



UNITED STATES AIR FORCE

# RESERVE MODERNIZATION 2011

## Foreword



Today's Air Force Reserve is a priceless treasure of combat capability, experience and expertise for our nation. Air Force Reservists, called "Citizen Airmen," are among the most experienced warriors in all of our military components and the most cost-effective.

As we enter an ever more fiscally constrained budget environment, investments in Reserve programs are ideal solutions that reap an outstanding return for taxpayers' dollars. The Air Force Reserve provides 17% of the Air Force's fighting force for only 4% of the Air Force budget.

Reservists are called to active-duty in a pay-status when the nation needs them. Afterward, they return to their civilian lives and a non-pay status from the government when they are off-duty.

This not only saves money on pay, but cuts down all related personnel expenses, benefit costs and infrastructure while retaining highly-skilled professionals who are ready whenever needed.

Created by Congress in 1948, the Air Force Reserve provides our nation a vital surge capacity in times of national emergency. In the past years, we've seen this surge used for combat operations in Iraq and Afghanistan as well as in support of humanitarian missions in New Orleans, Haiti and the Gulf oil spill.

Also, as a full partner in the three Air Force components—Regular, Guard, and Reserve—the nation depends upon Citizen Airmen to support the daily operational requirements that our nation sustains globally on five continents.

The resulting wear and tear on our aging equipment—and the need to ensure we have full interoperability and integration of all three Air Force components—requires a holistic approach to future modernization programs.

We've carefully reviewed our weapon systems and provided this summary of courses of action, background data and mission impacts.

Thank you for your continued oversight and support of more than 70,000 outstanding men and women who make up our Air Force Reserve. I appreciate the attention and resources provided to our Citizen Airmen thus far that makes them the world's leading experts on combat operations in air, space and cyberspace.

A handwritten signature in black ink that reads "Charles E. Stenner, Jr." The signature is written in a cursive, flowing style.

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 C-130H Terrain Awareness Warning System  
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 C/HC-130 Electronic Propeller Control System  
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## Operational Roles

The United States Air Force Reserve's (AFR) foremost responsibility is to organize, train, and equip Reserve Airmen to meet the needs of our national leadership and Combatant Commanders. As an integral member of the Joint team, America's Air Force provides the critical capabilities of Global Vigilance, Global Reach, and Global Power. The AFR is "All In" today's Joint fight. Our investments in new capabilities will ensure we are ready for tomorrow's challenges.

### Global Power



The Air Force's ability to control air and space, exploiting the medium to deliver a precise, tailored effect anywhere on the planet. Airborne platforms and the precision-guided munitions they deliver provide a capability that is persistent, precise, survivable, and able to produce tactical, operational, and strategic effects.

### Global Reach



Whether they are humanitarian, military, or a mix of both, the Air Force responds to global challenges with an airlift and tanker fleet that has global reach. Global Reach provides the capability to move people and equipment across the world quickly, ensuring the right force—anywhere, anytime.

### Global Vigilance



An accurate picture of the battlespace is critical to understanding and confronting challenges to our national security. Global Vigilance provides the "network" that binds together Air Force Joint and interagency players, ensuring our nation's ability to see first, think first, and act first.

### Agile Combat Support



Agile Combat Support refers to Air Force enabling systems that provide Global Power, Global Reach, and Global Vigilance to the Joint Team. This document consolidates many of the Agile Combat Support requirements under the Operational Readiness and Infrastructure sections.

The AFR 2011 modernization book is a tool to identify the resources needed to support the Air Force Total Force Integration concept. The capabilities in this document are required to ensure the Air Force Reserve remains ready to train and equip our Airmen for today's and tomorrow's contingencies.

# Weapons Systems Modernization Requirements Process

The AFR's goal in its modernization efforts is to see to it that all combat coded aircraft have the capability to work in unison with the Active Duty Air Force and Air National Guard in all theaters and for any contingency. The Combat Commanders have established equipment requirements for joint forces in their Areas of Responsibility (AOR) to ensure the most robust combat capability and seamless communication framework exists for the Total Force.

The AFR's requirements process is a bottom-up driven enterprise where the operators present their warfighting needs to be evaluated, validated, and prioritized. Validated requirements can then compete for resources from various funding streams. The venue for this process begins at the AFR Combat Planning Councils (CPC). There are three CPCs held each year: the Combat Forces (CAF) CPC hosted by 10th Air Force, the Mobility Forces CPC hosted by 22nd Air Force, and the Agile Combat Support (ACS) CPC co-hosted by AFRC/A7/A4. Each CPC establishes a prioritized list according to the requirements being Critical, Essential, or Desired.

### Critical

Mission cannot be accomplished without this capability or mission failure/loss of life due to lack of capability.

### Essential

Mission accomplishment still possible but severely degraded or significant risk taken. Maintains force readiness and supports daily operations.

### Desired

Mission accomplishment will be enhanced or risk reduced.

The three lists of requirements are then evaluated and validated through panels at Air Force Reserve Command (AFRC). These panels are made up of the Major Command (MAJCOM) Program Element Managers and Functional Area Managers that provide all oversight to those weapons systems at AFRC. Once the requirements are validated, they are prioritized into a master AFR requirements list called the Prioritized Integrated Requirements List (PIRL). The PIRL is then validated through the Reserve Requirements Tribunal for presentation to the AFR Requirements Council and eventually, the AFR Commander for approval. The AFR Modernization book is then derived from the PIRL.

## Weapon Systems by State

*(Total Active Inventory October 2010)*

	A-10	B-52	C-5	C-17	C-130HC MC/WC	F-16	HH-60	KC-135	C-40	C-9
AK										
AL					8					
AR										
AZ							6			
CA				9				12		
CO					12					
CT										
DC										
DE										

	A-10	B-52	C-5	C-17	C-130HC MC/WC	F-16	HH-60	KC-135	C-40	C-9
FL					16	26	9			
GA					8					
HI										
IA										
ID										
IL									3	3
IN								16		
KS										
KY										
LA	25	18								
MA			16							
MD								8		
ME										
MI										
MN					8					
MO	24									
MS					18					
MT										
NC					16			16		
ND										
NE										
NH										
NJ										
NM										
NV										
NY					12					
OH			10		12					
OK								12		
OR										
PA					8					
RI										
SC										
SD										
TN										
TX			16			27				
UT										
VA										
VT										
WA										
WI										
WV										
WY										
<b>TOTAL</b>	<b>49</b>	<b>18</b>	<b>42</b>	<b>9</b>	<b>118</b>	<b>53</b>	<b>15</b>	<b>66</b>	<b>3</b>	<b>3</b>

## Top Unfunded Critical Requirements

Priority	Weapon System	Requirement	Cost \$
1	C-130	LAIRCM	63.0M
2	C-130	SLOS / BLOS Capability	11.9M
3	A-10/F-16	Day/Night Helmet Mounted Integrated Targeting (HMIT) (PA, SP)	9.6M
4	ACS	R-12 Refuelers	0.9M
5	HC-130	HC-130 Integrated Electronic Warfare Suite	6.0M
6	C-130	MASS Spray System	12.3M
7	ACS	Security Forces Weapons & Tactical Equipment	3.2M
8	GAWS	Tactical Communication Headset	5.0M
9	GAWS/ HC-130	Wireless Intercom	9.0M
10	GAWS	CSAR Common Data Link	6.0M
11	F-16	Center Display Unit	3.6M
12	C-130	New Armor	16.4M
13	A-10/F-16/ B-52	Litening Procurement and Spiral Development	18.3M
14	MC-130	SOF Situational Awareness Upgrade (T-1 Modification)	4.0M
15	ACS	Support Equipment	3.9M
16	F-16	AIFF	6.1M



Priority	Weapon System	Requirement	Cost \$
17	C-130	ARC-210 Radio Improvements (Voice/Data)	0.7M
18	KC-135	LAIRCM	118.4M
19	C-130	Terrain Avoidance Warning System	5.2M
20	C-130	VECTS	1.1M



## Operational Readiness



### AGILE COMBAT SUPPORT



OPERATIONAL READINESS PROVIDES PREMIER TRAINING, WORLD-CLASS FACILITIES, MODERN EQUIPMENT, AND UNWAVERING FAMILY CARE.

While weapons systems are an integral part of the Air Force, the heart of the Air Force combat capability

resides with Airmen. To meet Total Force requirements, the Air Force Reserve must attract, develop and retain Citizen Airmen needed to operate and support Air Force weapon systems. To ensure this, the Air Force Reserve must provide premier training, world-class facilities, modern equipment, and unwavering family care.

Air Force Reserve Airmen are called on to perform a wide array of demanding duties. This requires updated, tactical technologies that put them on par with their Active Duty counterparts. Additionally, Reserve vehicles are the oldest of any Air Force component. To provide the seamless integration into the Total Force, our Airmen require upgraded vehicles. The current and future battlespace environments will remain uncertain. To remain the world's premier Air Force, our Airmen must be adequately equipped to train as they will fight. The cornerstone of providing battle-ready Airmen is giving them the best medical care, family support, and work environment possible. In this area, our commitment cannot waiver. If our Airmen are not ready at home, they will not be ready to fight.

AFRC operational readiness requirements include critical aircraft refuelers to operate a new hydrant system, mission support vehicles, aircraft maintenance support equipment, and Security Forces and Civil Engineering tactical equipment.

### Agile Combat Support Executive Summary

- R-12 Refuelers—Purchases 4 refuelers for use with new hydrant fuel system at Grissom Air Reserve Base (ARB), Indiana.
- Security Forces and Civil Engineering Tactical Equipment—Purchases individual and unit small arms, operational equipment, and vehicles for new squadrons and flights.
- Support Equipment—Purchases over 70 items for mission readiness and training of Security Forces, Aircraft Maintenance, Civil Engineering and Communications. Items include night vision goggles (NVG), NVG testers, KC-135 switch boxes, receiver transmitters and cutting systems.
- Vehicles—Purchases essential equipment such as graders, cranes, tow trucks, fuel trucks, utility vans, pick-up trucks, etc.

Unfunded Modernization Priority List Funding Profiles (\$M)

Program (Funding Appropriation)	P.E. Number	FY11	FY12	FY13	FY14	FY15	Program Total
R-12 Refuelers (3080)	0502834	0.90	0.00	0.00	0.00	0.00	0.90
Security Forces and Civil Engineering Tactical Equipment (3080)	0505539	2.20	1.00	0.00	0.00	0.00	3.20
Support Equipment	0502834	3.90	0.00	0.00	0.00	0.00	3.90
Vehicles (3080)	0502834	10.30	0.00	0.00	0.00	0.00	10.30

\*3840 Appropriation    \*\*3010 Appropriation    \*\*\*3600 Appropriation    \*\*\*\* 3080 Appropriation



## R-12 Refuelers

### Background

- A \$23.6M Department of Defense (DoD) Military Construction (MILCON) project to build a Type III Hydrant Fueling System has been funded with construction beginning April 2013 (Project Number CTGB059003).
  - Construction expected to be completed in March 2015. However, the new hydrant system will begin phased-in operation in March 2014.
  - Current refueling hose carts are not compatible with new system. Assigned aircraft will not be able to perform their mission without R-12 Mobile Refuelers.
  - Due to the lead time (15 months) required to procure the R-12 refuelers, the items must be purchased in Fiscal Year 2012 (FY12) for a FY14 delivery.
  - Pantographs cannot be used in this case as fuel filtration is required at the skin of the aircraft and the pantograph does not have the required filtration capability. Additionally, pantographs do not have an installed defuel pump. Defueling is necessary at Grissom. The R-12 is the best solution to refuel/defuel aircraft with the Type III hydrant system.
  - Grissom annually provides over 9,000,000 gallons of JP-8 for the refueling of DoD aircraft. Grissom supports a 24/7 tanker alert mission.
  - Environmental, Safety, and excessive maintenance costs drove replacing the hydrant system. AFRC submitted MILCON project to Defense Logistics Agency (DLA) in 2005.

### Requirement

Purchase four (4) R-12 mobile refuelers to refuel 16 KC-135 Aircraft at Grissom ARB.

### Impact If Not Funded

Without the R-12 Refuelers, the \$23.6M Hydrant System will be inoperable.

### Units Impacted

Grissom AR

### Contractor

Kovatch

### Program Element Code

52834F

### In Air Force Program Objective Memorandum (AF POM)

No

R-12 Refuelers	FY11	FY12	FY13	FY14	FY15	FYDP*
Other Procurement (3080)	0.9	0.0	0.0	0.0	0.0	0.9
Total (\$M)	0.9	0.0	0.0	0.0	0.0	0.9
Quantity	4.0	0.0	0.0	0.0	0.0	4.0

\*Future Years Defense Plan

## Security Forces and Civil Engineering Tactical Equipment

### Background

- Air Force Reserve Command (AFRC) is creating new Security Forces and Civil Engineering squadrons to provide additional in-theater capability to Combatant Commands (COCOMs).
- New squadron positions established and funded in FY10.
- Funding for mission essential weapons sets not included in current program.
- Weapons required for training and mobility deployment.

### Requirement

- Required weapons include M4 Rifles, M9 Pistols, M249 Machineguns, M240B Machineguns, M107 Rifles, and M24 Rifles.
- Required tactical equipment includes PVS7 and PVS14 night vision devices, M1116 HMMWVs, EOD PAN Disrupters, and Secure Telephone Units.

### Impact If Not Funded

- Failure to procure these weapons and tactical equipment will significantly degrade troop training and mission effectiveness.
- Lack of pre-deployment weapons familiarization significantly increases vulnerability of Security Forces, Explosive Ordnance Disposal (EOD), and RED HORSE personnel.
- Procurement necessary to standardize or modernize mission weapons sets between AFRC, Air National Guard (ANG) and Active Duty personnel.
- Personnel are prohibited from deploying without this required equipment. Limited stocks on-hand result in limited number of deployable personnel.

### Units Impacted

- All AFRC Security Forces Squadrons at Host and Tenant locations
- All AFRC Civil Engineering Squadrons at Host and Tenant locations
- 307th RED HORSE Squadron, Barksdale Air Force Base (AFB), LA
- 555th RED HORSE Squadron, Nellis AFB, NV
- 556th RED HORSE Squadron, Hurlburt Field (FLD), FL
- 560th RED HORSE Squadron, Charleston AFB, SC
- 567th RED HORSE Squadron, Seymour Johnson AFB, NC

### Contractor

Weapons and equipment will be purchased through existing procurement contracts that are managed by the applicable Program Management Offices. No additional competitive procurement is planned

### Program Element Code

52633F, 59393F, 59397F

### Item Included in AF POM

No

Security Forces and Red Horse Tactical Equipment	FY11	FY12	FY13	FY14	FY15	FYDP
Other Procurement (3080)	2.2	1.0	0.0	0.0	0.0	3.2
Total (\$M)	2.2	1.0	0.0	0.0	0.0	3.2



## Support Equipment

### Background

- The support equipment procurement program is typically underfunded and continuously receives funding cuts to support other programs. These cuts affect both Active and Reserve Components.
- The support equipment requirements are currently in the supply system; however the funding is not available for the procurement of these assets.
- AFRC mitigates the funding shortfall partially through temporary work around, redistribution of equipment due to Base Realignment and Closure (BRAC) closures, unit re-alignments and spreading limited funds across the command to fund highest priority requirements.

### Requirement

Purchase 70 items for mission readiness and training of Security Forces, Aircraft Maintenance, Civil Engineering and Communications. Items include PVS17C Night Vision Goggles (NVG), NVG Testers, KC-135 Switch Boxes, Receiver Transmitters and Cutting Systems.

### Impact If Not Funded

Lack of sufficient support equipment has a negative effect on unit capability and training. The average life cycle of support equipment is 15 years. Inadequate funding extends the use of support equipment beyond its projected life cycle.

**Units Impacted**

Various

**Contractor**

Various

**Program Element Code**

52834F

**In AF POM**

Yes, but underfunded

Support Equipment	FY11	FY12	FY13	FY14	FY15	FYDP
Other Procurement (3080)	2.2	1.0	0.0	0.0	0.0	3.2
<b>Total (\$M)</b>	2.2	1.0	0.0	0.0	0.0	3.2
<b>Quantity</b>	70.0	0.0	0.0	0.0	0.0	70.0

**Vehicles**

**Background**

- The vehicle procurement program is typically underfunded and continuously receives funding cuts to support other programs. These cuts affect both Active and Reserve Components.
- The vehicle requirements are currently identified in Air Force standard systems; however, the funding is not available for the procurement of these assets.
- AFRC mitigates the funding shortfall partially through temporary work arounds, redistribution of equipment due to BRAC closures, unit re-alignments and spreading limited resources across the command to fund highest priority requirements.

**Requirement**

Purchase numerous items for mission readiness across AFR units. Items include tow trucks, fuel trucks, maintenance utility vans, pick-up trucks, graders, cranes, etc.

**Impact If Not Funded**

Lack of sufficient vehicles has a negative effect on unit capability and training. Inadequate funding extends the use of vehicles beyond its projected life cycle and increases sustainment costs.

**Units Impacted**

Various.

**Contractor**

Various depending on supply source; however, most trucks will be Ford, Chevy or Dodge; most construction equipment will be John Deere and Caterpillar; and most forklifts will be Hysters.

**Program Element Code**

52834F

**In AF POM**

Yes, but underfunded

Vehicles	FY11	FY12	FY13	FY14	FY15	FYDP
Other Procurement (3080)	10.3	0.0	0.0	0.0	0.0	10.3
<b>Total (\$M)</b>	10.3	0.0	0.0	0.0	0.0	10.3
<b>Quantity</b>	146.0	0.0	0.0	0.0	0.0	146.0





## A-10 Thunderbolt II



### GLOBAL POWER



PROVIDES CLOSE AIR SUPPORT, PRECISION STRIKE, FORWARD AIR CONTROL, AND COMBAT SEARCH AND RESCUE IN DAY OR NIGHT OPERATIONS.

The A-10 Thunderbolt II is the primary Air Force Close Air Support ground attack fighter. The A-10 uses the internal 30mm cannon and external weapons load to conduct close air support, precision strike, forward air control, and Combat Search and Rescue in day or night operations. It is a highly effective, lethal, and survivable twin-engine jet aircraft used against all ground targets including tanks, other armored vehicles and hardened ground support equipment.

The Air Force Reserve maintains A-10 aircraft at the 917th Wing, Barksdale AFB, LA; and the 442nd Fighter Wing, Whiteman AFB, MO. As part of the Air Force's Total Force Integration, the Air Force Reserve teamed with Air Combat Command to establish two A-10 associate units in October 2007. More than 400 reservists support both the Regular Air Force's 23rd Wing at Moody Air Force Base, GA, and A-10 Formal Training Unit at Davis-Monthan AFB, AZ.

Contractors include General Electric (propulsion), and Lockheed Martin (major subsystems).

The Air Force Reserve A-10s require structural, avionics, and engine modernization upgrades to enable this highly accurate weapons platform to continue its critical mission performance throughout its planned lifespan. These upgrades include installation of missile warning and protection systems, LITENING Advanced Targeting Pod (ATP) spiral upgrades, addition of on-board oxygen generating systems, helmet mounted integrated targeting systems, newer combat search and rescue radios and updates to A-10 training systems for pilots.

### A-10 Executive Summary

- A-10 OBOGS—Procure/install On Board Oxygen Generation System (OBOGS) for all AFRC A-10s to increase operational efficiency.
- A-10 HMIT—Provide Helmet Mounted Integrated Targeting (HMIT) capability to AFRC A-10C.
- A-10 Combat Search and Rescue (CSAR) Radio—Support the ACC request for money to integrate the Lightweight Airborne Recovery System (LARS) V12 Combat Survivor-Evader Locator (CSEL) radio on the A-10 with development dollars.
- ATP Spiral Upgrade—LITENING advanced targeting pod spiral technology upgrades. These are upgrades to existing AFRC targeting pods to keep them current and relevant.
- Upgraded Electronic Countermeasures (ECM) Suite—Support Air Combat Command's (ACC) ACC's acquisition strategy for DRFM pods. The ACC FY12 POM prioritizations included DRFM upgrade to the ALQ-131 pod. These are legacy systems reflecting advancements in science and technology.

Modernization List Funding Profiles (\$M)

Program (Funding Appropriation)	P.E. Number	FY11	FY12	FY13	FY14	FY15	Program Total
A-10 OBOGS (3010) (3470)	52720F	4.5 0.0	3.8 0.1	0.0 0.2	0.0 0.2	0.0 0.2	8.3 0.7
A-10 HMIT (3010) (3470)	52720F	4.5 0.0	4.3 0.2	0.0 0.2	0.0 0.2	0.0 0.2	8.8 0.8
A-10 CSAR Radio (3010) (0350) (3470)	52720F	0.0 7.0 0.0	1.5 0.0 0.0	1.5 0.0 0.0	0.0 0.0 0.1	0.0 0.0 0.1	3.0 7.0 0.2
ATP Spiral Upgrade (3010)	52720F	22.0	0.0	0.0	0.0	0.0	22.0
Upgraded ECM Suite (3010) (3470)	52720F	0.0 0.0	21.0 0.0	21.0 0.3	0.0 0.3	0.0 0.3	42.0 0.9



## A-10 On Board Oxygen Generating System (OBOGS)

### Background

- Liquid Oxygen (LOX) is #1 issue preventing austere and bare base operations due to manpower and footprint associated with LOX generation and storage.
- On Board Oxygen Generating System (OBOGS) has been proven in active duty A-10s to:
  - Improve deployment capability and responsiveness
  - Increase safety, loiter time, and aircraft availability
  - Reduce sortie generation time
  - Reduces servicing cost, manpower, deployment footprint

### Requirement

- Procure/install OBOGS for all AFRC A-10s to increase operational efficiency.
- Reduces deployment costs, airlift requirements, servicing time and cost.
- Current AFRC A-10 LOX procurement/storage/transportation costs \$2.3M per year.
- Split fleet configuration problems with active duty.
- Increasing cost per A-10 flying hour.

### Units Impacted

- 442nd Fighter Wing, Whiteman AFB, MO
- 917th Fighter Group, Barksdale AFB, LA

### Contractor

Carlton Life Support Systems, Davenport Iowa

### Program Element

52720F

### In AF POM

No

A-10 OBOGS	FY11	FY12	FY13	FY14	FY15	FYDP
Aircraft Procurement (3010)	4.5	3.8	0.0	0.0	0.0	8.3
O&M—AFR (3740)	0.0	0.1	0.2	0.2	0.2	0.7
Total (\$M)	4.5	3.9	0.2	0.2	0.2	9.0
Quantity	27.0	27.0	0.0	0.0	0.0	54.0



## A-10C/F-16C

### Helmet Mounted Integrated Targeting (HMIT)

#### Background

- Helmet Mounted Integrated Targeting (HMIT) is a combatant commander urgent operational need directing a common helmet mounted cueing system on block 30 F-16C and A-10C.
- HMIT provides flight and weapons information to a display in the pilot's helmet. This allows pilots to rapidly target advanced weapons, employ threat countermeasures, and stay aware of critical developments during high workload portions of the mission.
- HMIT supports the global power critical capability and the air superiority and global precision attack core functions of the Air Force. HMIT will increase the effectiveness of all A-10C and F-16C missions: Close Air Support, Interdiction, Defensive and Offensive Counter Air, Combat Search and Rescue, Forward Air Control-Airborne and Nontraditional Intelligence, Surveillance and Reconnaissance.

#### Requirement

- Provide HMIT capability to AFRC A-10C/F-16C.
- Number one critical priority out of 30 from 10 Air Force (10AF) 2010 combat planning council.
- A-10 and F-16 SPOS have teamed to develop common interface and specifications and leverage work previously accomplished on block 40/50 F-16C JHMCS integration.

#### Impact If Not Funded

- Without HMIT AFRC aircraft will not comply with the combatant commander Urgent Operational Need (UON). HMIT is required to increase combat effectiveness and employ advanced weapons to meet low collateral damage requirements and accurately display friendly position.
- HMIT provides flight and weapons information to a display in the pilot's helmet. This allows pilots to rapidly target advanced weapons, employ threat countermeasures, and stay aware of critical developments during high workload demand portions of the mission.

#### Units Impacted

- 917th Fighter Group, Barksdale AFB, LA
- 301st Fighter Wing, Carswell JRB, TX
- 482nd Fighter Wing, Homestead ARB, FL
- 442nd Fighter Wing, Whiteman AFB, MO

#### Contractor

- Gentex Corp, El Cajon, CA.
- Raytheon Corporation, Indianapolis, IN

#### Program Element Code

- A10: 52720F
- F16: 52716F

#### In AF POM

No

Helmet Mounted Integrated Targeting	FY11	FY12	FY13	FY14	FY15	FYDP
Aircraft Procurement (3010)	4.5	4.3	0.0	0.0	0.0	8.8
O&M-AFR (3740)	0.0	0.2	0.2	0.2	0.2	0.8
Total (\$M)	4.5	4.5	0.2	0.2	0.2	9.6
Quantity	74.0	74.0	0.0	0.0	0.0	148.0

## A-10 Combat Search and Rescue Radio (CSAR)

#### Background

- The AN/ARS-6 Lightweight Airborne Recovery System (LARS (v6)) currently installed in 12 AFRC A-10s only displays range and bearing information to downed survivors.
- The Combat Survivor-Evader Locator (CSEL) radio in use now, sends over the horizon text messages and geographical coordinates which significantly improve rescue success. This information enables a quicker response time, minimizing exposure to hostile threats and greatly reducing the risk to aircrews and survivors.
- A LARS (v12) upgrade can be installed into the current LARS (v6), enabling aircrews to receive over the horizon text messages and coordinates of the survivor.

**Requirement**

- Support ACC request for money to integrate the LARS V12 on the A–10 with development dollars.
- Upgrade group A wiring in all 54 AFRC A–10s and purchase 12 LARS (v12) B kits.

**Impact If Not Funded**

Range and bearing only information takes more time to locate and rescue survivors than knowing their precise location. Not funding this upgrade increases exposure to enemy threats for survivors and rescuers, greatly jeopardizing the chances of mission success.

**Units Impacted**

- 442nd Fighter Wing, Whiteman AFB, MO
- 917th Fighter Wing, Barksdale AFB, LA

**Contractor**

Cubic Defense Applications Inc., San Diego, CA

**Program Element Code**

52720F

**In AF POM**

No

A–10 CSAR Radio	FY11	FY12	FY13	FY14	FY15	FYDP
Aircraft Procurement (3010)	0.0	1.5	1.5	0.0	0.0	3.0
Non-Recurring Engineering (NRE) (0350)	7.0	0.0	0.0	0.0	0.0	7.0
O&M–AFR (3740)	0.0	0.0	0.0	0.1	0.1	0.2
<b>Total (\$M)</b>	<b>7.0</b>	<b>1.5</b>	<b>1.5</b>	<b>0.1</b>	<b>0.1</b>	<b>10.2</b>
Quantity	0.0	6.0	6.0	0.0	0.0	12.0

## Advanced Targeting Pod

**Background**

LITENING advanced targeting pod spiral technology upgrades. These are upgrades to existing AFRC pods to keep them current and relevant.

**Requirement**

Technological advances dictate that AFRC must continuously upgrade targeting pods. The generation four targeting pod will also provide:

- 1K Charged coupled device with continuous focus.
- Greater sensitivity in laser ranging.
- Increased picture zoom.
- 1K infrared detect.
- Laser target illumination.

- Color symbology.
- Moving Target Tracker.
- 25 watt video transmitter.

**Impact If Not Funded**

Without these technology advances, we will not be able to take advantage of new precision weapon and reconnaissance capabilities.

**Units Impacted**

- 301st Fighter Wing, Carswell JRB, TX
- 482nd Fighter Wing, Homestead ARB, FL
- 307 Bomber Wing, Barksdale AFB, LA
- 442nd Fighter Wing, Whiteman AFB, MO

**Contractor**

Northrop Grumman Corp, Rolling Meadows, IL

**Program Element Code**

- A–10: 52713F
- F–16: 52720F
- B–52: 51720F

**In AF POM**

No

A–10/F–16/B–52 ATP Spiral Upgrade	FY11	FY12	FY13	FY14	FY15	FYDP
Aircraft Procurement (3010)	22.0	0.0	0.0	0.0	0.0	22.0
O&M–AFR (3740)	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total (\$M)</b>	<b>22.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>22.0</b>
Quantity	18.0	0.0	0.0	0.0	0.0	18.0

## A–10/F–16 Upgraded Electronic Countermeasures Pod

**Background**

Reserve A–10s and F–16s are equipped with Electronic Attack (EA) pods that were designed in the 1980s and permitted fighter aircraft to operate against 1980s threats. These pods are experiencing significant sustainment issues.

Electronic Warfare (EW) has rapidly evolved over the past decade making the A–10 and F–16 vulnerable to radar guided air-to-air and surface-to-air missiles. Improved EW equipment is essential to allow freedom of operation for legacy platforms.

Modern EA pods feature Digital Radio Frequency Memory (DRFM). EA pods with DRFM based technology are effective against current and future radar threats, while significantly reducing sustainment costs.

- The ACC FY12 POM prioritizations included DRFM upgrade to the ALQ-131 pod. These are legacy systems reflecting advancements in science and technology.
- ACC is working an acquisition strategy for DRFM pods. The program has an Acquisition Category (ACAT) III designation.

**Requirement**

Support ACC’s acquisition strategy for DRFM pods.

**Impact If Not Funded**

Legacy aircraft such as the A-10 and F-16 will be placed at high risk in any modern electronic warfare scenario, thus creating an operational deficiency in all mission areas decreasing survivability and lethality in every mission area..

**Units Impacted**

- 917th Fighter Group, Barksdale AFB, LA.
- 442nd Fighter Wing, Whiteman AFB, MO.
- 301st Fighter Wing, Carswell JRB, TX
- 482nd Fighter Wing, Homestead ARB, FL.

**Contractor**

Contracting strategy is under development and requires funding support.

**Program Element Code**

- A10: 52720F
- F16: 52716F

Upgraded ECM Suite	FY11	FY12	FY13	FY14	FY15	FYDP
Aircraft Procurement (3010)	0.0	21.0	21.0	0.0	0.0	42.0
O&M—AFR (3740)	0.0	0.0	0.3	0.3	0.3	0.9
<b>Total (\$M)</b>	0.0	21.0	21.3	0.3	0.3	42.9
<b>Quantity</b>	0.0	15.0	15.0	0.0	0.0	30.0





# B-52H Stratofortress



**GLOBAL POWER**

SERVES AS THE WORKHORSE OF THE CONVENTIONAL BOMBER FLEET POSSESSING INTERCONTINENTAL RANGE AND A LARGE, DIVERSE WEAPONS PAYLOAD.

The B-52 Stratofortress serves as the workhorse of the conventional bomber fleet possessing intercontinental range and a large, diverse weapons payload. The B-52

is an air refuelable, long-range bomber capable of performing a variety of missions, including strategic attack, precision strike, defense suppression, and maritime interdiction. The B-52 employs cruise missiles, the Harpoon Anti-Ship Missile, and precision munitions including laser guided bombs and Joint Direct Attack Munitions (JDAM). The airframe is certified to the year 2040.

The Air Force Reserve maintains B-52 aircraft assigned to the 307th Bomb Wing, Barksdale AFB, LA and is currently the only command that produces new aircrew for this aircraft through the Flying Training Unit program.

Contractors include: Boeing (airframe), Pratt & Whitney (propulsion), IIT (major subsystems) and Honeywell (Avionics Midlife Improvement).

The B-52 requires upgrades to the LITENING Advanced Targeting Pod (ATP) through spiral upgrades to maintain training and combat effectiveness.

## B-52 Executive Summary Modernization List Funding Profiles (\$M)

Program (Funding Appropriation)	FY11	FY12	FY13	FY14	FY15	Program Total
ATP Spiral Upgrade	22.0	0.0	0.0	0.0	0.0	22.0

*ATP Spiral Upgrade—LITENING advanced targeting pod spiral technology upgrades. These are upgrades to existing AFRC pods to keep them current and relevant.*

### Advanced Targeting Pod

**Background**  
LITENING advanced targeting pod spiral technology upgrades. These are upgrades to existing AFRC pods to keep them current and relevant. Present capabilities have been lost due to complete lack of available repair sources. Equipment is so old that manufacturers no longer support parts/repair.

**Requirement**

Technological advances dictate that AFRC must continuously upgrade targeting pods. The generation four targeting pod will also provide:

- 1K Charged cuppled device with continuous focus
- Greater sensitivity in laser ranging
- Increased picture zoom
- 1K infrared detector
- Laser target illumination
- Color symbology
- Moving Target Tracker
- 25 watt video transmitters

**Impact If Not Funded**

Without these technology advances, we will not be able to take advantage of new precision weapon and reconnaissance capabilities.

**Units Impacted**

- 301st Fighter Wing, Carswell JRB, TX
- 482nd Fighter Wing, Homestead ARB, FL
- 307 Bomber Wing, Barksdale AFB, LA
- 442nd Fighter Wing, Whiteman AFB, MO



**Contractor**

Northrop Grumman Corporation, Rolling Meadows, IL

**Program Element Code**

- A-10: 52720F
- F-16: 52716F
- B-52: 51720F

**In AF POM**

No

**Modernization List Funding Profiles (\$M)**

A-10/F-16 ATP Spiral Upgrade	FY11	FY12	FY13	FY14	FY15	FYDP
Aircraft Procurement (3010)	22.0	0.0	0.0	0.0	0.0	22.0
O&M—AFR (3740)	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total (\$M)</b>	<b>22.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>22.0</b>



## C-5 Galaxy



### GLOBAL REACH



THE C-5 GALAXY PROVIDES INTER-THEATER AIRLIFT IN SUPPORT OF U.S. NATIONAL DEFENSE.

The C-5 Galaxy provides the Air Force with inter-theater airlift in support of U.S. national defense. It can carry outsize and oversize cargo over intercontinental distances and can take off or land within relatively short distances.

The C-5 Galaxy and the C-17 Globemaster III are partners in the Air Force's strategic airlift concept.

The Air Force Reserve operates C-5 aircraft at the 445<sup>th</sup> Airlift Wing, Wright-Patterson AFB, OH; the 433<sup>rd</sup> Airlift Wing, Lackland AFB, TX; and the 439<sup>th</sup> Airlift Wing, Westover ARB, MA. The 433<sup>rd</sup> Airlift Wing at Lackland AFB is home to the Air Force's C-5 Formal Training Unit (FTU), which supports aircrew training for the entire C-5 fleet. The AFR associates with the active duty on C-5 aircraft at the 512<sup>th</sup> Airlift Wing, Dover AFB, DE, and the 349<sup>th</sup> Air Mobility Wing, Travis AFB, CA.

Two major modernization programs address C-5 reliability and maintenance issues: the Avionics Modernization Program (AMP) and the Reliability Enhancement and Re-engining Program (RERP). Additional capabilities being considered include C-5 Large Aircraft Infrared Countermeasures (LAIRCM) and C-5 Structures Modifications.

Contractors include Lockheed Martin (airframe), General Electric (engines and RERP), Honeywell (AMP), ARINC (AMP), and Goodrich (RERP).

### C-5 Executive Summary

- C-5 AN/AAV-24 Large Aircraft Infrared Countermeasures (LAIRCM)—Allows aircraft to survive in an environment of increasing threat complexity and lethality.
- Replace Aft Crown Skin on C-5A to avoid crippling non-availability bow waves to preserve C-5 strategic airlift capability through 2040.
- Brake Temperature Monitoring System (BTMS) to provides a means of measuring brake temperatures and alerting the flight crew of brake temperature conditions.

Unfunded Modernization Priority List Funding Profiles (\$M)

Program (Funding Appropriation)	FY11	FY12	FY13	FY14	FY15	Program Total
C-5 AN/AAQ-24 LAIRCM (3010)	36.0	36.0	36.0	36.0	0.0	144.0
C-5 Structures (3010)	44.0	44.0	44.0	22.0	0.0	154.0
C-5 Brake Temp. Monitoring System (3010)	1.5	1.5	1.5	0.3	0.0	4.8

## C-5 Large Aircraft Infrared Countermeasures (LAIRCM)

### Background

- AFR C-5s operate worldwide to support U.S. forces in low to medium threat environments, including threats from widely-proliferated shoulder fired infrared (IR) missiles.
- Currently fielded airlift defensive systems do not optimally protect aircraft from advanced IR threats.
- The LAIRCM protective suite uses laser technology to defeat incoming IR missiles and does not rely on pyrotechnic expendables (flares).
- C-5 LAIRCM complements flare-based defensive systems currently used and provides increased protection against advanced and emerging IR missile threats.
- Missile attacks on C-5, C-17, and commercial aircraft demonstrate the seriousness of the threat and highlight the difficulty of defining areas for avoidance.

### Requirement

LAIRCM ORD 314-92, August 98

### Impact If Not Funded

- LAIRCM is critical to prevent loss of life or aircraft.
- Failure to install the LAIRCM system leaves aircraft and aircrew vulnerable to an array of commonly held shoulder fired missiles endangering the ability to contribute in wartime efforts. USAF aircrews will operate in this environment for the foreseeable future.

### Units Impacted

- 433rd Airlift Wing, Lackland AFB, TX
- 439th Airlift Wing, Westover ARB, MA

### Contractor

Northrop Grumman Corporation (Rolling Meadows, IL); Lockheed Martin (Marietta, GA); BAE Systems, Nashua, NH; Elbit Systems of America, Fort Worth, TX

### Program Element Code

54219F

### In AF POM

No

C-5 LAIRCM	FY11	FY12	FY13	FY14	FY15	FYDP
Aircraft Procurement (3010)	36.0	36.0	36.0	36.0	0.0	144.0
<b>Total (\$M)</b>	<b>36.0</b>	<b>36.0</b>	<b>36.0</b>	<b>36.0</b>	<b>0.0</b>	<b>144.0</b>
<b>Quantity</b>	<b>4.0</b>	<b>4.0</b>	<b>4.0</b>	<b>4.0</b>	<b>0.0</b>	<b>16.0</b>



## C-5 Structures

### Background

- The C-5A fleet provides 25% of the U.S. outside cargo airlift capability.
- Confirmed Stress Corrosion Cracking (SCC) of C-5A Aft Crown Skins (ACS) and Contour Box Beam Fittings (CBBFs) requires a 10-year, fleet-wide replacement program to avoid extensive grounding and flight restrictions projected to start in FY12.
- ACS replacement costs are estimated at approximately \$8.5M per aircraft.
- CBBF replacement costs are estimated at approximately \$2.5M per aircraft.
- Replacement ACS panels and CBBFs are manufactured from improved, SCC resistant material; ACS replacements are also thicker than original design.

### Requirement

Replace ACS on C-5A to avoid crippling non-availability bow waves to preserve C-5 strategic airlift capability through 2040.

### Impact If Not Funded

- Catastrophic failure of ACS integrity during flight will lead to explosive decompression, loss of life, and possible loss of aircraft.
- If the proposed C-5A structures program is not executed, the C-5A fleet is projected to suffer non-availability bow waves in FY12-13 (47% of the fleet) and again in FY20-21 (79% of the fleet).
- Incurs an estimated \$95M increase in inspection and repair costs during FY10-14 without a planned replacement program.

### Units Impacted

433rd Airlift Wing, Lackland AFB, TX

### Contractor

Lockheed Martin Aero (Bethesda, MD, and Marietta, GA)

### Program Element Code

54219F

### In AF POM

No

C-5 Structures	FY11	FY12	FY13	FY14	FY15	FYDP
Aircraft Procurement (3010)	44.0	44.0	44.0	22.0	0.0	154.0
<b>Total (\$M)</b>	<b>44.0</b>	<b>44.0</b>	<b>44.0</b>	<b>22.0</b>	<b>0.0</b>	<b>154.0</b>
<b>Quantity</b>	<b>4.0</b>	<b>4.0</b>	<b>4.0</b>	<b>2.0</b>	<b>0.0</b>	<b>14.0</b>

## C-5 Brake Temperature Monitoring System

### Background

- Pilots need to know the level of risk they face during a landing so they can determine if they should taxi away from other aircraft and ground personnel
- The C-5 fleet historically experiences overheated brake conditions which may cause a fuse to blow or necessitate tire, wheel, and brake inspection or other maintenance actions.
  - The condition may be caused by severe usage or excessive drag.
  - When extreme overheat is experienced the carbon heat stack requires replacement on all affected wheels. Elevated temperatures also cause brake seal leakage resulting in brake fires that can damage brakes, wheels, tires, and axles.
- Brake temperature sensors to the C-5 brake system will allow aircrew to monitor, in real time, brake temperatures and system performance. This will ensure crews can respond to excessive temperatures in a timely manner.
- System will enhance Take Off and Landing Data (TOLD) application and ground handling procedures. The ability to record and track brake temperatures will also assist maintenance personnel in monitoring system operations to identify degradation prior to system failure.

### Requirement

- Modify C-5 aircraft with Brake Temperature Monitoring System (BTMS) to provide a means of measuring brake temperatures and alerting the flight crew of brake temperature conditions.
- System will satisfy safety investigation recommendations for Class C mishap, June 03, Brake Fire, Air Force Safety Automated System (AFSAS) ID# 319526.

### Impact If Not Funded

Potential injury to aircrew and ground personnel and damage or loss of aircraft from unidentified excesses brakes temperatures that results in a fire.

### Units Impacted

- 433rd Airlift Wing, Lackland AFB, TX
- 439th Airlift Wing, Westover ARB, MA

### Contractor

Crane Aerospace Electronics, Burbank, CA

### Program Element Code

54219F

### In AF POM

No

C-5 Brake Temp System	FY11	FY12	FY13	FY14	FY15	FYDP
Aircraft Procurement (3010)	1.5	1.5	1.5	0.3	0.0	4.8
<b>Total (\$M)</b>	<b>1.5</b>	<b>1.5</b>	<b>1.5</b>	<b>0.3</b>	<b>0.0</b>	<b>4.8</b>
<b>Quantity</b>	<b>5.0</b>	<b>5.0</b>	<b>5.0</b>	<b>1.0</b>	<b>0.0</b>	<b>16.0</b>





- Since 2004 Active Noise Reduction (ANR) headsets have received approval for use on many different military platforms to include the C-5 and the C-130.

**Requirement**

- Procure a suitable ANR headset for the C-17 which will ultimately reduce fatigue associated with hazardous noise levels and increase hearing protection for AFRC aircrews.
- Occupational Health and Safety Administration Title 29 of the Code of Federal Regulations (CFR), Part 1910.95.

**Impact If Not Funded**

Reduced mission effectiveness from crew fatigue due to exposure to aircraft ambient noise.

**Unit Impacted**

- 452nd Air Mobility Wing, March AFB, CA.
- 445th Air Wing, Wright-Patterson AFB, OH.

**Contractor**

Bose Corporation, Framingham, MA.

**Program Element Code**

54214F

**In AF POM**

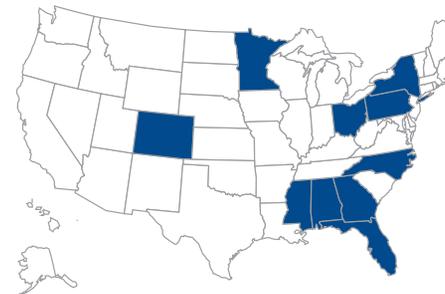
No.

C-17 Active Noise Reduction Headsets	FY11	FY12	FY13	FY14	FY15	FYDP
Aircraft Procurement (3010)	0.8	0.0	0.0	0.0	0.0	0.8
Total (\$M)	0.8	0.0	0.0	0.0	0.0	0.8
Quantity	16.0	0.0	0.0	0.0	0.0	16.0





## C-130 Hercules



### GLOBAL REACH



PROVIDES INTER-THEATER AND INTRA-THEATER AIRLIFT IN SUPPORT OF U.S. NATIONAL DEFENSE

The C-130 Hercules provides the Air Force with capability to takeoff and land on short, unimproved runways normally found during austere operations. The aircraft can be flown more than 3,000 nautical miles without refueling with a

maximum payload of 42,000 pounds. Several variants of the C-130 are described below.

The C-130H2/3 provides rapid transportation of personnel or cargo for delivery day or night by parachute or landing. It can also be used for aeromedical evacuation of injured personnel. The AFR maintains C-130H2 aircraft at Niagara Falls ARS, NY; Dobbins ARB, GA; Pope AFB, NC; Maxwell AFB, AL; Youngstown ARS, OH; and Pittsburgh IAP, PA. AFR maintains C-130H3 aircraft at Peterson AFB, CO; Minneapolis-St. Paul ARS, MN; and Little Rock AFB, AR.

The HC-130P/N conducts day or night operations to affect the recovery of downed aircrews or other isolated personnel from hostile or denied environments during war. They may provide air refueling of recovery force helicopters and tactical delivery via airdrop or airland of rescue personnel watercraft, all-terrain vehicles, and/or direct assistance in advance of recovery vehicles. Current AFR HC-130P/N inventory is based at Patrick AFB, FL.

The MC-130E Combat Talon I provides infiltration, exfiltration and resupply of special operations forces and equipment in hostile or denied territories. Secondary missions include psychological operations and helicopter air refueling. The AFR maintains MC-130E aircraft at Duke Field, FL.

The C-130J is the latest and most advanced version of the C-130, with more fuel efficiency and greater range than previous versions. With increased reliability and maintainability, the C-130J reduces the cost of ownership by as much as 45%. It supports ground operations through the delivery of paratroopers and equipment to austere runways at forward bases. The C-130J conducts humanitarian relief missions and can be used for medical evacuations. The WC-130J provides weather reconnaissance capability. The AFR maintains C-130Js and WC-130Js at Keesler AFB, MS. Contractors include Lockheed Martin (airframe) and Allison (propulsion).

As the aircraft age, the Air Force must modernize and recapitalize the mobility fleet. The Air Force Reserve is actively pursuing the Large Aircraft Infrared Countermeasures (LAIRCM), missile warning sensors and flare dispensers, a beyond line-of-sight communication capability, real-time battlespace information in the cockpit to include data link/common operating picture ability, an upgraded all-weather radar, crashworthy loadmaster seat, an updated aerial spray system, computerized takeoff and landing data, civil Satellite Communications (SATCOM) for WC-130Js, and a digital map interface.

## C-130 Executive Summaries

### Unfunded Modernization Priority List Funding Profiles (\$M)

Program (Funding Appropriation)	P.E. Number	FY11	FY12	FY13	FY14	FY15	Program Total
C-130 LAIRCM (3010)	54343F	21.0	21.0	21.0	0.0	0.0	63.0
C-130 SLOS/BLOS (3010) (3740)	54343F	8.1 0.0	1.3 0.0	0.9 0.5	0.0 0.5	0.0 0.6	10.3 1.6
C-130 Improved SAFIRE Lookout (3010)	54343F	7.3	0.0	0.0	0.0	0.0	7.3
C-130 MASS (3010) (3740)	54343F	4.5 0.0	7.5 0.0	0.0 0.0	0.0 0.1	0.0 0.2	12.0 0.3
C-130 Armor (3010)	54343F	5.8	5.3	4.3	0.0	0.0	15.4
C-130 Crash Worthy Loadmaster Seat (3010)	54343F	11.0	11.5	0.0	0.0	0.0	22.5
C-130J ARC-210 Improvements (3010)	54343F	0.7	0.0	0.0	0.0	0.0	0.7
C-130 RWR (3010) (3740)	54343F	17.8 0.0	15.8 0.0	15.8 0.3	15.8 0.4	0.0 0.4	65.2 1.1
C-130 TAWS (3010)	54343F	2.3	2.4	0.5	0.0	0.0	5.2
C-130 VECTS (3010) (3740)	54343F	0.7 0.0	0.0 0.1	0.0 0.1	0.0 0.1	0.0 0.1	0.7 0.4
C-130 LED Position Light (3010)	54343F	1.8	0.0	0.0	0.0	0.0	1.8
C-130 Wireless Interphone (3010)	54343F	2.5	0.5	0.0	0.0	0.0	3.0
C-130 Electronic Flight Bag (3010)	54343F	1.3	0.0	0.0	0.0	0.0	1.3
C-130 DTM Replacement (3010)	54343F	2.4	0.0	0.0	0.0	0.0	2.4
C-130J Cargo Compartment Camera (3010)	54343F	0.9	0.0	0.0	0.0	0.0	0.9
C-130 Wireless Gate Cut (3010)	54343F	1.4	1.4	0.0	0.0	0.0	2.8

C-130 Lavatory (3010)	54343F	1.7	0.0	0.0	0.0	0.0	1.7
C-130 EPCS (3010)	54343F	23.5	22.2	0.0	0.0	0.0	45.7
C-130H2 Regional Simulator (3010) (3740)	54343F	26.0 0.0	0.0 0.0	0.0 0.5	0.0 0.5	0.0 0.6	26.0 1.6
C-130 DMVR (3010) (3740)	54343F	2.0 0.0	7.2 0.0	5.0 0.3	0.0 0.3	0.0 0.4	14.2 1.0
C-130 Improved Propeller (3010)	54343F	48.0	44.0	44.0	44.0	0.0	180.0
C-130 RADAR Countermeasures (3010) (3740)	54343F	18.0 0.0	87.0 0.0	87.0 0.5	87.0 0.5	0.0 0.6	279.0 1.6
C-130 Permanent GPS Retransmission (3010)	54343F	1.2	0.0	0.0	0.0	0.0	1.2

\*3740 Appropriation \*\*3010 Appropriation

- C-130 Large Aircraft Infrared Countermeasures (LAIRCM)—Allows aircraft to survive in an environment of increasing threat complexity and lethality.
- C-130 Secure Line of Sight/Beyond Line of Sight (SLOS/BLOS) Communications Capability—Upgrades AFRC C-130Hs with ARC-210 and Situational Awareness DataLink (SADL) Radios to provide aircrews with a Real Time Information in the Cockpit (RTIC) System that meets current mission operation requirements for a comprehensive, networked communications capability throughout all theaters of operation, and an increased situational awareness capability.
- C-130 Improved Surface-to-Air Fire (SAFIRE) Lookout capability—Replaces current small round window doors on AFRC H2 aircraft with large square window doors that provide increased field of view for Loadmasters performing scanning duties.
- C-130 Modular Aerial Spray System (MASS)—Replaces the current MASS which is becoming increasingly more difficult to support with a newly designed system. This is required to meet current and future aerial spray applications directed by the Center for Disease Control, Homeland Defense, and DoD requirements.
- C-130 ARMOR—Installs new (12.7mm/.50cal) armor to protect aircrew and vital aircraft parts from hostile small arms fire.
- C-130 Crash Worthy Loadmaster Seats—Install two crash worthy seats for loadmasters providing better survivability.
- C-130J ARC-210 Improvements—provides additional upper hatches with permanently installed antennas to allow simultaneous use of ARC-210 and Combat Track II (CTII).
- C-130 Radar Warning Receiver (RWR)—Equips AFRC's C-130s with modernized ALR-69A equipment including the Precision Location and Identification (PLAID) enhancement to counter increasing threat of radar guided surface-to-air missiles.
- C-130 Terrain Awareness Warning System (TAWS)—Provides APN-241 radar upgrades that when combined with Digital Terrain Elevation Data System (DTEDS) will provide aircrews with visual terrain warnings.

- C-130 Virtual Electronic Combat Training System (VECTS)—Provides aircrews with an electronic warfare trainer without the need to fly to EW ranges. VECTS training simulations are hosted on a laptop computer that also serves as a planning station for the training missions.
- C-130 Light Emitting Diode (LED) Position Lights—Replaces current incandescent position lights that do not meet Federal Aviation Regulation (FAR) requirements with LED position lights developed for form, fit and function replacement.
- C-130 Wireless Interphone—Provides Loadmasters with wireless interphone reducing safety hazards associated with the current 100' cords.
- C-130 Electronic Flight Bag—Provides aircrews with electronic flight bags reducing paper waste and reducing fuel consumption.
- C-130 Data Transfer Module (DTM) Replacement—will replace current un-supportable DTMs that are used to transfer flight plans to the aircraft with new devices.
- C-130J Cargo Compartment Camera—Installs a cargo compartment camera that can be monitored by aircrew for safer onload/offload operations.
- C-130 Wireless Gate Cut—Provides precision gate cut to remove human factors allowing for more precise airdrops.
- C-130 Lavatory—Will install modern flush toilets on 14 AFRC C-130s.
- C-130 Electronic Prop Control System (EPCS)—Replaces existing synchrophasers with new digital prop control system.
- C-130H2 Regional Simulator – Procures a new simulator for open bay at current training location allowing better student throughput.
- C-130 Digital Mission Video Recorder (DMVR)—Will install a mission recorder to aide in mission de-briefing and accident investigations.
- C-130 Improved Propeller—Installs new NP2000 eight (8) bladed props for increased thrust and fuel efficiency.
- C-130 Radar Countermeasures—Provides an Radio Frequency (RF) jamming capability.
- C-130 Permanent GPS Retransmission—Provides continuous GPS retransmission within the aircraft for use by systems in the cargo bay.

## HC/MC-130 Executive Summary

Modernization List Funding Profiles (\$M)

Program (Funding Appropriation)	P.E. Number	FY11	FY12	FY13	FY14	FY15	Program Total
HC-130 Integrated Electronic Warfare (EW) Suite (3010) Suite (3740)	53122F	6.0 0.4	0.0 0.1	0.0 0.1	0.0 0.2	0.0 0.2	6.0 1.0
MC-130E SAMS/ESA (3010) (3740)	B8048F	4.0 0.1	0.0 0.1	0.0 0.1	0.0 0.1	0.0 0.1	4.0 0.5



- Air Force Reserve Command (AFRC) HC-130 aircraft have received more sophisticated, but non integrated EW equipment over the past few years. Infrared threats are met semi automatically and radar threats are met entirely manually. Both types of threats are becoming more sophisticated and response timing and expendable mix can no longer be left to a manual response. Proposed system is already common to F-16C+ and A-10C aircraft.
- Air Force Reserve Command (AFRC) MC130E Combat Talon I aircrews require immediate improvements to their situational awareness and access to Tactical Data Links (TDL) compatible with Air Force Special Operations Command (AFSOC) aircraft and external SOF Teams. TDLs will be used by aircrews and SOF teams for situational awareness, threat avoidance, in-flight replanning, weapons cueing, and fratricide prevention. AFSOC's long duration missions require near real-time in-flight situational awareness updates provided by TDLs. AFSOC aircraft and external Special Operations Force (SOF) Teams are pursuing compatible, Tactical Data Links for the exchange of mission-critical information. SOF Air Mission Suite (SAMS)/Enhanced Situational Awareness (ESA) meets this requirement.

## C-130 Large Aircraft Infrared Countermeasures (LAIRCM)

### Background

- C-130H aircraft operate worldwide to support US and allied forces in threat environments that include widely proliferated shoulder-fired infrared (IR) missiles.
- Current fielded defensive systems do not effectively protect the aircraft from current and future IR threats. The AN/AQQ-24 LAIRCM system uses a laser beam to defeat the missile and does not rely on hazardous and politically sensitive flares, which often highlight the aircraft to additional threats.
- LAIRCM system configuration on the C-130 is two Small Laser Transmitter Assemblies (SLTAs), five AAR-54 sensors, one processor and one Control Interface Unit (CIU).

**Requirement**

LAIRCM ORD 314-92, Aug 98.

**Impact If Not Funded**

- The C-130 operates in environments of increasing levels of threat complexity and lethality. The aircrew and aircraft will be tasked to operate in this environment while employing the less than state-of-the-art aircraft defensive systems, as well as the increase use of pyrotechnic expendables.
- Increased chance of aircraft and/or crew loss.

**Units Impacted**

- 94th Airlift Wing, Dobbins ARB, GA
- 302nd Airlift Wing, Peterson AFB, CA
- 908th Airlift Wing, Maxwell AFB, AL
- 910th Airlift Wing, Youngstown ARS, OH
- 440th Airlift Wing, Pope AFB, NC
- 911th Airlift Wing, Pittsburgh IAP, PA
- 914th Airlift Wing, Niagara Falls IAP, NY
- 934th Airlift Wing, Minn-St Paul ARS, MN
- 815th Airlift Squadron, Keesler AFB, MS

**Contractor**

Northrop Grumman Electronic Systems, Rolling Meadows, IL; BAE Systems, Nashua, NH; Lockheed Martin, Crestview, FL.

**Program Element Code**

54343F

**In AF POM**

No

C-130 LAIRCM	FY11	FY12	FY13	FY14	FY15	FYDP
Aircraft Procurement (3010)	21.0	21.0	21.0	0.0	0.0	63.0
Total (\$M)	21.0	21.0	21.0	0.0	0.0	63.0
Quantity (A Kits/B Kits)	6/2	8/4	8/4	0.0	0.0	22/10

**C-130 Secure  
Line-of-Sight/Beyond Line-of-Sight  
(SLOS/BLOS) with Data Link**

**Background**

- Overseas Contingency Operations require comprehensive, networked command and control (C2) throughout all theaters of operation.
- C-130 aircrews lack equipment to gain timely battlespace knowledge of enemy threats, friendly positions, and other pertinent wartime information.
- A SLOS/BLOS with data link provides the C2 link and maximizes C-130 aircrew situational awareness and provides real time information to C-130 aircrews so they can participate in present day network-centric battlespace.
- Real-time-in-the-cockpit data will enhance mission success and increase survivability through updated threat and weather information and battlespace Situational Awareness (SA).

**Requirement**

- Upgrade 84 AFRC C-130H aircraft with an interoperable combat communications capability to exchange real time information collaboratively with all battlespace users.
- Capability Development Document for Tactical Data Link Integration, 22 Jan 04. AMC MAF Tactical Data Link Transformation CDD, Increment1, 31 Jan 04.

**Impact If Not Funded**

AFRC C-130 aircrews in contingency operations will remain outside the C2 networks in various theaters of operation and blind to the wealth of real-time information available to the warfighter. Ultimately, reducing the survivability and critical mission success of combat operations.

**Units Impacted**

- 94th Airlift Wing, Dobbins ARB, GA
- 302nd Airlift Wing, Peterson AFB, CO
- 908th Airlift Wing, Maxwell AFB, AL
- 910th Airlift Wing, Youngstown ARS, OH
- 440th Airlift Wing, Pope AFB, NC
- 911th Airlift Wing, Pittsburgh IAP, PA
- 914th Airlift Wing, Niagara Falls IAP, NY
- 934th Airlift Wing, Minn-St Paul ARS, MN

**Contractor**

- Northrop Grumman Space and Mission Systems Corp, Redondo Beach, CA
- Rockwell Collins, Cedar Rapids, IA
- Raytheon Corp, Fullerton, CA

**Program Element Code**

54343F

**In AF POM**

No



C-130 SLOS/BLOS	FY11	FY12	FY13	FY14	FY15	FYDP
Aircraft Procurement (3010)	8.1	1.3	0.9	0.0	0.0	10.3
O&M—AFR (3740)	0.0	0.0	0.5	0.5	0.6	1.6
Total (\$M)	8.1	1.3	1.4	0.5	0.6	11.9
Quantity	25.0	0.0	0.0	0.0	0.0	25.0

FY12 and FY13 procurement dollars are for installs.

## C-130 Surface-to-Air Fire (SAFIRE) Lookout Capability

### Background

- Air Force Reserve Command (AFRC) C-130H2s have two paratroop doors containing a small, round porthole window.
- Aircrews use the window to visually scan for threats to the aircraft; however, it has a very restrictive field of view (FOV) for scanning.
- Scanners need the ability to visually acquire and identify surface-to-air-fire (SAFIRE) behind aircraft and at least 45 degrees below the horizon.
- Lead Command, Air Mobility Command (AMC), is considering a program to install bubble windows on all C-130 paratroop doors, but funding has not been available to initiate program.
- C-130H3 and J model aircraft have large square windows installed on the paratroop doors that provide improved scanning capability.

### Requirement

Install large square window doors on remaining AFRC C-130H2 aircraft providing increased FOV for the scanner until lead Command sponsored SAFIRE Lookout Program is funded.

### Impact If Not Funded

- C-130s will remain vulnerable to an array of common weapons due to limited FOV from current troop door windows.
- Loss of even one C-130 aircraft due to SAFIRE will significantly impact global airlift operations.

### Units Impacted

- 94th Airlift Wing, Dobbins ARB, GA
- 908th Airlift Wing, Maxwell AFB, AL
- 910th Airlift Wing, Youngstown ARS, OH
- 911th Airlift Wing, Pittsburgh IAP, PA
- 914th Airlift Wing, Niagara Falls, NY
- 440th Airlift Wing, Pope AFB, NC

### Contractor

Lockheed Martin Aeronautical, Marietta, GA

### Program Element Code

54343F

### In AF POM

No

C-130 SAFIRE Lookout	FY11	FY12	FY13	FY14	FY15	FYDP
Aircraft Procurement (3010)	7.3	0.0	0.0	0.0	0.0	7.3
Total (\$M)	7.3	0.0	0.0	0.0	0.0	7.3
Quantity	29.0	0.0	0.0	0.0	0.0	29.0

## C-130 Modular Aerial Spray System (MASS)

### Background

- The 910th Airlift Wing is tasked by DoD Directive 4150.7, Para 5.4 to maintain a large area fixed wing aerial spray capability to control disease vectors in continental U.S. disaster areas, e.g., Hurricane Katrina, combat areas and DoD installations.
- The current modular aerial spray system (MASS) is over 20 years old, no longer in production and becoming increasingly more difficult and expensive to maintain. It is expected to reach the end of the life cycle within the next four years.
- The ability of these aircraft to cover large areas with the proper pest control cannot be duplicated in the civilian sector and is not available through any other DoD units.
- Supportability issues are causing system failures while performing operational missions causing lost sorties.

### Requirement

Replace the current MASS with a new designed roll-on, roll-off system. This is required to meet current and future aerial spray applications directed by the Center for Disease Control, Homeland Defense, and DoD requirements.

### Impact If Not Funded

- Eventual loss of spray capability to control large area disease vectors by any entity in U.S.
- If a replacement system is not procured, the DoD will not be able to maintain an aerial spray capability to control disease vectors, pest organisms, vegetation, or treat oil spills.

### Units Impacted

10th Airlift Wing, Youngstown ARS, OH

### Contractor

TBD

### Program Element Code

54343F

### In AF POM

No



C-130 MASS	FY11	FY12	FY13	FY14	FY15	FYDP
Aircraft Procurement (3010)	4.5	7.5	0.0	0.0	0.0	12.0
O&M—AFR (3740)	0.0	0.0	0.0	0.1	0.2	0.3
Total (\$M)	4.5	7.5	0.0	0.1	0.2	12.3
Quantity	1.0	5.0	0.0	0.0	0.0	6.0

### C-130 Improved Armor

**Background**

- The majority of Anti-Aircraft Artillery (AAA) threats fire a high caliber weapon (12.7mm/50 cal). C-130 armor is incapable of protecting the aircraft or crew from the majority of threats.
- Current AFR C-130 Armor is only capable of protecting the aircrew and sensitive areas of the aircraft against small arms (7.62mm/30 cal) fire.
- New armor being offered by civilian companies is lighter, easier to install, and requires less maintenance than current armor.

**Requirement**

Procure new armor for all AFRC C-130 aircraft.

**Impact If Not Funded**

Aircraft will remain vulnerable to small arms fire during take off and landing increasing the possibility of mission failure or more importantly, loss of aircraft and personnel.

**Impacted**

- 94th Airlift Wing, Dobbins ARB, GA
- 302nd Airlift Wing, Peterson AFB, CO
- 908th Airlift Wing, Maxwell AFB, AL
- 910th Airlift Wing, Youngstown ARS, OH
- 440th Airlift Wing, Pope AFB, NC
- 911th Airlift Wing, Pittsburgh IAP, PA
- 914th Airlift Wing, Niagara Falls IAP, NY
- 934th Airlift Wing, Minn-St Paul ARS, MN
- 403rd Wing, Keesler AFB, MS

**Contractor**

TBD

**Program Element Code**

54343F

**In AF POM**

No

C-130 Armor	FY11	FY12	FY13	FY14	FY15	FYDP
Aircraft Procurement (3010)	5.8	5.3	4.3	0.0	0.0	15.4
Total (\$M)	5.8	5.3	4.3	0.0	0.0	15.4
Quantity	28.0	28.0	23.0	0.0	0.0	79.0

### C-130 Crashworthy Loadmaster Seat

**Background**

- Recent C-130 wartime losses have proven fatal to unrestrained crewmembers. Currently, crashworthy seating is not available for loadmasters.
- The loadmasters must now take the risk of remaining unrestrained during takeoffs and landings.
- Adding stowable, crashworthy seats can prevent injury and/or death to crewmembers.
- Mishap Safety Review Board recommended installation of crashworthy seats for loadmasters.

**Requirement**

AFRC C-130s need crashworthy seats at the paratroop door position. These seats must be capable of being stowed to allow for cargo handling, airdrop missions, and aircraft egress.

**Impact If Not Funded**

The lack of a crashworthy seat greatly increases the risk of injury and/or death to loadmasters.

**Units Impacted**

- 94th Airlift Wing, Dobbins ARB, GA
- 302nd Airlift Wing, Peterson AFB, CO
- 908th Airlift Wing, Maxwell AFB, AL
- 934th Airlift Wing, Minn-St Paul ARS, MN
- 403rd Airlift Wing, Keesler AFB, MS
- 440th Airlift Wing, Pope AFB, NC
- 910th Airlift Wing, Youngstown ARS, OH
- 914th Airlift Wing, Niagara Falls ARS, NY
- 911th Airlift Wing, Pittsburgh IAP, PA

**Contractor**

Awaiting C-130 Program Office contract award.

**Program Element Code**

54343F

**In AF POM**

No

C-130 Crashworthy Seat	FY11	FY12	FY13	FY14	FY15	FYDP
Aircraft Procurement (3010)	11.0	11.5	0.0	0.0	0.0	22.5
Total (\$M)	11.0	11.5	0.0	0.0	0.0	22.5
Quantity	36.0	46.0	0.0	0.0	0.0	82.0

**C-130J ARC-210 Radio Improvements****Background**

- Overseas Contingency Operations (OCO) require comprehensive, networked command and control (C2) throughout all theaters of operation.
- A secure line of sight (SLOS)/beyond line of sight (BLOS) with data link provides the C2 link and maximizes C-130 aircrew situational awareness and provides real time information to C-130 aircrews so they can participate in present day network-centric battlespace.
- The C-130J is equipped with one SATCOM antenna which is normally connected to the ARC-210 radio. When operational missions require the use of Combat Track II (CTII), it must be connected to the SATCOM antenna. Once CTII is connected to the SATCOM antenna, ARC-210 SATCOM operations are either substantially degraded or completely lost.
- An improvement is needed to allow simultaneous operations of both ARC-210 SATCOM and CT II.

**Requirement**

Procurement of additional hatches with installed antenna used during missions requiring both ARC-210 and CTII use.

**Impact If Not Funded**

Without this upgrade C-130J aircrews will not be able to utilize CTII and ARC-210 Voice SATCOM simultaneously. BLOS communication is a critical capability needed to effectively conduct worldwide mobility operations. Although AMC has adopted CT II to fulfill C-130 BLOS communication needs, other C2 agencies utilize either DAMA or Dedicated Voice SATCOM. The C-130J needs the capability to utilize both systems simultaneously as the mission dictates.

**Units Impacted**

403rd Airlift Wing, Keesler AFB, MS

**Contractor**

TBD

**Program Element Code**

54343F

**In AF POM**

No

C-130J ARC-210 Improvements	FY11	FY12	FY13	FY14	FY15	FYDP
Aircraft Procurement (3010)	0.7	0.0	0.0	0.0	0.0	0.7
Total (\$M)	0.7	0.0	0.0	0.0	0.0	0.7
Quantity	8.0	0.0	0.0	0.0	0.0	8.0

**C-130 Radar Warning Receiver (RWR)****Background**

- Legacy Radar Warning Receiver's (RWR) produce erroneous threat signals and are very inaccurate as to actual threat locations.
- Modernized RWR are now available that provide precise threat information which assist aircrews in identifying and defeating radar missile threats.
- AFRC C-130 aircrews need an enhanced capability to precisely locate and identify modern day radar threats in order to maximize survivability and successfully accomplish their combat operations.

**Requirement**

Equip all AFRC C-130H aircraft with modernized ALR-69A equipment including the Precision Location and Identification (PLAID) enhancement to counter increasing threats of radar guided surface-to-air missiles.

**Impact If Funded**

- Inability of AFRC C-130 aircrew to defeat enemy radar missiles.
- Loss of aircraft and/or life.

**Units Impacted**

- 94th Airlift Wing, Dobbins ARB, GA
- 302nd Airlift Wing, Peterson AFB, CO
- 908th Airlift Wing, Maxwell AFB, AL
- 910th Airlift Wing, Youngstown ARS, OH
- 440th Airlift Wing, Pope AFB, NC
- 911th Airlift Wing, Pittsburgh IAP, PA
- 914th Airlift Wing, Niagara Falls IAP, NY
- 934th Airlift Wing, Minn-St Paul ARS, MN

**Contractor**

Raytheon, Goleta, CA

**Program Element Code**

54343F

**Item Included in AF POM**

No



C-130H RWR	FY11	FY12	FY13	FY14	FY15	FYDP
Aircraft Procurement (3010)	17.8	15.8	15.8	15.8	0.0	65.2
O&M—AFR (3740)	0.0	0.0	0.3	0.3	0.4	1.0
<b>Total (\$M)</b>	<b>17.8</b>	<b>15.8</b>	<b>16.1</b>	<b>16.1</b>	<b>0.4</b>	<b>66.2</b>
Quantity	21.0	21.0	21.0	21.0	0.0	84.0

## C-130H Terrain Awareness Warning System (TAWS)

### Background

- C-130 aircrews are currently tasked to fly in demanding environments (night low level in mountainous terrain, airdrops and penetration descents to Drop Zone/Landing Zone (DZ/LZ) airfields in mountainous terrain) and against varying levels of threat systems.

- Current systems, such as Ground Collision Avoidance System (GCAS) and Ground Proximity Warning Systems (GPWS), only incorporate radar altimeter data with aircraft flight parameters to issue terrain collision warnings. They do not have a capability to display terrain data or essentially “look ahead” of the aircraft and issue terrain warnings based on aircraft flight path/parameters and the terrain in front of the aircraft.

- Aircrews need increased situational awareness concerning terrain data and a system which can provide terrain clearance information by analyzing aircraft flight path/parameters and terrain in front of the aircraft.

- Aircrews need the capability to display terrain information and receive terrain warnings based on Digital Terrain Elevation Data (DTED). This will provide aircrews increased situational awareness concerning terrain clearance because it displays terrain data and terrain clearance information in relation to the aircraft’s position and flight path based on the DTED loaded on the aircraft.

### Requirement

The APN-241 enhancements (Group 3 and Group 4) have terrain avoidance capability. AFRC C-130H aircraft have the APN-241 installed and could be modified to provide this capability.

### Impact If Not Funded

Aircrews will have decreased situational awareness concerning terrain around the aircraft and a reduced reaction time in response to terrain conflicts. With the complexity of missions aircrews are tasked and decreasing crew manning, this is a significant risk increase concerning controlled flight into terrain (CFIT).

### Units Impacted

- 94th Airlift Wing, Dobbins ARB, GA
- 302nd Airlift Wing, Peterson AFB, CO
- 908th Airlift Wing, Maxwell AFB, AL
- 934th Airlift Wing, Minn-St Paul ARS, MN
- 440th Airlift Wing, Pope AFB, NC
- 910th Airlift Wing, Youngstown ARS, OH
- 914th Airlift Wing, Niagara Falls ARS, NY
- 911th Airlift Wing, Pittsburgh IAP, PA

**Contractor**

Northrop Grumman Electronic Systems, Linthicum, MD.

**Program Element Code**

54343F

**In AF POM**

No

C-130 TAWS	FY11	FY12	FY13	FY14	FY15	FYDP
Aircraft Procurement (3010)	2.3	2.4	0.5	0.0	0.0	5.2
Total (\$M)	2.3	2.4	0.5	0.0	0.0	5.2
Quantity	26.0	48.0	10.0	0.0	0.0	84.0

### C-130 Virtual Electronic Combat Training System

**Background**

- AFRC C-130 aircrews continue to operate in an area of operations plagued with radar and missile threats. In order to maximize their survivability and successfully accomplish combat missions, these aircrews need the most current and up to date combat training.
- Air Force Reserve C-130 aircrews must be trained to fly against electronic, optical and infrared guided threats throughout the area of operations.
- Virtual Electronic Training System (VECTS) will provide pre-mission threat scenario planning, in-flight threat simulations to radar and missile warning systems as well as provide post-mission playback capability.

**Requirement**

- Aircrews require an electronic warfare trainer.
- VECTS training simulations are hosted on a laptop computer that also serves as a planning station for the training missions.

**Impact If Not Funded**

- Crew proficiency with threat detection at both low and high altitudes will be insufficient to face current threat environment.
- Decreases survivability for Reserve C-130 crews in the tactical environment.

**Units Impacted**

- 94th Airlift Wing, Dobbins ARB, GA
- 302nd Airlift Wing, Peterson AFB, CO
- 908th Airlift Wing, Maxwell AFB, AL
- 934th Airlift Wing, Minn-St Paul ARS, MN
- 440th Airlift Wing, Pope AFB, NC
- 910th Airlift Wing, Youngstown ARS, OH
- 914th Airlift Wing, Niagara Falls ARS, NY
- 911th Airlift Wing, Pittsburgh IAP, PA

**Contractor**

Georgia Tech Research Institute (GTRI), Atlanta, GA



**Program Element Code**

54343F

**In AF POM**

No

C-130 Virtual Electronic Combat Training	FY11	FY12	FY13	FY14	FY15	FYDP
Aircraft Procurement (3010)	0.7	0.0	0.0	0.0	0.0	0.7
O&M—AFR (3740)	0.0	0.1	0.1	0.1	0.1	0.4
Total (\$M)	0.7	0.1	0.1	0.1	0.1	1.1
Quantity	32.0	0.0	0.0	0.0	0.0	32.0

## C-130 LED Position Lights

### Background

- Current incandescent position lights are required to be set at dim setting to allow adequate NVG operations in formation. New LED lights are both more visible to the unaided eye and more friendly to NVG use.
- Current lighting scheme is arguably non-compliant with required Federal Aviation Regulation (FAR) lighting.
- The LED lights should allow for greatly increased safety in busy civilian airspace often used by AFR forces for training.
- LED lights require less power to operate and have much greater service life than current incandescent lights resulting in greatly decreased sustainment costs.

### Requirement

Replace current incandescent position lights with LED position lights developed for form, fit and function replacement.

### Impact If Not Funded

- Increased maintenance costs associated with the current incandescent lights.
- Increased risk of aircraft mishap in busy civilian airspace.

### Units Impacted

- 94th Airlift Wing, Dobbins ARB, GA
- 302nd Airlift Wing, Peterson AFB, CO
- 908th Airlift Wing, Maxwell AFB, AL
- 910th Airlift Wing, Youngstown ARS, OH
- 440th Airlift Wing, Pope AFB, NC
- 914th Airlift Wing, Niagara Falls IAP, NY
- 911th Airlift Wing, Pittsburgh IAP, PA
- 934th Airlift Wing, Minn-St Paul ARS, MN

### Contractor

TBD

### Program Element Code

54343F

### In AF POM

No

C-130 LED Position Lights	FY11	FY12	FY13	FY14	FY15	FYDP
Aircraft Procurement (3010)	1.8	0.0	0.0	0.0	0.0	1.8
Total (\$M)	1.8	0.0	0.0	0.0	0.0	1.8
Quantity	84.0	0.0	0.0	0.0	0.0	84.0

## C-130 Wireless Interphone for Loadmasters

### Background

- Current intercom systems for short-range communication in around C-130 Aircraft utilize 50-100 ft cords that physically connect Loadmasters to the aircraft. These cords restrict user movement and become tangled with other cords, equipment and passengers. In addition the current intercom systems can be hazardous to the Loadmasters during airdrop, especially Joint Precision Airdrop System (JPADS) and Engine Running Offload (ERO) operations.
- The wireless communications system would allow for safer and faster communications during all phases of flight operations. In addition, multiple loadmasters would have the capability to communicate information with each other without interrupting the “front-end crew” during critical phases of flight, ie. Airdrop run in, IFE, etc.

### Requirement

The procurement of a wireless intercom system that provides hands-free, full duplex communications which allows multiple loadmasters/aircrew members to speak simultaneously to aircraft operation.

### Impact If Not Funded

Continued use of antiquated, troublesome and dangerous corded system could cause injury to crewmembers. Existing interphone cords get hung up on equipment. This restricts movement and in some cases prevents loadmasters from performing critical duties in a timely manner, thus reducing mission effectiveness.

### Units Impacted

- 94th Airlift Wing, Dobbins ARB, GA
- 302nd Airlift Wing, Peterson AFB, CO
- 908th Airlift Wing, Maxwell AFB, AL
- 934th Airlift Wing, Minn-St Paul ARS, MN
- 403rd Airlift Wing, Keesler AFB, MS
- 440th Airlift Wing, Pope AFB, NC
- 910th Airlift Wing, Youngstown ARS, OH
- 914th Airlift Wing, Niagara Falls ARS, NY
- 911th Airlift Wing, Pittsburgh IAP, PA

### Contractor

TBD

### Program Element Code

54343F

### In AF POM

No

C-130 Wireless Interphone for Loadmaster	FY11	FY12	FY13	FY14	FY15	FYDP
Aircraft Procurement (3010)	2.5	0.5	0.0	0.0	0.0	3.0
Total (\$M)	2.5	0.5	0.0	0.0	0.0	3.0
Quantity	51.0	51.0	0.0	0.0	0.0	102.0

## C-130 Electronic Flight Bags

### Background

- Aircrews refer to enroute charts and approach templates during all phases of operations.
- Quick changing situations encountered in emergencies or contingency operations force aircrews to locate appropriate paper operational manuals, charts, airfield information, and approach charts.
- Currently, each aircrew member hand carries bulky paper documents to meet this requirement.
- An electronic flight bag would replace the paper documents saving money, paper and space.

### Requirement

- Procure electronic flight bags for C-130 aircrews
- Aircrews must have access to current worldwide flight manuals, operations manuals, enroute charts, and instrument approach templates during flight.
- Electronic flight bag enhances situational awareness and cockpit safety by displaying text, picture and graphics information in an easy format.

### Impact If Not Funded

- Increased risk of accidents or injury, especially during emergency or contingency situations.
- Continued high cost associated with production, distribution, and maintenance of paper products.

### Units Impacted

- 94th Airlift Wing, Dobbins ARB, GA
- 302nd Airlift Wing, Peterson AFB, CO
- 908th Airlift Wing, Maxwell AFB, AL
- 910th Airlift Wing, Youngstown ARS, OH
- 440th Airlift Wing, Pope AFB, NC
- 914th Airlift Wing, Niagara Falls IAP, NY
- 911th Airlift Wing, Pittsburgh IAP, PA
- 934th Airlift Wing, Minn-St Paul ARS

### Contractor

Teledyne Technologies Company, El Segundo, CA

### Program Element Code

54343F

### In AF POM

No

C-130 Improved Electronic Flight Bags	FY11	FY12	FY13	FY14	FY15	FYDP
Aircraft Procurement (3010)	1.3	0.0	0.0	0.0	0.0	1.3
Total (\$M)	1.3	0.0	0.0	0.0	0.0	1.3
Quantity	210.0	0.0	0.0	0.0	0.0	210.0

## C-130 Data Transfer Module (DTM) Replacement

### Background

- Currently aircrews use the Smith's Industries designed Data Transfer Module (DTM) to upload pre-planned route files and flight data into the C-130 Navigation System.
- This DTM is now over 15 years old and no longer supportable via commercial vendors.
- A replacement device must be identified that will serve this purpose. DTMs damaged or destroyed during OCO operations are not replaceable.

### Requirement

Procurement of 185 data devices for replacenet of the current DTM on 84 C-130H aircraft.

### Impact If Not Funded

- Inability to load flight planning information to the navigation system.
- The eventual loss of aircrews to integrate modern flight planning capabilities with the C-130 navigation system.

### Units Impacted

- 94th Airlift Wing, Dobbins ARB, GA
- 302nd Airlift Wing, Peterson AFB, CO
- 908th Airlift Wing, Maxwell AFB, AL
- 910th Airlift Wing, Youngstown ARS, OH
- 440th Airlift Wing, Pope AFB, NC
- 914th Airlift Wing, Niagara Falls IAP, NY
- 911th Airlift Wing, Pittsburgh IAP, PA
- 934th Airlift Wing, Minn-St Paul ARS, MN

### Contractor

TBD

### Program Element Code

54343F

### In AF POM

No

C-130 USB Data Transfer Module	FY11	FY12	FY13	FY14	FY15	FYDP
Aircraft Procurement (3010)	2.4	0.0	0.0	0.0	0.0	2.4
Total (\$M)	2.4	0.0	0.0	0.0	0.0	2.4
Quantity	185.0	0.0	0.0	0.0	0.0	185.0

## C-130J Cargo Compartment Camera

### Background

- The C-130J is operated by a crew of two pilots and one loadmaster. During heavy equipment airdrops the loadmaster controls the airdrop operation from the loadmaster station at the front of the cargo compartment.
- Depending on the size of the equipment being airdropped, the loadmaster's view of the airdrop extraction process can be blocked thus preventing the aircrew from identifying the malfunction and taking the proper actions.

- During ground onload/offload operations, the C-130J crew (two pilots, one loadmaster), does not allow for an additional crewmember to serve as a safety observer for the loadmaster. This is especially dangerous when duties require him/her to disconnect from the aircraft communications system.

**Requirement**

- Procure 10 cargo compartment cameras and displays.
- C-130J crews require a camera to monitor activity within the cargo compartment during heavy equipment airdrops and engine running onload/offload operations.

**Impact If Not Funded**

- Loadmasters will continue to be at risk during heavy equipment airdrops and engine run onload/offload operations.
- Possible damage to aircraft systems or actual aircraft accidents due to pilots/loadmasters not being aware of cargo malfunctions.

**Units Impacted**

403rd Wing, Keesler AFB, MS

**Contractor**

TBD

**Program Element Code**

54343F

**In AF POM**

No

C-130J Cargo Compartment Camera	FY11	FY12	FY13	FY14	FY15	FYDP
Aircraft Procurement (3010)	0.9	0.0	0.0	0.0	0.0	0.9
Total (\$M)	0.9	0.0	0.0	0.0	0.0	0.9
Quantity	8.0	0.0	0.0	0.0	0.0	8.0

**C-130 Wireless Gate Cutter**

**Background**

- Ground forces in Afghanistan are requesting resupply while on the move and often while in close contact with the enemy.
- C-130s need the capability to automatically release cargo via the Container Delivery System (CDS). Desired accuracy is within 50 meters of friendly troops position.
- With current manual release methods, system accuracy averages are greater than 300 yards.

**Requirement**

Procurement and installation of 92 wireless gate release systems for C-130H/J aircraft.

**Impact If Not Funded**

Without the addition of this capability on our C-130 aircraft, airdrop accuracy will continue to be greater than 150 yds with JPADS, and greater than 300 yds for other types of airdrop. Also, loadmasters will continue to be placed in dangerous situations during CDS load release.

**Units Impacted**

- 94th Airlift Wing, Dobbins ARB, GA
- 302nd Airlift Wing, Peterson AFB, CO
- 908th Airlift Wing, Maxwell AFB, AL
- 910th Airlift Wing, Youngstown ARS, OH
- 440th Airlift Wing, Pope AFB, NC
- 914th Airlift Wing, Niagara Falls IAP, NY
- 911th Airlift Wing, Pittsburgh IAP, PA
- 934th Airlift Wing, Minn-St Paul ARS, MN
- 403rd Airlift Wing, Keesler AFB, MS

**Contractors**

TBD

**Program Element Code**

54343F

**In AF POM**

No

C-130 Wireless Gate Release	FY11	FY12	FY13	FY14	FY15	FYDP
Aircraft Procurement (3010)	1.4	1.4	0.0	0.0	0.0	2.8
Total (\$M)	1.4	1.4	0.0	0.0	0.0	2.8
Quantity	36.0	56.0	0.0	0.0	0.0	92.0

**C-130 Lavatory**

**Background**

- The original toilet system utilizes a plastic bag inside a bucket to catch waste. This is unsanitary and creates biohazard health risk for both the user and the individual required to clean up after flight.
- A new system provides a cleaner and safer environment for the passengers and crew on aircraft.
- Newer AFRC C-130 aircraft have a modern style flush toilet system.

**Requirement**

Modify the lavatories from the bucket type to a current design of electric/flushable chemical disposal style in 14 C-130H2 aircraft.

**Impact If Not Funded**

Continued biohazard health risk for both the user and the individual required to clean up after flight.

**Units Impacted**

- 94th Airlift Wing, Dobbins AFB, GA
- 911th Airlift Wing, Pittsburgh IAP, PA

**Contractor**

Lockheed Martin, Marietta, GA

**Program Element Code**

54343F

**In AF POM**

No

C-130 Lavatory	FY11	FY12	FY13	FY14	FY15	FYDP
Aircraft Procurement (3010)	1.7	0.0	0.0	0.0	0.0	1.7
<b>Total (\$M)</b>	<b>1.7</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>1.7</b>
<b>Quantity</b>	<b>14.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>14.0</b>

### C/HC-130 Electronic Propeller Control System

#### Background

- The Electronic Propeller Control System (EPCS) was developed as a prerequisite for the new NP2000 propeller. The EPCS is capable of being configured for legacy propellers. During testing, the EPCS has observed markedly greater reliability and operator satisfaction with prop responsiveness.
- The EPCS will provide increased reliability and decreased sustainment cost resulting in reduced aircraft downtime and increased mission readiness.
- The EPCS eliminates susceptibility to RPM and power roll backs due to rapid throttle movements.

#### Requirement

Replace current hydro-mechanical valve housing with an electronic propeller controller.

#### Impact If Not Funded

Increased maintenance costs associated with the older hydro-mechanical system.

#### Units Funded

- 94th Airlift Wing, Dobbins ARB, GA
- 302nd Airlift Wing, Peterson AFB, CO
- 908th Airlift Wing, Maxwell AFB, AL
- 910th Airlift Wing, Youngstown ARS, OH
- 440th Airlift Wing, Pope AFB, NC
- 914th Airlift Wing, Niagara Falls IAP, NY
- 911th Airlift Wing, Pittsburgh IAP, PA
- 934th Airlift Wing, Minn-St Paul ARS, MN
- 920th Rescue Wing, Patrick AFB, FL

#### Contractor

Hamilton Sundstrand, Windsor Locks, CT

#### Program Element Code

54343F, 53122F

#### In AF POM

No

C-130 EPCS	FY11	FY12	FY13	FY14	FY15	FYDP
Aircraft Procurement (3010)	23.5	22.0	0.0	0.0	0.0	45.5
<b>Total (\$M)</b>	<b>23.5</b>	<b>22.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>45.5</b>
<b>Quantity</b>	<b>45.0</b>	<b>44.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>89.0</b>

## C-130H2 Regional Simulator

#### Background

- Currently, the C-130H2 Weapon System Trainer (WST) at Dobbins ARB cannot support the annual training production rate to satisfy Formal Training Unit (FTU) and Continuation/Refresher Training (CT/RT) requirements.
- By analyzing the FTU training production rate established by the 94th AW's monthly reports and annual throughput projections for Continuation Training/ Recurring Training (CT/RT) requirements, it is evident that an additional WST is required at this location.
- This additional device will augment the existing capability to handle projected training throughput and mitigate the risk of using aircraft to augment training if the existing Weapon System Trainer goes down.

#### Requirement

To provide another C-130H2 Weapon System Trainer (WST) at Dobbins ARB and locate the device in the existing third bay of building 600. This new WST should be a production copy with a compatible design of the current C-130H2 WST already on location.

#### Impact If Not Funded

Continued problems in providing student throughput.

#### Units Impacted

94th Airlift Wing, Dobbins ARB, GA

#### Contractor

TBD

#### Program Element Code

54343F

#### In AF POM

No

C-130H2 Simulator	FY11	FY12	FY13	FY14	FY15	FYDP
Aircraft Procurement (3010)	26.0	0.0	0.0	0.0	0.0	26.0
O&M—AFR (3740)	0.0	0.0	0.5	0.5	0.6	1.6
<b>Total (\$M)</b>	<b>26.0</b>	<b>0.0</b>	<b>0.5</b>	<b>0.5</b>	<b>0.6</b>	<b>27.6</b>
<b>Quantity</b>	<b>1.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>1.0</b>

## C-130 Digital Mission Video Recorder (DMRV)

### Background

- During critical mission events, such as airdrop, threat evasion/reaction, low level flight, aircrews do not have the available time to take notes for mission debriefing purposes and intelligence personnel are requiring more detailed information for the purpose of threat analysis.
- Aircrews currently have to reconstruct mission information from memory or hand taken notes when conducting mission debriefings.
- Mission debriefings are an integral part in the intelligence collection/analysis of mission effectiveness and threat information, as well as the aircrew learning/improvement process.
- The ability to easily record and replay inflight data will ensure accurate information is provided to intelligence personnel and additionally allow aircrews to accurately reconstruct/review mission execution.

### Requirement

- Aircrews need the capability to easily record inflight mission information and then replay that information on the ground for improved intelligence & mission debriefing capability.
- This information would include Heads Up Display (HUD) data, selected Heads Down Display (HDD) data containing navigation-radar/digital map/formation/threat information, and audio from the radio/intercom system.

### Impact If Not Funded

- Aircrews will not have the capability to record and replay mission data and will have to rely on memory/hand taken notes for mission debriefing purposes.
- This can result in inaccurate or misleading information being given to intelligence personnel and significantly limits the aircrew's ability to analyze mission execution.

### Units Impacted

- 94th Airlift Wing, Dobbins ARB, GA
- 302nd Airlift Wing, Peterson AFB, CO
- 908th Airlift Wing, Maxwell AFB, AL
- 910th Airlift Wing, Youngstown ARS, OH
- 440th Airlift Wing, Pope AFB, NC
- 914th Airlift Wing, Niagara Falls IAP, NY
- 911th Airlift Wing, Pittsburgh IAP, PA
- 934th Airlift Wing, Minn-St Paul ARS, MN

### Contractor

TBD

### Program Element Code

54343F

### In AF POM

No

C-130 DMVR	FY11	FY12	FY13	FY14	FY15	FYDP
Aircraft Procurement (3010)	2.0	7.2	5.0	0.0	0.0	14.2
O&M—AFR (3740)	0.0	0.0	0.3	0.3	0.4	1.0
Total (\$M)	2.0	7.2	5.3	0.3	0.4	15.2
Quantity	3.0	48.0	33.0	0.0	0.0	84.0

## C/HC-130 Improved Propeller

### Background

- New NP2000 eight (8) bladed propellers will increase thrust for heavy weight and short field operations. Additionally, the new propellers will increase engine efficiency under normal flight conditions.
- The design of the new NP2000 Propeller allows individual blades to be removed for maintenance rather than having to remove the entire hub assembly as is required with current propellers. This will result in decreased sustainment cost and increased mission capable rates.
- The new NP2000 eight (8) bladed propellers have proven to reduce engine vibration resulting in less fatigue on both the aircraft and aircrew.

### Requirement

Replace legacy four (4) bladed propeller with new NP2000 eight (8) bladed propellers for increased thrust, decreased sustainment costs, and decreased aircraft and crew fatigue.

### Impact If Not Funded

- Increased maintenance costs associated with the older propellers.
- Increased crew fatigue, structural stress and equipment failures due to vibration.

### Units Impacted

- 94th Airlift Wing, Dobbins ARB, GA
- 302nd Airlift Wing, Peterson AFB, CO
- 908th Airlift Wing, Maxwell AFB, AL
- 910th Airlift Wing, Youngstown ARS, OH
- 440th Airlift Wing, Pope AFB, NC
- 914th Airlift Wing, Niagara Falls IAP, NY
- 911th Airlift Wing, Pittsburgh IAP, PA
- 934th Airlift Wing, Minn-St Paul ARS, MN
- 920th Rescue Wing, Patrick AFB, FL

### Contractor

Hamilton Sundstrand, Windsor Locks, CT

### Program Element Code

54343F, 53122F

### In AF POM

No

C/HC-130 Improved Propeller	FY11	FY12	FY13	FY14	FY15	FYDP
Aircraft Procurement (3010)	48.0	44.0	44.0	44.0	0.0	180.0
Total (\$M)	48.0	44.0	44.0	44.0	0.0	180.0
Quantity	23.0	22.0	22.0	22.0	0.0	89.0

## C-130 Radar Countermeasures

### Background

- C-130s are being tasked to operate in an increasing complex and lethal environment.
- Currently, only a limited number of C-130 aircraft have the capability to detect let alone jam/decoy radar threats.
- With ever growing technology and the proliferation of radar guided weapons around the world, RF jamming/decoy capability would increase aircraft survivability and mission capability for the C-130 fleet.
- C-130 aircrews need the capability to jam/decoy an RF threat in order to escape the engagement zone of a radar guided weapon system.

### Requirement

Procurement and installation of an frequency jammer/decoy for 92 C-130H/J aircraft.

### Impact If Not Funded

Failure to modify C-130 aircraft with equipment capable of defending against a radar threat will result in limited operations and reduced mission capability.

### Units Impacted

- 94th Airlift Wing, Dobbins ARB, GA
- 302nd Airlift Wing, Peterson AFB, CO
- 908th Airlift Wing, Maxwell AFB, AL
- 910th Airlift Wing, Youngstown ARS, OH
- 440th Airlift Wing, Pope AFB, NC
- 914th Airlift Wing, Niagara Falls IAP, NY
- 911th Airlift Wing, Pittsburgh IAP, PA
- 934th Airlift Wing, Minn-St Paul ARS, MN
- 403rd Airlift Wing, Keesler AFB, MS

### Contractor

TBD

### Program Element Code

54343F

### In AF POM

No

C-130 Radar Countermeasures	FY11	FY12	FY13	FY14	FY15	FYDP
Aircraft Procurement (3010)	18.0	87.0	87.0	87.0	0.0	279.0
O&M—AFR (3740)	0.0	0.0	0.5	0.5	0.6	1.6
Total (\$M)	18.0	87.0	87.5	87.5	0.6	280.6
Quantity	5.0	29.0	29.0	29.0	0.0	92.0



## C-130 Permanent GPS Retransmission

### Background

- C-130 GPS retransmission is vital to many of the missions AFRC C-130s fly. Guided airdrop AGUs, Military Free Fall (MFF) operations, dropsondes and PFPS Moving Map all require GPS retransmission inside the aircraft.
- GPS receivers without a Line Of Sight (LOS) view of the GPS satellites will not reliably provide position information. This limitation will impact GPS applications and may preclude verification of system operations prior to deployment.
- Although, sometime able to retransmit a GPS signal inside aircraft, it is limited to the cargo compartment and the signal quality is inconsistent. Current GPS retransmission is only temporarily available when JPADS equipment is installed and only for a specific aircraft.
- A permanent solution would reduce wear and tear on sensitive electronic connections and equipment. It would reduce man hours required to continuously move temporarily installed equipment, while increasing capability and mission effectiveness.

### Requirement

Procurement and installation of the capability to permanently retransmit a GPS signal to both the flight deck and aircraft cargo compartment in 92 C-130H/J aircraft.

### Impact If Not Funded

Without incorporating this capability, AFRC C-130s will only have marginal capability to effectively complete combat missions.

**Units Impacted**

- 94th Airlift Wing, Dobbins ARB, GA
- 302nd Airlift Wing, Peterson AFB, CO
- 908th Airlift Wing, Maxwell AFB, AL
- 910th Airlift Wing, Youngstown ARS, OH
- 440th Airlift Wing, Pope AFB, NC
- 914th Airlift Wing, Niagara Falls IAP, NY
- 911th Airlift Wing, Pittsburgh IAP, PA
- 934th Airlift Wing, Minn-St Paul ARS, MN
- 404rd Airlift Wing, Keesler AFB, MS

**Contractor**

TBD

**Program Element Code**

54343F

**In AF POM**

No

C-130 GPS Retransmission	FY11	FY12	FY13	FY14	FY15	FYDP
Aircraft Procurement (3010)	1.2	0.0	0.0	0.0	0.0	1.2
<b>Total (\$M)</b>	<b>1.2</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>1.2</b>
<b>Quantity</b>	<b>92.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>92.0</b>

### HC-130 Integrated Electronic Warfare (EW) Suite

**Background**

- Air Force Reserve Command (AFRC) HC-130 aircraft have received electronic warfare equipment in a piece-meal fashion, prohibiting integration with aircraft systems.
- This ad-hoc manner has left aircraft and aircrew vulnerable because current radar countermeasure are solely dependent on crew initiation.
- Failure of the aircrew to detect a radar-based threat (surface-to-air-missile) would result in a failure to dispense countermeasures, and the possible loss of aircrew and aircraft.
- The proposed system is proven and currently installed on F-16C+ and A-10C aircraft.

**Requirement**

Provide an Integrated EW Suite to HC-130 aircraft that would allow it to operate in a medium threat environment typical of rescue operations.

**Impact If Not Funded**

- Increased risk of loss of aircraft and crew.
- Inability of rescue forces to reach downed airmen or injured personnel.

**Units Impacted**

920th Rescue Wing, Patrick AFB, FL



**Contractor**

Terma USA, Georgia Tech

**Program Element Code**

53122F

**In AF POM**

No

HC-130 Integrated EW Suite	FY11	FY12	FY13	FY14	FY15	FY16	FYDP
Aircraft Procurement (3010)	6.0	0.0	0.0	0.0	0.0	0.0	6.0
O&M (3740)	0.4	0.1	0.1	0.2	0.2	0.4	1.4
<b>Total (\$M)</b>	<b>6.4</b>	<b>0.1</b>	<b>0.1</b>	<b>0.2</b>	<b>0.2</b>	<b>0.4</b>	<b>7.4</b>
<b>Quantity</b>	<b>5.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>5.0</b>

## MC-130E SOF Situational Awareness (SA) Upgrade *(T-1 Modification)*

**Background**

- Air Force Reserve Command (AFRC) MC-130E Combat Talon I Aircrews require immediate improvements to their SA and access to Tactical Data Links compatibility with AFSOC MDS aircraft and external SOF Teams.
- SOF Air Mission Suite (SAMS)/Enhanced Situational Awareness (ESA) will be used by aircrews and SOF teams for SA, threat avoidance, in-flight replanning, weapons cueing, and fratricide prevention. AFSOCs long duration missions require near real-time in-flight situational awareness updates provided by SAMS-ESA.
- AFSOC MDS aircraft and external SOF teams are pursuing compatible, Tactical Data Links for the exchange of mission-critical information. SAMS/ESA meets this requirement.

**Requirement**

Provide a common Tactical Data Link to each MC-130E Combat Talon I aircraft.

**Impact If Not Funded**

Aircrews and SOF teams will continue to experience lack of situational awareness and isolation from tactical, real-time intelligence updates to prevent/mitigate mission failure and/or loss of life.

**Units Impacted**

919th Special Operations Wing, Eglin AFB Field 3 (Duke Field), FL.

**Contractor**

TBD

**Program Element Code**

B8048F

**In AF POM**

No

MC-130E SOF SA Upgrade	FY11	FY12	FY13	FY14	FY15	FYDP
Aircraft Procurement (3010)	4.0	0.0	0.0	0.0	0.0	4.0
<b>Total (\$M)</b>	4.0	0.0	0.0	0.0	0.0	4.0
<b>Quantity</b>	5.0	0.0	0.0	0.0	0.0	5.0





# F-16 Fighting Falcon



**GLOBAL  
POWER**



PROVIDES FULL AIR-TO-AIR AND AIR-TO-GROUND COMBAT CAPABILITIES IN A SINGLE-ENGINE MULTI-ROLE TACTICAL FIGHTER AIRCRAFT.

The F-16 Fighting Falcon provides full air-to-air and air-to-ground combat capabilities in a single-engine multi-role tactical fighter aircraft.

The aircraft can perform precision

strike, suppression of enemy air defenses, night attack, close air support and beyond-visual-range interception missions. F-16s can locate targets in all weather conditions and detect low-flying aircraft in radar ground clutter.

The Air Force Reserve maintains F-16 primary aircraft assigned to the 301st Fighter Wing (FW), NAS JRB Fort Worth, TX and the 482nd FW, Homestead ARB, FL. The AFR also associates with the active duty on F-16 aircraft at the 944th FW at Luke AFB, AZ and at the 419th FW at Hill AFB, UT.

Contractors include Lockheed Martin (airframe), General Electric/Pratt & Whitney (propulsion), and Northrop Grumman (radar).

AFR F-16s require several upgrades to extend viability until the end of service life: Advanced Targeting Pod spiral upgrades, Center display unit upgrades, Helmet Mounted Integrated Targeting systems, Automatic Identification Friend/Foe systems, digital video recorder upgrades, secure line-of-sight/beyond-line-of-sight radio upgrades, fire control computer upgrades, electronic countermeasures upgrades and simulator upgrades. These are critical needs to maintain survivability and combat effectiveness in current and future threat environments.

## F-16 Executive Summary

- F-16 CDU—Replace AFRC F-16 Block 30 aging mechanical/analog fight instruments on the center pedestal with a digital Center Display Unit (CDU) display
- F-16 HMIT—Provide Helmet Mounted Integrated Targeting (HMIT) capability to AFRC F-16
- F-16 AIFF—Autonomous Identification Friend or Foe (AIFF) gives AFRC F-16s an autonomous interrogation capability. Ability to interrogate Identify Friend or Foe (IFF) signals is critical to conducting air defense missions.
  - ATP Spiral Upgrade—LITENING advanced targeting pod spiral technology upgrades. These are upgrades to existing AFRC pods to keep them current and relevant.
  - F-16 DVR Phase 2—Gives AFRC F-16 Block aircraft the hardware and software necessary to take full advantage of the DVR capabilities.

- F-16 SLOS/BLOS Simultaneous—Replaces the existing AN/ARC-186 radio with the AN/ARC-210 in all AFRC F-16 Block 30s. This will allow the F-16 BLOCK 30 to conduct simultaneous secure line of sight/beyond line of sight (SLOS/BLOS) communications.
- F-16 Commercial Fire Control Computer (CFCC)—F-16 CFCC are on order and funds are required to support the equipment until the depot can pick up repair operations.
- F-16 Upgraded ECM—Support ACC’s acquisition strategy for DRFM Pods. The ACC FY12 POM prioritizations included DRFM upgrade to the ALQ-131 pod. These are legacy systems reflecting advancements in science and technology.
- F-16C Simulator Upgrades—Upgrades current simulators with high fidelity visual system for AFRC F-16 Mission Task Trainers.

**Modernization List Funding Profiles (\$M)**

Program (Funding Appropriation)	P.E. Number	FY11	FY12	FY13	FY14	FY15	Program Total
F-16 CDU (3010) (3740)	52716F	2.6 0.0	0.0 0.2	0.0 0.2	0.0 0.2	0.0 0.2	2.6 0.8
F-16 HMIT (3010) (3740)	52716F	4.5 0.0	4.3 0.2	0.0 0.2	0.0 0.2	0.0 0.2	8.8 0.8
F-16 AIFF (3010)	52716F	6.1	0.0	0.0	0.0	0.0	6.1
ATP Spiral Upgrade (3010)	27249F	22.0	0.0	0.0	0.0	0.0	22.0
F-16 DVR Phase 2 (3010) (3740)	52716F	0.0 0.0	2.0 0.0	4.0 0.1	0.0 0.2	0.0 0.2	6.0 0.5
F-16 SLOS/BLOS Simultaneous (3010) (3740)	52716F	3.0 0.0	4.3 0.1	0.0 0.2	0.0 0.2	0.0 0.2	7.3 0.7
F-16 CFCC (3010)	52716F	0.6	1.1	1.0	0.5	0.4	3.6
F-16 Upgraded ECM (3010) (3740)	52716F	0.0 0.0	21.0 0.0	21.0 0.3	0.0 0.3	0.0 0.3	42.0 0.9
F-16 C Simulator Upgrades (3010)	52716F	1.1	0.0	0.0	0.0	0.0	1.1

## F-16 Center Display Unit (CDU)

### Background

- AFRC Block 30 F-16 s require a new center pedestal display in order to replace aging flight instruments, send and receive imagery and improve available processing power.
- Analog instruments currently installed are becoming increasingly difficult to maintain. The CDU will replace the analog instruments with digital instrument displays.
- The processor in the display will control the ARC-210 radio and provide pilots with the ability to securely transfer still images, such as a targeting pod scenes, joint tactical air controller taskings, and target area imagery. This capability is critical to rapid coordination with ground units during close air support missions and with command and control assets during time sensitive and emerging target operations.

- The center pedestal display also has the processing capacity to manipulate data external to the aircraft operational flight program. This gives pilots the ability to load mission planning data via USB like interfaces, while opening low cost pathways for the integration of future weapons and updates without the costly and time consuming process of changing the software for the aircraft operational flight program.

### Requirement

- Replace AFRC F-16 Block 30 mechanical/analog fight instruments on the center pedestal with a digital display.
- Eleventh critical priority out of 30 from 10AF 2010 Combat Planning Council.

### Impact If Not Funded

- The analog instruments currently installed are becoming increasingly difficult to maintain with diminishing manufacturing support sources, which will increase sustainment costs.
- In addition to reducing maintenance, replacing the analog instruments with digital instrument displays have the benefit of significantly increasing aircraft processing capacity. Increased processing capability will open low cost pathways for integration of future weapons without the costly and time consuming process of changing the aircraft operational flight program.
- Failure to support this capability will hinder rapid coordination with ground units during close air support missions and with command and control assets during time sensitive and emerging target operations.

### Units Impacted

- The analog instruments currently installed are becoming increasingly difficult to maintain with diminishing manufacturing support sources, which will increase sustainment costs.
- In addition to reducing maintenance, replacing the analog instruments with digital instrument displays have the benefit of significantly increasing aircraft processing capacity. Increased processing capability will open low cost pathways for integration of future weapons without the costly and time consuming process of changing the aircraft operational flight program.
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### Contractor

Raytheon Corp, Indianapolis IN

### Program Element Code

52716F

### In AF POM

No

F-16 Center Display Unit	FY11	FY12	FY13	FY14	FY15	FYDP
Aircraft Procurement (3010)	2.6	0.0	0.0	0.0	0.0	2.6
O&M—AFR (3740)	0.0	0.2	0.2	0.2	0.2	0.8
<b>Total (\$M)</b>	<b>2.6</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>3.4</b>
<b>Quantity</b>	<b>30.0</b>	<b>24.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>54.0</b>

## A-10C/F-16C Helmet Mounted Integrated Targeting (HMIT)

### Background

- Helmet Mounted Integrated Targeting (HMIT) is a Combatant Commander Urgent Operational Need directing a common helmet mounted cueing system on Block 30 F-16C and A-10C
- HMIT provides flight and weapons information to a display in the pilot's helmet. This allows pilots to rapidly target advanced weapons, reduce the chance for fratricide, employ threat countermeasures, maintain attitude awareness to reduce risk of ground impact and stay aware of critical developments during high workload portions of the mission
- HMIT supports the Global Power critical capability and the air superiority and global precision attack core functions of the Air Force. HMIT will increase the effectiveness of all A-10C and F-16C missions: close air support, interdiction, defensive and offensive counter air, combat search and rescue, forward air control-airborne and nontraditional intelligence, surveillance and reconnaissance

### Requirement

- Provide Helmet Mounted Integrated Targeting (HMIT) capability to AFRC A-10C/F-16C.
- Number one critical priority out of 30 from 10AF 2010 Combat Planning Council
- A-10 and F-16 SPOs have teamed to develop common interface and specifications and leverage work previously accomplished on block 40/50 F-16C JHMCS integration

### Impact If Not Funded

- Without HMIT AFRC aircraft will not comply with the Combatant Commander Urgent Operational Need. HMIT is required to increase combat effectiveness and employ advanced weapons to meet low collateral damage requirements.
- HMIT provides flight and weapons information to a display in the pilot's helmet, including friendly and target positions in an easy to interpret display. This allows pilots to rapidly target advanced weapons, employ threat countermeasures, and stay aware of critical developments during high workload demand portions of the mission.

### Units Impacted

- 917th Fighter Group, Barksdale AFB, LA
- 301st Fighter Wing (FW), Carswell JRB, TX
- 482nd Fighter Wing, Homestead ARB, FL
- 442nd Fighter Wing, Whiteman AFB, MO

### Contractor

GenTex Corp, El Cajon California; Raytheon Corp Indianapolis IN

### Program Element Code

A-10: 52720F

F-16: 52716F

### In AF POM

No

Helmet Mounted Integrated Targeting	FY11	FY12	FY13	FY14	FY15	FYDP
Aircraft Procurement (3010)	4.5	4.3	0.0	0.0	0.0	8.8
O&M—AFR (3740)	0.0	0.2	0.2	0.2	0.2	0.8
<b>Total (\$M)</b>	<b>4.5</b>	<b>4.5</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>9.6</b>
<b>Quantity</b>	<b>74.0</b>	<b>74.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>148.0</b>

## F-16 Autonomous Identification Friend Foe (AIFF)

### Background

- Provides ability to autonomously interrogate advanced IFF systems (mode 5/S).
- Upgrade to mode 5/S is mandated by the Air Force. AIFF gives AFRC F-16s an autonomous interrogation capability. Ability to interrogate mode 5/S signals is critical to conducting air defense missions. Both the 482FW and 301FW are currently positioned as Tier 2 Home Land Defense support assets for Operation Noble Eagle (ONE). When the National threat level is raised from "Elevated" to "High" both units are required to stand up alert facilities in support of ONE.

### Requirement

- Upgrade 16 AFRC F-16 block 30 aircraft with AIFF.
- Due to the uncertainty of when the National Threat Level will rise, modifying 8 aircraft per Unit with AIFF will provide enough capability to meet Tier 2 ONE Alert operations without affecting additional unit taskings.

### Impact If Not Funded

- Without this capability AFRC ONE tasked Units are at a severe disadvantage when tasked to intercept a possible threat in a high density traffic environment. The AIFF will reduce pilot work-load, provide increased situational awareness and increased capability to complete an intercept on a threat aircraft.
- AFRC F-16 aircraft will have less combat capability in any future war time taskings without the addition of an AIFF system.

### Units Impacted

- 301st Fighter Wing, Carswell JRB, TX
- 482nd Fighter Wing, Homestead ARB, FL

### Contractors

BAE Advanced Systems Unit, Greenlawn, NY

### Program Element Code

52716F

### In AF POM

No

F-16 AIFF	FY11	FY12	FY13	FY14	FY15	FYDP
Aircraft Procurement (3010)	6.1	0.0	0.0	0.0	0.0	6.1
Total (\$M)	6.1	0.0	0.0	0.0	0.0	6.1
Quantity	16.0	0.0	0.0	0.0	0.0	16.0

### Advanced Targeting Pod (ATP)

#### Background

- ATP are a Combatant Commander Urgent Operational Need (UON) and are required on close air support missions.
- Fourth generation ATPs feature state-of-the-art technology, allowing full weapons exploitation and comprehensive AFRC participation in contingency operations beyond the current third generation pods fielded by AFRC.
- Modernization with fourth generation capability, including 1K FLIR, 1K CCD, Laser Target Image Processing (LTIP), bring vastly improved day and night target acquisition and combat ID at extended ranges in both air-to-ground and air-to-air roles.

#### Requirement

- Procure fourth generation upgrade kits for all AFRC ATPs to meet Combatant Commander Urgent Operational Needs.
- Enhance target identification with fourth generation pod to lower risk of fratricide.
- This is number sixteen out of seventy five critical requirements from the AFRC Prioritized Integrated Requirements List.

#### Impact If Not Funded

- AFRC will have reduced capability to fulfill its Air Expeditionary Force (AEF) tasking. Pilots will have reduced capability relative to target acquisition, identification and avoiding fratricide.
- Lower probability of executing missions due to increased difficulty in identifying targets with current lower-resolution third generation system.

#### Units Impacted

- 917th Fighter Group, Barksdale AFB, LA
- 307 Bomber Wing, Barksdale AFB, LA
- 442nd Fighter Wing, Whiteman AFB, MO
- 301st Fighter Wing, Carswell JRB, TX
- 482nd Fighter Wing, Homestead ARB, FL

#### Contractor

Northrop Grumman, Rolling Meadows, IL

#### Program Element Code

- A-10: 52720F
- F-16: 52716F
- B-52: 51720F

#### In AF POM

No

Advanced Targeting Pods	FY11	FY12	FY13	FY14	FY15	FY16	FYDP
Aircraft Procurement (3010)	22.0	0.0	0.0	0.0	0.0	0.0	22.0
O&M—AFR (3740)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total (\$M)	22.0	0.0	0.0	0.0	0.0	0.0	22.0
Quantity	18.0	0.0	0.0	0.0	0.0	0.0	18.0



## F-16 Digital Video Recorder (DVR)

### Background

The current F-16 DVR has the capability to simultaneously record eight channels of information; however, only three of these channels are active (head-up display, left and right multifunction displays). The phase two integration provides the hardware and software necessary to take full advantage of the DVR capabilities by activating the remaining five channels.

### Requirement

- Increasing sophistication of aircraft systems drives a requirement for monitoring in-flight information for a variety of reasons. Among these requirements are: Weapons effect assessment, in-flight events documentation, in-flight fault data recording, in-flight systems monitoring, and in-flight intelligence gathering. Requirement for 54 AFRC F-16 Block 30 aircraft and spares.
- Current training does not adequately address combat in an Electronic Warfare (EW) environment. Implementing this Phase 2 DVR program will increase the fidelity of EW training for AFRC F-16 pilots by allowing adequate recording and analysis of EW defensive techniques.

### Impact If Not Funded

Failure to install the upgraded DVR results in undocumented information at the expense of training, maintenance, and intelligence.

### Units Impacted

- 301st Fighter Wing, Carswell JRB, TX
- 482nd Fighter Wing, Homestead ARB, FL

### Contractor

Modern Technologies Corporation (MTC), Dayton OH

### Program Element Code

52716F

### In AF POM

No



F-16 DVR Phase 2	FY11	FY12	FY13	FY14	FY15	FYDP
Aircraft Procurement (3010)	0.0	2.0	4.0	0.0	0.0	6.0
O&M—AFR (3740)	0.0	0.0	0.1	0.2	0.2	0.5
Total (\$M)	0.0	2.0	4.1	0.2	0.2	6.5
Quantity	0.0	12.0	48.0	0.0	0.0	60.0

## F-16 Simultaneous Secure-Line-of-Sight (SLOS) and Beyond-Line-of-Sight (BLOS)

### Background

The F-16 BLOCK 30 lacks the capability for robust two-way frequency selectable Secure-Line-of-Sight (SLOS) communications while simultaneous Beyond-Line-of-Sight (BLOS) communications are occurring. Current radio equipment places operational and logistic limitations on F-16 BLOCK 30 operations.

### Requirement

- Replace the existing AN/ARC-186 radio with the AN/ARC-210 in all AFRC F-16 BLOCK 30s. This will allow the F-16 BLOCK 30 to conduct simultaneous SLOS/BLOS communications. This capability will greatly expand pilot and command and control personnel situational awareness in close air support missions for OIF, OEF and future ground support combat situations.
- AN/ARC-186 radios are older technology and increasingly difficult to support; replacement will increase overall mission effectiveness and supportability.

### Impact If Not Funded

- Operations with the current radios will run the risk of interoperability problems and reduced response times potentially impacting mission effectiveness.
- This capability is critical to rapid coordination with ground units during close air support missions and with command and control assets during time sensitive and emerging target operations.

### Units Impacted

- 301st Fighter Wing, Carswell JRB, TX
- 482nd Fighter Wing, Homestead ARB, FL

### Contractor

Cubic Defense Rockwell Collins Government Systems, Cedar Rapids, IA

### Program Element Code

52716F

### In AF POM

No

F-16 SLOS/BLOS Simultaneous	FY11	FY12	FY13	FY14	FY15	FYDP
Aircraft Procurement (3010)	3.0	4.3	0.0	0.0	0.0	7.3
O&M—AFR (3740)	0.0	0.1	0.2	0.2	0.2	0.7
Total (\$M)	3.0	4.4	0.2	0.2	0.2	8.0
Quantity	0.0	54.0	0.0	0.0	0.0	54.0

### F-16 Commercial Fire Control Computer (CFCC)

**Background**

- Expanded Enhanced Fire Control Computer (EEFCC) performs aircraft weapon delivery, sensor cueing, and navigation functions.
- The EEFCC is operating at maximum capacity, and is incapable of providing the processing power required for planned upgrades and becoming increasingly difficult to maintain as it is affected by diminishing material and manufacturing sources.
- This limitation precludes upgrading connections between aircraft processors to increase bandwidth, a step required for Software Capability Upgrade-8 (SCU-8), Helmet Mounted Integrated Targeting, and future avionics improvements.
- Replacing the EEFCC with the CFCC solves these problems and ensures future growth capacity. The CFCC will greatly increase F-16 processing power, serve as an avionics Ethernet hub, and allow HMIT implementation.

**Requirement**

CFCC are on order and funds are required to support the equipment until the depot can pick up repair operations.

**Impact If Not Funded**

- The CFCC is foundational to all future upgrades and required for SCU-8 in 2012.
- Unless funded, AFRC F-16s will be incapable of migrating to new SCU updates or HMIT.
- Thus creating an operational deficiency in all mission areas decreasing survivability and lethality in every mission area.

**Units Impacted**

- 301st Fighter Wing, Carswell JRB, TX
- 482nd Fighter Wing, Homestead ARB, FL

**Contractor**

Modern Technology Corp (MTC), Sunset, UT

**Program Element Code**

52716F

**In AF POM**

No

F-16 Commercial Fire Control Computer	FY11	FY12	FY13	FY14	FY15	FYDP
Aircraft Procurement (3010)	0.6	1.1	1.0	0.5	0.4	3.6
O&M—AFR (3740)	0.0	0.0	0.0	0.0	0.0	0.0
Total (\$M)	0.6	1.1	1.0	0.5	0.4	3.6
Quantity	0.0	0.0	0.0	0.0	0.0	0.0



### F-16/A-10 Upgraded Electronic Countermeasures Suite

**Background**

- Reserve F-16s and A-10s are equipped with Electronic Attack (EA) pods that were designed in the 1980s and permitted fighter aircraft to operate against 1980s threats. These pods are experiencing significant sustainment issues.
- Electronic Warfare (EW) has rapidly evolved over the past decade making the A-10 and F-16 vulnerable to radar guided air-to-air and surface-to-air missiles. Improved EW equipment is essential to allow freedom of operation for legacy platforms.

- Modern EA pods feature Digital Radio Frequency Memory (DRFM). EA pods with DRFM based technology are effective against current and future radar threats, while significantly reducing sustainment costs.
- The ACC FY12 POM prioritizations included DRFM upgrade to the ALQ-131 pod. These are legacy systems reflecting advancements in science and technology.
- ACC is working an acquisition strategy for DRFM pods. The program has an ACAT III designation.

**Requirement**

Support ACC’s acquisition strategy for DRFM pods.

**Impact If Not Funded**

Legacy aircraft such as the A-10 and F-16 will be placed at high risk in any modern electronic warfare combat scenario, thus creating an operational deficiency in all mission areas decreasing survivability and lethality in every mission area.

**Units Impacted**

- 917th Fighter Group, Barksdale AFB, LA
- 442nd Fighter Wing, Whiteman AFB, MO
- 301st Fighter Wing, Carswell JRB, TX
- 482nd Fighter Wing, Homestead ARB, FL

**Contractor**

Contracting strategy is under development and requires funding support.

**Program Element Code**

A-10: 52720F  
F-16: 52716F

**In AF POM**

No

Upgraded ECM Suite	FY11	FY12	FY13	FY14	FY15	FYDP
Aircraft Procurement (3010)	0.0	21.0	21.0	0.0	0.0	42.0
O&M—AFR (3740)	0.0	0.0	0.3	0.3	0.3	0.9
<b>Total (\$M)</b>	0.0	21.0	21.3	0.3	0.3	42.9
<b>Quantity</b>	0.0	15.0	15.0	0.0	0.0	30.0

## F-16C Simulator Upgrades

**Background**

- Air Force Reserve Command (AFRC) F-16C Multi-Task Trainers (MTTs) lack appropriate high fidelity Distributed Mission Operations (DMO) 360° visual displays and a capable brief/de-brief system to accomplish critical mission training.
- The MTTs can currently train only emergency procedures and limited instrument training.
- The last two Class A mishaps demonstrated the need for a fully mission capable trainer that is high fidelity and DMO capable in order to reduce risk and save resources.
- The future of operational training AF-wide has introduced the urgent need for capable high fidelity training systems to be able to reduce costs, enhance readiness, fill training gaps, augment the current flying programs, and be capable of moving toward Live-Virtual-Constructive (LVC) linked distributed training.

**Requirement**

Provide fully mission capable high fidelity 360° visual systems for all AFRC F-16 MTTs with one DMO-capable brief/de-brief system for Homestead ARB, FL.

**Impact If Not Funded**

- F-16C training will require a fully funded, expensive flying hour commitment.
- AFRC F-16C pilots will not be able to fill gaps in any flying hour cuts.
- AFRC F-16C program will be unable to receive critical LVC operational training of the future and will continue to be legacy inefficient. Only limited emergency and instrument training can be expected.

**Units Impacted**

- 301st Fighter Wing, JRB Ft. Worth, TX
- 482nd Fighter Wing, Homestead ARB, FL

**Contractor**

Lockheed Martin Global Systems, AZ

**Program Element Code**

57520F

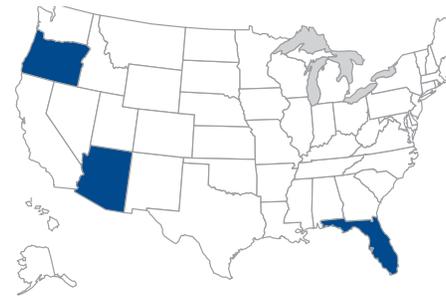
**In AF POM**

Yes

F-16C Multi-Task Trainer 360° Visual Systems	FY11	FY12	FY13	FY14	FY15	FYDP
Aircraft Procurement (3010)	1.1	0.0	0.0	0.0	0.0	1.1
<b>Total (\$M)</b>	1.1	0.0	0.0	0.0	0.0	1.1
<b>Quantity</b>	1.0	0.0	0.0	0.0	0.0	1.0



## Guardian Angel



### GLOBAL REACH



PROVIDES INTER-THEATER AND INTRA-THEATER AIRLIFT IN SUPPORT OF U.S. NATIONAL DEFENSE

Guardian Angel (GA) is an Air Force weapon system consisting of Combat Rescue Officers (CRO); Pararescuemen (PJ); and Survival, Evasion, Resistance, and Escape

Specialists (SERE). Operating together, these airmen provide a dedicated capability to prepare, report, locate, support, recover, and reintegrate isolated personnel in support of Combat Search and Rescue (CSAR) and personnel recovery operations.

GA forces operate in 12-man Recovery Teams (RT) with dedicated Para Rescue (PR) Forces in austere and non-permissive environments to include humanitarian and disaster relief, and support NASA and other national rescue missions.

Air Force Reserve GA personnel and equipment are assigned to the 920th Rescue Wing (RQW), Patrick AFB, FL. Subordinate 920th RQW GA units are located at Davis-Monthan AFB, AZ; and Portland IAP, OR. Contractors supporting GA are numerous and located throughout the United States.

GA capability requires increased training resources and updated equipment, including high-angle training equipment

## Guardian Angel Executive Summary

Air Force Reserve Command (AFRC) GA Personnel require a Common Data Link system for compatible use with HH-60s and HC-130s. Both primary Personnel Recovery vehicles, HH-60 and HC-130 are being equipped with Situational Awareness Data Link (SADL), a Tactical Datalink. SA of both aircrew and Guardian Angel Weapon System (GAWS) teams can save both the rescue teams and the rescue objective.

Air Force Reserve Command (AFRC) GA personnel require a Tactical Communication Headset/Ear Protector capable of complete aircraft integration with seamless ground operation capability. Existing headsets do not provide adequate hearing protection in high noise environments encountered inside the cabin environment, especially during gun fire. The current GA headsets in use have difficulty picking up the users voice on aircraft intercom systems and users have difficulty hearing intercom transmissions. Tactical Communication Headsets will enhance users situational awareness by providing adequate hearing protection in high noise environments, integrating fully with aircraft intercom systems and provide natural directional hearing during ground operations.

Air Force Reserve Command (AFRC) GA personnel require a Wireless Intercom system for their use on HH-60s and HC-130s. Wired intercom systems are limited by the number of communication cords available to GA team members, leaving some aircrew members without intercom communication capability.

**Modernization List Funding Profiles (\$M)**

Program (Funding Appropriation)	P.E. Number	FY11	FY12	FY13	FY14	FY15	Program Total
GA CSAR Common Data Link (3010)	53133F	6.0	0.0	0.0	0.0	0.0	6.0
GA Tactical Communication Headset (3010)	53133F	5.0	0.0	0.0	0.0	0.0	5.0
GA Wireless Intercom (3010)	53133F	6.0	0.0	0.0	0.0	0.0	6.0

## Guardian Angel Combat Search and Rescue (GA CSAR) Common Data Link

**Background**

- Air Force Reserve Command (AFRC) GA personnel require a Common Data Link system that will allow rescue airmen to receive timely knowledge of enemy threats, friendly positions, and other pertinent wartime information.
- Operations can be seamlessly integrated with rescue forces with the addition of a GA on-board data-link capability.
- A GA common data link would provide SLOS/BLOS situational awareness and provides real time information that can lead to more successful rescue operations.

**Requirement**

Provide A CSAR Common Data Link to each Guardian Angel team member.

**Impact If Not Funded**

- GA team members will continue to experience isolation from primary crew situational awareness.
- GA will lack seamless ground to aircraft situational awareness and rescue force integration.

**Units Impacted**

920th Rescue Wing, Patrick AFB, FL

**Contractor**

TBD

**Program Element Code**

53133F

**In AF POM**

No

GA CSAR Common Datalink	FY11	FY12	FY13	FY14	FY15	FY16	FYDP
Aircraft Procurement (3010)	6.0	0.0	0.0	0.0	0.0	0.0	6.0
Total (\$M)	6.0	0.0	0.0	0.0	0.0	0.0	6.0
Quantity	60.0	0.0	0.0	0.0	0.0	0.0	60.0

## Guardian Angel Tactical Communication Headset

**Background**

- Current Guardian Angel (Pararescue Jumper/Combat Rescue Officer) headsets do not provide adequate hearing protection in high noise environments encountered inside the cabin of a HH-60, especially during gunfire.
- Team members using the current headsets have difficulty hearing and understanding voice communications over internal intercom systems
- Tactical Communication Headsets are required to enhance user situational awareness, provide adequate hearing protection, and fully with aircraft intercom systems.



**Requirement**

Tactical Communication Headset/Ear Protector system capable of complete aircraft integration with seamless ground operation capability.

**Impact If Not Funded**

- GA team members will continue to be exposed to extreme noise environments without proper hearing protection.
- GA team members will continue to have difficulty communicating on aircraft intercom systems.
- GA team members could be exposed to enemy fire during ground operations without their knowledge.

**Units Impacted**

920th Rescue Wing, Patrick AFB, FL



**Contractor**

TBD

**Program Element Code**

53133F

**In AF POM**

No

Tactical Communication Headset	FY11	FY12	FY13	FY14	FY15	FY16	FYDP
Aircraft Procurement (3010)	5.0	0.0	0.0	0.0	0.0	7.0	12.0
Total (\$M)	5.0	0.0	0.0	0.0	0.0	7.0	12.0
Quantity	60.0	0.0	0.0	0.0	0.0	60.0	120.0

**Guardian Angel  
Wireless Intercom**

**Background**

- Air Force Reserve Command (AFRC) Guardian Angel Personnel require a wireless intercom system for Guardian Angel use on HH-60s and HC-130s.
- The current intercom system uses a cord to connect team members and is easily damaged in the harsh environment often encountered by HH-60/HC-130 aircraft.





- Wired intercom systems are limited by the number of communication cords available to GA team members, leaving some aircrew members without intercom communication capability.
- Wireless Intercom would expand current intercom systems to ensure all aircrew members maintain situational awareness.

**Requirement**

- Provide wireless communications to each Guardian Angel team member.
- A wireless intercom system would not replace any current system. It will add to the existing intercom system.

**Impact If Not Funded**

- GA team members will be unable to communicate with aircrew during critical phases of rescue operations.
- Low team member situational awareness on the progress of mission execution to and from the objective area.

**Units Impacted**

920th Rescue Wing, Patrick AFB, FL

**Contractor**

TBD

**Program Element Code**

53133F

**In AF POM**

No

Guardian Angel Wireless Intercom	FY11	FY12	FY13	FY14	FY15	FY16	FYDP
Aircraft Procurement (3010)	6.0	0.0	0.0	0.0	0.0	7.0	13.0
<b>Total (\$M)</b>	6.0	0.0	0.0	0.0	0.0	7.0	13.0
<b>Quantity</b>	60.0	0.0	0.0	0.0	0.0	60.0	120.0



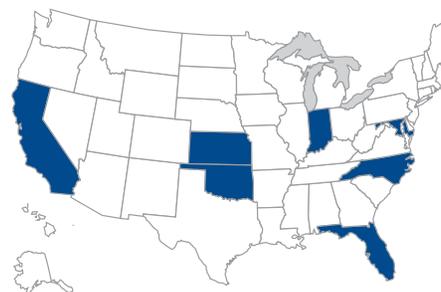


## KC-135 Stratotanker

### GLOBAL REACH



PROVIDES INTER-THEATER AND INTRA-THEATER AIRLIFT IN SUPPORT OF U.S. NATIONAL DEFENSE



The KC-135 Stratotanker provides worldwide air refueling and strategic airlift in support of U.S. national defense. It is a critical enabler of nearly every Air Force Service Core Function including Rapid Global Mobility.

In FY11, the Air Force Reserve operates KC-135R aircraft at the 434th Air Refueling Wing, Grissom AFB, IN; the 452nd Air Mobility Wing, March AFB, CA; the 459th Air Refueling Wing, Andrews AFB, MD; the 507th Air Refueling Wing, Tinker AFB, OK; and the 916th Air Refueling Wing, Seymour-Johnson AFB, NC. The AFR associates with the active duty on KC-135R aircraft at the 931st Air Refueling Group, McConnell AFB, KS; and the 927th Air Refueling Wing, MacDill AFB, FL.

Contractors include Boeing (engineering and depot maintenance), Rockwell Collins (avionics), and PEMCO (depot maintenance).

Required capabilities include Flight Station Armor and LAIRCM.

### KC-135 Executive Summary

Changes in employment concepts are placing KC-135 aircraft in high threat areas. Low altitude refueling, forward positioning, and mission sets establishing the tanker as a command and control relay are subjecting the KC-135 to increasingly hostile operational environments.

#### Modernization List Funding Profiles (\$M)

Program (Funding Appropriation)	P.E. Number	FY11	FY12	FY13	FY14	FY15	Program Total
KC-135 LAIRCM (3010)	51421F	2.9	37.0	37.0	37.0	4.6	118.4

### KC-135 Large Aircraft Infrared Countermeasures

#### Background

Changes in employment concepts are placing KC-135 aircraft in high threat areas. Low altitude refueling, forward positioning, and mission sets establishing the tanker as a command and control relay are subjecting the KC-135 to increasingly hostile operational environments. This threat environment

is widely populated with shoulder fired missiles. Man Portable Missiles (MANPADs) are a significant threat during takeoffs, landings, and low altitude refueling missions. An advanced Infrared Counter Measures (IRCM) system is needed to counter MANPAD threats; one that does not rely on pyrotechnic expendables (incompatible with an air refueling mission) and leverages off of previous government investments in laser based countermeasures.

**Requirement**

Large Aircraft Infrared Countermeasures (LAIRCM) ORD 314-92, dated Aug 98, LAIRCM Equipage Study.

**Impact If Not Funded**

KC-135 aircraft are uniquely vulnerable to MANPAD threats due to its size, lack of maneuverability, and a large combustible fuel load. There is no nitrogen inerting in the KC-135 fuel system which allows dangerous levels of volatile fuel vapor to fill the fuel tanks as fuel is used. Old technology fuel tanks are also not designed to withstand battle damage. Without defensive systems, a MANPAD attack against a KC-135 has a high probability of a kill. Additionally, lack of defensive systems limits the KC-135 from operating out of forward operating bases causing increased flying time and fuel consumption thus decreasing mission effectiveness by limiting fuel available for offload.

**Units Impacted**

- 434th Air Refueling Wing, Grissom ARB, IN
- 452th Air Mobility Wing, March ARB, CA
- 459th Air Refueling Wing, Andrews AFB, MD
- 507th Air Refueling Wing, Tinker AFB, OK
- 916th Air Refueling Wing, Seymour Johnson AFB, NC

**Contractor**

BAE Systems, Nashua NH, Lockheed Martin, Orlando FL; Elbit Systems of America, Fort Worth, TX; Northrop Grumman Electronics Systems, Rolling Meadows, IL.

**Element Code**

51421F

**In AF POM**

No

KC-135 LAIRCM	FY11	FY12	FY13	FY14	FY15	FYDP
Aircraft Procurement (3010)	2.9	37.0	37.0	37.0	4.6	118.4
Total (\$M)	2.9	37.0	37.0	37.0	4.6	118.4
Quantity Group A/B	1/1	20/10	20/10	20/10	3/1	64/32



