



## **JHM Boost Gauge**

### **99.5-01 B5 Audi A4 and 00-02 B5 Audi S4**

#### **Contents of package**

1. 1 – JHM Boost gauge 0-30 Hg and 0-30 psi with Red (B5 S4) or White (B5 A4) lighting
2. 1 – JHM CNC modified OEM vent with JHM gauge preinstalled
3. 1 – Female brass fitting for the boost gauge with spring lock tube fitting built in (preinstalled)
4. 1 – 8ft of clear tubing for connecting to your engine
5. 1 – Packet of grease (recommended to put on the tubing before pushing it into the fittings)
6. 1 – Tube fitting (brass) and black vacuum T (preassembled) for taping into the vacuum hose at the engine.
7. 1 – JHM proprietary electrical pigtail with connector for connecting to the gauge for lighting.
8. 4 – Feet of black wire for the lighting (NOTE: our manufacture uses black for + 12volt not ground)
9. 4 – Feet of white wire for the lighting (NOTE: our manufacture uses white for the ground)
10. 2 – Red butt connectors for connecting the two 4 feet lengths of wire to the pigtail
11. 2 – Red ring terminals for connecting the black wire to the 75x power and the white wire to ground.
12. 4 – Zip ties for miscellaneous fastening for a cleaner install.

#### **Required tools**

Medium sized flat head screwdriver, 8mm and 10mm sockets and ratcheting (an extension helps as well), Wire Strippers / Crimpers, Wire cutter or scissors, X-acto knife or roughly a 7/16" to 1/2" drill bit and a drill.

#### **Installation**

While the install is rather straight forward, please review these instructions carefully before performing the installation. If you do not feel comfortable installing this kit on your own, please have it installed by a professional.

1. Start off by removing the factory vent by popping it out from the sides with the flathead screwdriver. Pop one side, then the other. This is sometimes tricky and may require the use of 2 screwdrivers, 1 to pry and one to keep the other side of the vent out that was popped previously. Also be careful not to gouge or scratch your center vent assembly. NOTE: Our supplied picture and our instructions detail an installation of the gauge into the left most center vent, however the gauge kit can be installed in any of the 3 center vents.



2. Next, remove the whole center vent housing by grabbing the assembly through the open vent hole and pulling outwards from the dash. This is sometimes easier to do if you remove all three vents so you can use 2 hands. NOTE: There is wire for the vent closing roller at the left end of the housing, so don't pull it out all the way or you could damage this wiring. This wire does have enough slack to allow you to pull the entire center vent assembly out and let it hang off to the side. Just don't pull too hard and break it.



3. Remove the fuse panel cover on driver's end of dash and then the driver side lower dash panel below the steering column. There are four 8mm bolts that fasten the lower panel to the dash (see arrows in pic below) with two of them hidden behind rectangle trim pieces on the panel. Pop the trim pieces out with flat head screwdriver to access these two bolts.



4. Drill a 7/16" to 1/2" hole in the left rear corner of the vent opening. If you don't have a drill you can use an X-acto knife. The vent opening has some sharp edges, if you are concerned about this put some masking tape down on the opening edges to save your knuckles. There is 3-4" of empty space behind the vent ducting, so do not worry about hitting anything immediately upon drilling, but still be cautious.



5. Using 1 red butt connector crimp the white 4 foot long wire to the JHM lighting wiring pigtail. Then repeat this with the black wire. Next, tape the ends of the white and black wires and tubing together and feed all three upwards through the hole in the vent opening and then grab them from the other side. The wires should be pulled down to the floor for now where the pedals are located. The tube should be pulled through further since it has to go all the way to the engine bay. Make sure that you leave slack at the vent (about 1 ft) so you can hook up the gauge later.



6. Strip the end of the white and black wire ends that you pulled through under the column and then crimp on a red ring terminal to each. Make sure keys are out of ignition and the car is off then install the BLACK wire at terminal 75X

below relay panel (yes the black wire). You will use a 10mm socket to undo the nut and then slip the ring terminal over the stud then retighten. This will turn the gauge lighting on with the ignition key, just like the factory gauges.



7. Attach the WHITE wire with the ring terminal under the 8mm upper fuse box bolt (See pic below).



8. Now open your hood and then open up the ECU housing. Start by removing the black, flat perforated trim piece that runs in front of the windshield and covers the battery. First remove the rubber weather stripping in front of it by pulling forward towards the front of the car. Then remove the trim by sliding towards the front of the car and out. In front of the driver side of the windshield there is a black box in the in the area under the cover. This is the ECU housing and the top is held down by five 8 mm hex head bolts. Remove all 5 of them, the rears are a little tricky and usually a 1/4" drive ratchet with a universal joint helps, also different length sockets as well. To better access these bolts the plastic trim underneath the wipers must be loosened by popping off a silver clip on driver side (this is missing on many cars). This will allow the trim to be lifted up enough to better access the ECU covers bolts. Once all 5 bolts are out pull the cover off the black box. You will then see the ECU in the box. It is silver and has 2 big wiring harnesses going into it.

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Next pop off the large metal clip holding the ECU in its box with a flat head screwdriver. Lift the ECU out of the housing with the wiring harnesses still attached to make more room. Now set up a light to shine down into the wiring harness and under the dash. Next go back to the area under the steering column and feed the end of the boost hose up to the ECU box. Make sure the hose clears the pedals and steering when routing it under the dash. Also make sure all your wiring clears as well.

9. Note the rubber nipples at the middle 2 arrows in the picture below. Cut the ends off of these rubber nipples with your wire cutters and route the boost tubing through them. You may have to slice the openings a little wider with the X-acto knife to fit the tube, or use some grease. Route the other end of the tube to the far left arrow in the picture below, that is where the tube will connect to the engine. Note: S4 engine bay is shown in this pic, but locations for the A4 are similar.



10. Under the hood, locate the fuel pressure regulator hose by the 2 arrows in the pic below. (This hose is 3mm and attaches to the metal fuel pressure regulator can next to the intake breather you can see that is disconnected in this pic). Cut the hose and insert the supplied T fitting. You may have to use a little WD40 to help the hoses slip over the fitting ends. Then use 2 of the included zip ties to make sure the hoses won't pop off the T fitting. Then insert the tubing into the spring lock fitting as indicated by the upper most arrow (it is recommended to put some of the supplied grease on the tube prior to fitment for longevity of the seal and better overall sealing).



11. You now need to remove the flap on the back of the center vent assembly to make room for the back of the boost gauge. We decided we would sink the boost gauge nicely into the vent and get rid of this flap instead of having the boost gauge protrude forward from the vent just so you can shut the vent off. SEE SUPPLEMENT on the last page of the instructions if you insist on keeping this vent shut off flap.



12. Now reinstall the center vent assembly back into the car and make sure the lighting wiring and the tubing for the boost gauge are fed through in the appropriate spot. Then connect the wiring connector to the gauge and slide the tubing into the spring lock fitting on the back of the gauge. It is recommended to put some of the supplied grease on the tube prior to fitment for longevity of the seal and better overall sealing. Then pop the JHM vent and boost gauge assembly into the vent assembly assuring the metal clip on the vent is to the right. Make sure you have just enough slack on the tubing and wires, but not too much that it pushes the gauge downward.



13. Now you are almost complete with this installation, other than some final testing, cleaning up, and organizing of the wires and gauge tubing. Prior to finalizing everything you should now check the operation of the gauge at this time. So just start your car and let it idle, you should see between 15-20 in/hg of vacuum (it depends on engine wear and your elevation), and the gauge lighting should also turn on and off with the key. If everything is installed correctly, reassemble the driver's lower dash panel and all under hood items. The excess tubing and wires can be looped and stored under the lower dash panel, you can use the 2 extra supplied zip ties to aid in this clean up. Make sure there is enough slack in both so that none of the wires or tubing are rubbing on anything or crimped.



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You are now DONE! Enjoy your new boost gauge and feel free to email us at [sales@jhmotorsports.com](mailto:sales@jhmotorsports.com) with any questions or concerns.

#### **SUPPLEMENT FOR VENT CLOSING FLAP.**

If you insist on keeping the flap for closing the vent then here are some pictures to aid in this modification. As previously stated we decided we would sink the boost gauge nicely into the vent and get rid of this flap instead of having the boost gauge protrude forward from the vent just so you can shut the vent off. It looks better when fully assembled this way in our opinion.



As you can see you can use the gauge installed with the wires and the tubing to put marks on the flap for better fitment. As you can tell we over cleared this one. It is easiest done with a grinder or cutoff wheel since those will cut through the plastic like butter.

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In this last pic you can see that we drilled 2 small holes in the upper and lower frame then put zip ties through them loosely. This can serve 2 purposes. 1 would be to help keep the wires away from the closing flap. 2 would be to allow for tilt adjustment of the gauge. If you tighten the bottom zip tie up it will tilt the gauge up and if you tighten the top zip tie it will slightly angle it down since the wire is a lot more flexible than the tubing.



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