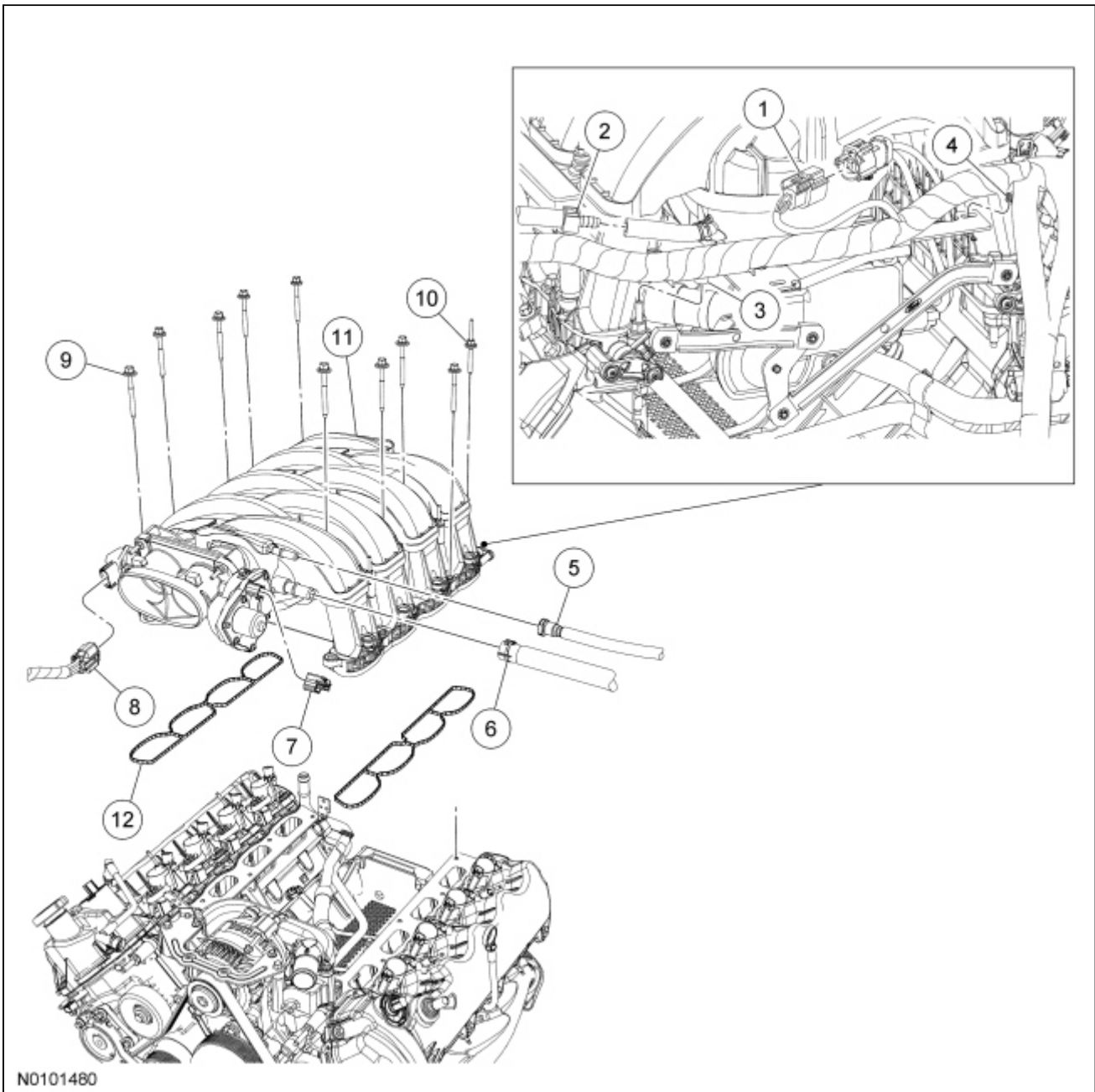


## Intake Manifold

### Material

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



Item	Part Number	Description
1	14A464	Charge Motion Control Valve (CMCV) electrical connector (part of 12B637)
2	9F792	Vacuum hose T-fitting
3	—	Wiring harness retainer (part of 12B637)

4	—	Wiring harness pin-type retainer (part of 12B637)
5	9G271	Evaporative Emission (EVAP) tube
6	6K817	PCV tube
7	14A464	Electronic Throttle Body (TB) electrical connector (part of 12B637)
8	14A464	Throttle Position (TP) sensor electrical connector (part of 12B637)
9	W710758	Intake manifold bolt (9 required)
10	W713564	Intake manifold stud bolt
11	9424	Intake manifold
12	9439	Intake manifold gasket (2 required)

## Removal

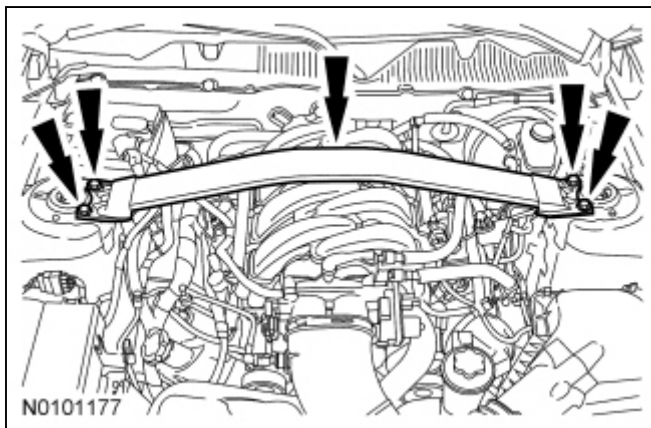


**WARNING:** Do not smoke, carry lighted tobacco or have an open flame of any type when working on or near any fuel-related component. Highly flammable mixtures are always present and may be ignited. Failure to follow these instructions may result in serious personal injury.



**WARNING:** Before working on or disconnecting any of the fuel tubes or fuel system components, relieve the fuel system pressure to prevent accidental spraying of fuel. Fuel in the fuel system remains under high pressure, even when the engine is not running. Failure to follow this instruction may result in serious personal injury.

1. If equipped, remove the 4 nuts and the strut tower cross brace.



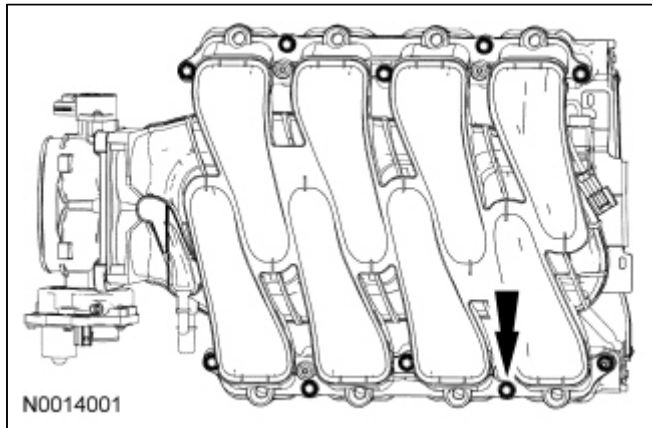
2. Release the fuel system pressure. For additional information, refer to [Section 310-00](#).
3. Remove the Air Cleaner (ACL) outlet pipe. For additional information, refer to [Section 303-12](#).
4. Remove the fuel rail and injectors. For additional information, refer to [Section 303-04B](#).
5. Disconnect the Evaporative Emission (EVAP) tube from the intake manifold and position the tube aside.
6. Disconnect the PCV tube from the intake manifold, LH valve cover and remove.
7. Disconnect the Throttle Position (TP) sensor and electronic Throttle Body (TB) electrical connectors.
8. Disconnect the Charge Motion Control Valve (CMCV) electrical connector.
9. Detach the wiring retainers from the intake manifold stud bolt and the [CMCV](#) bracket and then position the wiring harness aside.

10. Disconnect the vacuum hose from the T-fitting.
11. **NOTICE: Do not use metal scrapers, wire brushes, power abrasive discs or other abrasive means to clean the sealing surfaces. These tools cause scratches and gouges which make leak paths. Use a plastic scraping tool to remove all traces of old sealant.**

**NOTE:** Clean and inspect the sealing surfaces with metal surface prep. Follow the directions on the packaging.

Remove the 9 bolts, the stud bolt and the intake manifold.

- Discard the gaskets.



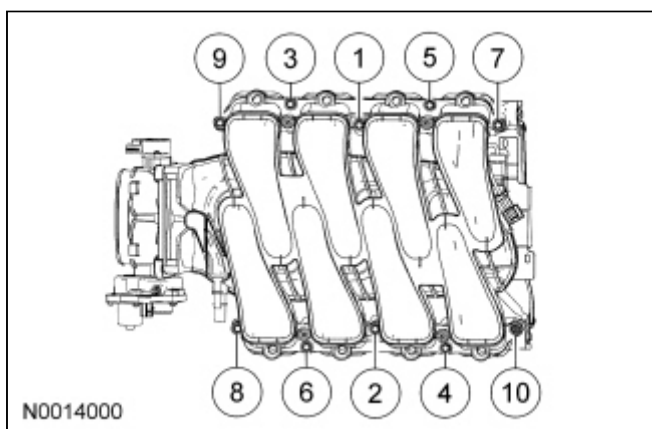
## Installation

1. **NOTICE: If the engine is repaired or replaced because of upper engine failure, typically including valve or piston damage, check the intake manifold for metal debris. If metal debris is found, install a new intake manifold. Failure to follow these instructions can result in engine damage.**

**NOTE:** Electrical and vacuum harnesses must not restrict movement of the [CMCV](#) control rods at rear of the intake manifold. Use extreme care on installation of the intake manifold to prevent any pinching of electrical and vacuum harnesses.

Using new intake manifold gaskets, position the intake manifold.

2. Install the 9 intake manifold bolts and stud bolt.
  - Tighten in the sequence shown to 10 Nm (89 lb-in).



3. Connect the vacuum hose to the T-fitting.
4. Position the wiring harness and attach the wiring retainers to the intake manifold stud bolt and the [CMCV](#) bracket.
5. Connect the [CMCV](#) electrical connector.

6. Connect the TP sensor and electronic TB electrical connectors.
7. Connect the PCV tube to the intake manifold.
8. Connect the EVAP tube to the intake manifold.
9. Install the fuel rail and injectors. For additional information, refer to [Section 303-04B](#).
10. Install the ACL outlet pipe. For additional information, refer to [Section 303-12](#).
11. If equipped, install the strut tower cross brace and the 4 nuts.
  - Tighten to 35 Nm (26 lb-ft).

