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 rotar 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 united.
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:

DENNIS J. REIMER
General, United States Army
Chief of Staff

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Administrative Assistant to the
Secretary of the Army
03304

To be distributed in accordance with DA Form 12-31-E, block no. 0668, requirements for TM 55-1520-210-CL

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 MALFUNCITONS

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. Autoratote.
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 GENERA-OR 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 doom - 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

LIGHT	CORRECTIVE ACTION
MASTER CAUTION	Check the CAUTION panel for the condition. If master caution only (no segment light): Land as soon as possible.
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	Land as soon as possible.
XMSN OR HOT	Land as soon as possible.
ENGINE INLET AIR	Land as soon as possible.
CHIP DETECTOR	Land as soon as possible.
FUEL BOOST	Land as soon as practicable.
20-MIN FUEL	Land as soon as practicable.
IFF	Information/system status.
ENG OIL PRESS	Land as soon as possible.
ENG CHIP DET	Land as soon as possible.
GOV EMER	Information/system status.
ENG ICE DET	Land as soon as possible.
ENG FUEL PUMP	Land as soon as possible.
ENG ICING	Land as soon as possible.
FUEL FILER	Land as soon as practicable.
HYD PRESSURE	Land as soon as practicable.
SPARE	

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THE METRIC SYSTEM AND EQUIVALENTS

'NEAR MEASURE

. Centimeter = 10 Millimeters = 0.01 Meters = 0.3937 Inches
1 Meter = 100 Centimeters = 1000 Millimeters = 39.37 Inches
1 Kilometer = 1000 Meters = 0.621 Miles

'VEIGHTS

Gram = 0.001 Kilograms = 1000 Milligrams = 0.035 Ounces
1 Kilogram = 1000 Grams = 2.2 lb.
1 Metric Ton = 1000 Kilograms = 1 Megagram = 1.1 Short Tons

LIQUID MEASURE

1 Milliliter = 0.001 Liters = 0.0338 Fluid Ounces
1 Liter = 1000 Milliliters = 33.82 Fluid Ounces

SQUARE MEASURE

1 Sq. Centimeter = 100 Sq. Millimeters = 0.155 Sq. Inches
1 Sq. Meter = 10,000 Sq. Centimeters = 10.76 Sq. Feet
1 Sq. Kilometer = 1,000,000 Sq. Meters = 0.386 Sq. Miles

CUBIC MEASURE

1 Cu. Centimeter = 1000 Cu. Millimeters = 0.06 Cu. Inches
1 Cu. Meter = 1,000,000 Cu. Centimeters = 35.31 Cu. Feet

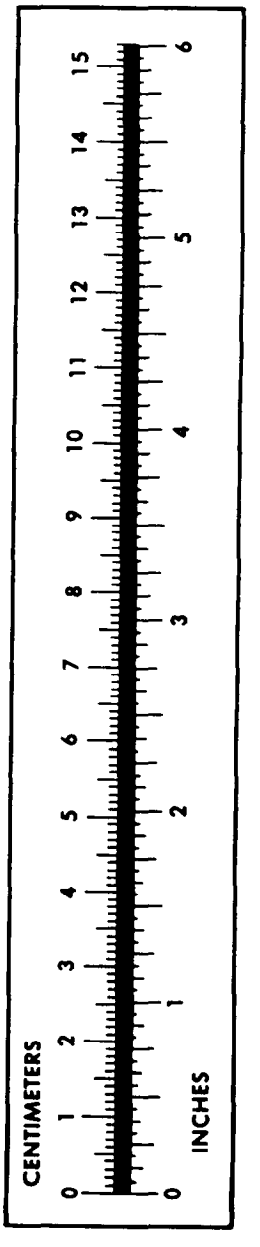
TEMPERATURE

5/9(°F - 32) = °C
212° Fahrenheit is evuivalent to 100° Celsius
90° Fahrenheit is equivalent to 32.2° Celsius
32° Fahrenheit is equivalent to 0° Celsius
9/5C° + 32 =°F

APPROXIMATE CONVERSION FACTORS

TO CHANGE	TO	MULTIPLY BY
Inches	Centimeters	2.540
Feet	Meters	0.305
Yards	Meters	0.914
Miles	Kilometers	1.609
Square Inches	Square Centimeters	6.451
Square Feet	Square Meters	0.093
Square Yards	Square Meters	0.836
Square Miles	Square Kilometers	2.590
Acres	Square Hectometers	0.405
Cubic Feet	Cubic Meters	0.028
Cubic Yards	Cubic Meters	0.765
Fluid Ounces	Milliliters	29.573
ıts	Liters	0.473
arts	Liters	0.946
allons	Liters	3.785
Ounces	Grams	28.349
Pounds	Kilograms	0.454
Short Tons	Metric Tons	0.907
Pound-Feet	Newton-Meters	1.356
Pounds per Square Inch	Kilopascals	6.895
Miles per Gallon	Kilometers per Liter	0.425
Miles per Hour	Kilometers per Hour	1.609

TO CHANGE	TO	MULTIPLY BY
Centimeters	Inches	0.394
Meters	Feet	3.280
Meters	Yards	1.094
Kilometers	Miles	0.621
Square Centimeters	Square Inches	0.155
Square Meters	Square Feet	10.764
Square Meters	Square Yards	1.196
Square Kilometers	Square Miles	0.386
Square Hectometers	Acres	2.471
Cubic Meters	Cubic Feet	35.315
Cubic Meters	Cubic Yards	1.308
Milliliters	Fluid Ounces	0.034
Liters	Pints	2.113
Liters	Quarts	1.057
ers	Gallons	0.264
ms	Ounces	0.035
ograms	Pounds	2.205
Metric Tons	Short Tons	1.102
Newton-Meters	Pounds-Feet	0.738
Kilopascals	Pounds per Square Inch	0.145
lometers per Liter	Miles per Gallon	2.354
meters per Hour	Miles per Hour	0.621



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