

CESSNA 172M

CHECK LIST

NORMAL PROCEDURES

SPEEDS FOR NORMAL
OPERATIONS

Never Exceed -	182 MPH
glide or dive, smooth air	
Maximum Structural Cruising -	145 MPH
Maneuvering -	112 MPH
Maximum Flaps Extended -	100 MPH
Best Rate Of Climb -	
Sea level	91 MPH
10,000 feet	80 MPH
Best Angle Of Climb -	75 MPH
For Maximum Glide	
Flaps Up, Zero Wind	80 MPH

AIRCRAFT FILE.

There are miscellaneous data, information and licenses that are a part of the aircraft file. The following is a check list for that file. In addition, a periodic check should be made of the latest Federal Aviation Regulations to ensure that all data requirements are met.

A. To be displayed in the aircraft at all times:

- (1) Aircraft Airworthiness Certificate (FAA Form 8100-2).
- (2) Aircraft Registration Certificate (FAA Form 8050-3).
- (3) Aircraft Radio Station License, if transmitter installed (FCC Form 556).

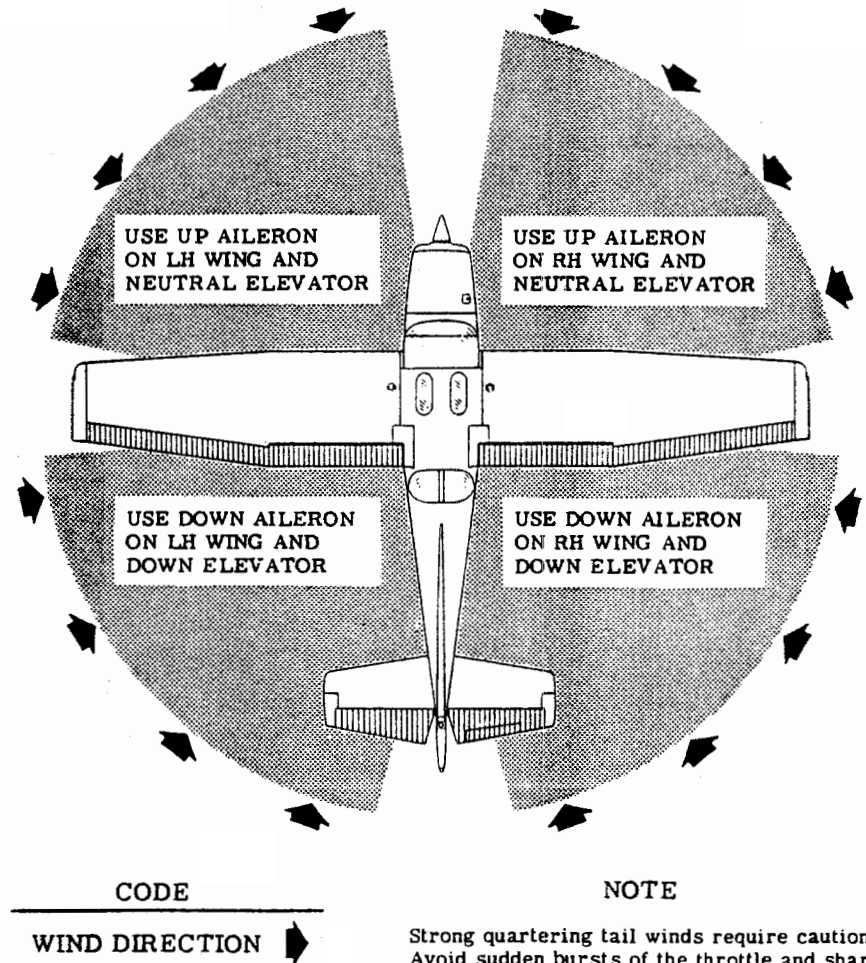
B. To be carried in the aircraft at all times:

- (1) Weight and Balance, and associated papers (latest copy of the Repair and Alteration Form, FAA Form 337, if applicable).
- (2) Aircraft Equipment List.

C. To be made available upon request:

- (1) Aircraft Log Book.
- (2) Engine Log Book.

TAXIING DIAGRAM



NOTE

Strong quartering tail winds require caution. Avoid sudden bursts of the throttle and sharp braking when the airplane is in this attitude. Use the steerable nose wheel and rudder to maintain direction.

EMERGENCY PROCEDURES

ENGINE FAILURE.

ENGINE FAILURE AFTER TAKE-OFF.

Prompt lowering of the nose to maintain airspeed and establish a glide attitude is the first response to an engine failure after take-off. In most cases, the landing should be planned straight ahead with only small changes in direction to avoid obstructions. Altitude and airspeed are seldom sufficient to execute a 180° gliding turn necessary to return to the runway. The following procedures assume that adequate time exists to secure the fuel and ignition systems prior to touchdown.

- (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 (40° recommended).
- (6) Master Switch -- OFF.

ENGINE FAILURE DURING FLIGHT.

While gliding toward a suitable landing area, an effort should be made to identify the cause of the failure. If time permits, and an engine restart is feasible, proceed as follows:

- (1) Airspeed -- 80 MPH.
- (2) Carburetor Heat -- ON.
- (3) Fuel Selector Valve -- BOTH.
- (4) Mixture -- RICH.
- (5) Ignition Switch -- BOTH (or START if propeller is not windmilling).
- (6) Primer -- IN and LOCKED.

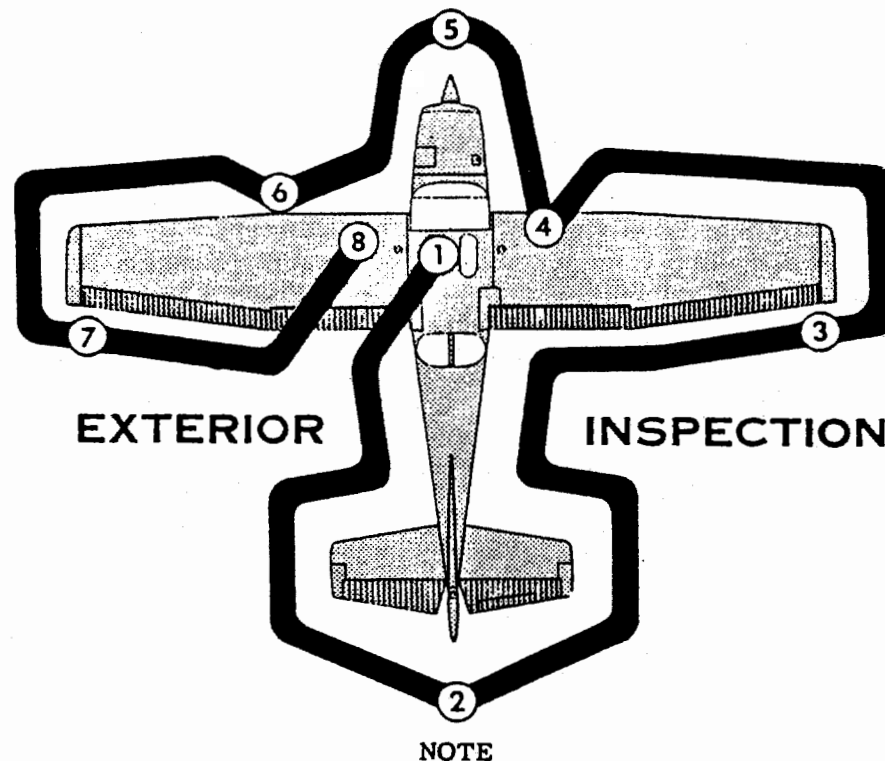
If the engine cannot be restarted, a forced landing without power must be executed. A recommended procedure for this is given in the following paragraph.

FORCED LANDINGS.

EMERGENCY LANDING WITHOUT ENGINE POWER.

If all attempts to restart the engine fail and a forced landing is imminent, select a suitable field and prepare for the landing as follows:

- (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 (40° recommended).
- (6) Master Switch -- OFF.
- (7) Doors -- UNLATCH PRIOR TO TOUCHDOWN.
- (8) Touchdown -- SLIGHTLY TAIL LOW.
- (9) Brakes -- APPLY HEAVILY.



Visually check aircraft 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. If night flight is planned, check operation of all lights, and make sure a flashlight is available.

- ① a. Remove control wheel lock.
- b. Check ignition switch "OFF."
- c. Turn on master switch and check fuel quantity indicators, then turn master switch "OFF."
- d. Check fuel selector valve handle on "BOTH."
- e. Check baggage door for security. Lock with key if children are to occupy child's seat.

- ②
 - a. Remove rudder gust lock, if installed.
 - b. Disconnect tail tie-down.
 - c. Check control surfaces for freedom of movement and security.
- ③
 - a. Check aileron for freedom of movement and security.
- ④
 - a. Disconnect wing tie-down.
 - b. Check main wheel tire for proper inflation.
 - c. Visually check fuel quantity, then check fuel filler cap secure.
- ⑤
 - a. Check oil level. Do not operate with less than six quarts. Fill to eight quarts for extended flights.
 - b. Before first flight of day and after each refueling, 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, there is a possibility that the fuel tank sumps contain water. Thus, the fuel tank sump drain plugs and fuel selector valve drain plug should be removed to check for the presence of water.
 - c. Check propeller and spinner for nicks and security.
 - d. Check landing light for condition and cleanliness.
 - e. Check carburetor air filter for restrictions by dust or other foreign matter.
 - f. Check nose wheel strut and tire for proper inflation.
 - g. Disconnect tie-down rope.
 - h. Inspect flight instrument static source opening on side of fuselage for stoppage (left side only).
- ⑥
 - a. Remove pitot tube cover, if installed, and check pitot tube opening for stoppage.
 - b. Check fuel tank vent opening for stoppage.
 - c. Check stall warning vent opening for stoppage.
- ⑦
 - a. Check aileron for freedom of movement and security.
- ⑧
 - a. Disconnect wing tie-down.
 - b. Check main wheel tire for proper inflation.
 - c. Visually check fuel quantity, then check fuel filler cap secure.

PRECAUTIONARY LANDING WITH ENGINE POWER.

Before attempting an "off airport" landing, one should drag the landing area at a safe but low altitude to inspect the terrain for obstructions and surface conditions, proceeding as follows:

- (1) Drag over selected field with flaps 20° and 70 MPH airspeed, noting the preferred area for touchdown for the next landing approach. Then retract flaps upon reaching a safe altitude and airspeed.
- (2) Radio, Electrical Switches -- OFF.
- (3) Wing Flaps -- 40° (on final approach).
- (4) Airspeed -- 70 MPH.
- (5) Master Switch -- OFF.
- (6) Doors -- UNLATCH PRIOR TO TOUCHDOWN.
- (7) Touchdown -- SLIGHTLY TAIL LOW.
- (8) Ignition Switch -- OFF.
- (9) Brakes -- APPLY HEAVILY.

DITCHING.

Prepare for ditching by securing or jettisoning heavy objects located in the baggage area, and collect folded coats or cushions for protection of occupant's face at touchdown. Transmit Mayday message on 121.5 MHz. giving location and intentions.

- (1) Plan approach into wind if winds are high and seas are heavy. With heavy swells and light wind, land parallel to swells.
- (2) Approach with flaps 40° and sufficient power for a 300 ft./ min. rate of descent at 70 MPH
- (3) Unlatch the cabin doors.
- (4) Maintain a continuous descent until touchdown in level attitude. Avoid a landing flare because of difficulty in judging aircraft height over a water surface.
- (5) Place folded coat or cushion in front of face at time of touchdown.
- (6) Evacuate aircraft through cabin doors. If necessary, open window to flood cabin compartment for equalizing pressure so that door can be opened.
- (7) Inflate life vests and raft (if available) after evacuation of cabin. The aircraft cannot be depended on for flotation for more than a few minutes.

FIRES.

ENGINE FIRE DURING START ON GROUND.

Improper starting procedures during a difficult cold weather start can cause a backfire which could ignite fuel that has accumulated in the intake duct. In this event, proceed as follows:

- (1) Continue cranking in an attempt to get a start which would suck the flames and accumulated fuel through the carburetor and into the engine.
- (2) If the start is successful, run the engine at 1700 RPM for a few

minutes before shutting it down to inspect the damage.

- (3) If engine start is unsuccessful, continue cranking for two or three minutes with throttle full open while ground attendants obtain fire extinguishers.
- (4) When ready to extinguish fire, discontinue cranking and turn off master switch, ignition switch, and fuel selector valve.
- (5) Smother flames with fire extinguisher, seat cushion, wool blanket or loose dirt. If practical, try to remove carburetor air filter if it is ablaze.
- (6) Make a thorough inspection of fire damage, and repair or replace damaged components before conducting another flight.

ENGINE FIRE IN FLIGHT.

Although engine fires are extremely rare in flight, the following steps should be taken if one is encountered:

- (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.

Execute a forced landing as outlined in preceding paragraphs.

ELECTRICAL FIRE IN FLIGHT.

The initial indication of an electrical fire is usually the odor of burning insulation. The following procedure should then be used:

- (1) Master Switch -- OFF.
- (2) All Radio/Electrical Switches -- OFF.
- (3) Vents/Cabin Air/Heat -- CLOSED.
- (4) Fire Extinguisher -- ACTIVATE (if available).

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

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

BEFORE STARTING THE ENGINE.

- (1) Seats, Seat Belts and Shoulder Harnesses -- Adjust and lock.
- (2) Fuel Selector Valve -- BOTH.
- (3) Brakes -- Test and set.
- (4) Radios and Electrical Equipment -- OFF.

STARTING THE ENGINE.

- (1) Mixture -- Rich.
- (2) Carburetor Heat -- Cold.
- (3) Primer -- 2 - 6 strokes as required (none if engine is warm). Close and lock primer.
- (4) Throttle -- Open 1/8".
- (5) Master Switch -- ON.
- (6) Propeller Area -- Clear.
- (7) Ignition Switch -- START (release when engine starts).
- (8) Oil Pressure -- Check.

BEFORE TAKE-OFF.

- (1) Parking Brake -- Set.
- (2) Flight Controls -- Check for free and correct movement.
- (3) Fuel Selector Valve -- BOTH.
- (4) Elevator Trim Control Wheel -- TAKE-OFF setting.
- (5) Throttle Setting -- 1700 RPM.
- (6) Engine Instruments and Ammeter -- Check.
- (7) Suction Gage -- Check (4.6 to 5.4 inches of mercury).
- (8) Magnetos -- Check (RPM drop should not exceed 125 RPM on either magneto or 50 RPM differential between magnetos).
- (9) Carburetor Heat -- Check operation.
- (10) Flight Instruments and Radios -- Set.
- (11) Optional Autopilot -- Off.
- (12) Throttle Friction Lock -- Adjust.
- (13) Cabin Doors and Window -- Closed and locked.

TAKE-OFF.

NORMAL TAKE-OFF.

- (1) Wing Flaps -- 0°.

- (2) Carburetor Heat -- Cold.
- (3) Power -- Full throttle.
- (4) Elevator Control -- Lift nose wheel at 60 MPH.
- (5) Climb Speed -- 75 to 85 MPH.

MAXIMUM PERFORMANCE TAKE-OFF.

- (1) Wing Flaps -- 0°.
- (2) Carburetor Heat -- Cold.
- (3) Brakes -- Apply.
- (4) Power -- Full throttle.
- (5) Brakes -- Release.
- (6) Airplane Attitude -- Slightly tail low.
- (7) Climb Speed -- 68 MPH until all obstacles are cleared.

ENROUTE CLIMB.

- (1) Airspeed -- 80 to 90 MPH.

NOTE

If a maximum performance climb is necessary, use speeds shown in the Maximum Rate-Of-Climb Data chart

- (2) Power -- Full throttle.
- (3) Mixture -- Full rich (mixture may be leaned above 3000 feet).

CRUISING.

- (1) Power -- 2200 to 2700 RPM.
- (2) Elevator Trim Control Wheel -- Adjust.
- (3) Mixture -- Lean for maximum RPM.

LET-DOWN.

- (1) Mixture -- Rich.
- (2) Power -- As desired.
- (3) Carburetor Heat -- As required to prevent carburetor icing.

CABIN FIRE

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

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 (if installed) -- 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.

ICING

INADVERTENT ICING ENCOUNTER

- (1) Turn pitot heat switch ON (if installed).
- (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 65 to 75 KIAS, depending upon the amount of the accumulation.
- (12) Perform a landing in level attitude.

STATIC SOURCE BLOCKAGE

(Erroneous Instrument Reading Suspected)

- (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.

ELECTRICAL POWER SUPPLY SYSTEM MALFUNCTIONS

OVER-VOLTAGE LIGHT ILLUMINATES

- (1) Master Switch -- OFF (both sides).
- (2) Master Switch -- ON.
- (3) Over-Voltage Light -- OFF.

If over-voltage light illuminates again:

- (4) Flight -- TERMINATE as soon as possible.

AMMETER SHOWS DISCHARGE

- (1) Alternator -- OFF.
- (2) Nonessential Electrical Equipment -- OFF.
- (3) Flight -- TERMINATE as soon as practical.

BEFORE LANDING.

- (1) Fuel Selector Valve -- Both.
- (2) Mixture -- Rich.
- (3) Carburetor Heat -- Apply full heat before closing throttle.
- (4) Wing Flaps -- As desired.
- (5) Airspeed -- 70 to 80 MPH (flaps up), 65 to 75 MPH (flaps down).

BALKED LANDING (GO-AROUND).

- (1) Power -- Full throttle.
- (2) Carburetor Heat -- Cold.
- (3) Wing Flaps -- Retract to 20°
- (4) Upon reaching an airspeed of approximately 65 MPH, retract flaps slowly.

NORMAL LANDING.

- (1) Touchdown -- Main wheels first.
- (2) Landing Roll -- Lower nose wheel gently.
- (3) Braking -- Minimum required.

AFTER LANDING.

- (1) Wing Flaps -- Up.
- (2) Carburetor Heat -- Cold.

SECURING AIRCRAFT.

- (1) Parking Brake -- Set.
- (2) Radios and Electrical Equipment -- OFF.
- (3) Mixture -- Idle cut-off (pulled full out).
- (4) Ignition and Master Switch -- OFF.
- (5) Control Lock -- Installed.