

Service Letter

Subject:

Engine hot starting procedure for Lycoming IO-540-K1A5 installed in GA8 Airvan.

Applicability:

All GA8 serial numbers.

Amendments:

Nil (initial issue).

Background:

As a result of difficulties experienced by some GA8 operators in achieving satisfactory starts of the Lycoming IO-540-K1A5 engine when hot, Gippsland Aeronautics has developed a revised engine starting procedure. This revised procedure will be incorporated into the next amendment of the GA8 Approved Flight Manual. In the interim period, this Service Letter has been prepared to advise operators of the revised starting procedure.

After an engine is shutdown, the temperature of its various components begins to stabilize; the hotter parts such as cylinders and oil cool down while other parts heat up due to heat conduction and heat radiation from those parts of the engine that are cooling. This heat soaking is worst from 15 minutes to 1 hour following shutdown. During this time, the engine fuel system will heat up causing fuel in the pump and lines to "boil" or vaporize. During subsequent starting attempts, the fuel pump will initially be pumping a combination of fuel and fuel vapour. Until the entire fuel system becomes filled with liquid fuel and cools down, difficult starting and unstable engine operation will be experienced.

Compliance:

It is recommended that this procedure be used every time a GA8 aircraft with Lycoming IO-540-K1A5 engine is started when hot.

Instructions (Recommended):

Starting Engine: Hot Start

Park Brake	ON
Master Switches, Bus 1 & Bus 2	ON
Volts, Bus 1 & Bus 2	CHECK system voltage 12V if battery condition good
Fuel Shutoff Valve	ON
Alternate Air	OFF
Mixture	Idle Cut Off
Propeller	FULL FINE-INCREASING RPM
Fuel Pump	OFF
Throttle.....	Open (approx half travel)
Prime	Mixture – Full Rich Push primer button 2 – 5 Seconds.
Mixture	Idle Cut Off
Throttle.....	Closed (idle position)
Start	Engage starter With starter engaged advance throttle slowly and listen for the engine to start firing, this will normally occur at somewhere between ¼ and ½ throttle position. When the engine begins to fire release starter and move mixture control slowly to the full rich position. As the engine speed increases gradually retard the throttle as required to avoid excessively high speed. Adjust throttle to 1000 – 1200 RPM. If the engine falters push primer button momentarily or switch on the fuel pump using the switch at the overhead panel. <i>(Switch fuel pump off when engine smooth running can be maintained)</i>
Oil Pressure	CHECK (pressure to be indicated within 30 secs)
Volts/Amps.....	CHECK CHARGING SYSTEM