SPECIFICATIONS (Continued)

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	0.020-0.066mm (0.0086-0.0027 in.)
Bearing Wall Thickness (Std.)	1.557-1.570mm (0.0612-0.0618 in.)
MAIN BEARINGS	
Clearance to Crankshaft	
Desired	0.025-0.035mm (0.001-0.0014 in.)
Allowable	0.020-0.066mm (0.0005-0.0023 in.)
Bearing Wall Thickness (Std.)	N/A

CONNECTING ROD, PISTON AND RINGS	
CONNECTING ROD	
Piston Pin Bore Diameter	23.105-23.145mm (0.9096-0.9112 in.)
Crankshaft Bearing Bore Diameter	57.15-57.17mm (2.250-2.251 in.)
Length (Center-to-Center)	140.46-140.54mm (5.530-5.533 in.)
ALIGNMENT (BORE-TO-BORE MAX. DIFF.)	
Twist	0.050 per 25mm (0.002 per in.)
Bend	0.038 per 25mm (0.0015 per in.)
SIDE CLEARANCE (ASSEMBLED TO CRANK)	
Standard	0.015-0.035mm (0.006-0.014 in.)
Service Limit	0.036mm MAX. (0.014 in. MAX.)

PISTON	
Diameter	
Coded Red	88.962-88.978mm (3.5024-3.5031 in.)
Coded Blue	88.988-89.004mm (3.5035-3.5041 in.)
Coded Yellow	89.014-89.030mm (3.5045-3.051 in.)
PISTON-TO-BORE CLEARANCE	0.036 = 0.056mm (0.0014-0.0022 in.)
Service Limit	0.081mm MAX.
SERVICE PISTON SELECTION (b)	

Service Piston Bore Diameter	Grade Required
89.009-89.035mm (3.5043-3.5053 in.)	RED
89.035-89.060mm (3.5053-3.5063 in.)	BLUE
89.060-89.086mm (3.5063-3.5073 in.)	YELLOW

RING GROOVE WIDTH	
Compression (Top)	0.520-0.540mm (0.060-0.061 in.)
Compression (Bottom)	0.520-0.540mm (0.060-0.061 in.)
Oil	4.030-4.055mm (0.1587-0.1596 in.)
PISTON PIN	
Length	69.3-70.1mm (2.728-2.760 in.)
Diameter	23.162-23.175mm (0.9119-0.9124 in.)
PIN TO PISTON CLEARANCE	0.005-0.012mm (0.0002-0.0005 in.)
PIN TO ROD CLEARANCE	Press Fit 4 KiloNewtons (900 lbs.) Min. to Move
PISTON RINGS	
Ring Width	
Compression (Top)	1.460-1.490mm (0.0575-1.0587 in.)
Compression (Bottom)	1.460-1.490mm (0.0575-0.0587 in.)
Oil Ring	Side Seal — Snug Fit
Service Limit	(0.006 in. MAX.)

PISTON Continued	
Ring Gap	
Compression (Top) (In Gauge)	0.025-0.50mm (0.01-0.02 in.)
Compression (Bottom) (In Gauge)	0.25-0.50mm (0.01-0.02 in.)
Oil Ring (Steel Rail) (In Gauge)	0.25-1.25mm (0.010-0.049 in.)
Side Clearance	
1sr Ring	0.030-0.080mm (0.0012-0.0031 in.)
2nd Ring	0.030-0.080mm (0.0012-0.0031 in.)

LUBRICATION SYSTEM	
OIL PUMP	
Relief Valve Spring Tension	
(Force @ Length)	44.9-40.5 N (10.1-9.1 lb.) @ 28.2mm (1.11 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	
(Idler and Driver)	0.125-0.050mm (0.0055-0.002 in.)
Oil Pump Gear Height Clearance	0.140-0.050mm (0.0055-0.0005 in.)
Idler Shaft to Idler Gear Clearance	0.044-0.010mm (0.0017-0.0004 in.)
Driver Shaft to Housing Clearance	0.048-0.013mm (0.0019-0.0005 in.)
OIL CAPACITY	
Passenger Car: 4 qt. + 0.5 with filter change.	

(a) 20-200 seconds to leakdown 3.18 (0.125 in.) with 225 Newtons (50 pounds) load and tappet filled with leak-down fluid.
(b) When replacing pistons, measure the cylinder bore as described in Section 03-00 and install the indicated service piston.
(1) Smaller than pin bore measured along center to center axis.

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