**PREFLIGHT CHECK**

Prior to initiating takeoff, perform the following final checks:

**Primary controls: Check surface controls for free movement**.

**Instruments and switches:**

**Altimeter set Directional gyro set Flight indicator set**

All instrument readings in desired ranges.

All switches and controls at desired positions.

**Fuel system:**

**Check fuel tank selector handle on MAIN TANK L.H.** Be sure selector is in detent.(the selector handle is pointing to the MAIN TANK L.H.)

**Fuel booster pump: ON Primer switch: OFF**

**Flaps set for takeoff** (UP for normal takeoff, 15- 20° down for minimum run takeoff)

**Trim:Rudder: 5° right Aileron trim: 0°**

**Elevator trim:** **2° nose heavy** **for full fuel and no drop tanks**

**4° nose** **heavy** **for full fuel with** **drop tanks**

**Pre-flight engine check: Check propeller at full INCREASE**

**Power check:** **advance throttle** to obtain **2300 RPM**. At this RPM, the manifold pressure should read **1/2 in.Hg** less than field barometric pressure within +/- 1/2 in.Hg.

Manifold pressure in excess of field barometric pressure indicates that the engine is not producing maximum power and should be checked.

**Ignition system check**

**At 2300 RPM**, with the **propeller in full INCREASE**, **move** **ignition** **switches from BOTH to L, back to BOTH, then to R, and back to BOTH.** **Allow engine speed to stabilize at BOTH between checks.** **A maximum drop of 100 RPM is allowable for the right magneto and 130 RPM drop for the left magneto**. If RPM drop is more than allowable, spark plugs will have to be deleaded.

**Idle speed check:** **idle engine at 650 to 700 RPM with throttle against idle stop**

**Acceleration and deceleration check:** with **MIXTURE set to RUN, advance throttle from idle to 2300 RPM**. Engine should accelerate and decelerate smoothly with no tendency to backfire.

**Carburetor ram-air control lever set to RAM AIR** (UNRAMMED FILTERED AIR or carburetor HOT AIR control lever set to HOT AIR only if required).

**Mixture control** set to **RUN**

**Supercharger** control switch set to **AUTO**.

**Oil and coolant radiator air control** **switches** set to **AUTOMATIC**.

**Do not exceed 40 in.Hg** during ground run-up without having the tail tied down, because of the possibility of the aircraft nosing over.