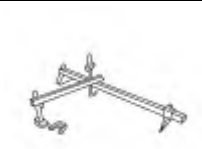


SECTION 303-01C: Engine — 5.0L (4V)
IN-VEHICLE REPAIR

2014 F-150 Workshop Manual
Procedure revision date: 10/25/2013

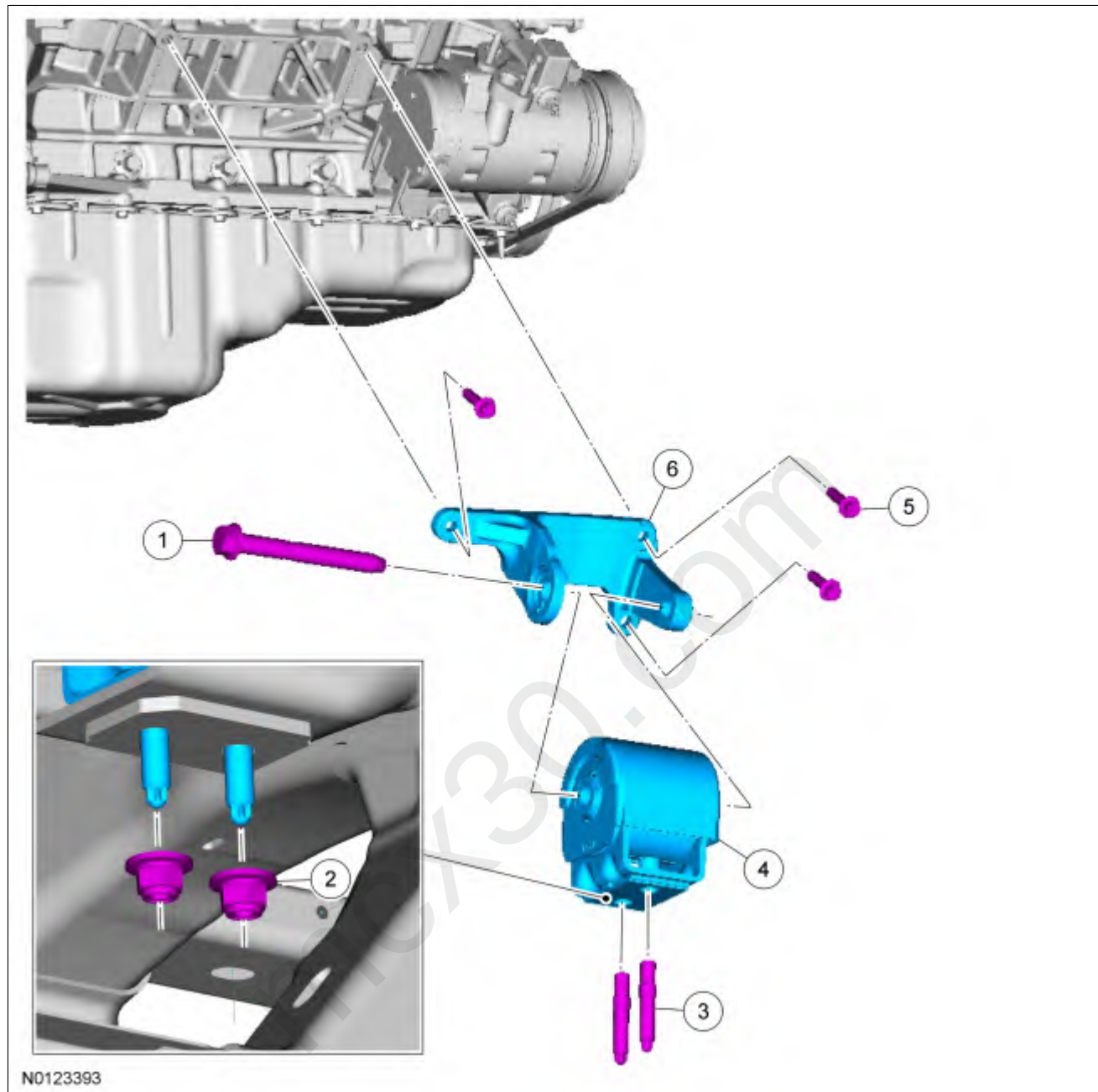
Engine Support Insulators — RH

Special Tool(s)

 ST1659-A	Engine Lifting Bracket (D94T-6000-C) 303-D099
 ST2176-B	Support Bar, Engine 303-F070

Material

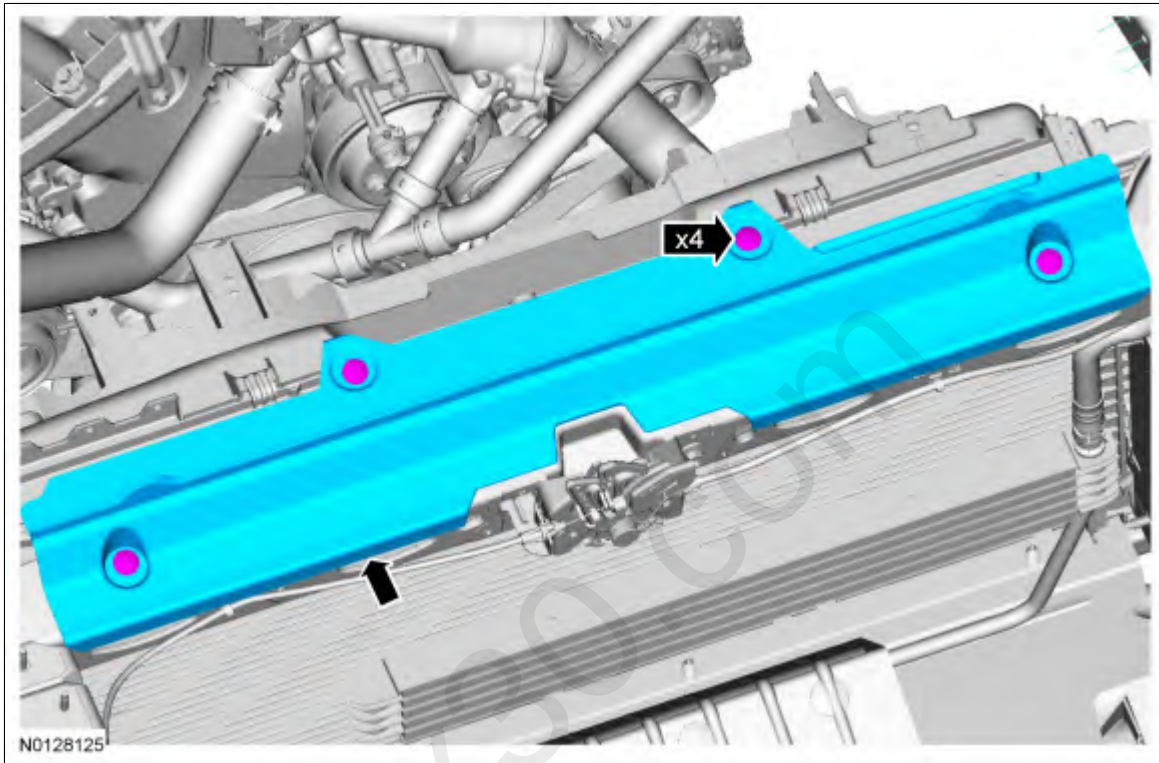
Item	Specification
Threadlock 262 TA-26	WSK-M2G351-A6



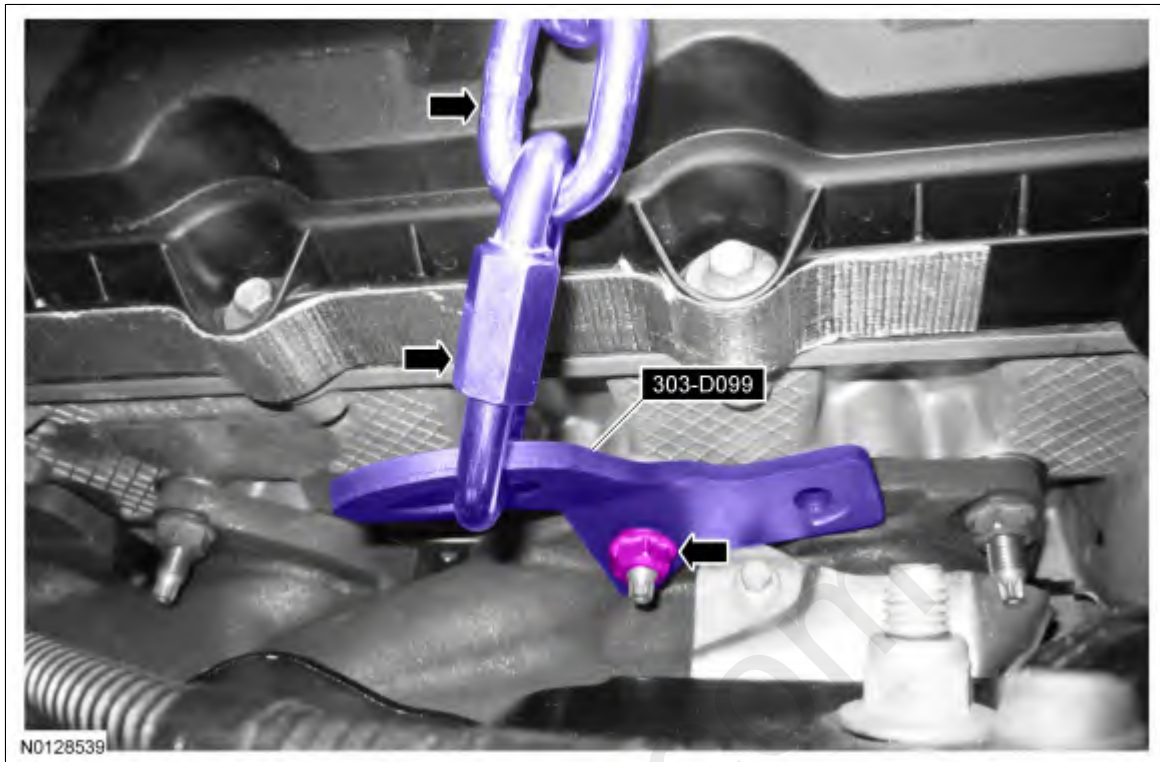
Item	Part Number	Description
1	—	RH engine support insulator through bolt (part of 6038) - 350 Nm (258 lb-ft)
2	W707251	RH engine support insulator nut (2 required) - 175 Nm (129 lb-ft)
3	—	RH engine support insulator stud (part of 6038) (2 required) - 15 Nm (133 lb-in)
4	6038	RH engine support insulator
5	W714735	RH engine support insulator bracket bolt (3 required) - 63 Nm (46 lb-ft)
6	—	RH engine support insulator bracket (part of 6038)

Removal and Installation

1. With the vehicle in NEUTRAL, position it on a hoist. For additional information, refer to [Section 100-02](#).
2. Remove the 4 pin-type retainers and the upper radiator air deflector.

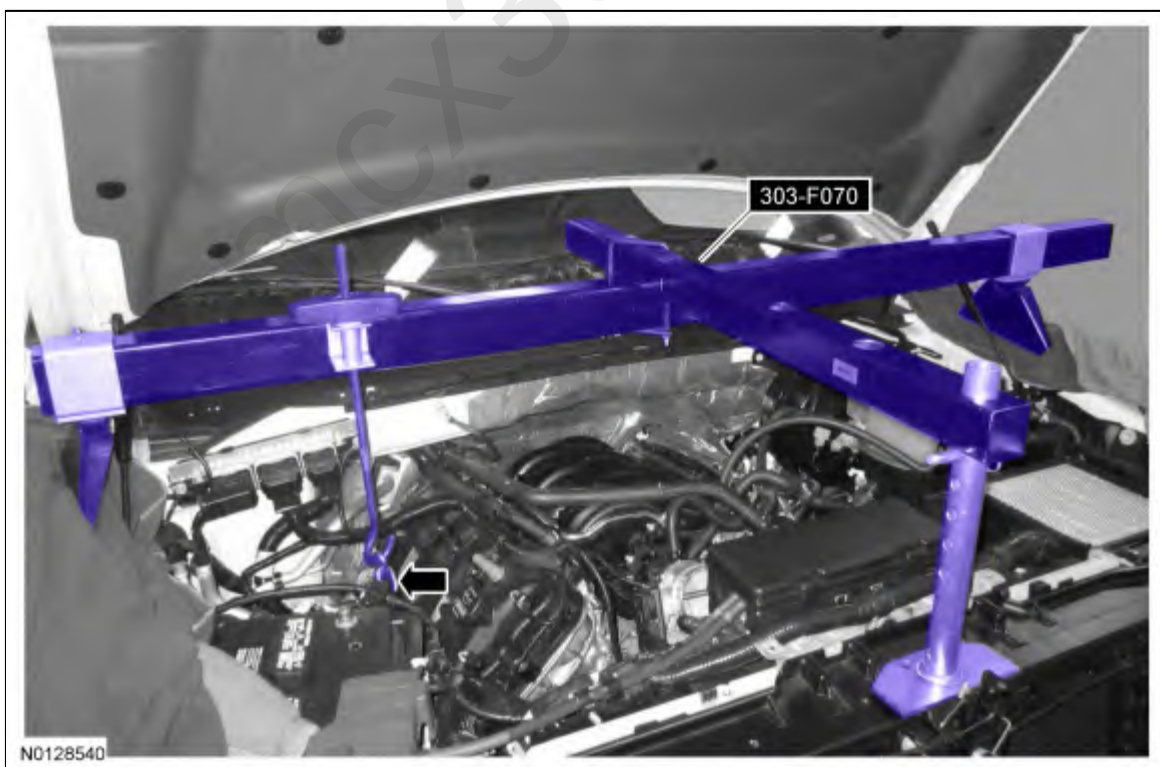


3. Remove the Air Conditioning (A/C) compressor belt . For additional information, refer to [Section 303-05](#).
4. Remove the exhaust manifold nut and install the Engine Lifting Bracket and nut on the RH exhaust manifold stud.
 - Attach a length of chain and a connecting link to the Engine Lifting Bracket.



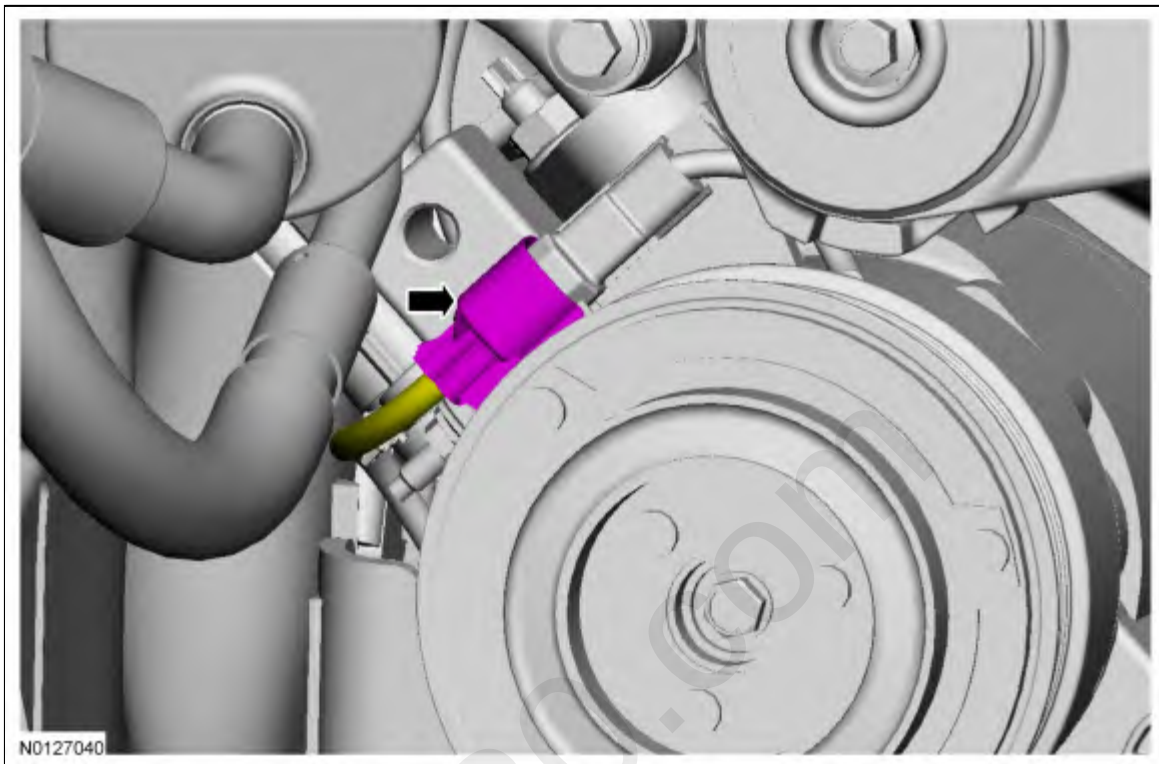
5. Install the Engine Support Bar.

- Attach the chain installed in the previous step to the Engine Support Bar hook to support the engine.



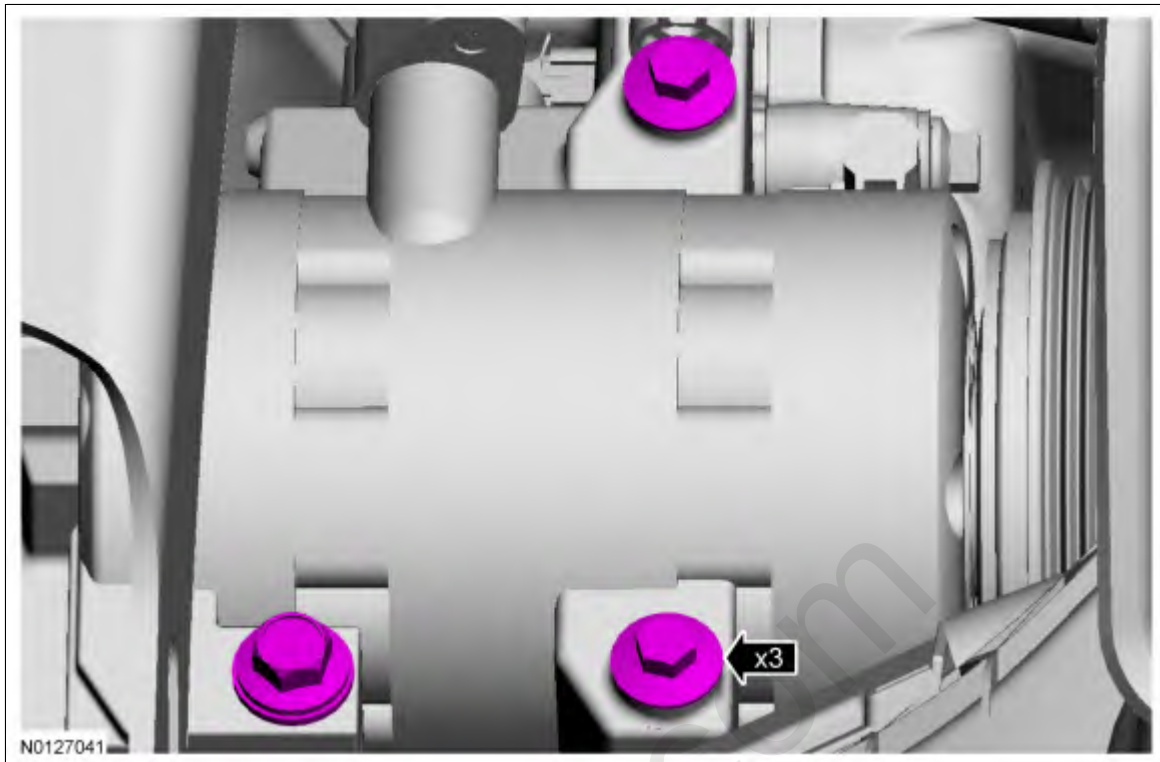
6. Remove the starter. For additional information, refer to [Section 303-06](#).

7. If equipped, remove the front driveshaft. For additional information, refer to [Section 205-01](#).
8. Disconnect the A/C compressor electrical connector.



9. **NOTICE:** The upper bolt cannot be completely removed and will remain with the A/C compressor.

Remove the 3 bolts and lower the A/C compressor.

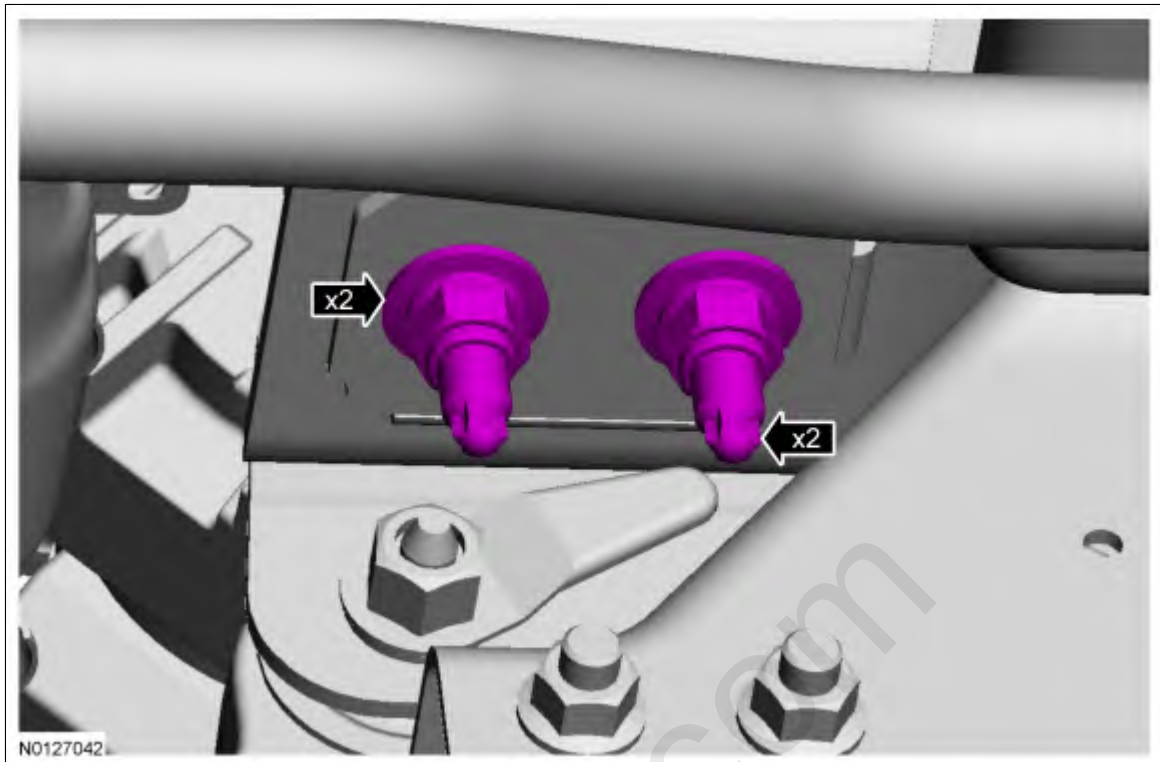


10. **NOTICE:** Only use hand tools when removing or installing the engine support insulator nuts or damage to the engine support insulator can occur.

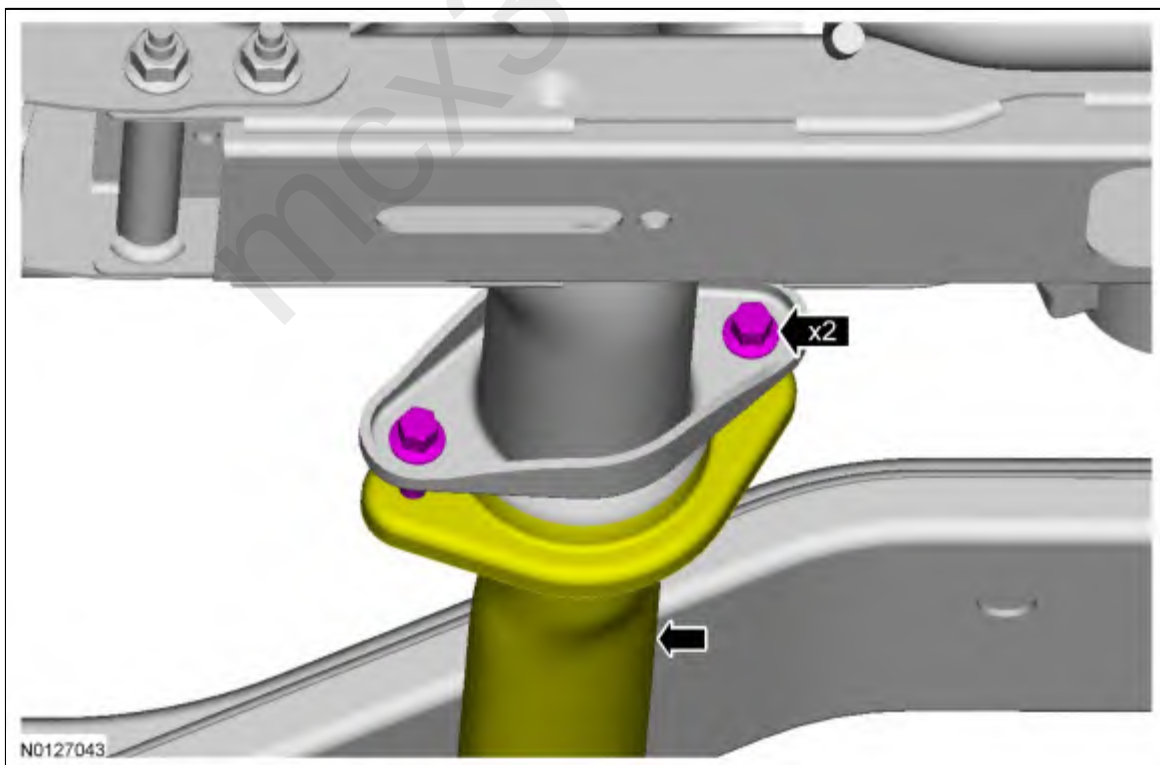
NOTICE: Only use hand tools when removing or installing the engine support insulator stud bolts or damage to the engine support insulator can occur.

NOTE: If during nut removal the stud is extracted from the engine support insulator, separate the nut from the stud bolt prior to stud installation.

Remove the 2 RH engine support insulator nuts and studs.



11. Remove the 2 exhaust Y-pipe dual catalytic converter-to-exhaust intermediate pipe bolts and separate.
- Discard the 2 bolts.



12. **NOTICE:** Only use hand tools when removing the transmission mount-to-crossmember nuts or

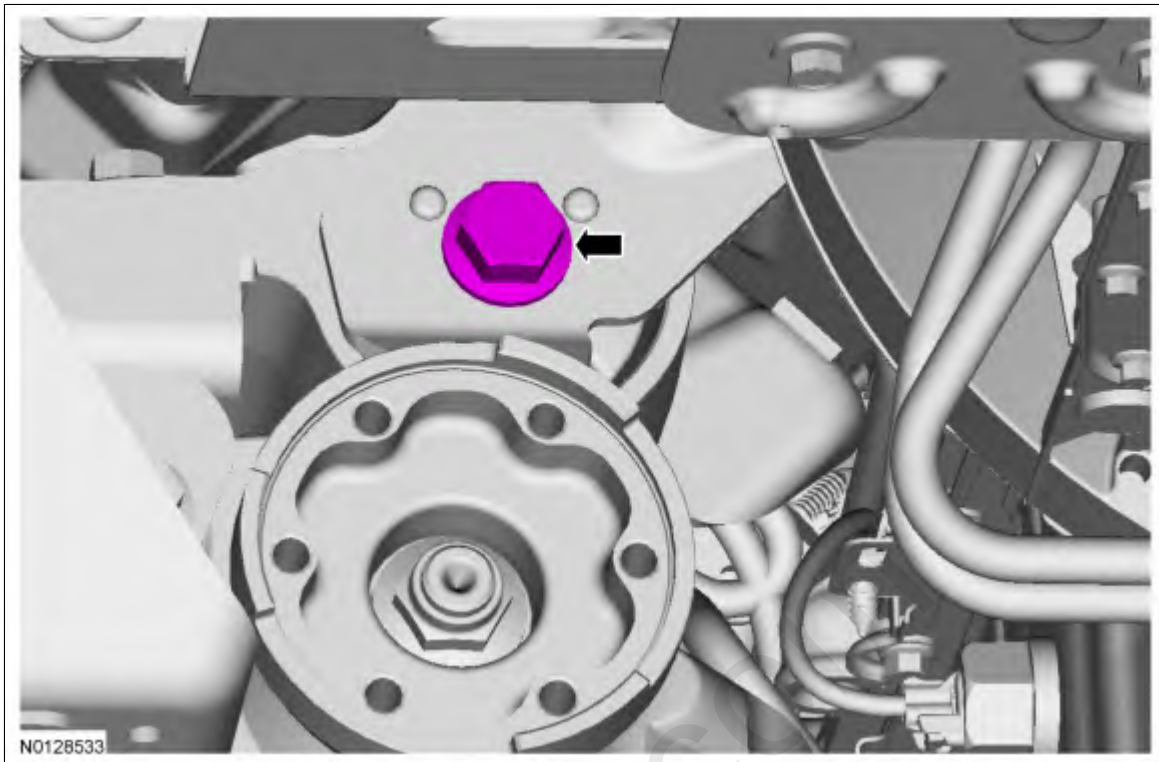
damage to the transmission mount can occur.

Loosen the 2 transmission mount-to-crossmember nuts.

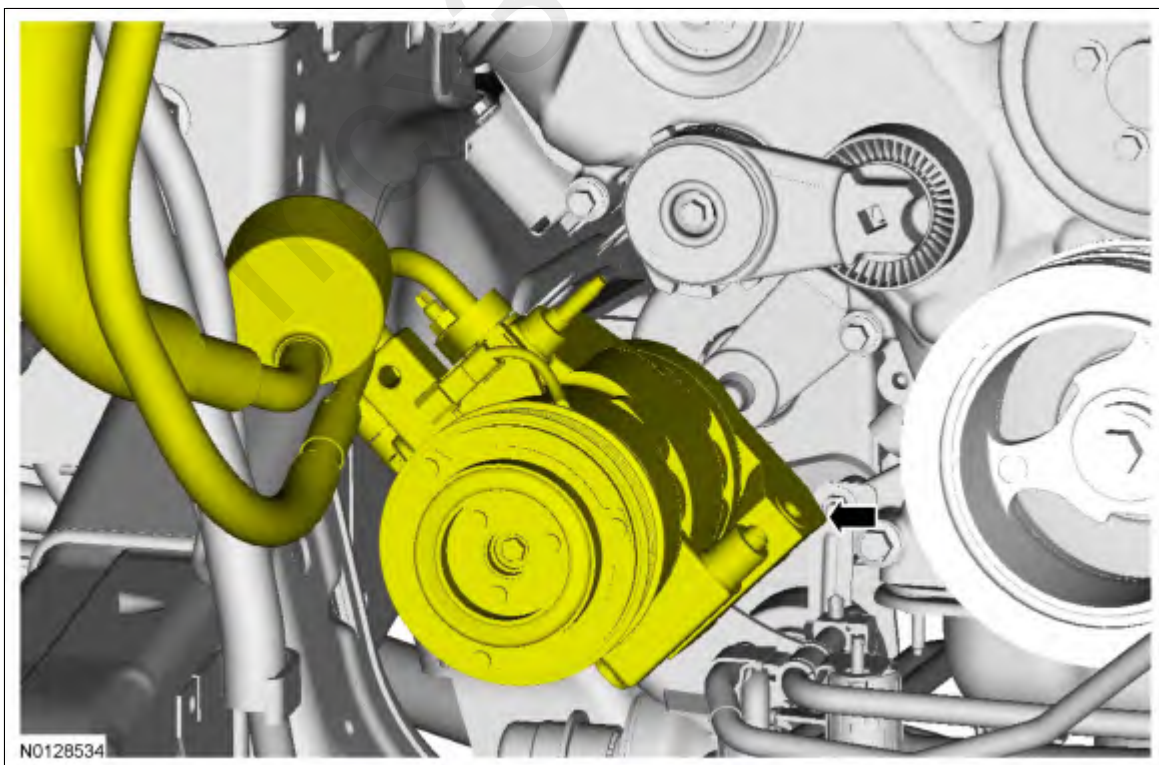


13. **NOTICE:** Only use hand tools when loosening or tightening the engine support insulator through bolts or damage to the engine support insulator-to-cylinder block bracket can occur.

Loosen the LH engine support insulator through bolt.

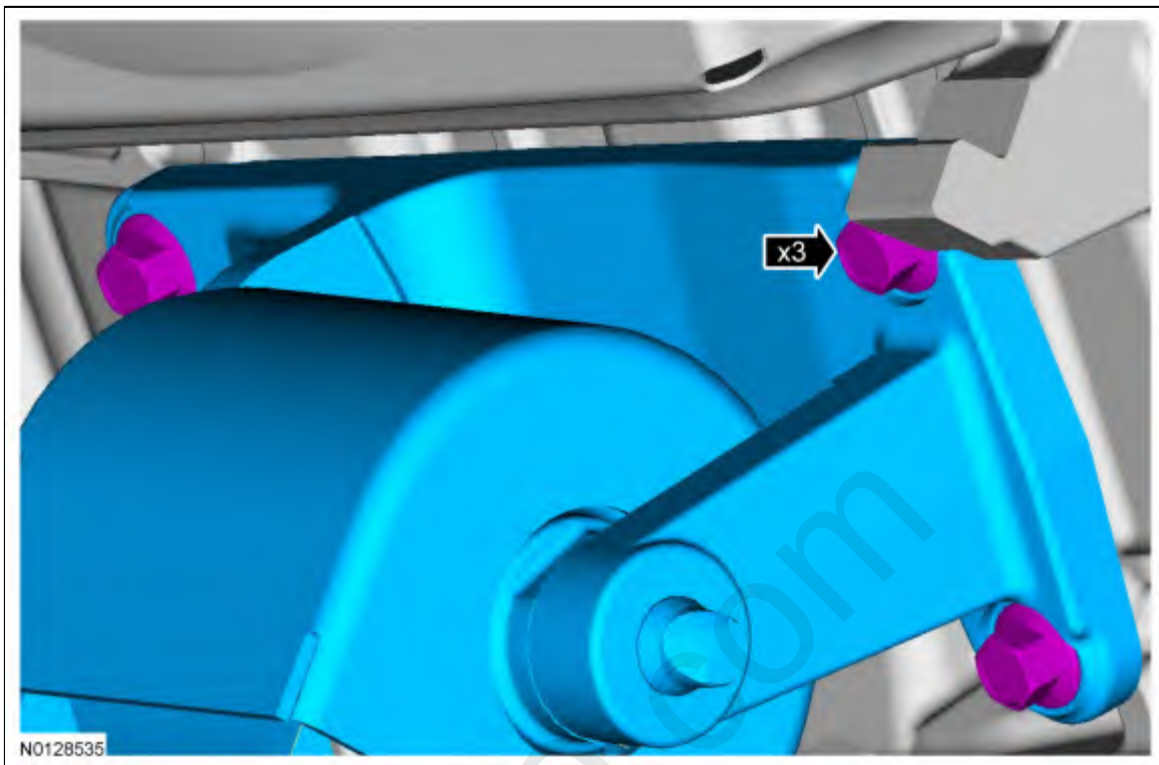


14. Raise the RH side of the engine 50 mm (1.968 in).
15. Position the A/C compressor aside to access the 2 front engine support insulator bracket bolts.



16. Remove the 3 RH engine support insulator bracket-to-engine bolts.

- Remove the RH engine support insulator and bracket as an assembly.

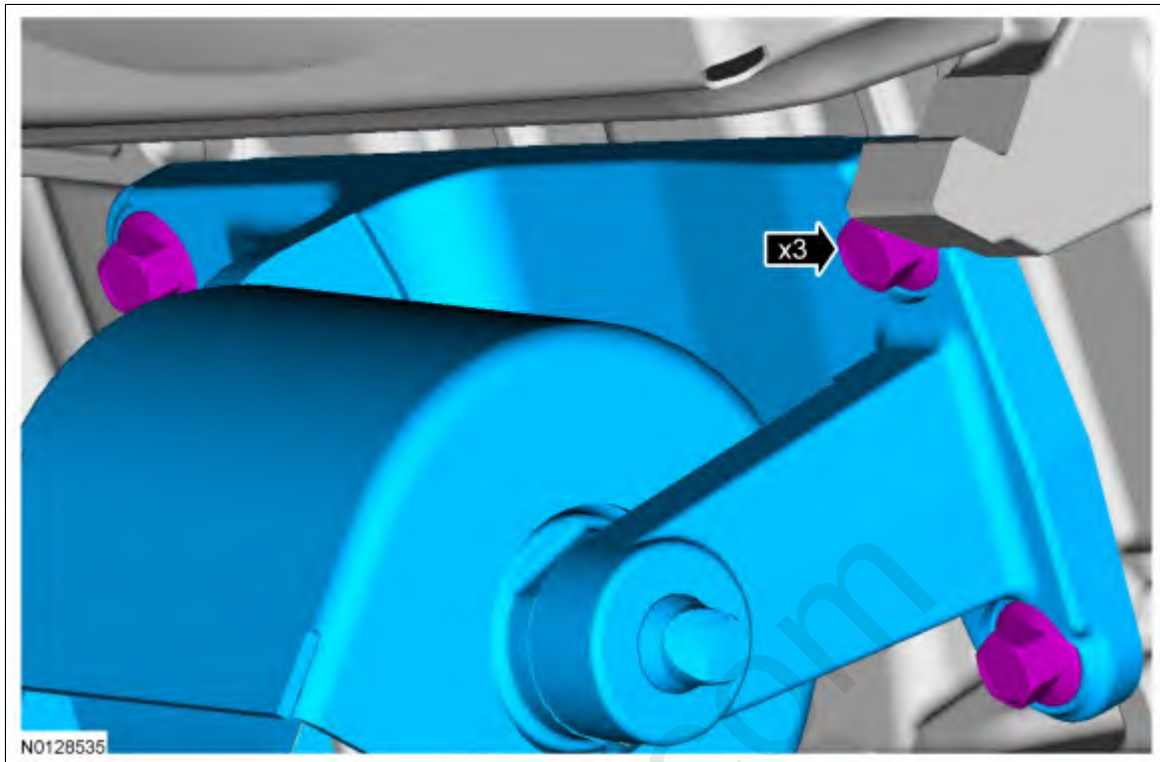


Installation

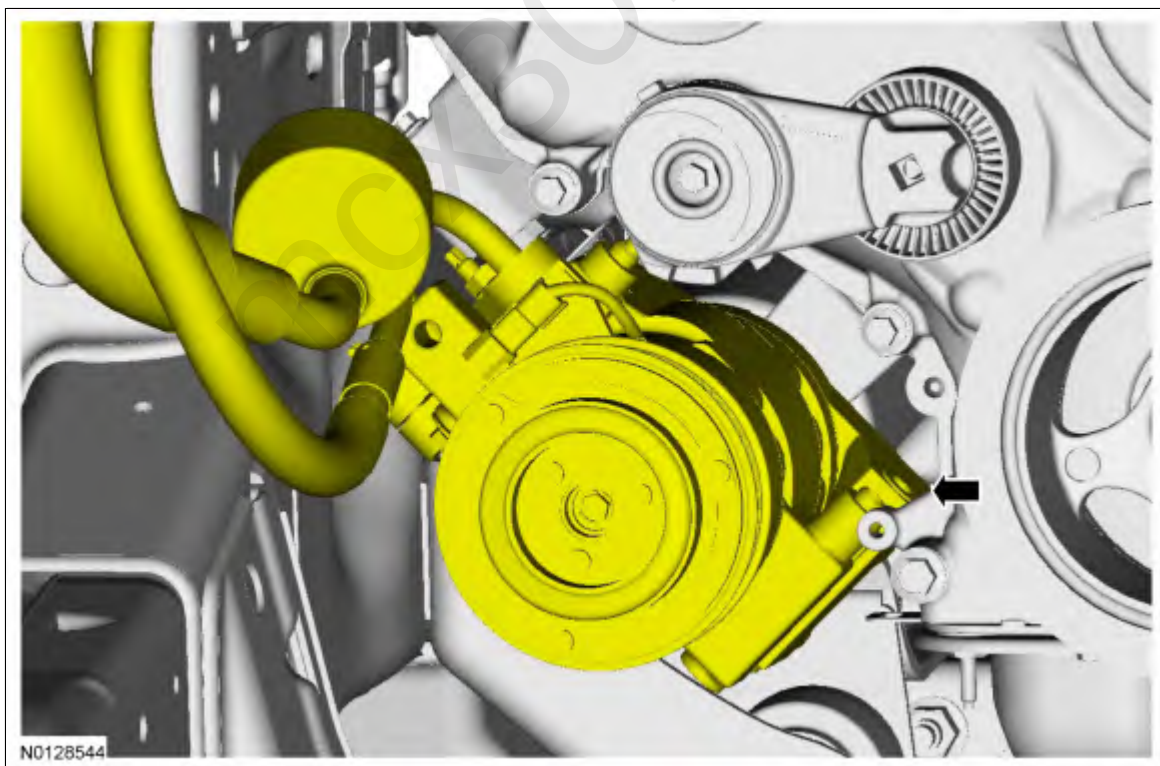
1. Clean the engine support insulator bracket-to-cylinder block and engine support insulator-to-frame mating surfaces of any dirt or foreign material prior to installation.
2. **NOTE:** If a new RH engine support insulator is installed, remove the 2 studs prior to positioning the assembly in the vehicle.

Install the RH engine support insulator and bracket assembly and install the 3 bolts.

- Tighten to 63 Nm (46 lb-ft).



3. Position the A/C compressor below the RH side of the engine.

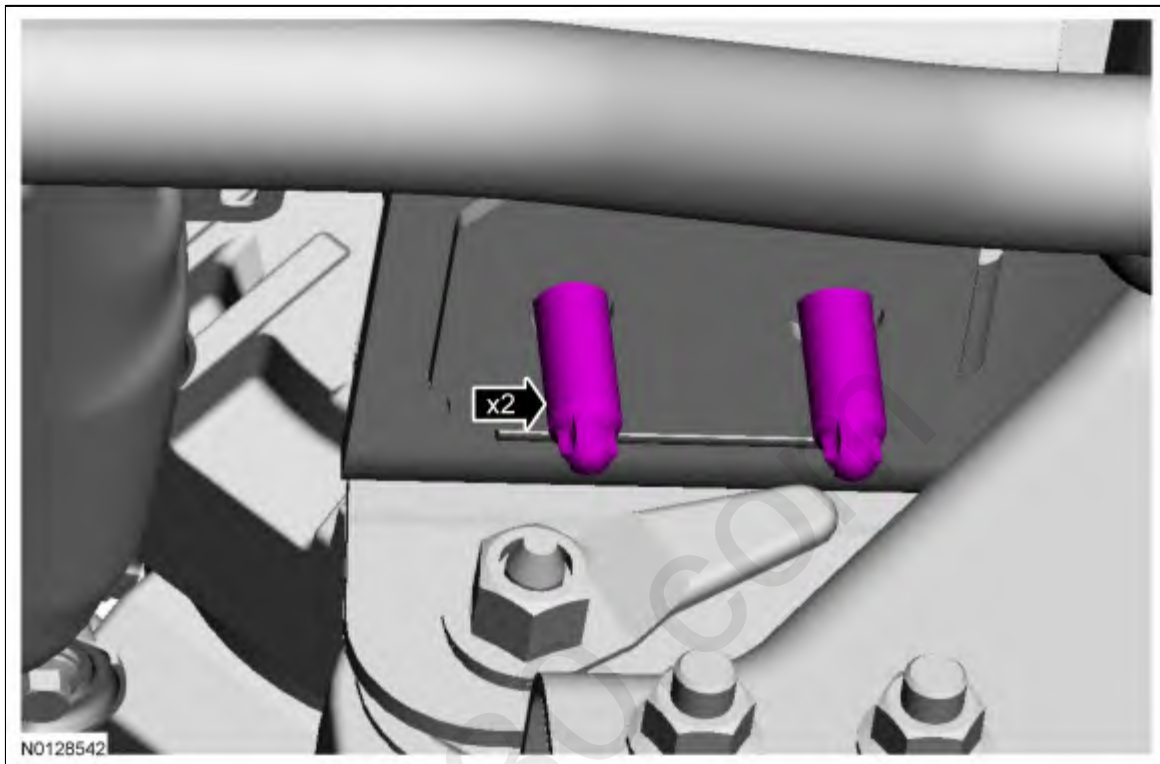


4. Lower the engine to the installed position.
5. **NOTICE:** Only use hand tools when installing the engine support insulator studs or damage to

the engine support insulator can occur.

Install the 2 RH engine support insulator studs.

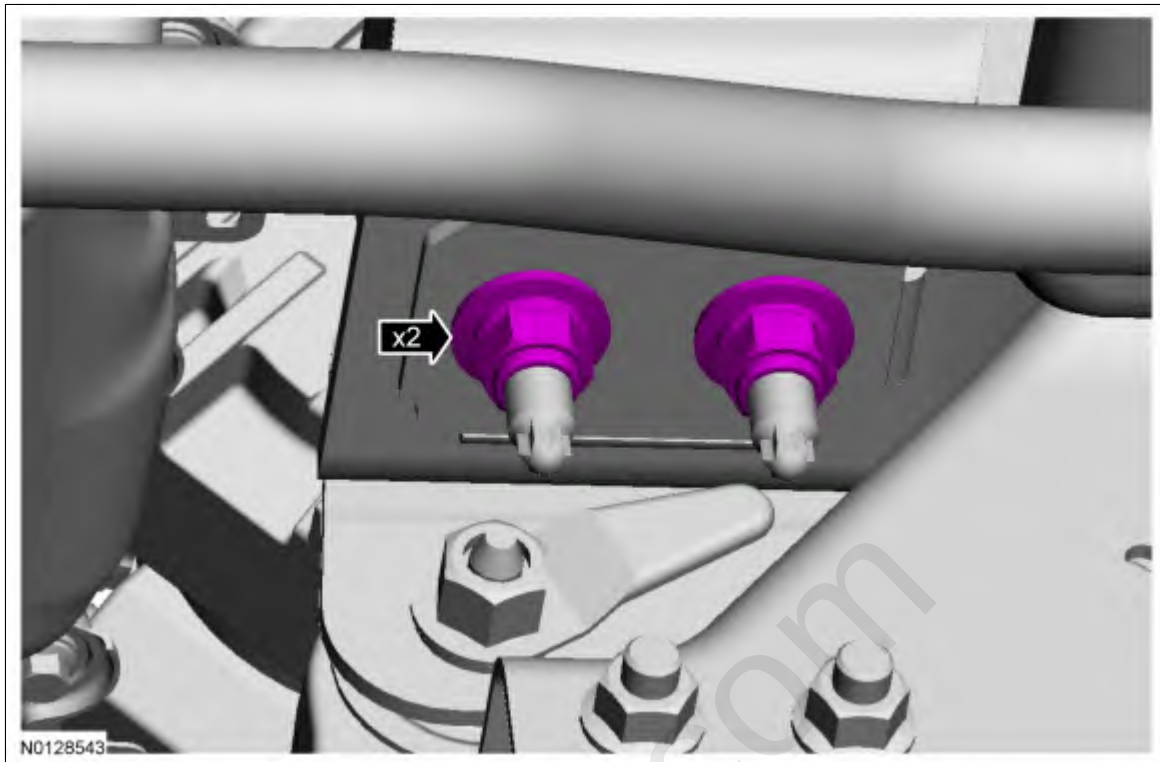
- Tighten to 15 Nm (133 lb-in).



6. **NOTICE:** Only use hand tools when installing the RH engine support insulator nuts or damage to the engine support insulator can occur.

Install the 2 RH engine support insulator nuts.

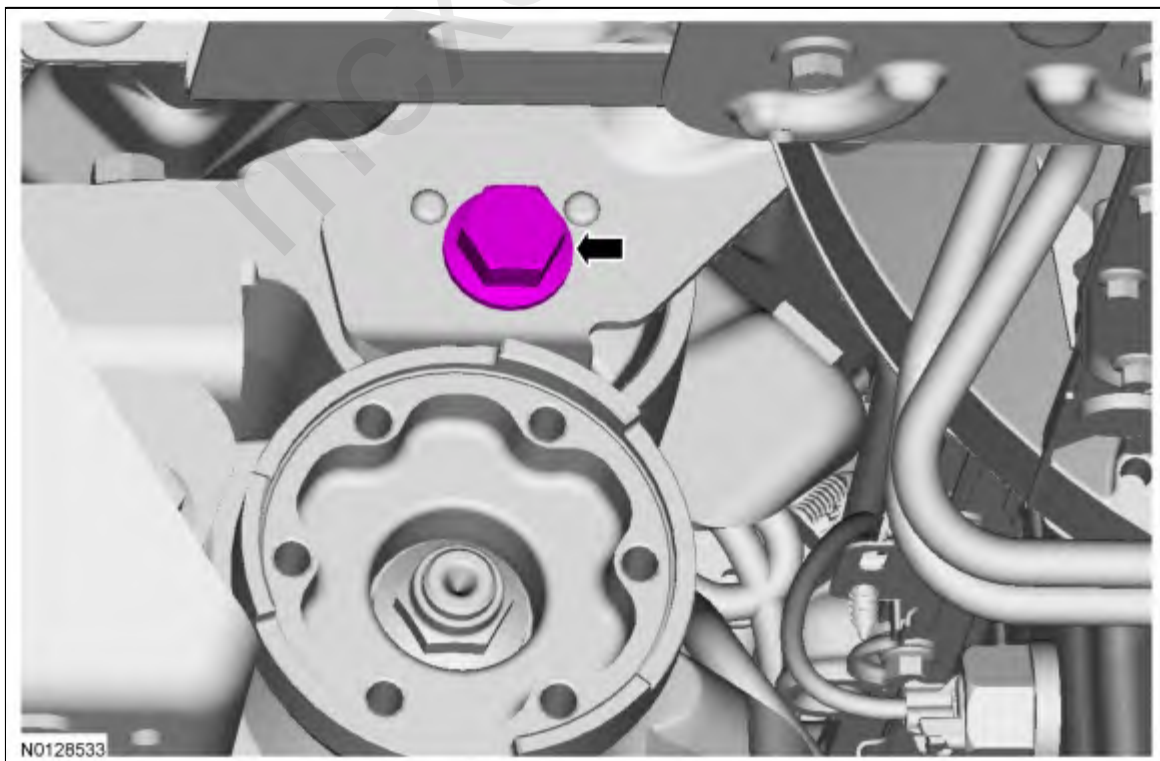
- Tighten to 175 Nm (129 lb-ft).



7. **NOTICE:** Only use hand tools when loosening or tightening the engine support insulator through bolt or damage to the engine support insulator-to-cylinder block bracket can occur.

Remove the LH engine support insulator through bolt and apply threadlock to the bolt threads.

- Install the through bolt and tighten to 350 Nm (258 lb-ft).

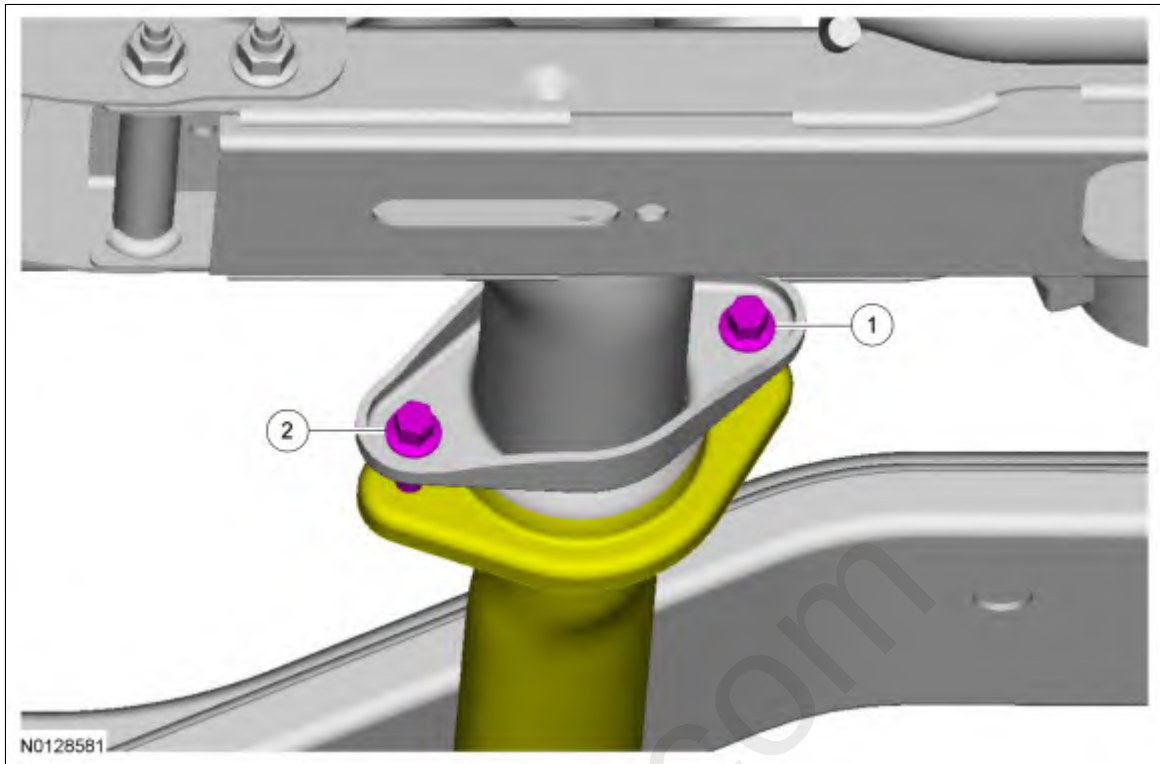


8. **NOTICE:** Only use hand tools when installing the transmission mount-to-crossmember nuts or damage to the transmission mount can occur.

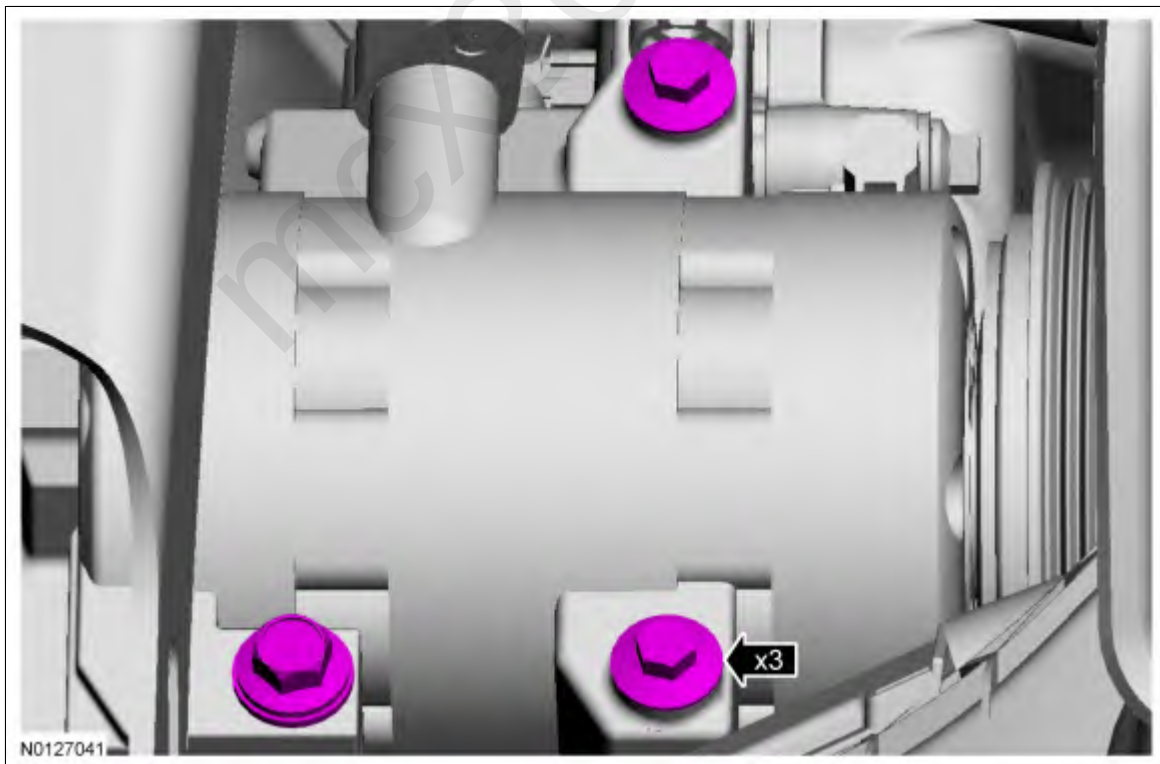
Tighten the transmission mount-to-crossmember nuts to 103 Nm (76 lb-ft).



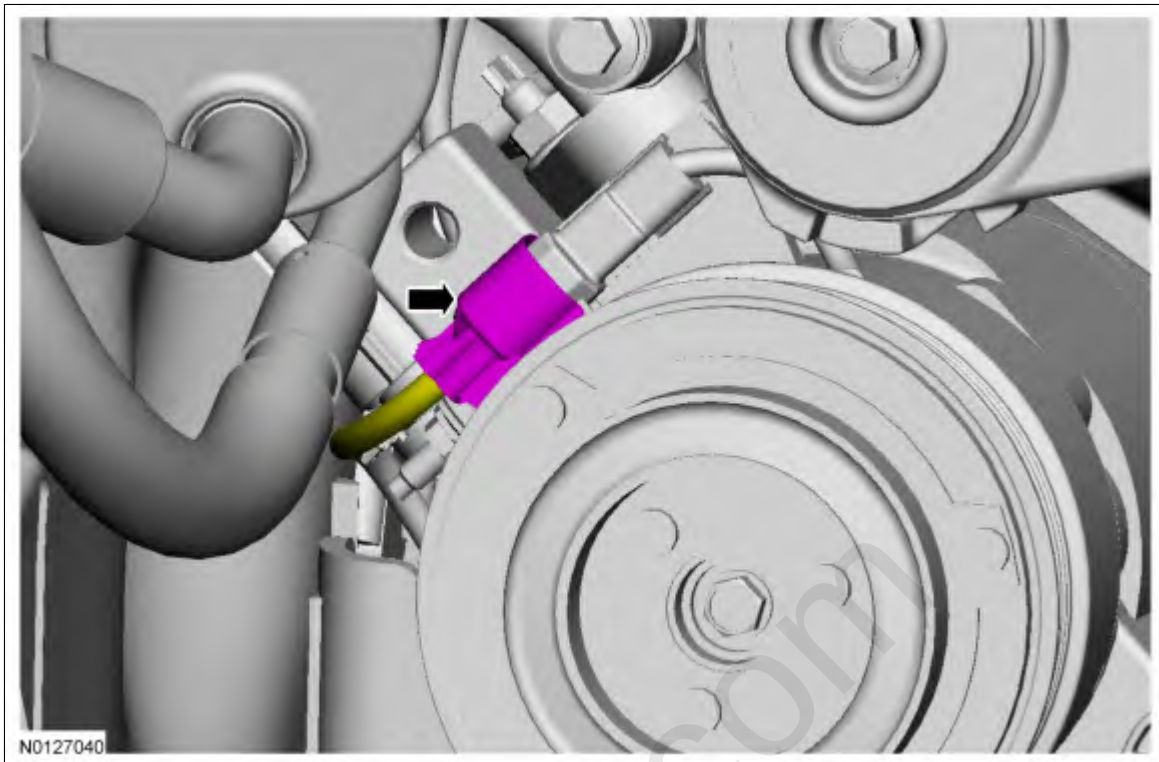
9. Position the exhaust Y-pipe dual catalytic converter-to-exhaust intermediate pipe and install the 2 new bolts.
1. Tighten the inner exhaust Y-pipe dual catalytic converter-to-exhaust intermediate pipe bolt to 63 Nm (46 lb-ft).
 2. Tighten the outer exhaust Y-pipe dual catalytic converter-to-exhaust intermediate pipe bolt to 63 Nm (46 lb-ft).



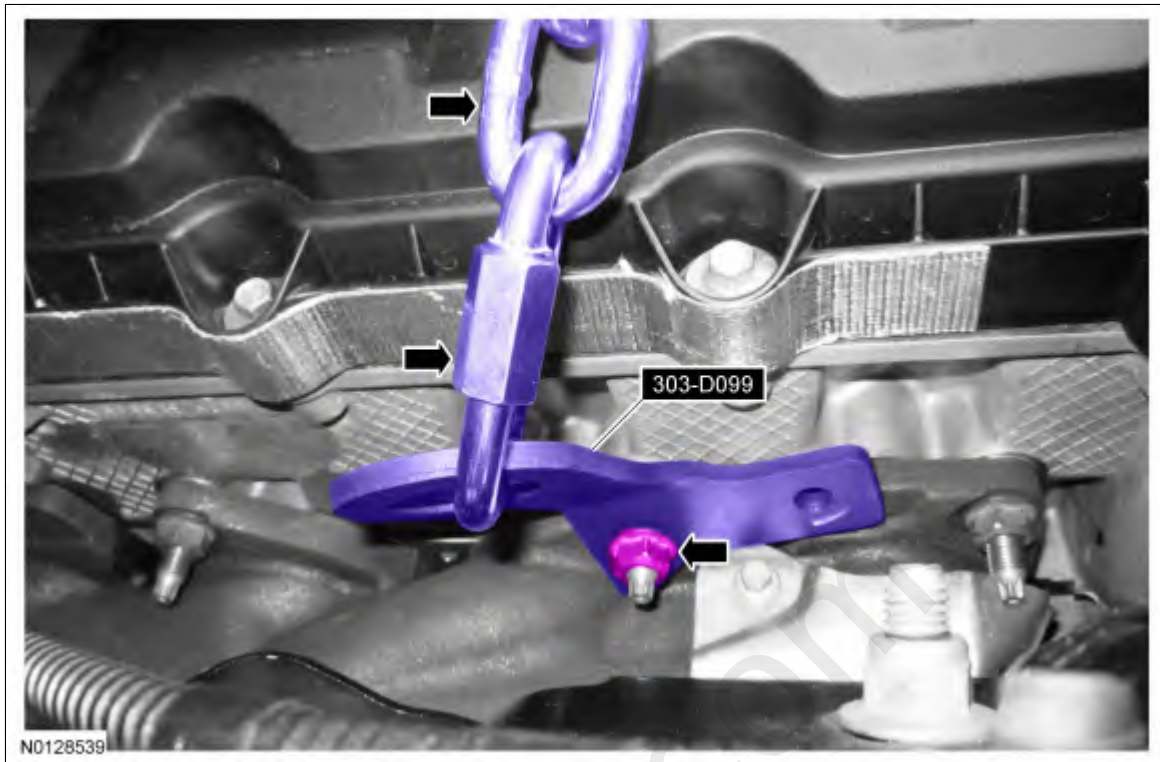
10. Install the A/C compressor and the 3 bolts.
- Tighten to 25 Nm (18 lb-ft).



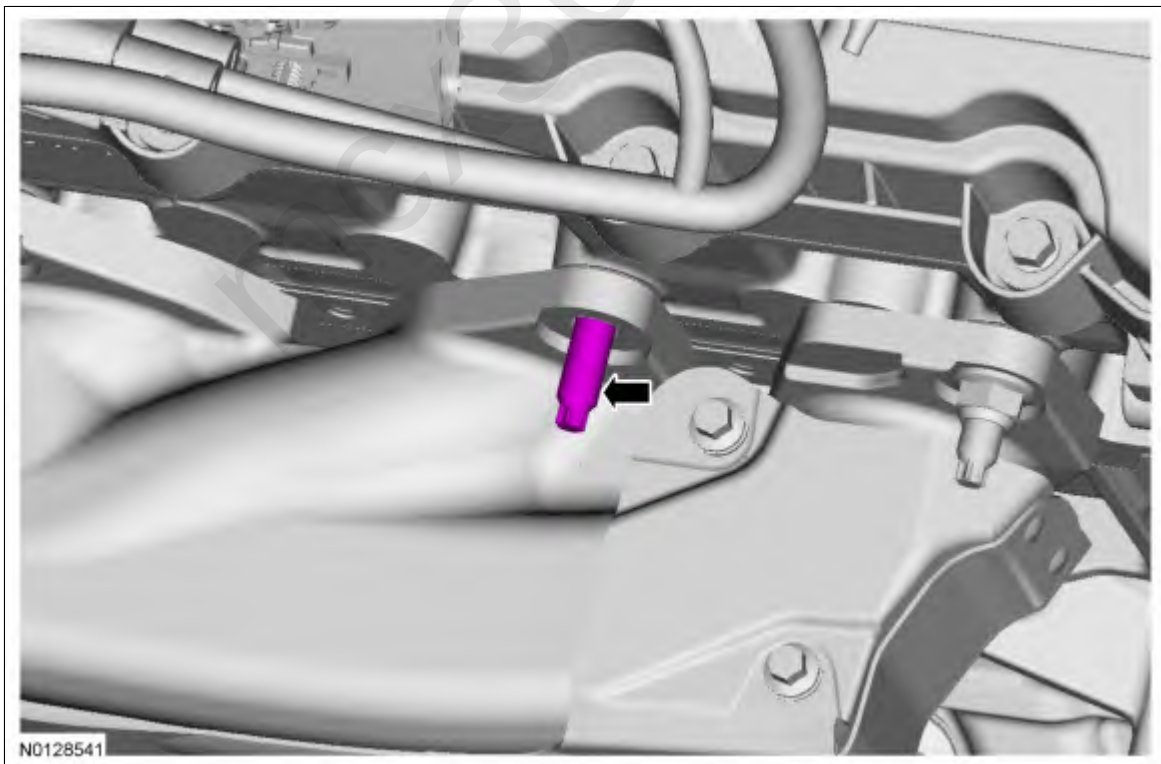
11. Connect the A/C compressor electrical connector.



12. If equipped, install the front driveshaft. For additional information, refer to [Section 205-01](#).
13. Install the starter. For additional information, refer to [Section 303-06](#).
14. Install the A/C compressor belt. For additional information, refer to [Section 303-05](#).
15. Remove the Engine Support Bar.
16. Remove the nut, the Engine Lifting Bracket, the connecting link and chain.

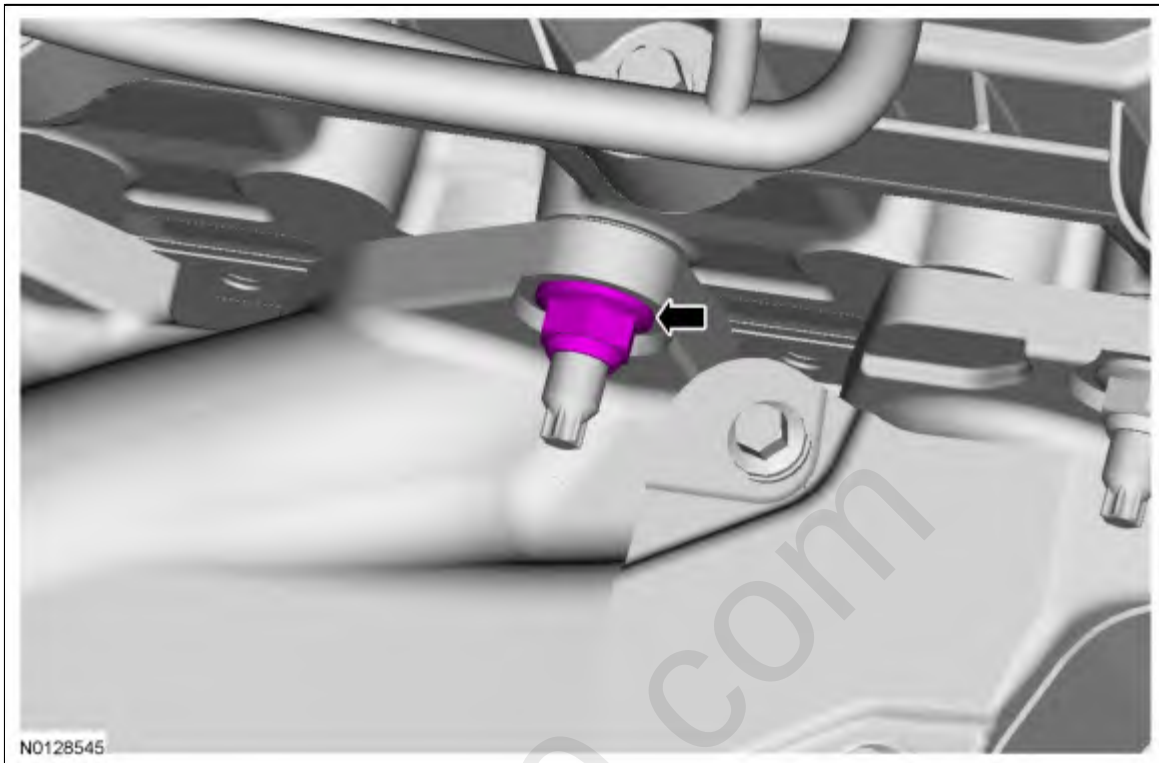


17. Remove and discard the exhaust manifold stud.
- Install a new exhaust manifold stud and tighten to 25 Nm (18 lb-ft).

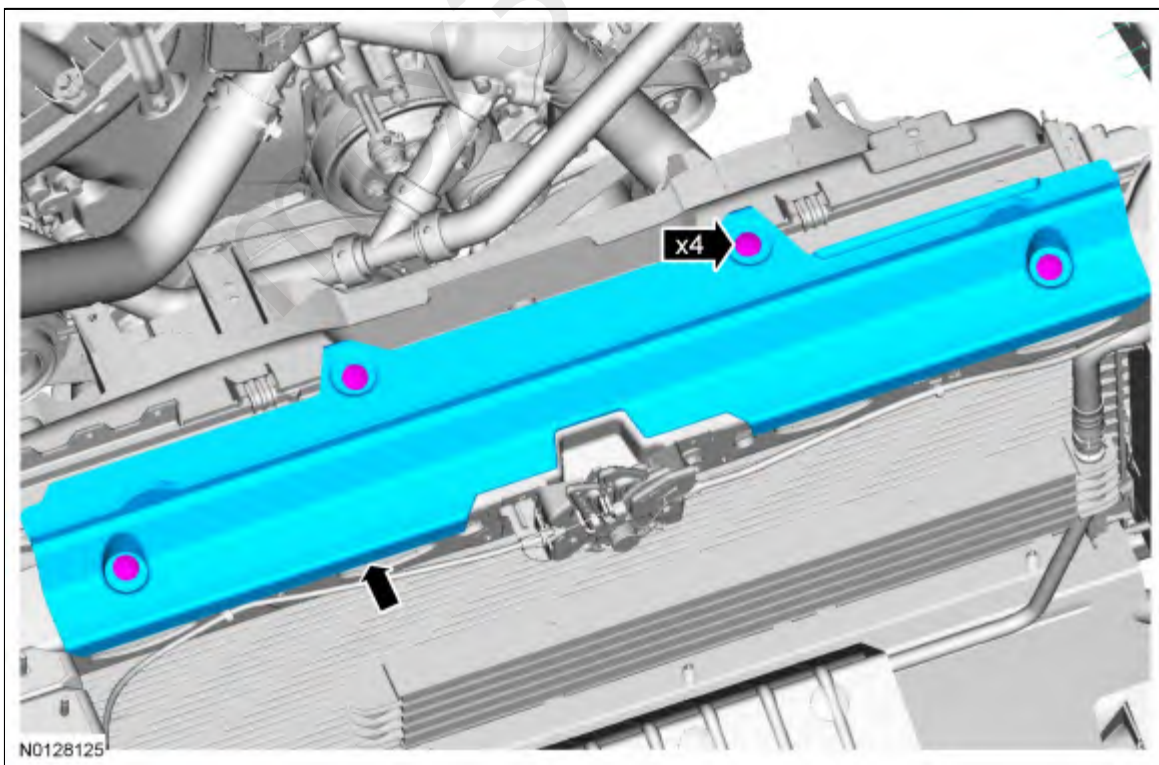


18. Install a new exhaust manifold nut and tighten in 2 stages.
- Stage 1: Tighten to 24 Nm (18 lb-ft).

- Stage 2: Tighten to 32 Nm (24 lb-ft).



19. Install the upper radiator air deflector and the 4 pin-type retainers.



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