

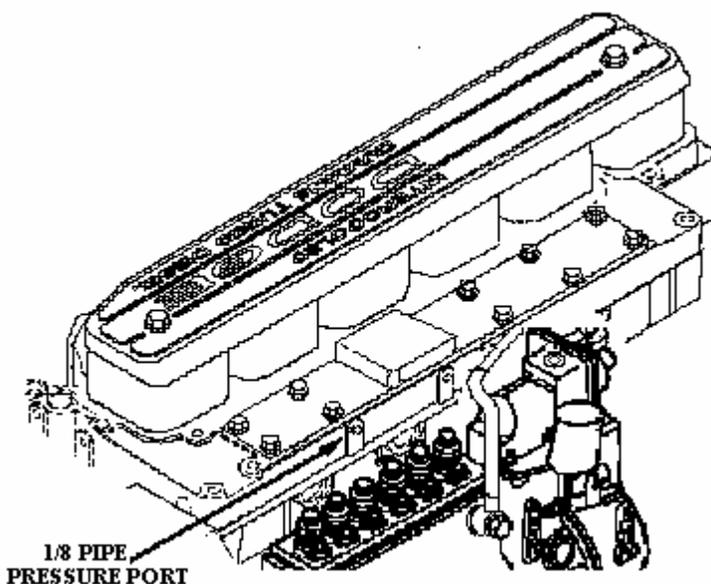
## **TST Products Inc.**

### **Boost Gauge Installation Instructions for 1994 and newer Ram Diesels**

The boost gauge kit comes with all the hardware needed to mount and make the gauge operate except for installation tools. The following items will be required:

Medium sized regular screwdriver	Small Phillips screwdriver
5/16 inch or 8 mm open end wrench	3/8 inch or 10 mm open end wrench
9/16 inch or 15 mm open end wrench	Electrical tape

1. Determine a mounting location for the gauge readout unit and mounting cup. It is suggested that the gauge be mounted for easy viewing without the need of taking eyes a long way from the road, yet never let the gauge block forward view of the road. Remember that you also need an easy path to run the boost tubing and dash lighting wires to the unit. On top of the dash near the left side in the region not wiped by the driver side windshield wiper is recommended for both easy viewing and access to wiring. Place the gauge such that its face is in the same focal plane (about the same distance from the driver's eyes) as the other dash instruments. The mounting cup can be attached with the supplied adhesive or Velcro when mounted on top of the dash. If suspending the cup under the dash, screws are suggested rather than adhesive. **NOTE:** If you use the adhesive patch supplied, be sure you have the cup exactly where you want it before pressing the adhesive in place as it is nearly impossible to remove. Using Velcro allows easy removal for bulb/wiring service plus it allows easier repositioning of the gauge.
2. Next locate the boost pressure port on the side of the intake plenum (see figure below). The pressure port is a 1/8 inch pipe tapping located on the side of the head near the injection pump, below injection lines. (**NOTE:** On the 24 Valve the boost pressure port is a 3/4 inch pipe plug requiring a 1/2 inch square drive ratchet extension for removal and is located on the side of the intake plenum rearward of the fuel filter bracket.) Leave the injection lines in place. Using a 7/16 wrench or socket, remove the 1/8 pipe plug sealing the pressure port. Place Teflon tape or thread sealant on the pipe threads of the male brass 1/8 pipe to 1/8 gauge tube fitting supplied with the kit. Take care **NOT** to lose the small compression sleeve under the hex cap on both brass fittings supplied. Using a 7/16 wrench install the male brass fitting into the pressure port on the side of the head. (**NOTE:** On the 24 Valve install this brass fitting into the 1/8 to 3/4 pipe adapter supplied, then place thread sealant on the 3/4 pipe adapter and install this assembly in the intake plenum port) Install one end of the 1/8 gauge tubing through the hole in the hex cap into the brass compression sleeve, you may need to remove the hex cap to get the tubing to fit into the brass compression sleeve. Using a 3/8's wrench carefully tighten the brass hex cap which compresses the compression sleeve on the tubing, tighten only enough to keep the tubing from easily pulling out. Over tightening may destroy the compression sleeve.



**FRONT DRIVER SIDE VIEW OF ENGINE**

3. Route the gauge tubing toward the firewall taking care not to kink tubing and to keep it away from hot and moving parts. Route the tubing to and then through the firewall piercing a large rubber grommet in the firewall beside the brake booster canister. From under the dash, retrieve the gauge tubing and route it through an opening in front of and about 6 inches above the fuse block such that the tubing comes out on top of the dash near the left windshield pillar.
4. Route the tubing through the hole at the lower back of the gauge cup to the inside of the cup.
5. Remove the shipping caps from the pressure gauge, place Teflon tape or thread sealant on the male 1/8 pipe thread on the back of the gauge.
6. Using a 9/16 wrench install the brass female 1/8 pipe to 1/8 tubing fitting on the back of the gauge. Insert 1/8 tubing through the hole in the brass hex cap into the brass compression sleeve. With a 3/8 wrench lightly tighten the hex cap until the tubing remains in the fitting when lightly pulled on.
7. Install the lamp into the back of the gauge.
8. Route the two wires for the gauge lamp through the hole in the gauge cup along the same path used for the tubing toward the vehicle fuse block. Attach one of the two wires for the instrument bulb to a good metal ground and attach the other wire to the fuse protected side of the dash illum 5A fuse in the fuse block. (Use a test light or volt/ohm meter to determine which side of the fuse is protected. Using this fuse as a power source dims the gauge lamp when the instrument panel is dimmed. Connecting to the lower side of the fuse protects the gauge lamp circuit with the vehicle 5A fuse. **NOTE:** Paint is sometimes used on the instrument bulbs to match lighting color to stock gauge lamp color. If gauge lights are too bright, you may need to add more paint to the bulb. If lamp is too dim you may need to remove some paint.
9. Cover all exposed wires above the dash with the split convoluted harness cover provided, sliding one end of the harness cover into the gauge cup and the other end out of sight toward the fuse block.
10. Reassemble the gauge into the cup per instructions supplied with the cup. Adjust cup so that it is easily visible while driving.
11. Turn on parking lights to verify the gauge bulb works and dims when the dash lights are dimmed.
12. Note the boost reading on the gauge before starting engine. It should read the minimum reading for this gauge. At idle and light load the reading should remain at minimum. Drive unloaded vehicle at 55 mph on the level, boost should read 4-8 PSI. The boost should climb quickly to its maximum under full throttle acceleration. The maximum boost on a stock engine may be 16- 25 PSI. If the TST Power Kit has been added, maximum boost can be 30 to 40 PSI. If the boost is substantially below these values, check to insure gauge tubing or fittings are not leaking, then check for vehicle air leaks in the charge air cooling circuit or plugged air cleaner. Boost significantly above these values may indicate a stuck or non-functioning wastegate valve, or you may be making much more power than normal.