



# Dual External Transmission Oil Cooler Kit

## Suitable for:



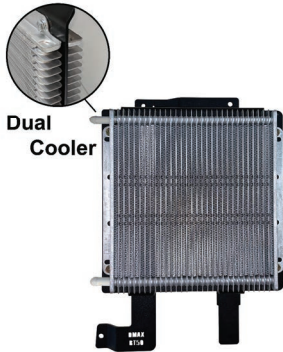
**Isuzu D-MAX (July 2020 onwards)**  
**Isuzu MU-X (July 2021 onwards)**  
**Mazda BT50 (July 2020 onwards)**  
**With 6 Speed AC60 Transmission**

**WITH THE FOLLOWING ENGINES:  
4JJ3-TCX 3.0L TURBO DIESEL - 06/2020 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 Wholesale Automatic Transmissions on +61 3 9762 8004.

## Parts List

Dual Cross Flow Oil Coolers Pre-Installed to Bracket



6 x 8-16mm Stainless Steel Screw Clamps



5m x 10mm High Temp Cooler Line Hose with Conduit



1 x Dual Cooler Link Hose and Conduit



1 x M6x16 SEMS Bolt  
2 x M6 Flange Nut



10 x 300mm Cable Ties



Expected Installation Time: 2 Hours

## Summary of Installation - For Experienced Fitters

- Ensure you have enough transmission oil to top up your transmission.
- Remove two clips holding the intake scoop and ten clips holding the radiator apron.
- D-MAX: Remove radiator apron. Then remove the three clips and the one screw, through the badge, that holds the upper grille in place. Remove upper grille.
- BT50: Remove three hidden clips under the front of the apron and also the one screw in the middle of the badge.
- BT50: Remove four clips and one screw from each wheel arch holding front bumper.
- BT50: Remove one clip and one screw holding each sides lower section of bumper.
- BT50: Gently pull forward on bumper to partially remove - careful of the wiring connector on the passenger side that must be disconnected prior to full removal of bumper.
- Unbolt passenger horn and set aside. Unbolt lower centre support. Relocate the ambient temperature sensor to the inside of the central support.
- Connect dual cooler link hose to the rear cooler lower barb and secure with hose clamp.
- Lower bracket into place and secure top of bracket using OEM horn mount and bolt.
- Secure bracket to radiator support using OEM bolts and supplied M6 nut. Mount horn to the top of the cooler bracket using supplied M6 SEMS bolt and flange nut.
- Route the link hose around the radiator support and connect to the front cooler upper barb. Fit the long cooler hose to the rear cooler upper barb. Secure with hose clamps. Cut the long hose in half.
- Route cooler hose in a sweeping 'U' shape to run along the lower radiator support to the passenger side chassis rail and fit hoses through opening above chassis rail.
- Remove OEM hose connecting the steel line to the centre connection on heat exchanger.
- Route hoses along chassis rail until near wheel arch. Cut hoses to length. Run one hose to the transmission and connect to the centre fitting on heat exchanger.
- Route the other hose further along the chassis rail/OEM wiring until you reach the slip yoke on the front shaft. Connect to steel line on side of transmission. Secure all hoses with supplied hose clamps. Refit bumper, grille and radiator apron by reversing earlier steps.
- Check transmission fluid level with engine running by removing the 'Check' bolt in pan.
- If no fluid is coming from 'Check' bolt, remove the 24mm bolt on the transmission extension housing. Top up transmission with OEM or equivalent transmission fluid.
- Replace all bolts. Clean up any spilled transmission fluid and then road test vehicle.
- On return recheck transmission fluid again, check for leaks and retighten any fittings as required. Refit any bash plates and other removed parts where necessary.

## Detailed Installation Instructions

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

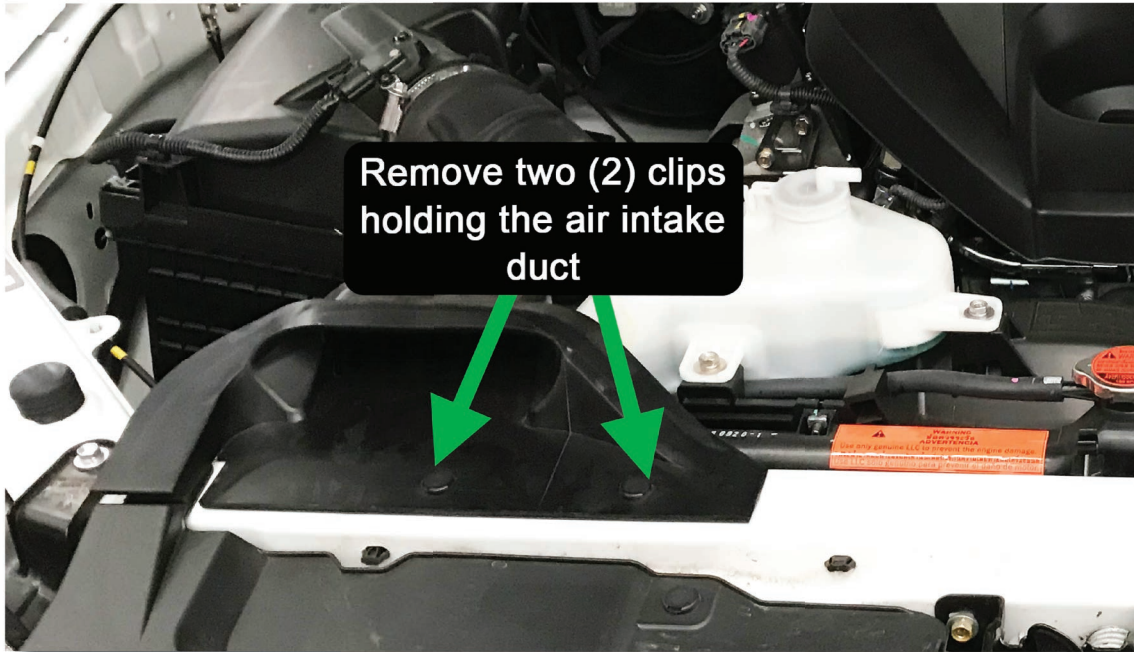
While the minimum we recommend having available is 1 liter we do not provide an exact amount as we always recommend ensuring the transmission is filled to the correct level - whatever amount of fluid is required to achieve this.

The top of the page will indicate if that page applies to Isuzu D-Max and MU-X only, Mazda BT50 only or to both manufactures.

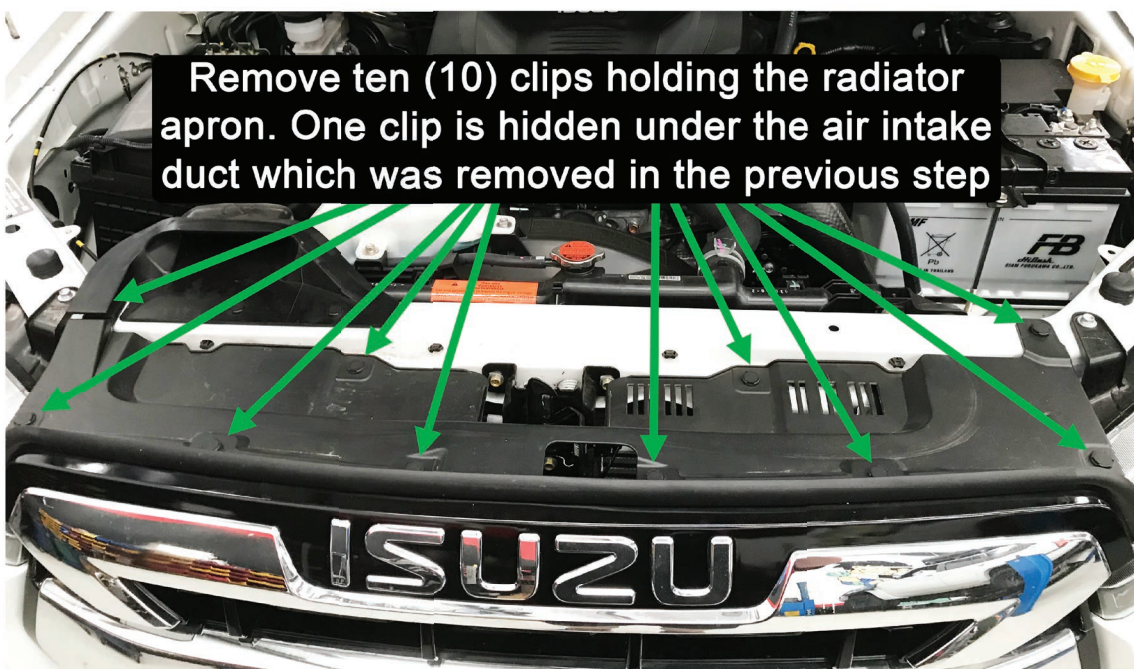
Ensure the car is fully switched off. It is also recommended that the vehicle is allowed to cool down prior to installation to avoid injury from hot transmission fluid.

## This page applies to both manufactures

1. Open bonnet.
2. Remove air intake scoop on the drivers side of the engine bay by removing the two clips holding the air intake to the upper radiator support. Set aside.

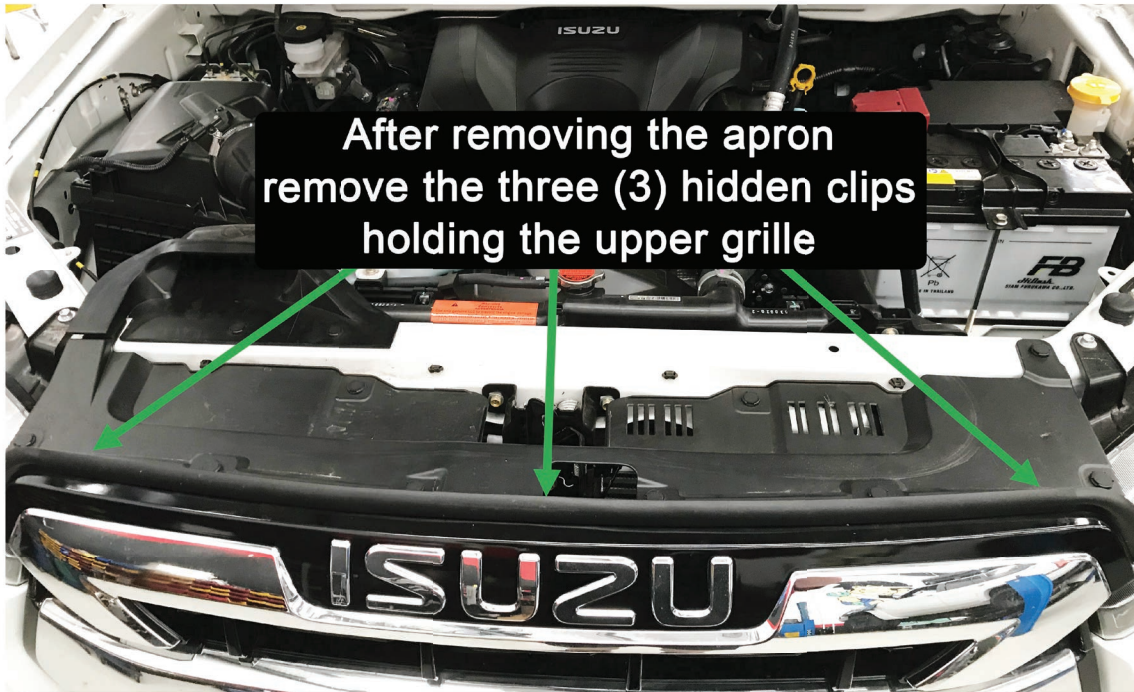


3. Remove the ten (10) plastic clips from the top of the radiator apron and remove the apron. Set aside.

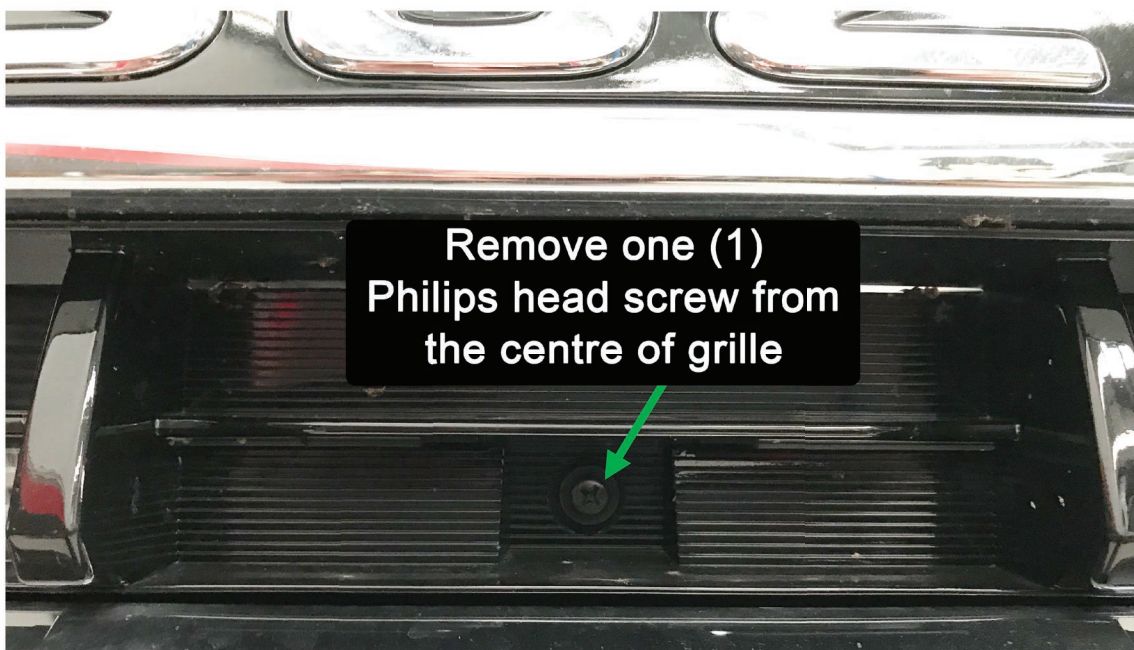


## This page applies to Isuzu D-Max and MU-X

4. After removing the upper apron remove the three (3) clips holding the upper grille. These won't be visible until the apron is removed.



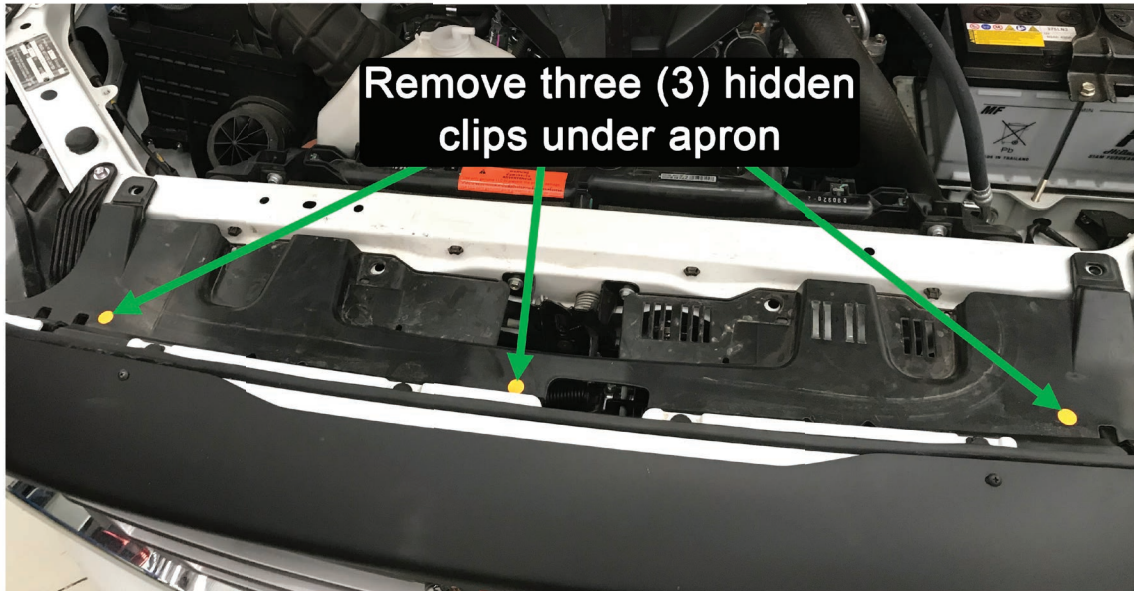
5. Remove the (1) Phillips head screw in the center of the grill located just under the Isuzu front badge.



6. Remove the top half of the grill by firmly pulling forwards. Set aside.

## This page applies to Mazda BT50

7. In the Mazda BT50 variant the grille and bumper need to be removed together to provide access while fitting the cooler kit. Locate and remove the three (3) clips hidden under the apron.



8. Remove the (1) Phillips head screw in the centre of the Mazda badge located in the grille.



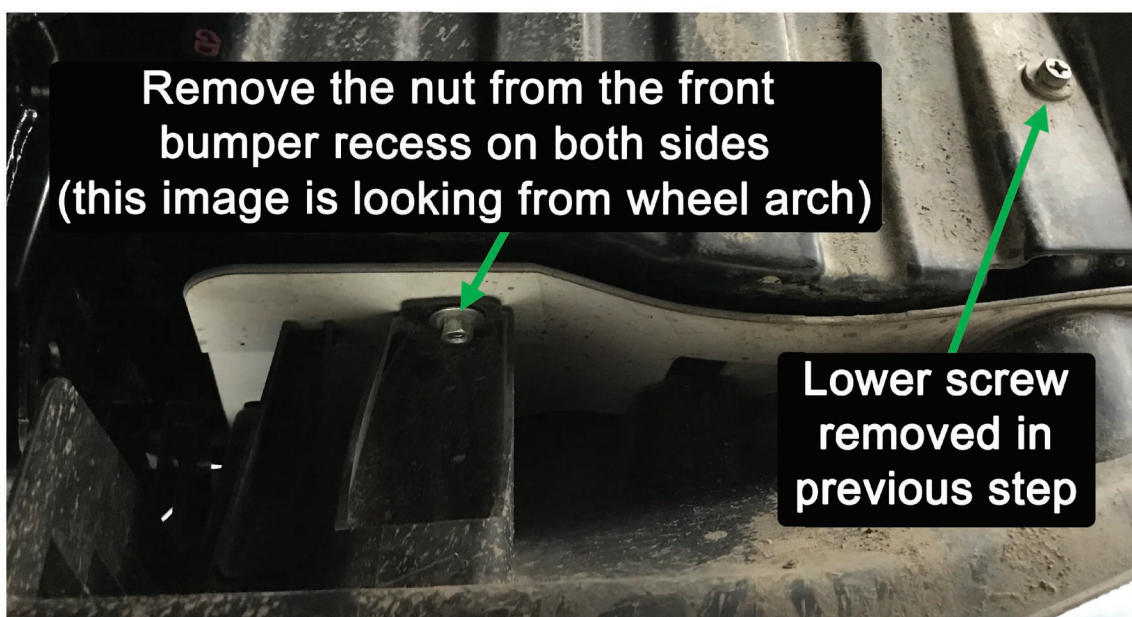
9. Remove the clips located on either side of the Mazda badge through the slots in the grille.

## This page applies to Mazda BT50

10. Moving to the front wheel arches, remove the four (4) clips from the outer edge of the wheel arch holding the front bumper. Also remove the screw at the bottom of the wheel arch. Repeat for both sides.



11. Remove one (1) nut from the recess in the front bumper skirt on both sides. While they are visible from the wheel arch, it is easier to access from under the bumper skirt with a long socket extension.





## This page applies to Mazda BT50

12. Remove one (1) clip from each side of the front bumper skirt.



13. Find the two points where the front bumper skirt joins together, just in front of where the front tie down points are located. Slide the skirt apart and remove the final two hidden clips (one on each side).

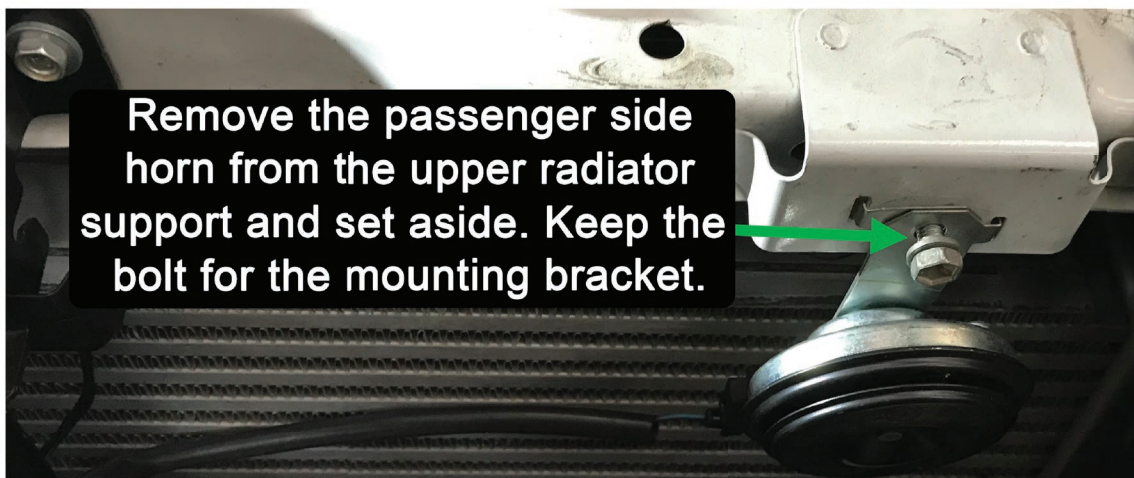


## This page applies to Mazda BT50

14. Gently pull forward on each side edge of the bumper to release.



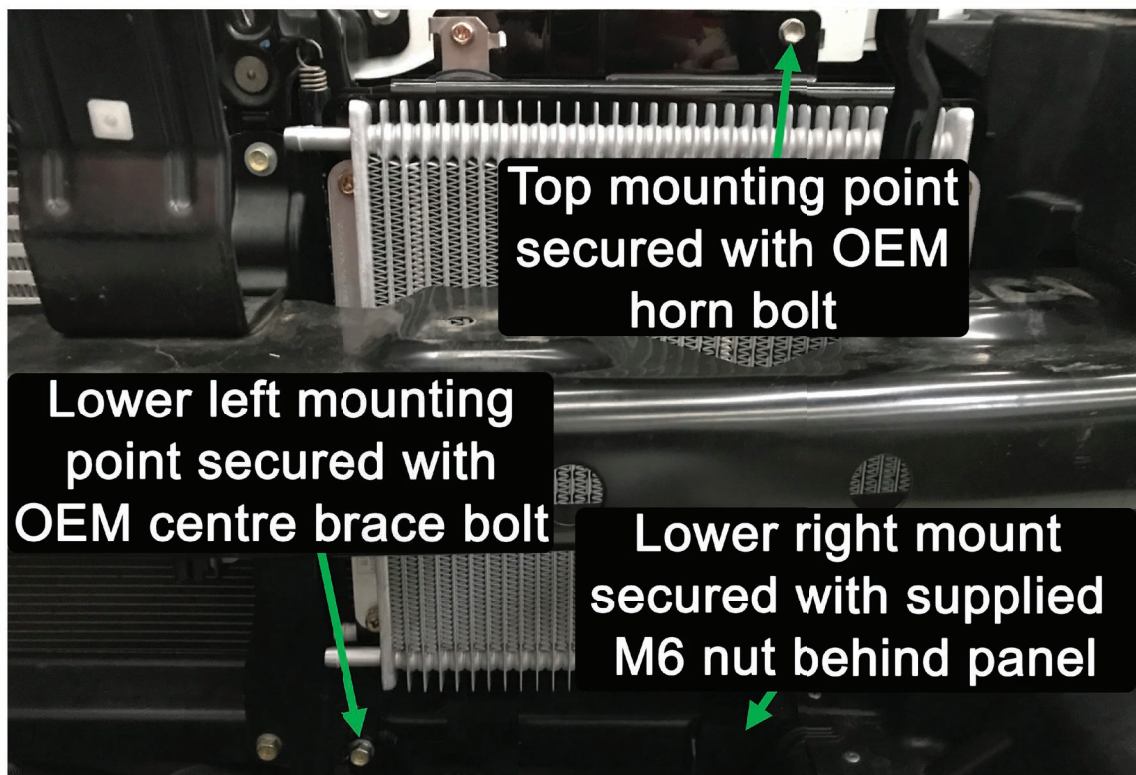
15. Before completely removing the bumper disconnect the bumper wiring harness from the passenger side of the bumper, below the headlight. You may need to partly remove the bumper to access the connectors.
16. Remove the bumper, grille and apron assembly from vehicle. Set aside.
17. Remove passenger side horn from radiator support panel and set aside. This will be mounted to the new cooler bracket. Do not discard this bolt. You may need to loosen the wiring loom and remove some tape for the horn and temperature sensor to provide enough slack for the relocation. The sensor needs to be relocated to the hole on the other side of the central support.



18. Using a pair of pliers to squeeze the back of the clip, move the ambient temperature sensor so that is in the middle of the radiator centre support.

## This page applies to both manufactures

19. Connect the short cooler link hose to the rear cooler's lower barb and the longer hose to the front cooler's lower barb using the supplied hose clamps. Leave the other ends of the hoses disconnected until the coolers are mounted in the vehicle.
20. Lower the cooler assembly into position on the passenger side of the radiator with the cooler lines facing the drivers side of the vehicle. Use the OEM horn bolt to secure the top of the bracket, the OEM centre brace bolt to secure the lower left mounting point and the supplied M6 nut on the stud on the lower right mount.



21. Remount the OEM horn to the top left leg of the cooler bracket.



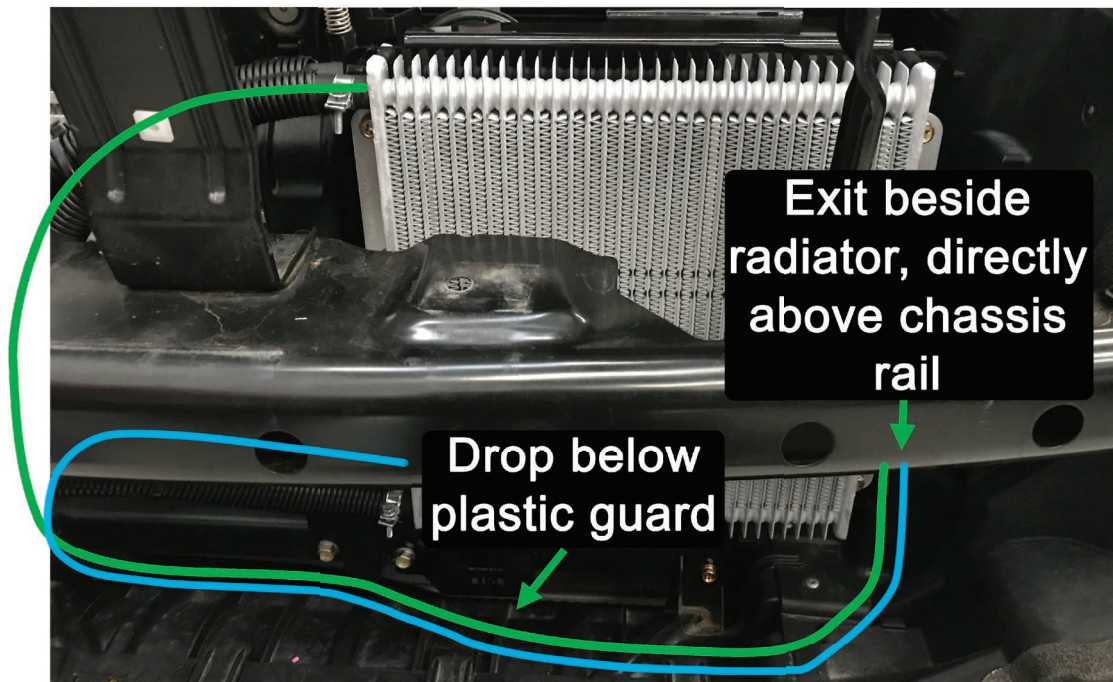
## This page applies to both manufactures

22. Now that the cooler is mounted, connect the shorter link hose to the front cooler's upper barb using one of the supplied hose clamps, managing the hose around the center support.
23. Connect the longer cooler hose to the rear cooler's upper barb with one of the supplied hose clamps. Cut this hose in half.

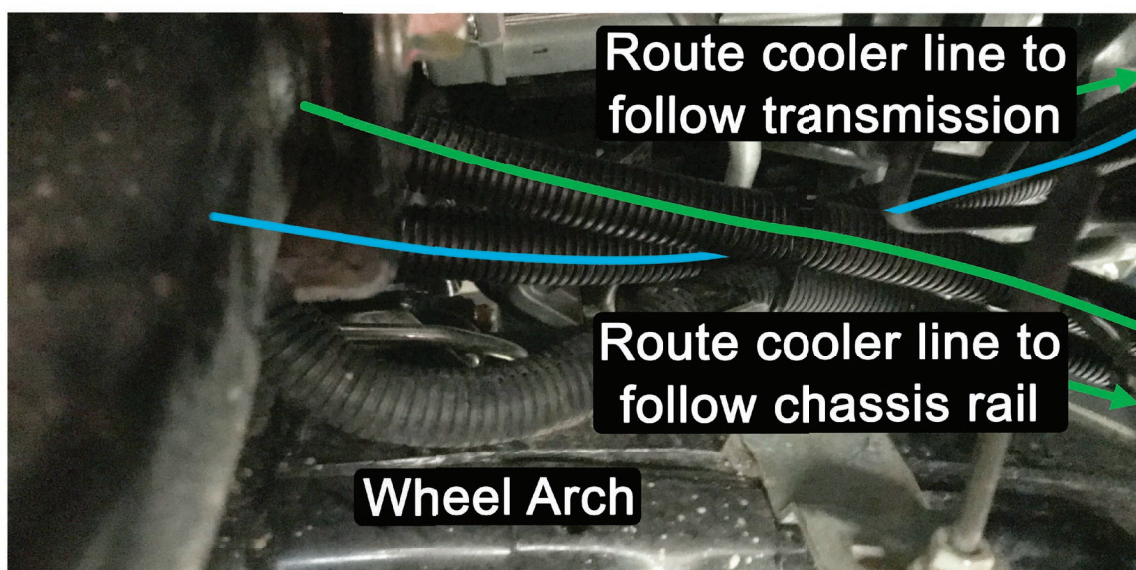


## This page applies to both manufactures

24. Feed the long length of hose from the top connection in a U shape so that it drops to the lower radiator support panel and follows along the lower panel to end up back on the passenger side. Route the lower long length of hose into a U shape to meet up with the top hose. Cable tie both hoses together. Both hoses will run across the lower panel, drop below the plastic guard and will exit around the passenger side of the radiator - just above the chassis rail.

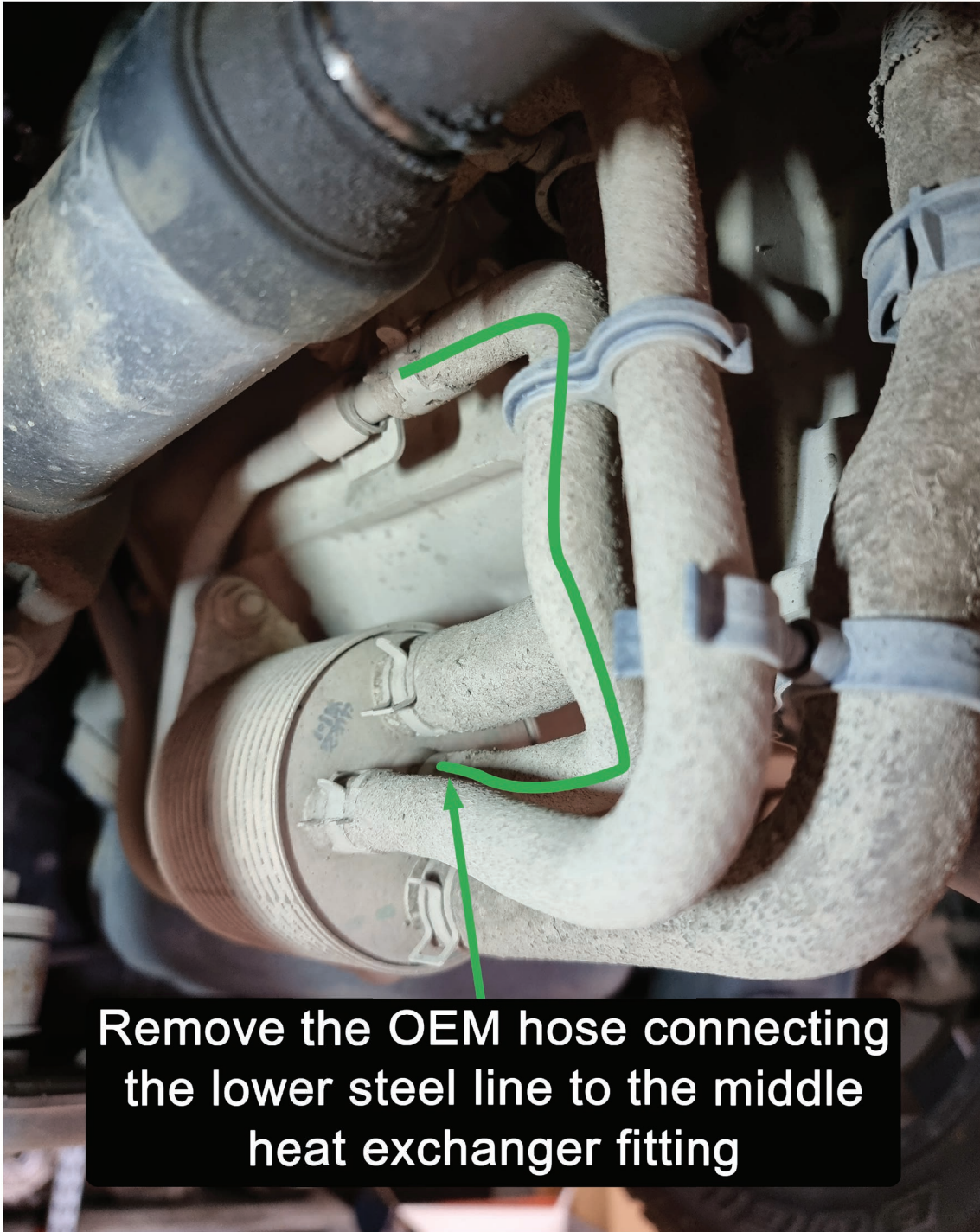


25. Route the hoses along the chassis rail until you reach the wheel arch. From wheel arch, route the cooler lines across to the side of the transmission and cable tie to the factory steel lines.



## This page applies to both manufactures

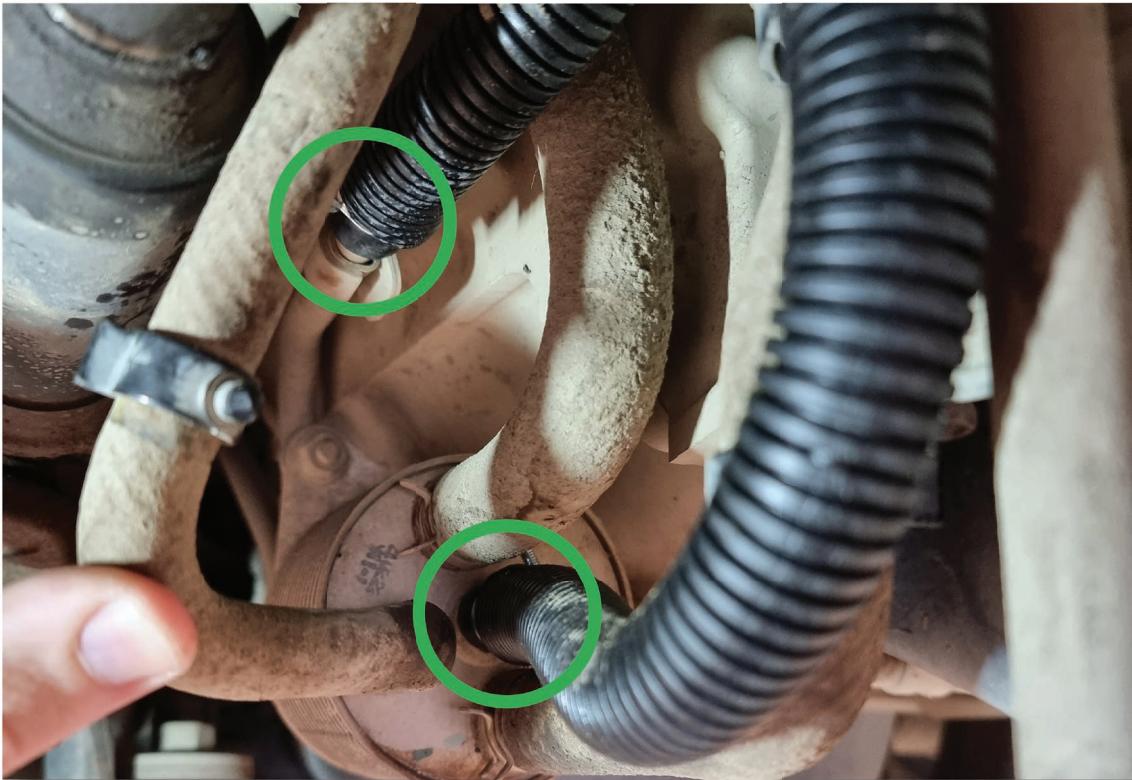
26. Remove and discard the OEM hose that joins the lower steel line near the front driveshaft on side of transmission with fitting in the centre of the heat exchanger.



27. The cooler lines must run along the side of the transmission, hugging the transmission to ensure they avoid the drive shaft. Use cable ties along the length of the hoses to ensure they can't move or be damaged.

## This page applies to both manufactures

28. Route the cooler lines so that they are close to the factory heat exchanger. Fit one of the new cooler hoses to the centre fitting on the heat exchanger and secure with a supplied hose clamp. Fit the other new cooler hose to the steel line exposed in step 26 with one of the supplied hose clamps. Loop this hose in a way that it doesn't kink when you route it to the steel line.



## This page applies to both manufactures

29. Finally, re-check all screw clamps are tight prior to starting the engine.
30. Next we need to check the transmission fluid and top as required. **The engine must be running while you are checking the transmission fluid.**
31. Before checking the fluid level you must allow the engine to run for at least one minute. This pumps the fluid that has drained into the pan back into the torque converter, cooler lines and valve body.
32. In the transmission sump or pan locate the check valve bolt - the bolt will have "Check" engraved into it.

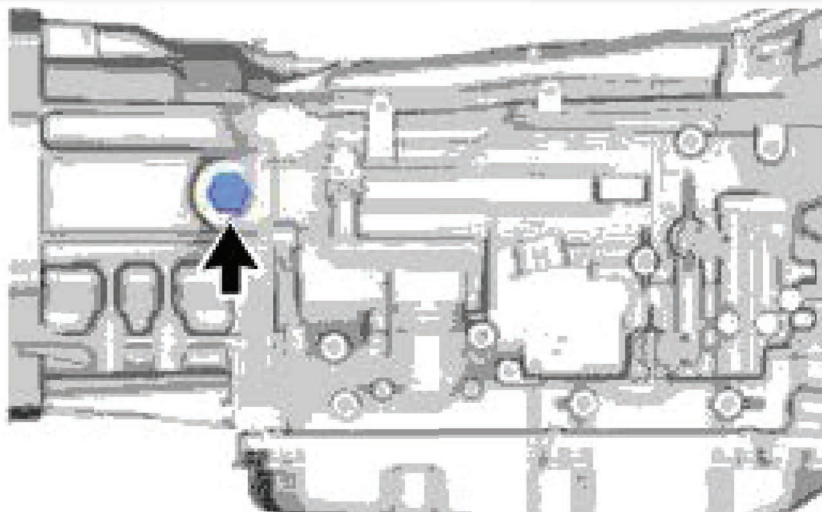


33. With the **engine running** remove the check valve bolt using a 5mm Allen key. DO NOT remove the 14mm bolt located at the rear of the transmission pan as this is the drain plug.



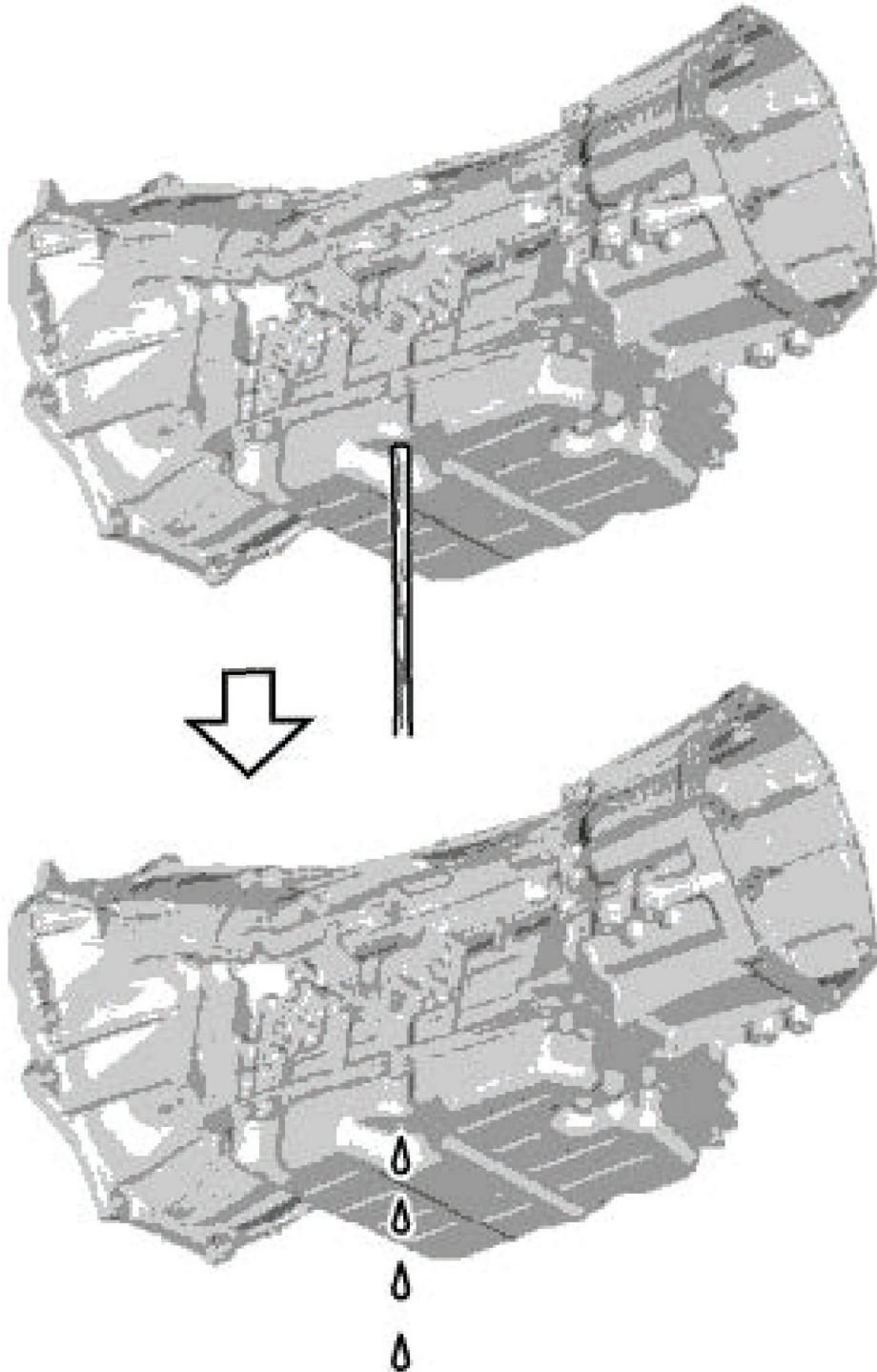
## This page applies to both manufactures

34. If there is no oil dribbling out of the check plug, locate and remove the 24mm fill plug on the drivers side of the transmission.



## This page applies to both manufactures

35. Carefully top up the transmission fluid through the fill plug until there is fluid flowing out of the check plug hole. Once the flow drops to a dribble quickly put the check plug back in and tighten. Re-install the 24mm fill plug.



## **This page applies to both manufactures**

36. Prior to road testing check all connections for weeping or leaking of transmission fluid. Tighten the clamps if necessary.
37. Clean all areas of the engine and chassis where transmission fluid may have spilled.
38. For Mazda BT50 only: We recommend re-fitting the bumper prior to road testing. However, you may require partly removing bumper again after road testing if you find a connection weeping in order to tighten the screw clamp.
39. Road test the vehicle. You are looking for anomalies such as high transmission fluid temperatures indicating fluid level is still too low / high or possibly an air lock or cooler line blockage. If transmission operates as expected then return to the workshop.
40. Do not switch off the engine yet
41. With the engine still running, visually check for leaks and re-tighten any fittings as required.
42. With the engine still running recheck fluid level by repeating the steps 30 to 34.

**Please note: the transmission fluid may be quite hot. Please take care when undoing the check valve bolt.**

43. If the fluid is at the correct level clean any remaining spilled transmission fluid off the vehicle.
44. If the level is low repeat steps 34 to 37.
45. Re-install front grill, radiator apron, bash plates and any other item that was removed during installation.

# This completes the installation of the External Transmission Oil Cooler Kit to Suit Isuzu D-Max, MU-X and Mazda BT50 with 6 Speed Automatic (Jul 2020)

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

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## Please Provide us with Feedback

If you have a minute to provide us with some feedback about your experience with Wholesale Automatic Transmissions and our products, that would be greatly appreciated.

Using your smart phone or device's camera app, point at the QR code below to take you straight to our feedback page for you to choose the most appropriate feedback method.

