



# Welcome to Apache Country

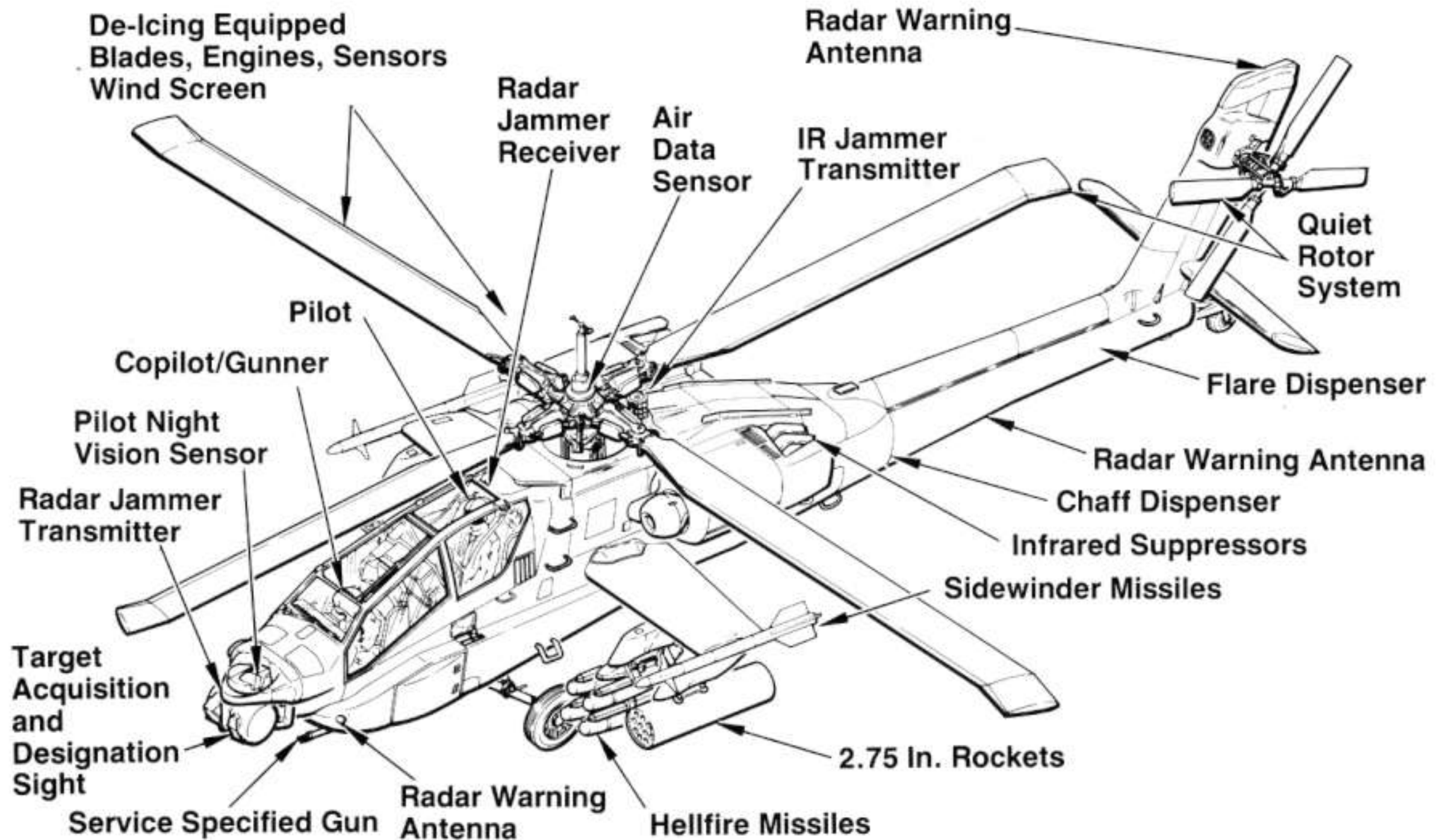


# The Apache Advantage



# AH-64

## General Configuration



**AH-64**

# **Integrated Attack Systems**

- **Night/Adverse Weather**

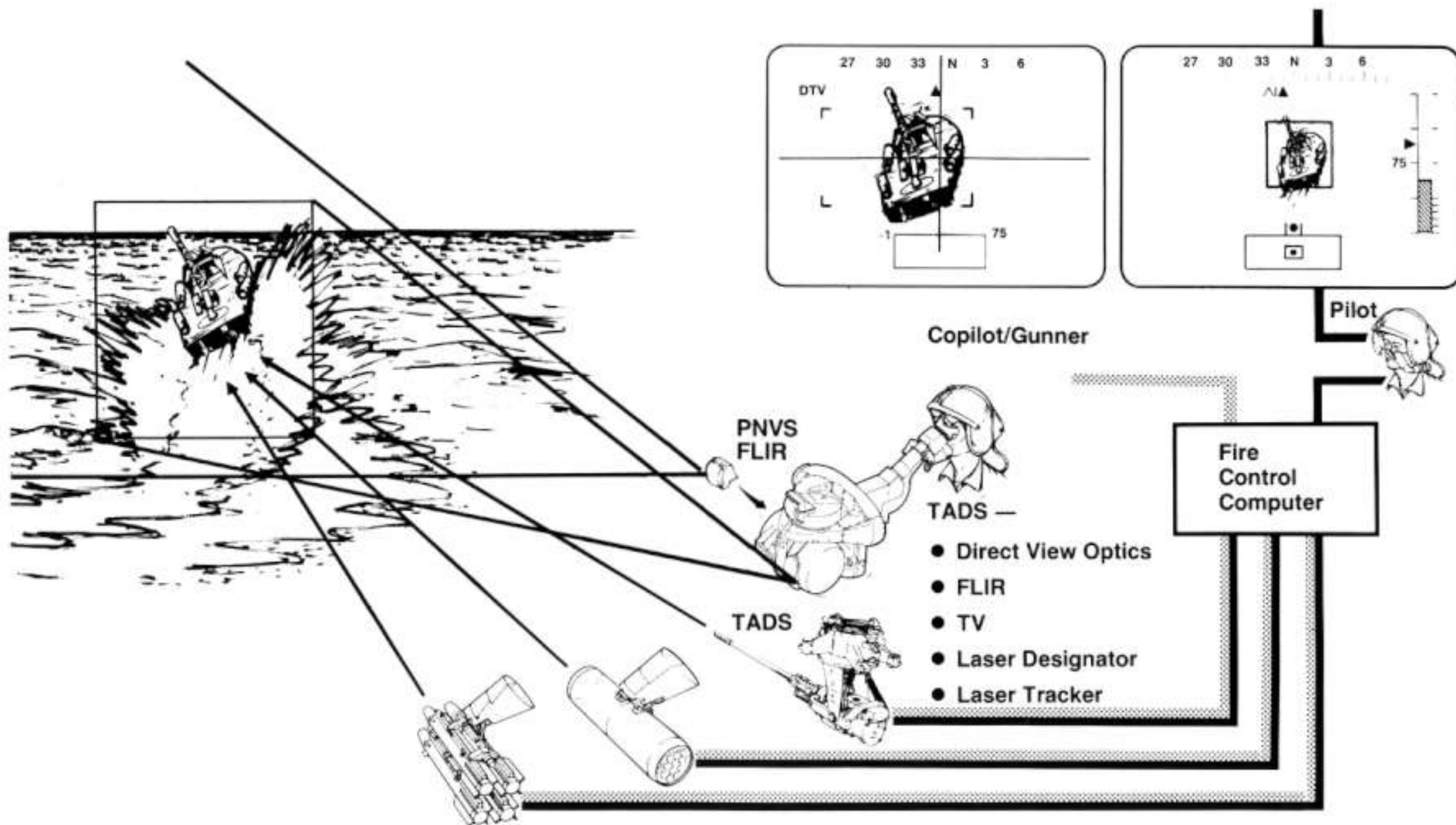
- **TADS/PNVS**

- **Day TV Optics (120 Power)**
- **Forward Looking Infrared Optics (36 Power)**
- **No Ambient Light Required**
- **Video Recorder**
- **Direct View Optics (16 Power)**

- **Total System**

- **Integrated Cockpit**
- **Integrated Fire Control System**
- **Autonomous and Remote Laser Designation**
- **Laser Range Finder**
- **Integrated Navigation System**
- **Integrated Helmet and Display Sub-System**

# AH-64 Target Acquisition



# Agile and Hostile



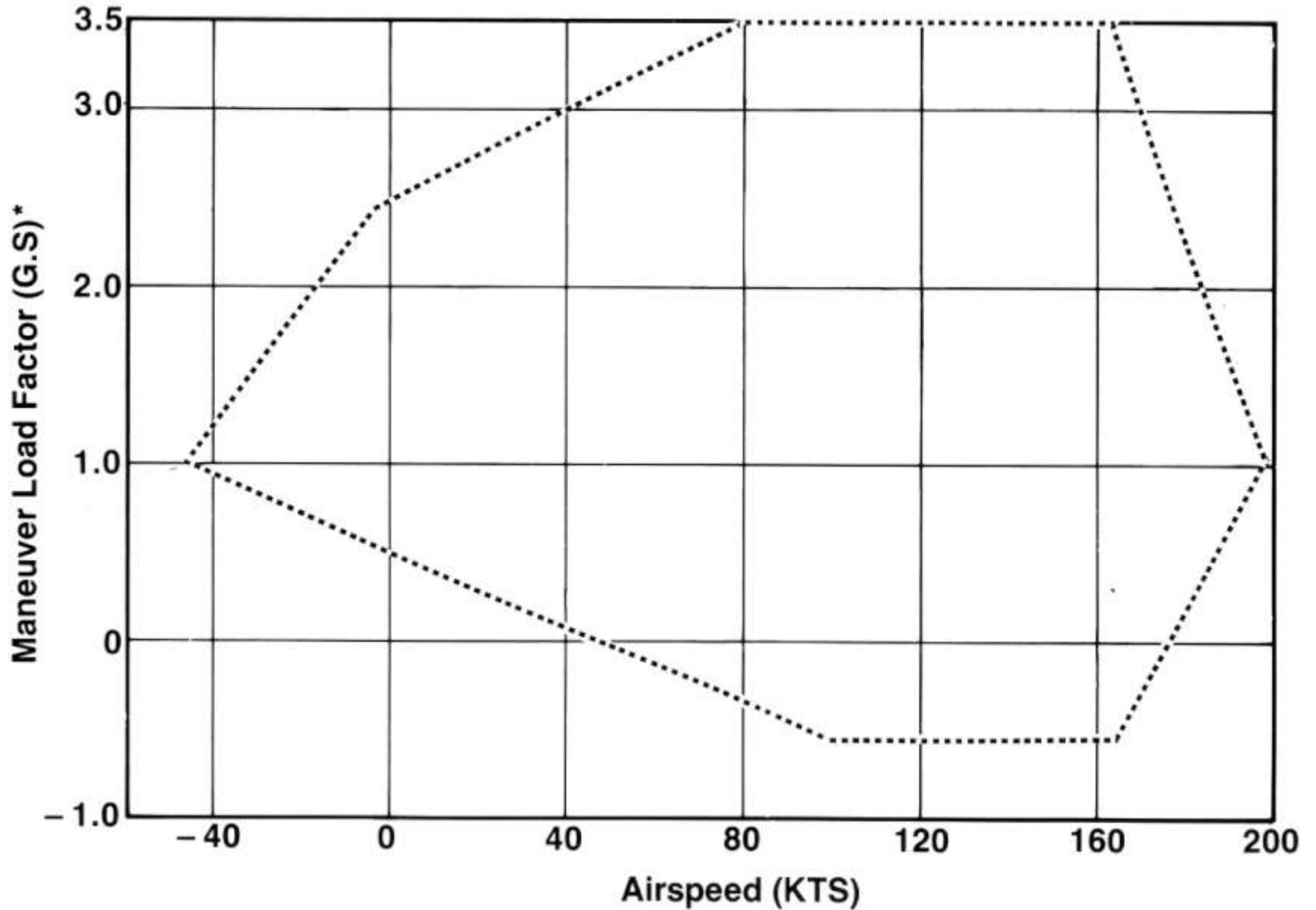
**AH-64**

# **Superior Flight Performance**

- **V<sub>ne</sub> 197 Knots With Wing Stores**
- **g Envelope – 0.5g to + 3.5g**
- **Roll Rate 130° Per Second**
- **Vertical Climb Rate of 2800 + FPM**
- **High Altitude, Hot Weather**
  - **3000 Feet + 91.5°F**
  - **HIGE 19,500 Lbs**
  - **HOGGE 17,200 Lbs**

AH-64

# Maneuver Envelope

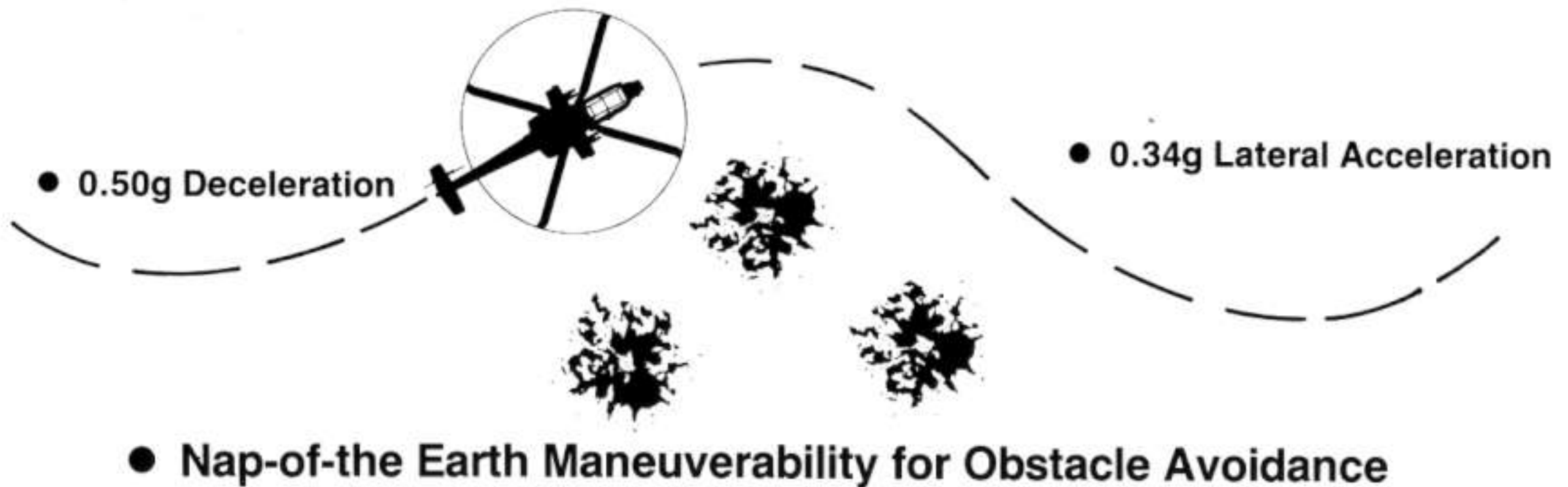
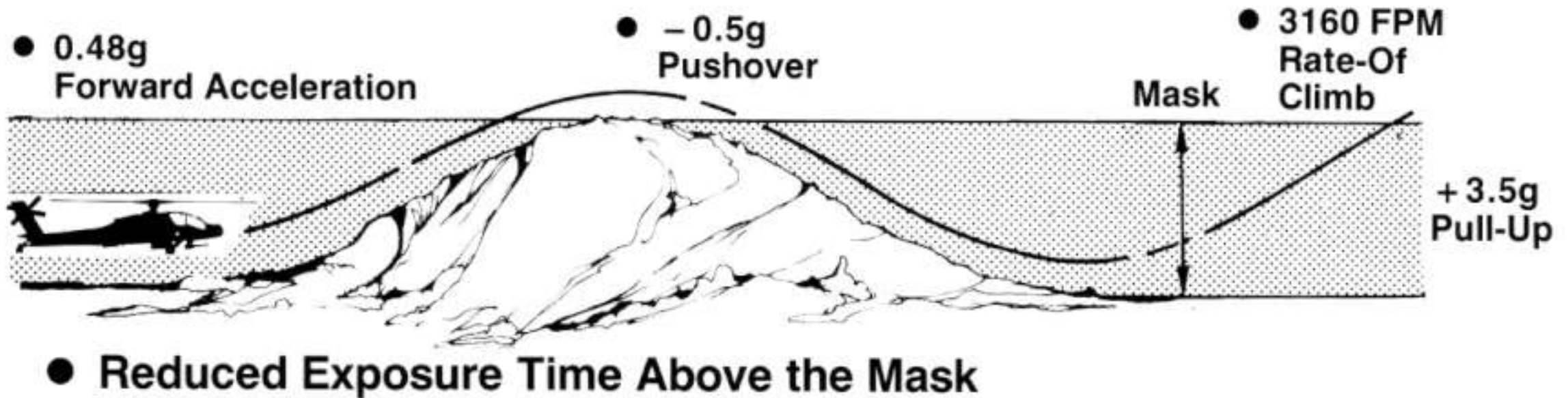


\*At Structural Gross Weight of 14,660 lbs



AH-64

# Agility-Maneuverability-Survivability



**AH-64**

# **Aircraft Survivability Equipment**

- **Radar Warning**
- **Radar Jammer**
- **Infrared Suppressor**
- **Infrared Jammer**
- **Chaff Dispenser**
- **Flare Dispenser**
- **Sidearm Anti-Radiation Missile**
- **Low Acoustic Signature**
- **Small Presented Area**

**AH-64**

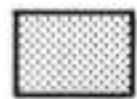
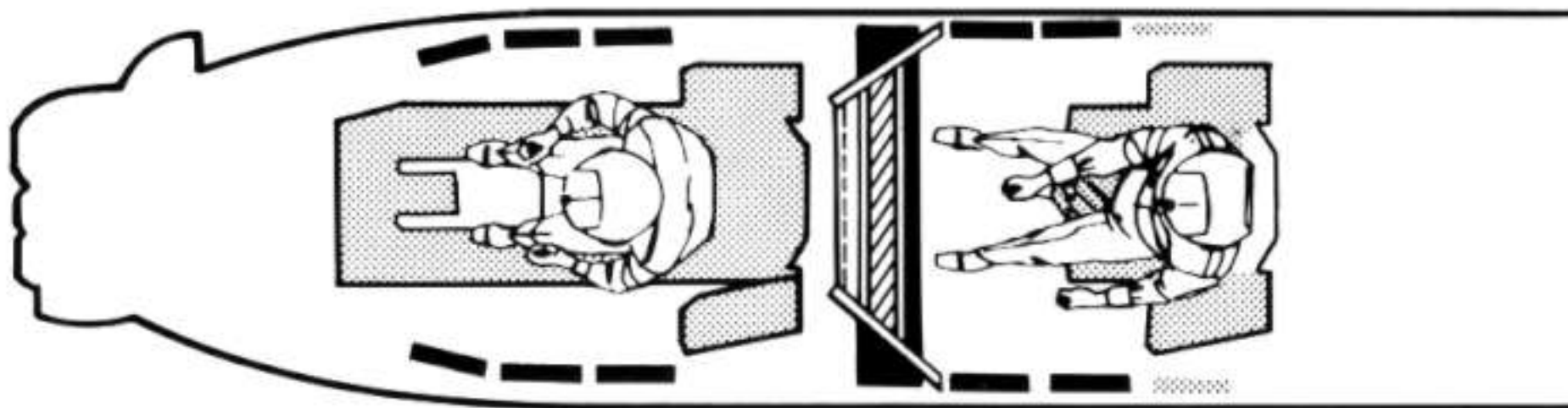
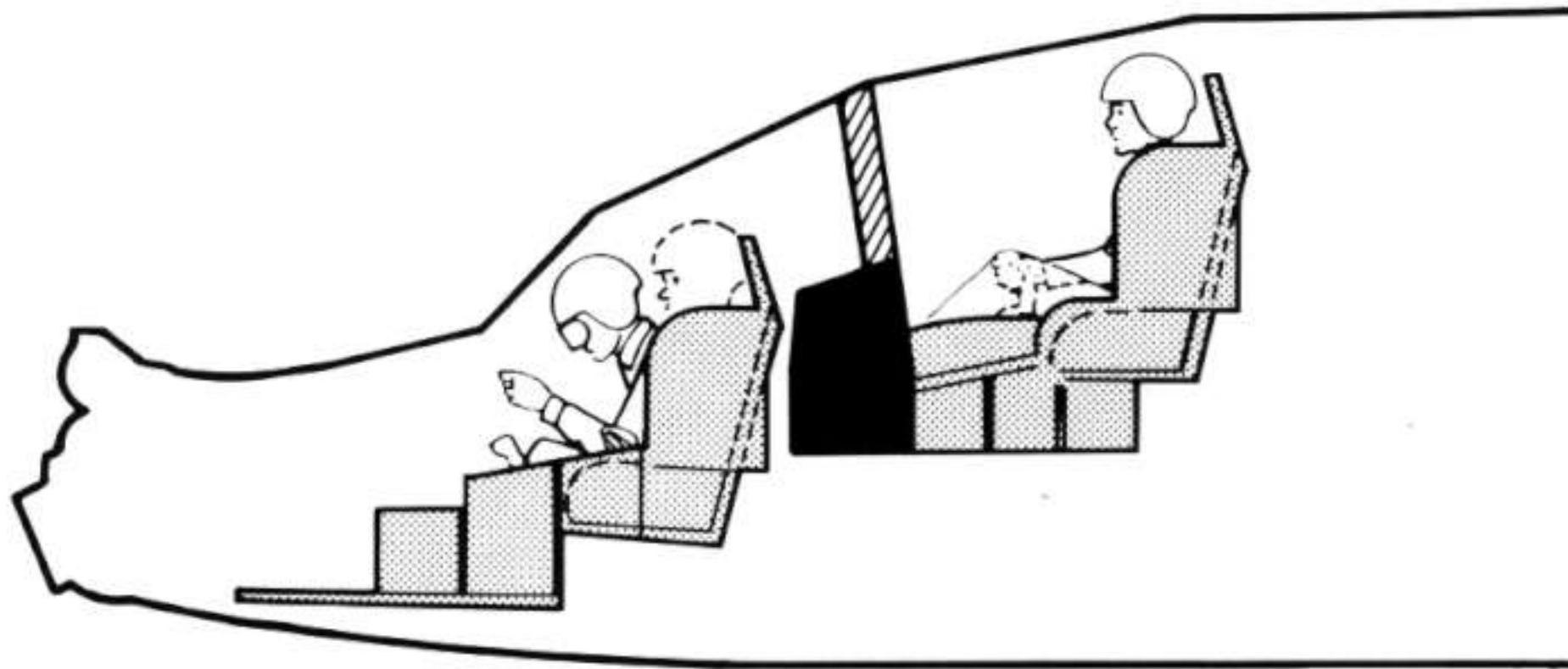
# **Battlefield Survivability**

- **12.7mm Ballistic Tolerant - 99.8% Invulnerable**
- **23mm HEI-T Ballistic Tolerant**
  - **Hover Flight**                      **89.5% Invulnerable**
  - **Forward Flight**                      **93.5% Invulnerable**
- **Accomplished by Armor, Shielding, and Redundancy**

**USA Ballistic Laboratory Study**

AH-64

# Crew Protection



**Crew Compartment Armor**



**Transparent Blast Shield**



**Blast/Fragment Shield**

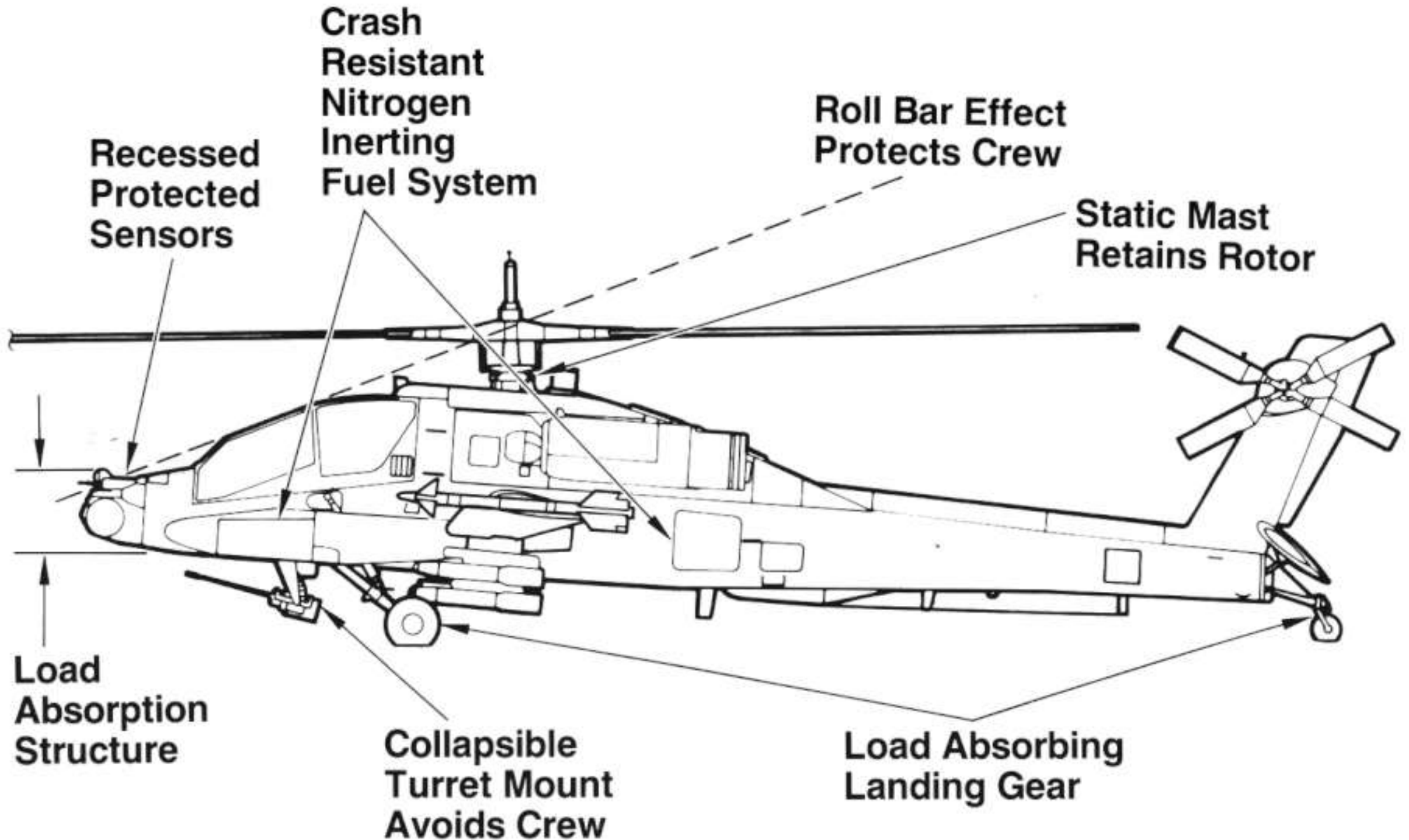
**AH-64**

# **Crashworthy**

- **Vertical Impact                      42 FPS**
- **Longitudinal Impact   20 FPS**
- **Lateral Impact                      30 FPS**
  - **Accomplished by Impact Absorbing Landing Gear, Crush Spaces and Impact-Absorbing Crew Seat**
- **Ballistic Tolerant Crashworthy Fuel Cells**
- **Nitrogen Inerting Fuel System**

AH-64

# Crashworthiness

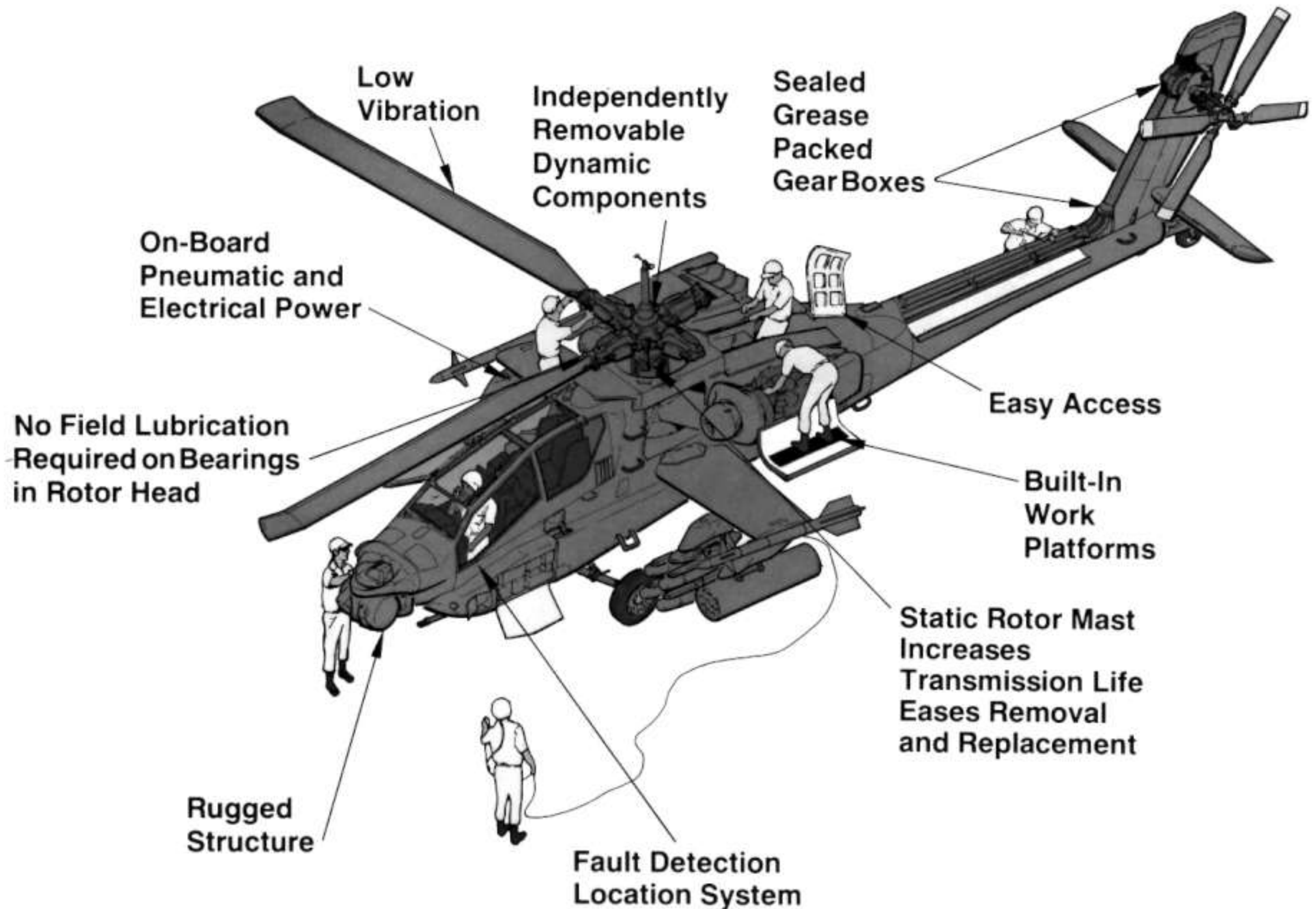


**AH-64**

# **Maintainability**

- **Fewer Parts**
- **Fewer Inspections**
- **Longer Component Life**
- **Greater Availability**
- **Fewer Maintenance Manhours Per Flight Hour**
- **Minimum Special Tool Requirements**
- **Easy Access to All Major Components**
- **Built-In Work Platforms**
- **Built-In Test Fault Detection Location System**

# Designed to be Maintained





AH-64

# Reliability, Availability, Maintainability

	U S Army Maturity Requirement	Operational Tests Results
Mission Reliability (MTBF)	19.50 hr	27.50 hr
Unscheduled Maintenance Reliability (MTBF)	2.80 hr	2.77 hr
MMH/FH	8.00 - 13.00 hr	5.65 hr
Availability	75 - 80%	80%

**U.S. Army Proven**

# Shipboard Capable



AH-64

# Deployability

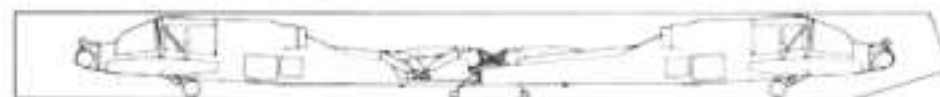
- Deployment to Combat
- Self Deployable - 800 NM Ferry Range into 20 Knot Head Wind

— C-5 . . . . . Six AH-64's



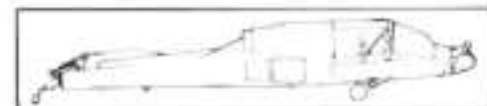
SIX AH-64's

— C-141 . . . . . Two AH-64's



TWO AH-64's

— C-130 . . . . . One AH-64



ONE AH-64

- Shipboard Capable 0.92 Shipboard Spotting Factor

AH-64  
**Grey Thunder**



**AH-64**

# **Marinization**

- **T700-GE-401 Engines**
- **Corrosion Preventive Measures**
- **Radhaz (Hero) Provisions**
- **Navigation System**
  - **Doppler/Inertial**
- **Automatic Blade Fold**
- **Floating Base Maintenance Requirements**
- **GSE Requirements**
- **Weapons Systems Capability**
  - **Service Specified Gun**
  - **TOW**
  - **Hellfire**
  - **2.75'' Rockets**
  - **5.00'' Rockets**
  - **Aim-9 Sidewinder**
  - **Stinger**
  - **Sidearm**
  - **Harpoon**
  - **Penguin**
  - **Search/Acquisition Radar**

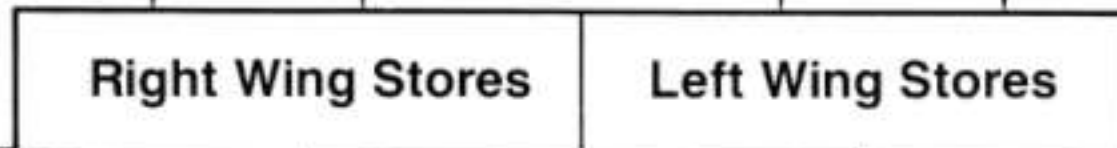
**AH-64**

# **Missions**

- **Anti-Ship**
- **Anti-Air**
- **Naval Gunfire Spotting**
- **Combat SAR Escort**

AH-64

# Anti-Surface Ship Warfare (ASSW)

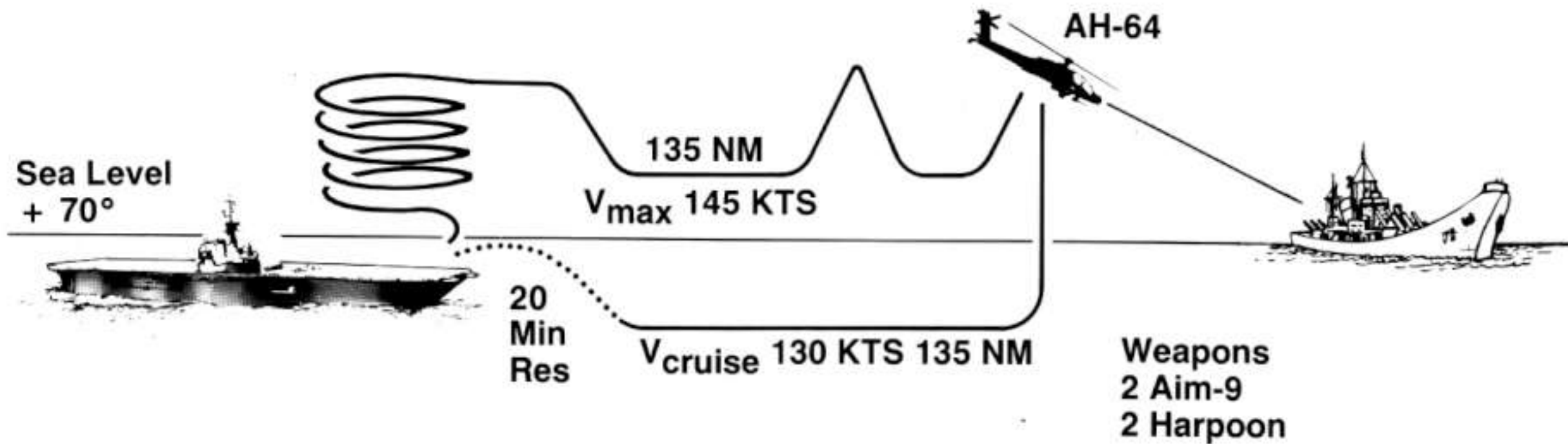


Wing Tip	Outboard	Inboard	Inboard	Outboard	Wing Tip	TOGW (lbs)	Radius (NM)
Aim-9	Harpoon	Harpoon	Harpoon	Harpoon	Aim-9	19982*	128
Aim-9	Harpoon	Fuel Tank	Fuel Tank	Harpoon	Aim-9	20667*	300
Aim-9		Harpoon	Harpoon		Aim-9	17332*	135

\*Includes Search/Acquisition Radar

# AH-64

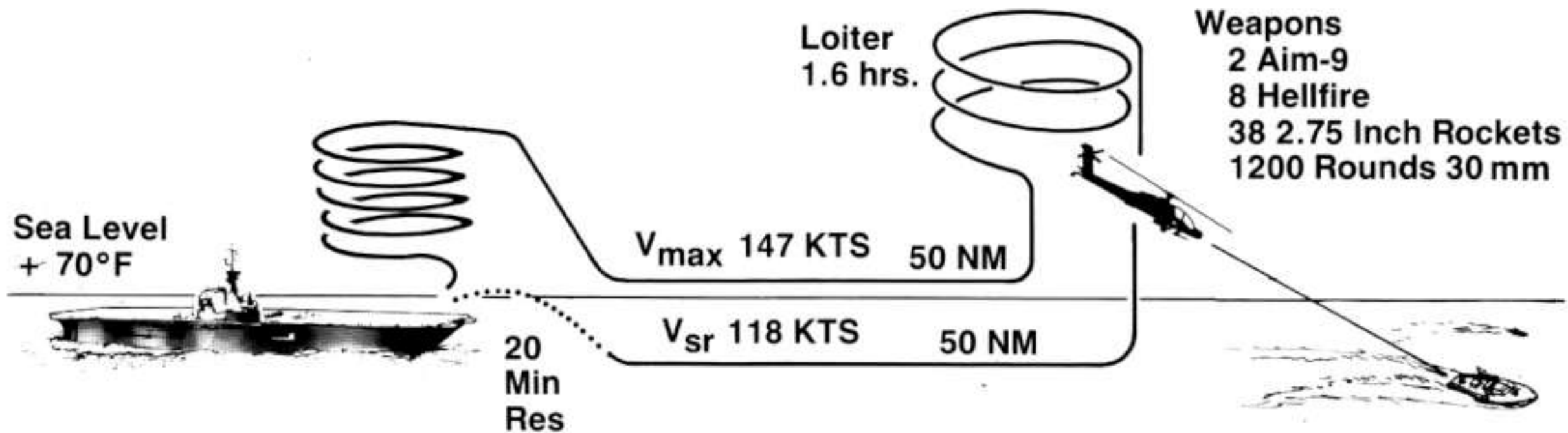
## Anti-Ship GW 17,332 Lbs





# AH-64

## Anti-Ship GW 18,209 Lbs

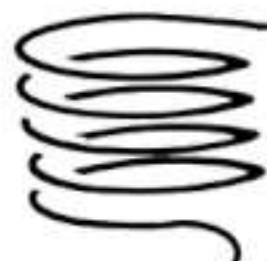


# AH-64

## Anti-Air Mission

### GW 17,331 Lbs

Sea Level and +70°F



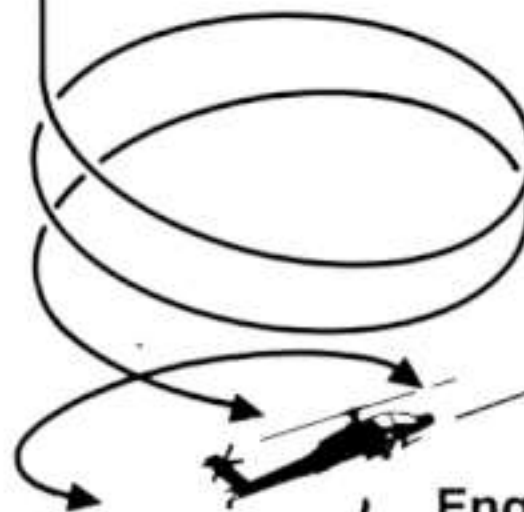
$V_{max}$  147KTS 50 NM

20 min Res

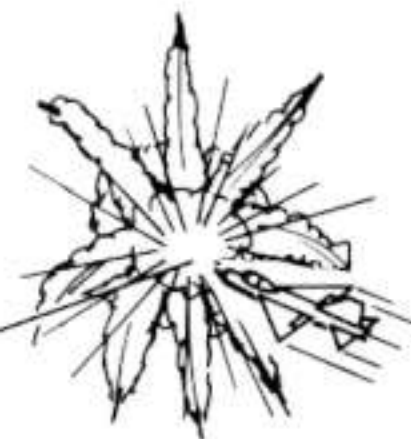
$V_{sr}$  115KTS 50 NM

Weapons  
6 Aim-9  
1200 Rounds 30mm

Loiter 1.5 hrs



Engage  
15 min  
IRP



# AH-64

# Benefits

- Fully Integrated Weapons System
  - Superior Performance
    - 24-Hour/Adverse Weather Capable
    - Survivable
      - Maintainable
      - Reliable
        - Responsive
        - Affordable

**In Production-Ready for Combat**

# Hughes Presents the Apache's No. 1 Team

The Hughes Apache Team is Comprised of the Most Talented Aerospace Companies Ever Concentrated on a Helicopter Program. The Hughes Team is No. 1 in Technology, Management and Production.



**MARTIN MARIETTA**

TADS/PNVS



Power Generation System & Drive Shafts



Main Transmission & Engine Nose Gearbox



ASE, Multiplex & Symbology Gen.

**Advanced Structures Division**

Rotor Blades

**Kearfott**

A Division of The SINGER Company

Doppler Navigator



Airframe Structure



Pressurized Air, ECU & APU

**RCA** Automated Systems

Automatic Test Equipment

**AIRCRAFT GEAR CORPORATION**

Intermediate & Tail Rotor Gearbox



Landing Gear



**Rockwell International**  
Missile Systems Div.  
Defense Electronics Operations  
HELLFIRE Missile & Equipment



Engines



Strapdown HARS



Hydraulic Actuators

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Helmet Sight & 30mm Ammunition



Fire Control Computer



**Hughes Helicopters, Inc.**

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