(13)

DEPARTMENT OF THE ARMY

JUSTIFICATION OF ESTIMATES FOR FISCAL YEAR 1986

SUBMITTED TO CONGRESS

FEBRUARY 1985

Part 2 of A

AIRCRAFT

PROCUREMENT PROGRAMS

AIRCRAFT	MISSILES
WEAPONS & TRACKED COMBAT VEHICLES	
AMMUNITION	OTHER

REPORT DOCUMENTATION PAGE

READ INSTRUCTIONS BEFORE COMPLETING FORM

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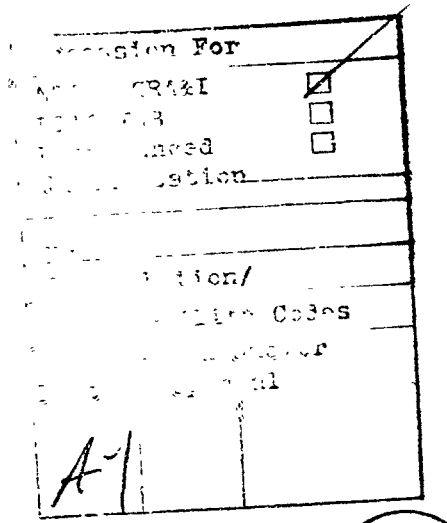
Army Procurement Programs Budget Justification Books covering Aircraft, Missiles, Weapons and Tracked Combat Vehicles, Ammunition, Other Procurement, Army Appropriations programs and Construction programs submitted by the Army to Congress February 1985 for Fiscal Year 1986.

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

In justification of programs requested, this document, in separate volume for each of the five Procurement Appropriations, and one separate volume for Construction Programs, provides backup data for the Army Budget submission for FY 1986. Included are Summaries of Requirements, Program and Financing Statements and Selected Data Sheets. (These volumes are unclassified).



DEPARTMENT OF THE ARMY

AIRCRAFT PROCUREMENT, ARMY

JUSTIFICATION OF ESTIMATES FOR FISCAL YEARS 1986, 1987

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AIRCRAFT PROCUREMENT, ARMY

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APPROPRIATION LANGUAGE

For construction, procurement, production, modification, and modernization of aircraft, equipment, including ordnance, ground handling equipment, spare parts, and accessories therefor; specialized equipment and training devices; expansion of public and private plants, including the land necessary therefor, for the foregoing purposes, and such lands and interests therein, may be acquired, and construction prosecuted thereon prior to approval of title; and procurement and installation of equipment, appliances, and machine tools in public and private plants, reserve plant and Government and contractor-owned equipment layaway; [and other expenses necessary for the foregoing purposes; $3,940,900,000, of which $642,600,000 shall be available for the purchase of UH-60/EH-60 BLACK HAWK/QUICKFIX helicopters under a multiyear contract and $431,900,000 shall be available for the purchase of CH-47 Chinook helicopter modifications under a multiyear contract;] $3,892,500 to remain available for obligation until September 30, [1987] 1988 [provided, that appropriations available herein shall be used to procure no less than eighteen AH-64 APACHE attack helicopters for assignment to the Army National Guard, (10 U.S.C. 2353, 2361, 3012, 4531-32; Department of Defense Appropriation Act, 1985; additional authorizing legislation to be proposed).]

Aircraft Procurement, Army
Program and Financing (In Thousands of dollars)

04 Feb 85
FISCAL YEAR 1982

Identification code 21-2031-0-1-051		Budget Plan (amounts for PROCUREMENT actions programed)			Obligations		
		1984 actual	1985 est	1986 est.	1984 actual	1985 est.	1986 est
	Program by activities:						
	Direct program:						
00 0101	Aircraft				65,062		
00 0201	Modification of aircraft				48,704		
00.0301	Spares and repair parts				66,654		
00.0401	Support equipment and facilities				10,824		
00 9101	Total direct program				192,344		
31 0101	Reimburseable program				-10,937		
10 0001	Total				181,407		
	Financing:						
	Offsetting collections from:						
11 0001	Federal funds(-)				7,176		
13 0001	Trust funds(-)				32,684		
17 0001	Recovery of prior year obligations(-).				-51,684		
	Unobligated balance available, start of year						
21 4002	For completion of prior year budget plans				-186,039		
21.4007	Reprograming from/to prior year budget pla	-16,456					
25 0001	Unobligated balance lapsing	16,456			16,456		
39 0001	Budget authority						

Aircraft Procurement, Army
Program and Financing (in Thousands of dollars)

04 Feb 85
FISCAL YEAR 1983

Identification code 21-2031-0-1-051		Budget Plan (amounts for PROCUREMENT actions programed)			Obligations		
		1984 actual	1985 est	1986 est	1984 actual	1985 est	1986 est
	Program by activities						
	Direct program:						
00 0101	Aircraft				91,474	76,966	
00 0201	Modification of aircraft				74,429	36,434	
00 0301	Spares and repair parts				95,537	59,606	
00 0401	Support equipment and facilities				22,526	14,741	
00 9101	Total direct program				283,966	183,747	
01 9101	Reimbursable program				15,951	36,071	
10 0001	Total				299,917	219,818	
	Financing						
	Offsetting collections from						
11 0001	Federal funds(-)				-3,515		
13 0001	Trust funds(-)				-3,732		
17 0001	Recovery of prior year obligations(-)				-39,188		
	Unobligated balance available, start of year						
21 4002	For completion of prior year budget plans				-475,144	-219,818	
21 4007	Reprograming from/to prior year budget pla	12,700					
22 4001	Unobligated balance transferred, net	-12,700			-12,700		
	Unobligated balance available, end of year						
24 4002	For completion of prior year budget plans				219,818		
39 0001	Budget authority						

Aircraft Procurement, Army
Program and Financing (in thousands of dollars)

04 Feb 85
FISCAL YEAR 1984

Identification code 21-2031-0-1-051		Budget Plan (amounts for PROCUREMENT actions progressed)			Obligations		
		1984 cc out	1985 est	1986 est	1984 actual	1985 est	1986 est
	Program by activities						
	Direct program:						
00 0101	Aircraft	1,804,481			1,632,996	51,969	119,516
00 0201	Modification of aircraft	669,646			534,472	88,299	46,875
00 0301	Spares and repair parts	596,850			435,298	119,772	41,780
00 0401	Support equipment and facilities	166,155			71,626	82,899	11,630
00 9101	Total direct program	3,237,132			2,674,392	342,939	219,801
01 9101	Reimbursable program	81,034			42,444	18,203	20,387
10 0001	Total	3,318,166			2,716,836	361,142	240,188
	Financing:						
	Offsetting collections from						
11 0001	Federal funds(-)	-57,275			-57,275		
13 0001	Trust funds(-)	-23,759			-23,759		
	Unobligated balance available, start of year						
21 4002	For completion of prior year budget plans					-600,730	-240,188
21 4007	Reprogramming from/to prior year budget plans	600	600				
22 4001	Unobligated balance transferred, net		-600			-600	
	Unobligated balance available, end of year						
24 4002	For completion of prior year budget plans				600,730	240,188	
25 9001	Unobligated balance lapsing		600			600	
39 0001	Budget authority	3,236,532	600		3,236,532	600	
	Budget authority						
40 0001	Appropriation	3,214,048			3,214,048		
42 0001	Transferred from other accounts	22,484			22,484		
43 0001	Appropriation (adjusted)	3,236,532			3,236,532		
50 0001	Reappropriation		600			600	

Aircraft Procurement, Army
Program and Financing (In Thousands of dollars)

04 Feb 85
FISCAL YEAR 1985

Identification code 21-2031 0-1-051	Budget Plan (amounts for PROCUREMENT actions programed)			Obligations		
	1984 actual	1985 est	1986 est	1984 actual	1985 est	1986 est
Program by activities						
Direct program						
00 0101 Aircraft		2,039,000			1,692,370	203,900
00 0201 Modification of aircraft		868,000			720,440	86,800
00 0301 Spares and repair parts		675,900			560,997	67,590
00 0401 Support equipment and facilities		317,800			263,774	31,780
00 9101 Total direct program		3,900,700			3,237,581	390,070
01 0101 Reimbursable program		109,800			60,390	21,960
10 0001 Total		4,010,500			3,297,971	412,030
Financing						
Offsetting collections from						
11 0001 Federal funds(-)		-41,800			-41,800	
13 0001 Trust funds(-)		-68,000			-68,000	
Unobligated balance available, start of year						-712,529
21 4002 For completion of prior year budget plans						
Unobligated balance available, end of year					712,529	300,499
24 4002 For completion of prior year budget plans						
39 0001 Budget authority		3,900,700			3,900,700	
Budget authority						
40 0001 Appropriation		3,940,900			3,940,900	
41 0001 Transferred to other accounts(-)		-40,200			-40,200	
43 0001 Appropriation (adjusted)		3,900,700			3,900,700	

Aircraft Procurement, Army
Program and Financing (in Thousands of dollars)

04 Feb 85
FISCAL YEAR 1986

Identification code 21-2031-0-1-051	Budget Plan (amounts for PROCUREMENT actions programmed)			Obligations		
	1984 actual	1985 est	1986 est	1984 actual	1985 est.	1986 est
Program by activities:						
Direct program:						
00 0101 Aircraft			1,842,500			1,529,275
00 0201 Modification of aircraft			788,100			654,123
00 0301 Spares and repair parts			849,700			788,251
00 0401 Support equipment and facilities			312,200			259,126
00 9101 Total direct program			3,892,500			3,230,775
01 0101 Reimbursable program			145,800			80,190
10 0001 Total			4,038,300			3,310,965
Financing:						
Offsetting collections from:						
11 0001 Federal funds(-)			-68,900			-68,900
13 0001 Trust funds(-)			-76,900			-76,900
Unobligated balance available, end of year:						
24 4002 For completion of prior year budget plans						727,335
40 0001 Budget authority (Appropriation)			3,892,500			3,892,500

Aircraft Procurement, Army
Program and Financing (in Thousands of dollars)

04 Feb 85

Identification code 21-2031-0-1-051	Budget Plan (amounts for PROCUREMENT actions progressed)			Obligations		
	1984 actual	1985 est	1986 est	1984 actual	1985 est	1986 est
Program by activities						
Direct program:						
00 0101 Aircraft	1,804,401	2,039,000	1,842,500	1,788,532	1,821,305	1,852,691
00 0201 Modification of aircraft	569,646	686,000	788,100	658,605	845,173	787,798
00 0301 Spares and repair parts	596,850	675,900	949,700	597,489	736,375	897,621
00 0401 Support equipment and facilities	166,155	317,800	312,200	105,076	361,414	302,536
00 9101 Total direct program	3,237,132	3,900,700	3,892,500	3,150,702	3,764,267	3,840,646
01 0101 Reimbursable program	81,034	109,800	145,600	47,458	114,664	122,537
10 0001 Total	3,318,166	4,010,500	4,038,100	3,198,160	3,878,931	3,963,183
Financing:						
Offsetting collections from:						
11 0001 Federal funds(-)	57,275	-41,800	-68,900	-46,585	-41,800	-68,900
13 0001 Trust funds(-)	23,759	-68,000	-76,900	12,707	-68,000	-76,900
17 0001 Recovery of prior year obligations(-)				-90,872		
Unobligated balance available, start of year:						
21 4002 For completion of prior year budget plans				-661,183	-820,848	-952,717
21 4007 Reprograming from/to prior year budget pla	-4,356	600				
22 4001 Unobligated balance transferred, net	-12,700	-600		-12,700	-600	
Unobligated balance available, end of year:						
24 4002 For completion of prior year budget plans				820,848	952,717	1,027,834
25 0001 Unobligated balance lapsing	16,456	600		16,456	600	
39 0001 Budget authority	3,236,532	3,901,300	3,892,500	3,236,532	3,901,300	3,892,500
Budget authority:						
40 0001 Appropriation	3,214,048	3,940,900	3,892,500	3,214,048	3,940,900	3,892,500
41 0001 Transferred to other accounts(-)		-40,200			-40,200	
42 0001 Transferred from other accounts	22,484			22,484		
43 0001 Appropriation (adjusted)	3,236,532	3,900,700	3,892,500	3,236,532	3,900,700	3,892,500
50 0001 Reappropriation		600			600	
Relation of obligations to outlays:						
71 0001 Obligations incurred, net				3,164,282	3,769,131	3,817,383
72 4001 Obligated balance, start of year				2,573,989	3,463,528	4,493,159
74 4001 Obligated balance, end of year				-3,463,528	-4,493,159	-5,007,342
77 0001 Adjustments in expired accounts				-19,301		
78 0001 Adjustments in unexpired accounts				-90,872		
90 0001 Outlays				2,164,570	2,739,500	3,303,200

Aircraft Procurement, Army
Object Classification (in Thousands of dollars)

04 Feb 85

Identification code 21-203 -0-1 051		1984 actual	1985 est.	1986 est
	Direct obligations:			
	Other services			
12 5004	Other	409,591	526,997	537,690
12 6001	Supplies and materials	378,084	602,283	614,503
13 1001	Equipment	2,363,027	2,634,987	2,688,453
19 9001	Total Direct obligations	3,150,702	3,764,267	3,840,646
	Reimbursable obligations			
	Other services:			
22 5004	Other	6,169	16,053	17,155
22 6001	Supplies and materials	5,695	16,346	19,606
23 1001	Equipment	35,594	83,265	85,776
29 9001	Total Reimbursable obligations	47,458	114,664	122,537
99 9901	Total obligations	3,198,160	3,878,931	3,963,183

AIRCRAFT PROCUREMENT, ARMY

Section 2

Budget Activity Justifications

Activity 1 - Aircraft

Activity 2 - Modification

Activity 3 - Spares and Repair Parts

Activity 4 - Support Equipment and Facilities

1-10 February 1985

Department of the Army Annual Budget Estimates JUSTIFICATION	Appropriation Aircraft Procurement, Army			FY 1986 Budget
Program or Budget Project Account Budget Program - Activity 1, Aircraft.	(Thousands of Dollars)			
	Actual	Estimate	Estimate	Estimate
	FY 1984	FY 1985	FY 1986	FY 1987
Direct Obligation or Direct Budget Plan Direct Obligation	1,804,481	2,039,000	1,842,500	1,809,800

Section 1 - PURPOSE AND SCOPE

Provides for procurement and manufacture of airplanes, helicopters, and associated aircraft armament and avionics equipment.

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

($ in Thousands)

FY 1986	FY 1987
$143,000	$164,900

EH-60A QUICK FIX Electronic Helicopter (Multiyear Procurement) - (P-1 Line Items 4 and 5).

The FY 1986 request includes $118.6 million for the procurement of 18 EH-60A QUICK FIX helicopters. Additionally, $24.4 million is requested for advance procurement of long leadtime engine and airframe components required to support the FY 1987 production. QUICK FIX utilizes the BLACK HAWK airframe to deploy on-board Electronic Warfare (EW) equipment designed to identify, locate, listen, and disrupt enemy command and control communications. Funding in FY 87 will buy an additional 18 aircraft and long lead material for FY 1988 aircraft.

($ in Thousands)	
FY 1986	FY 1987
$100	$100

Modifications less than $900 Thousand - (P-1 Line Item 30).

The $.1 million requested in FY 1986 and FY 1987 is for various modification requirements.

($ in Thousands)	
FY 1986	FY 1987
$17,000	$16,700

Aircraft 9WW - (P-1 Line Item 31).

A total of $17.0 million is requested in FY 1986 and $16.7 million in FY 1987 for specialized aviation of a classified nature.

Department of the Army Annual Budget Estimates JUSTIFICATION	Appropriation Aircraft Procurement, Army			FY 1986 Budget
Program or Budget Project Account	(Thousands of Dollars)			
Budget Program - Activity 2, Aircraft Modifications.	Actual FY 1984	Estimate FY 1985	Estimate FY 1986	Estimate FY 1987
Direct Obligation or Direct Budget Plan Direct Obligation	669,646	868,000	788,100	892,100

Section 1 - PURPOSE AND SCOPE

Provides for modification of items and upgrade of equipment procured by the Aircraft Procurement, Army appropriation, including modification kits. Installation costs are not included unless the manufacturer provides parts and labor under a single contract (excluding normal GFE) and this results in an end item reconfigured to a new series designation or new operational capability.

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

($ in Thousands)	
FY 1986	FY 1987
$27,700	$29,700

OV-1 Mohawk Surveillance Airplane - (P-1 Line Item 11).

The $27.7 million requested in FY 1986 provides non-recurring engineering to support block improvement for a reduced fleet of OV/RV-1 aircraft and continued procurement and installation of the stall warning and anti-ice modifications. FY 87 funding continues block improvement, stall warning, anti-ice and procurement of aircraft survivability equipment.

($ in Thousands)

FY 1986	FY 1987
$500	-0-

RC-12D Reconnaissance Airplane - (P-1 Line Item 12).

The $.5 million requested in FY 1986 is for procurement of modification kits for the continuous wave radar jammer.

($ in Thousands)

FY 1986	FY 1987
$500	-0-

RV-1D Reconnaissance Airplane - (P-1 Line Item 13).

The $.5 million requested in FY 1986 is for procurement of modification kits for the continuous wave radar jammer.

($ in Thousands)

FY 1986	FY 1987
$124,500	$113,800

AH-1 COBRA-TOW Attack Helicopter - (P-1 Line Item 15).

A total of $124.5 million is requested in FY 1986 for a variety of COBRA modification programs. This includes the COBRA Night Program (C-Nite) ($21.7 million), the COBRA Fleet Life Extension Program (C-FLEX) ($37.5 million), and conversion of 29 AH-1G aircraft to AH-1S configuration ($47.3 million. The remaining $18.0 million is requested for Laser Augmented Airborne TOW, optical improvements and safety related improvements. A total of $113.8 million is requested in FY 1987 for the C-FLEX, C-NITE, and Laser Augmented TOW optical improvements.

($ in Thousands)

FY 1986	FY 1987
$378,100	$327,500

CH-47 CHINOOK Cargo Helicopter (Multiyear Procurement) - (P-1 Line Items 17 and 18)

A total of $378.1 million is requested in FY 1986 for continuation of the CH-47D modernization program and for fleet modifications to convert the T-55-L-11D engine to the T-55-L-712 configuration. The CH-47 Modernization program includes improvements to the current CH-47A, B, C fleet to modernize it to the greatly improved CH-47D configuration. Modifications include new fiberglass rotor blades; new engines, transmission and drive system; modularized hydraulics; electrical system; advanced flight control system; triple hook cargo system and a new auxiliary power unit. These improvements increase the aircraft capability for lift and endurance and extends the useful life of the fleet beyond the year 2000. The features greatly enhance reliability, maintainability, productivity, survivability and safety of the Active Army's only medium-lift cargo helicopter. In FY 1987, $327.5 million is requested for continuation of the fleet modernization to the improved CH-47D configuration. Funding also permits the continuation of the T-55-L-11D engine conversion to the T-55-L-712 configuration. This program is a multiyear procurement beginning in FY 1985 and continuing through FY 1989.

($ in Thousands)

FY 1986	FY 1987
$500	$500

CH-54 TARHE Cargo Helicopter - (P-1 Line Item 19)

A total of $.5 million is requested in FY 1986 for modifications to the CH-54 fleet. The program includes product improvements such as avionics/wiring update, new N_2 sensing cable, improved Auxiliary Power Unit (APU) electric start, and reliability improvements. The CH-54 is the Army's only heavy lift helicopter and is the platform required for over the beach container movement. The entire fleet is assigned to the reserve components. The planned improvements are designed to keep the aircraft operational through the year 2000. Funds requested in FY 87 will permit continuation of this program.

($ in Thousands)	
FY 1986	FY 1987
$12,200	$37,900

UH-1 Mods - (P-1 Line Item 23).

A total of $12.2 million is requested in FY 1986 to continue avionics replacement on the UH-1 aircraft fleet. The UH-1 has reached an age where most of the avionics cannot be logistically supported and are no longer in production. For the UH-1 to continue to be used effectively and efficiently, an avionics replacement program must be sustained in FY 1986. Funds requested in FY 1987 will permit continuation of this program.

($ in Thousands)	
FY 1986	FY 1987
$15,400	$14,400

UH-60A Mods - (P-1 Line Item 24).

A total of $15.4 and $14.4 million is requested in FY 1986 and FY 1987, respectively, to continue retrofitting fielded UH-60 BLACK HAWKs with provisions to accommodate the External Stores Support System (ESSS). ESSS provides the Army with a self-deployment and extended range capability in support of the Rapid Deployment Force mission. Other improvements include the installation of the Hover Infrared Suppressor System, Wire Strike Protection System and Cockpit Night Vision Goggle (NVG) compatibility modification. FY 1987 funding will continue the improvements mentioned above.

($ in Thousands)

FY 1986	FY 1987
$210,600	$248,500

Army Helicopter Improvement Program (AHIP) - (P-1 Line Items 25 and 26).

A total of $210.6 million is requested in FY 1986 to modify 56 OH-58A airframes to the OH-58D (AHIP) configuration. This request also includes funds for advance procurement ($51.8 million) for modification of 60 OH-58A airframes in FY 1987. Modification of the OH-58A includes the addition of a Mast-Mounted Sight (MMS) to achieve a day, night, adverse weather target acquisition and designation capability, an integrated cockpit with improved communications and navigation equipment, a more powerful engine, redesign of the main transmission and tail rotor drive train, and the installation of a composite, four bladed main rotor system and composite tail rotor. Advance procurement funding permits the procurement of long leadtime transmission components, gearboxes, main rotor masts, material for main rotor blades, electrical components, castings, forgings, bearings, hydraulic actuators, sensors, microelectronic parts, engines, and avionics. The AHIP will provide commanders with a significantly improved scout helicopter to conduct command and control, reconnaissance, surveillance, security and target acquisition designation functions under day, night, and adverse weather conditions. In FY 1987, $248.5 million is requested to exercise the fourth production contract to modify 60 OH-58A airframes to the OH-58D (AHIP) configuration, and advance procurement ($81.8 million) for modification of 94 OH-58A airframes in FY 1988.

($ in Thousands)

FY 1986	FY 1987
$1,000	$8,200

Airborne Avionics - (P-1 Line Item 29).

The $1.0 million requested in FY 1986 will provide airborne avionics modifications and the initiation of upgrades for the tactical approach radar. $8.2 million in FY 1987 will continue these product improvement programs.

($ in Thousands)	
FY 1986	FY 1987
$100	$100

Modifications less than $900 Thousand - (P-1 Line Item 30).

The $.1 million requested in FY 1986 and FY 1987 is for various modification requirements.

($ in Thousands)	
FY 1986	FY 1987
$17,000	$16,700

Aircraft 9WW - (P-1 Line Item 31).

A total of $17.0 million is requested in FY 1986 and $16.7 million in FY 1987 for specialized aviation of a classified nature.

Department of the Army Annual Budget Estimates JUSTIFICATION	Appropriation Aircraft Procurement, Army			FY 1986 Budget
Program or Budget Project Account Budget Program - Activity 3, Spares and Repair Parts	(Thousands of Dollars)			
	Actual	Estimate	Estimate	Estimate
	FY 1984	FY 1985	FY 1986	FY 1987
Direct Obligation or Direct Budget Plan Direct Obligation	596,850	675,900	949,700	1,198,300

Section 1 - PURPOSE AND SCOPE

Provides for procurement of depot repairable spares and repair parts including provisioning (initial issue), replenishment, mobilization reserve, and avionics spares.

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

($ in Thousands)	
FY 1986	FY 1987
$949,700	$1,198,300

Spares and Repair Parts - (P-1 Line Item 32).

Initial Spares: A total of $280.4 million is requested in FY 1986 and $163.4 million in FY 1987 to procure spares and repair parts in support of initial fielding of new or modified systems. These funds also support the procurement of aircraft engines and engine modules over the life cycle of the aircraft. Spares are an integral part of the development of any aircraft system (new procurement or modification). Initial spares are ordered to support the major item delivery and fielding schedule to preclude grounding the system for lack of spare parts. Aircraft end items supported in FY 1986 are:

(Dollars in Millions)

AH-64	$142.8	OV-18A	$1.5	Safety-of-Flight	$1.8
UH-60A	20.8	RV-1	1.1	Ground Support Equipment	.7
EH-60A	17.4	AH-1S	3.4	Night Vision Goggles	3.4
RC-12D	13.7	CH-47	18.5	ASE & Avionics	3.1
EH-1	1.6	AHIP	50.0	SINCGARS	.6

Replenishment Spares: A total of $669.3 million is requested in FY 1986 and $1,034.9 million in FY 1987. The funding in FY 1986 includes $413.0 million for peacetime requirements and $256.3 million for war reserves. The peacetime replenishment spares support the Army's flying hour program, depot and pipeline requirements for the life of the system. War reserve spares provide initial combat surge support until resupply can be established. The replenishment spares (peacetime) requirement supports the following systems:

	FY 86
UH-1 Helicopter	97.9
AH-1 (COBRA)	86.3
UH-60 (BLACK HAWK)	111.7
CH-47 (CHINOOK)	17.0
CH-54	5.8
OH-58/OH-6	13.4
OV-1/RV-1	7.4
U-8/U-21	1.7
Communications & Electronics AGSE & MISC	71.8
Total	413.0

Department of the Army Annual Budget Estimates JUSTIFICATION	Appropriation Aircraft Procurement, Army			FY 1986 Budget
Program or Budget Project Account Budget Program - Activity 4, Support Equipment and Facilities	(Thousands of Dollars) Actual FY 1984	Estimate FY 1985	Estimate FY 1986	Estimate FY 1987
Direct Obligation or Direct Budget Plan Direct Obligation	166,155	317,800	312,200	233,800

Section 1 - PURPOSE AND SCOPE

Provides for avionics support equipment including communications, position/navigation, survivability equipment and aviator night vision goggles; for common ground equipment including tool sets, shop sets and components thereof, ground handling/servicing equipment, special test and diagnostic equipment, fixed base airfield support equipment (air traffic control), and aviation life support equipment (ALSE); for tactical air traffic control systems; for flight simulators and training devices; for industrial facilities including provisions for industrial facilities and depot maintenance plant equipment; and for war consumables including lightweight rocket launchers.

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

($ in Thousands)	
FY 1986	FY 1987
$67,800	$83,800

Avionics Support Equipment - (P-1 Line Item 33).

In 1986, $67.8 million is requested as follows: $24.6 million for communications equipment, $16.1 million for navigation equipment, $0.5 million for survivability equipment and $26.6 million for aviation night vision goggles. The FY 1987 request for $83.8 million is allocated as follows: $41.0 million for communications equipment, $15.3 million for navigation equipment, $0.7 million for survivability equipment and $26.8 million for aviation night vision goggles.

($ in Thousands)	
FY 1986	FY 1987
$35,000	$63,200

Common Ground Equipment - (P-1 Line Item 34).

A total of $35.0 million is requested in FY 1986 and $63.2 million in FY 1987 for procurement of Sets, Kits, and Outfits; Aviation Ground Support Equipment; Aviation Life Support Equipment and individual items costing less than $.9 million. Sets, Kits, and Outfits are required to fill shortages, replace obsolete equipment and to continue implementation of the three level maintenance concept. Aviation Ground Support Equipment provides for the acquisition of aircraft ground power units, vibrex analyzers and other items costing less than $.9 million. Airfield support equipment is required to maintain the fixed base air traffic control capability at Army airfields/heliports by replacing aging or obsolete equipment.

($ in Thousands)	
FY 1986	FY 1987
$9,400	$7,300

Air Traffic Control - (P-1 Line Item 35).

The $9.4 million requested in FY 1986 and $7.3 million in FY 1987 is to continue the procurement of tactical air traffic control (ATC) systems to fill critical shortages of equipment in both active and National Guard units. The FY 1986 request is allocated as follows: $5.4 million for tactical ATC towers, $1.4 million for instrument (weather conditions) landing control systems, $1.0 million for approach radars, $0.9 million for nap-of-the-earth communications and $.7 million for tactical navigation beacons. The FY 1987 request is for the following: $1.1 million for approach radars, $2.2 million for nap-of-the-earth communications, $2.0 million for tactical navigation beacons and $2.0 million for night vision goggle tactical airfield lighting sets.

($ in Thousands)	
FY 1986	FY 1987
$131,600	$51,400

Synthetic Flight Simulator Program - (P-1 Line Item 36).

The $131.6 million requested in FY 1986 is for the procurement of aviation flight simulators. The request includes funds to convert two CH-47C model to D model simulators ($16.9 million). This conversion concludes a three year program which began in FY 1984. Three UH-60 flight simulators will also be procured ($43.9 million) in FY 1986 as part of a five year conventional multiyear procurement. Four AH-64 Combat Mission Simulators will also be procured ($70.8 million) and is a continuation of a conventional multiyear procurement begun in FY 1984.

In FY 1987 $51.4 million is requested as follows: The third year option of a five year conventional multiyear program will be exercised to purchase three UH-60 simulators ($40.0 million). $11.4 million will be used to commence a pre-planned product improvement program to upgrade/modify AH-64 Combat Mission Simulators to aircraft configuration.

($ in Thousands)	
FY 1986	FY 1987
$61,900	$21,300

Industrial Facilities - (P-1 Line Item 37).

The $61.9 million requested in FY 1986 is for support of the Army Aviation Program Industrial Facilities. It includes $10.5 million for rehabilitation and provision of industrial equipment, and $51.4 million for depot maintenance plant equipment (DMPE). The $21.3 million requested in FY 1987 for support of Army Aviation Program Industrial Facilities includes $7.7 million for rehabilitation and provision of industrial equipment, and $13.6 million for depot maintenance plant equipment (DMPE).

($ in Thousands)

FY 1986	FY 1987
$6,500	$6,800

War Consumables - (P-1 Line Item 39).

A total of $6.5 million requested in FY 1986 and $6.8 million in FY 1987 is for 7 tube and 19 tube Hydra 70 (2.75 inch) Lightweight Rocket launchers to be used on the AH-1 COBRA/TOW and AH-64 attack helicopters. These launchers are required in order to fire the new family of Hydra 70 rockets with remote set fuzing options.

AIRCRAFT PROCUREMENT, ARMY

Section 3

Comparison of Program Requirements and Financing

Comparison of FY 1985 program requirements as reflected in FY 1985 budget with FY 1985 program requirements as shown in FY 1986 budget.

Comparison in FY 1985 financing as reflected in FY 1985 budget with FY 1985 financing as shown in FY 1986 budget.

Comparison of FY 1984 program requirements as reflected in FY 1985 budget with FY 1984 program requirements as shown in FY 1986 budget.

Comparison of FY 1984 financing as reflected in FY 1985 budget with FY 1984 financing as shown in FY 1986 budget.

COMPARISON OF FY 1985 PROGRAM REQUIREMENTS
AS REFLECTED IN FY 1985 BUDGET WITH
FY 1985 PROGRAM REQUIREMENTS AS SHOWN IN FY 1986 BUDGET
SUMMARY OF REQUIREMENTS (In Thousands of Dollars)

Appropriation Aircraft Procurement, Army	Total Program Requirements Per FY 1985 Budget	Program Requirements Per FY 1986 Budget	Increase (+) or Decrease (-)
Activity 1 - Aircraft	2,184,600	2,039,000	-145,600
Activity 2 - Modification of Aircraft	846,800	868,000	+ 21,200
Activity 3 - Spares and Repair Parts	633,400	675,900	+ 42,500
Activity 4 - Support Equipment and Facilities	343,500	317,800	- 25,700
TOTAL	4,008,300	3,900,700	-107,600

Explanation by Activity

Activity 1 - Aircraft - Net decrease is due to Congressional actions and internal Army adjustments that decreased AH-64 (-$43,300), UH-60A (-$44,500), and EH-60A (-$81,800). These reductions were offset by Congressional increase to C-12 (+$24,000).

Activity 2 - Modification of Aircraft - Net increase is due to Congressional actions and internal Army adjustments that decreased OV-1 (-$1,500), CH-47 (-$15,000), J-STARS (-$17,000), and AHIP (-$12,900). These reductions were offset by Congressional increase to AH-1S of (+$32,800) and an Army increase to OH-58 (+$34,800) for safety modifications.

Activity 3 - Spares and Repair Parts - Net increase due to Congressional actions that increased Spares and Repair Parts (+42,500).

Activity 4 - Support Equipment and Facilities - Net decrease is due to Congressional actions and internal Army adjustments that decreased Synthetic Flight Training Systems (-$17,200) and Industrial Facilities (-$20,000). These reductions were offset by Congressional increase to Avionics Support Equipment (+$17,500).

COMPARISON OF FY 1985 FINANCING AS REFLECTED
IN THE FY 1985 BUDGET WITH FY 1985 FINANCING
AS SHOWN IN FY 1986 BUDGET

(In Thousands of Dollars)

Appropriation Aircraft Procurement, Army	Financing Per FY 1985 Budget	Financing Per FY 1986 Budget	Increase (+) or Decrease (-)
Program Requirements, (Total)	4,104,200	4,010,500	- 93,700
Program Requirements (Service Account)	(4,008,300)	(3,900,700)	(-107,600)
Program Requirements (Reimbursable)	(95,900)	(109,800)	(+ 13,900)
Less:			
Anticipated reimbursements	-95,900	-109,800	- 13,900
Reprograming from prior year budget plans			
Unobligated balance available from prior year to finance new budget plans			
Unobligated balance transferred to other accounts			
Add:			
Unobligated balance transferred to other accounts			
Unobligated balance available to finance subsequent year budget plans			
BUDGET AUTHORITY	4,008,300	3,900,700	-107,600
BUDGET AUTHORITY			
Appropriation	4,008,300	3,940,900	-67,400
Transfers to other accounts (-)		-40,200	-40,200
Appropriation (Adjusted)	4,008,300	3,900,700	-107,600

EXPLANATION OF CHANGES IN FINANCING

Net decrease to budget authority is due to Congressional actions taken on the FY 1984 Budget Request and transfers to Military Personnel Army.

COMPARISON OF FY 1984 PROGRAM REQUIREMENTS
AS REFLECTED IN FY 1985 BUDGET WITH
FY 1984 PROGRAM REQUIREMENTS AS SHOWN IN FY 1986 BUDGET
SUMMARY OF REQUIREMENTS (In Thousands of Dollars)

Appropriation Aircraft Procurement, Army	Total Program Requirements Per FY 85 Budget	Program Requirements Per FY 1986 Budget	Increase (+) or Decrease (-)
Activity 1 - Aircraft	1,813,700	1,804,481	- 9,219
Activity 2 - Modification of Aircraft	666,530	669,646	+ 3,116
Activity 3 - Spares and Repair Parts	593,600	596,850	+ 3,250
Activity 4 - Support Equipment and Facilities	199,418	166,155	-33,263
TOTAL	3,273,248	3,237,132	-36,116

Explanation by Activity

Activity 1 - Aircraft - Net decrease is due to decrease to UH-60 (-$14,219), offset by increase to JSTAR (+$5,000).

Activity 2 - Modification of Aircraft - Net increase due to the following increases: U-21 (+$600), EH-1 (+$200), UH-60 (+$1,859), AHIP (+$9,999), Airborne Avionics (+$497), OH-58 (+$9,900), Mods Under $900,000 (+$4,291); offset by the following decreases: RC-12 (-$180), AH-1 (-$19,000), C-12 (-$50), JSTARS (-$5,000).

Activity 3 - Spares and Repair Parts - Net increase is due to increase in replenishment and initial provisioning spares (+$3,250).

Activity 4 - Support Equipment and Facilities - Net decrease is due to decreases to Avionics Support Equipment (-$24,931), Common Ground Equipment (-$6,241) and Industrial Facilities (-$2,191); offset by an increase in the Manufacturing Technology Program (+$100).

COMPARISON OF FY 1984 FINANCING AS REFLECTED
IN THE FY 1985 BUDGET WITH FY 1984 FINANCING
AS SHOWN IN FY 1986 BUDGET

(In Thousands of Dollars)

Appropriation Aircraft Procurement, Army	Financing Per FY 1985 Budget	Financing Per FY 1986 Budget	Increase (+) or Decrease (-)
Program Requirements, (Total)	3,357,048	3,318,166	-38,882
Program Requirements (Service Account)	(3,273,248)	(3,237,132)	(-36,116)
Program Requirements (Reimbursable)	(83,800)	(81,034)	(- 2,766)
Less:			
Anticipated Reimbursements	-83,800	-81,034	+ 2,766
Reprograming from prior year budget plans		- 600	- 600
Unobligated balance available from prior year to finance new budget plans			
Unobligated balance transferred to other accounts			
Add:			
Unobligated balance transferred to other accounts			
Unobligated balance lapsing			
Unobligated balance available to finance subsequent year budget plans			
BUDGET AUTHORITY	3,273,248	3,236,532	-36,716
BUDGET AUTHORITY			
Appropriation	3,214,048	3,214,048	0
Transferred from other accounts	59,200	22,484	-36,716
Appropriation (adjusted)	3,273,248	3,236,532	-36,716

EXPLANATION OF CHANGES IN FINANCING

Net decrease to budget authority is due to smaller net increase to the APA appropriation than anticipated as a result of a reprograming action to increase support for Aircraft SAW.

AIRCRAFT PROCUREMENT, ARMY

Section 4

Status of Aircraft Modification Programs

1-30 February 1985

Status of Aircraft Modification Program

FY 1983 Modification Programs

Programs as of 31 October 1985 ($ Million)

Program	Appropriated	Reprogramming	Total Program Value	Total Obligations	Total Disbursements
Airplane, Surveillance, OV-1	16.9	- 2.8	14.1	12.8	5.9
Airplane, Reconnaissance, RC-12D	8.7	+ 8.3	17.0	15.1	8.2
Airplane, Reconnaissance, RV-1	9.9	- 9.4	.5	.1	.1
Helicopter, Attack, AH-1S	29.5	- 7.0	22.5	16.4	5.3
Helicopter, Cargo, CH-47	261.3	+ 2.5	263.8	243.7	96.2
Airplane, Cargo, C-12	.4	- .2	.2	.2	.1
Helicopter, Electronic, EH-1	-	+ 2.0	2.0	2.0	1.1
Helicopter, Observation, OH-58	1.8	+ 1.9	3.7	-	-
Army Helicopter Improvement Program (AHIP)	28.7	- .3	28.4	28.2	19.5
Airborne Avionics	5.0	- 3.7	1.3	1.3	.1
Aircraft 9WW	21.2	+20.0	41.2	40.0	22.1
Modifications under $900,000	.1	+ 3.8	3.9	2.3	1.2
UH-60A Mods	-	+ 2.0	2.0	1.9	1.9

1-31 February 1985

Status of Aircraft Modification Program

FY 1984 Modification Programs

Programs as of 31 October 1985 ($ Million)

Program	Appropriated	Reprogramming	Total Program Value	Total Obligations	Total Disbursements
Airplane, Surveillance, OV-1	26.4	- 5.5	20.9	13.9	.3
Airplane, Reconnaissance, RC-12D	7.4	- 2.0	5.4	1.4	.1
Airplane, Reconnaissance, RV-1	4.0	- 3.9	.1	-	-
Helicopter, Attack, AH-1S	59.2	-	59.2	59.2	2.3
Helicopter, Cargo, CH-47	330.3	-	330.3	290.1	73.4
Airplane, Cargo, C-12	.2	- .1	.1	.1	-
Helicopter, Electronic, EH-1	.4	+ .2	.6	.5	.2
Helicopter, Observation, OH-58	2.6	+ 9.9	12.5	8.3	-
Army Helicopter Improvement Program (AHIP)	175.4	+10.0	185.4	174.4	.2
Airborne Avionics	3.7	- .8	2.9	2.5	-
Aircraft 9WW	5.0	+40.2	45.2	35.3	-
Modifications under $900,000	.2	+ 4.3	4.5	2.9	-
UH-60A Mods	-	+ 1.9	1.9	-	-
Airplane, Utility, U-21	-	+ .6	.6	-	-

Status of Aircraft Modification Program

FY 1985 Modification Programs

Programs as of 31 October 1985 ($ Million)

Program	Appropriated	Reprogramming	Total Program Value	Total Obligations	Total Disbursements
Airplane, Surveillance, OV-1	20.3	-	20.3	-	-
Airplane, Reconnaissance, RC-12D	7.8	-	7.8	-	-
Airplane, Reconnaissance, RV-1	6.5	-	6.5	-	-
Helicopter, Attack, AH-1S	90.0	-	90.0	-	-
AH-1 Training Device (HITMORE)	3.0	-	3.0	-	-
Helicopter, Cargo, CH-47	431.9	-	431.9	-	-
Helicopter, Electronic, EH-1	2.2	-	2.2	-	-
Helicopter, Observation, OH-58	4.0	-	4.0	-	-
Helicopter, Utility, UH-1	1.9	-	1.9	-	-
Army Helicopter Improvement Program (AHIP)	204.4	-	204.4	-	-
Airborne Avionics	7.0	-	7.0	-	-
Aircraft SWW	59.5	-	59.5	-	-
Modifications under $900,000	.1	-	.1	-	-
UH-60A Mods	5.9	-	5.9	-	-

AIRCRAFT PROCUREMENT, ARMY

Section 5

Modification of Aircraft

1-34 February 1985

CLASSIFICATION

REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION	DATE Feb 1985
APPROPRIATION/BUDGET ACTIVITY Procurement, Army/Activity: 2	MODIFICATION TITLE AND NO. Block Improvement #1-84-01-1002	

AIRCRAFT AFFECTED: OV-1D (AZ3530)

DESCRIPTION/JUSTIFICATION: Type of Improvement - Operational Capability. The entire fleet of OV-1D aircraft has an average of 3500 hours per aircraft, with several aircraft already exceeding 6000 hours. The continued operational requirements for the OV-1D aircraft are rapidly approaching the analytical fatigue life expectancy of 7000 hours, which was projected at lower aircraft gross weights than are being presently utilized (which means that the actual life may be less than 7000 hours). Therefore, in order to continue SLAR/IR/PHOTOGRAPHIC operational missions into the late 1990's or beyond, it has become evident that the OV-1D aircraft fleet requires a Block Improvement/Service Life Extension Program. The planned program will: update the avionics systems that have a marginal logistic date between the calendar years 1983 through 1990 to the latest DOD standards with increased interoperable communications/navigation components, improve the EMI/EMC and tempest profile of the aircraft, and enhance the wing and fuselage carry-through structure to allow continued use of the basic airframe platform.

DEVELOPMENT STATUS: The OV-1D aircraft is a fielded system. Avionics systems are available.

MILESTONES:	FY 86	FY 87	FY 88
Project Initiated 1Q85			
1st Phase Engr Contract Award	1Q86		
ECP Approval	4Q87		
Production Contract Award			1Q88
Average Production Lead Time			12-15 Months
Deliveries Start			1Q89

PROJECT FINANCIAL PLAN: (Amounts in thousands of dollars)

FY84		FY85		FY86		FY87		REMAINING RQMT		TOTAL	
QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST
	2,612.0		271.0		27,700.0		13,396.0	38	149,445.0	38	193,424.0

OV-10D BLOCK IMPROVEMENT
PIP #1-84-01-1002

BASIS FOR COST ESTIMATE: (Amounts in thousands of dollars)

	FY84		FY85		FY86		FY87		REMAINING RQMT		TOTAL	
	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST
Integ Flt Control Sys		2,612.0										2,612.0
Non-Recurring Engr						20,761.0						20,761.0
Data/Software						6,515.6						6,515.6
Publications/Provisioning								5,600.0				5,600.0
Test Equipment						80.1				367.8		447.9
Contractor Recurring									38	106,920.0	38	106,920.0
Long Lead GFE								6,379.0		29,299.2		35,678.2
Gov't Prod Engr Spt				271.0		343.3				1,182.0		1,796.3
Engr Change Orders								1,417.0		11,676.0		13,093.0
TOTAL		2,612.0		271.0		27,700.0		13,396.0	38	149,445.0	38	193,424.0

METHOD OF IMPLEMENTATION: Aircraft will be modified at the contractor's facility. Prototype aircraft will be completed in a 24 month period. Production is to commence in FY 88 for the first 10 aircraft with a planned production average of 12-15 months. In addition to the Service Life Extension Program (SLEP), aircraft will include the following system updates:

Secure Communication Radios
Intercom System
Identification Friend or Foe (IFF)
Integrated Flight Control System
Navigation System
Altitude Instrumentation
Controls and Display System
Mil Standard Data Bus
Cockpit Lights
Prop Syncrophaser

CLASSIFICATION

REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION	DATE Feb 1985
APPROPRIATION/BUDGET ACTIVITY AIRCRAFT PROCUREMENT, ARMY/ACTIVITY: 2	MODIFICATION TITLE AND NO. Laser Augmented Airborne TOW (LAAT) 1-82-01-0919	

AIRCRAFT AFFECTED: AH-1S Cobra/TOW (AA0150)

DESCRIPTION/JUSTIFICATION: The current AH-1S Cobra configuration requires Cobra crewmembers to rely on range estimation or stadiametric ranging techniques giving an accuracy of +/- 25% of the range. The LAAT will provide precise range data (+/- 10 meters) to the copilot/gunner and to the fire control computer for weapons delivery.

The LAAT consists of a basic telescopic sight unit into which a neodymium yag laser rangefinder has been integrated. The LAAT is an integral part of the AH-1S(MC) fire control system. It provides the target range data required to perform a complete ballistics solution by the fire control computer.

This PI will fill the existing gap in LAAT coverage for the Modernized Cobra and provide a single consistent configuration.

DEVELOPMENT STATUS: Development and testing already completed as part of the AH-1G to AH-1S Conversion Program (PIP 1-77-01-0479).

MILESTONES:	FY 86	FY 87
Production Contract Award	2Q86	2Q87
Production Delivery Starts	4Q88	4Q89
Kit Application Starts	4Q86	3Q89
Kit Application Complete	3Q89	2Q90

PROJECTED FINANCIAL PLAN:	FY 86	FY 87
	11,219.0	15,800.0

BASIS FOR COST ESTIMATE:	FY 86		FY 87		FY 88		FY 89		FY 90		TOTAL	
	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT
Recurring Kits	107	11,219.0	143	15,800.0	-	-	-	-	-	-	250	27,019.0
Airframe Kit Application (Contstant OMA FY85 $)	-	-	-	-	15	(3.0)	180	(39.0)	55	(12.0)	250	(54.0)
TOTAL		11,219.0		15,800		-		-		-		27,019.0

METHOD OF IMPLEMENTATION: LAAT will be integrated via a contractor and depot modification program to the TOW Missile System telescopic sight unit.

	FY 88				FY 89				FY 90			
	1	2	3	4	1	2	3	4	1	2	3	4
Delivery Schedule				15	45	45	45	45	45	10		
Installation Schedule				8	37	45	45	45	45	25		

CLASSIFICATION

REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION	DATE Feb 1985
APPROPRIATION/BUDGET ACTIVITY AIRCRAFT PROCUREMENT, ARMY/ACTIVITY: 2	MODIFICATION TITLE AND NO. Cobra Fleet Life Extension (C-FLEX) 1-83-01-0957	

AIRCRAFT AFFECTED: AH-1S Cobra/TOW (AA0150)

DESCRIPTION/JUSTIFICATION: The Cobra Fleet Life Extension (C-FLEX) Program, which was approved by the Vice-Chief in March 1983, consists of the following product improvements:

1. Rotor Improvements:

   Purpose: To provide an improved design main rotor hub and pitch control linkage for improved reliability and safety.

   Description: The main rotor hub features elastomeric pitch change bearing, and the pitch change tube will be a straight metal or composite tube with an elastomeric "lollipop" bearing.

2. Blue/Green Lighting:

   Purpose: To provide AH-1S (PROD, ECAS, & MC) cockpit/instrument lighting compatibility with AN/AVS-6 night vision goggles.

   Description: Incandescent flood and post lights with BG-7B blue/green glass will be installed with associated switches and controls. The original red lighting system will be retained.

3. TOW Reliability:

   Purpose: To satisfy a fleet-wide need for a more reliable TOW missile system.

   Description: Improve the reliability of the M65 TOW missile by approximately 15% by incorporation of several system changes to replace the most critical high failure items.

4. TOW Test Set:

Purpose: Improve the reliability of the existing test set guided missile system (TSGMS), which is fragile, subject to misinterpretation, and time consuming to use.

Description: Upgrade existing TSGMS by incorporating an automatic digital controller (WSTS), which is more reliable and easier to use.

5. Radio Upgrade:

Purpose: Replace obsolete communications/navigation equipment, provide commonality within the AH-1S fleet and with other Army aircraft. Reduce logistics support requirements.

Description: Provides the following standard communication/navigation configuration for all AH-1S aircraft; i.e.:

-- UHF - ARC-164
-- VHF - ARC-186
-- FM -- SINCGARS
-- ADF - ARN-89
-- Transponder - APX-100

6. ARNG/AH-1G Upgrade:

Purpose: To conduct a factory inspection, repair and modification program which provides the ARNG with FMC attack helicopters easily equipped with airborne TMS.

Description: OCONUS transfer inspection, repair discrepancies, modification of remaining AH-1G to AH-1S airframe.

7. K-FLEX Shaft:

Purpose: To replace the current main drive shaft with a more reliable and maintainable assembly.

Description: The K-FLEX drive shaft consists of flexible, steel couplings. The Kaman shaft directly installs between the engine and transmission.

MILESTONES: The Cobra FLEX Execution Plan began with the engineering/testing phase during 3Q84. Kit production will commence 2Q85, followed by kit applications identified for 1Q86. With the exception of the product improvement for TOW Reliability and Rotor Improvements, the program is scheduled for completion, with the last kit application occurring 4Q89. TOW Reliability and Rotor Improvements will be implemented on an attrition basis; therefore, application will extend beyond FY 91.

PROJECTED FINANCIAL PLAN:

FY 82	FY 83	FY 84	FY 85	FY 86	FY 87	FY 88
1,700.0	7,728.0	40,700.0	66,700.0	84,800.0	43,900.0	50,422.0

FY 89	FY 90	TOTAL
2,200.0	600.0	298,750.0

The following TMDE funding is included in the above financial plan to support Reserve Component Modernization.

FY 86	FY 87	FY 88	FY 89	FY 90	TOTAL
3,300.0	3,400.0	1,600.0	2,200.0	600.0	11,100.0

CLASSIFICATION

REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION	DATE Feb 1985
APPROPRIATION/BUDGET ACTIVITY AIRCRAFT PROCUREMENT, ARMY/ACTIVITY: 2	MODIFICATION TITLE AND NO. MR Flapping Control Device (Hub Spring) I-84-01-0958	

AIRCRAFT AFFECTED: AH-1S Cobra/TOW (AA0150)

DESCRIPTION/JUSTIFICATION: This PIP will provide the AH-1 model helicopters with a device to positively resist the main rotor hub to mast contact during maneuvering flight. The hub spring will not be active during the majority of steady state and maneuvering flight but will begin engagement when the main rotor flapping reaches four degrees. At this point, the hub spring will induce a gradually increasing load between the hub and mast, opposing increased flapping. The hub/mast load is reacted as a moment by the mast and carried through the transmission to the airframe through the transmission mounts. This moment is expected to increase aircraft control sensitivity to large control inputs and to induce noticeable airframe vibrations in advance of hub/mast contact (mast bumping). Safety will be improved because of the increased controllability and the expected reduced incidence of mast bumping. Dependent on the results of the transmission static test, changes to the transmission case may be required.

DEVELOPMENT STATUS: The hub spring has been demonstrated on various aircraft, including the UH-1H. The engineering design and fabrication contract was awarded 21 September 1984, with this effort being completed by the contractor 1 March 1985.

Contractor will perform fatigue tests to establish component lives. A flight load survey will be conducted to assure hub spring size is correct and that loads being introduced into the airframes through the transmission are within allowable limits. Flight tests will be conducted to assure a positive feedback to the pilot when flapping angles approach max flapping limitations.

Government testing will be conducted to verify contractor testing and to assure satisfactory airworthiness and flight characteristics. Testing is scheduled to begin 1 March 1985, with final tests being completed 1 February 1986.

MILESTONES:	FY 84	FY 86
Engineering Design & Fabrication Contract Award	Sep 84	
Production Contract Award		2Q86
Production Delivery Starts		4Q86
Kit Application Starts		1Q87
Kit Application Complete		4Q87

PROJECTED FINANCIAL PLAN:	FY 84	FY 85	FY 86
	5,100.0	-0-	5,400.0

BASIS FOR COST ESTIMATE:	FY 84		FY 85		FY 86		FY 87	
	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT
Nonrecurring Design & Fabrication	-	5,100.0	-	-	-	-	-	-
Publications (OMA)	-	-	-	-	-	(50.0)	-	-
Recurring-Retrofit Kits	-	-	-	-	1102	5,400.0	-	-
Retrofit Kit Installation (OMA)	-	-	-	-	-	-	1102	(2,575.0)
TOTAL		5,100.0				5,400.0		

METHOD OF IMPLEMENTATION: Retrofit kits, consisting of hub spring components, will be procured from Bell Helicopter Textron, Inc., (BHTI). This retrofit kit will be installed at OLR site. Time to install kit is 54 manhours per kit with one kit per aircraft.

	FY 86				FY 87			
	1	2	3	4	1	2	3	4
Delivery Schedule				102	300	300	300	100
Installation Schedule					125	300	300	377

NOTE: These costs/schedules do not include transmission changes. This is the hub spring only.

CLASSIFICATION

REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION	DATE Feb 1985
APPROPRIATION/BUDGET ACTIVITY AIRCRAFT PROCUREMENT, ARMY/ACTIVITY: 2	MODIFICATION TITLE AND NO. C-NITE 1-84-01-0990	

AIRCRAFT AFFECTED: AH-1S Cobra/TOW (AA0150)

DESCRIPTION/JUSTIFICATION: The current AH-1S Cobra configuration has a limited operational capability during night and reduced visibility conditions. Installing the C-NITE system on the Cobra will provide a thermal night sight and TOW II guidance electronics. The C-NITE program modifies existing M-1 tank FLIR and BFV TOW II guidance to provide a low cost system to give the Cobra fleet a substantially enhanced capability of detecting, acquiring, and engaging targets during periods of reduced visibility and at night.

DEVELOPMENT STATUS: C-NITE components will be adapted from "off-the-shelf" hardware. This program combines the Cobra M65 TOW system with the M-1 tank FLIR and the Bradley Fighting Vehicle VTT. Integration of these components will be done by Hughes Aircraft Company. Qualification will include contractor and Army flight tests at the contractor and Yuma Proving Ground facilities. User testing will consist of a force development test and experimentation (FDTE). Three prototype systems will be tested using two helicopters.

MILESTONES:	FY 84	FY 85	FY 86	FY 87	FY 88
Pre-Production Contract	Dec 84				
Initial Prod Facility Contr Award		2Q85			
Production Contract Award			3Q86	3Q87	3Q88
Production Delivery Starts			1Q87	1Q88	1Q89
Kit Application Starts			2Q87	2Q88	1Q90
Kit Application Complete					1Q90

PROJECTED FINANCIAL PLAN:	FY 84	FY 85	FY 86	FY 87	FY 88
	19,000.0 (RDT&E)	12,000.0	21,700.0	48,600.0	33,200.0

BASIS FOR COST ESTIMATE:	FY 84 QTY	FY 84 AMT	FY 85 QTY	FY 85 AMT	FY 86 QTY	FY 86 AMT	FY 87 QTY	FY 87 AMT	FY 88 QTY	FY 88 AMT	FY 89/90 QTY	FY 89/90 AMT
Pre-Production	-	19,000.0 (RDT&E)	-	-	-	-	-	-	-	-	-	-
Tooling	-	-	-	12,000.0	-	-	-	-	-	-	-	-
Publication & Training	-	-	-	(143.0)	-	-	-	-	-	-	-	-
Recurring Kits	-	-	-	-	107	21,700.0	240	48,600.0	153	33,196.0	-	-
Airframe Kit Application (Constant FY 85 $)	-	-	-	-	-	-	16	(180.0)	200	(2,250.0)	284	(3,195.0)
TOTAL		19,000.0		12,000.0		21,700.0		48,600.0		33,196.0		

NOTE: The following OMA funds were approved for C-NITE for the overhaul effort to be accomplished in conjunction with the TOW Sight Unit (TSU) modification:

(Estimated $ Millions)	FY 85	FY 86	FY 87	TOTAL
	1.6	6.4	5.0	13.0

	FY 87 1	2	3	4	FY 88 1	2	3	4	FY 89 1	2	3	4	FY 90 1	2	3	4
Delivery Schedule	1	4	18	44	60	60	60	60	60	60	60	13				
Installation Schedule		2	6	8	20	60	60	60	60	60	60	60	44			

Additional funding, not shown here, is available in FY 88 ($35.3M), FY 89 ($42.0M) and FY 90 ($5.0M) to support follow-on buy for additional C-NITE systems (approved 5 July 1984 by the Vice-Chief of Staff of the Army), plans/schedules for which are not yet developed.

CLASSIFICATION

REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION	DATE Feb 1985
APPROPRIATION/BUDGET ACTIVITY Aircraft Procurement, Army 2 Modification of Aircraft	MODIFICATION TITLE AND NO, Conversion of T55-L-11D to T55-L-712 1-78-01-0700	

AIRCRAFT AFFECTED: CH-47C (AA0250)

DESCRIPTION/JUSTIFICATION: Type of Improvement - Reliability and Maintainability. This PIP provides hardware for a long life (RAM-D) engine. It also provides hardware for emergency power conditions. This hardware will make up an engine identified as the T55-L-712. Improved RAM-D hardware is necessary in order to increase the Mean-Time-Between-Depot for all causes (MTBDA) for the T55-L-11D engine to over 1000 hours. Emergency power hardware is necessary in order to provide reduced aircraft vulnerability in the event of an engine being disabled. A T55-L-11D engine with RAM-D and emergency power hardware installed will be reidentified as the T55-L-712.

DEVELOPMENT STATUS: Program initiated 1 Mar 76. Test engines have been converted to the T55-L-712 configuration and testing has been completed determining low-cycle fatigue, extended service life and performance. This testing was accomplished under the Component Improvement Program.

MILESTONE:

	FY 81 & PRIOR ACT DATE	FY 82 ACT DATE	FY 83 ACT DATE	FY 84 ACT DATE	FY 85 EST DATE
Contract Award for Tooling	Aug 76				
Long Lead Time Casting	Aug 79				
Engine Production Kits Lead Time-23 Months		Feb 82	Jun 84	Jun 84	2Q 85
Eng Kit Delivery Starts	Mar 81				
Eng Kit Inst Starts	May 81				
Contract Award for Airframe Kits Lead Time-18 Months	Sep 79				

BASIS FOR COST ESTIMATE: (Amount in millions of dollars)

	FY 81 & Prior		FY 82		FY 83		FY 84		FY 85		FY 86		TOTAL	
	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost
Engine Kits	151	28.915	96	17.379	44	9.300	88	18.100	139	25.576			518	99.270
Airframe Kits	215	1.275											215	1.275
Nonrecur APA		1.864		.010										1.874
Installation (OMA)					(145)	(.394)	(29)	(.163)	(8)	(.024)	(11)	(.035)	(193)	(.616)
TOTALS	366	32.054	96	17.389	44	9.300	88	18.100	139	25.576			733	102.419

CH-47 Conversion of T55-L-11D to T55-L-712
PIP #1-78-01-0700

METHOD OF IMPLEMENTATION: Implementation of Airframe Kits by contractor and depot. Engine conversion accomplished by depot during overhaul.

	FY 82 & PRIOR	FY 83				FY 84				FY 85			
		1	2	3	4	1	2	3	4	1	2	3	4
(23 Mos. Lead Time) Engine Kit Delivery Schedule	7	15	15	15	15	15	24	24	19	15	15	15	8
Installation Schedule	2	5	7	9		21	21	21	21	11	11	11	12

	FY 86				FY 87				FY 88				FY 89				FY 90				
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	TOTAL
Engine Kit Delivery	11	24	24	24	24	24	24	24	24	24	24	24	24	17							518
Installation/ Completion	10	10	10	10	24	24	24	24	24	24	24	24	24	24	24	24	24	12			518

	FY 81				FY 82				FY 83				FY 84				FY 85				FY 86				
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	TOTAL
Airframe Kit Delivery Schedule	18	19	19	19	27	27	27	27			17	15													215
Installation Schedule Induction/Completion									36	36	36	37	7	7	7	8		8				5	6		193

*Year end density considering CH-47D Modernization Program inductions, 182 aircraft, and incorporation of 11 aircraft procured from Agusta in to conversion program.

CLASSIFICATION

MULTIYEAR PROCUREMENT

REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION	DATE Feb 1985
APPROPRIATION/BUDGET ACTIVITY Procurement, Army/Activity: Aircraft 2, Modification of Aircraft	MODIFICATION TITLE AND NO. CH-47 Modernization, PIP #1-80-01-0815	

AIRCRAFT AFFECTED: CH-47D. (SSN: AA0250)

DESCRIPTION/JUSTIFICATION: Type of Improvement - Improved Operational Capability. Provides for incorporation of advances in design technology since introduction of CH-47s into Army inventory. Integration of these changes will result in improved reliability, maintainability, and reduced vulnerability. Based upon the 20-year life expectancy of the CH-47D modernized aircraft, the year designator of each current serial number will be changed to year of acceptance. The CH-47 (Chinook) medium lift helicopter was developed in the late 50s with the first CH-47s being procured in 1962. The Chinook provided invaluable battlefield mobility in Vietnam for tactical vehicles, artillery and engineer equipment, personnel and logistical support equipment. The Chinook will continue in service to meet the Army medium lift requirement through the year 2000. The CH-47A and B models fail to meet the Required Operational Capability (ROC) of 15,000 lb. payload for medium lift helicopters.

DEVELOPMENT STATUS: (RDTE Funded)

Modernization Development Contract	Jun 76
1st Flight	May 79
Preliminary Airworthiness Evaluation (PAE)	Dec 79
DT/OT II Start	Dec 79
DT/OT II Complete	May 80
ASARC III	Aug 80
DSARC III Decision	Oct 80

CH-47D MODERNIZATION
PIP #1-80-01-0815

MILESTONES:	FY 80	FY 81	FY 82	FY 83	FY 84	FY 85	FY 86	FY 87
Long Lead Time Items	Apr 80	Oct 80	Dec 81	Sep 83	Mar 84	2Q FY 85	1Q FY 86	1Q FY 87
Production Contract Award		Oct 80	Dec 81	Sep 83	Mar 84	2Q FY 85	1Q FY 86	1Q FY 87
Induction Starts		Oct 80	Dec 81	Dec 82	Dec 83	Dec 84	1Q FY 86	1Q FY 87
Delivery Complete		May 83	Feb 84	Dec 84	1Q FY 86	1Q FY 87	1Q FY 88	1Q FY 89

	FY 88	FY 89	FY 90	FY 91	FY 92
Long Lead Time Items	1Q FY 88	1Q FY 89	1Q FY 90	1Q FY 91	
Production Contract Award	1Q FY 88	1Q FY 89	1Q FY 90	1Q FY 91	1Q FY 92
Induction Starts	1Q FY 88	1Q FY 89	1Q FY 90	1Q FY 91	1Q FY 92
Delivery complete	1Q FY 90	1Q FY 91	1Q FY 92	1Q FY 93	1Q FY 93

PROJECT FINANCIAL PLAN: (Amounts in millions of dollars)

FY 80		FY 81		FY 82		FY 83		FY 84		FY 85		FY 86	
Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost
	27.279	9	151.017	19	210.094	24	237.843	36	310.936	48	401.865	48	361.800

FY 87		FY 88		FY 89		FY 90		FY 91		FY 92		TOTAL	
Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost
48	305.473	48	267.400	48	259.600	48	257.515	48	209.431	12	60.409	436	3,060.662

BASIS FOR COST ESTIMATE: (Amounts in millions of dollars)

	FY 80		FY 81		FY 82		FY 83		FY 84		FY 85		FY 86	
	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost
Long Lead Time Items1/		5.298		8.543		21.293		55.936		15.582		76.552		70.24
Recurring		1.205		66.928		111.826		99.237		181.068		225.579		213.29
GFM:														
Engines		6.144		21.181		38.937		31.783		57.023		46.320		37.21
APU		.461		1.041		1.087		1.922		3.000		2.857		3.01
Avionics		1.190		6.962		13.547		17.433		12.938		8.925		15.76
Other				2.278		5.335		5.522		14.571		16.684		17.58
Nonrecurring		12.611		38.979		15.006		21.459		26.307		24.139		3.82
Data/Pubs		.370		5.105		3.063		4.551		.441		.809		.85
Transportation (OMA)						(.042)		(.104)		(.173)		(.263)		(.67
		27.279	9	151.017	19	210.094	24	237.843	36	310.936	48	401.865	48	361.80

	FY 87		FY 88		FY 89		FY 90		FY 91		FY 92		TOTAL	
	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost
Long Lead Time Items1/		69.798		62.451		45.553		70.266		8.813				510.33
Recurring		196.612		165.216		176.917		147.507		176.677		47.772		1,809.84
GFM:														
Engines														238.61
APU		3.163		3.318		3.477		3.644		1.170				28.15
Avionics		12.923		12.610		8.017		7.023						117.33
Other		18.475		22.059		20.306		22.758		22.307		12.151		180.03
Nonrecurring		3.862		1.343		4.908		5.875						158.31
Data/Pubs		.640		.403		.422		.442		.464		.486		18.04
Transportation (OMA)		(4.009)		(5.863)		(6.185)		(6.525)						(23.83
TOTAL	48	305.473	48	268.000	48	261.000	48	257.800	48	209.431	12	60.409	436	3,060.6

1/ Does not include GFM long lead time items. The long lead items procured each year are to support the succeeding 2 years of modernization contracts.

METHOD OF IMPLEMENTATION: CH-47A, B, and C model aircraft will be inducted from the field to the contractor's site for modernization

	FY 81				FY 82				FY 83				FY 84				FY 85				FY 86				FY 87			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inductions	1	2	3	3	3	4	6	6	6	6	6	6	7	9	9	11	12	12	12	12	12	12	12	12	12	12	12	12
Deliveries							1	1	3	3	4	6	6	6	6	6	9	9	12	12	12	12	12	12	12	12	12	12

	FY 88				FY 89				FY 90				FY 91				FY 92				FY 93				TOTAL
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
Inductions	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12								436
Deliveries	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	4			436

CLASSIFICATION

REPORTS CONTROL SYMBOL DD-COMP (AR) 1062	AIRCRAFT MODIFICATION	DATE Feb 1985
APPROPRIATION/BUDGET ACTIVITY Procurement Army/Activity 2, Modification of Aircraft; Aircraft	MODIFICATION TITLE AND NO. NVG Compatible Cockpit, PIP #1-81-01-0852	

AIRCRAFT AFFECTED: CH-47. (SSN: AA0250)

DESCRIPTION/JUSTIFICATION: Type of Improvement - Improved Operational Capability. To Allow the CH-47 to effectively perform terrain flying tactics at night in a combat environment, Night Vision Goggles(NVGs) must be used by the flight crews. The existing cockpit lighting is not compatible with NVG and almost totally obscures external vision with NVG. The application of this modification enables the cockpit lighting to be reduced to NVG levels and reduce cockpit reflections on transparent surfaces. Furthermore, this modification enables NVGs to be utilized in the cargo compartment.

DEVELOPMENT STATUS: Initial testing of the lighting changes, installation and flight test were accomplished in 1st Qtr FY 83 by the prime contractor.

MILESTONES:	FY 82	FY 83	FY 84	FY 85	FY 86	FY 87
Engineering Initiated	Sep 82					
Contract Award, Kits	Dec 82	Sep 83		2Q FY 85	1Q FY 86	1Q FY 87
Kit Delivery Starts/	Dec 82	Jan 84	Jan 85	2Q FY 86	2Q FY 87	2Q FY 88
Integration Begins						

PROJECT FINANCIAL PLAN: (Amounts in Millions of Dollars)

FY 82		FY 83		FY 84		FY 85		FY 86		FY 87		FY 88		FY 89	
Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
48	1.918	36	1.041		1.264	48	1.473	48	1.561	48	1.648	48	1.734	48	1.818

FY 90		FY 91		FY 92		TOTAL	
Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
48	1.905	60	2.033		.484	432	16.879

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CLASSIFICATION

EXHIBIT P-

NVG Compatible Cockpit
PIP #1-81-01-0852

BASIS FOR COST ESTIMATE: (Amounts in millions of dollars)

	FY 82		FY 83		FY 84		FY 85		FY 86		FY 87	
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
Nonrecurring		.596		.441		.376						
Mod Kit	48	.078	36	.076			48	.108	48	.115	48	.12
Production Incorporation	24	1.244	24	.524	36	.888	48	1.365	48	1.446	48	1.52
TOTAL		1.918		1.041		1.264		1.473		1.561		1.64

	FY 88		FY 89		FY 90		FY 91		FY 92		TOTAL	
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
Nonrecurring		.128		.134		.140		.183				1.41
Mod Kit	48		48		48		60				432	1.08
Production Incorporation	48	1.606	48	1.684	48	1.765	48	1.850	12	.484	432	14.38
TOTAL		1.734		1.818		1.905		2.033		.484		16.87

METHOD OF IMPLEMENTATION: Modification kit is incorportated at time of modernization.

	FY 83				FY 84				FY 85				FY 86				FY 87				FY 88		
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Delivery Schedule	5	9	6	6	6	8	9	9	10	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
Production Incorporation	1	3	4	6	6	6	8	6	9	9	10	12	12	12	12	12	12	12	12	12	12	12	12	12

	FY 89				FY 90				FY 91				FY 92				FY 93			TOTAL
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
Delivery Schedule	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	4					432
Production Incorporation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	4				432

CLASSIFICATION

REPORTS CONTROL SYMBOL DD-COMP (AR) 1002	AIRCRAFT MODIFICATION	DATE
APPROPRIATION/BUDGET ACTIVITY Aircraft Procurement, Army/Activity: 2, Modification of Aircraft	MODIFICATION TITLE AND NO. Improved Deployment Capability, PIP #1-81-01-0851	

AIRCRAFT AFFECTED: CH-47C/D (SSN: AA0250)

DESCRIPTION/JUSTIFICATION: Type of Improvement - Improved Operational Capability. Provides the CH-47C and D fleet the ability to rapidly self-deploy worldwide. This provides the ability to reinforce USAREUR assets in time of conflict and to support rapid deployment operations. The self-deployment kit will include extended range fuel system, aviation life support equipment, performance calculator, and personnel rescue hoist.

DEVELOPMENT STATUS: This capability was demonstrated in August 1979 in Operational Northern Leap when four CH-47C helicopters self-deployed from Ft. Carson, Colorado, to Heidelburg, Germany.

MILESTONES:	FY 86	FY 87
Engineering Initiated	1Q 86	
Contract Award, Kits	2Q 86	1Q 87
Kit Delivery Starts	2Q 87	1Q 88

PROJECT FINANCIAL PLAN: (Amounts in Millions of Dollars)

FY 86		FY 87		TOTAL	
QTY	COST	QTY	COST	QTY	COST
30	7.746	68	10.996	93	18.742

BASIS FOR COST ESTIMATE: (Amounts in Millions of Dollars)

	FY 86		FY 87		TOTAL	
	QTY	COST	QTY	COST	QTY	COST
Nonrecurring Eng		2.297				2.297
Deployment Kits	30	5.449	68	10.996	98	16.445
TOTAL		7.746		10.996		18.742

METHOD OF IMPLEMENTATION: Self-deployment kits will be prepositioned with rapid deployment units and installed into/removed from the aircraft by the user as required.

	FY 87				FY 88				
	1	2	3	4	1	2	3	4	TOTAL
Deployment Kit Deliveries		10	10	10	17	17	17	17	98

CLASSIFICATION

REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION	DATE Feb 1985
APPROPRIATION/BUDGET ACTIVITY Aircraft Procurement, Army/Activity: 2, Modification of Aircraft	MODIFICATION TITLE AND NO. Helicopter Internal Cargo Handling System (HICHS) PIP #1-83-01-0854	

AIRCRAFT AFFECTED: CH-47C/D (SSN: AA0250)

DESCRIPTION/JUSTIFICATION: Type of Improvement - Improved operational capability. The incorporation of the HICHS will allow full advantage of the CH-47C/D's versatility and increase its internal cargo productivity by a factor of two. The system will allow the rapid load/unload and restraint of standard pallets, Air Force pallets, breakbulk cargo and special nuclear loads.

DEVELOPMENT STATUS: Development was accomplished as part of an Army special project. Qualification and testing will be completed by the third quarter FY 84 under a separate R&D project.

MILESTONES:

	FY 86	FY 87
Contract Award, Kits	1Q 86	1Q 87
Kit Delivery Starts	3Q 86	3Q 87

PROJECT FINANCIAL PLAN: (Amounts in Millions of Dollars)

FY 86		FY 87		TOTAL	
Qty	Cost	Qty	Cost	Qty	Cost
74	2.819	74	2.977	148	5.796

BASIS FOR COST ESTIMATE: (Amounts in Millions of Dollars)

FY 86		FY 87		TOTAL	
Qty	Cost	Qty	Cost	Qty	Cost
Kits:					
74	2.819	74	2.977	148	5.796

METHOD OF IMPLEMENTATION: Installed at organizational level on an as required basis.

	FY 86				FY 87				FY 88				TOTAL
	1	2	3	4	1	2	3	4	1	2	3	4	
Kit Deliveries			4	20	25	25	25	25	24				148

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EXHIBIT P- 3a

CLASSIFICATION

REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION	DATE Feb 1985
APPROPRIATION/BUDGET ACTIVITY Procurement, Army/Activity: 2, Modification of Aircraft	Aircraft	MODIFICATION TITLE AND NO. NOE COMM-FM/SINCGARS PIP #1-80-01-0087

AIRCRAFT AFFECTED: CH-47D. (SSN: AA0250)

DESCRIPTION/JUSTIFICATION: Type of Improvement - Improved Operational Capability. Provides an improved single-channel voice VHF-FM communication system for reliable, securable communications for aircraft operating at nap-of-the-earth altitudes down to and including ground level. An improved airborne communications system is required to increase signal reliability and extend signal penetration in areas of marginal reception for maximum line-of-sight tactical communications.

DEVEOPMENT STATUS: Development and qualification testing will be conducted by the contractor.

MILESTONES:	FY 85	FY 86	FY 87	FY 88	FY 89	FY 90
Engineering Initiated	3Q FY 85					
Contract Award, Kits		2Q FY 86	1Q FY 87	1Q FY 88	1Q FY 89	1Q.FY 90
Kit Delivery Starts		1Q FY 88				
Contract Award, Integration			1Q FY 87	1Q FY 88	1Q FY 89	1Q FY 90

PROJECT FINANCIAL PLAN: (Amounts in millions of dollars)

FY 85		FY 86		FY 87		FY 88		FY 89		FY 90		FY 91		FY 92	
Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost
	1.322	56	2.055	134	3.217	114	3.091	75	2.563	60	1.587		.393		.104

Total	
Qty	Cost
439	14.332

BASIS FOR COST ESTIMATE: (Amounts in million of dollars)

	FY 85		FY 86		FY 87		FY 88		FY 89		FY 90		FY 91	
	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost
Nonrecurring Eng		1.322		.085		.039								
Airframe Kit			56	.513	134	1.290	114	1.151	75	.793	60	.666		
FM System			56	.577	134	.964	114	.800	75	.651	60	.546		
SINCGARS System			48	.880	48	.924	48	.969	36	.761				
Production Incorporation							24	.171	48	.358	48	.375	48	.393
Field Application (OMA)					16	(.055)	40	(.139)	40	(.139)	53	(.184)	60	(.208)
TOTAL		1.322		2.055		3.217		3.091		2.563		1.587		.393

	FY 92		TOTAL	
	Qty	Cost	Qty	Cost
Nonrecurring Eng				1.446
Airframe Kit			439	4.413
FM System			439	3.538
SINCGARS System			180	3.534
Production Incorporation	12	.104	180	1.401
Field Application (OMA)	50	(.173)	259	(.898)
TOTAL		.104		14.332

METHOD OF IMPLEMENTATION: Production incorporation will begin with the 257th modernization aircraft. The other 'D' model aircraft delivered prior to that will have the retrofit kit applied by the contractor or depot teams.

CLASSIFICATION

REPORTS CONTROL SYMBOL DD-COMP (AR) 1002	AIRCRAFT MODIFICATION	DATE Feb 1985
APPROPRIATION/BUDGET ACTIVITY Procurement, Army/Activity 2, Modification of Aircraft	Aircraft	MODIFICATION TITLE AND NO, NOE COMM-HF, PIP #1-80-01-0086

AIRCRAFT AFFECTED: CH-47D. (SSN: AA0250)

DESCRIPTION/JUSTIFICATION: Type of Improvement - Improved Operational Capability. Incorporation of this system will provide non-line-of-sight, air-to-air, and air-to-ground voice communications at distances of up to 50 km to enhance mission performance by a aircrews operating in the nap-of-the-earth flight environment.

DEVELOPMENT STATUS: Development and qualification testing will be conducted by the contractor.

MILESTONES:	FY 86	FY 87	FY 88	FY 89	FY 90
Engineering Initiated	1Q FY 86				
Contract Award, Kits	2Q FY 86	1Q FY 87	1Q FY 88	1Q FY 89	1Q FY 90
Kit Delivery Starts	3Q FY 87				
Contract Award, Integration		1Q FY 87	1Q FY 88	1Q FY 89	1Q FY 90

PROJECT FINANCIAL PLAN: (Amounts in millions of dollars)

FY 86		FY 87		FY 88		FY 89		FY 90		FY 91		FY 92	
Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost
51	2.119	140	3.189	140	3.476	48	1.637	60	1.986		.655		.173

Total	
Qty	Cost
439	13.235

BASIS FOR COST ESTIMATE: (Amounts in millions of dollars)

	FY 86		FY 87		FY 88		FY 89		FY 90	
	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost
Nonrecurring Eng		1.115		.119						
Airframe Kit	51	.428	140	1.234	140	1.294	48	.465	60	.609
HF System	51	.564	140	1.611	140	1.613	48	.575	60	.752
STE/PGSE		.012								
Production Incorporation			24	.225	48	.569	48	.597	48	.625
Field Application (OMA)			27	(.175)	92	(.597)	92	(.597)		
TOTAL		2.119		3.189		3.476		1.637		1.986

	FY 91		FY 92		TOTAL	
	Qty	Cost	Qty	Cost	Qty	Cost
Nonrecurring Eng						1.234
Airframe Kit					439	4.030
HF System					439	5.115
STE/PGSE						.012
Product Incorporation	48	.655	12	.173	228	2.844
Field Application (OMA)					211	(1.369)
TOTAL		.655		.173		13.235

METHOD OF IMPLEMENTATION: Production incorporation will begin with the 208th modernization aircraft. The other 'D' model aircraft delivered prior to that will have the retrofit kit applied by contractor or depot teams.

CLASSIFICATION

REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION	DATE Feb 1985
APPROPRIATION/BUDGET ACTIVITY Aircraft Procurement, Army/Activity:2	MODIFICATION TITLE AND NO. Hub Spring 1-84-01-1329	

AIRCRAFT AFFECTED: UH-1H/V (AA0600)

DESCRIPTION/JUSTIFICATION: Type of Improvement - Safety. The hub spring will reduce the amount of flapping (above 4 degrees) for a given flight condition, and will react the load between hub and mast in a gradually increasing manner rather than as an impact load. Some conditions under which large flapping angles can occur are mechanical failure within the rotor or rotor control system, low rotor RPM, high speed rear or sideward flight, large sideslip angles, low g manuevers. This is a Department of the Army directed improvement.

DEVELOPMENT STATUS: A development contract was awarded to Bell Helicopter Textron on 14 Sep 84. First prototype should be available in 85 with flight tests starting in Feb 85. Based on the results of the transmission static test, the transmission bolt/lift link will have to be strengthened. Additional hardware cost per kit is estimated to be $1000 to $5585 (FY 85 dollars).

MILESTONES:	FY 85	FY 86	FY 87
Production Contract Award	4Q85	1Q86	1Q87
Production Lead Time	8mo	8mo	8mo
Delivery Starts	2Q86	3Q86	3Q87
Installation Starts	3Q86	4Q86	4Q87

PROJECT FINANCIAL PLAN: (Amounts in thousands of dollars)

FY 84	FY 85	FY 86	FY 87	FY 88	TOTAL COST
-	1,900.0	12,200.0	8,550.0	-	22,650.0

UH-1 HUB SPRING
PIP NO. 1-84-01-1379

BASIS FOR COST ESTIMATES: (Amounts in thousands of dollars)

	FY 84		FY 85		FY 86		FY 87	
	QTY	COST	QTY	COST	QTY	COST	QTY	COST
G-Meters			271	144.0		-		-
Kits (Hub Spring)			314	1,756.0	2061	12,200.0	1368	8,550.0
Engineering (OMA)		(4,628.0)		-		-		-
Publications (OMA)				(50.0)		(50.0)		-
Install (Hub Spring)(OMA)				-	314	(190.0)	2061	(1,249.0)
Install (G-Meters)(OMA)			271	(144.0)	-	-	-	-
			314	1,900.0	2061	12,200.0	1368	8,550.0

	FY 88		TOTAL COST	
	QTY	COST	QTY	COST
G-Meters	-	-	271	144.0
Kits		-	3743	22,506.0
Engineering (OMA)		-		(4,628.0)
Publications (OMA)		-		(100.0)
Install (Hub Spring)(OMA)	1368	(829.0)	3743	(2,268.0)
Install (G-Meters)(OMA)		-	271	(144.0)
		-	3743	22,650.0

METHOD OF IMPLEMENTATION: Installation will be accomplished through retrofit by a contractor team.

	FY 86				FY 87				FY 88			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Hub Spring Only												
Delivery Schedule		50	243	450	600	600	600	600	600			
Installation Schedule			100	214	522	530	530	530	530	530	257	

CLASSIFICATION

REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION	DATE Feb 1985
APPROPRIATION/BUDGET ACTIVITY Aircraft Procurement, Army/Activity: 2. Modification of Aircraft	MODIFICATION TITLE AND NO, EXTERNAL STORES SUPPORT SYSTEM	1-81-01-1934

AIRCRAFT AFFECTED: UH-60A BLACK HAWK (AA0490)

DESCRIPTION/JUSTIFICATION: THE EXTERNAL STORES SUPPORT SYSTEM WILL PROVIDE THE CAPABILITY OF CARRYING EXTERNAL FUEL TANKS CONTAINING SUFFICIENT AUXILIARY FUEL TO SELF-DEPLOY THE BLACK HAWK OR FLY EXTENDED RANGE SPECIAL MISSIONS.

DEVELOPMENT/STATUS:

CONTRACT AWARD	FEBRUARY 1981
CRITICAL DESIGN REVIEW	SEPTEMBER 1981
FIRST FLIGHT	MARCH 1982
DEMONSTRATION COMPLETE	MARCH 1983

MILESTONES	FY 84	FY 85	FY 86	FY 87	FY 88	FY 89
PRODUCTION CONTRACT AWARD	4Q85	4Q85	2Q86	2Q87	2Q88	2Q89
FIRST HARDWARE DELIVERED	4Q86	4Q86	2Q87	2Q88	2Q89	2Q90
FIRST KIT APPLIED	1Q87	2Q87	2Q88	2Q89	2Q90	2Q91
APPLICATION COMPLETE		2Q88	2Q89	2Q90	2Q91	4Q91

EXTERNAL STORES SUPPORT SYSTEM

PIP # 1-81-01-1934 (UH-60A)

ROJECT FINANCIAL PLAN: (AMOUNT IN THOUSANDS OF DOLLARS)

FY 84		FY 85		FY 86		FY 87		FY 88		FY 89		TOTAL	
QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST
	1555.0	36	1483.0	96	4356.0	96	4576.0	96	4799.0	87	4190.0	411	20959.0

	FY 84		FY 85		FY 86		FY 87		FY 88		FY 89		FY 90		FY 91		TOTAL	
	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST
ARDWARE		37.0	36	1483.0	96	4356.0	96	4576.0	96	4799.0	87	4190.0					411	19401.0
ONRECURRING:																		
PA		1518.0																1558.0
OMA)																		
NSTALLATION																		
OMA)								(329.0)		(1662.0)		(1662.0)		(1662.0)		(1800.0)		(7115.0)
OTAL		1555.0		1483.0		4356.0		4576.0		4799.0		4190.0					411	20959.0

ETHOD OF IMPLEMENTATION: KIT APPLIED BY OLR CONTRACT TEAMS.

	FY 86				FY 87				FY 88				FY 89				FY 90				FY 91				
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	TOTAL
ELIVERY SCHEDULE				20	24	24	24	24	24	24	24	24	24	24	25	25	25	25	25	26					411
NSTALLATION					1	3	4	11	24	24	24	24	24	24	24	24	24	24	24	24	26	26	26	26	411

CLASSIFICATION

REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION	DATE Feb 1985
APPROPRIATION/BUDGET ACTIVITY Aircraft Procurement, Army/Activity: 2. Modification of Aircraft	MODIFICATION TITLE AND NO, HOVER IR SUPPRESSOR 1-81-01-1931	

AIRCRAFT AFFECTED. UH-60A BLACK HAWK (AA0490)

DESCRIPTION/JUSTIFICATION: THE HOVER IR SUPPRESSOR SYSTEM BEING DEVELOPED UNDER RDT&E PROJECT NO. 1X464711DC52 FOR PRODUCTION INCORPORATION ON THE BLACK HAWK AIRCRAFT WILL REDUCE THE VULNERABILITY TO HEAT SEEKING MISSILES OVER THE ENTIRE FLIGHT ENVELOPE, HOVER THROUGH MAXIMUM CRUISE AIRSPEED. AIRCRAFT ARE PARTICULARLY VULNERABLE AT HOVER OR WHILE FLYING NOE AT LOW AIRSPEEDS. HOVER IR SUPPRESSOR DEVELOPMENT WAS DIRECTED BY LETTER, ATZQ-D-MS, DATED 14 OCT 80, SUBJECT: PROPOSED UH-60A BLACK HAWK MATERIEL NEED, PRODUCTION, UPDATE (MN) (P) (U) 79 AUG CHANGE (CLASSIFIED).

DEVELOPMENT STATUS:

PERFORMANCE ENDURANCE THERMOCYCLE (PET) TESTING	- COMPLETE
BLACK HAWK 987 - MOD/INSTL/INSTR	- COMPLETE
STATIC & SHAKE TESTS	- COMPLETE
FIRST FLIGHT	- SEP 84
DT II	- MAY-AUG 84
OT II	- AUG-SEP 84

MILESTONES	FY 85	FY 86	FY 87	FY 88	FY 89	FY 90
PROJECT INITIATED:	2Q85					
PRODUCTION CONTRACT AWARD	4Q85	2Q86	2Q87	2Q88	2Q89	2Q90
FIRST HARDWARE DELIVERED	3Q87	3Q88	2Q89	2Q90	2Q91	1Q92
FIRST KIT APPLIED	4Q87	4Q88	4Q89	2Q90	2Q91	1Q92
APPLICATION COMPLETE	4Q87	4Q88	4Q89	4Q90	4Q91	4Q92

PROJECT FINANCIAL PLAN: (AMOUNT IN THOUSANDS OF DOLLARS)

FY 85		FY 86		FY 87		FY 88		FY 89		FY 90		FY 91		TOTAL	
QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST
	558.0	32	4201.0	27	3732.0	167	24607.0	167	25790.0	192	29947.0	162	22639.0	747	111474.0

BASIS FOR COST ESTIMATE:

	FY 85		FY 86		FY 87		FY 88		FY 89		FY 90		FY 91		FY 92		TOTAL	
	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST
HARDWARE			32	4201.0	27	3732.0	167	24607.0	167	25790.0	192	29947.0	162	22639.0			747	110916.0
NONRECURRING APA		558.0																558.0
(OMA) INSTALLATION																		
(OMA)						(38.0)		(117.0)		(220.0)		(220.0)		(220.0)		(398.0)		(1213.0)
STOCK FUND		(64.0)																(64.0)
TOTAL		558.0		4201.0		3732.0		24607.0		25790.0		29947.0		22639.0		--		111474.0

METHOD OF IMPLEMENTATION: KITS APPLIED BY OLR CONTRACT TEAMS.

	FY 87				FY 88				FY 89				FY 90				FY 91				FY 92				
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	TOTAL
DELIVERY SCHEDULE				29	12	2	13	13	41	42	42	42	41	42	42	42	41	42	42	42	41	42	42	42	747
INSTALLATION				29	12	12	13	13	41	42	42	42	41	42	42	42	41	42	42	42	41	42	42	42	747

CLASSIFICATION

REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION	DATE Feb 1985
APPROPRIATION/BUDGET ACTIVITY Aircraft Procurement, Army Activity: 2. Modification of Aircraft	MODIFICATION TITLE AND NO, NIGHT VISION COCKPIT LIGHTING	1-81-01-1938

AIRCRAFT AFFECTED: UH-60A BLACK HAWK (AA0490)

DESCRIPTION/JUSTIFICATION: THIS MODIFICATION WILL PROVIDE THE UH-60A WITH A COCKPIT THAT IS COMPATIBLE WITH THE 3RD GENERATION NIGHT VISION GOGGLES. THE PROPOSED COCKPIT LIGHTING WILL IMPROVE NOE FLIGHT AT NIGHT.

MILESTONES	FY 85	FY 86
PRODUCTION CONTRACT AWARD	3Q85	2Q86
FIRST HARDWARE DELIVERED	4Q85	1Q87
FIRST KIT APPLIED	2Q86	1Q88
APPLICATION COMPLETE	1Q88	1Q90

PROJECT FINANCIAL PLAN: (AMOUNT IN THOUSANDS OF DOLLARS)

FY 84		FY 85		FY 86		FY 87		FY 88		TOTAL	
QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST
		55	2003.0	210	6270.0	117	3494.0	275	7150.0	657	18917.0

BASIS FOR COST ESTIMATE:

	FY 84		FY 85		FY 86		FY 87		FY 88		FY 89		FY 90		TOTAL	
	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST
HARDWARE			55	1430.0	210	6270.0	117	3494.0	275	7150.0					657	18344.0
NONRECUR-RING APA (OMA)				573.0												573.0
(STOCK FUND)				(858.0)		(976.4)										(1834.4)
INSTAL-LATION (OMA)						(1308.0)		(1745.0)		(1745.0)		(1745.0)		(280.0)		(6823.0)
TOTAL				2003.0		6270.0		10644.0								18917.0

METHOD OF IMPLEMENTATION: KITS APPLIED BY OLR CONTRACT FIELD TEAMS AND OVERHAUL FACILITIES.

	FY 85				FY 86				FY 87				FY 88				FY 89				FY 90				TOTAL
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
KIT DELIVERIES			16	42	42	42	42	42	42	42	42	42	42	42	42	42	34	34	34	35					657
KIT INSTALLATIONS					42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	27				657

CLASSIFICATION

REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION	DATE Feb 1985
APPROPRIATION/BUDGET ACTIVITY Aircraft Procurement, Army Activity 2. Modification of Aircraft	MODIFICATION TITLE AND NO, IMPROVED AIRSPEED SYSTEM - 1-84-01-1971	

AIRCRAFT AFFECTED. UH-60A BLACK HAWK (AA0490)

DESCRIPTION/JUSTIFICATION: THIS MODIFICATION IS REQUIRED TO SAFELY OPERATE THE UH-60A AT GROSS WEIGHTS ABOVE 20,250 LBS. (UP TO 24,000 LBS.), WHICH IS REQUIRED FOR THE EXTENDED RANGE AND SELF-DEPLOYMENT CAPABILITIES WHEN EQUIPPED WITH THE UH-60A EXTERNAL STORES SUPPORT SYSTEM.

DEVELOPMENT STATUS.

MILESTONES	FY 84	FY 85	FY 86
PRODUCTION CONTRACT AWARD	2Q85	3Q85	3Q86
FIRST HARDWARE DELIVERED	3Q85	1Q86	4Q86
FIRST KIT APPLIED	3Q85	1Q86	1Q87
APPLICATION COMPLETE	4Q85	1Q87	1Q88

PROJECT FINANCIAL PLAN: (AMOUNT IN THOUSANDS OF DOLLARS)

FY 84		FY 85		FY 86		FY 87		TOTAL	
QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST
49	63.0	204	285.0	217	271.0			470	619.0

BASIS FOR COST ESTIMATE:

	FY 84		FY 85		FY 86		FY 87		TOTAL	
	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST
HARDWARE	49	63.0	204	285.0	217	271.0			470	619.0
NONRECURRING										
APA										
(GMA)										
INSTALLATION										
(OMA)				(298.0)		(329.0)		(142.0)		(769.0)
(STOCK FUND)		(2.0)		(22.0)						(24.0)
TOTAL		63.0		285.0		271.0				619.0

METHOD OF IMPLEMENTATION: KITS APPLIED BY OLR CONTRACT TEAMS.

	FY 85				FY 86				FY 87				FY 88				TOTAL
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
DELIVERY SCHEDULE				49	62	62	63	63	63	63	45						470
INSTALLATION				49	50	50	50	50	50	50	50	50	21				470

CLASSIFICATION

REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION	DATE Feb 1985
APPROPRIATION/BUDGET ACTIVITY Aircraft Procurement, Army/Activity: 2. Modification of Aircraft	MODIFICATION TITLE AND NO. SINCGARS RADIO 1-84-01-1980	

AIRCRAFT AFFECTED: UH-60A BLACK HAWK (AA0490)

DESCRIPTION/JUSTIFICATION: THE SINCGARS AIRBORNE RADIO DET, AN/ARC-201, IS A SOLID STATE SECURABLE TRANSRECEIVER INTENDED FOR FM TACTICAL OPERATIONS. THE AN/ARC-201 IS CAPABLE OF PROVIDING ECCM CAPABILITY AND REDUCED SUSCEPTIBILITY TO DIRECTION FINDING EQUIPMENT. THE AN/ARC-201 IS COMPATIBLE WITH THE CURRENT COMSEC (VINSON) EQUIPMENT AND IN NON ECCM MODE OF OPERATION. THE SINCGARS RADIO IS INTEROPERABLE WITH EXISTING FM RADIOS. THE AN/ARC-201 OPERATES IN THE 30-88 MHZ RANGE AND HAS 2320 DISCRETE CHANNELS AT 25 KHZ SPACING. THE AN/ARC-201 IS COMPATIBLE WITH THE IMPROVED FM POWER AMPLIFIER AND PROVIDES FM HOMING CAPABILITY. THE AN/ARC-201 WILL REPLACE REMOTE MOUNTED AN/ARC-186 IN THE UH-60A #567 AND SUBSEQUENT AND WILL PROVIDE COMPATIBILITY WITH GROUND BASED SINCGARS RADIOS.

DEVELOPMENT STATUS: A PRODUCT IMPROVEMENT (PI) TEST WILL BE PREPARED BY THE CONTRACTOR AND APPROVED BY THE GOVERNMENT TO DEMONSTRATE THE ABILITY OF THE UH-60A INSTALLATION PROTOTYPE TO MEET ITS TECHNICAL REQUIREMENTS. TESTING CONDUCTED TO INSURE AIRWORTHINESS QUALIFICATION WILL INCLUDE, AS A MINIMUM, BENCH, PREFLIGHT, AND FLIGHT TESTING OF THE REMOTE RT-1477/ARC-201(V) INTEGRATION. ELECTROMAGNETIC COMPATIBILITY TESTING SHALL BE CONDUCTED TO ASSURE COMPATIBILITY THE REMOTE RT-1477/ARC-201(V) INTEGRATION WITH THE TOTAL UH-60A ELECTRICAL/ELECTRONICS SYSTEM.

MILESTONES	FY 86	FY 87	FY 88
PRODUCTION CONTRACT AWARD	1Q86	1Q87	1Q88
FIRST HARDWARE DELIVERED		1Q88	3Q88
FIRST KIT APPLIED		2Q88	3Q89
APPLICATION COMPLETE		3Q89	3Q91

SINCGARS RADIO

PIP # 1-84-01-1980 (UH-60A)

PROJECTED FINANCIAL PLAN: (AMOUNT IN THOUSANDS OF DOLLARS)

FY 85		FY 86		FY 87		FY 88		FY 89		FY 90		TOTAL	
QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST
			302.0	41	258.0	168	752.0					209	1312.0

BASIS FOR COST ESTIMATES:

	FY 85		FY 86		FY 87		FY 88		FY 89		FY 90		FY 91		FY 92		TOTAL	
	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST
HARDWARE					41	188.0	168	752.0									209	940.0
NONRECURRING APA				302.0		70.0												372.0
(OMA) INSTALLATION																		
(OMA)						(23.0)				(32.0)		(130.0)		(41.0)				(226.0)
TOTAL				302.0		258.0		752.0									209	1312.0

METHOD OF IMPLEMENTATION: MODIFICATION WILL BE ACCOMPLISHED BY CONTRACTOR/DEPOT TEAMS.

	FY 87				FY 88				FY 89				FY 90				FY 91				
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	TOTAL
DELIVERY SCHEDULE					20	20	25	25	25	25	25	25	19								209
INSTALLATION						7	7	7	7	7	8	8	30	30	30	30	13	13	12		209

CLASSIFICATION

REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION	DATE Feb 1985
APPROPRIATION/BUDGET ACTIVITY Aircraft Procurement, Army/Activity: 2	MODIFICATION TITLE AND NO. Army Helicopter Improvement Program PIP 1-80-01-2115	

AIRCRAFT AFFECTED: OH-58A AHIP (AZ2200)

DESCRIPTION/JUSTIFICATION: Type of Improvement - New Operational Capability. The Army Helicopter Improvement Program (AHIP) OH-58D will be provided by modification of OH-58A aircraft; including incorporation of Mast Mounted Sight (MMS), improvements in navigation/communication and nap-of-the-earth (NOE) flight performance. The MMS will provide a day/night target acquisition and laser designation capability. The improvements will provide adequate NOE flight performance in any environment in which the Army may be deployed, will enable better and more reliable communication between the scout crew command elements and supported ground units and aircraft, and provide increased accuracy of target locations at longer ranges. Also included will be space, weight and power allowance for future incorporation of the multi-application Air-to-Air Stinger. No significant impact to the environment is anticipated as a result of the proposed mission utilization of the AHIP aircraft and its related systems.

DEVELOPMENT STATUS: (RDTE Funded)

SSEB Complete	SEP 81
Under Secretary of Army & Under Secretary of Defense (DRE) Decision Reviews	SEP 81
Full Scale Engineering Development Contract	SEP 81
Critical Design Review	NOV 82
Initial Flight Demonstration	OCT 83
In-Process Review	FEB 84
DT/OT II Start	JUL 84
Milestone III Decision	3QFY85

MILESTONES:	FY83	FY84	FY85	FY86	FY87	FY88	FY89	FY90	FY91
Long Lead Time Items Contract Award	JUL 83	JUL 84	3QFY85	1QFY86	1QFY87	1QFY88	1QFY89	1QFY90	
Production Contract Award		SEP 84	3QFY85	1QFY86	1QFY87	1QFY88	1QFY89	1QFY90	1QFY91
Induction Starts		OCT 84	4QFY85	3QFY86	2QFY87	2QFY88	2QFY89	2QFY90	2QFY91
Delivery Complete		3QF'86	1QFY87	1QFY88	1QFY89	1QFY90	1QFY91	1QFY92	4QFY92

Army Helicopter Improvement Program
PE# 1-80-01-2115

PROJECT FINANCIAL PLAN (Amounts in millions of dollars)

FY83		FY84		FY85		FY86		FY87	
Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost
	28.4	16	185.4	44	204.4	56	210.6	60	248.5

FY88		FY89		FY90		FY91		TOTAL	
QTY	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost
94	387.0	120	387.6	120	335.6	68	210.6	578	2198.1

BASIS FOR COST ESTIMATE: (Amounts in millions of dollars)

	FY83		FY84		FY85		FY86		FY87	
	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost
GFE - Engines (Adv Proc)		3.8		6.4		8.5		9.6		15.8
GFE - Comm/Nav Equip (Adv Proc)		3.0		9.1		12.0		13.5		22.2
Long Lead Time Items		21.6		23.8		26.7		28.7		43.8
Recurring				91.3		155.6		158.8		166.7
Nonrecurring				54.8		1.6				
OTAL		28.4	16	185.4	44	204.4	56	210.6	60	248.5

	FY88		FY89		FY90		FY91		TOTAL	
	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost
GFE - Engines (Adv Proc)		21..		22.0		13.0				100.2
GFE - Comm/Nav Equip (Adv Proc)		29.5		30.8		18.2				138.3
Long Lead Time Items		54.8		54.5		31.4				285.3
Recurring		281.6		280.3		273.0		210.6		1617.9
Nonrecurring										56.4
TOTAL	94	387.0	120	387.6	120	335.6	68	210.6	578	2198.1

Army Helicopter Improvement Program
PIP # 1-80-01-2115

Method of Implementation: Aircraft will be inducted from the field to the contractor's site for modification.

	FY85				FY86				FY87				FY88				FY89			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inductions	4	5	6	14	15	15	18	18	20	15	15	15	15	19	21	25	29	30	30	30
Deliveries					2	6	8	14	15	15	18	18	20	15	15	15	15	19	21	25

	FY90				FY91				FY92				TOTAL
	1	2	3	4	1	2	3	4	1	2	3	4	
Inductions	30	30	30	30	30	30	30	8					578
Deliveries	29	30	30	30	30	30	30	30	30	30	30	8	578

AIRCRAFT PROCUREMENT, ARMY

Section 6

Flight Simulator Procurement Program

1-77 February 1985

FY 86 BUDGET ESTIMATE

FLIGHT SIMULATORS PROCUREMENT PROGRAM

(Dollars in Millions)

APPROPRIATION: Aircraft Procurement, Army

System	Type	FY 83 & Prior Qty/Amount	FY 84 Qty/Amount	FY 85 Qty/Amount	FY 86 Qty/Amount	FY 87 Qty/Amount	FY 88 Qty/Amount	Cost to Complete Qty/Amount	Total Cost Qty/Amount
UH-1 (SSNAA0980) (2B24)(SSNA09500)	FS	23/59.9	- -	- -	- -	- -	- -	- -	23/ 59.9
CH-47 (2B31)(SSNA09100)	FS	4/42.2	1/ 22.2	-/ 8.4	-/ 16.9	- -	- -	-/ 15.7	5/105.4
AH-1 (2B33)(SSNA09300)	FWS	5/102.3	1/ 23.1	2/ 31.8	- -	- -	- -	- -	8/157.2
UH-60 (2B38)(SSNA09400)	FS	- -	3/ 40.9	3/ 50.0	3/ 43.9	3/40.0	3/49.5	- -	15/224.3
AH-64 (2B40)(SSNA09000)	FWS	- -	-/ 26.9	2/ 67.8	4/ 70.8	-/11.4	- -	- -	6/176.9
GRAND TOTAL		204.4	113.1	158.0	131.6	51.4	49.5	-/ 15.7	723.7