

INSTALLATION

ENGINE

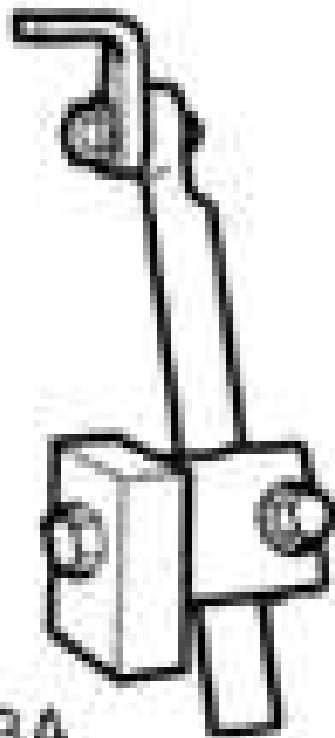
SPECIAL TOOLS



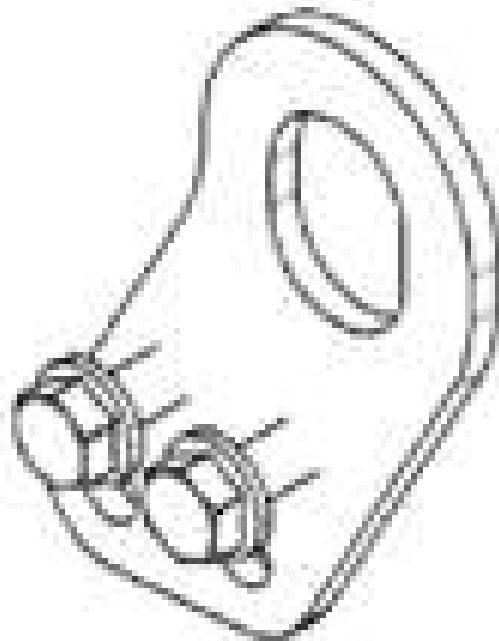
ST1341-A

2, 200# Floor Crane, Fold Away
300-OTC1819E

Adjustable Grip Arm, 1735A
014-00001



ST2743A



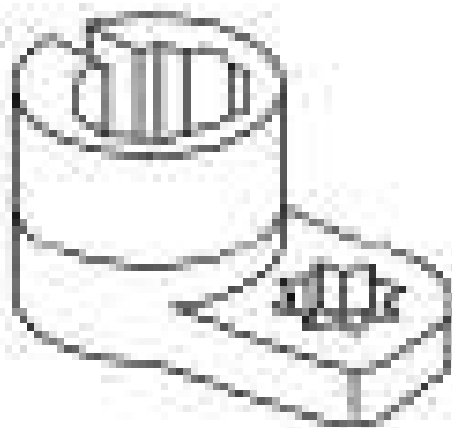
Lifting Eye
303-1502

ST3294-A



ST1652-A

Powertrain Lift
300-OTC1585AE



ST1447-A

Socket, Exhaust Gas Oxygen Sensor
303-476 (T94P-9472-A)

GENERAL EQUIPMENT

Hose Clamp Remover/Installer

Spreader Bar

MATERIAL SPECIFICATIONS

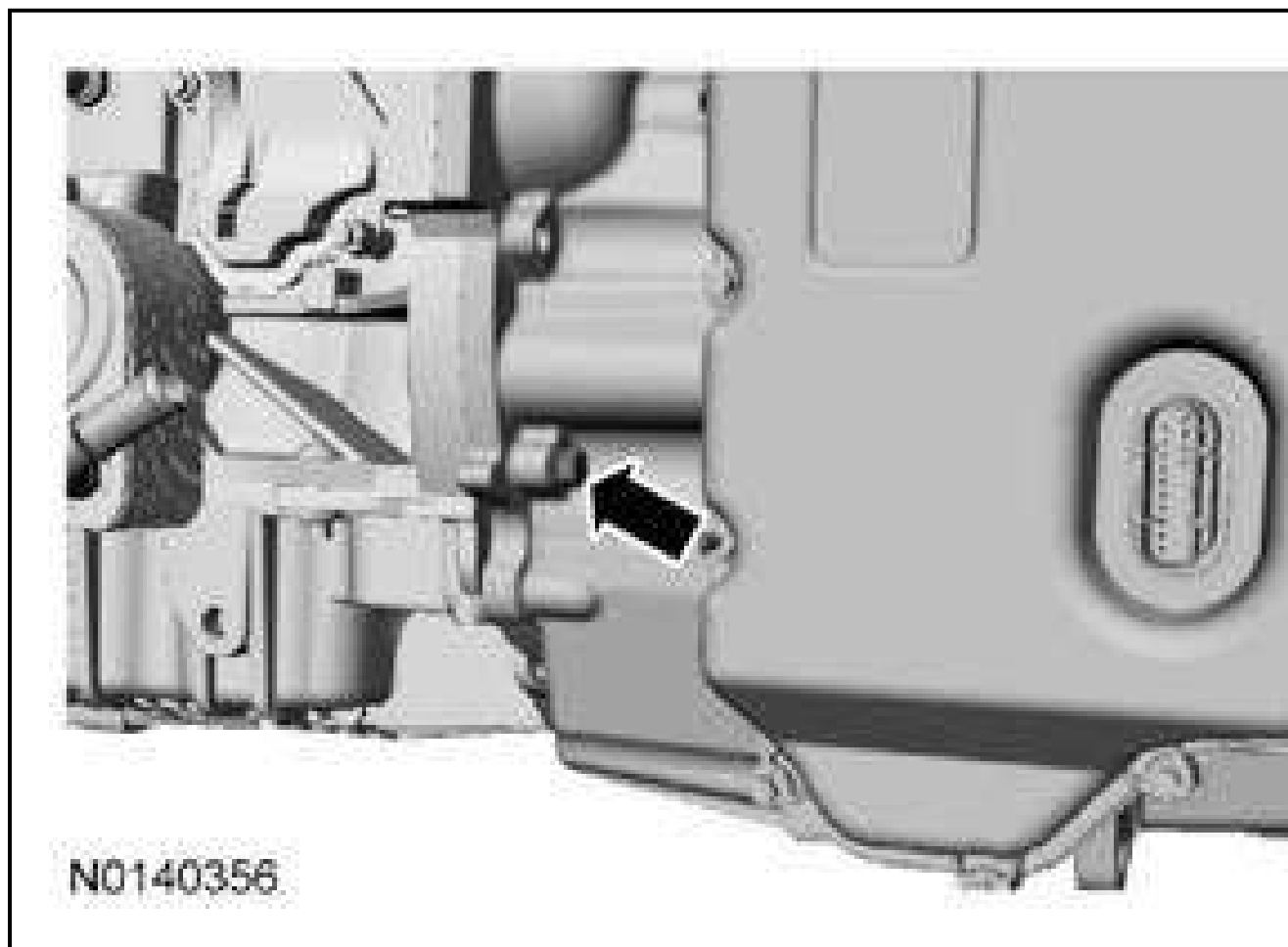
Item	Specification
Motorcraft® High Temperature Nickel Anti-Seize Lubricant XL-2	-

Motorcraft® SAE 5W-20 Premium Synthetic Blend Motor Oil (US);
Motorcraft® SAE 5W-20 Super Premium Motor Oil (Canada)
XO-5W20-QSP (US); CXO-5W20-LSP12 (Canada)

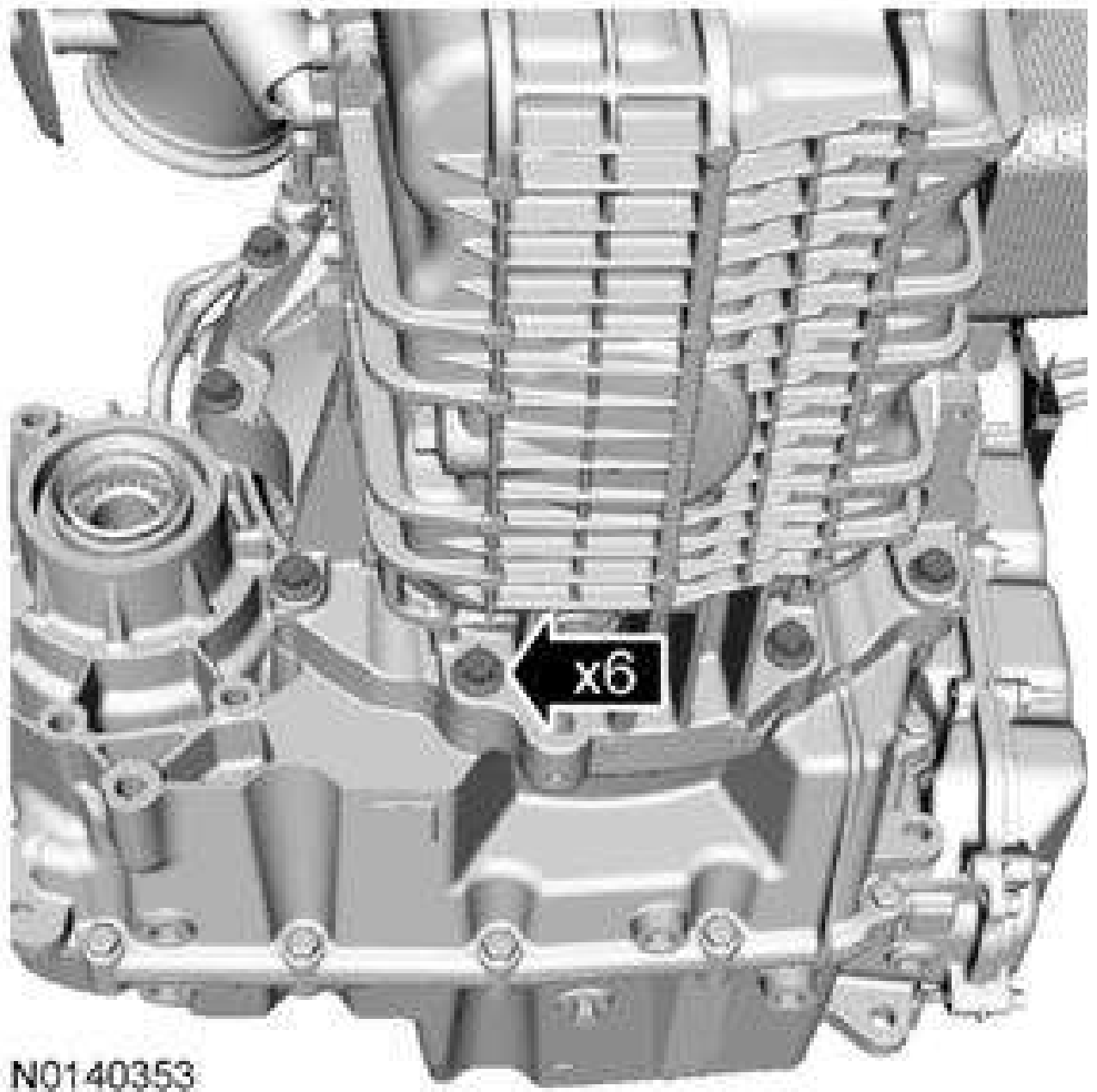
WSS-M2C945-A

All vehicles

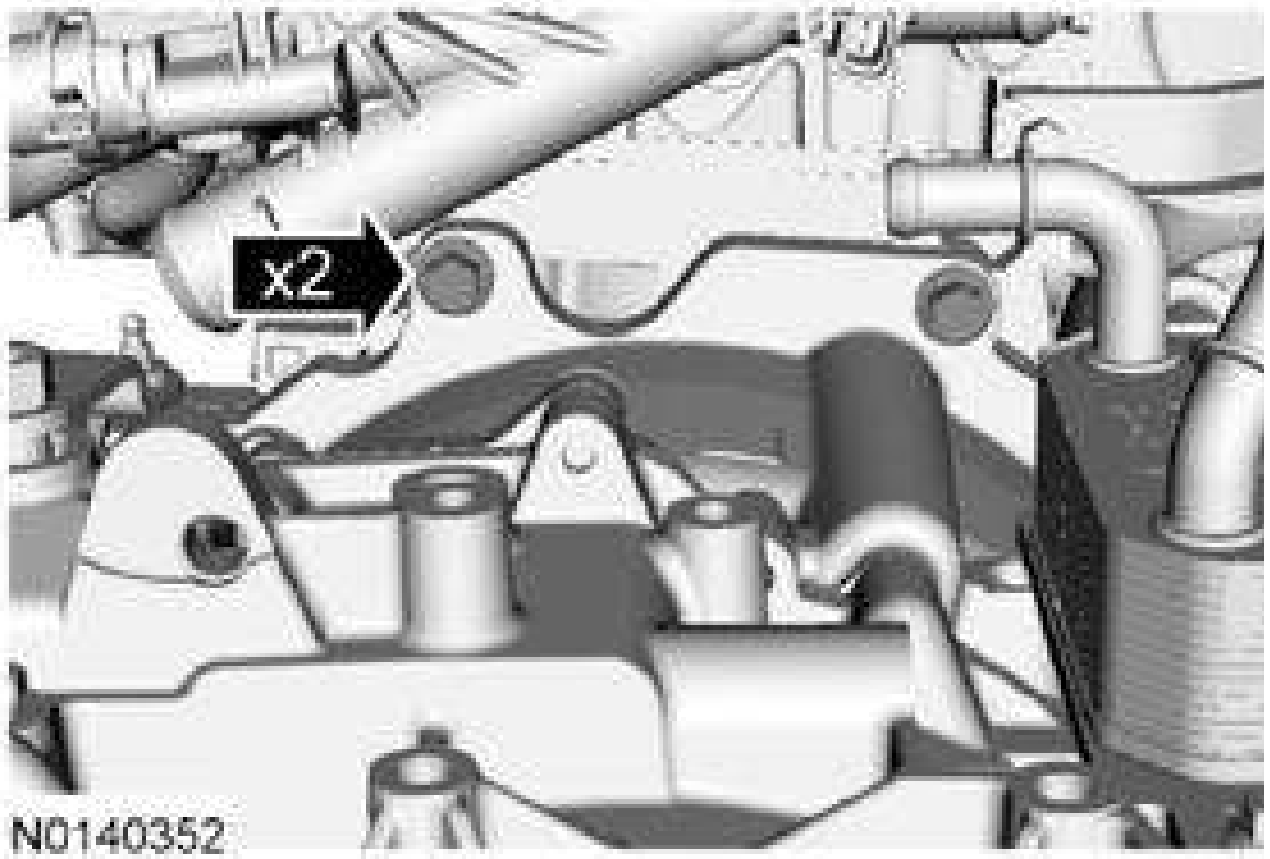
1. Tighten to 48 Nm (35 lb-ft).



2. Tighten to 48 Nm (35 lb-ft).



3. Tighten to 48 Nm (35 lb-ft).



4. **NOTE:** **Position a wooden block under the transmission.**

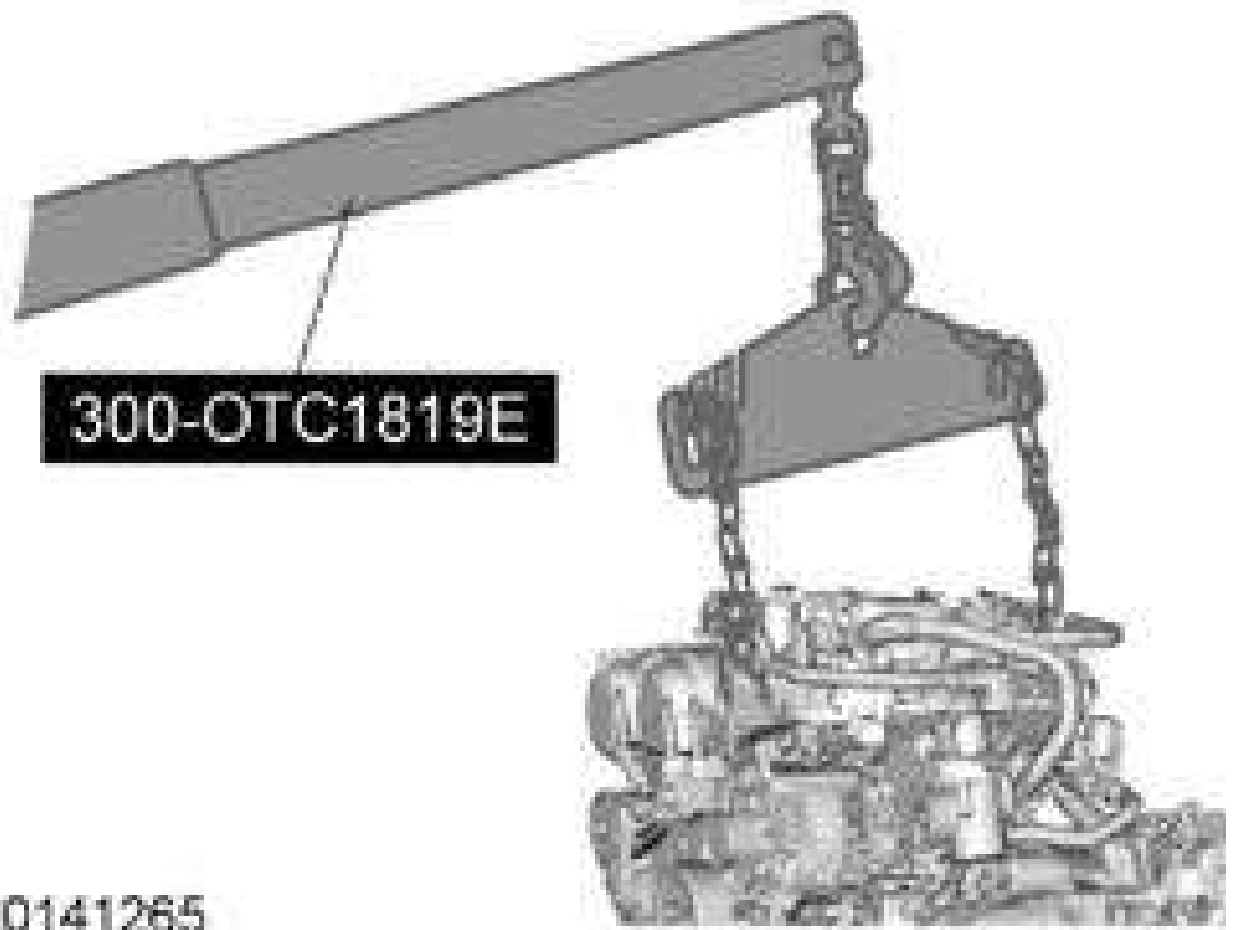
Install the Special Tool(s): Powertrain Lift 300-OTC1585AE and Adjustable Grip Arm, 1735A 014-00001.

General Equipment: Wooden Block.

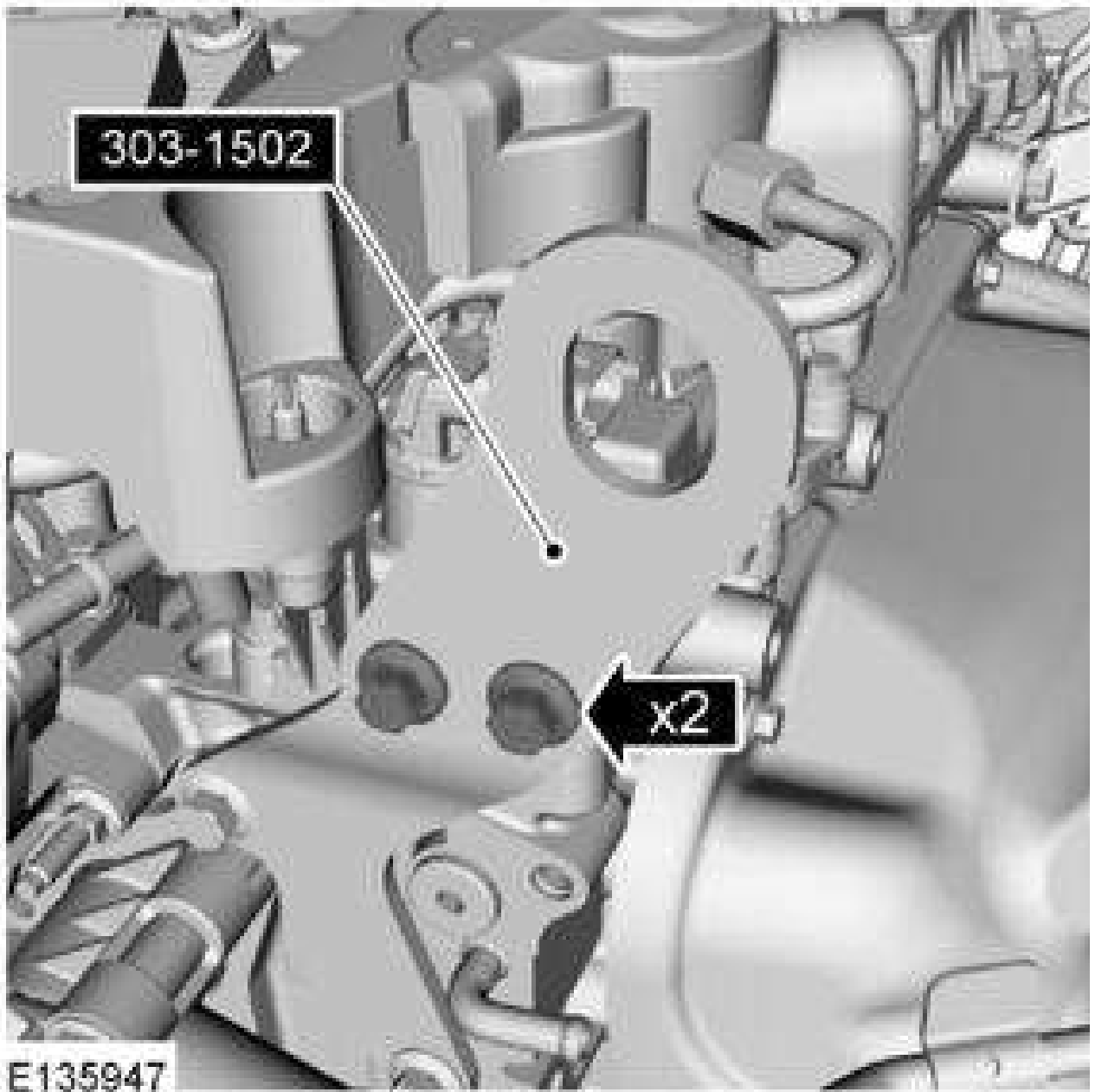


5. Remove the Special Tool(s): 2, 200# Floor Crane, Fold Away 300-OTC1819E.

General Equipment: Spreader Bar.



6. Remove the Special Tool(s): Lifting Eye 303-1502.



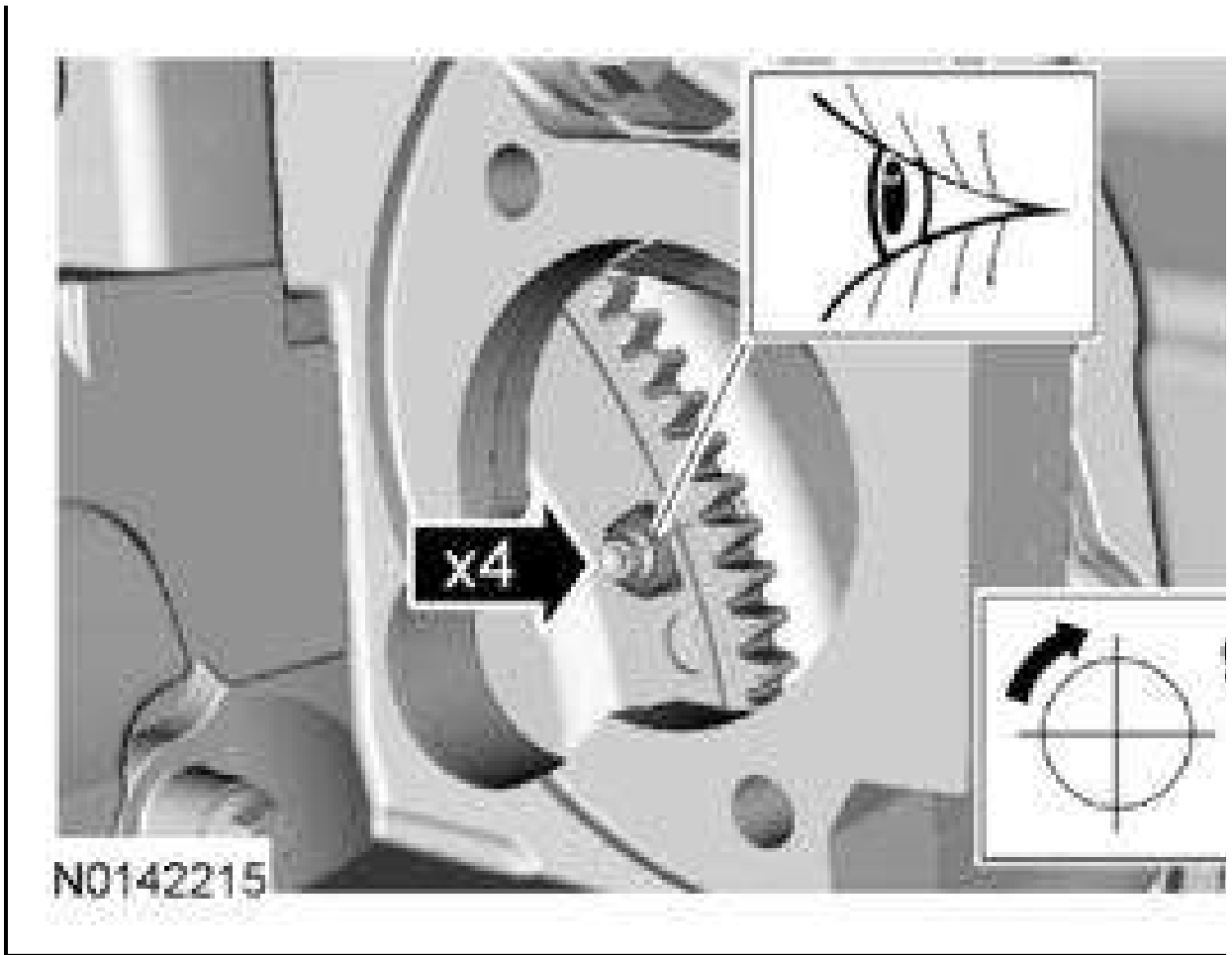
NOTE: Rotate the engine in a clockwise direction only or engine damage will occur.

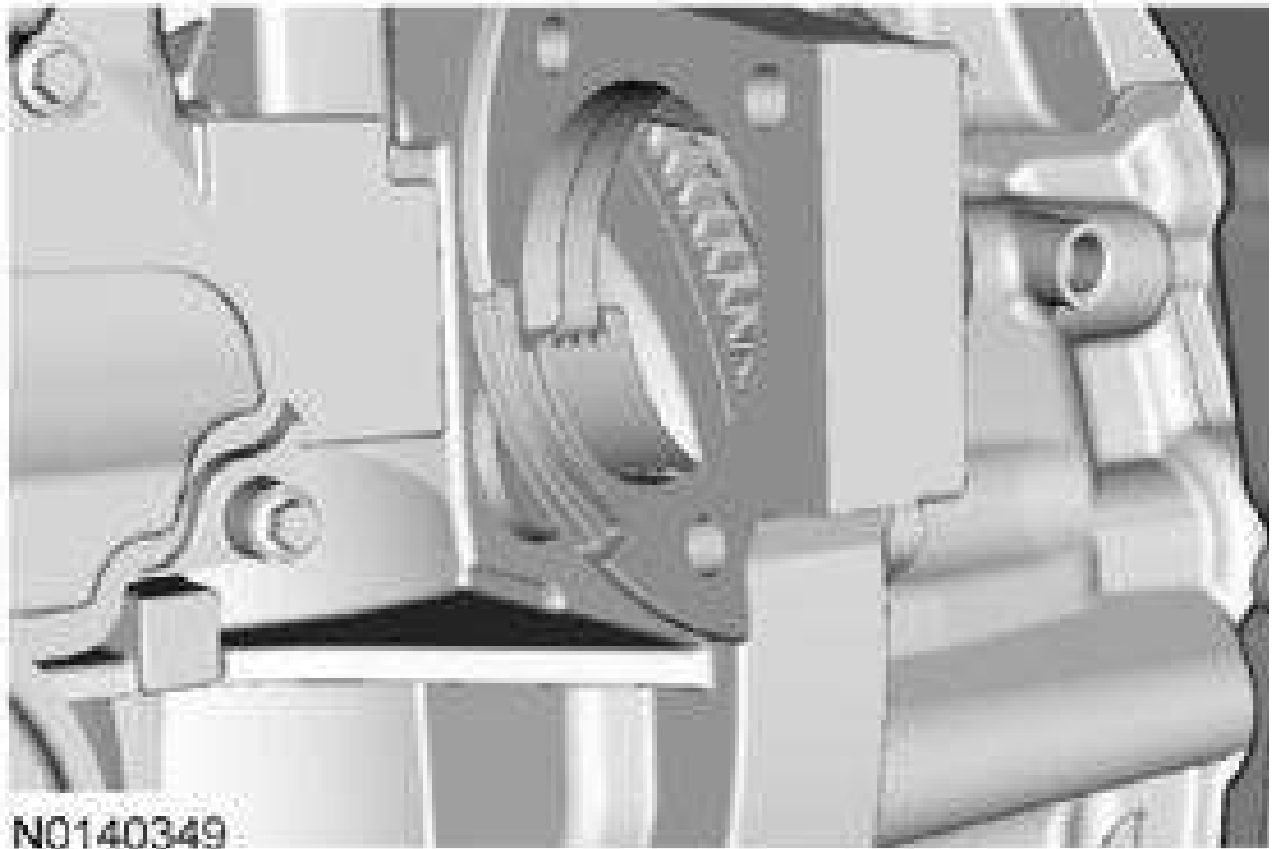
7.

Visual check.

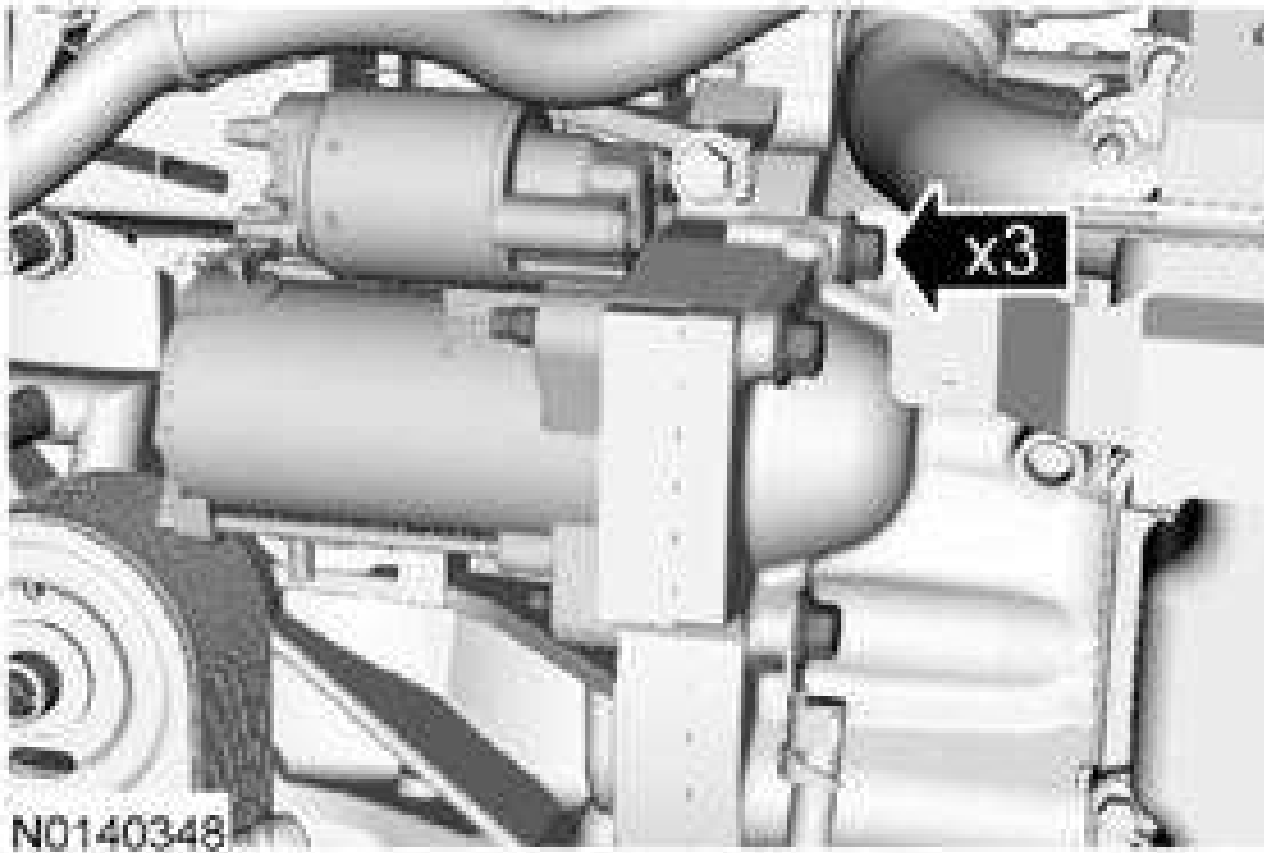
Turn the component clockwise through 90 degrees.

- Tighten to 48 Nm (35 lb-ft).



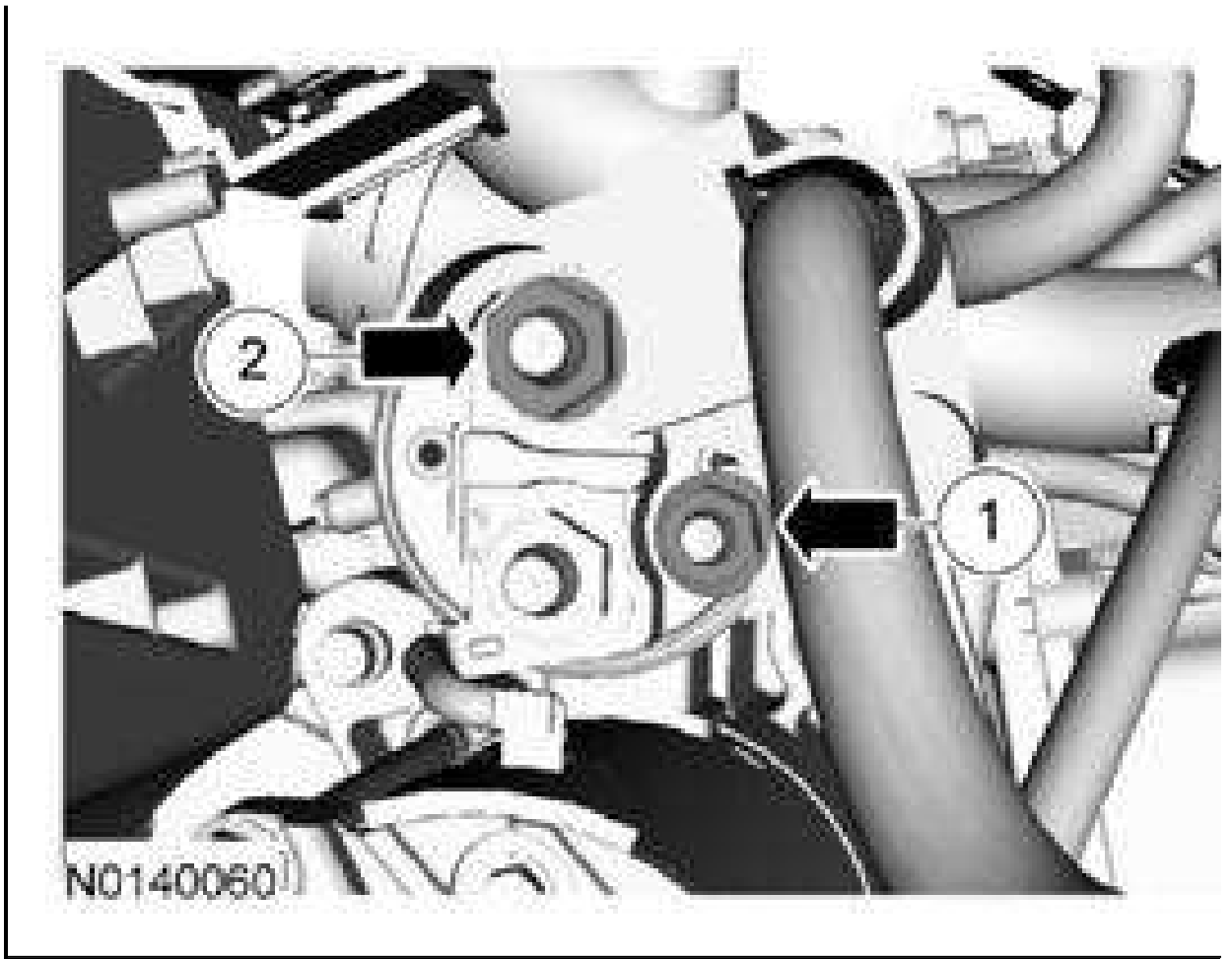


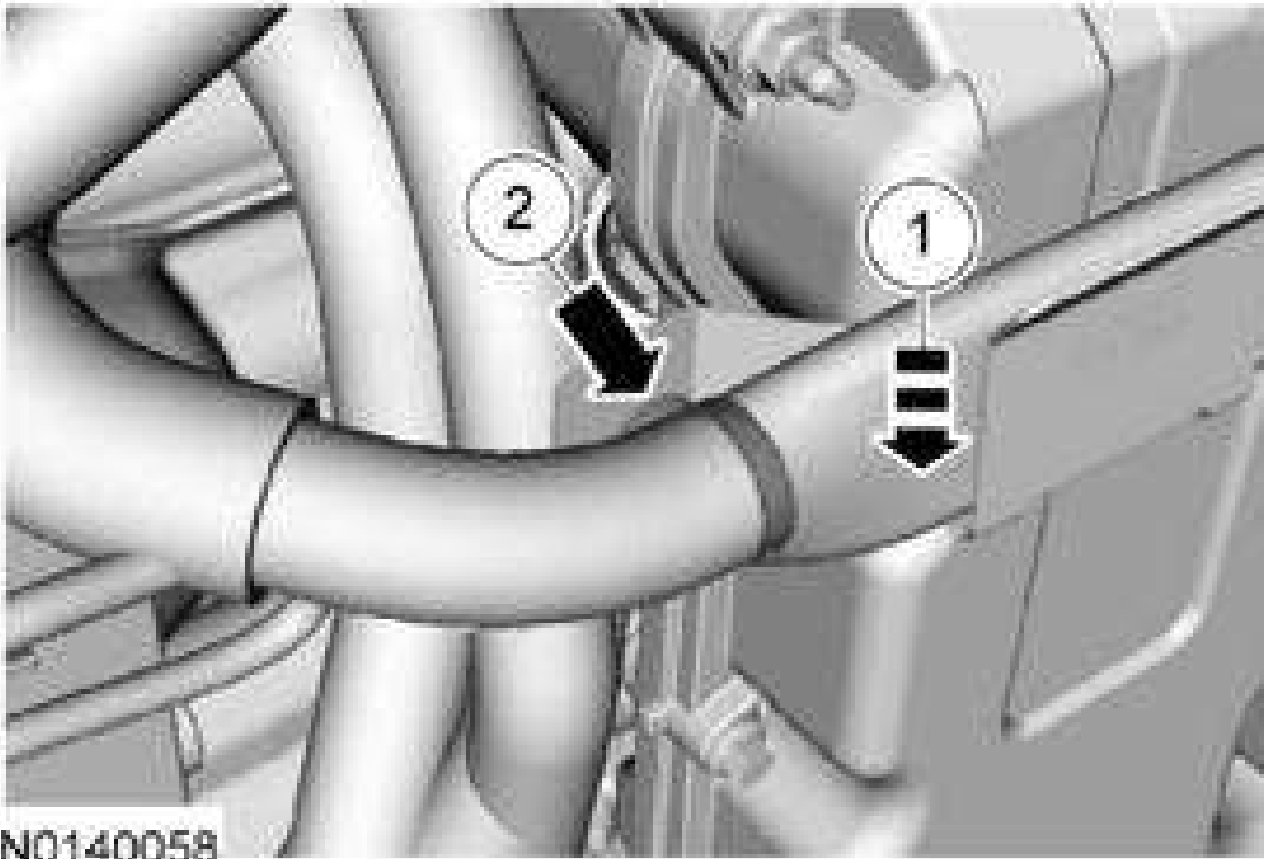
- 8.
9. Tighten to 35 Nm (26 lb-ft).



10.

1. Tighten to 6 Nm (53 lb-in).
2. Tighten to 12 Nm (106 lb-in).

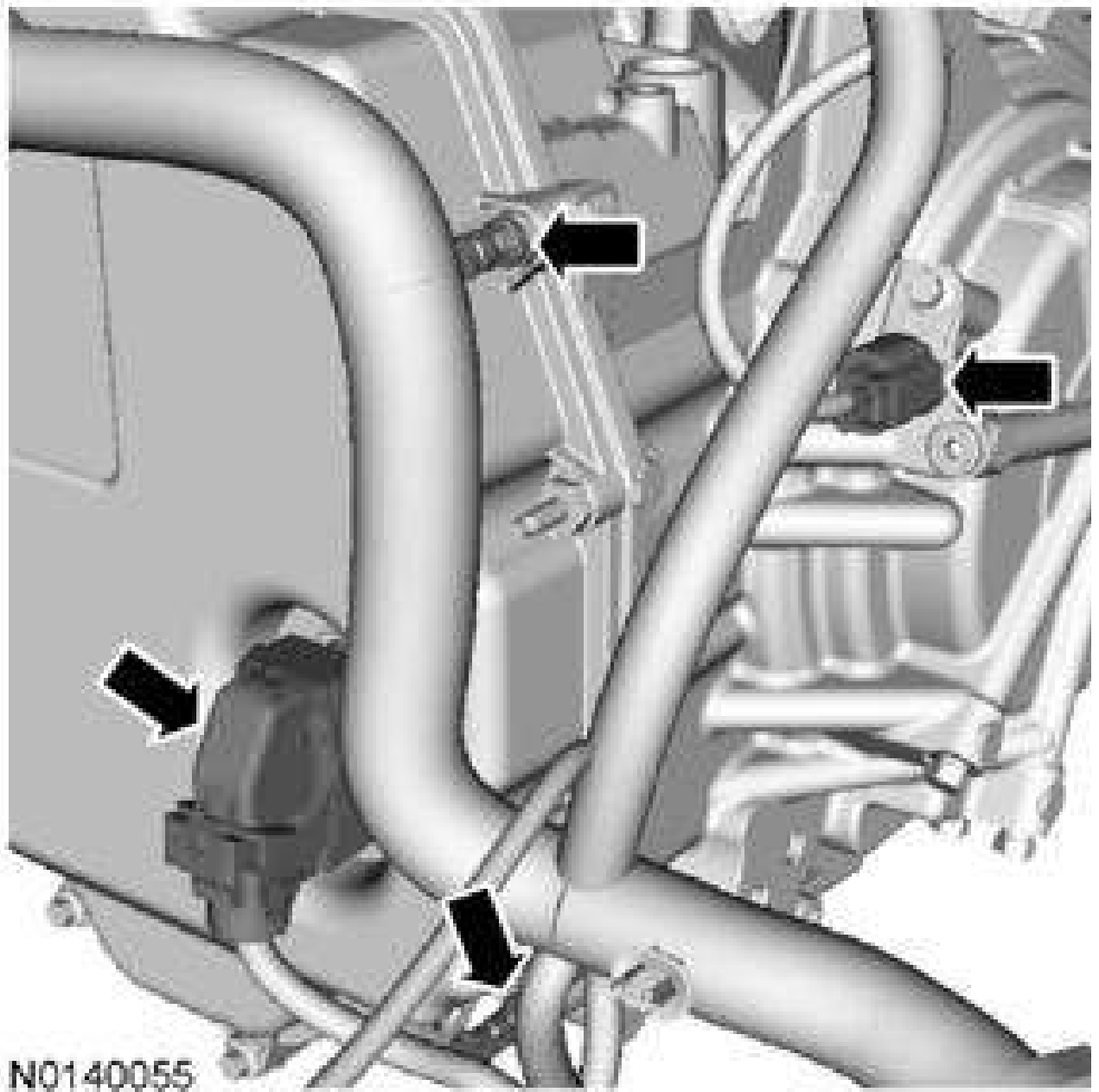




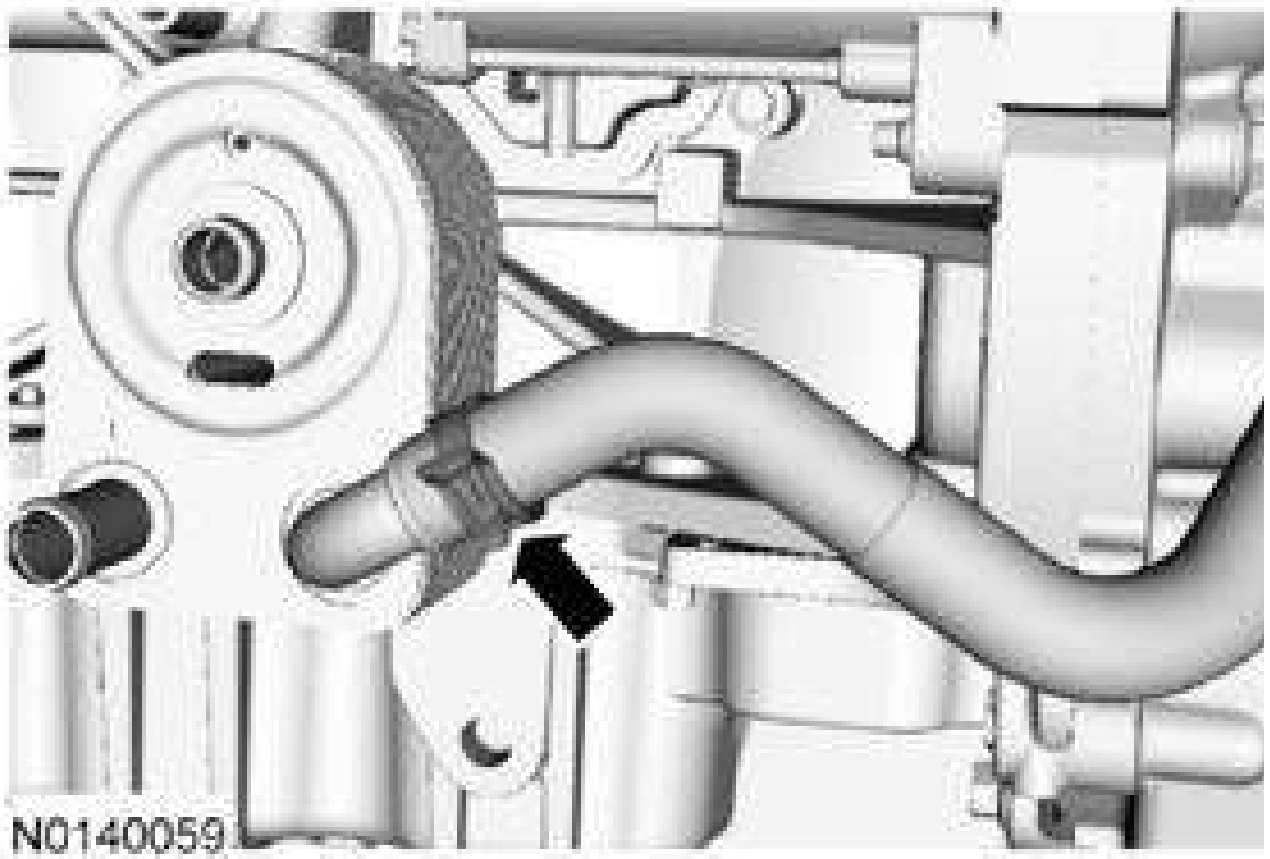
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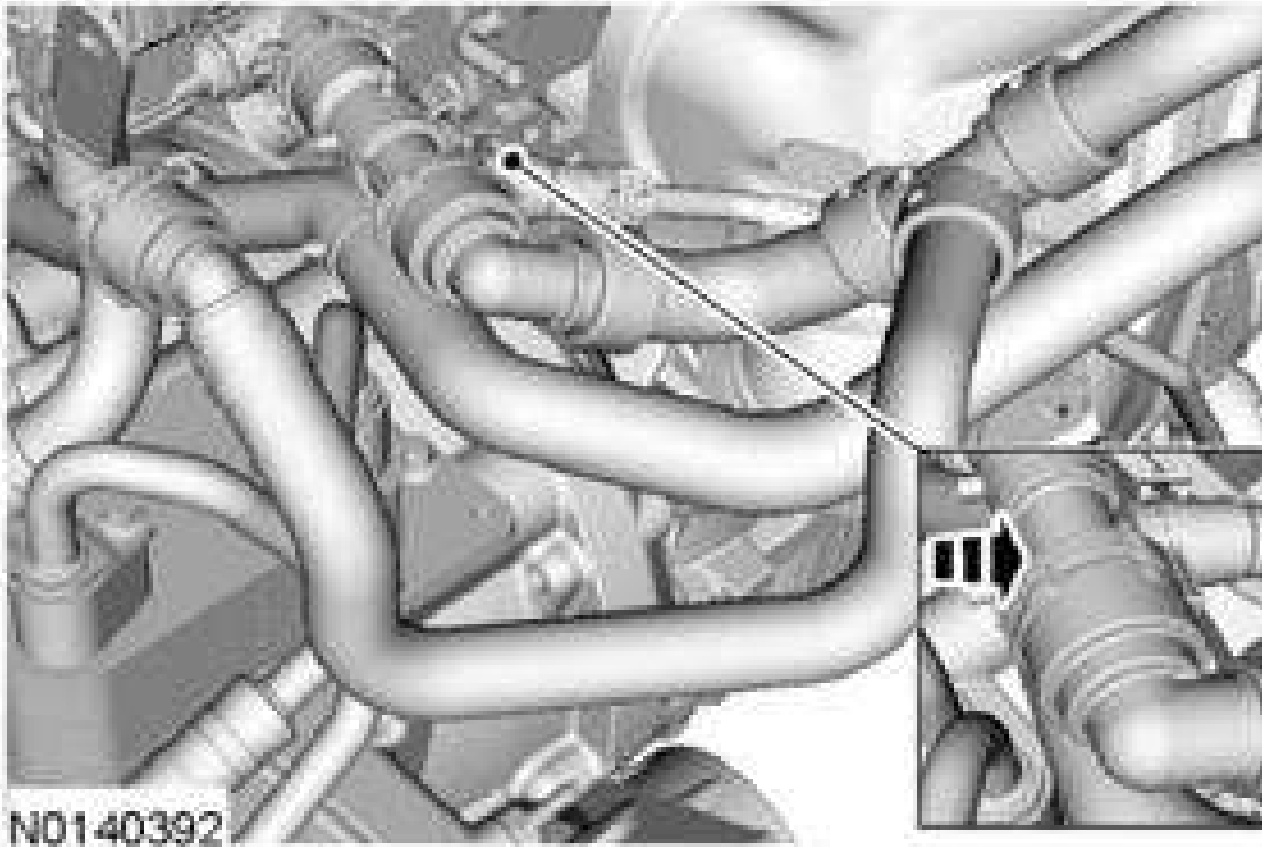
11.

12.



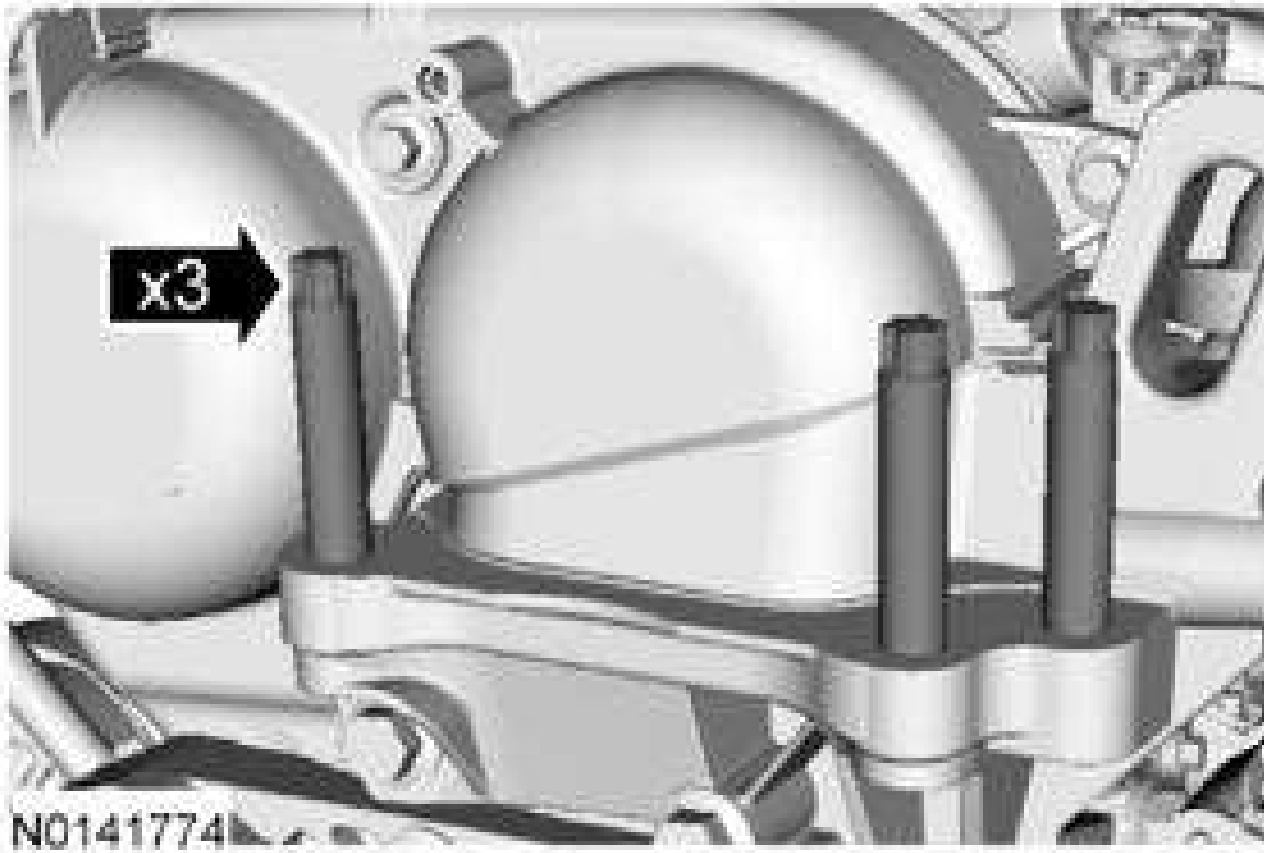
- 12.
13. General Equipment: Hose Clamp Remover/Installer.

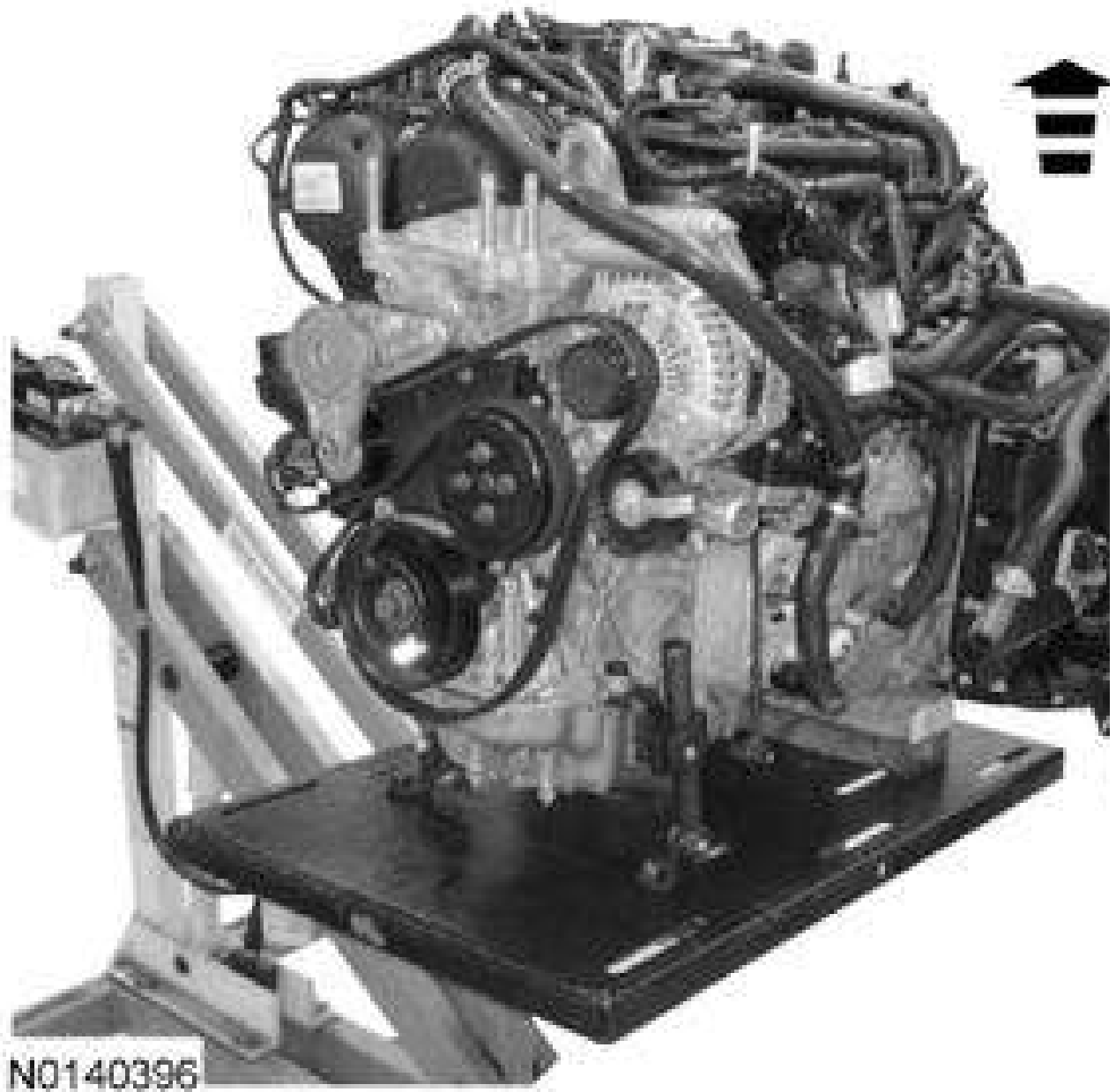




14.

15. Tighten to 8 Nm (71 lb-in).

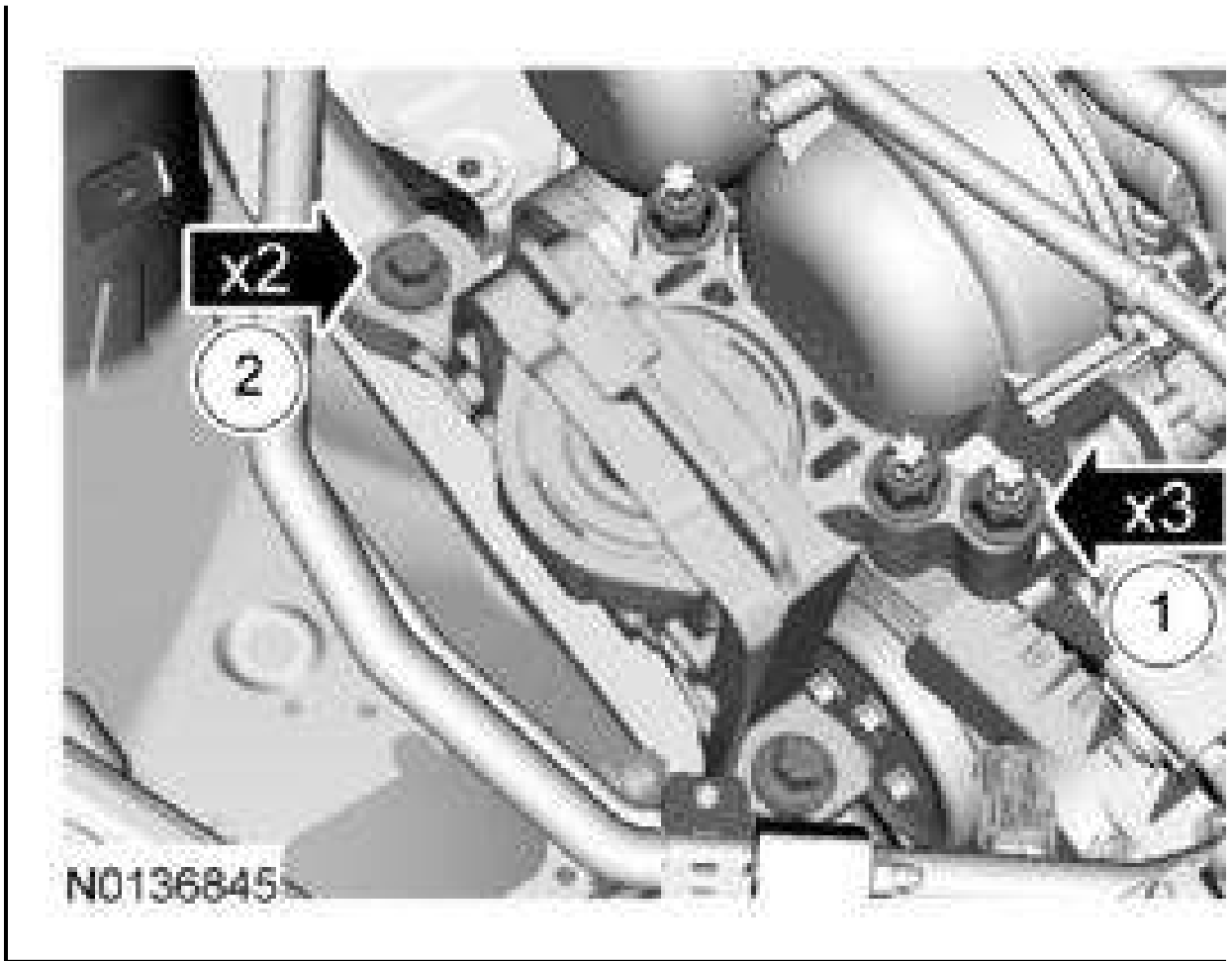




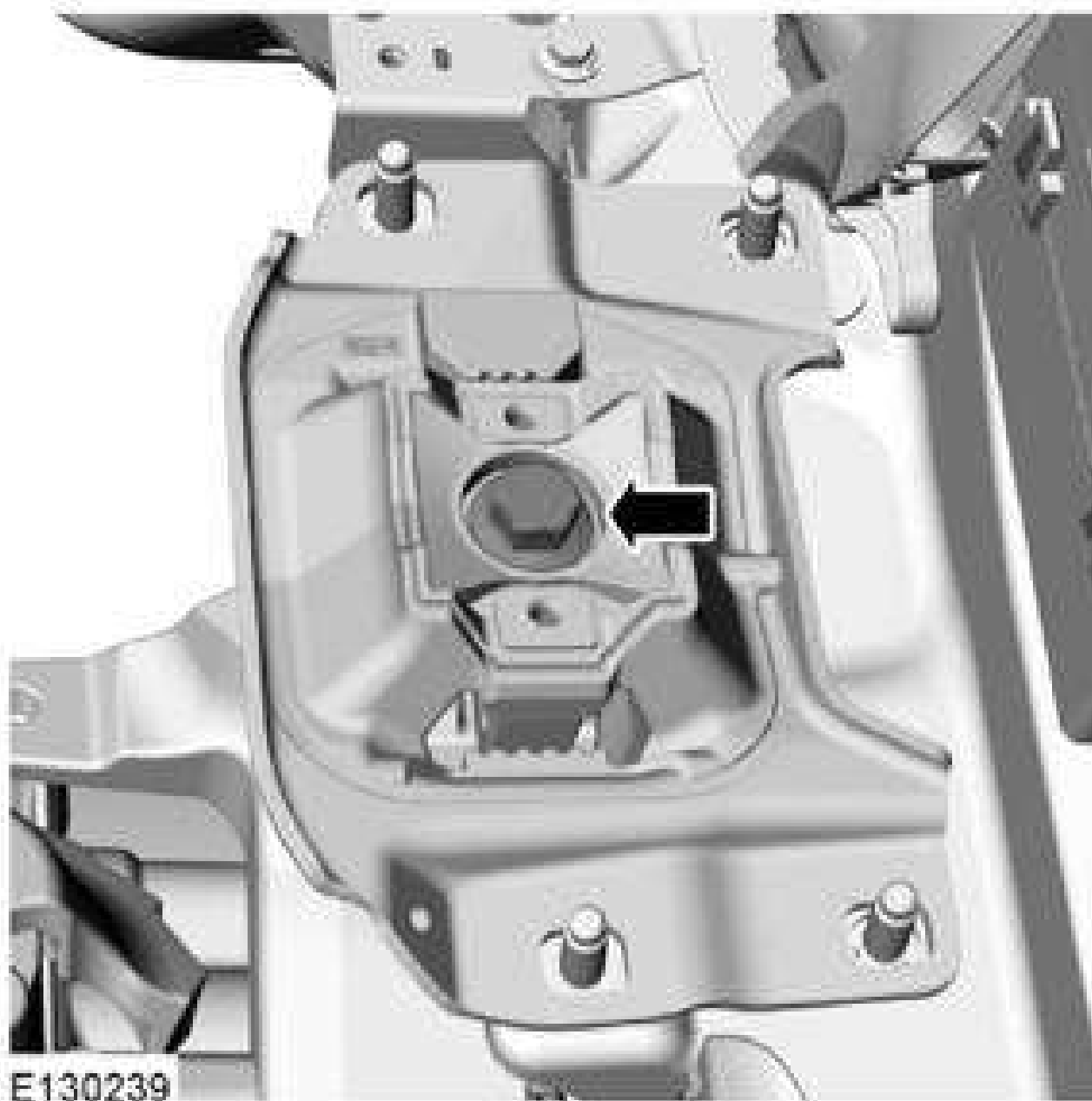
16.

17.

1. Tighten to 80 Nm (59 lb-ft).
2. Finger tight.



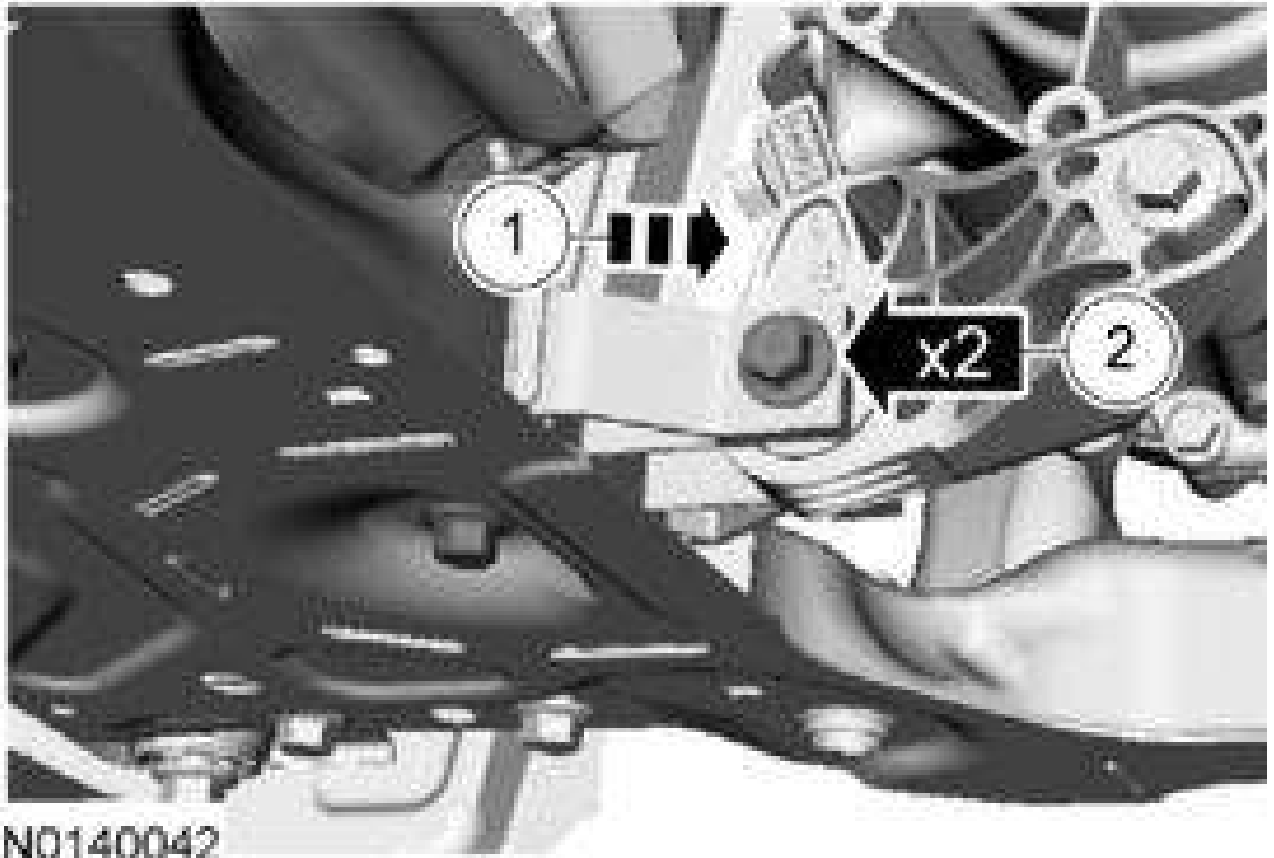
18. Tighten to 148 Nm (109 lb-ft).



19. Remove the Special Tool(s): Powertrain Lift 300-OTC1585AE and Adjustable Grip Arm, 1735A 014-00001.



20. Tighten to 125 Nm (92 lb-ft).

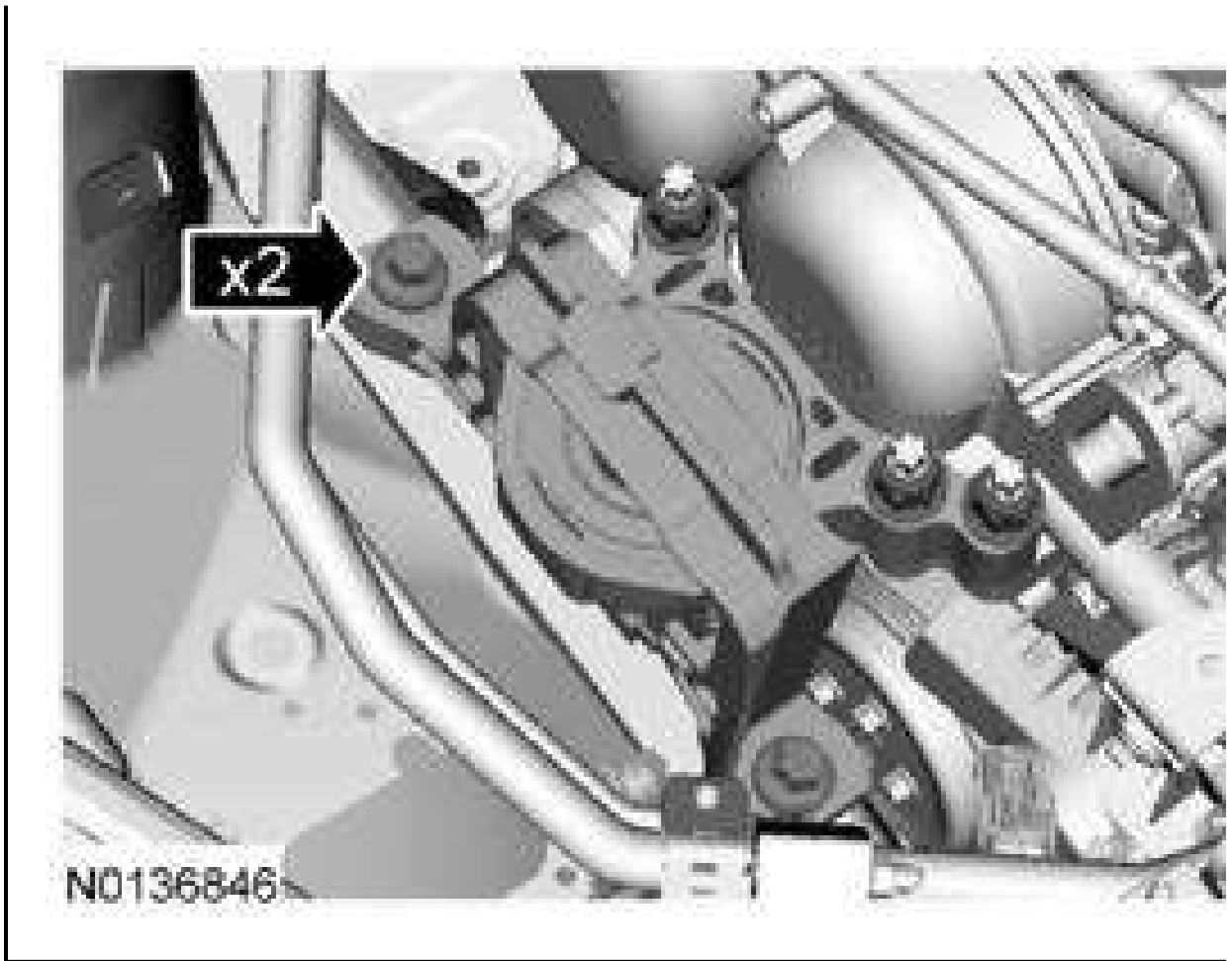


N0140042

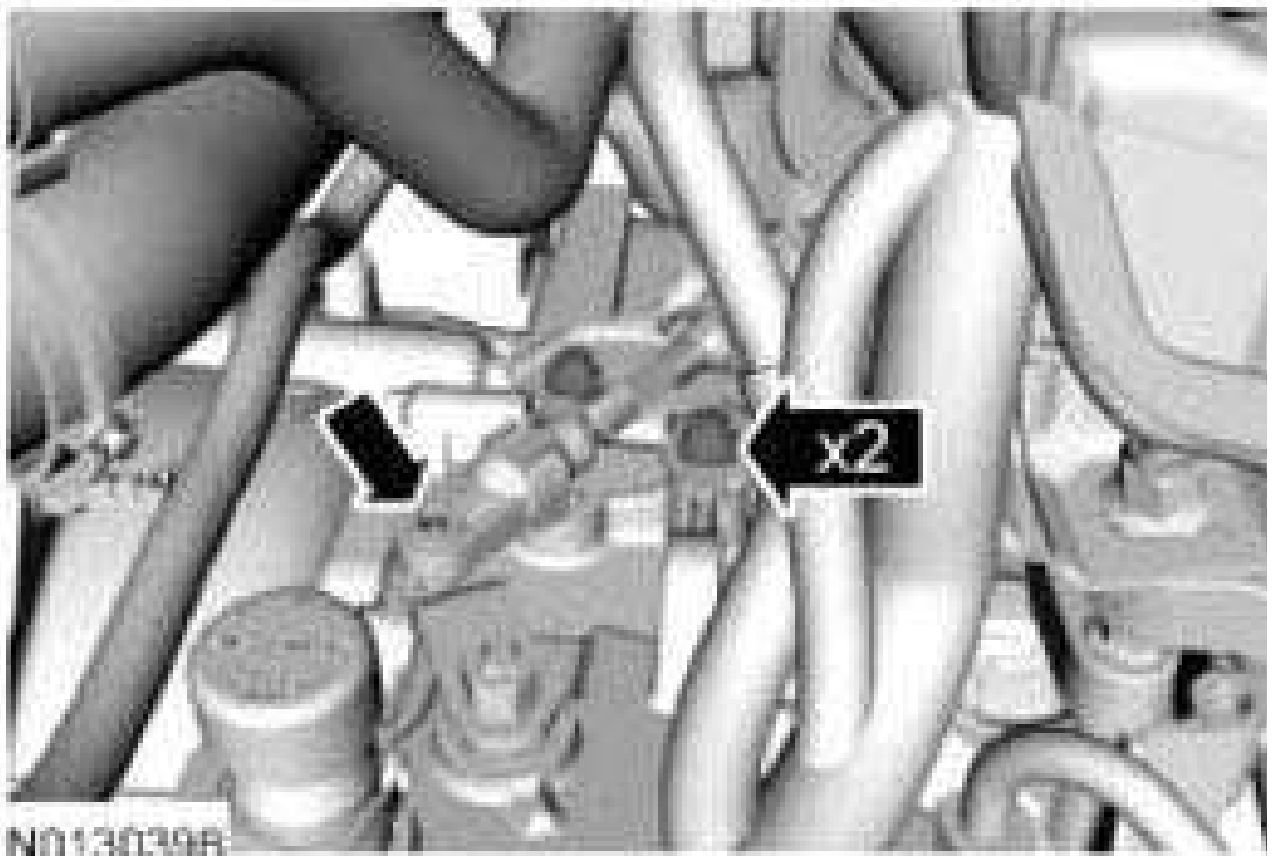
21.

- Tighten to 90 Nm (66 lb-ft).

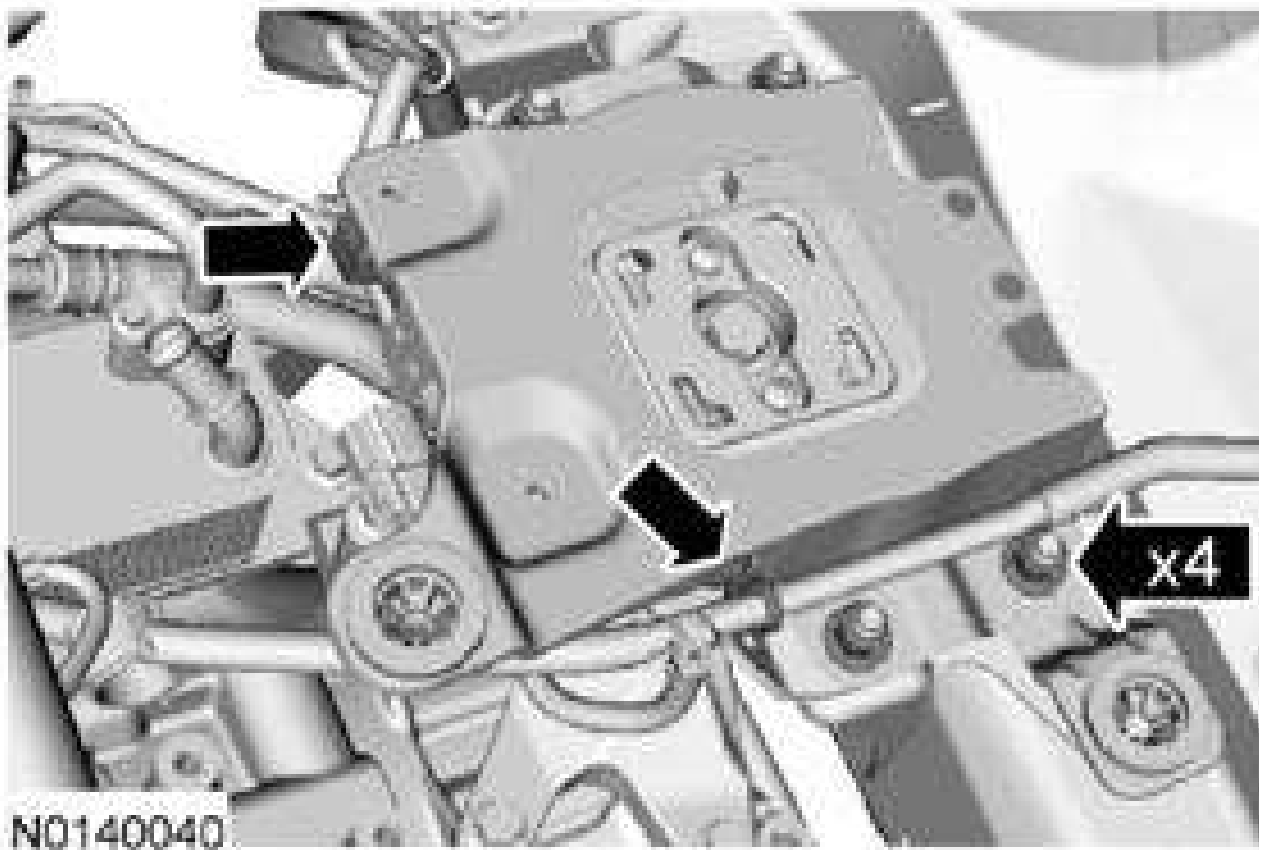


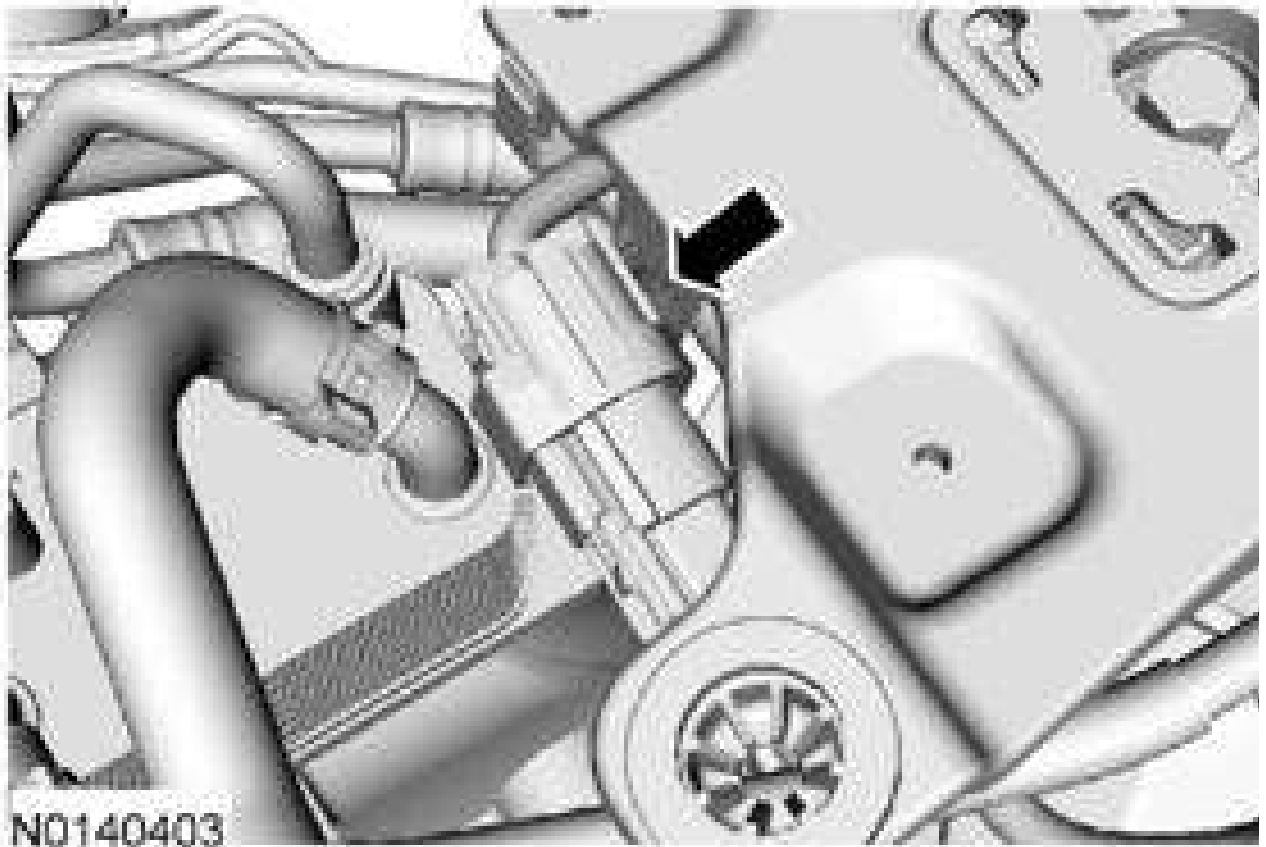


22. Tighten to 25 Nm (18 lb-ft).

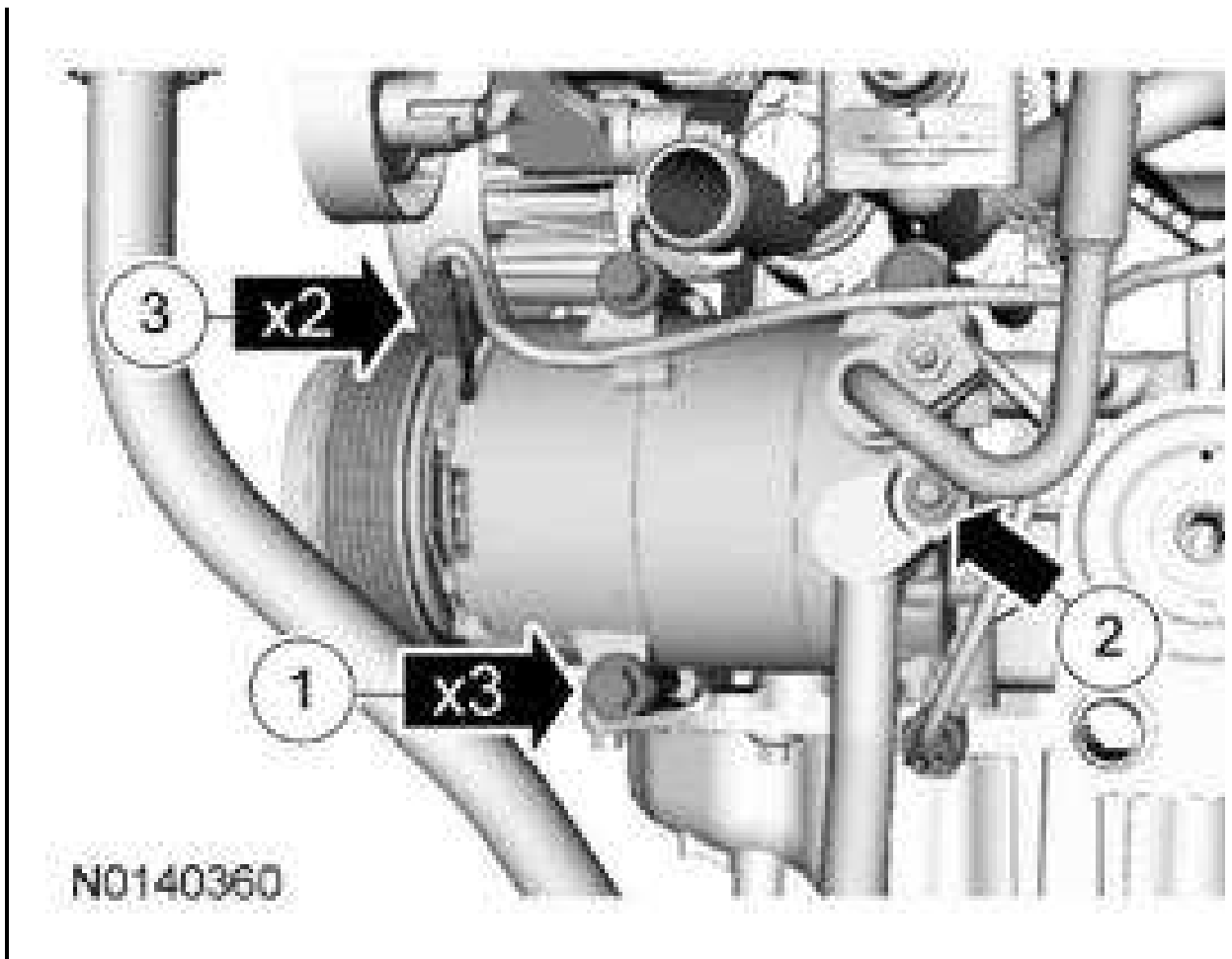


23. Tighten to 48 Nm (35 lb-ft).

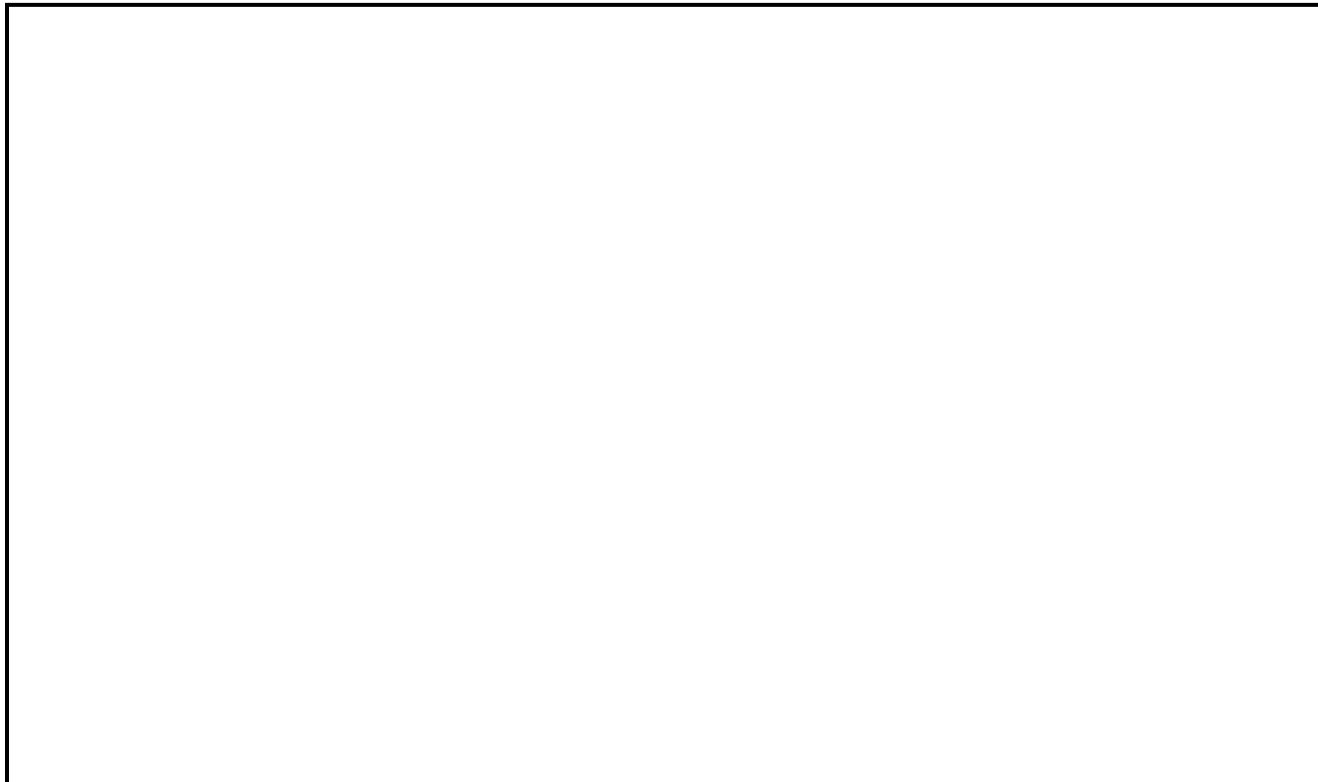


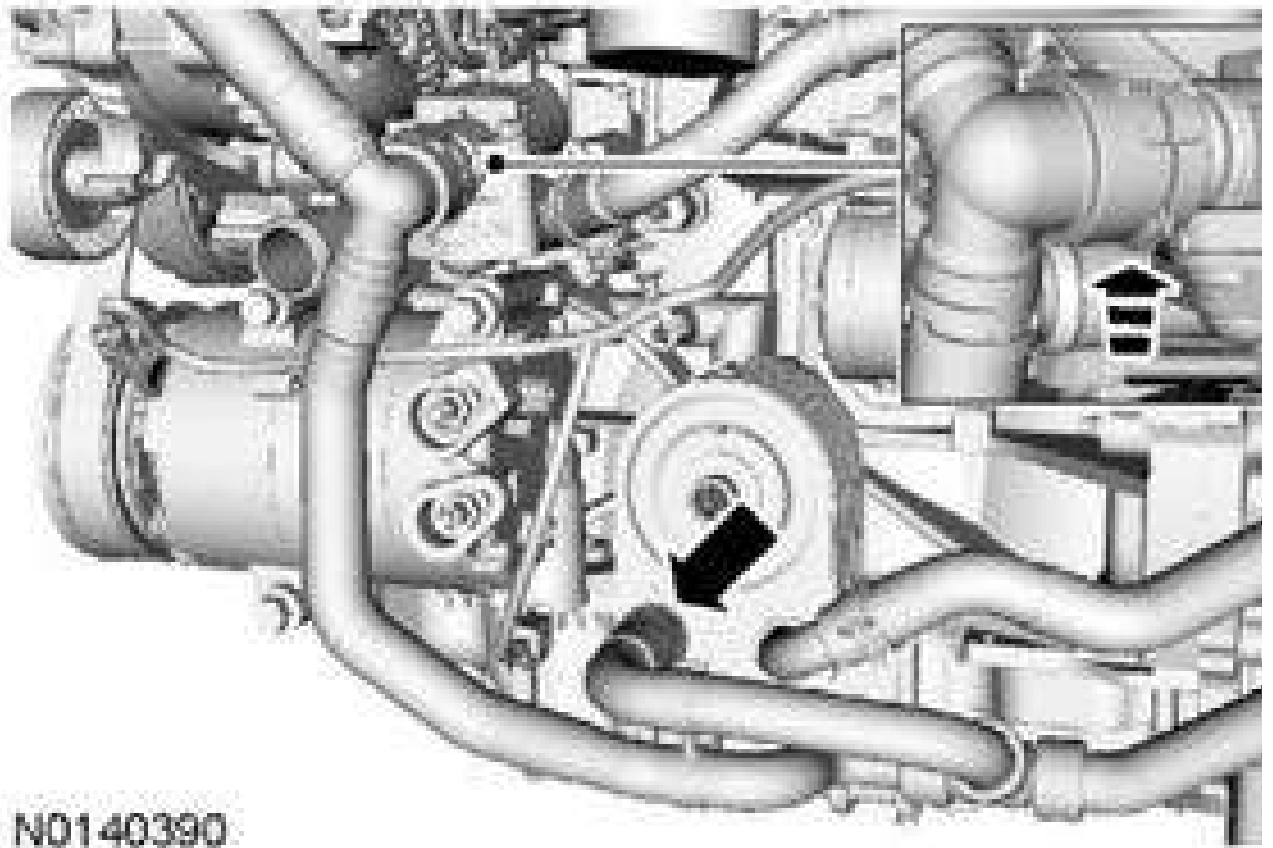


- 24.
25. Use a new O-ring seal and gasket seal.
 1. Tighten to 25 Nm (18 lb-ft).
 2. Tighten to 15 Nm (133 lb-in).

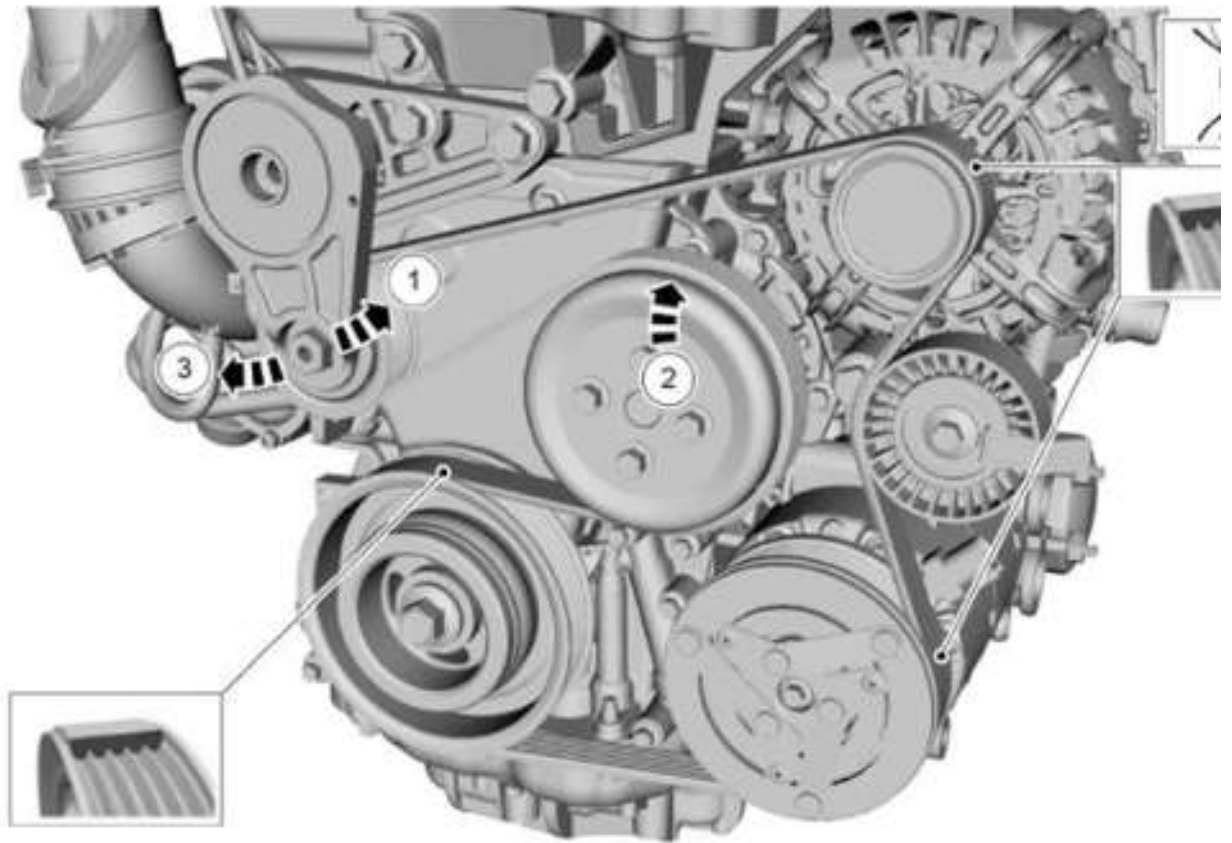


26. General Equipment: Hose Clamp Remover/Installer.



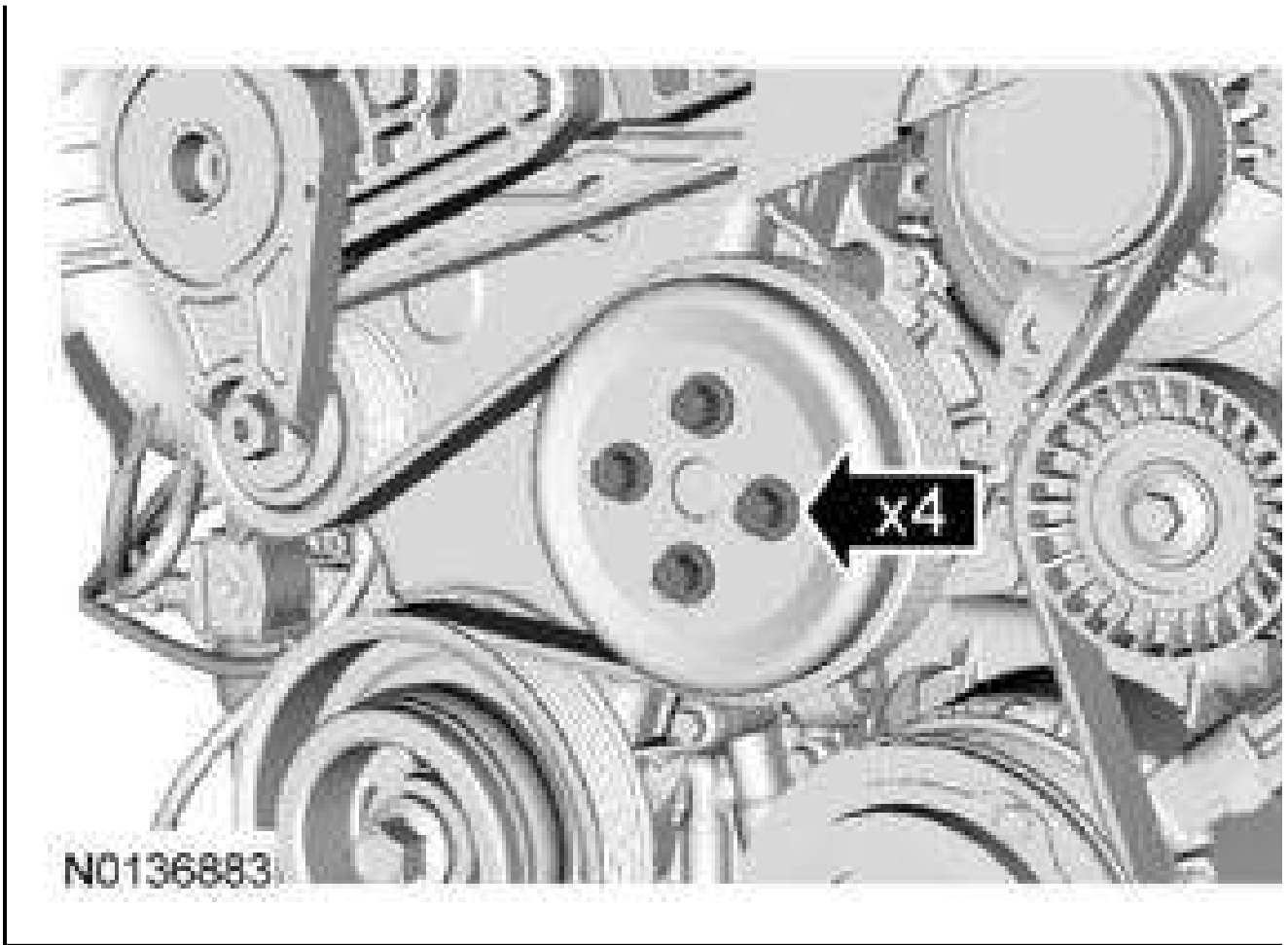


27. Visual check.



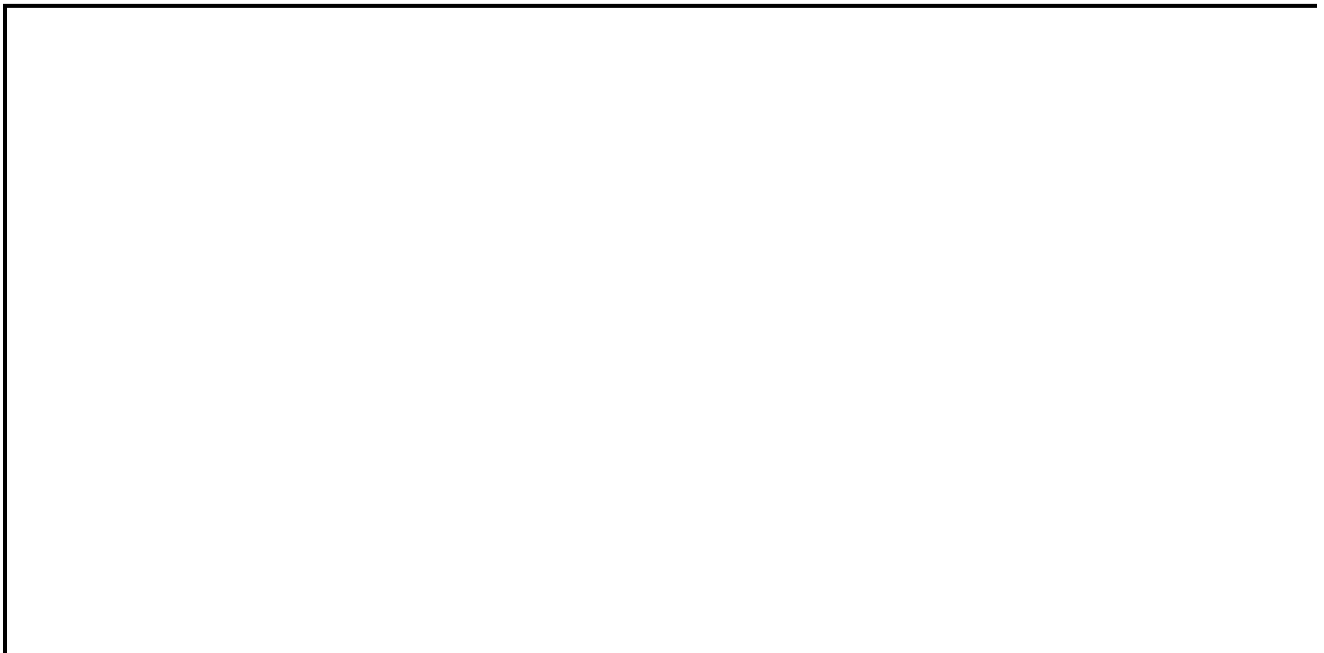
E131829

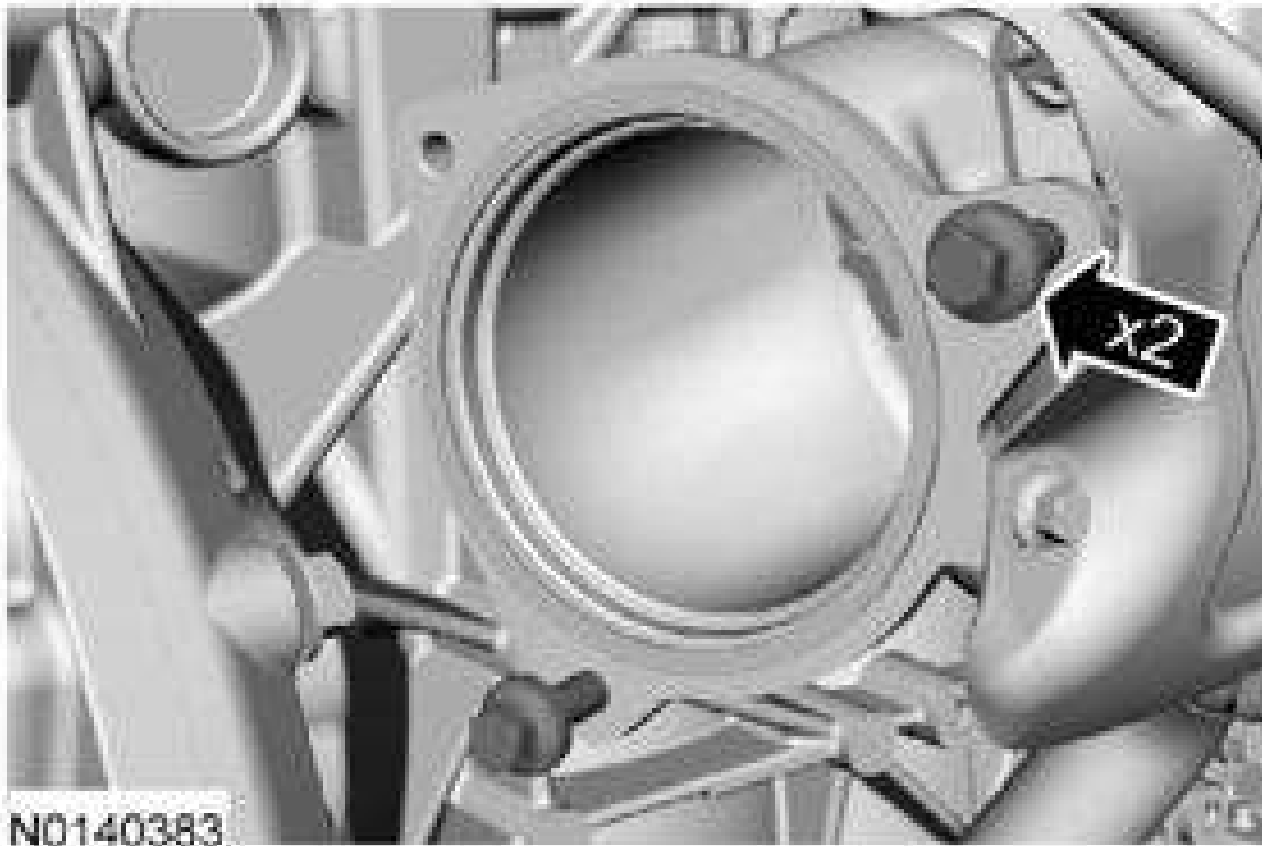
28. Tighten to 24 Nm (18 lb-ft).



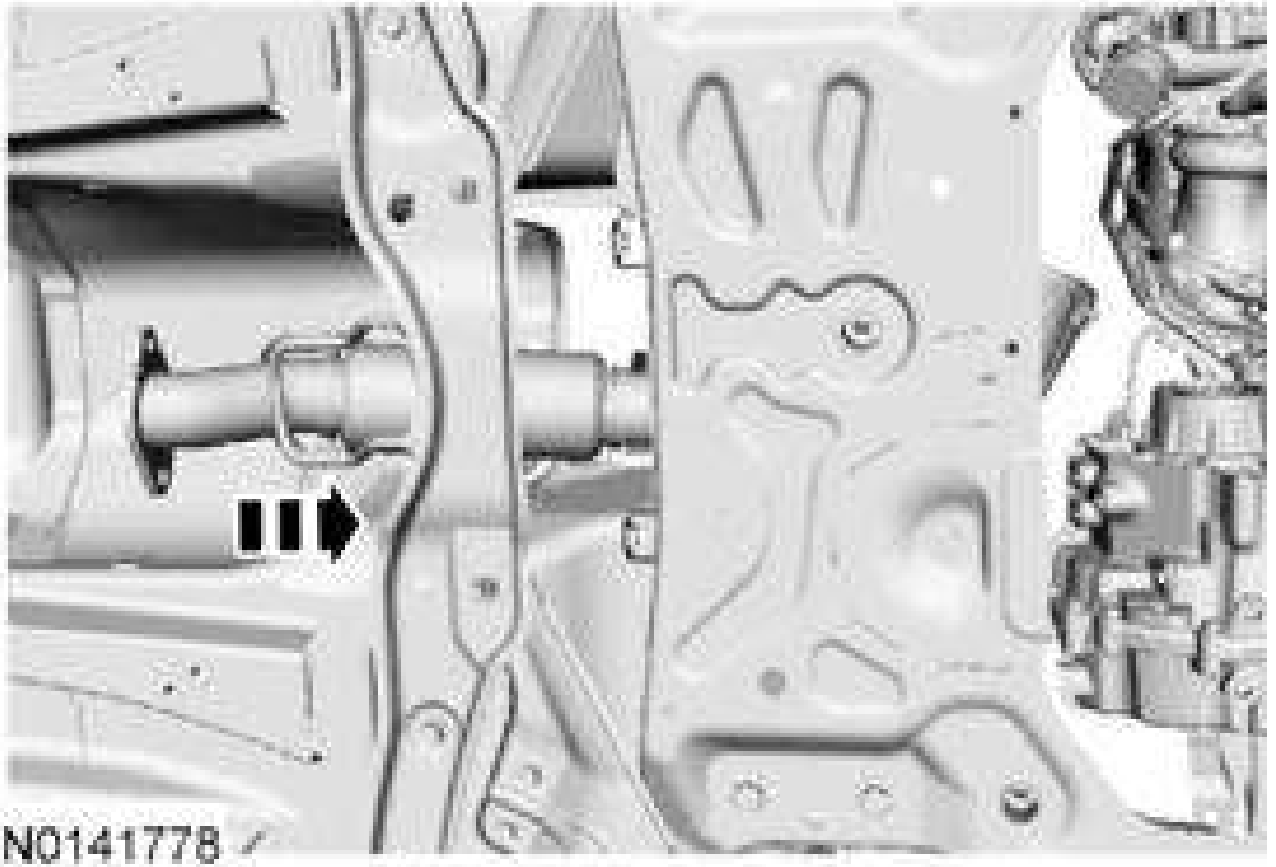
29. **NOTE:** Always install new fasteners and gaskets. Clean flange faces prior to new gasket installation to make sure of correct sealing.

Loosely installed.





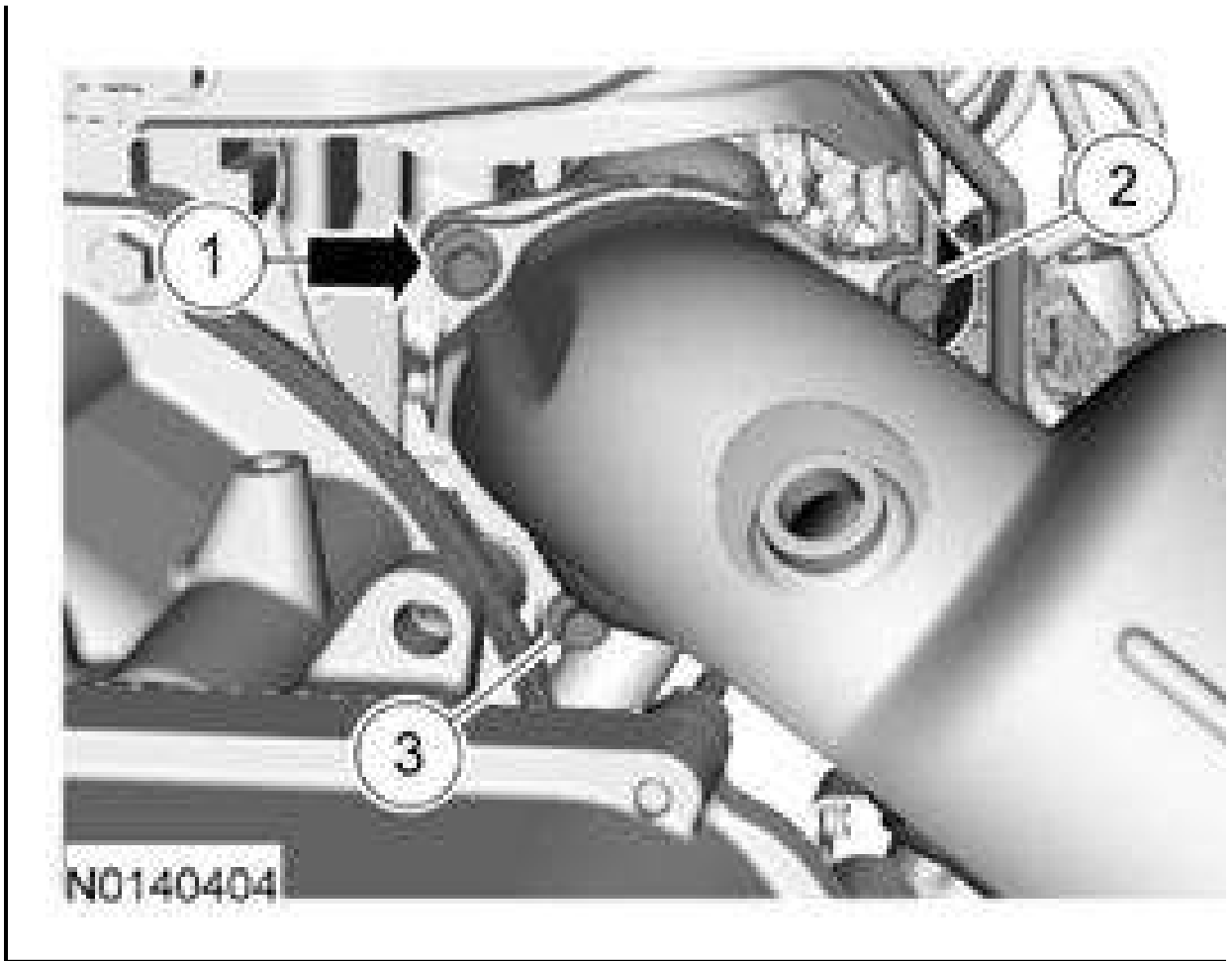
N0140383



30.

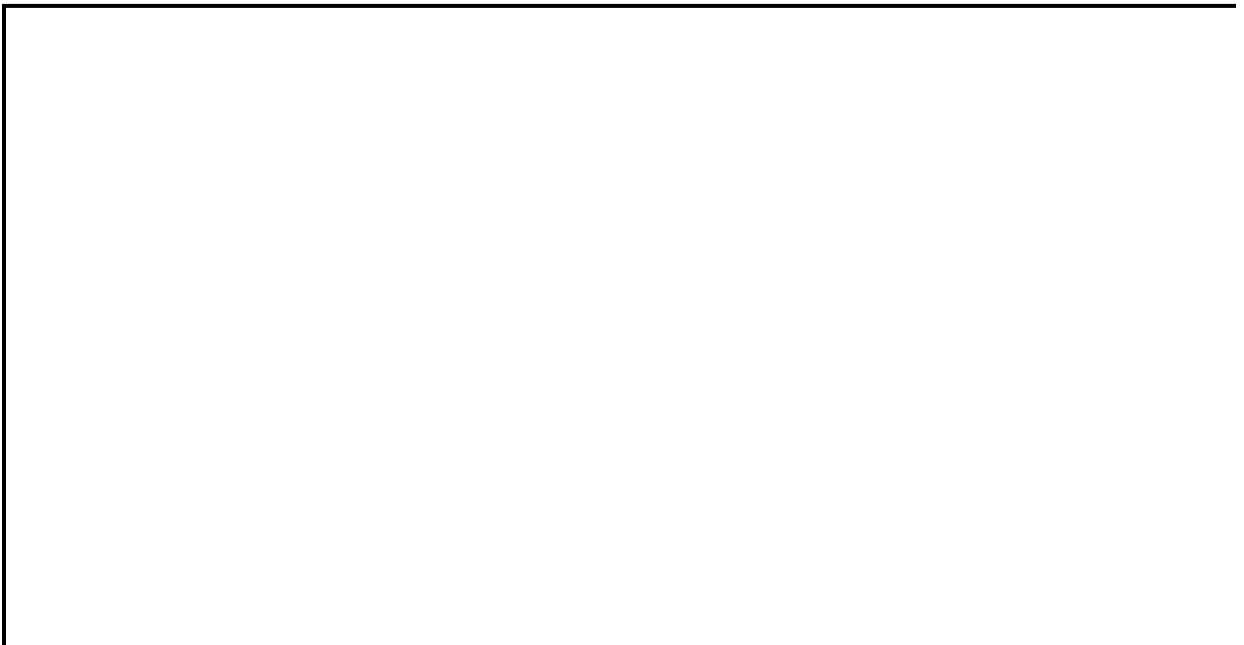
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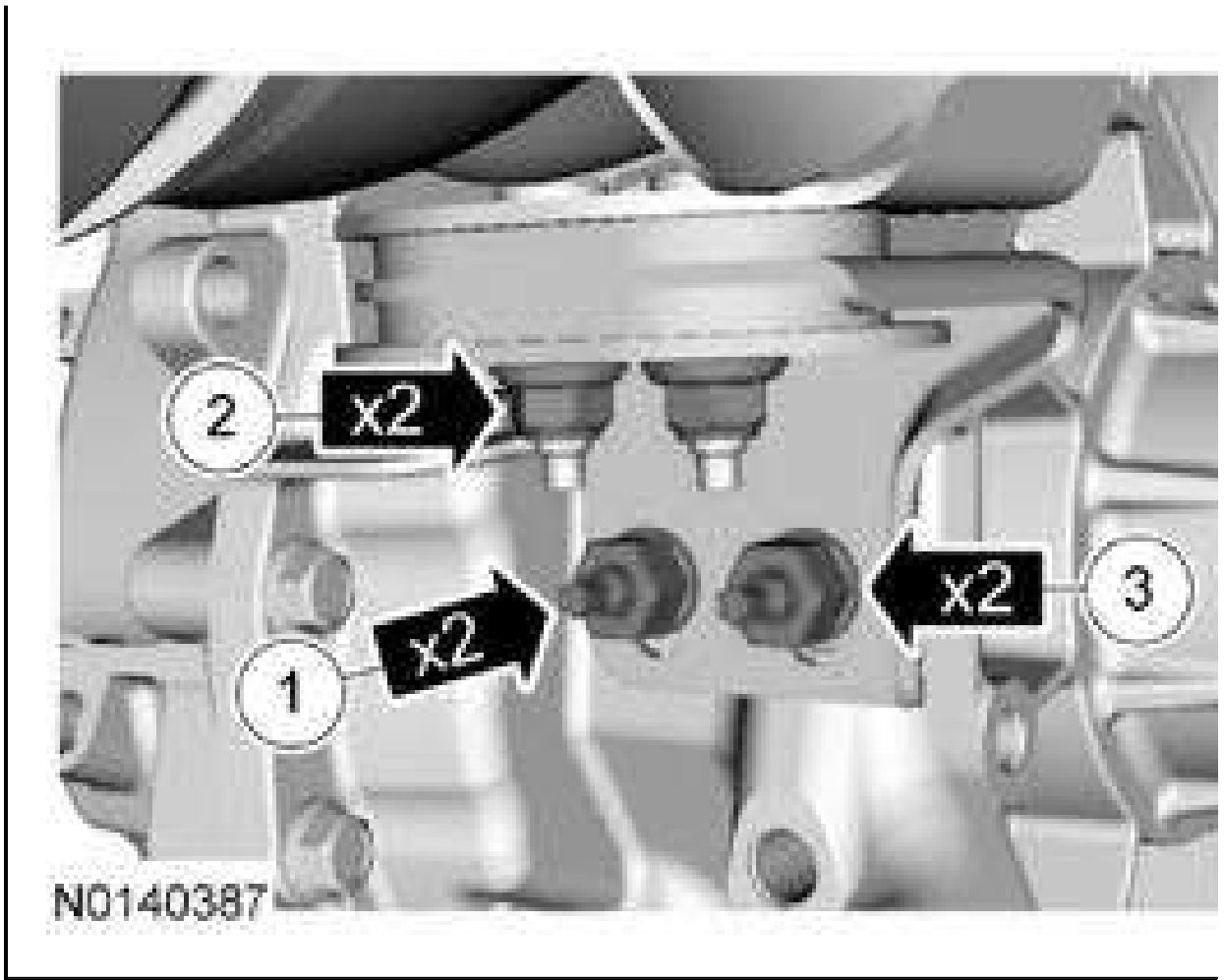
1. Install and tighten to 30 Nm (22 lb-in).
2. Tighten to 30 Nm (22 lb-in).
3. Tighten to 30 Nm (22 lb-in).



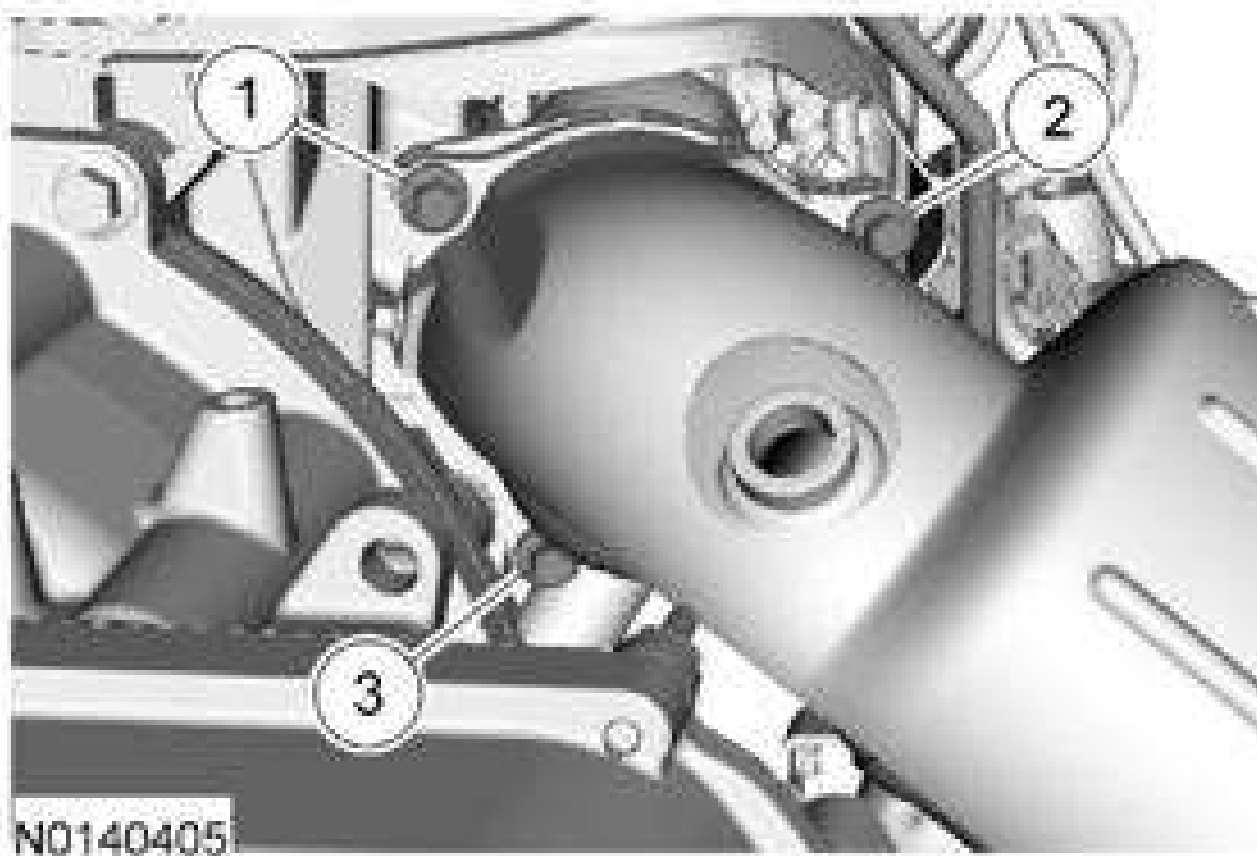
32.

1. Tighten to 8 Nm (71 lb-in).
2. Tighten to 25 Nm (18 lb-ft).
3. Tighten to 25 Nm (18 lb-ft).

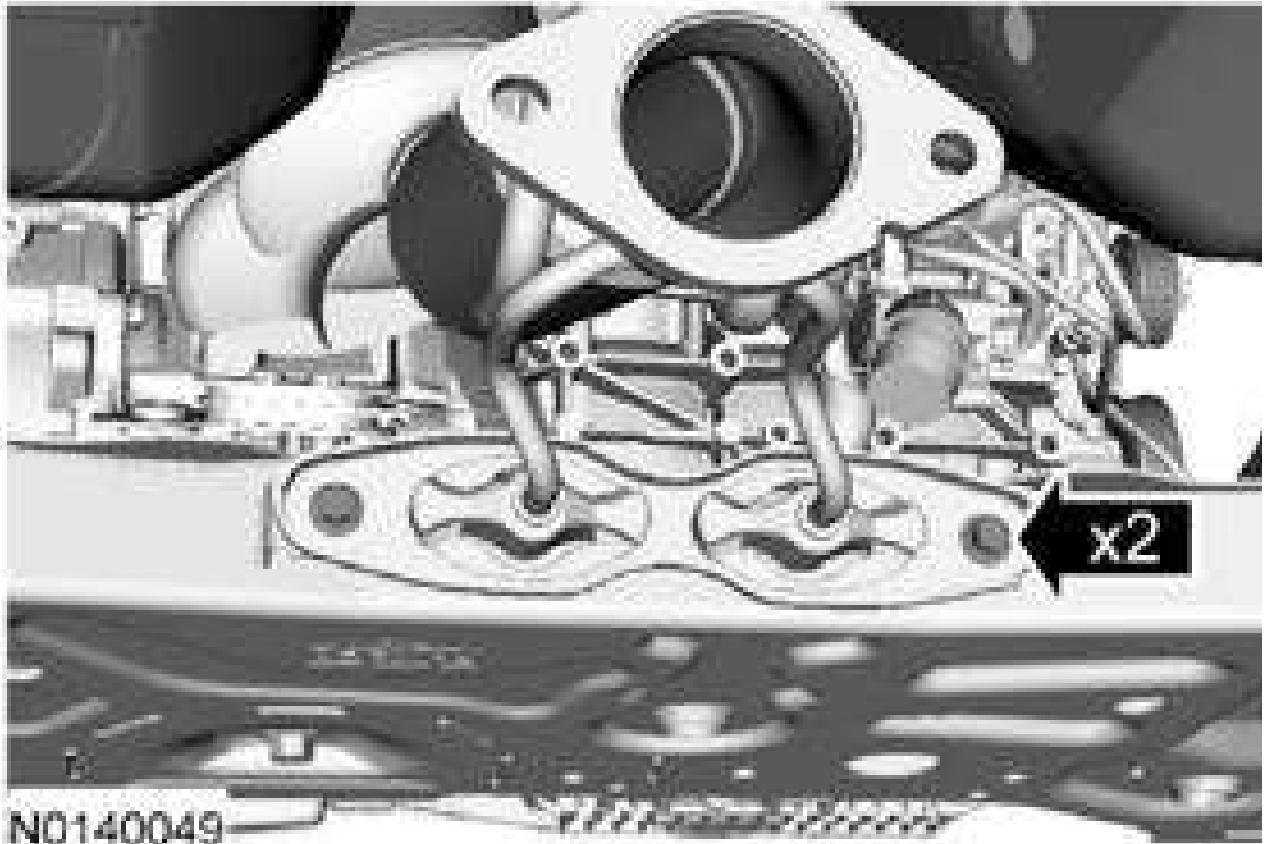


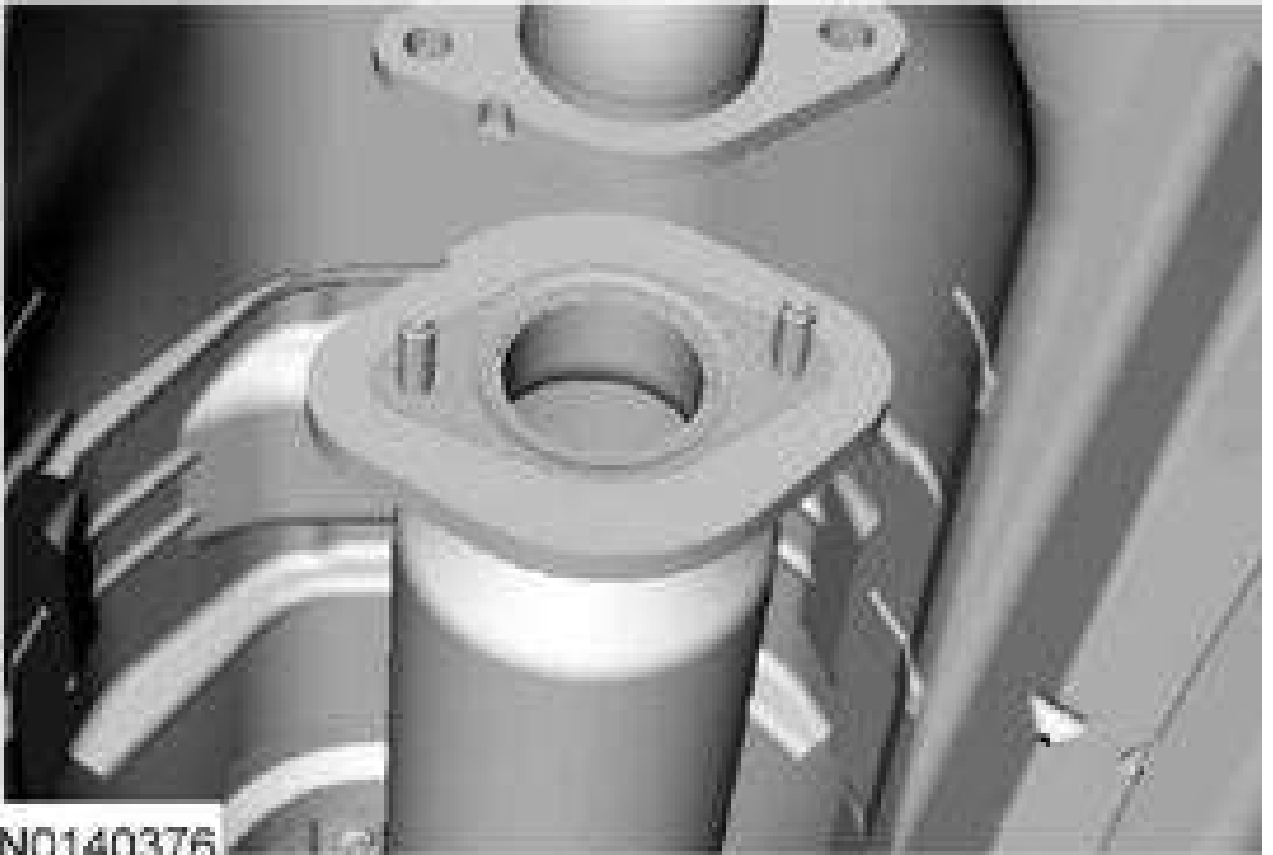


33. Tighten to 30 Nm (22 lb-in).



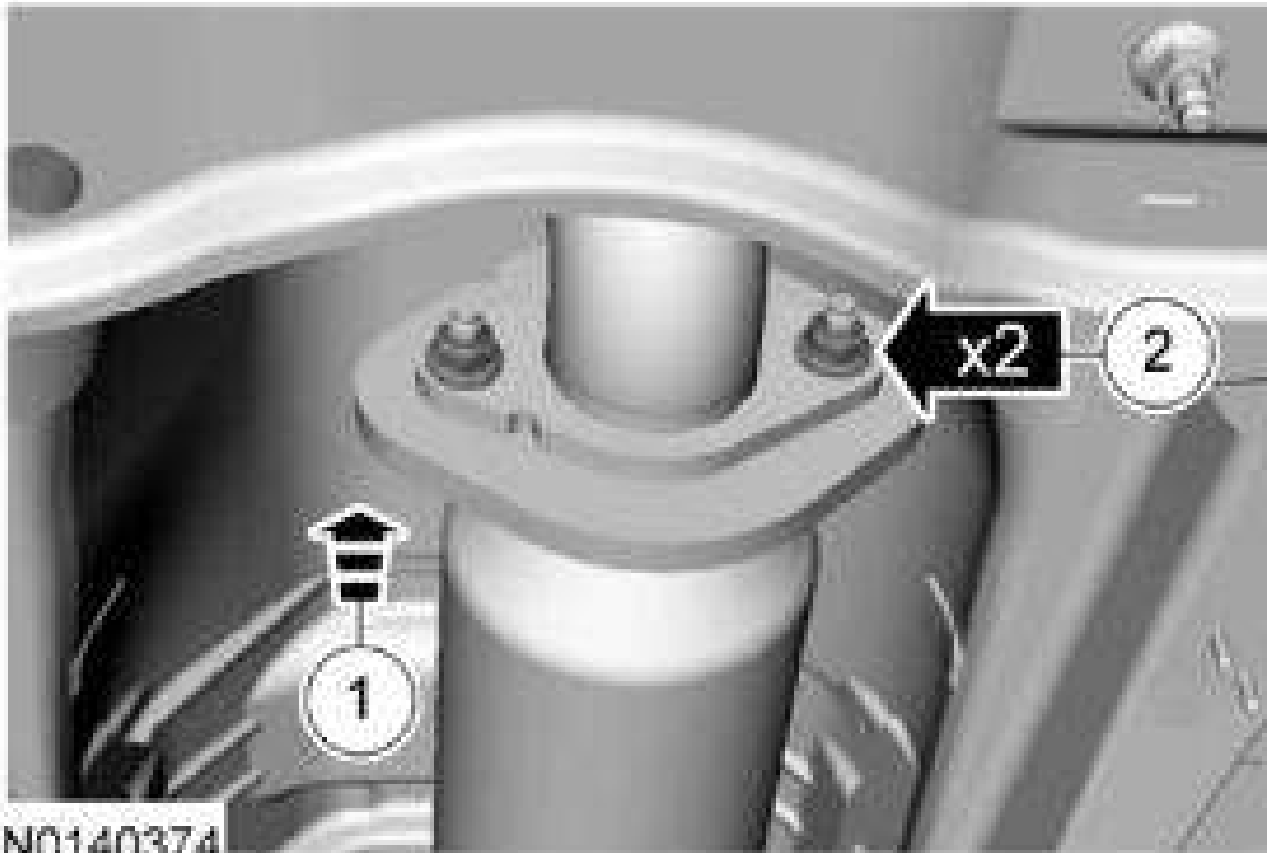
34. Tighten to 25 Nm (18 lb-ft).





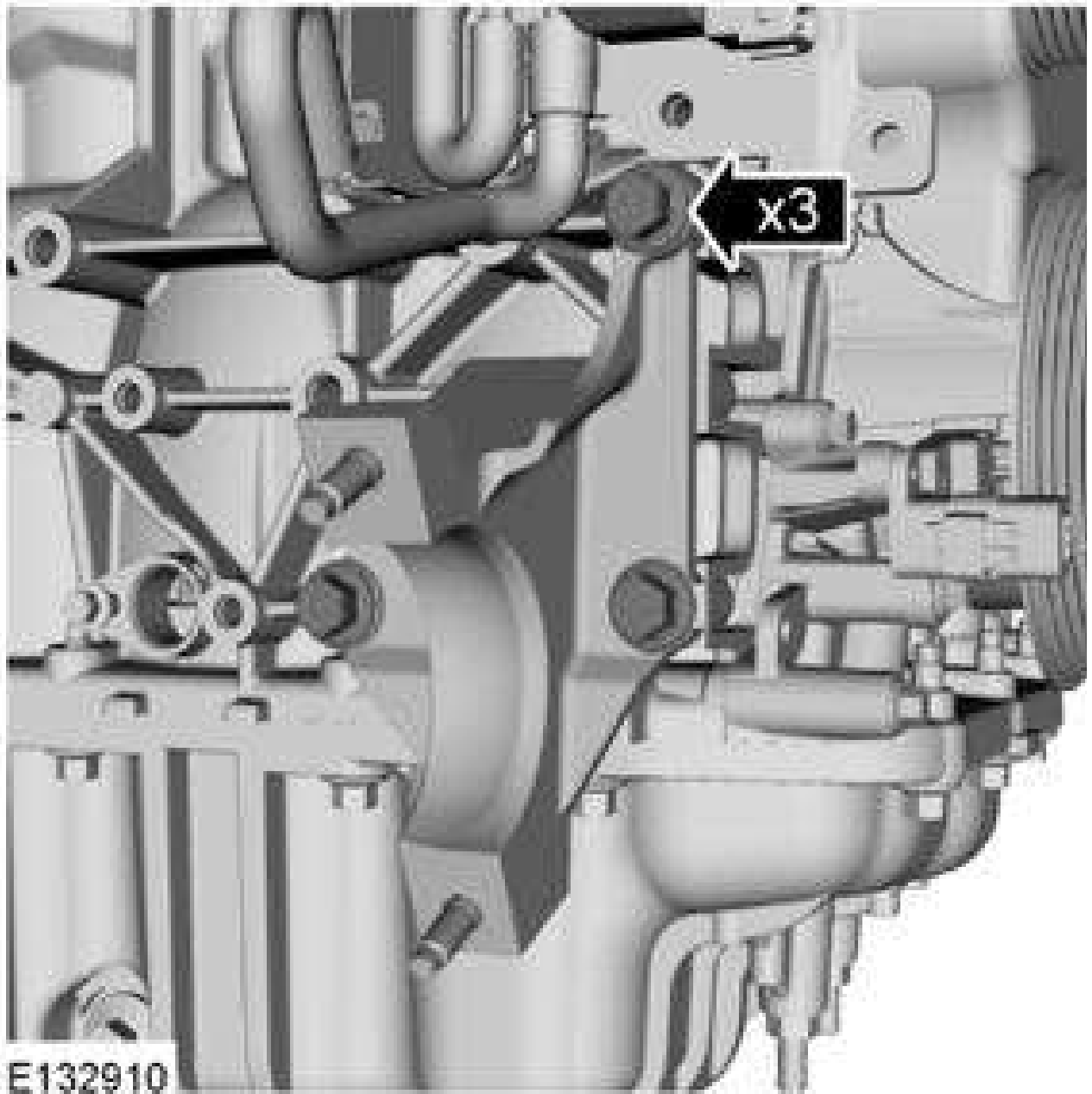
35.

36. Tighten to 48 Nm (35 lb-ft).



N0140374

37. Tighten to 48 Nm (35 lb-ft).



Vehicles with FWD

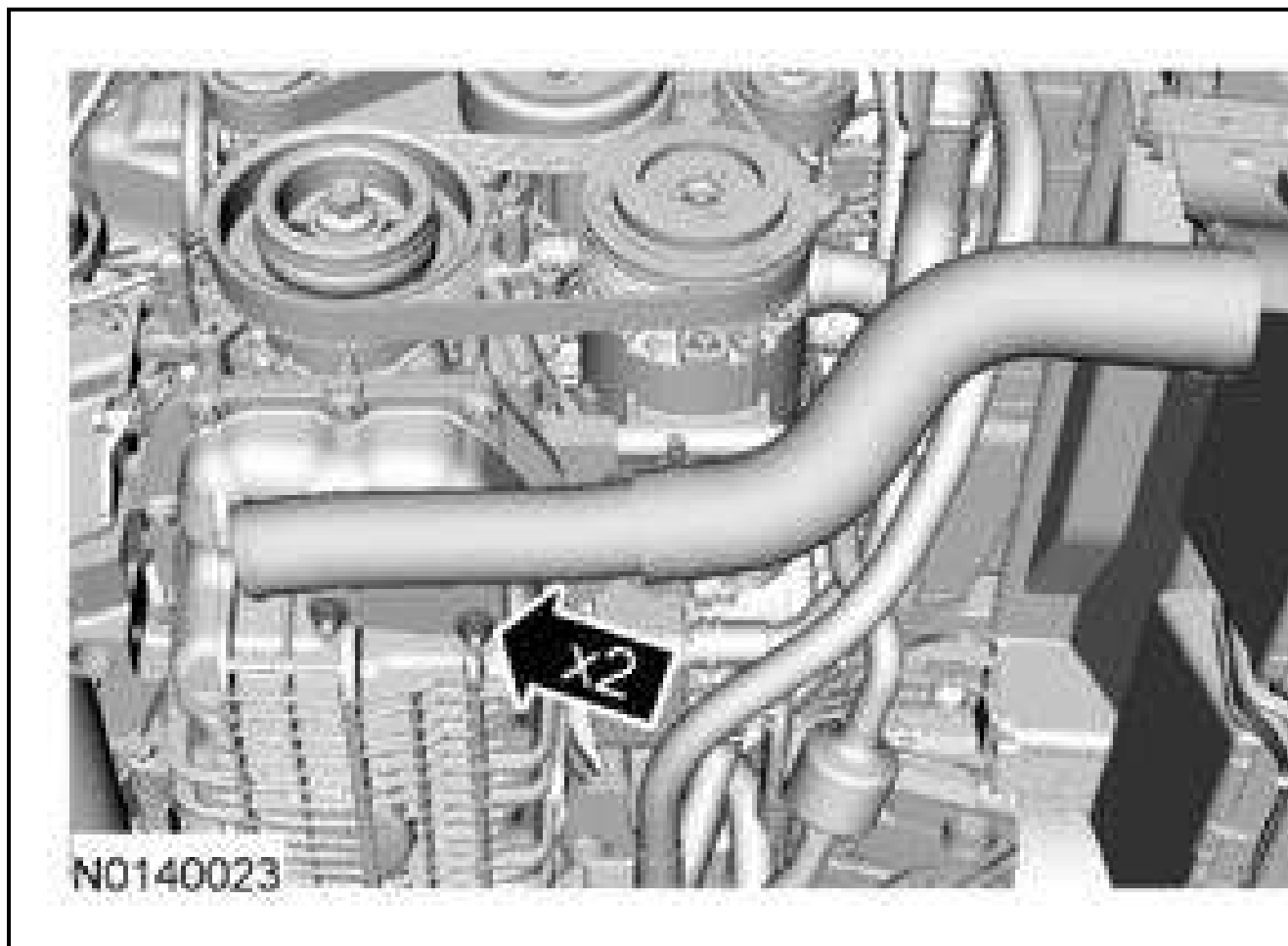
38. Install the LH and RH halfshafts. Refer to **FRONT DRIVE HALFSHAFTS** .

Vehicles with AWD

39. Install the PTU. Refer to **TRANSFER CASE - POWER TRANSFER UNIT (PTU)** .
40. Install the LH halfshaft. Refer to **FRONT DRIVE HALFSHAFTS** .

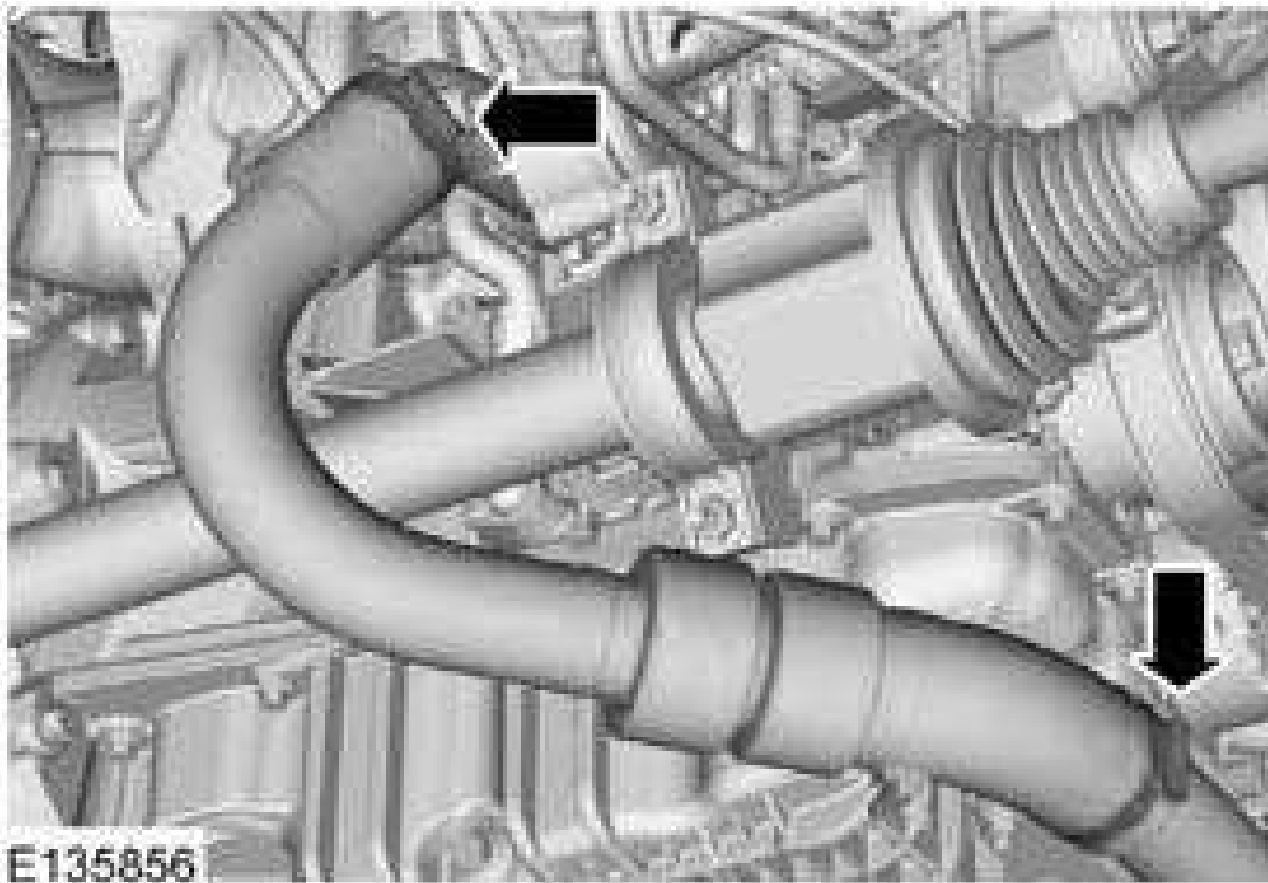
All vehicles

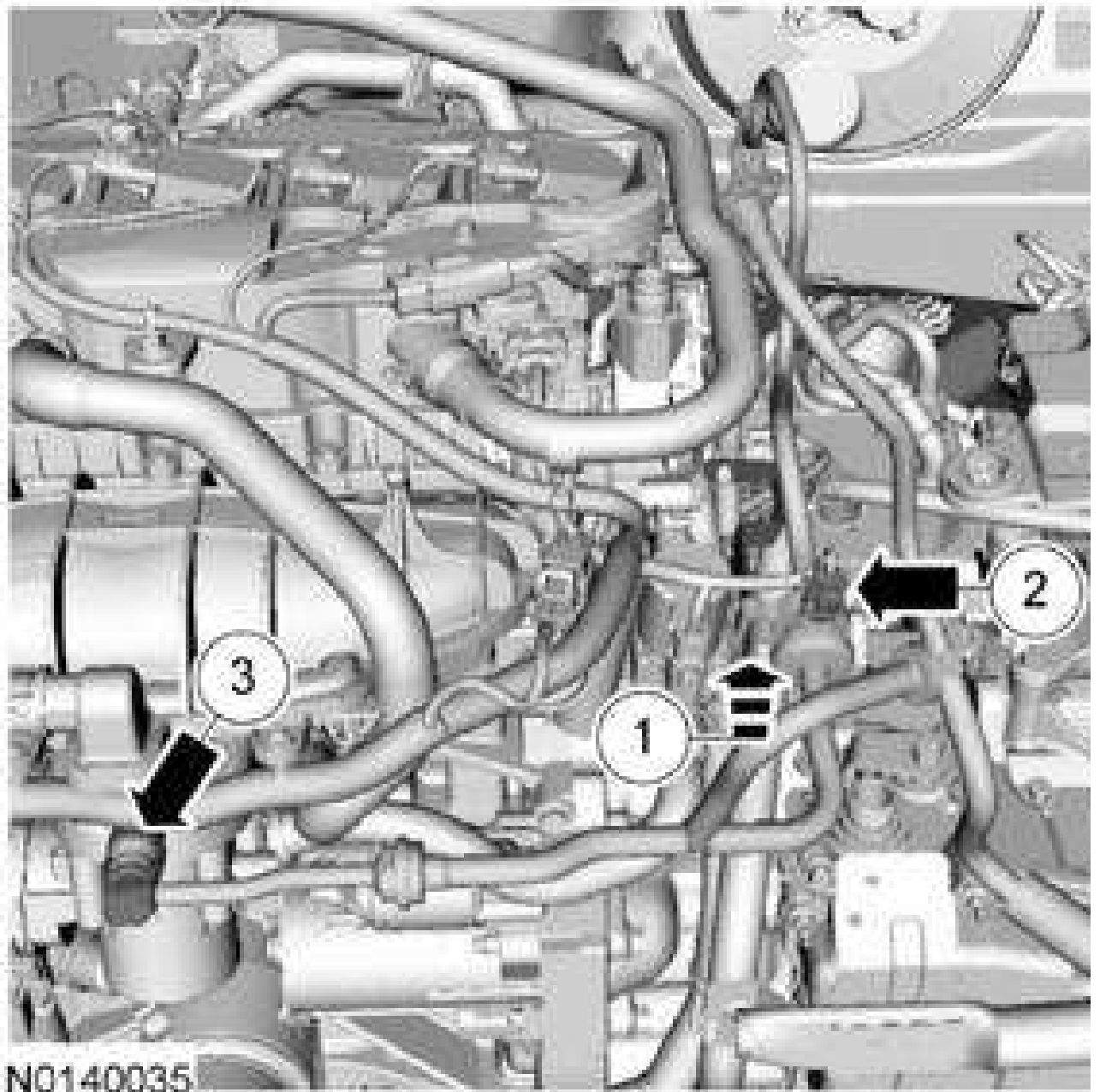
41. Tighten to 20 Nm (177 lb-in).



42. Tighten to 5 Nm (44 lb-in).

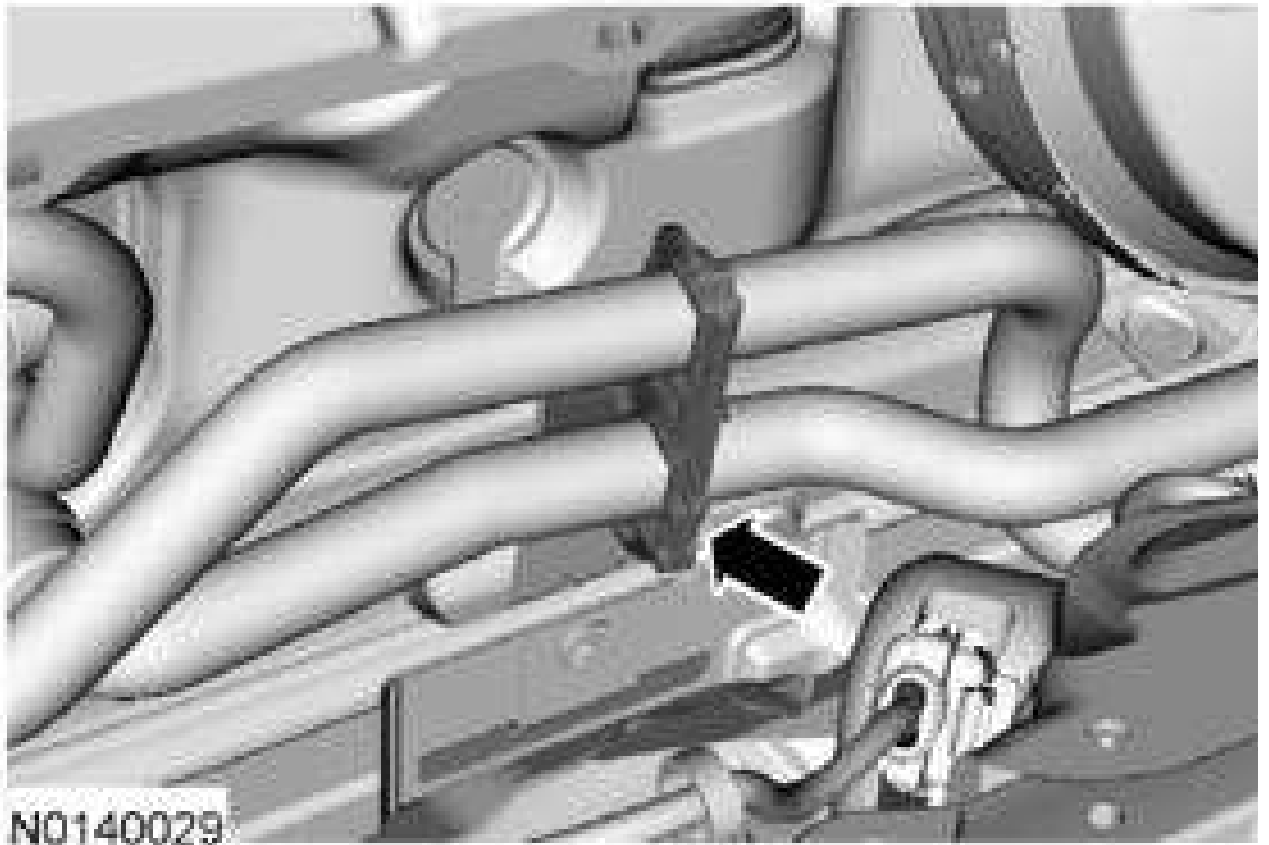






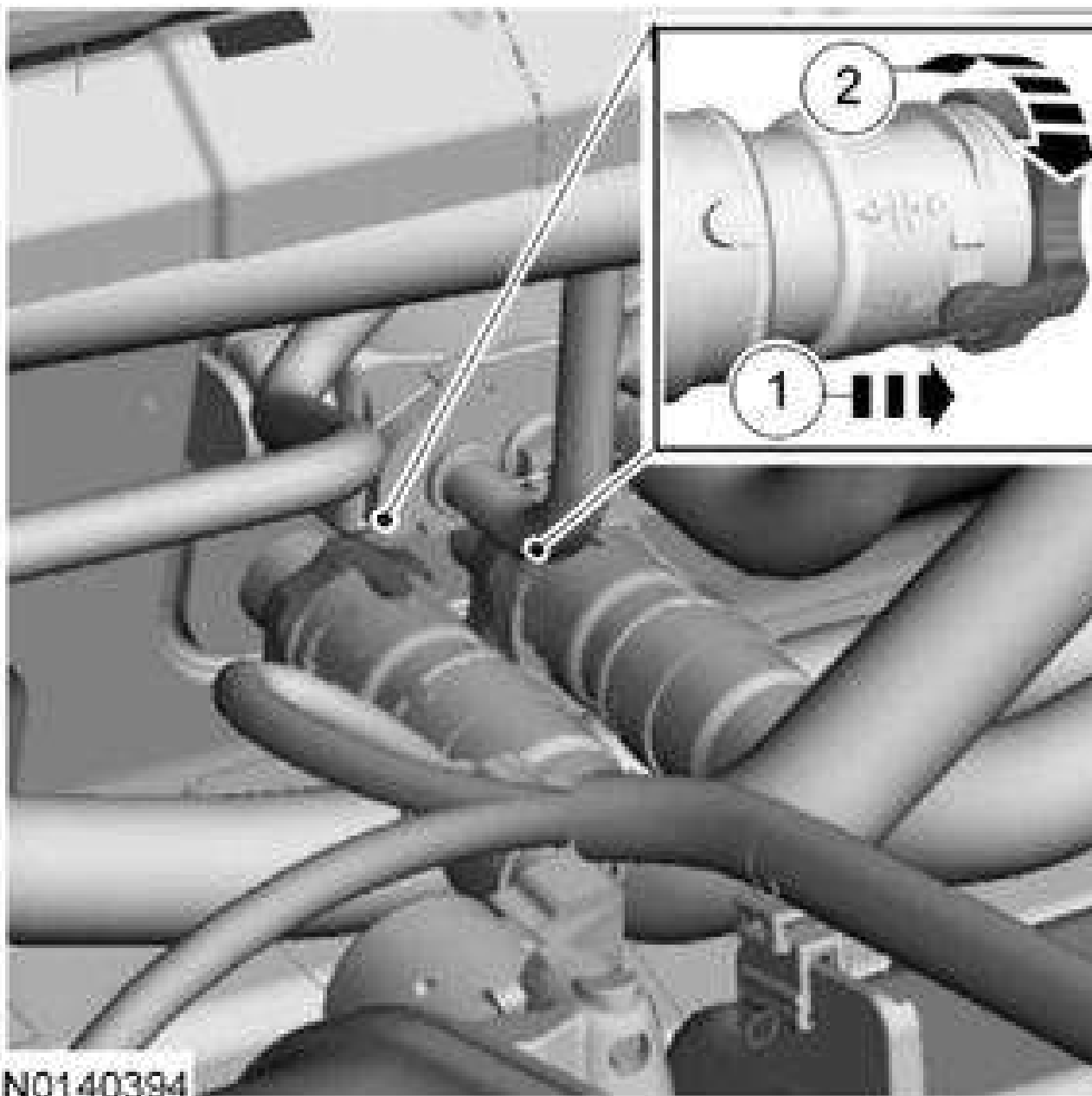
43.

44.



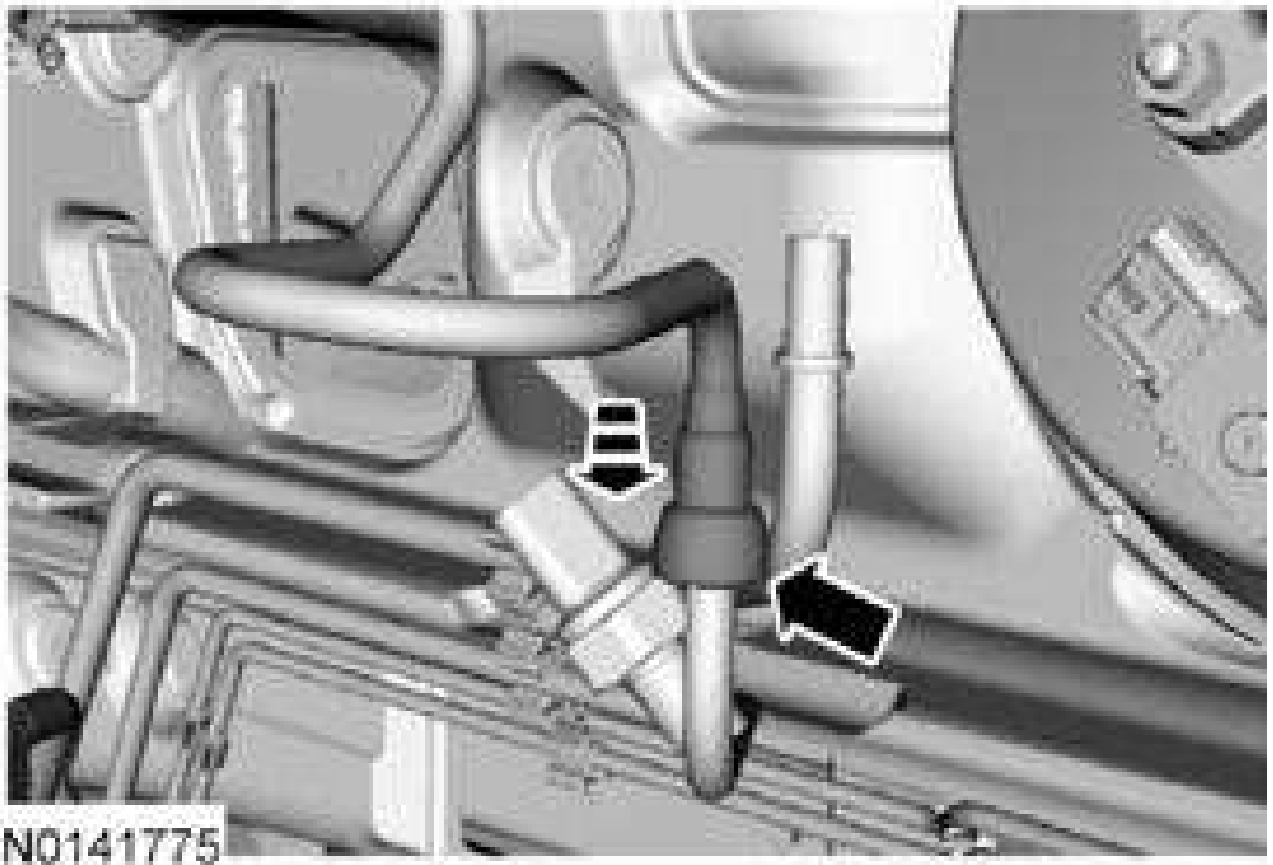
44.

45.

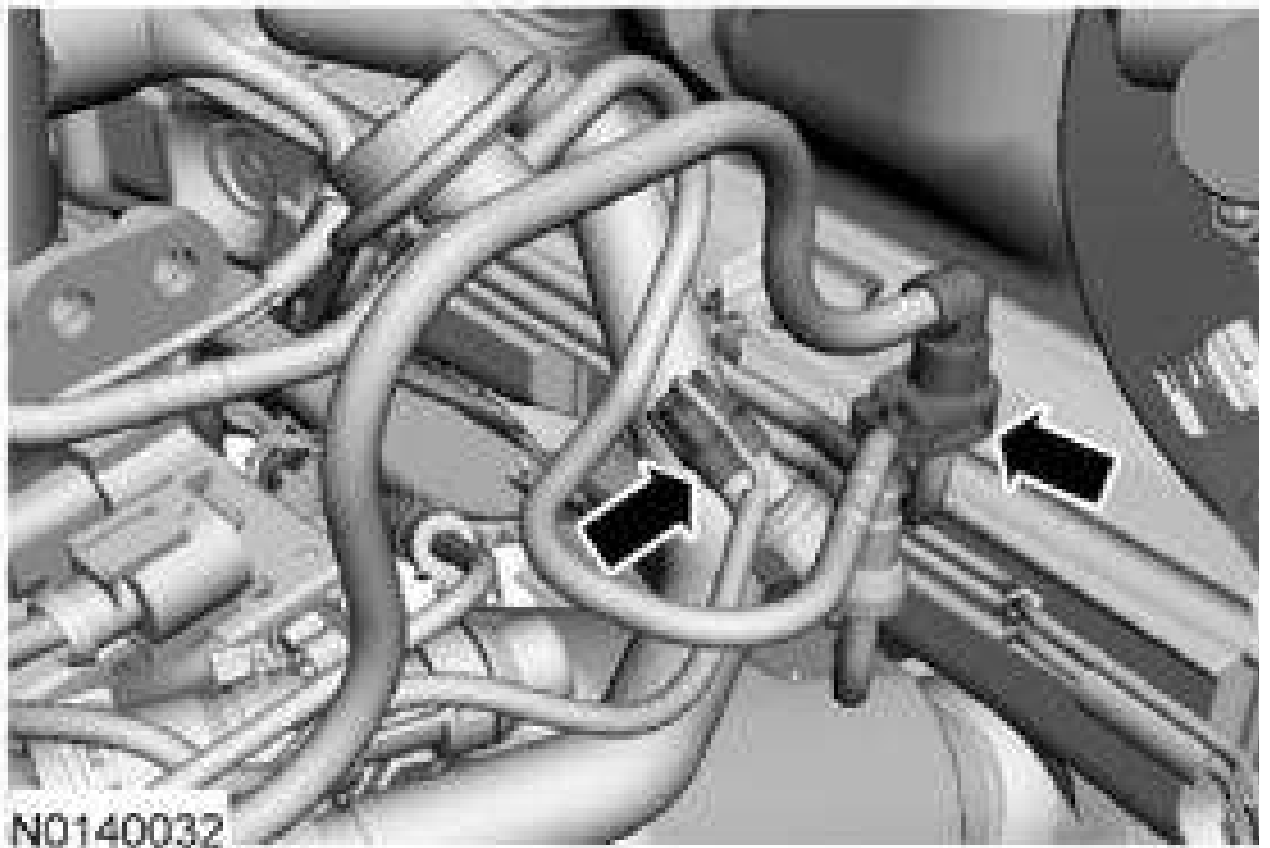


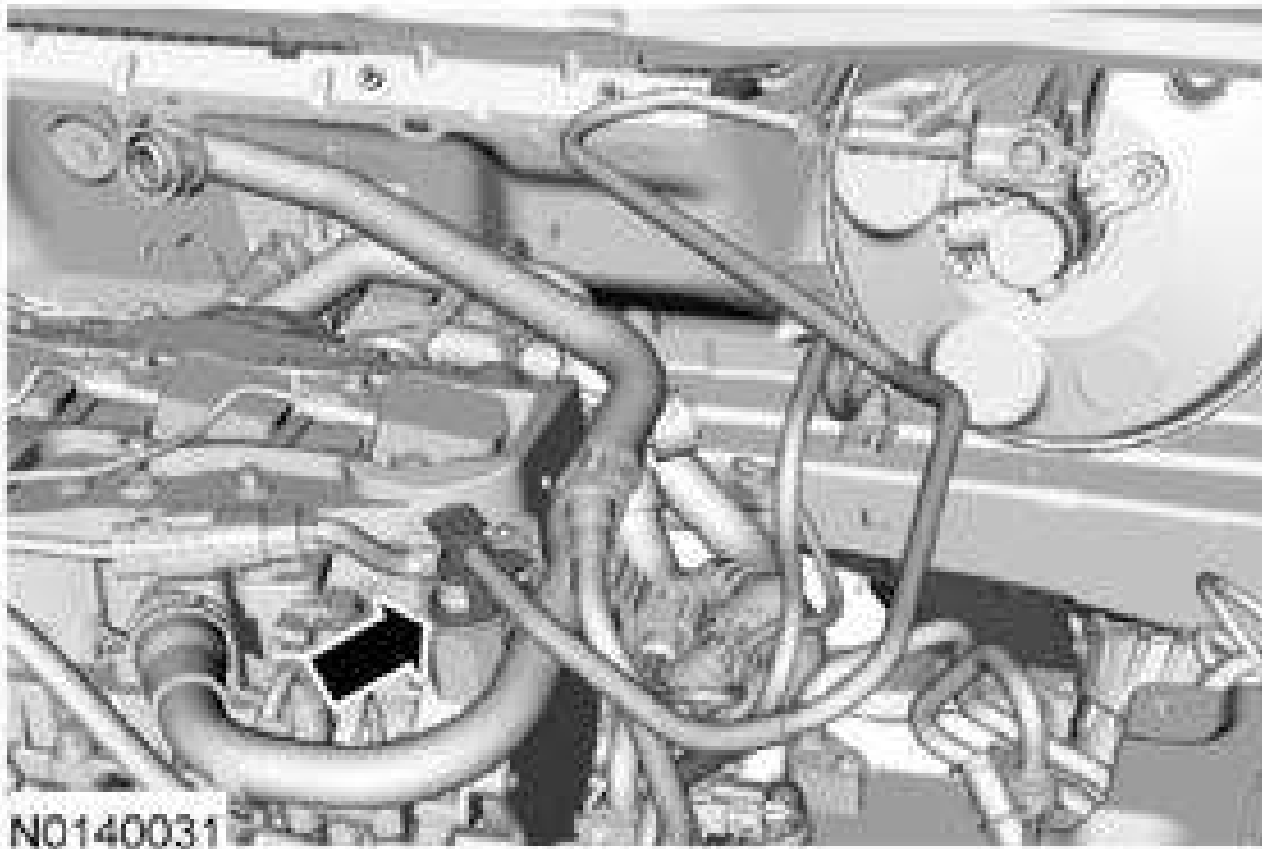
45.

46. Refer to **FUEL SYSTEM - GENERAL INFORMATION** .



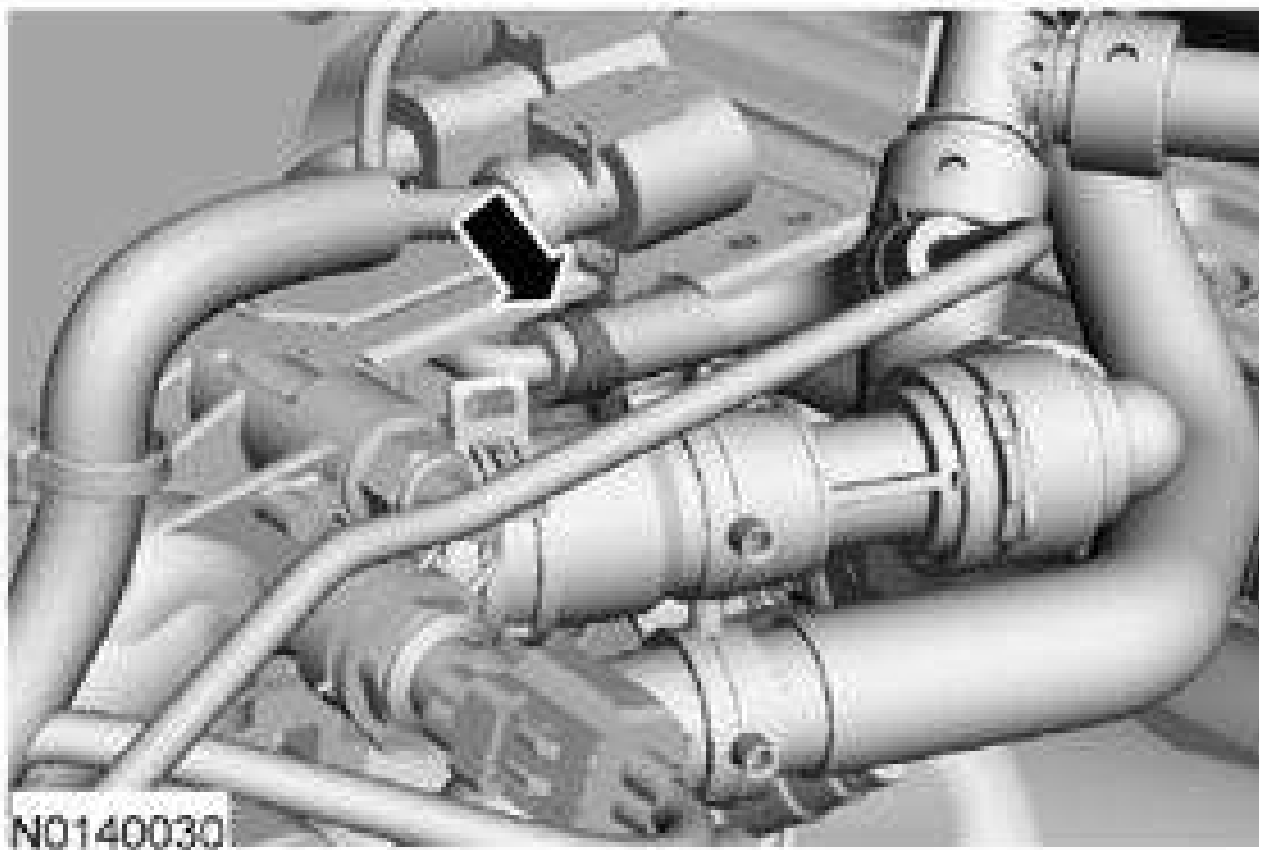
47. Refer to **FUEL SYSTEM - GENERAL INFORMATION** .



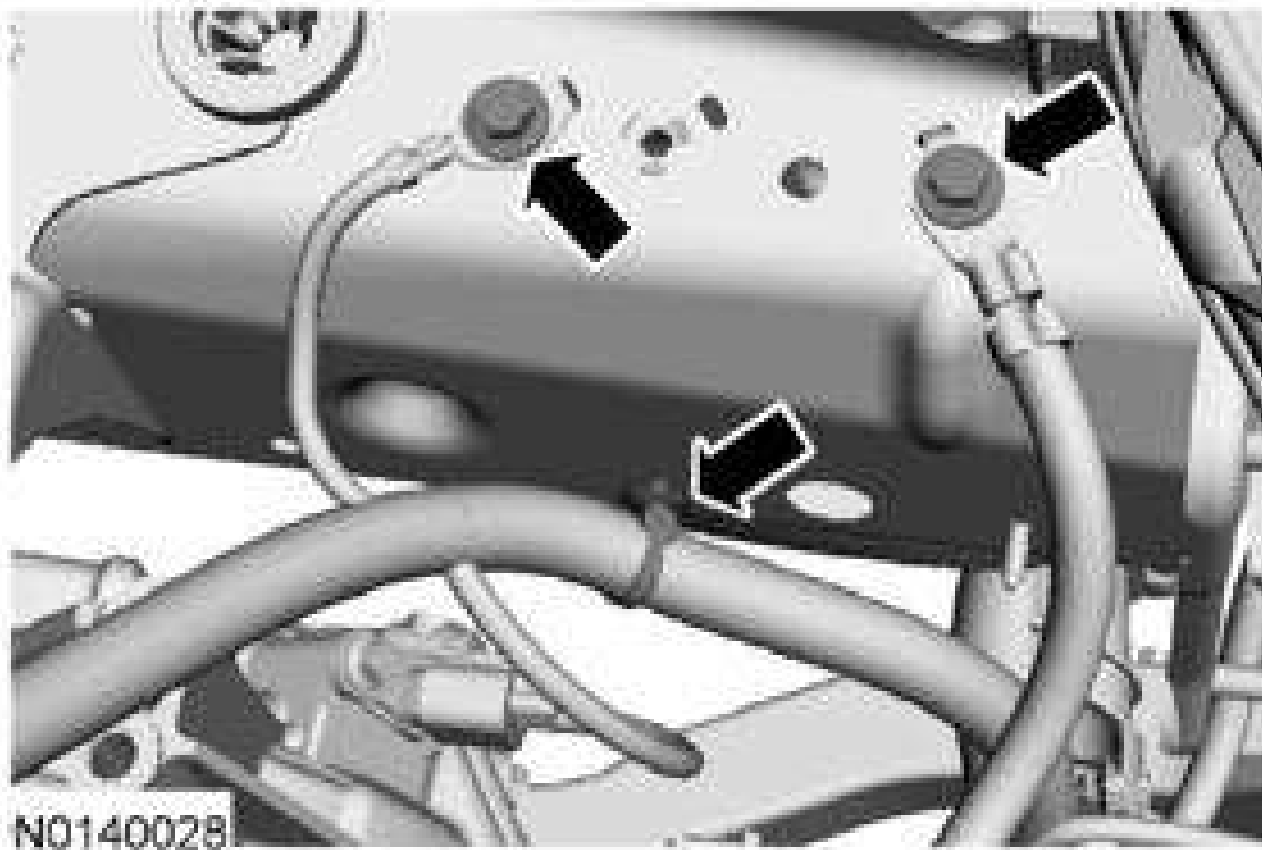


48.

49. General Equipment: Hose Clamp Remover/Installer.



50. Tighten to 23 Nm (17 lb-ft).



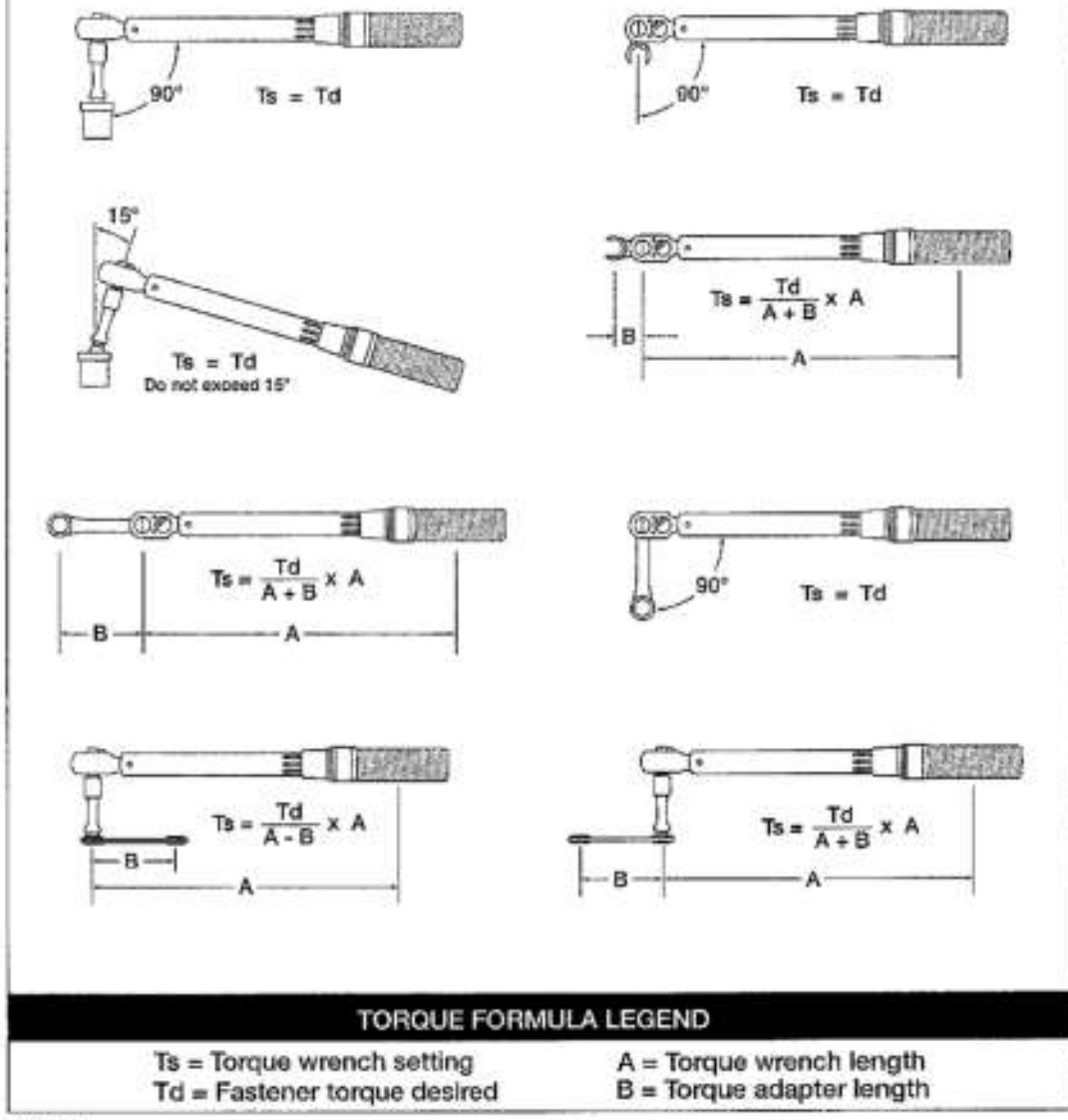
51. Special Tool(s): Socket, Exhaust Gas Oxygen Sensor 303-476 (T94P-9472-A).

Apply the specified chemical with a brush.

Material: High Temperature Nickel Anti-Seize Lubricant.

- Calculate the correct torque wrench setting for the following torque. Refer to the Torque Wrench Adapter Formulas illustration.

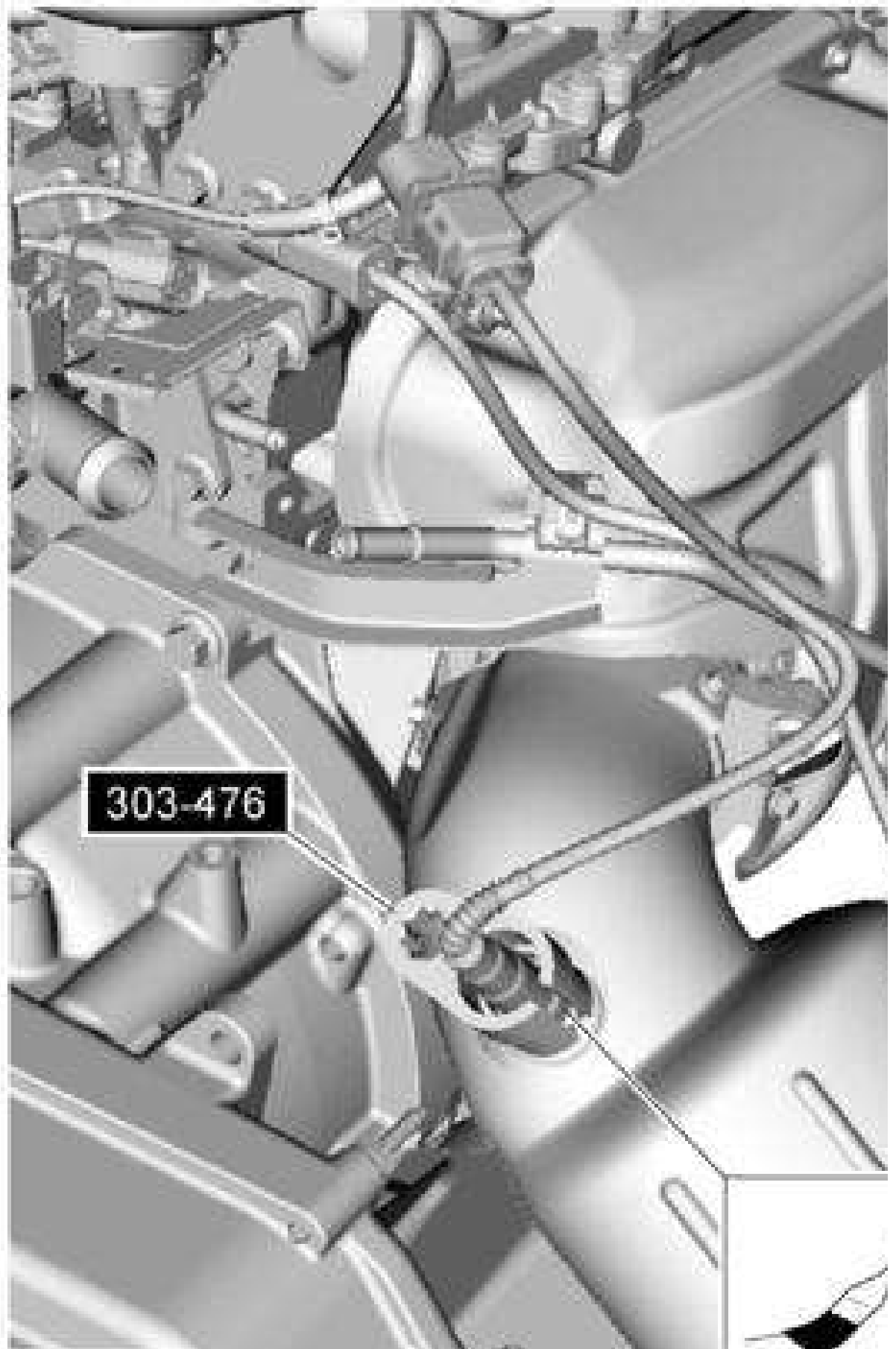
Torque Wrench Adapter Formulas



000468700

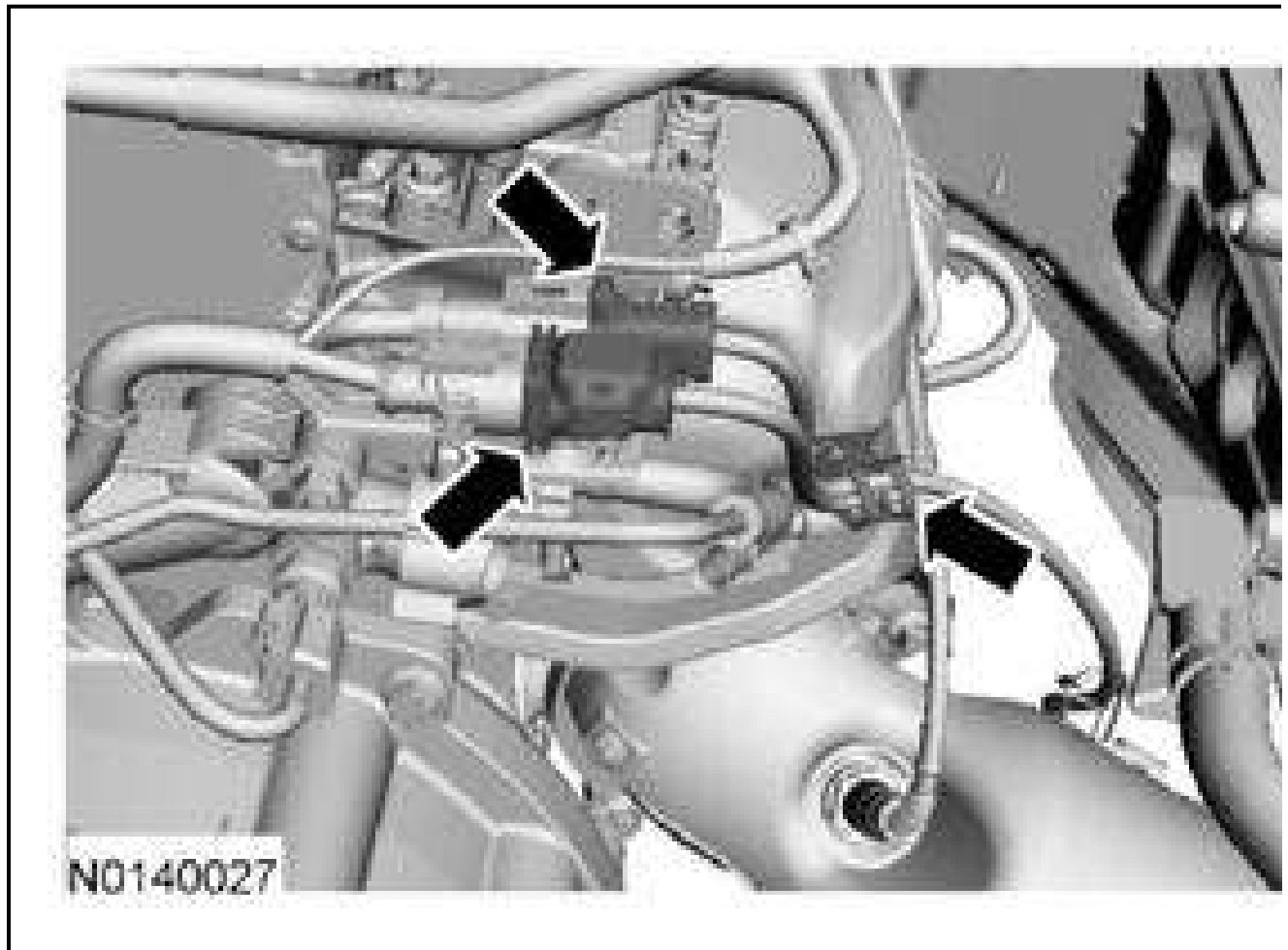
Fig. 5: Torque Wrench Adapter Formulas
 Courtesy of FORD MOTOR CO.

- Tighten to 48 Nm (35 lb-ft).



303-476

52. **NOTE:** Make sure that the sensor wiring is routed away from hot surfaces and sharp edges or damage to the wiring may occur.

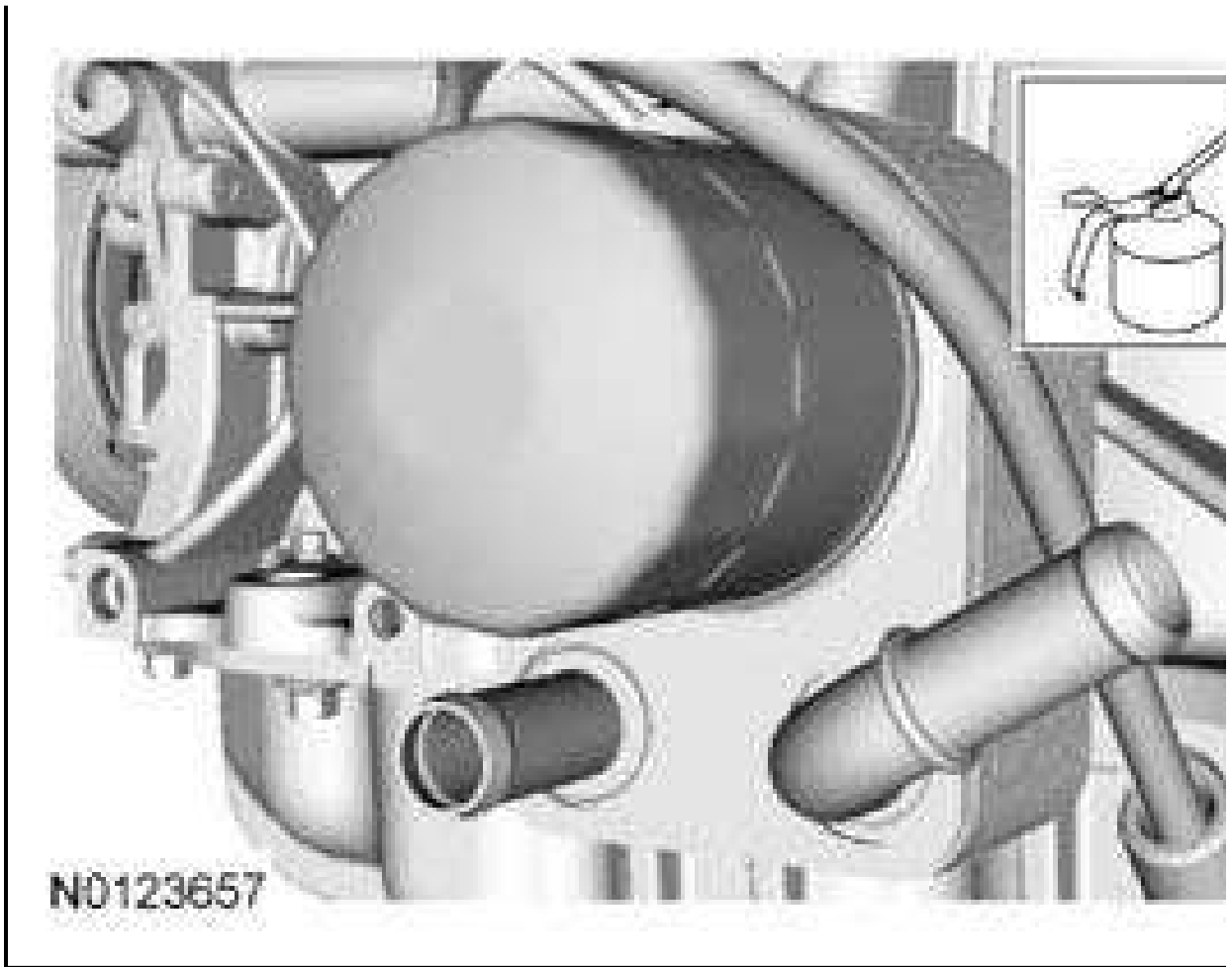


53. Apply the specified lubricant to the specified component.

Material: Motorcraft® SAE 5W-20 Premium Synthetic Blend Motor Oil.

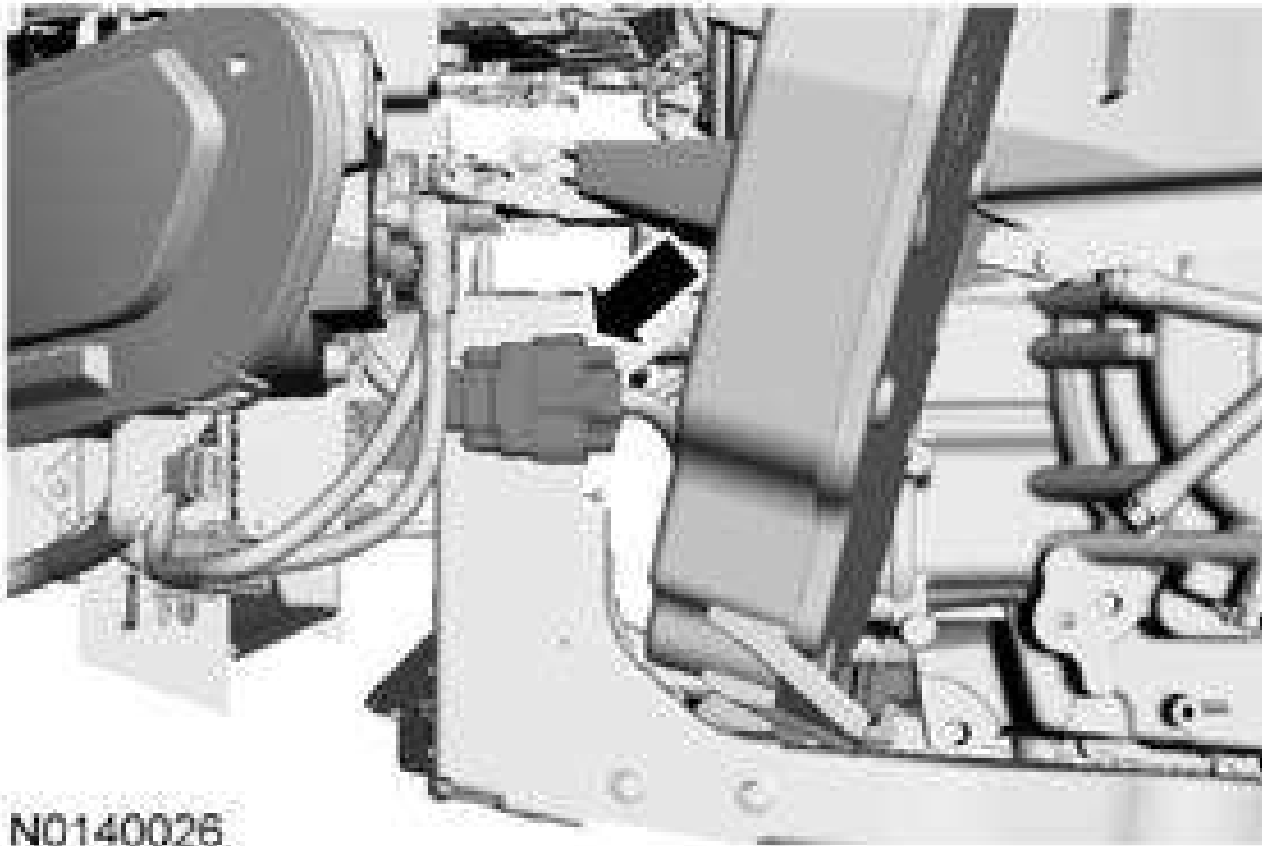
- Tighten to 15 Nm (133 lb-in).





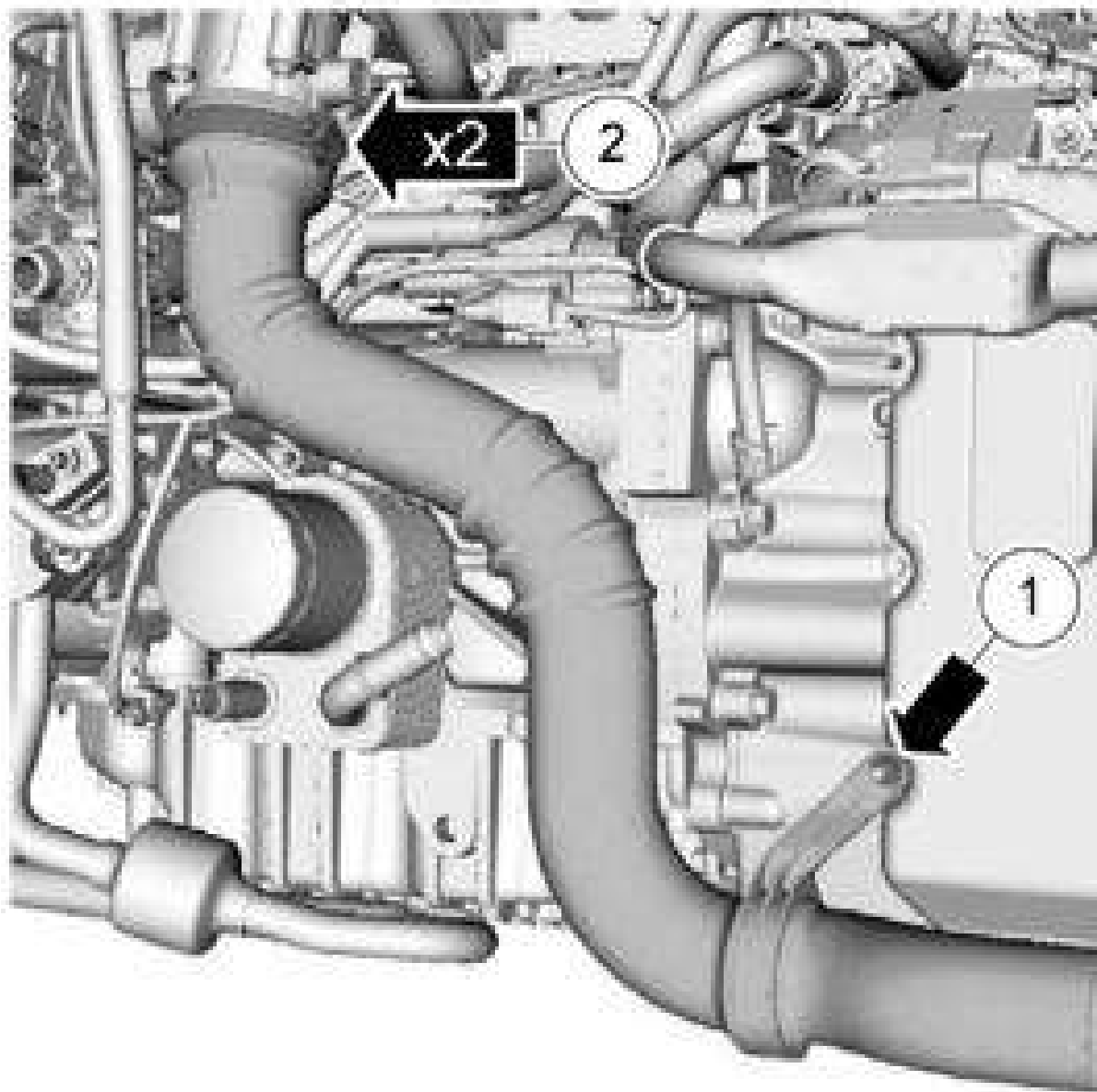
54. Install the PCM. Refer to **ELECTRONIC ENGINE CONTROLS** .

55. **NOTE:** **Front bumper cover removed for clarity.**



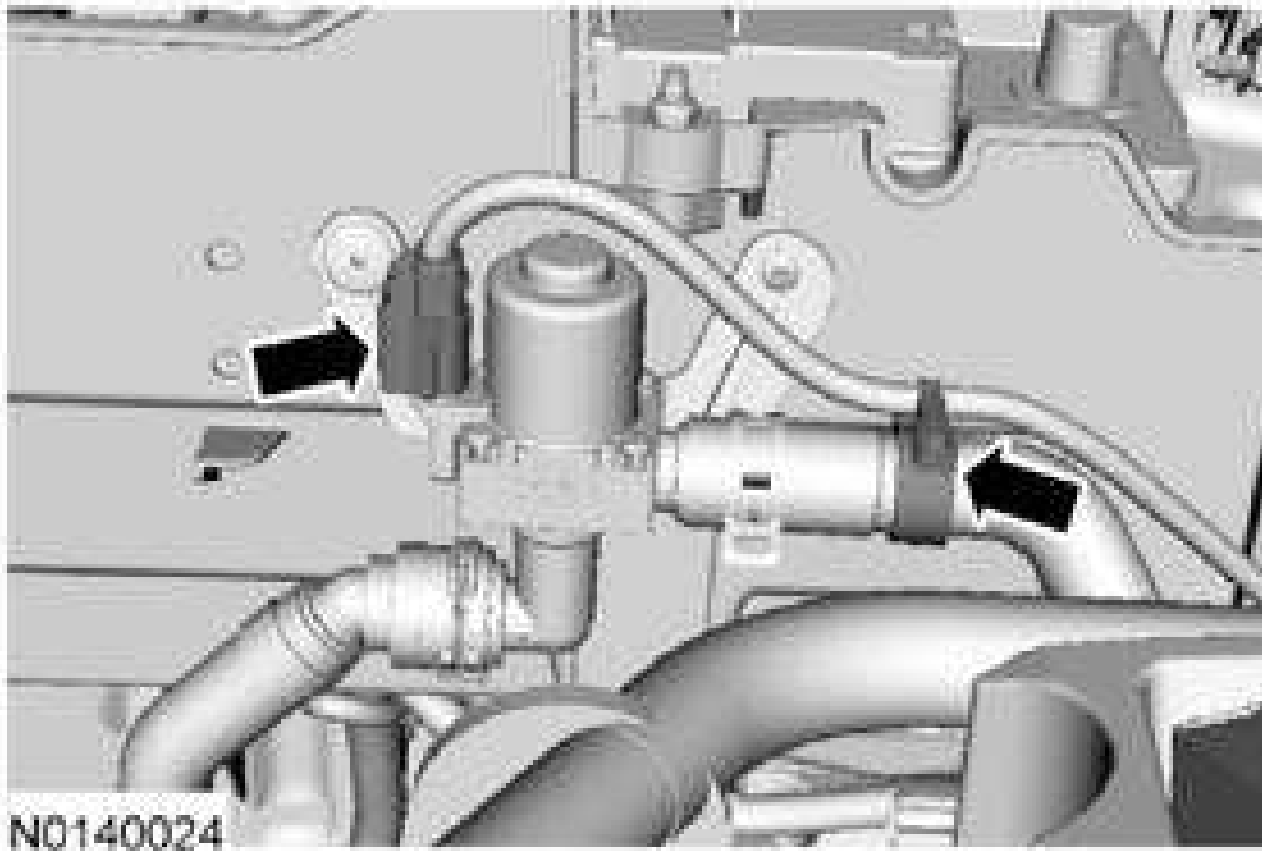
56.

1. Tighten to 10 Nm (89 lb-in).
2. Tighten to 5 Nm (44 lb-in).

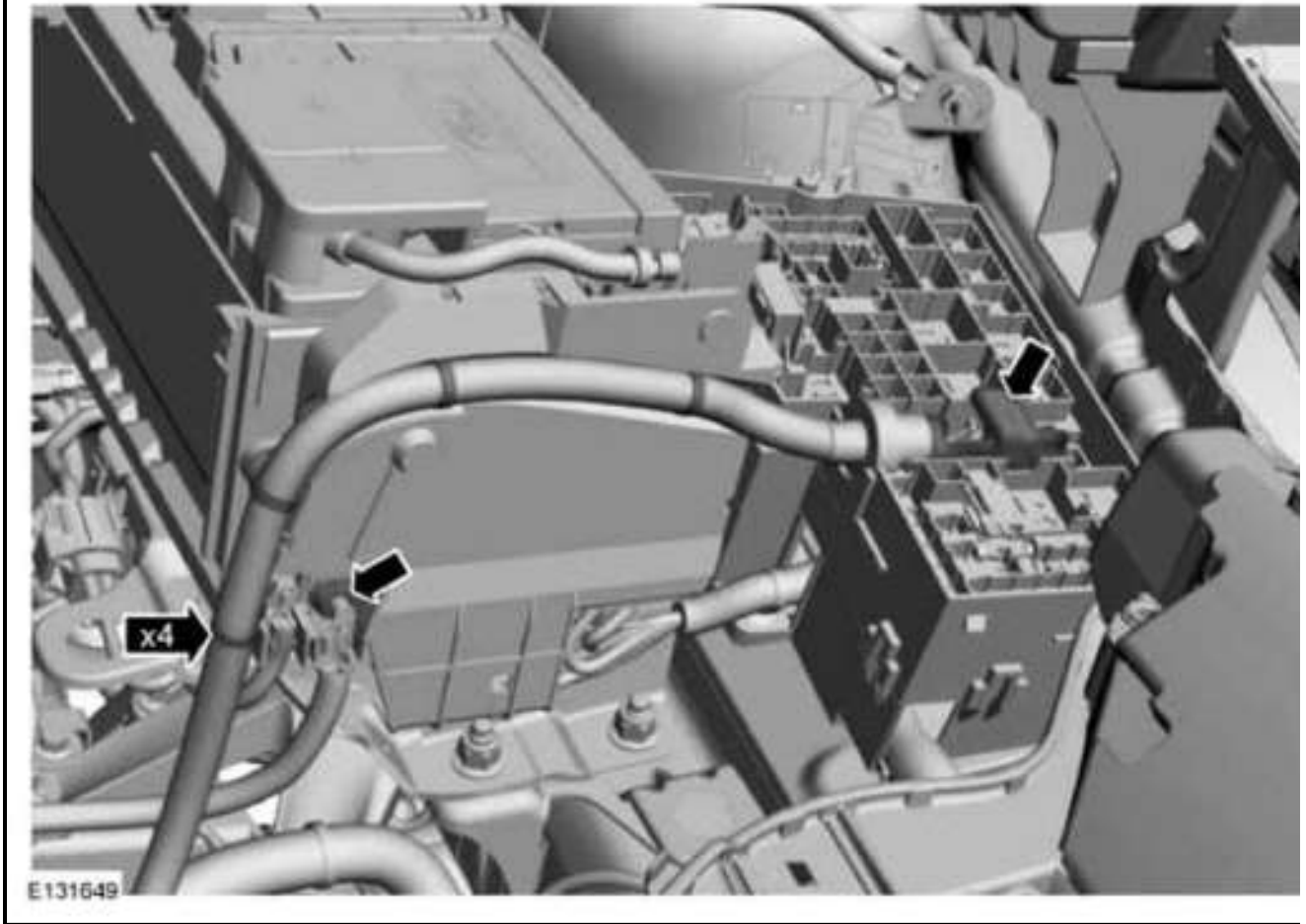


N0138723

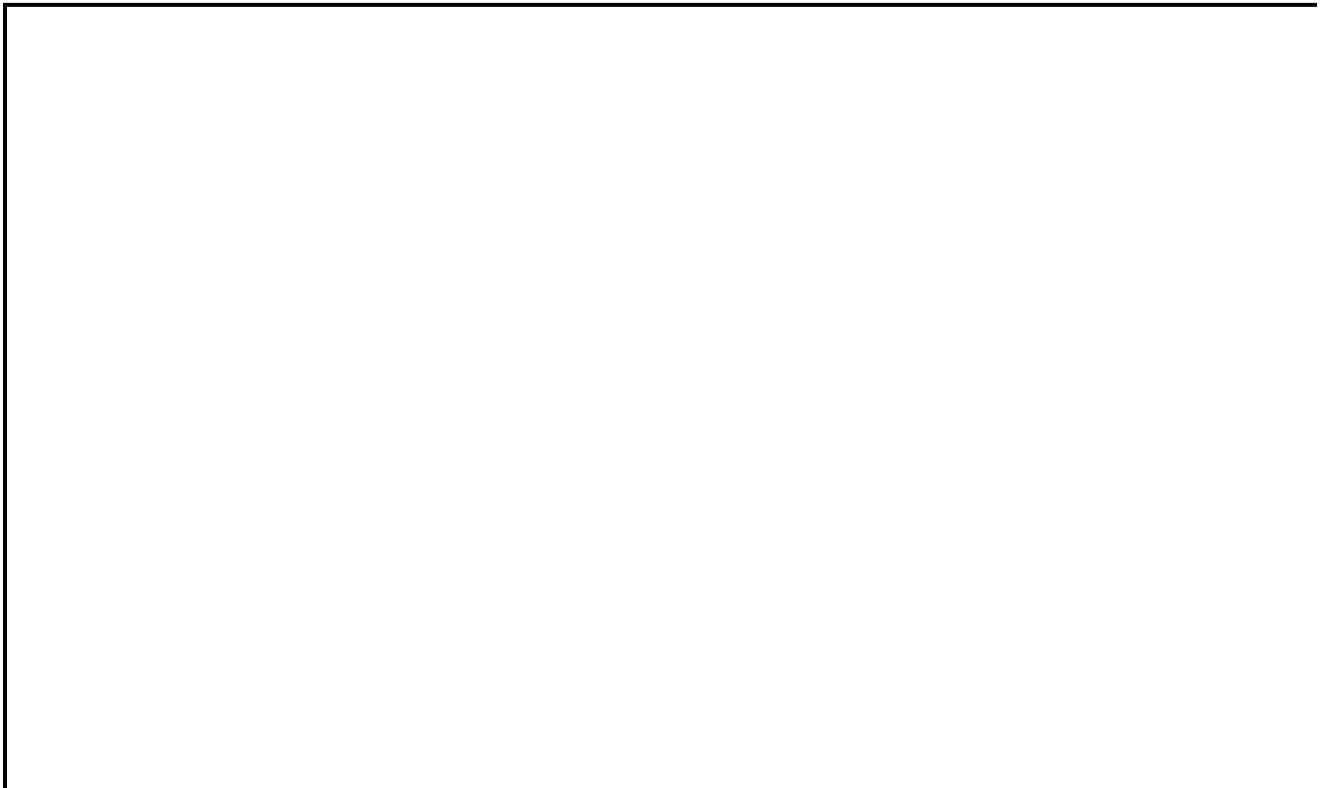
57. Install the RH fender splash shield. Refer to **FRONT END BODY PANELS** .
58. Install the RF and LF wheel and tire. Refer to **WHEELS AND TIRES** .
59. Install the battery tray. Refer to **BATTERY, MOUNTING AND CABLES** .
60. Install the degas bottle. Refer to **ENGINE COOLING** .

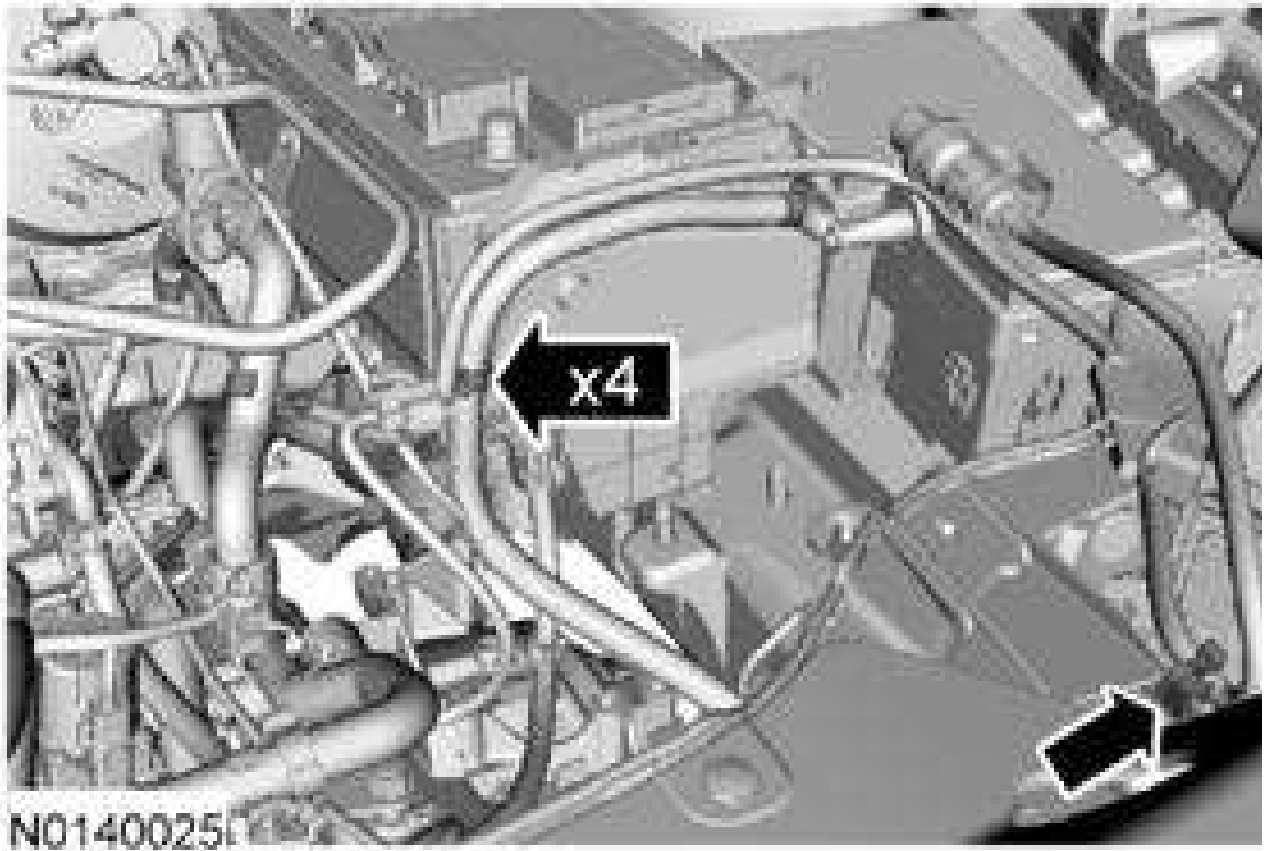


- 61.
62. Install the cooling module. Refer to **ENGINE COOLING** .
63. Tighten to 12 Nm (106 lb-in).

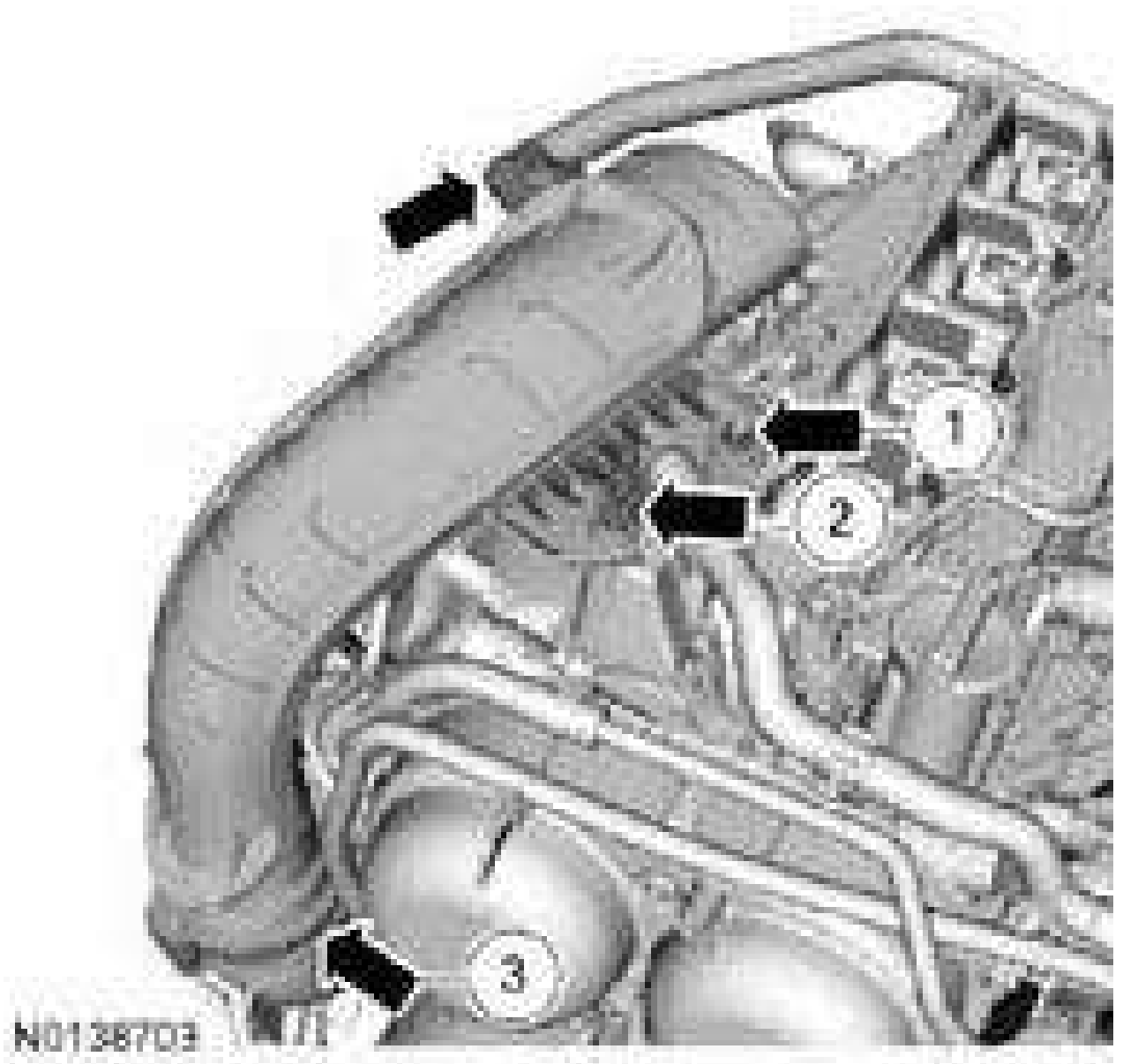


64. If equipped with block heater.

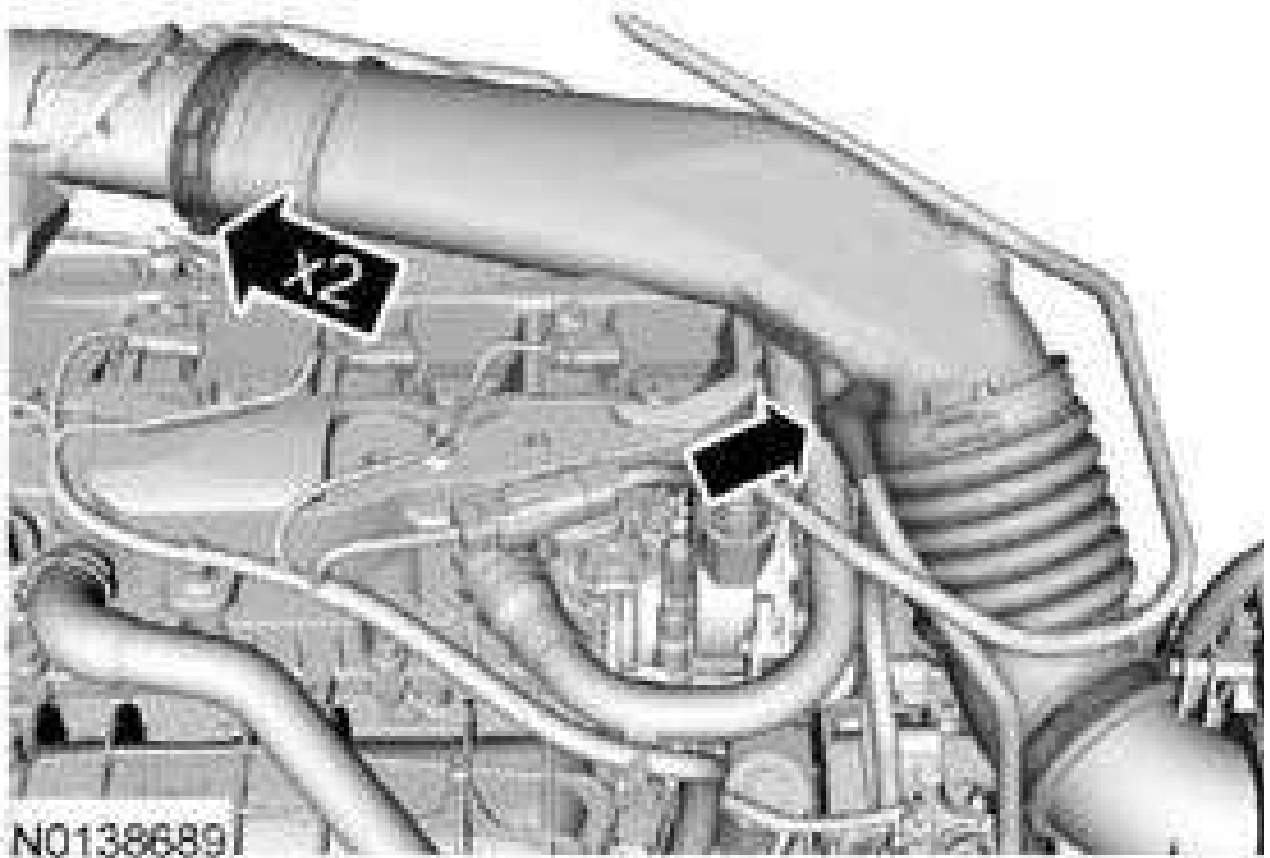




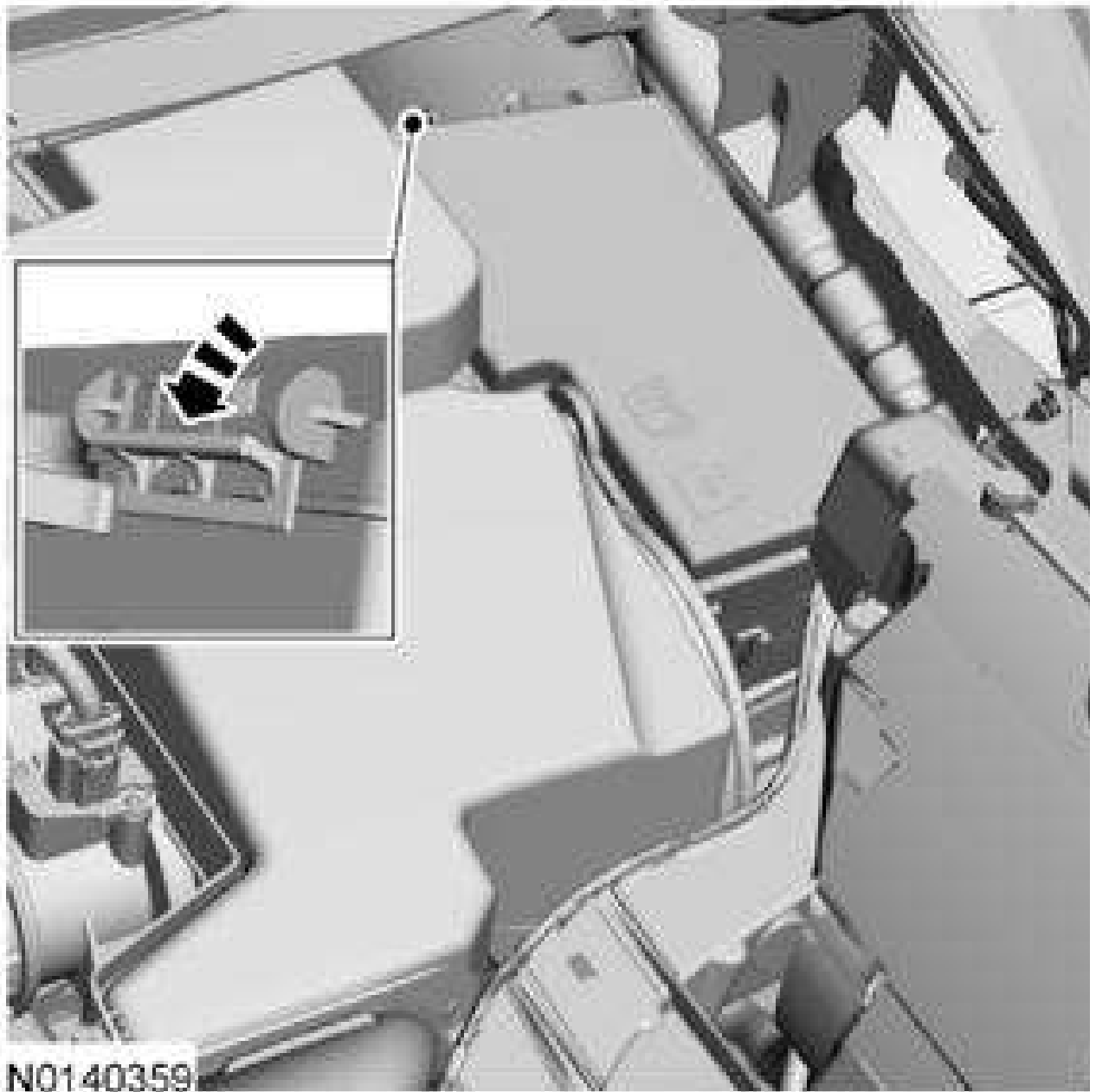
65. Install the ACL. Refer to **INTAKE AIR DISTRIBUTION & FILTERING** .
66. Tighten to 5 Nm (44 lb-in).



67. Tighten to 5 Nm (44 lb-in).



68. Fill the transaxle. Refer to **AUTOMATIC TRANSAXLE/TRANSMISSION - 6F35** .
69. Install the cowl panel. Refer to **FRONT END BODY PANELS** .



70.

71. Fill the engine with clean engine oil.

Material: Motorcraft® SAE 5W-20 Premium Synthetic Blend Motor Oil.

72. After completing the repairs, perform the Misfire Monitor Neutral Profile Correction procedure.