

Fig. 6: Locating Intake Manifold Crash Bracket With Tie Strap
Courtesy of FORD MOTOR CO.

24. Remove the intake manifold crash bracket bolt.
25. Disconnect the fuel rail pressure and temperature sensor vacuum and electrical connectors.
26. Remove the wire harness retainer from the rear of the intake manifold.
27. Remove the 8 bolts and the intake manifold.
 - Remove and discard the intake manifold gaskets.
 - Clean the sealing surfaces.

Installation

NOTE: **Align the gasket locator tabs with the slots in the cylinder head.**

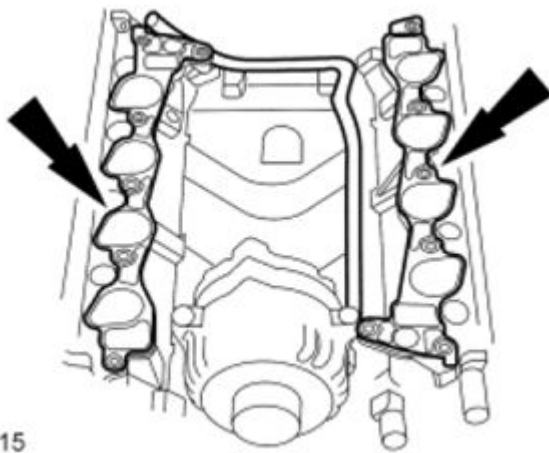
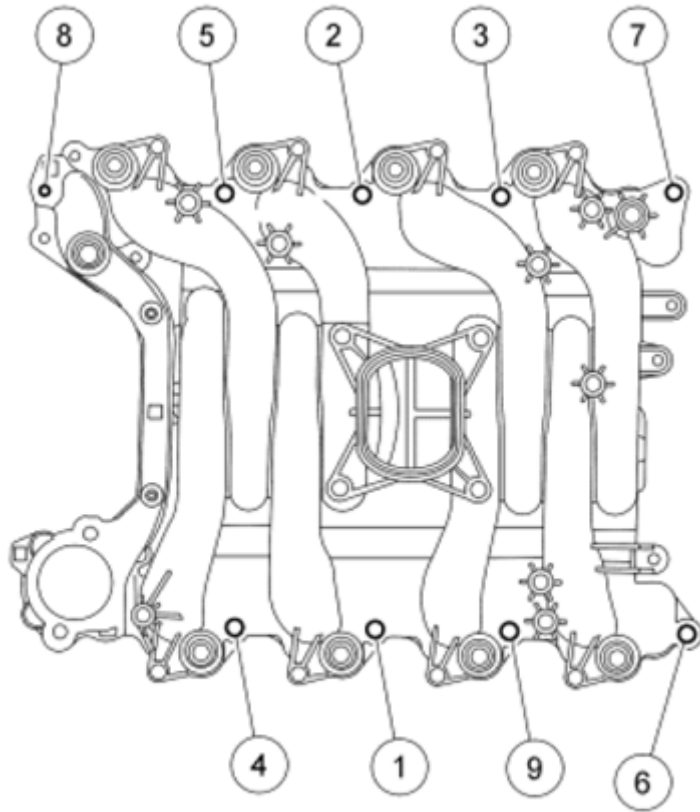


Fig. 7: Locating Gasket Locator Tabs
Courtesy of FORD MOTOR CO.

1. Install new intake manifold gaskets.
2. Install the intake manifold and hand-tighten the 8 bolts.
3. Install the 8 ignition coil-on-plugs. For additional information, refer to **ENGINE IGNITION SYSTEM -**

4.6L (2V) article.

4. Position the intake manifold crash bracket and loosely install the bolt and stud bolt.
5. Tighten the bolts in the sequence shown in the illustration.
 - Tighten to 25 Nm (18 lb-ft).



N0037509

Fig. 8: Identifying Intake Manifold Crash Bracket Mounting Bolts Tightening Sequence
Courtesy of FORD MOTOR CO.

6. Tighten the intake manifold crash bracket bolt.
 - Tighten to 25 Nm (18 lb-ft).
7. Install the EGR system module tube. For additional information, refer to **ENGINE EMISSION CONTROL SYSTEM** article.
8. Install the intake manifold shield and the 2 bolts.
 - Tighten to 10 Nm (89 lb-in).
9. Connect the throttle control and the TP sensor electrical connectors.
10. Install the coolant thermostat. For additional information, refer to **ENGINE COOLING SYSTEM** article.
11. Install the generator bracket and the 4 bracket bolts.

2011 Mercury Grand Marquis LS

2011 ENGINE Engine Mechanical - 4.6L (2V) - Crown Victoria & Grand Marquis

- Tighten to 10 Nm (89 lb-in).
 - Connect the generator electrical connector.
12. Attach the 2 generator wiring harness retainers to the generator bracket.
 13. Connect the EVAP canister purge valve hoses to the TB and the EVAP canister purge valve. For additional information, refer to **FUEL SYSTEM - GENERAL INFORMATION** article.
 14. Connect the intake manifold vacuum hose to the TB spacer.
 15. Connect the EGR system module vacuum and electrical connectors.
 16. Connect the PCV tube quick connect coupling to the TB spacer. For additional information, refer to **FUEL SYSTEM - GENERAL INFORMATION** article.
 17. Connect the brake booster vacuum hose to the intake manifold.
 18. Install the heater hose and spring clamp.
 19. Connect the fuel rail pressure and temperature sensor vacuum and electrical connectors.
 20. Connect the 8 fuel injector electrical connectors.
 21. Install the wire harness retainer to the rear of the intake manifold.
 22. If equipped, attach the wire harness retainer to the intake manifold crash bracket.
 23. Install the wiper mounting arm and pivot shaft. For additional information, refer to **WIPER SYSTEM & WASHER SYSTEM** article.
 24. Connect the fuel spring lock coupling. For additional information, refer to **FUEL SYSTEM - GENERAL INFORMATION** article.
 25. Install the ACL and outlet pipe. For additional information, refer to **INTAKE AIR DISTRIBUTION SYSTEM & INTAKE AIR FILTERING SYSTEM** article.
 26. Connect the battery ground cable. For additional information, refer to **BATTERY, BATTERY MOUNTING & BATTERY CABLES** article.
 27. Fill and bleed the engine cooling system. For additional information, refer to **ENGINE COOLING SYSTEM** article.

WARNING: If the vehicle is equipped with a fire suppression system, repower the system. For important safety warnings and procedures, refer to **FIRE SUPPRESSION SYSTEM** article. Failure to follow these instructions may result in serious personal injury.

28. If equipped with a fire suppression system, repower the system.

VALVE COVER - RH

Material Specifications

MATERIAL SPECIFICATIONS TABLE

Item	Specification
Motorcraft® Metal Surface Prep ZC-31-A	-

2011 Mercury Grand Marquis LS

2011 ENGINE Engine Mechanical - 4.6L (2V) - Crown Victoria & Grand Marquis

Silicone Gasket and Sealant TA-30	WSE-M4G323-A4
Silicone Gasket Remover ZC-30	-

Valve Cover - RH (View 1 of 4)

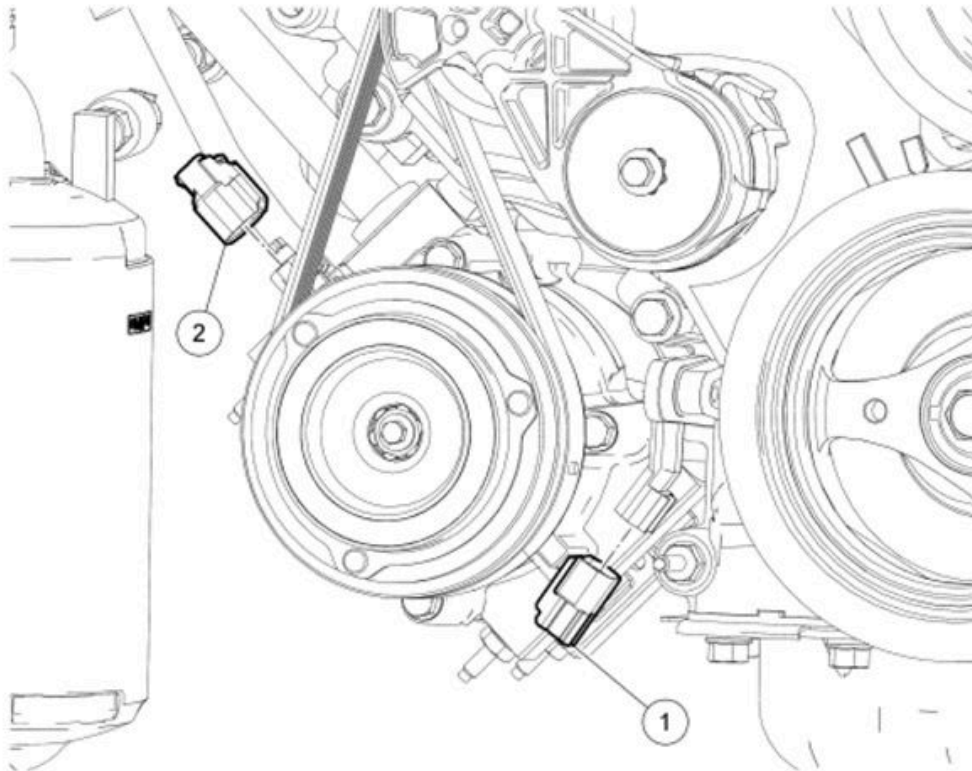


Fig. 9: Identifying Valve Cover Components - RH (View 1 Of 4)
Courtesy of FORD MOTOR CO.

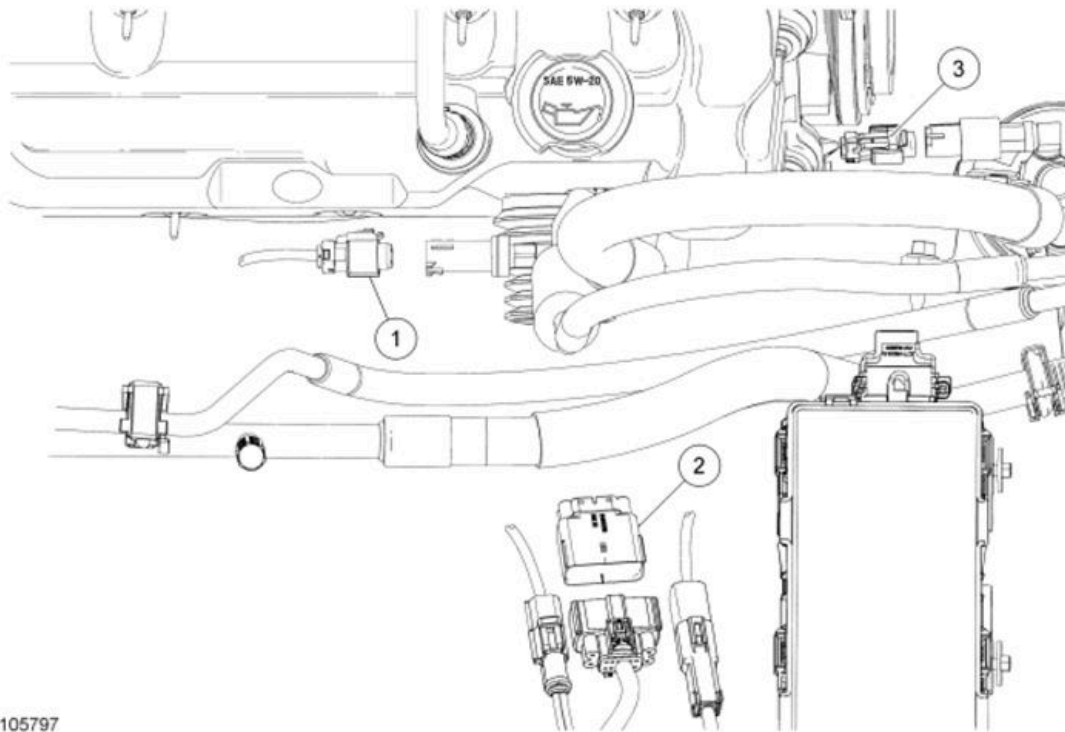
ITEM DESCRIPTION

Item	Part Number	Description
1	14A464	Crankshaft Position (CKP) sensor electrical connector (part of 12B637)
2	14A464	A/C compressor electrical connector (part of 12B637)

Valve Cover - RH (View 2 of 4)

2011 Mercury Grand Marquis LS

2011 ENGINE Engine Mechanical - 4.6L (2V) - Crown Victoria & Grand Marquis



N0105797

Fig. 10: Identifying Valve Cover Components - RH (View 2 Of 4)
Courtesy of FORD MOTOR CO.

ITEM DESCRIPTION

Item	Part Number	Description
1	14A464	A/C pressure sensor electrical connector (part of 12B637)
2	14A464	Electronic engine control electrical connector (part of 12B637)
3	14A464	A/C accumulator switch electrical connector (part of 12B637)

Valve Cover - RH (View 3 of 4)

2011 Mercury Grand Marquis LS

2011 ENGINE Engine Mechanical - 4.6L (2V) - Crown Victoria & Grand Marquis

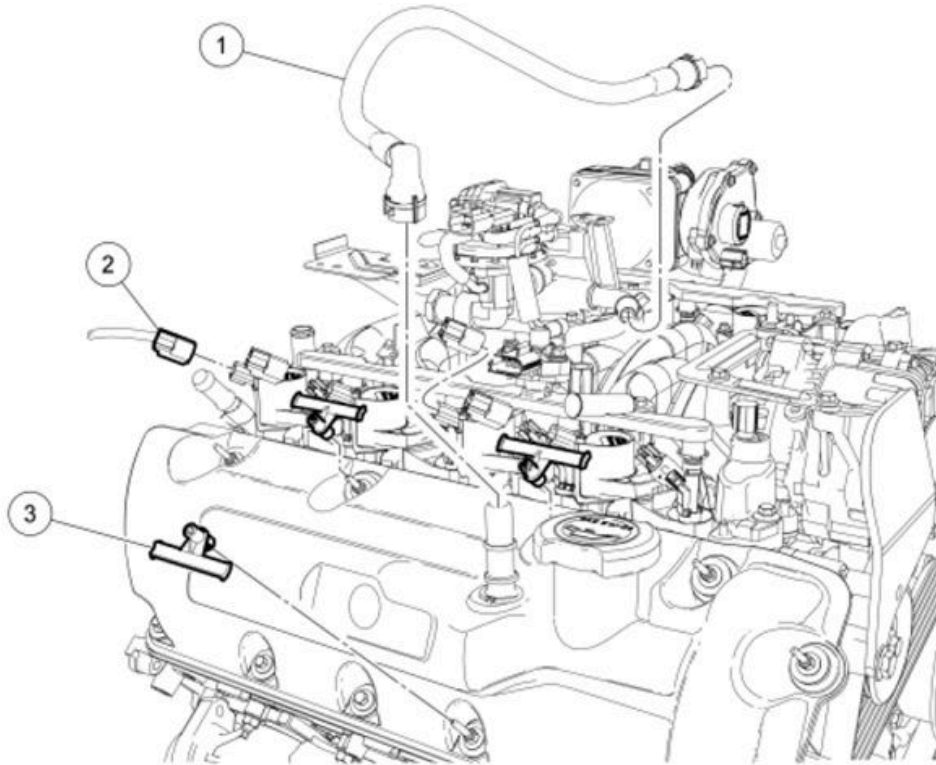


Fig. 11: Identifying Valve Cover Components - RH (View 3 Of 4)
Courtesy of FORD MOTOR CO.

ITEM DESCRIPTION

Item	Part Number	Description
1	6K817	PCV tube
2	14A464	Ignition coil electrical connector (part of 12B637) (4 required)
3	14A163	Engine wire harness retainer (part of 12B637) (3 required)

Valve Cover - RH (View 4 of 4)

2011 Mercury Grand Marquis LS

2011 ENGINE Engine Mechanical - 4.6L (2V) - Crown Victoria & Grand Marquis

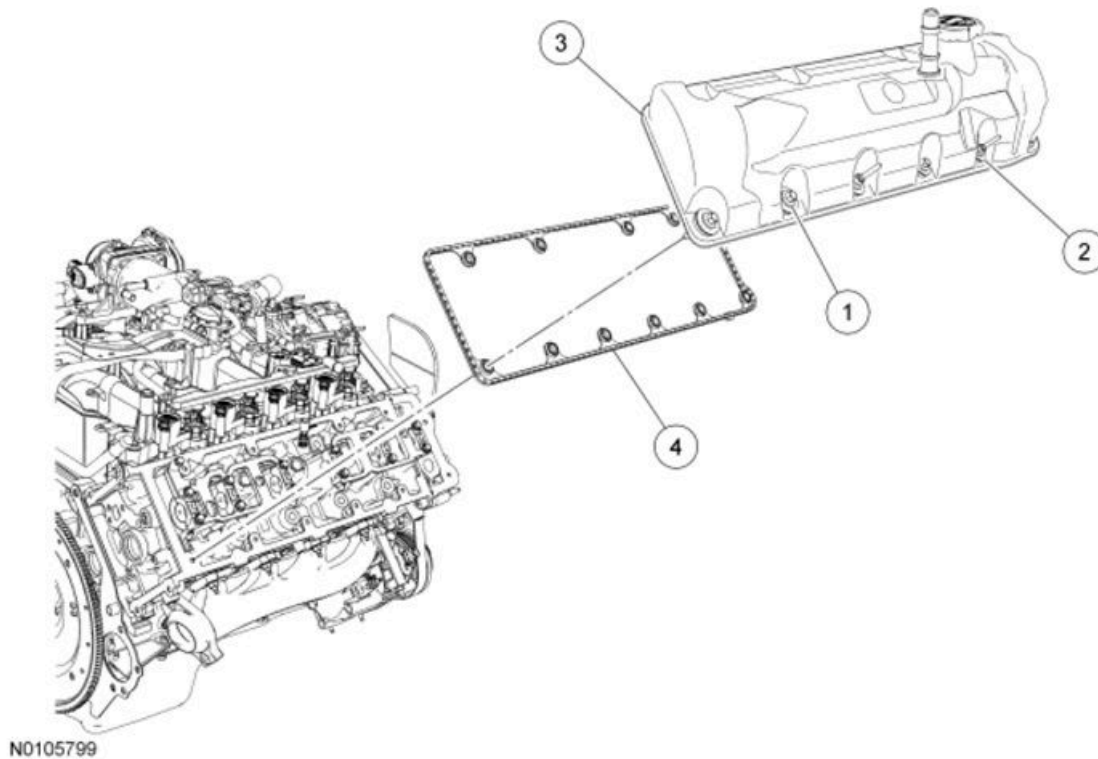


Fig. 12: Identifying Valve Cover Components - RH (View 4 Of 4)
Courtesy of FORD MOTOR CO.

ITEM DESCRIPTION

Item	Part Number	Description
1	N806183	RH valve cover bolt (3 required)
2	W705644	RH valve cover stud bolt (8 required)
3	6582	RH valve cover
4	6584	RH valve cover gasket

Removal

WARNING: Before servicing a vehicle equipped with a fire suppression system, depower the system by following the procedure in **FIRE SUPPRESSION SYSTEM** article. Failure to follow the instructions may result in serious personal injury.

1. With the vehicle in NEUTRAL, position it on a hoist. For additional information, refer to **JACKING & LIFTING** article.
2. Disconnect the fuel tube spring lock coupling. For additional information, refer to **FUEL SYSTEM - GENERAL INFORMATION** article.
3. Disconnect the battery ground cable. For additional information, refer to **BATTERY, BATTERY MOUNTING & BATTERY CABLES** article.