



2008 Saab 9-7X 5.3L Eng 5.3i

Service Manual: ENGINE MECHANICAL - 5.3L OR 6.0L (1 OF 4)

Print Date: 3/30/2017

**SPECIFICATIONS > FASTENER TIGHTENING SPECIFICATIONS (5.3L)**

## Fastener Tightening Specifications (5.3L)

Application	Specification	
	Metric	English
Air Cleaner Outlet Duct Bolt	10 N.m	89 lb in
Air Cleaner Outlet Duct Clamp	7 N.m	62 lb in
Air Conditioning Belt Tensioner Bolt	50 N.m	37 lb ft
Air Conditioning Bracket Bolt	50 N.m	37 lb ft
Automatic Transmission Flex Plate Bolts - First Pass	20 N.m	15 lb ft
Automatic Transmission Flex Plate Bolts - Second Pass	50 N.m	37 lb ft
Automatic Transmission Flex Plate Bolts - Final Pass	100 N.m	74 lb ft
Battery Cable Channel Bolt	12 N.m	106 lb in
Brake Hose Retaining Bolt	25 N.m	18 lb ft
Camshaft Position (CMP) Sensor Bolt	12 N.m	106 lb in
Camshaft Position (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	
Connecting Rod Bolts - First Pass	20 N.m	15 lb ft
Connecting Rod Bolts - Final Pass	85 degrees	
Coolant Air Bleed Pipe and Cover Bolts	12 N.m	106 lb in
Coolant Temperature Sensor	20 N.m	15 lb ft
Crankshaft Balancer Bolt - Installation Pass to Ensure the Balancer is Completely Installed	330 N.m	240 lb ft

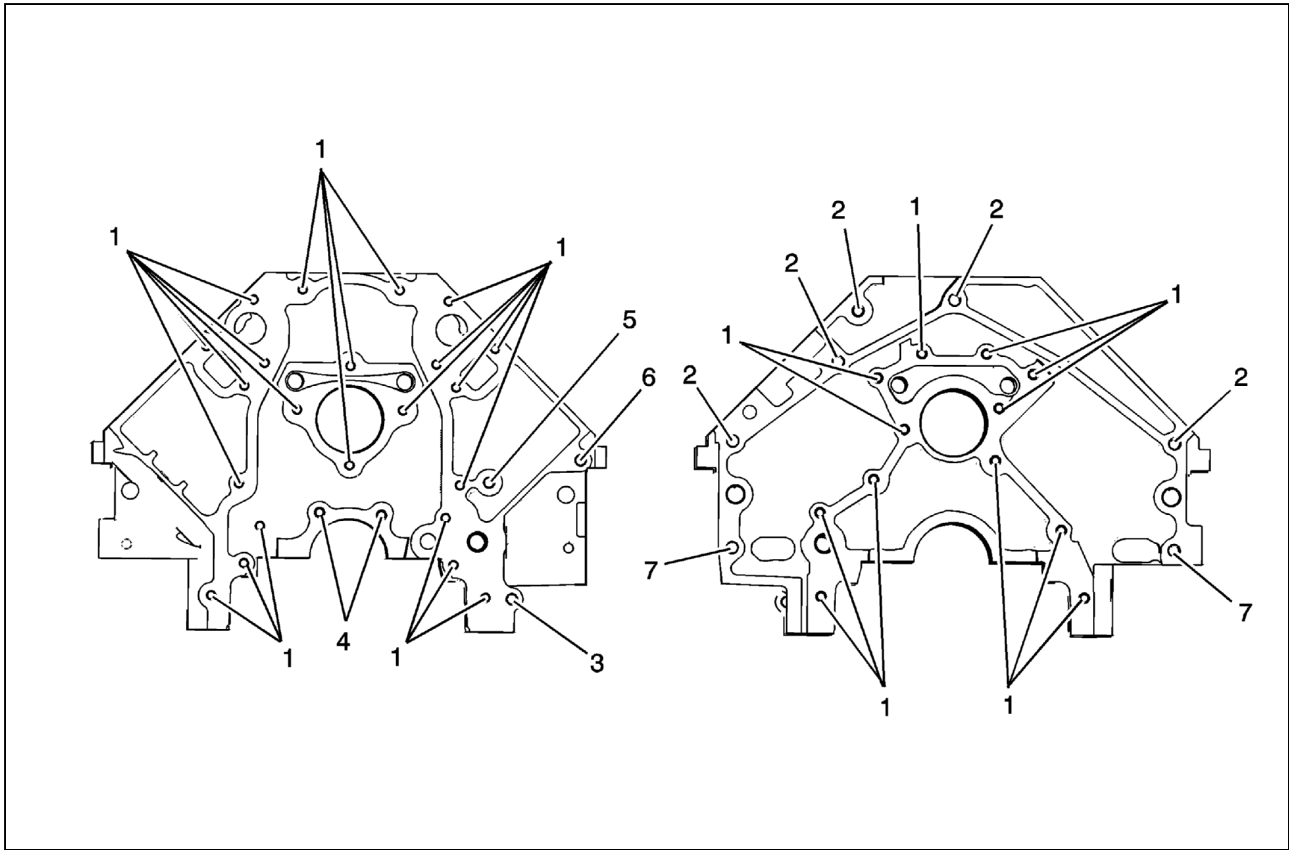
Crankshaft Balancer Bolt - First Pass - Install a NEW Bolt After the Installation Pass and Tighten as Described in the First and Final Passes	50 N.m	37 lb ft
Crankshaft Balancer Bolt - Final Pass	140 degrees	
Crankshaft Bearing Cap M10 Bolts - First Pass in Sequence	20 N.m	15 lb ft
Crankshaft Bearing 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	25 N.m	18 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	
Cylinder Head M8 Bolts - in Sequence	30 N.m	22 lb ft
Cylinder Head Plug	20 N.m	15 lb ft
Differential Bolts	85 N.m	63 lb ft
Drive Belt Idler Pulley Bolt	50 N.m	37 lb ft
Drive Belt Tensioner Bolt	50 N.m	37 lb ft
Engine Block Coolant Drain Hole Plug	60 N.m	44 lb ft
Engine Block Coolant Heater	50 N.m	37 lb ft
Engine Block Oil Gallery Plugs	60 N.m	44 lb ft
Engine Harness Bracket Nut	10 N.m	89 lb in
Engine Mount Bracket Spacer	50 N.m	37 lb ft
Engine Mount Frame Bracket	100 N.m	74 lb ft
Engine Mount Nuts	50 N.m	37 lb ft
Engine Mount-to-Engine Bolts	50 N.m	37 lb ft
Engine Mount Upper Bracket Bolt	50 N.m	37 lb ft
Engine Shield Bolt	20 N.m	15 lb ft
Engine Sight Shield Bolt	10 N.m	89 lb in

Engine Sight Shield Retainer Bolt	5 N.m	44 lb in
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
Front Cover Bolts	25 N.m	18 lb ft
Front Shock Upper Retaining Nut	100 N.m	74 lb ft
Fuel Injection Fuel Rail Bolts	10 N.m	89 lb in
Fuel Rail Crossover Tube Bolts	3.8 N.m	34 lb in
Fuel Rail Stop Bracket Bolt	50 N.m	37 lb ft
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
Intake Manifold Wiring Harness Stud	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	20 N.m	15 lb ft
Oil Filter	30 N.m	22 lb ft
Oil Filter Fitting	55 N.m	40 lb ft
Oil Filter Tube-to-Bottom of Oil Pan Bolts	12 N.m	106 lb in
Oil Filter Tube-to-Side of Oil Pan Bolts	12 N.m	106 lb in
Oil Level Indicator Tube Bolt	25 N.m	18 lb ft
Oil Pan Baffle Bolts	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 Cover Bolts	12 N.m	106 lb in
Oil Pan Drain Plug	25 N.m	18 lb ft
Oil Pan M6 Bolts - Oil Pan-to-Rear 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 Pan Oil Gallery Plugs	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 Nuts	25 N.m	18 lb ft
Oil Pump Screen-to-Oil Pump Bolts	12 N.m	106 lb in
Oil Pump-to-Engine Block Bolts	25 N.m	18 lb ft
Propeller Shaft Yoke Retainer Bolt	20 N.m	15 lb ft
Spark Plugs	15 N.m	11 lb ft
Throttle Body Bolts	10 N.m	89 lb in
Throttle Body Nuts	10 N.m	89 lb in
Throttle Body Studs	6 N.m	53 lb in
Timing Chain Tensioner Bolts	25 N.m	15 lb ft
Torque Converter Bolts	60 N.m	44 lb ft
Transmission Bell Housing Bolt	50 N.m	37 lb ft
Transmission Oil Cooler Line Bracket Bolt	9 N.m	80 lb in
Upper Ball Joint Pinch Bolt	40 N.m	30 lb ft
Valve Lifter Guide Bolts	10 N.m	89 lb in
Valve Lifter Oil Manifold Bolts	25 N.m	18 lb ft
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

## **SPECIFICATIONS > THREAD REPAIR SPECIFICATIONS > ENGINE BLOCK - FRONT/REAR VIEWS**

Fig 1: Engine Block - Front/Rear Views



Courtesy of GENERAL MOTORS CORP.

Engine Block - Front/Rear Views

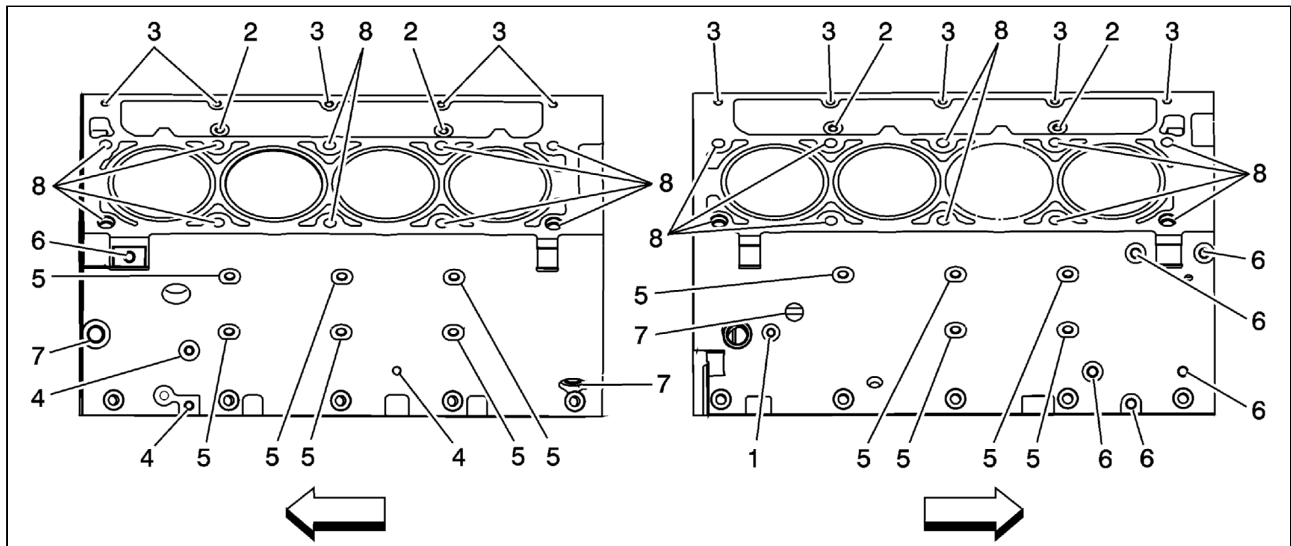
Hole	Thread Size	Insert	Drill	Counterbore Tool	Tap	Driver	Drill Depth - Maximum mm (in)	Tap Depth - Maximum mm (in)
J 42385-								
1	M8 x 1.25	210	206	207	208	209	22.5 (0.885)	17.5 (0.688)
2	M10 x 1.5	215	211	212	213	214	27.5 (1.08)	22.0 (0.866)
3	M10 x 1.5	215	211	212	213	214	Thru	Thru
4	M8 x 1.25	210	206	207	208	209	Thru	Thru
5	M10 x 1.5	215	211	212	213	214	25.0 (0.984)	19.5 (0.767)
6	M10 x 1.5	215	211	212	213	214	32.5 (1.279)	25.0 (0.984)

7	M10 x 1.5	215	211	212	213	214	Thru	Thru
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Bolt hole 6 is drilled and tapped for aluminum block applications only.

### SPECIFICATIONS > THREAD REPAIR SPECIFICATIONS > ENGINE BLOCK - LEFT/RIGHT SIDE VIEWS

Fig 1: Engine Block - Left/Right Side Views



Courtesy of GENERAL MOTORS CORP.

#### Engine Block - Left/Right Side Views

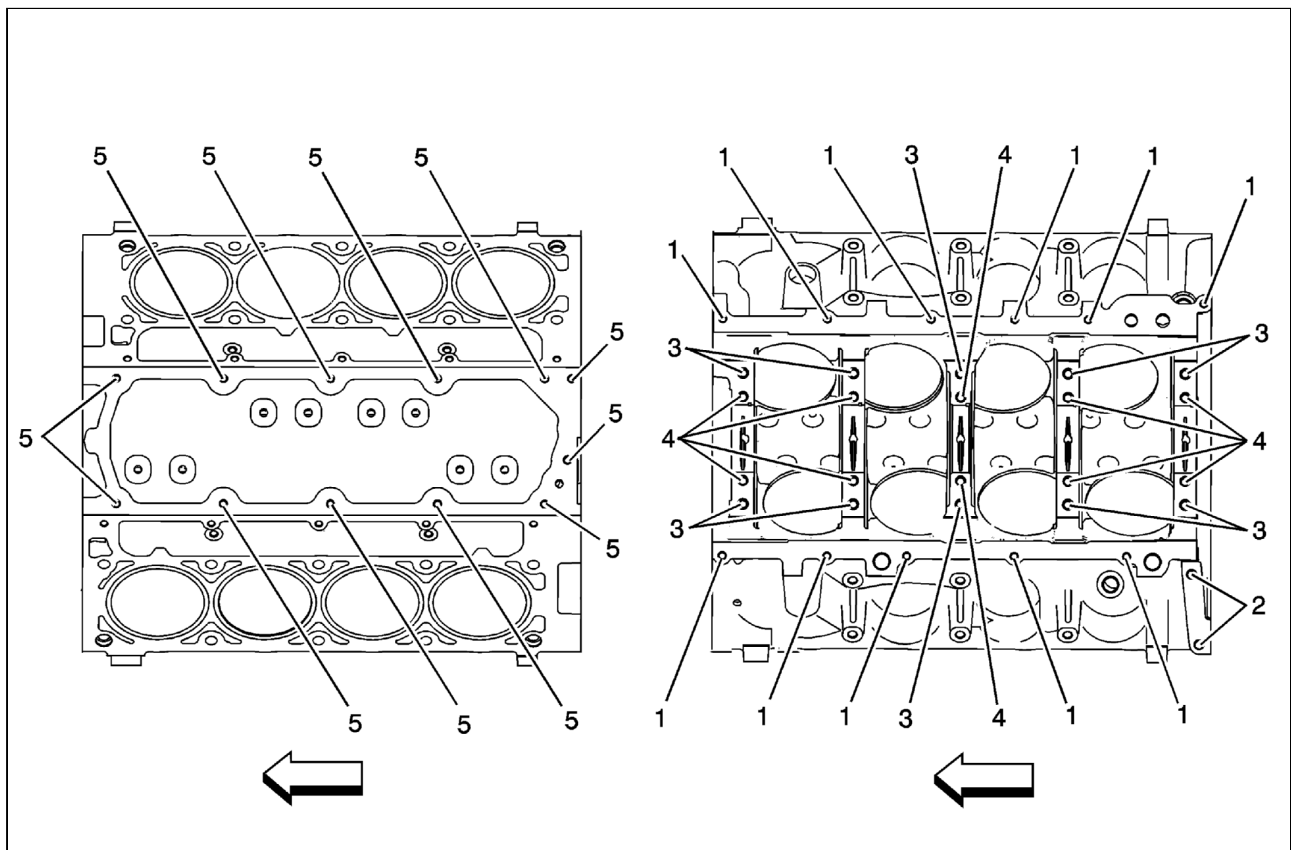
Hole	Thread Size	Insert	Drill	Counterbore Tool	Tap	Driver	Drill Depth - Maximum mm (in)	Tap Depth - Maximum mm (in)
J 42385-								
1	M8 x 1.25	210	206	207	208	209	22.5 (0.885)	17.5 (0.688)
2	M8 x 1.25	210	206	207	208	209	28.5 (1.122)	23.0 (0.905)
3	M8 x 1.25	210	206	207	208	209	21.5 (0.846)	16.0 (0.629)
4	M10 x 1.25	215	211	212	213	214	29.0 (1.141)	23.0 (0.905)
5	M10 x 1.5	215	211	212	213	214	27.0 (1.062)	21.5 (0.846)
6	M16 x	N/A	N/A	N/A	N/A	N/A	N/A	N/A

	1.5							
7	M11 x 2.0	108	105	N/A	106	107	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	N/A

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.

**SPECIFICATIONS > THREAD REPAIR SPECIFICATIONS > ENGINE BLOCK - TOP/BOTTOM VIEWS**

Fig 1: Engine Block - Top/Bottom Views



Courtesy of GENERAL MOTORS CORP.

**Engine Block - Top/Bottom Views**

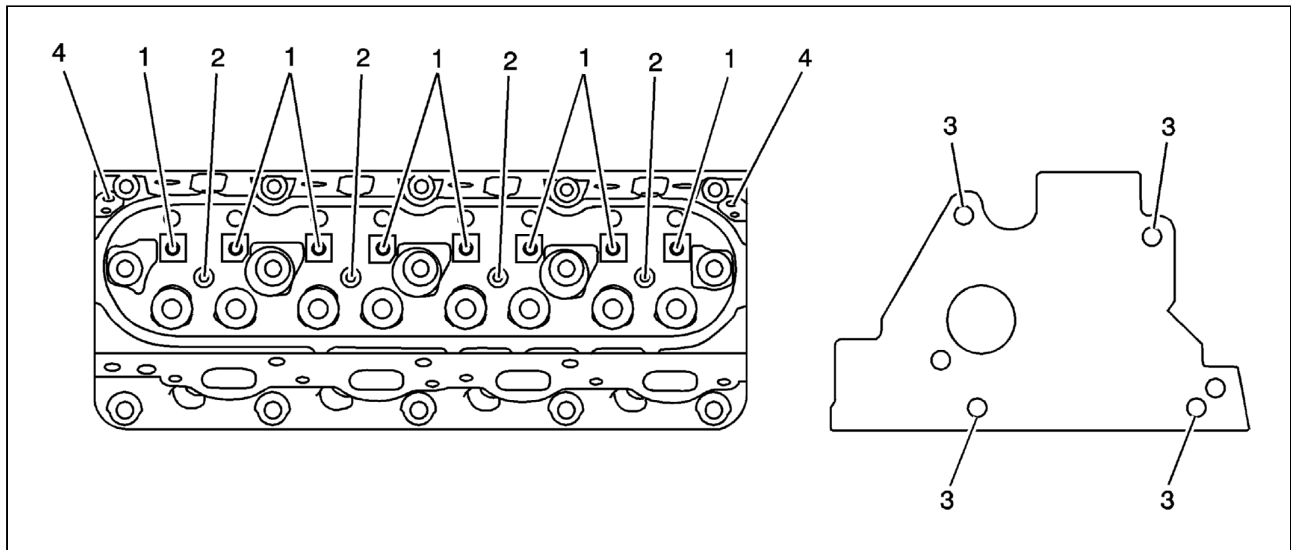
Hole	Thread Size	Insert	Drill	Counterbore Tool	Tap	Driver	Drill Depth - Maximum mm (in)	Tap Depth - Maximum mm (in)
J 42385-								
1	M8 x	210	206	207	208	209	22.5	17.5 (0.688)

	1.25						(0.885)	
2	M10 x 1.5	215	211	212	213	214	42.5 (1.67)	37.0 (1.45)
3	M10 x 2.0	104	101	N/A	102	103	31.0 (1.22)	25.5 (1.0)
4	M10 x 2.0	104	101	N/A	102	103	53.5 (2.10)	44.0 (1.73)
5	M8 x 1.25	210	206	207	208	209	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.

**SPECIFICATIONS > THREAD REPAIR SPECIFICATIONS > CYLINDER HEAD - TOP/END VIEWS**

Fig 1: Cylinder Head - Top/End Views



Courtesy of GENERAL MOTORS CORP.

Cylinder Head - Top/End Views

Hole	Thread Size	Insert	Drill	Counterbore Tool	Tap	Driver	Drill Depth - Maximum mm (in)	Tap Depth - Maximum mm (in)
2	M10 x 1.5	215	211	212	213	214	42.5 (1.67)	37.0 (1.45)
3	M10 x 2.0	104	101	N/A	102	103	31.0 (1.22)	25.5 (1.0)
4	M10 x 2.0	104	101	N/A	102	103	53.5 (2.10)	44.0 (1.73)
5	M8 x 1.25	210	206	207	208	209	26.5 (1.043)	19.0 (0.748)

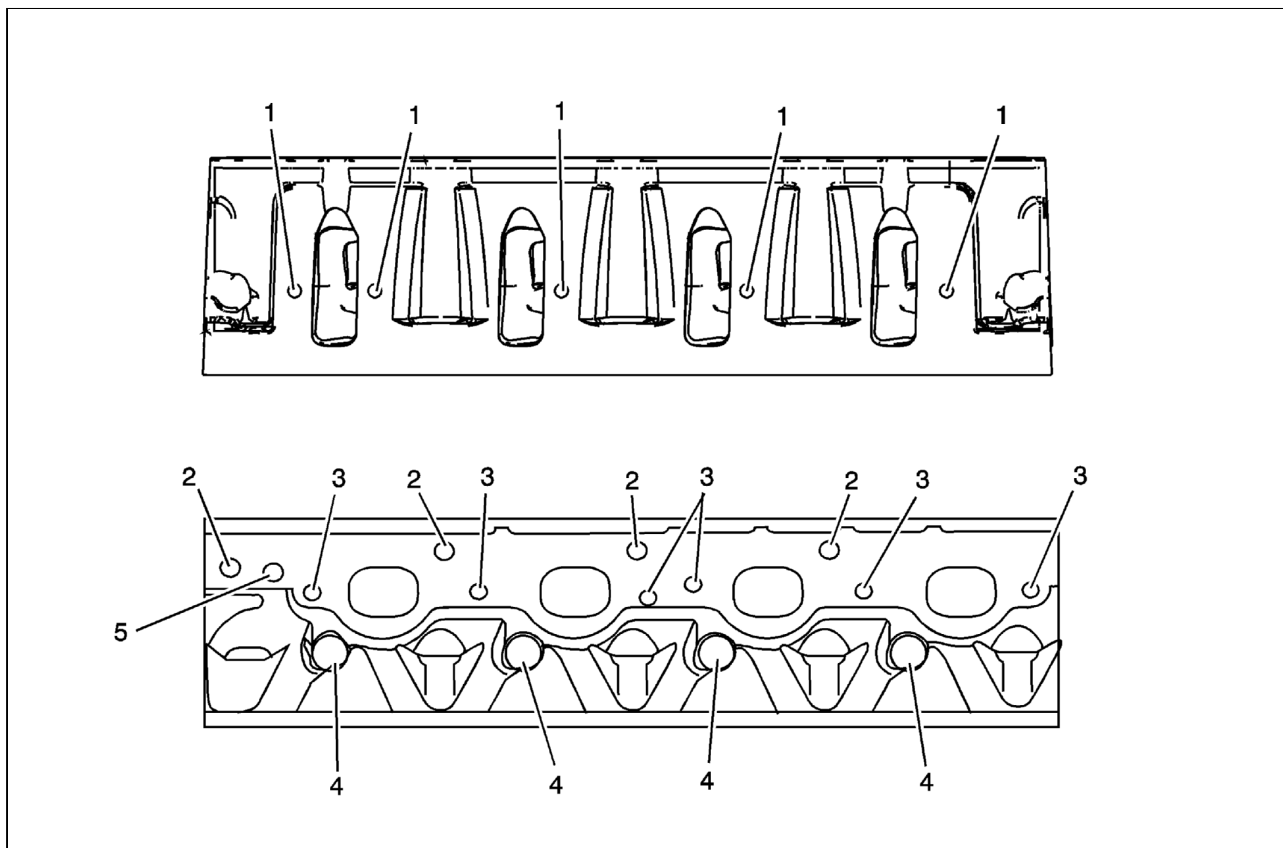


J 42385-

1	M8 x 1.25	210	206	207	208	209	26.5 (1.04)	19.0 (0.784)
2	M6 x 1.0	205	201	202	203	204	20.05 (0.789)	16.05 (0.632)
3	M10 x 1.5	215	211	212	213	214	28.0 (1.10)	20.0 (0.787)
4	M6 x 1.0	205	201	202	203	204	22.5 (0.885)	15.0 (0.688)

**SPECIFICATIONS > THREAD REPAIR SPECIFICATIONS > CYLINDER HEAD - INTAKE/EXHAUST SIDE VIEWS**

Fig 1: Cylinder Head - Intake/Exhaust Side Views



Courtesy of GENERAL MOTORS CORP.

Cylinder Head - Intake/Exhaust Side Views

Hole	Thread Size	Insert	Drill	Counterbore Tool	Tap	Driver	Drill Depth - Maximum mm (in)	Tap Depth - Maximum mm (in)

## J 42385-

1	M6 x 1.0	205	201	202	203	204	Thru	Thru
2	M10 x 1.5	215	211	212	213	214	28.0 (1.10)	20.0 (0.787)
3	M8 x 1.25	210	206	207	208	209	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
5	M12 x 1.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Thank you for your business come back soon!!!