



INSTRUCTIONS

1996-1999 E36 SUPERCHARGER WITH C38 BLOWER.



Introduction

Congratulations on your purchase of an Active Autowerke Supercharger, and welcome to the AA Tuning family. Your supercharger kit was developed to provide a level of driving enjoyment that cannot be matched.

Enclosed in this packet you will find general guidelines, recommended maintenance schedules and detailed installation instructions for your supercharger. Please read all the material thoroughly and become familiar with our recommendations. If anything is unclear or ambiguous, please do not hesitate to contact us for further clarification. We are here to help.

Operating Instructions for AA supercharged cars

Always allow your engine and supercharger to warm up for at least one minute before placing the car in gear. In colder weather (below 50 degrees Fahrenheit), we recommend at least two-to-three minutes of warm-up time.

Always use the best fuel (93 octane) available. If 91 octane is the only available fuel, add an octane booster if you detect any knocking. Active Autowerke calibrates the software to operate on 91 octane, but some cars may experience slight knocking or detonation. **Excessive knocking will damage the motor**, so pay close attention to any hint of knocking.

On Steptronic or automatic transmission models, we recommend that the transmission be set in "Sport" mode when the car is driven hard. This will allow the transmission to shift more quickly to prevent any excess slippage. Additionally, after driving hard in an automatic-equipped car, you should allow the car to cool off for at least one minute before shutting off the motor. This will allow your transmission fluid to cool off. It is also a good idea to follow this procedure in order for the supercharger to cool off properly.

It is also recommended that you check the supercharger oil level in the reservoir at least once a month. The level should read at the lower dipstick mark with the engine running in neutral or Park.

Following these recommendations will ensure that your supercharger provides many miles of thrilling driving enjoyment.

If you have any questions, please e-mail or call us.

E-mail: aatuning@activeautowerke.com

Phone: 305-233-9300

1996-1999 C38 SUPERCHARGER PARTS











INSTRUCTIONS





BMW M3 E36 1996-1999 C38

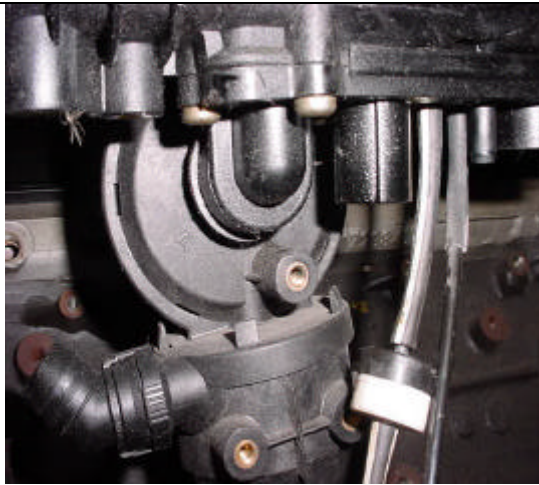
AA Supercharger System

AIR/OIL SEPARATOR – INTAKE VACUUM HOSES – BREATHER HOSE

	<p>Remove stock air box</p>
	<p>Remove engine fan assembly by using a 32mm wrench. -Fan mounting nut has a left hand thread. Remove by striking on the wrench to break the seal, then unscrew the fan -Reinstall fan back before starting engine to prevent overheating. The fan is retained on the supercharger installation.</p>
	<p>Remove screws on both sides.</p>

	<p>Remove eyelets on both sides of core support cover then remove cover.</p>
	<p>Remove HFM Boot then Throttle housing body. Removing the throttle housing body makes it easier to get to the air/oil separator and vacuum lines.</p>
	<p>BREATHER HOSE Remove current breather hose from valve cover -There is a new breather hose assembly in the kit. Using the new fitting with hose, attach to the valve cover breather vent. -The other end of Breather hose goes to # 1 pipe shown in PIPE INSTALL section. -Vacuum line leaving breather hose will connect to Y fitting on grey check valve assembly.</p>
	<p>Remove Air/Oil separator using a 10mm socket There are 2 bottom bolts and one top bolt.</p> <p>SHOWN FOR CLARIFICATION OF MOUNTING BOLTS.</p> <p>DO NOT TAKE OFF INTAKE MANIFOLD.</p>
	<p>Take off breather Hose.</p>

	<p>Install the Brass plug with hose to the Air/Oil Separator.</p> <ul style="list-style-type: none"> -Secure properly with clamps. -On Bottom vent hose of separator, reconnect back hose leading to engine dipstick tube. -This bottom hose must remain attached to the return drain of the oil dipstick
	<p>There is a grey rubber washer inside the intake manifold where the Air/Oil separator was mounted. Remove the grey washer and install the Flat disc provided.</p> <p>-Installing the grey washer after the disc helps keep the disc secured.</p>
	<p>Take the round disc supplied in the kit.</p>
	<p>Place the disc in the air/oil separator hole of the intake manifold.. Then put back the grey washer.</p> <p>DO NOT PUT BACK THE AIR/OIL SEPARATOR UNTILL VACUM LINES ARE CONNECTED.</p>



INTAKE VACUUM HOSES

Looking at the underside of the intake manifold there are (2) vacuum port connectors:

-One will have a in-line check valve already installed.

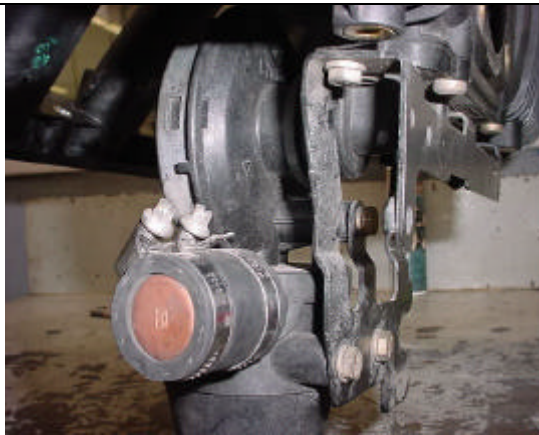
Do not use this vacuum source

-Second will be the other vacuum port fitting on the intake manifold, this fitting does not have a check valve.

-It provides a vacuum source for the fuel pressure regulator.

-Splice this vacuum line and install the "T" connector with the long vacuum hose.

-This vacuum connection will go to the BY-PASS valve.



Place and install the Air/Oil separator reusing back the old bolts to mount.

Remount the throttle body housing.







IDLE VALVE HOSE


Locate the idle valve hose going to the throttle housing.

-Insert the Idle Valve Hose extension that is supplied in the kit.

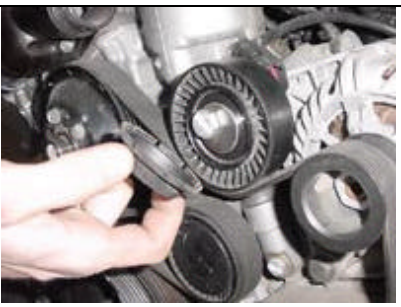


Use back the 45 degree elbow to join the two hoses with the clamps supplied.



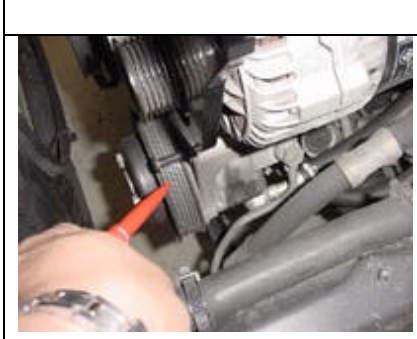

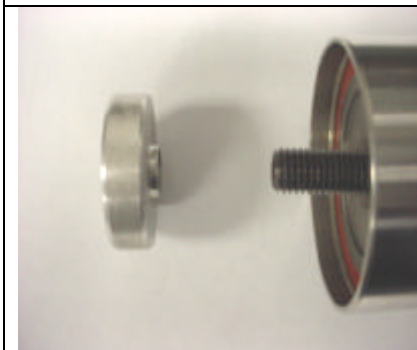
CHARCOAL CANNISTER PURGE VALVE – CHECK VALVE

	<p>Locate Charcoal Canister Purge Valve. -Remove purge valve, it will be relocated.</p>
	<p>Locate hose coming into the purge valve. -Measure 2 ½” from the end of the hose and cut then install the check valve with hose.</p>
	<p>Arrow on the check valve goes towards the intake manifold. -Leave the vacuum line connected -Connect the other end of the vacuum line to the breather hose connection that is on the engine valve cover.</p>
	<p>Slide barb fittings into hoses. Try and keep check valve in a straight position. Tension on the valve will warp it with age.</p>

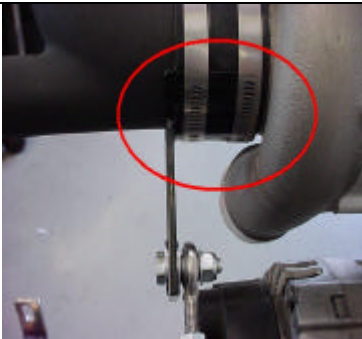
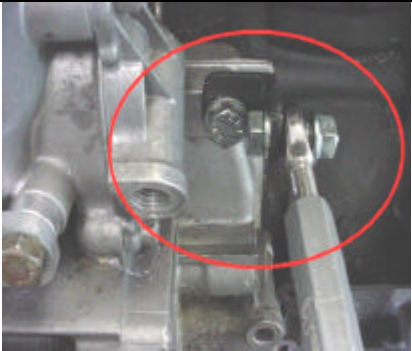

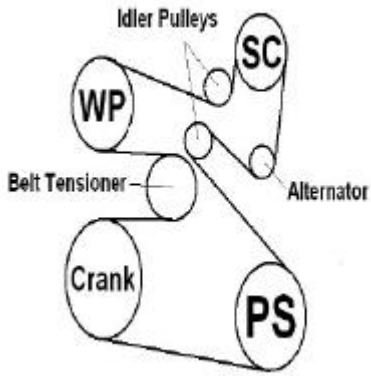
	<p>Reposition the purge valve behind the throttle housing.</p> <ul style="list-style-type: none"> -Reuse back the original check valve bracket and mount in front of the brake master. -May have to bend bracket to help conform to a desirable position.
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SUPERCHARGER BRACKET

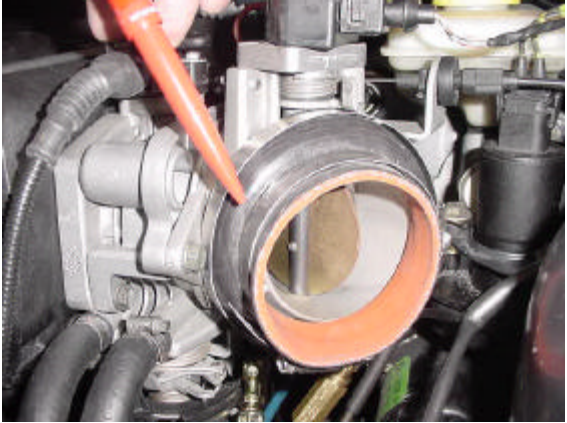


	<p>Remove A/C uni-belt from engine. Both belts are automatically tensioned via tensioner pulleys</p> <ul style="list-style-type: none"> -On each pulley, the center is covered with a plastic cap. Using a small screwdriver, pry off cap to expose the hex key or bolt in the middle. <p>Use 8mm Allen key to rotate tensioner pulley and take off belt..</p>
	<p>Remove idler pulley and tensioner assembly. Make sure to remove tensioner shock with assembly.</p>
	<p>You may have to remove the actual pulley fist to get to one of the three blots that hold the assembly.</p>

	<p>A new tensioner using no shock will replace the original set up.</p> <p>-Do not use the long 8x50mm bolt. Use back the original 8x35mm bolt and a new 8x35mm bolt & washer supplied with the new revised tensioner. Install new tensioner.</p>
	<p>Remove the top alternator bolt 10x150. Remove the bottom alternator bolt 10x160mm. These will not be used back.</p>
	<p>Looking at the P/S pump and bracket, there is an upper bolt that is used to mount the P/S.</p> <p>-Remove the bolt (8x84mm) and replace with a BLACK button head bolt (8x90mm).</p> <p>WILL CAUSE DAMAGE TO BELT IF NOT REPLACED.</p>
	<p>Mount the 130mm bevel bolt in the top hole of bracket. Mount the 160mm bevel bolt in the bottom hole. Mount bracket to alternator and snug down bolts. On some cars you may be able to mount bracket and slide in bolts after depending on proximity of the radiator.</p> <p>Put Never Seize or grease on bolts and torque to 10 ft lbs. 6mm Allen head bolts can strip easily because of the length.</p>
	<p>Mount the bottom idler pulley by first placing the spacer behind the pulley. The ridge on the spacer must sit inside the pulley. Use the 10x35mm Allen bolts and torque down to 18 ft lbs.</p>

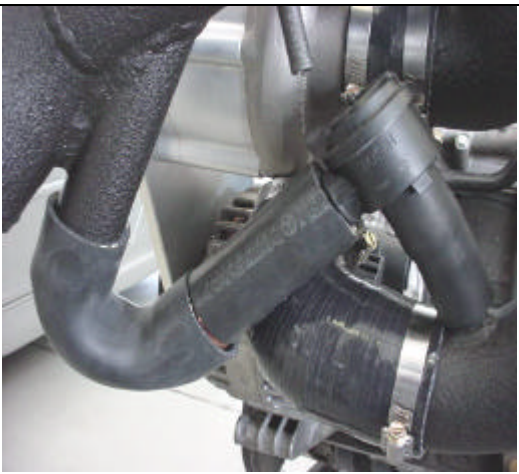
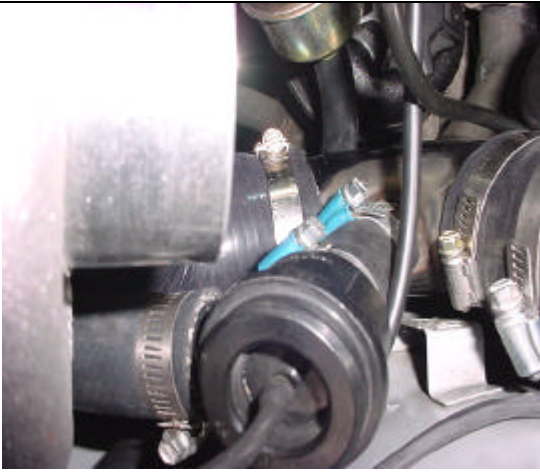


	<p>After installing bracket install blower tighten bolts to 8 ft lbs.</p>
	<p>Install support bracket with new 110mm bolt for oil filter head and 8x16mm for SC bracket.</p>
	<p>A special adjustable brace is supplied with the kit. On some cars the alternator mounts may be uneven due to deviations in the castings. This brace can be adjusted to compensate for any belt alignment problems which may cause belt noise.</p>
	<p>Install bracket to mounting bolt on oil filter head.</p>


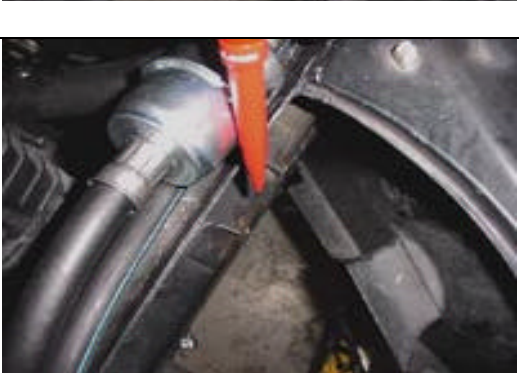


	<p>Mount bracket under both clamps, do not tighten till bar is inserted between both brackets. Insert the adjustable bar and try to position the assembly as straight as possible. Lock clamps and tighten the brackets to the bar.</p>
	<p>Adjust bar till it puts pressure on blower then turn it an extra half turn and lock. If the belt makes noise adjust bar till the noise stops and lock in that position.</p> <p>MAKE SURE NOT TO OVER COMPENSATE WITH ADJUSTMENT THIS COULD CAUSE PREMATURE WEAR ON BELT.</p>
	<p>Mount second idler pulley with spacer and 10x35mm Allen bolt. Torque to 18 ft lbs.</p> <p>SPACER RIDGE MUST SIT INSIDE PULLEY</p>
	<p>Mount 6pkx2289mm belt by using 16mm socket to rotate tensioner and lock with suitable pin. Route belt as per diagram then pull out pin to release tensioner.</p>

SUPERCHARGER PIPES

	<p>THROTTLE HOUSING</p> <p>Install the Custom 3.5"-3.0" Throttle hose to the throttle housing</p> <ul style="list-style-type: none">-There is a special way for this hose to be mounted for maximum airflow.-Rotate the hose until the opening shows the least airflow resistance.-Use the clamp supplied to now secure the throttle housing hose.
	<p>Install the 3.0" 90 degree elbow with a plastic 90 degree barb fitting on the underside</p> <ul style="list-style-type: none">-The Idle Valve hose is connected to this barb fitting. <p>Rotate clamp so that it does not touch SC elbows. Clearance between the 90 degree barb is very close.</p>
	<p>SUPERCHARGER DISCHARGE</p> <p>Install 2.5 inch silicone elbow with opening facing back towards throttle.</p>

	<p>#3 PIPE Attach # 3 pipe to silicone elbow on SC discharge then the other end to the 3 to 2.5 inch reducer on throttle elbow.</p>
	<p>#2 PIPE Install #2 elbow with 3x2 inch silicone hoses.</p>
	<p>#1 PIPE Install # 1 pipe rotate end down behind headlight.</p>

	<p>Attach blow off valve assembly. Side with 1.5 inch hoses goes onto #1 pipe. The other side reduces down to 7/8 inch which goes onto the blow off valve side fitting. The other side of the blow off goes onto the #3 pipe.</p>
	<p>Attach all clamps and tighten. Attach vacuum line from behind throttle body to top off blow off valve.</p>
	<p>Install air cleaner to HFM then HFM to #1 pipe . Arrow on HFM must point towards engine. Push air cleaner and HFM down behind headlight. (Will have to stretch air cleaner around HFM with a small screwdriver).</p> <p>Play with pipes to find the best position for air cleaner to sit behind headlights. On some cars you may have to reposition the horns and remove the original horn bracket.</p>
	<p>If the horn is in the way you will have to relocate the horn to this location.</p>

	<p>Cut bracket off. Use Die grinder, Air saw or Hacksaw.</p>
	<p>Horn bracket removed. This will make more space for air cleaner.</p>
	<p>Attach breather hose from valve cover to #1 pipe.</p>
	<p>Final set up. Replace back alternator vent.</p>



Extend HFM wiring with supplied black box (1.1). Secure black box with tie wraps or two sided tape to suitable area on fender.

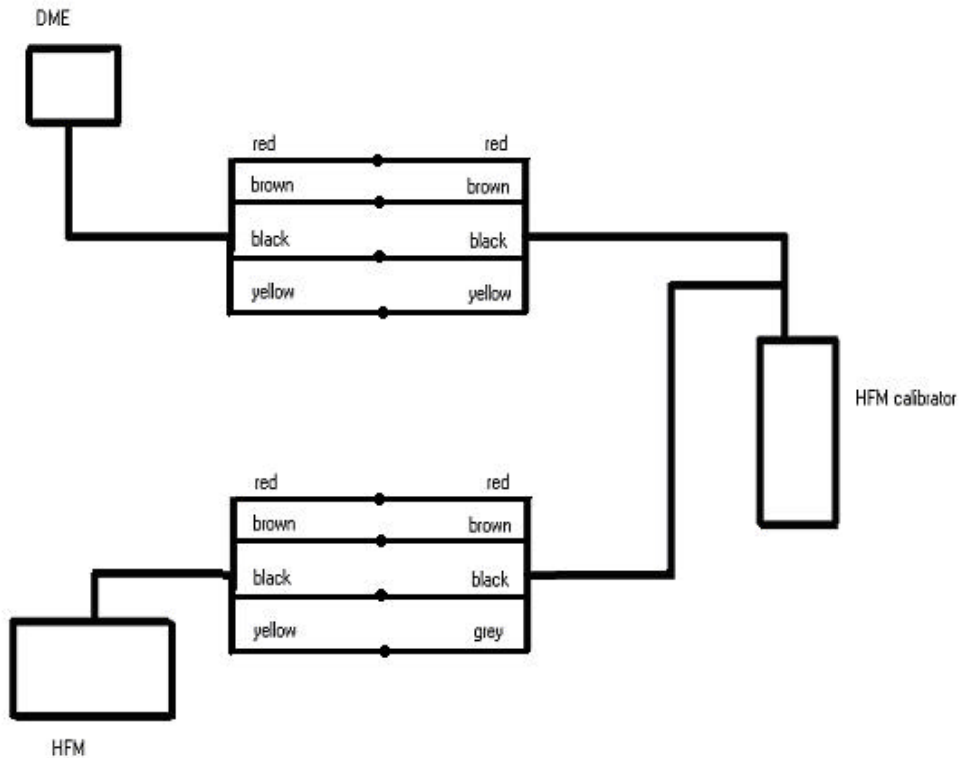
WIRING SCHEMATIC

- Splice HFM wires harness with extension, match color to color
- Crimp and shrink wrap using heat to shrink the insulation.

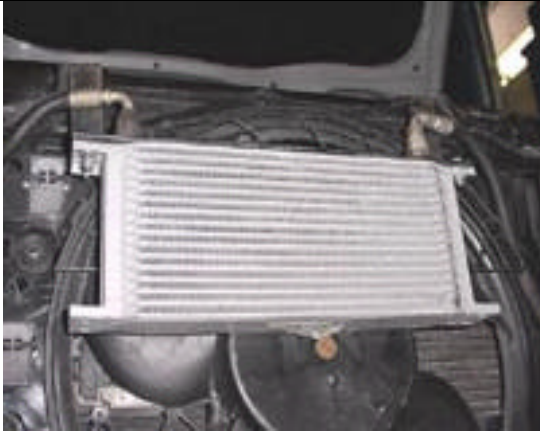
HFM WIRING

Since the Factory HFM is being relocated further forward, the factory HFM wire harness going to the mass meter will require extending.

- Splice and extend the factory harness following the wiring schematic given.



SC OIL COOLER & LINES

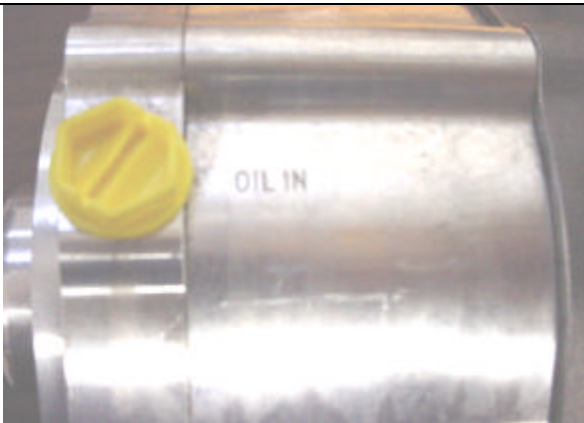


Pre-assemble the oil cooler to the mounting bracket supplied. Slip cooler down behind front grill. If the fit is too tight you may have to remove front bumper to install.

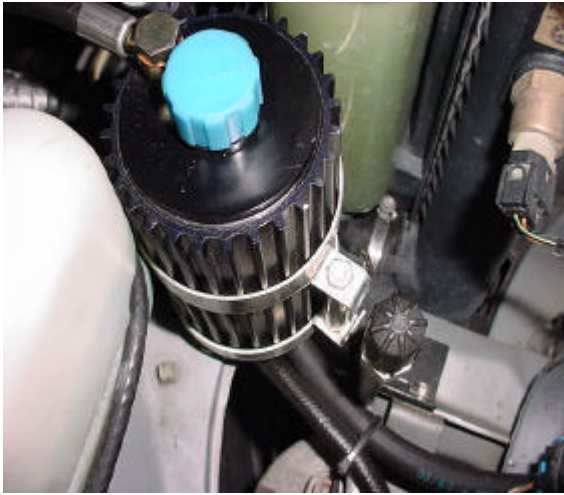
-Line fittings on the Oil Cooler must be mounted on top.



Use the existing holes in the Core Support to mount the oil cooler bracket.



The inlet oil line goes on the drivers side of the SC with the other end to the BOTTOM of the reservoir.
The outlet side goes on the passenger side of the SC with the other end to the oil cooler.



The oil cooler line with filter (arrow towards SC) runs from the BOTTOM of the reservoir behind the passenger head light across the front of the aux fan back through the drivers head light to the SC INLET.



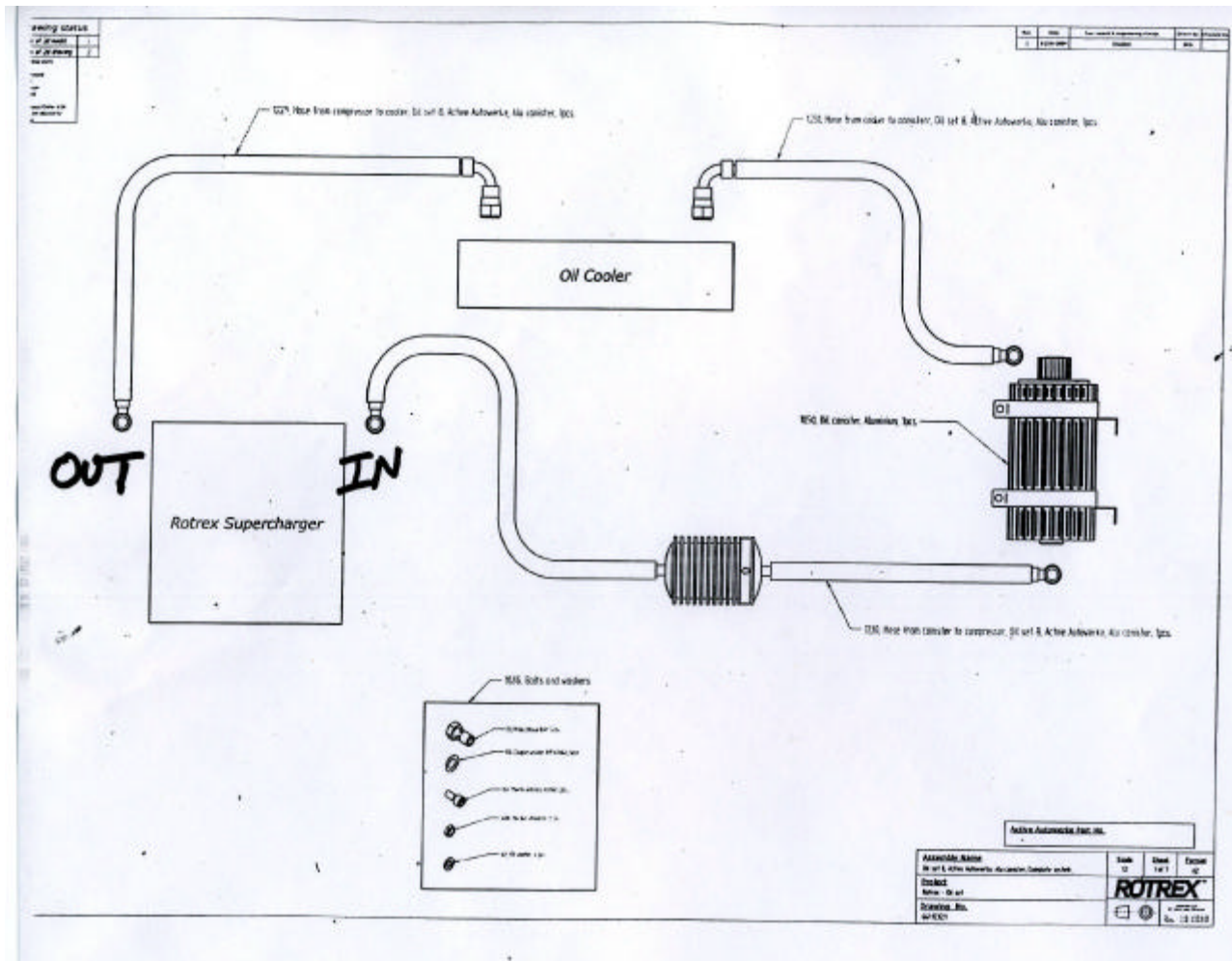
Run the line UNDER the Oil Cooler making sure the bumper can still go on.



Outlet line runs from passenger side of SC OUTLET to the top of oil cooler.








Return line from oil cooler goes to the top of the reservoir.


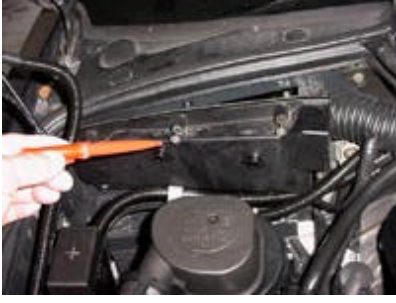



OIL LINE DIAGRAM.




Arrow on filter points towards SC

FUEL INJECTORS - SOFTWARE

	<p>FUEL INJECTORS</p> <ul style="list-style-type: none">-Remove the fuel injector cover.-Pop up the cover using a small screwdriver.
	<p>Using a 10mm nut driver or socket, remove the (2) nuts holding the fuel rail.</p>
	<p>Pull clip on each fuel injector ring.</p> <ul style="list-style-type: none">-Pop up and off the electrical connections OFF the fuel injectors.-Pull out the fuel injectors carefully.
	<p>Remove the factory fuel injectors.</p> <ul style="list-style-type: none">-Lubricate the fuel injector seals going into the fuel rail as well as the seals going into the intake manifold.-Use a small amount of engine oil as a lubricant.
	<p>Reinstall fuel injectors and reinstall back the cover, etc.</p>

	<p>SOFTWARE Remove the Insulated cover by the Passenger Firewall. -This insulates heat from the engine DME.</p>
	<p>Remove the hard plastic cover. This will expose where the engine DME is.</p>
	<p>Disconnect the DME from the harness by pulling the snap up and out. -Have the DME shipped to AA for software uploading to match the SC install.</p> <p>Ship To: Active Autowerke 9940 SW 168 Terrace Miami, Florida 33157 USA</p> <p>305-233-9300 Call a Sales representative before shipping the DME.</p>

FINAL CHECK

	<p>Add fluid to reservoir till it is full, start the car and watch for the level to go down. Add fluid as it goes down. System usually takes about 7/8 of the bottle. With the car idling , screw in the cap then remove and check level it should be at MIN mark. If fluid is higher than this you could have foaming out of the cap at high RPM.</p> <p>If fluid does not go down Turn off car and recheck lines. Inlet line should gravity feed.</p>
	<ul style="list-style-type: none"> -Check belt tension and pulleys, proper routing of all pipes and hose to prevent possible chafing. -Check all vacuum hose connections. -Road test.
	<p>Install AA SC plaque on core support. Use Silicone glue for adhesion or drill and rivet.</p>

AA Tuning Supercharger Maintenance Items

OIL SERVICE	Replace engine oil & filter at least every 3,000 miles with good quality synthetic oil	Mobil 5w30, 10w30 Castrol 5w30, 10w30 BMW Synthetic 5w30 Motul 5w40
OIL FILTER		11-42-1-730-389 Oil Filter 1993 BMW 325i 1995 BMW M3 1996-1999 BMW M3 11-42-1-427-908 Oil Filter 1996-1998 BMW 328i
DIFFERENTIAL	Replace oil with Redline 85W140 GL5 gear lube every 7500-10,000 miles	Redline 85w140 GL5
SPARK PLUG	Replace with factory spark plugs every 10,000 - 15,000 miles	12-12-9-063-428 F7LDCR 1993-1995 BMW 325i 12-12-9-069-877 FGR8KQC 1996-1998 BMW 328i, M3
AIR FILTER	AA SC USES K&N air filters	RU3190 1993-1995 BMW 325i 1996-1998 BMW 328i 1995-1999 BMW M3 RU3130 2001 BMW 330i
SC BELT	Check every 5,000 miles	060895 6PKx2289 with 100mm Pulley 1995 BMW M3 C38 1996-1999 M3 C38
SC OIL	Check oil level every 5,000 miles. Replace with Rotrex friction oil every 40,000 to 50,000 miles or every 2 years if driven less than 5,000 miles per year	6539002 SC traction oil SX100
BRAKE FLUID		BMW Specified 2 Year Interval
COOLANT		BMW Specified 2 Year

	<p>PRINT OUT THIS FORM</p> <p>SEND BACK WITH ECU</p>
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Customer's Name: _____

Shipping Address: _____

Phone Number: _____

E-Mail: _____

Invoice # _____

Model:_____ Year:_____ Trans:_____

V.I.N. _____

Engine type: _____

Please ship your DME to: Active Autowerke
 9940 S.W. 168 Terrace
 Miami, FL 33157
 USA
 305-233-9300

It is advisable to insure this package with your carrier of choice for a value of approximately \$1,000.00 USD.

International Customers are responsible to pay for all customs and duty charges. Instructions on the air bill should indicate this. If not, Active Autowerke has the right to either refuse the package or assess an estimation of the charges and will not release the reprogrammed DME until payment has been received.