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T2 Complete Cooling System Installation

Immediately upon delivery, open all packages and check the contents of the shipment. Report any issues directly to SCP within 15 days. After 15 days, SCP will not be responsible for missing or damaged items.

INSTALLATION

Congrats on your purchase of the T2 Complete Cooling System. Installation is rather simple and is the same for all T2 buses. Just follow the instructions below and feel free to reach out if you have any questions.

KIT CONTENTS

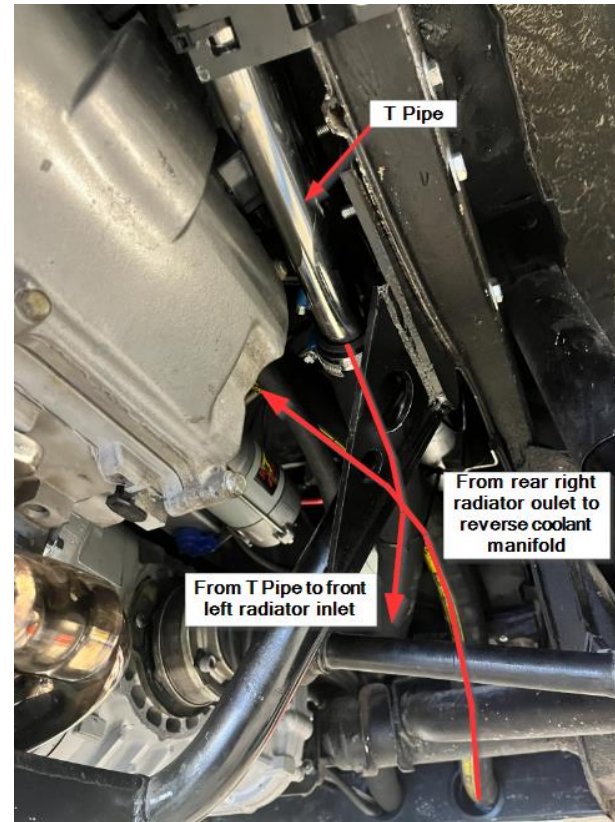
- | | |
|---|---|
| <ul style="list-style-type: none">• (1) Pre-assembled Radiator Shroud Assembly• (4) 15-24 mm Hose Clamps• (2) 22-32 mm Hose Clamps• (2) 32-44 mm Hose Clamps• (6) 38-50 mm Hose Clamps• (3') 5/8" Heater Hose• (1) Stainless Steel T-Pipe• (1) Thermostat to T-Pipe Hose• (1) T-Pipe to Bottle Hose• (4) Radiator Hanger Brackets• (1) Hose Reducer Fitting 1.25" to 1.5" | <ul style="list-style-type: none">• (2) 1.5" Barb Hose Fitting• (14') 1.5" Coolant Hose• (1) Coolant Reservoir Bottle Bracket• (1) Coolant Reservoir Bottle• (1) Coolant Reservoir Bottle Cap• (1) Coolant Expansion Tank• (1) Coolant Expansion Tank Cap• (1) Coolant Level Sensor• (42") 7 mm Braided Hose• (1) Reverse Coolant Manifold and Heater Pipe Kit |
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1. You'll receive a completely assembled shroud, radiator, and fan assembly. That assembly is to be installed to the bottom side of the bus with the fan side down and the scoop at the front main cross member.
2. Your radiator assembly will have two outlets. The front left side inlet will go to the "T Pipe". The T Pipe serves as a junction between the coolant bottle, thermostat housing, and the radiator. This T Pipe should be mounted to the right side of the engine bay. The rear right side outlet will go to the reverse coolant manifold. The reverse coolant manifold is installed onto the engine prior to engine installation. At the end of this document there a more information on that install.
3. You'll receive 14 feet of 1.5 inch coolant hose in your kit. This needs to be cut to length for each of the coolant runs. To get these lengths you can set the radiator in place, measure, cut, and take it back down for install.

Note: Not all busses will have heater pipe holes as seen in the photo to the right. If you don't have these holes you can drill them or get creative with another solution.



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4. Attach the 1.5 inch hose to the radiator outlet hoses using 38-50 mm hose clamps and the 1.5 inch barbed couplings. Be extra sure to tighten these clamps adequately as they're hard to get to once installation is complete.



5. Once the hoses are in place you can lift your radiator up into position. The front opening of the radiator should line up with the front cross member of the bus. Drill 3 self-tapping screws through the laser cut holes in the shroud into the cross member. You can add extra screws if you'd like (as was done in the image on the right).

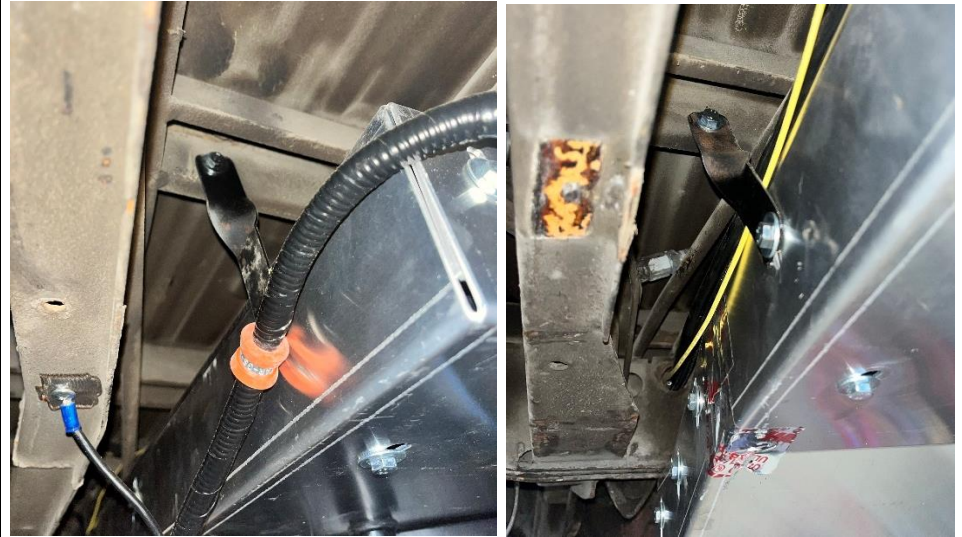


6. Next, you'll be using the 4 stainless brackets to secure the radiator to the bus. These brackets require a 90-degree twist in their centers in order to fit. Using a vice and a crescent wrench give them a twist in the center. The two holes should be 90 degrees from one another.

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7. The brackets attach to the shroud using the existing bolts that run down its side. These bolts go into rivet nuts. Remove the bolt, put the bolt through the bracket, and rethread into the rivet nut. If twisted correctly, the brackets will line up with existing holes in the bus cross members as shown to the right. Brackets must be installed at the left and right front and rear most shroud bolts. See the images to the right for locations.



8. You can now wire the fan to your bulkhead harness. If your harness was modified or manufactured by Small Car Performance, you'll have labeled leads for the fan wiring. The wires on the fan follow the colors below.

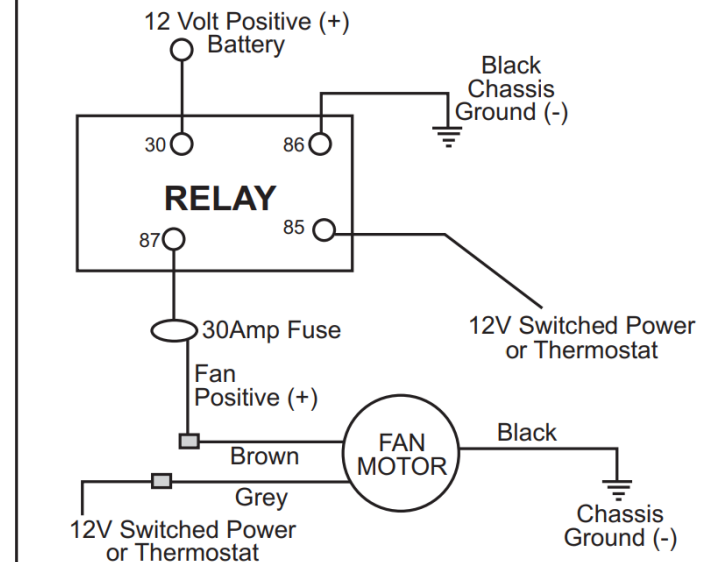
Black: Ground (-)

Grey: Low Speed Fan (+)

Brown: High Speed Fan (+)

The high-speed fan must be powered from a load reduction relay. You can also use a load reduction relay for the low-speed fan. Use the Subaru ECU's factory fan controls to trigger these relays. Relays are not supplied with this kit. They'll come with your harness or can be bought separately.

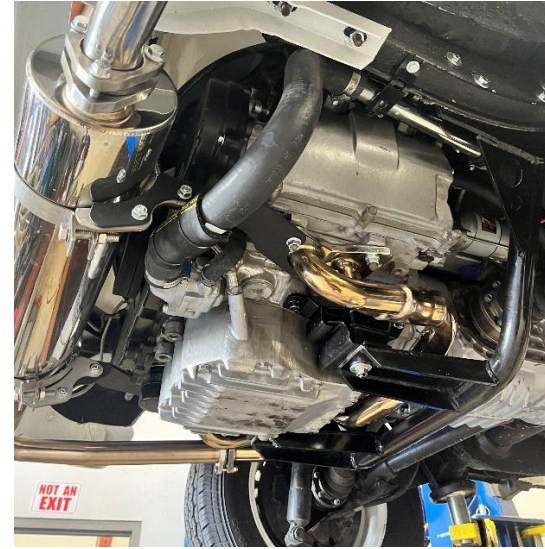
Diagram #8 Low & High Speeds



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9. You'll now install the thermostat to T Pipe hose. This is a preformed hose. Secure it to the T Pipe and thermostat housing using the two 32-44 mm hose clamps.



10. Now is a good time to connect the 1.5 inch coolant hose to the T Pipe and reverse coolant manifold. The connection to the reverse coolant manifold is straight forward. However, the connection to the T Pipe requires the use of the 1.5 inch to 1.25 inch reducer in your kit. Slide the reducer into the end of the 1.5 inch hose then slide that over the T Pipe. Secure both with 38-50 mm hose clamps.

11. You must now install your coolant expansion bottle. You'll have either a plastic or a metal bottle. The installation for both is the same. Secure the bottle bracket to the right-hand side of the engine bay using whichever method you prefer. We usually drill through holes and use nuts and bolts. Then, secure the bottle to the bracket using M6 hardware.



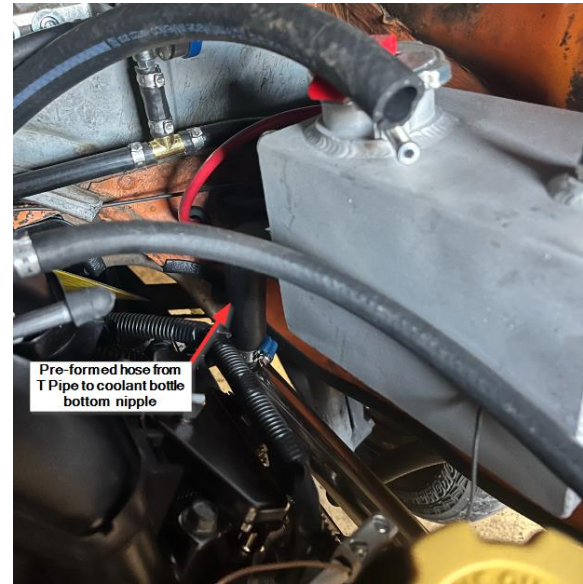
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12. You'll also need to install the overflow bottle that is included in your kit. This bottle is secured using M6 bolts. You'll need to get creative with bracketry if you'd like the bottle mounted as shown to the right.
13. Once both bottles are installed connect the two with the 7 mm hose in your kit. This hose runs from the nipple below the radiator cap on the expansion bottle to the only nipple on the overflow bottle. Spring clips or clamps are optional on this hose as it is low pressure.



14. Take the remaining pre-formed hose. Use this hose to connect the top nipple of the T Pipe to the lower nipple of the coolant bottle. Secure with 32-44 mm hose clamps.



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15. Connect the top nipple of the coolant bottle to the brass fitting on the reverse coolant manifold. See image on the right. Use the 15-24 mm clamps to secure this hose.
16. If you are installed a heater, you will use the two ports labeled heater core in the image to the right. If you are not running a heater, you can simply connect these using the remaining 5/8 inch hose and 15-24 mm clamps.

Note: If you have more questions on the installation of the reverse coolant manifold itself, please review the [Vanagon Subaru Conversion Instructions](#). If you still have questions, reach out.



17. The cooling system installation is now complete. You can fill the system. With the radiator being the lowest point of the system it is very easy to bleed. Simply fill, and keep an eye on the coolant level, topping off as necessary.