



# External Transmission Oil Cooler Kit

## Suitable for:

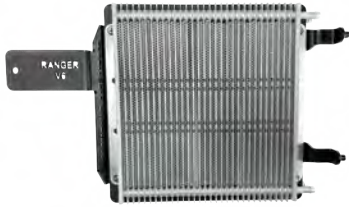


**Ford NextGEN Ranger  
Diesel**

**WITH THE FOLLOWING ENGINES:  
3.0L V6 Turbo Diesel with 10 Speed Auto  
2.0L Bi-Turbo Diesel with 10 Speed Auto  
2.0L Single Turbo Diesel with 6 Speed Auto**

Please read through all of the instructions carefully before proceeding. If any of the information does not appear correct or the diagrams don't match your vehicle, please contact Driveline on +61 08 9443 2211.

# Parts List



1 x Dual Cross Flow Oil Coolers Pre-Mounted



4.5m x High Temp Cooler Line Hose



500mm of Cooler Joining Hose Conduit



1 x 'L Pipe'

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2 x Cooler Unions with O-rings



1 x Union Clamping Bracket



1 x Plate with Nutsert



6 x 14-16mm Hose Clamps

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3 x M6 x 20 SEMS Bolts



6 x 300mm Cable Ties



2 x M10 Washer for spacer



1 x 14-27mm Hose Clamp

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Expected Installation Time: 3 Hours

## Summary of Installation - For Experienced Fitters

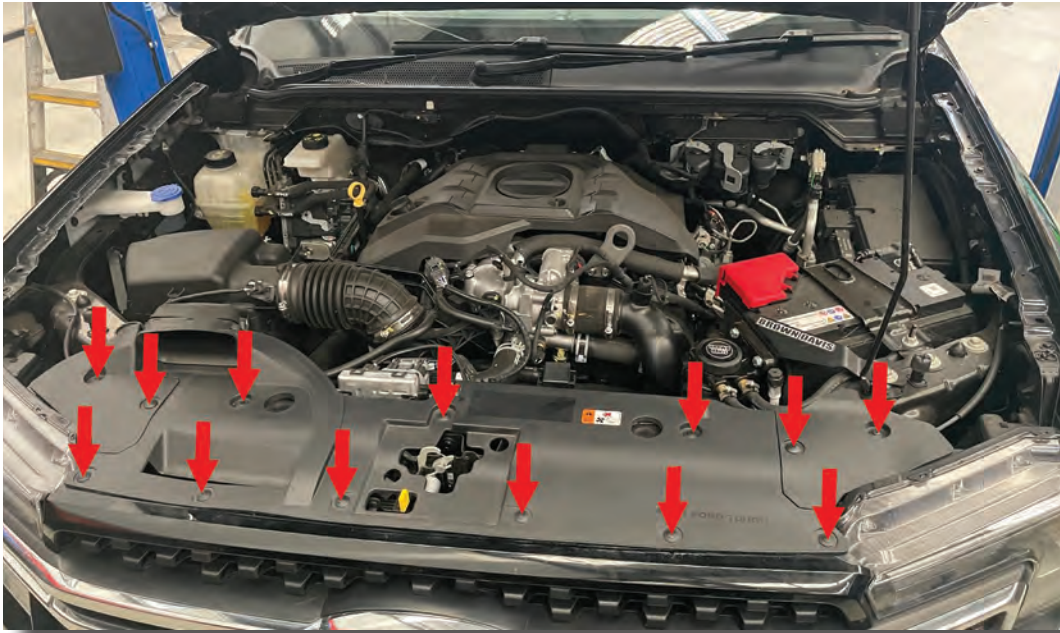
- SAFETY FIRST: Allow engine, auto and fluid to cool prior to starting work to prevent serious injury.
- Remove the top cover from over the radiator.
- Using a T30 Torx bit, remove the screw holding the inlet manifold to allow you to easily remove and reinstall the cover.
- Remove the two bolts that secure the top of the grill
- Disconnect Water feed and camera plug before removing the grill
- Remove Number Plate and Holder to allow access to the front grill
- Remove grill by pulling forward to release clips along the bottom
- Remove the clips holding the small panel on the drivers side
- Position Cooler in the vehicle with hoses pointing towards the passenger side. Secure passenger side of bracket to the center support using bolts provided
- Use Nutsert and bolt provided to secure drivers side of bracket
- Route hoses under condenser and along to transmission
- Remove Heat Exchanger from side of transmission
- Use 'L Pipe' to by-pass Heat Exchanger
- Remove heat exchanger bracket and use 2 x M10 washers for spacer under Gear Shift cable bracket
- Insert unions and secure with clamping bracket provided
- Cut hoses to length and secure with hose clamps provided. Rear union is the hotline and we recommend running through the rear cooler first.
- Check clearance of hoses and fittings to any other moving/hot part. If needed, top up engine coolant and/or transmission fluid with the recommended fluid
- Test drive vehicle for 15mins and then check all hoses and fittings for leaks and also check mounts and bolts are tight. Clean any oil or coolant residue off vehicle. Road test. Check for leaks. Re-tighten if necessary. Re-check fluid levels.
- Refit any bash plates, grills, aftermarket accessories removed.



## Detailed Installation Instructions

Before Commencing work, please ensure that you have sufficient transmission fluid to top up at the end of the job. Please read through all of the instructions to familiarize yourself with the process first.

1. Open Bonnet.
2. Remove the top cover above the radiator. There are 13 plugs that need to be removed as shown below. Unscrew the center from the plug body.



3. Using a T30 Torx bit, remove the screw holding the air inlet manifold to allow you to easily remove and reinstall the radiator cover.

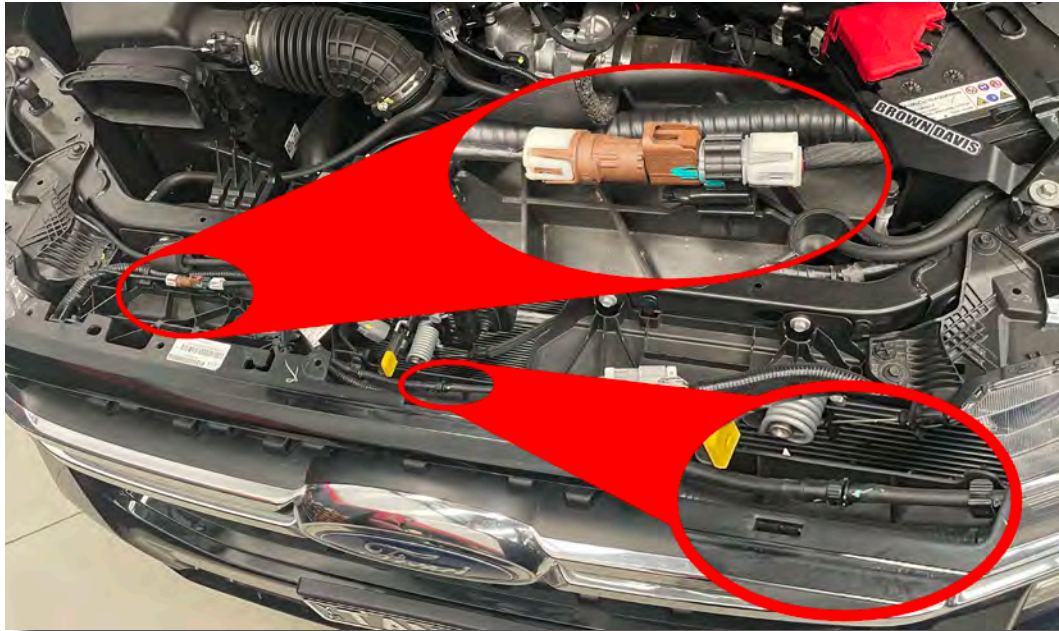


4. Remove the two 10mm bolts holding the top of the grill in place as shown.

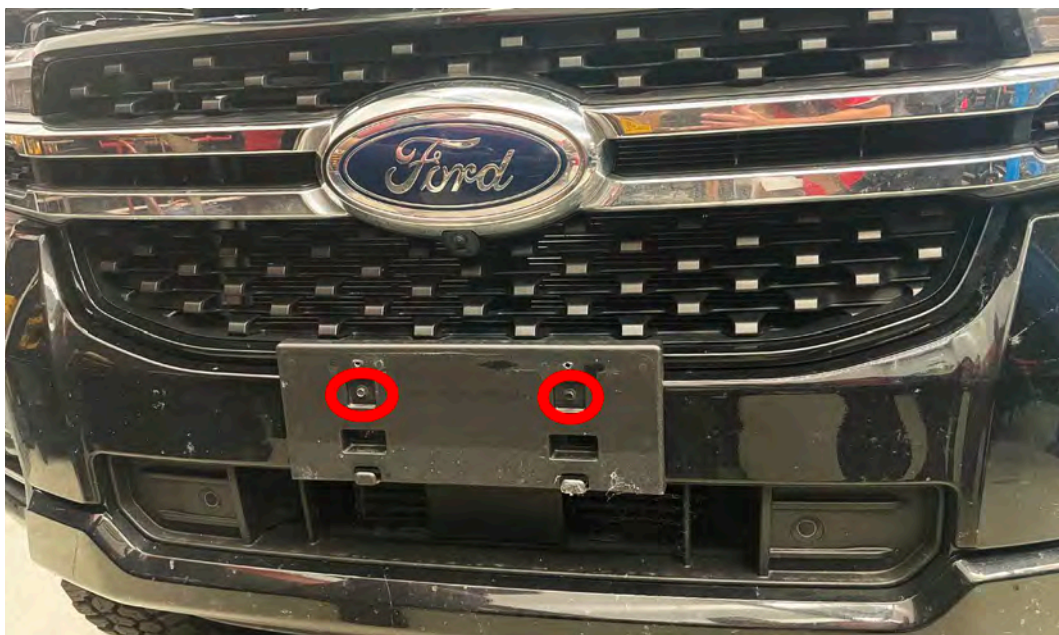




5. Disconnect the brown plug on the drivers side of the vehicle, and the water pipe in the center. Be sure to position the pipes so as to minimise loss of water.



6. Remove the number plate and the 2 x 10mm bolts retaining the number plate holder to gain access to the front grill.



7. Working along the base of the grill, pull forward to dislodge the clips holding it in place. Clips can be difficult to dis-lodge and may need to be released from behind the grill



8. Remove the 3 clips holding the plastic cover on the drivers side of the vehicle. Remove the cover and place out of the way for now.

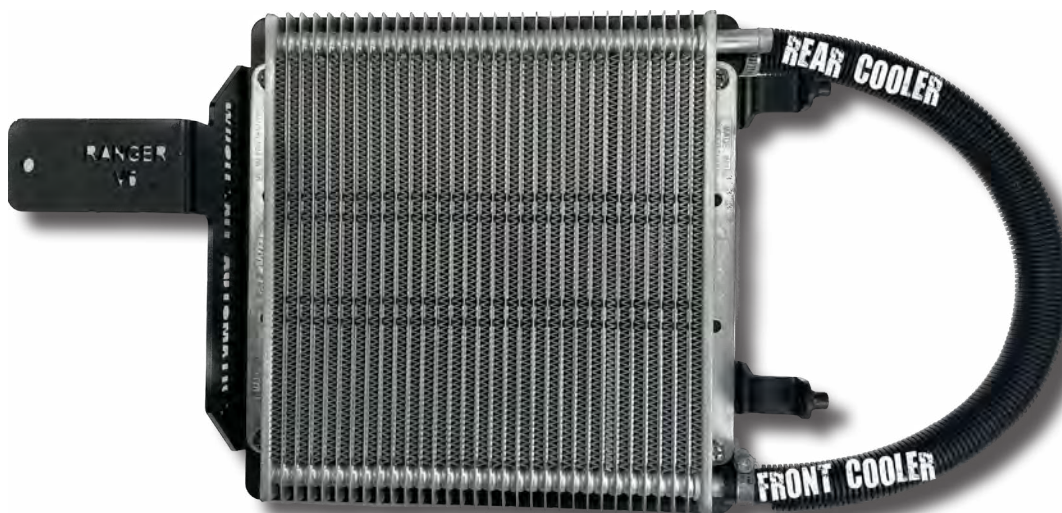




9. Remove the 4 bolts holding the bash plate under the front of the vehicle and place safely out of the way.



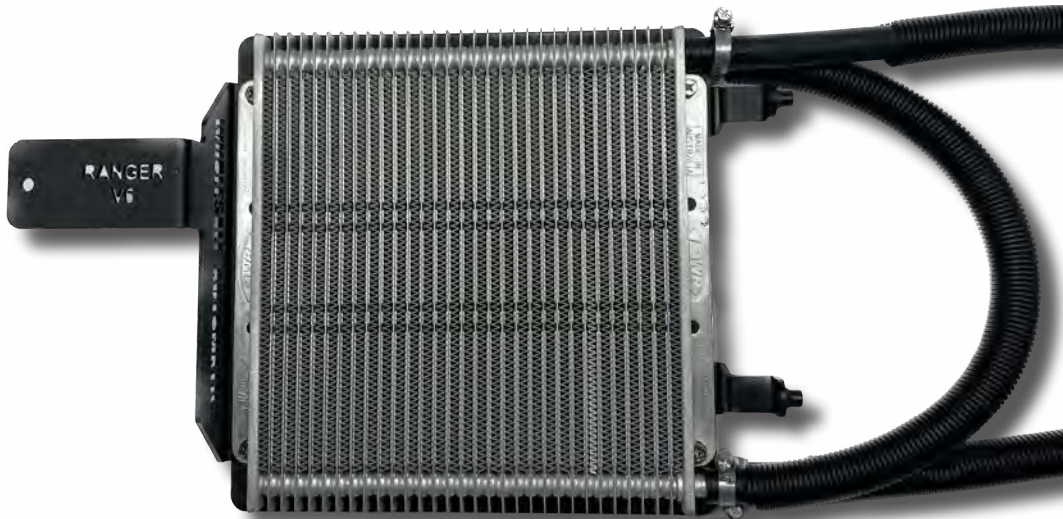
10. Remove the Cooler from the packaging and place on a flat bench. Connect the 500mm joining hose to the bottom barb of the front cooler and the other to the top barb of the rear cooler. Secure with hose clamps supplied.



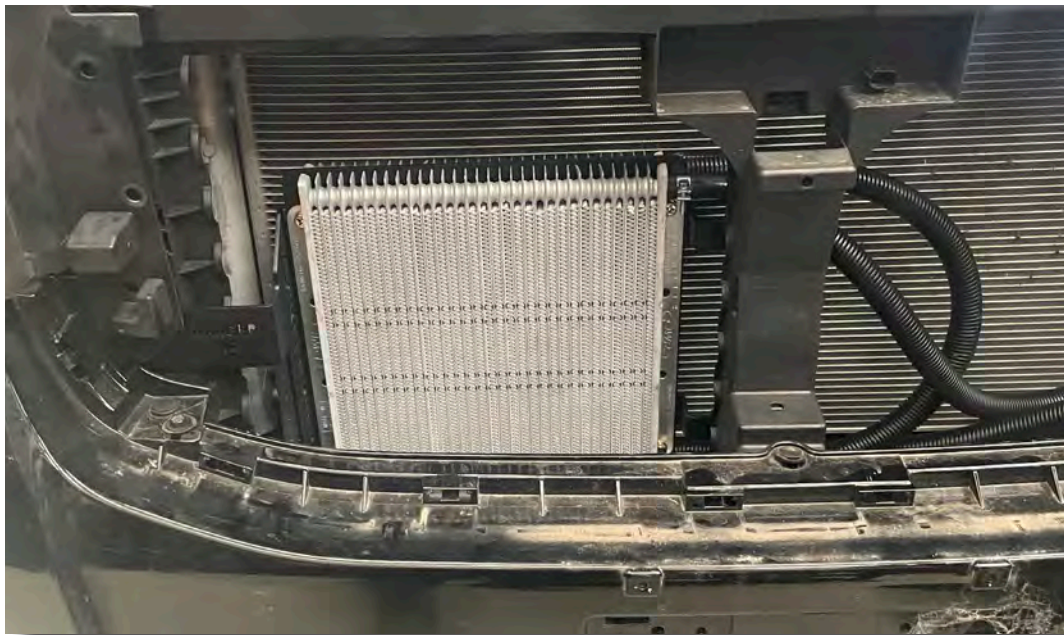
Coolers are omni-directional, so the direction of flow is not important, however we recommend for maximum efficiency that oil traverses the rear cooler before the front cooler.



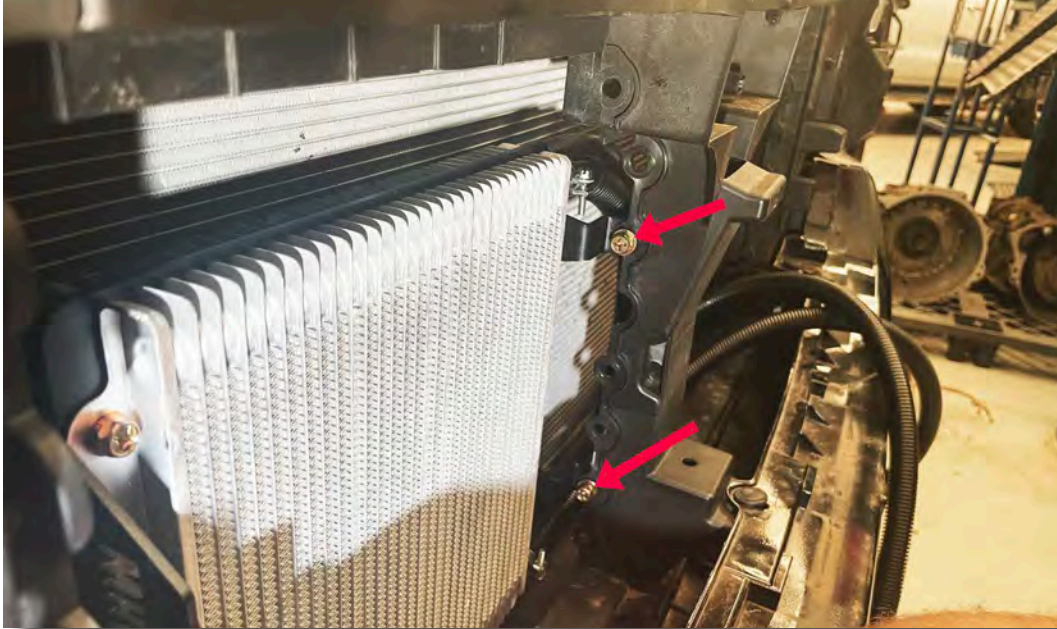
11. Connect the 4M hose to the remaining barbs and secure with the hose clamps provided. Cut the 4M length of hose in half.



12. Position the cooler in the vehicle with the hoses running behind the center support towards the passenger side.



13. Using the M6 bolts supplied, mount the passenger side cooler bracket as shown below:

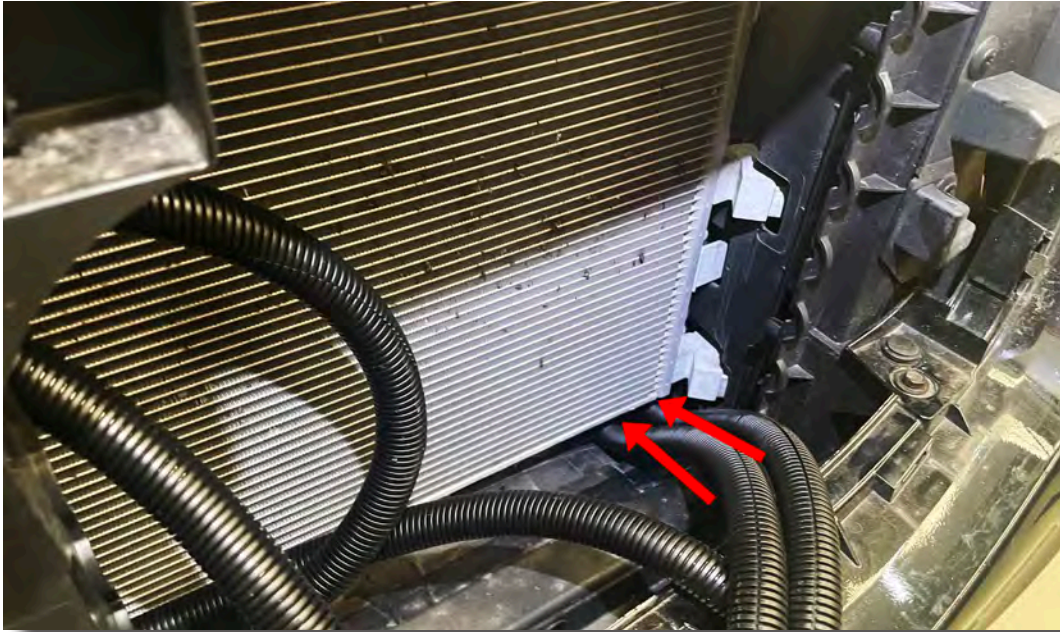


14. Use remaining M6 bolt and the tab with the Nutsert to secure the drivers side mount to the vehicle. Bracket should sit between the plastic guard and the support beam.

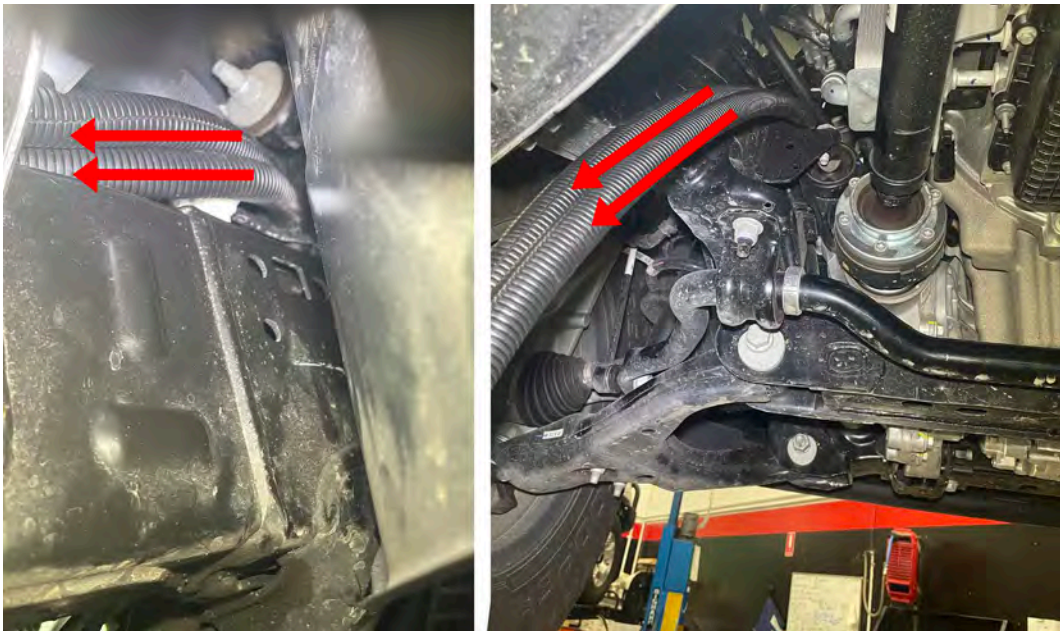




15. Feed the two cooler hoses under the air conditioning condenser.



16. From under the car, run the hoses along the chassis rail and through to the transmission.

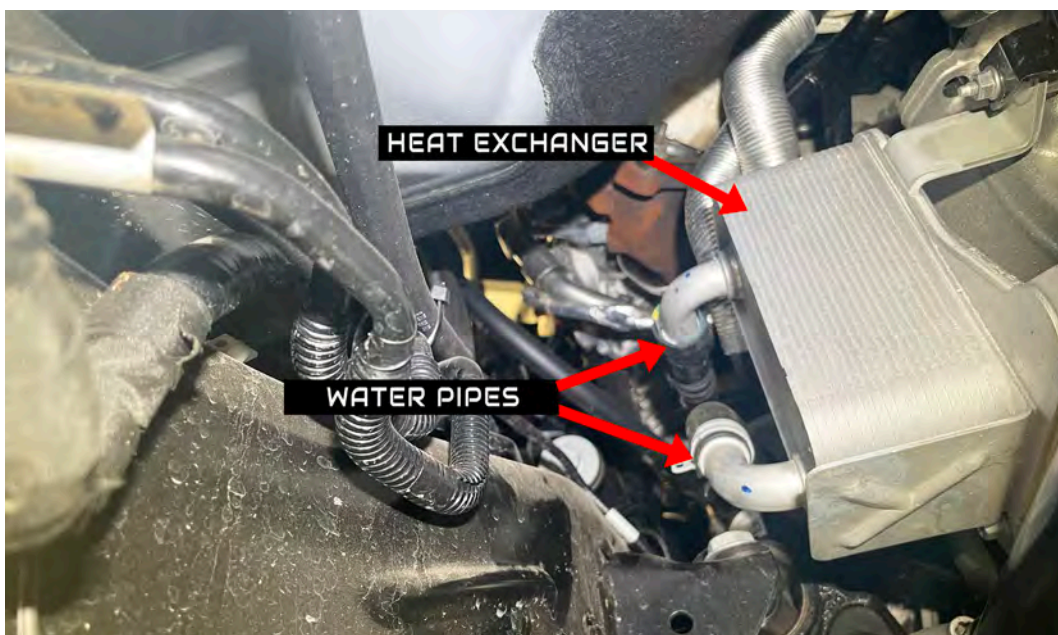




17. Check to ensure you have not put excess strain on the cooler and the hoses are free of kinks that may restrict flow. Hoses can be cable tied to each other to prevent movement.

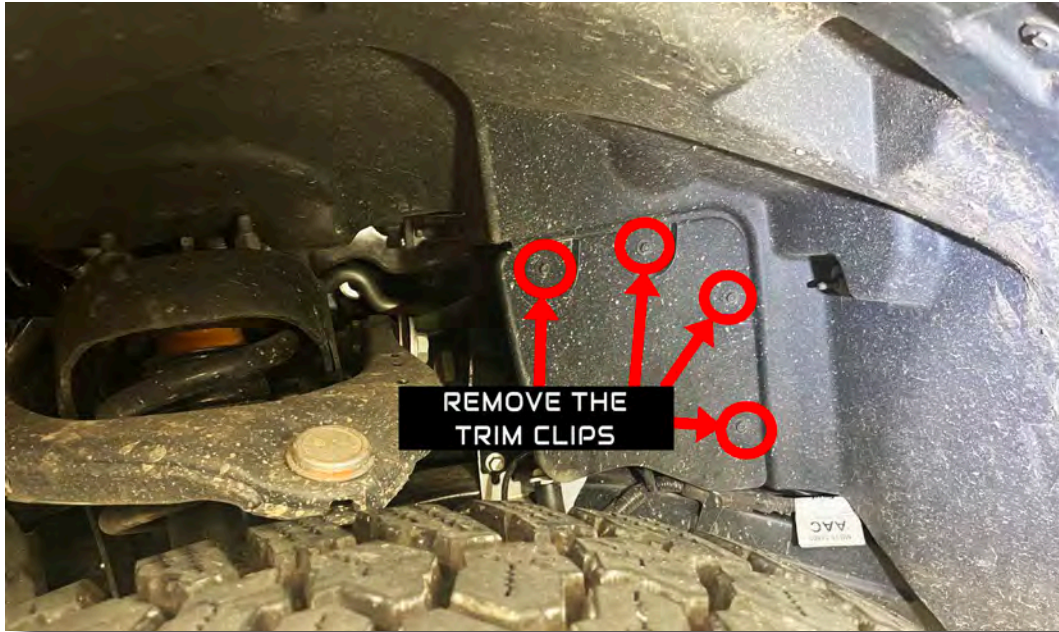


18. Locate the Heat Exchanger on the side of the transmission. The Heat Exchanger is redundant and will be removed, however you must first clamp the hoses to reduce fluid loss.

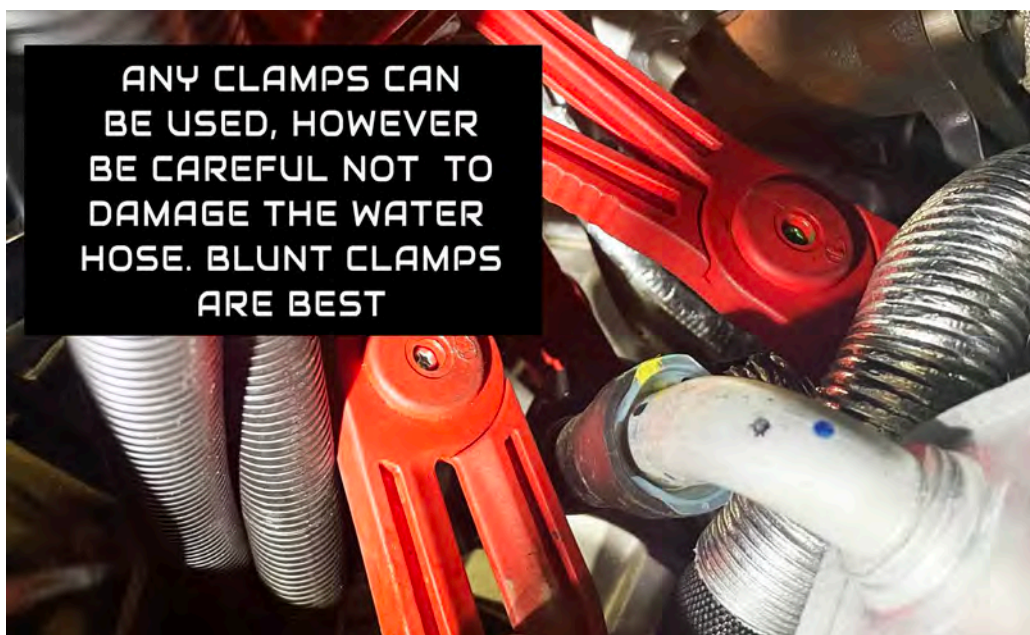




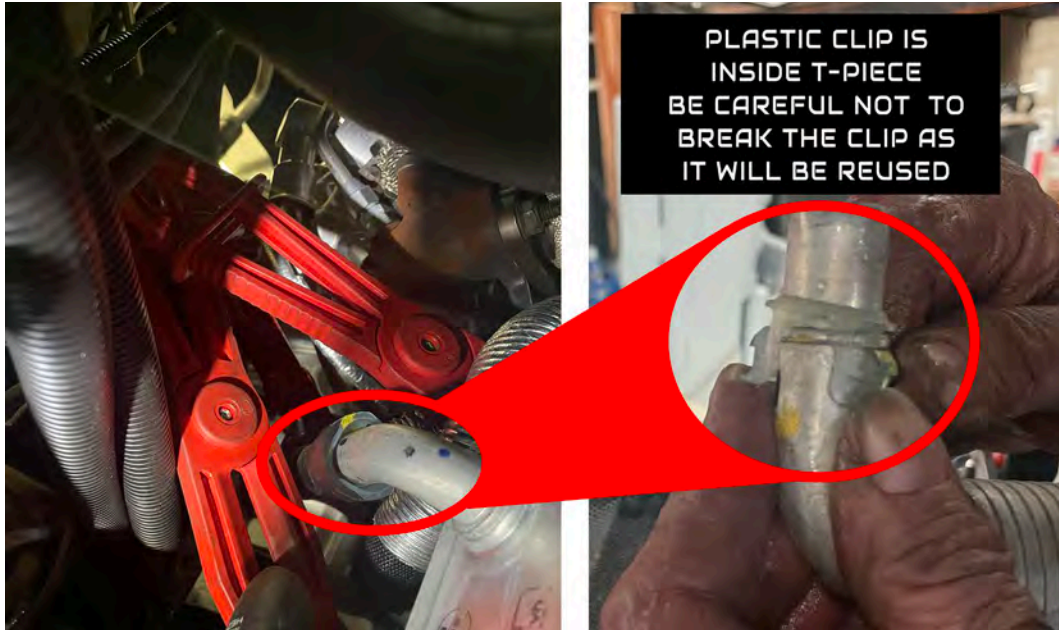
19. For easy access to clamp the hoses, remove the small plastic panel inside the passenger side wheel arch. There are four trim clips to be removed.



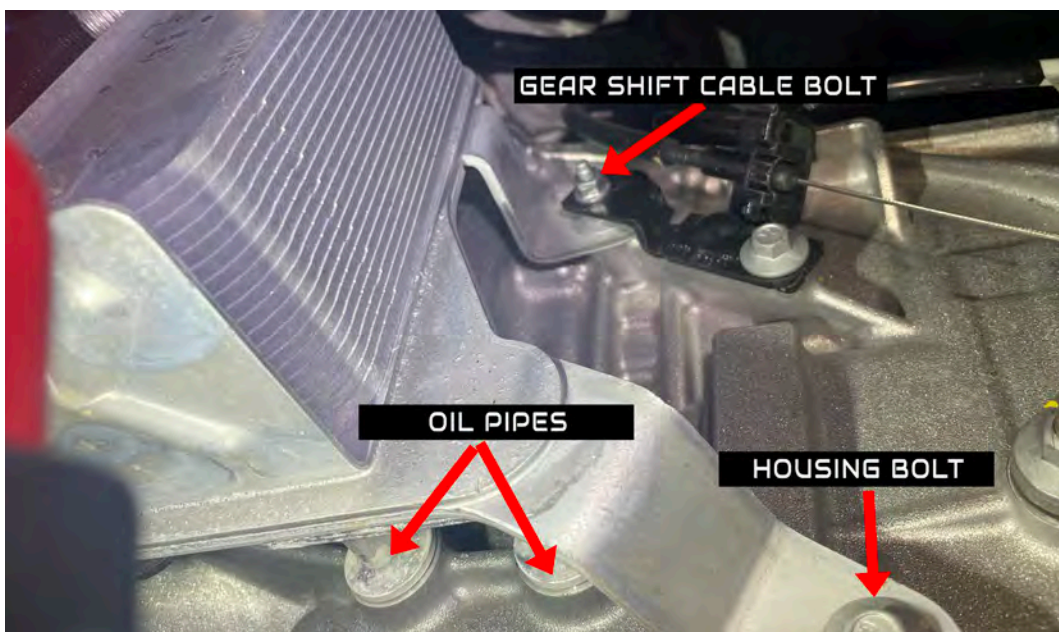
20. Use a clamp to restrict the flow of water through the 2 hoses to be disconnected. Note: you may need to clamp the hoses in multiple places beyond the 'T Piece'. We had 3 clamps in place past the T junction before disconnecting the water pipes. \*Note\* If you do not have clamps, the cooling system may be drained and refilled after install.



21. Carefully remove the water pipes. Be careful to not damage the plastic clip in the 'T-piece' which will be reused to connect this hose to the 'L Pipe' supplied. You may need to unbolt the heat exchanger to disconnect the T-piece.

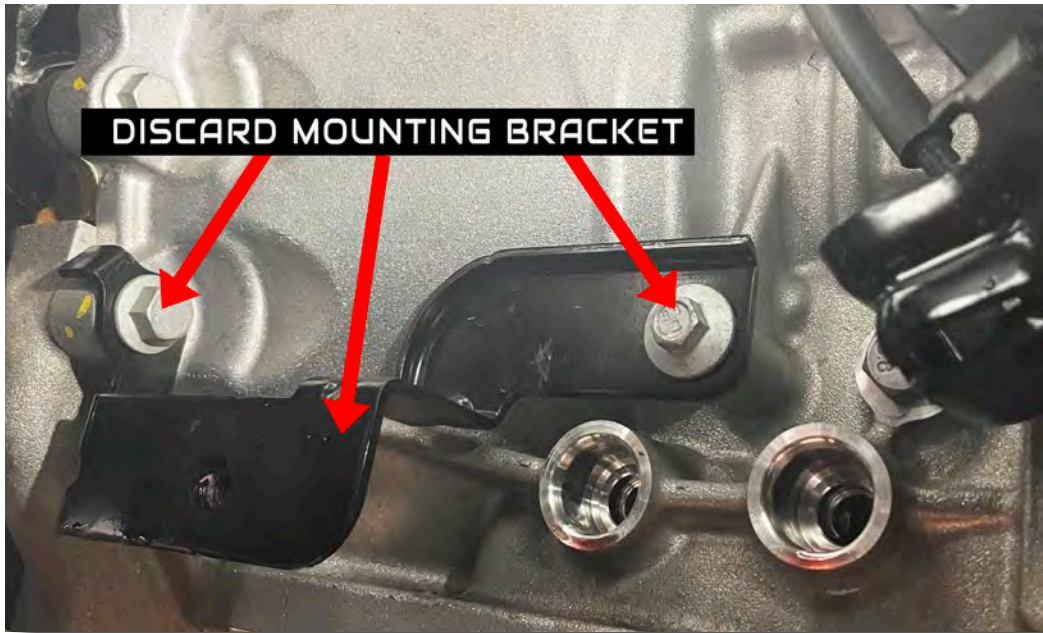


22. Unbolt the Heat Exchanger and remove from the transmission by pulling the oil pipes out of the transmission housing. Note there will be some Transmission fluid loss. There are 3 bolts holding it in place, including beneath the gear shift cable bracket.

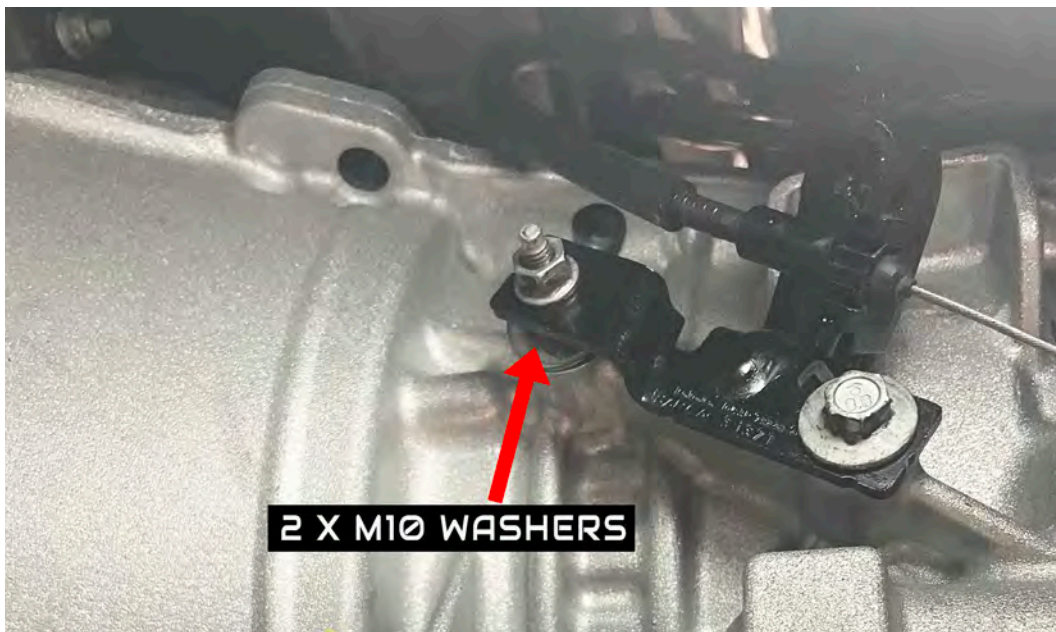




23. The Heat Exchange Bracket can also be removed and discarded however retain and replace the bolts.



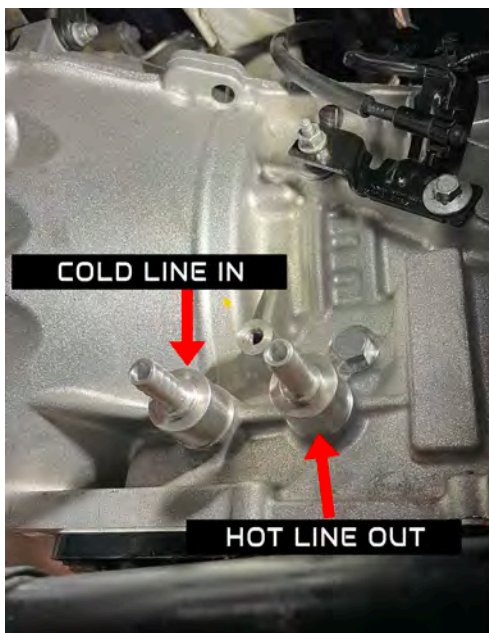
24. Reconnect the Gear Shift cable using the 2 x M10 washers as spacers where the heat exchange bracket was removed.



25. Connect the 'L Pipe' longer end to the 'T-Piece' with the plastic clip and the short end to the other hose to create a heat exchange by-pass. Secure using one 14-27mm hose clamps supplied. Ensure the twisted hose does not restrict flow.

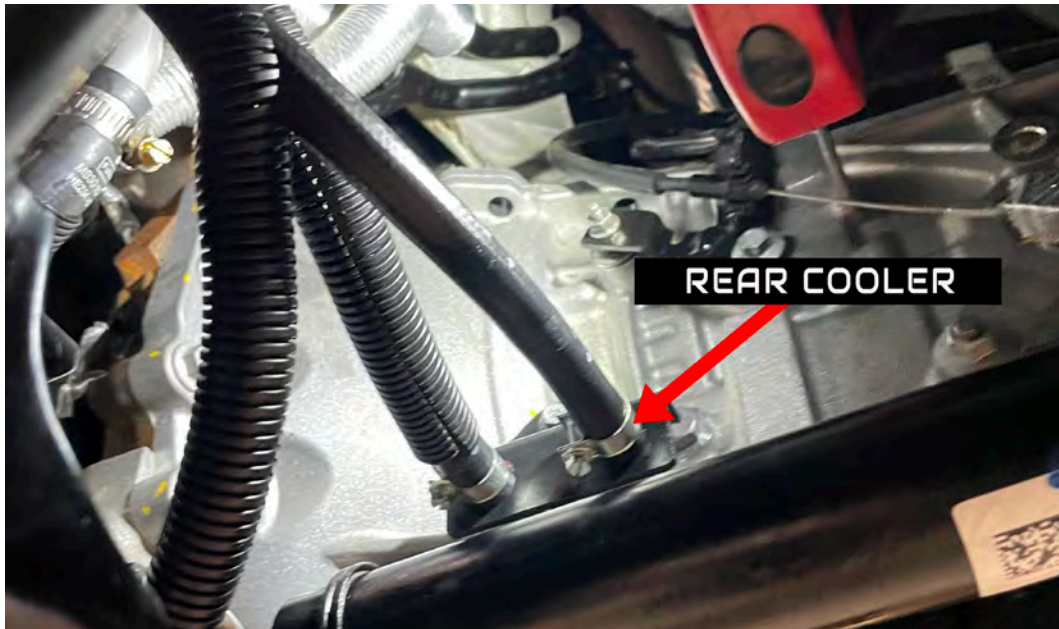


26. Push the 2 x Cooler Unions into the side of the transmission and secure using the bracket supplied and the original bolt.

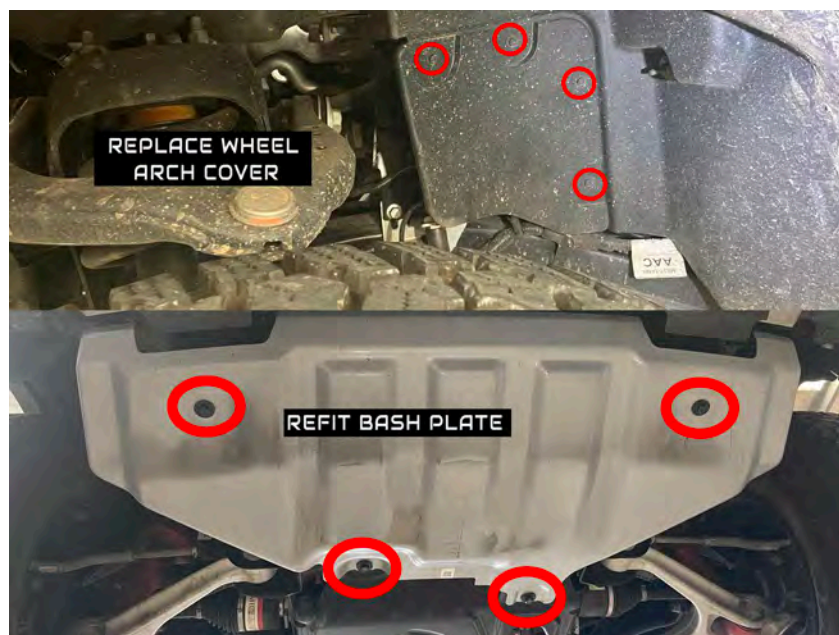




27. Route cooler lines to the unions and trim to the correct length. Secure using the hose clamps provided. For maximum efficiency, oil must traverse the rear cooler before the front cooler. Ensure that hoses are secure away from moving parts with no kinks that may impede flow.



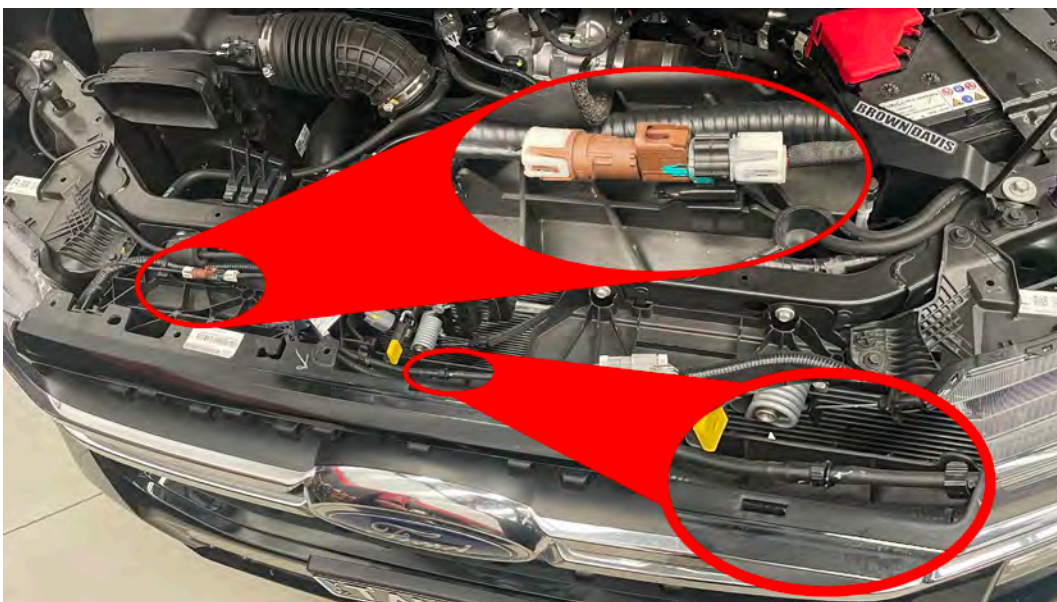
28. Secure using cable ties provided. Remove all clamps and replace the plastic panel that was removed from the wheel arch and refit bash plate.



29. Replace the front grill and bolt in place

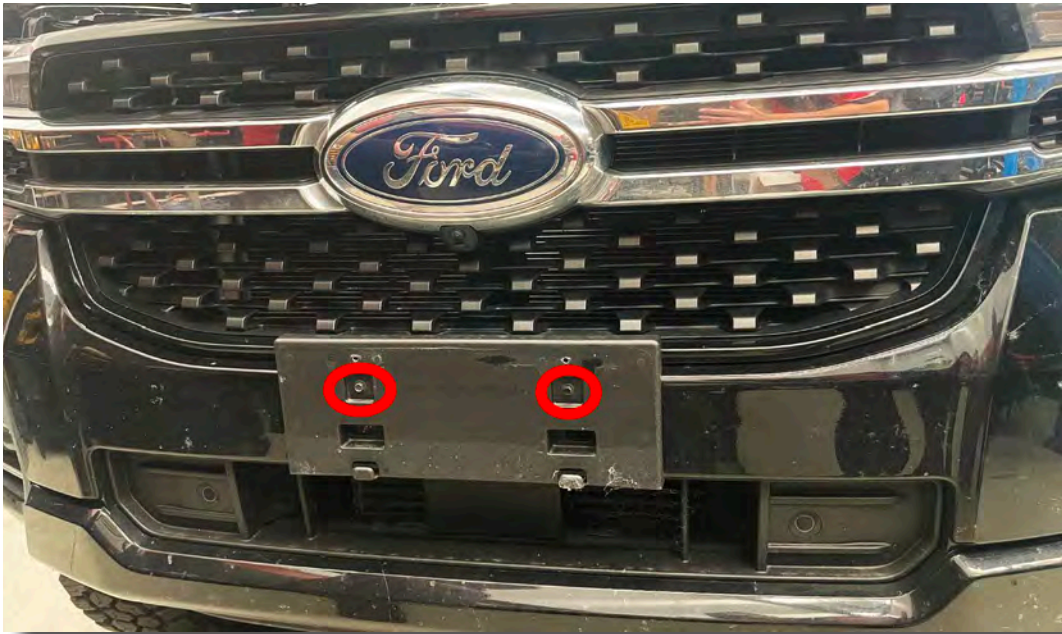


30. Reconnect the 2 plugs above the grill for the front facing camera and washer. Don't forget to top up the washer bottle!!

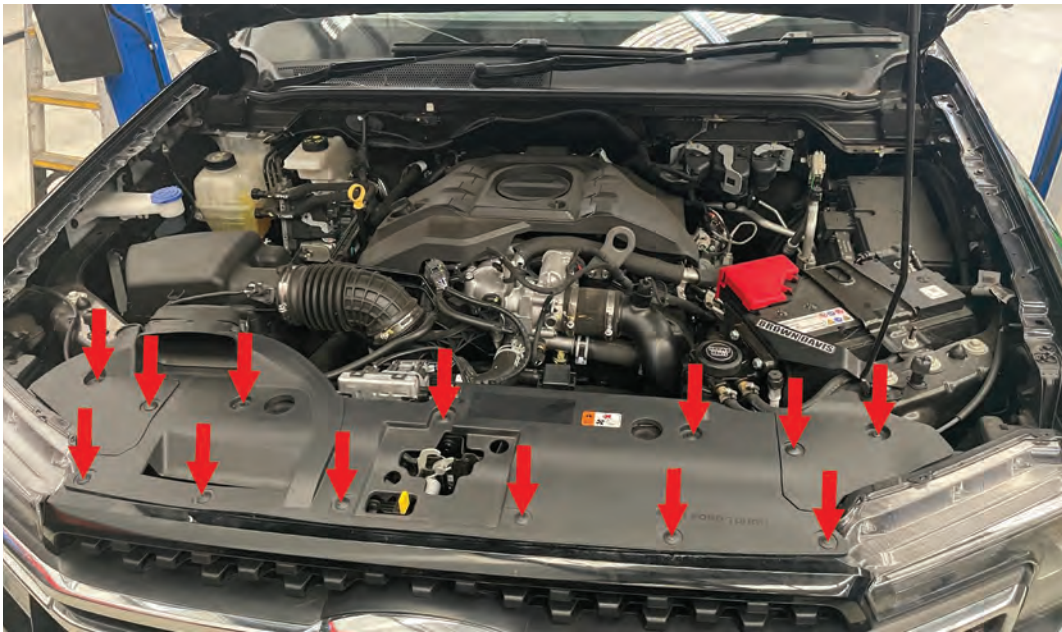




31. Number Plate holder and Number Plate



32. Reinstall the top cover using the 13 clips previously removed and secure the air inlet using the T30 Torx bit.

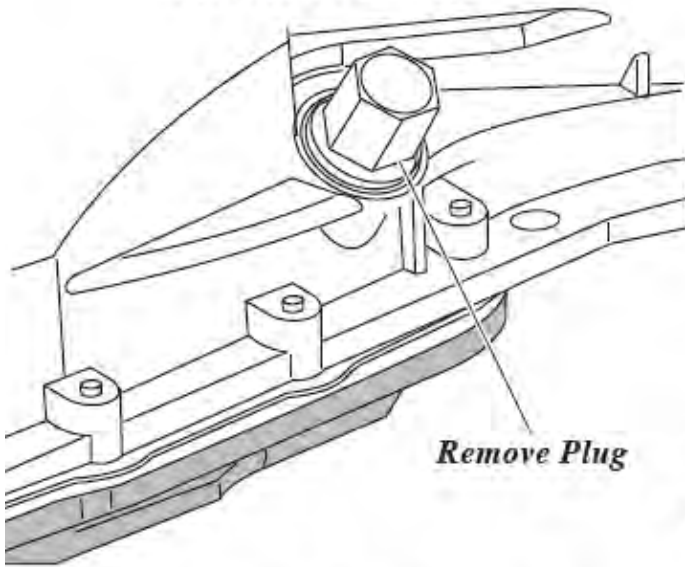


33. Before test driving the vehicle ensure you check the transmission fluid level and if necessary, top up with Genuine Transmission Fluid or any full synthetic transmission fluid that meets or exceeds the genuine oil specification.
34. Road test vehicle for a minimum of 15 minutes. Try to find a couple of hills that will get the transmission to work hard.
35. Check the transmission coolers, fittings, hoses, unions, mountings and clamps for any leaking or loose fittings. Tighten if necessary.
36. Check engine coolant level and transmission fluid level again.



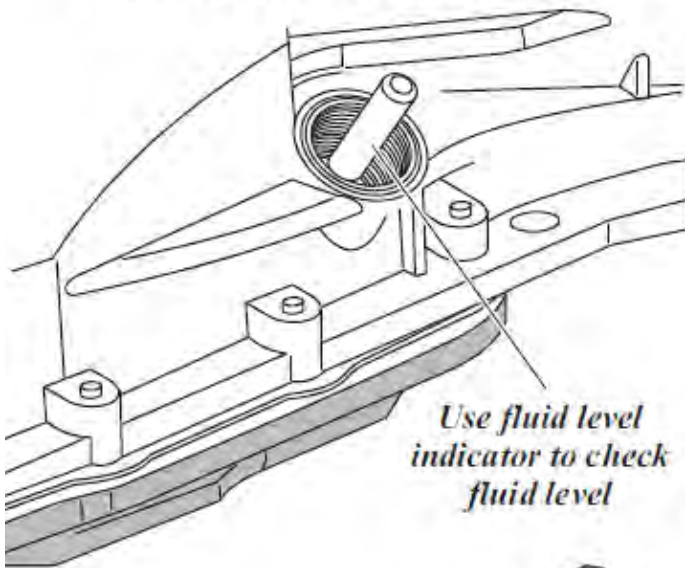


### **FLUID FILL PLUG**

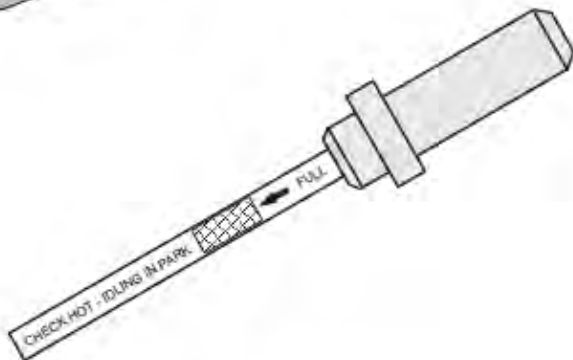


**The recommended transmission fluid for the Ford 6R80 6 Speed is Mercon LV<sup>®</sup>**

### **FLUID LEVEL INDICATOR**



**The recommended transmission fluid for Ford 10R 10 Speed meets or exceeds the Mercon ULV<sup>®</sup> standard.**



*Check fluid level hot idle in park*

# This completes the installation of the Dual Transmission Oil Cooler Kit: Ford Ranger Diesel NextGEN Ranger

Please remember ALL automatic transmissions have a service interval of 2 years or 40,000km to improve the longevity of the transmission.





