Installation Instructions – JMS EGT Kit 9617A & 9617B
Exhaust Gas Temperature Sensor Kit for SCT Diesel Truck Tuners and Monitors

Included in the EGT kit:
(4) Plastic Tie Straps for mounting
(1) EGT probe with dual-ferrule 1/8" NPT fittings, RFI shielded cable, and Type-K connector
(1) 9617B - EGT Amplifier Box with Type-K connector and molded cable to Firewire.
     Or
(1) 9617A - EGT Amplifier Box with Type-K connector and 9-pin connector to Firewire cable.


Step 1: Locate the exhaust manifold on the driver's side of the vehicle. On most 2003-Up Ford Trucks, the area of the manifold to be drilled and tapped is located at the rear of the exhaust manifold near the transmission. (Refer to the image below)

Tech Tip: Use a generous amount of heavy grease on the drill bit and tap to capture any metal shavings or contaminates left as a result of the drilling and tapping process. Always use a small magnet after the process to ensure that you have retrieved any metal shavings prior to installation of the thermocouple.

Step 2: Drill a 5/16" hole into the manifold. Tap the hole, using a 1/8" National Pipe Thread Tap (NPT). Both the drill bit and tap can be purchased from JMS via part number: JMS-EGT-INSTALL. Be sure to follow the instructions included with the tap. The tap will be tapered and you want to tap the hole only until the threads of the tap are slightly deeper than the inside of the manifold. Note: the drill, tap and grease can also be purchased at a local hardware store.

Step 3: Once drilling and tapping are complete, check to make sure there are no metal shavings in the manifold. If you see shavings or contaminates, remove them before inserting the thermocouple. Install the fitting by screwing the tapered end of the fitting into the manifold. The tip of the fitting should be flush with the inside of the exhaust path, but not any deeper. Tighten the fitting with a small wrench or socket, but be sure not to over-torque the fitting. Next, insert the EGT probe and feral into the fitting so that the tip is in the center of the exhaust flow path. Tighten the top nut on the fitting just tight enough to crush the feral and keep the thermocouple firmly in position.
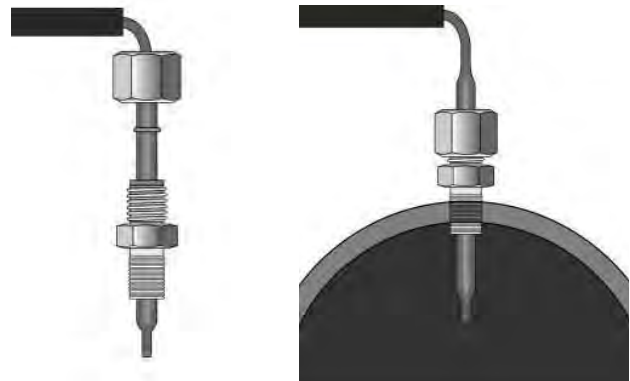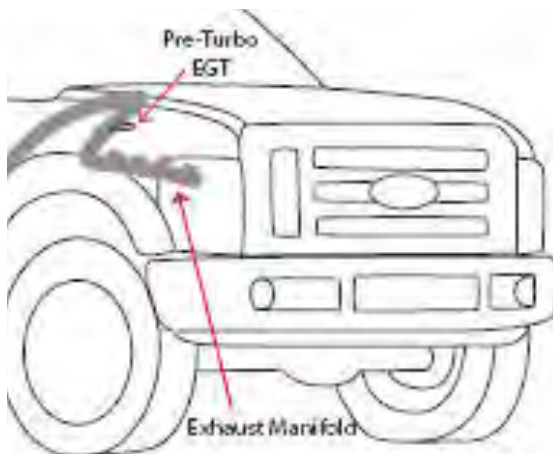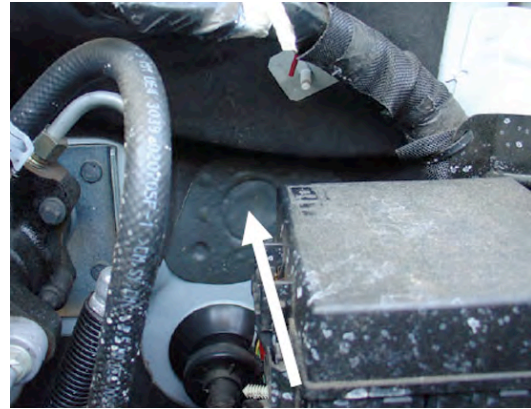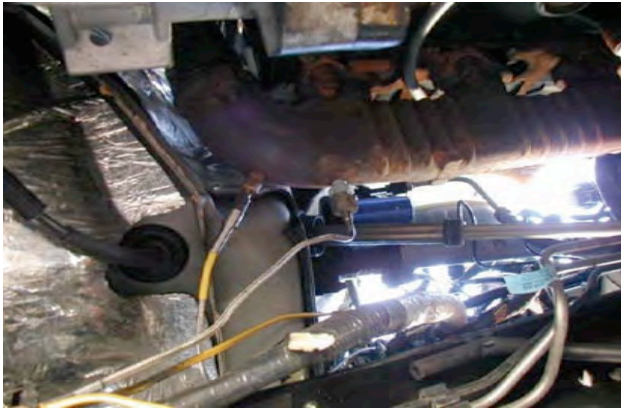
Step 4: Locate a place inside the cabin to mount the JMS EGT amplifier box. This can be any place you choose, but it should be kept away from any heat source and any sources of extreme vibration. Do not place near the engine or under the hood. Use the supplied tie straps and the holes in the EGT box to secure.

Step 5: You will need to run the EGT sensor cable through the firewall of the vehicle, in most cases there is a seal covering an existing factory hole. Use aluminum tape or equivalent to cover the OEM hole after the EGT cable assembly has been routed into the interior.

Step 6: Once the cable routing is complete, plug the EGT sensor cable with two prong Type-K connector into the amplifier box. Plug the FireWIRE analog cable into the Livewire (P/N 9600/9614) device, or the FireWIRE port on the X3 (P/N 3000/3015) or LivewireTS OBDII Plug (P/N 9XXX). For non-SCT devices, plug the 9-pin connector side of the analog cable into the EGT Amplifier Box, and refer to the non-SCT device instructions for splicing.

SCT Handheld Tuning Device EGT Setup & Programming:

Analog Notes:
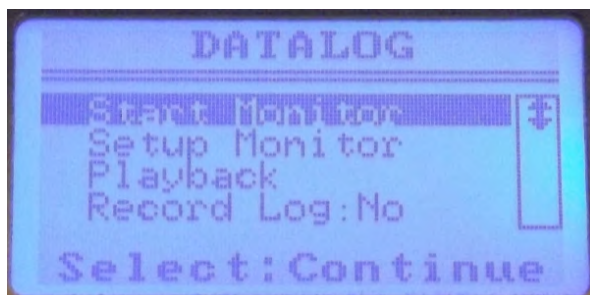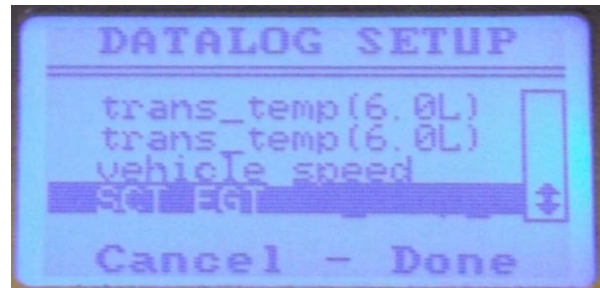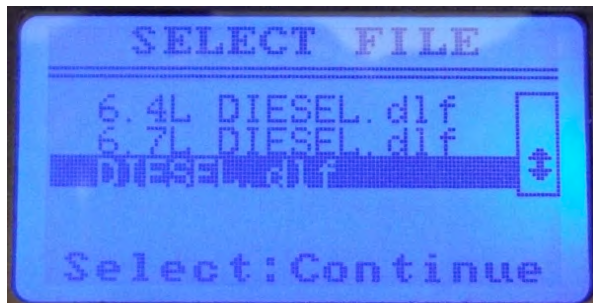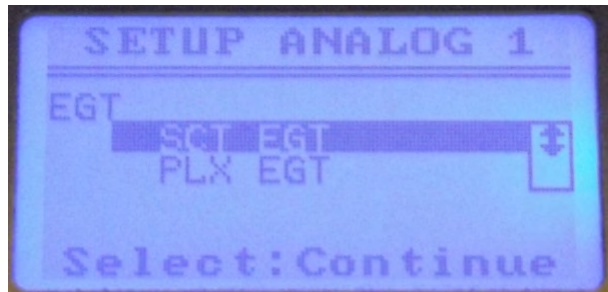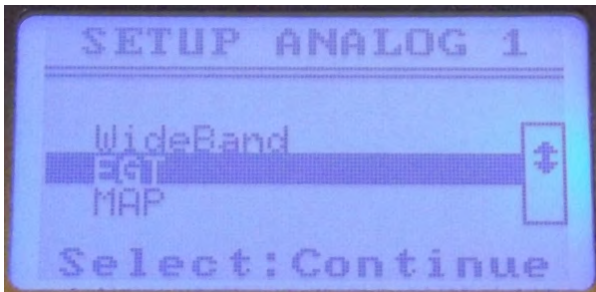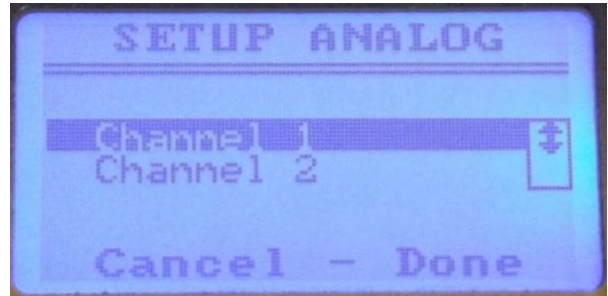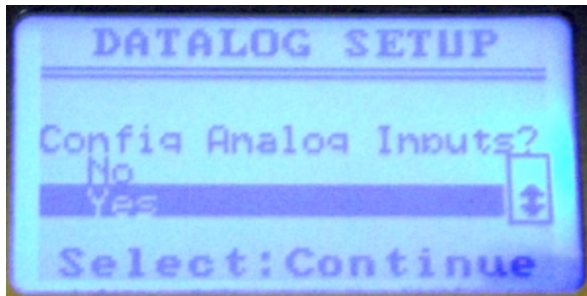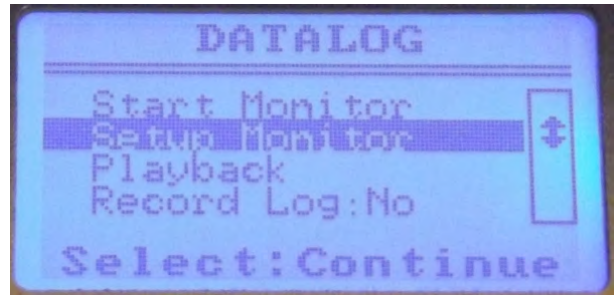1) SCT X3 and Livewire 9600 handheld tuning devices are designed to read up to 2 analog channels via a FireWIRE analog cable, **the JMS EGT sensor kit uses Channel 2** (Channel 1 is not used with this kit).

2) SCT LivewireTS is designed to read a single analog signal via the FireWIRE port.
On the Livewire TS **the JMS EGT sensor kit is designed to plug and play and work on Channel 7**.

SCT X3 (P/N 3000/3015):
Step 1: Plug the FireWIRE analog cable into the port located on the top of the device. The X3 device is designed primarily for datalogging, but can display EGT in real-time. To set up the datalogging feature, please refer to the device installation instructions, and follow on-screen device options and prompts.

Step 2: In the Datalog set up process you can choose a dedicated or generic diesel datalog file (.DLF) and record the sensor reading to file.

Step 3: In the Monitor set up feature, you will establish the sensor type for "Channel 2" as "EGT", then "SCT EGT", for sensor output reading to the screen in real-time display. Be sure to always follow the on-screen prompts to ensure features and options are saved correctly. Screen images below show the basic steps in order.

Screen 1 — Start Monitor:
Start Monitor
◄ ►
Setup | Monitor | Ext. Input

Screen 2 — DATALOG:
DATALOG
Start Monitor
Setup Monitor
Playback
Record Log:No
Select:Continue

Screen 3 — DATALOG SETUP:
DATALOG SETUP
Config Analog Inputs?
No
Yes
Select:Continue

Screen 4 — SETUP ANALOG:
SETUP ANALOG
Channel 1
Channel 2
Cancel - Done

Screen 5 — SETUP ANALOG 1:
SETUP ANALOG 1
WideBand
EGT
MAP
Select:Continue

Screen 6 — SETUP ANALOG 1:
SETUP ANALOG 1
EGT
SCT EGT
PLX EGT
Select:Continue

Screen 7 — SELECT FILE:
SELECT FILE
6.4L DIESEL.dlf
6.7L DIESEL.dlf
DIESEL.dlf
Select:Continue

Screen 8 — DATALOG SETUP:
DATALOG SETUP
trans_temp(6.0L)
trans_temp(6.0L)
vehicle speed
SCT EGT
Cancel - Done

Screen 9 — DATALOG:
DATALOG
Start Monitor
Setup Monitor
Playback
Record Log:No
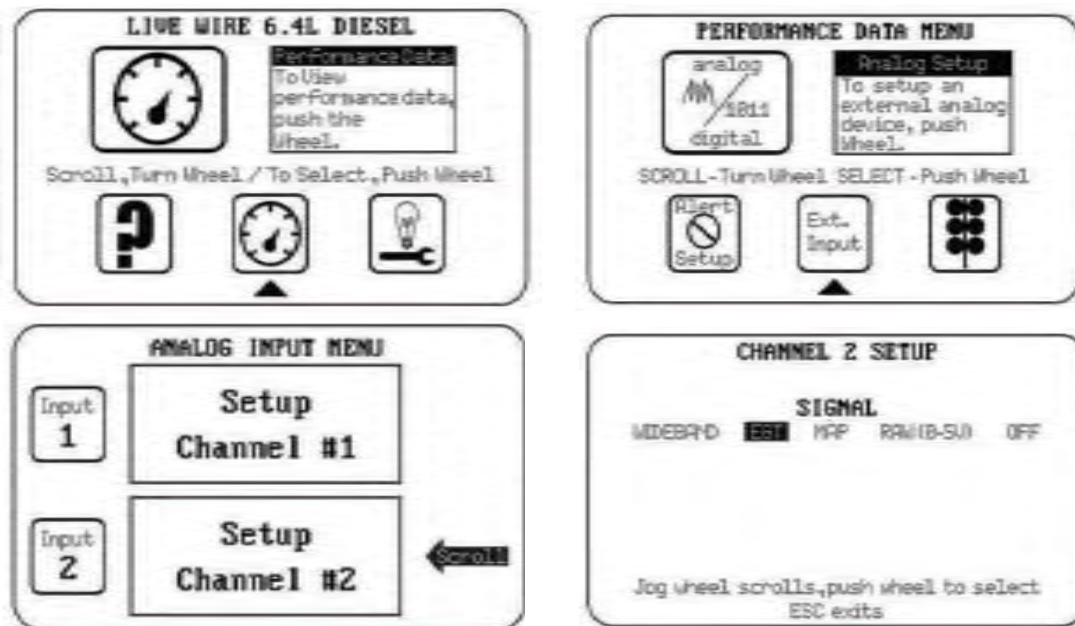Select:Continue

Livewire (P/N 9600/9621/9625):

Step 1: Plug the FireWIRE analog cable into the port located on the bottom of the device. The Livewire is designed to display various parameters and analog signals in real-time.

Step 2: To set up the datalogging feature, please refer to the device installation instructions and follow on-screen device options and prompts.

Step 3: In the Datalog set up process choose a dedicated diesel datalog file or another file that matches your type of vehicle (.DLF) and setup to monitor analog sensor 2.

Step 4: In the "Performance Data" set up feature, you will access the "Analog Setup" feature and establish the sensor type for "Channel 2" as "EGT", then "SCT EGT", for sensor output reading to the screen in real-time display.

Step 5: Next you will follow the "Monitor Setup" feature process to establish the list of parameters to display, and you will choose the "SCT EGT" analog input from the list of available items. Be sure to always follow the on-screen prompts to ensure features and options are saved correctly. Images below show the basic steps in order.


LivewireTS (P/N 5015/5416):

Step 1: Plug the FireWIRE analog cable into the port located on the OBDII cable near the connector (built into the cable). The LivewireTS is designed to display various parameters and analog signals in real-time.

Step 2: To set up the datalogging feature, please refer to the SCT device analog monitoring installation instructions, and follow on-screen device options and prompts.

Step 3: In the Datalog set up process choose a dedicated diesel datalog file or another file that matches your type of vehicle (.DLF) and setup to monitor analog sensor 7.

Step 4: In the "Gauges/Datalog" set up feature, choose your pre-loaded vehicle file, which starts the monitor. Note how the single-tap and double-tap navigation works, single-tap to view the menu, and double-tap to to edit gauges.

Step 5: Double-tap one of the 3 signals displayed on the default monitor to enter parameter edit mode. Single tap on the "Item" field, then press and hold on the screen to scroll (unlike a smart phone you have to press firmly on the screen, hold and then move the scree up or down to display additional items). Analog Inputs are at the very bottom of the item selection menu, select "Analog Input 7", and tap "Continue". Single-tap on the "Unit" field next and select the "Unit" type as "SCT EGT", and tap "Continue". Once the analog input is set up, you can tap "Approve" to take you back to the monitor and view the EGT signal in real-time. Be sure to always follow the on-screen prompts to ensure features and options are saved correctly. Images below show the basic steps in order from left to right.
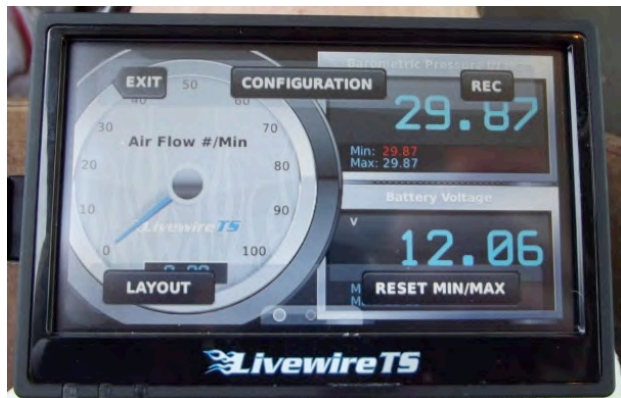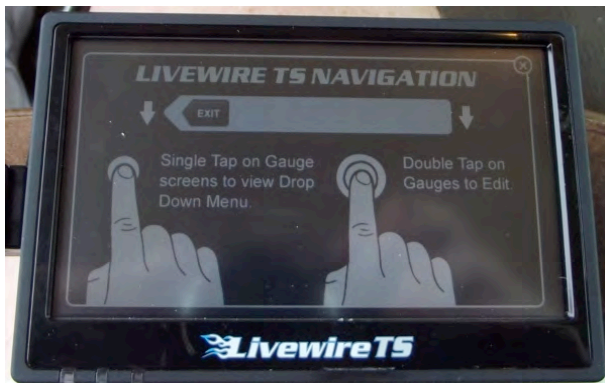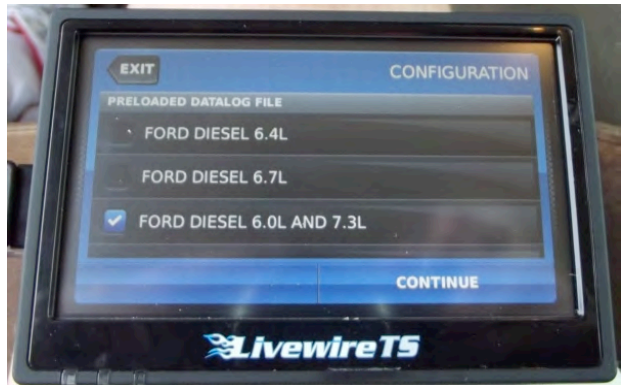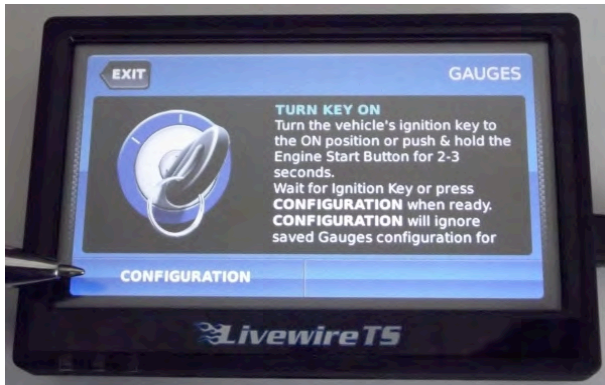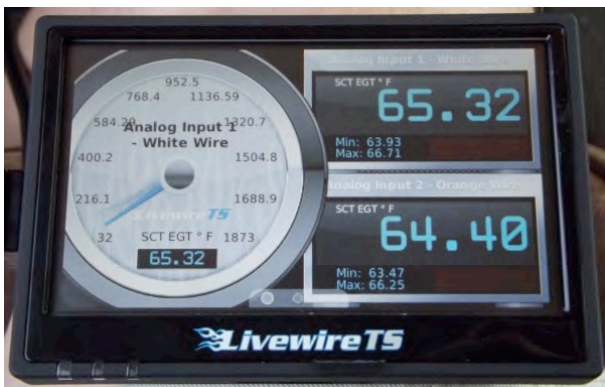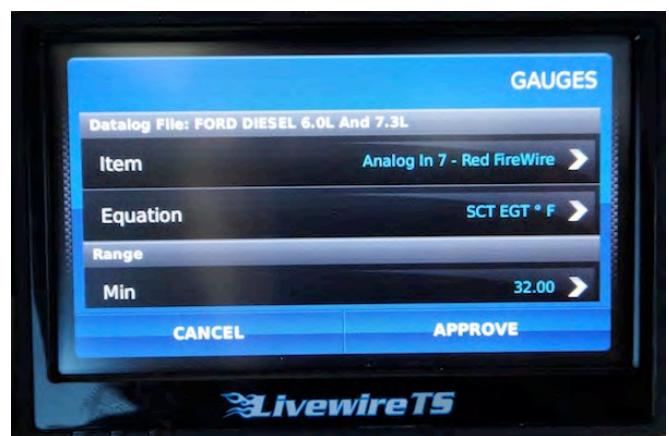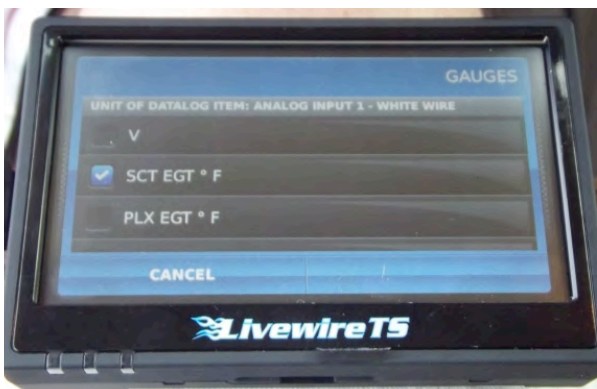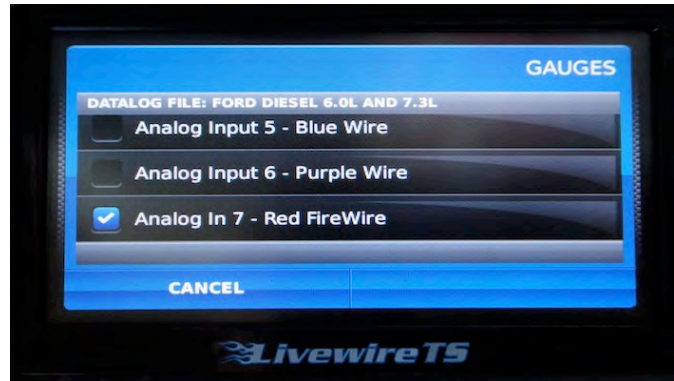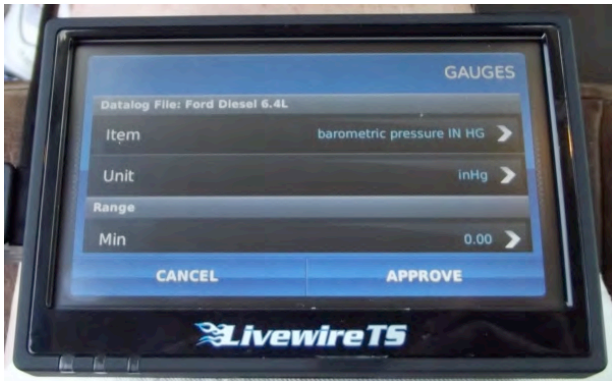
Analog Monitoring Notes and Troubleshooting:
SCT states in the LivewireTS instructions that the voltage below 0.23 volts is not accurate for analog inputs 5 and 6, this is also true for analog input 7. As a result, there is some instability in the EGT reading when the exhaust gas temperature is below 200 degrees (+-50F). This instability is normal, once the EGT gets above 200F the instability issue goes away. We have been told that the Livewire TS will be corrected in a future 2013 build to address this issue.

Due to different suppliers of FireWIRE cables and the inconsistency in manufacturing, we cannot give you a color coded pin-out diagram for the cable. You can tone out the pins on the connector if needed via the attached wiring diagram..

If display on your X3 device is not reading a EGT value, unplug and reinsert FireWIRE cable.
If the EGT FireWIRE cable is not plugged into the SCT device, the monitor will display a low temp value.
If the EGT sensor is not plugged into the EGT amplifier box, the monitor will display a high temp value.

JMS 9617 EGT Kit - Cable Reference

Rev D - 04/30/13
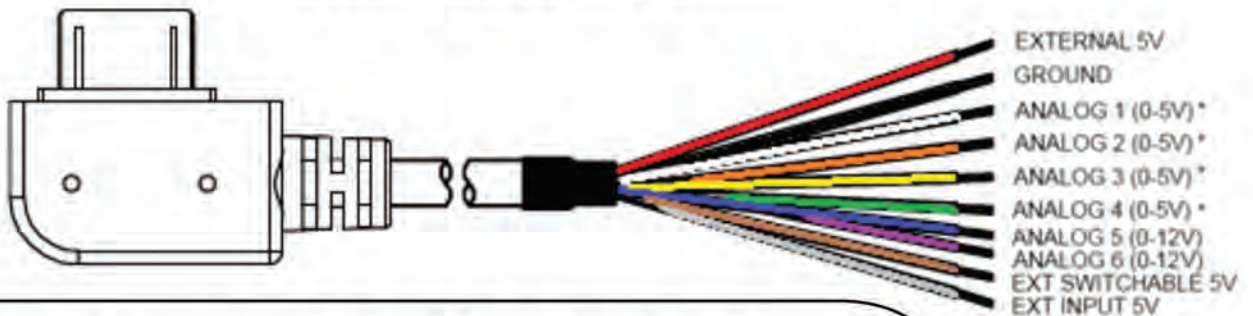
How to use the JMS 9617 EGT Kit:

1) The JMS 9617 EGT Kit is designed to be used as a Plug and Play unit.
2) Connect the Firewire Cable directly to any LiveWire TS, X3 or LW 9600.
3) If connecting to a LiveWire TS: Configure Port 7 for SCT EGT and select to display on screen.
4) If connecting to an X3 or LW 9600: Configure Port 2 for SCT EGT and select to display.

Connect JMS 9617 Firewire Cable to SCT 10 pin Analog Cable for Livewire TS

Typically the only time that you would connect the JMS EGT to the SCT 10 pin is if you want to monitor the EGT on a Analog Port other than Port 7. Or if you are connecting the JMS EGT to the SCT iTSX.

1) Choose the analog port that you wish to use. (For example Analog 1 - White on SCT 10 pin)
2) Cut the JMS 9617 EGT Cable 4 inches from the Firewire Cable and pull the colored cables out.
3) Use a Digital Volt Ohm Meter to figure out which colored wire is connected to each Firewire pin.
   Step 3 has to occur due to supplier variations in wire colors.
4) Connect JMS EGT FireWire Pin 1 to SCT 10 pin - External 5V (Red Wire)
5) Connect JMS EGT FireWire Pin 2 to SCT 10 pin - GROUND (Black Wire)
6) Connect JMS EGT FireWire Pin 5 to SCT 10 pin - Analog 1-6
7) Connect JMS EGT FireWire Pin 6 to SCT 10 pin - GROUND (Black Wire [Optional])

SCT 10 pin Analog Cable

EXTERNAL 5V
GROUND
ANALOG 1 (0-5V) *
ANALOG 2 (0-5V) *
ANALOG 3 (0-5V) *
ANALOG 4 (0-5V) *
ANALOG 5 (0-12V)
ANALOG 6 (0-12V)
EXT SWITCHABLE 5V
EXT INPUT 5V

Note: Minimum voltage for SCT analog 5, 6 & 7 is: 0.23V DC
      Minimum voltage for SCT analog 1, 2, 3 & 4 is: 0.08V DC

Min voltage means: Voltage will slightly fluctuate if you are monitoring a voltage that is less than the mininimum.

Example: EGT Temps BELOW 200F may fluctuate +- 50F.

A SCT product change later in mid-2013 will correct the slight voltage fluctuation at very low voltage levels.

JMS 9617 Firewire to DB9 Female Cable

Looking into Firewire connector and Looking into the Female DB9

IEEE-1394 6 Pin Male Connector Pin Orientation
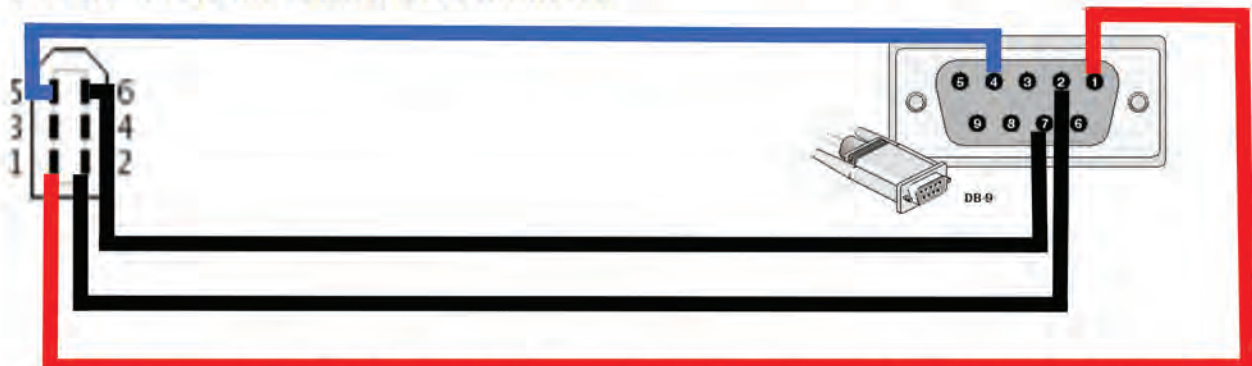
JMS has two different EGT Cable Options. 9617A - utilizes a DB9 cable to Firewire (shown).
9617B - utilizes an integrated cable on the EGT box side to Firewire. Both wire the same.
Firewire Pin 1 = +5V, Pin 2 = Ground, Pin 5 = EGT Signal (0-5v), Pin 6 = EGT Signal Ground