

Reprinted March 1991

SAI 19300443



DO NOT DESTROY
30 DAYS LOAN
RETURN TO AFSM/SAMI
1777 NORTH KENT STREET, 7th FLOOR
ROSSLYN, VA 22209. (703) 588-6940

29106

20101015470



Legacy Number: 9100443

F-16 FIGHTING FALCON PROGRAM OVERVIEW

read

9300443

F-16 FIGHTING FALCON

PROGRAM OVERVIEW

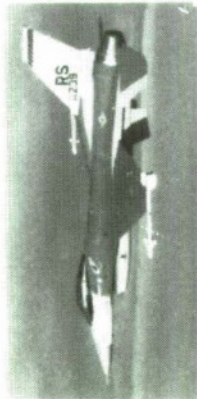
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90162

Program Status

AMC2532

PRODUCING THE MULTIROLE F-16 FOR NINETEEN AIR FORCES



United States Air Force



United States Navy



Belgium



Denmark



The Netherlands



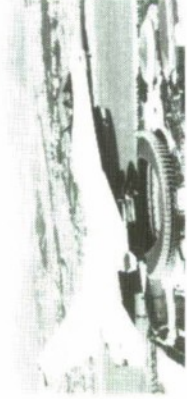
Norway



Israel



Egypt



Korea



Pakistan



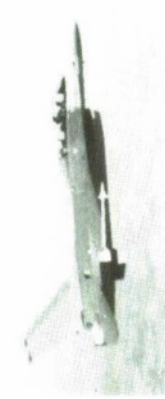
Venezuela



Turkey



Greece



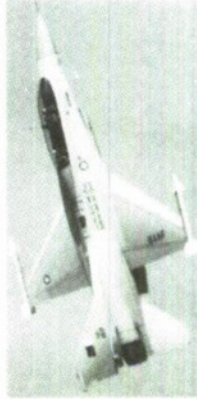
Singapore



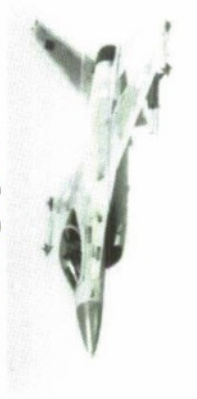
Thailand



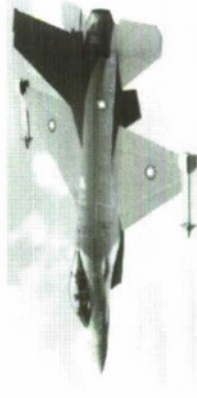
Indonesia



Bahrain



Portugal






















Taiwan

20 November 1992

AMC2804D

F-16 Program Status

Through March 1993

	U.S. Air Force
	U.S. Navy
	Belgium
	Denmark
	The Netherlands
	Norway
	Israel
	Egypt
	Korea
	Pakistan
	Venezuela
	Turkey
	Greece
	Singapore
	Thailand
	Indonesia
	Bahrain
	Portugal
	Taiwan

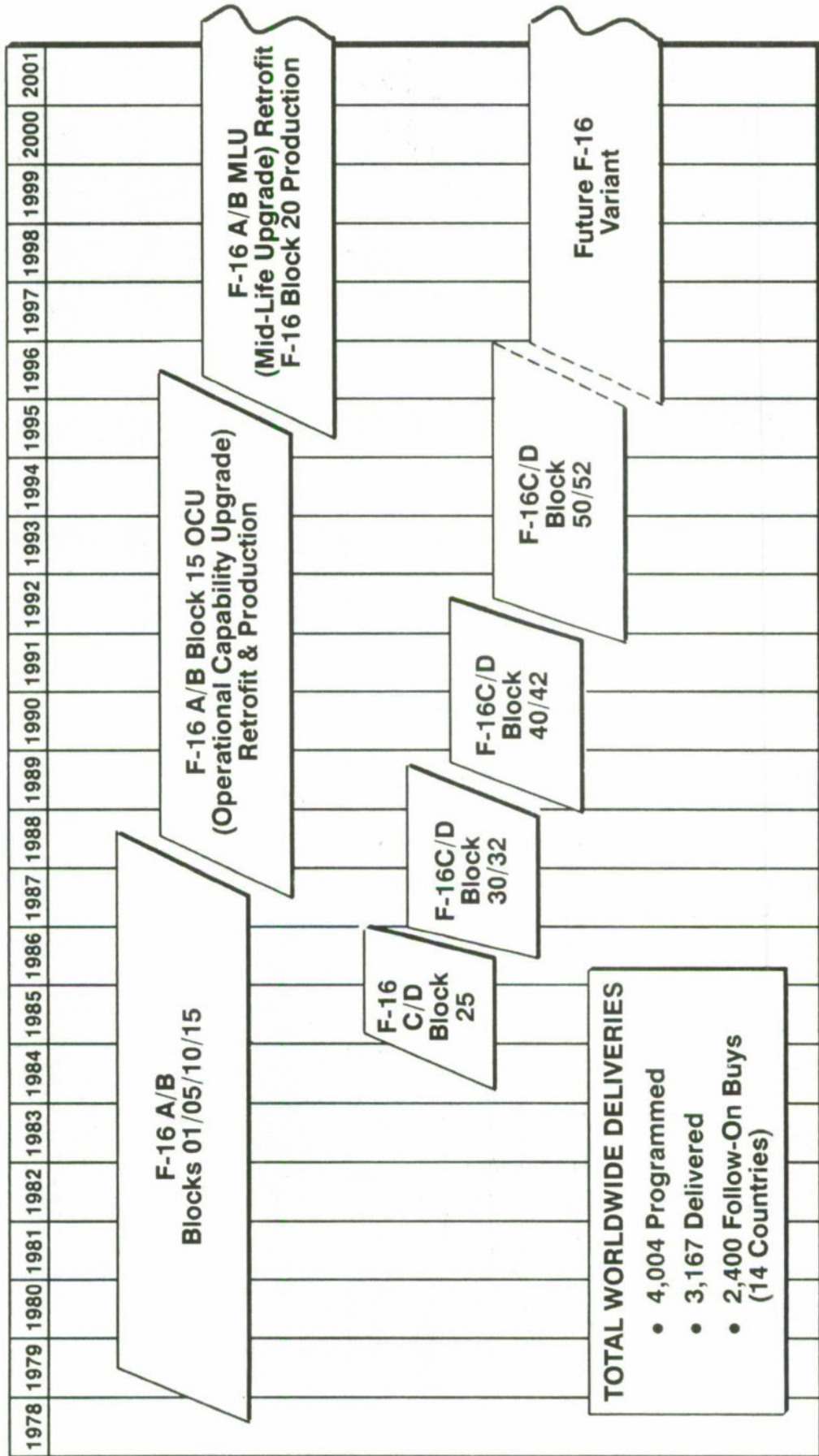
• 3,167 F-16 Aircraft Delivered

– 1,529 F-16A/B

– 1,638 F-16C/D

• 4,004 Total Aircraft Ordered

F-16 Production Schedule



AC39328L

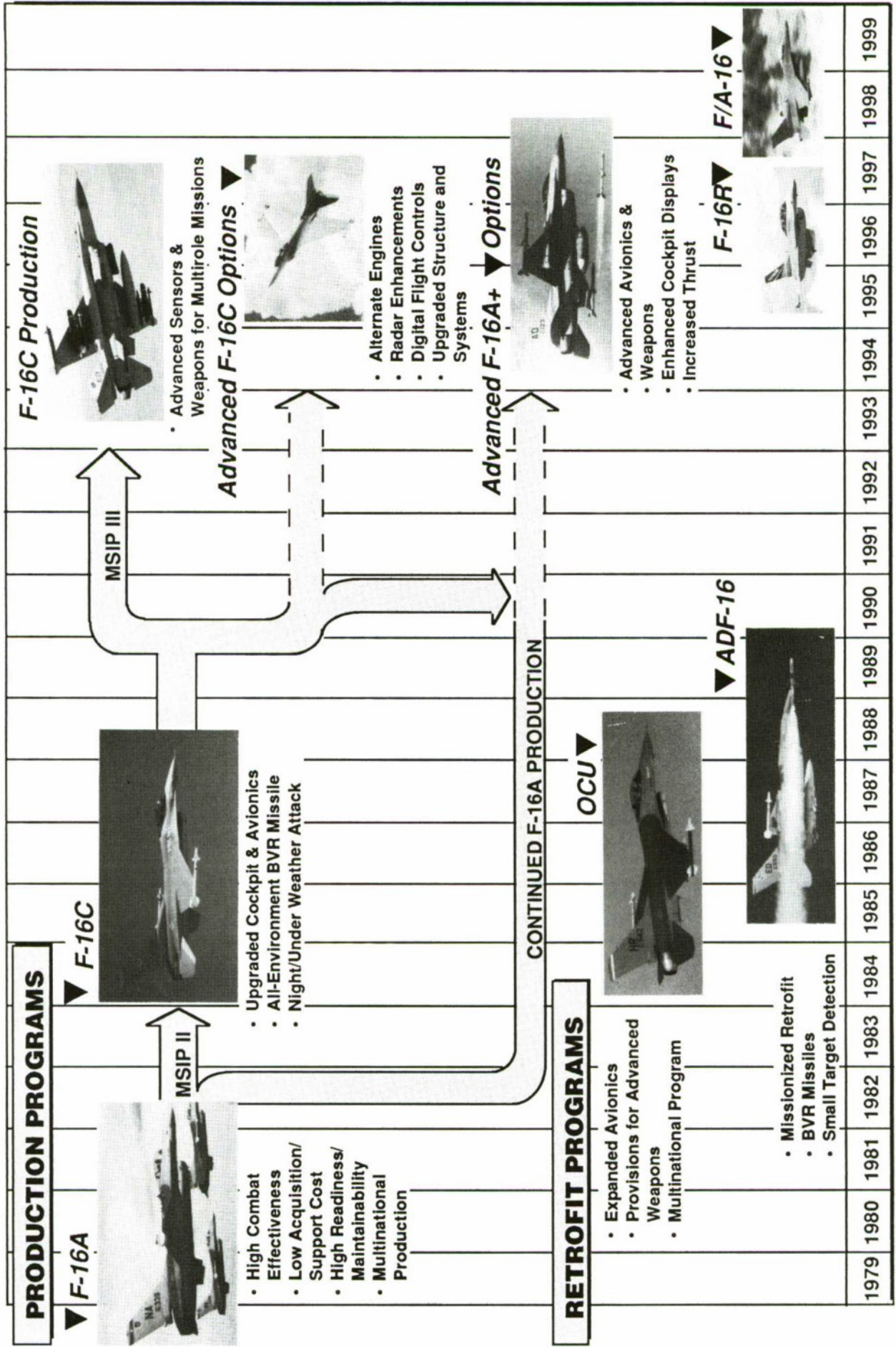
**USAF AND INTERNATIONAL CUSTOMERS
REMAIN COMMITTED TO THE F-16**

TOTAL WORLDWIDE DELIVERIES

- 4,004 Programmed
- 3,167 Delivered
- 2,400 Follow-On Buys (14 Countries)

1 April 1993

F-16 Capability Evolution



Unexcelled Production Record

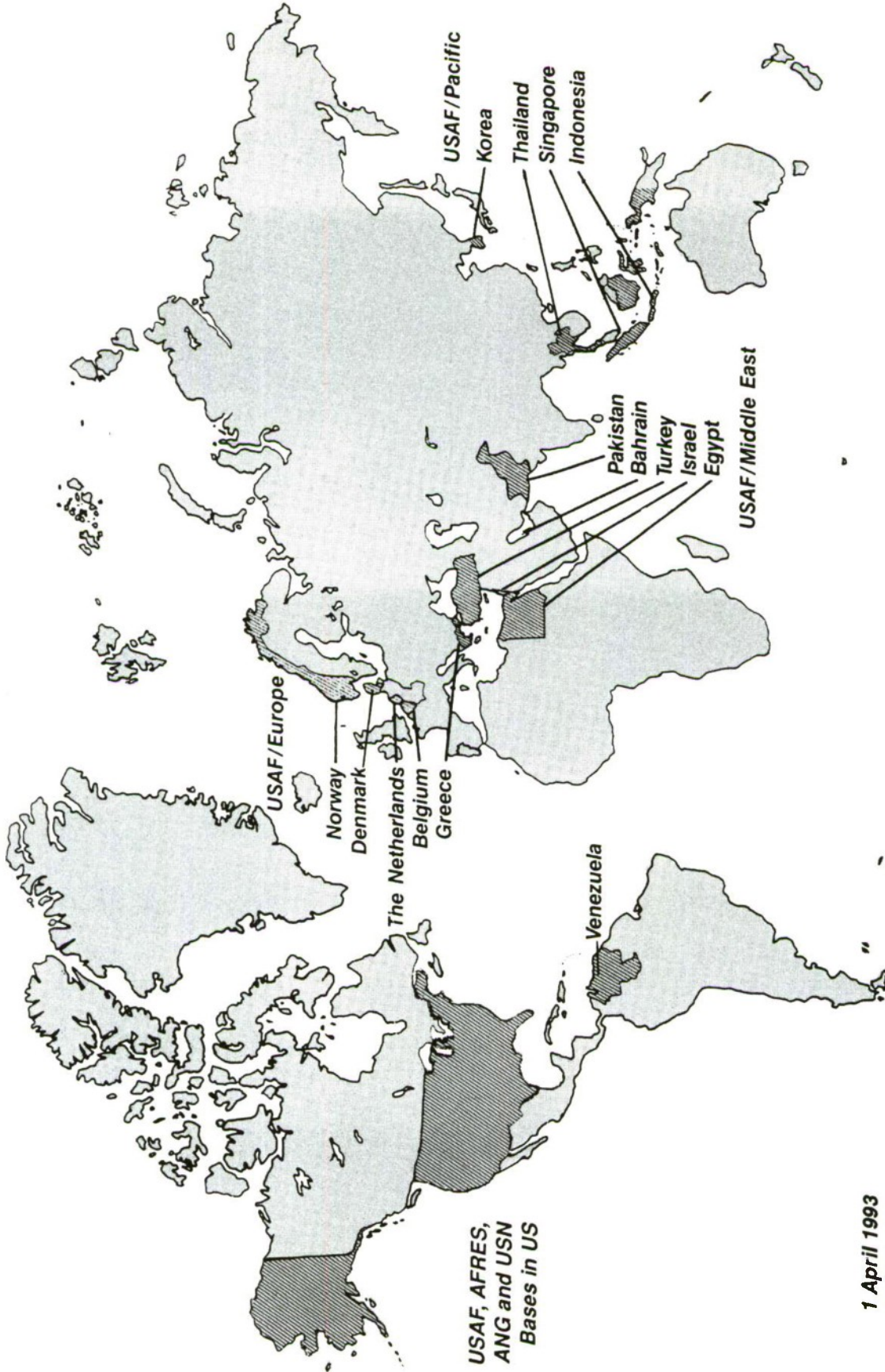


- **Over 3,100 Aircraft Delivered to Air Forces of Sixteen Countries**
- **Third Multiyear Procurement Authorized for FY 90-93**
- **Multinational Coproduction**
 - **Thirteen Countries**
 - **Four Assembly Lines**

12 November 1992

AMC484D

F-16s Operational Worldwide



1 April 1993

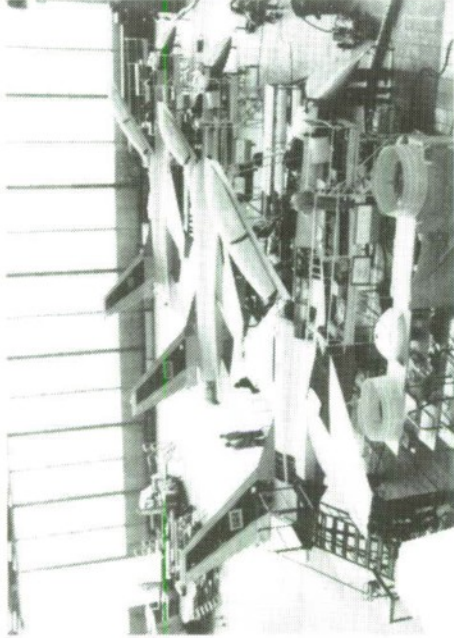
Seventeen Air Forces Operating from More Than 90 Bases

F-16 Delivery Status

LOCKHEED - Fort Worth Company



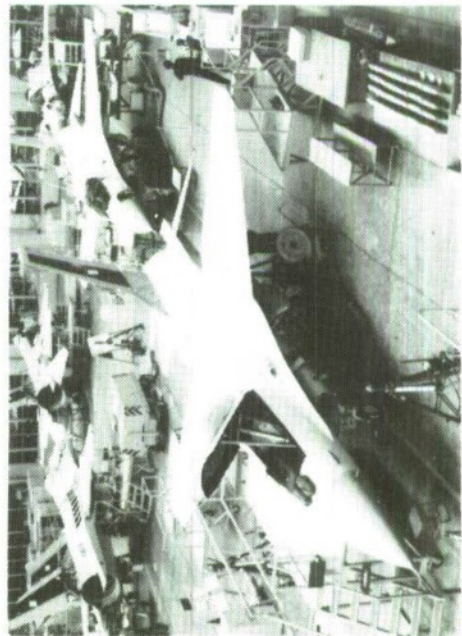
SABCA - Belgium



Scheduled/Delivered

2539/2540 222/222

FOKKER - The Netherlands



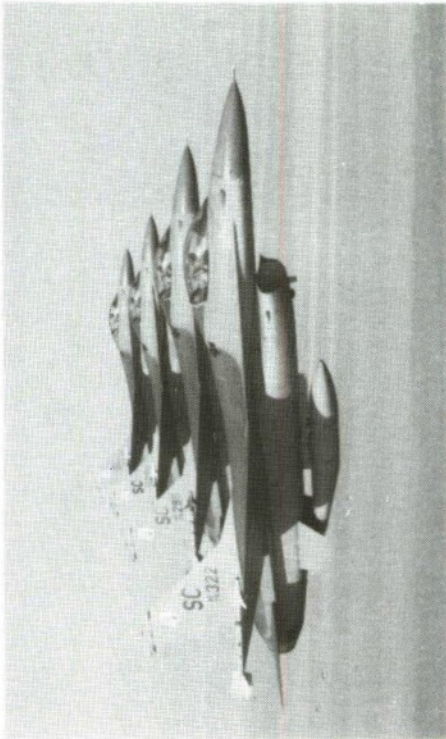
TAI - Turkey



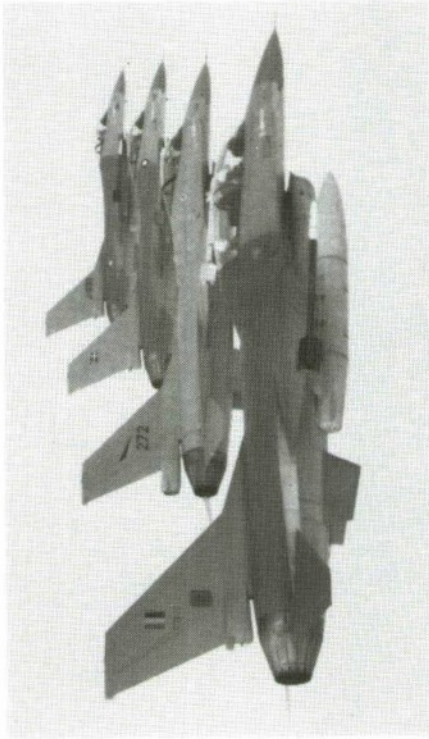
300/300 105/105

F-16 Flight Program

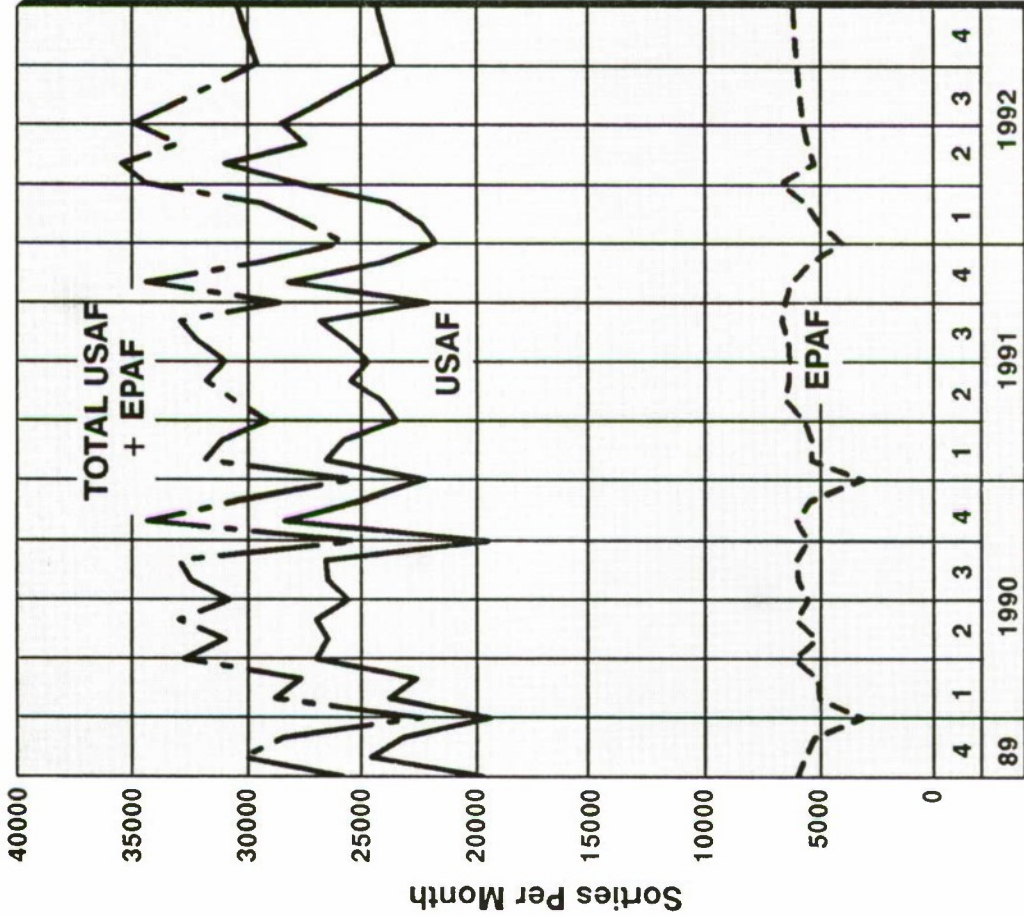
UNITED STATES AIR FORCE



EUROPEAN AIR FORCES



F-16 Worldwide Fleet Has Accumulated Over 4,725,000 Flight Hours

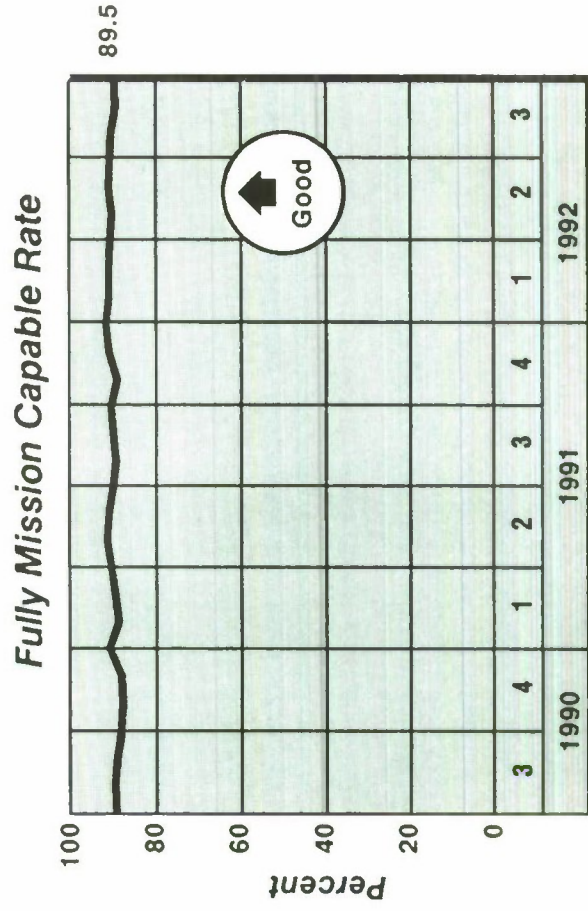
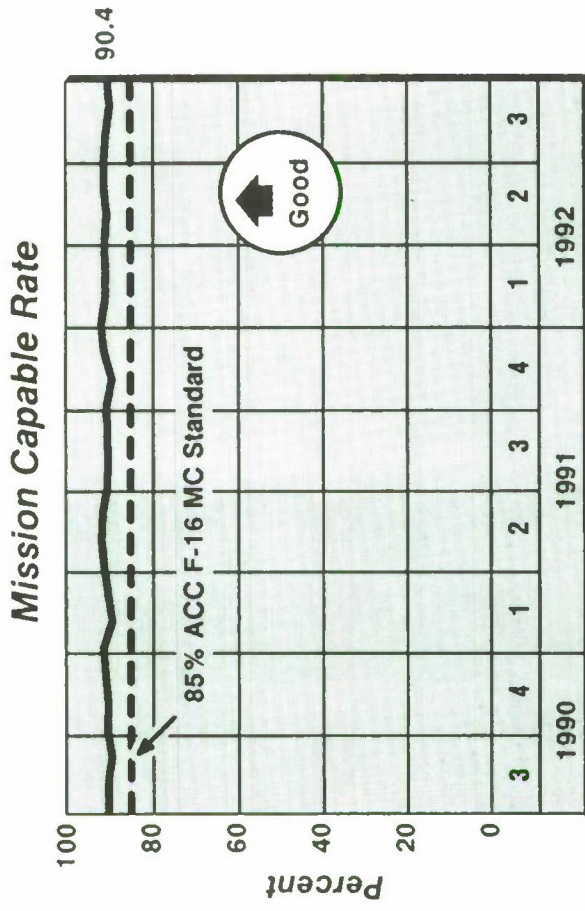


TOTALS THROUGH DECEMBER 1992			
	Sorties	Fit. Hours	
USAF			
Active	1,857,590	2,722,461	
Guard + Reserve	489,189	656,399	
Total USAF	2,436,779	3,378,860	
EPAF	612,513	679,696	
TOTAL	3,049,292	4,058,556	

1 April 1993

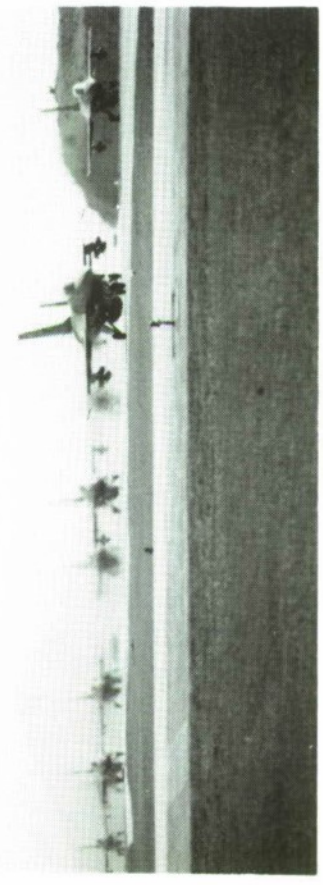
ACA1206H

USAF F-16 Fleet Setting Readiness Records



(ANG/AFRES Not Included)
Source: MS & TICARRS Data

ACA1209H



Typical Desert Storm Comment

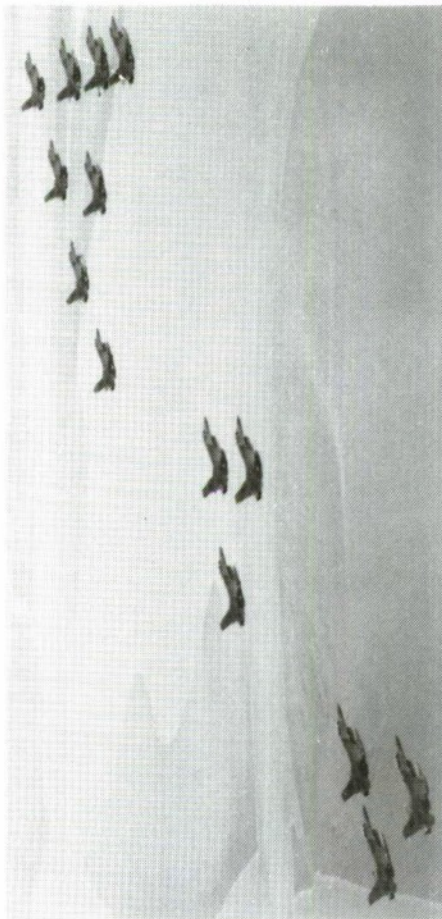
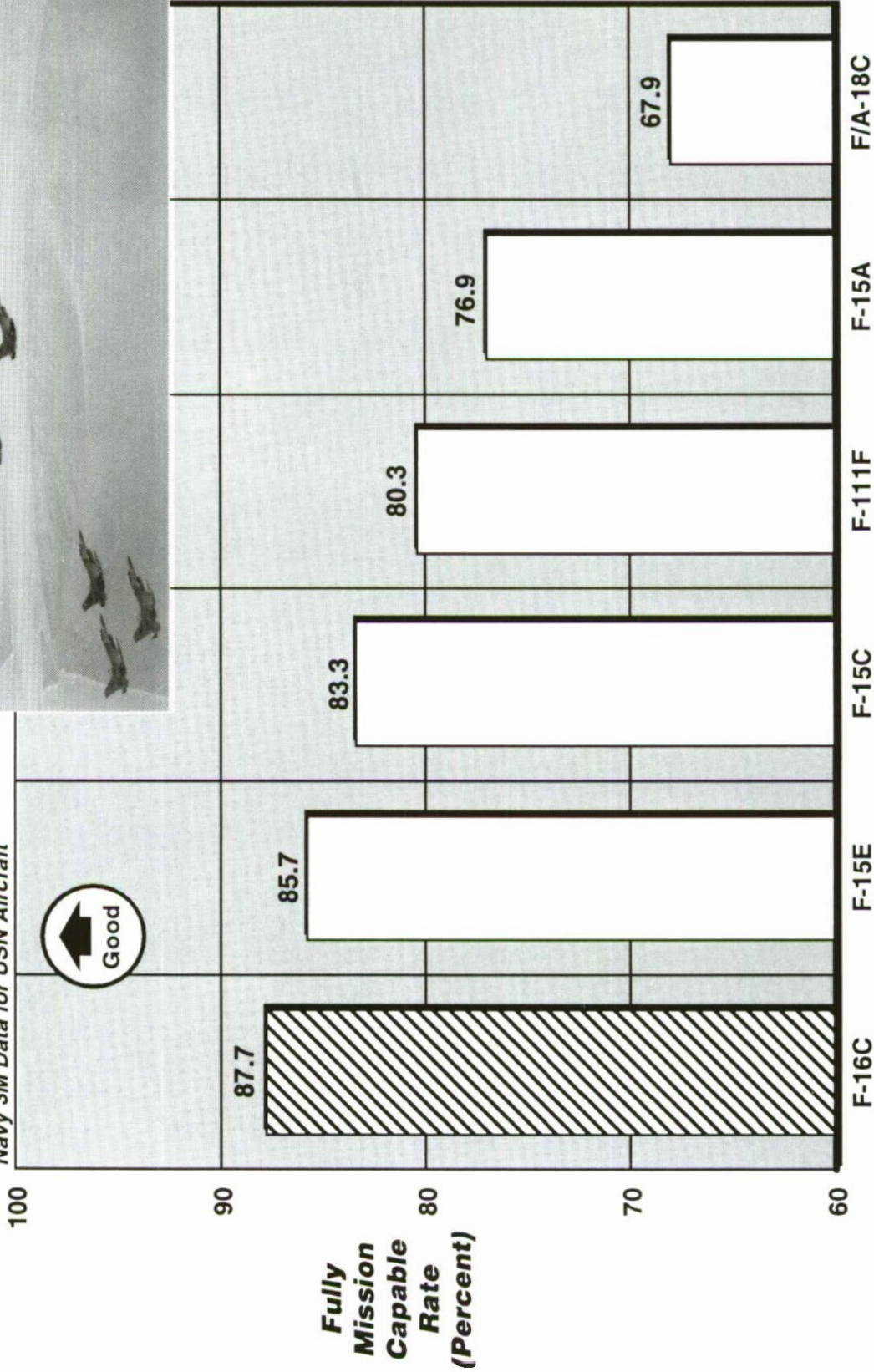
"I Just Completed My 100th Combat-Hour in Less Than a Month. In the Last 27 Days, I Flew 28 Missions Without a Single Ground or Air Abort, or Even Late Takeoff!"
Lt Col William Diehl, 174th TFS Commander

1 April 1993

Operational Readiness Comparisons

October 1991 - September 1992

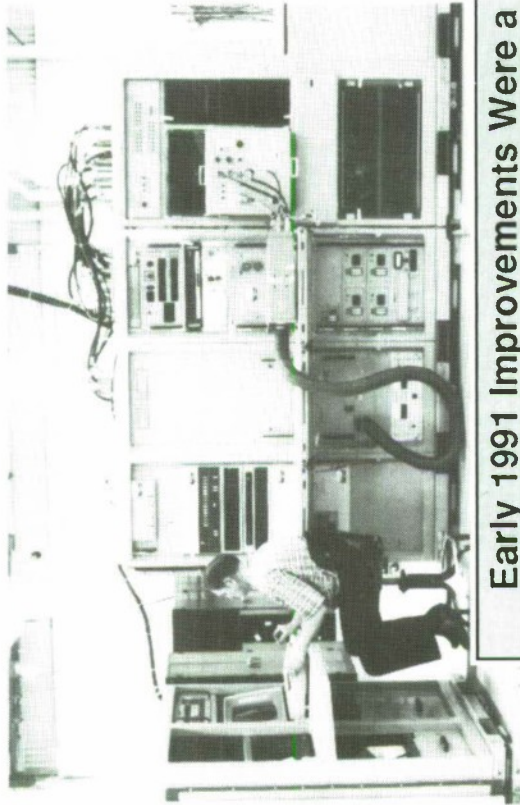
AFR 66-1 Data for USAF Aircraft
Navy 3M Data for USN Aircraft



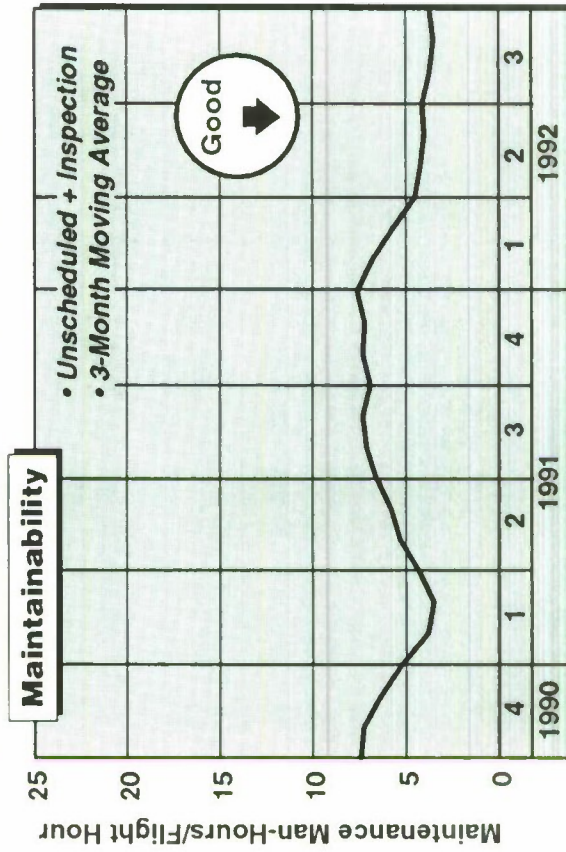
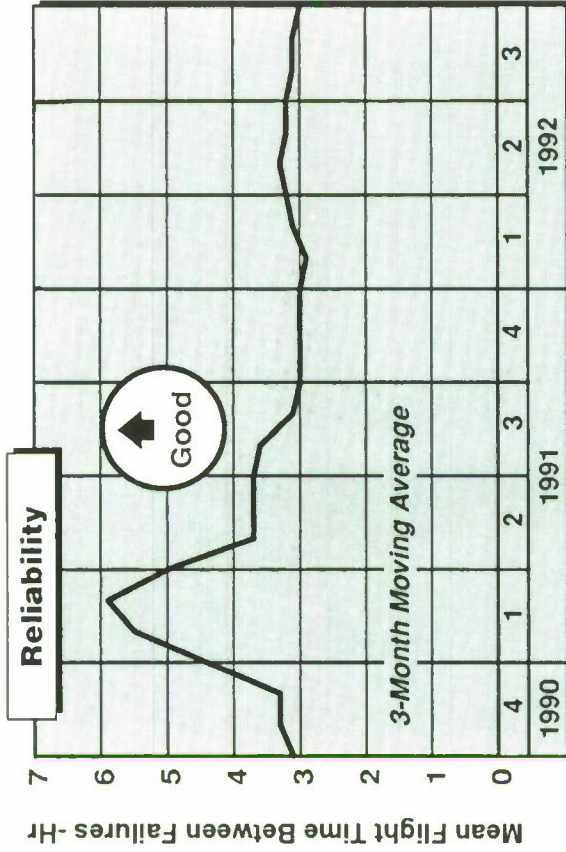
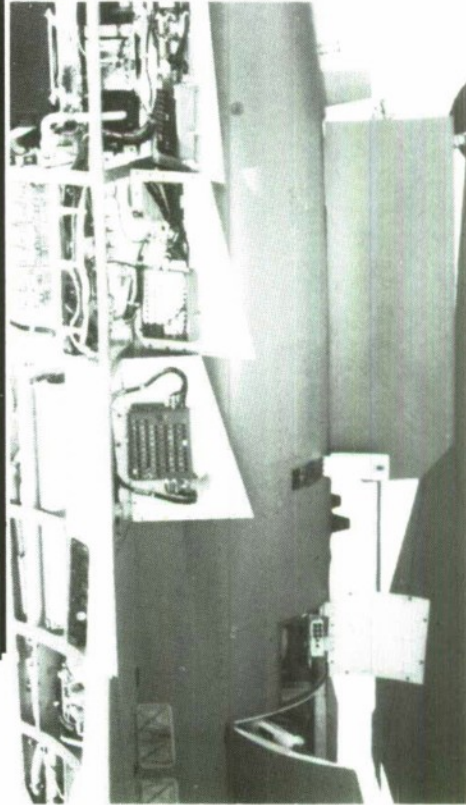
NOTE: By December, 1991, No F-16A/B Aircraft Were Possessed by Active USAF Tactical Air Force Units. Does Not Include ANG/AFRES Data. F-18C Data Covers September 1991 to August 1992, Only.

F-16C/D Reliability/Maintainability

USAF OPERATIONAL UNITS



Early 1991 Improvements Were a Direct Result of Higher Sortie Rate and Longer Duration Flights During Desert Shield and Desert Storm



Source: AFR 66-1 (D056E) Data
Notes: Does Not Include ANG/AFRES Data

1 April 1993

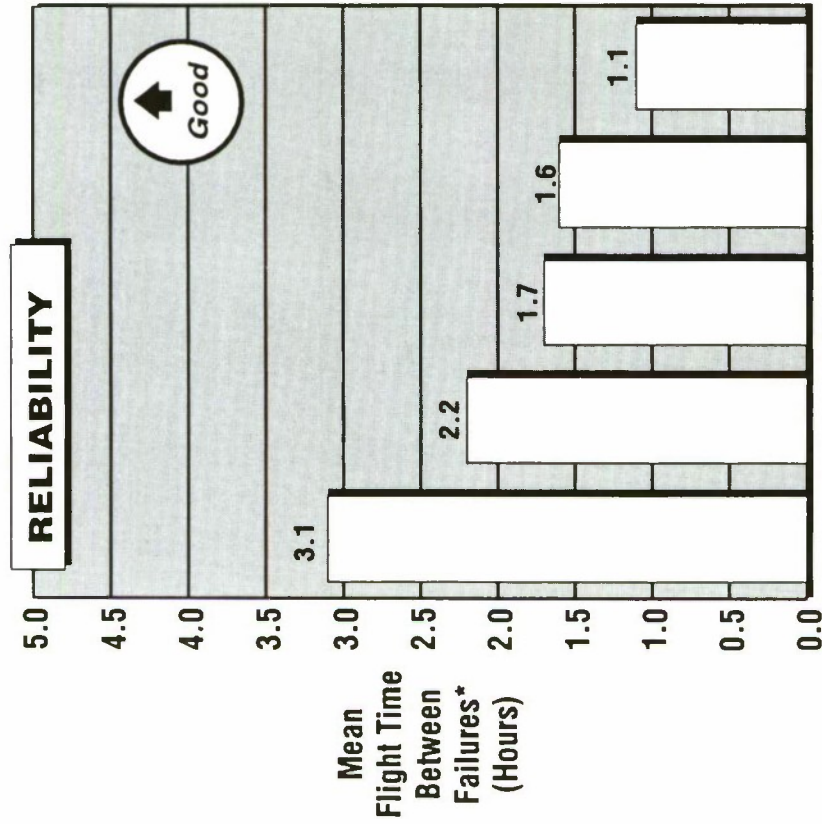
AMC557J

Reliability/Maintainability Comparisons

October 1991 - September 1992**

Data Source: • AFR 66-1 Data for USAF Aircraft
(Does Not Include ANG/AFRES Data)

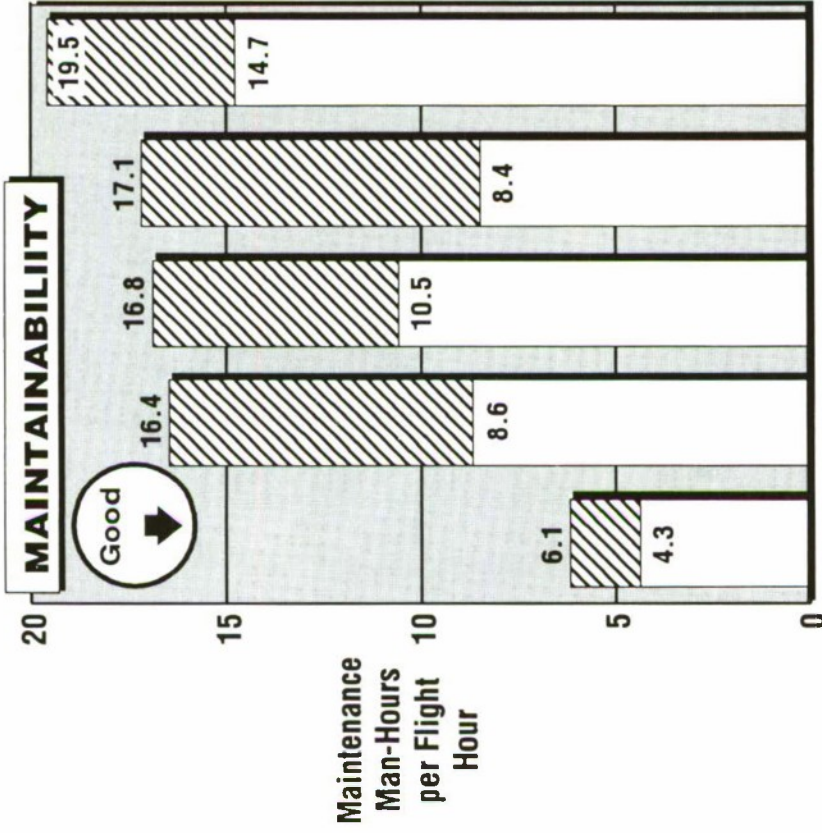
• Navy 3M Data for USN Aircraft



F-16C F-15E F-18C F-15C F-111F

* Inherent Failures Only (Does Not Include Secondary or Induced Failures or "No Defect" Maintenance Events)

** September 1991 - August 1992 for F-18C Only



F-16C F-15E F-18C F-15C F-111F

Organizational and Intermediate Level Only. Does Not Include: Inspections, Depot Maintenance, TCTOs, General Support Such as Servicing, Aircraft Handling, Weapons Loading, and Aircraft cleaning

Organizational and Intermediate Level Only Plus Inspections

Safest Multirole Fighter in USAF History



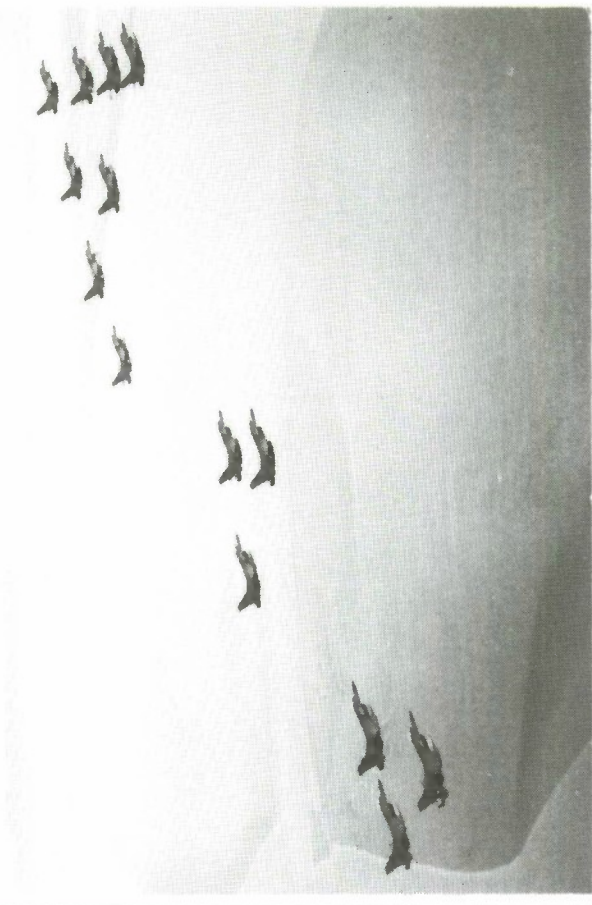
Attrition Rate of 3.97 Losses per 100,000 Hours Throughout the Last Four Years; Comparable with Any Single or Twin-Engine Fighter in the World

1 July 1992

AMC4191C

F-16 Operationally Proven and Supportable Worldwide

- **Worldwide Operations and Support Established**
 - Over 4.7 Million Flight Hours
 - USAF Logistics System Supporting Seventeen Air Forces Employing the F-16 in More Than 90 Locations Around the World
- **Highest Operational Readiness Rate of Any USAF Fighter**
- **Demonstrated High Reliability/Maintainability**
- **Planned Improvement Program To Ensure 21st Century Viability**
- **Planned Production Through the 90s**



1 April 1993

AMC2516F

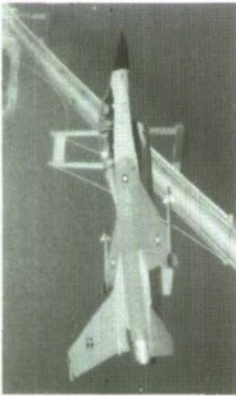
F-16A/B

AMC2533

F-16A/B . . . The Choice of Fourteen Air Forces Worldwide



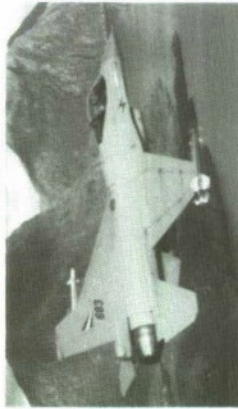
UNITED STATES



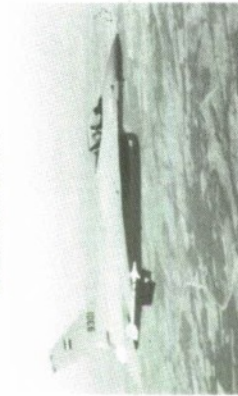
DENMARK



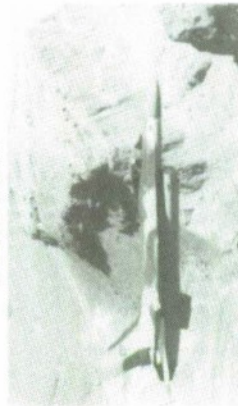
THE NETHERLANDS



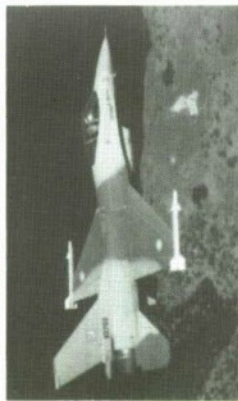
NORWAY



EGYPT



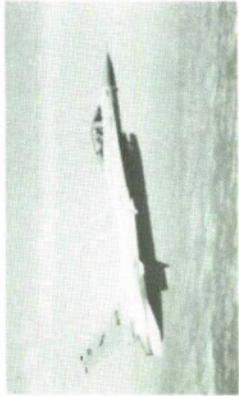
ISRAEL



PAKISTAN



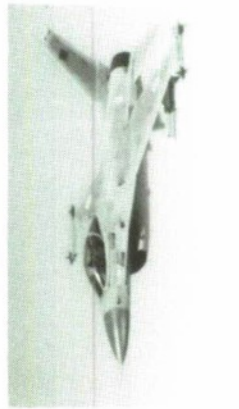
VENEZUELA



THAILAND



INDONESIA



PORTUGAL



TAIWAN

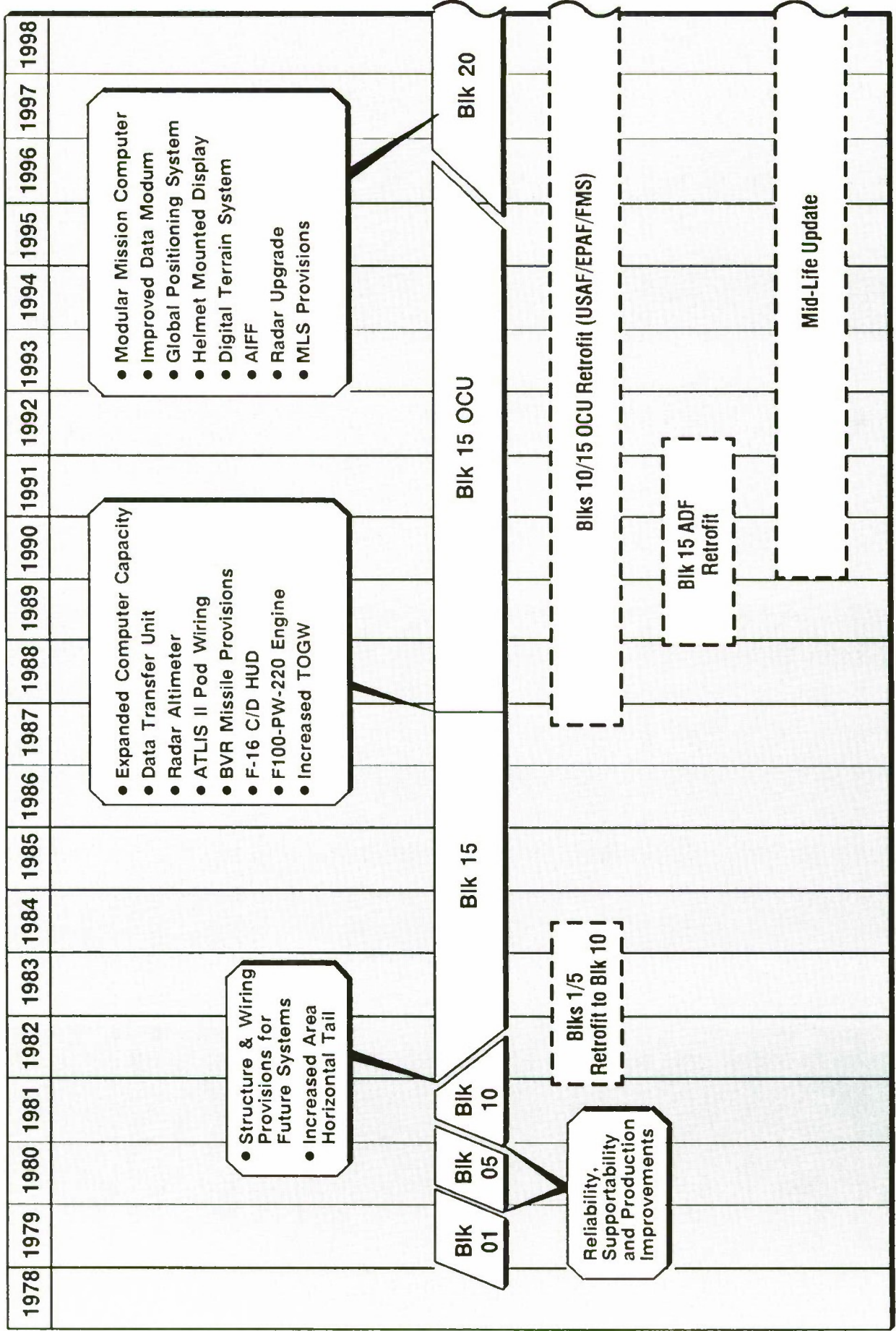


CURRENT PLANNED PRODUCTION . . . 1,790

20 November 1992

AMC2544D

F-16A/B Improvement Program



F-16A/B Current FMS Configuration

COCKPIT

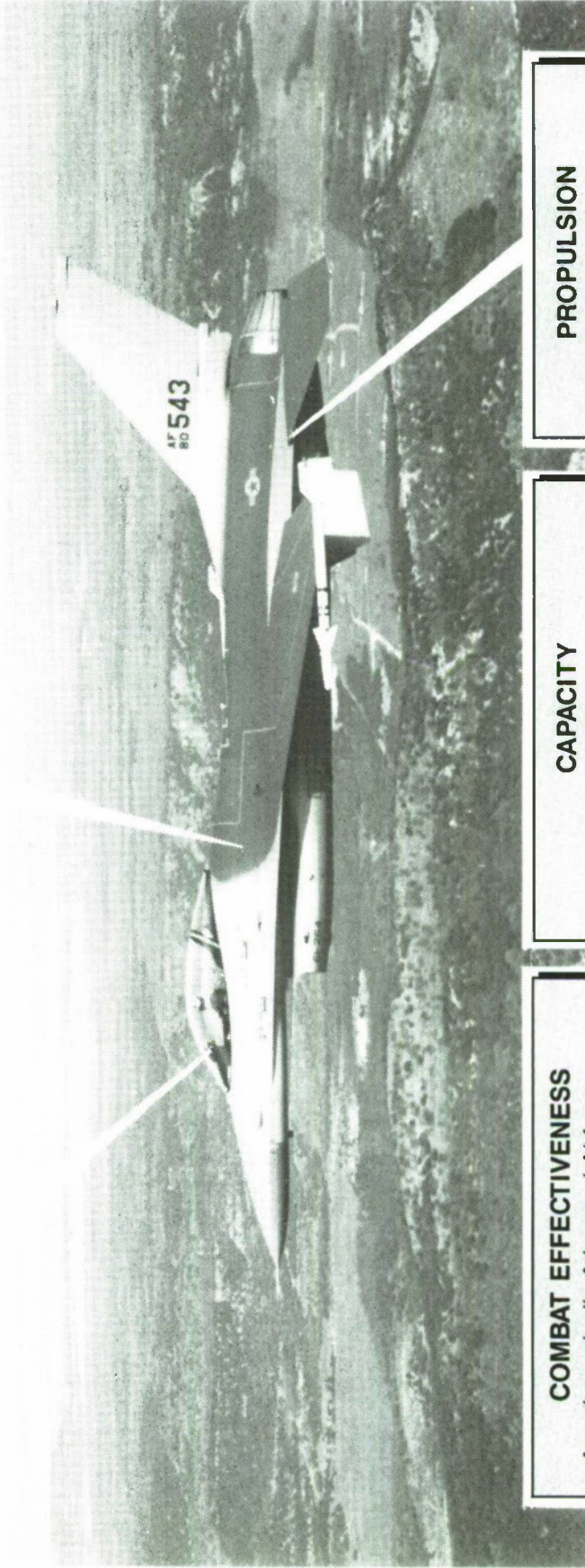
- Improved g-Tolerance
- Bubble Canopy
- Data Transfer Unit
- Wide Angle Conventional HUD

AVIONICS

- Improved APG-66 Multimode Radar
- 128K Expanded Fire Control Computer
- 128K Expanded CIU
- CARA Radar Altimeter
- APX-101 IFF
- Ring Laser Gyro INS

SURVIVABILITY

- ALR-69 RWR
- Increased Chaff/Flares
- External ECM



COMBAT EFFECTIVENESS

- Aerodynamically Advanced Airframe
- Fly-by-Wire Flight Controls
- E/O FLIR Laser Designator Pod Capability
- Penguin Anti-Shipping Missile Capability
- AIM-9 All-Aspect Missile Capability
- BVR Missile Provisions
- Recce Pod Provisions

CAPACITY

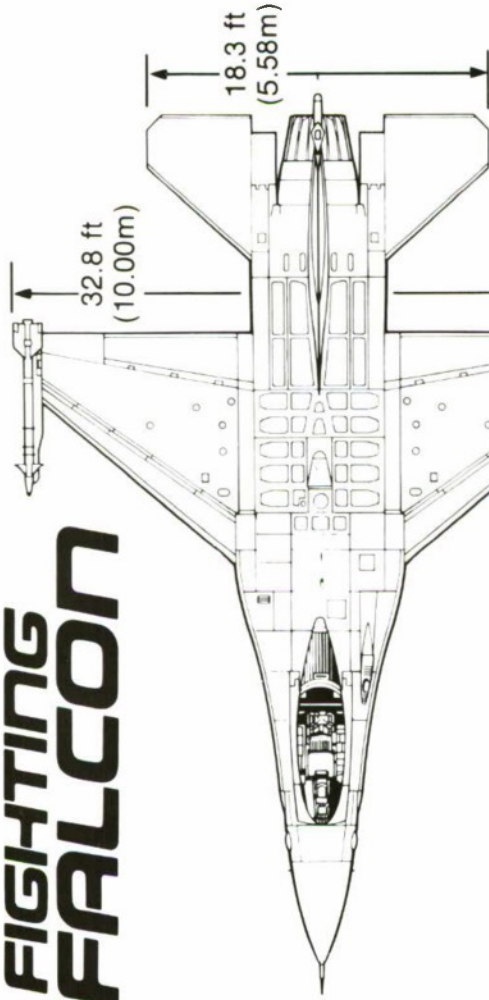
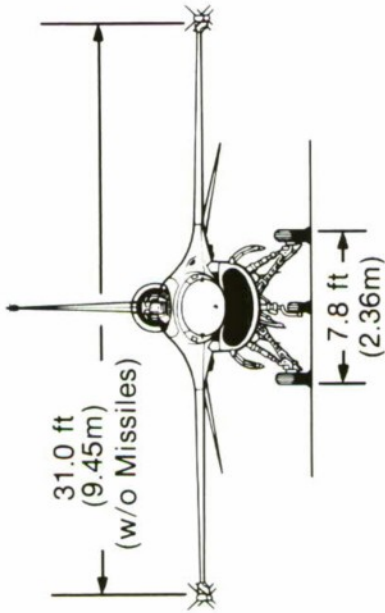
- 37,500 lb Max TOGW
- 9-g Capability up to 24,100 lb GW
- Cooling: 9 KW ECS
- Electrical:
 - 40 kVA Main Generator
 - 5 kVA Emergency Generator

PROPULSION

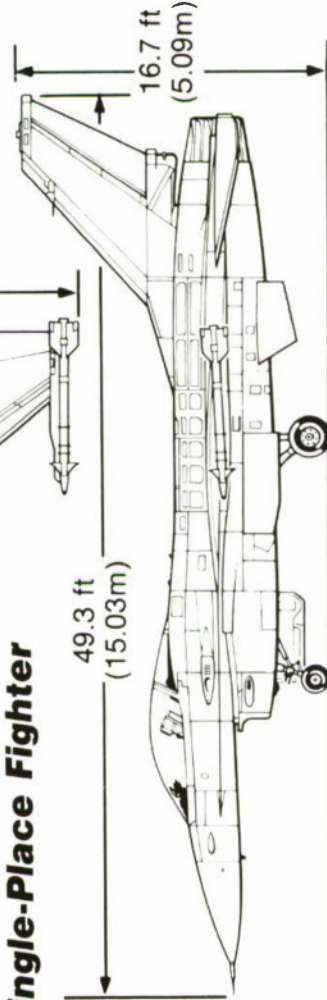
- High T/W F100-PW-220 Turbofan Engine

AM26242

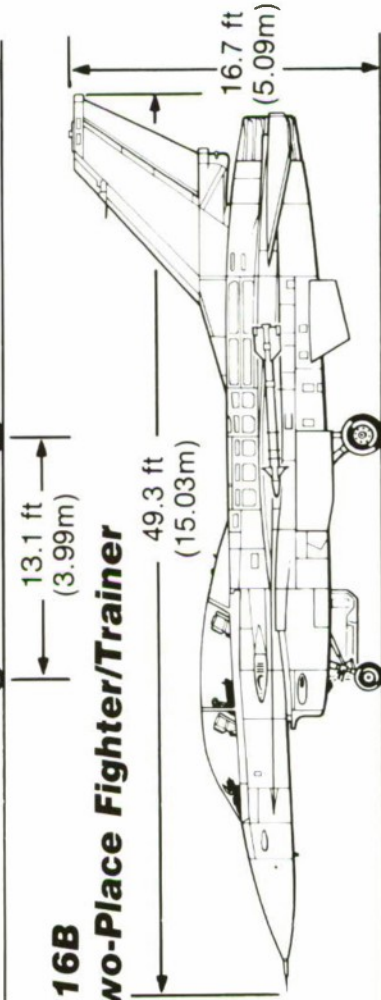
F-16A/B FIGHTING FALCON



F-16A
Single-Place Fighter



F-16B
Two-Place Fighter/Trainer

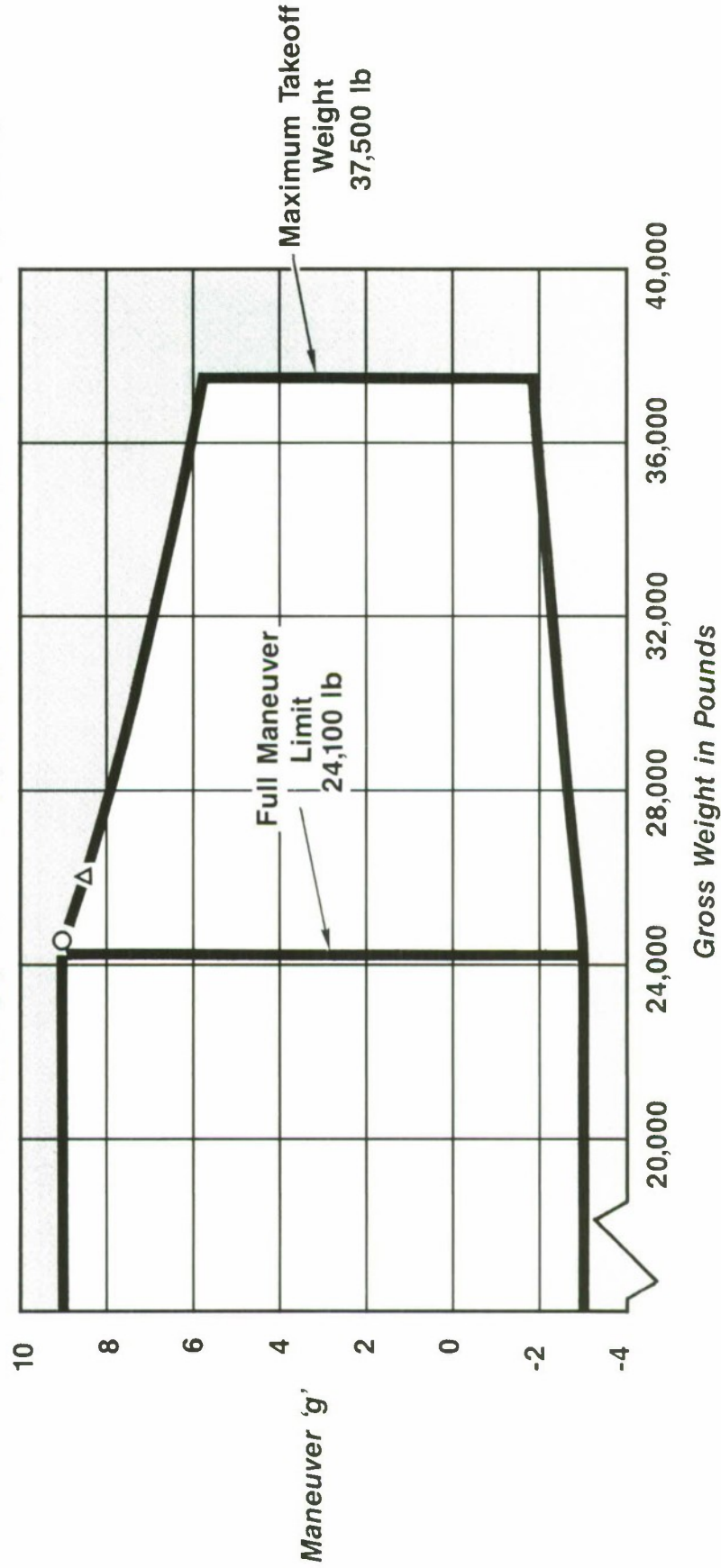


Characteristics	
Wing Area	300 sq ft..... 27.9 sq m
Weight Empty	16,285 lb..... 7,387 Kg
Internal Fuel	6,846 lb..... 3,105 Kg
Max Takeoff Gross Wt	37,500 lb..... 17,010 Kg
Design Load Factor9g
Service Life8,000 hours
Engine	F100-PW-220.... F100-PW-220
Thrust Class24,000 lb..... 106.75 kN

Characteristics	
Wing Area	300 sq ft..... 27.9 sq m
Weight Empty	16,928 lb..... 7,678 Kg
Internal Fuel	5,659 lb..... 2,567 Kg
Max Takeoff Gross Wt	37,500..... 17,010 Kg

The F-16A Is a 9-g Fighter

- F-16A with (2) AIM-9 and Full Internal Fuel (24,500 lb)
- △ F-16A with (2) AIM-7 + (2) AIM-9 and Full Internal Fuel (25,700 lb)

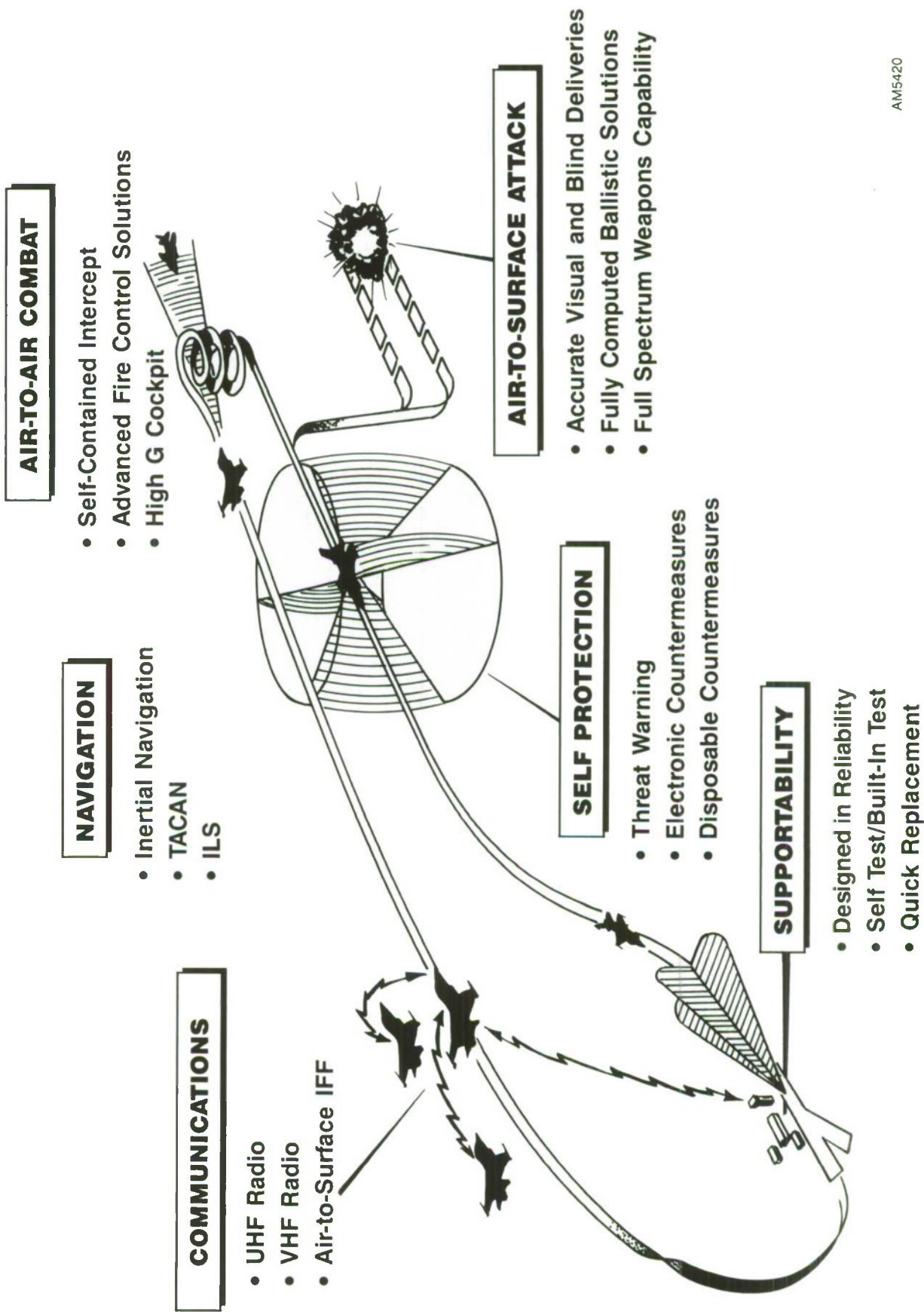


- 8,000-Hour Design Service Life
- Aircraft Durability Demonstrated to 16,000 Hours



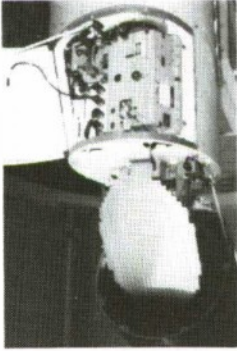
AM26243

F-16 Avionics Provide Multirole Capabilities



F-16A Digital Avionic System Features

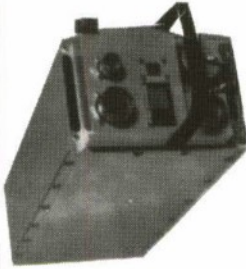
Fire Control Radar AN/APG-66



• Westinghouse

- Multimode
- Long-Range Detection
- Auto Acquisition
- Situation Awareness Mode (SAM)
- High Resolution Ground Map, 8:1 DBS

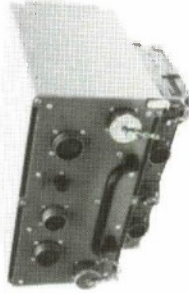
Expanded Fire Control Computer (XFCC)



• Delco

- Memory — 128K/Speed - 385 KOPS
- Dual 1553/1553B Multiplex Bus Controller
- Weapon Delivery Computations

Expanded Central Interface Unit (XCIU)



• EFW

- Dual Redundant Processors
- Memory — 64K per Processor
- Automatic Weapons Control
- Weapons Multiplex Bus Controller

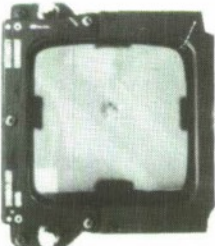
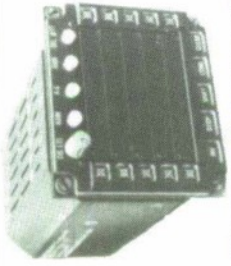

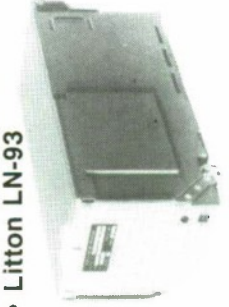
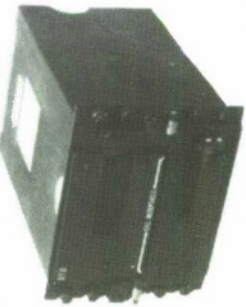

Wide-Angle Head-Up Display



• GEC Avionics

- Flight Information Cues
- Air-to-Air Gunner and Missile Dynamic Launch Zone Symbology
- Air-to-Ground Weapon Delivery and Target Locations Cues
- Raster Scan for FLIR Projection

F-16A Digital Avionic System Features (Cont.)

<p>Displays</p>	<ul style="list-style-type: none"> • Kaiser • EFW <p>Radar/Electro-Optical</p>  <p>Weapons Management</p> 	<ul style="list-style-type: none"> • Air-to-Air/Air-to-Surface Radar Image Displays • TV Video Displays • Electro-Optical Weapon Displays • Stores Inventory • Weapons Control/Selection
<p>Inertial Navigation (RLG)</p>	<ul style="list-style-type: none"> • Honeywell H-423 • Litton LN-93  	<ul style="list-style-type: none"> • Form/Fit/Function Replacement for Existing System • High Reliability • Two-Level Maintenance
<p>Data Transfer Unit</p>	<ul style="list-style-type: none"> • Fairchild 	<ul style="list-style-type: none"> • Instant Ground or Airborne Data Entry/Retrieval • Facilitates Mission Planning • Reduces Pilot Workload • Provides Detailed Maintenance Data
<p>Radar Altimeter (CARA)</p>	<ul style="list-style-type: none"> • Gould AN/APN-232 	<ul style="list-style-type: none"> • Selectable Radar or Barometric Altitudes Displayed on HUD • Optimized for Low-Level Flight • Low-Altitude Warning Feature Enhances Safety

F-16A Digital Avionic System Features (Cont.)

Radio Navigation

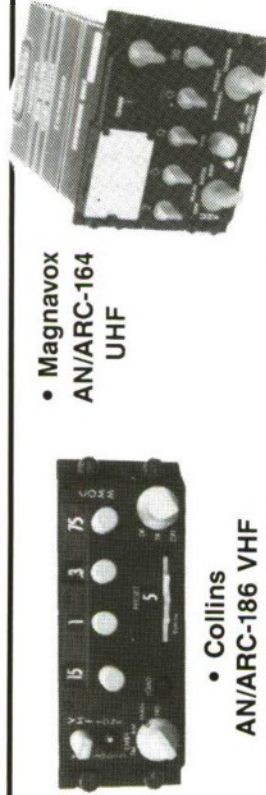


• Collins
AN/ARN-108 ILS

• Collins
AN/ARN-118 TACAN

- Enroute and Terminal Versatility
- All-Weather Navigation and Recoveries

Communication

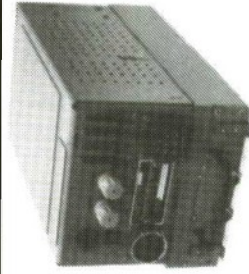


• Magnavox
AN/ARC-164
UHF

• Collins
AN/ARC-186 VHF

- Tactical Flexibility
- Versatile Communications

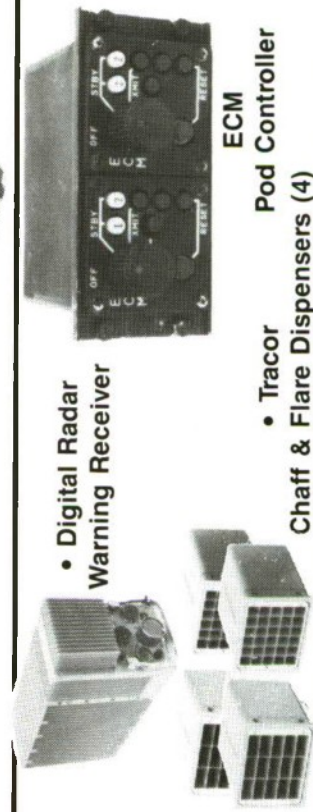
Identification (IFF)



• Teledyne
AN/APX-101

- Positive Identification
- Ground Control

Self-Protection



• Digital Radar
Warning Receiver

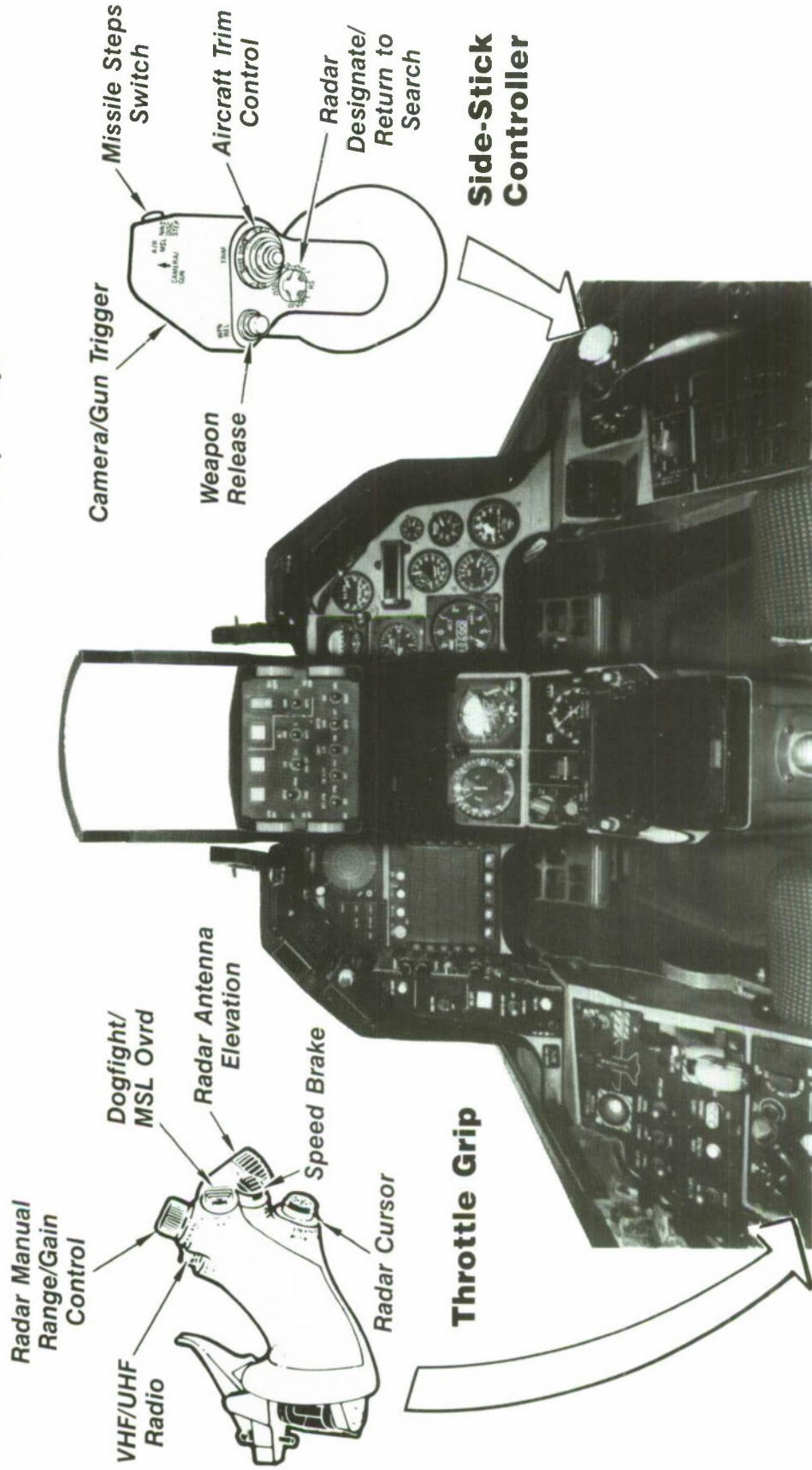
ECM

• Tracor Pod Controller
Chaff & Flare Dispensers (4)

- Programmable Threat Data
- AAA, SAM & AI Responsive
- Radar & IR Countermeasure

F-16A Integrated Aircraft/Radar Controls Allow Head-Up Operation

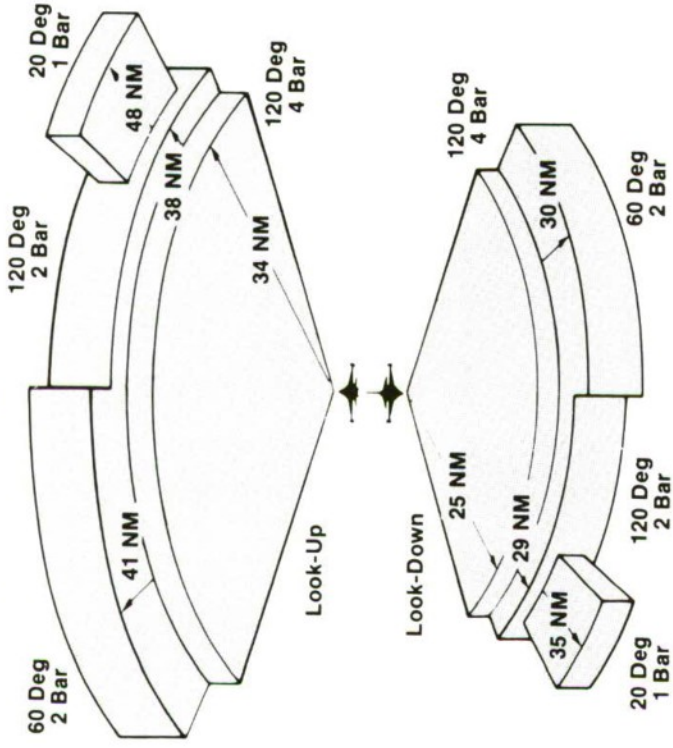
- Head-Up and Hands-On Throttle-and-Stick Control of the Weapon System



Optimum Hands-On Pilot Control

AM4399

Air-to-Air Radar Capability



PILOT SELECTABLE

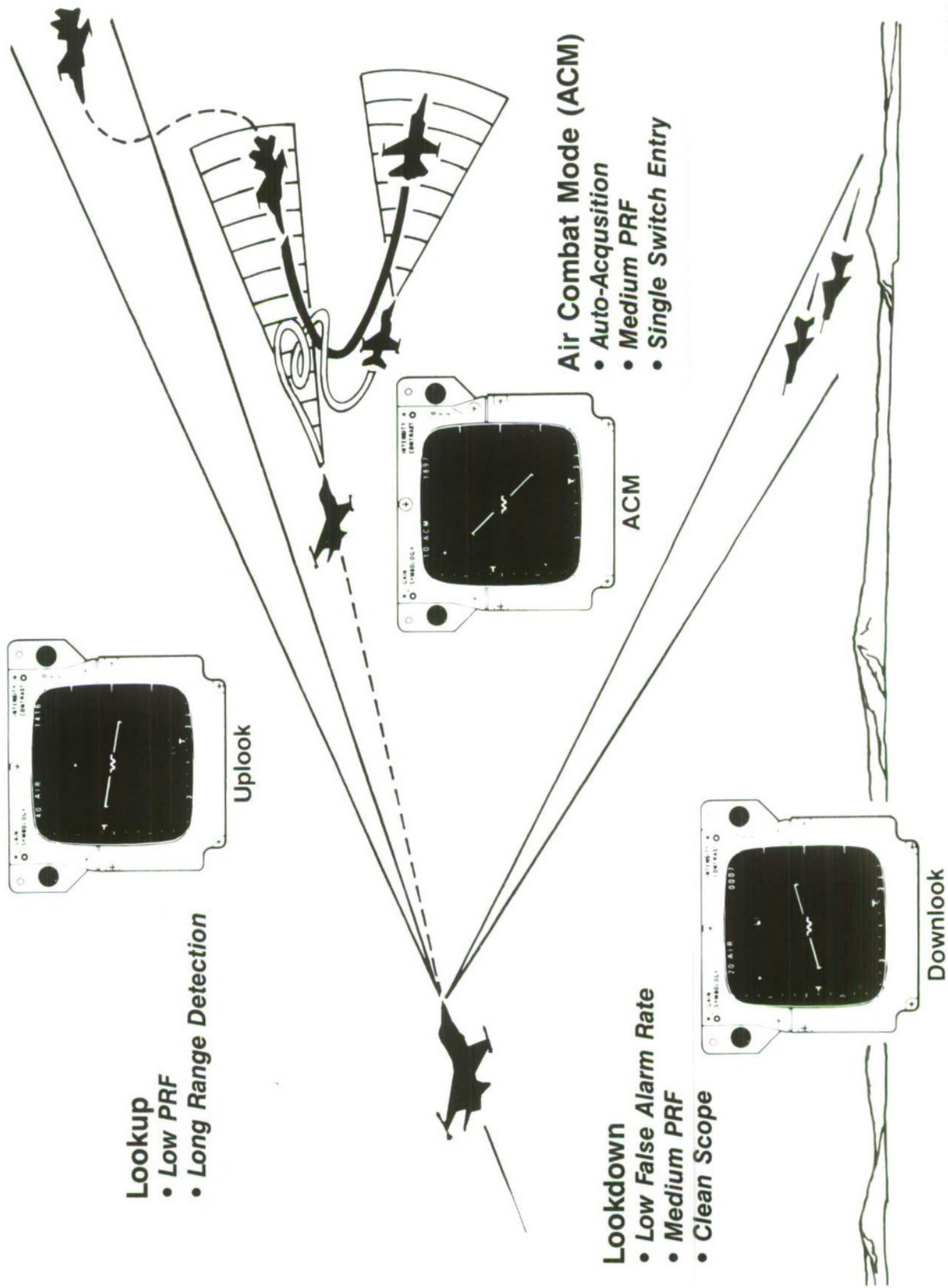
- $\pm 10^\circ$, $\pm 30^\circ$, $\pm 60^\circ$ SCAN
- 1, 2, 4 Bar Search
- 10, 20, 40, 80 n.mi Scales
- 1, 2, 3, 4 Target Positions Refreshed on Each Sweep
- Auto Mode Allows Radar Operation to Be Controlled By Stores Management System
- Air Combat Mode Provides Auto Lock on Within 10 n. mi



Radar Control Panel

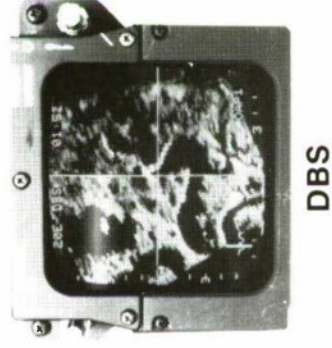
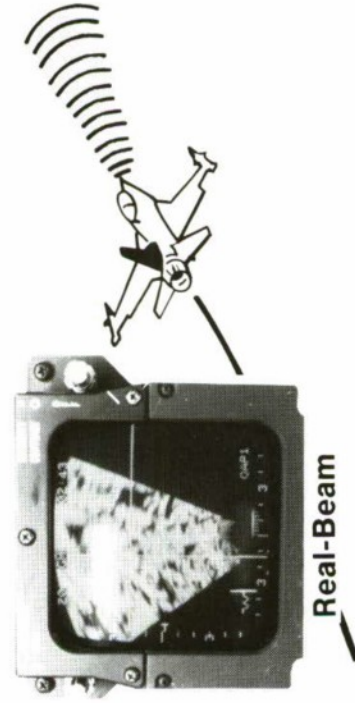
AM4384B

APG-66 Air-to-Air Radar Operation



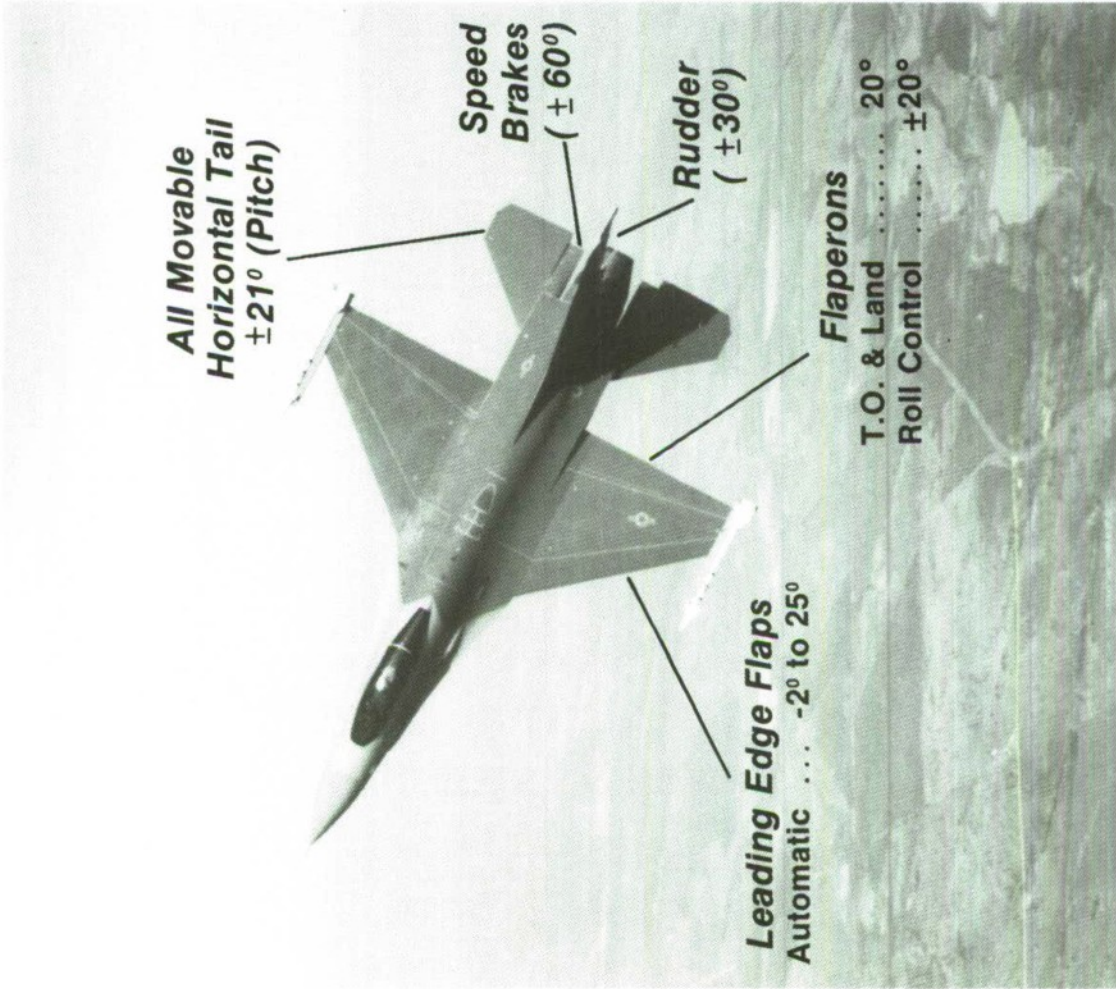
Air-to-Surface Radar Operation

- Air-to-Ground Ranging
- Real-Beam Ground Map
- Expanded Scale
- Doppler Beam Sharpened Map
- Beacon
- Two Sea Search Modes
- Freeze



F-16A Basic Systems

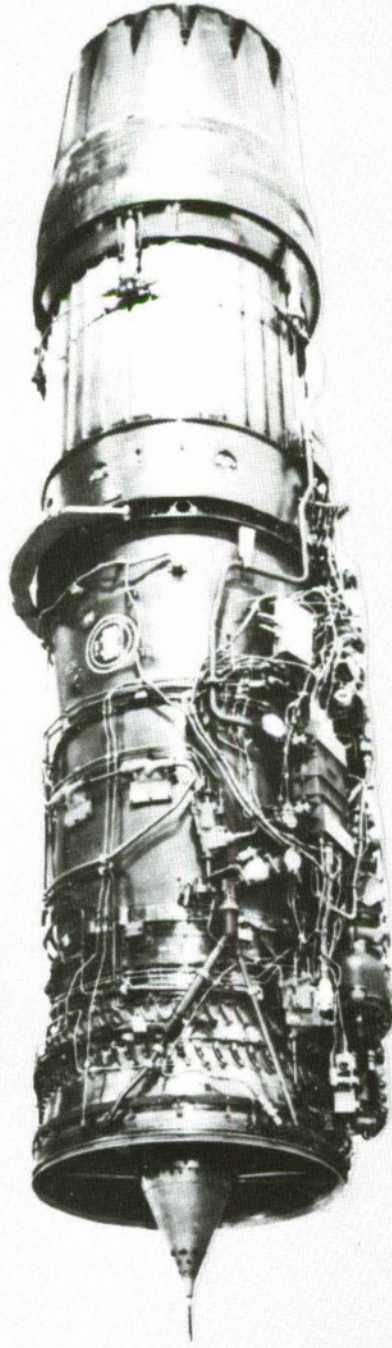
FLIGHT CONTROL SYSTEM	4-Channel Fly-by-Wire
HYDRAULIC POWER	(2) 3000 PSI, 42 GPM 22 GPM Back-Up
ELECTRICAL POWER	40 KVA Primary 5 KVA Back-Up 15 Amp/Hr Battery
EMERGENCY POWER UNIT	Bleed Air or (70/30) Hydrazine/ Water Powered Back-Up Hyd and Elect Supplies
ENVIRONMENTAL CONTROL	F-16A/B Common
FUEL SYSTEM	Integral Fuel Tank System with Halon Inerting Single Point Refuel Air Refueling Int. - F-16A - 1053 Gals - F-16B - 871 Gals Ext. - 2 - 370 Gals - 1 - 300 Gals
AUTOPILOT	Attitude (Pitch & Roll), Altitude & Heading Hold
SELF-START	Ground/Air Jet Fuel Starter
LANDING GEAR	Normal — Hydraulic Back-Up — Pneumatic Brake-by-Wire Nose Wheel Steering Parking Brake Arresting Hook



F100-PW-220 Turbofan Engine

Modular
Construction

4000 Cycle
Life Core



Gear Type
Main Fuel Pump

Digital Electronic
Engine Control

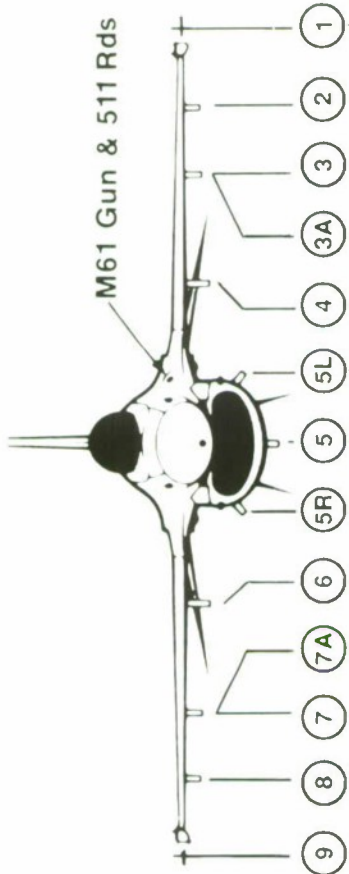
PERFORMANCE and CHARACTERISTICS* (Standard Day, Sea Level Static, Uninstalled)

Maximum Thrust	23,770 lb	By-Pass Ratio	0.60
Intermediate Thrust	14,590 lb	Pressure Ratio	24.9
Airflow	224 PPS	Weight	3,234 lb
Thrust/Weight	7.4	Length	191 in.
		Diameter (Nominal)	46.5 in.

* P&W Spec No. CP11344A; Quoted Thrust Is "Average Thrust" (as of 8/7/91)

AMC3493

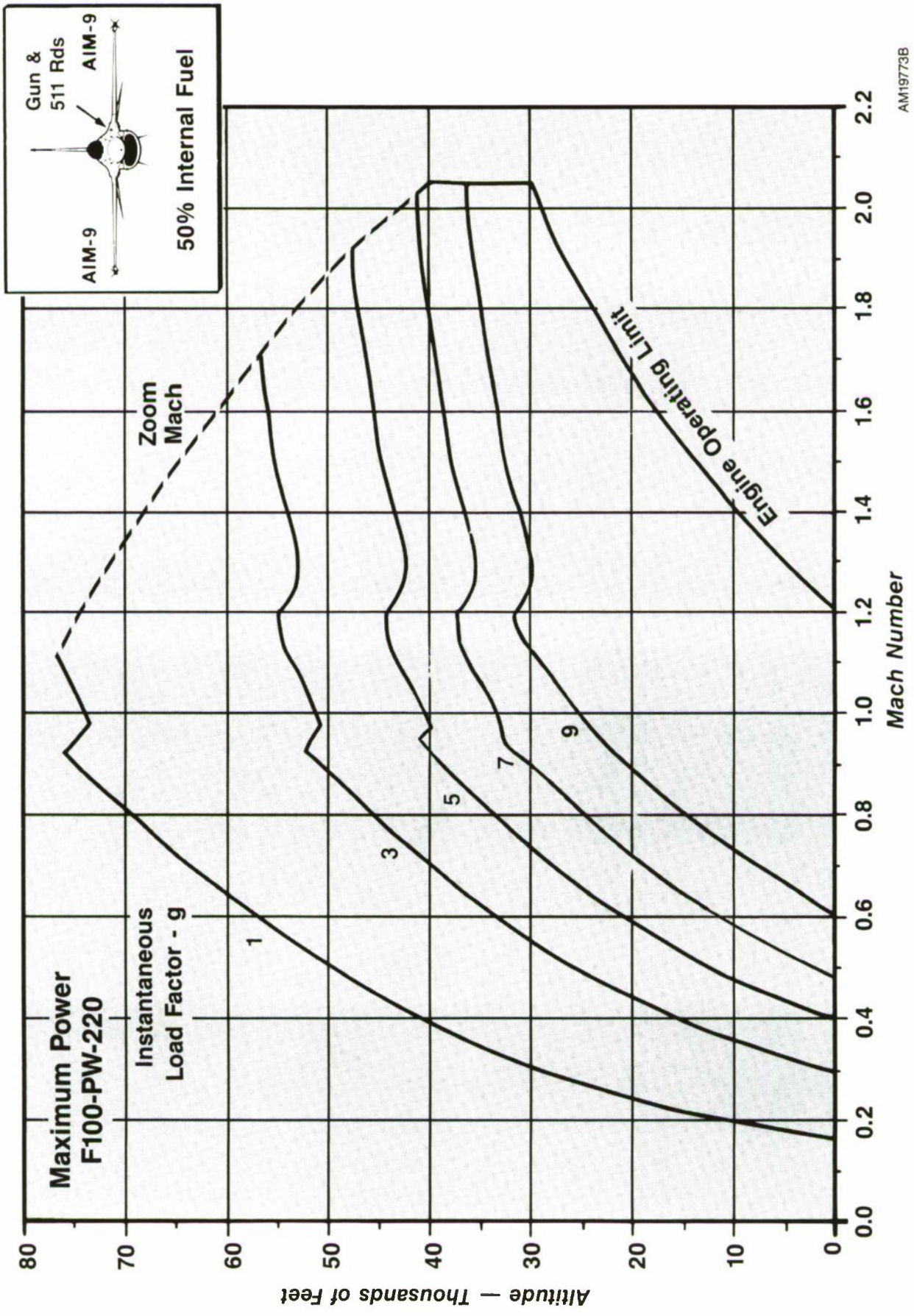
F-16 Weapons Carriage Capability



	Station Stores	1	2	3	3A	4	5L	5	5R	6	7A	7	8	9
Air-to-Air Weapons	AIM-9 Missiles	X	X		X						X	X	X	X
	Advanced BVR Missiles	X	X		X						X	X	X	X
	BVR Missiles			X										
Pods	ECM													
	EO/FLIR/TF (Provisions) Rece (Growth)													
	30mm Gun Pod (Growth)													
Air-to-Surface Weapons	MK-82													
	MK-84													
	Dispensers													
	Air-to-Surface Missiles													
	Anti-Radiation Missiles													
Fuel Tanks	Anti-Shipping Missiles													
	370-Gallon													
	300-Gallon													
	600-Gallon (Option)													
STATION CAPACITY	Capacity (lb)	425	700	3500	450	4500	550	2200	550	4500	450	3500	700	425
	Load Factor (g)	9.0	5.5	5.5	9.0	5.5	9.0	5.5	9.0	5.5	9.0	5.5	5.5	9.0
	Alternate Cap. at 9g	425	450	2000	450	2500	550	1200	550	2500	450	2000	450	425

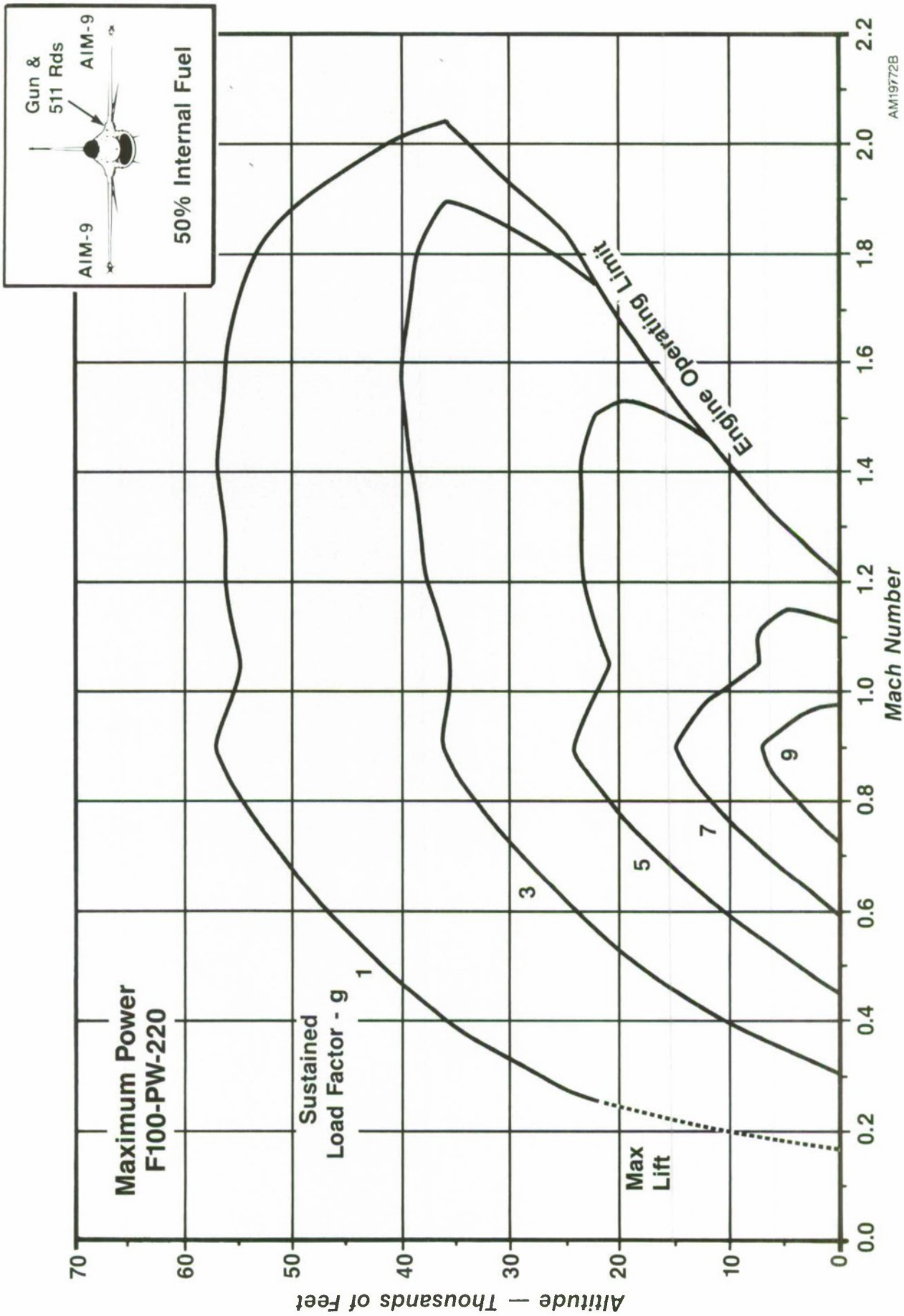
AMC2524C

F-16A Instantaneous Maneuverability



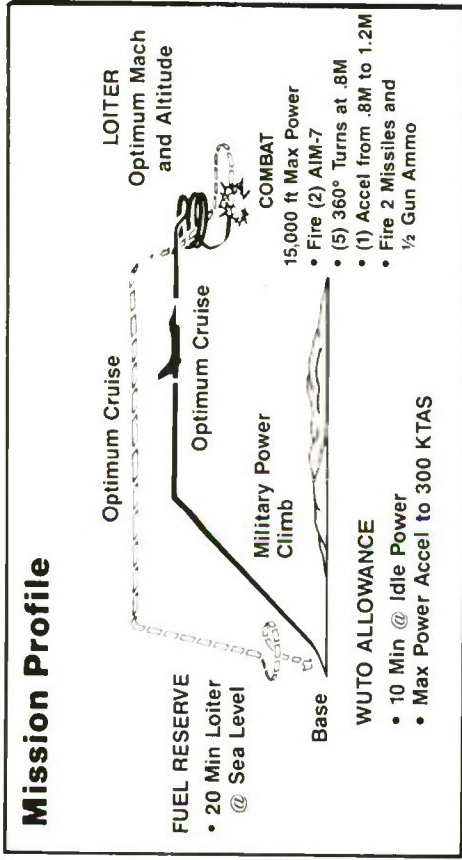
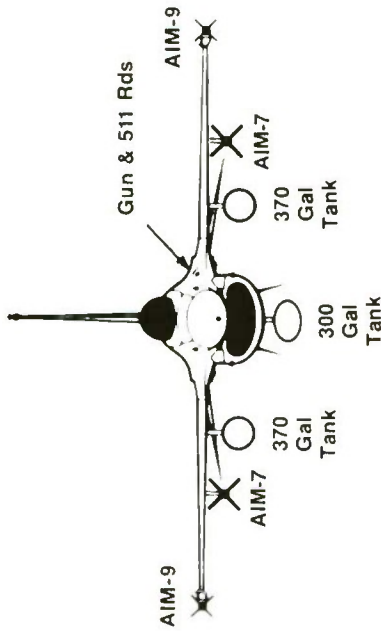
AM19773B

F-16A Sustained Maneuverability

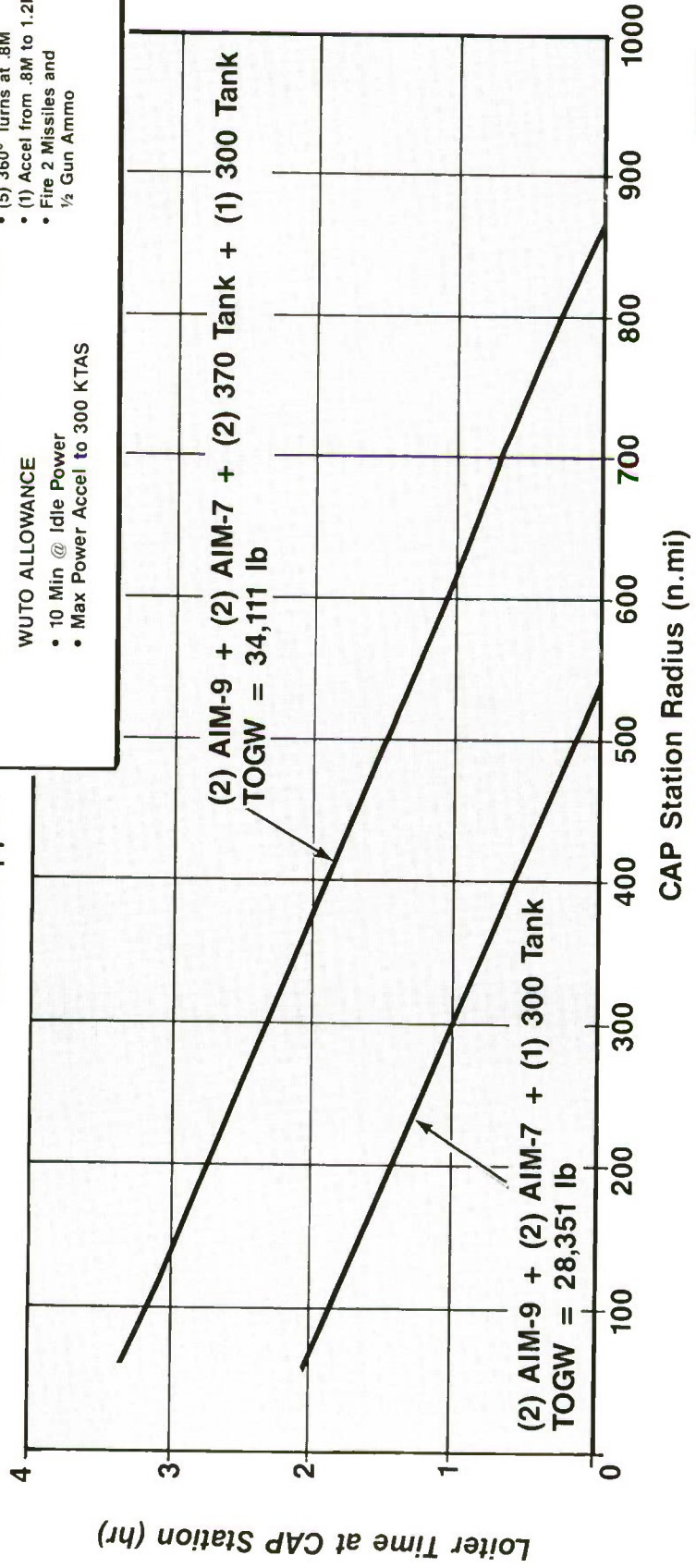


AM19772B

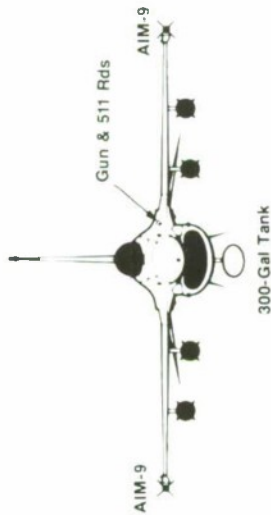
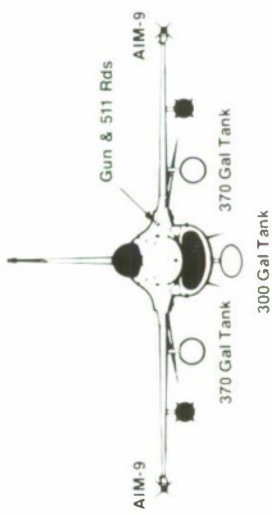
F-16A Air-to-Air Combat with Loiter



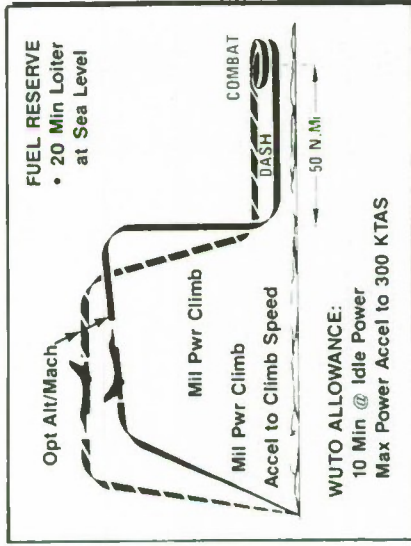
Tanks Dropped



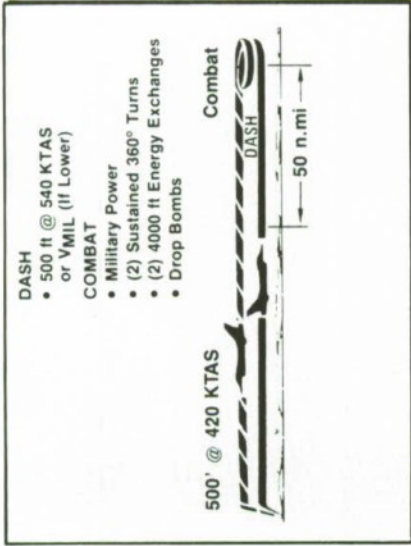
F-16A Air-to-Ground Mission



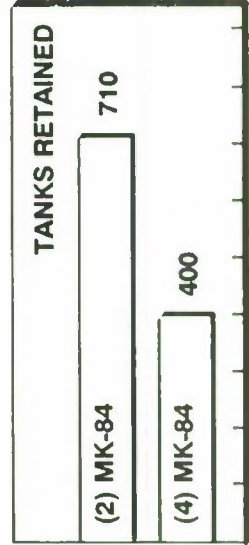
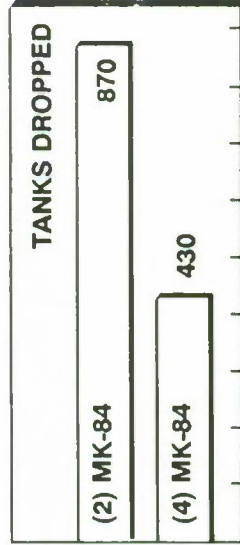
Hi-Lo-Lo-Hi



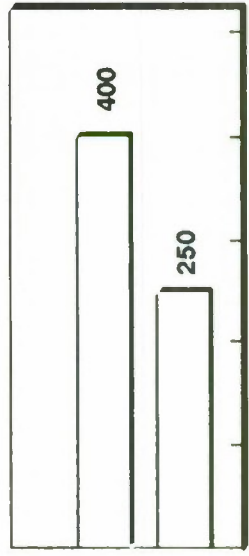
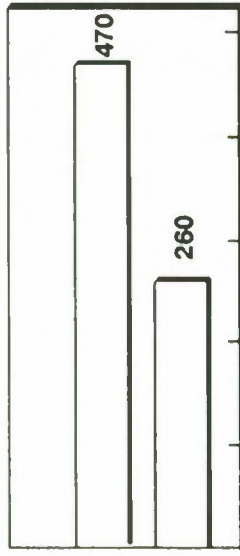
Lo-Lo-Lo-Lo



Mission Radius Hi-Lo-Lo-Hi



Mission Radius Lo-Lo-Lo-Lo



Ingress Speed Potential - Military Power



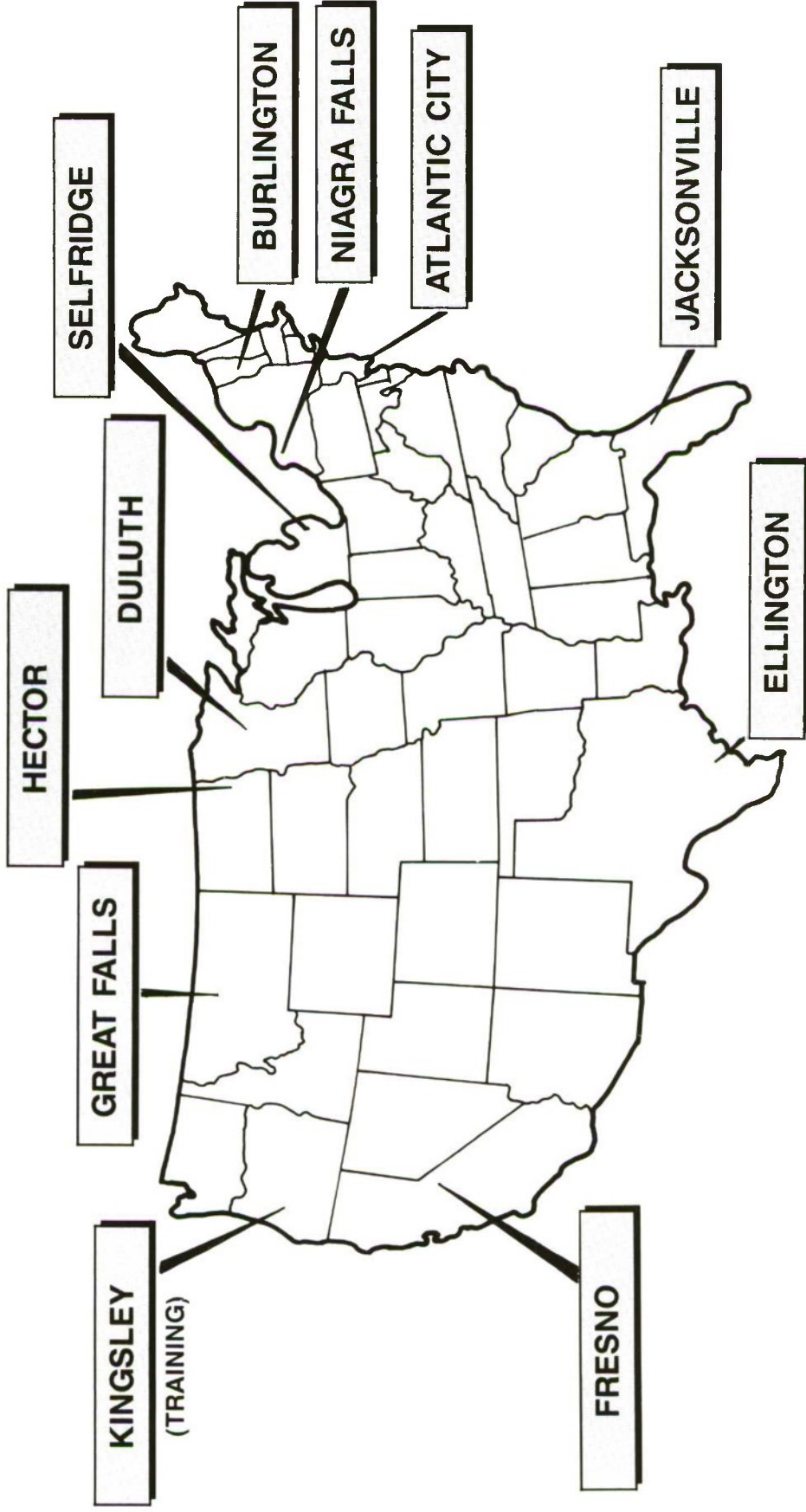
F-16 Air Defense Fighter

F-16 Air Defense Fighter - Interceptor

- **Provides Strategic Air Defense for the United States**
 - **11 Squadrons on Alert Since 1989**
 - **270 First Line Fighters**
 - **16 Air Forces Around the World, Including Four in Europe, Already Depend on the F-16 in Air Defense/Interceptor Role**
 - **Starting Air Defense Alert in 1979**

- **Operationally Proven**
 - **Choice of Weapons**
 - **Beyond-Visual-Range Radar Missiles (AIM-7 Sparrow and AIM-120 AMRAAM)**
 - **IR Missiles (AIM-9 Sidewinder)**
 - **20-mm "Gatling" Gun**
 - **Short Scramble Launch Time**
 - **Long Endurance - Extended Mission Radius**
 - **High Lethality - Over 60 Air-to-Air Victories**

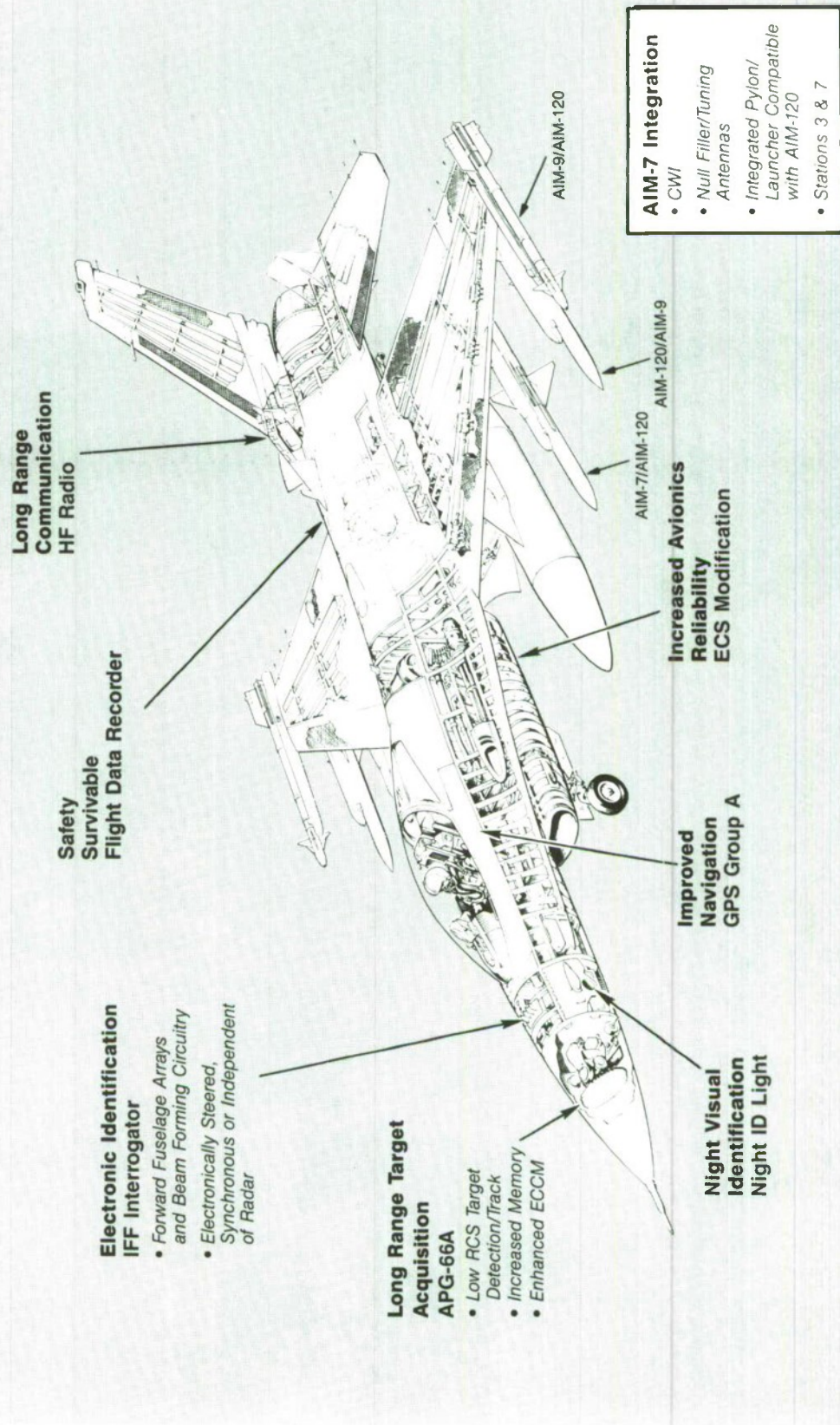
F-16 Air Defense Bases in U.S.



- F-16 Operated by Air National Guard Units
- Aircraft Flown by Part-Time Pilots

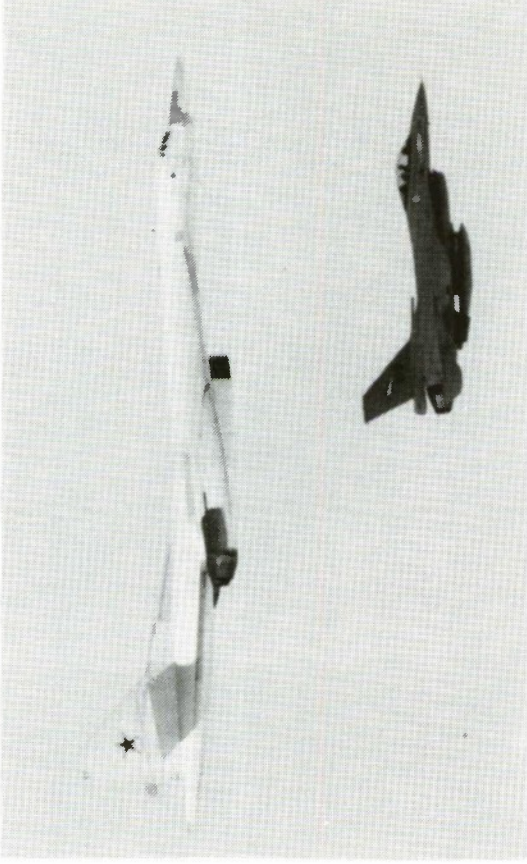
F-16A Air Defense Fighter Configuration

- Baseline — Block 15 with Operational Capabilities Upgrade (OCU)
- Expanded Computers and AMRAAM (6 Sta, Level III)



Summary of Key F-16 AD Capabilities

- Long Range Cruise Performance
- Long Range Communication/
Navigation
- Electronic Identification
 - Friendly
 - Hostile
- Visual ID
 - Day/Night/Weather
- Effective Weapons Delivery
 - Accurate Missile Launch Envelope Computations
 - Reliable Interface
 - Simple Pilot Task
- High Levels of Reliability, Maintainability, and Availability
- Rapid Sortie Generation/High Readiness
- Low Cost and Attrition



Mid-Life Update Program

AMC15696

F-16 Mid-Life Update Program

- Retrofit To Existing F-16A/B Aircraft
- Cooperative Program for Five Air Forces
 - Belgium
 - Norway
 - The United States
 - Denmark
 - The Netherlands

MODULAR MISSION COMPUTER

- Provides Processing for Several Functions
- Extensive Growth Capabilities for Additional Processing/Avionics Systems

IMPROVED RADAR

APG-66 V2A

- Increased Range
- Additional Modes

ADVANCED AVIONIC SYSTEMS COMMON CAPABILITIES

- Digital Terrain System, Terrain Correlation
- Global Positioning System
- Improved Data Modem
- Microwave Landing System Provisions

SELECTIVE CAPABILITIES

- Advanced Identification Friend or Foe
- Helmet Mounted Display/Sight

COCKPIT ENHANCEMENTS

- Multifunctional Displays
- Night Operations Capable; F-16C/D Heads-Up Display, NVG Compatible
- F-16C/D Side Stick Controller and Throttle

STRUCTURES

- Inlet Hard Points for Earlier Aircraft

AMC9851A

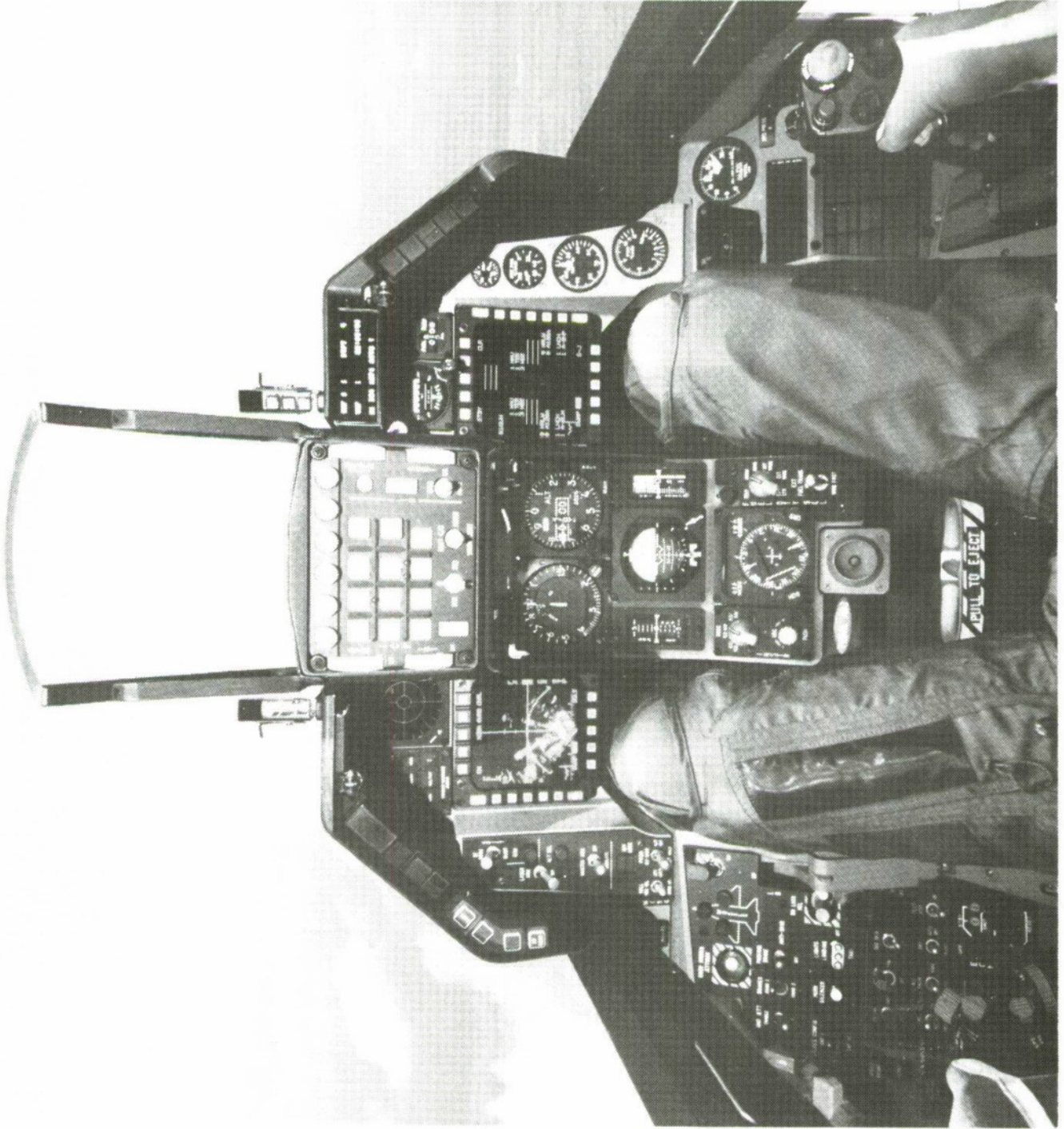
F-16A/B Mid-Life Update Cockpit

**Integrated for
Head-Up —
Hands-On
Combat
Engagements**

Features

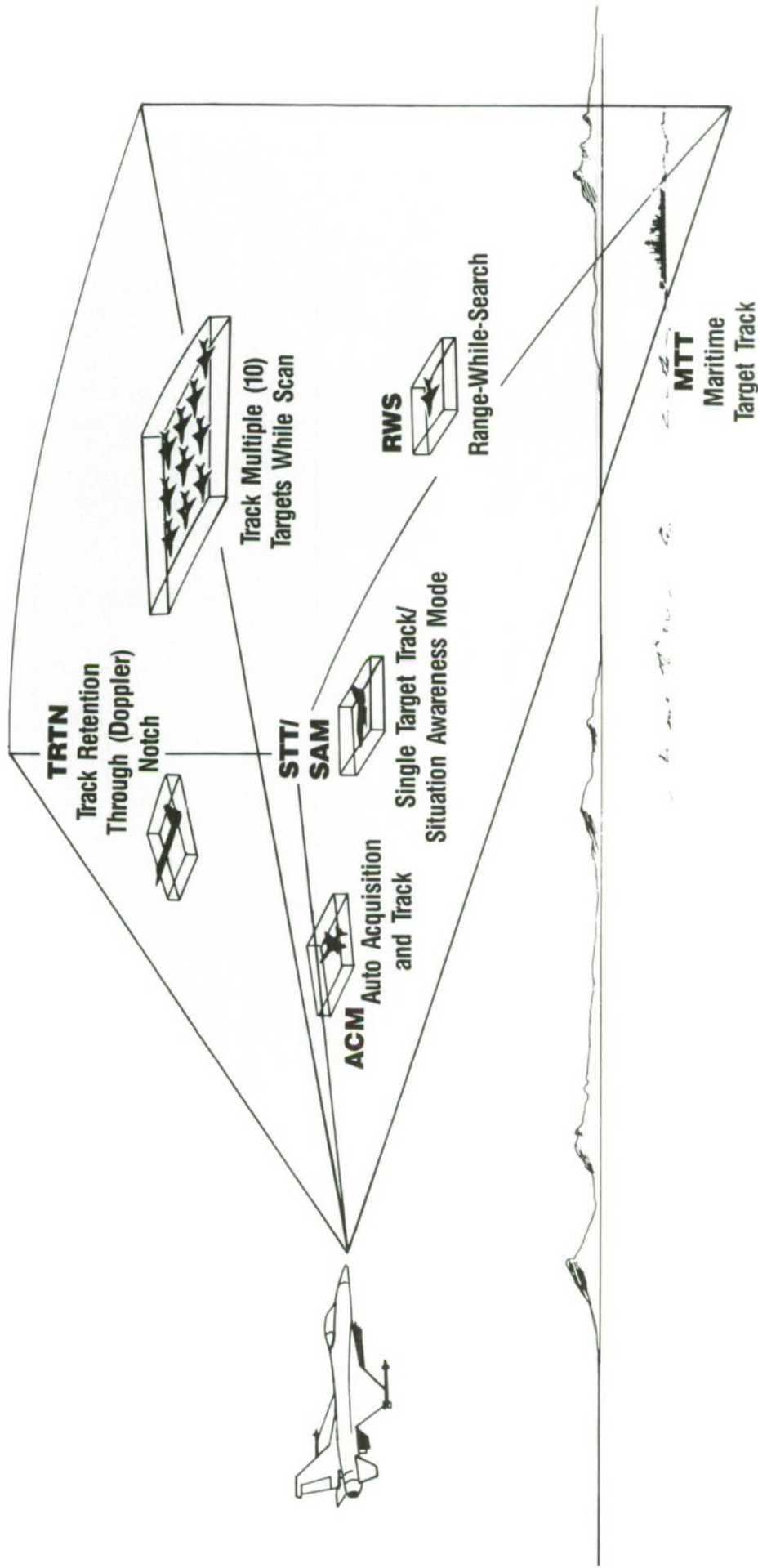
- Two 4" Monochromatic Displays
- WAC HUD
- Up Front Controls
- Block 50 Side Stick Controller and Throttle

AM23021C



APG-66(V) Radar Provides Multimode Air-to-Air Capabilities

- All Weather Detection Acquisition and Tracking



Advanced APG-66(V) Radar

Improvements Over Standard APG-66

- 100% Increase in Reliability; 200 Hours MTBF
- 55 lb Weight Reduction
- 320 Watt Reduction in Power Dissipation
- Reduced Costs

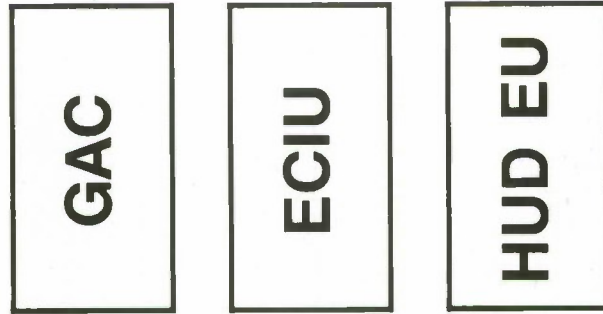
Increased Operational Capabilities

- 20%-25% Increased Detection Range
- Multitarget (10) Track-While-Scan
- Incorporates Automatic or Manual Primary Target Acquisition
- *• Weather Avoidance
- *• Two Target Situation Awareness Mode
- *• Raid Awareness Mode
- *• Helicopter Detection

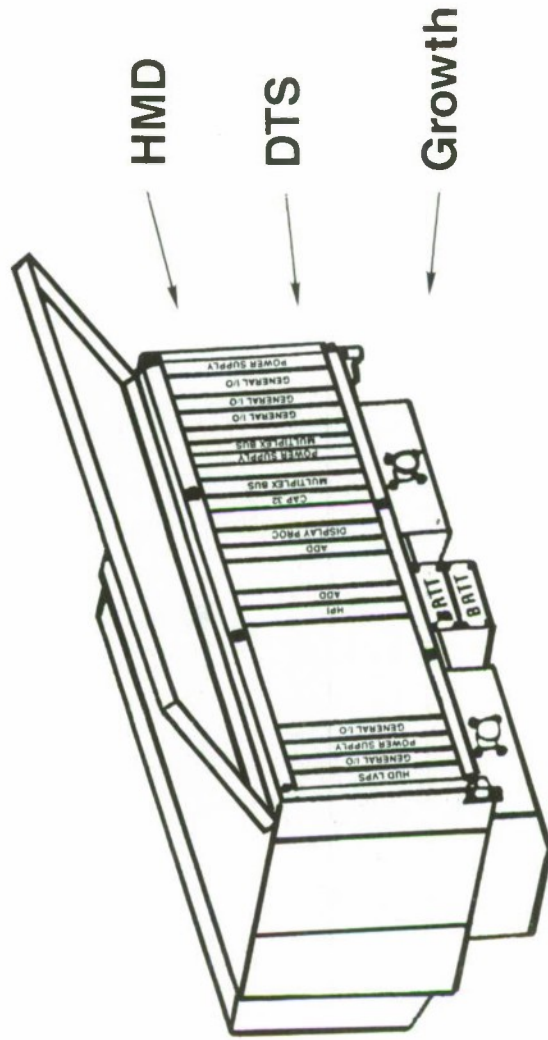
* Growth

F-16 Modular Mission Computer

Existing Boxes

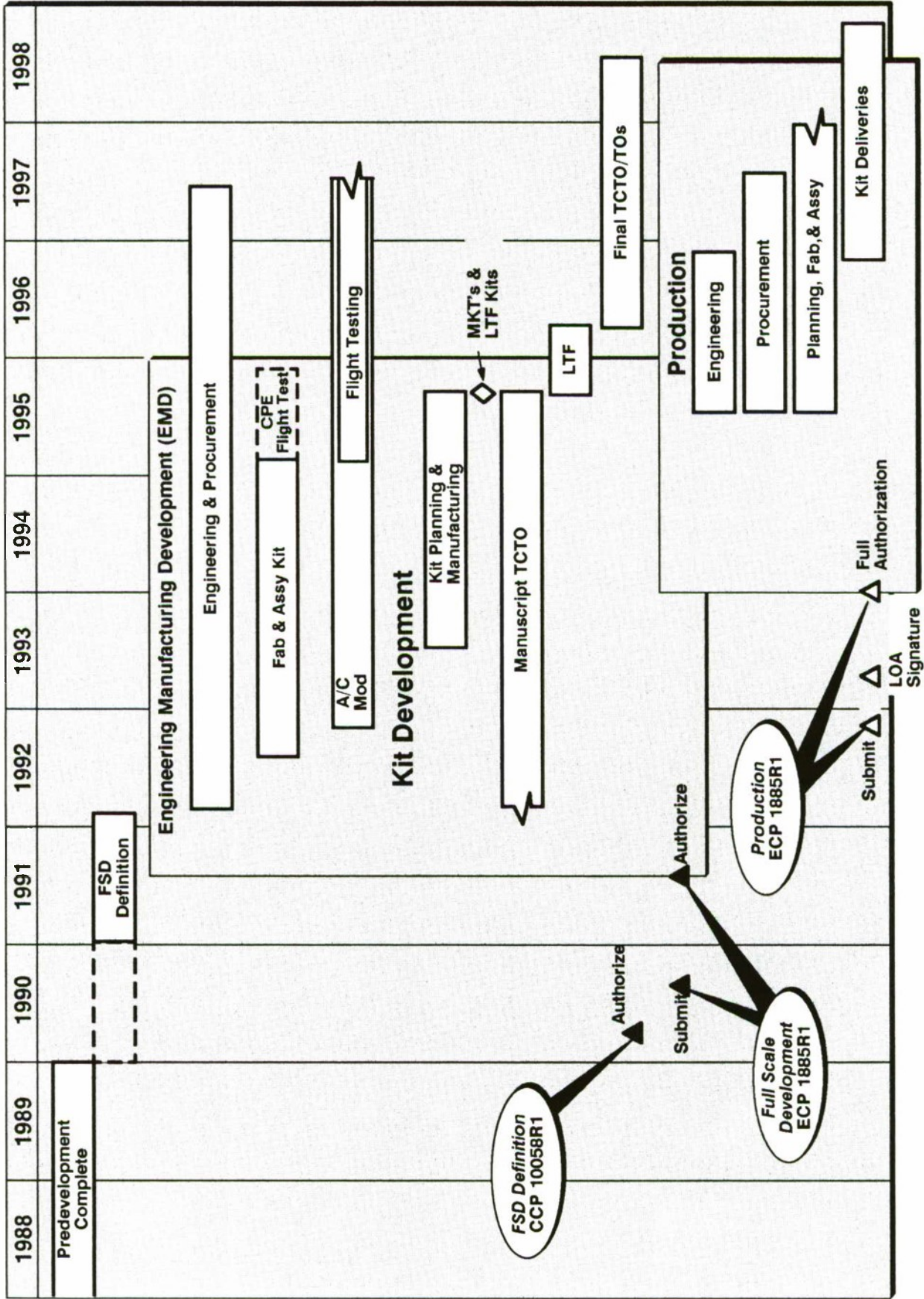


New Capabilities



- MMC Incorporates the Functions of Three Existing LRUs Plus Adds New Capabilities and Growth
- MCC To Be Introduced During F-16C/D Production Run

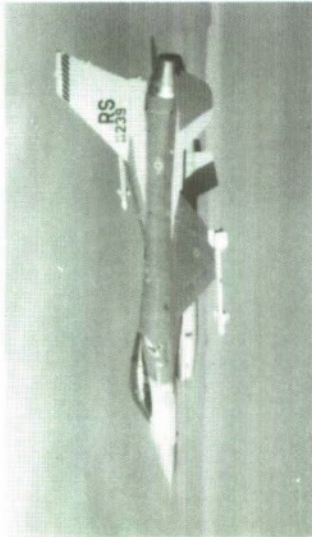
Mid-Life Update (MLU) Program



F-16C/D

AMC15637

The F-16C/D . . . Flown by Eight Air Forces Worldwide



United States Air Force



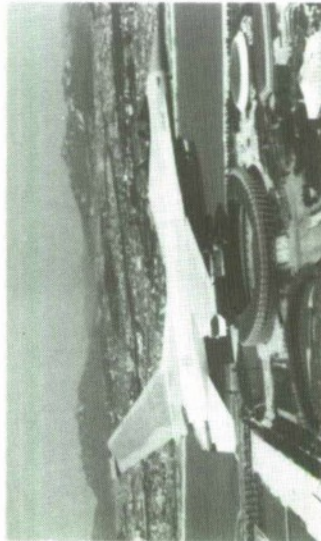
United States Navy



Israel



Egypt



Korea

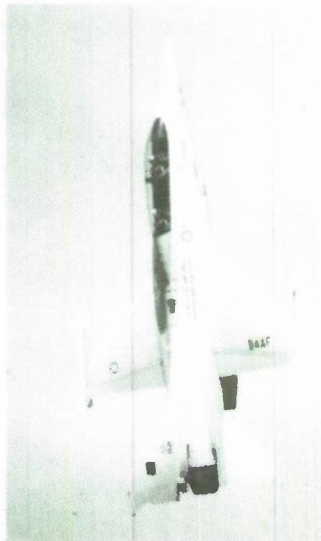


Turkey



Greece

1 April 1993

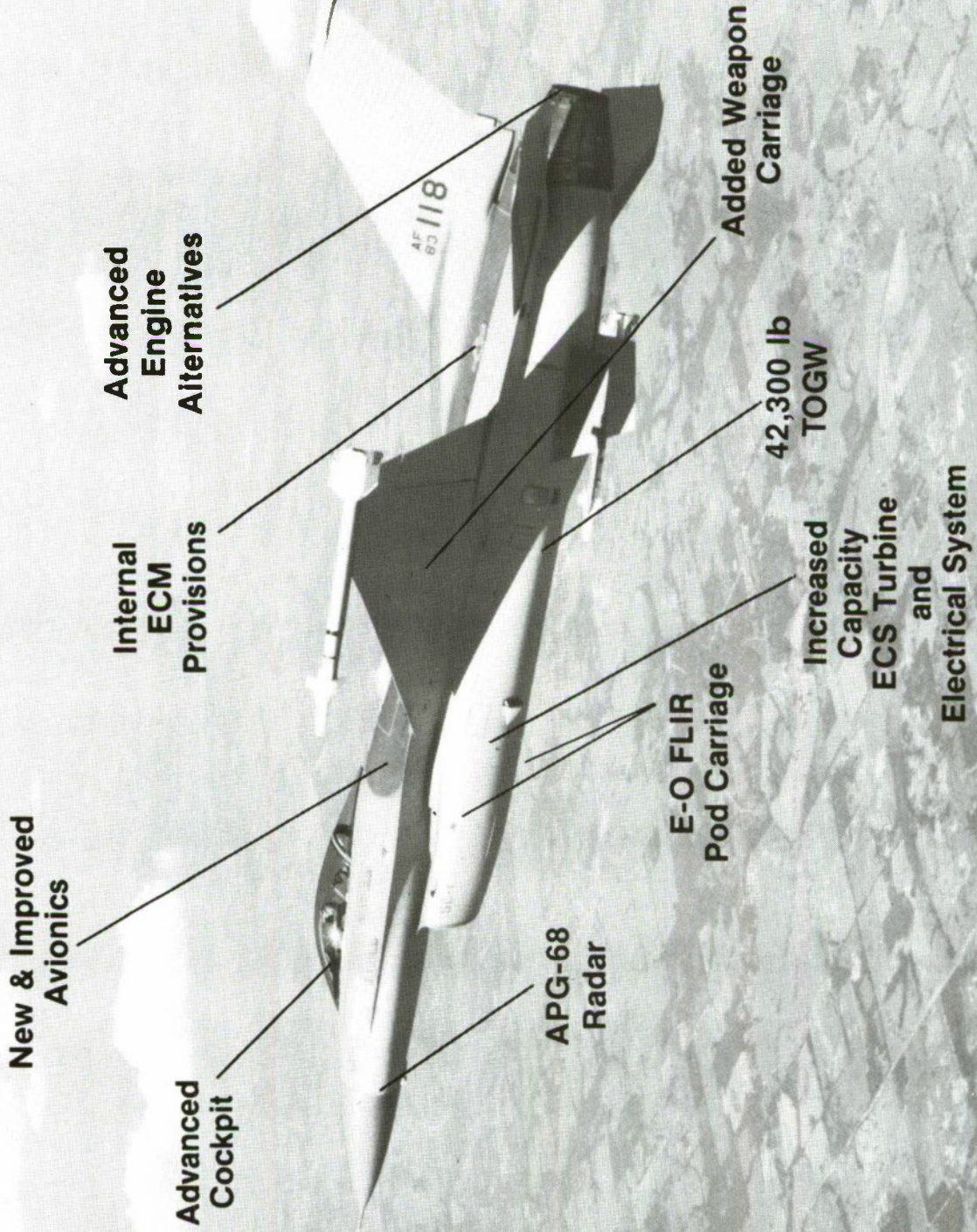


Bahrain



F-16C

- F-16C Incorporates Latest Technology
 - Provides Increased Tactical Capability
 - Allows Incorporation of Emerging Weapons and Sensor Systems



F-16C/D Current FMS Configuration

ADVANCED COCKPIT

- Up-Front Controls (CNI)
- Wide-Angle HUD
- Dual Multifunction Displays
- Mission Data Transfer Cartridge
- Voice Message Unit
- Pilot Fault List Display
- Positive Pressure Breathing System
- Night Systems Lighting Improvements

ADVANCED AVIONICS

- Improved Reliability Radar (APG-68V with APSP)
- 256K Fire Control Computer (GAC)
- Global Positioning System (GPS) Provisions
- Enhanced CIU
- Radar Altimeter (CARA)
- Advanced Interference Blanker Unit
- Enhanced XDEEU
- Expanded Data Transfer Unit (XDTU)
- Upgraded Programmable Display Generator
- Data Link (IDM) Provisions
- Ring Laser Gyro Navigation Set

SURVIVABILITY

- ALR-56M Advanced RWR
- ALE-47 Auto Dispensing Chaff/Flare
- Internal ECM Provisions
- Crash Survivable Flight Data Recorder (CSFDR)
- External ECM Capability

COMBAT EFFECTIVENESS

- AGM-65D/G Capability
- AIM-7 Capability
- FLIR/E-O Pod Capability
- Digital Flight Controls
- Anti-Shipping Capability
- Enhanced Envelope Gunsight (EEGS)

INCREASED CAPACITY

- 42,300 lb Max Takeoff
- 9-g Capability up to 28,750 lb GW
- Cooling: 12 KW ECS
- Electrical:
 - 60 kVA Main Generator
 - 10 kVA Standby Generator
 - 5 kVA Emergency Generator

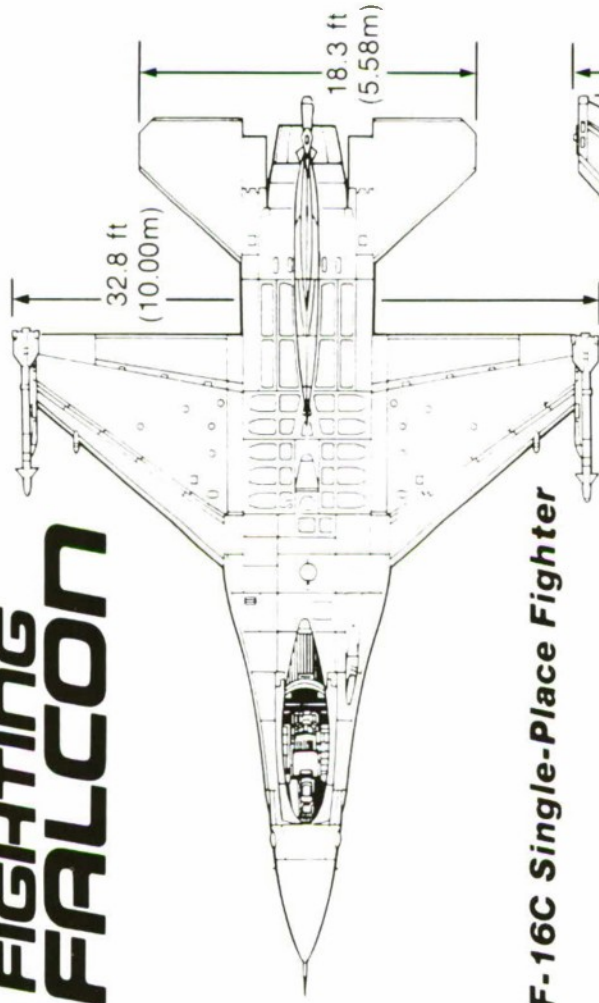
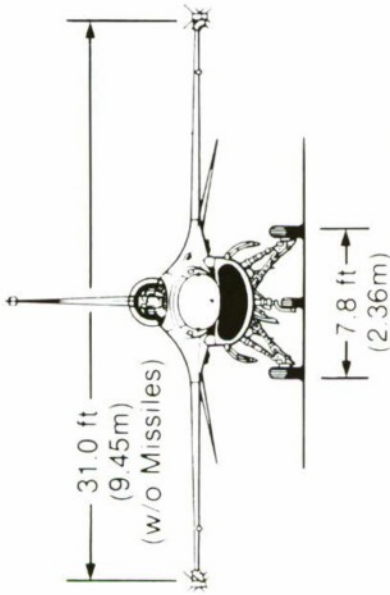
PROPULSION

- Increased Performance Engine (IPE) Option
 - F110-GE-129
 - or
 - F100-PW-229

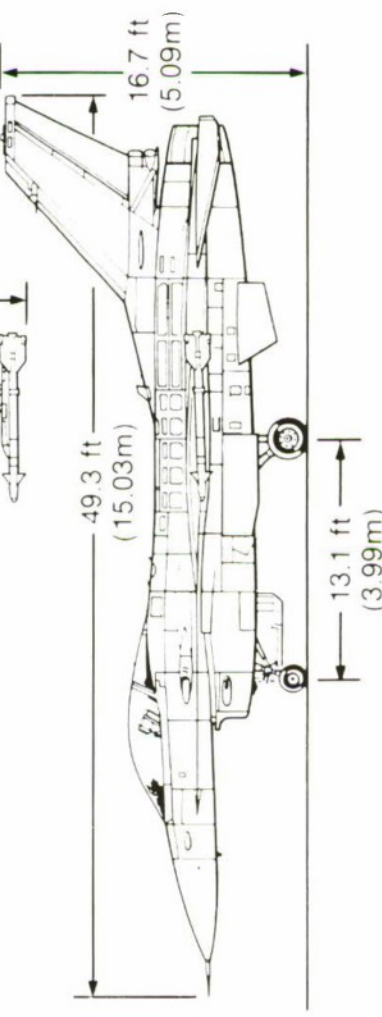


AMC4088

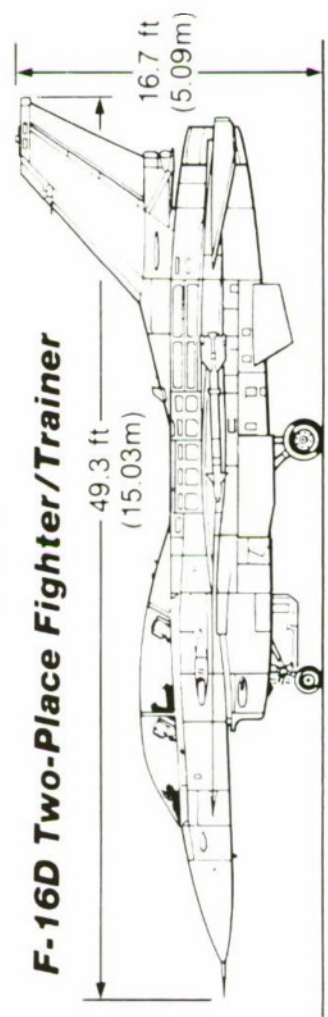
F-16C/D FIGHTING FALCON



F-16C Single-Place Fighter



F-16D Two-Place Fighter/Trainer



Characteristics

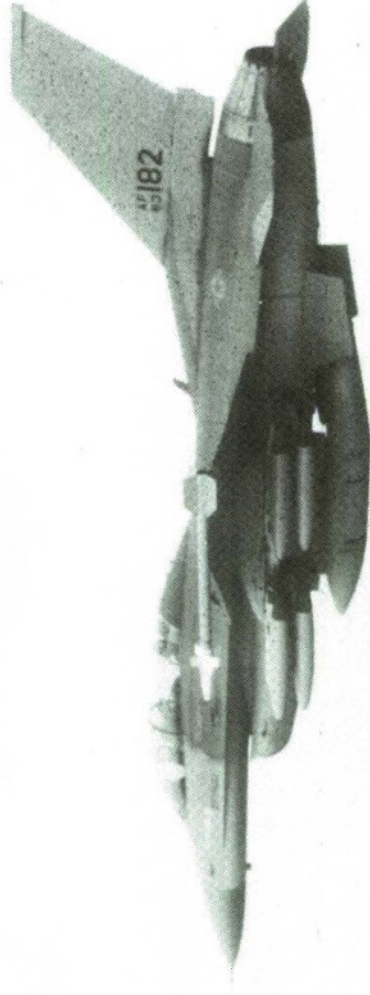
Wing Area	300 sq ft	27.9 sq m
Aspect Ratio	3.0	3.0
Leading Edge Sweep	40°	40°
Weights:		
Empty* (F100-PW-229 Engine)	19,178 lb	8,699 Kg
Empty* (F110-GE-129 Engine)	19,517 lb	8,853 Kg
Internal Fuel	6,846 lb	3,104 Kg
Max TOGW	42,300 lb	19,184 Kg
Design Load Factor	9G	9G
Service Life	8,000 hr	8,000 hr
Engine Thrust:		
(F100-PW-229)	29,000 lb	129.0 kN
(F110-GE-129)	29,000 lb	129.0 kN

Characteristics

Wing Area	300 sq ft	27.9 sq m
Aspect Ratio	3.0	3.0
Leading Edge Sweep	40°	40°
Weights:		
Empty (F100-PW-229 Engine)	19,182 lb	8,701 Kg
Empty (F110-GE-129 Engine)	19,531 lb	8,859 Kg
Internal Fuel	5,659 lb	2,566 Kg

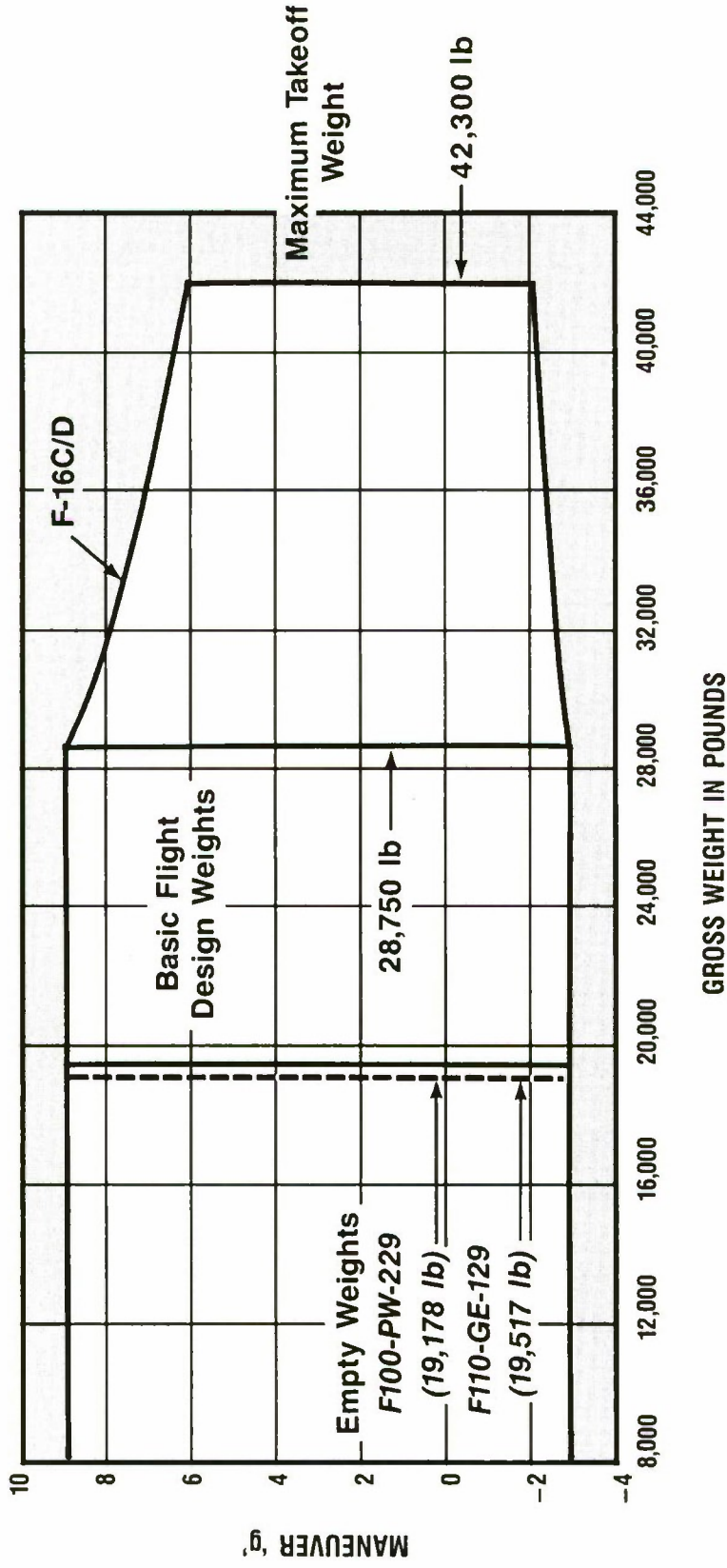
AM26244

F-16 Two-Seat Fighter Trainer



- Outstanding Trainer
 - Same Systems as Single-Seat F-16
 - Same Handling Qualities as Single-Seat F-16
 - Same External Dimensions as Single-Seat F-16
- Full Multirole Capability with Single Pilot
- Second Seat Allows Enhanced Special Mission Operations

The F-16C/D Is a 9-g Fighter



- Capable of 9g with Full Internal Fuel and Missiles
- 8,000 Hour Design Service Life Goal

F-16C/D Digital Avionic System Features

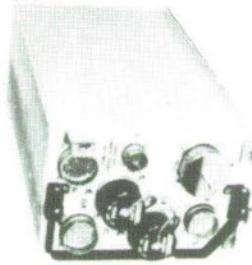
Fire Control Radar AN/APG-68(V5)



- Westinghouse

- EEPROM Memory
- Situation Awareness Mode
- Operational Upgrade
- Improved Reliability
- Advanced PSP

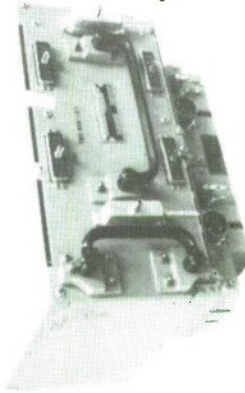
General Avionics Computer (GAC)



- Teledyne

- 256K Words Memory
- 1.6 Million Instructions Per Second
- 4 MIL-STD-1553 Buses
- Reduced Weight, Volume, Power Consumption and Cost

Enhanced Central Interface Unit



- EFW

- Primary Bus Controller for Weapons Mux
- Two MIL-STD-1553 Buses
- Improved Throughput
- Dual Redundant 176K Memory

Head-Up Display

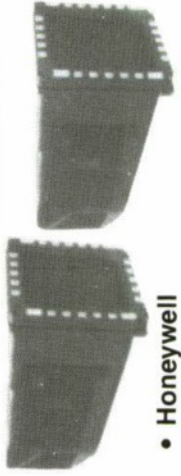


- GEC of Great Britain

- Wide-Angle Field-of-View
- Flight Information Cues
- Weapons Delivery Cueing
- Back-Up Fire Control Computations
- Real-World FLIR Image (1 to 1)

F-16C/D Digital Avionic System Features (Cont'd)

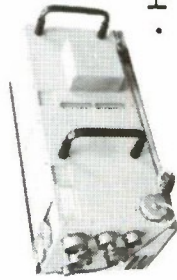
Two Multifunction Displays



• Honeywell

- Weapons Inventory/Selection
- Delivery Mode Selection/Control
- Sensor Control/Display
 - Radar
 - FLIR
 - TV
 - Laser

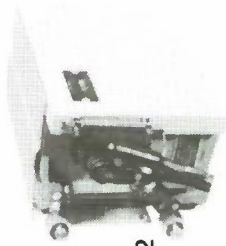
Upgraded Programmable Display Generator (UPDG)



• Honeywell

- Enhanced Memory and Throughput
- Generates, Scales, Organizes, and Positions Multifunction Display (MFD) Symbology
- Provisions for Digital Terrain System and Color

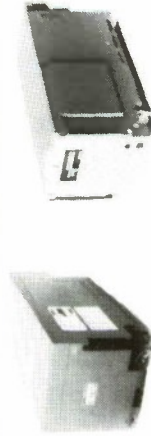
Radar Altimeter (CARA)



• Gould
AN/APN-232

- Optimized for Low Level Flight
- Low-Altitude Warning Feature Enhances Safety

Inertial Navigation (RLG)



• Honeywell
H-423

• Litton
LN-93

- Form/Fit/Function Replacement for Existing System
- High Reliability
- Two-Level Maintenance

Global Positioning System (GPS)

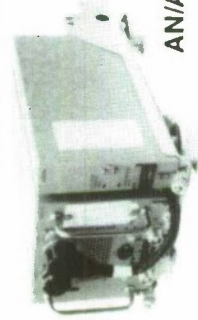


• Rockwell

- Satellite-Based Navigation System
- Precise, Low-Level Navigation and Weapon Delivery
- Passive, All-Weather Operation

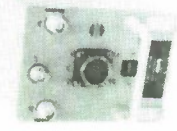
F-16C/D Digital Avionic System Features (Cont'd)

Radio Navigation



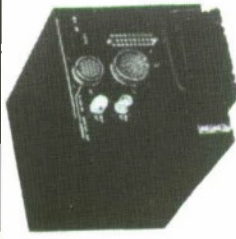
AN/ARN-108 ILS
• Collins

- Enroute and Terminal Versatility
- All Weather Navigation and Recoveries

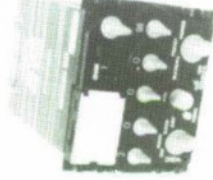


AN/ARN-118 TACAN
• Collins

Communication



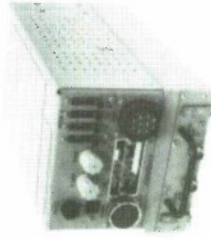
AN/ARC-164
UHF Radio
• Magnavox



AN/ARC-186 VHF
• Collins

- Tactical Flexibility
- Versatile Communications
- Improved Anti-Jam Capability
- Fully Integrated With Upfront Controls

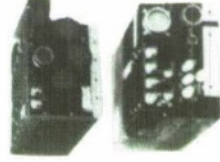
Identification (IFF)



AN/APX-101
• Teledyne

- Positive Identification
- Ground Control

Advanced Radar Warning Receiver

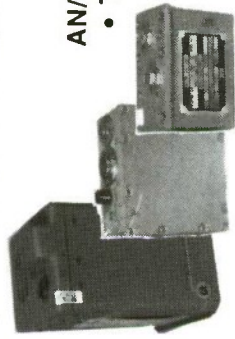


AN/ALR-56M
• Loral

- AAA, SAM & AI Responsive
- Programmable Threat Data
- Improved Identification and Prioritization

F-16C/D Digital Avionic System Features (Cont'd)

Chaff/Flare Countermeasures



AN/ALE-47
• Tracor

- Radar and IR Countermeasures
- Increased Dispense Capacity
- Interfaces with ARWR

Data Link



Improved Data Modem (IDM)

- Command and Control
- Transmission or Reception via Existing Radios
- First Use: HARM/Shrike Launch Coordination

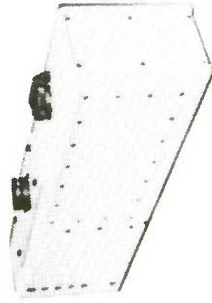
Pilot Fault List Display



• Litton of Canada

- Dedicated Display for Flight Critical Systems: Digital Flight Controls, Engine, Avionics
- Displays Faults Automatically

HARM/Shrike III

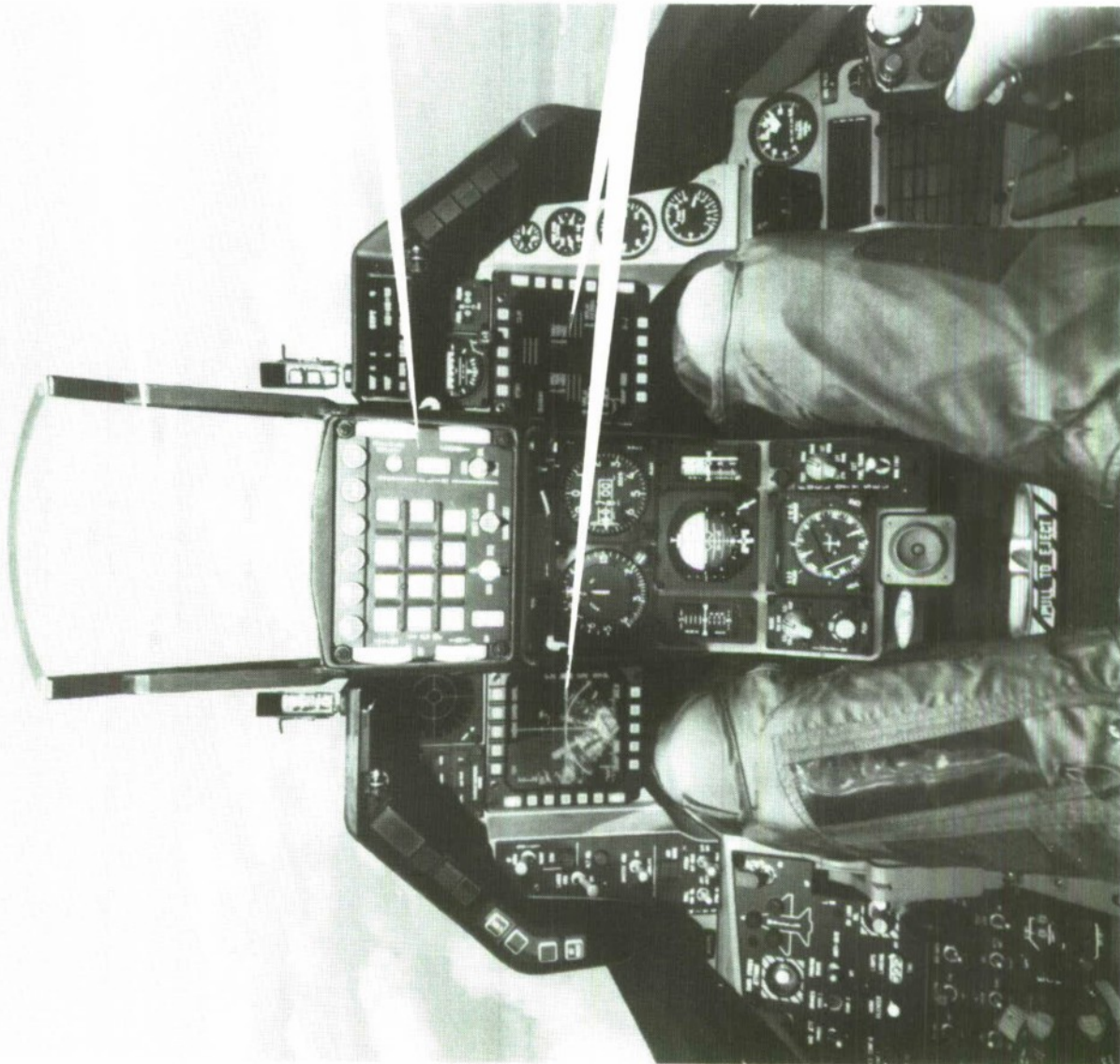


Aircraft Launcher Interface Computer ALIC

- Texas Instruments

- Interface Between F-16 and HARM/Shrike Missiles
- Extends Delivery Envelope by Providing Missiles with Aircraft Velocity, Position, etc.

Multirole Cockpit



Head-Up Display

- Flight Data
- Weapons Release
- Night Navigation

Upfront Control

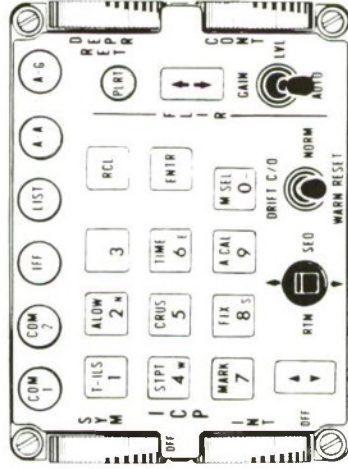
- Communication
- Navigation
- Identification

Multifunction Displays

- Weapons Control
 - Inventory
 - Weapon Selection
 - Delivery Mode Selection
- Sensor Control
 - Radar
 - FLIR
 - TV

Upfront Communications, Navigation, Identification System Controls and Displays

Easy Access - Finger Tip Data Entry and Control



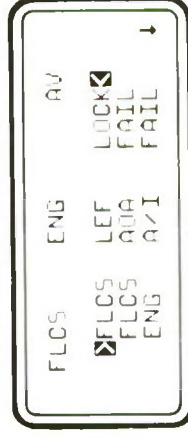
Integrated Control Panel

- **Either-Hand Access**
- Comm/Nav - Radios
- IFF
- Data Keyboard
- Delivery Modes
- Nav FLIR Controls

UHF	10	STPT	5
VHF	12	10:32:47	
M1	3C4 1334	T123X	

Data Entry Display

- Radios - Freq/Chan
- IFF - Modes/Codes
- Nav Steerpoints
- Keyboard Display
- Fire Control Data Management



Pilot's Fault List Display

- Dedicated Display for Flight Critical Systems
 - Digital Flight Controls
 - Engine
 - Avionics
- Displays Faults Automatically

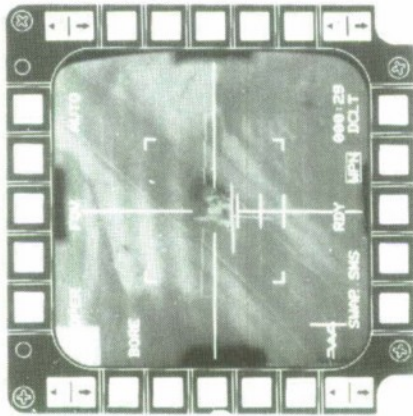


Features

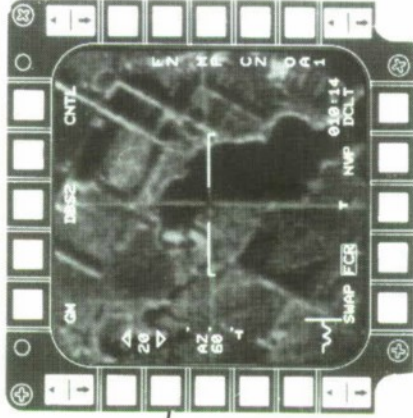
- Integrated Controls and Displays Located in Pilots Forward Peripheral Vision
- Programmable System with 32K Addressable Memory
- Back-Up Controls for Critical Functions

AM20076A

Multifunction Displays



Maverick

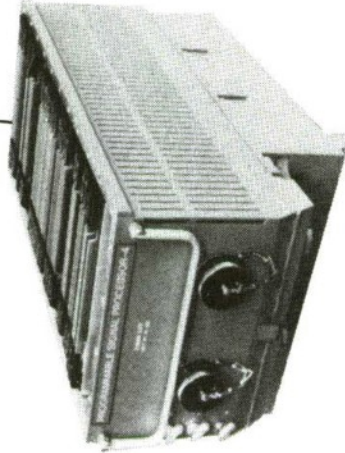
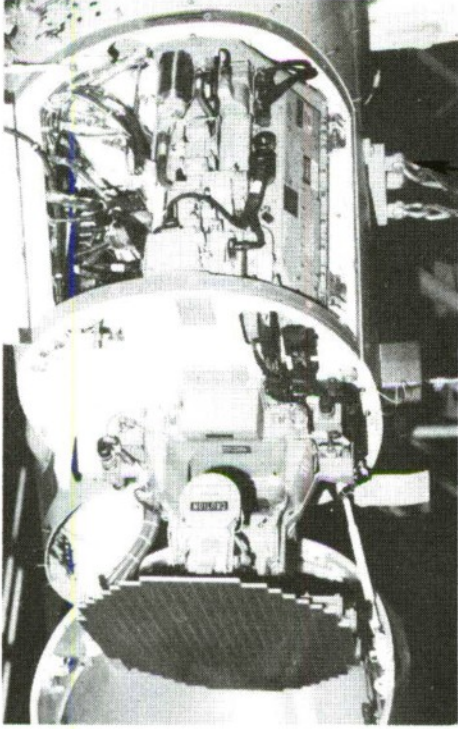
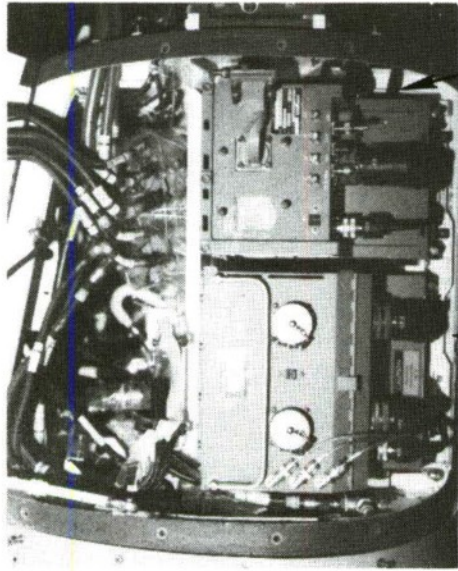


High-Resolution Radar

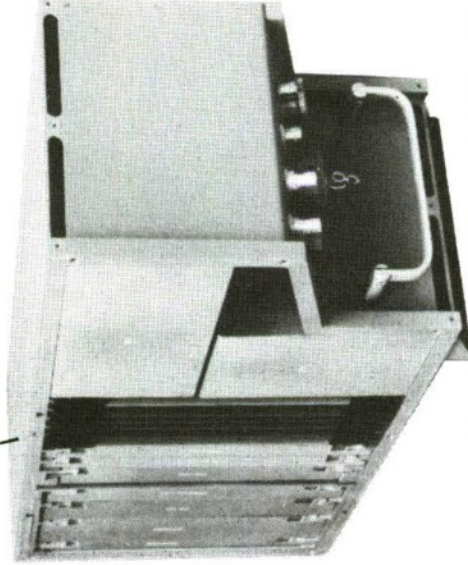
Interchangeable Display

- Primary Interface Between Pilot and Weapons or Sensors
- Independent Displays for Weapons or Sensors Control
- Coordinated Flight and Sensor Cueing
- Multiple Video and Text Sources
 - Fire Control Radar
 - Weapons
 - Targeting Pod
 - Navigation FLIR
 - Test
- Fire Control Computer
- Stores Management Set
- Data Transfer Unit
- Digital Flight Controls

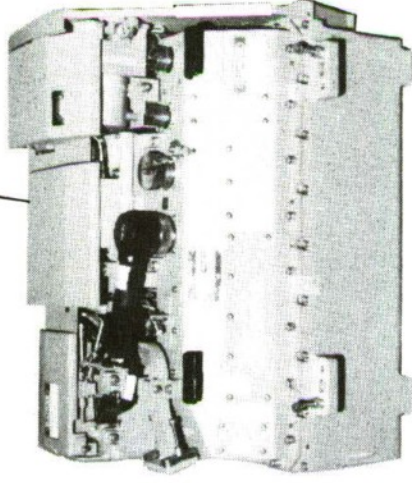
F-16C AN/APG-68 Radar



**Programmable
Signal Processor (PSP)**



Modular LPRF



**Dual Mode
Transmitter (DMT)**

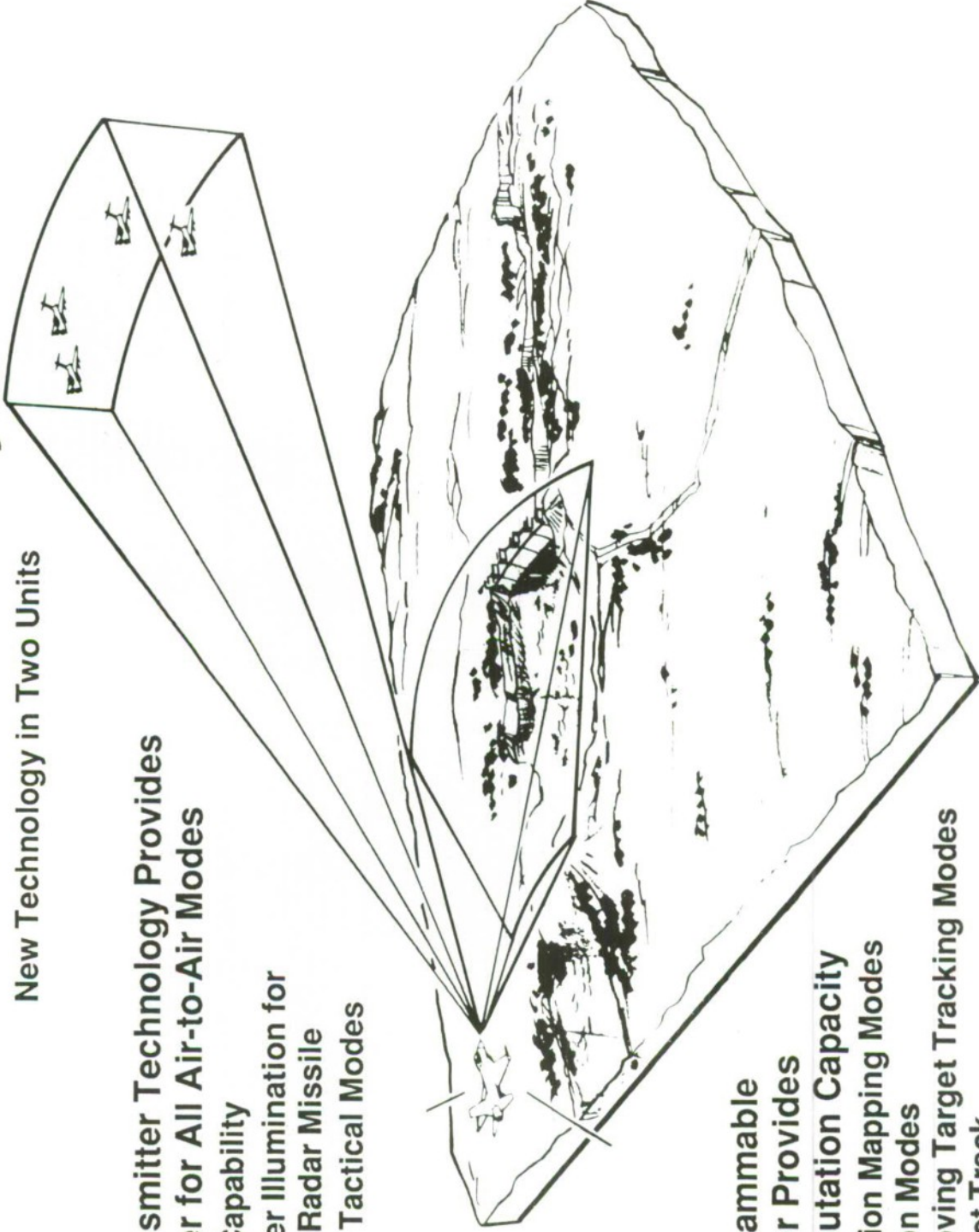
AM5436B

F-16C APG-68 Tactical Radar System

New Technology in Two Units

Dual Mode Transmitter Technology Provides Increased Power for All Air-to-Air Modes

- Multitarget Capability
- Pulse Doppler Illumination for Semi-Active Radar Missile
- Long-Range Tactical Modes



Advanced Programmable Signal Processor Provides Increased Computation Capacity

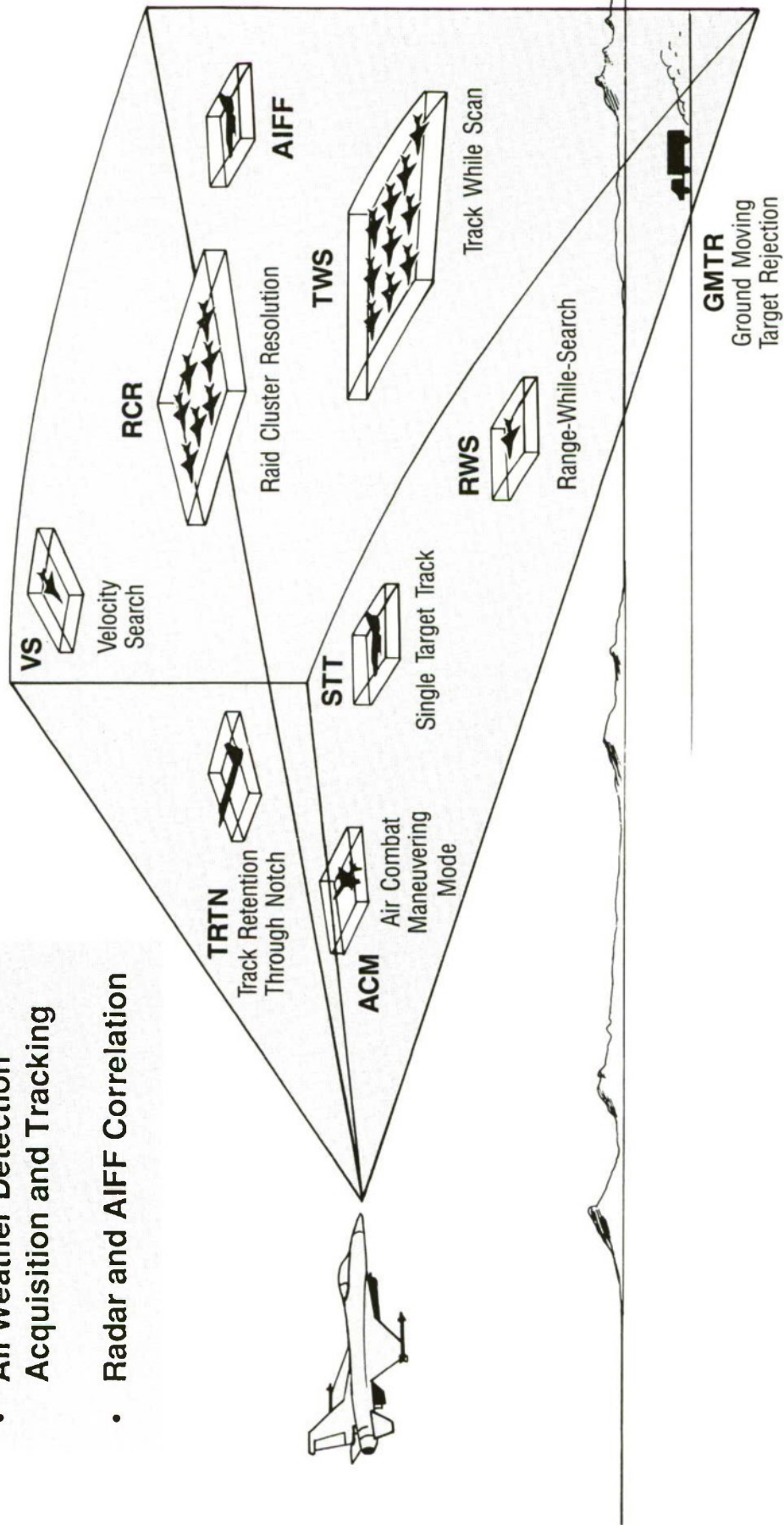
- High Resolution Mapping Modes
- Ship Detection Modes
- Fixed and Moving Target Tracking Modes
- Multiple Target Track
- Growth Capability

Automated for Easy One-Man Operation

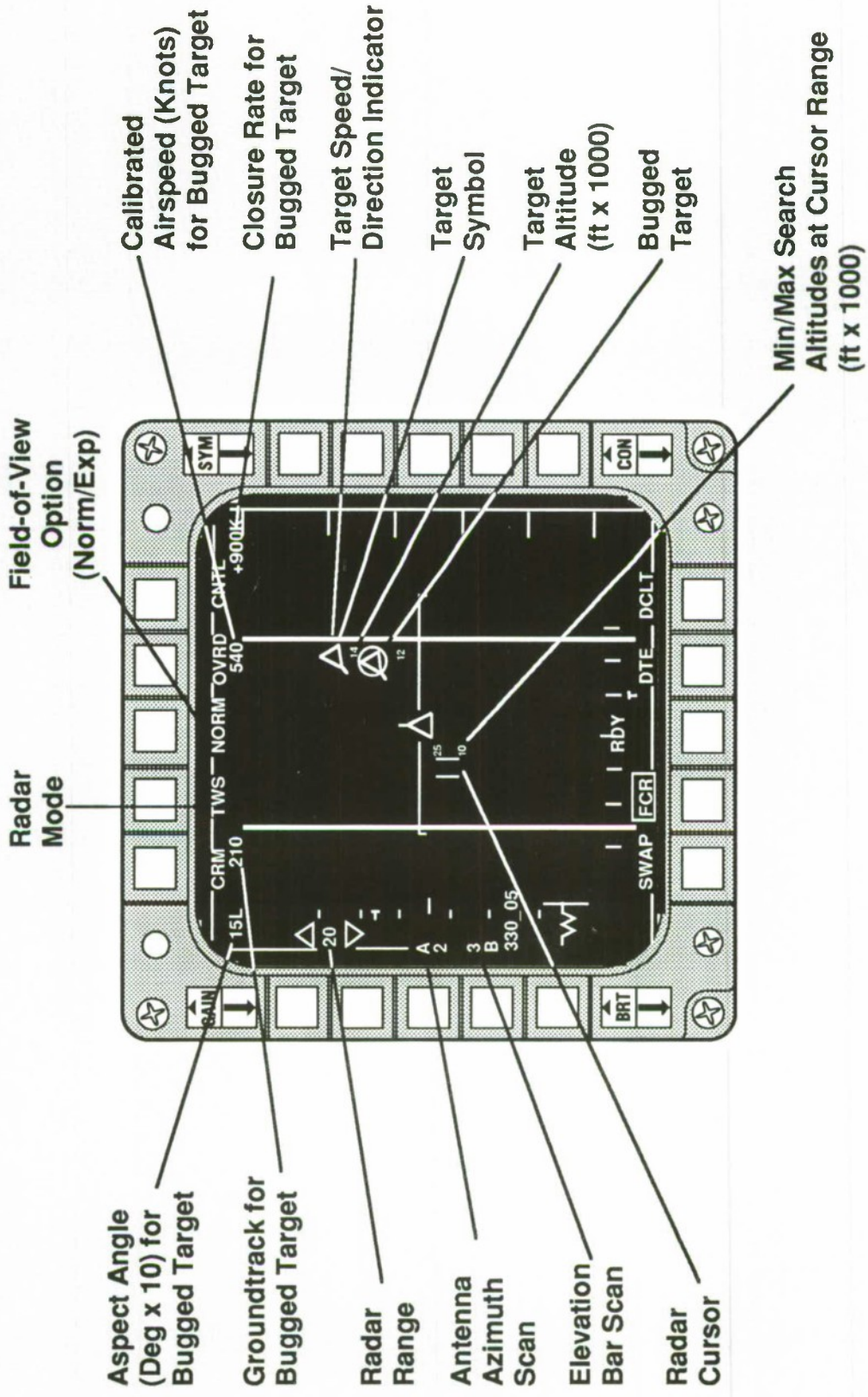
AMC2721

F-16C Radar Provides Multimode Air-to-Air Capabilities

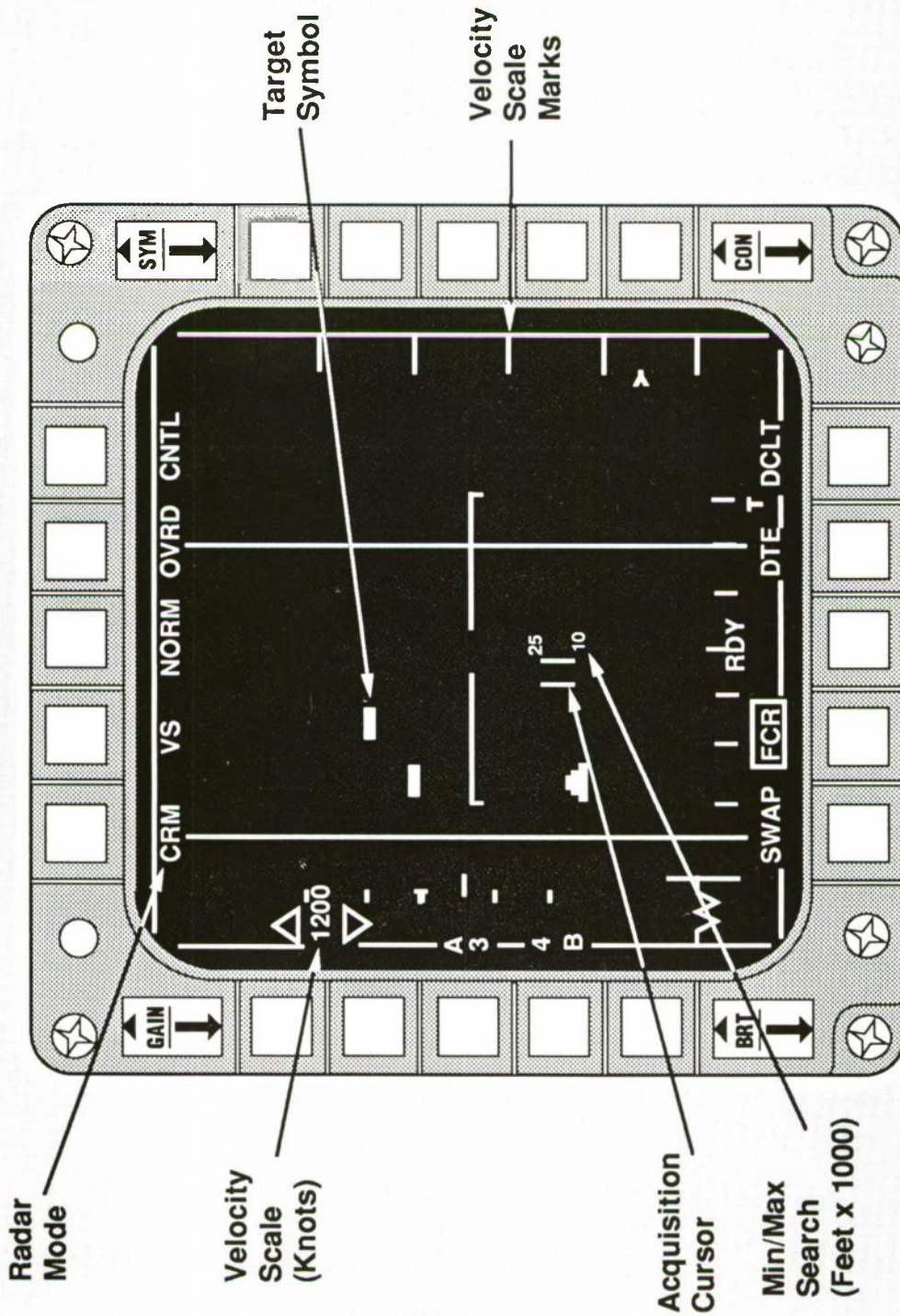
- All Weather Detection Acquisition and Tracking
- Radar and AIFF Correlation



Air-to-Air Track-While-Scan Radar Display

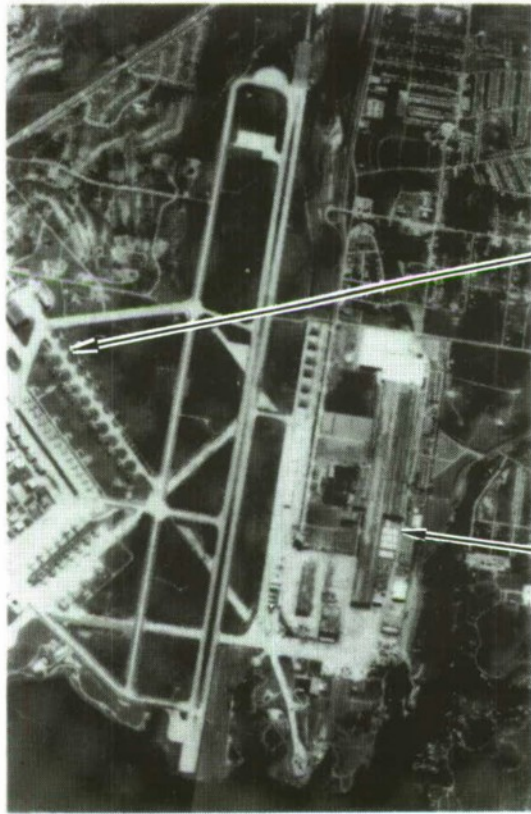


Air-to-Air Velocity Search Display

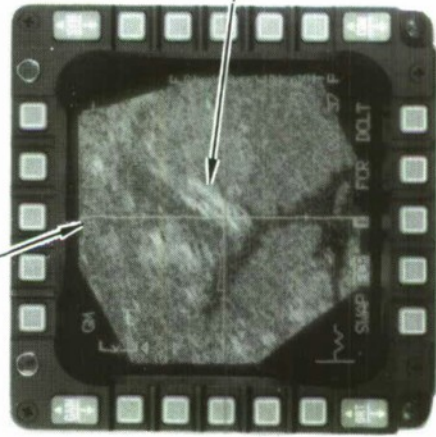


Improvement in Radar Resolution and Displays Enhance Precise Navigation, Target Identification and Weapons Delivery

Photograph

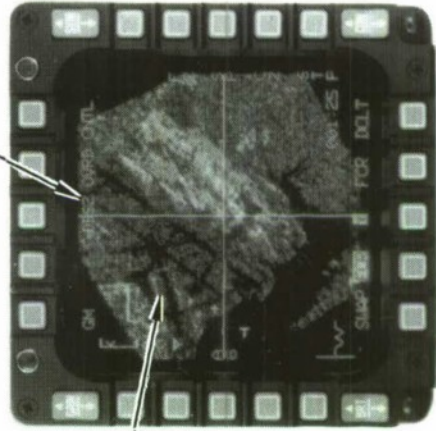


DBS-1



8:1 Doppler Beam Sharpening

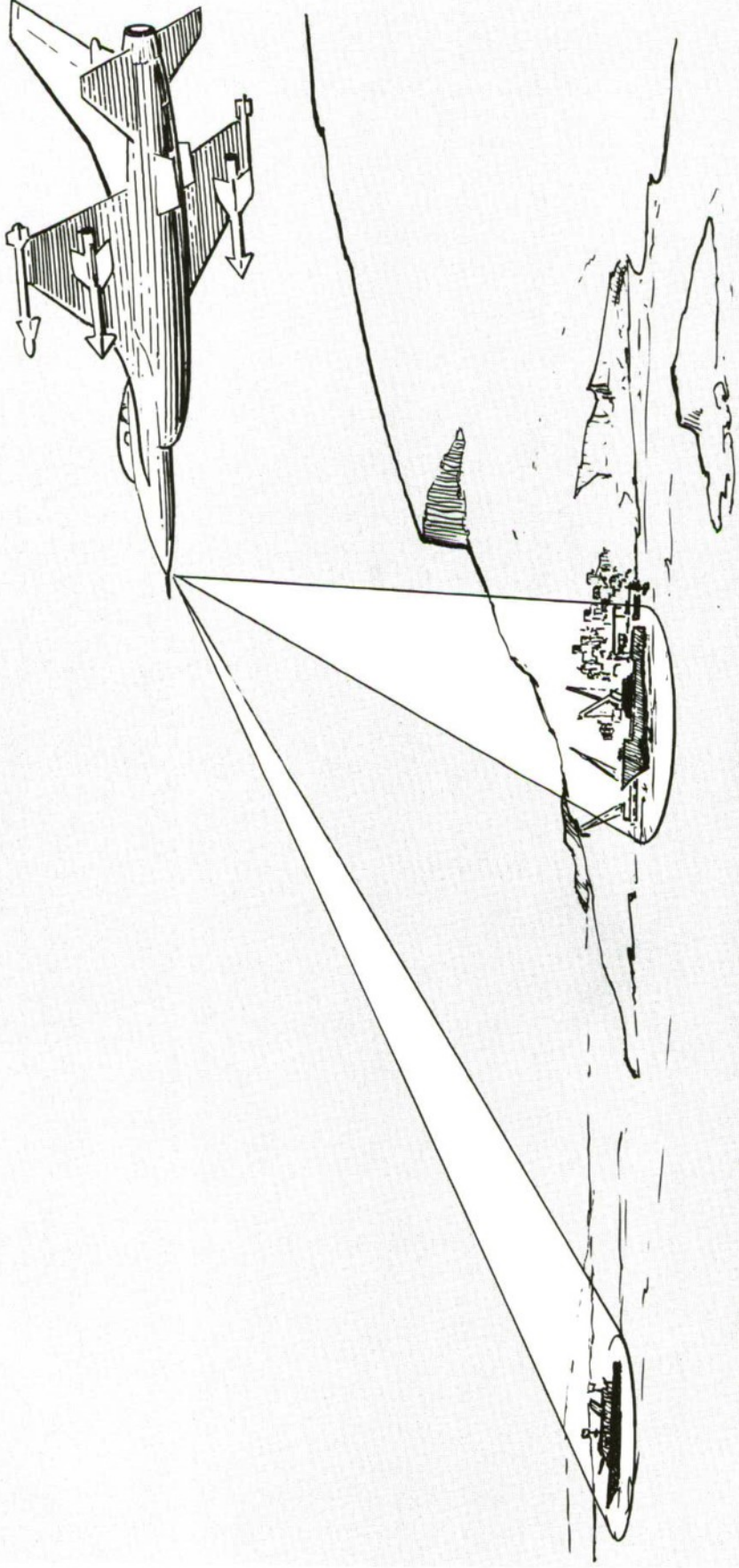
DBS-2



64:1 Doppler Beam Sharpening

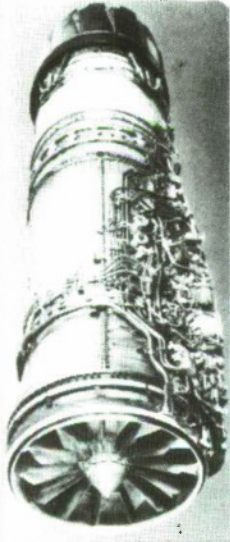

AM5549A

Sea Mode Provides Long-Range Surveillance of Sea Lanes



- Surveillance of Moving and Anchored Ships
- Long-Range Detection of up to 80 n.mi
- Acquisition and Track of Surface Ships in Various Sea States

Increased Performance Engines (IPE)

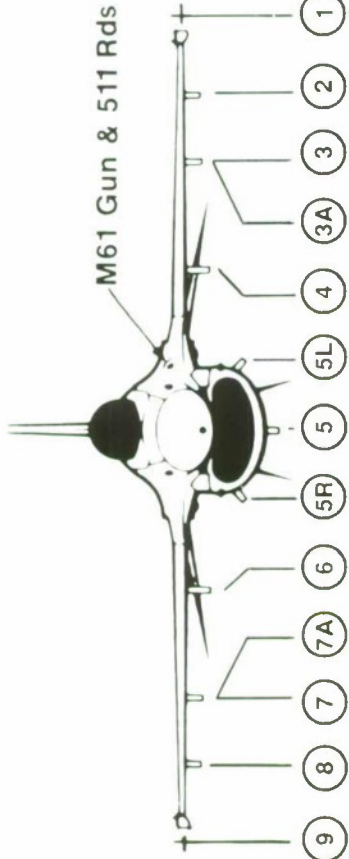
Engine Characteristics (Sea Level Static, Uninstalled)	F110-GE-129 Option 	F100-PW-229 Option 
Maximum Thrust (SLS)*	29,588 lb	29,100 lb
Intermediate Thrust (SLS)*	17,752 lb	17,800 lb
Airflow	265 pps	248 pps
Thrust/Weight	7.4	7.8
By-Pass Ratio	0.77	0.33
Pressure Ratio	30.7	33.6
Weight (lb)	3,980	3,740
Length (in.)	182.3	191.2
Diameter	46.5	46.5

* Average Specification Thrust (as of 7 August 1991)

Thrust Increase with Operability, Reliability, Maintainability and Safety Benefits Retained

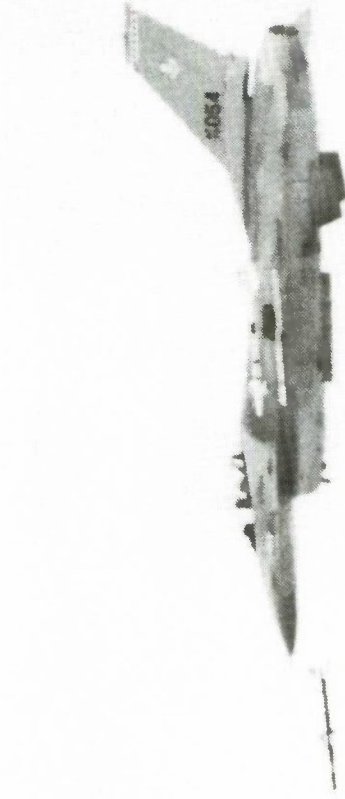


F-16 Weapons Carriage Capability



	Station Stores	1	2	3	3A	4	5L	5	5R	6	7A	7	8	9
Air-to-Air Weapons	AIM-9 Missiles	X	X		X						X	X	X	X
	Advanced BVR Missiles	X	X		X						X	X	X	X
	BVR Missiles			X										
Pods	ECM			●										
	EO/FLIR/TF (Provisions) Rece (Growth)						●							
	30mm Gun Pod (Growth)							●				●		
Air-to-Surface Weapons	MK-82			◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
	MK-84			■	■	■	■	■	■	■	■	■	■	■
	Dispensers			●	●	●	●	●	●	●	●	●	●	●
	Air-to-Surface Missiles			○	○	○	○	○	○	○	○	○	○	○
	Anti-Radiation Missiles			⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗
	Anti-Shipping Missiles			⊗							⊗			
Fuel Tanks	370-Gallon					○		○		○		○		○
	300-Gallon					○		○		○		○		○
	600-Gallon (Option)					○		○		○		○		○
STATION CAPACITY	Capacity (lb)	425	700	3500	450	4500	550	2200	550	4500	450	3500	700	425
	Load Factor (g)	9.0	5.5	9.0	9.0	5.5	9.0	5.5	9.0	5.5	9.0	5.5	5.5	9.0
	Alternate Cap. at 9g	425	450	2000	450	2500	550	1200	550	2500	450	2000	450	425

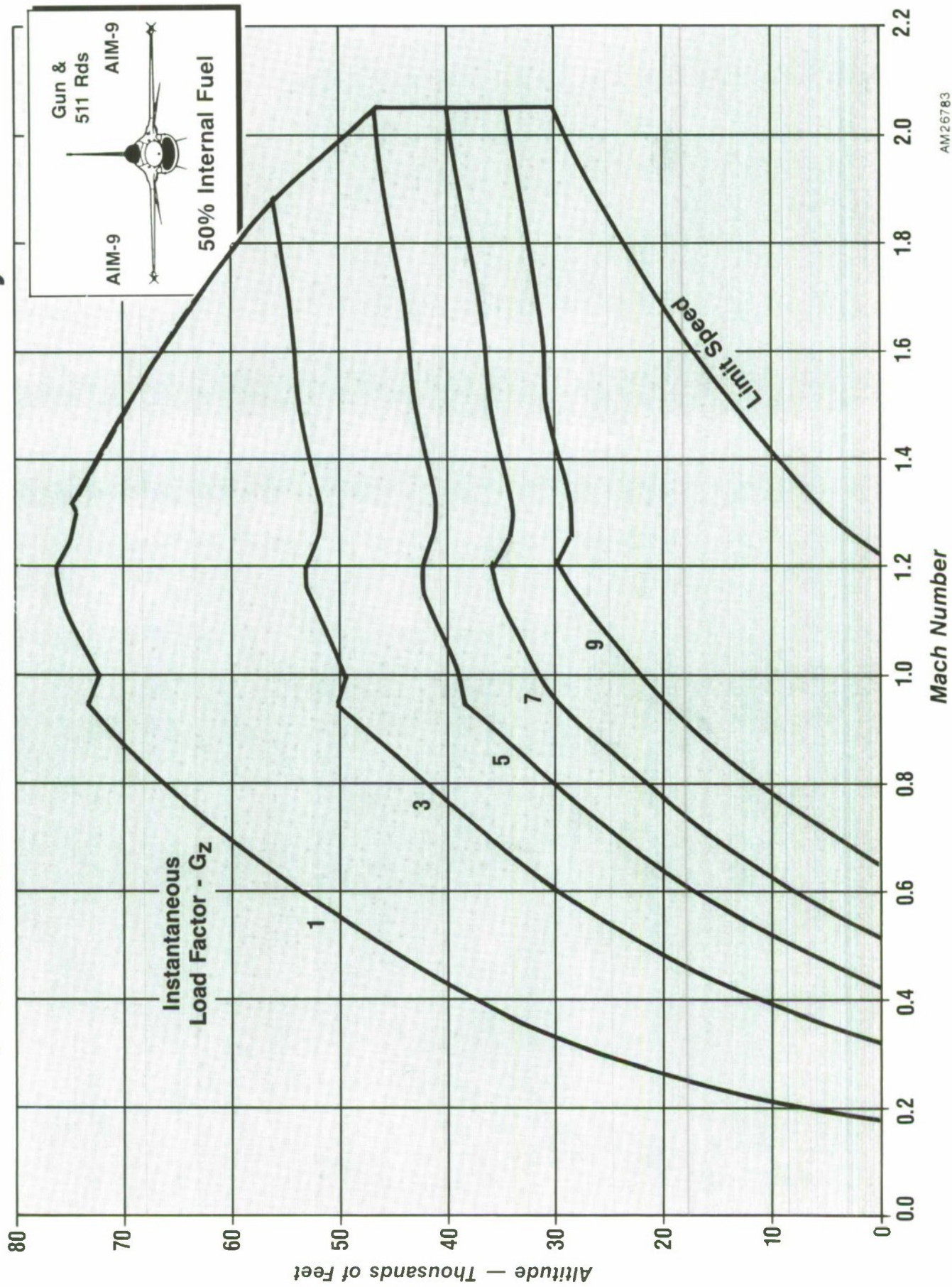
F-16 AMRAAM



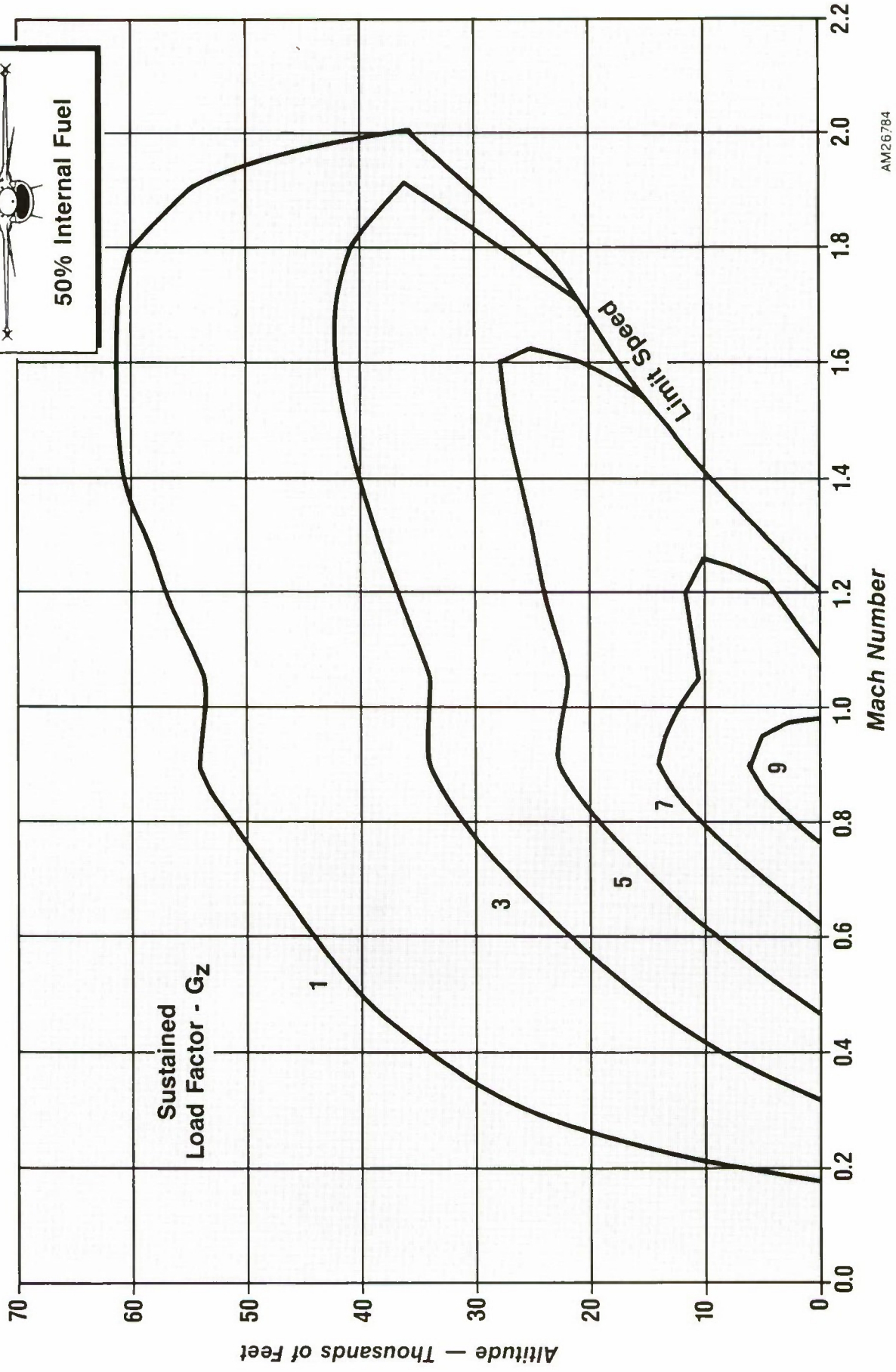
F-16/AMRAAM Development Phase Completed in January 1989

- F-16 Flight Test
 - 2 Unguided Launches
 - 30 Guided Launches Against Maneuvering Drones
 - 10 Direct Hits; 15 Lethal Range Hits; 5 Misses
 - Includes Multitarget Dual Launch Attacks With Jamming
- 6 Missile Capability
- Production and Retrofit on F-16s
 - F-16A Air Defense Fighter
 - F-16C Block 30/40/50
- First Two AMRAAM Kills Accomplished by F-16 Aircraft

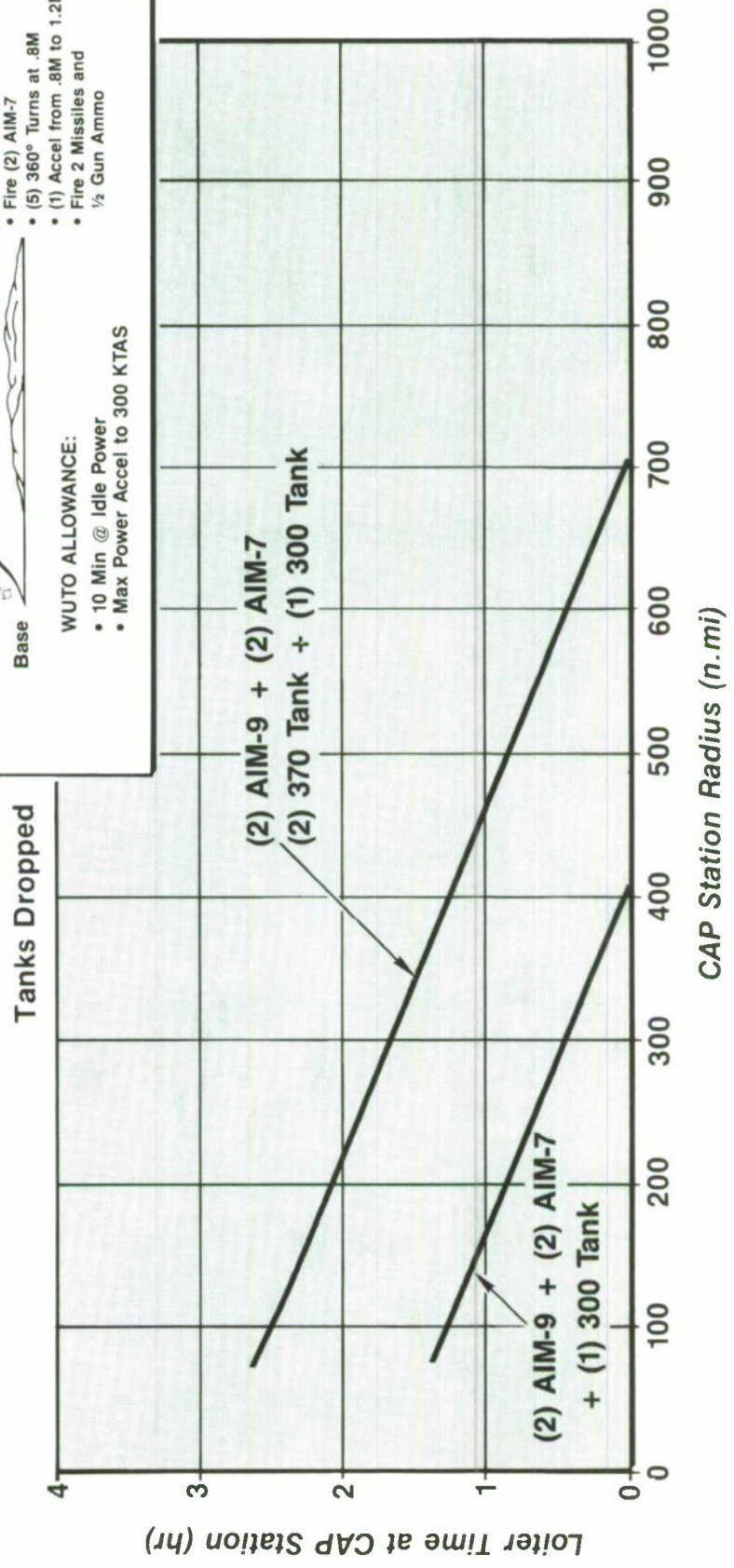
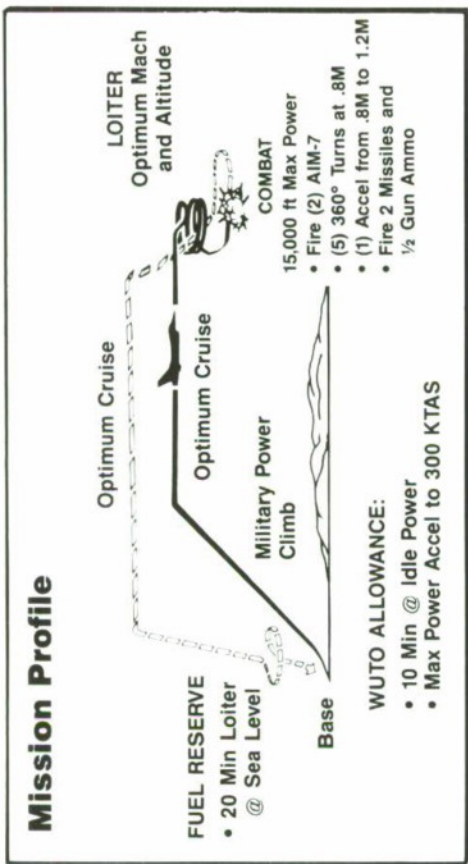
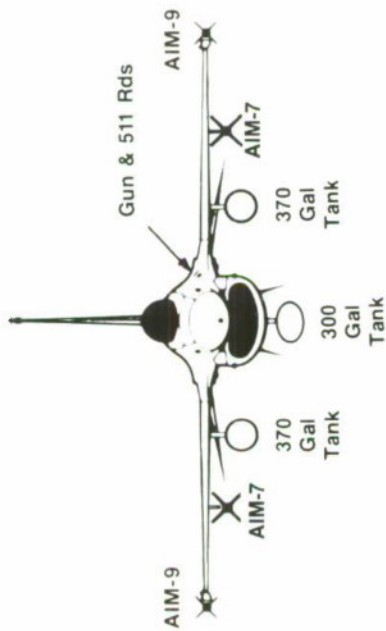
F-16C Instantaneous Maneuverability



F-16C Sustained Maneuverability

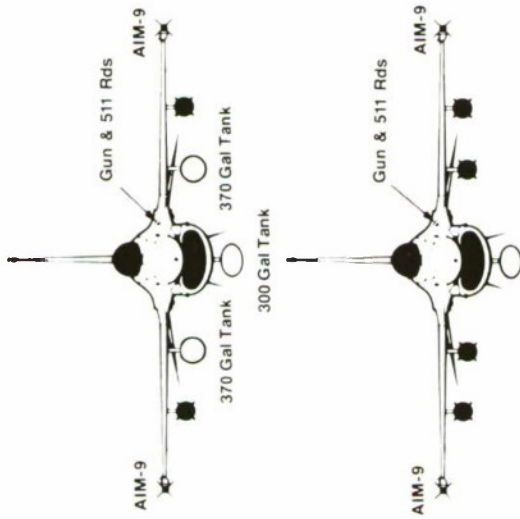


F-16C Air-to-Air Combat with Loiter

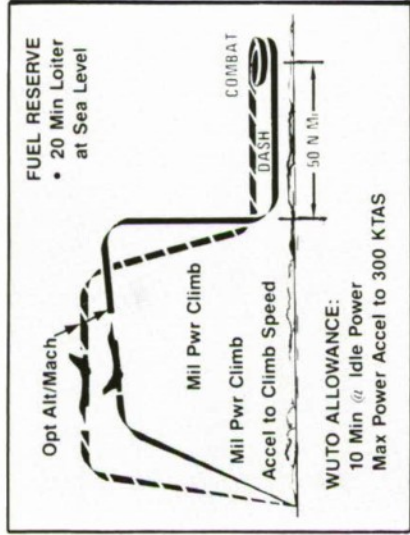


AM24654A

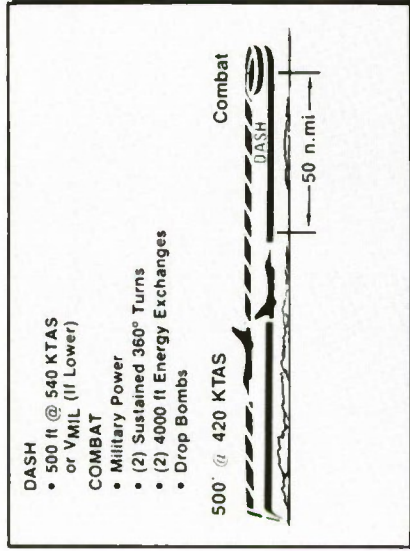
F-16C Air-to-Ground Mission



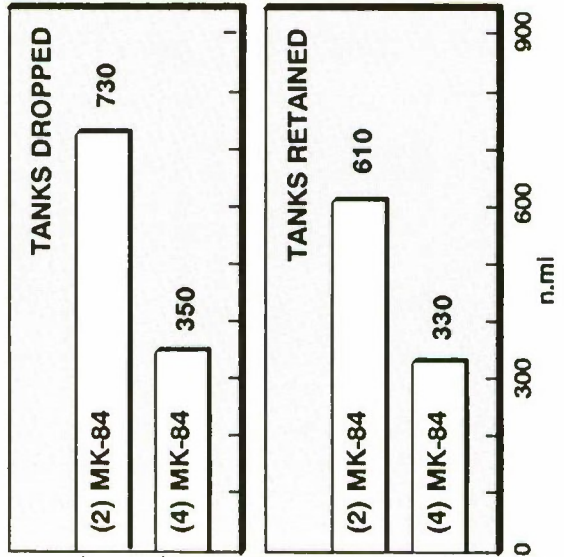
Hi-Lo-Lo-Hi



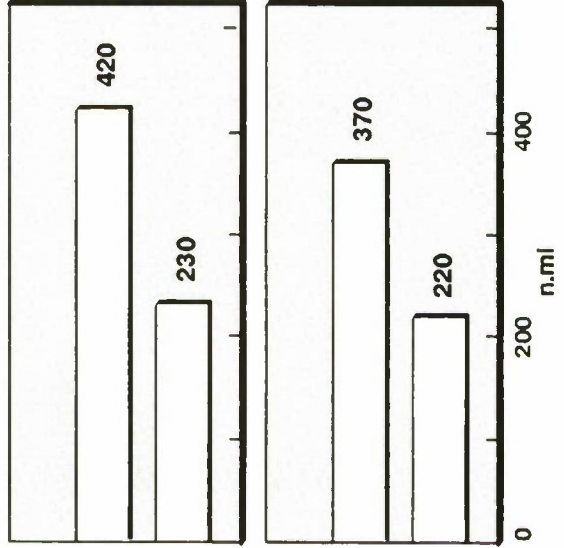
Lo-Lo-Lo-Lo



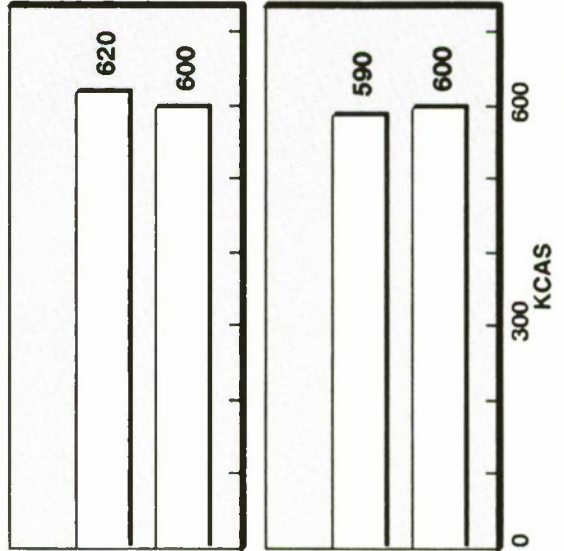
Mission Radius Hi-Lo-Lo-Hi



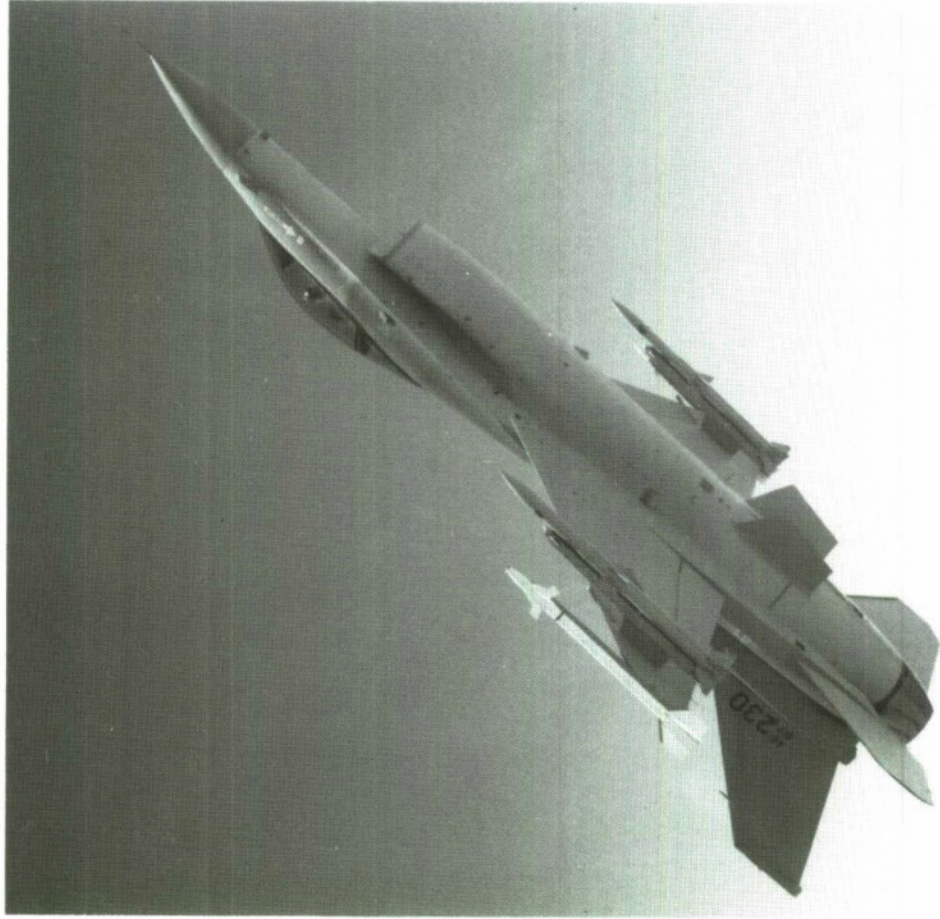
Mission Radius Lo-Lo-Lo-Lo



Ingress Speed Potential - Military Power



F-16C Summary



- **F-16C Production and Deployment Through the 1990s**
- **Highest Mission Readiness of Any USAF Fighter**
- **New Standards of Reliability and Maintainability**
- **New Capabilities**
 - **Night Low-Level Attack**
 - **Improved Weapon Delivery Accuracy**
 - **BVR Missiles**
 - **Integrated Electronic Warfare Suite**
 - **Automated Expendables Management**

Supportability

AMC15638

F-16 Maintenance Concept

Organizational Maintenance



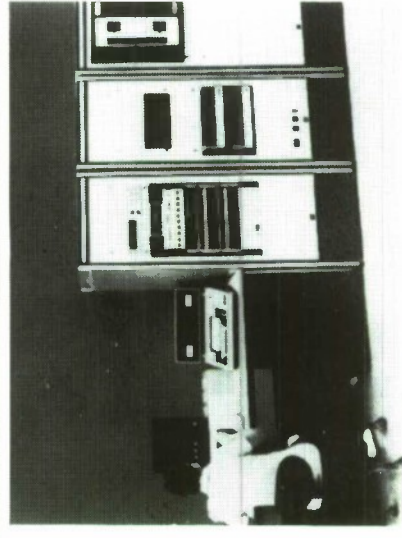
- Inspections
- Servicing
- Loading
- Isolate Faults to LRU
- Remove and Replace Failed LRU

Intermediate Maintenance



- Inspections
- Aircraft Heavy Maintenance
- Test LRU/Isolate Fault to SRU
- Remove and Replace Failed SRU
- Calibration

Depot Maintenance

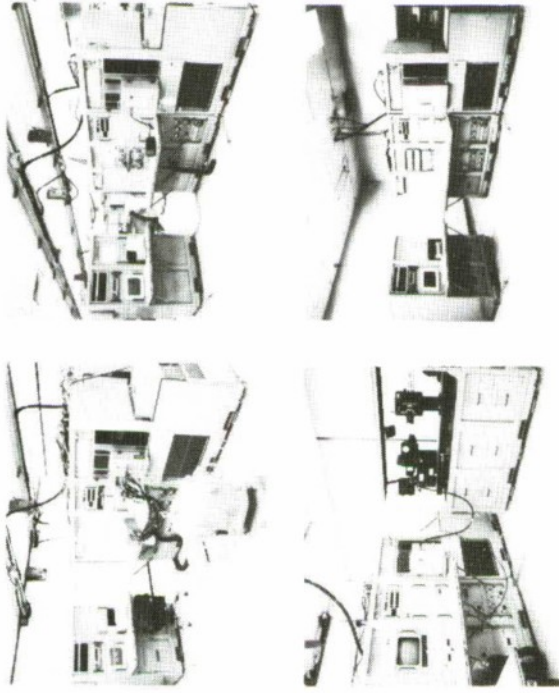


- No Programmed Depot Maintenance for the Aircraft
- When Necessary,
 - Major Structural Repair
 - Repair Failed SRU
 - Software Support

USAF Going to Improved AIS (IAIS)

TODAY

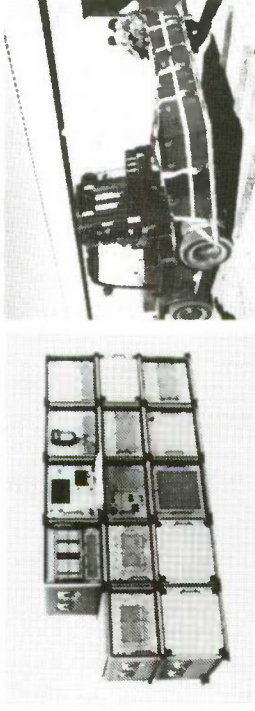
PRESENT AIS



- Four Full Sized Stations Capable of Testing 47 C/D LRUs
- Requires Special Facilities
- Requires Several C-130s for Airlift
- Minimum MTBF of 125 Hours for Each Station

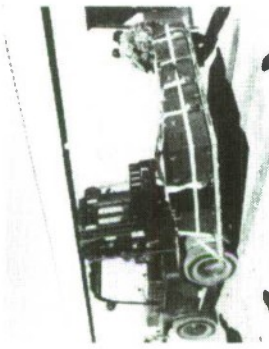
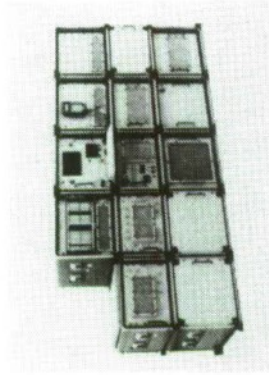
FUTURE

IMPROVED AIS



- One Down-Sized Test Station with Accessory Optics Bench
- Tests 22 LRUs — AF Assigning Other F-16 LRUs to Depot Only Maintenance
- Operates on Any Available Power (47-440 Hz)
- No Special Facilities Required
- Can Be Airlifted on One Cargo Pallet
- Minimum MTBF of 400 Hours

Improved Avionics Intermediate Shop (IAIS)



IAIS
SERD 90784
ATE Test Station

Description
Downsized Test Station
With Accessory Optics Bench

Reason for Change

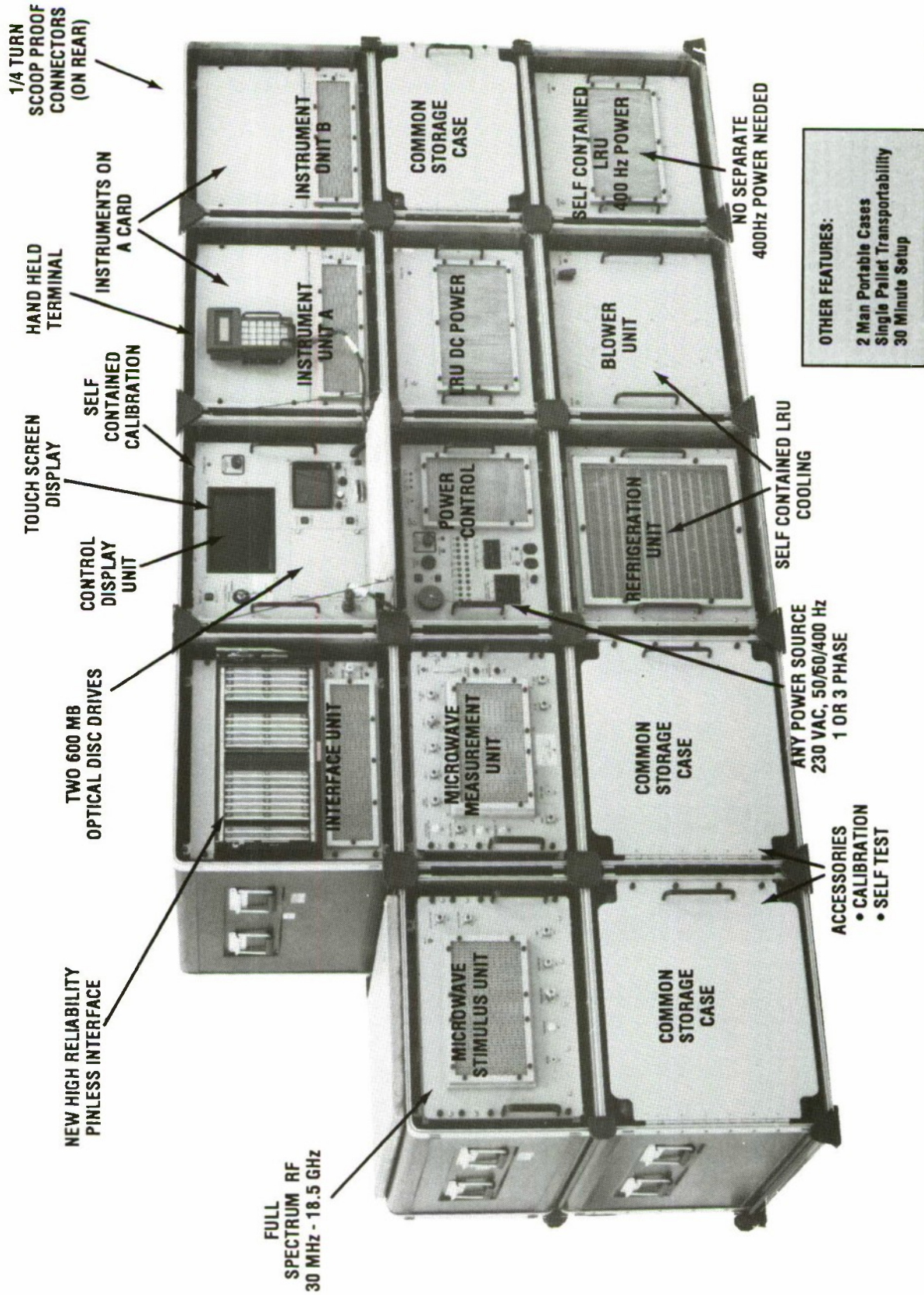
- Reduced Costs
- Higher Reliability
- Mobility Requirements

Hardware/Software

- New Hardware-18 ITA's for 22 LRU's
- New Software - Test - Load-OFF's

- Present Design (IAIS) Will Support Twenty-Two (22) LRUs From F-16C/D Aircraft Configurations
 - Anticipated That USAF Will Add Capability for Two Advanced LRU's (Upgraded Programmable Display Generator and Advanced Programmable Signal Processor)
- IAIS Cost Will Be Approximately One-Half (1/2) of 4 Station Shop
- LRU's Not Supported on IAIS Could Be Supported at the Current AIS Site
- USAF Changing to Two-Level Maintenance Concept for Selected LRUs

Improved AIS Configuration

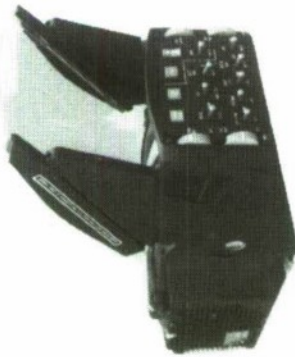


AMC8190

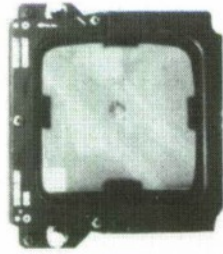
Modern Technology Provides Self-Test/Built-in-Test For F-16A/B

Failures Reported for Storage and Readout

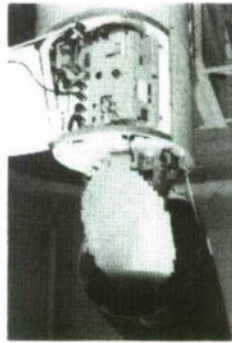
- In Flight
- On Ground



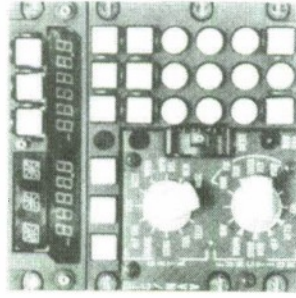
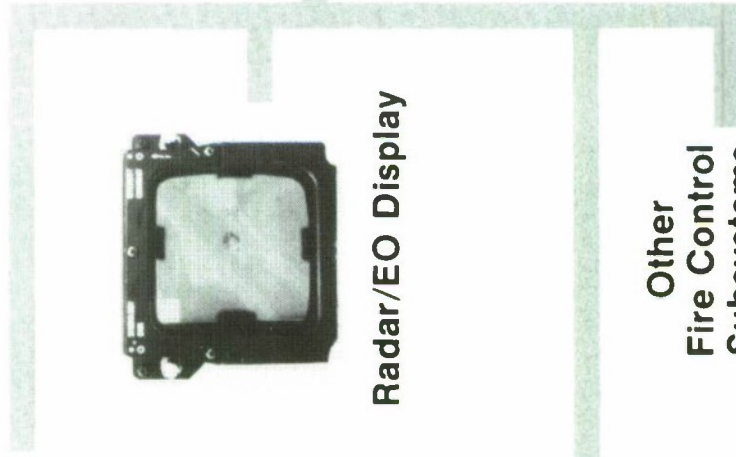
Head-Up Display



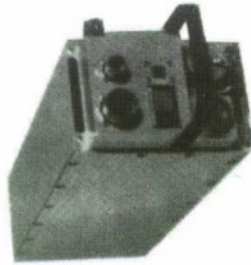
Radar/EO Display



Attack Radar



Fire Control Navigation Panel



Fire Control Computer

- Self-Test Verifies Normal Operation
- Faulty Unit Forwarded to Shop for Repair
- Flight Line Maintenance Minimized
- No Calibration or Adjustment Required after LRU Replacement

Modern Technology Provides Self-Test/ Built-in-Test for F-16C/D

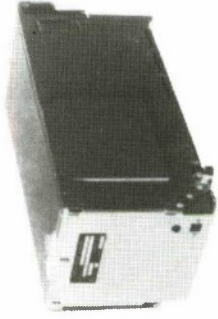
Failures Reported for Storage and Readout



Head-Up Display

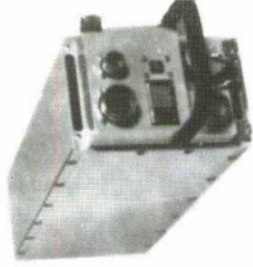


Attack Radar

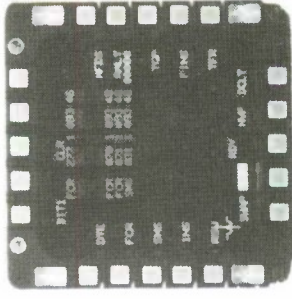


Litton INS LN-93

Other
Fire Control
Subsystems



General
Avionics
Computer



Multifunction
Display/Control

- In Flight
- On Ground

- Self-Test Verifies Normal Operation
- Faulty Unit Forwarded To Shop for Repair
- Flight Line Maintenance Minimized
- No Calibration or Adjustment Required After LRU Replacement

Best Maintenance Accessibility of Any Fighter

- Over 250 Access Covers and Doors
- More Than 60% of Surface Removable
- 90% of the Components at Ground Level
- 95% of the Components Single-Tiered (Not Behind Other Components)
- Quick Access to Critical Functions
 - Daily Inspections
 - Servicing
 - Weapon Loading
 - Engine Change



AMS424A

Optional Equipment and Capabilities

AMC15639

*Optional Equipment**

Weapons	<ul style="list-style-type: none"> • Penguin • GBU-15 • 30mm Gun Pod • AIM-7 • AIM-9P-5 	<ul style="list-style-type: none"> • Standoff Anti-Ship Missile • Long-Range Guided – Glide Bomb • Anti-Armor Gun • Beyond Visual Range Air-to-Air Missiles • All Aspect Short Range IR Missile
Operability Enhancements	<ul style="list-style-type: none"> • Drag Chute • 600-Gallon Tanks • ATLIS II • ACTES 	<ul style="list-style-type: none"> • Improved Runway Performance • Increased External Fuel Capacity • Autonomous Daylight LGB Deliveries • Self-Contained Air Combat Training Evaluation System
Avionics	<ul style="list-style-type: none"> • HF Radio • ARN-147(V) 	<ul style="list-style-type: none"> • Over the Horizon Communication System • Combined VOR With ILS

* *There Is Currently No USAF Plan To Complete Development or Incorporate, on the F-16, the Optional Capabilities Presented in This Section.*

Penguin MK-3 Missile

- Medium Range Anti-Ship Missile
- Inertial Mid-Course, Passive IR Terminal Guidance
- Semi-Armor Piercing Warhead
- Designed for Over-Land Launch, Operation in Clutter Background
- Multiple Target Tracking Section



Length = 125 in.
Fin span = 39 in.
Wt = 825 lb

-
- Status**
- F-16 Certification Completed for Four Weapons Carriage
 - Production Go-Ahead in 1988

GBU-15 Weapon

- E-O Glide Weapon
- 2000 lb MK-84 Warhead
- Lock-On-After-Launch via Data Link
- Standoff \geq LGB III
- Line-of-Sight With Target Not Required
- Accuracy Comparable to LGB III



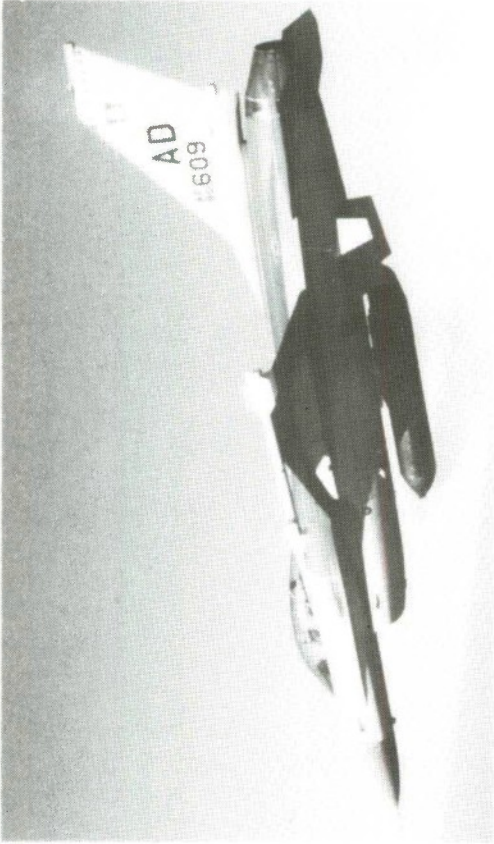
Data Link Pod
Length = 130 in.
Dia = 20 in.
Wt = 535 lb
Mfr: Hughes

Weapon
Length = 154 in
Fin Span = 59 in.
Wt = 2502 lb
Mfr: Rockwell

-
- Status**
- Weapon in Production for USAF & FMS
 - Operational on F-16 with One International Air Force

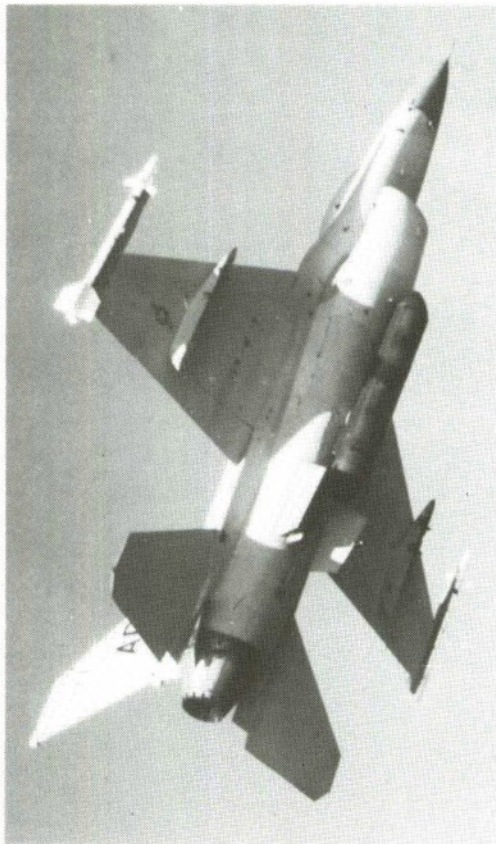
AM4986E

F-16 General Electric 30mm Gun Pod



Four Barrel Gatling Gun

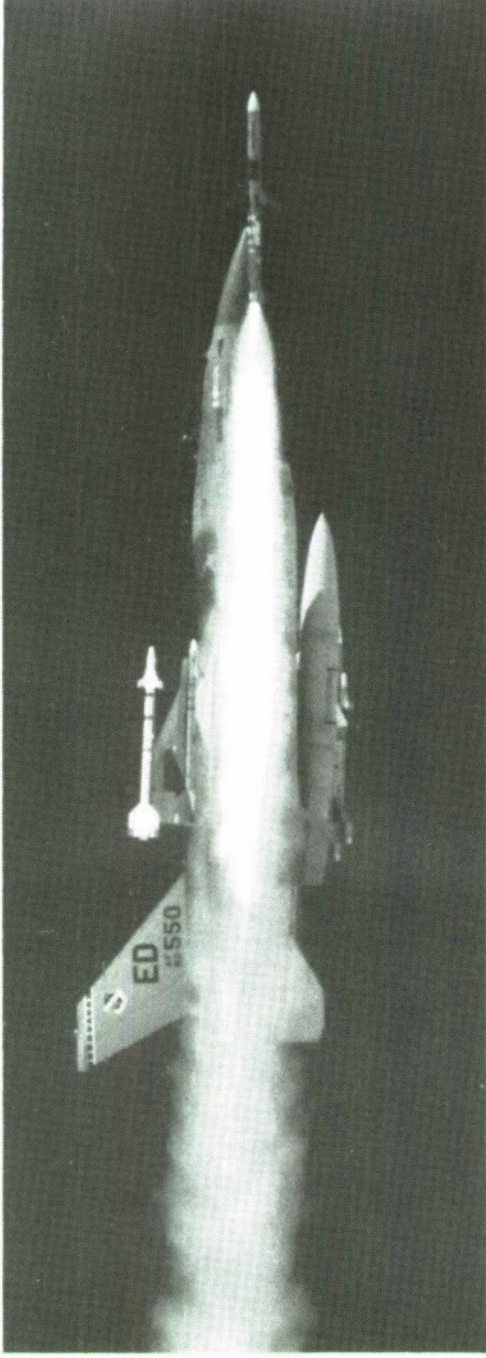
- 350 Rounds GAU-8 Ammo
- 2400 Rounds per Minute
- 6 Milliradian Dispersion



USAF Flight Tested

- GPU-5A Gun Pod Certification Tests on F-16 Completed 15 May 1989
 - 3 Flights, 5 Live Fire Events
- Modification Program Authorized to Provide Interim Capability on 24 F-16As

F-16 AIM-7 Missile Capability

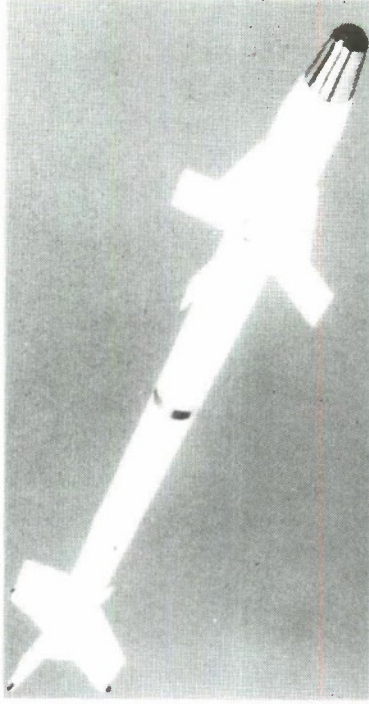


- **F-16A/B AIM-7 Capability Developed Under Air Defense Program**
 - **Flight Test Complete – Early 1989**
 - **First Separation Launch – October 1988**
 - **First Guided Launch – February 1989**
- **Company Funded Development of F-16C/D Capability Complete**
 - **Start of Flight Test – November 1988**
 - **Flight Testing Complete – May 1989**
 - **Two Guided Launches, Two Hits – May 1989**
 - **First F-16C/D Full-Up Production Delivered in Mid 1992**

AIM-9P-5 Air-to-Air Missile

DESCRIPTION

- All Aspect Short Range IR Missile
- New Version of AIM-9P-4
 - Improved Target Tracking
- Maintains Features of Both P-3/P-4
 - Increased IR Sensitivity
 - Multistage, Thermo-Electric Cooler
 - Seeker Slave and Scan Capability
 - Improved Background Discrimination
 - Increased Maneuver Capability



Length: 119.9 in.
Weight: 178.2 lb
Manufacturer: Loral Aerospace

BENEFITS

- Longer Detection Range for All Aspects
- Permits Shorter Range Engagements
- Increased Capability for High "g" Targets
- Utilizes Existing F-16 AIM-9 Interface
- Improved Scan Pattern Incorporated in the Missile Seeker

STATUS

- Airframe, Rocket Motor, and Warhead in Production
- Mission Guidance Control Section In Production
- AIM-9P-5 Capability Available on Every Aircraft that Operates the AIM-9P-3/4

F-16 Drag Chute System

- Continuous Ribbon Type Chute
- Canister Installation
- Hydro-Mechanical Deployment Mechanism
- Negligible Subsonic Drag Increase
- All F-16s Have Basic Structure for Drag Chute
- Reduces Stopping Distance
 - 32% Dry Runway (RCR 23)
 - 55% Wet Runway (RCR 12)
 - 57% Icy Runway (RCR 4)



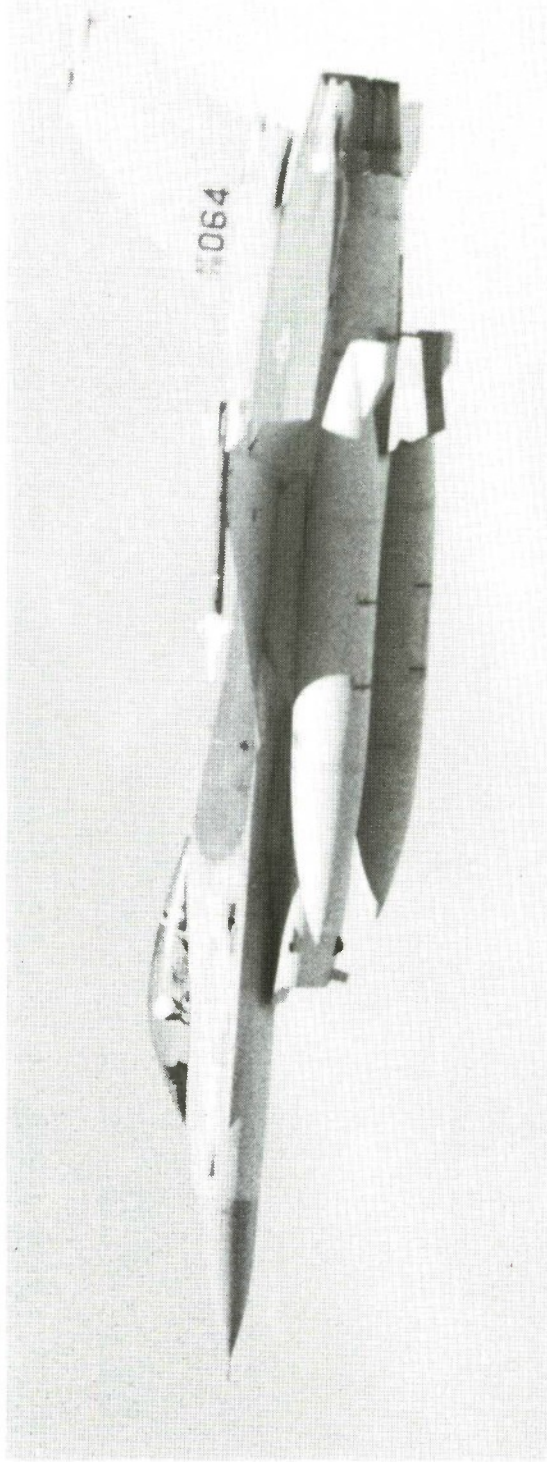
Dia = 23 ft
Wt = 148 lb
(Installation & Chute)
Mfr: Irvin
Industries

-
- Status**
- Operational with Three (F-16 A/B) Air Forces and Two (F-16C/D) Air Forces

AM4389C

600 Gallon Fuel Tank

- Combat Tank — 9-g, 600 KCAS/M = 1.6
- Non-Jettisonable Pylon
- Selectable Capacity — 370/485/600 gal. Tanks
- Compartmented for C.G. Control
- Subsonic Drag Equivalent to 370 gal. Tanks
- Empty Weight 140 Pounds Heavier Than 370 gal. Tanks

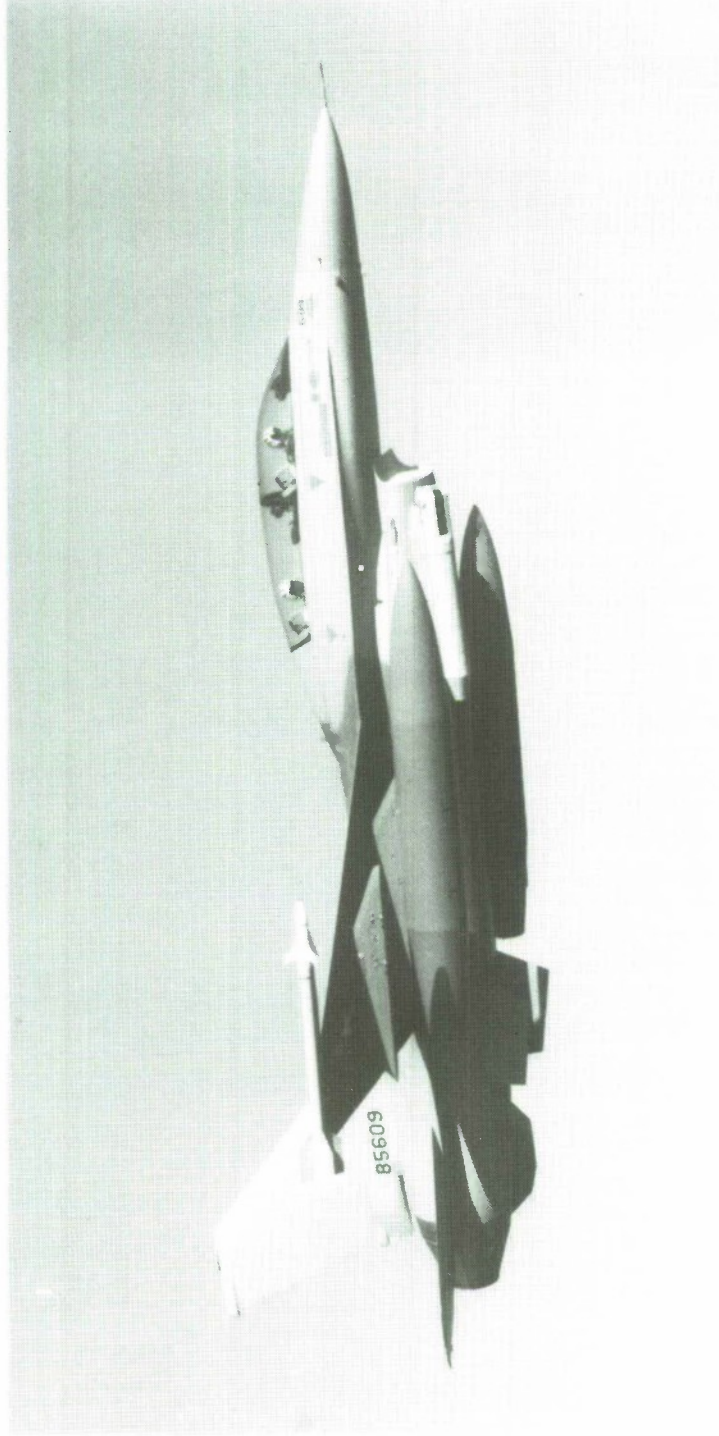


Length = 236.5 in.
Dia = 32.6 in.
Wt Empty = 381 lb
Tank & Pylon: 663 lb

Status • Operational with One International Air Force

ATLIS II E-O Targeting Pod

- Auto TV Tracker With Laser Designator/Ranger
- Visual/Near IR Spectrum
- 150° Look Back
- Autonomous Daylight LGB Deliveries
- Carriage Provisions on Block 15 and Beyond
- Operational Software Available with OCU Upgrade or on New-Buy (A/B) Aircraft



Length = 98.4 in.
Dia = 12.7 in.
Wt = 375 lb

- Status**
- F-16 Flight Demo in 1978 Demonstrated F-16/ATLIS II Capability for Single-Seat Precision Attack, Including Low Altitude
 - F-16 Integration and Flight Test Completed December 1985
 - Weapons Certification Testing on F-16A/B Completed February 1986
 - F-16/ATLIS II Operational with Two International Air Force

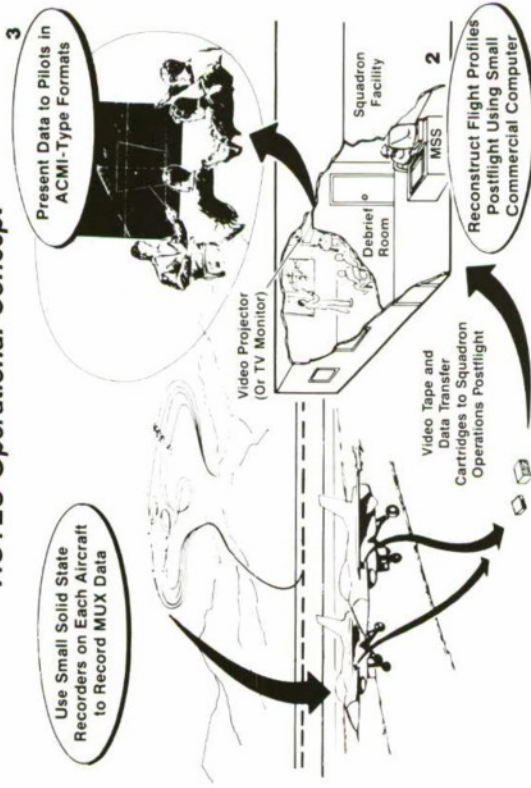
AMC8198B

Air Combat Training Evaluation System (ACTES)

DESCRIPTION

- Squadron-Level Multi-Aircraft Post Mission Debriefing System
- MUX Data Recorder on Each Aircraft
- Ground Processing/Debriefing System Using Off-the-Shelf Computers

ACTES Operational Concept



BENEFIT

- Combat and Training Mission Debriefing System Totally Self-Contained on Each Aircraft
- No Requirement for Ground-Based Tracking Systems or Instrumented Ranges
- ACMI-Like Interactive Debriefing System
- Available for Daily Use at Each Squadron
- Improves Pilot Tactical Proficiency and Situation Awareness

STATUS

- Proof-of-Concept Flight Testing Complete
 - Over 400 Missions on USAF F-16A/B and F-16C Aircraft
 - Testing Included Many Missions with Internal GPS Data . . . Very Accurate Aircraft Positioning Information at All Altitudes
 - Favorably Evaluated by AFOTEC, AFHRL, and Air National Guard
- Production Retrofit Proposal for F-16A/B Fleet Submitted to USAF in Mid 1990

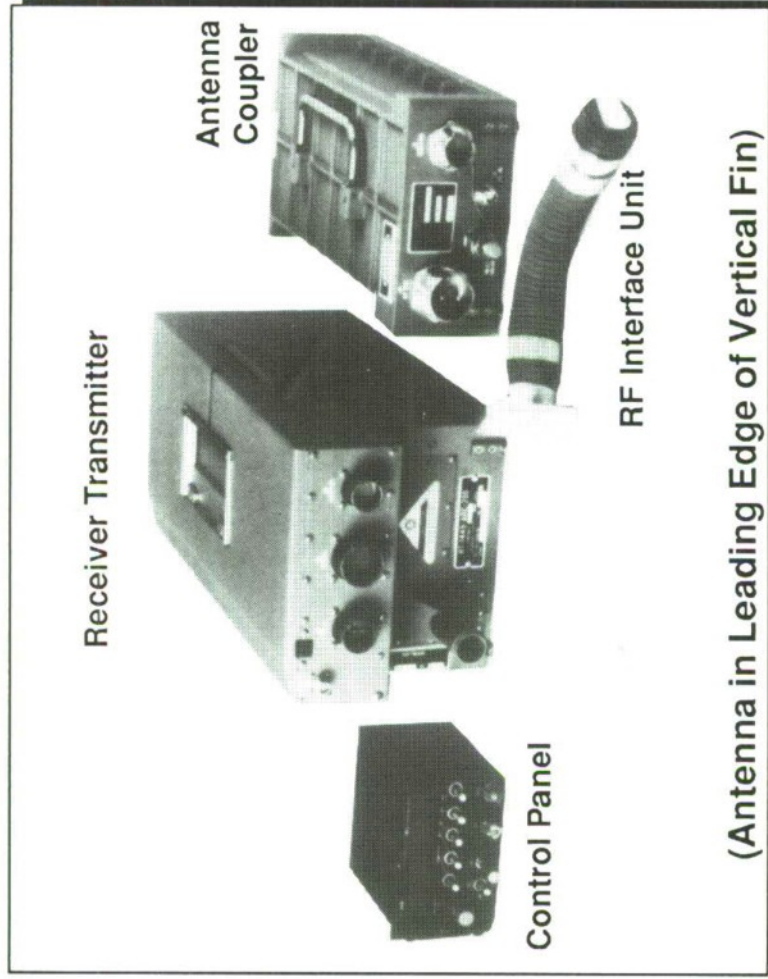
AN/ARC-200 High Frequency Radio

Characteristics

- Long-Range Beyond Line-of-Sight Communications
- Reliable Comm During Low-Level Flight
- Three New LRUs
- Standard USAF HF Radio

Program Summary

- AN/ARC-200 Being Installed in USAF F-16A Air Defense Aircraft



Enhanced Communications Capability

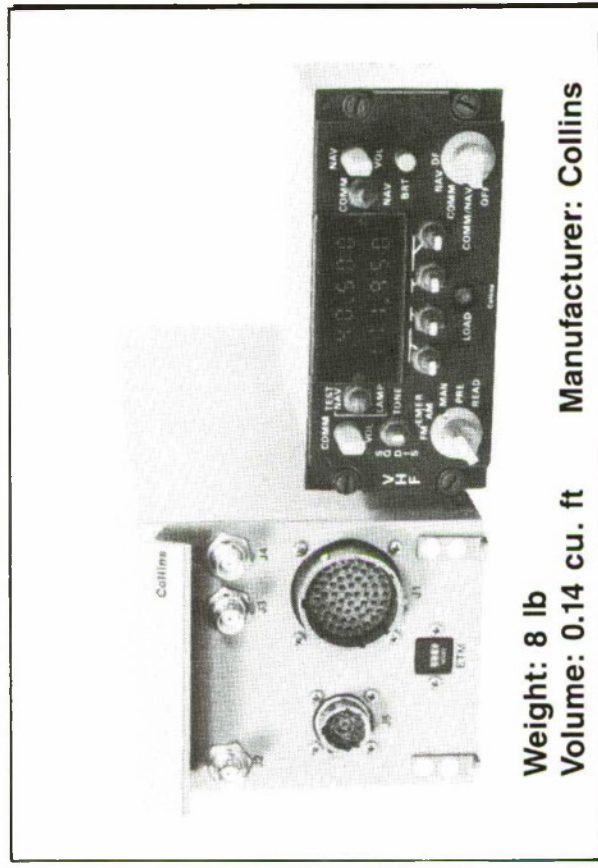
ARN-147 (V) VOR/ILS

Characteristics

- Adds VOR to Existing F-16 TACAN and ILS Capabilities
- Form and Fit Replacement for F-16 AN/ARN-108 ILS
- Uses Existing F-16 Localizer/Glideslope Antenna and Marker Beacon Antenna

Program Status

- Completed Qualification Mid-1983
- F-16 Flight Test Completed
- F-16 Production Deliveries Commenced Fall 1983



Increased Instrument Navigation Flexibility

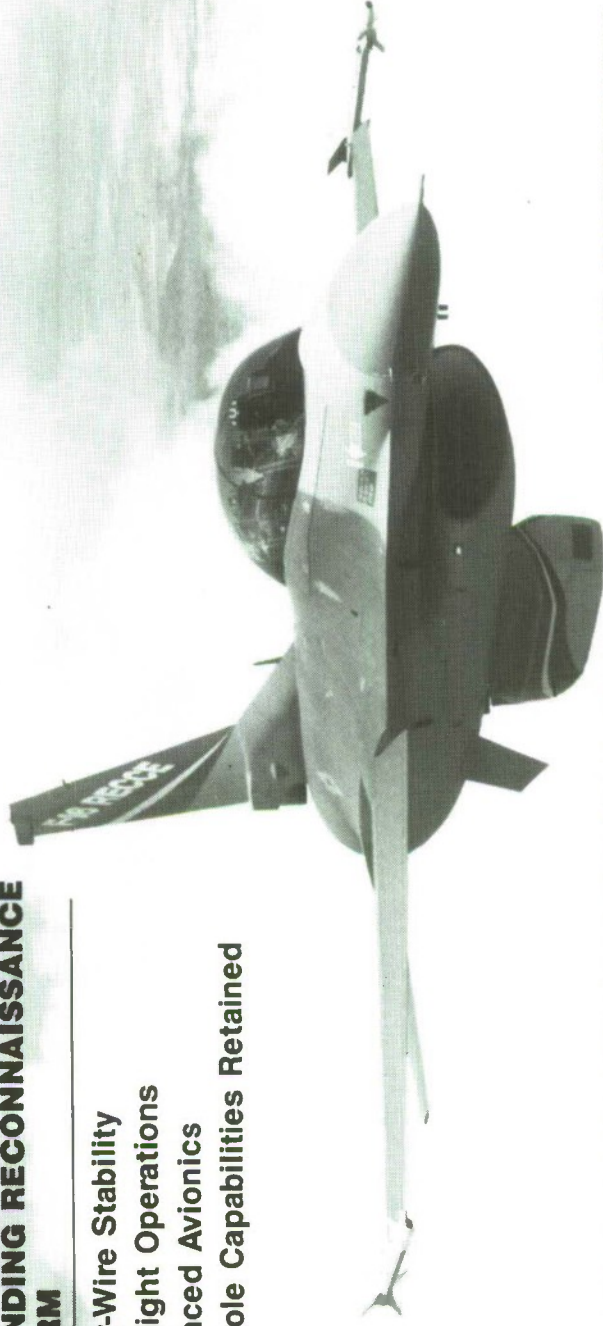
RF-16

AMC15640

The F-16 With Reconnaissance Pod and Electro-Optical Sensors

OUTSTANDING RECONNAISSANCE PLATFORM

- Fly-by-Wire Stability
- Day/Night Operations
- Advanced Avionics
- Multirole Capabilities Retained



ADVANCED RECONNAISSANCE TECHNOLOGY

- High Performance E-O Sensors
 - Visible Light
 - Infrared
- Near-Real-Time Capability
 - Digital Imagery
 - No Film Processing
- Cockpit Viewing of Imagery

HIGH SURVIVABILITY

- Self-Defense Capability
- Small Size/Observables
- High Maneuverability
- Modern Countermeasures Equipment
- Low Vulnerable Area

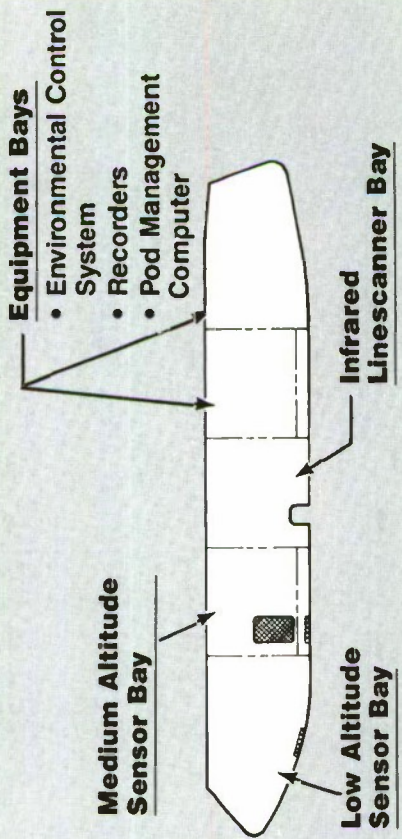
AM19266B

F-16 Reconnaissance Pod

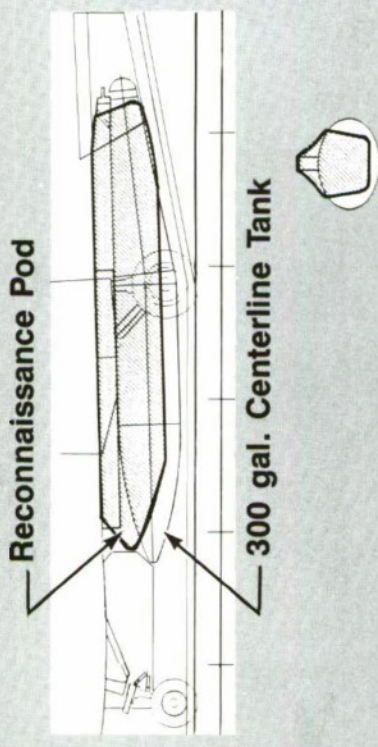
FEATURES

- Designed to the Full F-16 Flight Envelope
- Excellent Sensor Coverage, Repositionable In Flight
- Size/Volume/Drag Comparable to Centerline Fuel Tank
- Optimized for F-16 Aerodynamics, Maintainability, and Fit
- Modular Design for Tailored Sensor Requirements and Growth

MODULAR DESIGN



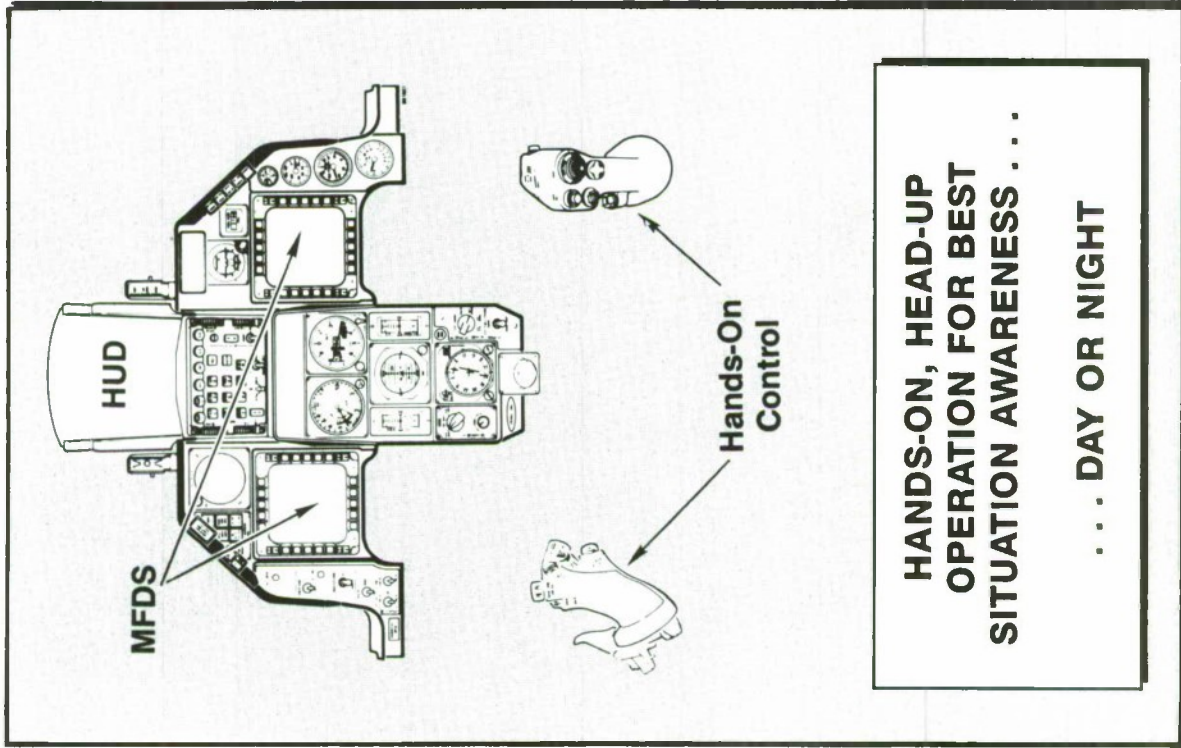
INSTALLATION COMPARISON



CONFIGURATION & GROWTH FLEXIBILITY

- Wide Range of Electro-Optical and Film Sensors
- Long Range Oblique Photography (LOROP)
- Synthetic Aperture Radar (SAR)
- Forward Looking Infra Red (FLIR)
- Electronic Intelligence (ELINT)

RF-16 Pilot-Vehicle Interface



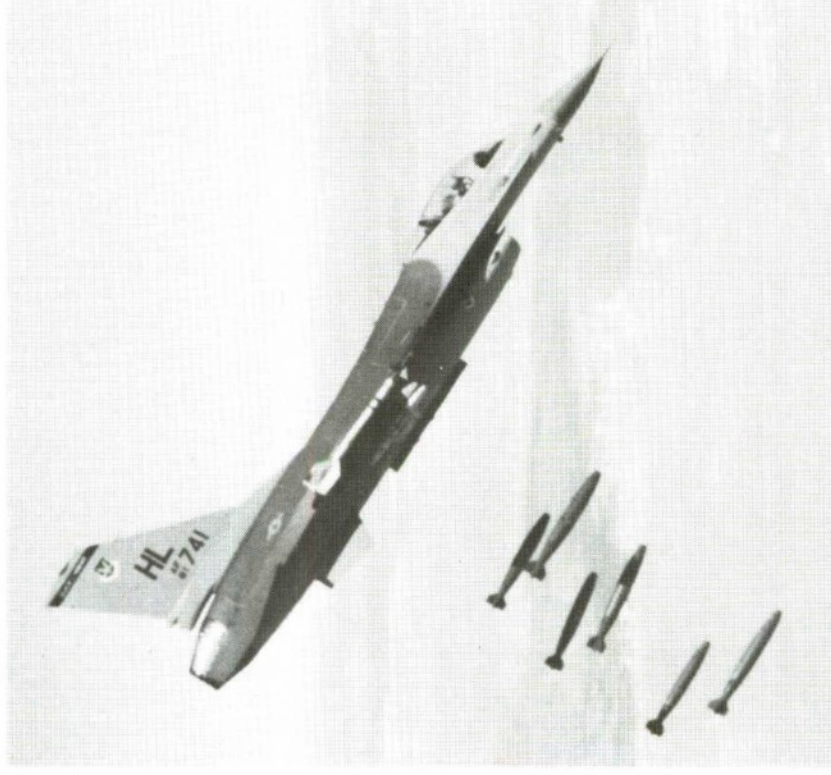
Mechanization Combines Automatic Features with Dynamic, Man-in-the-Loop Sensor Control for Optimal Target Acquisition Flexibility

Key Features

- **Auto/Manual Sensor Operations**
 - Selection, Pointing, On/Off
 - Quick-Reaction Override
- **Cockpit Imagery Display**
- **Imagery Recall, Review, Data Link**
 - Recall Imagery by Time, Coordinates, or Event Mark
 - Select/Deselect Target Files for Data Link to Multiple Ground Stations
- **Quick Change of Mission/Targets**
 - Data Transfer System, Data Link, Manual Entry

**HANDS-ON, HEAD-UP
OPERATION FOR BEST
SITUATION AWARENESS . . .
. . . DAY OR NIGHT**

Adding Reconnaissance Enhances the F-16's Flexibility and Fighting Capability



- **Aircraft Modifications Are Minimal**
 - Pod Interface and Control
 - Software Expanded to Include Reconnaissance
- **Air-to-Air and Air-to-Ground Capabilities Remain Intact**

AMC2574