

UH-1H/V Helicopters
TM 55-1520-210-CL
13 February 1997

This manual supersedes TM 55-1520-210-CL,
 27 December 1990, including all changes.

HELICOPTER AND SYSTEMS

1. Covers, locking devices, tiedowns, and cables - Remove except main rotor tiedown.
2. Publication - Check.
3. AC circuit breakers - In.
4. BAT switch - ON; Check voltage.
5. Lights - On; check, then off.
6. Fuel - Check quantity.
7. Fuel sample - Check as required.
08. Cargo book - Check as required.
9. BAT switch - OFF.
10. Flight Controls - Check.

EXTERIOR CHECK

1. Main rotor blade - Check.
2. Fuselage (Area 1) - Check.
3. Fuselage (Area 2) - Check.
04. Armament systems - Check.
5. Engine compartment - Check.
6. Tail boom - Check.
7. Tail rotor - Check.
8. Main rotor blade - Check.
9. Tail rotor gearboxes - Check.
10. Tail boom - Check.
11. Engine exhaust/smoke generator - Check.
12. Oil cooling fan and heat compartments - Check.
13. Engine compartment - Check.
14. Hydraulic fluid sight gage - Check.
15. Fuselage - Check.
16. Main rotor system - Check.
17. Transmission area - Check.

INTERIOR CHECK - CABIN

1. Transmission Oil level - Check.
2. Cabin area - Check.
3. Crew and passenger briefing - Complete.

BEFORE STARTING ENGINE

1. Overhead switches and circuit breakers - Set.
2. GPU - Connect for GPU start.
03. Smoke gage - Check.
4. FIRE warning indicator light - Test.
5. Press to test caution/warning lights.
6. System instruments - Check.
7. Center pedestal switches - Set.
8. Flight controls - Check.
9. Altimeters - Set.

STARTING ENGINE

1. Fireguard - Posted if available.
2. Rotor blades - Check clear and untied.
3. Ignition key lock switch - On.
4. Throttle - Set for start.
5. Engine - Start.
6. INVTR switch - MAIN ON.

7. Engine and transmission oil pressure - Check.
8. GPU - Disconnect.

ENGINE RUNUP

1. Avionics - On.
2. STARTER GEN switch - STBY GEN.
3. Systems - Check.
4. RPM - 6600.
5. Deleted.
6. Avionics and flight instruments - Check and Set.
7. HIT check - Perform.

HOVER/TAXI CHECK

1. Engine and transmission instruments - Check.
2. Flight instruments - Check.
3. Power - Check as required.

BEFORE TAKEOFF

1. RPM - 6600.
2. Systems - Check.
3. Avionics - As required.
4. Crew, passengers, and mission equipment - Check.

BEFORE LANDING

1. RPM - 6600.
2. Crew, passengers, and mission equipment - Check.

ENGINE SHUTDOWN

1. Throttle - Idle two minutes.
2. FORCE TRIM switch - ON.
 NOTE: Steps 3 through 7 are for the last flight of the day if not used.
3. PITOT HTR - Check.
4. INVTR switch - OFF, then SPARE.
5. AC voltmeter - Check.
6. MAIN GEN switch - OFF; check DC volts.
7. MAIN GEN switch - ON.
8. STARTER GEN switch - START.
9. Throttle - OFF.
10. Center pedestal switches - OFF.
11. Overhead switches - OFF.
12. Ignition key lock switch - As required.

BEFORE LEAVING THE HELICOPTER

1. Walk-around - Complete.
2. Mission equipment - Secure.
3. Complete DA Forms 2408-12 and 2408-13.
4. Secure helicopter.

THROUGH-FLIGHT CHECKLIST

BEFORE EXTERIOR CHECKS

1. Covers, locking devices, tiedowns, and cables - Removed.
2. Fuel - Check quantity.

EXTERIOR CHECK

1. Main rotor blade - Check.
2. Armament systems - Check.
3. Tail rotor - Check.
4. Main rotor blade - Check.
5. Tail rotor gearboxes - Check.

6. Engine compartment - Check.
7. Hydraulic fluid sight gage - Check.
8. Armament system - Check.
9. Main rotor system - Check.

INTERIOR CHECK - CABIN

1. Transmission oil level - Check.
2. Cabin area - Check.
3. Crew and passenger briefing - Complete.

BEFORE STARTING ENGINE

1. EXT LTS switches - Set.
2. BAT switch - ON.
3. GPU - Connect for GPU start.
4. FUEL switches - Set.

STARTING ENGINE

1. Fire guard - Posted if available.
2. Rotor blades - Check clear and untied.
3. Ignition key lock switch - On.
4. Throttle - Set for start.
5. Engine - Start.
6. INVTR switch - MAIN ON.
7. Engine and transmission oil pressures - Check.
8. GPU - Disconnect.

ENGINE RUNUP

1. Avionics - ON.
2. STARTER GEN switch - STBY GEN.
3. Systems - Check.
4. RPM - 6600.
5. Deleted.
6. Avionics and flight instruments - Check and set.

HOVER/TAXI/CHECK

1. Engine and transmission instruments - Check.
2. Power - Check as required.

BEFORE TAKEOFF

1. RPM - 6600.
2. Systems - Check.
3. Avionics - AS required.
4. Crew, passengers and mission equipment - Check.

By Order of the Secretary of the Army:

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EMERGENCY PROCEDURES

ENGINE MALFUNCTION - HOVER

Autorotate.

ENGINE MALFUNCTION - LOW ALTITUDE/LOW AIRSPEED OR CRUISE

1. Autorotate.
2. EMER GOV OPNS.

ENGINE RESTART - DURING FLIGHT

1. Throttle - Off.
2. STARTER GEN switch - START.
3. FUEL switches - ON.
4. GOV switch - EMER.
5. Attempt start.
6. Land as soon as possible.

DROOP COMPENSATOR FAILURE

EMER GOV OPNS.

ENGINE COMPRESSOR STALL

1. Collective - Reduce.
2. DE-ICE and BLEED AIR switches - OFF.
3. Land as soon as possible.

ENGINE OVERSPEED

1. Collective - Increase.
2. Throttle - Reduce.
3. EMER FOV OPNS.

TRANSMISSION AND DRIVE SYSTEM MALFUNCTIONS

TRANSMISSION OIL - HOT OR LOW PRESSURE

1. Land as soon as possible.
2. EMER SHUTDOWN after landing.

COMPLETE LOSS OF TAIL ROTOR THRUST

1. In-flight - Autorotate.
2. Hover - Autorotate.

MAIN DRIVESHAFT FAILURE

1. Autorotate.
2. EMER SHUTDOWN.

CLUTCH FAILS TO DISENGAGE

1. Throttle - ON.
2. Land as soon as possible.

CLUTCH FAILS TO RE-ENGAGE

1. Autorotate.
2. EMER SHUTDOWN.

COLLECTIVE BOUNCE

1. Relax pressure.
2. Make a significant collective application.
3. Increase collective friction.

FIRE

FIRE ENGINE START

1. Start switch - Press.
2. Throttle - Off.
3. FUEL switches - OFF.

FIRE GROUND

EMER SHUTDOWN

FIRE FLIGHT

- a. Power- On.
 1. Land as soon as possible.
 2. EMER SHUTDOWN after landing.
- b. Power - Off.
 1. Autorotate.
 2. EMER SHUTDOWN.

ELECTRICAL FIRE - FLIGHT

1. BAT. STBY. MAIN GEN switches - Off.
2. Land as soon as possible.
If landing cannot be made:
3. Circuit breakers - Out.
As each of the following steps are accomplished, check for source of fire.
4. MAIN GEN switch - ON.
5. STARTER GEN switch - STBY GEN.
6. BAT switch - ON.
7. Circuit breakers - In one at a time in priority required. GEN & BUS REST first. When malfunctioning circuit is identified, pull applicable circuit breaker.

OVERHEAD BATTERY

1. BAT switch - OFF.
2. Land as soon as possible.
3. EMER SHUTDOWN after landing.

SMOKE AND FUME ELIMINATION - COCKPIT AND CABIN

Doors, Windows, and Vents - Open.

HYDRAULIC

HYDRAULIC POWER FAILURE

1. Airspeed - Adjust.
2. HYD CONT circuit breaker - Out.
If hydraulic power is not restored.
3. HYD CONT circuit breaker - In.
4. HYD CONT switch - OFF.
5. Land as soon as possible

CONTROL STIFFNESS

1. HYD CONT switch - OFF then ON.
If control response is not restored:
2. HYD CONT switch - OFF.
3. Land as soon as practicable.

FLIGHT CONTROL SERVO HARDOVER

1. HYD CONT switch - select opposite position.
2. Land as soon as possible.

FLIGHT CONTROL/MAIN ROTOR SYSTEM MALFUNCTIONS

1. Land as soon as possible.
2. EMER SHUTDOWN after landing.

MAST BUMPING

1. Reduce severity of maneuver.
2. Land as soon as possible.

FUEL SYSTEM

FUEL BOOST PUMP FAILURE

If both FUEL BOOST caution lights illuminate:

1. Check fuel pressure.
If fuel pressure is zero:
2. PA - 4600 ft or less.
3. Land as soon as practicable.

ELECTRICAL SYSTEM

MAIN GENERATOR MALFUNCTION

1. GEN & BUS RESET circuit breaker - In.
2. MAIN GEN switch - RESET then ON.
If main generator is not restored or if it goes off again:
3. MAIN GEN switch - OFF.

DITCHING

DITCHING - POWER ON

1. Cockpit door - Jettison at a hover.
2. Cabin doors - Open.
3. Crew (except pilot) and passengers - Exit.
4. Hover a safe distance away from personnel.
5. Throttle - Off and autorotate.
6. Pilot - Exit when main rotor has stopped.

DITCHING - POWER OFF

1. Cockpit Doors - Jettison prior to entering water.
2. Cabin Doors - Open prior to entering water.
3. Exit when main rotor has stopped.

TABLE - CAUTION LIGHTS

| <u>LIGHT</u> | <u>CORRECTIVE ACTION</u> |
|------------------|--|
| MASTER CAUTION | Check the CAUTION panel for the condition. If master caution only (no segment light): <u>Land as soon as possible.</u> |
| AUX FUEL Low | INT AUX FUEL switches - OFF. |
| DC GENERATOR | See emergency procedure. |
| INST INVERTER | Switch to other inverter. |
| EXTERNAL POWER | Close door. |
| XMSN OR PRESS | <u>Land as soon as possible.</u> |
| XMSN OR HOT | <u>Land as soon as possible.</u> |
| ENGINE INLET AIR | <u>Land as soon as possible.</u> |
| CHIP DETECTOR | <u>Land as soon as possible.</u> |
| FUEL BOOST | Land as soon as practicable. |
| 20-MIN FUEL | Land as soon as practicable. |
| IFF | Information/system status. |
| ENG OIL PRESS | <u>Land as soon as possible.</u> |
| ENG CHIP DET | <u>Land as soon as possible.</u> |
| GOV EMER | Information/system status. |
| ENG ICE DET | <u>Land as soon as possible.</u> |
| ENG FUEL PUMP | <u>Land as soon as possible.</u> |
| ENG ICING | <u>Land as soon as possible.</u> |
| FUEL FILER | Land as soon as practicable. |
| HYD PRESSURE | Land as soon as practicable. |
| SPARE | |