



HOLDEN

ENGINE SPECIFICATIONS **Alloytec and Alloytec 190**

Configuration:	3.6L 60-degree DOHC V-6
Peak Power (ECE):	190 kW @ 6500 rpm (Alloytec 190) 175 kW @ 6000 rpm (Alloytec)
Peak Torque :	340 Nm @ 3200 rpm (Alloytec 190) 320 Nm @ 2800 rpm (Alloytec)
	90 per cent of torque produced from: 1600 rpm to 5900 rpm (Alloytec 190) 1600 rpm to 5400 rpm (Alloytec)
Displacement :	3564 cc
Bore x Stroke:	94 mm x 85.6 mm
Valvetrain:	Dual overhead camshaft 4-valve-per-cylinder Roller-finger followers valvetrain Hydraulic lash adjusters Four-cam continuously variable cam phasing (Alloytec 190) Two-cam continuously variable cam phasing (Alloytec) Three-chain two-stage roller chain camshaft drive
Variable Cam Timing:	Intake: 132 degrees ATDC initial timing (Alloytec 190) Intake: 126 degrees ATDC initial timing (Alloytec) 50 crankshaft degrees advance authority
	Exhaust: 111 degrees BTDC initial timing (Alloytec 190) 50 crankshaft degrees retard authority (Alloytec 190)
Compression Ratio:	10.2:1

Bore Centres:	103 mm
Firing Order:	1-2-3-4-5-6
Engine Speed Limit:	6700 rpm (Alloytec 190) 6100 rpm (Alloytec)
Engine Idle Speed:	600 rpm (A/C off)
Fuel System:	Sequential port fuel injection (returnless)
Engine Management:	Torque-based; Bosch Motronic ME 9 32-bit micro-hybrid controller
Intake Manifold:	Dual-plenum, equal-length with two-position variable volume control and resonance tuned (Alloytec 190) Dual-plenum, equal-length with tuned plenum communication orifice (Alloytec)
Throttle:	68-mm single bore; electronic control (ETC)
Ignition:	Individual coil-on-plug; individual cylinder knock control
Fuel Requirement:	Regular unleaded recommended (91 RON) (PULP may provide a small improvement in performance and fuel economy)
Emissions Controls:	Dual close-coupled catalytic converters (1.4L ceramic) Positive crankcase ventilation (PCV) Intake-cam phasers Exhaust-cam phasers (Alloytec 190) Evaporative emissions system
Assembly Site:	Port Melbourne, Victoria, Australia

Material Applications

Block Material:	Aluminium, precision sand-cast 319 with cast-in-place iron liners
Cylinder Head Material:	Aluminium, semi-permanent mould 319
Intake Manifold:	Upper: Aluminium, gravity die 319 Lower: Aluminium, gravity die 319

Exhaust Manifold: SiMo nodular cast iron

Camshaft Covers: Injection compression thermoset composite; vibration isolated

Front Cover: Diecast CA313 aluminium; internal multi-layer damping panels

Crankshaft: Micro-alloy 1038V forged steel

Connecting Rods: Sinter-forged steel

Pistons: Aluminium, polymer-coated skirts, full-floating wristpins

Main Bearing Caps: 6 bolt caps, copper-infiltrated sintered steel

Oil Pan: 6.5 L capacity. Structural diecast aluminium, steel windage and baffle plates

Additional features: Pressure-actuated piston-cooling oil jets
 Extended-life sparkplugs, coolant, accessory belts
 Cartridge-style, top-access oil filter
 Oil-level sensor
 Teflon crankshaft oil seal
 Wide-range oxygen sensors (Alloytec 190)

Transmission Ratios:

	4 speed auto	5 speed auto	6 speed manual
1 st	3.059	3.419	4.48
2 nd	1.625	2.215	2.58
3 rd	1	1.6	1.63
4 th	0.696	1	1.19
5 th		0.752	1.00
6 th			0.75
Reverse	2.294	3.03	3.96
Final Drive	3.08	2.87	2.87