CHECKLIST PROCEDURES

REFLIGHT INSPECTION

(1) CABIN

1. Pilot's Operating Handbook -- AVAILABLE IN THE AIRPLANE.
2. Parking Brake -- SET.
3. Control Wheel Lock -- REMOVE.
4. Ignition Switch -- OFF.
5. Radio and transponder -- OFF.
6. Master Switch -- ON.

WARNING

When turning on the master switch, using an external power source, or pulling the propeller through by hand, treat the propeller as if the ignition switch were on. Do not stand, nor allow anyone else to stand, within the arc of the propeller, since a loose or broken wire or a component malfunction could cause the propeller to rotate.

7. Turn and Bank - ON
8. Beacon and Navigation Lights - ON
9. Avionics Cooling Fan -- CHECK AUDIBLY FOR OPERATION.
10. Fuel Pump - ON
11. All Switches - OFF
12. Fuel Selector Valve -- BOTH.
13. Check Fuel Quantity

(2) EMPENNAGE

1. Rudder Gust Lock -- REMOVE.
2. Tail Tie-Down -- DISCONNECT.
3. Control Surfaces -- CHECK freedom of movement and security.

(3) RIGHT WING Trailing Edge

1. Aileron -- CHECK freedom of movement and security.

(4) RIGHT WING

1. Wing Tie-Down -- DISCONNECT.
2. Main Wheel Tire -- CHECK for proper inflation.
3. Fuel Tank Sump Quick-Drain Valve -- DRAIN fuel (using sampler cup) to check for water, sediment, and proper fuel grade before first flight of day and after each refueling. If water is observed, take further samples until there is no evidence of water contamination.
4. Fuel Selector Quick-Drain Valve (located on bottom of fuselage) -- DRAIN fuel (using sampler cup) to check for water, sediment, and proper fuel grade before first flight of day and after each refueling. If water is observed, take further samples until there is no evidence of water contamination.
5. Fuel Quantity -- CHECK VISUALLY for desired level.
6. Fuel Filler Cap -- SECURE.

(5) NOSE

1. Engine Oil Dipstick/Filler Cap -- CHECK oil level, then check dipstick/filler cap SECURE. Do not operate with less than five quarts. Fill to seven quarts for extended flight.
2. Fuel Strainer Drain Knob -- PULL OUT for about four seconds to clear strainer of possible water and sediment before first flight of day and after each refueling. Return drain knob full in and check strainer drain CLOSED. If water is observed, the fuel system may contain additional water, and further draining of the system at the strainer, fuel tank sumps, and fuel selector quick-drain valve must be accomplished.
3. Propeller and Spinner -- CHECK for nicks and security.
4. Engine Cooling Air Inlets -- CLEAR of obstructions.
5. Carburetor Air Filter -- CHECK for restrictions by dust or other foreign matter.
6. Nose Wheel Strut and Tire -- CHECK for proper inflation.
7. Nose Tie-Down -- DISCONNECT.
8. Static Source Opening (left side of fuselage) -- CHECK for stoppage.

(6) LEFT WING

1. Fuel Quantity -- CHECK VISUALLY for desired level.
2. Fuel Filler Cap -- SECURE.
3. Fuel Tank Sump Quick-Drain Valve -- DRAIN fuel (using sampler cup) to check for water, sediment, and proper fuel grade before first flight of day and after each refueling. If water is observed, take further samples until there is no evidence of water contamination.
4. Main Wheel Tire -- CHECK for proper inflation.

) LEFT WING Leading Edge

1. Pitot Tube Cover -- REMOVE and check opening for stoppage.
2. Fuel Tank Vent Opening -- CHECK for stoppage.
3. Stall Warning Opening -- CHECK for stoppage. To check the system, place a clean handkerchief over the vent opening and apply suction; a sound from the warning horn will confirm system operation.
4. Wing Tie-Down -- DISCONNECT.
5. Landing Light(s) -- CHECK for condition and cleanliness of cover.

) LEFT WING Trailing Edge

1. Aileron -- CHECK for freedom of movement and security.

B. BEFORE STARTING THE ENGINE

(1) Operate controls and make a rapid visual check for proper operation.
(2) Make sure windshield is clean for maximum visibility.
(3) Adjust seat for comfort and distance to rudder pedals.
(4) Check brakes and set parking brake.
(5) Fasten and check safety belt.
(6) Check quantity of fuel (two gauges).
(7) Check Fuses and Circuit Breakers

:. STARTING THE ENGINE

(1) Set carburetor heat to "cold."
(2) Set mixture control (if any) to "full rich."
(3) Set fuel tank selector to fullest tank or preferably to "both tanks." (Take-off on less than 1/4 tank is not recommended.)
(4) Master Switch to On

If engine is cold (50°F or below), prime the engine as follows:

Turn master switch "on" (when using starter).
Clear propeller.
Make certain magneto switch is "off" and throttle "closed" then give engine three or four strokes with the primer as the engine is turned over. (Ordinarily not required except at winter temperatures.)

(5) Fuel Pump On
(6) Turn magneto switches "on."
(7) Open throttle 1/8 (to idle position) and start engine by pulling starter control or having propeller pulled through by hand. Note: In extremely cold weather a few strokes of the primer as the engine fires will enable the engine to keep running. (Avoid over-priming.) After priming push primer all the way in and turn to locked position to avoid possibility of engine drawing fuel through the primer. *Do not pull out on starter* for a second starting attempt until engine has come to a complete stop from the first attempt. Failure to do this may result in damage to the starting gear.

Idle at 800rpm
Check Oil Pressure

(8) Turn and Bank On
(9) Beacon On

D. WARM-UP AND GROUND TEST

(1) Do not allow engine to operate at more than 800 r.p.m. for first 60 seconds after starting. (Especially important in cold weather as lubricating oil will be slow in circulating.) After starting if oil gage does not *begin* to show pressure within 30 seconds in the summertime and about twice that long in very cold weather, stop engine and investigate. Lack of oil pressure may cause serious engine damage.
(2) Apply full carburetor heat.
(3) After two to three minutes running at 800 r.p.m., open the throttle gradually to 1200-1500 r.p.m. and allow to run for three to five minutes or until engine is sufficiently warm for take-off. Warm-up may be accomplished during taxiing. Do not overheat the engine by running engine at high speed while on the ground. It is not necessary to run the engine until oil is "hot"; if engine runs properly at full throttle and oil pressure is normal, you are ready for take-off.
(4) Radio On
(5) Transponder to "Sby"

BEFORE TAKE-OFF

(1) Apply toe brakes.
(2) Set altimeter.
(3) Set trim tab to "take-off" position.
(4) Check oil pressure – should show 30 to 40 lbs. sq. in. (Minimum idling oil pressure – 10 lbs. sq. in.)
(5) Transponder to "Alt"
(6) Check fuel pressure – should show 1½ to 3 lbs. sq. in. (Minimum idling pressure – 1 lb. sq. in.)
(7) Check engine magnetos at 1600 r.p.m. by opening the throttle and switching off separately each magneto momentarily. Drop of r.p.m. from 1600 r.p.m. should not exceed 50 r.p.m. on the right magneto or 75 r.p.m. on the left magneto. Switch to both magnetos before continuing.
(8) Full throttle r.p.m. check is optional. Engine should run smoothly and turn, with carburetor heat off, 2230 to 2330 r.p.m. or more. Engine should idle between 500 and 550 r.p.m.

TAKE-OFF

(1) Release brakes.
(2) For take-off use full throttle.
(3) Turn carburetor heat "off."
(4) Heels on the floor.
(5) Climb at full throttle. Best rate of climb airspeed 89 m.p.h. indicated. At sea level, airspeed drops off approx. 7 m.p.h. for each 5000 ft. altitude change. The engine will turn 2325 to 2450 r.p.m.

G. CRUISING

(1) Recommended cruising r.p.m. 2450. (Do not exceed 2700 r.p.m.)
(2) Trim airplane by adjusting elevator tab.
(3) Oil pressure – 30-40 lbs. sq. in.
(4) Oil temperature – maximum 225°F.
(5) Fuel pressure – 1½-3 lbs. sq. in.
(6) Above 5000 ft. lean mixture as required to obtain maximum r.p.m.

H. BEFORE LANDING

(1) Set fuel valve to fullest tank or both tanks.
(2) Set mixture control full rich.
(3) Apply full carburetor heat before closing throttle.
(4) Suggested glide speed 70-75 m.p.h.
(5) Use tab to relieve control wheel pressure when establishing glide.
(6) Lower flaps as desired (do not lower flaps when indicated airspeed is above 90 m.p.h.)

I. AFTER LANDING

(1) Raise flaps.
(2) Normal glide and taxiing should cool engine sufficiently; however, if excessive amount of taxiing is necessary, allow engine to cool before cutting ignition by allowing to idle slowly two to three minutes.
(3) Turn magneto switches "off." (Open throttle to avoid pre-ignition when hot.)
(4) Turn radio switch and transponder to "off"
(5) Turn master switch "off." Be sure – otherwise your battery may run down overnight.