Aircraft … PFORMS

Item	Item	Item	Item	Item	Item
10030137	12706137	15310147	16773147	18472137	19662103
10420107	13264137	15682137	16818147	18844137	
10832103	13632137	15683137	16949147	19030147	
11032103	14194147	16380137	17542147	19161137	
11344137	14752147	16426147	17728103	19342103	
12334147	15212147	16772147	18132144	19440147	

Exhibit P-40, Budget Item Justification Sheet

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities

P-1 Item Nomenclature: AIRBORNE COMMAND & CONTROL (AA0710)

Program Elements for Code B Items:

Code:

Other Related Program Elements:

	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Prog
Proc Qty												
Gross Cost	37.8	0.0	5.7	0.0	0.0	24.4	18.9	17.6	36.1	116.8	93.0	350.4
Less PY Adv Proc												
Plus CY Adv Proc												
Net Proc (P-1)	37.8	0.0	5.7	0.0	0.0	24.4	18.9	17.6	36.1	116.8	93.0	350.4
Initial Spares												
Total Proc Cost	37.8	0.0	5.7	0.0	0.0	24.4	18.9	17.6	36.1	116.8	93.0	350.4
Flyaway U/C												
Wpn Sys Proc U/C												

Description: The Aviation Mission Planning System (AMPS) is a planning/battle synchronization tool that will automate aviation mission planning tasks, repla inadequate manual procedures and providing generation of mission data in either hard copy or electronic formats. The AMPS includes tactical command and control (C2), mission planning, and mission management. The AMPS interfaces with the Maneuver Control System (MCS) and associated networks, providing the aviation commander with continuous situational awareness which allows the commander to rapidly adjust his plan to accomplish his assigned mission. The Army Airborne Command and Control System (A2C2S) functions as a highly mobile command post. When mounted in the UH-60 helicopter with auxiliary equipment, it provides tactical voice, data, and imagery digitized battlefield communications in both secure and nonsecure modes for Corps, Division, and Brigade commanders. The system provides battle commanders access to critical situational awareness and off-board national asset intelligence information via satellite communications, digitized battlefield communications links with Army combined arms team members, joint service and combined force elements, channel scanning, and intercommunications facilities for up to six operators, and joint interoperability as well as maritime and air traffic control communications.

Justification: FY 99 funding will procure 11 A2C2S systems, related system engineering, preproduction and data costs for the systems. The A2C2S is in response to real world needs of combat maneuver commanders to perform highly mobile and responsive digital, voice, and imagery C2 functions in the UH-60 helicopter. This system enables the commander and staff to interject critical C2 across the designated battle area without sacrificing access to information products or jeopardizing continuity of operations due to command post relocation. Interoperability is enhanced with this system by providing the capability to communicate digitally with Navy or Air Force close air support as well as relaying target information. This system supports close, deep, rear, and security operations and disaster relief, peacekeeping, drug interdiction, and both low and high intensity conflict missions. The A2C2S will assist in eliminating costly fratricide incidents via the capability to closely monitor and control operations. Satellite communications provide access to tactical communication systems and enable communication with the force and command structure from JCS down to Battalion when required.

Exhibit P-5, Weapon Aircraft Cost Analysis		Appropriation/ Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities			P-1 Line Item Nomenclature: AIRBORNE COMMAND & CONTROL (AA0710)			Weapon System Type:			Date: February 1998		
Aircraft Cost Elements	ID CD	**FY 96**			**FY 97**			**FY 98**			**FY 99**		
		TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost
		$OOO	Each	$OOO	$OOO	Each	$OOO	$OOO	Each	$OOO	$OOO	Each	$OOO
AMPS:	A												
AMPS Light Weight Computer (LCU) Systems		1981	62	32									
Project Management Administration		1209											
Nonrecurring Engineering		1548											
Data Transfer Systems		441	311	1									
Peripheral Devices		164											
Logistics Support		315											
SUBTOTAL		**5658**											
A2C2S:													
A2C2S Kits											22561	11	2051
PreproductionTooling											790		
System Engineering											496		
Data											574		
SUBTOTAL											**24421**		
TOTAL		**5658**									**24421**		

Exhibit P-5a, Budget Procurement History and Planning

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities

Weapon System Type:

P-1 Line Item Nomenclature: AIRBORNE COMMAND & CONTROL (AA0710)

WBS Cost Elements: Fiscal Years	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date of First Delivery	QTY Each	Unit Cost $OOO	Specs Avail Now?	Date Revsn Avail	RFP Issue Date
AMPS Light Weight Computer (LCU) FY 96	Science Applications INC. International INC San Diego, CA	C/FP	CECOM, PM CHS	Apr-96	Jun-96	62	32	Yes	No	
Data Transfer Systems FY 96	Smith Industries Grand Rapids, MI	SS/FP	CECOM	Apr-96	Nov-96	311	1	Yes	No	
A2C2S FY 99	Naval Research Lab, Washinton, DC	MIPR	Naval Research Lab	Jan-99	Dec-99	11	2051	No	Yes	Jul-98

REMARKS:

FY 98 / 99 BUDGET PRODUCTION SCHEDULE

P-1 Item Nomenclature: AIRBORNE COMMAND & CONTROL (AA0710)

Date: February 1998

COST ELEMENTS	MFR	FY	SERV	PROC QTY Each	ACCEP. PRIOR TO 1 OCT	BAL DUE AS OF 1 OCT	FY 96 OCT	FY 96 NOV	FY 96 DEC	CY 96 JAN	CY 96 FEB	CY 96 MAR	CY 96 APR	CY 96 MAY	CY 96 JUN	CY 96 JUL	CY 96 AUG	CY 96 SEP	FY 97 OCT	FY 97 NOV	FY 97 DEC	CY 97 JAN	CY 97 FEB	CY 97 MAR	CY 97 APR	CY 97 MAY	CY 97 JUN	CY 97 JUL	CY 97 AUG	CY 97 SEP	LATER
AMPS Light Weight Computer (LCU)																														
	1	FY 96	A	62	0	62							A		62															
Data Transfer Systems																														
	2	FY 96	A	311	0	311							A						100	100	111									
A2C2S B Kit components																														
	3	FY 99	A	11	0	11																								11

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	

MFR	NAME / LOCATION	PRODUCTION RATES MIN.	1-8-5	MAX.	REACHED D +
1	Science Applications International INC., San Diego, CA	100	150	200	4
2	Smith Industries, Grand Rapids, MI	50	75	120	6
3	Naval Research LAB, Washington, DC	24	60	120	2

MFR Number			ADMIN LEAD TIME Prior 1 Oct.	After 1 Oct.	MFR After 1 Oct.	TOTAL After 1 Oct.
1	INITIAL		0	1	2	3
	REORDER					
2	INITIAL		0	2	5	7
	REORDER					
3	INITIAL		0	2	10	12
	REORDER					
	INITIAL					
	REORDER					
	INITIAL					
	REORDER					

REMARKS

FY 98 / 99 BUDGET PRODUCTION SCHEDULE

P-1 Item Nomenclature: AIRBORNE COMMAND & CONTROL (AA0710)

Date: February 1998

COST ELEMENTS	MFR	FY	SERV	PROC QTY Each	ACCEP. PRIOR TO 1 OCT	BAL DUE AS OF 1 OCT	FY98 OCT	FY98 NOV	FY98 DEC	FY98 JAN	FY98 FEB	FY98 MAR	FY98 APR	FY98 MAY	FY98 JUN	FY98 JUL	FY98 AUG	FY98 SEP	FY99 OCT	FY99 NOV	FY99 DEC	FY99 JAN	FY99 FEB	FY99 MAR	FY99 APR	FY99 MAY	FY99 JUN	FY99 JUL	FY99 AUG	FY99 SEP	LATER
							Fiscal Year 98												Fiscal Year 99												
							Calendar Year 98												Calendar Year 99												
AMPS Light Weight Computer (LCU)																														
	1	FY 96	A	62	62																									
Data Transfer Systems																														
	2	FY 96	A	311	311																									
A2C2S B Kit components																														
	3	FY 99	A	11	0	11															A									11

MFR	NAME / LOCATION	PRODUCTION RATES MIN.	1-8-5	MAX.	REACHED D +
1	Science Applications International INC., San Diego, CA	100	150	200	4
2	Smith Industries, Grand Rapids, MI	50	75	120	6
3	Naval Research LAB, Washington, DC	24	60	120	2

MFR Number		ADMIN LEAD TIME Prior 1 Oct.	After 1 Oct.	MFR After 1 Oct.	TOTAL After 1 Oct.
1	INITIAL	0	1	2	3
	REORDER				
2	INITIAL	0	2	5	7
	REORDER				
3	INITIAL	0	2	10	12
	REORDER				
	INITIAL				
	REORDER				
	INITIAL				
	REORDER				

REMARKS

FY 98 / 99 BUDGET PRODUCTION SCHEDULE

P-1 Item Nomenclature: AIRBORNE COMMAND & CONTROL (AA0710)

Date: February 1998

COST ELEMENTS	MFR	FY	SERV	PROC QTY Each	ACCEP. PRIOR TO 1 OCT	BAL DUE AS OF 1 OCT	Fiscal Year 00 / Calendar Year 00												Fiscal Year 01 / Calendar Year 01										LATER
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
AMPS Light Weight Computer (LCU)																													
	1	FY 96	A	62	62																								
Data Transfer Systems																													
	2	FY 96	A	311	311																								
A2C2S B Kit components																													
	3	FY 99	A	11	0	11			2	2	2	2	2	1															

MFR	NAME / LOCATION	PRODUCTION RATES MIN.	1-8-5	MAX.	REACHED D +
1	Science Applications International INC., San Diego, CA	100	150	200	4
2	Smith Industries, Grand Rapids, MI	50	75	120	6
3	Naval Research LAB, Washington, DC	24	60	120	2

MFR Number			ADMIN LEAD TIME Prior 1 Oct.	After 1 Oct.	MFR After 1 Oct.	TOTAL After 1 Oct.
1	INITIAL		0	1	2	3
	REORDER					
2	INITIAL		0	2	5	7
	REORDER					
3	INITIAL		0	2	10	12
	REORDER					
	INITIAL					
	REORDER					
	INITIAL					
	REORDER					

REMARKS

Exhibit P-40, Budget Item Justification Sheet

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 3 / Spares and Repair Part

P-1 Item Nomenclature: INITIAL SPARES AIR) (AA0950)

Program Elements for Code B Items:

Code:

Other Related Program Elements:

	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Prog
Proc Qty												
Gross Cost	6643.9	36.5	27.7	38.2	23.2	36.0	26.2	19.0	25.4	28.3	0.0	6904.4
Less PY Adv Proc												
Plus CY Adv Proc												
Net Proc (P-1)	6643.9	36.5	27.7	38.2	23.2	36.0	26.2	19.0	25.4	28.3	0.0	6904.4
Initial Spares												
Total Proc Cost	6643.9	36.5	27.7	38.2	23.2	36.0	26.2	19.0	25.4	28.3	0.0	6904.4
Flyaway U/C												
Wpn Sys Proc U/C												

Description: Provides for procurement of spares to support initial fielding of new or modified end items.

Justification: The funds in this account procure depot level reparable (DLRs) secondary items from the Supply Management, Army activity of the Army Working Capital Fund. To provide initial support, funds are normally required in the same year that end items are fielded. Initial spares breakout:

System	FY 1996	FY1997	FY 1998	FY 1999
ASE	5.3	0.6	0.6	0.6
Helicopter, Utility, UH-60	8.5	6.4	2.4	1.9
Guardrail, Common Sensor	4.7	11.3	0.8	
Guardrail Mods (TIARA)	0.4	5.7	3.3	6.8
Helicopter, OH-58D		2.3		0.7

(cont)

Exhibit P-40C Budget Item Justification Sheet			Date: February 1998
Appropriation / Budget Activity/Serial No.: AIRCRAFT PROCUREMENT / 3 / Spares and Repair Part		P-1 Item Nomenclature: INITIAL SPARES AIR) (AA0950)	
Program Elements for Code B Items	Code	Other Related Program Elements	

System	FY 1996	FY1997	FY 1998	FY 1999
Kiowa Warrior	6.4	1.4		
ANVIS (Night Vision Goggles)	0.8			
Avionics	1.6	3.1	2.9	4.1
Longbow		7.4	13.2	21.9
Total	27.7	38.2	23.2	36.0

Exhibit P-40, Budget Item Justification Sheet

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities

P-1 Item Nomenclature: AVIONICS SUPPORT EQUIPMENT (AZ3000)

Program Elements for Code B Items:

Code:

Other Related Program Elements:

	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Prog
Proc Qty												
Gross Cost	71.3	29.5	14.9	9.9	2.6	2.6	0.0	0.0	0.0	0.0	0.0	130.8
Less PY Adv Proc												
Plus CY Adv Proc												
Net Proc (P-1)	71.3	29.5	14.9	9.9	2.6	2.6	0.0	0.0	0.0	0.0	0.0	130.8
Initial Spares	1.3	2.3	0.9									4.4
Total Proc Cost	72.5	31.8	15.8	9.9	2.6	2.6	0.0	0.0	0.0	0.0	0.0	135.2
Flyaway U/C												
Wpn Sys Proc U/C												

DESCRIPTION: Heads Up Display (HUD) AN/AVS-7 is a System which works in conjunction with the Aviator's Night Vision Imaging System (ANVIS) AN/AVS-6. The ANVIS/HUD collects critical flight information from aircraft sensors and converts this information into visual imagery. This system allows continuous heads up flight by the pilot without needing to look inward at the instrument panel. This provides significant operational and safety enhancements to Night Vision Goggle flight. The HUD is made up of two subsystems, an Aircraft Integration Kit (brackets, wiring harness, etc.) [A Kit] and an Interface Box, Control Panels and two Optical Displays per aircraft [B Kit]. The entire System weight ranges from 32 to 40 pounds per aircraft. The display unit head weight is approximately 140 grams. HUD is being acquired for the highest priority aircraft in the Army inventory.

JUSTIFICATION: The FY99 funds are required to procure retrofit upgrades for previously fielded HUDs for priority aircraft in the Army. The Army's capability to fly more effectively and safely at night will be met by the procurement of this system. The HUD, intended for the highest priority aircraft, will display critical flight information over the ANVIS image, reducing the need to divert the pilot's attention to look inward at the instrument panel.

Exhibit P-5, Weapon Aircraft Cost Analysis		Appropriation/ Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities			P-1 Line Item Nomenclature: AVIONICS SUPPORT EQUIPMENT (AZ3000)			Weapon System Type:			Date: February 1998		
Aircraft Cost Elements	ID CD	**FY 96**			**FY 97**			**FY 98**			**FY 99**		
		TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost
		$OOO	Each	$OOO	$OOO	Each	$OOO	$OOO	Each	$OOO	$OOO	Each	$OOO
ANVIS/HUD		14940	94	159	9877	34	291	2640			2555		
NOTE: FY96 and FY97 quantities in the database are not correct. The correct quantities are 94 and 34 respectively.													
TOTAL		**14940**			**9877**			**2640**			**2555**		

Exhibit P-40, Budget Item Justification Sheet

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities

P-1 Item Nomenclature: ANVIS/HUD (K35601)

Program Elements for Code B Items:

Code:

Other Related Program Elements:

	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Prog
Proc Qty	1435	547	94	34								2110
Gross Cost	71.3	29.5	14.9	9.9	2.6	2.6	0.0	0.0	0.0	0.0	0.0	130.8
Less PY Adv Proc												
Plus CY Adv Proc												
Net Proc (P-1)	71.3	29.5	14.9	9.9	2.6	2.6	0.0	0.0	0.0	0.0	0.0	130.8
Initial Spares	1.3	2.3	0.9									4.4
Total Proc Cost	72.5	31.8	15.8	9.9	2.6	2.6	0.0	0.0	0.0	0.0	0.0	135.2
Flyaway U/C	0.047	0.052	0.159	0.287								0.060
Wpn Sys Proc U/C	0.050	0.055	0.159	0.291								0.062

DESCRIPTION: Heads Up Display (HUD) AN/AVS-7 is a System which works in conjunction with the Aviator's Night Vision Imaging System (ANVIS) AN/AVS-6. The ANVIS/HUD collects critical flight information from aircraft sensors and converts this information into visual imagery. This system allows continuous heads up flight by the pilot without needing to look inward at the instrument panel. This provides significant operational and safety enhancements to Night Vision Goggle flight. The HUD is made up of two subsystems, an Aircraft Integration Kit (brackets, wiring harness, etc.) [A Kit] and an Interface Box, Control Panels and two Optical Displays per aircraft [B Kit]. The entire System weight ranges from 32 to 40 pounds per aircraft. The display unit head weight is approximately 140 grams. HUD is being acquired for the highest priority aircraft in the Army inventory.

JUSTIFICATION: The FY99 funds are required to procure retrofit upgrades for previously fielded quantities of HUDs for priority aircraft in the Army. The Army's capability to fly more effectively and safely at night will be met by the procurement of this system. The HUD, intended for the highest priority aircraft, will display critical flight information over the ANVIS image, reducing the need to divert the pilot's attention to look inward at the instrument panel.

Exhibit P-5, Weapon Aircraft Cost Analysis		Appropriation/ Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities			P-1 Line Item Nomenclature: ANVIS/HUD (K35601)			Weapon System Type:			Date: February 1998		
Aircraft Cost Elements	ID CD	**FY 96**			**FY 97**			**FY 98**			**FY 99**		
		TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost
		$OOO	Each	$OOO	$OOO	Each	$OOO	$OOO	Each	$OOO	$OOO	Each	$OOO
AIRCRAFT Flyaway Costs													
Airframes / CFE													
Avionics (ANVIS/HUD)		3487	94	37	1380	34	41						
AN/AVS-6 Trade-In Program					2481								
Other GFE													
Armament (FCR)													
ECO (All Flyaway Components)		10684			3809			1572			1977		
Other Costs (Halon)													
Subtotal Flyaway Costs		**14171**			**7670**			**1572**			**1977**		
Non-Recurring Costs													
Tooling Equipment													
Other (Installation)*					910			738			248		
Total Flyaway		**14171**			**8580**			**2310**			**2225**		
Support Cost													
Testing					819								
Fielding					71			113			113		
Government Engineering		577			224			98			98		
Peculiar Training Equipment					58								
Publications Tech / Data													
Engineering Change Orders													
Other (Project Management)		192			125			119			119		
Subtotal Support Cost		**769**			**1297**			**330**			**330**		
Gross P-1 End Cost		14940			9877			2640			2555		
Less: Prior Year Adv Proc													
Net P-1 Full Funding Cost		14940			9877			2640			2555		
Plus: P-1 CY Adv Proc													
Other Non P-1 Costs													
Initial Spares		856											
Mods													
TOTAL		**15796**			**9877**			**2640**			**2555**		

Exhibit P-5a, Budget Procurement History and Planning

Date: February 1998

Appropriation / Budget Activity/Serial No:	Weapon System Type:	P-1 Line Item Nomenclature:
AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities		ANVIS/HUD (K35601)

WBS Cost Elements: Fiscal Years	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date of First Delivery	QTY Each	Unit Cost $OOO	Specs Avail Now?	Date Revsn Avail	RFP Issue Date
Avionics (ANVIS/HUD)										
FY 96	TRACOR, Austin, TX	C/FPM-5(5)	CECOM	Jan-96	Jun-97	94	37	Yes	No	
FY 97	TRACOR, Austin, TX	C/Option	CECOM	Dec-96	Jan-98	34	41			
FY98	TRACOR, Austin, TX	C/Option	CECOM	Feb-98	*					
FY99	TRACOR, Austin, TX	C/Option	CECOM	Feb-99	*					
* No new quantities of ANVIS/HUD systems are being procured.										

REMARKS: ANVIS/HUD is integrated into different aircraft in different FY's. ANVIS/HUD increase in unit cost from FY96 to FY97 is due to A Kit variations for different aircraft platforms.
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FY 98 / 99 BUDGET PRODUCTION SCHEDULE

P-1 Item Nomenclature: ANVIS/HUD (K35601)

Date: February 1998

COST ELEMENTS	MFR	FY	SERV	PROC QTY Each	ACCEP. PRIOR TO 1 OCT	BAL DUE AS OF 1 OCT	FY96 OCT	FY96 NOV	FY96 DEC	FY96 JAN	FY96 FEB	FY96 MAR	FY96 APR	FY96 MAY	FY96 JUN	FY96 JUL	FY96 AUG	FY96 SEP	FY97 OCT	FY97 NOV	FY97 DEC	FY97 JAN	FY97 FEB	FY97 MAR	FY97 APR	FY97 MAY	FY97 JUN	FY97 JUL	FY97 AUG	FY97 SEP	LATER
							Fiscal Year 96												Fiscal Year 97												
										Calendar Year 96												Calendar Year 97									
Avionics (ANVIS/HUD)																														
	1	FY 96	A	94	0	94				A											A					20	20	14	6	34
	1	FY 97	A	34	0	34															A									34
(Customers - See Remarks Block)	1	FY96	N/46	60	0	60																						6	6	48
	1	FY96	N/53	34	0	34																								34
	1	FY96	V22	8	0	8																								8
	1	FY97	N/53	44	0	44																								44
	1	FY97	N/60	47	0	47																							8	39
	1	FY97	V22	7	0	7																								7
	1	FY97	N/46	53	0	53																								53
	1	FY97	B	30	0	30																								30
	1	FY99	53D	30	0	30																								30
	1	FY99	N/53	70	0	70																								70
	1	FY00	53D	30	0	30																								30
	1	FY00	N/53	30	0	30																								30
(Prior Army)	1	95 & Pr	A	1982	635	1347	70	70	70	70	70	70	70	70	66	73	73	74	80	80	80	60	60	60	60	21					
(Prior Navy Customer)	1	95 & Pr	N	298	65	233									14	7	7	6								39	40	40	40	40	

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP

MFR	NAME / LOCATION	PRODUCTION RATES MIN.	1-8-5	MAX.	REACHED D +
1	TRACOR, Austin, TX	15	80	100	

MFR Number			ADMIN LEAD TIME Prior 1 Oct.	After 1 Oct.	MFR After 1 Oct.	TOTAL After 1 Oct.
1	INITIAL		6	5	23	28
	REORDER	97	1	3	9	12
	INITIAL					
	REORDER					
	INITIAL					
	REORDER					
	INITIAL					
	REORDER					
	INITIAL					
	REORDER					

REMARKS

N/46-MARINE CH-46E; N/53-MARINE CH-53E; N/60-NAVY HH-60; 53D-MARINE CH-53D; V22-MARINE V22; B-BLACKHAWK (PLATFORM FUNDED).

FY96 & FY97 QUANTITIES IN FYDP ANNEX ARE INCORRECT.

FY 98 / 99 BUDGET PRODUCTION SCHEDULE

P-1 Item Nomenclature: ANVIS/HUD (K35601)

Date: February 1998

COST ELEMENTS	MFR	FY	SERV	PROC QTY Each	ACCEP. PRIOR TO 1 OCT	BAL DUE AS OF 1 OCT	FY98 OCT	FY98 NOV	FY98 DEC	FY98 JAN	FY98 FEB	FY98 MAR	FY98 APR	FY98 MAY	FY98 JUN	FY98 JUL	FY98 AUG	FY98 SEP	FY99 OCT	FY99 NOV	FY99 DEC	FY99 JAN	FY99 FEB	FY99 MAR	FY99 APR	FY99 MAY	FY99 JUN	FY99 JUL	FY99 AUG	FY99 SEP	LATER
							Fiscal Year 98												Fiscal Year 99												
							Calendar Year 98												Calendar Year 99												
Avionics (ANVIS/HUD)																														
	1	FY 96	A	94	60	34	15	9	5	3	2																			
	1	FY 97	A	34	0	34					4	5	3	6	6	10														
(Customers - See Remarks Block)	1	FY96	N/46	60	12	48	17	6	5	2	3	5	5	5																
	1	FY96	N/53	34	0	34		11	11	9	3																			
	1	FY96	V22	8	0	8			5	3																				
	1	FY97	N/53	44	0	44					8	10	7	5	9	5														
	1	FY97	N/60	47	8	39	8	4	4	8	5	5	5																	
	1	FY97	V22	7	0	7							5	2																
	1	FY97	N/46	53	0	53								7	10	5	20	11													
	1	FY97	B	30	0	30												9	21												
	1	FY99	53D	30	0	30													A										15	15	
	1	FY99	N/53	70	0	70																							15	14	41
	1	FY00	53D	30	0	30																									30
	1	FY00	N/53	30	0	30																									30
	1	95 & Pr	A	1982	1982																									
(Prior Navy Customer)	1	95 & Pr	N	298	298																									

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	

MFR	NAME / LOCATION	PRODUCTION RATES MIN.	1-8-5	MAX.	REACHED D +
1	TRACOR, Austin, TX	15	80	100	

MFR Number			ADMIN LEAD TIME Prior 1 Oct.	After 1 Oct.	MFR After 1 Oct.	TOTAL After 1 Oct.
1	INITIAL		6	5	23	28
	REORDER	97	1	3	9	12
	INITIAL					
	REORDER					
	INITIAL					
	REORDER					
	INITIAL					
	REORDER					
	INITIAL					
	REORDER					

REMARKS

N/46-MARINE CH-46E; N/53-MARINE CH-53E; N/60-NAVY HH-60; 53D-MARINE CH-53D; V22-MARINE V22; B-BLACKHAWK (PLATFORM FUNDED).

FY96 & FY97 QUANTITIES IN FYDP ANNEX ARE INCORRECT.

FY 98 / 99 BUDGET PRODUCTION SCHEDULE

P-1 Item Nomenclature: ANVIS/HUD (K35601)

Date: February 1998

COST ELEMENTS	MFR	FY	SERV	PROC QTY Each	ACCEP. PRIOR TO 1 OCT	BAL DUE AS OF 1 OCT	Fiscal Year 00 / Calendar Year 00												Fiscal Year 01 / Calendar Year 01										LATER
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
Avionics (ANVIS/HUD)																													
	1	FY 96	A	94	94																								
	1	FY 97	A	34	34																								
(Customers - See Remarks Block)	1	FY96	N/46	60	60																								
	1	FY96	N/53	34	34																								
	1	FY96	V22	8	8																								
	1	FY97	N/53	44	44																								
	1	FY97	N/60	47	47																								
	1	FY97	V22	7	7																								
	1	FY97	N/46	53	53																								
	1	FY97	B	30	30																								
	1	FY99	53D	30	30																								
	1	FY99	N/53	70	29	41	21	20																					
	1	FY00	53D	30	0	30	A										15	15											
	1	FY00	N/53	30	0	30											15	15											
	1	95 & Pr	A	1982	1982																								
(Prior Navy Customer)	1	95 & Pr	N	298	298																								

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	

MFR	NAME / LOCATION	PRODUCTION RATES MIN.	1-8-5	MAX.	REACHED D +
1	TRACOR, Austin, TX	15	80	100	

MFR Number			ADMIN LEAD TIME Prior 1 Oct.	After 1 Oct.	MFR After 1 Oct.	TOTAL After 1 Oct.
1	INITIAL		6	5	23	28
	REORDER	97	1	3	9	12
	INITIAL					
	REORDER					
	INITIAL					
	REORDER					
	INITIAL					
	REORDER					
	INITIAL					
	REORDER					

REMARKS

N/46-MARINE CH-46E; N/53-MARINE CH-53E; N/60-NAVY HH-60; 53D-MARINE CH-53D; V22-MARINE V22; B-BLACKHAWK (PLATFORM FUNDED).

FY96 & FY97 QUANTITIES IN FYDP ANNEX ARE INCORRECT.

Exhibit P-40, Budget Item Justification Sheet

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft

P-1 Item Nomenclature: GUARDRAIL MODS (TIARA) (AZ2000)

Program Elements for Code B Items:

Code:

Other Related Program Elements:

	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Prog
Proc Qty												
Gross Cost	503.2	0.0	56.2	30.3	14.6	36.1	0.0	0.0	0.0	0.0	0.0	640.3
Less PY Adv Proc												
Plus CY Adv Proc												
Net Proc (P-1)	503.2	0.0	56.2	30.3	14.6	36.1	0.0	0.0	0.0	0.0	0.0	640.3
Initial Spares			0.4	5.7	3.3	6.8	5.9					22.1
Total Proc Cost	503.2	0.0	56.6	36.0	17.9	42.9	5.9	0.0	0.0	0.0	0.0	662.5
Flyaway U/C												
Wpn Sys Proc U/C												

DESCRIPTION: Guardrail is an airborne signal intercept and emitter location system designed to provide tactical commanders with critical battlefield information via a joint Tactical Terminal (JTT) and other DoD tactical and fixed communications systems. The Army's GUARDRAIL/Common Sensor system (GRCS) will have a highly flexible architecture to allow rapid deployment to support contingency operations.

The GRCS integrates the Improved GUARDRAIL V for communications intelligence (COMINT), the Communications High Accuracy Airborne Location System (CHAALS/CHALS-X) for COMINT and precision emitter location, and the Advanced QUICKLOOK (AQL) for electronics intelligence (ELINT) and precision emitter location into a single signal intelligence (SIGINT) system. The airborne elements are integrated into the RC-12K/N/P/Q aircraft. Ground processing is conducted in the Integrated Processing Facilty (IPF). Key performance requirements include a real-time COMINT and ELINT collection and high accuracy target location capability in communications and radar frequencies. The Interoperable Data Link (IDL)/Multi-Role Data Link (MRDL) connects the airborne elements and the ground processing element. A satellite remote relay will provide rapid deployment capability.

Exhibit P-40C Budget Item Justification Sheet		Date: February 1998
Appropriation / Budget Activity/Serial No.: AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft		P-1 Item Nomenclature: GUARDRAIL MODS (TIARA) (AZ2000)
Program Elements for Code B Items	Code	Other Related Program Elements

JUSTIFICATION:

FY99 funds the installation and fielding of modifications and equipment to systems procured in prior years. The modification requiring FY99 funds are listed below.

The GR/CS System 2 Block Upgrade is a modification to the System 2 production contract to provide an advanced tactical SIGINT architecture and direct air to satellite relay (DASR). DASR allows the contingency corps to be deployed on worldwide missions with little to no airlift support and with reduced forwardly deployed personnel.

The Interoperability modification gives GR/CS System 2 the ability to be interoperable with Air Force platforms in FY99.

Additional FY99 funds have been provided to convert (3) RC-12N model training base aircraft to the RC-12P model configuration to support training of GRCS System 2 pilots. The aircraft will also be modified to accept mission payloads and will be used to replace the older and less capable RC-12H models.

Exhibit P-40M Budget Item Justification Sheet											Date: February 1998
Appropriation / Budget Activity/Serial No.: AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft						P-1 Item Nomenclature: GUARDRAIL MODS (TIARA) (AZ2000)					
Program Elements for Code B Items			Code		Other Related Program Elements						
Description		Fiscal Years & Prior									
OSIP NO.	Classification	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TC	Total
CHAALS for System 3											
1-96-111-1111	Operational	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8
Interoperability With Air Force											
1-96-222-2222	Operational	6.7	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.4
Remote Relay for System 1											
1-96-333-3333	Operational	6.5	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.2
AQL Phase III Hardwae Upgrade											
1-96-444-4444	Operational	4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.7
System 2 Block Upgrade											
1-96-666-6666	Operational	170.6	15.3	13.2	12.9	0.0	0.0	0.0	0.0	0.0	212.0
TIBS and TRIXS for GRCS											
1-96-777-7777	Operational	13.1	12.6	1.4	0.0	0.0	0.0	0.0	0.0	0.0	27.1
Conversion of RC-12N's to RC-12P's											
1-99-111-1111	Operational	0.0	0.0	0.0	23.2	0.0	0.0	0.0	0.0	0.0	23.2
Totals		202.4	30.3	14.6	36.1	0.0	0.0	0.0	0.0	0.0	283.4

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE: CHAALS for System 3 1-96-111-1111

MODELS OF SYSTEMS AFFECTED: GUARDRAIL/Common Sensor System 3 / RC12H.

DESCRIPTION / JUSTIFICATION:

The requirement exists for a Communications High Accuracy Airborne Location System (CHAALS) and precision location capability in Sys 3 which is currently deployed to Korea. Funds were used to procure commercial processing and peripheral equipment which allows use of residual equipment from the development contract. Installation was performed by government personnel. Funds also provided for training of the unit on the equipment.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

	PLANNED	ACCOMPLISHED
Contract Award:	1QFY96	1QFY96
Delivery:	3QFY96	2QFY96.

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs	1																				
Outputs	1																				

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs																		1
Outputs																		1

METHOD OF IMPLEMENTATION:	ADMINISTRATIVE LEADTIME:	PRODUCTION LEADTIME:
Contract Dates:	FY 1997	FY 1998	FY 1999
Delivery Date:	FY 1997	FY 1998	FY 1999

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): CHAALS for System 3 1-96-111-1111

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits																				
Installation Kits, Nonrecurring																				
Equipment	1	0.1																	1	0.1
Equipment, Nonrecurring		0.4																		0.4
Engineering Change Orders																				
Data		0.1																		0.1
Training Equipment																				
Support Equipment																				
Other		0.1																		0.1
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits	1	0.1																	1	0.1
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
TC Equip-Kits																				
Total Installment	1	0.1																	1	0.1
Total Procurement Cos		0.8																		0.8

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE: Interoperability With Air Force 1-96-222-2222

MODELS OF SYSTEMS AFFECTED: GUARDRAIL/Common SENSOR 3 / RC-12H, Sys 4 / RC-12K, Sys 1 / RC-12N, System 2 / RC-12P

DESCRIPTION / JUSTIFICATION:

The requirement exists for all GUARDRAIL/Common Sensor Systems to be interoperable with Air Force platforms. Interoperability increases the SIGINT data available to the tactical commander by allowing the GUARDRAIL system to control and obtain data from Air Force platforms.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

	PLANNED	ACCOMPLISHED
Contract Award:	4QFY96	4QFY96
Software Build #1 I & T	2QFY97	2QFY97
Software Build #2 I & T	3QFY97	3QFY97
Software Build #3 I & T	3QFY97	3QFY97
Integration & Test	4QFY98	
Preliminary Acceptance Test	4QFY98	

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs									3												
Outputs									1	2											

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs																		3
Outputs																		3

METHOD OF IMPLEMENTATION: — ADMINISTRATIVE LEADTIME: Months — PRODUCTION LEADTIME: Months

Contract Dates:	FY 1997	FY 1998	FY 1999
Delivery Date:	FY 1997	FY 1998	FY 1999

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): Interoperability With Air Force 1-96-222-2222

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits																				
Installation Kits, Nonrecurring																				
Equipment	3	5.2																	3	5.2
Equipment, Nonrecurring		1.1																		1.1
Engineering Change Orders																				
Data		0.4																		0.4
Training Equipment																				
Support Equipment																				
Other				0.4																0.4
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits			3	1.3															3	1.3
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
TC Equip-Kits																				
Total Installment			3	1.3															3	1.3
Total Procurement Cos		6.7		1.7																8.4

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE: Remote Relay for System 1 1-96-333-3333

MODELS OF SYSTEMS AFFECTED: GUARDRAIL/Common Sensor System 1 / RC-12N

DESCRIPTION / JUSTIFICATION:

The requirement exists for GR/CS System 1 to provide precision location/targeting data while operating in remote mode. Currently, the system can not perform precision location for targeting through the satellite relay while being used in remote operation. The required precision location hardware will be purchased from an ongoing production contract and fabrication will be performed by Tobyhanna Army Depot. Installation will be at the unit with efforts structured around system availability.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

	PLANNED	ACOMPLISHED
System Requirement Review:	4QFY96	3QFY96
Quarterly Reviews:	Quarterly	
System I & T:	2QFY98.	

Installation Schedule:

	Pr Yr Totals	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs					1																
Outputs							1														

	FY 2002				FY 2003				FY 2004				FY 2005				To Complete	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4		
Inputs																		1
Outputs																		1

METHOD OF IMPLEMENTATION:		ADMINISTRATIVE LEADTIME:	Months	PRODUCTION LEADTIME: Months
Contract Dates:	FY 1997	FY 1998		FY 1999
Delivery Date:	FY 1997	FY 1998		FY 1999

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): Remote Relay for System 1 1-96-333-3333

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits																				
Installation Kits, Nonrecurring	1	0.5																	1	0.5
Equipment																				
Equipment, Nonrecurring		5.9																		5.9
Engineering Change Orders																				
Data		0.1																		0.1
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits			1	0.7															1	0.7
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
TC Equip-Kits																				
Total Installment			1	0.7															1	0.7
Total Procurement Cos		6.5		0.7																7.2

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE: AQL Phase III Hardware Upgrade 1-96-444-4444

MODELS OF SYSTEMS AFFECTED: GUARDRAIL/Common Sensor System 4 / RC-K, System 1 / RC-12N

DESCRIPTION / JUSTIFICATION:

The final phase of the Advanced Quicklook (AQL) modification program improves the sustainment and availability of AQL hardware. It includes enhanced flight line maintenance and system diagnostics to better isolate failed equipment and reduce the time required to perform maintenance. It also updates test procedures and equipment to incorporate changes made and lessons learned. It includes modifications to selected AQL Line Replaceable Units (LRUs) to correct several identified hardware problems arising from environmental conditions during extensive operational testing. Efforts will be done under the current production contract. There are no special installation requirements necessary. Equipment will be provided to the unit for their installation through normal maintenance procedures, at no additional cost.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

	PLANNED	ACCOMPLISHED
Contract Award:	2QFY96	2QFY96
Delivery:	2QFY97	2QFY97

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs			1																		
Outputs					1																

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs																		1
Outputs																		1

METHOD OF IMPLEMENTATION: ADMINISTRATIVE LEADTIME: Months PRODUCTION LEADTIME: Months

Contract Dates:	FY 1997	FY 1998	FY 1999
Delivery Date:	FY 1997	FY 1998	FY 1999

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): AQL Phase III Hardware Upgrade 1-96-444-4444

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits																				
Installation Kits, Nonrecurring																				
Equipment																				
Equipment, Nonrecurring																				
Engineering Change Orders		3.3																		3.3
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support		1.4																		1.4
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
TC Equip-Kits																				
Total Installment																				
Total Procurement Cos		4.7																		4.7

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE: System 2 Block Upgrade 1-96-666-6666

MODELS OF SYSTEMS AFFECTED: GUARDRAIL/Common Sensor System 2 / RC-12P/Q

DESCRIPTION / JUSTIFICATION:

The GUARDRAIL/Common Sensor System 2 Block Upgrade is a modification to the System 2 production contract. It provides the required outyear efforts in support of the basic GR/CS System 2 program and major ECPs to include Advanced Tactical SIGINT Architecture (ATSA), Advanced Situations Analysis and Reporting Tools (ASART) and Direct Air to Satellite Relay (DASR). These ECPs were awarded with prior year funds and included installation costs. These funds are the annualized costs required to support these efforts. These annualized costs include contractor and government engineering, interim contractor support, training, testing, fielding, and program manangement. There are no hardware quantity procurements planned.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

	PLANNED	ACCOMPLISHED
IPF Upgrade Award:	1QFY93	1QFY93
DASR Contract Awards:	2QFY94	4QFY94
ASART Contract Award:	4QFY94	4QFY94
System Fielding:	2QFY99	
M - Demo:	4QFY99	
System Hand-Off:	4QFY99	

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs																					
Outputs																					

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs																		
Outputs																		

METHOD OF IMPLEMENTATION: ADMINISTRATIVE LEADTIME: N/A Months PRODUCTION LEADTIME: N/A Months

Contract Dates:	FY 1997	FY 1998	FY 1999
Delivery Date:	FY 1997	FY 1998	FY 1999

INDIVIDUAL MODIFICATION | Date February 1998

MODIFICATION TITLE (Cont): System 2 Block Upgrade 1-96-666-6666

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits																				
Installation Kits, Nonrecurring																				
Equipment		99.3																		99.3
Equipment, Nonrecurring		46.6																		46.6
Engineering Change Orders		2.5																		2.5
GFE / Aircraft Support		1.6		4.8		4.1		2.6												13.1
Training / Fielding		0.3		0.5		0.4		1.5												2.7
Support Equipment		0.5		1.0		0.4		0.4												2.3
Other		3.5		0.1																3.6
Interim Contractor Support		0.2		0.4		0.4		1.7												2.7
Testing		3.1		1.1		2.8		2.4												9.4
Gov't In-House/Prg Mgmt Adm		6.8		3.3		1.4		1.7												13.2
Contractor Engineering		6.2		4.1		3.7		2.6												16.6
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
TC Equip-Kits																				
Total Installment																				
Total Procurement Cos		170.6		15.3		13.2		12.9												212.0

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE: TIBS and TRIXS for GR/CS 1-96-777-7777

MODELS OF SYSTEMS AFFECTED: GUARDRAIL/Common Sensor System 3 / RC-12H, Sys 4 / RC-12K, Sys 1 / RC12N, Sys 2 / RC-12P

DESCRIPTION / JUSTIFICATION:

This modification provides a Tactical Information Broadcast Service (TIBS) capability for GR/CS Systems 3, 4, and 1 and provides Tactical Reconnaisance Intelligence Exchange System (TRIXS) capability for all GR/CS systems. The TRIXS capability will allow broadcast and receive on both the collateral and SI networks. The TRIXS capability will be accomplished by using CECOM's Intelligence and Information Warfare Directorate (I2WD) as the system integrator. The hardware will be integrated into a shelterized HMMVV which will then be fielded to the existing GRCS Systems.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

	PLANNED	ACCOMPLISHED		PLANNED	ACCOMPLISHED
TIBS Contract Award:	3QFY96	4QFY96	TIBS Preliminary Acceptance:	3QFY98	
TRIXS Contract Award:	2QFY98		TRIXS Preliminary Acceptance Test:	3QFY99	
TIBS System Requirement Review:	1QFY97	1QFY97	TIBS Final Acceptance Test:	4QFY98	
TRIXS System Requirement Review:	2QFY98		TRIXS Final Acceptance:	4QFY99	
TIBS Quarterly Reviews:	Quarterly				
TRIXS Quarterly Reviews:	Quarterly				

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs								3	4												
Outputs									1	2		4									

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs																		7
Outputs																		7

METHOD OF IMPLEMENTATION: ADMINISTRATIVE LEADTIME: Months PRODUCTION LEADTIME: Months

Contract Dates:	FY 1997	FY 1998	FY 1999
Delivery Date:	FY 1997	FY 1998	FY 1999

INDIVIDUAL MODIFICATION Date

MODIFICATION TITLE (Cont): TIBS and TRIXS for GR/CS 1-96-777-7777

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits			4	2.8															4	2.8
Installation Kits, Nonrecurring				1.3																1.3
Equipment	3	3.6		2.3															3	5.9
Equipment, Nonrecurring		9.2		3.2																12.4
Engineering Change Orders																				
Data				1.6																1.6
Training Equipment																				
Support Equipment																				
Other		0.3		0.7																1.0
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits			3	0.7															3	0.7
FY 1997 Eqpt -- Kits					4	1.4													4	1.4
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
TC Equip-Kits																				
Total Installment			3	0.7	4	1.4													7	2.1
Total Procurement Cos		13.1		12.6		1.4														27.1

INDIVIDUAL MODIFICATION	Date	February 1998

MODIFICATION TITLE: Conversion of RC-12N's to RC-12P's 1-99-111-1111

MODELS OF SYSTEMS AFFECTED: Guardrail/Common Sensor RC-12N Training Base Aircraft

DESCRIPTION / JUSTIFICATION:

This modification provides for the conversion of three (3) RC-12N training base aircraft into the RC-12P model aircraft. Provides for airframe modification, cabiling, data link equipment and basic electronic rack layout to receive prime mission equipment (PME). The objective of this modification in the short term is to provide RC-12P's to the training base. In the long term replaces the oldest and the least capable GRCS aircraft, RC-12H's in Korea with System 3.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:	Planned	Accomplished
Aircraft Modification & Integration Contract Award:	1Q FY99	
Datalink Contract Award:	1Q FY99	
Datalink Contract Award:	1Q FY99	

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs										1	2										
Outputs																1	2				

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs																		3
Outputs																		3

METHOD OF IMPLEMENTATION: ADMINISTRATIVE LEADTIME: 10 Months PRODUCTION LEADTIME: 18 Months

Contract Dates:	FY 1997	FY 1998	FY 1999	Nov-98
Delivery Date:	FY 1997	FY 1998	FY 1999	May-98

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): Conversion of RC-12N's to RC-12P's 1-99-111-1111

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits																				
Installation Kits, Nonrecurring																				
Equipment																				
Equipment, Nonrecurring							3	13.5											3	13.5
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment/GFE								0.4												0.4
Other																				
Interim Contractor Support								0.1												0.1
Testing								0.3												0.3
Gov't In-House/Pgm Mgmt Admin								0.2												0.2
Contractor Engineering																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits							3	8.7											3	8.7
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
TC Equip-Kits																				
Total Installment							3	8.7											3	8.7
Total Procurement Cos								23.2												23.2

Exhibit P-40, Budget Item Justification Sheet

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities

P-1 Item Nomenclature: TRAINING DEVICES (AZ3700)

Program Elements for Code B Items:

Code:

Other Related Program Elements:

	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Prog
Proc Qty												
Gross Cost	0.0	14.0	29.0	7.4	13.0	0.0	0.0	0.0	0.0	0.0	0.0	63.4
Less PY Adv Proc												
Plus CY Adv Proc												
Net Proc (P-1)	0.0	14.0	29.0	7.4	13.0	0.0	0.0	0.0	0.0	0.0	0.0	63.4
Initial Spares												
Total Proc Cost	0.0	14.0	29.0	7.4	13.0	0.0	0.0	0.0	0.0	0.0	0.0	63.4
Flyaway U/C												
Wpn Sys Proc U/C												

DESCRIPTION: The Apache Integrated Training Program (AITP) will provide a training system which supports training for maintainers and operators. The AITP is an interactive computer-based training program that will provide new equipment and sustainment training in the field and at the schools. The training system includes:

-Maintenance trainers, which support individual task training of the AH-64A Airframe and subsystems:
  a. Airframe, Engine, and Drivetrain Systems Trainer (AEDST)
  b. Armament and Electrical Trainer (AET)

-Operator trainers:
  a. modification of the Cockpit, Weapons, Emergency Procedures Trainer (CWEPT) to an Apache Crew Trainer (ACT), which vastly improves individual and crew training.
  b. Apache Collective Training System (ACTS) leveraged technology.
  c. Upgrade flight simulators for Eighth Army in Korea

JUSTIFICATION: The development and delivery of AITP maintenance trainers returns flyable category B aircraft, used as maintenance trainers, back into the warfighting fleet. The operator trainers will provide and sustain task proficiency and optimize the greater capabilities to support the development and use of scarce flying hours. In particular, the leveraged ACTS technology will better prepare units for exercises at the National Training Center (NTC) and provide combined arms simulation training with other combat arms through Combined Arms Tactical Trainers (CATT).

Exhibit P-5, Weapon Aircraft Cost Analysis	Appropriation/ Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities	P-1 Line Item Nomenclature: TRAINING DEVICES (AZ3700)	Weapon System Type:	Date: February 1998

Aircraft Cost Elements	ID CD	FY 96			FY 97			FY 98			FY 99		
		TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost
		$OOO	Each	$OOO	$OOO	Each	$OOO	$OOO	Each	$OOO	$OOO	Each	$OOO
AIRCRAFT Flyaway Costs													
Airframes / CFE													
Avionics													
A. GFE													
Other GFE													
Armament (FCR)													
ECO (All Flyaway Components)													
Other Costs (Halon)													
Subtotal Flyaway Costs													
Non-Recurring Costs													
Tooling Equipment													
Other System Test													
Total Flyaway													
Support Cost													
Engine (leftover A model)													
Airframe PGSE													
Engine PGSE													
Peculiar Training Equipment		28976			7390			13000					
Publications Tech / Data													
Engineering Change Orders													
Other (specify) Net/ICS/Mtxsupt													
Subtotal Support Cost		**28976**			**7390**			**13000**					
Gross P-1 End Cost		28976			7390			13000					
Less: Prior Year Adv Proc													
Net P-1 Full Funding Cost		28976			7390			13000					
Plus: P-1 CY Adv Proc													
Other Non P-1 Costs													
Initial Spares													
Mods													
TOTAL		**28976**			**7390**			**13000**					

Exhibit P-5a, Budget Procurement History and Planning

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities

Weapon System Type:

P-1 Line Item Nomenclature: TRAINING DEVICES (AZ3700)

WBS Cost Elements: Fiscal Years	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date of First Delivery	QTY Each	Unit Cost $OOO	Specs Avail Now?	Date Revsn Avail	RFP Issue Date
Peculiar Training Devices										
A6X										
FY96	E-SYSTEM, Lexington KY	C/CPFF	Bluegrass Station SOFSA	Apr-96	May-97	2	1578	Yes	No	
Apache Collective Training System (ACTS)										
FY96	Boeing, Mesa, AZ	C/CPFF	USAAMCOM	Dec-97	Sep-00		18192	No	No	
Apache Sustainment Training Kit										
FY 96 Hardware	Precision Micron Rsch; L.A. CA	C/FP	USAAMCOM	Jul-96	Aug-96	45	22	N/A	N/A	
FY 96 Courseware	McDonnell Douglas Helicopter Systems (MDHS), Mesa, AZ.	S/FP	USAAMCOM	Jul-96	Oct-97		1000	N/A	N/A	
FY 96 Courseware	LSI, Jacksonville, FL	C/CPFF	NAWC	Jul-96	Jan-97		1300	N/A	N/A	
FY 96 Courseware	LSI, Jacksonville, FL	C/CPFF	NAWC	Jul-97	Oct-97		2700	N/A	N/A	
FY96 Hardware/Storage/Maintenance	E-SYSTEM, Lexington KY	C/CPFF	Bluegrass Station SOFSA	Jul-96	Aug-96		193	N/A	N/A	
AITP Upgrade										
FY96	Gov't Requisitions	C/FP	USAAMCOM	May-96	Sep-96		1445	N/A	N/A	
FY97	E-SYSTEM, Lexington KY	C/CPFF	Bluegrass Station SOFSA	Jan-97	Dec-97		7390	N/A	N/A	
Simulator upgrades FY98	HTI, Arlington, VA	C/CPFF	STRICOM	Jun-98	Jun-00		13000	N/A	N/A	

REMARKS: Changed to LSI on Courseware because MDHS proposal costs exceeded the dollars available for the level of effort required.

Exhibit P-43, Simulator and Training Device Justification

Date: February 1998

Appropriation / Budget Activity/Serial No.	P-1 Item Nomenclature	Other Related Program Elements:	IOC Date:
AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities	TRAINING DEVICES (AZ3700)		

Training Device by Type	Site	Delivery Date	Ready for Training Date	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003
AET-A7	Ft Eustis, VA	Jun-97	Jul-97								
A6X	Ft Eustis, VA	Dec-97	Dec-97	3156							
Apache Sustainme	Ft Eustis, VA			6183							
AITP Upgrades	Ft Eustis, VA	Sep-96	Nov-96	1445	7390						
Apache Collective	Ft. Hood	Sep-00	Sep-00	18192							
Apache Crew Train	Ft. Rucker	May-96	Jun-96								
Simulator Upgrade	Korea	Jun-00	Jun-00			13000					

Exhibit P-40, Budget Item Justification Sheet

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft

P-1 Item Nomenclature: AH1F MODS (AA0150)

Program Elements for Code B Items:

Code: A

Other Related Program Elements:

	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Prog
Proc Qty												
Gross Cost	1,307.3	4.5	2.5	1.1	0.4	0.5	0.4	0.4	0.5	0.5	32.1	1,350.2
Less PY Adv Proc												
Plus CY Adv Proc												
Net Proc (P-1)	1,307.3	4.5	2.5	1.1	0.4	0.5	0.4	0.4	0.5	0.5	32.1	1,350.2
Initial Spares	92.3											92.3
Total Proc Cost	1,399.6	4.5	2.5	1.1	0.4	0.5	0.4	0.4	0.5	0.5	32.1	1,442.5
Flyaway U/C												
Wpn Sys Proc U/C												

DESCRIPTION: The AH-1 is a single-engine, tandem seated helicopter with a maximum gross weight of 10,000 pounds and a T53L703 1800 SHP engine. The armament system consists of the M65 TOW Missile System, 20mm gun, and Hydra-70 rockets. The programs during FY95-01 provide for Rewire modification. All modifications are complete except Rewire. AH-1F fleet will be 402 aircraft through FY15. Funding is also required for safety and sustainment modifications, in addition to operational improvement modifications required to meet mission requirements through the year 2015.

JUSTIFICATION: FY99 funds will be utilized to continue rewire of AH-1 fleet. Rewire improves RAM, lowers O&S cost and enhances safe operation.

Exhibit P-40M Budget Item Justification Sheet

Date: February 1998

Appropriation / Budget Activity/Serial No.: AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft

P-1 Item Nomenclature: AH1F MODS (AA0150)

Program Elements for Code B Items:

Code: A

Other Related Program Elements:

Description		Fiscal Years									
OSIP NO.	Classification	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TC	Total
Rewire											
1-93-01-0907	RAM	12.2	1.1	0.4	0.5	0.4	0.4	0.5	0.5	32.1	48.1
M65 Reliability/Maintainability (No P3a Set)											
1-89-01-0993	RAM	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Totals		12.3	1.1	0.4	0.5	0.4	0.4	0.5	0.5	32.1	48.2

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE: Rewire 1-93-01-0907

MODELS OF SYSTEMS AFFECTED: AH-1 COBRA/TOW

DESCRIPTION / JUSTIFICATION:

Wiring of AH1 aircraft in Eighth United States Army (EUSA) began as a maintenance refurbishment program for specific aircraft in need of repair. Rewiring of remaining fleet of AH1 aircraft will replace the Kapton wire (which is deteriorating resulting in an increasing safety hazard and causing increased maintenance fleetwide) with new tefzel (MIL-W-22759) wiring. A class 2 Engineering Change Proposal (ECP) was approved 28 May 1992 for this change. The government of Korea paid for installations in Korea under a cost sharing program.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

Kit Development is complete.

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs	94	6					3				4				3				3		
Outputs	94	6						3				4				3				3	

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs		4				4											281	402
Outputs			4				4										281	402

METHOD OF IMPLEMENTATION: Ft. Drum — ADMINISTRATIVE LEADTIME: 3 Months — PRODUCTION LEADTIME: 3 Months

Contract Dates: FY 1997 — FY 1998 Feb 98 — FY 1999 Feb 99

Delivery Date: FY 1997 — FY 1998 Mar 98 — FY 1999 Mar 99

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): Rewire 1-93-01-0907

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity	100	8.3			3	0.3	4	0.4	3	0.3	3	0.3	4	0.4	4	0.4	281	25.1	402	35.5
Installation Kits																				
Installation Kits, Nonrecurring																				
Equipment				0.9																0.9
Equipment, Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt --100 Kit	94	3.9	6	0.2															100	4.1
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- 3 Kits					3	0.1													3	0.1
FY 1999 Eqpt --4 Kits							4	0.1											4	0.1
FY 2000 Eqpt -- 4 kits									3	0.1									3	0.1
FY 2001 Eqpt --4 kits											3	0.1							3	0.1
FY 2002 Eqpt --4 kits													4	0.1					4	0.1
FY 2003 Eqpt -4- kits															4	0.1			4	0.1
TC Equip- 281 Kits																	281	7.0	281	7.0
Total Installment	94	3.9	6	0.2	3	0.1	4	0.1	3	0.1	3	0.1	4	0.1	4	0.1	281	7.0	402	11.7
Total Procurement Cos		12.2		1.1		0.4		0.5		0.4		0.4		0.5		0.5		32.1		48.1

Exhibit P-40, Budget Item Justification Sheet

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft

P-1 Item Nomenclature: AH-64 MODS (AA6605)

Program Elements for Code B Items:

Code:

Other Related Program Elements:

	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Prog
Proc Qty												
Gross Cost	307.7	50.8	61.5	48.8	40.2	52.9	37.5	34.7	108.0	106.1	56.2	904.4
Less PY Adv Proc												
Plus CY Adv Proc												
Net Proc (P-1)	307.7	50.8	61.5	48.8	40.2	52.9	37.5	34.7	108.0	106.1	56.2	904.4
Initial Spares												
Total Proc Cost	307.7	50.8	61.5	48.8	40.2	52.9	37.5	34.7	108.0	106.1	56.2	904.4
Flyaway U/C												
Wpn Sys Proc U/C												

DESCRIPTION: The AH-64 is a single main rotor, twin engine, tandem seat attack helicopter armed with HELLFIRE antitank missiles, 2.75 inch rockets, and 30MM gun. The AH-64 is capable of defeating armor in day, night, and adverse weather. The Target Acquisition Designation Sight (TADS) is housed in a turret on the nose of the AH-64 and consists of a TV, Forward Looking Infrared (FLIR), Direct View Optics, Laser Designator/ Rangefinder and Spot Tracker. The Pilot Night Vision Sensor (PNVS) is a FLIR which allows Nap-of-Earth operations at night by the pilot independent of the co-pilot/gunner's FLIR.

JUSTIFICATION: As the Army's primary Attack Helicopter, the AH-64 has been integrated in maneuver and fire plans of the combined arms team and will have the primary mission of destroying high value targets. The firepower, speed and agility of the AH-64 will provide a versatility to the combined arms team not otherwise available. Modifications are based on fleetwide reliability, availability, and maintainability (RAM) improvements and limited operational enhancements identified as a result of lessons learned during Operation Desert Storm. Funding for FY99 buys the following modifications:

a. Backup Control System (BUCS)
b. Fuel Control Warning Panel
c. Embedded GPS/Inertial Navigation System (EGI)
d. H-11 Bolt Replacement
e. Airframe Modifications
f. Alternate Laser Code
g. TADS/PNVS I/II Upgrades
h. TADS/PNVS Upgrades
i. Apache Integrated Training Program Trainer Upgrade
j. Cat B Trainer Restoration

Exhibit P-40M Budget Item Justification Sheet							Date: February 1998				
Appropriation / Budget Activity/Serial No.: AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft							P-1 Item Nomenclature: AH-64 MODS (AA6605)				
Program Elements for Code B Items			Code	Other Related Program Elements							
Description		Fiscal Years									
OSIP NO.	Classification	Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TC	Total
Backup Control System (BUCS)											
1-86-01-2025	Unclassified	0.0	7.8	3.8	10.1	7.3	4.7	4.8	4.9	5.1	48.5
Fuel Control Warning Panel											
1-89-01-2063	Unclassified	6.0	1.8	2.1	1.8	1.3	0.0	0.0	0.0	0.0	13.0
Embedded GPS / Inertial Navigation System (EGI)											
1-92-01-2072	Operational	70.8	7.5	5.5	0.6	0.0	0.0	0.0	0.0	0.0	84.4
H-11 Bolt Replacement											
1-92-01-2035	Safety	4.9	0.0	0.8	1.0	1.0	1.0	1.3	1.3	1.4	12.7
Captive Boresight Harmonization Kit (CBHK) Upgrade (No P3a Set)											
1-92-01-2034	Op/Log	17.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.2
Airframe Modifications											
1-95-01-2007	Op/Log	2.3	3.7	7.8	12.0	13.8	6.5	6.9	7.2	0.0	60.2
Alternate Laser Code											
1-92-01-2033	Operational	11.8	9.0	11.5	3.4	0.0	0.0	0.0	0.0	0.0	35.7
TADS/PNVS I/II upgrades											
1-94-01-2004	Unclassified	41.7	10.2	6.4	7.8	0.0	0.0	0.0	0.0	0.0	66.1
TADS/PNVS Upgrades											
1-94-01-2005	Unclassified	1.4	2.1	1.9	6.9	6.3	7.1	7.2	7.4	8.1	48.4
AITP 01 (No P3a Set)											
NA	Unclassified	0.0	0.0	0.0	0.0	0.0	0.0	3.1	7.1	8.5	18.7
Miscellaneous Mods Less Than 2M (No P3a Set)											
NA	Unclassified	249.2	6.7	0.4	0.0	0.6	0.6	1.4	1.9	1.0	261.8
Image Intensifier (I2)											
1-91-01-2093	Unclassified	0.0	0.0	0.0	0.0	0.0	4.0	15.9	8.7	11.4	40.0

Exhibit P-40M Budget Item Justification Sheet											Date: February 1998
Appropriation / Budget Activity/Serial No.: AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft						P-1 Item Nomenclature: AH-64 MODS (AA6605)					
Program Elements for Code B Items			Code		Other Related Program Elements						
Apache Integrated Training Program Trainer Upgrade											
NA	Unclassified	0.0	0.0	0.0	3.4	5.3	5.2	10.3	15.2	15.8	55.2
Cat B Trainer Restoration											
NA	Unclassified	0.0	0.0	0.0	5.9	1.9	5.6	6.8	7.2	4.9	32.3
ORT Conversion (No P3a Set)											
NA	Unclassified	14.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.7
Second Gen FLIR (No P3a Set)											
NA	Operational	0.0	0.0	0.0	0.0	0.0	0.0	50.3	45.2	0.0	95.5
Totals		420.0	48.8	40.2	52.9	37.5	34.7	108.0	106.1	56.2	904.4

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE: Backup Control System (BUCS) 1-86-01-2025

MODELS OF SYSTEMS AFFECTED: AH-64 Apache

DESCRIPTION / JUSTIFICATION:

Operational requirement. This modification is required to bring all AH-64 Apache aircraft to a BUCS active configuration. This modification includes a redesign of BUCS. The redesign will be accomplished as part of the Longbow remanufacture line beginning with Lot II incorporation. Lot I aircraft will be retrofitted. A total of 520 aircraft will be modified under the A model program through FY 04. Longbow program will fund 238 aircraft FY 05-08. Installation costs are included in contract and are not broken out separately.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

Contract award was 30 Sep 97 for Lots 2-5 and retrofit of Lot 1 aircraft. Planned date of first delivery of Lot 2 aircraft is Mar 98.

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs						6	9	10	10	18	18	19	21	15	15	17	18	19	17	18	18
Outputs							3	9	9	15	16	18	18	12	13	15	15	15	15	15	15

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	2		520
Outputs	17	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	30	520

METHOD OF IMPLEMENTATION: Contractor — ADMINISTRATIVE LEADTIME: 2 Months — PRODUCTION LEADTIME: 11 Months

Contract Dates:	FY 1997	Sep 97	FY 1998	Dec 97	FY 1999	Dec 98
Delivery Date:	FY 1997	Mar 98	FY 1998	Nov 98	FY 1999	Nov 99

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): Backup Control System (BUCS) 1-86-01-2025

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity			24		44		66		74		72		72		72		72		496	
Installation Kits				1.4		2.5		3.8		4.2		4.7		4.8		4.9		5.1		31.4
Installation Kits Nonrecurring																				
Equipment							24	1.4											24	1.4
Equipment Nonrecurring				5.0		0.7		2.4		1.9										10.0
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other								1.9		1.0										2.9
PM System Support				1.4		0.6		0.6		0.2										2.8
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- Kits					21		3												24	
FY 1998 Eqpt -- Kits							40		4										44	
FY 1999 Eqpt -- Kits							24		51		15								90	
FY 2000 Eqpt -- kits											45		29						74	
FY 2001 Eqpt -- kits													42		30				72	
FY 2002 Eqpt -- kits															42		30		72	
FY 2003 Eqpt -- kits																	72		72	
(FY(TC) Eqpt (72 kits)																	72		72	
Total Installment					21		67		55		60		71		72		174		520	
Total Procurement Cos				7.8		3.8		10.1		7.3		4.7		4.8		4.9		5.1		48.5

INDIVIDUAL MODIFICATION	Date	February 1998

MODIFICATION TITLE: Fuel Control Warning Panel 1-89-01-2063

MODELS OF SYSTEMS AFFECTED: AH-64 Apache

DESCRIPTION / JUSTIFICATION:

Operational/safety. Modification to provide tactile discrimination of the fuel cross-feed on both the pilot and copilot/gunner panels and provide added annunciation on the pilot and copilot/gunner caution warning panel to indicate valve operation for fuel cross-feed and fuel transfer. modification provides opposite cockpit awareness of fuel control mode and override status.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

Planned Contract award was Aug 94, awarded Aug 94. Planned date of first delivery was Apr 96, actual was Apr 96.

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs	71	42	42	42	43	50	50	50	50	46	46	46	47	47	47	39					
Outputs	71	42	42	42	43	50	50	50	50	46	46	46	47	47	47	39					

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs																		758
Outputs																		758

METHOD OF IMPLEMENTATION: Contractor Tms ADMINISTRATIVE LEADTIME: 12 Months PRODUCTION LEADTIME: 20 Months

Contract Dates: FY 1997 FY 1998 FY 1999

Delivery Date: FY 1997 FY 1998 FY 1999

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): Fuel Control Warning Panel 1-89-01-2063

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity	758																		758	
Installation Kits		4.9																		4.9
Installation Kits Nonrecurring		0.4																		0.4
Equipment																				
Equipment Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
PM System Support		0.1		0.3		0.4		0.1												0.9
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits	71	0.6	169	1.5	200	1.7	185	1.7	133	1.3									758	6.8
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
(FY(TC) Eqpt (xx kits)																				
Total Installment	71	0.6	169	1.5	200	1.7	185	1.7	133	1.3									758	6.8
Total Procurement Cos		6.0		1.8		2.1		1.8		1.3										13.0

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE: Embedded GPS / Inertial Navigation System (EGI) 1-92-01-2072

MODELS OF SYSTEMS AFFECTED: AH-64 Apache

DESCRIPTION / JUSTIFICATION:

Operational/Desert Storm. This modification integrates an embedded Global Positioning System in an Inertial Navigation System box (EGI) into the AH-64A Apache. This Joint Service program provides a significant increase in accuracy for the navigation and fire control systems. This EGI is identical to the one being installed on the Longbow.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

Planned production contract award was Apr 95, actual was Apr 95. Planned first delivery was May 96, actual was May 96. Planned first installation was Jul 96, actual Apr 96.

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs	42	54	54	54	54	54	54	54	54	26											
Outputs	42	54	54	54	54	54	54	54	54	26											

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs																		500
Outputs																		500

METHOD OF IMPLEMENTATION: Contractor — ADMINISTRATIVE LEADTIME: 24 Months — PRODUCTION LEADTIME: 13 Months

Contract Dates: FY 1997 — FY 1998 — FY 1999

Delivery Date: FY 1997 — FY 1998 — FY 1999

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): Embedded GPS / Inertial Navigation System (EGI) 1-92-01-2072

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity	500	3.3																	500	3.3
Installation Kits																				
Installation Kits Nonrecurring																				
Equipment	500	34.0																	500	34.0
Equipment Nonrecurring		10.7																		10.7
Engineering Change Orders																				
Data		3.2																		3.2
Training Equipment		2.1																		2.1
Support Equipment		4.3																		4.3
Other		9.4		2.0		0.3														11.7
PM System Support		3.0		1.3		0.8		0.1												5.2
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits	42	0.8	216	4.2	216	4.4	26	0.5											500	9.9
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
(FY(TC) Eqpt (xx kits)																				
Total Installment	42	0.8	216	4.2	216	4.4	26	0.5											500	9.9
Total Procurement Cos		70.8		7.5		5.5		0.6												84.4

INDIVIDUAL MODIFICATION	Date	February 1998

MODIFICATION TITLE: H-11 Bolt Replacement 1-92-01-2035

MODELS OF SYSTEMS AFFECTED: AH-64 Apache

DESCRIPTION / JUSTIFICATION:

Safety improvement. This modification addresses Federal Aviation Administration (FAA) advisory that H-11 hardware is subject to a higher than normal failure rate due to stress corrosion cracking and could potentially result in a safety problem. FAA recommended replacement of the H-11 hardware with acceptable substitutes such as Inconel. Procured 758 kits: 499 to be installed under A model program, 259 to be installed under D model program.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

Planned Contract award was May 95, actual was May 95. Planned date of first installation was Aug 96, actual was Aug 96.

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs						20	21	21	21	21	21	22	22	13	14	14	14	15	15	15	15
Outputs						20	21	21	21	21	21	22	22	13	14	14	14	15	15	15	15

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs	17	18	18	18	18	18	18	18	18	18	18	18						499
Outputs	17	18	18	18	18	18	18	18	18	18	18	18						499

METHOD OF IMPLEMENTATION: Contractor ADMINISTRATIVE LEADTIME: 15 Months PRODUCTION LEADTIME: 15 Months

Contract Dates: FY 1997 FY 1998 FY 1999

Delivery Date: FY 1997 FY 1998 FY 1999

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): H-11 Bolt Replacement 1-92-01-2035

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity	758																		758	
Installation Kits		3.4																		3.4
Installation Kits Nonrecurring		0.3																		0.3
Equipment																				
Equipment Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment		1.1																		1.1
Other																				
PM System Support		0.1				0.1		0.1												0.3
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits					83	0.7	86	0.9	55	1.0	60	1.0	71	1.3	72	1.3	72	1.4	499	7.6
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
(FY(TC) Eqpt (xx kits)																				
Total Installment					83	0.7	86	0.9	55	1.0	60	1.0	71	1.3	72	1.3	72	1.4	499	7.6
Total Procurement Cos		4.9				0.8		1.0		1.0		1.0		1.3		1.3		1.4		12.7

INDIVIDUAL MODIFICATION	Date	February 1998

MODIFICATION TITLE: Airframe Modifications 1-95-01-2007

MODELS OF SYSTEMS AFFECTED: AH-64 Apache

DESCRIPTION / JUSTIFICATION:

Operational and logistical improvement. This modification provides for strengthening airframe components to withstand higher loading. Funding addresses three primary areas plus several additional areas susceptible to cracking. Specific modifications include strengthening components through application of additional material and replacement of components with different material. Required for AH-64A and extremely important for Longbow due to increase in weight. Installation costs are included in contract and are not broken out separately.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

Planned Contract award (MY 1, Lot 1) was Nov 96, actual was Nov 96. Planned date of first delivery (MY 1, Lot 1) was Mar 97, actual was Mar 97, (MY 1, Lot 2) planned delivery is Mar 98. Contract for retrofit was awarded 30 Sep 97.

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs	14	6	6	6	6	13	17	18	18	28	28	29	31	39	39	42	43	50	49	42	36
Outputs			1	5	6	13	17	17	17	25	26	28	28	36	37	40	40	46	47	47	47

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs	17	18	18	19	19	20	18	18	20	21	10							758
Outputs	30	25	17	18	18	19	20	20	21	23	20	4						758

METHOD OF IMPLEMENTATION: Contractor ADMINISTRATIVE LEADTIME: 2 Months PRODUCTION LEADTIME: 11 Months

Contract Dates:	FY 1997	Nov 96	FY 1998	Dec 97	FY 1999	Dec 98
Delivery Date:	FY 1997	Mar 98	FY 1998	Nov 98	FY 1999	Nov 99

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): Airframe Modifications 1-95-01-2007

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity (ECP 1315)			31		40		98		127		53		58		67				474	
Installation Kits				1.7		3.4		7.3		9.5		4.8		4.8		5.8				37.3
Installation Kits Nonrecurring																				
Equipment (Multi-year)	24	1.3	24	1.4	44	3.2	66	3.9	74	4.0	17	1.7	21	2.1	14	1.4			284	19.0
Equipment Nonrecurring		0.8																		0.8
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
PM System Support		0.2		0.6		1.2		0.8		0.3										3.1
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits			12		12														24	
FY 1997 Eqpt -- Kits					52		3												55	
FY 1998 Eqpt -- Kits							84												84	
FY 1999 Eqpt -- Kits							20		144										164	
FY 2000 Eqpt -- kits									9		187		5						201	
FY 2001 Eqpt -- kits													70						70	
FY 2002 Eqpt -- kits													15		64				79	
FY 2003 Eqpt -- kits															13		68		81	
(FY(TC) Eqpt																				
Total Installment			12		64		107		153		187		90		77		68		758	
Total Procurement Cos		2.3		3.7		7.8		12.0		13.8		6.5		6.9		7.2				60.2

INDIVIDUAL MODIFICATION	Date	February 1998

MODIFICATION TITLE: Alternate Laser Code 1-92-01-2033

MODELS OF SYSTEMS AFFECTED: AH-64 Apache

DESCRIPTION / JUSTIFICATION:

Operational improvement. This modification provides optimum laser targeting capability for the Hellfire Missile System under adverse countermeasure conditions and allows maximum use of planned Electro-Optic Counter Measures (EOCM) missile changes. Requires hardware/software modifications to the Laser Electronics Unit. Eliminates Remote Hellfire Electronics unit and four pylon Multiplex Remote Terminal Units (MRTU). Modification provides for compatibility with MIL-STD-1760. Provides modification to the Hellfire Launchers for use on the Longbow aircraft. There is no installation requirement for the launchers.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

Planned Contract award was Feb 96, actual was Oct 96. Planned date of first delivery is Feb 98

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs																					
Outputs																					

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs																		
Outputs																		

METHOD OF IMPLEMENTATION:	Contractor	ADMINISTRATIVE LEADTIME:	24	Months	PRODUCTION LEADTIME:	15	Months	
Contract Dates:	FY 1997	Jan 97	FY 1998	Jan 98	FY 1999	Jan 99		
Delivery Date:	FY 1997	May 98	FY 1998	May 99	FY 1999	May 00		

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): Alternate Laser Code 1-92-01-2033

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E		6.0																		6.0
PROCUREMENT																				
Kit Quantity																				
Installation Kits																				
Installation Kits Nonrecurring																				
Equipment	30	1.8	76	3.5	132	7.1	17	1.7											255	14.1
Equipment Nonrecurring		3.0																		3.0
Engineering Change Orders		3.6		0.3		0.3														4.2
Data																				
Training Equipment		0.1		0.2		0.3														0.6
Support Equipment																				
Other		1.6		1.5		0.5														3.6
Engr Services (PM AGMS)				1.9		1.5		1.5												4.9
PM System Support		1.7		1.6		1.8		0.2												5.3
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
(FY(TC) Eqpt																				
Total Installment																				
Total Procurement Cos		11.8		9.0		11.5		3.4												35.7

INDIVIDUAL MODIFICATION	Date	February 1998

MODIFICATION TITLE: TADS/PNVS I/II upgrades 1-94-01-2004

MODELS OF SYSTEMS AFFECTED: AH-64 Apache

DESCRIPTION / JUSTIFICATION:

Safety and logistical improvement. Provides for system upgrade through new/updated hardware integration into Lots I&II TADS/PNVS systems. This configuration baseline upgrade will make the systems compatible with the rest of the Apache (TADS/PNVS) fleet. This effort will incorporate all ECP changes that were previously not required to be installed due to incompatibility of the systems. Additionally, this will eliminate anomalies associated with aging trainer aircraft that may cause them to be potentially unsafe to operate as a result of degr fidelity. Also provides for offsight contractor support for the upgrade/integration of hardware in the TADS/PNVS. Installation costs are included in contract and are not broken out separately.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

Planned Contract award was May 95, actual May 95. Planned date of first delivery was Aug 95, actual was Aug 95.

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs	11	4	4	4	4	4	4	4	4	6	4	5	5								
Outputs	11	4	4	4	4	4	4	4	4	4	4	4	4	4							

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs																		63
Outputs																		63

METHOD OF IMPLEMENTATION: Contractor ADMINISTRATIVE LEADTIME: 2 Months PRODUCTION LEADTIME: 8 Months

Contract Dates:	FY 1997	Oct 96	FY 1998	Oct 97	FY 1999	Oct 98
Delivery Date:	FY 1997	May 97	FY 1998	May 98	FY 1999	May 99

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): TADS/PNVS I/II upgrades 1-94-01-2004

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity	30		15		9		9												63	
Installation Kits		12.8		6.4		4.0		4.1												27.3
Installation Kits Nonrecurring																				
Equipment		12.4		1.7		1.1		1.8												17.0
Equipment Nonrecurring																				
Engineering Change Orders																				
Data		0.1																		0.1
Training Equipment																				
Support Equipment																				
Other		9.2		0.3		0.3		1.4												11.2
PM System Support		7.2		1.8		1.0		0.5												10.5
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits	11		16		3														30	
FY 1997 Eqpt -- Kits					13		2												15	
FY 1998 Eqpt -- Kits							9												9	
FY 1999 Eqpt -- Kits							5		4										9	
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
(FY(TC) Eqpt (xx kits)																				
Total Installment	11		16		16		16		4										63	
Total Procurement Cos		41.7		10.2		6.4		7.8												66.1

INDIVIDUAL MODIFICATION | Date: February 1998

MODIFICATION TITLE: TADS/PNVS Upgrades 1-94-01-2005

MODELS OF SYSTEMS AFFECTED: AH-64 Apache

DESCRIPTION / JUSTIFICATION:

Operational, and logistical improvement. Provide for system upgrade through new/updated hardware integration into Lots III thru XII TADS/PNVS systems. Facilitate maintainers access to TADS/PNVS systems thereby allowing for accelerated application of outstanding ECPs. Additionally, satisfies program growth and the life extension requirements and provides for offsite contractor support for upgrades/integration of hardware in the TADS/PNVS. This will also provide a single configuration TADS/PNVS to the Longbow. Critical AH-64D element. Installation costs are included in contract and are not broken out separately.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

Planned Contract award was Dec 95, actual was Dec 95. Planned date of first delivery was Jun 96, actual was Jun 96.

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs	14	6	6	6	6	6	9	9	9	10	13	12	11	13	16	15	13	18	18	18	18
Outputs			1	5	6	6	9	9	9	9	10	12	12	12	13	15	15	15	15	15	15

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs	18	18	18	18	18	18	18	18	18	18	18	18	18	18	3			501
Outputs	17	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	11	501

METHOD OF IMPLEMENTATION: ADMINISTRATIVE LEADTIME: 2 Months PRODUCTION LEADTIME: 8 Months

Contract Dates:	FY 1997	Apr 97	FY 1998	Mar 98	FY 1999	Dec 98
Delivery Date:	FY 1997	Nov 97	FY 1998	Oct 98	FY 1999	Jul 99

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): TADS/PNVS Upgrades 1-94-01-2005

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity	26		28		30		61		70		70		72		72		72		501	
Installation Kits		1.2		1.2		1.4		2.9		3.4		3.5		3.6		3.8		3.9		24.9
Installation Kits Nonrecurring																				
Equipment				0.3		0.1		2.3		1.5		2.1		2.1		2.0		2.5		12.9
Equipment Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other				0.2		0.1		1.2		1.2		1.5		1.5		1.6		1.7		9.0
PM System Support		0.2		0.4		0.3		0.5		0.2										1.6
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits			12		14														26	
FY 1997 Eqpt -- Kits					19		9												28	
FY 1998 Eqpt -- Kits							30												30	
FY 1999 Eqpt -- Kits							4		55		2								61	
FY 2000 Eqpt -- kits											58		12						70	
FY 2001 Eqpt -- kits													59		11				70	
FY 2002 Eqpt -- kits															61		11		72	
FY 2003 Eqpt -- kits																	72		72	
(FY(TC) Eqpt (72 kits)																	72		72	
Total Installment			12		33		43		55		60		71		72		155		501	
Total Procurement Cos		1.4		2.1		1.9		6.9		6.3		7.1		7.2		7.4		8.1		48.4

INDIVIDUAL MODIFICATION	Date	February 1998

MODIFICATION TITLE: Image Intensifier (I2) 1-91-01-2093

MODELS OF SYSTEMS AFFECTED: AH-64 Apache

DESCRIPTION / JUSTIFICATION:

Safety and operational improvement. Provides Pilot Night Vision Sensor (PNVS) improvement through the addition of an image intensification device. Modification of the PNVS sensor to incorporate an image intensification tube provides an alternate pilotage sensor to augment the Forward Looking InfraRed (FLIR) sensor during marginal thermal contrast conditions. The complementary thermal and image intensification sensors improve operational effectiveness by significantly expanding the environmental conditions, which allow safe pilota the aircraft. Addition of another spectral band enhances safety by providing an additional way to detect obstacles or flight hazards. Installation costs are included in contract and are not broken out separately.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

Planned Development Test and Evaluation is Jul 01. Planned Contract award is Feb 02. Planned date of first delivery is Feb 03.

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs																					
Outputs																					

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs						7	18	18	18	18	18	18	18	18	18	18	571	758
Outputs						7	18	18	18	18	18	18	18	18	18	18	571	758

METHOD OF IMPLEMENTATION: ADMINISTRATIVE LEADTIME: 6 Months PRODUCTION LEADTIME: 12 Months

Contract Dates: FY 1997 FY 1998 FY 1999

Delivery Date: FY 1997 FY 1998 FY 1999

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): Image Intensifier (I2) 1-91-01-2093

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity													72		72		72		216	
Installation Kits														7.3		7.4		7.8		22.5
Installation Kits Nonrecurring												4.0		7.6						11.6
Equipment																				
Equipment Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment														1.0		0.2		0.2		1.4
Support Equipment																				
Other																				
Interim Contractor Support																				
PM System Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits															54	1.1	18	0.4	72	1.5
FY 2003 Eqpt -- kits																	72	1.5	72	1.5
(FY(TC) Eqpt (643 kits)																	72	1.5	72	1.5
Total Installment															54	1.1	162	3.4	216	4.5
Total Procurement Cos												4.0		15.9		8.7		11.4		40.0

INDIVIDUAL MODIFICATION	Date	February 1998

MODIFICATION TITLE: Apache Integrated Training Program Trainer Upgrade NA

MODELS OF SYSTEMS AFFECTED: AH-64 Apache

DESCRIPTION / JUSTIFICATION:

Operational requirement. Upgrade Apache Training Devices in FY 99-03 to support training through FY08. Training Devices include Apache Crew Trainer (ACT), Armament/Electrical Trainer (AET-A7), Combat Mission Simulator (CMS), and Apache Collective Trainer System (ACTS). Requirement still exists to train A model AH-64 pilots, instructor pilots, and maintenance test pilots.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

Planned Contract award (CMS upgrade) is Oct 98. Planned date of software development is to begin Nov 97. Planned IPR Hardware selection (CMS) is Jan 98.

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs														1				1			
Outputs																	1				1

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs	2				3													7
Outputs				2				3										7

METHOD OF IMPLEMENTATION: ADMINISTRATIVE LEADTIME: 12 Months PRODUCTION LEADTIME: 12 Months

Contract Dates:	FY 1997	FY 1998	FY 1999
Delivery Date:	FY 1997	FY 1998	FY 1999

MODIFICATION TITLE (Cont): Apache Integrated Training Program Trainer Upgrade NA

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits																				
Installation Kits Nonrecurring																				
Equipment									1	5.2	1	5.2	2	10.3	3	15.2	3	15.8	10	51.7
Equipment Nonrecurring								3.2												3.2
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
PM System Support								0.2		0.1										0.3
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits									1										1	
FY 2001 Eqpt -- kits											1								1	
FY 2002 Eqpt -- kits													2						2	
FY 2003 Eqpt -- kits															3				3	
(FY(TC) Eqpt (3 kits)																	3		3	
Total Installment									1		1		2		3		3		10	
Total Procurement Cos								3.4		5.3		5.2		10.3		15.2		15.8		55.2

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE: Cat B Trainer Restoration NA

MODELS OF SYSTEMS AFFECTED: AH-64 Apache

DESCRIPTION / JUSTIFICATION:

Operational requirement. Modify Cat B Trainers to meet induction criteria for Longbow Apache (AH64D) re-manufacture line at contractor plant.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

Planned induction at Corpus Christi Depot is May 98. Planned induction to re-manufacture line is Sep 99.

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs								2	1			1		3				3			
Outputs											1	1	1		1		1	1	1		1

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs	3				2													15
Outputs	1	1		1	1	1		1	1									15

METHOD OF IMPLEMENTATION: ADMINISTRATIVE LEADTIME: 6 Months PRODUCTION LEADTIME: 6 Months

Contract Dates:	FY 1997	FY 1998	FY 1999	Oct 98
Delivery Date:	FY 1997	FY 1998	FY 1999	Jan 99

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): Cat B Trainer Restoration NA

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits																				
Installation Kits, Nonrecurring																				
Equipment							3	5.5	1	1.8	3	5.6	3	6.8	3	7.2	2	4.9	15	31.8
Equipment, Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
PM System Support								0.4		0.1										0.5
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits							3												3	
FY 2000 Eqpt -- kits									2										2	
FY 2001 Eqpt -- kits											3								3	
FY 2002 Eqpt -- kits													3						3	
FY 2003 Eqpt -- kits															3				3	
TC Equip-2 Kits																	1		1	
Total Installment							3		2		3		3		3		1		15	
Total Procurement Cos								5.9		1.9		5.6		6.8		7.2		4.9		32.3

Exhibit P-40, Budget Item Justification Sheet

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft

P-1 Item Nomenclature: CH-47 CARGO HELICOPTER MODS (MYP) (AA0252)

Program Elements for Code B Items:

Code:

Other Related Program Elements:

	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Prog
Proc Qty												
Gross Cost	3630.8	9.2	11.3	48.5	62.4	101.2	84.9	192.9	211.5	214.8	460.0	5027.4
Less PY Adv Proc	940.0											940.0
Plus CY Adv Proc	940.0											940.0
Net Proc (P-1)	3630.8	9.2	11.3	48.5	62.4	101.2	84.9	192.9	211.5	214.8	460.0	5027.4
Initial Spares	260.4											260.4
Total Proc Cost	3891.2	9.2	11.3	48.5	62.4	101.2	84.9	192.9	211.5	214.8	460.0	5287.8
Flyaway U/C												
Wpn Sys Proc U/C												

DESCRIPTION: The CH-47 heavy lift helicopter is a day/night tandem rotor helicopter powered by two T-55 turbine engines. The CH-47 is the Army's only active heavy cargo helicopter and is a key element in the Contingency CORPS. The CHINOOK provides invaluable battlefield mobility for tactical vehicles, artillery and engineer equipment, personnel and logistical support equipment. Cargo Helicopters provide the logistical base for Air-Land operations. The CHINOOK also provides support of operations other than war.

JUSTIFICATION: FY 99 funding procures safety and operational modifications to the CH-47D fleet plus trainers to maintain the latest configuration. Modifications are planned to fielded aircraft to incorporate safety and operational modifications to the CH-47D aircraft. These changes contribute to the effectiveness of heavy lift capability, maintainability, reliability, and aircraft/crew safety. The major modifications occurring during FY 99 are procurement of kits for Improved Rotor Head Shafts & Seals, Install Aft Pylon Fairing Vents, Replace Upper Seal for Swashplate, Halon Replacement, Conversion of the T55-L-712 to T55-GA-714A Engines, Engine Barrier Filter, and Extended Range Fuel System.

Exhibit P-40M Budget Item Justification Sheet										Date: February 1998	
Appropriation / Budget Activity/Serial No.: AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft						P-1 Item Nomenclature: CH-47 CARGO HELICOPTER MODS (MYP) (AA0252)					
Program Elements for Code B Items			Code	Other Related Program Elements							
Description		Fiscal Years									
OSIP NO.	Classification	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TC	Total
Installation of Modification Kits											
Various	Operational/Safety	8.5	1.0	1.3	1.2	0.6	0.0	0.0	0.0	0.0	12.6
Work Platform - Aft Pylon											
1-95-01-0816	Safety	1.2	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	1.5
Improved Cross Shaft Adapters, Couplings, & Bolts											
1-95-01-0817	Safety	0.0	0.0	0.0	1.1	0.2	0.2	0.0	0.0	0.0	1.5
Improved Rotor Head Shafts & Seals											
1-95-01-0818	Operational	0.0	0.0	0.0	1.1	0.8	1.6	0.8	0.0	0.0	4.3
Improved Latch for Aft Pylon Doors											
1-95-01-0814	Safety	1.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0	1.4
Install Handholds in Center Cargo Hook Hatch											
1-95-01-0819	Safety	0.6	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	1.1
Install Aft Pylon Fairing Vents											
1-95-01-0820	Safety	0.0	0.0	0.0	1.1	0.5	0.5	0.0	0.0	0.0	2.1
Improved Battery											
1-96-01-0822	Operational	0.0	0.0	2.5	0.0	0.1	0.1	0.0	0.0	0.0	2.7
Replace Upper Seal for Swashplate											
1-96-01-0823	Operational	0.0	0.0	0.0	1.7	0.5	1.8	1.2	0.0	0.0	5.2
Halon Replacement											
1-95-01-0813	Legislative	0.0	0.0	5.1	1.7	0.8	0.0	0.0	0.0	0.0	7.6
Engine Upgrade to T55-GA-714A Configuration											
1-96-01-0828	Operational	0.0	47.5	49.6	87.3	71.0	176.9	195.9	199.3	420.0	1,247.4
Engine Barrier Filter											
1-93-01-0807	Operational	0.0	0.0	0.0	0.0	4.6	5.1	6.1	7.9	6.8	30.6

Exhibit P-40M Budget Item Justification Sheet										Date: February 1998
Appropriation / Budget Activity/Serial No.: AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft						P-1 Item Nomenclature: CH-47 CARGO HELICOPTER MODS (MYP) (AA0252)				
Program Elements for Code B Items		Code	Other Related Program Elements							
Extended Range Fuel System										
1-97-01-822	Operational	0.0	0.0	3.6	5.1	5.8	6.6	7.4	7.6	33.2	69.3
Totals		11.3	48.5	62.4	101.2	84.9	192.9	211.4	214.8	460.0	1,387.3

INDIVIDUAL MODIFICATION	Date	February 1998

MODIFICATION TITLE: Installation of Modification Kits Various

MODELS OF SYSTEMS AFFECTED: CH-47D CHINOOK and MH-47E

DESCRIPTION / JUSTIFICATION:

Modification kits procured with FY 94 and prior funding remain uninstalled due to deliveries, scheduling, and funding. This funding will install these modification kits in the CH-47D aircraft and the MH-47E aircraft where appropriate. Installing all kits in all aircraft will result in more efficient maintenance, increased operational capability, and safety improvements.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

Installations are ongoing.

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs	2675		315	315	320		280	280	289		310	310	314		150	150	100				
Outputs	2675		315	315	320		280	280	289		310	310	314		150	150	100				

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs																		5808
Outputs																		5808

METHOD OF IMPLEMENTATION: Contract ADMINISTRATIVE LEADTIME: Months PRODUCTION LEADTIME: Months

Contract Dates: FY 1997 FY 1998 FY 1999

Delivery Date: FY 1997 FY 1998 FY 1999

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): Installation of Modification Kits Various

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits	1465	5.0																	1465	5.0
Installation Kits Nonrecurring																				
Equipment																				
Equipment Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits	2675	3.5	950	1.0	849	1.3	934	1.2	400	0.6									5808	7.6
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
(FY(TC) Eqpt (xx kits)																				
Total Installment	2675	3.5	950	1.0	849	1.3	934	1.2	400	0.6									5808	7.6
Total Procurement Cos		8.5		1.0		1.3		1.2		0.6										12.6

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE: Work Platform - Aft Pylon 1-95-01-0816

MODELS OF SYSTEMS AFFECTED: CH-47D CHINOOK, MH-47E

DESCRIPTION / JUSTIFICATION:

Type of Improvement - Safety. During normal maintenance of the CH-47D aircraft, cracks have been noticed in the pin area of the platform. The pin area secures the work platform. This Engineering Change will eliminate these cracks by redesigning the work platform to eliminate the cracks. Continued cracking could result in the platform releasing from the aircraft causing safety concerns.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

	Planned	Accomplished
Production Contract Award	May 97	Apr 97
First Production Hardware Delivery	Apr 98	
Field Retrofit Initiated	May 98	

Installation Schedule:

	Pr Yr Totals	FY 1997 1	2	3	4	FY 1998 1	2	3	4	FY 1999 1	2	3	4	FY 2000 1	2	3	4	FY 2001 1	2	3	4
Inputs								70	100		97	100	100								
Outputs								70	100		97	100	100								

	FY 2002 1	2	3	4	FY 2003 1	2	3	4	FY 2004 1	2	3	4	FY 2005 1	2	3	4	To Complete	Totals
Inputs																		467
Outputs																		467

METHOD OF IMPLEMENTATION: Contractor — ADMINISTRATIVE LEADTIME: 9 Months — PRODUCTION LEADTIME: 12 Months

Contract Dates: FY 1997 — FY 1998 — FY 1999

Delivery Date: FY 1997 — FY 1998 — FY 1999

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): Work Platform - Aft Pylon 1-95-01-0816

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits	467	1.2																	467	1.2
Installation Kits Nonrecurring																				
Equipment																				
Equipment Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits					170	0.1	297	0.2											467	0.3
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
TC Equip-Kits																				
Total Installment					170	0.1	297	0.2											467	0.3
Total Procurement Cos		1.2				0.1		0.2												1.5

INDIVIDUAL MODIFICATION	Date	February 1998

MODIFICATION TITLE: Improved Cross Shaft Adapters, Couplings, & Bolts 1-95-01-0817

MODELS OF SYSTEMS AFFECTED: CH-47D CHINOOK, MH47E, and Trainers

DESCRIPTION / JUSTIFICATION:

Type of Improvement - Safety. This modification is to improve Cross Shaft Adapters, Couplings, and Bolts. Field reports have identified failure of the steel cross shaft adapters. Corrosion pitting inside the bolt holes have served as stress risers for fatigue failures. Correction o this deficiency will reduce maintenance, resolve safety concerns, and increase reliability and maintainability.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

	Planned	Accomplished
Production Contract Award	Dec 98	
Frist Production Hardware Delivery	Nov 99	
Field Retrofit Initiated	Feb 99	

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs											75	75	85		90	90	56				
Outputs											75	75	85		90	90	56				

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs																		471
Outputs																		471

METHOD OF IMPLEMENTATION: Contractor ADMINISTRATIVE LEADTIME: 9 Months PRODUCTION LEADTIME: 12 Months

Contract Dates:	FY 1997	FY 1998	FY 1999	Dec 98
Delivery Date:	FY 1997	FY 1998	FY 1999	Nov 99

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): Improved Cross Shaft Adapters, Couplings, & Bolts 1-95-01-0817

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits							471	1.1											471	1.1
Installation Kits Nonrecurring																				
Equipment																				
Equipment Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits									235	0.2	236	0.2							471	0.4
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
TC Equip-Kits																				
Total Installment									235	0.2	236	0.2							471	0.4
Total Procurement Cos								1.1		0.2		0.2								1.5

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE: Improved Rotor Head Shafts & Seals 1-95-01-0818

MODELS OF SYSTEMS AFFECTED: CH-47D CHINOOK, MH-47E, and Trainers

DESCRIPTION / JUSTIFICATION:

Type of Improvement - Improved Operational Capability. The CH-47D field units have reported multiple instances of leaking rotorhead s This Engineering Change will eliminate rotorhead leakage problems by incorporating seals with improved materials and configuration in addition to incorporating speedy seals on the inboard and ourboard sealing surfaces of the pitch shaft. This will cause the rotorheads to operate more efficiently and maintenance requirements will decrease.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

	Planned	Accomplished
Production Contract Award	Dec 98	
First Production Hardware Delivery	Nov 99	
Field Retrofit Initiated	Jan 00	

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs															40	40	40		80	80	80
Outputs															40	40	40		80	80	80

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs	40	40	31															471
Outputs	40	40	31															471

METHOD OF IMPLEMENTATION: Contractor — ADMINISTRATIVE LEADTIME: 9 Months — PRODUCTION LEADTIME: 12 Months

Contract Dates:	FY 1997	FY 1998	FY 1999	Dec 98
Delivery Date:	FY 1997	FY 1998	FY 1999	Nov 99

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): Improved Rotor Head Shafts & Seals 1-95-01-0818

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits							471	1.1											471	1.1
Installation Kits Nonrecurring																				
Equipment																				
Equipment Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits									120	0.8	240	1.6	111	0.8					471	3.2
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
(FY(TC) Eqpt (xx kits)																				
Total Installment									120	0.8	240	1.6	111	0.8					471	3.2
Total Procurement Cos								1.1		0.8		1.6		0.8						4.3

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE: Improved Latch for Aft Pylon Doors 1-95-01-0814

MODELS OF SYSTEMS AFFECTED: CH-47D CHINOOK and MH-47E

DESCRIPTION / JUSTIFICATION:

Type of Improvement - Safety. Present design of the Aft Pylon Door Latches is inadequate due to vibrations which cause latches to open in flight. This improvement will incorporate design changes that will prevent these failures. Correction is required because continued degradation could cause the doors to come off in flight.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

	Planned	Accomplished
Production Contract Award	Apr 97	Mar 97
First Production Hardware Delivery	Feb 98	
Field Retrofit Initiated	Apr 98	

Installation Schedule:

	Pr Yr Totals	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs								117	117		117	117									
Outputs								117	117		117	117									

	FY 2002				FY 2003				FY 2004				FY 2005				To Complete	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4		
Inputs																		468
Outputs																		468

METHOD OF IMPLEMENTATION: Contractor — ADMINISTRATIVE LEADTIME: 9 Months — PRODUCTION LEADTIME: 12 Months

Contract Dates: FY 1997 — FY 1998 — FY 1999

Delivery Date: FY 1997 — FY 1998 — FY 1999

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): Improved Latch for Aft Pylon Doors 1-95-01-0814

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits	468	1.0																	468	1.0
Installation Kits Nonrecurring																				
Equipment																				
Equipment Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits					234	0.2	234	0.2											468	0.4
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
(FY(TC) Eqpt (xx kits)																				
Total Installment					234	0.2	234	0.2											468	0.4
Total Procurement Cos		1.0				0.2		0.2												1.4

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE: Install Handholds in Center Cargo Hook Hatch 1-95-01-0819

MODELS OF SYSTEMS AFFECTED: CH-47D CHINOOK, and MH-47E

DESCRIPTION / JUSTIFICATION:

Type of Improvement - Safety. This modification will install special formed stainless steel handholds with brackets in the center hook hatc provide the loadmaster a secure method of anchoring while attaching and monitoring the hook load. Two handholds will be installed on the cargo hatch beams and are specially formed to be inserted in this area. These handholds will provide increased safety to the loadmaster through increased stability and improved balance during sling load operation.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

	Planned	Accomplished
Production Contract Award	Oct 97	
First Production Hardware Delivery	Sep 98	
Field Retrofit Initiated	Jan 99	

Installation Schedule:

	Pr Yr Totals	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs											150	160	157								
Outputs											150	160	157								

	FY 2002				FY 2003				FY 2004				FY 2005				To Complete	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4		
Inputs																		467
Outputs																		467

METHOD OF IMPLEMENTATION: Contractor — ADMINISTRATIVE LEADTIME: 12 Months — PRODUCTION LEADTIME: 18 Months

Contract Dates: FY 1997 — FY 1998 — FY 1999

Delivery Date: FY 1997 — FY 1998 — FY 1999

INDIVIDUAL MODIFICATION																			Date	February 1998
MODIFICATION TITLE (Cont):	Install Handholds in Center Cargo Hook Hatch 1-95-01-0819																			
FINANCIAL PLAN: ($ in Millions)	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits	467	0.6																	467	0.6
Installation Kits Nonrecurring																				
Equipment																				
Equipment Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits							467	0.5											467	0.5
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
(FY(TC) Eqpt (xx kits)																				
Total Installment							467	0.5											467	0.5
Total Procurement Cos		0.6						0.5												1.1

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE: Install Aft Pylon Fairing Vents 1-95-01-0820

MODELS OF SYSTEMS AFFECTED: CH-47D CHINOOK, MH-47E, and Trainers

DESCRIPTION / JUSTIFICATION:

Type of Improvement - Safety. The CH-47D Aft Pylon allows air intake to cool the combining transmission and surrounding components. This causes extreme air pressures to be created in the Aft Pylon resulting in a visable distortion of the Aft Pylon in flight and a deterioration in the clamshell doors and work platforms. This pressure has caused work platforms to open in flight and the clamshell doors to open and separate in flight. This engineering change proposal will improve safety to helicopter and crew by incorporating louvered air vents in the aft Pylon to alleviate the excess air pressure while the clamshell door and work platform stress/wear and alleviate these components flexing, opening, and separating in flight.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

	Planned	Accomplished
Production Contract Award	Dec 98	
First Production Hardware Delivery	Nov 99	
Field Retrofit Initiated	Jan 00	

Installation Schedule:

	Pr Yr Totals	FY 1997 1	2	3	4	FY 1998 1	2	3	4	FY 1999 1	2	3	4	FY 2000 1	2	3	4	FY 2001 1	2	3	4
Inputs															41	100	100		75	75	80
Outputs															41	100	100		75	75	80

	FY 2002 1	2	3	4	FY 2003 1	2	3	4	FY 2004 1	2	3	4	FY 2005 1	2	3	4	To Complete	Totals
Inputs																		471
Outputs																		471

METHOD OF IMPLEMENTATION: Contractor — ADMINISTRATIVE LEADTIME: 12 Months — PRODUCTION LEADTIME: 12 Months

Contract Dates:	FY 1997	FY 1998	FY 1999	Dec 98
Delivery Date:	FY 1997	FY 1998	FY 1999	Nov 99

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): Install Aft Pylon Fairing Vents 1-95-01-0820

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits							471	1.1											471	1.1
Installation Kits Nonrecurring																				
Equipment																				
Equipment Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits									241	0.5	230	0.5							471	1.0
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
(FY(TC) Eqpt (xx kits)																				
Total Installment									241	0.5	230	0.5							471	1.0
Total Procurement Cos								1.1		0.5		0.5								2.1

INDIVIDUAL MODIFICATION	Date	February 1998

MODIFICATION TITLE: Improved Battery 1-96-01-0822

MODELS OF SYSTEMS AFFECTED: CH-47D CHINOOK and Trainers

DESCRIPTION / JUSTIFICATION:

Type of Improvement - Improved Operational Capability. Incorporation of a New Lead Acid Battery will reduce the frequent battery failure. Currently the aircraft battery has a frequent failure rate. This has been a major maintenance concern for the users.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

	Planned	Accomplished
Production Contract Award	Jul 98	
First Production Hardware Delivery	Feb 99	
Field Retrofit Initiated	Jan 00	

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs															79	79	79		70	80	80
Outputs															79	79	79		70	80	80

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs																		467
Outputs																		467

METHOD OF IMPLEMENTATION: Contractor ADMINISTRATIVE LEADTIME: 9 Months PRODUCTION LEADTIME: 8 Months

Contract Dates: FY 1997 FY 1998 Jul 98 FY 1999

Delivery Date: FY 1997 FY 1998 Feb 99 FY 1999

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): Improved Battery 1-96-01-0822

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits					467	2.5													467	2.5
Installation Kits Nonrecurring																				
Equipment																				
Equipment Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits									237	0.1	230	0.1							467	0.2
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
TC Equip-Kits																				
Total Installment									237	0.1	230	0.1							467	0.2
Total Procurement Cos						2.5				0.1		0.1								2.7

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE: Replace Upper Seal for Swashplate 1-96-01-0823

MODELS OF SYSTEMS AFFECTED: CH-47D CHINOOK and Trainers

DESCRIPTION / JUSTIFICATION:

Type of Improvement - Improved Operational Capability. This improvement will incorporate a new seal to reduce/eliminate dust particles from getting into the rotating swashplate components. Dust is causing erosion of the swashplate. Replacement of the seal will improve bearing life of the swashplate.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

	Planned	Accomplished
Production Contract Award	Dec 98	
First Production Hardware Delivery	Feb 00	
Field Retrofit Initiated	Apr 00	

Installation Schedule:

	Pr Yr Totals	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs																30	35		70	80	80
Outputs																30	35		70	80	80

	FY 2002				FY 2003				FY 2004				FY 2005				To Complete	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4		
Inputs		75	76															446
Outputs		75	76															446

METHOD OF IMPLEMENTATION: Contractor — ADMINISTRATIVE LEADTIME: 9 Months — PRODUCTION LEADTIME: 15 Months

Contract Dates: FY 1997 — FY 1998 — FY 1999 DEC 98

Delivery Date: FY 1997 — FY 1998 — FY 1999 FEB 00

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): Replace Upper Seal for Swashplate 1-96-01-0823

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits							446	1.7											446	1.7
Installation Kits Nonrecurring																				
Equipment																				
Equipment Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits									65	0.5	230	1.8	151	1.2					446	3.5
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
TC Equip-Kits																				
Total Installment									65	0.5	230	1.8	151	1.2					446	3.5
Total Procurement Cos								1.7		0.5		1.8		1.2						5.2

INDIVIDUAL MODIFICATION	Date	February 1998

MODIFICATION TITLE: Halon Replacement 1-95-01-0813

MODELS OF SYSTEMS AFFECTED: CH-47D CHINOOK and MH-47

DESCRIPTION / JUSTIFICATION:

Type of Improvement - Legislative Compliance. Use of Halon violates the Montreal Protocol and violates the Clean Air Act. This modification will retrofit hand held aircraft fire extinquishers and the onboard fire extinquishing system in the engine nacelle. The current halon extinquishers and systems deplete the ozone level and will be replaced with a new chemical agent.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

	Planned	Accomplished
Production Contract Award	Mar 98	
First Production Hardware Delivery	Feb 99	
Field Retrofit Initiated	Apr 99	

Installation Schedule:

	Pr Yr Totals	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs												115	118		100	100	34				
Outputs												115	118		100	100	34				

	FY 2002				FY 2003				FY 2004				FY 2005				To Complete	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4		
Inputs																		467
Outputs																		467

METHOD OF IMPLEMENTATION: Contractor ADMINISTRATIVE LEADTIME: 9 Months PRODUCTION LEADTIME: 12 Months

Contract Dates:	FY 1997	FY 1998	Mar 98	FY 1999	Dec 98
Delivery Date:	FY 1997	FY 1998	Feb 99	FY 1999	Nov 99

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): Halon Replacement 1-95-01-0813

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits					393	5.1	74	0.9											467	6.0
Installation Kits Nonrecurring																				
Equipment																				
Equipment Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits							233	0.8	160	0.5									393	1.3
FY 1999 Eqpt -- Kits									74	0.3									74	0.3
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
(FY(TC) Eqpt (xx kits)																				
Total Installment							233	0.8	234	0.8									467	1.6
Total Procurement Cos						5.1		1.7		0.8										7.6

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE: Engine Upgrade to T55-GA-714A Configuration 1-96-01-0828

MODELS OF SYSTEMS AFFECTED: CH-47D CHINOOK and Trainers

DESCRIPTION / JUSTIFICATION:

Type of Improvement - Improved Operational Capability. This modification will upgrade the T55-L-712 engine to T55-GA-714A configuration increasing power to allow the aircraft to carry its primary payloads under high altitude/temperatures. The CH-47D as configured does not meet its existing 1975 Required Operational Capability (ROC), i.e. 15,000 lbs. payload for 30 Nautical Miles radius at 4,000 feet/95 degrees Farenheit. The addition of numerous engineering changes to provide safety, the latest in operational technology, and improved communications has increased the empty weight of the aircraft. Upgrade of the T55-L-712 engine to T55-GA-714A configuration will provide the capability to meet the required operational capability.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

	Planned	Accomplished
Production Decision	Feb 97	Feb 97
Low Rate Initial Production Contract Award	Sep 97	Dec 97
First Production Hardware Delivery	Feb 99	
Engine Fielding Initiated	Mar 99	

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs											8	20	22		10	12	15		11	12	12
Outputs											8	20	22		10	12	15		11	12	12

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs		24	24	25		27	27	28		26	26	28		25	25	26	9	442
Outputs		24	24	25		27	27	28		26	26	28		25	25	26	9	442

METHOD OF IMPLEMENTATION: Contractor — ADMINISTRATIVE LEADTIME: 14 Months — PRODUCTION LEADTIME: 12 Months

Contract Dates:	FY 1997	Dec 97	FY 1998	Mar 98	FY 1999	Nov 98
Delivery Date:	FY 1997	Feb 99	FY 1998	Mar 99	FY 1999	Nov 99

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): Engine Upgrade to T55-GA-714A Configuration 1-96-01-0828

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits																				
Installation Kits Nonrecurring																				
Engine Conversion Kits			47	21.6	48	23.0	87	42.0	69	33.9	172	85.9	184	93.6	183	95.1	360	252.7	1150	647.8
Engine Fielding Kits			47	8.5	48	9.0	70	13.2	58	11.1	150	29.3	165	32.9	167	33.9	179	37.4	884	175.3
Engine Conversions			47	11.8	47	12.2	87	22.8	69	18.4	172	46.7	184	50.9	183	51.7	361	105.1	1150	319.5
Airframe Kits			25	3.9	25	4.1	37	6.1	35	5.8	73	12.4	82	14.2	80	14.1	85	15.3	442	75.8
Logistic Support				1.8		1.3		2.3		1.1		2.1		3.1		3.0		6.4		21.1
Engine Conversion																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- Kits							25	0.4											25	0.4
FY 1998 Eqpt -- Kits							25	0.4											25	0.4
FY 1999 Eqpt -- Kits									37	0.6									37	0.6
FY 2000 Eqpt -- kits											35	0.6							35	0.6
FY 2001 Eqpt -- kits													73	1.3					73	1.3
FY 2002 Eqpt -- kits															82	1.5			82	1.5
FY 2003 Eqpt -- kits																	80	1.5	80	1.5
(FY(TC) Eqpt -- kits																	85	1.6	85	1.6
Total Installment							50	0.8	37	0.6	35	0.6	73	1.3	82	1.5	165	3.1	442	7.9
Total Procurement Cos				47.5		49.6		87.3		71.0		176.9		195.9		199.3		420.0		1247.4

INDIVIDUAL MODIFICATION	Date	February 1998

MODIFICATION TITLE: Engine Barrier Filter 1-93-01-0807

MODELS OF SYSTEMS AFFECTED: CH-47D CHINOOK, MH-47E, and Trainers

DESCRIPTION / JUSTIFICATION:

Type of Improvement - Improved Operational Capability. This funding provides an engine modification to separate sand and dust at the engine inlet to allow clean air to flow into the engine. For missions requiring extended operation at very low altitudes over sand and dust terrain, separation of sand and dust at engine inlet is a necessity to assure normal engine life for sustained operations. Procurement of this system is essential to assure operation in sandy regions.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

	Planned	Accomplished
Design Review	Jan 98	
Testing	Mar 98	
Production Contract	Nov 99	
First Hardware Delivery	Jun 00	
Field Installation Initiated	Jan 01	

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs																			30	30	30
Outputs																			30	30	30

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs		25	25	30		30	40	40		40	40	40		25	25	31		481
Outputs		25	25	30		30	40	40		40	40	40		25	25	31		481

METHOD OF IMPLEMENTATION: Contractor ADMINISTRATIVE LEADTIME: 1 Months PRODUCTION LEADTIME: 8 Months

Contract Dates: FY 1997 FY 1998 FY 1999

Delivery Date: FY 1997 FY 1998 FY 1999

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): Engine Barrier Filter 1-93-01-0807

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits									90	1.3	80	1.1	110	1.5	120	1.8	81	1.2	481	6.9
Installation Kits Nonrecurring																				
Equipment									90	3.3	80	3.2	110	3.8	120	4.9	81	3.4	481	18.6
Equipment Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits											90	0.8							90	0.8
FY 2001 Eqpt -- kits													80	0.8					80	0.8
FY 2002 Eqpt -- kits															110	1.2			110	1.2
FY 2003 Eqpt -- kits																	120	1.3	120	1.3
(FY(TC) Eqpt (xx kits)																	81	0.9	81	0.9
Total Installment											90	0.8	80	0.8	110	1.2	201	2.2	481	5.1
Total Procurement Cos										4.6		5.1		6.1		7.9		6.8		30.6

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE: Extended Range Fuel System 1-97-01-822

MODELS OF SYSTEMS AFFECTED: CH-47D Chinook

DESCRIPTION / JUSTIFICATION:

Type of Improvement - Improved Operational Capability. This funding provides the capability to rapidly refuel other weapon systems during war and/or conflict and self-deploy worldwide when a contingency force is anticipated, imminent, or in progress. This configuration will cor of crashworthy self-sealing (20 nautical miles) tactical tanks with a total capacity of 2,400 gallons. There is a requirement for a CH-47 inte fuel system to be used to supply fuel in forward areas either to keep aircraft in the battle or return them to a safe area to rearm and refuel.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

	Planned	Accomplished
Production Contract Award	Jul 98	
First Hardware Dedlivery	Jan 99	
Field Installation Initiated	Apr 99	

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs											20	20				20	20			20	20
Outputs											20	20				20	20			20	20

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs			20	20			20	20			20	20			20	20	151	431
Outputs			20	20			20	20			20	20			20	20	151	431

METHOD OF IMPLEMENTATION: ADMINISTRATIVE LEADTIME: 10 Months PRODUCTION LEADTIME: 6 Months

Contract Dates:	FY 1997	FY 1998	Jul 98	FY 1999	Dec 98
Delivery Date:	FY 1997	FY 1998	Jan 99	FY 1999	May 99

MODIFICATION TITLE (Cont): Extended Range Fuel System 1-97-01-822

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits																				
Installation Kits, Nonrecurring																				
CWERFS Kits					5	2.5	7	3.6	8	4.2	9	4.8	10	5.5	10	5.6	41	23.9	90	50.1
Installation Kits					15	0.5	21	0.7	24	0.8	27	0.9	30	1.1	30	1.1	123	4.7	270	9.8
Airframe Mod Kits					40	0.6	40	0.6	40	0.6	40	0.6	40	0.6	40	0.7	191	3.2	431	6.9
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits							40	0.2											40	0.2
FY 1999 Eqpt -- Kits									40	0.2									40	0.2
FY 2000 Eqpt -- kits											40	0.2							40	0.2
FY 2001 Eqpt -- kits													40	0.2					40	0.2
FY 2002 Eqpt -- kits															40	0.2			40	0.2
FY 2003 Eqpt -- kits																	40	0.2	40	0.2
TC Equip- 151 Kits																	191	1.2	191	1.2
Total Installment							40	0.2	40	0.2	40	0.2	40	0.2	40	0.2	231	1.4	431	2.4
Total Procurement Cos						3.6		5.1		5.8		6.6		7.4		7.6		33.2		69.3

Exhibit P-40, Budget Item Justification Sheet

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities

P-1 Item Nomenclature: AIRCRAFT SURVIVABILITY EQUIPMENT (AZ3504)

Program Elements for Code B Items:

Code:

Other Related Program Elements:

	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Prog
Proc Qty												
Gross Cost	801.3	34.6	52.0	0.3	8.1	5.1	51.0	40.0	96.7	99.5	770.0	1958.6
Less PY Adv Proc												
Plus CY Adv Proc												
Net Proc (P-1)	801.3	34.6	52.0	0.3	8.1	5.1	51.0	40.0	96.7	99.5	770.0	1958.6
Initial Spares												
Total Proc Cost	801.3	34.6	52.0	0.3	8.1	5.1	51.0	40.0	96.7	99.5	770.0	1958.6
Flyaway U/C												
Wpn Sys Proc U/C												

DESCRIPTION:

Aircraft Survivability Equipment (ASE) provides self protection, both active and passive, against anti-aircraft systems. The ASE program enables the Army tactical aircraft fleet to accomplish its mission on the modern battlefield by enhancing aircraft and aircrew survivability. The program is structured to procure and field the required ASE to effectively combine tactics with passive devices, active devices, and vulnerability reduction items so that Army aviation will be able to operate as intended in support of Army land battle operations in spite of modern anti-aircraft threats. Individual ASE items are generic systems, which are adapted to various aircraft. ASE CORE programs provide for priority aircraft units to receive tailored ASE suites.

ASE includes radar, infrared, and electro-optical (EO) countermeasure devices. To ensure that all aircraft have the ability to detect and defeat threat anti-aircraft systems, each airframe within the fleet is equipped or provisioned with a combination of devices based on mission requirements, space, weight, and power. Current and future acquisitions are programmed to keep pace as threat capabilities improve. ASE will sustain and protect the forces, conduct precision strikes, dominate the maneuver battle, and improve aircraft threat capabilities.

JUSTIFICATION: FY99 funds provide resources for Advanced Threat Infrared Countermeasures (ATIRCM) and Suite of Integrated Radio Frequency Countermeasures (SIRFC) initial production programs.

Exhibit P-5, Weapon Aircraft Cost Analysis	Appropriation/ Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities	P-1 Line Item Nomenclature: AIRCRAFT SURVIVABILITY EQUIPMENT (AZ3504)	Weapon System Type:	Date: February 1998

Aircraft Cost Elements	ID CD	FY 96			FY 97			FY 98			FY 99		
		TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost
		$OOO	Each	$OOO	$OOO	Each	$OOO	$OOO	Each	$OOO	$OOO	Each	$OOO
1. AZ3506 - ASE Warning Receivers													
AN/APR-39A(V)1 Radar Signal Detecting Set	A	945											
Government In-House Support													
AN/APR-39A(V)2 Radar Signal Detecting Set	A												
Nonrecurring Engineering		3700											
Government In-House Support		355											
AN/APR-48A Radar Interferometer	A												
Nonrecurring Engineering/Tooling		3300											
AN/AVR-2A(V) Laser Detecting Set	A												
Government In-House Support		912											
Project Management Support & Fielding of ASE Systems		4572			284			905					
ASE Integration Program		3071											
ASET IV Threat Generator		960						7212					
SUBTOTAL - ASE WARNING RECEIVERS		**17815**			**284**			**8117**					
2. AZ3507 - ASE INFRARED CMS													
Advanced Threat Infrared Countermeasures	B												
Nonrecurring Engineering													
Recurring Engineering													
Engineering Changes													
Project Management													
Data													
SUBTOTAL - ASE INFRARED CMS													
3. AZ3508 - ASE RADAR CMS													
Suite of Integrated Radio Freq CMS (SIRFC)	B												
Nonrecurring Engineering											4931		
Recurring Engineering													
Engineering Change Orders											213		
Project Management													
Data													
System Test and Evaluation													
SUBTOTAL - ASE RADAR CMS											**5144**		

Exhibit P-5, Weapon Aircraft Cost Analysis		Appropriation/ Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities			P-1 Line Item Nomenclature: AIRCRAFT SURVIVABILITY EQUIPMENT (AZ3504)			Weapon System Type:			Date: February 1998		
Aircraft Cost Elements	ID CD	**FY 96**			**FY 97**			**FY 98**			**FY 99**		
		TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost
		$OOO	Each	$OOO	$OOO	Each	$OOO	$OOO	Each	$OOO	$OOO	Each	$OOO
4. AZ5700 - ASE TRAINING DEVICES													
AN/TPQ-45 (ASET IV) Threat Generator	A												
AN/TPQ-45 Systems		24300	3	8100									
Project Management		1000											
Prototype Refurbishment		3000											
MILES/Night Vision		2000											
Nonrecurring Engineering		3840											
SUBTOTAL - ASE TRAINING DEVICES		**34140**											
SUBTOTAL - ASE		**51955**			**284**			**8117**			**5144**		
Initial SPARES		5307			599			575			583		
SUBTOTAL - ASE INITIAL SPARES		**5307**			**599**			**575**			**583**		
TOTAL		**57262**			**883**			**8692**			**5727**		

Exhibit P-5a, Budget Procurement History and Planning

Date: February 1998

Appropriation / Budget Activity/Serial No:	Weapon System Type:	P-1 Line Item Nomenclature:
AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities		ASE TRAINING DEVICES (AZ5700)

WBS Cost Elements: Fiscal Years	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date of First Delivery	QTY Each	Unit Cost $OOO	Specs Avail Now?	Date Revsn Avail	RFP Issue Date
ASET IV Threat Generator FY 98	Sierra Technologies, Inc Buffalo, NY	Option	AMCOM, Huntsville, AL	Jun-96	Oct-98	3	8100	Yes	No	

REMARKS:

Exhibit P-43, Simulator and Training Device Justification

Date: February 1998

Appropriation / Budget Activity/Serial No.	P-1 Item Nomenclature	Other Related Program Elements:	IOC Date:
AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities	ASE TRAINING DEVICES (AZ5700)		

Training Device by Type	Site	Delivery Date	Ready for Training Date	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003
Operator/Trainer CPT-1	III CORPS/FT. Hood	Oct-97	Nov-97	8100							
Operator/Trainer CPT-2	XVIII CORPS/Ft. Bragg	Dec-97	Jan-98	8100							
Operator/Trainer CPT-3	I CORPS/Ft. Campbell	Feb-98	Mar-98	8100							
Nonrecurring Engrg; P.M.; Protype Refurb; MILES/Night Vision				9840							
Total				**34140**							

TRAINING SYSTEM DESCRIPTION:

The AN/TPQ-45 consists of ground based mobile threat emitters. These emitters simulate infrared and radar frequency defense systems (SA-7/14, SA-9/13, ZSU-23-4, SA-8 AND C3). ASET IV represents the culmination of aircraft survivability equipment (ASE) training providing realism under the "train as you fight" concept. An aviator flying against the ASET IV must have a full up operational ASE suite on his aircraft along with the knowledge of how to employ aircraft survivability equipment and tactics to survive. The ASET IV module is integrated with the Operational Forces (OPFOR) at the National Training Center (NTC) to allow for realistic force on force training exercises.

FY 1998 / FY 1999 BUDGET PRODUCTION SCHEDULE

P-1 Item Nomenclature: AIRCRAFT SURVIVABILITY EQUIPMENT (AZ3504)

Date: February 1998

COST ELEMENTS	MFR	FY	SERV	PROC QTY Each	ACCEP. PRIOR TO 1 OCT	BAL DUE AS OF 1 OCT	FY96 OCT	FY96 NOV	FY96 DEC	CY96 JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	FY97 OCT	NOV	DEC	CY97 JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	LATER
AN/TPQ-45 ASET IV	1	96	A	3	0	3									A																3

MFR	NAME / LOCATION	PRODUCTION RATES MIN.	1-8-5	MAX.	REACHED D +	MFR Number			ADMIN LEAD TIME Prior 1 Oct.	ADMIN LEAD TIME After 1 Oct.	MFR After 1 Oct.	TOTAL After 1 Oct.	REMARKS
						1	INITIAL						
1	Sierra Technolgies, Inc., Buffalo, NY	1	3	3	1		REORDER			8	16	24	
							INITIAL						
							REORDER						
							INITIAL						
							REORDER						
							INITIAL						
							REORDER						
							INITIAL						
							REORDER						

FY 1998 / FY 1999 BUDGET PRODUCTION SCHEDULE

P-1 Item Nomenclature: AIRCRAFT SURVIVABILITY EQUIPMENT (AZ3504)

Date: February 1998

COST ELEMENTS	MFR	FY	SERV	PROC QTY Each	ACCEP. PRIOR TO 1 OCT	BAL DUE AS OF 1 OCT	Fiscal Year 98												Fiscal Year 99												LATER
										Calendar Year 98												Calendar Year 99									
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
AN/TPQ-45 ASET IV	1	96	A	3	0	3	1		1		1																			

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	

MFR	NAME / LOCATION	PRODUCTION RATES MIN.	1-8-5	MAX.	REACHED D +
1	Sierra Technolgies, Inc., Buffalo, NY	1	3	3	1

MFR Number		ADMIN LEAD TIME Prior 1 Oct.	After 1 Oct.	MFR After 1 Oct.	TOTAL After 1 Oct.	REMARKS
1	INITIAL					
	REORDER		8	16	24	
	INITIAL					
	REORDER					
	INITIAL					
	REORDER					
	INITIAL					
	REORDER					
	INITIAL					
	REORDER					

Exhibit P-40, Budget Item Justification Sheet

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft

P-1 Item Nomenclature: C-12 CARGO AIRPLANE MODS (AA0270)

Program Elements for Code B Items:

Code: A

Other Related Program Elements:

	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Prog
Proc Qty												
Gross Cost	0.0	0.0	0.7	0.6	6.5	2.7	6.2	5.5	9.5	10.1	67.5	109.1
Less PY Adv Proc												
Plus CY Adv Proc												
Net Proc (P-1)	0.0	0.0	0.7	0.6	6.5	2.7	6.2	5.5	9.5	10.1	67.5	109.1
Initial Spares												
Total Proc Cost	0.0	0.0	0.7	0.6	6.5	2.7	6.2	5.5	9.5	10.1	67.5	109.1
Flyaway U/C												
Wpn Sys Proc U/C												

DESCRIPTION: This modification updates and modernizes the C-12 aircraft communication, navigation and flight management equipment to current international standards in order to standardize the fleet, allow worldwide deployments, and upgrade capability for continued safe operations into the 21st Century.

JUSTIFICATION: FY 99 and FY 00 will provide funding for the C-12 avionics upgrade. The majority of the Army C-12 aircraft were purhcased between 1971 and 1989 and were equipped with then current avionics and navigation equipment. Current Army modernization plans will retain the C-12 fleet in active service beyond 2017. Worldwide deployments using modern navigation and air traffic control facilities beyond the year 2000 are required. During deployments in support of Desert Storm/Desert Shield/Provide Comfort, only selected aircraft with non-standard modifications were capable of being deployed to and within the theater. Elimination of obsolete communication and navigation systems will enhance reliability and maintainability by employing current commercial systems thereby improving C-12 availability and cockpit standardization.

Exhibit P-40M Budget Item Justification Sheet										Date: February 1998	
Appropriation / Budget Activity/Serial No.: AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft						P-1 Item Nomenclature: C-12 CARGO AIRPLANE MODS (AA0270)					
Program Elements for Code B Items			Code		Other Related Program Elements						
Description		Fiscal Years									
OSIP NO.	Classification	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TC	Total
Color Weather Radar (No P3a Set)											
1-94-01-0604	RAM	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
Avionics System Cockpit Upgrade - Group II											
1-96-01-0612	Operational	0.0	0.6	6.5	2.7	6.2	5.5	9.5	10.1	67.5	108.5
Totals		0.7	0.6	6.5	2.7	6.2	5.5	9.5	10.1	67.5	109.2

INDIVIDUAL MODIFICATION	Date	February 1998

MODIFICATION TITLE: Avionics System Cockpit Upgrade - Group II 1-96-01-0612

MODELS OF SYSTEMS AFFECTED: C-12C, D, F, L and R

DESCRIPTION / JUSTIFICATION:

This effort will update and modernize C-12 communications, navigation, and flight direction equipment to current international standards to standardize the fleet, allow worldwide deployments and upgrade capability for continued safe operations into the 21st Century. As currently equipped, the aircraft are not suitable for worldwide deployment nor capable of using modern navigation and air traffic control facilities. The following equipment is included in this upgrade: Passenger Noise Abatement Systems I and II, Flight Management System Data Loaders Cartridges, Army Engine Trend Monitor System ARINC 429, Satellite Communications (SATCOM) Upgrade, Flight Display System 255, Fl Management System 800, ARC 210 w/Satellite Communications, Traffic Collision Avoidance System II, and Engine Instruments. The kit quantities reflected on the next page represent a wide variety of Avionics kits with different mixes each fiscal year. Additionally, kit configurations vary based on the aircraft that they will be installed on. Consequently, kit unit cost will vary significantly from year to year.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

Development is not required for Avionics System Cockpit Upgrade.

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs			60	60	6		30	50	22		40	60	25		20	30	28		20	40	25
Outputs			60	60	6		30	50	22		40	60	25		20	30	28		20	40	25

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs		30	50	40		40	60	36	14	17	20	12	12	13	13	12	239	1124
Outputs		30	50	40		40	60	36	14	17	20	12	12	13	13	12	239	1124

METHOD OF IMPLEMENTATION: ADMINISTRATIVE LEADTIME: 3 Months PRODUCTION LEADTIME: 1 Month

Contract Dates:	FY 1997	Jan 97	FY 1998	Mar 98	FY 1999	Jan 99
Delivery Date:	FY 1997	Jan 97	FY 1998	Mar 98	FY 1999	Jan 99

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): Avionics System Cockpit Upgrade - Group II 1-96-01-0612

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits			126	0.5	102	6.3	125	2.5	78	5.6	85	4.8	120	8.9	136	9.0	352	55.2	1124	92.8
Installation Kits, Nonrecurring																				
Equipment																				
Equipment, Nonrecurring																				
Engineering Change Orders																				
Data												0.1				0.1				0.2
Training Equipment										0.1		0.1				0.1				0.3
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt --Kits																				
FY 1997 Eqpt -- 126 Kits			126	0.1															126	0.1
FY 1998 Eqpt --102 Kits					102	0.2													102	0.2
FY 1999 Eqpt --125 Kits							125	0.2											125	0.2
FY 2000 Eqpt -- 78 Kits									78	0.5									78	0.5
FY 2001 Eqpt -- 85 Kits											85	0.5							85	0.5
FY 2002 Eqpt --120 Kits													120	0.6					120	0.6
FY 2003 Eqpt --136 Kits															136	0.9			136	0.9
TC Equip- 352 Kits																	352	12.3	352	12.3
Total Installment			126	0.1	102	0.2	125	0.2	78	0.5	85	0.5	120	0.6	136	0.9	352	12.3	1124	15.2
Total Procurement Cos				0.6		6.5		2.7		6.2		5.5		9.5		10.1		67.5		108.5

Exhibit P-40, Budget Item Justification Sheet

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft

P-1 Item Nomenclature: OH-58 MODS (AA0400)

Program Elements for Code B Items:

Code: A

Other Related Program Elements:

	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Prog
Proc Qty												
Gross Cost	318.6	0.8	2.4	1.1	0.7	0.1	0.5	0.5	0.5	0.5	0.0	325.6
Less PY Adv Proc												
Plus CY Adv Proc												
Net Proc (P-1)	318.6	0.8	2.4	1.1	0.7	0.1	0.5	0.5	0.5	0.5	0.0	325.6
Initial Spares	1.2											1.2
Total Proc Cost	319.8	0.8	2.4	1.1	0.7	0.1	0.5	0.5	0.5	0.5	0.0	326.8
Flyaway U/C												
Wpn Sys Proc U/C												

DESCRIPTION:

a. The OH-58A&C model helicopters are low silhouette, single rotor helicopters powered by a single gas turbine engine (T63-A-700/720) used for observation, scout, and command and control. This is a single pilot aircraft with provisions for a second pilot and the capability to carry two passengers or cargo in the rear cargo area. The OH-58C is an upgraded OH-58A model with a more powerful engine, transmission, navigational upgrade, and instrumentation. The OH-58A/C programs consist of incorporating the SINCGARS-VHF-FM radio, Combat Lighting for Night Vision, an External 3 Micron Engine Oil Filter, and Global Positioning Systems. Funding is also required for safety modifications, in addition to operational improvement modifications required to meet mission requirements throughtout the year 2015.

b. There are no plans to procure additional OH-58A&C's for the Army. Although the OH-58A/C fleet is being gradually downsized, approximately 363 aircraft will remain in the inventory until 2015. This includes approximately 71 "float" aircraft.

JUSTIFICATION: FY99 funding will be used to install modification kits procured in prior years.

Exhibit P-40M Budget Item Justification Sheet

Date: February 1998

Appropriation / Budget Activity/Serial No.: AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft

P-1 Item Nomenclature: OH-58 MODS (AA0400)

Program Elements for Code B Items:

Code:

Other Related Program Elements:

Description		Fiscal Years									
OSIP NO.	Classification	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TC	Total
SINCGARS-V											
1-85-01-0286	Operational	16.3	0.1	0.6	0.0	0.5	0.5	0.5	0.5	0.0	19.0
Global Positioning System (GPS)											
1-96-01-0210	Operational	0.8	0.7	0.1	0.1	0.0	0.0	0.0	0.0	0.0	1.7
Transmission External Oil Filter											
1-90-01-0292	Operational	0.7	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
Totals		17.8	1.1	0.7	0.1	0.5	0.5	0.5	0.5	0	21.7

INDIVIDUAL MODIFICATION	Date	February 1998

MODIFICATION TITLE: SINCGARS-V 1-85-01-0286

MODELS OF SYSTEMS AFFECTED: OH-58C

DESCRIPTION / JUSTIFICATION:

This system provides VHF-FM radio communications of voice and data in secure or plain text. It replaces the AN/ARC-114 radio which is not secure and does not have frequency hopping capability.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

All kits have been delivered.

Installation of "A" kits is dependent upon "B" kits from PM SINCGARS. Difference between procurement quantity and installation quantity is initial spares.

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs	331	3	3	3	1	10	10	10	10					9	9	9	8	9	9	9	8
Outputs	331	3	3	3	1	10	10	10	10					9	9	9	8	9	9	9	8

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs	9	9	9	8	9	9	9	8										521
Outputs	9	9	9	8	9	9	9	8										521

METHOD OF IMPLEMENTATION: Contractor Teams ADMINISTRATIVE LEADTIME: Months PRODUCTION LEADTIME: Months

Contract Dates: FY 1997 FY 1998 FY 1999

Delivery Date: FY 1997 FY 1998 FY 1999

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): SINCGARS-V 1-85-01-0286

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits	617	11.0																	617	11.0
Installation Kits, Nonrecurring																				
Equipment																				
Equipment, Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt --331	331	5.3	10	0.1	40	0.6			35	0.5	35	0.5	35	0.5	35	0.5			521	8.0
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
TC Equip-Kits																				
Total Installment	331	5.3	10	0.1	40	0.6			35	0.5	35	0.5	35	0.5	35	0.5			521	8.0
Total Procurement Cos		16.3		0.1		0.6				0.5		0.5		0.5		0.5				19.0

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE: Global Positioning System (GPS) 1-96-01-0210

MODELS OF SYSTEMS AFFECTED: OH-58 A/C

DESCRIPTION / JUSTIFICATION:

Modification to install standard GPS provisions will improve navigational capabilities in all aircraft.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:	PLANNED	ACCOMPLISHED
Contract Award	Mar 96	Mar 96
Date of First Delivery	Jul 96	Aug 96

PM GPS is responsible for "B" kit procurement and fielding. Difference between procurement quantity and installation quantity is initial spares.

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs		5	5	5	5		130				130										
Outputs		5	5	5	5			130				130									

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs																		280
Outputs																		280

METHOD OF IMPLEMENTATION: Contractor Teams — ADMINISTRATIVE LEADTIME: 5 Months — PRODUCTION LEADTIME: 5 Months

Contract Dates: FY 1997 — FY 1998 — FY 1999

Delivery Date: FY 1997 — FY 1998 — FY 1999

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): Global Positioning System (GPS) 1-96-01-0210

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits	300	0.8																	300	0.8
Installation Kits, Nonrecurring																				
Equipment																				
Equipment, Nonrecurring				0.6																0.6
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- 291			20	0.1	130	0.1	130	0.1											280	0.3
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
TC Equip-Kits																				
Total Installment			20	0.1	130	0.1	130	0.1											280	0.3
Total Procurement Cos		0.8		0.7		0.1		0.1												1.7

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE: Transmission External Oil Filter 1-90-01-0292

MODELS OF SYSTEMS AFFECTED: OH-58A/C

DESCRIPTION / JUSTIFICATION:

This modification provides a 3 micron filter to reduce transmission maintenance cost and reduces risks of contaminants adversely affecting internal components. Installation will be stopped at 363 aircraft due to ARI retirements.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:	PLANNED	ACCOMPLISHED
Preliminary Design Review	Jun 95	Jun 95
Contractor Test and Evaluation	Jul 95	Jul 95
Date of First Delivery	Feb 96	Feb 96

Difference between the procurement quantity and the installation quantity are initial spares.

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs	187	50	50	50	26																
Outputs	187	50	50	50	26																

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs																		363
Outputs																		363

METHOD OF IMPLEMENTATION: OLR Contractor — ADMINISTRATIVE LEADTIME: 8 Months — PRODUCTION LEADTIME: 8 Months

Contract Dates: FY 1997 — FY 1998 — FY 1999

Delivery Date: FY 1997 — FY 1998 — FY 1999

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): Transmission External Oil Filter 1-90-01-0292

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits	375	0.4																	375	0.4
Installation Kits, Nonrecurring																				
Equipment																				
Equipment, Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- 363	187	0.3	176	0.3															363	0.6
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
TC Equip-Kits																				
Total Installment	187	0.3	176	0.3															363	0.6
Total Procurement Cos		0.7		0.3																1.0

Exhibit P-40, Budget Item Justification Sheet

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities

P-1 Item Nomenclature: COMMON GROUND EQUIPMENT (AZ3100)

Program Elements for Code B Items:

Code:

Other Related Program Elements:

	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Prog
Proc Qty												
Gross Cost	0.0	31.5	27.8	20.7	27.1	30.1	36.6	50.2	64.5	55.1	0.0	343.4
Less PY Adv Proc												
Plus CY Adv Proc												
Net Proc (P-1)	0.0	31.5	27.8	20.7	27.1	30.1	36.6	50.2	64.5	55.1	0.0	343.4
Initial Spares												
Total Proc Cost	0.0	31.5	27.8	20.7	27.1	30.1	36.6	50.2	64.5	55.1	0.0	343.4
Flyaway U/C												
Wpn Sys Proc U/C												

DESCRIPTION: The Common Ground Equipment line supports aviation related Sets, Kits, and Outfits (AZ3510), Aviation Ground Support Equipment (AZ3520) and Airfield Support Equipment (AZ1710). The Sets, Kits, and Outfits (SKO) consist of shop sets, tool kits, and outfits configured to accomplish both routine and safety-of-flight maintenance repair functions on Army aircraft. The Aviation Ground Support Equipment (AGSE) is required to make Army aircraft and associated subsystems operational in their intended operational environments. This equipment is required to guide, control, inspect, test, adjust, calibrate, assess, gauge, assemble/disassemble, handle, transport, service, repair and overhaul aircraft and associated equipment. The Airfield Support Equipment (AFSE) provides fixed based, high tech systems that support Army airfields. These systems are the same or similar to the Federal Aviation Administration (FAA) services.

JUSTIFICATION:

Sets, Kits, and Outfits: FY 99 funding will achieve and sustain the operational readiness of all Army aviation field units, which operate AH-64, UH-60, CH-47, OH-58D and other Army aircraft. Sets, Kits, and Outfits (SKO) funding will also provide systems to correct safety-of-flight discrepancies which endanger both life and property. With more aircraft being added to the Army inventory, the fielding of new aviation units and the diversification of aviation missions creates an ever increasing requirement for SKO. New Aircraft Tool System (NATS) is a system of new tool kits and sets that provide the aircraft mechanic with high quality industrial grade tools supported by commercial warranties configured in boxes for instant inventory capability.

Exhibit P-40C Budget Item Justification Sheet		Date: February 1998
Appropriation / Budget Activity/Serial No.: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities		P-1 Item Nomenclature: COMMON GROUND EQUIPMENT (AZ3100)
Program Elements for Code B Items	Code	Other Related Program Elements

Aviation Ground Support Equipment: FY 99 funding will achieve and sustain the operational readiness of all Army aviation field units, which are operating AH-64, UH-60, CH-47, OH-58D and other Army aircraft. Aviation Ground Support Equipment (AGSE) also provides a means to correct safety-of-flight discrepancies which endanger both life and property. With more aircraft being added to the Army inventory, the fielding of new aviation units and the diversification of aviation missions creates an ever increasing requirement for AGSE. The Shop Equipment Contact Maintenance (SECM) is a shelter designed to be mounted on a heavy variant 1 1/4 ton truck (HMMWV) and carry a tailored load of personnel, tools, supplies and repair parts necessary to perform aircraft repair and recovery missions at locations separate from the unit. The Self Generating Nitrogen Servicing Cart (SGNSC) is being developed to provide Army Aviation with 95% pure nitrogen gas to properly service/adjust aircraft accumulators, main rotor blades, landing gear struts and tires. The SGNSC will also be used to refill nitrogen bottles used at all levels of aviation maintenance. The Aircraft Cleaning/Deicing System (ACDS) will provide the Army with an Environmental Protection Agency (EPA) compliant system for all aircraft. EPA compliance is mandated by federal law to eliminate toxic run off of contanimation into the environment.

Airfield Support Equipment: FY 99 funds will procure and provide for joint service National Airspace Systems used in Army Air Traffic Control Towers. The new Enhanced Terminal Voice Switch (ETVS) will save Operational and Support (O&S) costs by replacing old, antiquated legacy systems with advanced, highly reliable switches. Funding will also ensure interoperability of Army air traffic control systems within the Department of Transportation while adhering to the Congressionally mandated FAA NAS modernization effort. The new tower automation packages will provide modern voice switching equipment that will ensure interoperability on Army air traffic control systems within the NAS and will replace outdated and unsupportable voice switches currently in the Army inventory. These systems will provide commonality of equipment and training for both crews and ground controllers. The new systems will support other services, host nations' interface requirements, and fixed base air traffic control facilities into the next century. These state of the art systems will reduce maintenance costs, increase reliability, and improve overall safety for Army Aviation.

Exhibit P-5, Weapon Aircraft Cost Analysis		Appropriation/ Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities			P-1 Line Item Nomenclature: COMMON GROUND EQUIPMENT (AZ3100)			Weapon System Type:			Date: February 1998		
Aircraft Cost Elements	ID CD	**FY 96**			**FY 97**			**FY 98**			**FY 99**		
		TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost
		$OOO	Each	$OOO	$OOO	Each	$OOO	$OOO	Each	$OOO	$OOO	Each	$OOO
SETS, KITS AND OUTFITS		8,417			7,160			5,487			3,613		
AVIATION GROUND SUPPORT EQUIPMENT		10,262			9,457			9,133			9,488		
ITEMS LESS THAN $2.0M (ELECT WAR-AIR)		83											
AIRFIELD SUPPORT EQUIPMENT		9,003			3,992			12,392			17,006		
TOTAL		**27,765**			**20,609**			**27,012**			**30,107**		

Exhibit P-40, Budget Item Justification Sheet

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities

P-1 Item Nomenclature: SETS, KITS AND OUTFITS (AZ3510)

Program Elements for Code B Items:

Code:

Other Related Program Elements:

	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Prog
Proc Qty												
Gross Cost	0.0	9.1	8.4	7.2	5.5	3.6	3.6	3.5	7.8	8.1	0.0	56.8
Less PY Adv Proc												
Plus CY Adv Proc												
Net Proc (P-1)	0.0	9.1	8.4	7.2	5.5	3.6	3.6	3.5	7.8	8.1	0.0	56.8
Initial Spares												
Total Proc Cost	0.0	9.1	8.4	7.2	5.5	3.6	3.6	3.5	7.8	8.1	0.0	56.8
Flyaway U/C												
Wpn Sys Proc U/C												

DESCRIPTION: Sets, Kits and Outfits (SKO) consists of shop sets, tool kits and outfits configured to accomplish both routine and safety-of-flight maintenance repair functions on Army aircraft. All items of SKO are Code A.

JUSTIFICATION: FY 99 funding will achieve and sustain the operational readiness of all Army aviation field units, which operate AH-64, UH-60, CH-47, OH-58D and other Army aircraft. Sets, Kits, and Outfits (SKO) funding will also provide systems to correct safety-of-flight discrepancies which endanger both life and property. With more aircraft being added to the Army inventory, the fielding of new aviation units and the diversification of aviation missions creates an ever increasing requirement for SKO. New Aircraft Tool System (NATS) is a system of new tool kits and sets that provide the aircraft mechanic with high quality industrial grade tools supported by commercial warranties configured in boxes for instant inventory capability.

Exhibit P-5, Weapon Aircraft Cost Analysis		Appropriation/ Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities			P-1 Line Item Nomenclature: SETS, KITS AND OUTFITS (AZ3510)			Weapon System Type:			Date: February 1998		
Aircraft Cost Elements	ID CD	**FY 96**			**FY 97**			**FY 98**			**FY 99**		
		TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost
		$OOO	Each	$OOO	$OOO	Each	$OOO	$OOO	Each	$OOO	$OOO	Each	$OOO
1. New Aviation Tool Set (NATS)	A												
Hardware		6,832	3,681	2	6,084	4,773	1	3,386	2,033	2	3,212	1,875	2
Fielding		12			25			12			11		
Program Managment Support		150			173								
2. Non-divisional Shop Set	A												
Hardware		576	1	576									
Production Engineering		62			47			14					
Non-divisional Partial Shop Set		31									375	1	375
3. International Standard Organization Shelters (ISO) (M31001)	A												
60 Amp Shelters		142	3	47									
100 Amp Shelters													
4. New Aviation Tool Set - A (NATS-A)	A												
Hardware		536	312	2	2,096	1,074	2	2,061	897	2			
Fielding					20			14			15		
Program Management Support		76			53								
Reprogrammings from SKO (PBAS error)					-1,338								
TOTAL		**8,417**			**7,160**			**5,487**			**3,613**		

Exhibit P-5a, Budget Procurement History and Planning

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities

Weapon System Type:

P-1 Line Item Nomenclature: SETS, KITS AND OUTFITS (AZ3510)

WBS Cost Elements: Fiscal Years	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date of First Delivery	QTY Each	Unit Cost $OOO	Specs Avail Now?	Date Revsn Avail	RFP Issue Date
1. New Aviation Tool Set (NATS)										
FY 95	Rock Island Arsenal (RIA)	MIPR	ATCOM	Jan-95	Oct-95	4,104	2	Yes	No	
FY 96	RIA	MIPR	ATCOM	Feb-96	Jul-96	3,681	2	Yes	No	
FY 97	RIA	MIPR	ATCOM	Apr-97	Nov-97	4,773	1	Yes	No	
FY 98	RIA	MIPR	AMCOM	Feb-98	Sep-98	2,033	2	Yes	No	
FY 99	RIA	MIPR	AMCOM	Feb-99	Sep-99	1875	2	Yes	No	
2. Non-divisional Shop Set										
FY 96	Rock Island Arsenal (RIA)	MIPR	ATCOM	Jun-96	Dec-96	1	576	Yes	No	
FY 99	RIA	MIPR	ATCOM	Dec-98	Jun-99	1	375	Yes	No	
3. International Standard Organization Shelters (ISO) (M31001)										
FY 95	Brunswick Defense, Inc. Marion, VA	C/FP-O	ATCOM	Sep-95	Jul-96	15	47	Yes	No	
FY 96	Brunswick Defense, Inc.	C/FP-O	ATCOM	Aug-96	Apr-97	3	47	Yes	No	
4. New Aviation Tool Set - A (NATS-A)										
FY 96	Rock Island Arsenal (RIA)	MIPR	ATCOM	Sep-96	Dec-96	312	2	Yes	No	
FY 97	RIA	MIPR	ATCOM	Mar-97	May-97	1,074	2	Yes	No	
FY 98	RIA	MIPR	AMCOM	Jan-98	Mar-98	897	2	Yes	No	

REMARKS:

Exhibit P-40, Budget Item Justification Sheet

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities

P-1 Item Nomenclature: AVIATION GROUND SUPPORT EQUIPMENT (AZ3520)

Program Elements for Code B Items:

Code:

Other Related Program Elements:

	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Prog
Proc Qty												
Gross Cost	0.0	15.6	10.3	9.5	9.2	9.5	8.9	8.8	8.3	8.1	0.0	88.2
Less PY Adv Proc												
Plus CY Adv Proc												
Net Proc (P-1)	0.0	15.6	10.3	9.5	9.2	9.5	8.9	8.8	8.3	8.1	0.0	88.2
Initial Spares												
Total Proc Cost	0.0	15.6	10.3	9.5	9.2	9.5	8.9	8.8	8.3	8.1	0.0	88.2
Flyaway U/C												
Wpn Sys Proc U/C												

DESCRIPTION: Aviation Ground Support Equipment (AGSE) is necessary to make an aircraft, or one of its associated systems or subsystems, operational in it's intended environments. This includes all equipment required to guide, control, inspect, test, adjust, calibrate, assess, gauge, assemble, disassemble, handle, transport, store, actuate, service, repair and/or overhaul the aircraft system or subsystems. Included are such items as aviation ground power units, hydraulic test stands, etc.

JUSTIFICATION: FY 99 funding will achieve and sustain the operational readiness of all Army aviation field units, which are operating AH-64, UH-60, CH-47, OH-58D and other Army aircraft. Aviation Ground Support Equipment (AGSE) also provides a means to correct safety-of-flight discrepancies which endanger both life and property. With more aircraft being added to the Army inventory, the fielding of new aviation units and the diversification of aviation missions creates an ever increasing requirement for AGSE. The Shop Equipment Contact Maintenance (SECM) is a shelter designed to be mounted on a heavy variant 1 1/4 ton truck (HMMWV) and carry a tailored load of personnel, tools, supplies and repair parts necessary to perform aircraft repair and recovery missions at locations separate from the unit. The Self Generating Nitrogen Servicing Cart (SGNSC) is being developed to provide Army Aviation with 95% pure nitrogen gas to properly service/adjust aircraft accumulators, main rotor blades, landing gear struts and tires. The SGNSC will also be used to refill nitrogen bottles used at all levels of aviation maintenance. The Aircraft Cleaning/Deicing System (ACDS) will provide the Army with an Environmental Protection Agency (EPA) compliant system for all aircraft. EPA compliance is mandated by federal law to eliminate toxic run off of contanimation into the environment.

Exhibit P-5, Weapon Aircraft Cost Analysis		Appropriation/ Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities			P-1 Line Item Nomenclature: AVIATION GROUND SUPPORT EQUIPMENT (AZ3520)			Weapon System Type:			Date: February 1998		
Aircraft Cost Elements	ID CD	**FY 96**			**FY 97**			**FY 98**			**FY 99**		
		TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost
		$OOO	Each	$OOO	$OOO	Each	$OOO	$OOO	Each	$OOO	$OOO	Each	$OOO
1. Non-Destructive Test Equipment (NDTE)	A												
X-Ray Machine					272	10	27						
Ultra Sound					112	24	5						
Eddy Current					322	24	13						
Harmonic Bond		1,698	121	14									
NDTE Fielding		519			640								
2. Flexible Engine Diagnostics System (FEDS) (A08701)	A												
Hardware		4,089	2	2,045				5,012	2	2,506			
FEDS Fielding					21								
FEDS T24 Upgrade		274						10			12		
FEDS Remote Monitor		85											
FEDS Production Engineering		175			125								
FEDS Cost Adjustment					3,599								
3. Aviation Ground Power Unit (AGPU) (A00701)	A												
Hardware		2,394	11	218	3,482	16	218						
4. Fuel Quantity Gauge Testers (A07401)	A												
Hardware		208	40	5									
5. B-4 Maintenance Platforms (A05601)	A												
Hardware		174	50	3									
6. Shop Equipment Contact Maintenance (SECM)	A												
Hardware								2,519	229	11	3,487	317	11
SECM Fielding								30			42		
Production Engineering								25					
7. Self Generating Nitrogen Servicing Cart (SGNSC)	A												
Hardware											1,632	24	68
SGNSC Fielding											28		
8. Aircraft Cleaning/Deicing System (ACDS)	A												
Hardware											4,250	85	50
Program Documentation								37					
Fielding											37		
9. Large Area Maintenance Shelter	A	646	1	646									
Hardware													

Exhibit P-5, Weapon Aircraft Cost Analysis	Appropriation/ Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities	P-1 Line Item Nomenclature: AVIATION GROUND SUPPORT EQUIPMENT (AZ3520)	Weapon System Type:	Date: February 1998

Aircraft Cost Elements	ID CD	FY 96			FY 97			FY 98			FY 99		
		TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost
		$OOO	Each	$OOO	$OOO	Each	$OOO	$OOO	Each	$OOO	$OOO	Each	$OOO
10. Aircraft Weighing Scales Hardware	A				97	30	3						
11. Aviation Vibration Analyzer (AVA)(Y2K) Hardware								1,500	1,348	1			
Reprogrammings from CH-47					787								
TOTAL		**10,262**			**9,457**			**9,133**			**9,488**		

Exhibit P-5a, Budget Procurement History and Planning

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities

Weapon System Type:

P-1 Line Item Nomenclature: AVIATION GROUND SUPPORT EQUIPMENT (AZ3520)

WBS Cost Elements: Fiscal Years	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date of First Delivery	QTY Each	Unit Cost $OOO	Specs Avail Now?	Date Revsn Avail	RFP Issue Date
1. Non-Destructive Test Equipment (NDTE)										
X-Ray Machine										
FY 95	Lorad Corporation, Danbury, CT	C/FP-O	Kelly Air Force Base	Aug-95	Nov-95	48	37	Yes	No	
FY 97	Lorad Corporation	C/FP-O	Kelly Air Force Base	Jan-97	Apr-97	10	27	Yes	No	
Ultra Sound										
FY 95	Krautkramer-Branson Inc. Lewistown, PA.	C/FP-O	Kelly Air Force Base	Sep-95	Nov-95	97	5	Yes	No	
FY 97	Krautkramer-Branson Inc.	C/FP-O	Kelly Air Force Base	Jan-97	Mar-97	24	5	Yes	No	
Eddy Current										
FY 95	Staveley Instruments Inc. Kennewick, WA	C/FP-O	Kelly Air Force Base	Aug-95	Nov-95	97	13	Yes	No	
FY 97	Staveley Instruments Inc.	C/FP-O	Kelly Air Force Base	Jan-97	Apr-97	24	13	Yes	No	
Harmonic Bond										
FY 96	Staveley Instruments Inc.	C/FP-O	ATCOM	May-96	Aug-96	97	14	Yes	No	
FY 96	Staveley Instruments Inc.	C/FP-O	ATCOM	Jul-96	Oct-96	24	14	Yes	No	
2. Flexible Engine Diagnostics System (FEDS) (A08701)										
FY 95	Corpus Christi Army Depot	**	ATCOM	Aug-95	Sep-97	3	2,044	Yes	No	
FY 96	Corpus Christi Army Depot	**	ATCOM	Mar-96	Apr-98	2	2,045	Yes	No	
FY 98	Corpus Christi Army Depot	**	ATCOM	Jan-98	Feb-00	2	2,506			

REMARKS: **Funds to Corpus Christi Army Depot (CCAD) through Industrial Operations Command (IOC).

Exhibit P-5a, Budget Procurement History and Planning

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities

Weapon System Type:

P-1 Line Item Nomenclature: AVIATION GROUND SUPPORT EQUIPMENT (AZ3520)

WBS Cost Elements: Fiscal Years	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date of First Delivery	QTY Each	Unit Cost $OOO	Specs Avail Now?	Date Revsn Avail	RFP Issue Date
3. Aviation Ground Power Unit (AGPU)(A00701)										
FY 95	Engineered Air Systems Inc. St. Louis, MO	C/FP/O	ATCOM	May-95	May-97	20	216	Yes	No	
FY 96	Engineered Air Systems, Inc.	C/FP/O	ATCOM	Sep-96	Sep-98	11	218	Yes	No	
FY 97	Engineered Air Systems, Inc.	C/FP/O	ATCOM	May-97	May-99	16	218	Yes	No	
4. Fuel Quantity Gauge Tester (A07401)										
FY 95	J.C. Air, Industrial Airport, KS	C/FP-O	Kelly Air Force Base	May-95	Sep-95	55	5	Yes	No	
FY 96	J.C. Air	C/FP	Kelly Air Force Base	Jun-96	Oct-96	40	5	Yes	No	
5. B-4 Maintenance Platforms (A05601)										
FY 96	D&D Machinery and Sales, Inc. San Antonio, TX	C/FP	Naval Air Systems Cmd	Jun-96	Nov-96	50	3	Yes	No	
6. Shop Equipment Contact Maintenance (SECM)										
FY 98	TBS	C/FP	AMCOM	Jan-98	May-98	229	11	No	N/A	
FY 99	TBS	C/FP-O	AMCOM	Jan-99	May-99	317	11	No	N/A	
7. Self Generating Nitrogen Servicing Cart (SGNSC)										
FY 99	TBS	C/FP-O	Kelly Air Force Base	Jan-99	Jan-00	24	68	Yes	No	
8. Aircraft Cleaning/ Deicing System (ACDS)										
FY 99	TBS	C/FP	AMCOM	Apr-99	Oct-00	85	50	No	N/A	
9. Large Area Maintenance Shelter										
FY 96	Clamshell Buildings, Inc. Ventura, CA	C/FP	ATCOM	Sep-96	Nov-96	1	646	Yes	No	

REMARKS:

Exhibit P-5a, Budget Procurement History and Planning

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities

Weapon System Type:

P-1 Line Item Nomenclature: AVIATI0N GROUND SUPPORT EQUIPMENT

WBS Cost Elements: Fiscal Years	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date of First Delivery	QTY Each	Unit Cost $OOO	Specs Avail Now?	Date Revsn Avail	RFP Issue Date
10. Aircraft Weighing Scales (AWS)										
FY 97	Kelly Air Force Base	C/FP	AMCOM	May-97	May-98	30	3	Yes	No	
11. Aviation Vibration Analyzer (AVA)(Y2K)										
FY 98	Signal Processing Systems San Diego, CA	C/FP	AMCOM	Mar-98	Jun-98	1348	1	No	N/A	

REMARKS:

Exhibit P-40, Budget Item Justification Sheet

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities

P-1 Item Nomenclature: AIRFIELD SUPPORT EQUIPMENT (AZ1710)

Program Elements for Code B Items:

Code:

Other Related Program Elements:

	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Prog
Proc Qty												
Gross Cost	0.0	6.8	9.0	4.0	12.4	17.0	24.1	37.9	47.4	37.9	0.0	196.4
Less PY Adv Proc												
Plus CY Adv Proc												
Net Proc (P-1)	0.0	6.8	9.0	4.0	12.4	17.0	24.1	37.9	47.4	37.9	0.0	196.4
Initial Spares												
Total Proc Cost	0.0	6.8	9.0	4.0	12.4	17.0	24.1	37.9	47.4	37.9	0.0	196.4
Flyaway U/C												
Wpn Sys Proc U/C												

DESCRIPTION: Airfield Support Equipment (Air Traffic Control) requirements will be met through a vast array of high-tech solutions which will provide a highly reliable air traffic control system. These systems will, as much as possible, be the same as the Federal Aviation Administration systems. The National Airspace (NAS) modernization program provides engineering and automation modernization necessary for Army air traffic control facilities to interface with radar, tower control communications, and navigational aides. The Enhanced Terminal Voice Switch (ETVS) is an integrated voice switching system that is highly reliable, rapidly reconfigurable, and provides air traffic control personnel with access to both air-to-ground and ground-to-ground connectivity to support terminal air traffic control operations. The ETVS will replace the remaining electromechanical switches in the Army DoD/FAA inventory. The switch will be sizeable from 8 to 150 positions and provide for a combination of 75 frequencies/interphone circuits. The Fixed Base Precision Approach Radar system will incorporate state of the art primary radar features with a precision approach digitized display. The ancillary equipment includes navigational aides, radios, the Non-Directional Beacon, the Distance Measuring Equipment, the Instrument Landing System and the Tactical Air Navigation System. These systems support immediate need requirements tailored to meet aviation stationing plans throughout the world.

Exhibit P-40C Budget Item Justification Sheet		Date: February 1998
Appropriation / Budget Activity/Serial No.: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities		P-1 Item Nomenclature: AIRFIELD SUPPORT EQUIPMENT (AZ1710)
Program Elements for Code B Items	Code	Other Related Program Elements

JUSTIFICATION: FY 99 funds will procure and provide for joint service National Airspace Systems used in Army Air Traffic Control Towers. The new Enhanced Terminal Voice Switch (ETVS) will save Operational and Support (O&S) costs by replacing old, antiquated legacy systems with advanced, highly reliable switches. Funding will also ensure interoperability of Army air traffic control systems within the Department of Transportation while adhering to the Congressionally mandated FAA NAS modernization effort. The new tower automation packages will provide modern voice switching equipment that will ensure interoperability on Army air traffic control systems within the NAS and will replace outdated and unsupportable voice switches currently in the Army inventory. These systems will provide commonality of equipment and training for both crews and ground controllers. The new systems will support other services, host nations' interface requirements, and fixed base air traffic control facilities into the next century. These state of the art systems will reduce maintenance costs, increase reliability, and improve overall safety for Army Aviation.

Exhibit P-5, Weapon Aircraft Cost Analysis	Appropriation/ Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities	P-1 Line Item Nomenclature: AIRFIELD SUPPORT EQUIPMENT (AZ1710)	Weapon System Type:	Date: February 1998

Aircraft Cost Elements	ID CD	FY 96			FY 97			FY 98			FY 99		
		TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost
		$OOO	Each	$OOO	$OOO	Each	$OOO	$OOO	Each	$OOO	$OOO	Each	$OOO
1. Radar Surveillance Central AN/FPN 66 (U126)	A												
Other Costs													
FPN Digitization		4,243	9	471	124	1	124						
Engineer, Furnish, & Install (EF&I)		265			197			100					
Fielding					15								
Other		293			428			432					
2. Communication Console System (CCS)													
Hardware													
Other Costs													
Engineer, Furnish, & Install (EF&I)		700			132			29					
Fielding		68			30								
3. Recorders/Reproducers													
Hardware		160	4	40									
Other Costs													
Engineer, Furnish, & Install (EF&I)		271											
Fielding													
Interim Contractor Support		50											
Second Level Engineering Support		80			80			80					
4. Precision Landing Approach													
Hardware								4,854	2	2,427	2,427	1	2,427
Other Costs													
Engineer, Furnish, & Install (EF&I)					118			1,005			2,091		
SUBTOTAL		**6,130**			**1,124**			**6,500**			**4,518**		

Exhibit P-5, Weapon Aircraft Cost Analysis		Appropriation/ Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities			P-1 Line Item Nomenclature: AIRFIELD SUPPORT EQUIPMENT (AZ1710)			Weapon System Type:			Date: February 1998		
Aircraft Cost Elements	ID CD	**FY 96**			**FY 97**			**FY 98**			**FY 99**		
		TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost
		$OOO	Each	$OOO	$OOO	Each	$OOO	$OOO	Each	$OOO	$OOO	Each	$OOO
5. National Airspace System (NAS)													
A. Enhanced Terminal Voice Switch (ETVS)													
Hardware		430	1	430				1,936	10	194	2,028	12	169
Engineer, Furnish, Install & Test (EFI&T)					675			676			1,856		
Fielding								362			432		
B. Tower/Army Radar Approach Control													
Hardware											5,352	7	765
Engineer, Furnish, Install & Test (EFI&T)								418			2,054		
Fielding											594		
6. Ancillary Equipment		2,443			2,193			2,500			172		
SUBTOTAL		**2,873**			**2,868**			**5,892**			**12,488**		
TOTAL		**9,003**			**3,992**			**12,392**			**17,006**		

Exhibit P-5a, Budget Procurement History and Planning

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities

Weapon System Type:

P-1 Line Item Nomenclature: AIRFIELD SUPPORT EQUIPMENT (AZ1710)

WBS Cost Elements: / Fiscal Years	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date of First Delivery	QTY Each	Unit Cost $OOO	Specs Avail Now?	Date Revsn Avail	RFP Issue Date
1. Radar Surveillance Central AN/FPN-66										
FY 96	Wilcox Kansas City Mo	C/FP	CECOM	Jan-97	Nov-97	9	471	Yes	No	
FY 97	Wilcox Kansas City Mo	C/FP	CECOM	Mar-97	Aug-98	1	124	Yes	No	
2. Recorders/Reproducers	Federal Aviation Administration (FAA) Washington, DC									
FY 96		C/FP-O	FAA	Apr-96	Oct-96	4	40	Yes	No	
3. Precision Landing Approach										
FY 95	Raytheon Cambridge, MA	C/FP	CECOM	May-95	Nov-97	1	2,453	Yes	No	
FY 98	Raytheon Cambridge, MA	C/FP-O	CECOM	Jun-98	Aug-99	2	2,427	Yes	No	
FY 99	Raytheon Cambridge, MA	C/FP-O	CECOM	Jan-00	May-01	1	2,427	Yes	No	

REMARKS:

Exhibit P-5a, Budget Procurement History and Planning

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities

Weapon System Type:

P-1 Line Item Nomenclature: AIRFIELD SUPPORT EQUIPMENT (AZ1710)

WBS Cost Elements: Fiscal Years	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date of First Delivery	QTY Each	Unit Cost $OOO	Specs Avail Now?	Date Revsn Avail	RFP Issue Date
4. National Airspace System (NAS)										
A. Enhanced Terminal Voice Switch (ETVS)										
FY 96	Federal Aviation Administration (FAA) Washington, DC	C/FP	FAA	Dec-96	Aug-97	1	430	Yes	No	
FY 98	Federal Aviation Administration (FAA) Washington, DC	C/FP-O	FAA	Feb-98	Aug-98	10	194	Yes	No	
FY 99	Federal Aviation Administration (FAA) Washington, DC	C/FP-O	FAA	Feb-99	Aug-99	12	169	Yes	No	
B. Tower/Army Radar Approach Control										
FY 99	Federal Aviation Administration (FAA)	C/FP	FAA	Mar-99	Mar-00	7	765	Yes	No	

REMARKS:

Exhibit P-40, Budget Item Justification Sheet											Date: February 1998	
Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft								P-1 Item Nomenclature: C-20 AIRCRAFT MODS (AA0560)				
Program Elements for Code B Items:				Code: A	Other Related Program Elements:							
	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Prog
Proc Qty												
Gross Cost	2.9	2.9	2.2	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.0	13.8
Less PY Adv Proc												
Plus CY Adv Proc												
Net Proc (P-1)	2.9	2.9	2.2	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.0	13.8
Initial Spares												
Total Proc Cost	2.9	2.9	2.2	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.0	13.8
Flyaway U/C												
Wpn Sys Proc U/C												

DESCRIPTION:

a. The C-20 is a long-range, pressurized, passenger/cargo type jet aircraft equipped with two turbofan engines. The aircraft is capable of operating under day and night Instrument Flight Rules (IFR) conditions, in high density air traffic zones, and in icing weather conditions.

b. The Army C-20 and C-21 jet fleet consists of seven aircraft as follows: Two C-20E models procured with FY 87 funds and one C-20F model procured with FY 91 funds. One VC-11 aircraft was transferred to the Army from the Corps of Engineers in FY 90. This aircraft completed an upgrade in FY 93 and has been redesignated a C-20J. One C-21 (Lear jet 35) was seized/confiscated in the FY 81 timeframe. It was refurbished in FY 89. Two C-21 aircraft that were excessed by the Air Force were added to the fleet in FY 96.

JUSTIFICATION: FY 99 funds will be used to install the Satellite Communications/Future Air Navigation System into the C-20E and F aircraft. FY 00 - FY 06 funds will be used to meet future avionics requirements resulting from worldwide navigation transition to Global Positioning System (GPS) enroute and approach systems, Global Air Traffic Management (GATM), and Chairman of the Joint Chief of Staff Master Navigation Plan requirements.

Exhibit P-40M Budget Item Justification Sheet							Date: February 1998				
Appropriation / Budget Activity/Serial No.: AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft					P-1 Item Nomenclature: C-20 AIRCRAFT MODS (AA0560)						
Program Elements for Code B Items			Code		Other Related Program Elements						
Description		Fiscal Years									
OSIP NO.	Classification	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TC	Total
Global Positioning System (GPS) (No P3a Set)											
1-93-01-0501	Operational	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6
Flight Data Recorder (No P3a Set)											
1-94-01-0503	Safety	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Cockpit Voice Recorder (No P3a Set)											
1-94-01-0505	Operational	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Digital Flight Phone											
1-94-01-0505	Operational	0.3	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.7
Traffic Collision Avioidance System											
1-94-01-0503	Safety	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9
Enhanced Ground Proximity Warning System											
1-94-01-0503	Safety	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5
Satellite Communications/Future Air Navigation System											
1-94-01-0505	Operational	0.0	0.0	0.0	0.8	0.8	0.8	0.8	0.8	0.6	4.6
											0.0
Totals		2.2	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.6	8.6

INDIVIDUAL MODIFICATION	Date	February 1998

MODIFICATION TITLE: Digital Flight Phone 1-94-01-0505

MODELS OF SYSTEMS AFFECTED: C-21 & C-20E, F and J

DESCRIPTION / JUSTIFICATION:

This upgrade to the current analog flight phone would allow for increased clarity, voice security, and seemless transition of calls from one cell zone to the next cell zone. Present system drops calls as it loses reception of ground stations. At the speeds these aircraft fly, this is a common occurrence. Digital flight phone, fax and data communications are possible, with service rates much lower than satellite communication rates. Addition of digital phone would allow passengers inexpensive and reliable phone rates over the Continental US, augmenting the INMARSAT satellite communication, which is essential outside of CONUS. The C-21 installation in FY 96 was $.008K and the C-20E, F, & J installation in FY 98 will be $.046K.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

Production Contract Award: Planned - 4Q96 Accomplished - 4Q96
Production Delivery Starts : Planned - 4Q96 Accomplished - 4Q96
Kit Application Starts: Planned - 4Q96 Accomplished - 4Q96
Kit Application Complete: Planned - 4Q98

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs	3								4												
Outputs	3								4												

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs																		7
Outputs																		7

METHOD OF IMPLEMENTATION: Life Cycle Contract ADMINISTRATIVE LEADTIME: 9 Months PRODUCTION LEADTIME: 1 Month

Contract Dates:	FY 1997	FY 1998	Jul 98	FY 1999
Delivery Date:	FY 1997	FY 1998	Jul 98	FY 1999

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): Digital Flight Phone 1-94-01-0505

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits	3	0.3			4	0.4													7	0.7
Installation Kits, Nonrecurring																				
Equipment																				
Equipment, Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- 3 Kits	3																		3	
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- 4 Kits					4														4	
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
TC Equip-Kits																				
Total Installment	3				4														7	
Total Procurement Cos		0.3				0.4														0.7

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE: Traffic Collision Avioidance System 1-94-01-0503

MODELS OF SYSTEMS AFFECTED: C-20E and F

DESCRIPTION / JUSTIFICATION:

This modification will install the Traffic Collision Avoidance System into the C-20E and F aircraft. This capability is mandatory for all major commercial air carriers and almost standard in most Gulfstream size corporate jets. The Traffic Collision Avoidance System can significantly reduce the possibility of a mid-air collision.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

Production Contract Award: Planned - 2Q97 Accomplished - 2Q97
Production Delivery Starts: Planned - 2Q97 Accomplished - 2Q97
Kit Application Starts: Planned - 2Q97 Accomplished - 2Q97
Kit Application Complete: Planned - 2Q97 Accomplished - 2Q97

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs			3																		
Outputs			3																		

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs																		3
Outputs																		3

METHOD OF IMPLEMENTATION: Life Cycle Contract ADMINISTRATIVE LEADTIME: 5 Months PRODUCTION LEADTIME: 1 Month

Contract Dates: FY 1997 Feb 97 FY 1998 FY 1999

Delivery Date: FY 1997 Feb 97 FY 1998 FY 1999

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): Traffic Collision Avioidance System 1-94-01-0503

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits			3	0.8															3	0.8
Installation Kits, Nonrecurring																				
Equipment																				
Equipment, Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- 3 Kits			3	0.1															3	0.1
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
TC Equip-Kits																				
Total Installment			3	0.1															3	0.1
Total Procurement Cos				0.9																0.9

INDIVIDUAL MODIFICATION	Date	February 1998

MODIFICATION TITLE: Enhanced Ground Proximity Warning System 1-94-01-0503

MODELS OF SYSTEMS AFFECTED: C-20E and F

DESCRIPTION / JUSTIFICATION:

The Enhanced Ground Proximity Warning System utilizes aircraft position information provided by on board navigation equipment combined with a world-wide terrain database to provide aircrew with real time video/CRT display of approaching terrain. This technology will gr enhance situational awareness with regard to surrounding terrain during air operations in airport terminal areas and when flying near the surface in unfamiliar areas. Installation in FY 98 will be $.046K.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

Production Contract Award: Planned - 3Q98
Production Delivery Starts: Planned - 3Q98
Kit Application Starts: Planned - 3Q98
Kit Application Complete: Planned - 3Q98

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs								3													
Outputs								3													

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs																		3
Outputs																		3

METHOD OF IMPLEMENTATION: Life Cycle Contract ADMINISTRATIVE LEADTIME: 8 Months PRODUCTION LEADTIME: 1 Month

Contract Dates:	FY 1997	FY 1998	Jun 98	FY 1999
Delivery Date:	FY 1997	FY 1998	Jun 98	FY 1999

INDIVIDUAL MODIFICATION																		Date	February 1998		
MODIFICATION TITLE (Cont):	Enhanced Ground Proximity Warning System 1-94-01-0503																				
FINANCIAL PLAN: ($ in Millions)	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL		
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	
RDT&E																					
PROCUREMENT																					
Kit Quantity																					
Installation Kits					3	0.5													3	0.5	
Installation Kits, Nonrecurring																					
Equipment																					
Equipment, Nonrecurring																					
Engineering Change Orders																					
Data																					
Training Equipment																					
Support Equipment																					
Other																					
Interim Contractor Support																					
Installation of Hardware																					
FY 1996 & Prior Eqpt -- Kits																					
FY 1997 Eqpt -- Kits																					
FY 1998 Eqpt -- 3 Kits					3														3		
FY 1999 Eqpt -- Kits																					
FY 2000 Eqpt -- kits																					
FY 2001 Eqpt -- kits																					
FY 2002 Eqpt -- kits																					
FY 2003 Eqpt -- kits																					
TC Equip-Kits																					
Total Installment					3														3		
Total Procurement Cos						0.5														0.5	

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE: Satellite Communications/Future Air Navigation System 1-94-01-0505

MODELS OF SYSTEMS AFFECTED: C-20E, F and J

DESCRIPTION / JUSTIFICATION:

Future Air Navigation Systems (FANS) is part of the satellite technology established by the International Civil Aviation Organization (ICAO). It is navigation equipment for over ocean and large areas of continental land mass transmitted via Satellite Communications (SATCOM). Automatic Dependent Surveillance, which will be used to accurately determine and verify aircraft position, will also use both Satellite Navigation and SATCOM. The present C-20 SATCOM system does not address the requirements of FANS, however, it could be modified to do so, once the ICAO standard is in place.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

Production Contract Award: Planned - 1Q99
Production Delivery Starts: Planned - 1Q99
Kit Application Starts: Planned - 1Q99
Kit Application Complete: Planned - 2Q99

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs										2	2			2	2			2	2		
Outputs										2	2			2	2			2	2		

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs	2	2			2	2			2	2			2	2				28
Outputs	2	2			2	2			2	2			2	2				28

METHOD OF IMPLEMENTATION: Life Cycle Contract ADMINISTRATIVE LEADTIME: 2 Months PRODUCTION LEADTIME: 1 Month

Contract Dates: FY 1997 FY 1998 FY 1999 Dec 98

Delivery Date: FY 1997 FY 1998 FY 1999 Dec 98

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): Satellite Communications/Future Air Navigation System 1-94-01-0505

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits							4	0.7	4	0.7	4	0.7	4	0.7	4	0.7	4		24	3.5
Installation Kits, Nonrecurring																				
Equipment																				
Equipment, Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- 4 Kits							4	0.1											4	0.1
FY 2000 Eqpt --4 kits									4	0.1									4	0.1
FY 2001 Eqpt --4 kits											4	0.1							4	0.1
FY 2002 Eqpt --4 kits													4	0.1					4	0.1
FY 2003 Eqpt --4 kits															4	0.1			4	0.1
TC Equip-Kits																	4	0.6	4	0.6
Total Installment							4	0.1	4	0.1	4	0.1	4	0.1	4	0.1	4	0.6	24	1.1
Total Procurement Cos								0.8		0.8		0.8		0.8		0.8		0.6		4.6

Exhibit P-40, Budget Item Justification Sheet

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft

P-1 Item Nomenclature: LONGBOW (AA6670)

Program Elements for Code B Items:

Code:

Other Related Program Elements:

	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Prog
Proc Qty												
Gross Cost	0.0	0.0	535.3	389.5	493.2	607.0	728.5	702.4	709.9	654.3	3094.0	7914.1
Less PY Adv Proc			116.9	16.8	30.4	36.9	41.7	39.8	36.9	29.3	128.9	477.6
Plus CY Adv Proc		116.9	16.8	30.4	36.9	41.7	39.8	36.9	29.3	29.5	99.4	477.6
Net Proc (P-1)	0.0	116.9	435.2	403.1	499.7	611.7	726.6	699.5	702.3	654.5	3064.5	7914.0
Initial Spares				7.4	13.2	21.9	12.3	12.8	13.2	15.2		96.0
Total Proc Cost	0.0	116.9	435.2	410.5	512.9	633.6	738.9	712.3	715.5	669.7	3064.5	8010.0
Flyaway U/C												
Wpn Sys Proc U/C												

DESCRIPTION: The Longbow Weapon System (AH-64D) consists of a modified AH-64 airframe, a Fire Control Radar (FCR) mission kit and a Longbow HELLFIRE missile. Two hundred twenty seven AH-64Ds will incorporate the General Electric T700-GE-701C engines for improved performance when carrying the FCR mission kits. Those AH-64D aircraft fielded without the FCR mission kits will have the T700-GE-701 engines, but can accept the FCR mission kit with T700-GE-701C engines. The Longbow Weapon System will provide the AH-64 with automatic target detection, classification, prioritization and a true fire-and-forget engagement capability, greatly increasing weapon system effectiveness and aircraft survivability. The weapon system will be employable day or night, in adverse weather and in obscurants. The weapon system will effectively engage and destroy advanced threat armor on the AirLand Battlefield of the late 1990s and into the next century. To be effective and survive on this future battlefield, the attack helicopter team will rapidly engage multiple targets with minimum exposure time, and deploy a system that is inherently resistant to threat countermeasures (CMs).

JUSTIFICATION:

FY 99 funds buy 66 aircraft/40 FCRs, including associated support equipment, tooling, GFE, and training devices. Funding contains digitization requirements. The 18 October 95 Acquisition Decision Memorandum authorized Longbow Apache to proceed into production and award of single year contract not to exceed quantity of 18 aircraft in FY96. A multi-year contract was signed on 16 August 96. Airframe quantities and funding reflect a multi-year (MY) scenario. Multiyear contracts for the FCR mission kit were signed in Nov 97. Quantities and funding reflect this multiyear scenario. Under the Army Modernization Master Plan, all Apaches will be remanufactured to the common AH-64D configuration with 227 being equipped with the FCR kits and 701C engines.

Initial spares includes FCR components

*Unit costs for airframe and FCRs are on detailed P-40Rs.

Exhibit P-40M Budget Item Justification Sheet

Date: February 1998

Appropriation / Budget Activity/Serial No.: AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft

P-1 Item Nomenclature: LONGBOW (AA6670)

Program Elements for Code B Items:

Code:

Other Related Program Elements:

Description		Fiscal Years									
OSIP NO.	Classification	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TC	Total
Longbow Apache Mods											
TBD1	Operational	332.9	283.1	368.2	475.0	574.9	553.6	568.0	625.0	2,964.8	6,745.5
Apache Longbow FCR											
TBD2	Operational	85.5	89.6	94.6	95.1	111.9	109.0	105.0	0.0	0.0	690.7
Totals		418.4	372.7	462.8	570.1	686.8	662.6	673.0	625.0	2,964.8	7,436.2

Exhibit P-40, Budget Item Justification Sheet

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft

P-1 Item Nomenclature: LONGBOW APACHE MODS (AA6607)

Program Elements for Code B Items:

Code:

Other Related Program Elements:

	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Prog
Proc Qty			24	24	44	66	74	72	72	72	310	758
Gross Cost	0.0	0.0	332.9	283.1	368.2	475.0	574.9	553.6	568.0	625.0	2964.8	6745.5
Less PY Adv Proc												
Plus CY Adv Proc												
Net Proc (P-1)	0.0	0.0	332.9	283.1	368.2	475.0	574.9	553.6	568.0	625.0	2964.8	6745.5
Initial Spares												
Total Proc Cost	0.0	0.0	332.9	283.1	368.2	475.0	574.9	553.6	568.0	625.0	2964.8	6745.5
Flyaway U/C			15.3	9.6	6.5	6.6	6.5	6.9	6.8	8.0	7.5	7.5
Wpn Sys Proc U/C			17.0	12.3	9.0	7.6	8.2	8.1	8.3	9.2	9.9	9.5

DESCRIPTION:

The Longbow Weapon System (AH-64D) consists of a modified AH-64 airframe, a Fire Control Radar (FCR) mission kit and a Longbow HELLFIRE missile. Two hundred twenty seven AH-64Ds will incorporate the General Electric T700-GE-701C engines for improved performance when carrying the FCR mission kits. Those AH-64D aircraft fielded without the FCR mission kits will have the T700-GE-701 engines, but can accept the FCR mission kit with T700-GE-701C engines. The Longbow Weapon System will provide the AH-64 with automatic target detection, classification, prioritization and a true fire-and-forget engagement capability, greatly increasing weapon system effectiveness and aircraft survivability. The weapon system will be employable day or night, in adverse weather and in obscurants. The weapon system will effectively engage and destroy advanced threat armor on the AirLand Battlefield of the late 1990s and into the next century. To be effective and survive on this future battlefield, the attack helicopter team will rapidly engage multiple targets with minimum exposure time, and deploy a system that is inherently resistant to threat countermeasures (CMs).

JUSTIFICATION:

FY 99 funds buy 66 aircraft, including associated support equipment, tooling, GFE, and training. Under the Army Modernization Master Plan, all Apaches will be remanufactured to the common AH-64D configuration with 227 being equipped with the FCR kits and 701C engines.

* Unit costs are annual procurement unit costs including advanced procurement.

INDIVIDUAL MODIFICATION	Date	February 1998

MODIFICATION TITLE: Longbow Apache Mods TBD1

MODELS OF SYSTEMS AFFECTED: AH-64 Attack Helicopter (Apache)

DESCRIPTION / JUSTIFICATION:

The Longbow Weapon System (AH-64D) consists of a modified AH-64A airframe, a Fire Control Radar (FCR) mission kit and a Longbow Hellfire missile. The AH-64 aircraft will be modified with those changes necessary to effectively and efficiently integrate the Fire Control Radar. These changes consist of increased electrical power, expanded forward avionics bays, increased cooling, upgraded processors, MANPRINT crew station and 701C engines. These upgrades will significantly enhance warfighting capability and battlefield survivability by providing for advanced digitized avionics and the employment of true fire and forget engagement capablity.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

Milestone 1B (DAB) Jul 89, Milestone II (DAB) Dec 90, Milestone III (DAB) Oct 95,
Multiyear Lot 1 contract award Aug 96,
First Production Delivery Mar 97,
First Unit Equipped Planned Jul 98
IOC Planned Oct 98

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs																					
Outputs																					

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs																		
Outputs																		

METHOD OF IMPLEMENTATION: ADMINISTRATIVE LEADTIME: 6 Months PRODUCTION LEADTIME: 22 Months

Contract Dates:	FY 1997	Nov 96	FY 1998	Dec 97	FY 1999	Dec 98
Delivery Date:	FY 1997	Mar 98	FY 1998	Nov 98	FY 1999	Nov 99

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): Longbow Apache Mods TBD1

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Aircraft Quantity	24		24		44		66		74		72		72		72		310		758	
Recurring Hardware		158.1		143.7		241.8		391.7		435.1		439.5		428.9		461.5		2003.5		4703.8
Other Flyaway		133.4		81.9		21.1		16.9		15.5		28.7		35.2		86.8		186.2		605.7
Training Devices		5.1		25.5		67.6		33.5		70.6		26.2		53.8		35.1		416.2		733.6
Other Support		36.3		32.0		35.3		29.9		49.6		54.7		45.8		41.6		358.9		684.1
FCR Multiyear Contract						2.4		3.0		4.1		4.5		4.3						18.3
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
TC Equip-Kits																				
Total Installment																				
Total Procurement Cos		332.9		283.1		368.2		475.0		574.9		553.6		568.0		625.0		2964.8		6745.5

Exhibit P-43, Simulator and Training Device Justification

Date: February 1998

Appropriation / Budget Activity/Serial No.	P-1 Item Nomenclature	Other Related Program Elements:	IOC Date:
AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft	LONGBOW APACHE MODS (AA6607)		

Training Device by Type	Site	Delivery Date	Ready for Training Date	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003
LCT	Ft. Hood	Sep-99	Oct-00	5100	6572	20753	21296	20795	6857	6901	7007
LCTS	Ft. Hood	Feb-99	Mar-99							4400	7044
MAVWEST	Ft. Eustis	Sep-99	Oct-00		13068	25507		23177		22715	
AEDST	Ft. Eustis	Sep-99	Oct-00		5860	17883	8591	15100	3743		
TESS	CTC/Home stations	Jul-99	Aug-99			3435	3599	8000	8000	8000	8000
ECO/CLS								3526	7636	11789	13079
Total				5100	25500	67578	33486	70598	26236	53805	35130

TRAINING SYSTEM DESCRIPTION:
The Longbow Training Device Suite (TDS) includes the following:
Longbow Crew Trainer (LCT), FY 96 start year (16 total)
Longbow Collective Training System (LCTS), FY 02 start year (12 total)
Tactical Engagement Simulation System (TESS) “A” and “B” Kit, FY 98 start year (1/aircraft)
Multiplex Avionics, Visionics, Weapons and Electrical Systems Trainer (MAVWEST), FY 97 start year (10 total)
Airframe, Engine, and Drivetrain Systems Trainer (AEDST), FY 97 start year (12 total)
The cornerstone of the TDS is the LCT which is a dual-seat, pilot and co-pilot gunner (CPG) sustainment training device. It will also be used for individual qualification training at the USA Aviation Center (USAAVNC). The basis of issue is one to two devices at selected MACOM locations (based upon Longbow Apache unit density), one at the Combat Aviation Training Brigade (CATB), three at USAAVNC, and one at the Western Area Aviation Training Site (WAATS). Development and production of the LCT will precede development of the maintainer devices and will establish the technical baseline for the LCTS and MAVWEST. Issued similarly to the LCT, the LCTS will provide a transportable collective and combined arms training capability to the field. The LCT and the LCTS will be networkable through Distributed Interactive Simulation (DIS) protocols and interfaces and will be interoperable with the Combined Arms Tactical Trainer (CATT) systems.
Each Longbow Apache aircraft will have an embedded TESS “A” Kit to provide cockpit interface with a strap-on “B” Kit. The “B” Kit will simulate all on-board weapons for real-time casualty assessment for force-on-force collective training at the Combat Training Centers and at home stations.
The MAVWEST and AEDST are maintainer training devices for the US Aviation Logistics School (USAALS).

Exhibit P-40, Budget Item Justification Sheet

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft

P-1 Item Nomenclature: APACHE LONGBOW FCR (AA6608)

Program Elements for Code B Items:

Code:

Other Related Program Elements:

	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Prog
Proc Qty			10	10	21	40	45	44	57			227
Gross Cost	0.0	0.0	85.5	89.6	94.6	95.1	111.9	109.0	105.0	0.0	0.0	690.7
Less PY Adv Proc												
Plus CY Adv Proc												
Net Proc (P-1)	0.0	0.0	85.5	89.6	94.6	95.1	111.9	109.0	105.0	0.0	0.0	690.7
Initial Spares												
Total Proc Cost	0.0	0.0	85.5	89.6	94.6	95.1	111.9	109.0	105.0	0.0	0.0	690.7
Flyaway U/C			12.7	10.0	4.9	2.7	2.8	2.8	2.1			
Wpn Sys Proc U/C			12.7	10.0	4.9	2.7	2.8	2.8	2.1			

DESCRIPTION:

The Longbow Weapon System (AH-64D) consists of a modified AH-64 airframe, a Fire Control Radar (FCR) mission kit and a Longbow HELLFIRE missile. Two hundred twenty seven AH-64Ds will incorporate the General Electric T700-GE-701C engines for improved performance when carrying the FCR mission kits. Those AH-64D aircraft fielded without the FCR mission kits will have the T700-GE-701 engines installed, but can accept the FCR mission kit with T700-GE-701C engines. The Longbow Weapon System will provide the AH-64 with automatic target detection, classification, prioritization and a true fire-and-forget engagement capability, greatly increasing weapon system effectiveness and aircraft survivability. The weapon system will be employable day or night, in adverse weather and in obscurants. The weapon system will effectively engage and destroy advanced threat armor on the AirLand Battlefield of the late 1990s and into the next century. To be effective and survive on this future battlefield, the attack helicopter team will rapidly engage multiple targets with minimum exposure time, and deploy a system that is inherently resistant to threat countermeasures (CMs).

JUSTIFICATION:

FY 99 funds buy 40 FCRs. FCR quantities & funding reflect proposed multiyear procurements for FY 98-02. FY 95 Advance Procurement is included in AA6607. Under the Army Modernization Master Plan, all Apaches will be remanufactured to the common AH-64D configuration with 227 being equipped with the FCR kits and 701C engines. Balance of FCR contract funding is contained in AA6607.

*Unit costs are annual procurement unit costs including advanced procurement.

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE: Apache Longbow FCR TBD2

MODELS OF SYSTEMS AFFECTED: AH-64 Attack Helicopter (Apache)

DESCRIPTION / JUSTIFICATION:

The Longbow Fire Control Radar (FCR) is a millimeter wave target acquisition system developed for integration on the Apache Attack Helicopter . The FCR provides three tactical modes of operation. They are the Ground Targeting Mode (GTM), the Air Targeting Mode (ATM), and the Terrain Profile Mode (TPM). In the GTM, the FCR provides the capability to rapidly scan up to approximately 50 square kilometers of the battlefield. It uses selectable scan widths which are directionally controllable by the crew. In this mode, the FCR detects, locates, classifies, and prioritizes moving and stationary targets. The targets are classified as air defense units, track vehicles, wheel vehicles, helicopters, fixed wing aircraft, or unknown. It has the capability to detect stationary targets out to a range of six kilometers and moving targets out to eight kilometers. In the ATM the FCR detects, classifies and prioritizes airborne targets. The TPM provides terrain avoidance information to the crew for navigation during periods of reduced visibility. The FCR does all the above day or night and during periods of reduced visibility caused by atmospheric conditions and/or battlefield obscuration. In both targeting modes, the FCR provides rapid target acquisition and engagement while reducing exposure and providing multiple target engagement capability when coupled with the fire-and-forget Longbow Hellfire Missile. The FCR is a fully integrated system on the AH-64D which provides enhanced situational awareness, survivability, and lethality.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

	Plan	Actual
Milestone 1B (DAB)	Jul 89	Jul 89
Milestone II (DAB)	Dec 90	Dec 90
Milestone III (DAB)	Oct 95	Oct 95
Lot 1 contract award	Mar 96	Mar 96
First Production Delivery	Mar 97	Mar 97

Installation Schedule:

	Pr Yr Totals	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs																					
Outputs																					

	FY 2002				FY 2003				FY 2004				FY 2005				To Complete	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4		
Inputs																		
Outputs																		

METHOD OF IMPLEMENTATION: Contractor — ADMINISTRATIVE LEADTIME: 6 Months — PRODUCTION LEADTIME: 22 Months

Contract Dates:	FY 1997	Jan 97	FY 1998	Nov 97	FY 1999 Nov 98
Delivery Date:	FY 1997	Mar 98	FY 1998	Feb 99	FY 1999 Jan 00

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): Apache Longbow FCR TBD2

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
FCR Quantity	10		10		21		40		45		44		57						227	
Recurring Hardware		80.1		59.6		94.6		95.1		111.9		109.0		105.0						655.3
Other Flyaway		5.4		15.0																20.4
Training Device																				
Other Support				15.0																15.0
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
TC Equip-Kits																				
Total Installment																				
Total Procurement Cos		85.5		89.6		94.6		95.1		111.9		109.0		105.0						690.7

FY 1998 / FY 1999 BUDGET PRODUCTION SCHEDULE

P-1 Item Nomenclature: LONGBOW APACHE MODS (AA6607)

Date: February 1998

COST ELEMENTS	MFR	FY	SERV	PROC QTY Each	ACCEP. PRIOR TO 1 OCT	BAL DUE AS OF 1 OCT	Fiscal Year 96 / Calendar Year 96												Fiscal Year 97 / Calendar Year 97										LATER
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1. Airframes	1	96	A	24	0	24		A																1	1	2	2	2	2	2	12
	1	97	A	24	0	24														A											24
	1	98	A	44	0	44																									44
	1	99	A	66	0	66																									66
2. FCR (Fire Control Radar)	2	96	A	10	0	10						A												1			3	2		2	2
	2	97	A	10	0	10																A									10
	2	98	A	21	0	21																									21
	2	99	A	40	0	40																									40
3. Engine	3	96	A	46	0	46					4	4	4	4	5		10	10	5												
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	

MFR	NAME / LOCATION	PRODUCTION RATES MIN.	1-8-5	MAX.	REACHED D +
1	McDonnell Douglas Helicopter Sys, Mesa, AZ	48	72	120	
2	Longbow Limited Liability Company, Orlando, FL	48	72	120	
3	General Electric, Lynn, MA	96	72	240	

MFR Number		ADMIN LEAD TIME Prior 1 Oct.	After 1 Oct.	MFR After 1 Oct.	TOTAL After 1 Oct.
1	INITIAL	10	2	28	30
	REORDER				
2	INITIAL	10	2	28	30
	REORDER				
3	INITIAL				
	REORDER		12	8	20
	INITIAL				
	REORDER				
	INITIAL				
	REORDER				

REMARKS

FY 1998 / FY 1999 BUDGET PRODUCTION SCHEDULE

P-1 Item Nomenclature: LONGBOW APACHE MODS (AA6607)

Date: February 1998

COST ELEMENTS	MFR	FY	SERV	PROC QTY Each	ACCEP. PRIOR TO 1 OCT	BAL DUE AS OF 1 OCT	Fiscal Year 98 / Calendar Year 98												Fiscal Year 99 / Calendar Year 99										LATER
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1. Airframes	1	96	A	24	12	12	2	2	2	3	3																			
	1	97	A	24	0	24						3	3	3	3	3	3	3	3											
	1	98	A	44	0	44			A											3	3	3	3	4	4	4	4	4	4	4
	1	99	A	66	0	66															A									66
2. FCR (Fire Control Radar)	2	96	A	10	8	2	2																							
	2	97	A	10	0	10						1	1	1	1	1	1	1	1	1	1									
	2	98	A	21	0	21		A														1	1	1	1	1	1	2	2	10
	2	99	A	40	0	40														A										40
3. Engine	3	96	A	46	46																									

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	

MFR	NAME / LOCATION	PRODUCTION RATES MIN.	1-8-5	MAX.	REACHED D +
1	McDonnell Douglas Helicopter Sys, Mesa, AZ	48	72	120	
2	Longbow Limited Liability Company, Orlando, FL	48	72	120	

MFR Number		ADMIN LEAD TIME Prior 1 Oct.	After 1 Oct.	MFR After 1 Oct.	TOTAL After 1 Oct.
1	INITIAL	10	2	28	30
	REORDER				
2	INITIAL	10	2	28	30
	REORDER				
	INITIAL				
	REORDER				
	INITIAL				
	REORDER				
	INITIAL				
	REORDER				

REMARKS

FY 1998 / FY 1999 BUDGET PRODUCTION SCHEDULE

P-1 Item Nomenclature: LONGBOW APACHE MODS (AA6607)

Date: February 1998

COST ELEMENTS	MFR	FY	SERV	PROC QTY Each	ACCEP. PRIOR TO 1 OCT	BAL DUE AS OF 1 OCT	Fiscal Year 00 / Calendar Year 00												Fiscal Year 01 / Calendar Year 01										LATER
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1. Airframes	1	96	A	24	24																									
	1	97	A	24	24																									
	1	98	A	44	40	4	4																							
	1	99	A	66	0	66		4	4	4	4	5	5	5	5	5	5	5	5	5	5									
2. FCR (Fire Control Radar)	2	96	A	10	10																									
	2	97	A	10	10																									
	2	98	A	21	11	10	2	2	2	2	2																			
	2	99	A	40	0	40						3	3	3	3	3	3	3	3	4	4	4	4							
3. Engine	3	96	A	46	46																									

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	

MFR	NAME / LOCATION	PRODUCTION RATES MIN.	1-8-5	MAX.	REACHED D +
1	McDonnell Douglas Helicopter Sys, Mesa, AZ	48	72	120	
2	Longbow Limited Liability Company, Orlando, FL	48	72	120	

MFR Number		ADMIN LEAD TIME Prior 1 Oct.	After 1 Oct.	MFR After 1 Oct.	TOTAL After 1 Oct.
1	INITIAL	10	2	28	30
	REORDER				
2	INITIAL	10	2	28	30
	REORDER				
	INITIAL				
	REORDER				
	INITIAL				
	REORDER				
	INITIAL				
	REORDER				

REMARKS

Exhibit P-40, Budget Item Justification Sheet

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft

P-1 Item Nomenclature: LONGBOW (ADV PROC) (AA6670)

Program Elements for Code B Items:

Code:

Other Related Program Elements:

	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Prog
Proc Qty												
Gross Cost	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Less PY Adv Proc												
Plus CY Adv Proc		116.9	16.8	30.4	36.9	41.7	39.8	36.9	29.3	29.5	99.4	477.6
Net Proc (P-1)	0.0	116.9	16.8	30.4	36.9	41.7	39.8	36.9	29.3	29.5	99.4	477.6
Initial Spares												
Total Proc Cost	0.0	116.9	16.8	30.4	36.9	41.7	39.8	36.9	29.3	29.5	99.4	477.6
Flyaway U/C												
Wpn Sys Proc U/C												

DESCRIPTION:

The Longbow program encompasses modifications to the AH-64 Apache as well as upgrades to the aircraft systems for the AH-64D series to efficiently and effectively integrate the Fire Control Radar (FCR) and radar frequency (RF) missile. It provides an adverse weather fire-and-forget missile capability that increases the lethality and survivability. The Longbow Apache also retains the capability to fire the Semi-Active Laser Hellfire. The design enhancements increase operational capability of the crew and provide increased survivability and lethality while complying with Congressional direction to standardize the fleet to a common configuration.

JUSTIFICATION:

Under the Army Modernization Master Plan, all Apaches will be remanufactured to the common AH-64D configuration with 227 being equipped with the FCR kits and 701C engines. FY 99 funds Advance Procurement to support deliveries of airframes and FCRs. Long Lead funding is required to provide funding for those parts, tooling, test equipment, and materials which are lead time critical to the end item. Long lead funding is required to preserve the planned helicopter delivery schedule.

Advance Procurement Requirements Analysis-Funding (P-10A)			First System Award Date:		First System Completion Date:		Date: February 1998						
Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft			P-1 Line Item Nomenclature / Weapon System: LONGBOW (ADV PROC) (AA6670)										
			($ in Millions)										
	PLT (mos)	**When Rqd (mos)**	**Pr Yrs**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**To Comp**	**Total**
End Item Quantity:														
Aircraft					24	24	44	66	74	72	72	72	310	758
FCR					10	10	21	40	45	44	57			227
Airframe	30	N/A		75.6	6.0	25.0	26.4	30.7	28.7	28.3	29.3	29.5	99.4	378.9
GFE - FCR Kit	30	29		41.3	10.8	5.4	10.5	11.0	11.1	8.6				98.7
Total Advance Procurement				116.9	16.8	30.4	36.9	41.7	39.8	36.9	29.3	29.5	99.4	477.6

Description:

Advance Procurement Requirements Analysis-Budget Justification (P-10B)

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft

P-1 Line Item Nomenclature / Weapon System: LONGBOW (ADV PROC) (AA6670)

($ in Millions)

	PLT (mos)	Quantity Per Assembly	Unit Cost	1999 Qty	1999 Contract Forecast Date	1999 Total Cost Request	2000 Qty	2000 Contract Forecast Date	2000 Total Cost Request
End Item									
Airframe	30	Various Components	N/A	74	Dec 98	30.7	72	Dec 99	28.7
GFE - FCR Kit	30	Various Components	N/A	45	Nov 98	11.0	44	Nov 99	11.1
Total Advance Procurement						41.7			39.8

Description: Multi-year airframe contract awarded Aug 96. Above "Contract Forecast Date" for airframe represents "Funding action" dates for Lots IV and V. Miltiyear FCR contract awarded Nov 97. Above "contract forecast dates" represents funding action dates for Lots V and VI.

Exhibit P-40, Budget Item Justification Sheet											Date: February 1998	
Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities											P-1 Item Nomenclature: AIRCREW INTEGRATED SYSTEMS (AZ3110)	
Program Elements for Code B Items:				Code:	Other Related Program Elements: RDTE: 643801(DB45) and 654801(DC45)							
	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Prog
Proc Qty												
Gross Cost	25.7	9.1	7.1	11.3	12.2	9.1	4.5	1.4	21.5	35.2	349.4	489.7
Less PY Adv Proc												
Plus CY Adv Proc												
Net Proc (P-1)	25.7	9.1	7.1	11.3	12.2	9.1	4.5	1.4	21.5	35.2	352.6	489.7
Initial Spares												
Total Proc Cost	25.7	9.1	7.1	11.3	12.2	9.1	4.5	1.4	21.5	35.2	349.4	489.7
Flyaway U/C												
Wpn Sys Proc U/C												

DESCRIPTION: Aircrew Integrated Systems (ACIS), formerly Aviation Life Support Equipment (ALSE), addresses those items of equipment that are used to sustain Army aircrews and troops throughout the flight profile, enhancing mission performance and aircrew survivability during operational missions, aircraft crash, and the post-crash period prior to rescue. The ACIS items that accomplish the aircrew-aircraft integration functions include aircraft cockpit air bags, chemical/biological protective mask blowers, helicopter oxygen systems, nuclear flash and laser eye protection, helmets, (including helmet mounted display and head tracker technology integration), aircrew microclimatic conditioning systems, flotation devices, survival kits and equipment, NBC warning, decontamination and filtration systems, and a Nondevelopmental Item demonstration program for Digital Source Collector/Flight Data Recorder voice and data recorder for bussed and non-bussed Army rotary wing aircraft.

JUSTIFICATION: FY99 funding will provide for acquisition of the Cockpit Air Bag System (CABS) for UH-60 Blackhawk helicopters to improve crash survivability and reduce potential injuries and fatalities. The CABS includes an "A" kit (aircraft modification that provides for adaptation of CABS to the aircraft, e.g., electrical power, hard points and miscellaneous attachment hardware) and a "B" kit (CABS components, including crewmember air bag modules, crash sensor, gas generator, and system packaging). Funding will permit incorporation of CABS into part of the UH-60 Blackhawk Force Package One aircraft.

Exhibit P-5, Weapon Aircraft Cost Analysis		Appropriation/ Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities			P-1 Line Item Nomenclature: AIRCREW INTEGRATED SYSTEMS (AZ3110)			Weapon System Type:			Date: February 1998		
Aircraft Cost Elements	ID CD	**FY 96**			**FY 97**			**FY 98**			**FY 99**		
		TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost
		$OOO	Each	$OOO	$OOO	Each	$OOO	$OOO	Each	$OOO	$OOO	Each	$OOO
HARDWARE:													
1. Aircrew Integrated Helmet System (AIHS) Laser Eye Protective Visor	**A**	2455	6546	0.4									
2. M48/M49 Aviator Mask-Lightweight Motor Blower (LWMB)	**A**	2063	2140	1									
3. Cockpit Air Bag System (CABS):	**B**												
UH-60 Blackhawk - Inertia Reels					2254	2324	1						
UH-60 Blackhawk - Low Rate Initial Production (LRIP)								2520	140	18			
UH-60 Blackhawk - Production								4036	224	18	6714	373	18
Subtotal Hardware Costs		**4518**			**2254**			**6556**			**6714**		
Non-recurring Production - CABS:		1900			6246								
Engineering Change Proposal - CABS: UH-60 Blackhawk								4000					
Installation of Kits - CABS: UH-60 Blackhawk											1456		
Non-recurring Production-Digital Source Collector/Flight Data Recorder (FDR)					1436								
Project Management Administration		447			1182			1300			730		
Subtotal Hdw, Installation, ECP and Admin Costs		**6865**			**11118**			**11856**			**8900**		
SUPPORT COSTS:													
Fielding		209			168			334			150		
Subtotal Support Costs		**209**			**168**			**334**			**150**		
TOTAL		**7074**			**11286**			**12190**			**9050**		

Exhibit P-5a, Budget Procurement History and Planning

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities

Weapon System Type:

P-1 Line Item Nomenclature: AIRCREW INTEGRATED SYSTEMS (AZ3110)

WBS Cost Elements: Fiscal Years	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date of First Delivery	QTY Each	Unit Cost $OOO	Specs Avail Now?	Date Revsn Avail	RFP Issue Date
1. Aircrew Integrated Helmet System (AIHS) Laser Eye Protective Visor										
FY 96	Gentex Corp., Carbondale, PA	C/FP	ATCOM, St. Louis, MO	Jan-97	Aug-97	6546	0.4	Yes		
2. M48/M49 Aviator Mask-Lightweight Motor Blower (LWMB)										
FY 96	Micronel, Inc., Vista, CA	C/FP (OP)	ERDEC, APG, MD	Aug-96	Nov-96	2140	1	Yes		
3. Cockpit Air Bag System (CABS)										
FY 97 (Inertia Reels)	H. Koch and Sons, Inc., Anaheim, CA	C/FP	AMCOM, Huntsville, AL	Sep-97	Nov-97	2324	1	Yes		
FY 98 (LRIP)	Simula, Inc., Phoenix, AZ	SS/FP	AATD, Ft. Eustis, VA	Jul-98	Feb-99	140	18	Yes		
FY 98 (Prod)	Simula, Inc., Phoenix, AZ	SS/FP	AATD, Ft. Eustis, VA	Sep-98	Mar-99	224	18	Yes		
FY 99	TBS	C/FP	AMCOM, Huntsville, AL	Mar-99	Sep-99	373	18	Yes		

REMARKS: FY 98 CABS buy is sole source to Simula, Inc. (RDT&E Developer).

Exhibit P-40, Budget Item Justification Sheet

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft

P-1 Item Nomenclature: UH-1 MODS (AB0602)

Program Elements for Code B Items:

Code: A

Other Related Program Elements:

	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Prog
Proc Qty												
Gross Cost	348.5	8.8	4.9	6.1	2.6	3.8	4.5	4.4	3.3	3.3	0.0	390.2
Less PY Adv Proc												
Plus CY Adv Proc												
Net Proc (P-1)	348.5	8.8	4.9	6.1	2.6	3.8	4.5	4.4	3.3	3.3	0.0	390.2
Initial Spares												
Total Proc Cost	348.5	8.8	4.9	6.1	2.6	3.8	4.5	4.4	3.3	3.3	0.0	390.2
Flyaway U/C												
Wpn Sys Proc U/C												

DESCRIPTION: The UH-1 helicopter is used for transportation of personnnel, equipment and supplies, command & control, and medical evacuation. The UH-1 requires modification upgrades to ensure that it can operate on the modern battlefield and be logistically supportable through the year 2017. There are two models, the UH-1H and the UH-1V (MEDEVAC), most of which are located in National Guard units.

JUSTIFICATION: FY 99 funding will be used to procure and install navigation and communication avionics which are required because the currently installed avionics are quickly becoming logistically nonsupportable. Installation of modification kits is limited to those aircraft that will remain in the force structure through the year 2017.

Exhibit P-40M Budget Item Justification Sheet										Date: February 1998	
Appropriation / Budget Activity/Serial No.: AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft						P-1 Item Nomenclature: UH-1 MODS (AB0602)					
Program Elements for Code B Items			Code	Other Related Program Elements							
Description		Fiscal Years									
OSIP NO.	Classification	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TC	Total
UH-1 Radar Altimeter (AN/APN-209)											
1-76-01-0802	Safety	14.9	0.7	0.2	0.2	0.0	0.0	0.0	0.0	0.0	16.0
Improved Airborne Direction Finder (AN/ARN-149)											
1-84-01-1389	RAM	6.0	1.8	1.7	1.7	2.3	3.1	1.0	0.0	0.0	17.6
Improved VHF OMNI-Range (AN/ARN-123)											
1-84-01-1390	RAM	9.2	1.8	0.6	1.2	1.0	0.8	1.2	0.3	0.0	16.1
Single Channel Ground and Air Radio System (SINCGARS)											
1-81-01-1393	RAM	4.0	0.4	0.1	0.7	1.2	0.5	1.1	0.3	0.4	8.7
AN/APX-100 Transponder											
1-81-01-1394	RAM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	22.8	25.5
Upgrade UH-1 Synthetic Flight Simulator System (No P3a Set)											
1-82-01-1420	RAM	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4
Totals		34.1	6.1	2.6	3.8	4.5	4.4	3.3	3.3	23.2	85.3

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE: UH-1 Radar Altimeter (AN/APN-209) 1-76-01-0802

MODELS OF SYSTEMS AFFECTED: UH-1H/V Helicopters

DESCRIPTION / JUSTIFICATION:

The altimeter provides a lighted warning to the crew when the aircraft descends below or climbs above the desired altitude settings. Requ
for missions that use Night Vision Goggles or when flying over blowing snow, water, or featureless terrain.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

Development of the Radar Altimeter System is complete.

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs	760	10	20	20	9	10	10	10	15	12	12	12	12								
Outputs	760	10	20	20	9	10	10	10	15	12	12	12	12								

	FY 2002				FY 2003				FY 2004				FY 2005				To Complete	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4		
Inputs																		912
Outputs																		912

METHOD OF IMPLEMENTATION: Contract Team — ADMINISTRATIVE LEADTIME: 1 Months — PRODUCTION LEADTIME: 9 Months

Contract Dates: FY 1997 Nov 96 — FY 1998 — FY 1999

Delivery Date: FY 1997 Sep 97 — FY 1998 — FY 1999

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): UH-1 Radar Altimeter (AN/APN-209) 1-76-01-0802

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits	819	3.6	93	0.5															912	4.1
Installation Kits, Nonrecurring																				
Equipment	819	9.2																	819	9.2
Equipment, Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- 819	760	2.1	59	0.2															819	2.3
FY 1997 Eqpt -- 93 Kits					45	0.2	48	0.2											93	0.4
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
TC Equip-Kits																				
Total Installment	760	2.1	59	0.2	45	0.2	48	0.2											912	2.7
Total Procurement Cos		14.9		0.7		0.2		0.2												16.0

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE: Improved Airborne Direction Finder (AN/ARN-149) 1-84-01-1389

MODELS OF SYSTEMS AFFECTED: UH-1H/V Helicopter

DESCRIPTION / JUSTIFICATION:

FAA regulations require that all aircraft flying in the vicinity of commercial airports be equipped with an ADF. The AN/ARN-149 is being procured to replace the old AN/ARN-83 which is still being used in the UH-1 but not other Army helicopters. The AN/ARN-83 is being phased out throughout the Army and has been declared nonsupportable by CECOM, the Army's communication command that manages the syst An ADF is required in all military aircraft for utilization of tactical non-directional beacons on the battlefield.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

Development of the AN/ARN-149 system for the UH-1 is complete.

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs	80	25	60	50	35	40	40	40	38	10	10	15	15	20	20	20	20	25	25	25	32
Outputs	80	25	60	50	35	40	40	40	38	10	10	15	15	20	20	20	20	25	25	25	32

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs	30	30	30	48														783
Outputs	30	30	30	48														783

METHOD OF IMPLEMENTATION: Contract Team — ADMINISTRATIVE LEADTIME: 3 Months — PRODUCTION LEADTIME: 9 Months

Contract Dates:	FY 1997	Jan 97	FY 1998	Feb 98	FY 1999 Jan 99
Delivery Date:	FY 1997	Sep 97	FY 1998	Sep 98	FY 1999 Sep 99

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): Improved Airborne Direction Finder (AN/ARN-149) 1-84-01-1389

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits	408	1.4	50	0.1			80	0.2	107	0.3	138	0.4							783	2.4
Installation Kits, Nonrecurring																				
Equipment	341	4.1	50	0.7	67	0.8	80	1.1	107	1.5	138	2.0							783	10.2
Equipment, Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- 408	80	0.5	170	1.0	158	0.9													408	2.4
FY 1997 Eqpt -- 50 Kits							50	0.4											50	0.4
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- 80 Kits									80	0.5									80	0.5
FY 2000 Eqpt -- 107 Kits											107	0.7							107	0.7
FY 2001 Eqpt -- 138 Kits													138	1.0					138	1.0
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
TC Equip-Kits																				
Total Installment	80	0.5	170	1.0	158	0.9	50	0.4	80	0.5	107	0.7	138	1.0					783	5.0
Total Procurement Cos		6.0		1.8		1.7		1.7		2.3		3.1		1.0						17.6

INDIVIDUAL MODIFICATION	Date	February 1998

MODIFICATION TITLE: Improved VHF OMNI-Range (AN/ARN-123) 1-84-01-1390

MODELS OF SYSTEMS AFFECTED: UH-1H/V Helicopter

DESCRIPTION / JUSTIFICATION:

The AN/ARN-123 is the Army's standard VOR receiver and will replace the old AN/ARN-82 which is still being used in the UH-1. The AN/ARN-82 is being phased out throughout the Army and has been declared nonsupportable by CECOM, the Army's communication command that manages the system. The VOR is the primary navigational aid used for in-route navigation and is also required by the FA flights around commercial airports (most UH-1s are operated by the National Guard located around commercial airports).

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

Development of the AN/ARN-123 system for the UH-1 is complete.

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs	270	31	41	48	50	25	25	25	26	20	20	20	24	10	10	10	8	10	10	10	10
Outputs	270	31	41	48	50	25	25	25	26	20	20	20	24	10	10	10	8	10	10	10	10

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs	8	8	8	6	12	12	12	14										783
Outputs	8	8	8	6	12	12	12	14										783

METHOD OF IMPLEMENTATION: Contract Team ADMINISTRATIVE LEADTIME: 3 Months PRODUCTION LEADTIME: 9 Months

Contract Dates: FY 1997 Jan 97 FY 1998 FY 1999 Jan 99

Delivery Date: FY 1997 Sep 97 FY 1998 FY 1999 Sep 99

MODIFICATION TITLE (Cont): Improved VHF OMNI-Range (AN/ARN-123) 1-84-01-1390

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits	575	1.0	50	0.1			38	0.1	40	0.2	30	0.2	50	0.2					783	1.8
Installation Kits, Nonrecurring																				
Equipment	575	6.8	50	0.8			38	0.6	40	0.5	30	0.4	50	0.8					783	9.9
Equipment, Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- 575	270	1.4	170	0.9	101	0.6	34	0.2											575	3.1
FY 1997 Eqpt -- 50 Kits							50	0.3											50	0.3
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- 38 Kits									38	0.3									38	0.3
FY 2000 Eqpt -- 40 Kits											40	0.2							40	0.2
FY 2001 Eqpt -- 30 Kits													30	0.2					30	0.2
FY 2002 Eqpt -- 50 Kits															50	0.3			50	0.3
FY 2003 Eqpt -- kits																				
TC Equip-Kits																				
Total Installment	270	1.4	170	0.9	101	0.6	84	0.5	38	0.3	40	0.2	30	0.2	50	0.3			783	4.4
Total Procurement Cos		9.2		1.8		0.6		1.2		1.0		0.8		1.2		0.3				16.1

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE: Single Channel Ground and Air Radio System (SINCGARS) 1-81-01-1393

MODELS OF SYSTEMS AFFECTED: UH-1H/V Helicopter

DESCRIPTION / JUSTIFICATION:

The AN/ARC-201 SINCGARS radio will replace the nonsupportable AN/ARC-114, AN/ARC-131 or AN/ARC-54 VHF radios currently installe The old receivers are being phased out throughout the Army and have been declared nonsupportable by CECOM, the Army's communication command that manages these systems. The SINCGARS will also provide anti-jam, frequency hopping capability which the old radios are unable to provide.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

Development of the SINCGARS system for the UH-1 is complete.

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs	407	10	10	5	7	4	3	3	3	10	10	10	13	10	10	10	15	8	8	8	6
Outputs	407	10	10	5	7	4	3	3	3	10	10	10	13	10	10	10	15	8	8	8	6

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs	30	30	30	30	10	10	10	10	10	10	15	18						783
Outputs	30	30	30	30	10	10	10	10	10	10	15	18						783

METHOD OF IMPLEMENTATION: Contract Date — ADMINISTRATIVE LEADTIME: 3 Months — PRODUCTION LEADTIME: 12 Months

Contract Dates: FY 1997 Jan 97 — FY 1998 — FY 1999 Jan 99

Delivery Date: FY 1997 Dec 97 — FY 1998 — FY 1999 Dec 99

MODIFICATION TITLE (Cont): Single Channel Ground and Air Radio System (SINCGARS) 1-81-01-1393

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits	480	2.2	30	0.2			60	0.4	120	0.9	40	0.3	53	0.4					783	4.4
Installation Kits, Nonrecurring																				
Equipment																				
Equipment, Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- 480	407	1.8	32	0.2	13	0.1													452	2.1
FY 1997 Eqpt -- 30 Kits							28	0.2											28	0.2
FY 1998 Eqpt -- Kits							15	0.1	15	0.1									30	0.2
FY 1999 Eqpt -- 60 Kits									30	0.2	30	0.2							60	0.4
FY 2000 Eqpt -- 120 Kits													120	0.7					120	0.7
FY 2001 Eqpt -- 40 Kits															40	0.3			40	0.3
FY 2002 Eqpt -- 53 Kits																	53	0.4	53	0.4
FY 2003 Eqpt -- kits																				
TC Equip-Kits																				
Total Installment	407	1.8	32	0.2	13	0.1	43	0.3	45	0.3	30	0.2	120	0.7	40	0.3	53	0.4	783	4.3
Total Procurement Cos		4.0		0.4		0.1		0.7		1.2		0.5		1.1		0.3		0.4		8.7

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE: AN/APX-100 Transponder 1-81-01-1394

MODELS OF SYSTEMS AFFECTED: UH-1H/V Helicopter

DESCRIPTION / JUSTIFICATION:

The AN/APX-100 is the Army's standard transponder and is used in most Army aircraft. The UH-1 is equipped with the old AN/APX-72 which CECOM, the Army's communication command that manages the system, has declared logistically nonsupportable past the year 2001. The APX-100 is used during military operations for identification friend/foe (IFF) and is also required by the FAA for flights around commercial airports so the control tower can identify the aircraft.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

Development of the APX-100 system for the UH-1 is complete.

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs																					
Outputs																					

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs						10	10	10									753	783
Outputs						10	10	10									753	783

METHOD OF IMPLEMENTATION: Contract Team — ADMINISTRATIVE LEADTIME: 3 Months — PRODUCTION LEADTIME: 12 Months

Contract Dates: FY 1997 — FY 1998 — FY 1999

Delivery Date: FY 1997 — FY 1998 — FY 1999

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): AN/APX-100 Transponder 1-81-01-1394

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity															95	0.5	688	3.7	783	4.2
Installation Kits																				
Installation Kits, Nonrecurring																				
Equipment															95	2.2	688	16.8	783	19.0
Equipment, Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- Kits																				
FY 2001 Eqpt -- Kits																				
FY 2002 Eqpt -- Kits																				
FY 2003 Eqpt -- 95 Kits																	95	0.3	95	0.3
TC Equip- 688Kits																	688	2.0	688	2.0
Total Installment																	783	2.3	783	2.3
Total Procurement Cos																2.7		22.8		25.5

Exhibit P-40, Budget Item Justification Sheet

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 1 / Aircraft

P-1 Item Nomenclature: UH-60 BLACKHAWK (MYP) (AA0005)

Program Elements for Code B Items:

Code: A

Other Related Program Elements:

	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Prog
Proc Qty	1298	60	60	34	28	22	10	10	10	10		1542
Gross Cost	6514.4	414.8	392.8	287.8	330.9	243.8	104.4	96.3	96.0	95.6	0.0	8576.8
Less PY Adv Proc	1924.7	180.6	72.4	73.0	65.6	25.0						2341.3
Plus CY Adv Proc	2138.0	72.4	73.0	65.6	25.0							2374.0
Net Proc (P-1)	6727.7	306.6	393.4	280.4	290.3	218.8	104.4	96.3	96.0	95.6	0.0	8609.5
Initial Spares	392.5	9.2	8.5	6.4	2.4	1.9						420.9
Total Proc Cost	7120.2	315.8	401.9	286.8	292.7	220.7	104.4	96.3	96.0	95.6	0.0	9030.4
Flyaway U/C	4.8	6.3	6.1	8.0	10.9	10.2	8.6	7.8	7.7	7.6		5.3
Wpn Sys Proc U/C	5.3	7.1	6.7	8.8	11.8	11.2	10.4	9.6	9.6	9.6		5.8

DESCRIPTION

UH-60 BLACK HAWK is a twin engine, single rotor helicopter that is designed to support the Army's airmobility doctrine for employment of land forces into the 21st century. The BLACK HAWK is used in the performance of the Air Assault, General Support and Aeromedical Evacuation missions. It is designed to carry a crew of four and 11 combat-equipped troops or an external load up to 9,000 pounds. It performs the missions of transporting troops and equipment into combat, resupplying the troops while in combat and performing the associated functions of aeromedical evacuation, repositioning of reserves, and command and control.

The UH-60 BLACK HAWK is in its twenty-first year of production. Fourteen hundred and eighteen aircraft have been procured by the Army over the period from FY77 thru FY96, which includes 18 aircraft provided to the U.S. Customs Service, 16 aircraft provided to the Air Force, and ten aircraft provided to Israel. In addition, 45 aircraft have been procured with National Guard funding. An additional 124 Army aircraft are budgeted for procurement in FY97 through FY03. This results in 1,543 aircraft for the Army versus a requirement of 2,043 aircraft. The initial 980 aircraft were delivered with the T700-GE-700 Engine and were designated as the UH-60A. With the incorporation of the General Electric T700-GE-701C Engine in the UH-60 in October 1989, the aircraft series designation was changed to the UH-60L. The last UH-60L Black Hawk will be delivered in May 2004. Qualification and integration of the UH-60Q MEDEVAC aircraft continues with funding provided by Congress in FY97 to convert four new production UH-60Ls to the UH-60Q configuration.

JUSTIFICATION:

FY99 funds are required for the procurement of aircraft and associated mission kits, continuation of fielding and to provide for PMO operations, matrix support, and contractor engineering support for the procurement of 22 aircraft.

Exhibit P-5, Weapon Aircraft Cost Analysis	Appropriation/ Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 1 / Aircraft	P-1 Line Item Nomenclature: UH-60 BLACKHAWK (MYP) (AA0005)	Weapon System Type:	Date: February 1998

Aircraft Cost Elements	ID CD	FY 96			FY 97			FY 98			FY 99		
		TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost
		$OOO	Each	$OOO	$OOO	Each	$OOO	$OOO	Each	$OOO	$OOO	Each	$OOO
AIRCRAFT Flyaway Costs													
Airframes / CFE		290,748	60	4,846	185,435	34	5,454	182,226	28	6,508	153,031	22	6,956
Engines/Accessories													
(Eng Model T700-GE-701C) 2 per Acft		36,547	70	522	36,986	70	528	32,740	56	585	21,422	36	595
Avionics													
A. CFE													
B. GFE		4,872			11,403			7,000			7,910		
Other GFE		5,642			6,644			7,711			4,431		
Armament													
ECO (All Flyaway Components)		319			2			7,399			4,555		
Other Costs (Mission Kits)		24,177			30,687			67,520			32,144		
Subtotal Flyaway Costs		362,305			271,157			304,596			223,493		
Non-Recurring Costs													
Tooling Equipment													
Other Nonrecurring		5,502											
Total Flyaway		367,807			271,157			304,596			223,493		
Support Cost													
Airframe PGSE		827			1,581						372		
Engine PGSE													
Peculiar Training Equipment		1,334						3,600					
Publications Tech / Data		5,433			3,371			4,487			3,472		
Engineering Change Orders													
PM Administration		12,967			13,305			13,342			13,184		
Fielding		4,357			3,424			4,871			3,299		
Subtotal Support Cost		24,918			21,681			26,300			20,327		
Gross P-1 End Cost		392,725			292,838			330,896			243,820		
Less: Prior Year Adv Proc		72,417			73,047			65,563			25,000		
Net P-1 Full Funding Cost		320,308			219,791			265,333			218,820		
Plus: P-1 CY Adv Proc		73,047			65,563			25,000					
Other Non P-1 Costs													
Initial Spares		8,462			6,449			2,444			1,944		
Mods		23,683			12,350			16,962			21,657		
TOTAL		**425,500**			**304,153**			**309,739**			**242,421**		

Exhibit P-5a, Budget Procurement History and Planning

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 1 / Aircraft

Weapon System Type:

P-1 Line Item Nomenclature: UH-60 BLACKHAWK (MYP) (AA0005)

WBS Cost Elements: Fiscal Years	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date of First Delivery	QTY Each	Unit Cost $OOO	Specs Avail Now?	Date Revsn Avail	RFP Issue Date
Airframes										
FY 96	Sikorsky, Stratford, CT	SSM/FP	ATCOM	Nov-95	Jul-96	60	4846	Yes	No	
FY97	Sikorsky, Stratford, CT	SSM/FP	ATCOM	Dec-96	Sep-97	6	5014	Yes	No	
FY 97	Sikorsky, Stratford, CT	SSM/FP	ATCOM	Jul-97	Jul-97	28	5548	Yes	No	
FY98	Sikorsky, Stratford, CT	SSM/FP	AMCOM	Dec-97	Jul-98	18	6757	Yes	No	
FY98	Sikorsky, Stratford, CT	SSM/FP	AMCOM	Feb-98	Aug-98	10	6060	Yes	No	
FY99	Sikorsky, Stratford, CT	SSM/FP	AMCOM	Dec-98	Jul-99	22	6956	Yes	No	
Engine										
FY95 (AP for FY96)	General Elec, Lynn, MA	SS/FP	ATCOM	Feb-95	May-96	56	521	Yes	No	
FY95 (AP for FY96)	General Elec, Lynn, MA	SS/FP	ATCOM	Jul-96	Oct-97	14	527	Yes	No	
FY 96 (AP for FY97)	General Elec, Lynn, MA	SS/FP	ATCOM	Dec-95	Oct-96	58	528	Yes	No	
FY97	General Elec, Lynn, MA	SS/FP	ATCOM	Dec-96	Nov-97	12	527	Yes	No	
FY97 (AP for FY98)	General Elec, Lynn, MA	SS/FP	ATCOM	Sep-97	Apr-98	36	584	Yes	No	
FY98	General Elec, Lynn, MA	SS/FP	AMCOM	Feb-98	Jan-99	20	585	Yes	No	
FY98 (AP for FY99)	General Elec, Lynn, MA	SS/FP	AMCOM	Dec-97	Apr-99	16	603	Yes	No	
FY99	General Elec, Lynn, MA	SS/FP	AMCOM	Dec-98	Oct-99	20	589	Yes	No	

REMARKS: Unit costs shown reflect the values shown on the P5. These values include both hardware, as well as contractor system project management. The current FY97-01 airframe contract provided Firm Fixed Prices for 28 Army H-60s in FY97, 18 in FY98, and 12 in FY99. Six aircraft funded with the FY97 appropriation were procured on the previous multiyear contract. Ten of the aircraft funded with the FY98 appropriation are being procured on an option clause. The FY99 portion of the contract will require renegotiation to accomodate the increase in quantity quantity from 18 to 28. Current enine requirements are being procured on a contract with an indefinite quantity.

FY 98 / 99 BUDGET PRODUCTION SCHEDULE

P-1 Item Nomenclature: UH-60 BLACKHAWK (MYP) (AA0005)

Date: February 1998

COST ELEMENTS	MFR	FY	SERV	PROC QTY Each	ACCEP. PRIOR TO 1 OCT	BAL DUE AS OF 1 OCT	Fiscal Year 97												Fiscal Year 98												LATER
										Calendar Year 97												Calendar Year 98									
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
Airframes	1	FY 96	A	60	15	45	5	5	5	5	5	5	5	5	5																0
	1	FY 97	A	34	0	34			A							2	3	5	5	5	4	3	3	1	1	1	1				0
	1	FY 98	A	28	0	28															A							2	2	2	22
	1	FY99	A	22	0	22																									22
																															0
	1	FY97	AF	8	0	8																									8
	1	FY99	N	6	0	6																									6
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							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	

MFR	NAME / LOCATION	PRODUCTION RATES MIN.	1-8-5	MAX.	REACHED D +	MFR Number			ADMIN LEAD TIME Prior 1 Oct.	After 1 Oct.	MFR After 1 Oct.	TOTAL After 1 Oct.
1	Sikorsky, Stratford, CT	18	60	96			INITIAL		8	7		7
							REORDER			2	8	10
							INITIAL					
							REORDER					
							INITIAL					
							REORDER					
							INITIAL					
							REORDER					
							INITIAL					
							REORDER					

REMARKS

Contract award for 28 of the 34 aircraft being procured with FY97 funds was July, 1997 (the same month as the first delivery) The first six aircraft were bought with an option to an existing contract, and were awarded in December, 1996.

Air Force is bought 8 HH-60 in FY97. Navy begins procurement of CH-60 in FY99.

FY 98 / 99 BUDGET PRODUCTION SCHEDULE	P-1 Item Nomenclature: UH-60 BLACKHAWK (MYP) (AA0005)	Date: February 1998

COST ELEMENTS	MFR	FY	SERV	PROC QTY Each	ACCEP. PRIOR TO 1 OCT	BAL DUE AS OF 1 OCT	Fiscal Year 99												Fiscal Year 00												LATER
										Calendar Year 99												Calendar Year 00									
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
Airframes	1	FY 96	A	60	45	15																									15
	1	FY 97	A	34	34	0																									0
	1	FY 98	A	28	6	22	2	3	3	3	3	2	2	2	2																0
	1	FY99	A	22	0	22			A							2	2	2	2	2	2	2	2	2	1	2	1				0
																															0
	1	FY97	AF	8	0	8						2	2	2	2																0
	1	FY99	N	6	0	6			A															1	2	1	2				0
																															0
																															0
																															0
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																															0
																															0
																															0
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	

MFR	NAME / LOCATION	PRODUCTION RATES MIN.	PRODUCTION RATES 1-8-5	PRODUCTION RATES MAX.	REACHED D +
1	Sikorsky, Stratford, CT	18	60	96	

MFR Number			ADMIN LEAD TIME Prior 1 Oct.	ADMIN LEAD TIME After 1 Oct.	MFR After 1 Oct.	TOTAL After 1 Oct.
	INITIAL		8	7		7
	REORDER			2	8	10
	INITIAL					
	REORDER					
	INITIAL					
	REORDER					
	INITIAL					
	REORDER					
	INITIAL					
	REORDER					

REMARKS

Air Force is bought 8 HH-60 in FY97. Navy begins procurement of CH-60 in FY99. Deliveries shown for the Navy are when a base H-60 will be ready, not when the modified aircraft (CH-60) will be delivered. Current MYC provides for procurement of 18 A/C in FY99. Option clause cannot be used in FY99 since no advance funding is being provided after FY98.

Exhibit P-43, Simulator and Training Device Justification

Date: February 1998

Appropriation / Budget Activity/Serial No.	P-1 Item Nomenclature	Other Related Program Elements:	IOC Date:
AIRCRAFT PROCUREMENT / 1 / Aircraft	UH-60 BLACKHAWK (MYP) (AA0005)		

Training Device by Type	Site	Delivery Date	Ready for Training Date	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003
BH Maint Trainer	Ft. Eustis	Apr-96	May-96			3600					
A/L Electrical	Ft. Eustis	Jan-97	Feb-97	1334							

THE UH-60 BLACK HAWK SIMULATORS/TRAINERS INCLUDE TWO MAINTENANCE TRAINERS, THE UH-60A/L ELECTRIC TRAINER, AND THE BLACK HAWK MAINTENANCE TRAINER. THE BLACK HAWK INITIAL OPERATIONAL CAPABILITY DATE WAS NOV 1979. THE MAINTENANCE TRAINERS, WHEN DELIVERED, WILL AVOID SCHOOL REQUIREMENTS FOR ADDITIONAL CATEGORY B AIRCRAFT. ALL DEVICES WILL HAVE COMPUTER GENERATED FAULTS AND COMPONENT REMOVE AND REPLACE CAPABILITY EXACTLY AS IT IS ON THE AIRCRAFT.

THE A/L ELECTRICAL TRAINER IS AN INDIVIDUAL SIZE TRAINER UTILIZED TO TRAIN MAINTENANCE PERSONNEL IN THE TROUBLESHOOTING AND FAULT ISOLATION PROCEDURES FOR AC/DC POWER DISTRIBUTION SYSTEM.

THE BLACK HAWK MAINTENANCE TRAINER IS UTILIZED TO TRAIN MAINTENANCE PERSONNEL IN THE TROUBLESHOOTING, REPAIR, ALIGNMENT AND ADJUSTMENT OF ALL OF THE AIRCRAFT SYSTEMS, I.E., POWER TRAIN, PNEUMATICS, HYDRAULICS, ELECTRICAL SYSTEMS, RIGGING.

Exhibit P-40, Budget Item Justification Sheet

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 1 / Aircraft

P-1 Item Nomenclature: UH-60 BLACKHAWK (MYP) (ADV PROC) (AA0005)

Program Elements for Code B Items:

Code: A

Other Related Program Elements:

	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Prog
Proc Qty	1298	60	60	34	28	22	10	10	10	10		1542
Gross Cost	2138.0	72.4	73.0	65.6	25.0	0.0	0.0	0.0	0.0	0.0	0.0	2374.0
Less PY Adv Proc												
Plus CY Adv Proc	2138.0	72.4	73.0	65.6	25.0	0.0	0.0	0.0	0.0	0.0		2374.0
Net Proc (P-1)												
Initial Spares												
Total Proc Cost												
Flyaway U/C												
Wpn Sys Proc U/C												

DESCRIPTION:

The Advance Procurement funding for the UH-60 BLACK HAWK contains funding for the airframe and engine contracts and funding for Government Furnished Equipment (GFE) to support the UH-60 production and mission kits. GFE includes such items as avionics equipment, crew seats, Hover Infrared Suppressor Systems and Auxiliary Power Units.

Advance Procurement Requirements Analysis-Funding (P-10A)

First System Award Date:	First System Completion Date:	Date:
		February 1998

Appropriation / Budget Activity/Serial No:	P-1 Line Item Nomenclature / Weapon System:
AIRCRAFT PROCUREMENT / 1 / Aircraft	UH-60 BLACKHAWK (MYP) (ADV PROC) (AA0005)

($ in Millions)

	PLT (mos)	When Rqd (mos)	Pr Yrs	1995	1996	1997	1998	1999	2000	2001	2002	2003	To Comp	Total
End Item Quantity:				60.0	60.0	34.0	28.0	22.0	10.0	10.0	10.0	10.0		
Airframe	24	7	1349.2	30.0	32.0	40.0	12.3							1463.5
Engine	16	4	554.6	36.6	30.7	21.0	9.6							652.5
Avionics(Various)	Various	4	125.2	1.2	2.5									128.9
Auxiliary Power Unit(APU)	13	4	38.5	0.0	2.3	1.5	1.4							43.7
Armored Crew Seat	12	4	19.1	0.5	1.2	1.6	0.9							23.3
Hover Infrared Suppressor (HIRSS)	10	4	23.4	3.2	1.4	0.8								28.8
Elastomeric Rod End Bearings	10	4	0.0	0.9	0.4	0.3								1.6
Extended Range Fuel System	13	N/A	15.6		1.0									16.6
Blackout Device Kit	7	N/A	0.0		0.2									.2
Air Transportability Kit	14	N/A	0.0		1.0									1.0
Other	N/A	N/A	12.4		0.3	0.4	0.8							13.9
Total Advance Procurement			2138.0	72.4	73.0	65.6	25.0							2374.0

Advance Procurement Requirements Analysis-Budget Justification (P-10B)

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 1 / Aircraft

P-1 Line Item Nomenclature / Weapon System: UH-60 BLACKHAWK (MYP) (ADV PROC) (AA0005)

($ in Millions)

	PLT (mos)	Quantity Per Assembly	Unit Cost	1998 Qty	1998 Contract Forecast Date	1998 Total Cost Request	1999 Qty	1999 Contract Forecast Date	1999 Total Cost Request
UH-60L BLACK HAWK									
CFE Airframe (MYC)	24	N/A	1.0(TL)	12	Dec 97	12.3			
Engine	16	2	0.6	16	Dec 97	9.6			
Auxiliary Power Unit	13	1	0.1	16	Feb 98	1.4			
Armored Crew Seat	12	2	0.1	32	Feb 98	0.9			
Other	N/A	N/A	N/A	N/A	Dec 97	0.8			
Total Advance Procurement						25.0			

Description:Airframe requirement is the termination liability requirement from the FY97-01 multiyear, multiservice contract signed in July, 1997. Section H-25 of this contract (DAAJ09-97-C-0005) required EOQ funding for FY98 and FY99 at contract award. Additional funding is required against the FY99 requirement in in December 1997 to cover the incremental termination liability incurred during FY98. Engine price reflects the appropriate option price negotiated in the contract signed in September, 1997. Option for engines must be exercised in FY98 in order to ensure delivery to the prime contractor three months prior to end item delivery (April 99). No contractual instrument is currently available for the APU or Crew Seat. Other costs reflect funding of Engine Data and funding no longer available in the program.

Advance Procurement Requirements Analysis-Present Value Analysis (P-10C)

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 1 / Aircraft

P-1 Line Item Nomenclature / Weapon System: UH-60 BLACKHAWK (MYP) (ADV PROC) (AA0005)

($ in Millions)

	Pr Yrs	1995	1996	1997	1998	1999	2000	2001	2002	2003	To Comp	Total
Proposal w/o AP												
Then Year Cost			4	29	77	107	89	48	20	10	3	389
Constant Year Cost			5	30	77	106	85	46	19	9	3	379
Present Value			5	28	71	93	73	38	15	7	2	331
AP Proposal												
Then Year Cost			4	31	78	103	80	44	19	8	3	370
Constant Year Cost			5	32	78	101	77	41	17	7	3	361
Present Value			5	30	72	90	66	34	14	6	2	317
AP Savings (Difference)												
Then Year Cost				2	1	-4	-9	-5	-2	-2		-18
Constant Year Cost				2	1	-4	-9	-4	-2	-2		-18
Present Value				2	1	-3	-8	-4	-1	-1		-14

Remarks:Values above reflect the total Army airframe contract price(outlays) for the FY97-99 requirements utilizing a multiyear contract, versus the price of procuring these aircraft on three single year contracts. Constant dollars shown are FY98. Values above do not include the savings realized from four previous airframe multiyear contracts or from three previous engine multiyear contracts.

Advance Procurement Requirements Analysis-Execution (P-10D)

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 1 / Aircraft

P-1 Line Item Nomenclature / Weapon System: UH-60 BLACKHAWK (MYP) (ADV PROC) (AA0005)

($ in Millions)

		1996					1997					1998		1999	
	PLT (mos)	Qty	Contract Forecast Date	Actual Contract Date	Total Cost Request	Actual Contract Cost	Qty	Contract Forecast Date	Actual Contract Date	Total Cost Request	Actual Contract Cost	Qty	Contract Forecast Date	Qty	Contract Forecast Date
End Item: UH-60L BLACK HAWK															
Airframe	24	28	N/A	Mar-96	N/A	32.0	30	Dec-96	Jul-97	45.6	40.0	12	Dec-97		
Engine	25	58	N/A	May-96	N/A	30.5	36	Nov-96	Sep-97	16.2	20.7	16	Dec-97		
Avionics	Various	Various	N/A	Various	N/A	2.5		Various	N/A	7.3					
Auxiliary Power Unit	13	28	N/A	May-97	N/A	2.3	18	Mar-97	May-97	2.1	1.5	16	Feb-98		
Armored Crew Seat	12	72	N/A	Jun-96	N/A	1.2	60	Jan-97	Sep-97	1.3	1.6	32	Feb-98		
Hover Infrared Suppressor	10	28	N/A	Aug-96	N/A	1.5	15	Jan-97	Mar-97	1.9	0.8				
Elastomeric Rod End Bearings	10	112	N/A	Jun-96	N/A	0.4	72	Jan-97	Jun-97	0.6	0.3				
Extended Range Fuel System	13	28	N/A	Sep-97	N/A	1.0									
Blackout Device Kit	7	92	N/A	Jul-97	N/A	0.2									
Air Transportability Kit	14	25	N/A	Jul-97	N/A	1.0									
Other	N/A	N/A	N/A	May-96	N/A	0.4	N/A	N/A	Sep-97		0.7	N/A	Dec-97		
Total Advance Procurement						73.0				75.0	65.6				

Description:Quantities shown above are the actual contract quantities. No advance procurement funding was requested in the FY96 President's Budget since the Army's plan was discontinue production after the FY96 buy was complete. Funding was added by Congress. The budget request for FY97 was predicated on a five year multiyear contract at 36 aircraft per year (144 Army Aircraft over the period of FY98-01), while the current program is based on a multiservice procurement of 18 aircraft per year, of which the Army funded only 30 aircraft in this time frame--18 in FY98 and 12 in FY99. Ten aircraft per year were added by Congress in FY98 and the FY99 Budget request adds ten aircraft per year in FY99 through FY03. These aircraft may be added to the firm quantities already being procured, or bought on the option clause, depending on the availability of Advance Procurement funds.

Advance Procurement Requirements Analysis-Obligations/Expenditures (P-10E)

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 1 / Aircraft

P-1 Line Item Nomenclature / Weapon System: UH-60 BLACKHAWK (MYP) (ADV PROC) (AA0005)

($ in Millions)

	Total Program	FY 97 1996 Oct	Nov	Dec	1997 Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total Obl/Exp (Cum)	Ending Balance (Cum)
FY 96															
Obl Plan	1.6						1.6							1.6	
Actual	7.1		.4				1.5			1.9	1.2		2.1	7.1	
Exp Plan															
Actual															
FY 97															
Obl Plan	67.3						60.5	6.8						67.3	
Actual	65.6						.8	1.0			40.0		23.8	65.6	
Exp Plan															
Actual															
FY 98															
Obl Plan	25.0														25.0
FY 99															
Obl Plan															

Narrative: Expenditure plans are not prepared. FY96 data reflects carry over only--total obligations planned and actual obligations for FY96 were 71.4M and 65.9M respectively. Of the 25.0M FY98 budget, 22.7M is planned for award in December, 1997 and the remaining $2.3M is projected for Feb, 1998.

Exhibit P-40, Budget Item Justification Sheet

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities

P-1 Item Nomenclature: AIR TRAFFIC CONTROL (AA0050)

Program Elements for Code B Items:

Code:

Other Related Program Elements:

	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Prog
Proc Qty												
Gross Cost	44.4	1.0	12.5	13.5	5.7	5.7	8.9	38.8	29.6	34.8	0.0	194.8
Less PY Adv Proc												
Plus CY Adv Proc												
Net Proc (P-1)	44.4	1.0	12.5	13.5	5.7	5.7	8.9	38.8	29.6	34.8	0.0	194.8
Initial Spares												
Total Proc Cost	44.4	1.0	12.5	13.5	5.7	5.7	8.9	38.8	29.6	34.8	0.0	194.8
Flyaway U/C												
Wpn Sys Proc U/C												

DESCRIPTION: Air Traffic Control equipment contained in this budget cycle are Tactical Terminal Control System (TTCS), Air Traffic Navigation Integration and Coordination System (ATNAVICS), and the Tactical Airspace Integration System (TAIS). The TTCS is providing secure, jam-resistant radio communication with manpack capabilities to remote landing and pickup zones along the forward edge of the battle area. The ATNAVICS will provide all weather instrument flight capabilities to include enroute, terminal and radar precision approach and landing services to all Army, other services, and allied aircraft. The TAIS will provide a highly mobile airspace deconflictional system providing Army Airspace Command and Control (A2C2) and air traffic control capabilities. It will interface with all Tactical Command and Control Systems while providing commanders with automated A2C2 capability to support all Task Force XXI digitization initiatives into the next century.

JUSTIFICATION: The FY 99 funding will provide for the production of the ATNAVICS, the continued effort and production of the TAIS, and the fielding of the TTCS. This new family of tactical air traffic control systems will replace current generation equipment that is antiquated and not economically supportable. These systems will be compact, high mobility, quick to install and will be able to keep pace with the fast tempo of the modern battlefield. The continued acquisition of these air traffic control systems will support present and future warfighting concepts and assist the manuever commander/Army aviator by providing significant improvements in the area of secure communications, data processing automation, equipment reliability, survivability, and transportability.

Exhibit P-5, Weapon Aircraft Cost Analysis		Appropriation/ Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities			P-1 Line Item Nomenclature: AIR TRAFFIC CONTROL (AA0050)			Weapon System Type:			Date: February 1998		
Aircraft Cost Elements	ID CD	**FY 96**			**FY 97**			**FY 98**			**FY 99**		
		TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost
		$OOO	Each	$OOO	$OOO	Each	$OOO	$OOO	Each	$OOO	$OOO	Each	$OOO
1. Tactical Terminal Control System (TTCS) (W614)	A												
Hardware		9,594	26	369	7,940	26	305						
Non Recurring Costs													
Interim Contractor Support								127					
Fielding		185			460			373			150		
GFE					653								
Other Costs		266			460								
2. Tactical Airspace Integration System (TAIS)													
Hardware		2,500	1	2,500	3,925	1	3,925				1,500	1	1,500
Non Recurring Costs								4,800			182		
Interim Contractor Support								256			100		
Fielding													
Testing													
Other Costs					64								
3. Air Traffic Navigation and Integration System (ATNAVICS)													
Hardware											3,418	1	3,418
Non Recurring Costs													
Interim Contractor Support											267		
Fielding											54		
Testing								115					
Other Costs													
TOTAL		**12,545**			**13,502**			**5,671**			**5,671**		

Exhibit P-5a, Budget Procurement History and Planning

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities

Weapon System Type:

P-1 Line Item Nomenclature: AIR TRAFFIC CONTROL (AA0050)

WBS Cost Elements: / Fiscal Years	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date of First Delivery	QTY Each	Unit Cost $OOO	Specs Avail Now?	Date Revsn Avail	RFP Issue Date
1. Tactical Terminal Control System (TTCS)										
FY 96	Magnavox Ft. Wayne, IN	C/FP-O	CECOM	Mar-96	Jun-97	26	369	Yes	No	
FY 97	Magnavox Ft. Wayne, IN	C/FP-O	CECOM	Jan-97	Mar-98	26	305	Yes	No	
2. Tactical Airspace Integration System (TAIS)										
FY 96	Motorola Phoenix, AZ	CPFP	MICOM	Sep-96	Mar-97	1	2,500	Yes	No	
FY 97	Motorola Phoenix, AZ	CPFP	MICOM	Nov-96	Mar-97	1	2,387	Yes	No	
FY 99	Motorola Phoenix, AZ	CPFP	AMCOM	Feb-99	Nov-99	1	1,500	Yes	No	
3. Air Traffic Navigation and Integration System (ATNAVICS)										
FY 99	Raytheon Cambridge, MA	C/FP-O	CECOM	Feb-99	May-00	1	3,418	Yes	No	

REMARKS:

Exhibit P-40, Budget Item Justification Sheet

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft

P-1 Item Nomenclature: UH-60 MODS (AA0492)

Program Elements for Code B Items:

Code: A

Other Related Program Elements:

	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Prog
Proc Qty												
Gross Cost	383.8	35.4	23.7	12.4	26.2	21.7	15.9	15.4	90.9	173.4	0.0	798.8
Less PY Adv Proc												
Plus CY Adv Proc												
Net Proc (P-1)	383.8	35.4	23.7	12.4	26.2	21.7	15.9	15.4	90.9	173.4	0.0	798.8
Initial Spares												
Total Proc Cost	383.8	35.4	23.7	12.4	26.2	21.7	15.9	15.4	90.9	173.4	0.0	798.8
Flyaway U/C												
Wpn Sys Proc U/C												

DESCRIPTION:

The UH-60A/L is a twin engine, single rotor helicopter that is used in the performance of the air assault, air cavalry and aeromedical evacuation missions. It is designed to carry a crew of four plus eleven combat-equipped troops or an external load up to 9,000 pounds. It performs the mission of transporting troops and equipment into combat, resupplying the troops while in combat and performing aeromedical evacuation, repositioning of reserves, and command and control. The UH-60A/L/Q is a major contributor across the continuum of military operations, i.e., civil disaster relief, drug intervention, national and humanitarian assistance.

JUSTIFICATION:

The modifications that will occur during FY99 are the UH-60A Refurbishment/Standardization modification, procurement and installation of the External Stores Support System (ESSS) Auxiliary Fuel Monitoring System (AFMS), procurement of the Battery/Power Light Relocate and the Night Vision Goggles (NVG) Lighting Lower Console. Additionally, funding also provides for common fleet modifications to be applied to the EH-60A QUICK FIX and MH-60K SOA aircraft. These modifications provide a more capable aircraft to support the combat mission requirements and provide for enhanced aircraft safety and more efficient and less expensive operation and suppport.

Exhibit P-40M Budget Item Justification Sheet							Date: February 1998				
Appropriation / Budget Activity/Serial No.: AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft							P-1 Item Nomenclature: UH-60 MODS (AA0492)				
Program Elements for Code B Items			Code		Other Related Program Elements						
Description		Fiscal Years									
OSIP NO.	Classification	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TC	Total
Refurbishment/Standardization											
1-92-01-1942	Op/Log	95.1	10.9	4.5	1.5	0.0	0.0	0.0	0.0	0.0	112.0
Single Channel Ground & Airborne Radio Sys (SINCGARS)											
1-84-01-1977	Operational	46.2	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	47.5
Ext Stores Sup Sys (ESSS) Aux Fuel Monitoring Sys (AFMS)											
1-94-01-1948	Safety	9.3	0.0	3.6	9.9	1.7	0.0	0.0	0.0	0.0	24.5
5/8" Fuel Line											
1-94-01-1950	Safety	2.8	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.7
Halon Changeout											
1-92-01-1945	Legislative	0.1	0.0	4.6	4.5	3.6	0.0	0.0	0.0	0.0	12.8
Battery/Power Light Relocate											
1-94-01-1953	RM	0.3	0.0	0.0	0.8	5.7	7.9	2.8	1.4	0.0	18.9
NVG Lighting Lower Console											
1-90-01-1933	Operational	1.3	0.6	0.0	5.0	4.9	2.4	0.6	0.0	0.0	14.8
Engine Driveshaft Redesign (No P3a Set)											
1-95-01-1957	Safety	0.0	0.0	0.0	0.0	0.0	0.3	10.5	12.4	0.0	23.2
Service Life Extension Program (No P3a Set)											
TBD	Operational	0.0	0.0	0.0	0.0	0.0	4.8	39.5	100.8	0.0	145.1
UH-60Q Medivac (No P3a Set)											
TBD1	Operational	0.0	0.0	9.3	0.0	0.0	0.0	37.5	58.8	0.0	105.6
Fire Hawk (No P3a Set)											
TBD2	Operational	0.0	0.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0	2.9
Totals		155.1	12.4	26.2	21.7	15.9	15.4	90.9	173.4	0.0	511.0

INDIVIDUAL MODIFICATION	Date	February 1998

MODIFICATION TITLE: Refurbishment/Standardization 1-92-01-1942

MODELS OF SYSTEMS AFFECTED: UH-60A Black Hawk

DESCRIPTION / JUSTIFICATION:

This is a block modification improvement. The modification kits have been procured in order to take advantage of a cost savings with an economic order quantity buy contract. This was considered to be more efficient than procuring 60 per year for 5 years. The total quantity of 300 kits have been procured and the engineering non-recurring effort has been obligated. The FY99 and prior effort is to install the kits. The UH-60 refurbishment/standardization program is the number one priority materiel change for the Black Hawk and has remained fully funded through a stretched schedule since initiation in 1991. This modification supports the plan for fielding of UH-60Ls to the "first to fight" units with the displaced UH-60As being provided to the Army Reserve and National Guard in support of the Congressional desire to modernize those units. The requirement is to refurbish and standardize 300 of the 550 older UH-60A Black Hawks.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:	PLANNED	ACCOMPLISHED
Project Initiated	Jun 91	Jun 91
Production Contract Awarded	Mar 92	Apr 92
First Kit Applied	Aug 93	Jan 93
Last Kit Applied	Sep 99	

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs	236	10	10	10	12		7	6	4	2	2	1									
Outputs	236	10	10	10	12		7	6	4	2	2	1									

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs																		300
Outputs																		300

METHOD OF IMPLEMENTATION:	Depot	ADMINISTRATIVE LEADTIME:	PRODUCTION LEADTIME:
Contract Dates:	FY 1997	FY 1998	FY 1999
Delivery Date:	FY 1997	FY 1998	FY 1999

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): Refurbishment/Standardization 1-92-01-1942

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity	300	24.0																	300	24.0
Installation Kits																				
Installation Kits, Nonrecurring		8.5																		8.5
Equipment																				
Equipment, Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -300	236	62.6	42	10.9	17	4.5	5	1.5											300	79.5
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
TC Equip-Kits																				
Total Installment	236	62.6	42	10.9	17	4.5	5	1.5											300	79.5
Total Procurement Cos		95.1		10.9		4.5		1.5												112.0

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE: Single Channel Ground & Airborne Radio Sys (SINCGARS) 1-84-01-1977

MODELS OF SYSTEMS AFFECTED: UH-60A Black Hawk

DESCRIPTION / JUSTIFICATION:

Provides for installation of the Single Channel Ground and Airborne Radio System (SINCGARS) radio which allows the aircraft to communicate with the remainder of the Army in the secure anti-jam frequency hopping FM mode. Provides for incorporation of physical and electrical interfaces required to accommodate the installation of either the AN/ARC-201(V) or AN/ARC-186(V) radio system separately or in any combination with one another. SINCGARS fieldings are in process in Korea, USA Pacific, 18th Airborne Corps and III Corps. OLR tea will modify 1055 aircraft at 400 hours each for a total of 422,000 hours. 300 additional aircraft are being modified with SINCGARS under Refurbishment/Standardization program at Corpus Christi Army Depot and AVCRADS located in Connecticut and California.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:	PLANNED	ACCOMPLISHED
FY96 Installation Contract Awarded	Feb 96	Feb 96
Last Kit Applied	Sep 98	

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs	995					15	15	15	15												
Outputs	995					15	15	15	15												

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs																		1055
Outputs																		1055

METHOD OF IMPLEMENTATION:	OLR Teams	ADMINISTRATIVE LEADTIME:	PRODUCTION LEADTIME:
Contract Dates:	FY 1997	FY 1998	FY 1999
Delivery Date:	FY 1997	FY 1998	FY 1999

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): Single Channel Ground & Airborne Radio Sys (SINCGARS) 1-84-01-1977

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity	1055	19.4																	1055	19.4
Installation Kits																				
Installation Kits, Nonrecurring		3.5																		3.5
Equipment																				
Equipment, Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -1055	995	23.3			60	1.3													1055	24.6
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
TC Equip-Kits																				
Total Installment	995	23.3			60	1.3													1055	24.6
Total Procurement Cos		46.2				1.3														47.5

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE: Ext Stores Sup Sys (ESSS) Aux Fuel Monitoring Sys (AFMS) 1-94-01-1948

MODELS OF SYSTEMS AFFECTED: UH-60A Black Hawk

DESCRIPTION / JUSTIFICATION:

The Auxiliary Fuel Monitoring System shall provide the pilots with a fuel quantity display for each installed auxiliary fuel tank. Each tank will have its own fuel probe. The system will monitor external fuel for imbalance conditions that result in aircraft lateral center-of-gravity changes that exceed a certain designated value. If an imbalance is detected, the system will activate a light on the AFMS panel, the aux fuel seg light on the caution/advisory panel, and the master warning panel. Aircrews will have the capability to directly read the weight of all the auxiliary fuel that may be in each of the External Stores Support System (ESSS)/Extended Range Fuel System (ERFS) and store locations. This safety modification will continue to assure that a fully capable aircraft is available to support the combat mission requirement. Gauging will improve aircraft management of auxiliary fuel for everyday mission use of the syste

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:	PLANNED	ACCOMPLISHED
Project Initiated	Mar 94	Mar 94
Production Contract Awarded	Nov 95	Aug 96
First Kit Applied	Feb 98	
Last Kit Applied	Sep 00	

Quantity procured includes 1 kit for ATCOM New Equipment Training Team (NETT).

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs							96	104	100	30	30	30	35	127	127	127	126				
Outputs							96	104	100	30	30	30	35	127	127	127	126				

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs																		932
Outputs																		932

METHOD OF IMPLEMENTATION: OLR Teams — ADMINISTRATIVE LEADTIME: 8 — PRODUCTION LEADTIME: 6

Contract Dates:	FY 1997	FY 1998	May 98	FY 1999	May 99
Delivery Date:	FY 1997	FY 1998	Nov 98	FY 1999	Nov 99

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): Ext Stores Sup Sys (ESSS) Aux Fuel Monitoring Sys (AFMS) 1-94-01-1948

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity	300	8.0			125	2.7	508	9.5											933	20.2
Installation Kits																				
Installation Kits, Nonrecurring		1.3																		1.3
Equipment																				
Equipment, Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt - 300					300	0.9													300	0.9
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt --125 Kits							125	0.4											125	0.4
FY 1999 Eqpt --507 Kits									507	1.7									507	1.7
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
TC Equip-Kits																				
Total Installment					300	0.9	125	0.4	507	1.7									932	3.0
Total Procurement Cos		9.3				3.6		9.9		1.7										24.5

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE: 5/8" Fuel Line 1-94-01-1950

MODELS OF SYSTEMS AFFECTED: UH-60A Black Hawk

DESCRIPTION / JUSTIFICATION:

The UH-60 has bubble traps in an existing 1" fuel line. Outgassing of aircraft fuel can occur at all temperatures and the bubbles generated subsequently collect in the bubble traps. Under certain conditions, the bubble can get large enough to cause the aircraft low fuel pressure lights to activate, and the engine to flame out due to fuel starvation. This change will replace the existing horizontal 1" inner diameter (ID) self-sealing fuel hose with a 5/8" ID self-sealing fuel hose.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:	PLANNED	ACCOMPLISHED
Project Initiated	Apr 94	Apr 94
Contract Awarded	Mar 95	Mar 95
First Kit Installed	Jun 96	Jun 96
Last Kit Installed	Sep 97	Sep 97

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs	564	196	196	197	197																
Outputs	564	196	196	197	197																

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs																		1350
Outputs																		1350

METHOD OF IMPLEMENTATION:	OLR Teams	ADMINISTRATIVE LEADTIME:	PRODUCTION LEADTIME:
Contract Dates:	FY 1997	FY 1998	FY 1999
Delivery Date:	FY 1997	FY 1998	FY 1999

INDIVIDUAL MODIFICATION																		Date	February 1998		
MODIFICATION TITLE (Cont):	5/8" Fuel Line 1-94-01-1950																				
FINANCIAL PLAN: ($ in Millions)	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity	1350	2.1																	1350	2.1
Installation Kits																				
Installation Kits, Nonrecurring		0.1																		0.1
Equipment																				
Equipment, Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -1350	564	0.6	786	0.9															1350	1.5
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
TC Equip-Kits																				
Total Installment	564	0.6	786	0.9															1350	1.5
Total Procurement Cos		2.8		0.9																3.7

INDIVIDUAL MODIFICATION	Date	February 1998

MODIFICATION TITLE: Halon Changeout 1-92-01-1945

MODELS OF SYSTEMS AFFECTED: UH-60L Black Hawk

DESCRIPTION / JUSTIFICATION:

Procurement of halon violates the Montreal Protocol and violates the Clean Air Act. This modification will retrofit hand held aircraft fire extinguishers and the on board engine fire extinguishing system. The current halon extinguishers and systems deplete the ozone level and halon will be replaced with a new chemical agent. This mod will be applied to UH-60Ls.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:	PLANNED	ACCOMPLISHED
Project Initiated	Sep 92	Sep 92
First Kit Applied	May 98	
Last Kit Applied	Sep 00	

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs								45	45	45	45	55	55	40	40	40	35				
Outputs								45	45	45	45	55	55	40	40	40	35				

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs																		445
Outputs																		445

METHOD OF IMPLEMENTATION: OLR Teams ADMINISTRATIVE LEADTIME: 5 PRODUCTION LEADTIME: 3

Contract Dates:	FY 1997	FY 1998	Feb 98	FY 1999	Feb 99
Delivery Date:	FY 1997	FY 1998	May 98	FY 1999	May 99

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): Halon Changeout 1-92-01-1945

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity					180	4.2	150	3.6	115	2.8									445	10.6
Installation Kits																				
Installation Kits, Nonrecurring		0.1																		0.1
Equipment																				
Equipment, Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt --180 Kits					90	0.4	90	0.4											180	0.8
FY 1999 Eqpt --150 Kits							110	0.5	40	0.2									150	0.7
FY 2000 Eqpt -- 115 kits									115	0.6									115	0.6
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
TC Equip-Kits																				
Total Installment					90	0.4	200	0.9	155	0.8									445	2.1
Total Procurement Cos		0.1				4.6		4.5		3.6										12.8

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE: Battery/Power Light Relocate 1-94-01-1953

MODELS OF SYSTEMS AFFECTED: UH-60 A/L Black Hawk

DESCRIPTION / JUSTIFICATION:

Provide the fleet with a low cost, low maintenance, longer life, battery, which would replace the existing maintenance intensive Nickel Cadmium battery. Maintenance cost will be reduced and disposal cost minimized by providing a recyclable battery. The new battery will meet the EPA environmental health hazard restrictions.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:	PLANNED	ACCOMPLISHED
Contract Awarded	Dec 98	
First Kit Installed	Apr 00	
Last Kit Installed	Mar 03	

Quantity procured includes 5 kits to be installed in maintenance trainers by field personnel.

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs																20	30	120	120	120	120
Outputs																20	30	120	120	120	120

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs	150	150	150	150	159	159												1448
Outputs	150	150	150	150	159	159												1448

METHOD OF IMPLEMENTATION: OLR Teams — ADMINISTRATIVE LEADTIME: 10 — PRODUCTION LEADTIME: 6

Contract Dates: FY 1997 — FY 1998 — FY 1999 Jul 99

Delivery Date: FY 1997 — FY 1998 — FY 1999 Jan 00

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): Battery/Power Light Relocate 1-94-01-1953

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity							50	0.8	675	5.4	728	5.8							1453	12.0
Installation Kits																				
Installation Kits, Nonrecurring		0.3																		0.3
Equipment																				
Equipment, Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits									50	0.3									50	0.3
FY 2000 Eqpt -- kits											480	2.1	200	1.0					680	3.1
FY 2001 Eqpt -- kits													400	1.8	318	1.4			718	3.2
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
TC Equip-Kits																				
Total Installment									50	0.3	480	2.1	600	2.8	318	1.4			1448	6.6
Total Procurement Cos		0.3						0.8		5.7		7.9		2.8		1.4				18.9

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE: NVG Lighting Lower Console 1-90-01-1933

MODELS OF SYSTEMS AFFECTED: UH-60 A/L Black Hawk

DESCRIPTION / JUSTIFICATION:

This is a safety related requirement resulting from incident report findings stipulating the lack of the lower console lighting as a present factor in the incident. This safety related improvement will improve cockpit lighting which will increase the capability of the night vision goggles and eliminate the pilot's/co-pilot's need to transition from goggles to no-goggles (heads down) in order to see and operate the radio control heads. Until this is accomplished, the radios and equipment in the lower console must remain unlighted.

Existing cockpit lighting and relighted radio control panels will be upgraded to be in conformance with DOD Spec MIL-L-85762 and compa with ANVIS-6 goggles. The proposed cockpit lighting upgrade will improve night operations capabi

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:	PLANNED	ACCOMPLISHED
Project Initiated	Jan 90	Jan 97
Contract Awarded	Mar 97	Mar 97
First Kit Applied	Jun 97	Aug 97
Last Kit Applied	Feb 02	

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs		50	50	50	50						115	115	120	120	120	110	100	75	75	75	75
Outputs		50	50	50	50						115	115	120	120	120	110	100	75	75	75	75

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs	75	75																1450
Outputs	75	75																1450

METHOD OF IMPLEMENTATION: OLR Teams — ADMINISTRATIVE LEADTIME: 2 — PRODUCTION LEADTIME: 3

Contract Dates: FY 1997 — FY 1998 — FY 1999 Nov 98

Delivery Date: FY 1997 — FY 1998 — FY 1999 Feb 99

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): NVG Lighting Lower Console 1-90-01-1933

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity	200	1.3					550	4.0	500	3.6	200	1.5							1450	10.4
Installation Kits																				
Installation Kits, Nonrecurring																				
Equipment																				
Equipment, Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits			200	0.6															200	0.6
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits							350	1.0	200	0.6									550	1.6
FY 2000 Eqpt -- kits									250	0.7	250	0.7							500	1.4
FY 2001 Eqpt -- kits											50	0.2	150	0.6					200	0.8
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
TC Equip-Kits																				
Total Installment			200	0.6			350	1.0	450	1.3	300	0.9	150	0.6					1450	4.4
Total Procurement Cos		1.3		0.6				5.0		4.9		2.4		0.6						14.8

Exhibit P-40, Budget Item Justification Sheet

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft

P-1 Item Nomenclature: KIOWA WARRIOR (AZ2200)

Program Elements for Code B Items:

Code: A

Other Related Program Elements:

	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Prog
Proc Qty												
Gross Cost	867.6	221.6	205.3	197.1	57.1	40.4	29.7	14.7	74.0	41.3	262.8	2011.6
Less PY Adv Proc												
Plus CY Adv Proc												
Net Proc (P-1)	867.6	221.6	205.3	197.1	57.1	40.4	29.7	14.7	74.0	41.3	262.8	2011.6
Initial Spares												
Total Proc Cost	867.6	221.6	205.3	197.1	57.1	40.4	29.7	14.7	74.0	41.3	262.8	2011.6
Flyaway U/C												
Wpn Sys Proc U/C												

DESCRIPTION: The OH-58D Kiowa Warrior is a two-seat, single-engine, light helicopter with four main rotor blades and a low-light television thermal imaging system and laser range finder/designator incorporated into a Mast Mounted Sight situated above the main rotor system. The aircraft is designed to operate autonomously at standoff ranges providing armed reconnaissance, command and control, and target acquisition and designation under day, night, and adverse weather conditions. The Kiowa Warrior can laser designate for precision guided munitions, Apache helicopters, and other airborne weapons platforms. Using an airborne target handoff system, the Kiowa Warrior is capable of providing adjustment of conventional artillery as well as handing over targets to the Apache and other weapons platforms. Efforts commenced in FY 91 to retrofit fielded aircraft with numerous improvements to include incorporation of both Air-to-Air Stinger and Air-to-Ground weapons. Provisions for in-line production incorporation began with the last six aircraft of the FY 89 procurement. In addition, Multi-Purpose Light Helicopter (MPLH) kits have been developed to provide a rapid deployment capability (15 minute flyaway from C-130 offload), 2000-pound external cargo hook capability, limited troop transport (six personnel), and emergency casualty evacuation (two litters). The upgraded Control Display System processor modification replaces three processors with two Joint Integrated Avionics Working Group standard 80960 processors. Hand-held Halon fire extinguishers are being replaced in accordance with the Clean Air Act of 1990, which prohibits the use of ozone-depleting chemicals. The System Safety Enhancement Program (SSEP) was initiated in FY 96 to incorporate R3 engines, crashworthy crew seats, a supplemental restraint system, digitization, and improved weapons interface. The SSEP will improve recognition and identification of emergency situations, reduce pilot workload during emergency maneuvers, provide significant improvements to the crashworthiness of the airframe thus improving crew survivability, improve engine reliability with the intent to reduce the probability of engine failure and exposure to emergency autorotations and add digitization capabilities. SSEP efforts, to include the R3 Engine, have been incorporated into the later lots under the Remanufacture and the Retrofit lines; and fielded aircraft will be modified via both contractor mod line and field modification.

Exhibit P-40C Budget Item Justification Sheet	Date: February 1998
Appropriation / Budget Activity/Serial No.: AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft	P-1 Item Nomenclature: KIOWA WARRIOR (AZ2200)
Program Elements for Code B Items	Code	Other Related Program Elements

JUSTIFICATION: The FY 99 program continues the SSEP efforts, funds the fielding of Kiowa Warrior aircraft procured with previous years' funding, procures additional quantities of Crew Station Mission Equipment Trainers (CSMET), and installs replacement fire extinguishers. The Army's most critical aviation deficiency is the lack of a night, armed reconnaissance capability. The FY 99 acquisition efforts are required in order to allow the Kiowa Warrior to serve as the Army's night, armed reconnaissance aviation capability until RAH-66 fielding begins. Kiowa Warrior will continue to complement the Comanche throughout its projected 20-year life span, with gradual displacement to lower-priority, active and reserve component units as Comanches are fielded in quantities. The FY 00 program continues System Safety Enhancement Program, CSMET, and Halon Fire Extinguisher efforts.

Exhibit P-40M Budget Item Justification Sheet

Date: February 1998

Appropriation / Budget Activity/Serial No.: AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft

P-1 Item Nomenclature: KIOWA WARRIOR (AZ2200)

Program Elements for Code B Items:

Code:

Other Related Program Elements:

Description		Fiscal Years									
OSIP NO.	Classification	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TC	Total
Kiowa Warrior - Remanufacture											
TBD 1	Operational	808.7	109.1	9.8	0.1	0.0	0.0	0.0	0.0	0.0	927.7
Kiowa Warrior - Retrofit											
1-88-01-2103	Operational	417.0	25.9	9.9	0.0	0.0	0.0	0.0	0.0	0.0	452.8
Halon Fire Extinquisher											
TBD 2	Congressional	1.3	0.0	0.5	0.5	0.4	0.0	0.0	0.0	0.0	2.7
Crew Station Mission Equipment Trainer (CSMET)											
TBD 3	Training	0.0	0.0	3.2	7.4	4.2	2.6	0.0	0.0	0.0	17.4
R3 Engines - SSEP											
1-91-01-2113	Safety	52.9	51.0	18.7	21.9	14.5	1.4	23.7	10.3	11.8	206.2
Improved Master Controller Processor Unit - SSEP											
1-93-01-2100	Operational	50.9	5.2	10.3	7.2	5.2	4.6	26.6	27.0	16.1	153.1
Crew Seats - Sys Safety Enhancement											
TBD 4	Safety	1.1	5.9	4.7	2.1	3.0	2.7	14.9	1.6	0.0	36.0
Supplemental Restraint System - Sys Safety Enhancement											
TBD 5	Safety	1.0	0.0	0.0	1.2	2.4	3.4	8.8	2.4	0.0	19.2
Totals		1,332.9	197.1	57.1	40.4	29.7	14.7	74.0	41.3	27.9	1,815.1

INDIVIDUAL MODIFICATION	Date	February 1998

MODIFICATION TITLE: Kiowa Warrior - Remanufacture TBD 1

MODELS OF SYSTEMS AFFECTED: OH-58A

DESCRIPTION / JUSTIFICATION:

The OH-58D Kiowa Warrior is a versatile, lethal, deployable aircraft capable of seeing, fighting and surviving in all types of terrain and battlefield environments, day or night, with adverse visibility. An OH-58A airframe is modified to accept an improved rotor-and-drive system, a fully integrated night-vision-compatible cockpit, a complete airborne target handover system, a precision navigation capability, and an above-the-rotor Mast Mounted Sight. Included are Air-to-Air Stinger, Air-to-Ground weapons and Multi Purpose Light Helicopter (MPLH) kits. This fully armed scout aircraft will be used in armed air cavalry reconnaissance and light attack helicopter units. Some System Safety Enhancement equipment, to include R3 Engines, is incorporated in later production lots.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

All development milestones complete.

*Installation Data not applicable. Modification of the OH-58D aircraft to the OH-58D Kiowa Warrior will be accomplished by Bell Helicopter Textron at their facilities.

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs																					
Outputs																					

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs																		
Outputs																		

METHOD OF IMPLEMENTATION: Production Line ADMINISTRATIVE LEADTIME: 8 Months PRODUCTION LEADTIME: 18 Months

Contract Dates:	FY 1997	May 97	FY 1998	FY 1999
Delivery Date:	FY 1997	Nov 98	FY 1998	FY 1999

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): Kiowa Warrior - Remanufacture TBD 1

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity	119		13																132	
Hardware Recurring		572.9		73.4																646.3
ECO's		71.0		3.4		0.8														75.2
Data		17.8		1.1																18.9
PGSE		7.9		0.6																8.5
Other		102.0		22.6		4.2														128.8
Project Mgt/Administration		24.9		5.6		3.1														33.6
Fielding				1.2		1.6		0.1												2.9
MPLH		12.2		1.2		0.1														13.5
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
TC Equip-Kits																				
Total Installment																				
Total Procurement Cost		808.7		109.1		9.8		0.1												927.7

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE: Kiowa Warrior - Retrofit 1-88-01-2103

MODELS OF SYSTEMS AFFECTED: OH-58D AHIP

DESCRIPTION / JUSTIFICATION:

Fielded OH-58D aircraft are retrofitted to the current production configuration of the fully armed Kiowa Warrior. That configuration includes Air-to-Air Stinger (ATAS), Air-to-Ground (ATG) weapons (Hellfire, 2.75 inch rockets, and .50 caliber machine gun), and Multi-Purpose Light Helicopter (MPLH) kits. The ATAS provides a mid-range defensive and offensive air-to-air capability against threat aircraft. The ATG weapons provide defensive and suppressive fire and service high-priority targets. The MPLH kits (designed to alleviate a major deficiency in XVIII Airborne Corps) provide rapid deployment capability, a 2000-pound external cargo hook, limited troop transport, and emergency casualty evacuation. The OH-58D Kiowa Warrior will be fielded in air cavalry reconnaissance and light attack units. This aircraft provides the Army with a versatile, lethal, deployable aircraft capable of seeing, fighting, and surviving in all types of terrain and battlefield environments, day or night, with adverse visibility. Some System Safety Enhancement equipment, to include R3 Engines, is incorporated into the later retrofit lots.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:	PLANNED	ACCOMPLISHED
ASARC IV/III	Aug 89	Aug 89
Developmental Contract Award	Apr 91	Apr 91
Qualification Test	May 91	May 91
First Unit Equipped	May 93	May 93
Initial Operational Capability	Jun 93	Jun 93

*Installation Data not applicable. Modification of the OH-58D aircraft to the Kiowa Warrior Armed will be accomplished by Bell Helicopter Textron at their facilities.

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs																					
Outputs																					

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs																		
Outputs																		

METHOD OF IMPLEMENTATION: Production Line — ADMINISTRATIVE LEADTIME: 8 Months — PRODUCTION LEADTIME: 12 Months

Contract Dates:	FY 1997	May 97	FY 1998		FY 1999
Delivery Date:	FY 1997	May 98	FY 1998		FY 1999

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): Kiowa Warrior - Retrofit 1-88-01-2103

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity	175		10																185	
Hardware Recurring		320.5		19.7																340.2
ECO's		14.7				0.2														14.9
Data		0.5																		0.5
PGSE		4.9		0.2																5.1
Other		47.1		3.0		4.0														54.1
Project Mgt/Administration		21.8		1.8		3.3														26.9
Fielding		7.5		1.2		2.4														11.1
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
TC Equip-Kits																				
Total Installment																				
Total Procurement Cos		417.0		25.9		9.9														452.8

INDIVIDUAL MODIFICATION	Date	February 1998

MODIFICATION TITLE: Halon Fire Extinquisher TBD 2

MODELS OF SYSTEMS AFFECTED: OH-58D Kiowa Warrior

DESCRIPTION / JUSTIFICATION:

The U.S. Army is replacing its stock of hand-held Halon fire extinguishers with CO2 extinguishers in accordance with the Clean Air Act of 1990. This law prohibits the use of ozone depleting chemicals (ODC).

There is no longer any small hand-held Halon 1301 fire extinguishers in stock at Defense Logistics Agency. Consequently, some aircraft could be grounded because of a lack of a CO2 hand-held fire extinguisher. CO2 extinghishers are provided for the Kiowa Warrior airframe by the Army, at no cost to the Program. Funding is for engineering and installation.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs									26	21	60	60	46	45	45	45	42				
Outputs										26	21	60	60	46	45	45	45	42			

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs																		390
Outputs																		390

METHOD OF IMPLEMENTATION: Line/Field Retrofit ADMINISTRATIVE LEADTIME: Months PRODUCTION LEADTIME: Months

Contract Dates:	FY 1997	FY 1998	Jun 98	FY 1999 Dec 98
Delivery Date:	FY 1997	FY 1998	Jul 98	FY 1999 Jan 99

INDIVIDUAL MODIFICATION | Date February 1998

MODIFICATION TITLE (Cont): Halon Fire Extinquisher TBD 2

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity	390																		390	
Installation Kits																				
Installation Kits, Nonrecurring					26	0.1	187	0.4	177	0.3									390	0.8
Equipment																				
Equipment, Nonrecurring		1.3																		1.3
Engineering Change Orders						0.3														0.3
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits					26	0.1													26	0.1
FY 1999 Eqpt -- Kits							187	0.1											187	0.1
FY 2000 Eqpt -- kits									177	0.1									177	0.1
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
TC Equip-Kits																				
Total Installment					26	0.1	187	0.1	177	0.1									390	0.3
Total Procurement Cos		1.3				0.5		0.5		0.4										2.7

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE: Crew Station Mission Equipment Trainer (CSMET) TBD 3

MODELS OF SYSTEMS AFFECTED: OH-58D Kiowa Warrior

DESCRIPTION / JUSTIFICATION:

The Crew Station Mission Equipment Trainer (CSMET) is a unit-level training device that supports training for the OH-58D Kiowa Warrior flight crews. The CSMET shall support refresher and sustainment training of those skills required to initialize, operate, and employ the weapon system, aircraft survivability equipment, Automatic Target Handover System, communication and navigation equipment, Mast Mounted Sight cockpit controls, data transfer system, Aviator Night Vision Imaging System (ANVIS) display, and airborne video tape recorder. The CSMET will network with other devices for collective training. Currently, there are no Training Devices, Simulators or Simulations (TDSS) available to fielded Kiowa Warrior units. Therefore, the aircraft itself provides the only primary sustainment training device.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:	PLANNED	ACCOMPLISHED
Development/Design Contract Awar	May 96	May 96
Development/Design Contract Definitizatio	Sep 96	Sep 96
Prototype Contract Awar(	Apr 97	Nov 96

CSMET is a training device; installation is not applicable.

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs																					
Outputs																					

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs																		
Outputs																		

METHOD OF IMPLEMENTATION: Stand Alone Device — ADMINISTRATIVE LEADTIME: 6 Months — PRODUCTION LEADTIME: 12 Months

Contract Dates:	FY 1997	FY 1998	Feb 98	FY 1999	Jan 99
Delivery Date:	FY 1997	FY 1998	Feb 99	FY 1999	Jan 00

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): Crew Station Mission Equipment Trainer (CSMET) TBD 3

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E		0.7	1	1.1															1	1.8
PROCUREMENT																				
Kit Quantity					8		18		10		6								42	
Installation Kits																				
Installation Kits, Nonrecurring																				
Equipment																				
Equipment, Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment						3.2		7.4		4.2		2.6								17.4
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
TC Equip-Kits																				
Total Installment																				
Total Procurement Cos						3.2		7.4		4.2		2.6								17.4

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE: R3 Engines - SSEP 1-91-01-2113

MODELS OF SYSTEMS AFFECTED: OH-58D Kiowa Warrior

DESCRIPTION / JUSTIFICATION:

As part of the System Safety Enhancement Program (SSEP), the T-703 engine is improved to provide increased reliability, control responsiveness and life. This R3 engine will overcome the present rotor droop anomaly by providing faster response time to power demands and will increase the overall engine efficiency and reliability. This effort will provide reduced autorotational touchdown speed and will trim rotor speed to 100% in autorotation. With Full Authority Digital Electronic Control (FADEC), the engine will anticipate power needs and limit temperature spikes. New gas path components are more efficient and run cooler, thus delivering 18% more power in hot-day conditions. Additional R3 major improvements are increased surge margin, increased transient performance, surge avoidance capability, hot-start protection, and flame-out detection/relight capability. This upgrade increases time-between-overhaul (TBO) from 1000 hours to 2500 hours with very high reliability and reduced maintenance cost. This effort is a safety portion of the overall System Safety Enhancement Proç (SSEP).

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:	PLANNED	ACCOMPLISHED
RAMEP (R2) Contract Award - NRE	Apr 95	Apr 95
Modification Revised:		
RAMEP (R3) with FADEC Development Contract Definitization	Jun 96	Jun 96

NOTE: Prior Year quantities installed in Remanufacture and Retrofit modification lines and in Task Force XXI aircraft.

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs	86				39	39	52	51	13	12	15	15	15	15	9	9	9	9			
Outputs	86								7	7	12	12	5	5	4	5	5	4	3	3	3

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs		9	9	9	9													424
Outputs	3	9	9	9	9	18	18	18	18								39	311

METHOD OF IMPLEMENTATION: Contractor Line — ADMINISTRATIVE LEADTIME: 8 Months — PRODUCTION LEADTIME: 12 Months

Contract Dates:	FY 1997	Sep 97	FY 1998	Mar 98	FY 1999	Mar 99
Delivery Date:	FY 1997	Sep 98	FY 1998	Mar 99	FY 1999	Mar 00

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): R3 Engines - SSEP 1-91-01-2113

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity	86		156		50		60		36				36						424	
Installation Kits		2.8			28	1.7	20	1.2	18	1.1	12	0.7	72	4.6	72	4.7	89	5.9	311	22.7
Installation Kits, Nonrecurring		2.7																		2.7
Equipment		37.9		47.6		15.3		19.5		12.3				13.6						146.2
Equipment, Nonrecurring		8.5		1.3																9.8
Engineering Change Orders		1.0																		1.0
Data																				
Training Equipment																				
Support Equipment																				
Other				0.4																0.4
Interim Contractor Support				1.7																1.7
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits					28	1.7													28	1.7
FY 1999 Eqpt -- Kits							20	1.2											20	1.2
FY 2000 Eqpt -- kits									18	1.1									18	1.1
FY 2001 Eqpt -- kits											12	0.7							12	0.7
FY 2002 Eqpt -- kits													72	5.5					72	5.5
FY 2003 Eqpt -- kits															72	5.6			72	5.6
TC Equip-89 Kits																	89	5.9	89	5.9
Total Installment					28	1.7	20	1.2	18	1.1	12	0.7	72	5.5	72	5.6	89	5.9	311	21.7
Total Procurement Cos		52.9		51.0		18.7		21.9		14.5		1.4		23.7		10.3		11.8		206.2

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE: Improved Master Controller Processor Unit - SSEP 1-93-01-2100

MODELS OF SYSTEMS AFFECTED: OH-58D

DESCRIPTION / JUSTIFICATION:

The existing Master Controller Processor Unit (MCPU), which serves as mission computer and buss controller, is limited in memory, throughput, and avionics buss message traffic capability. The design is based on 1970's technology and parts obsolescence is an increasing problem. As part of SSEP, the upgraded CDS MCPU provides the basic building block for integration of the existing Mission Equipment Package and future growth capability for horizontal integration and digitization of the battlefield to aid situational awareness for the battle commander. This effort will replace three existing processors with two state-of-the-art processors providing a 100% growth capability for memory and throughput while reducing the aircraft empty weight and operating and support costs. Growth capability is necessary for technical insertions such as Improved Data Modem, Battlefield Cambat Identification System, Radio Frequency Interferometer (RFI), Improved Navigation System/Global Positioning System, Digital Map, etc. Task Force XXI software changes will be incorporated in the improved MCPU.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:	PLANNED	ACCOMPLISHED
B Kit Development Contract Award	Nov 93	Nov 93
A Kit Development Contract Award	Sep 94	Sep 94
IMCPU Qualification Contract Award	Sep 97	Sep 97

77 kits installed on Remanufacture/Retrofit production lines; installation quantities and dollars reflected on those respective P-3a forms.

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs	125	4	6	3	4	3	6	6	6	6	4	4	4	3	4	4	4	3	20	20	20
Outputs											7	7	7	7	5	5	5	5	4	5	5

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs	20	20	20	20	18												31	388
Outputs	4	3	3	3	3	18	18	18	18	18	18	18	18				89	311

METHOD OF IMPLEMENTATION: ADMINISTRATIVE LEADTIME: 8 Months PRODUCTION LEADTIME: 12 Months

Contract Dates:	FY 1997	May 97	FY 1998	Mar 98	FY 1999	Jan 99
Delivery Date:	FY 1997	May 98	FY 1998	Mar 99	FY 1999	Jan 00

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): Improved Master Controller Processor Unit - SSEP 1-93-01-2100

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity	119		13		13		24		15		15		80		78		31		388	
Installation Kits				1.2		0.7	20	0.5	18	0.5	12	0.3	72	2.0	72	2.1	89	2.6	283	9.9
Installation Kits, Nonrecurring		10.9																		10.9
Equipment		26.9		4.0		3.0		5.5		3.5		3.6		19.5		19.4		7.8		93.2
Equipment, Nonrecurring		12.0																		12.0
Engineering Change Orders						5.0														5.0
Data																				
Training Equipment																				
Support Equipment		1.0																		1.0
Other - Transportation		0.1																		0.1
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits					28	1.6													28	1.6
FY 1999 Eqpt -- Kits							20	1.2											20	1.2
FY 2000 Eqpt -- kits									18	1.2									18	1.2
FY 2001 Eqpt -- kits											12	0.7							12	0.7
FY 2002 Eqpt -- kits													72	5.1					72	5.1
FY 2003 Eqpt -- kits															72	5.5			72	5.5
TC Equip-89 Kits																	89	5.7	89	5.7
Total Installment					28	1.6	20	1.2	18	1.2	12	0.7	72	5.1	72	5.5	89	5.7	311	21.0
Total Procurement Cos		50.9		5.2		10.3		7.2		5.2		4.6		26.6		27.0		16.1		153.1

INDIVIDUAL MODIFICATION	Date	February 1998

MODIFICATION TITLE: Crew Seats - Sys Safety Enhancement TBD 4

MODELS OF SYSTEMS AFFECTED: OH-58D Kiowa Warrior

DESCRIPTION / JUSTIFICATION:

As part of the System Safety Enhancement Program, crashworthy Crew Seats will be incorporated intothe Kiowa Warrior fleet. Since the Kiowa Warrior pre-dates current crashworthy design criteria, it has no cockpit energy-absorbing features in a crash situation. Energy attenuating seats will provide increased safety to the crew in case of vertical and horizontal impacts. The design point for vertical protection will be a 30-feet-per-second dynamic vertical impac

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

Initial quantities of seats are installed on Remanufacture and Retrofit production lines.

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs				30	32	31	55	26	26	25	7	7	8	8	5	5	5	5	28	29	28
Outputs						7	7	7	7	5	5	5	5	9	9	9	11	10	10	12	10

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs	28																	388
Outputs	48	48	48	48	10	10	10	8										358

METHOD OF IMPLEMENTATION: Contractor & Field ADMINISTRATIVE LEADTIME: 6 Months PRODUCTION LEADTIME: 6 Months

Contract Dates:	FY 1997	May 97	FY 1998	Mar 98	FY 1999 Jan 99
Delivery Date:	FY 1997	Nov 97	FY 1998	Sep 98	FY 1999 Jul 99

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): Crew Seats - Sys Safety Enhancement TBD 4

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity			123		76		26		30		20		113						388	
Installation Kits					28	1.0	20	0.8	38	1.4	42	1.6	192	7.6	38	1.5			358	13.9
Installation Kits, Nonrecurring																				
Equipment				5.9		3.6		1.2		1.5		1.0		5.8						19.0
Equipment, Nonrecurring		1.1																		1.1
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware	Beginning in FY 00, kits will be installed simultaneously on SSEP production line and via field retrofit. Thirty seats will be installed on																			
FY 1996 & Prior Eqpt -- Kits	the Kiowa Warrior Remanufacture and Retrofit production lines.																			
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits					28	0.1													28	0.1
FY 1999 Eqpt -- Kits							20	0.1											20	0.1
FY 2000 Eqpt -- kits									38	0.1									38	0.1
FY 2001 Eqpt -- kits											42	0.1							42	0.1
FY 2002 Eqpt -- kits													192	1.5					192	1.5
FY 2003 Eqpt -- kits															38	0.1			38	0.1
TC Equip-Kits																				
Total Installment					28	0.1	20	0.1	38	0.1	42	0.1	192	1.5	38	0.1			358	2.0
Total Procurement Cos		1.1		5.9		4.7		2.1		3.0		2.7		14.9		1.6				36.0

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE: Supplemental Restraint System - Sys Safety Enhancement TBD 5

MODELS OF SYSTEMS AFFECTED: OH-58D Kiowa Warrior

DESCRIPTION / JUSTIFICATION:

As part of the System Safety Enhancement Program, supplemental restraints are required to protect the crew in all modes of otherwise survivable accidents. Air bags will be utilized in conjunction with crashworthy crew seats to provide reasonable crew protection in all modes of flight given the mission of the aircraft.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:	PLANNED	ACCOMPLISHED
FY 96 Contract Award	Jul 96	Jul 96

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs											9	9	9	8	18	18	18	16	22	23	23
Outputs													5	5	5	5	9	9	9	11	10

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs	22	46	47	47	47	6												388
Outputs	10	12	10	48	48	48	48	24	24	24	24							388

METHOD OF IMPLEMENTATION: ADMINISTRATIVE LEADTIME: 6 Months PRODUCTION LEADTIME: 6 Months

Contract Dates:	FY 1997	FY 1998	FY 1999	Jan 99
Delivery Date:	FY 1997	FY 1998	FY 1999	Jul 99

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): Supplemental Restraint System - Sys Safety Enhancement TBD 5

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity							35		70		90		187		6				388	
Installation Kits							20	0.2	38	0.4	42	0.5	192	2.1	96	1.0			388	4.2
Installation Kits, Nonrecurring																				
Equipment								0.9		1.9		2.8		5.2		0.2				11.0
Equipment, Nonrecurring		1.0																		1.0
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware	Beginning in FY 00, kits are applied simultaneously as field modifications and on the System Safety Enhancement modification line.																			
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits							20	0.1											20	0.1
FY 2000 Eqpt -- kits									38	0.1									38	0.1
FY 2001 Eqpt -- kits											42	0.1							42	0.1
FY 2002 Eqpt -- kits													192	1.5					192	1.5
FY 2003 Eqpt -- kits															96	1.2			96	1.2
TC Equip-Kits																				
Total Installment							20	0.1	38	0.1	42	0.1	192	1.5	96	1.2			388	3.0
Total Procurement Cos		1.0						1.2		2.4		3.4		8.8		2.4				19.2

Exhibit P-43, Simulator and Training Device Justification

Date: February 1998

Appropriation / Budget Activity/Serial No.	P-1 Item Nomenclature	Other Related Program Elements:	IOC Date:
AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft	KIOWA WARRIOR (AZ2200)		

Training Device by Type	Site	Delivery Date	Ready for Training Date	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003
Mission	Fielded Units - TBD	TBD	TBD								
Equipment											
Trainer											
FIN PLAN:											
QTY						8	18	10	6		
PROC ($000)						3230	7390	4210	2550		
RDT&E ($000)				688	1100						

TRAINING SYSTEM DESCRIPTION:

The Crew Station Mission Equipment Trainer (CSMET) is a unit-level training device that is being designed to support training requirements for the OH-58D Kiowa Warrior flight crews. The CSMET shall support refresher and sustainment training of those skills required to initialize, operate, and employ the weapon system, aircraft survivability equipment, Automatic Target Handover System, communication and navigation equipment, Mast Mounted Sight cockpit controls, data transfer system, Aviator Night Vision Imaging System (ANVIS) display, and airborne video tape recorder. The CSMET will network with other devices for collective training.

Currently, there are no Training Devices, Simulators or Simulations (TDSS) available to fielded Kiowa Warrior units. Therefore, the aircraft itself provides the only primary sustainment training device. By way of comparison, training using the "Hot Cockpit" (aircraft ground running time) costs $800.00 per hour; flight training costs $4,000.00 per hour; and the CSMET costs $150.00 per hour. Training provided through the use of the actual aircraft is limited due to the inability to employ total system capabilities under combat conditions. When the actual aircraft are not available, the aviator cannot continue to practice crew skills. Aviator and crew skill decay is greatly accelerated without sustainment TDSS and has direct impact on combat readiness and proficiency. Additionally, such training results in substantial added maintenance, spares, and scheduling burdens. Ranges that would allow and support total employment of aircraft survivability equipment, weapons, navigation/communication, and other mission equipment package sophisticated systems are limited to Ft. Hood and the National Training Center at Ft. Irwin. A very limited range capability is present in Europe and Ft. Campbell. Hence, units in Korea have no training capability and all other units must deploy for extended distances/time to obtain essential training.

Exhibit P-40, Budget Item Justification Sheet

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft

P-1 Item Nomenclature: EH-60 QUICKFIX MODS (AB3000)

Program Elements for Code B Items:

Code:

Other Related Program Elements:

	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Prog
Proc Qty												
Gross Cost	6.8	39.4	36.9	13.8	43.6	3.0	54.0	66.0	74.9	82.4	0.0	420.8
Less PY Adv Proc												
Plus CY Adv Proc												
Net Proc (P-1)	6.8	39.4	36.9	13.8	43.6	3.0	54.0	66.0	74.9	82.4		420.8
Initial Spares	71.1	0.1		2.3		0.8	1.2	1.2	5.3	6.6		88.6
Total Proc Cost	77.9	39.5	36.9	16.1	43.6	3.8	55.2	67.2	80.2	89.0	0.0	509.4
Flyaway U/C												
Wpn Sys Proc U/C												

DESCRIPTION: QUICKFIX, EH-60A, is a tactical heliborne communications intercept, direction finding and jamming system. QUICKFIX consists of AN/ALQ-151(V)2 intercept and direction finding mission equipment, an AN/TLQ-17A communications jammer and airborne self-protection equipment mounted in a BLACKHAWK helicopter. Four systems are currently in service with every active Army Division and Armored Cavalry Regiment (ACR). The system is used to search for, intercept, record, locate, report on and jam radio signals in the high frequency/very high frequency (HF/VHF) ranges. QUICKFIX systems interoperate with each other and the ground based TRAILBLAZER and TEAMMATE systems in a netted configuration for direction finding purposes. The EH-60 QUICKFIX MODS line pays for required materiel changes to these fielded QUICKFIX systems.

Advanced QUICKFIX (AQF) is an absolute "win the battlefield information war" system. AQF, EH-60L, is a materiel change to the existing heliborne QUICKFIX system. The system provides Commanders of Division and ACRs with an organic capability to listen to, precisely locate for hard kill or order-of-battle resolution, or render ineffective through electronic attack threat conventional and Low Probability of Intercept (LPI) command and control and fire control communications nets. AQF will identify and precisely locate opposition counter/mortar and counter/battery ground surveillance radar emissions. The system is specifically designed to ensure transportability, prime mover maintainability, and mobility equal to, or greater than that of the supported divisions and regiments, while exploiting or eliminating - at the Commander's discretion - the latest, most modern types of hostile modulations and transmission techniques at the key time and place on the battlefield. The system interoperates with ground based intelligence and electronic warfare assets (Ground Based Common Sensor-Light/Heavy) to provide for emitter location accuracies sufficient for "steel on target" and to provide for line of sight extension for C3 electronic attack.

JUSTIFICATION: FY99 funds the annualized costs required to support the on-going modification of the QUICKFIX into the Advanced QUICKFIX (AQF). The modifications initiated in prior fiscal years incorporate into the AQF the following subsystems: (1) TACJAM-A Electronic Support Measures (ESM) subsystem to intercept and locate conventional digital data, burst, and Low Probability of Intercept (LPI) communications; (2) TACJAM-A Electronic Countermeasures (ECM) subsystem to freeze the enemy in place by jamming command and control and fire control communications; (3) CHALS-X(M) miniaturized precision location subsystem to provide for location accuracies of communications emitters sufficient for targeting by organic artillery; and (4) Common Modules ELINT Subsystem (CMES) to identify and locate, also with targeting accuracies, hostile counter/mortar and counter/battery ground surveillance radars.

Exhibit P-40M Budget Item Justification Sheet

Date: February 1998

Appropriation / Budget Activity/Serial No.: AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft

P-1 Item Nomenclature: EH-60 QUICKFIX MODS (AB3000)

Program Elements for Code B Items | Code | Other Related Program Elements

Description		Fiscal Years									
OSIP NO.	Classification	FY 1996 & Prior	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TC	Total
T701C Helicopter Engines											
1-91-07-0001(1)	Operational	35.1	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	36.0
External Storage Support Systems											
1-91-07-0001(2)	Operational	9.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.9
Advanced EH-60 Quickfix Mods											
1-91-07-0001(3)	Operational	38.1	13.8	43.6	3.0	54.0	65.1	74.9	82.4	615.7	990.6
Totals		83.1	13.8	43.6	3.0	54.0	66.0	74.9	82.4	615.7	1,036.5

INDIVIDUAL MODIFICATION	Date	February 1998

MODIFICATION TITLE: T701C Helicopter Engines 1-91-07-0001(1)

MODELS OF SYSTEMS AFFECTED:

DESCRIPTION / JUSTIFICATION:

Funds provide for the Advanced QUICKFIX BLACKHAWK Helicopter Power Train Upgrade, whereby existing helicopter engines will be replaced with T701C engines, Improved Durability Gear Boxes (IDGB) and improved Flight Controls thereby increasing lift payload capab This upgrade is essential to provide the lift capability necessary to carry the mission equipment, External Storage Support Systems (ESSS) and additional fuel required to increase the time on station from 2 hours to the Operational Requirements Document (ORD) requirement of 4.5 hours. Without this upgrade, the mission equipment and fuel would exceed the maximum gross takeoff weight permitted.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

	PLANNED	ACCOMPLISHED
T701 HELICOPTER ENGINES		
PLANNED CONTRACT AWARD FY 95	FEB 95	FEB 95
FIRST KIT APPLIED	NOV 96	NOV 96
LAST KIT APPLIED	AUG 01	

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs	3																		6	9	6
Outputs	3																		6	9	6

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs																		24
Outputs																		24

METHOD OF IMPLEMENTATION: Contractor's Facility ADMINISTRATIVE LEADTIME: 13 Months PRODUCTION LEADTIME: 21 Months

Contract Dates:	FY 1997	FY 1998	FY 1999
Delivery Date:	FY 1997	FY 1998	FY 1999

MODIFICATION TITLE (Cont): T701C Helicopter Engines 1-91-07-0001(1)

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits																				
Installation Kits, Nonrecurring																				
Equipment	24	31.8																	24	31.8
Equipment, Nonrecurring																				
Engineering Change Orders		0.9																		0.9
Data		1.5																		1.5
Training Equipment																				
Support Equipment																				
Other		0.8																		0.8
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits	3	0.1									21	0.9							24	1.0
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
TC Equip-Kits																				
Total Installment	3	0.1									21	0.9							24	1.0
Total Procurement Cos		35.1										0.9								36.0

INDIVIDUAL MODIFICATION	Date	February 1998

MODIFICATION TITLE: External Storage Support Systems 1-91-07-0001(2)

MODELS OF SYSTEMS AFFECTED: QUICKFIX, EH-60A, AN/ALQ-151(V)2

DESCRIPTION / JUSTIFICATION:

Funds will procure External Storage Support Systems (ESSS) to balance the quantity of ESSSs and Engines so that there will be an equal number of complete aircraft sets. These ESSSs are required to carry enough fuel to meet the Operational Requirements Document (ORD) requirement of 4.5 hours time-on station.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

EXTERNAL STORAGE SUPPORT SYSTEM (ESSS)	PLANNED	ACCOMPLISHED
PLANNED CONTRACT AWARD	FEB 95	MAR 95
LAST KIT APPLIED	SEP 96	SEP 96

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs	24																				
Outputs	24																				

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs																		24
Outputs																		24

METHOD OF IMPLEMENTATION: Contractor's Facility ADMINISTRATIVE LEADTIME: Months PRODUCTION LEADTIME: Months

Contract Dates: FY 1997 FY 1998 FY 1999

Delivery Date: FY 1997 FY 1998 FY 1999

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): External Storage Support Systems 1-91-07-0001(2)

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits																				
Installation Kits, Nonrecurring																				
Equipment	24	9.2																	24	9.2
Equipment, Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits	24	0.7																	24	0.7
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
TC Equip-Kits																				
Total Installment	24	0.7																	24	0.7
Total Procurement Cos		9.9																		9.9

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE: Advanced EH-60 Quickfix Mods 1-91-07-0001(3)

MODELS OF SYSTEMS AFFECTED: QUICKFIX, EH-60A, AN/ALQ-151(V)3

DESCRIPTION / JUSTIFICATION:

Sensor subsystems to be incorporated into AQF include: TACJAM-A ESM and ECM; CHALS-X(M); and CMES ELINT. The FY 99 APA funds for Hardware costs were redirected to RDTE to complete IOT&E in FY99. The remaining FY99 APA funds are distributed to reflect the activities funded in FY99 as required to support the on-going modification of the QUICKFIX into the Advanced QUICKFIX.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

ADVANCED QUICKFIX (AQF)	PLANNED	ACCOMPLISHED
PLANNED CONTRACT AWARD	DEC 95	NOV 95*
FIRST KIT APPLIED	JUN 98	
FIRST UNIT EQUIPPED	AUG 01	
LAST KIT APPLIED	MAR 14	

*Due to protest, contract was on hold until Jan 96

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs								2	1										2	1	
Outputs								1	2										1	2	

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs		2				2	2			2	2			2	2	1	30	51
Outputs		1	1			2	2			2	2			2	2	1	30	51

METHOD OF IMPLEMENTATION: Contractor's Facility — ADMINISTRATIVE LEADTIME: Months — PRODUCTION LEADTIME: Months

Contract Dates:	FY 1997	FY 1998	FY 1999
Delivery Date:	FY 1997	FY 1998	FY 1999

MODIFICATION TITLE (Cont): Advanced EH-60 Quickfix Mods 1-91-07-0001(3)

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits									3	11.5	2	21.4	1	11.0					6	43.9
Equipment, Trainer						6.5														6.5
Equipment	3	30.2							2	25.2	2	25.8	3	39.9	5	68.5	30	461.8	45	651.4
Integration/Software, Nonrec						10.4		1.4		5.4		4.6		4.2		3.0		28.0		57.0
Engineering Change Orders		1.5		0.6		7.1		0.5		2.7		2.2		2.3		2.6		15.6		35.1
Data		2.5		0.3		0.5		0.1		0.4		0.4		0.8		0.8		6.2		12.0
First Article Testing				3.8																3.8
Other Equipment/GFE Repair				5.9		2.8		0.2						1.1		1.0		8.9		19.9
Other		3.5		2.9		12.8		0.1		1.3		1.3		1.3		0.5		18.8		42.5
PM Admin		0.4		0.3		2.4		0.7		2.4		2.5		2.5		2.6		27.4		41.2
Fielding										0.1		1.0		0.1		1.1		12.2		14.5
Interim Contractor Support												0.2		0.5		0.6		1.3		2.6
Depot Maint & Plant Equip												4.5		5.4						9.9
Subcomp Eco Order Qty										5.0				5.0				16.8		26.8
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits					3	1.1													3	1.1
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits											3	1.2	2	0.8					5	2.0
FY 2001 Eqpt -- kits															4	1.7			4	1.7
FY 2002 Eqpt -- kits																	4	1.7	4	1.7
FY 2003 Eqpt -- kits																	5	2.2	5	2.2
TC Equip-Kits																	30	14.8	30	14.8
Total Installment					3	1.1					3	1.2	2	0.8	4	1.7	39	18.7	51	23.5
Total Procurement Cos		38.1		13.8		43.6		3.0		54.0		65.1		74.9		82.4		615.7		990.6

Exhibit P-40, Budget Item Justification Sheet

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities

P-1 Item Nomenclature: INDUSTRIAL FACILITIES (AZ3300)

Program Elements for Code B Items:

Code:

Other Related Program Elements:

	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Prog
Proc Qty												
Gross Cost	393.6	2.8	2.8	2.0	2.0	1.5	1.5	1.5	1.6	1.6	0.0	410.9
Less PY Adv Proc												
Plus CY Adv Proc												
Net Proc (P-1)	393.6	2.8	2.8	2.0	2.0	1.5	1.5	1.5	1.6	1.6	0.0	410.9
Initial Spares												
Total Proc Cost	393.6	2.8	2.8	2.0	2.0	1.5	1.5	1.5	1.6	1.6	0.0	410.9
Flyaway U/C												
Wpn Sys Proc U/C												

DESCRIPTION: This program provides for Provision of Industrial Facilities (PIF). Funds are used to establish, modernize, expand and replace facilities owned by the Army and provide Production Support and Equipment Replacement (PSR) of Government owned equipment used in production, production testing and depot level maintenance of Aircraft items. Also provides funding for the Value Engineering (VE) program to stimulate activity for reducing manufacturing, acquisition, operation and support costs.

JUSTIFICATION: The FY99 requests will provide Digital Photo Equipment, Data Reduction Equipment, Vibration/Data Bus Software, test equipment and other equipment and instrumentation. This equipment is used in production acceptance testing of APACHE, Black Hawk, and aviation systems. Funding also supports rebuilds, upgrades and equipment rehabilitation of government owned equipment located within contractor facilities and value engineering support and training on various aircraft systems in production.

	FY 1996	FY 1997	FY 1998	FY 1999
PIF	1.902	1.205	1.174	0.651
VE	0.857	0.813	0.828	0.842
TOTAL	2.759	2.018	2.002	1.493

Exhibit P-5, Weapon Aircraft Cost Analysis	Appropriation/ Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities	P-1 Line Item Nomenclature: INDUSTRIAL FACILITIES (AZ3300)	Weapon System Type:	Date: February 1998

Aircraft Cost Elements	ID CD	FY 96			FY 97			FY 98			FY 99		
		TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost
		$OOO	Each	$OOO	$OOO	Each	$OOO	$OOO	Each	$OOO	$OOO	Each	$OOO
19X8173 PSR, Stratford Army Engine Plant Provided for emergencies & real property repairs.		0.281											
19X8181 PSR, Bell Hellicopter Textron Rebuilds, upgrades/equip rehab of government owned equipment.		0.400			0.235			0.233					
19X8189 PSR General Electric Blisk Fac. Rebuilds, upgrades/equip rehab of government owned equipment.		0.518			0.370			0.341					
09X5072 PSR, Ft. Rucker Test Facilities Provides rehab, replacement of equipment/ Instrumentation used in production of various aircraft weapon systems.		0.703			0.600			0.600			0.651		
19X0016 Value Engineering, Support		0.630			0.592			0.548			0.552		
19X0017 Value Engineering, Training		0.176			0.160			0.150			0.150		
19X0025 Value Engineering, Prog Coord.		0.051			0.061			0.130			0.140		
TOTAL		2.759			2.018			2.002			1.493		

Exhibit P-40, Budget Item Justification Sheet

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft

P-1 Item Nomenclature: AIRBORNE AVIONICS (AA0700)

Program Elements for Code B Items:

Code:

Other Related Program Elements:

	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Prog
Proc Qty												
Gross Cost	8.2	27.8	28.7	58.3	41.9	56.3	44.4	44.1	58.7	32.2	95.7	496.4
Less PY Adv Proc												
Plus CY Adv Proc												
Net Proc (P-1)	8.2	27.8	28.7	58.3	41.9	56.3	44.4	44.1	58.7	32.2	95.7	496.4
Initial Spares												
Total Proc Cost	8.2	27.8	28.7	58.3	41.9	56.3	44.4	44.1	58.7	32.2	95.7	496.4
Flyaway U/C												
Wpn Sys Proc U/C												

Description: The Airborne Avionics budget line includes the Global Positioning System (GPS) , the Improved Data Modem (IDM) and the Aviation Mission Planning System (AMPS). The GPS, IDM and AMPS are three of the aviation systems required to support the digitization of the battlefield. The GPS provides Army aviation with extremely accurate and secure navigation capability and assists in situational awareness and prevention of fratricide. GPS is installed in several configurations based on mission profile, operational requirements, and avionics architecture of the aircraft. The Embedded Inertial Navigation System (EGI) is used for the scout and attack helicopters. This non-developmental system is part of an Air Force led joint program which was awarded in March 94. The Doppler GPS Navigation System (DGNS) - AN/ASN-128B was awarded in Jul 95. IDM supports battlefield synchronization . Use of the IDM will provide the field commander with the capability for enhanced command and control, situational awareness, and operations in joint service digitized environments. The IDM will enhance digitization of the battlefield, fusion of information, system integration and access to real-time fused intelligence. This joint service program for Air Force, Army, Marine aircraft, and Army command and control platforms is a digital data link modem which exchanges targeting data between the various weapon systems in support of the following missions: suppression of enemy defenses, close air support, forward air control, air combat and command. IDM provides four (4) half duplex radio channels with three (3) different communication ports: analog, digital, and secure digital. The IDM provides interfaces with MIL-STD 1553B, the current standard military data channel. The AMPS is a planning/battle synchronization tool that will automate aviation mission pla tasks. The system will also provide generation of mission data in either hard copy or electronic formats. The AMPS includes tactical command and control, mission planning, mission management, and maintenance management. The AMPS interfaces with the Maneuver Control System (MCS) and associated networks. This interface will furnish the aviation commander with continuous situational awareness, allowing the commander to rapidly adjust mission plans.

Exhibit P-40C Budget Item Justification Sheet		Date: February 1998
Appropriation / Budget Activity/Serial No.: AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft		P-1 Item Nomenclature: AIRBORNE AVIONICS (AA0700)
Program Elements for Code B Items	Code	Other Related Program Elements

Justification: The FY 99 funding provides for the installation of 53 EGI (GPS) kits on the Kiowa Warrior aircraft; procurement and modification of 383 AN/ASN-128B boxes to be integrated on the UH-60A/L aircraft and CH-47 without AN/ASN-149 systems. In addition, FY 99 funding provides 51 IDM for the planned Force Package One airframes. FY 99 funds will also procure enhanced ADPE, software upgrades for 91 AMPS. Systems project management, PM administration, nonrecurring engineering, installation and other costs for GPS, IDM and AMPS are also funded during these fiscal years. The FY 99 funding enables the Army to comply with Public Law 103-160 (which directs the installation of GPS on all DOD aircraft by FY00), the Joint Chiefs Of Staff Master Navigation Plan (which directs that the GPS capability be applied to all military aircraft by the year 2000) and the DOD Position/Navigation executive committee which directed the services to utilize GPS as a foundation to satisfy navigation requirements. Furthermore, the services are to invest in reliable, accurate, s contained systems that satisfy unique platform mission requirements while striving for maximum standardization/commonality between the services. Tactical aircraft must have a GPS Precise Positioning Service (PPS) capability. The IDM program is in response to the need for "Digitization of the Battlefield". It supports the five (5) Army modernization objectives, i.e. project and sustain the force, protect the force, win the battlefield information war, conduct precision strikes throughout the battlefield and dominate the maneuver battle . Digitization is the solution for fusion of information. The IDM joint service application m it particularly valuable in a threat environment. The AMPS is required to enable the Army to fully implement associated provisions of digitization. Missions and dissemination of battle plans must be electronically planned and transmitted. Manual sources for aviation plans and operations are inadequate for current warfare technology

Exhibit P-40M Budget Item Justification Sheet										Date: February 1998	
Appropriation / Budget Activity/Serial No.: AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft						P-1 Item Nomenclature: AIRBORNE AVIONICS (AA0700)					
Program Elements for Code B Items			Code	Other Related Program Elements							
Description		Fiscal Years									
OSIP NO.	Classification	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TC	Total
Embedded GPS Inertial Navigation System (EGI)											
TBD 1	Legislative	26.2	6.8	0.9	0.6	0.0	0.0	0.0	0.0	0.0	34.5
Doppler GPS Navigation System (DGNS) (AN/ASN-128B)											
TBD 2	Legislative	18.0	23.4	16.9	18.4	15.7	2.8	0.0	0.0	0.0	95.2
Global Positioning System (GPS) [AN/ASN-149] (No P3a Set)											
TBD 3	Legislative	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1
Improved Data Modem (IDM)											
TBD 4	Oper/Log	11.7	13.6	15.4	27.8	16.6	16.1	22.7	17.2	85.1	226.2
Aviation Mission Planning System											
1-95-01-2185	Oper/Log	6.6	14.5	8.7	9.5	9.5	9.1	7.1	0.0	0.0	65.0
Embedded GPS Inertial Navigation System (EGI) PPI											
TBD 1-1	Legislative	0.0	0.0	0.0	0.0	1.7	8.0	14.2	7.5	6.9	38.3
Doppler GPS Navigation System (DGNS) (AN/ASN-128B) PPI											
TBD 2-2	Legislative	0.0	0.0	0.0	0.0	0.9	8.1	14.7	7.5	3.7	34.9
Totals		64.6	58.3	41.9	56.3	44.4	44.1	58.7	32.2	95.7	496.2

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE: Embedded GPS Inertial Navigation System (EGI) TBD 1

MODELS OF SYSTEMS AFFECTED: Kiowa Warrior

DESCRIPTION / JUSTIFICATION:

Modification of the OH-58 aircraft to integrate an Embedded Inertial GPS Navigation system. The goal is to enhance aircraft navigation and warfighting capability to meet the JCS navigation plan by installing GPS in the fleet. GPS is one of the aviation systems required Digitization of the Battlefield. Forty-seven (47) systems will be integrated into Kiowa Warrior aircraft through an engineering change initiative funded by the platform Program Manager.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

	Planned	Accomplished
Contract Award (NDI)	Mar 94	Mar 94
ECP Award, Bell Textron International	Aug 94	Aug 94

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs	76			21	21	36	36	30	30	27	26										
Outputs	38	38			21	21	36	36	30	30	25	26									

	FY 2002				FY 2003				FY 2004				FY 2005				To Complete	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4		
Inputs																		303
Outputs																		301

METHOD OF IMPLEMENTATION: Contractor Teams — ADMINISTRATIVE LEADTIME: 3 Months — PRODUCTION LEADTIME: 9 Months

Contract Dates:	FY 1997	Mar 97	FY 1998		FY 1999
Delivery Date:	FY 1997	Apr 98	FY 1998		FY 1999

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): Embedded GPS Inertial Navigation System (EGI) TBD 1

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity	264	18.6	86	5.3															350	23.9
Installation Kits																				
Installation Kits, Nonrecurring		5.2																		5.2
Equipment																				
Equipment, Nonrecurring		0.6																		0.6
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other (Inc PM ADMN/MAT SPT)		1.3		1.2				0.4												2.9
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt 217 Kits	76	0.5	42	0.3	99	0.7													217	1.5
FY 1997 Eqpt 86 Kits					33	0.2	53	0.2											86	0.4
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
TC Equip-Kits																				
Total Installment	76	0.5	42	0.3	132	0.9	53	0.2											303	1.9
Total Procurement Cos		26.2		6.8		0.9		0.6												34.5

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE: Doppler GPS Navigation System (DGNS) (AN/ASN-128B) TBD 2

MODELS OF SYSTEMS AFFECTED: Blackhawk (UH-60 A/L), Chinook (CH-47D)

DESCRIPTION / JUSTIFICATION:

Modification of UH-60A/L and CH-47D aircraft is required to integrate a state of the art Global Positioning System. The goal is to enhance aircraft navigation and warfighting capability to meet the JCS navigation plan. GPS is one of the six aviation systems required for Digitiz of the Battlefield. The UH-60A/L kit includes a command instrument processor (CIP). Quantities for the CH-47D configuration are: FY97-2 FY98-100, FY99-100, FY00-25. The six integration units being utilized for test and ECP validation are not currently scheduled for installation.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

	Planned	Accomplished
Integration Design Contract Award	Aug 93	Aug 93
Production Contract Award	Aug 95	Aug 95
Production Contract Award (Year II)	Dec 95	Dec 95

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs	60	60	60	60	49	119	119	119	120	100	100	100	83	100	100	100	75	62	62	63	63
Outputs		60	60	60	60	49	119	119	119	120	100	100	100	83	100	100	100	75	62	62	63

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs																		1774
Outputs	63																	1774

METHOD OF IMPLEMENTATION: Contractor Teams — ADMINISTRATIVE LEADTIME: 1 Months — PRODUCTION LEADTIME: 7 Months

Contract Dates:	FY 1997	Jan 97	FY 1998	Jan 98	FY 1999 Jan 99
Delivery Date:	FY 1997	Sep 97	FY 1998	Sep 98	FY 1999 Sep 99

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): Doppler GPS Navigation System (DGNS) (AN/ASN-128B) TBD 2

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity	289	6.6	477	10.6	383	8.5	375	8.3	250	6.3									1774	40.3
Installation Kits		1.7		2.5		2.0		2.0		1.5										9.7
Installation Kits, Nonrecurring		0.8																		0.8
Equipment																				
Equipment, Nonrecurring		2.8		0.7																3.5
Engineering Change Orders		0.7																		0.7
Data																				
Training Equipment																				
Support Equipment	188	3.2	376	5.0			188	2.8	188	2.8									940	13.8
Other (Inc PM ADMN/MAT SPT)		1.6		2.3		1.4		1.5		1.2										8.0
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt 289 Kits	60	0.6	229	2.3															289	2.9
FY 1997 Eqpt 477 Kits					477	5.0													477	5.0
FY 1998 Eqpt 383 Kits							383	3.8											383	3.8
FY 1999 Eqpt 375 Kits									375	3.9									375	3.9
FY 2000 Eqpt 250 kits											250	2.8							250	2.8
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
TC Equip-Kits																				
Total Installment	60	0.6	229	2.3	477	5.0	383	3.8	375	3.9	250	2.8							1774	18.4
Total Procurement Cos		18.0		23.4		16.9		18.4		15.7		2.8								95.2

INDIVIDUAL MODIFICATION	Date	February 1998

MODIFICATION TITLE: Improved Data Modem (IDM) TBD 4

MODELS OF SYSTEMS AFFECTED: IDM MD-1295/A; Aircraft: Longbow (AH-64D), Kiowa Warrior (OH-58D), Special Operations Aircraft (MH-47E/MH-60E), Aviation ground/operations centers.

DESCRIPTION / JUSTIFICATION:

The Improved Data Modem (IDM) is one of the aviation programs in response to the need for Digitization of the Battlefield. It will provide the field commander with the capability for enhanced command and control, situational awareness and enhanced operations in joint service digitized environments. IDM is a joint-service program with installation on Air Force, Army and Marine aircraft and Army command and control platforms. The IDM is a digital data link modem which exchanges targeting data between the various weapons systems in support of the following missions: suppression of enemy air defenses, close air support, forward air control, air combat and command control. The IDM provides four (4) half duplex radio channels with three (3) different communication ports: analog, digital and secure digital. The IDM will enable the army to maintain capabilities to gather, process and transmit information to all areas of the battlefield. IDMs for Longbow and uninducted Kiowa Warrior aircraft will be incorporated in production. IDMs for fielded Kiowa Warrior aircraft will be installed by the Kiowa Warrior PM during implementation of the safety enhancement engineering change. The IDMs for Special Operations Aircraft will be installed by SOA logistics contractors.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

	Planned	Accomplished
Exercise Air Force Production Contract Options	Apr 96	Apr 96
Non-Recurring System Integration	Mar 96	Mar 96

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs																					
Outputs																					

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs																		
Outputs																		

METHOD OF IMPLEMENTATION: ADMINISTRATIVE LEADTIME: 2 Months PRODUCTION LEADTIME: 15 Months

Contract Dates:	FY 1997	Apr 97	FY 1998	Dec 97	FY 1999	Dec 98
Delivery Date:	FY 1997	Jul 98	FY 1998	Mar 99	FY 1999	Mar 00

MODIFICATION TITLE (Cont): Improved Data Modem (IDM) TBD 4

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity	115	3.5	94	3.5	51	1.9	51	2.0	54	2.1	51	2.0	120	4.9	120	5.0	282	12.8	938	37.7
Installation Kits																				
Installation Kits, Nonrecurring		2.1		3.2		5.9		3.0												14.2
Equipment				0.1																0.1
Equipment, Nonrecurring		2.6		1.4		1.3		0.8		0.8		0.4		0.3		0.3		1.9		9.8
Engineering Change Orders		0.6		1.4		3.2		20.1		10.6		11.8		15.5		9.5		51.9		124.6
Data																				
Training Equipment																				
Support Equipment		0.1																		0.1
Other (Inc PM ADMN/MAT SPT)		2.8		3.2		2.2		1.7		2.3		1.9		2.0		2.4		18.5		37.0
Interim Contractor Support																				
Fielding				0.4		0.5		0.1												1.0
System Test & Evaluation				0.4		0.4		0.1		0.8										1.7
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
TC Equip-Kits-Kits																				
Total Installment																				
Total Procurement Cos		11.7		13.6		15.4		27.8		16.6		16.1		22.7		17.2		85.1		226.2

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE: Aviation Mission Planning System 1-95-01-2185

MODELS OF SYSTEMS AFFECTED: Kiowa Warrior (OH-58D); Blackhawk (UH-60 A/L); MEDIVAC (UH-60Q); Chinook (CH-47D); Longbow (AH-64D/AH-64 Modernization)

DESCRIPTION / JUSTIFICATION:

Provides for state-of-the-art tactical automated data processing equipment, peripheral equipment, testing, software changes/updates, req to bring the current AMPS configuration to the required operational capability. Since the airframes have the data receptacles/busses required to interface with AMPS there is no installation cost/schedule.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

	Planned	Accomplished
Material Change Approval	Mar 95	Mar 95
In-Process Review	Aug 95	Aug 95
In-Process Review	Dec 98	
Material Release	Mar 99	

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs																					
Outputs																					

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs																		
Outputs																		

METHOD OF IMPLEMENTATION: N/A — ADMINISTRATIVE LEADTIME: 2 Months — PRODUCTION LEADTIME: 5 Months

Contract Dates:	FY 1997	Jan 97	FY 1998	Jan 98	FY 1999	Jan 99
Delivery Date:	FY 1997	Aug 97	FY 1998	Aug 98	FY 1999	Aug 99

MODIFICATION TITLE (Cont): Aviation Mission Planning System 1-95-01-2185

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity	70	2.4	317	8.9	41	1.4	91	2.7	101	3.2	89	2.9	90	2.9					799	24.4
Installation Kits																				
Installation Kits, Nonrecurring																				
Equipment		2.6		0.8		2.0		1.4		1.3		1.2								9.3
Equipment, Nonrecurring																				
Engineering Change Orders		0.9		3.9		4.2		4.3		4.0		4.0		3.7						25.0
Data																				
Training Equipment																				
Support Equipment																				
Other (Inc PM ADMN/MAT SPT)		0.7		0.9		1.1		1.1		1.0		1.0		0.5						6.3
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
TC Equip-Kits																				
Total Installment																				
Total Procurement Cos		6.6		14.5		8.7		9.5		9.5		9.1		7.1						65.0

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE: Embedded GPS Inertial Navigation System (EGI) PPI TBD 1-1

MODELS OF SYSTEMS AFFECTED: Kiowa Warrior (OH-58D), Apache A+ (AH-64A+,) Longbow (AH-64D), Special Operations Aircraft (SOA)

DESCRIPTION / JUSTIFICATION:

GPS is one of the aviation systems required for Digitization of the Battlefield. FY 2000 starts the aircraft integration and the procurement of the GPS EGI Preplanned Product Improvement (PPPI) interchangeable module in accordance with NAVWARFARE and airspace requirements for the KIOWA WARRIOR (OH-58D), APACHE A+ (AH-64A+), LONGBOW (AH-64D), Special Operations Aircraft (SOA) .

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

	Planned	Accomplished
Contract Award (ECP)	Nov 99	
Production Contract Award	Apr 01	

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs																					
Outputs																					

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs	130	130	130	106	202	202	202	200	100	100	100	72	100	100	100	25		1999
Outputs		130	130	130	106	202	202	202	200	100	100	100	72	100	100	100	25	1999

METHOD OF IMPLEMENTATION: Contractor Teams — ADMINISTRATIVE LEADTIME: 1 Months — PRODUCTION LEADTIME: 6 Months

Contract Dates: FY 1997 — FY 1998 — FY 1999

Delivery Date: FY 1997 — FY 1998 — FY 1999

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): Embedded GPS Inertial Navigation System (EGI) PPI TBD 1-1

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity											496	7.2	806	11.7	372	5.4	325	4.8	1999	29.1
Installation Kits																				
Installation Kits, Nonrecurring																				
Equipment																				
Equipment, Nonrecurring										1.2										1.2
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other (Inc PM ADMN/MAT SPT)										0.5		0.8		1.7		0.7		1.0		4.7
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt 496 kits													496	0.8					496	0.8
FY 2002 Eqpt 806 kits															806	1.4			806	1.4
FY 2003 Eqpt 372 kits																	372	0.6	372	0.6
TC Equip 325 Kits																	325	0.5	325	0.5
Total Installment													496	0.8	806	1.4	697	1.1	1999	3.3
Total Procurement Cos										1.7		8.0		14.2		7.5		6.9		38.3

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE: Doppler GPS Navigation System (DGNS) (AN/ASN-128B) PPI TBD 2-2

MODELS OF SYSTEMS AFFECTED: Blackhawk (UH-60 A/L), Chinook (CH-47D)

DESCRIPTION / JUSTIFICATION:

GPS is one of the six aviation systems required for Digitization of the Battlefield. FY 2000 starts the aircraft integration and the procurement of the AN/ASN-128B/LDNS Preplanned Product Improvement (PPPI) interchangeable module in accordance with NAVWARFARE and airspace requirements for the UH-60 A/L and CH-47D.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

	Planned	Accomplished
Contract Award (ECP)	Dec 99	
Production Contract Award	Jan 01	

Installation Schedule:

	Pr Yr Totals	FY 1997 1	2	3	4	FY 1998 1	2	3	4	FY 1999 1	2	3	4	FY 2000 1	2	3	4	FY 2001 1	2	3	4
Inputs																					
Outputs																					

	FY 2002 1	2	3	4	FY 2003 1	2	3	4	FY 2004 1	2	3	4	FY 2005 1	2	3	4	To Complete	Totals
Inputs	119	119	119	118	210	210	200	200	100	100	100	58	100	21				1774
Outputs		119	119	119	118	210	210	200	200	100	100	100	58	100	21			1774

METHOD OF IMPLEMENTATION: Contractor Teams — ADMINISTRATIVE LEADTIME: 1 Months — PRODUCTION LEADTIME: 6 Months

Contract Dates: FY 1997 — FY 1998 — FY 1999

Delivery Date: FY 1997 — FY 1998 — FY 1999

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): Doppler GPS Navigation System (DGNS) (AN/ASN-128B) PPI TBD 2-2

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity											475	6.9	820	11.9	358	5.2	121	1.7	1774	25.7
Installation Kits																				
Installation Kits, Nonrecurring																				
Equipment																				
Equipment, Nonrecurring										0.7										0.7
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other (Inc PM ADMN/MAT SPT)										0.2		1.2		2.0		0.9		1.2		5.5
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt 475 kits													475	0.8					475	0.8
FY 2002 Eqpt 820 kits															820	1.4			820	1.4
FY 2003 Eqpt 358 kits																	358	0.6	358	0.6
TC Equip-121 Kits																	121	0.2	121	0.2
Total Installment													475	0.8	820	1.4	479	0.8	1774	3.0
Total Procurement Cos										0.9		8.1		14.7		7.5		3.7		34.9

Exhibit P-40, Budget Item Justification Sheet											Date: February 1998	
Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft											P-1 Item Nomenclature: ASE MODS (AA0720)	
Program Elements for Code B Items:				Code:			Other Related Program Elements:					
	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Prog
Proc Qty												
Gross Cost	103.1	8.8	14.1	25.9	18.6	2.7	12.7	21.8	17.3	14.7	0.0	239.7
Less PY Adv Proc												
Plus CY Adv Proc												
Net Proc (P-1)	103.1	8.8	14.1	25.9	18.6	2.7	12.7	21.8	17.3	14.7		239.7
Initial Spares												
Total Proc Cost	103.1	8.8	14.1	25.9	18.6	2.7	12.7	21.8	17.3	14.7	0.0	239.7
Flyaway U/C												
Wpn Sys Proc U/C												

DESCRIPTION:
ASE modifications provides funding for Aircraft Survivability Equipment (ASE) upgrades by incorporation of latest state-of-the-art technology needed to meet current and emerging threats. Modular upgrades are applied in lieu of new developments to obtain the most cost effective improved systems. Modifications to current systems will sustain and protect the forces, conduct precision strikes, and dominate the maneuver battle. Installing ASE items on aircraft systems improves their threat defeating capabilities. This budget item rolls up four modification efforts that test, procure and install A-Kits on Army airframes.

JUSTIFICATION: FY99 funding will be used for:
A. AN/ALQ-211 Suite of Integrated Radio Frequency Countermeasures (SIRFC) for the AH-64D aircraft. The AH-64D requires additional capabilities to detect and defeat air and ground radar frequency (RF) missiles and to provide situational awareness to the pilot. The improvements needed will be satisfied by SIRFC. FY99 funds are required for nonrecurring engineering for the integration program. This system was previously referred to as the Advanced Threat Radar Jammer (ATRJ) and the new nomenclature was approved July 1996.

B. Advanced Threat Infrared Countermeasures/Common Missile Warning System (ATIRCM/CMWS). The ATIRCM/CMWS is the core of the Suite of Integrated Infrared Countermeasures. This suite will provide active and passive infrared countermeaures (IRCM) protection against infrared guided weapons. The system is applicable to the AH-64D, MH-47D/E, MH-60K/L, EH-60, UH-60, and CH-47D aircraft.

Exhibit P-40M Budget Item Justification Sheet										Date: February 1998	
Appropriation / Budget Activity/Serial No.: AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft						P-1 Item Nomenclature: ASE MODS (AA0720)					
Program Elements for Code B Items			Code	Other Related Program Elements							
Description		Fiscal Years									
OSIP NO.	Classification	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TC	Total
Laser Detecting Set - AN/AVR-2A(V)/AH-64											
1-92-01-2182	Unclassified	2.8	11.5	9.0	0.0	0.0	0.0	0.0	0.0	0.0	23.3
Infrared Countermeasure Set - AN/ALQ-144A/OH-58D											
1-92-01-2181	Unclassified	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.4
AN/ALQ-211 Suite of Integrated Radio Frequency CMS											
1-9-01-2187	Unclassified	11.1	5.2	2.2	2.7	2.8	8.7	2.9	0.0	0.0	35.6
Advanced Threat Infrared Countermeasures (ATIRCM)											
TBD	Unclassified	0.0	9.1	7.3	0.0	9.9	13.1	14.4	14.7	0.0	68.5
Totals		14.1	25.9	18.6	2.7	12.7	21.8	17.3	14.7	0.0	127.8

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE: Laser Detecting Set - AN/AVR-2A(V)/AH-64 1-92-01-2182

MODELS OF SYSTEMS AFFECTED: AH-64

DESCRIPTION / JUSTIFICATION:

The AN/AVR-2A(V) Laser Detecting Set (LDS) consists of two dual sensor units and an infrared unit comparator. The system interfaces with the AN/APR-39 radar detecting set, and utilizes the AN/APR-39 signal comparator and control unit to function as an integrated radar and l detecting set system. The laser sensor units detect laser energy and converts it to electrical signals. These signals are processed, formatted and sent to the comparator as digital word messages. The comparator further processes the data and forwards this threat information to be displayed on the AN/APR-39 signal indicator inside the cockpit, at the same time, an audio tone alerts the crew. Materiel change (MC) estimates include the following - procurement of hardware, retrofit for aircraft and project management cost. In addition, technical manual changes, retrofit kit data and the modification work order (MWO) will also be provided by the contractor. This procurement equals current requirements for installation kits for 346 APACHE aircraft. LONGBOW A-Kits will be installed as part of the LONGBOW production effort.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

Engineering Change Proposal (ECP) Development Award - Oct 92
ECP Approval - May 95
PY A-Kit Production Contract Award - May 95
PY A-Kit Production Hardware Delivery - Mar 97
FY97 A-Kit Production Contract Award - Mar 97
FY97 A-Kit Production Hardware Delivery - Jan 98
FY97 B-Kit Contract (Option) Award - Jun 97
FY97 B-Kit Hardware Delivery - Jan 99
FY98 B-Kit Contract (Option) Award - Mar 98
FY98 B-Kit Hardware Delivery - Mar 99

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs			20	100	100	43	40	43													
Outputs			20	100	100	43	40	43													

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs																		346
Outputs																		346

METHOD OF IMPLEMENTATION: OLR Teams — ADMINISTRATIVE LEADTIME: 1 Months — PRODUCTION LEADTIME: 9 Months

Contract Dates:	FY 1997	Mar 97	FY 1998		FY 1999
Delivery Date:	FY 1997	Jan 98	FY 1998		FY 1999

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): Laser Detecting Set - AN/AVR-2A(V)/AH-64 1-92-01-2182

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity			50	6.3	50	6.8													100	13.1
Installation Kits	263	4.2	83	1.3															346	5.5
Installation Kits, Nonrecurring		4.4																		4.4
Equipment																				
Equipment, Nonrecurring				0.3																0.3
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other		1.1		0.3		0.4														1.8
Interim Contractor Support																				
System Test				0.1																0.1
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits			220	3.2	43	0.6													263	3.8
FY 1997 Eqpt -- Kits					83	1.2													83	1.2
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
TC Equip-Kits																				
Total Installment			220	3.2	126	1.8													346	5.0
Total Procurement Cos		9.7		11.5		9.0														30.2

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE: Infrared Countermeasure Set - AN/ALQ-144A/OH-58D 1-92-01-2181

MODELS OF SYSTEMS AFFECTED: OH-58D

DESCRIPTION / JUSTIFICATION:

The AN/ALQ-144A Infrared Countermeasures Set is designed to confuse or decoy threat infrared (IR) missile systems. The purpose of this materiel change (MC) is the installation of the A-Kit on the fleet. This MC provides for the aircraft modification/A-Kit to accept the AN/ALQ-144A system. The milestones relate to the installation of the aircraft A-Kit hardware.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

Installation of Hardware FY95 - Jul 95
Installation of Hardware FY96 - Oct 95
Installation of Hardware FY97 - Mar 97
Installation of Hardware FY98 - Mar 98

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs	288	16	16	12	12	24	17														
Outputs	288	16	16	12	12	24	17														

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs																		385
Outputs																		385

METHOD OF IMPLEMENTATION: Contract/Depot — ADMINISTRATIVE LEADTIME: Months — PRODUCTION LEADTIME: Months

Contract Dates: FY 1997 — FY 1998 — FY 1999

Delivery Date: FY 1997 — FY 1998 — FY 1999

INDIVIDUAL MODIFICATION																		Date	February 1998	
MODIFICATION TITLE (Cont):	Infrared Countermeasure Set - AN/ALQ-144A/OH-58D 1-92-01-2181																			
FINANCIAL PLAN: ($ in Millions)	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits	385	2.0																	385	2.0
Installation Kits, Nonrecurring																				
Equipment																				
Equipment, Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits	288	0.3	56	0.1	41	0.1													385	0.5
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
TC Equip-Kits																				
Total Installment	288	0.3	56	0.1	41	0.1													385	0.5
Total Procurement Cos		2.3		0.1		0.1														2.5

INDIVIDUAL MODIFICATION	Date	February 1998

MODIFICATION TITLE: AN/ALQ-211 Suite of Integrated Radio Frequency CMS 1-92-01-2187

MODELS OF SYSTEMS AFFECTED: AH-64D

DESCRIPTION / JUSTIFICATION:

The AH-64D requires additional capabilities to detect and defeat air and ground launched radar frequency (RF) missiles. The improvements needed will be satisfied by the Suite of Integrated Radio Frequency Countermeasures (SIRFC). This system is identified in the ASE/APAC requirements documents and will improve aircraft survivability and mission accomplishment. The protection of the AH-64D against Air Defense Artillery (ADA) threats is one of the most important considerations due to the aircraft's mission profile.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

Engineering Change Proposal (ECP) Development Award - Apr 96
ECP Approval - Jul 99
Production Contract Award - Jan 00
Production Hardware Delivery - Jun 01
First Kit Applied - Jul 01

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs																					
Outputs																					

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs																		
Outputs																		

METHOD OF IMPLEMENTATION: Contract/Depot ADMINISTRATIVE LEADTIME: Months PRODUCTION LEADTIME: Months

Contract Dates: FY 1997 FY 1998 FY 1999

Delivery Date: FY 1997 FY 1998 FY 1999

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): AN/ALQ-211 Suite of Integrated Radio Frequency CMS 1-92-01-2187

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits									22	2.8	55	6.8							77	9.6
Installation Kits, Nonrecurring		11.9		5.2		2.2		2.7												22.0
Equipment																				
Equipment, Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other		0.5										0.4		0.1						1.0
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits											22	1.2							22	1.2
FY 2001 Eqpt -- kits											5	0.3	50	2.8					55	3.1
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
TC Equip-Kits																				
Total Installment											27	1.5	50	2.8					77	4.3
Total Procurement Cos		12.4		5.2		2.2		2.7		2.8		8.7		2.9						36.9

INDIVIDUAL MODIFICATION	Date	February 1998

MODIFICATION TITLE: Advanced Threat Infrared Countermeasures (ATIRCM) TBD

MODELS OF SYSTEMS AFFECTED: AH-64D, MH-47D/E, MH-60K/L, EH-60, UH-60, 0H-58D, CH-47D

DESCRIPTION / JUSTIFICATION:

The ATIRCM is a requirement for current generation Army aircraft. The ATIRCM/CMWS is one system which is the core of a Suite of Integrated Infrared Countermeasures (SIIRCM). This Suite will provide active and passive infrared countermeasures (IRCM) protection against infrared guided weapons. The system is designed to meet operatonal requirements for a modular IRCM system capable of providing awareness and self protection jamming countermeasures. The system is applicable to AH-64D, MH-47D/E, MH-60K/L, EH-60, UH-60, 0H-58D and CH-47D aircraft. The program has been designated a tri-service program, with application to Air Force and Navy aircraft. FY 99 funds are required to initiate procurement of Army ATIRCM/CMWS A-Kits for the Special Operations Aircraft.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

Milestone I/II - Jun 95
EMD Contract Award - Sep 95
System Design Review - Mar 96
Preliminary Design Review - Jun 96
Critical Design Review - Feb 97
Production Contract Award - May 01
Production Hardware Delivery - May 02
First Kit Applied - Dec 02

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs																					
Outputs																					

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs																		
Outputs																		

METHOD OF IMPLEMENTATION: Contract/Depot ADMINISTRATIVE LEADTIME: Months PRODUCTION LEADTIME: Months

Contract Dates: FY 1997 FY 1998 FY 1999

Delivery Date: FY 1997 FY 1998 FY 1999

INDIVIDUAL MODIFICATION — Date: February 1998

MODIFICATION TITLE (Cont): Advanced Threat Infrared Countermeasures (ATIRCM) TBD

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits									18	3.1	24	4.6	31	5.7	46	9.6			119	23.0
Installation Kits, Nonrecurring				9.1		7.3				6.5		6.9		6.5		2.1				38.4
Equipment																				
Equipment, Nonrecurring																				
Engineering Change Orders										0.3		0.3		0.4		0.6				1.6
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits											18	1.3							18	1.3
FY 2001 Eqpt -- kits													24	1.8					24	1.8
FY 2002 Eqpt -- kits															31	2.4			31	2.4
FY 2003 Eqpt -- kits																				
TC Equip-Kits																				
Total Installment											18	1.3	24	1.8	31	2.4			73	5.5
Total Procurement Cos				9.1		7.3				9.9		13.1		14.4		14.7				68.5

Exhibit P-40, Budget Item Justification Sheet											Date: February 1998	
Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft								P-1 Item Nomenclature: MODIFICATIONS < $2.0M (AA0725)				
Program Elements for Code B Items:				Code:	Other Related Program Elements:							
	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Prog
Proc Qty												
Gross Cost	1.0	1.8	2.4	1.8	1.7	1.7	1.9	1.9	1.9	1.9	6.0	24.0
Less PY Adv Proc												
Plus CY Adv Proc												
Net Proc (P-1)	1.0	1.8	2.4	1.8	1.7	1.7	1.9	1.9	1.9	1.9	6.0	24.0
Initial Spares												
Total Proc Cost	1.0	1.8	2.4	1.8	1.7	1.7	1.9	1.9	1.9	1.9	6.0	24.0
Flyaway U/C												
Wpn Sys Proc U/C												

DESCRIPTION: This modification line updates and modernizes the C-12 aircraft communication, navigation and flight management equipment to current international standards in order to standardize the fleet, allow worldwide deployments, and upgrade capability for continued safe operations into the 21st Century. This line will also update the C-23, C-26 and UC-35 and other non-C-12 fixed-wing aircraft to meet future avionics requirements resulting from worldwide navigation transition to Global Positioning System enroute and approach systems and the Chairman of the Joint Chief of Staff Master Navigation Plan requirements.

JUSTIFICATION: FY 99 will provide funding for the C-12 avionics upgrade. The majority of the Army C-12 aircraft were purchased between 1971 and 1989 and were equipped with then current avionics and navigation equipment. Current Army modernization plans will retain the C-12 fleet in active service beyond 2017. Worldwide deployments using modern navigation and air traffic control facilities beyond the year 2000 are required. During deployments in support of Desert Storm/Desert Shield/Provide Comfort, only selected aircraft with non-standard modifications were capable of being deployed to and within the theater. Elimination of obsolete communication and navigation systems will enhance reliability and maintainability by employing current commercial systems thereby improving C-12 availability and cockpit standardization.

Exhibit P-40M Budget Item Justification Sheet										Date: February 1998	
Appropriation / Budget Activity/Serial No.: AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft						P-1 Item Nomenclature: MODIFICATIONS < $2.0M (AA0725)					
Program Elements for Code B Items			Code		Other Related Program Elements						
Description		Fiscal Years									
OSIP NO.	Classification	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TC	Total
Engine Trend Monitor System (No P3a Set)											
1-95-01-0677	Operational	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4
Avionics System Cockpit Upgrade - Group I											
1-96-01-0611	Operational	0.0	1.8	1.7	1.7	1.9	1.9	1.9	1.9	6.0	18.8
											0.0
Totals		2.4	1.8	1.7	1.7	1.9	1.9	1.9	1.9	6.0	21.2

INDIVIDUAL MODIFICATION	Date	February 1998

MODIFICATION TITLE: Avionics System Cockpit Upgrade - Group I 1-96-01-0611

MODELS OF SYSTEMS AFFECTED: C-12C, D, F, L and R

DESCRIPTION / JUSTIFICATION:

This effort will update and modernize C-12 communications, navigation, and flight direction equipment to current international standards to standardize the fleet, allow worldwide deployments and upgrade capability for continued safe operations into the 21st Century. As currently equipped, the aircraft are not suitable for worldwide deployment nor capable of using modern navigation and air traffic control facilities. The following equipment is included in this upgrade: Engine Instruments, Traffic Collision Avoidance Systems, and Army Engine Trend Monitor System Upgrades. The kit quantities reflected on the next page represent a wide variety of Avionics kits with different mixes each fiscal year. Additionally, kit configurations vary based on the aircraft that they will be installed on. Consequently, kit unit cost will vary significantly from year to year.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

Production Contract Award : Planned - 2Q97 Accomplished - 2Q97
Production Delivery Starts: Planned - 2Q97 Accomplished - 2Q97
Kit Application Starts: Planned - 2Q97 Accomplished - 2Q97
Kit Application Complete: Planned - 4Q99

Installation Schedule:

	Pr Yr	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs			50	200	48		5	5	6		4	4	5								
Outputs			50	200	48		5	5	6		4	4	5								

	FY 2002				FY 2003				FY 2004				FY 2005				To	Totals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs																		327
Outputs																		327

METHOD OF IMPLEMENTATION: Contractor ADMINISTRATIVE LEADTIME: 3 Months PRODUCTION LEADTIME: 1 Month

Contract Dates:	FY 1997	Jan 97	FY 1998	Mar 98	FY 1999	Jan 99
Delivery Date:	FY 1997	Jan 97	FY 1998	Mar 98	FY 1999	Jan 99

MODIFICATION TITLE (Cont): Avionics System Cockpit Upgrade - Group I 1-96-01-0611

FINANCIAL PLAN: ($ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits			298	1.4	16	1.5	13	1.3	4	1.0	8	1.0	8	1.0	8	1.0		6.0	355	14.2
Installation Kits, Nonrecurring										0.4										0.4
Equipment																				
Equipment, Nonrecurring																				
Engineering Change Orders																				
Data				0.1				0.2												0.3
Training				0.1		0.1		0.1												0.3
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- 298 Kits			298	0.2															298	0.2
FY 1998 Eqpt -- 16 Kits					16	0.1													16	0.1
FY 1999 Eqpt -- 13 Kits							13	0.1											13	0.1
FY 2000 Eqpt --4 Kits									4	0.5									4	0.5
FY 2001 Eqpt --8 Kits											8	0.9							8	0.9
FY 2002 Eqpt --8 Kits													8	0.9					8	0.9
FY 2003 Eqpt --8 Kits															8	0.9			8	0.9
TC Equip-Kits																				
Total Installment			298	0.2	16	0.1	13	0.1	4	0.5	8	0.9	8	0.9	8	0.9			355	3.6
Total Procurement Cos				1.8		1.7		1.7		1.9		1.9		1.9		1.9		6.0		18.8

Exhibit P-40, Budget Item Justification Sheet

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities

P-1 Item Nomenclature: AIRBORNE COMMUNICATIONS (AA0705)

Program Elements for Code B Items:

Code:

Other Related Program Elements:

	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Prog
Proc Qty												
Gross Cost	12.1	10.0	24.6	39.3	46.4	41.9	44.3	0.0	23.3	19.6	61.4	322.9
Less PY Adv Proc												
Plus CY Adv Proc												
Net Proc (P-1)	12.1	10.0	24.6	39.3	46.4	41.9	44.3	0.0	23.3	19.6	61.4	322.9
Initial Spares												
Total Proc Cost	12.1	10.0	24.6	39.3	46.4	41.9	44.3	0.0	23.3	19.6	61.4	322.9
Flyaway U/C												
Wpn Sys Proc U/C												

Description:
Airborne Communications include Havequick II (HQ II) and the AN/ARC-220 high frequency (HF) Nap-of-the-Earth (NOE) Communications. The Air Force has upgraded the Havequick communications family to Havequick II and it has become the standard for joint service communications. The HQ II is one of six aviation systems which are required to support digitization of the battlefield. The HQ II communications is an electronic-counter-counter measure (ECCM) capable UHF-AM radio set required for joint service communication. Efforts are on-going to standardize all Army aircraft with HQ II configurations and ground timing systems which are required for synchronization of Army HQ II nets. The AN/ARC-220 HF system meets the Army's modernization plan by providing reliable, secure communications at ranges beyond line of sight. The AN/ARC-220 HF incorporates automatic link establishment (ALE) to eliminate manual searches for workable frequencies, Night Vision compatible lighting and ECCM capabilities while allowing Army aviation to communicate securly at NOE altitudes. This capability allows the commander to dominate the maneuver battle while protecting his force. The AN/ARC-220 HF communications system is also capable of transmitting data and position, facilitating the winning of the information war.

Justification:
FY99 funding procures 512 AN/ARC-220 radios, 180 VRC-100 ground radios, 760 A-Kits and other associated program support activities. The AN/ARC-220 HF NOE communications system supports digitization of the battlefield and enhances joint service communications. The AN/ARC-220 HF communications system supports the five (5) Army modernization objectives: project and sustain the force, protect the force, win the battlefield information war, conduct precision strikes throughout the battlefield, and dominate the maneuver battle.

Exhibit P-5, Weapon Aircraft Cost Analysis	Appropriation/ Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities	P-1 Line Item Nomenclature: AIRBORNE COMMUNICATIONS (AA0705)	Weapon System Type:	Date: February 1998

Aircraft Cost Elements	ID CD	FY 96			FY 97			FY 98			FY 99		
		TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost
		$OOO	Each	$OOO	$OOO	Each	$OOO	$OOO	Each	$OOO	$OOO	Each	$OOO
1. AN/ARC-164 Havequick II													
Recurring Production:													
VRC-83 Radio					1790	60	30						
Remote Panel Mod Kits		1735	250	7	3601	503	7						
IFM					2249	351	6						
Project Management Administration		147			249								
Fielding		1023			923								
2. AN/ARC-220 NOE Radio													
Nonrecurring A-Kit integration		10326			3227			7287					
Recurring Production:													
AN/ARC-220 Radio		1764	73	24	6624	276	24	17567	743	24	12136	512	24
VRC-100 Ground Radio								4774	155	31	5369	180	30
A-Kits					2975			10492			13547		
A-Kit Installation					2138			1689			7063		
Warranty					355			355			365		
Engineering Services		2			252								
Other Recurring (Non-bussed peripheral)					3122			69			84		
Program Management Administration		3691			3247			1387			1383		
System Test		70			580								
Engineering Change Orders					979			1742			233		
Data		1114			728			500			250		
Support Equipment-Test Program Set					572								
Maintenance Model Radios		360	6	60	2821	47	60						
Fielding		285			1292			518			1481		
Other:													
Force XXI/Digitization		4052			1563								
TOTAL		**24569**			**39287**			**46380**			**41911**		

Exhibit P-5a, Budget Procurement History and Planning

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities

Weapon System Type:

P-1 Line Item Nomenclature: AIRBORNE COMMUNICATIONS (AA0705)

WBS Cost Elements: Fiscal Years	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date of First Delivery	QTY Each	Unit Cost $OOO	Specs Avail Now?	Date Revsn Avail	RFP Issue Date
Havequick II Mod Kits										
FY96	Magnavox	C/FP	Warner Robins AFB	Apr-96	Apr-97	250	7	Yes		
FY97	Magnavox	C/FP	Warner Robins AFB	Jan-97	Jan-98	503	7	Yes		
AN/ARC-220 NOE Cmmunications System										
FY96	Rockwell International	C/FP	CECOM	Oct-96	Aug-97	73	24	Yes		
FY97	Rockwell International	Option	CECOM	Sep-97	Jul-98	276	24	Yes		
FY98	Rockwell International	Option	CECOM	Feb-98	Jan-99	743	24	Yes		
FY99	Rockwell International	Option	CECOM	Jan-99	Dec-99	512	24	Yes		
AN/VRC-100 Ground Radio*										
FY98	Rockwell International	Option	CECOM	Feb-98	Jan-99	155	31	Yes		
FY99	Rockwell International	Option	CECOM	Jan-99	Jan-99	180	30	Yes		
Maintenance Model Radio*										
FY96	Rockwell International	Option	CECOM	Oct-96	Aug-97	6	60	Yes		
FY97	Rockwell International	Option	CECOM	Jul-97	May-98	47	60	Yes		

REMARKS: * Option to the AN/ARC-220 EMD contract.

FY 98 / 99 BUDGET PRODUCTION SCHEDULE

P-1 Item Nomenclature: AIRBORNE COMMUNICATIONS (AA0705)

Date: February 1998

COST ELEMENTS	MFR	FY	SERV	PROC QTY Each	ACCEP. PRIOR TO 1 OCT	BAL DUE AS OF 1 OCT	Fiscal Year 96 / Calendar Year 96 OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	Fiscal Year 97 / Calendar Year 97 OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	LATER
Havequick II Mod Kits	2	96	A	250	0	250							A												40	55	55	55	45		
Havequick II Mod Kits	2	97	A	503	0	503																A									503
AN/ARC-220 NOE Cmmunications System	1	96	A	73	0	73													A										10	10	53
AN/ARC-220 NOE Cmmunications System	1	97	A	276	0	276																								A	276
AN/ARC-220 NOE Cmmunications System	1	98	A	743	0	743																									743
AN/ARC-220 NOE Cmmunications System	1	99	A	512	0	512																									512
AN/VRC-100 Ground Radio	1	98	A	155	0	155																									155
AN/VRC-100 Ground Radio	1	99	A	180	0	180																									180
Maintenance Model Radio	1	96	A	6	0	6													A										6		
Maintenance Model Radio	1	97	A	47	0	47																							A		47

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	

MFR	NAME / LOCATION	PRODUCTION RATES MIN.	1-8-5	MAX.	REACHED D +	MFR Number		ADMIN LEAD TIME Prior 1 Oct.	After 1 Oct.	MFR After 1 Oct.	TOTAL After 1 Oct.	REMARKS
1	Rockwell International-Collins Avionics Division	240	900	990			INITIAL		6	12	18	
	Cedar Rapids, Iowa						REORDER					
							INITIAL					
							REORDER					
2	Magnavox Electronic Systems CO	480	660	725			INITIAL		1	9	10	
	Fort Wayne, Indiana						REORDER		1	9	10	
							INITIAL					
							REORDER					
							INITIAL					
							REORDER					

FY 98 / 99 BUDGET PRODUCTION SCHEDULE

P-1 Item Nomenclature: AIRBORNE COMMUNICATIONS (AA0705)

Date: February 1998

COST ELEMENTS	MFR	FY	SERV	PROC QTY Each	ACCEP. PRIOR TO 1 OCT	BAL DUE AS OF 1 OCT	Fiscal Year 98 / Calendar Year 98												Fiscal Year 99 / Calendar Year 99										LATER
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
Havequick II Mod Kits	2	96	A	250	250																									
Havequick II Mod Kits	2	97	A	503	0	503				40	55	55	55	55	55	55	55	55	23											
AN/ARC-220 NOE Cmmunications System	1	96	A	73	20	53	10	12	12	12	7																			
AN/ARC-220 NOE Cmmunications System	1	97	A	276	0	276											75	75	75	51										
AN/ARC-220 NOE Cmmunications System	1	98	A	743	0	743					A											45	46	50	50	50	50	65	75	75	237
AN/ARC-220 NOE Cmmunications System	1	99	A	512	0	512																A								512
AN/VRC-100 Ground Radio	1	98	A	155	0	155					A											20	25	25	25	25	25	10			
AN/VRC-100 Ground Radio	1	99	A	180	0	180																A								180
Maintenance Model Radio	1	96	A	6	6																									
Maintenance Model Radio	1	97	A	47	0	47								5	5	5	5	5	5	5	5	5	2							

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP

MFR	NAME / LOCATION	PRODUCTION RATES MIN.	1-8-5	MAX.	REACHED D +	MFR Number		ADMIN LEAD TIME Prior 1 Oct.	After 1 Oct.	MFR After 1 Oct.	TOTAL After 1 Oct.	REMARKS
1	Rockwell International-Collins Avionics Division	240	900	990			INITIAL		6	12	18	
	Cedar Rapids, Iowa						REORDER					
							INITIAL					
							REORDER					
2	Magnavox Electronic Systems CO	480	660	725			INITIAL		1	9	10	
	Fort Wayne, Indiana						REORDER		1	9	10	
							INITIAL					
							REORDER					
							INITIAL					
							REORDER					

FY 98 / 99 BUDGET PRODUCTION SCHEDULE

P-1 Item Nomenclature: AIRBORNE COMMUNICATIONS (AA0705)

Date: February 1998

COST ELEMENTS	MFR	FY	SERV	PROC QTY Each	ACCEP. PRIOR TO 1 OCT	BAL DUE AS OF 1 OCT	Fiscal Year 00 / Calendar Year 00												Fiscal Year 01 / Calendar Year 01												LATER
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
Havequick II Mod Kits	2	96	A	250	250																									
Havequick II Mod Kits	2	97	A	503	503																									
AN/ARC-220 NOE Cmmunications System	1	96	A	73	73																									
AN/ARC-220 NOE Cmmunications System	1	97	A	276	276																									
AN/ARC-220 NOE Cmmunications System	1	98	A	743	506	237	75	75	75	12																				
AN/ARC-220 NOE Cmmunications System	1	99	A	512	0	512			42	50	50	50	50	50	50	70	75	25												
AN/VRC-100 Ground Radio	1	98	A	155	155																									
AN/VRC-100 Ground Radio	1	99	A	180	0	180			25	25	25	25	25	25	25	5														
Maintenance Model Radio	1	96	A	6	6																									
Maintenance Model Radio	1	97	A	47	47																									
Maintenance Model Radio	1	97	A	47	47																									
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	

MFR	NAME / LOCATION	PRODUCTION RATES MIN.	1-8-5	MAX.	REACHED D +	MFR Number		ADMIN LEAD TIME Prior 1 Oct.	After 1 Oct.	MFR After 1 Oct.	TOTAL After 1 Oct.	REMARKS
1	Rockwell International-Collins Avionics Division	240	900	990			INITIAL		6	12	18	
	Cedar Rapids, Iowa						REORDER					
							INITIAL					
							REORDER					
2	Magnavox Electronic Systems CO	480	660	725			INITIAL		1	9	10	
	Fort Wayne, Indiana						REORDER		1	9	10	
							INITIAL					
							REORDER					
							INITIAL					
							REORDER					

Exhibit P-40, Budget Item Justification Sheet

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 1 / Aircraft

P-1 Item Nomenclature: ARL (TIARA) (A11500)

Program Elements for Code B Items:

Code:

Other Related Program Elements:

	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Prog
Proc Qty	2			2								4
Gross Cost	61.8	0.0	20.3	29.7	40.1	13.1	12.7	11.0	10.9	0.0	0.0	199.7
Less PY Adv Proc												
Plus CY Adv Proc												
Net Proc (P-1)	61.8	0.0	20.3	29.7	40.1	13.1	12.7	11.0	10.9	0.0	0.0	199.7
Initial Spares							2.5	0.5	0.5			3.5
Total Proc Cost	61.8	0.0	20.3	29.7	40.1	13.1	15.2	11.4	11.4	0.0	0.0	203.2
Flyaway U/C				12.8								
Wpn Sys Proc U/C				14.9								

DESCRIPTION: The Airborne Reconnaissance Low (ARL) has evolved from two complimentary tactical airborne systems ARL-I (Imagery Intelligence IMINT), an elecro-optic reconnaissance and surveillance system, and ARL-C (communications intelligence COMINT), system which provides real-time highly accurate radio intercept and location. The ARL program integrates the capabilities of ARL-I and ARL-C into a single system which satisfies the requirements identified by validated SOUTHCOM Statements of Need (SON). The merger of these programs minimizes the acquisition and operational costs,increases availability,and optimizes flexibility resulting from the integration of the electro-optic and Radio Frequency (RF) sensors into a unified system. The primary sensors will be a Signal Intelligence (SIGINT) with precision Direction Finding (DF) capability and IMINT electro-optics for target identification and classification and multimode capability including wide area search Moving Target Indicator (MTI) and Synthetic Aperture Radar (SAR). ARL provides near real-time tactical airborne SIGINT and near real time IMINT collection support to Joint Force (JTF) Commanders. ARL is a multi-echelon level, multi-INT (combined SIGINT and IMINT) system, designed for forward deployment/force projection in Operations Other Than War (OOTW) to mid intensity conflict environments. ARL also conducts daily JCS Sensitive Reconnaissance Operations, is rapidly self-deployable to support contingency operations, and is the airborne Reconnaissance Surveillance Target Acquisition (RSTA) platform of choice for various non-DOD government agencies such as DEA and FEMA. ARL is currently providing an indications and warnings capability to U.S. Armed Forces in Korea. A November 1995 Department of the Army (DA) Directed Requirement validated the USARPAC/PACOM SON requirement for six ARL-Ms with Electronic Intelligence (ELINT) and MTI/SAR.

JUSTIFICATION: FY99 funds will cover fielding costs associated with the ARL-Ms, installation of Commanders Tactical Terminal (CTT-H3) and provide upgrades to the IMINT payloads of fielded ARL-M systems.

Exhibit P-5, Weapon Aircraft Cost Analysis	Appropriation/ Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 1 / Aircraft	P-1 Line Item Nomenclature: ARL (TIARA) (A11500)	Weapon System Type:	Date: February 1998

Aircraft Cost Elements	ID CD	FY 96			FY 97			FY 98			FY 99		
		TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost
		$OOO	Each	$OOO	$OOO	Each	$OOO	$OOO	Each	$OOO	$OOO	Each	$OOO
AIRCRAFT Flyaway Costs													
Airframes / CFE													
Aircraft Mods (Incl M/E)		16374			5200	1	5200						
ARL-M Systems 4&5 Airframes w/Mods					20342	2	10171						
ARL-M Systems 4&5 B-Kits for WKSTS								26480	2	13240			
Modify Airframe to ARL-M Config w/Sensors								4766	1	4766			
Modify ARL-M Systems to incorporate CTT-H3											6320		
Upgrade to IMINT Suite											4185	3	1395
Subtotal Flyaway Costs		**16374**			**25542**			**31246**			**10505**		
Non-Recurring Costs													
Tooling Equipment													
Other System Test													
Total Flyaway		**16374**			**25542**			**31246**			**10505**		
Support Cost													
Engineering Support		420			300			831			100		
Program Management (Admin Support)		1008			1022			1756			400		
GFE								341					
Fielding		1761			2372						2128		
Peculiar Training Equipment													
Engineering Change Orders								2500					
Other (Testing/Spares)		781			500			3448					
Subtotal Support Cost		**3970**			**4194**			**8876**			**2628**		
Gross P-1 End Cost		20344			29736			40122			13133		
Less: Prior Year Adv Proc													
Net P-1 Full Funding Cost		20344			29736			40122			13133		
Plus: P-1 CY Adv Proc													
Other Non P-1 Costs													
Initial Spares													
Mods													
TOTAL		**20344**			**29736**			**40122**			**13133**		

Exhibit P-5a, Budget Procurement History and Planning

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 1 / Aircraft

Weapon System Type:

P-1 Line Item Nomenclature: ARL(TIARA)(A11500)

WBS Cost Elements: Fiscal Years	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date of First Delivery	QTY Each	Unit Cost $OOO	Specs Avail Now?	Date Revsn Avail	RFP Issue Date
FY96										
ARL-M Systems 1 & 2 MTI/SAR Mod	California Microwave, Belcamp, MD	C/FP-D	CECOM	Oct-95	Sep-96	2	8187	Yes	No	
FY97										
ARL-M System 3 MTI/SAR Mod	California Microwave, Belcamp, MD	C/FP-O	CECOM	Nov-96	Aug-97	1	5200	Yes	No	
ARL-M Systems 4 & 5-Airframes with Mods	California Microwave, Belcamp, MD	C/FP-0	CECOM	Dec-96	Dec-98	2	10171	Yes	No	
FY98										
ARL-M Systems 4&5 B-Kits for workstations per aircraft/imagery sensors and high performance multimode radar	California Microwave, Belcamp, MD	C/FP-O	CECOM	Dec-97	Dec-98	2	13240	Yes	No	
Modify Airframe to ARL-M Config w/Sensors	California Microwave, Belcamp, MD	C/FP-O	CECOM	Feb-98	Feb-00	1	4766	Yes	No	
FY99										
Upgrade to IMINT Suite	TBS	C/FP	CECOM	Oct-98	Jan-O1	3	1395	Yes	No	

REMARKS:

FY 1998 / FY 1999 BUDGET PRODUCTION SCHEDULE

P-1 Item Nomenclature: ARL (TIARA) (A11500)

Date: February 1998

COST ELEMENTS	MFR	FY	SERV	PROC QTY Each	ACCEP. PRIOR TO 1 OCT	BAL DUE AS OF 1 OCT	Fiscal Year 96 / Calendar Year 96 OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	Fiscal Year 97 / Calendar Year 96 OCT	NOV	DEC	Calendar Year 97 JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	LATER
ARL-M Systems 1&2 - Airframes	1	96 & Pr	A	2	0	2												2													
With MTI/SAR																															
ARL-M Systems 4 &5 - Airframes	1	FY97	A	2	0	2															A										2
With MTI/SAR																															
TOTAL				4		4												2												2

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	

MFR	NAME / LOCATION	PRODUCTION RATES MIN.	1-8-5	MAX.	REACHED D +
1	California Microwave Inc. Belcamp,MD	1	3	4	24

MFR Number		ADMIN LEAD TIME Prior 1 Oct.	After 1 Oct.	MFR After 1 Oct.	TOTAL After 1 Oct.
1	INITIAL	7	7	24	31
	REORDER	4	2	22	24
	INITIAL				
	REORDER				
	INITIAL				
	REORDER				
	INITIAL				
	REORDER				
	INITIAL				
	REORDER				

REMARKS

FY 1998 / FY 1999 BUDGET PRODUCTION SCHEDULE

P-1 Item Nomenclature: ARL (TIARA) (A11500)

Date: February 1998

COST ELEMENTS	MFR	FY	SERV	PROC QTY Each	ACCEP. PRIOR TO 1 OCT	BAL DUE AS OF 1 OCT	FY98 Calendar Year 98 OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	FY99 Calendar Year 99 OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	LATER
ARL-M Systems 1&2 - Airframe	1	96 & Pr	A	2	2	0																									
With MTI/SAR																															
ARL-M Systems 4 & 5 -Airframe	1	FY97	A	2	0	2															1	1									
With MTI/SAR																															
TOTAL				4	2	2															1	1									

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	

MFR	NAME / LOCATION	PRODUCTION RATES MIN.	1-8-5	MAX.	REACHED D +
1	California Microwave Inc. Belcamp,MD	1	3	4	24

MFR Number		ADMIN LEAD TIME Prior 1 Oct.	After 1 Oct.	MFR After 1 Oct.	TOTAL After 1 Oct.
1	INITIAL	7	7	24	31
	REORDER	4	2	22	24
	INITIAL				
	REORDER				
	INITIAL				
	REORDER				
	INITIAL				
	REORDER				
	INITIAL				
	REORDER				

REMARKS

Exhibit P-40, Budget Item Justification Sheet											Date: February 1998	
Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 1 / Aircraft								P-1 Item Nomenclature: UC-35 (MEDIUM RANGE) AIRCRAFT (A11300)				
Program Elements for Code B Items:				Code: A	Other Related Program Elements:							
	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Prog
Proc Qty		2	5	5	5				3	3		23
Gross Cost	0.0	8.6	21.0	21.8	22.5	0.0	0.0	0.0	14.8	14.8	0.0	103.4
Less PY Adv Proc												
Plus CY Adv Proc												
Net Proc (P-1)	0.0	8.6	21.0	21.8	22.5	0.0	0.0	0.0	14.8	14.8	0.0	103.4
Initial Spares												
Total Proc Cost	0.0	8.6	21.0	21.8	22.5	0.0	0.0	0.0	14.8	14.8	0.0	103.4
Flyaway U/C												
Wpn Sys Proc U/C												

DESCRIPTION:
The UC-35A (Medium Range) aircraft is a fully integrated, two-pilot crew, 6-8 passenger capability, multi-engine system with worldwide self-deployability. It has advanced technology, while being a non-developmental, fixed wing aircraft system. The UC-35A aircraft is being fielded using the concept of Life Cycle Contractor Support.

JUSTIFICATION:
The FY 99 budget provides no funding for the UC-35A procurement.

Exhibit P-5, Weapon Aircraft Cost Analysis		Appropriation/ Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 1 / Aircraft			P-1 Line Item Nomenclature: UC-35 (MEDIUM RANGE) AIRCRAFT (A11300)			Weapon System Type:			Date: February 1998		
Aircraft	ID	**FY 96**			**FY 97**			**FY 98**			**FY 99**		
Cost Elements	CD	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost
		$OOO	Each	$OOO	$OOO	Each	$OOO	$OOO	Each	$OOO	$OOO	Each	$OOO
AIRCRAFT Flyaway Costs													
Airframes / CFE		19,765	5	3,953	20,380	5	4,076	20,754	5	4,151			
Avionics		426			490			500					
Training		287			329			381					
Contractor Support		357			428			538					
Engine Repair, Parts, & Material		80			113			242					
Other Costs		44			88			66					
Subtotal Flyaway Costs		**20,959**			**21,828**			**22,481**					
Non-Recurring Costs													
Tooling Equipment													
Other System Test													
Total Flyaway		**20,959**			**21,828**			**22,481**					
Support Cost													
Engine (leftover A model)													
Airframe PGSE													
Engine PGSE													
Peculiar Training Equipment													
Publications Tech / Data													
Engineering Change Orders													
Other (specify) Net/ICS/Mtxsupt													
Subtotal Support Cost													
Gross P-1 End Cost		20,959			21,828			22,481					
Less: Prior Year Adv Proc													
Net P-1 Full Funding Cost		20,959			21,828			22,481					
Plus: P-1 CY Adv Proc													
Other Non P-1 Costs													
Initial Spares													
Mods													
TOTAL		**20,959**			**21,828**			**22,481**					

Exhibit P-5a, Budget Procurement History and Planning

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 1 / Aircraft

Weapon System Type:

P-1 Line Item Nomenclature: UC-35 (MEDIUM RANGE) AIRCRAFT (A11300)

WBS Cost Elements: Fiscal Years	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date of First Delivery	QTY Each	Unit Cost $OOO	Specs Avail Now?	Date Revsn Avail	RFP Issue Date
Airframes / CFE										
FY 96	Cessna Aircraft Company	C/FP-O	ATCOM	Jun-96	Apr 97	5	3953	Yes	No	
FY 97	Wichita, Kansas	Option	ATCOM	Jun-97	Mar 98	5	4076	Yes	No	
FY 98		Option	AMCOM	Jun-98	Apr 99	5	4151	Yes	No	

REMARKS:

Exhibit P-40, Budget Item Justification Sheet

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 1 / Aircraft

P-1 Item Nomenclature: GUARDRAIL COMMON SENSOR (TIARA) (A02005)

Program Elements for Code B Items:

Code:

Other Related Program Elements:

	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Prog
Proc Qty												
Gross Cost	704.8	0.0	5.8	4.9	12.8	1.9	14.5	3.4	16.3	5.4	0.0	769.8
Less PY Adv Proc												
Plus CY Adv Proc												
Net Proc (P-1)	704.8	0.0	5.8	4.9	12.8	1.9	14.5	3.4	16.3	5.4	0.0	769.8
Initial Spares	112.9		4.7	11.3	0.8							129.7
Total Proc Cost	817.7	0.0	10.5	16.2	13.6	1.9	14.5	3.4	16.3	5.4	0.0	899.5
Flyaway U/C												
Wpn Sys Proc U/C												

DESCRIPTION: GUARDRAIL is an Airborne Signal intercept and emitter location system designed to provide commanders with critical battlefield information via a Commander's Tactical Terminal (CTT) and other DoD tactical and fixed communication systems. The Army's GUARDRAIL/Common Sensor Systems (GRCS) will have a highly flexible architecture to allow deployment to support contingency operations.

The GUARDRAIL/Common Sensor System (GRCS) integrates the improved GUARDRAIL V for communications intelligence (COMINT), the Communications High Accuracy Airborne Location System (CHAALS/CHALS-X) for COMINT and precision emitter location, and the Advanced QUICKLOOK (AQL) for electronics intelligence (ELINT) and precision emitter location into a single signal intelligence (SIGINT) system. The airborne elements are integrated into the RC-12K/N/P aircraft. Ground processing is conducted in the Integrated Processing Facility (IPF). Key performance requirements include a real-time COMINT and ELINT collection and high accuracy target location capability in communications and radar frequencies. The Interoperable Data Link (IDL)/Multi-Role Data Link (MRDL) connects the airborne elements and the ground processing element. Additional funding was provided in FY98 to integrate production CHAALS hardware into GRCS System 3 in Korea and to fund additional embedded training efforts.

JUSTIFICATION:

The FY 99 GUARDRAIL/Common Sensor (AO2005) funds provide for fielding support to the GUARDRAIL/Common Sensor System 2 program.

Exhibit P-5, Weapon Aircraft Cost Analysis		Appropriation/ Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 1 / Aircraft			P-1 Line Item Nomenclature: GUARDRAIL COMMON SENSOR (TIARA) (A02005)			Weapon System Type:			Date: February 1998		
Aircraft Cost Elements	ID CD	**FY 96**			**FY 97**			**FY 98**			**FY 99**		
		TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost
		$OOO	Each	$OOO	$OOO	Each	$OOO	$OOO	Each	$OOO	$OOO	Each	$OOO
AIRCRAFT Flyaway Costs													
Airframes / CFE													
Avionics													
A. GFE													
Other GFE													
Armament (FCR)													
ECO (All Flyaway Components)													
Other Costs (Halon)													
Subtotal Flyaway Costs													
Non-Recurring Costs													
Tooling Equipment													
Other													
Total Flyaway													
Support Cost													
Government In-House/Program MGMT ADM		1127			209			103					
Contractor Engineering		2330											
Test & Integration Facility		595						448					
Fielding/ICS		1775			960			2786			1931		
Mini-Information Processing Facility (IPF)													
Communications & Relay Equipment													
GFE/Maintenance Equipment													
CHAALS								2955					
Publications Tech / Data													
Engineering Change Orders													
Embeded Training					3756			6459					
Subtotal Support Cost		**5827**			**4925**			**12751**			**1931**		
Gross P-1 End Cost		**5827**			**4925**			**12751**			**1931**		
Less: Prior Year Adv Proc													
Net P-1 Full Funding Cost		**5827**			**4925**			**12751**			**1931**		
Plus: P-1 CY Adv Proc													
Other Non P-1 Costs													
Initial Spares		4709			11289			786					
Mods													
TOTAL		**10536**			**16214**			**13537**			**1931**		

Exhibit P-5a, Budget Procurement History and Planning

Date: February 1998

Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 1 / Aircraft

Weapon System Type:

P-1 Line Item Nomenclature: GUARDRAIL COMMON SENSOR (TIARA) (A02005)

WBS Cost Elements: Fiscal Years	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date of First Delivery	QTY Each	Unit Cost $OOO	Specs Avail Now?	Date Revsn Avail	RFP Issue Date
FY97										
Embedded Training	TRW, Sunnyvale,CA.	SS/FP	CECOM	Sep-97	Sep-98			No		
FY98										
Embedded Training	TRW, Sunnyvale, CA.	SS/FP	CECOM	Feb-98	Mar-99			No		
Communications High Accuracy Airborne Location System (CHAALS)	Lockheed Martin, Owego, NY	SS/FP	CECOM	Feb-98	Feb-99			No		

REMARKS: