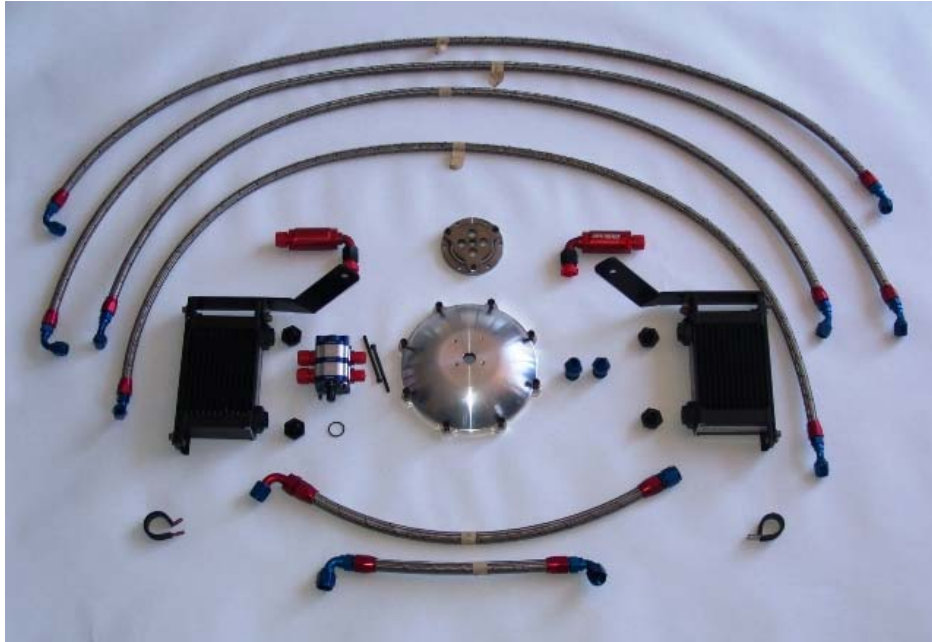


LG MOTORSPORTS DIFF/TRANS COOLER INSTALL



“THE MOST POWERFUL HEADERS ON THE PLANET”
Brought to you by LG Motorsports
972-429-1963

Parts Inventory (fab kit):

1. Billet diff cover
2. Pump assembly with fittings, bolts, and o-ring
3. (2) ½” NPT to -8 male fittings
4. (2) M18 o-ring to -8 male fittings
5. (2) Peterson 90 degree -8 filters
6. (8) Cover screws M6x1.0 25mm long
7. Pinion nut, modified
8. Drive flange
9. (3) Drive flange screws 10-32 x ½” drilled for safety wire

Complete Kit (includes all items above plus)

1. (2) Setrab M113 coolers
2. (4) Setrab to -8 cooler fittings
3. (2) Cooler brackets
4. Diff out to pump line approx 12" long (90-45 fittings)
5. Diff pump out to cooler line 53" long (90-45 fittings)
6. Diff cooler out to Diff 62" long (90-45 fittings)
7. Trans out to pump 20" long (90-straight fittings)
8. Trans pump out to cooler 54" long (90-45 fittings)
9. Trans cooler out to Trans 56" long (90-45 fittings)

Optional:

1. Trans fill fitting with temp sensor bung

Instructions:

Prep:

Some of the install of this kit may require special tools. Most DIY owners should have the needed tools for install. If you have any questions, or do not feel comfortable about install, please contact LG for a local shop near you. You will need to raise the car and support with jack stands or lift enough to be able to access your diff and transmission.

Install:

Once your car is supported you will need to drain the transmission and differential of their fluids and remove both the drain and fill plugs on both units. Once the fluid has been drained, please remove the rear diff cover and set to the side. The cover, drain/fill plugs, nor the stock bolts will be re-used.

Start by inserting the fittings into the trans and diff in their respective locations where the fill and drains are located. The 1/2" to -8 fittings will be installed into the trans, and the M18 fittings will go into the diff. You will need Teflon tape or similar for the trans fittings, the diff fittings install dry, just make sure the crush washer/o-ring is on the fitting when they go in. You can also hand tighten the filters onto these fittings as the filters will help keep debris from entering the pump. These can be taken apart for inspection from time to time as well.



Figure 1: Diff fitting attached with filter.

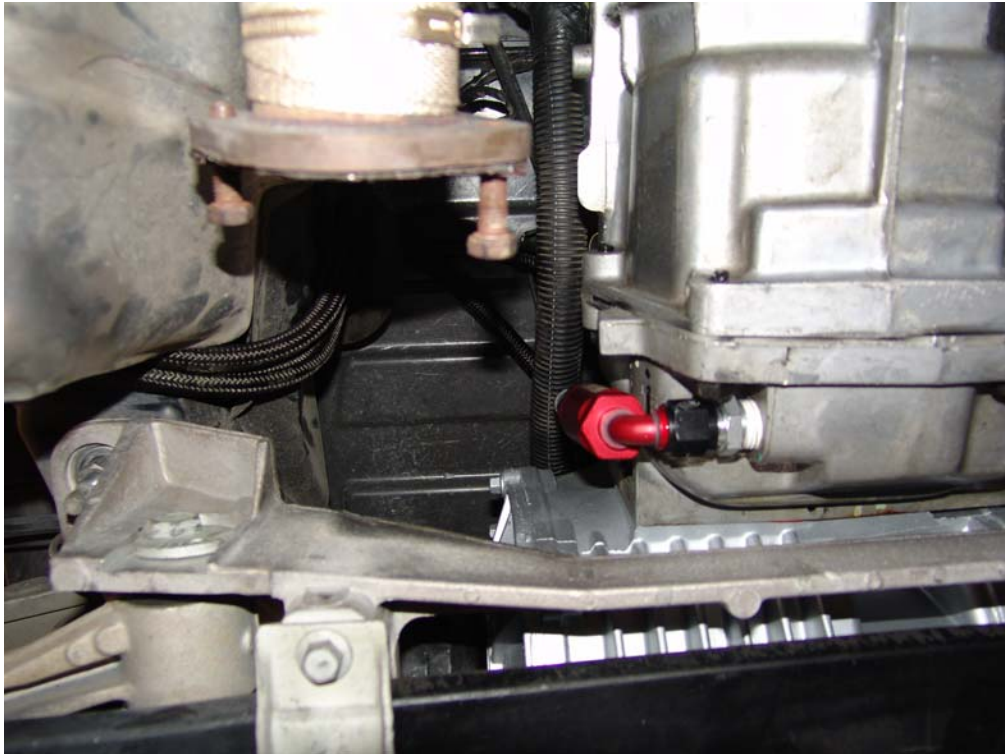


Figure 2: Trans fitting attached with filter

Next will be the install of the drive assembly. If you have access to the pinion nut removal tool from GM, please follow the instructions in the manual on how to remove and replace the pinion nut on your diff with the supplied unit. If this tool is not

accessible it you can use the drive flange as a template and drill the nut on the car. You will need the appropriate size (#21) tap drill and tap. Be very careful doing this, and you will not need to drill all the way through the nut for install. Once the nut has been replaced, or holes drilled and tapped you can now install the drive flange using the supplied safety wire screws. ****PLEASE NOTE**** These screws will not be torqued, nor tighten until they stop. Tighten the bolts until they are just hand tight, once they are down, please safety wire all three bolts so they can not back out of the flange. Please see figure below.

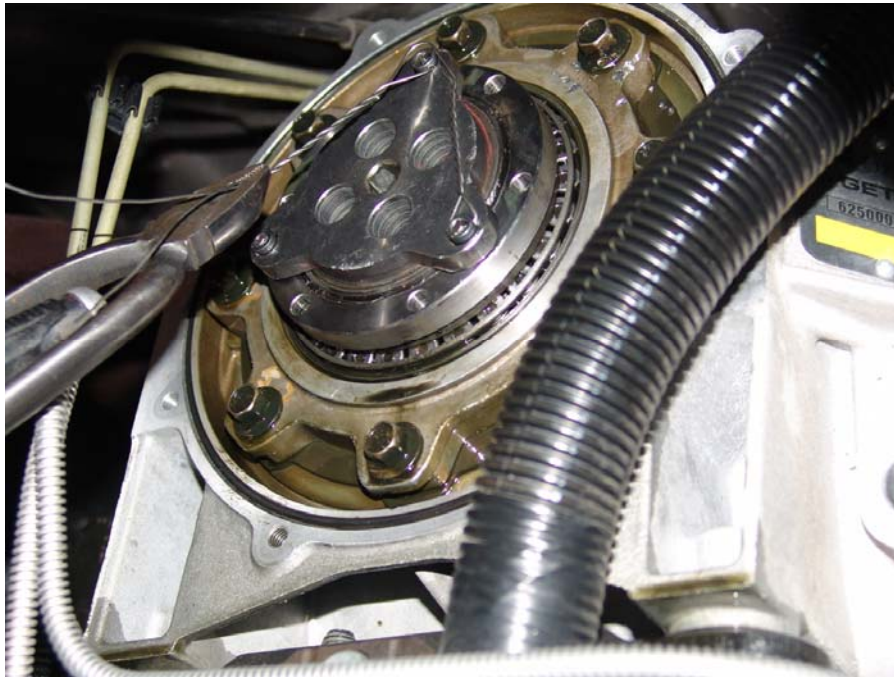


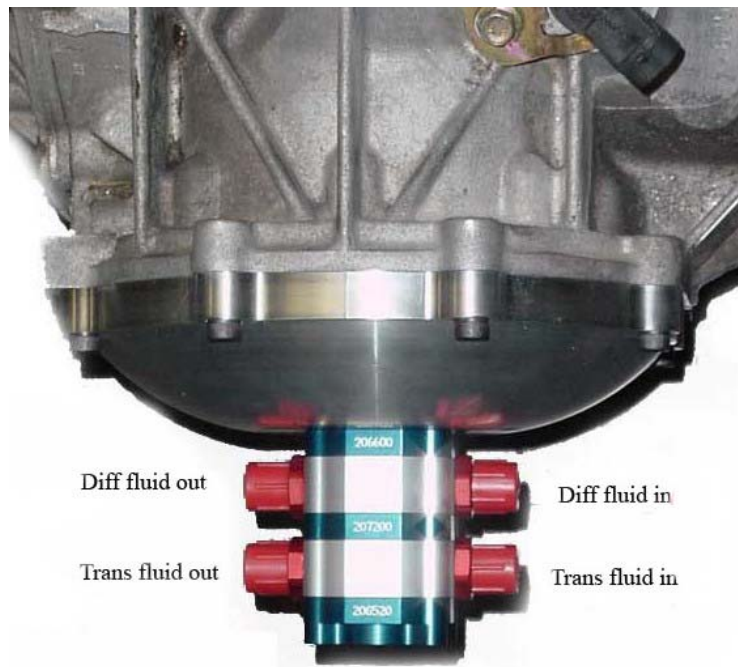
Figure 3: Pinion nut, drive flange install with safety wire

Once you have the drive assembly on, you can now start assembling the pump to the rear cover plate. The pump is held together with four bolts and four small nuts to keep the stages from separating during shipment. Please remove the nuts being careful not to allow the pump to come apart. Place the o-ring around the base of the driveshaft on the pump and bolt the pump to the rear cover plate. Once this has been assembled you can now install this onto the back of your diff. Make sure the o-ring is not damaged at the diff and apply a small, wide bead of RTV (grey) around the flange of the rear cover. Using the supplied allen head screws mount the cover and pump assembly to your diff making sure the part numbers on the diff are facing towards the roof of the car.



Figure 4: Cover plate and pump mounted

This completes the install of the fabricators kit. You must now run your lines, coolers.
****IMPORTANT**** The section closest to the diff cover plate is to be used for diff fluid, and the rear most stage to be used for the transmission. **THIS CAN NOT BE SWAPPED.** The pump flows from passenger side to driver side so, both pickups will enter from the right side of the pump as you are looking at it from the back of the car, and exit to the coolers on the left side.



Pump viewed from top down

Notice part numbers are facing up towards the roof of the car

Instructions continue for those with complete kits below:

Next will be mounting of the coolers. For C5 Corvettes we suggest mounting the coolers inside the rear fender liners. C6 customers can do this as well, or you can mount in the rear of the car (brackets not supplied). You will need to remove the inner fender liners and one of the fuel tank shield bolts to mount the coolers in place. Before mounting the coolers to the brackets take a moment and install the four setrab fittings to the coolers using a little Please secure the cooler as shown in the below figures to the brackets, and the brackets then to the car with the fittings placed towards the inside of the car.



Figure 5: Driver side cooler mounted



Figure 6: Passenger side cooler mounted

Now that the pump is mounted, your fittings are installed into the trans and diff it is time to start running the lines. Take note of the line lengths and fittings in the item list above to note which line will be used in each location. Start by running the diff lines from the factory drain location into the left side of the pump at the first location. Continue by running the out line to the cooler, and cooler back to the diff at the factory fill. Don't worry once all of the lines are ran for both the trans and diff we will go back and fill the units before starting the car. Do the same for the transmission. Make sure before securing the fittings that the lines lay away from any moving parts and are held tight against the frame rails going to the coolers as shown in figures 5 and 6 above. Using some Adel clamps and zip ties make sure the lines are secure and tighten all fittings other than the fill ones.

Before starting the car you will now want to fill the diff and trans full of fluid and hand tighten the fittings at the fill locations once you have filled the units just like you would stock. Make sure the car is secure and will not move as you need to start the car and run the car through 1st and 2nd gear for a short period of time to circulate the fluids thru the lines and coolers. Once you have finished this, remove the fill line and top off the trans and diff to level and tighten the lines.

You can now re-install the inner fender liner, check for leaks, install the tires, and enjoy your new drivetrain cooling system!

ADVANCED INSTALL:

For those wanting to add a bit more air flow through their system on C5Z06's or C5's equipped with the rear brake ducts. You will need to remove the inner brake duct, and trim the outside duct slightly for the cooler. Once the cooler is in place and mounted, cut a rectangle from the inner fender as shown in the figures below and line with a coarse screen material. This will allow air flow from the outside of the car to go through the coolers and then exit through the rear fenders.



Figure 7: Driver side cooler and screen installed



Figure 8: Driver side cooler and screen installed

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Lou Gigliotti
President LG Motorsports



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