



**DINAN**

# **COLD AIR INTAKE**

## **INSTALLATION INSTRUCTIONS**

PART NUMBER D760-0390C

APPLICATION: 1999-2003 E39 M5

---

### **PARTS LIST**

1	Left Aluminum Intake Tube	1	Air Pump Bracket (A)
1	Right Aluminum Intake Tube	1	Air Pump Bracket (B)
2	Silicone Hoses	5	6mm x 16mm Bolts
2	Air Filter	5	6mm Wave Washers
2	36z Hose Clamps	2	6mm Flat Washers
4	48z Hose Clamps	1	Left Heat Shield
1	Temp Sensor Harness & Hardware	1	Right Heat Shield
1	Right Water Deflector	20	Pop Rivets
1	Left Water Deflector	1	Left Trimmed Foglight Cover
2	#6 x 3/4" Black Screws	1	Right Trimmed Foglight Cover

---

Congratulations for being selective enough to use a Dinan Engineering Cold Air Intake. We have spent many hours developing this system to assure that you will receive maximum performance and durability with minimum difficulty in installation.

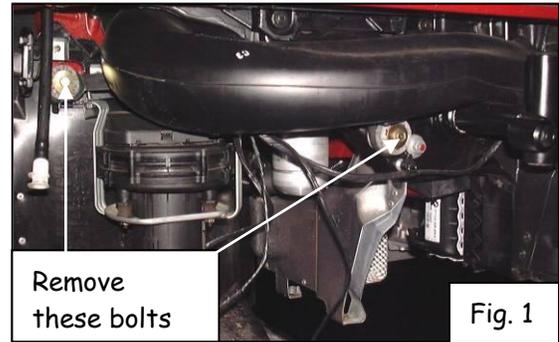
Please take the time to read these instructions thoroughly before proceeding. When performing the installation, read the entire numbered instruction before working on the car. If you feel that you do not have the requisite skill, please arrange for a qualified repair facility to perform the installation.

If you encounter any difficulties during the installation, or if these instructions are not clear to you, please call Dinan's Technical Support Staff @ (408) 779-8584. You will need to have a right angle drill, 1/8" (or #30 drill bit) and a pop rivet tool to mount the Heat Shields and Deflectors.

## INSTALLATION INSTRUCTIONS

1. Remove both front wheels.
2. You will need to remove both of the "forward section" front wheel well inner liners. Pop the ambient temp sensor out of its holder in the right front wheel well liner below the foglight. **If you do not disconnect the electrical plug from the sensor you will not have to "reset" the sensor circuit later.** Remove the mounting screws then carefully lower the right side liner and fold open the foil insulation around the sensor wire. Pull the sensor with wires still connected through the small opening.
3. The front bumper must be removed to gain access to where the tubes are installed. First remove both of the lower engine covers. Remove the one screw on both sides that attach the bumper to the inner fenderwells.
4. Unplug the two fog lamps. Next disconnect the headlight washer hose. The main connection is on the passenger side of the car, just to the outside of the air pump. Pull the black plastic clip out and pull the union apart. Some fluid may come out so have rags ready.
5. There are two bolts that hold the bumper to the bumper shocks. They are located in front just above the center opening in the airdam. Remove these bolts with a T-50 Torx socket.
6. Remove both of the factory air boxes from the vehicle. Start by removing the 10mm head bolt securing the air boxes to the mounting brackets on each front fender.
7. Release the clips between the airflow meters and the factory air boxes. Pull the airflow meters out of the air boxes and remove the air boxes by lifting them straight up. There is a rubber adapter that connects to a nipple on the right air box with the fender, remove this along with the air box. The air box and adapter will not be reinstalled on the car.

8. The intake snorkels are mounted on the front of the car and must be removed. Remove the two bolts that secure them to the car and remove the snorkels. They will not be reinstalled on the car.

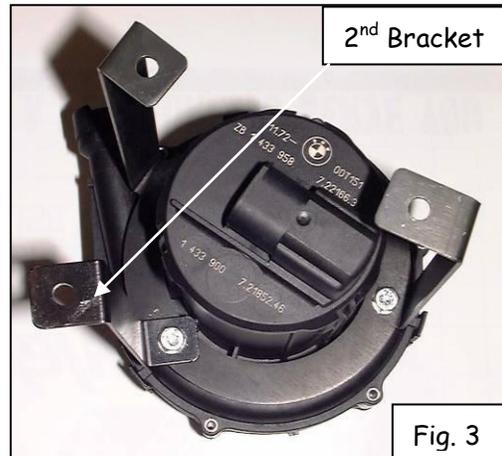
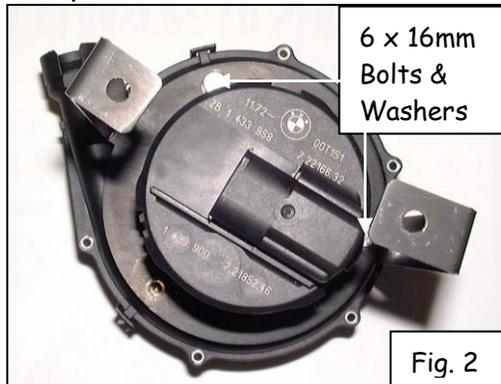


9. In order for the Right Intake Tube to fit, the air pump must be relocated using the brackets provided, and a portion of the tray that the air pump mounts to must be trimmed. This is located at the right front of the car under the right headlight assembly.

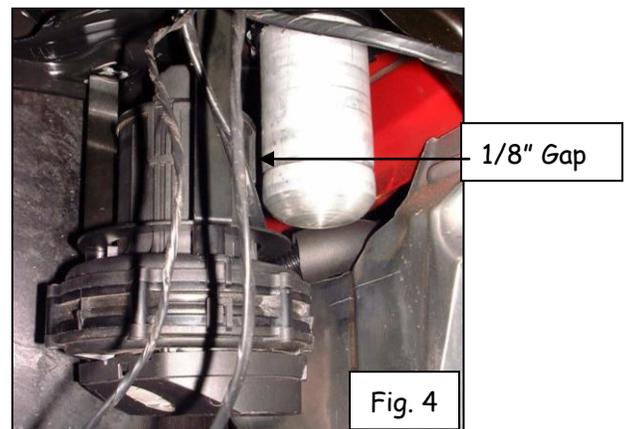
10. Remove the electrical connector and the air outlet hose from the factory air pump. Remove the air pump with the bracket from the car.

11. Remove the bracket and rubber mounts from the air pump.

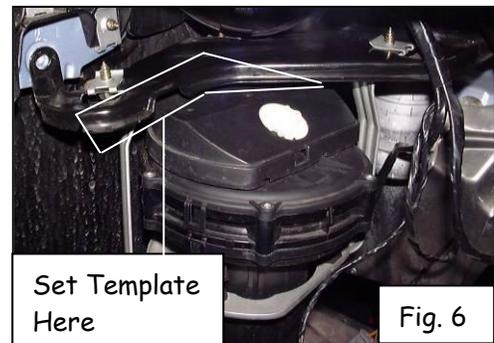
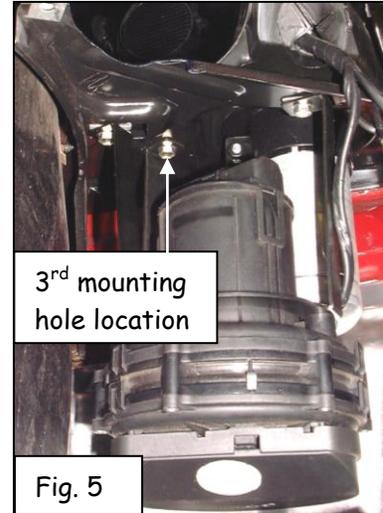
12. See Figure 2: Install the Air Pump Bracket onto the air pump as shown, using two 6 x 16mm bolts and wave washers. See Figure 3: Install the second Air Pump Bracket onto the pump as shown (leave this bolt snug for now so you can adjust its location when you install this assembly into the car).



13. See Figure 4: Install the air pump assembly into the car using two of the factory speed nuts and screws. Adjust the pump so there is a 1/8" gap between itself and the AC evaporator. See Figure 5: Scribe the location of the third mounting hole onto the sheet metal bracket.

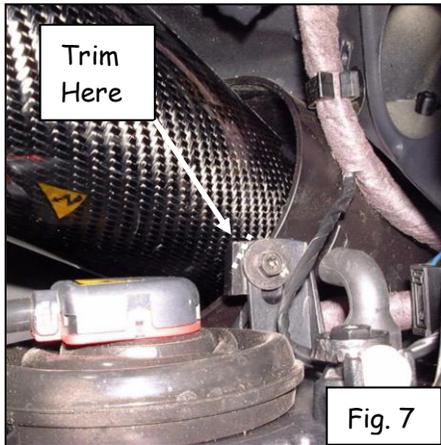


14. See Figure 5: Remove the pump assembly and drill the marked location with a 5/32" drill. You can permanently install the air pump after the Heat Shields are mounted.
15. See Figure 6: Trim the steel tray using the template provided at the end of these instructions. Set the template on the steel tray by aligning the radii. Mark the tray and trim out the sheet metal.
16. After trimming, fit check the tube to make sure it will clear and that the bolt can be attached. The tube will fit through the hole if the top is inserted from the outside. The Intake Tube bolts to the existing hole. Trim more material if the tube does not fit. Sand or file the cut edges smooth, and apply a small amount of black touch-up paint to the exposed metal surfaces.



17. Install the silicone hoses onto both of the airflow meters using the 36z hose clamps. Do not tighten them all the way done yet. Set the 48z clamps over the hose for the next step.
18. Install the Dinan Intake Tubes. The tubes will come through the opening from the bottom. Slip the tubes into the silicone hoses and bolt the tubes into place using the 6mm x 16mm bolts and 6mm flat and wave washers. There is a nut in the fenderwell for the bracket on the tube to attach to.
19. Align the tubes in the silicone hose and try to keep everything as straight as possible. Also make sure there is good engagement of the tubes into the hoses so they will not slip out after tightening. When satisfied with the fit, tighten the clamps and bolts.

20. See Figure 7: Cars built after 9/00 will need to have the corner of the outside headlight mount trimmed, so that there is at least 1/8" clearance between the mount and the Intake Tube.

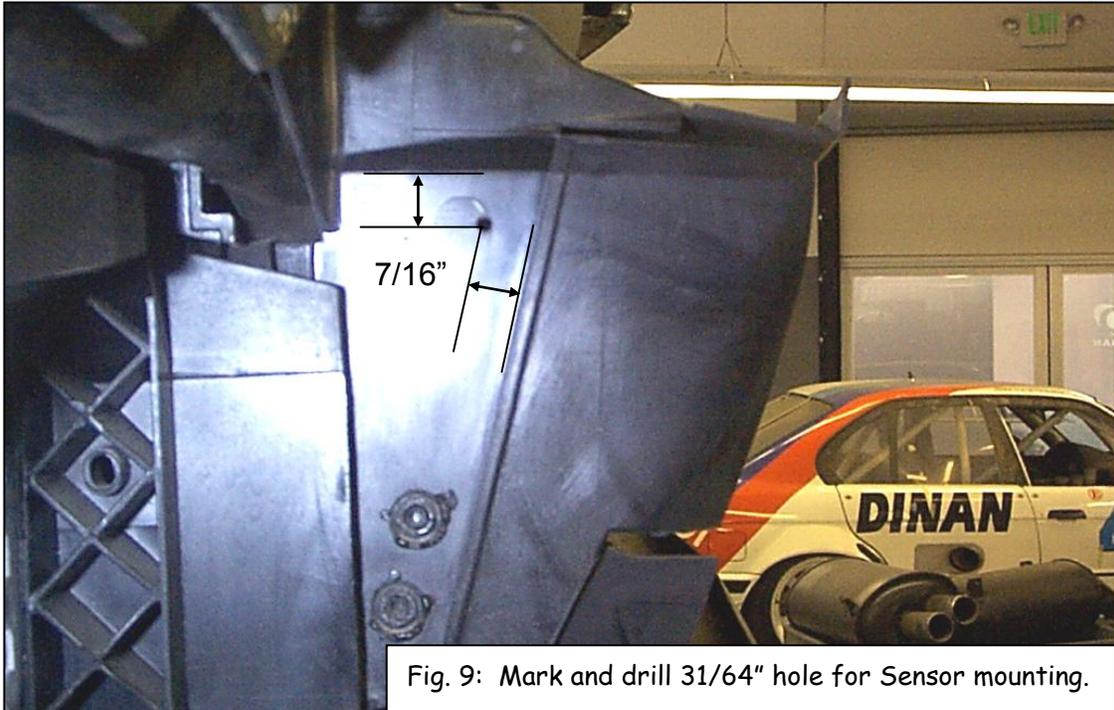


21. See Figure 8: Install the Air Filters onto the intake tubes with the supplied hose clamps. Make sure the filters don't interfere with the mounting of the front bumper.

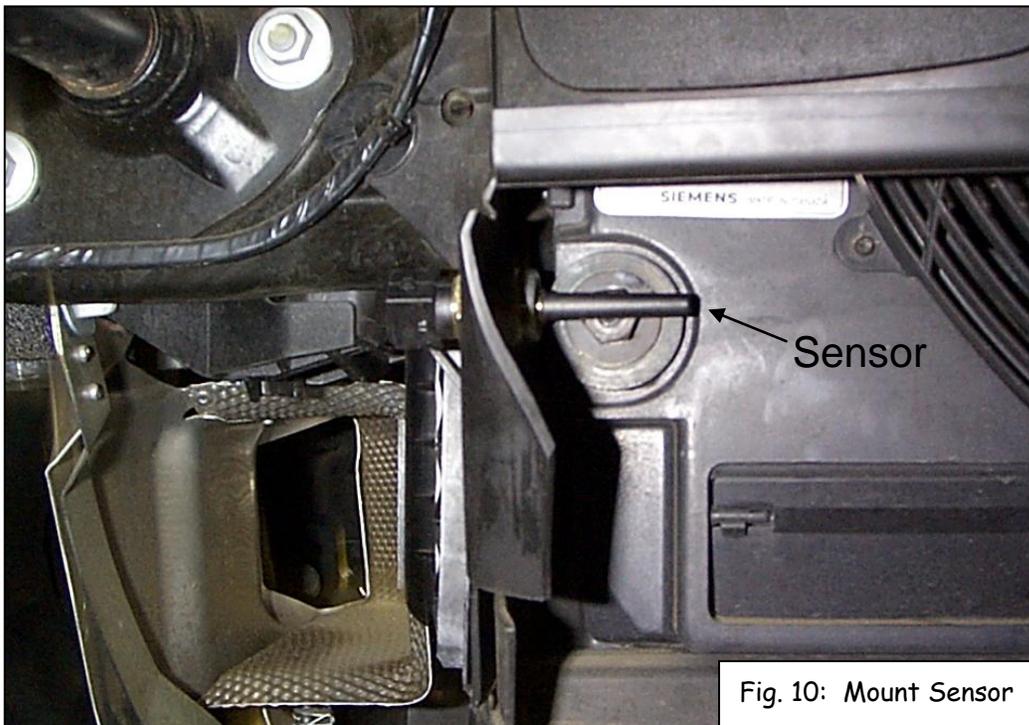
### MOUNTING & WIRING THE INTAKE AIR TEMP SENSOR

22. We utilize an Intake Air Temp Sensor that is mounted in the airstream at the front of the vehicle instead of the one in the airflow meter. The stock sensor in the airflow meter is highly affected by the heat coming off the radiator and this gives the car inconsistent performance.
23. Use Figures 9 & 10 to mark and drill the mounting hole for the Intake Air Temp Sensor. This will be located in the lower radiator inlet shroud. Measure back 7/16" from the seam where the rubber meets the plastic and 7/16" down from the edge where the large flat section meets the upper angle section of the plastic. Use a scribe to mark the intersecting lines then drill a 1/8" pilot hole.

24. Drill the pilot hole out to 31/64".

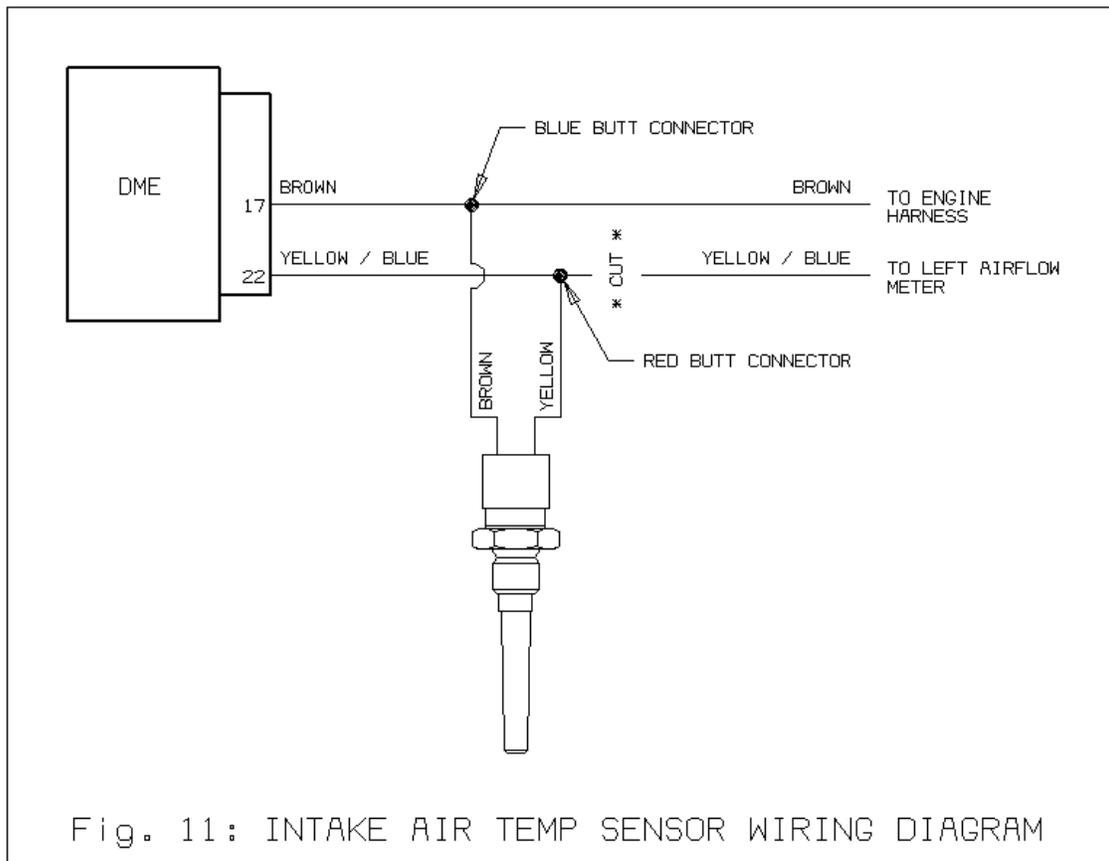


25. Mount the Sensor as shown using the 12mm nylok nut. This nut only needs to be tightened enough to hold the Sensor in place. **Don't overtighten the nut!**



26. Connect the Sensor Harness to the Sensor in the shroud. Route the Harness up through the space where the Intake Tube goes but on the underside towards the radiator. Make sure there is ample clearance between the Intake Tube and the Harness to prevent damage to the Harness.
27. Run the Sensor Harness up along the underside of the existing wire harness towards the ECU compartment under the microfilter housing.
28. Remove the microfilter housing.
29. Remove the top of the ECU compartment.
30. Route the Sensor Harness around the front of the metal shroud for the ECU compartment towards the engine. You can run the Harness through the grommet where the larger ground wires enter the ECU compartment. You can tape the wires to just behind the tip of a screwdriver, then push it through next to the existing wires. Now untape and pull the wires through.
31. Remove the three connectors from the top of the DME starting from the driver's side of DME. The third connector from the end is the largest and it contains the two wires you will use for the Sensor. If you look at the face of the connector you can see tiny numbers at the end of each connector row. Slide the appropriate connector insert out of the connector housing after pushing on the lock tab. Remove some of the bands of tape that hold the wire bundle together to help you isolate the individual wires.

32. See Figure 11 for wiring of the Intake Air Temp Sensor.



33. Cut the **#22 yellow/blue wire** and use a red butt connector to connect the end of the wire going to the DME to the **yellow wire** from Sensor Harness.
34. Wrap the remaining unused end of the yellow/blue wire with electrical tape and tape it to the wire bundle.
35. Cut the **#17 brown wire** and use a blue butt connector to connect both ends to the **brown wire** from Sensor Harness.
36. Replace the ECU cover and microfilter housing.
37. Reinstall the bumper. Remember to connect the fog lights and headlight washer plumbing. Make sure the ends of the bumper correctly slide into their corresponding connectors. Reattach the lower splash shields but not the wheel well front liners yet. Tighten the bumper mounting bolts to 41 N-m (30 ft-lb).

## INSTALL THE HEAT SHIELDS

38. The Heat Shields prevent most of the hot air coming off the rear of the radiator from entering the Air Filters. This of course results in a big power gain. These Shields mount directly to the aluminum brake ducts using rivets.
39. Temporarily remove the two mounting screws for the hydraulic pump mounted to the left frame rail behind the left foglight. Place the Left Heat Shield up into the space above the lower splash shield and notice that its shape conforms with the splash shield. It is important that the Heat Shields fit tight to block as much hot air as possible. Be careful to position the Shields for best fit.
40. Reinstall the hydraulic pump with the rear screw going through the upper hole in Heat Shield. Leave both screws a little loose for now to allow some adjustment of the Shield.
41. While holding the Heat Shield in proper position, drill through the forward 1/8" hole in the Shield.
42. Install one pop rivet.
43. Repeat process for the two remaining 1/8" holes.
44. Tighten the bolts for the hydraulic pump.
45. Repeat the same process for the Right Heat Shield. Be sure to route the air pump hose through the slot in Heat Shield.
46. Reinstall the air pump assembly using all three of the factory screws. Attach the air pump outlet hose and the electrical connector. Be sure to route the hose such that it does not get pinched, touch the AC compressor or clutch pulley. You may want to twist the Air Pump Bracket a little to help position the outlet hose better through the slot in Heat Shield. Loosely wiretie hose to the engine ground cable if necessary.

## INSTALL THE TRIMMED FOGLIGHT COVERS

47. The Trimmed Foglight Covers allow cool air to reach the Air Filters. Remove the original foglight covers.
48. Place the Trimmed Foglight Covers over the foglights. Use a sharp scribe to mark the small mounting hole onto the painted plastic. Remove the Covers.
49. Use the scribe to center mark the two scribed holes by pushing firmly at the center and rocking the scribe around a few times to make a nice divot.
50. Drill the marked holes using a 3/32" drillbit. Be very careful to not scratch the foglight with the drill chuck. Wrapping the chuck with tape can help.
51. Install the Covers using the #6 black Phillips head screws.
52. Optional step: You may want to trim out the small tabs that protrude into the openings for a cleaner look. Be very careful to not scratch the paint.

## INSTALL THE WATER DEFLECTORS

The Water Deflectors separate the rainwater from the fresh air coming in through the Trimmed Foglight Covers. Without the Water Deflectors, the Air Filters will get soaked and eventually wet the airflow sensor. This causes an airflow meter fault and possible running problems. The Deflectors will be mounted to the Heat Shields using pop rivets.

53. Hold the Left Deflector with the rectangular opening up behind the foglight opening with about a 1/8" gap. The mounting tabs will be against the Heat Shield. The bottom edge of the Deflector must be above the lower edge of the Heat Shield. Position the Deflector so it will catch most of the air coming into it. You may need to bend the Heat Shield a little to accomplish a good fit. The rear mounting tab should be slightly forward of the forward Heat Shield rivet. When you are satisfied with the position use a small clamp or vise grip to clamp the front tab to the Heat Shield to hold it in place.
54. Use a right angle drill and 1/8" drill bit to drill out the lowest mounting hole on the Deflector. Check to see what is behind the Heat Shield before drilling.
55. Install one pop rivet.

56. Repeat this step for the remaining mounting holes.
57. The Right Deflector will be mounted in the same manner but it will be up against the air pump. You can drill and rivet the lower three holes for the rear tab with the air pump in place. You will have to remove the air pump to drill and rivet the upper hole or just utilize the three, which is fine.
58. Replace the front wheelwell liners while reinstalling the ambient air temp sensor through the right liner. Fold the foil insulation over the wires first. **If you did disconnect the connector from the sensor you will need to reset the circuit as follows:** Short the two ambient air temp sensor wires together (you can use an unfolded paper clip to "back probe" the sensor); turn the ignition key to the run position; remove the short. The onboard computer should now give the accurate outside temperature.
59. Reinstall the front wheels and torque them to the proper spec.

You are now done installing the kit. Please observe the following notes.

**FOR BEST PERFORMANCE, WE RECOMMEND THAT THIS INTAKE SYSTEM BE USED WITH THE APPROPRIATE DINAN PERFORMANCE SOFTWARE FOR YOUR VEHICLE.**

There are two methods to install the software:

- A Dinan Exclusive Dealer can download the software directly into your ECU. In this instance, you may proceed directly with the intake installation. Please contact your Dinan representative to locate the facility nearest you.
- You can send your ECU to Dinan for programming. Please contact your Dinan representative so that we may prepare for its arrival.

NOTE:

- We recommend replacing the Air Filters every 30,000 miles. The Dinan part numbers are D403-0350.

Template for Step 15

