

NOTE

Visually check airplane for general condition during walk-around inspection. Use of the refueling steps and assist handles (if installed) will simplify access to the upper wing surfaces for visual checks and refueling operations. In cold weather, remove even small accumulations of frost, ice or snow from wing, tail and control surfaces. Also, make sure that control surfaces contain no internal accumulations of ice or debris. Prior to flight, check that pitot heater (if installed) is warm to touch within 30 seconds with battery and pitot heat switches on. If a night flight is planned, check operation of all lights, and make sure a flashlight is available.

Figure 4-1. Preflight Inspection

N4633J C172N NORMAL PROCEDURES

CHECKLIST PROCEDURES

PREFLIGHT INSPECTION

1) CABIN

1. Hobbs & Tach Times -- CHECK & COMPARE with MX Inspections.
2. A.R.O.W. -- AVAILABLE IN THE AIRPLANE.
3. Control Wheel Lock -- REMOVE.
4. Ignition Switch -- OFF.
5. Avionics Power Switch -- OFF.
6. Master Switch -- ON.
7. Fuel Quantity Indicators -- CHECK QUANTITY.
8. Flaps -- EXTEND per detent.
9. Lights -- CHECK AS REQUIRED.
10. Lights -- OFF.
11. Master Switch -- OFF.
12. Static Pressure Alternate Source Valve -- OFF.
13. Fuel Selector Valve -- BOTH.
14. Baggage Door -- CHECK Locked.
15. Left Wing Fuel Sump -- CHECK FOR WATER.

2) EMPENNAGE

1. Tail Tie-Down -- DISCONNECT.
2. Control Surfaces -- CHECK freedom of movement and security.
3. Antennas -- CHECK OK.
4. Airframe -- CHECK FOR DAMAGE.

3) RIGHT WING Trailing Edge

1. Flap / Aileron -- CHECK freedom of movement and security.
2. Wing Tip -- CHECK FOR DAMAGE.

4) RIGHT WING Leading Edge

1. Wing Tie-Down -- DISCONNECT.
2. Main Wheel Tire -- CHECK for proper inflation and Damage.
3. Brakes -- CHECK OK.
4. Fuel Tank Sump -- CHECK FOR WATER.
5. Fuel & Quantity -- CHECK VISUALLY.
6. Fuel Filler Cap -- SECURE.

N4633J C172N NORMAL PROCEDURES

5) NOSE

1. Engine Oil -- CHECK oil level (5-7 qts.) Do not operate with less than five quarts. Fill to seven quarts for extended flight.
2. Fuel Strainer Drain Knob -- PULL OUT for about four seconds to clear strainer of possible water and sediment before first flight of day and after each refueling. Return drain knob full in and check strainer drain CLOSED. If water is observed, the fuel system may contain additional water, and further draining of the system at the strainer, fuel tank sumps, and fuel selector quick-drain valve must be accomplished.
3. Propeller and Spinner -- CHECK for nicks and security.
4. Cowl Plugs -- REMOVE & CHECK Opening.
5. Alternator Belt -- CHECK.
6. Carburetor Air Filter -- CHECK.
7. Nose Wheel Strut and Tire -- CHECK for proper inflation and Damage.
8. Static Source Opening (left side of fuselage) -- CHECK for stoppage.

6) LEFT WING

1. Fuel & Quantity -- CHECK VISUALLY for desired level.
2. Fuel Filler Cap -- SECURE.
3. Main Wheel Tire -- CHECK for proper inflation and Damage.
4. Brakes -- CHECK OK.

7) LEFT WING Leading Edge

1. Pitot Tube Cover -- REMOVE and check opening for stoppage.
2. Fuel Tank Vent Opening -- CHECK Clear.
3. Stall Warning Opening -- CHECK Clear.
4. Wing Tie-Down -- DISCONNECT.
5. Landing Light(s) -- CHECK.
6. Wing Tip -- CHECK for damage.

8) LEFT WING Trailing Edge

1. Aileron / Flap-- CHECK for freedom of movement and security.

BEFORE STARTING ENGINE

1. Preflight Inspection -- COMPLETE.
2. Passenger Briefing -- COMPLETE.
3. Seats, Seat Belts, Shoulder Harnesses -- ADJUST and LOCK.
4. Brakes -- TEST and HOLD.
5. Avionics Power Switch -- OFF.
6. Circuit Breakers -- CHECK IN.
7. Fuel Selector Valve -- BOTH.

N4633J C172N NORMAL PROCEDURES

STARTING ENGINE

1. Mixture -- RICH.
2. Throttle -- OPEN 1/4 INCH.
3. Carburetor Heat -- COLD.
4. Rotating Beacon -- ON.
5. Navigation Lights -- ON after sunset.
6. Prime -- AS REQUIRED.
7. Master Switch -- ON.
8. Propeller Area -- CLEAR.
9. Ignition Switch -- START (release when engine starts).
10. Throttle set at 1000 RPM or LESS.
11. Mixture -- LEAN 1" From Full Rich.
12. Oil Pressure -- CHECK.
13. Avionics Power Switch -- ON.
14. Flight Instruments -- SET.
15. Flaps -- UP.
16. Parking Brake -- OFF.
17. Brakes -- CHECK.

BEFORE TAKEOFF

1. Brake -- HOLD.
2. Seats, Seat Belts, Shoulder Harnesses -- CHECK SECURE.
3. Cabin Doors--CLOSED and LOCKED.
4. Flight Controls -- FREE and CORRECT.
5. Flight Instruments -- CHECK and SET.
6. Fuel Quantity -- CHECK.
7. Fuel Selector Valve -- RECHECK BOTH.
8. Elevator Trim -- SET for takeoff.
9. Throttle -- FULL POWER.
10. Mixture -- LEAN FOR MAX RPM.
11. Set Throttle -- 1700 RPM.
 - a. Magnetos -- CHECK (RPM drop should not exceed 125 RPM on either magneto or 50 RPM differential between magnetos).
 - b. Carburetor Heat -- CHECK (for RPM drop).
 - c. Suction Gauge -- CHECK.
 - d. Engine Instruments and ammeter-- CHECK.
12. Throttle -- CHECK at IDLE then set at 1000 RPM or LESS.
13. Throttle Friction Lock -- ADJUST.
14. Radios and Avionics -- SET.
15. Transponder -- ALTITUDE Reporting.
16. Lights -- ON (As Desired).

N4633J C172N NORMAL PROCEDURES

NORMAL TAKEOFF

1. Wing Flaps -- 0°- 10°.
2. Carburetor Heat -- COLD.
3. Throttle -- FULL OPEN.
4. Elevator Control -- LIFT NOSE WHEEL (at 55 KIAS).
5. Climb Speed -- 70-80 KIAS.

SHORT FIELD TAKEOFF

1. Wing Flaps -- 10°.
2. Carburetor Heat -- COLD.
3. Brakes-- APPLY.
4. Throttle -- FULL OPEN.
5. Engine Gauges -- VERIFY in Green
6. Brakes -- RELEASE.
7. Elevator Control -- SLIGHTLY TAIL LOW.
8. Climb Speed -- 60 KIAS (until all obstacles are cleared).
9. Airspeed -- 70 KIAS / Flaps Retract.

ENROUTE CLIMB

1. Airspeed -- 70-85 KIAS.
2. Lights -- AS DESIRED.
3. Throttle -- FULL OPEN.
4. Mixture -- SET.

CRUISE

1. Power -- 2100-2700 RPM (no more than 75% is recommended).
2. Elevator Trim -- ADJUST.
3. Mixture -- LEAN to 50° Rich of Peak EGT.
4. Engine Gauges -- MONITOR During Flight.
5. Fuel Selector -- L/R or Both as Desired.

N4633J C172N NORMAL PROCEDURES

DESCENT

1. Fuel Selector Valve -- BOTH.
2. Power -- AS DESIRED.
3. Mixture -- ADJUST for smooth operation.
4. Carburetor Heat -- FULL HEAT AS REQUIRED.

BEFORE LANDING

1. Seats, Seat Belts, Shoulder Harnesses -- SECURE.
2. Fuel Selector Valve -- BOTH.
3. Mixture -- SET For Altitude.
4. Carburetor Heat -- AS NEEDED.
5. Lights -- ON (As Desired).

NORMAL LANDING

1. Airspeed -- 65-75 KIAS (flaps UP).
2. Wing Flaps -- AS DESIRED (0°-10° below 110 KIAS, 10°-30° below 85 KIAS).
3. Airspeed -- 65 KIAS (flaps DOWN).
4. Touchdown -- MAIN WHEELS FIRST.
5. Landing Roll -- LOWER NOSE WHEEL GENTLY.
6. Braking-- MINIMUM REQUIRED.

SHORT FIELD LANDING

1. Airspeed -- 65-75 KIAS (flaps UP).
2. Wing Flaps -- FULL DOWN (30°).
3. Airspeed-- 60 KIAS (until flare).
4. Power -- REDUCE to idle after clearing obstacle.
5. Touchdown -- MAIN WHEELS FIRST.
6. Brakes -- AS NEEDED.
7. Wing Flaps -- RETRACT (Once Clear of Runway).

BALKED LANDING

1. Throttle -- FULL OPEN.
2. Carburetor Heat -- COLD.
3. Wing Flaps -- RETRACT to 20°
4. Climb Speed -- 55 KIAS
5. Wing Flaps -- 10° (Until Obstacles are cleared)
-- RETRACT (After Reaching a Safe Alt. & 60 KIAS)

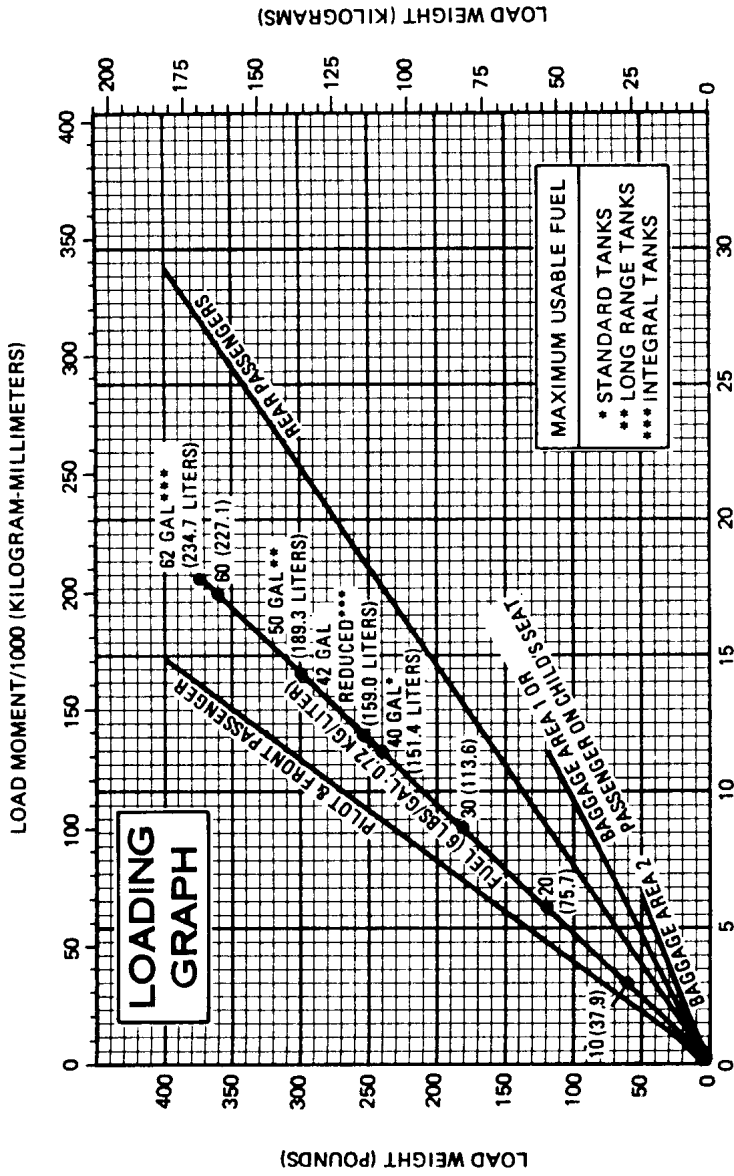
N4633J C172N NORMAL PROCEDURES

AFTER LANDING

1. Carburetor Heat -- COLD.
2. Wing Flaps -- UP.
3. Transponder -- STANDBY.
4. Lights -- AS REQUIRED.

SECURING AIRPLANE

1. Throttle -- 1000 RPM or LESS.
2. Avionics Master Switch, Electrical Equipment -- OFF.
3. Magnetos -- CHECK Grounding.
4. Mixture -- IDLE CUT-OFF.
5. Lights -- OFF.
6. Ignition Switch -- OFF after engine stops.
7. Master Switch -- OFF.
8. Fuel Selector -- LEFT or RIGHT.
9. Control Lock -- INSTALL.
10. Hobbs & Tach Time -- RECORD.
11. Secure Aircraft -- TIE DOWN, INSTALL COWL PLUGS, SUNSHADE, PITOT COVER, and BRAKE OFF.



NOTE: Line representing adjustable seats shows the pilot or passenger center of gravity on adjustable seats positioned for an average occupant. Refer to the Loading Arrangements diagram for forward and aft limits of occupant C.G. range.

Figure 6-6. Loading Graph

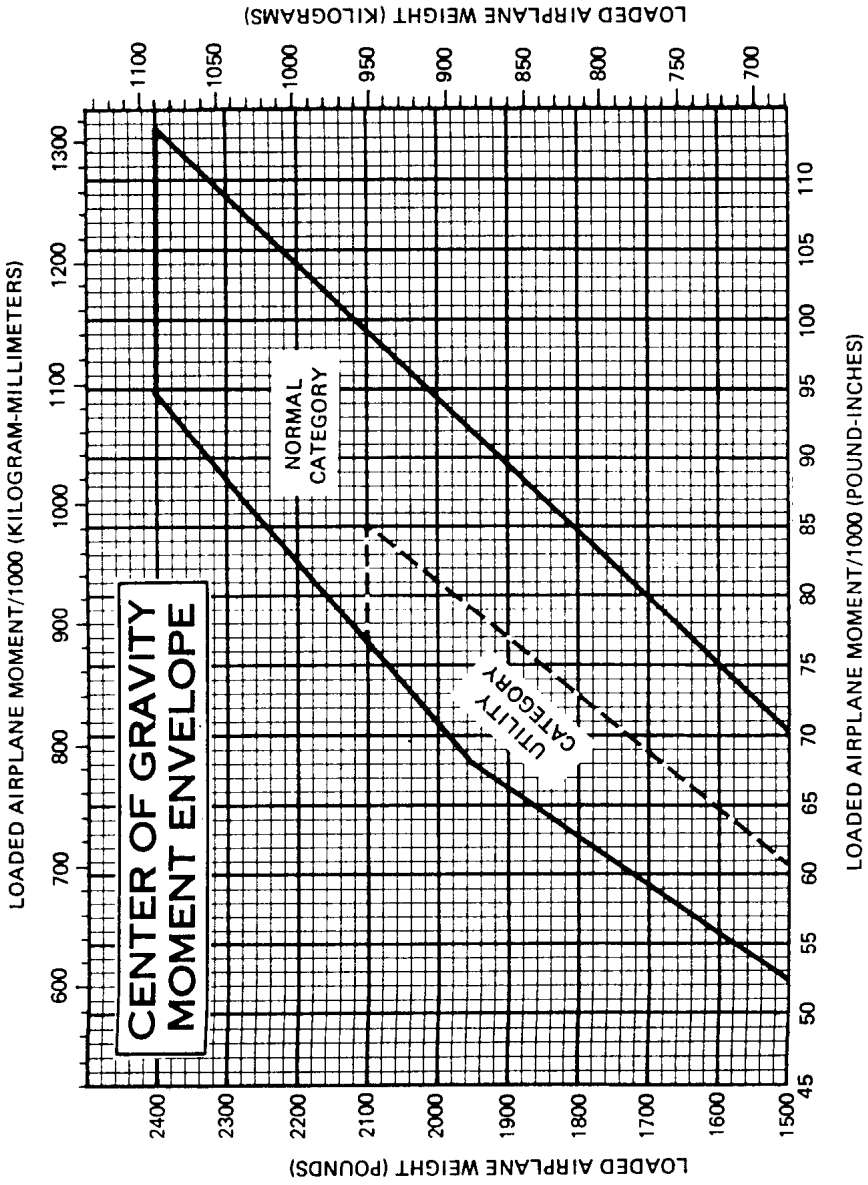


Figure 6-7. Center of Gravity Moment Envelope