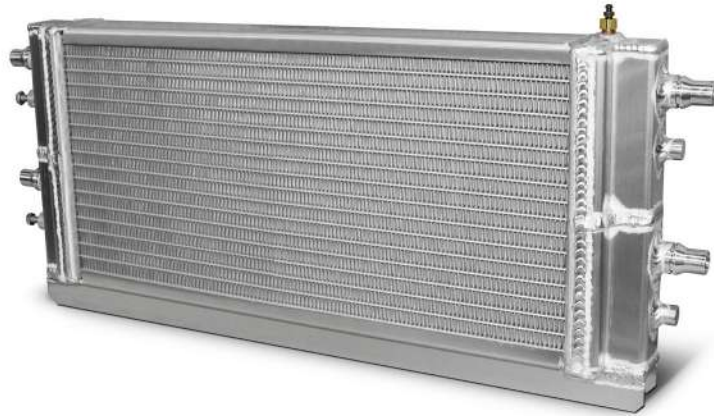




**Installation Instructions  
C7 Z06 Corvette Heat Exchanger  
80294NDP**



**Congratulations** on your purchase of the C7 Z06 Corvette Heat Exchanger. Please read and understand each of the steps involved with the installation of the Heat Exchanger prior to getting started. AFCO highly recommends hiring a professional installer, one that is familiar with the installation of after-market performance products. The AFCO team takes pride in providing the utmost in quality and performance.

**Please read** and understand each of the steps involved with the installation of the 80294NDP heat exchanger prior to getting started.

### **Parts List (80294NDP)**

- 80294NDP Heat exchanger (Qty. 1)
- Lit-722 Installation manual (Qty. 1)

### **Tools Needed**

- 7mm Socket
- 10mm Socket
- 13mm Socket
- 1/4" Wrench
- 1/2" Wrench
- T-15 Torx bit
- T-30 Torx bit
- 1/4" Drive ratchet
- 1/4" 10" Long Extension
- Pliers
- Trim tool
- Pick/hook set
- Lug wrench
- Kent Moore GE47716 Vacuum fill tool
- Kent Moore GE47716-20 Adapter

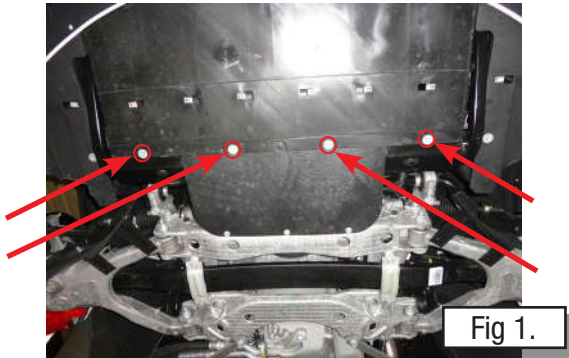
**The heat exchanger coolant system will need to be vacuum filled using a Kent Moore GE47716 with the GE-47716-20 vacuum fill tool adapter to complete the install. Gravity filling the heat exchanger coolant system will not remove all of the air from the heat exchanger coolant reservoir which will affect performance**

#### **WARNING:**

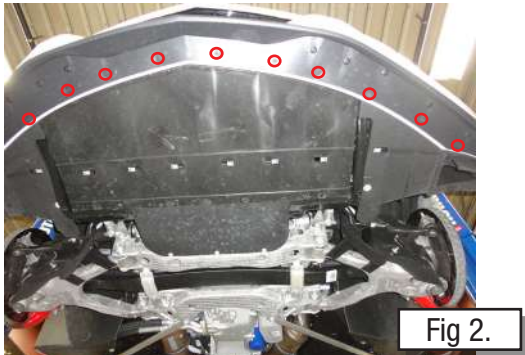
1. Radiator fluid must be handled properly. Please observe local ordinances with regards to handling and disposal.
2. Allow vehicle and components to cool a minimum of 1 hour before handling.
3. Never attempt to open the radiator cap when hot.
4. Do not allow any tools or limbs to contact fans—SERIOUS INJURY MAY RESULT.
5. Always follow directions and disconnect the battery before attempting installation.
6. Retailer is not responsible for personal injury or damage to vehicle resulting from improper installation of this product.
7. Due to vehicle variations / tolerances it is ultimately up to the installer to determine proper installation.

## Removal of the Factory Heat Exchanger

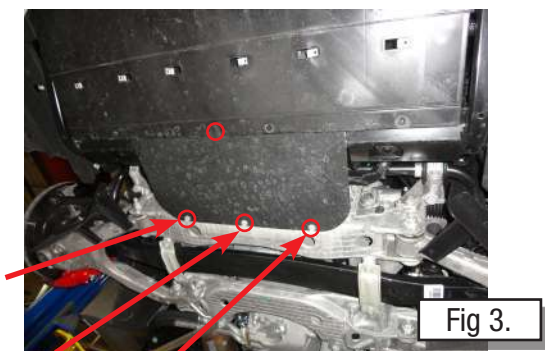
1. Disconnect the negative battery cable.
2. Allow the vehicle to cool. Drain the coolant from the radiator. Remove the cap from the surge tank to allow all of the fluid to be drained.
3. Remove the four 10mm bolts on the bottom engine cover of the car (Fig. 1).



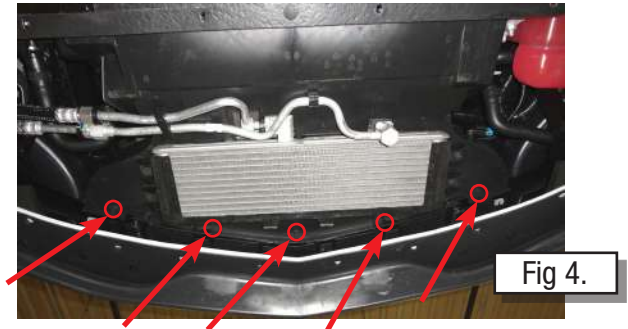
4. Remove the twelve 7mm bolts along the bottom of the front nose on the car (Fig. 2). The longer 2 bolts go in the corners of the bumper. The center engine cover on the bottom of the car can be removed.



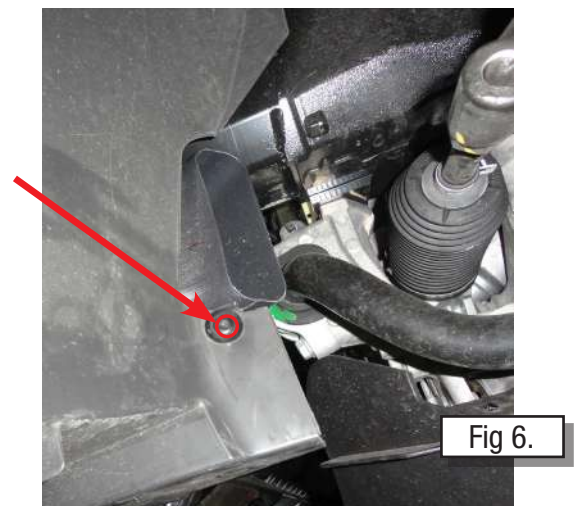
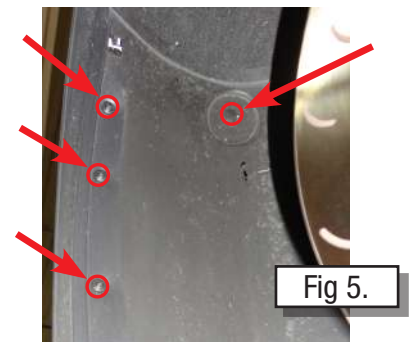
5. Remove the one plastic clip and three 10mm bolts holding the cover to the K-member (Fig. 3). Remove the plastic cover.



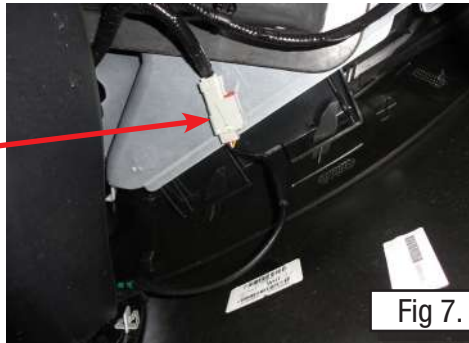
6. Remove five 7mm bolts holding the bottom of the plastic air tunnel to the bottom of the front nose (Fig. 4).



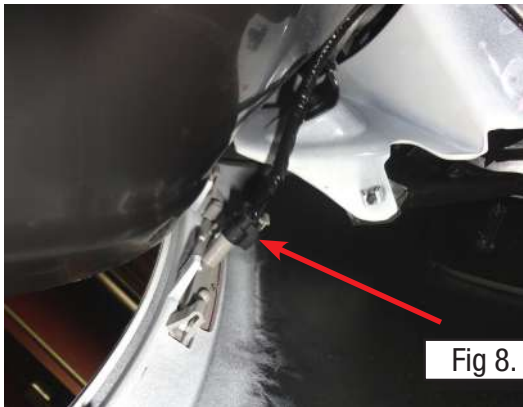
7. Remove the front tires of the vehicle and place it on jack stands in order to gain access to the inner fender wells.
8. Remove three T-15 Torx bolts from the edge of the inner fenders and the one T-15 Torx bolt holding the brake duct to the inner fender (Figs. 5 & 6). The plastic clip should also be removed from the inner fender.



9. If the vehicle is equipped with the front parking cameras in the nose, they will need to be unplugged. The wire harness plug is located in front of the inner fender well (Fig. 7). There is plug on each side of the car.



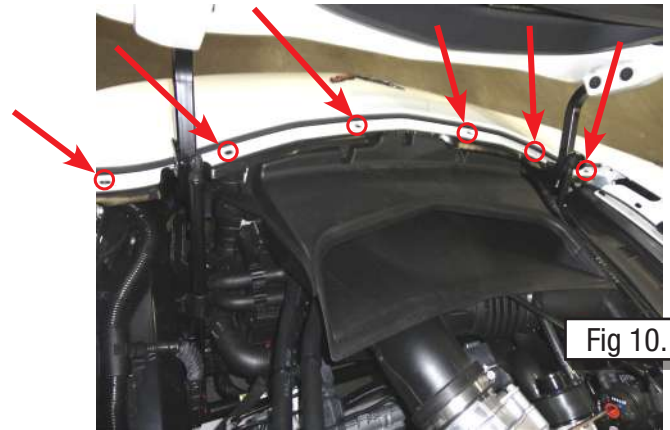
10. Release the clip on the side marker lights and unplug the wire harness to each light (Fig. 8).



11. Now move to the top side of the vehicle. The plastic covers on each side of the fender and nose intersection should be removed by pulling outward on the cover on the end closest to the windshield (Fig. 9)



12. Remove the four T-30 Torx bolts and also the two plastic clips holding the nose to the radiator support (Fig. 10)



13. The nose of the car will be removed at this time. First start by pulling outward on the nose from inside the fender well (Fig. 11). This will release each side of the nose. Next, gently lift up on the nose right below the headlights to release the two tabs.



14. The last section that holds the nose in place is located towards the center of the car next to each headlight (Fig. 12). These tabs can be released by the use of a screwdriver and plastic trim tool. Or the nose can be lifted up and a ratchet, long extension, and 7mm socket can be used to loosen the two bolts holding the metal clip in place (Figs. 13 & 14). Much care should be taken during this step to not chip any paint off of the nose. Once the clips are released, lift up on the nose and remove it from the car.

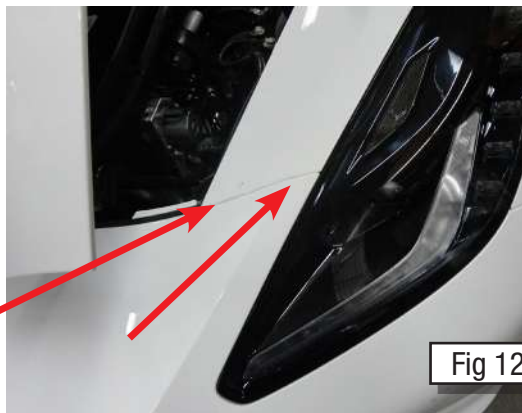


Fig 12.

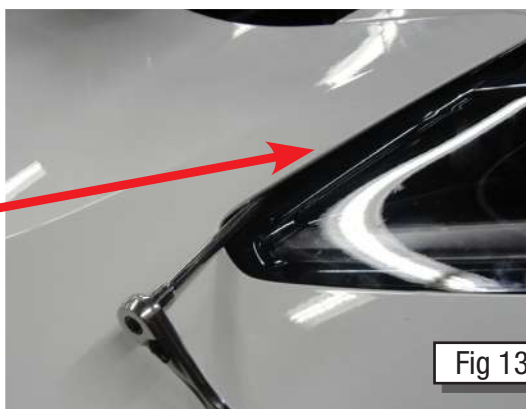


Fig 13.

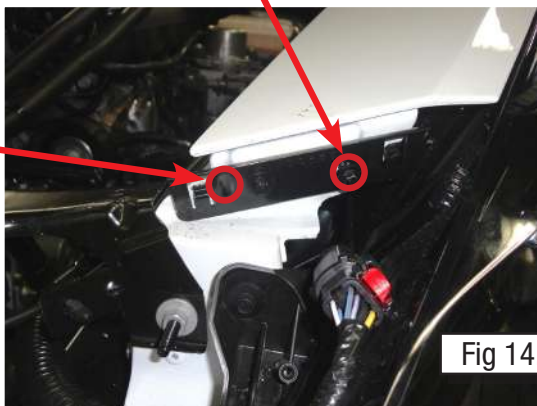


Fig 14.

15. At this time the radiator will have to be removed from the car in order to gain access to the heat exchanger.

16. Remove the upper and lower radiator hoses from the radiator.

17. Remove the metal clip from the 5/8" hose connector and remove it from the lower driver side of the radiator (Fig. 15).



Fig 15.

18. Remove the vent line from the upper passenger side of the radiator by first releasing the blue plastic clip from the line, and then remove the line from the radiator (Fig. 16).

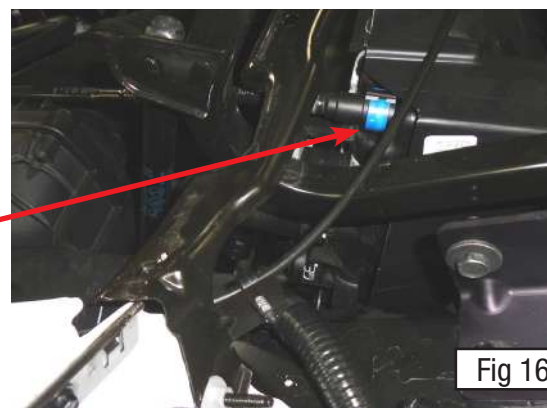


Fig 16.

19. Using a 7mm socket, remove the four bolts holding the plastic cowl to the radiator. Remove the plastic cowl from the radiator (Fig. 17).

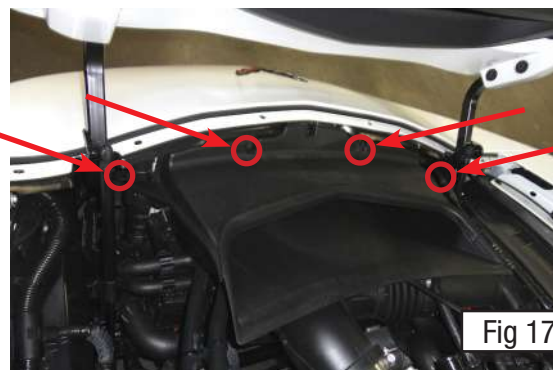
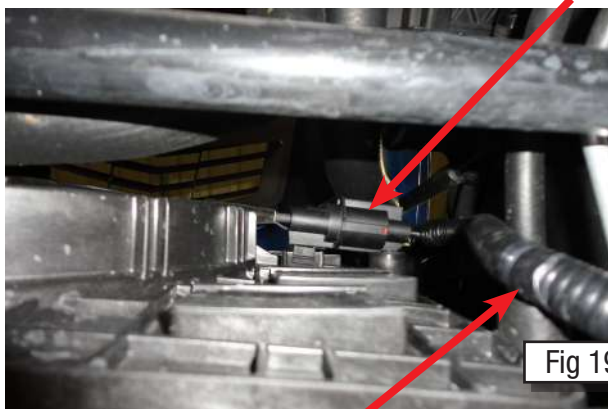


Fig 17.

20. Remove the two 10mm bolts holding the fan shroud to the radiator (Fig. 18).



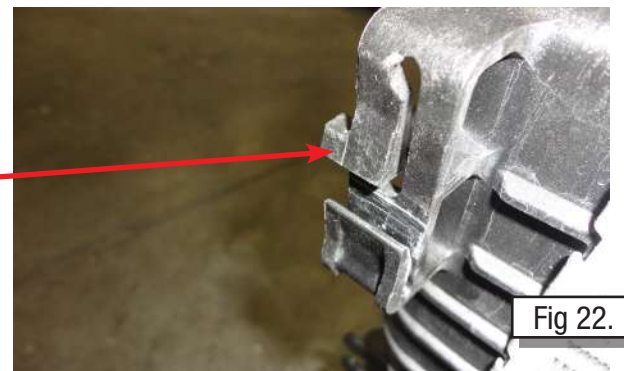
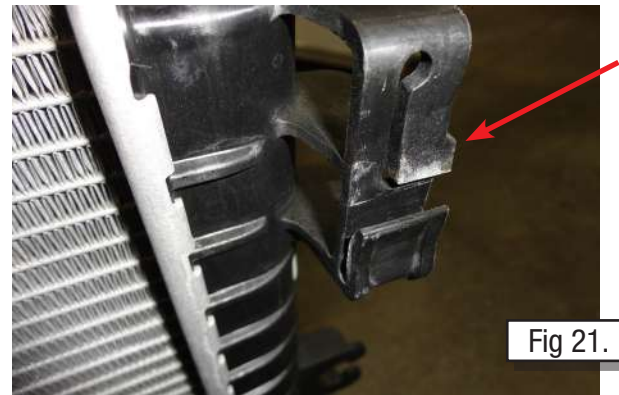
21. Unplug the wiring harness for the fan shroud. Using a trim tool remove the plastic clip holding the harness to the fan shroud and also the plastic clip holding the lower radiator hose to the fan shroud. Using a trim tool remove the two plastic clips holding the hoses to the driver side of the fan shroud. Remove the fan shroud from the car (Fig. 19).



22. Remove the two 13mm bolts holding the radiator in the vehicle (Fig. 20).



23. Gently move the radiator back towards the engine of the car in order to gain access to the A/C condenser. Depress the two plastic clips towards the top of the radiator that are holding the condenser in place (Figs. 21 & 22). While depressing the clips slide the condenser up and then place it forward of the radiator once it clears the mounts.



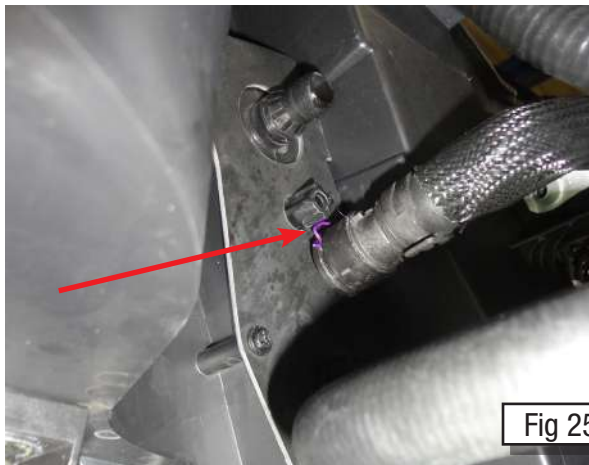
24. Carefully remove the radiator from the car (Fig. 23).



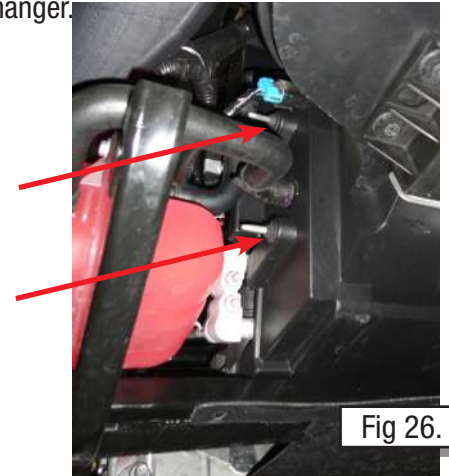
25. The coolant for the heat exchanger system should be drained at this time (Fig. 24).



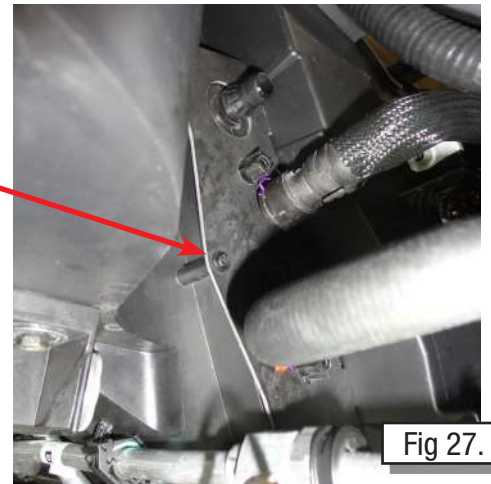
26. Using a pick, remove the purple clips holding the coolant lines onto the heat exchanger (Fig. 25). Remove the coolant lines.



27. Using a 10mm wrench, remove the nuts from the studs on the heat exchanger.



28. Remove one T-15 Torx bolt and remove the plastic cover on the driver side of the heat exchanger (Fig. 27).



29. Unclip the wire harness for the air temp sensor from the front air duct (Fig. 28).



30. Separate the transmission cooler (if equipped) from the plastic air duct by removing the four 10mm bolts holding the cooler to the plastic air duct (Fig. 29). Unclip the plastic clips holding the lines to the air duct. The transmission cooler should be moved out of the way (lines still attached to engine and cooler) but should be supported, not allowed to hang from the car in order for removal of the air duct.



31. Remove the two 13mm bolts located on the bottom side of the air duct that hold it to the radiator support (Fig. 3).



32. Remove the three 13mm bolts holding the air duct to the bumper support of the car (Fig. 31).



33. Lift up on the bottom of the plastic air duct to get the flange over the radiator support brace (Fig. 32).



34. Gently pull the air duct and heat exchanger out of the bottom of the vehicle, a second person may have to help push down from the top where it was bolted into the bumper support (Fig. 33).



35. The heat exchanger can be removed from the plastic air duct at this time (Fig. 34).



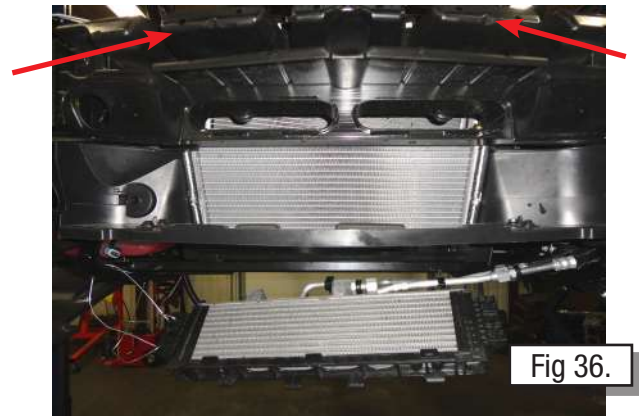


36. The 2 supplied studs should be threaded into the bungs on the passenger side of the heat exchanger. The 1/8" NPT bleeder valve should be threaded into the bung on the top driver side heat exchanger.
37. The AFCO heat exchanger can be placed into the plastic air duct. First place the side with the 1/8" NPT bleeder into the driver side of the plastic air duct (Fig. 35). Pull on the passenger side of the plastic air duct and push the heat exchanger into place. This is a tight fit due to the increased size of the heat exchanger.

## Installation of the AFCO Heat Exchanger



38. The plastic air duct and heat exchanger can be placed back into the car; the top of the air duct should go in first and be latched over the bumper support (Fig. 36).



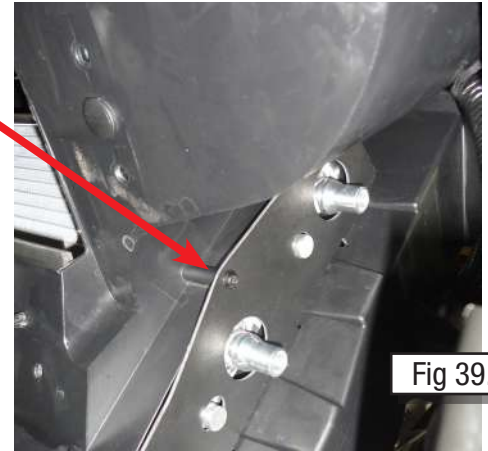
39. Next lift up on the bottom flange of the plastic air duct over the radiator support bracket and back in place (Fig. 37).



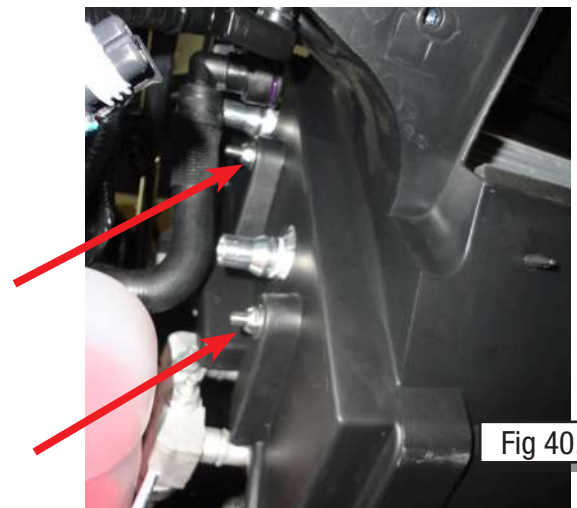
40. Install and tighten the three 13mm bolts in the top of the plastic air duct and the two 13mm bolts in the bottom of the air duct (Fig. 38).



41. Install the plastic cover and one T-15 Torx bolt in the driver side opening end of the heat exchanger cradle (Fig. 39).



42. Tighten the two ½” nuts on the passenger side of the heat exchanger (Fig. 40). Place the metal clips into the couplers of the heat exchanger coolant lines and place the lines on the barbs of the heat exchanger.

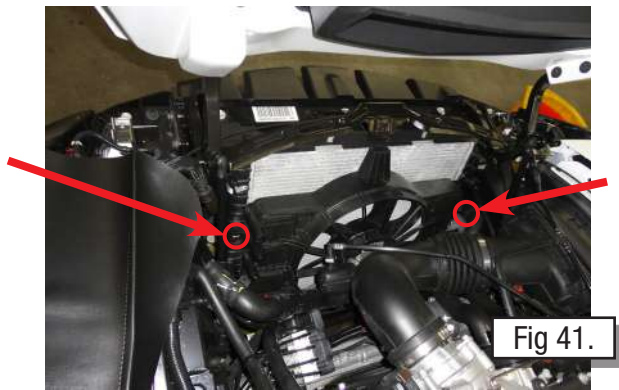


43. Plug the wire harness into the air temp sensor.

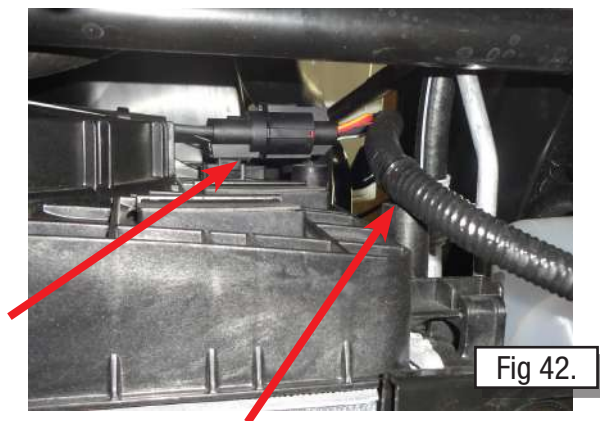
44. Clip the oil cooler and lines onto the plastic air duct. Install and tighten the four 10mm bolts that hold the oil cooler in place.

45. Install the radiator into the vehicle, carefully clipping the condenser back on the front side of the radiator.

46. Carefully lower the fan shroud onto the radiator. The air intake tube may have to be moved slightly to clear the fan shroud. Attach the fan shroud to the radiator using the two 10mm bolts (Fig. 41).



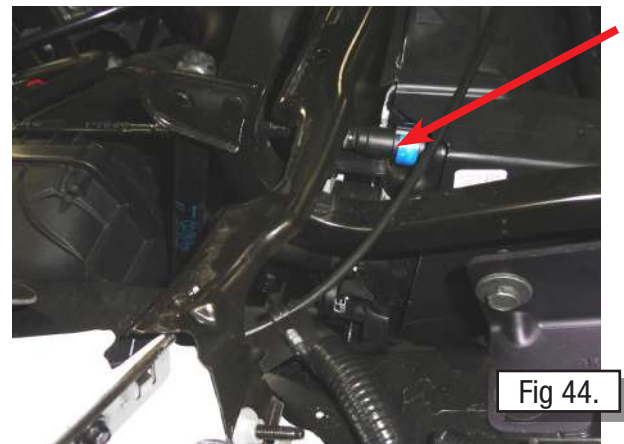
47. Plug the wiring harness in for the electric fan. Attach the harness back to the fan shroud with the plastic clip (Fig. 42). Also, attach the lower radiator hose back to the fan shroud with the plastic clips (Fig.43).



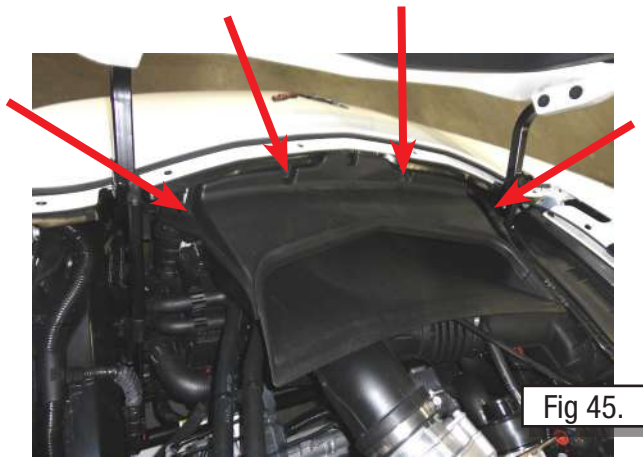
48. Attach the upper and lower radiator hoses to the radiator.

49. Attach the 5/8" rubber hose to the radiator on the lower driver side. Make sure this hose is clear of the front anti-roll bar on the vehicle.

50. Attach the vent line to the upper passenger side of the radiator (Fig. 44). Make sure the blue plastic clip seats properly in order to hold the line onto the radiator.

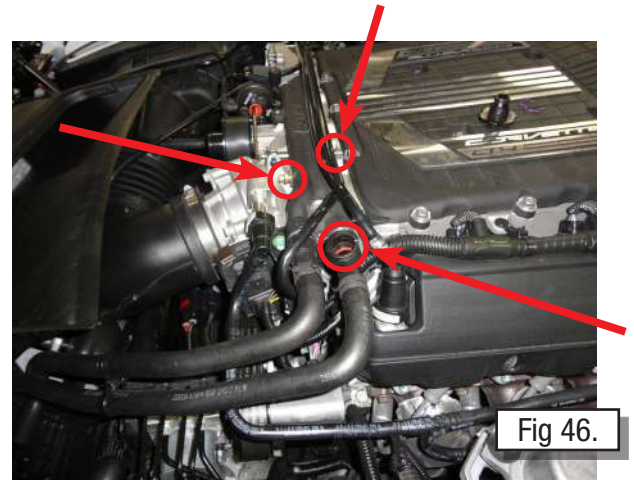


51. Install the plastic hood cowl onto the radiator using the four 7mm bolts (Fig. 45).



52. Fill the radiator with the recommended coolant for the vehicle.

53. Fill the heat exchanger in the fill port using the recommended coolant for the vehicle (Fig. 46). The bleeder valve on the heat exchanger and the two bleeder valves on the intake can be opened to help evacuate the air from the system (Figs. 46 & 47). The heat exchanger system will need to be vacuum bled using a Kent Moore GE47716 and a Ge-47716-20 adapter.



54. Start the vehicle, and allow it to idle until warm. Continue adding coolant in the radiator surge tank and the heat exchanger fill port until the recommended level is reached.

55. Continue to run the vehicle for 5 minutes to verify that all air is purged from the system. Check the system for leaks while waiting.

56. If there are no leaks found, the nose of the car can be installed at this time. The two 7mm bolts and the bracket can be reattached at this time (Fig. 48). The nose can be snapped on at this time, first by snapping it into place next to the headlights (Fig. 49). Make sure the nose sits flush with the fender of the car, if it does not the mounting clip will need adjusted (Fig. 48).

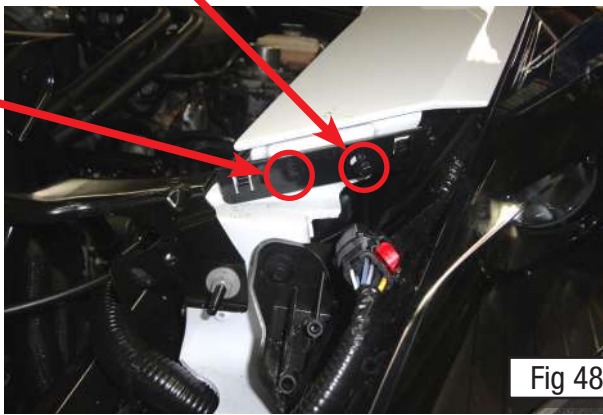


Fig 48.

58. Install the four T-30 Torx bolts and also the two plastic clips holding the nose to the radiator support (Fig. 51).



Fig 49.

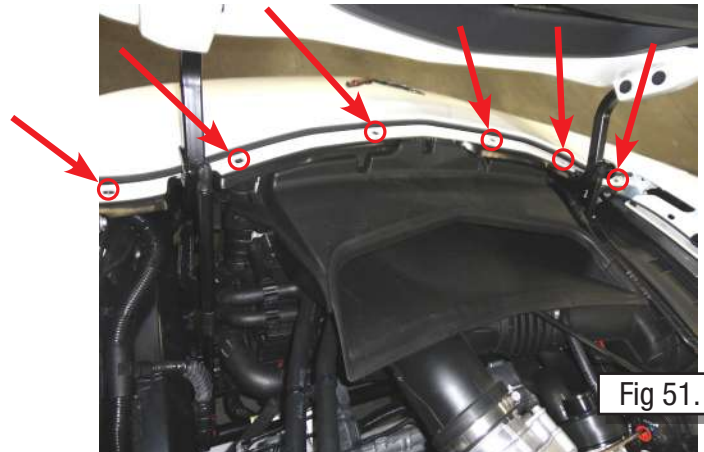


Fig 51.

59. The plastic covers on each side of the fender and nose intersection can be snapped back into place (Fig. 52).

57. Slide the tabs on the nose of the car into the clips below the headlights. Snap the side of the nose into place where it meets the fender well of the car. (Fig. 50).



Fig 52.

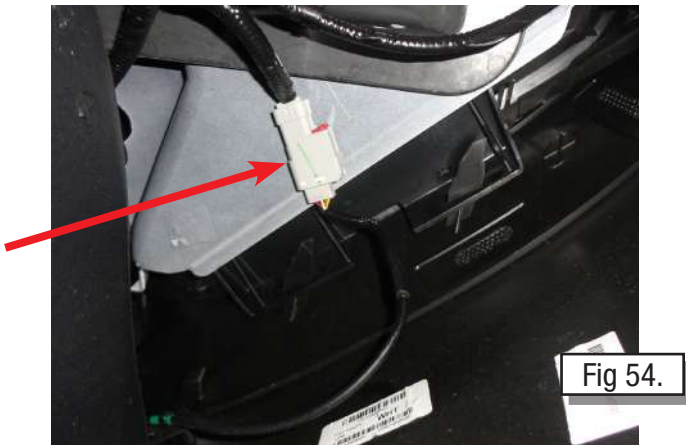


Fig 50.

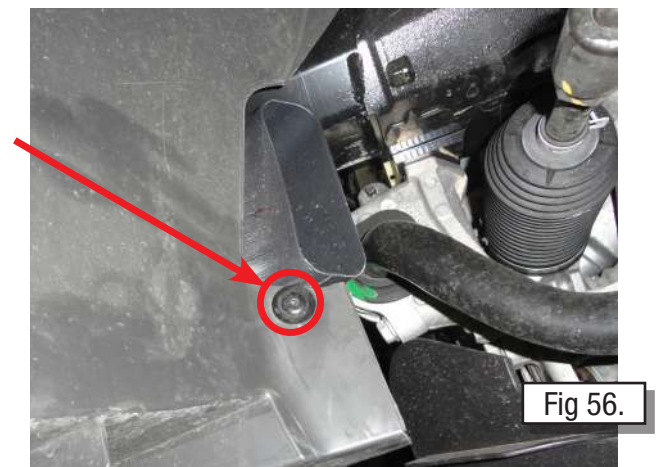
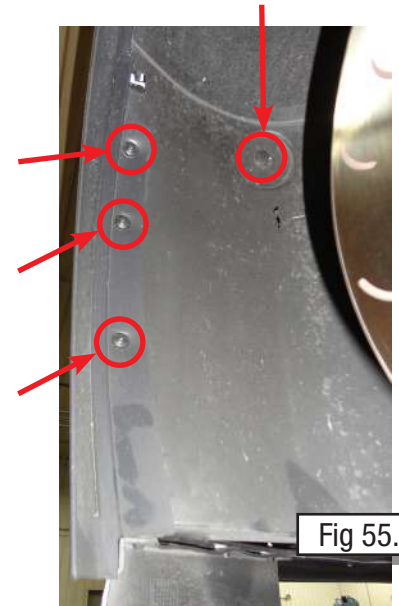
60. Plug the wire harness in for each side marker light. (Fig. 53).



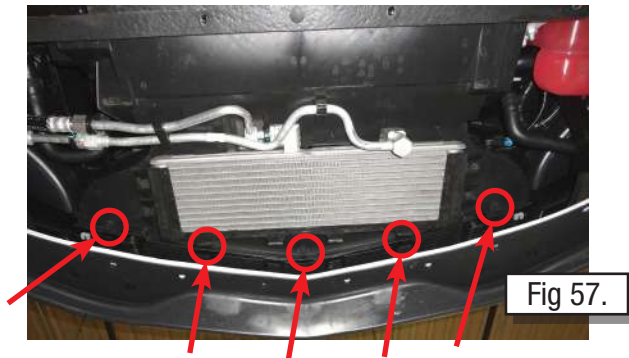
61. If the vehicle is equipped with the front parking cameras in the nose, plug the wire harness in on each side of the vehicle (Fig. 54).



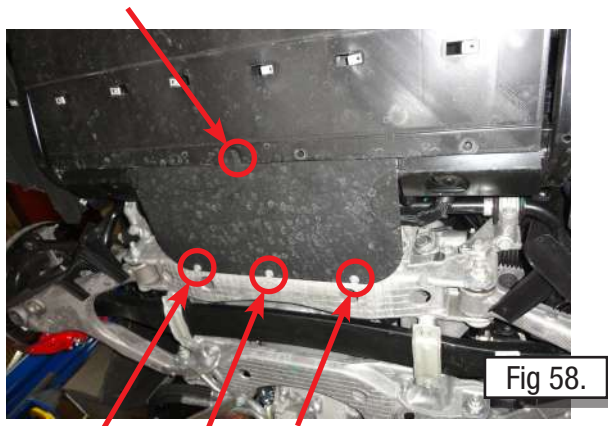
62. Install three T-15 Torx bolts at the edge of the inner fenders and the one T-15 Torx bolt holding the brake duct to the inner fender (Figs. 55 & 56). The plastic clip should also be installed to the inner fender.



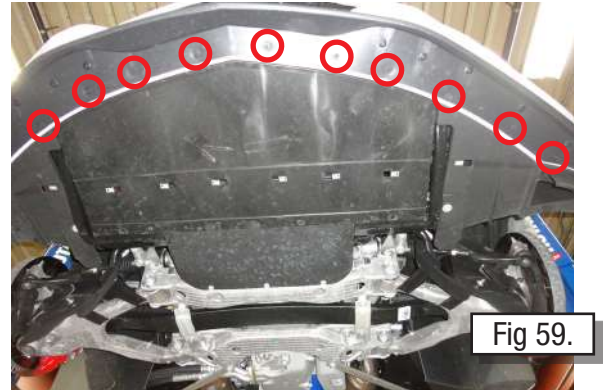
63. Install the five 7mm bolts holding the bottom of the plastic air tunnel to the bottom of the front nose. (Fig. 57).



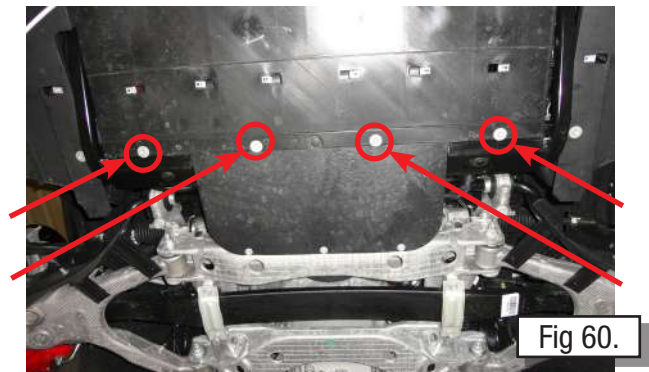
64. Install the one plastic clip and three 10mm bolts holding the plastic cover to the K-member (Fig. 58).



65. Install the twelve 7 mm bolts along the bottom of the front nose of the car (Fig. 59). The longer 2 bolts go in the corners of the bumper.



66. Install the four 10mm bolts on the bottom engine cover of the car (Fig. 60).



67. Install the front tires on the vehicle and take it off of the jack stands.

68. If the Kent Moore Vacuum fill tool was not used, it is recommended to take the vehicle to a qualified professional to vacuum bleed the heat exchanger cooling system.