

2008 Ford Mustang
2008 ENGINE Engine Ignition - 5.4L (4V) - Mustang

2008 ENGINE

Engine Ignition - 5.4L (4V) - Mustang

SPECIFICATIONS

MATERIAL SPECIFICATIONS

Item	Specification	Fill Capacity
Silicone Brake Caliper Grease and Dielectric Compound XG-3-A	ESE-M1C171-A	-

GENERAL SPECIFICATIONS

Item	Specification
Base ignition timing	10 degrees BTDC non-adjustable
Firing order	1-3-7-2-6-5-4-8
Spark plug gap	1.04-1.20 mm (0.041-0.047 in)
Spark plug type	AGSF-22FM1

TORQUE SPECIFICATIONS

Description	Nm	lb-ft	lb-in
Ignition coil cover bolts	10	-	89
Spark plugs	18	13	-

DESCRIPTION AND OPERATION

ENGINE IGNITION

The electronic ignition (EI) system is a coil-on-plug ignition system. The coil-on-plug ignition system consists of the:

- crankshaft position (CKP) sensor.
- camshaft position (CMP) sensor.
- ignition coils.
- spark plugs.

The CKP sensor:

- is a variable reluctance sensor.
- is mounted to the lower RH side of the front cover.
- is triggered by a 36-minus-1 tooth trigger wheel mounted on the crankshaft.
- provides base timing and crankshaft speed (RPM) to the PCM.

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The CMP sensor:

- is mounted on the LH side of the front cover.
- sends the PCM a signal indicating camshaft position used for fuel and spark synchronization.

The 8 separate ignition coils:

- convert low voltage signals from the PCM to high voltage pulses.
- produce the high voltage pulses for the spark plugs.
- are connected directly to each spark plug.

The spark plugs:

- convert a high voltage pulse into a spark which ignites the fuel and air mixture.
- originally installed on the vehicle have a platinum-enhanced active electrode for long life.

DIAGNOSTIC TESTS

ENGINE IGNITION

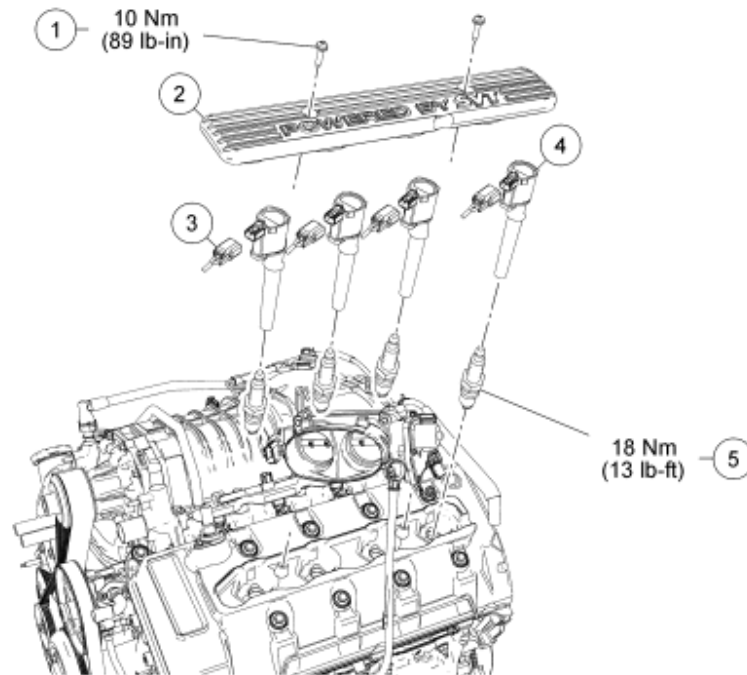
Refer to the [Introduction - Gasoline Engines](#) article.

REMOVAL AND INSTALLATION

ENGINE IGNITION COMPONENTS - EXPLODED VIEW

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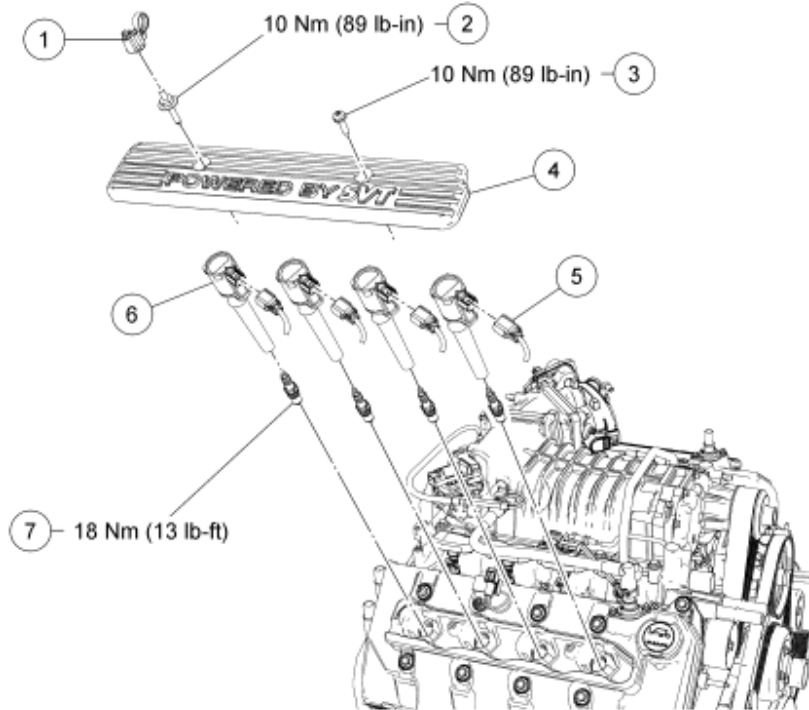
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Fig. 1: LH Ignition Components With Torque Specifications
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	W701621	Ignition coil-on-plug cover bolt (2 required)
2	6P067	Ignition coil-on-plug cover
3	14A464	Ignition coil-on-plug electrical connector (4 required) (part of 12B637)
4	12A366	Ignition coil-on-plug (4 required)
5	12405	Spark plug (4 required)

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Fig. 2: RH Ignition Components With Torque Specifications
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	W706827	Wire harness retainer (part of 12B637)
2	W712595	Ignition coil-on-plug cover stud bolt
3	W701624	Ignition coil-on-plug cover bolt
4	6P068	Ignition coil-on-plug cover
5	14A464	Ignition coil-on-plug electrical connector (4 required) (part of 12B637)
6	12A366	Ignition coil-on-plug (4 required)
7	12405	Spark plug (4 required)

1. For additional information, refer to the appropriate procedures.

IGNITION COIL-ON-PLUG

Material

Item	Specification
Silicone Brake Caliper Grease and Dielectric Compound XG-3-A	ESE-M1C171-A

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LH ignition coil-on-plugs

1. Remove the air cleaner outlet pipe. For additional information, refer to **INTAKE AIR DISTRIBUTION & FILTERING** article.
2. Remove the 2 bolts and the LH ignition coil-on-plug cover.
 - Inspect the gasket. Install a new gasket if necessary.
 - To install, tighten to 10 Nm (89 lb-in).
3. Disconnect the 4 LH ignition coil-on-plug electrical connectors.
4. Remove the 4 LH ignition coil-on-plugs, using a twisting motion while pulling up on the ignition coil-on-plug.

RH ignition coil-on-plugs

5. Detach the wire harness retainer from the stud bolt and position the harness aside.
6. Remove the bolt, stud bolt and the RH ignition coil-on-plug cover.
 - Inspect the gasket. Install a new gasket if necessary.
 - To install, tighten to 10 Nm (89 lb-in).
7. Disconnect the 4 RH ignition coil-on-plug electrical connectors.
8. Remove the 4 RH ignition coil-on-plugs, using a twisting motion while pulling up on the ignition coil-on-plug.

All ignition coil-on-plugs

NOTE: Verify that the ignition coil-on-plug spring is correctly located inside the ignition coil-on-plug boot and that there is no damage to the tip of the boot.

9. To install, reverse the removal procedure.
 - Apply a light coat of dielectric grease to the inside of the ignition coil-on-plug boots.

SPARK PLUGS

REMOVAL AND INSTALLATION

1. Remove the ignition coil-on-plugs. For additional information, refer to **Ignition Coil-On-Plug**.

CAUTION: Only use hand tools when removing or installing the spark plugs, or damage may occur to the cylinder head or spark plug.

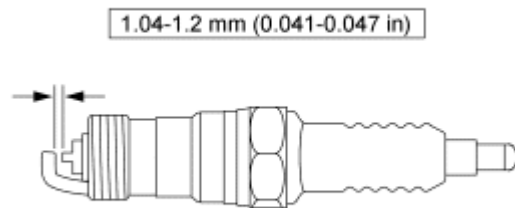
NOTE: Use compressed air to remove any foreign material from the spark plug well before removing the spark plugs.

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NOTE: If an original spark plug is used, make sure it is installed in the same cylinder from which it was taken. New spark plugs can be used in any cylinder.

2. Remove the 8 spark plugs.
 - To install, tighten to 18 Nm (13 lb-ft).
3. Inspect the spark plugs. Install new spark plugs as necessary. For additional information, refer to **ENGINE SYSTEM - GENERAL INFORMATION** article.
4. Adjust the spark plug gap as necessary.



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Fig. 3: Adjusting Spark Plug Gap
Courtesy of FORD MOTOR CO.

5. To install, reverse the removal procedure.