



*Audi 4.2L 5valve
Twin Screw
Supercharger system*

ME2-R *INSTALLATION MANUAL*

FOR RACING OR OFF ROAD USE ONLY

INTRODUCTION

Thank you for purchasing the Motodyne ME2 supercharger system for the **5 valve 4.2L** . We have gone to great length to engineer this system to be a true bolt-on system. Please read the entire instruction manual thoroughly before proceeding. ***If there is any part of the installation procedure that you are not comfortable with, please have a professional mechanic install the system. This system has an average install time of 8hrs.***

PLEASE NOTE:

- The photos used in this manual were taken during the installation on a 2001 S8 and a 97 a8. There will be a special "NOTE" listed when there is a variation in the installation procedure.
- New Motodyne supplied parts will be underlined in this manual.

PRE-INSTALLATION STEPS

Prior to installing the Motodyne ME2 supercharger system there are a few steps that are recommended to make the installation as safe and easy as possible.

- Make sure that the engine is completely cool.
- The car should not have been started for at least 2 hours to minimize any residual fuel pressure. This will reduce the fuel leakage that occurs while removing the fuel injector rail.
- Remove the negative battery cable from the battery terminal before and during the installation procedure.
- Please save all parts and fasteners you remove from the car during installation. The system has been engineered so that the car may be returned to its stock configuration if so desired.

INSTALLATION

- 1) Disconnect the negative battery terminal in the trunk of you're A8/S8.
- 2) Remove all plastic engine covers.

- 3) Remove ECU and TCM (transmission control module). (See picture 1-3)



Remove the drip rail cover from the passenger side of the engine compartment to expose the ECM Engine Control Module and TCM transmission control module.



Picture 1

- 2) ECM Engine Control Module shown in picture 2



Picture 2

3) TCM transmission control module shown in picture 3



Picture 3

Remove the ECM and TCM carefully and package them in the FEDEX box supplied with the kit. Insure the two for a total value of 3,000 dollars and send to motodyne.com

Note: the car can not be driven until the TCM and ECM are returned

4) Remove air box intake ducts. (See picture 4-6)



Picture 4

5) Disconnect air intake tube from passenger side airbox picture 4. and opposite side shown in picture 5

THIS AIR INDUCTION HOSE IS NOTCHED FOR ALIGNMENT. TAKE NOTE FOR RE-INSTALLATION.



Picture 5

6) NOTE: On early 1997 A8 models the crossover tube looks slightly different, and connects at the top front corner of each valve cover. Remove and set aside for now



Picture 6

Shown above in picture 6 is a 2001 S8 crossover tube



Picture 7

7) Remove air pump hose from anti backfire valve in rear of intake manifold. (See above picture 7)

8) Disconnect 2 vacuum lines from the right side solenoid. (See picture 8)
Remove the 2 screws that hold the solenoid to the plastic mount, and move to the side.

9) Disconnect the intake air temp. Sensor electrical connector. (See picture)
REATTACH THIS CONNECTOR WHEN FINISHED WITH INSTALL.



Picture 8

Remove the brown plug in harness from the solenoid (see above and below picture 8)



Picture 8

10) Remove the vacuum line from the stock fuel regulator (See picture 9)



Picture 9

11) Locate dual knock sensor disconnects attach to fuel rail. (See picture 10)



Picture 10

12) Disconnect green plug from dual knock sensors. (See picture 11)



Picture 11

13) Disconnect black hose from the "T" connector on the manifold. (See picture 11)



Picture 12

14) Unclip the (8) fuel injector electrical connectors.
(See pictures 13 to 20)



Picture 13

14) Remove the (4) 10mm screws that hold the fuel rail in place. (See picture 14)



Picture 14

15) Pull up on the fuel rail to dis-engage it from the intake manifold. (See picture 15)



Picture 15

- 16) Remove the injector-retaining clips as shown, and pull injectors out of fuel rail. (See picture 16)



Picture 16

- 17) Move fuel rail aside while still connected to fuel lines.

- 18) Disconnect electrical connector from the throttle body. (See picture 17)



Picture 17

- 18) Unplug the PCV tube from the intake tube. (See picture 18)

NOTE: On early 98 models this connector does not exist as pictured. You will need to disconnect a 5/16" hose as well as a smaller 1/8" hose at the bottom of the intake tube. The 1/8" hose barb on the intake tube will be capped.



Picture 18

- 19) Remove the screw holding the intake tube onto the throttle body with a hex wrench. Use a 10mm open-end wrench to prevent the center section from rotating. (See picture 19)



Picture 19

20) Remove the intake throttle body. (See picture 20)

NOTE: On early 1998 models when removing the intake tube, you will also be unplugging the PCV tube. This plastic tube is plugged into the intake tube and retained with a clip.

First, remove the o-ring from the exposed end. Next, remove the retaining clip from the intake tube and pull out the plastic tube revealing another o-ring. Put this o-ring onto the PCV adapter and install it back into the intake tube with the retaining clip. The other o-ring will be used in a later step. (See picture 21A)

21) Disconnect (2) rubber hoses from the rear of the intake manifold. One hose is low on the driver's side rear of the manifold (See picture 21). The brake booster hose is on the top rear of the manifold (See picture 22)

NOTE: Pre 2000 cars will only have the (top) brake booster hose. (See picture 21)



Picture 21



Picture 22

22) Disconnect throttle cable **Move the cable housing to full open throttle to allow slack in the cable to remove it.**

23) Remove the (2) 10 mm screws that hold the cruise control pot in position and move it aside.

24) Remove the intake manifold by removing the (12) screws that hold it in place, and lift it straight up. **BE CAREFUL NOT TO SNAP OFF THE PLASTIC ALIGNMENT PINS WHEN LIFTING STRAIGHT UP OR YOU WILL HAVE TO USE A DRILL AT LOW SPEED TO GET THEM OUT.**(See picture 29)



Picture 23

At this time exercise extreme caution not to let any objects drop into intake ports!

25) Remove 2 nylon manifold alignment pins. (See picture 26)



Picture 24

26) Remove the (2) rubber seals from the bottom of the intake manifold and set aside for later use. (See picture 25)



Picture 25

NOTE



Picture 26

27) Remove (6) bolts that hold the power steering pump/bracket to the engine block. (See picture 34)



Picture 27

28) Motodyne intake fuel pressure regulator vacuum line port in rear of intake manifold. (See picture 28)



Picture 28

2300 ax and 2300AX and R outlet port shown in picture 29



Picture 29
2300AX and R outlet port gasket



Picture 30



Picture 31

Motodyne 7psi pulley



Picture 32

28) 3 5/8th drive for 2300 ax and 2300AX and R-



Picture 33

29) Take the rubber seals that were removed from the stock intake manifold in step 35 and insert them into the grooves on the new manifold. NOTE: In order to keep the seals from falling out during assy., put a small dab of grease in the grooves. (See picture 41)



Picture 34

NOTE: Before proceeding to step 48, be sure that the mating surfaces are clean and unobstructed.

- 30) Lower the supercharger/manifold assembly down onto the engine and secure it with (14) M6X30 socket head cap screws and washers. Tighten evenly in a crisscross pattern. Avoid over tightening. (See picture 35)

Picture 35

- 31) Bolt the throttle body in position using the factory screws and a small amount of sealant on 2000-on (drive by wire) models use the factory spacer between the throttle body and manifold, using sealant on the side without the rubber seal. Do not over tighten. (See picture 36)



Picture 36

- 32) Attach brake booster hose onto the brass hose barb. (See picture 37)



Picture 37

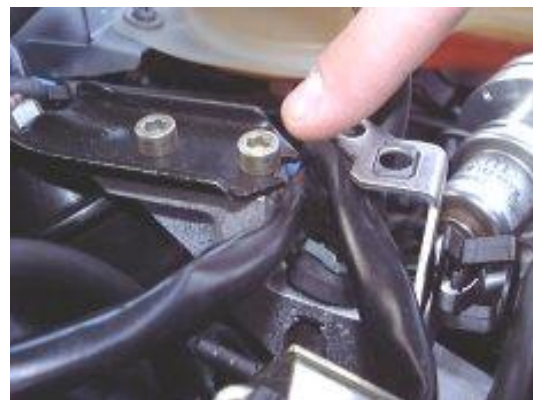


Picture 38



Picture 39

- 33) Attach the cruise control pot onto the new cruise control mount bracket. (See picture)



Picture 40B

- 34) Re-attach the intake tube onto the throttle body. (See picture 39)
NOTE: Early 1998 models will install PCV connector hose at this time using (2) supplied hose clamps. (See picture C)



Picture 41

- 35) Lubricate the o-rings of the (8) new fuel injectors using petroleum jelly. (See picture 42)



Picture 42

- 36) Seat all 8 fuel injectors into manifold. Simply push down while twisting until fully engaged. (See picture 43)



Picture 43

- 37) Carefully line up the fuel rail with the tops of the (8) injectors. It is very important that all (8) cups on the fuel rail are lined up with the injectors. Make sure to position electrical connectors outwards for harness attachment.

Misalignment can cause the o-ring to be pinched and cut. A fuel leak will result. Push down on the fuel rail until it is fully engaged with the injectors.

- 38) Position (4) 2" long spacers between the fuel rail tabs and the bosses on the manifold. Line up with the top of the fuel rail and secure them into place using (4) M6X70 hex head cap screws and washers. (See picture 49) *The bolts will go through the support, fuel rail tabs, and the spacer and screw into the manifold.*

- 39) Plug the (8) injector electrical connectors back in, as well as the throttle body electrical connector, intake air temp. Sensor and the left side solenoid electrical connector.

- 40) Lubricate the o-rings on the Motodyne fuel pressure

regulator



With petroleum jelly. Insert it into the fuel rail and replace the retaining clip.

41) DON'T FORGET TO TIGHTEN FUEL LINES (SHOW IN PICTURE 44)



Picture 44

42) Attach the fuel pressure regulator vacuum hose coming from the supplied hose on the left side of the supercharger.



Picture 45

- 43) Re-attach the crankcase vent tube to passenger side valve cover. On older models re-attach the crossover tube.
- 44) Replace flexible intake duct.



Picture 46

- 45) Install new belt. The belt configuration is the same as stock, except it runs over the supercharger pulley.
- 46) Re-install the air box intake ducts.
- 47) Tie wrap the left side solenoid to the fuel rail.
- 48) Replace the plastic engine valve covers. The center cover will need extensive trimming to fit.



Picture 47

- 49) Re-install the ECU.
- 50) Re-connect the negative battery terminal.
- 51) Do a final inspection of all hoses, fittings, screws, and connectors.
- 52) Be sure all tools have been removed from the engine compartment.

STARTING THE CAR



- First turn the key to the on position to verify that the “check engine” light comes on. In the rare instance that there is no “check engine” light present, do not attempt to start the car. Call Motodyne if this occurs.
- When starting the car for the first time, you should have another person looking under the hood for fuel leaks or any other unforeseen problems.
- **As a precaution, the observer should have a fire extinguisher nearby.**
- Never touch the accelerator pedal before or during cranking the engine.

MAINTAINENCE

- **USE ONLY SUPER UNLEADED FUEL** (Minimum octane 92)
- Race fuel (**100+octane**) should be used on track days.
- The Lysholm supercharger is internally lubricated with synthetic lubricant. The Supercharger oil level should be checked every 10,000 miles. To check the oil level, simply remove the oil plug on the front of the SC unit. The oil should be just at the bottom of the oil fill hole.



USE ONLY MOTODYNE/ LYSHOLM LUBRICANT WHEN ADDING OIL.

- **OTHER OILS WILL DAMAGE THE UNIT AND VOID THE WARRANTY.**
- **SEE MOTODYNE.COM FOR PROPER WEIGHT OIL**
- Change your engine oil every 3000 miles.
- Regularly inspect the fasteners for tightness.
- Periodically inspect the serpentine belt for wear.
- MPT recommends using a spark plug one(1) heat range *colder* than stock in geographic areas with very high temperatures, or when the car will be driven on the track (*As tested in Arizona*).

CONCLUSION

We hope that you enjoy your new MOTODYNE ME2 supercharger system. If you have any questions please call us at: 856-988-8477

We greatly appreciate your business!

MPT LIMITED WARRANTY

THE WARRANTY

The original purchaser of the MPT ME2 Racing & off Road supercharger system is warranted against defective materials and workmanship for one year from date of purchase with unlimited mileage.

WHAT VOIDS THE WARRANTY

- Incorrect installation and/or maintenance: The MPT ME2 supercharger system must be installed and maintained as per the prescribed routine maintenance procedure as outlined in the installation guide.
- No proof of purchase: At the time of a warranty claim, buyer must provide proof of purchase (original receipt or invoice).
- Incorrect use: Any damaged, abused, or modified supercharger units or system parts will not be warranted this includes pulley swaps.

EXTENT OF WARRANTY

any defective part properly returned to MPT will be replaced by MOTODYNE.COM.

MPT will not be responsible for any other expenses incurred by the customer under the terms of this warranty, nor shall it be responsible for any damages consequential, special, contingent, or otherwise; or expenses or injury from the installation or use of the supercharger system. Any parts returned to MPT shall be sent at the customer's expense along with a proof of purchase. MPT reserves the right to determine whether the terms of the warranty, set out above, have been properly complied with. In the event that the terms are not complied with, MPT shall be under no obligation to honor this warranty.