

TM 55-1520-221-CL

TECHNICAL MANUAL

Operator's and Crewmember's Checklist

ARMY MODEL

AH-1G

HELICOPTER

Pilot's Checklist

HEADQUARTERS

DEPARTMENT OF THE ARMY

JUNE 1970

***TM 55-1520-221-CL**

**HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, D. C., 24 June 1970**

TM 55-1520-221-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. 37) requirements for Operator and Crew Maintenance Instructions for AH-1G aircraft.

***This manual supersedes TM 55-1520-221-CL,
21 January 1970.**

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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, fire, fuel, electrical (Elect), hydraulic (Hyd), landing and ditching (Ldg/Dtch), flight controls (Flt Cont), bailout (Bailout), and armament (Armt). Performance data consists of charts and tables that may be used to obtain takeoff, cruise, and landing data. The takeoff and landing data card is also contained in the performance data.

NOTE

This checklist does not replace the amplified version of the procedures in the operator's manual (TM 55-1520-221-10) 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 for 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.

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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. Reports 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.

FLIGHT PLANNING

1. Check type of mission to be performed, and destination.
2. Select performance charts to be used.
3. Record for in-flight use the information concerning fuel quantity required, air-speed, power settings, takeoff, climb, cruise or hovering condition, landing and fuel consumption for operating gross weight and climatic condition.

WEIGHT AND BALANCE

1. Form 365F — completed
2. Compute takeoff and landing gross weight, CG location, weight of fuel, oil, payload, etc.
3. Loading limitations — check.

BEFORE EXTERIOR CHECK

- *1. Wing stores — SAFE.
- *2. Battery — OFF.
- *3. Inverters — OFF.
- *4. Non-essential bus — NORMAL.
- *5. Weapons sight circuit breaker (AC) — OUT.
- *6. Wing stores inboard-outboard switch — OFF.
- *7. Master arm — OFF.

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- *8. Forms and publications — check.
- *9. Battery — ON. Inverter — STBY. Check fuel quantity. Battery/Inverter — OFF.
- 10. Canopy and hatch — check.
- 11. FM homing and ADF antenna — check.
- (N)*12. Exterior lights — check.

EXTERIOR CHECK

FUSELAGE AND MAIN ROTOR — RIGHT SIDE AREA 1.

- 1. Forward main rotor blade — condition.
- 2. Static port — condition.
- 3. Ammunition bay — check.
- *4. Hydraulic compartment — check.
- *5. Fuel — check
- *6. Landing gear — check.
- (O) 7. Wing and wing stores — condition and security.
- 8. Position light — condition.
- 9. Fuel sump and pump (two) — drain.
- 10. Area beneath transmission — check.
- 11. Top of wing — check.
- 12. Engine air intake shield — remove.
- 13. Engine air intake — check.
- 14. Engine and transmission cowling — open.
- *15. Transmission and transmission mounts — check.
- (O)*16. Pylon access — UHF-VHF, FM antenna, engine oil reservoir — check.

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- *17. Swashplate and support — check.
- *18. Main rotor head and control tubes — check.
- 19. Plenum chamber and particle separator — condition.
- 20. Engine right side — check.
- *21. Engine and transmission cowling — closed; check — secure.
- 22. Fuselage stress panels — check.
- 23. Tailpipe check.

TAIL SECTION — RIGHT SIDE — AREA 2

- 1. Air ejector area — condition.
- 2. Electronic compartment — check.
- (O) 3. Smoke dispenser — check.
- 4. Tail boom — condition.
- 5. Elevator — condition.
- *6. 42 degree gearbox — check.
- (O) 7. Position light — check.
- 8. Tail fin — condition.
- *9. 90 degree gearbox — check.
- 10. Upper fin — condition.
- (O) 11. Position light — check.
- 12. Tail skid — condition.

TAIL SECTION — LEFT SIDE — AREA 3

- *1. Main rotor tiedown — untie.
- 2. Main rotor — displaced; aft blade — check.
- *3. Tail rotor — check.
- (O) 4. Position light — condition.

5. Tail rotor drive shaft covers — check.
6. Elevator — check.
7. Tail boom — condition.
- (O) 8. Antennas — check.
9. Air ejector area — check.

FUSELAGE AND MAIN ROTOR — LEFT SIDE — AREA 4

1. Oil cooler — check.
2. Engine air intake shield — removed.
3. Engine air intake — check.
4. Engine and transmission cowling — open.
5. Fuel filter — drain.
6. Engine left side — check.
7. Plenum chamber and particle separator — condition.
8. Top of wing — check.
9. Transmission and transmission mounts — check.
10. Short shaft — check.
11. Pylon access — Engine oil reservoir — check.
- *12. Swashplate and support — check.
- *13. Main rotor head and control tubes — check.
14. Top of pylon — check.
15. Anticollision light — check.
- *16. Engine and transmission cowling — closed; check — secure.
17. Left wing and wing stores — condition and security; ground safety pins connected.
18. Position light — condition.

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- *19. Landing gear and skid shoes — check.
- *20. Hydraulic compartment — check.
- 21. Static port — check.
- 22. Canopy — check.
- 23. Fire extinguisher — condition.
- 24. Ammunition bay — check.
- 25. Searchlight — condition.

NOSE SECTION — AREA 5

- 1. Turret — check.
- 2. Area beneath nose — check.
- 3. Pitot tube — check
- 4. Plexiglass nosecover — check.
- (O) 5. Landing lights — check.
- 6. Nose compartment — check.
- 7. Rain removal duct — check.
- 8. Windshield — check.
- (O) *9. Wing stores ground safety pins — remove (no fire guard).

ARMAMENT SUBSYSTEM EXTERIOR CHECK

WARNING

Before beginning exterior inspection, ensure weapon system(s) are cleared and safe in accordance with applicable instructions in Chapter 6, TM 55-1520-221-10.

XM-28 Armament Sybsystem
(XM129 Left side, M134 Right side)

EXTERIOR CHECK

RIGHT SIDE

1. Ammo bay door — check.
2. Ammo bay door retaining cables — check.
3. Teflon runners — check.
4. Ammo bay door hinge — check.
5. Tray quick release pins — check.
6. Tray cover — secure.
7. Chuting — connected and secure.
8. Crossover drive and fireout switch — check.
9. Drive cable — connected.
10. Cannon plug — check.
11. Ammo bay door — secure.

LEFT SIDE

1. Ammo bay door — check.
2. Ammo bay door retaining cables — check.
3. Teflon runners — check.
4. Ammo bay door hinge — check.
5. Tray quick release pins — check.
6. Drum, condition and ammo — check.
7. Drive cable (M134) — check.
8. Drive motor and elec connection — check.
9. Chuting — connected and secure.
10. Ammo fire out switch — check.
11. Ammo bay door — secure.

TURRET — LEFT (XM129)

1. Fairing — remove/open.
2. XM129 securely mounted and barrel 3/4 extended — check.
3. Recoil adapters — check.
4. Chute and feed tray — connected.
5. Drive cable — connected.
6. Exit chute — check security.
7. Fairing — replace/secure.

TURRET — RIGHT (M134)

1. Fairing — remove/open.
2. M-134 securely mounted — check.
3. Barrel clamp and retaining bolt — secure.
4. Recoil adapters — check.
5. Feeder-delinker condition and security — check.
6. Solenoid elec connection — check.
7. Solenoid gate movement — check.
8. Drive cable — connected.
9. Drive motor elec connection — check.
10. Gun timing pin — set.
11. Feeder timing pins — set.
12. Safe gun, disconnect chute, rotate barrel counterclockwise — check ammo feed.
13. Exiting chute — check security.
14. Fairing — replace/secure.

XM-18/XM-18E1 Armament Subsystem

EXTERIOR CHECK

1. Sway braces — check.
2. Mounting lugs properly engaged — check.
3. Cannon plug connection — check.
4. Forward fairing — check condition and remove.
5. Barrel clamp and retaining bolt — secure.
6. Rounds counter — set.
7. Recoil adapters and pins — check.
8. Drive motor and electric connection — check.
9. Solenoid electric connection — check.
10. Boresight adjust screws — check.
11. Solenoid gate movement — check.
12. Safeing sector and pins — check.
13. Exit chute — check security.
14. Exit timing pin — set.
15. Gun timing pin — set.
16. Feeder wheel timing pin — set.
17. Feeder wheel — check.
18. Forward fairing — replace/secure.
19. Rear fairing — remove
20. Battery switch — CHARGE.
21. Heater switch — as desired.
- (O) 22. High/low switch — as desired.
- (O) 23. AC field switch — as desired.
24. Battery case — check.
25. Remove battery case top — check battery, replace top.

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26. Side battery aft — check ammo.
27. Replace battery and secure.
28. Rear fairing — replace/secure.

XM-35 Armament Subsystem

EXTERIOR CHECK

RIGHT AMMO BOX

1. Rounds retainer spring door — secure.
2. Rounds aft of forward most spring — check.
3. Booster mounting pins — installed.
4. Ammo free at booster — check.
5. Booster elec connection — check.
6. Flexible chuting clips (2) — secure.
7. Fwd fairing/panel latches (6) — secure.
8. Fwd ammo cable — taut.

CROSSOVER FEED CHUTE

1. Chute support pins (4) — secure.
2. Fairing door latches (3) — secure.

LEFT AMMO BOX

1. Flexible chuting clips (2) — secure.
2. Ammo loops (2) over booster switch — check.
3. Booster switch electric connection — check.

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4. Booster switch actuated — check.
5. Rounds retainer spring door — secure.
6. Chute shield and bellmouth — secure.
7. Flexible chuting clips (2) — secure.
8. Ammo in bellmouth free — check.
9. Aft fairing/panel latches (9) — secure.

WEAPON (20mm) INSTALLATION

1. Flexible chute "D" rings (2) — secure.
2. Flexible chute clips (2) — secure.
3. Feeder timing — set.
4. Link chute — secure.
5. Feeder solenoid & linkage — free.
6. Feeder connector — secure.
7. Feeder mounting pins (2) — secure.
8. Gun lubrication — check.
9. Gundrive motor bolts (4) — secure.
10. Case chute bolts (4) — secure.
11. Firing lead connector — secure.
12. Boresight — check.
13. Fore and Aft mounts — secure.
14. Wing mount — secure.
15. Center barrel clamp & cotter pin — secure.
16. Blast suppressor bolts (7) — secure.

WEAPON ARMING

1. Cockpit rounds counter — set.
2. Holdback tool — remove.
3. Feed ammo into feeder — strip one round.
4. Gun drive brake lever — ON.
5. Firing lead — connect.

ROCKET LAUNCHER SUBSYSTEMS

EXTERIOR CHECK

1. Mounting lugs — check.
2. Sway braces — check.
3. Electric connection — secure.
4. Exterior of launcher — check.
5. Interior of launchers — check.
6. Firing contact points — check.

SINGLE PILOT OPERATION

1. Gunner's safety belts — secure.
2. Loose equipment — secure.
3. Canopy jettison handle — secure.
4. Electric power emergency off switch — ON.
5. Engine air switch — SCREEN.
6. Force trim switch — ON.
7. Instrument lights — OFF.
8. Governor switch — AUTO.
9. Idle stop release — check OFF.
10. Miscellaneous control panel cover — as desired.

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11. Magnetic compass — check.
12. Emergency collective hydraulic switch — OFF.
13. Emergency wing stores jettison switch — OFF, cover down and safetied.
14. VHF Radio — as desired.
15. Sight — stowed, gimbal locks secure.
16. Ground safety lever — engaged.
17. Weapons select switch — as desired.
18. Range control knob — adjust.
19. Compensation switch — as desired.
20. Ammunition reserve counters — SET.
21. Pilot override switch — OFF.
22. Weapons clear/unclear switch — as desired.
23. Wing stores select switch — OFF.
24. Smoke grenade switch — OFF.
25. Point/area fire switch — POINT.
26. Ammunition fireout switch — as desired.
27. Cyclic firing trigger cover — CLOSED.
28. Cockpit light — OFF.
29. Fire extinguisher — check.
30. Ballast weight — Install.
31. Canopy hatch — CLOSED.

INTERIOR CHECK (GUNNER)

- *1. Canopy hatch — as desired.
2. Loose equipment — stowed.
3. Pedals — adjust.
- *4. Safety belts and shoulder harness — fastened.

5. Shoulder harness lock — check.
6. Canopy jettison handle — check.
- *7. Electric power — ON.
- *8. Engine air — SCREEN.
- *9. Force trim — ON.
10. Instrument lights — OFF.
- *11. Governor — AUTO.
12. Idle stop release — OFF.
13. Miscellaneous control panel cover — as desired.
14. Vents — as desired.
- *15. Standby compass — check.
- *16. Emergency collective hydraulic — OFF.
17. Emergency jettison — OFF and covered.
18. Signal distribution panel — as desired.
19. VHF radio — OFF.
20. Instruments — static indications, markings.
- *21. Altimeter — set.
22. Mirror — adjust.
23. Sight — stowed; gimbal locks — secured.
24. Ground safety lever — engaged.
25. Sun shield — condition and security.
26. Weapons select switch — as desired.
27. Range control knob — adjust.
28. Filament select switch — as desired.
29. Reticle intensity control — as desired.
30. Compensation switch — as desired.
31. Ammunition reserve counters — SET.
32. Pilot override switch — OFF.
33. Weapons clear/unclear switch — as desired.
34. Wing stores select switch — OFF.

35. Smoke grenade switch — OFF.
36. Point/area fireswitch — POINT.
37. Ammunition fireout switch — as desired.
38. Cyclic firing trigger cover — CLOSED.
39. Cockpit light — check.

INTERIOR CHECK (PILOT)

- *1. Canopy hatch — as desired.
- *2. Loose equipment — stowed.
3. Seat and pedals — adjust.
- *4. Safety belt and shoulder harness — fastened.
5. Shoulder harness lock — check.
6. Canopy jettison handle — secure.
- *7. Cyclic — check position.
- *8. Collective — check position.
- *9. Throttle friction — OFF.
10. Searchlight switch — OFF.
- (O) 11. Landing light switch — OFF.
- (O) 12. Landing light control switch — OFF.
- (O)*13. All AC circuit breakers — IN (except WEAPON SIGHT).
14. Battery — OFF.
15. Generator — OFF.
16. Inverter — OFF.
17. Non-essential bus — NORMAL (MANUAL night).
18. Engine air — screen.
19. Force trim — ON.
20. Fuel switch — OFF.
21. Engine oil bypass — as desired.

22. Governor — AUTO.
23. Free air temperature — check.
24. SCAS Power — OFF.
25. Signal distribution panel — as desired.
26. Instruments — static indications, markings.
- *27. Altimeter — set.
28. VSI/IVSI — note indication.
29. RMI — ADF position.
- *30. Emergency collective hydraulic — OFF.
31. Wing stores jettison — OFF and covered.
32. Compass slaving switch — DG or MAG
33. Clock — set.
34. Weapons select switch — as desired.
- *35. Master armament switch — OFF.
36. Gunner/pilot control switch — as desired.
37. Point/area switch — POINT.
38. Wing stores jettison select — BOTH.
39. Rocket pair select — as desired.
40. Wing stores armament switch — OFF.
41. Smoke grenade switch — OFF.
42. FM radio — OFF and set.
43. Pitot heat switch — OFF.
44. Rain removal and heat switch (ECU) — OFF.
45. Heat or Vent control — PULL.
46. UHF Radio — OFF and set.
47. Navigation aids — OFF and set.
48. Transponder — OFF and set.
49. Instrument and console lights — OFF. (On for night)
50. Anticollision light — OFF.

51. Position lights switch — OFF (FLASH for night).
52. DC circuit breakers — IN.
53. Cockpit light — OFF — check condition and security.

STARTING ENGINE

- *1. Helmets — On
- *2. Battery — ON (OFF for APU start).
- *3. APU — connect.
- *4. Intercom — as desired.
- *5. RPM audio — OFF.
6. Chip detector — TEST.
- *7. Governor RPM — DECR 10 seconds.
- *8. Throttle — check full travel.
- *9. Throttle — set.
- *10. Fuel switch — ON.
- *11. Master caution and RPM warning — check.
- *12. Caution panel — TEST.
- *13. Fireguard — post.
- *14. Main rotor — clear.
- *15. Voltmeter — check 22 vdc.
- *16. Starter — press, start clock.
- *17. EGT and gas producer — monitor.
- *18. Starter — release at 40% N1.
- *19. Collective — full DOWN.
- *20. Generator — ON.
- *21. Inverter — MAIN.
- *22. OIL pressure — check.
- *23. Fuel pressure — check.

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- *24. Throttle — flight idle, check stop.
- *25. APU — disconnect, battery ON.
- (N)*26. Instruments and console lights — ON.

ENGINE RUNUP

- *1. Gas producer — 70 to 72%.
- *2. Engine oil pressure — check.
- *3. Transmission oil pressure — check.
- *4. Master caution light — OFF.
- *5. SCAS power — ON.
- *6. Fuel quantity — TEST.
- *7. Radios and navigation aids — ON.
- *8. Transponder — standby.
- 9. Force trim — check.
- 10. Hydraulic system 1 — TEST.
- 11. Hydraulic system 2 — TEST.
- 12. Hydraulic test switch — BOTH.
- 13. Force trim — ON.
- *14. Throttle — full open. 6000 \pm 50 RPM.
- *15. Governor — INCR 6700 RPM \pm 50 RPM — set 6600.
- *16. Throttle friction — as desired.
- 17. Instruments — normal.
- *18. Voltmeter — check.
- (O)*19. AC voltmeter — check.
- 20. Pitot heat — check.
- 21. Generator — OFF check caution panel.
- 22. Non-essential bus — to MANUAL — check caution panel, pressure instruments.
- 23. Generator — ON.

24. Non-essential bus — NORMAL.
25. Inverter switch — STANDBY — MAIN.
26. Engine air — check.
27. Engine air — screen.
- *28. SCAS Channels — engage.
29. SCAS gunner disengage.
30. SCAS reengage, then pilot disengage.
31. SCAS — reengage.
32. AFT fuel boost pump — check.
33. Engine fuel pump — check.
34. Signal distribution panel — as desired.
- *35. Radios — check.
- *36. Magnetic compass — check heading.
- *37. RMI — check heading.
- *38. Altimeter — note K factor.
- *39. Attitude indicator — set.
- *40. Canopy hatches — secure.
41. Forward fuel boost pump — check.
42. Fuel boost circuit breakers — IN.
- *43. Force trim — as desired.
- *44. Exterior lights — as desired.
- *45. Anticollision light — as required.

BEFORE TAKEOFF AND LANDING

- *1. RPM — 6600.
- *2. Caution and warning lights — check.
- *3. Instruments — normal.
- *4. Fuel quantity — note.
- *5. Rain removal-heat (ENVR CONT) switch — OFF.
- *6. Armament panel — check.

HOVER CHECK — INSTRUMENTS

- (I) *1. Turn and heading indicators — check.
- (I) *2. Slip indicator — check.
- (I) *3. Vertical velocity and altimeter — check.
- (I) *4. Attitude indicator — check.
- (I) *5. Airspeed indicator — check.
- (I) *6. Torquemeter — check.
- (I) *7. RMI — set heading.
- (I) *8. Pitot heat — as required.

AFTER LANDING CHECK (Shutdown anticipated)

- 1. Collective — Full DOWN.
- 2. Force trim — ON.
- 3. Governor — DECREASE.
- 4. Throttle — FLIGHT IDLE.
- 5. RPM audio — OFF.
- 6. EGT — stabilize 2 minutes.
- 7. SCAS Power — OFF.
- 8. Engine and transmission instruments — check.
- 9. Radios and navigation aids — OFF.
- 10. Anticollision light — OFF.

ENGINE SHUTDOWN

- 1. Throttle — CLOSED.
- 2. Fuel switch — OFF.
- 3. Inverter — OFF.
- 4. Generator — OFF.

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5. EGT — monitor.
6. Emergency collective hydraulic switch — ON, when rotor stops.
7. Accumulator — BLEED.
8. Emergency collective hydraulic switch — OFF.

BEFORE LEAVING HELICOPTER

1. All electrical switches — OFF.
2. Main rotor blade — tie down.
3. Conduct walkaround inspection — check for leaks.
4. DA Forms 2408's — complete.

ENGINE

ENGINE START – EMERGENCY POSITION

1. Throttle – CLOSED.
2. Governor switch – emergency.
3. Starter – energize and start clock.
4. Throttle (after N1 passes 8%) – open slowly to FLIGHT IDLE.
5. Starter – release at 40% N1.
6. Throttle – 80% N1, reduce to FLIGHT IDLE.
7. Governor switch – automatic (as engine is decelerating to 70% N1).

HOT START – ABORT PROCEDURE

1. Throttle – CLOSED.
2. Fuel switch – OFF.
3. Starter – continue to energize.
4. Complete engine shutdown.

ENGINE FAILURE – 0 to 40 KNOTS AIRSPEED AND BELOW 100 FEET ALTITUDE

1. Collective pitch – maintain position (lower slightly if necessary).
2. Cyclic – maintain landing attitude.
3. Pedals – maintain heading.
4. Collective pitch – cushion landing.

ENGINE FAILURE — 40 TO 120 KNOTS
AIRSPEED AND ABOVE 100 FEET ALTITUDE

1. Collective pitch — maintain RPM.
2. Cyclic — Establish 60 to 70 knots airspeed.
3. Foot pedals — maintain heading.
4. Fuel switch — OFF.
5. Wing stores — jettison as appropriate.
6. Shoulder harness (time permitting) — LOCKED.
7. Landing — execute a flare-type autorotative landing.

ENGINE FAILURE — 120 TO 190 KNOTS
AIRSPEED

1. Cyclic — flare.
2. Collective — maintain RPM.
3. Cyclic — maintain desired airspeed.
4. Fuel switch — OFF (time permitting).
5. Wing stores — jettison as appropriate.
6. Shoulder harness (time permitting) — LOCKED.
7. Landing — execute a flare-type autorotative landing.

ENGINE RESTART DURING FLIGHT

GOVERNOR SWITCH – AUTO POSITION.

1. Establish autorotational glide and select landing area.
2. Battery switch – ON.
3. Fuel switch – ON.
4. Fuel boost circuit breakers – IN.
5. Starter and IGN SYS circuit breakers – IN.
6. Throttle – normal start position.
7. Starter energize – release at 40% N_1 .
8. Throttle – full open.

GOVERNOR SWITCH – EMER POSITION

1. Establish autorotational glide and select landing area.
2. Battery switch – ON.
3. Fuel switch – ON.
4. Fuel boost circuit breakers – IN.
5. Starter and IGN SYS circuit breakers – IN.
6. Throttle – OFF.
7. Governor switch – EMER.
8. Starter – energize.
9. Throttle – open slowly as N_1 reaches 10%.
10. Starter – release at 40% N_1 .
11. Throttle – open slowly to operating RPM.

ENGINE ICING

1. Establish IAS — 100 knots or less.
2. Engine air screen — SCR N BY P.
3. Caution panel — monitor (if light goes out, leave in bypass).
4. Engine air screen — DE-ICE position.

LOSS OF ENGINE/TRANSMISSION OIL PRESSURE OR EXCESSIVE ENGINE/TRANSMISSION OIL TEMPERATURE

1. Normal landing — Accomplish at nearest safe landing area.
2. Cause — determined and corrected before continuing flight.

TAIL ROTOR MALFUNCTION

Refer to Chapter 4, TM 55-1520-221-10 for tail rotor malfunction emergency procedures.

TAIL ROTOR MALFUNCTION

Refer to Chapter 4, TM 55-1520-221-10 for tail rotor malfunction emergency procedures.

FIRE

ENGINE FIRE DURING STARTING

1. Starter — continue to energize — release at 40% N1.
2. EGT — monitor.
3. Throttle — increase to flight idle.
4. Continue normal procedure.
5. Abort start — if fire not out by flight idle.

ENGINE FIRE DURING FLIGHT

1. Forced landing area — select, enter autorotation.
2. Fuel pressure — check.
3. EGT and engine oil pressure — check (if engine and systems are normal — land immediately).
4. If abnormal indication proceed as follows:
5. Throttle — OFF.
6. Fuel switch — OFF.
7. Maintain autorotative rotor RPM.
8. Cyclic — establish desired IAS.
9. Wing Stores — jettison if appropriate.
10. Shoulder harness — LOCKED.
11. Contact nearest control agency.
12. Execute autorotative landing.
13. Electrical power — OFF.
14. Exit aircraft.

FUSELAGE FIRE

1. Airspeed — 40 to 60 knots.
2. Wing stores — jettison as appropriate.
3. Accomplish landing immediately.
4. Shut down immediately after landing.

ELECTRICAL FIRE

1. Instruments — check for correct reading.
2. Battery and generator switches — OFF.
3. Circuit breakers — OUT.
4. Generator field circuit breaker — IN.
5. Generator switch — ON. If circuit is shorted, return to OFF, and Battery switch ON.
6. Generator bus reset circuit breaker — IN.
7. Circuit breakers — IN one at a time, and allow a short period of time to identify defective circuit.

WING STORES FIRE

1. Wing stores jettison select switch — OUTBD, BOTH, or INBD position as appropriate.
2. Wing stores jettison switch — UP position.

SMOKE AND FUME ELIMINATION

1. Canopy hatches — intermediate position.
2. Vent control — full open.

SMOKE AND FUME ELIMINATION

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FUEL

FUEL BOOST PUMP FAILURE (TWO)

1. Altitude — 4600 or less.
2. Main fuel — check ON.
3. Boost pump circuit breakers — IN.

FUEL CONTROL MALFUNCTION — GAIN IN ENGINE N2 RPM

1. Collective — adjust to maintain RPM.
2. Throttle — maintain (6400-6600) RPM.
3. Adjust power and RPM manually.

FUEL CONTROL MALFUNCTION — LOSS OF ENGINE N2 RPM

1. Enter autorotation — select landing area.
2. Throttle — flight idle.
3. Governor switch — EMER.
4. Throttle — advance — obtain engine operating RPM.

FUEL FILTER CONTAMINATION

1. Land — nearest available safe landing area.

INLET GUIDE VANE ACTUATOR FAILURE

1. Collective — reduce.
2. Land — nearest available safe landing area.

ELECTRICAL (ELECT)

DC GENERATOR FAILURE

1. Generator bus reset circuit breaker — IN.
2. Generator field circuit breaker — IN.
3. Generator switch — move to RESET then to Gen position.
4. SCAS channels re-engaged. (If generator has failed proceed as follows):
5. Generator switch — OFF.
6. Generator field circuit breaker — OUT.
7. Inverter switch — standby.
8. Turn off switches and/or pull circuit breakers to unnecessary equipment as desired.
9. Non-ESS BUS — MANUAL.

AC INVERTER FAILURE

1. Main inverter circuit breaker — IN.
2. Standby inverter circuit breaker — IN.
3. Inverter switch — STBY position.
4. SCAS — check channels — ON.
5. Main inverter circuit breaker — OUT.

ENGINE SHUTDOWN — COMPLETE ELECTRICAL FAILURE

1. Oil cooling compartment screen — remove.
2. Flight idle release solenoid plunger — press.
3. Throttle control linkage — down to throttle closed position.

HYDRAULIC (HYD)

HYDRAULIC SYSTEM 1 FAILURE

1. Emergency collective hydraulic switch — OFF.
2. SCAS — disengage YAW channel.
3. AC weapons sight circuit breaker — OUT.
4. Perform running landing (min 35k).
5. Emergency collective hydraulic switch — ON (final approach).

HYDRAULIC SYSTEM 2 FAILURE

1. Emergency collective hydraulic switch — OFF.
2. SCAS — disengage PITCH and ROLL channels.
3. AC weapons sight circuit breaker — OUT.
4. Perform running landing (min 35k).
5. Emergency collective hydraulic switch — ON (final approach).

HYDRAULIC SYSTEMS 1 AND 2 FAILURE

1. Emergency collective hydraulic switch — OFF.
2. SCAS — disengage all channels.
3. AC weapons sight circuit breaker — OUT.
4. Airspeed — maintain where control forces are manageable.
5. Perform running landing (min 35k).
6. Emergency collective hydraulic switch — ON (final).

LANDING AND DITCHING (LDG/DTCH)

EMERGENCY LANDING — POWER OFF (REFER TO ENGINE FAILURE)

LANDING IN TREES — POWER OFF

1. Execute a normal autorotation descent.
2. Flare and reach a zero rate of descent and zero airspeed at tree tops.
3. As helicopter settles — increase collective to maximum.

EMERGENCY EXIT

1. Rotate door handle up: unlatching the door.
2. Rotate jettison handle inboard.
3. Push canopy out.
4. Exit aircraft.

DITCHING WITH POWER ON

1. Inform gunner of intentions.
2. Distress message — transmit, set transponder.
- (O) 3. Wing stores — jettison as appropriate.
4. Airspeed — hover.
5. Canopy hatches (pilot & gunner) — JETTISON.
6. Gunner — exit aircraft.
7. Hover clear of gunner.
8. Master arm switch — OFF.
9. Shoulder harness — LOCKED.
10. Accomplish hovering autorotation — as helicopter settles in water — dissipate rotor RPM.
11. If helicopter starts to roll — assist with cyclic in same direction.
12. Exit helicopter when main rotor stops.

DITCHING WITH POWER OFF

1. Perform autorotative glide into wind.
2. Inform gunner of intentions.
3. Distress message — transmit, set transponder.
- (O) 4. Wing stores — JETTISON.
5. Shoulder harness — LOCKED.
6. Pilot and gunner open canopy to first notch — after water contact — JETTISON.
7. Execute zero ground speed autorotation.
8. As helicopter settles in water — dissipate rotor RPM.
9. If helicopter starts to roll — assist with cyclic in same direction.
10. Exit helicopter when rotor stops.

DITCHING WITH POWER OFF

1. Perform autorotative glide into wind.
2. Inform gunner of intentions.
3. Distress message - transmit, set transmitter.
4. Wing stores - JETTISON (O)
5. Shoulder harness - LOCKED.
6. Pilot and gunner open canopy to first notch - after water contact - JETTISON.
7. Execute zero ground speed autorotation.
8. As helicopter settles in water - dissipate rotor RPM.
9. If helicopter starts to roll - resist with cyclic in same direction.
10. Exit helicopter when rotor stops.

BAILOUT

1. Warn gunner of intent.
2. Distress message — transmit, set transponder.
3. Reduce airspeed to approximately 20 knots, if canopy hatches are to be jettisoned.
4. Wing stores — JETTISON.
5. Force trim — ON.
6. Jettison canopy hatches.
7. Set controls for cruise speed and flight attitude.
8. Bail out when ready.

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2. Distress message - transmit, set transponder.
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WING STORES JETTISON

1. Wing stores jettison select switch — as required.
2. Wing stores jettison switch — UP position.

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1. Wing stores jettison select switch -- as required.
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TM 55-1520-221-CL

**STABILITY AND CONTROLS AUGMENTATION
SYSTEM FAILURE**

1. SCAS disengage button — press.

E-25/(E-26 BLANK)

STABILITY AND CONTROLS AUGMENTATION
SYSTEM FAILURE

1. SCAS disengage button - press

TAKEOFF DATA CARD

CONDITIONS

GROSS WEIGHT	LBS
FIELD LENGTH	FT
DENSITY ALTITUDE	FT
EFFECTIVE WIND	KTS

TAKEOFF

TAKEOFF

TAKEOFF OVER	
50 FT OBSTACLE	FT
OBSTACLE CLEARANCE	
SPEED	KTS IAS

LANDING IMMEDIATELY AFTER TAKEOFF WITH POWER OFF CONDITION

APPROACH SPEED	KTS IAS
LANDING DISTANCE	
OVER 50 FT	
OBSTACLE	FT

LANDING DATA CARD

CONDITION

FIELD LENGTH	FT
GROSS WEIGHT	LBS
DENSITY ALTITUDE	FT
EFFECTIVE WIND	KTS

TM 55-1520-221-CL

LANDING

LANDING DISTANCE OVER

50 FT OBSTACLE

FT

APPROACH SPEED OVER

50 FT OBSTACLE

KTS IAS

TAKEOFF

TAKEOFF

TAKEOFF OVER

50 FT OBSTACLE

OBSTACLE CLEARANCE

SPEED

KTS IAS

LANDING IMMEDIATELY AFTER TAKEOFF WITH

POWER OFF CONDITION

KTS IAS

APPROACH SPEED

LANDING DISTANCE

OVER 50 FT

OBSTACLE

FT

LANDING DATA CARD

CONDITION

FIELD LENGTH

GROSS WEIGHT

DENSITY ALTITUDE

EFFECTIVE WIND

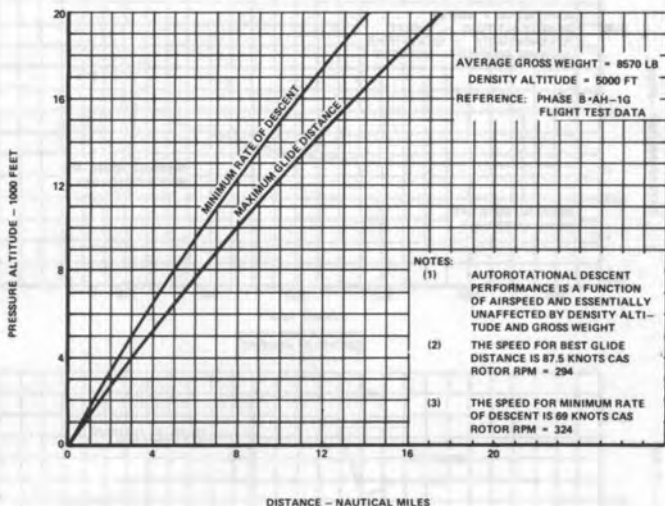
FT

LB

FT

KTS

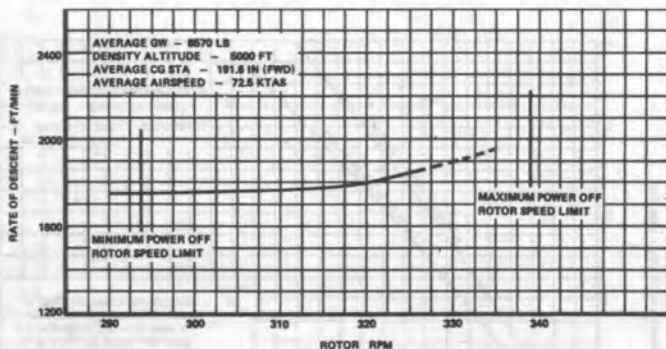
TM 55-1520-221-CL



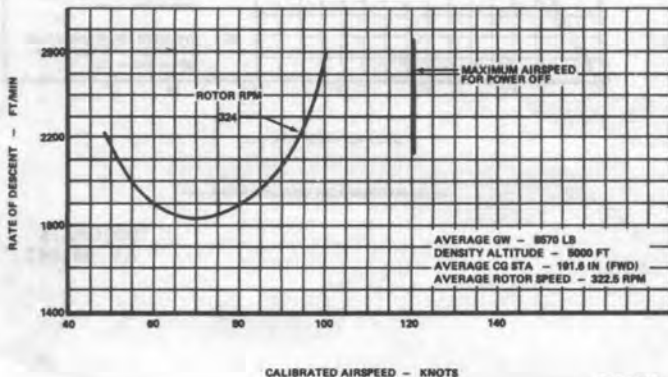
AH-1G MAXIMUM GLIDE DISTANCE' POWER-OFF

209099-15
AV 052942

EFFECT OF RPM



EFFECT OF AIRSPEED



209099-18
 AV 054600

Figure 4-4A, AH-1G Autorotational descents

