



FLIGHT SCHOOL

**C172N-180HP N739DT**

See Supplement Airplane Flight Manual STC SA4428SW

**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. Alternator Switch... OFF
- 14. Beacon... ON
- 15. Propeller Area ... CLEAR
- 16. Ignition... START



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**AFTER START**

- 1. Oil Pressure/Engine Instruments..... CHECK
- 2. Alternator Switch.....ON
- 3. Mixture..... LEAN
- 4. Flaps..... CHECK/UP
- 5. Avionics Master..... ON
- 6. Check Alternator OFF/ON Discharged Lite OFF
- 7. Radios..... SET/RECORD ATIS/ASOS
- 8. 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. Elevator Trim..... SET TO TAKEOFF
- 11. Flaps..... SET AS REQUIRED
- 12. 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

**TAKEOFF**

- 1. Airspeed..... Rotate 55(63)
- 2. Vy..... 73(84)
- 3. Throttle..... FULL OPEN
- 4. FLAPS..... UP

**CLIMB**

- 1. Airspeed.....75-85(86-97)
- 2. Mixture..... LEAN
- 3. Instruments..... CHECK
- 4. CHT below..... 420°F

**CRUISE**

- 1. Power (2100-2600) (<75%)..... SET
- 2. Normal Sea Level... ..111-115(127-132)
- 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



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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...65(74) (Flaps UP) 60(69) (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 ..... 65(74)
- 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.....65(74) (Flaps UP) 60(69) 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..... 100(115)
- 6. Forced Landing... EXECUTE

**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... ..**60(69)**
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 55(63)**  
If no power is available, approach at **65(74)** with flaps up or at **60(69)** with **10°** 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