

We recently had the opportunity to install a gauge system in a Ford Super Duty pickup. The truck's owner was very concerned with protecting his investment and wanted a set of gauges that would monitor all the vital engine statistics. The Dakota Digital ODYR-25-1 includes exhaust gas, boost, and oil temperature all in one 2- 1/16" gauge. We also decided to use an aftermarket steering column mount which allowed him to see all the information at a glance.

Before getting started on the installation, we took a look at what was included with the ODYR-25-1 package. The package includes the 2- 1/16" multi-function gauge, the sensors for exhaust gas, turbo boost, and for oil temperature, a weld on bung used to mount the exhaust gas sensor, and the control box 'brain'.



The gauge installation was fairly straightforward and as always with any electrical installation we started by disconnecting the vehicle's battery negative connection as a safety precaution. Next, we started looking for a suitable location to mount the sensors. The turbo boost sensor needs to be connected to a main vacuum line, we found a suitable location near the turbo on top of the engine near the firewall.

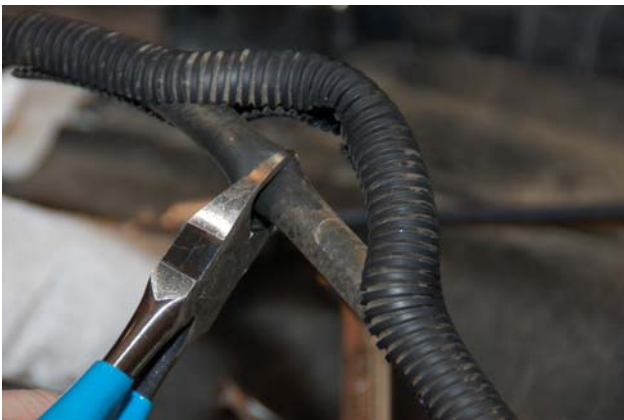


In this application, we needed a vacuum line “T” fitting, some adaptor hardware, a short piece of vacuum line and vinyl spray paint (used to later) which were picked up at the local auto parts store.

To ensure accurate readings and no computer fault codes, it's important to get a tight seal on the connections. We used liquid thread sealant on the connections for the Boost sensor.



Next, we cut into the factory vacuum line and installed a “T” connector, a short piece of new vacuum line, and the sensor.

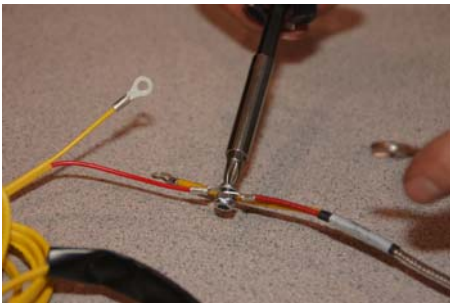


Once the connections were made, the sensor was tied up with the rest of the stock wiring to make for a very clean installation.

Next on our installation list was installing the exhaust gas sensor. We found a prime location at the bend on the base of the exhaust manifold which allowed plenty of access to use a center punch, drill a hole for the sensor, and thread the hole with a tap set. The included weld in bung can also be used by drilling a 1/4" hole for the sensor probe and welding the bung over the opening. Once the manifold was drilled and tapped we installed the threaded adaptor.



Next, we connected the thermocouple wire extension harness, sealed the connections with heat shrink, threaded the sensor into the adaptor on the manifold, and routed the wire up into the engine compartment.



Now it was time for the oil temperature sender installation. We decided not to drill and tap the oil pan for this installation, but instead opted to drill the oil pan drain plug.



This provided for a clean, quick installation, with no worries of contaminating the new oil with any metal shavings. We then made the connection for the sender and pulled the wire up into the engine compartment area. The connector used is easily disconnected to access the drain plug for future oil changes.

Next, it was time to locate a place to take the wires from the senders through the firewall into the vehicle cab. Fortunately, there was an existing empty grommet readily available that we made use of.



Next we need to prep the Steering Column mount for installation by painting it with Vinyl & Fabric spray paint to match the vehicle interior. We removed the screws and the top of the stock plastic steering column cover on. We then slid the gauge into the newly painted mount, secured the bracket, and were ready for the wiring stage.



The first electrical connection we made was a fused 12 volt electrical source, and one of the best sources for this is at the back of the fuse box. In the picture below, you see someone added connections to the fuse box prior to us, and they used connectors that connect directly at the fuse. We chose not to use these because generally these connectors don't provide a good quality connection and can possibly even damage the fuse box. The important thing to remember when making any fuse box connection is to connect to the cold side of the fuse. It's simple to identify this connection because it loses power when the appropriate fuse is removed.



After the 12 volt connection was complete, the negative ground connection was made on a steel support next to the fuse box area.



We then chose a location above the emergency brake area to mount the control brain and then set the brain on the floor below for ease of wiring. We pulled all of our sensor, power, and gauge wires over to the control brain location, and proceeded to make the wiring connections per the wiring diagram.

Once the connections were complete, we secured the control brain, reassembled the plastic panels, and were greeted by bright teal fluorescent display that showed readings for exhaust gas temperature, and turbo boost at a glance and transmission oil temperature with the push of a button. The best part is all this was the entire installation was completed for under \$500!

