



NEWS RELEASE

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WHAT GOES INTO THE 250KW 'STROKER' ENGINE?

Tickford were given the direction to develop the 5.0 litre 'Windsor' engine to the point where it was capable of delivering 250 kW of power and 500Nm of torque. The Tickford engineers chose normal aspiration as distinct from turbo or super charging. to meet this challenge

To achieve a restroked engine, a number of components required to be redesigned.

Crankshaft:

The 5.0-litre crankshaft provides a 76.2mm (3.00 inch) stroke. The new crankshaft extends the stroke to 86.4mm (3.4 inch), increasing engine capacity to 5.6 litres.

Connecting Rods:

As the stroke of the crankshaft is increased, it is essential the connecting rod and piston still remain within the bore dimensions of the carryover 5.0-litre block.

As a result, the connecting rod is a new part with the big end to little end bore center distance revised and a new piston to suit. Additionally, the new connecting rod is an H section part machined from a billet for increased strength to cater for power increases.

Pistons:

A new short skirt piston is used to provide clearance to the new connecting rod and is a low friction, high load design to take the increased gas pressures. Compression ratio is 9.6:1.

For every revolution the engine now consumes 12 per cent more charge air because of the increase in stroke and so other components require to be changed to take advantage of that ability.

Camshaft:

The camshaft has been revised to increase valve opening duration resulting in better airflow management into and out of the cylinders.

Cylinder Heads:

These are the same heads as used in the 220 kW engine with modified combustion chambers, increased valve sizes and 1.7:1 ratio roller rockers.

Intake Manifold:

A new manifold designed for increased airflow into the cylinder heads

Air cleaner, throttle body and intake ducting:

Increased flow capability has been achieved by the adoption of a Mustang-style air cleaner with larger ducting and a significant increase in throttle body bore (up from 70 mm in the 220 kW engine to 82 mm in this application).

Exhaust System:

The ceramic coated tubular headers and 1.7-litre catalysts provide sufficient airflow capacity to match this engine's output.

Synthetic engine oil and a standard fit engine oil cooler ensure the engine is protected in all operating conditions.

All of the significant new parts above have been sourced by Tickford within Australia and the final touch is for one of the Tickford technicians to take responsibility for a single engine. That technician builds an engine and witnesses that by proudly signing a build plate, which is attached to the left hand rocker cover.