

Rear Differential Oil Cooler

**Fits S550 2015 - 2022 Ford Mustang
GT, V6, GT350, GT500**

P/N KB.2161.801

Record Your Serial Number Here:

Keep your rear differential cool!

The Kenny Brown IRS Rear Differential Cooling kit for 2015-2022 Mustang, Roush and Shelby GT350 or GT500 is a critical addition if you're running the car on track frequently or it's a dedicated track car. The rear differential housing reaches very high temperatures, which causes the car to go into limp-home mode but can

also cause failure or premature wear on the rear-drive components due to lack of cooling.

Kenny has engineered this complete kit for everyone from street, to track and full-on race in mind! A total solution and DIY system complete with everything you need for installation including prebuilt lines and fittings. This kit is a total plug and play solution for home installers or racing upfitters.

Kit Includes:

- Mocal 12v Oil Pump - Newest, Smallest and Quietest Pump to Date
- Mocal 25-Row Oil Cooler with 5.2-inch Fan - Largest Available
- High-Quality Stainless Braided Lines and AN Fittings
- Lines and Fittings are Pre-Assembled
- In-Line Check Valve
- 240 micron filter
- 180-Degree Thermostatic Control with Wiring Harness
- 12-Volt Relay with Wiring harness
- Mounting Brackets and Hardware

Installation Time:

Approximately 1-1/2 hours

Level of Experience:

Intermediate

Resources:

Tech Line: 317.396.2768

Informational video available for this product! Scan code below with phone camera to watch the video:

Tools Needed:

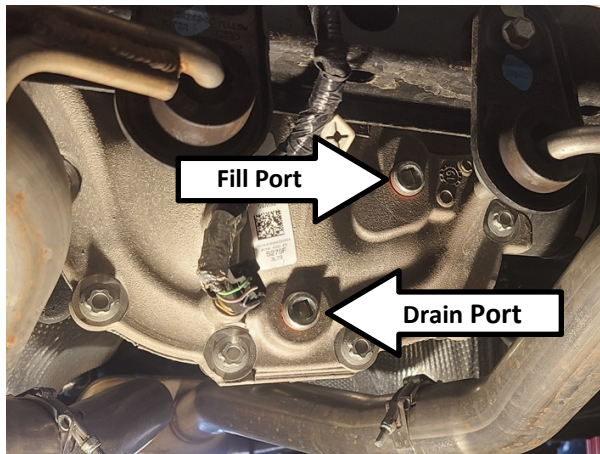
- Jack
- Jack Stands
- Wrench and Socket Set
- Drill and Drill Bits
- Wiring Tools
- Rear Differential Oil



Installation Instructions

Carefully read through the instructions before beginning. If you do not understand or feel comfortable with the procedures, have a capable mechanic perform the installation. The Kenny Brown Performance Tech Line is available to assist you at any point during installation or with any questions you may have. Contact us at 317.396.2768

1. Raise the rear of vehicle and place jack on stands.
- ⚠ Remove and put the wheels under the car for additional safety!
2. Remove everything from the trunk.
3. Drain the differential by removing the plug from the drain (bottom) port of the differential cover.



4. Attach the cooling fan and mounting brackets to the heat exchanger core using the supplied zip ties and 1/4-20 bolts, nuts, and washers.



5. Position the cooler assembly in the vehicle with the fittings pointing toward the differential and mark the locations for drilling the mounting holes.



6. Drill the required holes in the trunk floor and emissions controls box.



7. Temporarily unbolt the emissions control box from the trunk floor to insert the mounting bolts.



8. Secure the front end of the cooler to the trunk floor using the supplied spacers where needed.

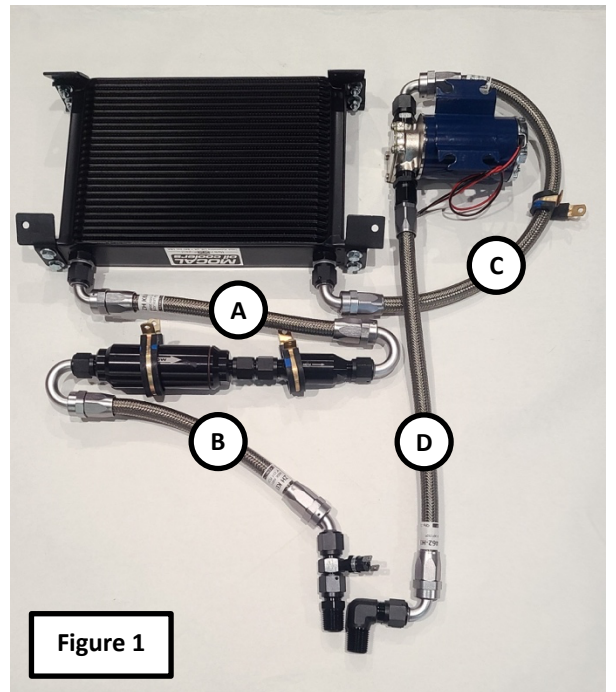


⚠ Use pipe thread sealant on all pipe threads!

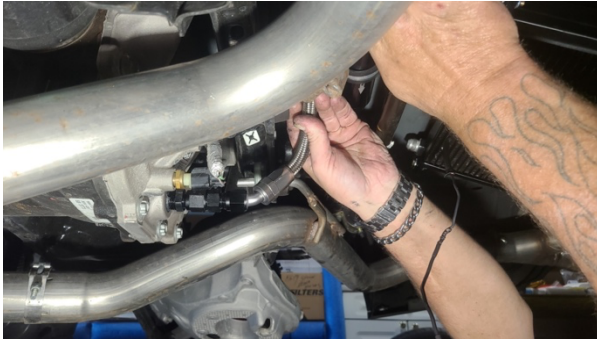
9. Apply thread sealant to the supplied 1/2" NPT to -8AN adapter and install it into the drain (bottom) port of the differential cover.
10. Apply thread sealant to the supplied 90 degree -8AN fitting and thread into the fill (top) port in the differential cover. Tighten the fitting and aim the fitting downward.
11. Install fitting with temperature sender to the lower differential AN fitting and tighten with the terminals pointing up.
12. Apply pipe sealant to the 1/2" NPT to -8AN fittings and install them in the cooler pump. Mount pump in location shown with the with 1/4"-20 hardware.



13. Locate differential filter and differential one way check valve coupled together with -8AN to -8AN female coupler. Pay attention to direction of flow (arrow on check valve and filter should be facing same direction).



14. Loosely install the filter check valve to cooler inlet hose (**Hose A** in Figure 1) to inlet of cooler and the check valve side of filter/check valve assembly.
15. Loosely install the differential to filter/check valve assembly hose (**Hose B** in Figure 1) to the filter inlet with the 45 degree -8AN fitting to temperature sender on differential cover.



16. Raise and support filter/check valve assembly and attach to body of car with supplied P clamps and hardware.



17. Loosely install the cooler to pump hose (**Hose C** in Figure 1). Install insulated P clamp to support hose (see Figure 1).
18. Loosely install the pump to differential hose (**Hose D** in Figure 1). Loosely install straight -8AN fitting to 90 degree -8AN hose outlet to the pump and the 90-degree hose end to the adapter in the top fill hole position on differential.

⚠ IMPORTANT: Once installed, make sure to tighten all the AN fittings!

19. The included relay's wiring is as follows:

BLACK: Ground
RED: Battery +
WHITE: Temperature
GREEN: Pump & Fan

20. Mount relay in trunk on back panel.

21. Route black, green and white wire through grommet of floor in trunk:
- BLACK wire to chassis ground
 - RED wire to battery positive stud terminal routing through the car to the fuse box under hood
 - WHITE route to one side of temperature sending unit and lower differential hose assembly.

🔧 Solder connections where possible.

22. Connect the other sending unit terminal to chassis ground with supplied black wire.
23. Connect the GREEN wire to the ORANGE on the pump.
24. Connect the GREEN wire to the BLACK on the fan.
25. Connect the BLACK wire on cooling pump and BLACK wire on cooling fan to chassis ground.



26. Remove the cap in the T-fitting in **Hose D** and connect the siphon hose. Insert the hose in a bottle of gear oil.
27. Jump the WHITE wire of temperature sender to ground to run the pump and fill the differential with gear oil.

⚠ Check for leaks while the pump is running.

28. Re-attach WHITE wire to one side of temperature sender. Attach BLACK wire to other side of temperature sender to chassis ground.
29. Test drive and check for leaks.

⚠ PLEASE NOTE: Differential cooler will not come on until differential fluid reaches 135 degrees.