

AD A113357

DEPARTMENT OF THE ARMY
JUSTIFICATION OF ESTIMATES FOR FISCAL YEAR 1983
SUBMITTED TO CONGRESS

FEBRUARY 1982



PART 1 OF 7 PARTS
(AIRCRAFT)

PROCUREMENT

PROGRAMS

AIRCRAFT

MISSILES

WEAPONS & TRACKED COMBAT VEHICLES

AMMUNITION

OTHER

NATIONAL GUARD EQUIP

DISTRIBUTION STATEMENT A

Approved for public release
Distribution Unlimited

**Best
Available
Copy**

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER	2. GOVT ACCESSION NO. AD-A113 357	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) (in 5 parts) Department of the Army Justification of Estimates for Fiscal Year 1983, Submitted to Congress February 1982, Procurement Programs, Aircraft, Missiles, Weapons & Tracked Cbt Veh., Ammunition & Other Procurement, ARMY		5. TYPE OF REPORT & PERIOD COVERED Army Procurement Budget Justification, FY 1983
7. AUTHOR(s) Department of the Army		6. PERFORMING ORG. REPORT NUMBER
9. PERFORMING ORGANIZATION NAME AND ADDRESS HQDA, Office of the Deputy Chief of Staff for Research, Development, and Acquisition (DAMA-PPP-B) Washington, DC 20310		8. CONTRACT OR GRANT NUMBER(s)
11. CONTROLLING OFFICE NAME AND ADDRESS HQDA, Office of the Deputy Chief of Staff for Research, Development, and Acquisition (DAMA-ACA-S) Washington, DC 20310		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)		12. REPORT DATE February 1982
		13. NUMBER OF PAGES 504 (including all parts)
		15. SECURITY CLASS. (of this report) UNCLASSIFIED
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited.		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Army Procurement Programs Budget Justification Book covering Aircraft, Missiles, Weapons and Tracked Combat Vehicles, Ammunition and Other Procurement, Army Appropriations programs submitted by the Army to Congress February 1982 for Fiscal Year 1983		
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, provides backup data for the Army Budget submission for FY 1983. Included are Summaries of Requirements, Program and Financing Statements and Selected Data Sheets. (This document has been declassified for NTIS distribution). →		

DD FORM 1 JAN 73 1473 EDITION OF 1 NOV 65 IS OBSOLETE

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

NOTICE

THIS DOCUMENT HAS BEEN REPRODUCED FROM THE BEST COPY FURNISHED US BY THE SPONSORING AGENCY. ALTHOUGH IT IS RECOGNIZED THAT CERTAIN PORTIONS ARE ILLEGIBLE, IT IS BEING RELEASED IN THE INTEREST OF MAKING AVAILABLE AS MUCH INFORMATION AS POSSIBLE.

DEPARTMENT OF THE ARMY
AIRCRAFT PROCUREMENT, ARMY

JUSTIFICATION OF ESTIMATES FOR FISCAL YEARS 1981, 1984

<u>TABLE OF CONTENTS</u>	<u>PAGE NO.</u>
Section 1 - Budget Appendix Extract	1-1
Section 2 - Introductory Statement	1-10
Section 3 - Summary of Requirements	1-12
Section 4 - Budget Activity Justifications	1-15
Section 5 - Comparison of Program Requirements and Financing	1-20
Section 7 - Analysis of Unobligated Balance	1-36
Section 8 - Status of Aircraft Modification Programs	1-39
Section 9 - Modification of Aircraft	1-41
Section 10 - Flight Simulators	1-150
Section 12 - Multiyear Procurement	1-152

February 1982

DEPARTMENT OF THE ARMY
PROCUREMENT APPROPRIATIONS

JUSTIFICATION OF ESTIMATES FOR FISCAL YEARS 1983, 1984

<u>TABLE OF CONTENTS</u>	<u>PAGE NO.</u>
Aircraft Procurement, Army	1-1
Missile Procurement, Army	2-1
Procurement of Weapons and Tracked Combat Vehicles, Army	3-1
Procurement of Ammunition, Army	4-1
Other Procurement, Army	5-1
Procurement of National Guard Equipment, Army	6-1
Procurement of Equipment and Missiles, Army	7-1

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, without regard to section 4774, title 10, United States Code, for the foregoing purposes, and such lands and interests therein, may be acquired, and construction prosecuted thereon prior to approval of title as required by section 355, Revised Statutes, as amended; 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:(\$2,745,914,000), \$1,936,100,000(1) Provided, that notwithstanding any other provision of this Act, after the head of the agency concerned gives written notification of a proposed multiyear contract for the purchase of the UH-60A BLACK HAWK aircraft to the Committees on Armed Services and on Appropriations of the Senate and House of Representatives, such contract may not then be awarded until the end of a period of 45 days beginning on the date of such notification, to remain available for obligation until September 30, (1984) 1985. (2)

EXPLANATION OF LANGUAGE CHANGES

- (1) To change the amount of appropriation requested for FY 1983.
- (2) To change the obligation expiration date for the FY 1983 program

Army

Aircraft Procurement, Army

OF FEB 82

Program and Financing (in thousands of dollars)

Identification code	21-2031-0-1-051	Budget plan (amounts for procurement actions programmed)			Obligations		
		1981 actual	1982 est	1983 est	1981 actual	1982 est	1983 est
		Program by activities					
Direct							
1.	Aircraft	500,599	1,130,500	1,678,500	510,914	983,578	1,537,101
2.	Refurbishment of aircraft	417,528	450,200	405,614	428,389	446,231	412,889
3.	Spare and repair parts	230,800	223,300	482,500	212,162	207,486	440,366
4.	Support equipment and facilities	53,673	118,000	179,300	59,676	123,708	185,940
	Total direct	1,202,600	1,936,100	2,745,914	1,211,140	1,761,003	2,576,296
	Reimbursable program	21,724	360,200	110,400	21,693	185,638	191,520
10.0001	Total	1,224,324	2,296,300	2,856,314	1,232,833	1,946,639	2,767,824
Financing							
	Offsetting collections from						
11.0001	Federal funds	-17,152	-164,600	-44,400	-14,283	-164,600	-44,400
13.0001	Trust funds	-14,533	-195,600	-66,000	-14,623	-195,600	-66,000
14.0001	Non-federal sources	-38			-45		
17.0001	Recoveries of prior year obligations(-)				733		
	Unobligated balance available, start of year:						
21.4701	For completion of prior year budget plans				-241,233	-226,747	-575,408
21.4002	Reprogramming from or to prior year budget plan	-14,938					
24.4001	Unobligated balance available, end of year				226,747	576,408	663,388
25.0001	Unobligated balance lapsing	14,938			14,938		
38.0001	Budget authority	1,202,600	1,936,100	2,745,914	1,202,600	1,936,100	2,745,914
Budget authority:							
40.0001	Appropriation	1,193,100	1,911,100	2,745,914	1,193,100	1,911,100	2,745,914
42.0001	Transferred from other accounts	8,000	25,000		6,000	25,000	
43.0001	Appropriation (adjusted)	1,199,100	1,936,100	2,745,914	1,199,100	1,936,100	2,745,914
50.0001	Reappropriation	3,500			3,500		
Relation of obligations to outlays:							
71.0001	Obligations incurred, net				1,203,682	1,582,439	2,687,424
72.4001	Obligated balance, start of year				1,218,437	1,566,749	2,209,588
74.4001	Obligated balance, end of year				-1,806,749	-2,209,588	-3,388,712
77.0001	Adjustments in expired accounts				2,769		
73.0001	Adjustments in unexpired accounts				-735		
80.0001	Total				655,588	849,600	1,468,900

Army

Aircraft Procurement, Army

08 FEB 82

Object Classification (in thousands of dollars)

Identification code	21-2031-0-1-061	1981 actual	1982 est.	1983 est.
Direct obligations:				
Other services:				
125.004	Other	72,625	120,745	127,359
26.001	Supplies and materials	101,561	301,863	318,394
11.001	Equipment	856,964	1,338,395	2,130,543
199.001	Total direct obligations	1,211,140	1,761,003	2,576,296
Reimbursable obligations:				
Other services:				
225.004	Other	1,085	17,831	7,145
226.001	Supplies and materials	3,254	44,878	17,883
201.001	Equipment	17,354	123,827	166,520
299.001	Total reimbursable obligations	21,693	186,536	191,548
999.801	Total obligations	1,232,833	1,947,539	2,767,844

1-4 February 1982

Army		Aircraft Procurement, Army			08 FEB 82		
		Program and Financing (in thousands of dollars)			1979 Fiscal year program		
Identification code 21-2031-0-1-051		Budget plan (amounts for procurement actions programmed)			Obligations		
		1981 actual	1982 est	1983 est	1981 actual	1982 est	1983 est
Program by activities							
Direct							
	1	Aircraft			28,340		
	2	Modification of aircraft			14,378		
	3	Spare and repair parts			1,616		
	4	Support equipment and facilities			20,233		
		Total direct			64,568		
		Reimbursable program			1,384		
10 0001		Total			65,952		
Financing:							
		Offsetting collections from					
11 0001		Adjustment to prior year federal fund orders			118		
13 0001		Adjustment to prior year trust fund orders			776		
17 0001		Recoveries of prior year obligations(-)			-733		
		Unobligated balance available, start of year:					
21 4001		For completion of prior year budget plans			-81,049		
21 4002		Reprogramming from or to prior year budget plan	-14,938				
25 0001		Unobligated balance lapsing	14,938		14,938		
40 0001		Budget authority					

1-5 February 1982

Army

Aircraft Procurement, Army

08 FEB 82

Program and Financing (in thousands of dollars)		1980 Fiscal year program					
Identification code	21-2031-0-1-051	Budget plan (amounts for procurement actions programmed)			Obligations		
		1981 actual	1982 est.	1983 est.	1981 actual	1982 est.	1983 est.
Program by activities:							
Direct:							
	1. Aircraft				38,148	7,280	
	2. Modification of aircraft				48,661	26,858	
	3. Spares and repair parts				6,521	8,572	
	4. Support equipment and facilities				7,654	6,787	
	Total direct				100,984	49,497	
	Reimbursable program				7,708	4,137	
10 0001	Total				108,692	53,634	
Financing							
Offsetting collections from:							
11.0001	Adjustment to prior year federal fund orders				2,753		
13.0001	Adjustment to prior year trust fund orders				-888		
14.0001	Adjustment to non-federal sources				-8		
21.4001	Unobligated balance available, start of year				-160,184	-49,614	
24.4001	Unobligated balance available, end of year				49,614		
48.0001	Budget authority						

1-6 February 1982

Army		Aircraft Procurement, Army			US 110 02		
		Program and Financing (in thousands of dollars)			1981 Fiscal year program		
Identification code 21-2031-0-1-051		Budget plan (amounts for procurement actions programmed)			Obligations		
		1981 actual	1982 est.	1983 est.	1981 actual	1982 est.	1983 est.
Program by activities							
Direct							
	1 Aircraft	806,598			444,429	31,340	28,030
	2 Modification of aircraft	417,028			368,348	31,302	20,877
	3 Spares and repair parts	230,800			204,028	18,238	11,540
	4 Support equipment and facilities	63,673			31,788	18,282	2,893
	Total direct	1,202,600			1,048,593	99,162	60,040
	Reimbursable program	31,724			12,601	14,608	9,117
10 0001	Total	1,234,324			1,061,194	113,770	69,157
Financing							
Offsetting collections from							
10 001	Federal funds	-17,182			-17,182		
13 0101	Trust funds	-14,833			-14,833		
14 0 01	Non-federal sources	-38			-38		
21 4 01	Unobligated balance available, start of year					-176,133	-66,187
24 4001	Unobligated balance available, end of year				176,133	66,187	
39 0001	Budget authority	1,202,600			1,202,600		
Budget authority:							
40 0001	Appropriation	1,193,100			1,193,100		
2 0001	Transferred from other accounts	9,500			9,500		
43 0001	Appropriation (adjusted)	1,199,100			1,199,100		
50 0001	Reappropriation	9,500			9,500		

1-7 February 1982

Army		Aircraft Production, Army			US REP 04		
		Program and Financing (in thousands of dollars)			1982 Fiscal year program		
Identification code 21-2031-0-1-051		Budget plan (amounts for procurement actions proposed)			Obligations		
		1981 actual	1982 est.	1983 est.	1981 actual	1982 est.	1983 est.
Program by activities:							
Direct:							
	1. Aircraft		1,130,600			945,158	128,867
	2. Modification of aircraft		464,200			388,071	82,919
	3. Spares and repair parts		223,300			186,679	25,456
	4. Support equipment and facilities		118,000			98,648	13,482
	Total direct		1,936,100			1,618,556	220,694
	Reimbursable program		360,200			167,493	139,078
10.0001	Total		2,296,300			1,786,049	369,788
Financing:							
Offsetting collections from:							
11.0001	Federal funds		-184,600			-184,600	
13.0001	Trust funds		-195,600			-195,600	
21.4001	Unobligated balance available, start of year						-810,251
24.4001	Unobligated balance available, end of year					810,251	164,482
39.0001	Budget authority		1,936,100			1,936,100	
Budget authority:							
40.0001	Appropriation		1,911,100			1,911,100	
42.0001	Transferred from other accounts		25,000			25,000	
43.0001	Appropriation (adjusted)		1,936,100			1,936,100	

1-8 February 1982

Army		Aircraft Procurement, Army			08 FEB 82		
		Program and Financing (in thousands of dollars)			1983 Fiscal year program		
Identification code 21-2031-0-1-051		Budget plan (amounts for procurement actions programmed)			Obligations		
		1981 actual	1982 est.	1983 est.	1981 actual	1982 est.	1983 est.
Program by activities:							
Direct:							
	1. Aircraft			1,678,500			1,403,204
	2. Modification of aircraft			405,814			338,083
	3. Spares and repair parts			482,500			403,370
	4. Support equipment and facilities			179,300			148,885
	Total direct			2,745,914			2,293,542
	Reimbursable program			110,400			81,338
10.0001	Total			2,856,314			2,374,880
Financing:							
Offsetting collections from:							
11.0001	Federal funds			-44,400			-44,400
13.0001	Trust funds			-68,000			-68,000
24.4001	Unobligated balance available, end of year						609,418
40.0001	Budget authority			2,745,914			2,745,914

1-9 February 1982

AIRCRAFT PROCUREMENT, ARMY

Section 2

Introductory Statement

1-10 February 1982

DEPARTMENT OF THE ARMY
ANNUAL BUDGET ESTIMATES

Appropriation:

FY 1983, 84
Budget

Aircraft Procurement, Army

Section 2 - INTRODUCTORY STATEMENT

This appropriation finances the acquisition of tactical and utility airplanes and helicopters, including associated electronics, electronic warfare and communications equipment and armament; modification of in-service aircraft, ground support equipment, and depot reparable assemblies, components and repair parts such as spare engines, transmissions, gear boxes and sensor equipment. It also funds related training devices such as combat mission flight simulators and production base support.

The 1983 program continues acquisition of the UH-60A BLACK HAWK utility helicopter and the AH-64 APACHE Attack Helicopter. It continues the TOW missile-launching attack helicopter AH-1 modification program which provides additional heliborne anti-armor firepower; and continues to improve the Special Electronic Mission Aircraft Fleet. In addition, the 1983 program continues modernization/modernization of CH-47 medium-lift helicopter fleet to enhance productivity, safety and survivability. It initiates the Army Helicopter Improvement Program (AHIP).

1-11 February 1982

AIRCRAFT PROCUREMENT, ARMY

Section 3

Summary of Requirements

1-12 February 1982

SUMMARY OF REQUIREMENTS (In Thousands of Dollars)

Appropriation:	FY 19 81 Actual	FY 19 82 Estimate	19 83 Estimate
Aircraft Procurement, Army			
Aircraft	508,999	1,130,600	1,678,500
Modification of Aircraft	409,128	464,200	405,614
Spares and Repair Parts	230,800	223,300	482,500
Support Equipment and Facilities	53,673	118,000	179,300
Total Direct Program	1,202,600	1,936,100	2,745,914
Reimbursable Program	31,724	360,200	110,400
TOTAL PROGRAM REQUIREMENTS	1,234,324	2,296,300	2,856,314
Less: Portion of program to be obligated in subsequent fiscal years	176,133	510,251	509,416
Plus: Obligations incurred against prior year program funds	174,641	160,590	420,926
TOTAL OBLIGATIONS	1,232,832	1,946,639	2,767,824

1-13 February 1982

SUMMARY OF REQUIREMENTS (In Thousands of Dollars)

Appropriation:	FY 1984 Estimate
Aircraft Procurement, Army	
Aircraft	2,072,500
Modification of Aircraft	632,900
Spare and Repair Parts	467,500
Support Equipment and Facilities	200,200
Total Direct Program	3,373,100

1-14 February 1982

AIRCRAFT PROCUREMENT, ARMY

Section 4

Budget Activity Justifications

Activity 1 - Aircraft

Activity 2 - Modification of Aircraft

Activity 3 - Spareq and Repair Parts

Activity 4 - Support Equipment and Facilities

1-15 February 1982

C FORM	Department of the Army Annual Budget Estimate JUSTIFICATION	Appropriation		FY 1983
		Aircraft Procurement, Army		Budget
		(Thousands of Dollars)		
Budget Program or Budget Project Account	Actual	Estimate	Estimate	
Activity 1 - Aircraft	FY 1981	FY 1982	FY 1983	
Direct Obligation or Direct Budget Plan				
Direct Obligation	508,999	1,130,600	1,678,500	

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 REQUIRED

- This program provides for procurement of 156 attack and utility aircraft to meet combat, tactical training and combat support needs of the Army.

Helicopter, BLACK HAWK - \$508.6 million is requested for procurement of 96 UH-60A BLACK HAWK helicopters. In addition \$207.6 million is requested for advance procurement of long leadtime items and engines. This utility helicopter is the Army's first true squad carrying helicopter and is produced by Sikorsky Aircraft, Stratford, Connecticut. The BLACK HAWK is powered by two T-700 engines produced by General Electric Company, Lynn, Massachusetts. The BLACK HAWK will modernize the Army's utility helicopter fleet. It will enhance tactical mobility with increased speed, lifting capacity, range, reliability, availability, maintainability, and survivability at reduced overall operating costs.

The Army initiates Multi Year Procurement (MYP) for the BLACK HAWK in FY83.

Helicopter, Attack, APACHE - \$760.3 million is requested for the procurement of 48 AH-64 APACHE attack helicopters. In addition, \$116.5 million is requested for advance procurement of long leadtime items. The APACHE is a twin-engine, two-place, fully integrated anti-armor weapon system capable of destroying tanks and other armored vehicles under day/night and adverse weather conditions. The aircraft employs the HELLFIRE (laser seeker) anti-tank missile. Target acquisition and guidance are accomplished by the Target Acquisition and Designation Sight (TADS) that will provide extremely accurate fires with high first round hit probability. The mobility and flexibility of the system coupled with its immediate responsiveness and integration with the ground command will provide the combat balance required to help defeat the Warsaw Pact threat and be a key member of the Rapid Deployment Force (RDF).

1-16 February 1982

V MTCO	Department of the Army Annual Budget Estimate JUSTIFICATION	FY 1983 Budget
	Appropriation Aircraft Procurement, Army	Budget Program or Budget Project Account Act: 1 - Aircraft

Airplane, Reconnaissance, RC-12D (GUARDRAIL) - \$41.2 million is requested in FY83 for procurement of 6 RC-12D GUARDRAIL reconnaissance airplanes as part of the third Improved GUARDRAIL V system. The RC-12D is a twin-engine, turboprop airplane equipped with a signal intelligence system which intercepts, locates, and classifies target signals. It transmits data to ground processors/facilities to provide the supported commanders at Division and Corps level with real time intelligence information.

Helicopter, Electronic, EH-60A (QUICK FIX) - \$33.3 million is requested in FY83 for advance procurement of long leadtime engines and airframes required to support the FY84 production of the EH-60A QUICK FIX helicopter. QUICK FIX utilizes the BLACK HAWK airframe to employ on-board jammers for Electronic Warfare (EW) designed to identify, locate, listen, and disrupt enemy command and control communications.

Airplane, Cargo, C-12D - \$11.0 million is requested in FY83 for procurement of 6 C-12D airplanes. These aircraft will be assigned to the Defense Attache/Security Assistance Organizations in West Africa (Somalia/Kenya, Morocco, China, Pakistan and India).

1-17 February 1982

FOUR	Department of the Army Annual Budget Estimate JUSTIFICATION	Appropriation Aircraft Procurement, Army	FY 1983 Budget
	Budget Program or Budget Project Account	(Thousands of Dollars)	Estimate
	Activity 1 - Aircraft		FY 1984
	Direct Obligation or Direct Budget Plan		2,032,500
	Direct Obligations		

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 REQUIRED

This program provides for a quantity of 198 attack, utility, reconnaissance and Special Electronic Mission aircraft to meet combat, tactical training and combat support needs of the Army.

Helicopter, BLACK HAWK - \$402.9 million is requested for procurement of 84 AH-60A BLACK HAWK helicopters. In addition, \$128.9 million is requested for advance procurement of long leadtime engines and airframe components. This utility helicopter is the Army's first true squad carrying helicopter. BLACK HAWK is produced by Sikorsky Aircraft, Stratford, Connecticut. The BLACK HAWK is powered by two T700 engines produced by General Electric Company, Lynn, MA. The BLACK HAWK will modernize the Army's utility helicopter fleet. It will enhance tactical mobility with increased speed, lifting capacity, range, reliability, availability, maintainability and survivability at reduced overall operating costs. FY84 will be the second year of the Multi-Year Procurement (MYP) of the BLACK HAWK.

Helicopter, Attack, APACHE - \$1127.7 million is requested for procurement of 96 AH-64 APACHE Attack helicopters. In addition, \$121.5 million is requested for advance procurement of long lead items including engines, transmissions and mission equipment. The APACHE is a twin-engine, two-place, fully integrated anti-armor weapon system capable of destroying tanks and other armored vehicles under day/night and adverse conditions. The aircraft employs HELLFIRE (laser seeker) anti-tank missiles. Target acquisition and guidance is accomplished by the Target Acquisition and Designation Sight (TADS) that will provide extremely accurate fires with high first round hit probability. The mobility and flexibility of the system coupled with its immediate responsiveness and integration with the ground commander will provide the combat balance required to help defeat the Warsaw Pact Threat.

Airplane, GUARDRAIL - \$41.4 million is requested for 6 RC-12D GUARDRAIL reconnaissance airplanes as part of the fourth improved GUARDRAIL V system. The RC-12D is a twin-engine, turboprop airplane equipped with a signal intelligence system which intercepts, locates, and classifies target signals. It transmits data to ground processors/facilities to provide the supported commander at Division and Corps level with real time intelligence information.

1-18 February 1982

V. SERVICE	Department of the Army Annual Budget Estimate JUSTIFICATION		FY 1983
	Appropriation Aircraft Procurement, Army	Budget Program or Budget Project Account Activity 1 - Aircraft	

Helicopter, Electronic, EH-60A (QUICK FIX) - \$162.0 million is requested for procurement of 12 EH-60A QUICK FIX electronic helicopters. In addition, \$28.1 million is requested for advance procurement of long leadtime engines and airframes. The EH-60A QUICK FIX utilizes the BLACK HAWK airframe to employ on-board jammers for Electronic Warfare (EW) designed to identify, locate, listen and disrupt enemy command and control communications.

1-19 February 1982

FORM 1 Department of the Army Annual Budget Estimate JUSTIFICATION	Appropriation		FY 1983
	Aircraft Procurement, Army		Budget
	(Thousands of Dollars)		
	Actual	Estimate	Estimate
Budget Program or Budget Project Account			
Activity 2 - Modification of Aircraft			
Direct Obligation or Direct Budget Plan			
Direct Obligations	FY 1981	FY 1982	FY 1983
	409,178	464,200	405,600

Section 1 - PURPOSE AND SCOPE

Provides for modification of items procured by the appropriation Aircraft Procurement, Army, including modification kits. It excludes installation unless the item is furnished to a manufacturer who provides parts and labor under a single contract (excluding normal GFE). This results in an end item reconfigured to a new series designation or new operational capability.

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

\$405.6 million is requested for modification of in-service aircraft and related equipment to improve flight safety, increase operational capability and extend the useful life of aircraft and equipment. Funds are requested for modification programs as follows:

OV-1 - \$16.9 million is requested for modernization of the OV-1B aircraft to a standard OV-10 configuration. This configuration accepts the palletized and improved infrared (IR) and side looking airborne radar (SLAR) packages.

RC-120 - \$8.7 million is requested in FY83 for RC-120 GUARDRAIL modifications. This funding will complete the second improved GUARDRAIL V system.

RV-1 - \$9.9 million is requested for converting older OV-1B aircraft to the RV-1D QUICK LOOK configuration with airborne Electronic Intelligence (ELINT) mission equipment. Other modifications include stall warning, secure UHF voice, exotic signal recognition, TCT relay modifications, and aircraft survivability equipment.

AH-1 - \$32.7 million is requested for six product improvement programs continuing to be modified on the COBRA/TOW helicopters. These are improved attitude heading reference system, Radar Jammer, improved sand and dust separator, Laser Warning receiver, improved windshields, and Map-of-the-Earth (MOE) communications.

NOTE: Funding details of aircraft modifications to include the type and number of each to be modified, cost and description of the modifications are included in Section 8, Modification of Aircraft.

1-20 February 1982

FORMAT	Department of the Army Annual Budget Estimate		FY 1983
	JUSTIFICATION		Budget
Appropriation	Budget Program or Budget Project Account		
Aircraft Procurement, Army	Activity 2 - Modification of Aircraft		

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

CH-47 - \$261.3 million is requested primarily for continuation of the CH-47D modernization program and for fleet modifications with Fiberglass Rotor Blades. 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 controls, triple hook cargo system and an auxiliary power unit. These improvements increase the aircraft capability for lift and endurance and extend 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 helicopter.

C-12 - \$4 million is requested for PT 6A-38 to PT 6A-41 Engine Conversion, and automatic feathering and synchronization modification to increase aircraft performance and safety.

Modifications less than \$900 thousand - \$1 million is requested in FY83 for Improved Lighting System for Army Aircraft.

Oh 58 - \$4.3 million is requested for Map-of-the-Earth (MOE) communications modifications.

Airborne Avionics \$5.0 million is requested for airborne avionics modifications including radar altimeter, improved head set, test cables, and improved capability of the Lightweight Doppler Navigation System.

Army Helicopter Improvement Program (AHIP) - \$45.1 million is requested for long leadtime items for conversion of OH-58A helicopters to AHIP configuration. Items include transmissions, gearboxes, main rotor masts, material for main rotor blades, electrical components, castings, forgings, bearings hydraulic actuators, sensors, microelectronic parts, tooling, engines, and avionics. These items are needed to proceed with planned AHIP schedule for production initiation and resulting IOC. AHIP will provide commanders with an urgently needed scout helicopter to conduct reconnaissance, surveillance, security and target acquisition/designation functions and capable of operating during day, night and adverse weather conditions. AHIP will be the only near term scout capable of supporting the AH-64 and providing laser designation for COMBATHEAD and other precision guided munitions.

Aircraft "X" - Funds are required for specialized aviation of a classified nature (\$2.2 million).

1-21 February 1982

T-1 AVROCK	Department of the Army Annual Budget Estimate JUSTIFICATION	Appropriation	FY1983
		Aircraft Procurement, Army	Budget
	Budget Program or Budget Project Account Activity 2 - Modification of Aircraft	(Thousands of Dollars)	Estimate
			FY1984
	Direct Obligation or Direct Budget Plan Direct Obligations		632,900

Section 1 - PURPOSE AND SCOPE

Provides for modification of items procured by the appropriation Aircraft Procurement, Army including modification kits. It excludes installation unless the item is furnished to manufacturer who provides parts and labor under a single contract (excluding normal GPE). This results in an end item reconfigured to a new series designation or new operational capability.

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

\$632.9 million is requested for modification of in-service aircraft and related equipment to improve flight safety, increase operational capability, and extend the useful life of the aircraft and equipment. Funds are requested for modification programs as follows:

OV- - \$48.7 million is requested to continue the OV-1B to OV-1D configuration conversion for total force modernization and improved operational capability. Other mods include AN/UPD-7 radar surveillance system RAM improved data link modifications and aircraft survivability equipment.

RV-1 - \$6.1 million is requested for required aircraft survivability equipment to allow the RV-1 to perform its mission. The RV-1D provides increased performance and capability resulting from new electronic countermeasures surveillance system employed at Corps level.

Alt-1B - \$37.0 million is requested for aircraft survivability modifications and product improvements. Wise Strike Protection System, Radar Jammer, Laser Warning Receiver, and Nap-of-the-Earth (NOE) communications equipment.

CH-47 - \$359.2 million is requested for continuing the modernization of the fleet to the improved CH-47D configuration. It also continues the modification program to convert the T-55-L-11D to T-55-L-712 engine.

C-12 - \$.7 million continues the engine conversion and automatic feathering modifications.

1-22 February 1982

FORMAT	Department of the Army Annual Budget Estimate JUSTIFICATION		FY1983
	Appropriation	Budget Program or Budget Project Account	
	Aircraft Procurement, Army	Activity 2 - Modification of Aircraft	

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

OH-58 - \$1.4 million continues the Map-of-the-Earth (NOE) communications modification programs

Airborne Avionics - \$7.5 million continues product improvement programs as follows: Improved Tempest Head Set, Solid State Radar, and Improved capability of the Lightweight Navigation Doppler System.

RC-12D GUARDRAIL - \$7.8 million is required to modify RC-12D aircraft with required aircraft survivability equipment.

UH-60A - \$2.7 million is requested in FY84 for the following modifications to the BLACK HAWK fielded fleet: External Stores Support System (ESSS), wire strike protection, proximity warning device, winterization kit and aircraft survivability equipment.

Modifications under \$900 thousand - \$2.2 million is requested in FY 84 for probe height sensor for the CH-47 Flight Simulator.

Aircraft 9MW - Funds are required for specialized aviation of a classified nature (\$2.0 million).

Army Helicopter Improvement Program (AHIP) - \$160.1 million is requested in FY84 to exercise the initial production option of 16 aircraft with initial support data and equipment, and for leadtime time items for the FY85 conversion of 44 OH-58A aircraft to the AHIP configuration. AHIP will provide commanders with an urgently needed scout helicopter to conduct reconnaissance, surveillance, security, and target acquisition/designation functions, and capable of operating during day, night, or adverse weather conditions. AHIP will be the only near term scout capable of supporting the AH-64 and providing laser designation for COPPERHEAD and other precision guided munitions.

NOTE: Funding details of aircraft modifications to include the type and number of each to be modified, cost and description of the modifications are included in Section 8, Modification of Aircraft.

1-23 February 1982

FORM 3 Department of the Army Annual Budget Estimate JUSTIFICATION	Appropriation		FY 1983
	Aircraft Procurement, Army		Budget
	(Thousands of Dollars)		
	Actual	Estimate	Estimate
Budget Program or Budget Project Account Activity 3 - Spares and Repair Parts	FY 1981	FY 1982	FY 1983
Direct Obligation or Direct Budget Plan Direct Obligations	\$230,800	\$223,300	\$482,500

Section 1 - PURPOSE AND SCOPE

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

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

This program provides for centrally managed, high dollar value, depot reparable spares and repair parts such as engines, transmissions, and gear boxes. Due to the high dollar value of these components, they are intensively managed.

Initial Provisioning - \$151.4 million provides for procurement of spares and repair parts to support initial fielding of new principal items or modifications of principal items. Spares are an integral part of the deployment of any aircraft system (new procurement or modification). Initial spares are ordered against the major item deployment schedule and must meet required deliveries to preclude grounding the system for lack of spare parts. The initial fielding period normally extends until sufficient experience has been accumulated to permit changeover to replenishment procedures. Aircraft end items supported in FY83 are. (\$ millions)

AH-64	\$80.2	AH-1S	\$ 4.7
UH-60A	16.8	CH-47	27.1
OV-1	1.8	OH-58	.5
RC-12D	1.8	AGSE	4.4
HV-1	.7	ANVIS	3.3
Safety of Flight	2.1		

Replenishment Spares - \$331.1 million provides for procurement of spares and repair parts to support operations subsequent to initial fielding of new or modified items.

1-24 February 1982

FORM 1-1	Department of the Army Annual Budget Estimate	Appropriation	1981
	JUSTIFICATION	Aircraft Procurement, Army (Thousands of Dollars)	Budget
	Budget Program or Budget Project Account		Estimate
	Activity 3 - Spares and Repair Parts		py1984
Direct Obligation or Direct Budget Plan			
Direct Obligations			467,500

Section 1 - PURPOSE AND SCOPE

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

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

Initial Provisioning - \$229.1 million provides for procurement of spares and repair parts to support initial fielding of new principal items or modifications of principal items. The "initial fielding" period normally extends until sufficient experience has been accumulated to permit changeover to replenishment procedures.

Replenishment Spares - \$238.4 million provides for procurement of spares and repair parts to support operations subsequent to initial fielding of a new or modified principal item.

1-25 February 1982

FORM 1 Department of the Army Annual Budget Estimate JUSTIFICATION	Appropriation Aircraft Procurement, Army		FY 1983
	Budget		
	(Thousands of Dollars)		
	Actual	Estimate	Estimate
Budget Program or Budget Project Account			
Activity 4 - Support Equipment and Facilities			
	FY 1981	FY 1982	FY 1983
Direct Obligation or Direct Budget Plan			
Direct Obligations	53,673	118,000	179,300

Section 1 - PURPOSE AND SCOPE

Provides for avionics support equipment including avionics spares support, and avionics communications equipment, for common ground equipment including tool sets, shop sets and components thereof, ground handling/servicing equipment air traffic control equipment, special test and diagnostic equipment, and flight simulators, for industrial facilities and for war consumables.

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

The request for this activity is comprised of the following items

Avionics Support Equipment - \$ 34.1 million is requested for avionics spares support for operational readiness float required to support fielded aircraft (\$ 5.4 million). It also provides for aviation night vision goggles (\$28.7 million).

Common Ground Equipment \$90.6 million is requested for procurement of tools and shop sets, aviation ground support equipment, airfield support equipment, Flight Simulators and individual items that cost less than \$.9 million. Tools and Shop sets are required to fill shortages, replace obsolete equipment and implement the three level maintenance concept (\$4.0 million). Aviation Ground Support Equipment provides for the acquisition of self-propelled crane, aircraft maintenance trailer, self propelled elevating maintenance stand and engine adapters (\$5.3 million). The Airfield Support Equipment budget item provides the necessary Air Traffic Control and navigational and ground equipment to support the Army Aviation Mission at fixed Army airfields and helicopters (\$ 3 million). Funds to procure three AH-1S Flight/Weapons Simulators are requested to provide training at high density units on a cost effective basis, (\$4.6 million). Individual items that cost less than \$.9 million are test equipment for maintenance of Avionics, Airborne Surveillance and Air Traffic Control hardware (\$2.4 million). Funds are required to procure one CH-47 Flight Simulator (\$14.4 million) and Aviation Training Equipment (\$13.9 million). Funds to procure High Technology Test Bed (HTTB) Equipment for the 9th Infantry Division, Fort Lewis, WA is requested (\$6.7 million).

1-26 February 1982

FORM 1	Department of the Army Annual Budget Estimate	FY 1983
	JUSTIFICATION	Budget
Appropriation	Budget Program or Budget Project Account	
Aircraft Procurement, Army	Activity A - Support Equipment and Facilities	

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

Industrial Facilities - \$ 31.0 million is requested for Industrial Facilities in support of the Army Aviation Program. It includes \$9.2 million for Manufacturing Methods and Technology Program (MM&T). MM&T request will allow completion of effort on composite structures for the tail rotor, tail section and main rotors of Army helicopters. Heavy effort of improved methods for manufacturing gas turbine engines continues with emphasis on turbine blades and compressor components. The Provision of Industrial Facilities (PIF) request provides for rehabilitating real property and industrial plant equipment at the Stratford, Conn. Army Engine Plant (AVCO Lycoming), and other projects (\$13.4 million). Depot Maintenance Plant Equipment (DMPE) request provides for facilitization of Corpus Christi, TX Army Depot to assume overhaul of T-700 engine, turbine fuel controls, BLAU HAWK airframe repair and installation of environment control equipment at the depot (\$8.4 million).

War Consumables - \$6.4 million is requested for 7 and 19 tube 2.75 inch Lightweight Rocket launchers to be used on the AH-1 COBRA/10W and AH-64 attack helicopters.

High Technology Test Base - \$6.7 million is requested in FY 83 for procurement of AN/ARC-174 radio (\$2.5 million); Lightweight Map Display (\$.3 million) and three Aircraft Survivability Equipment (\$3.9 million) for the 9th Infantry Division, Fort Lewis, Washington.

HELLFIRE Launchers - \$17.2 million is requested in FY 83 for the second production buy of 330 HELLFIRE launchers. These launchers are issued four per AH-64A, APACHE, and are being procured in sufficient quantity to meet the fielding schedule of the APACHE.

1-27 February 1982

FORM 1-1	Department of the Army Annual Budget Estimate JUSTIFICATION	Appropriation	FY 1983
	Budget Program or Budget Project Account	Aircraft Procurement, Army (Thousands of Dollars)	Budget
	Activity 4 - Support Equipment and Facilities		Estimate
	Direct Obligation or Direct Budget Plan		FY 1984
	Direct Obligations		200,200

Section 1 - PURPOSE AND SCOPE

Provides for avionics support equipment including avionics spares support and avionics communications equipment, for common ground equipment including tool sets, shop sets and components thereof, aviation ground support equipment, and flight simulators, for industrial facilities; and for war consumables.

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

The request for this activity is comprised of the following items

Avionics Support Equipment - \$38.0 million is requested as follows: \$29.2 million for procurement of Aviation Night Vision Goggles and \$8.8 million for other communication equipment (PLRS, NAVSTAR and SINCGARS)

Common Ground Equipment - \$100.0 million is requested as follows: Tools and Shop Sets, Aviation Ground Support Equipment, Flight Simulators, and individual items costing less than \$ 9 million. Tools and Shop Sets include aviation unit and intermediate maintenance shop sets, maintenance shelters to provide urgently needed equipment to fill the Y level maintenance system (\$11.4 million) Aviation Ground Support Equipment include self propelled crane, aircraft maintenance trailers, and engine adapter assembly (\$15.4 million). The UH-60 Flight Simulator provides visual and instrument flight simulation capable of independent or integrated crew training (3 for \$ 52.9 million). The CH-47 Flight Simulator provides automated training capability of visual and instrument flight and emergency procedures training (1 for \$14.9 million). Individual items costing less than \$ 9 million are test equipment for maintenance of avionics, airborne surveillance and Air Traffic Control hardware (\$5.4 million).

Industrial Facilities - \$38.3 million is requested as follows: \$14.3 million for Provisions of Industrial Facilities (PIF), \$5.2 million for Depot Maintenance Plant Equipment (DMPE), and \$18.8 million for Manufacturing Methods and Technology (MM&T).

1-28 February 1982

FY8001	Department of the Army Annual Budget Estimate		FY 1983
	JUSTIFICATION		Budget
Appropriation Aircraft Procurement, Army		Budget Program or Budget Project Account Activity 4 - Support Equipment and Facilities	

War Consumables - \$ 6.4 million is requested to procure 7 and 19 tube 2.75 inch Lightweight Rocket Launchers for the AH-1S COBRA/TOW and AH-64 attack helicopter.

HELLFIRE Launchers - \$17.5 million is requested in FY84 for the third production buy of 398 HELLFIRE launchers. These launchers are issued four per AH-64A, APACHE, and are being procured in sufficient quantity to meet the fielding schedule of the APACHE.

1-29 February 1982

AIRCRAFT PROCUREMENT, ARMY

Section 5

Comparison of Program Requirements and Financing

Comparison of FY 1982 program requirements as reflected in FY 1982 budget with FY 1982 program requirements as shown in FY 1983 budget.

Comparison in FY 1982 financing as reflected in FY 1982 budget with FY 1982 financing as shown in FY 1983 budget

Comparison of FY 1981 program requirements as reflected in FY 1982 budget with FY 1981 program requirements as shown in FY 1983 budget.

Comparison of FY 1981 financing as reflected in FY 1982 budget with FY 1981 financing as shown in FY 1983 budget.

1-30 February 1982

COMPARISON OF FY 1982 PROGRAM REQUIREMENTS
AS REFLECTED IN FY 1982 BUDGET WITH
FY 1982 PROGRAM REQUIREMENTS AS SHOWN IN FY 1983 BUDGET
SUMMARY OF REQUIREMENTS (In Thousands of Dollars)

Appropriation	Total Program Requirements Per FY 82 Budget	Program Requirements Per FY 1983 Budget	Increase (+) or Decrease (-)
Aircraft Procurement, Army			
Activity 1 - <u>Aircraft</u>	1,099,300	1,130,600	+31,300
Activity 2 - <u>Modification of Aircraft</u>	442,700	464,200	+21,500
Activity 3 - <u>Spares and Repair Parts</u>	227,100	223,300	- 3,800
Activity 4 - <u>Support Equipment and Facilities</u>	128,200	118,000	-10,200
TOTAL	1,897,300	1,936,100	+38,800

Explanation by Activity

Activity 1 - Aircraft - Net increase is due to Congressional actions to procure 6 C-12 aircraft (+\$10,600), 12 AH-1S helicopters (+\$55,700) and 2 UV-18 aircraft (+\$3,600). Congress also increased the AH-64 helicopter procurement (+\$79,900). These were offset by decrease to BLACK HAWK (-\$118,500) for multiyear procurement.

Activity 2 - Modification of Aircraft - Increase is due to establishment of aircraft 9W line (+\$9,100) and inflation increases (+\$5,800) and correction of activity breakout (+\$6,600).

Activity 3 - Spares and Repair Parts - Net decrease is due to correction of activity breakout (-\$6,600) offset by inflation adjustment (+\$10,400).

Activity 4 - Support Equipment and Facilities - Net decrease is due to transfer of aircraft 9W to Activity 2 (-\$9,100), transfer of funds to Reserves for equipment per Congressional direction (-\$2,700) and inflation adjustment (+\$1,600).

1-31 February 1982

COMPARISON OF FY 1982 FINANCING AS REFLECTED
IN THE FY 1982 BUDGET WITH FY 1983 FINANCING AS SHOWN
IN FY 1983 BUDGET

(In Thousands of Dollars)

Appropriation	Financing Per FY 1982 Budget	Financing Per FY 1983 Budget	Increase (+) or Decrease (-)
Aircraft Procurement, Army			
Program Requirements, (Total)	1,932,400	2,296,300	+363,900
Program Requirements (Service Account)	(1,897,300)	(1,936,100)	(+38,800)
Program Requirements (Reimbursable)	(35,100)	(360,200)	(+325,100)
Less:			
Anticipated reimbursements	-35,100	-360,200	-325,100
Reprogramming from prior year budget plans	-	-	-
obligated balance available from prior year to finance new budget plans	-	-	-
Unobligated balance transferred from other accounts	-	-	-
Add:			
Unobligated balance transferred to other accounts	-	-	-
Unobligated balance available to finance subsequent year budget plans	-	-	-
BUDGET AUTHORITY	1,897,300	1,936,100	+38,800
BUDGET AUTHORITY			
Appropriation	1,897,300	1,936,100	+38,800

EXPLANATION OF CHANGES IN FINANCING

Net increase to Appropriation Budget Authority is due to Congressional actions taken on FY82 Budget Request.

1-32 February 1982

COMPARISON OF FY 1981 PROGRAM REQUIREMENTS
AS REFLECTED IN FY 1982 BUDGET WITH
FY 1981 PROGRAM REQUIREMENTS AS SHOWN IN FY 1983 BUDGET

SUMMARY OF REQUIREMENTS (In Thousands of Dollars)			
Appropriation. Aircraft Procurement, Army	Total Program Requirements	Program Requirements	Increase (+) or Decrease (-)
	Per FY 82 Budget	Per FY 1983 Budget	
Activity 1 - <u>Aircraft</u>	512,100	508,999	-3,101
Activity 2 - <u>Modification of Aircraft</u>	408,300	409,128	+ 828
Activity 3 - <u>Spare and Repair Parts</u>	230,800	230,800	-
Activity 4 - <u>Support Equipment and Facilities</u>	53,200	53,673	+ 473
TOTAL	\$1,204,400	\$1,202,600	-1,800

Explanation

Activity 1 - Aircraft - Net decrease is due to return of some BLACK HAWK program to Congress during the FY 82 Congressional Budget Review process (-\$11,300) and reprogramming to Activity 2 (-\$1,300) offset by establishment of Improved Light Combat Helicopter program in FY 81 (+\$9,500).

Activity 2 - Modification of Aircraft - Net increase is due to reprogramming actions (+\$300 for Improved Light Combat Helicopter mods and \$1,900 for UH-1 modifications) offset by various decreases during execution (-\$1,400).

Activity 4 - Support Equipment and Facilities - Net increase is due to below threshold increase to industrial facilities (+\$800) offset by various decreases during execution (-\$300).

1-33 February 1982

COMPARISON OF FY 1981 FINANCING AS REFLECTED
IN THE FY 1982 BUDGET WITH FY 1981 FINANCING
AS SHOWN IN FY 1981 BUDGET

(In Thousands of Dollars)

Appropriation:	Financing Per FY 1982 Budget	Financing Per FY 1981 Budget	Increase (+) or Decrease (-)
Aircraft Procurement, Army			
Program Requirements, (Total)	1,236,400	1,234,324	-2,076
Program Requirements (Service Account)	(1,204,400)	(1,202,600)	(-1,800)
Program Requirements (Reimbursable)	(32,000)	(31,724)	(-276)
Less:			
Anticipated reimbursements	-32,000	-31,724	-276
Programming from prior year budget plans			
Unobligated balance available from prior year to finance new budget plans			
Unobligated balance transferred from other accounts			
Add:			
Unobligated balance transferred to other accounts			
unobligated balance available to finance subsequent year budget plans			
BUDGET AUTHORITY	1,204,400	1,202,600	-1,800
Appropriation	1,204,400	1,193,100	-11,300
Transfers from other accounts		6,000	
Appropriation (Adjusted)		1,199,100	
Appropriation		3,500	

EXPLANATION OF CHANGES IN FINANCING

Net decrease to Appropriation Budget Authority is due to return of funds to Congress during FY82 Congressional Budget hearings.

1-34 February 1982

AIRCRAFT PROCUREMENT, ARMY

Section 6

Selected Data Sheets

NOT USED

1-35 February 1982

AIRCRAFT PROCUREMENT, ARMY

Section 7

Analysis of Unobligated Balances

1-36 February 1982

AIRCRAFT PROCUREMENT, ARMY

Analysis of Unobligated Balances - FY 1983 Program*
Summary by Category

Category	Estimated Unobligated	
	Dollars (Millions)	% of total Unobligated
1. Reserved to support contracts	\$491.3	74.0%
2. Engineering changes	79.7	12.0%
3. Other	92.0	14.0%
	<u>Total Unobligated FY 1983</u>	<u>100.0%</u>
	663.9	

Explanation by Category

Based on past experience, it is predicted that the above amounts will remain unobligated at the end of FY 83. Reasons for the unobligated balances here have been grouped into three general categories and are detailed below. These unobligated amounts will be required in subsequent fiscal years to complete the procurement of the FY 83 program.

1. Reserved to Support Contracts:

- a. Held pending award of firm contracts as opposed to letter orders.
- b. Amounts reserved for incentive contract payments.
- c. Reimbursement to be made to the Army Stock Fund for short leadtime materiel purchase as Government-furnished equipment for producers.
- d. Amounts held to support Product Improvement Programs; modification for retrofit during production; modifications ordered by customers.
- e. Contractor claims, reserved to cover potential liabilities for contracts containing escalation clauses for labor or materiel cost increases and price redeterminations.
- f. Contract close-out costs; packing, crating, handling and packaging and loading charges.
- g. Government-furnished equipment breakout procurements; federal excise tax and sales tax payments; preparation of manuals and technical data and reserve or completion of construction elements of production base support facilities projects.
- h. Delay due to design or testing difficulties.
- i. Award protests.
- j. Insufficient procurement detail involving reimbursable orders.
- k. Develop adequate competitive procurement or technical data package.
- l. Items released to Army by other customers too late to permit obligation in FY 1983.

*Includes estimated FY 82 carry-over and other customer reimbursable programs.

AIRCRAFT PROCUREMENT, ARMY (Continued)

2. Engineering Changes:

- a. Engineering costs in support of production (obligated only as expenses are incurred)
- b. Validated engineering change orders to be incorporated into the current manufacturing process.
- c. Engineering changes as a result of acceptance testing, destructive and proving ground tests.
- d. Amounts reserved to support engineering change proposals and value engineering proposals.

3. Other:

- a. Changes to the previously planned method of procurement (i.e. competitive in lieu of sole source).
- b. Extension to bid opening dates.
- c. Additional time required to complete audits of cost data and obtain contractor cost data
- d. Unfavorable pre-award surveys and extended negotiations.
- e. Held pending validation of production capability of low bidder.
- f. Attaining a satisfactory production rate prior to awarding additional work.

1-38 February 1982

Aircraft Procurement, Army

Section B

Status of Aircraft Modification Programs

1-30 February 1982

Status of Aircraft Modification Programs
 FY 1981 Modification of Aircraft
 Programs as of 31 October 1981

<u>Program</u>	<u>Appropriated</u>	<u>Reprogramming</u>	<u>Total Program Value</u>	<u>Total Obligations</u>	<u>Total Disbursements</u>
Helicopter, Improved Light Combat	-	+ .3	.3	-	-
Airplane, Surveillance, OV-1	8.9	-4.2	4.7	3.9	.4
Airplane, Reconnaissance, RC-12D	49.6	+3.0	52.6	50.9	.6
Airplane, Reconnaissance, RV-1	4.3	+1.4	5.7	5.2	1.1
Airplane, Utility, U-21	-	+ .2	.2	-	-
Helicopter, Attack, AH-1S	138.9	-4.4	134.5	114.2	12.9
Helicopter, Cargo, CH-47	198.7	-6.4	192.3	172.2	27.8
Helicopter, Cargo, CH-54	.2	-	.2	.2	-
Airplane, Cargo, C-12	.9	- .1	.8	.2	-
Helicopter, Electronic, EH-1	5.2	-1.1	4.1	2.2	.9
Helicopter, Observation, OH-58	4.4	+ .4	4.8	2.2	-
Helicopter, Utility, UH-1	-	+1.9	1.9	1.4	-
UH-60A Mods	-	+1.1	1.1	-	-
Boeing Avionics	<u>5.9</u>	<u>+ .1</u>	<u>6.0</u>	<u>5.4</u>	<u>.7</u>
Total Budget Activity	417.0	-7.9	409.1	358.0	44.4

1-40 February 1982

Aircraft Procurement, Army

Section 9

Modification of Aircraft

	<u>Page Number</u>
Modification Summary Sheets	
Exhibits P-3a	
OV-1 HOHAWK	1-47
RC-12 GUARDRAIL	1-55
RV-1 AIRPLANE, RECONNAISSANCE	1-68
AH-1 COBRA	1-80
CH-47 CHINOOK	1-91
C-12 AIRPLANE, CARGO	1-102
OH-58 HELICOPTER, OBSERVATION	1-107
UH-60A BLACK HAWK MODS	1-114
ARMY HELICOPTER IMPROVEMENT PROGRAM (AHIP)	1-128
AIRBORNE AVIONICS	1-132
MODIFICATIONS UNDER \$900,000	1-145

CONSOLIDATED P-1a EXHIBIT

Plans exhibits for modifications which are to be applied to several different aircraft in FY 83/84 are included as follows:

<u>Modification</u>	<u>Aircraft to which applicable in FY 83/84</u>	<u>Page Number</u>
NOE Communications	OH-58, AH-1S	1-108
AN/ALQ-156 Missile Detector System	OV-1, RV-1, RC-12D	1-62
AN/ALQ-136 Radar Jammer	OV-1, RV-1, RC-12D	1-65
AN/ALQ-162(V)2 Continuous Wave (CW) Radar Jammer	OV-1, RV-1, RC-12D	1-59

Aircraft Modification, Army
President's Budget

Aircraft (Dollars in Thousands)

	H1		H2	
	# Acft	Cost	# Acft	Cost
OV-1 MOHAWK				
Conversion Program	4	15,670.0	4	17,585.0
UPD-7A Data Link/E-SCAN	-	0	-	20,245.0
Secure Voice for UHF	-	0	-	520.0
*AN/ALQ-162(V) CW Radar Jammer	-	1,230.0	-	764.0
*AN/ALQ-156(V)2 Missile Detector	-	-	-	3,736.0
*AN/ALQ-136(V)2 Radar Jammer	-	-	-	5,350.0
TOTAL OV-1		16,900.0		48,200.0
RV-10				
Q. . LOOK II Conversion	-	205.0	-	0
Stall Warning	-	412.0	-	-
Secure Voice for UHF	-	0	-	103.0
Exotic Signal Recognition	-	890.0	-	-
*ALQ-162 CW Radar Jammer	-	2,268.0	0	0
*AN/ALQ-156(V)2 Missile Detector	-	0	-	2,275.0
*AN/ALQ-136(V)2 Radar Jammer	-	0	-	3,722.0
TCT Relay	-	6,125.0	-	-
TOTAL RV-1		9,900.0		6,100.0

*Consolidated P-3a

Aircraft Modification, Army
President's Budget

Aircraft (Dollars in Thousands)

Aircraft	H1		H4	
	# Acft	Cost	# Acft	Cost
AH-1S				
Improved Sand/Dust Separator	45	1,756.0	203	6,009.0
Improved Attitude Heading Reference System	192	8,200.0	55	3,882.0
Improved Windshields	-	601.0	-	2,000.0
AN/ALQ-136 Radar Jammer	100	14,500.0	95	13,709.0
Laser Warning Receiver	155	5,800.0	72	5,700.0
*NOE Communication	150	1,843.0	418	5,700.0
TOTAL AH-1S		32,700.0		37,000.0
CH-47				
Glass Rotor Blades	34	8,000.0		
Engine Conversion			90	25,700.0
Modernization Program	24	253,300.0		333,500.0
Total CH-47D		261,300.0		359,200.0
C-12A				
Engine Conversion	9	187.0	15	332.0
Auto Feather/Auto Sync	9	180.0	15	319.0
TOTAL C-12A		367.0		651.0
AH1P				
Army Helicopter Improvement Program	-	45,107.0	16	160,121.0
TOTAL AH1P		45,107.0		160,121.0

*Consolidated P-3

1-44 February 1982

Aircraft Modification, Army
 President's Budget

Aircraft (Dollars in Thousands)

	83		84	
	# Acft	Cost	# Acft	Cost
<u>Modifications under \$900,000</u>				
ILSAA	5	56.0	-	-
Probe Height Sensor	-	-	1	188.0
TOTAL		56.0		188.0
<u>OH-58</u>				
*Imp VHF-FM NOE Communications	130	1,772.0	-	-
*UHF Side Band NOE Communications	19	2,528.0	22	1,400.0
TOTAL OH-58		4,300.0		1,400.0
<u>Airborne Avionics</u>				
ARN-209 Radar Altimeter	-	2,700.0	-	-
Imp MK-1564/AR Head Set	-	200.0	-	-
Upgrade, AN/TRN-30	-	800.0	-	200.0
FPN-40 Solid State	-	-	-	4,500.0
RT 1354 Front Panel	-	1,300.0	-	200.0
Upgrade, AN/APX-100	-	-	-	2,600.0
TOTAL Airborne Avionics		5,000.0		7,500.0
<u>RC-12D</u>				
Airplane, Recon RC-12D	-	7,165.0	-	-
*ALQ-156 Missile Detector	-	-	-	2,912.0
*ALQ-162 CW Radar Jammer	-	1,535.0	-	-
*ALQ-136 Radar Jammer	-	-	-	4,488.0
TOTAL RC-12D		8,700.0		7,800.0

* Consolidated P-3a

Aircraft Modification, Army
83 President's Budget

Aircraft (Dollars in Thousands)

	83		84	
	# Acft	Cost	# Acft	Cost
<u>UH-60A</u>				
WINTERIZATION KIT	-	-	15	64.0
AN/APR 39(V)2	-	-	42	27.0
AN/ALQ 144(V)	-	-	-	26.0
PROX WARN DEVICE	-	-	96	247.0
WIRE STRIKE PROTECTION	-	-	24	969.0
ESSS	-	-	-	<u>1,381.0</u>
TOTAL UH-60A	-	-	-	2,714.0
aircraft 9WW	-	21.2	-	2.0
TOTAL 9WW	-	<u>21.2</u>	-	<u>2.0</u>

1-46 February 1982

FY 83 BUDGET

ACTIVITY 2 - AIRCRAFT MODIFICATIONS					EXHIBIT P-3	
Report Control Symbol DD-COMP(AR) 1092					Date: 8 February 1982	
APPROPRIATION: APA/2 SSN: AZJ530						
MODEL: OV-10, MOHAWK MODIFICATION (1)	FY 1982		FY 1983		FY 1984	
	Quantity (2)	Amount (Thousands) (3)	Quantity (4)	Amount (Thousands) (5)	Quantity (6)	Amount (Thousands) (7)
OV-10 CONVERSION	4	14,980.0	4	15,670.0	4	17,585.0
DATA LINK/ESCAN					8/4	20,245.0
SECURE VOICE FOR UHF					110/6	520.0
*AN/AJQ-162(V)2 Continuous Wave Radar Jammer (page 1-59)			38/4	1,230.0	0/7	764.0
*AN/AJQ-156(V)2 Missile Detector (page 1-62)					92/16	3,736.0
*AN/AJQ-146(V)2 Radar Jammer (page 1-65)					0/30	5,350.0
AN/APR-39(V)2 Radar Warning Receiver	0/31	3,578.0				
AN/APR-44 CW Radar Warning Receiver		162.0				
TOTAL:		18,700.0		16,900.0		48,200.0
Consolidated P-3a "A" Kits/"B" Kits						
1-47 February 1982						

CLASSIFICATION

FY 82 PRIORIS

REPORTS CONTROL SYMBOL DD COMP (AR) 1092	AIRCRAFT MODIFICATION		DATE 8 February 1982				
APPROPRIATION/BUDGET ACTIVITY AFA/7 (CON A/3) B)	MODIFICATION TITLE AND NO. OV-10 Conversion, PIP # 77-01-0001						
AIRCRAFT AFFECTED: OV-10, C							
DESCRIPTION/JUSTIFICATION: Type of Improvement - Operational Capability. This modification program will modernize the older OV-10/C aircraft to a standard OV-10 configuration to accept the palletized and improved Infrared (IR) and Side Looking Airborne Radar (SLAR) packages, thus, increasing the operational capability and flexibility of the OV-10 aircraft. The improved sensor will allow a single converted aircraft to be interchanged to fly either IR or SLAR mission, thereby increasing the surveillance capability of the aircraft.							
Airframe changes will include additional airframe components of the OV-10 configuration, i.e., increased strength landing gear; increased horsepower engine and matching propellers; addition to two fuselage access doors.							
Currently the Army has in operation for surveillance the older model OV-10 equipped only for SLAR and older Model OV-10 which have only the capability for IR. FY 82-87 program will modernize the OV-10 models to the OV-10 configuration, in order to provide the Army with an all OV-10 fleet.							
DEVELOPMENT STATUS: Preproduction Prototype Completed - December 1968 Engineering/Service Tests Completed - June 1971 Type Classified Standard - September 1972							
MILESTONES	FY 73 ACT DATE	FY 82 EST DATE	FY 83 EST DATE	FY 84 EST DATE	FY 85 EST DATE	FY 86 EST DATE	FY 87 EST DATE
PIP Approval	Feb 73						
Contract Award	May 73*	FEB 82	Dec 82	Dec 83	Dec 84	Dec 85	Dec 86
Leadtime for Airframe	14 Month Average						
Prod Rate for A/C	(See Installation Schedule)						
Delivery Starts	Aug 74	3Q83	2Q84	2Q85	3Q86	2Q87	
1-48 February 1982							

DD FORM 1
1 Apr 78

2075

Edition of 1 May 78 - may be used

P-1 SHOP LIST
ITEM NO

PAGE NO

CLASSIFICATION

EXHIBIT P. 3a

Exhibit P-30

OV-10 Conversion
PIP #1-72-01-0001

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

	FY82/PRIOR		FY 83		FY 84		FY 85		FY 86		TOTAL PROGRAM	
	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST
Conversion	66	47,183.0	4	9,945.6	4	10,993.9	4	12,304.3	4	12,796.1	82	93,222.9
GFE (Acft)		19,407.0		2,640.0		2,700.7		3,044.1		3,334.8		31,126.6
Mission Equip											58	3,869.0
AN/AYA-10	58	3,869.0									84	27,526.7
AN/ASN-86	68	17,752.0	4	1,851.7	4	2,310.3	4	2,655.0	4	2,957.7	37	12,777.0
AN/APS-94D	37	12,777.0									13	4,301.0
AN/AAS-24	13	4,301.0										
Avionics		8,022.0		1,067.2		884.7		934.9		945.5		11,854.3
Support		2,256.0		165.5		695.4		191.7		205.9		3,514.5
		(3,693.0)		(1,740.0)		(1,740.0)		(870.0)		(1,740.0)		(9,783.0)
<u>PROJECT FINANCIAL PLAN:</u>												
66	115,567.0		4	15,670.0	4	17,585.0	4	19,130.0	4	20,240.0	82	188,192.0

METHOD OF IMPLEMENTATION: Installation will be accomplished at the Contractor's Plant on a production line basis.

KIT DELIVERY SCHEDULE: Not Applicable.

INSTALLATION SCHEDULE:

	FY 82/Prior				FY83				FY84				FY 85				FY 86				FY 87				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	62	1	1	2	1	1	2	1	1	2	1	1	1	1	2	1	1	2					80		
Completions	62				1	1	2	1	1	2	1	1	2	1	1				1	1	2			80	

REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION	DATE February 1982																																																																	
APPROPRIATION/BUDGET ACTIVITY APA/2 (SSN: A23530)	MODIFICATION TITLE AND NO. AN/UPD-7A (Data Link/E-SCAN) PIP #1-79-01-1086																																																																		
AIRCRAFT AFFECTED: OV-1D.																																																																			
<p>DESCRIPTION/JUSTIFICATION: Type of Improvement - Operational Capability. This PIP consists of two distinct tasks entitled ESCAN (Electronic Scan) and ECCM Hardened Data Link. The E-SCAN task will provide a dramatic operational improvement to the current AN/UPD-7 surveillance system enabling the system to provide continuous coverage of the entire Corps area, increasing the range of coverage and hardening the radar to enable it to operate against the postulated ECM threat. The data link task will provide the AN/UPD-7 surveillance system with a data link hardened to operate against the postulated ECM threat.</p>																																																																			
<p>DEVELOPMENT STATUS:</p> <table style="width: 100%;"> <tr> <td>Organizational and Operational Control</td> <td style="text-align: right;">September 1980</td> </tr> <tr> <td>Independent Analysis</td> <td style="text-align: right;">September 1980</td> </tr> <tr> <td>HQDA Decision Briefing</td> <td style="text-align: right;">November 1980</td> </tr> </table>			Organizational and Operational Control	September 1980	Independent Analysis	September 1980	HQDA Decision Briefing	November 1980																																																											
Organizational and Operational Control	September 1980																																																																		
Independent Analysis	September 1980																																																																		
HQDA Decision Briefing	November 1980																																																																		
<p>MILESTONES:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;">FY 81</th> <th style="text-align: center;">FY 82</th> <th style="text-align: center;">FY 83</th> <th style="text-align: center;">FY 84</th> <th style="text-align: center;">FY 85</th> </tr> </thead> <tbody> <tr> <td>Mini Cost & Operational Effectiveness Analysis</td> <td style="text-align: center;">Jul 81</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Baseline Cost Estimate</td> <td style="text-align: center;">Jul 81</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>ECCM Proof of Principle</td> <td style="text-align: center;">Jul 81</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>HQDA Engineering Development Decision</td> <td style="text-align: center;">Nov 81</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>ED Contract Award</td> <td></td> <td style="text-align: center;">May 82</td> <td></td> <td></td> <td></td> </tr> <tr> <td>ECCM Data Link Contract Award</td> <td></td> <td></td> <td></td> <td style="text-align: center;">Dec 83</td> <td></td> </tr> <tr> <td>DT/QT II</td> <td></td> <td></td> <td style="text-align: center;">Sep 83</td> <td style="text-align: center;">Dec 84</td> <td></td> </tr> <tr> <td>Interim Initial Operating Capability</td> <td></td> <td></td> <td></td> <td style="text-align: center;">May 84</td> <td></td> </tr> </tbody> </table>				FY 81	FY 82	FY 83	FY 84	FY 85	Mini Cost & Operational Effectiveness Analysis	Jul 81					Baseline Cost Estimate	Jul 81					ECCM Proof of Principle	Jul 81					HQDA Engineering Development Decision	Nov 81					ED Contract Award		May 82				ECCM Data Link Contract Award				Dec 83		DT/QT II			Sep 83	Dec 84		Interim Initial Operating Capability				May 84												
	FY 81	FY 82	FY 83	FY 84	FY 85																																																														
Mini Cost & Operational Effectiveness Analysis	Jul 81																																																																		
Baseline Cost Estimate	Jul 81																																																																		
ECCM Proof of Principle	Jul 81																																																																		
HQDA Engineering Development Decision	Nov 81																																																																		
ED Contract Award		May 82																																																																	
ECCM Data Link Contract Award				Dec 83																																																															
DT/QT II			Sep 83	Dec 84																																																															
Interim Initial Operating Capability				May 84																																																															
<p>PROJECT FINANCIAL PLAN: (Amounts in thousands of dollars)</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2"></th> <th colspan="2" style="text-align: center;">FY 84</th> <th colspan="2" style="text-align: center;">FY 85</th> <th colspan="2" style="text-align: center;">FY 86</th> <th colspan="2" style="text-align: center;">FY 87</th> <th colspan="2" style="text-align: center;">TOTAL</th> </tr> <tr> <th style="text-align: center;">QTY</th> <th style="text-align: center;">COST</th> <th style="text-align: center;">QTY</th> <th style="text-align: center;">COST</th> <th style="text-align: center;">QTY</th> <th style="text-align: center;">COST</th> <th style="text-align: center;">QTY</th> <th style="text-align: center;">COST</th> <th style="text-align: center;">QTY</th> <th style="text-align: center;">COST</th> </tr> </thead> <tbody> <tr> <td>ECCM Data Link</td> <td></td> <td style="text-align: right;">6,045.0</td> <td></td> <td style="text-align: right;">9,490.0</td> <td></td> <td style="text-align: right;">9,070.0</td> <td></td> <td></td> <td></td> <td style="text-align: right;">24,605.0</td> </tr> <tr> <td>E-SCAN</td> <td style="text-align: center;">4</td> <td style="text-align: right;">14,200.0</td> <td style="text-align: center;">14</td> <td style="text-align: right;">32,280.0</td> <td style="text-align: center;">24</td> <td style="text-align: right;">36,190.0</td> <td></td> <td></td> <td style="text-align: center;">42</td> <td style="text-align: right;">82,670.0</td> </tr> <tr> <td>Installation (OMA)</td> <td></td> <td></td> <td style="text-align: center;">(4)</td> <td style="text-align: right;">(86.4)</td> <td style="text-align: center;">(24)</td> <td style="text-align: right;">(518.4)</td> <td style="text-align: center;">(14)</td> <td style="text-align: right;">(302.4)</td> <td style="text-align: center;">(42)</td> <td style="text-align: right;">(907.2)</td> </tr> <tr> <td>TOTAL</td> <td></td> <td style="text-align: right;">20,245.0</td> <td></td> <td style="text-align: right;">41,770.0</td> <td></td> <td style="text-align: right;">45,260.0</td> <td></td> <td></td> <td></td> <td style="text-align: right;">107,275.0</td> </tr> </tbody> </table>				FY 84		FY 85		FY 86		FY 87		TOTAL		QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	ECCM Data Link		6,045.0		9,490.0		9,070.0				24,605.0	E-SCAN	4	14,200.0	14	32,280.0	24	36,190.0			42	82,670.0	Installation (OMA)			(4)	(86.4)	(24)	(518.4)	(14)	(302.4)	(42)	(907.2)	TOTAL		20,245.0		41,770.0		45,260.0				107,275.0
	FY 84			FY 85		FY 86		FY 87		TOTAL																																																									
	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST																																																									
ECCM Data Link		6,045.0		9,490.0		9,070.0				24,605.0																																																									
E-SCAN	4	14,200.0	14	32,280.0	24	36,190.0			42	82,670.0																																																									
Installation (OMA)			(4)	(86.4)	(24)	(518.4)	(14)	(302.4)	(42)	(907.2)																																																									
TOTAL		20,245.0		41,770.0		45,260.0				107,275.0																																																									
1-50 February 1982																																																																			

AN/UPD-1A (DATA LINK/ESCAN)
PIP #1-79-01-1086

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

DATA LINK (DL)	FY 84		FY 85		FY 86		FY 87		TOTAL PROGRAM	
	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST
Nonrecurring		3,624.0		2,840.0						6,464.0
Data		697.0		852.0		317.0			32	1,868.0
Airborne Link	4	700.0	10	1,976.0	18	3,804.0			32	6,480.0
Ground Link	2	516.0	10	2,628.0	12	3,541.0			24	6,685.0
Contractor Sys Mgt		418.0		1,065.0		1,196.0				2,679.0
ECO's		90.0		129.0		210.0				429.0
SUBTOTAL		6,045.0		9,490.0		9,070.0				24,605.0
ESCAN (RADAR)										
Nonrecurring		1,795.0		1,110.0						2,905.0
a		910.0		660.0		198.0				1,768.0
cem Test				457.0						457.0
Airborne Radar	4	7,125.0	10	12,845.0	18	20,491.0			32	40,461.0
Ground Station	2	2,804.0	10	9,007.0	12	10,458.0			24	22,269.0
Aircraft Modification	4	367.0	14	989.0	14	1,335.0			42	2,691.0
STE	1	220.0	2	172.0		436.0			5	828.0
ECO		207.0		459.0		572.0				1,236.0
Contractor Sys Mgt		130.0		266.0		300.0				696.0
In-House Engr Spt		644.0		6,315.0		2,400.0				9,359.0
Installation (OMA)			(4)	(86.4)	(24)	(518.4)	(14)	(302.4)	(42)	(907.2)
SUBTOTAL		14,200.0		32,280.0		36,190.0				82,670.0
TOTAL		20,245.0		41,770.0		45,260.0				107,275.0

Exhibit P-3a

AN/UPD-7A (DATA LINK/ESCAN)
PIP #1-79-01-1086

METHOD OF IMPLEMENTATION: Modification Kits will be installed in the field by contract teams.

<u>DELIVERY SCHEDULE:</u>	FY 85	FY 86	FY 87
	<u>1 2 3 4</u>	<u>1 2 3 4</u>	<u>1 2 3 4</u>
	2 4	6 6 6 6	6 6

<u>INSTALLATION SCHEDULE:</u>	FY 85	FY 86	FY 87
	<u>1 2 3 4</u>	<u>1 2 3 4</u>	<u>1 2 3 4</u>
	4	6 6 6 6	6 8

1-52 February 1982

CLASSIFICATION		REPORTS CONTROL SYMBOL DD-COMP (AR) 1092		AIRCRAFT MODIFICATION		DATE 8 February 1982				
APPROPRIATION/BUDGET ACTIVITY A/A/Z (SSN AZ 3530)				MODIFICATION TITLE AND NO. Voice Security for UHF PIP # 1-82-01-1088						
AIRCRAFT AFFECTED: OV-10										
DESCRIPTION/JUSTIFICATION: (U) Type of improvement - Operational Capability. The aircraft will be provisioned to accept the KY-28 (Neslor) and KY-58 (VINSON) Voice Security Equipment to secure the AN/ARC-164 UHF/AM KY-28 system. This equipment secures the VHF-UHF (AM/FM Half duplex) radios and tactical wire lines. The OV-10 aircraft will be prototyped and tested.										
DEVELOPMENT STATUS:										
Project Initiated (ECP Prototype/Award)				1Q83						
Testing				1Q84						
IPR/PROU Decision (ECP Approval)				2Q84						
MILESTONES:										
	FY 84		FY 85		FY 86		FY 87			
Production Contract Award	3Q84									
First Production HDW Del			1Q85							
First Kit Applied			2Q85							
Last Kit Applied							3Q87			
PROJECT FINANCIAL PLAN: (Amounts in thousands of dollars)										
	FY 84		FY 85		FY 86		FY 87		TOTAL	
	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST
Airframe Kits	110	520.0							110	520.0
Installation (OMA)			(54)	(345.0)	(42)	(268.0)	(14)	(89.0)	(110)	(702.0)

1-53 February 1872

VOICE SECURITY FOR UIF
PIP # 1-82-01-1088

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

	FY 84		FY 85		FY 86		FY 87		TOTAL	
	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST
APAs Airframe Kits	110	520.0							110	520.0
OMA: Instln/Kit Application			(54)	(345.0)	(42)	(268.0)	(14)	(89.0)	(110)	(702.0)
TOTAL	110	520.0							110	520.0

METHOD OF IMPLEMENTATION: Modification will be accomplished at direct support maintenance via MWO by contractor team.

KIT DELIVERY SCHEDULE:

FY 85				FY 86			
1	2	3	4	1	2	3	4
25	25	25		25	10		

INSTALLATION SCHEDULE:

FY 85				FY 86				FY 87			
1	2	3	4	1	2	3	4	1	2	3	4
18	18	18		10	10	10	12	14			

ACTIVITY 2 - AIRCRAFT MODIFICATIONS				EXHIBIT P-3		
Reports Control Symbol DD-COMP(AR) 1092						
APPROPRIATION: A/A/2 (SSN: A22000)				Date: 8 February 1982		
MODEL: RC-12D, Improved GUARDRAIL V MODIFICATION (1)	FY 19 82		FY 19 83		FY 19 84	
	Quantity (2)	Amount (Thousands) (3)	Quantity (4)	Amount (Thousands) (5)	Quantity (6)	Amount (Thousands) (7)
* AN/ALQ-162(V)2 Continuous Wave Radar Jammer (page 1-59)				1,535.0	0/11	2,912.0
* AN/ALQ-156(V)2 Missile Detector (page 1-62)					0/10	4,888.0
* AN/ALQ-116(V)2 Radar Jammer (page 1-65)						
RC-12D Airplane Recon PI"		50,650.0		7,165.0		
Integration		1,220.0				
AN-APR-39(V)2 Radar Warning Receiver	0/34	2,330.0				
TOTAL		54,200.0		8,700.0		7,800.0
* Consolidated P-3a "A" Kits/"B" Kits						
	1-55	February 1982				

CLASSIFICATION		AIRCRAFT MODIFICATION		DATE																																																																		
REPORTS CONTROL SYMBOL DD-COMP (AR) 1092				8 February 1982																																																																		
APPROPRIATION/BUDGET ACTIVITY APA/2 (SSN: AZ2000)		MODIFICATION TITLE AND NO. Airplane Recon, RC-12D, PIP #1-80-01-1216																																																																				
<p>AIRCRAFT AFFECTED: RC-12D Type of Improvement - Operational Capacity.</p> <p>DESCRIPTION/JUSTIFICATION: GUARDRAIL is a combined airborne/ground electronic system capable of intercepting and locating target communications emitters. This program will upgrade existing GUARDRAIL V System with an ECM* resistant wideband data link a lighter weigh. integrated inertial navigation system (IINS) with improved reliability, an interoperability integration and installation in a pressurized C-12 aircraft. Through these improvements, the system will gain inter/intra-service, interoperability and improved reliability and survivability in the threat environment. Starting in FY 84 additional enhancements will be integrated into the GUARDRAIL system. Included will be Improved Tactical Commander's Terminal (ITCT), Communication High Accurac/ Airborne Location System (CHAALS), Nuclear Biological Chemical (NBC) protection and integrating the QUICK LOOK/Electronic Intelligence (QL/ELINT) mission package.</p> <p>DEVELOPMENT STATUS: The basic features to be incorporated by this effort have already been developed by contractor Independent Research and Development (IR&D) programs or by previous Signal Intelligence (SIGINT) research and development system efforts.</p> <p>MILESTONES:</p> <table border="1"> <thead> <tr> <th></th> <th><u>FY 81</u></th> <th><u>FY 82</u></th> <th><u>FY 83</u></th> <th><u>FY 84</u></th> <th><u>FY 85</u></th> </tr> </thead> <tbody> <tr> <td>FY 81 Contract Award</td> <td>4Q</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Input A/C for Mod</td> <td></td> <td>3Q</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Start Del A/C to Man Contr</td> <td></td> <td></td> <td>4Q</td> <td></td> <td></td> </tr> <tr> <td>1st Sys Avail</td> <td></td> <td></td> <td></td> <td>3Q</td> <td></td> </tr> <tr> <td>1st Sys Oper</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>FY 82 Contract Award</td> <td></td> <td>1Q</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Input A/C for Mod</td> <td></td> <td>1Q</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Start Del A/C to Man Contr</td> <td></td> <td></td> <td></td> <td>1Q</td> <td></td> </tr> <tr> <td>2nd Sys Avail</td> <td></td> <td></td> <td></td> <td></td> <td>1Q</td> </tr> <tr> <td>2nd Sys Oper</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>*Electronic Counter Measure (ECM)</p>						<u>FY 81</u>	<u>FY 82</u>	<u>FY 83</u>	<u>FY 84</u>	<u>FY 85</u>	FY 81 Contract Award	4Q					Input A/C for Mod		3Q				Start Del A/C to Man Contr			4Q			1st Sys Avail				3Q		1st Sys Oper						FY 82 Contract Award		1Q				Input A/C for Mod		1Q				Start Del A/C to Man Contr				1Q		2nd Sys Avail					1Q	2nd Sys Oper					
	<u>FY 81</u>	<u>FY 82</u>	<u>FY 83</u>	<u>FY 84</u>	<u>FY 85</u>																																																																	
FY 81 Contract Award	4Q																																																																					
Input A/C for Mod		3Q																																																																				
Start Del A/C to Man Contr			4Q																																																																			
1st Sys Avail				3Q																																																																		
1st Sys Oper																																																																						
FY 82 Contract Award		1Q																																																																				
Input A/C for Mod		1Q																																																																				
Start Del A/C to Man Contr				1Q																																																																		
2nd Sys Avail					1Q																																																																	
2nd Sys Oper																																																																						
1-56 February 1982																																																																						

DRSYS-C Form 2075 Edition of 1 May 76, may be used.

P-1 SHOP LIST ITEM NO. PAGE NO.

EXHIBIT P-3a

RC-12D AIRPLANE RECON
PIP #1-80-01-1216

Exhibit P-3a
Page 3 of 4

PROJECT FINANCIAL PLAN: (Amounts in thousands of dollars)

	FY 81		FY 82		FY 83		FY 84		FY 85		TOTAL PROGRAM	
	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT
	2/	53,700.0		50,650.0		7,165.0				51,072.0		162,587.0

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

	FY 81		FY 82		FY 83		FY 84		FY85*		TOTAL PROGRAM	
	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT
Acft Mod	2	6,798.0		14,063.0						9,205.0		30,066.0
J	1	20,913.0	1	9,890.0						10,747.0	2	41,550.0
A	2	5,596.0	6	9,122.0	4	6,029.0				8,246.0	12	28,993.0
AGE	1	2,892.0	1	1,646.0						194.0	2	4,732.0
STE	1	1,477.0	1	1,139.0	1	542.0					3	3,158.0
IINS		1,491.0										1,491.0
ITCT												
ITCT MOD												
DATA LINK		8,662.0		7,091.0								15,753.0
NON-REC		4,804.0		6,720.0		328.0			9,405.0			21,257.0
FIELD SUPT (CONTR)						266.0						266.0
GOV'T SUPT		1,067.0		979.0					3,865.0			5,911.0
DATA									9,410.0			9,410.0
TOTAL	2/	53,700.0		50,650.0		7,165.0			51,072.0			162,587.0

*The FY 85 program modifies FY81-82-83 subsystems to incorporate CHAALS, Advanced Quick Look, NBC protection, receiver pooling and SAS relay.

1-57 February 1982

RC-12D AIRPLANE RECON
PIP # 1-80-01-1216

BASIS FOR COST ESTIMATE CONT'D (Amounts in thousands of dollars)

ITEM DESCRIPTION	FY 81		FY 82		FY 83		TOTAL PROGRAM	
	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT
(OMA)								
738018								
Training		(1,038.0)		(1,413.0)				(2,451.0)
Engineering		(1,173.0)		(900.0)		200.00		(2,273.0)
TOTAL 738017		2,211.0		2,313.0		200.00		4,724.0
732207								
TOTAL OMA		2,211.0		2,313.0		200.0		4,724.0

METHOD OF IMPLEMENTATION: The Guardrail V System will be modified at the contractor's facilities.

KIT DELIVERY SCHEDULE: Not Applicable.

INSTALLATION SCHEDULE:

	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
Induction (Acft)					1	1																		
Completions (Delivery by Acft Contractor)												1												
Completion (Delivery by Man Contractor)																								

1-56 February 1982

REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION	DATE 8 February 1982																								
APPROPRIATION/BUDGET ACTIVITY		MODIFICATION TITL. AND NO. AN/ALQ-162(V)2, Continuous Wave (CW) Radar Jammer																								
PIP #1-80-01-1078(OV-1D), 1-80-01-1178(RV-1D), 1-82-01-0676(RC-12)																										
AIRCRAFT AFFECTED: OV-1D (SSN AZ3530) RV-1D (SSN AZ2100) RC-12 (SSN AZ2000)																										
DESCRIPTION/JUSTIFICATION: Type of Improvement - Operational Capability The AN/ALQ-162(V)2 countermeasure set will be a stand alone set capable of self-protection for Special Electronic Mission Aircraft (SEMA) against selected Surface to Air Missile and Air Intercept threats, reducing attraction of these high value aircraft. Development of the system is a joint Army/Navy effort.																										
DEVELOPMENT STATUS: DT/OT 11 Complete: 2Q82 DEVA IPR: 1Q83 1st Prod Award: 3Q83 June																										
MILESTONES: <table border="0"> <tr> <td></td> <td style="text-align: center;">FY 83</td> <td style="text-align: center;">FY 84</td> </tr> <tr> <td>Mod Kit Contr - Awd</td> <td style="text-align: center;">3Q 83</td> <td></td> </tr> <tr> <td>Production Lead Time</td> <td style="text-align: center;">12 mos.</td> <td></td> </tr> <tr> <td>Mod Kit Del Start</td> <td></td> <td style="text-align: center;">3Q 84</td> </tr> <tr> <td>Mod Instl Start</td> <td></td> <td style="text-align: center;">4Q 84</td> </tr> <tr> <td>AN/ALQ-162(V)2 Contr Awd</td> <td style="text-align: center;">3Q 83</td> <td></td> </tr> <tr> <td>Production Lead Time</td> <td style="text-align: center;">12 mos.</td> <td></td> </tr> <tr> <td>AN/ALQ(V)2 Del Start</td> <td></td> <td style="text-align: center;">3Q 84</td> </tr> </table>				FY 83	FY 84	Mod Kit Contr - Awd	3Q 83		Production Lead Time	12 mos.		Mod Kit Del Start		3Q 84	Mod Instl Start		4Q 84	AN/ALQ-162(V)2 Contr Awd	3Q 83		Production Lead Time	12 mos.		AN/ALQ(V)2 Del Start		3Q 84
	FY 83	FY 84																								
Mod Kit Contr - Awd	3Q 83																									
Production Lead Time	12 mos.																									
Mod Kit Del Start		3Q 84																								
Mod Instl Start		4Q 84																								
AN/ALQ-162(V)2 Contr Awd	3Q 83																									
Production Lead Time	12 mos.																									
AN/ALQ(V)2 Del Start		3Q 84																								
PROJECT FINANCIAL PLAN: (Amounts in thousands of dollars)																										
<table border="0"> <tr> <td style="text-align: center;">FY 83</td> <td style="text-align: center;">FY 84</td> </tr> <tr> <td style="text-align: center;"><u>COST</u></td> <td style="text-align: center;"><u>COST</u></td> </tr> <tr> <td style="text-align: center;">5,033.0</td> <td style="text-align: center;">764.0</td> </tr> </table>	FY 83	FY 84	<u>COST</u>	<u>COST</u>	5,033.0	764.0	<table border="0"> <tr> <td style="text-align: center;">FY 85</td> </tr> <tr> <td style="text-align: center;"><u>COST</u></td> </tr> <tr> <td style="text-align: center;">5,797.0</td> </tr> </table>	FY 85	<u>COST</u>	5,797.0	<table border="0"> <tr> <td style="text-align: center;">TOTAL PROGRAM</td> </tr> <tr> <td style="text-align: center;"><u>COST</u></td> </tr> <tr> <td style="text-align: center;">5,797.0</td> </tr> </table>	TOTAL PROGRAM	<u>COST</u>	5,797.0												
FY 83	FY 84																									
<u>COST</u>	<u>COST</u>																									
5,033.0	764.0																									
FY 85																										
<u>COST</u>																										
5,797.0																										
TOTAL PROGRAM																										
<u>COST</u>																										
5,797.0																										
1-59 February 1982																										

AN/ALQ-162(V)2 Continuous Wave(CW)
Radar Jammer

Exhibit P-3a

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

	FY 83		FY 84		FY 85		TOTAL PROGRAM	
	QTY	COST	QTY	COST	QTY	COST	QTY	COST
<u>OV-1D</u>								
Non-Recurring Engr		105.0		141.0				246.0
AN/ALQ-162(V)2	4	362.0	7	552.0			11	914.0
STE	1	45.0	1	41.0			2	86.0
Antenna Set	4	10.0	7	15.0			11	25.0
Control Unit	4	10.0	7	15.0			11	25.0
Airframe Mod Kits	38	698.0					38	698.0
Installation (OMA)			(20)	(51.0)	(18)	(46.0)	(38)	(97.0)
		<u>1,230.0</u>		<u>764.0</u>				<u>1,994.0</u>
<u>RV-1D</u>								
Non-Recurring Engr		268.0						268.0
AN/ALQ-162(V)2	15	1,363.0					15	1,363.0
STE	3	140.0					3	140.0
Antenna Set	15	36.0					15	36.0
Control Unit	15	36.0					15	36.0
Airframe Mod Kits	23	425.0					23	425.0
Installation (OMA)			(15)	(38.0)	(8)	(20.0)	(23)	(58.0)
TOTAL		<u>2,268.0</u>						<u>2,268.0</u>
<u>RC-12</u>								
Non-Recurring Engr		187.0						187.0
AN/ALQ-162(V)2	7	630.0					7	630.0
STE	1	46.0					1	46.0
Antenn Set	7	17.0					7	17.0
Control Unit	7	17.0					7	17.0
Airframe Mod Kits	34	633.0					34	633.0
Installation (OMA)			(17)	(43.0)	(17)	(43.0)	(34)	(86.0)
TOTAL		<u>1,535.0</u>						<u>1,535.0</u>

1-60 February 1982

AN/ALQ-162(V)2 Continuous Wave (CW)
Radar Jammer

Exhibit P-3a

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

	FY 83		FY 84		FY 85		TOTAL PROGRAM	
	QTY	COST	QTY	COST	QTY	COST	QTY	COST
All Aircraft								
Non-Recurring		560.0		141.0			13	701.0
AN/ALQ-162(V)2	26	2,355.0	7	552.0			33	2,907.0
STE	5	231.0	1	41.0			6	272.0
Antenna Set	26	63.0	7	15.0			33	78.0
Control Unit	26	63.0	7	15.0			33	78.0
Airframe Mod Kits	95	1,761.0					95	1,761.0
Installation (OMA)			(52)	(132.0)	(43)	(109.0)	(95)	(241.0)
TOTAL		5,033.0		764.0				5,797.0

METHOD OF IMPLEMENTATION:

Aircraft Modification will be accomplished by contractor or depot teams at various OCONUS and CONUS locations. Installation is estimated at 100 hours per aircraft.

DELIVERY SCHEDULE

	FY 84				FY 85			
	1	2	3	4	1	2	3	4
OV-10			38					
RV-10			23					
RC-12			34					

INSTALLATION SCHEDULE

	FY 84				FY 85			
	1	2	3	4	1	2	3	4
OV-10			20		18			
RV-10			15		8			
RC-12			17		17			

1-61 February 1982

REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION	DATE 8 February 1982																																				
APPROPRIATION/BUDGET ACTIVITY APA/2	MODIFICATION TITLE AND NO. AN/ALQ-156(V)2 Missile detector System																																					
<p style="text-align: right;">PIP # 1-80-01-1077 (OV-1D) 1-83-01-0677 (RC-12) 1-80-01-1177 (RV-1D)</p> <p>AIRCRAFT AFFECTED: OV-1D (SSN AZ3530) RC-12 (SSN AZ2000) RV-1D (SSN AZ2100)</p> <p>DESCRIPTION/JUSTIFICATION: Type of Improvement-Operational Capability. The AN/ALQ-156(V)2 is a counter measure device which detects the approach of hostile air defense missile systems.</p> <p>DEVELOPMENT STATUS: Initiate Airframe Phase I Engineering 1Q FY 83 Complete EMI/EMC, Flight Test 4Q FY 83 ECP Approval 1Q FY 84</p> <table border="0"> <tr> <td>MILESTONES</td> <td>FY 84</td> <td>FY 85</td> <td>FY 86</td> </tr> <tr> <td>Mod Kit Cont Awd</td> <td>2Q 84</td> <td></td> <td></td> </tr> <tr> <td>Prod Lead Time</td> <td>11 mos</td> <td></td> <td></td> </tr> <tr> <td>Mod Kit Delivery Start</td> <td>1Q 85</td> <td></td> <td></td> </tr> <tr> <td>AN/ALQ-156(V)2 Sys Cont Awd</td> <td>3Q 84</td> <td>3Q 85</td> <td>2Q 86</td> </tr> <tr> <td>Prod Lead Time</td> <td>22 mos</td> <td>19 mos</td> <td>22 mos</td> </tr> <tr> <td>AN/ALQ-156(V)2 Sys Del Start</td> <td>3Q 86</td> <td>1Q 87</td> <td>1Q 88</td> </tr> </table> <p>PROJECT FINANCIAL PLAN: (Amounts in thousands of dollars)</p> <table border="0"> <tr> <td></td> <td style="text-align: center;"><u>FY 84</u></td> <td style="text-align: center;"><u>To Complete</u></td> <td style="text-align: center;"><u>TOTAL PROGRAM</u></td> </tr> <tr> <td></td> <td style="text-align: center;">8,923.0</td> <td style="text-align: center;">13,909.0</td> <td style="text-align: center;">22,832.0</td> </tr> </table> <p style="text-align: center;">1-62 February 1982</p>			MILESTONES	FY 84	FY 85	FY 86	Mod Kit Cont Awd	2Q 84			Prod Lead Time	11 mos			Mod Kit Delivery Start	1Q 85			AN/ALQ-156(V)2 Sys Cont Awd	3Q 84	3Q 85	2Q 86	Prod Lead Time	22 mos	19 mos	22 mos	AN/ALQ-156(V)2 Sys Del Start	3Q 86	1Q 87	1Q 88		<u>FY 84</u>	<u>To Complete</u>	<u>TOTAL PROGRAM</u>		8,923.0	13,909.0	22,832.0
MILESTONES	FY 84	FY 85	FY 86																																			
Mod Kit Cont Awd	2Q 84																																					
Prod Lead Time	11 mos																																					
Mod Kit Delivery Start	1Q 85																																					
AN/ALQ-156(V)2 Sys Cont Awd	3Q 84	3Q 85	2Q 86																																			
Prod Lead Time	22 mos	19 mos	22 mos																																			
AN/ALQ-156(V)2 Sys Del Start	3Q 86	1Q 87	1Q 88																																			
	<u>FY 84</u>	<u>To Complete</u>	<u>TOTAL PROGRAM</u>																																			
	8,923.0	13,909.0	22,832.0																																			

AN/ALQ-156(V)2 Missile Detector System
(Consolidated P-3a)

FY 83 Budget
Exhibit P-3a

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

	FY 84		TO COMPLETE		TOTAL PROGRAM	
	QTY	COST	QTY	COST	QTY	COST
<u>OV-1D</u>						
AN/ALQ-156(V)2 Sys	16	2,312.0	41	7,794.0	57	10,106.0
ERADCOM Eng Spt		150.0		324.0		474.0
Airframe Mod Kits	92	1,274.0			92	1,274.0
Installations (OMA)			(92)	(559.0)	(92)	(559.0)
TOTAL		3,736.0		8,118.0		11,854.0
<u>RV-1D</u>						
AN/ALQ-156(V)2 Sys	10	1,726.0	15	1,710.0	25	3,436.0
ERADCOM Eng Spt		111.0		73.0		184.0
Airframe Mod Kits	26	438.0			26	438.0
Installations (OMA)			(26)	(158.0)	(26)	(158.0)
TOTAL		2,275.0		1,783.0		4,058.0
<u>RC-12</u>						
AN/ALQ-156(V)2 Sys	13	2,200.0	11	3,907.0	35	6,107.0
ERADCOM Eng Spt		135.0		101.0		236.0
Airframe Mod Kits	34	577.0			34	577.0
Installations (OMA)			(14)	(207.0)	(34)	(207.0)
TOTAL		2,912.0		4,008.0		6,920.0
<u>RECAP OF ALL SYSTEMS</u>						
AN/ALQ-156(V)2 Sys	39	6,238.0	78	13,411.0	117	19,649.0
ERADCOM Eng Spt		396.0		498.0		894.0
Airframe Mod Kits	152	2,289.0			152	2,289.0
Installations (OMA)			(152)	(924.0)	(152)	(924.0)
TOTAL		8,923.0		13,909.0		22,832.0

1-63 February 1982

AN/ALQ-156(V)2 Missile Detector System
(Consolidated Fr3a)

FY 83 Budget
Exhibit P-3a

KIT DELIVERY SCHEDULE

	<u>FY 85</u>				<u>TOTAL</u>
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	
OV-1D	30	30	32	4	92
RV-1D	10	10	6		26
RC-12	34				34
	<u>74</u>	<u>40</u>	<u>38</u>		152

KIT INSTALLATION SCHEDULE

	<u>FY 85</u>				<u>FY 86</u>				<u>TOTAL</u>
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	
OV-1D			27	28	28	9			92
RV-1D			13	13					26
RC-12			4	10	20				34
			<u>44</u>	<u>51</u>	<u>48</u>	<u>9</u>			152

METHOD OF IMPLEMENTATION

Airframe Mod Kits will be applied in the field by contract/or depot contract teams.

FY 83 Budget

CLASSIFICATION		AIRCRAFT MODIFICATION		DATE 8 February 1982																																																
REPORTS CONTROL SYMBOL DD-COMP (AR) 1002																																																				
APPROPRIATION/BUDGET ACTIVITY APA/2	MODIFICATION TITLE AND NO.																																																			
	AN/ALQ-136 (SEM) J donor																																																			
	PIP # 1-80-01-1076 OV-1D, #1-80-01-1176 RV-1D # 1-82-01-0678 RC-12																																																			
<p><u>AIRCRAFT AFFECTED:</u> OV-1D (SSN: AZ3530) RV-1D (SSN: AZ2100) RC-12 (SSN: AZ2000)</p> <p><u>DESCRIPTION/JUSTIFICATION:</u> The AN/ALQ-136(V)2 is an active countermeasure device designed to defeat/degrade the capability of hostile air-defense radars. The system consists of a receiver/transmitter unit, operators control unit, antenna assembly, and associated airframe provisions.</p> <p><u>DEVELOPMENT STATUS:</u> ED Cont Award FY 82</p> <p><u>MILESTONES:</u></p> <table border="1"> <thead> <tr> <th></th> <th>FY 83</th> <th>FY 84</th> <th>FY 85</th> <th>FY 86</th> </tr> </thead> <tbody> <tr> <td>Engr Initiated (OMA)</td> <td>1Q 83</td> <td></td> <td></td> <td></td> </tr> <tr> <td>ECP Approval</td> <td>2Q 84</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Mod Kit Cont Award</td> <td></td> <td>2Q 84</td> <td>1Q 85</td> <td>1Q 86</td> </tr> <tr> <td>Production Lead Time</td> <td></td> <td>10 months</td> <td>6 months</td> <td>6 months</td> </tr> <tr> <td>Kit Del Start</td> <td></td> <td>1Q 85</td> <td>3Q 85</td> <td>3Q 86</td> </tr> <tr> <td>Kit Installation Start</td> <td></td> <td>2Q 85</td> <td>1Q 85</td> <td>4Q 86</td> </tr> <tr> <td>AN/ALQ-136 Cont. Award</td> <td></td> <td>3Q 84</td> <td>3Q 85</td> <td></td> </tr> </tbody> </table> <p><u>PROJECT FINANCIAL PLAN:</u> (Amounts in thousands of dollars)</p> <table border="1"> <thead> <tr> <th></th> <th>FY 84</th> <th>To Complete</th> <th>TOTAL PROGRAM</th> </tr> </thead> <tbody> <tr> <td></td> <td>13,960.0</td> <td>7,365.0</td> <td>21,325.0</td> </tr> </tbody> </table>						FY 83	FY 84	FY 85	FY 86	Engr Initiated (OMA)	1Q 83				ECP Approval	2Q 84				Mod Kit Cont Award		2Q 84	1Q 85	1Q 86	Production Lead Time		10 months	6 months	6 months	Kit Del Start		1Q 85	3Q 85	3Q 86	Kit Installation Start		2Q 85	1Q 85	4Q 86	AN/ALQ-136 Cont. Award		3Q 84	3Q 85			FY 84	To Complete	TOTAL PROGRAM		13,960.0	7,365.0	21,325.0
	FY 83	FY 84	FY 85	FY 86																																																
Engr Initiated (OMA)	1Q 83																																																			
ECP Approval	2Q 84																																																			
Mod Kit Cont Award		2Q 84	1Q 85	1Q 86																																																
Production Lead Time		10 months	6 months	6 months																																																
Kit Del Start		1Q 85	3Q 85	3Q 86																																																
Kit Installation Start		2Q 85	1Q 85	4Q 86																																																
AN/ALQ-136 Cont. Award		3Q 84	3Q 85																																																	
	FY 84	To Complete	TOTAL PROGRAM																																																	
	13,960.0	7,365.0	21,325.0																																																	

1-65 February 1982

AN/ALQ-136 Radar Jammer

FY 81 Budget
Exhibit 1-3a

BASIS FOR COST ESTIMATE

RV-1	FY 84		TO COMPLETE		TOTAL PROGRAM	
	QTY	COST	QTY	COST	QTY	COST
Non-Recurring		960.0		422.0	19	1,382.0
AN/ALQ-136 Sys	13	2,361.0	6	1,161.0		3,522.0
STE		401.0		470.0	28	871.0
Airframe A Kits			28	464.0		464.0
Kit Installations (OMA)			(28)	(57.0)	(28)	(57.0)
TOTAL		3,722.0		2,517.0		6,239.0

RC-12	FY 84		TO COMPLETE		TOTAL PROGRAM	
	QTY	COST	QTY	COST	QTY	COST
Non-Recurring		562.0		164.0		726.0
AN/ALQ-136 Sys	18	3,288.0	10	1,956.0	28	5,244.0
STE		521.0				521.0
Airframe A Kits	33	517.0			33	517.0
Kit Installations (OMA)			(33)	(67.0)	(33)	(67.0)
TOTAL		4,888.0		2,120.0		7,008.0

OV-1D	FY 84		TO COMPLETE		TOTAL PROGRAM	
	QTY	COST	QTY	COST	QTY	COST
Non-Recurring		588.0		358.0		946.0
AN/ALQ-136 Sys	30	4,475.0	5	968.0	35	5,443.0
STE		287.0		208.0		495.0
A Kits			30	1,194.0	70	1,194.0
Kit Installations (OMA)			(70)	(142.0)	(70)	(142.0)
TOTAL		5,350.0		2,728.0		8,078.0

AN/ALQ-136 Radar Jammer

FY 83 Budget
Exhibit P-3a

RECAP (ALL SYSTEMS)	FY 84		TO COMPLETE		TOTAL PROGRAM	
	QTY	COST	QTY	COST	QTY	COST
Non-Recurring		2,110.0		944.0		3,054.0
AN/ALQ-136 Sys	61	10,124.0	21	4,085.0	82	14,209.0
STE		1,209.0		678.0		1,887.0
Airframe Kits	33	517.0	98	1,658.0	131	2,175.0
Kit Installations (OMA)			(131)	(266.0)	(131)	(266.0)
TOTAL		13,960.0		7,365.0		21,325.0

DELIVERY SCHEDULE

FY 85				FY 86			
1	2	3	4	1	2	3	4
10	10	18	17	10	10	20	20

INSTALLATION SCHEDULE

FY 85				FY 86				FY 87			
1	2	3	4	1	2	3	4	1	2	3	4
5	5	5	5	16	25	25	25	25	25	25	25

METHOD OF IMPLEMENTATION: A Kits will be installed by depot/contract teams. Estimated installation time is 80 hours per modification.

ACTIVITY 2 - AIRCRAFT MODIFICATIONS				EXHIBIT P-3		
Report Control Symbol DD-COMP(AR) 1092						
APPROPRIATION: APA/2 (SSN: A22100)				Date: 8 February 1982		
MODEL: KV-10 - QUICK LOOK II MODIFICATION (1)	FY 1983		FY 1984		FY 1985	
	Quantity (2)	Amount (Thousands) (3)	Quantity (4)	Amount (Thousands) (5)	Quantity (6)	Amount (Thousands) (7)
QUICK LOOK II CONVERSION		205.0				
STALL WARNING	28/28	412.0				
SECURE VOICE FOR IHF			27/0	103.0		
EKOTIC SIGNAL RECOGNITION	28/32	890.0				
TCT Relay	25/28	6,125.0				
*AN/ALQ-156(V)2 Missile Detector (page 1-62)			26/10	2,275.0	0/15	1,783.0
*AN/ALQ-136(V)2 Radar Jammer (page 1-65)			0/13	3,722.0	28/6	2,517.0
*AN/ALQ-162(V)2 Continuous Wave Radar Jammer (page 1-59)	23/15	2,268.0				
TOTAL		9,900.0		6,100.0		4,300.0
*Consolidated P-1a "A" Kits/"B" Kits			1-68 February 1982			

REPORTS CONTROL SYMBOL DD-COMP (AR) 1092		AIRCRAFT MODIFICATION			DATE 8 February 1982																																																																																		
APPROPRIATION/BUDGET ACTIVITY APA/2 (SSN A22100)			MODIFICATION TITLE AND NO. QUICK LOOK 11 PIP NO.: 1-75-01-0306																																																																																				
AIRCRAFT AFFECTED: OV-10																																																																																							
<p>DESCRIPTION/JUSTIFICATION: Type of Improvement - Operation Capability. This modification will convert the OV-10 to the RV-10 configuration: Including new propulsion system, landing gear, avionics/electronics, communication, navigation and surveillance systems, ground support and test equipment. The RV-10 will provide increased aircraft and mission performance and capability resulting from the new airborne (electronic-counter measures surveillance system). The system is planned for employment at Corps level.</p> <p>DEVELOPMENT STATUS:</p> <p>Engineering Development Completed - Aug 74 Testing - DT/OT II - Start Sep 74; Complete Nov 74 Type Classification - Limited Production Aug 74</p> <p>MILESTONES:</p> <table border="1"> <thead> <tr> <th></th> <th>FY 76 Act Date</th> <th>FY 77 Act Date</th> <th>FY 78 Act Date</th> <th>FY 79 Act Date</th> <th>FY 80 Act Date</th> <th>FY 82* Est Date</th> </tr> </thead> <tbody> <tr> <td>Contract Award for Airframe (A/C)</td> <td>Feb 76</td> <td>Feb 76</td> <td>Feb 78</td> <td>Feb 79</td> <td>Apr 80</td> <td>2Q 82</td> </tr> <tr> <td>Leadtime Airframe (A/C)</td> <td>18 Mo</td> <td>16 Mo</td> <td>14 Mo</td> <td>14 Mo</td> <td>14 Mo</td> <td>14 Mo</td> </tr> <tr> <td>Contract Award for ALQ-113</td> <td>Oct 75</td> <td></td> <td>Dec 78</td> <td>Apr 79</td> <td></td> <td></td> </tr> <tr> <td>Leadtime for ALQ-113</td> <td>15 Mo</td> <td></td> <td>15 Mo</td> <td>15 Mo</td> <td></td> <td></td> </tr> <tr> <td>Production Rate for Aircraft</td> <td colspan="6">(1/mo for 6, then 1 every other mo.)</td> </tr> <tr> <td>ALQ-113 Delivery Starts</td> <td>Dec 76</td> <td></td> <td>4Q80</td> <td>4Q80</td> <td></td> <td>2Q 83</td> </tr> <tr> <td colspan="7">TOTAL Program Inst Completed</td> </tr> <tr> <td colspan="7">*1982 Procurement Planned to Replace two aircraft strikes</td> </tr> </tbody> </table> <p>PROJECT FINANCIAL PLAN: (Amounts in thousands of dollars)</p> <table border="1"> <thead> <tr> <th>FY 79 & PRIOR</th> <th>FY 80</th> <th>FY 81</th> <th>FY 82</th> <th>FY 83</th> <th>TOTAL PROGRAM</th> </tr> <tr> <th>QTY COST</th> <th>QTY COST</th> <th>QTY COST</th> <th>QTY COST</th> <th>QTY COST</th> <th>QTY COST</th> </tr> </thead> <tbody> <tr> <td>24 87,043.8</td> <td>4 6,638.4</td> <td>1,240.0</td> <td>4,703.0</td> <td>205.0</td> <td>99,830.2</td> </tr> </tbody> </table>								FY 76 Act Date	FY 77 Act Date	FY 78 Act Date	FY 79 Act Date	FY 80 Act Date	FY 82* Est Date	Contract Award for Airframe (A/C)	Feb 76	Feb 76	Feb 78	Feb 79	Apr 80	2Q 82	Leadtime Airframe (A/C)	18 Mo	16 Mo	14 Mo	14 Mo	14 Mo	14 Mo	Contract Award for ALQ-113	Oct 75		Dec 78	Apr 79			Leadtime for ALQ-113	15 Mo		15 Mo	15 Mo			Production Rate for Aircraft	(1/mo for 6, then 1 every other mo.)						ALQ-113 Delivery Starts	Dec 76		4Q80	4Q80		2Q 83	TOTAL Program Inst Completed							*1982 Procurement Planned to Replace two aircraft strikes							FY 79 & PRIOR	FY 80	FY 81	FY 82	FY 83	TOTAL PROGRAM	QTY COST	QTY COST	QTY COST	QTY COST	QTY COST	QTY COST	24 87,043.8	4 6,638.4	1,240.0	4,703.0	205.0	99,830.2
	FY 76 Act Date	FY 77 Act Date	FY 78 Act Date	FY 79 Act Date	FY 80 Act Date	FY 82* Est Date																																																																																	
Contract Award for Airframe (A/C)	Feb 76	Feb 76	Feb 78	Feb 79	Apr 80	2Q 82																																																																																	
Leadtime Airframe (A/C)	18 Mo	16 Mo	14 Mo	14 Mo	14 Mo	14 Mo																																																																																	
Contract Award for ALQ-113	Oct 75		Dec 78	Apr 79																																																																																			
Leadtime for ALQ-113	15 Mo		15 Mo	15 Mo																																																																																			
Production Rate for Aircraft	(1/mo for 6, then 1 every other mo.)																																																																																						
ALQ-113 Delivery Starts	Dec 76		4Q80	4Q80		2Q 83																																																																																	
TOTAL Program Inst Completed																																																																																							
*1982 Procurement Planned to Replace two aircraft strikes																																																																																							
FY 79 & PRIOR	FY 80	FY 81	FY 82	FY 83	TOTAL PROGRAM																																																																																		
QTY COST	QTY COST	QTY COST	QTY COST	QTY COST	QTY COST																																																																																		
24 87,043.8	4 6,638.4	1,240.0	4,703.0	205.0	99,830.2																																																																																		
1-69 February 1982																																																																																							

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

	FY 79 & PRIOR		FY 80		FY 81		FY 82		FY 83		TOTAL	
	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST
Conversion	24	21,680.0	4	4,361.0		0		2,665.0		0		24,686.0
GFE (ACFT)		11,281.0		398.0		0		1,480.0		0		13,159.0
Avionics		10,052.0		0		0		408.0		0		10,460.0
Mission Equip				0		0		0		0	28	25,887.0
(a) ALQ-133	28	25,887.0		0		0		0		0	28	980.0
(b) USQ-61	28	980.0		0		0		0		0		
(c) USM-393/ ALM-153/-154	6	4,887.0		0		0		0		0	6	4,887.0
(d) MSA-34	2	290.0		0		0		0		0	2	290.0
Maint Van	13	1,069.0	3	261.0		0		0		0	16	1,330.0
Other Equip & Supt		10,917.8		1,618.4		1,240.0		170.0		205.0		14,151.2
TOTAL	24	87,043.8	4	6,638.4		1,240.0		4,703.0		205.0		99,830.2

Total quantity indicated aircraft conversions:

1-70 February 1982

QUICK LOOK II
PIP # 1-75-01-0306

METHOD OF IMPLEMENTATION: (U) Installation will be accomplished by the contractor.

KIT DELIVERY SCHEDULE: (U) Not applicable.

INSTALLATION SCHEDULE: (U)

	FY 76				FY 77				FY 78				FY 79				FY 80				FY 81							
	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			1			1	2	2	3		2	1		2	1	2	1	2	1	2	1	1			
Completions									1	2	1		2	2	3	1					3	3						
	FY 82				FY 83																							
	1	2	3	4	1	2	3	4																				
Inductions			2																									
Completions	1	3			1	1																						

1-71 February 1982

CLASSIFICATION		1. 84 000011	
REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION		DATE 8 February 1982
APPROPRIATION/BUDGET ACTIVITY APA/2 (SSN A22100)		MODIFICATION TITLE AND NO. STALL WARNING SYS, PIP # 1 82-01-1115	
AIRCRAFT AFFECTED: RV-10			
DESCRIPTION/JUSTIFICATION: Type of Improvement - Operational Capability. This modification will retrofit the RV-10 aircraft with a Stall Warning System to alert the pilot of impending wing stall, thereby improving the RV-10 flight safety.			
DEVELOPMENT STATUS:			
Project Initiated (BCP Prototyp/Award)	2Q82		
Testing - EMI/EMC and AQS	2Q83		
IPR/PROD Decision (BCP Approval)	2Q83		
MILESTONES:			
	FY 83 EST DATE	FY 84 EST DATE	FY 85 EST DATE
Production Contract Award (IDW)	3Q83		
Production Contract Award (AF Kits)	3Q83		
MOU Negotiated		1Q84	
First Pdn Hdw Delivered		1Q84	
First Pdn AF Kits Delivered		1Q84	
First Kit Applied		1Q84	
Last Kit Applied		4Q84	
Data Collection Eval Complete			2Q85
PROJECT FINANCIAL PLAN: (Amounts in thousands of dollars)			
	FY 83 QTY AMT	FY 84 QTY AMT	TOTAL QTY AMT
Airframe Kits	28 412.0		28 412.0
Installation (OMA)		(28) (143.0)	(28) (143.0)

1-72 February 1982

DRY-C Form
1 Apr 76 2075

Edition of 1 May 76, may be used.

P. ISHOP LIST PAGE NO
ITEM NO.

EXHIBIT P- 3a

STALL WARNING SYSTEM
PIP # 1-82-01-1115

BASIS FOR COST ESTIMATE: (Amount in thousands of Dollars)

	FY 83		FY 84		TOTAL	
	QTY	COST	QTY	COST	QTY	COST
<u>APA:</u>						
Stall Warning Unit	28	232.0			28	232.0
Airframe Kits	28	130.0			28	130.0
STE	4	16.0			4	16.0
Float	4	34.0			4	34.0
<u>(OMA)</u>						
Instln/Kit Application			(28)	(143.0)	(28)	(143.0)
TOTAL	28	412.0			28	412.0

METHOD OF IMPLEMENTATION: Modification will be accomplished at direct support maintenance via MWO by Contractor team.

KIT DELIVERY SCHEDULE:

FY 84			
1	2	3	4
7	7	7	7

INSTALLATION SCHEDULE:

FY 84			
1	2	3	4
14	7	7	

1-73 February 1982

CLASSIFICATION		FY 83 BUDGET				
REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION		DATE 8 February 1982			
APPROPRIATION/BUDGET ACTIVITY APA/2 (SSN AZ2100)	MODIFICATION TITLE AND NO. VOICE SECURITY FOR OHF PIP # 1-82-01-1189					
AIRCRAFT AFFECTED: RV-1D						
DESCRIPTION/JUSTIFICATION: (U) Type of improvement - Operational Capability. The aircraft will be provisioned to accept the KY-28 (Nester) and KY-58 (VINSON) Voice Security Equipment to secure the AN/ARC-164 UHF/AM Communication Transceiver. The KY-58 communication security equipment is the planned replacement for the KY-28 system. This equipment secures the VHF-UHF (AM/FM Half duplex) radios and tactical wire lines.						
DEVELOPMENT STATUS:						
Projected initiated (ECP Prototype/Award)		1Q 83				
Testing		1Q 84				
IPR/PROD Decision (ECP Approved)		2Q 84				
MILESTONES:						
	FY 84	FY 85				
Production Contract Award	3Q 84					
First Production HDW Del		1Q 85				
First Kit Applied		2Q 85				
Last Kit Applied		4Q 85				
PROJECT FINANCIAL PLAN: (Amounts in thousands of dollars)						
	FY 84		FY 85		TOTAL	
	QTY	COST	QTY	COST	QTY	COST
Airframe Kits	27	103.0			27	103.0
Installation (OMA)			(27)	(172.0)	(27)	(172.0)

1-74 February 1982

DRSTS-C Form 2075
1 Apr 78

Edition of 1 May 76, may be used

P-1 SHOPP LIST PAGE NO
ITEM NO

EXHIBIT P. 3a

Exhibit P-3a

VOICE SECURITY FOR OHP
PIP # 1-82-01-1189

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

	FY 84		FY 85		TOTAL	
	QTY	COST	QTY	COST	QTY	COST
APA: Aircraft Kits	27	103.0			27	103.0
(OMA) Instln/Kit Application			(27)	(172.0)	(27)	(172.0)
TOTAL	27	103.0			27	103.0

METHOD OF IMPLEMENTATION: Modification will be accomplished at direct support maintenance via INMO by contractor team. One aircraft will be modified during ECP effort.

KIT DELIVERY SCHEDULE:

FY 85			
1	2	3	4
6	7	7	7

INSTALLATION SCHEDULE:

FY 85			
1	2	3	4
9	9	9	9

1-75 February 1982

FY 83 BUDGET

REPORTS CONTROL SYMBOL DD COMP (AI) 1092	AIRCRAFT MODIFICATION	DATE 8 February 1982		
APPROPRIATION/BUDGET ACTIVITY APA/7 (SSN A27100)	MODIFICATION TITLE AND NO. EXOTIC SIGNAL RECOGNITION PIP #1-81-01-1192			
AIRCRAFT AFFECTED: RV 10				
DESCRIPTION/JUSTIFICATION: Type of Improvement - Operational Capability. This PI will enhance the performance of the QUICK LOOK II System by enabling the system to identify two new types of emitters. The AN/AIQ-133 COUNTERMEASURES RECEIVING SET will be modified to detect signals. The hardware modification required to achieve this enhancement will affect the AN 667 signal comparator, the C-9537 monitor controller and cables in the intercept receiver pod.				
MILESTONES:	FY 83	FY 84	FY 85	
Production Contract Award	2Q83			
Production Lead Time	18 mo.			
First Prod Hdw Delivered		4Q84		
First Kit Applied			1Q85	
Last Kit Applied			3Q85	
PROJECT FINANCIAL PLAN: (Amounts in thousands of dollars)				
	FY 83	FY 84	FY 85	TOTAL
	QTY COST	QTY COST	QTY COST	QTY COST
Airframe Kits	28 890.0			28 890.0
Installation (OMA)			(28) (23.8)	(28) (23.8)

1-76 February 1982

Exotic Signal Recognition
RV-1D Aircraft

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

	FY 83		FY 84		FY 85		TOTAL	
	QTY	COST	QTY	COST	QTY	COST	QTY	COST
Non-Rec Engr		410.0						410.0
Electronics Mod Kits	32	270.0					32	270.0
Aircraft Mod Kits	28	56.0					28	56.0
Float	8	64.0					8	64.0
In-House Support		90.0						90.0
Installation (OMA)					(28)	(23.8)	(28)	(23.8)
TOTAL	28	890.0					28	890.0

METHOD OF IMPLEMENTATION: A contract field team will modify 26 airborne systems, 4 intelligence school training devices; 2 depot test system devices and 8 float (2 float at each location), and install 28 aircraft mod kits.

KIT DELIVERY SCHEDULE:

FY 84				FY 85			
1	2	3	4	1	2	3	4
			14				14

INSTALLATION SCHEDULE:

FY 85			
1	2	3	4
7	2	14	1

1-77 February 1982

CLASSIFICATION		FY 81 BUDGET		
REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION		DATE 8 February 1982	
APPROPRIATION/BUDGET ACTIVITY ANA/2 (SSN A22100)		MODIFICATION TITLE AND NO. TCT RELAY PIP # 1-81-01-1191		
AIRCRAFT AFFECTED: RV-1D				
DESCRIPTION/JUSTIFICATION: Type of Improvement - Operational Capability. This modification will equip the QUICK BAWK II aircraft with a Tactical Communications Terminal (TCT) Relay as is used in the Guardrail V (GRV) aircraft. This will serve as an airborne radio relay station to provide an additional data/communications link between the present ground based GRV Integrated Processing Facility (IPF) or an independent QL II Operational Control Center (AN/USM-39), and the Division TCT. The installation of a TCT relay in the RV-1D will provide for rapid dissemination of QL II TAC REPS and intercommunication between division commander and the existing IPF or AN/USM-39) during the QL II or GRV missions. The QL II airborne mission equipments and the TCT relay will operate independently.				
MILESTONES:	FY 83 EST DATE	FY 84 EST DATE	FY 85 EST DATE	
Contract Award - Engr	1Q83			
Contract Award - Prod	3Q83			
Leadtime	15 mo.			
Delivery Starts		4Q84		
Installation Starts			1Q85	
Installation Complete			4Q85	
PROJECT FINANCE: (Amounts in thousands of dollars)				
	FY 83	FY 84	FY 85	TOTAL
	QTY COST	QTY COST	QTY COST	QTY COST
Airframe Mod Kits	28 6,125.0			28 6,125.0
Installation (OMA)			(27) (229.7)	

1-78 February 1982

DIST LC Form 2075
1 Apr 78

Edition of 1 May 76, may be used

P. 18 SHOPPING PAGE NO
ITEM NO

CLASSIFICATION

EXHIBIT P-3a

Exhibit P-3a

ICT Relay
RV-1D Aircraft

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

	FY 83		FY 84		FY 85		TOTAL	
	QTY	COST	QTY	COST	QTY	COST	QTY	COST
Non-Recurring		990.0						990.0
Production GFE		3,790.0						3,790.0
Aircraft Mod Kits	28	315.0					28	315.0
Ground Station Modification	2	319.0					2	319.0
Fleet (sets)	4	441.0					4	441.0
In House Engineering		270.0						270.0
Installation (OMA)					(27)	(229.7)	(27)	(229.7)
Total	28	6,125.0					28	6,125.0

METHOD OF IMPLEMENTATION: Modification will be field retrofit by contract team, one aircraft modified during ECP effort.

DELIVERY SCHEDULE:

FY 84				FY 85			
1	2	3	4	1	2	3	4
			7	7	7		

INSTALLATION SCHEDULE:

FY 85			
1	2	3	4
6	7	7	7

1-79 February 1982

FY 83 BUDGET

ACTIVITY 2 - AIRCRAFT MODIFICATIONS					EXHIBIT P-3	
Reports Control Symbol DD-CMP(AR) 1092						
APPROPRIATION: APA/2					Date: 8 February 1982	
MODEL: All-1S (SSN AA0150)	FY 1982		FY 1983		FY 1984	
	Quantity (2)	Amount (Thousands) (3)	Quantity (4)	Amount (Thousands) (5)	Quantity (6)	Amount (Thousands) (7)
Wire Strike Protection System	484	2,392	-	-	-	-
Improved AHRS	-	806	192	8,200	55	3,882
Airlift Tie-down Provisions	328	165	-	-	-	-
* NOF Communications (page 1-106)	-	1,034	150	1,843	418	5,700
Radar Jammer, AN/ALQ-136	320	55,425	100	14,500	95	13,709
Improved Sand and Dust Separator	-	700	45	1,756	203	6,009
Laser Warning Receiver, AN/AVR-2	-	1,019	155	5,800	72	5,700
General Purpose Dispenser, M-130	200 **	1,200	-	-	-	-
Improved Windshields	-	-	-	601	-	2,000
IR Jammer, AN/ALQ-144	100	3,400	-	-	-	-
Night Vision Capability (Phase I)	-	459	-	-	-	-
TOTAL		66,600		32,700		37,000
*Consolidated P-3A						
**Airframe Kits						

1-80 February 1982

CLASSIFICATION		FY81 BUDGET				
REPORTS CONTROL SYMBOL DD-COMP (AR) 1092		AIRCRAFT MODIFICATION				
APPROPRIATION/BUDGET ACTIVITY APA/2		MODIFICATION TITLE AND NO. Improved Attitude Heading Reference System PIP No. 1-80-01-0923				
<p>AIRCRAFT AFFECTED: AH - 15 (SSN AAO150)</p> <p>DESCRIPTION/JUSTIFICATION: TYPE OF IMPROVEMENT - Operational Capability The Improved Attitude Heading Reference System (AHRS) will provide the modernized AH-15 with a high accuracy heading input to the AN/ASN-128 Doppler for tactical nap-of-the-earth (NOE) battlefield operations.</p> <p>DEVELOPMENT STATUS: Qualification of prototype units, system tests and initial flight qualification will be accomplished by the contractor.</p>						
MILESTONES:	FY 80	FY 81	FY 82	FY 83	FY 84	FY 85
ENGINEERING/DESIGN	1Q 82	N/A	2Q 82			
PROD. CONTRACT AWARD				1Q 83	1Q 84	1Q 85
PRODUCTION DELIVERY STARTS				1Q 84	1Q 85	1Q 86
KIT APPLICATION STARTS				3Q 84	4Q 85	2Q 86
KIT APPLICATION COMPLETE						3Q 86

1-81 February 1982

DDAV-C Form 2075
1-76

P-1 SHOP LIST PAGE NO.
ITEM NO.

EXHIBIT P- 3a

FY81 BUDGET

APA/2 (SSN AA0150)

Improved AHRS
AH-1S Helicopter

PROJECTED FINANCIAL PLAN:	FY 80	FY 81	FY 82	FY 83	FY 84	FY 85
	1,970.0	98.0	1,265.0	8,200.0	2,500.0	2,900.0

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

	FY 80		FY 81		FY 82		FY 83		FY 84		FY 85		FY 86	
	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT
Non-Recurring:														
Engineering Design	-	1,357.0		98.0		450.0		64.0						
Testing	-	613.0												
Other	-					356.0								
Recurring:														
AHRS							192	7,734.0	80	3,559.5		2,756.6		
Kits							192	402.0	80	322.5		143.4		
INSTALLATION (OMA)									72	(460.0)	125	(957.6)	85	(549.4)
TOTAL		1,970.0		98.0		806.0		8,200.0		3,882.0		2,900.0		

METHOD OF IMPLEMENTATION: Kits will be installed in the field by contractor teams. Installation is estimated at 40 hours per aircraft.

DELIVERY SCHEDULE:

	FY 84				FY 85				FY 86			
	1	2	3	4	1	2	3	4	1	2	3	4
Kits	34	30	36	54	14	13	14	14	31	30	3	4

INSTALLATION SCHEDULE:

	FY 84				FY 85				FY 86			
	1	2	3	4	1	2	3	4	1	2	3	4
Field Installation		32		40	40	40	40	30	25	31		30

1-82 February 1982

FY 81 Budget

REPORTS CONTROL SYMBOL DD-COMP (AR) 1092		AIRCRAFT MODIFICATION				DATE 8 February 1982																																																																																	
APPROPRIATION/BUDGET ACTIVITY APA/2			MODIFICATION TITLE AND NO. AN/ALQ-136(V)1 Radar Jammer, PIP # 1-79-01-0976																																																																																				
<p>AIRCRAFT AFFECTED: AH-1H (S/N: AA0150)</p> <p>DESCRIPTION/JUSTIFICATION: Type of Improvement - Operational Capability. The AN/ALQ-136 (Xh-2) Radar Jammer is designed to provide protection for AH-1S aircraft against radar directed air defense threat weapons. System consists of a receiver/transmitter unit, an antenna system, an operator control unit and an installation kit.</p> <p>DEVELOPMENT STATUS: DT/OT '11 - complete SEP 79 DEVA IPR SEP 80</p> <p>MILESTONES:</p> <table border="1"> <thead> <tr> <th></th> <th>FY 79</th> <th>FY 80</th> <th>FY 81</th> <th>FY 82</th> <th>FY 83</th> <th>FY 84</th> <th>FY 85</th> </tr> </thead> <tbody> <tr> <td>Engr Initiated</td> <td>SEP 79</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>ECP Approval</td> <td></td> <td>3Q 81</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Mod Kit Contract Award</td> <td></td> <td></td> <td></td> <td>1Q 82</td> <td></td> <td>1Q 84</td> <td>1Q 85</td> </tr> <tr> <td>Production Lead Time</td> <td></td> <td></td> <td></td> <td>6 months</td> <td></td> <td>6 months</td> <td>6 months</td> </tr> <tr> <td>Mod Kit Delivery Start</td> <td></td> <td></td> <td></td> <td>4Q 82</td> <td></td> <td>4Q 84</td> <td>3Q 85</td> </tr> <tr> <td>Kit Installation Start</td> <td></td> <td></td> <td></td> <td>2Q 83</td> <td></td> <td>1Q 85</td> <td>4Q 85</td> </tr> <tr> <td>AN/ALQ-136 Cont. Award</td> <td></td> <td>SEP 80</td> <td>1Q 81</td> <td>3Q 82</td> <td>1Q 83</td> <td>3Q 84</td> <td>1Q 85</td> </tr> </tbody> </table> <p>PROJECT FINANCIAL PLAN: (Amounts in thousands of dollars)</p> <table border="1"> <thead> <tr> <th>FY 79</th> <th>FY 80</th> <th>FY 81</th> <th>FY 82</th> <th>FY 83</th> <th>FY 84</th> <th>FY 85</th> <th>TOTAL PROGRAM</th> </tr> </thead> <tbody> <tr> <td>146.0</td> <td>12,104.0</td> <td>5,941.0</td> <td>55,425.0</td> <td>14,500.0</td> <td>13,709.0</td> <td>25,776.0</td> <td>127,601.0</td> </tr> </tbody> </table>									FY 79	FY 80	FY 81	FY 82	FY 83	FY 84	FY 85	Engr Initiated	SEP 79							ECP Approval		3Q 81						Mod Kit Contract Award				1Q 82		1Q 84	1Q 85	Production Lead Time				6 months		6 months	6 months	Mod Kit Delivery Start				4Q 82		4Q 84	3Q 85	Kit Installation Start				2Q 83		1Q 85	4Q 85	AN/ALQ-136 Cont. Award		SEP 80	1Q 81	3Q 82	1Q 83	3Q 84	1Q 85	FY 79	FY 80	FY 81	FY 82	FY 83	FY 84	FY 85	TOTAL PROGRAM	146.0	12,104.0	5,941.0	55,425.0	14,500.0	13,709.0	25,776.0	127,601.0
	FY 79	FY 80	FY 81	FY 82	FY 83	FY 84	FY 85																																																																																
Engr Initiated	SEP 79																																																																																						
ECP Approval		3Q 81																																																																																					
Mod Kit Contract Award				1Q 82		1Q 84	1Q 85																																																																																
Production Lead Time				6 months		6 months	6 months																																																																																
Mod Kit Delivery Start				4Q 82		4Q 84	3Q 85																																																																																
Kit Installation Start				2Q 83		1Q 85	4Q 85																																																																																
AN/ALQ-136 Cont. Award		SEP 80	1Q 81	3Q 82	1Q 83	3Q 84	1Q 85																																																																																
FY 79	FY 80	FY 81	FY 82	FY 83	FY 84	FY 85	TOTAL PROGRAM																																																																																
146.0	12,104.0	5,941.0	55,425.0	14,500.0	13,709.0	25,776.0	127,601.0																																																																																
1-83 February 1982																																																																																							

DD FORM 1 APR 78 2075

Edition of 1 Mar 78, may be used.

P-1 SHOP LIST
ITEM NO.

PAGE NO.

EXHIBIT P-3a

AN/ALQ-136(V)1 Radar Jammer
1-79-01-0976

FY 80 Budget
Exhibit P-3a

	FY 79		FY 80		FY 81		FY 82	
	QTY	COST	QTY	COST	QTY	COST	QTY	COST
Non-Recurring				2098.0		2098.0		2098.0
AN/ALQ-136 Sys			40	8396.0	40	9007.0	40	96300.0
STE				1807.0				1807.0
ECP MWO/A Kits		146.0		225.0			200	4560.0
		146.0		12104.0		5941.0		53625.0

	FY 83		FY 84		FY 85		FY 86		TOTAL PROGRAM	
	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST
Non-Recurring		1,000.0				1881.0				9,608.0
AN/ALQ-136 Sys	100	13,500.0	95	12,800.0	120	21350.0			715	106,351.0
STE						1226.0				4,483.0
ECP/MWO A Kits			122	909.0	170	1319.0			992	7,159.0
A Kit Instl	(200)	(405.0)	(200)	(405.0)	(100)	(203.0)	(70)	(142.0)		(1,155.0)
		14,360.0		13,709.0		25,776.0				127,601.0

METHOD OF IMPLEMENTATION: A Kits will be installed in the field by depot/contract teams. Estimated installation time is 80 hrs per airframe kit.

DELIVERY SCHEDULE

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
			50			50	60 60 60			60	60 60 60			60	60 60 60			60	60 60 62

KIT INSTALLATIONS SCHEDULE:

FY 83				FY 84				FY 85				FY 86			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
		40	50 55 55			60	60 60 60 65			65	70 70 70			70	70 70 72

1-84 February 1982

REPORTS CONTROL SYMBOL DD-COMP (AH) 1092	AIRCRAFT MODIFICATION	DATE 8 February 1982					
APPROPRIATION/BUDGET ACTIVITY APA/2 (SSN: AA0150)	MODIFICATION TITLE AND NO. AN/AVR-2, Laser Warning Receiver, PIP # 1-80-01-0984						
AIRCRAFT AFFECTED: AH-1S							
DESCRIPTION/JUSTIFICATION: Type of Improvement-Operational Capability. The Laser Warning Receiver System is designed to functionally integrate with the AN/APR-39 Radar Warning Receiver to detect laser threat energy directed at aircraft and to provide audio and visual warning.							
DEVELOPMENT STATUS:							
ED Contract Award - 4Q FY 79							
DI/OI 11 - 2Q FY 82							
DEVA IPR - 4Q FY 82							
PROD CONT AWD - 2Q FY 83							
MILESTONES:							
	<u>FY 82</u>	<u>FY 83</u>	<u>FY 84</u>				
Contract Award ECP	2Q 82						
ECP Approval		2Q 83					
Cont Awd - A Kits		3Q 83					
Prod Lead Time		12 mos					
Kit Del Start			2Q 84				
Kit Installation Start			1Q 85				
PROJECT FINANCIAL PLAN: (Amounts in thousands of dollars)							
	<u>FY 82</u>	<u>FY 83</u>	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>	<u>TOTAL PROGRAM</u>
	1019.0	5800.0	5700.0	991.0	989.0	983.0	15482.0

1-85 February 1982

AN/AVR-2 Laser Warning Receiver
1-80-01-0984

Exhibit P-3a

	FY 82		FY 83		FY 84		FY 85	
	QTY	COST	QTY	COST	QTY	COST	QTY	COST
Non-Recurring		1019.0		1513.0		997.0		473.0
AN/AVR-2 Sys			155	2291.0	72	1120.0	30	490.0
STE PTS			9	109.0	4	51.0	1	13.0
STE BTS			9	120.0	4	56.0	1	15.0
Airframe Mod Kits			300	1767.0	659	3476.0		
Installation (OMA)							(250)	(633.0)
		1019.0		5800.0		5700.0		991.0

	FY 86		FY 87		TOTAL PROGRAM	
	QTY	COST	QTY	COST	QTY	COST
Non-Recurring		329.0		290.0		4621.0
AN/AVR-2 Sys	35	601.0	35	631.0	327	5133.0
STE PTS	2	28.0	2	30.0	18	231.0
STE BTS	2	31.0	2	32.0	18	254.0
Airframe Mod Kits					959	5243.0
Installation (OMA)	(509)	(1289.0)	(200)	(507.0)	(959)	(2429.0)
		989.0		983.0		15482.0

METHOD OF IMPLEMENTATION: Airframe modification kits will be installed in the field by depot or commercial contract teams. Installation is estimated at 100 hours per aircraft.

DELIVERY SCHEDULE

	FY 84				FY 85				FY 86				FY 87			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Kits									100	100	100	134				
	75	75	75	75	75	75	75	75								

INSTALLATION SCHEDULE

	FY 85				FY 86				FY 87			
	1	2	3	4	1	2	3	4	1	2	3	4
	125	100	75	75	75	75	75	75	75	75	75	59

1-86 February 1982

REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION		DATE: February 1982				
APPROPRIATION/BUDGET ACTIVITY APA/2 (SSN AA0150)	MODIFICATION TITLE AND NO. IMPROVED SAND & DUST SEPARATOR PIP NO. 1-51-01-0020						
AIRCRAFT AFFECTED: A4-1B							
DESCRIPTION/JUSTIFICATION: TYPE OF IMPROVEMENT - DEFICIENCY CORRECTION							
This modification provides for installation of an improved air filter system. The new system provides 1800 hour engine operation in fine sand environment as opposed to 50 hours in the same environment for present system.							
DEVELOPMENT STATUS: Design, fabrication, integration, & qualification testing initiated 4Q81.							
MILESTONES:	<u>FY81</u>	<u>FY82</u>	<u>FY83</u>	<u>FY84</u>	<u>FY85</u>	<u>FY86</u>	<u>FY87</u>
ENGINEERING/DESIGN	4Q81	--	--	--	--	--	--
PROD. CONTRACT AWARD	-	4Q82	1Q83	1Q84	1Q85	1Q86	1Q87
PRODUCTION DELIVERY STARTS	-	4Q83	1Q84	1Q85	1Q86	1Q87	1Q88
KIT APPLICATION STARTS	-	1Q84	1Q85	1Q86	1Q87	1Q88	1Q89
KIT APPLICATION COMPLETE	-	-	-	-	-	-	4Q89
1-87 February 1982							

CLASSIFICATION

P-1 SHOPP LIST PAGE NO.
ITEM NO.

EXHIBIT P-3a

IMPROVED SAND & DUST SEPARATOR
PIP NO. 1-81-01-0938

FY83 BUDGET
DATE: 8 February 1982
APA/2 (SSN AA0150)

PROJECTED FINANCIAL PLAN:	FY81		FY82		FY83		FY84		FY85		FY86		FY87	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
			700.0		1,756.0		6,009.0		9,456.0		6,611.0		5,617.0	
BASIS FOR COST ESTIMATE:	FY81		FY82		FY83		FY84		FY85		FY86		FY87	
Engineering/Design (OMA)	-	(600.0)	-	-	-	15.0	-	-	-	-	-	-	-	-
TN/HWO Preparation (OMA)	-	(360.0)	-	-	-	-	-	-	-	-	-	-	-	-
Recurring - Kits	-	-	20	700	50	1,741.0	203	6,009.0	306	9,456.0	204	6,611.0	167	5,617.0
* Application (OMA)	-	-	-	-	-	-	(58)	(168.0)	(54)	(166.0)	(203)	(653.0)	(306)	(1,028.0)
TOTAL	-	-	20	700	50	1,756.0	203	6,009.0	306	9,456.0	204	6,611.0	167	5,617.0

METHOD OF IMPLEMENTATION: Contract team installation. Effort requires four (4) teams of two (2) men each. The four (4) teams will travel to A/C field sites to accomplish modification.

DELIVERY SCHEDULE:

FY84				FY85				FY86				FY87				FY88			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
		20	50	30	30	31	32	76	76	76	78	51	51	51	51	41	41	42	43

INSTALLATION SCHEDULE:

FY84				FY85				FY86				FY87				FY88			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
				4	6	8	11	50	50	51	52	76	76	76	78	51	51	51	51

108 Kite will be held for float.

1-88 February 1982

REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION	DATE 8 February 1982	
APPROPRIATION/BUDGET ACTIVITY APA/2 (SSN AA0150)	MODIFICATION TITLE AND NO. Improved Windshields, PIP # 1-81-01-0942		
<p><u>AIRCRAFT AFFECTED:</u> AH - 1S</p> <p><u>DESCRIPTION/JUSTIFICATION:</u> TYPE OF IMPROVEMENT - Reliability, Availability, and Maintainability. (RAM) This modification will provide the AH-1S with an improved set of windshields (or windcreens) to replace the present set. Experience in desert operations shows significant distortion to the windshields in less than 25 hours of flight time restricting pilot and gunner visibility particularly at night when lighting reflects from the scratches.</p> <p><u>DEVELOPMENT STATUS:</u> Previous feasibility study/engineering effort by aircraft contractors addressed problem. Design/engineering as applicable to AH-1 aircraft will be initiated 1Q83 pending fund availability.</p>			
<u>MILESTONES:</u>	<u>FY83</u>	<u>FY84</u>	<u>FY85</u>
ENGINEERING/DESIGN	1Q83	-	-
PROD. CONTRACT AWARD	-	4Q84	4Q85
PRODUCTION DELIVERY STARTS	-	1Q85	1Q86
KIT APPLICATION STARTS	(Replace by attrition)		
KIT APPLICATION COMPLETE	(Replace by attrition)		
1-89 February 1982			

CLASSIFICATION

P-1 SHOP LIST PAGE NO.
ITEM NO.

EXHIBIT P-3a

FY83 BUDGET
 DATE: 8 February 1982
 APA/2 (SSN AA0150)

Improved Windshields
 PIP # 1-81-01-0942

<u>PROJECTED FINANCIAL PLAN:</u>	<u>FY83</u>		<u>FY84</u>		<u>FY85</u>	
	601.0		2,000.0		3,301.0	
 <u>BASIS FOR COST ESTIMATE:</u>	<u>FY83</u>		<u>FY84</u>		<u>FY85</u>	
	<u>Qty</u>	<u>\$</u>	<u>Qty</u>	<u>\$</u>	<u>Qty</u>	<u>\$</u>
Design/Engineering/Testing	-	601.0	-	8.0	-	-
TM/MWO/PUBLICATIONS (OMA)	-	(80.0)	-	-	-	-
RECURRING - KITS	-	-	250	1,992.0	387	3,250.8
<u>KIT APPLICATION (costs by fiscal year not identifiable due to replacement by attrition).</u>						
 TOTAL	601.0		2,000.0		3,250.8	

METHOD OF IMPLEMENTATION: Field installation by attrition.

<u>DELIVERY SCHEDULE:</u>	<u>FY85</u>				<u>FY86</u>			
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
	30	60	65	95	98	98	98	93

INSTALLATION SCHEDULE: Not applicable - Replace by attrition.

1-90 February 1982

FY 83 BUCKET

ACTIVITY 2 - AIRCRAFT MODIFICATIONS					EXHIBIT P-3	
Reports Control Symbol DD-COMP(AR) 1092						
APPROPRIATION: APA/2 (SSN AA0250)					Date: 3 February 1982	
MODEL: CH-47 MODIFICATION (1)	FY 1982		FY 1983		FY 1984	
	Quantity (2)	Amount (Thousands) (3)	Quantity (4)	Amount (Thousands) (5)	Quantity (6)	Amount (Thousands) (7)
Fiberglass Rotor Blade	81	28,262.0	34	8,000.0		
Conversion of T-55-L-11D to 712 Engine	20	12,300.0			90	25,700.0
AN/ALQ-156 Missile Detector System	213/P1729ys	18,400.0				
CH-47D Modernization	19	217,400.0	24	253,300.0	36	333,500.0
TOTAL		276,400.0		261,300.0		359,200.0

1-91 February 1982

FY 83 Budget

REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION		DATE 8 February 1982				
APPROPRIATION/BUDGET ACTIVITY AFM72 (USN AAO250)	MODIFICATION TITLE AND NO. CH 47C Fiberglass Rotor Blades, PIP # 1-77-01-0816						
AIRCRAFT AFFECTED: CH-47C							
DESCRIPTION/JUSTIFICATION: Type of Improvement - Reliability and Maintainability. This PIP allows for equipment of the CH-47C fleet with fiberglass rotor blades, thereby reducing the requirements for procurement of higher price metal blades with their associated high life cycle costs. It will also increase safety, survivability and reduce vulnerability and maintenance man-hours for the CH-47C.							
DEVELOPMENT STATUS:							
Design Completion Date	Feb 76						
Prototype Completion Date	Feb 78						
Testing Complete	Mar 79						
MILESTONES:	<u>FY 77</u>	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>	<u>FY 81</u>	<u>FY 82</u>	<u>FY 83</u>
Engineering Initiated	Sep 77						
Flight Qualification Complete	Mar 79						
Contract Award for Formal ECP			Jun 79				
Formal ECP Approval			Jun 79				
Long lead time items Contract Award			Jun 79	Apr 80	Apr 81	1Q FY 82	
Production Contract Award				Apr 80	Apr 81	1Q FY 82	1Q FY 83
Delivery Starts				Apr 81	2Q FY 82	2Q FY 83	2Q FY 84
Installation Complete				3Q FY 82	3Q FY 83	4Q FY 84	2Q FY 85
PROJECT FINANCIAL PLAN: (Amounts in thousands of dollars)							
	<u>FY 77</u>	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>	<u>FY 81</u>	<u>FY 82</u>	
Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost
	4,240.0	857.3	9,740.0	27	21,900.0	74	25,940.0
						81	28,262.0
	<u>FY 83</u>	<u>Total</u>					
Qty	Cost	Qty	Cost				
34	8,025.0		98,964.3				
1-92 February 1982							

DDTC Form 2075
1 Apr 76

Edition of 1 May 76, may be used

P-1 SHOPPING LIST PAGE NO. []
ITEM NO. []

11 83 Budget

CH-47C FIBERGLASS ROTOR BLADES
PIP # 1-77-C1-0616

Exhibit P-3A

METHOD OF IMPLEMENTATION: Application will be accomplished at aircraft user locations by depot teams and/or contractor field teams as appropriate. Estimated installation time per kit is 400 hours.

	FY 81				FY 82				FY 83				FY 84				FY 85				Total
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
Kit Delivery Schedule	2	1	6		16	21	23	15	19	20	18	15	23	28	9						216
Installation Schedule																					
Induction		3			8	13	14	17	22	22	21	25	15	13	15	15	0	4			216
Completion		3			8	13	14	17	22	22	21	25	15	13	15	15	9	4			216

1-94 February 1982

HFFOPTS CONTROL SYMBOL DS-COMP (AR) 1092	AIRCRAFT MODIFICATION	DATE 8 February 1982																																																																																										
APPROPRIATION/BUDGET ACTIVITY APA/2 (SSN AN0250)		MODIFICATION TITLE AND NO. Conv. of T55-L-11D to T55-L-712, PIP # 178 01-0700																																																																																										
<p>AIRCRAFT AFFECTED: CH-47C</p> <p>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-11B engine to over 1000 hrs. 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 engine.</p> <p>DEVELOPMENT STATUS: Program initiated 1 Mar 76. Four (4) test engines have been converted to the T55-L-712 configuration and testing has begun to determine low cycle fatigue, extended service life and performance. This testing is being accomplished under the Component Improvement Program.</p> <p>MILESTONES:</p> <table border="1" data-bbox="352 1017 1508 1393"> <thead> <tr> <th></th> <th>FY 76</th> <th>FY 79</th> <th>FY 80</th> <th>FY 81</th> <th>FY82-87</th> </tr> <tr> <th></th> <th>ACT DATE</th> <th>EST DATE</th> <th>EST DATE</th> <th>EST DATE</th> <th>EST DATE</th> </tr> </thead> <tbody> <tr> <td>Contract Award for Tooling</td> <td>Aug 76</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Long Lead Time Castings</td> <td></td> <td>Aug 79</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Engine Production Kits</td> <td></td> <td>Feb 80</td> <td>3Q 80</td> <td>2Q 81</td> <td>2Q FY82-87</td> </tr> <tr> <td>Lead Time - 23 Months</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Production Rate - See schedule</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Eng Kit Delivery Starts</td> <td></td> <td></td> <td>4Q80</td> <td>1Q81</td> <td></td> </tr> <tr> <td>Eng Kit Installation Starts</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Eng Kit Installation Complete</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Contract Award for Airframe Kits</td> <td></td> <td>Sep 79</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Lead Time 10 Months</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Production Rate - 25 per Month</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>A/F Kit Delivery Starts (1Q81)</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>A/F Kit Installation Starts (2Q81)</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p style="text-align: right;">1-95 February 1982</p>				FY 76	FY 79	FY 80	FY 81	FY82-87		ACT DATE	EST DATE	EST DATE	EST DATE	EST DATE	Contract Award for Tooling	Aug 76					Long Lead Time Castings		Aug 79				Engine Production Kits		Feb 80	3Q 80	2Q 81	2Q FY82-87	Lead Time - 23 Months						Production Rate - See schedule						Eng Kit Delivery Starts			4Q80	1Q81		Eng Kit Installation Starts						Eng Kit Installation Complete						Contract Award for Airframe Kits		Sep 79				Lead Time 10 Months						Production Rate - 25 per Month						A/F Kit Delivery Starts (1Q81)						A/F Kit Installation Starts (2Q81)					
	FY 76	FY 79	FY 80	FY 81	FY82-87																																																																																							
	ACT DATE	EST DATE	EST DATE	EST DATE	EST DATE																																																																																							
Contract Award for Tooling	Aug 76																																																																																											
Long Lead Time Castings		Aug 79																																																																																										
Engine Production Kits		Feb 80	3Q 80	2Q 81	2Q FY82-87																																																																																							
Lead Time - 23 Months																																																																																												
Production Rate - See schedule																																																																																												
Eng Kit Delivery Starts			4Q80	1Q81																																																																																								
Eng Kit Installation Starts																																																																																												
Eng Kit Installation Complete																																																																																												
Contract Award for Airframe Kits		Sep 79																																																																																										
Lead Time 10 Months																																																																																												
Production Rate - 25 per Month																																																																																												
A/F Kit Delivery Starts (1Q81)																																																																																												
A/F Kit Installation Starts (2Q81)																																																																																												

DRSAY C Form 1 May 76 2075

P-1 SHOPP LIST PAGE NO. ITEM NO.

EXHIBIT p.3a

CH-47 Conversion of 155-1-110 to 155-1-712
 PIP # 1-78-01-0/00

FY P: BUDGET
 Exhibit P-3a

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

	<u>FY 76</u> <u>QTY COST</u>	<u>FY 79</u> <u>QTY COST</u>	<u>FY 80</u> <u>QTY COST</u>	<u>FY 81</u> <u>QTY COST</u>	<u>FY 82</u> <u>QTY COST</u>	
Engine Kits		56 10,119.0	34 6,836.0	54 12,619.0	53 12,300.0	
Airframe Kits		96 1,022.0	159 1,362.0			
Nonrecur						
APA (tooling)	1,210.0		1,205.0			
OMA						
Instl						
APA				(30)	(70.0)	(153)
(OMA)						(338.0)
	1,210.0	152 11,141.0	193 9,403.0	54 12,619.0	53 12,300.0	

	<u>FY 83</u> <u>QTY COST</u>	<u>FY 84</u> <u>QTY COST</u>	<u>FY 85</u> <u>QTY COST</u>	<u>FY 86</u> <u>QTY COST</u>	<u>FY 87</u> <u>QTY COST</u>	<u>TOTAL</u> <u>QTY COST</u>
Engine Kits		90 25,700.0	13 4,100.0	68 21,300.0	96 33,100.0	464 126,074.0
Airframe Kits						255 2,384.0
Nonrecur						2,415.0
APA (tooling)						
OMA						
Instl						
APA						
(OMA)	(32)	(81.0)				(215)
		90 25,700.0	13 4,100.0	68 21,300.0	96 33,100.0	719 130,873.0

1-96 February 1982

CH-47 Conversion of T55-L-110 to T55-L-112
PIP # 1-78-01-0700

FY 81 BHM:PT
Exhibit P-2a

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

	FY 81				FY 82				FY 83				FY 84								
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>					
(23 Mos. Lead Time)																					
Engine Kit Delivery Schedule					1	8	24	24	24	24	24	23	22	22							
Installation Schedule Induction/Completion																					
	FY 85				FY 86				FY 87				FY 88				FY 89				TOTAL
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	
Engine Kit Delivery Schedule					23	23	22	22	4	3	3	3	15	17	18	18	24	24	24	23	463
Installation Induction/Completion																					
	FY 80				FY 81				FY 82				FY 83				TOTAL				
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>					
Airframe Kit Delivery Schedule					18	19	19	19	27	27	27	27	17	15					215		
Installation Schedule Induction/Completion					10	10	10	38	38	38	39	16	16					215			

1-97 February 1982

FY 83 Budget

REPORTS CONTROL SYMBOL DD-COMP (AH) 1002	AIRCRAFT MODIFICATION	DATE 8 February 1982														
APPROPRIATION/BUDGET ACTIVITY APA/2 (SSN AAO250)	MODIFICATION TITLE AND NO. CH-47D Modernization, PIP #1-80-C1-0815															
<p>AIRCRAFT AFFECTED: CH-47D</p> <p>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 thru 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.</p> <p>DEVELOPMENT STATUS: (RDTE Funded)</p> <table border="0"> <tr> <td>Modernization Development Contract</td> <td>Jun 76</td> </tr> <tr> <td>1st Flight</td> <td>May 79</td> </tr> <tr> <td>Preliminary Airworthiness Evaluation (PAE)</td> <td>Dec 79</td> </tr> <tr> <td>DT/OT II Start</td> <td>Dec 79</td> </tr> <tr> <td>DT/OT II Complete</td> <td>May 80</td> </tr> <tr> <td>ASARC III</td> <td>Aug 80</td> </tr> <tr> <td>DSARC III Decision</td> <td>Oct 80</td> </tr> </table>			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
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															
1-98 February 1982																

DDTS-C Form
1 Apr 78

2075

Edition of 1 May 76, may be used.

P-1 SHOP LIST
ITEM NO.

PAGE NO.

EXHIBIT P. 3a

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

FY 83 Budget
Exhibit P-3a

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	1Q FY 82	1Q FY 83	1Q FY 84	1Q FY 85	1Q FY 86	1Q FY 87
Production Contract Award		Oct 80	1Q FY 82	1Q FY 83	1Q FY 84	1Q FY 85	1Q FY 86	1Q FY 87
Induction Starts		Oct 80	3Q FY 82	1Q FY 83	1Q FY 84	1Q FY 85	1Q FY 86	1Q FY 87
Delivery Complete		3Q FY 83	2Q FY 84	1Q FY 85	1Q FY 86	1Q FY 87	1Q FY 88	1Q FY 89
		FY 88	FY 89	FY 90				
Long Lead Time Items		1Q FY 89	1Q FY 89					
Production Contract Award		1Q FY 88	1Q FY 89	1Q FY 90				
Induction Starts		1Q FY 89	1Q FY 89	1Q FY 90				
Delivery Complete		1Q FY 90	1Q FY 91	1Q FY 92				

PROJECT FINANCIAL PLAN: (Amounts in thousands 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
	27,400.0	9	147,417.0	19	217,400.0	24	253,300.0	36	333,500.0	48	401,300.0	60	331,800.0
FY 87		FY 88		FY 89		FY 90		TOTAL					
Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost				
60	333,400.0	60	301,252.0	60	303,060.0	60	193,480.0	476	2,846,309.0				

1-99 February 1982.

CH 4/D MODERNIZATION
PIP # 1-80-01-0815

FY 85 Budget

FOR COST ESTIMATE: (Amounts in thousands of dollars)

Exhibit P-3a

	FY 80		FY 81		FY 82		FY 83		FY 84		FY 85	
	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost
Long Lead Time Items ^{1/}		5,283.0		8,543.0		21,293.0		31,000.0		77,950.0		88,665.0
-Recurring				64,311.0		114,016.0		126,972.0		114,111.0		173,546.0
CFM		7,798.0		27,130.0		56,642.0		57,110.0		115,739.0		128,535.0
Nonrecurring		13,949.0		42,116.0		22,890.0		32,632.0		22,391.0		12,655.0
Data/Pubs		370.0		5,317.0		2,559.0		5,486.0		3,309.0		899.0
OMA (Transportation)						(36.0)		(147.0)		(2,797.0)		(3,426.0)
TOTAL		27,400.0	9	147,417.0	19	217,400.0	24	251,300.0	36	333,500.0	48	404,300.0

	FY 86		FY 87		FY 88		FY 89		FY 90		TOTAL	
	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost
Long Lead Time Items ^{1/}		81,581.0		82,058.0		83,283.0		84,984.0				564,640.0
Recurring		203,613.0		205,682.0		173,733.0		177,232.0		177,265.0		1,530,481.0
CFM		45,190.0		44,365.0		43,922.0		40,516.0		15,872.0		582,719.0
Nonrecurring		476.0		640.0								147,749.0
Data/Pubs		940.0		655.0		314.0		328.0		343.0		20,720.0
OMA (Transportation)		(4,322.0)		(9,133.0)		(1,274.0)		(632.0)		(664.0)		(24,431.0)
TOTAL		60 331,800.0	60	333,400.0	60	301,252.0	60	303,060.0	60	193,480.0	436	2,846,309.0

^{1/} Does not include CFM long lead time items.

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

FY 83 Budget
Exhibit P-3a

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							
	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	9	9	9	9	9	9	15	15	15	15	15	15	15	15	15	15
Deliveries						1	1		3	3	4	6	6	6	6	7	9	9	9	9	9	9	15	15	9	9	15	15
	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	1	2	3	4
Inductions	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	9			
Deliveries	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15				
	<u>TOTAL</u>																											
Inductions	436																											
Deliveries	436																											

1-101 February 1982

FY 83 BUDGET

ACTIVITY 2 - AIRCRAFT MODIFICATIONS				EXHIBIT P-3		
Report Control Symbol DD-COMP(AR) 1092				Date: 8 February 1982		
APPROPRIATION: APA/2 (SSN AA0270)						
MODEL: C-12 MODIFICATION (1)	FY 1987		FY 1983		FY 1984	
	Quantity (2)	Amount (Thousands) (3)	Quantity (4)	Amount (Thousands) (5)	Quantity (6)	Amount (Thousands) (7)
PT6A -38 to -41 ENGINE CONVERSION	21	407.0	9	187.0	15	332.0
AUTO-FEATHER/AUTO-SHYCH	21	391.0	9	180.0	15	319.0
C-12 TOTALS		798.0		367.0		651.0

1-107 February 1981

REPORTS CONTROL SYMBOL DD FORM (AUG) 1092	AIRCRAFT MODIFICATION	DATE 8 February 1982					
APPROPRIATION/BUDGET ACTIVITY AFA/ (50N AAO) (0)	MODIFICATION TITLE AND DOC. PT 6A-41 engine conversion to PT 6A-41 engine						
AIRCRAFT AFFECTED C-12A							
DESCRIPTION/JUSTIFICATION: Type of Improvement: Reduced cost of operation. The PT 6A-41 engine will be converted to the PT 6A-41 configuration at the time of overhaul to take advantage of the increased TBO (time between overhaul) and hot-end inspection intervals of the PT 6A-41 engine.							
DEVELOPMENTAL STATUS: The PT 6A-41 engine has already been fully developed and is being installed in the FY 81 production aircraft as well as all commercial Beech A-200 aircraft. The ECP which will provide specific details and plans for engine conversion at the time of overhaul has been approved.							
MILESTONES:	FY 79	FY 81	FY 82	FY 83	FY 84		
Contract Award for ECP	4Q 80						
ECP Approval	1Q 81						
Contract Award	4Q 81	2Q 82	2Q 83	1Q 84			
Leadtime	12 Mo	12 Mo	12 Mo	12 Mo			
Installation Starts	4Q 82	3Q 83	3Q 84	4Q 84			
Installation Completed	3Q 83	2Q 84	4Q 84	3Q 85			
PROJECT FINANCIAL PLAN (Amounts in thousands of dollars)							
	FY 81	FY 82	FY 83	FY 84	FY 85	TOTAL PROGRAM	
	QTY COST	QTY COST	QTY COST	QTY COST	QTY COST	QTY COST	
	15 268.0	21 407.0	9 187.0	15 332.0		60 1194.0	
BASIS FOR COST ESTIMATE: (Amounts in thousands of dollars)							
	79	FY 81	FY 82	FY 83	FY 84	FY 85	TOTAL PROGRAM
	COST	QTY COST	QTY COST	QTY COST	QTY COST	QTY COST	QTY COST
Hardware		15 268.0	21 407.0	9 187.0	15 332.0		60 1194.0
Publication (OMA)	(16.0)						
Engineering (OMA)	(48.0)						
Installation (OMA)			(6) (46.0)	(18) (147.0)	(24) (208.0)	(12) (110.0)	(60) (511.0)
TOTAL		15 268.0	21 407.0	9 187.0	15 332.0		60 1194.0

1-103 February 1982

DDAV-6 Form 1 May 76 2075

P-1 SHOP LIST PAGE NO. ITEM NO.

CLASSIFICATION

EXHIBIT F

KIT DELIVERY SCHEDULE:

FY 82	FY 83	FY 84	FY 85
<u>1 2 3 4</u>	<u>1 2 3 4</u>	<u>1 2 3 4</u>	<u>1 2 3 4</u>
21	5 5 5	5 5 5	6 3

INSTALLATION SCHEDULE:

FY 82	FY 83	FY 84	FY 85
<u>1 2 3 4</u>	<u>1 2 3 4</u>	<u>1 2 3 4</u>	<u>1 2 3 4</u>
6	2 4 6 6	6 6 6 6	6 4 2

METHOD OF IMPLEMENTATION: Installation will be at a time of overhaul. Beech will make installation of the PT 6A-41 engine concurrent with the Autofeather/synch.

FY 81 BUDGET

REPORTS CONTROL SYMBOL DD COMP (AR) 1092	AIRCRAFT MODIFICATION					DATE 8 February 1982	
APPROPRIATION/BUDGET ACTIVITY APA/P (SSN AA0270)	MODIFICATION TITLE AND NO. AUTOFEATHER/AUTO SYNCH PIP # 1-79-01-0603						
AIRCRAFT AFFECTED: C-12A							
DESCRIPTION/JUSTIFICATION: Type of Improvement - Improved safety by standardization of fixed wing aircraft. This change will provide automatic propeller feathering in the event that an engine failure occurs. It will also provide for automatic synchronization of the propellers during operation.							
DEVELOPMENTAL STATUS: Automatic propeller feather and synchronization is fully developed and being incorporated on the FY 78 aircraft during production. The ECP setting forth kit and application criteria has been approved.							
MILESTONES:	FY 79	FY 81	FY 82	FY 83	FY 84		
Contract Award for ECP	4Q 80						
ECP Approval	1Q 81						
Contract Award		4Q 81	2Q 82	2Q 83	1Q 84		
Leadtime		12 Mo	12 Mo	12 Mo	12 Mo		
Installation Starts		4Q 82	3Q 83	3Q 84	4Q 84		
Installation Completed		3Q 83	2Q 84	4Q 84	3Q 85		
PROJECT FINANCIAL PLAN: (Amounts in thousands of dollars)							
	FY 81	FY 82	FY 83	FY 84	FY 85	TOTAL PROGRAM	
	QTY COST	QTY COST	QTY COST	QTY COST	QTY COST	QTY COST	
	15 257.0	21 391.0	9 180.0	15 319.0		60 1147.0	
BASIS FOR COST ESTIMATE: (Amounts in thousands of dollars)							
	79	FY 81	FY 82	FY 83	FY 84	FY 85	TOTAL PROGRAM
	COST	QTY COST	QTY COST	QTY COST	QTY COST	QTY COST	QTY COST
Hardware	15 257.0	21 391.0	9 180.0	15 319.0			60 1147.0
Publications (OMA) (19.0)							
Engineering (OMA) (18.0)							
Application (OMA)		(6) (13.0)	(18) (42.0)	(24) (60.0)	(12) (31.0)		(60) (146.0)
TOTAL	15 257.0	21 391.0	9 180.0	15 319.0			60 1147.0

1-105 February 1982

DD FORM 1 May 76 2075

P-1 SHOP LIST ITEM NO. PAGE NO.

EXHIBIT F

FY 81 BUDGET

<u>KIT DELIVERY SCHEDULE:</u>	FY 82	FY 83	FY 84	FY 85
	<u>1 2 3 4</u>	<u>1 2 3 4</u>	<u>1 2 3 4</u>	<u>1 2 3 4</u>
	21	5 5 5	5 5 5	6 3

<u>INSTALLATION SCHEDULE:</u>	FY 82	FY 83	FY 84	FY 85
	<u>1 2 3 4</u>	<u>1 2 3 4</u>	<u>1 2 3 4</u>	<u>1 2 3 4</u>
	6	2 4 6 6	6 6 6 6	6 4 2

METHOD OF IMPLEMENTATION: Installation will be at a time of overhaul.
 Beech will make installation of the Autofrether/synch concurrent with the PT 6A-41 Engine conversion.

ACTIVITY 2 - AIRCRAFT MODIFICATIONS					EXHIBIT P-3	
Reports Control Symbol DD-COMP(AR) 1092						
APPROPRIATION: APA/2 (SSN AA0400)					Date: 8 February 1982	
MODEL: OH-58A and C MODIFICATION (1)	FY 1982		FY 1983		FY 1984	
	Quantity (2)	Amount (Thousands) (3)	Quantity (4)	Amount (Thousands) (5)	Quantity (6)	Amount (Thousands) (7)
*NOE Communications (page 1-108)						
Improved VMF-FM (IFM)		610.0	130	1,772.0		
HF		1,190.0	19	2,528.0	22	1,400.0
TOTAL		1,800.0		4,300.0		1,400.0
*Consolidated P-3A						

1-107 February 1982

REPORTS CONTROL SYMBOL LD-COMP(AW) 1092	AIRCRAFT MODIFICATION	DATE 8 February 1982	
APPROPRIATION/BUDGET ACTIVITY ATA/2	MODIFICATION TITLE AND NO. NOE Communications		
AIRCRAFT AFFECTED: AH-1S, OH-58A/C			
<p>DESCRIPTION/JUSTIFICATION: There is an urgent need for Army Aircraft to have reliable secured radio communications from 0 to 50 Km range while operating in the Nap-of-the Earth (NOE) altitudes down to and including ground level. In a hostile Electronic Warfare environment successful mission accomplishment and aircraft survivability are enhanced when Line-of-Sight, and Non-Line-of-Sight Air-to-Air and Air-to-Ground communications are provided. To improve reliability, a combination of improved VHF-FM and HF-SSB Radio that will provide Nearly Vertical Incident Skywave (NVIS) radio coverage where terrain masking obstructs Line-of-Sight coverage was required. Requirements were established by SAG committee and further emphasized by DA and TRADOC. TRADOC ROC, cards Reference No. 0584, was approved by DA on 31 Oct 79.</p> <p>PROCUREMENT STATUS: The nondevelopmental item procurement process is being used. The IFM and HF contracts are structural for a one-year basic contract to procure units for First Article/Initial Production Test with four one-year options for production hardware. Award of basic contract is projected for 1QFY82.</p>			
<u>PIP NO</u>	<u>IFM</u>	<u>HF</u>	<u>SSB</u>
AH-1S OH-58A/C	1-80-01-0985-B-1 1-80-01-0285-A	Not Rqd 1-82-01-0219	AA0150 AA0400
1-108 February 1982			

FY 83 BUDGET

REPORT CONTROL SYMBOL DD FORM (AIR) 1032	AIRCRAFT MODIFICATION		DATE 8 February 1982					
APPROPRIATION/BUDGET ACTIVITY APA/3	MODIFICATION TITLE AND NO. No. Communications							
The following milestones for procurement of GFF are provided								
	<u>FY 79</u>	<u>FY 80</u>	<u>FY 81</u>	<u>FY 82</u>	<u>FY 83</u>			
DA approved ROC		31 Oct 79						
Final Proc Data Package - Competitive		11 Apr 80						
Proc Data Package - SBA			Dec 80					
SBA Award to SB			Jun 81					
Production Delivery Start - IFM and HF (Production rate 100/Month estimated)						4Q		
Production Options				3Q		3Q		
MILESTONES FOR AIRFRAME:								
	<u>Alt-15</u>	<u>OII-58C</u>	<u>OII-58A</u>					
Initiate Engineering	2Q82	4Q82	4Q82					
Production Decision	2Q82	1Q83	1Q83					
Contract Award	2Q83	1Q83	1Q83					
First Production Hwd Del	2Q84	4Q83	4Q83					
First Kit Applied	2Q84	4Q83	4Q83					
Last Kit Applied	4Q87	2Q86	4Q85					
PROJECT FINANCIAL PLAN: (Amounts in thousands of dollars)								
<u>FY 80</u>	<u>FY 81</u>	<u>FY 82</u>	<u>FY 83</u>	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>	<u>TOTAL</u>
6,398.0	4,400.0	2,834.0	6,043.0	7,000.0	22,724.0	13,500.0	17,927.0	80,826.0

1-109 February 1982

CRSIS-C Form 7075 Edition of 1 May 78, may be used P-1 SHOPP LIST PAGE NO. ITEM NO.

EXHIBIT P-3a

FY 83 BUDGET

REPORTS CONTROL SYMBOL DU-COMP (AH) 1092	AIRCRAFT MODIFICATION				DATE 8 February 1982	
APPROPRIATION/BUDGET ACTIVITY APA/Z	MODIFICATION TITLE AND NO. NOE Communications					
BASIS FOR COST ESTIMATES: (Amounts in thousands of dollars)						
IFM						
Nonrecurring APA	FY 80	FY 81	FY 82	FY 83		
AH-1	281.0	-	1,034.0	-		
OH-58A	405.0	409.0	-	-		
OH-58C	405.0	410.0	-	-		
TOTAL N/R IFM	1,091.0	819.0	1,034.0	-		
GFE	QTY	AMT	QTY	AMT	QTY	AMT
AH-1	-	-	-	-	173	1,718.0
OH-58A	5	90.0	54	520.0	-	-
OH-58C	20	361.0	161	1,550.0	130	1,489.0
TOTAL GFE	25	451.0	215	2,070.0	303	3,207.0
STE (Spec Test Equip)	QTY	AMT	QTY	AMT	QTY	AMT
AH-1	-	-	-	-	2	18.0
OH-58	10	56.0	6	37.0	-	-
TOTAL STE	10	56.0	6	37.0	2	13.0
KITS	QTY	AMT	QTY	AMT	QTY	AMT
AH-1	-	-	-	-	50	112.0
OH-58A	-	-	-	-	-	-
OH-58C	-	-	-	-	368	483.0
TOTAL KITS	-	-	-	-	424	595.0
RECAP IFM BY SYSTEM	FY80	FY81	FY 82	FY 83		
AH-1	281.0	-	1,034.0	1,843.0		
OH-58	1,317.0	2,926.0	610.0	1,772.0		
TOTAL IFM	1,598.0	2,926.0	1,644.0	3,615.0		

1-110 February 1982

DRS-1-C Form
1 Apr 78

2075

Edition of 1 May 76, may be used.

P-1 SHOP LIST PAGE NO.
ITEM NO.

EXHIBIT P- 3a

CLASSIFICATION

FY 81 BUNKOFF

REPORTS CONTROL SYMBOL DD-COMP (AR) 1032	AIRCRAFT MODIFICATION				DATE 8 February 1982
APPROPRIATION/BUDGET ACTIVITY APA/2	MODIFICATION TITLE AND NO. IMM Communications				
BASIS FOR COST ESTIMATE (Continued)					
IFM					
Nonrecurring APA					
	FY 84	FY 85	FY 86	FY 87	TOTAL
AH-1					1,315.0
OH-58A					814.0
OH-58C					815.0
					2,944.0
GPE	QTY AMT	QTY AMT	QTY AMT	QTY AMT	QTY AMT
AH-1	466 4,814.0	- -	- -	- -	639 6,532.0
OH-58A	- -	96 1,304.0	159 2,310.0	520 8,241.0	834 12,465.0
OH-58C	- -	207 2,813.0	153 2,719.0	- -	671 8,432.0
TOTAL GPE	466 4,814.0	303 4,117.0	312 4,529.0	520 8,241.0	2,144 27,429.0
STE (Spec Test Equip)	QTY AMT	QTY AMT	QTY AMT	QTY AMT	QTY AMT
AH-1	2 14.0	- -	- -	- -	4 27.0
OH-58	- -	- -	- -	- -	23 145.0
TOTAL STE	2 14.0	- -	- -	- -	27 172.0
KITS	QTY AMT	QTY AMT	QTY AMT	QTY AMT	QTY AMT
AH-1	368 872.0	209 524.0	- -	- -	627 1,508.0
OH-58A	- -	415 626.0	363 594.0	- -	834 1,295.0
OH-58C	- -	- -	- -	- -	585 766.0
TOTAL KITS	368 872.0	624 1,150.0	363 594.0	- -	2,046 3,569.0
RECAP IFM BY SYSTEM	FY84	FY85	FY86	FY87	TOTAL
AH-1	5,700.0	524.0	-	-	9,382.0
OH-58	-	4,743.0	5,123.0	8,241.0	24,732.0
TOTAL IFM	5,700.0	5,267.0	5,123.0	8,241.0	34,114.0

1-111 February 1982

DDST-C Form
1 Apr 78

2075

Edition of 1 May 76, may be used.

P-1 SHOP LIST
ITEM

PAGE NO.

FY 81 BUDGET

REPORTS CONTROL SYMBOL DD COMP (AR) 1092		AIRCRAFT MODIFICATION				DATE 8 February 1982
APPROPRIATION/BUDGET ACTIVITY APA/Z		MODIFICATION TITLE AND NO. NOF Communications				
BASIS FOR COST ESTIMATE						
HF	FY 80	FY 81	FY 82	FY 83		
<u>Nonrecurring</u>	3,839.0	-	-	-		
GFE	<u>QTY</u> <u>AMT</u>	<u>QTY</u> <u>AMT</u>	<u>QTY</u> <u>AMT</u>	<u>QTY</u> <u>AMT</u>		
OH-58A	5 175.0	- -	- -	- -		
OH-58C	20 700.0	35 1,474.0	- -	4 262.0		
<u>TOTAL GFE</u>	<u>25 875.0</u>	<u>35 1,474.0</u>	<u>- -</u>	<u>4 262.0</u>		
GROUND RADIO	<u>QTY</u> <u>AMT</u>	<u>QTY</u> <u>AMT</u>	<u>QTY</u> <u>AMT</u>	<u>QTY</u> <u>AMT</u>		
	2 86.0	- -	- -	15 1,122.0		
STF (Spec Test Equip)	<u>QTY</u> <u>AMT</u>	<u>QTY</u> <u>AMT</u>	<u>QTY</u> <u>AMT</u>	<u>QTY</u> <u>AMT</u>		
	- -	- -	9 259.0	7 243.0		
KITS	<u>QTY</u> <u>AMT</u>	<u>QTY</u> <u>AMT</u>	<u>QTY</u> <u>AMT</u>	<u>QTY</u> <u>AMT</u>		
OH-58A	- -	- -	100 347.0	109 323.0		
OH-58C	- -	- -	180 584.0	195 578.0		
<u>TOTAL KITS</u>	<u>- -</u>	<u>- -</u>	<u>280 931.0</u>	<u>304 901.0</u>		
TOTAL HF (OH-58 A/C)	<u>FY80</u> 4,800.0	<u>FY81</u> 1,474.0	<u>FY82</u> 1,190.0	<u>FY83</u> 2,528.0		

1-112 February 1982

ORSTA-C Form 2075
1 Apr 78

Edition of 1 May 78, may be used.

P-1 SHOP LIST PAGE NO.
ITEM NO.

EXHIBIT P-3a

FY 83 BUDGET

REPORTS CONTROL SYMBOL DD-COMP (AR) 1092		AIRCRAFT MODIFICATION				DATE 8 February 1982				
APPROPRIATION/BUDGET ACTIVITY APA/2			MODIFICATION TITLE AND NO. NOE Communications							
BASIS FOR COST ESTIMATE										
HF - APA	FY 84		FY 85		FY 86		FY 87		TOTAL	
Nonrecurring	-		-		-		-		3,839.0	
GFE	<u>QTY</u>	<u>AMT</u>	<u>QTY</u>	<u>AMT</u>	<u>QTY</u>	<u>AMT</u>	<u>QTY</u>	<u>AMT</u>	<u>QTY</u>	<u>AMT</u>
OH-58A	-	-	134	8,857.0	50	3,454.0	70	5,226.0	259	17,712.0
OH-58C	22	1,400.0	106	7,061.0	68	4,812.0	48	3,694.0	303	19,403.0
TOTAL GFE	<u>22</u>	<u>1,400.0</u>	<u>240</u>	<u>15,918.0</u>	<u>118</u>	<u>8,266.0</u>	<u>118</u>	<u>8,920.0</u>	<u>562</u>	<u>37,115.0</u>
GROUND RADIO	<u>QTY</u>	<u>AMT</u>	<u>QTY</u>	<u>AMT</u>	<u>QTY</u>	<u>AMT</u>	<u>QTY</u>	<u>AMT</u>	<u>QTY</u>	<u>AMT</u>
	-	-	23	1,767.0	-	-	15	1,420.0	55	4,395.0
S/E (Spec Test Equip)	<u>QTY</u>	<u>AMT</u>	<u>QTY</u>	<u>AMT</u>	<u>QTY</u>	<u>AMT</u>	<u>QTY</u>	<u>AMT</u>	<u>QTY</u>	<u>AMT</u>
	-	-	16	504.0	-	-	7	319.0	39	1,425.0
KITS	<u>QTY</u>	<u>AMT</u>	<u>QTY</u>	<u>AMT</u>	<u>QTY</u>	<u>AMT</u>	<u>QTY</u>	<u>AMT</u>	<u>QTY</u>	<u>AMT</u>
OH-58A	-	-	641	2,170.0	78	245.0	-	-	928	3,085.0
OH-58C	-	-	180	698.0	210	766.0	-	-	765	2,626.0
TOTAL KITS	<u>-</u>	<u>-</u>	<u>821</u>	<u>2,868.0</u>	<u>288</u>	<u>1,011.0</u>	<u>-</u>	<u>-</u>	<u>1,693</u>	<u>5,711.0</u>
TOTAL HF (OH-58 A/C)	<u>FY84</u>	<u>FY85</u>	<u>FY86</u>	<u>FY87</u>	<u>TOTAL</u>					
	1,400.0	21,157.0	9,277.0	10,659.0	52,485.0					

1-113 February 1982

DRST-C Form 2075 Edition of 1 May 76, may be used. 1 Apr 78

P-1 SHOPP LIST PAGE NO. ITEM NO.

EXHIBIT P-3a

ACTIVITY 2 -- AIRCRAFT MODIFICATIONS					EXHIBIT F-3	
Reports Control Symbol DN-COMP(AR) 1092					Date: 6 February 1982	
APPROPRIATION: APA72						
MODEL: SS4 AAO690 UH-60A BLACK HAWK MODS MODIFICATION (1)	FY 1982		FY 19 83		FY 19 84	
	Quantity (2)	Amount (Thousands) (3)	Quantity (4)	Amount (Thousands) (5)	Quantity (6)	Amount (Thousands) (7)
WINTERIZATION KIT AN/APR 39(V)2 AN/ALQ 144(V) PROX WARM DEVICE WIRE STRIKE PROTECTION ESSS					15	64.0
					42	27.0
					96	26.0
					96	247.0
					24	969.0
TOTAL						1,381.0

CLASSIFICATION		AIRCRAFT MODIFICATION		DATE 8 February 1982																						
REPORTS CONTROL SYMBOL DD FORM (AR) 1007		MODIFICATION TITLE AND NO. WINTERIZATION KIT, III # 1 BO OF 1007																								
AIR PROGRAM/COM/BRANCH ACTIVITY APAZ/2 SsN AA 0490																										
AIRCRAFT AFFECTED: OH-60A BLACK HAWK																										
<p><u>DESCRIPTION/IMPLEMENTATION:</u> The addition of the provision for a winterization kit will provide the baseline OH-60A aircraft with the increased heating capacity and improved operational capability in the -25° to -65°F temperature range. The heating capacity will be improved by changing the heater mixing valve, temperature sensor interconnecting tubing and increasing the size of the engine bleed line from 1.0" to 1.5". The increased starting capability will be accomplished by provisions for a second accumulator to be used in the -25° to -65°F range in accordance with the Prime Item Development Spec and to meet the domestic requirements for categories 1 through 7 in AR 70-38. Production incorporation was accomplished on the 10th and subsequent aircraft by ECP H66-0031 which was approved 19 Sep 78.</p> <p><u>PRODUCTION PHASE:</u> ECP Approval 19 Sep 78</p> <p><u>MILESTONES:</u></p> <table border="0"> <tr> <td>Production Contract Award</td> <td>2QFY84</td> </tr> <tr> <td>Lead Time - 3 mo.</td> <td></td> </tr> <tr> <td>First Prod Hardware Del</td> <td>3QFY85</td> </tr> <tr> <td>First Kit Applied</td> <td>4QFY85</td> </tr> <tr> <td>Application Complete</td> <td>3QFY86</td> </tr> </table> <p><u>PROJECT FINANCIAL PLAN:</u> (Amounts in thousands of dollars)</p> <table border="0"> <thead> <tr> <th colspan="2">FY 84</th> <th colspan="2">TOTAL</th> </tr> <tr> <th>QTY</th> <th>COST</th> <th>QTY</th> <th>COST</th> </tr> </thead> <tbody> <tr> <td>15</td> <td>64.0</td> <td>15</td> <td>64.0</td> </tr> </tbody> </table>					Production Contract Award	2QFY84	Lead Time - 3 mo.		First Prod Hardware Del	3QFY85	First Kit Applied	4QFY85	Application Complete	3QFY86	FY 84		TOTAL		QTY	COST	QTY	COST	15	64.0	15	64.0
Production Contract Award	2QFY84																									
Lead Time - 3 mo.																										
First Prod Hardware Del	3QFY85																									
First Kit Applied	4QFY85																									
Application Complete	3QFY86																									
FY 84		TOTAL																								
QTY	COST	QTY	COST																							
15	64.0	15	64.0																							
1-115 February 1982																										

FY 81 BUDGET

CLASSIFICATION		AIRCRAFT MODIFICATION		DATE 8 February 1982				
REPORTS CONTROL SYMBOL DD-COMP (AR) 1092								
APPROPRIATION/BUDGET ACTIVITY APA/2 (SSN AA 0490)			MODIFICATION TITLE AND NO. WINTERIZATION KIT, PIP # 1-80-01 1722					
BASIS FOR COST ESTIMATE: (Amounts in thousands of dollars)								
	FY 84		FY 85		FY 86		TOTAL	
	QTY	COST	QTY	COST	QTY	COST	QTY	COST
Recurring								
Winterization Kit	15	64.0					15	64.0
(OMA)					(15)	(1.0)	(15)	(1.0)
TOTAL	15	64.0			(15)	(1.0)	15	64.0
METHOD OF IMPLEMENTATION: Kits will be applied by field personnel								
	FY 85			FY 86			TOTAL	
	1	2	3	4	1	2	3	4
Kit deliveries		5	10					15
Kit installation			2	4	4	5		15

1-116 February 1982

DBTSC Form 2075
or 78

Edition of 1 May 76, may be used.

P-1 SHOP LIST
ITEM NO.

PAGE NO.

EXHIBIT P-3a

67 81 00 071

REPORTS CONTROL SYMBOL UD-COMP (AII) 1092	AIRCRAFT MODIFICATION	DATE 6 February 1982
APPROPRIATION/BUDGET ACTIVITY AFA/2 (52H AA 0490)	MODIFICATION TITLE AND NO. AIR/IR 21412, FIG # 1 R 01 1976	
AIRCRAFT AFFECTED. UH-60A BLACK HAWK		
DESCRIPTION/JUSTIFICATION: This R/P will increase the spares and weight provisions on the UH-60A to accept the APR-39(V)2. The aircraft modification requires closing a screened vent opening and revision to the avionics shell to allow for the increased size of the APR-39(V)2 receiver unit. This modification was applied to production aircraft 90 and subsequent by ECP N60-044 which was approved 8 June 1979.		
PRODUCTION PHASE.		
ECP Approval 8 Jun 79		
MILESTONES.		
Production Contract Award Leadtime - 3 mo First Production Hardware Delivered First Kit Applied Application Complete	1QFY83 2QFY86 3QFY86 2QFY87	
1-217 February 1982		

CLASSIFICATION		FY 84 BUDGET				
REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION	DATE 8 February 1982				
APPROPRIATION/BUDGET ACTIVITY APA/2 (SSN AA 0490)		MODIFICATION TITLE AND NO. AN/APR 39(V)2, PIP # 1 82 01 1924				
PROJECT FINANCIAL PLAN: (Amounts in thousands of dollars)						
	FY 84	FY 85	FY 86	FY 87	TOTAL	
	QTY	QTY	QTY	QTY	QTY	QTY
	COST	COST	COST	COST	COST	COST
	27.0	89	5.0		89	32.0
BASIS FOR COST ESTIMATES: (Amounts in thousands of dollars)						
	FY 84	FY 85	FY 86	FY 87	TOTAL	
	QTY	QTY	QTY	QTY	QTY	QTY
	COST	COST	COST	COST	COST	COST
Non-Recurring						
Contractor Engr	27.0					27.0
Recurring						
Retrofit Kit (ONA)		89	5.0	(48)	(13.0)	(41)
				(11.0)	(89)	(24.0)
TOTAL	27.0	89	5.0		89	32.0
METHOD OF IMPLEMENTATION: Kits will be applied by contract and/or depot team at depot level						
	FY 86	FY 87	TOTAL			
	1 2 3 4	1 2 3 4				
Kit Deliveries	24 24 24	17	89			
Kit Installation	24 24	2417	89			
1-118 February 1982						

FY 81 BUDGET

CLASSIFICATION		REPORTS CONTROL SYMBOL DD-COMP (AH) 1032		AIRCRAFT MODIFICATION		DATE 8 February 1982			
APPROPRIATION/BUDGET ACTIVITY APA/2 (SSN AA0490)				MODIFICATION TITLE AND NO. AN/AIQ 144(V), PIP # 1 82-01-1975					
AIRCRAFT AFFECTED. UH-60A BLACK HAWK									
DESCRIPTION/JUSTIFICATION: The change is necessary to relocate the AIQ-144 infra-red countermeasure (IRCM-INOP) failure warning light from its present location on the operation control unit to a new location on the aircraft caution/advisory panel. This change will also remove the warning light from the aircrafts warning circuit tie-in. This change will require a modification to the wire harness and installation of an additional relay on the relay panel. Aircraft 43 and subsequent was modified by ECP H60-0035, which was approved 21 Nov 78.									
PRODUCTION PHASE:									
ECP Approval		21 Nov 78							
MILESTONES:									
Production Contract Award		2Q84							
Lead Time - 3 mo.									
First Production Hardware Del		2Q85							
First Kit Applied		4Q85							
Application Complete		2Q86							
PROJECT FINANCIAL PLAN: (Amounts in thousands of dollars)									
		FY 84		TOTAL					
		QTY	COST	QTY	COST				
		42	26.0	42	26.0				
BASIS FOR COST ESTIMATE. (Amounts in thousands of dollars)									
		FY 84		FY 85		FY 86		TOTAL	
		QTY	COST	QTY	COST	QTY	COST	QTY	COST
Recurring									
Contractor Engineering		18.0						18.0	
Kit		8.0						8.0	
OMA Installation				(3) (13.0)		(39) (175.0)		(42) (188.0)	
TOTAL		42 26.0						42 26.0	

DD Form 2075
Apr 78

2075

Edition of 1 May 76, may be used.

P-1 SHOPPING LIST
ITEM NO.

PAGE NO.

L-119 February 1982

CLASSIFICATION

FY 83 BUDGET

CLASSIFICATION		REPORTS CONTROL SYMBOL DD-COMP (AN) 1092		AIRCRAFT MODIFICATION				DATE 8 February 1982	
APPROPRIATION/BUDGET ACTIVITY APA/2 (SSN AA 0490)				MODIFICATION TITLE AND NO. AN/AIQ 144(V), PIP # 1-87 01 1975					
METHOD OF IMPLEMENTATION: Kits will be applied by contract and/or depot team at depot level.									
		FY 83			FY 86			TOTAL	
		1	2	3	4	1	2	3	4
Kit Deliveries			12	12	12	6			
Kit Installation					3	20	19		
									42
									42

1-120 February 1982

DDST-C Form 2075
1 Apr 76

Edition of 1 May 76, may be used.

P-1 SHUPLIST
ITEM NO.

PAGE NO.

EXHIBIT P-3a

FY 87 BUDGET

CLASSIFICATION		FY 87 BUDGET																															
RLI ORTS CONTROL SYMBOL DU-COMP (AR) 1092	AIRCRAFT MODIFICATION		DATE 8 February 1982																														
APPROPRIATION/BUDGET ACTIVITY APA/2 (SSN AA 0490)		MODIFICATION TITLE AND NO. PROXIMITY WARNING DEVICE, PIP # 1-80-01-1927																															
<p>AIRCRAFT AFFECTED: UH-60A BLACK HSWK</p> <p>DESCRIPTION/JUSTIFICATION: The purpose of the Proximity Warning Device (PWD) is to provide the pilot with aural and visual warnings whenever other similar equipped helicopters are in close proximity. In high density helicopter operational areas, specifically, Fort Rucker, Campbell, Bragg and Hood, TRADOC has directed (TWX USAAVNC A720-#-Mn 301501Z Oct 79) that the UH-60A be provided with PWDs as quickly as possible. In the above location, this is considered a safety-of-flight requirement.</p> <p>PRODUCTION PHASE: ECP Approval</p> <p>MILESTONES:</p> <p>Production Contract Award. Lead Time - 5 mo. 2QFY85 First Production Hardware Del 4QFY85 First Kit Applied 1QFY86 Application Complete 1QFY87</p> <p>PROJECT FINANCIAL PLAN: (Amounts in thousands of dollars)</p> <table border="1"> <thead> <tr> <th colspan="2">FY 84</th> <th colspan="2">FY 85</th> <th colspan="2">FY 85</th> <th colspan="2">FY 87</th> <th colspan="2">TOTAL</th> </tr> <tr> <th>QTY</th> <th>COST</th> <th>QTY</th> <th>COST</th> <th>QTY</th> <th>COST</th> <th>QTY</th> <th>COST</th> <th>QTY</th> <th>COST</th> </tr> </thead> <tbody> <tr> <td></td> <td>247.0</td> <td>272</td> <td>303.0</td> <td></td> <td></td> <td></td> <td></td> <td>272</td> <td>750.0</td> </tr> </tbody> </table>				FY 84		FY 85		FY 85		FY 87		TOTAL		QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST		247.0	272	303.0					272	750.0
FY 84		FY 85		FY 85		FY 87		TOTAL																									
QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST																								
	247.0	272	303.0					272	750.0																								
1-121 February 1982																																	

DDST-C Form 2075 Edition of 1 May 74, may be used. 1 Apr 78

P-1 SHOPP LIST PAGE NO. ITEM NO.

EXHIBIT P-3a

FY 81 BUDGET

CLASSIFICATION		AIRCRAFT MODIFICATION				DATE 8 February 1982							
REPORTS CONTROL SYMBOL DD-COMP (AR) 1092													
APPROPRIATION/BUDGET ACTIVITY APA/2 (SSH AA 0490)				MODIFICATION TITLE AND NO. PROXIMITY WARNING DEVICE, PIP # 1-80-01-1927									
BASIS FOR COST ESTIMATE: (Amounts in thousands of dollars)													
	FY 84		FY 85		FY 86		FY 87		TOTAL				
	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST			
Non-Recurring													
Contractor Engr		165.0								165.0			
Recurring													
AVRADCOM Engr		82.0		86.0						168.0			
Retrofit Kits			272	417.0					272	417.0			
SF				(22.0)						(22.0)			
OHA					(240)	(278.0)	(32)	(38.0)	(272)	(316.0)			
TOTAL		247.0	272	503.0					272	750.0*			
METHOD OF IMPLEMENTATION: Installation will be accomplished only on aircraft at Ft. Rucker, Ft. Campbell, Ft. Bragg and Ft. Hood by contractor and/or depot team.													
	FY 85		FY 86		FY 87		TOTAL						
	1	2	3	4	1	2	3	4	1	2	3	4	
Kit Deliveries				23	69	69	69	42					272
Kit Installation					60	60	60	60	32				272

1-122 February 1982

DSTI-C Form 2075
1 Apr 78

Edition of 1 May 78, may be used.

P-1 SHOPP LIST
ITEM NO.

PAGE NO.

CLASSIFICATION

EXHIBIT A. 3a

FY 81 BUDGET

REPORTS CONTROL SYMBOL DD-COMP (AH) 1092	AIRCRAFT MODIFICATION	DATE 8 February 1982																																										
APPROPRIATION/BUDGET ACTIVITY APA/2 (SSN AA 0490)	MODIFICATION TITLE AND NO. WIRE STRIKE PROTECTION (WSP), PFI # 1-81-01-1428																																											
AIRCRAFT AFFECTED: UH-60A BLACK HAWK																																												
<p>DESCRIPTION/JUSTIFICATION: This PIP will reduce aircraft damage and deter fatalities caused by wire strikes during nap-of-the-earth (NOE) missions. These losses have been caused by aircraft flying into power and telephone lines or guide wires. (An enemy might also use aerial strung wires as a countermeasure against aircraft penetration.) Because of the expected increased use of NOE missions, wire strike mishaps are predicted to increase without the WSP system. The WSP system is essentially a wire deflecting and cutting device, which is attached to the airframe forward to the cockpit area. The WSP deflecting arm guide wires by the forward movement of the aircraft into a wire cutting device.</p>																																												
<p>PRODUCTION PHASE: ECP Approval 1Q FY 83 Production cut in 416th aircraft</p>																																												
<p>MILESTONES:</p> <table> <tr> <td>Retrofit Contract Award</td> <td>2QFY84</td> </tr> <tr> <td>First Production Hardware Delivery</td> <td>2QFY85</td> </tr> <tr> <td>First Kit Applied *</td> <td>2QFY85</td> </tr> <tr> <td>Application Complete</td> <td>1QFY90</td> </tr> </table> <p>* (MWO Verification/Validation Kit is First Kit)</p>			Retrofit Contract Award	2QFY84	First Production Hardware Delivery	2QFY85	First Kit Applied *	2QFY85	Application Complete	1QFY90																																		
Retrofit Contract Award	2QFY84																																											
First Production Hardware Delivery	2QFY85																																											
First Kit Applied *	2QFY85																																											
Application Complete	1QFY90																																											
<p>PROJECT FINANCIAL PLAN: (Amount in thousands of dollars)</p> <table border="1"> <thead> <tr> <th colspan="2">FY 84</th> <th colspan="2">FY 85</th> <th colspan="2">FY 86</th> <th colspan="2">FY 87</th> <th colspan="2">FY 88</th> <th colspan="2">TO COMPL</th> <th colspan="2">TOTAL</th> </tr> <tr> <th>QTY</th> <th>COST</th> <th>QTY</th> <th>COST</th> <th>QTY</th> <th>COST</th> <th>QTY</th> <th>COST</th> <th>QTY</th> <th>COST</th> <th>QTY</th> <th>COST</th> <th>QTY</th> <th>COST</th> </tr> </thead> <tbody> <tr> <td>96</td> <td>969.0</td> <td>96</td> <td>987.0</td> <td>96</td> <td>931.0</td> <td>96</td> <td>979.0</td> <td>31</td> <td>339.0</td> <td></td> <td>21.0</td> <td>415</td> <td>4226.0</td> </tr> </tbody> </table>			FY 84		FY 85		FY 86		FY 87		FY 88		TO COMPL		TOTAL		QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	96	969.0	96	987.0	96	931.0	96	979.0	31	339.0		21.0	415	4226.0
FY 84		FY 85		FY 86		FY 87		FY 88		TO COMPL		TOTAL																																
QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST																															
96	969.0	96	987.0	96	931.0	96	979.0	31	339.0		21.0	415	4226.0																															

1-123 February 1982

DDSTL-C Form
1 Apr 78

2075

Edition of 1 May 78, may be used.

P-1 BUDGET LIST
ITEM NO.

PAGE NO.

EXHIBIT A-3a

FY 83 BUDGET

REPORTS CONTROL SYMBOL DD FORM (All) 1092	AIRCRAFT MODIFICATION		DATE 8 February 1982																						
APPROPRIATION/BUDGET ACTIVITY APA/2 (SSN AA 0490)	MODIFICATION TITLE AND PD, WIRE STRIKE PROTECTION PIP # 1 81-01-1928																								
BASIS FOR COST ESTIMATE: (Amount in thousands of dollars)																									
	FY 84		FY 85		FY 86		FY 87		FY 88		TO COMPL		TOTAL												
	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST											
Recurring																									
AVRADCOM Engr		33.0		9.0		9.0		10.0		11.0		21.0		93.0											
Retrofit Kits	96	936.0	96	978.0	96	922.0	96	969.0	31	328.0				4154173.0											
(SF)		(115.0)		(121.0)										(223.0)											
(OMA)			(17)	(63.0)	(96)	(355.0)	(96)	(355.0)	96	(355.0)	(110)	(467.0)		4151535.0											
TOTAL	96	969.0	96	987.0	96	931.0	96	979.0	31	339.0			21.0	4154226.0											
METHOD OF IMPLEMENTATION: Modification will occur at depot level utilizing contract and/or depot teams.																									
	FY 84			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	
Del of Kits					16	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	15				415
Instal of Kits					1	16	24	24	24	24	24	24	24	24	24	24	24	24	24	24	14				415

1-124 February 1982

PRSTD Form 2075
1 Apr 78

Edition of 1 May 78, may be used.

P-1 SHOP LIST
ITEM NO.

PAGE NO.

EXHIBIT A-3a

FY 81 BUDGET

REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION	DATE 8 February 1982
APPROPRIATION/BUDGET ACTIVITY APA/2 (SSN AA 0490)	MODIFICATION TITLE AND NO. EXTERNAL STORES SUPPORT SYSTEM PIP # 1-81-01-1934	
AIRCRAFT AFFECTED: UH-60A BLACK HAWK		
DESCRIPTION/JUSTIFICATION: This improvement will provide an External Stores Support System (ESSS) which will provide the capability of carrying sufficient fuel cells to self-deploy the aircraft on extended range missions and the capability of carrying other systems such as mine dispensers or missiles. A standard cyclic grip is included in this requirement to provide additional switch functions for operation of the ESSS.		
DEVELOPMENT STATUS:		
Contract Award	Feb 81	
Critical Design Review	Jul 81	
First Flight	Jan 82	
Demonstration Complete	Feb 83	
PROCUREMENT:		
SCP Approval	4QFY84	
Production Cut In 369th Aircraft	1QFY83	
1-125 February 1982		

FY 83 BUDGET

REPORTS CONTROL SYMBOL DD-COMP (AR) 1002		AIRCRAFT MODIFICATION						DATE 8 February 1982							
APPROPRIATION/BUDGET ACTIVITY APA/2 (SSN AA 0490)						MODIFICATION TITLE AND NO, EXTERNAL STORES SUPPORT SYSTEM PIP # 1-81-01-1934									
PROJECT FINANCIAL PLAN: (Amount in thousands of dollars)															
	FY 84		FY 85		FY 86		FY 87		FY 88		TO COMPL		TOTAL		
	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	
	24	1381.0	46	1426.0	61	1777.0	72	2042.0	72	2025.0	93	2497.0	368	11148.0	
BASIS FOR ESTIMATES: (Amount in thousands of dollars)															
Non-Recurring															
Engr		14.0												14.0	
Recurring															
Grip Retro Kit		130	340.0											.30	340.0
GPE Grip		260	152.0											260	152.0
ESSS Retro Kit		24	875.0	46	1426.0	61	1777.0	72	2042.0	72	2025.0	93	2497.0	368	10662.0
SF		(16.0)												(16.0)	
OMA-Grip		(130)	(9.0)											130	(9.0)
OMA-ESSS				(6)	(276.0)	(28)	(396.0)	(48)	(420.0)	(67)	(465.0)	(219)	(1520.0)	(368)	(3077.0)
TOTAL		24	1381.0	46	1426.0	61	1777.0	72	2042.0	72	2025.0	93	2497.0	368	11148.0

1-126 February 1982

FY 81 BUDGET

REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION																DATE 8 February 1982							
APPROPRIATION/BUDGET ACTIVITY APA/2 (SSN AA 0490)	MODIFICATION TITLE AND NO. EXTERNAL STORES SUPPORT SYSTEM PIP # 1 81-01-1936																							
METHOD OF IMPLEMENTATION: Modification will occur at depot level utilization contract and/or depot teams.																								
	FY 85				FY 86				FY 87				FY 88				FY 89				FY 90			
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
ESSS Kits																								
Delivery	2 8 8				8 8 8				12 12 12				13 16 18 18 18				18 18 18 18 18				18 18 18			
Installation	6 7				7 7 7				12 12 12				12 13 18 18 18				18 18 18 18 18				18 18 18			
	FY 91				FY 92				TOTAL															
Delivery	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>					368											
Installation	15	15	15	14	14	2					368													
Cyclic Grip Kits	FY 84				TOTAL																			
Delivery	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>					65 65				130											
Installation	65 65								130															

-1-127 February 1982

DNSTS-C Form 2075
1 Apr 78

Edition of 1 May 76, may be used.

P-1 SHOPP LIST
ITEM NO.

PAGE NO.

EXHIBIT A-3a

17 83 BUN.F1

ACTIVITY 2 - AIRCRAFT MODIFICATIONS					EXHIBIT P-3	
Reports Control Symbol DD-COMP(AR) 1092						
APPROPRIATION: APA/2 (SSN A22200)					Date: 8 February 1982	
MODEL: MODIFICATION (1)	FY 1983		FY 1984		FY 1985	
	Quantity (2)	Amount (Thousands) (3)	Quantity (4)	Amount (Thousands) (5)	Quantity (6)	Amount (Thousands) (7)
Army Helicopter Improvement Program		45,107.0	16	160,121.0	44	218,122.0
1-128 February 1982						

REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION		DATE: 8 February 1982					
APPROPRIATION/BUDGET ACTIVITY APA/2 (SSN A/2/001)	MODIFICATION TITLE AND NO. Army Helicopter Improvement Program, PIP # 1-80-01-2115							
Aircraft affected: OH-58A								
Description/Justification: Type of Improvement - New Operational Capability. The Army Helicopter Improvement Program (AHIP) Near Term Scout Helicopter (NTSH) will be provided by modification of OH-58A aircraft; including incorporation of Mast Mounted Sight (MMS), improvements in navigation/communication and map-of-the-earth (NOE) flight performance. The MMS will provide a day/night target acquisition and laser designation capability. The improvements will increase vertical rate of climb and hot day hover performance for worldwide (versus European only) theatre of operations and will enable better and more reliable communication between the scout crew command elements and companion aircraft for increased accuracy of aircraft and target locations. Also included will be space, weight and power allowance for future incorporation of a multipurpose lightweight missile system (Air-to-Air Stinger).								
Development Status: (RDTE Funded)								
SSSR Complete	4QFY81							
Under Secretary of Army & Under Secretary of Defense (DRE) Decision Review	4QFY81							
Full Scale Engineering Development Contract	4QFY81							
Critical Design Review	1QFY83							
1st Flight	4QFY83							
In-Process Review	2QFY84							
DT/OT II Start	4QFY84							
Milestone III Decision	3QFY85							
Milestones:	FY83	FY84	FY85	FY86	FY87	FY88	FY89	FY90
Advance Procurement Contract Award	3QFY83	2QFY84	3QFY85	1QFY86	1QFY87	1QFY88	1QFY89	
Production Contract Award		3QFY84	3QFY85	1QFY86	1QFY87	1QFY88	1QFY89	1QFY90
Induction Starts		1QFY85	4QFY85	3QFY86	2QFY87	2QFY88	2QFY89	2QFY90
Delivery Complete		3QFY86	2QFY87	1QFY88	1QFY89	1QFY90	1QFY91	1QFY92

1-129 February 1982

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

Exhibit P-3a

Project Financial Plan: (Amounts in thousands of dollars)

FY83		FY84		FY85		FY86		FY87		FY88		FY89	
Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost
45,107.0	16	160,121.0	44	218,122.0	56	233,691.0	92	391,804.0	120	359,365.0	130	413,450.0	
<u>FY90</u>		<u>TOTAL</u>											
120	202,985.0	578	2,024,645.0										

Basis for Cost Estimate: (Amounts in thousands of dollars)

	FY83		FY84		FY85		FY86		FY87		
	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	
Advance Procurement		18,248.0		34,931.0		61,307.0		84,626.0		144,655.0	
Recurring				76,254.0		142,975.0		134,372.0		217,343.0	
GPM				6,040.0		13,840.0		14,693.0		29,806.0	
Nonrecurring		26,859.0		42,896.0							
TOTAL	45,107.0	16	160,121.0	44	218,122.0	56	233,691.0	92	391,804.0		
	<u>FY88</u>		<u>FY89</u>		<u>FY90</u>		<u>TOTAL</u>				
	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost			
Advance Procurement		129,771.0		144,653.0				618,191.0			
Recurring		199,758.0		232,420.0		173,660.0		1,176,782.0			
GPM		29,836.0		36,377.0		29,325.0		159,917.0			
Nonrecurring								69,755.0			
TOTAL	120	359,365.0	130	413,450.0	120	202,985.0	578	2,024,645.0			

1-130 February 1982

Army Helicopter Improvement Program
PTP # 1-80-01-2137

Exhibit P-3a

Method of Implementation: All cost will be included from the 11-18 to the 11-18 for modifications.

	FY85				FY86				FY87				FY88				FY89				FY90				FY91				FY92		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	1	2	3	4	1	2					
Inductions	4	6	6	14	15	15	18	18	20	20	22	24	26	30	30	30	30	30	32	30	34	34	36	36	38								578		
Deliveries					2	6	8	14	15	15	18	18	20	20	22	24	26	30	30	30	30	30	32	30	34	34	36	36	38	14	14	14	14	18	578

1-131 February 1982

FY 83 BUDGET

ACTIVITY 2 - AIRCRAFT MODIFICATIONS					EXHIBIT P-3	
Reports Control Symbol DD-COMPT(AR) 1092						
APPROPRIATION: APA/2 AA0700					Date: 8 February 1982	
MODEL: Airborne Avionics MODIFICATION (1)	FY 1982		FY 1983		FY 1984	
	Quantity (2)	Amount (Thousands) (3)	Quantity (4)	Amount (Thousands) (5)	Quantity (6)	Amount (Thousands) (7)
Test Cables, MK-994		.1		-		-
Tempest Headset, MK-1564		.1		.2		-
Doppler, AN, ASN-137		.4		-		-
Radar Altimeter, AN/APN-209		3.6		2.7		-
Front Panel, kf-1354		-		1.3		.2
Upgrade, AN/TRN-30		-		.8		.2
Upgrade, AN/APX-100		-		-		2.6
Radar Set, AN/FPN-40		-		-		4.5
TOTAL		4.2		5.0		7.5

1-132 February 1982

REPORTS CONTROL SYMBOL CD-COMP (AR) 1092	EQUIPMENT MODIFICATION	DATE 8 February 1987						
APPROPRIATION/BUDGET ACTIVITY N/A FY 83/87	MODIFICATION TITLE AND NO. MK-1564()/AIC PIP NO 1-61-07-0700 Tempest Headset							
<p><u>Equipment Models Affected:</u> N/A</p> <p><u>Description/Justification:</u> The improved kit, MK-1564()AIC is an upgraded version of the current communications system package used on the SPH-4 Flyers Protective Helmet, compatible with the improved communications system control, C-10414()/ARC, to be used in new/retrofit Army Aircraft systems. The kit consists of improved cables and connectors, a linear microphone M-162()/AIC, and an integrated earcup/transducer assembly. Implementation of this PIP will provide increased JEMPEST protection for Army aircraft, improved speech intelligibility, and a reduced noise environment at the aviator's ear.</p> <p><u>Development Status:</u> N/A</p> <p><u>Milestones:</u></p> <table border="0"> <tr> <td>Initiate Engr</td> <td>2081</td> </tr> <tr> <td>Ind Eval Rpt</td> <td>1081</td> </tr> <tr> <td>IPR/Prod Decision</td> <td>1083</td> </tr> </table> <p style="text-align: center;">1-133 February 1987</p>			Initiate Engr	2081	Ind Eval Rpt	1081	IPR/Prod Decision	1083
Initiate Engr	2081							
Ind Eval Rpt	1081							
IPR/Prod Decision	1083							

CLASSIFICATION

PI SHOPP LIST PAGE NO.
ITEM NO.

PROJECT FUNDING PLAN

FY-80 & Prior Qty Amt	FY-81 Current		FY-82 Budget		FY-83 Budget + 1		FY-84		FY-85		FY-86		FY-87		TOTAL PROGRAM	
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
0	.444	0	.054	0	.161										0	.659

ESTIMATES FOR COST ESTIMATES:

FY-80 & Prior Qty Amt	FY-81 Current		FY-82 Budget		FY-83 Budget + 1		FY-84		FY-85		FY-86		FY-87		TOTAL PROGRAM	
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
		0 .444	0 .054	0 .161											0	.659
TOTALS		0 .444	0 .054	0 .161											0	.659

METHOD OF IMPLEMENTATION: The improved MK-1564 will become part of helmet SPN-4A and issued accordingly.

DELIVERY SCHEDULE:

FY-80 Prior	FY-81	FY-82	FY-83	FY-84	FY-85	FY-86	FY-87	FUTURE
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	1 2 3 4	

INSTALLATION SCHEDULE:

FY-80 Prior	FY-81	FY-82	FY-83	FY-84	FY-85	FY-86	FY-87	FUTURE
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	1 2 3 4	

REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	EQUIPMENT	MODIFICATION	DATE 8 February 1982
APPROPRIATION/BUDGET ACTIVITY A/A/1Y8J/67	MODIFICATION TITLE AND NO. AN/APN-209(V) Radar Altimeter PIP # 1-80-07-5701		
Equipment Models Affected: N/A			
Description/Justification: A solid state transmitter with automatic power management circuits will be incorporated into the AN/APN-209 to eliminate interference on the AN/APR-39 Radar Warning Receiver. Side benefits include reduced detectability of the radar altimeter in an electronic warfare environment, and also increased reliability. This PIP is in response to request fro OH058 and UH-60 Project Manager to eliminate system incompatibility. The PIP will work with both the AN/APR-39(V1) and (V2) configuration. The power managed AN/APN-209 peak power output during low level flight will be reduced thereby virtually eliminating any aircraft detectability due to altimeter emissions.			
Development Status: Option awarded 3Q81. First production contract awarded 4Q80.			
Milestones:			
Initiate Engrg 4Q 80			
IPR/PROD Decision 4Q 80			
First Prod Hdw Del 4Q 81			
First Kit Applied 4Q 81			
Last Kit Applied 2Q 84			
1-135 February 1982			

CLASSIFICATION

P-1 SHOPP LIST
ITEM NO.

PAGE NO.

EXHIBIT

MODIFICATION TITLE AND NO: AN/APN-209 1-80-07-0701

PROJECT FINANCIAL PLAN:

FY-80 & Prior		FY-81 Current		FY-82 Budget		FY-83 Budget + 1		FY-84		FY-85		FY-86		FY-87		TOTAL PROGRAM	
QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT
310	1.225	730	2.730	783	3.598	500	2.753							2323	10.306		

BASIS FOR COST ESTIMATES:

FY-80 & Prior		FY-81 Current		FY-82 Budget		FY-83 Budget + 1		FY-84		FY-85		FY-86		FY-87		TOTAL PROGRAM	
QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT

STAPES																	
RECUR																	
QTY	310	1.153	730	2.630	783	3.510	500	2.753								2323	10.046
AMT																	
TOTALS	310	1.225	730	2.730	783	3.598	500	2.753								2323	10.306

METHOD OF IMPLEMENTATION: The modifications will be applied by retrofit by the contractor for previously manufactured units.

KIT DELIVERY SCHEDULE:

FY-80 & Prior	FY-81				FY-82				FY-83				FY-84				FY-85				FY-86				FY-87				FUTURE
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	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	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	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4			
				10	60	300	300	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	
					100	300	300																						

INSTALLATION SCHEDULE:

FY-80 & Prior	FY-81				FY-82				FY-83				FY-84				FY-85				FY-86				FY-87				FUTURE
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	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	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	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		
				10	60	300	300	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	
					100	300	300																						

UNCLASSIFIED

FY 83 BUDGET

REPORTS CONTROLS, MBOL DD-COMP (AR) 1092	EQUIPMENT MODIFICATION	DATE 8 February 1982
APPROPRIATION/BUDGET ACTIVITY APA FY 83/87	MODIFICATION TITLE AND NO. 1-83-07-0701 RT-1354/ARC-186(v)Front Panel	
<p><u>Equipment Models affected:</u> NA</p> <p><u>Description/Justification:</u> The front panel of the RT-1354/ARC-186 will be modified to address short comings defined during operational testing of the radio. The visual frequency displays on the front panel will be changed to electronic visual displays using green lighting.</p> <p><u>Development status:</u> Will begin in FY 83</p> <p><u>Milestones:</u></p> <ul style="list-style-type: none">Project Initiated -1 Q83Test initiated -3 Q84IPR/PROD Decision-4 Q84Prod Contract Awd-2 Q85		
1-137 February 1982		

CLASSIFICATION

P-1 SHOPP LIST
ITEM NO. PAGE NO.

UNCLASSIFIED

EXHIBIT

PROPOSED TITLE AND NO.: JNT-1354/ARC-106(V) Front Panel 1-83-07-0701

PROJECT FINANCIAL PLAN:

FY-80 & Prior		FY-81 Current		FY-82 Budget		FY-83 Budget + 1		FY-84		FY-85		FY-86		FY-87		TOTAL PROGRAM	
QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT
0	0	0	0	0	0	0	1.329	0	.162	700	.764	400	.351	0	0	1100	2.806

ANALYSIS FOR COST ESTIMATES:

FY-80 & Prior		FY-81 Current		FY-82 Budget		FY-83 Budget + 1		FY-84		FY-85		FY-86		FY-87		TOTAL PROGRAM	
QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT
0	0	0	0	0	0	0	1.329	0	.162	0	.115	0	.162	0	0	0	1.768
0	0	0	0	0	0	0	0	0	0	700	.649	400	.389	0	0	1100	1.038
0	0	0	0	0	0	0	0	0	0	0	0	0	(.047)	0	0	0	(.047)
TOTALS						0 1.329		0 .162		700 .764		400 .351				1100 2.806	

METHOD OF IMPLEMENTATION: Kits will be applied by airframe contractor.

DELIVERY SCHEDULE:

FY-80 & Prior	FY-81	FY-82	FY-83	FY-84	FY-85	FY-86	FY-87	FUTURE
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	1 2 3 4	
					100	250 250 250		

INSTALLATION SCHEDULE:

FY-80 & Prior	FY-81	FY-82	FY-83	FY-84	FY-85	FY-86	FY-87	FUTURE
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	1 2 3 4	
						275 275 275 275		

1-138 February 1982

FY 83 BUDGET

REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	EQUIPMENT	MODIFICATION	DATE 8 February 1982
APPROPRIATION/BUDGET ACTIVITY APA F-183/87	MODIFICATION TITLE AND NO. AN/TRN-30(v) 1&2 Radio Beacon Set PIP 1-82-07-0705		
<u>Equipment Models Affected:</u> N/A			
<u>Description/Justification:</u> The objective of the improvement is to upgrade the existing (99) fielded sets to the improved configuration now being procured.			
<u>Development Status:</u> Development will begin by 2Q83.			
<u>Milestones:</u>			
Projected Initiated	2Q83		
Test Initiated	4Q83		
First Kit Applied	4Q83		
Last Kit Applied	2Q84		

1-139 February 1982

CLASSIFICATION

P-1 SHOPP LIST
ITEM NO.

PAGE NO.

EXHIBIT

IDENTIFICATION TITLE AND NO: AN/TRN-30(V)142 1-82-07-0705

PROJECT FISCAL PLAN:

FY-80 & Prior		FY-81 Current		FY-82 Budget		FY-83 Budget + 1		FY-84		FY-85		FY-86		FY-87		TOTAL PROGRAM	
QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT
						70	.757	29	.255							99	1.012

BASIS FOR COST ESTIMATES:

FY-80 & Prior		FY-81 Current		FY-82 Budget		FY-83 Budget + 1		FY-84		FY-85		FY-86		FY-87		TOTAL PROGRAM	
QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT

SPARES																	
NON RECUR						70	.757	29	.255							99	1.012
SETS						0	(.001)	0	(.001)							0	(.002)
CCA																	
TOTALS						70	.757	29	.255							99	1.012

METHOD OF IMPLEMENTATION:

The current contractor will modify 99 sets that are currently in the field. The fielded sets will be returned to the present contractor, modified to the current configuration and reissued.

KIT DELIVERY SCHEDULE:

FY-80 & Prior	FY-81	FY-82	FY-83	FY-84	FY-85	FY-86	FY-87	FUTURE
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	1 2 3 4	
			70	15 13				

INSTALLATION SCHEDULE:

FY-80 & Prior	FY-81	FY-82	FY-83	FY-84	FY-85	FY-86	FY-87	FUTURE
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	1 2 3 4	
			70	15 13				

1 140 February 1982

FY 81 BUDGET

REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	EQUIPMENT	MODIFICATION (M0700)	DATE 6 February 1982				
APPROPRIATION/BUDGET ACTIVITY APA/MOD In-Service Equip. - Airborne Avionics		MODIFICATION TITLE AND NO. Diversity Transpower Upgrade PIP # 1-81-07-0443					
EQUIPMENT MODEL AFFECTED: AN/APX-100 Diversity Transponder							
DESCRIPTION/JUSTIFICATION This PIP will upgrade already fielded plain version diversity transponders. The improved "A" version is more reliable and maintainable. ATC/AOS operations will be less costly to perform and support in the field because repair and calibration maintenance procedures will be standardized.							
MILESTONES	FY80	FY81	FY82	FY83	FY84	FY85	FY86
Initiate Engineering					10		
Test Initiated	30						
Ind. Eval. Com							
IPR/Prod Decision							
Production Contract Award					20		
First Prod Hdw Del					30		
MOU Negotiated							
First Kit Applied					30		
Last Kit Applied							10
Data Coll Eval Comp							

1-141 February 1982

CLASSIFICATION	P-1 SHOP LIST ITEM NO.	PAGE NO.	EXHIBIT
----------------	---------------------------	----------	---------

DESCRIPTION TITLE AND NO: Diversity Transponder Upgrade PIP 1-81-07-0443

PROJECT FUNDING PLAN:		FY-81		FY-82		FY-83		FY-84		FY-85		FY-86		FY-87		TOTAL PROGRAM	
FY-80 & Prior		Current		Budget		Budget + 1		OEY		OEY		OEY		OEY		OEY	
OEY	AmE	OEY	AmE	OEY	AmE	OEY	AmE	OEY	AmE	OEY	AmE	OEY	AmE	OEY	AmE	OEY	AmE
								400	2.586	219	1.421					619	4.007

ITEMS FOR COST ESTIMATES:		FY-81		FY-82		FY-83		FY-84		FY-85		FY-86		FY-87		TOTAL PROGRAM	
FY-80 & Prior		Current		Budget		Budget + 1		OEY		OEY		OEY		OEY		OEY	
OEY	AmE	OEY	AmE	OEY	AmE	OEY	AmE	OEY	AmE	OEY	AmE	OEY	AmE	OEY	AmE	OEY	AmE

EXPENSES																	
RECURRING								400	2.586	219	1.421					619	4.007
NON-RECURRING																	
TOTALS								400	2.586	219	1.421					619	4.007

METHOD OF IMPLEMENTATION: Contractor modification program will be performed at plant facilities during augmented ILS program. Plain version transponder installed in OH-58C/AH-15/UN60A will be upgraded.

IT DELIVERY SCHEDULE:	FY-81				FY-82				FY-83				FY-84				FY-85				FY-86				FY-87				FUTURE				
FY-80 & Prior	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	1	2	3	4	
													400				219																

INSTALLATION SCHEDULE:	FY-81				FY-82				FY-83				FY-84				FY-85				FY-86				FY-87				FUTURE				
FY-80 & Prior	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	1	2	3	4	
													400				219																

1-142 February 1982

FY 81 NUN.FT

REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	EQUIPMENT	MODIFICATION	DATE 8 February 1982										
APPROPRIATION/BUDGET ACTIVITY APA/FY83		MODIFICATION TITLE AND NO. AN/FPN-40 Radar Set PIP # 1-79-07-0009											
<p>Equipment Models Affected: N/A</p> <p>Description/Justification: The program will improve the reliability and maintainability of the AN/FPN-40 and provide moving target identification (MTI) features to improve operational performance. The Receiver-Transmitter unit will be replaced with a new solid state unit having the MTI feature. Vacuum tube circuits in the control indicator will be replaced by solid state versions. All chassis cabling will be replaced. The reliability is expected to increase from the current 50-70 hrs to 250-300 hrs and the on-site MTTR decrease from 1 hr to 0.5 hrs. The control indicator housing will be replaced to achieve a slanted display to reduce controller fatigue.</p> <p>Development Status: Engineering is in progress.</p> <p>Milestones:</p> <table border="0"> <tr> <td>Project Initiated</td> <td>2079</td> </tr> <tr> <td>IPR/Production Decision</td> <td>3082</td> </tr> <tr> <td>Production Contract Award</td> <td>1084</td> </tr> <tr> <td>First Kit Applied</td> <td>1086</td> </tr> <tr> <td>Last Kit Applied</td> <td>1087</td> </tr> </table> <p style="text-align: center;">1-143 February 1982</p>				Project Initiated	2079	IPR/Production Decision	3082	Production Contract Award	1084	First Kit Applied	1086	Last Kit Applied	1087
Project Initiated	2079												
IPR/Production Decision	3082												
Production Contract Award	1084												
First Kit Applied	1086												
Last Kit Applied	1087												

CLASSIFICATION

P-1 SHOP LIST
ITEM NO.

PAGE NO.

EXHIBIT

FORM 100-1

ACTIVITY 2 - AIRCRAFT MODIFICATIONS					EXHIBIT P-3	
Reports Control Symbol DD-COMP(AR) 1092						
APPROPRIATION: APA/2 Modifications under \$900,000 per AAG/25					Date: 6 February 1987	
MODEL: C-47C SPTS MODIFICATION (1)	FY 1983		FY 1984		FY 19	
	Quantity (2)	Amount (Thousands) (3)	Quantity (4)	Amount (Thousands) (5)	Quantity (6)	Amount (Thousands) (7)
ILSAA Probe Height Sensor	5	.056	1	.188		

1-145 February 1982

FY 83 BUDGET

REPORTS CONTROL SYMBOL DD-COMP (AP) 1092	AIRCRAFT MODIFICATION	DATE 8 February 1982																														
APPROPRIATION/BUDGET ACTIVITY APA/2 SSN A0725	MODIFICATION TITLE AND NO. 1-82 G1-1417 Improved Lighting System for Army Aircraft (ILSA)																															
<p>CH-47C MIP</p> <p>The MIP encompasses those components necessary to reduce cockpit reflections, apply appropriate instrument lighting and incorporate appropriate switches that will permit MG operation. The CH-47C Flight Simulator is a duplicate of the CH-47C aircraft cockpit. This simulator has a visual system and is used for navigation and instrument training, emergency and cockpit procedures training, visual confined areas, terrain flight, pinnacle operations and visual landing and takeoff.</p> <p>Test</p> <p>It is planned to have first article test at Ft Rucker, AL. TECOM has determined not to test ILSAA on the simulator, since this will essentially be a duplicate of the aircraft test, the simulator will have the same configuration as the CH-47C aircraft. First article test will not involve TECOM, but will be limited to verifying that the cockpit configuration is like the aircraft.</p> <p>Milestones</p> <table border="1"> <thead> <tr> <th></th> <th>FY 83</th> <th>FY 84</th> <th>FY 85</th> <th>FY 86</th> </tr> </thead> <tbody> <tr> <td>Eng Initiated</td> <td>1Q</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Testing Begin/Complete</td> <td>2Q/3Q</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Kit Delivery Begins</td> <td></td> <td>1Q</td> <td></td> <td></td> </tr> <tr> <td>Kit Appl Begin/Complete</td> <td></td> <td>1Q</td> <td></td> <td>2Q</td> </tr> <tr> <td>Production Contract Award</td> <td>4Q</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p style="text-align: center;">1-146 February 1982</p>				FY 83	FY 84	FY 85	FY 86	Eng Initiated	1Q				Testing Begin/Complete	2Q/3Q				Kit Delivery Begins		1Q			Kit Appl Begin/Complete		1Q		2Q	Production Contract Award	4Q			
	FY 83	FY 84	FY 85	FY 86																												
Eng Initiated	1Q																															
Testing Begin/Complete	2Q/3Q																															
Kit Delivery Begins		1Q																														
Kit Appl Begin/Complete		1Q		2Q																												
Production Contract Award	4Q																															

DD FORM 1300 1 May 76 2075

P-1 SHOP LIST PAGE NO. ITEM NO.

3a
EXHIBIT A-12

CH-47 SFTS ILSAA

Exhibit P-3A

Project Financial Plan (Amounts in millions of dollars.)

<u>FY 83</u>	
<u>QTY</u>	<u>COST</u>
5	.056

Basis for Cost Estimate (Amounts in millions of dollars)

	<u>FY 83</u>		<u>FY 84</u>	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Non-Recurring (OMA) Eng		(.013)		(.006)
Engineering/Testing		.024		
CPE	5	.032		
Installation Prototype (OMA)	1	(.006)		
Publications (OMA)		(.028)		
	5	.056		

Method of Implementation: INMO by contractor maintenance/support team.

Kit Delivery Schedule:

<u>FY 84</u>				
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
	1			
	5			

Installation Schedule:

<u>FY 84</u>				
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
	1			
	2	?		

1-147 February 1982

REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION	DATE 8 February 1982																		
APPROPRIATION/BUDGET ACTIVITY APA/2 SSN AA0725	MODIFICATION TITLE AND NO. 1-82-01-1418 Probe Height Sensor																			
<p>CH-47C SFTS</p> <p>The Prototype Flight Simulator has a six degree of freedom motion system with an instructor station located within the cockpit enclosure. A front window visual scene is also included and consists of a CRT (television monitor), spherical mirror, television camera with optical probe and a terrain modelboard of the Ft Rucker, AL tactical area. The CH-47C Production Model FS is similar to the Prototype FS, with some improvements. The hardware proposed to be added are the probe height sensor and radar altimeter. At the present time, the CH-47C prototype simulator is used for navigation and instrument training, emergency and cockpit procedures training, visual confined areas, hovering and visual takeoff and landing.</p> <p><u>Test</u></p> <p>The improvement consists of only one kit. The test will be conducted at Ft Rucker, AL. TECOM has determined that they will not test the probe height sensor since it is the same one tested on the UH-60 FS. Ft Rucker QA personnel will verify the proper installation of the probe height sensor. No formal test is planned.</p> <p><u>Milestones</u></p> <table border="1"> <thead> <tr> <th></th> <th>FY 84</th> <th>FY85</th> </tr> </thead> <tbody> <tr> <td>Eng Initiated</td> <td>1Q</td> <td></td> </tr> <tr> <td>Testing Begin/Complete</td> <td>2Q/2Q</td> <td></td> </tr> <tr> <td>Kit Delivery Begins</td> <td></td> <td>1Q</td> </tr> <tr> <td>Kit Appl Begin/Complete</td> <td></td> <td>2Q/2Q</td> </tr> <tr> <td>Production Contract Award</td> <td>3Q</td> <td></td> </tr> </tbody> </table> <p style="text-align: center;">1-148 February 1982</p>				FY 84	FY85	Eng Initiated	1Q		Testing Begin/Complete	2Q/2Q		Kit Delivery Begins		1Q	Kit Appl Begin/Complete		2Q/2Q	Production Contract Award	3Q	
	FY 84	FY85																		
Eng Initiated	1Q																			
Testing Begin/Complete	2Q/2Q																			
Kit Delivery Begins		1Q																		
Kit Appl Begin/Complete		2Q/2Q																		
Production Contract Award	3Q																			

CH-47 SFTS Probe Height Sensor

Project Financial Plan (Amounts in millions of dollars)

<u>FY 84</u>	
<u>QTY</u>	<u>COST</u>
1	.188

Basis for Cost Estimate (Amounts in millions of dollars)

	<u>FY 84</u>		<u>FY 85</u>	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Non-Recurring (OMA) Eng		(.013)		(.006)
Engineering/Testing		.047		
CFE	1	.141		
Installation (OMA)			1	(.012)
Publications (OMA)		— (.032)		
	1	.188		

Method of Implementation: MWO by contractor maintenance/support team.

Kit Delivery Schedule:

<u>FY 85</u>			
<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
1			

Installation Schedule:

<u>FY 85</u>			
<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
1			

AIRCRAFT PROCUREMENT, ARMY

Section 10

Flight Simulator Procurement Summary

1-150 February 1982

FY 83 BUDGET ESTIMATE

FLIGHT SIMULATORS PROCUREMENT PROGRAM

APPROPRIATION: Aircraft Procurement, Army

System	Type	FY 82 &	FY 83	FY 84	FY 85	FY 86	FY 87	Cost to	Total
		Prior	Qty/Amount	Qty/Amount	Qty/Amount	Qty/Amount	Qty/Amount	Complete	Cost
		Qty/Amount						Qty/Amount	Qty/Amount
UH-1 (2B24) (SSNA09500)	FS	21/56.1	- -	- -	- -	- -	- -	- -	21/56.1
CH-47 (2B31) (SSNA09100)	FS	3/27.8	1/14.4	1/14.9	- -	- -	- -	- -	5/57.1
H-1 (2B33) (SSNA09300)	FWS	2/50.1	3/41.6	- -	- -	- -	- -	- -	5/91.7
UH-60 (2B38) (SSNA09400)	FS	- -	- -	3/52.9	2/38.2	3/61.3	- -	- -	8/152.4
AH-64 (2B40) (SSNA09000)	FWS	- -	- -	- -	*-/24.8	2/105.3	2/92.1	- -	4/222.2
GRAND TOTAL		134.0	56.0	67.8	65.0	166.6	92.1	- -	579.5

*Long Lead Procurement Items

1-151 February 1982

AIRCRAFT PROCUREMENT, ARMY

Section 12

Multiyear Procurement

Criteria for Multiyear Contracting

Acquisition Strategy Comparative Summary

Funding Plan

Impact of Inflation on Funding and Savings

Savings and Cost Avoidance

Impact on Defense Industrial Base

EXHIBIT NO. 1
UH-60A BLACK HAWK CRITERIA FOR MULTIYEAR CONTRACTING:
FY 83-85 AIRFRAME AND ENGINE MULTIYEAR PROCUREMENT

The US Army proposes the UH-60A BLACK HAWK helicopter system, airframe, and T700-GE-700 engine, as candidates for multiyear contracting in FY 83-85, since both satisfy each of the elements of the criteria as stated in the DepSecDef Memorandum of 1 May 1981: benefit to the Government, stability of requirements, stability of funding, stable configuration, degree of cost confidence, and degree of confidence in contractor capability;

a. Benefit to the Government. Based on a comparison of three single year cost estimates to a multiyear cost estimate for the UH-60A BLACK HAWK airframe and T700-GE-700 engine over the period FY 83-85, there is a potential for cost avoidance of \$83.8 million for multiyear contracting over single year contracting. For the UH-60 aircraft program including QUICK FIX procurement and spare engines there is a potential for cost avoidance of \$98 million.

b. Stability of Requirement. The risk is low, because the probability that the BLACK HAWK requirement will be reduced is very low. As evidence of this assessment, the procurement objective for the BLACK HAWK aircraft since the inception of the program in 1971 has been 1107.

c. Stability of Funds. The risk is low, because the BLACK HAWK program is of high enough priority to achieve its funding requirements for the foreseeable future. This is evidenced by the fact that the BLACK HAWK funding requirements have been substantially satisfied for the past several years during Department of the Army, Office of the Secretary of Defense, and Congressional Budget deliberations. The program deleted \$11.3 million from its FY 81 Supplemental Budget and reduced the March FY 82 Weapon System Budget Amendment Submission by \$17.4 million.

d. Stable Configuration. The risk is low, because RDT&E on the UH-60A BLACK HAWK airframe and T700-GE-700 engine are complete. The basic engineering development phase for the airframe was completed in December 1976. The airframe maturity phase was completed in May 1980. The basic development phase of the T700-GE-700 engine was completed in December 1976. The engine maturity phase was completed in October 1978. The Force Development Test and Experimentation (FDT&E) testing on initial production aircraft was completed in October 1979. Initial Operational Capability of the BLACK HAWK was achieved in November 1979, which means that the first company was equipped with BLACK HAWK aircraft and is operationally ready. Approximately 70,000 flying hours have been completed by operational units. The BLACK HAWK has achieved or is expected to achieve all technical and reliability goals of the system. There are no significant engineering problems which would cause major engineering change activity. Five single year airframe and five single year engine contracts has been awarded (FY 77-81), and 248 UH-60A BLACK HAWK aircraft have been delivered to the US Army as of 28 February 1982.

EXHIBIT NO. 1 (Continued)

e. Degree of Cost Confidence. As evidence of the degree of cost confidence, the Army deleted \$11.3 million from its FY 81 Supplemental Budget and reduced the March FY 82 Weapon System Budget Amendment Submission by \$17.4 million. The risk is low as proven cost estimating techniques were used in developing the current procurement cost estimate. Historical Cost/Schedule Control System Criteria (C/SCSC), the fifth year (FY 81) negotiated contracts, FY 81 and FY 82 Should Cost Analyses data, FY 82-84 contract proposals, and recent contract negotiations of a potential FY 82-84 multiyear airframe contract, as well as data collected during visits to the contractors' sites were used to develop this cost estimate. There is near 100% confidence that the inclosed multiyear cost profile is adequate to execute an FY 83-85 airframe contract for 258 UH-60A BLACK HAWK airframes and an FY 83-85 multiyear engine contract for the procurement of 504 T700-GE-700 engines. The inclosed annual cost profile is also adequate to execute three single year airframe and three single year engine contracts in the event the FY 83-85 airframe and engine multiyear contracts are not initiated. In all likelihood, either single year or multiyear UH-60A BLACK HAWK airframe and T700 engine firm fixed price contracts will be awarded to the airframe manufacturer and engine manufacturer, respectively, in FY 82 and beyond.

f. Degree of Confidence in Contractor Capability. There is no question that the UH-60A BLACK HAWK airframe and T700-GE-700 engine producers can effectively produce the hardware required for the BLACK HAWK and its derivatives and the APACHE aircraft within their current capability over the period FY 83-85. The risk is low because the airframe producer is currently delivering helicopters at a rate of 10 per month which exceed the current Army requirement. The T700 engine producer has the capacity to deliver T700 engines at a rate of 24 per month. The T700 engine producer has historically delivered T700 engines ahead of the contract schedule. Every facet of both the UH-60A BLACK HAWK airframe and T700 engine producers' manufacturing operations is showing signs of production and cost management improvement.

EXHIBIT NO. 2
UH-60A BLACK HAWK FY83-85 AIRFRAME PROCUREMENT
ACQUISITION STRATEGY COMPARATIVE SUMMARY

NR UNITS AIRFRAME	ANNUAL CONTRS	MULTIYEAR CONTR <u>1/</u>
TOTAL CONTRACT PRICE	258 <u>2/</u>	258 <u>2/</u>
CANCELLATION CEILING	1116.7	1047.2
\$ COST AVOIDANCE OVER ANNUAL	0	0
Z COST AVOIDANCE OVER ANNUAL	-	69.5
RISK RELATED FACTORS <u>3/</u>	-	6.2
REQUIREMENT STABILITY	<u>RISK</u>	<u>RISK</u>
- FUNDING STABILITY	LOW	LOW
- CONFIG STABILITY	LOW	LOW
- COST CONFIDENCE	LOW	LOW
- CONFIDENCE IN CONTRACTOR CAPABILITY	LOW	LOW

1/ 3 year (FY83-85) contracts with termination liability funding of expanded advance procurement.

2/ Excludes requirement of 30 UH-60A aircraft for BLACK HAWK derivative aircraft programs (QUICK FIX).

3/ An explanation of the risk assessment for each factor is included in the exhibit which addresses the "criteria of selection."

EXHIBIT NO. 2 (Continued)
UH-60A BLACK HAWK FY83-85 T700-GE-700 ENGINE PROCUREMENT
ACQUISITION STRATEGY COMPARATIVE SUMMARY

	ANNUAL CONTRS	MULTIYEAR CONTR <u>1/</u>
NR UNITS		
AIRFRAME	258 <u>2/</u>	258 <u>2/</u>
ENGINE	504 <u>3/</u>	504 <u>3/</u>
TOTAL CONTRACT PRICE	359.2	344.9
CANCELLATION CEILING	0	0
\$ COST AVOIDANCE OVER ANNUAL	-	14.3
% COST AVOIDANCE OVER ANNUAL	-	4.0
(RELATED FACTORS <u>4/</u>	<u>RISK</u>	<u>RISK</u>
- REQUIREMENT STABILITY	LOW	LOW
- FUNDING STABILITY	LOW	LOW
- CONFIG STABILITY	LOW	LOW
- COST CONFIDENCE	LOW	LOW
- CONFIDENCE IN CONTRACTING CAPABILITY	LOW	LOW

1/ 3 year (FY83-85) contracts with termination liability funding of expanded advance procurement.

2/ Excluded requirement of 30 UH-60A aircraft for BLACK HAWK derivative aircraft programs (QUICK FIX).

3/ Excludes engine requirements for BLACK HAWK derivative aircraft programs, all spares requirements, and 36 engines for the FY83 requirement being procured on the FY 82 contracts as advance procurement.

4/ An explanation of the risk assessment for each factor is included in the exhibit which addresses the "criteria of selection".

**EXHIBIT NO. 3
UH-60A BLACK HAWK FUNDING PLAN COMPARISON**

(\$ in Millions)

<u>QUANTITY 1/</u>	<u>FY 83</u> <u>96</u>	<u>FY 84</u> <u>84</u>	<u>FY 85</u> <u>78</u>	<u>TOTAL</u> <u>258</u>
<u>ANNUAL PROGRAM</u>				
End Item	585.0	583.8	585.8	1754.6
Less Advance Funding	60.6	74.4	74.7	209.7
Net Request	524.4	509.4	511.1	1544.9
Advance Funding	<u>74.4</u>	<u>74.7</u>	<u>82.0</u>	<u>231.1</u>
(For 1983)				
(For 1984)	74.4			74.4
(For 1985)		74.7		74.7
For 1986)			82.0	82.0
For 1987)				
(For 1988-90)				
Total Budget Request 2/	598.8	584.1	593.1	1776.0
<u>MULTIYEAR PROGRAM</u>				
End Item	569.2	555.7	547.3	1672.2
Less Advance Funding	60.6	152.8	176.8	390.2
Net Request	508.6	402.9	370.5	1282.0
Advance Funding	<u>207.6</u>	<u>128.9</u>	<u>73.7</u>	<u>410.2</u>
(For FY83)				
(For FY84)	152.8			152.8
(For FY85)	52.3	124.5		176.8
(For FY86)	2.5	4.4	73.7	80.6
(For FY87)				
(For FY88-90)				
Total Budget Request 2/	716.2	531.8	444.2	1692.2
posed Savings	-117.4	52.3	148.9	83.8

EXHIBIT NO. 3 (Continued)
UH-60A BLACK HAWK FUNDING PLAN COMPARISON

(\$ in Millions)

<u>OUTLAYS</u>	<u>FY83</u>	<u>FY84</u>	<u>FY85</u>	<u>FY86</u>	<u>FY87</u>	<u>FY 88-90</u>	<u>TOTAL</u>
Annual	50.8	289.4	512.7	504.7	296.2	122.2	1776.0
Multiyear	60.8	332.0	523.3	434.0	241.6	100.5	1692.2
Difference	-10.0	-42.6	-10.6	70.7	54.6	21.7	83.8

1/ UH-60A Aircraft Procurement. Addition of EH-60A aircraft to multiyear contract will increase savings by \$12.8M.

2/ Weapon System Budget only. Addition of whole engine spares to support UH-60A aircraft will increase savings by \$1.4M.

EXHIBIT NO. 1 (Continued)
 UH-60A BLACK HAWK AIRCRAFT MULTIYEAR CONTRACT FUNDING PLAN
 FY 83-85 AIRFRAME CONTRACT
 (\$ in Millions)

	FY 83	FY 84	FY 85	TOTAL
<u>QUANTITY</u>	96	84	78	258
<u>ANNUAL PROGRAM</u>				
End Item	374.4	366.4	375.9	1116.7
Less Advance Funding	25.6	41.7	43.3	110.6
Net Request	348.8	324.7	332.6	1006.1
Advance Funding	<u>41.7</u>	<u>43.3</u>	<u>48.5</u>	<u>133.5</u>
(For 1983)				
(For 1984)	41.7			41.7
(For 1985)		43.3		43.3
(For 1986)			48.5	48.5
(For 1987)				
(For 1988-90)				
Total Budget Request	390.5	368.0	381.1	1139.6
<u>MULTIYEAR PROGRAM</u>				
End Item	360.3	342.5	344.4	1047.2
Less Advance Funding	25.6	95.7	125.3	246.6
Net Request	334.7	246.8	219.1	800.6
Advance Funding	<u>131.6</u>	<u>89.4</u>	<u>48.5</u>	<u>269.5</u>
(For FY83)				
(For FY84)	95.7			95.7
(For FY85)	35.9	89.4		125.3
(For FY86)			48.5	48.5
(For FY87)				
(For FY88-90)				
Total Budget Request	466.3	336.2	267.6	1070.1
Proposed Savings	-75.8	31.8	113.5	69.5

EXHIBIT NO. 3 (Continued)
 UH-60A BLACK HAWK AIRCRAFT MULTIYEAR CONTRACT FUNDING PLAN
 FY 83-85 AIRFRAME CONTRACT
 (\$ in Millions)

<u>OUTLAYS</u>	<u>FY83</u>	<u>FY84</u>	<u>FY85</u>	<u>FY86</u>	<u>FY87</u>	<u>FY 88-90</u>	<u>TOTAL</u>
Annual	33.1	187.6	328.7	322.0	190.1	78.1	1139.6
Multiyear	39.6	215.3	334.8	270.2	148.3	61.9	1070.1
Difference	-6.5	-27.7	- 6.1	51.8	41.8	16.2	69.5

1/ An additional \$10.7 million will be realized by the EH-60A program.

EXHIBIT NO. 3 (Continued)
 UH-60A BLACK HAWK AIRCRAFT MULTIYEAR FUNDING PLAN
 FY83-85 T700-GE-700 ENGINE CONTRACT
 (\$ in Millions)

QUANTITY	FY 83 96	FY 84 84	FY 85 78	TOTAL 258
ANNUAL PROGRAM				
End Item	126.3	116.5	115.9	358.7
Less Advance Funding	27.5	25.8	25.0	78.3
Net Request	98.8	90.7	90.9	280.4
Advance Funding	<u>25.8</u>	<u>25.0</u>	<u>28.0</u>	<u>78.8</u>
(For 1983)				25.8
(For 1984)	25.8			25.0
(For 1985)		25.0		28.0
(For 1986)			28.0	
(For 1987)				.
(For 1988-90)				359.2
Total Budget Request <u>1/</u>	124.6	115.7	118.9	
MULTIYEAR PROGRAM				
End Item	124.6	112.2	109.0	345.8
Less Advance Funding	27.5	50.3	45.0	122.8
Net Request	97.1	61.9	64.0	223.0
Advance Funding	<u>69.1</u>	<u>33.1</u>	<u>19.7</u>	<u>121.9</u>
(For FY83)				50.3
(For FY84)	50.3			45.0
(For FY85)	16.3	28.7		26.6
(For FY86)	2.5	4.4		
(For FY87)			19.7	
(For FY88-90)				344.9
Total Budget Request <u>1/</u>	166.2	95.0	83.7	
Proposed Savings	-41.6	20.7	35.2	14.3

EXHIBIT NO 3 (Continued)
 UH-60A BLACK HAWK AIRCRAFT MULTIYEAR FUNDING PLAN
 FY83-85 T700-GE-700 ENGINE CONTRACT
 (\$ in Millions)

<u>OUTLAYS</u>	<u>FY83</u>	<u>FY84</u>	<u>FY85</u>	<u>FY86</u>	<u>FY87</u>	<u>FY 88-90</u>	<u>TOTAL</u>
Annual.	10.6	59.8	103.9	101.0	59.5	24.4	359.2
Multiyear	14.1	74.6	100.3	82.3	46.6	19.0	344.9
Difference	-3.5	-14.8	-4.4	18.7	12.9	5.4	14.3

1/ Weapon System Budget only. Addition of whole engine spares to support UH-60A aircraft will increase savings by \$1.4M.

EXHIBIT NO. 4
UH-60A BLACK HAWK
IMPACT OF INFLATION ON FUNDING AND SAVINGS
(\$ in Millions)

	<u>MULTIYEAR AIRFRAME CONTRACT</u>	<u>MULTIYEAR ENGINE CONTRACT</u>	<u>TOTAL PROGRAM</u>	<u>TOTAL SAVINGS</u>
+2%	1131.6	364.3	1790.3	94.6
+1%	1100.6	354.5	1740.7	89.1
Budget	1070.1	344.9	1692.2	83.8
-1%	1040.3	335.5	1644.6	78.8
-2%	1011.0	326.2	1598.0	74.0

Notes:

Based on January 1982 OSD composite inflation factors for Aircraft Procurement Army (base year 1981).

All budget and savings estimates reflect only the UH-60A BLACK HAWK weapon system. Additional costs and savings will also accrue to the EH-60A (airframe and engine), the UH-60A (whole engine spares-P1300), as well as other programs which utilize the T700-GE-700 engine or a derivative of same. Examples of these programs are the APACHE, LAMPS, and H-X. Current estimated savings from the inclusion of the EH-60A airframe and the UH-60A whole engine spares in multiyear procurements are \$10.7 million and \$1.4 million, respectively.

INCLOSURE 1 to EXHIBIT NO. 4
MULTIYEAR PLAN

	<u>FY 83</u>	<u>FY 84</u>	<u>FY 85</u>	<u>TOTAL</u>
Airframe Contract				
+ 2%	485.1	356.8	289.7	1131.6
+ 1%	475.7	346.4	278.5	1100.6
Budget	466.3	336.2	267.6	1070.1
- 1%	457.0	326.2	257.1	1040.3
- 2%	447.8	316.4	246.8	1011.0
Engine Contract				
+2%	172.9	100.8	90.6	364.3
+1%	169.5	97.9	87.1	354.5
Budget	166.2	95.0	83.7	344.9
-1%	162.9	92.2	80.4	335.5
-2%	159.6	89.4	77.2	326.2
Total Program				
+2%	745.1	534.4	480.8	1790.3
+1%	730.6	517.9	462.2	1740.7
Budget	716.2	531.8	444.2	1692.2
-1%	701.9	516.0	426.7	1644.6
-2%	687.8	500.5	409.7	1598.0

Notes:

1. Composite factor is based on January 1982 OSD inflation factors for Aircraft Procurement Army (base year 1981).
2. The impact of variable inflation rates was calculated by multiplying the escalated dollars in the budget and an adjustment factor based on the variable inflation rates specified. The adjustment factor assumed the same inflation rates as that shown in the OSD inflation factors through FY81, and the rates different from those shown in the OSD guidance for FY 82 and beyond \pm 1% and \pm 2% per year.

ENCLOSURE 1 TO EXHIBIT NO. 4 (Continued)
ANNUAL PLAN

	<u>FY 83</u>	<u>FY 84</u>	<u>FY 85</u>	<u>TOTAL</u>
Airframe Contract				
+ 2X	406.3	390.5	412.5	1209.3
+ 1X	398.3	379.2	396.6	1174.1
Budget	390.5	368.0	381.1	1139.6
- 1X	382.7	357.1	366.1	1105.9
- 2X	375.0	346.4	351.5	1072.9
Engine Contract				
+ 2X	129.6	122.8	128.7	381.1
+ 1X	127.1	119.2	123.7	370.0
Budget	124.6	115.7	118.9	359.2
- 1X	122.1	112.3	114.2	348.6
- 2X	119.7	108.9	109.7	338.3
al Program				
+ 2X	623.0	619.9	642.0	1884.9
+ 1X	610.8	601.8	617.2	1829.8
Budget	598.8	584.1	593.1	1776.0
- 1X	586.9	566.8	569.7	1723.4
- 2X	575.1	549.8	547.1	1672.0

Notes:

1. Composite factor is based on January 1982 OSD inflation factors for Aircraft Procurement Army (Base Year 1981).
2. The impact of variable inflation rates was calculated by multiplying the escalated dollars in the budget and an adjustment factor based on the variable inflation rates specified. The adjustment factor assumed the same inflation rates as that shown in the OSD inflation factors through '81, and the rates different from those shown in the OSD guidance for FY 82 and beyond by + 1X and + 2X per year.

EXHIBIT NO. 5
UH-60A BLACK HAWK SAVINGS AND COST AVOIDANCE
FY83-85 AIRFRAME CONTRACT
(\$ in Millions)

	<u>FY 83</u>	<u>FY 84</u>	<u>FY 85</u>	<u>TOTAL</u>
AIRCRAFT QUANTITY	96	84	78	258
ANNUAL CONTRACT	374.4	366.4	375.9	1116.7
MULTIYEAR CONTRACT	360.3	342.5	344.4	1047.2
DIFFERENCE	14.1	23.9	31.5	69.5

NOTE: Savings of \$10.7 million attributable to the EH-60A program are not shown in the above exhibit.

<u>SOURCE OF SAVINGS</u>	<u>(\$ in Millions)</u>
Vendor Procurement	69.5
Manufacturing	0
Design/Engineering	0
Tool Design	0
Support Equipment	0
Other	0
TOTAL	69.5

Vendor procurement cost is expected to decrease under a multiyear contract since the vendors are free to produce the outyear requirements earlier and more efficiently. In addition, a multiyear contract is expected to enhance competition.

In addition, there may be some savings generated by additional contractor investment in plant and equipment, but these savings were not believed to be likely enough to show in this projection.

EXHIBIT NO. 5 (Continued)
UH-60A BLACK HAWK SAVINGS AND COST AVOIDANCE
FY83-85 ENGINE CONTRACT
(\$ in Millions)

	<u>FY 83</u>	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>TOTAL</u>
AIRCRAFT QUANTITY	96	84	78	78	336
ENGINE QUANTITY	192 <u>1/</u>	168	156	24 <u>2/</u>	540
ANNUAL CONTRACT	126.3 <u>1/</u>	116.5	115.9	28.0 <u>2/</u>	386.7
MULTIYEAR CONTRACT	<u>124.6 1/</u>	<u>112.2</u>	<u>109.0</u>	<u>26.6 2/</u>	<u>372.4</u>
DIFFERENCE	1.7	4.3	6.9	1.4	14.3 <u>3/</u>

Includes 36 advance procurement engines procured on the FY 82 contract at an estimated price of \$21.4 million.

2/ 24 engines for the FY 86 aircraft procurement will be procured on the FY 85 contract, in order to protect the aircraft delivery schedule.

3/ Savings excluded \$1.4 million realized from the procurement of 57 whole engine spares in support of the BLACK HAWK program. In addition, savings on the procurement of engines in support of other programs (e.g., EH-60A, LAMPS, AAH, and H-X) are excluded.

SOURCE OF SAVINGS

	<u>\$ in Millions</u>
Vendor Procurement	14.3
Manufacturing	0
Design/Engineering	0
Tool Design	0
Support Equipment	0
Other	0
TOTAL	14.3

All savings projected are based on a reduction in cost attributable to vendors. This reduction results from earlier and more efficient production. In addition, it takes into account the lower prices due to increased competition generated by a larger procurement quantity.

EXHIBIT NO. 6
UH-60A BLACK HAWK FY 83-85 AIRFRAME AND T700 ENGINE MULTIYEAR PROCUREMENT

IMPACT ON DEFENSE INDUSTRIAL BASE

a. Improved Competition. Competition at the subcontractor level expanded significantly as a result of the proposed multi-year contracting. Whereas, most recent experience with single year procurement (FY 81) has yielded competitive bids for approximately 28 percent of the value of the BLACK HAWK bill of material, this activity under the multiyear proposal has been expanded to better than 50 percent of the FY 82 - FY 84 materials as proposed. Every opportunity to encourage dual sourcing at the subcontractor level has been pursued. The first tier subcontractor plan encourages competition to second tier supplier level indicating utilization of small and disadvantaged business concerns.

b. Enhanced Investment. Capital equipment investments in the amount of \$29.2 million are planned for 1982/1983 for purposes of cost reduction, capacity increase, and replacement. Approximately \$19.0 million of this investment would likely be deferred if there were significant risk to the planned level of production. Denial of multiyear contracting for the BLACK HAWK program would represent such a risk, in that the potential for aircraft schedule reductions or postponements would be significantly increased.

(1) Prime Contractor

Planned equipment improvements for Sikorsky include:

(a) Direct Numerical Control (DNC) system for machine shop main control room which provides automated information flow from engineering data base to various numerically controlled machines. It will eliminate punched tapes, avoid trial runs, and facilitate monitoring of machine operations.

(b) Automated system for retrieval of parts in stores.

(c) Transfer system for automated movement of components between machines in the machine shop.

(2) Subcontractors

An example of planned equipment improvements for subcontractors are the following:

(a) Aircraft Hydroforming - California - supplier of titanium components for main rotor blades, is installing a new press for sheet metal formed parts.

(b) Curtis Wright - New Jersey - manufacturer of trim actuators, has committed to a new burn-chamber and test equipment in the manufacture and servicing of these actuators.

(c) Windsor Manufacturing - Connecticut - BLACK HAWK source of machine components such as pressure plates, will build new facility utilizing BLACK HAWK business as justification for such expansion.

(d) Macor Incorporated - Long Island - Machining vendor, will add new machining center.

c. Improvement in Vendor Skill Levels. New training programs for first time subcontractors will be initiated on an as required basis, especially in the highly skilled trades.

d. Training Programs: Sikorsky Aircraft's manning levels for the UH-60A BLACK HAWK airframe program are at peak, thereby sustaining any requirement for new training programs. Existing training programs for Sikorsky Aircraft and its current UH-60A BLACK HAWK airframe component subcontractors will continue. In addition, new training programs for first time UH-60A BLACK HAWK airframe contractors will be initiated on an as required basis, especially in the highly skilled trades.

e. Progress Payment Changes. As an alternate to the Standard Program Payments Clause, the contractor has requested Flexible Progress Payments. The contractor has extended the progress payment provisions to his subcontractors.

f. Use of Multiyear Contractors (Vendors): Subcontractors will receive purchase orders for the total quantity authorized for the prime contract.

g. Increased Production Capacity: Present tooling can produce approximately 14 aircraft per month at the prime contractor. This is more than required for the multiyear contract. The airframe contractor thought to enhance the availability of different parts and materials by adding multiple sources where possible. A MYC approach afforded the opportunity to split requirements between two or more suppliers. This will provide relief for potential production bottlenecks.

EXHIBIT NO. 1
EH-60A QUICK FIX (BLACK HAWK) CRITERIA FOR MULTIYEAR CONTRACTING
FY83-85 AIRFRAME AND ENGINE MULTIYEAR PROCUREMENT

The EH-60A QUICK FIX program utilizes the identical airframe and engine as used for the Army BLACK HAWK program. The multiyear procurement objective of 96 airframes per year in FY 83-85 includes airframes and engines for the EH-60A QUICK FIX program.

Based on a comparison of three single year cost estimates to a multiyear cost estimate for the EH-60A QUICK FIX airframe and T700-GE-700 engine over the period FY 83-85, there is a potential for cost avoidance of \$13 million for multiyear contracting over single year contracting.

EXHIBIT NO. 2 (Continued)
EH-60A QUICK FIX (BLACK HAWK) FY83-85 T700-GE-700 ENGINE PROCUREMENT
ACQUISITION STRATEGY COMPARATIVE SUMMARY

	ANNUAL CONTRACTS	MULTIYEAR CONTRACTS ^{1/}
NR UNITS		
AIRFRAME	30	30
ENGINE	62 ^{2/}	62 ^{2/}
TOTAL CONTRACT PRICE	43.3	41.2
CANCELLATION CEILING	0	0
\$ COST AVOIDANCE OVER ANNUAL	-	2.1
ST AVOIDANCE OVER ANNUAL	-	4.8
RISK RELATED FACTORS	<u>RISK</u>	<u>RISK</u>
- REQUIREMENT STABILITY	LOW	LOW
- FUNDING STABILITY	LOW	LOW
- CONFIG STABILITY	LOW	LOW
- COST CONFIDENCE	LOW	LOW
- CONFIDENCE IN CONTRACTING CAPABILITY	LOW	LOW

^{1/} 3 year (FY83-85) contracts with termination liability funding of expanded advance procurement.

Includes advance procurement of two engines for FY86.

EXHIBIT NO. 2
EH-60A QUICK FIX (BLACK HAWK) FY83-85 AIRFRAME PROCUREMENT
ACQUISITION STRATEGY COMPARATIVE SUMMARY

	ANNUAL CONTRACTS	MULTIYEAR CONTRACTS ^{1/}
NR UNITS AIRFRAME	30	30
TOTAL CONTRACT PRICE	139.1	128.4
CANCELLATION CEILING	0	0
\$ COST AVOIDANCE OVER ANNUAL	-	10.7
% COST AVOIDANCE OVER ANNUAL	-	7.7
WORK RELATED FACTORS	<u>RISK</u>	<u>RISK</u>
- REQUIREMENT STABILITY	LOW	LOW
- FUNDING STABILITY	LOW	LOW
- CONFIG STABILITY	LOW	LOW
- COST CONFIDENCE	LOW	LOW
- CONFIDENCE IN CONTRACTOR CAPABILITY	LOW	LOW

^{1/} 3 year (FY83-85) contracts with termination liability funding of expanded advance procurement.

EXHIBIT NO. 3
KR-60A QUICK FIX FUNDING PLAN COMPARISON
(\$ in Millions)

	<u>FY 83</u>	<u>FY 84</u>	<u>FY 85</u>	<u>TOTAL</u>					
<u>QUANTITY</u>	0	12	18	30					
<u>ANNUAL PROGRAM</u>									
End Item		187.4	202.6	390.0					
Less Advance Funding		9.9	16.8	26.7					
Net Request		177.5	185.8	363.3					
Advance Funding	9.9	16.8	16.3	43.0					
(For FY84)	9.9								
(For FY85)		16.8							
(For FY86)			16.3						
Total Budget Request	9.9	194.3	202.1	406.3					
<u>MULTIYEAR PROGRAM</u>									
End Item		162.0	182.6	344.6					
Less Advance Funding		0	28.1	28.1					
Net Request		162.0	154.5	316.5					
Advance Funding	33.3	28.1	15.6	77.0					
(For FY84)	21.4								
(For FY85)	11.7	27.7							
(For FY86)	.2	.4	15.6						
Total Budget Request	33.3	190.1	170.1	393.5					
Proposed Savings	-23.4	4.2	32.0	12.9					
<u>OUTLAYS</u>									
	<u>FY 83</u>	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>	<u>FY 88</u>	<u>FY 89</u>	<u>FY 90</u>	<u>TOTAL</u>
Annual	.8	20.6	99.3	155.1	91.6	24.7	11.8	2.4	406.3
Multiyear	2.8	29.5	103.7	142.6	80.2	22.3	10.3	2.1	393.5
Difference	-2.0	-8.9	-4.4	12.5	11.4	2.4	1.5	.3	12.8

EXHIBIT NO. 3 (Continued)
KH-60A QUICK FIX AIRCRAFT MULTIYEAR CONTRACT FUNDING PLAN
FY83-85 T700-GE-700 ENGINE CONTRACT
(\$ in Millions)

	<u>FY 83</u>	<u>FY 84</u>	<u>FY 85</u>	<u>TOTAL</u>					
<u>QUANTITY</u>	0	12	18	30					
<u>ANNUAL PROGRAM</u>									
End Item		16.6	26.7	43.3					
Less Advance Funding		3.7	5.8	9.5					
Net Request		12.9	20.9	33.8					
Advance Funding	3.7	5.8	4.5	14.0					
(For FY84)	3.7								
(For FY85)		5.8							
(For FY86)			4.5						
Total Budget Request	3.7	18.7	25.4	47.8					
<u>MULTIYEAR PROGRAM</u>									
End Item		16.0	25.2	41.2					
Less Advance Funding		7.2	10.6	17.8					
Net Request		8.8	14.6	23.4					
Advance Funding	11.2	7.2	1.9	22.3					
(For FY84)	7.2								
(For FY85)	3.8	6.8							
(For FY86)	.2	.4	3.9						
Total Budget Request	11.2	16.0	18.5	45.7					
Proposed Savings	-7.5	2.7	6.9	2.1					
<u>OUTLAYS</u>									
	<u>FY 83</u>	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>	<u>FY 88</u>	<u>FY 89</u>	<u>FY 90</u>	<u>TOTAL</u>
Annual	.5	3.1	11.1	17.4	11.1	2.8	1.5	.3	47.8
Multiyear	1.0	5.2	12.2	14.4	8.7	2.3	1.1	.1	45.7
Difference	-1.5	-2.8	-1.1	3.0	2.4	.5	.4	.2	2.1

EXHIBIT NO. 3 (Continued)
EH-60A (QUICK FIX) AIRCRAFT MULTIYEAR CONTRACT FUNDING
FY83-85 AIRFRAME CONTRACT

	<u>FY 83</u>	<u>FY 84</u>	<u>FY 85</u>	<u>TOTAL</u>					
<u>QUANTITY</u>	0	12	18	30					
<u>ANNUAL PROGRAM</u>									
End Item		52.3	86.8	139.1					
Less Advance Funding		6.0	10.0	16.0					
Net Request		46.3	76.8	123.1					
Advance Funding	6.0	10.0	11.1	27.1					
(For FY84)	6.0								
(For FY85)		10.0							
(For FY86)			11.1						
Total Budget Request	6.0	56.3	87.9	150.2					
<u>MULTIYEAR PROGRAM</u>									
End Item		48.9	79.5	128.4					
Less Advance Funding		14.0	27.8	41.8					
Net Request		34.9	51.7	86.6					
Advance Funding	21.9	19.9	11.1	52.9					
(For FY84)	14.0								
(For FY85)	7.9	19.9							
(For FY86)			11.1						
Total Budget Request	21.9	54.8	62.8	139.5					
Proposed Savings	-15.9	1.5	25.1	10.7					
<u>OUTLAYS</u>									
	<u>FY 83</u>	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>	<u>FY 88</u>	<u>FY 89</u>	<u>FY 90</u>	<u>TOTAL</u>
Annual	.5	7.2	32.6	56.9	37.7	9.4	4.8	1.1	150.2
Multiyear	1.8	13.5	35.7	47.6	28.9	7.6	3.6	.8	175.5
Difference	-1.3	-6.3	-3.1	9.3	8.8	1.8	1.2	.3	10.7

EXHIBIT NO. 4
EH-60A QUICK FIX
IMPACT OF INFLATION ON FUNDING AND SAVINGS
(\$ in Millions)

	<u>MULTIYEAR AIRFRAME CONTRACT</u>	<u>MULTIYEAR ENGINE CONTRACT</u>	<u>TOTAL PROGRAM</u>	<u>TOTAL SAVINGS</u>
+ 2%	149.0	48.7	420.5	14.8
+ 1%	144.2	47.2	406.9	13.7
Budget	139.5	45.7	393.5	12.8
- 1%	135.0	44.7	380.4	11.9
- 2%	130.5	43.0	367.8	11.8

Notes:
Inflation impact based on January 1982 OSD composite inflation factors for Aircraft Procurement Army (Base Year 1981).

INCLOSURE 1 TO EXHIBIT NO. 4
MULTIYEAR PLAN

	<u>FY 83</u>	<u>FY 84</u>	<u>FY 85</u>	<u>TOTAL</u>
Airframe Contract				
+ 2X	22.8	58.2	68.0	149.0
+ 1X	22.3	56.5	65.4	144.2
Budget	31.9	54.8	62.8	139.5
- 1X	21.5	33.2	60.3	135.0
- 2X	21.0	51.6	57.9	130.5
Engine Contract				
+ 2X	11.7	17.0	20.0	48.7
+ 1X	11.4	16.5	19.3	47.2
Budget	11.2	16.0	18.5	45.7
- 1X	11.0	15.5	17.8	44.3
- 2X	10.8	15.1	17.1	43.0
Total Program				
+ 2X	34.6	201.8	184.1	420.5
+ 1X	34.0	195.9	177.0	406.9
Budget	33.3	190.1	170.1	393.3
- 1X	32.6	184.4	163.4	380.4
- 2X	32.0	178.9	156.9	367.8

INCLOSURE 2 TO EXHIBIT NO. 4
ANNUAL PLAN

	<u>FY 83</u>	<u>FY 84</u>	<u>FY 85</u>	<u>TOTAL</u>
Airframe Contract				
+ 2X	5.2	59.8	95.2	161.2
+ 1X	6.1	58.0	91.5	153.6
Budget	6.0	46.3	87.7	150.2
- 1X	5.9	54.6	84.5	145.0
- 2X	5.8	53.0	81.1	139.9
Engine Contract				
+ 2X	3.9	19.9	27.5	51.3
+ 1X	3.8	19.3	26.4	49.5
Budget	3.7	18.7	25.4	47.8
1X	3.6	18.1	24.4	46.1
2X	3.5	17.6	23.4	44.5
Total Program				
+ 2X	10.3	206.2	218.8	435.3
+ 1X	10.1	200.2	210.3	420.6
Budget	9.9	194.3	202.1	406.3
- 1X	9.7	188.5	194.1	392.3
- 2X	9.5	182.9	186.4	378.8

EXHIBIT NO. 5
 EH-60A QUICK FIX (BLACK HAWK) SAVINGS AND COST AVOIDANCE
FY83-85 AIRFRAME CONTRACT
 (\$ in Millions)

	<u>FY 83</u>	<u>FY 84</u>	<u>FY 85</u>	<u>TOTAL</u>
AIRCRAFT QUANTITY	0	12	18	30
ANNUAL CONTRACT	0	52.3	86.8	139.1
MULTIYEAR CONTRACT	<u>0</u>	<u>48.9</u>	<u>79.5</u>	<u>128.4</u>
DIFFERENCE	0	3.4	7.3	10.7
<u>SOURCE OF SAVINGS</u>			<u>(\$ in Millions)</u>	
Vendor Procurement			10.7	
Manufacturing			0	
Design/Engineering			0	
Tool Design			0	
Support Equipment			0	
Other			<u>0</u>	
TOTAL			10.7	

Vendor procurement cost is expected to decrease under a multiyear contract since the vendors are free to produce the outyear requirements earlier and more efficiently. In addition, a multiyear contract is expected to enhance competition.

In addition, there may be some savings generated by additional contractor investment in plant and equipment, but these savings were not believed to be likely enough to show in this projection.

EXHIBIT NO. 5 (Continued)
EH-60A QUICK FIX (BLACK HAWK) SAVINGS AND COST AVOIDANCE
FY 83-85 ENGINE CONTRACT
(\$ in Millions)

	<u>FY 83</u>	<u>FY 84</u>	<u>FY 85</u>	<u>TOTAL</u>
AIRCRAFT QUANTITY	0	12	18 1/2	30 1/2
ENGINE QUANTITY	0	24	38	62
ANNUAL CONTRACT	0	16.6	26.7	43.3
MULTIYEAR CONTRACT	0	16.0	25.2	41.2
DIFFERENCE	0	.6	1.5	2.1

1/ 2 engines for the FY 86 aircraft procurement will be procured on the FY 85 contract, in order to protect the aircraft delivery schedule

<u>SOURCE OF SAVINGS</u>	<u>\$ in Millions</u>
Vendor Procurement	2.1
Manufacturing	0
Design/Engineering	0
Tool Design	0
Support Equipment	0
Other	0
TOTAL	2.1

All savings projected are based on a reduction in cost attributable to vendors. This reduction results from earlier and more efficient production. In addition, it takes into account the lower prices due to increased competition generated by a larger procurement quantity.