

H-1 GENERAL CAPABILITIES

BELL

No Technical Data
Approved for Export

AH-1Z & UH-1Y Key Characteristics

Commonality

- 4-bladed, twin-engine w/APU helicopter
- Integrated avionics architecture
- Day/night operations using third-gen Target Sight System with laser ranging and designation
- High survivability with sophisticated threat detection and protection, vulnerability reduction, and crashworthiness
- Anti-corrosion technology



AH-1Z Lethal Armament System

- 16 Hellfire Missiles
- 2 AIM-9 Air-Air Missiles
- Aerial Rockets
  (76 Ballistic Rockets or 28 APKWS)
- 650 20mm Rounds



AH-1Y Lethal Armament System

- GAU-21 (.50 Cal) Common Defense Weapon System
- GAU-17 (7.62mm) Mini-Gun
- M240 (7.62mm) Machine Gun
- 2.75” Aerial Rockets (APKWS or unguided)

No Technical Data
Approved for Export



H-1 DESIGN PHILOSOPHY
OEM/COMMONALITY

No Technical Data
Approved for Export

H-1 Common Systems

Fully Integrated Cockpit & Fire Control System

- Cyclic & Collective Grips
- Electronic Warfare Self Protection Suite
- Embedded GPS / INS with SAASM
- Flight control computer
- Identification Friend or Foe (IFF)
- Integrated Health Usage & Diagnostics (IMD HUMS)
- Integrated IR AND RF Survivability
- Mission computers
- Mission Grips
- Moving map unit
- Multifunction & dual-function displays
- Tactical Air Navigation (TACAN)
- Thales Optimized TopOwl (OTO) helmet system
- UHF, VHF COMM w/ SINCGARS & HAVEQUICK

Drive Systems

- Gearboxes
  - Main rotor gearbox
  - Combining gearbox
  - Intermediate gearbox
  - Tail rotor gearbox
- Drive Shafts
  - Shafts
  - Couplings
  - Bearings
- Blades
  - Composite main and tail rotor blades
- Composite Bearingless Main Rotor Hub
- Digital AFCS with 4-Axis Stabilization

Weapons Stores

- Auxiliary fuel tanks
- 2.75” ballistic rocket / APKWS
- Chaff / flares
- Para flares

Electrical Power

- 4 DC power source

Dual Hydraulics Systems

- Dual tandem hydraulic actuators

Ballistically Tolerant Design

- Self-sealing fuel system

Engine

- T700-401C engines
- IR suppression
- APU

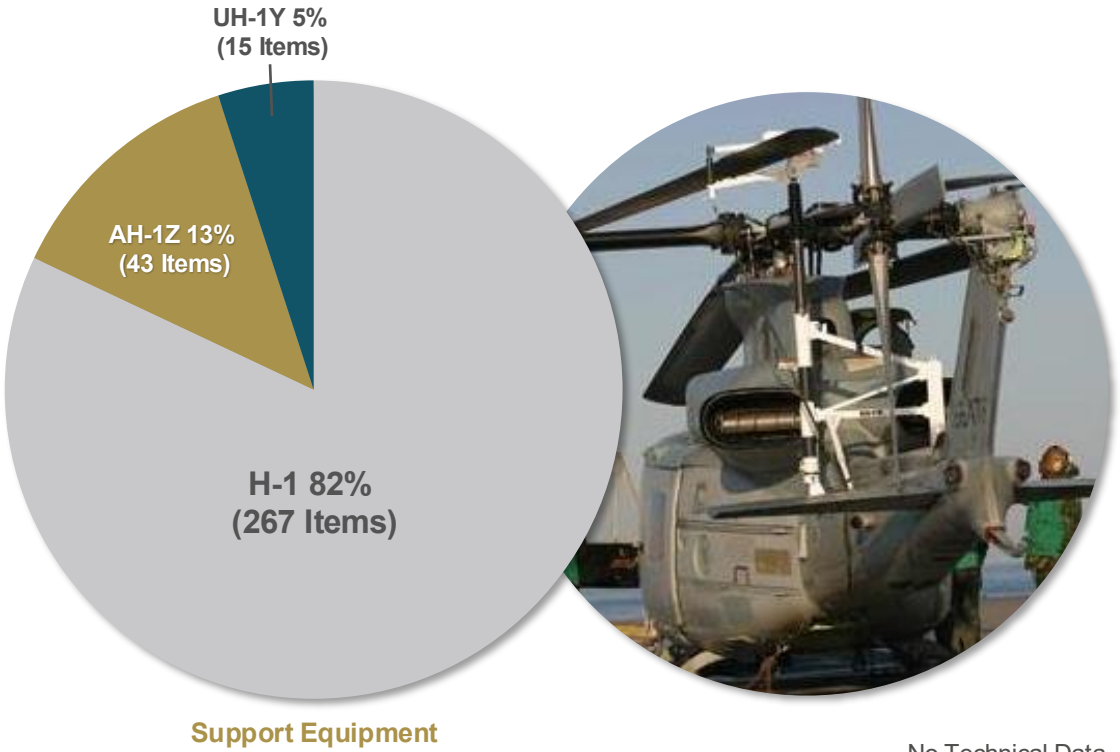
No Technical Data Approved for Export

Common Support Equipment

Significantly smaller logistics footprint when aircraft are operated together

- Quantity of each SE item is dependent on the number of aircraft requiring support

SE requirements can be tailored to meet operational concepts due to commonality



No Technical Data
Approved for Export

Multi-Functional & Cross Trained Personnel

Aircraft Skills

Trained pilots can fly either aircraft

Personnel can work on AH-1Z & UH-1Y
- Helicopter Mechanic
- Helicopter Airframe Mechanic
- Aircraft Nondestructive Inspection Technician
- Aircraft Communications / Navigation / Electrical
- Weapons System Technician
- Aviation Ordnance Technician
- Flight Equipment Technician

Training common for both platforms

Reduces training time and cost
- Eliminates multiple training curriculum
- Simplifies planning and scheduling

Maintainers are cross-trained for both platforms
- Versatility in personnel assignments



No Technical Data
Approved for Export

H-1 AMTA: Advanced Maintenance Training Academy

3D Interactive Models



Degrader Focused



O-Level & I-Level





No Technical Data
Approved for Export

ITAR

H-1 Survivability Commonality

Survivability in mind, aircraft enhancements include:

- Ballistically tolerant composite rotor hubs and blades
- Large-diameter control tubes
- On-board Inert Gas Generating System
- Engine infrared (IR) suppressors
- Electromagnetic environmental hardening

Aircraft outfitted with a combat-tested suite of threat detection and countermeasure equipment:

- AN/APR-39 Radar warning System
- AN/AAR-47 Missile/Laser Warning System
  - Missile launch, laser detection, hostile-fire
  - Hostile fire indicator
- AN/ALE-47 Countermeasure Dispensing System
  - Auto / manual chaff and flare dispensing





No Technical Data
Approved for Export

Common and Unique H-1 Missions

Common AH-1Z and UH-1Y Missions:

- Strike Coordination and Reconnaissance
- Armed Reconnaissance
- Close Air Support
- Aerial Reconnaissance
- Forward Air Control (Airborne)
- Tactical Recovery of Aircraft and Personnel (TRAP)
- Armed Aerial Escort
- Amphibious Mobility

AH-1Z Unique Missions

- Offensive Anti-Air Warfare
- Fleet Defense
- Air Interdiction
- Anti-Armor

UH-1Y Unique Missions

- Combat Assault Transport
- Air Delivery
- Airborne Command and Control
- Helicopter Rapid Insert and Extract
- Tactical Air Control (Airborne)





No Technical Data
Approved for Export

H-1 Counter Drone



Czech UH-1Y Venom helicopters have deployed to Poland recently to take over counter-drone patrols, strengthening NATO's frontline response to persistent low-altitude airspace threats near its eastern border (Picture Source: Czech MoD)

No Technical Data
Approved for Export



QUESTIONS

No Technical Data
Approved for Export