

## INTRODUCTION

Section 4 provides checklist and amplified procedures for the conduct of normal operation. Normal procedures associated with optional systems can be found in Section 9

## SPEEDS FOR NORMAL OPERATION

Unless otherwise noted, the following speeds are based on a maximum weight of 2650 pounds and may be used for any lesser weight. However, to achieve the performance specified in Section 5 for takeoff distance, the speed appropriate to the particular weight must be used.

### Takeoff:

Normal Climb Out ..... 70-80 KIAS  
Short Field Takeoff, Flaps 0°, Speed at 50 Feet ..... 63 KIAS

### Enroute Climb, Flaps and Gear Up:

Normal ..... 85-95 KIAS  
Best Rate of Climb, Sea Level ..... 84 KIAS  
Best Rate of Climb, 10,000 Feet ..... 77 KIAS  
Best Angle of Climb, Sea Level ..... 67 KIAS  
Best Angle of Climb, 10,000 Feet ..... 68 KIAS

### Landing Approach:

Normal Approach, Flaps Up ..... 65-75 KIAS  
Normal Approach, Flaps 30° ..... 60-70 KIAS  
Short Field Approach, Flaps 30° ..... 63 KIAS

### Balked Landing:

Maximum Power, Flaps 20° ..... 55 KIAS

### Maximum Recommended Turbulent Air Penetration Speed:

2650 Lbs ..... 106 KIAS  
2250 Lbs ..... 98 KIAS  
1850 Lbs ..... 89 KIAS

### Maximum Demonstrated Crosswind Velocity:

Takeoff or Landing ..... 15 KNOTS

## CHECKLIST PROCEDURES

### PREFLIGHT INSPECTION

#### CABIN

1. Hobbs & Tach Times -- CHECK & COMPARE to MX inspections.
2. A.R.O.W. -- AVAILABLE IN THE AIRCRAFT.
3. Aircraft Weight & Balance -- CHECKED.
4. Landing Gear Lever -- DOWN.
5. Control Wheel Lock -- REMOVE.
6. Ignition Switch -- OFF.
7. Avionics Power Switch -- OFF.
8. Master Switch -- ON.
9. Fuel Quantity Indicators -- CHECK QUANTITY.
10. Landing Gear Position Indicator Lights (green) -- ILLUMINATED.
11. Landing Gear Warning Horn -- PUSH light to verify tone.
12. Flaps -- EXTEND per detent.
13. Lights -- CHECK then OFF.
14. Pitot Tube -- CHECK then OFF.
15. Stall Horn -- CHECK.
16. Master Switch -- OFF.
17. Fuel Selector Valve -- BOTH.
18. Cowl Flaps -- OPEN.
19. Static Pressure Alternate Source Valve (if installed) -- OFF.

#### EMPENNAGE

1. Baggage Door -- CHECK, lock with key.
2. Wheel Well -- CHECK clear of obstructions
3. Tail Tie-Down -- DISCONNECT.
4. Control Surfaces -- CHECK freedom of movement and security.
5. Trim Tab -- CHECK condition & security.
6. Antennas -- CHECK condition and security.

#### RIGHT WING Trailing Edge

1. Flap -- CHECK condition and security.
2. Aileron -- CHECK freedom of movement and security.

#### RIGHT WING

1. Wing Tie-Down -- DISCONNECT.
2. Main Wheel Tire -- CHECK for proper inflation and general condition.
3. Brakes -- CHECK.
4. Fuel Tank Sump Quick Drain Valve -- use sampler cup and drain small quantity of fuel from fuel tank sump quick-drain valve to check for water, sediment, and proper fuel grade.
5. Fuel Quantity -- CHECK VISUALLY for desired level.
6. Fuel Filler Cap -- SECURE and vent unobstructed.

**SECTION 4  
NORMAL PROCEDURES**

**CESSNA N6577R  
MODEL 172RG**

**NOSE**

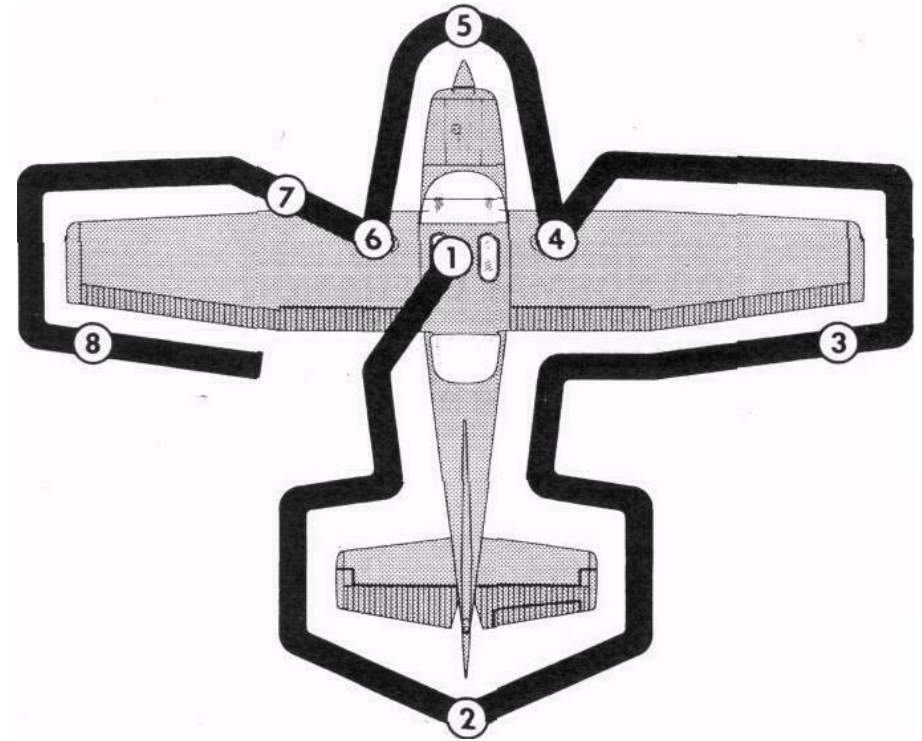
1. Static Source Openings (both sides of fuselage) -- CHECK
2. Engine Oil Level -- CHECK. (Do not operate with less than five quarts. Fill to eight quarts for extended flight.)
3. Fuel Tank Sump Quick Drain Valve -- pull out strainer drain knob for about four seconds to clear fuel strainer of possible water and sediment. 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 valve drain plug will be necessary.
4. Exhaust -- CHECK condition and security.
5. Cowl Plugs -- REMOVE and check opening.
6. Propeller and Spinner -- CHECK for nicks, security & oil leaks.
7. Governor -- CHECK.
8. Landing Lights -- CHECK for condition and cleanliness.
9. Cowl Flaps -- CHECK condition and security.
10. Nose Gear Doors -- CHECK for condition and security.
11. Nose Wheel Strut and Tire -- CHECK for proper inflation.

**LEFT WING**

1. Fuel Quantity -- CHECK VISUALLY for desired level.
2. Fuel Filler Cap -- SECURE and vent unobstructed.
3. Pitot Tube -- CHECK opening for stoppage.
4. Fuel Tank Vent Opening -- CHECK for stoppage.
5. Wing Tie-Down -- DISCONNECT.

**LEFT WING Trailing Edge**

1. Aileron -- CHECK freedom of movement and security.
2. Flaps -- CHECK for condition and security.
3. Fuel Tank Sump Quick Drain Valve -- use sampler cup and drain small quantity of fuel from fuel tank sump quick-drain valve to check for water, sediment and proper fuel grade.
4. Main Wheel Tire -- CHECK for proper inflation and condition
5. Brakes -- CHECK.



**NOTE**

Visually check airplane for general condition during walk-around inspection. 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. Pretlight Inspection

**BEFORE STARTING ENGINE**

1. Preflight Inspection -- COMPLETE.
2. Passenger Briefing -- COMPLETE.
3. Seats, Seat Belts, Shoulder Harnesses -- ADJUST and LOCK.
4. Fuel Selector Valve -- BOTH.
5. Avionics Power Switch, Electrical Equipment -- OFF.

**CAUTION**

**The avionics power switch must be OFF during engine start to prevent possible damage to avionics.**

6. Brakes -- TEST and HOLD.
7. Cowl Flaps -- OPEN (move lever out of locking hole to reposition).
8. Landing Gear Lever -- DOWN
9. Circuit Breakers -- CHECK IN.

**STARTING ENGINE**

1. Cowl Flaps -- OPEN.
2. Mixture -- RICH.
3. Propeller -- HIGH RPM.
4. Throttle -- OPEN ¼ inch.
5. Carburetor Heat -- COLD.
6. Primer -- AS REQUIRED then in and LOCKED
7. Master Switch -- ON.
8. Beacon Light -- ON.
9. Propeller Area -- CLEAR.
10. Ignition Switch -- START (release when engine starts).
11. Throttle -- 1000 RPM or less.
12. Ammeter -- CHECK started disengaged.
13. Oil Pressure -- CHECK.

**BEFORE TAXI**

1. Mixture -- LEAN for taxi.
2. Lights -- AS DESIRED.
3. Flaps -- RETRACT.
4. Avionics Master Switch -- ON.
5. Radios -- ON and SET.
6. Flight Instruments -- SET.
7. Parking Brake -- OFF
8. Brakes -- CHECK

**BEFORE TAKEOFF**

1. Brakes -- HOLD.
2. Cabin Doors and Windows -- CLOSED and LOCKED.
3. Seats, Seat Belts, Shoulder Harnesses -- CHECK secure.
4. Flight Controls -- FREE and CORRECT.
5. Flight Instruments -- SET.
6. Fuel Selector Valve -- BOTH.
7. Auxiliary Fuel Pump -- ON (check for rise in fuel pressure), then OFF.
8. Elevator and Rudder Trim -- TAKEOFF.
9. Throttle -- FULL POWER.
10. Mixture -- LEAN for max RPM.
11. Throttle --1800 RPM.
  - a) Propeller -- CYCLE 3 TIMES, check for RPM drop, manifold pressure rise, and oil pressure drop.
  - b) Carburetor Heat -- CHECK for RPM drop.
  - c) Magnetos -- CHECK (RPM drop should not exceed 150 RPM on either magneto or 50 RPM differential between magnetos).l
  - d) Engine Instruments and Ammeter -- CHECK.
  - e) Suction Gage -- CHECK..
12. Throttle -- CHECK idle.
13. Throttle -- 1000 RPM or less.
14. Throttle Friction Lock -- ADJUST.
15. Radios and Avionics -- SET.
16. Transponder -- SET CODE & TURN TO ALT.
17. Lights -- AS DESIRED.

**NORMAL TAKEOFF**

1. Wing Flaps -- 0°
2. Carburetor Heat -- COLD.
3. Power -- FULL THROTTLE and 2700 RPM.
4. Elevator Control -- LIFT NOSE WHEEL at 55 KIAS.

*NOTE*

*When the nose wheel is lifted, the gear motor may run 1-2 seconds to restore hydraulic pressure.*

5. Climb Speed -- 70-80 KIAS.
6. Brakes -- APPLY momentarily when airborne.
7. Landing Gear -- RETRACT in climb out.

**SHORT FIELD TAKEOFF**

1. Wing Flaps -- 0°.
2. Carburetor Heat -- COLD.
3. Brakes -- APPLY.
4. Power -- FULL THROTTLE and 2700 RPM.
5. Engine Gauges -- VERIFY in the green.
6. Brakes -- RELEASE.
7. Elevator Control -- MAINTAIN SLIGHTLY TAIL-LOW ATTITUDE.
8. Climb Speed --63 KIAS until all obstacles are cleared.
8. Brakes -- APPLY momentarily when airborne.
9. Landing Gear -- RETRACT after obstacles are cleared.

**SECTION 4  
NORMAL PROCEDURES**

**CESSNA N6577R  
MODEL 172RG**

**LANDING**

**NORMAL LANDING**

1. Airspeed -- 65-75 KIAS (flaps UP).
2. Wing Flaps -- AS DESIRED (0°-10° below 130 KIAS, 10°-40° below 100 KIAS).
3. Airspeed -- 60-70 KIAS (flaps DOWN).
4. Trim -- ADJUST.
5. Touchdown -- MAIN WHEELS FIRST.
6. Landing Roll -- LOWER NOSE WHEEL GENTLY.
7. Braking -- MINIMUM REQUIRED.

**SHORT FIELD LANDING**

1. Airspeed -- 65-75 KIAS (flaps UP).
2. Wing Flaps -- 30° (below 100 KIAS).
3. Airspeed -- MAINTAIN 63 KIAS.
4. Trim -- ADJUST.
5. Power -- REDUCE to idle as obstacle is cleared.
6. Touchdown -- MAIN WHEELS FIRST.
7. Brakes -- AS NEEDED.
8. Wing Flaps -- RETRACT (ONCE CLEAR OF THE RUNWAY).

**BALKED LANDING**

1. Power -- FULL THROTTLE and 2700 RPM.
2. Carburetor Heat -- COLD.
3. Wing Flaps -- RETRACT to 20°.
4. Climb Speed -- 55 KIAS.
5. Cowl Flaps -- OPEN.
6. Wing Flaps -- RETRACT slowly after reaching 65 KIAS.

**AFTER LANDING**

1. Wing Flaps -- UP.
2. Carburetor Heat -- COLD.
3. Cowl Flaps -- OPEN.
4. Transponder -- STANDBY.
5. Lights -- AS DESIRED.
6. Flight Plan -- CLOSED.

**CESSNA N6577R  
MODEL 172RG**

**SECTION 4  
NORMAL PROCEDURES**

**NORMAL CLIMB**

1. Airspeed -- 85-95 KIAS.
2. Power -- 23 Inch / 2500 RPM
3. Fuel selector Valve -- BOTH.
4. Mixture -- SET.
5. Cowl Flaps -- OPEN.
6. Lights -- AS DESIRED.

**MAXIMUM PERFORMANCE CLIMB**

1. Airspeed -- 84 KIAS at sea level to 77 KIAS at 10,000 feet.
2. Power -- FULL THROTTLE and 2700 RPM.
3. Fuel Selector Valve -- BOTH.
4. Mixture -- SET
5. Cowl Flaps -- FULL OPEN.
6. Lights -- AS DESIRED.

**CRUISE**

1. Power -- 15-25 INCHES Hg, 2100-2700 RPM (no more than 75%).
2. Elevator and Rudder Trim -- ADJUST.
3. Mixture -- SET.
4. Cowl Flaps -- AS REQUIRE per CHT.
5. Lights -- AS DESIRED.
6. Engine Gauges -- Monitor.
7. Fuel Selector -- BOTH

**DESCENT**

1. Fuel Selector Valve -- BOTH.
2. Cowl Flaps - CLOSED.
3. Wing Flaps - - AS DESIRED
4. Power -- AS DESIRED.
5. Mixture -- ENRICHEN as required.
6. Carburetor Heat -- AS REQUIRED to prevent carburetor icing.
7. Lights -- AS DESIRED.

**NOTE**

The landing gear may be used below 140 KIAS to increase the rate of descent.

**BEFORE LANDING**

1. Seats, Belts, Shoulder Harnesses -- ADJUST and LOCK.
2. Fuel Selector Valve -- BOTH.
3. Propeller -- HIGH RPM.
4. Mixture -- SET.
5. Carburetor Heat -- ON (apply full heat before closing throttle).
6. Landing Gear -- DOWN (below 140 KIAS).
7. Landing Gear -- CHECK (observe main gear down and green light)
8. Lights -- AS DESIRED.

**SECURING AIRPLANE**

1. Brakes -- HOLD.
2. Throttle -- 1000 RPM or Less.
3. Avionics Power Switch, Electrical Equipment -- OFF.
4. Magnetos -- CHECK grounding.
5. Mixture -- IDLE CUT-OFF (pulled full out).
6. Throttle -- CLOSE as RPM drops.
7. Lights -- OFF.
8. Ignition Switch -- OFF.
9. Master Switch -- OFF.
10. Cabin Air Vents -- CLOSED.
11. Cowl Flaps -- CLOSED.
12. Control Lock -- INSTALL.
13. Hobbs & Tach Time -- RECORD.
14. Fuel Selector Valve -- RIGHT or LEFT.
15. Secure Aircraft -- TIEDOWN, INSTALL COWL PLUGS, SUNSHADE, PITOT COVER  
BRAKES -- OFF.