

## **PREFLIGHT CABIN**

1. A.R.O.W. Documents.....CHECK
2. POH and Supplements.....AVAILABLE IN AIRCRAFT
3. Control Lock.....REMOVE
4. Ignition Switch.....OFF AND KEYS OUT
5. Master Switch.....ON
6. Fuel Quantity Indicators.....CHECK
7. Fuel Selector Switch.....BOTH
8. Flaps.....EXTEND
9. Exterior Lights On (Landing, Nav, Strobes, Beacon).....CHECK ALL
10. Pitot Heat.....CHECK WARM WITHIN 30 SEC
11. Master Switch.....OFF

## **FUSELAGE FRONT LEFT AND LEFT WING**

12. Static Port.....CHECK FOR BLOCKAGE
13. Fuel Quantity Left Wing.....CHECK VISUALLY
14. Cabin Air Openings.....CHECK
15. Pitot Tube and Drain Hole.....CHECK FOR BLOCKAGE
16. Fuel Tank Vent.....CHECK FOR BLOCKAGE
17. Wing Tie Down.....DISCONNECT
18. Stall Warning Opening.....CHECK FOR BLOCKAGE AND OPERATION
19. Wing Tip.....CHECK CONDITION
20. Aileron.....CHECK FREEDOM OF MOVEMENT
21. Flap.....CHECK TRACKS AND SECURITY
22. Sample Fuel Left Wing.....CHECK FOR GRADE, WATER, SEDIMENT
23. Tire.....CHECK INFLATION/CONDITION
24. Brakes/Wheel Pants.....CHECK
25. Chocks.....REMOVE
26. Baggage Door.....CHECK LOCKED

## **EMPENNAGE**

27. Horizontal Stabilizer.....CHECK CONDITION
28. Elevator.....CHECK FREEDOM OF MOVEMENT
29. Vertical Stabilizer.....CHECK CONDITION
30. Rudder.....CHECK VISUALLY (Be gentle! Don't bend metal)
31. Elevator Trim Tab.....CHECK SECURITY
32. Tail Tie Down.....DISCONNECT
33. NAV Antennas.....CHECK VISUALLY
34. ELT Antenna On Rear Fuselage.....CHECK VISUALLY

## **RIGHT WING AND FUSELAGE FRONT RIGHT**

- 35. Chocks.....REMOVE
- 36. Brakes/Wheel Pants.....CHECK
- 37. Tire.....CHECK INFLATION/CONDITION
- 38. Sample Fuel Right Wing....CHECK FOR GRADE, WATER, SEDIMENT
- 39. Flaps.....CHECK TRACKS AND SECURITY
- 40. Aileron.....CHECK FREEDOM OF MOVEMENT
- 41. Wing Tip.....CHECK CONDITION
- 42. Wing Tie Down.....DISCONNECT
- 43. Cabin Air Openings.....CHECK
- 44. Fuel Quantity Right Wing.....CHECK VISUALLY
- 45. Fuel Filler Cap.....SECURE

## **NOSE**

- 46. Engine Oil Lever.....5 QTS MINIMUM, FILL TO 6 QTS
- 47. Fuel Strainer.....DRAIN / CHECK FOR WATER, SEDIMENT
- 48. Propeller and Spinner.....CHECK FOR CRACKS/NICKS
- 49. Alternator Belt.....CHECK CONDITION/TENSION
- 50. Landing Light.....CHECK CONDITION
- 51. Carburetor Air Filter.....CHECK FOR RESTRICTIONS
- 52. Nose Wheel Strut.....CHECK CONDITION (showing approx. 2")
- 53. Nose Tire.....CHECK INFLATION
- 54. Cowling.....CHECK FASTENERS

## **GENERAL**

- 55. Wind Shield.....CHECK/CLEAN
- 56. Top of Fuselage.....CHECK ANTENNAS
- 57. Top of Wings.....CHECK FUEL CAPS SECURE
- 58. Chains / Chocks.....CONFIRM REMOVED

**MAX FUEL QUANTITY: 40 GAL USABLE**

**RECOMMENDED OIL LEVEL: 5 TO 6 QTS**

**TIRE PRESSURES:  
NOSE GEAR: 45PSI  
MAIN GEAR: 38PSI**

## BEFORE STARTING ENGINE

1. Preflight.....COMPLETE
2. Seats / Belts.....ADJUST & SECURE
3. Fuel Selector.....BOTH
4. Avionics Master.....OFF
5. Circuit Breakers.....CHECK
6. Brakes.....TEST & HOLD
7. All Light Switches.....OFF

## STARTING ENGINE

1. Mixture.....RICH
2. Carburetor Heat.....COLD
3. Prime.....2 STROKES or AS REQUIRED
4. Beacon.....ON
5. Master Switch.....ON
6. Throttle.....OPEN 1/8 INCH
7. Propeller Area.....CLEAR
8. Ignition Switch.....START / 1000 RPM
9. Oil Pressure.....CHECK
10. Mixture.....LEAN 1.5 INCHES
11. Flaps.....UP
12. Avionics Switch.....ON
13. Fuel Totalizer.....SET
14. Transponder.....1200/ALT
15. Nav & Strobe Lights.....ON
16. ATIS.....OBTAIN

### **Speeds (Supplement) at Maximum Gross Weight**

V <sub>S0</sub> - Stall speed in landing configuration	40
V <sub>S1</sub> - Stall speed in clean configuration	50
V <sub>X</sub> - Best angle of climb speed	62
V <sub>G</sub> - Best glide speed	68
V <sub>Y</sub> - Best rate of climb speed	73
Cruise Climb	75-85
V <sub>FE</sub> - Maximum flaps fully extended speed	85
V <sub>A</sub> - Maneuvering speed@2550lbs	105
V <sub>NO</sub> - Max Structural Cruise Speed	127
V <sub>NE</sub> - Never exceed speed (All Operations)	158

## BEFORE TAKEOFF / RUN UP

1. Parking Brake Set & Cabin Doors/Windows.....LATCHED
2. Flight Controls.....FREE & CORRECT
3. Elevator Trim.....TAKEOFF POSITION
4. Brakes.....HOLD
5. Mixture.....RICH(BELOW 3000')
6. Throttle.....1700 RPM
  - a. Magnetos.....CHECK (max 125 rpm drop or 50 rpm differential)
  - b. Carburetor Heat.....CHECK FOR RPM DROP
  - c. Engine Instruments.....CHECK
  - d. Ammeter/Volts.....CHECK
7. Throttle & Lean Mixture.....1000 RPM
8. Flight/Nav Instruments (GPS, Flight Stream, Alt, Hdg).....SET
9. Fuel Selector Valve.....BOTH
10. Radios.....SET
11. Take Off.....EMERGENCY BRIEF
12. Takeoff Clearance..Parking Brake Off Landing Light On Mixture Rich

## CRUISE

1. Lean Above 3,000 Feet.....75°F RICH OF PEAK
2. Fuel.....CHECK QUANTITY AND SELECTOR
3. Engine Instruments.....CHECK

## BEFORE LANDING

1. Mixture.....RICH (Below 3000')
2. Carburetor Heat.....ON/AS REQUIRED
3. Landing Light.....ON

## AFTER LANDING

1. Landing Light.....OFF
2. Carburetor Heat.....OFF
3. Mixture.....LEAN 1.5 INCHES
4. Flaps.....UP
5. Contact Ground.....TAXI CLEARANCE

## SHUTDOWN

1. Avionics Switch.....OFF
2. Mixture.....IDLE CUT OFF
3. Master Switch.....OFF
4. Ignition.....OFF

## **NORMAL TAKEOFF**

1. Wing Flaps.....UP
2. Carburetor Heat.....COLD
3. Throttle.....FULL OPEN
4. Elevator Control.....LIFT NOSE WHEEL AT 55 KIAS
5. Climb Speed.....75-85 KIAS

## **SHORT FIELD TAKEOFF**

1. Wing Flaps.....10 DEGREES
2. Carburetor Heat.....COLD
3. Brakes.....APPLY
4. Throttle.....FULL OPEN
5. Mixture.....RICH (above 3,000 feet, LEAN to obtain maximum RPM)
6. Brakes.....RELEASE
7. Elevator Control.....SLIGHTLY TAIL LOW

*From AirPlanes Supplement Performance Chart (Used by Foreflight)*

<b>Weight</b>	<b>Rotation Speed</b>	<b>Speed at Obstacle</b>
2550	48 KIAS	57 KIAS
2400	47 KIAS	55 KIAS
2200	45 KIAS	53 KIAS

8. After Obstacle., 73 KIAS, flaps retract

## **SOFT FIELD TAKEOFF**

1. Wing Flaps.....10 DEGREES
2. Carburetor Heat.....COLD
3. Throttle.....FULL OPEN
4. Mixture.....RICH (above 3,000 feet, LEAN to obtain maximum RPM)
5. Elevator Control.....FULL BACK (then release after rotation)
6. Climb Speed (Obstacle)

*From AirPlanes Supplement Performance Chart (Used by Foreflight)*

<b>Weight</b>	<b>Speed at Obstacle</b>
2550	57 KIAS
2400	55 KIAS
2200	53 KIAS

7. Climb Speed (No Obstacle).....73 KIAS, flaps retract

## **SPEEDS FOR NORMAL OPERATION**

Unless otherwise noted, the following speeds are based on a maximum weight of 2550 pounds and may be used for any lesser weight.

### **Takeoff**

Normal Climb Out.....75-85 KIAS  
Short Field Takeoff, Flaps 10°, Speed at 50 Feet.....57 KIAS

### **Enroute Climb, Flaps Up**

Normal, Sea Level.....75-85 KIAS  
Normal, 10,000 Feet.....70-80 KIAS  
Best Rate of Climb, Sea Level.....73 KIAS  
Best Rate of Climb, 10,000 Feet.....72 KIAS  
Best Angle of Climb, Sea Level.....62KIAS  
Best Angle of Climb, 10,000 Feet.....67 KIAS

### **Landing Approach**

Normal Approach, Flaps Up.....65-75 KIAS  
Normal Approach, Flaps 30°.....60-70 KIAS  
Short Field Approach, Flaps 30°.....62 KIAS

### **Balked Landing**

Maximum Power, Flaps 20°.....60 KIAS

### **Maximum Recommended Turbulent Air Penetration Speed**

2550 Lbs.....105 KIAS  
2150 Lbs.....95 KIAS  
1750 Lbs.....85 KIAS

### **SHORT FIELD TAKEOFF**

Climb Speed.....57 KIAS (until all obstacles are cleared)

### **ENROUTE CLIMB**

Airspeed.....75-85 KIAS

## ENGINE FIRE IN FLIGHT

1. Mixture.....IDLE/CUT OFF
2. Fuel Selector Valve.....OFF
3. Master.....OFF
4. Cabin Heat and Air.....OFF
5. Airspeed.....100 KTS
6. Select Field for Landing.....CHECK

If fire is not extinguished, increase glide speed to find an airspeed which will provide an incombustible mixture.

7. Execute Emerg Landing Without Power Checklist

## ELECTRICAL FIRE IN FLIGHT

1. Master Switch.....OFF
2. Electrical Switches.....OFF
3. Fire Extinguisher.....ACTIVATE
4. Cabin Heat and Air.....OFF
5. Faulty Circuit.....LEAVE DEACTIVATED

### Fire Appears Out and Electrical Power Needed:

6. Master Switch.....ON
7. Circuit Breakers.....CHECK DO NOT RESET
8. Radio Electrical Switches.....ON ONE AT A TIME
9. Cabin Vents.....OPEN

## CARBURETOR ICING

A gradual loss of RPM and eventual engine roughness may result from the formation of carburetor ice. To clear the ice, apply full throttle and pull the carburetor heat knob full out until the engine runs smoothly; then remove carburetor heat and readjust the throttle. If conditions require the continued use of carburetor heat in cruise flight, use the minimum amount of heat necessary to prevent ice from forming and lean the mixture slightly for smoothest engine operation.

## **ENGINE FAILURE IN FLIGHT**

### **Restart Procedure**

1. Airspeed.....75 KTS
2. Suitable Landing Area.....SELECT
3. Fuel Selector Valve.....BOTH
4. Mixture.....RICH
5. Carburetor Heat.....HOT/ON
6. Ignition Switch.....BOTH
7. Primer.....IN/LOCKED

### **If Engine Fails to Restart:**

## **EMERGENCY LANDING WITHOUT POWER**

1. Airspeed.....70 KTS FLAPS UP
2. Airspeed.....65 KTS FLAPS DOWN
3. Suitable Landing Area.....SELECT
4. Radio Transmit Mayday.....121.50
5. Transponder.....7700
6. Mixture.....IDLE CUT OFF
7. Fuel Selector Valve.....OFF
8. Ignition Switch.....OFF
9. All Switches Except Master.....OFF
10. Wing Flaps.....AS NECESSARY
11. Doors.....UNLATCHED
12. Before Touchdown.....MASTER OFF
13. Touchdown SLIGHTLY TAIL LOW, BRAKE HEAVILY