

Z1 D40/N50 TRANSMISSION COOLER INSTALLATION MANUAL



This Installation Manual is intended for the following models:	
2005-2020	Nissan Frontier (D40)
2005-2015	Nissan Xterra (N50)

PROLOGUE:

Study these instructions completely before proceeding to assembly. The installer must have a thorough knowledge of automotive systems operation. If unfamiliar with any of the concepts outlined in this instruction, we recommend the installation be completed by a qualified professional.

WARNING!

Extreme caution should be taken when performing maintenance or performance upgrades to your vehicle. Please observe and abide by any Warning or Caution labels placed on the various components and tools used when servicing your vehicle. If you have any questions regarding installation or the various components included with the Z1 Off-Road D40/N50 Transmission Cooler, consult with a Professional Mechanic, or contact Z1 Off-Road for more information.

PARTS INCLUDED:

Item	Quantity	Description
1	1	Lower Cooler Bracket
2	2	M22 to 8mm Hose Banjo Fitting
3	2	M22 x 1.5 Banjo Bolt
4	4	M22 Copper Crush Washer
5	1	Transmission Cooler Hose
19 Row Pro-Cooler		
6	1	19 Row Pro-Cooler
7	8	M6 x 1.0 Socket Head Screws, 10mm
8	1	Upper Bracket
34 Row Pro-Cooler		
9	1	34 Row Pro-Cooler
10	6	M6 x 1.0 Socket Head Screws, 10mm
11	1	Upper Bracket

TOOLS REQUIRED:

- Ratchet
- Ratchet Extension(s)
- Assorted Metric Sockets
- Assorted Metric Wrenches
- 12mm Hex Bit
- 4mm Hex/Allen Key
- Pliers

SAFETY REQUIREMENTS:

- Always wear safety glasses and any necessary protective garments. If using any fluids, chemicals, or solvents, a respirator is recommended.
- Always use properly rated jack stands when working under your vehicle.
- Always keep limbs and parts away from moving drivetrain parts.
- Always turn the ignition to the OFF position and disconnect the NEGATIVE battery terminal.
- Only operate drivetrain in safe space and well-ventilated areas.

BEFORE YOU BEGIN:

Remove contents from the Z1 Off-Road D40/N50 Transmission Cooler and verify that ALL necessary hardware is present.

PROCEDURE:

1. Place the transmission in Park position (or in Reverse gear if equipped with a manual transmission). Apply the parking brake.
2. Open and support the hood of the vehicle.
3. Remove the front Grille of the vehicle:
 - a. Remove the (4) four Plastic Clips on the top of the Grille for Frontiers, Xterra's have (6) six Plastic Clips. *Figure 1.*



Figure 1

- b. Release the (4) four clips on the bottom of the Grille and remove the Grille from the vehicle. *Figure 2.*



Figure 2

4. Disconnect the (2) two bolts and (2) two nuts securing the OE Transmission Cooler to the Core Support. Retain this hardware as it will be reused. *Figure 3.*

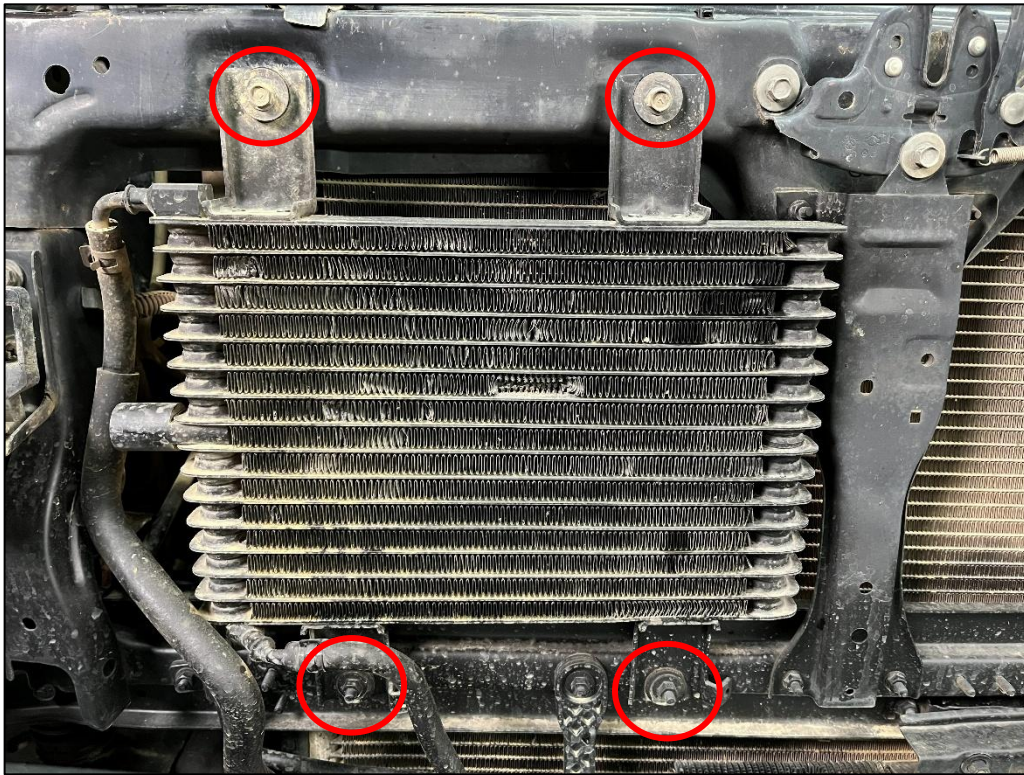


Figure 3

5. Reposition the Transmission Cooler down and out of the way for the time being.

6. Locate the Z1 Pro-Cooler, Lower Mounting Bracket and (4) four M6 x 1.0 Socket Head Screws, 10mm. Attach the Bracket to the bottom of the Pro-Cooler and secure with (2) two Socket Head Screws per side. *Figure 4.*

NOTE: The process is the same for both the 19 Row and 34 Row Pro-Coolers. There is also not a *Front* or a *Back* of the Pro-Cooler so the Bracket can be oriented any way.

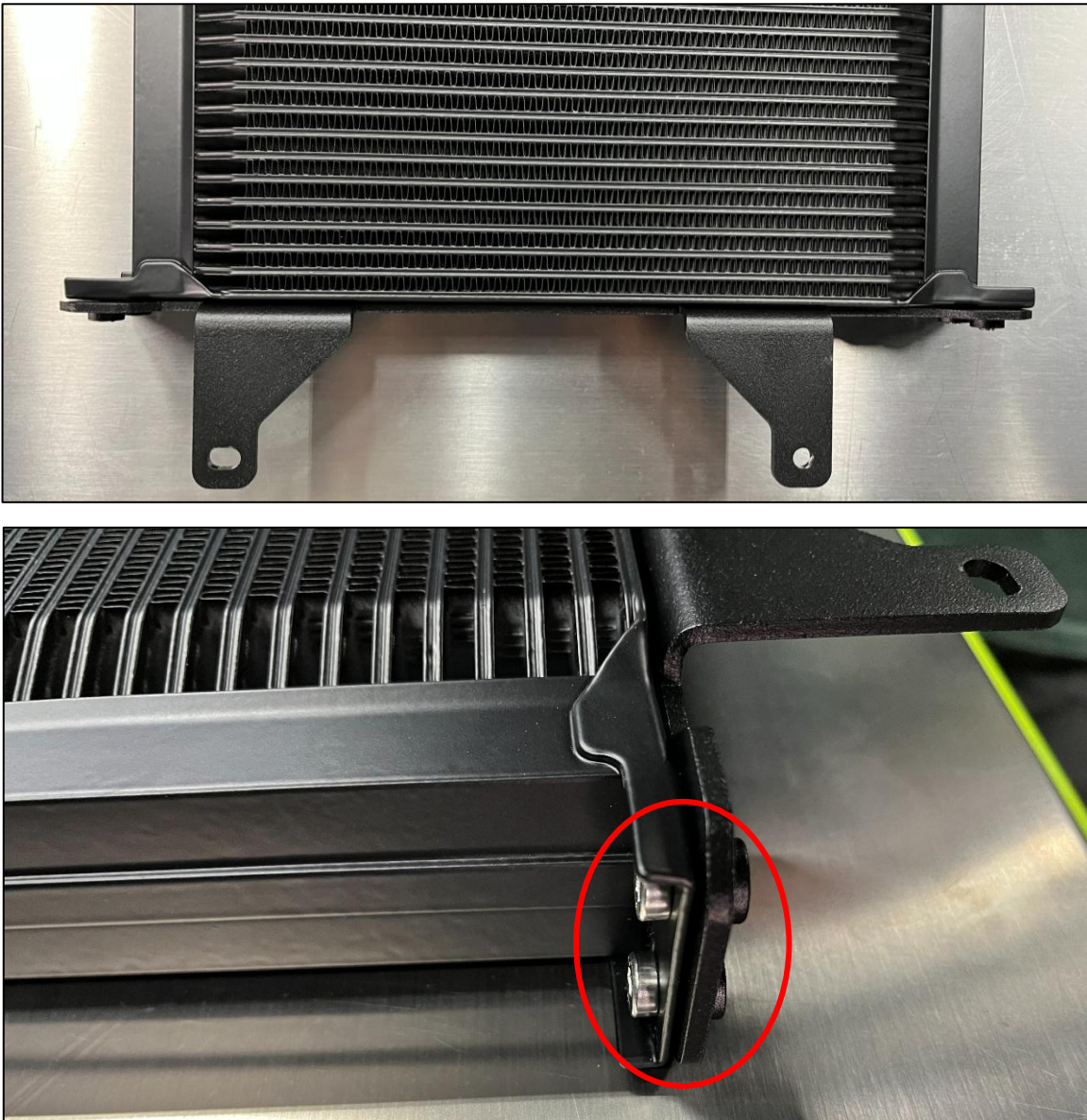


Figure 4

7. Locate the Upper Bracket. If you have the 19 Row Pro-Cooler, you will need (2) two M6 x 1.0 Socket Head Screws. 34 Row Pro-Coolers will need (4) four Socket Head Screws. Attach the Bracket in the same orientation as the Lower Bracket and secure with the M6 Socket Head Screws. The 19 Row Upper Bracket will need to be mounted on the LEFT side of the Pro-Cooler. *Figure 5.*

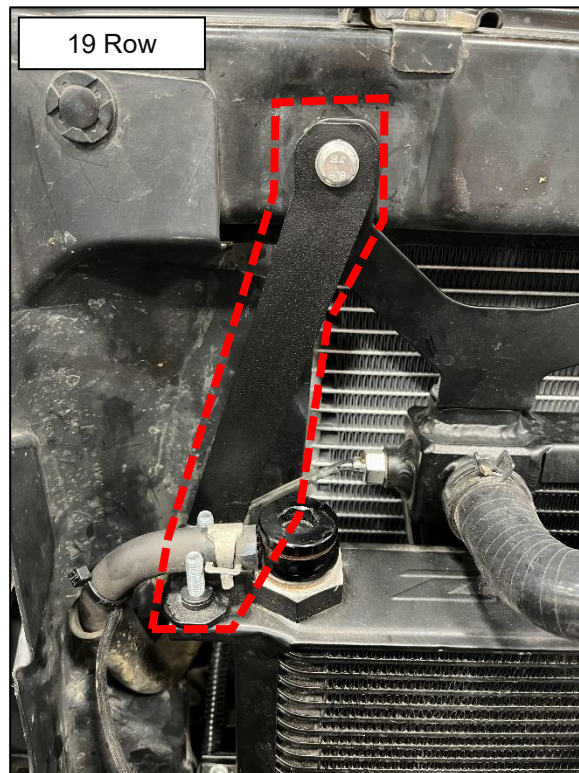
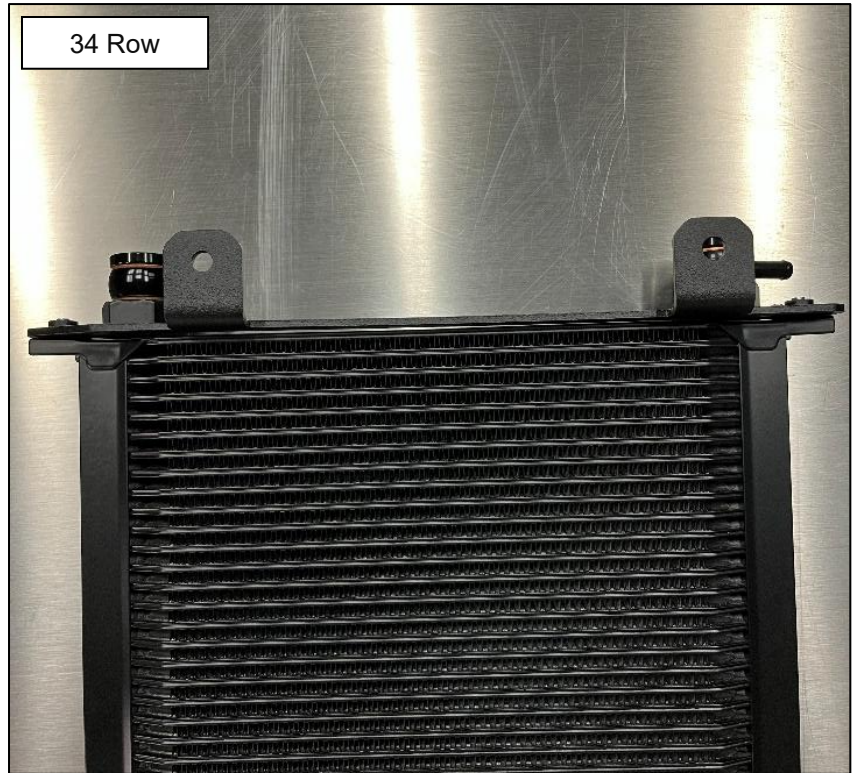


Figure 5

8. Locate the (2) two M22 to 8mm Barb Banjo Fittings, (2) two M22 Banjo Bolts and (4) four Copper Crush Washers. Install (1) one Copper Crush Washer onto each Banjo Bolt. After, insert a Banjo Bolt into each Banjo Fitting. Place another Copper Crush Washer onto the Banjo Bolt and loosely install them into the top of the Pro-Cooler. Don't fully tighten these yet as they will need to be adjusted. *Figure 6.*



Figure 6

9. Position the Z1 Pro-Cooler onto the Core Support of the vehicle. Secure with the OE Hardware removed in *Step 4. Figure 7.*

NOTE: 19 Row Pro-Coolers will only reuse (1) one of the top OE Bolts.



Figure 7

10. Orient the Banjo Fittings towards the Passenger side of the vehicle.

11. Disconnect the Upper Fluid Hose from the OE Transmission Cooler. Retain the OE Hose Clamp as it will be reused. *Figure 8.*

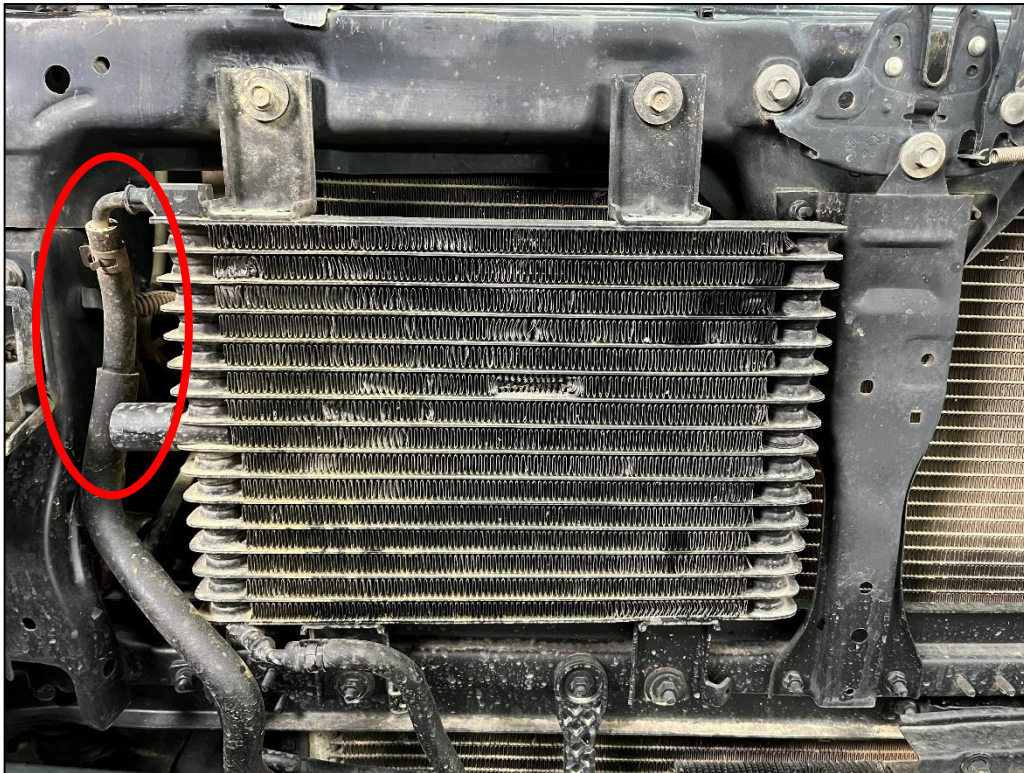


Figure 8

12. Transfer the OE Fluid Hose to the Left Side Banjo Fitting and secure with the OE Hose Clamp. *Figure 9i.*

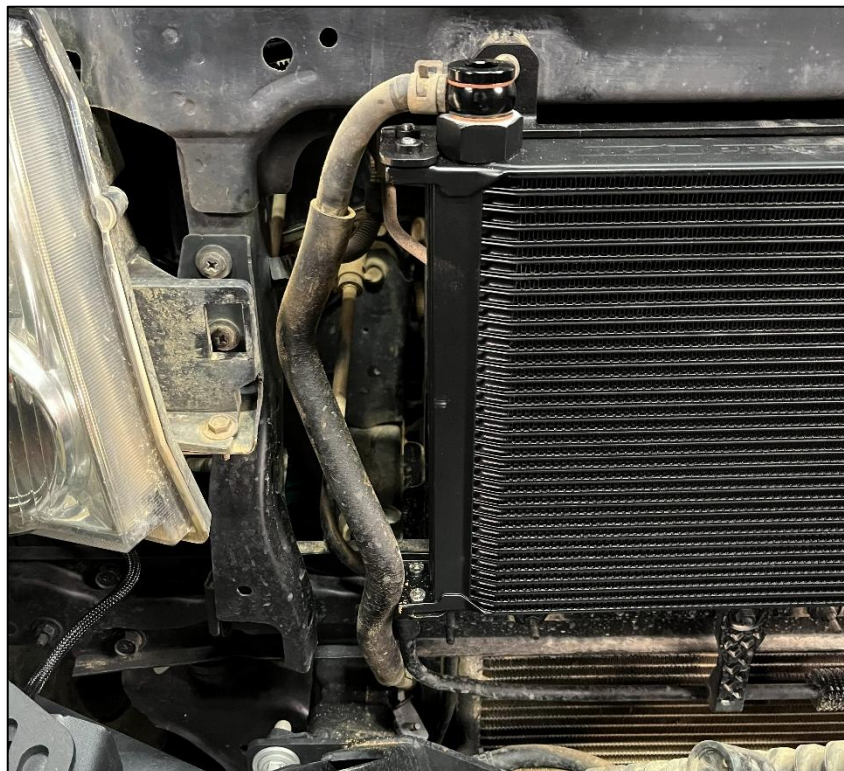


Figure 9

13. Disconnect the Lower Fluid Hose on the OE Transmission Cooler from the Cooler and the Barb on the Bottom of the Core Support. Retain the (2) two OE Hose Clamps as they will be reused. *Figure 10.*

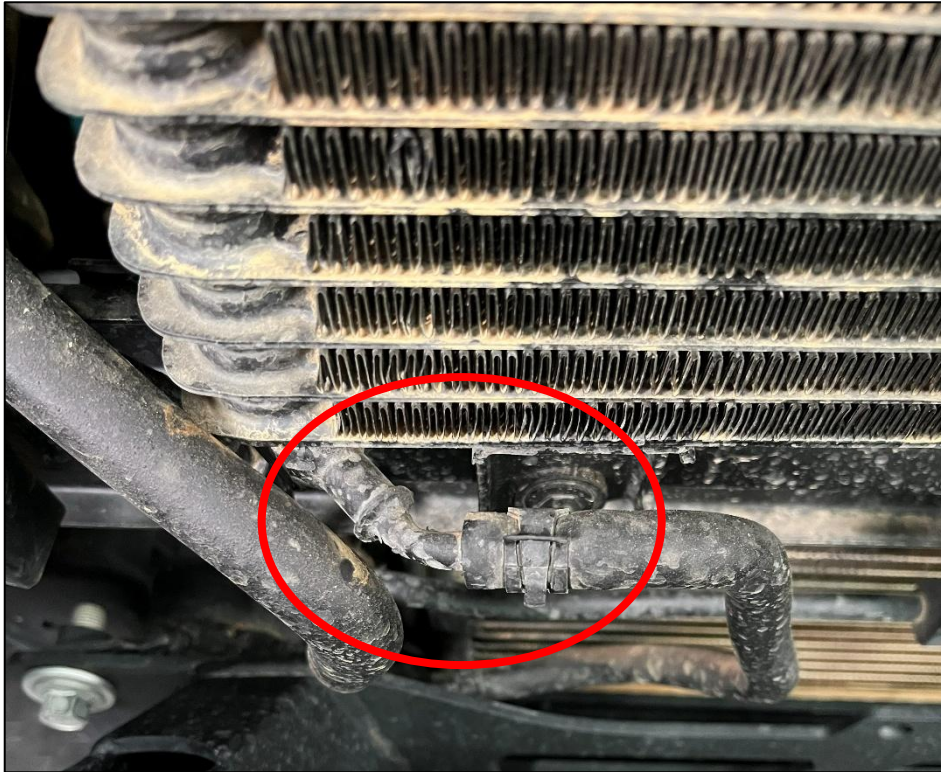


Figure 10

14. Locate the Transmission Cooler Hose. Attach one end to the barb at the bottom of the Core Support and secure with (1) one OE Hose Clamp. *Figure 11.*
15. Route the remainder of the line to the top right Banjo Fitting of the Cooler. There are multiple ways to route this line. *Figure 11.*
16. Trim the Cooler Hose as necessary and secure it to the Banjo Fitting with (1) one OE Hose Clamp. *Figure 11.*

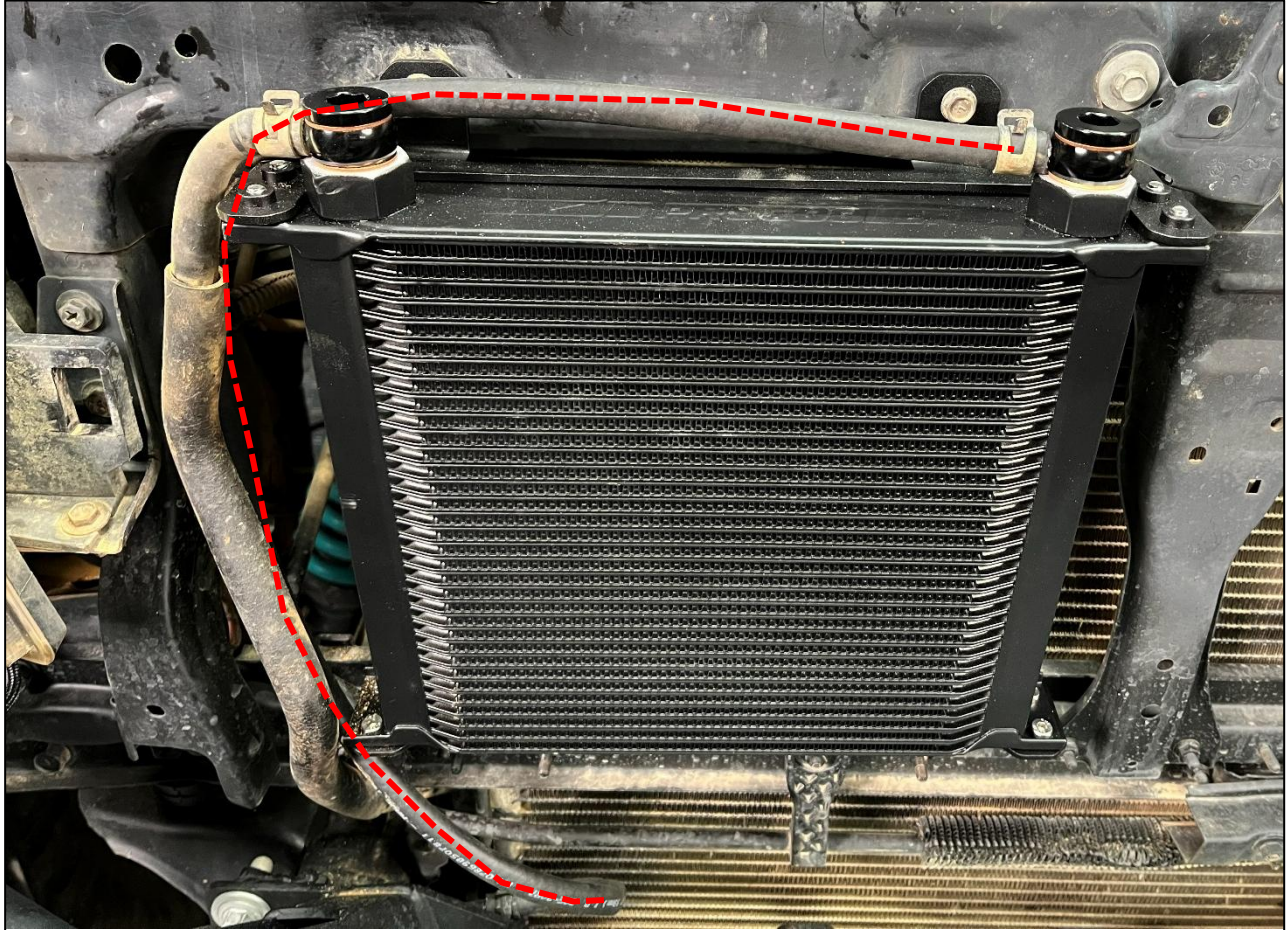


Figure 11

17. Using a 12mm Hex Bit, tighten the (2) two M22 Banjo Bolts to the Pro-Cooler to secure them. These Bolts need to be tight enough to crush the Copper Washers, but not too tight to damage the Bolt/Cooler.
18. Start the vehicle to check for any leaks. After running and ensuring there are no leaks, it is a good idea to check the Transmission Fluid Level. Add more to the Transmission as necessary. Refer to the Factory Service Manual for proper filling, fluid type and fluid capacity.
19. Reinstall the Front Grille to the vehicle.

END

Additional Technical Support:
Contact Z1 Off-Road at info@z1offroad.com
Or call 678-839-8019 between 9am and 6pm ET