

Section II

Operation Check List and Instructions

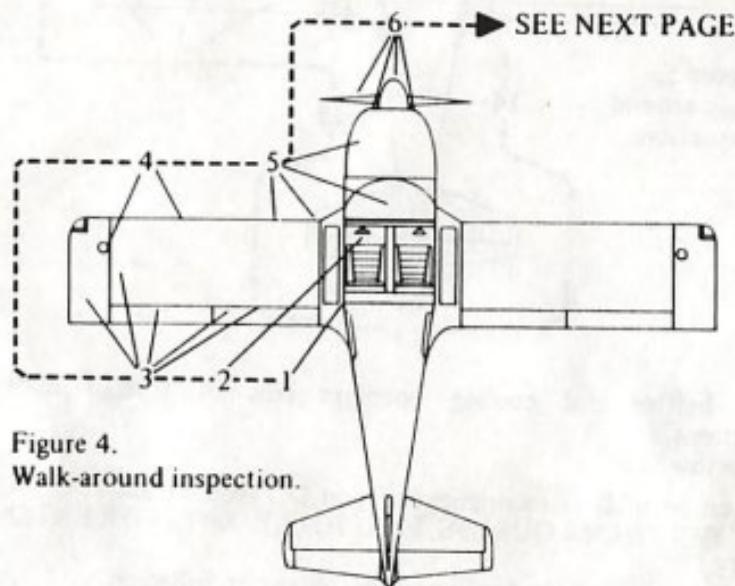


Figure 4.
Walk-around inspection.

Preflight: The airplane should be given a thorough visual inspection prior to each flight. This procedure is recommended as shown in Figure 4. and 5.

1. Unlock and open canopy.
2. **CHECK:** Ignition switch *OFF*, Master switch *OFF*, mixture control in *FULL AFT, IDLE CUT-OFF* position. Remove control lock.
3. Drain fuel sample from left wing.
Check for flap security.
Check ailerons for freedom of movement.
Check wing surface and tip for damage.
Remove left tie down.
4. Inspect pitot opening for foreign particles.
Secure fuel cap for tight seal.
5. Fuel tank vent free of foreign material.
Check windshield and canopy for general condition.
Inspect landing gear and tires for general condition (wear, cuts, abrasions, leaking brakes, tire inflation).
6. Check propeller and spinner for cracks, nicks and security.
Check cowling for damage and security.
Check landing light for damage.
Check carburetor air passage for obstructions.

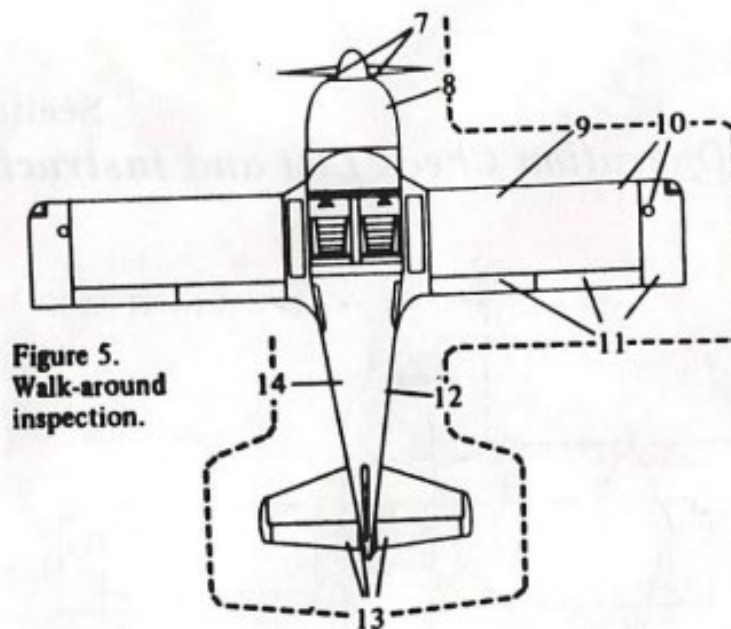


Figure 5.
Walk-around
inspection.

7. Engine baffles and cooling openings free of foreign materials/obstructions.
Remove tow bar.
8. Check oil level. It is recommended you **DO NOT OPERATE ENGINE WITH LESS THAN 4 QUARTS. FILL TO 6 QUARTS FOR EXTENDED FLIGHT.**
Check nose gear and tire for wear, cuts, abrasions, inflation.
9. Inspect landing gear and tires for general condition (wear, cuts, abrasions, leaking brakes, proper inflation).
Fuel tank vent free of foreign material.
10. Secure fuel cap for tight seal.
Check stall switch vane for freedom of movement.
11. Check ailerons for freedom of movement.
Check for flap security.
Check wing surface and tip for damage.
Remove right tie down.
Drain fuel sample from right wing.
12. Check static source for foreign particles.
13. Check elevators, rudder and trim tab for freedom of movement.
Check tail cone for security.
Remove tail tie down.
14. Check static source for foreign particles.

NOTE:

For night operations: always check instrument, position and landing lights for correct operation prior to starting engine. Always carry a flashlight during night operations.

Before Starting Engine:

1. Seats: Adjusted and locked.
2. Seat belts: Buckled and adjusted.
3. Brakes: Set.
4. Remove control lock.
5. Check all controls for operation.
6. Fuel selector: To fullest tank.
7. Radios and lights: OFF.

Starting Engine:

1. Master Switch: ON.
2. Auxiliary fuel pump; Check for operation (Pressure 0.5 to 8 psi), then turn OFF.
3. Mixture control: Full rich.
4. Prime engine: 1 — 3 strokes.
5. Carburetor heat: OFF.
6. Throttle: Open $\frac{1}{4}$ inch.
7. Clear Propeller.
8. Ignition switch: On LEFT.
9. Press starter button.
10. Ignition switch: On BOTH.
11. Check oil pressure. If no pressure indication in 30 seconds, shut engine down and determine trouble.

Engine Run-Up:

1. Throttle setting: 1800 RPM.
2. Engine instruments: Operating properly in green arc ranges.
3. Check magnetos: RIGHT-BOTH-LEFT-BOTH.
125 RPM maximum drop on either magneto.
50 RPM maximum differential between magnetos.
4. Carburetor heat: Operation checked for RPM drop.
5. Suction gauge (if installed): 4.6 to 5.4 inches Hg.
6. Radio (if installed): Operation checked.
7. Engine is ready for take-off when it will take full throttle without hesitating or faltering.

Before Take-Off:

1. Console Check:
 - a. Microphone (if installed): Secure.
 - b. Flaps: Check for correct operation.
 - c. Trim wheel: At take-off setting.
 - d. Fuel: On fullest tank.
 - e. Flaps: UP.
2. Panel and Control Check:
 - a. Primer knob: In and locked.
 - b. Mixture: Full rich.
 - c. Carburetor heat: OFF.
 - d. Auxiliary fuel pump: ON.
 - e. Controls: Free — no binding — movement in proper direction.
 - f. Flight instruments: Set.
 - g. Engine instruments: Normal.

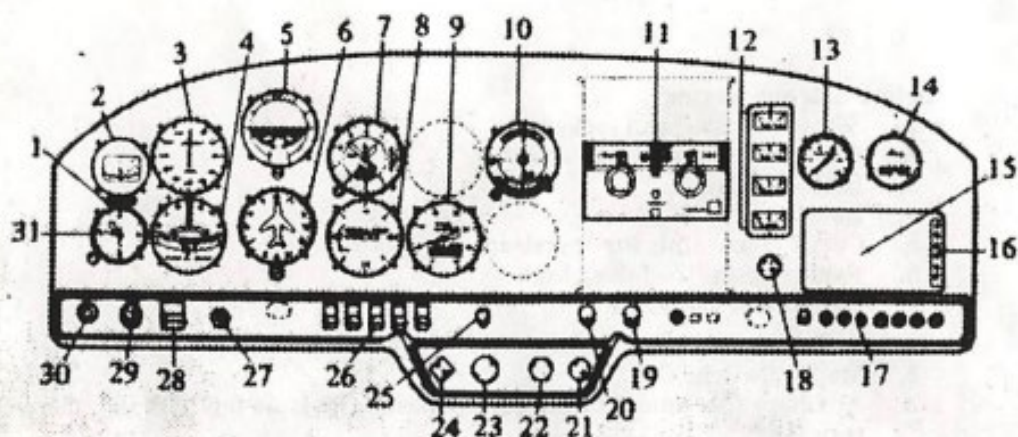


Figure 6. Yankee instrument panel diagram.

Take-Off (Normal):

1. Auxiliary fuel pump: ON.
2. Throttle: Full open.
3. Raise nose wheel between 65 and 70 MPH.
4. Normal climb speed: 95 MPH.

Take-Off (Obstacle Clearance):

1. Auxiliary fuel pump: ON.
2. Throttle: Full open.
3. Controls: Neutral, then lift off smoothly at 70 MPH.
4. Climb speed: 78 MPH (best angle of climb).

Climb (Normal):

1. Airspeed: 95–105 MPH.
2. Full Throttle.

Cruise:

1. Auxiliary fuel pump: OFF.
2. Power Setting: 2100 to 2600 RPM.
3. Mixture: Full rich when operating at more than 75% power. If in doubt as to percentage of power being used, use full-rich mixture for all operations below 5,000 feet.
4. To maintain best *fuel load balance*, change fuel selection at approximately 30-minute intervals during cruise. If flying solo, maintain the left tank about ½-tank lower than the right. This technique will substantially improve lateral trim.

Before Landing:

1. Fuel selection: To fullest tank.
2. Mixture: Full rich.
3. Auxiliary fuel pump: ON.
4. Carburetor heat: Check, leave ON if icing conditions are known to exist.
5. Airspeed: 80–90 MPH.
6. Wing flaps: As desired below 100 MPH.

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|-----------------------------|---------------------------------|
| 1. Compass Card | 17. Fuses & Circuit Breakers |
| 2. Compass | 18. Cigar Lighter |
| 3. Airspeed Indicator | 19. Parking Brake Control |
| 4. Turn-And-Bank Indicator | 20. Cabin Heat Control |
| 5. Gyro Horizon | 21. Engine Primer |
| 6. Directional Gyro | 22. Mixture Control |
| 7. Altimeter | 23. Throttle Control |
| 8. Vertical Speed Indicator | 24. Carb Heat Control |
| 9. Tachometer | 25. Instrument Light Rheostat |
| 10. Omni Head | 26. Individual Circuit Switches |
| 11. Radio | 27. Starter Switch |
| 12. Instrument Cluster | 28. Master Switch |
| 13. Suction Gauge | 29. Ignition Switch |
| 14. Hourmeter | 30. Phone Jack |
| 15. Glove Compartment | 31. Clock |
| 16. Spare Fuses | |

Landing (Normal):

1. Touchdown on main gear.
2. Lower nose wheel slowly as speed decreases.
3. Directional control: Use rudder until it becomes ineffective (approximately 20 MPH).
4. Brakes: As required for stopping and directional control.

Landing (Obstacle Clearance):

1. Airspeed: 78 MPH.
2. Flaps: Fully extended.
3. Land on main wheels first.
4. Lower nose wheel.
5. Directional control: Use rudder until it becomes ineffective (approximately 20 MPH).
6. Flaps: UP.
7. Brakes: As required for stopping and directional control.

Balked Landing:

1. Apply full throttle.
2. Carburetor heat: OFF.
3. Establish climb attitude.
4. Flaps: Retract.

After Landing:

1. Flaps: UP.
2. Carburetor heat: OFF.
3. Auxiliary fuel pump: OFF.

Shut-Down:

1. All electrical equipment: OFF.
2. Mixture: To idle cutoff.
3. Magneto switch: OFF.
4. Master switch: OFF.
5. Install control lock.
6. Brakes: Set and/or wheels chocked.