



# Aeromotive Power Delivery

**OVERHAUL** of the power-plant is generally the largest expense an operator is likely to face during the lifetime of the aircraft.

Aeromotive caters for the widest range of general aviation piston engines currently flying in New Zealand with a facility at Hamilton headed by Gregg Mundell and a further comprehensively equipped shop in Timaru headed by Terry Wilson. Collectively they are responsible for overseeing a large proportion of the active GA fleet in the country and further afield into the Pacific with increasing enquiries from the broader Asian market.

The Hamilton facility has a comprehensive firewall forward capability, with the engine shop as its core and peripheral bays accounting for stripping, inspection – both visual and NDT, electrical, fuel and stores for all engine components.

Engine Shop Manager Gregg Mundell explains, “Our normal scope of operation covers overhaul of the Textron Lycoming O-235, O-320/360 through to the IO-540 series engines. We still see the occasional IO-720 though. In the Teledyne Continental (TCM) range the most common items range from the older C90, O-200 and more recent IO-240 and O-470 series through to the GTSIO-520. Capability also still exists for a number of the more rare big TCM O-550 series engines. Broadly we see three Lycomings pass through the shop to every TCM engine.”

“Annual overhaul capacity is in excess of 60 engines and we also see a fair amount of remedial work related to prop strike or component failure. An extra feature is that cracked crankcases and cylinder remedial work can be attended to by our compatriot company Engine Components situated on the other side of the field.”

## Dedicated Test Cell

The jewel in Aeromotive’s crown is having onsite the only dedicated engine test cell in the country. The test cell has for the past 15 years provided a controlled environment for all test purposes with one of its biggest advantages being that it is located within the workshop core floor area. Not only can engines easily be test run and calibrated following overhaul but component testing can be undertaken

during an actual engine run prior to refitting to the aircraft. There’s no need for a test flight to ascertain correct operation.

The Hamilton team’s accumulated experience delivers a product that is hard to beat. Gregg Mundell has spent almost 30 years within the engine shop and he is ably



*Engine shop manager Gregg Mundell completes paperwork records for a TCM engine prior to running in the Test Cell.*



*A Lycoming O-320 has just completed a carburettor change. John Williams writes up the Test Cell report card.*

assisted by John Williams who adds his 25 years plus to the total. Core stripping and assembly tasks are handled by Matt Cox and Steve Calvert. The associated accessory bays contribute their personnel when necessary.

While customers can have their incumbent engine overhauled and returned to the aircraft, either by the Aeromotive workshop or their own service workshop, the company does maintain a large pool of exchange engines for a faster turnaround.

“For private operators or commercial operations where the aircraft is scheduled to be out of the air for an extended maintenance visit, the current turnaround time for an engine which exhibits no surprises during the process is on average 10 working days”, Gregg said.

For those where an exchange will offer the minimum time out of the air, the job time falls to two or three days. Gregg notes that this is an area that fits both Aeromotive and the aircraft operator. The more common Lycoming O-320, O-360 and O-540 series engines are popular exchange items and Aeromotive are continually seeking suitable cores to add to their pool of both fixed wing and helicopter variants.

## Benefits offered

When comparing competitive services, it pays to take into account the extras on offer that often lead to time and cost savings. In Aeromotive’s favour are the following:

- The test cell offers the opportunity to test an overhauled engine in a controlled environment and to provide a range of test run data to the operator.
- A comprehensive stores operation within the complex enables components to be sourced directly.
- The on-field capability of Engine Components for both cylinder and crankcase remedial work are perhaps their least known attribute. Engine Components have the capability to separate head from barrel. This very useful item of expertise offers a cost effective way of reworking a cylinder where the barrel is OK and the head is cracked. Aeromotive carries on hand an extensive range of part life barrels and heads.
- Its personnel experience which includes regular OEM training. As this issue goes to press Gregg Mundell

will have completed a factory course with Textron Lycoming at Williamsport.

To keep ahead of the game there are a number of initiatives planned and in progress to increase the quality of service to operators of engines overhauled by Aeromotive. The core product already exceeds the grade and the next step is to build on this through further identified quality improvements. These will be covered in depth as they are announced throughout the year.

## More information

For more information on tailoring a maintenance or overhaul programme to suit your needs contact: Brett Puddle at Aeromotive. Phone 07 843 3199 or email: [brett.puddle@aeromotive.co.nz](mailto:brett.puddle@aeromotive.co.nz)