

5. Suction gauge - - Check (4.6 to 5.4 inches of mercury)
6. Magnetos – Check (50 RPM maximum differential between magnetos)
7. Propeller – Cycle from high to low RPM; return to high RPM (full in)
8. Flight Controls – Recheck
9. Wing Flaps - - Check operation and set 0° to 20°
10. Cowl Flaps \_Full OPEN
11. Elevator and Rudder Tab – Takeoff
12. Cabin doors – Closed and locked
13. Flight Instruments and Radios – Set

## **TAKE OFF**

### **NORMAL TAKE OFF**

1. Wing flaps – Up
2. Carburetor Heat – Cold
3. Throttle – Full “Open” and 2600 RPM
4. Elevator Control – Lift nose wheel at 60 mph
5. Climb Speed – 90 MPH until all obstacles are cleared, then set up climb speed as shown in NORMAL CLIMB paragraph

### **MAXIMUM PERFORMANCE TAKE OFF**

1. Wing Flaps – 20°
2. Carburetor Heat – Cold
3. Brakes – Apply
4. Power – Full throttle and 2600 RPM
5. Brakes – release
6. Elevator Control – Slightly tail low
7. Climb Speed – 60 MPH until all obstacles are cleared, then set up climb speed as shown in MAXIMUM PERFORMANCE CLIMB
8. Wing Flaps – Up after obstacles are cleared

## **CLIMB**

### **NORMAL CLIMB**

1. Air Speed – 100 to 120 MPH
2. Power – 23” and 2450 RPM
3. Mixture – Rich (unless engine is rough)
4. Cowl Flaps – Open as required

### **MAXIMUM PERFORMANCE CLIMB**

1. Air Speed – 88 MPH (sea level) to 84 MPH (10,000)
2. Power – Full throttle and 2600 RPM
3. Mixture – Rich (unless engine is rough)
4. Cowl Flaps – Open as required

## **CRUISING**

1. Power – 15” to 23" manifold pressure and 2200 to 2450 RPM
2. Cowl Flaps – Open as required
3. Elevator and Rudder Trim – Adjust
4. Mixture – Lean

## **LET DOWN**

1. Mixture – Rich
2. Power – As desired
3. Carburetor Heat – Apply (if icing conditions exist)

## **BEFORE LANDING**

1. Fuel Selector Valve –BOTH
2. Mixture – Rich

3. Propeller – High RPM
4. Cowl Flaps – Closed
5. Carburetor Heat – Apply full heat before closing throttle
6. Airspeed – 80 to 90 MPH (flaps retracted)
7. Wing Flaps -- 0° to 40° (below 110 MPH)
8. Airspeed – 70 to 80 MPH with flaps extended
9. Elevator and Rudder Trim -- Adjust

## **NORMAL LANDING**

1. Landing Technique – Conventional for all flap settings

## **AFTER LANDING**

1. Cowl Flaps – OPEN
2. Wing Flaps – Up
3. Carburetor Heat – Cold

## **SECURE AIRCRAFT**

1. Mixture – Idle Cut-off

### **NOTE**

Do not open throttle as engine stops since this actuates the accelerator pump.

2. All Switches – Off
3. Parking Brake – Set
4. Control Lock – Installed

## **Section II**

### **Description and Operating Details**

The following paragraphs describe the systems and equipment whose function and operation is not obvious when sitting in the airplane. This section also covers in somewhat greater detail some of the items listed in checklist form in Section I

## **FUEL SYSTEM**

Fuel is supplied to the engine from two tanks, one in each wing. The total usable fuel, for all flight conditions, is 79 gallons for optional long-range tanks.

### **NOTE**

Unusable fuel is at a minimum due to the design of the fuel system. However, with ¼ tank or less, prolonged uncoordinated flight, such as slips or skids can uncover the fuel tank outlets, causing fuel starvation and engine stoppage when operating on a single tank. Therefore, to avoid this problem with low fuel reserves, the fuel selector should be set at BOTH position.

Fuel from each wing taken flows by gravity to a selector valve. Depending upon the setting of the selector valve, fuel from the left, right, or both tanks flows through a fuel strainer and carburetor to the engine induction system.