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<td>E.O. 10501, 5 Nov 1953; AFMC ltr, 19 Feb 2002</td>
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THIS PAGE IS UNCLASSIFIED
AIR PROVING GROUND
EGLIN AIR FORCE BASE, FLORIDA

TEST CONDUCTED BY
EGLIN AIR FORCE BASE, FLORIDA

SUBJECT

OPERATIONAL SUITABILITY TEST OF OPEN GUN PORTS FOR F-86 AIRCRAFT

DATE
31 AUGUST 1949

COPY NO. 11
NO. OF PAGES 28

93-25299

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HEADQUARTERS
AIR PROVING GROUND
Eglin Air Force Base, Florida

31 August 1949

PROJECT NO. 24913-5

OPERATIONAL SUITABILITY TEST OF OPEN GUN PORTS FOR F-86 AIRCRAFT

1. Inclosed herewith is Final Report of Air Proving Ground, Eglin Air Force Base, Florida, subject as above.

2. Object: To determine the operational suitability at normal temperatures of the open gun ports for F-86 aircraft as compared to automatic gun muzzle door installations.

3. Description: The open gun ports installed on F-86 type aircraft are conventional grooved blast plates located at the forward end of each caliber .50 gun compartment.

4. Synopsis: It was concluded that open gun ports are more desirable for use on F-86 aircraft than automatic gun muzzle doors. It was also concluded that the type open gun port panels used for the test were satisfactory for service use on F-86 type aircraft. It was recommended that open gun ports be standardized for use on all F-86 type aircraft and that panels be provided as soon as possible to replace the present panel housing the automatic gun muzzle doors used on current F-86 aircraft.

5. Inclosures:

1 - Copy of Directive
2 - Final Report

W. E. Kemmer
Major General, USAF
Commanding
MCPPX42-5-8 CONTRACT AC-16013 F-86A AIRPLANES INSTALLATION
OF FLUSH GUN PORT PANELS TO PROVIDE FOR AN ALTERNATE INSTALLATION
TO THE GUN PORT DOOR ARRANGEMENT ON THE F-86A AIRPLANE IN CASE OF
CONTINUED FAILURES NORTH AMERICAN AVIATION HAS BEEN REQUESTED TO FURNISH
TO YOUR COMMAND ONE SET OF SIDE PANELS WITH FLUSH OPEN PORTS PD IT
IS SUGGESTED THAT THESE PANELS BE PLACED ON ONE OF THE F-86A AIRPLANES
UNDEGOING GUNFIRE TESTS AND FIRED A FULL 10,000 ROUND PER GUN COM-
PLEMENT IN AN EFFORT TO HAVE THEM APPROVED FOR INSTALLATION AT A
LATER DATE SHOULD THIS PROVE NECESSARY SIGNED PROCUREMENT DIVISION

COPY

Inclosure 1

RESTRICTED

Page 2 of 28
RESTRICTED

HEADQUARTERS
AIR PROVING GROUND
Eglin Air Force Base, Florida

FINAL REPORT

ON

OPERATIONAL SUITABILITY TEST OF OPEN GUN PORTS FOR F-86 AIRCRAFT

PROJECT NO. 24913—5

Inclosure 2

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Page 3

RESTRICTED
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DISTRIBUTION: 26
1. OBJECT:

To determine the operational suitability at normal temperatures of the open gun ports for F-86 aircraft as compared to automatic gun muzzle door installations.

2. INTRODUCTION:

a. General: The gun muzzle doors presently installed on F-86 type aircraft have previously been considered unsatisfactory due to maintenance difficulties and unsafe flying conditions involved during firing, caused by "cook-offs" and occasional loss of gun muzzle doors.

b. Purpose: This test was activated to provide a comparison between the open gun ports and the flush gun muzzle doors which are currently being installed on F-86 aircraft.

c. Description: The open gun ports are conventional grooved blast plates riveted and welded to the two stainless steel panels located forward of each gun compartment (see photographs 1, 2 and 3 below).

PHOTOGRAPH 1: Outside view of open gun port panel
PHOTOGRAPH 2: Inside view of open gun port panel

PHOTOGRAPH 3: Open gun port panel installed on F-86 airplane
d. **Conditions of Test:** This test was conducted under ambient temperatures encountered between 0 and 40,000 feet altitudes. Cold soaking of installation before firing at extreme altitudes was not extended over five minutes duration due to the limited amount of fuel available.

3. **CONCLUSIONS:**

   a. Open gun ports are more desirable for use on F-86 aircraft than the presently used automatic gun muzzle door installation.

   b. The open gun port panels as tested are satisfactory for service use on F-86 aircraft.

4. **RECOMMENDATIONS:**

   a. Open gun ports be standardized for use on all F-86 type aircraft.

   b. Open gun port panels be provided as soon as possible to replace the present panel housing the automatic gun muzzle doors.

5. **DISCUSSION:**

   a. **General:**

   (1) A total of 60,116 rounds of ammunition was fired through the open gun port installation used for this test. Forty separate firing missions were utilized during the overall testing. One was a ground firing mission to determine trouble-free operation of the armament system, six were air-to-ground firing missions, two were air-to-air firing on towed targets, and 31 were air free firing missions at various altitudes up to and including 40,000 feet, one of which was at night to determine the blinding effect of muzzle flash on the pilot.

   (2) All firing was accomplished in approximately 40- to 50-round bursts with cooling intervals from 2 to 3 minutes between bursts. Indicated air-speeds ranged from 180 to 560 mph.
b. **Summary of Results:**

(1) Pilots flying the F-86 with open gun ports, who had previously flown F-86 aircraft with flush gun muzzle door ports, reported that there was no noticeable difference in handling characteristics of the airplane due to the open gun ports.

(2) No maintenance was required on the open gun ports other than cleaning off burned powder and tightening of the filister head screws which vibrated loose during each firing mission. Considerable maintenance was required on the flush gun muzzle door installations used in Project No. 6484---5, "Operational Suitability Test of the F-86A Airplane." This maintenance was mainly due to occasional loss of gun muzzle doors, adjustment required for proper operation of door actuator motors and the time required to properly clean the gun muzzle doors and their accessory equipment. It was also noted that the filister head screws, which held the gun muzzle door panel to the airplane, had to be tightened after each firing mission.

(3) The time required to install both open gun port panels on F-86 aircraft took two men an average time of 40 minutes. Panels could be removed by two men in 30 minutes. Installation and removal of flush gun muzzle port panels took approximately 10 minutes longer for each operation.

(4) The suitability of the structure and materials of the open gun port panels was adequate with the exception of the filister head screws which held the panel to the airplane fuselage. Some of these screws were observed to be loose after every firing mission. Damage was encountered, however, to the skin section just below the open gun port panel on the right side of the airplane after a total of only 7,153 rounds had been fired through the installation. The arrows on Photograph 4 below, point to places where the .030 thickness skin was cracked.
It is believed that the cracks shown above were a result of gun vibration during high speed firing missions. This discrepancy was remedied by having a strip of .030 thickness skin riveted on top of the cracked portion (see Photograph 5 below).
It was also noted that the gunsight and radar access compartment cover, shown in Photograph 6 below, revealed a large inside crack after 44,900 rounds had been fired through the installation. This crack was welded together but would not hold for any sufficient length of time.
There were 82 "cook-offs" recorded during the overall testing of the open gun port panels. This large number of "cook-offs" was in part due to the short cooling interval (from 2 to 3 minutes) between average burst lengths from 40 to 50 rounds. Mission reports indicate that more "cook-offs" occurred when using two-second bursts with three minute cooling intervals than when using 2-1/2-second bursts with a cooling interval of two minutes. However, the cooling interval in both cases was considered too short for proper cooling of guns in the F-86 type aircraft. It is believed that the F-86 does not have sufficient air circulation for gun cooling when using either open or closed gun ports. No record was kept on the number of "cook-offs" that occurred in Project No. 64&—5, where gun muzzle doors were used; however, pilots that flew gunnery missions on that project reported that "cook-offs" were excessive.
The night blindness test mission revealed that the pilot was blinded approximately 3-1/2 seconds after each firing burst when using the open gun ports. No night blindness test was made when using closed gun ports.

6. **INCLOSURES:**

1. Test Historical Data
2. Gun History Records Analysis
TEST HISTORICAL DATA
APG PROJECT NO. 24913—5

1. AUTHORITY: Teletype from AMC (MCPXA42-5-8) 4 April 1949
2. ACTIVATION DATE: 6 June 1949
3. EQUIPMENT RECEIVED: 4 June 1949
4. SUSPENSIONS: None
5. COMPLETION: 19 August 1949 (Physical Testing)
6. FLYING HOURS: 29:40
7. GROUND HOURS: 200
8. CLIMATIC CONDITIONS: Temperate
9. RELATED PROJECTS: APG Project No. 6484—5, "Operational Suitability Test of F-86A Airplane"

Inclosure 1

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Page 14
<table>
<thead>
<tr>
<th>Serial No.</th>
<th>Location</th>
<th>No. of Rds. Fired in A/C</th>
<th>No. of Rds. Fired Through Gun</th>
<th>Altitude (Feet)</th>
<th>No. of G's</th>
<th>Malfunction</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>2056162</td>
<td>L #1</td>
<td>540</td>
<td>540</td>
<td>Air-to-Ground</td>
<td>--</td>
<td>E-3</td>
<td>Link chute jam.</td>
</tr>
<tr>
<td>1347</td>
<td></td>
<td>807</td>
<td></td>
<td>Air-to-Ground</td>
<td>--</td>
<td>?-4</td>
<td>Failure to fire; Ground check OK; no reason for not firing.</td>
</tr>
<tr>
<td>4386</td>
<td></td>
<td>465</td>
<td>30,000</td>
<td>--</td>
<td>E-3</td>
<td></td>
<td>Link jam in mouth of link chute. Light struck primer; flat firing pin; changed pin.</td>
</tr>
<tr>
<td>4965</td>
<td></td>
<td>1044</td>
<td>30,000</td>
<td>2.5-4.0</td>
<td>G-3</td>
<td></td>
<td>Light struck primer; changed sear.</td>
</tr>
<tr>
<td>5219</td>
<td></td>
<td>1298</td>
<td>30,000</td>
<td>--</td>
<td>?-1</td>
<td></td>
<td>Light struck primer; changed sear. Failure to chamber round. Light struck primer. Changed bolt, firing pin extension, belt feed lever, cocking lever, and receiver cover. Light struck primer; primer swelled in case due to excess heat.</td>
</tr>
<tr>
<td>6114</td>
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<td>2193</td>
<td>30,000</td>
<td>2.5-4.5</td>
<td>?-3</td>
<td></td>
<td>Light struck primer. Changed bolt, firing pin extension, belt feed lever, cocking lever, and receiver cover. Light struck primer; primer swelled in case due to excess heat.</td>
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<tr>
<td>6476</td>
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<td>2555</td>
<td>30000</td>
<td>--</td>
<td>?-1</td>
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<td>Light struck primer. Changed bolt, firing pin extension, belt feed lever, cocking lever, and receiver cover. Light struck primer; primer swelled in case due to excess heat.</td>
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<tr>
<td>6696</td>
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<td>2770</td>
<td>1,000-5,000</td>
<td>--</td>
<td>?-1</td>
<td></td>
<td>Light struck primer; primer swelled in case due to excess heat.</td>
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<th>Serial No.</th>
<th>Location of Gun in A/C</th>
<th>No. of Rds. Fired Through Gun</th>
<th>No. of Rds. Fired Through Brl</th>
<th>Altitude (Feet)</th>
<th>No. of G's</th>
<th>Mal-function</th>
<th>Remarks</th>
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<td>7585</td>
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<td>3659</td>
<td>40,000</td>
<td>--</td>
<td>G-1</td>
<td>Light struck primer; brass in firing pin port.</td>
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<tr>
<td>7806</td>
<td></td>
<td>3880</td>
<td>1,000-10,000</td>
<td>--</td>
<td>G-1</td>
<td>Light struck primer; brass in firing pin port.</td>
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<tr>
<td>8385</td>
<td></td>
<td>4479</td>
<td>15,000</td>
<td>--</td>
<td>?-1</td>
<td>Light struck primer.</td>
<td></td>
</tr>
<tr>
<td>8758</td>
<td></td>
<td>4881</td>
<td>15,000</td>
<td>--</td>
<td>?-1</td>
<td>Believe to be light struck primer followed by cookoff. Failure to feed; ground check OK.</td>
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<tr>
<td>9105</td>
<td></td>
<td>5299</td>
<td>10,000</td>
<td>--</td>
<td>?-3</td>
<td>Failure to feed; reason unknown.</td>
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<tr>
<td>2125320 L #2</td>
<td></td>
<td>300</td>
<td>300</td>
<td>Ground</td>
<td>--</td>
<td>?-3</td>
<td>Failure to chamber 49th round.</td>
</tr>
<tr>
<td>376</td>
<td></td>
<td>376</td>
<td>Air-To-Ground</td>
<td>--</td>
<td>M</td>
<td>Failure to extract from chamber; rusty barrel.</td>
<td></td>
</tr>
<tr>
<td>678</td>
<td></td>
<td>302</td>
<td>Air-To-Ground</td>
<td>--</td>
<td>?-1</td>
<td>Light struck primer.</td>
<td></td>
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<tr>
<td>803</td>
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<td>427</td>
<td>Air-To-Ground</td>
<td>--</td>
<td>?-6</td>
<td>Failure to extract from feedway; short round; bolt hit base of round.</td>
<td></td>
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<tr>
<td>1855</td>
<td></td>
<td>1479</td>
<td>20,000</td>
<td>--</td>
<td>?-3</td>
<td>Failure to chamber round; 12 o'clock stub.</td>
<td></td>
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<tr>
<td>3614</td>
<td></td>
<td>3238</td>
<td>30,000</td>
<td>--</td>
<td>E-2</td>
<td>Feed chute jam; feed chute came loose at base of feed chute.</td>
<td></td>
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<tr>
<td>4917</td>
<td></td>
<td>4741</td>
<td>30,000</td>
<td>2.5-4.5</td>
<td>M</td>
<td>Ejector on wrong side of extractor.</td>
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<td>5723</td>
<td></td>
<td>5347</td>
<td>1,000 - 5,000</td>
<td>--</td>
<td>?-6</td>
<td>Bolt hit base of cartridge; short round.</td>
<td></td>
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<tr>
<td>6208</td>
<td></td>
<td>5832</td>
<td>1,000 - 5,000</td>
<td>--</td>
<td>G-1</td>
<td>Light struck primer; brass in firing pin port.</td>
<td></td>
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<tr>
<td>2124032 L #3</td>
<td></td>
<td>672</td>
<td>672</td>
<td>Air-To-Ground</td>
<td>--</td>
<td>E-2</td>
<td>Barrels changed to modified bullet seat. Feed chute jam. Belt feed slide jammed on guide of link chute.</td>
</tr>
<tr>
<td>3227</td>
<td></td>
<td>2555</td>
<td>10,000</td>
<td>--</td>
<td>E-3</td>
<td>Light struck primer; changed bolt switch.</td>
<td></td>
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<tr>
<td>3230</td>
<td></td>
<td>2558</td>
<td>17,000</td>
<td>--</td>
<td>?-1</td>
<td>Light struck primer.</td>
<td></td>
</tr>
<tr>
<td>3783</td>
<td></td>
<td>3111</td>
<td>17,000</td>
<td>--</td>
<td>?-1</td>
<td>T-slot pulled lip of cartridge; left spent case in chamber; changed barrel and bolt.</td>
<td></td>
</tr>
<tr>
<td>4126</td>
<td></td>
<td>3454</td>
<td>30,000</td>
<td>--</td>
<td>?-7</td>
<td>Light struck primer.</td>
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</tr>
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<td>4336</td>
<td></td>
<td>210</td>
<td>30,000</td>
<td>--</td>
<td>?-7</td>
<td>T-slot pulled lip of cartridge; left spent case in chamber. Failure to feed in chamber; short round.</td>
<td></td>
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<tr>
<td>6022</td>
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<td>1796</td>
<td>40,000</td>
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<td>?-3</td>
<td>T-slot pulled lip of cartridge; left spent case in chamber. Failure to feed in chamber; short round.</td>
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<td>6315</td>
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<td>2089</td>
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<td>30,000-35,000</td>
<td>--</td>
<td>G-2</td>
<td></td>
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<tr>
<td>9005</td>
<td></td>
<td>5779</td>
<td></td>
<td>15,000</td>
<td>--</td>
<td>G-1</td>
<td></td>
</tr>
<tr>
<td>10190</td>
<td></td>
<td>6964</td>
<td></td>
<td>10,000</td>
<td>--</td>
<td>E-2</td>
<td></td>
</tr>
<tr>
<td>2056447</td>
<td>R #1</td>
<td>558</td>
<td>558</td>
<td>Air-To-Ground</td>
<td>--</td>
<td>E-3</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>574</td>
<td>16</td>
<td>Air-To-Ground</td>
<td>--</td>
<td>E-1</td>
<td></td>
</tr>
<tr>
<td>2827</td>
<td></td>
<td>2269</td>
<td></td>
<td>10,000</td>
<td>--</td>
<td>?-1</td>
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<td>3561</td>
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<td>3003</td>
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<td>17,000</td>
<td>--</td>
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<tr>
<td>4376</td>
<td></td>
<td>815</td>
<td></td>
<td>30,000</td>
<td>--</td>
<td>?-7</td>
<td></td>
</tr>
</tbody>
</table>

- Light struck primer; broken sear. Following parts changed: belt feed lever, firing pin extension, sear cocking lever, bolt switch, extractor, breech lock, and belt feed pawl.
- Light struck primer; brass in firing pin port.
- Failure to feed; feed chute came loose at base of chute.
- Link chute jam.
- Solenoid out of time. Barrels changed to modified bullet seat.
- Light struck primer; cause undetermined.
- Separated round in feedway.
- T-slot pulled lip of cartridge; left spent case in chamber.
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>4989</td>
<td></td>
<td>1428</td>
<td>4,000-10,000</td>
<td>--</td>
<td>?-4</td>
<td>Gun stopped out of battery; no reason for not firing. (Night firing).</td>
</tr>
<tr>
<td>6936</td>
<td></td>
<td>3375</td>
<td>1,000-5,000</td>
<td>--</td>
<td>G-1</td>
<td>Light struck primer; brass in firing pin port.</td>
</tr>
<tr>
<td>7162</td>
<td></td>
<td>3601</td>
<td>40,000</td>
<td>--</td>
<td>?-6</td>
<td>Failure to extract round from belt. Light struck primer; brass in firing pin port.</td>
</tr>
<tr>
<td>9828</td>
<td></td>
<td>6267</td>
<td>10,000</td>
<td>--</td>
<td>G-1</td>
<td></td>
</tr>
<tr>
<td>2123755</td>
<td>R #2</td>
<td>300</td>
<td>300 Ground</td>
<td>--</td>
<td>?-3</td>
<td>Empty chamber - 185 round. Modified belt feed pawl installed. Failure to extract from chamber; rusty barrel. Barrel changed to modified bullet seat. Failure to feed; extractor failed to secure round while being chambered. Link jam in face of chute. Light struck primer.</td>
</tr>
<tr>
<td>372</td>
<td>Air-to-Ground</td>
<td>372</td>
<td>--</td>
<td>M</td>
<td></td>
<td></td>
</tr>
<tr>
<td>374</td>
<td>Air-to-Ground</td>
<td>2</td>
<td>--</td>
<td>G-4</td>
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<td></td>
</tr>
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<td>--</td>
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<td>2729</td>
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<td>--</td>
<td>?-1</td>
<td></td>
<td></td>
</tr>
<tr>
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<td>-----------------------------</td>
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<td>----------------</td>
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<td>3362</td>
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<td>7130</td>
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<td>3768</td>
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<td>7439</td>
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<td>4077</td>
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<tr>
<td>9530</td>
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<td>--</td>
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<td>2122161 R #3</td>
<td></td>
<td>300</td>
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<td>Ground</td>
<td>--</td>
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<td>638</td>
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<td>638</td>
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<td>Air-to-Ground</td>
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<td>963</td>
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<td>1680</td>
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<td>1042</td>
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<td>------------------</td>
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<tr>
<td>1699</td>
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<td>7852</td>
<td></td>
<td>4510</td>
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<td>9955</td>
<td></td>
<td>6613</td>
<td>10,000</td>
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NOTE: All six guns were manufactured by High Standard.
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<tr>
<th>No. Missions</th>
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<tbody>
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<td>Minimum</td>
<td>1,000</td>
<td>10,000</td>
<td>15,000</td>
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<tr>
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<td>None</td>
<td>None Given</td>
<td>None Given</td>
<td>None Given</td>
<td>None Given</td>
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<tr>
<td>No. Malfunctions</td>
<td>3</td>
<td>12</td>
<td>2</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>No. Rds. Loaded</td>
<td>1800</td>
<td>7200</td>
<td>3600</td>
<td>10,800</td>
<td>7200</td>
</tr>
<tr>
<td>No. Rds. Fired</td>
<td>1800</td>
<td>1,887</td>
<td>3191</td>
<td>10,102</td>
<td>6140</td>
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<tr>
<td>% Fired</td>
<td>100%</td>
<td>67.9%</td>
<td>88.7%</td>
<td>93.5%</td>
<td>85.3%</td>
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<table>
<thead>
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<th>2</th>
<th>6</th>
<th>2</th>
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</thead>
<tbody>
<tr>
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<td>17,000</td>
<td>20,000</td>
<td>30,000</td>
<td>30,000</td>
<td>40,000</td>
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<tr>
<td>No. G's</td>
<td>None Given</td>
<td>None Given</td>
<td>2.5 to 4.5</td>
<td>None Given</td>
<td>None Given</td>
</tr>
<tr>
<td>No. Malfunctions</td>
<td>6</td>
<td>1</td>
<td>4</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>No. Rds. Loaded</td>
<td>5400</td>
<td>1800</td>
<td>3600</td>
<td>10,800</td>
<td>3600</td>
</tr>
<tr>
<td>No. Rds. Fired</td>
<td>4765</td>
<td>1652</td>
<td>3250</td>
<td>9,921</td>
<td>3301</td>
</tr>
<tr>
<td>% Fired</td>
<td>88.2%</td>
<td>91.8%</td>
<td>90.3%</td>
<td>91.9%</td>
<td>91.7%</td>
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<table>
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<tr>
<th>No. Missions</th>
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<th>2</th>
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<tr>
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<td>1000-4000</td>
<td>1000-5000</td>
<td>1000-10,000</td>
<td>30,000-35,000</td>
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<td>No. G's</td>
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<td>None Given</td>
<td>None Given</td>
<td>None Given</td>
<td></td>
</tr>
<tr>
<td>No. Malfunctions</td>
<td>2</td>
<td>6</td>
<td>3</td>
<td>3</td>
<td>0</td>
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<tr>
<td>No. Rds. Loaded</td>
<td>1800</td>
<td>5400</td>
<td>3600</td>
<td>1800</td>
<td>450</td>
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<tr>
<td>No. Rds. Fired</td>
<td>1436</td>
<td>4658</td>
<td>3219</td>
<td>1348</td>
<td>446</td>
</tr>
<tr>
<td>% Fired</td>
<td>79.8%</td>
<td>86.3%</td>
<td>89.4%</td>
<td>74.9%</td>
<td>99.1%</td>
</tr>
</tbody>
</table>

**Table II**

Summary of rounds loaded and fired on the ground, air-to-ground and from 1,000 to 40,000 feet altitude, showing number of malfunctions for each condition: also percentage of rounds fired for each condition.
**TABLE III**

RELATIONSHIP BETWEEN LOCATION OF CAL. .50 M3 MACHINE GUN MOUNTED IN AN F-86A AND TYPE OF STOPPAGE

<table>
<thead>
<tr>
<th>Malfunction</th>
<th>L#1</th>
<th>L#2</th>
<th>L#3</th>
<th>R#1</th>
<th>R#2</th>
<th>R#3</th>
</tr>
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<tbody>
<tr>
<td>(A) Ammunition</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(A-1) Short round</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(A-2) Defective or bent round</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>(G) Gun</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(G-1) Light struck primer</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>(G-2) Broken parts</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(G-3) Worn or bent parts</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(G-4) Improper functioning of parts</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(M) Maintenance Personnel</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>(E) Related Equipment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(E-1) Firing solenoid</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(E-2) Feed chutes</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(E-3) Link chutes</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>(R) Responsibility Undetermined</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(R-1) Light struck primer</td>
<td>5</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>(R-2) Failure to feed into chamber</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td></td>
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<tr>
<td>(R-3) Failure to fire</td>
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<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>(R-4) Failure to extract round from belt</td>
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<td></td>
<td>1</td>
<td>1</td>
<td>2</td>
<td></td>
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<tr>
<td>(R-5) Failure to extract round from chamber</td>
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<td>2</td>
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<td>1</td>
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TABLE IV

CAUSES FOR THE SIXTY-THREE MALFUNCTIONS
OF SIX CAL. .50 M3 MACHINE GUNS MOUNTED IN AN F-86A AIRCRAFT

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<tr>
<th>Stoppages</th>
<th>Causes</th>
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<tr>
<td></td>
<td>I (A) Ammunition</td>
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<tr>
<td></td>
<td>(A-1) Short round</td>
</tr>
<tr>
<td></td>
<td>(A-3) Defective or bent round</td>
</tr>
<tr>
<td></td>
<td>II (G) Gun</td>
</tr>
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<td></td>
<td>(G-1) Light struck primer</td>
</tr>
<tr>
<td>10</td>
<td>(G-2) Broken parts</td>
</tr>
<tr>
<td>2</td>
<td>(G-3) Worn or bent parts</td>
</tr>
<tr>
<td>1</td>
<td>(G-4) Improper functioning of parts</td>
</tr>
<tr>
<td>3</td>
<td>III (M) Maintenance Personnel</td>
</tr>
<tr>
<td>2</td>
<td>IV (E) Related Equipment</td>
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<td></td>
<td>(E-1) Firing solenoid</td>
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<tr>
<td>4</td>
<td>(E-2) Feed chutes</td>
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<td>5</td>
<td>(E-3) Link chutes</td>
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<td>14</td>
<td>V (?) Responsibility Undetermined</td>
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<td>7</td>
<td>(? -1) Light struck primer</td>
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<tr>
<td>2</td>
<td>(? -3) Failure to feed into chamber</td>
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<tr>
<td>6</td>
<td>(? -4) Failure to fire</td>
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<tr>
<td>3</td>
<td>(? -6) Failure to extract round from belt</td>
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<tr>
<td>63</td>
<td>Total</td>
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63 Total
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<tr>
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<th>R. #2</th>
<th>R. #3</th>
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<td>L. #1</td>
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<td>212647</td>
<td>2122167</td>
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<td>L. #2</td>
<td>2125320</td>
<td>11,675</td>
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<td>L. #3</td>
<td>2124052</td>
<td>11,475</td>
<td>11,475</td>
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<table>
<thead>
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<th>Rounds Loaded</th>
<th>Rounds Fired</th>
<th>% Fired</th>
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<td>11,475</td>
<td>10,005</td>
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<tr>
<td>10,390</td>
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<tr>
<td>10,128</td>
<td>9,955</td>
<td>92.3%</td>
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RESTRICTED

HEADQUARTERS
AIR PROVING GROUND
Eglin Air Force Base, Florida

PROJECT DISTRIBUTION LIST

PROJECT NO. 24913—5

OPERATIONAL SUITABILITY TEST OF OPEN GUN PORTS FOR F-86 AIRCRAFT

<table>
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<tr>
<td>Office of Chief of Ordnance, Washington 25, D. C. Attn: ORDTX-AR</td>
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<tr>
<td>Dir of Program Standards &amp; Cost Control, Comptroller, Hqs USAF, Washington 25, D. C. (AFAPA-3C)</td>
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<tr>
<td>Plans, Programs &amp; Policy Division, DCS/M (AFMPP), Hqs USAF, Washington 25, D. C.</td>
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<tr>
<td>CG, AMC, Wright-Patterson AF Base, Dayton, Ohio, Attn: MCROEC (Mr. R. E. Teter)</td>
</tr>
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<td>CG, AMC, Wright-Patterson AF Base, Dayton, Ohio Attn: APG Liaison Officer</td>
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<tr>
<td>CG, AMC, Wright-Patterson AF Base, Dayton, Ohio Attn: CADO</td>
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<tr>
<td>CG, Strategic Air Command, Offutt AF Base, Omaha, Neb.</td>
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<tr>
<td>CG, Tactical Air Command, Langley AF Base, Va.</td>
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<tr>
<td>CG, Continental Air Command, Mitchel AF Base, N. Y.</td>
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<td>CG, Air Defense Command, Mitchel AF Base, N. Y.</td>
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<tr>
<td>CG, Alaskan Air Command, APO 942, c/o PM Seattle, Wash., Attn: Maintenance Division, DCS/M</td>
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<td>CG, Aberdeen Proving Ground, Md., Attn: Tech. Info. Sec.</td>
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Proj. No. 24913—5

Page 26
RESTRICTED

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CO, U.S. Naval Proving Ground, Dahlgren, Va.

MCATS, Attn: Major H. R. Jordan, USMC, Marine Corps Schools, Quantico, Va.

CO, VMF 311, Marine Corps Air Station, El Toro (Santa Ana) Cal.

Cdr. U.S. Naval Air Test Center, Patuxent River, Md., Attn: Armament Test


CO, U.S. Naval Air Station (Aero. Fub. Lib.), Patuxent River, Md.


C.O., U.S. Naval Ordnance Plant, Indianapolis 6, Ind.

Chief of Naval Operations (Op-551) Room 2910, Navy Dept., Washington 25, D. C.

Cdr. U.S. Naval Ordnance Lab., White Oak, Silver Springs 19, Md.


Commandant of the Marine Corps, Hqs USMC, Washington 25, D. C.

Chief Bureau of Aeronautics (Aer-TD-41) Navy Dept., Washington 25, D. C.

Chief of the Bureau of Ordnance (Re.8) Navy Dept., Washington 25, D. C.

Naval Liaison Officer, APG, Eglin AF Base, Fla.
MEMORANDUM FOR DTIC/OCQ (ZENA ROGERS)
8725 JOHN J. KINGMAN ROAD, SUITE 0944
FORT BELVOIR VA 22060-6218

FROM: AFMC CSO/SCOC
4225 Logistics Avenue, Room S132
Wright-Patterson AFB OH 45433-5714

SUBJECT: Technical Reports Cleared for Public Release

References: (a) HQ AFMC/PAX Memo, 26 Nov 01, Security and Policy Review,
AFMC 01-242 (Atch 1)

(b) HQ AFMC/PAX Memo, 19 Dec 01, Security and Policy Review,
AFMC 01-275 (Atch 2)

(c) HQ AFMC/PAX Memo, 17 Jan 02, Security and Policy Review,
AFMC 02-005 (Atch 3)

1. Technical reports submitted in the attached references listed above are cleared for public release in accordance with AFI 35-101, 26 Jul 01, Public Affairs Policies and Procedures, Chapter 15 (Cases AFMC 01-242, AFMC 01-275, & AFMC 02-005).

2. Please direct further questions to Lezora U. Nobles, AFMC CSO/SCOC, DSN 787-8583.

LEZORA U. NOBLES
AFMC STINFO Assistant
Directorate of Communications and Information

Attachments:
1. HQ AFMC/PAX Memo, 26 Nov 01
2. HQ AFMC/PAX Memo, 19 Dec 01
3. HQ AFMC/PAX Memo, 17 Jan 02

cc:
HQ AFMC/HO (Dr. William Elliott)
MEMORANDUM FOR HQ AFMC/HO

FROM: HQ AFMC/PAX

SUBJECT: Security and Policy Review, AFMC 01-242

1. The following material has been reviewed for security and policy IAW AFI 35-101, Chapter 15. It is cleared for public release:

   b. Operational Suitability Test of Open Gun Ports for F-86 Aircraft, 31 August 1949, DTIC No. AD-B971 411

2. Two reports require clearance from other organizations. Hypoxia and Undetermined Jet Accidents,” will be reviewed by 311th Human Systems Wing, and “RCAF Ejection Experience,” will be forward to Air Staff for coordination with RCAF.

3. If you have any questions, please call me at 77828. Thanks.

   JAMES A. MORROW
   Security and Policy Review
   Office of Public Affairs

Attachment:
Your Ltr 26 November 2001
MEMORANDUM FOR: HQ AFMC/PAX  
Attn: Jim Morrow  
FROM: HQ AFMC/HO  
SUBJECT: Releasability Reviews  

1. Please conduct public releasability reviews for the following attached Defense Technical Information Center (DTIC) reports: 


2. These attachments have been requested by Dr. Kenneth P. Werrell, a private researcher.  

3. The AFMC/HO point of contact for these reviews is Dr. William Elliott, who may be reached at extension 77476. 

   
   
   JOHN D. WEBER  
   Command Historian  

5 Attachments:  
a. DTIC No. AD-473 192  
b. DTIC No. AD-B971 411  
c. DTIC No. AD-115 661  
d. DTIC No. AD-B971 840  
e. DTIC No. AD-465 171