



DINAN

N63TU Upgrade Intercooler Installation Instructions

Part Number: D330-0017

Applications: **2014 F10 550i & xDrive**
 2013-14 F12/F13 650i & xDrive
 2013-14 F06 650i & xDrive Gran Coupe
 2013-14 F01/F02 750i/Li & xDrive
 2013-14 F07 550i GT & xDrive

Software download: After installing the Upgrade Intercooler you will be safe to install the appropriate software download. If this kit is not installed at a Dinan dealer you can drive to the nearest Dinan Dealer to receive the tuning and boost increase that is optimized for your new Dinan Intercooler. It is safe to drive the vehicle with the Intercooler Upgrade to the dealer before the new software is installed.

Note: For maximum power output always use premium fuel. Unleaded racing fuel can be used on occasions such as track events when even more power is desired.

REMOVE THE STOCK INTERCOOLER

1. Remove the stock intercooler from the car using the BMW TIS procedure # 17 51 001. It helps if you remove the fan cowl with electric fan using BMW TIS procedure # 17 11 035.

MODIFY PARTS FOR INTERCOOLER INSTALL

2. There are a few parts that need to be modified before installing the new Dinan intercoolers.
3. The bracket that holds the coolant reservoir for the intercoolers needs to be modified.
4. Remove the intercooler expansion tank and hoses. Cover the throttle bodies, turbos and alternator to keep any cutting debris from entering when trimming reservoir bracket.

5. Cut the expansion tank bracket as shown in figure 1. Draw a line down from the inside edge of the bracket. Draw the other 2 lines 0.90" from the inside edge and 0.40" on center of the hole.
- Figure 2 is the cut bracket and figure 3 is the cut bracket with the Dinan intercooler installed, showing where you needed clearance.

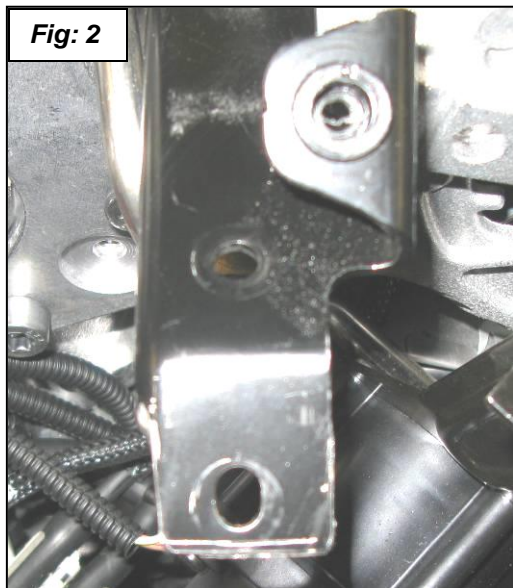


Fig: 2

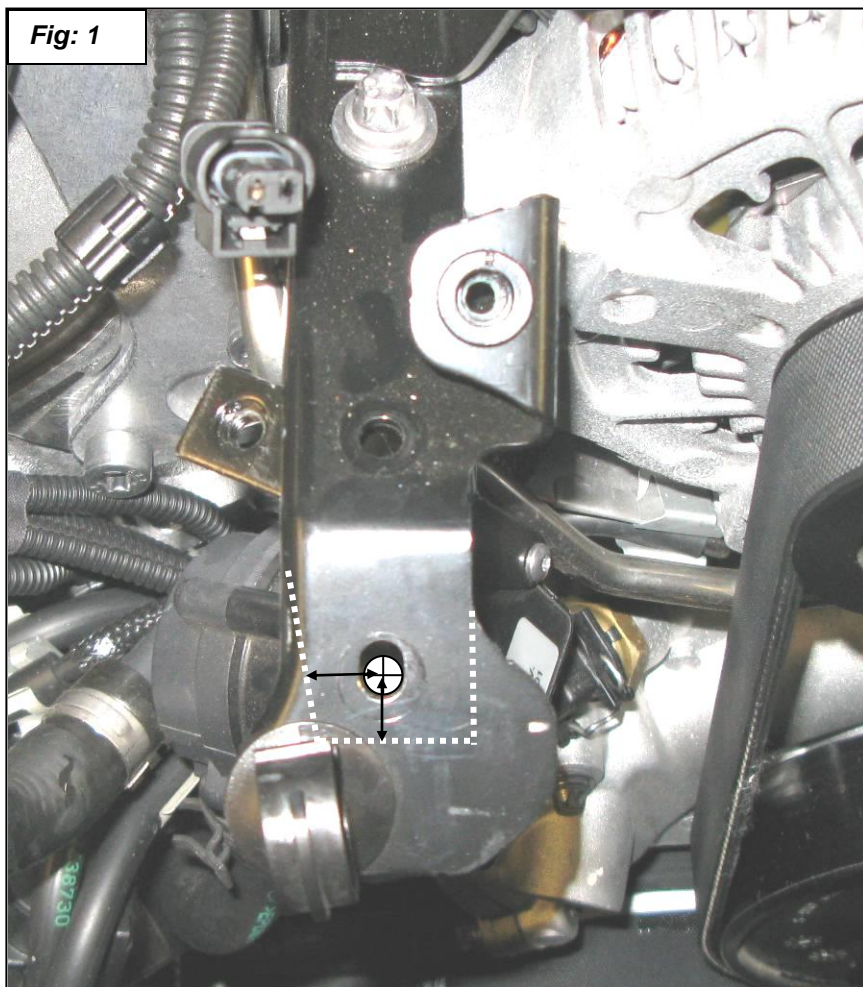


Fig: 1

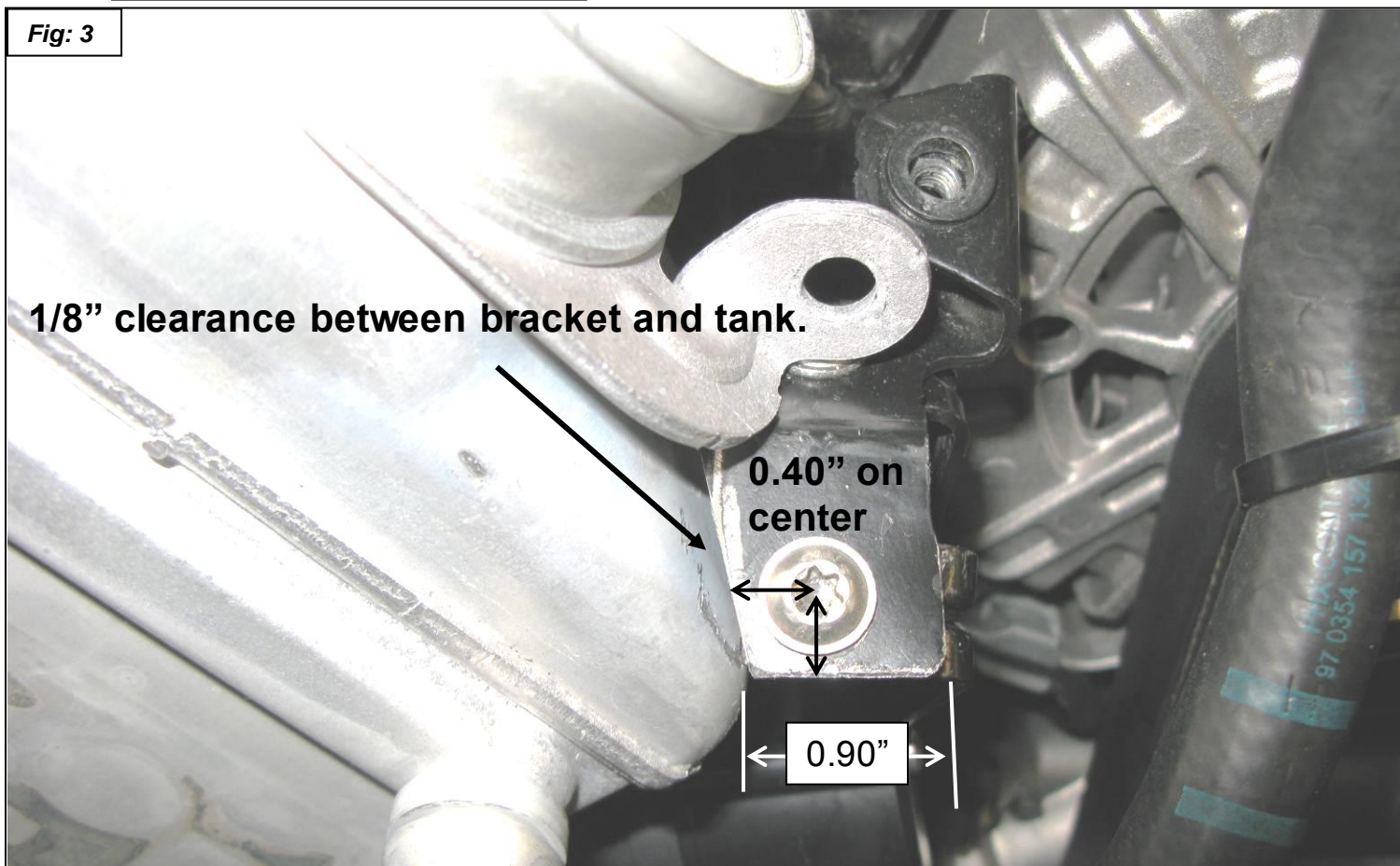


Fig: 3

1/8" clearance between bracket and tank.

0.40" on center

0.90"

6. Remove the metal hose fittings from the charge air lines as shown in figures 4, 5 & 6. Clamp the charge air line in a vise and cut the clamp diagonally with a cut off wheel or hack saw. Be careful not to cut the metal fitting. See figure 4. Peel the hose clamp off as shown in figure 5. Remove metal hose fitting as shown in figure 6. You will use these with the new charge air hoses.

7.



Fig: 4



Fig: 5

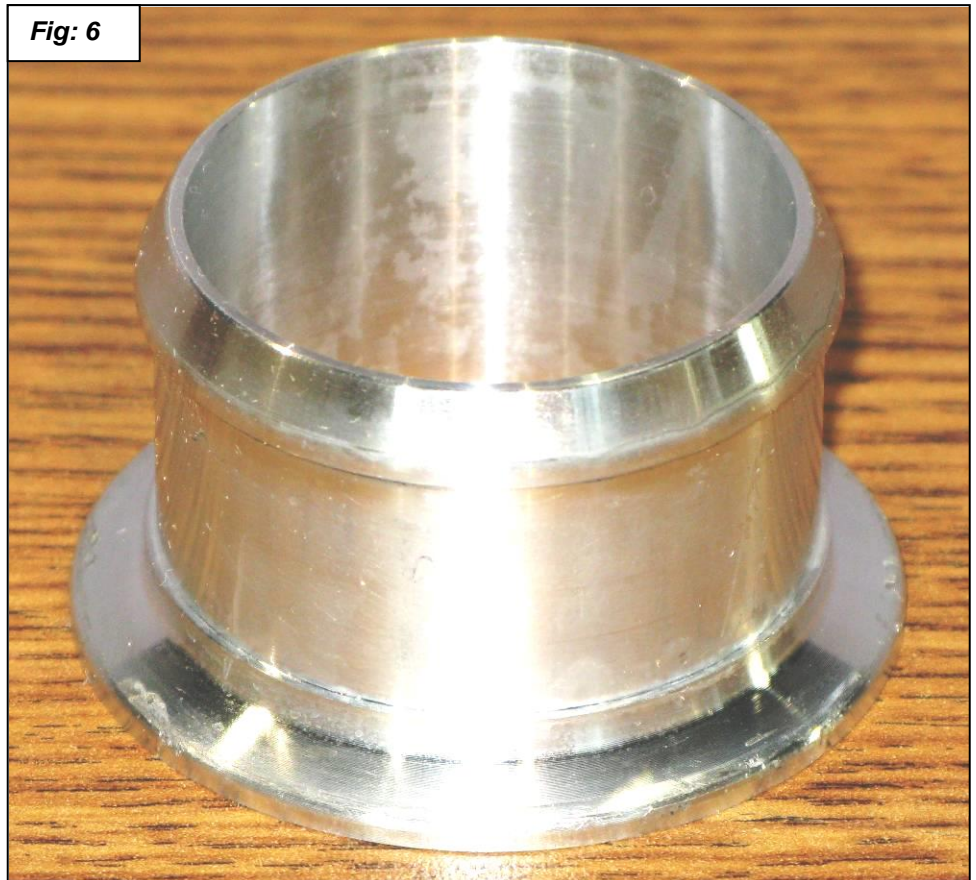


Fig: 6

7. Remove the plastic hose fitting from the coolant hose as shown in figures 7, 8, 9 & 10. Clamp coolant hose lightly in a vise and cut the clamp diagonally with a cut off wheel or hack saw. Be careful not to cut the plastic fitting. See figure 8. Peel the hose clamp off as shown in figure 9. Remove plastic hose fitting as shown in figure 10. You will use this with the new coolant hose.

8.

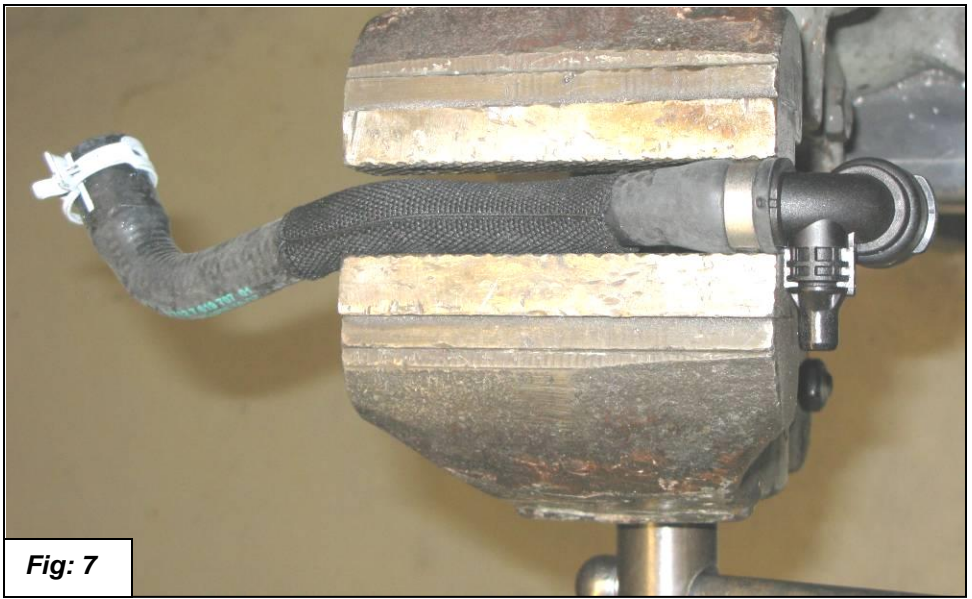


Fig: 7

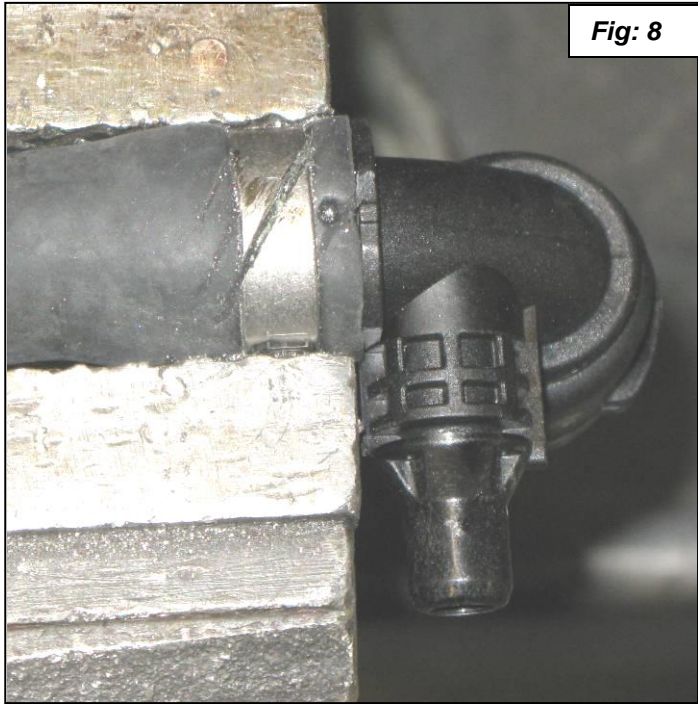


Fig: 8

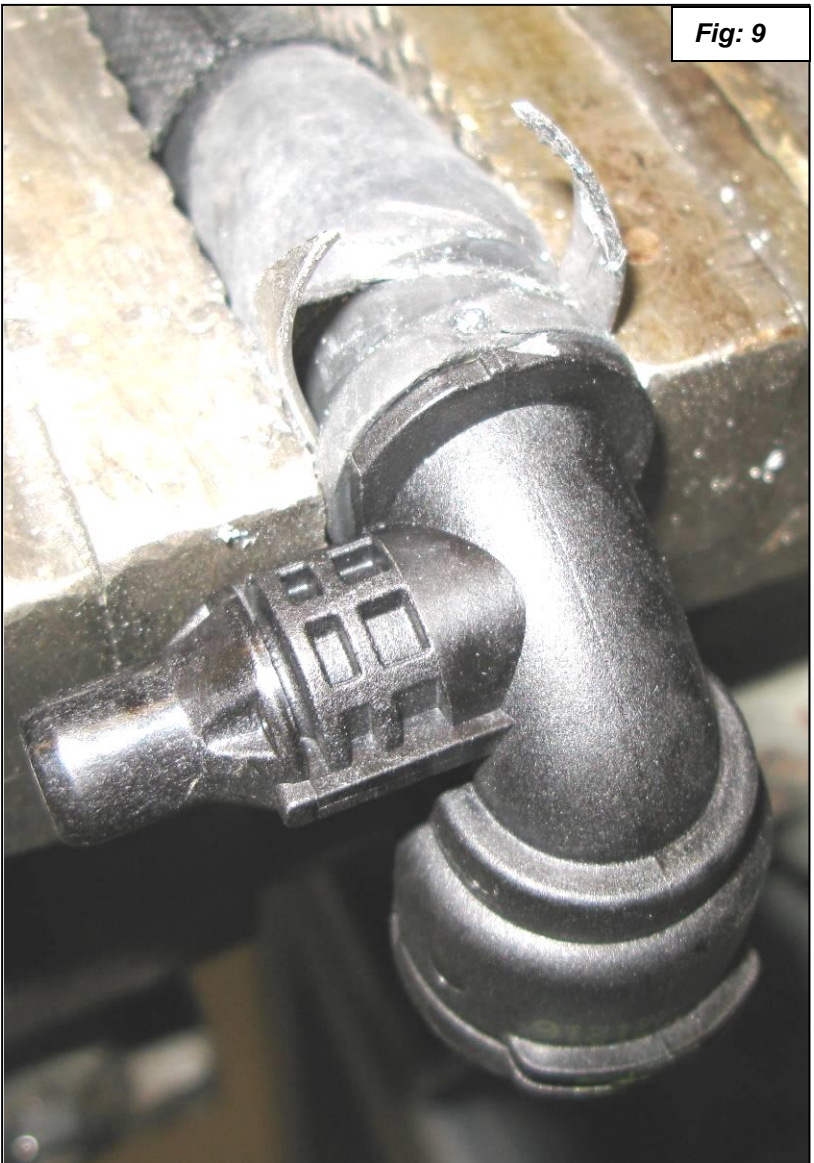


Fig: 9

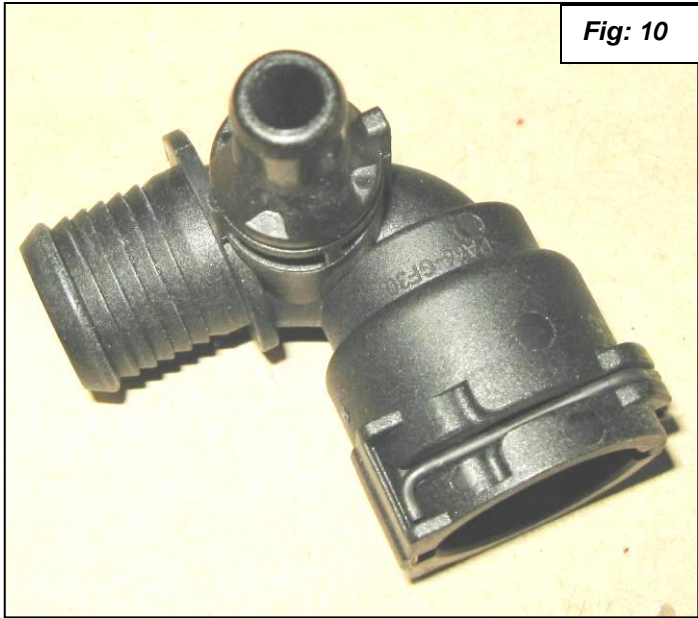
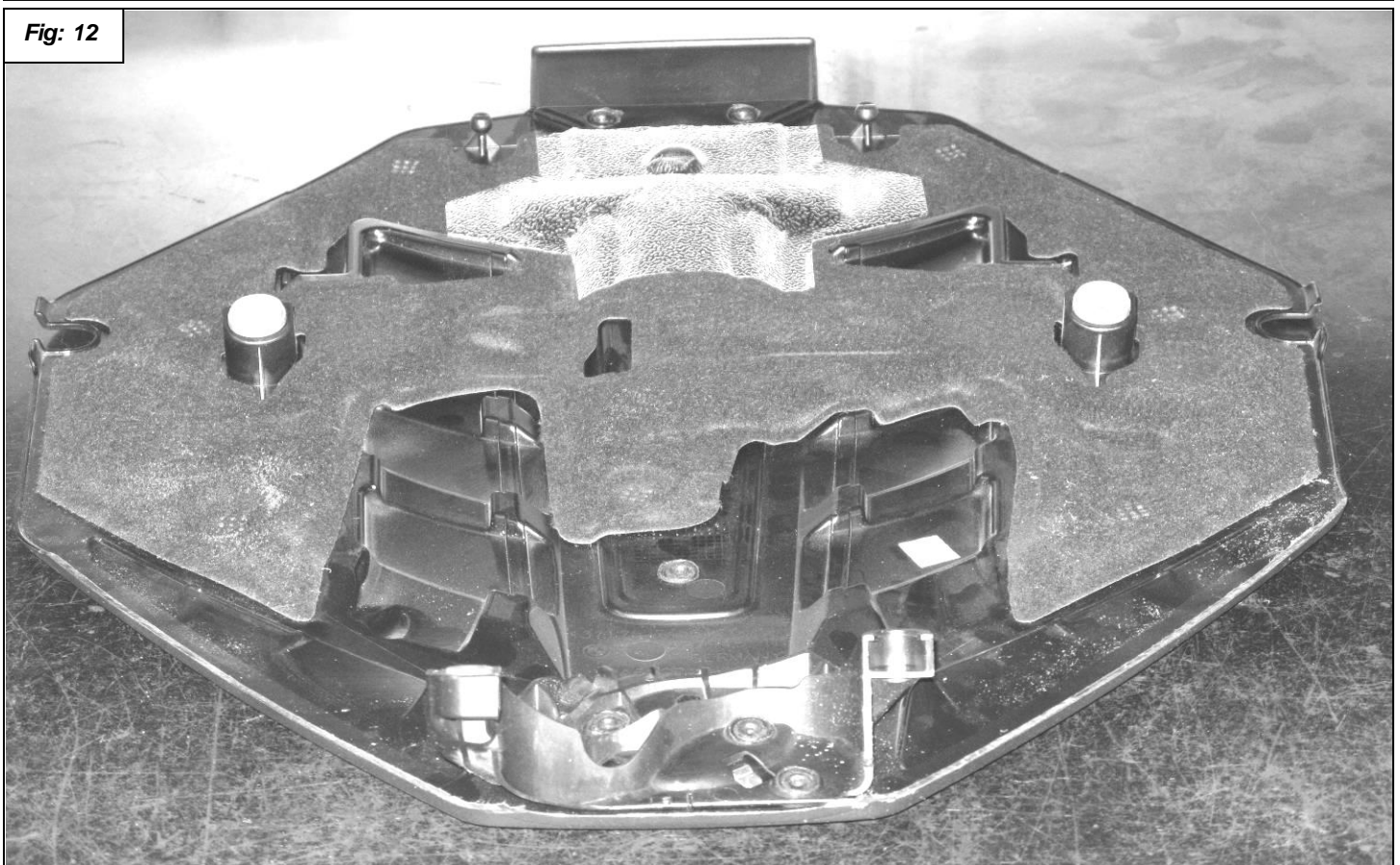


Fig: 10

8. Modify the engine cover/ sound protection cap as shown in figures 11, 12, 13 and 14. Tape the edge of the cover as shown and draw a line at the intersection where the stock hose outlets are evenly along the edge. Cut the cover along this line. A die grinder with a cut off wheel works well. Sand the edge flat and smooth.



9. Cut the mounting bracket as shown to remove the inner mount. Sand down the two raised bumps shown. Clean up the holes opened from sanding the bumps using files. Round out the lips on the cover in the two locations shown for clearance for the hose and expansion tank cap. See figures 13 and 14.

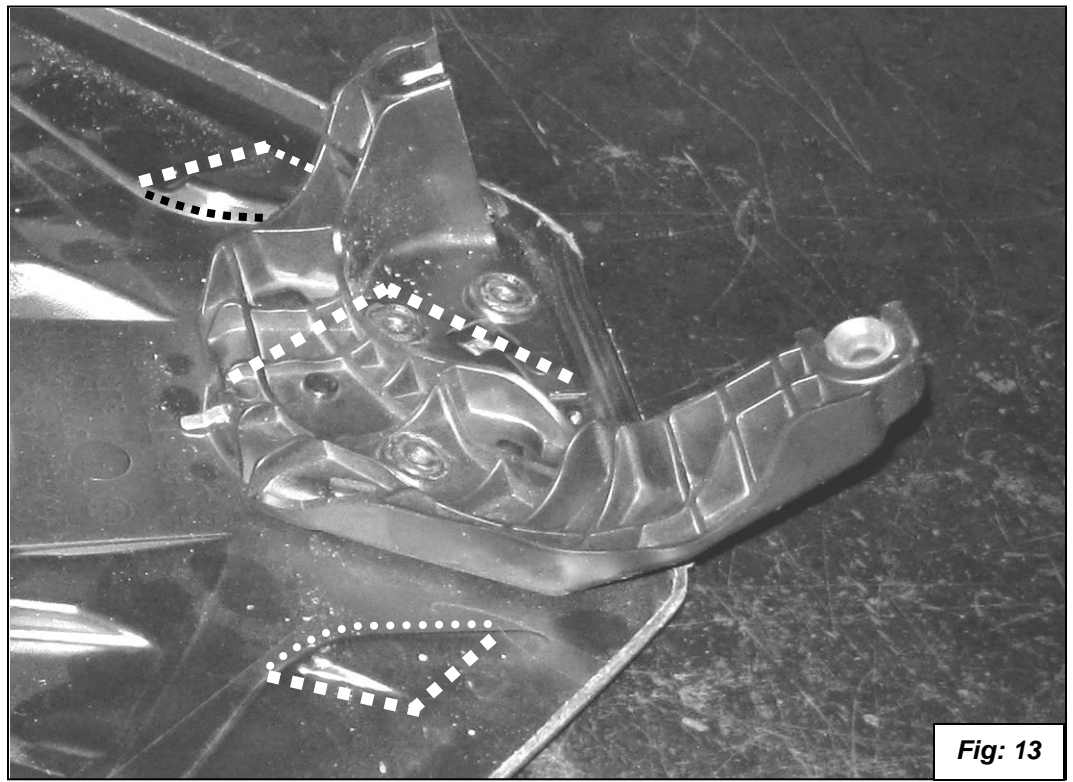


Fig: 13

Clearance for hose and expansion tank cap.

Remove inner mount.

Sand flat bumps and file holes smooth as shown.

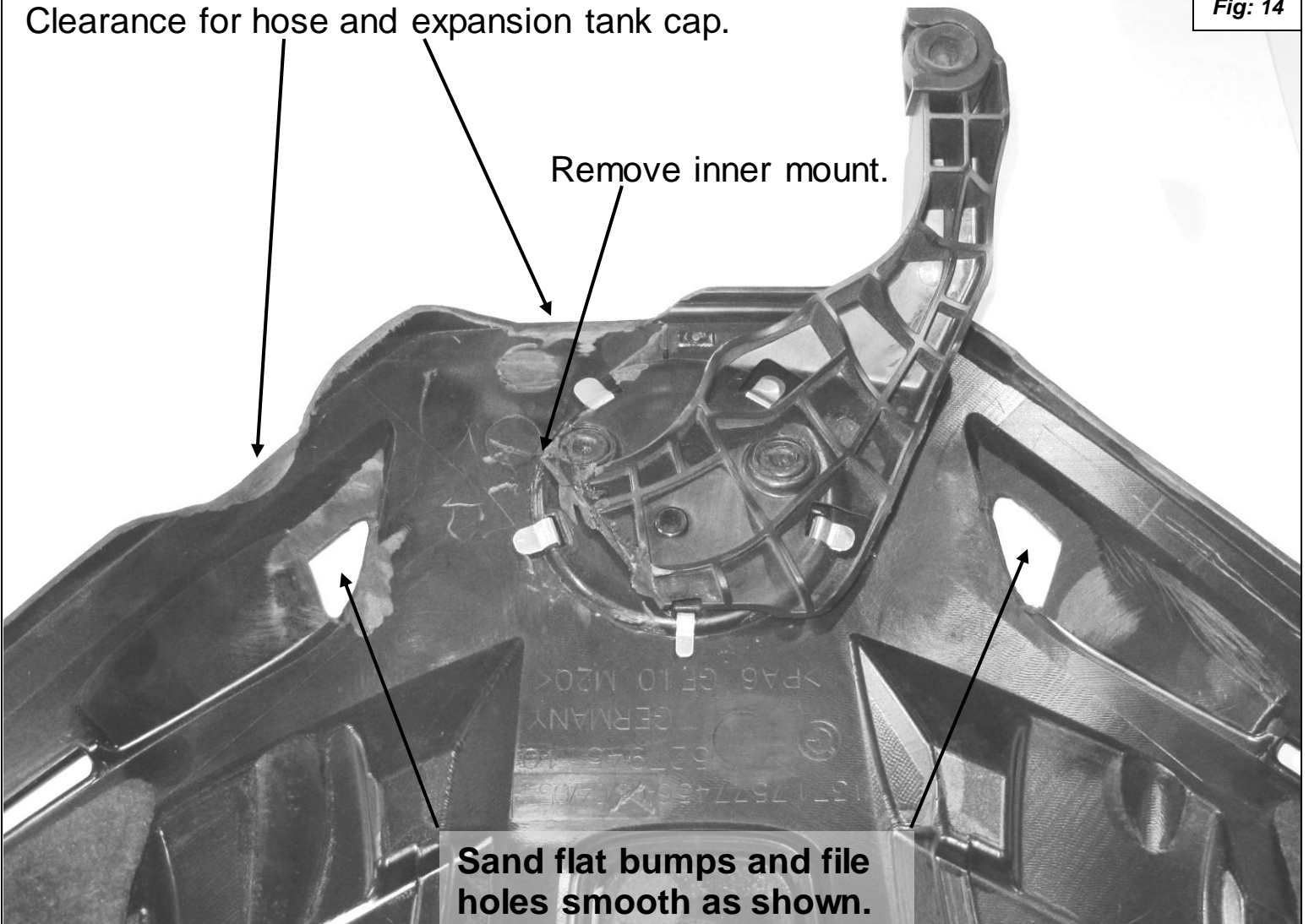
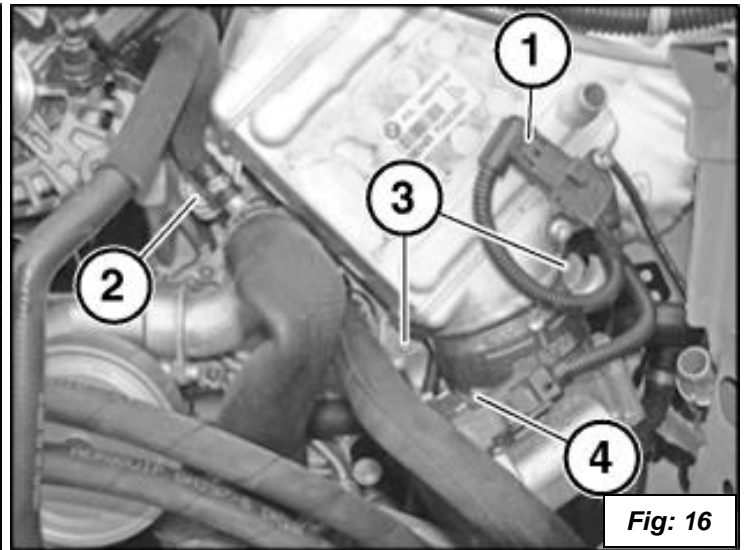
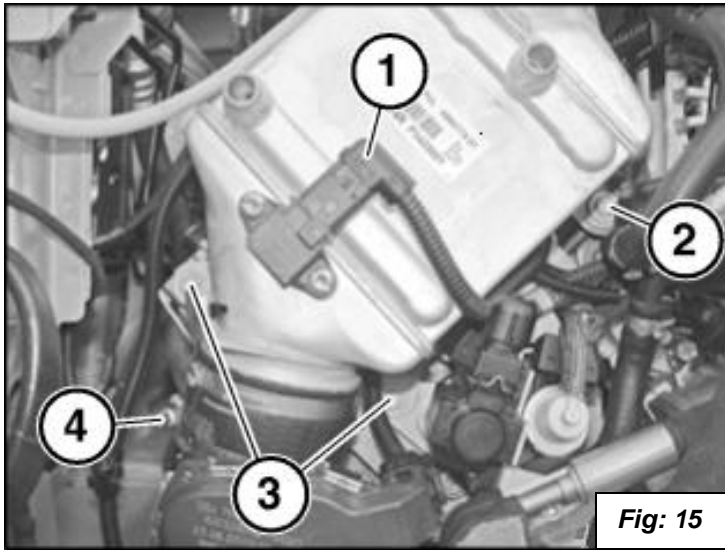


Fig: 14

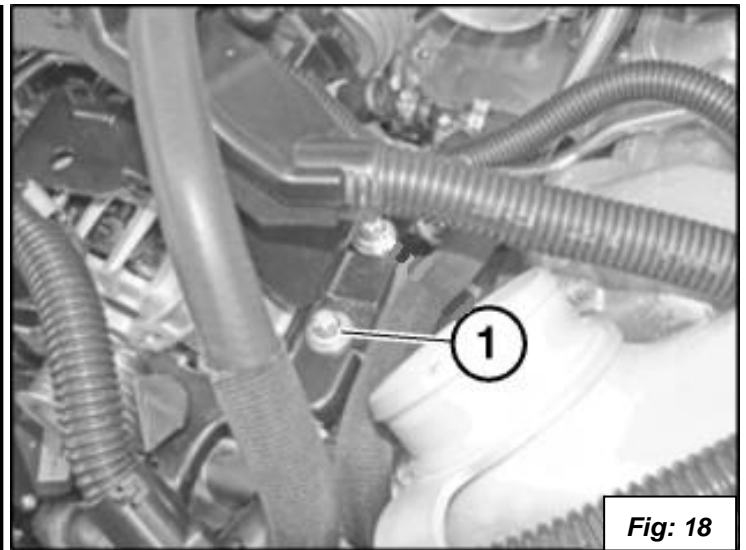
INSTALL THE DINAN INTERCOOLER

10. Reassemble the car in reverse of disassembly. There are some new hoses and brackets used in place of the stock ones. The following instructions will show you the changes.

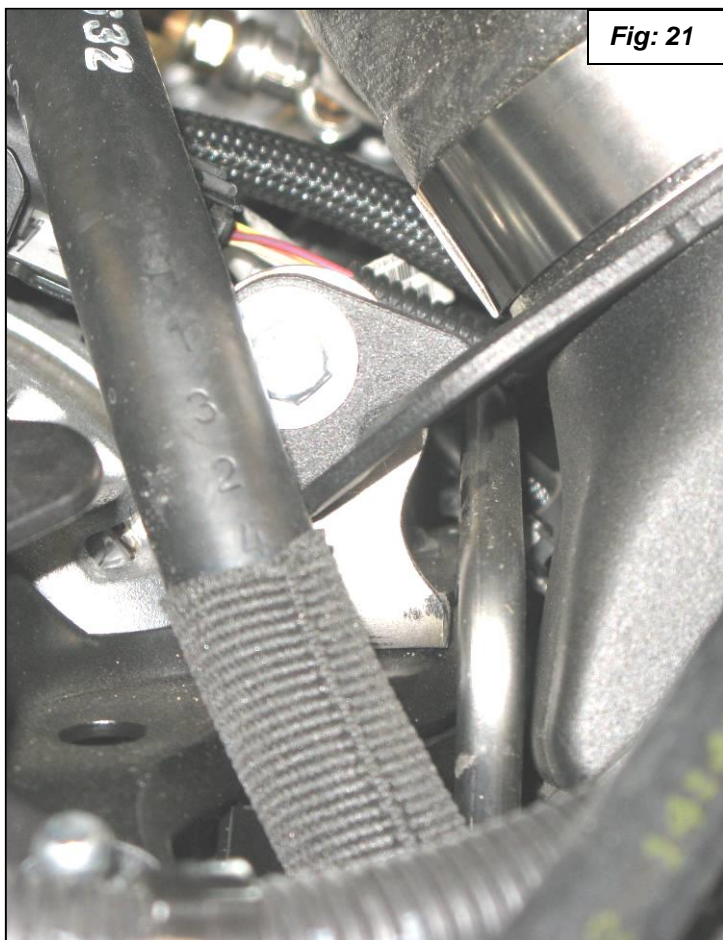
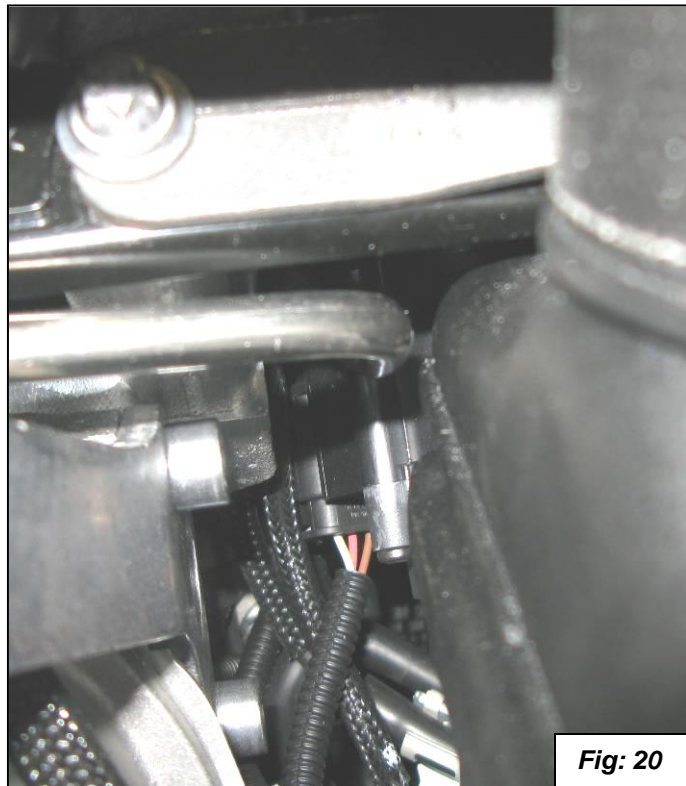
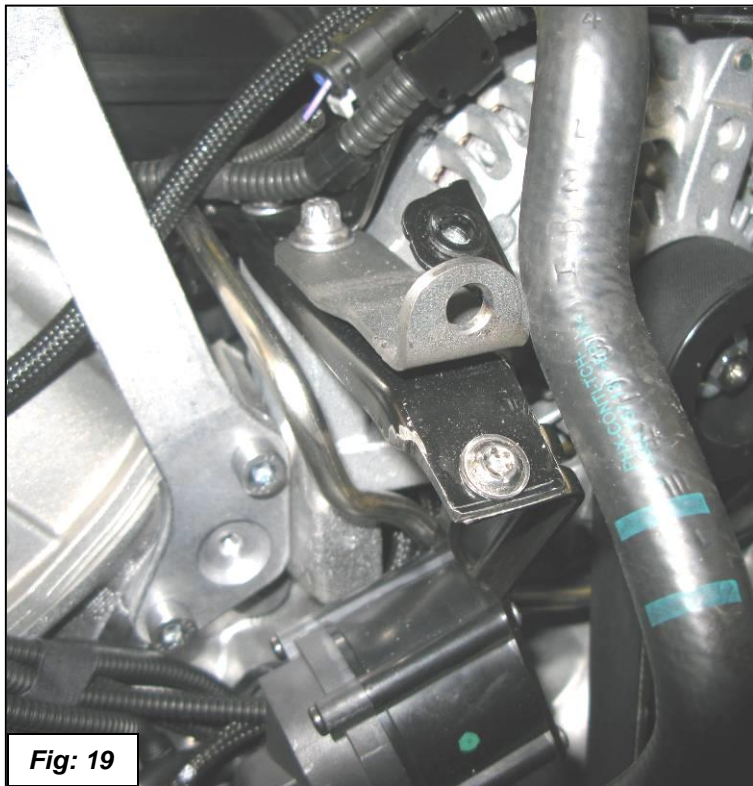
11. Transfer the pressure sensors (1) to the new Dinan intercoolers. The Dinan intercoolers will use two of the stock mounting bolts in the same location (3) except on the passenger side the outer bolt gets replaced with a bolt with a smaller washer to clear the bracket. The bolts in position (2) will not be used; they are relocated in step 12. Tighten the clamps in position (4). See figures 15 and 16.



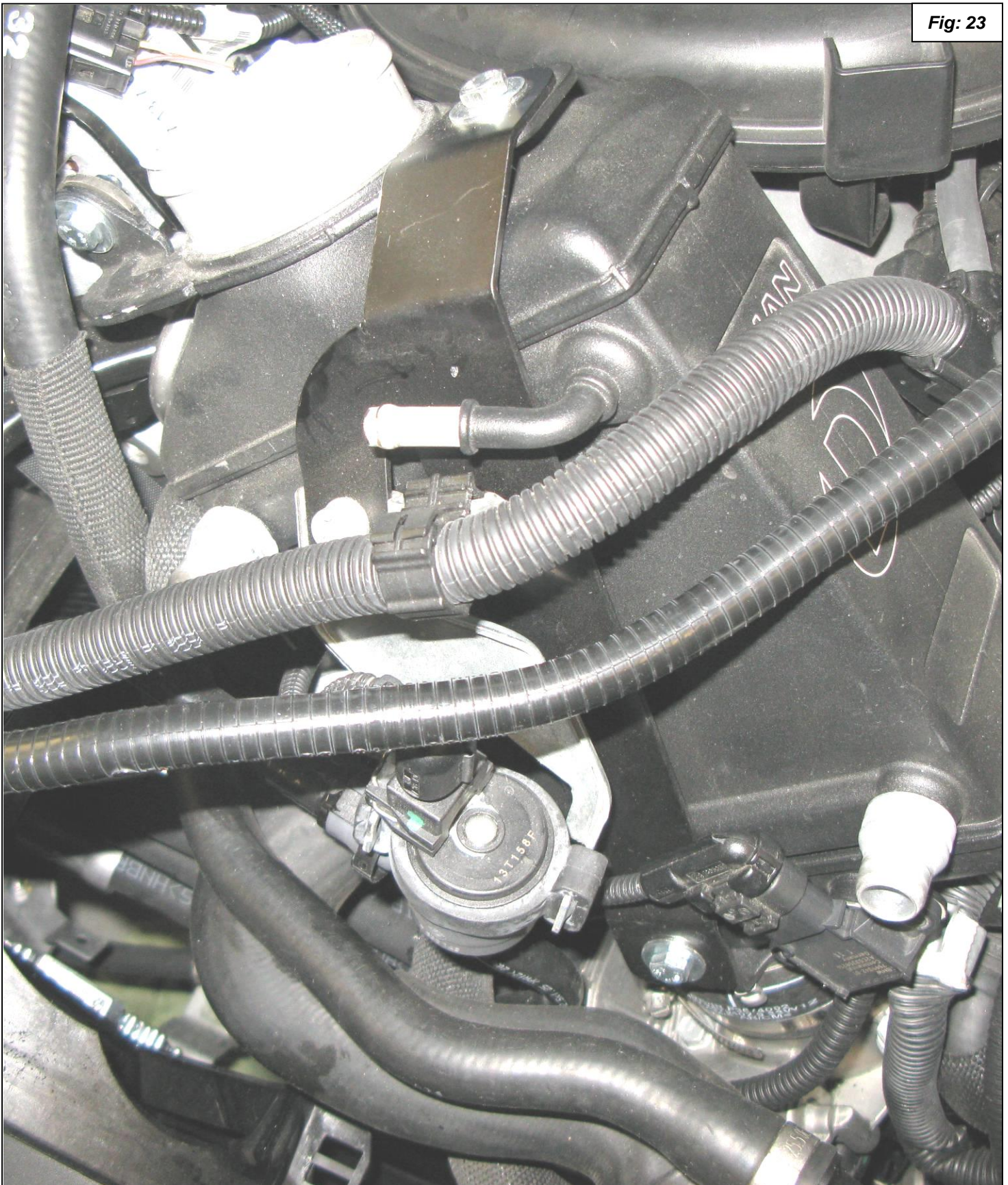
12. Remove the two forward alternator bolts (1) so you can install the new upper intercooler mounts under them. See figures 17 and 18.



13. Install the new upper intercooler mounts as shown in figures 19 thru 22. Torque the alternator bolts to 21Nm. Use the supplied 6mm bolts, washers and nylok nuts to attach the intercoolers to the brackets. Make sure the fuel lines do not rub.



14. Install the new vent valve bracket using the supplied 6mm bolts and washers. Install the vent valve on the bracket using the stock bolt. You may have to bend the tab that holds the wire harness slightly. See figure 23.



15. Install the 6mm Male-Female threaded hex standoffs as shown in figure 24.

The Wire Loom shown in the following photos are of the early N63 non valvetronic engine. Your engine is the late N63TU with valvetronic and has the wire loom routed differently.

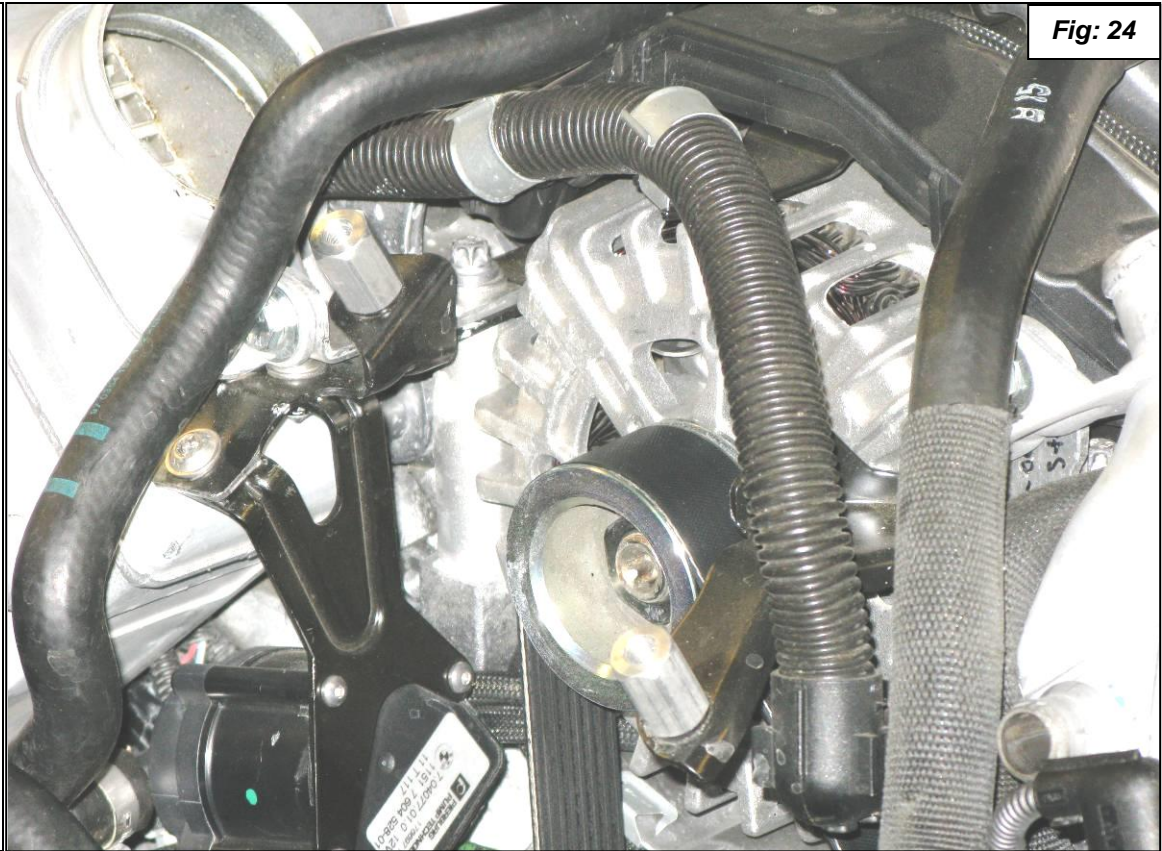


Fig: 24

16. Install the expansion tank as shown in figure 25. Use the supplied 6mm button head bolt and washers on the passenger side and the ball stud, serrated washer and flat washer on the driver's side.



Fig: 25

17. Install the Dinan hoses as shown in figure 26. Use the T-Bolt clamps with the metal hose fittings you removed in step 6.

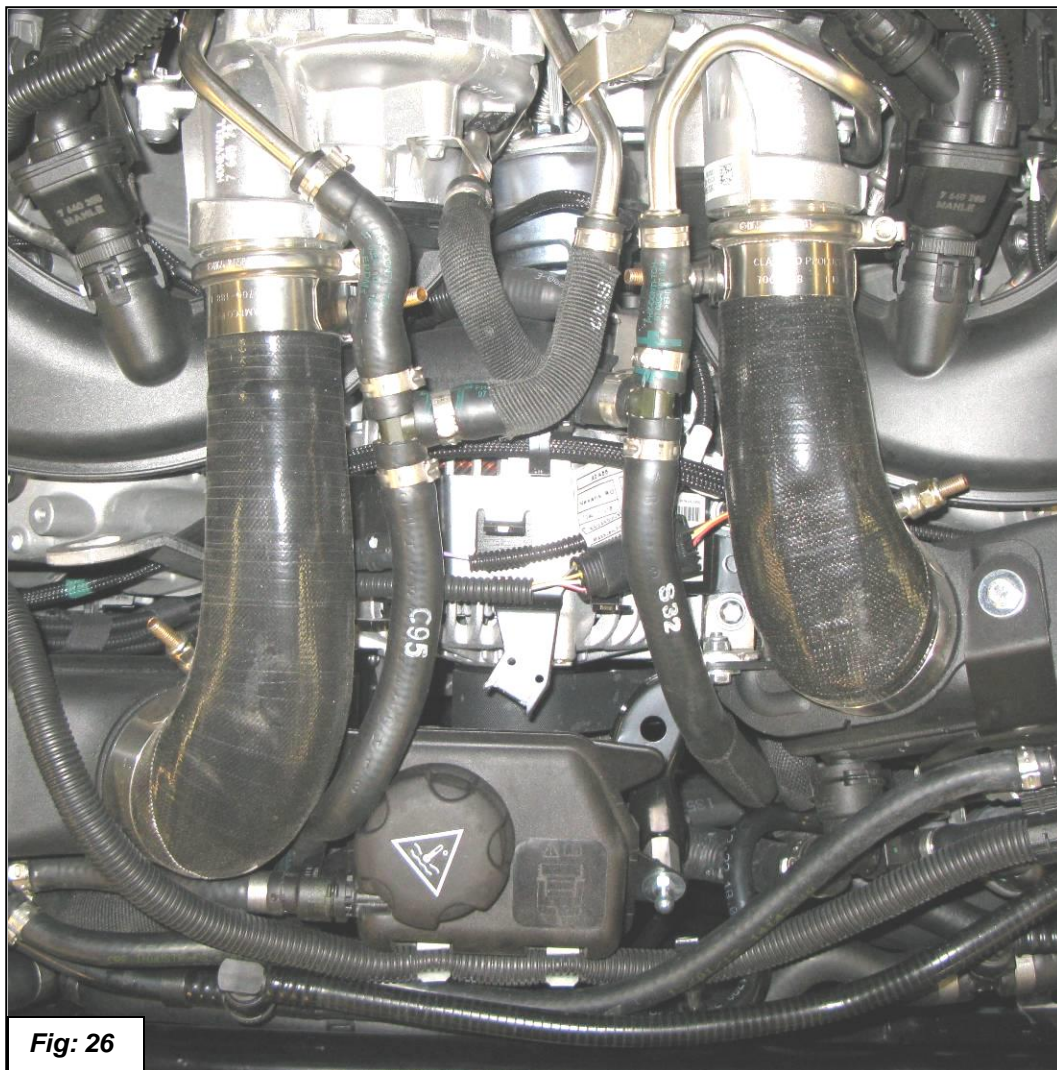


Fig: 26

18. Install the coolant hoses using the supplied new hoses where shown along with the stock hoses. See figures 27, 28, 29 and 30.

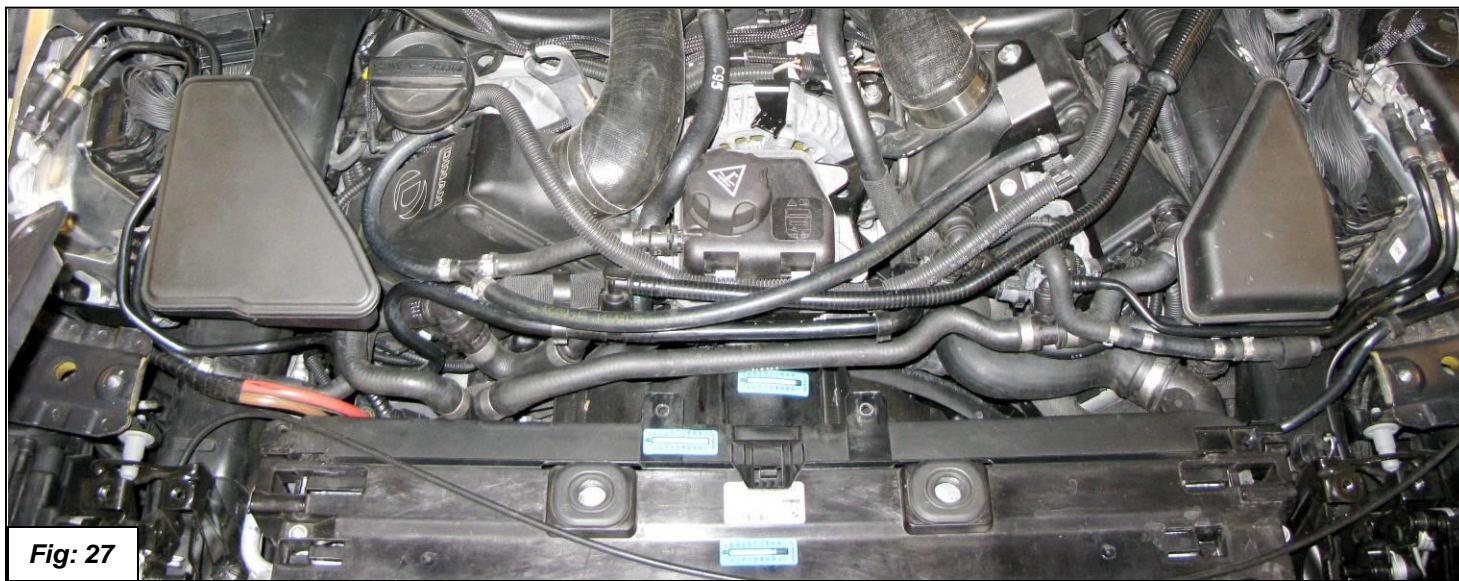


Fig: 27

19. Install the vent hose first with the Y connector into the stock hose that goes into the reservoir and the other two hoses going to the inter coolers. Do Not clip the hose into the reservoir as shown in the photo, the wire loom gets clipped into them on the TU engine. See figure 28.



Fig: 28

20. Install the two new hoses that go between the reservoir and the inner nipples on the intercoolers. See figure 29.

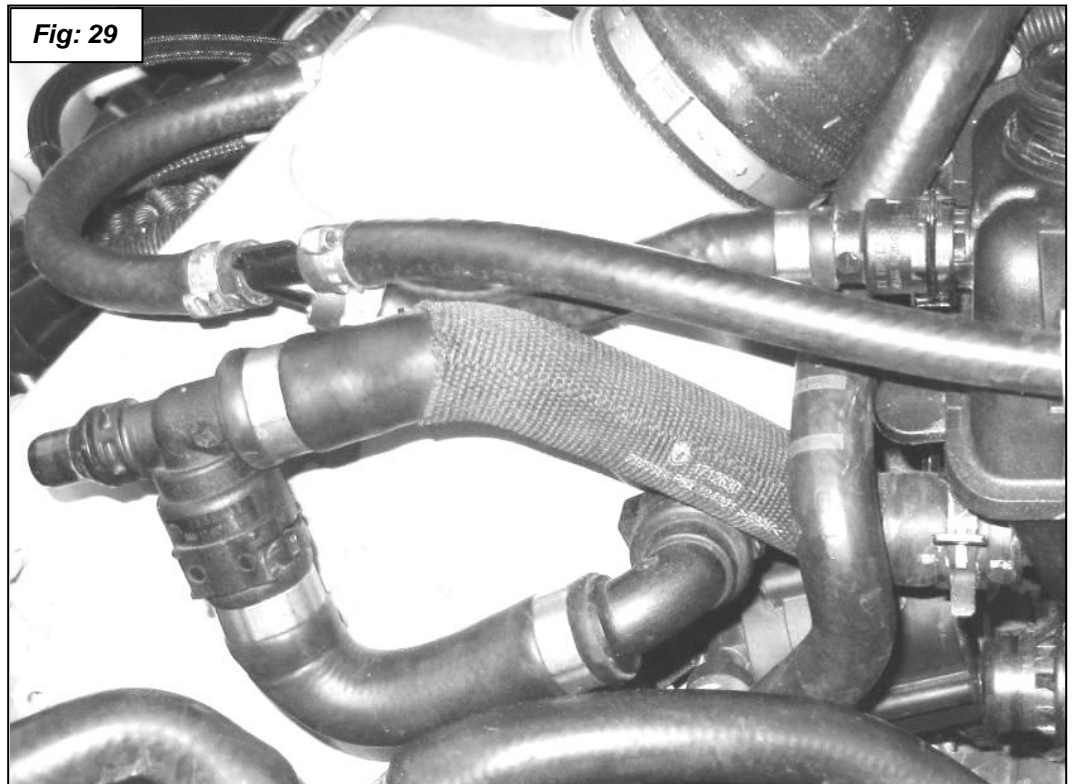


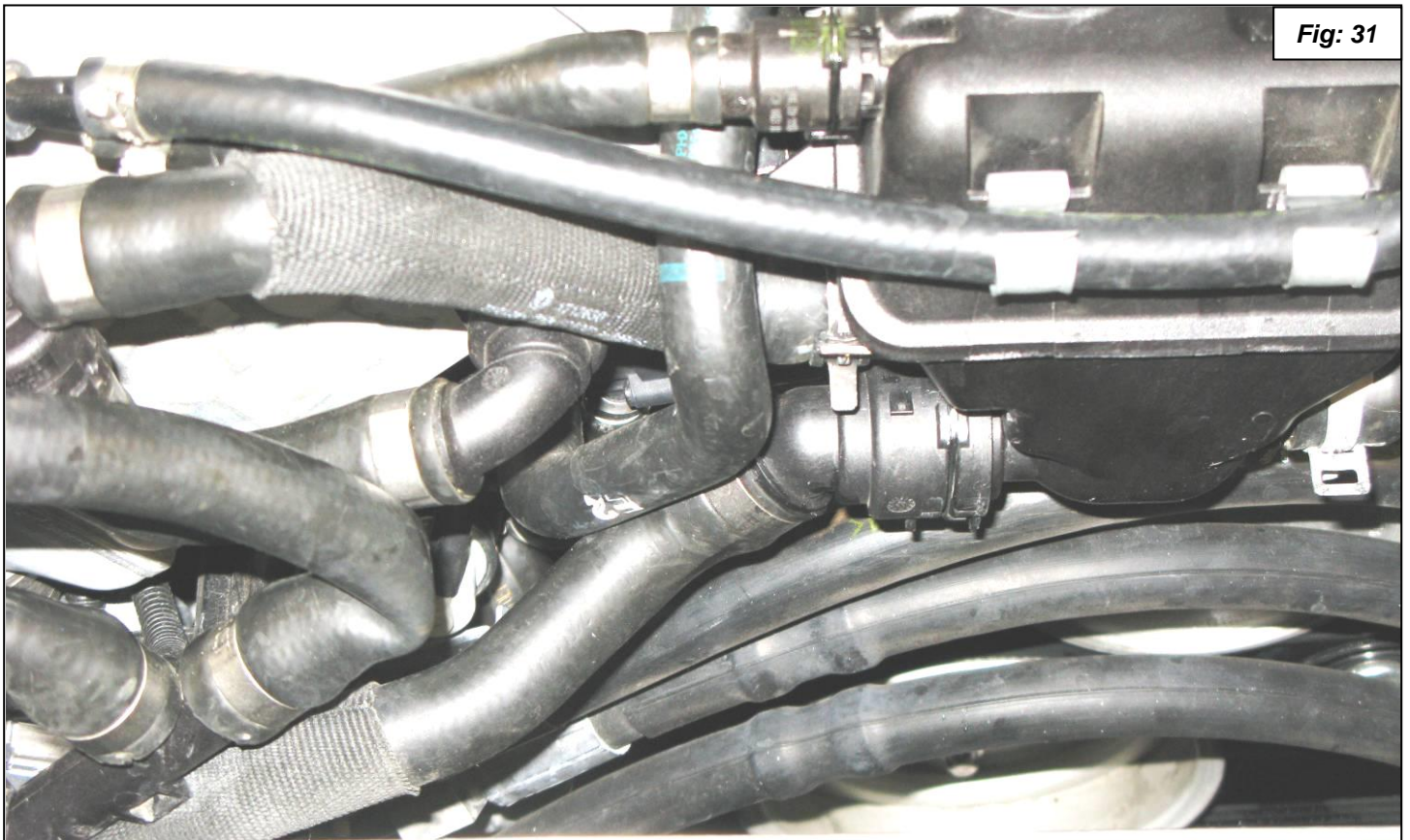
Fig: 29

21. Connect the hose from the computer to the passenger side hose you just installed as shown in figure 30.



Fig: 30

22. Connect the hose from the pump to the bottom of the reservoir. See figure 31.



23. Install the supplied hose onto the plastic T hose fitting you removed from your stock hoses in step 7. Put the crimp clamp on the small end of the hose before you slide it over the fitting. Crimp clamp in position shown in figure 32 and slide the worm clamp over the large end of the hose.



24. The large end of the hose goes onto the reservoir bottle using the worm clamp. Install it to the reservoir and the intercooler as shown in figure 33.

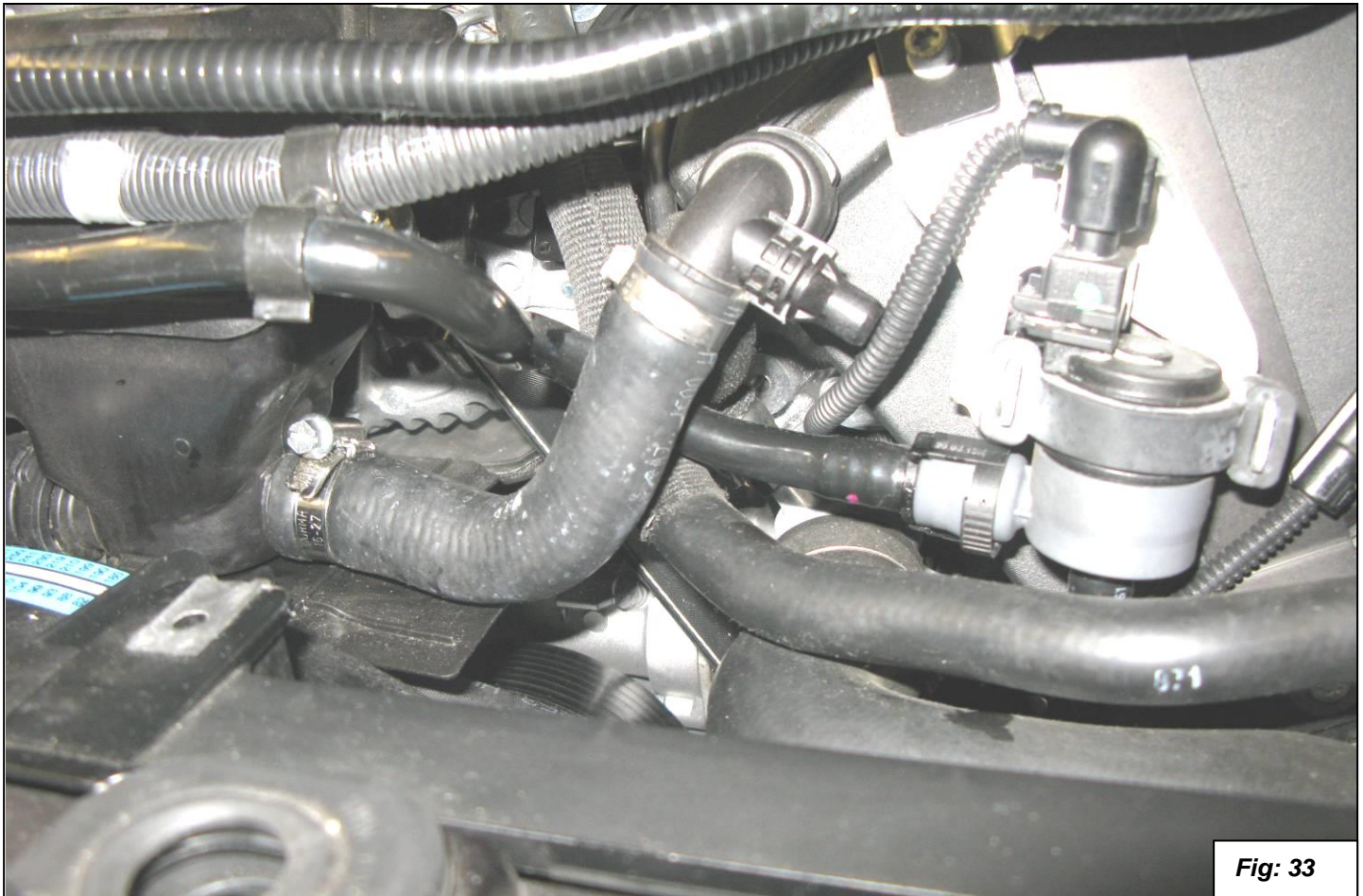


Fig: 33

25. Connect the two hoses from the pump to the outer nipples on the intercoolers as shown in figure 34.

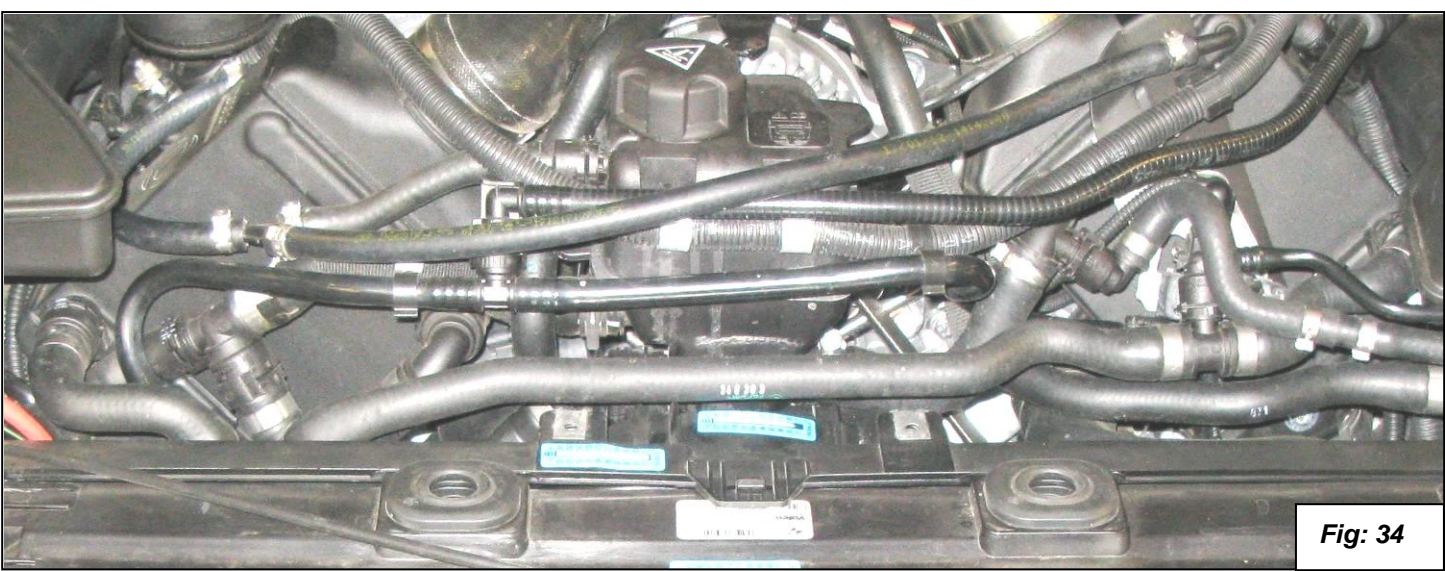
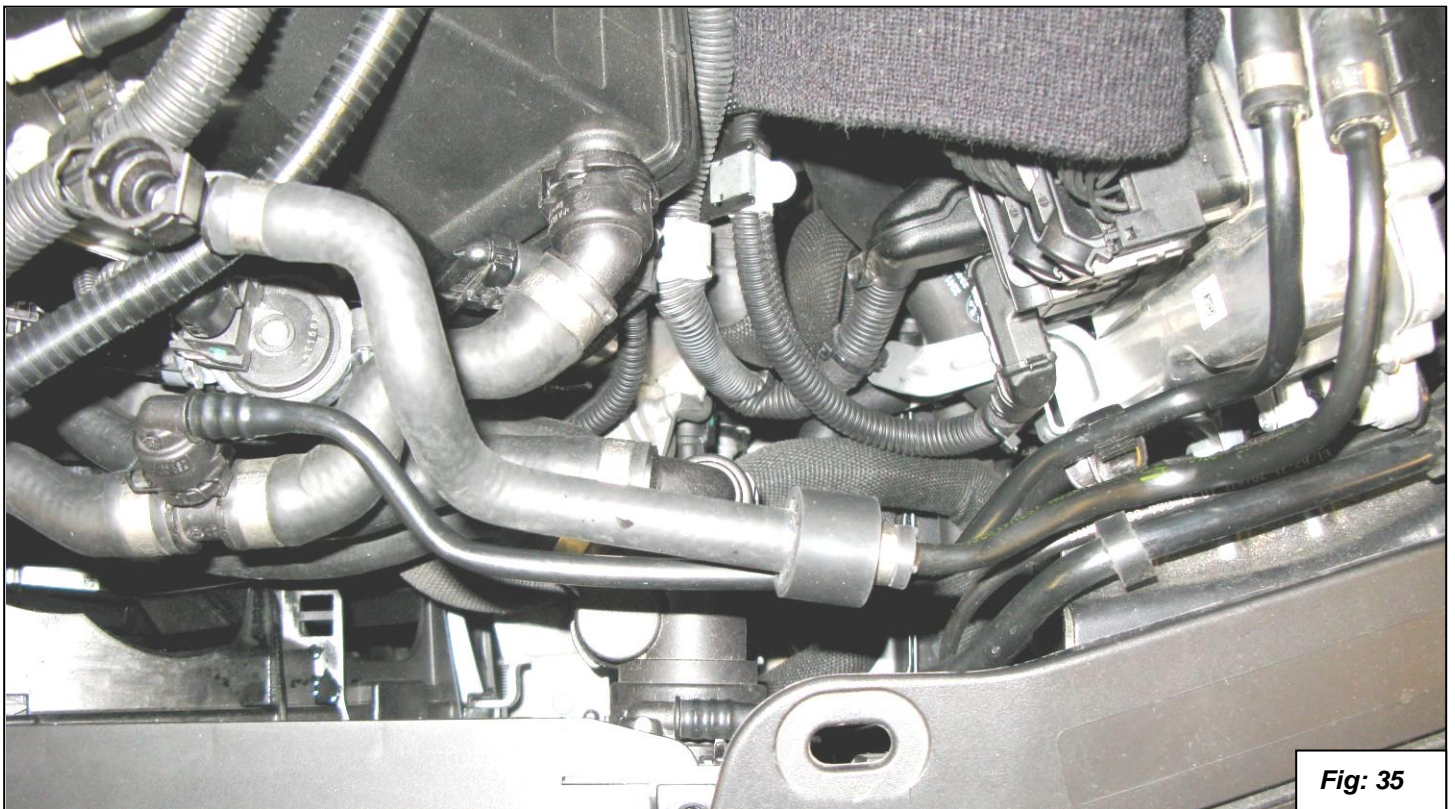


Fig: 34

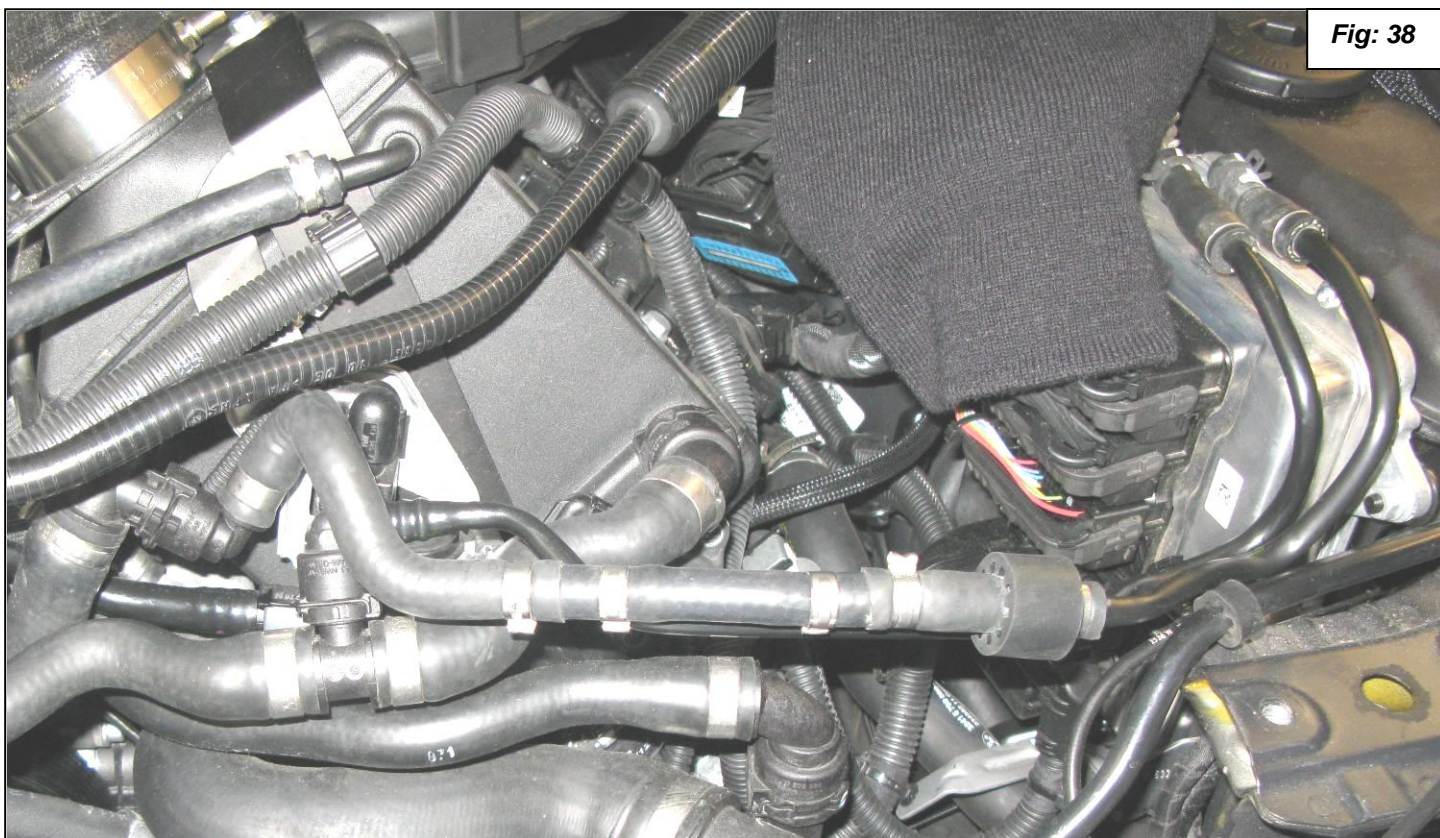
26. Cut the hose that comes from the computer in the location shown. See figure 35.



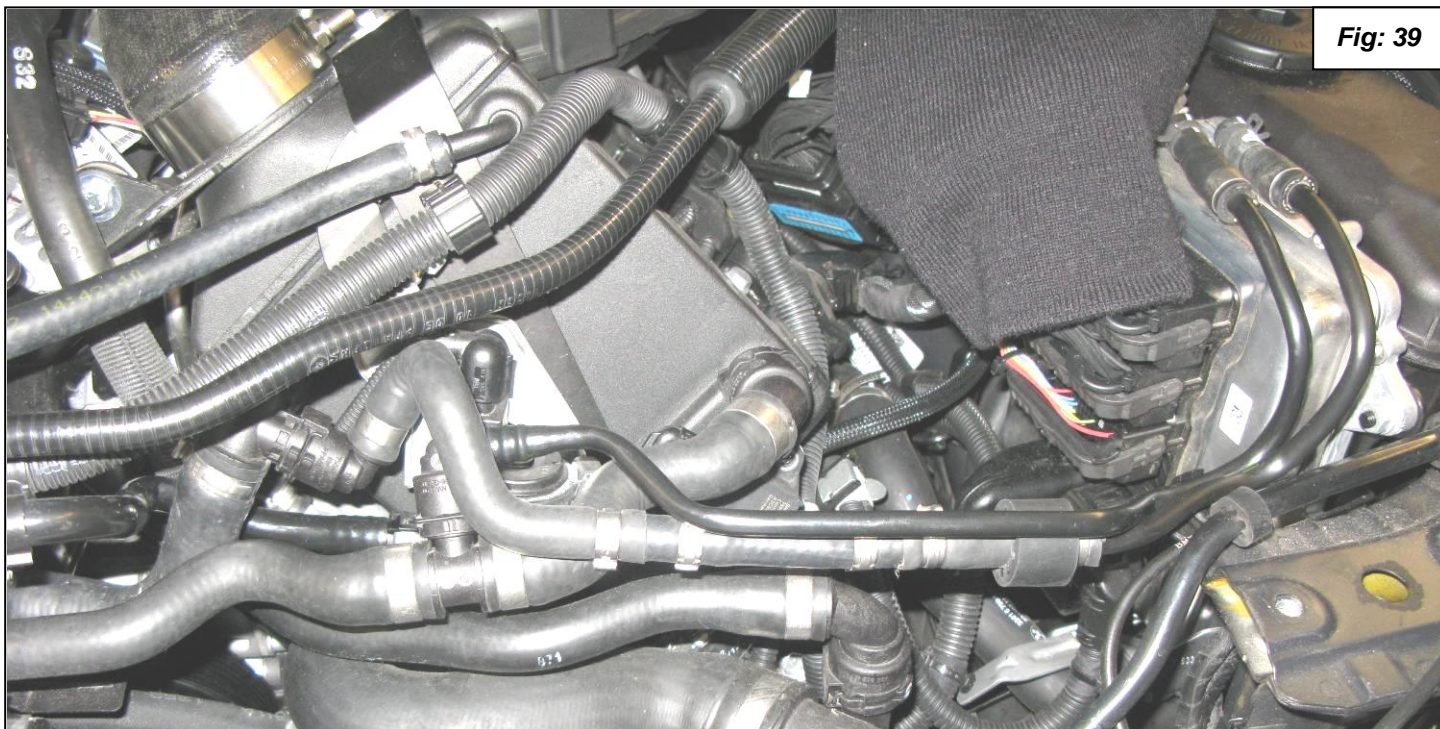
27. Install the supplied hose coupler extension. Put the crimp clamp on the end of the hose before you slide it over the fitting. See figures 36 and 37.



28. Install the hose assembly back into the other end of the hose from the computer and clamp it.
See figure 38.



29. Pull the extended computer hose assembly down under the other computer hose as shown in figure 39.



30. Install the air ducts.

31. Install the fan cowl with electric fan following BMW TIS instructions # 17 11 035.

32. After completing installation work, fill and vent the intercooler coolant system following BMW TIS instructions linked to the removing stock intercooler instructions BMW TIS procedure # 17 51 001.

Venting cooling system:

Note: Do not leave the coolant expansion tank cap open during the venting procedure.

- a. Add coolant up to top edge of expansion tank. Coolant must not drop any further! No drop in coolant for approx. 1 minute.
- b. Connect battery charger.
- c. Switch on ignition.
- d. Set heater to maximum temperature. Press "Automatic" button, then reduce fan to lowest setting.
- e. Press accelerator pedal for 15 seconds to floor. **Engine** must **not** be started.
- f. The venting procedure is started when the accelerator pedal is pressed and takes approx. 12 minutes.
- g. Refill expansion tank up to top edge immediately after drawing off until empty.
- h. Adjust expansion tank to maximum level at end of venting process.
- i. Check cooling system for leaks.
- j. Close expansion tank.
- k. If the venting procedure has to be carried out again, allow DME to drop completely (ignition key removed for approx. 3 minutes), then repeat from step "e".

33. Enjoy!

PARTS LIST

<u>Qty</u>	<u>Part Number</u>	<u>Description</u>
1	#10Z	CLAMP 9MM 16-25
2	11 78 7 549 563	CABLE CLAMP
1	17 12 7 977 704	COOLANT HOSE
1	D332-0030	VENT VALVE BRACKET
1	D332-0034	IC BRACKET; LEFT
1	D332-0035	IC BRACKET; RIGHT
1	D333-0012	INTERCOOLER 5-8
1	D333-0013	INTERCOOLER 1-4
1	D333-0019	IC DRAIN HOSE; LEFT
1	D333-0020	IC VENT HOSE EXTENSION
1	D340-0801	SILICON HOSE
1	D381-0283	5/16" Y CONNECTOR
1	D393-0024	VENT HOSE A; 8MM X 8"
1	D393-0025	VENT HOSE B; 8MM X 18"
1	D670-0225	PUSH-ON CLAMP
5	D670-0227	HOSE CLAMP; 9/32 X 14 PINCH
2	D670-0232	HOSE CLAMP; 1-7/8" T-BOLT
2	D670-0233	HOSE CLAMP; 2-5/8" T-BOLT
2	D670-0237	HOSE CLAMP; 33/64 X 5/8 PINCH
2	D671-0133	M6 X 20 M/F STANDOFF
1	D671-0142	8MM BALL JOINT STUD
1	D671-0377	M6X12X1.0 BUTTON HEAD
1	M6 FLAT	WASHER
2	M6 NYLOK	NUT
1	M6 SCHNORR	WASHER
6	M6 WAVE	WASHER
3	M6X16	M6X16X1.0 BOLT
5	M6X18 FENDER	WASHER
