CV-2B

PILOT'S CHECKLIST

July 1964

PILOT'S COMPARTMENT

1. DA Form 2408 - Check.
   a. Status today.
   b. Servicing.
   c. Weight and balance forms, if applicable.
2. Battery master switch - OFF.
3. Ignition switches - OFF.
4. Flap selector - Full down.
5. Crew oxygen masks - Check condition (3) (60-3762 through 62-4171).
6. Hydraulic hand pump handle - Stowed.
7. Oxygen supply valve - As desired (62-4172 and subsequent).
8. Hydraulic panel, check -
   a. Hand pump selector - Normal system.
   b. Emergency landing gear down, selector - OFF.
   c. Nosewheel down selector - OFF.
   d. Brake accumulator charging selector - OFF.
9. Portable oxygen unit - Check.
10. Portable fire extinguisher - Check (1).

PREFLIGHT INSPECTION (DAY AND NIGHT)

COCKPIT CHECK - BEFORE START

NORMAL START AND TAXIING

ENGINE RUNUP

TAKEOFF, IN FLIGHT, LANDING, AND . . .

ENGINE SHUTDOWN AND SECURING AIRCRAFT

EMERGENCY - ENGINE FAILURE AND AIRSTART

EMERGENCY - PROPELLER FAILURE

EMERGENCY - ELECTRICAL SYSTEM

EMERGENCY - HYDRAULIC SYSTEM

EMERGENCY - FIRE - FUEL

FORCED LANDING - DITCHING - BAILOUT

ENGINE HANDLING CHART

11. Access ladder - Stowed.
12. Hydraulic reservoir - Check fluid level.
13. First aid kit - Check (1).
14. Hydraulic pressure shutoff valve lever - ON.
15. Cabin and cockpit heater switches - OFF.
16. Heater intake anti-icing switches - OFF.
17. Emergency slide - Stowed.
18. Main gear emergency extension handle - Secure.
19. Cargo door's master switch - As desired.
20. Fasten seat belt and no smoking sign switch - ON.
21. Circuit breaker panel -
    a. All circuit breakers - Set.
    b. Emergency bus switch - Normal.
    c. Secondary bus reset switch - Down and guarded.
    d. FM power switch - OFF.
    e. Instrument transformer switch - Main.
22. Bottom emergency exit jettison handle - Secured.
23. Bottom emergency exit - Closed and secured.

CARGO AND PASSENGER COMPARTMENT

1. Engine preheat outlet cover - Secure.
2. Crew oxygen system - 1800 psi (60-3762 through 62-4171).
3. Crew chief's oxygen regulator supply switch - OFF (62-4172 and subsequent).
4. Emergency equipment -
   a. Crash axe - Secure.
   b. Emergency exits - Closed and jettison handle secure (3).
   c. First aid kits - (3).
   d. Portable fire extinguishers - (2).

EXTERIOR INSPECTION

1. Fuselage left side, fuselage skin - Condition.
2. Left wing -
   a. Engine fire extinguisher indicating discs - Intact.
   b. Left main landing gear -
      (1) Doors - Condition and open.

(2) Wheel well - General condition.
(3) Fuel system - Verify drained (3).
(4) Ground safety lock - Removed.
(5) Shock strut - Condition and extension.
(6) Brake assembly - Condition.
(7) Tires - Condition and inflation.
(8) Weight switch plug - Connected.
(9) Static ground - Condition.

c. Flaps - Full down and condition.
d. Ailerons - Condition.
e. Control surface hinges - Condition.
f. Access panels - Secure.
g. Wingtip navigation light - Condition.
h. Wing surface and deicer boots - Condition.
i. Landing and wing inspection lights - Condition.
j. Accessories compartment vent doors - Check position.
k. Propeller - Condition.
l. Engine cowls and access panels - Condition and secured.
m. Thrust indicator pitot heads - Condition and covers removed.

n. Engine air intakes - Clear.
o. Cabin heater air intake (combustion) - Clear.

3. Nose -
   a. Cockpit heater fire extinguisher discs - Intact.
   b. Wheel brake emergency air pressure - Check 1500 psi.
   c. Wheel brake accumulator air pressure - Check 850 - 3000 psi.
   d. Static vents - Clear (4).
   e. Pitot heads - Condition and covers removed (2).
   f. Cockpit heater air/intake ducts - Clear.
   g. Nose landing gear -
      (1) Taxi light - Condition.
      (2) Ground safety lock - Removed.
      (3) Shock strut - Condition and extension.
      (4) Steering disconnect pins - Installed.
      (5) Weight switch plug - Connected.
      (6) Tires - Condition and Inflation.
      (7) Doors - Condition and position (rear doors closed).

h. Crew oxygen system - 1800 psi (62-4172 and subsequent).
i. Nose gear emergency air bottle pressure - 1200 psi.
j. Access panels - Secure (3).
k. Bottom escape hatch - Secure.
l. Antennas - Condition.
m. Cabin heater fire extinguisher indicating discs - Intact.

4. Right wing - Repeat check as for left wing, plus -
   a. Cabin heater air intake (ventilation) - Clear.
   b. Aileron trim tab - Neutral.
   c. Aileron/rudder interconnect - Condition.
5. Fuselage, right side -
   a. Fuselage skin - Condition.
   b. Anticollision light (upper and lower) - Condition.
   c. Passenger door - Condition and closed.
   d. Cargo door jettison handle - Secured, access panel closed.

6. Empennage -
   a. Vertical stabilizer, rudder, and trim tab - Condition, tab locks removed.
   b. Horizontal stabilizer, fairings, elevators, trim tabs - Condition, tab locks removed.
   c. Taillight - Condition.
7. Cargo door - Condition; ramp extensions - Stowed and secured.
8. Cargo and passengers - Secure.
9. Passenger briefing.

NIGHT OPERATIONS

Prior to the preflight inspection, preceding a night flight, the following will be accomplished:

1. Upon entering the flight compartment - Flight compartment dome light - ON, red or white as desired.
2. Battery master switch - Battery master.

3. Check lights for proper operation as follows:
   a. Panel lights' rheostats (4) - Check full range; leave as desired.
   b. Anticollision lights (2) - Check ON, return to OFF.
   c. Warning light switch (1) - Check dim position, leave as desired.
   d. Wing and taillights (3) - Leave ON.
   e. Standby compass lights - Check emergency, return to normal.
      (1) Magnetic compass.
      (2) Airspeed indicator.
      (3) Altimeter.
      (4) Turn/bank indicator.
   f. Wing inspection lights (2) - Check ON, return to OFF.
   g. Formation lights - Check bright and dim position, return to OFF.
   h. Landing lights (2) - Check ON, return to OFF.
   i. Taxi light (1) - Check ON, leave as desired.
   j. Utility lights (4) - Check operation, leave as desired.

k. Emergency hydraulic selector panel lights (2) - Check for illumination when panel door is raised

l. Cabin dome lights (7) - Check operation, leave as desired.

m. Emergency exit lights (5) - Check operation, return to OFF.

n. Rear entrance lights (1) - Check operation, leave as desired.

o. Cargo loading light (1) - Check operation, leave as desired. CAUTION: When cargo loading light is in stowed position, insure that the light beam is directed away from the cabin roof.

4. Battery master switch - OFF or as desired for preflight inspection. CAUTION: If battery master switch remains at battery master position during preflight inspection, use extreme caution while in vicinity of propellers.

COCKPIT CHECK BEFORE STARTING ENGINES

1. Pilot and copilot seats - Adjust.
2. Rudder pedals - Adjust.
3. Safety belts and shoulder harness - Fasten and adjust.
4. Parking brake - ON.
5. Cockpit air control selector handles - As desired.
6. Nosewheel steering switch - ON.
7. Oil dilution switches - OFF.
8. Accessories compartment vent door's switch - As desired (60-3762 and subsequent).
9. Hot fuel prime switch - OFF (60-3762 and subsequent).
10. Feather dilution switch - OFF (61-2595 and subsequent).
11. Battery master switch - OFF.
12. Windshield wiper switch - OFF.
13. Windshield heat switch - OFF.
14. Instrument light rheostats - OFF (4).
15. Anticollision light switch - OFF.
16. Warning lights intensity switch - Bright.

17. Wing and taillights' switch - OFF.
18. Standby/compass light switch - NORM.
19. Wing inspection light switch - OFF.
20. Formation lights switch - OFF (63-9718 and subsequent).
21. All radio switches - OFF.
22. Pilot's flight instruments - Check, set altimeter.
23. Gyro compass switch - Slave.
24. Pilot's oxygen regulator supply switch - OFF (62-4172 and subsequent).
25. Fuel booster pump switches - OFF.
26. Fuel tank selector switch - Normal.
27. Troop-jump and pendulum release switches - OFF.
28. Engine instruments - Check.
29. Electrical power panel -
    a. D.C. generator switches - ON and guarded (2).
    b. Inverter switch - OFF.
30. Deicing panel -
    a. Pitot heater switch - OFF.
    b. Propeller anti-icing switch - OFF.
    c. Wing-and-tail mode switch - OFF.

31. Copilot's oxygen regulator supply switch - OFF (62-4172 and subsequent).
32. Copilot's flight instruments - Check, set altimeter.
33. Thrust indicator free-stream pressure selector - Normal.
34. Feather dilution switch - OFF (60-3762 through 61-2594).
35. Autofeathering switch - OFF.
36. Clocks - Check and set (2).
37. Emergency panel -
    a. Cockpit and cabin heater fire extinguisher switches - Down and guarded (2).
    b. Fuel and oil emergency shutoff switches - Down and guarded (4).
    c. Fire-pull T-bar handles - In and horizontal (2).
38. Wheel brakes emergency lever - Forward and secured.
39. Standby compass - Check.
40. Overhead console -
    a. Carb air induction switches - Ram.
    b. Carb hot-air levers - Cold.
    c. Flap selector lever - Up.
    d. Ignition switches - OFF.

e. Taxi and landing light switches - OFF.
f. Mixture control levers - Idle cutoff.
g. Propeller levers - Maximum increase.
h. Gust lock handle - Locked.
i. Throttles - Closed.
j. Landing gear selector - Down.

BEFORE STARTING

P	1.	Landing gear ground safety locks - Verify removed (3).
P	2.	Pitot head covers - Verify removed (6).
P	3.	Wheel chocks - As desired.
P	4.	Fireguard - Posted.
P&CP	5.	Propellers - Clear.
P	6.	Battery master switch - Battery master.
P	7.	D.C. warning and indicating lights - Check ON (13).
		a. Hydraulic low pressure (2).
		b. Landing gear down (3).
		c. Fuel low pressure (2).
		d. Oil low pressure (2).
		e. Generator failure (2).
		f. Main inverter failure (1).
		g. 26 VAC failure light (1).
P	8.	Landing gear warning horn test switch - Test - Check for illumination of gear selector lever light.
P	9.	Throttles - Open to gust lock.

P&CP 10. If external power is to be used -

a. Battery master switch - OFF.
b. Generator switches - OFF.
c. External power - Connected.
d. Inverter switch - STBY, check standby light illuminates - OFF. Check failure light illuminates and standby light goes out - Switch to MAIN - Check standby and failure light go out - Leave switch at main.

STARTING THE ENGINES

1. Start left engine as follows: Note. If external power is used, start right engine first and disconnect external power before starting left engine.

P a. Left fuel booster pump switch - Normal.

CP b. Inverter switch to MAIN - Note fuel and manifold pressures' register. Return to OFF (with external power; merely note pressures).

P		c. Starter switch - L. Turn prop through 15 blades on initial start any day (6 blades on later starts) to check for hydraulic lock. Do not operate starter for more than 30 seconds, allow 1 minute for cooling.
CP		d. Left ignition switch - Both (at required blade count).
P		e. Vibrator switch - L.
P		f. Primer switch - L, as required.
P		g. Starter and vibrator switches - Release as engine starts.
P		h. Throttle - Adjust for 800 rpm.
CP		i. Mixture control lever - Auto-lean, when engine running smoothly on prime.
P		j. Primer switch - Release when rpm starts to drop.
CP	2.	Inverter switch - Main.
P	3.	Oil pressure - 30 psi minimum. CAUTION: No oil pressure - shut engine down at once.
P	4.	Left fuel booster pump switch - OFF.

P 5. Repeat starting procedure for right engine (if external power was used - disconnect, turn battery master switch ON, generator switches ON).

P 6. Engine ground operation - Warm up at 1200 rpm until oil temperature reaches 40°C. (For operation in extreme temperatures, refer to operator's manual.)

BEFORE TAXIING

CP 1. FM switch - ON.

P 2. A.C. and D.C. check - (29 items).

a. Low oil level (2)
b. Windshield heat (2).
c. Troop-jump lights (6).
d. Fuel low level (2).
e. Fuel quantity indicating system (2).
f. Marker beacon (1).
g. Autofeather (1).
h. Prop reverse (2).
i. Cockpit heater fire (1).
j. Prop oil (1).

k. Engine fire detection system (4).
l. Prop oil (1).
m. Cabin heater fire (1).
n. Doors unlocked (1).
o. Ramp door 15°-position (1).
p. Alarm bell - Check operation.

CP 3. Communications equipment and navigational radios - ON as desired.
a. Radar inverter - ON.
b. Radar function switch - STBY.

P&CP 4. Flight and engine instruments - Check all indications, verify altimeter setting on call-up to tower.

P 5. Hydraulic system pressure - 3000 psi approximately.

P 6. Brake system pressure - 3000 psi approximately.

CC 7. Wheel chocks - Removed and secured.

CC 8. Cargo and passenger doors - Closed.

CC 9. Secured for taxi - Reported by crew chief.

TAXIING

P	1.	Parking brake - Release.
P	2.	Throttles - Adjust as necessary.
P	3.	Wheel brakes - Check operation.
P&CP	4.	Flight instruments - Check during turns.
P	5.	Head into wind, nosewheel centered before stopping.
P	6.	Parking brake - ON.

ENGINE RUNUP

P	1.	Verify area in rear is clear for runup.
CP	2.	Mixture control levers - Auto-rich.
P	3.	Throttles - Set at 1200 rpm, adjust friction levers.
CP		a. Wing flaps - Check full range; return to full up.
CP		b. Ignition switches - Check ground out.
CP		c. Mixture control - Check, adjust friction levers.
P		d. Fuel crossfeed - Check.
CP		e. Voltammeters -
		(1) Voltage readings - 28V ± 0.5V.
		(2) Ammeter readings coincide within 10%.
		(3) Left generator switch - OFF. Note left ammeter drops to zero and right ammeter shows increased reading. Check that automatic change-over to standby inverter occurs and that the standby light illuminates. Left generator switch - ON.

(4) Repeat (3) for right generator.

CP f. Pitot heat - Check.

CP g. Wing-and-tail deicing pumps -
(1) Mode switch - MAN.
(2) Deicing pressure 14-16 psi, suction 4-6" Hg.
(3) Check operation - As desired.
(4) Mode switch - OFF.

P h. Heater intake anti-icing switches - Check.

P&CP i. Temperature check -
(1) Oil temperature 40°C minimum.
(2) Cylinder head temperature 120°C minimum.

P 4. Gust lock handle - Unlocked.

P 5. Throttles - Set at 1900 rpm -

CP a. Props - Minimum decrease; rpm drops to 1300. Check 3 times on initial runup for conventional system. For reverse prop system, check 1 time. Adjust friction.

CP b. Carburetor heat - Check.

P 6. Throttles - 2200 rpm -

P a. Manifold pressure - approximately field barometric pressure.

P b. Thrust indicators - Check for similar readings.

CP c. Ignition system - Check magnetos, one at a time. Drop not over 100 rpm max (40 rpm differential).

P 7. Throttles closed - Check -

a. Idling - 550 ± 25 rpm.

b. Generator warning lights illuminated.

c. Standby inverter light illuminated.

d. Reverse prop system -

(1) Carb air induction switches - Filter.

(2) Throttles - Reverse idle. Check feather buttons and reverse prop indicators illuminate. (Move throttles to rear to insure freedom of movement.

(3) Throttles - Normal idle.

(4) Carb air induction switches - As desired.

P 8. Propeller autofeathering system - Check: Note. If autofeather system inoperative, perform manual check at 1900 rpm.

P a. Throttles - Set at 1200 rpm.

P b. Autofeathering switch - ON, check indicator light illuminates.

c. Throttle -

P (1) Open right throttle until left feathering button pulls in. (Thrust pressure differential of 45 ± 2 1/2 % should be indicated.)

P (2) Return to 1200 rpm.

CP (3) Simultaneously pull out the button to arrest feathering cycle after 200 rpm drop.

P d. Autofeathering switch - OFF - then ON.

e. Repeat procedure for right system.

P 9. Autofeathering switch - OFF.

P 10. Gust lock handle - Locked.

CP 11. Mixture control levers - Auto-lean if delay is anticipated prior to completion of takeoff check.

TAKEOFF CHECK

P	1.	Trim - Check (3) - a. Elevator - Takeoff range. b. Rudder - Neutral. c. Aileron - Check operation - Set to neutral.
CP	2.	Carb air induction switches - As desired.
CP	3.	Carburetor heat - Cold.
CP	4.	Wing flaps - As desired.
CP	5.	Mixture control levers - Auto-rich.
CP	6.	Propeller - Maximum increase.
P	7.	Autofeathering switch - ON.
P	8.	Fuel booster pumps - Normal.
P	9.	Fuel tank selector - Normal.
P	10.	Windshield heat - Normal.
P	11.	Hydraulic pressure indicator - 3000 psi.
CP	12.	Anticollision light - ON.
P&CP	13.	Engine instruments - Check - a. All warning lights out. b. Fuel quantity.
P&CP	14.	Flight instruments - Check to include flap position indicator.
P	15.	Stall warning system - Check.
P&CP	16.	Windows - Secured or as desired.

P&CP	17.	Emergency overhead escape hatch - Recheck locked.
P	18.	Parking brakes - Release.
P.	19.	Taxi onto runway.

LINEUP CHECK

P	1.	Line up with takeoff runway and unlock gust lock handle.
P	2.	Check flight controls.
P&CP	3.	Shoulder safety harness inertia reel - Locked.

AFTER TAKEOFF

P&CP	1.	Gear and flaps - Up.
P&CP	2.	Climb power - As required.
P&CP	3.	Shoulder safety harness inertia reel - As desired.
P	4.	Autofeathering switch - OFF after reducing to desired climb power.
CP	5.	Radar function switch - As desired.

NORMAL CRUISE

P	1.	Level off - obtain cruise airspeed.
P&CP	2.	Normal cruise power - Check cruise chart.

P	3.	Fuel booster pumps - OFF if below 10,000 feet.
CP	4.	Mixture control levers - Auto-lean if cylinder head temp below 232°C.
CP	5.	Carburetor heat - As required.
CP	6.	Fasten seat belt and no smoking sign switches - As desired.

BEFORE LANDING

P	1.	Throttles - Reduce power as necessary.
CP	2.	No smoking and fasten seat belt sign switches - ON.
CP	3.	Carb air induction switches - As desired.
CP	4.	Carburetor heat - As desired.
CP	5.	Mixture control levers - Auto-rich.
P	6.	Fuel booster pumps - Normal.
P	7.	Fuel tank selector - Normal.
P	8.	Hydraulic pressures - 3000 psi (2).
P	9.	Nosewheel steering switch - ON.
CP	10.	Radar function switch - STBY.
P	11.	Landing gear selector - Down - IAS 120 knots or below.
	12.	Landing gear down check -
P&CP		a. Visually check each main gear down.
P&CP		b. Check indicator lights (3).

P&CP		c. Check hydraulic pressure.
P&CP		d. Check indicator light out in selector handle.
CC		e. Gear down and locked report from crew chief.
CP	13.	Flaps - As desired - IAS 105 knots or below.
	14.	Final approach check -
CP		a. Propeller selector levers - Full increase on final.
P&CP		b. Recheck gear indicator lights ON (3).
P&CP		c. Recheck hydraulic pressures.
CP	15.	Landing lights - As desired.
P	16.	Accessories compartment vent doors - As desired.
P&CP	17.	Shoulder safety harness inertia reel - Locked.

AFTER LANDING

P	1.	Gust lock handle - Locked before turning off runway.
CP	2.	Taxi light and landing lights - As required.
CP	3.	Carb air induction switches - As desired.
CP	4.	Flap selector lever - Up.

CP	5.	Mixture control lever - Auto-lean.
P	6.	Fuel booster pump switches - OFF.
P	7.	Windshield heat switch - OFF.
CP	8.	Anticollision light switch - OFF.
CP	9.	Deicing switches - OFF.
CP	10.	Radio switches - OFF or as desired.
P	11.	Taxi to parking area.
P	12.	Nosewheel - Centered before stopping aircraft.
P	13.	Parking brake - ON.

ENGINE SHUTDOWN

P	1.	Throttles - Set at 1200 rpm.
P	2.	Cylinder head temperature - Allow engine to cool below 200°C.
CP	3.	Ignition switches - Ground-out check.
CP	4.	Radio switches - OFF.
CP	5.	Inverter switch - OFF.
CP	6.	Fasten seat belt and no smoking sign switches - OFF.
CP	7.	FM power switch - OFF.
CP	8.	Mixture control levers - Idle cutoff.
CP	9.	Ignition switches - OFF when props stop turning.
P	10.	Fuel tank selector switch - OFF.
P	11.	Battery master switch - OFF.

SECURING AIRCRAFT

CC	1.	Landing gear - Chocked and tied down as required.
CC	2.	Parking brake - As desired.
CC	3.	All switches - OFF.
CC	4.	Landing gear safety lock pins - Installed.
CC	5.	Pitot head covers - Installed.
CC	6.	Doors and hatches - Closed.
P&CC	7.	DA Form 2408 - Complete.

ENGINE FAILURE ABOVE TAKEOFF SPEED
(BASIC SINGLE-ENGINE PROCEDURE)

1. Maintain aircraft control.
2. Determine which engine is out. Note. If it becomes necessary to shut down an engine while in flight, due to an engine malfunction, the following procedure should be preceded by selecting the mixture control lever of the malfunctioning engine to the idle cutoff position.
3. Malfunctioning engine (low-thrust indication) - Feather propeller.
4. Operative engine - METO power (minimum) -
   a. Mixture control lever - Auto-rich.
   b. Propeller - 2550 rpm.
   c. Throttle - 42.5" Hg at sea level.
   d. Fuel booster pump - Normal.
5. Landing gear and flaps - Up.
6. Inoperative engine - Shut down -
   a. Throttle - Closed.
   b. Propeller lever - Full decrease.
   c. Mixture control lever - Idle cutoff.
7. Clean-up - As desired.
   a. Fuel emergency shutoff switch - UP. (If engine fire, oil emergency shutoff switch UP also.)
   b. Fuel booster pump switch - OFF.
   c. Ignition switch - OFF.

EMERGENCY - ENGINE FAILURE AND AIRSTART
EMERGENCY - PROPELLER FAILURE
EMERGENCY - ELECTRICAL SYSTEM
EMERGENCY - HYDRAULIC SYSTEM
EMERGENCY - FIRE - FUEL
FORCED LANDING - DITCHING - BAILOUT
ENGINE HANDLING CHART

d. Generator switch - OFF.
e. Fuel tank selector switch - As required.
f. Secondary bus reset switch - Up, if required.
g. Nonessential electrical bus services - OFF.
h. Operative engine power - Adjust as required.

ENGINE FAILURE DURING TAKEOFF ROLL

Close throttles and apply brakes.

ENGINE FAILURE AFTER TAKEOFF

1. Adjust power and maintain aircraft control.
2. Land if runway length permits or if safe single-engine speed is not obtainable.
3. If runway length does not permit safe landing and safe single-engine speed is obtained -
   a. Continue flight and perform basic single-engine procedure.
   b. Initiate climb when safe single-engine speed is attained.

ENGINE FAILURE DURING FLIGHT

Time and altitude permitting, check the engine systems to ascertain the cause of the failure and determine whether or not normal operation can be restored. If not, accomplish the basic single-engine procedure.

ENGINE RESTART IN FLIGHT

1. Airspeed - 130 knots IAS maximum.
2. Throttle - Closed.
3. Propeller control lever - Full decrease.
4. Mixture control lever - Idle cutoff.
5. Ignition switch - Both.
6. Fuel emergency shutoff switch - Down.
7. Fuel booster pump switch - Normal.
8. Autofeathering switch - OFF.
9. Propeller feathering button - Depress for conventional system; pull for reverse system. (Release before 800 rpm.)
10. Mixture control lever - Auto-rich.
11. Throttle - Advance slightly.
12. Temperatures - Check.
13. Propeller control lever - Required rpm.
14. Throttle - Advance to required manifold pressure.
15. Trim - Reset.
16. Fuel booster pump switch - OFF.
17. Generator switch - ON.
18. Secondary bus reset switch - Down.

SINGLE-ENGINE APPROACH

1. Accomplish basic single-engine procedure as required.
2. Use normal traffic pattern.

3. Landing gear - Extend when desired.
4. Flaps - Use a maximum of 15° until landing assured.
5. *Airspeed - 75 knots (A), 85 knots (B) on final.
6. Turns - Avoid steep turns in pattern.

*Speeds appropriate to 26,000# (A), speeds appropriate to 28,500# (B).

SINGLE-ENGINE GO-AROUND

1. Throttle - Takeoff power.
2. Landing gear and wing flaps - Up.
3. Rudder trim - Reset.
4. Attitude - Maintain level flight.
5. Airspeed - Commence climb at 75 knots IAS (A) or 85 knots IAS (B). Increase to 95 knots in both cases.
6. Engine power - METO setting after safe climb has been established.

PROPELLER FAILURE (OVERSPEEDING)

1. Throttles - Retard - Reduce speed.
2. Propeller control lever (defective propeller) - Exercise pitch control.
3. Propeller feathering button - Depress.

PROPELLER RUNAWAY (REFUSES TO FEATHER)

1. Reset feather circuit breaker.
2. Ignition switch - OFF.
3. Fuel emergency shutoff switch - Up.
4. Passengers - Evacuate from propeller plane of rotation.
5. Airspeed - Just above safe single-engine speed.
6. Reattempt feathering.
7. If feathering attempt unsuccessful - Land as soon as practicable.

Note. Prop oil low-level light illuminates - monitor engine tachometer. If rpm fluctuates more than 200 rpm, shut engine down and feather propeller.

ONE-GENERATOR FAILURE

1. Generator switch - Check on.
2. Generator field relay circuit breaker - Reset - One reset only should be made.
3. Generator switch - Reset. If warning light does not go out, proceed as follows:
4. Generator switch - OFF.
5. Switch off all unnecessary services.
6. Secondary bus reset switch - As desired.

Note. The secondary bus is automatically de-energized when one generator fails. Action (6) is carried out only if certain services from the secondary bus are necessary for the flight. These services are windshield heat controls and inverters, main inverter, rear utility receptacles, windshield wipers, wing and tail deicing, pitot heat, cabin and cockpit heating, aileron trim control and indicator, and main inverter relay.

7. Ammeter - Check for overload. Do not allow ammeter loading for operating generator to exceed 300 amps.

TWO-GENERATOR FAILURE

1. Generator switches - Check on.
2. Generator field relay circuit breaker - Reset - Only one reset should be made.

3. Generator switches - Reset. If warning lights do not go out, proceed as follows:
4. Emergency bus switch - Emergency.
5. Battery master switch - OFF.

Note. Emergency bus is now energized from the battery.

CAUTION: With the emergency bus in operation and battery master switch off, propeller feathering pumps and fuel booster pumps are inoperative.

6. Switch off any unnecessary services to conserve the battery.

AMMETER FAILURE

If the ammeter for either generator registers zero but other electrical indications are normal, check for a faulty ammeter gage as follows:

1. Generator switch for appropriate generator - OFF.
2. Ammeter - Check for increased reading on ammeter for other generator.
3. Generator switch - Reselect ON if reading increases. An increased reading will indicate that both generators are operating and that the fault is in the ammeter circuit.

MAIN INVERTER FAILURE

1. Inverter circuit breakers - Reset.
2. D.C. power circuit breakers - Reset.
3. Inverter switch - Select OFF then return to main.
4. If standby light remains out - Leave switch at main.
5. If standby light comes on - Select switch to STBY.

STANDBY INVERTER FAILURE

1. Inverter circuit breakers - Reset.
2. D.C. power circuit breakers - Reset.
3. Inverter switch - Select OFF then main.
4. If the A.C. failure light comes ON - Select inverter switch OFF.

26 VOLT A.C. TRANSFORMER FAILURE

If the 26 VAC warning light comes on while either inverter is operating properly, select the instrument transformer switch from main to standby.

LANDING GEAR EMERGENCY LOWERING

Note. If loss of engine driven hydraulic pump pressures have resulted - (1) Check circuit breakers and hydraulic system's reservoir; (2) if a leak in the system is discovered, the hydraulic pressure shutoff valve must be selected to OFF.

1. Nose gear -
   a. Landing gear selector - Down.
   b. Hand pump operation -
      (1) Hand pump selector - Emergency system.
      (2) Emergency landing gear down, selector handle - ON.
      (3) Nosewheel down hand pump selector - ON.
      (4) Hand pump - Operate until nose gear locked down.
   c. Emergency air bottle -
      (1) Emergency landing gear down selector handle - ON.
      (2) Nosewheel emergency down (air) selector - Pull and hold out until green nosewheel down light comes on.
2. Main gear -
   a. Landing gear selector lever - Recheck down.
   b. Emergency landing gear down selector handle - ON.
   c. Main gear emergency extension handle - Pull.

WING FLAPS EMERGENCY OPERATION

(Use only in event of loss of both engine-driven hydraulic pumps.)

1. Flap selector lever - As required.
2. Hand pump selector - Normal system.
3. Hand pump - Operate as required.

WHEEL BRAKES EMERGENCY OPERATION

1. Hand pump selector - Normal system. (Emergency system in event of system fluid leak.)
2. Brake accumulator hand pump charging selector - ON.
3. Hand pump - Operate as required.
4. Use brakes sparingly.
5. Wheel brakes emergency lever - Pull if extra braking required.

NOSEWHEEL STEERING

Will be ineffective without system pressure. In this event the nosewheel steering switch must be selected to OFF.

ENGINE FIRE (GROUND)

If fire develops during starting, discontinue priming, but keep engine cranking until it starts or until fire recedes. If the engine is already running when fire develops, open throttle and attempt to blow it out. If the ground crew signal to shut down the engine, immediately execute the following:

1. Mixture control lever - Idle cutoff.
2. Fuel and oil emergency shutoff switches - Up.
3. Fuel booster pump switch - OFF.
4. Ground crew - Fight fire.
5. Fire-pull T-bar - Pull.
6. Ignition switch - OFF.
7. Generator switch - OFF.
8. Battery master switch - OFF.
9. Abandon aircraft.

ENGINE FIRE (FLIGHT)

1. Mixture control lever - Idle cutoff.
2. Fuel and oil shutoff switch - Up.
3. Propeller feathering button - Depress.
4. Fuel booster pump switch - OFF. Zones 2 and 3 fire, continue as follows:
5. Fire-pull T-bar - Pull.
6. Second shot - If required.
7. Complete engine shutdown procedure.

COMBUSTION HEATER FIRE
FLIGHT COMPARTMENT HEATER

1. Heater master switch - OFF.
2. Flight compartment air control handle - Pull to close.
3. Flight compartment heater extinguisher switch - Up.

CABIN HEATER

1. Heater master switch - OFF.
2. Cabin air control handle - Pull to close.
3. Cabin heater extinguisher switch - Up.

FUEL SYSTEM
FUEL PRESSURE DROP

1. Engine operating normally -
   a. Make a visual check for the presence of streaming fuel vapor, signs of fire, or other evidence of a fuel leak.
      (1) If a leak is found, shut down the engine as soon as possible.
      (2) If a leak is not found, maintain a watch for fire and shut down the engine completely before entering the traffic pattern.
2. Engine stops operating -
   a. Throttle - Closed.
   b. Fuel system controls - Check.
   c. Fuel booster pump switch - High (only after visual inspection for fuel leak).

If the condition persists -

d. Fuel booster pump switch - OFF.

e. Fuel selector switch - To feed both engines from other tank.

f. Fuel booster pump switch for good tank - High while cross-selection is made.

If the condition still persists -

g. Shut down the engine.

FORCED LANDING

1. Alarm bell - Six rings.
2. No smoking and fasten seat belt switch - ON.
3. Radio - TRANSMIT DISTRESS. IFF master control to EMERGENCY.
4. Heater master switches - OFF.
5. Nonessential electrical services - OFF.
6. Safety harness and inertia reel - Adjusted and locked.
7. Landing gear - Down.
8. Wing flaps - As desired.
9. Engine controls - As for normal landing.
10. Generator switches - OFF.
11. Emergency bus switch - Emergency.
12. Battery master switch - OFF (daytime only).
    If at night - electrical switching as follows:
13. Generator switches - OFF.
14. Emergency bus switch - Emergency.
15. Secondary bus switch - Reset.
16. Battery master switch - Battery master.
17. Just before touchdown - Battery master switch - OFF.

DITCHING

(To be accomplished as a last resort.)

Prepare aircraft as in forced landing, except as follows:

1. Landing gear - Up.
2. Flaps - 40° (all weights) on final approach.

BAILOUT

1. Radio - TRANSMIT DISTRESS. IFF master control to EMERGENCY.
2. Exits - Jettison cabin emergency door, right-hand passenger door. Open cargo doors.
3. Alarm bell - One long ring to execute bailout order.
4. If time permits - Set trim, feather propeller, operate fuel and oil shutoff switches, ignition and electric - all OFF, battery master switch - OFF last.

ENGINE HANDLING CHART FOR DHC-4 CARIBOU (STD. DAY, R-2000-7M2 ENG.)

		BHP per ENGINE	LB per hour (2 ENGINES)	RPM	MAX MAN. PRESS. AT ALTITUDE (X 1000) STANDARD DAY TEMPERATURE °C							
					S.L.	2	4	6	7	8	9	10
					15	11	7	3	1	-1	-3	-5
RICH	TAKE-OFF	1450	2320	2700	50	49.6	F.T.					
	MCP	1200	1680	2550	42.5	42.2	41.9	41.6	F.T.			
	NORMAL CLIMB	900	1116	2250	35.0	34.6	34.2	33.8	33.7	33.5	33.3	33.1
AUTO LEAN	MAX. AUTO LEAN	725	642	2000	33.0	32.4	32.2	31.8	31.5	31.3	31.1	F.T.
		700	618	2000	32.6	32.0	31.6	31.2	31.0	30.8	30.6	30.4
		650	568	1900	32.6	32.2	31.6	31.2	30.8	30.5	30.3	F.T.
		600	520	1800	32.0	31.5	30.8	30.3	30.1	29.9	29.7	F.T.
		550	484	1800	30.2	29.7	29.0	28.5	28.1	27.9	27.7	27.4
	MAX. RANGE (APPROX)	500	448	1800	28.4	27.8	27.2	26.6	26.2	26.0	25.8	25.6
		450	412	1800	26.5	25.8	25.1	24.5	24.2	24.0	23.8	23.6
		400	380	1800	24.7	24.0	23.4	22.8	22.4	22.2	22.0	21.8
		350	346	1800	22.7	22.1	21.4	20.7	20.4	20.2	19.9	19.7

REMARKS:

1. *Manifold Pressures are given for Std Carb Air Temp. Add 0.5 in. MP for each 10 °C above Std CAT, Subtract 0.5 in. MP for each 10°C below Std CAT. Do not exceed 50 in. MP on Take-off.*
2. *For settings above 10,000 feet, see Flight Manual.*
3. *F.T. - Full Throttle.*

TAKE-OFF DISTANCE TO CLEAR 50 FT
ICAO Standard Atmosphere
Dry Air

Gross Weight -Pounds	Flaps	Pressure Altitude -Feet	Zero Wind Clear 50 Ft -Feet	30-Knot Wind Clear 50 Ft -Feet
NORMAL TECHNIQUE				
28,500	7°	Sea Level	2000	1220
		5000	2650	1620
26,000	15°	Sea Level	1490	790
		5000	1675	910
23,000	15°	Sea Level	1305	660
		5000	1470	765
SHORT-FIELD TECHNIQUE				
28,500	25°	Sea Level	1205	640
		5000	1605	880
26,000	30°	Sea Level	1110	430
		5000	1500	630
23,000	30°	Sea Level	840	290
		5000	1110	430

LANDING DISTANCE TO CLEAR 50 FT
ICAO Standard Atmosphere
Dry Air

Gross Weight -Pounds	Flaps	Pressure Altitude -Feet	Zero Wind Clear 50 Ft -Feet	30-Knot Wind Clear 50 Ft -Feet
NORMAL TECHNIQUE				
28,500	30°	Sea Level	1790	1000
		5000	2010	1160
26,000	40°	Sea Level	1540	830
		5000	1750	950
23,000	40°	Sea Level	1440	750
		5000	1620	870
SHORT-FIELD TECHNIQUE				
28,500	40°	Sea Level	1245	660
		5000	1420	780
26,000	40°	Sea Level	1030	470
		5000	1160	570
23,000	40°	Sea Level	950	410
		5000	1060	500

TAKE-OFF DATA CARD

CONDITIONS

Gross Weight	_____ LB
Field Length	_____ FT
OAT	_____ °C
Dew Point	_____ °C
Specific Humidity	_____ LB/LB
Pressure Altitude	_____ FT
Headwind Component (at 50 ft)	_____ KTS

TAKE-OFF

	Normal	Shortfield
Take-off Distance (to clear 50 ft)	_____ FT	_____ FT
Take-off Ground Run	_____ FT	_____ FT
Speed at Take-off	_____ KIAS	_____ KIAS
Speed at 50 ft	_____ KIAS	_____ KIAS

LANDING IMMEDIATELY AFTER TAKE-OFF

	Normal	Shortfield
Approach Speed	_____ KIAS	_____ KIAS
Landing Distance (to clear 50 ft)	_____ FT	_____ FT
Landing Ground Roll	_____ FT	_____ FT

LANDING DATA CARD

CONDITIONS

Gross Weight	_____ LB
Field Length	_____ FT
OAT	_____ °C
Pressure Altitude	_____ FT
Headwind Component (at 50 ft)	_____ KTS

LANDING

	Normal	Shortfield
Approach Speed	_____ KIAS	_____ KIAS
Landing Distance (to clear 50 ft)	_____ FT	_____ FT
Landing Ground Roll	_____ FT	_____ FT

OXYGEN DURATION IN HOURS

THREE CREW MEMBERS

CYLINDER: **CONSTANT FLOW**
1-TYPE AN6025 AX646-18 **SYSTEM**

GAGE ALTITUDE (FEET)	GAGE PRESSURE - PSI				
	1800	1600	1400	1200	1000
8,000	8.1	7.2	6.4	5.4	4.5
10,000	6.7	5.9	5.3	4.5	3.7
12,000	5.6	5.0	4.5	3.8	3.2
14,000	4.6	4.0	3.6	3.0	2.5
15,000	4.3	3.8	3.4	2.9	2.4
20,000	3.2	2.9	2.6	2.2	1.9
25,000	2.6	2.3	2.1	1.7	1.5
30,000	2.2	1.9	1.7	1.5	1.2

CYLINDERS: **DILUTER DEMAND**
2-TYPE AN6025 AX386 **SYSTEM**

ALTITUDE (FEET)	GAGE PRESSURE - PSI				
	1800	1600	1400	1200	1000
8000	0.8 3.3	0.7 2.9	0.6 2.6	0.5 2.2	0.4 1.8
10,000	0.8 3.6	0.7 3.2	0.6 2.8	0.6 2.4	0.5 2.0
12,000	0.9 4.0	0.8 3.6	0.7 3.1	0.6 2.7	0.5 2.2
14,000	1.1 4.4	1.0 3.9	0.9 3.5	0.7 3.0	0.6 2.5
15,000	1.2 4.6	1.1 4.1	0.9 3.6	0.8 3.0	0.7 2.5
20,000	1.5 4.2	1.3 3.8	1.2 3.3	1.0 2.8	0.8 2.4
25,000	2.0 2.4	1.8 2.1	1.6 1.9	1.3 1.6	1.1 1.3
30,000	2.6 2.6	2.4 2.4	2.1 2.1	1.8 1.8	1.5 1.5

NOTE: UPPER FIGURES INDICATE DILUTER SWITCH AT "100% OXYGEN"
LOWER FIGURES INDICATE DILUTER SWITCH AT "NORMAL OXYGEN"