

M-14P Recommended Startup Procedure

General Comment

One of the major concerns one has when starting up the M-14P is the possibility of causing hydraulic lock. The following procedure virtually eliminates this possibility. There are, of course, other techniques which can be employed; this is just one that has been found to work well over the years.

Precautionary Steps

1. Make sure the gear lever is in the DOWN position and the locking bar is across it.
2. **Make sure that the magneto switch is in the OFF ("0") position in both the front and rear cockpits. This should also be part of the normal shut down procedure after every flight!**
3. Make sure the main air supply is fully open and that air pressure is registering on the gauge.
4. Set the brakes by depressing the brake level on the control stick and then rotating the small locking cog next to the brake handle to keep the brakes engaged.
5. If possible, have someone standing by with a Halon 1211 type fire extinguisher in the rare possibility of having a carburetor fire.

Initial Propeller Pull-Through

1. If the engine has an input manifold drain valve installed, make sure it is open. This valve is considered part of the "clean kit." If no such kit is installed, lower the front cowl and open the drain covers on the lower three cylinders (i.e. 4, 5 and 6) to allow any accumulated oil to drain out. Then close the covers.
2. As a precautionary measure, push on the aircraft to insure the brakes are set and holding.
3. Slowly pull the propeller through 12 blades in the normal direction of rotation. If heavy resistance is encountered at any time, do not exert excessive force and do not back up the propeller to drain the oil. Drop the cowl and remove the rear spark plugs of the lower three cylinders to drain any accumulated oil from them. **Whenever you pull the propeller through, assume the engine may start even though the magneto switches indicate "OFF." So do so cautiously.**
4. Continue pulling through the blades after closing the drain covers and cowl.

Initial Priming Procedure

1. After having pulled through 12 blades, reenter the front cockpit.
2. Turn the primer knob counter-clockwise to the “system” position and pressurize the fuel system with two to five strokes. Then turn knob clockwise to the “prime” position and prime the engine with five or six full strokes.
3. Move the throttle lever forward and backward two times, through its full range of travel, returning it to the full aft or idle position.

Secondary Propeller Pull-Through

1. Step out of the cockpit and pull the propeller through another three to four blades, making sure that fuel and/or oil has drained out of the “clean kit” intake manifold valve.
2. Close the drain valve

Final Prime and Engine Start-Up

1. Before entering the front cockpit, make sure the rear cockpit’s magneto switch is now set to “1+2”.
2. Prime the engine two more full strokes. Make sure the primer knob is returned to the vertical, locked position.
3. Move the throttle forward and rearward one more time, through its full travel.
4. Position the throttle about 1/4 to 1/3 open.
5. Position the battery switch UP or ON.
6. Position the starter switch UP or ON.
7. Call out “Clear” and make sure nobody is near the propeller.
8. Lift the starter button guard cover and depress the starter button.
9. When the engine fires, hold the button for about another second or two while simultaneously turning on the magneto to “1+2”.

If the engine quits as soon as you turn on the magnetos, you most likely have forgotten to turn on the rear cockpit magneto switch!

10. The engine should start almost immediately and continue running at 38% to 40%.
11. Close the starter button guard cover.
12. Turn OFF the starter switch and turn ON the generator switch.
13. Warm the engine up while also checking that there is oil pressure.

Second Start-Up Attempt

1. In the event the engine fires up, runs briefly, and then stops, turn off the magneto switch, prime it about two more strokes, and try again. Do not over prime the engine.

Engine Fire During Start-Up

1. If a fire starts in the carburetor, continue pressing the starter button to suck the flames back into the engine. Keep cranking the engine until the engine either starts and continues to run or at least until the flames are extinguished.
2. If absolutely necessary, have your stand-by ground personnel extinguish the flames with a fire extinguisher; preferably a Halon 1211 type extinguisher. The ground support personnel must be extremely careful not to get hit by the turning propeller.