TM 55-1520-214-CL

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

Operator's and Crewmember's Checklist

ARMY MODEL
OH–6A AIRCRAFT

This copy is a reprint which includes current pages from change 1.

Pilot's Checklist

HEADQUARTERS, DEPARTMENT OF THE ARMY
NOVEMBER 1969

HEADQUARTERS
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TM 55-1520-214-CL is published for the use of all concerned.

By Order of the Secretary of the Army:

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*This manual supersedes TM 55-1520-214-CL, 17 June 1969, including all changes.

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 four parts: Normal procedures, emergency procedures, performance data, and armament procedures. Normal procedures consist of the procedures required for normal flight. Emergency procedures are subdivided into 10 classifications as follows: engine, propeller (Prop), fire, fuel, electrical (Elect), hydraulic (Hyd), landing and ditching (Ldg/Dtch), flight controls (Flt Cont), bailout or ejection (Bailout) (Eject), and armament (Armt), as applicable. Performance data consists of charts and tables that may be used to obtain take-off, cruise and landing data. Also included is the Performance Checks section containing detailed procedural information for specified steps. Armament procedures consist of the procedures required for normal armament operation.

NOTE

This checklist does not replace the amplified version of the procedures in the operator's manual (TM 55-1520-214-10), 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. Performance data consists of charts and tables that may be used to obtain takeoff, cruise and landing data. The performance checks section contains selected detail procedures drawn from the applicable portion of the operator's manual.

Armament Procedures Pages. The contents of the armament procedures are a condensation of the amplified checklist appearing in the armament portion of the operator's manual.

Symbols Preceding Numbered Steps.

- *** — Indicates performance of steps is mandatory for all "Thru Flights."**
- **(N) — Means performance of step is mandatory for "Night Flights."**
- **(I) — Indicates mandatory check for "Instrument Flights."**
- **(O) — Indicates if installed.**
- **★ — Indicates a detailed procedure for this step is included in the Performance Checks section, located at the back of the checklist.**

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

CHECK—Mission and destination.

SELECT—Performance charts.

RECORD—Fuel quantity, airspeed, power, settings, takeoff, climb, cruise or hovering condition, landing and fuel consumption for operating gross weight and climatic condition.

WEIGHT AND BALANCE

Form 365F—Completed.

COMPUTE takeoff and landing gross weight, CG location, and weight of fuel, oil, payload, etc.

Landing limitations—CHECK.

PREPARATION FOR FLIGHT

BEFORE EXTERIOR CHECK

*1. Publications—CHECK.
*2. Armed-SAFE switch—SAFE.
*3. SYSTEM MODE MASTER switch—OFF.
4. BATT-OFF-EXT switch—BATT.
5. Fuel quantity indicator—CHECK.
(N)6. All lights—CHECK.
7. BATT-OFF-EXT switch—OFF.
8. Fire extinguisher—CHECK.
9. First aid kit—CHECK.
10. Battery compartment—CHECK.
11. Pedals—ADJUST.

EXTERIOR CHECK

FUSELAGE—RIGHT SIDE

1. Aircraft tiedowns and covers—REMOVE.
2. Pilot's entrance door—CHECK.
3. Skid—CHECK.
4. Cargo compartment—CHECK.
5. Auxiliary fuel and armament receptacle cover caps—SECURE.
6. Auxiliary fuel fitting plug—SECURE.
7. Forward (left and right) landing gear dampers—CHECK.
*8. Transmission—CHECK oil level.
9. Overhead glass canopy—CHECK.
10. Main rotor assembly—CHECK.
11. Mast and swashplate assemblies—CHECK.
12. Engine air inlet fairing—CHECK.
13. Cargo compartment door—CHECK.
*14. Fuel—CHECK.
15. Navigation light—CHECK.
*16. Engine oil tank—CHECK oil level.
17. Fuselage—CHECK.
18. Static port—CHECK.

TAIL BOOM RIGHT SIDE

1. Boom—CHECK.
(O)2. ADF sense antenna—CHECK.
(O)3. FM whip antenna—CHECK.

TAIL ROTOR

1. Stabilizers—CHECK.
2. Tail skid—CHECK.
3. Aft position light—CHECK.
4. Chip detector and wiring—Secure.
5. Tail rotor control push-pull rod and bell crank—CHECK.
*6. Tail rotor transmission—Secure; oil level.
7. Tail rotor output shaft dust covers and rubber bumper—CHECK.
8. Tail rotor output shaft—CHECK, slippage mark.
9. Retaining nut tang washer—CHECK.
10. Tail rotor blades and pitch control links—CHECK.
*11. Main rotor blades—CHECK.

TAIL BOOM LEFT SIDE

Boom—CHECK.

FUSELAGE LEFT SIDE

1. Engine compartment—CHECK.
2. Fuselage—CHECK.
3. Navigation light—CHECK.
4. Armament subsystem—CHECK.
5. Skid—CHECK.
6. Cargo compartment door—CHECK.
7. Copilot's entrance door—CHECK.

FUSELAGE FRONT

1. Canopy—CHECK.
2. OAT thermometer sunshield—CHECK.
3. Fresh air inlet—CHECK.

(O)4. FM homing antenna—CHECK.

5. Landing/hover light—CHECK.
6. Pitot tube—CHECK.
7. Pedal control linkage—CHECK.

FUSELAGE UNDERSIDE

1. Skin—CHECK.
2. Anticollision light fairing—CHECK.

(O)3. ADF sense antenna—CHECK.

4. Fuel tank vent—CHECK.
5. Fuel tank drain valve—DRAIN.

INTERIOR CHECK

(O)*1. Entrance doors—SECURED.

*2. Safety belt and shoulder harness—FASTENED.

*3. Inertia reel—CHECK.

*4. Flight controls—CHECK.

*5. Cyclic—NEUTRAL.

*6. Collective pitch—FULL DOWN, friction on.

*7. Throttle—CHECK.

8. Landing/hover light—OFF.

INTERIOR CHECK (CONT)

9. Light panel — OFF (night operation as desired).
10. Radios—OFF.
*11. All instruments—Static.
*12. Clock—SET.
*13. Altimeter—SET.
*14. Standby compass—CHECK.
*15. Free air temperature gage—CHECK.
*16. ENGINE DE-ICER—OFF.
*17. CABIN HEAT & DE-FOG—OFF.
18. Utility light—OFF.
(O)19. Reflex sight—CHECK.
20. Circuit breakers—IN.
*21. INVERTER—OFF.
*22. Generator—OFF.
(O)23. Directional gyro—MAGNETIC or SLAVE.
(O)24. AUX TANK or UTILITY POWER—OFF.
(O)*25. FUEL PUMP—OFF.
(O)*26. SCAV AIR—OFF.
*27. FUEL VALVE—CHECK.
*28. BYPASS AIR CONTROL—CHECK.

BEFORE STARTING ENGINE

*1. BATT-OFF-EXT switch—Proper position.
*2. Engine-out audible system—CHECK.
*3. N_2 governor switch—Decrease 7 seconds.
*4. Caution and warning lights—CHECK.

STARTING ENGINE

*1. Helmets—ON.
*2. Rotor blades—CLEAR.
*3. Fireguard—POSTED.
*4. Throttle—FUEL CUTOFF.
★*5. Engine—START.
*6. Engine oil pressure—CHECK.
*7. N_1 tach indicator—CHECK.
(O)*8. SCAV AIR—ON.
*9. XMSN OIL PRESS warning light—CHECK.

ENGINE RUNUP

*1. BATT-OFF-EXT switch—Proper position.
(O)*2. External power—Disconnect.
*3. Generator switch—GEN.
*4. INVERTER switch—Proper position.
(O)*5. Attitude gyro—PULL to erect.
*6. Radios—ON.
*7. Controls—CHECK, friction as desired.
*8. Throttle—FULL OPEN.
*9. Engine oil pressure—CHECK.
*10. Governor trim—CHECK.
*11. Throttles—CHECK IDLE STOP.
*12. All instruments—CHECK.
*13. Anticollision lights—ON.
(N)*14. Interior lights—As desired.

PRETAKEOFF CHECK

*1. Caution and warning lights—Out (if applicable).
*2. Instruments—Normal operating range.
*3. N2 — 101% norm pretakeoff setting (103% at hover).
*4. Fuel quantity indicator—Indication.

CRUISE CHECK

1. Engine power—Above 50 kn and 50 ft, trim N2 (100-103%) for lowest noise and vibration level.
(O)2. Air filter SCAV AIR switch—OFF (unless flying in dusty atmospheric conditions).
3. Cyclic trim—Adjust as required.
4. Engine anti-icer—Use when flying in visible moisture at OAT below 5°C.

PRELANDING CHECK

*1. Caution and warning lights—Out (if applicable).
*2. Instruments—Normal operating range.
*3. N2—103%.
*4. Fuel quantity—Check indication.
(O)*5. Air filter SCAV AIR—ON.

ENGINE SHUTDOWN

*1. Throttle—Idle stop.
*2. Controls — Cyclic neutral, collective full down, friction ON.
*3. Anticollision lights—OFF.
*4. All radios—OFF.
*5. Throttle—FUEL CUTOFF.
(O)*6. FUEL PUMP—OFF.
*7. Generator—OFF.
*8. INVERTER—OFF.
*9. All electrical and light switches—OFF.
*10. BATT-OFF-EXT switch—OFF.
*11. Walk-around inspection—Completed.
*12. DA Forms 2408-12 and -13—Completed.

EMERGENCY PROCEDURES

NOTE

The urgency of certain emergencies requires immediate and instinctive action by the pilot. The most important single consideration is aircraft control. All procedures are subordinate to this requirement.

ENGINE FAILURE

DURING TAKEOFF AND WHILE HOVERING BELOW 8 FEET

1. Collective pitch—Maintain setting.
2. Cyclic—Level attitude.
3. Anti-torque pedals—Apply, maintain heading.
4. Collective pitch—Increase to cushion landing.
5. BATT-OFF-EXT switch—OFF.
6. FUEL VALVE—PULL TO CLOSE.

LOW AIRSPEED, LOW ALTITUDE

1. Collective pitch—Reduce, maintain rotor rpm.
2. Cyclic and anti-torque pedals — Maintain heading and directional control.
3. Best available area—Select.
4. Landing—Accomplish.
5. BATT-OFF-EXT switch—OFF.
6. FUEL VALVE—PULL TO CLOSE.

HIGH AIRSPEED, LOW ALTITUDE

1. Cyclic—Initiate speed reduction climb until airspeed reaches approximately 60 knots.
2. Collective pitch—Reduce, maintain rotor rpm.
3. Shoulder harness—LOCK (time permitting).
4. Landing—Accomplish.
5. BATT-OFF-EXT switch—OFF.
6. FUEL VALVE—PULL TO CLOSE.

DURING FLIGHT

1. Collective pitch—Reduce, maintain rotor rpm.
2. Autorotational glide—Establish.
3. Forced landing area—Select.
4. Landing—Accomplish.
5. BATT-OFF-EXT switch—OFF.
6. FUEL VALVE—PULL TO CLOSE.

AIR RESTART

1. Autorotational glide—Establish.
2. Forced landing area—Select.
3. Rotor rpm—Maintain with collective pitch.
4. Throttle—Fuel cutoff.
5. FUEL VALVE—Check open.
6. Cabin heat/eng anti-icer—OFF.

(O)7. SCAV AIR switch—OFF.

8. Starter-ignition button—Press and hold.
9. Throttle—Full open at 18% N_1, or maximum attainable.
10. Collective pitch—Apply as required.

EMERGENCY SHUTDOWN

1. Throttle—Fuel cutoff.
2. FUEL VALVE—PULL TO CLOSE.
3. BATT-OFF-EXT switch—OFF.

CHIP DETECTOR CAUTION LIGHT ON

1. Press. and temp instruments—Monitor for abnormal indications.
2. Aircraft—Normal landing at nearest safe landing area (open field, etc) and investigate.
3. Oil chips test switch—Perform isolation test.

BYPASS AIR CAUTION LIGHT ON

Bypass air release handle—Pull forward.

ENGINE SURGES OR TOT RISES (ACFT WITH AIR FILTER)

Bypass air release handle—Pull forward.

OIL COOLER BYPASS CAUTION LIGHT ON

Aircraft—Execute normal landing at the nearest safe available landing area (open field, etc).

COMPRESSOR STALL

Stall can be reduced by decreasing engine load.

TRANSMISSION OIL PRESSURE/TEMPERATURE WARNING LIGHT ON

Aircraft—Execute normal landing at the nearest safe available landing area (open field, etc).

FIRE

ENGINE FIRE DURING STARTING

1. Throttle—Fuel cutoff.
2. Starter-ignition button—Motor engine.
3. FUEL VALVE—PULL TO CLOSE.
(O)4. Fuel pump—Pull circuit breaker.

ENGINE FIRE DURING FLIGHT

1. Forced landing area—Select, verify fire.
2. Aircraft—Enter autorotation. (Normal landing if fire is minor.)
3. Throttle—Fuel cutoff.
4. FUEL VALVE—PULL TO CLOSE.
(O)5. Fuel pump—Pull circuit breaker.
6. Landing—Accomplish.

FUSELAGE FIRE

1. Doors—Open to exhaust smoke.
2. Fire extinguisher—Apply on fire source.
3. Landing—Accomplish.

ELECTRICAL FIRE

1. Instruments—Check indications.
2. BATT-OFF-EXT switch—OFF.
3. Generator switch—OFF.
4. Landing—Accomplish.

FUEL CONTROL SYSTEMS FAILURE

OVERSPEED GOVERNOR FAILURE

1. Collective pitch—Increase to maintain rotor rpm within limits.
2. Throttle—Decrease to maintain N_2 within limits.

UNDERSPEED GOVERNOR FAILURE

1. Collective pitch—Reduce, maintain rotor rpm.
2. Autorotational glide—Establish.
3. Forced landing area—Select.
4. Landing—Accomplish.
5. BATT-OFF-EXT switch—OFF.
6. FUEL VALVE—PULL TO CLOSE.

POWER SURGE

1. Governor trim—Maximum increase.
2. Throttle—Reduce to 100% N_2.
3. If condition persists, enter autorotation, accomplish power recovery if altitude permits. If not, complete autorotation.

ENGINE OIL SYSTEM MALFUNCTION

1. Power requirement—Reduce.
2. Aircraft—Normal landing at the nearest safe landing area and investigate.

ELECTRICAL

ELECTRICAL SYSTEM FAILURE

1. BATT-OFF-EXT switch—BATT.
2. Generator switch—GEN.
3. INVERTER switch—No. 1, No. 2, or INVERTER.
4. Circuit breakers—In.
5. Aircraft—Land at a maintenance facility.

GENERATOR FAILURE

For 30 MINUTES of flight at 75% bat. chg (nonuse of armament):

FM COMM—OFF.
ADF RCVR—OFF.
Anticollision lights—OFF.

For 1 HOUR of flight at 75% bat. chg (nonuse of armament):

UHF COMM—OFF.
INTERPHONE/AIC ckt bkr—OFF.
Engine inst light rheo—OFF.
Flight inst light rheo—OFF.
Generator switch—OFF.

DITCHING

DITCHING, POWER OFF

1. Collective pitch—Reduce, maintain rotor rpm.
2. Autorotational glide—Establish.
3. Passengers—Alert.
4. Aircraft—Radio position.
5. Doors—Jettison at low altitude.
6. Shoulder harness—Lock.
7. BATT-OFF-EXT switch—OFF.
8. FUEL VALVE—PULL TO CLOSE.
9. Decelerate—Zero ground speed.
10. Collective—Minimum rate of descent.
11. Aircraft—Allow to settle in a level attitude.
12. Collective—Full increase.
13. Cyclic—Apply in direction aircraft tends to roll.
14. Collective—Full down.
15. Release safety belt and harness—Clear aircraft after blade rotation stops.

DITCHING, POWER ON

1. Aircraft—Normal descent to hover.
2. Aircraft—Radio position.
3. All doors—Jettison at a hover.
4. Passengers/copilot—Exit.
5. Aircraft—Move to clear personnel.
6. BATT-OFF-EXT switch—OFF.
7. Generator switch—OFF.
8. FUEL VALVE—PULL TO CLOSE.
9. Throttle—Fuel cutoff position.
10. Aircraft—Allow to settle in a level attitude.
11. Collective pitch—Full increase.
12. Cyclic—Apply in direction aircraft tends to roll.
13. Release safety belt and harness—Clear aircraft after blade rotation stops.

FLIGHT CONTROLS

CYCLIC ONE-WAY LOCK FAILURE

Cyclic—Exert required pull for control response (30 lb to open relief valve); do not overcontrol.

RUNWAY CYCLIC TRIM ACTUATOR

1. CYCLIC TRIM ckt bkr—OFF.
2. Cyclic — Adjust position to override unwanted trim force.

GROUND RESONANCE DURING ENGINE STARTING

1. Throttle—Fuel cutoff.
2. Starter-ignition switch—Release.
3. BATT-OFF-EXT switch—OFF.
4. FUEL VALVE—PULL TO CLOSE.
5. Safety belt and shoulder harness—Fastened.
6. Aircraft—Investigate cause before attempting restart.

ARMAMENT

Upon landing, immediately alert personnel to probable presence of live rounds in gun. Any rotation of gun barrels will cause gun to fire.

GUN FAILS TO FIRE

1. ARM (ARMAMENT) POWER and ARM (ARMAMENT CONT) ckt bkr—Depressed.
2. SYSTEM MODE MASTER switch — FIRE NORM.
3. Armed-SAFE switch—ARMED.
4. Trigger switch—Depress; if gun fails to fire —release.
5. SYSTEM MODE MASTER switch—FIRE TO CLR.
6. Trigger switch—Depress to both low and high rate positions.

IF GUN STILL FAILS TO FIRE:

1. Trigger switch—Release.
2. Armed-SAFE switch—SAFE.
3. SYSTEM MODE MASTER switch—OFF.
4. ARM (ARMAMENT) POWER and ARM (ARMAMENT CONT) ckt bkr—Pulled.

RUNAWAY GUN.

1. Armed-SAFE switch—SAFE.
2. SYSTEM MODE MASTER switch—OFF.
3. ARM (ARMAMENT) POWER and ARM (ARMAMENT CONT) ckt bkr—Pulled.

ARMAMENT (CONT)

SIGHT RETICLE NOT ILLUMINATED

1. Sight filament selector switch—To rear.
2. Reticle illum knob—Rotate clockwise.
3. If reticle still not visible—SYSTEM MODE MASTER switch—FIRE NORM or FIRE TO CLEAR.
4. ARM (ARMAMENT) POWER and ARM (ARMAMENT CONT) ckt bkr—Depressed.

GENERATOR OUT, CAUTION LIGHT ON

Use high rate for firing. (Firing 2000 rd will consume approximately 5% of fully charged bat.—there is no bat. recovery.)

Performance data are presented in the operator's manual (TM 55-1520-214-10) only.

PERFORMANCE CHECK

ENGINE START

1. Starter-ignition button—Press and hold.
2. Throttle—Open to idle at 15% N_1 or above.
3. TOT—Monitor for overtemp.
4. Starter-ignition button—Release at 58% N_1 speed.

DURING START

If 749°C is exceeded for more than 10 seconds —Shut down.

If 927°C is exceeded—Shut down.

FALSE START

In case of a false start, hot start, or a start not completed in a total time of 45 sec at ambient air temp above 10°C, return throttle to FUEL CUTOFF. At temp below 10°C, starting times will increase. Motor engine with throttle in FUEL CUTOFF for at least 10 sec and until residual TOT indication reads less than 200°C. Ignition time limits are: 2 min ON, 3 min OFF; 2 min ON, 23 min OFF.

ARMAMENT

EXTERIOR CHECK

1. Gun—Installed and secured.
2. Gun—Clear.
3. Bolts—CHECK.
4. Electrical connections—Security.
5. Clearing guide—CHECK.
6. Chuting—CHECK.
7. Gun mount—Locked.
8. Delinking feeder—CHECK timing.
9. Ammunition container—LOAD.
10. Gun elevation—DEPRESS.

CABIN CHECK

1. Ammunition container—Check.
2. Sight linkage—CHECK.
3. Mounting points—CHECK.

COCKPIT CHECK

1. ARM (ARMAMENT) POWER and ARM (ARMAMENT CONT) ckt bkr—Depressed.
2. SYSTEM MODE MASTER switch—OFF.
3. Armed-SAFE switch—SAFE.
4. BATT-OFF-EXT switch—BATT.
5. Sight filament selector switch—Rear position.
6. SYSTEM MODE MASTER switch — FIRE NORMAL.
7. Sight—ADJUST height.

COCKPIT CHECK (CONT)

8. Reticle illumination knob—Desired intensity.
9. Sight filament selector switch — Forward position.
10. SYSTEM MODE MASTER switch—OFF.
11. Elevation/depression—CHECK full travel of gun.
12. Sight evaluation control knob—SET.
13. Sight—STOWED.

BEFORE FIRING

1. Reflex sight—POSITION.
2. Sight elevation control knob—As required.
3. SYSTEM MODE MASTER switch — FIRE NORM or FIRE TO CLEAR.
4. Reticle illumination—As required.
5. ARMED-SAFE switch—ARMED.
6. Gun elevation/depression switch—As required.

AFTER FIRING

1. SYSTEM MODE MASTER switch—FIRE TO CLEAR.
2. Trigger switch—Momentarily DEPRESS.
3. GUN NOT CLEARED light—OUT.
4. Armed-SAFE switch—SAFE.
5. SYSTEM MODE MASTER switch—OFF.
6. Gun elevation/depression switch—DEPRESS.
7. Reflex sight—STOWED.

BEFORE LEAVING HELICOPTER

1. GUN NOT CLEARED light—OFF.
2. Armed-SAFE switch—SAFE.
3. ARMED light—OFF.
4. SYSTEM MODE MASTER switch—OFF.
5. BATT-OFF-EXT switch—OFF.
6. Reflex sight—Stowed.

LOADING INSTRUCTIONS

1. Prior to loading:
   a. Battery and generator—OFF.
   b. ARMAMENT SYSTEM MODE switch—OFF.
   c. Armed-SAFE switch—SAFE.
   d. Warning lights—OUT.
2. Ammunition box—LOAD.
3. Gun—CLEAR.
4. Delinking feeder—LOAD.
5. Safing sector and housing cover—INSTALL.

UNLOADING AND CLEARING INSTRUCTIONS

1. Prior to unloading:
   a. Battery and generator—OFF.
   b. ARMAMENT SYSTEM MODE switch—OFF.
   c. Armed-SAFE switch—SAFE.
   d. Warning lights—Out.

UNLOADING AND CLEARING INSTRUCTIONS (CONT)

2. Safing sector and housing cover—REMOVE.
3. Delinking feeder—REMOVE ammunition.
4. Ammunition box—UNLOAD.

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