



C7 Corvette Combination cooler

DeWitts new combination cooler is custom designed to fit under the front fascia and mount in the identical location of the automatic transmission cooler. This package features two independent heat exchangers for cooling two of three possible fluids.



The key to this concept is to separate the engine oil cooling from the engine coolant and exhaust that heat under the car. The use of highly efficient heat exchangers, baffles, and vents make this kit the solution to fluid temperature faults. The kit is easy to install, and it does not require any external body changes or fascia removal. Factory style quick connect fittings make plumbing a snap and high-pressure oil hoses feature o'ring seals and thermal insulation wrapping.

DeWitts new combination cooler is available in three (3) different configurations and the following instructions vary based on the kit you purchased and your vehicle options. The available configurations options are as follows:

(TO) Transmission/Oil: This kit is designed for automatic transmission (A8) models. The existing transmission cooler will be removed and replaced with the dual cooler unit. One section will be used for the transmission and the other will be used for engine oil cooling. The factory oil cooler located near the oil filter will be removed and replaced with an adapter with a built-in thermostat.

(TC) Transmission/Coolant: This kit is like the above kit except the factory oil cooler will remain in place. The second section of this combination cooler will have 5/8" beaded hose connections for tapping into the coolant from the oil cooler return.

(OC) Oil/Coolant: This kit is manual transmission optioned cars that do not need a transmission cooler. Unlike the above two kits that use an existing mounting, this kit is supplied with a template to mark and drill the mounting holes.

1. Disconnect the battery.
2. Remove coolant fill cap.
3. Raise vehicle on lift.
4. Remove lower underbody air deflectors. (See figure 1 & 2 for options)
5. Remove oil filter
6. Open radiator petcock and drain radiator
7. Remove C-clips on transmission cooler lines and disconnect hoses. Automatic (A8) models only. See figure 3. Plug lines to limit fluid loss and leakage.
8. Remove (4) four 10mm transmission cooler screws and remove cooler. A8 models only.
9. Remove original water-to-oil Engine Oil Cooler (EOC) by removing four (4) bolts (See A & B in Figure 5) and lower EOC. (Except TC kit, skip to line 12)
10. Remove two C-clips from EOC water lines and disconnect water hoses from EOC.
11. Join existing water hoses with union (Fig. 5) supplied in kit.
12. Using a hacksaw blade or similar tool, cut plastic shroud as shown in Figure 7 through Figure 10. See figure 8 for suggested tools.
13. Manual transmission models only, use attach drill template to shroud and locate mounting hole location. (OC kit only) Drill (4) four 3/8" mounting holes and attached mounting brackets.
14. Install aluminum baffle (Figure 13) and secure with the supplied self-tapping screws or pop-rivets as shown in Figure 14.
15. Install self adhesive foam seal to baffle.
16. Locate new cooler into opening. Be sure to slip front tab onto plastic edge.
17. Use existing (A8 models) bolts to mount combination cooler in place.
18. Feed new hoses along engine with coolant line and back to filter area. (See figures 15 and 16.)
19. Connect oil lines to EOC engine adapter and tighten fittings before mounting adapter to the engine
20. Mount new oil adapter (Fig. 6) using the metal gasket and bolts.
21. Connect 45° angled hose ends to EOC and hand tighten nuts.
22. Using two wrenches, hold hex and tighten hose nut. Do not use one wrench! Tightening the AN nuts without holding the hex can cause damage to cooler.
23. Use a plastic tie wrap to secure hoses (Fig. 15) away from engine belts.
24. Replace oil and filter and fill as usual.
25. Refill coolant as necessary.
26. Reinstall radiator cap.
27. Connect battery cable.
28. Run engine briefly and check for leaks.
29. Modify air deflector as shown in Figure 17 & 18.
30. Install deflector.
31. Modify separator deflector if applicable and install

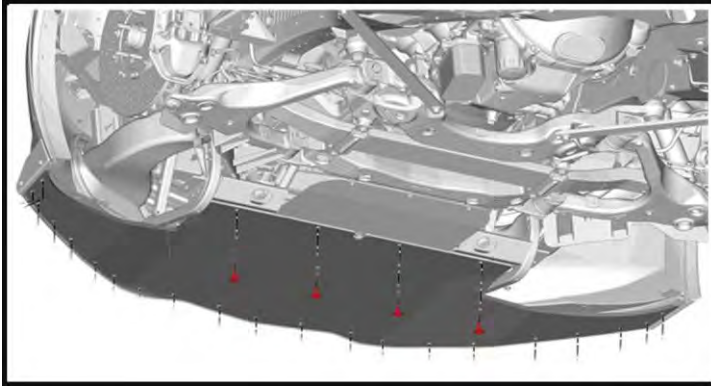


Figure 1 Stage 2/3 Separator deflector

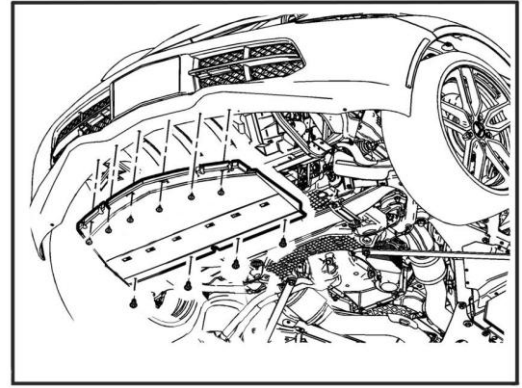


Figure 2 Underbody deflector

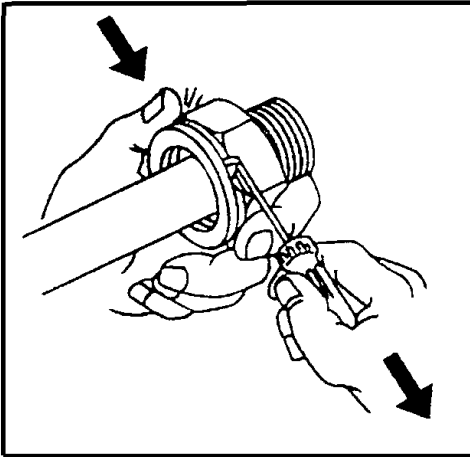


Figure 3 OE Quick connect fittings

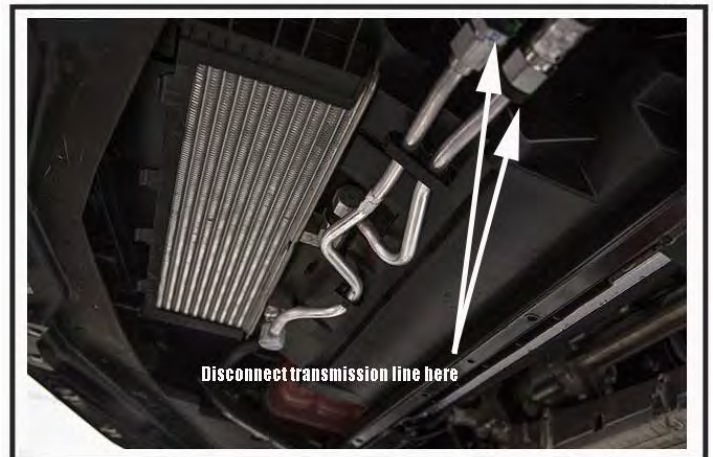


Figure 4 OE Automatic transmission cooler

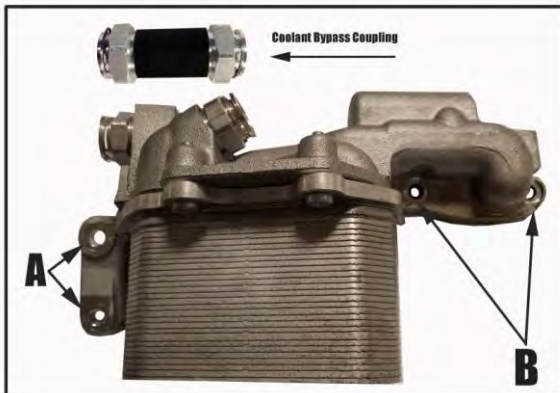


Figure 5 OE Engine Oil Cooler (EOC)



Figure 6 Oil Adapter with thermostat

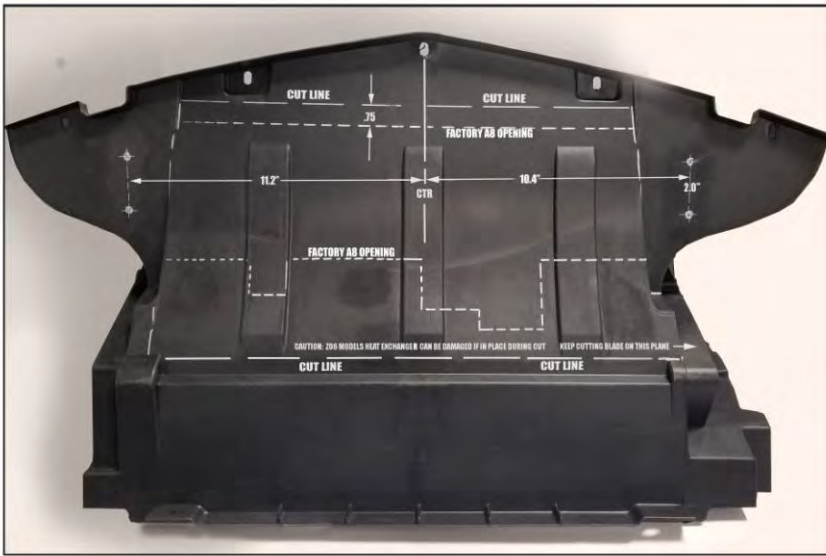


Figure 7 Main Radiator shroud



Figure 8 Tools

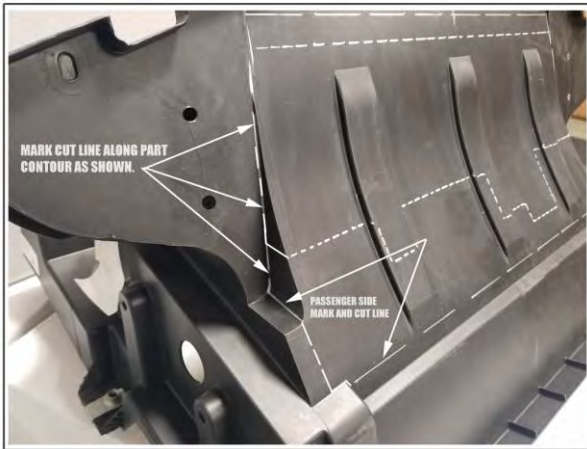


Figure 9 Passenger side

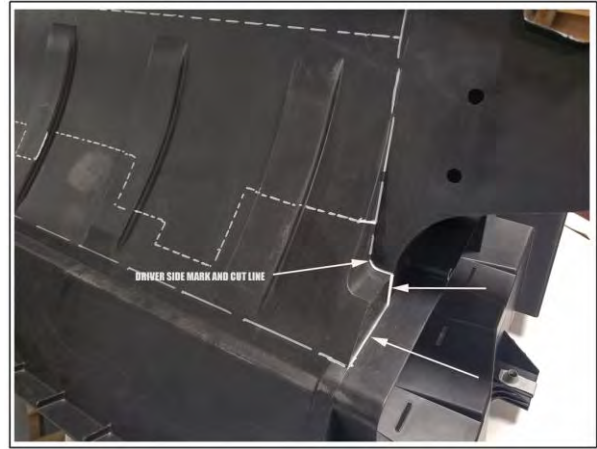


Figure 10 Driver side

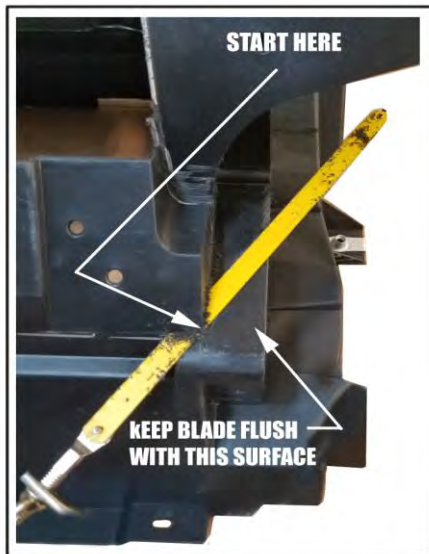


Figure 11 Cutting Instructions

CAUTION: Z06 models with supercharger use extra care so the cutting blade does not damage the heat exchanger. Keep the cutting blade parallel with the heat exchanger at all times and limit the amount of blade on inside edge.



Figure 12



Figure 13 Finished cut out with air baffle installed



Figure 14 Fastener



Figure 15 Oil hose routing

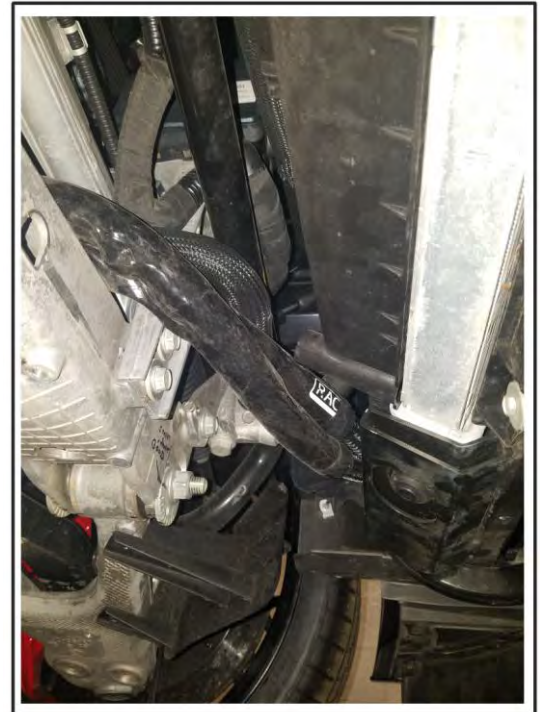


Figure 16 Oil hose routing

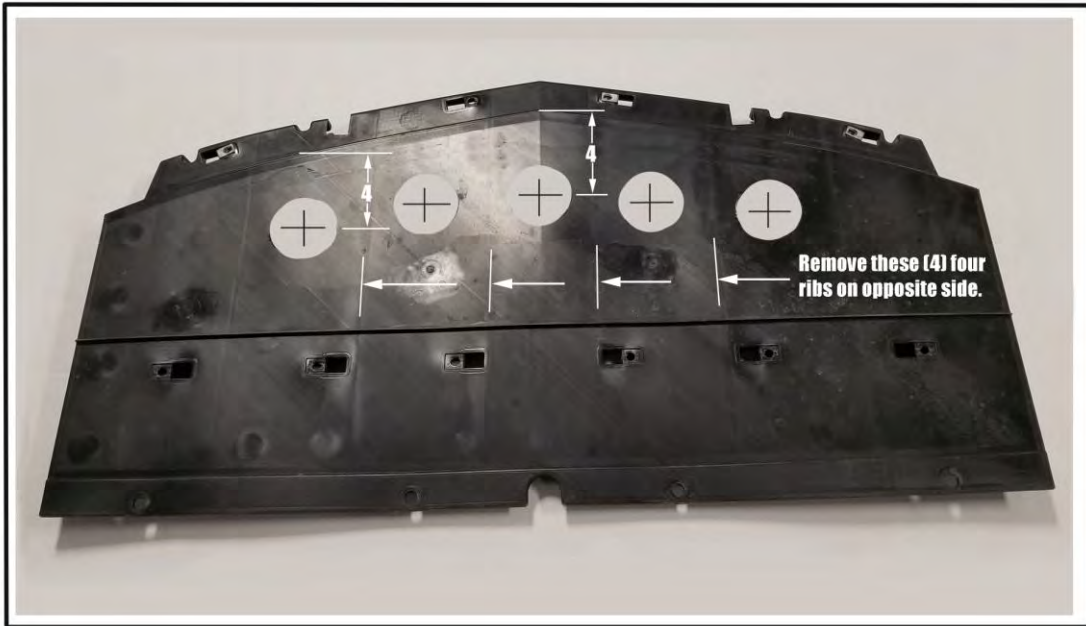


Figure 17 Underbody Air deflector



Figure 18 Deflector modifications Remove the four (4) inner most ribs as shown

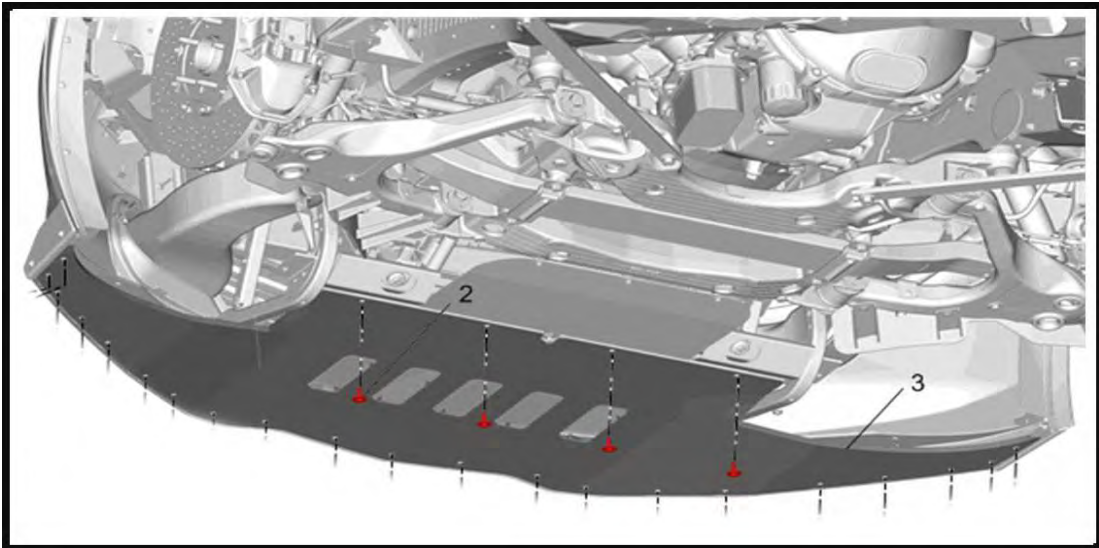


Figure 19 Aero option