

2008 Ford Edge SE

2008 ENGINE Engine Ignition - 3.5L - Edge & MKX

2008 ENGINE

Engine Ignition - 3.5L - Edge & MKX

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	
Spark plug	AYFS-22FM
Spark plug gap	1.29-1.45 mm (0.051-0.057 in)

TORQUE SPECIFICATIONS

Description	Nm	lb-in
Ignition coil-on-plug bolts	7	62
Spark plugs	15	133

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:

- Camshaft Position (CMP) sensors.
- a Crankshaft Position (CKP) sensor.
- ignition coil-on-plugs.
- spark plugs.

The CMP sensors:

- are variable reluctance sensors.
- are mounted in the rear of the cylinder head.
- are triggered by a 3-plus-1 timing wheel on each intake camshaft.
- provides camshaft rotational location information to the PCM.

The CKP sensor:

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- is a variable reluctance sensor.
- is triggered by a 36-minus-1 tooth trigger wheel mounted on the crankshaft, at the rear of the engine.
- provides base timing and crankshaft speed (RPM) to the PCM.

The ignition coil-on-plugs:

- change low voltage signals from the PCM to high voltage pulses.
- produce the high voltage pulses to the spark plugs.
- are connected directly to each spark plug.
- have replaceable coil seals.

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 fine wire 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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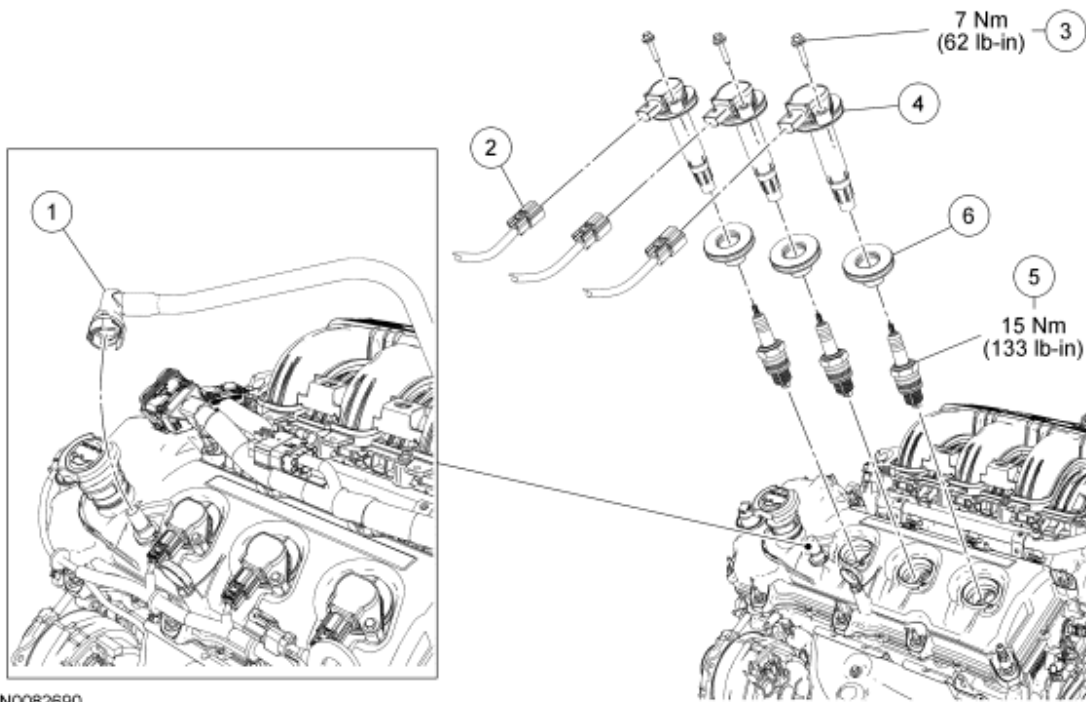


Fig. 1: Identifying LH Side Engine Ignition Components (With Torque Specifications)
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	6758	Crankcase vent tube-to-valve cover fitting quick connect coupling
2	-	Ignition coil-on-plug electrical connector (3 required) (part of 12A581)
3	W708833	Ignition coil-on-plug bolt (3 required)
4	12A375	Ignition coil-on-plug (3 required)
5	12405	Spark plug (3 required)
6	12A384	Coil seal (3 required)

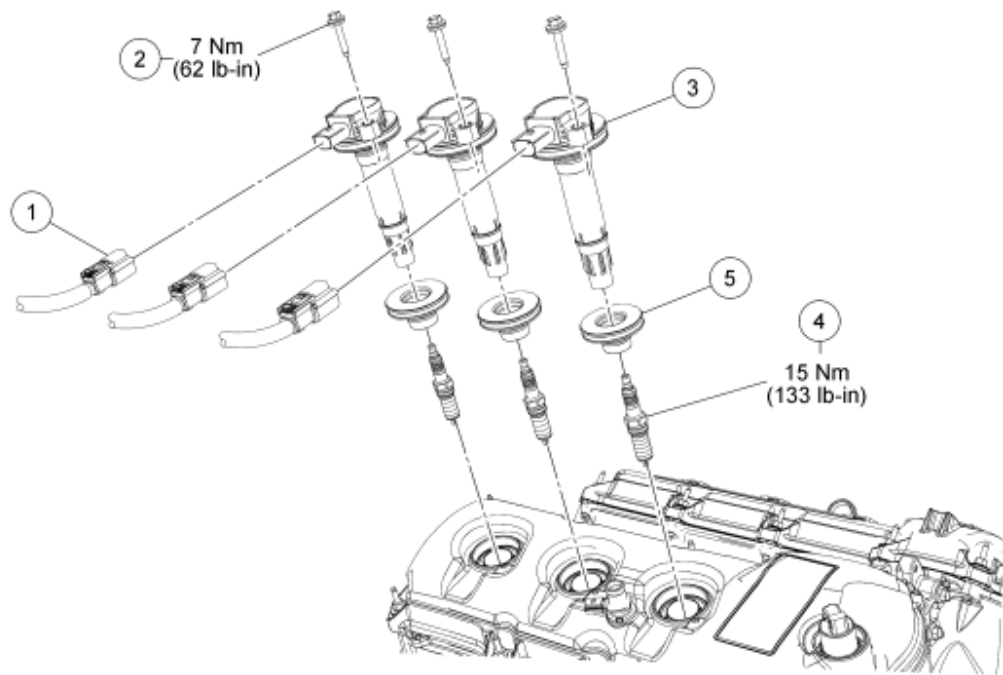


Fig. 2: Identifying RH Side Engine Ignition Components (With Torque Specifications)
 Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	-	Ignition coil-on-plug electrical connector (3 required) (part of 12A581)
2	W708833	Ignition coil-on-plug bolt (3 required)
3	12A375	Ignition coil-on-plug (3 required)
4	12405	Spark plug (3 required)
5	12A384	Coil seal (3 required)

- For additional information, refer to the procedures in this article.

IGNITION COIL-ON-PLUG

Material

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

REMOVAL AND INSTALLATION

LH side

1. Disconnect the crankcase vent tube quick connect coupling from the valve cover fitting and position aside. For additional information, refer to **FUEL SYSTEM - GENERAL INFORMATION** article.

RH side

NOTE: **The upper intake manifold must be removed to access the RH ignition coil-on-plugs.**

2. Remove the upper intake manifold. For additional information, refer to **ENGINE - 3.5L** article.

Both sides

3. Disconnect the 6 ignition coil-on-plug electrical connectors.

NOTE: **When removing the ignition coil-on-plugs, a slight twisting motion will break the seal and ease removal.**

4. Remove the 6 bolts and the 6 ignition coil-on-plugs.
- To install, tighten to 7 Nm (62 lb-in).
5. Inspect the coil seals for rips, nicks or tears. Remove and discard any damaged coil seals.
- To install, slide the new coil seal onto the coil until it is fully seated at the top of the coil.

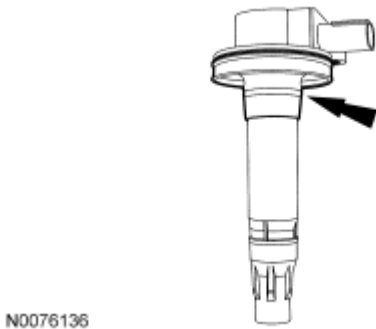


Fig. 3: Identifying Coil Seal On Coil
Courtesy of FORD MOTOR CO.

6. To install, reverse the removal procedure.
- Apply a small amount of dielectric grease to the inside of the ignition coil-on-plug boots before attaching to the spark plugs.

SPARK PLUGS

Material

Item	Specification
Silicone Brake Caliper Grease and Dielectric	

Compound XG-3-A	ESE-M1C171-A
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REMOVAL

LH side

1. Disconnect the crankcase vent tube quick connect coupling from the valve cover fitting and position aside. For additional information, refer to **FUEL SYSTEM - GENERAL INFORMATION** article.

RH side

NOTE: **The upper intake manifold must be removed to access the RH spark plugs only.**

2. Remove the upper intake manifold. For additional information, refer to **ENGINE - 3.5L** article.

Both sides

3. Disconnect the 6 ignition coil-on-plug electrical connectors.

NOTE: **When removing the ignition coil-on-plugs, a slight twisting motion will break the seal and ease removal.**

4. Remove the 6 bolts and the 6 ignition coil-on-plugs.

CAUTION: Only use hand tools when removing or installing the spark plugs or damage can 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.**

5. Remove the 6 spark plugs.

INSTALLATION

Both sides

1. Inspect the 6 spark plugs.

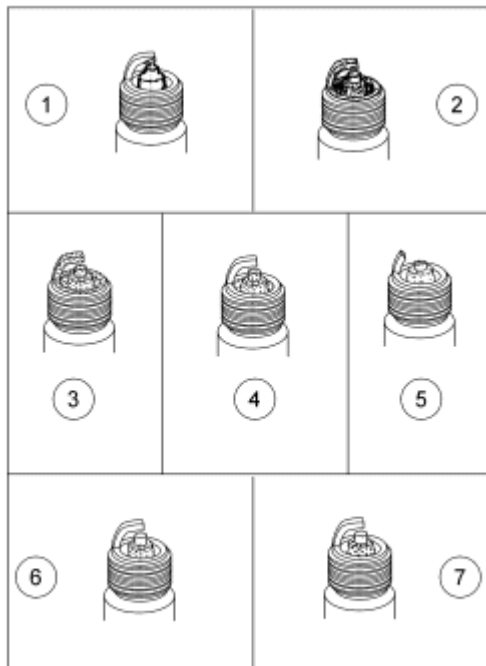
Item	Part Number	Description
1	-	Deposits bridging spark plug gap

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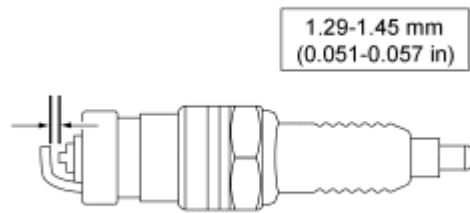
2	-	Wet black deposits (oil fouling)
3	-	Dry black deposits (carbon fouling)
4	-	Normal spark plug
5	-	Pre-ignition
6	-	Overheating
7	-	Fused spot deposits



DB0020-A

Fig. 4: Identifying Spark Plugs Condition
Courtesy of FORD MOTOR CO.

2. Adjust the spark plug gap as necessary.



N0058020

Fig. 5: Identifying Spark Plug Gap (With Specifications)
Courtesy of FORD MOTOR CO.

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

3. Install the 6 spark plugs.
 - Tighten to 15 Nm (11 lb-ft).

NOTE: Apply a small amount of dielectric grease to the inside of the ignition coil-on-plug boots before attaching to the spark plugs.

4. Install the 6 ignition coil-on-plugs and the 6 bolts.
 - Tighten to 7 Nm (62 lb-in).
5. Connect the 6 ignition coil-on-plug electrical connectors.

RH side

6. Install the upper intake manifold. For additional information, refer to **ENGINE - 3.5L** article.

LH side

7. Position and connect the crankcase vent tube quick connect coupling to the valve cover fitting. For additional information, refer to **FUEL SYSTEM - GENERAL INFORMATION** article.