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TCM O200A Engine Installation Notes

As Amended January/16/2020

Owners of LSA compliant Univair (ERCO) 415-C and 415-CD aircraft desiring this modification must first install STC SA02450CH 1320 Gross Weight Increase as a prerequisite to STC SA2628WE as amended January 16, 2020.

It would be wise to verify that the Tachometer, Oil Pressure gage and Oil Temperature gauge are all reading accurately. Your performance evaluation of the installed TCM O200A engine relies on these three instruments.

This STC installation effort entails two distinct groups of work operations: the electric fuel pump installation and the engine replacement. It is suggested that they be completed as separate tasks, starting with the installation of the fuel system installation.

Electric fuel pump installation notes –

- The revised fuel system weight change is approximately +2.5 lbs.
- The fuel pressure warning light will require a second ground to enable the push to test feature.
- The engine driven fuel pump fittings are reused, and the outlet fitting must be the AN844-DS (S + special), (415-48201-40) restricted fitting to avoid overflowing the header tank and providing the back pressure required to extinguish the Fuel Pump Warning Light.
- The AAI-76577 Fuel Pressure Switch is adjustable - instructions are in the Installation Manual.

Engine Installation notes –

- This STC approves two TCM O200A configurations.
- The earlier A38 version features a Pull to Start starter and 35amp Generator and Regulator.
- The later version A48 features a key or push button, solenoid and starter arrangement and a 60amp Alternator and Regulator.
- Both configurations are detailed in the TCM illustrated parts catalog.
- If your installation deviates from those listings separate STCs will be required for your accessory choices to cover the deviations.
- The TCM O200A engine mount bosses are machined so that an engine installed with Lord style mounts sits forward approximately ½". To partially compensate

for that distance, the motor mount steel spacers PN 530627 can be shortened by ¼", which slightly compresses the rubber bushings – the engine mount bolts as listed accommodate this adjustment. The remaining ¼" is accommodated as the cowling is reinstalled.

- For weight and balance purposes, weigh the engine installation as it is removed, noting its configuration AND weigh the replacement engine in the same configuration as it goes on.
- In many cases a mixture cable will need to be installed.

Reinstalling and aligning the engine cowl -

- The cowl will need refitting as the new installation is possibly 1/4" longer than the previous installation.
- Test fit the cowling to determine if any conflicts exist and resolve them if possible.
- If there is a crankshaft flange clearance issue at the nose bowl the cowling can be moved forward by either –

  Enlarging the fuel filler hole aft ¼" (The grommet will still cover the opening) and the exhaust exit hole ¼" aft.

  OR

  Shimming the Upper Nose Bowl support forward ¼" at its mounting location forward of the starter. A small band iron shim will be needed and two longer 3/16" mounting bolts.

  The four horizontal supports can be adjusted to achieve proper alignment.

Propeller installation notes –

- This engine and propeller configuration is similar to Cessna 150 series aircraft built prior to 1971; prior to Cessna adding a propeller spacer to the installation.
- To clock the propeller to the crankshaft, position the crankshaft with the number 1 cylinder on its compression stroke. Align the TDC mark on the crankshaft flange with the parting surface of the crankcase below the crankshaft.
- With the propeller held vertical, looking aft - rotate it 30 degrees CLOCKWISE and install.
- A torque value of 360-inch pounds is called out.
- Safety wire and install spinner dome.