

UNCLASSIFIED

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit)	DATE February 1999
---	------------------------------

BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604642A Light Tactical Wheeled Vehicle
--	--

COST (In Thousands)	FY1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY2004 Estimate	FY2005 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	0	0	7498	9954	985	0	0	0	18437	18437
DE40 High Mobility Multi-Purpose Wheeled Vehicle (HMMWV) Prototype	0	0	4538	7490	985	0	0	0	13013	13013
DE46 HMMWV Recapitalization Program	0	0	2960	2464	0	0	0	0	5424	5424

A. Mission Description and Budget Item Justification: This Program Element supports all Light Tactical Wheeled Vehicles such as the High Mobility Multi-Purpose Wheeled Vehicle (HMMWV), HMMWV Recapitalization Program and the Armored Security Vehicle (ASV). In FY 2000 through FY 2002, Project DE40 funds the RDT&E effort leading to the HMMWV Modernization Program through technology integration into the HMMWV. Project DE46 funds the RDT&E effort for the HMMWV Recapitalization Program, which will provide operational and safety improvements to the current fleet of vehicles by component refurbishment, replacement and enhanced performance characteristics.

B. Program Change Summary	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>
Previous President's Budget (FY 1999 PB)	0	0	0	0
Appropriated Value	0	0		
Adjustments to Appropriated Value				
a. Congressional General Reductions				
b. SBIR / STTR				
c. Omnibus or Other Above Threshold Reductions				
d. Below Threshold Reprogramming				
e. Rescissions				
Adjustments to Budget Years Since FY 1999 PB			+7498	+9954
Current Budget Submit (FY 1999 / 2000 PB)	0	0	7498	9954

Change Summary Explanation: Funding added in FY 2000/2001 to support the HMMWV modernization effort and the HMMWV Recapitalization Program.

UNCLASSIFIED

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)								DATE February 1999			
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development				PE NUMBER AND TITLE 0604642A Light Tactical Wheeled Vehicle				PROJECT DE40			
COST (In Thousands)		FY1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY2004 Estimate	FY2005 Estimate	Cost to Complete	Total Cost
DE40 High Mobility Multi-Purpose Wheeled Vehicle (HMMWV) Prototype		0	0	4538	7490	985	0	0	0	13013	13013
<p>A. <u>Mission Description and Budget Item Justification:</u> The HMMWV is a light weight, high performance, four-wheel drive, air transportable and air droppable, high mobility tactical wheeled vehicle. The HMMWV consists of a single chassis that can be adapted to any one of four models at Direct Support (DS) or General Support (GS) level. The four models include Cargo/Utility, Armor, Ambulance and Shelter Carrier. FY 2000 through FY 2002 funds the HMMWV modernization effort. This effort will modernize the vehicles through technology integration into the HMMWV. Examples include: data bus integration, flat panel display, night vision system, adaptive suspension, four wheel steering, exhaust brake, increased wheel travel, central tire inflation, new engine and transmission for better fuel economy, four door enclosure instead of canvas, noise insulation, integrated seat belt system, adjustable caster camber, improved ball joints, improved idler arm, corrosion improvements, extended four door cargo body and Anti-Lock Brake System (ABS). This modernization will incorporate, where appropriate, commercial light truck technology now being evaluated in National Automotive Center (NAC) programs. New commercial technology combined with greater achievement of user requirements will result in a block-improved HMMWV which will allow for future growth of a combat platform to meet Joint Vision XXI requirements. Developmental testing in FY 2001 will be required. Testing will include Reliability and Maintainability (RAM), Environmental, Transportability and Ballistic testing. This RDT&E effort will lead to open competition based on a performance specification for improved HMMWV.</p> <p>FY 1998 Accomplishments: Project not funded in FY 1998</p> <p>FY 1999 Planned Program: Project not funded in FY 1999</p> <p>FY 2000 Planned Program:</p> <ul style="list-style-type: none"> • 3738 HMMWV Modernization Contract(s) • 300 Support Costs (Engineering/Quality/Matrix) • 500 Assemble and test up to five prototype vehicles <p>Total 4538</p> <p>FY 2001 Planned Program:</p> <ul style="list-style-type: none"> • 5090 HMMWV Modernization Contract(s) • 2100 Assemble and test up to nineteen prototype vehicles • 300 Support Costs (Engineering/Quality/Matrix Support) <p>Total 7490</p>											
Project DE40				Page 2 of 7 Pages				Exhibit R-2A (PE 0604642A)			

UNCLASSIFIED

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)									DATE February 1999	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development					PE NUMBER AND TITLE 0604642A Light Tactical Wheeled Vehicle				PROJECT DE40	
B. <u>Other Program Funding Summary</u>										
	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	To <u>Compl</u>	Total <u>Cost</u>
OPA1 Hi Mob Multi-Purp Whld Veh (HMMWV) D15400	126216	66683	92092	119801	111304	111254	135078	135834	Cont	Cont
OPA4 Initial Spares – TSV DS1030		89	72						161	161
C. <u>Acquisition Strategy:</u> The acquisition strategy for the HMMWV modernization is to award up to four (4) prototype contracts leading to a single down select for production award.										
D. <u>Schedule Profile</u>										
	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2004</u>	<u>FY 2005</u>
Award HMMWV Modernization Contract				2Q00	1Q					
Developmental Test & Evaluation					2Q01					
IPR Decision					3Q01					
Award Production Contract						1Q02				
Project DE40			Page 3 of 7 Pages				Exhibit R-2A (PE 0604642A)			

UNCLASSIFIED

ARMY RDT&E COST ANALYSIS (R-3)										DATE February 1999		
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development					PE NUMBER AND TITLE 0604642A Light Tactical Wheeled Vehicle					PROJECT DE40		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Modernization Contract	C/CPIF	TBD				4238	2Q00	5090	1Q01	835	10163	10163
b. In-House Support (TACOM)	N/A	Warren, MI				300	1Q00	300	1Q01	150	750	750
Subtotal Product Development:						4538		5390		985	10913	10913
Remark: Modernization Contract includes cost of a Technical Data Package (TDP) upon completion of the R&D Phase.												
II. Support Costs: Not applicable												
III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Developmental Testing	N/A	APG, MD						2100	2Q01		2100	2100
Subtotal Test and Evaluation:								2100			2100	2100
Remark: Testing will include RAM, Environmental, Transportability, Automotive, and Ballistic testing.												
IV. Management Services: Not applicable												
Project Total Cost:						4538		7490		985	13013	13013

UNCLASSIFIED

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)								DATE February 1999		
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development				PE NUMBER AND TITLE 0604642A Light Tactical Wheeled Vehicle					PROJECT DE46	
COST (In Thousands)	FY1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY2004 Estimate	FY2005 Estimate	Cost to Complete	Total Cost
DE46 HMMWV Recapitalization Program	0	0	2960	2464	0	0	0	0	5424	5424
<p>A. Mission Description and Budget Item Justification: The HMMWV Recapitalization Program is a remanufacture program for the over age HMMWVs. These HMMWVs with high mileage, unaffordable O&S costs, excessive wear, or corrosion which are in need of replacement/remanufacture, include the Cargo/Utility, Armor, Ambulance and Shelter Carrier. The HMMWV Recapitalization Program will provide operational and safety improvements to the current fleet of vehicles and will correct imbalances in required vs on hand quantities in shelter carriers and cargo/utility vehicles. The remanufactured HMMWVs will include enhanced performance characteristics. This will be achieved by a combination of component refurbishment and replacement. Components, which have been improved during the evolution of the HMMWV and the COMBATT demonstration of commercial technology, will be incorporated in the remanufactured vehicles where technically and economically feasible. The objective of the HMMWV Recapitalization Program is to extend the useful service life of the vehicles. In FY 2005, 60% of the HMMWV fleet will be over age. Recapitalization will integrate requirements for Joint Vision XXI onto a refurbished vehicle. Technical insertion opportunities will be developed targeted on reducing overall O&S costs and improving performance. Examples are corrosion protection, digitization requirements, data bus integration and other O&S cost drivers.</p> <p>FY 1998 Accomplishments: Project not funded in FY 1998</p> <p>FY 1999 Planned Program: Project not funded in FY 1999</p> <p>FY 2000 Planned Program:</p> <ul style="list-style-type: none"> • 2200 Prototype Contract(s) • 175 Test and Evaluation • 360 Support Costs (Engineering/Quality/Matrix) • 225 Remanufacture and test up to nine prototype vehicles <p>Total 2960</p> <p>FY 2001 Planned Program:</p> <ul style="list-style-type: none"> • 2109 Prototype Contract(s) • 225 Remanufacture and test up to nine prototype vehicles • 130 Support Costs (Engineering/Quality/Matrix) <p>Total 2464</p>										
Project DE46			Page 5 of 7 Pages				Exhibit R-2A (PE 0604642A)			

UNCLASSIFIED

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)								DATE February 1999		
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development					PE NUMBER AND TITLE 0604642A Light Tactical Wheeled Vehicle			PROJECT DE46		
B. <u>Other Program Funding Summary</u>										
	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	To <u>Compl</u>	Total <u>Cost</u>
HMMWV Recapitalization Program (DV0230)				6647	25859	46185	45345	143753	Cont	Cont
C. <u>Acquisition Strategy:</u> The HMMWV Recapitalization program acquisition strategy consists of three parts leading to award of a competitive contract for Prototype and Test (PAT) and including a priced option for production. Part one leverages the value of the current fleet by assessing its condition, developing rates and schedules, and completing risk assessments. Part two gains input from industry by using a Government-prepared Statement of Objectives (SOO) to solicit contractor-prepared Scopes of Work (SOW) and proposals. Proposals will include data for both the PAT effort and the production option, and will be evaluated using best value source selection procedures. This phase will use Cost as An Independent Variable (CAIV) principals to establish cost thresholds. Based on source selection results, award of up to three contracts will be made. Upon award, each contractor will be provided six candidate HMMWVs to build recapitalized prototype vehicles. Part three consists of evaluating test results to ascertain the vehicles ability to meet program performance objectives. Following evaluation of test results, the Government will exercise the appropriate option to enter into production with the winning vehicle. The production option will be a five-year requirements type contract.										
D. <u>Schedule Profile</u>										
	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2004</u>	<u>FY 2005</u>
Award Prototype Contract				1Q00	1Q01					
Developmental Test & Evaluation				4Q00						
Production Contract Award					3Q01					

UNCLASSIFIED

ARMY RDT&E COST ANALYSIS (R-3)										DATE February 1999		
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development					PE NUMBER AND TITLE 0604642A Light Tactical Wheeled Vehicle					PROJECT DE46		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Prototype Contract	C/CPIF	TBD				2200	1Q00	2184	1Q01		4384	4384
b. In-House Support	N/A	Warren, MI				360	1Q00	130	1Q01		490	490
Subtotal Product Development:						2560		2314			4874	4874
Remark: Prototype contract includes cost of Technical Data Package (TDP) upon completion of the R&D Phase.												
II. Support Costs: Not applicable												
III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Test & Evaluation	N/A	APG, MD				400	4Q00	150	1Q01		550	550
Subtotal Test and Evaluation:						400		150			550	550
IV. Management Services: Not applicable												
Project Total Cost:						2960		2464			5424	5424

THIS PAGE INTENTIONALLY LEFT BLANK