

2010 Chevrolet Camaro LT

2010 ENGINE Engine Mechanical - 4.8L, 5.3L, 6.0L, 6.2L, or 7.0L - Camaro

2010 ENGINE**Engine Mechanical - 4.8L, 5.3L, 6.0L, 6.2L, or 7.0L - Camaro****SPECIFICATIONS****FASTENER TIGHTENING SPECIFICATIONS (6.2L LS3)**

Application	Specification	
	Metric	English
Camshaft Position (CMP) Sensor Bolt	12 N.m	106 lb in
CMP Sensor Wire Harness Bolt	12 N.m	106 lb in
Camshaft Retainer Bolts - Hex Head Bolts	25 N.m	18 lb ft
Camshaft Retainer Bolts - TORX® Head Bolts	15 N.m	11 lb ft
Camshaft Sprocket Bolt - First Pass	75 N.m	55 lb ft
Camshaft Sprocket Bolt - Final Pass	50 degrees	
Clutch Pressure Plate Bolts	70 N.m	52 lb ft
Connecting Rod Bolts - First Pass	20 N.m	15 lb ft
Connecting Rod Bolts - Final Pass	85 degrees	
Coolant Air Bleed Pipe Bolts	12 N.m	106 lb in
Coolant Temperature Sensor	20 N.m	15 lb ft
Crankshaft Balancer Bolt - Step 1	150 N.m	111 lb ft
Crankshaft Balancer Bolt - Step 2	Loosen 360 degrees	
Crankshaft Balancer Bolt - Step 3	50 N.m	37 lb ft
Crankshaft Balancer Bolt - (with Flanged Head) Final Step	125 degrees	
Crankshaft Balancer Bolt - (with Retained Rotating Washer) Final Step	200 degrees	
Crankshaft Bearing Cap M10 Bolts - First Pass in Sequence	20 N.m	15 lb ft
Crankshaft Bearing Cap M10 Bolts - Final Pass in Sequence	80 degrees	
Crankshaft Bearing Cap M10 Studs - First Pass in Sequence	20 N.m	15 lb ft
Crankshaft Bearing Cap M10 Studs - Final Pass in Sequence	51 degrees	
Crankshaft Bearing Cap M8 Bolts (1-5) - First Pass	20 N.m	15 lb ft
Crankshaft Bearing Cap M8 Bolts (1-5) - Final Pass	30 N.m	22 lb ft
Crankshaft Bearing Cap M8 Bolts (6-10) - First Pass	20 N.m	15 lb ft
Crankshaft Bearing Cap M8 Bolts (6-10) - Final Pass	30 N.m	22 lb ft
Crankshaft Oil Deflector Nuts	25 N.m	18 lb ft
Crankshaft Position (CKP) Sensor Bolt	25 N.m	18 lb ft
Crankshaft Rear Oil Seal Housing Bolts	30 N.m	22 lb ft
Cylinder Head M11 Bolts - First Pass in Sequence	30 N.m	22 lb ft
Cylinder Head M11 Bolts - Second Pass in Sequence	90 degrees	
Cylinder Head M11 Bolts - Final Pass in Sequence	70 degrees	

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Cylinder Head M8 Bolts - in Sequence	30 N.m	22 lb ft
Cylinder Head Coolant Plug	20 N.m	15 lb ft
Engine Block Coolant Drain Hole Plug	60 N.m	44 lb ft
Engine Block Oil Gallery Plug	60 N.m	44 lb ft
Engine Oil Cooler Coolant Hose Bracket-to-Oil Pan	25 N.m	18 lb ft
Engine Oil Cooler Coolant Hose Connector-to-Cooler Housing	35 N.m	26 lb ft
Engine Oil Cooler Core-to-Housing Bolts	25 N.m	18 lb ft
Engine Oil Cooler-to-Oil Pan M6 Bolts	10 N.m	89 lb in
Engine Oil Cooler-to-Oil Pan M8 Bolts	25 N.m	18 lb ft
Evaporative Emission (EVAP) Canister Purge Solenoid Valve Bolt	50 N.m	37 lb ft
Exhaust Manifold Bolts - First Pass	15 N.m	11 lb ft
Exhaust Manifold Bolts - Final Pass	20 N.m	15 lb ft
Exhaust Manifold Heat Shield Bolts	9 N.m	80 lb in
Exhaust Manifold Stud	20 N.m	15 lb ft
Flywheel Bolts - First Pass	20 N.m	15 lb ft
Flywheel Bolts - Second Pass	50 N.m	37 lb ft
Flywheel Bolts - Final Pass	100 N.m	74 lb ft
Front Cover Bolts	25 N.m	18 lb ft
Fuel Injection Fuel Rail Bolts	10 N.m	89 lb in
Ignition Coil Bracket-to-Valve Rocker Arm Cover Stud	12 N.m	106 lb in
Ignition Coil-to-Bracket Bolts	10 N.m	89 lb in
Intake Manifold Bolts - First Pass in Sequence	5 N.m	44 lb in
Intake Manifold Bolts - Final Pass in Sequence	10 N.m	89 lb in
J 41798 M8 Bolt	25 N.m	18 lb ft
J 41798 M10 Bolts	50 N.m	37 lb ft
Knock Sensor Bolts	25 N.m	18 lb ft
Motor Mount Bracket Bolts	50 N.m	37 lb ft
Oil Filter	30 N.m	22 lb ft
Oil Filter Fitting	55 N.m	40 lb ft
Oil Level Indicator Tube Bolt	25 N.m	18 lb ft
Oil Level Sensor	13 N.m	115 lb in
Oil Pan Closeout Cover Bolt - Left Side	9 N.m	80 lb in
Oil Pan Closeout Cover Bolt - Right Side	9 N.m	80 lb in
Oil Pan Drain Plug	25 N.m	18 lb ft
Oil Pan M6 Bolts - Oil Pan-to-Rear Oil Seal Housing	12 N.m	106 lb in
Oil Pan M8 Bolts - Oil Pan-to-Engine Block and Oil Pan-to-Front Cover	25 N.m	18 lb ft
Oil Pressure Relief Valve - In Oil Pan	27 N.m	20 lb ft
Oil Pressure Sensor	35 N.m	26 lb ft

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Oil Pump Cover Bolts	12 N.m	106 lb in
Oil Pump Relief Valve Plug	12 N.m	106 lb in
Oil Pump Screen Nuts	25 N.m	18 lb ft
Oil Pump Screen-to-Oil Pump Bolt	12 N.m	106 lb in
Oil Pump-to-Engine Block Bolts	25 N.m	18 lb ft
Spark Plugs	15 N.m	11 lb ft
Throttle Body Bolts	10 N.m	89 lb in
Timing Chain Tensioner Bolts	30 N.m	22 lb ft
Valley Cover Bolts	25 N.m	18 lb ft
Valve Lifter Guide Bolts	12 N.m	106 lb in
Valve Rocker Arm Bolts	30 N.m	22 lb ft
Valve Rocker Arm Cover Bolts	12 N.m	106 lb in
Water Inlet Housing Bolts	15 N.m	11 lb ft
Water Pump Bolts - First Pass	15 N.m	11 lb ft
Water Pump Bolts - Final Pass	30 N.m	22 lb ft

FASTENER TIGHTENING SPECIFICATIONS (6.2L L99)

Application	Specification	
	Metric	English
Active Fuel Management Oil Pressure Relief Valve	27 N.m	20 lb ft
Camshaft Position (CMP) Actuator Magnet Bolts	12 N.m	106 lb in
Camshaft Position (CMP) Actuator Solenoid Valve - First Pass	65 N.m	48 lb ft
Camshaft Position (CMP) Actuator Solenoid Valve - Final Pass	90 degrees	
Camshaft Position (CMP) Sensor Bolt	12 N.m	106 lb in
CMP Sensor Wire Harness Bolt	12 N.m	106 lb in
Camshaft Retainer Bolts - TORX® Head Bolts	15 N.m	11 lb ft
Connecting Rod Bolts - First Pass	20 N.m	15 lb ft
Connecting Rod Bolts - Final Pass	85 degrees	
Coolant Air Bleed Pipe Bolts	12 N.m	106 lb in
Coolant Temperature Sensor	20 N.m	15 lb ft
Crankshaft Balancer Bolt - Step 1	150 N.m	110 lb ft
Crankshaft Balancer Bolt - Step 2	Loosen 360 degrees	
Crankshaft Balancer Bolt - Step 3	50 N.m	37 lb ft
Crankshaft Balancer Bolt, with Flanged Head, - Final Step	125 degrees	
Crankshaft Balancer Bolt, with Retained Rotating Washer, - Final Step	200 degrees	
Crankshaft Bearing Cap M8 Bolts (1-5) - First Pass	20 N.m	15 lb ft
Crankshaft Bearing Cap M8 Bolts (1-5) - Final Pass	30 N.m	22 lb ft

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Crankshaft Bearing Cap M8 Bolts (6-10) - First Pass	20 N.m	15 lb ft
Crankshaft Bearing Cap M8 Bolts (6-10) - Final Pass	30 N.m	22 lb ft
Crankshaft Bearing Cap M10 Bolts - First Pass in Sequence	20 N.m	15 lb ft
Crankshaft Bearing Cap M10 Bolts - Final Pass in Sequence	80 degrees	
Crankshaft Bearing Cap M10 Studs - First Pass in Sequence	20 N.m	15 lb ft
Crankshaft Bearing Cap M10 Studs - Final Pass in Sequence	51 degrees	
Crankshaft Oil Deflector Nuts	25 N.m	18 lb ft
Crankshaft Position (CKP) Sensor Bolt	25 N.m	18 lb ft
Crankshaft Rear Oil Seal Housing Bolts	30 N.m	22 lb ft
Cylinder Head Coolant Plug	20 N.m	15 lb ft
Cylinder Head M8 Bolts - in Sequence	30 N.m	22 lb ft
Cylinder Head M11 Bolts - First Pass in Sequence	30 N.m	22 lb ft
Cylinder Head M11 Bolts - Second Pass in Sequence	90 degrees	
Cylinder Head M11 Bolts - Final Pass in Sequence	70 degrees	
Engine Block Coolant Drain Hole Plug	60 N.m	44 lb ft
Engine Block Oil Gallery Plug	60 N.m	44 lb ft
Engine Oil Cooler to Block	50 N.m	37 lb ft
Engine Oil Cooler Coolant Hose Bracket to Oil Pan	25 N.m	18 lb ft
Engine Oil Cooler Coolant Hose Connector to Cooler Housing	35 N.m	26 lb ft
Engine Oil Cooler Core-to-Housing Bolts	25 N.m	18 lb ft
Engine Oil Cooler-to-Oil Pan M6 Bolts	10 N.m	89 lb in
Engine Oil Cooler-to-Oil Pan M8 Bolts	25 N.m	18 lb ft
Evaporative Emission (EVAP) Canister Purge Solenoid Valve Bolt	50 N.m	37 lb ft
Exhaust Manifold Bolts - First Pass	15 N.m	11 lb ft
Exhaust Manifold Bolts - Final Pass	20 N.m	15 lb ft
Exhaust Manifold Heat Shield Bolts	9 N.m	80 lb in
Exhaust Manifold Studs	20 N.m	15 lb ft
Flex Plate Bolts - First Pass	20 N.m	15 lb ft
Flex Plate Bolts - Second Pass	50 N.m	37 lb ft
Flex Plate Bolts - Final Pass	100 N.m	74 lb ft
Front Cover Bolts	25 N.m	18 lb ft
Fuel Injection Fuel Rail Bolts	10 N.m	89 lb in
Ignition Coil Bracket-to-Valve Rocker Arm Cover Studs	12 N.m	106 lb in
Ignition Coil-to-Bracket Bolts	10 N.m	89 lb in
Intake Manifold Bolts - First Pass in Sequence	5 N.m	44 lb in
Intake Manifold Bolts - Final Pass in Sequence	10 N.m	89 lb in
J 41798 M8 Bolt	25 N.m	18 lb ft
J 41798 M10 Bolts	50 N.m	37 lb ft
Knock Sensor Bolts	25 N.m	18 lb ft

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Oil Filter	30 N.m	22 lb ft
Oil Filter Fitting	55 N.m	40 lb ft
Oil Level Indicator Tube Bolt	25 N.m	18 lb ft
Oil Level Sensor	20 N.m	15 lb ft
Oil Pan Baffle Bolt	12 N.m	106 lb in
Oil Pan Closeout Cover Bolt - Left Side	9 N.m	80 lb in
Oil Pan Closeout Cover Bolt - Right Side	9 N.m	80 lb in
Oil Pan Drain Plug	25 N.m	18 lb ft
Oil Pan M6 Bolts - Oil Pan-to-Rear Oil Seal Housing	12 N.m	106 lb in
Oil Pan M8 Bolts - Oil Pan-to-Engine Block and Oil Pan-to-Front Cover	25 N.m	18 lb ft
Oil Pressure Sensor	35 N.m	26 lb ft
Oil Pump Cover Bolts	12 N.m	106 lb in
Oil Pump Relief Valve Plug	12 N.m	106 lb in
Oil Pump Screen-to-Oil Pump Bolt	12 N.m	106 lb in
Oil Pump-to-Engine Block Bolts	25 N.m	18 lb ft
Spark Plugs	15 N.m	11 lb ft
Throttle Body Bolts	10 N.m	89 lb in
Timing Chain Tensioner Bolts	30 N.m	22 lb ft
Valve Lifter Oil Manifold Bolts	25 N.m	18 lb ft
Valve Lifter Guide Bolts	12 N.m	106 lb in
Valve Rocker Arm Bolts	30 N.m	22 lb ft
Valve Rocker Arm Cover Bolts	12 N.m	106 lb in
Water Inlet Housing Bolts	15 N.m	11 lb ft
Water Pump Bolts - First Pass	15 N.m	11 lb ft
Water Pump Bolts - Final Pass	30 N.m	22 lb ft

ENGINE MECHANICAL SPECIFICATIONS (6.2L LS3)

Application	Specification	
	Metric	English
• Engine Type	V8	
• Displacement	6.2L	376 CID
• RPO	LS3	
• VIN	W	
• Bore	103.241-103.259 mm	4.0065-4.0065 in
• Stroke	92.0 mm	3.622 in
• Compression Ratio	10.7:1	
• Firing Order	1-8-7-2-6-5-4-3	

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• Spark Plug Gap	1.02 mm	0.04 in
Block		
• Camshaft Bearing Bore 1 and 5 Diameter	59.58-59.63 mm	2.345-2.347 in
• Camshaft Bearing Bore 2 and 4 Diameter	59.08-59.13 mm	2.325-2.327 in
• Camshaft Bearing Bore 3 Diameter	58.58-58.63 mm	2.306-2.308 in
• Crankshaft Main Bearing Bore Diameter	69.871-69.889 mm	2.75-2.751 in
• Crankshaft Main Bearing Bore Out-of-Round	0.006 mm	0.0002 in
• Cylinder Bore Diameter	103.241-103.259 mm	4.0646-4.0653 in
• Cylinder Head Deck Height - Measuring from the Centerline of Crankshaft to the Deck Face	234.57-234.82 mm	9.235-9.245 in
• Cylinder Head Deck Surface Flatness - Measured Within a 152.4 mm (6.0 in) Area	0.11 mm	0.004 in
• Cylinder Head Deck Surface Flatness - Measuring the Overall Length of the Block Deck	0.22 mm	0.008 in
• Valve Lifter Bore Diameter	21.417-21.443 mm	0.843-0.844 in
Camshaft		
• Camshaft End Play	0.025-0.305 mm	0.001-0.012 in
• Camshaft Journal Diameter	54.99-55.04 mm	2.164-2.166 in
• Camshaft Journal Out-of-Round	0.025 mm	0.001 in
• Camshaft Lobe Lift - Exhaust	7.77 mm	0.306 in
• Camshaft Lobe Lift - Intake	8.24 mm	0.324 in
• Camshaft Runout - Measured at the Intermediate Journals	0.05 mm	0.002 in
Connecting Rod		
• Connecting Rod Bearing Clearance - Production	0.023-0.065 mm	0.0009-0.0025 in
• Connecting Rod Bearing Clearance - Service	0.023-0.076 mm	0.0009-0.003 in
• Connecting Rod Bore Diameter - Bearing End	56.505-56.525 mm	2.224-2.225 in
• Connecting Rod Bore Out-of-Round - Bearing End - Production	0.004-0.008 mm	0.00015-0.0003 in
• Connecting Rod Bore Out-of-Round - Bearing End - Service	0.004-0.008 mm	0.00015-0.0003 in
• Connecting Rod Side Clearance	0.11-0.51 mm	0.00433-0.02 in
Crankshaft		
• Connecting Rod Journal Diameter - Production	53.318-53.338 mm	2.0991-2.0999 in
• Connecting Rod Journal Diameter - Service	53.308 mm	2.0987 in

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• Connecting Rod Journal Out-of-Round - Production	0.005 mm	0.0002 in
• Connecting Rod Journal Out-of-Round - Service	0.01 mm	0.0004 in
• Connecting Rod Journal Taper - Maximum for 1/2 of Journal Length - Production	0.005 mm	0.0002 in
• Connecting Rod Journal Taper - Maximum for 1/2 of Journal Length - Service	0.02 mm	0.00078 in
• Crankshaft End Play	0.04-0.2 mm	0.0015-0.0078 in
• Crankshaft Main Bearing Clearance - Production	0.02-0.052 mm	0.0008-0.0021 in
• Crankshaft Main Bearing Clearance - Service	0.02-0.065 mm	0.0008-0.0025 in
• Crankshaft Main Journal Diameter - Production	64.992-65.008 mm	2.558-2.559 in
• Crankshaft Main Journal Diameter - Service	64.992 mm	2.558 in
• Crankshaft Main Journal Out-of-Round - Production	0.003 mm	0.000118 in
• Crankshaft Main Journal Out-of-Round - Service	0.008 mm	0.0003 in
• Crankshaft Main Journal Taper - Production	0.01 mm	0.0004 in
• Crankshaft Main Journal Taper - Service	0.02 mm	0.00078 in
• Crankshaft Rear Flange Runout	0.05 mm	0.002 in
• Crankshaft Reluctor Ring Runout - Measured 1.0 mm (0.04 in) Below Tooth Diameter	0.7 mm	0.028 in
• Crankshaft Thrust Surface - Production	26.14-26.22 mm	1.029-1.0315 in
• Crankshaft Thrust Surface - Service	26.22 mm	1.0315 in
• Crankshaft Thrust Surface Runout	0.025 mm	0.001 in
Cylinder Head		
• Cylinder Head Height/Thickness - Measured from the Cylinder Head Deck to the Valve Rocker Arm Cover Seal Surface	120.2 mm	4.732 in
• Surface Flatness - Block Deck - Measured within a 152.4 mm (6.0 in) Area	0.08 mm	0.003 in
• Surface Flatness - Block Deck - Measuring the Overall Length of the Cylinder Head	0.1 mm	0.004 in
• Surface Flatness - Exhaust Manifold Deck	0.13 mm	0.005 in
• Surface Flatness - Intake Manifold Deck	0.08 mm	0.0031 in
• Valve Guide Installed Height - Measured from the Spring Seat Surface to the Top of the Guide	17.32 mm	0.682 in
Intake Manifold		
• Surface Flatness - Measured at Gasket Sealing Surfaces and Measured Within a 200 mm (7.87 in)	0.3 mm	0.118 in

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Area that Includes 2 Runner Port Openings		
Lubrication System		
• Oil Capacity - with Filter	7.6 Liters	8.0 Quarts
• Oil Capacity - without Filter	7.1 Liters	7.5 Quarts
• Oil Pressure - Minimum - Hot	41 kPa at 1,000 engine RPM 124 kPa at 2,000 engine RPM 165 kPa at 4,000 engine RPM	6 psig at 1,000 engine RPM 18 psig at 2,000 engine RPM 24 psig at 4,000 engine RPM
• Active Fuel Management Relief Valve Oil Pressure - as Measured at Oil Pressure Sensor Location	379-517 kPa Maximum	55-75 psi Maximum
Oil Pan		
• Front Cover Alignment - at Oil Pan Surface	0.0-0.5 mm	0.0-0.02 in
• Crankshaft Rear Oil Seal Housing Alignment - at Oil Pan Surface	0.0-0.5 mm	0.0-0.02 in
• Oil Pan Alignment - to Rear of Engine Block at Transmission Bell Housing Mounting Surface	0.0-0.1 mm	0.0-0.004 in
Piston Rings		
• Piston Ring End Gap - First Compression Ring - Measured in Cylinder Bore - Production	0.17-0.38 mm	0.0067-0.0150 in
• Piston Ring End Gap - First Compression Ring - Measured in Cylinder Bore - Service	0.17-0.44 mm	0.0067-0.0173 in
• Piston Ring End Gap - Second Compression Ring - Measured in Cylinder Bore - Production	0.32-0.63 mm	0.0126-0.0248 in
• Piston Ring End Gap - Second Compression Ring - Measured in Cylinder Bore - Service	0.32-0.69 mm	0.0126-0.0272 in
• Piston Ring End Gap - Oil Control Ring - Measured in Cylinder Bore - Production	0.22-0.79 mm	0.0086-0.031 in
• Piston Ring End Gap - Oil Control Ring - Measured in Cylinder Bore - Service	0.22-0.85 mm	0.0086-0.0335 in
• Piston Ring to Groove Clearance - First Compression Ring - Production	0.030-0.083 mm	0.0012-0.0033 in
• Piston Ring to Groove Clearance - First Compression Ring - Service	0.030-0.083 mm	0.0012-0.0033 in
• Piston Ring to Groove Clearance - Second Compression Ring - Production	0.040-0.083 mm	0.0016-0.0033 in
• Piston Ring to Groove Clearance - Second Compression Ring - Service	0.040-0.083 mm	0.0016-0.0033 in

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• Piston Ring to Groove Clearance - Oil Control Ring - Production	0.013-0.201 mm	0.0005-0.0079 in
• Piston Ring to Groove Clearance - Oil Control Ring - Service	0.013-0.201 mm	0.0005 in-0.0079 in
Pistons and Pins		
• Pin - Piston Pin Clearance to Piston Pin Bore - Production	0.002 mm-0.01 mm	0.0008 in-0.0004 in
• Pin - Piston Pin Clearance to Piston Pin Bore - Service	0.002 mm-0.015 mm	0.0008 in-0.0006 in
• Pin - Piston Pin Diameter	23.952 mm-23.955 mm	0.943 in-0.943 in
• Pin - Piston Pin Fit in Connecting Rod Bore - Production	0.007 mm-0.02 mm	0.00027 in-0.00078 in
• Pin - Piston Pin Fit in Connecting Rod Bore - Service	0.007 mm-0.022 mm	0.00027 in-0.00086 in
• Piston - Piston Diameter - Measured Over Skirt Coating	103.258 mm-103.289 mm	4.0653 in-4.0665 in
• Piston - Piston to Bore Clearance - Production	-0.048 mm to +0.001 mm	-0.0009 in to +0.000 in
• Piston - Piston to Bore Clearance - Service Limit with Skirt Coating Worn Off	0.055 mm	0.0022 in
Valve System		
• Valves - Valve Face Angle	45 degrees	
• Valves - Valve Face Width	1.25 mm	0.05 in
• Valves - Valve Lash	Net Lash - No Adjustment	
• Valve Lift - Exhaust	13.97 mm	0.55 in
• Valve Lift - Intake	13.22 mm	0.52 in
• Valves - Valve Seat Angle	46 degrees	
• Valves - Valve Seat Runout	0.05 mm	0.002 in
• Valves - Valve Seat Width - Exhaust	1.78 mm	0.07 in
• Valves - Valve Seat Width - Intake	1.02 mm	0.04 in
• Valves - Valve Stem Diameter - Production	7.955-7.976 mm	0.313-0.314 in
• Valves - Valve Stem Diameter - Service	7.95 mm	0.313 in
• Valves - Valve Stem-to-Guide Clearance - Production - Exhaust	0.025-0.066 mm	0.001-0.0026 in
• Valves - Valve Stem-to-Guide Clearance - Service - Exhaust	0.093 mm	0.0037 in

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• Valves - Valve Stem-to-Guide Clearance - Production - Intake	0.025-0.066 mm	0.001-0.0026 in
• Valves - Valve Stem-to-Guide Clearance - Service - Intake	0.093 mm	0.0037 in
• Rocker Arms - Valve Rocker Arm Ratio	1.70:1	
• Valve Springs - Valve Spring Free Length	52.9 mm	2.08 in
• Valve Springs - Valve Spring Installed Height	45.75 mm	1.8 in
• Valve Springs - Valve Spring Load - Closed	400 N at 45.75 mm	90 lb at 1.8 in
• Valve Springs - Valve Spring Load - Open	1310 N at 31.74 mm	295 lb at 1.25 in

ENGINE MECHANICAL SPECIFICATIONS (6.2L L99)

Application	Specification	
	Metric	English
• Engine Type	V8	
• Displacement	6.2L	376 CID
• RPO	L99	
• VIN	J	
• Bore	103.241-103.259 mm	4.0065-4.0065 in
• Stroke	92.0 mm	3.622 in
• Compression Ratio	10.41:1	
• Firing Order	1-8-7-2-6-5-4-3	
• Active Fuel Management Cylinders	1-4-6-7	
• Spark Plug Gap	1.02 mm	0.04 in
Block		
• Camshaft Bearing Bore 1 and 5 Diameter	59.58-59.63 mm	2.345-2.347 in
• Camshaft Bearing Bore 2 and 4 Diameter	59.08-59.13 mm	2.325-2.327 in
• Camshaft Bearing Bore 3 Diameter	58.58-58.63 mm	2.306-2.308 in
• Crankshaft Main Bearing Bore Diameter	69.871-69.889 mm	2.75-2.751 in
• Crankshaft Main Bearing Bore Out-of-Round	0.006 mm	0.0002 in
• Cylinder Bore Diameter	103.241-103.259 mm	4.0065-4.0065 in
• Cylinder Head Deck Height - Measuring from the Centerline of Crankshaft to the Deck Face	234.57-234.82 mm	9.235-9.245 in
• Cylinder Head Deck Surface Flatness - Measured Within a 152.4 mm (6.0 in) Area	0.11 mm	0.004 in

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• Cylinder Head Deck Surface Flatness - Measuring the Overall Length of the Block Deck	0.22 mm	0.008 in
• Valve Lifter Bore Diameter	21.417-21.443 mm	0.843-0.844 in
Camshaft		
• Camshaft End Play	0.025-0.305 mm	0.001-0.012 in
• Camshaft Journal Diameter	54.99-55.04 mm	2.164-2.166 in
• Camshaft Journal Out-of-Round	0.025 mm	0.001 in
• Camshaft Lobe Lift - Exhaust - Non Active Fuel Management Cylinders	7.36 mm	0.290 in
• Camshaft Lobe Lift - Exhaust - Active Fuel Management Cylinders	7.49 mm	0.295 in
• Camshaft Lobe Lift - Intake - Non Active Fuel Management Cylinders	7.48 mm	0.294 in
• Camshaft Lobe Lift - Intake - Active Fuel Management Cylinders	7.61 mm	0.299 in
• Camshaft Runout - Measured at the Intermediate Journals	0.05 mm	0.002 in
Camshaft Position Actuator		
• Range of Authority	52 degrees	
• Park Position	7 degrees Advanced	
Connecting Rod		
• Connecting Rod Bearing Clearance - Production	0.023-0.065 mm	0.0009-0.0025 in
• Connecting Rod Bearing Clearance - Service	0.023-0.076 mm	0.0009-0.003 in
• Connecting Rod Bore Diameter - Bearing End	56.505-56.525 mm	2.224-2.225 in
• Connecting Rod Bore Out-of-Round - Bearing End - Production	0.004-0.008 mm	0.00015-0.0003 in
• Connecting Rod Bore Out-of-Round - Bearing End - Service	0.004-0.008 mm	0.00015-0.0003 in
• Connecting Rod Side Clearance	0.11-0.51 mm	0.00433-0.02 in
Crankshaft		
• Connecting Rod Journal Diameter - Production	53.318-53.338 mm	2.0991-2.0999 in
• Connecting Rod Journal Diameter - Service	53.308 mm	2.0987 in
• Connecting Rod Journal Out-of-Round - Production	0.005 mm	0.0002 in
• Connecting Rod Journal Out-of-Round - Service	0.01 mm	0.0004 in
• Connecting Rod Journal Taper - Maximum for 1/2 of Journal Length - Production	0.005 mm	0.0002 in

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• Connecting Rod Journal Taper - Maximum for 1/2 of Journal Length - Service	0.02 mm	0.00078 in
• Crankshaft End Play	0.04-0.2 mm	0.0015-0.0078 in
• Crankshaft Main Bearing Clearance - Production	0.02-0.052 mm	0.0008-0.0021 in
• Crankshaft Main Bearing Clearance - Service	0.02-0.065 mm	0.0008-0.0025 in
• Crankshaft Main Journal Diameter - Production	64.992-65.008 mm	2.558-2.559 in
• Crankshaft Main Journal Diameter - Service	64.992 mm	2.558 in
• Crankshaft Main Journal Out-of-Round - Production	0.003 mm	0.000118 in
• Crankshaft Main Journal Out-of-Round - Service	0.008 mm	0.0003 in
• Crankshaft Main Journal Taper - Production	0.01 mm	0.0004 in
• Crankshaft Main Journal Taper - Service	0.02 mm	0.00078 in
• Crankshaft Rear Flange Runout	0.05 mm	0.002 in
• Crankshaft Reluctor Ring Runout - Measured 1.0 mm (0.04 in) Below Tooth Diameter	0.7 mm	0.028 in
• Crankshaft Thrust Surface - Production	26.14-26.22 mm	1.029-1.0315 in
• Crankshaft Thrust Surface - Service	26.22 mm	1.0315 in
• Crankshaft Thrust Surface Runout	0.025 mm	0.001 in
Cylinder Head		
• Cylinder Head Height/Thickness - Measured from the Cylinder Head Deck to the Valve Rocker Arm Cover Seal Surface	120.2 mm	4.732 in
• Surface Flatness - Block Deck - Measured within a 152.4 mm (6.0 in) Area	0.08 mm	0.003 in
• Surface Flatness - Block Deck - Measuring the Overall Length of the Cylinder Head	0.1 mm	0.004 in
• Surface Flatness - Exhaust Manifold Deck	0.13 mm	0.005 in
• Surface Flatness - Intake Manifold Deck	0.08 mm	0.0031 in
• Valve Guide Installed Height - Measured from the Spring Seat Surface to the Top of the Guide	17.32 mm	0.682 in
Intake Manifold		
• Surface Flatness - Measured at Gasket Sealing Surfaces and Measured Within a 200 mm (7.87 in) Area that Includes 2 Runner Port Openings	0.3 mm	0.118 in
Lubrication System		
• Oil Capacity - with Filter	7.6 Liters	8.0 Quarts
• Oil Capacity - without Filter	7.1 Liters	7.5 Quarts

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Oil Pressure - Minimum - Hot	41 kPa at 1,000 engine RPM 124 kPa at 2,000 engine RPM 165 kPa at 4,000 engine RPM	6 psig at 1,000 engine RPM 18 psig at 2,000 engine RPM 24 psig at 4,000 engine RPM
Active Fuel Management Relief Valve Oil Pressure - as Measured at Oil Pressure Sensor Location	379-517 kPa Maximum	55-75 psi Maximum
Oil Pan		
Front Cover Alignment - at Oil Pan Surface	0.0-0.5 mm	0.0-0.02 in
Crankshaft Rear Oil Seal Housing Alignment - at Oil Pan Surface	0.0-0.5 mm	0.0-0.02 in
Oil Pan Alignment - to Rear of Engine Block at Transmission Bell Housing Mounting Surface	0.0-0.1 mm	0.0-0.004 in
Piston Rings		
Piston Ring End Gap - First Compression Ring - Measured in Cylinder Bore - Production	0.17-0.38 mm	0.0067-0.0150 in
Piston Ring End Gap - First Compression Ring - Measured in Cylinder Bore - Service	0.17-0.44 mm	0.0067-0.0173 in
Piston Ring End Gap - Second Compression Ring - Measured in Cylinder Bore - Production	0.32-0.63 mm	0.0126-0.0248 in
Piston Ring End Gap - Second Compression Ring - Measured in Cylinder Bore - Service	0.32 mm-0.69 mm	0.0126 in-0.0272 in
Piston Ring End Gap - Oil Control Ring - Measured in Cylinder Bore - Production	0.22 mm-0.79 mm	0.0086 in-0.031 in
Piston Ring End Gap - Oil Control Ring - Measured in Cylinder Bore - Service	0.22 mm-0.85 mm	0.0086 in-0.0335 in
Piston Ring to Groove Clearance - First Compression Ring - Production	0.030 mm-0.083 mm	0.0012 in-0.0033 in
Piston Ring to Groove Clearance - First Compression Ring - Service	0.030 mm-0.083 mm	0.0012 in-0.0033 in
Piston Ring to Groove Clearance - Second Compression Ring - Production	0.040 mm-0.083 mm	0.0016 in-0.0033 in
Piston Ring to Groove Clearance - Second Compression Ring - Service	0.040 mm-0.083 mm	0.0016 in-0.0033 in
Piston Ring to Groove Clearance - Oil Control Ring - Production	0.013 mm-0.201 mm	0.0005 in-0.0079 in
Piston Ring to Groove Clearance - Oil Control Ring - Service	0.013 mm-0.201 mm	0.0005 in-0.0079 in
Pistons and Pins		

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• Pin - Piston Pin Clearance to Piston Pin Bore - Production	0.002 mm-0.01 mm	0.0008 in-0.0004 in
• Pin - Piston Pin Clearance to Piston Pin Bore - Service	0.002 mm-0.015 mm	0.0008 in-0.0006 in
• Pin - Piston Pin Diameter	23.952 mm-23.955 mm	0.943 in-0.943 in
• Pin - Piston Pin Fit in Connecting Rod Bore - Production	0.007 mm-0.02 mm	0.00027 in-0.00078 in
• Pin - Piston Pin Fit in Connecting Rod Bore - Service	0.007 mm-0.022 mm	0.00027 in-0.00086 in
• Piston - Piston Diameter - Measured Over Skirt Coating	103.258 mm-103.289 mm	4.0653 in-4.0665 in
• Piston - Piston to Bore Clearance - Production	-0.048 mm to +0.001 mm	-0.0009 in to +0.000 in
• Piston - Piston to Bore Clearance - Service Limit with Skirt Coating Worn Off	0.055 mm	0.0022 in
Valve System		
• Valves - Valve Face Angle	45°	
• Valves - Valve Face Width	1.25 mm	0.05 in
• Valves - Valve Lash	Net Lash - No Adjustment	
• Valve Lift - Exhaust - Non Active Fuel Management	12.52 mm	0.493 in
• Valve Lift - Exhaust - Active Fuel Management	12.74 mm	0.501 in
• Valve Lift - Intake - Non Active Fuel Management	12.69 mm	0.499 in
• Valve Lift - Intake - Active Fuel Management	12.91 mm	0.508 in
• Valves - Valve Seat Angle	46 degrees	
• Valves - Valve Seat Runout	0.05 mm	0.002 in
• Valves - Valve Seat Width - Exhaust	1.78 mm	0.07 in
• Valves - Valve Seat Width - Intake	1.02 mm	0.04 in
• Valves - Valve Stem Diameter - Production	7.955-7.976 mm	0.313-0.314 in
• Valves - Valve Stem Diameter - Service	7.95 mm	0.313 in
• Valves - Valve Stem-to-Guide Clearance - Production - Exhaust	0.025-0.066 mm	0.001-0.0026 in
• Valves - Valve Stem-to-Guide Clearance - Service - Exhaust	0.093 mm	0.0037 in
• Valves - Valve Stem-to-Guide Clearance - Production - Intake	0.025-0.066 mm	0.001-0.0026 in
• Valves - Valve Stem-to-Guide Clearance - Service -	0.093 mm	0.0037 in

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Intake		
• Rocker Arms - Valve Rocker Arm Ratio	1.70:1	
• Valve Springs - Valve Spring Free Length	52.9 mm	2.08 in
• Valve Springs - Valve Spring Installed Height	45.75 mm	1.8 in
• Valve Springs - Valve Spring Load - Closed	400 N at 45.75 mm	90 lb at 1.8 in
• Valve Springs - Valve Spring Load - Open	1175 N at 33.05 mm	264 lb at 1.30 in

ADHESIVES, FLUIDS, LUBRICANTS, AND SEALERS

Application	Type of Material	GM Part Number	
		United States	Canada
Coolant Temperature Sensor Threads	Sealant	12346004	10953480
Cylinder Head Core Hole Plugs	Threadlock	12345382	10953489
Cylinder Head Plug	Threadlock	12345382	10953489
Engine Block Coolant Drain Hole Plug Washer	Sealant	12346004	10953480
Engine Block Oil Gallery Plug - Front	Threadlock	12345382	10953489
Engine Block Oil Gallery Plug Washers	Sealant	12346004	10953480
Engine Oil	5W-30 Oil	12345610	729389
Engine Oil Pressure Sensor Threads	Sealant	12346004	10953480
Engine Oil Supplement	Fluorescent Dye	12345795	10953470
Exhaust Manifold Bolts	Threadlock	12345493	10953488
Flexplate/Flywheel Bolts	Threadlock	12345382	10953489
Fuel Injection Fuel Rail Bolts	Threadlock	12345382	10953489
Ignition Coil Bracket-to-Valve Cover Studs	Threadlock	12345382	10953489
Ignition Coil-to-Bracket Bolts	Threadlock	12345382	10953489
Intake Manifold Bolts	Threadlock	12345382	10953489
Oil Pan Surface at Front Cover and Rear Housing	Sealant	12378521	88901148
Thread Repair Component Cleaner	Cleaner	12346139	10953463
Thread Repair Component Cleaner	Cleaner	12377981	10953463
Thread Repair Cutting Oil	Lubricant	1052864	992881

THREAD REPAIR SPECIFICATIONS**Engine Block - Front/Rear Views**

2010 Chevrolet Camaro LT

2010 ENGINE Engine Mechanical - 4.8L, 5.3L, 6.0L, 6.2L, or 7.0L - Camaro

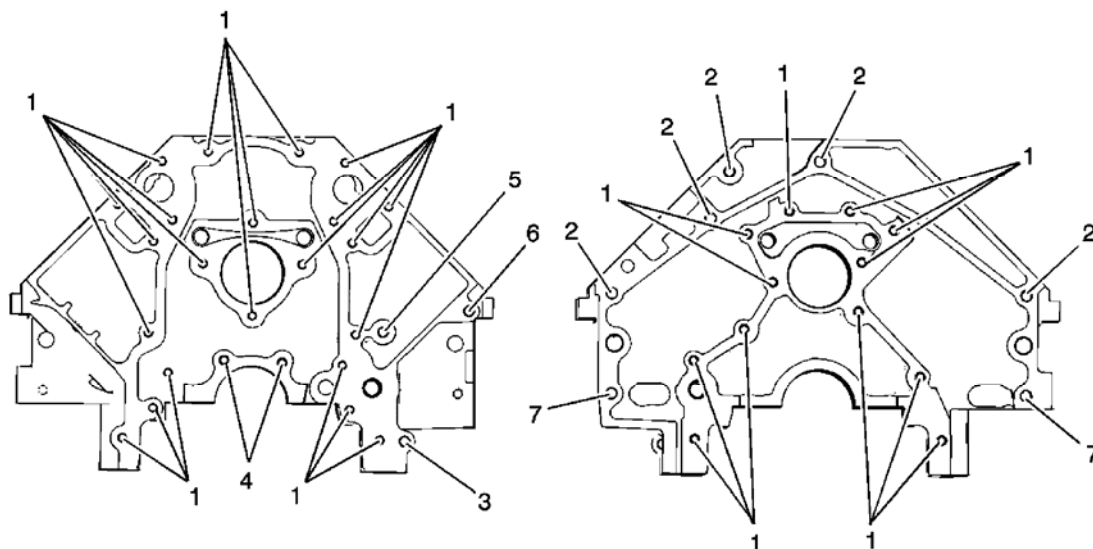


Fig. 1: Engine Block - Front/Rear Views
Courtesy of GENERAL MOTORS CORP.

Engine Block - Front/Rear Views

Hole Location	Thread Size	Drill	Counter Bore Tool	Stop Collar	Tap	Driver	Insert	Drill Depth (Maximum)		Tap Depth (Minimum)	
-	-	J 42385-						MM	(IN)	MM	(IN)
1	M8 x 1.25	206	207	N/A	208	209	210	22.5	(0.885)	17.5	(0.688)
2	M10 x 1.5	211	212	N/A	213	214	215	27.5	(1.08)	22.0	(0.866)
3	M10 x 1.5	211	212	N/A	213	214	215	Through		Through	
4	M8 x 1.25	206	207	N/A	208	209	210	Through		Through	
5	M10 x 1.5	211	212	N/A	213	214	215	25.0	(0.984)	19.5	(0.767)
6	M10 x 1.5	211	212	N/A	213	214	215	32.5	(1.279)	25.0	(0.984)
7	M10 x 1.5	211	212	N/A	213	214	215	Through		Through	

Bolt hole 6 is drilled and tapped for aluminium block applications only.

Engine Block - Left/Right Side Views

2010 Chevrolet Camaro LT

2010 ENGINE Engine Mechanical - 4.8L, 5.3L, 6.0L, 6.2L, or 7.0L - Camaro

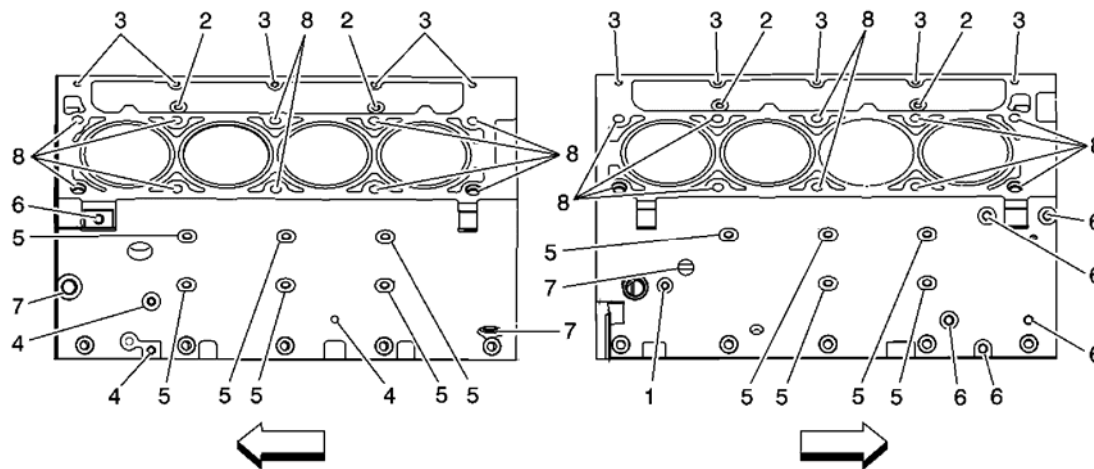


Fig. 2: Engine Block - Left/Right Side Views
Courtesy of GENERAL MOTORS CORP.

Engine Block - Left/Right Side Views

Hole Location	Thread Size	Drill	Counter Bore Tool	Stop Collar	Tap	Driver	Insert	Drill Depth (Maximum)		Tap Depth (Minimum)	
-	-	J 42385-						MM	(IN)	MM	(IN)
1	M8 x 1.25	206	207	N/A	208	209	210	22.5	(0.885)	17.5	(0.688)
2	M8 x 1.25	206	207	N/A	208	209	210	28.5	(1.122)	23.0	(0.905)
3	M8 x 1.25	206	207	N/A	208	209	210	21.5	(0.846)	16.0	(0.629)
4	M10 x 1.25	211	212	N/A	213	214	215	29.0	(1.141)	23.0	(0.905)
5	M10 x 1.5	211	212	N/A	213	214	215	27.0	(1.062)	21.5	(0.846)
6	M16 x 1.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	
7	M11 x 2.0	105	N/A	N/A	106	107	108	69.0	(2.72)	60.0	(2.36)
8	M28 x 1.25	N/A	N/A	N/A	N/A	N/A	N/A	Through		Through	

Bolt hole 7 has a 30 mm (1.18 in) counterbore included in the 69.0 mm (2.72 in) drill depth. Use sleeve J 42385-315 with the drill and tap.

Engine Block - Top/Bottom Views

2010 Chevrolet Camaro LT

2010 ENGINE Engine Mechanical - 4.8L, 5.3L, 6.0L, 6.2L, or 7.0L - Camaro

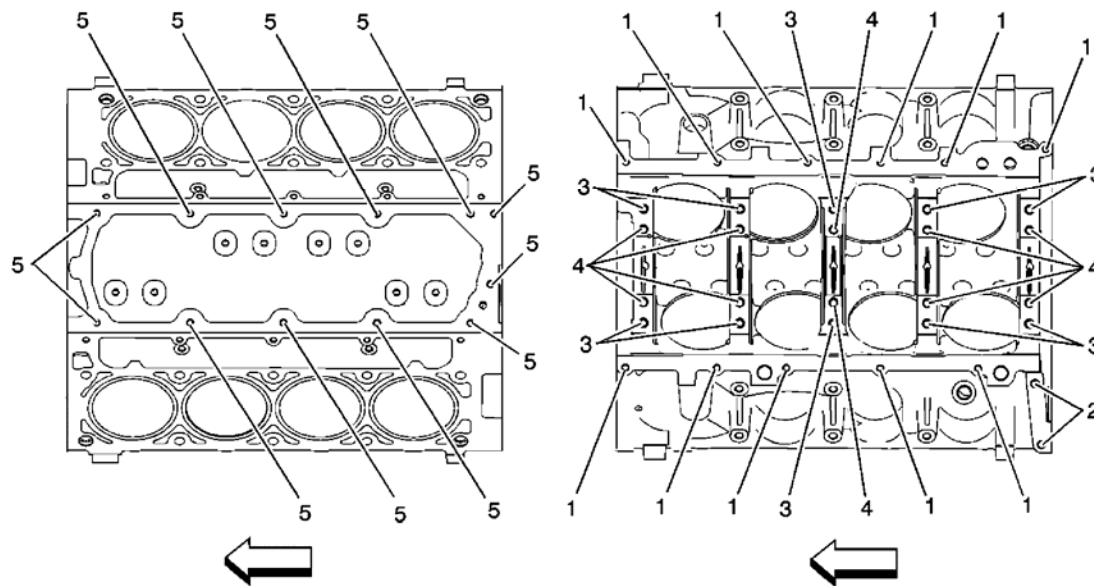


Fig. 3: Engine Block - Top/Bottom Views
Courtesy of GENERAL MOTORS CORP.

Engine Block - Top/Bottom Views

Hole Location	Thread Size	Drill	Counter Bore Tool	Stop Collar	Tap	Driver	Insert	Drill Depth (Maximum)		Tap Depth (Minimum)	
-	-	J 42385-						MM	(IN)	MM	(IN)
1	M8 x 1.25	206	207	N/A	208	209	210	22.5	(0.885)	17.5	(0.688)
2	M10 x 1.5	211	212	N/A	213	214	215	42.5	(1.67)	37.0	(1.45)
3	M10 x 2.0	101	N/A	N/A	102	103	104	31.0	(1.22)	25.5	(1.0)
4	M10 x 2.0	101	N/A	N/A	102	103	104	53.5	(2.10)	44.0	(1.73)
5	M8 x 1.25	206	207	N/A	208	209	210	26.5	(1.043)	19.0	(0.748)
- Bolt hole 2 has an 11.5 mm (0.452 in) counterbore included in the 42.5 mm (1.67 in) drill depth. Use sleeve J 42385-311 with the drill and tap. - Bolt hole 3 has a 1.5 mm (0.059 in) counterbore included in the 31.0 mm (1.22 in) drill depth. Use sleeve J 42385-316 with the drill and tap. - Bolt hole 4 has a 20.5 mm (0.807 in) counterbore included in the 53.5 mm (2.10 in) drill depth.											

Cylinder Head - Top/End Views

2010 Chevrolet Camaro LT

2010 ENGINE Engine Mechanical - 4.8L, 5.3L, 6.0L, 6.2L, or 7.0L - Camaro

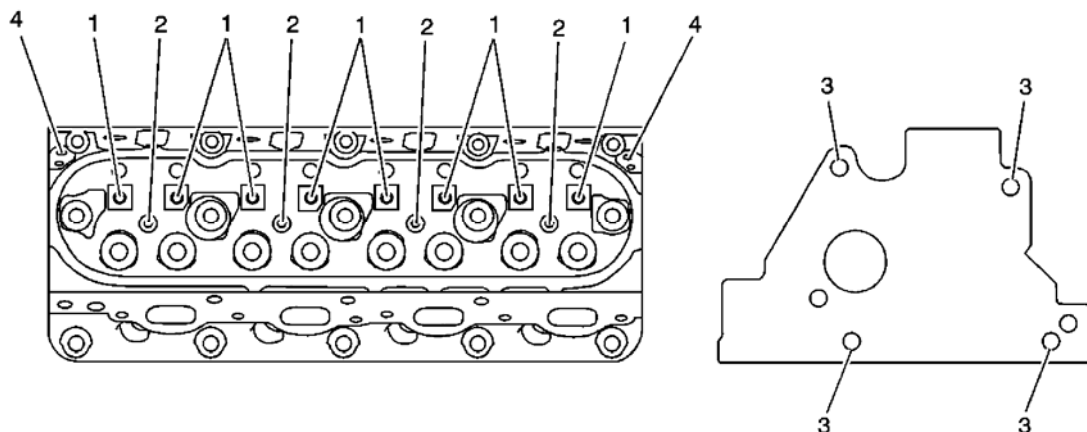


Fig. 4: Cylinder Head - Top/End Views

Courtesy of GENERAL MOTORS CORP.

Cylinder Head - Top/End Views

Hole Location	Thread Size	Drill	Counter Bore Tool	Stop Collar	Tap	Driver	Insert	Drill Depth (Maximum)		Tap Depth (Minimum)	
-	-	J 42385-						MM	(IN)	MM	(IN)
1	M8 x 1.25	206	207	N/A	208	209	210	26.5	(1.04)	19.0	(0.784)
2	M6 x 1.0	201	202	N/A	203	204	205	20.05	(0.789)	16.05	(0.632)
3	M10 x 1.5	211	212	N/A	213	214	215	28.0	(1.10)	20.0	(0.787)
4	M6 x 1.0	201	202	N/A	203	204	205	22.5	(0.885)	15.0	(0.688)

Cylinder Head - Intake/Exhaust Side Views

2010 Chevrolet Camaro LT

2010 ENGINE Engine Mechanical - 4.8L, 5.3L, 6.0L, 6.2L, or 7.0L - Camaro

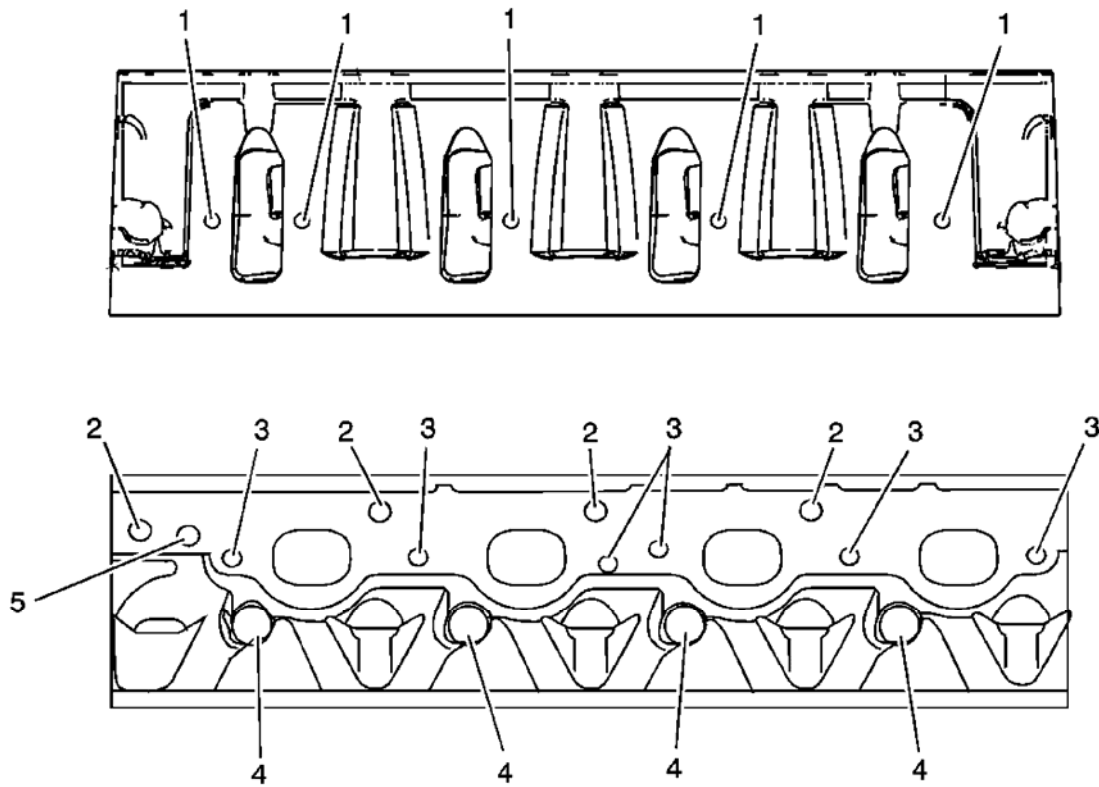


Fig. 5: Cylinder Head - Intake/Exhaust Side Views
Courtesy of GENERAL MOTORS CORP.

Cylinder Head - Intake/Exhaust Side Views

Hole Location	Thread Size	Drill	Counter Bore Tool	Stop Collar	Tap	Driver	Insert	Drill Depth (Maximum)		Tap Depth (Minimum)	
-	-	J 42385-						MM	(IN)	MM	(IN)
1	M6 x 1.0	201	202	N/A	203	204	205	Through		Through	
2	M10 x 1.5	211	212	N/A	213	214	215	28.0	(1.10)	20.0	(0.787)
3	M8 x 1.25	206	207	N/A	208	209	210	21.0	(0.826)	16.0	(0.629)
4	M14 x 1.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	
5	M12 x 1.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	