



FLIGHT SCHOOL

**C172M-180HP N9666V**

See Supplement Airplane Flight Manual STC SA2196CE

**PREFLIGHT INSPECTION**

**① CABIN**

- 1. Pitot Tube Cover.....REMOVE
- 2. AROW Documents/Maintenance Log..... CHECK
- 3. Emergency Equipment..... CHECK
- 4. Control Wheel Lock..... REMOVE
- 5. Ignition Switch.....OFF
- 6. Master Switch.....ON
- 7. Fuel Quantity.....( )CHECKED
- 8. Pitot Heat.....CHECK
- 9. Lights.....Check Operation
- 10. Avionics Master Switch.....ON/OFF
- 11. Master Switch.....OFF
- 12. Static Selector.....OFF
- 13. Fuel Selector Valve.....ON
- 14. Elevator Trim.....SET

**② EMPENAGE**

- 15. Baggage Door..... CHECK
- 16. Tie-Down..... DISCONNECT
- 17. Control Surfaces.....CHECK
- 18. Trim Tab.....CHECK
- 19. Antennas.....CHECK

**③ RIGHT WING**

- 20. Flap..... CHECK
- 21. Aileron.....CHECK
- 22. Tie-Down.....DISCONNECT
- 23. Main Wheel Tire..... CHECK
- 24. Fuel Tank Sumps ( 1).....DRAIN
- 25. Fuel Quantity/Caps.....CHECK/SECURE

**③ NOSE**

- 26. Fuel Sumps (1) .....DRAIN
- 27. Engine Oil (6-7 Qts.).....CHECK
- 28. Engine Cooling Inlets.....CHECK/CLEAR
- 29. Propeller and Spinner.....CHECK
- 30. Air Filter.....CHECK
- 31. Nose Wheel Strut and Tire..... CHECK
- 32. Left Static Source.....CHECK

**④ LEFT WING**

- 33. Fuel Quantity/Caps.....CHECK/SECURE
- 34. Fuel Tank Sumps(1).....DRAIN
- 35. Pitot Tube.....CHECK
- 36. Fuel Tank Vent.....CHECK
- 37. Tie-Down.....DISCONNECT
- 38. Main Wheel Tire.....CHECK
- 39. Stall Warning.....CHECK
- 40. Landing/Taxi Lights.....CHECK
- 41. Aileron.....CHECK
- 42. Flap.....CHECK

**BEFORE ENGINE START**

- 1. Preflight Inspection.....COMPLETE
- 2. Passenger Briefing.....COMPLETE
- 3. Seats and Seat Belts.....SET
- 4. Brakes.....TEST
- 5. Circuit Breakers.....CHECK IN
- 6. Electrical Equipment..... OFF
- 7. Avionics Master.....OFF
- 8. Fuel Selector Valve.....BOTH
- 9. \*Prime.....AS REQUIRED
- 10. Throttle.....OPEN ¼ INCH
- 11. Mixture.....RICH
- 12. Master Switch.....ON
- 13. Beacon.....ON
- 14. Propeller Area.....CLEAR
- 15. Ignition.....START



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**AFTER START**

1. Oil Pressure/Engine Instruments.....CHECK
2. Mixture.....LEAN
3. Flaps.....CHECK/UP
4. Avionics Master.....ON
5. Radios.....SET/RECORD ATIS/ASOS
6. Brakes.....TEST

**BEFORE TAKE OFF**

1. Flight Controls.....FREE/CORRECT
2. Fuel Quantity.....CHECK
3. Flight Instruments .....CHECK/SET
4. Mixture.....RICH
5. Fuel Selector Valve.....BOTH
6. Runup.....(1700 RPM)  
Magnetos (125 Max Drop/50 Differential)...CHECK  
Oil Pressure/Engine Instruments.....CHECK  
Carb. Heat .....CHECK
7. Idle.....CHECK
8. Power.....SET 1,000 RPM
9. Alternate Static.....CHECK
10. Autopilot.....CHECK (As Required)
11. Elevator Trim.....SET TO TAKEOFF
12. Flaps.....SET AS REQUIRED
13. Departure/Emergency Briefing.....COMPLETE

**RUNWAY ITEMS**

1. Heading Indicator.....SET
2. Altitude XPDR.....SET
3. Lights.....SET
4. Fuel.....MIX FULL RICH
5. Time.....RECORD

**CLIMB**

1. Airspeed.....V<sub>y</sub> 84-86 MPH
2. Throttle.....FULL OPEN
3. Mixture.....LEAN (3turns)/EGT INCREASE
4. FLAPS.....UP

**CRUISE**

1. Power (2100-2600) (<75%) .....SET
2. Normal Sea Level.....86-98 MPH
3. Trim.....SET
4. Mixture .....LEAN
5. Engine Instruments.....CHECK
6. Heading.....SET TO COMPASS

**DESCENT**

1. ATIS/ASOS.....ACUIRE
2. POWER.....CRUISE DESCENT SET (2000RPM)
3. Carb Heat.....AS REQUIRED
4. Mixture.....SET
5. Altimeter.....SET
5. Fuel Selector.....BOTH
6. Approach Briefing.....COMPLETE

**BEFORE LANDING**

1. Lights.....SET
2. Mixture.....RICH
3. Fuel Selector.....BOTH
4. Carb Heat.....ON
5. Autopilot.....OFF

**AFTER LANDING**

1. Lights.....SET
2. Carb Heat.....OFF
3. Flaps.....UP
4. Mixture.....LEAN

**SHUTDOWN**

1. Avionics Master .....OFF
2. Lights OFF .....OFF
3. Mixture .....CUTOFF
4. Ignition.....OFF
5. Master Switch .....OFF

**SECURING**

1. Control Lock.....INSTALL
2. Fuel Selector Valve.....LEFT OR RIGHT
3. Pitot Cover.....INSTALL
4. Chocks .....LEFT MAIN
5. Tie-Downs.....SET
6. Paperwork/Flight Plan.....COMPLETE/CLOSED

Climb out	86-98 MPH
V <sub>y</sub>	84-86 MPH
V <sub>x</sub>	71 MPH
Short Field Take off 10 <sup>0</sup> Flaps	66 mph



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**ENGINE FAILURE DURING TAKEOFF ROLL**

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

**ENGINE FAILURE DURING CLIMB**

- 1. Airspeed...79-88 MPH (Flaps UP) 71-83 MPH (Flaps Down)
- 2. Mixture.....CUTOFF
- 3. Fuel Selector Valve.....OFF
- 4. Ignition .....OFF
- 5. Flaps.....AS REQUIRED
- 6. Master Switch.....OFF
- 7. Cabin Door.....UNLATCH
- 8. Land.....STRAIGHT AHEAD

**ENGINE FAILURE DURING FLIGHT**

- 1. Airspeed.....79-88 MPH
- 2. Carb. Heat.....ON
- 3. Fuel Selector Valve.....BOTH
- 4. Mixture.....RICH
- 5. Ignition .....BOTH (or START if propeller is stopped)
- 6. Primer.....In and Locked

**EMERGENCY LANDING WITHOUT ENGINE POWER**

- 1. Passenger Seat Backs.....MOST UPRIGHT POSITION
- 2. Seats and Seat Belts.....SECURE
- 3. Airspeed...79-88 MPH (Flaps UP) 71-83 MPH (Flaps Down)
- 4. Mixture.....CUTOFF
- 5. Fuel Selector Valve.....OFF
- 6. Ignition .....OFF
- 7. Flaps.....AS REQUIRED
- 8. Master Switch.....OFF
- 9. Cabin Door.....UNLATCH

**ENGINE FIRE DURING START**

**1. Ignition Switch.....START, Continue Cranking**

IF engine starts:

- 2. Power.....1700 RPM
- 3. Engine.....SHUTDOWN

IF Engine Fails to Start:

**4. Throttle.....FULL OPEN**

**5. Mixture.....CUT OFF**

**6. Cranking.....CONTINUE**

**7. Fuel Selector Valve.....OFF (Pointed Aft)**

8. Engine.....SECURE

a. Master Switch.....OFF

b. Ignition Switch.....OFF

10. Airplane.....EVACUATE

11. Fire.....EXTINGUISH

**ENGINE FIRE IN FLIGHT**

**1. Mixture.....CUT OFF**

**2. Fuel Selector Valve.....OFF**

**3. Master Switch.....OFF**

4. Cabin Heat and Air.....OFF

5. Airspeed.....120-182 MPH

6. Forced Landing.....EXCECUTE

**ELECTRICAL FIRE IN FLIGHT**

**1. Master Switch.....OFF**

**2. Vents, Cabin Air, Heat.....CLOSED**

**3. Fire Extinguisher.....ACTIVATE**

4. Avionics.....OFF

5. All other switches (except ignition switch).....OFF

**CABIN FIRE**

**1. Master Switch.....OFF**

**2. Vents, Cabin Air, Heat.....CLOSED**

**3. Fire Extinguisher.....ACTIVATE**

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



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**PRECAUTIONARY LANDING WITH ENGINE POWER**

1. Passenger Seat Back..... MOST UPRIGHT POSITION
2. Seats and Seat Belts.....SECURE
3. Airspeed.....70 MPH
4. Flaps.....20°
5. Selected Field.....FLY OVER
6. Avionics and Electrical Equipment..... OFF
7. Flaps.....30°(On Final Approach)
8. Airspeed.....70 MPH
9. Master Switch.....OFF
10. Doors.....UNLATCH
11. Touchdown.....SLIGHTLY TAIL LOW
12. Ignition Switch.....OFF

**DITCHING**

1. Radio.....TRANSMIT MAYDAY on 121.5 MHz, giving location and intentions and SQUAWK 7700
2. Heavy Objects(baggage area)....SECURE/JETTISON
3. Passenger Seat Backs....MOST UPRIGHT POSITION
4. Seats and Seat Belts.....SECURE
5. Flaps.....20° to 30°
6. Power...ESTABLISH 300 FT/MIN DESCENT AT 78 MPH  
If no power is available, approach at 79 88 MPH with flaps up or at 76 MPH with 30° flaps
7. Cabin Doors.....UNLATCH
8. Touchdown.....LEVEL ATTITUDE
9. Face.....CUSHION
10. ELT.....ACTIVATE
11. Airplane.....EVACUATE  
If necessary open window to flood cabin to equalize pressure so doors can be opened.
13. Life Vests and Raft.....INFLATE WHEN CLEAR OF AIRPLANE

**LANDING WITH A FLAT MAIN TIRE**

1. Approach.....NORMAL
2. Flaps.....30°
3. Touch Down.....GOOD MAIN TIRE FIRST  
Hold airplane off of the flat tire as long as possible using aileron control.
4. Directional Control.....MAINTAIN

**LANDING WITH A FLAT NOSE TIRE**

1. Approach.....NORMAL
2. Flaps.....30°
3. Touch Down.....ON MAIN GEAR  
Hold nose wheel off the ground as long as possible, when nose wheel touches the ground maintain full up elevator.
4. Directional Control.....MAINTAIN

**AMMETER – EXCESSIVE RATE OF CHARGE**

1. Alternator.....OFF

**LOW VOLTAGE (VOLTS) DURING FLIGHT**

May occur during low RPM, Annunciator will go out at higher RPM.

1. Avionics Master..... OFF
  2. Alternator Circuit Breaker (ALT FLD)..... CHECK IN
  3. Master Switch..... OFF (both sides)
  4. Master Switch..... ON
  5. Low Voltage Annunciator (VOLTS).....CHECK OFF
  6. Avionics Master..... ON
- If low voltage annunciator (VOLTS) illuminates again:
7. Alternator.....OFF
  8. Nonessential Radio and Electrical Equipment.....OFF
  9. Flight.....TERMINATE as soon as practical

**VACCUM SYSTEM FAILURE (VAC)**

1. Vacuum Gauge.....CHECK  
If vacuum is not within normal limits partial panel procedures maybe required.