0	0	0
3 1 313111		3	0	0	4	5	10	15	0	0	0	0	0	0	0	0	0	0
3 1 515223		0	-1	-1	1	2	5	90	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 1 414112		3	0	0	4	5	15	30	0	0	0	0	0	0	0	0	0	0
3 1 535111		3	-1	-1	2	2	5	90	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 1 112111		3	0	0	4	5	30	15	0	0	0	0	0	0	0	0	0	0
3 1 514111		3	-1	-1	2	2	10	30	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 1 313112		3	-1	-1	2	5	10	30	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 1 315113		3	-1	-1	4	5	-1	90	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 1 513111		3	0	0	4	5	15	30	0	0	0	0	0	0	0	0	0	0
3 1 123111		3	0	0	2	2	5	30	0	0	0	0	0	0	0	0	0	0
3 1 334231		3	-1	-1	2	2	10	30	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 1 113111		3	0	0	4	5	30	15	0	0	0	0	0	0	0	0	0	0
3 1 521111		3	-1	-1	2	2	5	90	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 1 113121		3	0	0	4	5	30	15	0	0	0	0	0	0	0	0	0	0
3 1 211111		3	0	0	4	5	30	15	0	0	0	0	0	0	0	0	0	0
3 1 224111		3	0	0	4	5	30	15	0	0	0	0	0	0	0	0	0	0
3 1 415310		3	-1	-1	4	5	30	90	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 1 312111		3	0	0	4	5	30	60	0	0	0	0	0	0	0	0	0	0
3 1 314112		3	-1	-1	1	1	5	30	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 1 314113		3	-1	-1	1	1	1	30	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 1 412111		3	0	0	2	2	15	30	0	0	0	0	0	0	0	0	0	0
3 1 414111		3	0	0	2	2	15	30	0	0	0	0	0	0	0	0	0	0
3 1 525111		3	-1	-1	-1	1	-1	40	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1

*SUPERVISOR (DRILL SERGEANT SCHOOL) TAC NCO (PRIMARY NCO COURSE)

DEMOGRAPHIC DATA

			WHEN MO	WHEN YR	HOW LONG YR	HOW LONG MO
GRADE	:E-6	TANK COMMANDER	7	77	1	6
MOS	:19E3X8A	GUNNER	: 3	75	2	3
IN ARMY	: 8YR	LOADER	:			
IN ARTILLERY	: 8YR	DRIVER	:			
	WHEN					
COMBAT	:N					
ARTIL. COMBAT	:N	#SUPERVISED :>50				

M60 TANK CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: TANK COMMANDER: ISSUE FIRE CMD	RANGE	DEP LAY	ISSUE SUBSQ CMD	GUNNER: IDENT TGT	AIM FIRE	APPLY CORR	LOADER: ARM	LOAD ARM	DR: STOP
USUAL TIME,SEC			15	20	UNSTIPULATED				1	5	3	4	1	6	7	1	5	4
3	3	411111	3	-1	-1	1	1	1	60	5	25	15	20	5	30	35	5	25	20
3	3	515431	3	-1	-1	-1	-1	-1	180	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	3	114111	3	45	60	1	1	1	45	3	15	9	12	3	18	21	3	15	12
3	3	515311	3	-1	-1	-1	-1	-1	180	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	3	213111	3	60	80	2	1	2	90	4	20	12	16	4	24	28	4	20	16
3	3	413111	3	90	120	1	1	1	60	6	30	18	24	6	36	42	6	30	24
3	3	311111	3	30	40	3	2	3	30	2	10	6	8	2	12	14	2	10	8
3	3	3131.1	3	45	60	1	2	1	45	3	15	9	12	3	18	21	3	15	12
3	3	515223	3	-1	-1	-1	-1	-1	200	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	3	414112	3	60	80	1	1	1	600	4	20	12	16	4	24	28	4	20	16
3	3	535111	3	-1	-1	-1	-1	-1	200	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	3	112111	3	30	40	3	3	3	30	2	10	6	8	2	12	14	2	10	8
3	3	514111	3	-1	-1	-1	-1	-1	200	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	3	313112	3	75	100	1	1	1	75	5	25	15	20	5	30	35	5	25	20
3	3	315113	3	105	140	1	1	1	105	7	35	21	28	7	42	49	7	35	28
3	3	513111	3	-1	-1	-1	-1	-1	200	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	3	123111	3	75	100	1	1	1	75	5	25	15	20	5	30	35	5	25	20
3	3	334231	3	-1	-1	-1	-1	-1	200	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	3	113111	3	30	40	3	3	3	30	2	10	6	8	2	12	14	2	10	8
3	3	521111	3	-1	-1	-1	-1	-1	200	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	3	113121	3	45	60	2	2	2	45	3	15	9	12	3	18	21	3	15	12
3	3	211111	3	30	40	2	2	3	40	2	10	6	8	2	12	14	2	10	8
3	3	224111	3	45	60	2	2	2	45	3	15	9	12	3	18	21	3	15	12
3	3	415314	3	-1	-1	-1	-1	-1	200	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	3	312111	3	45	60	1	1	1	45	3	15	9	12	3	18	21	3	15	20
3	3	314112	3	45	60	1	1	1	45	3	15	9	12	3	18	21	3	15	12
3	3	314113	3	60	80	1	1	1	60	4	20	12	16	4	24	28	4	20	16
3	3	412111	3	105	140	-1	-1	-1	105	7	35	21	28	7	42	49	7	35	28
3	3	414111	3	90	120	1	1	1	90	6	30	18	24	6	36	42	6	30	24
3	3	525111	3	-1	-1	-1	-1	-1	250	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1

ORTLL SARGEANT IN AN OSUT BOE

DEMOGRAPHIC DATA

			WHEN MO	WHEN YR	HOW LONG YR	HOW LONG MO
GRADE	:E-6	TANK COMMANDER	77	2	6	
MOS	:19E	GUNNER :	76	1		
IN ARMY	: 7YR	LOADER :				
IN ARTILLERY	: 7YR	DRIVER :				
COMBAT	:N					
ARTIL. COMBAT	:N	#SUPERVISED :>50				

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

M60 TANK CREW

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: TANK COMMANDER: ISSUE FIRE CMD	RANGE	DEP LAY	ISSUE SUBSQ CMD	GUNNER: IDENT TGT	AIM FIRE	APPLY CORR	LOADER: ARM	LOAD ARM	DR: STOP
USUAL TIME,SEC			15	20	UNSIMULATED				1	5	3	4	1	6	7	1	5	4
3	4	411111	3	30	60	1	0.5	2	20	2	0	0	6	0	0	0	0	10	7
3	4	515431	8	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	4	114111	2	35	60	1	1	1	30	2	0	6	8	4	0	10	0	12	0
3	4	515311	8	-1	-1	-1	-1	-1	60	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	4	213111	3	0	25	3	1	5	20	0	0	0	0	0	0	0	0	7	0
3	4	413111	3	20	35	2	1	4	20	0	0	0	0	0	0	0	0	7	0
3	4	311111	8	0	0	2	1	5	20	0	0	0	0	0	0	0	0	0	0
3	4	313111	8	20	25	2	1	5	20	0	0	0	0	0	0	0	0	7	0
3	4	515223	8	-1	-1	-1	-1	-1	60	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	4	414112	8	-1	-1	-1	-1	-1	60	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	4	535111	8	-1	-1	-1	-1	-1	60	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	4	112111	8	0	0	2	1	5	20	0	0	0	0	0	0	0	0	0	0
3	4	514111	8	20	35	2	1	5	20	0	0	0	0	5	0	0	0	7	0
3	4	315112	3	-1	-1	-1	-1	-1	60	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	4	315113	3	-1	-1	-1	-1	-1	120	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	4	513111	8	-1	-1	-1	-1	-1	60	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	4	123111	3	-1	-1	-1	-1	-1	20	0	0	0	0	0	0	0	0	-1	-1
3	4	334231	8	-1	-1	-1	-1	-1	60	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	4	113111	8	20	30	1	1	2	20	0	0	0	0	0	0	0	0	7	0
3	4	521111	8	-1	-1	-1	-1	-1	60	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	4	113121	8	30	40	-1	-1	1	20	2	10	6	8	2	12	14	2	10	8
3	4	211111	8	0	0	2	1	3	20	0	0	0	0	0	0	0	0	0	0
3	4	224111	8	30	40	-1	-1	-1	20	0	0	0	0	0	0	0	0	0	0
3	4	415314	5	-1	-1	-1	-1	-1	60	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	4	312111	8	30	40	-1	-1	1	20	0	0	0	0	0	0	0	0	0	0
3	4	314112	8	-1	-1	-1	-1	-1	60	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	4	314113	8	-1	-1	-1	-1	1	60	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	4	412111	8	0	0	2	1	2	20	0	0	0	0	0	0	0	0	0	0
3	4	414111	8	30	40	-1	-1	1	60	0	0	0	0	0	0	0	0	7	0
3	4	525111	8	-1	-1	-1	-1	-1	60	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1

I AM THE BATTALION MASTER GUNNER. I COORDINATE ALL TANK GUNNERY AND OBSERVE TURRET MAINTANCE.

DEMOGRAPHIC DATA

			WHEN MO	WHEN YR	HOW LONG YR	HOW LONG MO
GRADE	:E-6	TANK COMMANDER		77	3	
MOS	:19E3C3	GUNNER	:	75	2	
IN ARMY	: 8YR	LOADER	:	74		3
IN ARTILLERY	: 8YR	DRIVER	:			
	WHEN					
COMBAT	:N					
ARTIL. COMBAT	:N	#SUPERVISED : 10				

M60 TANK CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW RESP	SYMP COMP	ORDINARY TASKS: CON CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	JT XFS	OPEN LOCK	CREW TASKS: TANK COMMANDER: ISSUE FIRE CMD	RANGE	DEF LAY	ISSUE SUBSQ CMD	GUNNER: IDENT TGT	AIM FIRE	APPLY CORR	LOADER: ARM	LOAD ARM	DR STOP
USUAL TIME,SEC		15	20	UNSTIPULATED				1	5	3	4	1	6	7	1	5	4
3 7	411111 3	30	30	2	3	10	20	3	0	5	6	4	0	0	0	7	6
3 7	513431 8	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 7	114111 3	-1	-1	-1	1	-1	40	3	10	10	10	4	12	12	0	10	7
3 7	515311 3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 7	213111 3	35	30	3	3	10	20	3	7	8	8	4	10	10	0	8	6
3 7	413111 2	30	40	4	3	8	25	3	7	7	6	3	10	10	0	8	6
3 7	311111 3	25	40	4	4	5	20	0	0	0	6	3	0	10	0	7	0
3 7	313111 8	35	45	3	1	3	18	0	6	5	7	4	0	10	0	8	7
3 7	515223 5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 7	414112 8	45	40	1	1	-1	35	2	11	9	10	4	12	13	3	10	10
3 7	535111 8	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 7	112111 8	20	28	4	8	6	23	0	0	0	6	3	0	0	0	7	0
3 7	514111 8	47	39	2	3	3	27	6	10	12	9	4	10	10	3	10	6
3 7	313112 8	36	32	-1	1	-1	25	3	6	5	7	4	8	0	0	8	0
3 7	315113 5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 7	512111 8	50	70	1	2	3	27	3	8	6	8	4	10	12	3	10	8
3 7	123111 8	40	60	1	-1	2	21	0	6	6	0	3	0	0	0	7	6
3 7	334231 5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 7	113111 8	18	35	3	4	6	12	0	0	0	0	0	0	0	0	0	0
3 7	521111 8	50	80	-1	-1	-1	-1	4	8	6	7	4	9	10	4	8	7
3 7	113121 8	0	38	4	3	3	15	0	0	0	0	0	0	0	0	0	0
3 7	211111 8	30	57	2	2	3	28	3	7	5	6	3	8	9	3	7	6
3 7	224111 8	47	75	1	-1	-1	17	7	11	9	10	7	12	13	7	11	10
3 7	415314 5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 7	312111 8	23	60	3	2	3	17	0	0	0	0	0	0	0	0	7	0
3 7	314112 5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 7	314113 5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 7	412111 8	48	62	1	1.5	4	17	5	9	7	8	5	10	11	5	9	8
3 7	414111 8	47	60	2	-1	-1	23	4	8	6	7	4	9	10	6	8	7
3 7	525111 5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1

ORTIZ SERGEANT AT FT KNOX

DEMOGRAPHIC DATA

			WHEN MO	HOW LONG YR	HO
GRADE	:E-6	TANK COMMANDER		79	2
MOS	:19E	GUNNER	:	78	1
IN ARMY	: 9YR	LOADER	:		
IN ARTILLERY	: 5YR	DRIVER	:		
	WHEN				
COMBAT	:N				
ARTIL. COMBAT	:N	#SUPERVISED	:>50		

M60 TANK CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW RESP	SUPP COMP	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: TANK COMMANDER: ISSUE FIRE CMD	RANGE	DEP LAY	ISSUE SUBSD CMD	GUNNER: IDENT TGT	AIM FIRE	APPLY CORR	LOADER: ARM	LOAD ARM	DR STOP
USUAL TIME,SEC		15	20	UNSTIPULATED				1	5	3	4	1	6	7	1	5	4
3	9 411111 3	0	0	10	180	30	5	0	0	0	0	0	0	0	0	0	0
3	9 515431 3	-1	-1	-1	-1	-1	60	10	10	7	10	5	10	12	3	10	7
3	9 114111 3	30	60	3	10	5	30	0	0	5	6	0	0	0	0	10	0
3	9 515311 3	60	60	2	5	5	30	3	0	5	0	3	0	10	0	8	6
3	9 213111 3	20	30	6	15	10	20	2	0	5	0	3	0	0	0	0	0
3	9 413111 3	20	30	3	10	15	15	3	0	0	0	3	0	0	0	7	6
3	9 311111 3	20	30	4	15	10	30	3	0	0	0	3	0	0	0	0	0
3	9 313111 3	20	30	5	15	20	15	3	0	0	0	3	0	0	0	7	6
3	9 515223 3	-1	-1	-1	-1	-1	-1	5	10	6	8	2	12	14	2	10	8
3	9 414112 3	20	30	1	5	5	30	2	7	5	5	2	0	0	0	7	6
3	9 535111 3	-1	-1	-1	-1	-1	60	20	10	6	8	2	12	14	2	10	8
3	9 112111 3	20	25	5	30	20	15	0	0	0	0	0	0	0	0	0	0
3	9 514111 3	40	60	1	5	5	30	2	7	5	6	2	0	0	2	7	0
3	9 313112 3	60	120	2	5	5	30	5	0	5	0	2	0	10	0	10	6
3	9 315113 3	-1	-1	-1	-1	-1	60	2	10	6	8	2	12	14	2	10	8
3	9 513111 3	30	40	5	10	10	30	0	7	5	0	0	0	0	0	6	0
3	9 123111 3	20	30	5	10	10	30	0	0	0	0	0	0	0	0	0	0
3	9 334231 3	40	60	2	3	-1	60	2	10	6	8	2	12	14	2	10	8
3	9 113111 3	0	0	5	30	30	15	0	0	0	0	0	0	0	0	0	0
3	9 521111 3	20	30	4	15	10	20	2	7	4	5	2	8	9	2	7	5
3	9 113121 3	20	30	5	30	10	20	0	0	0	0	0	0	0	0	0	0
3	9 211111 3	20	30	5	30	30	15	0	0	0	0	0	0	0	0	0	0
3	9 224111 3	30	40	2	5	10	15	2	7	5	6	3	8	9	3	7	6
3	9 415313 3	45	60	-1	-1	-1	60	3	15	9	12	3	18	21	3	15	12
3	9 312111 3	20	30	5	15	10	20	2	0	5	0	2	0	0	0	7	6
3	9 314112 3	30	40	1	5	5	30	2	10	6	8	2	12	14	2		8
3	9 314113 3	60	60	-1	-1	-1	60	2	1	6	8	2	12	14	2	10	8
3	9 412111 3	20	30	5	10	10	30	0	0	0	0	0		0	0	0	0
3	9 414111 3	20	30	2	10	10	30	2	7	5	6	3	8	9	3	7	6
3	9 323111 3	60	60	-1	-1	-1	60	2	10	6	8	2	12	14	2	10	8

DATLE SUT.

DEMOGRAPHIC DATA

			WHEN MO	WHEN YR	HOW LONG YR	HOW LONG MO
GRADE	:	TANK COMMANDER		77	1	
MOS	:19E	GUNNER	:	75	2	
IN ARMY	: 9YR AND	LOADER	:	75	2	
IN ARTILLERY	: 9YR	DRIVER	:	75	2	
	WHEN					
COMBAT	:N					
ARTIL. COMBAT	:N	#SUPERVISED : 20				

M60 TANK CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: TANK COMMANDER: ISSUE FIRE CMD	RANGE	DEP LAY	ISSUE SUBSQ CMD	GUNNER: IDENT TGT	AIM FIRE	APPLY CORR	LOADER: ARM	LOAD ARM	DR STOP
USUAL TIME,SEC			15	20	MANIPULATED				1	5	3	4	1	6	7	1	5	4
3 12 411111		3	60	30	15	10	25	30	10	25	10	10	25	12	12	5	20	8
3 12 513431		3	25	30	15	10	26	30	12	9	9	8	5	9	9	5	10	8
3 12 114111		3	20	25	10	10	20	25	0	0	0	0	0	0	0	5	5	0
3 12 513311		3	20	10	10	10	20	25	8	10	7	6	5	12	10	5	12	8
3 12 213111		3	20	25	10	10	15	25	5	8	6	8	4	10	10	5	10	7
3 12 413111		3	25	30	10	11	5	10	8	10	8	10	8	15	15	10	20	10
3 12 311111		3	20	30	15	15	10	30	5	8	6	8	5	12	10	5	10	8
3 12 313111		3	20	30	20	20	15	25	8	15	10	10	5	12	14	8	10	10
3 12 515223		3	20	30	5	5	5	5	15	20	15	10	10	12	14	8	12	10
3 12 414112		3	999	999	999	999	999	999	10	20	12	12	10	12	14	10	14	10
3 12 535111		3	999	999	999	999	999	999	12	15	20	10	15	20	25	10	25	15
3 12 112111		3	999	999	999	999	999	999	0	0	0	8	5	12	9	5	10	8
3 12 514111		3	999	999	999	999	999	999	10	12	15	8	5	12	14	10	20	12
3 12 313112		3	999	999	999	999	999	999	8	12	8	8	5	18	20	10	22	15
3 12 313113		3	999	999	999	999	999	999	12	20	15	22	10	21	20	10	15	21
3 12 513111		3	999	999	999	999	999	999	12	18	15	21	9	12	14	5	10	8
3 12 123111		3	999	999	999	999	999	999	9	19	21	8	15	18	21	10	21	15
3 12 334231		3	999	999	999	999	999	999	12	15	20	15	20	18	14	11	21	10
3 12 113111		3	999	999	999	999	999	999	5	10	10	10	10	10	0	0	10	6
3 12 521111		3	999	999	999	999	999	999	10	10	12	14	12	14	15	10	10	12
3 12 113121		3	999	999	999	999	999	999	12	12	14	16	10	12	14	10	10	8
3 12 211111		3	999	999	999	999	999	999	8	8	6	8	5	12	8	5	10	8
3 12 224111		3	999	999	999	999	999	999	10	10	6	8	5	12	8	10	12	8
3 12 415314		3	999	999	999	999	999	999	12	12	9	8	5	12	13	5	15	8
3 12 312111		3	999	999	999	999	999	999	8	10	6	8	6	12	14	5	12	8
3 12 314112		3	999	999	999	999	999	999	8	12	7	12	8	14	13	8	12	14
3 12 314113		3	999	999	999	999	999	999	20	30	20	28	20	20	20	10	25	15
3 12 412111		3	999	999	10	10	5	30	10	12	12	9	7	14	13	8	16	19
3 12 414111		3	999	999	10	10	2	1	12	20	20	20	10	15	30	21	25	10
3 12 525111		3	999	999	10	10	8	30	11	15	12	9	10	15	21	8	20	10

IN CHARGE OF A TANK PLATOON, RESPONSIBLE FOR MAINT OF VEHICLES, TRAINING AND WELFARE OF PERSONNEL

DEMOGRAPHIC DATA

			WHEN MO	WHEN YR	HOW LONG YR	HOW LONG MO
GRADE	:	TANK COMMANDER		77	5	
MOS	:19F30	GUNNER	:	75	2	
IN ARMY	: 7YR	LOADER	:			
IN ARTILLERY	: 7YR	DRIVER	:			
	WHEN					
COMBAT	:N					
ARTIL. COMBAT	:N	#SUPERVISED : 20				

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

M60 TANK CREW

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: TANK COMMANDER: ISSUE FIRE CMD	RANGE	DEP LAT	ISSUE SURSQ CMD	GUNNER: IDENT TGT	AIM FIRE	APPLY CORR	LOADER: ARM	LOAD ARM	DR: STOP
USUAL TIME,SEC			15	20	UNSTEADIATED				1	5	3	4	1	6	7	1	5	4
3 16	411111	A	20	20	5	10	20	20	0	0	2	0	4	0	0	0	3	3
3 16	515431	3	30	30	2	3	5	40	0	10	5	4	8	4	3	0	4	3
3 16	114111	A	10	20	3	5	10	20	0	0	0	0	3	0	0	0	2	2
3 16	515311	3	30	50	1	1	2	60	4	5	3	2	4	4	3	0	5	4
3 16	213111	A	15	20	8	10	15	20	0	2	2	0	2	0	0	0	2	2
3 16	413111	A	8	15	8	10	15	20	0	2	2	0	2	0	0	1	2	2
3 16	311111	5	15	20	10	10	15	15	0	0	0	0	3	0	0	0	0	0
3 16	313111	5	15	20	10	10	15	15	0	0	0	0	0	0	0	0	0	0
3 16	515223	3	55	55	1	2	5	10	3	5	3	2	5	5	5	3	5	5
3 16	414112	3	30	40	5	5	10	20	0	0	0	0	0	0	0	0	0	0
3 16	535111	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 16	112111	5	0	0	20	20	30	10	0	0	0	0	0	0	0	0	0	0
3 16	514111	A	10	15	15	15	20	10	0	0	2	2	2	0	0	1	2	2
3 16	315112	A	0	0	10	10	15	10	0	0	0	0	0	0	0	0	0	0
3 16	315113	3	20	25	2	2	5	15	0	0	3	0	3	0	0	2	3	4
3 16	513111	3	15	20	5	5	10	15	0	0	0	0	2	0	0	1	2	3
3 16	123111	5	0	0	10	10	20	10	0	0	0	0	0	0	0	0	0	0
3 16	334231	2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 16	113111	5	0	0	10	10	10	10	0	0	0	0	0	0	0	0	0	0
3 16	521111	A	10	10	5	5	10	15	0	0	2	0	2	0	0	1	2	3
3 16	113121	A	10	15	5	5	8	15	0	0	2	0	2	0	0	1	2	3
3 16	211111	5	0	0	10	10	15	10	0	0	0	0	0	0	0	0	0	0
3 16	224111	3	15	20	3	3	5	20	0	0	2	0	3	0	0	2	3	4
3 16	415314	2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3 16	312111	A	15	15	5	5	10	15	0	0	2	0	3	0	0	1	2	3
3 16	314112	A	15	20	5	5	10	15	2	2	2	0	3	0	0	1	2	3
3 16	314113	3	30	40	1	1	3	30	2	3	2	0	3	0	0	2	0	4
3 16	412111	A	15	20	5	5	10	15	0	0	0	0	3	0	0	1	3	3
3 16	414111	A	15	20	5	5	10	20	0	2	1	0	3	0	0	1	2	3
3 16	525111	2	60	60	1	1	3	35	2	5	3	0	4	4	3	2	5	6

PLT SGT/ MASTER GUNNER OF M-1 TANK PLT.

DEMOGRAPHIC DATA

			WHEN MO	WHEN YR	HOW LONG YR	HOW LONG MO
GRADE	:E-7	TANK COMMANDER		75	7	
MOS	:19K40	GUNNER	:	72	3	
IN ARMY	:11YR 3MO	LOADER	:	71	1	
IN ARTILLERY	:11YR 3 WHEN	DRIVER	:			
COMBAT	:N					
ARTIL. COMBAT	:N	#SUPERVISED :>50				

M60 TANK CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: TANK COMMANDER: ISSUE FIRE CMD	RANGE	DEP LAY	ISSUE SUBSQ CMD	GUNNER: IDENT TGT	AIM FIRE	APPLY CORR	LOADER: ARM	LOAD ARM	DR: STOP
USUAL TIME,SEC			15	20	UNSTIPULATED				1	5	3	4	1	6	7	1	5	4
3	38	411111	4	20	30	5	30	15	25	2	7	5	6	2	0	8	0	7	0
3	38	515431	4	30	30	2	5	5	30	4	10	5	8	3	9	9	2	10	6
3	38	114111	4	20	25	2	5	5	30	0	0	0	0	0	0	0	0	7	0
3	38	515311	4	30	30	2	5	5	30	4	10	5	8	3	9	9	2	10	6
3	38	215111	4	0	0	5	15	10	30	0	0	0	0	0	0	0	0	0	0
3	38	413111	4	0	0	5	15	10	30	0	0	0	0	0	0	0	0	0	0
3	38	311111	3	0	0	5	20	10	30	0	0	0	0	0	0	0	0	0	0
3	38	313111	4	0	0	5	20	10	30	0	0	0	0	0	0	0	0	0	0
3	38	515223	4	30	-1	2	5	3	45	5	10	6	8	2	12	14	2	10	8
3	38	414112	4	20	30	2	10	5	30	0	0	0	0	0	0	0	0	9	0
3	38	535111	3	30	40	2	5	3	30	3	10	6	8	2	12	14	2	10	4
3	38	112111	4	0	0	5	25	15	25	0	0	0	0	0	0	0	0	0	0
3	38	514111	4	20	30	2	5	3	45	0	0	0	0	0	0	0	0	8	0
3	36	313112	4	30	40	2	5	5	40	2	10	6	8	2	12	14	2	10	8
3	38	315113	4	30	40	1	3	3	45	2	10	6	8	2	12	14	2	15	8
3	38	513111	4	0	0	2	5	5	40	0	0	0	0	0	0	0	0	0	0
3	38	123111	3	0	0	5	20	15	30	0	0	0	0	0	0	0	0	0	0
3	38	334231	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	38	113111	4	0	0	5	20	10	25	0	0	0	0	0	0	0	0	0	0
3	38	521111	4	0	0	2	15	5	35	0	0	0	0	0	0	0	0	10	0
3	38	113121	4	0	0	5	30	10	25	0	0	0	0	0	0	0	0	0	0
3	38	211111	4	0	0	5	20	10	30	0	0	0	0	0	0	0	0	0	0
3	36	224111	4	20	25	5	20	10	30	2	10	[illegible]	8	2	12	14	2	10	8
3	38	415314	4	-1	-1	-1	-1	-1	45	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	38	312111	4	0	0	5	30	10	25	0	0	0	0	0	0	0	0	0	0
3	38	314112	4	-1	-1	-1	-1	-1	40	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	38	314113	4	-1	-1	-1	-1	-1	30	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
3	38	412111	4	0	0	5	30	10	20	0	0	0	0	0	0	0	0	0	0
3	38	414111	4	30	40	5	15	10	25	2	10	6	8	2	12	14	2	10	8
3	38	523111	4	-1	-1	2	5	2	30	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1

I HAVE BEEN IN AN ANTI ARMOR PLT. 10YRS. I HAVE WORK WITH THE JEEP 106, THE M220 SYSTEM AND AT THE PRESENT TIME ON THE M901.

DEMOGRAPHIC DATA

			WHEN NO	WHEN YR	HOW LONG YR	HO
GRADE	:E-6	SQUAD LEADER :	77		5	
MOS	:11B30E9	GUNNER :	76		2	
IN ARMY	:10YR	LOADER :				
IN ARTILLERY	:10YR	DRIVER :	75		1	
COMBAT	:N					
ARTIL. COMBAT	:N	#SUPERVISED : 10				

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

IMPROVED TOW VEHICLE CREW

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: SQUAD LEADER: DESTG TGT AZ	CD DRIVER	GUNNER: SET ERECT SLEW	ACQUIR ARM FIRE	DR: START DRIVE STOP	LOADER: RELOAD	READY RACK	GUNNER: TARGET TRACKING ACCURACY
			SELF-STIPULATED VALUES													
USUAL TIME,SEC			15	20	60	100	100	10	4	2	17	7	20	60	60	90%
			CONFIDENCE= 5													
4	3 411111	5	25	40	1	1	1	20	8	5	20	10	25	75	90	80
4	3 515431	5	65	60	0.5	40	-1	65	45	20	60	60	60	180	190	50
4	3 114111	4	20	26	1	1	1	25	0	4	20	0	21	65	70	85
4	3 515311	5	-1	-1	-1	-1	-1	-1	50	60	60	120	120	-1	-1	20
4	3 215111	4	30	50	1	1	1	1	25	20	30	14	40	120	100	80
4	3 413111	5	20	25	2	1	3	20	8	4	20	8	21	65	66	89
4	3 311111	4	20	26	3	2	3	10	0	0	0	8	40	70	80	90
4	3 315111	5	17	22	1	2	4	20	5	3	18	8	22	65	65	90
4	3 515223	5	-1	-1	-1	-1	-1	-1	40	50	60	60	120	-1	-1	30
4	3 414112	4	60	120	-1	-1	-1	60	40	20	60	70	50	80	90	60
4	3 535111	5	60	60	-1	-1	-1	60	10	20	31	14	40	125	90	80
4	3 112111	5	0	0	5	118	10	5	0	0	0	0	0	0	0	90
4	3 514111	4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	5
4	3 315112	5	-1	-1	-1	-1	-1	-1	120	120	60	60	120	150	160	10
4	3 315113	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4	3 515111	4	60	60	-1	-1	-1	120	60	60	60	60	60	120	120	999
4	3 123111	4	25	26	5	60	25	10	0	0	0	0	0	0	0	90
4	3 334231	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4	3 113111	4	0	0	5	125	30	5	0	0	0	0	0	0	0	90
4	3 521111	5	30	40	1	60	1	30	8	4	34	14	40	120	120	80
4	3 113121	4	35	40	-1	-1	-1	60	8	5	34	14	40	120	120	80
4	3 211111	4	35	46	-1	-1	1	40	8	5	34	14	40	120	120	70
4	3 224111	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	10
4	3 415310	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4	3 312111	5	120	140	-1	-1	-1	60	8	8	39	25	42	129	129	40
4	3 314112	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4	3 314113	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4	3 412111	5	60	60	-1	-1	-1	60	8	5	34	14	40	120	120	50
4	3 414111	4	50	40	-1	-1	-1	60	20	20	60	60	40	120	120	60
4	3 525111	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4	3 111121	4	40	40	1	-1	-1	60	8	8	34	14	40	120	120	60
4	3 212111	4	40	40	-1	-1	-1	60	10	8	34	14	40	123	124	60
4	3 112121	5	40	40	1	1	1	30	8	5	34	14	40	120	120	75
4	3 112131	4	35	60	1	1	-1	60	10	4	34	14	40	125	125	60
4	3 111131	4	40	40	-1	-1	-1	60	60	60	60	60	120	-1	-1	50
4	3 113131	4	40	40	1	2	-1	60	10	8	34	14	40	120	125	70
4	3 214112	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	10
4	3 314111	5	60	60	-1	-1	-1	60	15	10	60	60	40	127	130	50
4	3 214113	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
4	3 114111	5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0

I WAS THE DISTRIBUTION FORM 60-81 AFTER THAT I WAS SUPPLY SGT NOW I WORKING AS THE PLATOON SGT

DEMOGRAPHIC DATA

			WHEN MO	WHEN YR	HOW LONG YR	HOW LONG MO
GRADE	:E-6	SQUAD LEADER :		77	3	
MOS	:11H	GUNNER :		76	1	
TH ARMY	:11YR	LOADER :		77		3
TH ARTILLERY	: 7YR	DRIVER :		76		6
	WHEN					
COMBAT	:N					
ARTIL. COMBAT	:N	#SUPERVISED : 50				

IMPROVED TOW VEHICLE CREW

0=NO INCREASE ABOVE USUAL TIME
-1=CANNOT DO IT AT ALL
9990=NO REPLY
9=NO REPLY (FOR CONFIDENCE)

CREW RESP	SYMP COMP	CON	ORDINARY TASKS: CLIMB STAIRS	LIFT BOXES	CLIMB STAIRS	WALK	LIFT BOXES	OPEN LOCK	CREW TASKS: SQUAD LEADER: DESIG TGT AZ	CO DRIVER	GUNNER: SET ERECT SLEW	ACQUIR ARM FIRE	DR: START DRIVE STOP	LOADER: RELOAD	READY RACK	GUNNER: TARGET TRACKING ACCURACY
			SELF-STIPULATED VALUES													
USUAL TIME,SEC			15	20	10	5	3	20	4	2	17	7	20	60	60	90%
			CONFIDENCE= A													
4 38	411111	A	40	30	5	2	2	30	12	8	25	12	0	90	90	70
4 38	515431	A	55	35	2	3	2	40	15	5	35	35	25	120	120	60
4 38	114111	A	55	60	2	3	1	40	20	6	35	35	25	-1	-1	60
4 38	515311	A	60	65	1	2	1	50	25	8	40	40	30	-1	-1	999
4 38	213111	A	65	65	1	2	1	50	30	10	45	45	35	-1	-1	60
4 38	413111	A	65	65	1	2	1	55	30	11	45	45	35	-1	-1	60
4 38	311111	A	15	25	5	10	5	20	0	0	0	0	0	0	0	0
4 38	313111	A	20	25	5	10	2	15	7	4	30	20	25	65	65	60
4 38	515223	A	60	60	1	1	1	60	25	25	60	-1	45	-1	-1	50
4 38	414112	A	45	45	2	1	1	30	30	30	20	14	25	90	90	60
4 38	535111	A	30	35	1	1	1	45	10	4	45	25	0	90	90	70
4 38	112111	A	20	25	4	3	3	20	0	0	25	10	25	70	70	0
4 38	514111	A	25	30	2	3	1	25	7	3	25	14	25	90	90	85
4 38	313112	A	25	25	2	3	2	30	7	4	30	14	25	90	90	80
4 38	315113	A	30	40	1	2	1	35	11	5	39	35	35	90	90	60
4 38	513111	A	30	35	1	2	1	35	0	4	35	15	35	95	95	70
4 38	123111	A	30	35	1	1	1	40	8	7	30	15	40	120	120	65
4 38	334251	3	-1	-1	1	1	1	999	30	10	45	45	40	-1	-1	50
4 38	113111	A	20	25	1	1	1	20	0	3	20	10	25	-1	-1	0
4 38	521111	A	0	0	2	20	4	20	0	0	0	0	0	0	0	0
4 38	113121	3	30	25	1	4	1	20	0	3	20	10	25	90	90	85
4 38	211111	A	25	25	4	10	4	25	0	0	25	10	30	80	90	80
4 38	224111	A	30	25	2	1	1	20	0	3	20	10	25	90	90	85
4 38	415314	A	30	40	1	1	1	30	10	8	30	14	40	90	90	60
4 38	312111	A	25	35	1	1	1	25	6	4	30	20	30	90	120	70
4 38	314112	A	30	40	1	1	1	35	8	4	25	14	40	120	1[illegible]	60
4 38	314113	A	45	45	1	1	1	35	8	4	30	25	40	-1	[illegible]	55
4 38	412111	A	30	30	2	2	1	25	0	0	20	14	35	75	85	60
4 38	414111	A	40	45	1	1	1	30	6	8	25	25	30	-1	-1	60
4 38	525111	A	30	45	1	1	1	30	10	8	25	20	35	90	90	60
4 38	111121	A	20	25	3	4	1	20	7	0	25	10	25	75	85	0
[illegible] 38	212111	A	30	40	1	1	1	35	7	8	25	25	30	120	160	60
4 38	112121	A	999	999	3	2	1	25	10	12	30	25	40	90	90	70
4 38	112131	A	30	40	1	1	1	30	12	7	25	20	40	90	100	60
4 38	111131	A	25	30	2	5	2	25	0	0	25	15	30	75	75	80
4 38	113131	A	30	30	1	1	1	30	7	8	25	15	25	75	90	70
4 38	214112	A	40	45	-1	1	-1	40	10	7	20	17	30	-1	-1	80
4 38	314111	A	45	60	-1	1	-1	60	10	10	30	20	30	-1	-1	60
4 38	214113	A	30	-1	-1	-1	-1	30	10	9	30	25	30	-1	-1	55
4 38	114112	A	25	-1	-1	1	-1	40	15	10	30	30	25	-1	-1	15

Appendix E

PERFORMANCE DATA INPUT VALUES FOR REGRESSION MODELING: CREWMEMBER POSITIONS AND TASKS

Table E.1. Gun crewmember performance.

Symptom No.	Complex	Crewmember Position[a] (P_k)				Crewmember Tasks[b] (P_{jk})										
		1	2	3	4	1	2	3	4	5	6	7	8	9	10	11
1	112111	0.813	0.816	0.788	0.690	0.813	0.843	0.790	0.852	0.672	0.496	0.806	0.678	0.722	0.744	0.744
2	113111	0.811	0.857	0.822	0.697	0.811	0.883	0.833	0.879	0.714	0.601	0.769	0.666	0.699	0.723	0.716
3	113121	0.555	0.700	0.675	0.473	0.555	0.695	0.705	0.729	0.576	0.326	0.616	0.416	0.481	0.497	0.544
4	114111	0.691	0.730	0.690	0.452	0.691	0.815	0.661	0.832	0.493	0.211	0.609	0.421	0.504	0.709	0.665
5	123111	0.642	0.707	0.670	0.502	0.642	0.735	0.682	0.756	0.530	0.353	0.592	0.445	0.490	0.596	0.588
6	211111	0.671	0.828	0.803	0.650	0.671	0.829	0.827	0.862	0.692	0.480	0.705	0.660	0.641	0.726	0.722
7	213111	0.605	0.786	0.711	0.542	0.605	0.859	0.725	0.846	0.518	0.338	0.677	0.506	0.567	0.693	0.616
8	224111	0.362	0.540	0.501	0.330	0.362	0.572	0.511	0.614	0.350	0.161	0.477	0.318	0.364	0.423	0.446
9	311111	0.696	0.873	0.832	0.653	0.696	0.921	0.829	0.915	0.687	0.407	0.760	0.649	0.679	0.793	0.778
10	312111	0.612	0.709	0.700	0.556	0.612	0.755	0.668	0.764	0.586	0.341	0.674	0.518	0.584	0.655	0.689
11	313111	0.658	0.782	0.763	0.559	0.658	0.855	0.720	0.894	0.570	0.357	0.709	0.512	0.590	0.704	0.620
12	313112	0.469	0.631	0.575	0.387	0.469	0.665	0.600	0.665	0.438	0.216	0.510	0.323	0.380	0.491	0.578
13	314111	0.394	0.509	0.479	0.344	0.394	0.535	0.486	0.596	0.329	0.223	0.400	0.248	0.376	0.469	0.492
14	314113	0.252	0.417	0.371	0.223	0.252	0.454	0.385	0.446	0.266	0.134	0.314	0.184	0.222	0.250	0.295
15	315113	0.255	0.404	0.359	0.179	0.255	0.439	0.374	0.486	0.223	0.072	0.291	0.147	0.219	0.309	0.319
16	334231	0.221	0.384	0.321	0.188	0.221	0.427	0.348	0.413	0.212	0.092	0.243	0.194	0.216	0.270	0.247
17	411111	0.530	0.731	0.749	0.565	0.530	0.848	0.643	0.877	0.558	0.315	0.769	0.572	0.547	0.809	0.642
18	412111	0.557	0.728	0.709	0.520	0.557	0.752	0.706	0.772	0.595	0.333	0.603	0.499	0.560	0.643	0.600
19	413111	0.559	0.694	0.652	0.496	0.559	0.790	0.619	0.789	0.463	0.291	0.641	0.471	0.556	0.634	0.561
20	414111	0.491	0.600	0.561	0.370	0.491	0.637	0.566	0.663	0.413	0.204	0.510	0.352	0.366	0.428	0.490
21	414112	0.368	0.535	0.490	0.295	0.368	0.603	0.480	0.646	0.313	0.113	0.480	0.294	0.405	0.513	0.452
22	415314	0.155	0.170	0.161	0.070	0.155	0.235	0.134	0.200	0.110	0.021	0.090	0.110	0.130	0.182	0.172
23	513111	0.515	0.643	0.582	0.396	0.515	0.718	0.583	0.689	0.428	0.215	0.572	0.338	0.415	0.528	0.513
24	514111	0.409	0.592	0.544	0.362	0.409	0.631	0.557	0.673	0.376	0.185	0.509	0.355	0.369	0.479	0.477
25	515223	0.289	0.399	0.361	0.134	0.289	0.452	0.358	0.484	0.227	0.039	0.253	0.156	0.224	0.312	0.316
26	515311	0.387	0.534	0.515	0.249	0.387	0.612	0.473	0.650	0.346	0.100	0.376	0.237	0.322	0.407	0.404
27	515431	0.155	0.275	0.252	0.110	0.155	0.339	0.231	0.339	0.157	0.032	0.231	0.136	0.164	0.253	0.223
28	521111	0.530	0.698	0.658	0.550	0.530	0.722	0.675	0.784	0.479	0.378	0.679	0.553	0.572	0.632	0.562
29	525111	0.287	0.406	0.370	0.228	0.287	0.431	0.385	0.439	0.270	0.106	0.275	0.197	0.329	0.306	0.394
30	535111	0.261	0.414	0.377	0.187	0.261	0.474	0.367	0.480	0.252	0.080	0.276	0.159	0.256	0.337	0.278

[a] 1, Chief of section; 2, gunner; 3, assistant gunner; 4, driver.

[b] See Table 2 for task description.

Table E.2. FDC crewmember performance.

No.	Symptom Complex	Crewmember Position[a] (P_k)			Crewmember Tasks[b] (P_{jk})							
		1	2	3	1	2	3	4	5	6	7	8
1	112111	0.906	0.798	0.867	0.887	0.896	0.934	0.794	0.785	0.823	0.875	0.826
2	113111	0.944	0.861	0.882	0.911	0.945	0.964	0.851	0.864	0.874	0.890	0.847
3	113121	0.704	0.653	0.787	0.606	0.733	0.736	0.658	0.683	0.616	0.806	0.701
4	114111	0.779	0.743	0.769	0.683	0.769	0.882	0.741	0.764	0.725	0.787	0.693
5	123111	0.779	0.693	0.731	0.767	0.760	0.821	0.683	0.728	0.676	0.752	0.641
6	211111	0.702	0.697	0.742	0.598	0.702	0.792	0.752	0.714	0.608	0.778	0.600
7	213111	0.808	0.692	0.779	0.732	0.800	0.886	0.706	0.727	0.641	0.793	0.718
8	224111	0.482	0.461	0.568	0.406	0.471	0.578	0.460	0.534	0.407	0.583	0.502
9	311111	0.778	0.674	0.763	0.685	0.805	0.805	0.686	0.690	0.642	0.793	0.641
10	312111	0.693	0.685	0.747	0.576	0.720	0.745	0.688	0.669	0.696	0.778	0.624
11	313111	0.787	0.644	0.762	0.708	0.801	0.824	0.666	0.665	0.592	0.790	0.644
12	313112	0.650	0.624	0.722	0.502	0.721	0.673	0.616	0.637	0.624	0.766	0.563
13	314112	0.549	0.558	0.662	0.455	0.570	0.594	0.563	0.572	0.538	0.703	0.513
14	314113	0.428	0.453	0.555	0.320	0.461	0.480	0.458	0.489	0.414	0.603	0.397
15	315113	0.473	0.439	0.537	0.380	0.502	0.505	0.418	0.486	0.432	0.573	0.408
16	334231	0.370	0.431	0.504	0.248	0.421	0.423	0.437	0.493	0.377	0.551	0.354
17	411111	0.697	0.672	0.725	0.584	0.717	0.760	0.674	0.763	0.598	0.759	0.593
18	412111	0.767	0.693	0.754	0.667	0.785	0.816	0.675	0.711	0.705	0.786	0.624
19	413111	0.822	0.672	0.822	0.725	0.819	0.911	0.668	0.703	0.650	0.835	0.764
20	414111	0.698	0.596	0.693	0.557	0.731	0.769	0.586	0.644	0.570	0.728	0.560
21	414112	0.627	0.569	0.649	0.504	0.658	0.686	0.573	0.617	0.522	0.689	0.503
22	415314	0.271	0.247	0.346	0.188	0.277	0.367	0.289	0.384	0.227	0.378	0.242
23	513111	0.609	0.533	0.660	0.489	0.636	0.669	0.541	0.591	0.475	0.692	0.537
24	514111	0.625	0.550	0.640	0.535	0.653	0.651	0.556	0.566	0.525	0.682	0.489
25	515223	0.424	0.350	0.441	0.331	0.416	0.543	0.342	0.398	0.324	0.486	0.301
26	515311	0.509	0.440	0.568	0.347	0.525	0.686	0.433	0.528	0.386	0.587	0.488
27	515431	0.353	0.379	0.444	0.224	0.380	0.483	0.358	0.467	0.349	0.486	0.310
28	521111	0.597	0.554	0.642	0.464	0.625	0.676	0.568	0.557	0.531	0.675	0.515
29	525111	0.494	0.467	0.558	0.382	0.513	0.573	0.472	0.525	0.415	0.600	0.413
30	535111	0.411	0.378	0.479	0.312	0.419	0.503	0.364	0.437	0.354	0.522	0.338

[a] 1, Fire detection officer; 2, horizontal control operator; 3, computer.
[b] See Table 2 for task description.

Table E,3. Tank crewmember performance.

No.	Symptom Complex	Crewmember Position[a] (P_k)				Crewmember Tasks[b] (P_{jk})									
		1	2	3	4	1	2	3	4	5	6	7	8	9	10
1	112111	0.890	0.942	0.841	0.899	0.799	0.930	0.855	0.894	0.797	0.952	0.959	0.820	0.845	0.899
2	113111	0.902	0.925	0.836	0.910	0.788	0.951	0.864	0.905	0.771	0.933	0.945	0.829	0.838	0.910
3	113121	0.842	0.898	0.742	0.818	0.720	0.891	0.825	0.834	0.738	0.918	0.909	0.738	0.742	0.818
4	114111	0.685	0.799	0.594	0.672	0.528	0.716	0.609	0.772	0.566	0.855	0.802	0.588	0.595	0.672
5	123111	0.763	0.828	0.683	0.717	0.650	0.800	0.716	0.791	0.661	0.854	0.835	0.675	0.684	0.717
6	211111	0.857	0.879	0.815	0.868	0.708	0.905	0.834	0.862	0.741	0.889	0.894	0.795	0.820	0.868
7	213111	0.738	0.813	0.663	0.798	0.568	0.806	0.704	0.744	0.565	0.856	0.830	0.658	0.664	0.798
8	224111	0.567	0.655	0.518	0.624	0.422	0.628	0.519	0.588	0.478	0.688	0.662	0.591	0.506	0.624
9	311111	0.772	0.825	0.741	0.875	0.634	0.830	0.725	0.785	0.550	0.850	0.865	0.714	0.747	0.875
10	312111	0.720	0.782	0.666	0.751	0.573	0.783	0.669	0.736	0.585	0.812	0.795	0.697	0.660	0.751
11	313111	0.753	0.820	0.683	0.773	0.568	0.827	0.695	0.780	0.570	0.854	0.844	0.742	0.672	0.773
12	313112	0.523	0.629	0.444	0.576	0.303	0.605	0.473	0.578	0.375	0.682	0.648	0.519	0.432	0.576
13	314112	0.469	0.570	0.434	0.536	0.348	0.539	0.398	0.498	0.386	0.598	0.586	0.503	0.423	0.536
14	314113	0.335	0.455	0.254	0.440	0.220	0.364	0.307	0.371	0.254	0.477	0.490	0.327	0.243	0.440
15	315113	0.354	0.470	0.205	0.328	0.225	0.396	0.299	0.414	0.285	0.513	0.479	0.313	0.191	0.328
16	334231	0.317	0.434	0.335	0.390	0.192	0.375	0.278	0.341	0.305	0.454	0.443	0.400	0.324	0.390
17	411111	0.660	0.752	0.704	0.788	0.462	0.748	0.644	0.711	0.443	0.803	0.787	0.590	0.733	0.788
18	412111	0.753	0.812	0.681	0.772	0.619	0.804	0.714	0.766	0.614	0.829	0.835	0.707	0.676	0.772
19	413111	0.692	0.784	0.642	0.763	0.465	0.784	0.641	0.716	0.504	0.842	0.800	0.656	0.640	0.763
20	414111	0.633	0.717	0.521	0.635	0.479	0.687	0.598	0.651	0.496	0.741	0.744	0.589	0.509	0.635
21	414112	0.488	0.582	0.446	0.565	0.323	0.571	0.424	0.520	0.268	0.646	0.636	0.455	0.444	0.565
22	415314	0.174	0.207	0.121	0.228	0.095	0.199	0.153	0.206	0.097	0.242	0.216	0.193	0.112	0.228
23	513111	0.603	0.708	0.607	0.690	0.470	0.673	0.543	0.618	0.503	0.745	0.720	0.620	0.604	0.690
24	514111	0.488	0.645	0.492	0.635	0.304	0.577	0.424	0.526	0.371	0.697	0.674	0.476	0.495	0.635
25	515223	0.332	0.430	0.247	0.364	0.241	0.378	0.266	0.381	0.223	0.480	0.448	0.283	0.241	0.364
26	515311	0.378	0.518	0.326	0.398	0.250	0.425	0.306	0.454	0.274	0.565	0.548	0.428	0.311	0.398
27	515431	0.261	0.394	0.206	0.332	0.131	0.315	0.242	0.286	0.179	0.444	0.426	0.313	0.193	0.332
28	521111	0.563	0.643	0.544	0.652	0.436	0.628	0.512	0.573	0.477	0.663	0.658	0.548	0.543	0.652
29	525111	0.273	0.375	0.247	0.351	0.183	0.291	0.243	0.317	0.231	0.428	0.368	0.350	0.233	0.351
30	535111	0.312	0.386	0.215	0.333	0.202	0.365	0.243	0.375	0.201	0.441	0.395	0.294	0.204	0.333

[a] 1, Tank commander; 2, horizontal control operator; 3, loader; 4, driver.
[b] See Table 2 for task description.

Table E.4. TOW crewmember performance.

Symptom No.	Complex	Crewmember Position[a] (P_k)				Crewmember Tasks[b] (P_{jk})						
		1	2	3	4	1	2	3	4	5	6	7
1	112111	0.899	0.865	0.964	0.872	0.906	0.883	0.799	0.886	0.964	0.876	0.869
2	112121	0.891	0.863	0.948	0.857	0.902	0.869	0.780	0.890	0.948	0.857	0.857
3	113111	0.868	0.830	0.917	0.882	0.871	0.860	0.758	0.853	0.917	0.874	0.890
4	113121	0.813	0.768	0.895	0.824	0.816	0.807	0.692	0.793	0.895	0.818	0.831
5	114111	0.718	0.596	0.786	0.558	0.695	0.767	0.428	0.672	0.786	0.566	0.550
6	123111	0.766	0.719	0.873	0.748	0.769	0.759	0.612	0.758	0.873	0.745	0.750
7	211111	0.879	0.853	0.945	0.876	0.882	0.873	0.801	0.869	0.945	0.864	0.888
8	213111	0.791	0.627	0.856	0.703	0.800	0.774	0.477	0.689	0.856	0.713	0.693
9	224111	0.605	0.539	0.785	0.606	0.618	0.581	0.397	0.600	0.785	0.598	0.615
10	311111	0.826	0.750	0.926	0.833	0.830	0.819	0.637	0.790	0.926	0.835	0.831
11	312111	0.710	0.638	0.854	0.765	0.735	0.664	0.507	0.689	0.854	0.769	0.760
12	313111	0.696	0.656	0.901	0.730	0.711	0.670	0.505	0.718	0.901	0.732	0.729
13	313112	0.513	0.454	0.641	0.446	0.516	0.506	0.336	0.505	0.641	0.432	0.461
14	314112	0.498	0.412	0.586	0.397	0.517	0.464	0.261	0.494	0.586	0.385	0.409
15	314113	0.402	0.316	0.455	0.207	0.408	0.390	0.196	0.384	0.455	0.197	0.219
16	315113	0.325	0.278	0.442	0.212	0.342	0.296	0.158	0.355	0.442	0.185	0.249
17	334231	0.287	0.209	0.391	0.251	0.296	0.270	0.103	0.296	0.391	0.235	0.269
18	411111	0.743	0.658	0.923	0.785	0.735	0.758	0.527	0.709	0.923	0.789	0.780
19	412111	0.770	0.750	0.893	0.756	0.781	0.747	0.642	0.787	0.893	0.758	0.755
20	413111	0.699	0.604	0.827	0.686	0.696	0.704	0.423	0.687	0.827	0.681	0.691
21	414111	0.648	0.545	0.741	0.525	0.653	0.639	0.393	0.612	0.741	0.530	0.521
22	414112	0.495	0.415	0.586	0.398	0.499	0.488	0.248	0.514	0.586	0.383	0.414
23	415314	0.211	0.180	0.301	0.130	0.203	0.228	0.104	0.228	0.301	0.130	0.131
24	513111	0.592	0.511	0.729	0.567	0.629	0.531	0.362	0.580	0.729	0.570	0.565
25	514111	0.542	0.467	0.700	0.468	0.553	0.522	0.315	0.542	0.700	0.458	0.479
26	515223	0.318	0.170	0.315	0.136	0.296	0.371	0.075	0.265	0.315	0.117	0.161
27	515311	0.402	0.282	0.530	0.235	0.399	0.409	0.145	0.387	0.530	0.208	0.269
28	515431	0.267	0.179	0.344	0.168	0.256	0.292	0.079	0.280	0.344	0.152	0.188
29	521111	0.722	0.633	0.776	0.687	0.737	0.693	0.515	0.677	0.776	0.682	0.692
30	525111	0.378	0.337	0.468	0.174	0.397	0.344	0.196	0.424	0.468	0.170	0.178
31	535111	0.365	0.287	0.457	0.233	0.371	0.353	0.174	0.351	0.457	0.227	0.240
32	111121	0.934	0.914	0.973	0.930	0.940	0.921	0.873	0.926	0.973	0.921	0.939
33	111131	0.676	0.613	0.780	0.699	0.682	0.663	0.472	0.670	0.780	0.692	0.706
34	112131	0.615	0.557	0.771	0.620	0.631	0.586	0.400	0.628	0.771	0.618	0.623
35	113131	0.648	0.576	0.753	0.628	0.672	0.604	0.444	0.629	0.753	0.632	0.624
36	114112	0.489	0.425	0.528	0.344	0.496	0.477	0.288	0.492	0.528	0.326	0.365
37	212111	0.833	0.742	0.882	0.788	0.844	0.814	0.669	0.766	0.882	0.793	0.783
38	214112	0.452	0.416	0.574	0.377	0.459	0.438	0.274	0.489	0.574	0.376	0.378
39	214113	0.343	0.256	0.455	0.191	0.347	0.335	0.146	0.325	0.455	0.185	0.198
40	314111	0.580	0.491	0.701	0.501	0.585	0.570	0.339	0.563	0.701	0.507	0.494

[a] 1, Squad leader; 2, gunner; 3, driver; 4, loader.
[b] See Table 2 for task description.

Appendix F

PERFORMANCE-DATA REGRESSION MODELING

G. Hall

INTRODUCTION

This appendix addresses the problem of fitting linear regression models to data, focusing on the task of fitting least squares regression equations and assessing the accuracy of the fit. Most basic texts describe the general least squares mode and the methodology used to obtain, for example, regression parameter estimates, standard errors, Student's t-statistics, and the analysis of variance table (e.g., Cook and Weisberg [1982], Draper and Smith [1982], Daniel and Wood [1980], Mosteller and Tukey [1977], and Seber [1977]). Although a review is provided here, we assume some familiarity with least squares models.

We discuss how to select and develop models that fit the data well, how to use regression diagnostics to detect model anomalies (e.g., outliers, leverage points), and what to do about them. We address multicollinearity, correlation among model error terms, and transformation of the response and factor variables.

GENERAL LINEAR MODEL

Assume a data set of n observations or cases, where the *ith* case consists of an observation of a response variable y_i and measures of p' explanatory (factor) variables $x_{i1}, x_{i2}, \ldots, x_{ip'}$. Let x_i be the vector $x_i' = (1, x_{i1}, \ldots, x_{ip'})$ and $p = p' + 1$. We assume that the response variable y_i is related to the factor variables x_i by a model of the form

$$y_i = G(x_i; \beta; \varepsilon_i) , \qquad \text{(F.1a)}$$

where the functional form of G is specified, β is a vector of unknown parameters to be estimated from the data, and ε_i is an *unobservable* random error. More generally, the left-hand side of Eq. (F.1a) may be replaced by a function F(y) of y; that is, we may have

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$$F(y_i) = G(x_i;\ \beta;\ \varepsilon_i)\ , \tag{F.1b}$$

where, for example, $F(\cdot)$ could be

$$F(y) = \log y\ , \tag{F.2a}$$

$$F(y) = \log\left(\frac{y}{1 - y}\right)\ , \tag{F.2b}$$

$$F(y) = y^{1/2}\ , \tag{F.2c}$$

$$F(y) = \frac{y^{\lambda} - 1}{\lambda}\ , \qquad \text{some } \lambda\ . \tag{F.2d}$$

Choice of a transformation F is discussed below (pp. 384-386). For now, we assume $F(y) = y$.

Faced with the choice of specifying a form for G, and lacking any theoretical considerations that might suggest one, we initially assume that G is of the form

$$G(x_i;\ \beta;\ \varepsilon_i) = x_i'\beta + \varepsilon_i\ .$$

Thus the model is

$$\begin{aligned} y_i &= x_i'\beta + \varepsilon_i \\ &= \sum_{j=0}^{p'} x_{ij}\beta_j + \varepsilon_i\ , \end{aligned} \tag{F.3}$$

where $\beta' = (\beta_0, \beta_1, \ldots, \beta_{p'})$ is an unknown vector of regression parameters to be estimated from the data and ε_i is an unobservable random error term.

In matrix notation, let Y be the $n \times 1$ vector of responses:

$$Y = \begin{bmatrix} y_1 \\ y_2 \\ \vdots \\ y_n \end{bmatrix} .$$

Let X be the $(n \times p)$ factor matrix whose *ith* row is x_i':

$$X = \begin{bmatrix} 1, & x_{11}, & \ldots, & x_{1p}' \\ 1, & x_{21}, & \ldots, & x_{2p}' \\ & & \vdots & \\ 1, & x_{n1}, & \ldots, & x_{np}' \end{bmatrix} .$$

Finally, let ε be the $n \times 1$ vector of unobservable error terms.

Then the linear model relating the response Y to the factor matrix X is

$$Y = X\beta + \varepsilon . \tag{F.4}$$

The model is termed *linear* because it is linear in the regression vector β. If the model were, say,

$$y_i = e^{x_i'\beta} + \varepsilon_i , \tag{F.5}$$

then it would be nonlinear because it is nonlinear in β. If some variables in X were nonlinear functions of other variables in X, the model would still be linear as long as Eq. (F.4) is the assumed model. For example, if X contains quadratic and cross-product terms involving other factor variables, Eq. (F.4) would still yield a linear model.

In addition to Eq. (F.4), the usual modeling assumptions are as follows:

1. $E\varepsilon_i = 0$ (appropriate model).
2. The unobservable error terms $\varepsilon_1, \varepsilon_2, \ldots, \varepsilon_n$ all have the same variance, var $(\varepsilon_i) = \sigma^2$.
3. The error terms are uncorrelated, cov $(\varepsilon_i, \varepsilon_\ell) = 0$, $i \neq \ell$.
4. The error in measuring x is small relative to var ε_i.
5. The error terms ε and factor variables X are uncorrelated.
6. The error terms ε_i are approximately normally distributed.

In the model developed here, assumptions 1, 4, and 5 are always true.

Standard least squares regression references show that the least squares estimate for β is

$$\hat{\beta} = (X'X)^{-1}X'Y \ , \tag{F.6}$$

and the estimate for the variance σ^2 of the error term is

$$\hat{\sigma}^2 = \frac{1}{n - p} \sum_{i=1}^{n} (y_i - \hat{y}_i)^2 \ , \tag{F.7}$$

where $\hat{y}_i$ is the prediction of y_i,

$$y_i = x_i'\hat{\beta} \ ,$$

and $e_i = y_i - \hat{y}_i$ is the *ith* residual. The vector of predictions $\hat{Y}$ is $\hat{Y} = X\hat{\beta}$ and the vector of residuals is $e = Y - \hat{Y}$. Least squares methodology selects $\hat{\beta}$ to minimize the vector inner product

$$e'e = (Y - X\hat{\beta})'(Y - X\hat{\beta})$$

$$= \sum_{i=1}^{n} (y_i - x_i\hat{\beta})^2 \ .$$

Since

$$\hat{\beta} = (X'X)^{-1}X'Y ,$$

then

$$\hat{Y} = X\hat{\beta}$$

$$= X(X'X)^{-1}X'Y .$$

Thus, if

$$H = X(X'X)^{-1}X' ,$$

then

$$\hat{Y} = HY ,$$

$$e = Y - \hat{Y}$$

$$= (I - H)Y .$$

The matrix H is both symmetric ($H' = H$) and idempotent ($H^2 = H$), and is the linear transformation that orthogonally projects any n vector onto the space spanned by the columns of X.

Since the linear model is $Y = X\beta + \varepsilon$ and $(I - H)X\beta = 0$, we compute

$$e = (I - H)Y$$

$$= (I - H)(X\beta + \varepsilon)$$

$$= (I - H)\varepsilon .$$

Then, if $H = (h_{ij})$, in scalar form we have

$$e_i = \varepsilon_i - \sum_{j=1}^{n} h_{ij}\varepsilon_j \ .$$

Thus the relationship between the unobservable model errors (ε_i) and the computed residuals (e_i) depends solely on $H = X(X'X)^{-1}X'$--i.e., on the factor variables. If all the h_{ij} are sufficiently small, e will serve as a reasonable substitute for ε; otherwise, the usefulness of e may be limited.

Returning to Eq. (F.6), we reexpress $\hat{\beta}$ as

$$\begin{aligned}\hat{\beta} &= (X'X)^{-1}X'Y \\ &= (X'X)^{-1}X'(X\beta + \varepsilon) \\ &= \beta + (X'X)^{-1}X'\varepsilon \ .\end{aligned}$$

Thus, since we assumed that $E\varepsilon = 0$, the expected value $E\hat{\beta}$ of $\hat{\beta}$ is

$$\begin{aligned}E\hat{\beta} &= \beta + (X'X)^{-1}X'E\varepsilon \\ &= \beta \ . \qquad \text{(F.8)}\end{aligned}$$

That is, $\hat{\beta}$ is an unbiased estimate of β, whether or not the error terms ε have constant variance σ^2, are uncorrelated, or are normally distributed. It is still essential that X and ε be uncorrelated. The estimate $\hat{\sigma}^2$ of σ^2, however, is affected by violation of the model assumptions, as discussed below (pp. 19-25).

Since $\hat{\beta} = \beta + (X'X)^{-1}X'\varepsilon$, if it is assumed that var $\varepsilon = \sigma^2 I$, where I is the $n \times n$ identity matrix (i.e., the error terms ε_i have the same constant variance σ^2 and are uncorrelated), then

$$\text{var } \hat{\beta} = \text{var } [(X'X)^{-1}X'\varepsilon]$$

$$= (X'X)^{-1}X' \ (\text{var } \varepsilon)X(X'X)^{-1}$$

$$= \sigma^2 \ (X'X)^{-1} \ . \qquad \text{(F.9)}$$

Equation (F.9) is the expression for the variance/covariance matrix of $\hat{\beta}$. The corresponding estimated variance/covariance matrix is $\hat{\sigma}^2(X'X)^{-1}$.

Again, if it is not the case that var $\varepsilon = \sigma^2 I$ (if, for example, var $\varepsilon = \sigma^2 V$, where V is not the identity matrix I), then Eq. (F.9) will give an incorrect assessment of the variance of $\hat{\beta}$.

Typical Output from Regression Package

In addition to providing the estimates $\hat{\beta}$ of β and $\hat{\sigma}^2$ of σ^2, current computer packages also provide the standard errors (standard deviations) of the regression parameter estimates, the corresponding Student's t-statistics, and R^2. These statistical parameters are described here.

Recall that the variance/covariance matrix of $\hat{\beta}$ is the $p \times p$ matrix

$$\sigma^2(X'X)^{-1} \ ,$$

and its estimate is $\hat{\sigma}^2(X'X)^{-1}$. For each j, $1 \leq j \leq p$, the standard error of the estimate $\hat{\beta}_j$--i.e., its standard deviation--is the square root of the *jth* diagonal element,

$$\hat{\sigma} \sqrt{[(X'X)^{-1}]_{jj}} \ .$$

We denote this as $\hat{\sigma}_{\beta_j}$.

The corresponding Student's t-statistic for $\hat{\beta}_j$ is

$$t_j = \frac{\hat{\beta}_j}{\hat{\sigma}_{\beta_j}} \ .$$

This statistic is used to test the null hypothesis H_0: $\beta_j = 0$ against the alternative H_A: $\beta_j \neq 0$. The statistic is Student's t, with n - p degrees of freedom. If $t(n - p, 1 - \alpha/2)$ is the value for which $\alpha/2$ percent of the t distribution is greater than $t(n - p, 1 - \alpha/2)$ [and, by symmetry, $\alpha/2$ percent less than $-t(n - p, 1 - \alpha/2)$] and if

$$|t_j| \geq t\left(n - p, 1 - \frac{\alpha}{2}\right) ,$$

then H_0 is rejected in favor of H_A. Generally, for $n - p \geq 12$, $t(n - p, 1 - \alpha/2) \approx 2.0$.

One global measure of the precision of the estimated regression is the multiple correlation coefficient R^2. To derive R^2, note that the *ith* residual e_i may be written

$$e_i = y_i - \hat{y}_i$$

$$= y_i - \bar{y} - (\hat{y}_i - \bar{y}) .$$

Taking the square and summing over the n cases, we obtain [Draper and Smith, 1981]

$$\sum_i e_i^2 = \sum_i (y_i - \bar{y})^2 - \sum_i (\hat{y}_i - \bar{y})^2$$

or

$$\sum (y_i - \bar{y})^2 = \sum e_i^2 + \sum (\hat{y}_i - \bar{y})^2 .$$

The left-hand side is referred to as the sum of squares about the mean, or the corrected sum of the squares of y. Since e_i is the *ith* residual and $\hat{y}_i - \bar{y}$ is the deviation of the *ith* predicted value $\hat{y}_i$ from the mean, this equation says that

$$\begin{matrix}\text{Sum of squares} \\ \text{about the mean}\end{matrix} = \begin{matrix}\text{Sum of squares} \\ \text{about regression}\end{matrix} + \begin{matrix}\text{Sum of squares} \\ \text{due to regression}\end{matrix} .$$

Thus, some of the variation in y about the mean can be ascribed to the regression and some, Σe_i^2, to the fact that not all of the observed y_i lie on the regression line.

Now $\Sigma(y_i - \bar{y})^2$ is fixed, since it is a function of the observed data. The sums Σe_i^2 and $\Sigma(\hat{y}_i - \bar{y})^2$ depend on the model chosen (the form of the model, selection of x variables, outliers, etc.). We desire that Σe_i^2, the sum of squared residuals, be small. Dividing both sides of the identity by $\Sigma(y_i - \bar{y})^2$, we obtain

$$1 = \frac{\sum e_i^2}{\sum (y_i - \bar{y})^2} + \frac{\sum (\hat{y}_i - \bar{y})^2}{\sum (y_i - \bar{y})^2} .$$

Thus, the model may be regarded as "good" if R^2 is near unity, which is given as

$$R^2 = \frac{\sum (\hat{y}_i - \bar{y})^2}{\sum (y_i - \bar{y})^2}$$

$$= 1 - \frac{\sum e_i^2}{\sum (y_i - \bar{y})^2} .$$

Note that $0 \leq R^2 \leq 1$, always.

However, as seen below (p. 384), R^2 is not the only measure of the accuracy of the model. It should also be noted that the sum $\Sigma(y_i - \bar{y})^2$ has n - 1 degrees of freedom, Σe_i^2 has $n - p'^{-1}$ degrees of freedom, and $\Sigma(\hat{y}_i - \bar{y})^2$ has p' degrees of freedom. Equivalently, Σy_i^2 has n degrees of freedom, $n\bar{y}^2$ has one degree of freedom, Σe_i^2 has n - p degrees of freedom (p = p' + 1), and $\Sigma \hat{y}_i^2$ has p degrees of freedom. The statistical parameters discussed in this subsection provide the basis for the standard analysis of variance tables from regression packages.

Confidence Bounds

Here we discuss confidence bounds for the *conditional mean* of y, given x, and bounds on a *future* observed value, given x. If $y = x'\beta + \varepsilon$ and $\hat{\beta}$ is a least squares estimate of β, then, as we saw earlier,

$$\text{var } \hat{\beta} = \sigma^2 (X'X)^{-1} .$$

Thus, $x'\hat{\beta}$ is the predicted value of the conditional mean, $E(y|x) = x'\beta$, and the variance is

$$\begin{aligned} \text{var } (x'\hat{\beta}) &= x' \ (\text{var } \hat{\beta}) x \\ &= \sigma^2 x'(X'X)^{-1} x \\ &= \sigma^2 h , \end{aligned}$$

where

$$h = x'(X'X)^{-1} x .$$

A "two sigma" or "two standard deviation" confidence band on the conditional mean $E(y|x) = x'\beta$ is

$$(x'\hat{\beta} - 2\sigma \sqrt{h}, \ x'\hat{\beta} + 2\sigma \sqrt{h}) .$$

This confidence interval depends only on the uncertainty in the estimate $\hat{\beta}$ of β. If there were no uncertainty in $\hat{\beta}$, then var $(x'\hat{\beta}) = 0$ and the confidence interval would have zero width.

Regarded as a function of x, the band $[L(x), U(x)]$ provides an approximate, 95 percent confidence band on the regression surface, if $L(x) = x'\hat{\beta} - 2\sigma \sqrt{h}$, $U(x) = x'\hat{\beta} + 2\sigma \sqrt{h}$.

A related, but different problem is that of predicting an actual response y, given a new x. The prediction of the observed $y = x'\beta + \varepsilon$ is $x'\hat{\beta}$, but its variance is now

$$\text{var}\ (x'\hat{\beta} + \varepsilon) = \text{var}\ (x'\hat{\beta}) + \text{var}\ \varepsilon$$

$$= \sigma^2 h + \sigma^2$$

$$= \sigma^2 (1 + h)\ .$$

Thus, the upper and lower 95 percent confidence bounds on a future observed value are

$$L_0 = x'\hat{\beta} - 2\sigma\sqrt{1 + h}\ ,$$

$$U_0 = x'\hat{\beta} + 2\sigma\sqrt{1 + h}\ ,$$

which can be much wider than the earlier interval, if $h << 1$. For the actual data, the interval (U_0, L_0) should contain roughly 95 percent of the observed values of y, whereas $[L(x), U(x)]$ will contain a much smaller percentage.

REGRESSION DIAGNOSTICS

This section discusses various diagnostics used for assessing the accuracy of linear regression models. The diagnostics include two basic components, described above (p. 373). The two basic building blocks for assessing accuracy are

1. The computed residuals,

$$e = Y - \hat{Y}$$

$$= (I - H)Y\ .$$

2. The Tukey hat matrix H,

$$H = X(X'X)^{-1}X'\ .$$

The *ith* elements of the two building blocks are, respectively,

1. $e_i = y_i - \hat{y}_i$

$= y_i - x_i'\hat{\beta}$,

2. $h_{ij} = x_i'(X'X)^{-1}x_j$, $\quad 1 \le j \le n$.

All commonly used current regression diagnostics are based on these two quantities or slight modifications. Among the most useful of diagnostics using residuals are

1. The residuals $e_i = y_i - \hat{y}_i$ themselves, which can be used in

   - Plot e_i versus $\hat{y}_i$.
   - Plot e_i versus each individual x_{ij}.
   - Plot e_i against other variables left out of the model.

   Unfortunately, var $e_i = \sigma^2(1 - h_{ii})$, so these residuals do not have constant variance.

2. The internal studentized residuals,

$$r_i = \frac{e_i}{\hat{\sigma}\sqrt{1 - h_{ii}}} .$$

Unlike the ordinary residuals in diagnostic 1, the r_i have common constant variance 1. Therefore, the plots mentioned in diagnostic 1, using the r_i rather than the e_i, are more useful. Normal probability plots of the r_i plotted on normal probability paper are also more useful for assessing normality than plots of the e_i.

Residuals are also used to discover which cases [i.e., pairs (x_i, y_i)] are outliers in the response space Y, i.e., cases for which $e_i = y_i - x_i'\hat{\beta}$ is large. But if $|e_i|$ is large, does case i have a significant effect on the estimates $\hat{\beta}$ and/or $\hat{\sigma}$? What would happen if the ith case were removed from the data base (as is frequently done with

outliers)? If $\hat{\beta}_{(i)}$ and $\hat{\sigma}_{(i)}$ are the estimates of β and σ with case i removed, how different are $\hat{\beta}_{(i)}$ and $\hat{\beta}$, $\hat{\sigma}_{(i)}$ and $\hat{\sigma}$?

The answers to those questions depend in part on the position of x_i in the factor (explanatory variable) space. Ultimately, they depend on the hat matrix H. Recall that $H = X(X'X)^{-1}X'$ is an idempotent symmetric projection matrix, and that

$$\hat{Y} = HY,$$

$$e = (I - H)Y$$

$$= (I - H)\varepsilon \ .$$

Since $(I - H)H = 0$ (idempotency), the predicted value $\hat{Y}$ and the residuals e are orthogonal.

Also, since H is idempotent and symmetric, it follows that

$$\mathrm{tr}\ (H) = \mathrm{rank}\ (H) = p \ ,$$

$$\sum_{j=1}^{n} h_{ij}^2 = h_{ii} \ .$$

Note that

$$\mathrm{tr}\ (H) = \sum_{i=1}^{n} h_{ii} \ .$$

Moreover, it can be shown [Cook and Weisberg, 1982] that, if c is the number of times the *ith* row of X--x_i'--is replicated, then

$$\frac{1}{n} \le h_{ii} \le \frac{1}{c} \ .$$

For the IDP regression analysis, each row is replicated only once, so

$$\frac{1}{n} \leq h_{ii} \leq 1 .$$

Since

$$\sum_{i=1}^{n} h_{ii} = p ,$$

then

$$\frac{1}{n} \sum_{i=1}^{n} h_{ii} = \frac{p}{n} = h ,$$

the average. Recall that var $e_i = \sigma^2(1 - h_{ii})$. Thus, if $h_{ii} = 1$, then var $e_i = 0$, so $\hat{y}_i = y_i$--i.e., the *ith* case is fitted perfectly. Such extreme cases are rare but possible. The farther a value h_{ii} is from the average p/n toward 1, the more influential is the *ith* case on the estimates $\hat{\beta}$ and $\hat{\sigma}$. For the models selected in the Intermediate Dose Program, $p = 7$ and $n = 30$, so $h = p/n \simeq 0.23$. But there are three cases (symptom complexes 16, 22, 27) for which h_{ii} is greater than 0.6. Those cases are high-leverage points. Thus, the residuals e_i and r_i are measures of outliers in the response space Y, and high-leverage points are measured by the diagonal elements h_{ii} of the Tukey hat matrix $H = X(X'X)^{-1}X'$, which depends only on the factor variable matrix X. The elements $\{h_{ii}\}$ are a measure of how far out in the factor space X each factor variable x_i lies.

A third class of diagnostics combines measures of extremeness in the response space Y with measures of extremeness in the factor space X. These are referred to as influence diagnostics or influence measures. As mentioned earlier, a case i is important or influential if deletion of case i from the data base causes a significant shift in the estimate of β. Letting

$\hat{\beta}$ = estimate of β based on full data set ,

$\hat{\beta}_{(i)}$ = estimate of β with *ith* case deleted ,

we seek the difference

$$\Delta\beta_{(i)} = \hat{\beta}_{(i)} - \hat{\beta} , \qquad 1 \le i \le n .$$

If $\Delta\beta_i$ is large relative to some suitable scale, then case i is deemed influential and should be examined to see if something unique or unusual might justify its permanent exclusion from the data base.

Alternatively, the relationship between y and x may be somehow different from the model specification in a neighborhood of the case (x_i, y_i). Consequently, we seek a suitable norm, $\|\Delta\beta_i\|$, to assess the significance of $\Delta\beta_i$. Since $\Delta\beta_i$ is a p-dimensional vector, from vector-space theory a general class of useful norms is determined by a symmetric, positive semidefinite $p \times p$ matrix M and a positive scale factor c:

$$\|\Delta\beta_i\| = D_i(M, c)$$

$$= \frac{(\Delta\beta_i')M(\Delta\beta_i)}{c}$$

$$= \frac{(\hat{\beta}_{(i)} - \hat{\beta})'M(\hat{\beta}_{(i)} - \hat{\beta})}{c} .$$

One of the most useful choices is $M = X'X$ and $c = p\hat{\sigma}^2$. We obtain

$$D_i = D_i(X'X, p\hat{\sigma}^2)$$

$$= \frac{(\hat{\beta}_{(i)} - \hat{\beta})(X'X)(\hat{\beta}_{(i)} - \hat{\beta})}{p\hat{\sigma}^2} .$$

This metric norm, known as *Cook's distance*, is algebraically equivalent to

$$D_i = \frac{1}{p} r_i^2 \frac{h_{ii}}{1 - h_{ii}},$$

where r_i are the studentized residuals and h_{ii} are the diagonal elements of the hat matrix. Case i is influential if D_i is large, and D_i is large if

1. $|r_i|$ is large and h_{ii} is moderate (an outlier in response space).
2. $|r_i|$ is moderate and h_{ii} is large (a high-leverage point in factor space).
3. Both $|r_i|$ and h_{ii} are moderately large.

The exact definition of "large" will depend on the problem, but a basis for comparison is usually obtained with D_i greater than 1, corresponding to distances between $\hat{\beta}$ and $\hat{\beta}_{(i)}$ beyond a 50 percent confidence region (using an F distribution with p and n - p degrees of freedom).

In the IDP, the largest Cook's-distance values for the linear model with the six factor variables were around 0.6 to 0.7. A value of 0.6 corresponds to a 25 percent confidence ellipsoid for an F distribution with 7 and 23 degrees of freedom. Thus, none of the 30 symptom complex combinations would be considered particularly influential, indicating that the model is reasonable.

TRANSFORMING THE RESPONSE VARIABLE

When the original response variable is not normal, a transformation of it may be sufficiently close to normal to allow application of the appropriate normal theory methods. Ideally, a transformation should permit a model with constant error variance, approximately normal errors, and an easily interpreted and scientifically meaningful structure.

In the IDP, the selected response variable y is basically a ratio of two times, and is always in the closed interval [0, 1], i.e., $0 \leq y \leq 1$. Thus, the response variable is restricted in range. If the usual linear model is selected, i.e.,

$$y = x'\beta + \varepsilon ,$$

then it is quite possible to obtain predicted values $x'\hat{\beta}$ that lie outside the interval [0, 1]. Moreover, even if $x'\hat{\beta}$ were in [0, 1] for values of x of practical interest, upper and lower 95 percent confidence bounds of $x'\hat{\beta}$ could still lie outside the interval. Further, if y is near 0 or 1, less variability would be expected than if y were near 0.50--that is, var ε should be nonconstant.

The typical transformation used to ensure the (0, 1) interval is the logit transformation,

$$\text{logit } (y) = \ln\left(\frac{y}{1 - y}\right) , \qquad 0 < y < 1 .$$

This transformation is symmetric about the value y = 0.5 and roughly linear in the region $0.2 \leq y \leq 0.8$, which contains most of the IDP responses averaged over individuals. In that region, the logit model will give predicted values and upper and lower confidence bounds similar to those of the usual model, $y = x'\beta + \varepsilon$. The two models will differ when y is near 0 or 1 (say, $y \leq 0.1$ or $y \geq 0.9$).

Thus, the logit model specifies that

$$y^* = \ln\left(\frac{y}{1 - y}\right) = x'\beta + \varepsilon ,$$

where

$$y^* = \ln\left(\frac{y}{1 - y}\right)$$

is the response variable. Once the model is fitted, the predicted value of y^* is

$$\hat{y}^* = x'\hat{\beta}$$

and upper and lower 95 percent confidence bounds are

$$L_{95}^{*} \cong x'\hat{\beta} - 2\sqrt{h}\,\hat{\sigma} ,$$

$$U_{95}^{*} \cong x'\hat{\beta} + 2\sqrt{h}\,\hat{\sigma} ,$$

where $h = x'(X'X)^{-1}x$.

Thus, the predicted value $\hat{y}$ for y and upper and lower confidence bounds are

$$\hat{y} = \frac{e^{\hat{y}^*}}{1 + e^{\hat{y}^*}} = \frac{e^{x'\hat{\beta}}}{1 + e^{x'\hat{\beta}}} = \frac{1}{1 + e^{-x'\hat{\beta}}} ,$$

$$L_{95} = \frac{e^{L^*}}{1 + e^{L^*}} = \frac{1}{1 + e^{-(x'\hat{\beta}-2\sqrt{h}\hat{\sigma})}} ,$$

$$U_{95} = \frac{e^{U^*}}{1 + e^{U^*}} = \frac{1}{1 + e^{-(x'\hat{\beta}+2\sqrt{h}\hat{\sigma})}} .$$

Hence, $\hat{y}$, L_{95}, and U_{95} will always be in the interval (0, 1), as desired.

MULTICOLLINEARITY

Again let the linear model in matrix form be

$$Y = X\beta + \varepsilon ,$$

where X is an $n \times p$ matrix, the *ith* row ($1 \le i \le n$) being the factor variable (vector) for the *ith* case and the *jth* column ($1 \le j \le p$) corresponding to the *jth* explanatory variable. For the IDP, $p \ge 7$, so we allow X to contain quadratic and cross-product terms involving the original six explanatory variables.

Problems involving multicollinearity arise when one or more columns of X are nearly linear combinations of other columns of X. In that case,

$(X'X)^{-1}$ becomes unstable, since $X'X$ has rank p. If one column of X (say, j_0) is a perfect linear combination of other columns, then $X'X$ is not invertible--i.e., it is singular. In that case, the effects of the factor variable x_{j_0} on the response cannot be ascertained, since x_{j_0} is a perfect linear combination of several other factor variables.

Multicollinearity of several factor variables has the following effects on the overall regression analysis:

1. Perfect multicollinearity implies that $(X'X)$ is singular; hence, there are no unique unbiased least squares estimates of β.
2. If there is multicollinearity even though $(X'X)$ is invertible, the individual effects of the separate factor variables on the response variable cannot be reliably ascertained.
3. Estimates of variances of individual regression coefficients will be large, yielding wide confidence intervals.

Consequently, it is important to determine whether a particular regression model is adversely affected by multicollinearity. Many different measures have been proposed. Most, however, have one or more serious drawbacks. For example, examining the correlation matrix of $x_1, \ldots, x_p$ reveals only pairwise collinearity. One of the best procedures is to scale $X'X$ so as to have ones along the diagonal, then compute the ordered eigenvalues $\mu_1 \geq \mu_2 \geq \cdots \geq \mu_p$ for the scaled matrix [Belsley, Kuh, and Welsch, 1980]. The *jth* condition index is

$$k_j = \left(\frac{\mu_1}{\mu_j}\right)^{1/2} .$$

If any k_j exceeds roughly 30, collinearity will be a problem.

For the IDP, the largest condition index was about 12.7, using the six basic symptom variables. Thus, for those six factor variables, collinearity is not a problem.

CORRELATION AMONG MODEL ERROR TERMS

Until now, we have assumed that the regression model is of the form

$$y_i = x_i'\beta + \varepsilon_i \ , \qquad 1 \le i \le n \ ,$$

where cov $(\varepsilon_i, \varepsilon_\ell) = 0$, $i \neq \ell$--i.e., that the model error terms are uncorrelated. For the IDP, however, since each respondent gives an answer to each symptom complex, it is reasonable to assume that each person's set of answers should be correlated--hence, that cov $(\varepsilon_i, \varepsilon_\ell) \neq 0$, for $i \neq \ell$.

It can be shown that, although the least squares estimate of $\hat{\beta}$ is still an unbiased estimate for β, $\hat{\sigma}^2$ is biased when there is nonzero error covariance. Assume that the model now is

$$\text{var } \varepsilon_i = \sigma^2 \ , \qquad 1 \le i \le n \ ,$$

$$\text{cov } (\varepsilon_i, \varepsilon_\ell) = \rho\sigma^2 \ , \qquad 1 \le i \neq \ell \le n \ ,$$

where $0 \le \rho \le 1$. This model belongs to a class termed generalized least squares. If ρ is known, estimates for β and σ^2 can be obtained without too much difficulty. When ρ is unknown, maximum likelihood (ML) techniques must be used. Unfortunately, use of ML strongly depends on multivariate joint normality assumptions for large n, which cannot be justified for our data. Therefore, we resort to the alternative of computing the expected bias in $\hat{\sigma}^2$, then using a correction factor (inflation factor) to adjust for the bias.

Since the ordinary least squares (OLS) estimate of β is

$$\hat{\beta} = (X'X)^{-1}X'Y$$

$$= (X'X)^{-1}X'(X\beta + \varepsilon)$$

$$= \beta + (X'X)^{-1}X'\varepsilon \ ,$$

and since $E\varepsilon = 0$, we see that we get

$$E\hat{\beta} = \beta \ .$$

Thus, $\hat{\beta}$ is still unbiased. However, as we now show, the estimate $\hat{\sigma}^2$ of σ^2 is biased downward. We show that in fact

$$E\hat{\sigma}^2 = \sigma^2(1 - \rho) .$$

Recall that

$$\hat{\sigma}^2 = \frac{(Y - X\hat{\beta})'(Y - X\hat{\beta})}{n - p} .$$

Let

$$\begin{aligned} S &= (Y - X\hat{\beta})'(Y - X\hat{\beta}) \\ &= [Y - X \cdot (X'X)^{-1}X'Y]'[Y - X \cdot (X'X)^{-1}X'Y] \\ &= [(I - H)Y]'[(I - H)Y] \\ &= [(I - H)(X\beta + \varepsilon)]'[(I - H)(X\beta + \varepsilon)] \\ &= \varepsilon'(I - H)\varepsilon , \end{aligned}$$

since

$$(I - H)X = 0 \quad \text{and} \quad (I - H)^2 = I - H .$$

Letting $\Sigma = \sigma^2 V = \text{cov}\ \varepsilon$, and using a theorem from random quadratic forms [Searle, 1971], we obtain

$$\begin{aligned} ES &= \text{tr}\ [(I - H)\Sigma] \\ &= \sigma^2\ \text{tr}\ [(I - H)V] , \end{aligned}$$

where tr (•) is the trace of a matrix (i.e., the sum of its diagonal elements), and

$$V = \begin{bmatrix} 1 & \rho & \rho & \cdots & \rho \\ \rho & 1 & \rho & \cdots & \rho \\ \rho & \rho & 1 & \cdots & \rho \\ \vdots & \vdots & \vdots & & \vdots \\ \rho & \rho & \rho & \cdots & 1 \end{bmatrix} .$$

If $\rho = 0$, then $V = I$ (the identity matrix) and

$$ES = \sigma^2 \operatorname{tr} (I - H)$$

$$= \sigma^2 (n - p) ,$$

since

$$\operatorname{tr} I = n \quad \text{and} \quad \operatorname{tr} H = p \quad (H \text{ has rank } p) ,$$

implying that $\hat{\sigma}^2$ is unbiased. But if $\rho \neq 0$, write

$$V = I + \rho L ,$$

where

$$I = \begin{bmatrix} 1 & 0 & 0 & \cdots & 0 \\ 0 & 1 & 0 & \cdots & 0 \\ \vdots & \vdots & \vdots & & \vdots \\ 0 & 0 & 0 & \cdots & 1 \end{bmatrix}$$

and

$$L = \begin{bmatrix} 0 & 1 & 1 & \cdots & 1 \\ 1 & 0 & 1 & \cdots & 1 \\ \vdots & \vdots & \vdots & & \vdots \\ 1 & 1 & 1 & \cdots & 0 \end{bmatrix} .$$

Thus,

$$ES = \sigma^2 \operatorname{tr} [(I - H)(I + \rho L)]$$

$$= \sigma^2 \{\operatorname{tr} (I - H) + \rho \operatorname{tr} [(I - H)L]\}$$

$$= \sigma^2 [n - p - \rho \operatorname{tr} (HL)] ,$$

since

$$\operatorname{tr} (I - H) = p \quad \text{and} \quad \operatorname{tr} L = 0 .$$

However,

$$H = (h_{ij}) ,$$

so

$$HL = \begin{bmatrix} \sum_{j=2}^{n} h_{1j} & \cdots & \cdots & \cdots \\ \cdots & \sum_{j\neq 2}^{n} h_{2j} & \cdots & \cdots \\ \cdots & \cdots & \sum_{j\neq 3}^{n} h_{3j} & \cdots \\ & & & \ddots \\ \cdots & \cdots & \cdots & \sum_{j\neq n}^{n} h_{nj} \end{bmatrix} .$$

Therefore,

$$\operatorname{tr} (HL) = \sum_{i=1}^{n} \sum_{j\neq i}^{n} h_{ij} .$$

Since

$$\sum_{i=1}^{n} e_i = 0 ,$$

then

$$0 = \text{var}\left(\sum_{i=1}^{n} e_i\right)$$

$$= \sum_{i=1}^{n} \text{var } e_i + \sum_{i \neq j}^{n} \text{cov } (e_i, e_j)$$

$$= \sigma^2 \sum_{i=1}^{n} (1 - h_{ii}) + \sigma^2 \sum_{i \neq j}^{n} (-h_{ij})$$

or

$$\sum_{i \neq j}^{n} h_{ij} = \sum_{i=1}^{n} (1 - h_{ii}) = n - p .$$

Thus,

$$\text{tr } (HL) = n - p .$$

Hence,

$$ES = \sigma^2 [n - p - \rho(n - p)]$$

$$= \sigma^2 (n - p)(1 - \rho)$$

or

$$E\hat{\sigma}^2 = \sigma^2(1 - \rho) .$$

Thus, if $\hat{\sigma}^2$ is an estimate of σ^2 based on ordinary least squares and $\hat{\rho}$ is a reasonable estimate for ρ, then an inflation-factor-adjusted estimate for σ^2 is

$$\tilde{\sigma}^2 = \frac{1}{1 - \hat{\rho}} \hat{\sigma}^2$$

or

$$\tilde{\sigma} = \frac{\hat{\sigma}}{(1 - \hat{\rho})^{1/2}} .$$

Using a package from STATLIB, an estimate for ρ between 0.2 and 0.4 was obtained. Thus, the inflation (correction) factor $(1 - \hat{\rho})^{-1/2}$ varies from 1.12 to 1.30--i.e., $\hat{\sigma}$ is too low by about 10 to 30 percent.

TRANSFORMING FACTOR VARIABLES

As indicated above (p. 12), it is useful to plot the residuals (either ordinary or studentized) against each factor variable x_j. A uniform horizontal band in the individual plots indicates a satisfactory model. If, however, a residual plot against x_j displays some sort of curvature, a transformation of x_j is in order.

Further, for data like those of the IDP, it is important to determine the effect, if any, of combinations of variables as opposed to individuals. That is, cross-product effects between explanatory (factor) variables may have a greater influence on the response variable than does the appearance of either variable alone.

Thus, in addition to using the standard six variables $x_1, \ldots, x_6$ (corresponding to upper GI, etc.), we tried to incorporate quadratic terms $x_1^2, \ldots, x_6^2$ and cross-product terms $x_\ell x_j$, $1 \le \ell \ne j \le 6$. Unfortunately, because there were only 30 combinations of the six symptom

complexes in the data, with little variation in the last three of the six factor variables, the analysis was beset with extreme problems caused by both multicollinearity and high-leverage cases.

Many of the quadratic and cross-product terms were found to be either exactly collinear with linear combinations of the original six variables, or so close to perfectly collinear that only one symptom complex combination of the 30 prevented exact collinearity. That is, if the one combination were removed from the data, perfect collinearity would result. Consequently, the one combination would be classed as both a high-leverage and extremely influential data point. Cook's distances of greater than 15 were observed, whereas a value of one normally causes concern. Consequently, we decided that introducing higher-order terms in the model would be fruitless, since the factor variables were so sparse in range variability. Thus, only the original six factor variables were retained.

Appendix G

PERFORMANCE PREDICTIONS FOR CREWMEMBER TASKS

This appendix gives performance data for the separate crewmember tasks. Regression parameters are also listed for fitting the performance prediction (logit) model to the task data.

Figures G.1 through G.12 are plots of crewmember separate task and position performance shown for comparison. Performance values for crewmember position, determined from the separate tasks as given in Sec. 3, lie along the straight line plotted against performance degradation (1 - P). The tick marks along the top of the abscissa correspond to symptom complexes ordered as given in Tables 12 through 27 in Sec. 3. The performance plots and regression parameters are given for crewmembers who have two or more tasks; the artillery chief of section, tank driver and TOW driver are not included, since they perform a single task.

Tables G.1 through G.4 list the regression relationship parameters for fitting the task data. Like the performance prediction relationships for the crewmembers given in Sec. 3, task performance predictions are given by

$$\hat{P}_{k,j} = \frac{1}{\left[1 + \exp\left(-\underset{\sim}{x}_k'\hat{\beta}_j\right)\right]},$$

where $\underset{\sim}{x}_k' = (1, x_{k1}, x_{k2}, \ldots, x_{k6})$ is a vector of integers ($1 \leq x_{k\ell} \leq 5$), denoting symptom severity level for the k*th* symptom complex and the ℓ*th* symptom category, and $\hat{\beta}_j$ are the beta parameters given in Tables G.1 through G.4, for a particular task j.

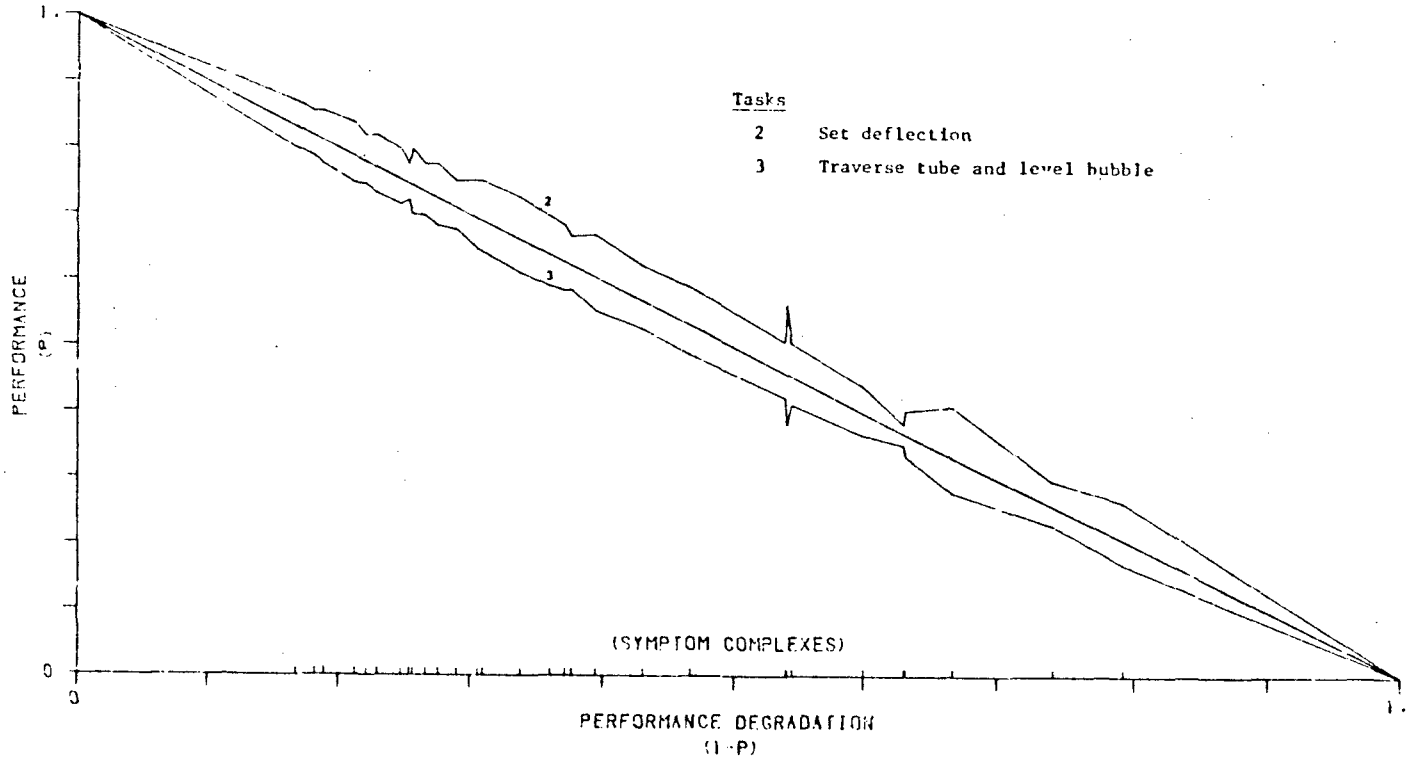

Figure G.1. Task/position performance: gun crew, gunner.

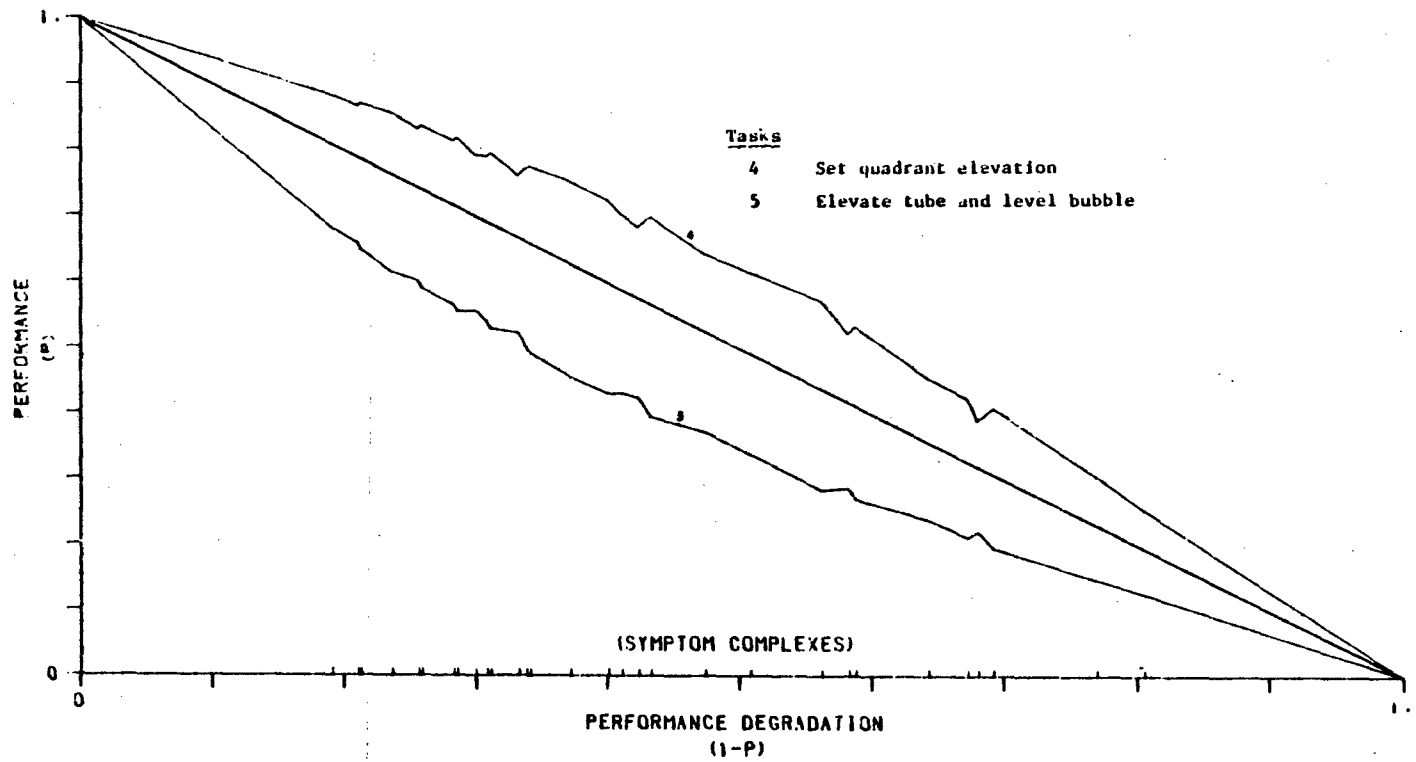

Figure G.2. Task/position performance: gun crew, assistant gunner.

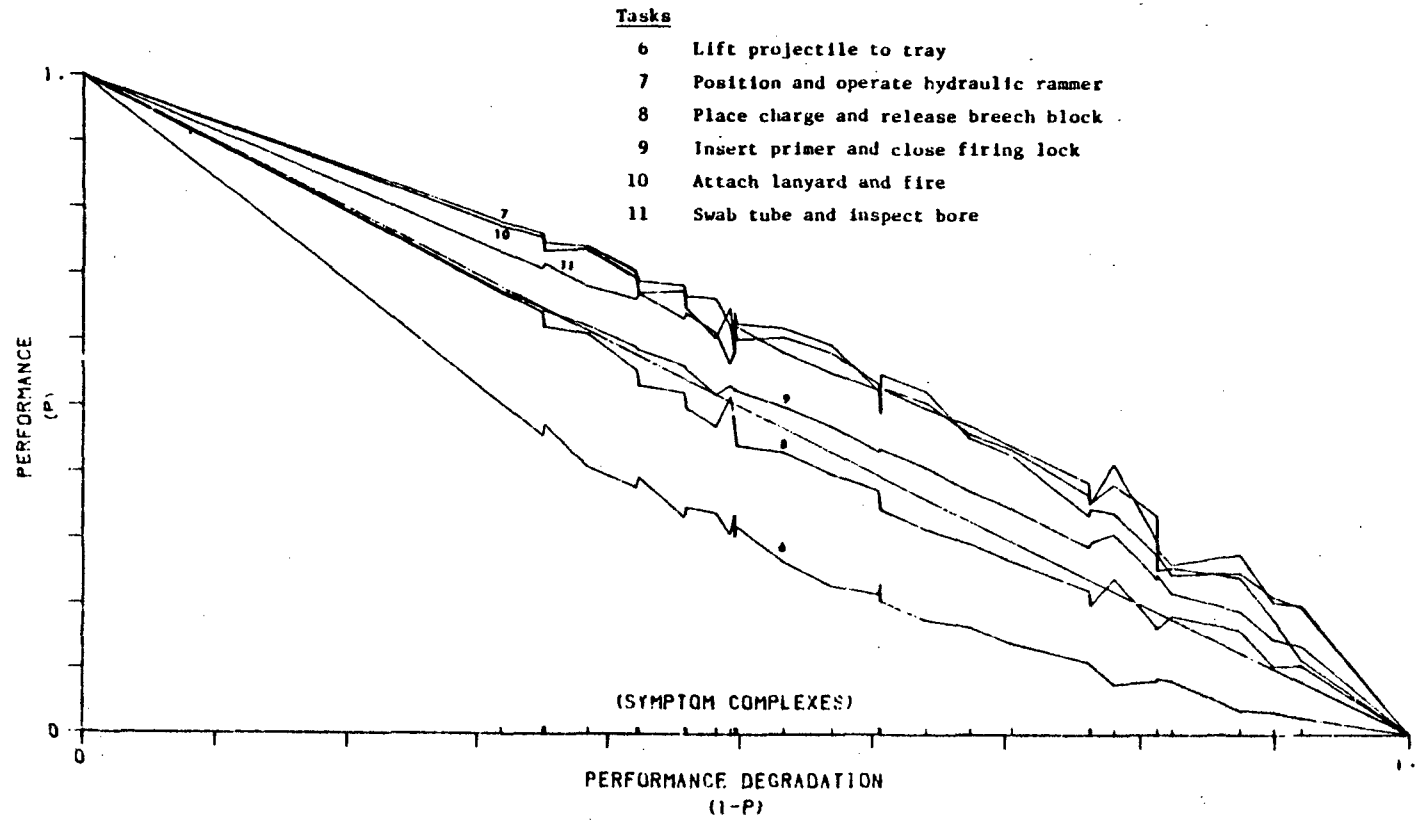

Figure G.3. Task/position performance: gun crew, loader.

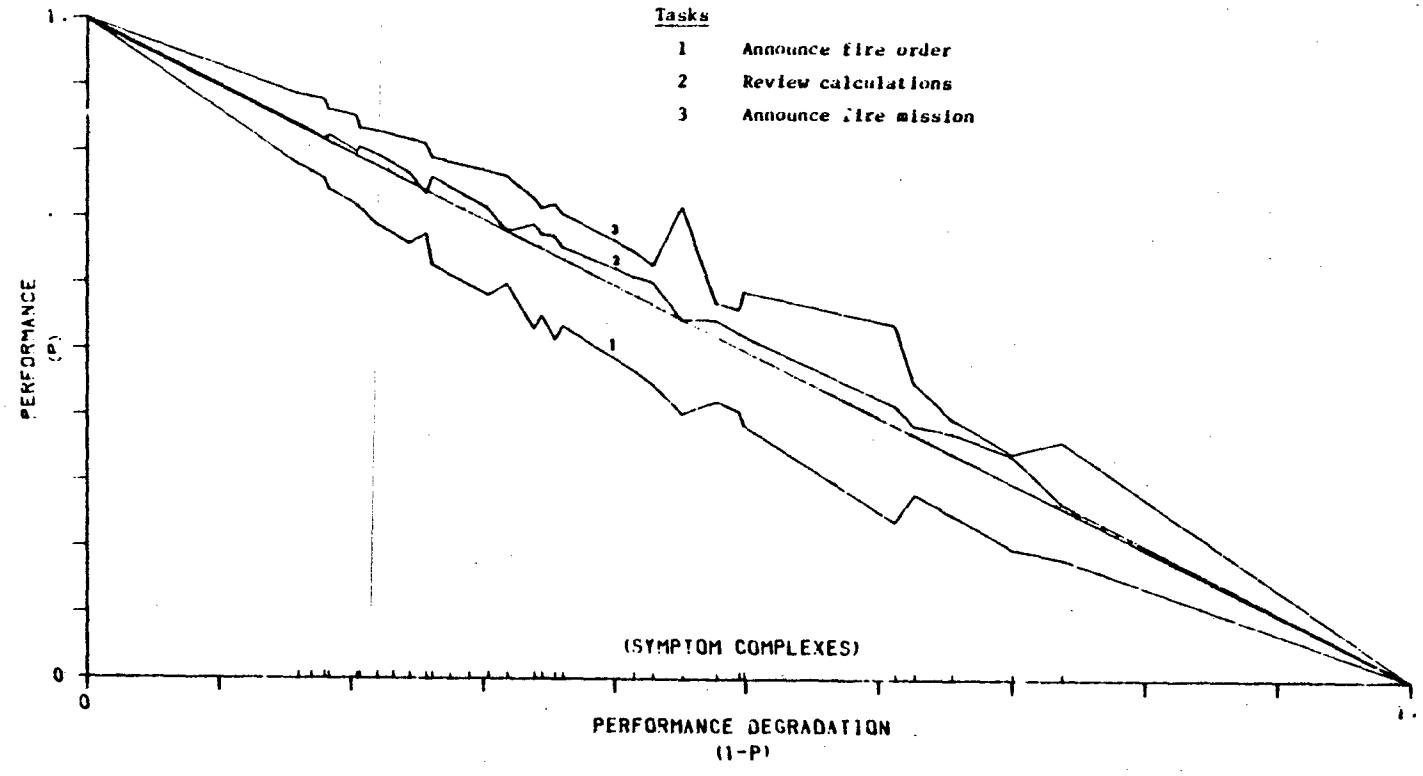

Figure G.4. Task/position performance: FDC crew, fire direction officer.

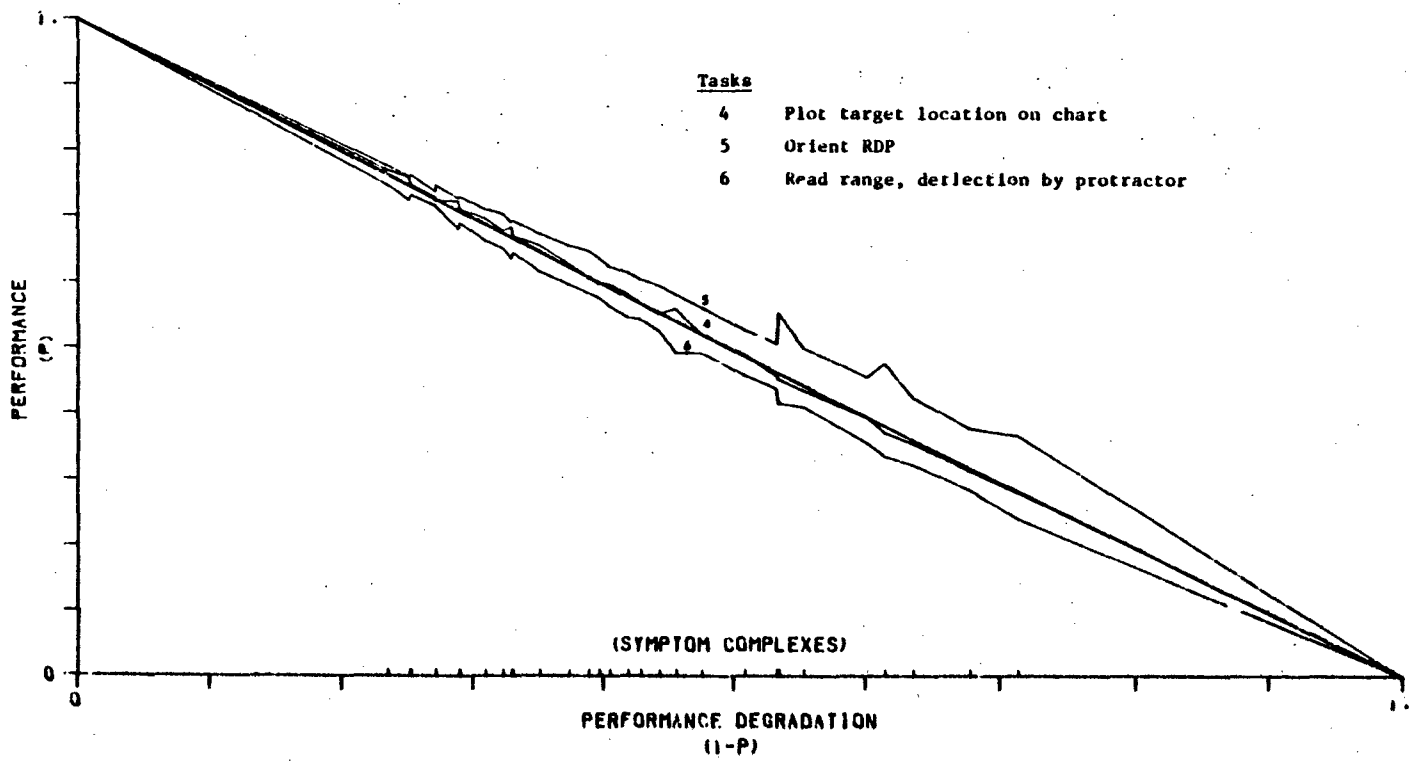

Figure G.5. Task/position performance: FDC crew, horizontal control operator.

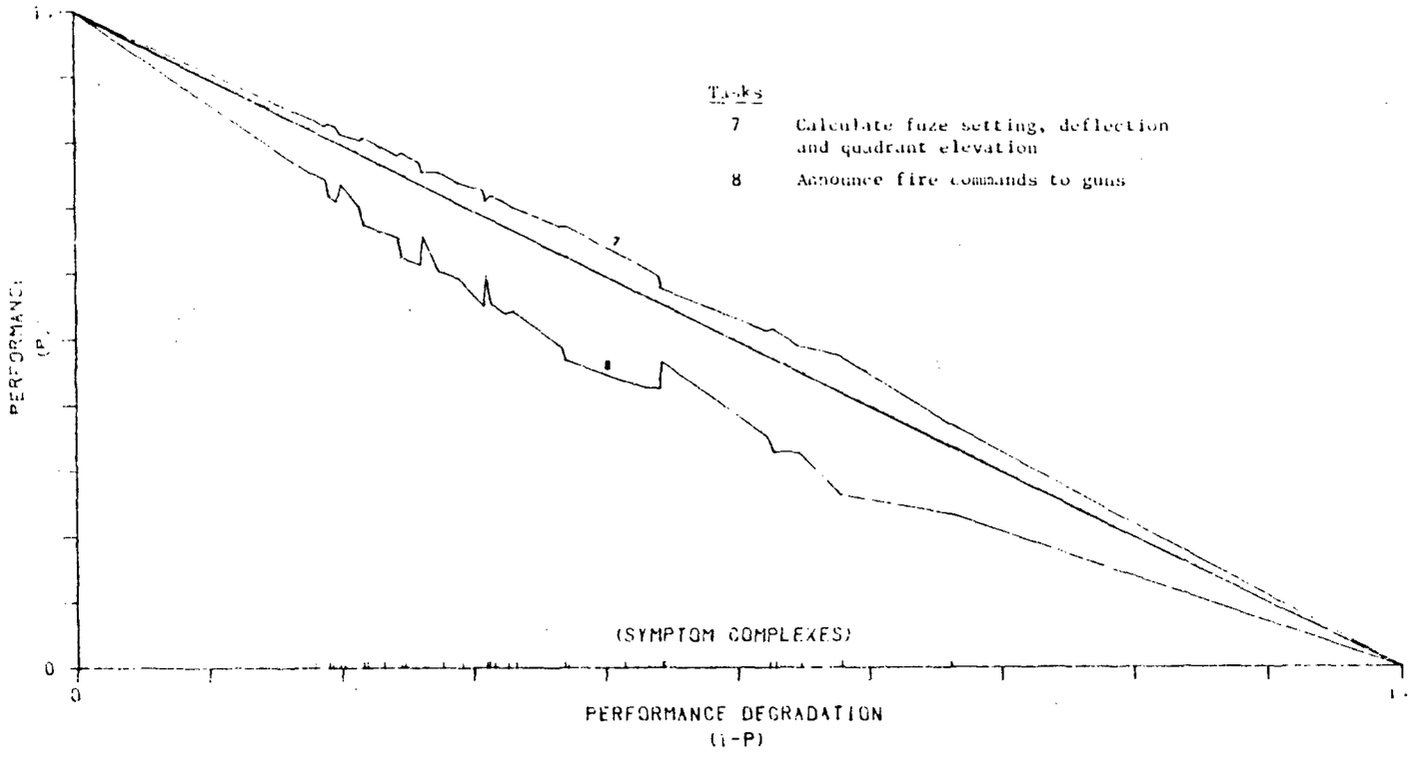

Figure G.6. Task/position performance: FDC crew, computer.

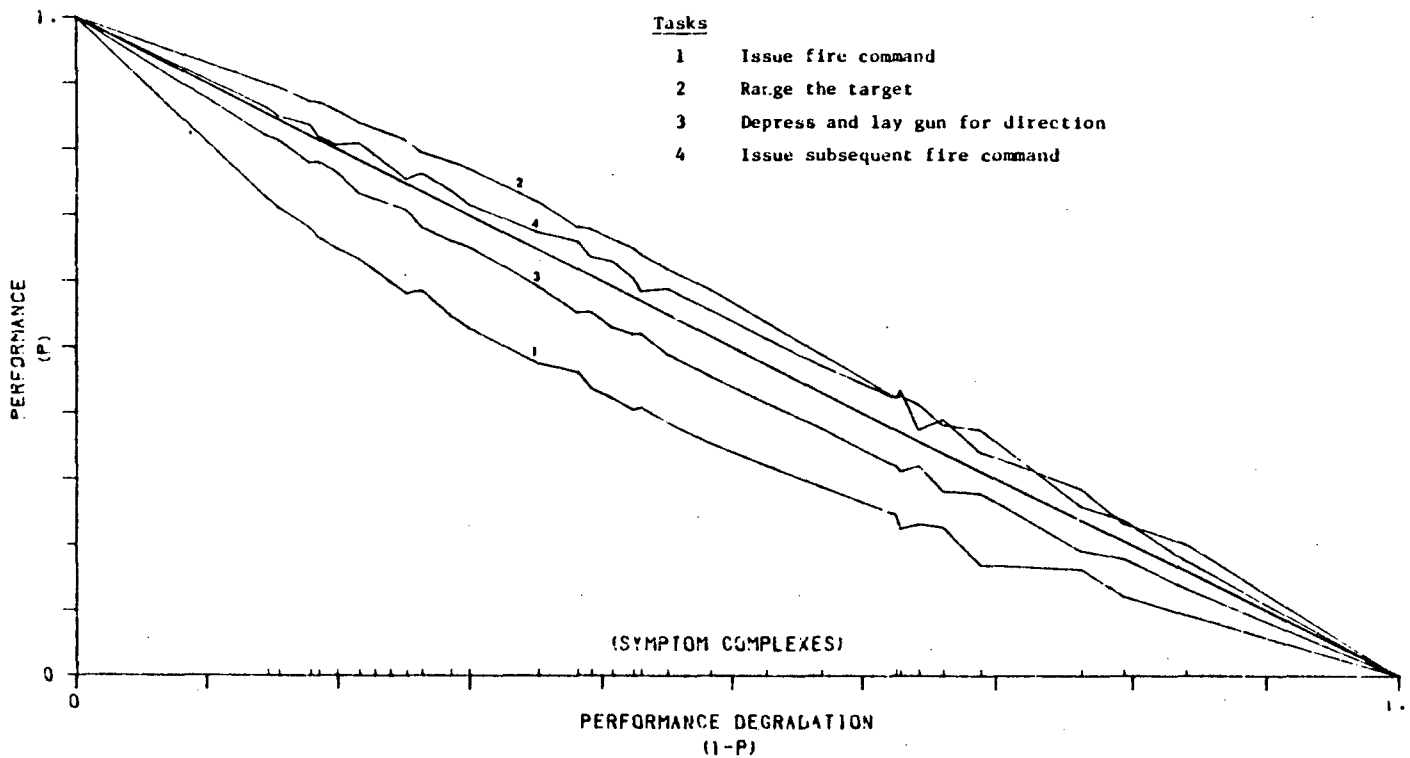

Figure G.7. Task/position performance: tank crew, tank commander.

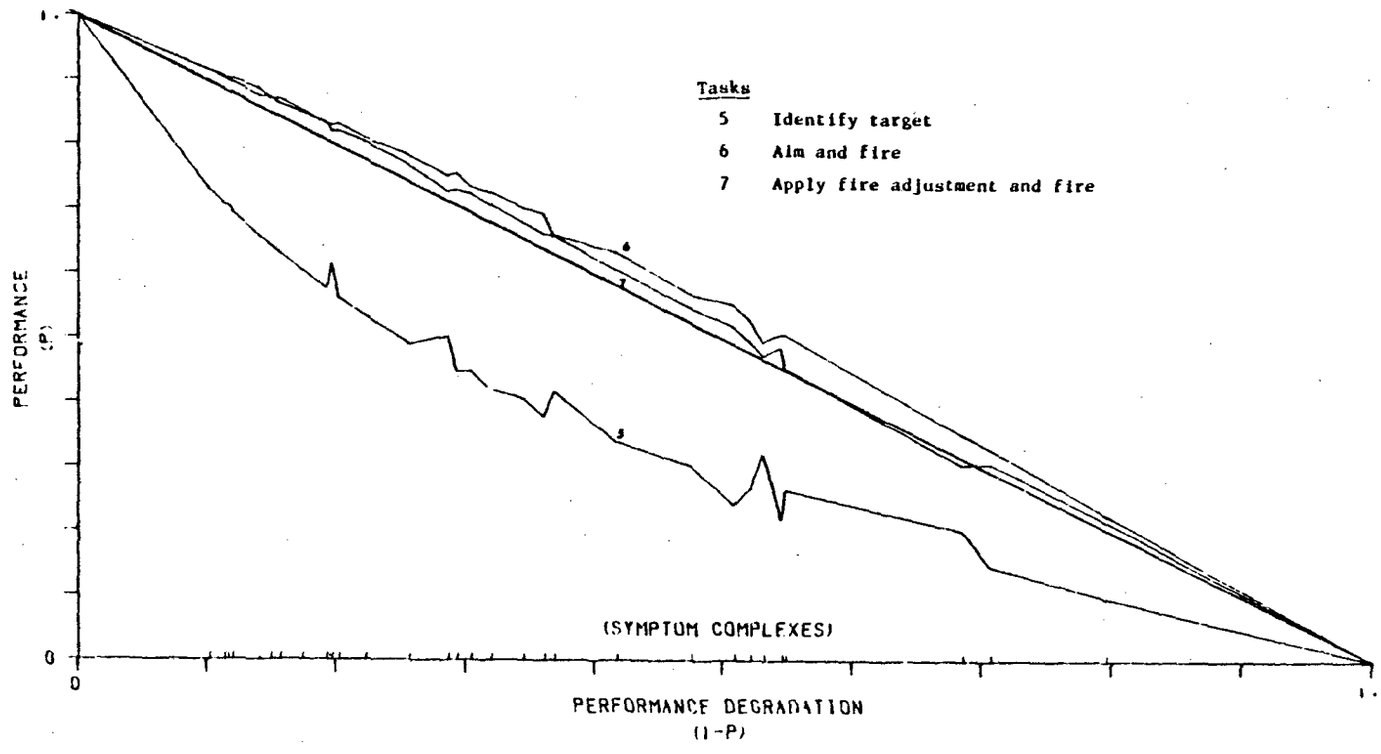

Figure G.8. Task/position performance: tank crew, gunner.

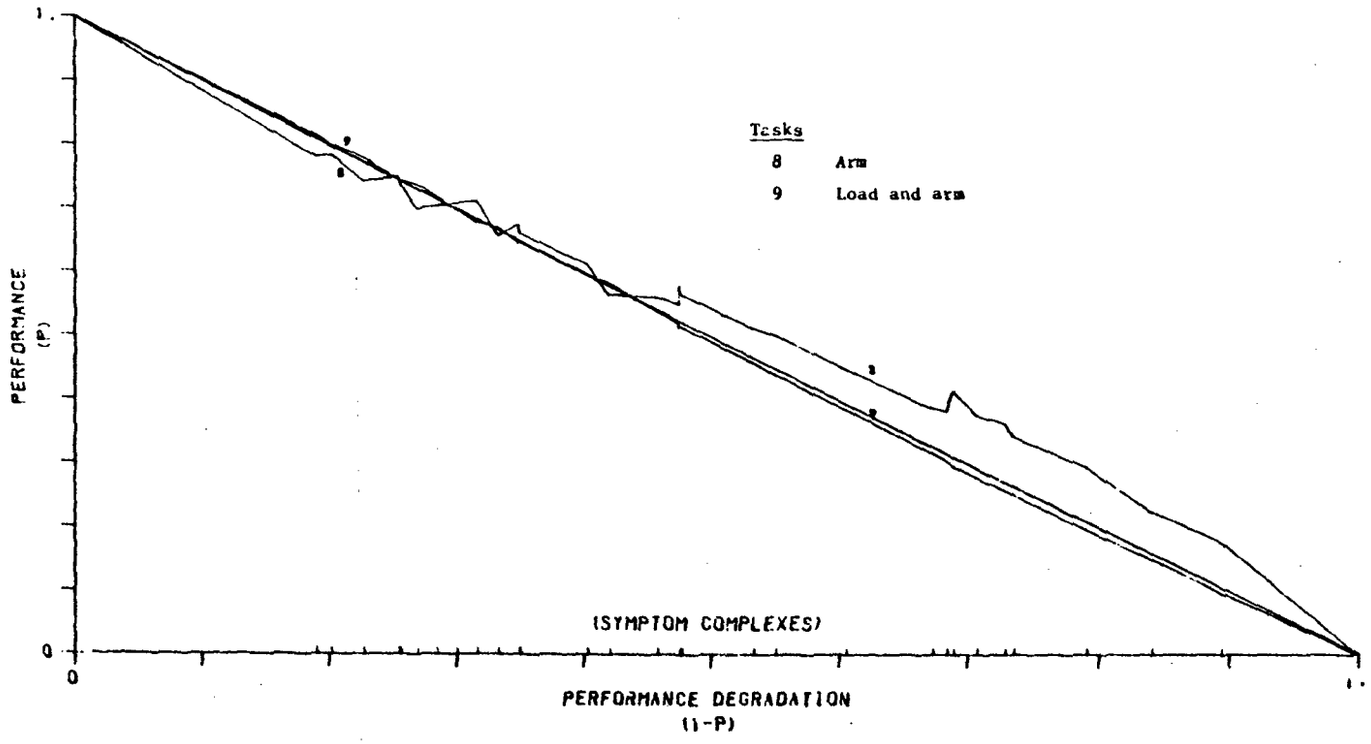

Figure G.9. Task/position performance: tank crew, loader.

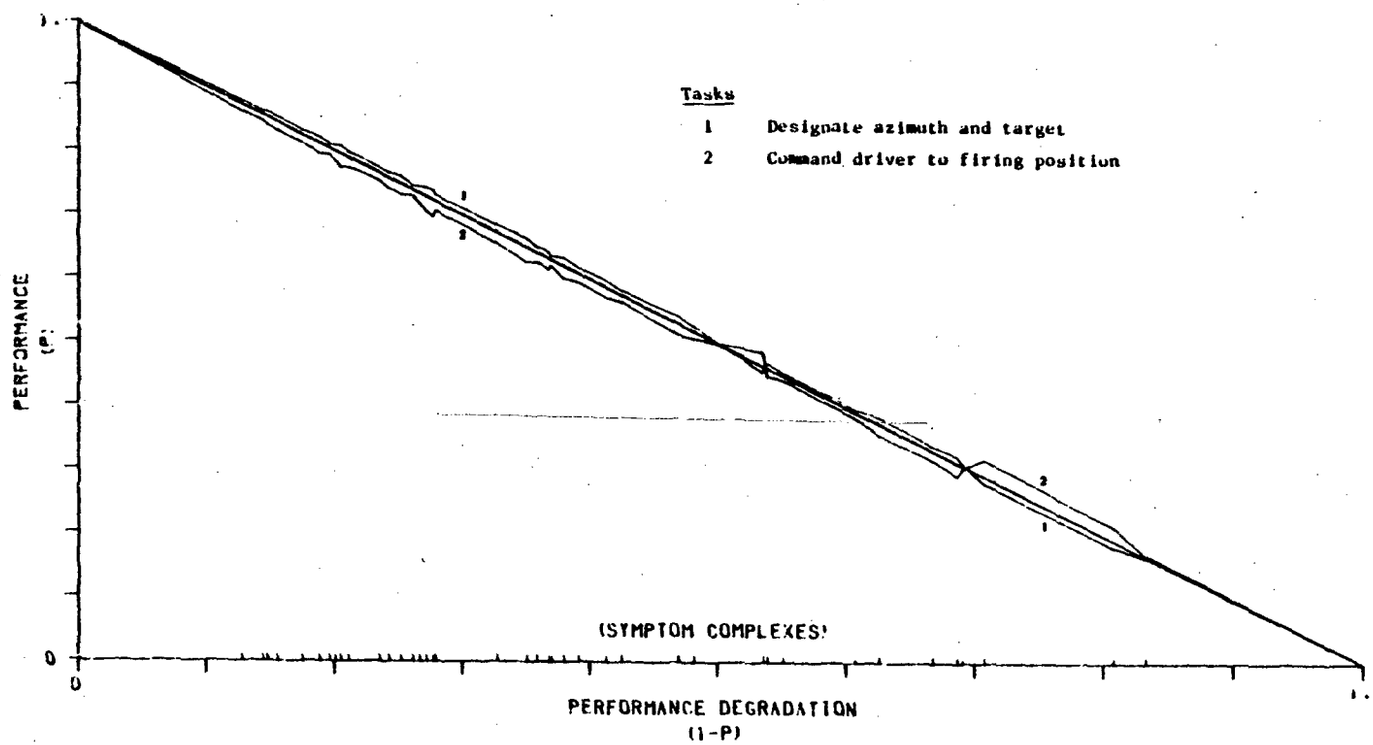

Figure G.10. Task/position performance: TOW crew, squad leader.

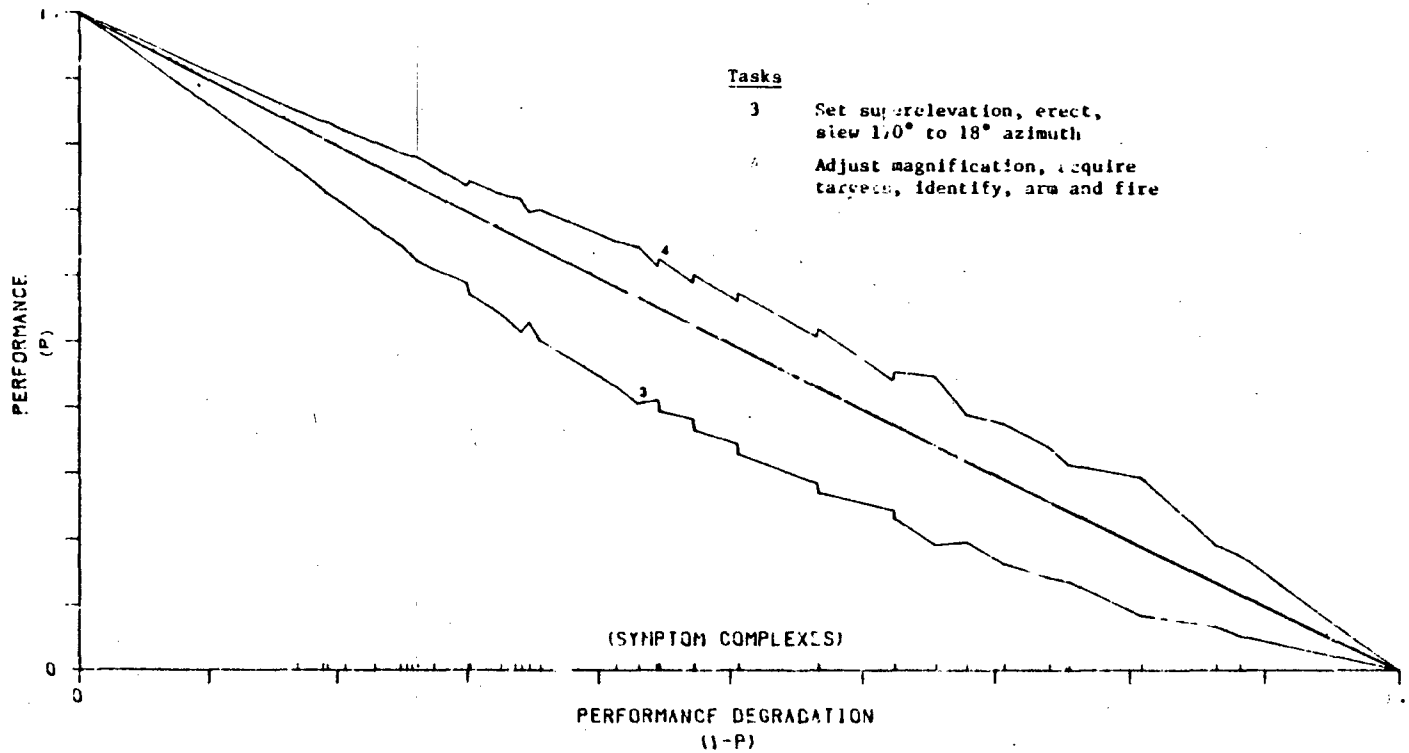

Figure G.11. Task/position performance: TOW crew, gunner.

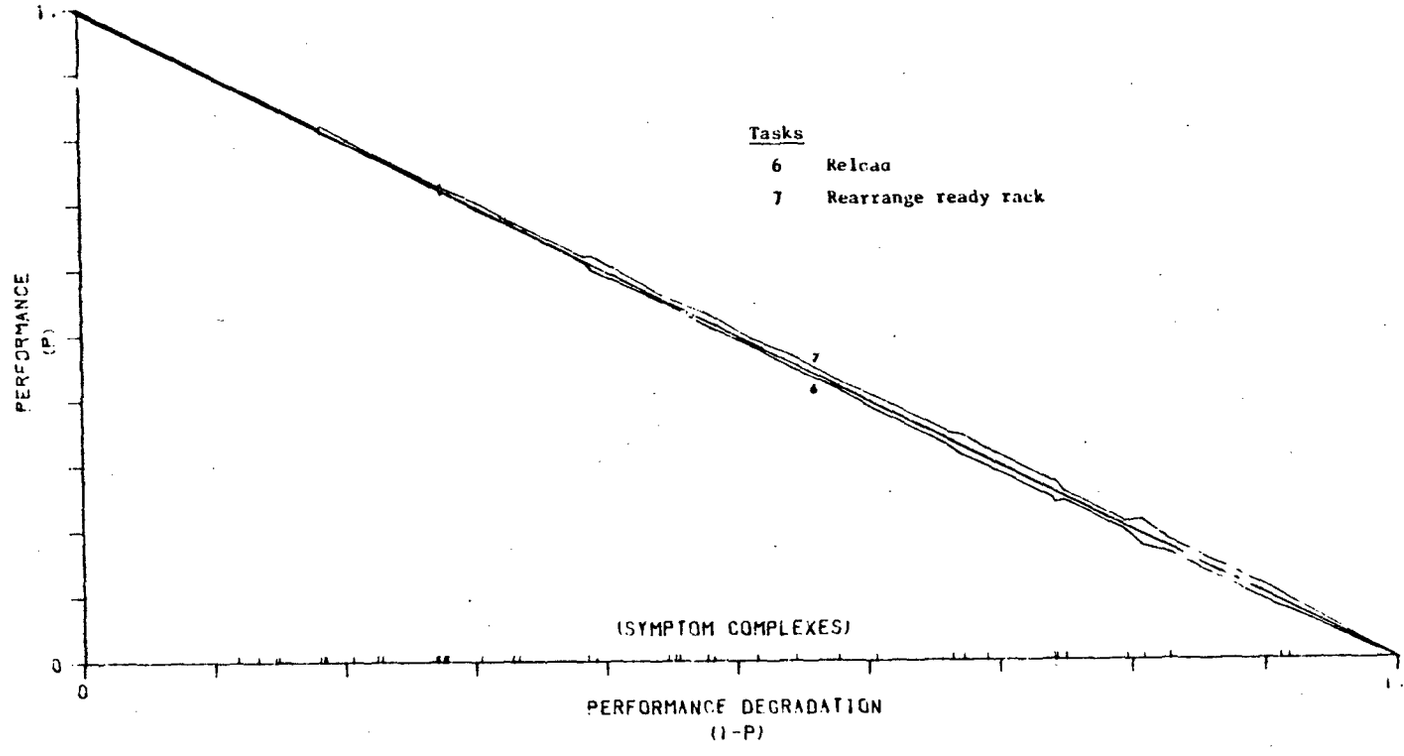

Figure G.12. Task/position performance: TOW crew, loader.

Table G.1. Regression results, gun crew.[a]

TASK NUMBER 2

SYMPTOM	BETA PARAMETER	STANDARD ERROR	STUDENT T
INTERCEPT	3.689165	0.278924	13.226
UPPER GASTRO	-0.133953	0.053964	-2.482
LOWER GASTRO	-0.412253	0.136164	-3.028
FATIGUE/WEAK	-0.269009	0.067568	-3.981
HYPOTENSION	-0.088056	0.140524	-0.627
INFECT/BLEED	-0.267431	0.171796	-1.557
FLUID LOSS	-0.470530	0.100484	-4.683

R SQUARED = 0.8629
RMS ERROR = 0.367710
DGF = 23

TASK NUMBER 3

SYMPTOM	BETA PARAMETER	STANDARD ERROR	STUDENT T
INTERCEPT	3.040915	0.209406	14.522
UPPER GASTRO	-0.154725	0.040514	-3.819
LOWER GASTRO	-0.335025	0.102228	-3.277
FATIGUE/WEAK	-0.235993	0.050728	-4.652
HYPOTENSION	-0.228813	0.105501	-2.169
INFECT/BLEED	-0.121214	0.128979	-0.940
FLUID LOSS	-0.419712	0.075440	-5.564

R SQUARED = 0.9123
RMS ERROR = 0.276066
DGF = 23

TASK NUMBER 4

SYMPTOM	BETA PARAMETER	STANDARD ERROR	STUDENT T
INTERCEPT	3.871579	0.281584	13.749
UPPER GASTRO	-0.120934	0.054478	-2.220
LOWER GASTRO	-0.437978	0.137462	-3.186
FATIGUE/WEAK	-0.272550	0.068212	-3.996
HYPOTENSION	-0.140113	0.141864	-0.988
INFECT/BLEED	-0.258543	0.173435	-1.491
FLUID LOSS	-0.497201	0.101442	-4.901

R SQUARED = 0.8703
RMS ERROR = 0.371217
DGF = 23

TASK NUMBER 5

SYMPTOM	BETA PARAMETER	STANDARD ERROR	STUDENT T
INTERCEPT	2.317021	0.173881	13.325
UPPER GASTRO	-0.146709	0.033641	-4.361
LOWER GASTRO	-0.319346	0.084884	-3.762
FATIGUE/WEAK	-0.248783	0.042121	-5.906
HYPOTENSION	-0.124967	0.087602	-1.427
INFECT/BLEED	-0.183087	0.107097	-1.710
FLUID LOSS	-0.389378	0.062641	-6.216

R SQUARED = 0.9305
RMS ERROR = 0.229230
DGF = 23

TASK NUMBER 6

SYMPTOM	BETA PARAMETER	STANDARD ERROR	STUDENT T
INTERCEPT	1.982098	0.229575	8.634
UPPER GASTRO	-0.195948	0.044416	-4.412
LOWER GASTRO	-0.244156	0.112073	-2.179
FATIGUE/WEAK	-0.325548	0.055613	-5.854
HYPOTENSION	-0.304213	0.115662	-2.630
INFECT/BLEED	-0.233430	0.141401	-1.651
FLUID LOSS	-0.463313	0.082706	-5.602

R SQUARED = 0.9324
RMS ERROR = 0.302653
DGF = 23

TASK NUMBER 7

SYMPTOM	BETA PARAMETER	STANDARD ERROR	STUDENT T
INTERCEPT	3.060085	0.187109	16.355
UPPER GASTRO	-0.104743	0.036260	-2.893
LOWER GASTRO	-0.448053	0.091342	-4.905
FATIGUE/WEAK	-0.285835	0.045326	-6.306
HYPOTENSION	-0.238311	0.094267	-2.528
INFECT/BLEED	-0.119442	0.115245	-1.036
FLUID LOSS	-0.493279	0.067407	-7.318

R SQUARED = 0.9405
RMS ERROR = 0.246669
DGF = 23

Table G.1. Regression results, gun crew (Concluded).

SYMPTOM	TASK NUMBER 8 BETA PARAMETER	STANDARD ERROR	STUDENT T	TASK NUMBER 9 BETA PARAMETER	STANDARD ERROR	STUDENT T
INTERCEPT	2.226995	0.170504	13.061	2.217452	0.195405	11.348
UPPER GASTRO	-0.135262	0.032988	-4.100	-0.116195	0.037805	-3.074
LOWER GASTRO	-0.248694	0.083236	-2.988	-0.251282	0.095392	-2.634
FATIGUE/WEAK	-0.363318	0.041303	-8.796	-0.250744	0.047336	-5.297
HYPOTENSION	-0.004918	0.085901	-0.057	-0.094368	0.098446	-0.959
INFECT/BLEED	-0.247384	0.105017	-2.356	-0.273690	0.120354	-2.274
FLUID LOSS	-0.374360	0.061425	-6.095	-0.384500	0.070395	-5.462
	R SQUARED = 0.9430			R SQUARED = 0.9079		
	RMS ERROR = 0.224778			RMS ERROR = 0.257605		
	DGF = 23			DGF = 23		

SYMPTOM	TASK NUMBER 10 BETA PARAMETER	STANDARD ERROR	STUDENT T	TASK NUMBER 11 BETA PARAMETER	STANDARD ERROR	STUDENT T
INTERCEPT	2.753800	0.235600	11.688	2.584123	0.166072	15.560
UPPER GASTRO	-0.096342	0.045582	-2.114	-0.126504	0.032130	-3.937
LOWER GASTRO	-0.323004	0.115014	-2.808	-0.369957	0.081072	-4.563
FATIGUE/WEAK	-0.304344	0.057073	-5.333	-0.215333	0.040230	-5.353
HYPOTENSION	-0.034336	0.118697	-0.289	-0.126132	0.083668	-1.508
INFECT/BLEED	-0.290475	0.145112	-2.002	-0.250991	0.102287	-2.454
FLUID LOSS	-0.381880	0.084876	-4.499	-0.354653	0.059828	-5.928
	R SQUARED = 0.8822			R SQUARED = 0.9287		
	RMS ERROR = 0.310595			RMS ERROR = 0.218935		
	DGF = 23			DGF = 23		

[a]Task number 1 regression parameters are those given for the chief of section in Sec. 3.

Table G.2. Regression results, FDC crew.

TASK NUMBER 1

SYMPTOM	BETA PARAMETER	STANDARD ERROR	STUDENT T
INTERCEPT	3.068488	0.359570	8.534
UPPER GASTRO	-0.269195	0.069566	-3.870
LOWER GASTRO	-0.468424	0.175533	-2.669
FATIGUE/WEAK	-0.063502	0.087104	-0.729
HYPOTENSION	-0.195820	0.181154	-1.081
INFECT/BLEED	-0.283058	0.221468	-1.278
FLUID LOSS	-0.457986	0.129537	-3.536

R SQUARED = 0.7774
RMS ERROR = 0.478027
DGF = 23

TASK NUMBER 2

SYMPTOM	BETA PARAMETER	STANDARD ERROR	STUDENT T
INTERCEPT	3.407176	0.335379	10.159
UPPER GASTRO	-0.194729	0.064886	-3.001
LOWER GASTRO	-0.550326	0.163724	-3.361
FATIGUE/WEAK	-0.082766	0.081243	-1.019
HYPOTENSION	-0.225097	0.168966	-1.332
INFECT/BLEED	-0.148599	0.206568	-0.719
FLUID LOSS	-0.461945	0.120822	-3.823

R SQUARED = 0.7778
RMS ERROR = 0.442136
DGF = 23

TASK NUMBER 3

SYMPTOM	BETA PARAMETER	STANDARD ERROR	STUDENT T
INTERCEPT	3.918948	0.400721	9.780
UPPER GASTRO	-0.256229	0.077528	-3.305
LOWER GASTRO	-0.552430	0.195622	-2.824
FATIGUE/WEAK	-0.041489	0.097072	-0.427
HYPOTENSION	0.013608	0.201887	0.067
INFECT/BLEED	-0.396276	0.246814	-1.606
FLUID LOSS	-0.587077	0.144362	-4.067

R SQUARED = 0.7303
RMS ERROR = 0.528278
DGF = 23

TASK NUMBER 4

SYMPTOM	BETA PARAMETER	STANDARD ERROR	STUDENT T
INTERCEPT	2.537191	0.173542	14.620
UPPER GASTRO	-0.188812	0.033575	-5.623
LOWER GASTRO	-0.338537	0.084719	-3.996
FATIGUE/WEAK	-0.124433	0.042040	-2.960
HYPOTENSION	-0.135473	0.087432	-1.549
INFECT/BLEED	-0.099580	0.106809	-0.932
FLUID LOSS	-0.312262	0.062520	-4.995

R SQUARED = 0.8976
RMS ERROR = 0.228784
DGF = 23

TASK NUMBER 5

SYMPTOM	BETA PARAMETER	STANDARD ERROR	STUDENT T
INTERCEPT	2.378963	0.182964	13.002
UPPER GASTRO	-0.175230	0.035398	-4.950
LOWER GASTRO	-0.301139	0.089319	-3.371
FATIGUE/WEAK	-0.081759	0.044322	-1.845
HYPOTENSION	-0.043004	0.092179	-0.467
INFECT/BLEED	-0.131882	0.112692	-1.170
FLUID LOSS	-0.311628	0.065914	-4.728

R SQUARED = 0.8476
RMS ERROR = 0.241205
DGF = 23

TASK NUMBER 6

SYMPTOM	BETA PARAMETER	STANDARD ERROR	STUDENT T
INTERCEPT	2.439342	0.262973	9.276
UPPER GASTRO	-0.204814	0.050878	-4.026
LOWER GASTRO	-0.380811	0.128377	-2.966
FATIGUE/WEAK	-0.082486	0.063704	-1.295
HYPOTENSION	-0.179482	0.132488	-1.355
INFECT/BLEED	-0.081187	0.161971	-0.501
FLUID LOSS	-0.337566	0.094737	-3.563

R SQUARED = 0.7986
RMS ERROR = 0.346681
DGF = 23

Table G.2. Regression results, FLC crew (Concluded).

SYMPTOM	TASK NUMBER 7 BETA PARAMETER	STANDARD ERROR	STUDENT T	TASK NUMBER 8 BETA PARAMETER	STANDARD ERROR	STUDENT T
INTERCEPT	2.952502	0.184171	16.031	2.558462	0.223189	11.463
UPPER GASTRO	-0.142595	0.035632	-4.002	-0.217167	0.043181	-5.029
LOWER GASTRO	-0.426095	0.089908	-4.739	-0.416009	0.108955	-3.818
FATIGUE/WEAK	-0.083908	0.044614	-1.881	-0.044161	0.054066	-0.817
HYPOTENSION	-0.248592	0.092787	-2.679	-0.124583	0.112444	-1.108
INFECT/BLEED	-0.007846	0.113436	-0.069	-0.175913	0.137467	-1.280
FLUID LOSS	-0.326918	0.066349	-4.927	-0.421898	0.080405	-5.247
	R SQUARED = 0.8776			R SQUARED = 0.8543		
	RMS ERROR = 0.242796			RMS ERROR = 0.294233		
	DGF = 23			DGF = 23		

Table G.3. Regression results, tank crew.[a]

TASK NUMBER 1

SYMPTOM	BETA PARAMETER	STANDARD ERROR	STUDENT T
INTERCEPT	2.824024	0.271434	10.404
UPPER GASTRO	-0.286400	0.052515	-5.454
LOWER GASTRO	-0.412689	0.132507	-3.114
FATIGUE/WEAK	-0.213909	0.065753	-3.253
HYPOTENSION	-0.214144	0.136751	-1.566
INFECT/BLEED	-0.068180	0.167183	-0.408
FLUID LOSS	-0.439119	0.097785	-4.491

R SQUARED = 0.8871
RMS ERROR = 0.357836
DGF = 23

TASK NUMBER 2

SYMPTOM	BETA PARAMETER	STANDARD ERROR	STUDENT T
INTERCEPT	4.352746	0.313823	13.870
UPPER GASTRO	-0.327168	0.060714	-5.389
LOWER GASTRO	-0.571208	0.153201	-3.728
FATIGUE/WEAK	-0.265402	0.076022	-3.491
HYPOTENSION	-0.192390	0.158106	-1.217
INFECT/BLEED	-0.012041	0.193291	-0.062
FLUID LOSS	-0.525015	0.113056	-4.644

R SQUARED = 0.8879
RMS ERROR = 0.413718
DGF = 23

TASK NUMBER 3

SYMPTOM	BETA PARAMETER	STANDARD ERROR	STUDENT T
INTERCEPT	3.461919	0.231725	14.940
UPPER GASTRO	-0.297045	0.044832	-6.626
LOWER GASTRO	-0.504297	0.113122	-4.458
FATIGUE/WEAK	-0.255146	0.056134	-4.545
HYPOTENSION	-0.179685	0.116745	-1.539
INFECT/BLEED	0.009123	0.142725	0.064
FLUID LOSS	-0.458394	0.083480	-5.491

R SQUARED = 0.9233
RMS ERROR = 0.305487
DGF = 23

TASK NUMBER 4

SYMPTOM	BETA PARAMETER	STANDARD ERROR	STUDENT T
INTERCEPT	3.762089	0.237709	15.826
UPPER GASTRO	-0.305305	0.045990	-6.639
LOWER GASTRO	-0.473994	0.116044	-4.085
FATIGUE/WEAK	-0.197353	0.057584	-3.427
HYPOTENSION	-0.143962	0.119760	-1.202
INFECT/BLEED	-0.128056	0.146411	-0.875
FLUID LOSS	-0.474361	0.085636	-5.539

R SQUARED = 0.9128
RMS ERROR = 0.313376
DGF = 23

TASK NUMBER 5

SYMPTOM	BETA PARAMETER	STANDARD ERROR	STUDENT T
INTERCEPT	2.610335	0.227222	11.488
UPPER GASTRO	-0.286496	0.043961	-6.517
LOWER GASTRO	-0.352076	0.110924	-3.174
FATIGUE/WEAK	-0.172275	0.055043	-3.130
HYPOTENSION	-0.237827	0.114476	-2.078
INFECT/BLEED	0.059603	0.139951	0.426
FLUID LOSS	-0.456446	0.081858	-5.576

R SQUARED = 0.9084
RMS ERROR = 0.299550
DGF = 23

TASK NUMBER 6

SYMPTOM	BETA PARAMETER	STANDARD ERROR	STUDENT T
INTERCEPT	4.419381	0.242622	18.215
UPPER GASTRO	-0.309931	0.046940	-6.603
LOWER GASTRO	-0.633198	0.118442	-5.346
FATIGUE/WEAK	-0.159524	0.058776	-2.714
HYPOTENSION	-0.222908	0.122235	-1.824
INFECT/BLEED	0.017539	0.149437	0.117
FLUID LOSS	-0.579837	0.087406	-6.634

R SQUARED = 0.9192
RMS ERROR = 0.319853
DGF = 23

Table G.3. Regression results, tank crew (Concluded).

TASK NUMBER 7

SYMPTOM	BETA PARAMETER	STANDARD ERROR	STUDENT T
INTERCEPT	4.180210	0.303280	13.783
UPPER GASTRO	-0.248242	0.058148	-4.269
LOWER GASTRO	-0.260567	0.149415	-1.744
FATIGUE/WEAK	-0.517479	0.070561	-7.334
HYPOTENSION	0.079068	0.144651	0.547
INFECT/BLEED	-0.371420	0.122143	-3.041
FLUID LOSS	-0.597669	0.107218	-5.574

R SQUARED = 0.8933
RMS ERROR = 0.427812
DGF = 33

SYMPTOM	TASK NUMBER 8 BETA PARAMETER	STANDARD ERROR	STUDENT T	TASK NUMBER 9 BETA PARAMETER	STANDARD ERROR	STUDENT T
INTERCEPT	2.883474	0.194320	14.839	3.441871	0.219059	15.712
UPPER GASTRO	-0.212662	0.037595	-5.657	-0.226692	0.042382	-5.349
LOWER GASTRO	-0.367667	0.094862	-3.876	-0.462622	0.106939	-4.326
FATIGUE/WEAK	-0.192157	0.047073	-4.082	-0.322628	0.053066	-6.080
HYPOTENSION	-0.100430	0.097900	-1.026	-0.190425	0.110364	-1.725
INFECT/BLEED	-0.060938	0.119687	-0.509	0.000835	0.134924	0.006
FLUID LOSS	-0.468161	0.070005	-6.688	-0.528678	0.079917	-6.699
	R SQUARED = 0.9166			R SQUARED = 0.9362		
	RMS ERROR = 0.256176			RMS ERROR = 0.288790		
	DGF = 23			DGF = 23		

[a]Task number 10 regression parameters are those given for the driver in Sec. 3.

Table G.4. Regression results, TOW crew.[a]

TASK NUMBER 1

SYMPTOM	BETA PARAMETER	STANDARD ERROR	STUDENT T
INTERCEPT	3.944342	0.280672	14.053
UPPER GASTRO	-0.225626	0.053813	-4.193
LOWER GASTRO	-0.263445	0.138276	-1.905
FATIGUE/WEAK	-0.374660	0.065301	-5.737
HYPOTENSION	0.012139	0.133848	0.091
INFECT/BLEED	-0.384484	0.113037	-3.401
FLUID LOSS	-0.516037	0.099225	-5.201

R SQUARED = 0.8683
RMS ERROR = 0.395920
DGF = 33

TASK NUMBER 2

SYMPTOM	BETA PARAMETER	STANDARD ERROR	STUDENT T
INTERCEPT	3.704884	0.284205	13.036
UPPER GASTRO	-0.233399	0.054491	-4.283
LOWER GASTRO	-0.288117	0.140017	-2.058
FATIGUE/WEAK	-0.354899	0.066123	-5.367
HYPOTENSION	0.124455	0.135553	0.918
INFECT/BLEED	-0.413633	0.114460	-3.614
FLUID LOSS	-0.493189	0.100474	-4.909

R SQUARED = 0.8212
RMS ERROR = 0.400905
DGF = 33

TASK NUMBER 3

SYMPTOM	BETA PARAMETER	STANDARD ERROR	STUDENT T
INTERCEPT	3.339075	0.301455	11.077
UPPER GASTRO	-0.279193	0.057798	-4.830
LOWER GASTRO	-0.207870	0.148516	-1.400
FATIGUE/WEAK	-0.438429	0.070137	-6.251
HYPOTENSION	-0.003845	0.143780	-0.027
INFECT/BLEED	-0.473434	0.121406	-3.900
FLUID LOSS	-0.488139	0.106573	-4.580

R SQUARED = 0.8775
RMS ERROR = 0.425238
DGF = 33

TASK NUMBER 4

SYMPTOM	BETA PARAMETER	STANDARD ERROR	STUDENT T
INTERCEPT	3.565372	0.267341	13.336
UPPER GASTRO	-0.216770	0.051258	-4.229
LOWER GASTRO	-0.253533	0.131709	-1.925
FATIGUE/WEAK	-0.335201	0.062200	-5.389
HYPOTENSION	0.022988	0.127510	0.180
INFECT/BLEED	-0.344564	0.107668	-3.200
FLUID LOSS	-0.481393	0.094512	-5.093

R SQUARED = 0.8593
RMS ERROR = 0.377116
DGF = 33

TASK NUMBER 6

SYMPTOM	BETA PARAMETER	STANDARD ERROR	STUDENT T
INTERCEPT	4.335487	0.287865	15.061
UPPER GASTRO	-0.254126	0.055193	-4.604
LOWER GASTRO	-0.272422	0.141820	-1.921
FATIGUE/WEAK	-0.527975	0.066975	-7.[illegible]83
HYPOTENSION	0.038926	0.137298	0.[illegible]
INFECT/BLEED	-0.408598	0.115934	-3.52[illegible]
FLUID LOSS	-0.643662	0.101768	-6.325

R SQUARED = 0.9111
RMS ERROR = 0.406067
DGF = 33

TASK NUMBER 7

SYMPTOM	BETA PARAMETER	STANDARD ERROR	STUDENT T
INTERCEPT	4.464494	0.276733	16.133
UPPER GASTRO	-0.319320	0.053540	-5.964
LOWER GASTRO	-0.641741	0.135094	-4.750
FATIGUE/WEAK	-0.210481	0.067037	-3.140
HYPOTENSION	-0.192817	0.139420	-1.383
INFECT/BLEED	0.032442	0.170447	0.190
FLUID LOSS	-0.557558	0.099695	-5.593

R SQUARED = 0.9039
RMS ERROR = 0.364822
DGF = 23

[a]Task number 5 regression parameters are those given for the driver in Sec. 3.

Appendix H

EARLY LOWER GASTROINTESTINAL DISTRESS EFFECT ON PERFORMANCE

This appendix shows the effect of early lower gastrointestinal distress (LG) on performance. As discussed in Sec. 4, that effect is due to one or two brief episodes of diarrhea that may occur in a minority of individuals--about 10 percent with a maximum of 30 percent at high doses of the intermediate dose range.

Figures H.1 and H.2 give the symptom complexes, including the early LG effect. Figures H.3 through H.6 are three-dimensional plots for the gun crew loader, FDC computer, tank commander, and TOW loader, chosen to illustrate the early LG effect on performance. Beginning with doses from around 300 to 450 rads (cGy) and for times between about 2 to 6 hr, the initial surface depression is largely attributable to early LG effects.

Figures H.7 through H.10 show the early LG effect on performance given in the contour plots of the same four crewmembers. This is indicated by the dipping in the performance contours at the doses and times indicated above.

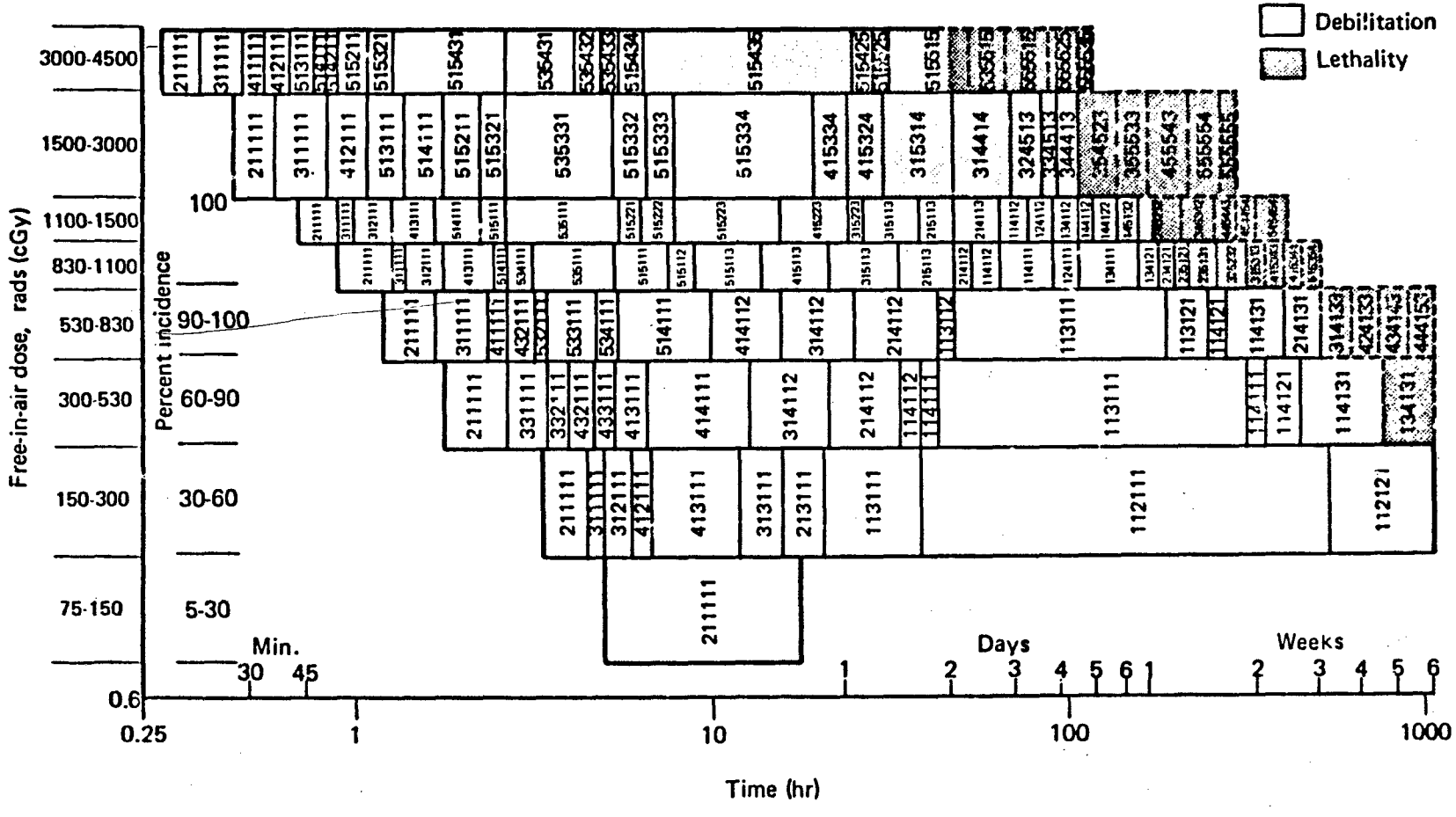

Figure H.1. Symptom complexes--with early LG.

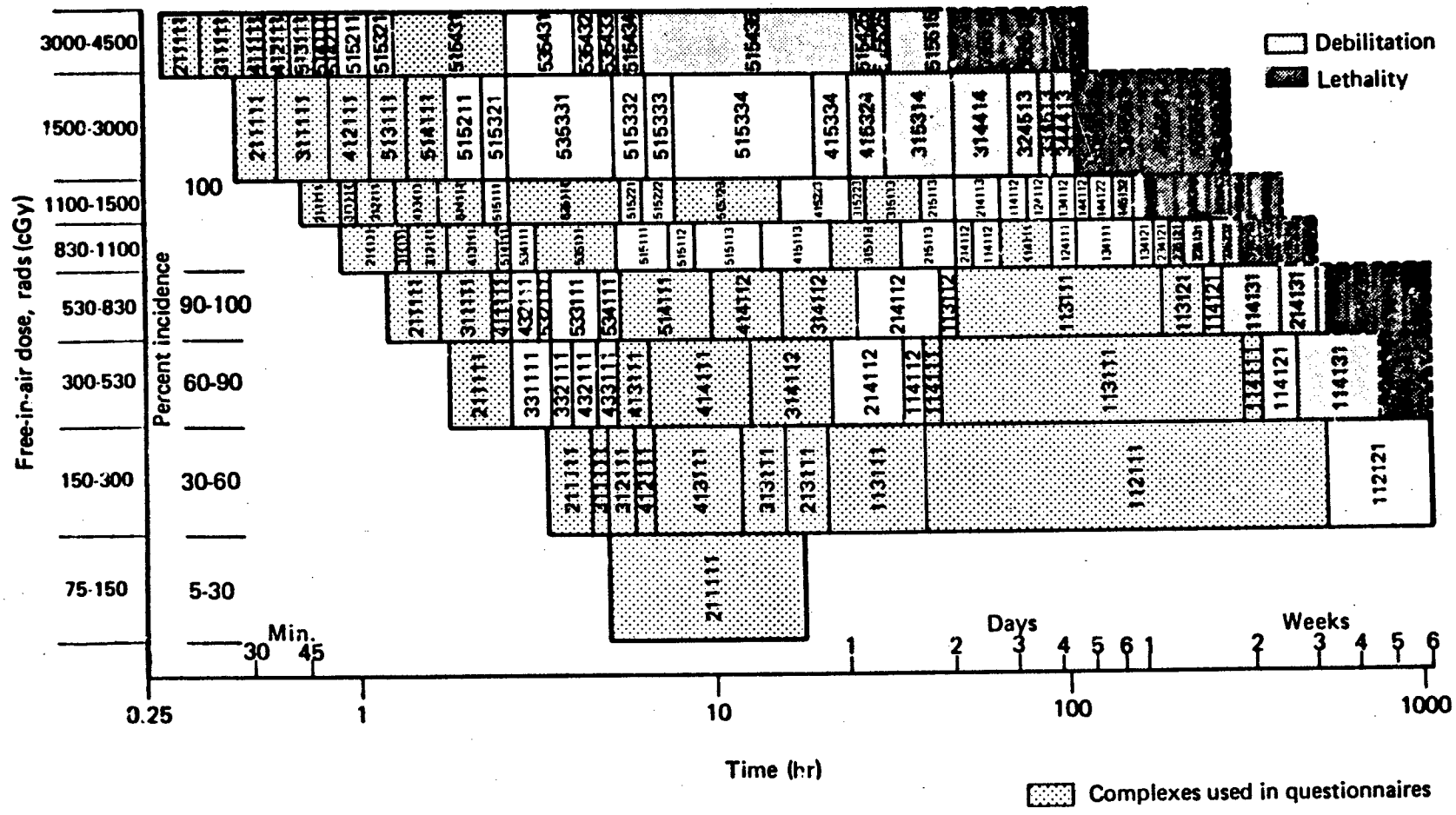

Figure H.2. Symptom complexes including those from questionnaires--with early LG.

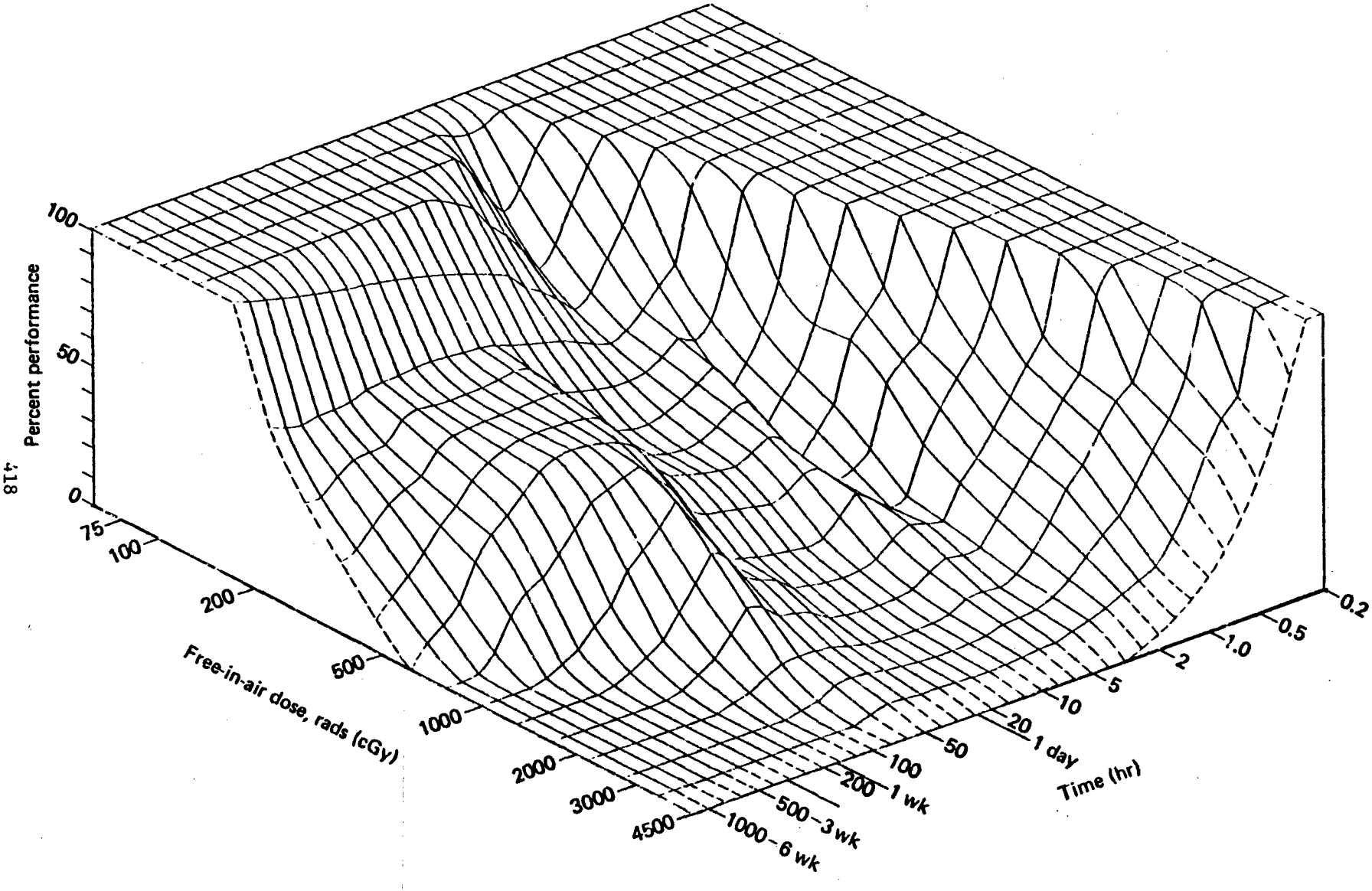

Figure H.3. Performance surface: gun crew, loader.

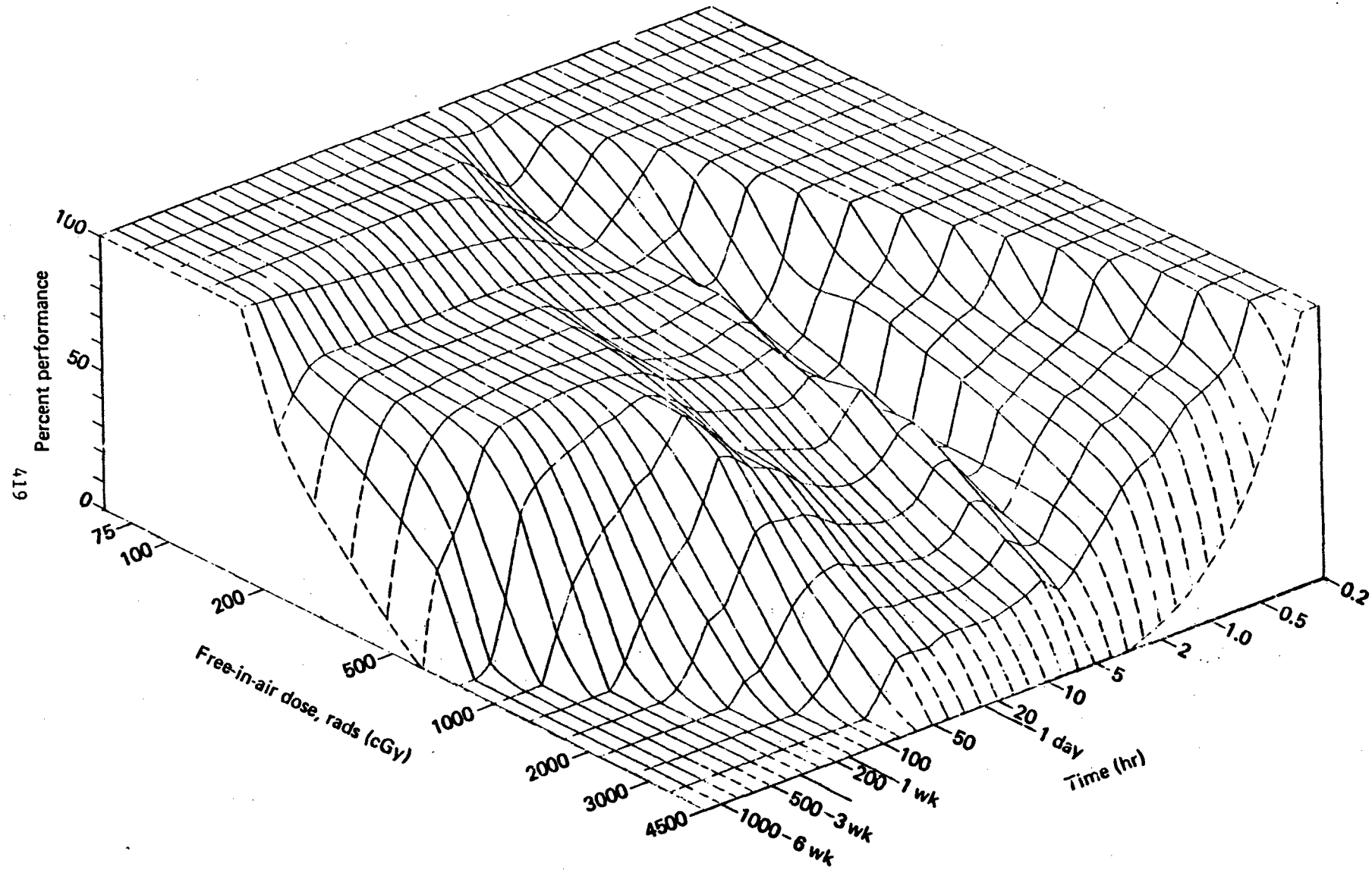

Figure H.4. Performance surface: FDC crew, computer.

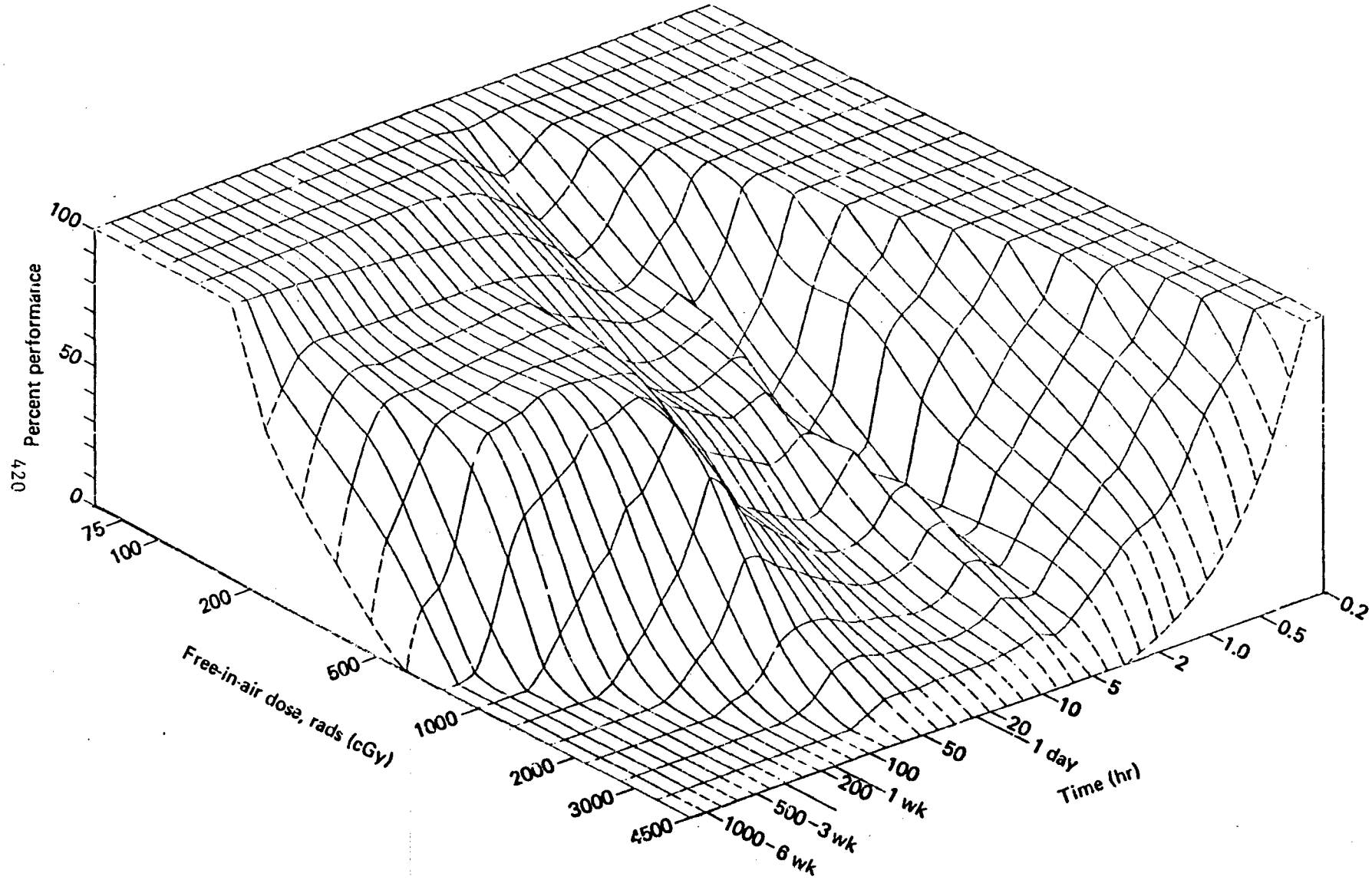

Figure H.5. Performance surface: tank crew, tank commander.

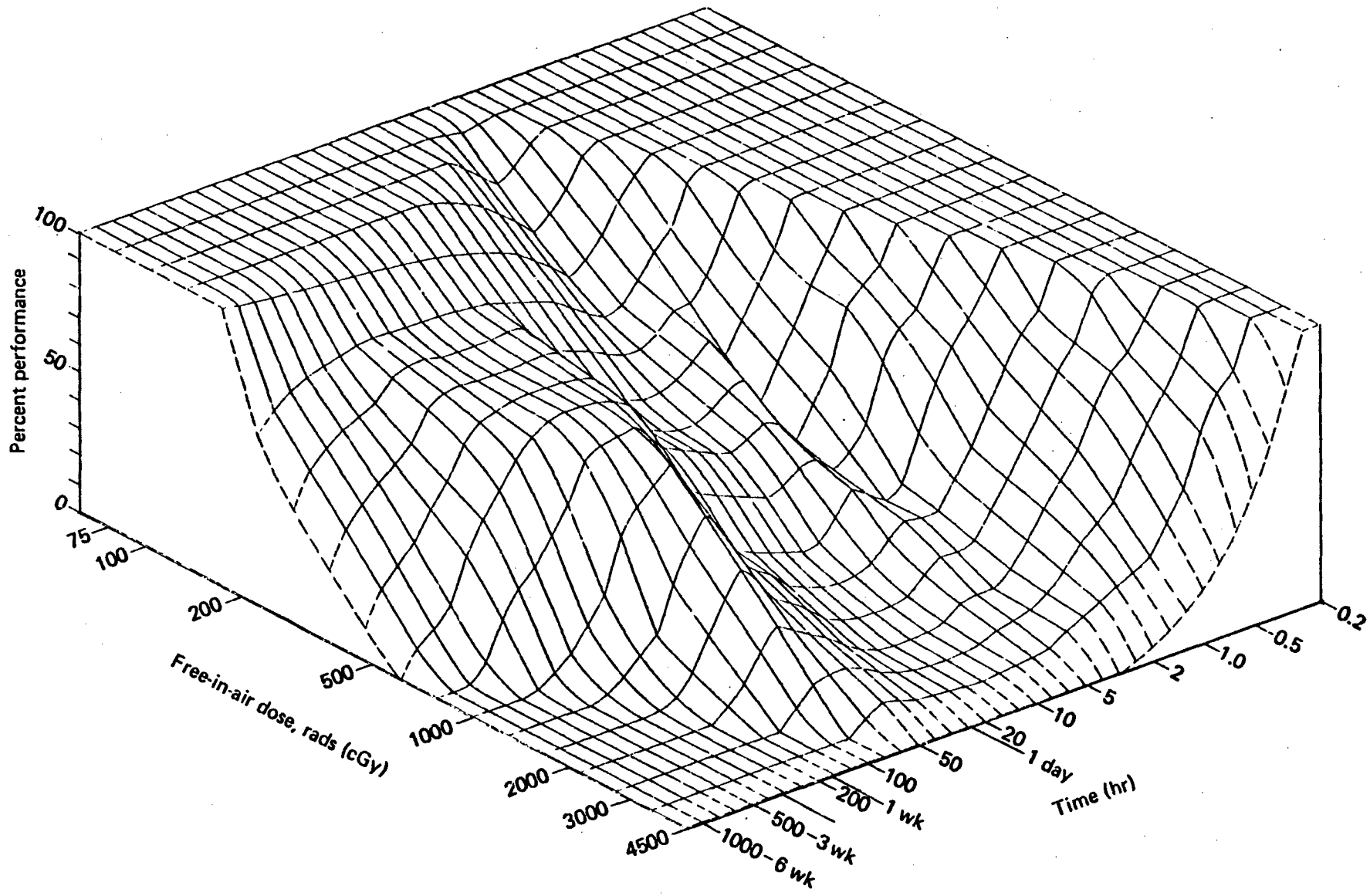

Figure H.6. Performance surface: TOW crew, gunner.

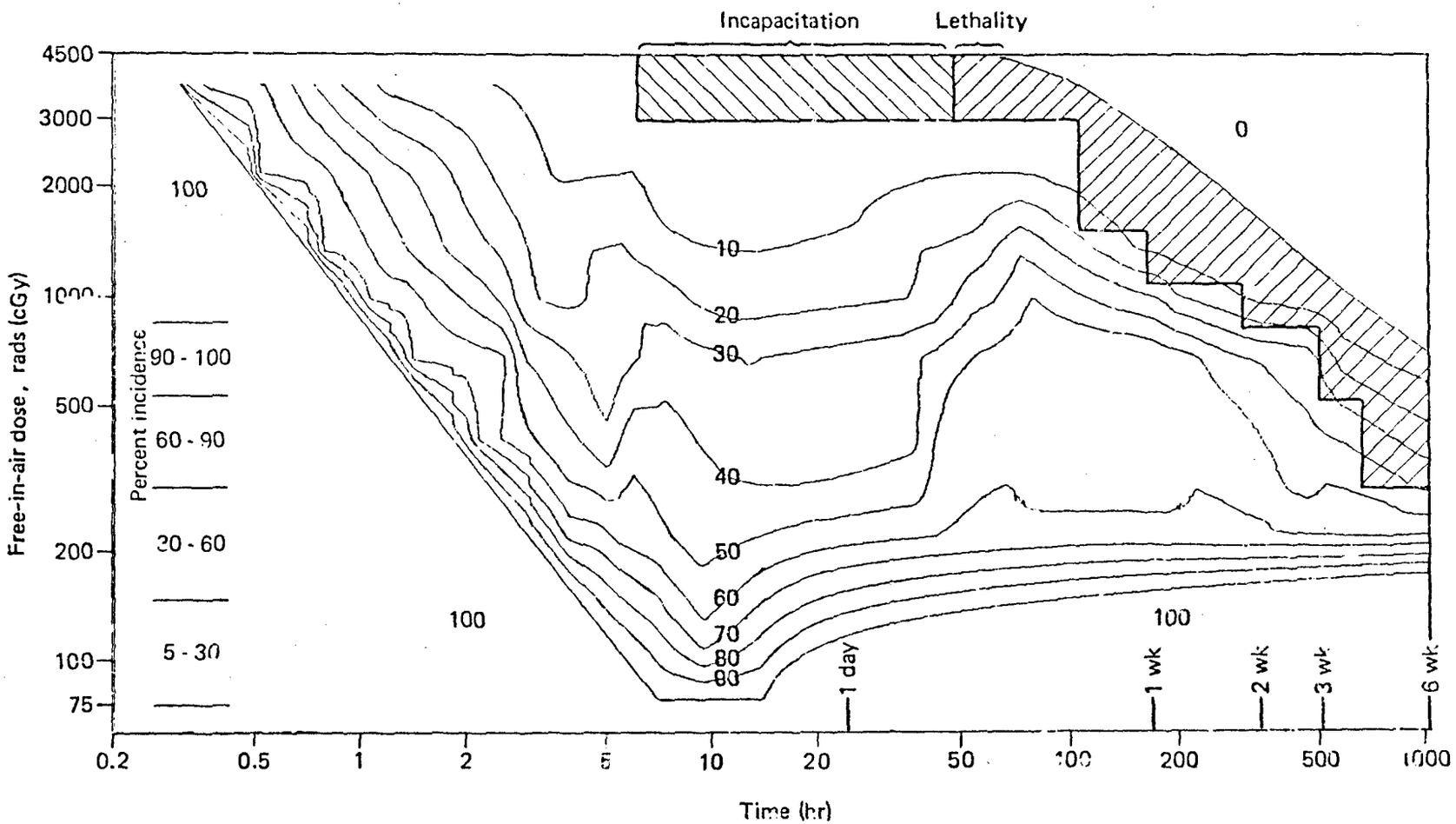

Figure H.7. Performance contours: 10 percent performance intervals, gun crew, loader.

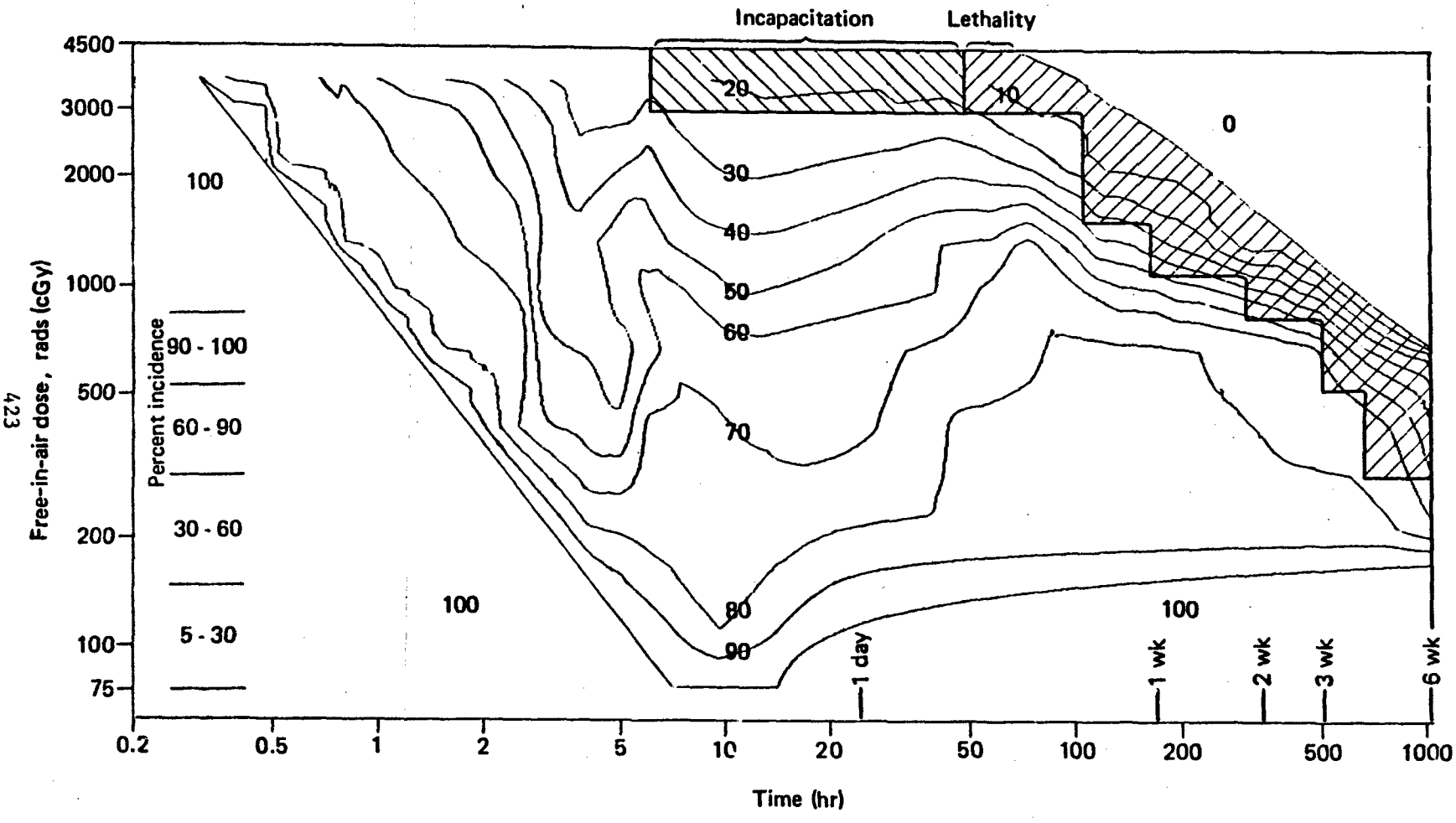

Figure H.8. Performance contours: 10 percent performance intervals, FDC crew, computer.

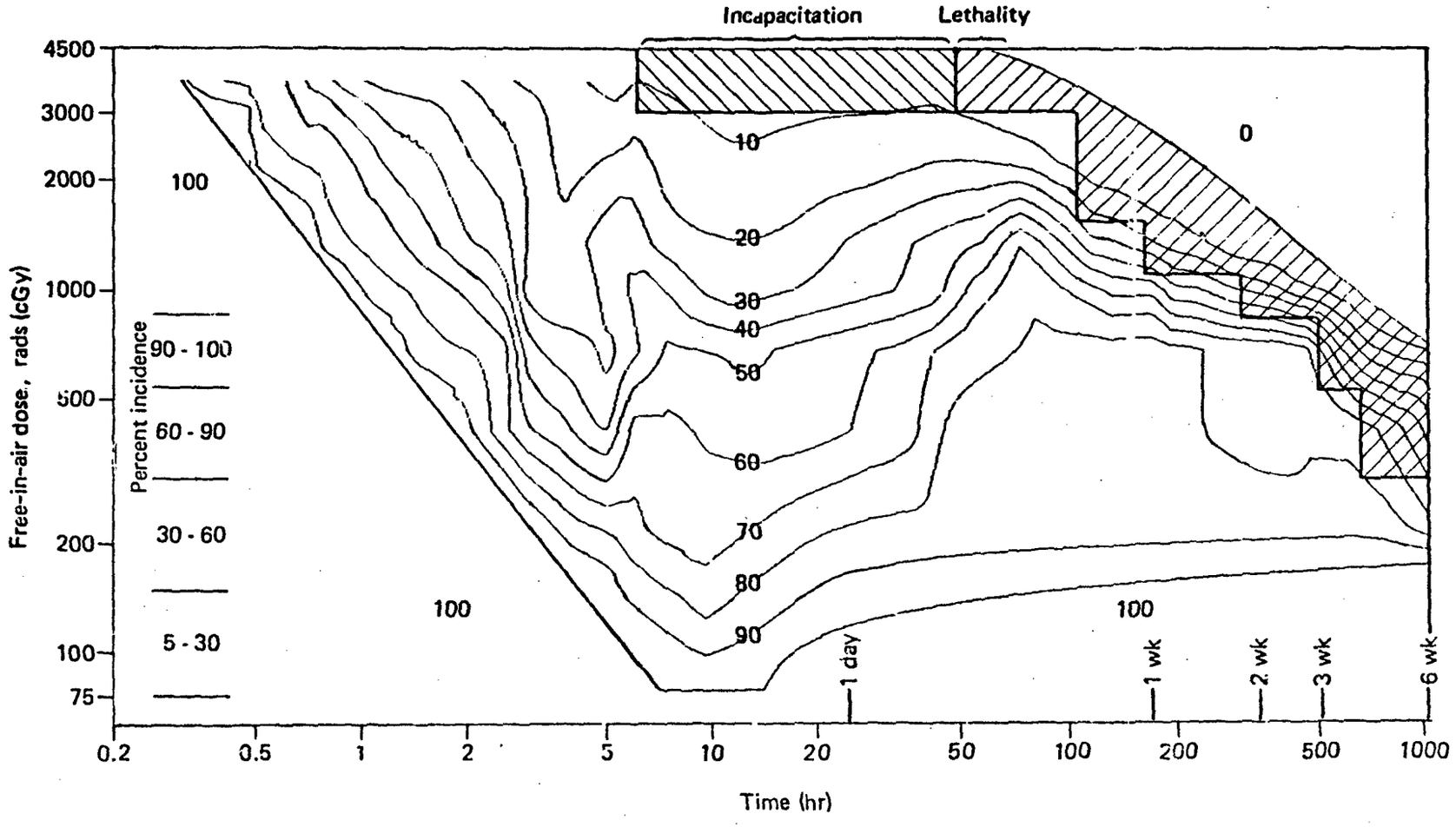

Figure H.9. Performance contours: 10 percent performance intervals, tank crew, tank commander.

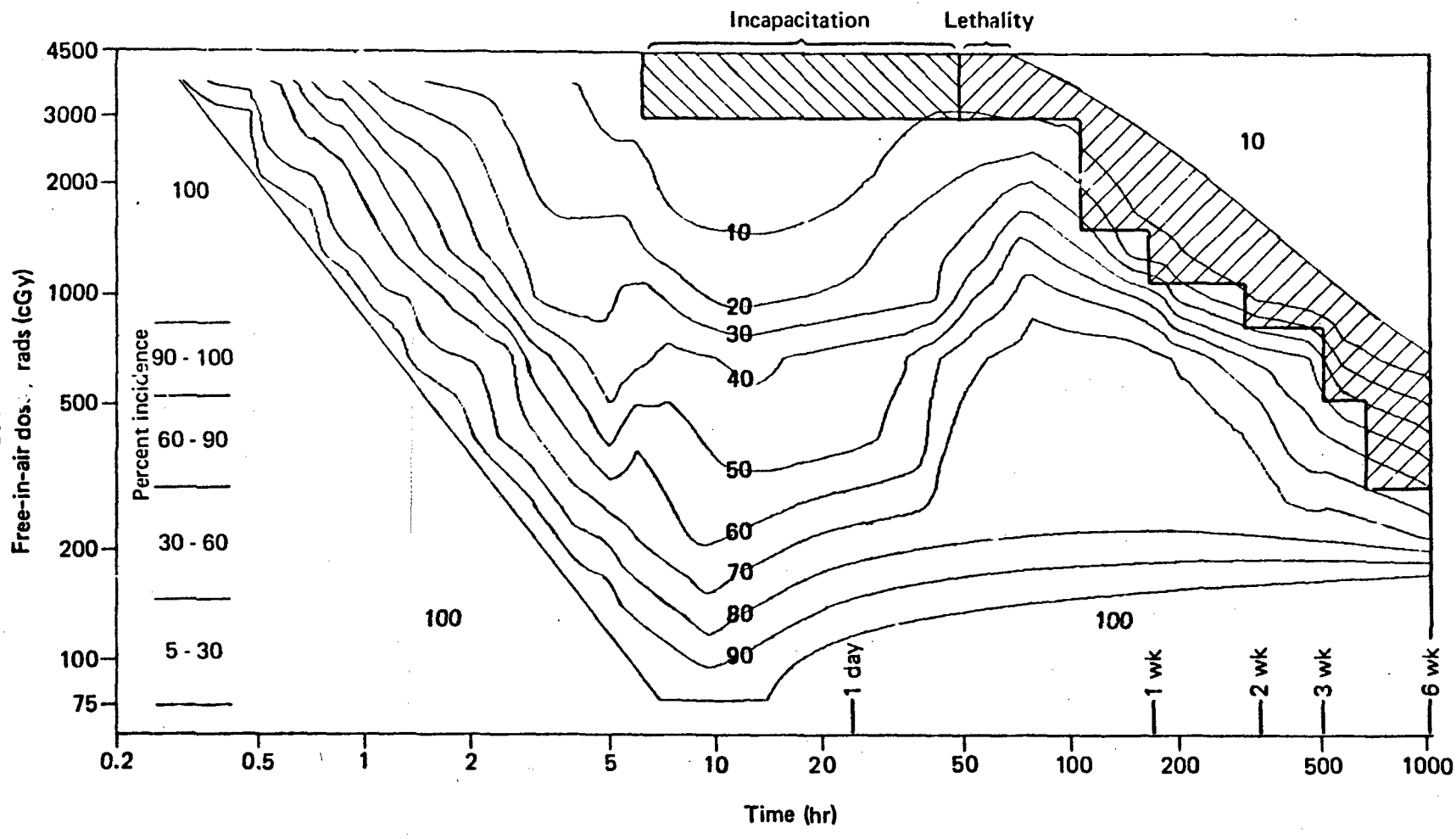

Figure H.10. Performance contours: 10 percent performance intervals, TOW crew, gunner.

Appendix I

DOSE, TIME, AND CREWMEMBER PERFORMANCE INPUT VALUES FOR MAPPING

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Table I.1. Initial performance data, gun crew.

DOSE-RANGE RADS (CGY)	SYMPTOM COMPLEX	TIME-RANGE		TIME	CHIEF OF SECTION	GUNNER	ASSISTANT GUNNER	LOADER
75- 150	211111	5.0	18.0	9.49	0.7226	0.8320	0.8083	0.6814
150- 300	211111	3.4	4.5	3.91	0.7226	0.8320	0.8083	0.6814
	311111	4.5	5.0	4.74	0.6751	0.8106	0.7865	0.6487
	312111	5.0	6.0	5.48	0.6341	0.7701	0.7403	0.5777
	412111	6.0	6.8	6.39	0.5804	0.7432	0.7135	0.5415
	413111	6.8	12.0	9.03	0.5357	0.6937	0.6583	0.4667
	313111	12.0	16.0	13.86	0.5912	0.7239	0.6880	0.5033
	213111	16.0	21.0	18.33	0.6444	0.7522	0.7162	0.5399
	113111	21.0	40.0	28.98	0.6943	0.7784	0.7428	0.5761
	112111	40.0	540.0	146.97	0.7314	0.8178	0.7888	0.6472
	112121	540.0	1060.0	756.57	0.6568	0.7894	0.7506	0.5916
300- 530	211111	1.8	2.7	2.20	0.7226	0.8320	0.8083	0.6814
	311111	2.7	3.5	3.07	0.6751	0.8106	0.7865	0.6487
	312111	3.5	3.9	3.69	0.6341	0.7701	0.7403	0.5777
	412111	3.9	4.6	4.24	0.5804	0.7432	0.7135	0.5415
	413111	4.6	6.6	5.51	0.5357	0.6937	0.6583	0.4667
	414111	6.6	13.0	9.26	0.4904	0.6394	0.5985	0.3952
	314112	13.0	22.0	16.91	0.4386	0.5694	0.5247	0.3259
	214112	22.0	35.0	27.75	0.4947	0.6048	0.5582	0.3589
	114112	35.0	40.0	37.42	0.5510	0.6392	0.5912	0.3933
	114111	40.0	45.0	42.43	0.6545	0.7333	0.6909	0.5016
	113111	45.0	320.0	120.00	0.6943	0.7784	0.7428	0.5761
	114111	320.0	360.0	339.41	0.6545	0.7333	0.6909	0.5016
	114121	360.0	450.0	402.49	0.5712	0.6967	0.6430	0.4429
	114131	450.0	780.0	592.45	0.4836	0.6574	0.5921	0.3857
	134131	780.0	1080.0	917.82	0.3108	0.4821	0.4108	0.2568
530- 830	211111	1.2	1.7	1.43	0.7226	0.8320	0.8083	0.6814
	311111	1.7	2.4	2.02	0.6751	0.8106	0.7865	0.6487
	411111	2.4	2.7	2.55	0.6238	0.7871	0.7630	0.6146
	412111	2.7	3.3	2.96	0.5804	0.7432	0.7135	0.5415
	512111	3.3	3.5	3.37	0.5246	0.7143	0.6852	0.5050
	513111	3.5	4.8	4.10	0.4793	0.6618	0.6274	0.4304
	514111	4.8	10.0	6.93	0.4343	0.6050	0.5657	0.3568
	414112	10.0	16.0	12.65	0.3840	0.5332	0.4910	0.2945
	314112	16.0	26.0	20.40	0.4386	0.5694	0.5247	0.3259
	214112	26.0	45.0	34.21	0.4947	0.6048	0.5582	0.3589
	113112	45.0	50.0	47.43	0.5953	0.6936	0.6515	0.4667
	113111	50.0	190.0	97.47	0.6943	0.7784	0.7428	0.5761
	113121	190.0	250.0	217.95	0.6149	0.7458	0.6995	0.5176
	114121	250.0	280.0	264.58	0.5712	0.6967	0.6430	0.4429
	114131	280.0	410.0	338.82	0.4836	0.6574	0.5921	0.3857
	214131	410.0	520.0	461.74	0.4276	0.6237	0.5591	0.3516
	314133	520.0	630.0	572.36	0.2000	0.3728	0.3169	0.1626
	424133	630.0	760.0	691.95	0.1216	0.2634	0.2193	0.1112
	434143	760.0	910.0	831.62	0.0633	0.1722	0.1356	0.0686
	444153	910.0	1080.0	991.36	0.0319	0.1079	0.0805	0.0416

Table I.1. Initial performance data, gun crew (Continued).

DOSE-RANGE RADS (CGY)	SYMPTOM COMPLEX	TIME-RANGE		TIME	CHIEF OF SECTION	GUNNER	ASSISTANT GUNNER	LOADER
830- 1100	211111	0.9	1.3	1.08	0.7226	0.8320	0.8083	0.6814
	311111	1.3	1.4	1.35	0.6751	0.8106	0.7865	0.6487
	312111	1.4	1.8	1.59	0.6341	0.7701	0.7403	0.5777
	413111	1.8	2.5	2.12	0.5357	0.6937	0.6583	0.4667
	514111	2.5	3.2	2.83	0.4343	0.6050	0.5657	0.3568
	515111	3.2	7.6	4.93	0.3904	0.5452	0.5019	0.2931
	515112	7.6	9.0	8.27	0.2932	0.4358	0.3946	0.2108
	515113	9.0	14.0	11.22	0.2118	0.3322	0.2967	0.1468
	415113	14.0	22.0	17.55	0.2519	0.3655	0.3256	0.1601
	315113	22.0	35.0	27.75	0.2968	0.4000	0.3559	0.1874
	215113	35.0	50.0	41.83	0.3460	0.4356	0.3874	0.2108
	214112	50.0	56.0	52.91	0.4947	0.6048	0.5582	0.3569
	114112	56.0	67.0	61.25	0.5510	0.6392	0.5912	0.3933
	114111	67.0	92.0	78.51	0.6545	0.7333	0.6909	0.5016
	124111	92.0	110.0	100.60	0.5680	0.6570	0.6076	0.4288
	134111	110.0	160.0	132.66	0.4771	0.5716	0.5177	0.3569
	134121	160.0	180.0	169.71	0.3905	0.5270	0.4638	0.3065
	234121	180.0	190.0	184.93	0.3386	0.4905	0.4304	0.2703
	235121	190.0	200.0	194.94	0.2992	0.4297	0.3689	0.2204
	235131	200.0	260.0	228.04	0.2309	0.3863	0.3203	0.1826
	325232	260.0	320.0	288.44	0.1730	0.2972	0.2523	0.1205
	315343	320.0	360.0	339.41	0.1138	0.2155	0.1823	0.0714
	415343	360.0	410.0	384.19	0.0930	0.1918	0.1630	0.0622
	415344	410.0	460.0	434.28	0.0622	0.1326	0.1119	0.0410
	515354	460.0	520.0	489.08	0.0359	0.0994	0.0815	0.0283
1100- 1500	211111	0.7	0.9	0.79	0.7226	0.8320	0.8083	0.6814
	311111	0.9	1.0	0.95	0.6751	0.8106	0.7865	0.6487
	312111	1.0	1.3	1.14	0.6341	0.7701	0.7403	0.5777
	413111	1.3	1.7	1.49	0.5357	0.6937	0.6583	0.4667
	514111	1.7	2.3	1.98	0.4343	0.6050	0.5657	0.3568
	515111	2.3	5.3	3.49	0.3904	0.5452	0.5019	0.2931
	515221	5.3	5.7	5.50	0.2965	0.4572	0.4162	0.2121
	515222	5.7	8.0	6.75	0.2144	0.3517	0.3157	0.1478
	515223	8.0	16.0	11.31	0.1502	0.2590	0.2299	0.1005
	415223	16.0	25.0	20.00	0.1814	0.2860	0.2546	0.1145
	315223	25.0	27.0	25.98	0.2174	0.3189	0.2811	0.1303
	315113	27.0	40.0	32.66	0.2968	0.4000	0.3559	0.1874
	215113	40.0	50.0	44.72	0.3460	0.4356	0.3874	0.2108
	214113	50.0	66.0	57.45	0.3881	0.4965	0.4498	0.2650
	114112	66.0	80.0	72.66	0.5510	0.6392	0.5912	0.3933
	124112	80.0	92.0	85.79	0.4600	0.5524	0.5005	0.3259
	134112	92.0	110.0	100.60	0.3715	0.4622	0.4098	0.2650
	144112	110.0	120.0	114.89	0.2909	0.3744	0.3249	0.2119
	144122	120.0	140.0	129.61	0.2236	0.3333	0.2795	0.1752
	145132	140.0	160.0	149.67	0.1446	0.2463	0.1947	0.1105
	245232	160.0	210.0	183.30	0.1121	0.1919	0.1565	0.0911
	345342	210.0	260.0	233.67	0.0622	0.1260	0.1029	0.0472
	445443	260.0	300.0	279.29	0.0311	0.0632	0.0539	0.0221
	454454	300.0	340.0	319.37	0.0120	0.0313	0.0259	0.0115
	545454	340.0	420.0	377.89	0.0115	0.0304	0.0253	0.0098

Table I.1. Initial performance data, gun crew (Concluded).

DOSE-RANGE RADS (CGY)	SYMPTOM COMPLEX	TIME-RANGE		TIME	CHIEF OF SECTION	GUNNER	ASSISTANT GUNNER	LOADER
1500- 3000	211111	0.4	0.6	0.52	0.7226	0.8320	0.8083	0.6814
	311111	0.6	0.8	0.71	0.6751	0.8106	0.7665	0.6487
	412111	0.8	1.1	0.96	0.5804	0.7432	0.7135	0.5415
	513111	1.1	1.4	1.24	0.4793	0.6618	0.6274	0.4304
	514111	1.4	1.8	1.59	0.4343	0.6050	0.5657	0.3588
	515211	1.8	2.3	2.03	0.3748	0.5020	0.4694	0.2543
	515321	2.3	2.7	2.49	0.2829	0.4146	0.3850	0.1813
	515331	2.7	5.4	3.82	0.2171	0.3717	0.3353	0.1489
	515332	5.4	6.6	5.97	0.1523	0.2759	0.2461	0.1012
	515333	6.6	8.0	7.27	0.1042	0.1971	0.1744	0.0677
	515334	8.0	20.0	12.65	0.0701	0.1366	0.1202	0.0447
	415334	20.0	24.0	21.91	0.0863	0.1547	0.1352	0.0513
	415324	24.0	32.0	27.71	0.1184	0.1798	0.1625	0.0641
	315314	32.0	50.0	40.00	0.1932	0.2330	0.2161	0.0913
	314414	50.0	72.0	60.00	0.2118	0.2461	0.2383	0.1004
	324513	72.0	86.0	78.69	0.2123	0.2288	0.2273	0.0960
	334513	86.0	96.0	90.86	0.1576	0.1713	0.1693	0.0734
	344413	96.0	110.0	102.76	0.1218	0.1461	0.1386	0.0670
	354523	110.0	140.0	124.10	0.0596	0.0773	0.0731	0.0336
	355533	140.0	170.0	154.27	0.0358	0.0519	0.0469	0.0199
	455543	170.0	220.0	193.39	0.0204	0.0380	0.0335	0.0137
	555554	220.0	270.0	243.72	0.0000	0.0000	0.0000	0.0000
	555555	270.0	300.0	264.61	0.0000	0.0000	0.0000	0.0000
3000- 4500	211111	0.3	0.4	0.32	0.7226	0.8320	0.8083	0.6814
	311111	0.4	0.5	0.42	0.6751	0.8106	0.7865	0.6487
	411111	0.5	0.6	0.52	0.6238	0.7871	0.7630	0.6146
	412111	0.6	0.7	0.61	0.5804	0.7432	0.7135	0.5415
	513111	0.7	0.8	0.71	0.4793	0.6618	0.6274	0.4304
	514111	0.8	0.8	0.80	0.4343	0.6050	0.5657	0.3588
	514211	0.8	0.9	0.87	0.4181	0.5630	0.5335	0.3152
	515211	0.9	1.1	0.99	0.3748	0.5020	0.4694	0.2543
	515321	1.1	1.3	1.20	0.2829	0.4146	0.3850	0.1813
	515431	1.3	2.7	1.87	0.2061	0.3322	0.3070	0.1257
	535431	2.7	4.2	3.37	0.1111	0.1944	0.1754	0.0741
	535432	4.2	5.0	4.58	0.0749	0.1345	0.1210	0.0490
	535433	5.0	5.6	5.29	0.0498	0.0910	0.0818	0.0321
	515434	5.6	6.6	6.08	0.0659	0.1174	0.1071	0.0370
	515435	6.6	26.0	13.10	0.0437	0.0789	0.0720	0.0242
	515425	26.0	30.0	27.93	0.0610	0.0930	0.0879	0.0304
	515525	30.0	33.0	31.46	0.0573	0.0794	0.0780	0.0251
	515515	33.0	55.0	42.60	0.0796	0.0936	0.0950	0.0316
	535515	55.0	70.0	62.05	0.0400	0.0477	0.0480	0.0178
	555515	70.0	91.0	79.81	0.0197	0.0237	0.0236	0.0100
	555525	91.0	110.0	100.05	0.0139	0.0199	0.0191	0.0079
	555535	110.0	120.0	114.89	0.0000	0.0000	0.0000	0.0000

Table I.2. Initial performance data, FDC.

DOSE-RANGE RADS (CGY)	SYMPTOM COMPLEX	TIME-RANGE		TIME	FIRE DIRECTION OFFICER	HORIZONTAL CONTROL OPERATOR	COMPUTER
75- 150	211111	5.0	18.0	9.49	0.8168	0.7479	0.8076
150- 300	211111	3.4	4.5	3.91	0.8168	0.7479	0.8076
	311111	4.5	5.0	4.74	0.7800	0.7105	0.7811
	312111	5.0	6.0	5.48	0.7678	0.6900	0.7682
	412111	6.0	6.8	6.39	0.7244	0.6480	0.7381
	413111	6.8	12.0	9.03	0.7102	0.6254	0.7236
	313111	12.0	16.0	13.86	0.7551	0.6687	0.7548
	213111	16.0	21.0	18.33	0.7950	0.7093	0.7836
	113111	21.0	40.0	28.98	0.8299	0.7468	0.8099
	112111	40.0	540.0	146.97	0.8395	0.7648	0.8210
	112121	540.0	1060.0	756.57	0.8043	0.7469	0.8131
300- 530	211111	1.8	2.7	2.20	0.8168	0.7479	0.8076
	311111	2.7	3.5	3.07	0.7800	0.7105	0.7811
	312111	3.5	3.9	3.69	0.7678	0.6900	0.7682
	412111	3.9	4.6	4.24	0.7244	0.6480	0.7381
	413111	4.6	6.6	5.51	0.7102	0.6254	0.7236
	414111	6.6	13.0	9.26	0.6957	0.6023	0.7086
	314112	13.0	22.0	16.91	0.6391	0.5705	0.6679
	214112	22.0	35.0	27.75	0.6902	0.6162	0.7029
	114112	35.0	40.0	37.42	0.7370	0.6599	0.7356
	114111	40.0	45.0	42.43	0.8198	0.7279	0.7983
	113111	45.0	320.0	120.00	0.8299	0.7468	0.8099
	114111	320.0	360.0	339.41	0.8198	0.7279	0.7983
	114121	360.0	450.0	402.49	0.7814	0.7082	0.7696
	114131	450.0	780.0	592.45	0.7375	0.6877	0.7807
	134131	780.0	1080.0	917.82	0.4958	0.5249	0.6045
530- 830	211111	1.2	1.7	1.43	0.8168	0.7479	0.8076
	311111	1.7	2.4	2.02	0.7800	0.7105	0.7811
	411111	2.4	2.7	2.55	0.7381	0.6700	0.7521
	412111	2.7	3.3	2.96	0.7244	0.6480	0.7381
	512111	3.3	3.5	3.37	0.6763	0.6037	0.7055
	513111	3.5	4.8	4.10	0.6609	0.5801	0.6900
	514111	4.8	10.0	6.93	0.6451	0.5561	0.6740
	414112	10.0	16.0	12.65	0.5847	0.5235	0.6310
	314112	16.0	26.0	20.40	0.6391	0.5705	0.6679
	214112	26.0	45.0	34.21	0.6902	0.6162	0.7029
	113112	45.0	50.0	47.43	0.7503	0.6815	0.7497
	113111	50.0	190.0	97.47	0.8299	0.7468	0.8099
	113121	190.0	250.0	217.95	0.7931	0.7279	0.8016
	114121	250.0	280.0	264.58	0.7814	0.7082	0.7896
	114131	280.0	410.0	336.82	0.7375	0.6877	0.7807
	214131	410.0	520.0	461.74	0.6907	0.6456	0.7516
	314133	520.0	630.0	572.36	0.4025	0.4423	0.5599
	424133	630.0	760.0	691.95	0.2406	0.3173	0.4148
	434143	760.0	910.0	831.62	0.1284	0.2300	0.3058
	444153	910.0	1080.0	991.36	0.0641	0.1610	0.2149

Table I.2. Initial performance data, FDC (Continued).

DOSE-RANGE RADS (CGY)	SYMPTOM COMPLEX	TIME-RANGE		TIME	FIRE DIRECTION OFFICER	HORIZONTAL CONTROL OPERATOR	COMPUTER
830- 1100	211111	0.9	1.3	1.08	0.8168	0.7479	0.8076
	311111	1.3	1.4	1.35	0.7800	0.7105	0.7811
	312111	1.4	1.8	1.59	0.7676	0.6900	0.7682
	413111	1.8	2.5	2.12	0.7102	0.6254	0.7236
	514111	2.5	3.2	2.83	0.6451	0.5561	0.6740
	515111	3.2	7.6	4.93	0.6290	0.5319	0.6576
	515112	7.6	9.0	6.27	0.5108	0.4519	0.5745
	515113	9.0	14.0	11.22	0.3913	0.3743	0.4871
	415113	14.0	22.0	17.55	0.4471	0.4196	0.5276
	315113	22.0	35.0	27.75	0.5043	0.4664	0.5678
	215113	35.0	50.0	41.83	0.5613	0.5137	0.6071
	214112	50.0	56.0	52.91	0.6902	0.6162	0.7029
	114112	56.0	67.0	61.25	0.7370	0.6599	0.7356
	11[illegible]11	67.0	92.0	78.51	0.8196	0.7279	0.7983
	124111	92.0	110.0	100.60	0.7291	0.6545	0.7217
	134111	110.0	160.0	132.66	0.6142	0.5730	0.6295
	134121	160.0	180.0	169.71	0.5556	0.5491	0.6170
	234121	180.0	190.0	184.93	0.4987	0.5018	0.5780
	235121	190.0	200.0	194.94	0.4813	0.4774	0.5599
	235131	200.0	260.0	226.04	0.4217	0.4532	0.5469
	325232	260.0	320.0	288.44	0.3377	0.3804	0.4705
	315343	320.0	360.0	339.41	0.2605	0.3328	0.4219
	415343	360.0	410.0	384.19	0.2188	0.2921	0.3829
	415344	410.0	460.0	434.28	0.1471	0.2304	0.3037
	515354	460.0	520.0	489.08	0.0973	0.1835	0.2602
1100- 1500	211111	0.7	0.9	0.79	0.8168	0.7479	0.8076
	311111	0.9	1.0	0.95	0.7800	0.7105	0.7611
	312111	1.0	1.3	1.14	0.7676	0.6900	0.7682
	413111	1.3	1.7	1.49	0.7102	0.6254	0.7236
	514111	1.7	2.3	1.98	0.6451	0.5561	0.6740
	515111	2.3	5.3	3.49	0.6290	0.5319	0.6576
	515221	5.3	5.7	5.50	0.5295	0.4740	0.5950
	515222	5.7	8.0	6.75	0.4094	0.3954	0.5082
	515223	8.0	16.0	11.31	0.2992	0.3217	0.4208
	415223	16.0	25.0	20.00	0.3493	0.3644	0.4608
	315223	25.0	27.0	25.98	0.4031	0.4094	0.5013
	315113	27.0	40.0	32.86	0.5043	0.4664	0.5678
	215113	40.0	50.0	44.72	0.5613	0.5137	0.6071
	214113	50.0	66.0	57.45	0.5784	0.5381	0.6246
	114112	66.0	80.0	72.66	0.7370	0.6599	0.7356
	124112	80.0	92.0	85.79	0.6237	0.5789	0.6458
	134112	92.0	110.0	100.60	0.4951	0.4933	0.5443
	144112	110.0	120.0	114.89	0.3672	0.4062	0.4391
	144122	120.0	140.0	129.61	0.3132	0.3849	0.4261
	145132	140.0	160.0	149.67	0.2505	0.3399	0.3954
	245232	160.0	210.0	183.30	0.1833	0.2713	0.3097
	345342	210.0	260.0	233.67	0.1059	0.1964	0.2259
	445443	260.0	300.0	279.29	0.0467	0.1136	0.1234
	454454	300.0	340.0	319.37	0.0148	0.0618	0.0621
	545454	340.0	420.0	377.89	0.0185	0.0652	0.0739

Table I.2. Initial performance data, FDC (Concluded).

DOSE-RANGE RADS (CGY)	SYMPTOM COMPLEX	TIME-RANGE		TIME	FIRE DIRECTION OFFICER	HORIZONTAL CONTROL OPERATOR	COMPUTER
1500- 3000	211111	0.4	0.6	0.52	0.8168	0.7479	0.8076
	311111	0.6	0.8	0.71	0.7800	0.7105	0.7811
	412111	0.8	1.1	0.96	0.7244	0.6480	0.7381
	513111	1.1	1.4	1.24	0.6609	0.5801	0.6900
	514111	1.4	1.8	1.59	0.6451	0.5561	0.6740
	515211	1.8	2.3	2.03	0.5888	0.4983	0.6077
	515321	2.3	2.7	2.49	0.4874	0.4407	0.5425
	515331	2.7	5.4	3.82	0.4276	0.4169	0.5293
	515332	5.4	6.6	5.97	0.3151	0.3415	0.4416
	515333	6.6	8.0	7.27	0.2208	0.2734	0.3574
	515334	8.0	20.0	12.65	0.1486	0.2144	0.2811
	415334	20.0	24.0	21.91	0.1800	0.2481	0.3150
	415324	24.0	32.0	27.71	0.2184	0.2667	0.3266
	315314	32.0	50.0	40.00	0.3090	0.3264	0.3755
	314414	50.0	72.0	60.00	0.2883	0.3184	0.3431
	324513	72.0	86.0	78.69	0.2474	0.2850	0.2620
	334513	86.0	96.0	90.86	0.1626	0.2202	0.2046
	344413	96.0	110.0	102.76	0.1199	0.1862	0.1726
	354523	110.0	140.0	124.10	0.0508	0.1139	0.0946
	355533	140.0	170.0	154.27	0.0377	0.0957	0.0845
	455543	170.0	220.0	193.39	0.0239	0.0735	0.0693
	555554	220.0	270.0	243.72	0.0000	0.0000	0.0000
	555555	270.0	300.0	284.61	0.0000	0.0000	0.0000
3000- 4500	211111	0.3	0.4	0.32	0.8168	0.7479	0.8076
	311111	0.4	0.5	0.42	0.7800	0.7105	0.7811
	411111	0.5	0.6	0.52	0.7381	0.6700	0.7521
	412111	0.6	0.7	0.61	0.7244	0.6480	0.7381
	513111	0.7	0.8	0.71	0.6609	0.5801	0.6900
	514111	0.8	0.8	0.80	0.6451	0.5561	0.6740
	514211	0.8	0.9	0.87	0.6056	0.5227	0.6252
	515211	0.9	1.1	0.99	0.5888	0.4983	0.6077
	515321	1.1	1.3	1.20	0.48[illegible]4	0.4407	0.5425
	515431	1.3	2.7	1.87	0.3870	0.3846	0.4757
	535431	2.7	4.2	3.37	0.1810	0.2387	0.2803
	535432	4.2	5.0	4.58	0.1198	0.1853	0.2150
	535433	5.0	5.6	5.29	0.0773	0.1417	0.1615
	515434	5.6	6.6	6.08	0.1285	0.1927	0.2398
	515435	6.6	26.0	13.10	0.0833	0.1476	0.1816
	515425	26.0	30.0	27.93	0.1036	0.1602	0.1896
	515525	30.0	33.0	31.46	0.0889	0.1430	0.1588
	515515	33.0	55.0	42.60	0.1105	0.1553	0.1660
	535515	55.0	70.0	62.05	0.0417	0.0845	0.0787
	555515	70.0	91.0	79.81	0.0150	0.0442	0.0354
	555525	91.0	110.0	100.05	0.0118	0.0403	0.0336
	555535	110.0	120.0	114.89	0.0000	0.0000	0.0000

Table I.3. Initial performance data, tank crew.

DOSE-RANGE RADS (CGY)	SYMPTOM COMPLEX	TIME-RANGE		TIME	TANK COMMANDER	GUNNER	LOADER	DRIVER
75- 150	211111	5.0	18.0	9.49	0.8447	0.8853	0.8092	0.8744
150- 300	211111	3.4	4.5	3.91	0.8447	0.8853	0.8092	0.8744
	311111	4.5	5.0	4.74	0.8004	0.8501	0.7719	0.8494
	312111	5.0	6.0	5.48	0.7597	0.8252	0.7148	0.8054
	412111	6.0	6.8	6.39	0.6995	0.7762	0.6667	0.7702
	413111	6.8	12.0	9.03	0.6477	0.7428	0.5969	0.7110
	313111	12.0	16.0	13.86	0.7137	0.7971	0.6498	0.7523
	213111	16.0	21.0	18.33	0.7717	0.8424	0.6992	0.7895
	113111	21.0	40.0	28.98	0.8209	0.8791	0.7445	0.8224
	112111	40.0	540.0	146.97	0.8532	0.8973	0.7974	0.8632
	112121	540.0	1060.0	756.57	0.8477	0.9002	0.7964	0.8617
300- 530	211111	1.8	2.7	2.20	0.8447	0.8853	0.8092	0.8744
	311111	2.7	3.5	3.07	0.8004	0.8501	0.7719	0.8494
	312111	3.5	3.9	3.69	0.7597	0.8252	0.7148	0.8054
	412111	3.9	4.6	4.24	0.6999	0.7762	0.6667	0.7702
	413111	4.6	6.6	5.51	0.6477	0.7428	0.5969	0.7110
	414111	6.6	13.0	9.26	0.5917	0.7062	0.5230	0.6435
	314112	13.0	22.0	16.91	0.5495	0.6548	0.4495	0.5895
	214112	22.0	35.0	27.75	0.6232	0.7207	0.5057	0.6394
	114112	35.0	40.0	37.42	0.6916	0.7784	0.5617	0.6864
	114111	40.0	45.0	42.43	0.7632	0.8583	0.6632	0.7726
	113111	45.0	320.0	120.00	0.8209	0.8791	0.7445	0.8224
	114111	320.0	360.0	339.41	0.7632	0.8583	0.6632	0.7726
	114121	360.0	450.0	402.49	0.7757	0.8621	0.6819	0.7704
	114131	450.0	780.0	592.45	0.7680	0.8659	0.6806	0.7682
	134131	780.0	1080.0	917.82	0.5495	0.6680	0.4647	0.5460
530- 830	211111	1.2	1.7	1.43	0.8447	0.8853	0.8092	0.8744
	311111	1.7	2.4	2.02	0.8004	0.8501	0.7719	0.8494
	411111	2.4	2.7	2.55	0.7473	0.8065	0.7296	0.8204
	412111	2.7	3.3	2.96	0.6999	0.7762	0.6667	0.7702
	512111	3.3	3.5	3.37	0.6323	0.7183	0.6148	0.7308
	513111	3.5	4.8	4.10	0.5755	0.6797	0.5417	0.6658
	514111	4.8	10.0	6.93	0.5166	0.6385	0.4667	0.5938
	414112	10.0	16.0	12.65	0.4735	0.5823	0.3945	0.5377
	314112	16.0	26.0	20.40	0.5495	0.6548	0.4495	0.5895
	214112	26.0	45.0	34.21	0.6232	0.7207	0.5057	0.6394
	113112	45.0	50.0	47.43	0.7399	0.8086	0.6339	0.7489
	113111	50.0	190.0	97.47	0.8209	0.8791	0.7445	0.8224
	113121	190.0	250.0	217.95	0.8143	0.8825	0.7433	0.8206
	114121	250.0	280.0	264.58	0.7757	0.8621	0.6819	0.7704
	114131	280.0	410.0	338.82	0.7680	0.8659	0.6806	0.7682
	214131	410.0	520.0	461.74	0.7094	0.8260	0.6297	0.7286
	314133	520.0	630.0	572.36	0.4095	0.5398	0.3239	0.4744
	424133	630.0	760.0	691.95	0.2369	0.3249	0.1962	0.3058
	434143	760.0	910.0	831.62	0.1526	0.2172	0.1341	0.2076
	444153	910.0	1080.0	991.36	0.0949	0.1379	0.0895	0.1349

Table I.3. Initial performance data, tank crew (Continued).

DOSE-RANGE RADS (CGY)	SYMPTOM COMPLEX	TIME-RANGE		TIME	TANK COMMANDER	GUNNER	LOADER	DRIVER
830- 1100	211111	0.9	1.3	1.08	0.8447	0.8853	0.8092	0.8744
	311111	1.3	1.4	1.35	0.8004	0.8501	0.7719	0.8494
	312111	1.4	1.8	1.59	0.7597	0.8252	0.7148	0.8054
	413111	1.8	2.5	2.12	0.6477	0.7428	0.5969	0.7110
	514111	2.5	3.2	2.83	0.5166	0.6385	0.4667	0.5938
	515111	3.2	7.6	4.93	0.4573	0.5952	0.3931	0.5176
	515112	7.6	9.0	8.27	0.3434	0.4603	0.2780	0.4087
	515113	9.0	14.0	11.22	0.2450	0.3309	0.1862	0.3062
	415113	14.0	22.0	17.55	0.3056	0.4023	0.2228	0.3548
	315113	22.0	35.0	27.75	0.3737	0.4780	0.2643	0.4044
	215113	35.0	50.0	41.83	0.4473	0.5548	0.3104	0.4560
	214112	50.0	56.0	52.91	0.6232	0.7207	0.5057	0.6394
	114112	56.0	67.0	61.25	0.6916	0.7764	0.5617	0.6864
	114111	67.0	92.0	78.51	0.7832	0.8583	0.6832	0.7726
	124111	92.0	110.0	100.60	0.6866	0.7717	0.5793	0.6718
	134111	110.0	160.0	132.66	0.5711	0.6536	0.4678	0.5521
	134121	160.0	180.0	169.71	0.5603	0.6608	0.4663	0.5491
	234121	180.0	190.0	184.93	0.4845	0.5888	0.4108	0.4965
	235121	190.0	200.0	194.94	0.4256	0.5438	0.3404	0.4199
	235131	200.0	260.0	226.04	0.4149	0.5518	0.3391	0.4169
	325232	260.0	320.0	288.44	0.3089	0.4319	0.2412	0.3398
	315343	320.0	360.0	339.41	0.2677	0.3975	0.1970	0.3113
	415343	360.0	410.0	384.19	0.2124	0.3265	0.1637	0.2680
	415344	410.0	460.0	434.23	0.1434	0.2195	0.1042	0.1909
	515354	460.0	520.0	489.08	0.1056	0.1759	0.0645	0.1588
1100- 1500	211111	0.7	0.9	0.79	0.8447	0.8853	0.8092	0.8744
	311111	0.9	1.0	0.95	0.8004	0.8501	0.7719	0.8494
	312111	1.0	1.3	1.14	0.7597	0.8252	0.7148	0.8054
	413111	1.3	1.7	1.49	0.6477	0.7428	0.5969	0.7110
	514111	1.7	2.3	1.98	0.5166	0.6385	0.4667	0.5938
	515111	2.3	5.3	3.49	0.4573	0.5952	0.3931	0.5176
	515221	5.3	5.7	5.50	0.4026	0.5512	0.3494	0.4683
	515222	5.7	8.0	6.75	0.2950	0.4160	0.2419	0.3621
	515223	8.0	16.0	11.31	0.2061	0.2923	0.1594	0.2678
	415223	16.0	25.0	20.00	0.2604	0.3598	0.1920	0.3110
	315223	25.0	27.0	25.98	0.3232	0.4334	0.2294	0.3579
	315113	27.0	40.0	32.66	0.3737	0.4780	0.2643	0.4044
	215113	40.0	50.0	44.72	0.4473	0.5548	0.3104	0.4560
	214113	50.0	66.0	57.45	0.5055	0.5995	0.3781	0.5332
	114112	66.0	80.0	72.66	0.6916	0.7764	0.5617	0.6864
	124112	80.0	92.0	85.79	0.5765	0.6622	0.4500	0.5687
	134112	92.0	110.0	100.60	0.4525	0.5225	0.3431	0.4427
	144112	110.0	120.0	114.69	0.3341	0.3792	0.2501	0.3236
	144122	120.0	140.0	129.61	0.3244	0.3868	0.2489	0.3209
	145132	140.0	160.0	149.67	0.2659	0.3516	0.1960	0.2552
	245232	160.0	210.0	183.30	0.1826	0.2437	0.1397	0.1874
	345342	210.0	260.0	233.67	0.1164	0.1652	0.0970	0.1329
	445443	260.0	300.0	279.29	0.0480	0.0638	0.0408	0.0624
	454454	300.0	340.0	319.57	0.0225	0.0267	0.0212	0.0336
	545454	340.0	420.0	377.69	0.0216	0.0291	0.0196	0.0351

Table I.3. Initial performance data, tank crew (Concluded).

DOSE-RANGE RADS (CGY)	SYMPTOM COMPLEX	TIME-RANGE		TIME	TANK COMMANDER	GUNNER	LOADER	DRIVER
1500- 3000	211111	0.4	0.6	0.52	0.8447	0.8853	0.8092	0.8744
	311111	0.6	0.8	0.71	0.8004	0.8501	0.7719	0.8494
	412111	0.8	1.1	0.96	0.6999	0.7762	0.6667	0.7702
	513111	1.1	1.4	1.24	0.5755	0.6797	0.5417	0.6658
	514111	1.4	1.8	1.59	0.5166	0.6385	0.4667	0.5938
	515211	1.6	2.3	2.03	0.4132	0.5432	0.3508	0.4714
	515321	2.3	2.7	2.49	0.3604	0.4983	0.3094	0.4227
	515331	2.7	5.4	3.62	0.3503	0.5064	0.3081	0.4196
	515332	5.4	6.6	5.97	0.2508	0.3730	0.2092	0.3178
	515333	6.6	8.0	7.27	0.1720	0.2565	0.1359	0.2309
	515334	8.0	20.0	12.65	0.1142	0.1667	0.0854	0.1621
	415334	20.0	24.0	21.91	0.1488	0.2140	0.1046	0.1928
	415324	24.0	32.0	27.71	0.1545	0.2086	0.1054	0.1947
	315314	32.0	50.0	40.00	0.2056	0.2578	0.1293	0.2321
	314414	50.0	72.0	60.00	0.2153	0.2524	0.1433	0.2550
	324513	72.0	86.0	78.69	0.1833	0.2081	0.1304	0.2101
	334513	86.0	96.0	90.86	0.1199	0.1279	0.0874	0.1381
	344413	96.0	110.0	102.76	0.0900	0.0919	0.0682	0.1040
	354523	110.0	140.0	124.10	0.0456	0.0451	0.0373	0.0543
	355533	140.0	170.0	154.27	0.0350	0.0390	0.0277	0.0400
	455543	170.0	220.0	193.39	0.0250	0.0299	0.0221	0.0322
	555554	220.0	270.0	243.72	0.0000	0.0000	0.0000	0.0000
	555555	270.0	300.0	284.61	0.0000	0.0000	0.0000	0.0000
3000- 4500	211111	0.3	0.4	0.32	0.8447	0.8853	0.8092	0.8744
	311111	0.4	0.5	0.42	0.8004	0.8501	0.7719	0.8494
	411111	0.5	0.6	0.52	0.7473	0.8065	0.7298	0.8204
	412111	0.6	0.7	0.61	0.6999	0.7762	0.6667	0.7702
	513111	0.7	0.8	0.71	0.5755	0.6797	0.5417	0.6658
	514111	0.8	0.8	0.80	0.5166	0.6385	0.4667	0.5938
	514211	0.8	0.9	0.87	0.4718	0.5883	0.4219	0.5486
	515211	0.9	1.1	0.99	0.4132	0.5432	0.3508	0.4714
	515321	1.1	1.3	1.20	0.3604	0.4983	0.3094	0.4227
	515431	1.3	2.7	1.87	0.3107	0.4535	0.2708	0.3754
	535431	2.7	4.2	3.37	0.1425	0.2054	0.1315	0.1790
	535432	4.2	5.0	4.58	0.0935	0.1304	0.0825	0.1232
	535433	5.0	5.6	5.29	0.0602	0.0800	0.0507	0.0830
	515434	5.6	6.6	6.08	0.0973	0.1393	0.0723	0.1365
	515435	6.6	26.0	13.10	0.0627	0.0858	0.0443	0.0939
	515525	26.0	30.0	27.93	0.0653	0.0833	0.0445	0.0949
	515525	30.0	33.0	31.46	0.0552	0.0685	0.0374	0.0802
	515515	33.0	55.0	42.60	0.0575	0.0665	0.0376	0.0811
	535515	55.0	70.0	62.05	0.0220	0.0217	0.0157	0.0310
	555515	70.0	91.0	79.81	0.0082	0.0069	0.0065	0.0115
	555525	91.0	110.0	100.05	0.0079	0.0071	0.0064	0.0113
	555535	110.0	120.0	114.89	0.0000	0.0000	0.0000	0.0000

Table I.4. Initial performance data, TCW crew.

DOSE-RANGE RADS (CGY)	SYMPTOM COMPLEX	TIME-RANGE		TIME	SQUAD LEADER	GUNNER	DRIVER	LOADER
75- 150	211111	5.0	18.0	9.49	0.8714	0.8306	0.9456	0.8823
150- 300	211111	3.4	4.5	3.91	0.8714	0.8306	0.9456	0.8823
	311111	4.5	5.0	4.74	0.8435	0.7937	0.9315	0.8536
	312111	5.0	6.0	5.48	0.7884	0.7251	0.8932	0.7755
	412111	6.0	6.8	6.39	0.7477	0.6742	0.8676	0.7288
	413111	6.8	12.0	9.03	0.6721	0.5865	0.8012	0.6142
	313111	12.0	16.0	13.66	0.7205	0.6439	0.8373	0.6718
	213111	16.0	21.0	18.33	0.7643	0.6975	0.8579	0.7247
	113111	21.0	40.0	28.98	0.8030	0.7461	0.8935	0.7719
	112111	40.0	540.0	146.97	0.8550	0.8108	0.9317	0.8510
	112121	540.0	1060.0	756.57	0.7987	0.7418	0.8913	0.7944
300- 530	211111	1.8	2.7	2.20	0.8714	0.8306	0.9456	0.8823
	311111	2.7	3.5	3.07	0.8435	0.7937	0.9315	0.8536
	312111	3.5	3.9	3.69	0.7884	0.7251	0.8932	0.7755
	412111	3.9	4.6	4.24	0.7477	0.6742	0.8676	0.7288
	413111	4.6	6.6	5.51	0.6721	0.5865	0.8012	0.6142
	414111	6.6	13.0	9.26	0.5864	0.4930	0.7125	0.4854
	314112	13.0	22.0	16.91	0.5177	0.4334	0.6317	0.3943
	214112	22.0	35.0	27.75	0.5744	0.4937	0.6865	0.4556
	114112	35.0	40.0	37.42	0.6293	0.5542	0.7366	0.5163
	114111	40.0	45.0	42.43	0.7382	0.6683	0.8376	0.6672
	113111	45.0	320.0	120.00	0.8030	0.7461	0.8935	0.7719
	114111	320.0	360.0	339.41	0.7382	0.6683	0.8376	0.6672
	114121	360.0	450.0	402.49	0.6549	0.5746	0.7562	0.5756
	114131	450.0	780.0	592.45	0.5608	0.4751	0.6509	0.4765
	134131	780.0	1080.0	917.82	0.4272	0.3620	0.5061	0.3505
530- 830	211111	1.2	1.7	1.45	0.8714	0.8306	0.9456	0.8823
	311111	1.7	2.4	2.02	0.8435	0.7937	0.9315	0.8536
	411111	2.4	2.7	2.55	0.8108	0.7511	0.9142	0.8193
	412111	2.7	3.3	2.96	0.7477	0.6742	0.8676	0.7288
	512111	3.3	3.5	3.37	0.7021	0.6188	[illegible]	0.6764
	513111	3.5	4.8	4.10	0.6198	0.5267	0.7594	0.5533
	514111	4.8	10.0	6.93	0.5299	0.4327	0.6599	0.4232
	414112	10.0	16.0	12.65	0.4605	0.3750	0.5733	0.3362
	314112	16.0	26.0	20.40	0.5177	0.4334	0.6317	0.3943
	214112	26.0	45.0	34.21	0.5744	0.4937	0.6866	0.4556
	113112	45.0	50.0	47.43	0.7105	0.6445	0.8198	0.6449
	113111	50.0	190.0	97.47	0.8030	0.7461	0.8935	0.7719
	113121	190.0	250.0	217.95	0.7329	0.6633	0.8345	0.6959
	114121	250.0	280.0	264.58	0.6549	0.5746	0.7562	0.5756
	114131	280.0	410.0	336.82	0.5606	0.4751	0.6509	0.4765
	214131	410.0	520.0	461.74	0.5036	0.4152	0.5936	0.4164
	314133	520.0	630.0	572.36	0.2264	0.1749	0.2516	0.1379
	424133	630.0	760.0	691.95	0.1510	0.1163	0.1633	0.0871
	434143	760.0	910.0	831.62	0.0836	0.0653	0.0800	0.0471
	444153	910.0	1080.0	991.36	0.0449	0.0358	0.0373	0.0250

Table I.4. Initial performance data, TOW crew (Continued).

DOSE-RANGE RADS (CGY)	SYMPTOM COMPLEX	TIME-RANGE		TIME	SQUAD LEADER	GUNNER	DRIVER	LOADER
830- 1100	211111	0.9	1.3	1.08	0.8714	0.8306	0.9456	0.8823
	311111	1.3	1.4	1.35	0.8435	0.7937	0.9315	0.8536
	312111	1.4	1.8	1.59	0.7884	0.7251	0.8932	0.7755
	413111	1.6	2.5	2.12	0.6721	0.5865	0.8012	0.6142
	514111	2.5	3.2	2.83	0.5299	0.4327	0.6599	0.4232
	515111	3.2	7.6	4.93	0.4381	0.3434	0.5441	0.3030
	515112	7.6	9.0	8.27	0.3194	0.2439	0.3929	0.1892
	515113	9.0	14.0	11.22	0.2203	0.1660	0.2597	0.1113
	415113	14.0	22.0	17.55	0.2622	0.2024	0.3094	0.1387
	315113	22.0	35.0	27.75	0.3089	0.2444	0.3639	0.1715
	215113	35.0	50.0	41.83	0.3596	0.2920	0.4221	0.2102
	214112	50.0	56.0	52.91	0.5744	0.4937	0.6866	0.4556
	114112	56.0	67.0	61.25	0.6293	0.5542	0.7366	0.5163
	114111	67.0	92.0	78.51	0.7382	0.6683	0.8376	0.6672
	124111	92.0	110.0	100.60	0.6830	0.6147	0.7927	0.6059
	134111	110.0	160.0	132.66	0.6222	0.5581	0.7392	0.5411
	134121	160.0	180.0	169.71	0.5257	0.4584	0.6302	0.4437
	234121	180.0	190.0	184.93	0.4685	0.3990	0.5717	0.3829
	235121	190.0	200.0	194.94	0.3787	0.3128	0.4508	0.2688
	235131	200.0	260.0	228.04	0.2909	0.2338	0.3304	0.1992
	325232	260.0	320.0	288.44	0.2130	0.1574	0.2430	0.1254
	315343	320.0	360.0	339.41	0.1312	0.0890	0.1382	0.0671
	415343	360.0	410.0	384.19	0.1072	0.0712	0.1116	0.0529
	415344	410.0	460.0	434.28	0.0674	0.0452	0.0637	0.0291
	515354	460.0	520.0	489.08	0.0373	0.0243	0.0311	0.0155
1100- 1500	211111	0.7	0.9	0.79	0.8714	0.8306	0.9456	0.8823
	311111	0.9	1.0	0.95	0.8435	0.7937	0.9315	0.8536
	312111	1.0	1.3	1.14	0.7884	0.7251	0.8932	0.7755
	413111	1.3	1.7	1.49	0.6721	0.5865	0.8012	0.6142
	514111	1.7	2.3	1.98	0.5299	0.4327	0.6599	0.4232
	515111	2.3	5.3	3.49	0.4381	0.3434	0.5441	0.3030
	515221	5.3	5.7	5.50	0.3559	0.2596	0.4490	0.2375
	515222	5.7	8.0	6.75	0.2496	0.1780	0.3064	0.1432
	515223	8.0	16.0	11.31	0.1668	0.1179	0.1933	0.0823
	415223	16.0	25.0	20.00	0.2012	0.1456	0.2342	0.1034
	315223	25.0	27.0	25.98	0.2405	0.1784	0.2809	0.1292
	315113	27.0	40.0	32.86	0.3089	0.2444	0.3639	0.1715
	215113	40.0	50.0	44.72	0.3596	0.2920	0.4221	0.2102
	214113	50.0	66.0	57.45	0.4483	0.3756	0.5429	0.3100
	114112	66.0	80.0	72.66	0.6293	0.5542	0.7366	0.5163
	124112	80.0	92.0	85.79	0.5647	0.4960	0.6746	0.4521
	134112	92.0	110.0	100.60	0.4979	0.4379	0.6058	0.3876
	144112	110.0	120.0	114.89	0.4311	0.3815	0.5326	0.3267
	144122	120.0	140.0	129.61	0.3377	0.2925	0.4065	0.2472
	145132	140.0	160.0	149.67	0.1918	0.1597	0.2021	0.1163
	245232	160.0	210.0	183.30	0.1656	0.1299	0.1838	0.0978
	345342	210.0	260.0	233.67	0.1007	0.0729	0.1075	0.0570
	445443	260.0	300.0	279.29	0.0534	0.0367	0.0549	0.0260
	454454	300.0	340.0	319.37	0.0246	0.0179	0.0223	0.0124
	545454	340.0	420.0	377.89	0.0179	0.0122	0.0146	0.0075

Table I.4. Initial performance data, TOW crew (Concluded).

DOSE-RANGE RADS (CGY)	SYMPTOM COMPLEX	TIME-RANGE		TIME	SQUAD LEADER	GUNNER	DRIVER	LOADER
1500- 3000	211111	0.4	0.6	0.52	0.8714	0.8306	0.9456	0.8823
	311111	0.6	0.8	0.71	0.8435	0.7937	0.9315	0.8536
	412111	0.8	1.1	0.96	0.7477	0.6742	0.8676	0.7288
	513111	1.1	1.4	1.24	0.6198	0.5267	0.7594	0.5533
	514111	1.4	1.8	1.59	0.5299	0.4327	0.6599	0.4232
	515211	1.8	2.3	2.03	0.4509	0.3437	0.5755	0.3153
	515321	2.3	2.7	2.49	0.3678	0.2601	0.4807	0.2481
	515331	2.7	5.4	3.82	0.2814	0.1907	0.3575	0.1824
	515332	5.4	6.6	5.97	0.1908	0.1269	0.2318	0.1070
	515333	6.6	8.0	7.27	0.1243	0.0823	0.1406	0.0604
	515334	8.0	20.0	12.65	0.0787	0.0524	0.0815	0.0334
	415334	20.0	24.0	21.91	0.0970	0.0659	0.1017	0.0425
	415324	24.0	32.0	27.71	0.1377	0.0952	0.1585	0.0615
	315314	32.0	50.0	40.00	0.2298	0.1668	0.2857	0.1108
	314414	50.0	72.0	60.00	0.3123	0.2263	0.4249	0.1822
	324513	72.0	86.0	78.69	0.3778	0.2732	0.5343	0.2521
	334513	86.0	96.0	90.86	0.3169	0.2293	0.4596	0.2054
	344413	96.0	110.0	102.76	0.2519	0.1904	0.3569	0.1577
	354523	110.0	140.0	124.10	0.1542	0.1111	0.2193	0.0932
	355533	140.0	170.0	154.27	0.0782	0.0543	0.0941	0.0396
	455543	170.0	220.0	193.39	0.0435	0.0293	0.0466	0.0212
	555554	220.0	270.0	243.72	0.0000	0.0000	0.0000	0.0000
	555555	270.0	300.0	284.61	0.0000	0.0000	0.0000	0.0000
3000- 4500	211111	0.3	0.4	0.32	0.8714	0.8306	0.9456	0.8823
	311111	0.4	0.5	0.42	0.8435	0.7937	0.9315	0.8536
	411111	0.5	0.6	0.52	0.8198	0.7511	0.9142	0.8193
	412111	0.6	0.7	0.61	0.7477	0.6742	0.8676	0.7288
	513111	0.7	0.8	0.71	0.6198	0.5267	0.7594	0.5533
	514111	0.8	0.8	0.80	0.5299	0.4327	0.6599	0.4232
	514211	0.8	0.9	0.87	0.5428	0.4331	0.6879	0.4373
	515211	0.9	1.1	0.99	0.4509	0.3437	0.5755	0.3153
	515321	1.1	1.3	1.20	0.3678	0.2601	0.4807	0.2481
	515431	1.3	2.7	1.87	0.2919	0.1910	0.3872	0.1912
	535431	2.7	4.2	3.37	0.1941	0.1289	0.2578	0.1220
	535432	4.2	5.0	4.58	0.1266	0.0836	0.1584	0.0694
	535433	5.0	5.6	5.29	0.0803	0.0533	0.0926	0.0365
	515434	5.6	6.6	6.08	0.0825	0.0525	0.0915	0.0353
	515435	6.6	26.0	13.10	0.0514	0.0331	0.0518	0.0192
	515425	26.0	30.0	27.93	0.0745	0.0485	0.0833	0.0282
	515525	30.0	33.0	31.46	0.0781	0.0486	0.0935	0.0298
	515515	33.0	55.0	42.60	0.1118	0.0708	0.1465	0.0434
	535515	55.0	70.0	62.05	0.0685	0.0456	0.0862	0.0260
	555515	70.0	91.0	79.81	0.0412	0.0291	0.0493	0.0155
	555525	91.0	110.0	100.05	0.0281	0.0197	0.0302	0.0105
	555535	110.0	120.0	114.89	0.0000	0.0000	0.0000	0.0000

Appendix J

CREWMEMBER DOSE/TIME PERFORMANCE DATA

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Table J.1. Performance data for gun crew: chief of section.

GRID LINE	DOSE	LOG(DOSE)	TIME GRID LINES (HRS) 0.20 (-0.7)	0.25 (-0.6)	0.32 (-0.5)	0.40 (-0.4)	0.50 (-0.3)	0.63 (-0.2)	0.79 (-0.1)	1.00 (0.0)	1.26 (0.1)	1.58 (0.2)	2.00 (0.3)	2.51 (0.4)	3.16 (0.5)
18	4529.03	3.66	1.0000	1.0000	0.8099	0.6263	0.4800	0.3635	0.2706	0.1967	0.1378	0.0909	0.0535	0.0237	0.0000
17	3516.34	3.55	1.0000	1.0000	1.0000	0.7262	0.6491	0.5677	0.4637	0.3972	0.2947	0.2577	0.2187	0.1710	0.1302
16	2729.55	3.44	1.0000	1.0000	1.0000	0.9772	0.7463	0.6305	0.5756	0.4990	0.3988	0.3647	0.3202	0.2266	0.1875
15	2118.81	3.33	1.0000	1.0000	1.0000	1.0000	0.8463	0.6941	0.6446	0.5650	0.4770	0.4348	0.3811	0.2611	0.2449
14	1644.72	3.22	1.0000	1.0000	1.0000	1.0000	1.0000	0.9184	0.6847	0.6159	0.5395	0.4749	0.4073	0.3345	0.3136
13	1276.71	3.11	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.7555	0.6691	0.6018	0.5193	0.4390	0.3689	0.3804
12	991.04	3.00	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8153	0.6789	0.6230	0.5452	0.4662	0.4210
11	769.29	2.89	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8045	0.6781	0.6278	0.5653	0.5004
10	597.16	2.78	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.7949	0.7080	0.6419	0.5746
9	463.54	2.67	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.7928	0.6804	0.6337
8	359.82	2.56	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9864	0.7769	0.6959
7	279.31	2.45	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9657	0.7925
6	216.82	2.34	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9334
5	168.30	2.23	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
4	130.64	2.12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3	101.41	2.01	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	78.72	1.90	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	61.11	1.79	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

GRID LINE	DOSE	LOG(DOSE)	TIME GRID LINES (HRS) 3.98 (0.6)	5.01 (0.7)	6.31 (0.8)	7.94 (0.9)	10.00 (1.0)	12.59 (1.1)	15.85 (1.2)	19.95 (1.3)	25.12 (1.4)	31.62 (1.5)	39.81 (1.6)	50.12 (1.7)	63.10 (1.8)
18	4529.03	3.66	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	3516.34	3.55	0.1010	0.0688	0.0707	0.0608	0.0534	0.0468	0.0497	0.0553	0.0622	0.0647	0.0840	0.0741	0.0484
16	2729.55	3.44	0.1561	0.1233	0.1048	0.0762	0.0642	0.0585	0.0596	0.0670	0.0828	0.1051	0.1383	0.1410	0.1190
15	2118.81	3.33	0.2114	0.1780	0.1389	0.0915	0.0750	0.0702	0.0695	0.0787	0.1035	0.1457	0.1926	0.2079	0.2134
14	1644.72	3.22	0.2940	0.2552	0.1845	0.1252	0.1079	0.1051	0.1083	0.1250	0.1549	0.2172	0.2624	0.2890	0.3375
13	1276.71	3.11	0.3730	0.3310	0.2476	0.1660	0.1590	0.1530	0.1633	0.1655	0.2148	0.2854	0.3279	0.3701	0.4606
12	991.04	3.00	0.4039	0.3627	0.3403	0.2912	0.2326	0.2123	0.2328	0.2547	0.2779	0.3082	0.3352	0.4513	0.5543
11	769.29	2.89	0.4500	0.4325	0.4091	0.3794	0.3374	0.3172	0.3412	0.3656	0.3896	0.4143	0.4573	0.5484	0.6239
10	597.16	2.78	0.5071	0.4783	0.4609	0.4438	0.4255	0.3994	0.4163	0.4387	0.4647	0.4918	0.5531	0.6325	0.6650
9	463.54	2.67	0.5676	0.5213	0.5027	0.4859	0.4660	0.4393	0.4334	0.4456	0.4738	0.5062	0.5835	0.6745	0.6841
8	359.82	2.56	0.6225	0.5635	0.5332	0.5096	0.4929	0.4793	0.4623	0.4709	0.4992	0.5323	0.6157	0.6962	0.6999
7	279.31	2.45	0.6684	0.6069	0.5579	0.5248	0.5165	0.5211	0.5275	0.5497	0.5733	0.5992	0.6523	0.7101	0.7154
6	216.82	2.34	0.7143	0.6545	0.5825	0.5400	0.5401	0.5694	0.6092	0.6475	0.6717	0.6909	0.7082	0.7240	0.7309
5	168.30	2.23	0.9064	0.7842	0.6946	0.6068	0.5819	0.6428	0.6999	0.7496	0.8010	0.8248	0.8435	0.8588	0.8716
4	130.64	2.12	1.0000	0.9198	0.8150	0.7054	0.6531	0.7356	0.8054	0.8649	0.9315	0.9604	0.9843	1.0000	1.0000
3	101.41	2.01	1.0000	1.0000	0.9331	0.8310	0.7752	0.8482	0.9359	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	78.72	1.90	1.0000	1.0000	1.0000	0.9729	0.9640	0.9757	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	61.11	1.79	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Table J.1. Performance data for gun crew: chief of section (Concluded).

GRID LINE	DOSE	LOG(DOSE)	TIME GRID LINES (HRS)												
			79.43 (1.9)	100.00 (2.0)	125.89 (2.1)	158.49 (2.2)	199.53 (2.3)	251.19 (2.4)	316.23 (2.5)	398.11 (2.6)	501.19 (2.7)	630.96 (2.8)	794.33 (2.9)	1000.00 (3.0)	1258.93 (3.1)
18	4529.03	3.66	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	3516.34	3.55	0.0350	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
16	2729.55	3.44	0.1221	0.0411	0.0057	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
15	2118.81	3.33	0.2094	0.1302	0.0573	0.0342	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14	1644.72	3.22	0.3611	0.2442	0.1299	0.0866	0.0256	0.0026	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
13	1276.71	3.11	0.5122	0.3862	0.2547	0.1518	0.1030	0.0547	0.0169	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
12	991.04	3.00	0.6397	0.5516	0.4703	0.3907	0.2628	0.1857	0.1209	0.0676	0.0000	0.0000	0.0000	0.0000	0.0000
11	769.29	2.89	0.6766	0.6588	0.6281	0.5605	0.4900	0.4299	0.3571	0.3027	0.2600	0.0385	0.0000	0.0000	0.0000
10	597.16	2.78	0.6850	0.6946	0.6900	0.6726	0.6578	0.6245	0.5594	0.4902	0.3871	0.2228	0.1562	0.0000	0.0000
9	463.54	2.67	0.6906	0.6944	0.6926	0.6858	0.6655	0.6783	0.6451	0.5452	0.4777	0.3784	0.2903	0.1735	0.0914
8	359.82	2.56	0.6966	0.6938	0.6961	0.6980	0.6972	0.6940	0.6758	0.5937	0.5456	0.4910	0.4127	0.3373	0.2716
7	279.31	2.45	0.7047	0.7003	0.7014	0.7089	0.7069	0.7002	0.6856	0.6580	0.6079	0.5745	0.5287	0.4847	0.4458
6	216.82	2.34	0.7305	0.7309	0.7288	0.7252	0.7166	0.7065	0.6957	0.6822	0.6702	0.6579	0.6447	0.6321	0.6200
5	168.30	2.23	0.8824	0.8918	0.8999	0.9065	0.9127	0.9197	0.9278	0.9368	0.9470	0.9583	0.9708	0.9847	1.0000
4	130.64	2.12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3	101.41	2.01	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	78.72	1.90	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	61.11	1.79	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Table J.2. Performance data for gun crew: gunner.

GRID LINE	DOSE	LOG(DOSE)	TIME GRID LINES (HRS) 0.20 (-0.7)	0.25 (-0.6)	0.32 (-0.5)	0.40 (-0.4)	0.50 (-0.3)	0.63 (-0.2)	0.79 (-0.1)	1.00 (0.0)	1.26 (0.1)	1.58 (0.2)	2.00 (0.3)	2.51 (0.4)	3.16 (0.5)
18	4529.03	3.66	1.0000	1.0000	0.8099	0.6263	0.4800	0.3635	0.2706	0.1967	0.1378	0.0909	0.0535	0.0237	0.0000
17	3516.34	3.55	1.0000	1.0000	1.0000	0.8478	0.8012	0.7318	0.6468	0.5370	0.4417	0.3993	0.3482	0.2753	0.2303
16	2729.55	3.44	1.0000	1.0000	1.0000	0.9935	0.8532	0.7753	0.7514	0.6683	0.5834	0.5366	0.4521	0.3447	0.3114
15	2118.81	3.33	1.0000	1.0000	1.0000	1.0000	0.9069	0.8193	0.7603	0.7308	0.6587	0.6055	0.5106	0.4141	0.3910
14	1644.72	3.22	1.0000	1.0000	1.0000	1.0000	1.0000	0.9518	0.8119	0.7669	0.7024	0.6409	0.5580	0.4859	0.4704
13	1276.71	3.11	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8522	0.8040	0.7465	0.6794	0.6085	0.5590	0.5414
12	991.04	3.00	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8887	0.8091	0.7614	0.7004	0.6328	0.5878
11	769.29	2.89	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8883	0.8030	0.7733	0.7284	0.6731
10	597.16	2.78	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8774	0.8325	0.7959	0.7432
9	463.54	2.67	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8677	0.8131	0.7811
8	359.82	2.56	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9917	0.8671	0.8211
7	279.31	2.45	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9796	0.8773
6	216.82	2.34	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9599
5	168.30	2.23	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
4	130.64	2.12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3	101.41	2.01	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	78.72	1.90	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	61.11	1.79	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

GRID LINE	DOSE	LOG(DOSE)	TIME GRID LINES (HRS) 3.98 (0.6)	5.01 (0.7)	6.31 (0.8)	7.94 (0.9)	10.00 (1.0)	12.59 (1.1)	15.85 (1.2)	19.95 (1.3)	25.12 (1.4)	31.62 (1.5)	39.81 (1.6)	50.12 (1.7)	63.10 (1.8)
18	4529.03	3.66	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	3516.34	3.55	0.1833	0.1273	0.1266	0.1097	0.0968	0.0854	0.0867	0.0916	0.0972	0.0892	0.1018	0.0875	0.0572
16	2729.55	3.44	0.2759	0.2299	0.1903	0.1429	0.1218	0.1111	0.1114	0.1195	0.1328	0.1442	0.1672	0.1670	0.1371
15	2118.81	3.33	0.3662	0.3236	0.2540	0.1761	0.1468	0.1369	0.1362	0.1475	0.1686	0.1994	0.2328	0.2465	0.2459
14	1644.72	3.22	0.4563	0.4157	0.3195	0.2305	0.2010	0.1949	0.1946	0.2194	0.2433	0.2964	0.3308	0.3554	0.4051
13	1276.71	3.11	0.5359	0.4941	0.3931	0.3119	0.2724	0.2616	0.2722	0.2928	0.3175	0.3881	0.4225	0.4631	0.5605
12	991.04	3.00	0.5650	0.5380	0.4905	0.4336	0.3599	0.3312	0.3479	0.3663	0.3848	0.4081	0.4281	0.5554	0.6424
11	769.29	2.89	0.6281	0.6003	0.5741	0.5383	0.4835	0.4546	0.4714	0.4880	0.5053	0.5220	0.5570	0.6482	0.7104
10	597.16	2.78	0.6893	0.6550	0.6310	0.6072	0.5806	0.5472	0.5554	0.5692	0.5859	0.6029	0.6536	0.7253	0.7537
9	463.54	2.67	0.7328	0.6896	0.6626	0.6403	0.6123	0.5822	0.5697	0.5732	0.5917	0.6120	0.6735	0.7596	0.7720
8	359.82	2.56	0.7669	0.7239	0.6898	0.6637	0.6408	0.6187	0.5965	0.5971	0.6145	0.6344	0.6958	0.7767	0.7838
7	279.31	2.45	0.7972	0.7581	0.7164	0.6851	0.6674	0.6608	0.6612	0.6715	0.6815	0.6955	0.7323	0.7880	0.7947
6	216.82	2.34	0.8275	0.7922	0.7429	0.7064	0.6941	0.7091	0.7314	0.7514	0.7636	0.7746	0.7860	0.7992	0.8057
5	168.30	2.23	0.9436	0.8699	0.8129	0.7549	0.7310	0.7682	0.8025	0.8315	0.8571	0.8726	0.8859	0.8974	0.9073
4	130.64	2.12	1.0000	0.9517	0.8870	0.8196	0.7840	0.8348	0.8776	0.9142	0.9508	0.9712	0.9885	1.0000	1.0000
3	101.41	2.01	1.0000	1.0000	0.9596	0.8977	0.8639	0.9081	0.9612	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	78.72	1.90	1.0000	1.0000	1.0000	0.9836	0.9782	0.9853	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	61.11	1.79	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Table J.2. Performance data for gun crew: gunner (Concluded).

GRID LINE	DOSE	LOG(DOSE)	TIME GRID LINES (HPS)												
			79.43 (1.9)	100.00 (2.0)	125.89 (2.1)	158.49 (2.2)	199.53 (2.3)	251.19 (2.4)	316.23 (2.5)	398.11 (2.6)	501.19 (2.7)	630.96 (2.8)	794.33 (2.9)	1000.00 (3.0)	1258.93 (3.1)
18	4529.93	3.66	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	3516.34	3.55	0.0401	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
16	2729.55	3.44	0.1328	0.0456	0.0069	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
15	2118.81	3.33	0.2260	0.1524	0.0748	0.0507	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14	1644.72	3.22	0.4167	0.3135	0.1921	0.1414	0.0540	0.0064	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
13	1276.71	3.11	0.6052	0.4770	0.3574	0.2489	0.1820	0.1126	0.0419	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
12	991.04	3.00	0.7214	0.6406	0.5646	0.5102	0.3981	0.3273	0.2248	0.1434	0.0000	0.0000	0.0000	0.0000	0.0000
11	769.29	2.89	0.7585	0.7451	0.7236	0.7060	0.6226	0.5639	0.4964	0.4493	0.4419	0.0775	0.0000	0.0000	0.0000
10	597.16	2.78	0.7688	0.7794	0.7851	0.7814	0.7635	0.7271	0.6884	0.6512	0.5682	0.4070	0.3410	0.0000	0.0000
9	463.54	2.67	0.7752	0.7790	0.7809	0.7788	0.7704	0.7513	0.7228	0.6809	0.6352	0.5768	0.4916	0.2608	0.0914
8	359.82	2.56	0.7824	0.7791	0.7773	0.7768	0.7778	0.7742	0.7562	0.7113	0.6973	0.6702	0.5946	0.4666	0.2716
7	279.31	2.45	0.7907	0.7846	0.7825	0.7829	0.7874	0.7968	0.7882	0.7508	0.7563	0.7374	0.6830	0.5850	0.4458
6	216.82	2.34	0.8074	0.8099	0.8115	0.8129	0.8146	0.8195	0.8202	0.8149	0.8154	0.8046	0.7714	0.7034	0.6200
5	168.30	2.23	0.9160	0.9236	0.9307	0.9376	0.9443	0.9511	0.9579	0.9644	0.9707	0.9764	0.9813	0.9877	1.0000
4	130.64	2.12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3	101.41	2.01	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	78.72	1.90	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	61.11	1.79	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Table J.3. Performance data for gun crew: assistant gunner.

GRID LINE	DOSE	LOG(DOSE)	TIME GRID LINES (HRS) 0.20 (-0.7)	0.25 (-0.6)	0.32 (-0.5)	0.40 (-0.4)	0.50 (-0.3)	0.63 (-0.2)	0.79 (-0.1)	1.00 (0.0)	1.26 (0.1)	1.58 (0.2)	2.00 (0.3)	2.51 (0.4)	3.16 (0.5)
18	4529.93	3.66	1.0000	1.0000	0.8099	0.6263	0.4600	0.3635	0.2706	0.1967	0.1378	0.0909	0.0535	0.0237	0.0000
17	3516.34	3.55	1.0000	1.0000	1.0000	0.8225	0.7721	0.7015	0.6064	0.5024	0.4101	0.3696	0.3216	0.2526	0.2078
16	2729.55	3.44	1.0000	1.0000	1.0000	0.9913	0.8350	0.7483	0.7186	0.6336	0.5468	0.4987	0.4214	0.3185	0.2830
15	2118.81	3.33	1.0000	1.0000	1.0000	1.0000	0.8938	0.7955	0.7644	0.7004	0.6240	0.5662	0.4776	0.3844	0.3576
14	1644.72	3.22	1.0000	1.0000	1.0000	1.0000	1.0000	0.9455	0.7871	0.7390	0.6689	0.6032	0.5219	0.4508	0.4321
13	1276.71	3.11	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8313	0.7792	0.7146	0.6435	0.5697	0.5194	0.5004
12	991.04	3.00	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8732	0.7842	0.7310	0.6[illegible]30	0.5945	0.5476
11	769.29	2.89	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8731	0.7768	0.7486	0.6992	0.6393
10	597.16	2.78	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8606	0.8110	0.7720	0.7147
9	463.54	2.67	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8726	0.7892	0.7548
8	359.82	2.56	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9906	0.8492	0.7976
7	279.31	2.45	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9768	0.8603
6	216.82	2.34	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9542
5	168.30	2.23	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
4	130.64	2.12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3	101.41	2.01	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	78.72	1.90	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	61.11	1.79	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

GRID LINE	DOSE	LOG(DOSE)	TIME GRID LINES (HRS) 3.98 (0.6)	5.01 (0.7)	6.31 (0.8)	7.94 (0.9)	10.00 (1.0)	12.59 (1.1)	15.85 (1.2)	19.95 (1.3)	25.12 (1.4)	31.62 (1.5)	39.81 (1.6)	50.12 (1.7)	63.10 (1.8)
18	4529.93	3.66	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	3516.34	3.55	0.1621	0.1140	0.1151	0.0997	0.0880	0.0776	0.0794	0.0846	0.0908	0.0865	0.1011	0.0874	0.0579
16	2729.55	3.44	0.2459	0.2039	0.1706	0.1276	0.1088	0.0990	0.0989	0.1062	0.1205	0.1343	0.1584	0.1607	0.1366
15	2118.81	3.33	0.3298	0.2894	0.2262	0.1555	0.1297	0.1205	0.1184	0.1280	0.1504	0.1822	0.2157	0.2340	0.2392
14	1644.72	3.22	0.4136	0.3746	0.2855	0.2038	0.1775	0.1720	0.1754	0.1924	0.2153	0.2658	0.2984	0.3232	0.3775
13	1276.71	3.11	0.4924	0.4512	0.3552	0.2785	0.2420	0.2320	0.2412	0.2590	0.2800	0.3449	0.3758	0.4153	0.5129
12	991.04	3.00	0.5230	0.4946	0.4478	0.3928	0.3229	0.2951	0.3097	0.3257	0.3421	0.3630	0.3806	0.5082	0.5946
11	769.29	2.89	0.5911	0.5610	0.5329	0.4966	0.4438	0.4147	0.4299	0.4457	0.4607	0.4761	0.5112	0.6046	0.6678
10	597.16	2.78	0.6567	0.6190	0.5923	0.5669	0.5384	0.5049	0.5118	0.5245	0.5403	0.5564	0.6089	0.6838	0.7161
9	463.54	2.67	0.7023	0.6559	0.6243	0.6004	0.5702	0.5396	0.5247	0.5281	0.5457	0.5650	0.6284	0.7207	0.7350
8	359.82	2.56	0.7383	0.6924	0.6541	0.6257	0.6003	0.5761	0.5523	0.5514	0.5683	0.5874	0.6511	0.7395	0.7485
7	279.31	2.45	0.7709	0.7290	0.6836	0.6501	0.6292	0.6212	0.6187	0.6275	0.6378	0.6519	0.6904	0.7527	0.7611
6	216.82	2.34	0.8035	0.7657	0.7131	0.6745	0.6581	0.6738	0.6949	0.7147	0.7268	0.7383	0.7507	0.7659	0.7736
5	168.30	2.23	0.8357	0.8532	0.7907	0.7264	0.6979	0.7386	0.7739	0.8033	0.8347	0.8519	0.8670	0.8803	0.8920
4	130.64	2.12	1.0000	0.9455	0.8729	0.7965	0.7555	0.8124	0.8595	0.8988	0.9431	0.9665	0.9866	1.0000	1.0000
3	101.41	2.01	1.0000	1.0000	0.9538	0.8833	0.8437	0.8951	0.9557	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	78.72	1.90	1.0000	1.0000	1.0000	0.9813	0.9751	0.9832	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	61.11	1.79	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Table J.3. Performance data for gun crew: assistant gunner (Concluded).

GRID LINE	DOSE	LOG(DOSE)	TIME GRID LINES (HRS)												
			79.43 (1.9)	100.00 (2.0)	125.89 (2.1)	158.49 (2.2)	199.53 (2.3)	251.19 (2.4)	316.23 (2.5)	398.11 (2.6)	501.19 (2.7)	630.96 (2.8)	794.33 (2.9)	1000.00 (3.0)	1258.93 (3.1)
18	4529.03	3.66	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	3516.34	3.55	0.0399	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
16	2729.55	3.44	0.1319	0.0465	0.0071	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
15	2118.81	3.33	0.2243	0.1459	0.0706	0.0456	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14	1644.72	3.22	0.3895	0.2732	0.1633	0.1172	0.0431	0.0052	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
13	1276.71	3.11	0.5538	0.4248	0.3045	0.2010	0.1494	0.0921	0.0348	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
12	991.04	3.00	0.6769	0.5911	0.5106	0.4509	0.3349	0.2680	0.1848	0.1214	0.0000	0.0000	0.0000	0.0000	0.0000
11	769.29	2.89	0.7206	0.7090	0.6794	0.6563	0.5707	0.5083	0.4437	0.4001	0.3869	0.0654	0.0000	0.0000	0.0000
10	597.16	2.78	0.7327	0.7438	0.7489	0.7430	0.7214	0.6619	0.6352	0.5886	0.5013	0.3474	0.2734	0.0000	0.0000
9	463.54	2.67	0.7395	0.7435	0.7450	0.7421	0.7325	0.7116	0.6827	0.6242	0.5728	0.5063	0.4083	0.2239	0.0914
8	359.82	2.56	0.7467	0.7433	0.7436	0.7419	0.7364	0.7394	0.7178	0.6607	0.6406	0.6053	0.5247	0.4132	0.2716
7	279.31	2.45	0.7553	0.7500	0.7483	0.7497	0.7523	0.7648	0.7536	0.7065	0.7092	0.6842	0.6291	0.5475	0.4458
6	216.82	2.34	0.7760	0.7794	0.7815	0.7831	0.7850	0.7902	0.7894	0.7805	0.7778	0.7632	0.7334	0.6819	0.6200
5	168.30	2.23	0.8023	0.8114	0.8197	0.8276	0.8354	0.8431	0.8506	0.8578	0.8647	0.8714	0.8783	0.8868	1.0000
4	130.64	2.12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3	101.41	2.01	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	78.72	1.90	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	61.11	1.79	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Table J.4. Performance data for gun crew: loader.

GRID LINE	DOSE	LOG(DOSE)	TIME GRID LINES (HRS) 0.20 (-0.7)	0.25 (-0.6)	0.32 (-0.5)	0.40 (-0.4)	0.50 (-0.3)	0.63 (-0.2)	0.79 (-0.1)	1.00 (0.0)	1.26 (0.1)	1.58 (0.2)	2.00 (0.3)	2.51 (0.4)	3.16 (0.5)
18	4529.93	3.66	1.0000	1.0000	0.8099	0.6263	0.4800	0.3635	0.2706	0.1967	0.1378	0.0909	0.0535	0.0237	0.0000
17	3516.34	3.55	1.0000	1.0000	1.0000	0.7014	0.6375	0.5272	0.3859	0.2739	0.1912	0.1601	0.1325	0.1051	0.0859
16	2729.55	3.44	1.0000	1.0000	1.0000	0.9751	0.7290	0.5983	0.5011	0.3994	0.3090	0.2599	0.2021	0.1430	0.1247
15	2118.81	3.33	1.0000	1.0000	1.0000	1.0000	0.8234	0.6622	0.6148	0.5246	0.4265	0.3595	0.2627	0.1809	0.1635
14	1644.72	3.22	1.0000	1.0000	1.0000	1.0000	1.0000	0.9094	0.6492	0.5792	0.4833	0.4014	0.3111	0.2412	0.2291
13	1276.71	3.11	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.7196	0.6361	0.5414	0.4485	0.3639	0.3125	0.2934
12	991.04	3.00	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.7894	0.6447	0.5653	0.4772	0.3918	0.3404
11	769.29	2.89	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.7871	0.6334	0.5855	0.5298	0.4504
10	597.16	2.78	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.7691	0.6885	0.6277	0.5452
9	463.54	2.67	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.7893	0.6530	0.6026
8	359.82	2.56	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9843	0.7503	0.6657
7	279.31	2.45	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9616	0.7671
6	216.82	2.34	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9241
5	168.30	2.23	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
4	130.64	2.12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3	101.41	2.01	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	78.72	1.90	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	61.11	1.79	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

GRID LINE	DOSE	LOG(DOSE)	TIME GRID LINES (HRS) 3.98 (0.6)	5.01 (0.7)	6.31 (0.8)	7.94 (0.9)	10.00 (1.0)	12.59 (1.1)	15.85 (1.2)	19.95 (1.3)	25.12 (1.4)	31.62 (1.5)	39.81 (1.6)	50.12 (1.7)	63.10 (1.8)
18	4529.93	3.66	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	3516.34	3.55	0.0672	0.0452	0.0408	0.0347	0.0302	0.0264	0.0272	0.0292	0.0318	0.0291	0.0350	0.0311	0.0216
16	2729.55	3.44	0.1063	0.0842	0.0664	0.0469	0.0393	0.0356	0.0355	0.0386	0.0450	0.0516	0.0631	0.0628	0.0506
15	2118.81	3.33	0.1455	0.1232	0.0919	0.0592	0.0483	0.0448	0.0438	0.0480	0.0583	0.0742	0.0912	0.0990	0.1010
14	1644.72	3.22	0.2128	0.1817	0.1257	0.0828	0.0709	0.0685	0.0699	0.0776	0.0897	0.1280	0.1486	0.1608	0.2124
13	1276.71	3.11	0.2790	0.2394	0.1738	0.1269	0.1072	0.1018	0.1070	0.1173	0.1297	0.1790	0.2022	0.2342	0.3215
12	991.04	3.00	0.3143	0.2858	0.2487	0.2091	0.1630	0.1446	0.1545	0.1648	0.1756	0.1925	0.2054	0.3147	0.3977
11	769.29	2.89	0.3911	0.3545	0.3239	0.2914	0.2557	0.2359	0.2488	0.2620	0.2750	0.2884	0.3257	0.4174	0.4793
10	597.16	2.78	0.4667	0.4168	0.3843	0.3587	0.3278	0.3061	0.3132	0.3257	0.3412	0.3572	0.4162	0.5030	0.5423
9	463.54	2.67	0.5255	0.4644	0.4209	0.3926	0.3624	0.3360	0.3234	0.3291	0.3464	0.3660	0.4352	0.5403	0.5639
8	359.82	2.56	0.5768	0.5118	0.4575	0.4252	0.3969	0.3691	0.3476	0.3500	0.3671	0.3874	0.4576	0.5658	0.5835
7	279.31	2.45	0.6255	0.5601	0.4989	0.4571	0.4314	0.4186	0.4174	0.4286	0.4431	0.4601	0.5046	0.5876	0.6025
6	216.82	2.34	0.6742	0.6149	0.5389	0.4689	0.4659	0.4842	0.5117	0.5376	0.5535	0.5695	0.5870	0.6094	0.6215
5	168.30	2.23	0.8932	0.7596	0.6635	0.5626	0.5184	0.5777	0.6279	0.6655	0.7286	0.7552	0.7790	0.8003	0.8194
4	130.64	2.12	1.0000	0.9107	0.7939	0.6682	0.6016	0.6916	0.7658	0.8245	0.9066	0.9447	0.9778	1.0000	1.0000
3	101.41	2.01	1.0000	1.0000	0.9228	0.8060	0.7418	0.8256	0.9264	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	78.72	1.90	1.0000	1.0000	1.0000	0.9689	0.9586	0.9720	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	61.11	1.79	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Table J.4. Performance data for gun crew: leader (Concluded).

GRID LINE	DOSE	LOG(DOSE)	TIME GRID LINES (HRS)												
			79.43 (1.9)	100.00 (2.0)	125.89 (2.1)	158.49 (2.2)	199.53 (2.3)	251.19 (2.4)	316.23 (2.5)	398.11 (2.6)	501.19 (2.7)	630.96 (2.8)	794.33 (2.9)	1000.00 (3.0)	1258.93 (3.1)
18	4529.03	3.66	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	3516.34	3.55	0.0169	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
16	2729.55	3.44	0.0558	0.0174	0.0024	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
15	2118.81	3.33	0.0952	0.0688	0.0323	0.0194	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14	1644.72	3.22	0.2308	0.1582	0.0917	0.0556	0.0184	0.0019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
13	1276.71	3.11	0.3662	0.2768	0.1949	0.1143	0.0751	0.0414	0.0150	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
12	991.04	3.00	0.4870	0.4151	0.3534	0.3003	0.1962	0.1414	0.0803	0.0445	0.0000	0.0000	0.0000	0.0000	0.0000
11	769.29	2.89	0.5446	0.5289	0.5065	0.4811	0.4072	0.3380	0.2730	0.2402	0.2119	0.0333	0.0000	0.0000	0.0000
10	597.16	2.78	0.5640	0.5772	0.5828	0.5747	0.5462	0.4912	0.4325	0.3630	0.3046	0.1860	0.1209	0.0000	0.0000
9	463.54	2.67	0.5720	0.5767	0.5784	0.5744	0.5607	0.5345	0.4910	0.4225	0.3702	0.3040	0.2324	0.1490	0.0914
8	359.82	2.56	0.5814	0.5781	0.5761	0.5746	0.5709	0.5656	0.5347	0.4616	0.4360	0.4035	0.3422	0.2986	0.2716
7	279.31	2.45	0.5930	0.5867	0.5850	0.5850	0.5871	0.5960	0.5761	0.5098	0.5026	0.4966	0.4548	0.4482	0.4458
6	216.82	2.34	0.6255	0.6322	0.6365	0.6349	0.6276	0.6264	0.6176	0.5989	0.5907	0.5898	0.5772	0.5977	0.6200
5	168.30	2.23	0.8365	0.8521	0.8663	0.8779	0.8877	0.8984	0.9099	0.9222	0.9355	0.9499	0.9657	0.9833	1.0000
4	130.64	2.12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3	101.41	2.01	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	78.72	1.90	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	61.11	1.79	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Table J.5. Performance data for FDC crew: fire direction officer.

GRID LINE	DOSE	LOG(DOSE)	TIME GRID LINES (HRS)												
			0.20 (-0.7)	0.25 (-0.6)	0.32 (-0.5)	0.40 (-0.4)	0.50 (-0.3)	0.63 (-0.2)	0.79 (-0.1)	1.00 (0.0)	1.26 (0.1)	1.58 (0.2)	2.00 (0.3)	2.51 (0.4)	3.16 (0.5)
18	4529.03	3.66	1.0000	1.0000	0.8099	0.6263	0.4800	0.3635	0.2706	0.1967	0.1378	0.0909	0.0535	0.0237	0.0000
17	3516.34	3.55	1.0000	1.0000	1.0000	0.8190	0.7567	0.7163	0.6748	0.6161	0.5101	0.4634	0.4035	0.3142	0.2329
16	2729.55	3.44	1.0000	1.0000	1.0000	0.9904	0.8267	0.7552	0.7265	0.6781	0.6015	0.5926	0.5386	0.4145	0.3579
15	2118.91	3.33	1.0000	1.0000	1.0000	1.0000	0.8985	0.7946	0.7619	0.7147	0.6602	0.6455	0.5959	0.4866	0.4545
14	1644.72	3.22	1.0000	1.0000	1.0000	1.0000	1.0000	0.9452	0.7901	0.7467	0.7115	0.6714	0.6204	0.5517	0.5444
13	1276.71	3.11	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8384	0.7807	0.7499	0.6998	0.6480	0.6101	0.6092
12	991.04	3.00	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8779	0.7824	0.7610	0.7162	0.6661	0.6386
11	769.29	2.89	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8634	0.7902	0.7577	0.7149	0.6762
10	597.16	2.78	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8634	0.7991	0.7508	0.7151
9	463.54	2.67	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8528	0.7778	0.7546
8	359.82	2.56	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9910	0.8450	0.7972
7	279.31	2.45	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9762	0.8609
6	216.82	2.34	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9559
5	168.30	2.23	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
4	130.64	2.12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3	101.41	2.01	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	78.72	1.90	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	61.11	1.79	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

GRID LINE	DOSE	LOG(DOSE)	TIME GRID LINES (HRS)												
			3.98 (0.6)	5.01 (0.7)	6.31 (0.8)	7.94 (0.9)	10.00 (1.0)	12.59 (1.1)	15.85 (1.2)	19.95 (1.3)	25.12 (1.4)	31.62 (1.5)	39.81 (1.6)	50.12 (1.7)	63.10 (1.8)
18	4529.03	3.66	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	3516.34	3.55	0.1742	0.1155	0.1393	0.1193	0.1040	0.0906	0.0933	0.1005	0.1087	0.1022	0.1218	0.0980	0.0515
16	2729.55	3.44	0.3065	0.2430	0.2141	0.1573	0.1318	0.1198	0.1219	0.1346	0.1547	0.1768	0.2150	0.1982	0.1478
15	2118.91	3.33	0.4213	0.3705	0.2889	0.1953	0.1598	0.1490	0.1507	0.1689	0.2009	0.2515	0.3084	0.3067	0.2837
14	1644.72	3.22	0.5324	0.4839	0.3674	0.2623	0.2265	0.2197	0.2278	0.2601	0.3007	0.3738	0.4317	0.4426	0.4690
13	1276.71	3.11	0.6159	0.5748	0.4569	0.3622	0.3154	0.3038	0.3211	0.3555	0.3994	0.4896	0.5469	0.5754	0.6506
12	991.04	3.00	0.6332	0.6237	0.5724	0.5080	0.4238	0.3944	0.4223	0.4518	0.4826	0.5168	0.5509	0.6523	0.7404
11	769.29	2.89	0.6506	0.6435	0.6260	0.5964	0.5379	0.5117	0.5383	0.5656	0.5909	0.6158	0.6498	0.7224	0.7773
10	597.16	2.78	0.6781	0.6661	0.6613	0.6501	0.6324	0.6072	0.6171	0.6391	0.6630	0.6873	0.7338	0.7781	0.8014
9	463.54	2.67	0.7190	0.6954	0.6921	0.6866	0.6739	0.6470	0.6345	0.6457	0.6716	0.7000	0.7626	0.8150	0.8210
8	359.82	2.56	0.7545	0.7235	0.7098	0.7011	0.6929	0.6786	0.6615	0.6688	0.6936	0.7212	0.7677	0.8319	0.8320
7	279.31	2.45	0.7616	0.7481	0.7184	0.7040	0.7044	0.7091	0.7135	0.7320	0.7492	0.7680	0.8130	0.8375	0.8379
6	216.82	2.34	0.8087	0.7731	0.7271	0.7070	0.7159	0.7395	0.7694	0.7978	0.8149	0.8278	0.8383	0.8431	0.8437
5	168.30	2.23	0.9372	0.8573	0.7996	0.7457	0.7371	0.7801	0.8256	0.8638	0.8885	0.9025	0.9125	0.9197	0.9253
4	130.64	2.12	1.0000	0.9470	0.8784	0.8071	0.7763	0.8323	0.8831	0.9298	0.9616	0.9780	0.9912	1.0000	1.0000
3	101.41	2.01	1.0000	1.0000	0.9559	0.8884	0.8515	0.8997	0.9577	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	78.72	1.90	1.0000	1.0000	1.0000	0.9821	0.9762	0.9839	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	61.11	1.79	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Table J.5. Performance data for FDC crew: fire direction officer (Concluded).

GRID LINE	DOSE	LOG(DOSE)	TIME GRID LINES (HRS)												
			79.43 (1.9)	100.00 (2.0)	125.89 (2.1)	158.49 (2.2)	199.53 (2.3)	251.19 (2.4)	316.23 (2.5)	398.11 (2.6)	501.19 (2.7)	630.96 (2.8)	794.33 (2.9)	1000.00 (3.0)	1258.93 (3.1)
18	4529.03	3.66	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	3516.34	3.55	0.0316	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
16	2729.55	3.44	0.1268	0.0334	0.0035	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
15	2118.81	3.33	0.2429	0.1301	0.0503	0.0364	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14	1644.72	3.22	0.4699	0.3182	0.1605	0.1125	0.0429	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
13	1276.71	3.11	0.6933	0.5139	0.3406	0.2504	0.1706	0.0971	0.0258	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
12	991.04	3.00	0.8104	0.7096	0.6067	0.5397	0.4425	0.3576	0.2615	0.1637	0.0000	0.0000	0.0000	0.0000	0.0000
11	769.29	2.89	0.8172	0.8066	0.7703	0.7386	0.6644	0.6220	0.5631	0.5022	0.4763	0.0773	0.0000	0.0000	0.0000
10	597.16	2.78	0.8194	0.8300	0.8249	0.8209	0.8153	0.8088	0.7849	0.7417	0.6579	0.4226	0.3156	0.0000	0.0000
9	463.54	2.67	0.8258	0.8299	0.8280	0.8273	0.8261	0.8336	0.8160	0.7710	0.7263	0.6333	0.5190	0.2648	0.0914
8	359.82	2.56	0.8319	0.8294	0.8312	0.8312	0.8309	0.8305	0.8274	0.7915	0.7680	0.7329	0.6276	0.4731	0.2716
7	279.31	2.45	0.8375	0.8303	0.8345	0.8349	0.8340	0.8330	0.8306	0.8111	0.7978	0.7764	0.7069	0.5920	0.4458
6	216.82	2.34	0.8430	0.8389	0.8384	0.8386	0.8371	0.8355	0.8338	0.8308	0.8276	0.8198	0.7863	0.7109	0.6200
5	168.30	2.23	0.9303	0.9350	0.9397	0.9447	0.9497	0.9550	0.9605	0.9663	0.9723	0.9780	0.9825	0.9880	1.0000
4	130.64	2.12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3	101.41	2.01	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	78.72	1.90	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	61.11	1.79	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Table J.6. Performance data for FDC crew: horizontal control operator.

GRID LINE	DOSE	LOG(DOSE)	TIME GRID LINES (HRS)												
			0.20 (-0.7)	0.25 (-0.6)	0.32 (-0.5)	0.40 (-0.4)	0.50 (-0.3)	0.63 (-0.2)	0.79 (-0.1)	1.00 (0.0)	1.26 (0.1)	1.58 (0.2)	2.00 (0.3)	2.51 (0.4)	3.16 (0.5)
18	4529.93	3.66	1.0000	1.0000	0.8099	0.6263	0.4800	0.3635	0.2706	0.1967	0.1378	0.0909	0.0535	0.0237	0.0000
17	3516.34	3.55	1.0000	1.0000	1.0000	0.7554	0.6907	0.6396	0.5860	0.5252	0.4608	0.4367	0.3986	0.3355	0.2826
16	2729.55	3.44	1.0000	1.0000	1.0000	0.9796	0.7742	0.6822	0.6558	0.5938	0.5302	0.5202	0.4717	0.3953	0.3675
15	2118.81	3.33	1.0000	1.0000	1.0000	1.0000	0.8603	0.7255	0.6902	0.6377	0.5789	0.5564	0.5037	0.4404	0.4277
14	1644.72	3.22	1.0000	1.0000	1.0000	1.0000	1.0000	0.9268	0.7198	0.6723	0.6239	0.5841	0.5300	0.4826	0.4825
13	1276.71	3.11	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.7778	0.7091	0.6690	0.6145	0.5593	0.5252	0.5221
12	991.04	3.00	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8328	0.7141	0.6826	0.6317	0.5784	0.5483
11	769.29	2.89	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8180	0.7176	0.6823	0.6364	0.5952
10	597.16	2.78	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8148	0.7345	0.6840	0.6414
9	463.54	2.67	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8016	0.7143	0.6623
8	359.82	2.56	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9876	0.7988	0.7268
7	279.31	2.45	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9690	0.8114
6	216.82	2.34	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9394
5	168.30	2.23	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
4	130.64	2.12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3	101.41	2.01	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	78.72	1.90	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	61.11	1.79	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

GRID LINE	DOSE	LOG(DOSE)	TIME GRID LINES (HRS)												
			3.98 (0.6)	5.01 (0.7)	6.31 (0.8)	7.94 (0.9)	10.00 (1.0)	12.59 (1.1)	15.85 (1.2)	19.95 (1.3)	25.12 (1.4)	31.62 (1.5)	39.81 (1.6)	50.12 (1.7)	63.10 (1.8)
18	4529.93	3.66	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	3516.34	3.55	0.2373	0.1836	0.2091	0.1830	0.1682	0.1551	0.1567	0.1615	0.1664	0.1548	0.1664	0.1411	0.0980
16	2729.55	3.44	0.3391	0.2972	0.2676	0.2182	0.1955	0.1848	0.1907	0.2015	0.2125	0.2216	0.2462	0.2354	0.2017
15	2118.81	3.33	0.4136	0.3808	0.3226	0.2534	0.2228	0.2147	0.2247	0.2415	0.2586	0.2586	0.3260	0.3296	0.3151
14	1644.72	3.22	0.4824	0.4519	0.3737	0.3000	0.2728	0.2701	0.2796	0.3050	0.3331	0.3758	0.4155	0.4307	0.4557
13	1276.71	3.11	0.5274	0.5009	0.4259	0.3628	0.3316	0.3254	0.3397	0.3681	0.4056	0.4584	0.4991	0.5287	0.5933
12	991.04	3.00	0.5396	0.5276	0.4937	0.4508	0.3956	0.3797	0.4015	0.4262	0.4510	0.4781	0.5048	0.5861	0.6628
11	769.29	2.89	0.5627	0.5543	0.5387	0.5178	0.4819	0.4673	0.4898	0.5128	0.5345	0.5564	0.5867	0.6504	0.7027
10	597.16	2.78	0.5986	0.5824	0.5735	0.5646	0.5544	0.5386	0.5511	0.5706	0.5918	0.6137	0.6555	0.7065	0.7262
9	463.54	2.67	0.6410	0.6123	0.6042	0.5964	0.5859	0.5714	0.5652	0.5766	0.5994	0.6252	0.6791	0.7357	0.7410
8	359.82	2.56	0.6788	0.6420	0.6244	0.6117	0.6034	0.5970	0.5853	0.5929	0.6155	0.6420	0.7029	0.7491	0.7497
7	279.31	2.45	0.7091	0.6710	0.6373	0.6183	0.6167	0.6251	0.6273	0.6433	0.6630	0.6824	0.7272	0.7553	0.7564
6	216.82	2.34	0.7394	0.7001	0.6503	0.6249	0.6300	0.6533	0.6829	0.7118	0.7303	0.7437	0.7541	0.7616	0.7631
5	168.30	2.23	0.9143	0.8111	0.7417	0.6688	0.6533	0.7016	0.7486	0.7881	0.8360	0.8540	0.8674	0.8778	0.8868
4	130.64	2.12	1.0000	0.9298	0.8405	0.7424	0.6990	0.7699	0.8306	0.8816	0.9436	0.9670	0.9867	1.0000	1.0000
3	101.41	2.01	1.0000	1.0000	0.9383	0.8465	0.7957	0.8620	0.9418	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	78.72	1.90	1.0000	1.0000	1.0000	0.9754	0.9672	0.9779	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	61.11	1.79	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Table J.6. Performance data for FDC crew: horizontal control operator (Concluded).

GRID LINE	DOSE	LOG(DOSE)	TIME GRID LINES (HRS)												
			79.43 (1.9)	100.00 (2.0)	125.89 (2.1)	158.49 (2.2)	199.53 (2.3)	251.19 (2.4)	316.23 (2.5)	398.11 (2.6)	501.19 (2.7)	630.96 (2.8)	794.33 (2.9)	1000.00 (3.0)	1258.93 (3.1)
18	4525.93	3.66	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	3516.34	3.55	0.0636	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
16	2729.55	3.44	0.1725	0.0661	0.0132	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
15	2118.81	3.33	0.2816	0.1945	0.1133	0.0939	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14	1644.72	3.22	0.4560	0.3510	0.2462	0.2112	0.0946	0.0124	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
13	1276.71	3.11	0.6278	0.5072	0.4020	0.3342	0.2584	0.1779	0.0813	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
12	991.04	3.00	0.7189	0.6435	0.5695	0.5335	0.4522	0.3986	0.3261	0.2322	0.0000	0.0000	0.0000	0.0000	0.0000
11	769.29	2.89	0.7340	0.7226	0.6993	0.6863	0.6393	0.6083	0.5659	0.5427	0.4867	0.0924	0.0000	0.0000	0.0000
10	597.16	2.78	0.7391	0.7475	0.7505	0.7472	0.7373	0.7256	0.7085	0.6792	0.6107	0.4716	0.4182	0.0000	0.0000
9	463.54	2.67	0.7440	0.7471	0.7482	0.7467	0.7425	0.7368	0.7237	0.6980	0.6719	0.6297	0.5462	0.2837	0.0914
8	359.82	2.56	0.7489	0.7459	0.7435	0.7463	0.7473	0.7462	0.7381	0.7149	0.7072	0.6910	0.6243	0.4943	0.2716
7	279.31	2.45	0.7538	0.7469	0.7439	0.7464	0.7512	0.7552	0.7511	0.7298	0.7347	0.7242	0.6795	0.5890	0.4458
6	216.82	2.34	0.7613	0.7599	0.7597	0.7597	0.7611	0.7643	0.7640	0.7593	0.7622	0.7573	0.7347	0.6837	0.6200
5	168.30	2.23	0.8950	0.9031	0.9111	0.9192	0.9273	0.9356	0.9441	0.9528	0.9615	0.9701	0.9780	0.9868	1.0000
4	130.64	2.12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3	101.41	2.01	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	78.72	1.90	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	61.11	1.79	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Table J.7. Performance data for FDC crew: computer.

GRID LINE	DOSE	LOG(DOSE)	TIME GRID LINES (HRS) 0.20 (-0.7)	0.25 (-0.6)	0.32 (-0.5)	0.40 (-0.4)	0.50 (-0.3)	0.63 (-0.2)	0.79 (-0.1)	1.00 (0.0)	1.26 (0.1)	1.58 (0.2)	2.00 (0.3)	2.51 (0.4)	3.16 (0.5)
16	4529.03	3.66	1.0000	1.0000	0.8099	0.6263	0.4800	0.3635	0.2706	0.1967	0.1378	0.0909	0.0535	0.0237	0.0000
17	3516.34	3.55	1.0000	1.0000	1.0000	0.8174	0.7673	0.7320	0.7018	0.6380	0.5695	0.5398	0.4907	0.4079	0.3375
16	2729.55	3.44	1.0000	1.0000	1.0000	0.9898	0.8294	0.7616	0.7455	0.6944	0.6457	0.6361	0.5624	0.4818	0.4581
15	2118.81	3.33	1.0000	1.0000	1.0000	1.0000	0.8934	0.7918	0.7672	0.7307	0.6892	0.6742	0.6140	0.5425	0.5355
14	1644.72	3.22	1.0000	1.0000	1.0000	1.0000	1.0000	0.9445	0.7679	0.7549	0.7245	0.6940	0.6443	0.5992	0.6022
13	1276.71	3.11	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8304	0.7806	0.7543	0.7157	0.6761	0.6473	0.6450
12	991.04	3.00	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8725	0.7835	0.7631	0.7280	0.6898	0.6681
11	769.29	2.89	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8607	0.7868	0.7623	0.7308	0.7008
10	597.16	2.78	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8591	0.7955	0.7616	0.7327
9	463.54	2.67	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8477	0.7822	0.7615
8	359.82	2.56	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9905	0.8454	0.7949
7	279.31	2.45	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9762	0.8566
6	216.82	2.34	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9537
5	168.30	2.23	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
4	130.64	2.12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3	101.41	2.01	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	78.72	1.90	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	61.11	1.79	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

GRID LINE	DOSE	LOG(DOSE)	TIME GRID LINES (HRS) 3.98 (0.6)	5.01 (0.7)	6.31 (0.8)	7.94 (0.9)	10.00 (1.0)	12.59 (1.1)	15.85 (1.2)	19.95 (1.3)	25.12 (1.4)	31.62 (1.5)	39.81 (1.6)	50.12 (1.7)	63.10 (1.8)
18	4529.03	3.66	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	3516.34	3.55	0.2808	0.2145	0.2636	0.2296	0.2094	0.1923	0.1925	0.1959	0.1991	0.1737	0.1812	0.1474	0.0922
16	2729.55	3.44	0.4278	0.3727	0.3496	0.2805	0.2514	0.2367	0.2439	0.2527	0.2606	0.2591	0.2783	0.2575	0.2026
15	2118.81	3.33	0.5260	0.4692	0.4182	0.3325	0.2935	0.2812	0.2954	0.3096	0.3222	0.3447	0.3754	0.3677	0.3358
14	1644.72	3.22	0.6065	0.5728	0.4796	0.3943	0.3598	0.3531	0.3670	0.3878	0.4114	0.4546	0.4897	0.4959	0.5083
13	1276.71	3.11	0.6524	0.6258	0.5421	0.4710	0.4337	0.4246	0.4386	0.4651	0.4983	0.5581	0.5963	0.6199	0.6755
12	991.04	3.00	0.6627	0.6543	0.6186	0.5728	0.5111	0.4901	0.5103	0.5315	0.5530	0.5758	0.6000	0.6748	0.7385
11	769.29	2.89	0.6783	0.6726	0.6598	0.6380	0.5955	0.5765	0.5951	0.6140	0.6316	0.6485	0.6737	0.7274	0.7685
10	597.16	2.78	0.7030	0.6921	0.6869	0.6776	0.6647	0.6459	0.6530	0.6679	0.6842	0.7009	0.7335	0.7708	0.7883
9	463.54	2.67	0.7332	0.7136	0.7093	0.7034	0.6931	0.6719	0.6650	0.6723	0.6901	0.7097	0.7540	0.7992	0.8037
8	359.82	2.56	0.7598	0.7345	0.7229	0.7146	0.7072	0.6969	0.6826	0.6862	0.7037	0.7227	0.7744	0.8118	0.8118
7	279.31	2.45	0.7805	0.7545	0.7313	0.7186	0.7171	0.7201	0.7188	0.7292	0.7432	0.7573	0.7949	0.8152	0.8156
6	216.82	2.34	0.8013	0.7744	0.7398	0.7226	0.7270	0.7434	0.7645	0.7849	0.7978	0.8069	0.8153	0.8187	0.8194
5	168.30	2.23	0.8346	0.8576	0.8072	0.7529	0.7428	0.7784	0.8145	0.8442	0.8772	0.8902	0.8996	0.9070	0.9136
4	130.64	2.12	1.0000	0.9472	0.8802	0.8058	0.7737	0.8273	0.8736	0.9128	0.9578	0.9752	0.9899	1.0000	1.0000
3	101.41	2.01	1.0000	1.0000	0.9535	0.8828	0.8441	0.8947	0.9556	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	78.72	1.90	1.0000	1.0000	1.0000	0.9812	0.9750	0.9831	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	61.11	1.79	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Table J.7. Performance data for FDC crew: computer (Concluded).

GRID LINE	DOSE	LOG(DOSE)	TIME GRID LINES (HRS)												
			79.43 (1.9)	100.00 (2.0)	125.89 (2.1)	158.49 (2.2)	199.53 (2.3)	251.19 (2.4)	316.23 (2.5)	398.11 (2.6)	501.19 (2.7)	630.96 (2.8)	794.33 (2.9)	1000.00 (3.0)	1258.93 (3.1)
18	4529.93	3.66	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	3516.34	3.55	0.0551	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
16	2729.55	3.44	0.1663	0.0545	0.0089	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
15	2118.81	3.33	0.2779	0.1608	0.0948	0.0839	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14	1644.72	3.22	0.4919	0.3712	0.2591	0.2326	0.1058	0.0143	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
13	1276.71	3.11	0.7013	0.5608	0.4416	0.3857	0.2965	0.2036	0.0871	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
12	991.04	3.00	0.7918	0.7102	0.6263	0.5969	0.5317	0.4841	0.4072	0.3048	0.0000	0.0000	0.0000	0.0000	0.0000
11	769.29	2.89	0.7979	0.7884	0.7628	0.7533	0.7244	0.7030	0.6705	0.6519	0.5974	0.1194	0.0000	0.0000	0.0000
10	597.16	2.78	0.8012	0.8106	0.8142	0.8128	0.8066	0.7960	0.7877	0.7765	0.7189	0.5880	0.5209	0.0000	0.0000
9	463.54	2.67	0.8068	0.8102	0.8115	0.8108	0.8079	0.8023	0.7958	0.7850	0.7717	0.7331	0.6549	0.3247	0.0914
8	359.82	2.56	0.8117	0.8101	0.8096	0.8094	0.8070	0.8087	0.8041	0.7939	0.7905	0.7793	0.7099	0.5555	0.2716
7	279.31	2.45	0.8157	0.8103	0.8090	0.8093	0.8080	0.8149	0.8126	0.8036	0.8058	0.8000	0.7541	0.6373	0.4458
6	216.82	2.34	0.8198	0.8171	0.8170	0.8171	0.8177	0.8211	0.8212	0.8174	0.8211	0.8207	0.7982	0.7192	0.6200
5	168.30	2.23	0.9199	0.9261	0.9323	0.9385	0.9448	0.9511	0.9576	0.9642	0.9710	0.9779	0.9833	0.9882	1.0000
4	130.64	2.12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3	101.41	2.01	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	78.72	1.90	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	61.11	1.79	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Table J.8. Performance data for tank crew: tank commander.

GRID LINE	DOSE	LOG(DOSE)	TIME GRID LINES (HRS) 0.20 (-0.7)	0.25 (-0.6)	0.32 (-0.5)	0.40 (-0.4)	0.50 (-0.3)	0.63 (-0.2)	0.79 (-0.1)	1.00 (0.0)	1.26 (0.1)	1.58 (0.2)	2.00 (0.3)	2.51 (0.4)	3.16 (0.5)
18	4529.93	3.66	1.0000	1.0000	0.8099	0.6263	0.4800	0.3635	0.2706	0.1967	0.1378	0.0909	0.0535	0.0237	0.0000
17	3516.34	3.55	1.0000	1.0000	1.0000	0.9412	0.7688	0.6825	0.5579	0.4049	0.3825	0.3576	0.3133	0.2436	0.1844
16	2729.55	3.44	1.0000	1.0000	1.0000	0.9927	0.8407	0.7500	0.6964	0.5896	0.4908	0.4535	0.3717	0.3024	0.2851
15	2118.81	3.33	1.0000	1.0000	1.0000	1.0000	0.9139	0.8178	0.7697	0.6809	0.5724	0.5172	0.4216	0.3605	0.3551
14	1644.72	3.22	1.0000	1.0000	1.0000	1.0000	1.0000	0.9514	0.8083	0.7367	0.6494	0.5695	0.4693	0.4167	0.4129
13	1276.71	3.11	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8630	0.7937	0.7259	0.6265	0.5230	0.4739	0.4591
12	991.04	3.00	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8954	0.8049	0.7468	0.6589	0.5594	0.5001
11	769.29	2.89	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8928	0.8022	0.7558	0.6771	0.5998
10	597.16	2.78	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8814	0.8261	0.7656	0.6908
9	463.54	2.67	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8889	0.8039	0.7558
8	359.82	2.56	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9924	0.8699	0.8216
7	279.31	2.45	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9800	0.8585
6	216.82	2.34	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9635
5	168.30	2.23	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
4	130.64	2.12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3	101.41	2.01	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	78.72	1.90	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	61.11	1.79	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

GRID LINE	DOSE	LOG(DOSE)	TIME GRID LINES (HRS) 3.98 (0.6)	5.01 (0.7)	6.31 (0.8)	7.94 (0.9)	10.00 (1.0)	12.59 (1.1)	15.85 (1.2)	19.95 (1.3)	25.12 (1.4)	31.62 (1.5)	39.81 (1.6)	50.12 (1.7)	63.10 (1.8)
18	4529.93	3.66	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	3516.34	3.55	0.1383	0.0911	0.1099	0.0905	0.0785	0.0685	0.0686	0.0705	0.0719	0.0647	0.0688	0.0526	0.0285
16	2729.55	3.44	0.2545	0.1967	0.1728	0.1206	0.0994	0.0913	0.0986	0.1068	0.1121	0.1189	0.1371	0.1244	0.0981
15	2118.81	3.33	0.3468	0.3023	0.2286	0.1506	0.1202	0.1142	0.1286	0.1432	0.1525	0.1[illegible]	0.2055	0.2189	0.2137
14	1644.72	3.22	0.4134	0.3782	0.2815	0.1923	0.1634	0.1617	0.1735	0.2036	0.2367	0.2728	0.3163	0.3511	0.4036
13	1276.71	3.11	0.4559	0.4295	0.3347	0.2518	0.2159	0.2089	0.2257	0.2636	0.3176	0.3672	0.4203	0.4805	0.5899
12	991.04	3.00	0.4777	0.4523	0.4024	0.3438	0.2737	0.2534	0.2825	0.3179	0.3540	0.3920	0.4321	0.5723	0.6951
11	769.29	2.89	0.5374	0.5094	0.4784	0.4429	0.4010	0.3853	0.4200	0.4550	0.4886	0.5230	0.5774	0.6830	0.7620
10	597.16	2.78	0.6097	0.5704	0.5493	0.5305	0.5114	0.4909	0.5171	0.5498	0.5839	0.6190	0.6888	0.7744	0.8009
9	463.54	2.67	0.6824	0.6284	0.6025	0.5831	0.5625	0.5363	0.5374	0.5598	0.5964	0.6374	0.7185	0.8087	0.8213
8	359.82	2.56	0.7448	0.6819	0.6411	0.6134	0.5960	0.5824	0.5798	0.5999	0.6361	0.6715	0.7486	0.8236	0.8314
7	279.31	2.45	0.7967	0.7316	0.6716	0.6331	0.6249	0.6329	0.6573	0.6880	0.7191	0.7422	0.7854	0.8324	0.8381
6	216.82	2.34	0.8367	0.7817	0.7020	0.6529	0.6538	0.6890	0.7348	0.7761	0.8021	0.8191	0.8316	0.8413	0.8448
5	168.30	2.23	0.9471	0.8641	0.7872	0.7336	0.7086	0.7638	0.8109	0.8547	0.8853	0.8982	0.9102	0.9189	0.9259
4	130.64	2.12	1.0000	0.9495	0.8775	0.8201	0.7822	0.8398	0.8868	0.9323	0.9057	0.9770	0.9910	1.0000	1.0000
3	101.41	2.01	1.0000	1.0000	0.9636	0.9061	0.8741	0.9170	0.9641	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	78.72	1.90	1.0000	1.0000	1.0000	0.9879	0.9798	0.9887	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	61.11	1.79	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Table J.8. Performance data for tank crew: tank commander (Concluded).

GRID LINE	DOSE	LOG(DOSE)	TIME GRID LINES (HRS)												
			79.43 (1.9)	100.00 (2.0)	125.89 (2.1)	158.49 (2.2)	199.53 (2.3)	251.19 (2.4)	316.23 (2.5)	398.11 (2.6)	501.19 (2.7)	630.96 (2.8)	794.33 (2.9)	1000.00 (3.0)	1258.93 (3.1)
18	4529.93	3.66	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	3516.34	3.55	0.0177	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
16	2729.55	3.44	0.0775	0.0210	0.0026	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
15	2118.91	3.33	0.1602	0.0972	0.0450	0.0341	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14	1644.72	3.22	0.4149	0.2754	0.1628	0.1139	0.0485	0.0048	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
13	1276.71	3.11	0.6460	0.4709	0.3422	0.2610	0.1721	0.1014	0.0325	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
12	991.04	3.00	0.7724	0.6674	0.5678	0.5329	0.3954	0.3408	0.2528	0.1579	0.0000	0.0000	0.0000	0.0000	0.0000
11	769.29	2.89	0.8025	0.7856	0.7544	0.7489	0.6606	0.6162	0.5717	0.5242	0.4905	0.0769	0.0000	0.0000	0.0000
10	597.16	2.78	0.8123	0.8224	0.8307	0.8322	0.8212	0.7880	0.7732	0.7586	0.6513	0.4275	0.3510	0.0000	0.0000
9	463.54	2.67	0.8206	0.8228	0.8242	0.8213	0.8119	0.7932	0.7813	0.7695	0.7413	0.6590	0.5697	0.2936	0.0914
8	359.82	2.56	0.8293	0.8227	0.8181	0.8122	0.8047	0.7975	0.7901	0.7817	0.7858	0.7709	0.6786	0.5159	0.2716
7	279.31	2.45	0.8378	0.8276	0.8224	0.8179	0.8143	0.8149	0.8107	0.8064	0.8232	0.6154	0.7533	0.6254	0.4458
6	216.82	2.34	0.8464	0.8461	0.8475	0.8488	0.8503	0.8523	0.8538	0.8553	0.8607	0.8599	0.8279	0.7348	0.6200
5	168.30	2.23	0.9321	0.9381	0.9440	0.9498	0.9555	0.9611	0.9667	0.9722	0.9776	0.9830	0.9860	0.9890	1.0000
4	130.64	2.12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3	101.41	2.01	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	78.72	1.90	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	61.11	1.79	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Table J.9. Performance data for tank crew: gunner.

GRID LINE	DOSE	LOG(DOSE)	TIME GRID LINES (HRS) 0.20 (-0.7)	0.25 (-0.6)	0.32 (-0.5)	0.40 (-0.4)	0.50 (-0.3)	0.63 (-0.2)	0.79 (-0.1)	1.00 (0.0)	1.26 (0.1)	1.58 (0.2)	2.00 (0.3)	2.51 (0.4)	3.16 (0.5)
18	4529.93	3.66	1.0000	1.0000	0.8099	0.6263	0.4800	0.3635	0.2706	0.1967	0.1378	0.0909	0.0535	0.0237	0.0000
17	3516.34	3.55	1.0000	1.0000	1.0000	0.8084	0.8229	0.7625	0.6803	0.5801	0.5244	0.5047	0.4510	0.3591	0.2674
16	2729.55	3.44	1.0000	1.0000	1.0000	0.9977	0.8791	0.8130	0.7649	0.7026	0.6076	0.5928	0.5064	0.4439	0.4156
15	2118.81	3.33	1.0000	1.0000	1.0000	1.0000	0.9364	0.8638	0.8278	0.7615	0.6776	0.6390	0.5510	0.4987	0.5032
14	1644.72	3.22	1.0000	1.0000	1.0000	1.0000	1.0000	0.9637	0.8574	0.8037	0.7438	0.6906	0.5950	0.5503	0.5560
13	1276.71	3.11	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8988	0.8466	0.8016	0.7255	0.6434	0.6024	0.5927
12	991.04	3.00	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9226	0.8548	0.8154	0.7512	0.6728	0.6261
11	769.29	2.89	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9179	0.8545	0.8193	0.7568	0.6990
10	597.16	2.78	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9119	0.8696	0.8210	0.7662
9	463.54	2.67	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9172	0.8523	0.8162
8	359.82	2.56	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9944	0.9031	0.8660
7	279.31	2.45	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9851	0.9168
6	216.82	2.34	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9730
5	168.30	2.23	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
4	130.64	2.12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3	101.41	2.01	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	78.72	1.90	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	61.11	1.79	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

GRID LINE	DOSE	LOG(DOSE)	TIME GRID LINES (HRS) 3.98 (0.6)	5.01 (0.7)	6.31 (0.8)	7.94 (0.9)	10.00 (1.0)	12.59 (1.1)	15.85 (1.2)	19.95 (1.3)	25.12 (1.4)	31.62 (1.5)	39.81 (1.6)	50.12 (1.7)	63.10 (1.8)
18	4529.93	3.66	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	3516.34	3.55	0.1971	0.1267	0.1591	0.1290	0.1105	0.0948	0.0933	0.0941	0.0936	0.0811	0.0812	0.0594	0.0290
16	2729.55	3.44	0.3698	0.2861	0.2630	0.1768	0.1442	0.1306	0.1398	0.1502	0.1525	0.1539	0.1643	0.1469	0.1115
15	2118.81	3.33	0.5021	0.4453	0.3405	0.2287	0.1781	0.1668	0.1865	0.2063	0.2114	0.2269	0.2578	0.2638	0.2488
14	1644.72	3.22	0.5693	0.5331	0.4027	0.2829	0.2415	0.2315	0.2517	0.2855	0.3214	0.3531	0.3966	0.4250	0.4673
13	1276.71	3.11	0.5999	0.5797	0.4654	0.3583	0.3067	0.2951	0.3167	0.3629	0.4260	0.4724	0.5267	0.5815	0.6806
12	991.04	3.00	0.6107	0.5915	0.5353	0.4633	0.3719	0.3429	0.3788	0.4171	0.4575	0.4979	0.5400	0.6723	0.7816
11	769.29	2.89	0.6507	0.6348	0.6049	0.5670	0.5123	0.4667	0.5220	0.5579	0.5911	0.6247	0.6713	0.7630	0.8296
10	597.16	2.78	0.7056	0.6816	0.6670	0.6512	0.6331	0.6077	0.6249	0.6550	0.6857	0.7169	0.7723	0.8389	0.8605
9	463.54	2.67	0.7632	0.7259	0.7120	0.6986	0.6812	0.6540	0.6469	0.6641	0.6972	0.7329	0.8005	0.8725	0.8839
8	359.82	2.56	0.8114	0.7655	0.7406	0.7214	0.7076	0.6959	0.6851	0.6981	0.7303	0.7646	0.8287	0.8843	0.8925
7	279.31	2.45	0.8449	0.8015	0.7595	0.7326	0.7283	0.7372	0.7492	0.7717	0.7977	0.8212	0.8570	0.8870	0.8921
6	216.82	2.34	0.8784	0.8374	0.7785	0.7439	0.7489	0.7784	0.8133	0.8452	0.8651	0.8778	0.8852	0.8898	0.8917
5	168.30	2.23	0.9606	0.8987	0.8417	0.8032	0.7876	0.8307	0.8668	0.9002	0.9291	0.9333	0.9384	0.9435	0.9481
4	130.64	2.12	1.0000	0.9624	0.9090	0.8671	0.8402	0.8840	0.9103	0.9534	0.9822	0.9880	0.9938	1.0000	1.0000
3	101.41	2.01	1.0000	1.0000	0.9731	0.9307	0.9070	0.9373	0.9735	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	78.72	1.90	1.0000	1.0000	1.0000	0.9910	0.9851	0.9905	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	61.11	1.79	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Table J.9. Performance data for tank crew: gunner (Concluded).

GRID LINE	DOSE	LOG(DOSE)	TIME GRID LINES (HRS)												
			79.43 (1.9)	100.00 (2.0)	125.89 (2.1)	158.49 (2.2)	199.53 (2.3)	251.19 (2.4)	316.23 (2.5)	398.11 (2.6)	501.19 (2.7)	630.96 (2.8)	794.33 (2.9)	1000.00 (3.0)	1258.93 (3.1)
18	4529.03	3.66	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	3516.34	3.55	0.0152	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
16	2729.55	3.44	0.0793	0.0195	0.0022	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
15	2118.81	3.33	0.2041	0.1004	0.0451	0.0386	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14	1644.72	3.22	0.4729	0.3220	0.1909	0.1506	0.0689	0.0070	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
13	1276.71	3.11	0.7358	0.5435	0.4018	0.3407	0.2354	0.1460	0.0502	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
12	991.04	3.00	0.8505	0.7541	0.6484	0.6269	0.5139	0.4666	0.3761	0.2502	0.0000	0.0000	0.0000	0.0000	0.0000
11	769.29	2.89	0.8631	0.8551	0.8251	0.8242	0.7691	0.7486	0.6960	0.6506	0.6109	0.1044	0.0000	0.0000	0.0000
10	597.16	2.78	0.8728	0.8834	0.8892	0.8902	0.8846	0.8670	0.8639	0.8614	0.7723	0.5527	0.4658	0.0000	0.0000
9	463.54	2.67	0.8860	0.8863	0.8820	0.8799	0.8749	0.8653	0.8613	0.8617	0.8467	0.7807	0.6988	0.3570	0.0914
8	359.82	2.56	0.8940	0.8890	0.8767	0.8733	0.8669	0.8645	0.8604	0.8631	0.8730	0.8641	0.7867	0.6066	0.2716
7	279.31	2.45	0.8936	0.8918	0.8773	0.8734	0.8715	0.8722	0.8696	0.8723	0.8885	0.8846	0.8335	0.6858	0.4458
6	216.82	2.34	0.8932	0.8945	0.8933	0.8943	0.8955	0.8970	0.8981	0.8997	0.9041	0.9051	0.8804	0.7651	0.6200
5	168.30	2.23	0.9524	0.9567	0.9608	0.9649	0.9689	0.9728	0.9768	0.9807	0.9845	0.9884	0.9902	0.9902	1.0000
4	130.64	2.12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3	101.41	2.01	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	78.72	1.90	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	61.11	1.79	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Table J.10. Performance data for tank crew: leader.

GRID LINE	DOSE	LOG(DOSE)	TIME GRID LINES (HRS) 0.20 (-0.7)	0.25 (-0.6)	0.32 (-0.5)	0.40 (-0.4)	0.50 (-0.3)	0.63 (-0.2)	0.79 (-0.1)	1.00 (0.0)	1.26 (0.1)	1.58 (0.2)	2.00 (0.3)	2.51 (0.4)	3.16 (0.5)
18	4529.03	3.66	1.0000	1.0000	0.8099	0.6263	0.4800	0.3635	0.2706	0.1967	0.1378	0.0909	0.0535	0.0237	0.0000
17	3516.34	3.55	1.0000	1.0000	1.0000	0.8093	0.7506	0.6494	0.5072	0.3785	0.3314	0.3103	0.2642	0.2098	0.1669
16	2729.55	3.44	1.0000	1.0000	1.0000	0.9079	0.8215	0.7179	0.6529	0.5310	0.4506	0.4011	0.3122	0.2597	0.2490
15	2118.81	3.33	1.0000	[illegible]	1.0000	1.0000	0.8943	0.7868	0.7398	0.6476	0.5376	0.4674	0.3600	0.3096	0.3089
14	1646.72	3.22	1.0000	1.0000	1.0000	1.0000	1.0000	0.9431	0.7757	0.7046	0.6073	0.5193	0.4081	0.3686	0.3623
13	1276.71	3.11	1.0000	1.0000	[illegible]	1.0000	1.0000	1.0000	0.8520	0.7627	0.6777	0.5762	0.4736	0.4350	0.4071
12	991.04	3.00	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8726	0.7722	0.7014	0.6082	0.5100	0.4474
11	769.29	2.89	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8760	0.7642	0.7179	0.6462	0.5631
10	597.16	2.78	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8580	0.7997	0.7452	0.6641
9	463.54	2.67	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8686	0.7758	0.7263
8	359.82	2.56	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9906	0.8452	0.7888
7	279.31	2.45	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9762	0.8609
6	216.82	2.34	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	[illegible]
5	168.30	2.23	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
4	130.64	2.12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3	101.41	2.01	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	78.72	1.90	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	61.11	1.79	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

GRID LINE	DOSE	LOG(DOSE)	TIME GRID LINES (HRS) 3.98 (0.6)	5.01 (0.7)	6.31 (0.8)	7.94 (0.9)	10.00 (1.0)	12.59 (1.1)	15.85 (1.2)	19.95 (1.3)	25.12 (1.4)	31.62 (1.5)	39.81 (1.6)	50.12 (1.7)	63.10 (1.8)
18	4529.03	3.66	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	3516.34	3.55	0.1249	0.0785	0.0627	0.0669	0.0571	0.0489	0.0483	0.0490	0.0493	0.0435	0.0449	0.0348	0.0198
16	2729.55	3.44	0.2267	0.1693	0.1401	0.0921	0.0742	0.0672	0.0709	0.0753	0.0773	0.0788	0.0870	0.0790	0.0630
15	2118.81	3.33	0.3039	0.2600	0.1888	0.1171	0.0913	0.0855	0.0936	0.1017	0.1054	0.1143	0.1294	0.1405	0.1440
14	1646.72	3.22	0.3483	0.3191	0.2347	0.1516	0.1265	0.1230	0.1314	0.1483	0.1671	0.1890	0.2140	0.2366	0.3031
13	1276.71	3.11	0.3837	0.3604	0.2907	0.2009	0.1686	0.1600	0.1703	0.1942	0.2263	0.2596	0.2932	0.3410	0.4599
12	991.04	3.00	0.4177	0.3875	0.3368	0.2786	0.2138	0.1907	0.2092	0.2299	0.2518	0.2755	0.2997	0.4479	0.5657
11	769.29	2.89	0.4983	0.4608	0.4238	0.3833	0.3375	0.3125	0.3359	0.3597	0.3830	0.4071	0.4567	0.5721	0.6538
10	597.16	2.78	0.5812	0.5320	0.5015	0.4734	0.4432	0.4115	0.4268	0.4494	0.4756	0.5027	0.5760	0.6760	0.7154
9	463.54	2.67	0.6508	0.6364	0.5492	0.5214	0.4882	0.4554	0.4435	0.4560	0.4847	0.5172	0.6043	0.7222	0.7489
8	359.82	2.56	0.7068	0.6394	0.5895	0.5545	0.5268	0.5019	0.4824	0.4959	0.5202	0.5519	0.6362	0.7439	0.7642
7	279.31	2.45	0.7583	0.6924	0.6282	0.5830	0.5629	0.5600	0.5724	0.5984	0.6170	0.6380	0.6870	0.7581	0.7721
6	216.82	2.34	0.8017	0.7455	0.6668	0.6114	0.5991	0.6269	0.6655	0.7010	0.7234	0.7412	0.7561	0.7723	0.7801
5	168.30	2.23	0.8355	0.8412	0.7605	0.6911	0.6583	0.7158	0.7592	0.8036	0.8331	0.8538	0.8703	0.8837	0.8945
4	130.64	2.12	1.0000	0.9410	0.8594	0.7867	0.7394	0.8059	0.8555	0.9063	0.9426	0.9670	0.9870	1.0000	1.0000
3	101.41	2.01	1.0000	1.0000	0.9546	0.8838	0.8454	0.8959	0.9559	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	78.72	1.90	1.0000	1.0000	1.0000	0.9614	0.9752	0.9851	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	61.11	1.79	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Table J.10. Performance data for tank crew: loader (Concluded).

GRID LINE	DOSE	LOG(DOSE)	TIME GRID LINES (HRS) 79.43 (1.9)	100.00 (2.0)	125.89 (2.1)	158.49 (2.2)	199.53 (2.3)	251.19 (2.4)	316.23 (2.5)	398.11 (2.6)	501.19 (2.7)	630.96 (2.8)	794.33 (2.9)	1000.00 (3.0)	1258.93 (3.1)
18	4529.93	3.66	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	3516.34	3.55	0.0138	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
16	2729.55	3.44	0.0569	0.0154	0.0021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
15	2118.81	3.33	0.1285	0.0729	0.0364	0.0273	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14	1648.72	3.22	0.3218	0.1937	0.1213	0.0847	0.0370	0.0041	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
13	1276.71	3.11	0.5138	0.3607	0.2629	0.1947	0.1342	0.0835	0.0285	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
12	991.04	3.00	0.6659	0.5596	0.4639	0.4394	0.3147	0.2723	0.1897	0.1191	0.0000	0.0000	0.0000	0.0000	0.0000
11	769.29	2.89	0.7113	0.6966	0.6608	0.6658	0.5870	0.5347	0.4905	0.4562	0.4200	0.0614	0.0000	0.0000	0.0000
10	597.16	2.78	0.7353	0.7479	0.7597	0.7635	0.7498	0.6988	0.6822	0.6732	0.5618	0.3495	0.2957	0.0000	0.0000
9	463.54	2.67	0.7546	0.7517	0.7485	0.7415	0.7279	0.7002	0.6854	0.6786	0.6410	0.5654	0.4750	0.2499	0.0914
8	359.82	2.56	0.7670	0.7556	0.7439	0.7247	0.7126	0.7049	0.6924	0.6897	0.7024	0.6867	0.5927	0.4524	0.2716
7	279.31	2.45	0.7762	0.7623	0.7479	0.7387	0.7332	0.7339	0.7288	0.7279	0.7572	0.7475	0.6853	0.5796	0.4458
6	216.82	2.34	0.7854	0.7657	0.7881	0.7906	0.7937	0.7979	0.8010	0.8045	0.8121	0.8083	0.7780	0.7567	0.6209
5	168.30	2.23	0.9047	0.9138	0.9224	0.9308	0.9390	0.9470	0.9549	0.9627	0.9701	0.9768	0.9839	0.9879	1.0000
4	130.64	2.12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3	101.41	2.01	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	78.72	1.90	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	61.11	1.79	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Table J.11. Performance data for tank crew: driver.

GRID LINE	DOSE	LOG(DOSE)	TIME GRID LINES (HRS)												
			0.20 (-0.7)	0.25 (-0.6)	0.32 (-0.5)	0.40 (-0.4)	0.50 (-0.3)	0.63 (-0.2)	0.79 (-0.1)	1.00 (0.0)	1.26 (0.1)	1.58 (0.2)	2.00 (0.3)	2.51 (0.4)	3.16 (0.5)
18	4529.93	3.66	1.0000	1.0000	0.8099	0.6263	0.4600	0.3635	0.2706	0.1967	0.1378	0.0909	0.0535	0.0237	0.0000
17	3516.34	3.55	1.0000	1.0000	1.0000	0.8062	0.8348	0.7549	0.6404	0.5087	0.4528	0.4268	0.3665	0.2507	0.2288
16	2729.55	3.44	1.0000	1.0000	1.0000	0.9969	0.8820	0.8070	0.7719	0.6674	0.5867	0.5360	0.4239	0.3568	0.3453
15	2118.81	3.33	1.0000	1.0000	1.0000	1.0000	0.9304	0.8593	0.8263	0.7543	0.6619	0.5945	0.4613	0.4229	0.4213
14	1644.72	3.22	1.0000	1.0000	1.0000	1.0000	1.0000	0.9625	0.8511	0.7980	0.7194	0.6412	0.5383	0.4886	0.4815
13	1276.71	3.11	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8895	0.8416	0.7775	0.6917	0.5996	0.5545	0.5295
12	991.04	3.00	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9162	0.8496	0.7944	0.7195	0.6321	0.5736
11	769.29	2.89	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9229	0.8419	0.8090	0.7490	0.6800
10	597.16	2.78	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9064	0.8678	0.8311	0.7683
9	463.54	2.67	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9133	0.8519	0.8149
8	359.82	2.56	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9938	0.8980	0.8616
7	279.31	2.45	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9843	0.9108
6	216.82	2.34	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9705
5	168.30	2.23	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
4	130.64	2.12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3	101.41	2.01	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	78.72	1.90	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	61.11	1.79	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

GRID LINE	DOSE	LOG(DOSE)	TIME GRID LINES (HRS)												
			3.98 (0.6)	5.01 (0.7)	6.31 (0.8)	7.94 (0.9)	10.00 (1.0)	12.59 (1.1)	15.85 (1.2)	19.95 (1.3)	25.12 (1.4)	31.62 (1.5)	39.81 (1.6)	50.12 (1.7)	63.10 (1.8)
18	4529.93	3.66	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	3516.34	3.55	0.1766	0.1200	0.1354	0.1296	0.1145	0.1014	0.1006	0.1019	0.1027	0.0904	0.0929	0.0727	0.0396
16	2729.55	3.44	0.3152	0.2461	0.2349	0.1683	0.1430	0.1317	0.1377	0.1448	0.1484	0.1494	0.1624	0.1553	0.1261
15	2118.81	3.33	0.4160	0.3721	0.2936	0.2070	0.1715	0.1621	0.1709	0.1878	0.1943	0.2086	0.2321	0.2513	0.2531
14	1644.72	3.22	0.4703	0.4430	0.3472	0.2550	0.2223	0.2163	0.2295	0.2514	0.2756	0.3060	0.3379	0.3721	0.4298
13	1276.71	3.11	0.5084	0.4868	0.4010	0.3179	0.2793	0.2696	0.2840	0.3140	0.3536	0.3981	0.4371	0.4911	0.6020
12	991.04	3.00	0.5431	0.5121	0.4645	0.4084	0.3379	0.3145	0.3380	0.3630	0.3893	0.4173	0.4451	0.5864	0.6882
11	769.29	2.89	0.6229	0.5841	0.5506	0.5132	0.4680	0.4484	0.4726	0.4976	0.5210	0.5448	0.5902	0.6937	0.7595
10	597.16	2.78	0.7013	0.6541	0.6253	0.6003	0.5749	0.5516	0.5678	0.5895	0.6128	0.6366	0.6977	0.7786	0.8061
9	463.54	2.67	0.7578	0.7036	0.6667	0.6416	0.6133	0.5877	0.5824	0.5958	0.6211	0.6492	0.7171	0.8057	0.8269
8	359.82	2.56	0.7996	0.7466	0.7025	0.6712	0.6476	0.6273	0.6193	0.6306	0.6546	0.6776	0.7401	0.8194	0.8365
7	279.31	2.45	0.8384	0.7876	0.7362	0.6980	0.6800	0.6779	0.6916	0.7105	0.7309	0.7448	0.7793	0.8315	0.8431
6	216.82	2.34	0.8691	0.8290	0.7679	0.7248	0.7125	0.7343	0.7639	0.7904	0.8074	0.8201	0.8313	0.8435	0.8496
5	168.30	2.23	0.9575	0.8936	0.8357	0.7889	0.7614	0.8002	0.8341	0.8639	0.8837	0.8986	0.9105	0.9201	0.9282
4	130.64	2.12	1.0000	0.9605	0.9045	0.8565	0.8233	0.8665	0.9029	0.9369	0.9600	0.9771	0.9910	1.0000	1.0000
3	101.41	2.01	1.0000	1.0000	0.9706	0.9248	0.8982	0.9326	0.9711	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	78.72	1.90	1.0000	1.0000	1.0000	0.9896	0.9837	0.9917	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	61.11	1.79	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Table J.11. Performance data for tank crew: driver (Concluded).

GRID LINE	DOSE	LOG(DOSE)	TIME GRID LINES (HRS)												
			79.43 (1.9)	100.00 (2.0)	125.89 (2.1)	158.49 (2.2)	199.53 (2.3)	251.19 (2.4)	316.23 (2.5)	398.11 (2.6)	501.19 (2.7)	630.96 (2.8)	794.33 (2.9)	1000.00 (3.0)	1258.93 (3.1)
18	4529.03	3.66	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	3514.34	3.55	0.0204	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
16	2729.55	3.44	0.1002	0.0270	0.0037	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
15	2118.81	3.33	0.2064	0.1120	0.0528	0.0394	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14	1644.72	3.22	0.3240	0.2739	0.1665	0.1180	0.0539	0.0063	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
13	1276.71	3.11	0.4381	0.4609	0.3363	0.2318	0.1802	0.1175	0.0468	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
12	991.04	3.00	0.5611	0.6529	0.5506	0.5200	0.3916	0.3562	0.2906	0.2072	0.0000	0.0000	0.0000	0.0000	0.0000
11	769.29	2.89	0.7996	0.7796	0.7454	0.7460	0.6631	0.6206	0.5865	0.5501	0.5406	0.0942	0.0000	0.0000	0.0000
10	597.16	2.78	0.8175	0.8251	0.8325	0.8356	0.8256	0.7845	0.7702	0.7631	0.6751	0.4917	0.4072	0.0000	0.0000
9	463.54	2.67	0.8300	0.8286	0.8248	0.8191	0.8085	0.7860	0.7738	0.7677	0.7416	0.6843	0.5893	0.2916	0.0914
8	359.82	2.56	0.8387	0.8324	0.8188	0.8072	0.7975	0.7909	0.7813	0.7767	0.7864	0.7728	0.6749	0.5144	0.2716
7	279.31	2.45	0.8463	0.8378	0.8266	0.8196	0.8153	0.8155	0.8117	0.8105	0.8311	0.8238	0.7596	0.6281	0.4458
6	216.82	2.34	0.8538	0.8545	0.8564	0.8586	0.8610	0.8640	0.8666	0.8693	0.8757	0.8747	0.8406	0.7419	0.6200
5	168.30	2.23	0.9352	0.9415	0.9475	0.9533	0.9590	0.9645	0.9699	0.9751	0.9803	0.9849	0.9871	0.9893	1.0000
4	130.64	2.12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3	101.41	2.01	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	78.72	1.90	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	61.11	1.79	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Table J.12. Performance data for TOW crew: squad leader.

GRID LINE	DOSE	LOG(DOSE)	TIME GRID LINES (HRS) 0.20 (-0.7)	0.25 (-0.6)	0.32 (-0.5)	0.40 (-0.4)	0.50 (-0.3)	0.63 (-0.2)	0.79 (-0.1)	1.00 (0.0)	1.26 (0.1)	1.58 (0.2)	2.00 (0.3)	2.51 (0.4)	3.16 (0.5)
18	4529.03	3.66	1.0000	1.0000	0.8099	0.6263	0.4800	0.3635	0.2706	0.1967	0.1378	0.0909	0.0535	0.0237	0.0000
17	3516.34	3.55	1.0000	1.0000	1.0000	0.8011	0.8267	0.7287	0.5759	0.4849	0.3899	0.3475	0.3093	0.2531	0.2130
16	2729.55	3.44	1.0000	1.0000	1.0000	0.9965	0.8771	0.7915	0.7342	0.6381	0.5245	0.4598	0.4039	0.3098	0.2668
15	2119.81	3.33	1.0000	1.0000	1.0000	1.0000	0.9287	0.8545	0.8157	0.7282	0.6141	0.5307	0.4573	0.3665	0.3199
14	1644.72	3.22	1.0000	1.0000	1.0000	1.0000	1.0000	0.9612	0.8445	0.7810	0.6836	0.5874	0.4933	0.4231	0.3863
13	1276.71	3.11	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8848	0.8346	0.7543	0.6488	0.5368	0.4809	0.4518
12	991.04	3.00	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9140	0.8424	0.7749	0.6827	0.5755	0.5055
11	769.29	2.89	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9242	0.8327	0.7939	0.7216	0.6374
10	597.16	2.78	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9037	0.8628	0.8229	0.7459
9	463.54	2.67	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9106	0.8462	0.8011
8	359.82	2.56	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9937	0.8949	0.8560
7	279.31	2.45	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9838	0.9111
6	216.82	2.34	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9702
5	168.30	2.23	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
4	130.64	2.12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3	101.41	2.01	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	78.72	1.90	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	61.11	1.79	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

GRID LINE	DOSE	LOG(DOSE)	TIME GRID LINES (HRS) 3.98 (0.6)	5.01 (0.7)	6.31 (0.8)	7.94 (0.9)	10.00 (1.0)	12.59 (1.1)	15.85 (1.2)	19.95 (1.3)	25.12 (1.4)	31.62 (1.5)	39.81 (1.6)	50.12 (1.7)	63.10 (1.8)
18	4529.03	3.66	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	3516.34	3.55	0.1694	0.1080	0.0683	0.0745	0.0642	0.0551	0.0586	0.0661	0.0750	0.0860	0.1142	0.1166	0.0570
16	2729.55	3.44	0.2213	0.1673	0.1303	0.0909	0.0749	0.0670	0.0678	0.0768	0.0968	0.1285	0.1715	0.2009	0.2080
15	2119.81	3.33	0.2733	0.2257	0.1722	0.1072	0.0857	0.0790	0.0770	0.0877	0.1188	0.1711	0.2289	0.2760	0.3249
14	1644.72	3.22	0.3509	0.3078	0.2245	0.1455	0.1230	0.1194	0.1227	0.1441	0.1783	0.2366	0.2867	0.3559	0.4262
13	1276.71	3.11	0.4252	0.3863	0.2599	0.2105	0.1771	0.1689	0.1803	0.2051	0.2375	0.2992	0.3411	0.4982	0.5276
12	991.04	3.00	0.4687	0.4302	0.3765	0.3175	0.2473	0.2214	0.2427	0.2664	0.2920	0.3209	0.3483	0.5100	0.6308
11	769.29	2.89	0.5671	0.5192	0.4795	0.4367	0.3883	0.3660	0.3911	0.4166	0.4412	0.4665	0.5194	0.6440	0.7255
10	597.16	2.78	0.6634	0.6045	0.5674	0.5358	0.5035	0.4765	0.4938	0.5177	0.5441	0.5714	0.6463	0.7470	0.7779
9	463.54	2.67	0.7319	0.6651	0.6174	0.5846	0.5501	0.5182	0.5102	0.5246	0.5535	0.5858	0.6691	0.7772	0.7934
8	359.82	2.56	0.7822	0.7176	0.6613	0.6218	0.5914	0.5658	0.5549	0.5671	0.5958	0.6268	0.6984	0.7567	0.8088
7	279.31	2.45	0.8237	0.7679	0.7042	0.6566	0.6324	0.6296	0.6443	0.6660	0.6903	0.7129	0.7504	0.8146	0.8242
6	216.82	2.34	0.8653	0.8181	0.7471	0.6915	0.6733	0.7001	0.7338	0.7649	0.7847	0.8012	0.8161	0.8325	0.8404
5	168.30	2.23	0.9564	0.8872	0.8287	0.7664	0.7368	0.7776	0.8180	0.8480	0.8785	0.8881	0.9027	0.9148	0.9246
4	130.64	2.12	1.0000	0.9581	0.8972	0.8452	0.8121	0.8553	0.8968	0.9297	0.9660	0.9747	0.9902	1.0000	1.0000
3	101.41	2.01	1.0000	1.0000	0.9700	0.9247	0.8958	0.9320	0.9708	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	78.72	1.90	1.0000	1.0000	1.0000	0.9909	0.9833	0.9923	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	61.11	1.79	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Table J.12. Performance data for TOW crew: squad leader (Concluded).

GRID LINE	DOSE	LOG(DOSE)	TIME GRID LINES (HRS)												
			79.43 (1.9)	100.00 (2.0)	125.89 (2.1)	158.49 (2.2)	199.53 (2.3)	251.19 (2.4)	316.23 (2.5)	398.11 (2.6)	501.19 (2.7)	630.96 (2.8)	794.33 (2.9)	1000.00 (3.0)	1258.93 (3.1)
18	4529.93	3.66	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	3516.34	3.55	0.0789	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
16	2729.55	3.44	0.2463	0.1194	0.0264	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
15	2118.81	3.33	0.3758	0.2669	0.1483	0.0704	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14	1644.72	3.22	0.4897	0.3879	0.2595	0.1314	0.0455	0.0056	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
13	1276.71	3.11	0.6040	0.5112	0.3788	0.2062	0.1528	0.0889	0.0327	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
12	991.04	3.00	0.7224	0.6670	0.6081	0.5239	0.3331	0.2361	0.1480	0.0768	0.0000	0.0000	0.0000	0.0000	0.0000
11	769.29	2.89	0.7803	0.7690	0.7567	0.7262	0.5936	0.5050	0.4137	0.3528	0.3091	0.0461	0.0000	0.0000	0.0000
10	597.16	2.78	0.7963	0.8035	0.8058	0.7955	0.7655	0.7160	0.6374	0.5560	0.4417	0.2655	0.2144	0.0000	0.0000
9	463.54	2.67	0.8004	0.8032	0.8040	0.7995	0.7874	0.7720	0.7245	0.6206	0.5409	0.4483	0.3973	0.2349	0.0914
8	359.82	2.56	0.8051	0.8040	0.8037	0.8043	0.8094	0.8024	0.7738	0.6860	0.6395	0.5881	0.5287	0.4320	0.2716
7	279.31	2.45	0.8167	0.8161	0.8157	0.8175	0.8312	0.8285	0.8133	0.7581	0.7377	0.7021	0.6526	0.5690	0.4458
6	216.82	2.34	0.8446	0.8478	0.8493	0.8503	0.8534	0.8546	0.8528	0.8441	0.8358	0.8160	0.7765	0.7061	0.6200
5	168.30	2.23	0.9326	0.9392	0.9449	0.9502	0.9555	0.9608	0.9658	0.9704	0.9746	0.9783	0.9820	0.9879	1.0000
4	130.64	2.12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3	101.41	2.01	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	78.72	1.90	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	61.11	1.79	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Table J.13. Performance data for TOW crew: gunner.

GRID LINE	DOSE	LOG(DOSE)	TIME GRID LINES (HRS)												
			0.20 (-0.7)	0.25 (-0.6)	0.32 (-0.5)	0.40 (-0.4)	0.50 (-0.3)	0.63 (-0.2)	0.79 (-0.1)	1.00 (0.0)	1.26 (0.1)	1.58 (0.2)	2.00 (0.3)	2.51 (0.4)	3.16 (0.5)
18	4529.03	3.66	1.0000	1.0000	0.8094	0.6263	0.4900	0.3635	0.2706	0.1967	0.1378	0.0909	0.0535	0.0237	0.0000
17	3516.34	3.55	1.0000	1.0000	1.0000	0.8329	0.7716	0.6532	0.4716	0.3696	0.2700	0.2328	0.2046	0.1678	0.1421
16	2729.55	3.44	1.0000	1.0000	1.0000	0.9918	0.8382	0.7306	0.6381	0.5254	0.4603	0.3452	0.2926	0.2130	0.1802
15	2118.81	3.33	1.0000	1.0000	1.0000	1.0000	0.9062	0.8083	0.7580	0.6516	0.5268	0.4335	0.3509	0.2582	0.2184
14	1644.72	3.22	1.0000	1.0000	1.0000	1.0000	1.0000	0.9489	0.7955	0.7165	0.6007	0.4949	0.3914	0.3118	0.2866
13	1276.71	3.11	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8509	0.7819	0.6827	0.5621	0.4400	0.3805	0.3538
12	991.04	3.00	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8867	0.7930	0.7094	0.5996	0.4819	0.4087
11	769.29	2.89	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9002	0.7812	0.7310	0.6491	0.5515
10	597.16	2.78	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8731	0.8192	0.7668	0.6726
9	463.54	2.67	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8822	0.7974	0.7411
8	359.82	2.56	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9917	0.8615	0.8098
7	279.31	2.45	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9787	0.8801
6	216.82	2.34	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9603
5	168.30	2.23	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
4	130.64	2.12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3	101.41	2.01	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	78.72	1.90	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	61.11	1.79	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

GRID LINE	DOSE	LOG(DOSE)	TIME GRID LINES (HRS)												
			3.98 (0.6)	5.01 (0.7)	6.31 (0.8)	7.94 (0.9)	10.00 (1.0)	12.59 (1.1)	15.85 (1.2)	19.95 (1.3)	25.12 (1.4)	31.62 (1.5)	39.61 (1.6)	50.12 (1.7)	63.10 (1.8)
18	4529.03	3.66	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	3516.34	3.55	0.1126	0.0717	0.0566	0.0478	0.0412	0.0355	0.0381	0.0431	0.0492	0.0547	0.0739	0.0717	0.0565
16	2729.55	3.44	0.1488	0.1119	0.0656	0.0593	0.0490	0.0440	0.0448	0.0511	0.0653	0.0879	0.1200	0.1367	0.1383
15	2118.81	3.33	0.1651	0.1522	0.1145	0.0709	0.0567	0.0526	0.0515	0.0592	0.0815	0.1212	0.1661	0.2002	0.2355
14	1644.72	3.22	0.2590	0.2213	0.1547	0.0985	0.0833	0.0810	0.0834	0.0983	0.1258	0.1794	0.2220	0.2632	0.3449
13	1276.71	3.11	0.3307	0.2888	0.2097	0.1493	0.1254	0.1198	0.1288	0.1489	0.1759	0.2350	0.2745	0.3278	0.4541
12	991.04	3.00	0.3731	0.3353	0.2691	0.2414	0.1862	0.1660	0.1808	0.2049	0.2270	0.2554	0.2808	0.4333	0.5566
11	769.29	2.89	0.4738	0.4227	0.3658	0.3480	0.3084	0.2924	0.3169	0.3418	0.3663	0.3916	0.4481	0.5742	0.6567
10	597.16	2.78	0.5754	0.5084	0.4701	0.4390	0.4084	0.3897	0.4047	0.4335	0.4614	0.4905	0.5727	0.6816	0.7188
9	463.54	2.67	0.6553	0.5766	0.5237	0.4892	0.4541	0.4285	0.4247	0.4408	0.4712	0.5061	0.5961	0.7115	0.7351
8	359.82	2.56	0.7176	0.6395	0.5744	0.5303	0.4994	0.4740	0.4658	0.4865	0.5110	0.5442	0.6268	0.7357	0.7519
7	279.31	2.45	0.7702	0.7008	0.6240	0.5689	0.5437	0.5410	0.5612	0.5931	0.6153	0.6376	0.6653	0.7593	0.7693
6	216.82	2.34	0.8227	0.7622	0.6737	0.6075	0.5880	0.6193	0.6610	0.6997	0.7240	0.7439	0.7625	0.7828	0.7915
5	168.30	2.23	0.9426	0.8523	0.7679	0.7012	0.6629	0.7161	0.7615	0.8047	0.8333	0.8556	0.8742	0.8895	0.9021
4	130.64	2.12	1.0000	0.9451	0.8664	0.8001	0.7556	0.8134	0.8620	0.9096	0.9426	0.9674	0.9873	1.0000	1.0000
3	101.41	2.01	1.0000	1.0000	0.9603	0.8983	0.8628	0.9100	0.9616	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	78.72	1.90	1.0000	1.0000	1.0000	0.9875	0.9780	0.9895	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	61.11	1.79	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Table J.13. Performance data for TOW crew: gunner (Concluded).

GRID LINE	DOSE	LOG(DOSE)	TIME GRID LINES (HRS)												
			79.43 (1.9)	100.00 (2.0)	125.89 (2.1)	158.49 (2.2)	199.53 (2.3)	251.19 (2.4)	316.23 (2.5)	398.11 (2.6)	501.19 (2.7)	630.96 (2.8)	794.33 (2.9)	1000.00 (3.0)	1258.93 (3.1)
18	4529.03	3.66	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	3516.74	3.55	0.0487	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
16	2729.55	3.44	0.1600	0.0021	0.0101	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
15	2119.01	3.33	0.2715	0.2000	0.1063	0.0516	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14	1648.72	3.22	0.4020	0.3195	0.2034	0.1032	0.0331	0.0036	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
13	1276.71	3.11	0.5323	0.4504	0.3313	0.1711	0.1179	0.0629	0.0234	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
12	991.04	3.00	0.6542	0.5993	0.5449	0.4612	0.2713	0.1628	0.1043	0.0503	0.0000	0.0000	0.0000	0.0000	0.0000
11	769.29	2.89	0.7185	0.7065	0.6983	0.6009	0.5284	0.4361	0.3437	0.2882	0.2563	0.0355	0.0000	0.0000	0.0000
10	597.16	2.78	0.7392	0.7466	0.7483	0.7358	0.7009	0.6413	0.5537	0.4702	0.3609	0.2083	0.1620	0.0000	0.0000
9	463.54	2.67	0.7434	0.7463	0.7468	0.7414	0.7272	0.7086	0.6503	0.5386	0.4584	0.3681	0.3159	0.2025	0.0914
8	359.82	2.56	0.7436	0.7462	0.7484	0.7485	0.7534	0.7442	0.7096	0.6091	0.5561	0.5067	0.4519	0.3833	0.2716
7	279.31	2.45	0.7624	0.7620	0.7619	0.7640	0.7797	0.7758	0.7559	0.6864	0.6567	0.6303	0.5670	0.5295	0.4458
6	216.82	2.34	0.7979	0.8019	0.8039	0.8046	0.8071	0.8074	0.8022	0.7871	0.7726	0.7538	0.7221	0.6758	0.6200
5	168.30	2.23	0.9123	0.9209	0.9283	0.9351	0.9417	0.9480	0.9539	0.9594	0.9649	0.9707	0.9775	0.9866	1.0000
4	130.64	2.12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3	101.41	2.01	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	78.72	1.90	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	61.11	1.79	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Table J.14. Performance data for TOW crew: driver.

GRID LINE	DOSE	LOG(DOSE)	TIME GRID LINES (HRS) 0.20 (-0.7)	0.25 (-0.6)	0.32 (-0.5)	0.40 (-0.4)	0.50 (-0.3)	0.63 (-0.2)	0.79 (-0.1)	1.00 (0.0)	1.26 (0.1)	1.58 (0.2)	2.00 (0.3)	2.51 (0.4)	3.16 (0.5)
18	4529.03	3.66	1.0000	1.0000	0.9099	0.6263	0.4800	0.3635	0.2706	0.1967	0.1378	0.0909	0.0535	0.0237	0.0000
17	3516.34	3.55	1.0000	1.0000	1.0000	0.9586	0.9226	0.8538	0.7158	0.6178	0.5123	0.4603	0.4101	0.3459	0.2845
16	2729.55	3.44	1.0000	1.0000	1.0000	0.9998	0.9459	0.8954	0.8623	0.7782	0.6686	0.5900	0.5267	0.4122	0.3470
15	2118.81	3.33	1.0000	1.0000	1.0000	1.0000	0.9698	0.9371	0.9149	0.8510	0.7536	0.6608	0.5823	0.4782	0.4095
14	1648.72	3.22	1.0000	1.0000	1.0000	1.0000	1.0000	0.9832	0.9308	0.8883	0.8105	0.7171	0.6209	0.5421	0.4880
13	1276.71	3.11	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9521	0.9254	0.8678	0.7767	0.6666	0.6072	0.5655
12	991.04	3.00	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9638	0.9291	0.8619	0.8084	0.7055	0.6295
11	769.29	2.89	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9673	0.9218	0.8988	0.8351	0.7639
10	597.16	2.78	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9588	0.9402	0.9208	0.8730
9	463.54	2.67	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9615	0.9527	0.9088
8	359.82	2.56	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9973	0.9548	0.9357
7	279.31	2.45	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9931	0.9618
6	216.82	2.34	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9879
5	168.30	2.23	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
4	130.64	2.12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3	101.41	2.01	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	78.72	1.90	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	61.11	1.79	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

GRID LINE	DOSE	LOG(DOSE)	TIME GRID LINES (HRS) 3.98 (0.6)	5.01 (0.7)	6.31 (0.8)	7.94 (0.9)	10.00 (1.0)	12.59 (1.1)	15.85 (1.2)	19.95 (1.3)	25.12 (1.4)	31.62 (1.5)	39.81 (1.6)	50.12 (1.7)	63.10 (1.8)
18	4529.03	3.66	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	3516.34	3.55	0.2195	0.1305	0.0989	0.0809	0.0677	0.0561	0.0551	0.0638	0.0798	0.1032	0.1519	0.1439	0.1124
16	2729.55	3.44	0.2828	0.2059	0.1526	0.0995	0.0793	0.0689	0.0663	0.0766	0.1059	0.1538	0.2202	0.2665	0.2796
15	2118.81	3.33	0.3462	0.2615	0.2064	0.1181	0.0908	0.0818	0.0776	0.0896	0.1321	0.2046	0.2844	0.3634	0.4450
14	1648.72	3.22	0.4366	0.3834	0.2754	0.1684	0.1383	0.1330	0.1367	0.1633	0.2050	0.2800	0.3483	0.4174	0.5360
13	1276.71	3.11	0.5252	0.4819	0.3600	0.2535	0.2075	0.1953	0.2092	0.2391	0.2774	0.3520	0.4007	0.4758	0.6277
12	991.04	3.00	0.5823	0.5343	0.4668	0.3909	0.2966	0.2608	0.2859	0.3149	0.3440	0.3777	0.4092	0.6100	0.7365
11	769.29	2.89	0.6963	0.6434	0.5956	0.5431	0.4808	0.4496	0.4767	0.5042	0.5300	0.5563	0.6098	0.7487	0.8297
10	597.16	2.78	0.7499	0.7427	0.7012	0.6643	0.6264	0.5911	0.6076	0.6317	0.6574	0.6835	0.7557	0.8517	0.8761
9	463.54	2.67	0.8554	0.7976	0.7510	0.7117	0.6746	0.6371	0.6251	0.6385	0.6667	0.6971	0.7748	0.8738	0.8867
8	359.82	2.56	0.8894	0.8414	0.7894	0.7503	0.7170	0.6906	0.6696	0.6789	0.7059	0.7355	0.8054	0.8883	0.8973
7	279.31	2.45	0.9157	0.8785	0.8279	0.7865	0.7592	0.7561	0.7570	0.7724	0.7926	0.8131	0.8541	0.9012	0.9078
6	216.82	2.34	0.9420	0.9138	0.8663	0.8227	0.8014	0.8215	0.8444	0.8659	0.8793	0.8908	0.9029	0.9141	0.9200
5	168.30	2.23	0.9615	0.9491	0.9075	0.8713	0.8532	0.8805	0.9067	0.9223	0.9460	0.9528	0.9511	0.9565	0.9625
4	130.64	2.12	1.0000	0.9841	0.9490	0.9210	0.9059	0.9313	0.9527	0.9648	0.9889	0.9938	0.9965	1.0000	1.0000
3	101.41	2.01	1.0000	1.0000	0.9675	0.9686	0.9575	0.9720	0.9880	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	78.72	1.90	1.0000	1.0000	1.0000	0.9969	0.9953	0.9974	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	61.11	1.79	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Table J.14. Performance data for TOW crew: driver (Concluded).

GRID LINE	DOSE	LOG(DOSE)	TIME GRID LINES (HRS)												
			79.43 (1.9)	100.00 (2.0)	125.89 (2.1)	158.49 (2.2)	199.53 (2.3)	251.19 (2.4)	316.23 (2.5)	398.11 (2.6)	501.19 (2.7)	630.96 (2.8)	794.33 (2.9)	1000.00 (3.0)	1258.93 (3.1)
18	4529.03	3.66	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	3516.34	3.55	0.1012	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
16	2729.55	3.44	0.3516	0.1702	0.0375	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
15	2118.81	3.33	0.5324	0.3602	0.2103	0.0887	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14	1644.72	3.22	0.6221	0.4985	0.3302	0.1497	0.0474	0.0055	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
13	1276.71	3.11	0.7133	0.6194	0.4597	0.2242	0.1694	0.0940	0.0503	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
12	991.04	3.00	0.8242	0.7763	0.7214	0.6232	0.3919	0.2678	0.1611	0.0779	0.0000	0.0000	0.0000	0.0000	0.0000
11	769.29	2.89	0.8761	0.8672	0.8601	0.8322	0.6789	0.5799	0.4769	0.4067	0.3567	0.0510	0.0000	0.0000	0.0000
10	597.16	2.78	0.8890	0.8938	0.8961	0.8894	0.8652	0.8190	0.7374	0.6480	0.5202	0.2983	0.2360	0.0000	0.0000
9	463.54	2.67	0.8917	0.8936	0.8944	0.8914	0.8618	0.8694	0.8257	0.7183	0.6315	0.5170	0.4681	0.2756	0.0914
8	359.82	2.56	0.8961	0.8945	0.8946	0.8951	0.8984	0.8934	0.8689	0.7886	0.7374	0.6924	0.6134	0.4949	0.2716
7	279.31	2.45	0.9050	0.9056	0.9056	0.9066	0.9150	0.9128	0.9005	0.8589	0.8391	0.8172	0.7386	0.6251	0.4458
6	216.82	2.34	0.9239	0.9266	0.9280	0.9291	0.9315	0.9322	0.9320	0.9292	0.9261	0.9135	0.8639	0.7552	0.6200
5	168.30	2.23	0.9672	0.9709	0.9739	0.9766	0.9793	0.9819	0.9845	0.9894	0.9919	0.9928	0.9894	0.9900	1.0000
4	130.64	2.12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3	101.41	2.01	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	78.72	1.90	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	61.11	1.79	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Table J.15. Performance data for TOW crew: loader.

GRID LINE	DOSE	LOG(DOSE)	TIME GRID LINES (HRS) 0.20 (-0.7)	0.25 (-0.6)	0.32 (-0.5)	0.40 (-0.4)	0.50 (-0.3)	0.63 (-0.2)	0.79 (-0.1)	1.00 (0.0)	1.26 (0.1)	1.58 (0.2)	2.00 (0.3)	2.51 (0.4)	3.16 (0.5)
18	4529.93	3.66	1.0000	1.0000	0.8099	0.6263	0.4800	0.3635	0.2706	0.1967	0.1378	0.0909	0.0535	0.0237	0.0000
17	3516.34	3.55	1.0000	1.0000	1.0000	0.8907	0.8361	0.7020	0.4681	0.3435	0.2639	0.2312	0.2009	0.1638	0.1360
16	2729.55	3.44	1.0000	1.0000	1.0000	0.9972	0.8849	0.7834	0.6593	0.5230	0.4046	0.3367	0.2689	0.2054	0.1730
15	2118.81	3.33	1.0000	1.0000	1.0000	1.0000	0.9506	0.8649	0.8185	0.7019	0.5450	0.4244	0.3231	0.2470	0.2116
14	1648.72	3.22	1.0000	1.0000	1.0000	1.0000	1.0000	0.9640	0.8515	0.7710	0.6352	0.5005	0.3740	0.3033	0.2673
13	1276.71	3.11	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8964	0.8402	0.7275	0.5833	0.4347	0.3786	0.3282
12	991.04	3.00	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9211	0.8490	0.7569	0.6293	0.4862	0.3900
11	769.29	2.89	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9298	0.8338	0.7644	0.6916	0.5782
10	597.16	2.78	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9112	0.8720	0.8324	0.7387
9	463.54	2.67	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9172	0.8563	0.8062
8	359.82	2.56	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9942	0.9028	0.8630
7	279.31	2.45	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9851	0.9185
6	216.82	2.34	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9739
5	168.30	2.23	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
4	130.64	2.12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3	101.41	2.01	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	78.72	1.90	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	61.11	1.79	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

GRID LINE	DOSE	LOG(DOSE)	TIME GRID LINES (HRS) 3.98 (0.6)	5.01 (0.7)	6.31 (0.8)	7.94 (0.9)	10.00 (1.0)	12.59 (1.1)	15.85 (1.2)	19.95 (1.3)	25.12 (1.4)	31.62 (1.5)	39.81 (1.6)	50.12 (1.7)	63.10 (1.8)
18	4529.93	3.66	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	3516.34	3.55	0.1017	0.0573	0.0392	0.0308	0.0250	0.0207	0.0216	0.0248	0.0288	0.0338	0.0459	0.0448	0.0340
16	2729.55	3.44	0.1589	0.0981	0.0666	0.0401	0.0311	0.0271	0.0269	0.0313	0.0406	0.0555	0.0781	0.0961	0.1065
15	2118.81	3.33	0.1762	0.1590	0.0940	0.0495	0.0372	0.0335	0.0323	0.0379	0.0526	0.0773	0.1103	0.1475	0.1956
14	1648.72	3.22	0.2376	0.1986	0.1308	0.0711	0.0574	0.0555	0.0571	0.0699	0.0900	0.1225	0.1545	0.1979	0.2923
13	1276.71	3.11	0.2984	0.2567	0.1779	0.1116	0.0889	0.0828	0.0896	0.1057	0.1271	0.1656	0.1959	0.2517	0.4011
12	991.04	3.00	0.3442	0.2952	0.2402	0.1674	0.1329	0.1113	0.1253	0.1418	0.1600	0.1805	0.2003	0.3814	0.5221
11	769.29	2.89	0.4006	0.4118	0.3630	0.3155	0.2684	0.2462	0.2687	0.2916	0.3144	0.3381	0.4031	0.5570	0.6493
10	597.16	2.78	0.6143	0.5265	0.4674	0.4235	0.3787	0.3535	0.3701	0.3943	0.4226	0.4525	0.5528	0.6899	0.7361
9	463.54	2.67	0.7055	0.6106	0.5324	0.4833	0.4353	0.3987	0.3871	0.4011	0.4326	0.4685	0.5770	0.7238	0.7577
8	359.82	2.56	0.7703	0.6618	0.5973	0.5390	0.4920	0.4574	0.4444	0.4569	0.4888	0.5254	0.6168	0.7548	0.7793
7	279.31	2.45	0.8227	0.7498	0.6621	0.5954	0.5499	0.5482	0.5656	0.5905	0.6184	0.6471	0.6967	0.7830	0.8006
6	216.82	2.34	0.8752	0.8170	0.7269	0.6519	0.6128	0.6451	0.6867	0.7241	0.7480	0.7689	0.7893	0.8112	0.8236
5	168.30	2.23	0.9600	0.8880	0.8096	0.7439	0.7096	0.7446	0.7971	0.8305	0.8675	0.8851	0.8890	0.9043	0.9170
4	130.64	2.12	1.0000	0.9584	0.8941	0.8392	0.8088	0.8441	0.8937	0.9237	0.9677	0.9819	0.9888	1.0000	1.0000
3	101.41	2.01	1.0000	1.0000	0.9728	0.9317	0.9068	0.9399	0.9741	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	78.72	1.90	1.0000	1.0000	1.0000	0.9928	0.9892	0.9940	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	61.11	1.79	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Table J.15. Performance data for TOW crew: loader (Concluded).

GRID LINE	DOSE	LOG(DOSE)	TIME GRID LINES (HRS)												
			79.43 (1.9)	100.00 (2.0)	125.89 (2.1)	158.49 (2.2)	199.53 (2.3)	251.19 (2.4)	316.23 (2.5)	398.11 (2.6)	501.19 (2.7)	630.96 (2.8)	794.33 (2.9)	1000.00 (3.0)	1258.93 (3.1)
18	4529.93	3.66	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	3516.34	3.55	0.0328	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
16	2729.55	3.44	0.1382	0.0655	0.0117	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
15	2118.81	3.37	0.2507	0.1687	0.0893	0.0376	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14	1644.72	3.22	0.3661	0.2739	0.1704	0.0756	0.0231	0.0026	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
13	1276.71	3.11	0.4936	0.4027	0.2654	0.1324	0.0907	0.0489	0.0163	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
12	991.04	3.00	0.6472	0.5866	0.5264	0.4434	0.2286	0.1504	0.0791	0.0354	0.0000	0.0000	0.0000	0.0000	0.0000
11	769.29	2.89	0.7331	0.7216	0.7098	0.6799	0.5333	0.4280	0.3332	0.2823	0.2319	0.0239	0.0000	0.0000	0.0000
10	597.16	2.78	0.7614	0.7729	0.7800	0.7728	0.7358	0.6491	0.5523	0.4722	0.3505	0.1770	0.1342	0.0000	0.0000
9	463.54	2.67	0.7684	0.7725	0.7747	0.7708	0.7535	0.7134	0.6482	0.5399	0.4559	0.3537	0.2990	0.1957	0.0914
8	359.82	2.56	0.7776	0.7750	0.7737	0.7723	0.7726	0.7613	0.7195	0.6175	0.5667	0.5184	0.4581	0.3783	0.2710
7	279.31	2.45	0.7948	0.7953	0.7956	0.7956	0.8008	0.8074	0.7651	0.7237	0.6945	0.6641	0.6138	0.5400	0.4450
6	216.82	2.34	0.8317	0.8380	0.8424	0.8454	0.8490	0.8535	0.8518	0.8427	0.8309	0.8097	0.7695	0.7017	0.6200
5	168.30	2.23	0.9272	0.9357	0.9428	0.9491	0.9552	0.9610	0.9661	0.9705	0.9744	0.9779	0.9817	0.9878	1.0000
4	130.64	2.12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3	101.41	2.01	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	78.72	1.90	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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