

SPECIFICATIONS (Continued)

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CRANKSHAFT AND FLYWHEEL (Continued)

FLYWHEEL RING GEAR LATERAL RUNOUT (T.I.R.)	
Automatic Transmission	1.778mm (0.07 in.)
CRANKSHAFT END PLAY 0.10-0.20mm (0.004-0.008 in.)	
CONNECTING ROD BEARINGS	
Clearance to Crankshaft	
Desired	0.025-0.035mm (0.001-0.0014 in.)
Allowable	0.022-0.069 (0.00086-0.0027 in.)
Bearing Wall Thickness (Std.) 1.453-1.466mm (0.0572-0.0577 in.)	

MAIN BEARINGS

Clearance to Crankshaft	
Desired	0.025-0.035mm (0.001-0.0014 in.)
Allowable	0.013-0.058mm (0.0005-0.0023 in.)
Bearing Wall Thickness (Std.) 2.431-2.443mm (0.0957-0.957-0.962 in.)	

CONNECTING ROD, PISTON AND RINGS

CONNECTING ROD	
Piston Pin Bore Diameter	23.105-23.145mm (0.9096-0.9112 in.)
Crankshaft Bearing Bore Diameter	61.635-61.655mm (2.4266-2.4274 in.)
Out-of-Round Limit — Piston Pin Bore	0.008mm (0.0003 in.) greater to 0.025mm (0.001 in.) (1)
Taper Limit Piston Bore	0.033 per 25mm (0.013 per in.)
Length (Center-to-Center)	150.165-150.240mm (5.912-5.915 in.)

ALIGNMENT (BORE-TO-BORE MAX. DIFF.)

Twist	0.075 per 25mm (0.003 per in.)
Bend	0.04 per 25mm (0.0016 per in.)

SIDE CLEARANCE (ASSEMBLED TO CRANK)

Standard	0.11-0.29mm (0.0047-0.0114 in.)
Service Limit	0.36mm MAX. (0.014 in. MAX.)

PISTON

Diameter	
Coded Red	96.761-96.777mm (3.8095-3.8101 in.)
Coded Blue	96.791-96.807mm (3.8107-3.8113 in.)
Coded Yellow	96.821-96.837mm (3.8119-3.8125 in.)
PISTON-TO-BORE CLEARANCE	0.036-0.081mm (0.0014-0.0032 in.)
SERVICE PISTON SELECTION I.D. Code of Service	
Piston Bore Diameter	Piston Required
96.799-96.830mm (3.8110-3.8122 in.)	RED
96.830-96.860mm (3.8122-3.8134 in.)	BLUE
96.860-96.891mm (3.8134-3.8146 in.)	YELLOW

When replacing pistons, measure the cylinder bore as outlined in General Engine Service Section 21-01. Install the service piston matched to the piston bore diameter above.

PISTON BORE DIAMETER	23.170-23.185mm (0.9122-0.9128 in.)
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RING GROOVE WIDTH

Compression (Top)	1.550-1.530mm (0.0610-0.0602 in.)
Compression (Bottom)	1.550-1.530mm (0.0610-0.0602 in.)
Oil	4.030-4.055mm (0.1587-0.1596 in.)

PISTON PIN

Length	76.5-77.2mm (3.012-3.039 in.)
Diameter	23.162-23.175mm (0.9119-0.9124 in.)
PISTON TO PISTON CLEARANCE	0.005-0.012mm (0.0002-0.0005 in.)

PISTON TO ROD CLEARANCE	Press Fit 8 Kilonewtons (1800 lbs.)
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PISTON RINGS

Ring Width	
Compression (Top)	1.463-1.490mm (0.0576-0.0587 in.)
Compression (Bottom)	1.463-1.490mm (0.0576-0.0587 in.)
Oil Ring	Side Seal — Snug Fit
Service Limit	Side Clearance 0.15mm MAX. (0.0006 in. MAX.)

PISTON (Continued)

Ring Gap	
Compression (Top) (In Gage)	0.29-0.55mm (0.011-0.012 in.)
Compression (Bottom) (In Gage)	0.25-0.50mm (0.01-0.02 in.)
Oil Ring (Steel Rail) (In Gage)	0.38-1.40 (0.015-0.0583 in.)

Side Clearance

1st Ring	0.040-0.087mm (0.0016-0.0034 in.)
2nd Ring	0.040-0.095mm (0.0016-0.0034 in.)

(a) 20-200 seconds to leakdown 3.18 (0.125 in.) with 225 Newtons (50 pounds) load and tappet filled with leak-down fluid.

- (1) Smaller than pin bore measured along center to center axis.
- (2) Runout of journals II and III to journals I and IV.
- (3) Runout of adjacent journals to each other.

* Engine packages equipped with Tripminder. Return line must be closed when checking pressure.

** Passenger Car: 4 qt. + 1/2 qt. with filter change.

LUBRICATION SYSTEM

OIL PUMP	
Relief Valve Spring Tension (Force @ Length)	76.2-67.6 NT (17.1-15.2 lbs.) @ 30.5mm (1.20 in.)
Relief Valve to Bore Clearance	0.073-0.043mm (0.0029-0.0017 in.)
Oil Pump Gear Backlash	0.02-0.03mm (0.008-0.012 in.)
Oil Pump Gear Radial Clearance (Idle and Drive)	0.125-0.050mm (0.0055-0.002 in.)
Oil Pump Gear End Height (Extends Beyond Housing)	0.140-0.050mm (0.0055-0.0005 in.)
Idle Shaft to Idle Gear Clearance	0.044-0.010mm (0.0017-0.0005 in.)
Driver Shaft to Housing Clearance	0.076-0.038mm (0.0030-0.0015 in.)

OIL CAPACITY**

CA6634-M