TM 55-1510-220-CL

TECHNICAL MANUAL

Operator's and Crewmember's Checklist

ARMY MODEL

RC-12G AIRCRAFT

Pilot's Checklist

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

HEADQUARTERS,

DEPARTMENT OF THE ARMY

10 December 1985

URGENT

NOTE:
THIS CHANGE HAS BEEN PRINTED AND DISTRIBUTED OUT OF SEQUENCE. IT SHOULD BE INSERTED IN THE MANUAL AND USED. UPON RECEIPT OF THE EARLIER SEQUENCED CHANGE ENSURE A MORE CURRENT CHANGE PAGE IS NOT REPLACED WITH A LESS CURRENT PAGE.

TM 55-1510-220-CL
C3

CHANGE NO. 3

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 7 August 1992

Operator's and Crewmember's Checklist

ARMY MODEL
RC-12G AIRCRAFT

Pilot's Checklist

TM 55-1510-220-CL, 10 December 1985, is changed as follows:

1. Remove and insert pages as indicated below. New or changed text material is indicated by a vertical bar in the margin. An illustration change is indicated by a miniature pointing hand.

Remove pages	Insert pages
N-9 through N-14	N-9 through N-14

DISTRIBUTION STATEMENT A: Approved for public release; distribution is unlimited.

URGENT

2. Retain this sheet in front of manual for reference purposes.

By Order of the Secretary of the Army:

GORDON R. SULLIVAN
General, United States Army
Chief of Staff

Official:

MILTON H. HAMILTON
Administrative Assistant to the
Secretary of the Army
02211

DISTRIBUTION:
To be distributed in accordance with DA Form 12-31-E, block no. 1136, -10 & CL maintenance requirements for TM 55-1510220-CL.

TM 55-1510-220-CL
C1

CHANGE NO. 1

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 1 November 1990

Operator's and Crewmember's Checklist
ARMY MODEL RC-12G AIRCRAFT
Pilot's Checklist

TM 55-1510-220-CL, 10 December 1985, is changed as follows:

1. Remove and insert pages as indicated below. New or changed text material is indicated by a vertical bar in the margin. An illustration change is indicated by a miniature pointing hand.

Remove pages	Insert pages
E-23/E-24	E-23/E-24

2. Retain this sheet in front of manual for reference purposes.

By Order of the Secretary of the Army:

CARL E. VUONO
General, United States Army
Chief of Staff

Official:

PATRICIA P. HICKERSON
Colonel, United States Army
The Adjutant General

DISTRIBUTION:
To be distributed in accordance with DA Form 12-31-E, block no. 1136, -10 & CL maintenance requirements for TM 55-1510-220-CL.

GENERAL INFORMATION AND SCOPE

SCOPE. This checklist contains the operator's and crewmember's checks to be accomplished during normal and emergency operations

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 and those required for "Before Landing". The normal procedures portion will be subdivided to include the before landing checks of Chapter 8 of the Operator's Manual Emergency procedures are subdivided into 7 classifications as follows engine, propeller, (prop), fire, fuel, electrical (elect), landing and ditching (ldg/dtch), and flight controls (fit cont) Performance data consists of performance checks.

NOTE

This checklist does not replace the amplified version of the procedures in the operator's manual (TM 55-1510-220-10), 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 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 7 classifications listed above Immediate action items shall be underlined.

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 theback of the checklist.

I- Indicates mandatory check for "Instrument Flights".

O - Indicates if installed

(3) - Copilot duties. To be performed at pilots command. Immediate action emergency items are underlined.

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS.

You can help improve this manual. If you find any mistakes or if you know of a way to Improve the procedures, please let us know. Mail your Letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of the applicable Aircraft Operator's Manual direct to Commander, US Army Aviation Systems Command, ATTN AMSAV-MPSD, 4300 Goodfellow Blvd., St. Louis, MO 63120-1798. A reply will be furnished to you.

NORMAL PROCEDURES

BEFORE EXTERIOR CHECK

* 1. Publications - Check.
* 2. Oxygen system - Check.
* 3. Flight controls - Unlock and check.
* 4. Parking brake - Set.
5. Elevator trim - Set to "O" (neutral).
* 6. Gear- DN.
* 7. Ice vane pull handles - In.
* 8. Keylock switch - ON.
* 9. Battery switch - ON.
10. Ice vane switches - RETRACT.
11. Lighting systems - Check as required.
★12. Pitot tubes (2), stall warning vane, heated fuel vents (2) - Check.
13. Fuel gages - Check fuel quantity and gage operation.
14. Battery switch - As required.
15. Toilet - Check.
16. Emergency equipment - Check.
17. Mission equipment and circuit breakers - Check and set.
18. Parachutes - Check

EXTERIOR CHECK

*** FUEL SAMPLE**

Check collective fuel sample from all drains for possible contamination.

LEFT WING, AREA 1

1. Left wing area - Check.

LEFT MAIN LANDING GEAR

1. Left main landing gear - Check.

LEFT ENGINE AND PROPELLER

1. Left engine - Check

CENTER SECTION, LEFT SIDE

1. Center section - Check.

FUSELAGE UNDERSIDE

1. Fuselage underside - Check.

NOSE SECTION, AREA 2

1. Nose section - Check.

CENTER SECTION, RIGHT SIDE

1. Center section - Check.

RIGHT ENGINE AND PROPELLER

1. Right engine and propeller - Check.

RIGHT MAIN LANDING GEAR

1. Right main landing gear - Check.

RIGHT WING, AREA 3

1. Right wing - Check.

FUSELAGE RIGHT SIDE, AREA 4

1. Fuselage right side - Check.

EMPENNAGE, AREA 5

1. Empennage - Check.

FUSELAGE, LEFT SIDE, AREA 6

1. Fuselage - Check.

*** INTERIOR CHECK**

1. Cargo/loose equipment - Check secure.
2. Cabin/cargo doors - Test and lock.
3. Emergency exit - Check secure and key removed.
4. Mission cooling ducts - Check open and free of obstructions.
5. Flare/chaff dispenser preflight test - Completed.

★6. Crew briefing - As required.

BEFORE STARTING ENGINES

★* 1. Oxygen system - Check as required.

2. Circuit breakers - Check In.

* 3. Overhead control panel switches - Set.

* 4. Fuel panel switches - Check.

5. Magnetic compass - Check.

* 6. Pedestal controls - Set.

* 7. Pedestal extension switches - Set.

8. Gear alternate engage and ratchet handles - Stowed.

9. Free air temperature gage - Check, note current reading.

10. Instrument panel - Check and set.

11. PROP SYNC switch - OFF.

12. Mission panel switches and circuit breakers - Set and OFF.

13. Pressurization controls - Set.

14. Subpanels - Check and set as follows

15. Pilot's static air source - NORMAL

16. Pilot's and copilot's audio control panels - As required

17. Ice vane pull handles - In

★18. Fuel pumps/crossfeed operation - Check

19. AC and DC GPU - As required

20. External power advisory annunciator lights - As required

21. DC power - Check (22 VDC minimum for battery, 28 maximum for GPU starts)

★22. Annunciator panels - Test as required

★23. Stall and gear warning system - Check

★24. Fire Protection system - Check

25. INS - Align as required

*** FIRST ENGINE START (BATTERY START)**

1. Avionics master switch - OFF.

2. Exterior light switches - As required

3. Propeller - Clear

4. Ignition and engine start switch - ON

5. Condition lever (after N_1 RPM stabilizes, 12% minimum) - LOW IDLE

6 TGT and N_1 - Monitor (TGT 10000C maximum, N_1 52% minimum)

7. Oil pressure - Check (60 PSI minimum)
8. Ignition and engine start switch - OFF, after 50% N_1
9. Condition lever - HI IDLE
10. Generator switch - RESET, then ON

*** SECOND ENGINE START (BATTERY START)**

1. First engine generator load - 50% or less
2. Propeller - Clear
3. Ignition and engine start switch - ON
4. Condition lever (after N1 RPM passes 12% minimum) - LOW IDLE
5. TGT and N1 - Monitor (TGT 1000°C maximum, N_1 52% minimum)
6. Oil pressure - Check (60 PSI minimum)
7. Ignition and engine start switch - OFF after 50% N_1
8. Battery charge light - Check
9. Inverter switches - ON, check INVERTER lights extinguished
10. Second engine generator - RESET, then ON
11. Condition levers - As required

ABORT START

1. Condition lever - FUEL CUTOFF
2. Ignition and engine start switch - STARTER ONLY
3. TGT - Monitor for drop in temperature
4. Ignition and engine start switch - OFF

ENGINE CLEARING

1. Condition lever - FUEL CUTOFF
2. Ignition and engine start switch - OFF (5 minute minimum)
3. Ignition and engine start switch - STARTER ONLY (15 seconds minimum, 30 seconds maximum)
4. Ignition and engine start switch - OFF

*** FIRST ENGINE START (GPU START)**

1. INS - As required
2. Avionics master switch - As required
3. Exterior light switches - As required
4. Propeller- Clear
5. Ignition and engine start switch - ON
6. Condition lever (after N1, RPM stabilizes, 12% minimum) - LOW IDLE
7. TGT and N1 - Monitor (TGT 10000C maximum, N1 52% minimum)

8. Oil pressure - Check (60 PSI minimum)
9. Ignition and engine start switch - OFF after 50% N_1
10. Condition lever- HI IDLE
11. DC GPU - Disconnect as required
12. Generator switch (GPU disconnected) - RESET, then ON

*** SECOND ENGINE START (GPU START)**

1. Propeller- Clear
2. Ignition and engine start switch - ON
3. Condition lever (after N1 RPM passes, 12% minimum) - LOW IDLE
4. TGT and N1 - Monitor (TGT 1000°C maximum, N1 52% minimum).
5. Oil pressure - Check (60 PSI minimum)
6. Ignition and engine start switch - OFF, after TGT stabilized
7. Propeller levers - FEATHER
8. GPU - Disconnect (Check aircraft external power and mission external power light extinguished)
9. Propellers levers - HIGH RPM
10. Aircraft Inverter switches - ON, check #1 INVERTER and #2 INVERTER annunciator lights extinguished
11. Generator switches - RESET, then ON
12. Condition levers - As required

BEFORE TAXIING

* 1. Brake deice - As required.

* 2. Cabin temperature and mode - Set.

* 3. AC/DC power - Check.

* 4. Avionics master switch - ON.

5. Mission panel - Set and checked as required.

★6. Electric elevator trim and autopilot/flight director operation - Check.

★* 7. Autopilot trim fail system - Check.

8. Avionics - Check and set as required.

9. Flaps - Check.

10. Altimeters - Check and set.

***TAXIING**

1. Brakes- Check.
2. Flight instruments - Check for normal operation.

ENGINE RUNUP

1. Mission control panel - Set.

★ 2. Propeller manual feathering - Check.

★ 3. Autofeather - Check.

★ 4. Overspeed Governors - Check.

★ 5. Primary governors - Check.

★ 6. Ice vanes - Check.

7. Condition levers - HI IDLE.

8. Power levers - IDLE.
★ 9. Anti-ice and deice systems - Check.
★ 10. Pneumatic pressure - Check.
★ 11. Pressurization system - Check.
12. Condition levers - As required.
13. Windshield anti-ice - As required.

*** BEFORE TAKEOFF**

(1) Autofeather switch - ARM.
(2) Bleed air valves - As required.
(3) Ice and rain switches - As required.
(4) panel - Check fuel quantity and switch positions.
(5) Flight and engine instruments - Check for normal indications.
(6) Cabin altitude and rate-of-climb controller --Set.
(7) Annunciator panels - Check (note indications).
8. Propeller levers - HIGH RPM.
9. Flaps - As required.
10. Trim - Set.
11. Avionics - Set.
12. Flight controls - Check.
★ 13. Departure briefing - Complete.

*** LINE UP**

(1) Transponder - As required.
(2) Engine autoignition switch - ARM.
3. Power stabilized - Check approximately 25% minimum.
(4) Condition levers - LOW IDLE.
5. Lights - As required.
6. Mission control panel - Set.

AFTER TAKEOFF

1. Gear- UP.
2. Flaps - UP.
3. Landing lights - OFF.
4. Climb power - Set.
5. PROP SYNC switch - As required.
(6) Yaw damp - As required.
(7) Autofeather switch - As required.
(8) Brake de-ice - As required.
(9) Windshield anti-ice - As required.
10. Cabin pressurization - Check.
(11) Wings and nacelles - Check.
(12) Flare/chaff dispenser safety pin (electronic module) Remove.
(13) Chaff function selector switch - As required.

CRUISE

1. Power - Set.
2. Ice and rain switches - As required.
(3) Auxiliary fuel gages - Monitor.
(4) Altimeters - Check.
(5) Engine instrument indications - Check.
6. Recognition lights - As required.

DESCENT - MAX RATE (CLEAN)

(1) Cabin pressurization - Set.
2. Power levers - IDLE.
3. Propeller levers - HIGH RPM.
4. Flaps - UP.
5. Gear- UP.
6. Airspeed - Vmo.
(7) Ice and rain switches - As required.
8. Recognition lights - As required.

DESCENT - MAX RATE (LANDING CONFIGURATION)

(1) Cabin pressurization - Set.
2. Power levers- IDLE.
3. Propeller levers - HIGH RPM.
4. Flaps - APPROACH.
5. Gear- DN.
6. Airspeed - 184 KIAS maximum.
(7) Ice & rain switches - As required.
8. Recognition lights - As required.

DESCENT-ARRIVAL

(1) Cabin pressurization - Set.

(2) Ice and rain switches - As required.

(3) Windshield anti-ice - As required.

4. Recognition lights - ON.

5. Altimeters - Set to current altimeter setting.

(6) Flare/chaff dispenser arm-safe switch -SAFE.

(7) Flare/chaff dispenser safety pin (electronic module) - Insert.

★ 8. Crew briefing - Complete.

☆U.S. GOVERNMENT PRINTING OFFICE: 1992-657-336

BEFORE LANDING

1. Propeller synchronization switch -OFF.
(2). Autofeather switch - ARM.
3. Propeller levers - As required.
4. Flap switch (below 202 KIAS) - APPROACH.
5. Gear - DN.
6. Landing lights - As required.
(7). Brake deice - As required.

LANDING

1. Autopilot and yaw damp - Disengaged.
2. Gear down lights - Check three green.
3. Propeller levers - HIGH RPM.

TOUCH-AND-GO LANDINGS

(1). Propeller levers - HIGH RPM.
(2). Flaps - As required.
(3). Trim - Set.
4. Power stabilized - Check approximately 25% minimum
5. Takeoff power - Set

GO-AROUND

1. Power - As required.
2. Gear - UP.
3. Flaps - UP.
4. Landing lights - OFF.
5. Climb power - Set.

(6). Yaw damp - As required.

(7). Brake deice - OFF

AFTER LANDING

(1). Condition levers - As required.

(2). Engine autoignition switch - OFF.

(3). Ice and rain switches - OFF.

(4). Flaps - UP.

(5). Transponder - As required.

6. Lights - As required.

(7). Mission control panel - Set.

ENGINE SHUTDOWN

1. Brake deice - OFF.
2. Parking brake - Set.
3. Landing/taxi lights - OFF.
4. Cabin temperature mode selector switch - OFF.
5. Autofeather switch - OFF.
6. Vent and aft vent blower switches - AUTO.
7. INS - OFF.
8. Mission equipment - OFF, as required.
9. Inverter switches - OFF.
10. Battery condition - Check as required.
11. TGT - Check.
12. Propeller levers - FEATHER.
13. Condition levers - FUEL CUTOFF.
14. Exterior lights - OFF.
15. Master panel lights switch - OFF.
16. Avionics master switch - Off.
17. Master switch - OFF.
18. Keylock switch - OFF.
19. Oxygen system - OFF.

BEFORE LEAVING AIRCRAFT

1. Wheels - Chocked.
2. Parking brake - As required.
3. Flight controls - Locked.
4. Overhead flood lights - Off.
5. Standby fuel pump switches - OFF.
6. Transponder - OFF.
7. Mode 4 - As required.
8. Emergency exit lock - As required.
9. Aft cabin light - OFF.
10. Door light - OFF.
11. Walk-around Inspection - Complete.
12. Aircraft forms - Complete.
13. Aircraft - secured.

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 MALFUNCTION

Engine Malfunction Before Liftoff (Abort)

1. Power levers - IDLE.
2. Braking - As required.

(3). Condition levers - FUEL CUTOFF.

(4). Fire pull handles - Pull.

(5). Master switch - OFF.

Engine Malfunction After Liftoff (Abort)

1. Power levers - Reduce.

2. Gear- DN.

3. Complete a normal landing.

NOTE

If able to land on remaining runway, check gear down and use brakes and reverse thrust as required. If Insufficient runway remains for stopping, perform the following.

(4). Condition levers - FUEL CUTOFF.

(5). Fire pull handles - Pull

(6). Master switch - OFF

Engine Malfunction After Liftoff (Flight Continued)

1. Power - Maximum allowable.

2. Gear - UP.

3. Flaps - UP.

4. Landing light - OFF.

5. Brake deice - OFF.

6. Engine cleanup - Perform.

Engine Malfunction During Flight

1. Autopilot/yaw damp - DISENGAGE.
2. Power - As required.
3. Dead engine - Identify.
4. Power lever (dead engine) - IDLE.
5. Propeller lever (dead engine) - FEATHER.
6. Propeller synchronization switch - OFF.
7. Gear - As required.
8. Flaps - As required.
9. Power - Set for single engine cruise.
10. Engine cleanup - Perform.

Engine Malfunction During Final Approach

1. Power - As required.
2. Gear - DN.

Engine Malfunction (Second Engine)

1 Airspeed - 140 KIAS.

2. Power lever - IDLE.
3. Propeller lever - Do not FEATHER.
4. Conduct engine restart procedure.

Engine Shutdown In Flight

1. Power lever - IDLE.
2. Propeller lever- FEATHER.
3. Condition lever - FUEL CUTOFF.

(4). Engine cleanup - Perform.

Engine Cleanup

(1). Autoignition switch - OFF.

(2). Autofeather switch - OFF.

(3). Generator switch - OFF.

4. Propeller synchronization switch - OFF.

Engine Restart During Flight Using Starter

(1). Cabin temperature mode selector switch - OFF.

(2). Electrical load - Reduce to minimum.

3. Fire pull handle - In.

4. Power lever - IDLE.

5. Propeller lever - FEATHER.

6. Condition lever - FUEL CUTOFF.

7. TGT (operative engine) - 700°C or less.

(8). Ignition and engine start switch - ON.

9. Condition lever - LOW IDLE.

10. TGT - Monitor (1,0000C for 5 seconds maximum).

11. Oil pressure - Check.

(12). Ignition and engine start switch - OFF at 50% N_1.

(13). Generator switch - RESET, then ON.

(14). Engine cleanup - Perform If engine restart unsuccessful.

(15). Cabin temperature mode selector switch - As required.

(16). Electrical equipment - As required.

(17). Autoignition switch - ARM.

18. Propellers - Synchronize.

19. Power - As required.

Engine Restart During Flight (Not Using Starter)

(1). Cabin temperature mode selector switch - OFF.

(2). Electrical load - Reduce to minimum.

(3). Generator switch (affected engine) - OFF.

4. Fire pull handle - Check in.

5. Power lever - IDLE.

6. Propeller lever - HIGH RPM.

7. Condition lever - FUEL CUTOFF.

8. Airspeed - 140 KIAS minimum.

9. Altitude below 20,000 feet - Check.

(10). Engine autoignition switch - ARM.

11. Condition lever - LOW IDLE.

12. TGT - Monitor (1,000°C for 5 seconds maximum).

13. Oil pressure - Check.

(14). Generator switch - RESET then ON.

(15). Engine Cleanup - Perform If engine restart unsuccessful.

(16). Cabin temperature mode selector switch - As required.

(17). Electrical equipment - As required.

(18). Autoignition switch - ARM.

19. Propellers - Synchronized.

20. Power - As required

Low Oil Pressure

1. Oil pressure below 105 PSI below 21,000 feet or 85 PSI 21,000 feet and above, torque - 49% maximum.

2. 011 pressure below 60 PSI - Perform engine shutdown, or land as soon as practicable using minimum power to insure safe arrival.

Chip Detector Warning Light Illuminated

If a L CHIP DETR or a R CHIP DETR warning light illuminates, and safe single-engine flight can be maintained, perform engine shutdown

DUCT OVERTEMP CAUTION ANNUNCIATOR LIGHT ILLUMINATED

(1). Cabin air control - In.

(2). Cabin temperature mode selector switch - AUTO.

(3). Cabin temperature control rheostat - Full decrease.

(4). Vent blower switch - HI.

(5). Cabin temperature mode selector switch - MAN COOL.

(6). Manual temperature switch - DECREASE (hold).

(7). Left bleed air valve switch - ENVIRO OFF.

(8). If the light Is still Illuminated after 30 seconds: Left bleed air valve switch - OPEN.

(9). Right bleed air valve switch - ENVIRO OFF.

(10). If the light Is still Illuminated after 30 seconds: Right bleed air valve switch - OPEN.

ICE VANE FAILURE

1. Airspeed - 160 KIAS or below.

(2). Ice vane control circuit breaker - Pull.

3. Ice vane - Operate manually.

4. Airspeed - Resume normal airspeed.

BLEED AIR SYSTEM FAILURE

Bleed Air Failure Light Illuminated

(1). Brake deice switch - OFF.

(2). TGT and torque - Monitor (note readings).

(3). Bleed air valve switch - PNEU & ENVIRO OFF.

(4). Cabin pressurization - Check.

Excessive Differential Pressure

(1). Cabin altitude and rate-of-climb controller. Select higher setting.

(2). If condition persists LEFT BLEED AIR VALVE switch - ENVIRO OFF (light illuminated).

(3). If condition still persists RIGHT BLEED AIR VALVE switch - ENVIRO OFF (light Illuminated).

4. If condition still persists - Descend Immediately.

(5). If unable to descend CABIN PRESS DUMP switch - CABIN PRESS DUMP.

(6). Bleed air valve switches - OPEN, If cabin heating is required.

LOSS OF PRESSURIZATION (ABOVE 10,000 FEET)

1. Crew oxygen masks - 100% and on.
(2). Passenger masks - On and check.

CABIN DOOR CAUTION LIGHT ILLUMINATED

(1). Bleed air valve switches - ENVIRO OFF.

2. Descend below 14,000 feet as soon as practicable.

3. Oxygen - As required.

SINGLE-ENGINE DESCENT/ARRIVAL

(1). Cabin controller - Set.

(2). Ice and rain switches - As required.

3. Altimeters - Set.

4. Recognition lights - ON.

★5. Arrival briefing - Complete.

SINGLE-ENGINE BEFORE LANDING

1. Propeller lever - As required.
2. Flaps- APPROACH.
3. Gear- DN.
4. Landing lights - As required.

(5). Yaw damp - OFF.

(6). Brake deice - OFF.

SINGLE-ENGINE LANDING CHECK

1. Autopilot/yaw damp - Disengaged.
2. Gear lights - Check (three green).
3. Propeller lever (operative engine) - HIGH RPM.

SINGLE-ENGINE GO-AROUND

1. Power - Maximum allowable.
2. Gear- UP.
3. Flaps - As required.
4. Landing lights - OFF.
5. Power - As required.

(6). Yaw damp - As required.

PROPELLER FAILURE (OVER 2080 RPM)

1. Power lever (affected engine) - IDLE.
2. Propeller lever - FEATHER.
3. Condition lever - As required.

(4). Engine cleanup - As required.

FIRE

Engine/Nacelle Fire During Start or Ground Operations

1. Propeller levers - FEATHER.
2. Condition levers - FUEL CUTOFF.
3. Fire pull handle - Pull.
4. Push to extinguish switch - Push.
5. Master switch - OFF.

Engine Fire In Flight (Fire Pull Handle Light Illuminated)

1. Power lever - IDLE.
2. If fire pull handle light out is extinguished Advance power.
3. If fire pull handle light Is still Illuminated Engine fire in flight procedures (identified) - Perform.

Engine Fire In Flight (Identified)

1. Power lever - IDLE.
2. Propeller lever - FEATHER.
3. Condition lever - FUEL CUTOFF.
4. Fire pull handle - Pull.
5. Fire extinguisher - Actuate as required.

(6). Engine cleanup - Perform.

Fuselage Fire

1. Fight the fire.
2. Land as soon as possible.

Wing Fire

1. Perform engine shutdown on affected side.

2. Land as soon as possible.

Electrical Fire

1. Crew oxygen - 100%.

(2). Master switch - OFF (visual conditions only).

3. All nonessential electrical equipment - OFF.

(4). Battery switch - ON.

(5). Generator switches (Individually) - RESET, then ON.

(6). Circuit breakers - Check for Indication of defective circuit.

(7). Essential electrical equipment - On (individually until fire source is Isolated).

8. Land as soon as practicable.

Smoke and Fume Elimination

1. Crew oxygen - 100% and ON.

(2). Bleed air valve switches - ENVIRO OFF.

(3). Vent blower switch - AUTO.

(4). Aft vent blower switch - OFF.

(5). Cabin temperature mode selector switch - OFF.

(6). If smoke and fumes are not eliminated. Cabin pressure dump switch - CABIN PRESS DUMP.

7. Engine oil pressure - Monitor.

FUEL SYSTEM

Fuel Pressure Warning Annunciator Light Illuminated

(1). Standby pump switch - ON.

(2). Fuel pressure warning annunciator light - Check extinguished.

(3). If fuel pressure warning light Is still illuminated. Record unboosted time.

No Fuel Transfer Caution Annunciator Light Illuminated

(1). AUX TRANSFER switch (affected side) - OVERRIDE.

(2). Auxiliary fuel quantity - Monitor.

(3). AUX TRANSFER switch (after respective auxiliary fuel has completely transferred) - AUTO.

Nacelle Fuel Leak

1. Perform engine shutdown.
2. Fire pull handle - Pull.
3. Land as soon as practicable.

Fuel Crossfeed

(1). AUX TRANSFER switches - AUTO.

(2). Standby pumps - OFF.

(3). Crossfeed switch - As required.

(4). Fuel crossfeed advisory annunciator light - Check Illuminated

(5). Fuel pressure light extinguished - Check.

(6). Fuel quantity - Monitor.

Illumination of The #1 NAC LOW or #2 NAC LOW Caution Annunciatorlight.

1. Twenty minutes fuel remaining - Confirm.

2. Land as soon as possible.

ELECTRICAL SYSTEM

DC Generator Caution Annunciator Light Illuminated

(1). Generator switch - OFF, RESET, then ON.

(2). Generator switch (no reset) - OFF.

(3). Mission control switch - OVERRIDE.

(4). Operating loadmeter - 100% maximum.

Both DC Generator Warning Annunciator Lights Illuminated

(1). All nonessential equipment - OFF.

(2). Land as soon as practicable.

Excessive Loadmeter Indication (Over 100%)

(1). Battery switch - OFF (monitor loadmeter).

(2). Loadmeter over 100% - Nonessential electrical equipment OFF.

(3). Loadmeter under 100% - BATT switch ON.

Inverter Caution Annunciator Light Illuminated

(1). Affected #1 INVERTER or #2 INVERTER switch - OFF.

INST AC Warning Annunciator Light Illuminated

1. N_1 and TGT Indications - Check.
2. Other engine instruments - Monitor.

Circuit Breaker Tripped

(1). BUS FEEDER breaker tripped - Do not reset.

(2). Nonessential circuit - Do not reset.

(3). Essential circuit - Reset once.

Battery Charge Caution Annunciator Light Illuminated

(1). Loadmeter - Check; note indication.

(2). Battery switch - OFF

(3). Loadmeter - Check If loadmeter indicates less that 2 5% change (one needle width), turn battery switch ON and monitor for increasing load If load continues to increase, turn battery switch OFF

(4) Battery switch (landing gear/flap extension only) - ON

EMERGENCY DESCENT

1. Power lever - IDLE.
2. Propeller lever - HIGH RPM.
3. Flaps - APPROACH.
4. Gear - DN.
5. Airspeed - 184 KIAS maximum.

LANDING EMERGENCIES

Landing Gear Unsafe Indication

1. Gear - DN.
2. Gear lights - Check (three green).

(3). Landing gear relay circuit breaker - Check in.

Landing Gear Emergency Extension

1. Airspeed - 130 KIAS.

(2). LANDING GEAR RELAY circuit breaker - Out.

3. Gear handle - DN.
4. Landing gear alternate engage handle - Lift and turn clockwise to the stop.
5. Alternate landing gear extension handle - Pump.
6. Gear lights - Check (three green).

Gear-Up Landing (All Gear Up or Unlocked)

(1). Crew emergency briefing - Complete.

(2). Loose equipment - Stowed.

(3). Bleed air valves - ENVIRO OFF.

(4). Cabin pressure dump switch - CABIN PRESS DUMP.

(5). Cabin emergency hatch - Remove and stow.

6. Seat belts and harnesses - Secured.

7. Landing gear alternate engage handle - Disengaged.

8. Alternate landing gear extension handle - Stowed.

(9). Gear relay circuit breaker - In.

10. Gear - UP.

11. Nonessential electrical equipment - OFF.

12. Flaps - As required (DOWN for landing).

13. Power levers (runway assured) - IDLE.

(14). Condition levers - FUEL CUTOFF.

(15). Fire pull handles - Pull.

(16.). Master switch - OFF.

Landing With Nose Gear Unsafe

(1). Crew emergency briefing - Complete.

(2). Loose equipment - Stowed.

(3). Bleed air valves - ENVIRO OFF.

(4). Cabin pressure dump switch - CABIN PRESS DUMP.

(5). Cabin emergency hatch - Remove and stow.

6. Seat belts and harnesses - Secured.

(7). Nonessential electrical equipment - OFF.

8. Power levers (runway assured) - IDLE.

(9). Condition levers - FUEL CUTOFF.

(10). Fire pull handle - Pull.

(11). Master switch - OFF.

Landing With One Main Gear Unsafe

(1). Crew emergency briefing - Complete.

(2). Loose equipment - Stowed.

(3). Bleed air valve switches - ENVIRO OFF.

(4). Cabin pressure dump switch - CABIN PRESS DUMP.

(5). Cabin emergency hatch - Remove and stow.

6. Seat belts and harnesses - Secured.

(7). Nonessential electrical equipment - OFF.

8. Touchdown - On safe main gear first.

9. Power levers (runway assured) - IDLE.

(10). Condition levers - FUEL CUTOFF.

(11). Fire pull handle - Pull.

(12). Master switch - OFF.

CRACKED WINDSHIELD

External Crack

No action is required in flight.

Internal Crack

1. Descend to below 25,000 feet

(2). Cabin Pressure - Reset pressure differential to 4 PSI or less within 10 minutes

CRACKED CABIN WINDOW

1. Oxygen - As required.
2. Cabin pressurization - Depressurize.
3. Descend - As required.

DITCHING

(1). Radio calls/transponder - As required.

(2). Crew emergency briefing - As required.

(3). Bleed air valves - ENVIRO OFF.

(4). Cabin pressure dump switch - CABIN PRESS DUMP.

(5). Cabin emergency hatch - Remove and stow.

6. Seat belts and harnesses - Secured.
7. Gear - UP.
8. Flaps - DOWN.

(9). Nonessential electrical equipment - OFF.

10. Approach - Normal, power on.

(11). Emergency lights - As required.

FLIGHT CONTROLS MALFUNCTION

Autopilot/Yaw Damper Emergency Disconnection:

The autopilot can be disengaged by any of the following methods.

1. Pressing the DISC - TRIM - AP - YD disconnect switch (control wheels).

2. Moving the autopilot engage-disengage switch (autopilot mode selector control panel to the DIS position.

3. Pressing the go-around switch (left power lever), (yaw damper will remain on).

4. Pulling the AP PWR and AFCS DIRECT circuit breakers (overhead control panel).

5. Setting AVIONICS MASTER PWR switch (overhead control panel) to the OFF position.

6. Setting aircraft MASTER switch (overhead control panel) to the OFF position.

Unscheduled Rudder Boost Activation

(1). Rudder boost - OFF.

If condition persists

(2). Bleed air valve - PNEU & ENVIRO OFF.

3. Rudder trim - Adjust.

Unscheduled Electric Elevator Trim

1. Elevator trim switch - OFF.

(2). Elevator trim circuit breaker - Out.

BAILOUT

1. Notify crew to prepare to ball out.
(2). Distress message - Transmit.
(3). Voice security - ZEROIZE.
(4). Transponder - 7700.
5. Flaps - DOWN.
6. Airspeed - 100 KIAS.
7. Trim - As required.
8. Autopilot - Engage.
(9). Cabin pressure switch - DUMP.
10. Parachute - Attach to harness.
11. Cabin door - Open.
12. Abandon the aircraft.

PERFORMANCE CHECKS

PITOT TUBES (2), STALL WARNING VANE, HEATED FUEL VENTS (2)

1. Stall warning heat switch - ON.
2. Pitot heat switches (2) - ON Check cover removed.
3. Fuel vent heat switches (2) - ON.
4. Left wing heated fuel vent - Check by feel for heat and condition.
5. Stall warning vane - Check by feel for heat and condition.
6. Left pitot tube - Check by feel for heat and free of obstructions.
7. Right pitot tube - Check by feel for heat and free of obstructions.
8. Right wing heated fuel vent - Check by feel for heat and condition.
9. Stall warning heat switch - OFF.
10. Pitot heat switches (2) - OFF.
11. Heated fuel vent switches (2) - OFF.

FIRE EXTINGUISHER PRESSURE

Temp°C	-40	-29	-18	-06	04	16	27	38	4
PSI	190 to 240	220 to 275	250 to 315	290 to 365	340 to 420	390 to 480	455 to 550	525 to 635	6 t 7

OXYGEN SYSTEM

1. Oxygen supply pressure gages - Check.
2. Supply control lever (green) - ON.
3. Diluter control lever - 100% OXYGEN.
4. Emergency control lever (red) - Set to TEST MASK position while holding mask directly away from face, then return to NORMAL.
5. Oxygen masks - Put on and adjust.
6. Emergency pressure control lever - Set to TEST MASK position and check mask for leaks, then return lever to NORMAL.
7. Flow indicator - Check During inhalation blinker appears, during exhalation blinker disappears. Repeat a minimum of 3 times.

FUEL PUMPS/CROSSFEED

1. Fire pull handles - Pull.

2. Standby fuel pump switches - ON.

3. Battery switch - ON.

4. #1 fuel pressure and #2 fuel pressure warning lights - Illuminated.

5. Fire pull handles - In.

6. #1 fuel press and #2 fuel press warning annunciator lights - Extinguished.

7. Standby fuel pump switches - OFF.

8. #1 fuel pressure and #2 fuel pressure warning lights - Illuminated.

9. Crossfeed - Check. Check system operation by activating switch momentarily left then right, noting that #1 FUEL PRESS and #2 FUEL PRESS warning annunciator lights extinguish and that the FUEL CROSS-FEED advisory annunciator light illuminates as switch is energized.

ANNUNCIATOR PANELS

1. MASTER CAUTION, MASTER WARNING, #1 FUEL PRESS, #2 FUEL PRESS, GEAR DN, L BL AIR FAIL, R BL AIR FAIL, INST AC, #1 DC GEN, #1 INVERTER, #1 NO FUEL XFR, #2 NO FUEL XFR, #2 INVERTER, #2 DC GEN, Check illuminated.

2. ANNUNCIATOR TEST switch Press and hold Check that the annunciator panels, FIRE PULL handle lights, marker beacon lights, MASTER CAUTION and MASTER WARNING lights are Illuminated. Release switch and check that all lights except those in step 1 are extinguished.

3. MASTER CAUTION and MASTER WARNING lights - Press Check that both lights extinguish.

STALL AND GEAR WARNING SYSTEM

1. STALL WARN TEST switch - TEST Check that warning horn sounds.

2. LDG GEAR WARN TEST switch - TEST Check that warning horn sounds and that the LDG GEAR CONTR handle warning lights (2) Illuminate.

FIRE PROTECTION SYSTEM

1. Fire Detector Test switch - Rotate counterclockwise to check three DETR positions FIRE PULL handles should illuminate in each position. Reset MASTER WARNING in each position.

2. Fire Detector Test switch - Rotate counterclockwise to check two EXTGH positions. SQUIB OK light, associated #1 EXTGH DISCH and #2 EXTGH DISCH annunciator caution light and MASTER CAUTION LIGHT should illuminate in each position.

ELECTRIC ELEVATOR TRIM AND AUTOPILOT/FLIGHT DIRECTOR OPERATION

1. Pilot's and copilot's PITCH TRIM switches - Press to NOSE UP and NOSE DN positions, singularly and in pairs. Check that trim wheel moves in proper direction and operates only when trim switches are pressed in pairs. Any deviation requires that electric elevator trim be turned off and flight conducted using manual trim.

2. DISC TRIM switch - Press to second detent and verify that electric trim disconnects and ELEV TRIM annunciator light (in pedestal) extinguishes.

3. Flight director (FDI) and Radio Magnetic Indicator (RMI) warning flags - Check masked.

NOTE

Since the pressure of airflow that normally opposes movement of control surfaces is absent during preflight check, it is possible to get a hard over control surface deflection if an autopilot command is allowed to remain active for any appreciable length of time. Move turn knob and pitch thumbwheel only enough to check operation, then return them to the center position.

4. Autopilot mode selector panel - Select HDG mode.

5. Horizontal Situation Indicator (HSI) - Set heading marker under lubber line.

6. Autopilot - Engage Check that controls are stiff and that AP ENG, HDG, and AIL HI TORQUE annunciator lights illuminate.

7. AIL HI TORQUE test switch - Engage Check that AIL HI TORQUE light extinguishes.

8. HSI heading marker - Move 10° left and right and verify that flight director and control wheels respond in the appropriate direction.

9. Autopilot/yaw damp disengage switch (control wheels) - Press to first detent and verify that autopilot disengages (AP DISC annunciator illuminates) and that flight controls are free.

10. Autopilot - Engage.

11. Autopilot pitch-turn control (pedestal extension) - Command 5° trim UP and verify that manual trim wheel moves nose up and AP trim light indicates UP trim.

12. Pitch trim switch (control wheels) - Command nose down and verify that autopilot disengages and AP TRIM FAIL and MASTER WARNING annunciator lights illuminate

NOTE

The AP TRIM FAIL annunciator will extinguish by pressing the AP/YD disconnect button on the control wheel to the second detent.

13. Repeat steps 9 thru 12 above using opposite commands.

14. Autopilot- Engage.

15. HSI heading marker - Move to command a bank on flight director Indicator.

16. GO-AROUND switch - Press and verify that GA annunciator light illuminates, autopilot disengages, and that flight director Indicator commands a wings-level 7° nose-up attitude.

17. TEST switch (pilot's flight director indicator) - Press and verify that attitude display indicates an additional 10° pitch up and 20° right roll, and GYRO flag is visible

AUTOPILOT TRIM FAIL SYSTEM

1. Autopilot - Engage Command DN on AP pitch wheel and hold TRIM TEST switch when elevator trim wheel starts to rotate.

2. Verify that autopilot disengages and AP TRIM FAIL and MASTER WARNING lights illuminate within 10 seconds. Repeat steps 1 and 2 using opposite commands.

PROPELLER MANUAL FEATHERING

1. Condition lever - LOW IDLE.

2. Left propeller lever - FEATHER Check that propeller feathers.

3. Left propeller lever - HIGH RPM.

4. Repeat procedure for right propeller.

AUTOFEATHER

1. Condition levers - LOW IDLE.

2. Autofeather switch - Hold to TEST. (#1 AUTO-FEATHER and #2 AUTOFEATHER advisory annunciator lights should remain extinguished).

3. Power levers - Advance to approximately 22% torque, then move autofeather switch to TEST Both #1 AUTOFEATHER and #2 AUTOFEATHER advisory annunciator lights should illuminate.

4. Left power lever - Retard.

    a. At approximately 16 to 21% torque, check #2 AUTOFEATHER advisory annunciator extinguished.

    b. At approximately 9 to 14% torque, check #1 AUTOFEATHER advisory annunciator light extinguished (Left propeller starts to feather).

5. Left power lever - Set approximately 22% torque.

6. Repeat steps 1 through 4 for right engine.

OVERSPEED GOVERNORS

1. Power levers - Set approximately 1950 RPM (both engines).

2. #1 propeller governor test switch - Hold to TEST position.

3. #1 propeller RPM 1830 to 1910 - Check.

4. Repeat steps 2 and 3 for # 2 engine.

5. Power levers - Set 1800 RPM.

PRIMARY GOVERNORS

1. Power levers - Set 1800 RPM.

2. Propeller levers - Move aft to detent. Check that propeller RPM drops to 1600 to 1640 RPM

3. Propeller levers - HIGH RPM.

ICE VANES

1. Ice vane switches - EXTEND Verify torque drop, TGT increase, and #1 ICE VANE EXTEND and #2 ICE VANE EXTEND annunciators illuminate.

2. Ice vane switches - RETRACT Verify return to original torque and TGT, and that #1 ICE VANE EXTEND and #2 ICE VANE EXTEND annunciators extinguish.

ANTI-ICE AND DEICE SYSTEMS

1. Windshield anti-ice switches - NORMAL and HI Check PILOT and COPILOT (individually) for loadmeter rise, then OFF.

2. Propeller switches - INNER and OUTER (momentarily) Check for loadmeter rise.

3. Surface deice switch - SINGLE CYCLE AUTO. Check for a drop in pneumatic pressure and wing deice boot inflation and after 6 seconds for a second drop in pneumatic pressure.

4. Surface deice switch - MANUAL Check that surface boots inflate, and remain inflated, then OFF.

5. Antenna deice switch - SINGLE Check for a drop in pneumatic pressure and antenna deice boot inflation.

6. Antenna deice switch - MANUAL Check that boots inflate, and remain inflated, then OFF

7. Engine Inlet lip heat switches - ON. Check that #1 LIP HEAT ON and and #2 LIP HEAT ON advisory annunciator lights are Illuminated, and the #1 LIP HEAT and #2 LIP HEAT caution annunciator lights are extinguished, then OFF.

8. Anti-ice and deice system switches - OFF

PNEUMATIC PRESSURE

1. Power levers - IDLE.

2. Left bleed air valve switch - PNEU & ENVIRO OFF.

3. Pneumatic pressure - Check 12 to 20 PSI.

4. Right pneumatic and environmental switch - PNEU & ENVIRO OFF Check that L BL AIR FAIL and R BL AIR FAIL annunciator lights , and L BLAIR OFF and R BLAIR OFF annunciator lights are illuminated.

5. Pneumatic pressure - Verify zero.

6. Left pneumatic and environmental switches - OPEN. Check that L BL AIR FAIL and R BL AIR FAIL annunciator lights, and L BL AIR OFF and R BL AIR OFF annunciator lights are extinguished.

7. Pneumatic pressure - Verify 12 to 20 PSI.

8. Right pneumatic and environmental switches - OPEN.

PRESSURIZATION SYSTEM

1. Cabin door caution light - Check extinguished.

2. Storm windows - Check closed.

3. Bleed air valve switches - Check OPEN.

4. Cabin altitude - Set 500 feet lower than airfield elevation.

5. Cabin pressure/dump switch - TEST (hold).

6. Cabin rate-of-climb gage - Check for descending Indication and, when confirmed, release cabin pressure/dump switch from TEST.

7. Aircraft altitude - Set to planned cruise altitude plus 500 feet. (If this setting does not result In a CABIN ALT Indication of at least 500 feet over takeoff field pressure altitude, adjust as required).

8. Rate control - Set between 9 and 12 o'clock.

CREW BRIEFING.

Crew introduction.

Equipment.

1. Personal to include ID tags.

2. Professional (medical equipment, etc.).

3. Survival.

Flight data.

1. Route.

2. Altitude.

3. Time enroute.

4. Weather.

Normal procedures.

1. Entry and exit of aircraft.

2. Seating and seat position.

3. Seat belts.
4. Movement in aircraft.
5. Internal communications.
6. Security of equipment.
7. Smoking.
8. Oxygen.
9. Refueling.
10. Weapons and prohibited items.
11. Protective masks.
12. Toilet.

Emergency procedures.

1. Emergency exits.
2. Emergency equipment.
3. Emergency landing/ditching procedures.

DEPARTURE BRIEFING.

ATC clearance - Review.

1. Routing.
2. Initial altitude.

Departure procedure - Review.

1. SID.
2. Noise abatement procedure.
3. VFR departure route.

Approach procedure - Review.

1. Approach plan/profile.
2. Altitude restrictions.
3. Missed approach.
    a. Point.
    b. Time.
    c. Intentions.
4. Decision height or MDA.
5. Lost communications.

Back up approach/frequencies.

Copilot duties - Review.

1. Nav/Com set-up.
2. Monitor altitude and airspeeds.
3. Monitor approach.
4. Call out visual/field in sight.

Landing performance data - Review.

1 Approach speed.

2 Runway required.

Copilot duties - Review.

1. Adjust takeoff power.
2. Monitor engine instruments.
3. Power check at 65 knots.
4. Call out engine malfunctions.
5. Tune/ident all nav/com radios.
6. Make all radio calls.
7. Adjust transponder and radar as required.
8. Complete flight log during flight (note altitudes and headings).
9. Note departure time.

PPC - Review.

1. Takeoff power.
2. V_r.
3. V_y (climb to 500' AGL).
4. V_{yse}.

ARRIVAL BRIEFING.

Weather/altimeter setting.

Airfield/facilities - Review.

1. Field elevation.
2. Runway length.
3. Runway condition.

By Order of the Secretary of the Army:

JOHN A. WICKHAM, JR.
General, United States Army
Chief of Staff

Official:

MILDRED E. HEDBERG
Brigadier General, United States Army
The Adjutant General

DISTRIBUTION:

To be distributed in accordance with DA Form 12-31, -10 & CL Maintenance requirements for RC-12D Airplane, Reconnaissance.

***GPO: 1994 0 - 382-492**

RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS

THEN...JOT DOWN THE DOPE ABOUT IT ON THIS FORM. CAREFULLY TEAR IT OUT, FOLD IT AND DROP IT IN THE MAIL.

SOMETHING WRONG WITH PUBLICATION

FROM: (PRINT YOUR UNIT'S COMPLETE ADDRESS)

DATE SENT

PUBLICATION NUMBER	PUBLICATION DATE	PUBLICATION TITLE

BE EXACT PIN-POINT WHERE IT IS

PAGE NO.	PARA-GRAPH	FIGURE NO.	TABLE NO.

IN THIS SPACE, TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT.

PRINTED NAME, GRADE OR TITLE AND TELEPHONE NUMBER	SIGN HERE

DA FORM 1 JUL 79 2028-2

PREVIOUS EDITIONS ARE OBSOLETE.

P.S.--IF YOUR OUTFIT WANTS TO KNOW ABOUT YOUR RECOMMENDATION MAKE A CARBON COPY OF THIS AND GIVE IT TO YOUR HEADQUARTERS.

THE METRIC SYSTEM AND

EQUIVALENTS

Linear Measure

1 centimeter = 10 millimeters = .39 inch
1 decimeter = 10 centimeters = 3.94 inches
1 meter = 10 decimeters = 39.37 inches
1 dekameter = 10 meters = 32.8 feet
1 hectometer = 10 dekameters - 328.08 feet
1 kilometer = 10 hectometer - 3280.8 feet

Weights

1 centigram = 10 milligrams = .15 grain
1 decigram = 10 centigrams = 1.54 grains
1 gram = 10 decigrams = .035 ounce
1 dekagram = 10 grams = .35 ounce
1 hectogram = 10 dekagrams = 3.52 ounces
1 kilogram = 10 hectograms = 2.2 pounds
1 quintal = 100 kilograms = 220.46 pounds
1 metric ton = 10 quintals = 1.1 short tons

Liquid Measure

1 centiliter = 10 milliliters = .34 fl. ounces
1 deciliter = 10 centiliters = 3.38 fl. ounces
1 liter = 10 deciliters = 33,81 fl. ounces
1 dekaliter = 10 liters = 2.64 gallons
1 hectoliter = 10 dekaliters = 26.42 gallons
1 kiloliter = 10 hectoliters = 264,18 gallons

PIN: 058973-000

This fine document...

Was brought to you by me:

Liberated Manuals -- free army and government manuals

Why do I do it? I am tired of sleazy CD-ROM sellers, who take publicly available information, slap “watermarks” and other junk on it, and sell it. Those masters of search engine manipulation make sure that their sites that sell free information, come up first in search engines. They did not create it... They did not even scan it... Why should they get your money? Why are not letting you give those free manuals to your friends?

I am setting this document FREE. This document was made by the US Government and is NOT protected by Copyright. Feel free to share, republish, sell and so on.

I am not asking you for donations, fees or handouts. If you can, please provide a link to liberatedmanuals.com, so that free manuals come up first in search engines:

<A HREF=http://www.liberatedmanuals.com/>Free Military and Government Manuals</A>

- Sincerely
  Igor Chudov
  http://igor.chudov.com/
- Chicago Machinery Movers