

SECTION 303-03: Engine Cooling
REMOVAL AND INSTALLATION

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

Radiator

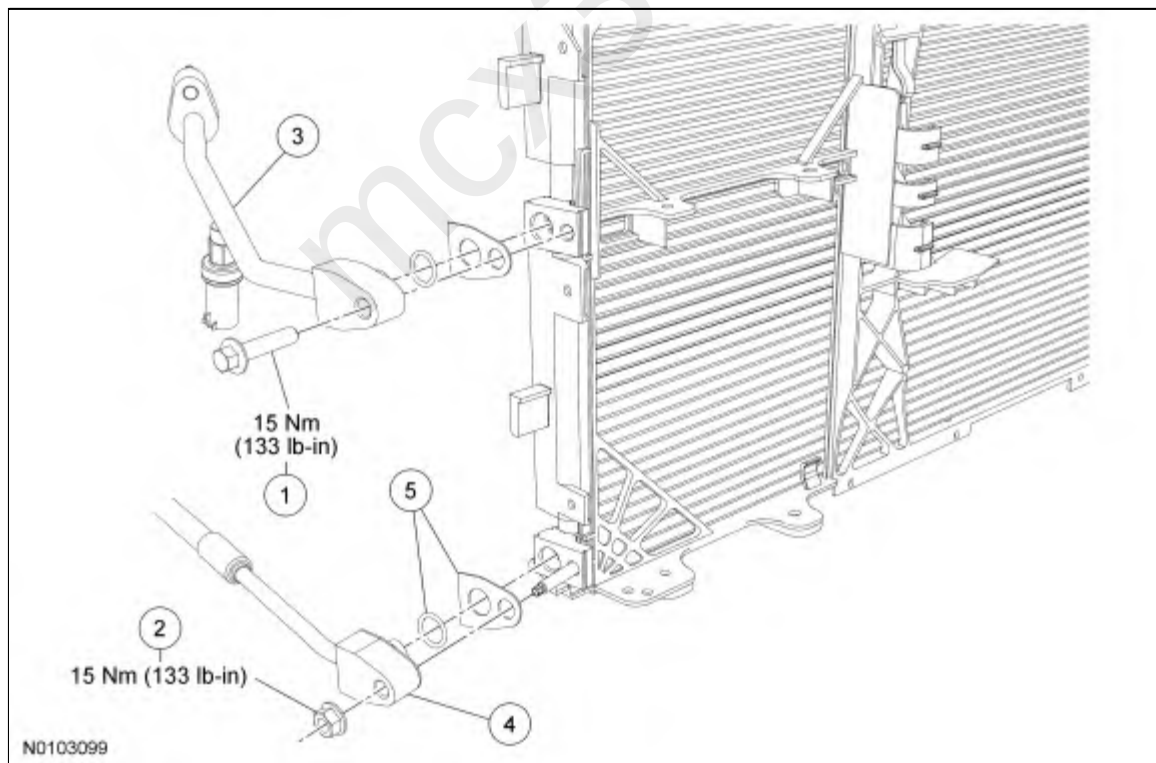
Special Tool(s)

	Disconnect Tool, Transmission Cooler Line 307-569
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Material

Item	Specification
MERCON® V Automatic Transmission Fluid XT-5-QM (or XT-5-QMC) (US); CXT-5-LM12 (Canada)	MERCON® V

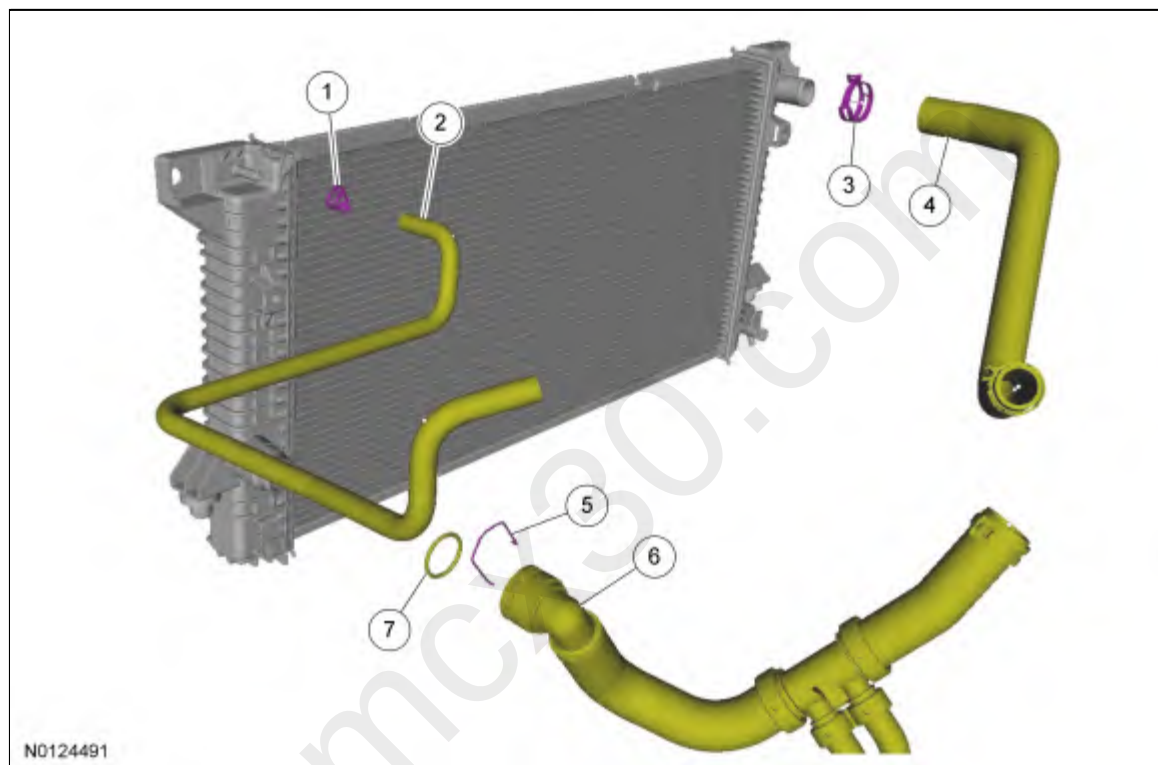
A/C Condenser Fittings



Item	Part Number	Description

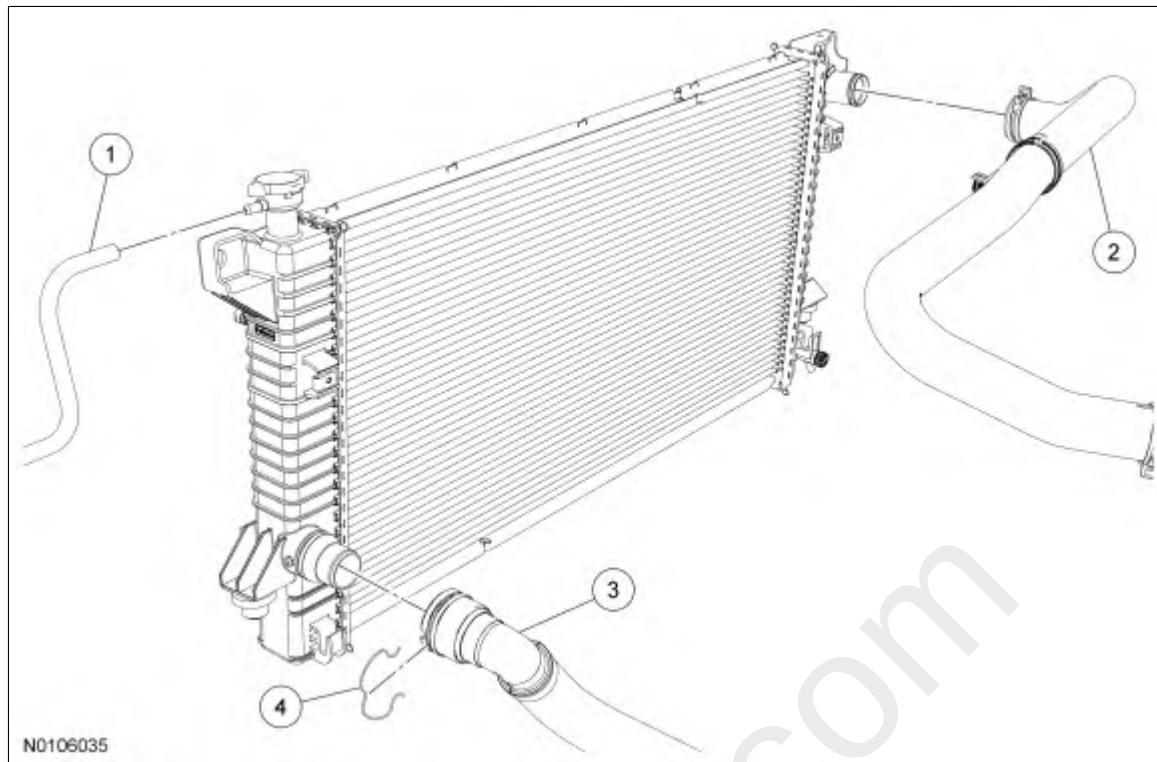
1	W500110	Condenser inlet fitting bolt
2	W520413	Condenser outlet fitting nut
3	19E558	Condenser inlet jumper line fitting
4	—	Condenser outlet fitting (part of 19A834)
5	19B596	O-ring seal and gasket seal kit (2 required)

Radiator Hoses - 3.5L Gasoline Turbocharged Direct Injection (GTDI), 3.7L and 5.0L



Item	Part Number	Description
1	15161	Radiator-to-degas bottle hose clamp
2	8W005	Radiator-to-degas bottle hose
3	15161	Upper radiator hose clamp
4	8260	Upper radiator hose
5	8D037	Lower radiator hose spring clip
6	8286	Lower radiator hose
7	8D038	Lower radiator hose O-ring seal

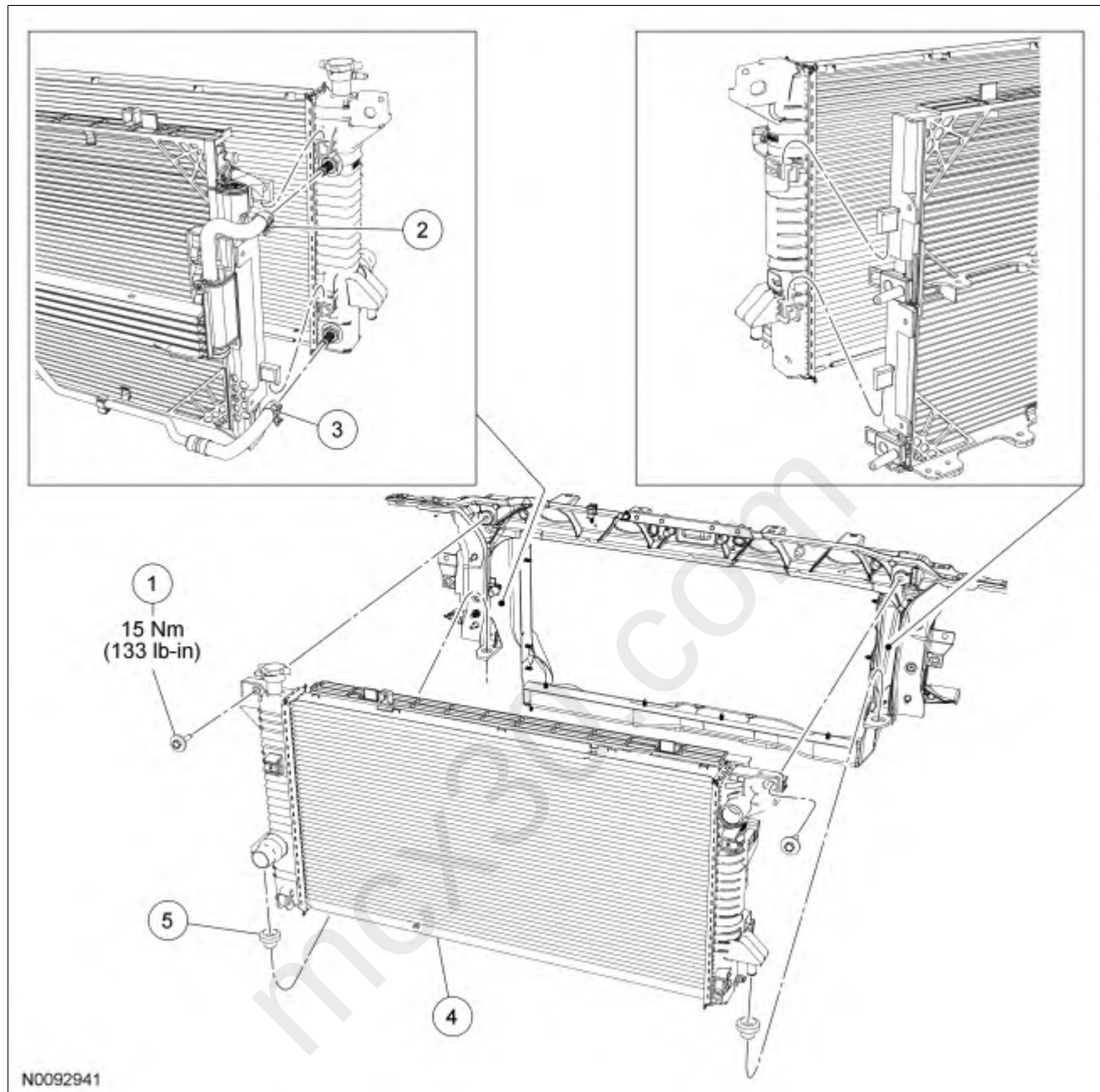
Radiator Hoses 6.2L



Item	Part Number	Description
1	8N029	Radiator overflow hose
2	8D037	Lower radiator hose spring clip (part of 8286)
3	8286	Lower radiator hose
4	8260	Upper radiator hose

Radiator

NOTE: 6.2L shown, 3.5L GTDI GTDI, 3.7L and 5.0L similar.



Item	Part Number	Description
1	W503924	Radiator bolt (2 required)
2	7F113	Transmission fluid cooler-to-radiator upper hose
3	7B028	Transmission fluid cooler-to-radiator lower hose
4	8005	Radiator
5	8B204	Radiator insulator (2 required)

Removal

All engines

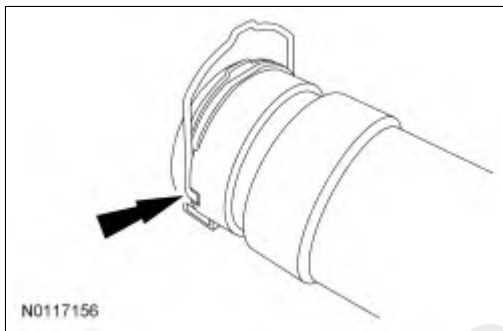
1. Recover the A/C system. For additional information, refer to [Section 412-00](#).

2. Drain the cooling system.
3. Remove the cooling fan motor and shroud. For additional information, refer to [Cooling Fan Motor and Shroud](#) in this section.

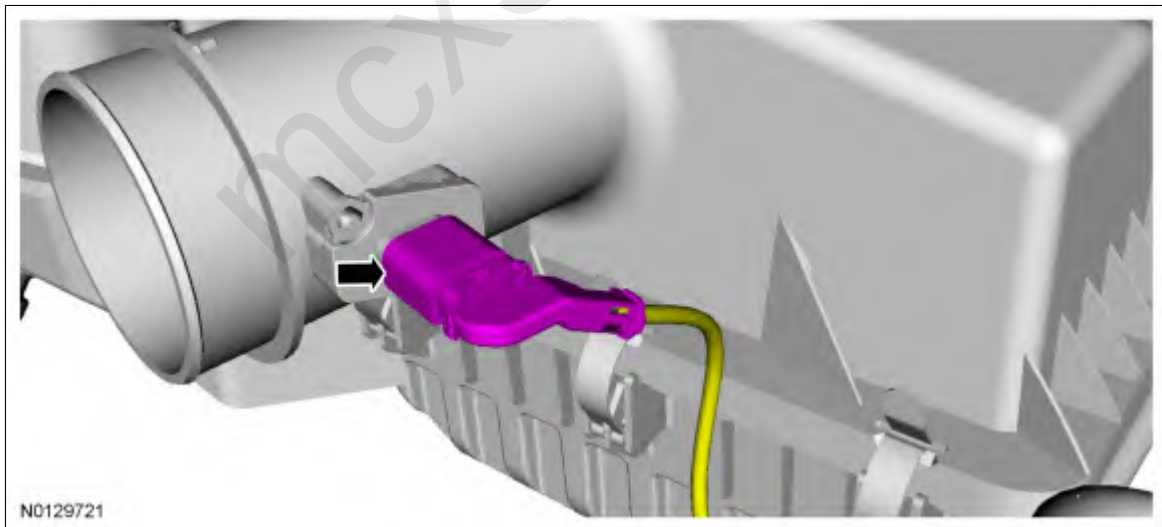
3.5L Gasoline Turbocharged Direct Injection (GTDI), 3.7L and 5.0L engines

4. Release the clamp and disconnect the upper radiator hose from the radiator.
5. Release the clamp and disconnect the radiator-to-degas bottle hose from the radiator.
6. **NOTE:** The quick connect coupling illustrated is to show the spring clip release location only. The quick connect coupling on the hose may differ.

Pull the lower radiator hose spring clip up until the end of the clip is in the detent on the quick connect coupling and disconnect the lower radiator hose from the radiator.

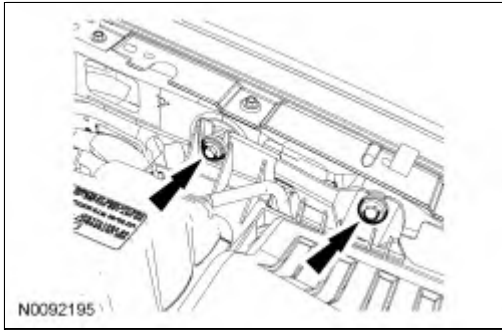


7. Disconnect the Mass Air Flow (MAF) sensor electrical connector.



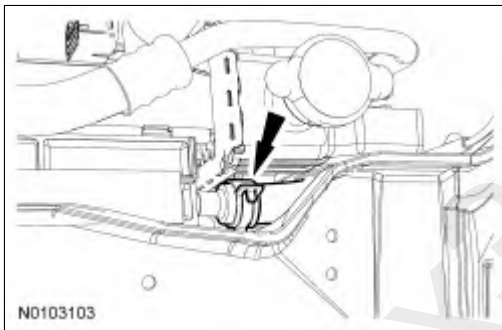
8. **NOTE:** 6.2L shown, 3.5L GTDI, 3.7L and 5.0L similar.

Remove the 2 bolts and position the coolant expansion tank (6.2L) or the degas bottle (3.5L GTDI, 3.7L and 5.0L) aside.



6.2L engines

9. Release the clamp and disconnect the upper radiator hose from the radiator.
10. Disconnect the overflow hose from the radiator.
11. Remove the spring clip and disconnect the lower radiator hose from the radiator.
12. Release the clamp and disconnect the power steering cooler hose from the power steering cooler.

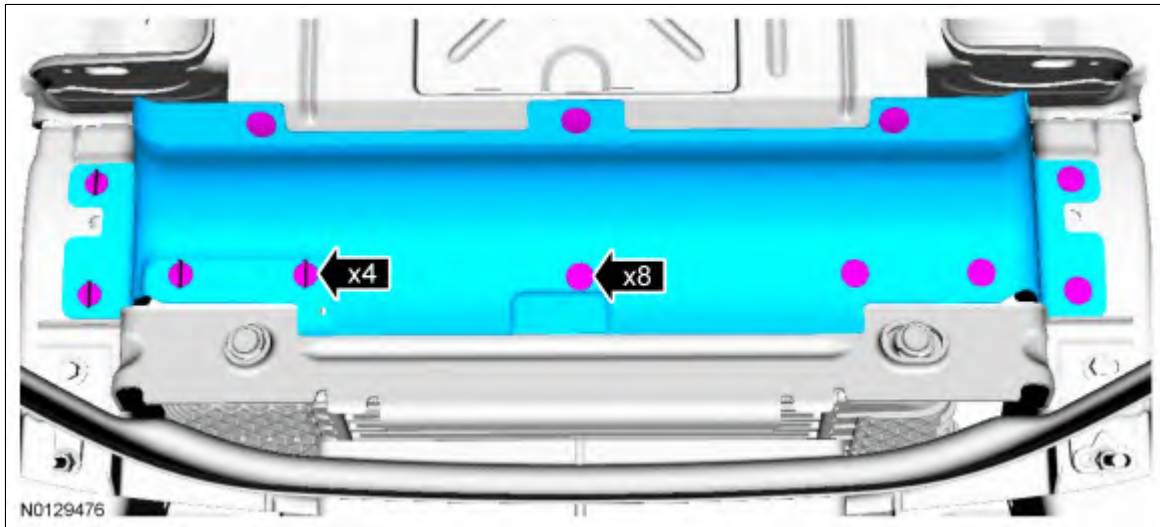


All engines

13. Disconnect the 3 RH and 2 LH air deflector-to-condenser pushpin retainers.

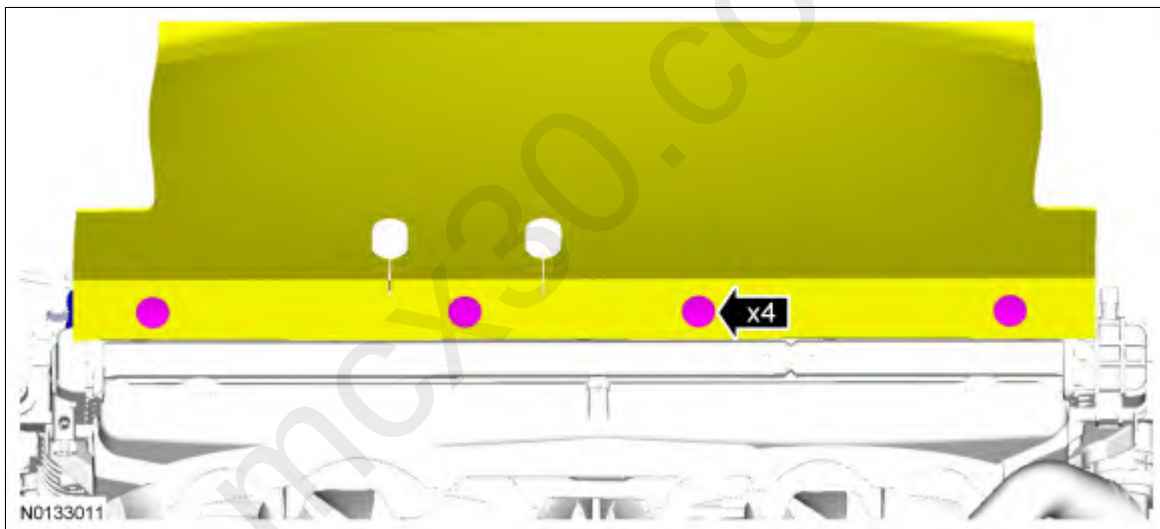
3.5L GTDI engines

14. Turn the 4 quarter-turn retainers, detach the 8 pushpins and remove the lower air deflector.



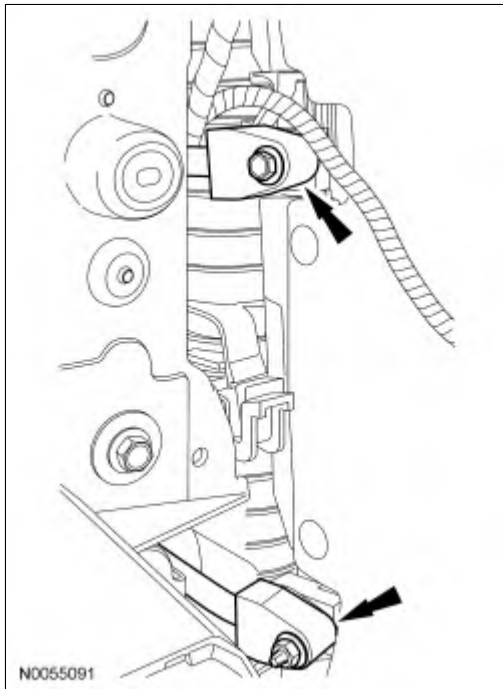
3.7L, 5.0L and 6.2L engines

15. Remove the 4 lower radiator air deflector-to-A/C condenser pushpins.

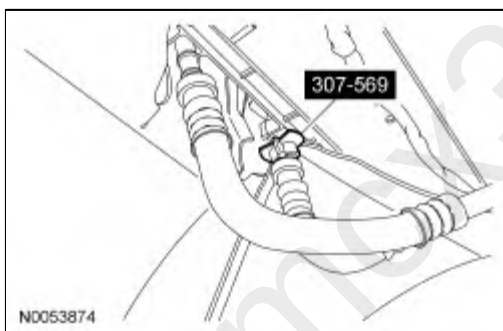


All engines

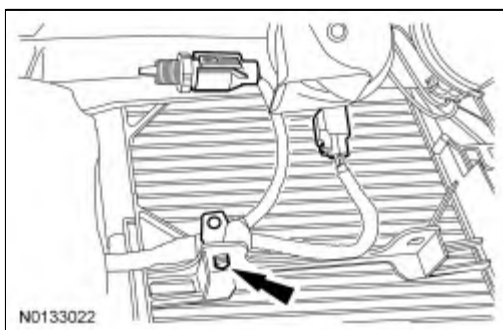
16. Remove the bolt and the nut and disconnect the A/C condenser fittings.
 - Discard the gasket seals and the O-ring seals.



17. Remove the transmission cooler tube secondary latches.
18. Using the Transmission Cooler Line Disconnect Tool, disconnect the transmission fluid cooler tubes.

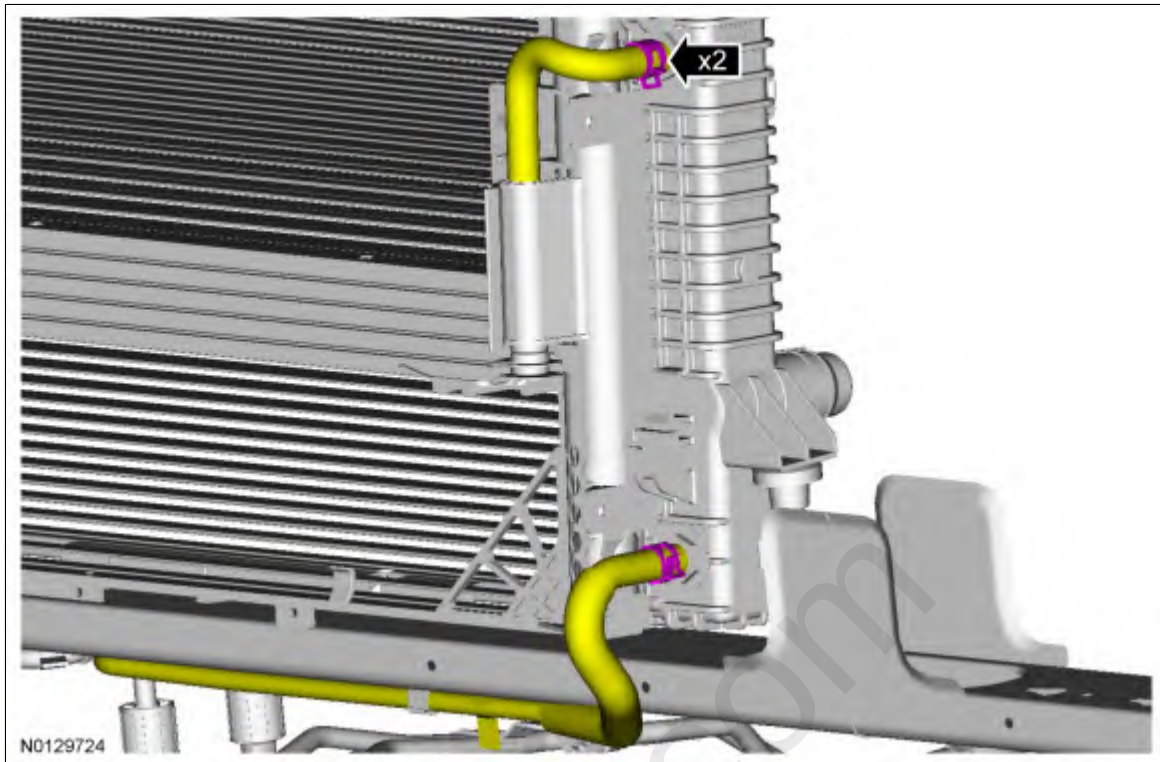


19. Detach the wiring harness retainer.



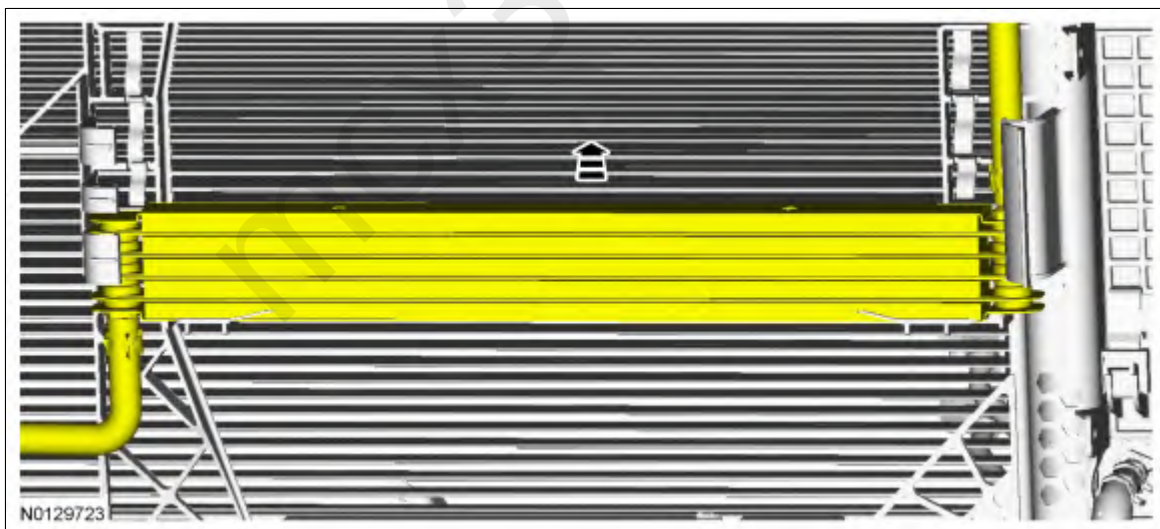
20. **NOTE:** Hoses with an auxiliary transmission fluid cooler shown, hoses without an auxiliary transmission fluid cooler similar.

Disconnect the 2 transmission fluid cooler hoses from the radiator.



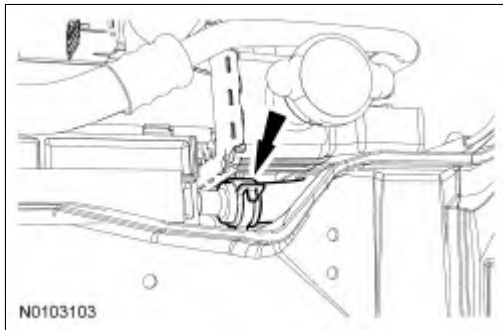
3.5L GTDI, 3.7L and 5.0L engines

21. If equipped, detach the auxiliary transmission fluid cooler from the A/C condenser and position aside.



6.2L engine

22. Using a suction device, syphon the power steering fluid from the power steering fluid reservoir.
23. Release the clamp and disconnect the power steering fluid cooler hose from the power steering fluid cooler.

**All engines**

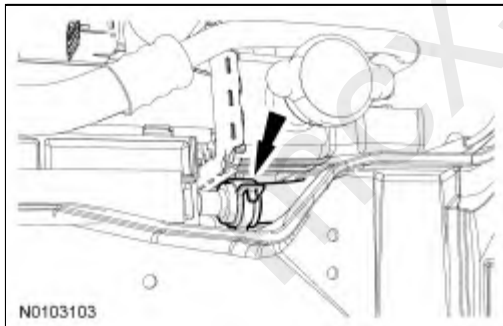
24. Remove the radiator/condenser core as an assembly.
25. Release the lock tabs and separate the radiator from the condenser core.

Installation**All engines**

1. Position the condenser core into the radiator locking tabs.
2. Position the radiator/condenser core assembly into the vehicle and onto the radiator insulators.

6.2L engine

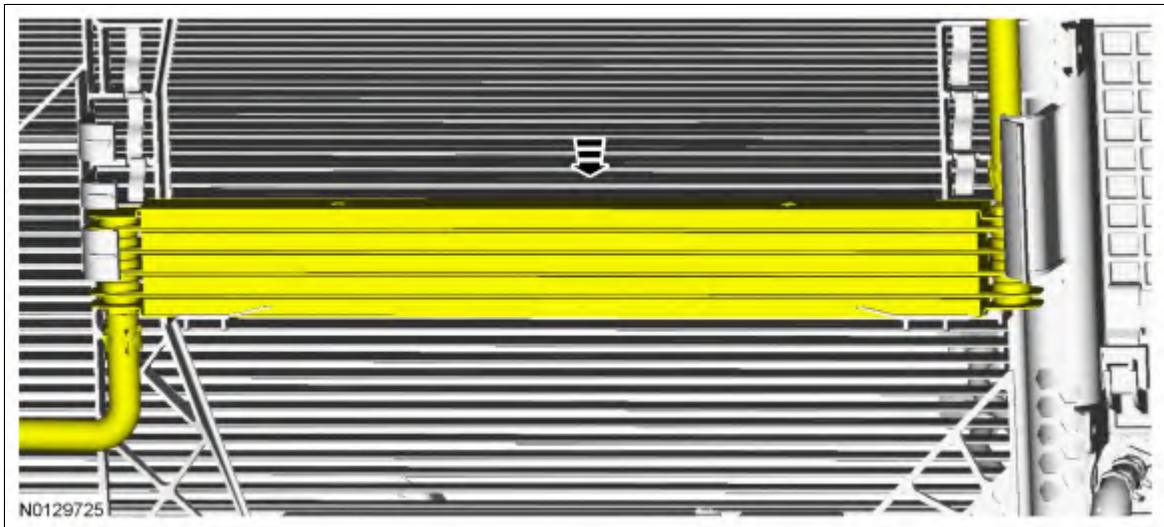
3. Connect the power steering cooler hose to the power steering cooler and position the clamp.

**All engines**

4. Install the 2 radiator bolts.
 - Tighten to 15 Nm (133 lb-in).

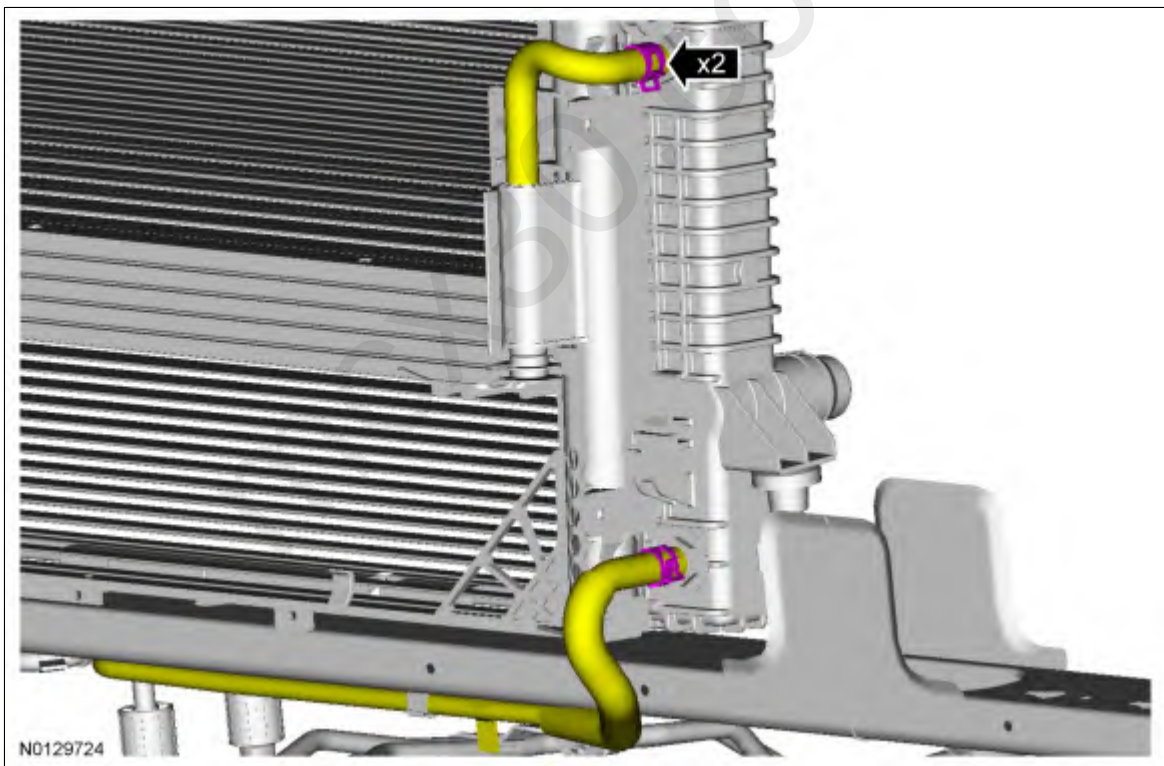
3.5L GTDI, 3.7L and 5.0L engines

5. If equipped, attach the auxiliary transmission fluid cooler to the A/C condenser.

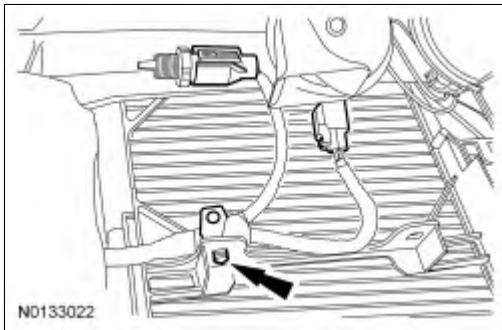


All engines

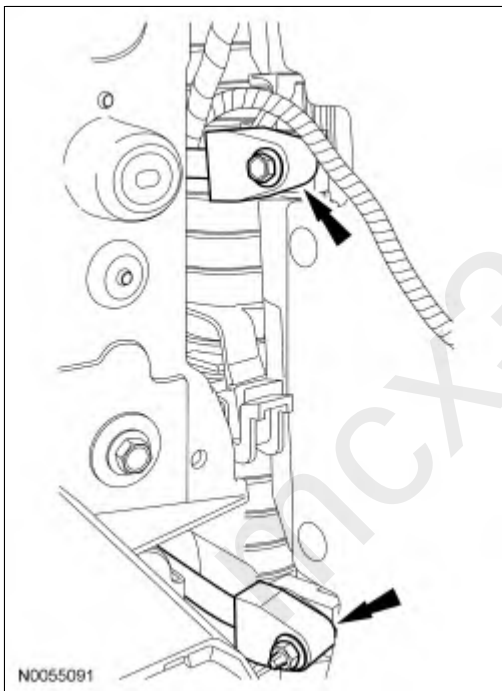
6. Connect the transmission fluid cooler hoses to the radiator.



7. Connect the wiring harness retainer.

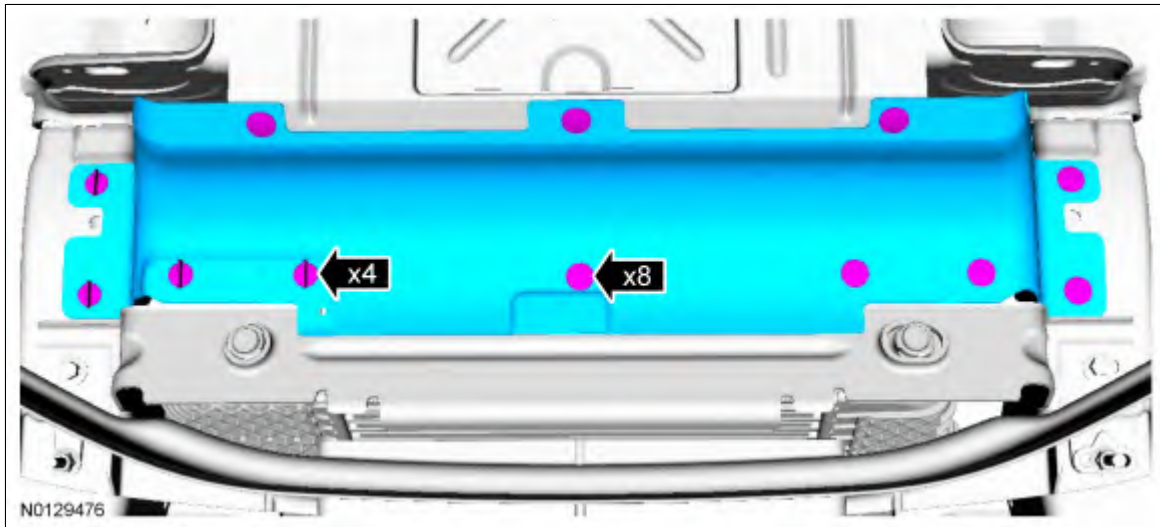


8. Connect the transmission fluid cooler tubes.
9. Install the transmission cooler tube secondary latches.
10. Using new gasket seals and O-ring seals, connect the A/C condenser fittings and install the bolt and nut.
 - Tighten to 15 Nm (133 lb-in).



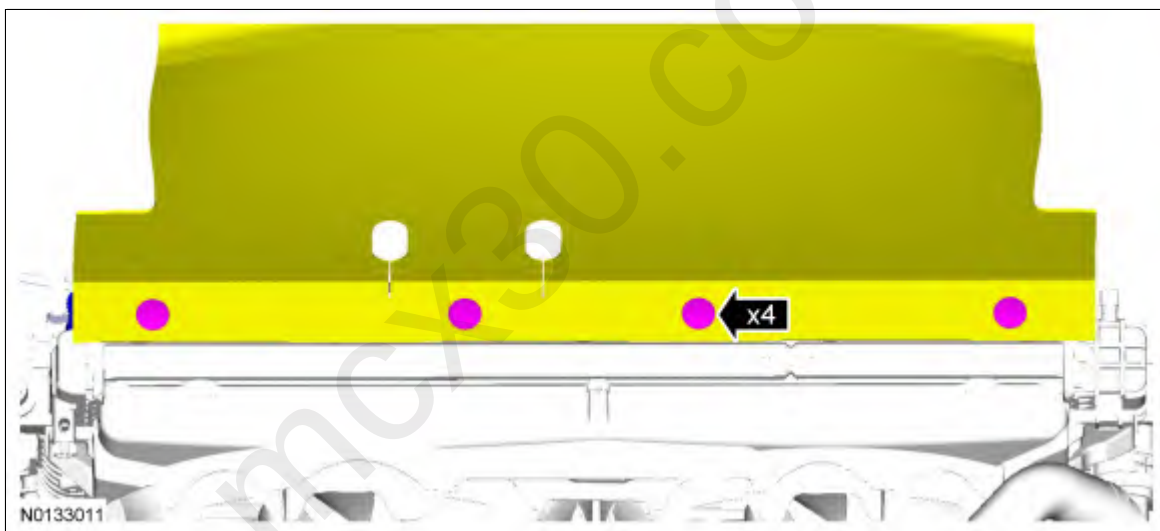
3.5L GTDI engines

11. Position the lower air deflector, attach the 8 pushpins and turn the 4 quarter-turn retainers.



3.7L, 5.0L and 6.2L engines

12. Install the 4 lower radiator air deflector-to-condenser pushpins.

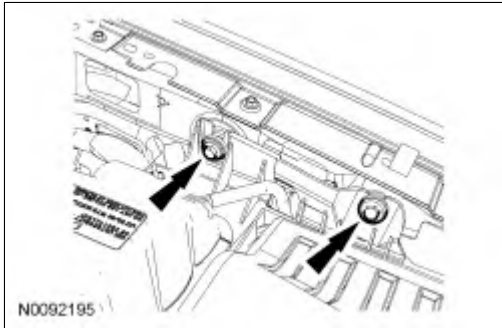


All vehicles

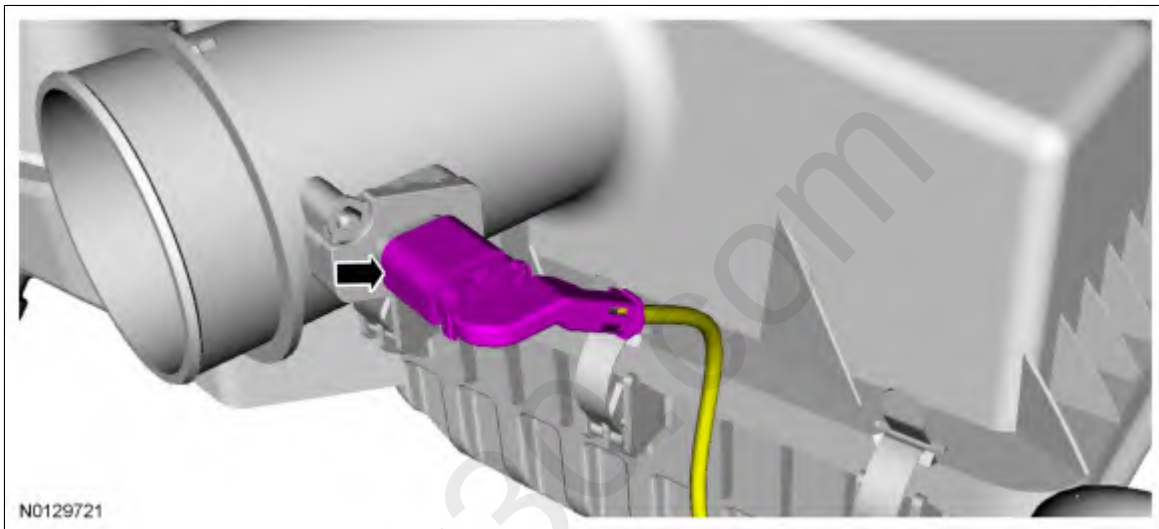
13. Connect the 3 RH and 2 LH air deflector-to-condenser pushpin retainers.

3.5L Gasoline Turbocharged Direct Injection (GTDI), 3.7L and 5.0L engines

14. Install the degas bottle and the 2 bolts.
 - Tighten to 17 Nm (150 lb-in).



15. Connect the MAF sensor electrical connector.



16. Push the spring clip in place and connect the lower radiator hose quick connect coupling to the radiator, making sure the coupling is secure.
17. Connect the radiator-to-degas bottle hose to the radiator and position the clamp.
18. Connect the upper radiator hose to the radiator and position the clamp.

6.2L engines

19. Install lower radiator hose and the spring clip.
20. Connect the radiator overflow hose.
21. Connect the upper radiator hose and position the clamp.

All engines

22. Install the cooling fan motor and shroud. For additional information, refer to [Cooling Fan Motor and Shroud](#) in this section.

6.2L engine

23. Fill the power steering fluid reservoir with MERCON® V.

All engines

24. Fill the cooling system. For additional information, refer to [Cooling System Draining, Filling and Bleeding](#) in this section.
 25. Recharge the A/C system. For additional information, refer to [Section 412-00](#).
 26. Check the transmission fluid and fill as necessary. For additional information, refer to [Section 307-01](#).
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