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INSTALLATION INSTRUCTIONS

**TURBOCHARGER SYSTEM:
2005 – 2009 Ford Mustang GT, Manual Transmission
P/N 15168-1**





Read This First

Study these instructions completely before proceeding. Engine and/or turbocharger damage may occur if any component within these instructions is improperly installed. Turbonetics, Inc or any of its distributors cannot be held responsible for damages as a result of negligent or improper installation. This complete turbocharger system can be installed using common tools and automotive procedures, but installer must have a thorough knowledge of automotive engine operation and feel comfortable working on the vehicle. If in doubt, contact Turbonetics' technical support staff at 805-581-0333, between the hours of 8:00AM and 5:00PM PST, Monday through Friday.

Remove the turbocharger system from its carton and inspect for any obvious physical damage. All kit components are thoroughly inspected and carefully packaged prior to shipment from the factory. If any shipping damage is evident, contact your supplier and request that they process a claim with the shipper involved. Be sure to review the parts list on page 3 & 4 to verify that you have all necessary system components to proceed. If any components in the parts list are missing, contact Turbonetics' customer service staff.

INFORMATION REGARDING DIFFERENCES IN MODEL YEARS: Ford made minor revisions in model year 2007, but there is no defined cut off date for these changes between '07-'08 from Ford. The major changes they made was changing the type of spark plugs (thread size is a different diameter) and minor changes to the cooling system (thermostat location and rad. hose) were made. This kit comes with spark plugs for both early and late model engines. The easiest way to check if you have an early or late style engine, is to check the color of the boots on the coil packs (the boot that connects to the top of the spark plug). The early style motors have **BLACK** boots and will use supplied spark plugs in this kit of P/N 31296, the later style motors have **BROWN** plug boots and will use the P/N 31297 spark plugs supplied in this kit. If you have **BROWN** plug boots, you will also have to change the thermostat, which is supplied in this kit also.

The information contained in this publication was accurate and in effect at the time the publication was approved for printing and is subject to change without notice or liability. Turbonetics reserves the right to revise the information presented herein or to discontinue the production of parts described at any time.

SAFETY REQUIREMENTS: It is recommended to follow these precautions.

- Always wear safety glasses & gloves.
- Turn the ignition switch to the OFF position & disconnect the battery.
- Always use properly rated jack stands when working under the vehicle.
- Prevent unexpected vehicle movement by using wheel chocks and/or parking brake.
- Operate the vehicle only in well ventilated areas.
- Do not smoke or use flammable items near or around the vehicle's fuel system.
- Keep hands, clothing and other objects away from moving parts when engine is running.

SUPPLIES: It is recommended to have the following items before beginning installation.

- Ford factory service manual, for your model year Mustang
- A large table or bench, and plenty of adjacent available workspace
- Standard selection of automotive tools, primarily metric sizes
- An assortment of "zip ties" and/or thin-gauge steel wire
- The ability to securely lift the vehicle at least a few feet off the ground
- NPT thread sealant
- Loctite threadlocker
- High Temp. Sensor Safe RTV Sealant
- Replacement engine oil and oil filter
- Hammer
- Drill
- Bench Clamp
- Small Container



- Pinch Hose Clamp Pliers

TORQUE RECOMMENDATION: When removing and re-installing factory fasteners, refer to the Ford service manual for torque values. When installing fasteners included in this kit, refer to the following chart:

Fastener Size	Torque (Pound-Feet)	Torque (Newton-Meters)
1/4" or 6mm	10	13
5/16" or 8mm	19	25
3/8" or 10mm	33	45
NPT fittings	2-3 turns past finger tight	

TURBOCHARGER SYSTEM PARTS LIST:

QTY	P/N	DESCRIPTION
1	60164	Instruction packet, CARB stickers, badge
1	10781	Wastegate Ass'y, Evolution
1	30359	Street/Strip blow off valve
1	70052	Intercooler core assembly
1	11294	Hardware Kit, Nuts/Bolts/Fittings
1	11252	Hardware Kit, Fuel Parts
1	11310	Hardware Kit, Clamps
1	11316	Hardware Kit, Hoses
1	11309	Hardware Kit, Gaskets,
1	11307	Bracket Kit, Ic Mounting
1	11308-BB	Turbo, 60se-60-1-S5-Tund0_68
1	22036	Tube Ass'y, Exh., Up-Pipe
1	22041	Tube Ass'y, Exh., Downpipe1
1	22042	Tube Ass'y, Exh., Downpipe2
1	22043	Tube Ass'y, Exh., Downpipe3
1	21908	Tube Ass'y, Exh., W/G Dump Tube
1	21670	Bracket, Turbo Support
1	22038	Tube Ass'y, Air Intake Tube
1	22032P	Tube Ass'y, Boost Tube 1
1	21674P	Tube Ass'y, Boost Tube 2
1	21675P	Tube Ass'y, Boost Tube 3
1	11411	Tube Ass'y, Boost Tube 4
1	11361	Tube Ass'y, Cast, Throttle Body
1	22037	Tube Ass'y, Exh., Y-Pipe
1	22044	Tube Ass'y, Exh., Exhaust Pipe 2
1	21679	Bracket, Exh. Support, Up-Pipe
1	22031	Coolant Reservoir
1	31283-11	Fuel Controller, Diablo
1	21695	Coolant Pipe, Upper 2005-2006
1	21754	Coolant Pipe, Upper 2007-2009
1	31172	Heat Shield, T4, Tangential
2	30315	License Frame - Turbonetics



1	31292	Filter, Air



QTY	P/N	DESCRIPTION
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QTY	P/N	DESCRIPTION
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HARDWARE KIT #11294 (NUTS / BOLTS / FITTINGS) PARTS LIST:

1	20259	Flange, Oil Drain, 1/2" Npt
1	21273	Tool, Center Punch
1	21651	Fitting, Tee, 5/8" Barb to -6AN
1	21652	Fitting, Tee, 3/4" Barb to -6AN
1	22034	Plate, Block off, MAF relocation
1	22045	Fitting, Hose, 1" OD, straight
1	22046	Fitting, Hose, 3/8" OD, straight
4	30248	Bolt, 1/4-20 X 5/8 Serrated
2	30306	Fitting, 1/8" Npt X 5/32", Str
1	30307	Fitting, 1/8" Npt X 5/32", -90
2	30554	Fitting, Oil Line 1/8" Npt X-4, 90'
2	30566	Bolt, 1/4-20 x 1/2, Hex Head
2	30570	Screw, 5/16-18 X 1", Hex Hd
1	30575	Bolt, M6-1.0 X 16MM
3	30576-50	Bolt, M8-1.25 X 50mm, Hex
3	30589	Washer, Flat, 5/16" or M8
1	30591	Washer, Flat, M6
11	30593	Washer, Lock, 5/16" or M8
2	30596	Washer, Split Lock, M6
4	30653	Hex Nut, M8-1.25
2	30665	Nut, Hex, M6
5	30700	Bolt, Hex, M8-1.25 X 20mm
8	30803	Nut, Hex, M10-1.25
10	30805	Washer, Split Lock, M10
2	30806	Stud, M10-1.25 X 42mm
1	30809	Tap, 3/8 Npt
1	30308	Fitting, "T", 5/32" Hose

4	30860	Stud, M8-1.25 X 30mm
1	30862	Hex Plug, M8-1.5, O2 Sensor
1	30975	Fitting, Tee, 1/4 NPT
1	30976	Fitting, 1/4" to 1/8" Adapter
1	30998	Fitting, Coupler/Union, 3/4"
1	31306	Fitting, 3/8" Hose – 1/8" NPT
2	31071	Screw, M4-0.7 x 10mm, Button Head Cap
2	31141	Fitting, Reducer Tee, 1/4-1/4-3/16
2	31155	Bolt, Banjo - 16mm
2	31166	Bolt, Hex Hd., M10-1.25 x 50mm
1	31286	Fitting, 1/2" NPT X 1/2" Straight
1	30601	Plug, 1/2" NPT, Hex
1	30660	Plug, 1/4" NPT, Socket Head
2	30804	Washer, Flat, M10
2	30943	Bolt, Hex M10 x 1.5 x 30mm
4	31005	Bolt, Hex M10 x 1.5 x 20mm
1	31285	Fitting, 3/8" NPT x 1/2" Straight
1	31286	Fitting, 1/2" NPT x 1/2", Straight
1	31307	Fitting, 3/4" NPT, Brass
1	31308	Plug, 3/4" NPT, Brass
1	31311	O-ring, Viton 1.068 OD
1	31322	Fitting, 1/2" NPT x 3/4" Straight

HARDWARE KIT #11252 (FUEL COMP'TS) PARTS LIST:

1	2-43620	Cable ties, Nylon – 8 1/2"
1	31222	Harness, extension, MAF snsr
8	31282	Fuel Injector, 39lb/hr
1	31294	Check Valve, Inline 3/8" Hose
1	31295	Thermostat, 160F, 2007-2009
8	31296	Spark Plug, '05-'06 Mustang

8	31297	Spark Plug, '07-'09 Mustang
1	31298-11	Fuel Pump Booster, Prog'd
1	31319	Fuse Block, Blade Mini Fuses
1	31320	Fuse, Blade 32v dc, 30 amp
3	31321	Butt Splice, Crimp 10-12 Awg



QTY	P/N	DESCRIPTION
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QTY	P/N	DESCRIPTION
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HARDWARE KIT #11310 (CLAMPS) PARTS LIST:

6	30612	Hose Clamp, Worm Drive, #20
10	30616	Hose Clamp, Worm Drive, #44
10	30817	Hose Clamp, Worm Drive, 5/8"
5	30941	Hose Clamp, Worm Drive, #52
5	31125-250	Exhaust Band Clamp, 2.50"
3	31125-300	Exhaust Band Clamp, 3.00"

4	31167	Hose Clamp, Worm Drive, #72
4	31260	Hose Clamp, Worm Drive, #24
2	31287	Hose Clamp 1/2" Pinch
3	31288	Hose Clamp 3/8" Pinch
1	30242	Clamp V-Band 3"

HARDWARE KIT #11316 (HOSES) PARTS LIST:

1	10724	Oil Supply Hose Assy, 4X 36"
1	21364	Silicone Hose Coupling, 2-1/2"
1	21790-4	Silicone Hose Coupling, 4.25"ID x 2.25"L
2	21657-52	Water Supply Hose, 52"
1	21725	Hose, Silicone, 4Ply
1	30302-4	Silicone Hose Coupling, 4"
1	22080-4	Silicone 45° Elbow, 2.5" to 3.0"
1	30444-4	Silicone Elbow, 45deg. - 2-1/2"

12	30542-BK	Silicone Vac. Hose, 5/32"
2.5	31289	Hose J30R9 3/8" I.D.
1	30440-4	Silicone Trans. Hose, 2.5" - 3.0"
5	31290	Hose, J30R9 1/2" I.D.
2	31000	Hose Coupler, Coolant, 1.5" ID
2.25	31027	Hose, Coolant, 3/4" ID
1	30940	Hose, Gen. Purpose, 1.0" ID
2	31293	Hose, Vacuum, 3/32" ID
1	30827	Hose, Coolant, 5/8" ID

HARDWARE KIT #11309 (GASKETS) PARTS LIST:

25	2-43620	Cable Ties, Nylon - 8 1/2"
2	20142	Gasket, Deltagate/Evo
1	30141	Gasket, Oil Drain, T3/T4
1	30143	Gasket, Turbine Inlet, T4
1	30468	O-Ring, Base Flange-Godzilla
1	31006	Loop Strap, 1.0" Dia., 1/4" Hole
24	31042	Heat Wrap, 1.0" Diam.

5	31156	Washer, Crush - 16mm
1	31299	Heat Wrap, 2"x25' Roll
8	31300	Tie, Heat Wrap

HARDWARE KIT #11307 (IC MOUNTING) PARTS LIST:

1	21680	Bracket, Ic Mounting
1	21681	Bracket, Ic Mounting
4	21704	Spacer, Round, Aluminum
4	30589	Washer, Flat, 5/16" or M8

4	30593	Washer, Lock, 5/16" or M8
4	30653	Nut, Hex, M8-1.25
4	31076	Bolt, Hex, M8-1.25 x 30mm

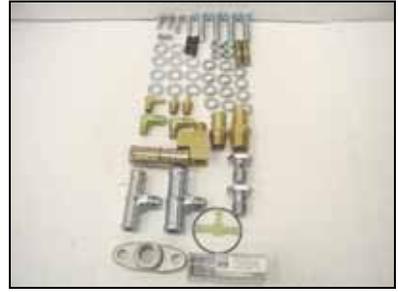
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P/N 30359



P/N 11294



P/N 11252



P/N 11310



P/N 11316



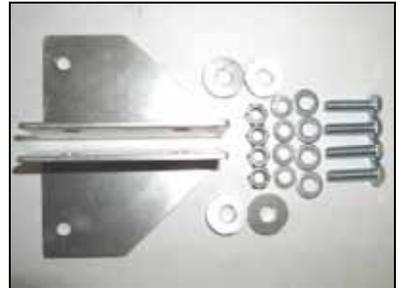
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P/N 11361



P/N 11307



P/N 11308-BB



P/N 22036



P/N 22041



P/N 22037



P/N 22043



P/N 21908



P/N 21670



P/N 22073 / 22074



P/N 22038



P/N 22032



P/N 21674



P/N 21675



P/N 11411



P/N 22042



P/N 22044



P/N 21679



P/N 22031



P/N 21898-11



P/N 21695



P/N 21754



P/N 22079





P/N 70051



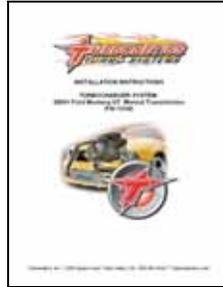
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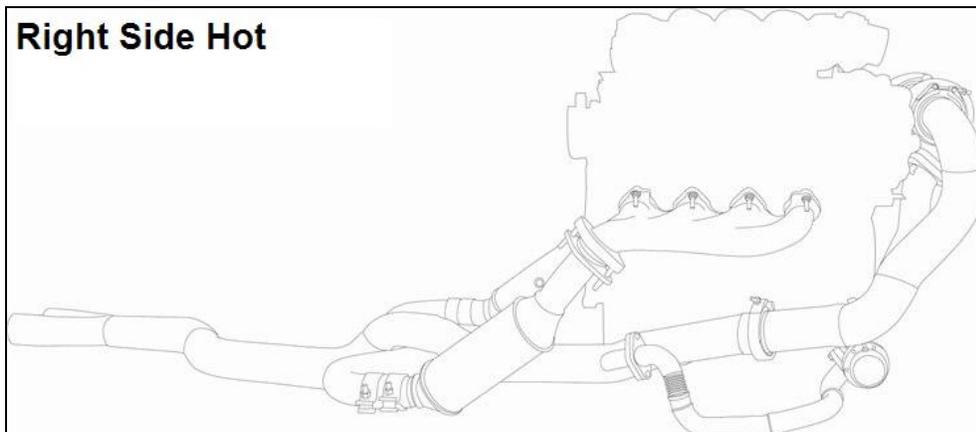
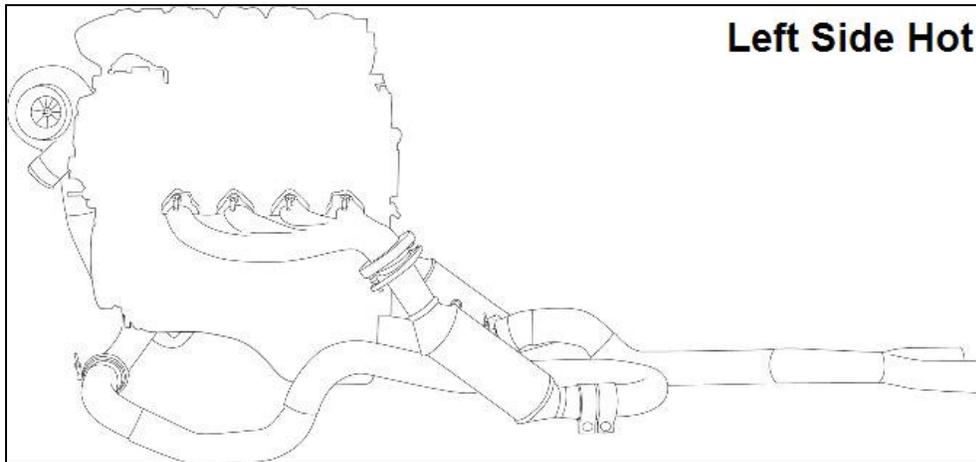
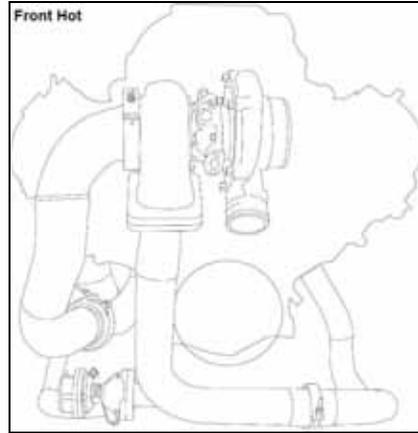
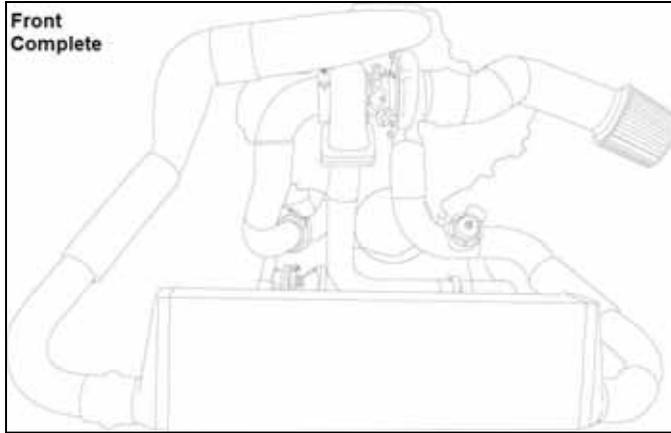


P/N 31298-11





TECHNICAL DRAWINGS

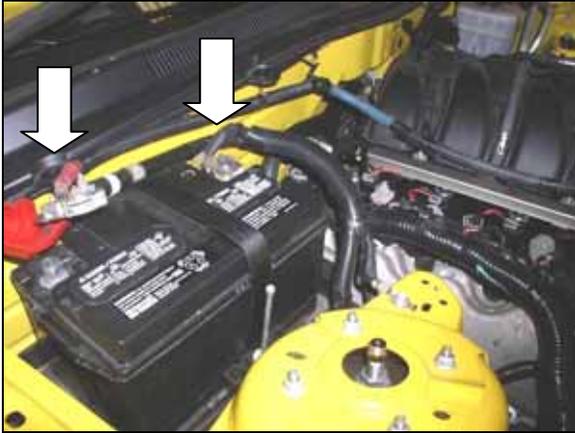




PREPARING THE VEHICLE FOR TURBO KIT INSTALLTION

1. Jack the vehicle up to a workable height. Secure the vehicle with jack stands.
2. Using an 8 mm socket unbolt the battery terminals. SEE FIGURE 1

FIGURE 1



3. Using an 8 mm socket remove the battery strap and then remove the battery from the vehicle. SEE FIGURE 2 & 3

FIGURE 2



FIGURE 3



4. Using a 10 mm socket remove the 3 bolts securing the battery tray in the engine bay and remove the tray from the vehicle. SEE FIGURE 4 & 5

FIGURE 4

FIGURE 5

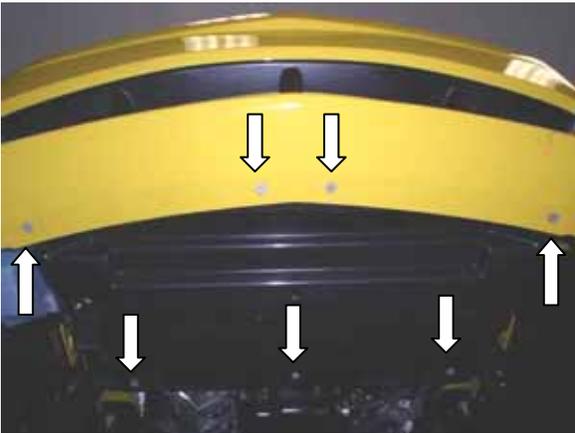


5. Set the battery aside for re-installation upon completion of turbo kit installation.

FRONT END AND ENGINE BAY PREPARATION

1. Using a 5.5 mm socket remove the 7 bolts holding the black plastic undertray in place. Remove the undertray. SEE FIGURE 6

FIGURE 6



2. Remove the front portion of the inner fender liners from both front wheel wells. Use a flat head screwdriver to pop out the plastic fasteners. Not all fastener locations are depicted. SEE FIGURE 7 & 8

FIGURE 7

FIGURE 8



3. Unplug the front blinker and side marker lights on both sides of the car. The plugs are located just inside the bumper at each end. SEE FIGURE 9 & 10

FIGURE 9

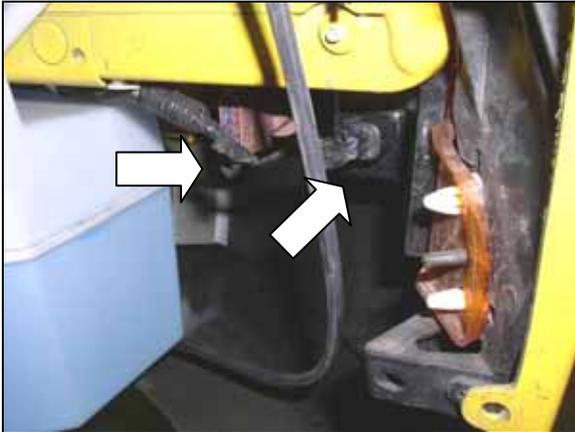
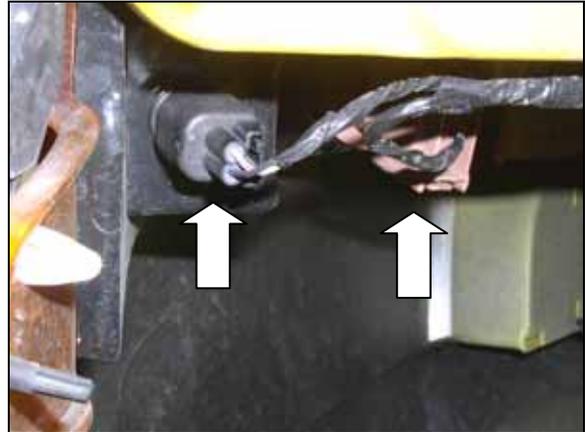


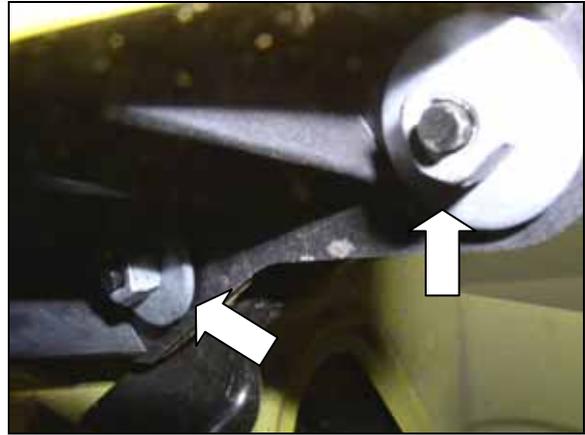
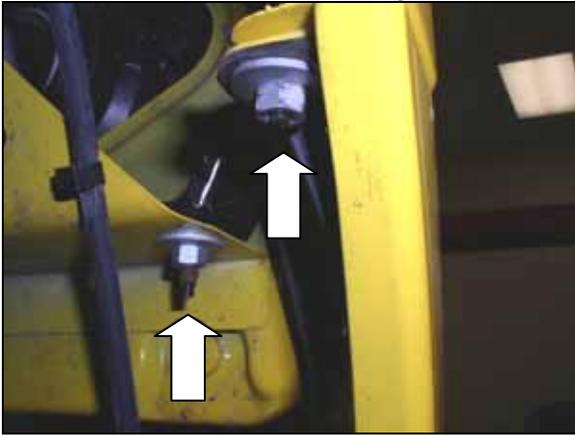
FIGURE 10



4. Using a 10 mm socket remove the 4 nuts, 2 on each side of the car, holding the bumper assembly onto the fenders. SEE FIGURE 11 & 12

FIGURE 11

FIGURE 12



5. Remove the black plastic radiator cover. Using a flat head screwdriver pop out the plastic fasteners. Using an 8 mm socket remove the 2 top bolts holding the bumper, one on either side of the radiator cover. SEE FIGURE 13-15

FIGURE 13



FIGURE 14



FIGURE 15





6. Slightly pull the bumper forward. Unplug both of the fog lights. The plugs are located behind the light assemblies. SEE FIGURE 16 & 17

FIGURE 16



FIGURE 17



7. Carefully remove the front bumper. If there is great resistance check to ensure that all fasteners have been removed and all lights are unplugged. SEE FIGURE 18-20

FIGURE 18



FIGURE 19



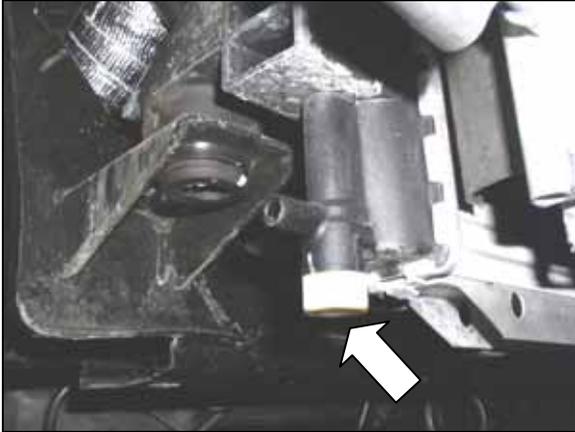
FIGURE 20





8. Drain the coolant from the radiator through the drain plug located underneath the radiator on the passenger side. SEE FIGURE 21

FIGURE 21



9. Remove the passenger side upper radiator hose. SEE FIGURE 22 & 23

FIGURE 22



FIGURE 23



10. Locate the ECU in the engine bay next to the fuse box on the passenger side. Unplug the ECU. Pull up on the grey clips to unlock the plugs. Also unplug the large plug that extends off the ECU wiring harness. It is located next to the driver side of the ECU. SEE FIGURES 24 & 25

FIGURE 24

FIGURE 25



11. Using a 10 mm socket loosen the 2 bottom bolts on the ECU bracket. The bolts do not need to be completely removed as the ECU bracket is slotted. SEE FIGURES 26 & 27

FIGURE 26



FIGURE 27



12. Using a 10 mm socket remove the 2 upper bolts on the ECU bracket. SEE FIGURES 28 & 29

FIGURE 28



FIGURE 29



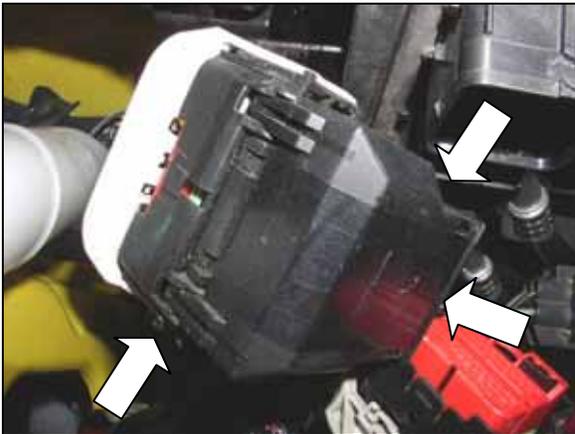
13. Remove the ECU from the engine bay. SEE FIGURE 30

FIGURE 30



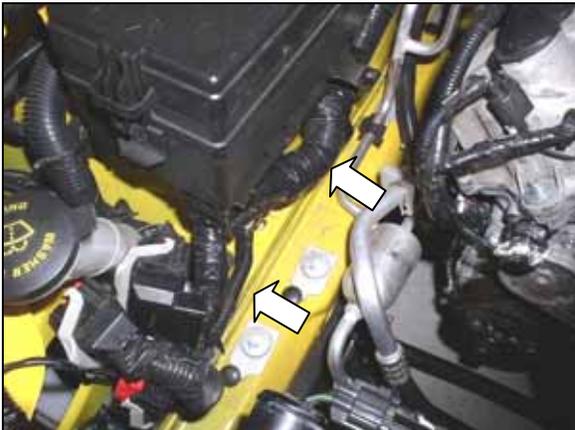
14. Remove the plastic covering from the top and bottom ECU plugs. The covering is clipped into the back of the plug, covering the wires. SEE FIGURE 31

FIGURE 31



15. Reroute the ECU wiring harness underneath the fuse box. This routes the ECU wiring harness on the side of the ECU opposite from the stock location. SEE FIGURE 32

FIGURE 32



16. Reinstall the ECU into the engine bay. Secure it using a 10mm socket and the factory bolts. Plug the wiring harness back into the ECU. Also reconnect the plug on the extended portion of the harness. SEE FIGURE 33

FIGURE 33



17. Using an 8 mm socket remove the bolt securing the air box to the engine bay. The air box is located on the driver side of the engine bay. SEE FIGURE 34

FIGURE 34



18. Remove the PCV vacuum hose from its port on the passenger side cylinder head. The hose will unclamp from the fitting once a tab has been pushed to the side. SEE FIGURES 35 & 36

FIGURE 35



FIGURE 36





19. 2005-2009 model year vehicles, skip to STEP 20. On 2010 model year vehicles, using a pair of pliers. Squeeze the two tabs on the hose clamp together and pull the plastic flex tube out of the factory intake pipe. Set the flex tube to the side. It will be re-installed onto the new supplied intake pipe. SEE FIGURE 37B

FIGURE 37B



20. Unplug the MAF sensor wiring harness. The MAF sensor is located on the air box. Pull up on the tab, then the plug will disconnect. SEE FIGURES 38 & 39

FIGURE 38



FIGURE 39



21. Loosen the hose clamps holding the intake arm onto the throttle body and the factory intake box. SEE FIGURES 39-41

FIGURE 39



FIGURE 40B (MODEL YEAR 2010 VEHICLES)



FIGURE 41B (MODEL YEAR 2010 VEHICLES)



22. Remove the entire intake assembly from the engine bay. This includes the rubber intake arm, breather hose and air box. Gently tug upwards on the air box to pull its rubber grommets free of the engine bay.
23. Unclamp and remove the overflow hose from the coolant reservoir. The coolant reservoir is located on the passenger side and attached to the radiator support. SEE FIGURE 42

FIGURE 42





24. Unclamp and remove the overflow hose from the upper driver side of the radiator. Take out the hose and clamps set it aside for later use. SEE FIGURE 43

FIGURE 43



25. Disconnect the lower reservoir coolant feed hose from the thermostat housing. The thermostat housing is located below the power steering fluid reservoir on the driver side of the engine bay. On 07-09 model year remove hose going to lower radiator hose from reservoir. SEE FIGURE 44

FIGURE 44



26. Using an 8 mm socket remove the 2 bolts holding the coolant reservoir in place. SEE FIGURE 45

FIGURE 45





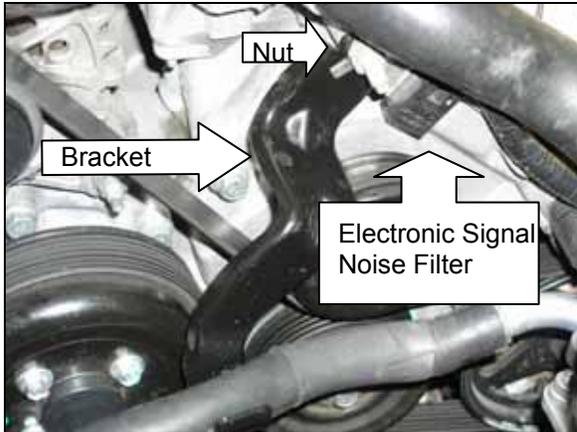
27. Remove the coolant reservoir and lower feed hose from the engine bay. SEE FIGURE 46

FIGURE 46



28. Locate the coolant line bracket and electronic signal noise filter just below the coolant inlet on the passenger side of the engine. Using a 15 mm socket remove the nut securing the coolant line bracket and the electronic signal noise filter. SEE FIGURE 51

FIGURE 51



29. Reinstall the electronic signal noise filter on the stud below the coolant inlet on the passenger side of the motor. Install with the Ford label facing away. Carefully bend the device away from the coolant inlet. Secure with the factory nut. SEE FIGURE 52

FIGURE 52



30. The A/C lines need to be **carefully** bent into new positions as shown in the following pictures. Bend the lines so that they run close to the radiator fan shroud and the passenger side frame. SEE FIGURES 53-56

FIGURE 53



FIGURE 54

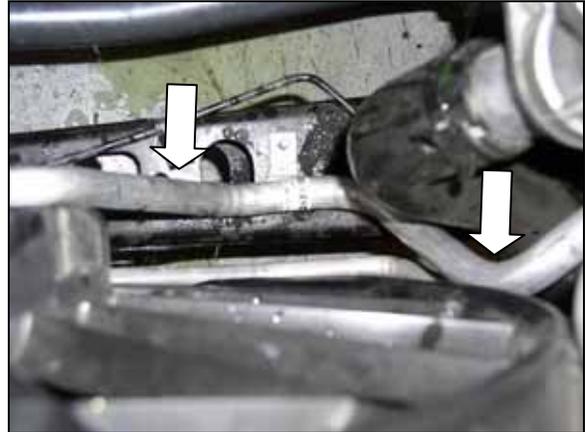


FIGURE 55

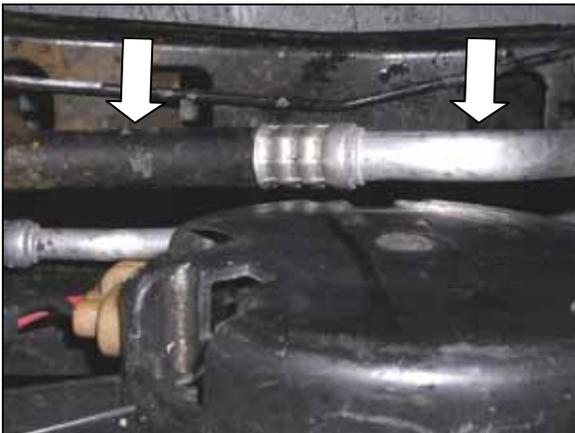
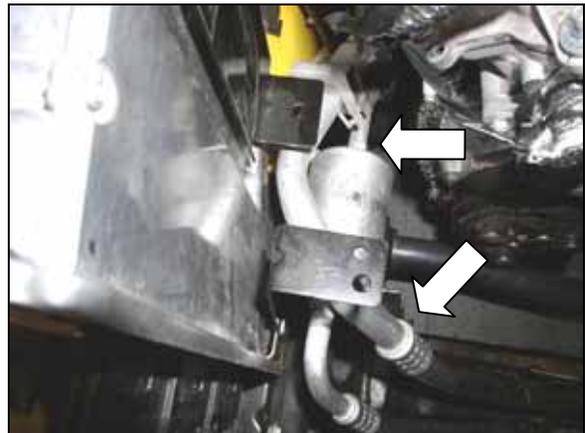


FIGURE 56





INJECTOR INSTALLATION

1. Unplug all 4 injectors on the passenger side of the engine. Push the plastic tab on the side of the plug in order to disconnect it. SEE FIGURE 1

FIGURE 1



2. Pull the plastic wiring harness support brackets off the studs securing the fuel rail. Using a deep 8 mm socket, remove the 2 bolts securing the fuel rail. SEE FIGURE 2

FIGURE 2





3. Find a container to hold fuel. Pull the fuel rail with injectors away from the engine. Hold them over the container. **NOTE: Fuel may squirt out of the engine as the injectors are removed.** SEE FIGURE 3

FIGURE 3



4. Using a flathead screw driver, pop both sides of the metal injector clip off of the metal retainer on the fuel rail. The injector will separate from the fuel rail along with the metal clip. Drain any fuel out of the rail and into the container. SEE FIGURE 4

FIGURE 4



5. Repeat the last step with the injector at the opposite end of the fuel rail and remove the final 2 injectors from the rail. SEE FIGURE 5

FIGURE 5



6. Remove the metal clips from the stock injectors. Install them onto the new injectors (P/N 31282) as pictured. SEE FIGURES 6 &

FIGURE 6



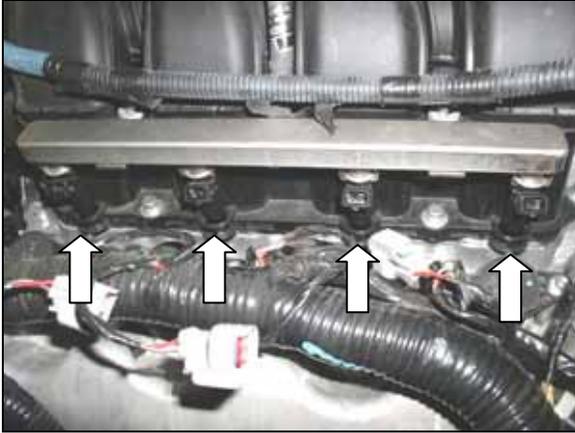
FIGURE 7



7. Lubricate the o-rings on the new injectors using motor oil or similar lubricant. Install the new injectors onto the fuel rail. Be sure that the plugs will face away from the engine. Seat the injectors into the cylinder head. Be sure they are properly seated in order to avoid any leaks. Re-secure the fuel rail with the original nuts. SEE FIGURE 8

FIGURE 8





8. Plug the harness back on all the injectors. SEE FIGURE 9
FIGURE 9



9. Before installing the injectors on the driver side of the engine install a plastic t-fitting (P/N 31141) into the vacuum line. Cut the vacuum hose approximately 9.5 inches away from the fuel pressure/MAP sensor. The MAP sensor is located on top of the fuel rail. Install the t-fitting between the 2 hose sections. SEE FIGURES 10 & 11

FIGURE 10

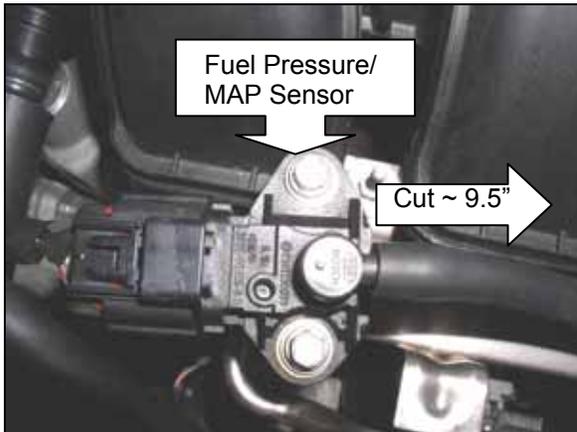
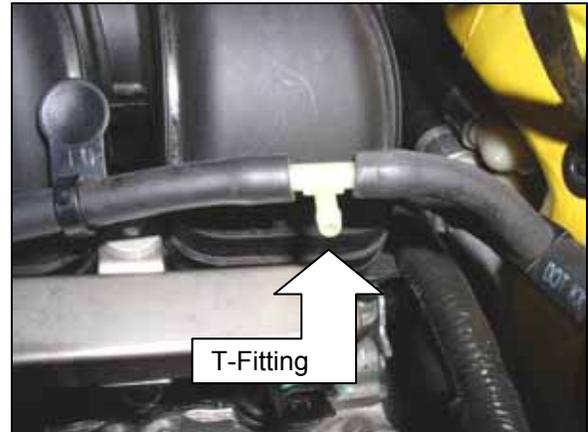


FIGURE 11



10. Repeat the injector install steps 1 - 8 on the driver's side of the engine. SEE FIGURE 12 & 13

FIGURE 12

FIGURE 13



INTERCOOLER INSTALLATION

1. Using a 13mm deep socket remove the 4 inner, (2 passenger side, 2 driver side) bolts from the front bumper support. SEE FIGURES 1 & 2

FIGURE 1

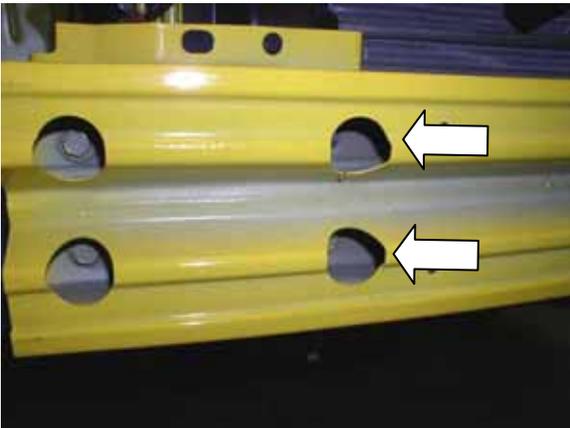
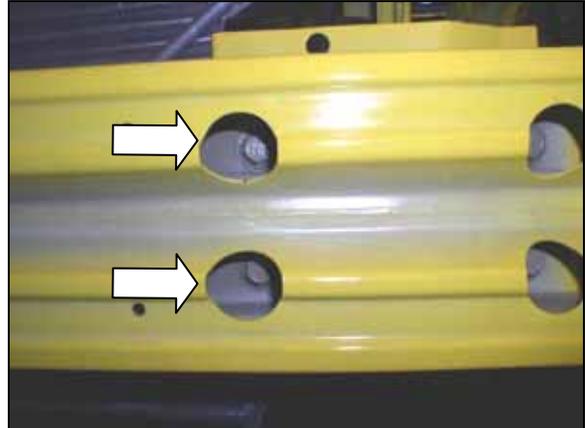


FIGURE 2





2. Install the four included M8-1.25 x 30 mm long bolts (P/N 31076) with four M8 flat washers (P/N 30589) into the now empty holes in the bumper support. SEE FIGURES 3 & 4

FIGURE 3

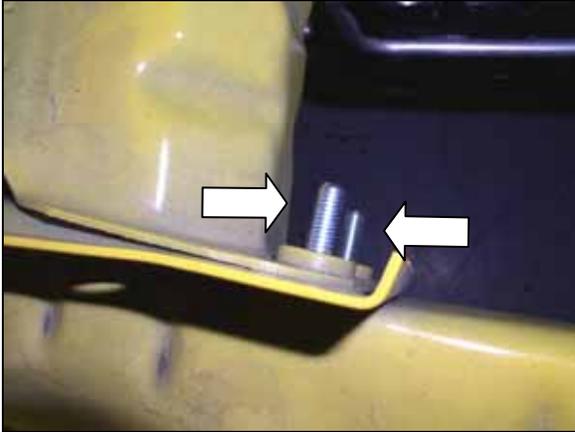
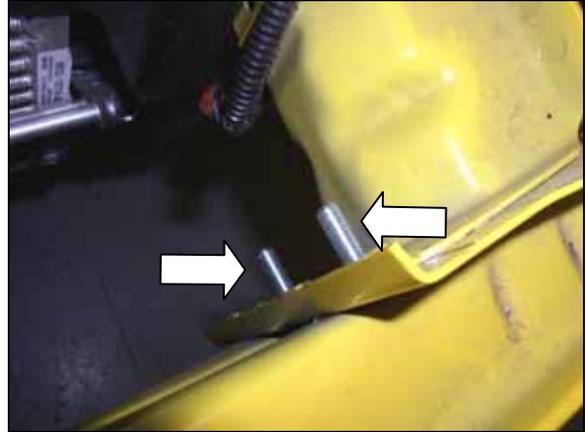


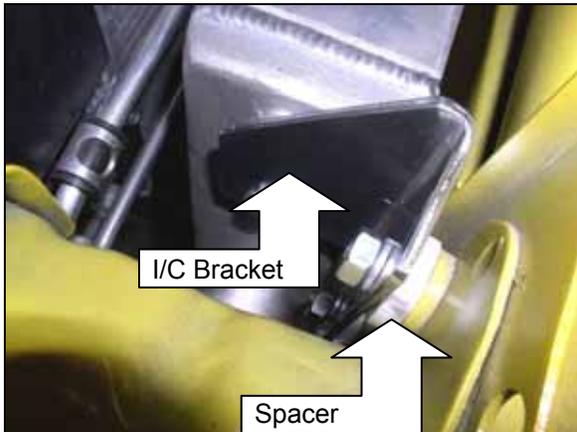
FIGURE 4



3. Place one of the included 0.25" thick spacers (P/N 21704) on each of the 2 newly installed bolts on the passenger side of the bumper support.

4. Place the passenger side intercooler bracket (P/N 21681) on the bolts with the spacers. Secure with two M8-1.25 nuts (P/N 30653) and two M8 lock washers (P/N 30593). SEE FIGURE 5

FIGURE 5

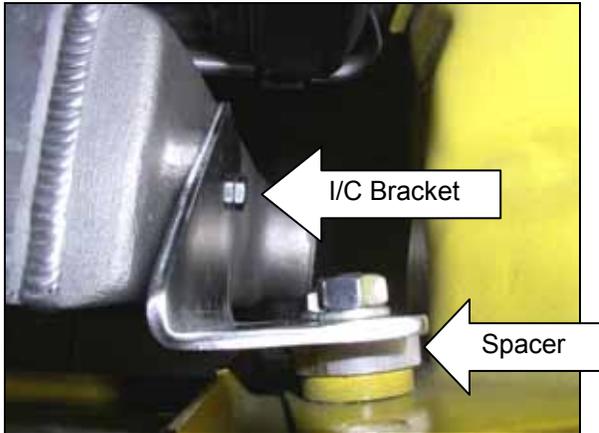


5. Place one of the included 0.25" thick spacers (P/N 21704) on each of the 2 newly installed bolts on the driver side of the bumper support.



6. Place the driver side intercooler bracket (P/N 21680) on the bolts with the spacers. Secure with 2 M8 – 1.25 nuts (P/N 30653) and M8 lock washers (P/N 30593). SEE FIGURE 6

FIGURE 6



7. Install the intercooler (P/N 5-312) between the newly installed intercooler brackets. Using the upper holes secure the intercooler to the brackets using 2 1/4 – 20 x 1/2" bolts (P/N 30566) and 1/4" lock washers (P/N 30596). Tighten down using an 11 mm or 7/16" wrench. SEE FIGURE 7 & 8

FIGURE 7

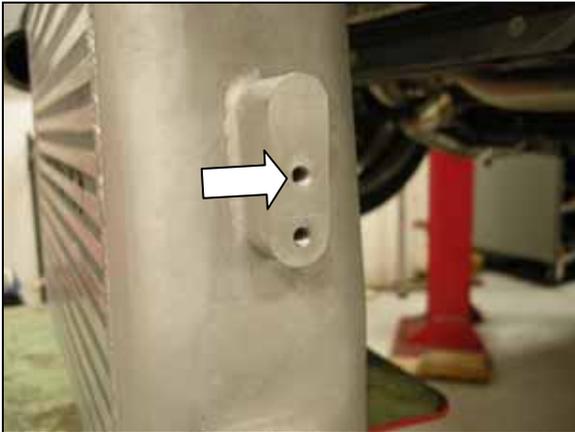


FIGURE 8



WATER LINE INSTALLATION

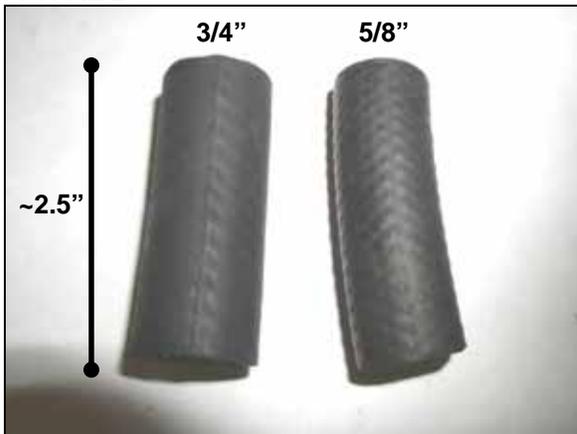
1. Locate the two heater hoses to the side of the stock battery location. Disconnect both the 5/8" diameter heater hose and the 3/4" diameter heater hose at their hard line connections. SEE FIGURE 1

FIGURE 1



2. Cut a piece of the included 5/8" diameter rubber hose (P/N 30827) to a length of 2.5". Also cut a piece of the included 3/4" diameter rubber hose (P/N 31027) to a length of 2.5". SEE FIGURE 2

FIGURE 2



3. Slide one end of the 2.5" long 5/8" hose onto the included 5/8" barbed t-fitting (P/N 21651) use a hose clamp (P/N 30817) to secure.
- 4.
5. Slide one end of the 2.5" long 3/4" hose onto the included 3/4" barbed t-fitting (P/N 21652) use a hose clamp (P/N 30817) to secure. SEE FIGURE 3

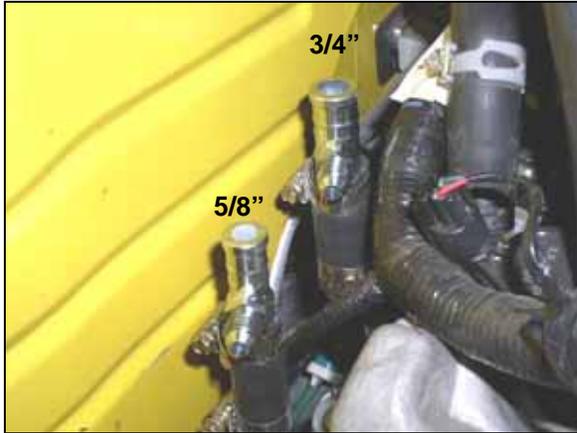
FIGURE 3





6. Install the 5/8" fitting and hose assembly onto the 5/8" barbed hard line in the engine bay. Direct the threaded portion of the t-fitting towards the passenger side. Secure with a hose clamp (P/N 30817). SEE FIGURE 4
7. Install the 3/4" fitting and hose assembly onto the 3/4" barbed hard line in the engine bay. Direct the threaded portion of the t-fitting towards the passenger side. Secure with a hose clamp (P/N 30817). SEE FIGURE 4

FIGURE 4



8. Install the heater hoses onto the ends of the appropriate t-fittings. The 5/8" hose goes onto the 5/8" fitting and the 3/4" hose goes onto the 3/4" fitting. Secure with the factory clamps. SEE FIGURE 5

FIGURE 5



TURBO OIL DRAIN INSTALLATION

1. Using a 1/8" drill bit drill a hole in the oil pan. Locate the hole on the driver side of the pan, approximately 3/4" in from the front of the pan and 1.174" up from the bottom. As the hole is drilled oil will pour out of the hole, pushing out the metal shavings. The drill bit may also be coated with grease in order to catch metal chips. SEE FIGURES 1 & 2

FIGURE 1

FIGURE 2



2. Using a hammer and the included tapered center punch tool (P/N 21273) expand the hold drilled into the oil pan to 0.5781". **NOTE: Do not bottom out the center punch tool. The hole could potentially become too large to properly tap.** SEE FIGURES 3 & 4

FIGURE 3



FIGURE 4



3. Liberally grease the included tap (P/N 30809). Use it to tap the hole in the oil pan. The tap is tapered so check the hole with the included 3/8 NPT x 1/2" barbed fitting (P/N 31285) before using more than half the threads on tap. SEE FIGURE 5

FIGURE 5



- Using Teflon tape, or other thread sealant, coat the threads of the 3/8 NPT x 1/2" barbed fitting. Install it into the oil pan. SEE FIGURES 6 & 7

FIGURE 6



FIGURE 7



- Cut a piece of 1/2" hose (P/N 31290) to a length of 32". Install the hose on the end of the barbed fitting installed in the oil pan. Secure with a pinch hose clamp (P/N 31287). Direct the free end of the hose up to the top of the engine bay by the radiator fan shroud. SEE FIGURES 8-10

FIGURE 8



FIGURE 9



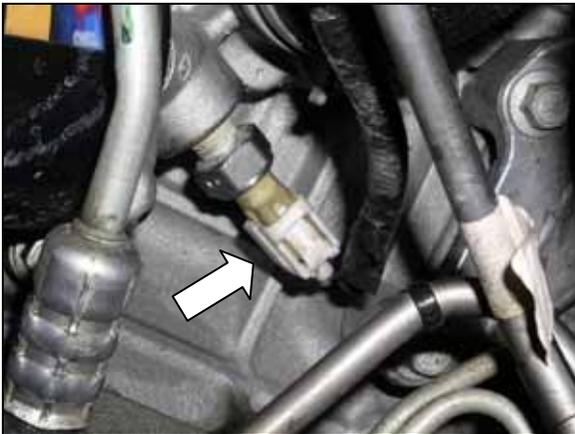
FIGURE 10



6. Drain the rest of the oil from the engine.

7. Locate the oil pressure sensor on the oil filter housing. The oil filter housing is located near the bottom of the engine block on the driver side. Unplug the wiring harness from the sensor. Using a 13/16" deep socket remove the oil pressure sensor. SEE FIGURE 11

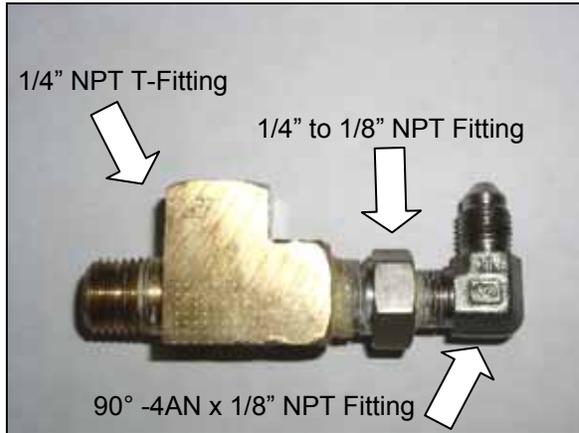
FIGURE 11





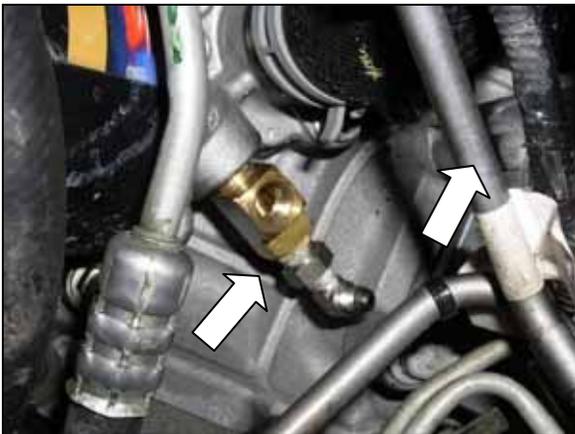
8. Make a fitting assembly out of a 1/4" NPT t-fitting (P/N 30975), 1/4" NPT to 1/8" NPT adaptor fitting (P/N 30976) & a 90° -4AN x 1/8" NPT fitting (P/N 30554). Coat the threads of the 1/4" to 1/8" adaptor fitting with Teflon tape or other thread sealant. Insert it into the 1/4" NPT t-fitting in the hole opposite the male threaded portion. Coat the 1/8" NPT threads of the 90° fitting with Teflon tape or other thread sealant. Insert it into the end of the 1/4" NPT adaptor fitting just installed in the t-fitting. SEE FIGURE 12

FIGURE 12



9. Coat the threads of the 1/4" NPT t-fitting with Teflon tape or other thread sealant. Install the fitting assembly into the oil pressure port on the oil filter housing. This is the location from which the oil pressure sensor was removed. SEE FIGURE 13

FIGURE 13





10. Coat the threads of the oil pressure sensor with Teflon tape or other thread sealant. Install the oil pressure sensor into the open location on the 1/4" NPT t-fitting now located in the oil filter housing. SEE FIGURE 14 & 15

FIGURE 14



FIGURE 15



11. Install the -4AN x 36" long oil feed line (P/N 10724) onto the 90° end of the fitting assembly installed into the oil filter housing. Route the free end of the line up to the top of the engine bay behind the power steering pump. SEE FIGURE 16

FIGURE 16





EXHAUST PIPE INSTALLATION

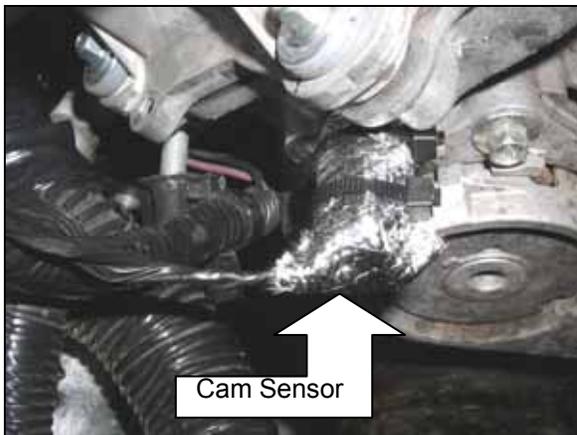
1. Using a 15 mm socket remove the 4 lock nuts securing the front sway bar to the sub frame. Let the bar hang down from the end links. SEE FIGURE 1

FIGURE 1



2. Using a piece of heat wrap (P/N 31299) and a zip tie (P/N 2-43620). Secure heat wrap around the cam sensor. The cam sensor is located on the front of the engine, behind the radiator fan shroud, on the passenger side. SEE FIGURE 2

FIGURE 2



3. Wrap the crank sensor wiring harness and the A/C compressor wiring harness with heat wrap (P/N 31299). Route the wiring harness around the A/C compressor. Secure it with a couple zip ties (P/N 2-43620) or heat wrap tie (P/N 31300) to the A/C line. The A/C compressor is located just above the steering rack on the passenger side. SEE FIGURES 3 & 4

FIGURE 3

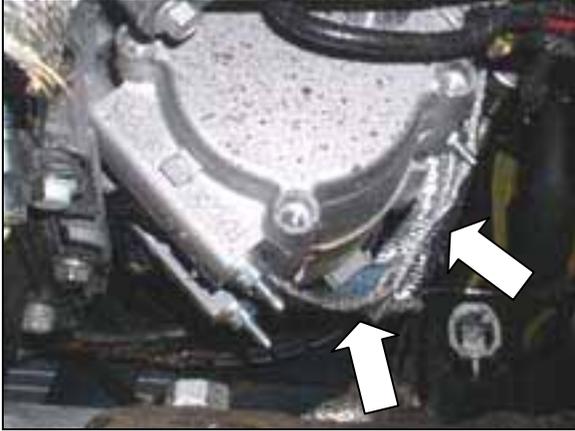


FIGURE 4



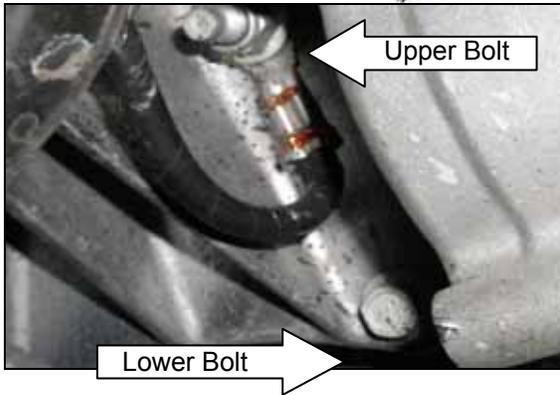
4. Wrap a portion of the power steering line with heat wrap (P/N 31299). Wrap a two inch portion of the line as it comes out of the steering rack on the passenger side. Secure using heat wrap tie (P/N 31300). SEE FIGURE 5

FIGURE 5



5. Relocate the ground wire from the lower motor mount bolt to the upper bolt. The ground wire is located on the passenger side of the engine. SEE FIGURE 6

FIGURE 6



6. Wrap the oil level sensor wiring harness with heat wrap (P/N 31299). The oil level sensor is located on the passenger side of the engine oil pan. Route the oil level sensor harness and the starter wiring harness above the engine mount. Using a zip tie (P/N 2-43620) secure the starter harness to the oil level harness. SEE FIGURES 7 & 8

FIGURE 7

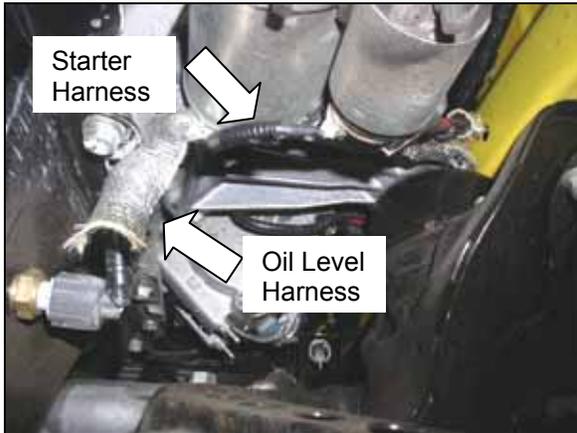
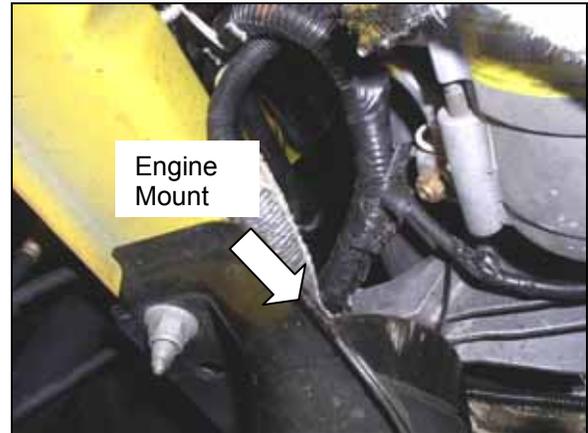


FIGURE 8



7. Using a 15 mm socket remove the 4 lock nuts holding the front lower subframe brace. The brace is located just below the transmission bell housing. There are 2 nuts at each end of the brace. SEE FIGURES 9 & 10

FIGURE 9

FIGURE 10



8. Cut the stock exhaust 2.5" downstream from both of the catalytic converters. Make the measurement starting at the weld bead on the catalytic converters. SEE FIGURES 11 & 12

FIGURE 11



FIGURE 12



9. Support the hanging exhaust pipes with coat hanger wire, safety wire or welding rod. SEE FIGURE 13

FIGURE 13



10. Using a 15 mm socket loosen the 4 bolts for the exhaust coupling clamps. SEE FIGURE 14

FIGURE 14



11. Pull back on the metal clips on the sides of the exhaust couplers in order for them to slide. Slide the couplers downstream on the exhaust pipes to free the crossover section of the exhaust. Remove the crossover pipe. Leave the clamps for later use. SEE FIGURES 15-17

FIGURE 15



FIGURE 16



FIGURE 17



12. Using a 10 mm socket remove the two upper radiator brackets from the radiator support. SEE FIGURE 18 & 19

FIGURE 18

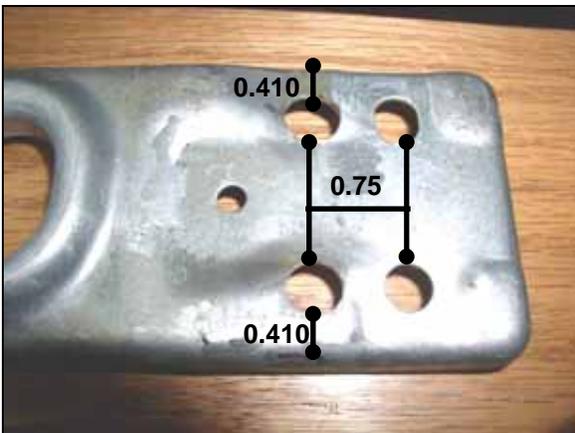


FIGURE 19



13. Using a 7/16" drill bit to drill 2 new holes in both radiator brackets. Locate the new holes as shown in the following figure. SEE FIGURE 20

FIGURE 20





14. Reinstall the upper radiator support brackets. Use the new holes to secure the brackets to the radiator support. SEE FIGURES 21 & 22

FIGURE 21



FIGURE 22



15. Place the factory plastic radiator shroud back in its original position on the upper radiator support. Using a permanent marker mark the locations for the new required holes on the radiator brackets. Using a 1/4" drill bit carefully drill a new hole in each bracket for the radiator shroud plastic fasteners. Set aside the plastic radiator shroud for reinstallation in later steps. SEE FIGURES 23 & 24

FIGURE 23



FIGURE 24



16. Slip the exhaust y-pipe (P/N 22037) on the ends of the catalytic converters with two 2 1/2" clamps. To ease installations loosen the bolts on each of the catalytic converters with a 15 mm socket. Leave all clamps in this section loose until all parts are in place. SEE FIGURES 25-28

FIGURE 25

FIGURE 26

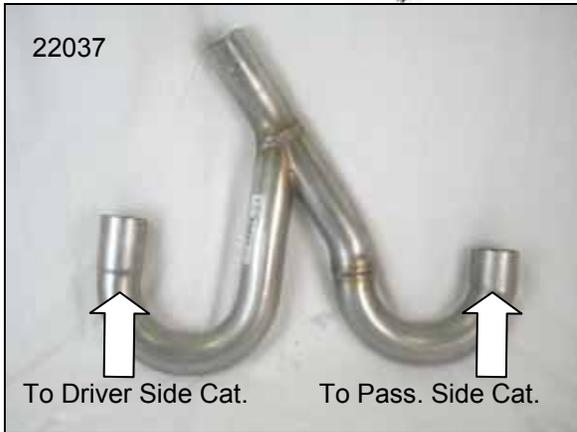


FIGURE 27



FIGURE 28

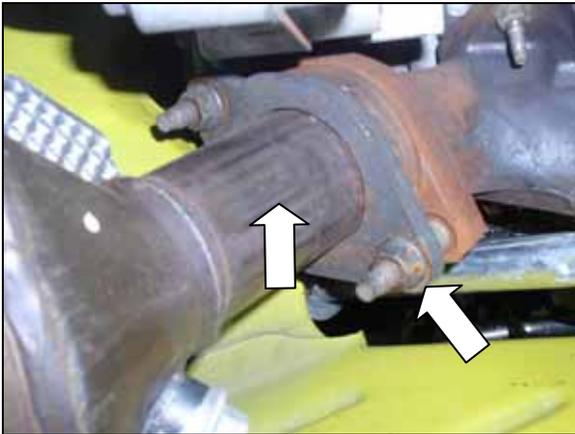


FIGURE 29



FIGURE 30

17. Slip P/N 22044 on to P/N 22037 with two 2 1/2" clamps SEE FIGURES 29 & 30

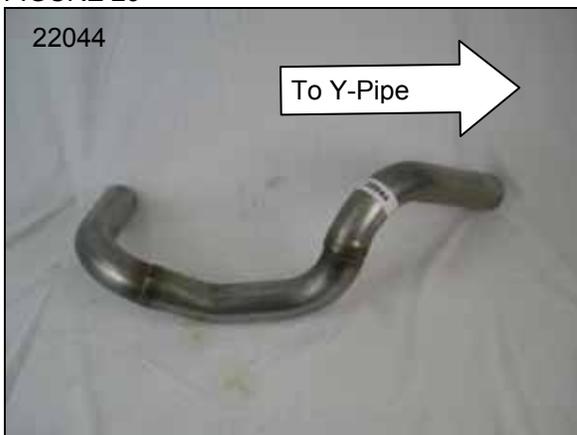


FIGURE 31



FIGURE 32

18. Using a 13 mm socket remove 3 oil pan bolts from the bottom of the engine block. The bolts are located at the front most part of the oil pan. SEE 31 & 32



19. Loosely Install the included up-pipe bracket (P/N 21679) with the included 3 M8 – 1.25 x 40 mm bolts (P/N 30576-50) and 3 M8 flat washers (P/N 30589). SEE FIGURES 33 & 34

FIGURE 33



FIGURE 34



20. Wrap P/N 22036 with heat wrap as shown and secure with metal ties. SEE FIGURE 35

FIGURE 35





21. Install the turbo support bracket (P/N 21670) onto the T4 flange of the up-pipe using 2 M10 – 1.25 x 50mm bolts (P/N 31166). The bracket sits on the pipe side of the flange. It is installed in the 2 holes on the part of the flange that angles away from the pipe. Install 2 M10-1.25x42mm (P/N 30806) into flange as shown. SEE FIGURES 36 & 37

FIGURE 36

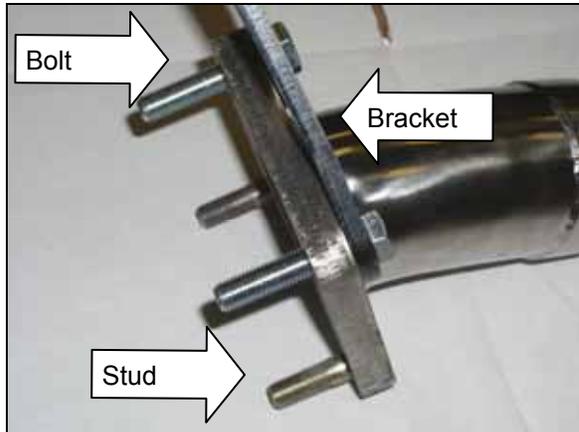


FIGURE 37

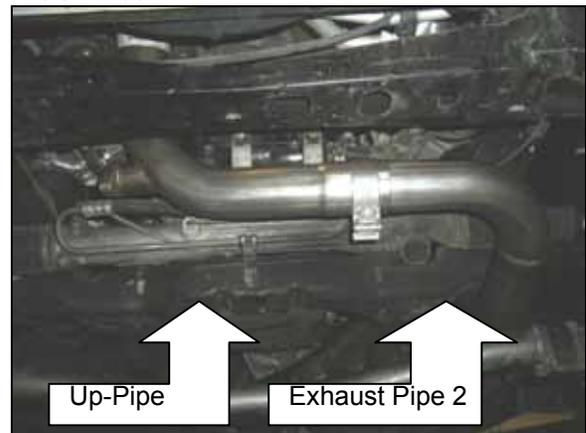


22. Insert the exhaust up-pipe through the top of the engine bay. Slip P/N 22044 in to P/N 22036. Loosely secure the turbo support bracket to a stud on the engine block using the factory nut. It holds the electronic signal noise filter. SEE FIGURES 38 & 39

FIGURE 38



FIGURE 39



23. Place the included T4 exhaust gasket (P/N 30143) on the T4 flange on the up-pipe.
24. Before proceeding further re-secure the front sway bar by reattaching the u-brackets to the subframe with the factory nuts.
25. Using 2 of the included M8–1.25 x 20 mm bolts (P/N 30700) with two M8 lock washers (P/N 30593) loosely secure the exhaust up-pipe to the bracket installed in hot pipe installation step 19. SEE FIGURE 40

FIGURE 40



26. Wrap downpipe P/N 22041 as shown. SEE FIGURE 41

FIGURE 41



27. Drop downpipe into position as shown SEE FIGURE 42 & 43

FIGURE 42



FIGURE 43



28. Slip P/N 22042 over P/N 22041 as shown. SEE FIGURE 44 & 45

FIGURE 44



FIGURE 45



29. Install 2 M8 – 1.25 x 30 mm studs (P/N 30860) in the 2 hole flange on the exhaust up-pipe. The flange is located on the passenger side above the steering rack. SEE FIGURE 46

FIGURE 46



30. Install 2 M8 – 1.25 x 30 mm studs (P/N 30860) in the 2 hole flange on downpipe 2. The flange is located near the passenger side motor mount. SEE FIGURE 47

FIGURE 47





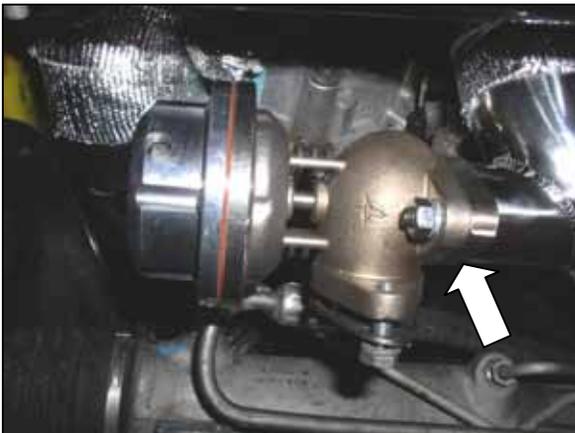
31. Wrap the threads of the included 1/8 NPT x 5/32" straight fitting (P/N 30306) with Teflon tape or other thread sealant. Install the fitting into the bottom port in the base of the Evo wastegate (P/N 10781). SEE FIGURE 48

FIGURE 48



32. Mount the included Evo wastegate to the 2 hole flange on the exhaust up-pipe. Orient the wastegate outlet flange so that it points towards the floor. Secure it using 2 M8 nuts (P/N 30653) and 2 M8 lock washers (P/N 30593). SEE FIGURE 49

FIGURE 49



33. Place an exhaust gasket (P/N 20142) on the 2 bolt flange on downpipe 2. SEE FIGURE 50

FIGURE 50



34. Mate one end of the wastegate dump tube (P/N 21908) to the wastegate outlet flange with an exhaust gasket (P/N 20142) in between. Loosely secure the tube to the wastegate using 2 5/16 – 18 x 1” bolts (P/N 30570) and 2 5/16” lock washers (P/N 30593). SEE FIGURES 51 & 52

FIGURE 51



FIGURE 52



35. Loosely secure the other end of the wastegate dump tube to the 2 bolt flange on downpipe 2 using 2 M8 nuts (P/N 30653) and 2 M8 lock washers (P/N 30593). SEE FIGURE 53

FIGURE 53



36. Once the wastegate dump tube is fully installed loosely tighten the 4 bolts that secure it.

37. Support transmission and remove transmission mount. Slip P/N 22043 over P/N 22042 with two clamps as shown. SEE FIGURE 54 & 55

FIGURE 54

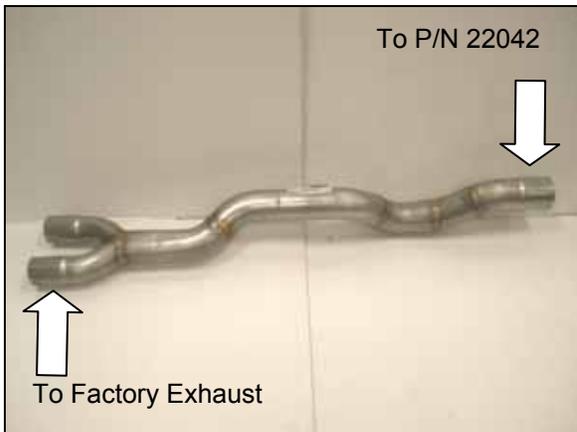


FIGURE 55



38. Replace transmission mount. Loosen muffler mounts and slip P/N 22043 over factory exhaust with two clamps. SEE FIGURE 56 & 57

FIGURE 56

FIGURE 57



39. Slip 2 1/2" clamp over support bracket P/N 22073 on driver side and P/N 22074 on passenger side. Bolt brackets to transmission bell housing bolt P/N 30943 and washer P/N 30804. SEE FIGURE 58 & 59

FIGURE 58



FIGURE 59



TURBO INSTALLATION

1. Install the supplied oil drain flange (P/N 20259) to the bottom of the turbocharger center housing with the supplied oil drain gasket (P/N 30141). Secure the flange to the turbocharger using 2 of the supplied M8 – 1.25 x 20mm (P/N 30700) bolts with M8 lock washers (P/N 30593).
2. Wrap the thread of the 1/2" – 14 NPT x 5/8" hose barb brass fitting (P/N 30244) with Teflon tape or other thread sealant. Thread the fitting into the oil drain flange on the bottom of the turbo center housing. Tighten the fitting with a 7/8" wrench. SEE FIGURE 1

FIGURE 1



3. Wrap the threads of the 1/8" NPT x 3/16" hose barb (P/N 30307) with Teflon tape or other threads sealant. Insert the fitting in the threaded hole on the turbocharger compressor cover. SEE FIGURE 2

FIGURE 2



4. Using two M16 banjo bolts (P/N 31155) attach the 2 included 52" water lines (P/N 21657-52) to the turbocharger center housing. When installing the lines place one M16 copper crush washer (P/N 31156) on the banjo bolt before placing it in through the water line. Place another M16 copper crush washer on the banjo bolt, after the water line, before threading it into the center housing. Direct the ends of the water lines downwards, towards the oil drain flange. Tighten the banjo bolts using a 24 mm socket. SEE FIGURE 3

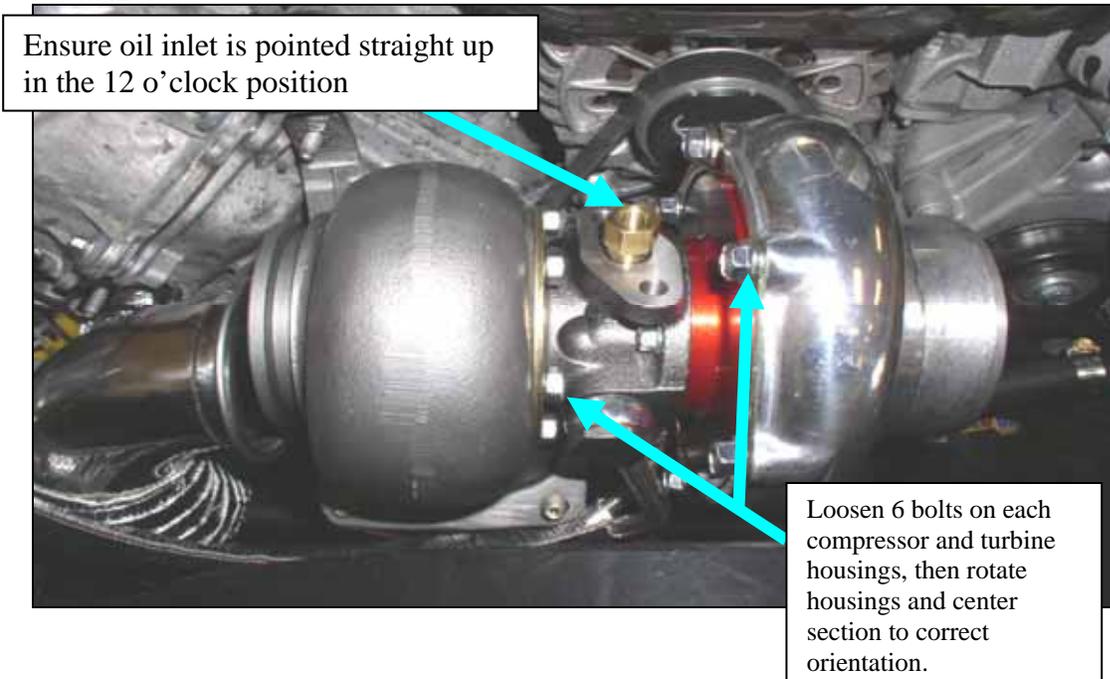
FIGURE 3



5. Insert the turbocharger (P/N 11308-BB) into the engine bay. The T4 exhaust flange on the turbocharger turbine housing mates to the T4 flange on downpipe 1. The turbine housing faces towards the passenger side of the engine bay while the compressor housing faces towards the driver side. The oil inlet of the turbocharger should be aligned straight up at the 12 o'clock position.

NOTE: You will need to loosen all the turbine and compressor housing cover bolts in order to clock them into the necessary positions. SEE FIGURE 4

FIGURE 4



6. Connect the 1/2" oil drain line to the 1/2" barbed fitting installed on the bottom of the turbocharger center housing. Secure with a hose clamp (P/N 30817). SEE FIGURES 5 & 6

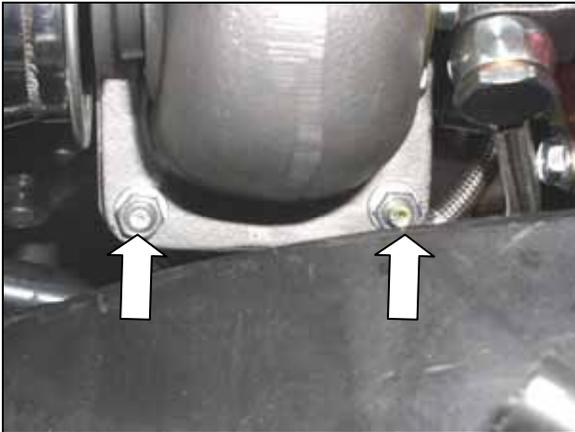
FIGURE 5

FIGURE 6



7. Secure the turbocharger to downpipe 1 using 4 M10 nuts (P/N 30803) and 4 M10 lock washers (P/N 30805). Tighten using a 14 mm socket. SEE FIGURE 7

FIGURE 7



8. Check the clearance between the side of the compressor cover and the alternator pulley. There should be about 8 mm of clearance. Use an M8 bolt to check, it should barely fit in the space. If there is not enough space use a washer between the up-pipe bracket and the engine. SEE FIGURE 8

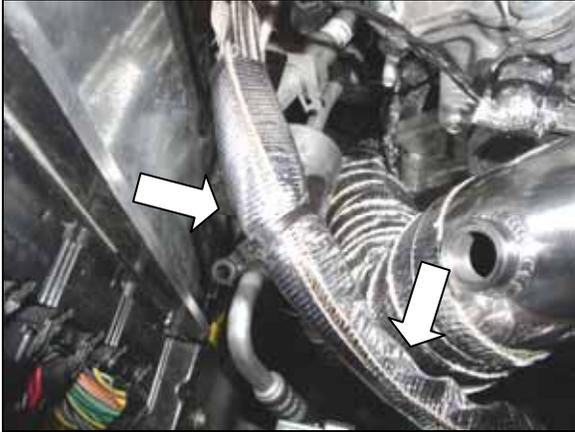
FIGURE 8





9. Direct the water lines downwards off the center housing. Slide both of the water lines into a heat shield sheath (P/N 31042) one at a time. Route the lines along the back of the radiator shroud and along the side of the ECU following the A/C lines. Secure the water lines to the ECU bracket with a zip tie (P/N 2-43620). SEE FIGURE 9

FIGURE 9



10. Direct the ends of the water lines towards the heater hose t-fitting at the back of the engine bay. Run the lines along the side of the cylinder head. Secure the lines to an empty threaded boss on the cylinder head using the included loop strap (P/N 31006), M6 – 1.0 x 16 mm bolt (P/N 30575) and M6 washer (P/N 30591). SEE FIGURES 10 & 11

FIGURE 10

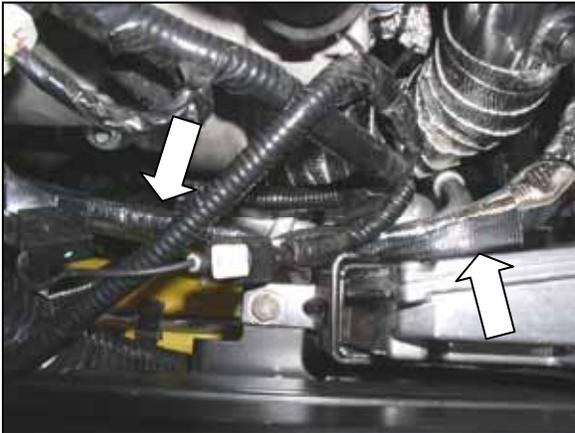
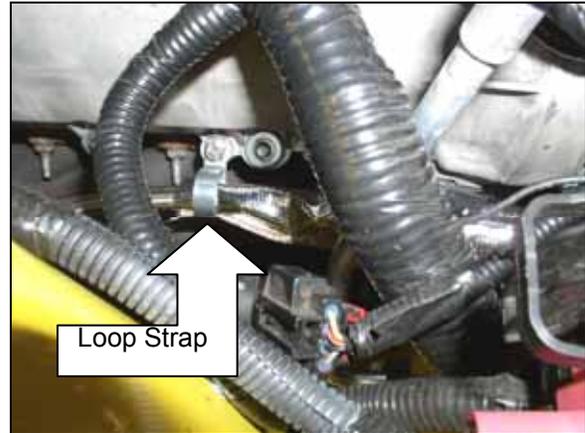


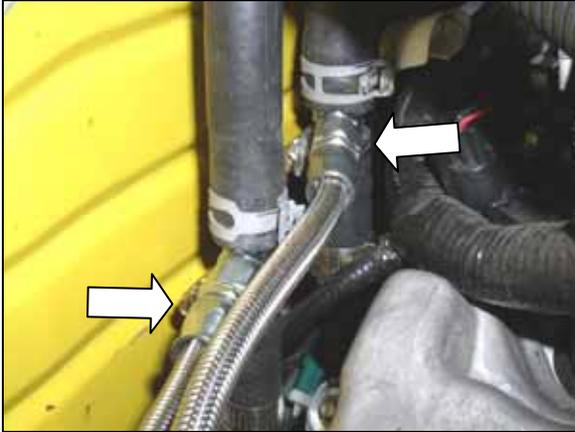
FIGURE 11





11. Using an 11/16" wrench tighten the water lines to the t-fittings previously installed in the heater hoses. Either one of the lines can be attached to either fitting. Ensure that there are no kinks in the lines before securing them. SEE FIGURE 12

FIGURE 12



12. Install the 1/8 NPT x -4AN 90° fitting (P/N 30554) into the oil filter at the top of the turbocharger center housing. **NOTE: Do not use any thread tape or sealant.** SEE FIGURE 13

FIGURE 13



13. Route the oil feed line up from the oil filter housing, behind the power steering pump and up to the top of the turbocharger center housing. Using an 13 mm wrench tighten the line to the 90° fitting. SEE FIGURES 14 & 15

FIGURE 14

FIGURE 15



14. Mate the v-band flange on downpipe 1 to the outlet of the turbine housing. Loosely secure using a 3.0" v-band clamp (P/N 30242). For clearances and accessibility direct the v-band clamp bolt towards the nut securing the turbine housing to the up-pipe. SEE FIGURES 16 & 17

FIGURE 16



FIGURE 17



15. If downpipe 1 has a bung welded on then coat the threads of the included M18 bolt (P/N 30862) with anti-seize. Install the bolt into the threaded bung on downpipe 1. Tighten with a 17 mm socket. SEE FIGURE 18

FIGURE 18





16. Go back and look over all the exhaust piping. Adjust the pipes so that they do not rub against the body or other components. Ensure that electrical components are not resting on any hot pipes. Extra zip ties are included for use at the installer's discretion. Tighten down all clamps, the up-pipe and downpipe flange connections, the exhaust clamps, etc. Also remove the support wire used to hold up a portion of the factory exhaust during the install.

INTERCOOLER PLUMBING INSTALLATION

1. Use a 2" piece of 1" hose and two clamps to attach bypass (P/N 30359) valve to pipe as shown. (P/N 22032) SEE FIGURE 1

FIGURE 1



2. Slide the 9.50" long 2.5" diameter coupler (P/N 21725) onto the turbo end of boost tube 1. Loosely secure the coupler to the tube with a #36 hose clamp (P/N 30615). Place boost tube 1 into the engine bay. Direct the coupler in first, it fits between the driver side of the radiator and the subframe. SEE FIGURES 2 - 4

FIGURE 2



FIGURE 3

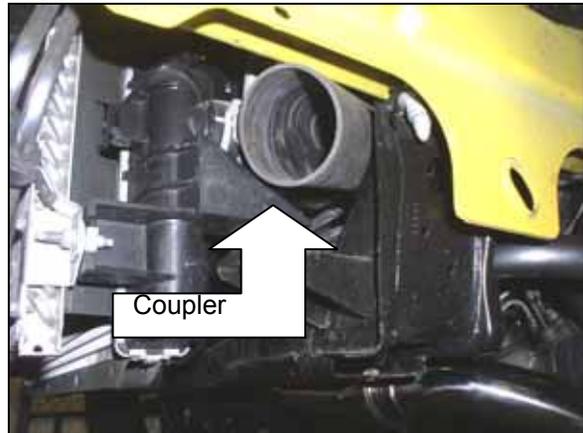




FIGURE 4



3. Slide the 45° 2.5" diameter coupler (P/N 30444-4) onto the end of the turbocharger compressor outlet. Loosely secure with a #36 hose clamp (P/N 30615). SEE FIGURE 5

FIGURE 5



4. Slide the blow off valve end of boost tube 1 (P/N 21673) into the open end of the 45° coupler on the compressor outlet. Loosely secure with a #36 hose clamp (P/N 30615). SEE FIGURE 6

FIGURE 6



5. Slide a 45° 2.5"– 3.00" diameter coupler (P/N 22080-4) over the driver side intercooler inlet. Loosely secure with a #52 hose clamp (P/N 309414). Place another #36 hose clamp on the free end of the coupler.
6. Place a #36 hose clamp (P/N 30615) on the free end of the coupler attached to boost tube 1. Install boost tube 2 (P/N 21674) between the intercooler and boost tube 1. Slide the pipe into the couplers and loosely secure with the hose clamps. SEE FIGURE 7 & 8

FIGURE 7

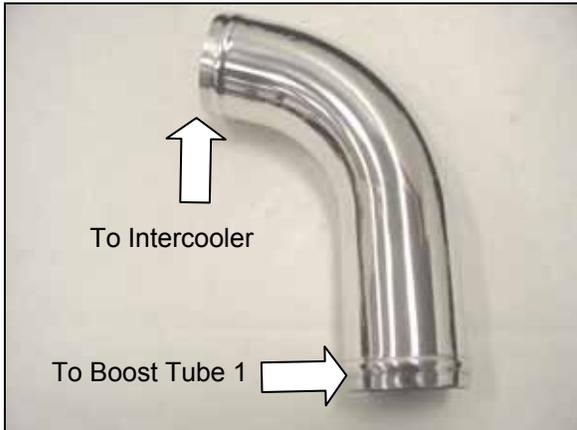


FIGURE 8

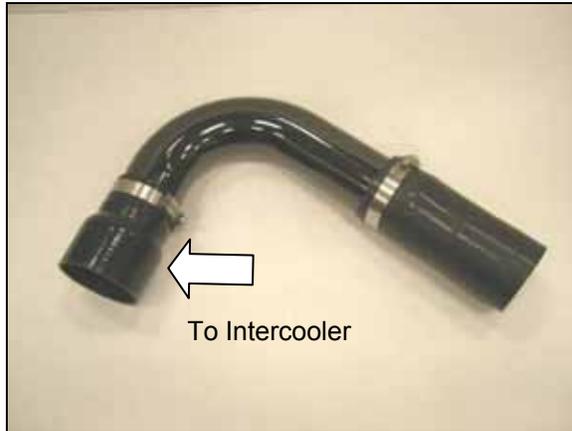


7. Adjust the turbo to intercooler piping on the driver side so that the pipes are not resting on any part of the body work. Once adjusted tighten the hose clamps to hold the pipes in place.
8. Slide the 2.50"-3.00" diameter connector (P/N 30440-4) on the short straight of boost tube 3 (P/N 21675). Loosely secure with a #36 hose clamp (P/N 30615). SEE FIGURE 12



- Slide the 6.5" long 2.50" diameter coupler (P/N 21364) onto the long straight of boost tube 3. Loosely secure with a #36 hose clamp (P/N 30615). SEE FIGURE 9

FIGURE 9



- Place a #52 hose clamp (P/N 30615) on the open end of the connector on boost tube 3. Install boost tube 3 onto the passenger side intercooler outlet. The connector attaches to the intercooler while the long 2.5" diameter straight coupler (P/n 21364) is directed to the side of the bumper support and into the engine bay. Place a #36 hose clamp (P/N 30615) on the end of the long straight coupler (P/N 21364). SEE FIGURE 10

FIGURE 10



11. For '05-'06 model years, skip to step 12. For '07-'09 models, replace thermostat by removing two M8 bolts on thermostat housing cover. Remove factory thermostat and replace with 160F unit provided (P/N 31295) Using a 1/2" drill bit enlarge the ID of the PCV port just above the thermostat housing. Use a small amount of grease to catch plastic. Push check valve (P/N 31294) into PCV port with o-ring visible as shown. Replace factory hose onto port. SEE FIGURE 11 - 16

FIGURE 11



FIGURE 12

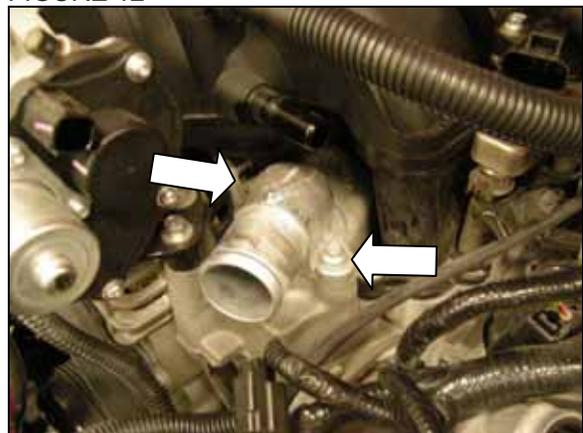


FIGURE 13



FIGURE 14



FIGURE 15



FIGURE 16



- Slide a 1.5" diameter coupler (P/N 31000) on either end of the new coolant pipe (P/N 21695). Secure the couplers to the pipe with 2 #20 hose clamps (P/N 30612). Secure the long straight end of the coolant pipe to the passenger side of the radiator using a #20 hose clamp (P/N 30612). Secure the other end of the pipe to the coolant inlet on the engine with a #20 hose clamp (P/N 30612). SEE FIGURES 17 & 18 for '05-'06 model years and FIGURES 19 & 20 for '07- '09 model years.

FIGURE 17

FIGURE 18

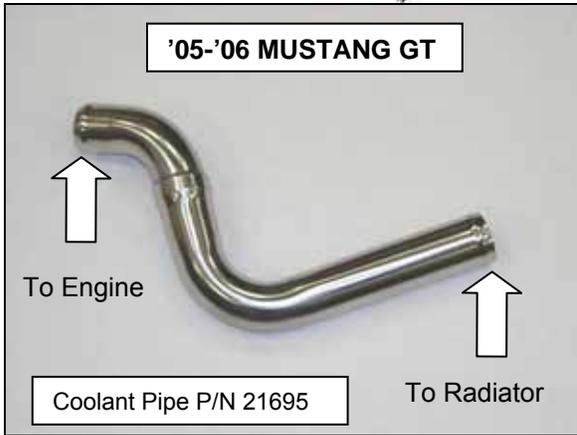
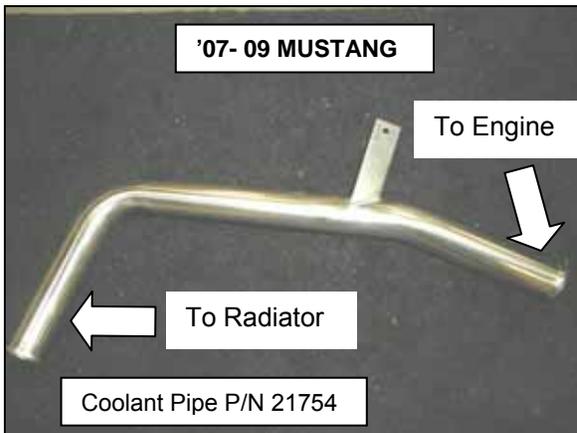


FIGURE 19

FIGURE 20



- Place the included turbine heat shield (P/N 31172) over the turbocharger turbine housing. Secure using heat wrap tie (P/N 31300). SEE FIGURE 21

FIGURE 21



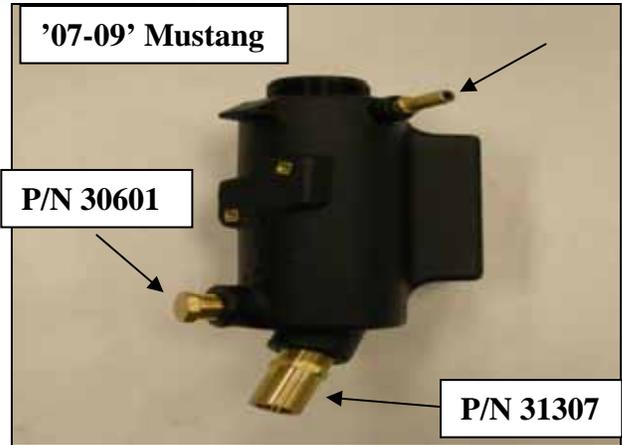
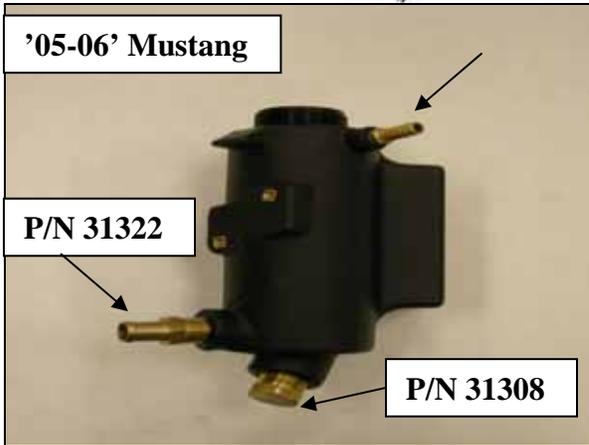
- Coolant/Degauss overflow reservoir (P/N 22031):** For model year 05-06 install fittings using pipe thread sealant in coolant reservoir as shown in figure 22. For 07-09 install fittings using pipe thread sealant as shown in figure 23.

FIGURE 22

FIGURE 23

P/N 31306

P/N 31306



15. Attach mounting bracket with #52 clamp underneath. SEE FIGURE 24

FIGURE 24



16. For years 05-06 connect the 3/4" hose from thermostat housing to coolant reservoir using # 20 clamps. For years 07-09 connect 1" hose from lower radiator hose to coolant reservoir. SEE FIGURE 25 & 26

FIGURE 25



FIGURE 26



17. Clamp coolant reservoir to power steering reservoir. Connect the 5/16" hose from top of radiator to Coolant reservoir using stock clamps. SEE FIGURE 27 & 28



FIGURE 27

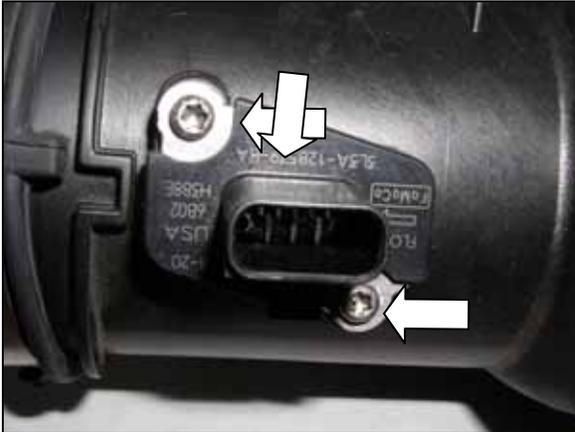


FIGURE 28



18. Using a T20 torx driver, remove the MAF sensor from the factory air box. SEE FIGURE 30

FIGURE 30



19. Install MAF block off plate (P/N 22034) onto stock air box using factory screws. SEE FIGURES 31 & 32

FIGURE 31



FIGURE 32



20. Reinstall stock air filter box. SEE FIGURE 33

FIGURE 33



21. Install intake tube (P/N 22032) for model years from '05-'09 and intake hose (P/N 22079). SEE FIGURE 34.
22. Connect a 5" piece of 1" hose to intake tube using 1" fitting (P/N 22045) and two # 24 clamps. SEE FIGURE 35 Connect hose to bypass valve with # 24 clamp. SEE FIGURE 36.

FIGURE 34

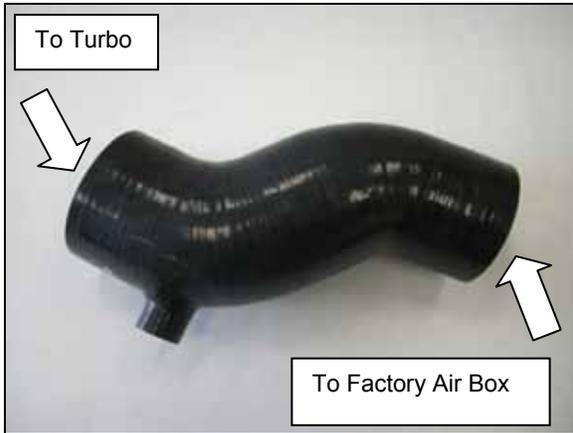


FIGURE 35



FIGURE 36





FIGURE 37



23. Attach one end of 3/8" hose (P/N 31289) to intake tube and attach with pinch clamp.
SEE FIGURES 38 & 39

FIGURE 38



FIGURE 39



24. Cut one of the fittings off the factory breather hose that goes from the valve cover to the factory intake hose. SEE FIGURES 40-43

FIGURE 40

FIGURE 42

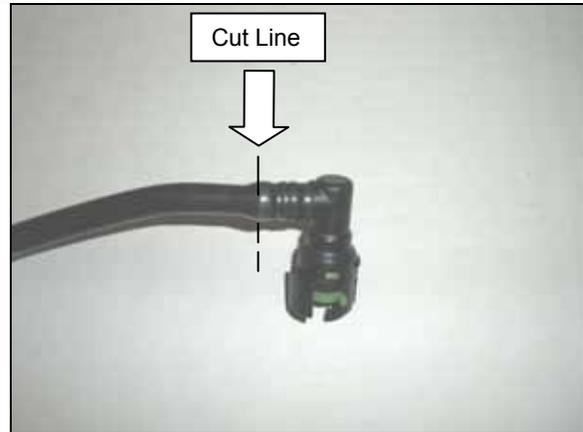
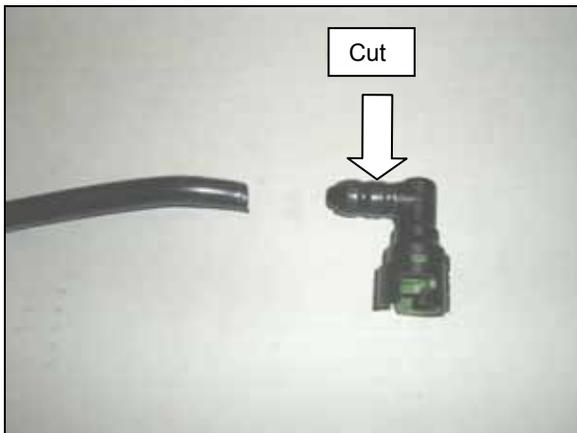


FIGURE 43



25. Insert the fittings that you just cut onto the breather port on the valve cover, located by the oil fill cap. Slide a pinch clamp (P/N 31288) onto the 3/8" hose you just routed underneath the throttle body from the turbo to filter pipe, and insert the 3/8" hose onto the fitting and secure by crimping the pinch clamp using a pinch clamp pliers. SEE FIGURES 44 & 45

FIGURE 44



FIGURE 45



26. Install cast 90 deg intake pipe (P/N 11411) into boost tube (P/N 21675) with # 44 clamp. Install 4" coupler (P/N 30302-4) onto cast pipe with # 72 clamp. SEE FIGURE 46 & 47



FIGURE 46



FIGURE 47



27. At this stage, tighten the compressor and turbine housing bolts that you loosened in the turbo installation procedure. Install the included 4" silicone coupler (P/N 21790-4) onto the throttle body. Secure using the factory hose clamp from the stock intake. Place a #72 hose clamp (P/N 31167) on the round end of the coupler. SEE FIGURES 48 & 49

FIGURE 48

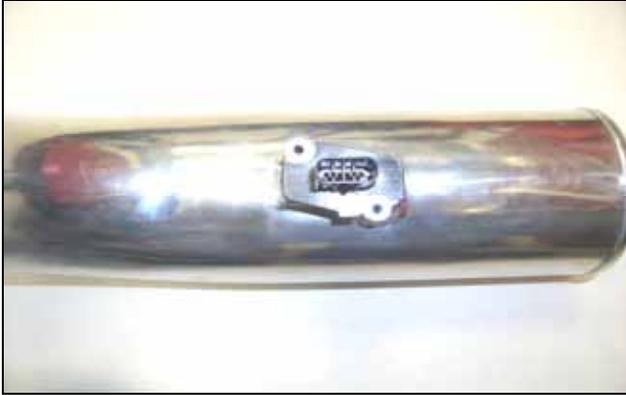


FIGURE 49



28. Install the factory MAF meter into cast intake pip (P/N 11361) and secure the sensor to the tube using the provided screws. SEE FIGURE 50

FIGURE 50



29. Insert the cast intake pipe (P/N 11361) into the coupler on the throttle body. The oval end of the tube is the end that mates to the throttle body. Insert the other end of cast intake pipe (P/N 11361) into the coupler at the of the cast elbow P/N 11411. Loosely secure with the hose clamps. SEE FIGURES 51 & 52

FIGURE 51



FIGURE 52



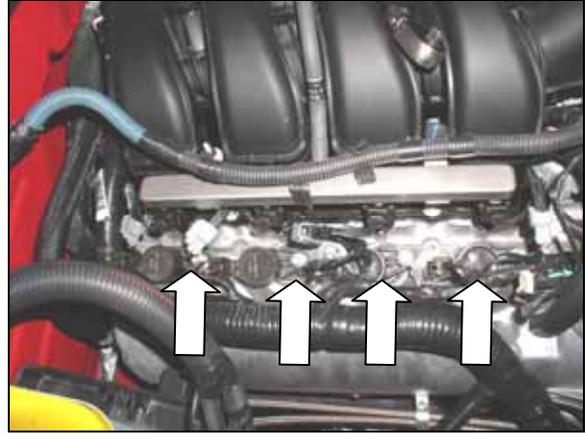
30. Adjust boost tube 3 and boost tube 4 so they do not rest on any of the body work or other components. Once positioned tighten all hose clamps.
31. Cut a piece of the included 5/32" diameter silicone hose (P/N 30542-BK). Attach one end of the hose to the fitting installed in the compressor housing. Route the other end down to the wastegate. Attach the hose to the fitting installed in the wastegate base.
32. Cut a piece of the included 5/32" diameter silicone hose (P/N 30542-BK). Attach one end of the hose to the fitting installed in the cover of blow off valve. Route the other end of the hose to the driver side cylinder head. The end of the hose attaches to the t-fitting installed near the fuel rail.

GAPPING THE SPARK PLUGS

1. Remove the 8 factory coil packs (4 per side) from the head of the engine by unscrewing / loosening the bolt using a 7mm socket. SEE FIGURES 1 & 2

FIGURE 1

FIGURE 2



2. Carefully lift each coil pack up and set it to the side. SEE FIGURE 3

FIGURE 3

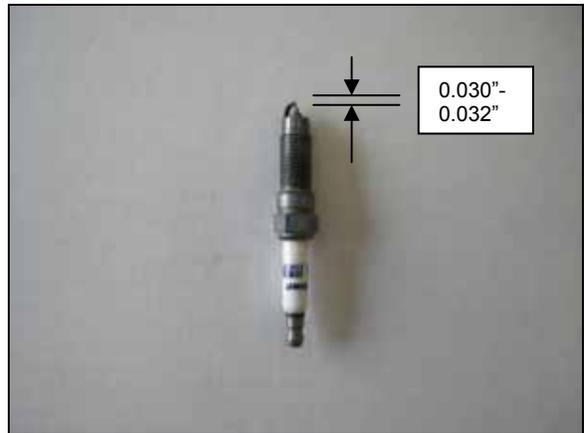


3. Using a 9/16" spark plug socket and a long extension, carefully remove the spark plug from the engine. Making sure no debris falls into the spark plug hole when the plug is removed.
4. Gap the 8 supplied spark plugs (PN 31296 for '05-'06 model years, and PN 31297 for '07-'09 model years) each of them to 0.030"-0.032". SEE FIGURE 4 & 5

FIGURE 4



FIGURE 5



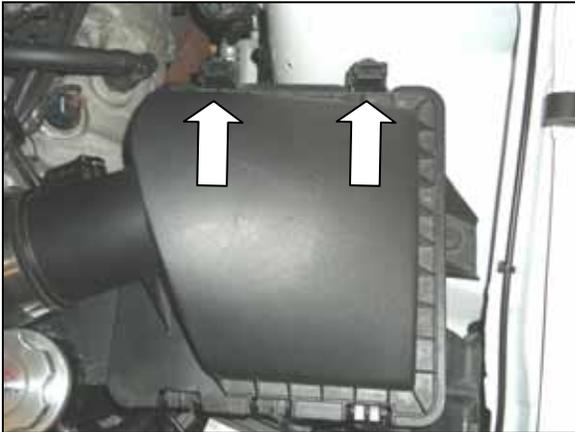


5. Double check all plugs to make sure they were gapped correctly and re-install everything in reverse order.

INSTALLING THE AIR FILTER

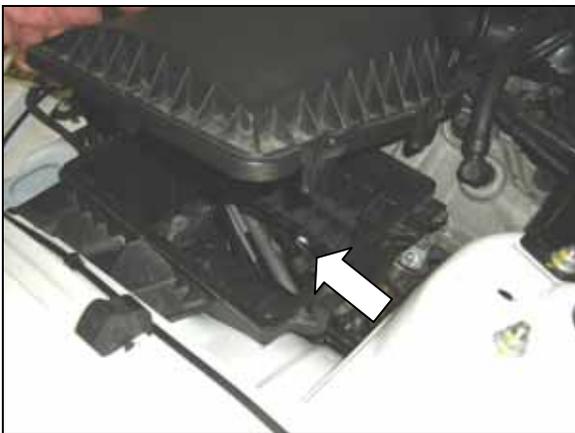
1. Pull the two plastic tabs on the top filter cover towards the front of the vehicle. FIGURE 1

FIGURE 1



2. Remove the factory air filter. SEE FIGURE 2

FIGURE 2



3. Install new supplied air filter into factory air box. SEE FIGURES 3 & 4



FIGURE 3

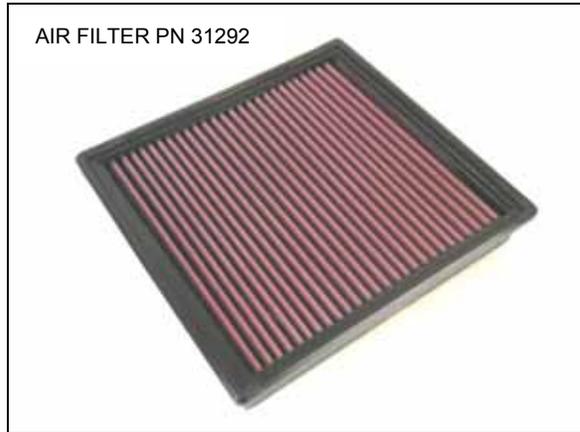


FIGURE 4



CONNECTING THE MAF METER HARNISS

1. Plug the supplied MAF extension harness to the factory MAF meter that is installed in the cast intake pipe (P/N 11361). Route the new extension harness under the throttle body / intake manifold to the other side of the vehicle. SEE FIGURES 1-4

FIGURE 1

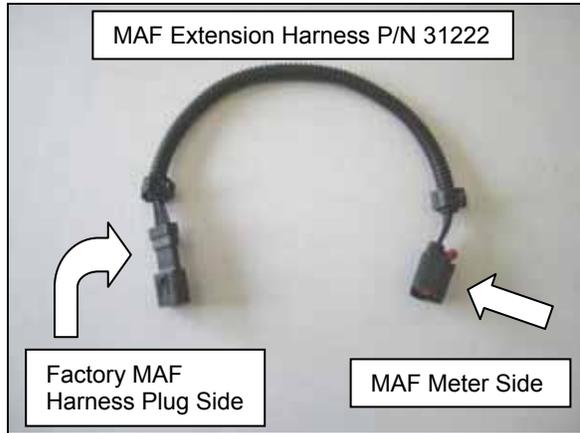


FIGURE 2



FIGURE 3



FIGURE 4





INSTALLING MSD FUEL PUMP BOOSTER

FIGURE 1

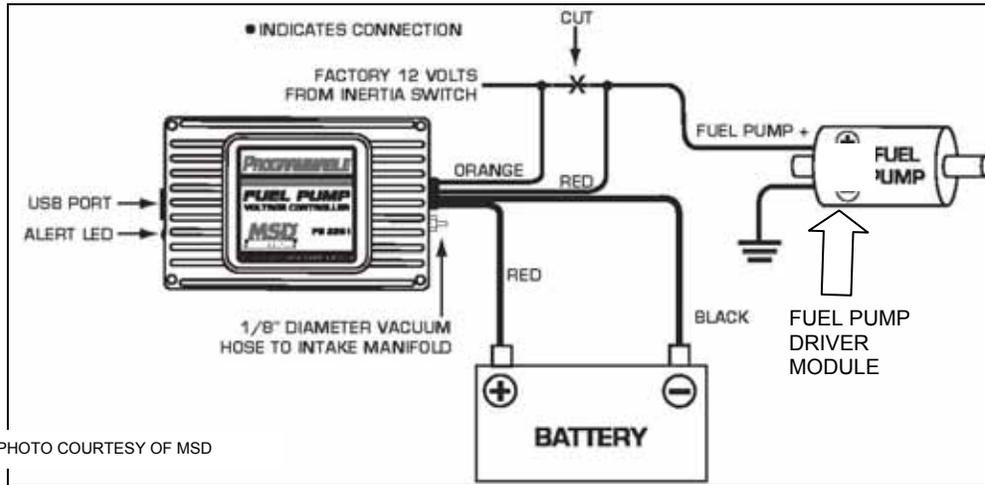


PHOTO COURTESY OF MSD

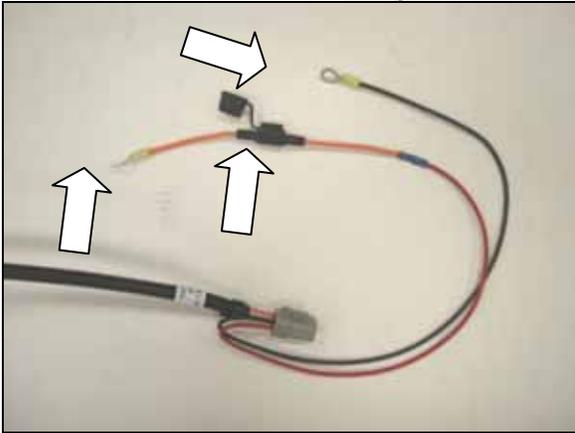
1. Mount the MSD fuel pump booster on the fire wall next to the battery using the 4 supplied self tapping screws. First hold the MSD box against the fire wall and use a marker to mark the location of the four holes. Set the box aside, and drill a pilot hole in each of the 4 marked locations using a 3/32" drill bit. SEE FIGURE 2

FIGURE 2



2. Connect the red wire from the MSD labeled "BATT +" to the supplied fuse holder using a supplied yellow butt connector. Crimp a supplied yellow ring terminal to the other end of the fuse holder and the black wire labeled "BATT -". SEE FIGURE 3

FIGURE 3



3. Connect the grey plug to the grey plug on the lead coming out of the MSD box. Bring the orange and red wires that are in the black plastic loom to factory fuel pump driver module in the trunk of the vehicle.
4. Run the wires across the fire wall to the driver's side of the vehicle and down in the front of the brake booster. Feed the wire down into the fender well alongside the fuel line. SEE FIGURE 4 & 5

FIGURE 4



FIGURE 5



5. Carefully pull back on the black plastic trim inside the fender well to gain access so you can continue to feed the wires to the bottom of the vehicle. SEE FIGURE 8 & 9

FIGURE 8

FIGURE 9

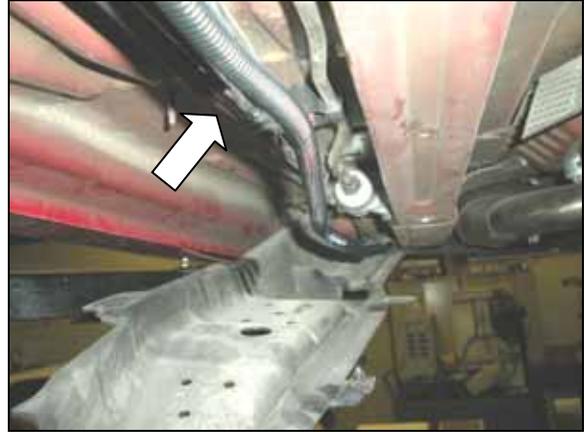


6. Remove the black plastic trim underneath the driver's side that protects the fuel line. This will allow you to gain access and run the wires along side of the fuel lines to the rear of the vehicle. Tie strap the wires the fuel lines to secure it. SEE FIGURES 10 & 11

FIGURE 10



FIGURE 11



7. Locate the grommet underneath the trunk and run the wires into the trunk. SEE FIGURES 12 & 13

FIGURE 12



FIGURE 13



8. Locate the fuel pump driver module that is bolted in the trunk, by the spare tire. SEE FIGURE 14

FIGURE 14



9. Cut the white wire on the harness that goes to the fuel pump driver module. It is the first wire on the harness from the left side. SEE FIGURE 15

FIGURE 15



10. Using the supplied blue butt connectors, attach the red wire from the MSD harness to the white wire on the fuel pump driver module and the orange wire from the MSD harness to the white wire on factory harness. Once completed, tie strap the MSD wires to the harness. SEE FIGURES 16-18

FIGURE 16

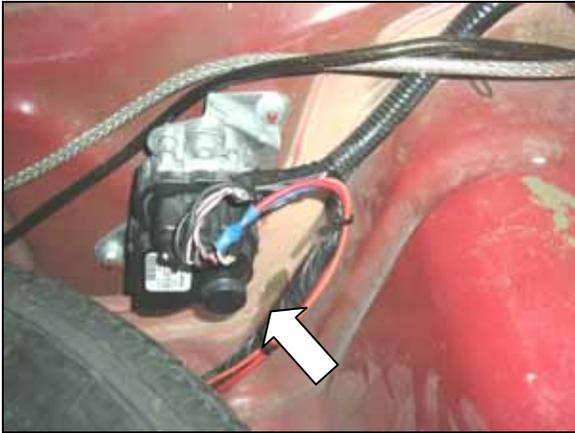


FIGURE 17





FIGURE 18



11. Re-install trunk liners.

CLEAN UP

1. Bolt offset brackets (P/N 22087) to both sides of sub frame with two M10 bolts (P/N 30943) and lock washers (P/N 30805). Bolt factory sub frame brace to offset brackets using factory nuts.

FIGURE 1



FIGURE 2



2. Review these instructions to make sure that all fasteners, clamps & electrical connections have been installed and torqued correctly.
3. Check that all hose routings are free of any kinks or near any hot or abrasive surfaces that may cause wear over time. Adjust or reroute as necessary to provide adequate slack for engine movement.
4. Reinstall the body work and battery in the reverse order of its removal.
5. Refill all fluids (oil, power steering and coolant) to factory recommended levels. The use of synthetic motor oil (with the factory recommended oil weight) is strongly recommended, as it will prolong the life of the turbocharger.



6. The use of premium octane (91+) unleaded fuel is required for proper engine performance and to reduce the possibility of internal engine damage from detonation.

CARB EO, SPARK PLUG GAP, & FUEL DECAL

1. Included with each Turbonetics Mustang GT turbo kit, are adhesive backed decals with the CARB E.O number that is associated with this product, the spark plug gap spec, and the premium fuel required decal. Both the CARB E.O and spark plug gap spec decal is required to be adhered in the engine compartment that is visible and easily located by Smog Check and Service technicians. Turbonetics suggest adhering this label on the factory plastic upper cooling panel, where the hood latch is located. Clean plastic surface first to ensure there is no oil/dirt/debris that will prevent the sticker from adhering properly. SEE FIGURE 1

FIGURE 1



2. Adhere the premium fuel required decal on the back side of the fuel door. Ensure surface is clean before adhering decal. SEE FIGURE 2

FIGURE 2



ECU REPROGRAMMING

1. Plug the included Diablosport up loader into the OBDII port located underneath the driver's side dash. SEE FIGURE 1 - 3

FIGURE 1



FIGURE 2



FIGURE 3



2. Turn the ignition to "ON" position, but do NOT start car. Ensure the "Performance Tune" is highlighted and press the button in the middle on the Diablosport controller to begin. SEE FIGURE 4

FIGURE 4





3. Press "Agree". SEE FIGURE 5

FIGURE 5



4. Press "Performance Tune" then select "Install Tune" and press "Turbonetics 9psi tune" SEE FIGURE 6
NOTE: Selecting "Modify Tune" will **ONLY** let you adjust correction for the speedometer for different tire sizes or gear ratios.

FIGURE 6





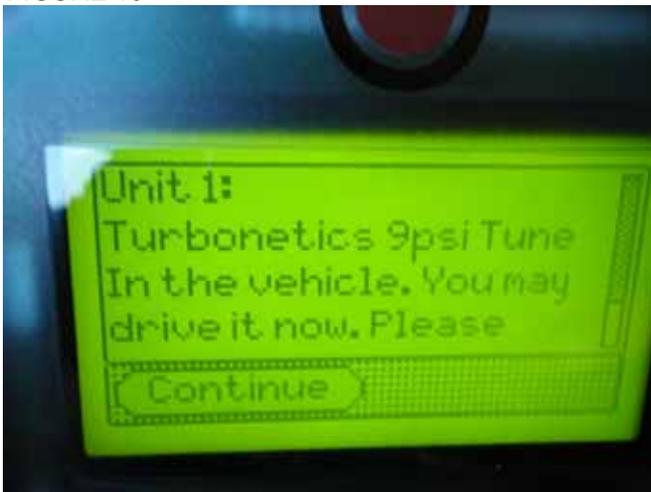
5. Follow the simple on screen directions as it will guide you to reflashing the ECU. SEE FIGURE 9

FIGURE 9



6. When you see this screen that says "Turbonetics 9psi Tune In the vehicle. You may drive it now", it means that the programmer successfully reflashed your ECU. It is now safe to unplug the Diablosport controller. SEE FIGURE 10

FIGURE 10



7. Start the vehicle and check for any oil or coolant leaks prior to a test drive.

Test drive the vehicle, check for oil/coolant leaks again, check all fluid levels and top off as necessary. If you are experiencing any issues of idling, bucking, running extremely rich, or poor performance, ensure that all hose clamps are tight and all hoses are installed properly and that there are no air leaks of any kind in the plumbing from turbo to intercooler to throttle body. If you need any technical support, call us, our tech lines are open Monday through Friday from 8am to 5pm at (805) 581-0333, or go to our website at www.Turboneticsinc.com to our forums under "Tech Support". Enjoy the boost!



“NO FAULT / NO HASSLE” WARRANTY PROGRAM:

TURBONETICS will repair or replace, at our expense, any new TURBONETICS / Spearco products that fail, including products used in racing or competition applications, for a period of one year from the original date of purchase. All turbocharger and cartridge assemblies have a factory installed inline oil filtration device. This filter device must remain in place if any warranty is to be considered under the No-Fault / No-Hassle program. Electrical components that fail due to misuse are not covered under the No-Fault / No-Hassle Warranty Program.

Warranty is limited to TURBONETICS products and does not include progressive or subsequential damage and does not cover removal or installation labor or associated parts. No warranty is made for any other claims for special, indirect or consequential damages including but not limited to component removal or installation equipment downtime, prospective profits or other economic loss.

Warranty will not be granted for recurring damage, malfunction, or failure due to improper installation, misuse, unauthorized repair or alterations, or externally induced physical damage.

Warranty is non-transferable and must be processed via the original purchaser from TURBONETICS.

Remanufactured units, performance upgraded units, and O.E.M. replacement units are covered by a 90-day warranty or the O.E. warranty period.

TURBONETICS highly recommends that the installation of mechanical or electrical parts be performed by trained professionals. Improperly installed products may lead to unsafe and unreliable conditions.

RETURN POLICY:

Only unused and complete merchandise may be accepted for return subject to inspection and acceptance by TURBONETICS. No goods will be accepted without prior return authorization from TURBONETICS. Call for approval and RGA (Returned Goods Authorization) tracking number. No returns will be accepted without an RGA tracking number. No returns will be accepted after ninety (90) days from the original shipping date from TURBONETICS unless approved. All approved returns are subject to a 15% restocking charge – NO EXCEPTIONS. The original invoice must accompany the return. Accepted warehouse / distributor and open account returns will be issued credit only.

RETURNED GOODS AUTHORIZATION TRACKING NUMBER:

TURBONETICS will only accept product returns, repair orders / upgrades, and warranty requests that have been approved and are returned with a corresponding RGA (Returned Goods Authorization) tracking number.

Contact TURBONETICS for approval and the RGA number. Write the RGA number clearly on the outside of the package and include it inside the package. This is very important in allowing us to properly identify and process your request. Failure to comply with this requirement will result in the delay of processing or the product being returned to you.