



Dual External Transmission Oil Cooler Kit Suitable for:



Nissan Y61 GU Patrol

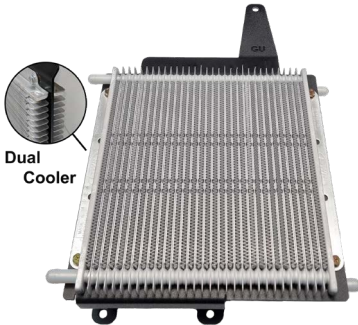
WITH THE FOLLOWING ENGINES:
ZD30 Direct Injection Diesel
ZD30 Common Rail Diesel

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.

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



5/16" Front Oil Cooler
3/8" Rear Oil Cooler
Preinstalled on Bracket



1.5m x 5/16" Cooler
Line Hose with Conduit



1.5m x 3/8" Cooler Line
Hose with Conduit



4 x 8-16mm Hose
Clamps



6 x 14-16mm Hose
Clamps



2 x 3/8" Joiner Barbs



1 x M8 Coupling Nut



1 x M8 Nut



2 x M8x25 SEMS Bolts

Expected Installation Time: 2 Hours

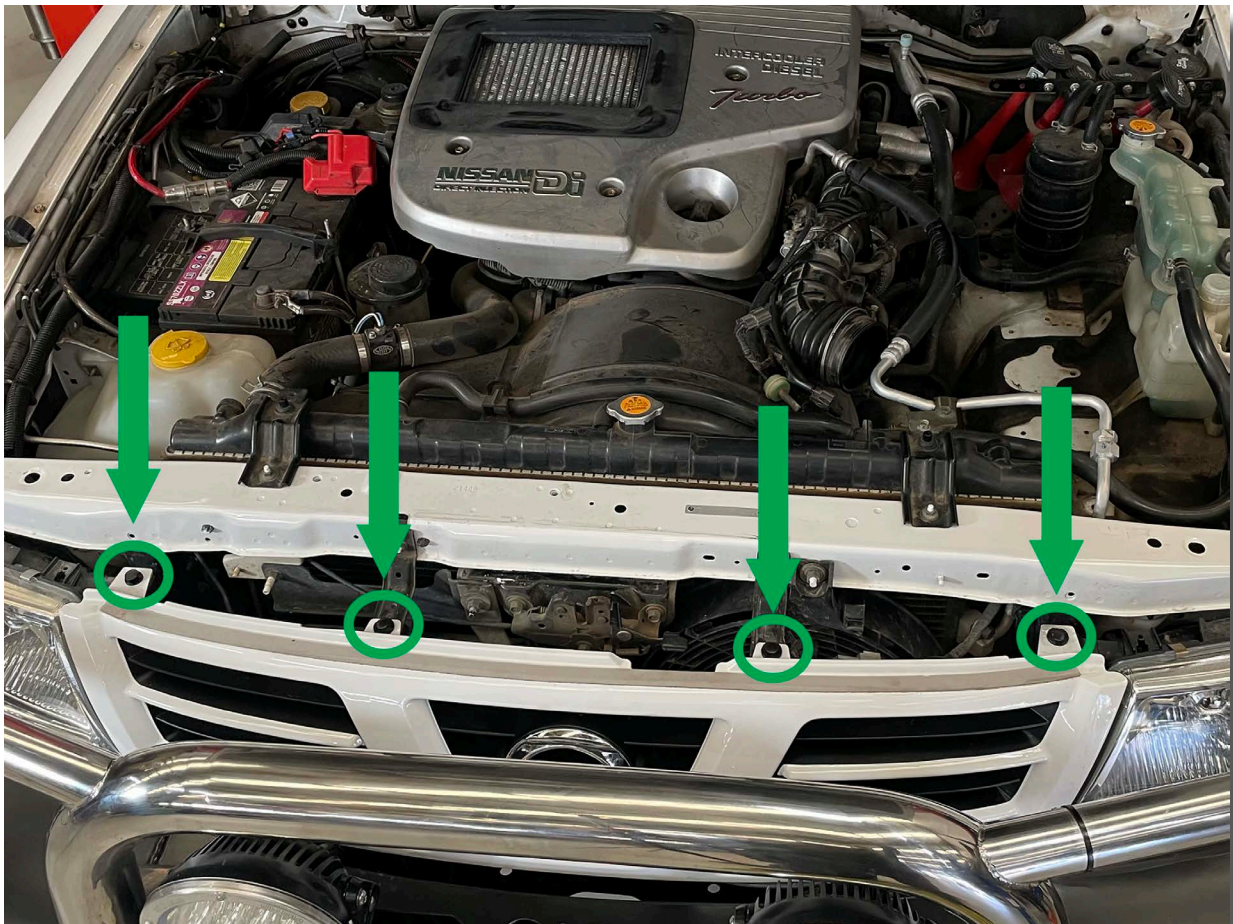
Summary of Installation - For Experienced Fitters

- Ensure you have enough suitable fluid to top up your transmission and power steering systems after completing the installation.
- Remove the front grill by first removing the 4 plastic trim clips on the top of the grill. Pull the grill out of its mounts, being mindful of the 3 mounting clips at the bottom; the grill should come out of its mounts with gentle force.
- Remove both left and right headlights. For Series 1-3 also remove the indicator housings.
- Remove the 2 screws holding in each of the lower trim under the headlights and remove.
- Remove the factory rubber hoses from the power steering cooler and remove the power steering cooler from the vehicle.
- Fit the 2 supplied 3/8" joiner barbs into the factory power steering lines and secure with 2 of the supplied 14-16mm hose clamps.
- Remove the hose connecting the top of the factory transmission cooler to the return line.
- Remove the 2 M8 bolts at the bottom bracket. If you have a Series 1-3 save one of these bolts; you will need it later.
- Fit the 5/16" hose to the lower barb of the front cooler on the cooler mounting bracket. Secure with one of the supplied 8-16mm hose clamps.
- Fit the cooler mounting bracket, levering the bottom section in first over the top of the factory mounting bracket. Secure with the 2 supplied M8 bolts; leave these loose so the bracket can be aligned with the top hole.
- Route the 5/16" hose that is fitted to the lower barb of the front cooler to the upper barb of the factory cooler. Trim the 5/16" hose to length and secure it to the factory coolers upper barb with one of the supplied 8-16mm hose clamps.
- Secure the cooler bracket to the top mount. For Series 1-3 first install the supplied coupling nut over the stud left exposed by the removed factory power steering cooler, and then secure with the M8 bolt saved earlier. For Series 4 onwards secure with the supplied M8 nut. Tighten the lower mounting bolts.
- Fit the remaining 5/16" hose to the upper barb of the front transmission cooler. Route this to the return line and trim to length, then secure with one of the 8-16mm hose clamps.
- Fit the supplied 3/8" hose to the lower barb of the rear cooler and secure with one of the supplied 14-16mm hose clamps. Route this hose to one of the barbs fitted in the power steering hoses. Trim to length and secure with one of the supplied hose clamps.
- Repeat this step with the upper barb on the rear cooler.
- Refit front trim, grill and headlights.
- Fill and bleed the power steering system, then start engine and top up the transmission.

Detailed Installation Instructions

Before commencing work, please ensure that you have sufficient transmission and power steering fluid to top up both systems at the end of the job.

1. Open bonnet.
2. Remove the 4 plastic trim clips holding the top of the grill in position. The grill can then be removed by gently pulling it straight out forwards, being mindful of the 3 clips at the bottom of the grill that hold the bottom in position. You may need to apply a bit of force to get these clips to release.



3. Series 1-3 will need to remove the indicator assembly on both sides, revealing the M6 bolts that secure the headlights. Remove these two bolts and remove the headlights.

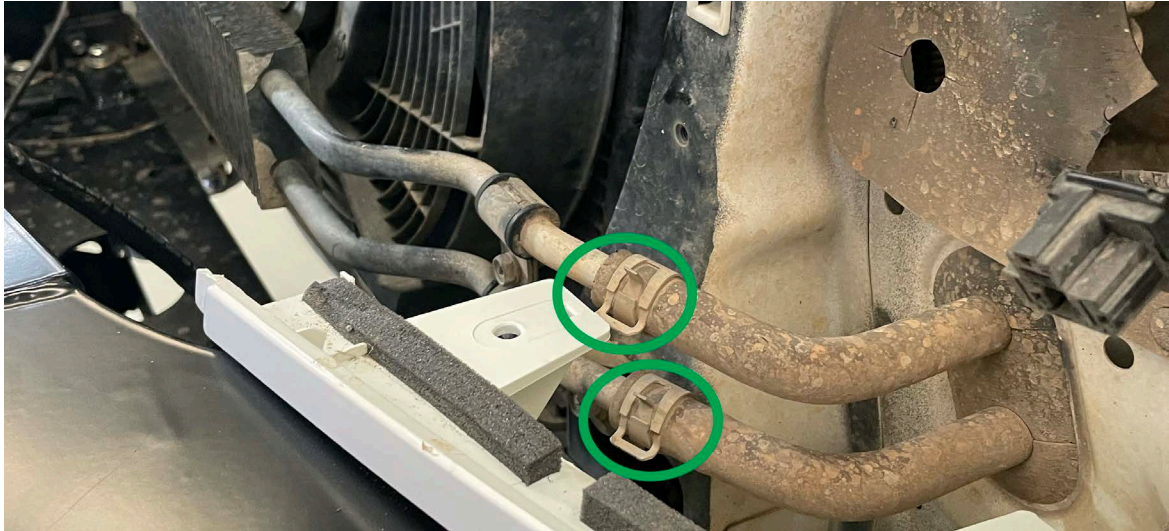
Series 4 onwards will need the headlight assembly removed on both sides.



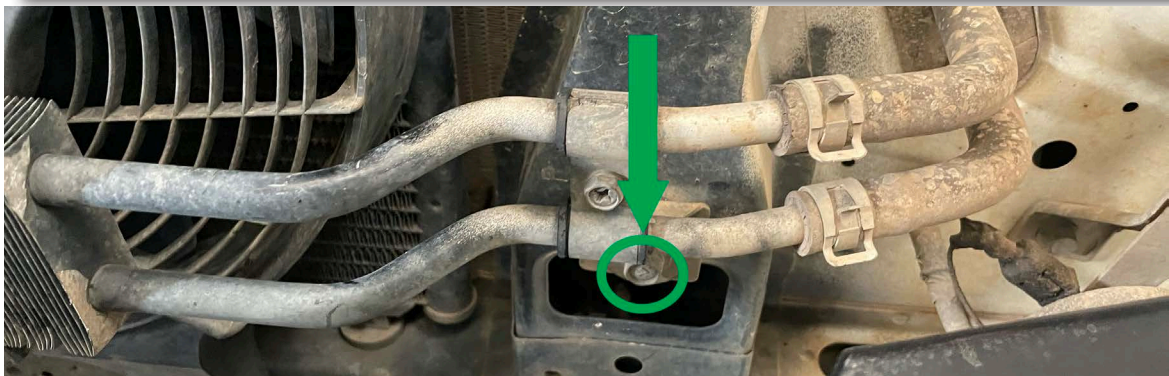
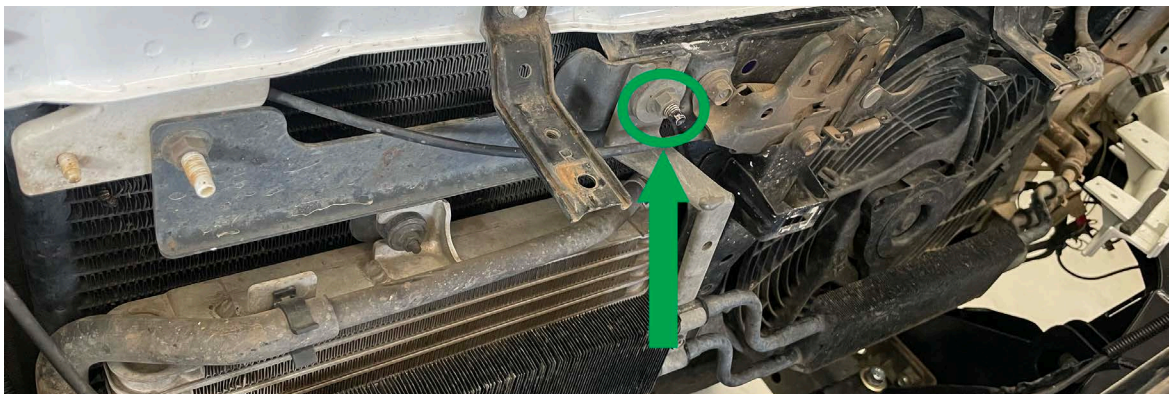
4. Remove the 2x screws that secure the lower trim piece on each side, accessible from underneath. Remove both lower trim pieces.



5. Use pliers to remove the two spring clamps securing the two rubber hoses to the factory power steering cooler. Remove these two hoses from the factory power steering cooler, being aware that there will likely be power steering fluid leaking out from the cooler and from the hoses. Discard the factory hose clamps.



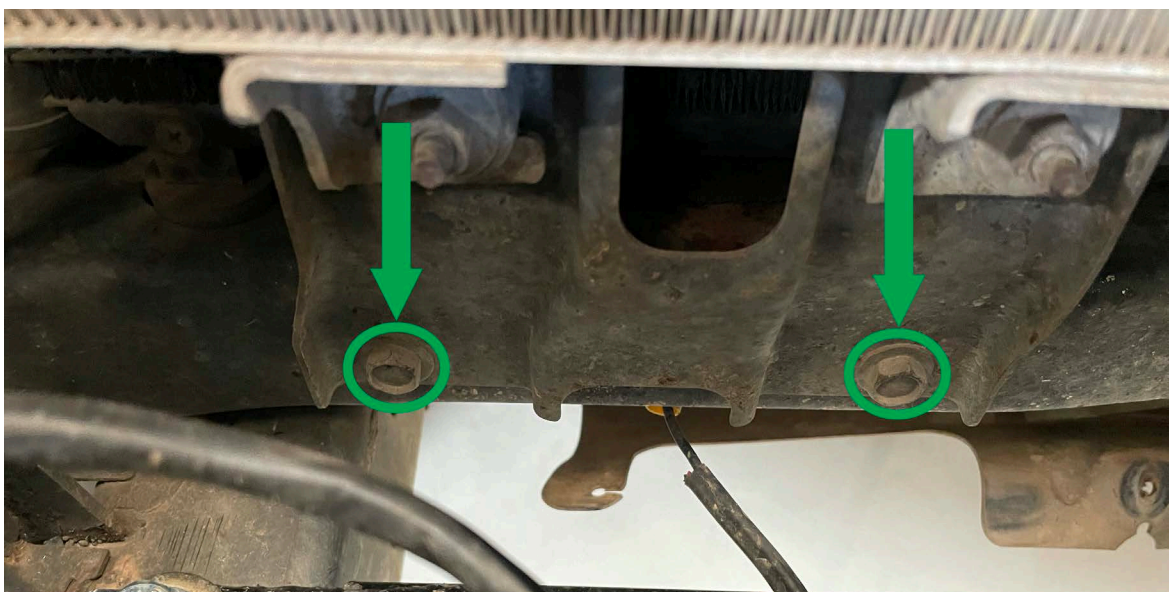
6. Remove the nut securing the left side of the factory power steering cooler, as well as the bolt on the right side near the hose connections. Remove the factory power steering cooler from the vehicle.



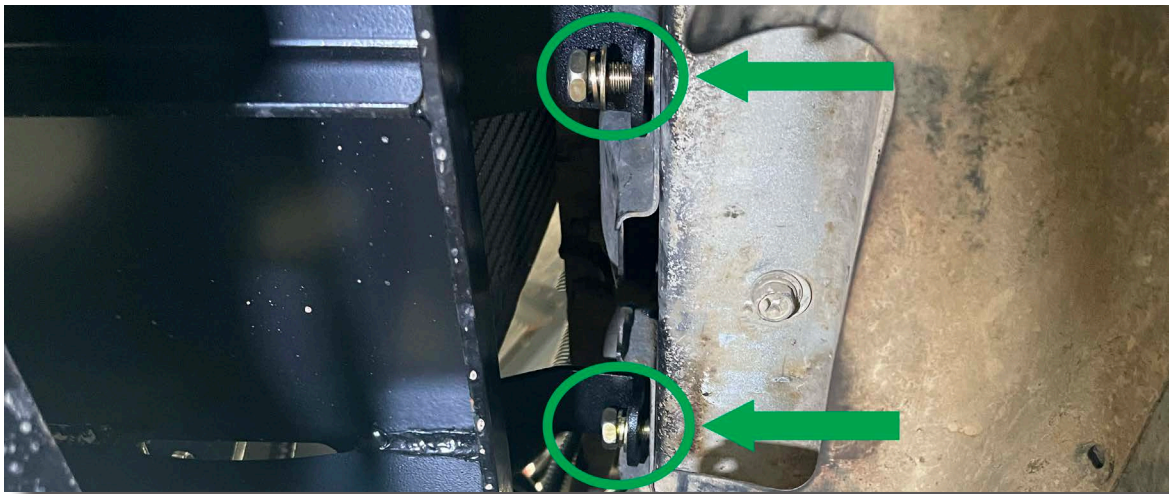
7. Fit one of the supplied 3/8" hose barb joiners in each of the power steering cooler lines and secure each one with one of the supplied 14-16mm hose clamps.
8. Use pliers to remove the spring clamp from the factory hose connected to the upper barb of the factory transmission cooler. Follow this hose to the steel return line - this is the upper of the two lines come past the radiator support on the left hand side - and remove the spring clamp from this connection as well. Remove the factory hose and discard the factory hose clamps.



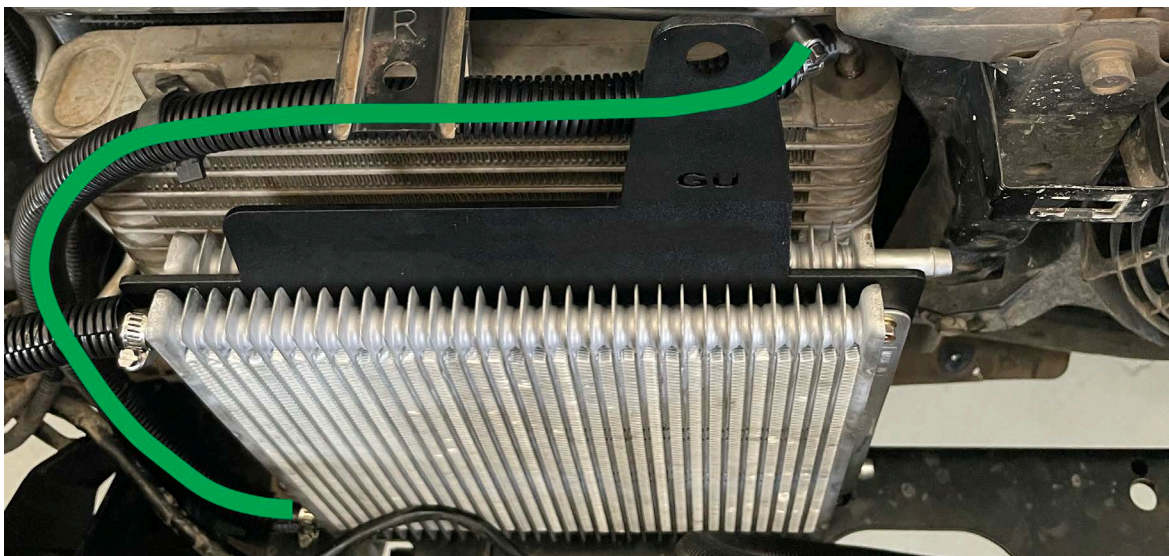
9. Remove the two factory M8 bolts holding the lower cooler bracket. If you have a Series 1-3 vehicle save one of these bolts as you will re-use it later.



10. Fit the supplied 5/16" hose to the lower port of the front cooler on the cooler mounting bracket. Secure with one of the supplied 8-16mm hose clamps.
11. Install the cooler bracket assembly into the vehicle. Lever the bottom in first, then lever the assembly into place. Secure with the two M8 SEMS at the bottom bracket, installing these through the factory cooler bracket and into the lower radiator support. Leave these bolts loose so you can line up the top mounting location.

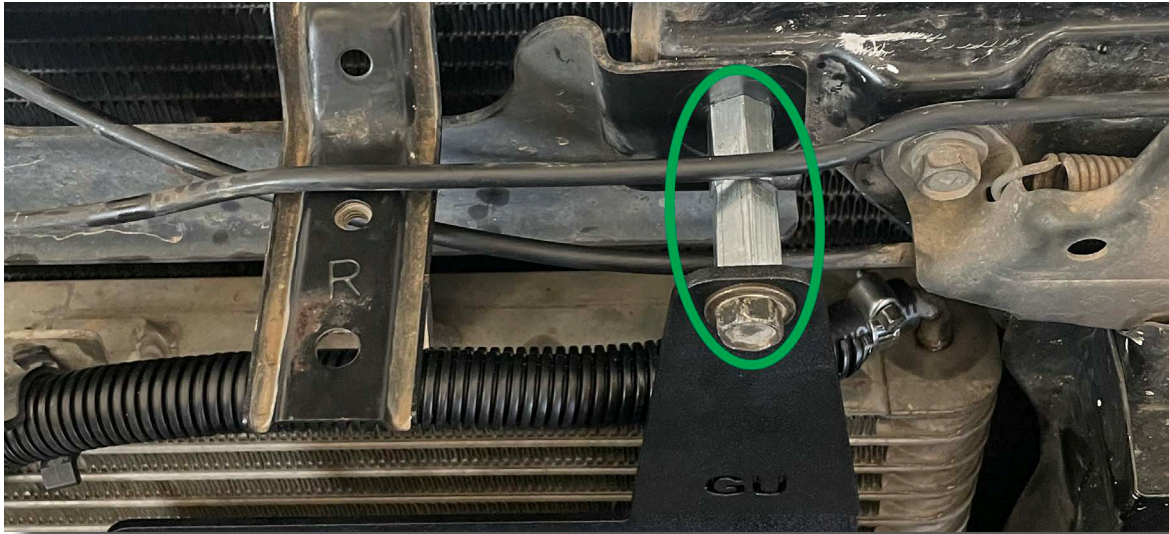


12. Route the 5/16" hose fitted to the front cooler lower barb over to the upper barb on the factory transmission cooler. Trim this hose to length and fit it to the upper barb on the factory transmission cooler. Secure with one of the supplied 8-16mm" hose clamps.



13. The upper mount of the cooler bracket can now be secured.

For Series 1-3: Install the supplied coupling nut over the stud the was exposed after removing the factory power steering cooler. Line up the mounting hole in the cooler bracket with the coupling nut, and secure it with one of the M8 bolts removed earlier from the factory lower cooler mounting bracket.

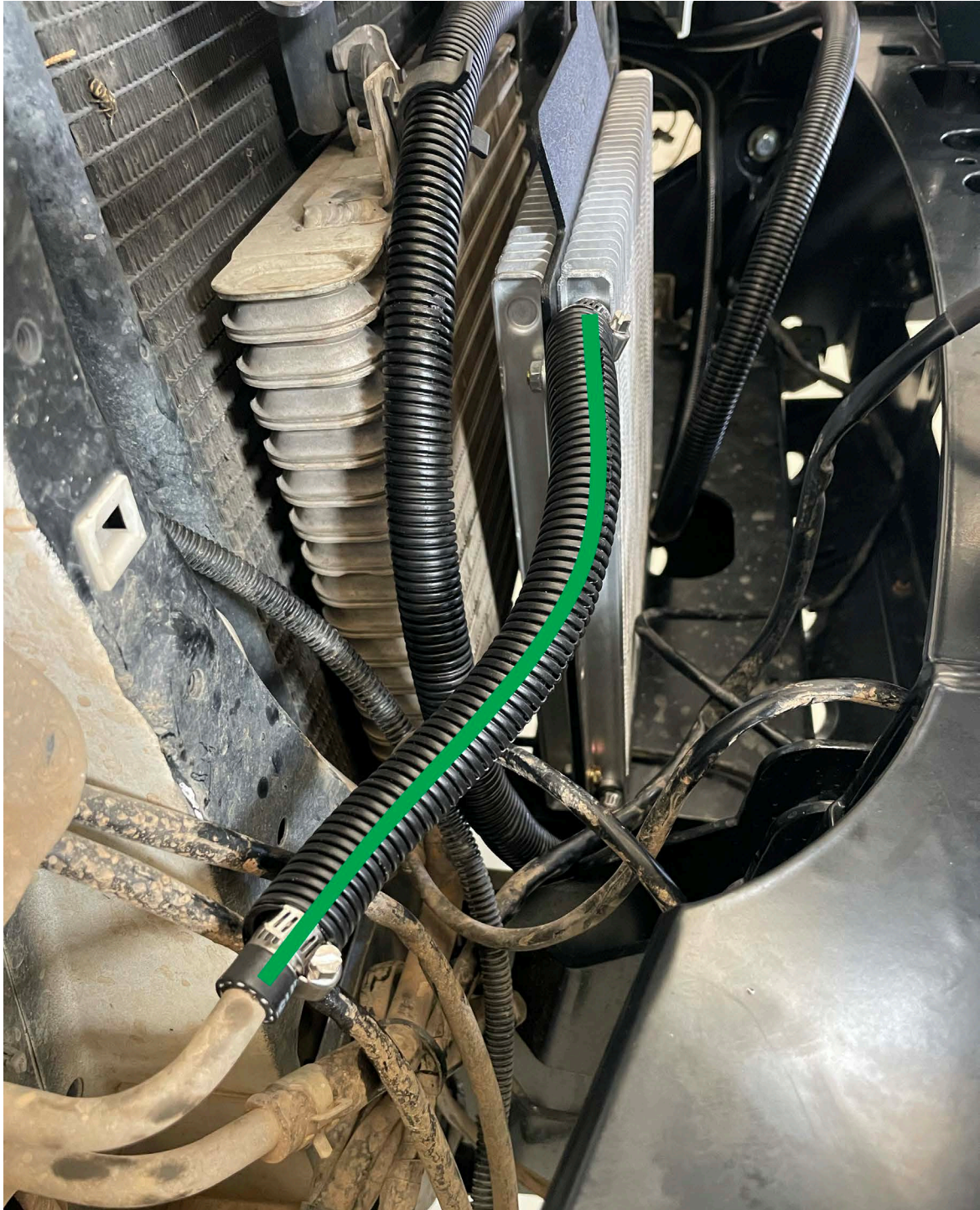


For Series 4 onwards: The coupling nut is not required in these vehicles. Mount the cooler bracket over the stud exposed after removing the factory power steering cooler. Secure with the supplied M8 nut.

Tighten the lower mounting bolts once the upper mount is secure.



14. Install the remaining 5/16" hose to the upper barb of the new front cooler and secure with one of the supplied 8-16mm hose clamps. Route this hose to the factory steel transmission fluid return line exposed earlier and trim the hose to length. Install the hose onto the steel line and secure with the remaining 8-16mm hose clamp.



15. Install the 3/8" hose to the lower barb of the new rear cooler and secure with one of the supplied 14-16mm hose clamps. Route this hose to the lower of the two barbs previously installed in the power steering rubber lines and trim to length. Secure the new hose to the power steering hose barb with one of the supplied 14-16mm hose clamps.

Repeat this step with the upper barb on the new rear cooler.



16. Secure the new power steering hoses with cable ties.
17. Refit the lower trim pieces, headlights and grill in the reverse order of the removal process.

Fluid Top Up Instructions for RE4 4 Speed Auto with Dipstick

18. Identify the power steering reservoir. This is mounted on top of the power steering pump, towards the front of the engine bay on the left hand side. Remove the decorative cover (if fitted) and remove the reservoir cap.





19. Fill the power steering reservoir to the correct level.
20. With the handbrake on and the transmission in park, start the engine.
21. Once some fluid has been sucked into the power steering lines top up the power steering reservoir with fresh power steering fluid. Try to prevent the power steering reservoir from running dry.
22. Once the power steering reservoir no longer accepts more power steering fluid turn the steering wheel from lock to lock until no more air bubbles appear in the power steering reservoir. If necessary, top up the power steering reservoir to the correct level.

23. With the engine running check the level in the power steering reservoir using the dipstick on the bottom of the power steering reservoir cap. Install the cap, then remove it to check the level.

The fluid should be level with the top of the Cold column if the engine has only be running for a few minutes. Add power steering fluid if the level is too low, or use a syringe or similar to remove some fluid if the fluid level is too high. Replace the decorative cover (if fitted).

We recommend checking the fluid level the next day too as the power steering system is likely to bleed out any remaining air over the next few drives.



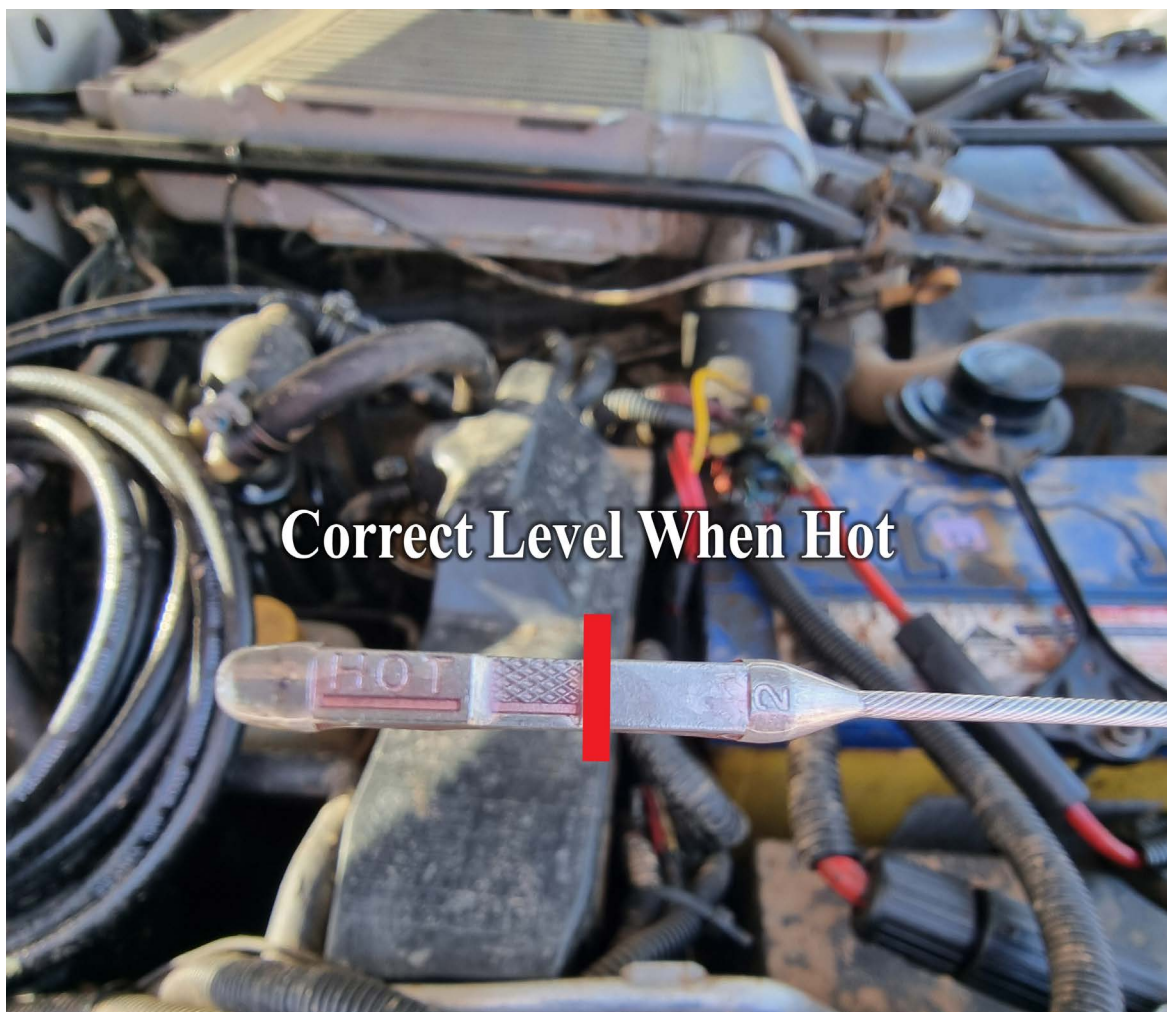
24. Now you can check the transmission fluid level.

With the handbrake on and the transmission in Park start the engine. Move the shifter through all gear positions, stopping in each one for a few seconds to ensure all the clutches are full of transmission fluid. Put the transmission back in Park.

25. With the engine still running locate the transmission dipstick. This is on the left hand side, at the back of the engine bay about half way down the side of the engine block. Remove the dipstick.



26. Check the level on the dipstick. If the engine has only been running for a few minutes and the fluid is cold, use the 'Cold' side of the dipstick. If the transmission fluid is already hot (above 50°C), use the 'Hot' side.
27. The correct fluid level is at the top of the checkered section of the dipstick. If the fluid level is too low, add some transmission fluid through the dipstick tube. We recommend adding a small amount of transmission fluid at a time, then waiting at least 60 seconds to allow the fluid to drain into the transmission.



28. After giving time for the fluid to drain, reinstall the dipstick in the dipstick tube. Re-check the fluid level and repeat the top up process if necessary until the transmission is full to the correct level.

Road Test and Final Steps

29. When taking the vehicle for the road test after installing the coolers try to drive in different types of conditions like coasting, heavy acceleration and engine braking.
30. While test driving it is a good idea to monitor the transmission temperature closely for any anomalies, like a higher than expected transmission temperature which could indicate a blockage or restriction in the cooler lines.
31. After the road test visually check all the new connections for signs of fluid leaks. Retighten any fittings if necessary.
32. With the engine still running check the transmission fluid again after the test drive. If necessary, top up the transmission fluid to bring it to the correct level as per the previous instructions.
PLEASE NOTE: THE TRANSMISSION FLUID MAY BE QUITE HOT.
33. With the engine still running check the level of the fluid in the power steering reservoir. If necessary, top up the power steering fluid to bring it to the correct level as per the previous instructions, using the 'Hot' level not the cold as before.
PLEASE NOTE: THE POWER STEERING FLUID MAY BE QUITE HOT.
34. If any fluids need to be topped up repeat the road test and then check the fluid levels again.
35. Check for any spilled fluids on the vehicle and clean if necessary.
36. Refit any remaining trim pieces and bash plates.

This completes the installation of the Dual External Transmission Oil Cooler Kit

To suit:

Nissan Y61 GU Patrol ZD30 with RE4 4 Speed Automatic

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

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.

