



NUMBER: 07-002-10

GROUP: Cooling

DATE: February 16, 2010

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SUBJECT:

Heavy Duty Transmission Cooler Kit

OVERVIEW:

This bulletin provides part information and installation instructions for a newly released heavy duty transmission cooler.

MODELS:

2007 - 2010 JK Wrangler (International Vehicles Only)

DISCUSSION:

PARTS REQUIRED:

Qty.	Part No.	Description
1	05183566AA	Cooler, Transmission Oil
2	68071884AA	Fitting, Hose
2	68071885AA	Fitting, Hose
4	04596424AA	Clamp, Hose
AR (1)	3879925	Bulk Hose - 1 installation will require approximately 64 inches (1.6 meters)
AR (1)	05013457AA	Fluid, Transmission ATF+4
1	06508074AA	Bolt
1	05019056AA	Foam
AR (1)	04856503	14 5/8 inch bulk (50 ties in a package) - Tie, Cable (Tie Strap) - 1 installation will require 1 cable tie (or equivalent)
AR (1)	05179671AA	Corrosion Inhibitor
AR (1)	NPN	Black Paint

REPAIR PROCEDURE:

1. Remove the front grille and set it aside. Refer to DealerCONNECT>TechCONNECT>Exterior>Grille>Removal for information regarding Front Grille Removal procedures.

2. Remove the three (3) push pins that secure the upper radiator close out panel to the radiator support and remove the close out panel.
3. Remove the two (2) radiator top mounting bolts.
4. Slide the cooling module assembly to the rear as far as it can go.
5. Place transmission cooler (p/n 05183566AA) left mounting tab/bracket into a vise and straighten the tab/bracket, (Fig. 1) and (Fig. 2).

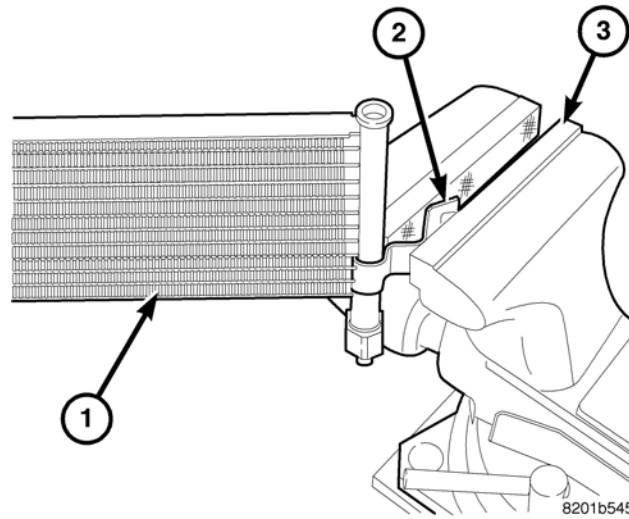


Fig. 1 STRAIGHTENING LEFT TRANSMISSION COOLER BRACKET

- 1 - TRANSMISSION COOLER
 - 2 - LEFT TRANSMISSION COOLER BRACKET
 - 3 - VISE
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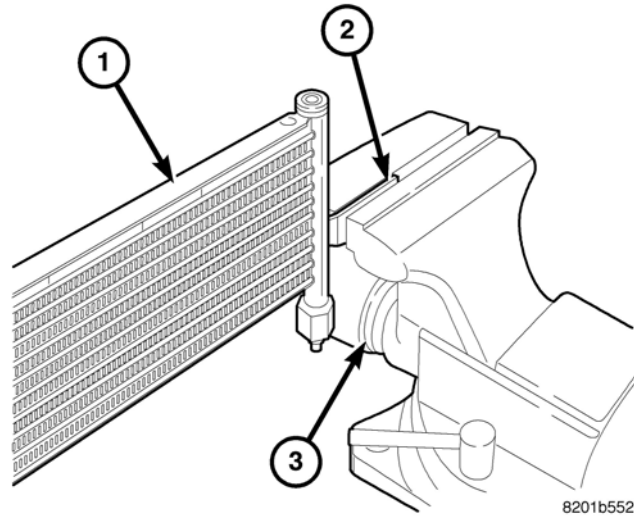


Fig. 2 STRAIGHTENING LEFT COOLER BRACKET

- 1 - TRANSMISSION COOLER
- 2 - LEFT TRANSMISSION COOLER BRACKET
- 3 - VISE

6. Place transmission cooler (p/n 05183566AA) right mounting tab/bracket into a vise and straighten the tab/bracket, (Fig. 3) and (Fig. 4).

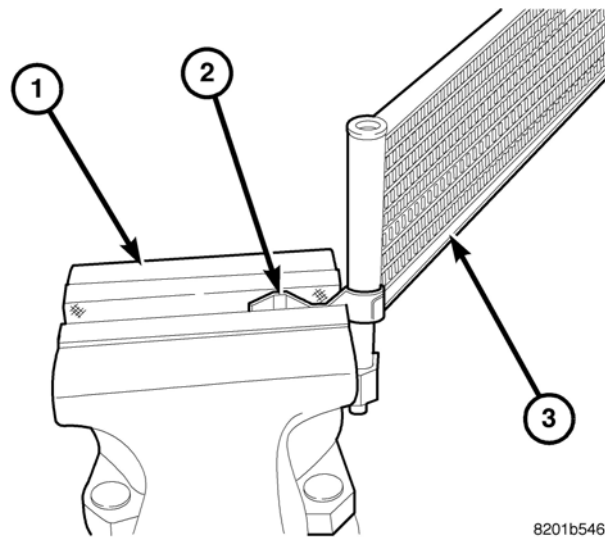


Fig. 3 STRAIGHTENING RIGHT TRANSMISSION COOLER BRACKET

- 1 - VISE
 - 2 - RIGHT TRANSMISSION COOLER BRACKET
 - 3 - TRANSMISSION COOLER
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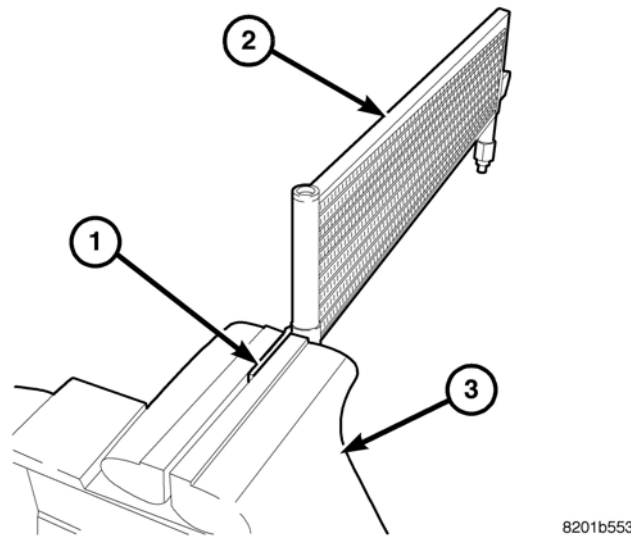


Fig. 4 STRAIGHTENING RIGHT COOLER BRACKET

- 1 - RIGHT TRANSMISSION COOLER BRACKET
- 2 - TRANSMISSION COOLER
- 3 - VISE

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7. Clamp the transmission cooler into a vise by the left mounting tab/bracket. Measure approximately one inch (25 mm) from the outboard end of the tab and scribe a line across the tab. Then, using a high speed cut-off tool, cut the left mounting tab/bracket on the scribed line removing the end of the tab/bracket, (Fig. 5).

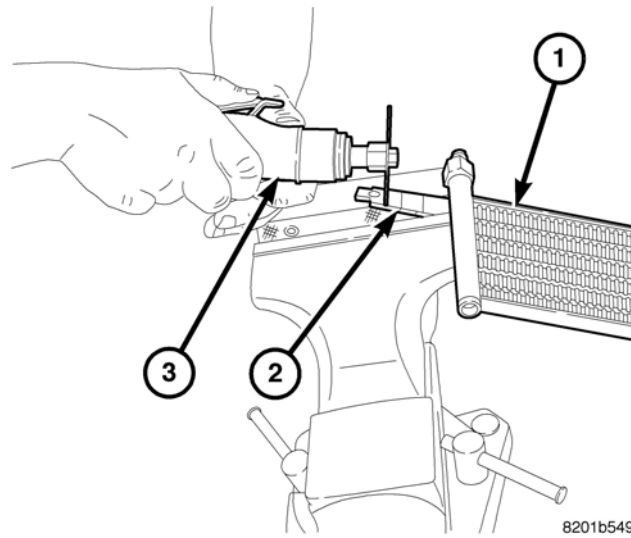


Fig. 5 CUTTING LEFT TRANSMISSION COOLER BRACKET TAB

- 1 - TRANSMISSION COOLER
- 2 - LEFT TRANSMISSION COOLER BRACKET
- 3 - HIGH SPEED CUT OFF TOOL

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8. Release the transmission cooler from the vise and lay the cooler on a flat surface. Using pliers, carefully bend the tab so that the tab/bracket is approximately 1/4 inch (6 mm) overflush with the back side of the cooler as shown in (Fig. 6)

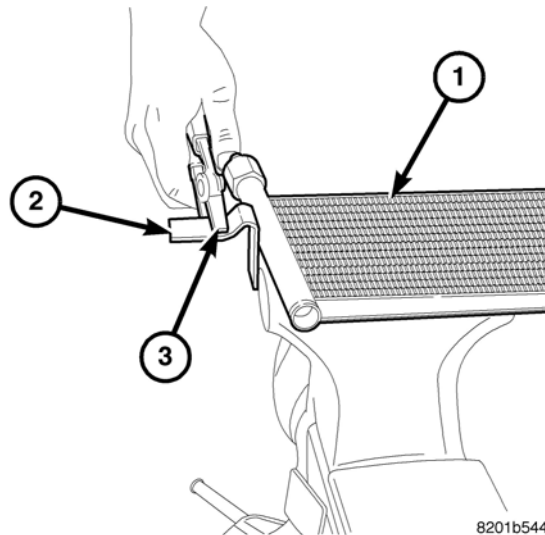


Fig. 6 BENDING LEFT TRANSMISSION COOLER BRACKET

- 1 - TRANSMISSION COOLER
 - 2 - LEFT TRANSMISSION COOLER BRACKET
 - 3 - PLIERS
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9. Clamp the transmission cooler back into the vise by the left cooler tab/bracket. Then, using a center punch, place a mark $13/16$ inch (21 mm) from the end of the tab. Drill a $5/16$ inch (8 mm) hole at the marked position, (Fig. 7).

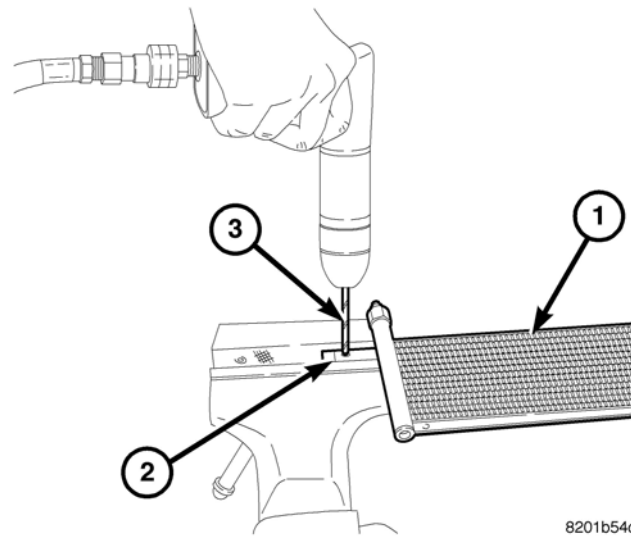


Fig. 7 DRILL HOLE IN LEFT COOLER BRACKET

- 1 - TRANSMISSION COOLER
- 2 - LEFT TRANSMISSION COOLER BRACKET
- 3 - $5/16$ INCH (8 MM) DRILL

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10. Using a rat tail file, elongate the hole so that the hole is approximately $5/8$ inch (16 mm) long.
 11. Clean all burrs of the tab/bracket and seal the tab/bracket with Corrosion Inhibitor (p/n 05179671AA). Then, paint the tab/bracket with black paint.
 12. Lay the cooler on a flat surface. Using pliers, carefully bend the right tab so that the tab/bracket is approximately $1/4$ inch (6 mm) overflush with the back side of the cooler.
 13. Clamp the right tab/bracket into a vise. Using a rat tail file, elongate the hole so that the hole is approximately $3/4$ inch (19 mm) long, (Fig. 8).

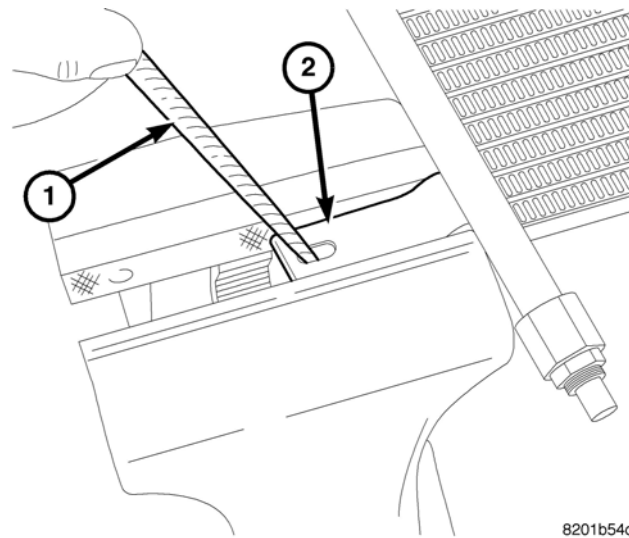


Fig. 8 ELONGATE RIGHT COOLER BRACKET HOLE

1 - RAT TAIL FILE

2 - RIGHT TRANSMISSION COOLER BRACKET

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14. Clean all burrs of the tab/bracket and seal the tab/bracket with Corrosion Inhibitor (p/n 05179671AA). Then, paint the tab/bracket with black paint.
 15. Cut foam (p/n 05019056AA) into half. Peel adhesive protection tape from the foam and place one piece of the foam onto each side transmission cooler side tank, (Fig. 9) and (Fig. 10). The foam is placed on the side of the transmission cooler that faces the cooling module.

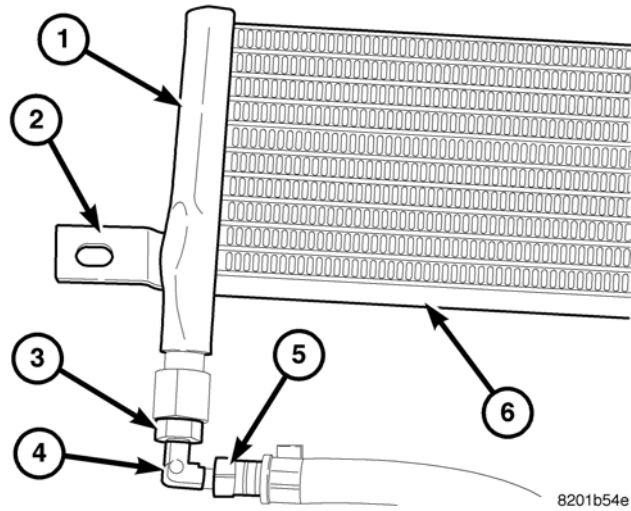


Fig. 9 TRANSMISSION COOLER ASSEMBLY - LEFT SIDE

- 1 - COVER LEFT TRANSMISSION COOLER SIDE TANK WITH FOAM
- 2 - LEFT TRANSMISSION COOLER BRACKET
- 3 - JAMB NUT
- 4 - 90 DEGREE TRANSMISSION COOLER LINE FITTING
- 5 - BARBED TRANSMISSION COOLER LINE FITTING
- 6 - TRANSMISSION COOLER

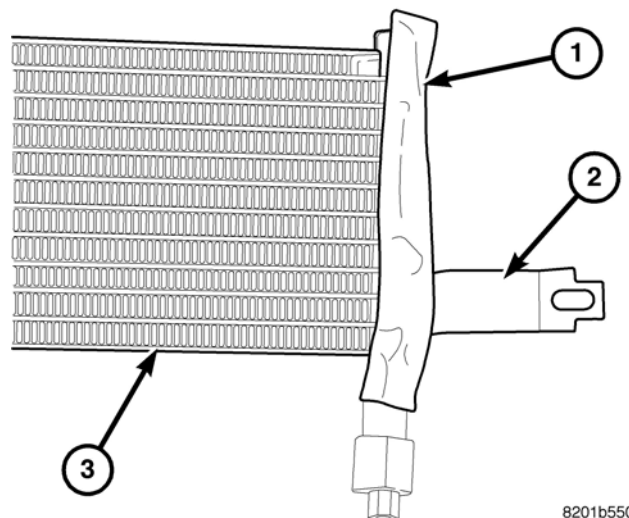


Fig. 10 TRANSMISSION COOLER ASSEMBLY - RIGHT SIDE

- 1 - COVER RIGHT TRANSMISSION COOLER SIDE TANK WITH FOAM
- 2 - RIGHT TRANSMISSION COOLER BRACKET
- 3 - TRANSMISSION COOLER

16. Remove both transmission cooler quick connect fittings.
17. Inspect both transmission cooler line ports to ensure that the port sealing surfaces are free of burrs, nicks, scratches, or any foreign materials. Repair as necessary.
18. Thread the 90 degree fitting's jamb nut all of the way onto the fitting. Ensure the steel back-up washer is placed next to the jamb nut and the O-ring is placed next to the washer.
19. Lubricate the O-rings with transmission fluid.
20. Thread one 90 degree fitting into each transmission cooler line port. Screw each fitting into the port until the steel back-up washer and O-ring contacts the face of the port. Light wrenching may be required.

NOTE: Over tightening may damage the back-up washer.

21. Align the 90 degree fitting so that the right fitting is pointing to the left and the left fitting is pointing to the right by loosening the fitting the required amount, but not more than one full turn.
22. Using two wrenches, hold the fitting in the desired position while tightening the jamb nut to 133 in. lbs. (15 Nm).
23. Inspect the fitting to ensure that the O-ring is not pinched and that the washer is seated flat on the face of the port.
24. Install one barbed fitting into each 90 degree fittings and torque to 350 in. lbs. (40 Nm).
25. Cut two pieces of hose (p/n 3879925) to a length of 32 inches (0.81 meters).
26. Attach one hose to each barbed fitting on the cooler. Secure the hose with hose clamp (p/n 04596424AA).
27. Drill two 1/2 inch holes into the lower splash shield (in lower front of the cooling module), (Fig. 11). The holes should be drilled in the center of the shield.

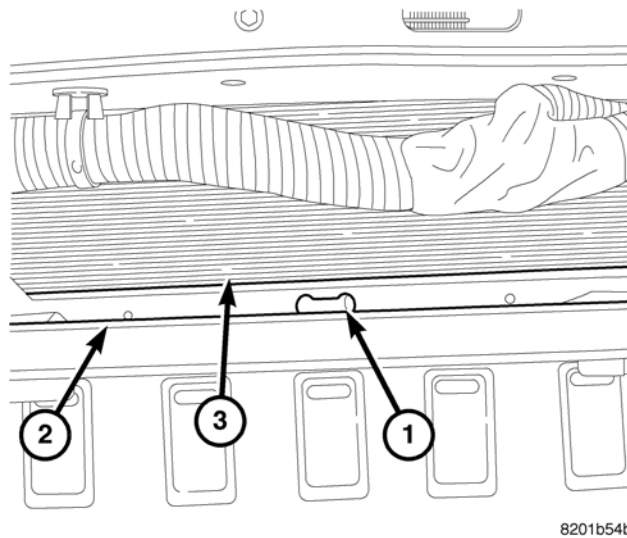
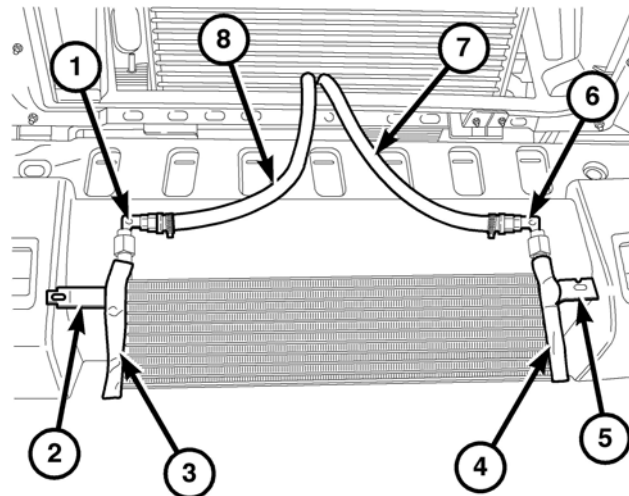


Fig. 11 DRILL HOLES IN LOWER SPLASH SHIELD

- 1 - DRILL TWO (2) 1/2 INCH (13MM) HOLES IN LOWER SPLASH SHIELD
- 2 - LOWER RADIATOR CLOSURE PANEL BRACE
- 3 - AIR CONDITIONING CONDENSER

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28. Remove right cooling module attaching screw.
 29. Feed hoses through the two holes in the lower splash shield, (Fig. 12).



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Fig. 12 TRANSMISSION COOLER ASSEMBLY

- 1 - 90 DEGREE TRANSMISSION COOLER LINE FITTING
- 2 - RIGHT TRANSMISSION COOLER BRACKET
- 3 - RIGHT TRANSMISSION COOLER SIDE TANK WITH FOAM ATTACHED
- 4 - LEFT TRANSMISSION COOLER SIDE TANK WITH FOAM ATTACHED
- 5 - LEFT TRANSMISSION COOLER BRACKET
- 6 - 90 DEGREE TRANSMISSION COOLER LINE FITTING
- 7 - LEFT TRANSMISSION COOLER LINE - HOSE
- 8 - RIGHT TRANSMISSION COOLER LINE - HOSE

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- 30. Position the transmission cooler into the opening in front of the cooling module.
 - 31. Using the screw removed in step 28, install the screw through the hole in the right tab/bracket into the radiator support, (Fig. 13). Do not tighten the screw at this time.

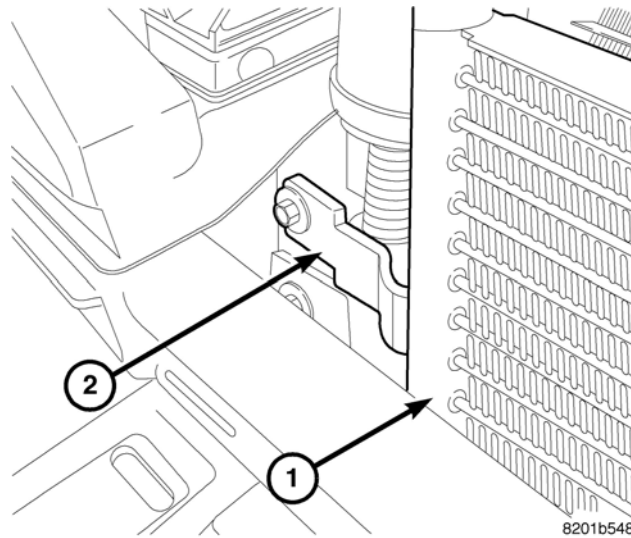


Fig. 13 TRANSMISSION COOLER INSTALLED - RIGHT SIDE

- 1 - TRANSMISSION COOLER
- 2 - RIGHT TRANSMISSION COOLER BRACKET

32. Using bolt (p/n 06508074AA), install the bolt through the hole in the left tab/bracket into the radiator support, (Fig. 14).

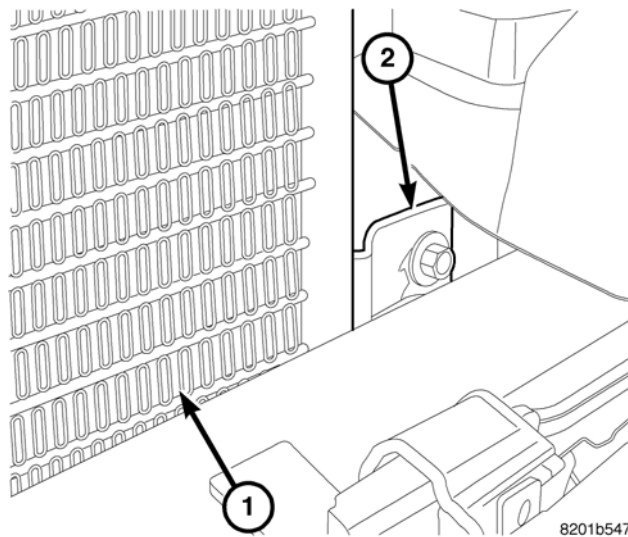


Fig. 14 TRANSMISSION COOLER INSTALLED - LEFT SIDE

- 1 - TRANSMISSION COOLER
- 2 - LEFT TRANSMISSION COOLER BRACKET

33. Tighten both right and left transmission cooler screw/bolt.
34. Raise the vehicle on a lift.

35. Locate the transmission cooler return line (bottom line), (Fig. 15).

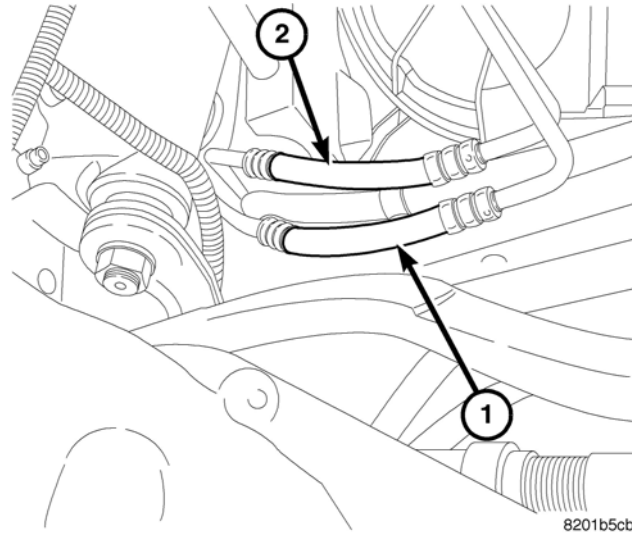


Fig. 15 TRANSMISSION COOLER LINES

- 1 - TRANSMISSION COOLER RETURN LINE
- 2 - TRANSMISSION COOLER FEED LINE

36. Using a high speed cut-off tool, carefully cut the crimp clamps from the transmission cooler return line, (Fig. 16). Both transmission cooler return line crimp clamps need to be cut off and removed.

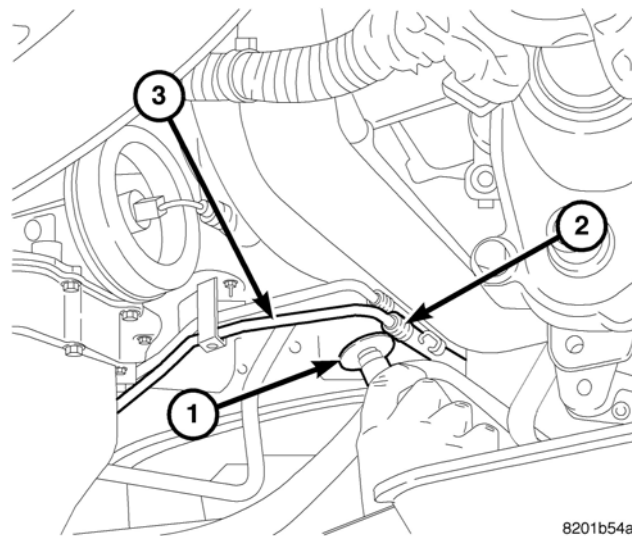


Fig. 16 CUTTING TRANSMISSION COOLER RETURN LINE CLAMP

- 1 - HIGH SPEED CUT OFF TOOL
- 2 - TRANSMISSION COOLER RETURN LINE CRIMP CLAMP
- 3 - TRANSMISSION COOLER RETURN LINE

CAUTION: Be careful to not damage the metal transmission cooler line when cutting the crimp clamp off. It may be necessary to use a suitable hand operated tool such as side cutters to perform a final cutting operation.

37. Fit one of the new transmission cooler hoses onto the transmission cooler return line coming from the radiator in-tank transmission cooler. Make sure that the hose does not interfere with any moving parts (E.G. steering gear pitman arm). Trim the hose as necessary to ensure the hose is routed properly. Secure the hose to the cooler line with a hose clamp (p/n 04596424AA).
38. Fit the other new transmission cooler hoses onto the transmission cooler return line going to the transmission. Make sure that the hose does not interfere with any moving parts (E.G. steering gear pitman arm). Trim the hose as necessary to ensure the hose is routed properly. Secure the hose to the cooler line with a hose clamp (p/n 04596424AA).
39. Secure the hose to the cross bar with the cable tie (p/n 04856503), (Fig. 17).

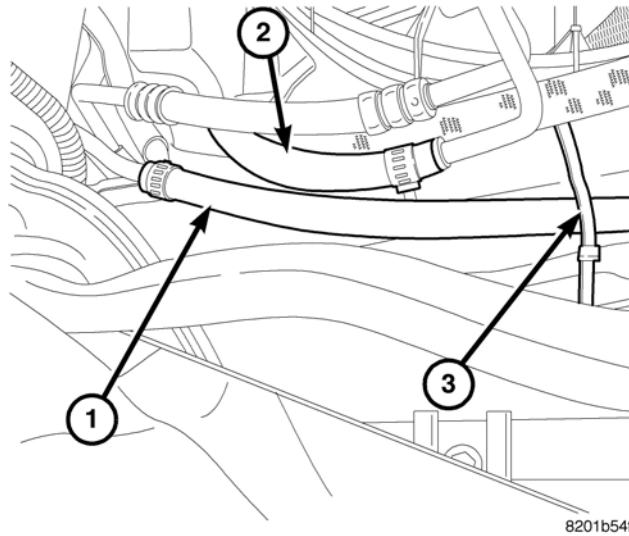


Fig. 17 NEW TRANSMISSION COOLER LINES INSTALLED

- 1 - HOSE FROM IN-TANK (RADIATOR) TRANSMISSION COOLER TO NEW AIR COOLED TRANSMISSION COOLER
- 2 - HOSE FROM NEW AIR COOLED TRANSMISSION COOLER RETURNING TO TRANSMISSION
- 3 - TIE STRAP

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40. Lower the vehicle. Start the engine and inspect the cooling lines for leaks. Repair any leaks as necessary.
 41. Check the transmission fluid and adjust the fluid as necessary.
 42. Install the front grille. Refer to DealerCONNECT>TechCONNECT>Exterior>Grille>Install for information regarding Front Grille Installation procedures.

NOTE: Installation of this kit will take approximately one hour to install.

POLICY:
Information only.