

COOLMASTER *OFFROAD*

External Transmission Oil Cooler Kit Suitable for:

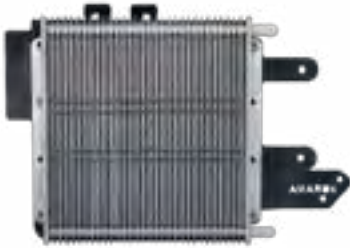


**Volkswagen Amarok 2H with 8 Speed
8HP45 & 8HP70 Automatic Transmissions**

**WITH CSHA - 2.0L TURBO DIESEL, CSHA - 2.0L BI TURBO DIESEL
& DDXE - 3.0L V6 TURBO DIESEL ENGINES**

*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 your local ALLTRANZ branch.*

Parts List:



1 x Cooler Bracket with cooler fitted



1 x pair VW Amarok 8HP Custom Unions



2.5m x Cooler Line Hose with Conduit



1 x Union Retaining Clip



1 x T30 Torx Bolt



4 x 8-16 Screw Clamps



1 x Endcap O-Ring



1 x Brass Slug
1 x Thermostat Spring



1 x Upgraded All Aluminium Pipe Clamp

Expected Installation Time: ~ 3 Hours

Summary of Installation - For Experienced Fitters

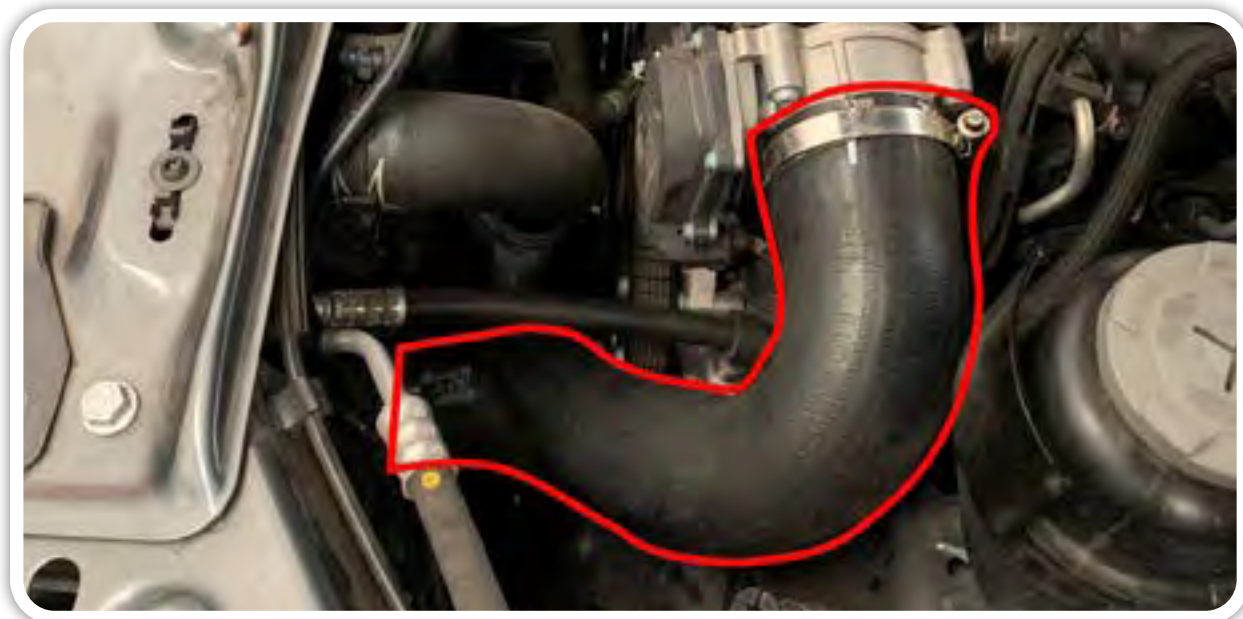
- *SAFETY FIRST: Allow engine, transmission and transmission fluid to cool prior to starting work to prevent serious injury.*
- *Remove front grill, engine cover and air intake hose between Throttle body and Intercooler. Cover intake openings for safety.*
- *Remove horns first then remove horn mount assembly by removing 13mm nut underneath radiator support.*
- *Fit hose to cooler with screw clamps but don't cut hose loop.*
- *Loosen diagonal brace bolts and slide cooler behind brace bolts.*
- *Fit Pipe clamp to lower mount and secure top and bottom mounts.*
- *Fit Horns to cooler bracket using original hardware - horns must point down to avoid water ingress.*
- *Remove the two (2) T30 Torx bolt holding both upper and lower cooler lines in the Thermostat housing (behind radiator). The lower T30 torx bolt will be used for the union retaining clip while being replaced with supplied new T30 torx bolt*
- *Remove the one (1) T30 Torx bolt holding the thermostat housing to the chassis.*
- *Remove endcap and replace thermo valve and spring with supplied brass slug and thermostat spring. Brass slug is installed first.*
- *Re-install thermostat housing to chassis using T30 Torx bolt.*
- *Insert Flanged Union with O-Ring into Port G-Out and secure using flange on original cooler line inserted into Port G-In. Use supplied New T30 torx bolt.*
- *Insert factory cooler line for G-Out into Bare Round Union and secure with union retaining clip and original lower cooler line T30 torx bolt.*
- *Route Cooler lines to new unions. Cut, install and secure with screw clamps. Lines are bi-directional.*
- *Check all parts are secure and no loose items can come into contact with hot or moving parts.*
- *Start vehicle and check transmission fluid level. Top up if required using manufacturers recommend transmission fluid - Lifeguard 8*
- *Clean any transmission fluid spilt during installation. Re-install any parts removed*
- *Test drive vehicle for at least 10 minutes. Check for leaks.*

Detailed Installation Instructions

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

COOLER BRACKET MOUNTING

1. Open bonnet.
2. Remove engine cover (if fitted) and then locate and remove the air intake pipe between intercooler and throttle body. Cover intake openings to prevent foreign objects falling into openings.



3. Remove the two (2) T30 torx screws from the outer edge of the radiator shroud and the two (2) plastic clips towards the inside edge.



4. For vehicles with factory bumper, unclip the twelve (12) clips holding the bottom of the grill to the bumper.
5. For vehicles fitted with aftermarket bullbars, there may be additional mounting bolts that will need to be removed to free the grill. Please refer to the bullbar manufacturers installation instructions for further details.
6. Remove horns from mounting brackets by removing the nuts and washers holding each horn. Save hardware for later use.



7. Remove the 13mm nut holding the horn bracket assembly from underneath the horn bracket.



8. Loosen the two (2) bonnet catch bolts holding the top of the diagonal brace bars to give approx 6mm gap.

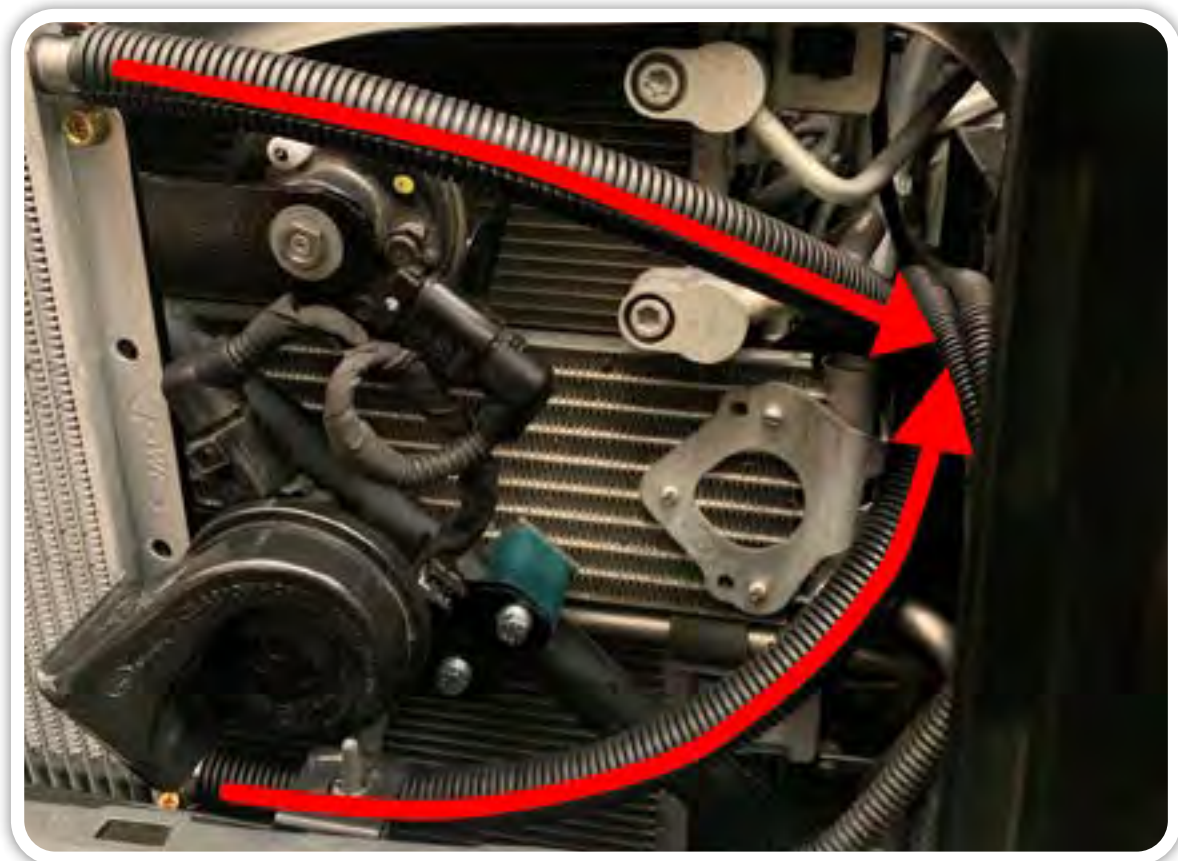


9. Fit the supplied cooler hose to the two fittings on the cooler and secure with two (2) hose clamps. Do not cut the looped end yet.

- 10.** Lower the cooler bracket into place and slide the two (2) upper mounting wings behind the diagonal brace bars.



- 11.** Route cooler hoses through gap beside radiator on passenger side.

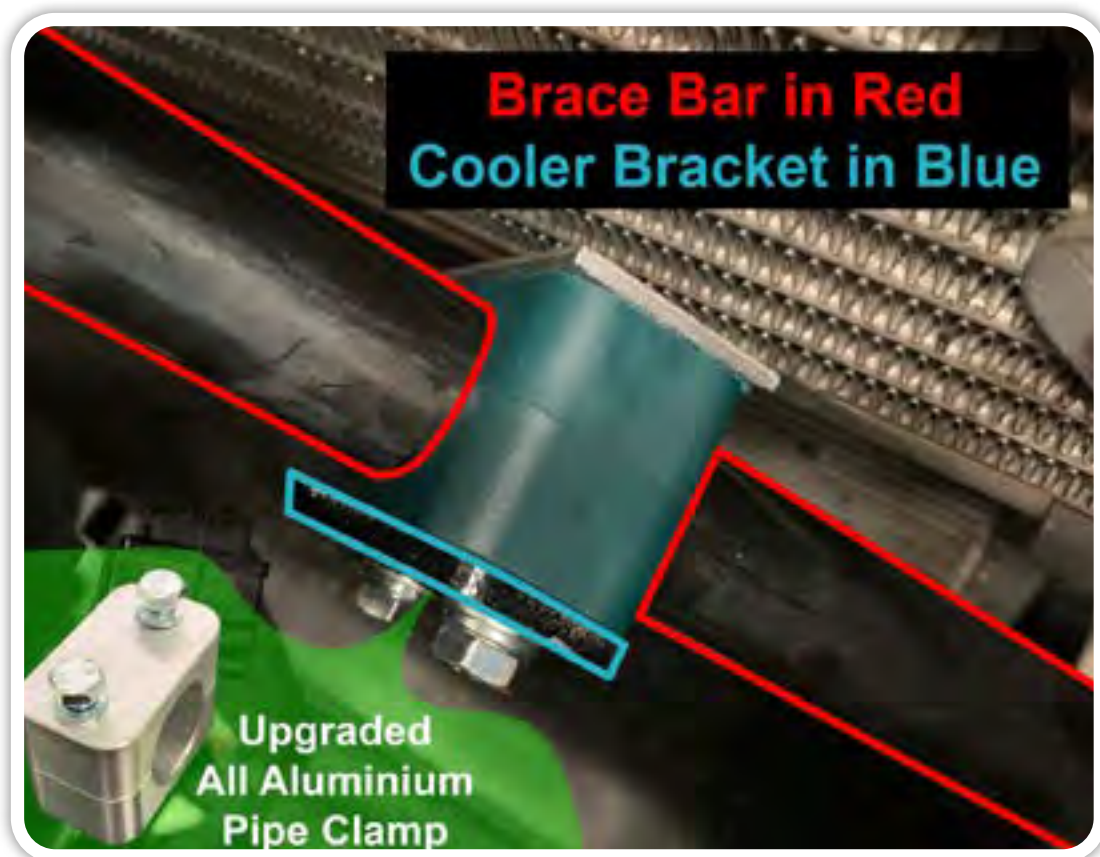


- 12.** ***We have upgraded the pipe clamp to an all aluminium two piece clamp to aid fitting in the tight space behind the brace bar. The second half of the clamp is threaded which means we no longer require the seperate plate.***

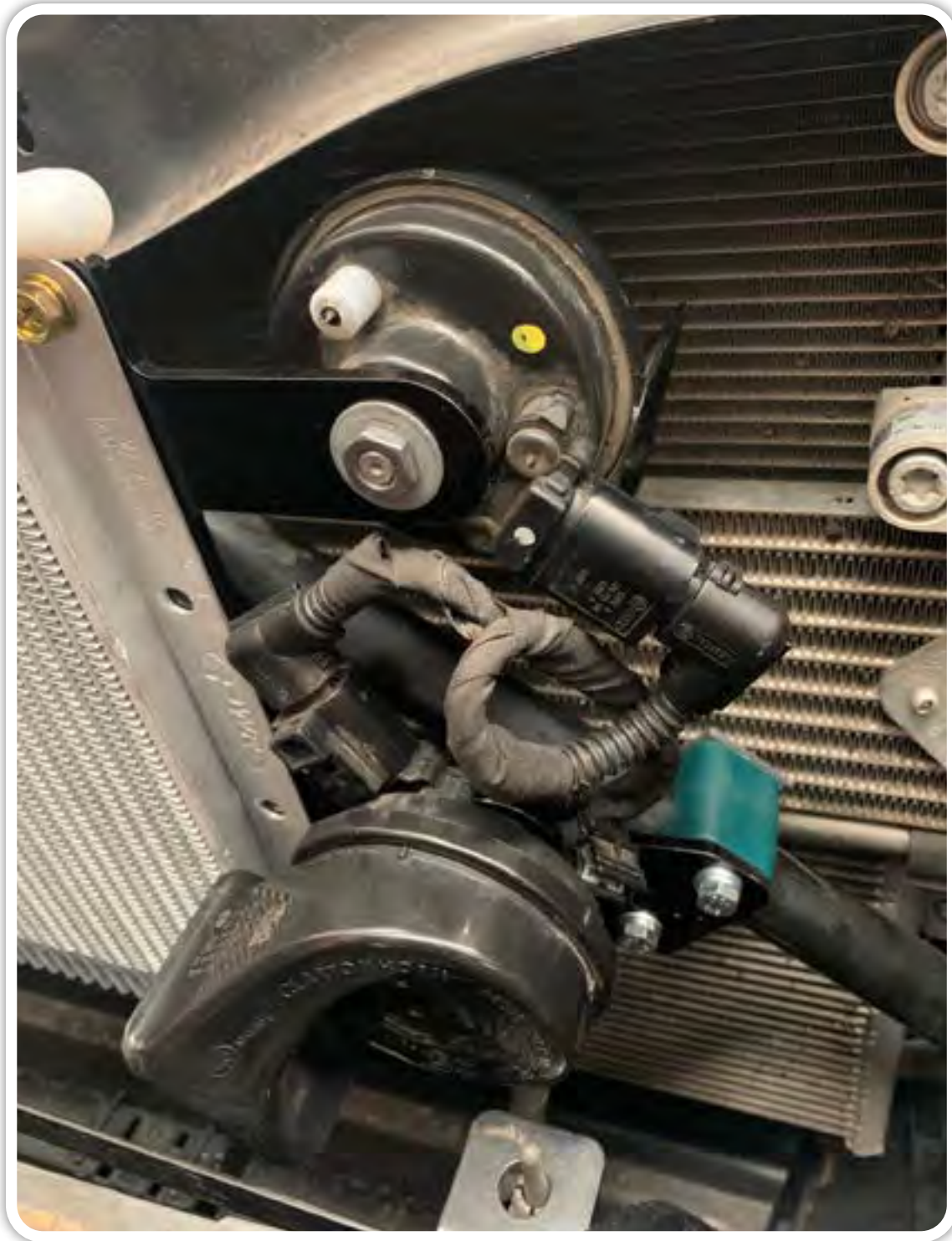
Remove the two (2) bolts and washers from the upgraded pipe clamp. Place the non threaded clamp half between the cooler bracket and the brace bar and feed the two (2) bolts and washers through to hold in place.

Place the pipe clamp half with the threaded holes behind the brace bar and screw the two (2) bolts into the threaded half.

Tighten both bolts to secure.



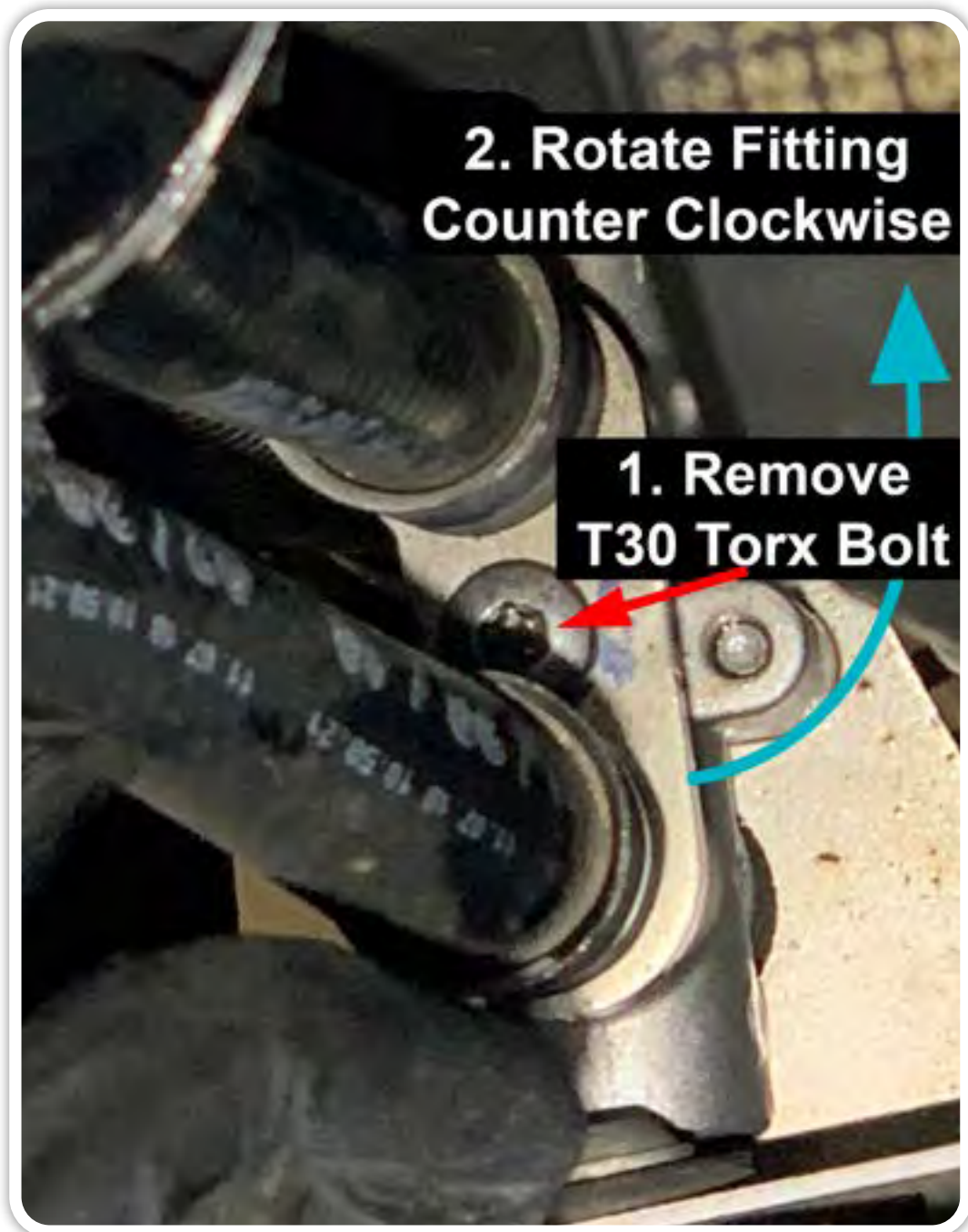
- 13.** *Mount horns to cooler bracket using original hardware. Upper horn mounts facing rearwards, lower horn mounts facing forwards. Ensure the orientation of both horns are facing downwards to avoid water ingress.*



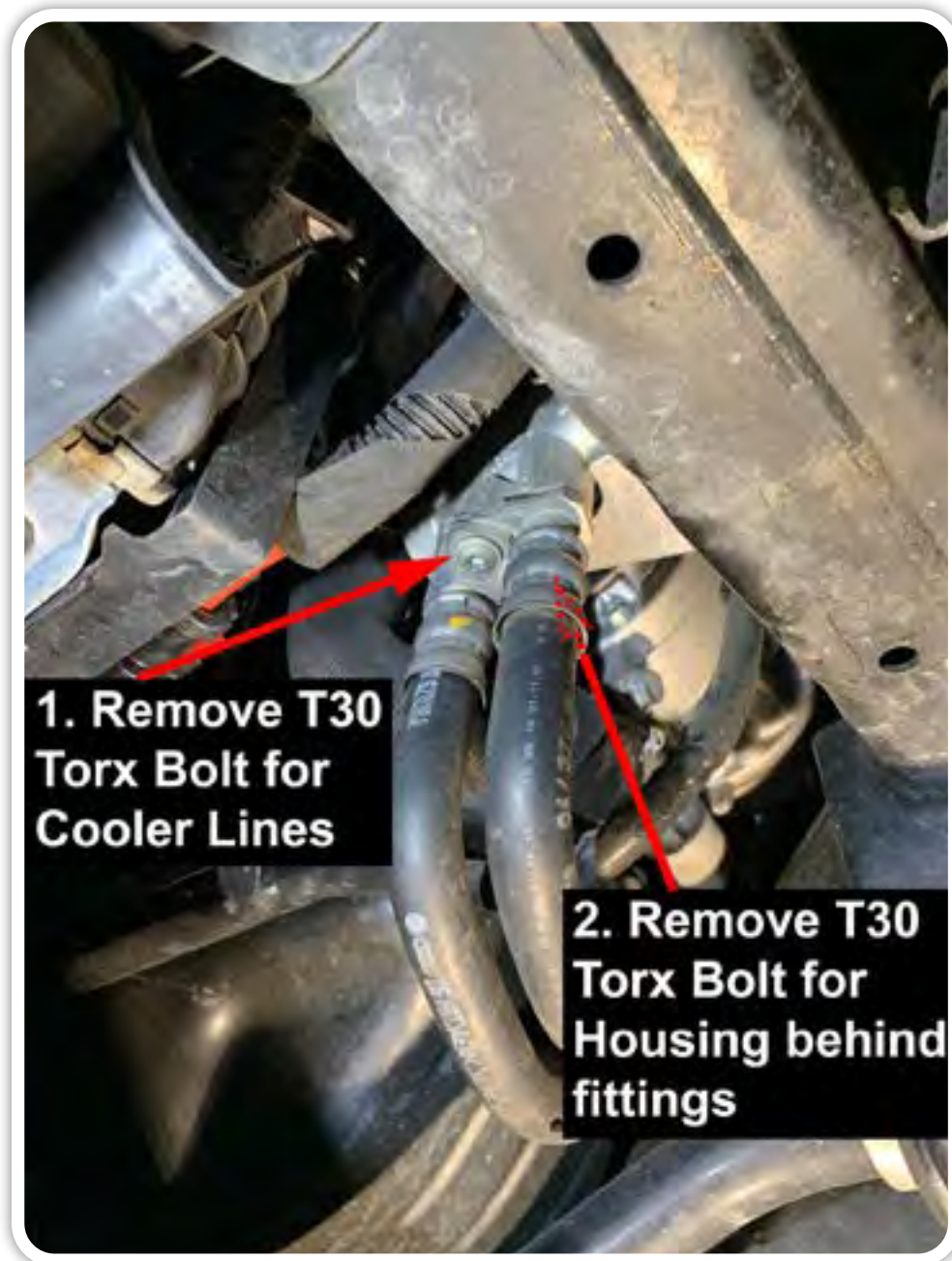
- 14.** *Tighten all mounting bolts to secure cooler bracket in place.*

THERMOSTAT HOUSING

15. Locate the top of the thermostat housing in engine bay directly in front of serpentine belt.
16. Remove the T30 torx bolt inbetween the two upper cooler lines, then remove upper cooler lines. The line closest to the engine, twist counter clockwise and remove first.



17. Under the vehicle, remove any bash plates that prevent access to the thermostat housing. The thermostat housing is mounted to the inside of the chassis rail, near the radiator and A/C compressor.
18. Remove the T30 torx bolt that secures the two lower cooler lines, then remove lower cooler lines. The line closest to the engine is removed first.
19. Locate the second T30 torx bolt under the thermostat housing and remove. This is the bolt that secures the thermostat housing to the chassis.



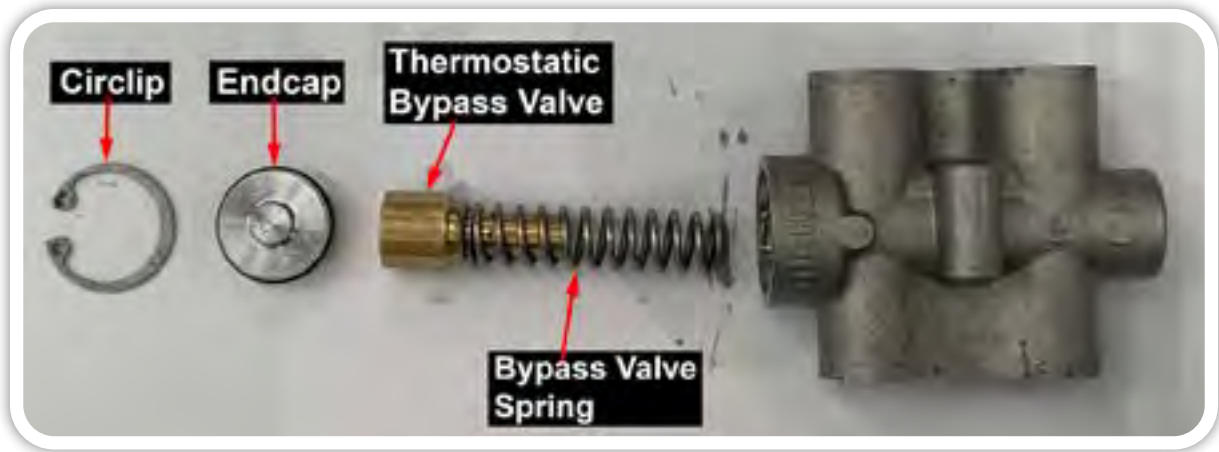
- 20.** *With the thermostat housing on the bench, using the circlip pliers and your fingers, apply pressure to the endcap enough to remove circlip.*



- 21.** *Slowly release the pressure on the endcap and allow it to come out. You may need to manipulate the endcap to get it to release. Keep your hand covering the endcap to prevent it from flying off due to the internal spring.*



- 22.** Remove the thermostatic bypass valve and spring. These are no longer required but may be saved if wishing to return to standard configuration.

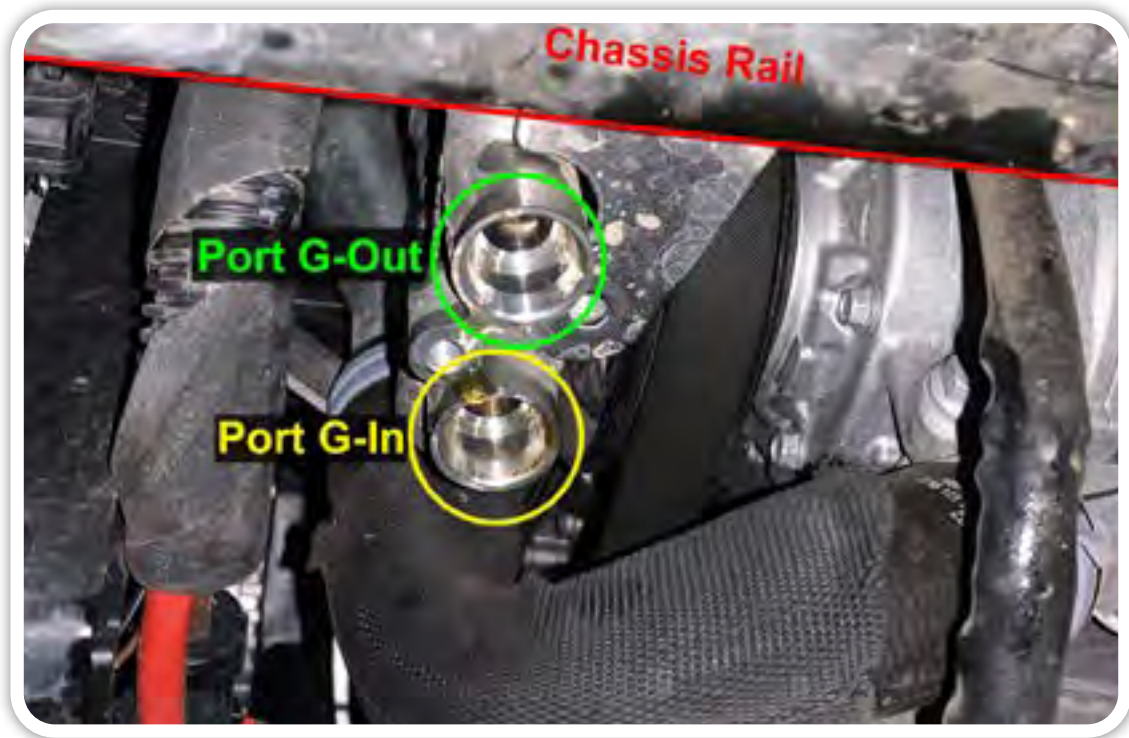


- 23.** Replace endcap o-ring with supplied o-ring if it looks damaged in any way.
- 24.** Insert into the now empty thermostat housing, the supplied brass slug first followed by the supplied spring.



- 25.** Using the circlip pliers, circlip and your fingers, push the endcap down on the spring to locate the circlip in place. Once the circlip is holding, push down on multiple locations around the circlip to ensure it is fully locked.
- 26.** Reinstall the thermostat housing onto vehicle by installing the T30 torx bolt that holds the housing to the chassis.

27. For the next step, please take note of the names of the following parts so that it all makes sense. The changes being made are to only one port - G-Out.



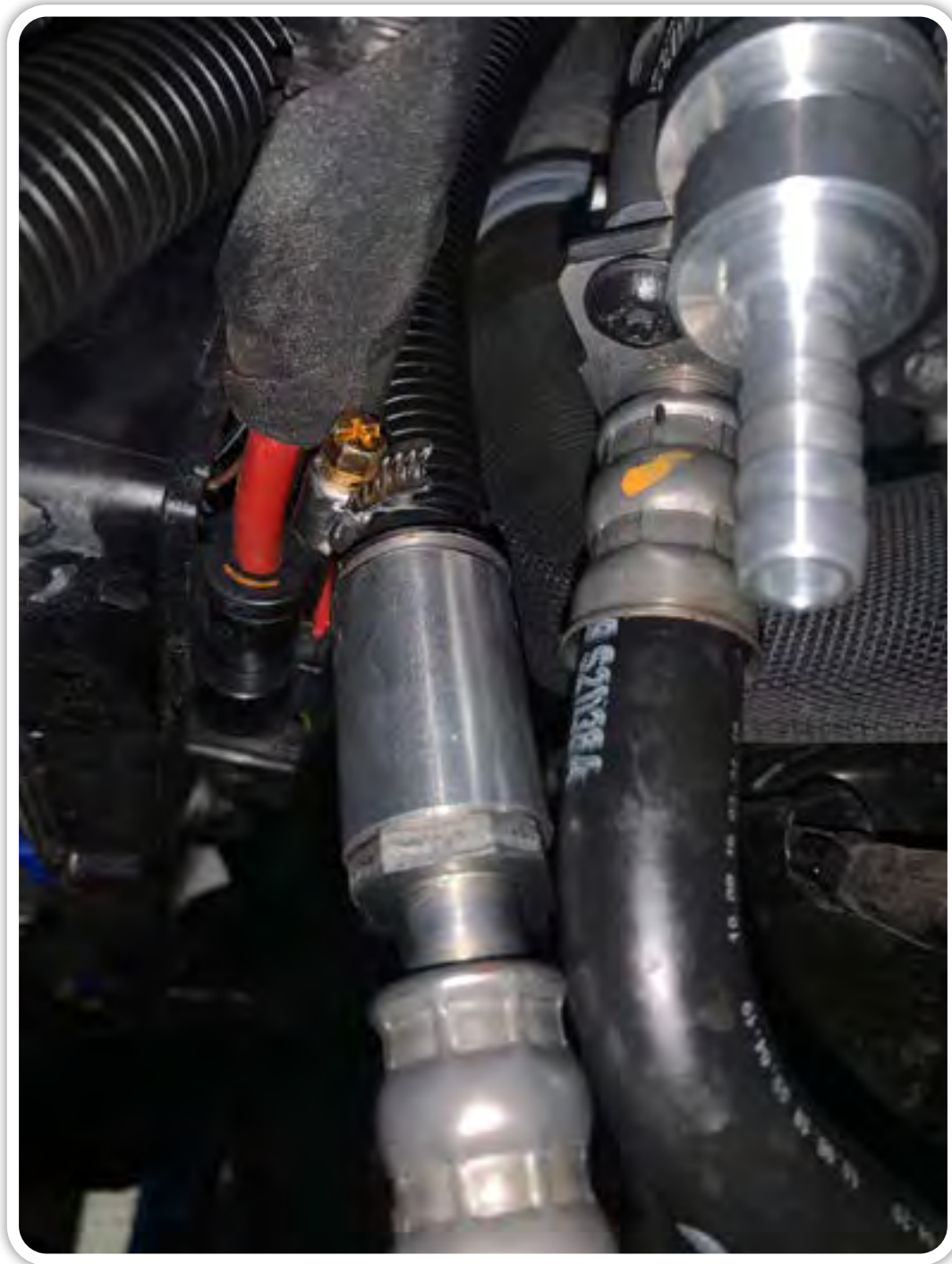
- 28.** First install the Flanged Union into the port labelled G-Out. Insert the factory original fitting into the port labelled G-In. The flange on the original fitting also secures the Flanged Union in place. Secure with supplied T30 torx bolt only. Do not use original bolt.



- 29.** Insert original cooler fitting from port G-Out into the Bare Round Union. Secure in place with supplied union Z bracket and original T30 torx bolt replaced in previous step.



- 30.** Route cooler hose from new cooler down to custom unions. Cut one side of the looped cooler line for the Bare Round Union (the cooler lines are multi directional - it does not matter which way it flows). This union will sit beside the thermostat housing once complete. Secure with screw clamp.

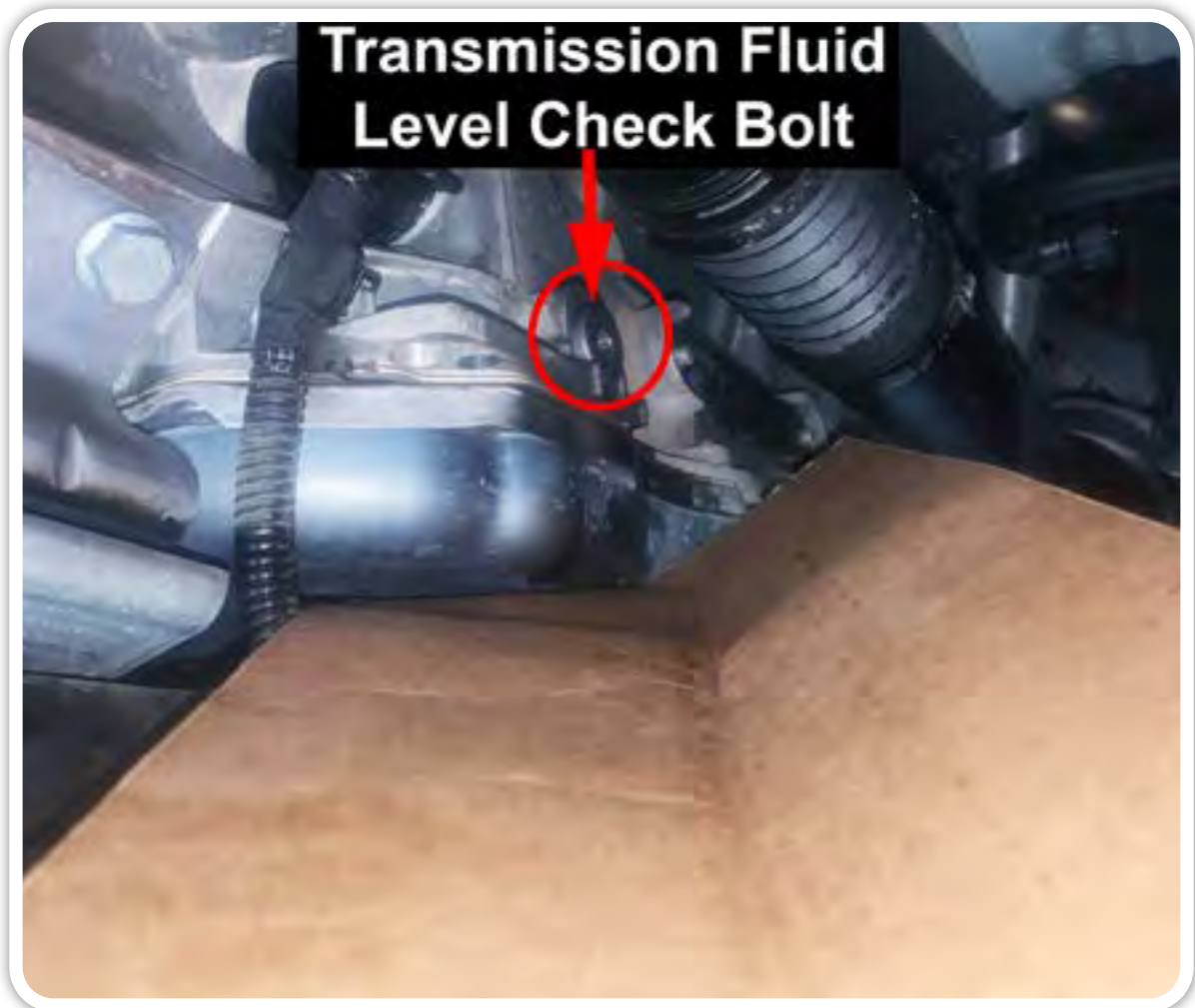


- 31.** *Fit the looped hose to the Flanged Union in port G-Out and secure with supplied screw clamps.*



- 32.** *Cable tie all cooler lines under the vehicle to prevent them coming in contact with hot or moving parts.*
- 33.** *In the engine bay, re-install the two upper cooler lines into the housing. The cooler line closest to the chassis must be inserted first. Re-install T30 torx bolt to secure lines.*
- 34.** *Cable tie all cooler lines in the engine bay to prevent them coming in contact with hot or moving parts.*
- 35.** *Re-install the air intake pipe removed in step 2 and secure. Re-install engine cover (if fitted).*

36. Before installing front grill, please re-check all fittings are tight and that there is no wiring touching the cooler.
37. Re-install front grill by pushing the twelve (12) clips into factory bumper first then secure using the two (2) T30 torx bolts and two (2) plastic clips.
38. Have someone start the vehicle and ensure vehicle is in Park with Handbrake firmly on and their foot firmly on the brake.
39. To assist with cleaning, for the next step, cut some of the cardboard from the box the cooler kit was transported in to create a funnel for the transmission fluid. This will prevent transmission fluid from ending up in the crossmember and creating quite a mess.



- 40.** Fit the looped hose to the Flanged Union in port G-Out and secure with supplied screw clamps.



- 41.** If no fluid is coming out of this check hole, add transmission fluid until the fluid trickles out. This indicates the transmission fluid is at the correct level.

PLEASE NOTE: TRANSMISSION FLUID LEVEL MUST ALWAYS BE CHECKED WITH THE ENGINE RUNNING.

THE MANUFACTURER SPECIFIES THE USE OF LIFEGAURD 8 TRANSMISSION FLUID.

- 42.** Re-install check bolt and tighten.
- 43.** Clean any spilt transmission fluid from the vehicle, then re-install bash plates (if they were removed).
- 44.** Test drive vehicle for 15 minutes minimum to ensure all air pockets are removed from the cooling system.
- 45.** Recheck all surfaces, unions, screw clamps and cooler lines for any signs of leaking. Tighten fittings if necessary. Repeat test drive if leaks were present.

***This completes the installation of the
External Transmission Oil Cooler Kit to Suit
Volkswagen Amarok 2H with 8 Speed Automatic Transmission***

***PLEASE REMEMBER ALL AUTOMATIC TRANSMISSIONS HAVE A SERVICE INTERVAL OF
2 YEARS OR 40,000KM TO IMPROVE THE LONGEVITY OF THE TRANSMISSION.***