

2008 Ford Mustang
2008 ENGINE Engine Ignition - 4.6L (3V) - Mustang

2008 ENGINE

Engine Ignition - 4.6L (3V) - 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
Engine Ignition	
Base ignition timing	10 degrees before top dead center (BTDC)
Firing order	1-3-7-2-6-5-4-8
Spark plug gap (early build - black coil boot) ^a	1.15 +/- 0.13 mm (0.040-0.050 in)
Spark plug gap (late build - brown coil boot)	1.05 +/- 0.05 mm (0.039-0.043 in)
Spark plug type (early build - black coil boot)	PZT1F
Spark plug type (late build - brown coil boot)	HJFS 24FP

^a Spark plug gap is not adjustable.

TORQUE SPECIFICATIONS

Description	Nm	lb-ft	lb-in
Coil on plug bolts	5	-	44
Spark plugs (early build - black coil boot)	34	25	-
Spark plugs (late build - brown coil boot)	12	9	-

DESCRIPTION AND OPERATION

ENGINE IGNITION

The electronic ignition system is a coil-on-plug ignition system. The coil-on-plug ignition system consists of the following components:

- Crankshaft Position (CKP) sensor
- Ignition coils
- Spark plugs

The CKP sensor:

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- is a variable reluctance sensor.
- is triggered by a 36-minus-1 tooth sensor ring mounted on the crankshaft.
- provides base timing and crankshaft speed (RPM) to the PCM.

The 8 separate ignition coils:

- change low voltage to high voltage pulses based on signals from the PCM.
- produce the high voltage pulses to the spark plugs.
- are connected directly to each spark plug.

The spark plugs:

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

DIAGNOSTIC TESTS

ENGINE IGNITION

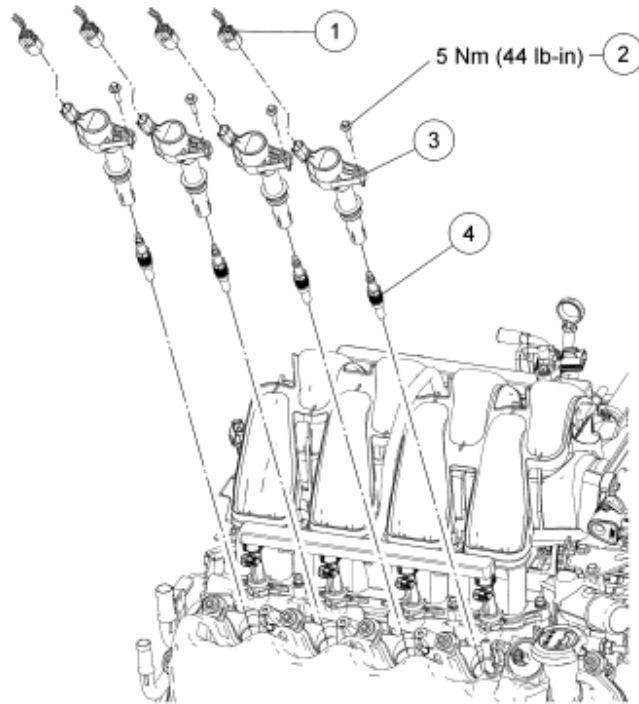
Refer to the [Introduction - Gasoline Engines](#) article.

REMOVAL AND INSTALLATION

ENGINE IGNITION COMPONENTS - EXPLODED VIEW

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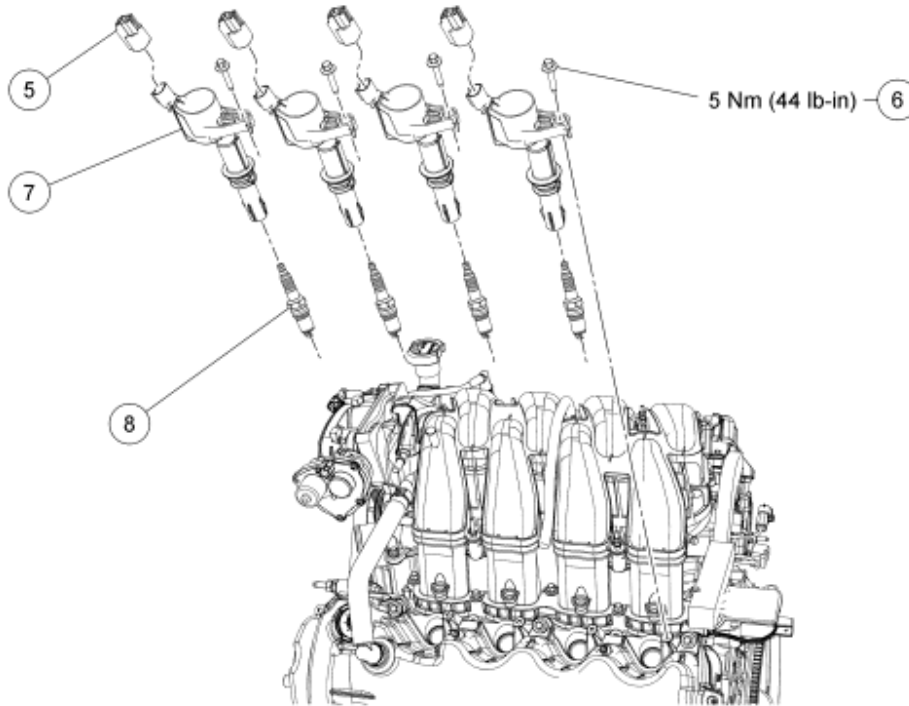
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Fig. 1: RH Ignition Components With Torque Specifications
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	14A464	Ignition coil-on-plug electrical connector (4 required)
2	W706175	Ignition coil-on-plug bolt (4 required)
3	12A366	Ignition coil-on-plug (4 required)
4	12405	Spark plug (4 required)

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

Item	Part Number	Description
5	14A464	Ignition coil-on-plug electrical connector (4 required)
6	W706175	Ignition coil-on-plug bolt (4 required)
7	12A366	Ignition coil-on-plug (4 required)
8	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

REMOVAL AND INSTALLATION

1. Disconnect the 8 ignition coil electrical connectors.
2. Remove the 8 ignition coil bolts.

- To install, tighten to 5 Nm (44 lb-in).

NOTE: When removing the ignition coils, a slight twisting motion will break the seal and ease removal.

3. Remove the 8 ignition coils.
4. To install, reverse the removal procedure.
 - Apply a light film of brake caliper grease to the inside of the coil boots before installation.

SPARK PLUGS

Material

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

REMOVAL AND INSTALLATION

All vehicles

1. Disconnect the ignition coil electrical connectors.
2. Remove the ignition coil bolts.
 - To install, tighten to 5 Nm (44 lb-in).

NOTE: When removing the ignition coils, a slight twisting motion will break the seal and ease removal.

3. Remove the ignition coils.

Early build vehicles (black coil boot)

NOTE: 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.

NOTE: Refer to SPECIFICATIONS for correct spark plug identification.

4. Remove the spark plugs.
 - To install, tighten to 34 Nm (25 lb-ft).

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Late build vehicles (brown coil boot)

NOTE: 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.

NOTE: Refer to the SPECIFICATIONS for correct spark plug identification.

5. Remove the spark plugs.
 - To install, tighten to 12 Nm (9 lb-ft).
6. To install, reverse the removal procedure.
 - Apply a light film of silicone brake caliper grease and dielectric compound to the inside of the coil boots before installation.