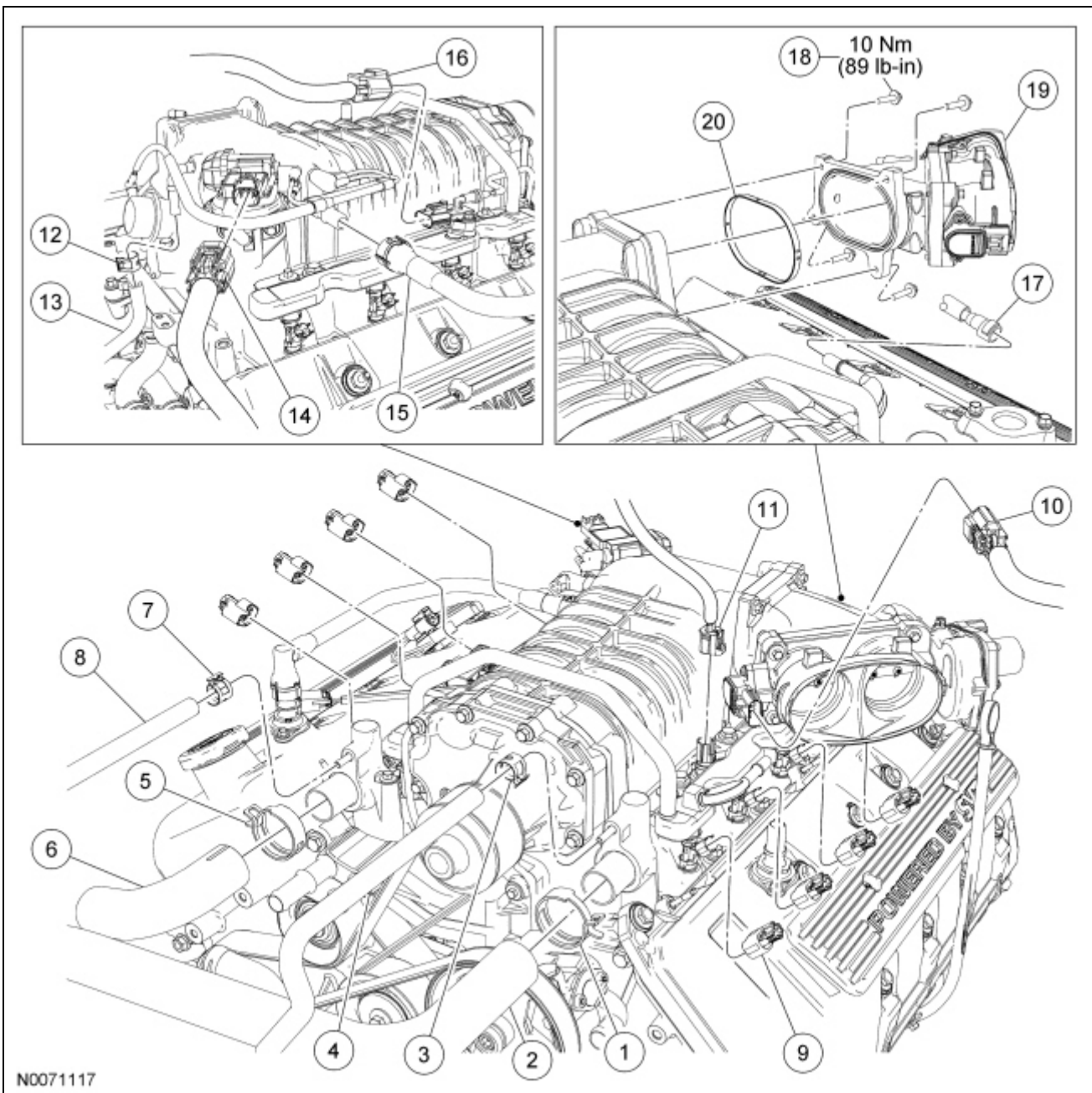


Intake Manifold

Material

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

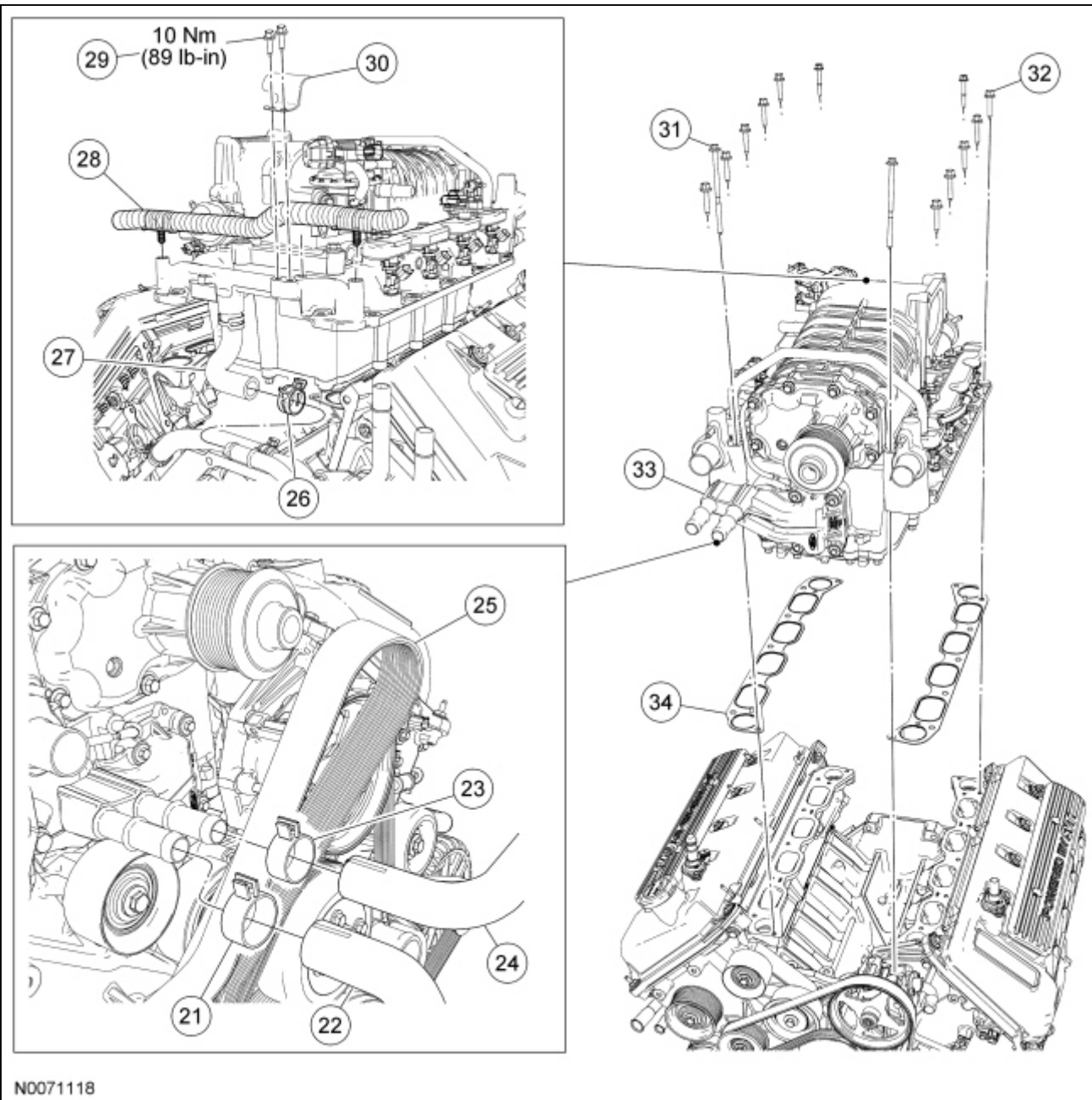
Intake Manifold (View 1 of 2)



Item	Part Number	Description
1	15161	Upper radiator hose clamp
2	8A586	Upper radiator hose

3	W527352	Coolant vent hose clamp
4	8276	Coolant vent hose
5	15161	Upper radiator hose clamp
6	8A586	Upper radiator hose
7	W527352	Coolant vent hose clamp
8	8276	Coolant vent hose
9	14A464	Fuel injector electrical connector (8 required) (part of 12B637)
10	14A464	Throttle Position (TP) sensor electrical connector (part of 12B637)
11	14A464	Intake Air Temperature 2 (IAT2) sensor electrical connector (part of 12B637)
12	W527352	Supercharger (SC) bubbler hose clamp (part of 6C324)
13	6C324	SC bubbler hose
14	14A464	EGR system module electrical connector (part of 12B637)
15	6K817	Crankcase ventilation tube
16	14A464	Fuel rail pressure and temperature sensor electrical connector (part of 12B637)
17	9J280	Fuel supply tube
18	N806154	Throttle Body (TB) spacer bolt (4 required)
19	9E822	TB and spacer assembly
20	9L437	TB spacer gasket

Intake Manifold (View 2 of 2)



N0071118

Item	Part Number	Description
21	W527362	Charge Air Cooler (CAC) hose clamp
22	8D030	CAC hose
23	W527362	CAC hose clamp
24	8D031	CAC hose
25	8620	SC drive belt
26	8287	Heater hose clamp
27	18C553	Heater hose
28	—	Wiring harness pin-type retainer (2 required) (part of 12B637)
29	—	Wiring harness retainer bolt (2 required)
30	14K060	Wiring harness retainer
31	W705654	Intake manifold bolt (2 required)
32	W704682	Intake manifold bolt (12 required)
33	9H487	Intake manifold

Removal



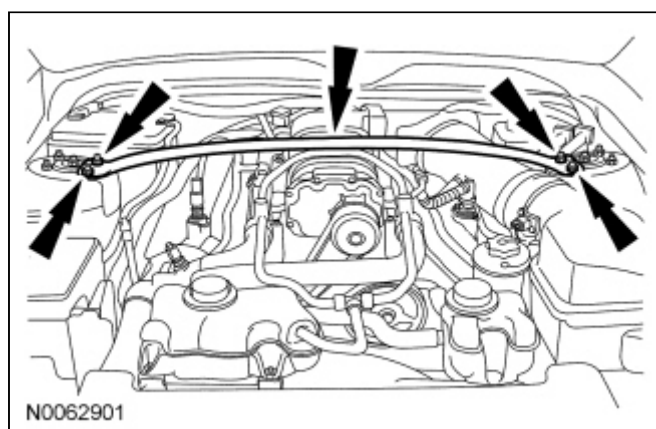
WARNING: Do not smoke, carry lighted tobacco or have an open flame of any type when working on or near any fuel-related component. Highly flammable mixtures are always present and may be ignited. Failure to follow these instructions may result in serious personal injury.



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.

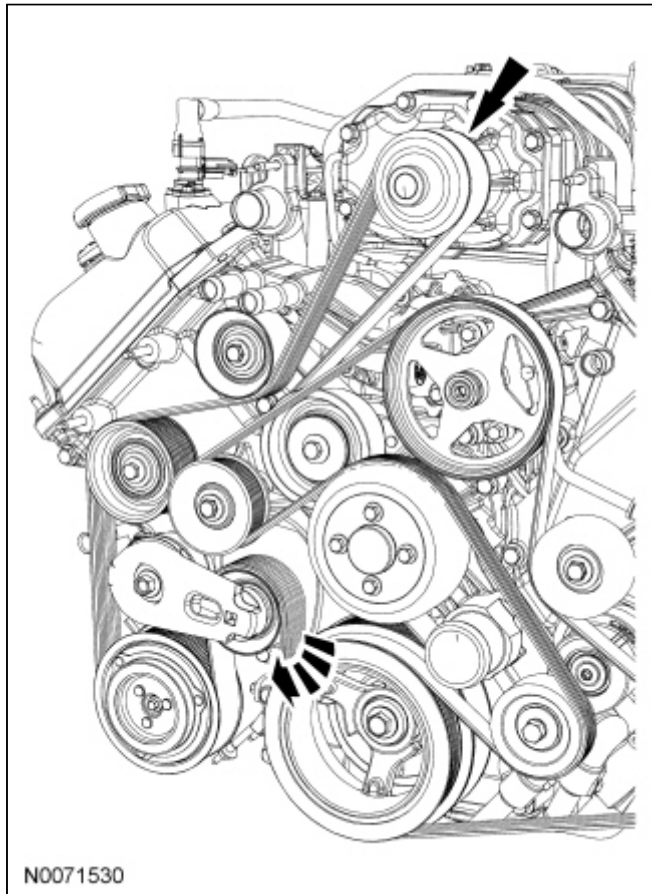
NOTICE: During engine repair procedures, cleanliness is extremely important. Any foreign material, including any material created while cleaning gasket surfaces that enters the oil passages, coolant passages or the oil pan, can cause engine failure.

1. Release the fuel system pressure. For additional information, refer to [Section 310-00](#).
2. Drain the engine cooling system. For additional information, refer to [Section 303-03A](#).
3. Drain the Supercharger (SC) cooling system. For additional information, refer to [Section 303-03B](#).
4. Remove the 4 nuts and the strut tower cross brace.



5. Remove the Air Cleaner (ACL) outlet pipe. For additional information, refer to [Section 303-12](#).
6. Disconnect the battery ground cable. For additional information, refer to [Section 414-01](#).
7. Remove the EGR tube. For additional information, refer to [Section 303-08](#).
8. Disconnect the Throttle Position (TP) sensor electrical connector.
9. Remove the 4 bolts and position the Throttle Body (TB) and spacer assembly aside.
10. Disconnect the Intake Air Temperature 2 (IAT2) sensor electrical connector.
11. Disconnect the fuel supply tube. For additional information, refer to [Section 310-00](#).
12. Disconnect the 4 LH fuel injector electrical connectors.
13. Remove the 2 bolts and the wiring harness retainer from the rear of the intake manifold.
14. Detach the 2 wiring harness pin-type retainers from the rear of the intake manifold.

15. Disconnect the fuel rail pressure and temperature sensor electrical connector.
16. Disconnect the 4 RH fuel injector electrical connectors.
17. Disconnect the EGR system module electrical connector.
18. Disconnect the crankcase ventilation tube from the RH side of the SC.
19. Disconnect the SC bubbler hose from the rear of the SC.
20. Rotate the SC drive belt tensioner clockwise and remove the drive belt from the SC drive pulley.



21. Disconnect the 2 upper radiator hoses and the 2 coolant vent hoses from the intake manifold.
22. Disconnect the 2 coolant hoses from the Charge Air Cooler (CAC).
23. Disconnect the heater hose located below the rear of the intake manifold.
24. Remove the 14 bolts and the intake manifold assembly.
 - Discard the gaskets.

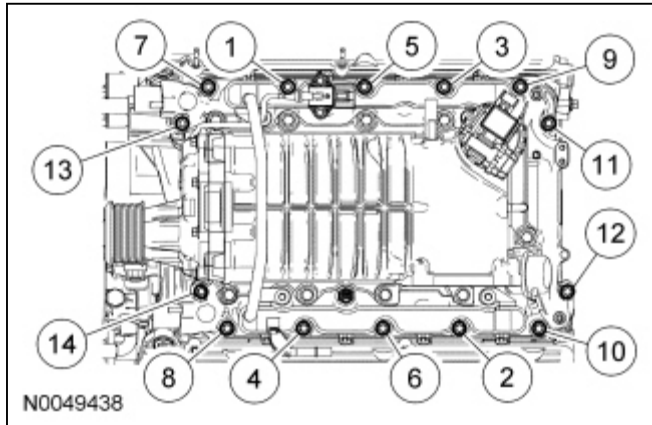
Installation

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.

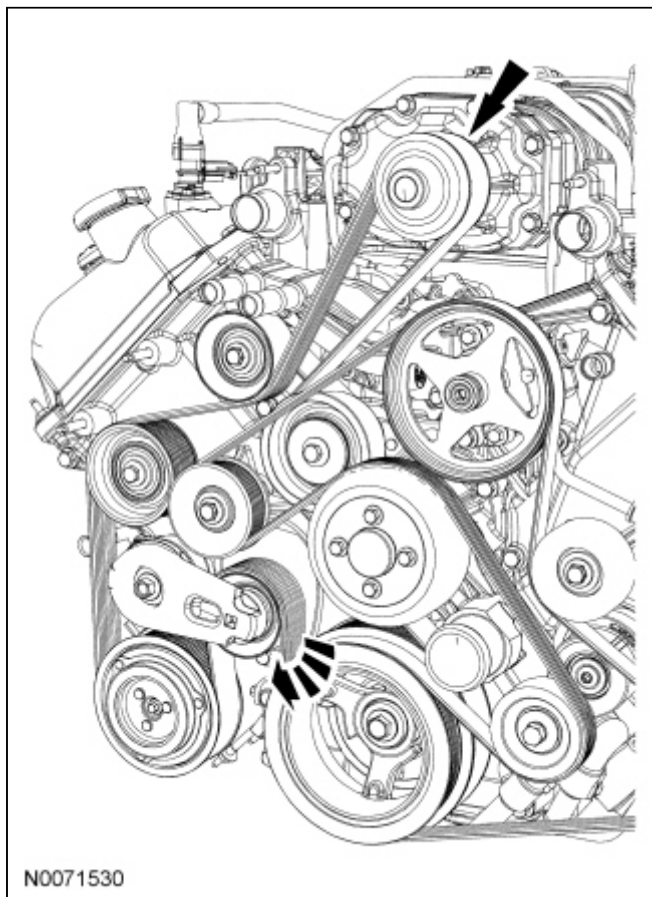
NOTE: Clean the sealing surfaces with metal surface prep. Follow the directions on the packaging. Inspect the mating surfaces.

Using new intake manifold gaskets, position the intake manifold.

2. Install the 14 bolts.
 - Tighten in the sequence shown to 10 Nm (89 lb-in).

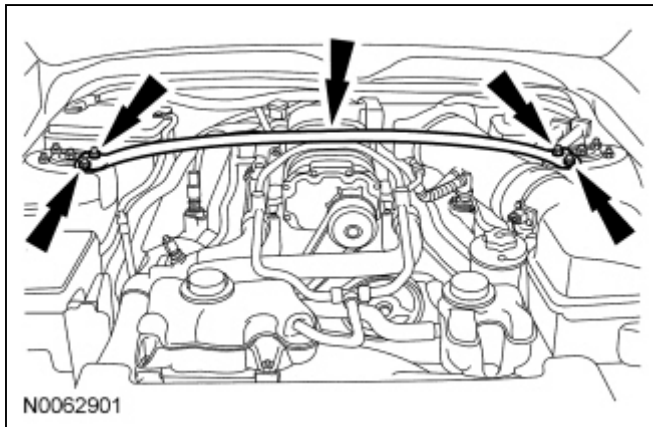


3. Connect the heater hose located below the rear of the intake manifold.
4. Connect the 2 coolant hoses to the CAC.
5. Connect the 2 upper radiator hoses and the 2 coolant vent hoses to the intake manifold.
6. Rotate the SC drive belt tensioner clockwise and install the drive belt onto the SC drive pulley.



7. Connect the SC bubbler hose to the rear of the SC.
8. Connect the crankcase ventilation tube to the RH side of the SC.
9. Connect the EGR system module electrical connector.
10. Connect the 4 RH fuel injector electrical connectors.

11. Connect the fuel rail pressure and temperature sensor electrical connector.
12. Attach the 2 wiring harness pin-type retainers to the rear of the intake manifold.
13. Install the wiring harness retainer and the 2 bolts onto the rear of the intake manifold.
14. Connect the 4 LH fuel injector electrical connectors.
15. Connect the fuel supply tube. For additional information, refer to [Section 310-00](#).
16. Connect the [IAT2](#) sensor electrical connector.
17. Install the [TB](#) and spacer assembly and the 4 bolts.
 - Tighten to 10 Nm (89 lb-in).
18. Connect the [TP](#) sensor electrical connector.
19. Install the EGR tube. For additional information, refer to [Section 303-08](#).
20. Install the [ACL](#) outlet pipe. For additional information, refer to [Section 303-12](#).
21. Connect the battery ground cable. For additional information, refer to [Section 414-01](#).
22. Install the strut tower cross brace and the 4 nuts.
 - Tighten to 35 Nm (26 lb-ft).



23. Fill and bleed the [SC](#) cooling system. For additional information, refer to [Section 303-03B](#).
 24. Fill and bleed the engine cooling system. For additional information, refer to [Section 303-03A](#).
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