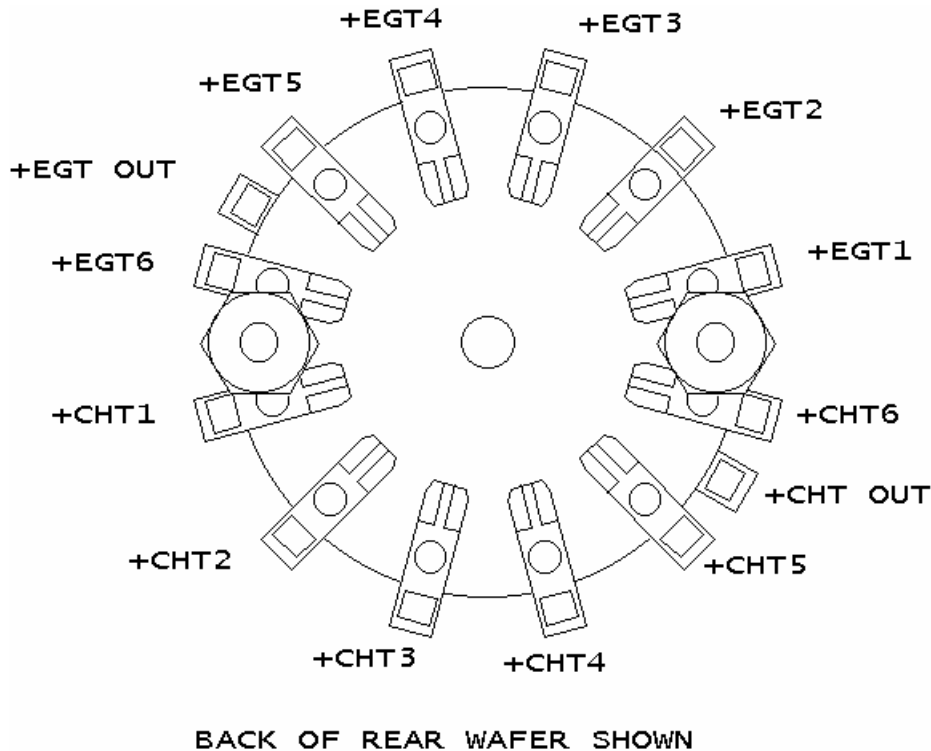


The PSA211 EGT/CHT switch enclosed will switch **BOTH** EGT and CHT at the same time for up to six cylinders. The following are notes/suggestions on its use:

1. There are two rings with stop pins under the shaft nut that determine how many cylinders the switch will handle. The switch is set up for two cylinders. The top ring and stop pin can be turned to allow for up to six cylinders. To adjust, remove the shaft nut, lift the top ring and stop pin and turn it two positions clockwise for four cylinders and four positions clockwise for six cylinders. Replace the shaft nut.
2. The switch is divided into wafers, a front and a back, with each wafer divided into a top and a bottom half, using the screws/nuts as the dividing line between top and bottom.
3. Each wafer half has six solder tabs on one side of the wafer and one solder tab on the other side. The single tab is the output that will connect to the FMONITOR. Use as many of the six tabs as necessary for each thermocouple. You can see the switch connect to each of the six tabs (or how many you have the switch adjusted for).
4. Each wafer half should switch a particular group of thermocouple leads. One wafer for positive EGT and CHT, and the other wafer for negative EGT and CHT. We recommend that you use the back, top wafer half for positive EGT and the back, bottom wafer half for positive CHT as shown in the drawing below. The negative leads of the thermocouples would then go to the front wafer. The -EGT1 thermocouple lead would connect to the tab on the front wafer RIGHT NEXT (behind) the +EGT1 tab shown. This keeps the leads from each thermocouple next to each other around the switch to keep from producing a rats nest.



MORE TIPS:

Switch soldering: Our TC (thermocouple) sensors have long enough leads to reach the monitor or multiplex switch without adding any additional leads. However, soldering TC wires to the switch is difficult as the materials just don't take solder well. The extra heat may cause the switch contacts to lose their "spring". We recommend ending all the TC leads about six or eight inches short of the multiplex switch. It is OK to shorten the leads. That is why we supply the shrink tubing and label separate so they can be applied over the probable "sticky" ends of the shield that needs trimming back when shortening the leads. We also supply two pair of male/female quick-connects with each TC. Crimp these onto the TC leads, using a male for all the positive leads and a female for all the negative leads. Then use 8" pieces of standard twisted pair wire (shielding not necessary here) soldered to the switch lugs per the instructions that come with the switch. Bundle all the CHT leads together (marked such as C4, for CHT # 4 cylinder), cut to length so the bundle ends about 6" from the switch, and install corresponding male/female crimp terminals that will properly match the TC's crimp terminals. It is easier to solder the standard wire to the switch and forming a harness before installing the switch. If a TC ever needs replacing, you can just unplug it. Be sure to label all switch wires and ends of TC leads so number one cylinder TC gets connected to the number one wire harness on the switch.

Routing TC wires: Since TC operation is dependent on measuring very small voltages, they are the most prone to interference from noise sources, possible causing the readings to jump around rather than being steady. Since the TC leads are already shielded with the outer stainless steel braid, and grounded at the engine, the shield does not need to be connected to anything where it ends at the monitor or switch. A shield is pretty good at stopping noise from getting into the interior wires when the source of the noise is airborne radio frequency, but is totally vulnerable to noise being injected by magnetic coupling like a transformer. This is when shielded cable runs alongside (basically touching) other cables carrying noisy magnetic fields from P leads, alternator, strobe, mags etc. Thermocouple leads are definitely leads that you would prefer to have pass through the firewall in their own opening, not combined with high current cables.

EGT installation: The ideal sensor location is 2-4 inches from the cylinder flange, with multiple sensors all at the same distance.