

Fastener Tightening Specifications

Application	Specification	
	Metric	English
A/C Compressor Mounting Bracket Bolts	30 N·m	22.1 lb ft
Air Cleaner Assembly Bolts	6 N·m	4.4 lb ft
Air Filter Upper Housing Bolts	2 N·m	1.5 lb ft
Camshaft Cap Bolts	10 N·m	7.4 lb ft
Camshaft Sprocket Retaining Bolts	60 N·m	44.2 lb ft
Catalytic Converter Retaining Nuts	40 N·m	29.5 lb ft
Connecting Rod Bearing Cap Nuts	33 N·m	24.3 lb ft
Crankshaft Bearing Cap Bolts	57.5 N·m	42.4 lb ft
Crankshaft Pulley Bolt	85 N·m	62.7 lb ft
Crankshaft Rear Oil Seal Cover Bolts (M6 x 1.0)	10.5 N·m	7.7 lb ft
Cylinder Head Bolts	22 + 82° N·m	16.2 + 82° lb ft
Cylinder Head Cover Bolts	10 N·m	7.4 lb ft
Cylinder Head Cover Bracket Bolts	10 N·m	7.4 lb ft
Engine Mount Bracket Retaining Bolt/Nuts	65 N·m	47.9 lb ft
Engine Mount Retaining Bolts	55 N·m	40.5 lb ft
Exhaust Manifold Heat Shield Bolts	15 N·m	11 lb ft
Exhaust Manifold Retaining Bolts	25 N·m	18.4 lb ft
Exhaust Manifold Retaining Nuts	20 N·m	14.7 lb ft
Flywheel/Flexible Plate Bolts	45 N·m	33.2 lb ft
Front Exhaust Pipe-to-Front Muffler Nuts	40 N·m	29.5 lb ft
Front Exhaust Pipe-to-Main Catalytic Converter Nuts	40 N·m	29.5 lb ft
Generator Adjusting Bolt	20 N·m	14.7 lb ft
Generator Adjusting Bracket Retaining Bolt	33 N·m	24.3 lb ft
Intake Manifold Retaining Bolts	10 N·m	7.4 lb ft
Intake Manifold Support Bracket Upper Bolts	2 N·m	1.5 lb ft
Oil Level Gage Tube Retaining Bolt	10.5 N·m	7.7 lb ft
Oil Pan Retaining Bolts	10.5 N·m	7.7 lb ft
Oil Pressure Switch Fitting	30 N·m	22.1 lb ft
Oil Pump Cover Bolts	10 N·m	7.4 lb ft
Power Steering Pump Bracket Mounting Bolts	20 N·m	14.7 lb ft
Power Steering Pump Mounting Bolts	20 N·m	14.7 lb ft
Spark Plugs Cable Cover Bolts	10 N·m	7.4 lb ft
Timing Chain Cover Retaining Bolts (M6 x 1.0)	10.5 N·m	7.7 lb ft
Timing Chain Cover Retaining Bolts (M8 x 1.25)	20 N·m	14.7 lb ft
Timing Chain Guide Retaining Bolts	10 N·m	7.4 lb ft

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Timing Chain Lever Retaining Bolts	10 N·m	7.4 lb ft
Timing Chain Tensioner Retaining Bolts	12 N·m	8.8 lb ft
Transmission Assembly Bolts (M/T and A/T)	60 N·m	44.2 lb ft
Water Pump Retaining Bolts	33 N·m	24.3 lb ft

Engine Mechanical Specifications

Application	Specification	
	Metric	English
General Data		
• Engine Type	4 Cyclinder (In-Line)	
• Displacement	1,206 cm ³	
• Bore Stroke	69.7-79 mm	2.7441- 3.1102 in
• Compression Ratio	10.5±0.2:1	
• Firing Order	1-3-4-2	
Cylinder Bore		
• Diameter	69.7 mm	2.7441 in
• Out of Round (Maximum)	0.0065 mm	0.00025 in
• Taper (Maximum)	0.07 x 30°	
Piston		
• Diameter	69.7 mm	2.7441 in
• Clearance to Bore	0.035±0.010 mm	(0.0013±0.0177 in)
Piston Rings		
Piston Ring End Gap		
• Top Compression	0.15-0.30 mm	0.0059-0.0118 in
• 2nd Compression	0.3-0.4 mm	0.0118-0.0177 in
Groove Clearance		
• Top Impression	0.02-0.06 mm	0.00078-0.00236 in
• 2nd Impression	0.06-0.1 mm	0.00236-0.00393 in
Piston Pin		
• Diameter	16.995-17.000 mm	0.6691-0.6693 in
• Pin Off-Set	0.006±0.019 mm	0.00078±0.00236 in
Camshaft		
End Play	0.08-0.26 mm	0.0032-0.0102 in
Journal OD		
• No. 1	23.939-23.96 mm	0.9425-0.9433 in
• No. 2	23.939-23.96 mm	0.9425-0.9433 in
• No. 3	23.939-23.96 mm	0.9425-0.9433 in
• No. 4	23.939-23.96 mm	0.94250-0.9433 in
• No. 5	23.939-23.96 mm	0.9425-0.9433 in
Journal ID		
• No. 1	23-23.021 mm	0.9055-0.9063 in
• No. 2	23-23.021 mm	0.9055-0.9063 in
• No. 3	23-23.021 mm	0.9055-0.9063 in

• No. 4	23-23.021 mm	0.9055-0.9063 in
• No. 5	23-23.021 mm	0.9055-0.9063 in
Crankshaft		
Main Journal		
• Diameter (All)	48.982-49.000 mm	1.9284-1.9291 in
• Main Bearing Clearance (All)	0.020-0.040 mm	0.00079-0.00158 in
• Crankshaft End Play	0.08-0.26 mm	0.0032-0.0102 in
Connecting Rod Journal		
• Diameter (All)	41.000-41.018 mm	1.6142-1.6149 in
• Rod Bearing Clearance (All)	0.02-0.04 mm	0.0008-0.0016 in
• End Play	0.1-0.45 mm	0.0039-0.0177 in
Valve System		
Seat Inner Diameter		
• Intake	23.862 mm	0.9394 in
• Exhaust	21.079 mm	0.8299 in
• Valve Guide Inside Diameter (All)	5.0-5.012 mm	0.1968-0.1973 in
Valve Stem Diameter		
• Intake	4.972±0.007 mm	0.9657-0.0002 in
• Exhaust	4.963-0.007 mm	0.1954-0.0002 in
Valve Length		
• Intake	99.17±0.225 mm	3.904±0.009 in
• Exhaust	100.01±0.225 mm	3.937±0.009 in
Valve Spring		
• Free Length	43.57 mm	1.715 in
• Valve Closed	260±13 N (191±9.6 lbs) @ 32 mm (1.25 in)	