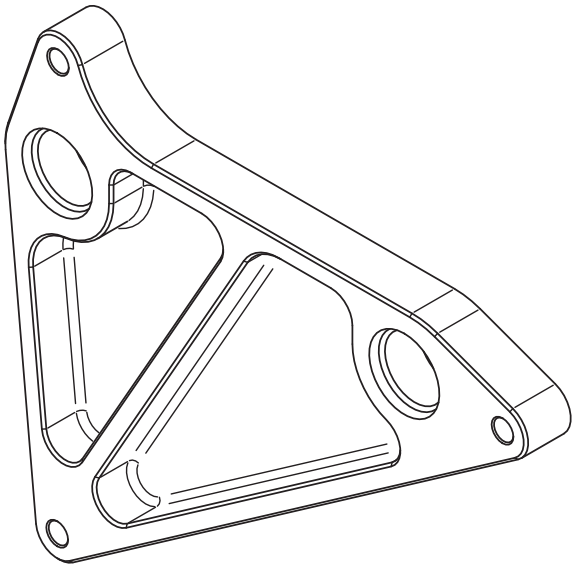
2016+ CAMARO SS/ZL1 & CTS-V OIL COOLER ADAPTER

PART NO. EGM-136

MADE IN USA



IMPORTANT: READ THESE INSTRUCTIONS IN THEIR ENTIRETY PRIOR TO INSTALLATION

For contact information, visit www.improvedracing.com

Rev 231122

APPLICATIONS

- 2016-2019 Cadillac CTS-V
- 2016+ Chevrolet Camaro V8
- All LT1 / LT4 crate engines with GM oil pan part number 12639931

SCHEMATIC, PARTS LIST & HARDWARE

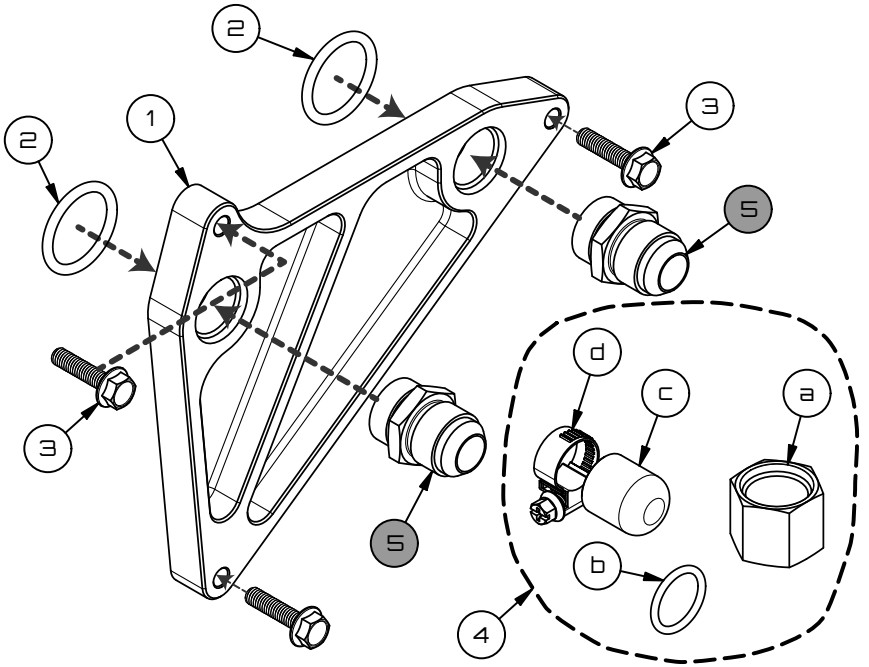


Figure 1 - EGM-136 Schematic

Item	Qty	Part Number	Description
1	1	EGM-136	Oil Pan Adapter
2	2	HRG-1023	Oil Pan Adapter O-ring
3	3	HSC-1056	Oil Pan Adapter Mounting Screw
4	1	E6G-680	Factory Oil Cooler Line Delete Kit
5	2	OM-10-XX	Optional Adapter Fittings

E6G-680 Hardware Pack Contents			
Item	**Qty**	**Part Number**	**Description**
a	1	OC-10	-10 SAE Straight Thread O-ring Cap
b	1	HRG-1010	Replacement O-ring for -10 SAE Fittings
c	1	HPL-1001	$^{5}/_{8}$ in ID Rubber Cap for Radiator Tee
d	1	HCP-1022	Smooth Band Stainless Steel Hose Clamp

TECHNICAL SPECIFICATIONS

Maximum Operating Temperature	302°F (150°C)
Minimum Operating Temperature	-22°F (-30°C)
Maximum Operating Pressure	300 psi (20.68 bar)
Dimensions (W x H x D)	7.0 in x 6.1 in x 0.6 in (17.8 cm x 15.5 cm x 1.5 cm)
Fitting Ports	-10 SAE J1926-1 Straight Thread O-ring Port, $^{7}/_{8}$-14 UNF
Weight (Adapter Only)	10.5 oz (298 g)
EGM-136 Material	CNC-Machined 6061-T6 Billet Aluminum
EGM-136 Finish	MIL-A-8625, Type II, Black Anodizing

PREPARING FOR INSTALLATION

DO NOT CAP OFF THE OIL COOLER PORTS after the adapter is installed. Running the engine with the ports capped will block oil flow and result in catastrophic engine damage.

If not using an oil cooler, the IN/OUT ports must be looped together to prevent engine damage.

This product should only be installed by a qualified mechanic. Improper installation could result in severe engine damage.

Use aluminum tools to avoid damaging the fittings.

1. Raise the vehicle and support it with automotive-use approved frame stands, lift, or ramps.

NEVER work under a vehicle supported only by a jack.

2. Remove all necessary underbody panels to gain access the oil pan and radiator.
3. Place a drain pan under the oil filter and remove the filter.

⚠ **Oil may be hot!**

4. Place a drain pan under the factory oil cooler and use a 10 mm tool to partially loosen all four M6 screws securing the factory oil cooler to the oil pan. Let the oil to drain out.

⚠ **Oil may be hot!**

5. Start at the factory oil cooler on the oil pan and trace the coolant lines to their connections on the vehicle's water pump and lower radiator hose.
6. Use a prying tool to remove the retaining rings from the fittings on the factory oil cooler as shown in Figure 2. Save one retaining ring for later.

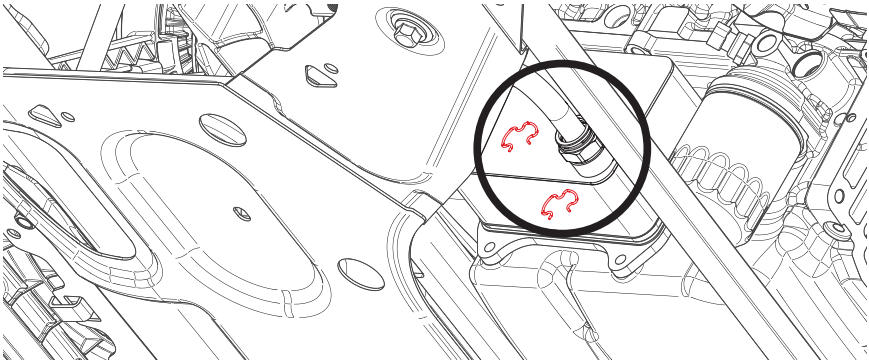


Figure 2 - Removing the Retaining Rings from the Oil Cooler Fittings

7. Use a prying tool to remove the retaining ring from the water pump fitting.
8. Use channel-lock pliers to release the hose clamp on the tee fitting of the lower radiator hose and slide it down the hose.
9. Place a drain pan underneath the oil cooler and remove both hard tubes from the oil cooler fittings and allow the coolant to drain.
10. Use a $1^{1}/_{8}$ inch tool to remove one fitting from the oil cooler.
11. Use a 10 mm tool to remove the M6 screws that secure the factory oil cooler to the oil pan and remove the oil cooler.
12. Remove the used O-ring on the factory fitting and replace it with the new HRG-1010 O-ring from the hardware kit, as shown in Figure 3.

Note: If you do not have the factory oil cooler quick-connect fittings, you will need to purchase one of part # 12662820 from GM. This fitting is required for capping off the coolant port on the water pump.

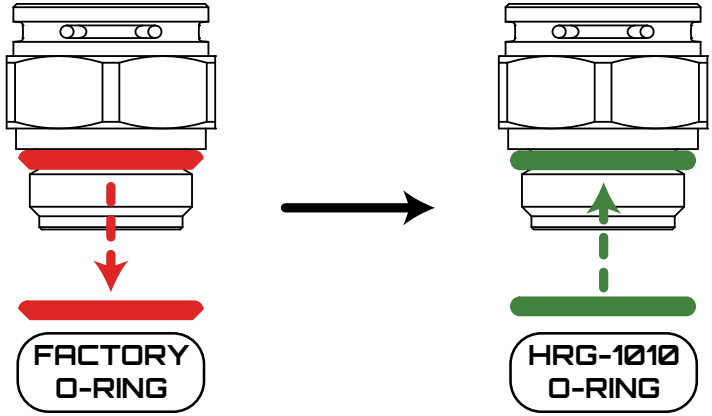


Figure 3 - Installing the HRG-1010 Replacement O-Ring on Factory Fitting

13. Assemble OC-10 and the factory oil cooler fitting as shown in Figure 4. Torque to 20 lb-ft (27 N-m) using a vise and 1-$^{1}/_{16}$ inch or 1-$^{1}/_{8}$ inch tool depending on which side is in the vise.

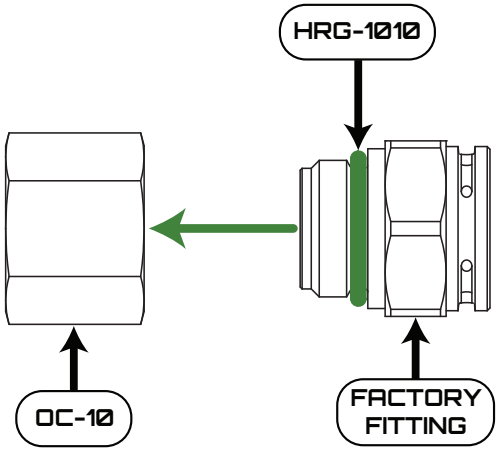


Figure 4 - Installing the Factory Fitting into OC-10

14. Remove the rigid coolant tube from the water pump barb and quickly cap the barb with the fittings assembled in Step 13 of this section.
15. Reinstall the saved retaining ring into the fitting to permanently secure the cap onto the water pump.
16. Remove the factory oil cooler line assembly from the lower radiator hose tee, followed by quickly capping the tee's barb with the supplied rubber cap and stainless steel hose clamp (Part Numbers HPL-1001 and HCP-1022 from the E6G-680 Hardware Kit).
17. Use a 7 mm ($^{9}/_{32}$ inch) tool to permanently secure the rubber cap onto

the radiator tee barb by tightening the stainless steel hose clamp to no more than 20 lb-in (2.3 N-m). DO NOT over-tighten.

INSTALLING THE OIL COOLER ADAPTER

1. Ensure that two HRG-1023 O-rings are inserted into the glands of EGM-136 prior to installation.

Refer to Figure 1.

2. Use a 10 mm tool to secure EGM-136 to the oil pan using the three HSC-1056 M6 flange screws. Torque to 11.8 lb-ft (16 N-m).
3. Install the adapter fittings into EGM-136. Torque to 20 lb-ft (27 N-m).

Lubricate the adapter fitting O-rings with engine oil to prevent O-ring damage.

COMPLETING THE INSTALLATION

1. Pre-fill and install a new engine oil filter after lubricating the seal with engine oil.
2. Secure the new oil cooler to the vehicle.

Ensure the oil cooler is isolated from vibration.

3. Measure and assemble the oil cooler system lines.
4. Spread some oil onto the male adapter flares of EGM-136 and connect both oil lines to the adapter fittings. Torque to 20 lb-ft (27 N-m).
5. Spread some oil onto the lowest male adapter flare of the oil cooler and connect the OUT line from EGM-136. Torque to 20 lb-ft (27 N-m).
6. If there is a higher port, pre-fill the oil cooler with engine oil using a tube and funnel.
7. Spread some oil onto the last male adapter flare of the oil cooler and connect the IN line from EGM-136 . Torque to 20 lb-ft (27 N-m).
8. Check the engine oil level and add oil if necessary.
9. Check the engine coolant level and add coolant if necessary.

Consult the vehicle's factory service manual for the correct inspection and filling procedures.

10. Remove the fuel pump and / or ignition fuses.

Consult the vehicle's factory service manual for the fuse location.

11. Crank the engine over for five seconds to build oil pressure, repeating this cycle three to five times.

12. Replace the fuse(s) removed in Step 10.
13. Start the vehicle and inspect the system for leaks.
14. Turn off the vehicle, inspect the engine oil level and top-off if necessary.
15. Reinstall all underbody panels and lower the vehicle back onto the ground.
16. Reinspect for leaks after one heat cycle and re-tighten fittings if necessary.

Installation is now complete. Thank you for purchasing an Improved Racing product!