

NASSA TC LOGGER-USB

PRESSURE TRANSDUCER CONNECTION

To read the Chamber Pressure in a motor you need to connect the Motor Case to the Pressure Transducer, which in turn connects to the computer via wires. The link between the Motor Case and the Transducer is simply a high pressure hose used with a common grease gun. They're about 12" long and can be purchased in any Automotive Store, Lowes, Home Depot or any Hardware Store.



The Pressure Hose should be marked on the outside reading a limit of something like 4,000lbs. They have standard 1/8" NPT threaded end. Some may come with grease fitting on one end, which can be discarded.

This line is available at nearly any Automotive Parts Store, Lowes, Home Depot or McMaster Carr.

LOWES (Task Force)	0317476
McMASTER CARR	1195K51

You will need to purchase two Brass Fittings to adapt the 1/8" NPT to 1/4" NPT. One needs to be a male adapter, the other a female adapter.

One end (male) threads to the Brass Fittings on the Forward Closure of the Test Motor. The other end (female) threads to the Pressure Transducer.

Regular Automotive Grease must be applied to the interior of the Pressure Transducer. This can NOT have air bubbles in it. Apply a little at a time with your finger and poke a tooth pick in occasionally to break up air bubbles that may be captured. Piercing with the toothpick will open any trapped air bubbles. When you stop seeing them open it is full.

Connect the Pressure Hose to the Transducer. Do NOT put any grease in the Pressure Hose. Then connect the other end to the prepared Test Motor Case and you are ready for firing.

You will be able to reuse the set up over and over however, occasionally check the amount of grease in the Transducer and add more if necessary. The "un-protected" Pressure Hose will last for quite awhile. It only contains hot pressure; no flames enter it as all flame exits the nozzle end. All you have at the forward end is trapped pressure which the Pressure Transducer is reading.

Under "normal" conditions the above Pressure Hose holds up rather well. With consecutive burns, or very high pressures, the High Pressure Hose may deteriorate and blow outs of the outer rubber cover may occur. While it is best to have extras on hand there is a solution if you plan on running tests one right after the other. This is a Steel Line as shown to the right attached to a Pressure Transducer.

Basically a Steel Automotive Brake Line with Brass fittings on each end to mate up with the Test Motor Case and the Pressure Transducer.

They can be found in any Auto Parts store like Auto Zone, Advanced Auto, Pep Boys or NAPA. Minimum standard length is about 8", don't go longer. Some Parts Stores can make them shorter. Don't go shorter than 3". NAPA numbers for the Steel Line and Adapter Fittings as well as a WATTS brand Adapter Bushing are given here:

NAPA (Balkamp) STEEL LINE	813-5473
NAPA BRASS ADAPTER 1/4" Compression to 1/4" NPT	202 x 4 x 4
WATTS ADAPTER BUSHING 1/4" MIP to 1/8" FIP	A-734

