

2008 Ford Mustang
2008 ENGINE Engine Ignition - 4.0L SOHC - Mustang

2008 ENGINE

Engine Ignition - 4.0L SOHC - 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	-
Firing order	1-4-2-5-3-6
Spark plug gap	1.32-1.42 mm (0.052-0.056 in)
Spark plug type	AGSF24N

TORQUE SPECIFICATIONS

Description	Nm	lb-ft	lb-in
Ignition coil bolts	6	-	53
Ignition coil bracket-to-cylinder head bolt (M8)	23	17	-
Ignition coil bracket-to-cylinder head bolts (M12)	80	59	-
Ignition coil bracket-to-intake manifold bolts	8	-	71
Spark plugs	17	13	-

DESCRIPTION AND OPERATION

ENGINE IGNITION

The ignition system consists of the:

- crankshaft position (CKP) sensor.
- ignition coil.
- spark plug wire.
- spark plug.

The ignition system is:

- an electronic distributorless ignition system (EDIS) controlled by an electronic engine control integrated into the PCM.
- set at 10 degrees before top dead center (TDC) for base timing, and is not adjustable.

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The CKP sensor:

- is a variable reluctance sensor.
- senses a missing tooth on the crankshaft damper pulse ring.
- generates a crankshaft position signal which is sent to the PCM. The PCM counts this signal for engine RPM.

The ignition coil:

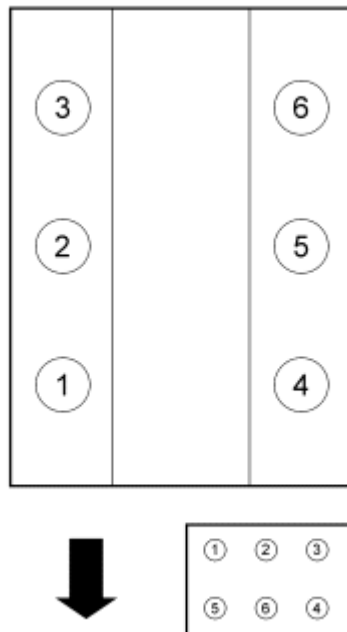
- changes low voltage pulses from the PCM to high voltage pulses.
- has 3 transformers.
- fires 2 spark plugs simultaneously.

Spark plug wires carry high voltage pulses from the ignition coil to the spark plugs.

The spark plugs:

- change high voltage pulses to spark at the gap, which ignites the fuel and air mixture.

The firing order is: 1-4-2-5-3-6.



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Fig. 1: Coil Terminal-to-Cylinder Relationship
Courtesy of FORD MOTOR CO.

DIAGNOSTIC TESTS

ENGINE IGNITION

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

REMOVAL AND INSTALLATION

ENGINE IGNITION COMPONENTS - EXPLODED VIEW

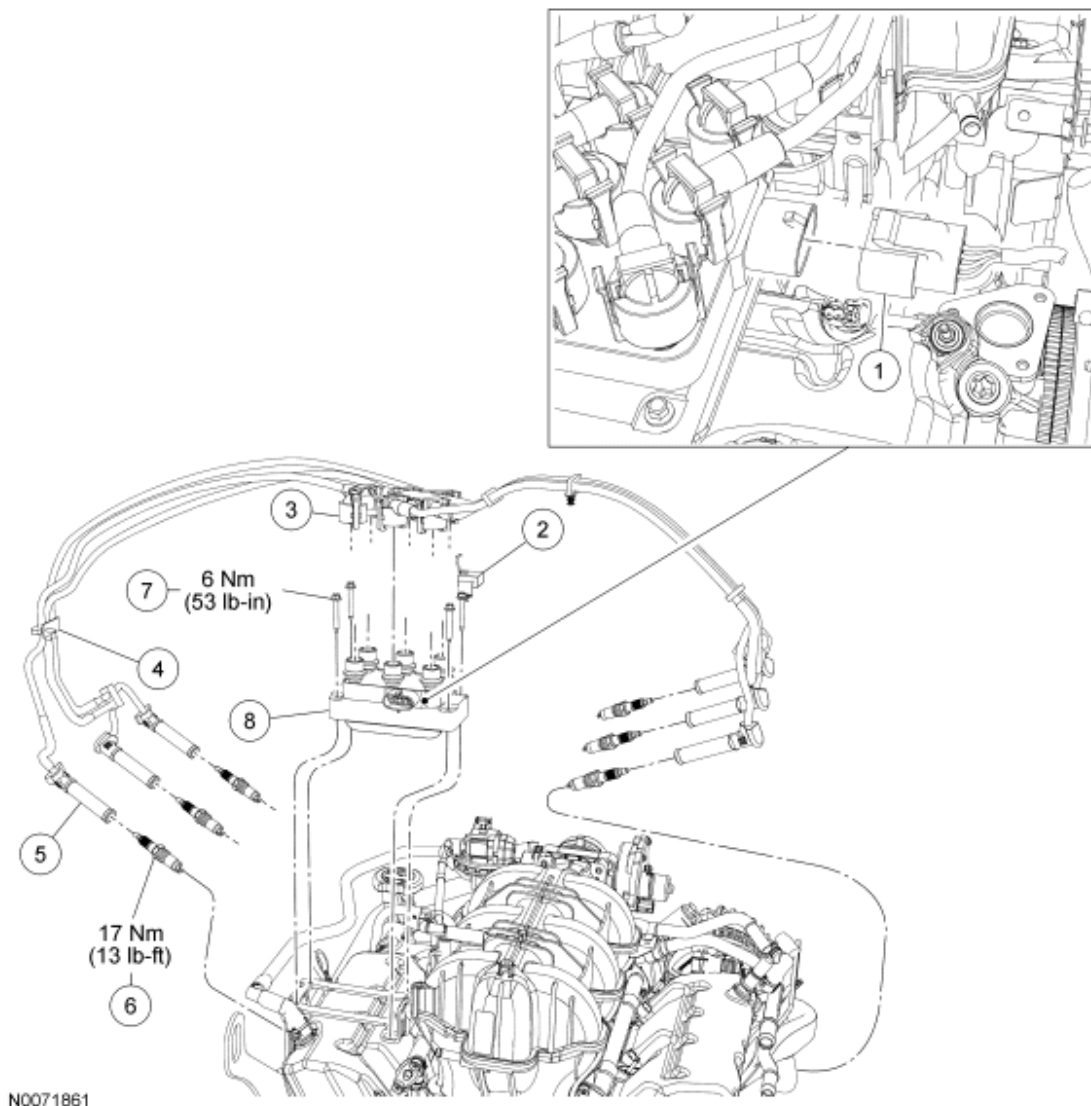


Fig. 2: Exploded View Of Engine Ignition Components With Specifications
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	14A464	Ignition coil electrical connector
2	18801	Radio ignition interference capacitor

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3	12286	Spark plug wire-to-ignition coil (6 required)
4	12297	Spark plug wire retainer
5	12286	Spark plug wire-to-spark plug (6 required)
6	12405	Spark plug (6 required)
7	W706216	Ignition coil bolt (4 required)
8	12029	Ignition coil

- For additional information, refer to the appropriate procedures.

IGNITION COIL

REMOVAL AND INSTALLATION

- Disconnect the electrical connector from the ignition coil.

CAUTION: It is important to twist the spark plug wire boots while pulling upward to avoid possible damage to the spark plug wires.

NOTE: Spark plug wires must be connected to the correct ignition coil terminal.

- Disconnect the 6 spark plug wires from the ignition coil.
- Remove the 4 bolts and the ignition coil.
 - To install, tighten to 6 Nm (53 lb-in).

NOTE: Be sure to reinstall the radio ignition interference capacitor under the correct mounting bolt.

- To install, reverse the removal procedure.

SPARK PLUG WIRES

Special Tools

Illustration	Tool Name	Tool Number
 ST1394-A	Remover, Spark Plug Wire	303-106 (T74P-6666A)

Material

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

NOTE: Spark plug wires must be connected to the correct ignition coil terminal.

1. Disconnect the spark plug wires from the ignition coil.
2. Detach the spark plug wire retainers.

CAUTION: It is important to twist the spark plug wire boots while pulling upward to avoid possible damage to the spark plug wire.

3. Using the special tool, remove the spark plug wire from the spark plug using a twisting motion.

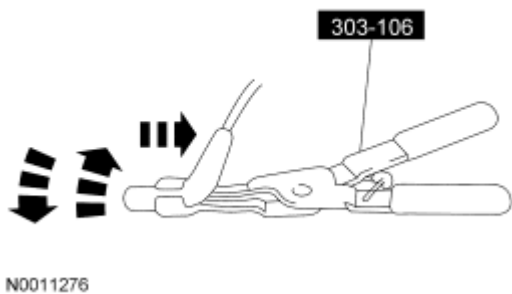


Fig. 3: Removing Spark Plug Wire From Spark Plug Using Special Tool (303-106)
 Courtesy of FORD MOTOR CO.

- NOTE:** Make sure the spark plug boots are positioned so that the spark plug wires do not contact the exhaust manifold or any sharp edges.
- NOTE:** Apply silicone brake caliper grease and dielectric compound to the inside of the spark plug wire-to-boots.

4. To install, reverse the removal procedure.

SPARK PLUGS

Special Tools

Illustration	Tool Name	Tool Number
	Remover, Spark Plug Wire	303-106 (T74P-6666A)

 ST1394-A		
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Material

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

REMOVAL

CAUTION: It is important to twist the spark plug wire boots while pulling upward to avoid possible damage to the spark plug wire.

NOTE: Spark plug wires must be connected to the correct spark plug.

- 1. Using the special tool, remove the spark plug wires from the spark plugs using a twisting motion.

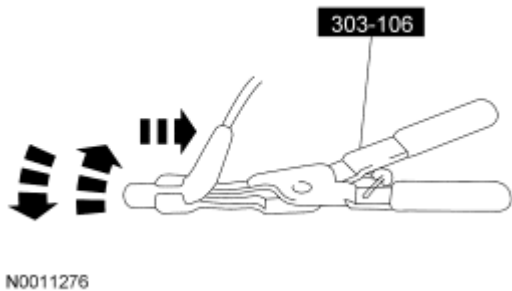


Fig. 4: Removing Spark Plug Wire From Spark Plug Using Special Tool (303-106)
Courtesy of FORD MOTOR CO.

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 in the spark plug well before removing the spark plugs.

- 2. Remove the 6 spark plugs.

INSTALLATION

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

1. Install the 6 spark plugs.
 - Tighten to 17 Nm (13 lb-ft).
2. Apply silicone brake caliper grease and dielectric compound to the inside of the spark plug wire-to-boots.

NOTE: Make sure the spark plug boots are positioned so that the spark plug wires do not contact the exhaust manifold, or any sharp edges.

3. Connect the 6 spark plug wires to the spark plugs.