

Appendix G

Special Equipment Packages

GENERAL

G-1. The evolution of technology shifted with the introduction of the AH-64A/D, CH-47D, OH-58D, and UH-60A/L aircraft. With these MDS aircraft comes a fundamental change in the way missions are planned and managed. Among items used for day-to-day operations are composites; digital flight control computers; super high-speed data bus and avionics interface units; aircraft survivability equipment systems; and wide field-of-view, helmet-mounted display systems. Their broad-based application has eliminated many technical barriers to flexible and distributed arrangements. Today's aircraft are capable of carrying several different special equipment packages.

UH-60 EXTERNAL STORES SUPPORT SYSTEM

G-2. The external stores support system for the UH-60 consists of airframe-fixed provisions, which are incorporated into the airframe, and a removable external stores support system. The ESSS consists of a HSS, two support struts, and two VSP on each side of the aircraft. The ESSS contains provisions for a stores jettison control panel and an AFMP for operating the external ERFS.

UH-60 EXTERNAL EXTENDED RANGE FUEL SYSTEM

G-3. The external ERFS for the UH-60 consists of removable fuel lines, bleed air lines, valves, electrical connectors, and either two or four 230-gallon or 450-gallon jettisonable fuel tanks. It is supported by the external stores support system. Fuel from these external tanks may be transferred to the main fuel tanks but cannot fuel the engines directly. Refueling is by gravity refueling only.

230-GALLON FUEL TANK

G-4. This system is an externally mounted, pressure-fed fuel tank. The tank, which weighs approximately 135 pounds, has a fuel capacity of between 230 and 235 gallons. Provisions are for open-port refueling only. The fuel tank is compatible with, and capable of being jettisoned from, the BRU-22 ejector rack. While being ballistically tolerant of projectiles up to at least a 14.5mm API, the tanks are not self-sealing.

450-GALLON FUEL TANK

G-5. These tanks are larger versions of the 230-gallon tanks. Flight with 450-gallon ERFS tanks is prohibited unless operating under an Airworthiness Release from AMCOM.

BALLISTIC ARMAMENT SUBSYSTEM

G-6. A ballistic blanket made out of Kevlar is available for the UH-60. This blanket may be installed on the floor of the cabin and provides protection to 7.62mm.

M139 MINE DISPENSER (VOLCANO)

G-7. The Volcano is a rapid deployment system for launching a mixture of antitank and antipersonnel mines (up to 960 mines) from 5-ton wheeled tactical vehicles and UH-60 helicopters. The system consists of the M139 dispenser (LIN D30897), mounting hardware kit (one air system kit: LIN M78551, or one ground system: LIN M17999, for use on ground and air), canister mine XM87 (expendable module containing gator-type, five each AT and one each AP, mines) and/XM88 (expels dummy mines). More information on the installation, operation, and maintenance of the Volcano can be found in TM 1-1520-237-10, TM 9-1095-208-10-1, TM 9-1095-208-23-1&P, and TM 9-1095-208-23-2&P.

HELLFIRE WEAPON SYSTEM

G-8. The Hellfire modular missile system is a helicopter-launched missile equipped with a terminal homing seeker. A shaped-charged warhead, launcher support equipment, and test equipment, tactical shipping and storage containers, and training equipment are also included. The missile configuration has growth capability for additional modular-seeker heads (RF/IR and IR). Information on maintenance of the Hellfire system can be found in TM 9-1427-475-20.

AIRBORNE TARGET HANDOVER SYSTEM

G-9. The processor-interface unit is commonly known as the ATHS. It provides the aerial scout and advanced attack helicopters with the capability to process messages necessary for indirect Hellfire missions, general target handover missions, and airborne attack C².

AIR-TO-AIR STINGER

G-10. The ATAS is a weapon system developed initially for selected Army OH-58C (round glass) and all OH-58D helicopters. However, it is adaptable to other launch platforms. Depending on the aircraft, the configuration of the ATAS weapon system differs only in the physical size and shape of the control panel, the pilot's cyclic handgrip switches, and the MSS installation hardware. The ATAS system supports Stinger missile rounds, and it controls and affects their launching in response to command from the helicopter fire control system.

G-11. The launcher includes the launcher structure, launcher electronics, launcher adapter, coolant bottle, and coolant system. In addition, the ATAS weapon system includes an MSS and complete aircraft provisions. More information about the ATAS can be found in TM 9-1440-431-23 and TM 11-1520-228-20-1.

CH-47 HELICOPTER INTERNAL CARGO-HANDLING SYSTEM

G-12. The CH-47 HICHS consists of the following components:

- Ramp extension, which allows cargo to be loaded by cargo-handling equipment.
- Ramp rollers.
- Cabin floor roller.

G-13. Cargo is restrained with tie-down straps or, in the case of 463L pallets, locks, or rails. The HICHS will allow rapid loading and unloading and restraint of standard NATO

(94 inch x 48 inch) cargo, U.S. Air Force 463L pallets, and break-bulk cargo, thus enhancing aircraft cargo mission performance.

CH-47 EXTENDED RANGE FUEL SYSTEM

G-14. The CH-47 ERFS is a modular, interconnectable system consisting of up to four 600-gallon fuel cells with self-contained filtering mechanisms, electrical pumping mechanisms, emergency feed system, and defueling capability. It can be refueled by gravity (splash fill) refueling, D-1 pressure refueling, and single-point closed-circuit refueling. The ERFS is a kit for installation in the CH-47 as mission requirements dictate. More information can be found on the CH-47 EFRS in TM 55-1560-307-13&P.

FLOTATION KIT FOR ARMY HELICOPTER AIRCREW MEMBER/PASSENGER

G-15. This flotation kit consists of an inflatable rubberized individual raft, a CO₂ bottle for inflation, and a flotation-kit carrying case that the user wears. The flotation kit is issued only as a mission-essential item to any aircrew member/passenger required to fly over water in rotary-wing aircraft. The kit is used according to AR 95-1.

HELICOPTER OXYGEN SYSTEM

G-16. The HOS is a lightweight integral oxygen system designed for quick installation and removal. The system consists of an oxygen mask, an oxygen tank, a dilute-demand regulator, quantity gauge hoses, and a simple unit shutoff pressure-reducing valve. The HOS will be installed on the CH-47, EH-60, OH-58, UH-1, and UH-60 helicopters flying high altitudes, search and rescue missions, and military intelligence gathering missions.

M130 GENERAL DISPENSER

G-17. The M130 general dispenser consists of a single system (dispenser assembly, payload module assembly, electronics module and dispenser control panel). It is designed to dispense either M206 decoy flares or M-1 chaff from U.S. Army helicopters and fixed-wing aircraft. The system provides effective survival countermeasures against radar-guided weapon systems and infrared-seeking missile threats. The M130 dispenser system has the capability of dispensing flares (30 each) or chaff (30 each). More information on the maintenance of the M130 can be found in TM 9-1095-206-12&P and TM 9-1095-206-30&P.

GLOBAL POSITIONING SYSTEM

G-18. The GPS is a precision, satellite-based navigation system. This system provides UTM accuracy to 10 meters, latitudinal/longitudinal compatibility, and standard time reference. Current hand-held equipment can be modified to any MDS. Future systems will integrate this type of navigation technology.

INLET PARTICLE SEPARATION/ENGINE AIR PARTICLE SEPARATION

G-19. IPS/EAPS are available for all MDS for operation in desert environments.