

TM 55-1520-220-CL

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

Operator's and Crewmember's Checklist

**ARMY MODEL
UH-1C/M
HELICOPTER**

Pilot's Checklist

HEADQUARTERS, DEPARTMENT OF THE ARMY

OCTOBER 1969

***TM 55-1520-220-CL**

**HEADQUARTERS
DEPARTMENT OF THE ARMY**
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TM 55-1520-220-CL is published for the use of all concerned.

By Order of the Secretary of the Army:

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DISTRIBUTION:

To be distributed in accordance with DA Form 12-31
(qty rqr block no. 33) requirements for Operator and Crew
Maintenance Instructions for UH-1C aircraft.

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GENERAL INFORMATION AND SCOPE

SCOPE. This checklist contains the operator's and crewmember's checks to be accomplished during normal and emergency operations. Performance data pertinent to normal operation of the aircraft is provided in the performance data section of this checklist.

GENERAL INFORMATION. The checklist consists of three parts: normal procedures, emergency procedures, and performance data. Normal procedures consist of the procedures required for normal flight. Emergency procedures are subdivided into 10 classifications as follows: engine, tail rotor, fire, fuel, electrical (Elec), hydraulic (Hyd), landing and ditching (Ldg/Dtch), flight controls (Flt Cont), bailout and armament (Armt), as applicable. The performance data consists of the take-off and landing data card.

Note

This checklist does not replace the amplified version of the procedures in the operator's manual (TM 55-1520-220-10), but is a condensed version of each procedure.

Normal Procedures Pages. The contents of the normal procedures of this manual are a condensation of the amplified checklist appearing in the normal procedures or crew duties portion of the applicable operator's manual.

Emergency Procedures Pages. The requirements in this section of the condensed checklist manual (CL) are identical to those for the normal procedures, except that the information is drawn from the amplified checks in the emergency procedures portion of the operator's manual. The emergency requirements are subdivided into the 10 classifications listed above.

Performance Data Pages. A takeoff and landing data card is provided. The card covers the four phases listed below as well as all those items which are applicable and change during takeoff and landing.

Takeoff Data

Landing Immediately After Takeoff

Landing Data

Conditions

Symbols Preceding Numbered Steps:

* — Indicates performance of steps is mandatory for all Thru-Flights.

(N) — Means performance of step is mandatory for Night-Flights.

★ — Indicates a detailed procedure for this step is included in the Performance Checks section, located at the back of the checklist.

(I) — Indicates mandatory check for Instrument Flights.

(O) — Indicates if installed.

Reporting of Improvements. Report of errors, omissions, and recommendations for improving this publication by the individual user is encouraged. Reports should be submitted on DA Form 2028, (Recommended Changes to DA Publications) and forwarded direct to Commanding General, U.S. Army Aviation Systems Command, ATTN: AMSAV-R-M, P.O. Box 209, St. Louis, Missouri 63166.

BEFORE EXTERIOR CHECK

1. Forms and publications — check.
2. Battery switch — OFF.
- (N) 3. Lights — check OFF.
- * 4. Fuel and cap security — check.

EXTERIOR CHECK — FUSELAGE FRONT

1. Rotor blade — condition.
2. Cabin top — condition and ventilators.
3. Radio compartment — security.
- (O) 4. FM antennas — condition/security.
- (O) 5. Pitot tube — unobstructed.
6. Cabin lower area — condition.
- (O) 7. Cargo suspension mirror — as desired.
8. Landing and searchlight — STOWED.

FUSELAGE — LEFT SIDE

- (O) 1. Static port — unobstructed.
2. Navigation light — security.
3. Entrance doors — condition/operation.
4. Landing gear — condition.
5. Cargo suspension cable — condition/operation.

FUSELAGE — AFT CABIN LEFT SIDE

1. Battery and main fuel switches — ON.
2. Engine and transmission deck — check, cowling secure.
3. Electrical compartment — check.

4. Crossover drain — drain.
5. Fuel filter — drain and check.
6. Fuel tank sump and pump — drain.
7. Governor control drain — drain.
8. Access doors — secure.
9. BATT and main fuel switches -OFF.

AFT FUSELAGE — LEFT SIDE

1. Tail rotor drive shaft coupling — position and security.
2. Aft fuselage — condition.
3. Synchronized elevator — condition.
4. Antenna — condition/security.
- * 5. Main rotor blade — condition, rotate 90°.

FUSELAGE — FULL AFT

1. Extension covers — secure.
- * 2. Tail rotor — condition, free movement.
3. Crosshead — cotter pin/security.
4. Tail skid — condition/security.
5. Navigation light — condition/security.
6. FM antenna — condition.

AFT FUSELAGE — RIGHT SIDE

- * 1. Tail rotor gear boxes oil levels — check oil levels.
2. Antenna — condition/security.
3. Synchronized elevator — condition.
4. Aft fuselage — condition.

FUSELAGE – AFT OF CABIN RIGHT SIDE

1. Engine/transmission area — check, cowling secure.
2. Baggage compartment — check.
- (O) 3. Heater — check.
* 4. Oil reservoir — check.
- (O)* 5. Accumulating pressure gage — normal.
* 6. Hydraulic fluid — check level.
* 7. Transmission oil — check.
* 8. Access doors — secure.

FUSELAGE – CABIN RIGHT SIDE

1. Navigation lights — condition/security.
2. Entrance doors — condition/operation.
3. Landing gear — condition.
- (O) 4. Static port — unobstructed.

CABIN TOP

1. Main rotor system — condition, security; fluid levels.
2. Transmission filler cap — secure.
3. Short shaft — condition/security.
4. Engine air intake — unobstructed.
5. Antennas — condition/security.
6. Anti-collision light — condition/security.
7. Engine and transmission cowling — secured.
8. Cabin top ventilators — unobstructed.
- (O) 9. Pitot static tube — unobstructed.

INTERIOR CHECK – CARGO COMPARTMENT

- * (N) 1. Battery switch – on.
- (N) 2. Dome It – as required.
- 3. Fire extinguisher – check.
- * 4. Cargo – secure.
- * 5. Passenger Seats – secure.
- 6. First Aid Kits – condition/security.
- 7. Electrical outlets – condition.
- 8. Crewmember radio panel – check.
- * 9. Loose Equipment – secure.
- (N) 10. Dome It – OFF.
- * (N) 11. Battery switch – OFF.

BEFORE STARTING ENGINE

- * 1. Entrance doors – secured.
- 2. Seat and pedals – adjust.
- * 3. Seat belt and shoulder harness – fastened/adjust.
- 4. Shoulder harness lock – check.
- * 5. Cyclic, collective and throttle friction – OFF.
- * 6. Pedals – check.
- * 7. Landing/searchlight – OFF.
- * 8. A C circuit breakers – IN.
- * 9. Radios – OFF/set.
- * 10. Governor – AUTO.
- * 11. De-ice/hot air – OFF.
- * 12. Trans pump – OFF.
- * 13. De-ice – OFF.
- (O) * 14. Low rpm audio – OFF.
- 15. Main fuel – OFF.
- (O) 16. Start fuel – OFF.

17. Hydraulic control switch — BOTH.
18. Force trim — ON.
19. Chip det — BOTH.
20. Compass slaving — IN.
- (O) 21. Collective accumulator switch — OFF.
22. Instruments — static indications/markings.
23. Turn and slip indicator — check.
24. Marker beacon — OFF.
25. Clock — wound/running.
26. Magnetic compass, deviation card — check.
27. VSI's — note indication.
28. Heading indicators — ADF position/calibration card posted.
- *29. Altimeters — set.
30. Airspeed indicators — note indication.
31. Free-air temp gage — note indication.
- *32. Starter gen switch — START.
33. Noness bus — NORMAL ON.
- *34. VM selector switch — BAT (MAIN GEN if APU start).
- *35. Main generator switch — ON.
36. A C phase selector — A C.
- *37. Invtr switch — OFF.
38. Instrument lights — as required.
- *39. D C circuit breakers — IN.
40. Pitot htr — OFF.
41. Dome lt — OFF (as required).
- *42. Ext lts — as required.
- *43. Anti-coll light — OFF.
44. Wipers — OFF.

45. Cargo rel switch – SAFE.

46. Cabin heating switches – OFF.

STARTING ENGINE

- * 1. Battery switch – OFF (ON for battery start).
- * 2. Copilot's attitude indicator – CAGE (APU start only).
- * 3. Invtr switch – SPARE (OFF for battery start).
- * 4. Fire detector light – TEST.
- 5. RPM warning light – ON.
- (O) 6. Cargo release light – TEST.
- * 7. Fuel gage test switch – TEST (APU start).
- * 8. CAUTION panel warning lights – TEST/RESET.
- * 9. Main fuel – ON. (check fuel pressure for APU start).
- (O) * 10. Start fuel – ON.
- * 11. Governor rpm inch DEC switch – DEC for 10 seconds.
- * 12. Throttle – set for start.
- (N) 13. Dome lt – OFF.
- * 14. Fireguard – posted.
- * 15. Rotor blades – clear.
- * 16. Starter switch – press (40 second maximum).
- * 17. Start fuel – off at 400°C EGT.
- * 18. Starter switch – release at 40% rpm.

- *19. Copilot's attitude indicator (battery start) — CAGE.
- *20. Invtr switch (battery start) — SPARE.
- *21. Throttle — FLIGHT IDLE.
- *22. Gas producer — **C** 56% - 58% rpm
M 70% - 72% rpm.
- *23. Engine oil pressure — normal.
- *24. Transmission oil pressure — normal.
- (N) *25. Interior lights — as desired.
- *26. APU — disconnect.
- *27. Battery switch (APU start) — ON.
- *28. Fuel gage test switch (battery start) — TEST.

ENGINE RUNUP

- * 1. Force trim — check.
- * 2. Hydraulic system — check.
- * 3. ICS and radios — ON, as desired.
- * 4. Helmet — ON.
- 5. De-ice/hot air — check.
- 6. Fuel boost pumps — check.
- (I) 7. Pitot htr switch — check.
- 8. A C phase selector — check (leave in BC PHASE).
- 9. Invtr switch — OFF then MAIN.
- 10. AC phase selector — Check (leave in AC PHASE).
- 11. Voltmeter selector switch — check (leave in NONESS BUS position).
- 12. Main gen — OFF.
- *13. Starter gen — STBY GEN.
- 14. Noness bus — check.

15. VM (selector switch) — check remaining positions (leave in MAIN GEN position).
16. Main generator — ON.
- *17. Throttle — slowly increase to full open — 6000 ± 50 rpm.
- *18. Engine/transmission instruments — normal.
- (O) *19. Low rpm switch — AUDIO.
- *20. Governor rpm inc-dec switch — full inc — 6700 ± 50 rpm, set rpm at 6600.
- *21. Communication and navigation radios — as desired.
22. Weather and hover-taxi instruction — contact tower or ground control as applicable.
23. Clock — set.
- *24. Heading indicator — check.
- *25. MAG compass — check.
- *26. Altimeter — K-factor.
- (I) *27. Attitude indicator — set.
- *28. Anti-coll light — as desired.
- *29. Force trim — as desired.
- *30. Collective pitch friction — check; set as desired.

PRIOR TO INSTRUMENT TAKEOFF

- (I) 1. VSI, altimeter — indicates climb, descent.
- (I) 2. Turn needle, heading indicator, and magnetic compass — indicates a turn to right-left.
- (I) 3. Slip indicator — ball free in race.
- (I) 4. Attitude indicator — indicates nose high, nose low, bank left-right.
- (I) 5. Airspeed indicator — note indication.
- (I) 6. Engine and transmission instruments — normal.
- (I) 7. Engine rpm — as desired.
- (I) 8. Torque — note psi for hover.
- (I) 9. Index over takeoff heading — set heading.
- (I) 10. Pitot heat — as required.

BEFORE TAKEOFF/LANDING

- 1. RPM — 6600.
- 2. Fuel quantity — check.
- 3. Instruments — normal.
- 4. Caution lights — check.
- 5. Bleed air switch — OFF.

ENGINE SHUTDOWN

1. Collective pitch – FULL DOWN.
2. Governor rpm – DEC.
3. Throttle – FLIGHT IDLE.
- (O) 4. Low rpm audio – OFF.
5. Force trim – ON.
6. Starter-gen switch – START.
7. Anti-coll light – OFF.
- (N) 8. External Its – FLASH.
9. Exhaust gas temp – stabilize
minimum of 2 minutes.
10. Throttle – OFF.
11. Main fuel – OFF.
- (O) 12. Start fuel – OFF.
13. Radios and ics – OFF.
14. Electrical switches – OFF except
main generator and battery.
- (N) 15. External Its – OFF after rotor stops.
16. Battery – OFF.
17. Accumulator – check.
18. Main rotor blades – secure.
19. Walk-around inspection – complete.
20. DA forms 2408 – complete.

ENGINE FAILURE

ENGINE FAILURE DURING TAKEOFF AND WHILE HOVERING BELOW 10 FEET

1. Collective – maintain position.
2. Cyclic – apply as required to maintain position over ground.
3. Directional control – maintain.
4. Collective pitch – apply to cushion landing.

ENGINE FAILURE LOW ALTITUDE

1. Collective – reduce to maintain rotor rpm.
2. Directional control – maintain.
3. Select landing area.
4. If altitude permits – obtain forward airspeed, turn off switches and fuel.
5. Cyclic – decelerate.
6. Collective – cushion landing.

ENGINE FAILURE DURING FLIGHT

1. Collective – maintain rotor rpm within limits.
2. Autorotational glide – establish.
3. Select forced landing area.
4. If time permits - make radio call, turn battery switch and MAIN FUEL – OFF.
5. Shoulder harness – LOCK.
6. Cyclic – decelerating attitude.
7. Collective – cushion landing.

ENGINE RESTART DURING FLIGHT

1. Establish autorotational glide.
2. Select forced landing area.
3. Gov Switch – EMERGENCY.
4. Attempt start.
5. Throttle – as necessary to maintain desired rpm.

EMERGENCY STARTING PROCEDURE

1. Throttle closed.
2. Engine fuel control/governor switch — EMERGENCY.
3. Energize starter, start clock (start fuel flow and ignition occur simultaneously).
4. When nI speed passes through 8%, open throttle slowly and advance to FLIGHT IDLE position as start progresses.
5. Release starter switch at 40% nI, or 400°C EGT, whichever occurs first.
6. Engine fuel control/governor switch — AUTOMATIC when nI speed is stabilized.

**LOSS OF TRANSMISSION/ENGINE OIL
PRESSURE – HIGH OIL TEMP**

Accomplish a normal landing at the nearest available safe landing area.

COMPRESSOR STALL

1. Collective – reduce.
2. De-ice switch – OFF.
3. Land – normal landing at the nearest available safe landing area.

at 400°C EG1, with a
occults filter
g. Engine fuel control/ignition switch
– AUTOMATIC when in speed

TAIL ROTOR FAILURE

DURING TAKE-OFF OR HOVERING

1. Throttle — close immediately.
2. Autorotational landing — accomplish.

DURING FLIGHT OR LANDING

1. If altitude permits — adjust collective pitch and/or roll off throttle to regain control.
(Maintain 50-knot airspeed minimum.)
2. Establish autorotational glide.
3. If altitude and terrain are adverse for immediate landing, consider further powered flight to an area for an autorotational running landing.

TAIL ROTOR FAILURE

DURING TAKE-OFF OR HOVERING

1. Thrust - loss immediately.
2. Autorotation landing - selectable.

DURING FLIGHT OR LANDING

1. Lift loss - silent collective pitch switch (loss of tail rotor control) (Minimum G-0 knot selected (minimum)).
2. Emergency autorotation landing - if lift loss and thrust loss occurs for autorotation landing, consider multiple powered flight to the landing site as an alternative to the minimum G-0 knot.
3. Lift loss and thrust loss - if lift loss and thrust loss occurs for autorotation landing, consider multiple powered flight to the landing site as an alternative to the minimum G-0 knot.

FIRE

ENGINE FIRE DURING STARTING – INTERNAL

1. Starter switch – continue to press.
2. Throttle – CLOSE.
3. Main fuel – OFF.
4. As EGT decreases to normal – complete shutdown and record limit and duration of hot start on DA Form 2408-13.

ENGINE FIRE DURING STARTING – EXTERNAL

1. Close throttle.
2. Complete shutdown.
3. Exit the aircraft.
4. Use fire extinguisher.

ENGINE FIRE DURING FLIGHT

1. Throttle – CLOSE.
2. Autorotational glide – establish.
3. Main fuel – OFF.
4. Battery switch – OFF
5. Generator switch – OFF, except when power is required to operate lights or avionic equipment.
6. Shoulder harness – LOCK.
7. Autorotational landing – accomplish.

FUSELAGE FIRE

1. Airspeed — reduce to minimum.
2. Battery switch — OFF.
3. Generator switch — OFF (ON if lighting or avionic equipment is to be used).
4. Landing — accomplish at the nearest available safe landing area.

ELECTRICAL FIRE

1. Instruments — check.
2. Battery and generator switch — OFF.
3. Circuit breakers — OUT.
4. Landing — accomplish at nearest available safe landing area.

SMOKE AND FUME ELIMINATION

1. Pilot's and copilot's windows — open.
2. Cabin ventilators — open.
3. Cargo doors — open.
4. Aircraft controls — side-slip, if practical.

FUEL SYSTEM FAILURE

FUEL BOOST PUMP FAILURE

1. Descend — descend below 4600 feet if possible.
2. Main fuel — ON.
3. Main fuel and fuel boost pump circuit breakers — IN.

FAILURE OF ENGINE FUEL PUMP

Land at the nearest available safe landing area.

ENGINE FUEL CONTROL SYSTEM MALFUNCTIONS

OVERSPEEDING nII GOVERNOR (HIGH RPM).

1. Simultaneously increase collective, rolling off twist grip throttle.
2. Land at nearest available safe landing area.

LOSS OF ENGINE (nII) RPM.

1. Collective — DOWN to maintain rotor rpm.
2. Throttle — retard.
3. Governor switch — EMERGENCY position.
4. Throttle — advance slowly and firmly to obtain engine operating rpm.

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ELECTRICAL SYSTEM FAILURE

NOT APPLICABLE

E-11/(E-12 Blank)

HYDRAULIC FAILURE

HYDRAULIC SYSTEM FAILURE

1. Airspeed - adjust to comfortable level.
2. Hydraulic control circuit breaker - IN.
3. Landing - accomplish at nearest available safe landing area.

HYDRAULIC POWER FAILURE (WITH ACCUMULATOR)

1. Airspeed — adjust to comfortable level.
2. Accumulator switch — OFF.
3. Accumulator switch — ON just prior to landing.
4. Landing — accomplish at nearest available safe landing area.

LANDING AND DITCHING

LANDING IN TREES

1. Enter normal autorotation (from altitude or low level).
2. Decelerate — sufficient to attain zero ground speed at tree-top level.
3. Prior to main blade contact — apply collective pitch sufficient to attain minimum rate of descent.
4. As helicopter settles — increase collective pitch to MAXIMUM.

DITCHING - POWER ON

1. Descent and pre-landing — execute.
2. Passengers — alerted.
3. Helicopter position — radio position.
4. Pilot's and copilot's doors —
JETTISON while hovering a few
feet above water; both cargo
doors full open; slide cargo
doors full open.
5. Instruct passengers to exit
helicopter.
6. Fly a safe distance — avoid
passenger injury.
7. Battery switch — OFF.
8. Main fuel — OFF. CLOSE throttle.
Allow aircraft to settle in a
level attitude, apply full
collective. When aircraft begins
to roll, apply full cyclic in the
same direction.
9. Shoulder harness and safety belt —
release and clear helicopter
when main rotor has stopped.

DITCHING - POWER OFF

1. Collective pitch — adjust as required to maintain rotor rpm within limits.
2. Autorotational glide — establish into the wind.
3. Passengers — alerted.
4. Helicopter position — radio position.
5. Pilot and copilot's doors — JETTISON as low altitude, both cargo doors full open.
6. Battery switch — OFF.
7. Main fuel — OFF.
8. Shoulder harness — LOCK.
9. Deceleration — execute near water surface to attain zero ground speed.
10. Apply collective pitch — sufficient to attain minimum rate of descent.
11. Allow aircraft to settle in a level attitude — apply full collective; when aircraft begins to roll, apply full cyclic in the direction of roll.
12. Shoulder harness and safety belts, release and clear helicopter when main rotor has stopped.

FLIGHT CONTROL SYSTEM FAILURE

NOT APPLICABLE

BAILOUT

1. Passengers — alerted.
2. Helicopter position — radio position.
3. Doors — open cargo doors as required.
4. Controls — set to establish cruise forward speed with flight attitude slightly nose down.
5. When ready — bail out through nearest exit.

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ARMAMENT

NOT APPLICABLE

E-23/(E-24 Blank)

ARMAMENT
M3 ARMAMENT SUBSYSTEM

EXTERIOR INSPECTION

1. Armament subsystem components — installed.
2. Armament subsystem electrical connectors — connected.
3. Ammunition — check.

ON ENTERING THE HELICOPTER
BEFORE TAKE-OFF (POWER ON)

1. Rocket jettison circuit breaker — CLOSED.
2. Jettison power on and zero indicators — ON.
3. Arm switch — SAFE.
4. System power on and safe, indicators — OUT.
5. Power switch — OFF.
6. Jettison switch — OFF: copper break wire in place.
7. Jettison complete indicator — OUT.

IN-FLIGHT, AFTER TAKE-OFF (BEFORE FIRING)

1. Rocket jettison circuit breaker — CLOSED.
2. Power switch — ON.
3. Arm switch — SAFE.

IN-FLIGHT, AFTER TAKE-OFF (BEFORE FIRING) (CONT)

4. Safe, zero, system power on, and jettison power on indicators — **ON**.
5. Sight illumination circuit breaker — **CLOSED**.

FIRING

1. Selector switch on intervalometer — set.
2. Arm switch — set to ARMED.
3. Safe indicator — OUT.
4. Armed indicator — ON.
5. Sight — hold target in reticle.
6. Firing switch — press to fire.
7. Zero indicator — OUT.

AFTER FIRING

1. Firing switch — release.
2. Arm switch — set to SAFE.
3. Armed indicator — OUT.
4. Safe indicator — ON.

BEFORE LEAVING THE HELICOPTER

1. Power switch — OFF.
2. Zero indicator — ON.
3. Sight illumination circuit breaker — pull OUT.

BEFORE LEAVING THE HELICOPTER (CONT)

4. Rocket jettison circuit breaker — pull OUT.
5. All indicators — OUT.

— Ammunition supply system components
 1. Ammunition supply system bellows
 2. Ammunition supply system electrical
 connectors — connectors
 3. Ammunition supply system hydraulic
 connectors — connectors
 4. Cylinder cylinder assembly — cylinder
 piston in OUT OF BATTERY position

ON ENTERING HELICOPTER

1. Seats and armed indicators lights — press to clear.
2. Off-safe armed switch — SSAFE
3. Deadman switch — press
4. Grip assembly — operate
5. Rotor trim switch — pull

IN-FLIGHT

1. Off-safe armed switch — ARMED
2. Gun selector switch — select
3. Grip trim switch — position on trigger
4. Rotor trim switch — ON
5. Deadman switch — press

OPERATOR'S CHECKLIST
M6 ARMAMENT SUBSYSTEM

EXTERIOR INSPECTION

1. Armament subsystem components — installed.
2. Armament subsystem electrical connectors — connected.
3. Armament subsystem hydraulic connectors — connected.
4. Charger cylinder assembly — charger piston in OUT OF BATTERY position.

ON ENTERING HELICOPTER

1. Safe and armed indicator lights — press to test.
2. Off-safe-armed switch — SAFE.
3. Deadman switch — press.
4. Grip assembly — operate.
5. Reticle lamp switch — test.

IN-FLIGHT

FIRING

1. Off-safe-armed switch — ARMED.
2. Gun selector switch — select.
3. Sighting station — position on target.
4. Reticle lamp switch — ON.
5. Deadman switch — press.

FIRING (CONT)

6. Grip assembly — operate as required.
7. Trigger switch — press.

AFTER FIRING

1. Trigger switch — release.
2. Deadman switch — release.
3. Grip assembly — STOW position.
4. Reticle lamp switch — OFF.
5. Off-safe-armed switch — SAFE.

BEFORE LEAVING THE HELICOPTER

1. Off-safe-armed switch — OFF.
2. Bolts — in OUT OF BATTERY position.

IN-FLIGHT

FIRING (USING SIGHT ASSEMBLY)

1. Main power toggle switch — ON.
2. Gun power toggle switch — ON.
3. Rounds terminating indicators — check
4. Sight assembly — lower front
5. SIGHT assembly — stow position
6. Turned controls switch — baseline
7. Fired switch — pulse to fire

**M5 ARMAMENT SUBSYSTEM
OPERATOR'S CHECKLIST**

EXTERIOR INSPECTION

1. Turret assembly — secured.
2. Top enclosure assembly — fastened.
3. Forward enclosure assembly — fastened.
4. Boot assembly — fastened.

ON ENTERING THE HELICOPTER

1. Gun power toggle switch guard — down.
2. Main power toggle switch — OFF.
3. Armament AC and DC circuit breakers — IN.
4. Sight assembly — stowed.
5. Ammunition — loaded.

IN-FLIGHT

FIRING (USING SIGHT ASSEMBLY)

1. Main power toggle switch — ON.
2. Gun power toggle switch — HOT (fire).
3. Rounds remaining indicator — check.
4. Sight assembly — released from stowed position.
5. Turret control switch — pressed.
6. Firing switch — press to fire.

IN-FLIGHT (CONT)

FIRING (SIGHT ASSEMBLY STOWED)

1. Main power toggle switch — ON.
2. Gun power toggle switch — HOT (fire).
3. Rounds remaining indicator — check.
4. Firing switch (cyclic stick) — press to fire.

AFTER FIRING

(USING SIGHT ASSEMBLY)

1. Sight assembly — STOWED.
2. Gun power toggle switch — SAFE.
3. Main power toggle switch — OFF.

(WITH SIGHT ASSEMBLY STOWED)

1. Gun power toggle switch — SAFE.
2. Main power toggle switch — OFF.

BEFORE LEAVING HELICOPTER

1. Main power toggle switch — OFF.
2. Gun power toggle switch — SAFE.
3. AC and DC arm circuit breaker — OUT.
4. Sight assembly — STOWED.

**M16 ARMAMENT SUBSYSTEM
OPERATOR'S CHECKLIST**

Note

Refer to M6 Armament subsystem machine gun and machine gun mount.

EXTERIOR INSPECTION

1. Armament subsystem components — installed.
2. Armament subsystem electrical connectors — connected.
3. Inspection doors — secured.
4. Rocket tubes — clear.

ON ENTERING HELICOPTER

1. Jettison switch cover — down.
2. Rocket pair selector — O (zero).

IN-FLIGHT FIRING

1. Rockets/guns switch — select.
2. Rocket pair selector switch — select.
3. Reticle lamp switch — ON.
4. Firing switch — press.

AFTER FIRING

1. Rocket pair selector switch — O (zero).
2. M6 off-safe-armed switch — SAFE.
3. Reticle lamp switch — OFF.

BEFORE LEAVING HELICOPTER

Refer to M6 Armament Subsystem.

ON COUNTERING HELICOPTER
CONTROLS PANEL:

1. Gun selector switch — ALT
2. Off-safe switch — OFF

INTERVALOMETER:
1. Armament selector switch — 2 GS or 2.5E
2. Rocket pair selector switch — O
3. Gun selector switch — Board Down
4. Muzzle selection buttons — forward
5. Grip trigger switch — STOWED
6. Reticle switch XWBG — STOWED

IN FLIGHT
Firing gun

M21 ARMAMENT SUBSYSTEM
OPERATOR'S CHECKLIST

EXTERIOR INSPECTION

1. Guns — secure.
2. Ammunition boxes — loaded.
3. Rocket launchers — secure.
4. Rockets — loaded.
5. Firing switch (rack) — RESET.
6. Subsystem electrical connectors — connected
7. Subsystem hydraulic connectors — connected.

ON ENTERING HELICOPTER

CONTROL PANEL:

1. Gun selector switch — ALL.
2. Off-safe-armed switch — OFF.

INTERVALOMETER:

1. Armament selector switch — 7.62 or 2.75.
2. Rocket pair selector switch — 0.
3. Launcher jettison switch — guard Down.
4. Manual jettison handle — forward
5. Sighting station — STOWED.
6. Reflex sight XM60 — STOWED.

IN-FLIGHT

Firing guns

Control panel:

1. Gun selector switch — select.
2. Off-safe-armed switch — ARMED.

Intervalometer:

3. Armament selector switch — 7.62

Sighting station:

4. Sighting station — on target.
5. Reticle lamp switch — ON.
6. Resistor knob (dimmer switch) — adjust.
7. Actuator bar (deadman switch) — press.
8. Gun trigger — press.

AFTER FIRING GUNS

Sighting station:

1. Gun trigger — release
2. Actuator bar (deadman switch) — release
3. Reticle lamp switch — OFF.
4. Sighting station — STOWED.

Intervalometer:

1. Armament selector switch — 2.75.
2. Off-safe-armed switch — SAFE.

FIRING ROCKETS

Control panel:

1. Off-safe-armed switch – ARMED.

Intervalometer:

2. Armament selector switch – 2.75.
3. Rocket pair selector switch – set.

Reflex sight XM60:

4. Sight – on target.
5. Reticle lamp switch – ON.
6. Rheostat knob – adjust.
7. Elevation/depression knob – adjust.
8. Cyclic stick firing switch – press.

AFTER FIRING ROCKETS

1. Cyclic stick firing switch – release.

Reflex sight XM60:

2. Reticle lamp switch – OFF.
3. Sight – STOWED.

Control panel:

4. Off-safe-armed switch – SAFE.

Intervalometer:

5. Rocket circuit reset switch — press.
6. Armament selectro switch — 7.62.

JETTISONING ROCKET LAUNCHERS

Intervalometer:

1. Launcher jettison switch — raise guard, flip switch UP.
2. If launchers do not jettison — pull manual jettison handle rearward.

BEFORE LEAVING HELICOPTER

Control panel:

1. Off-safe-armed switch — OFF.

Intervalometer:

2. Launcher jettison switch — guard DOWN.

Warning

All helicopters having intervalometer Part No. 11010500 (Serial No. 1 through 210) to assure safe condition, selector must be placed on SAFE. If selector is on M5 position M16 is armed. Helicopters having intervalometer Part No. 116999559 M16 system is not armed when selector is on M5 position, however, SAFE position is recommended.

**MULTIARMAMENT MOUNT XM 156
OPERATOR'S CHECKLIST**

EXTERIOR INSPECTION

1. Mount cable assembly — connected.
2. Rack assembly firing switch — RESET.
3. Rockets — loaded.
4. Rocket — secure.

ON ENTERING HELICOPTER

1. Off-safe-armed switch — OFF.

Intervalometer:

2. Armament selector switch — 2.75.
3. Rocket pair selector switch — 0.
4. Launcher jettison switch — guard DOWN.
5. Manual jettison handle — forward.
6. Reflex sight XM60 — STOWED.

IN-FLIGHT FIRING

1. Off-safe-armed switch — ARMED.

Intervalometer:

2. Armament selector — 2.75.
3. Rocket pair selector switch — set.

Reflex sight XM60:

4. Sight — on target
5. Reticle lamp switch — on.
6. Rheostat knob — adjust.
7. Elevation/depression knob — adjust.

AFTER FIRING

1. Gun trigger — release
2. Reticle lamp switch — OFF
3. Off-safe-armed switch — SAFE.

Intervalometer:

4. Rocket circuit reset switch — press.
5. Launcher jettison switch — raise guard flip switch UP.
6. If launchers do not jettison — pull manual jettison handle rearward.

BEFORE LEAVING HELICOPTER

1. Off-safe-armed switch — OFF.

Intervalometer:

2. Launcher jettison switch — guard DOWN.

3. Rocket belt selector switch — set

MAX trigger selector

1. Guard no — trigger A

no — safety guard selector B

Guard — doors released C

Guard — ejection seat belt selector D

AFTER FIRING

1. Gun trigger selector — OFF

2. Safety guard selector — OFF

3. Off-safe-armed switch — SAFE

Intervalometer

4. Rocket circuit break switch — break

5. Launcher jettison switch — wire handle grip

Switch UP

6. Harnesses off seat harness — pull harness

harness off harness

RESCUE HOIST

HOIST OPERATOR

1. Necessary steps — to actuate boom outboard, lower cable, retract cable and return boom to stowed position.
2. Check with pilot that hoist cable cutter, hoist control and hoist power circuit breakers are IN.
3. After pilot has established zero airspeed over desired location, move boom toggle switch to OUT position to swing hoist boom outboard.
4. Move variable speed control (labeled DOWN/UP) on hoist control pendant to DOWN to lower the hoist cable.

Note

The further the DOWN/UP speed control is moved from its springloaded neutral position, the faster the hoist will run. The hoist should normally be operated at full speed, as slow speed operation will cause motor to heat excessively. Hoist cable is painted at each end to provide visual indication of cable footage that is extended.

HOIST OPERATOR (CONT)

RESCUE HOIST

5. Move DOWN/UP speed control to UP to raise the load. Speed control must be moved to the left then aft.

Note

In case the extended portion of the hoist cable has to be jettisoned, a CABLE CUT switch is provided on the control box.

6. Move boom toggle switch to IN position to swing hoist boom inboard.
7. Bring hoist load into cabin and swing hoist boom to stowed position (fully inboard).

Note

TM 55-1520-220-CL
The following table shows the DOWN/UP speed control settings required to raise the load before the first lift run. The position of the DOWN/UP speed control will then be determined by the position of the DOWN/UP speed control before the second lift run. Hoist cable extension is required to prevent damage to the hoist cable when the hoist is extended.

TAKE-OFF DATA CARD

CONDITIONS

CONDITIONS

GROSS WEIGHT _____ LB

FIELD LENGTH _____ FT

DENSITY ALTITUDE _____ FT

EFFECTIVE WIND _____ KTS

TAKE-OFF

LANDING

TAKE-OFF OVER 50 FT OBSTACLE _____ FT

OBSTACLE CLEARANCE SPEED _____ KTS IAS

LANDING IMMEDIATELY AFTER TAKE-OFF
WITH POWER OFF CONDITION

APPROACH SPEED _____ KTS IAS

LANDING DISTANCE OVER 50 FT

OBSTACLE _____ FT

LANDING DATA CARD

CONDITIONS

FIELD LENGTH _____ FT

GROSS WEIGHT _____ LB

DENSITY ALTITUDE _____ FT

EFFECTIVE WIND _____ KTS

LANDING

LANDING DISTANCE OVER 50 FT _____ FT

OBSTACLE _____ FT

APPROACH SPEED OVER 50 FT _____ KTS IAS

OBSTACLE _____ FT

SIGHT LINE _____ FT

LANDING DISTANCE OVER 50 FT _____ FT

OBSTACLE _____ FT



