



External Transmission Oil Cooler Kit

Suitable for:



**Toyota Fortuner and Hilux 8th
Generation
6 Speed AC60 Auto**

**WITH THE FOLLOWING ENGINES:
1GD-FTV 2.8L TURBO DIESEL - 06/2012 TO PRESENT**

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.

Safety First

Hot engines and hot transmissions can cause serious injury.
Before removing the hoses and parts from the vehicle,
allow sufficient time for engine and auto to cool.

Parts List

Cross Flow Oil Cooler
Pre-mounted to Bracket



4 x Stainless Steel Screw
Clamps



2.5m x High Temp
Cooler Line Hose



1 x M6x20 SEMS Bolt
for Mounting Bracket



Expected Installation Time: 2 Hours

Summary of Installation - For Experienced Fitters

- Ensure you have enough transmission oil to top up your transmission.
- Remove plastic grill cover above the front grill. Remove the 2 braces holding the front grill by removing the 2x 10mm bolts on each brace.
- Remove the 12mm bolt that attaches the horn bracket. Hang the horn aside.
- Remove the 10mm bolt attaching the bottom of the center brace to the radiator support. Remove the ambient temperature sensor and allow it to hang.
- Remove the first bash plate located under the front bar. Remove the second bash plate located below the first bash plate.
- Remove the existing transmission cooler line. Have a drain tray ready.
- Remove protective rubber socks from your new transmission cooler fittings.
- Cut the provided cooler line in half. Trim the protective sheathe back about 1 inch on each end of the cooler line to allow for clamping. Fit one half of the line to each side of the cooler - FIT IT DRY - DO NOT use lubricant.
- Clamp the cooler lines to the cooler unit fittings using the provided stainless screw clamps.
- Fit the cooler bracket and hoses in front of the radiator. Use the original 10mm center brace bolt to attach the bottom of the cooler. Attach the ambient temperature sensor into the notch in the cooler bracket.
- Insert the provided 13mm SEMS bolt through the BACK of the radiator support into the nut sert located in the cooler bracket.
- Feed cooler lines through the foam below the A/C condenser. Run the new cooler line closest to the driver side to the fitting on the bottom of the radiator used by the old transmission cooler line. Run the other new cooler line to the steel fitting from the radiator formerly used by the old transmission cooler line. Clamp both new lines using provided stainless steel screw clamps. Use cable ties to ensure all cooler lines are secure.
- Refit bash plates. Turn horn bracket the opposite way and attach along with the top of the cooler bracket to the radiator support using original 12mm bolt. Refit grill braces, grill and plastic cover for grill.
- While car is running: remove 24mm drain plug on driver side of transmission and 5mm alan key check plug on bottom of transmission. Fill until fluid flows out of check plug hole. When flow flickers return 5mm and 24mm plugs and tighten.
- Check all connections, fittings and bolts are tight. Road test. Inspect for leaks and re-tighten as is necessary.

Detailed Installation Instructions

Before Commencing work, please ensure that you have sufficient transmission fluid to top up at the end of the job.

1. Ensure the car is fully switched off. It is recommended that the vehicle is cold prior to installation.
2. Open bonnet.
3. Using a seal pick tool or very fine flat blade screwdriver, carefully lift the center of the clips holding down the plastic trim above the gill as shown below.



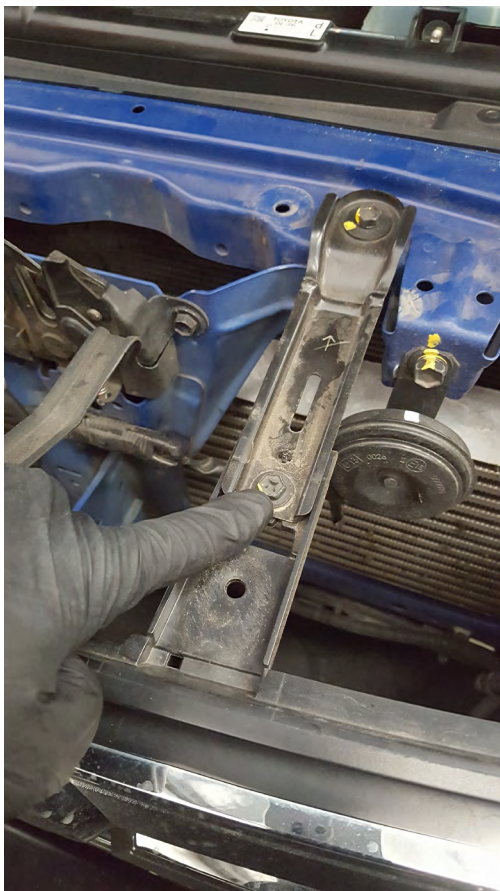
4. Once the centers are lifted, carefully grasp the clip with your hand and wiggle the clip out.



5. Using a Phillips head screwdriver or 10mm socket or spanner remove the 2 screws located at the top of either end of the grill.
6. Once the 8 clips and 2 screws have been removed, carefully lift off the plastic grill cover.



7. Remove the two braces that support the grill by attaching it to the radiator support. To complete this remove the 2x 10mm bolts that attach each of the braces to the radiator support and remove the braces.





8. Carefully lift the ends and gently pull back on the grill to create a more comfortable work space.



9. Remove the single 12mm bolt holding the horn on the passenger side of the car and gently hang the horn out of the way.



10. Remove the 10mm bolt located at the bottom of the center brace of the radiator support. Remove the ambient temperature sensor from where it is attached near the bottom of the center brace and allow it to hang down - see photo.

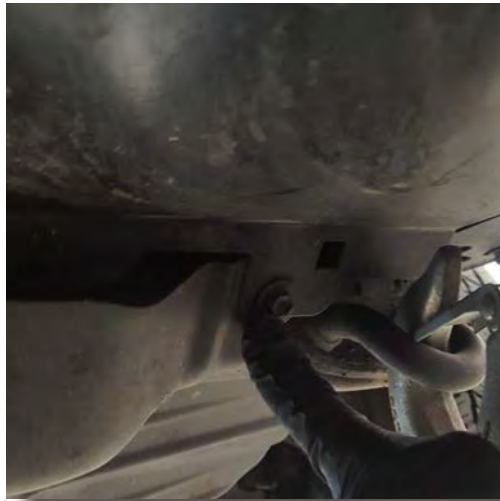


11. Remove the first bash plate located under the front bar. Start by using your

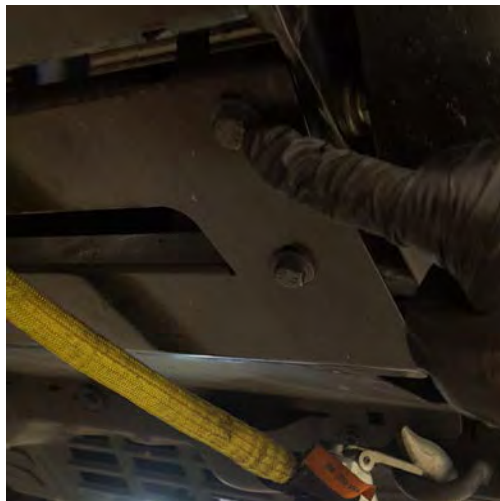


seal pick or flat blade screwdriver to remove the clip located in the center of the bottom of the bash plate.

12. Remove the 2x 10mm bolts located at either side of the bottom of the bash plate.



13. Remove the 4x 13mm bolts located at either end of the top of the bash plate then carefully remove the bash plate from the car.



14. Remove the 6x 12mm bolts holding the second bash plate and carefully remove the second bash plate from the car.



15. Remove the transmission rubber line located alongside the inter-cooler hose lines by undoing the squeeze type hose clamps at either end of the line with a pair of pliers.



16. Once the clamps are removed, twist the rubber line to break its seal on the steel line and pull back while twisting. Have a drain tray ready as excess oil in the line will flow out.



17. Take your new transmission cooler from the box and remove the 2 rubber socks carefully from the fittings .



18. Cut the supplied cooler hose in half.

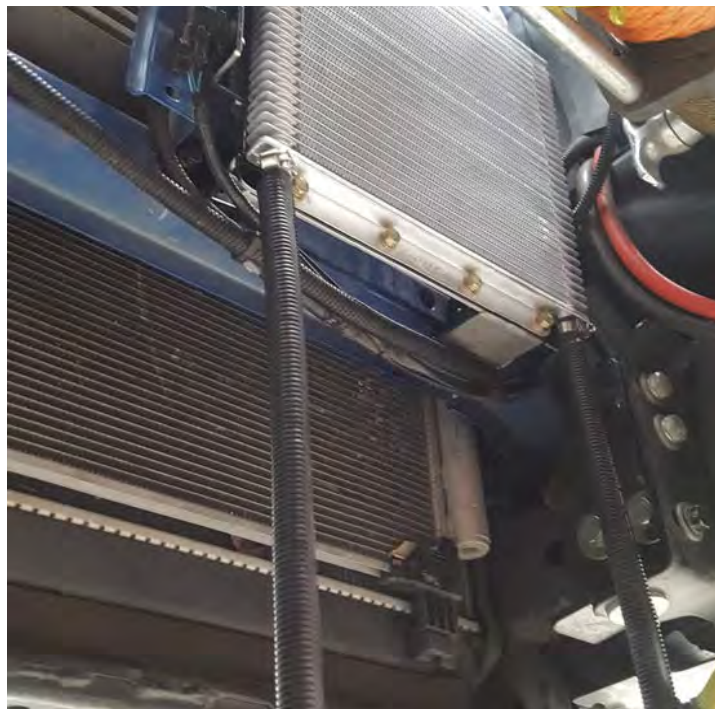
19. Pull back the ribbed plastic sheath on the cooler hose to fit 1 of the supplied hose clamps. Slide the cooler hose onto the fitting DRY - do not use lubricant. Ensure that the hose touches the base of the cooler. Repeat this process for the other half of the supplied hose.



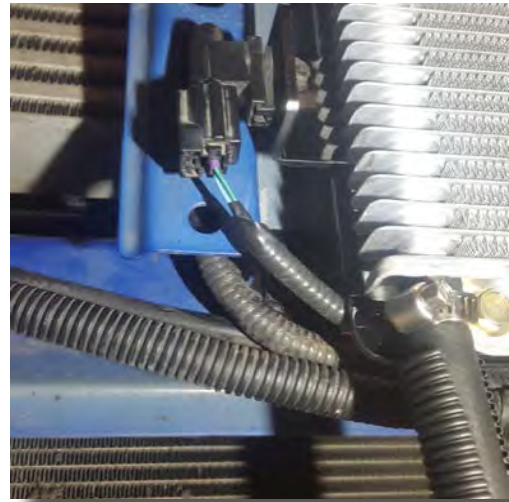
20. Ensure hoses are all the way on and the clamps are tight.



21. Carefully fit the cooler bracket, cooler and hoses as one from underneath of car into position and let the hoses hang.



22. Once cooler is set in position, refit the original 10mm bolt through the cooler bracket and center brace into the bottom of the radiator support.
23. Relocate ambient temperature sensor into notch in cooler bracket.



24. Fit the 13mm bolt and spring washer through the back of the bottom of the radiator support into the nut sert located in the cooler bracket.



25. Carefully feed the cooler lines between the foam and bottom of the A/C condenser.



26. Run the cooler line closest to the driver side to the fitting on the bottom of the radiator (refer to photos in 27) and cut the excess hose to suit.
27. Once desired length is achieved, pull back sheath, fit hose clamp and fit onto the fitting on the bottom of the radiator where the original transmission cooler hose was attached.



28. Tighten hose clamp and put 2 zip ties on the line to ensure it is secure.



29. Take the other hose coming off the cooler and run it to the steel line that the original transmission cooler line was attached to. See photo. Cut the line to length, attach to the fitting, pull back protective sheath and use provided stainless steel hose clamp to attach it to the fitting. Attach cable ties as required to secure the cooler lines.

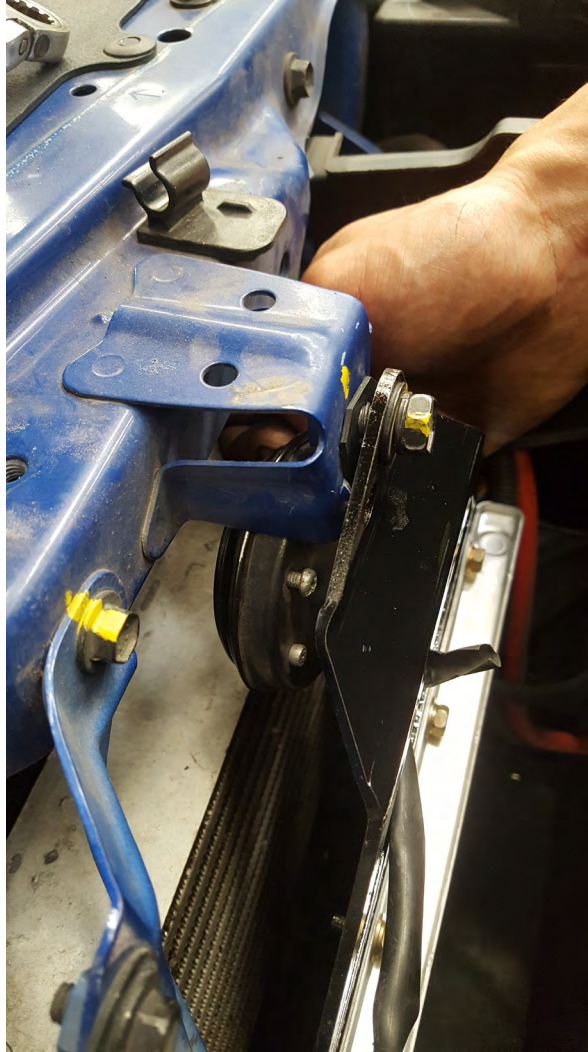


30. Repeat step 14 in reverse to refit the second bash plate removed earlier.

31. Repeat step 11, 12 and 13 in reverse to refit the first bash plate removed earlier.



32. Carefully feed the horn through the front of the cooler bracket and face it backwards then fit the original bolt through the cooler bracket, horn and tighten into the top radiator support



33. Carefully push the front grill back into position and repeat step 7 in reverse to fit and tighten the 2 grill braces.



34. Refit and tighten the 2 Phillips head screws at either end of the top of the grill.



35. Carefully place the plastic grill cover back in position.



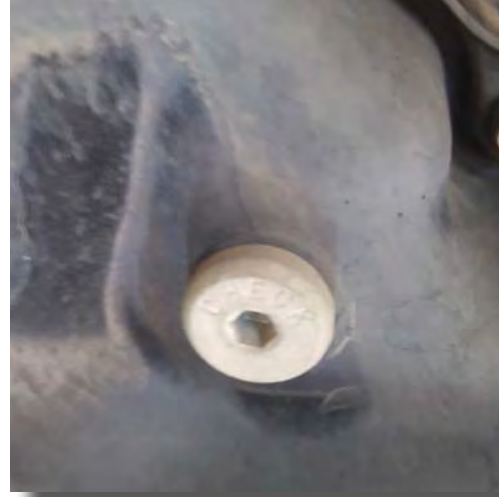
36. Gently refit the 8 plastic clips into the grill cover whilst centers are still open. Once all clips are sitting in the grill cover, gently push the centers down until they are flush. **DOT NOT PUSH THEM BELOW FLUSH.** If pushed too far and they go below flush then carefully lift the clip out and try again.



37. Start the car. While the car is running locate and remove the 24mm fill plug on the driver side of the transmission.



38. Locate and remove the 5mm allen key head check plug located in the sump of the transmission. DO NOT remove the 14mm bolt located nearby as this is the transmission drain plug.



39. Carefully top up the transmission fluid through the fill plug until the fluid is fully flowing out of the check plug hole.
40. Carefully watch the fluid flowing out of the check plug hole and once the flow flickers, quickly put the check plug back in and tighten. Return the 24mm fill plug and tighten.
41. Check all hoses and fittings for sufficient clearance to any vehicle part and clean any spilled transmission fluid.
42. Road test vehicle then re-inspect cooler and fittings for leaks. Tighten if necessary.

This completes the installation of the External Transmission Oil Cooler kit to suit the Toyota Fortuner and Hilux 6 Speed Auto.

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