

TIGHTENING TORQUES

	Nm	lb. ft.
Crankshaft pulley bolt	237	175
Alternator support and oil filler tube stay to cylinder block	41	30
Alternator bracket support strap to cylinder head	41	30
Support strap to alternator bracket	26	19
Alternator adjusting link to mounting bracket	41	30
Pipe clip/distance piece at water pump	41	30
Water pipe to alternator support bracket	47	35
Dipstick tube stay and thermostat housing to front of cylinder head	41	30
Choke unit to exhaust manifold	9,5	7
Choke control switch to lifting bracket	26	19
Throttle positioner bracket to carburettor		Handtight
Throttle positioner to bracket	9,5	7
Vacuum solenoid to engine lifting bracket	9,5	7
Fuel pipe nuts to lift pump and carburettor	9,5	4
Vacuum pipe adaptor to induction manifold	27	20
Flywheel housing to cylinder block 3/8 UNC	41	30
Flywheel housing to cylinder block 7/16 UNC	68	50
Flywheel to crankshaft	75	55
Starter motor stud to flywheel housing	27	20
Starter motor securing nut and bolt	68	50
Front engine mounting bracket to engine block	68	50
Water outlet connection to water manifold	41	30
Engine lifting bracket to cylinder head	41	30
Carburettor spacer to inlet manifold stud	41	30
Camshaft sprocket bolt	68	50
Timing cover bolts	23	17
Connecting rod nut	61	45
Crankshaft rear bearing seal retainer	41	30
Rocker cover bolt	4,5	3,3
Cylinder head bolts		
1st Stage	68	50
2nd Stage	95	70
Distributor clamp bolt	8	5,8
Front engine mounting rubber to mounting bracket	34	25
Rear engine mounting bracket to clutch housing	92	68
Fan to water pump	23	17
Fuel pump to cylinder block	41	30
Intake to exhaust manifold cap screw (outboard)	23	17
Intake to exhaust manifold stud nut (inboard)	27	20
Main bearing cap bolts	115	85
Manifold attaching nuts	14	10
Sump drain plug	27	20
Sump setscrews	23	17
Oil pump cover bolts	14	10
Oil pump attaching bolts	23	17
Rocker shaft bracket bolts	34	25
Rocker shaft bracket bolt rear	23	17
Spark plugs	14	10
Starter mounting bolt	68	50
Temperature gauge sending unit	20	15
Water pump to housing	20	15
Dipstick tube to support stay	9,5	7
Oil filler tube to support stay	26	19

DATA**GENERAL**

Type: 6 cylinder in line, tilted transversely at 25° to right, overhead valve.

Firing order 1-5-3-6-2-4 No. 1 at front

Bore 86.36 mm (3.4 in)

Stroke 104.7 mm (4.125 in)

Capacity—standard bore 3690 cm³ (225 in³)

Compression-ratio 8.4:1

-pressures 8, 6–8, 9 Bar (125–130 p.s.i.) at cranking speed.

CAMSHAFT

Bearing clearance0254 - .0762 mm (.001- .003 in)

Journal diameter No. 1 50.74 - 50.77 mm (1.998-1.999 in)

No. 2 50.34 - 50.36 mm (1.982-1.983 in)

No. 3 49.96 - 49.98 mm (1.967-1.968 in)

No. 4 49.55 - 49.58 mm (1.951-1.952 in)

Camshaft drive Roller chain

CONNECTING RODS

Standard bearing clearance0127 - .038 mm (.0005-.0015 in)

Maximum allowable0635 mm (.0025 in)

Clearance152 - .304 mm (.006-.012 in)

Journal diameter 55.52 - 55.54 mm (2.1865-2.1875 in)

Journal length 25.01 mm (.985 in)

Bearing material Tri-metal

CRANKSHAFT

Bearing clearance0127 - .038 mm (.0005-.0015 in)

End play0508 - .2286 mm (.002-.009 in)

Journal diameter 69.82 - 69.85 mm (2.4795-2.7505 in)

Bearing material (main) Babbitt

CYLINDER BLOCK

Cylinder bore diameter

Grade A 86.36 ± .00635 mm (3.4 ± .00025 in)

Grade B 86.37 ± .00635 mm (3.4005 ± .00025 in)

Grade C 86.38 ± .00635 mm (3.401 ± .00025 in)

Grade D 86.39 ± .00635 mm (3.4015 ± .00025 in)

Grade E 86.41 ± .00635 mm (3.402 ± .00025 in)

Maximum allowable taper before reboring . . .254 mm (.01 in)

Maximum allowable out of round before
reboring127 mm (.005 in)

Maximum taper and out of round after
reboring0254 mm (.001)

Pistons

Clearance at Top Land in grade A bore . . .635 - .762 mm (.025 - .030 in)

Clearance at bottom skirt.0127 - .038 mm (.0005 - .0015 in)

Gudgeon pin

Diameter22.891 - 22.899 mm (.90125 - .90155 in)

Length75.31 mm (2.965 in)

Clearance in piston0.0114 - .019 mm (.00045 - .00075 in)

Interference in rod0.017 - .043 mm (.0007 - .0017 in)

Piston rings

Oil ring width4.724 - 4.737 mm (.1860 - .1865 in)

Oil ring gap381 - 1.397 mm (.015 - .055 in)

Oil ring side clearance0.025 - .076 mm (.001 - .003 in)

Compression ring width1.968 - 1.981 mm (.0775 - .078 in)

Compression ring gap254 - .508 mm (.01 - .02 in)

Compression ring side clearance0.0381 - .076 mm (.0015 - .0030 in)

Valves

Face angle — Inlet45°

Exhaust43°

Seat angle.45°

Lift — Inlet10.007 mm (.394 in)

Exhaust.9.906 mm (.39 in)

Rotators — ExhaustRoto Caps

Stem diameter — Inlet9.448 - 9.474 mm (.372 - .373 in)

Exhaust9.423 - 9.448 mm (.371 - .372 in)

Head diameter — Inlet41.148 mm (1.62 in)

Exhaust34.544 mm (1.36 in)

Valve guides integral with head

Length — Inlet61.976 mm (2.44 in)

Exhaust60.96 mm (2.4 in)

Depth from cylinder head face

Inlet.30.226 mm (1.19 in)

Exhaust30.226 mm (1.19 in)

Clearance (stem to guide)

Inlet0254 - .0762 mm (.001 - .003 in)

Exhaust0508 - .1016 mm (.002 - .004 in)

Valve springs — free length

Inlet48.815 mm (1.921 in)

Exhaust47.625 mm (1.875 in)

Valve spring pressure

Inlet — Valve closed66-77 Nm (49-57 lbf) at 42.8 mm (1.687 in)

Valve open185-203 Nm (137-150 lbf) at 33.3 mm (1.312 in)

Exhaust — Valve closed108-122 Nm (80-90 lbf) at 39.6 mm (1.562 in)

Valve open241-260 Nm (178-192 lbf) at 29.3 mm (1.56 in)

VALVE TIMING

Inlet opensBTC 16°

Inlet closesATC 228°

Exhaust opensATC 126°

Exhaust closesATC 10°

Valve overlap26°

TAPPETS

TypeMechanical

Adjusting screwSelf-locking

Tappet clearance (hot)

Inlet0.25 mm (.010 in)

Exhaust0.50 mm (.020 in)

LUBRICATION SYSTEM**Oil pressure (Hot)**Idle speed55 Bar (8 lbf.in²)2000 r.p.m.2.06 - 4.8 Bar (30 - 70 lbf. in²)