

2010 ENGINE

Engine Mechanical - 2.8L, 3.0L, 3.2L, or 3.6L - Equinox & Terrain

COMPONENT LOCATOR

DISASSEMBLED VIEWS

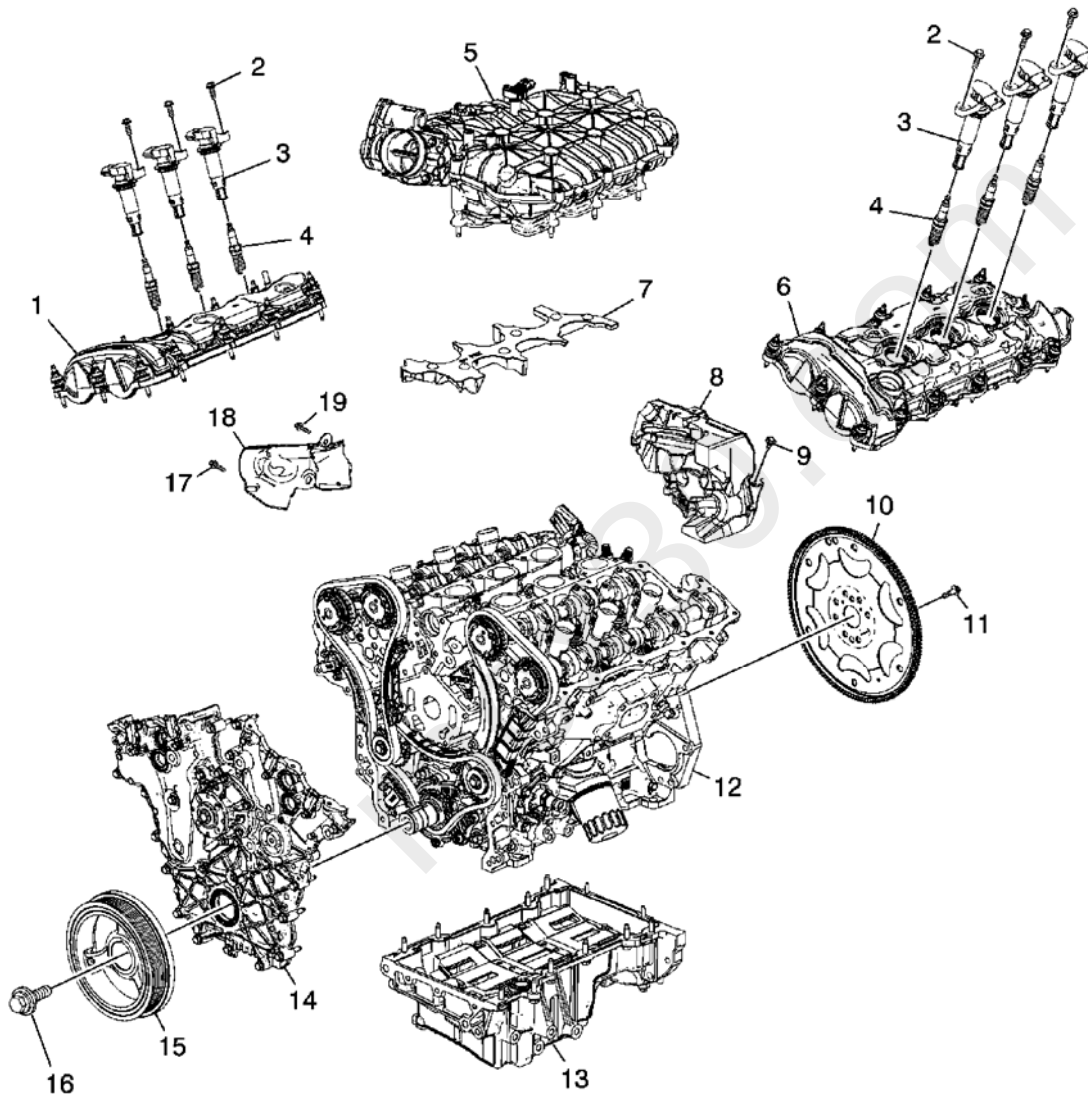


Fig. 1: Engine Component Assemblies (1 of 2)
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	Right Camshaft Cover Assembly
2	Ignition Coil Bolt

3	Ignition Coil
4	Spark Plug
5	Intake Manifold Assembly
6	Left Camshaft Cover Assembly
7	Fuel Rail Noise Shield
8	Fuel Pump Cover
9	Fuel Pump Cover Bolt
10	Engine Flywheel
11	Engine Flywheel Bolt
12	Engine Assembly
13	Oil Pan Assembly
14	Engine Front Cover Assembly
15	Crankshaft Balancer
16	Crankshaft Balancer Bolt
17	Crankshaft Position Sensor Heat Shield Bolt - Large
18	Crankshaft Position Sensor Heat Shield
19	Crankshaft Position Sensor Heat Shield Bolt - Small

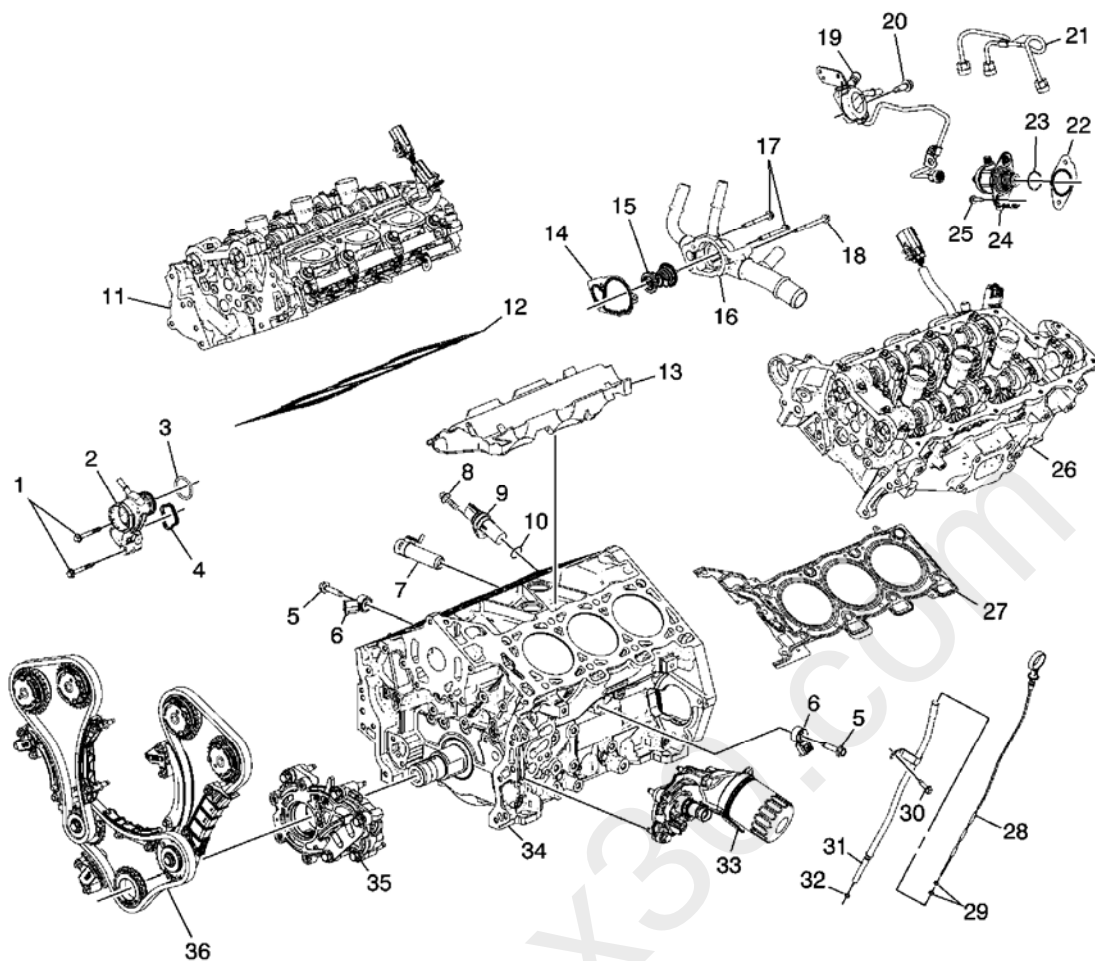


Fig. 2: Engine Component Assemblies (2 of 2)
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	Water Outlet Bolt
2	Water Outlet
3	Water Outlet O-ring
4	Water Outlet Seal
5	Knock Sensor Bolt
6	Knock Sensor
7	Engine Coolant Heater Assembly
8	Crankshaft Position Sensor Bolt
9	Crankshaft Position Sensor
10	Crankshaft Position Sensor O-ring
11	Right Cylinder Head Assembly
12	Right Cylinder Head Gasket

13	Lower Fuel Rail Noise Shield
14	Engine Cooling Thermostat Gasket
15	Engine Cooling Thermostat
16	Engine Cooling Thermostat Housing
17	Engine Cooling Thermostat Bolt - Short
18	Engine Cooling Thermostat Housing Bolt - Long
19	Fuel Feed Pipe Assembly
20	Fuel Feed Pipe Assembly Bolt
21	Fuel Feed Intermediate Pipe Assembly
22	Fuel Pump Gasket
23	Fuel Pump O-ring Seal
24	Fuel Pump
25	Fuel Pump Bolt
26	Left Cylinder Head Assembly
27	Left Cylinder Head Gasket
28	Oil Level Indicator
29	Oil Level Indicator Handle O-ring
30	Oil Level Indicator Tube Bolt
31	Oil Level Indicator Tube
32	Oil Level Indicator Tube O-ring
33	Oil Filter Adapter Assembly
34	Engine Short Block Assembly
35	Oil Pump Assembly
36	Timing Drive Assembly

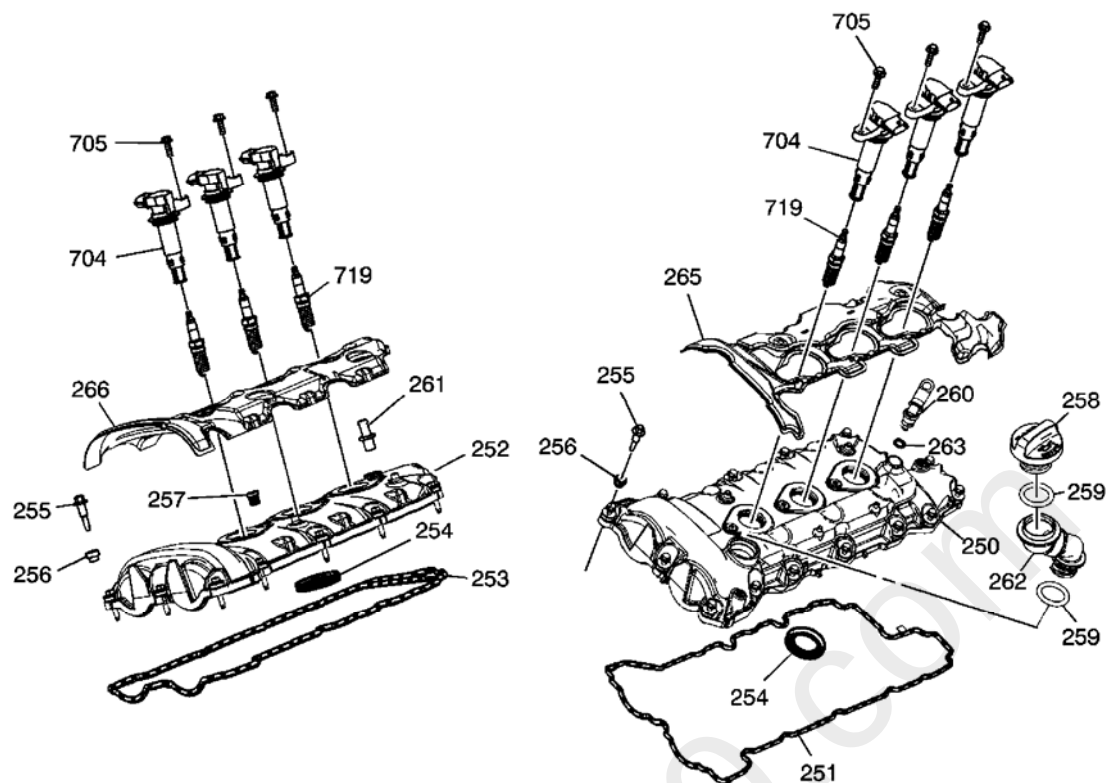


Fig. 3: Camshaft Cover Assembly Components
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
250	Left Camshaft Cover
251	Left Camshaft Cover Gasket
252	Right Camshaft Cover
253	Right Camshaft Cover Gasket
254	Camshaft Cover Spark Plug Port Seal
254	Camshaft Cover Spark Plug Port Seal
255	Camshaft Cover Bolt
255	Camshaft Cover Bolt
256	Camshaft Cover Bolt Insulator
256	Camshaft Cover Bolt Insulator
257	Ignition Coil Bolt Thread Insert
258	Oil Fill Cap
259	Oil Fill O-ring
259	Oil Fill O-ring
260	Left Camshaft Cover PCV Fitting
261	Right Camshaft Cover PCV Fitting Orifice
262	Oil Fill Tube

263	Left Camshaft Cover PCV Fitting O-ring
265	Left Camshaft Housing Cover Insulator
266	Right Camshaft Housing Cover Insulator
704	Ignition Coil
704	Ignition Coil
705	Ignition Coil Bolt
705	Ignition Coil Bolt
719	Spark Plug
719	Spark Plug

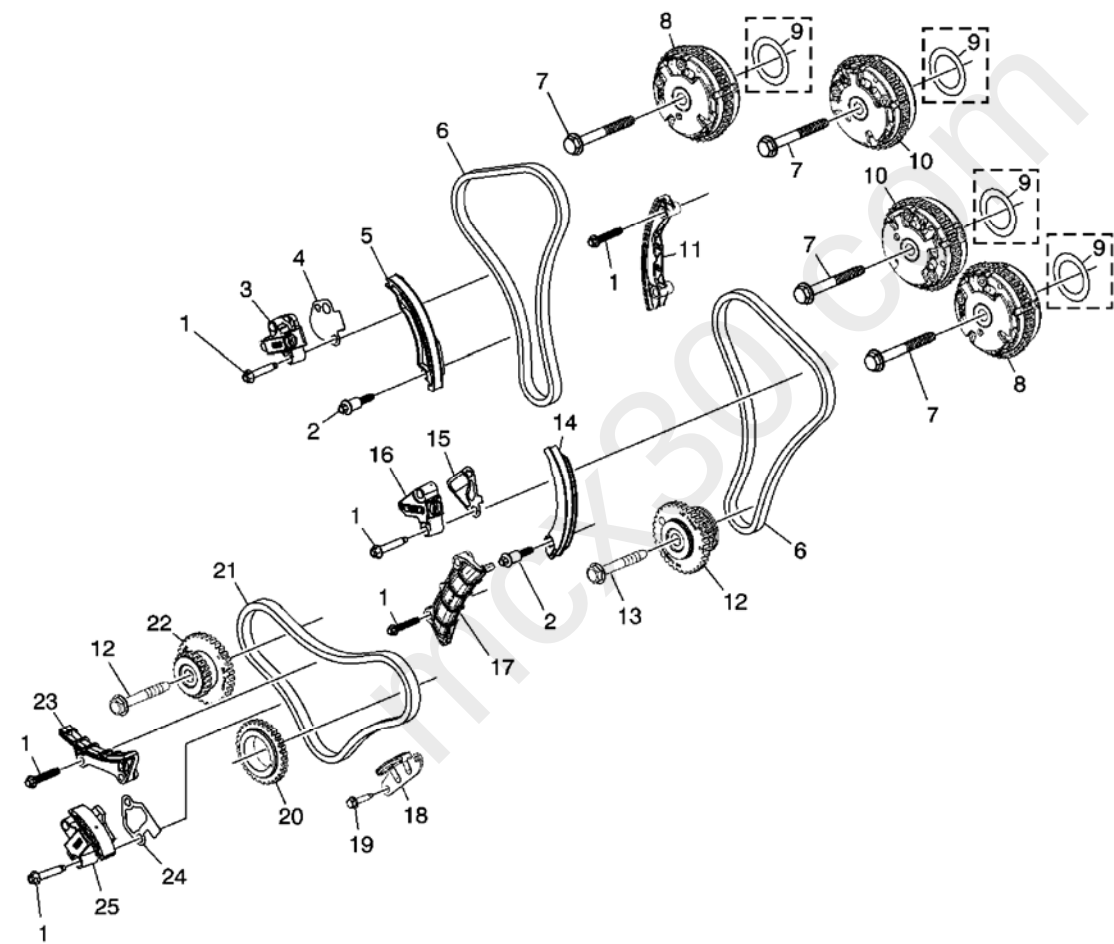


Fig. 4: Camshaft Timing Components
 Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	Primary Timing Chain Tensioner Bolt
2	Left Secondary Timing Chain Shoe Bolt
3	Right Secondary Timing Chain Tensioner

4	Right Secondary Timing Chain Tensioner Gasket
5	Right Secondary Timing Chain Shoe
6	Secondary Timing Chain
7	Camshaft Position Actuator Bolt
8	Exhaust Camshaft Position Actuator
9	Camshaft Position Actuator Thrust Washer
10	Intake Camshaft Position Actuator
11	Right Secondary Timing Chain Guide
12	Left Camshaft Intermediate Drive Shaft Sprocket
13	Camshaft Intermediate Drive Shaft Sprocket Bolt
14	Left Secondary Timing Chain Shoe
15	Left Secondary Timing Chain Tensioner Gasket
16	Left Secondary Timing Chain Tensioner
17	Left Secondary Timing Chain Guide
18	Lower Primary Timing Chain Guide
19	Lower Primary Timing Chain Guide Bolt
20	Crankshaft Sprocket
21	Primary Timing Chain
22	Right Camshaft Intermediate Drive Shaft Sprocket
23	Upper Primary Timing Chain Guide
24	Primary Timing Chain Tensioner Gasket
25	Primary Timing Chain Tensioner

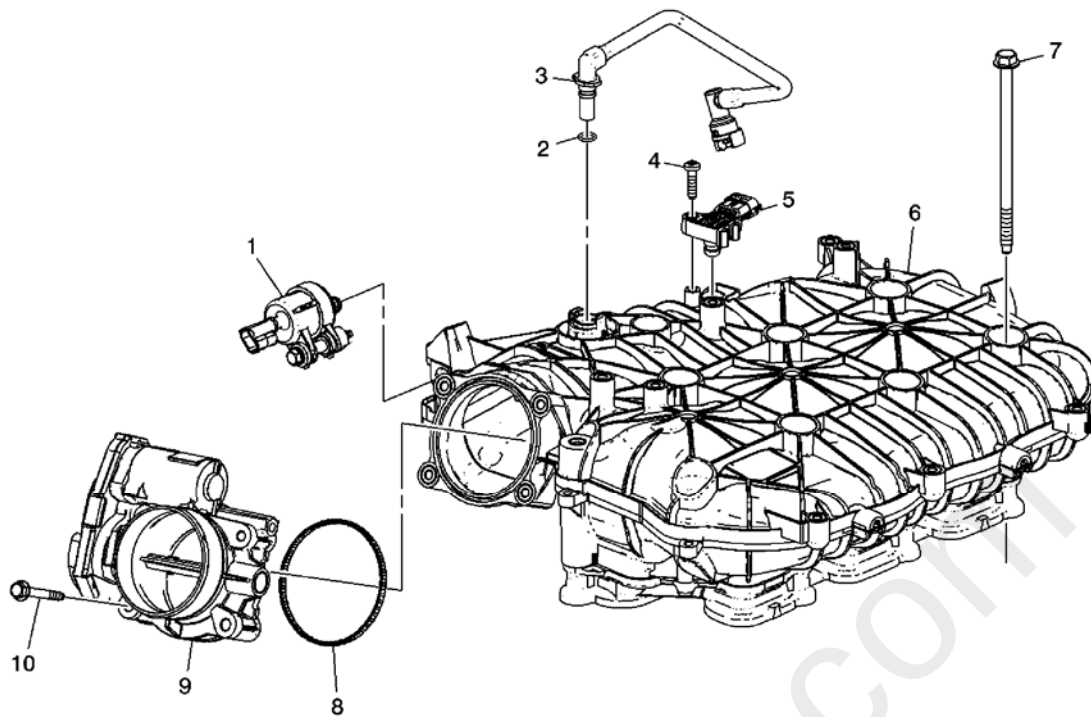


Fig. 5: Intake Manifold Components
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	EVAP Solenoid
2	PCV Tube O-ring Seal
3	PCV Tube
4	MAP Sensor Bolt
5	MAP Sensor
6	Upper Intake Manifold
7	Upper Intake Manifold Bolt
8	Throttle Body Gasket
9	Throttle Body
10	Throttle Body Bolt

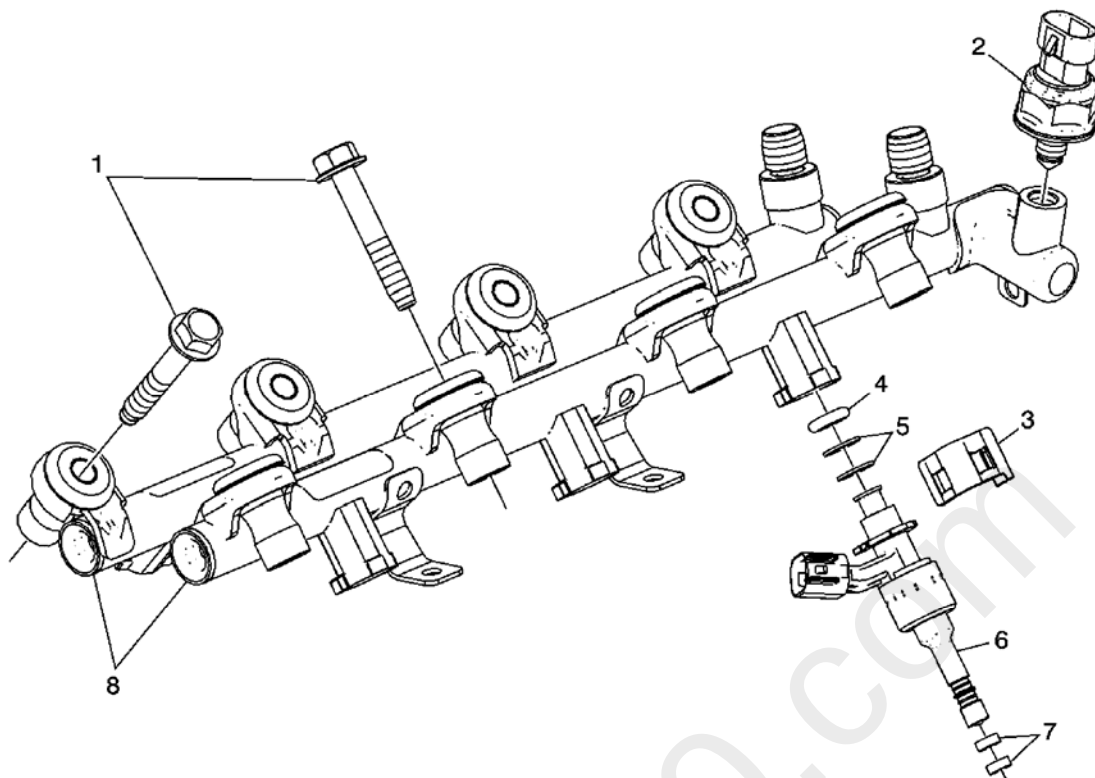


Fig. 6: Fuel Rail Components
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	Fuel Rail Bolt
2	Fuel Pressure Sensor
3	Fuel Injector Retainer
4	Fuel Injector O-ring Seal
5	Fuel Injector Spacer
6	Fuel Injector
7	Fuel Injector Teflon Seal
8	Fuel Rail

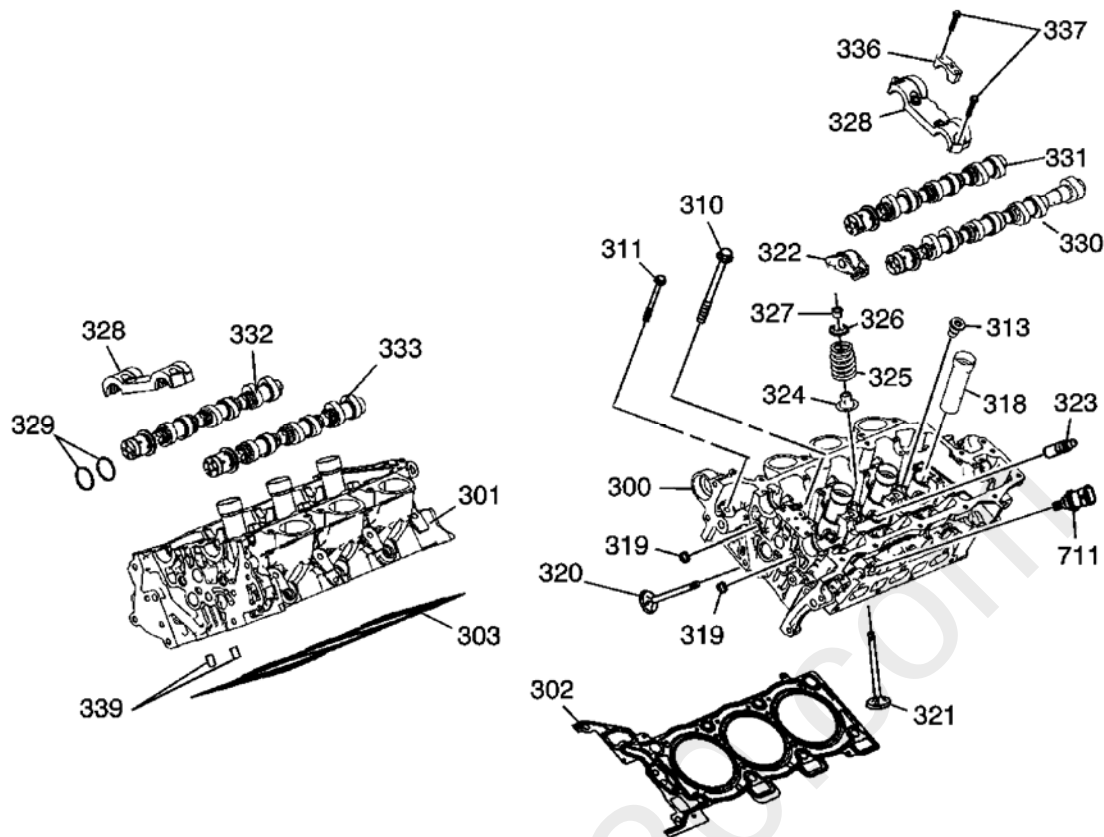


Fig. 7: Cylinder Head Assembly Components
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
300	Left Cylinder Head
301	Right Cylinder Head
302	Left Cylinder Head Gasket
303	Right Cylinder Head Gasket
310	Cylinder Head Bolt
311	Cylinder Head Front Bolt
313	Cylinder Head Coolant Hole Threaded Plug
318	Spark Plug Sleeve
319	Cylinder Head Oil Gallery Expansion Plug - 14 mm
319	Cylinder Head Oil Gallery Expansion Plug - 14 mm
320	Exhaust Valve
321	Intake Valve
322	Valve Rocker Arm Assembly
323	Hydraulic Valve Lash Adjuster Assembly
324	Valve Stem Oil Seal

325	Valve Spring
326	Valve Spring Cap
327	Valve Stem Key
328	Cylinder Head Camshaft Front Thrust Bearing Cap
328	Cylinder Head Camshaft Front Thrust Bearing Cap
329	Camshaft Oil Seal Ring
330	Left Exhaust Camshaft
331	Left Intake Camshaft
332	Right Intake Camshaft
333	Right Exhaust Camshaft
336	Cylinder Head Camshaft Cap - Intermediate
337	Cylinder Head Camshaft Cap Bolt
339	Cylinder Head Oil Gallery Check Valve
711	Engine Coolant Temperature Sensor

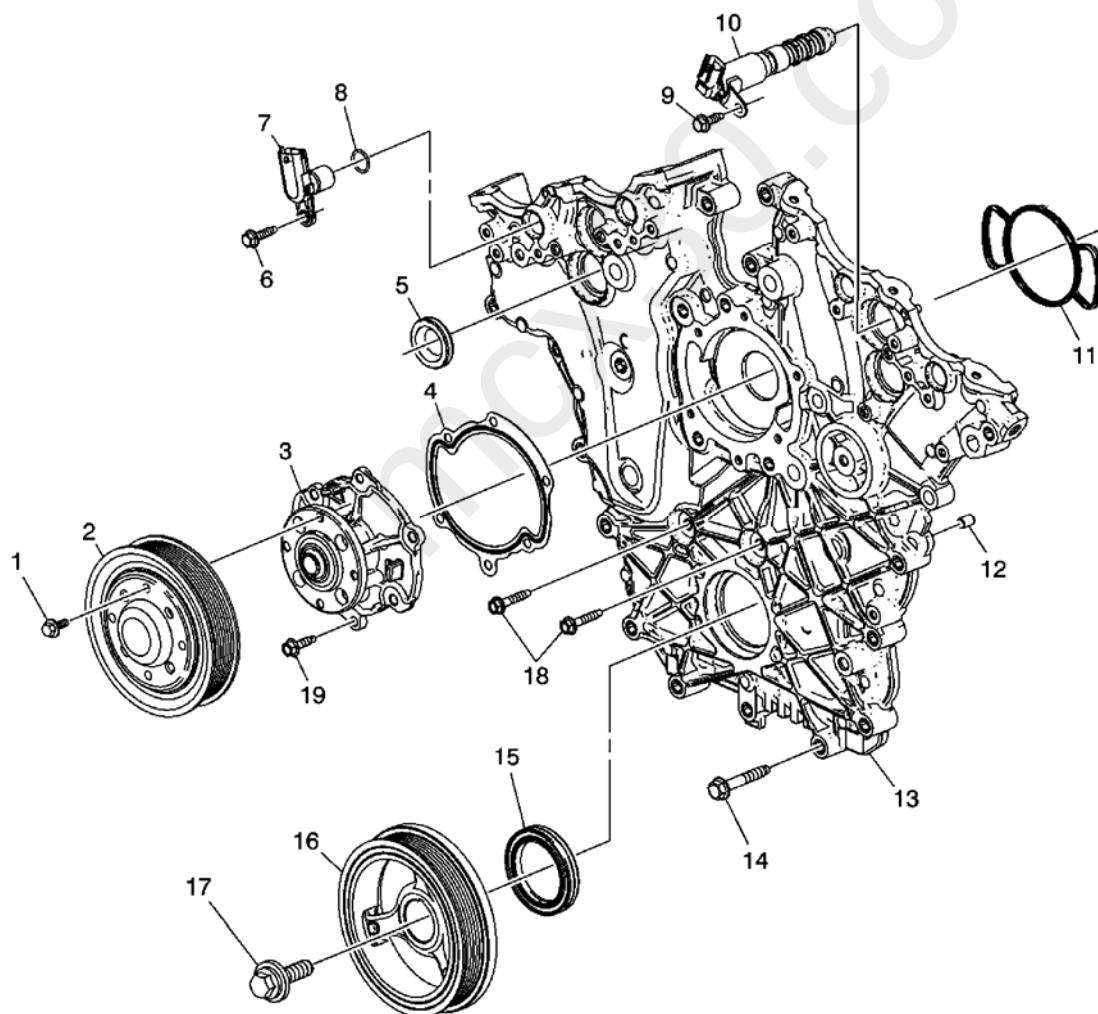


Fig. 8: Engine Front Cover Components
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	Water Pump Pulley Bolt
2	Water Pump Pulley
3	Water Pump Assembly
4	Water Pump Pulley Gasket
5	Camshaft Position Actuator Solenoid Valve Seal
6	Camshaft Position Sensor Bolt
7	Camshaft Position Sensor
8	Camshaft Position Sensor O-ring Seal
9	Camshaft Position Actuator Solenoid Valve Bolt
10	Camshaft Position Actuator Solenoid Valve
11	Engine Front Cover Gasket
12	Engine Front Cover Locating Pin
13	Engine Front Cover
14	Engine Front Cover Bolt
15	Engine Front Cover Seal
16	Crankshaft Balancer
17	Crankshaft Balancer Bolt
18	Engine Front Cover Bolt
19	Water Pump Bolt

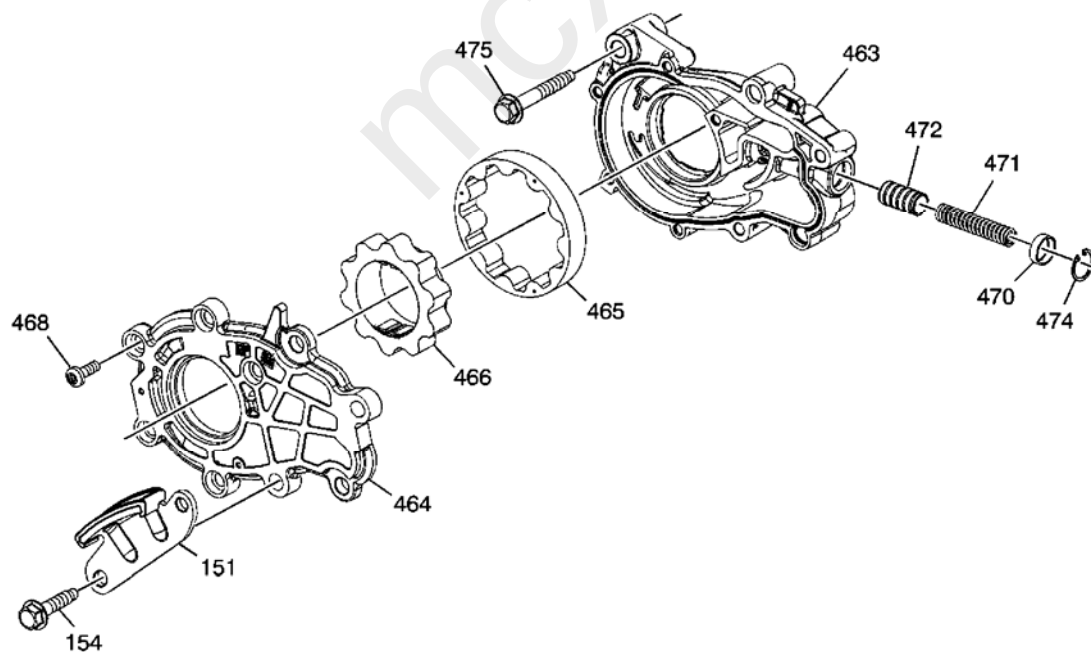


Fig. 9: Oil Pump Components
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
151	Lower Primary Timing Chain Guide
154	Lower Primary Timing Chain Guide Bolt
463	Oil Pump Housing
464	Oil Pump Cover
465	Oil Pump Driven Gear
466	Oil Pump Drive Gear
468	Oil Pump Cover Bolt
470	Oil Pressure Relief Valve Bore Plug
471	Oil Pressure Relief Valve Spring
472	Oil Pressure Relief Valve
474	Oil Pressure Relief Valve Bore Plug Retainer Clip
475	Oil Pump Bolt

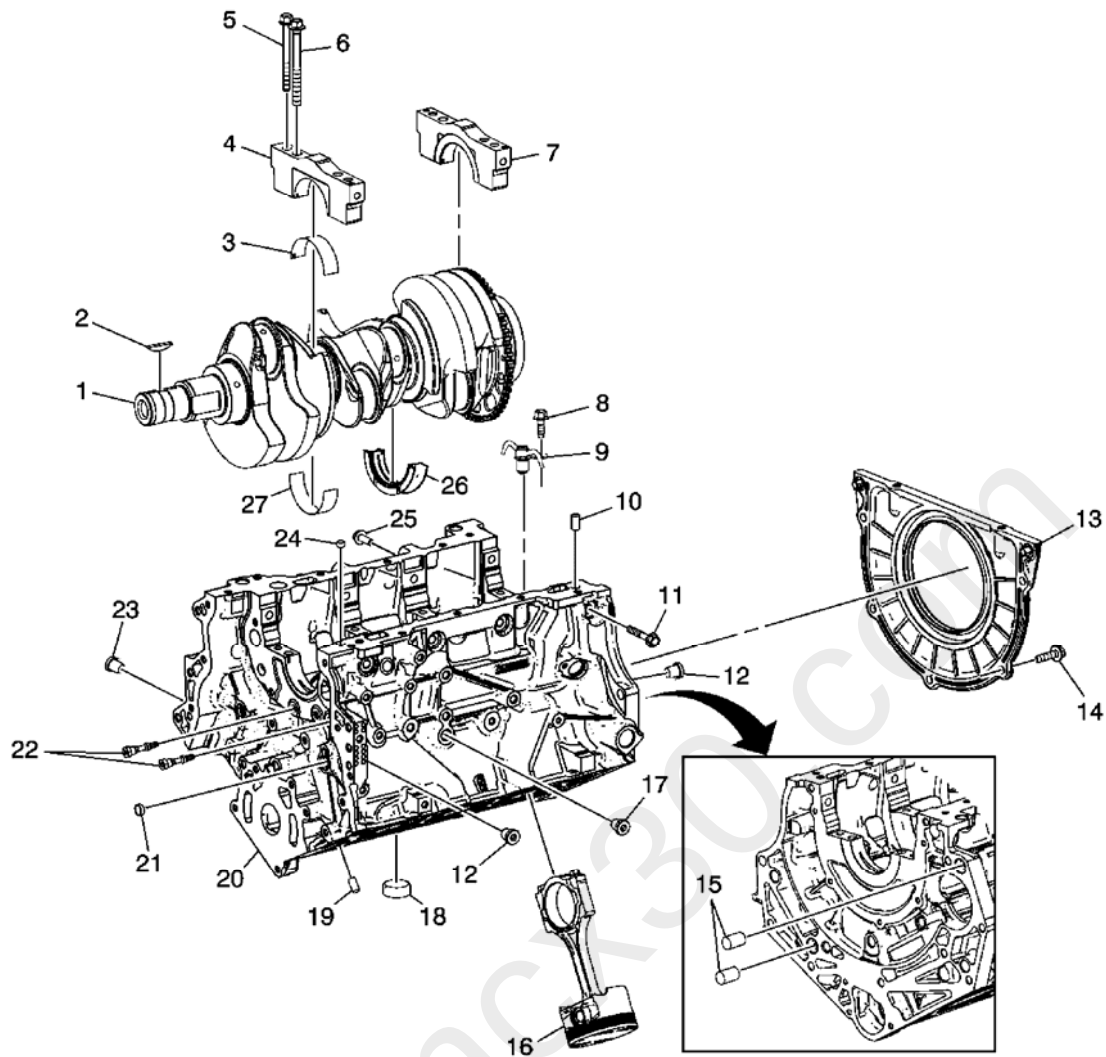


Fig. 10: Engine Block Assembly Components
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	Crankshaft
2	Crankshaft Key
3	Crankshaft Lower Bearing
4	Crankshaft Bearing Cap
5	Crankshaft Bearing Cap Outboard Bolt
6	Crankshaft Bearing Cap Inboard Bolt
7	Crankshaft Bearing Thrust Cap
8	Piston Oil Nozzle Bolt
9	Piston Oil Nozzle
10	Oil Pan Locating Pin

11	Crankshaft Bearing Cap Side Bolt - Long
12	Engine Block Oil Gallery Threaded Plug - 14 mm
13	Crankshaft Rear Oil Seal Housing Assembly
14	Crankshaft Rear Oil Seal Housing Assembly Bolt
15	Transaxle Locating Pin
16	Piston and Connecting Rod Assembly
17	Engine Block Coolant Drain Threaded Plug - 14 mm
18	Engine Block Core Coolant Expansion Plug - 34.3 mm
19	Cylinder Head Locating Pin
20	Engine Block
21	Engine Block Oil Gallery Expansion Plug - 14
22	Engine Front Cover Stud
23	Engine Block Oil Gallery Threaded Plug - 20 mm
24	Engine Block Oil Gallery Expansion Plug - 10 mm
25	Crankshaft Bearing Cap Side Bolt - Short
26	Crankshaft Upper Thrust Bearing #3
27	Crankshaft Upper Bearing

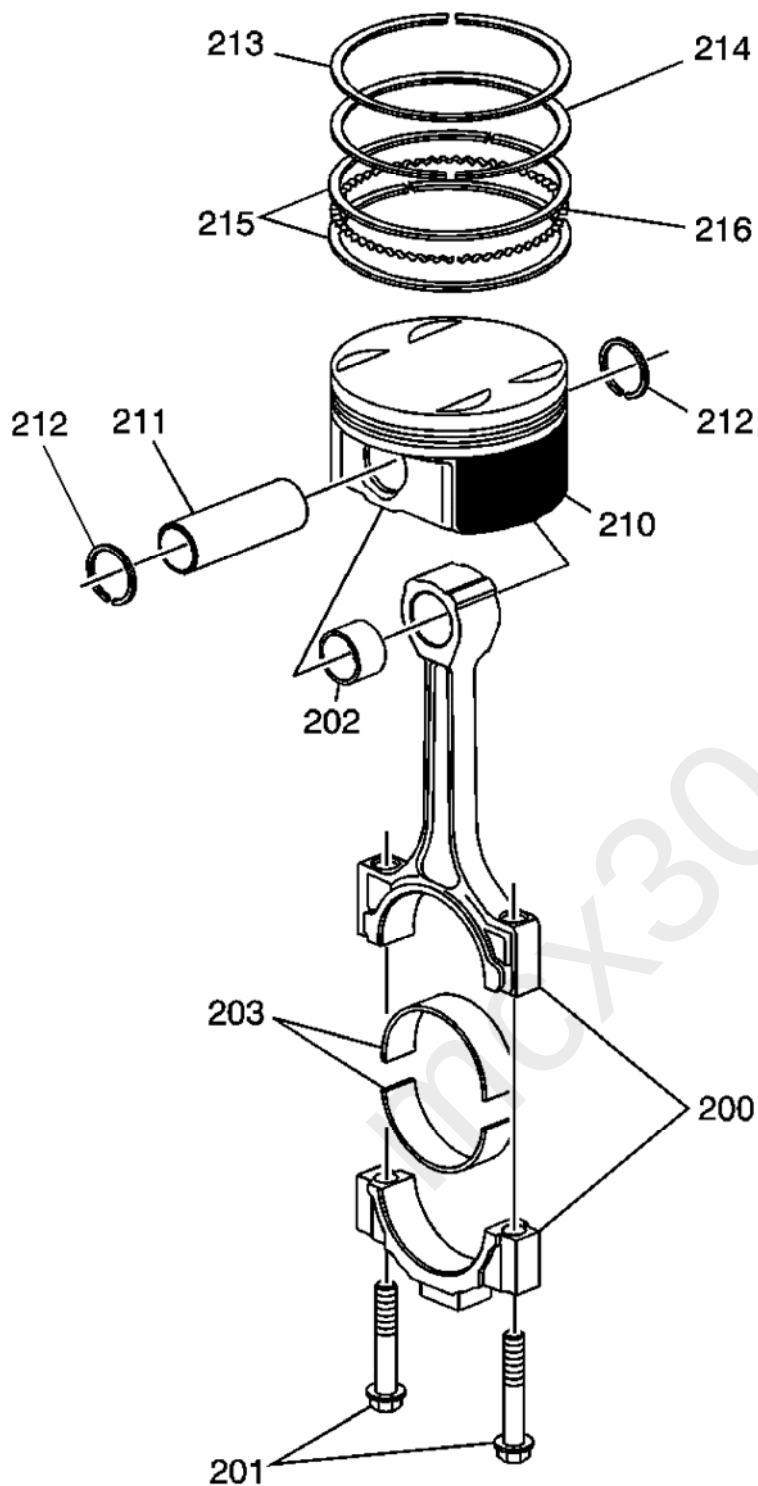


Fig. 11: Piston Components
 Courtesy of GENERAL MOTORS CORP.

Callout	Component Name

200	Connecting Rod
201	Connecting Rod Bolt
202	Connecting Rod Bushing
203	Connecting Rod Bearing
210	Piston
211	Piston Pin
212	Piston Pin Retainer
212	Piston Pin Retainer
213	Piston Upper Compression Ring
214	Piston Lower Compression Ring
215	Piston Oil Control Rail Ring
216	Piston Oil Control Ring Spacer

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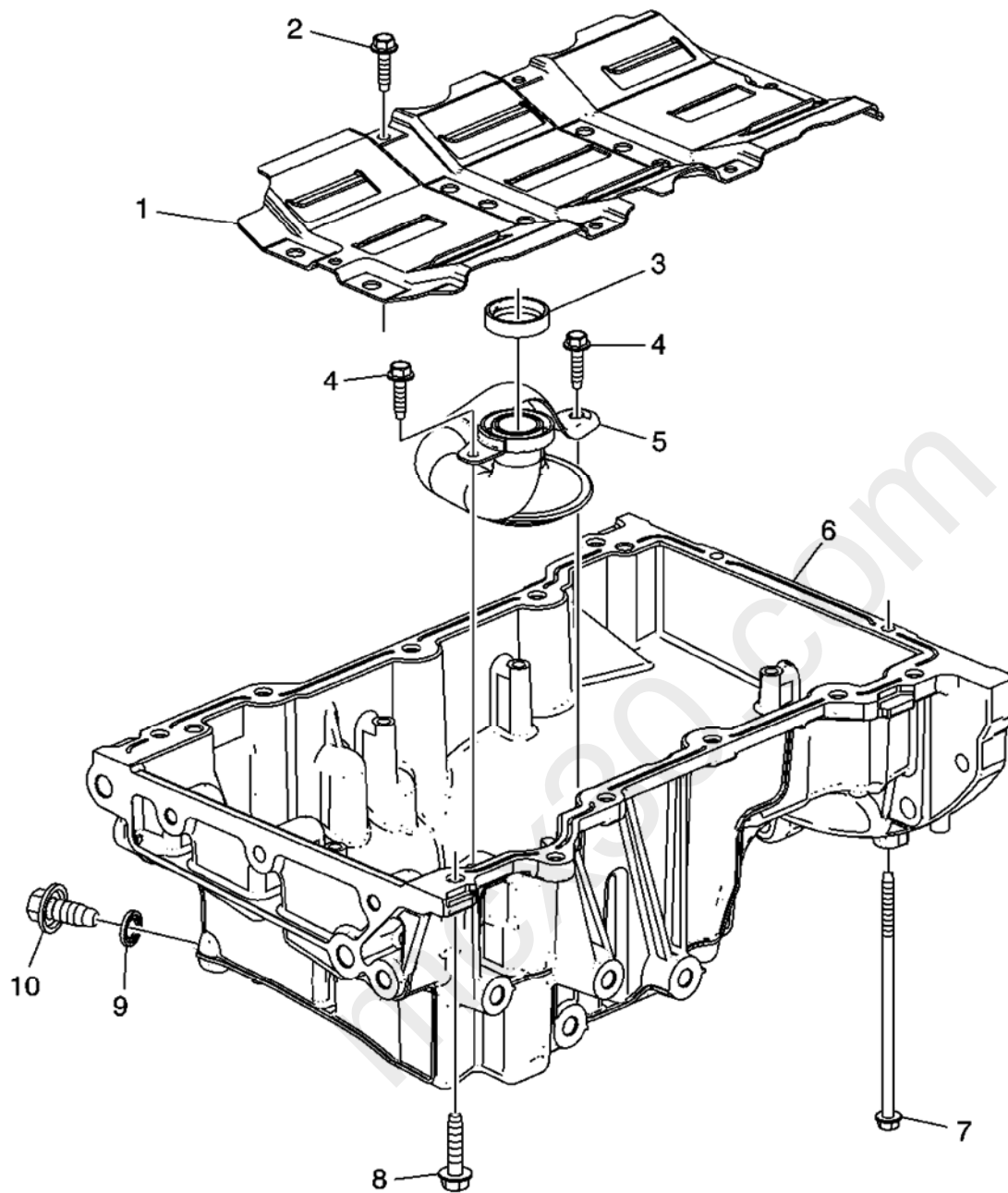


Fig. 12: Oil Pan Assembly Components
 Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	Oil Pan Baffle Scraper
2	Oil Pan Baffle Scraper Bolt
3	Oil Pump Suction Pipe Seal
4	Oil Pump Suction Pipe Bolt

5	Oil Pump Suction Pipe
6	Oil Pan
7	Oil Pan Bolt - Long
8	Oil Pan Bolt
9	Oil Pan Drain Plug Seal
10	Oil Pan Drain Plug

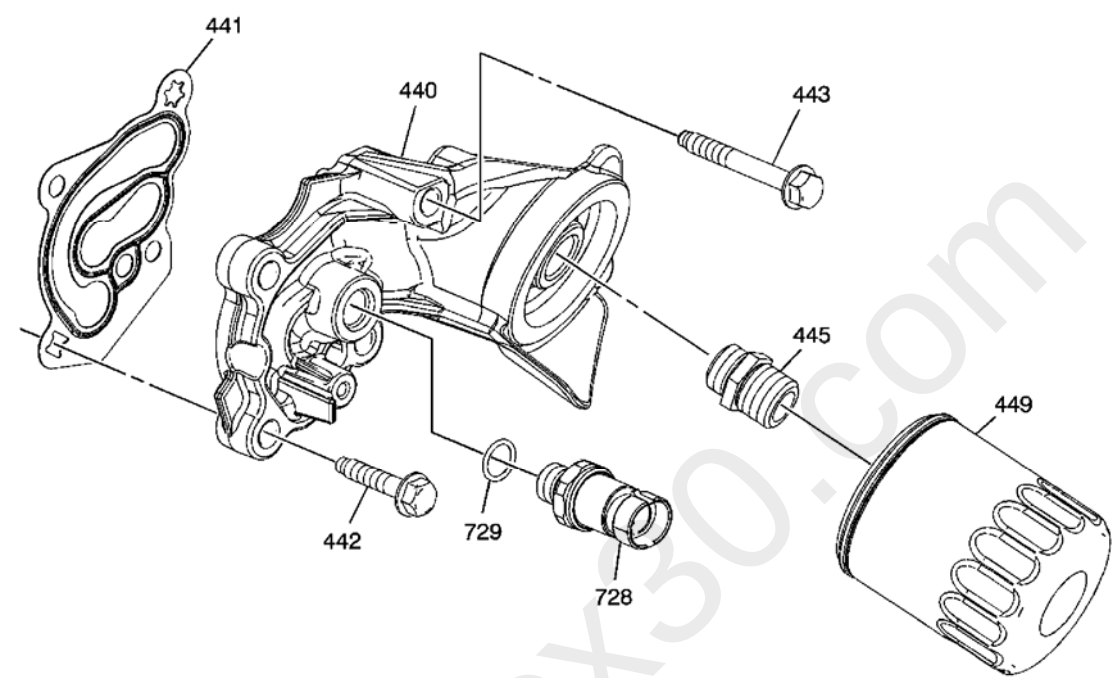


Fig. 13: Oil Filter Adapter Components
 Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
440	Oil Filter Adapter
441	Oil Filter Adapter Gasket
442	Oil Filter Adapter Bolt
443	Oil Filter Adapter Bolt - Long
445	Oil Filter Fitting
449	Oil Filter
728	Engine Oil Pressure Sensor
729	Engine Oil Pressure Sensor O-ring

ENGINE IDENTIFICATION

Vehicle Identification Number

The Vehicle Identification Number (VIN) Derivative is located in two places on the engine and is a nine digit number stamped or laser etched onto the block at the vehicle assembly plant. If reading the identification number the following information can be obtained:

- The first digit identifies the vehicle division.
- The second digit is the model year.
- The third digit identifies the assembly plant.
- The fourth through ninth digits are the last six digits of the Vehicle Identification Number (VIN).

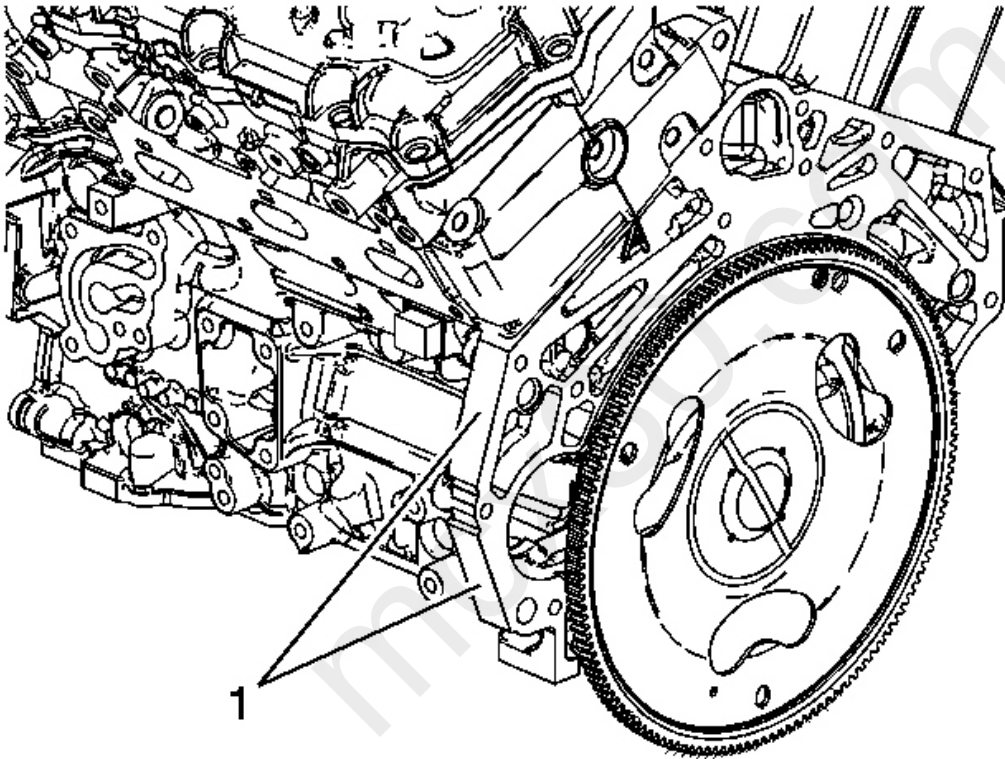


Fig. 14: Locating Engine VIN -- Left Rear Side
Courtesy of GENERAL MOTORS CORP.

The engine block is marked with the VIN on a pad area on the left rear side (1).

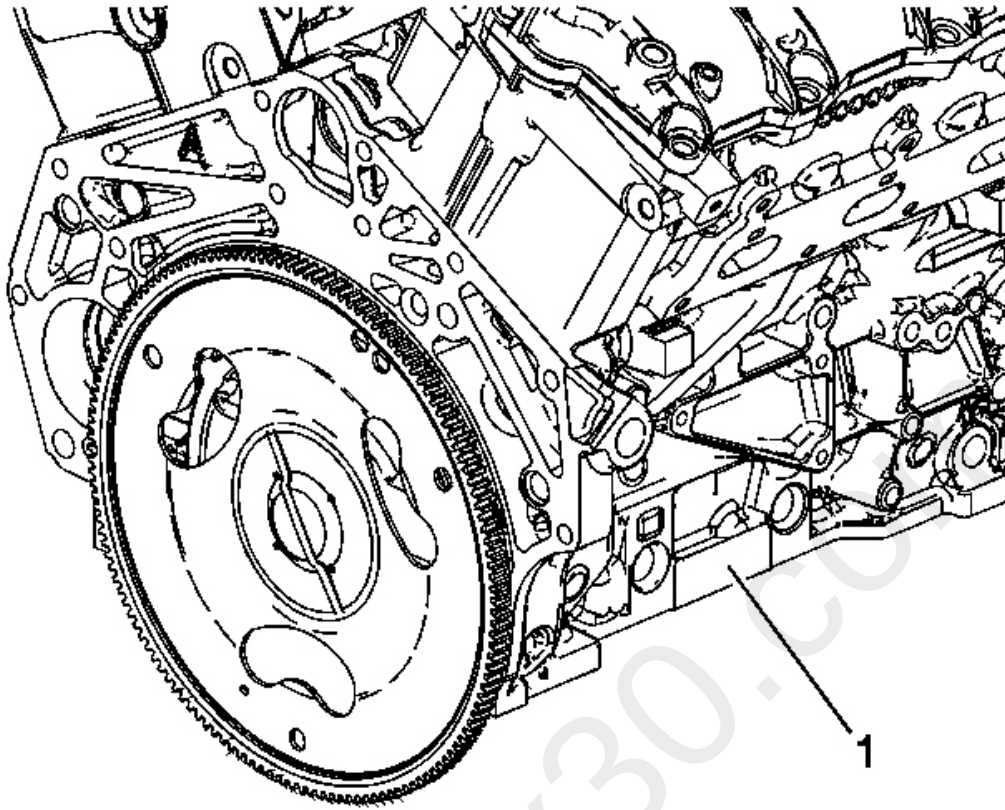


Fig. 15: Locating Engine VIN -- Lower Right Side
Courtesy of GENERAL MOTORS CORP.

The engine block is marked with the VIN on a pad area on the center lower right side (1).

Engine Traceability Label

The engine traceability label is located in two places on the engine and consists of the broadcast code, bar code and sequence number.

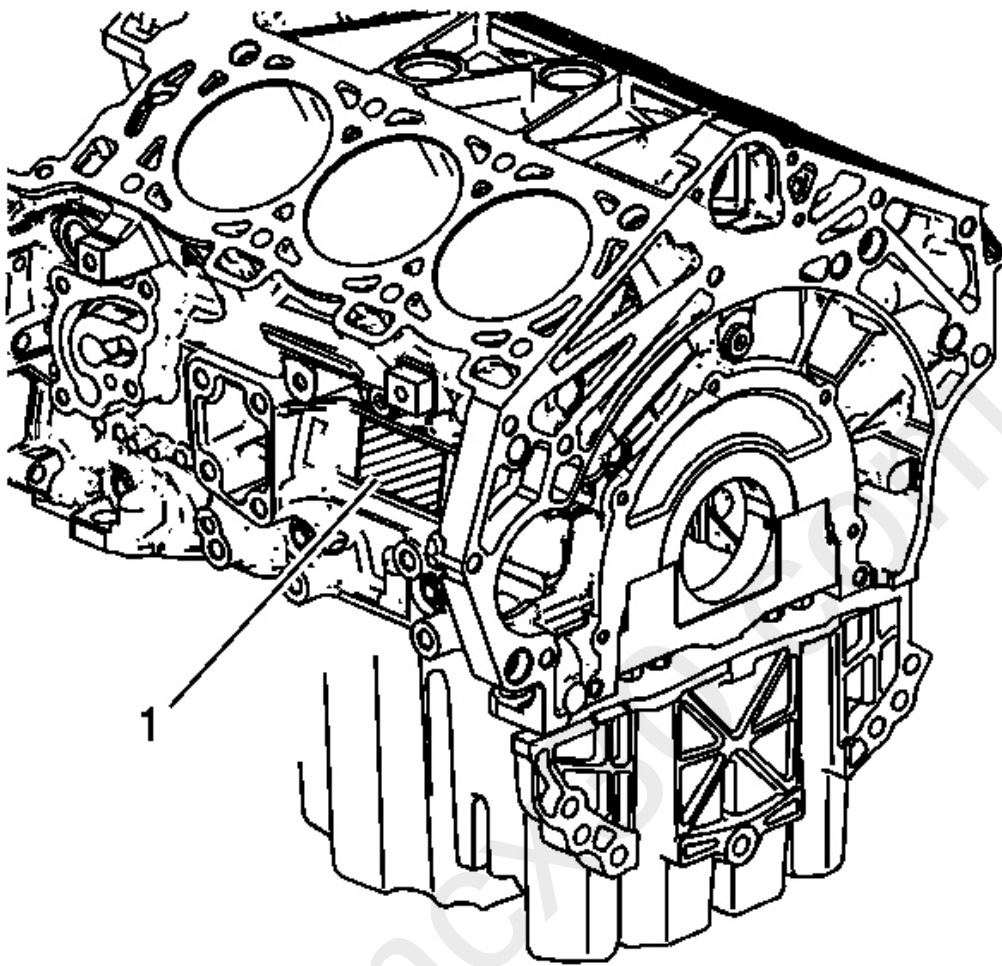


Fig. 16: Locating Left Rear Engine Traceability Label
Courtesy of GENERAL MOTORS CORP.

One engine traceability label (1) is located on the left rear side of the engine block.

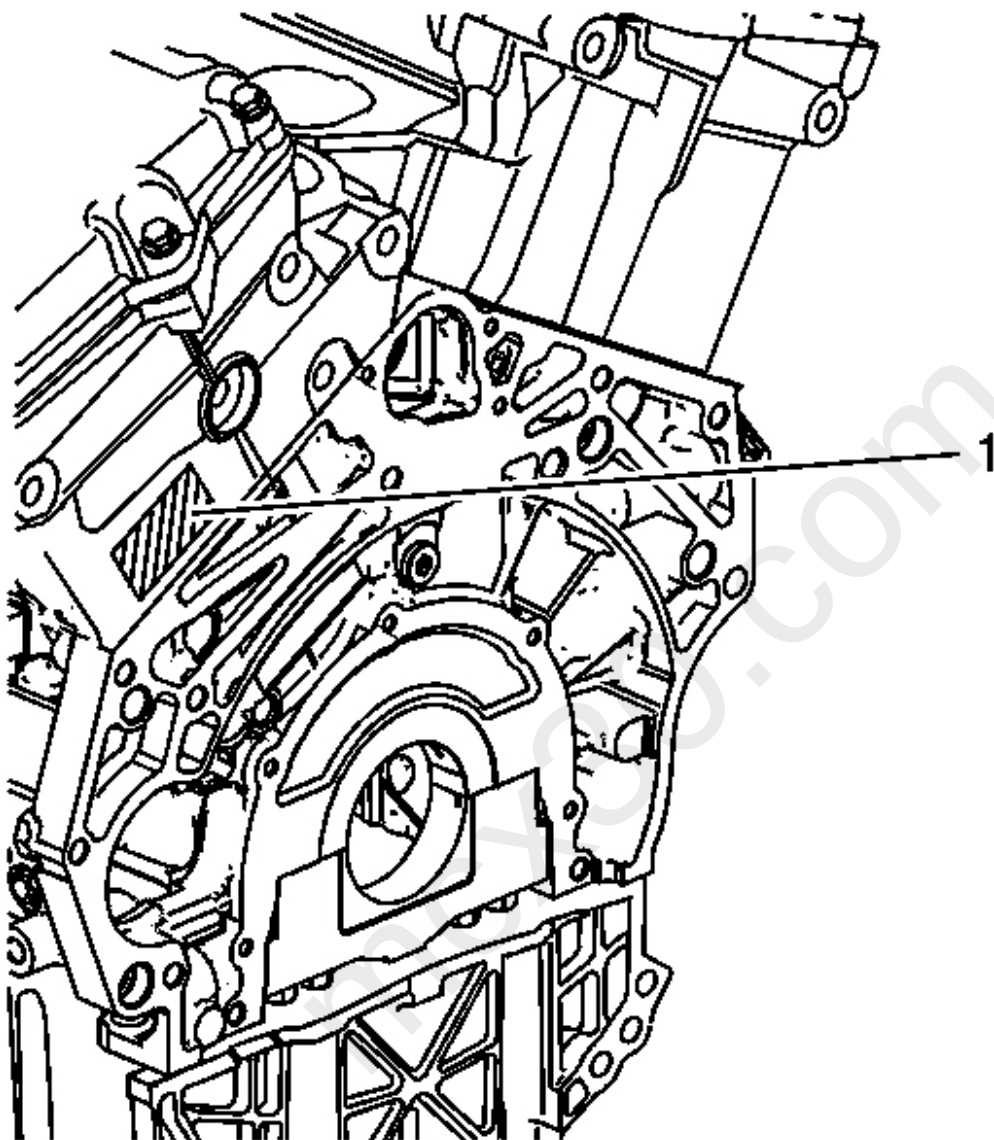


Fig. 17: Locating Engine Traceability Label On Left Cylinder Head
Courtesy of GENERAL MOTORS CORP.

Another engine traceability label (1) is located on the rear of the left cylinder head.

Engine Verification Label

The engine verification label is located in two places on the engine and consists of the broadcast code and bar

code.

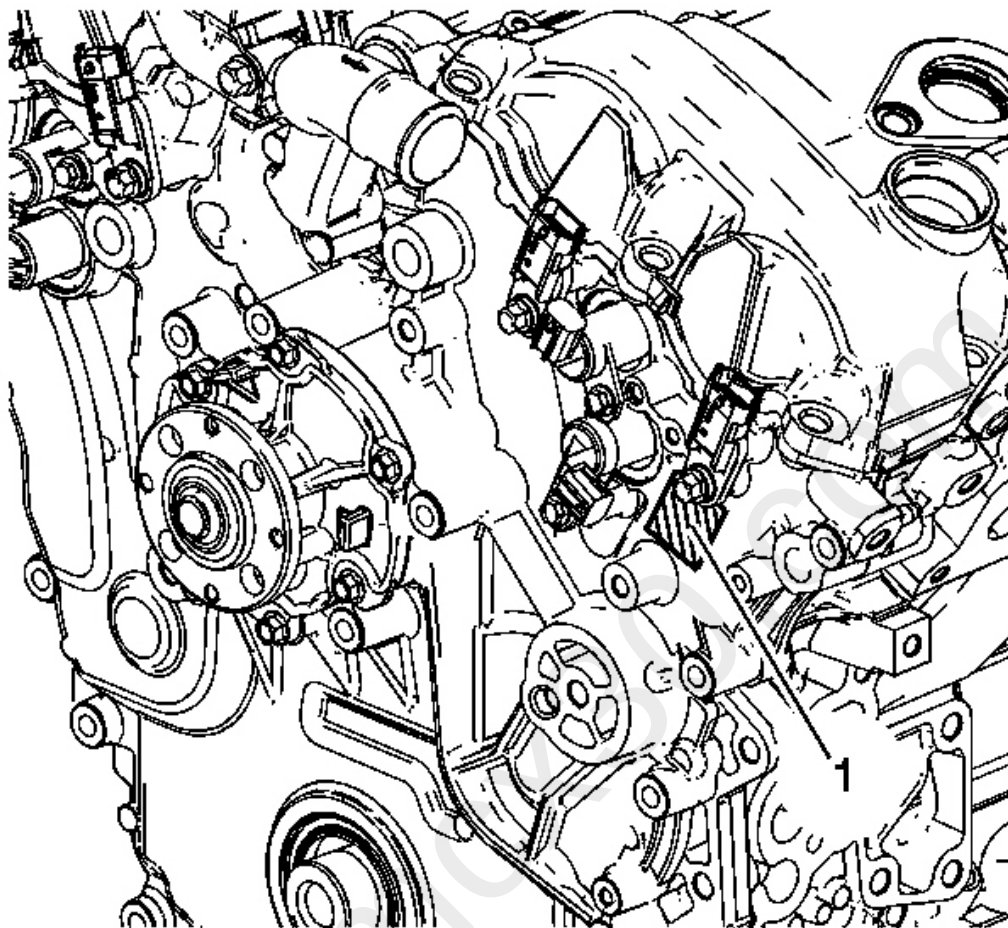


Fig. 18: Locating Engine Verification Label -- Left Of Engine Front Cover
Courtesy of GENERAL MOTORS CORP.

One engine verification label (1) is located on the left side of the engine front cover below the exhaust camshaft position sensor.

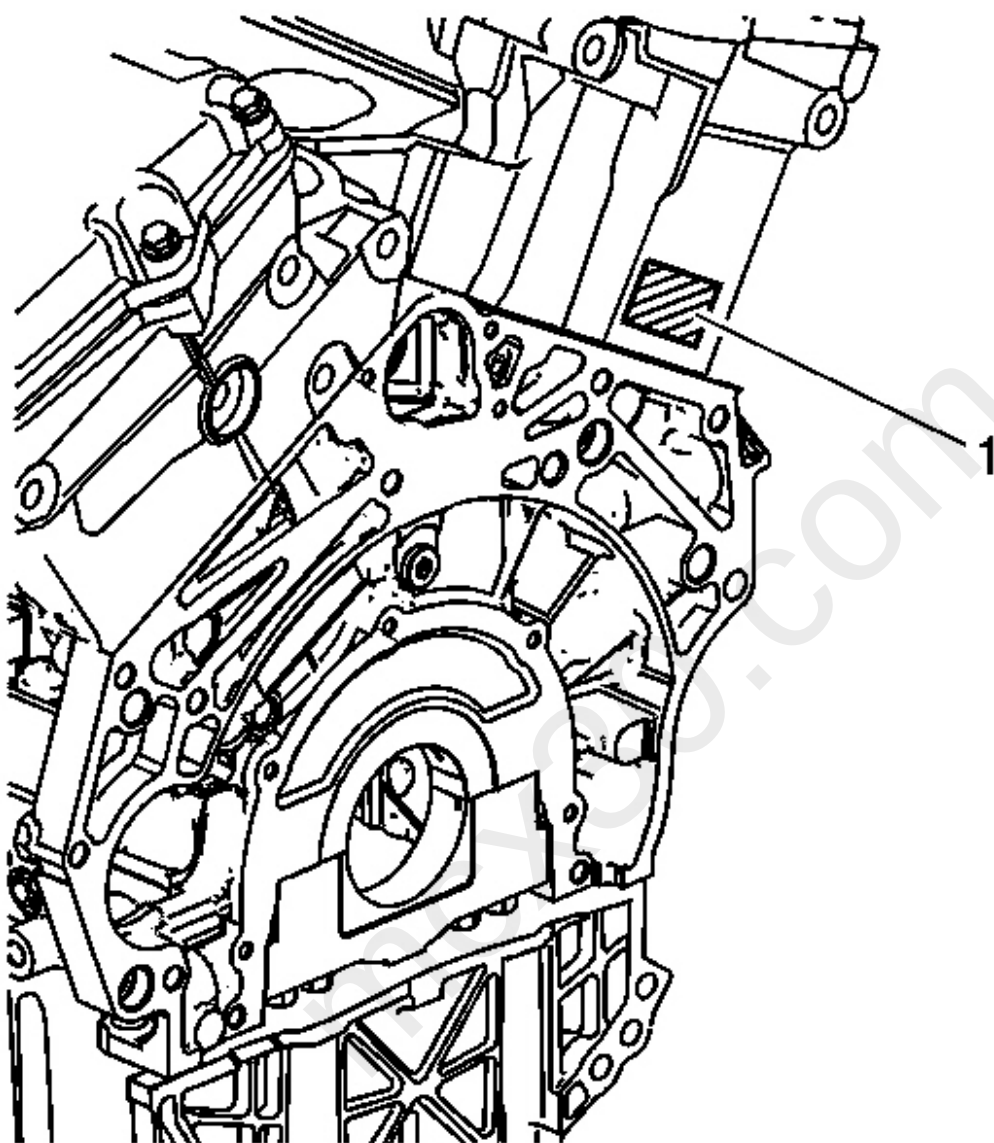


Fig. 19: Locating Engine Verification Label -- Right Cylinder Head
Courtesy of GENERAL MOTORS CORP.

Another engine verification label (1) is located on the rear of the right cylinder head.