NORMAL PROCEDURES

**Pre-start**

**As soon as you enter the cockpit**, make sure that the **ignition switch** is **OFF** and the **mixture control** is at **IDLE CUT-OFF**. Request ground assistance to rotate the propeller at least 12 blades. After, perform the following check around the cockpit, working from left to right:

**Fuselage fuel**: **check the gauge** **on top** of the fuselage tank (behind the pilot’s seat, **left side**).

**Flap handle: UP**

**Carburetor RAM air control:** **FORWARD** in RAM AIR position (unless FILTERED AIR required).

**Carburetor HOT air control:** **FORWARD** to NORMAL position (unless HOT AIR required).

**Rudder trim: 6° 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**

**Landing gear handle: DOWN**

**Left fuel gauge**: **CHECK GAUGE**, located on floor at your left.

**Mixture control**: **IDLE CUT-OFF**

**Propeller control**: **full forward to INCREASE**

**Throttle: OPEN 1 INCH**

**Gunsight selector-dimmer switch ON**

**Armament switches**

**Rockets switch SAFE** **Bombs switches OFF** **Gun safety switch OFF**

**Altimeter**: **zero or set at airfield elevation**, as required.

**Gyro instruments: uncage directional gyro and flight indicator** (uncaged by default).

**Controls**: **unlock the controls** and **watch** the control surfaces **for correct response**.

**Parking brakes**: **SET(Don’t try to hold the aircraft with foot brakes**)

**Supercharger**: **AUTO** (set by default).

**Fuel shut-off valve: ON**

**Fuel selector valve**: **SET TO LEFT WING** tank.

**Right fuel gauge**: **CHECK GAUGE**, located on floor at your right.

**Fuel booster**: **ON Ignition switch: turn to BOTH**

**Battery and generator switches**: **ON**

**Coolant and oil radiator flap control switches**: operate manually from **CLOSE to OPEN several times**, and check by listening to determine whether the doors are operating.

**CHECK THE LANDING GEAR WARNING LIGHTS** by **PUSHING** on the **lamp housings**.

**If you expect to use oxygen**, **check the gauge** for a pressure of **400 PSI**.

**If night flying** is anticipated, **check all essential lights** – instrument fluorescent lights, cockpit swivel lights, position and recognition lights, and landing lights.

**Start-Up**

After completing the Pre-start check, proceed with engine start-up as follows:

**Prime the engine three to four seconds if it is cold, one if hot**

**Raise the starter switch cover and hold switch at START**

**As the engine starts**, **move the mixture control to RUN** (AUTO RICH on earlier aircraft). If the engine fails to take hold after several revolutions, give it one second’s more prime

**If the engine cuts out** **after starting**, **return the mixture control immediately to IDLE CUT-OFF**

**Check that oil pressure** reaches at least **50 PSI within 30 seconds**. If it doesn’t, stop the engine

**Idle at about 1200-1300 RPM** **until the oil temperature reaches 40°C and the oil pressure is steady**

**Check the suction gauge** to show between **3.75 to 4.25**” of vacuum.

**Check all the engine instruments**. Make sure they don’t exceed or fall below their limits.

**After the engine is warmed up**, **idle at 1000 RPM** or slightly less. This keeps the engine clean but not too hot.

If for any reason you anticipate pulling more than 40” of manifold during the engine ground run, be sure that the airplane is anchored.