



CESSNA  
172M  
(N13364)

## NORMAL PROCEDURES

### BEFORE STARTING ENGINE

1. Preflight Inspection – COMPLETE
2. Passenger Safety Briefing – COMPLETE
3. Seats, Belts, Shoulder Harnesses – ADJUST AND LOCK
4. Fuel Selector Valve – BOTH
5. Circuit Breakers – CHECK IN
6. Radios – OFF
7. Brakes – TEST and SET

### STARTING ENGINE

1. Mixture – RICH
2. Carburetor Heat – COLD
3. Prime – AS REQUIRED (none if engine is warm)
4. Throttle – OPEN 1/8 INCH
5. Beacon – ON
6. Master – ON
7. Propeller Area – CLEAR
8. Ignition Switch – START (release when engine starts)
9. Oil Pressure – CHECK
10. Throttle – 1000 RPM
11. Mixture – Lean (if desired)
12. Intercom - ON
13. Radios – ON - Check frequency and volume
14. Flaps – RETRACT
15. Brakes – CHECKED



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## NORMAL PROCEDURES

### BEFORE TAKEOFF

1. Parking Brake – SET
2. Cabin Doors and Windows – CLOSED and LOCKED
3. Flight Controls – FREE and CORRECT
4. Elevator Trim – TAKEOFF
5. Flight Instruments – CHECK
6. Mixture – RICH
7. Fuel Selector Valve – BOTH
8. 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, watch for rise)
  - c. Engine Instruments and Ammeter – CHECK
  - d. Suction Gauge – CHECK
  - e. Throttle – 1000 RPM
9. Circuit Breakers – CHECK IN
10. Radios / VOR'S – SET
11. Flashing Beacon and Navigation Lights – ON as required
12. Throttle Friction Lock – ADJUST
13. Transponder – ALTITUDE
14. Parking Brake – RELEASE
15. Time – NOTE



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## NORMAL PROCEDURES

### PASSENGER SAFETY BRIEFING

**S**

- Seat belts fastened for taxi, takeoff, landing
- Shoulder harnesses fastened for takeoff, landing
- Seat position adjusted and locked in place

**A**

- Air vents – location and operation
- All environmental controls – discussed
- Action in case of any passenger discomfort

**F**

- Fire extinguisher – location and operation
- Flight controls – passenger awareness and clearance

**E**

- Exit doors – how to secure; how to open
- Emergency evacuation plan
- Emergency/survival kit – location and contents
- Equipment – location and operation

**T**

- Traffic – scanning, spotting, notifying pilot
- Talking – “sterile cockpit” expectations

**Y**

- Your questions? – Speak up!



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## NORMAL PROCEDURES

### SPEEDS (MPH)

Vne	182
Vno	61-145
Va	112 @ 2300
Vfe	100
Vy	91
Vx	75
Enroute	80-90
Vs1	61
Vso	54
Vg	80 @ 2300

### MAX DEMONSTRATED CROSSWIND

15 kts



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## NORMAL PROCEDURES

### NORMAL TAKEOFF

1. Flaps – UP
2. Carb heat – COLD
3. Transponder – ALT
4. Trim – TAKEOFF
5. Time – NOTE
6. Throttle – FULL OPEN
7. Tach, oil, airspeed – CHECK
8. Ltoff – 60 MPH
9. Climb – 70-80 MPH

### SHORT FIELD TAKEOFF

1. Flaps – 10°
2. Taxi – MAX AVAILABLE RUNWAY
3. Brakes – HOLD
4. Throttle – FULL OPEN
5. Brakes – RELEASE
6. Climb – 75 MPH

### SOFT FIELD TAKEOFF

1. Flaps – 10°
2. Taxi – KEEP ROLLING
3. Control Wheel – FULL AFT
4. Throttle – FULL OPEN
5. Accelerate in Ground Effect – Climb at 75 MPH



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## NORMAL PROCEDURES

### ENROUTE CLIMB

1. Airspeed – 75-85 MPH
2. Throttle – FULL OPEN
3. Mixture – RICH (above 3000 ft, LEAN to obtain max. RPM)

### CRUISE

1. Power – 2200-2700 RPM
2. Elevator trim – ADJUST
3. Mixture – LEAN (above 3000 ft)

### DESCENT

1. Mixture – ADJUST for smooth operation (full rich for idle power)
2. Power – AS DESIRED
3. Carb heat – AS REQUIRED (to prevent carburetor icing)

### BEFORE LANDING

1. Fuel Selector – BOTH
2. Mixture – RICH
3. Carb heat – ON
4. Seatbelts – FASTENED



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## NORMAL PROCEDURES

### NORMAL LANDING

1. Carb heat – ON
2. Mixture – RICH
3. Approach speed – 75 MPH
4. Flaps – AS NEEDED

### SHORT FIELD LANDING

1. Approach speed – 70 MPH
2. Flaps – 40°
3. Braking – HEAVY AS REQUIRED

### SOFT FIELD LANDING

1. Approach speed – 70 MPH
2. Flaps – AS NEEDED
3. Landing roll – ELEVATOR UP
4. Braking – MINIMAL AS NEEDED

### BALKED LANDING

1. Throttle – FULL OPEN
2. Flaps – 30° (immediately)
3. Carb heat – COLD
4. Climb speed – 75 MPH
5. Flaps – 10° (until all obstacles are cleared)  
RETRACT (after reaching a safe altitude)



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## NORMAL PROCEDURES

### AFTER LANDING

1. Flaps – UP
2. Carb heat – COLD
3. Trim – TAKEOFF

### SECURING AIRPLANE

1. Parking brake – SET
2. Radios – OFF
3. Transponder – OFF
4. Mixture – IDLE CUT-OFF
5. Master switch – OFF
6. Ignition switch – OFF
7. Intercom – OFF
8. Control Lock – INSTALL



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## EMERGENCY PROCEDURES

### ENGINE FAILURES

#### ENGINE FAILURE DURING TAKEOFF RUN

1. Throttle – IDLE
2. Brakes – APPLY
3. Wing Flaps – RETRACT
4. Mixture – IDLE CUT-OFF
5. Ignition Switch – OFF
6. Master Switch – OFF

#### ENGINE FAILURE IMMEDIATELY AFTER TAKEOFF

1. Airspeed – 75 MPH (flaps UP)  
70 MPH (flaps DOWN)
2. Mixture – IDLE CUT-OFF
3. Fuel Selector Valve – OFF
4. Ignition Switch – OFF
5. Wing Flaps – AS REQUIRED
6. Master Switch – OFF

#### ENGINE FAILURE DURING FLIGHT

1. Airspeed – 80 MPH
2. Carb Heat – ON
3. Fuel Selector Valve – BOTH
4. Mixture – RICH
5. Ignition Switch – BOTH (or START if propeller is stopped)
6. Primer – IN and LOCKED



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## EMERGENCY PROCEDURES

### FORCED LANDINGS

#### EMERGENCY LANDING WITHOUT ENGINE POWER

1. Airspeed – 75 MPH (flaps UP)  
70 MPH (flaps DOWN)
2. Mixture – IDLE CUT-OFF
3. Fuel Selector Valve – OFF
4. Ignition Switch – OFF
5. Wing Flaps – AS REQUIRED (30° recommended)
6. Master Switch – OFF
7. Doors – UNLATCH PRIOR TO TOUCHDOWN
8. Touchdown – SLIGHTLY TAIL LOW
9. Brakes – APPLY HEAVILY

#### PRECAUTIONARY LANDING WITH ENGINE POWER

1. Wing Flaps – 20°
2. Airspeed – 70 MPH
3. Selected Field – FLY OVER, noting terrain and obstructions, then retract flaps upon reaching a safe altitude and airspeed
4. Avionics and Electrical Switches – OFF
5. Wing Flaps – 30° (on final approach)
6. Airspeed – 70 MPH
7. Master Switch – OFF
8. Doors – UNLATCH PRIOR TO TOUCHDOWN
9. Touchdown – SLIGHTLY TAIL LOW
10. Ignition Switch – OFF
11. Brakes – APPLY HEAVILY



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## EMERGENCY PROCEDURES

### DITCHING

1. Radio – TRANSMIT MAYDAY on 121.5 MHz, giving location and intentions and SQUAWK 7700
2. Heavy Objects (in baggage area) – SECURE OR JETTISON
3. Approach – High Winds, Heavy Seas – INTO THE WIND  
Light Winds, Heavy Swells – PARALLEL TO SWELLS
4. Wing Flaps – 40°
5. Power – ESTABLISH 300 FT/MIN DESCENT AT 55 MPH  
NOTE  
If no power is available, approach at 70 MPH with flaps up or at 65 MPH with 10° flaps
6. Cabin Doors – UNLATCH
7. Touchdown – LEVEL ATTITUDE AT ESTABLISHED RATE OF DESCENT
8. Face – CUSHION at touchdown with folded coat
9. Airplane – EVACUATE through cabin doors. If necessary, open window and flood cabin to equalize pressure so doors can be opened.
10. Life Vests and Raft – INFLATE



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## EMERGENCY PROCEDURES

### FIRES

#### DURING START ON GROUND

1. Cranking – CONTINUE, to get a start which would suck the flames and accumulated fuel through the carburetor and into the engine

If engine starts:

2. Power – 1700 RPM for a few minutes
3. Engine – SHUTDOWN and inspect for damage

If engine fails to start:

4. Throttle – FULL OPEN
5. Mixture – IDLE CUT-OFF
6. Cranking – CONTINUE
7. Fire Extinguisher – OBTAIN
8. Engine – SECURE
  - a. Master Switch – OFF
  - b. Ignition Switch – OFF
  - c. Fuel Selector Valve – OFF
9. Fire – EXTINGUISH using fire extinguisher, wool blanket, or dirt
10. Fire Damage – INSPECT, repair damage or replace damaged components or wiring before conducting another flight



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## EMERGENCY PROCEDURES

### ELECTRICAL FIRE IN FLIGHT

1. Master Switch – OFF
2. Radios – OFF
3. Transponder – OFF
4. All Other Switches (except ignition switch) – OFF
5. Vents/ Cabin Air/ Heat – CLOSED
6. Fire Extinguisher – ACTIVATE

**WARNING**

After discharging an extinguisher within a closed cabin, ventilate the cabin

If fire appears out and electrical power is necessary for continuance of flight:

6. Master Switch – ON
7. Circuit Breakers – CHECK for faulty circuit, do not reset
8. Radio Switches – OFF
9. Radio/Electrical Switches – ON one at a time, with delay after each until short circuit is localized
11. Vents/ Cabin Air/ Heat – OPEN when it is determined that fire is completely extinguished



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## EMERGENCY PROCEDURES

### ENGINE FIRE IN FLIGHT

1. Mixture – IDLE CUT-OFF
2. Fuel Selector Valve – OFF
3. Master Switch – OFF
4. Cabin Heat and Air – OFF (except overhead vents)
5. Airspeed – 120 MPH (If fire is not extinguished, increase glide speed to find an airspeed which will provide an incombustible mixture)
6. Forced Landing – EXECUTE (as described in Emergency Landing Without Engine Power)

### CABIN FIRE

1. Master Switch – OFF
2. Vents/ Cabin Air/ Heat – CLOSED (to avoid drafts)
3. Fire Extinguisher – ACTIVATE

**WARNING**

After discharging an extinguisher within a closed cabin, ventilate the cabin

4. Land the airplane as soon as possible to inspect for damage

### WING FIRE

1. Navigation Light Switch – Off
2. Pitot Heat Switch – OFF

**NOTE**

Perform a sideslip to keep the flames away from the fuel tank and cabin, and land as soon as possible using flaps only as required for final approach and touchdown



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## EMERGENCY PROCEDURES

### INADVERTENT ICING ENCOUNTER

1. Turn pitot heat switch ON
2. Turn back or change altitude to obtain an outside air temperature that is less conducive to icing
3. Pull cabin heat control full out and open defroster outlet to obtain maximum windshield defroster airflow. Adjust cabin air control to get maximum defroster heat and airflow.
4. Open the throttle to increase engine speed and minimize ice build-up on propeller blades.
5. Watch for signs of carburetor air filter ice and apply carburetor heat as required. An unexplained loss in engine speed could be caused by carburetor ice or air intake filter ice. Lean the mixture for maximum RPM, if carburetor heat is used continuously.
6. Plan a landing at the nearest airport. With an extremely rapid ice build-up, select a suitable "off airport" landing site.
7. With an ice accumulation of 1/4 inch or more on the wing leading edges, be prepared for significantly higher stall speed.
8. Leave wing flaps retracted. With a severe ice build-up on the horizontal tail, the change in wing wake airflow direction caused by wing flap extension could result in a loss of elevator effectiveness.
9. Open left window and, if practical, scrape ice from a portion of the windshield for visibility in the landing approach.
10. Perform a landing approach using a forward slip, if necessary, for improved visibility.
11. Approach at 80-90 KIAS depending upon the amount of the accumulation.
12. Perform a landing in level attitude.



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## EMERGENCY PROCEDURES

### STATIC SOURCE BLOCKAGE

1. Alternate Static Source Valve – PULL ON
2. Airspeed – Consult appropriate calibration tables

### LANDING WITH A FLAT MAIN TIRE

1. Approach – NORMAL
2. Touchdown – GOOD TIRE FIRST, hold airplane off flat tire as long as possible

### AMMETER SHOWS EXCESSIVE RATE OF CHARGE

#### **(Full Scale Deflection)**

1. Alternator – OFF
2. Nonessential Electrical Equipment – OFF
3. Flight – TERMINATE as soon as practical





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## EMERGENCY PROCEDURES

### LOW-VOLTAGE LIGHT ILLUMINATES DURING FLIGHT

#### NOTE

Illumination of the low-voltage light may occur during low RPM conditions with an electrical load on the system such as during a low RPM taxi. Under these conditions, the light will go out at higher RPM. The master switch need no be recycled since an over-voltage condition has not occurred to deactivate the alternator system.

1. Radios – OFF
2. Transponder – OFF as applicable
3. Master Switch – OFF (both sides)
4. Master Switch – ON
5. Low-Voltage Light –CHECK OFF
6. Radios – ON
7. Transponder – ON

If low-voltage light illuminates again:

6. Alternator – OFF
7. Nonessential Electrical Equipment – OFF
8. Flight – TERMINATE as soon as practical



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## IFR CHECKLISTS

### PREFLIGHT INSPECTION

1. Antennas – SECURE
2. Magnetic Compass – CHECK for leaks
3. Master Switch – ON
  - a. Turn Coordinator – LISTEN for spool-up and CHECK that red flag is gone
  - b. Pitot Heat – WARM within 30 seconds

### AFTER STARTING ENGINE / TAXI

1. Altimeter – CHECK accurate to  $\pm 75$  feet of field elevation
2. VSI – NOTE zero point for level flight indication
3. Brakes – CHECK
  - a. Attitude Indicator – NOTE nose-down dip
4. Turn Coordinator – CHECK
  - a. Miniature airplane turns with direction of taxi
  - b. Ball swings opposite direction of taxi
5. Magnetic Compass – CHECK moving freely
6. Attitude Indicator – CHECK Accurate to  $\pm 5^\circ$  within 5 minutes  
SET miniature airplane to horizon bar