

# Dodge Viper Gen V (2013+) Differential and Transmission Cooler Kit

#### **Overview:**

This is an all-inclusive transmission and/or differential cooler kit. Per the owner's manual, an external differential cooler is recommended for outings lasting longer than 25 minutes. In general, keeping fluid temperatures cooler extends the life of the fluids and components. This kit ensures stable fluid temperatures in the transmission and / or differential.

Hoses, electrical wiring and control, mounting brackets, coolers, fans, pumps, hardware, and maintenance items are included with the kit. Features include:

- Non-invasive: Installation requires no drilling into the frame.
- Each fan and pump is individually thermally controlled. This conserves battery power as they only turn on when needed.
- Individual thermal control also ensures fluids can stay at operating temperature and do not get unnecessarily cooled.
- System can be configured to be powered with ignition or via a manual switch.
- Compatible with IPSCO IPS440R Rear Tow Hook (ACR Version)
- Control circuit board mounts in the trunk; wiring harness included.
- Maintenance pump switch and clear hose ends to make filling and draining more convenient.
- AN fittings and lightweight synthetic rubber/ braided nylon hose.
- Brackets are all stainless steel and aluminum construction with type III black hard anodized finish.

### **Specifications:**

Brackets: 6061-T6 Aluminum (Black anodize, type III hardcoat), Stainless Steel Hardware

Hose: Braided Nylon Hose with AN Fittings

Coolers / Pumps: Setrab

Weight: Transmission Cooler Only: 7.5 lbs. (dry)

Differential Cooler Only: 13 lbs. (dry)
Combined kit: 19.7 lbs. (dry)

Capacities: Transmission Cooler:  $\sim$ 13 oz.

Differential Cooler: ~24 oz.

# **Variations / Ordering Information:**

http://dougshelbyengineering.com/Viper.html

Transmission and Differential Cooler Kit

 Transmission Cooler, Differential Cooler Fanpack, Transmission and Differential Pumps, Hoses, Control PCB with Wiring Harness, Control PCB Standoffs, Cooler and Pump Mounting Brackets, service clear hose end, manual pump switch, Tywraps

Differential Cooler Kit P/N: DSE-VP-TDK-001

Differential Cooler Fanpack, Differential Pump, Hoses, Control PCB with Wiring Harness, Control PCB Standoffs,
 Cooler and Pump Mounting Brackets, service clear hose end, manual pump switch, Tywraps

Transmission Cooler Kit P/N: DSE-VP-TDK-001

 Transmission Cooler, Transmission Pump, Hoses, Control PCB with Wiring Harness, Control PCB Standoffs, Cooler and Pump Mounting Brackets, service clear hose end, manual pump switch, Tywraps

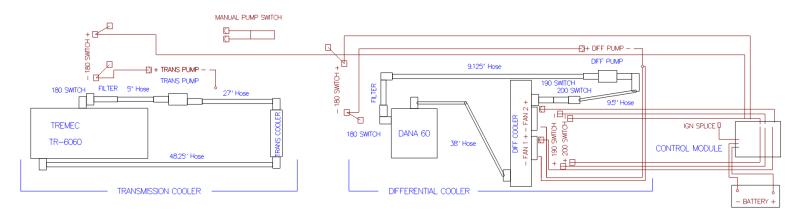
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P/N: DSE-VP-TDK-000

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Your business is appreciated and customer satisfaction is our top priority! Don't hesitate to contact us with any questions or feedback. Word of mouth is the best form of advertising so if you are satisfied please spread the word!

#### **Installation Guide:**



Overall Plumbing and Electrical Diagram for the DSE Differential and Transmission Cooler Kit

### **Preparation**

- Ideally the vehicle has been driven in order to warm the differential fluid and it should be drained at this stage (see details near the end of this document).
- Elevate the vehicle on a lift (ideal) / jack stands. The RR wheel and rotor removal can ease the diff filling process.
- For ACR Extreme Remove Diffuser Brackets (strakes can be left on)
- Remove Belly Pan to allow access to the differential and transmission.
- Note: If installing the IPSCO rear tow hook it is easier to do this before the differential cooler installation due to the IPSCO requirement to drill through the frame and tighten the bolt on the inside of the frame. The pump bracket is designed to allow clearance for this bolt and socket, however it is easiest if there is more space to work with and the pump/cooler fanpack is not in the way.
- Recommended tools: Standard hex key set; AN-6 wrench (such as FRA-900086), adjustable AN wrench, flush cuts, metric socket wrenches, torque wrench, hex key sockets.

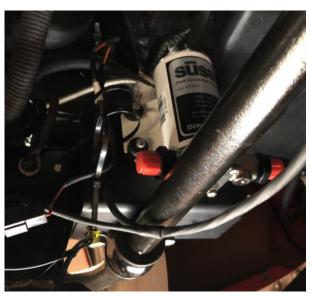




Differential Cooler Kit Plumbing and Bracketry Including Filter, Thermal Switches, Pump and Fanpack

## **Differential Pump Assembly**

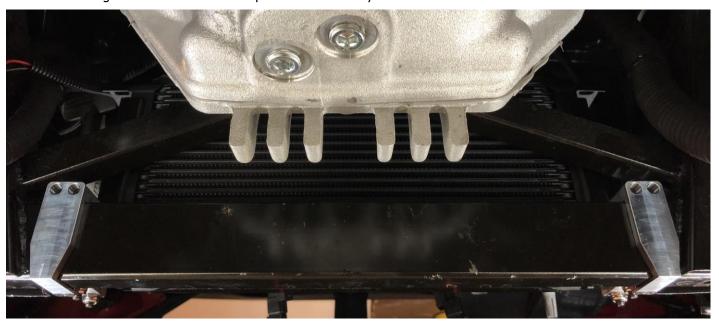
- Remove the hardware from the front and forward side screws of Plastic Diffuser to allow it to flex downward and provide easier access to the rear anti-roll bar area.
- Remove the two bolts attaching the passenger side antiroll bar bushing to the frame
- The differential pump assembly attaches using the two bolts that attach the anti-roll bar bushing to the frame.
  - Maintain the roll bar bushing position against the frame, bushing bracket is sandwiched between the frame and pump bracket.
  - Note: The forward bolt will also serve as the grounding lug for the differential pump and fans. This should be installed at this time.
  - Install the pump assembly, tighten bar bushing retainer bolts to 91 N-m (67 ft. lbs).



Differential Pump Installed with Ground Lug

## **Differential Cooler Fan Pack**

- Prefill the cooler with differential fluid prior to installation to expedite the filling process later.
  - o Install the AN adapter to one side of the cooler and tighten.
  - Fill the cooler with differential fluid. Periodically tip the cooler, raising the fill end to allow air bubbles to escape. The fluid will take time to settle. Repeat until nearly full.
  - o Install the rubber cap on the AN adapter so that it can be tipped at a steeper angle.
  - Once full, install the second AN adapter with rubber cap and ensure both AN adapters are tightened.
- Separate the clamp halves attached to the cooler fan pack
- Keep the front half of the brackets and 10-32 hardware (screws and lock washers) accessible for installation.
- Prep the 10-32 hardware with Loctite.
- o Place the fanpack between the differential crossmember and rear anti-roll bar.
- $_{\odot}$  Install the front clamps one at a time using the locating pins for reference and 10-32 screws / lock washers.
- Ensure cooler is centered on the frame and the front clamp will align over the bottom 4-40 holes before tightening the 10-32 hardware. *Tip: Check clearance to the angled sections of the frame / brackets.*
- o If fit to the frame is not perfect or the clamps will not close completely on the bottom you can adjust the brackets by loosening the 4 socket cap screws and lock nuts that attach the cooler to the bracket.
- o Apply Loctite to the 4-40 flat screws to the bottom of the clamps and install.
- o Completely tighten the 10-32 screws. If you loosened the clamp/cooler hardware ensure it is tightened.
- Tighten the ¼-20 socket caps and lock nuts if you needed to loosen them for the installation.



Differential Cooler Fanpack Installed

# **Differential Cooler Plumbing**

- Note: thermal switches should be installed into their housings with Permatex 56521 Thread Sealant.
- Drain the differential fluid if it has not already been done (see details near the end of this document).
- View the above schematic and photo to identify and assemble the differential hose sections.
- Tighten all thermal switches completely in their housings using the Permatex 56521 Thread Sealant.
- Attach the 180 degree switch/filter leg to the "in" side of the differential pump and tighten the fitting.
- Preliminarily install the filter leg on the outer drain plug of the differential for test fit. Align and tighten all of the AN fittings and switch as shown (do not tighten not the NPT fitting into the differential).
- Prior to installing the pump out/ 190/200 switch leg, orient as shown below and ensure all fittings are tightened (and switches are installed with thread sealant).
- Attach the dual switch leg between the "out" side of the differential pump and passenger side of the differential fan pack. Switch connections should face upward and slightly inward (toward the driver side).
- Attach the NPT leg to the driver side of the differential fan pack. Route the hose around the wiring harness and down across the X frame behind the transmission. The hose will be tied across the X frame as shown.
- Leave the differential NPT fitting uninstalled but loop it down toward the filter leg and back upward.



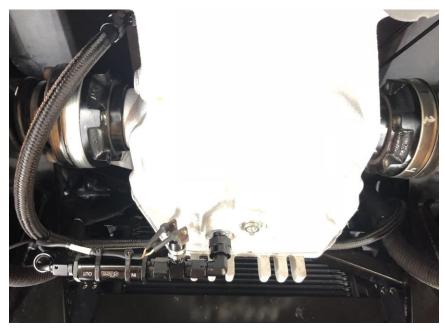


Differential Filter / Switch Leg Installed (left) and Differential Pump Exit / 190 / 200 Switch Leg Orientation (right)



<u>Differential Cooler Exit Hose Crossing The Frame</u>

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Differential Cooler Exit Wrapping Around Wiring Harness and Tied to the Filter Leg To Secure the Hose Away from the Halfshaft

#### Transmission Kit Installation Instructions



Transmission Cooler Kit Plumbing and Bracketry Including Filter, Thermal Switch, Pump and Cooler

## **Transmission Pump Assembly**

- Note: Using a jack or stand to support the transmission / crossmember makes the process easier. If this is not an option, removing / installing the bolts one at a time will hold the crossmember in place.
- o Remove the passenger side transmission crossmember bolts to install the differential pump assembly.
- The transmission pump assembly attaches using these two bolts. Install the rear side first if desired or both sides at once if the transmission is supported.
  - Note: The rear bolt will also serve as the grounding lug for the transmission pump. This should installed at this time.
  - Install the pump assembly, tighten crossmember bolts to 61 N-m (45 ft. lbs.)

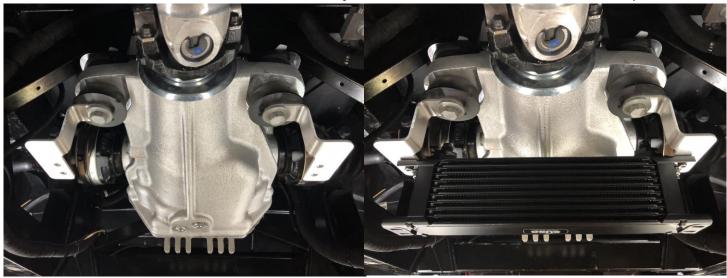


Transmission Filter Bracket (left) / Filter, Pump & Switch Leg Installed with Ground Lug on the Drain Port of the Transmission (center / right)

- o Protect both sides of the transmission filter with the adhesive-backed foam.
- o Install the transmission filter support bracket on the bolt shown.
- Secure the transmission filter to the support bracket to the with a tywrap
- Car build tolerances will vary. Inspect the clearance of the pump to the driveshaft yoke. Note that the OEM transmission mount can move and sag over time. It is recommended to install a polyurethane mount such as the <u>DSE-VP-TM-003</u>: Gen V Viper Polyurethane Transmission Mount Kit to ensure transmission movement will not bring it closer to the pump over time.
- Tighten bolt to 61 N-m (45 ft. lbs.)

#### <u>Transmission Cooler</u>

- Prefill the cooler with transmission fluid prior to installation to expedite the filling process later.
  - o Install the AN adapter to one side of the cooler and tighten.
  - o Fill the cooler with transmission fluid until nearly full, tipping up periodically to remove air bubbles.
  - o Install the rubber cap on the AN adapter so that it can be tipped at a steeper angle.
  - Once full, install the second AN adapter with rubber cap and ensure both AN adapters are tightened.
- Remove the driver side differential support bolt.
- Install the driver side of the transmission cooler bracket. Noting the orientation (bracket tabs should point rearward from the bolts). Tighten the bolt most of the way such that it is still able to be turned.
- Remove the passenger side differential support bolt, rotate and install the passenger side of the transmission cooler bracket and reinstall the bolt.
- Test fit transmission cooler, rotate brackets as necessary. Install cooler using 4 socket cap screws, washers, lock washers, and Loctite.
- Tighten the two differential frame mounting bolts to 135 N-m (100 ft. lbs.)
- Note: For future service it will be easiest to just remove the cooler and leave the brackets in place.



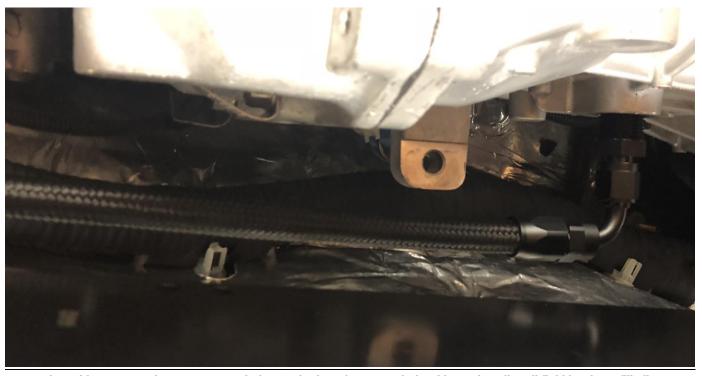
Installation of the Transmission Cooler - Only Brackets Installed (left) and Cooler Installed (right)

## **Transmission Cooler Plumbing**

- o Drain the transmission fluid (see details in the fluid drain/fill section)
- o Note: the thermal switch should be installed into its housing with Permatex 56521 Thread Sealant.
- View the above schematic and photos to understand and assemble the transmission hose sections.
- o Test fit the switch/filter leg to the "in" side of the transmission pump. Leave AN fittings loose for adjustment.
- o Ensure the switch is aligned properly to avoid interference with the transmission or frame.
- o Apply the foam backing to the filter to avoid direct contact with the tywrap block.
- This leg can be secured by the filter connection with a tywrap on the bracket as desired once the NPT fitting is installed in the transmission.
- $_{\odot}$  Using the included Permatex 56521 High Performance Thread Sealant, install the  $\frac{1}{2}$  NPT fitting on the transmission drain port and tighten to 27 N-m (20 ft. lbs.)
- o Attach the filter / switch connection between the NPT fitting and to the pump input side.
- Attach the switch leg to the 27" "out" side of the transmission pump to the passenger side of the transmission cooler. Hoses exiting the cooler should loop gently around the wiring harness and be secured with a tywrap on either side as shown in the photos.
- $\circ$  Attach the 48" line to the driver side of the transmission cooler again looping around the wiring harness.

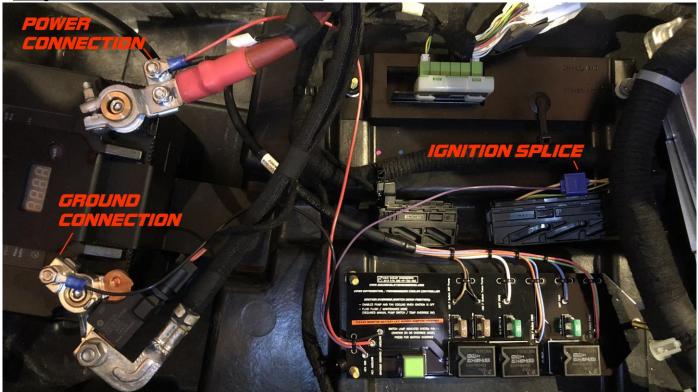


Driver and Passenger Side Hose Routing From Transmission Cooler



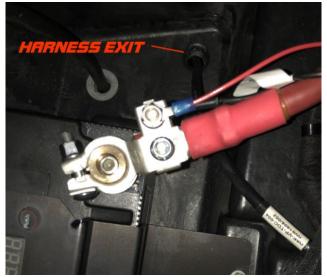
<u>Driver Side Hose Routing From Transmission Cooler into the Transmission (do not install until fluid has been filled)</u>

Wiring Harness and Control Circuit Board Installation



Circuit Board Mounting Location with Power, Ground, and Ignition Connections

- Note: for transmission cooler kits there will only be one wire from the circuit board to the pump.
- Install the control board on the 3x M5 threaded studs as shown. If the car has a suspension controller installed, first install the included standoffs to support the control board above the controller using loctite.
- Apply loctite to each stud and standoff. Secure using the 6 supplied M5 Nuts, two on each stud. Use one nut as a jam nut to secure everything tightly.
- Route the wiring harness through the battery drain hole leaving the red, black, and purple wires in the trunk compartment.
- Make sure the green button is "off" (upper position.



Wiring Harness Exit

- The red wire should go to the battery, the black to battery ground. Use the supplied M6 nuts to connect power and ground.
- o *Ignition Feature (recommended):* This allows automatic operation of the system and prevents parasitic drain on the battery. The purple wire can be spliced into the pink suspension controller harness wire for an ignition signal. Open the splice to capture the pink controller wire and purple ignition wire and clamp/lock down. *If this feature is not to be used, tie up the wire securely.*
- The smaller tywraps can be used to secure the wires in the trunk area. Tie the wires such that they are strain relieved. Use a tywrap near the ignition splice on the other connector wires to secure the purple wire in place.
- The wiring harness runs along the antiroll bar and splits on the passenger side near the differential pump.
- Connect the positive side of the fan connections to the appropriate connections on the wiring harness. It does not matter which fan is #1 or #2.
- Run the 190/200 switch connections run up along the pump bracket (through the tywraps) to the switches and connect taking care to ensure the correct pair goes to the correct switch and the pairs remain together.
- Connect the diff pump and fan extensions (which should be grounded on one side via the ring terminal) to the pump and fans.

- Route the 180 degree Diff Switch and Trans Switch lines forward on the passenger side of the differential.
   The harness split should be supported on the differential pump input hose (if installed).
- Route but leave the pump switch connections disconnected for now so that the pumps can be manually operated during the fluid fill procedure.
- Run the differential switch wire along the hose/filter leg to the 180 degree thermal switch.
- Route the transmission pump switch connection to the transmission pump area and through the tywraps on the bracket to the switch.

## Systems Check and Operation

- With the car/ignition off press the switch on the board. When the pushbutton is lighted green the system is active and in ignition override mode. Return the system to the off state using the pushbutton.
- o If the ignition feature is being used, power the car to the ignition state. Confirm the pushbutton switch on the board is lighted green indicating system power.
- Test the splice connection by moving the wires in the area of the splice with ignition on to ensure the connection is solid. Watch the switch LED for flickering and examine the splice if needed to correct.
- Install the manual switch in place of a thermal pump switch by making the connections on the differential and/or transmission pump switch. With the controller powered (via ignition or manual override mode), push the button to confirm pump operation. Repeat with the other pump.
- You may choose to test the fans as well to confirm operation using the 190/200 switch connections.

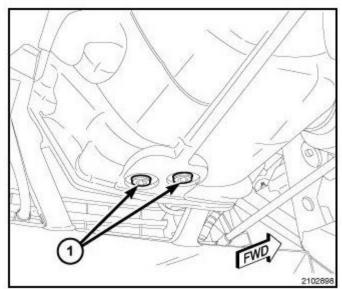
## Fitting Check and Tightening

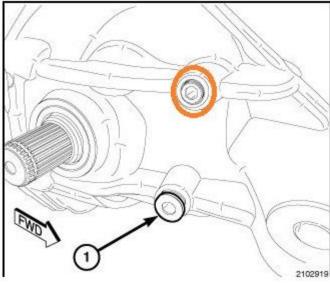
- o Revisit all fittings and switch orientations now that the wiring harness is in place. Orient to the ideal location.
- Fluids will need to be drained prior to installing the transmission and differential drain fittings required for the fill procedure.
- Confirm all AN and NPT fittings other than those required for the fill procedure are tight.
- On to forget to tighten / check the thermal switches are installed with thread sealant.

#### Differential Fluid Drain/Fill

- o Ensure all cooler system hose, sensor, filter, and pump fittings have been tightened and inspected.
- Ensure the switches have been installed with Permatex 56521 High Performance Thread Sealant.
- o Tip: Remove the passenger side rear wheel and rotor to provide extra visibility and clearance.
- o Tip: leaving the car on a battery tender during the fluid filling process will maintain battery levels.
- o Drain the differential fluid by removing the bottom outer differential plug (ideally done after the vehicle has been driven to warm the fluid). *Reinstall the drain plug for the time being.*
- The Mopar P/N for the differential fluid is 68197927AA and ~1.5 containers (46 oz.) will fill the differential without the cooler. The cooling system volume is 24 oz. so <u>a total of 2.2 containers (70 oz.) are needed.</u>
- o Install the brass fitting / 2 foot clear hose to the "differential out" / thermal switch / filter NPT fitting.
- o Install the brass fitting / 1 foot clear hose to the "differential in" NPT fitting. Insert the hose into the upper port on the differential.
- The clear hose will allow fluid to be viewed and indicate when the external cooler system has been filled.
- o Prefilling the cooler fanpack is highly recommended to reduce the number of pump/fill cycles.
- Put the system into manual override mode (or turn ignition on) with the green pushbutton switch. Connect
  the manual pump button to the differential pump wiring harness connections in place of the thermal switch.
- Run the 2 foot hose on the filter leg to an accessible area above the fill level of the pump (rear wheel well area works well).
- Prime the pump by adding diff fluid to the clear hose attached to filter leg hose.
- Once the fluid seems to have filled the hose section cycle the pump.
- Continue to do so until the fluid begins to emerge from the clear hose at the top of the differential.
- o Tip: When filling try to adjust and tap the hoses to allow air bubbles to cycle through the system.
- Once the cooler system is primed, pump the excess fluid from the filter leg clear hose but not so much as to evacuate the pump and induce air into the system.
- Remove the 2 foot clear hose from the filter leg.
- Remove the outer drain plug from the bottom of the differential.

- Clean the differential drain port. Using the included Permatex 56521 High Performance Thread Sealant, install the filter / switch connection to the underside of the differential. Tighten to 20 N-m (15 ft-lbs.)
- Insert the 2 foot clear hose into the differential fill plug and extend the other side into the wheel well area.
- Continue to fill the differential via the middle ½ NPT fill port. Add at least 1.5 bottles or until fluid drains from the fill port to get it up to the level off the pump input.
- You can begin to use the manual override switch to cycle fluid through the pump and cooler to confirm the system is flooded via the top clear tube. Cycle pump to reduce the amount of air bubbles seen in the system.
- Once confident in the fluid level of the system, drain the 2 foot clear hose into the fill port and remove.
- o Drain any excess fluid in the upper clear hose and remove the clear hose from the AN Hose section.
- Clean the upper port and fittings. Using the included Permatex 56521 High Performance Thread Sealant,
   install the driver side of the fan pack to the upper most plug on the differential. Tighten to 20 N-m (15 ft-lbs.)
- If needed, top off fluid until the appropriate volume has been added and fluid drains from the fill port.
- Reinstall the differential fill plug using Permatex 56521 High Performance Thread Sealant. Tighten differential fill plug to 20 N-m (15 ft-lbs.)
- $\circ$  Check the hoses and fittings for leaks. There should be no fluid weeping from any of the fittings or switches.
- o Remove the manual pump switch and connect the wiring harnesses to the switch connections.
- Put the system back into sleep mode by pressing the green button





Differential Drain Plugs (left), Fill Plug (#1 Right) and Cooler Input Plug (Upper, Circled Orange)



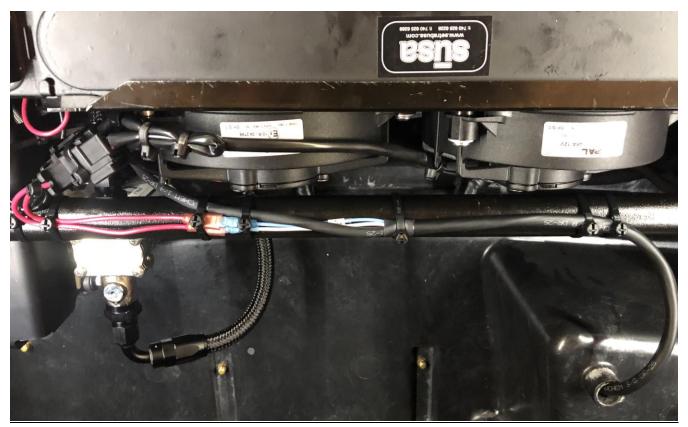
Wheel Well View of Priming the Differential Pump (left) and Filling the Differential via the Fill Port (right) Using the Upper Cooler Exit Hose

### Transmission Fluid Fill

- Ensure all cooler system hose, sensor, filter, and pump fittings have been tightened and inspected.
- Ensure the switches have been installed with Permatex 56521 High Performance Thread Sealant.
- Tip: Opening the fill plug before draining will help ensure a smoother drain flow.
- Tip: leaving the car on a battery tender during the fluid filling process will maintain battery levels.
- Drain the transmission fluid via the drain port on the passenger side of the transmission.
- Confirm the filter / switch NPT fitting has been installed into the passenger side "drain" of the transmission and tightened to 27 N-m (20 ft. lbs.) using Permatex 56521 High Performance Thread Sealant
- The long clear hose with the elbow fitting may be used to fill the transmission with ~3.4 quarts of fluid prior to priming the system. You can use the nipple cap from a differential fluid container to inject fluid into the hose.
- The transmission should be filled with the appropriate amount of fluid plus the capacity of the cooling system. 3.4 quarts of ATF+4 should be used for the transmission only. The capacity of the cooling system is 13oz (about 0.4 quarts), so a total of approximately 3.8 quarts (3 quarts, 25oz-26oz) of transmission fluid should be used for the transmission plus the DSE cooler kit.
- Overfilling the transmission / cooler system can cause fluid blow-off from the breather on the transmission.
- Install the short 3/8 clear hose with AN adapter to the driver side cooler exit hose (remove NPT fitting from hose) and insert into the transmission.
- The clear hose will help indicate when the external cooler system has been filled.
- Prefilling the cooler per the installation procedure will reduce the number of pump cycles to fill the system.
- Put the system into manual override mode (or turn ignition on) with the green pushbutton switch.
- Connect the manual pump button to the transmission pump connections in place of the thermal switch.
- Use the manual override switch to pump fluid through the cooler system until fluid fills the clear hose and enters the transmission.
- When filling try to adjust and tap the hoses to allow air bubbles to cycle through the system.
- Once the fluid seems to have filled the clear hose continue to cycle the pump to reduce the amount of air bubbles seen in the system.
- Drain the fluid from the clear hose and remove the clear hose from the transmission fill port. Keep the hose secured above the level of the transmission fill port to avoid drainage.
- If needed add the remainder of the complete 3.8 quarts to the system via the long clear hose.
- When the system is full there should not be fluid above the fill plug in the transmission. If it is slightly overfilled you can allow the excess to drain from the fill plug. Ensure the entire system volume is approximately as stated above
- Using the included Permatex 56521 High Performance Thread Sealant, install the driver side NPT adapter to the driver side "fill" plug on the transmission. Tighten 27 N-m (20 ft. lbs.)
- Remove the clear hose / adapter from the cooler exit hose. Connect this hose to the now installed NPT fitting.
- Check the hoses and fittings for leaks. There should be no fluid weeping from any of the fittings.
- Remove the manual pump switch and connect the wiring harnesses to the switch connections.
- Put the system back into sleep mode by pressing the green button.

## Secure the Hoses and Wiring

- Once the layout is acceptable and fluids have been filled, begin to tie down the harness and hoses.
- The larger tywraps are a higher temperature specification and are more robust. Use these under the car and next to the cooler components.
- Tie the wiring to appropriate places along the antiroll bar, along the diff pump input hose, pump brackets, and frame. Secure such that any bends are flowing and to avoid chaffing of the wire and to provide strain relief as needed.
- If there is to be no transmission cooler to be installed at this time wrap up and secure this leg.
- Tie the differential cooler exit / differential IN hose leg across the X frame and secure to the hose at the differential filter leg. This will ensure the hose does not move into the area of the half shaft.
- Tie the pump wiring along the filter legs.
- Tie the transmission filter to the supplied bracket with a tywrap. 0
- Route all wiring through the appropriate tywrap sections on the brackets, tighten the tywraps.



Wiring Harness Exit from the Trunk Area, Tied Along the Anti-rollbar

## Final Steps

- Double check the hoses and fittings for leaks. There should be no fluid weeping from any of the fittings.
- o Ensure the switches have been installed with Permatex 56521 High Performance Thread Sealant.
- Ensure the transmission and differential input/output NPT fittings have been installed with Permatex 56521 High Performance Thread Sealant.
- Double check all hoses and wiring to ensure they have been tied up securely and no excess stress will be applied to the wiring harness or hose connections and there will be no significant abrasion or mechanical strain induced between the new cooler system and the frame, OEM harnesses, or other components.
- o Reinstall the plastic diffuser, belly pan, rear right rotor and wheel, and diffuser brackets (ACR-E).
- When installing the belly pan be careful to avoid striking the transmission cooler and simultaneously confirm the fit of the transmission cooler in the belly pan duct.

### System Operation

- With the ignition signal connected, the system will operate without user input. The system pumps & fans will
  only be powered when ignition is on and the required temperature has been reached.
- The green button will light up with ignition to confirm system power.
- If ignition is not connected the green button will power the system via manual operation.
- Only manually power the system when needed to avoid parasitic drain on the battery when the vehicle is off.
- The green button or manual override can be used to keep the coolers and fans running after a track session with the engine off, however, keep an eye on battery charge level.

#### **Maintenance:**

- In general it is good practice to keep the car battery on a battery tender when not in use, however, when powered off (manually or via ignition), the cooler kit adds no electrical load to the battery.
- Note: completely flushing of both systems requires the coolers to be removed and drained as the ports are on the top of the cooler.
- Keep the clear hoses, manual switch, fittings, bottle nipples, and rubber caps for future service.
- · At each service:
  - Both coolers can be removed while keeping the brackets in place for ease of service.
  - Check and clean the pump pre-filter at each service. Replacement filters screens are available as needed.
  - Check coolers for debris and clean as necessary to maintain cooling efficiency
  - Inspect wiring for any signs of damage or chaffing.
  - o Inspect all pump and bracket screws to ensure they remain tight and secure.
- If desired you can periodically test the fans and pumps using the manual override and included maintenance switch.
- Visually inspect the fuses periodically. If the pumps and/or fans are not working the first step should be to inspect the fuses and replace as necessary with 5 A or 30 A mini blade type fuses.
- Inspect the clearance of the pump to the driveshaft yoke whenever the belly pan is removed. Rotate the driveshaft if the wheels are elevated and the car is in neutral. Note that the OEM transmission mount can move and sag over time. It is recommended to install a polyurethane mount such as the <a href="DSE-VP-TM-003">DSE-VP-TM-003</a>: Gen V Viper Polyurethane Transmission Mount Kit to ensure transmission movement will not bring it closer to the pump over time. Also ensure the pump screws do not back off / loosen over time which could reduce clearance to the driveshaft yoke.

### **Disclaimer of Liability:**

Doug Shelby Engineering assumes no liability expressed or implied for the improper installation or use of this product or its components. Doug Shelby Engineering is NOT responsible for any damage, consequential or otherwise for equipment failure after installation.

#### **Vehicle Modification:**

Modification of your vehicle with the parts identified above may alter its stock performance; the buyer hereby expressly assumes all risks associated with any such modification.

#### **Disclaimer of Warranty:**

Seller disclaims any warranty express or implied with respect to the parts sold hereby whether as to merchantability, fitness for particular purpose, or any other matter.

Put the system back into sleep mode by pressing the green button