

Augment Automotive Technical Manual

Title: Augment Automotive Augment Automotive 944 Turbo Throttle Pot Setup Manual

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The purpose of this manual is to provide users with a guide on configuring Porsche 944 Turbo's fitted with an AugTronic ECU in reading the factory throttle POT. Normally the throttle pot is read only by the KLR for use in its boost control algorithms. A simple wiring modification allows true throttle position to be read also by the AugTronic ECU.

There are two parts to this process, firstly performing the wiring loom modification and secondly calibrating the AugTronic ECU such that it correctly reads 0-100% throttle. Some ECU's may need jumper adjustment on the AugTronic mainboard depending on specifications at the time of ordering.

Wiring loom modification

In order for the AugTronic ECU to read the throttle position the KLR full load signal, which is a signal generated by the KLR that tells the ECU that the throttle is fully open must be connected to the throttle pot output wire that is connected to the KLR. Drawings showing the original and modified wiring are found at the back of this manual. Refer to the image at the back of this manual for the KLR plug connections.

Step 1 (optional): With the ignition on remove the lid from the KLR plug and measure the throttle pot output voltage (pin 22) with a multimeter. Actuate the throttle and ensure the voltage changes smoothly with throttle motion. This will ensure the correct cable has been identified for step 2. Usually white with green stripe.

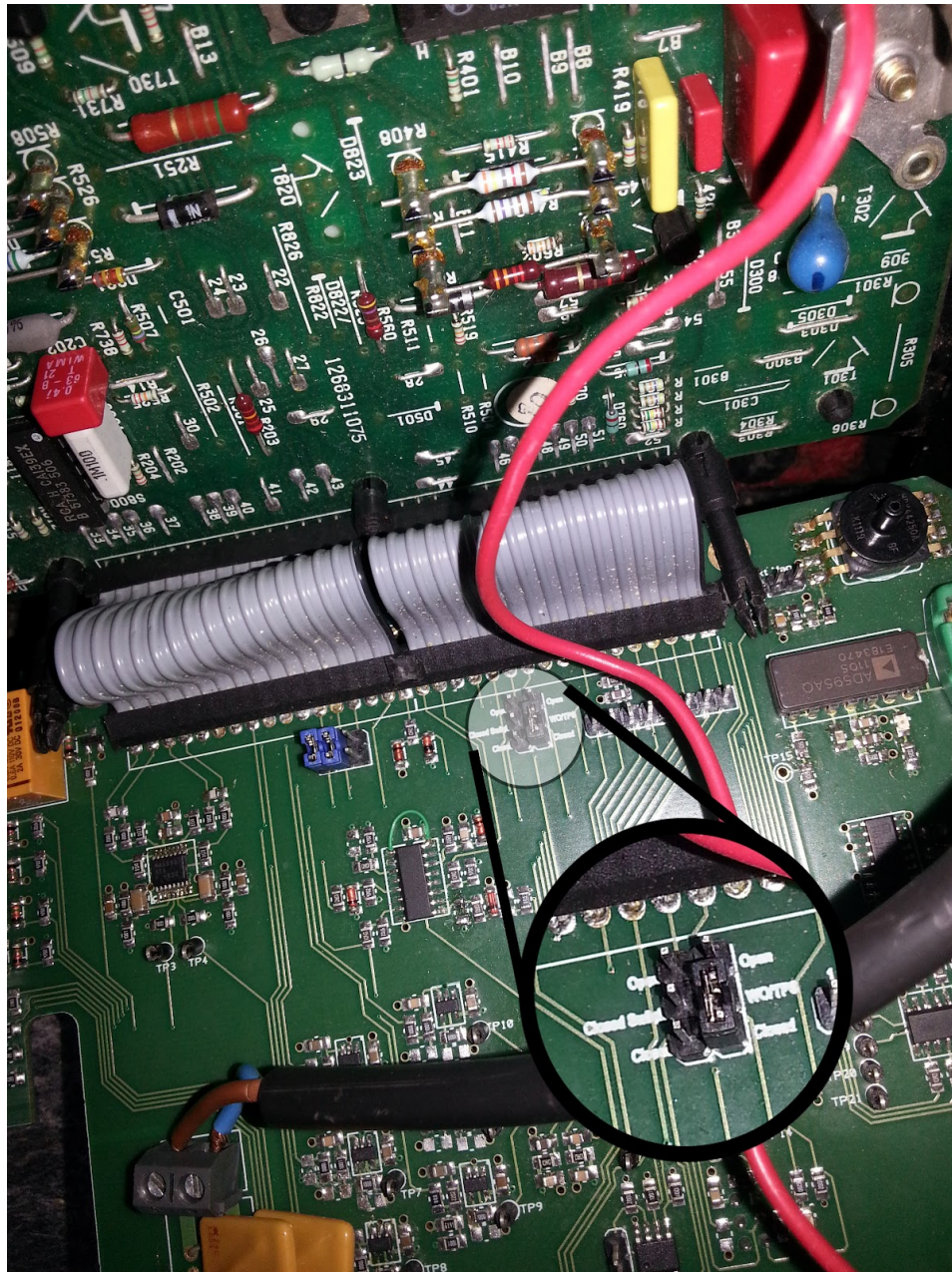
Step 2: Remove a section of cable insulation from the cable connecting to pin 22 identified in step 1.

Step 3 (optional): With the ignition on remove the lid from the KLR plug and measure the voltage at pin 18 and ensure that it changes state when the throttle is at full load. This will ensure the correct wires have been identified for step 4. Two white cables are usually connected to 18.

Step 4: Cut the KLR full load signal wire to the DME (connected to pin 18 of KLR and pin 3 of ECU, or cut both wires), strip the ends that are not connected to the KLR and wrap them around the section of bare wire on the cable connected to pin 22. Solder the joint and cover with insulation tape. Insulate the ends of the wires connected to the KLR. *This completes the wiring loom modification.*

Jumper Configuration

If necessary jumper settings for TPS inputs should be adjusted such that the board matches the one shown in the image below. If you are unsure of the necessity of this step please contact Augment Automotive Limited. The PCB labeling may differ from that shown. Ignore the labeling and place the jumper as shown in the image.



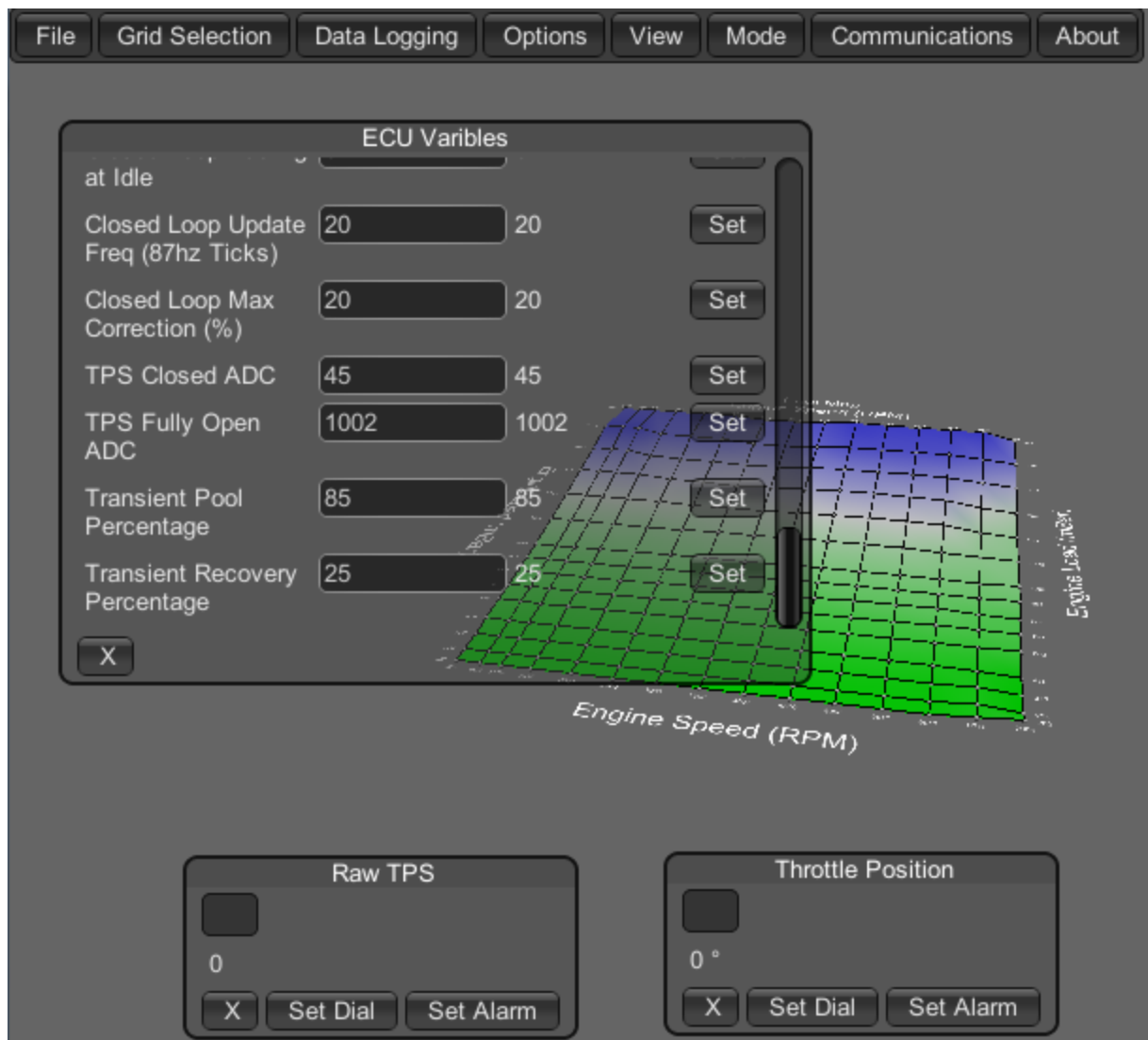
AugTronic throttle calibration procedure

In order for the AugTronic ECU to accurately understand throttle position it must be calibrated to match the throttle pot output to actual throttle position. For this part of the procedure Augment Automotive 3D tuner must be connected to the AugTronic ECU.

Two ECU settings variables are involved in setting the throttle calibration of the AugTronic ECU.

- TPS Closed ADC
- TPS Fully Open ADC

These settings are accessed through Augment Automotive 3D Tuner by selecting View -> ECU Variables and then scrolling down to find the two variables.

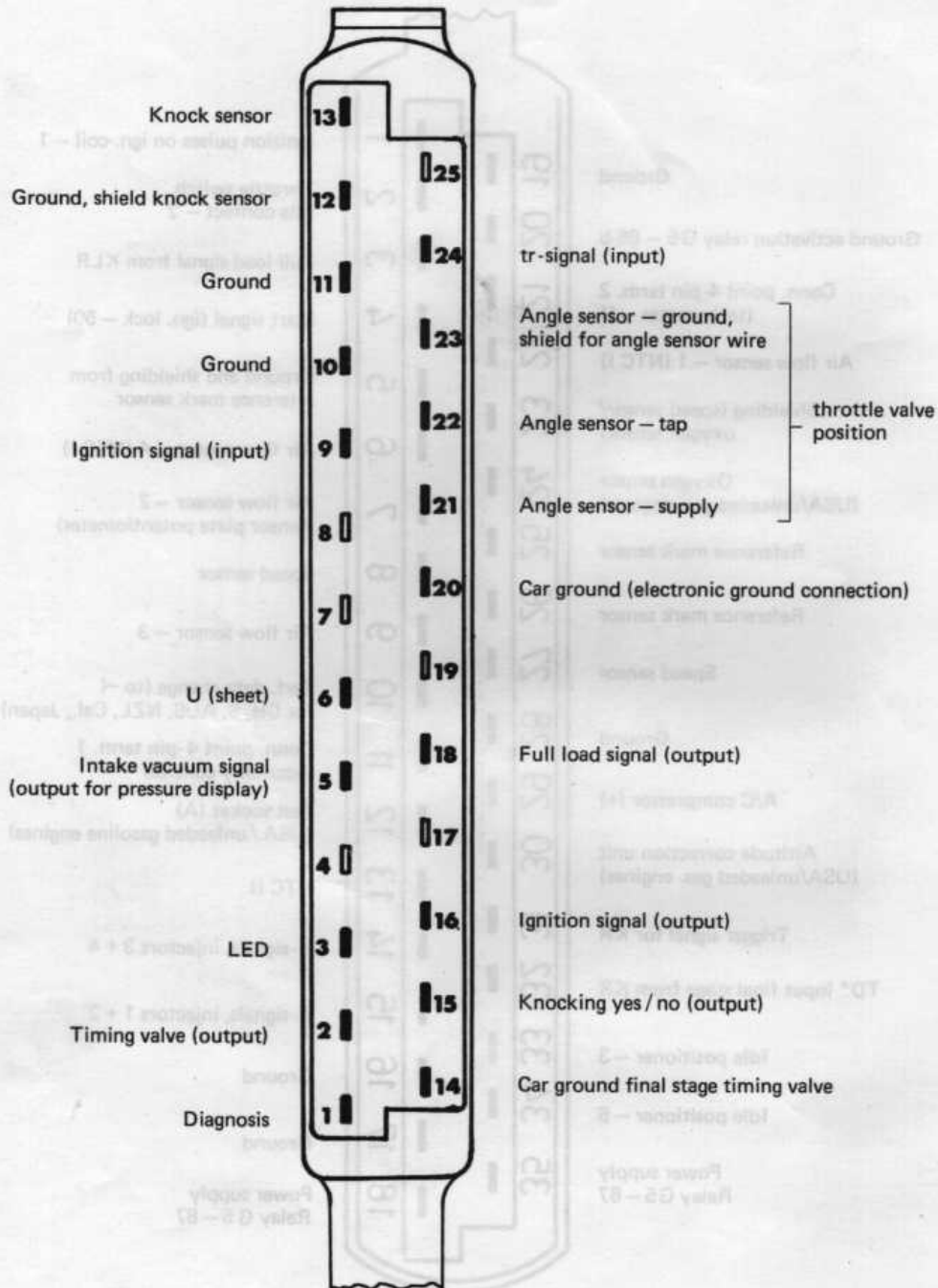


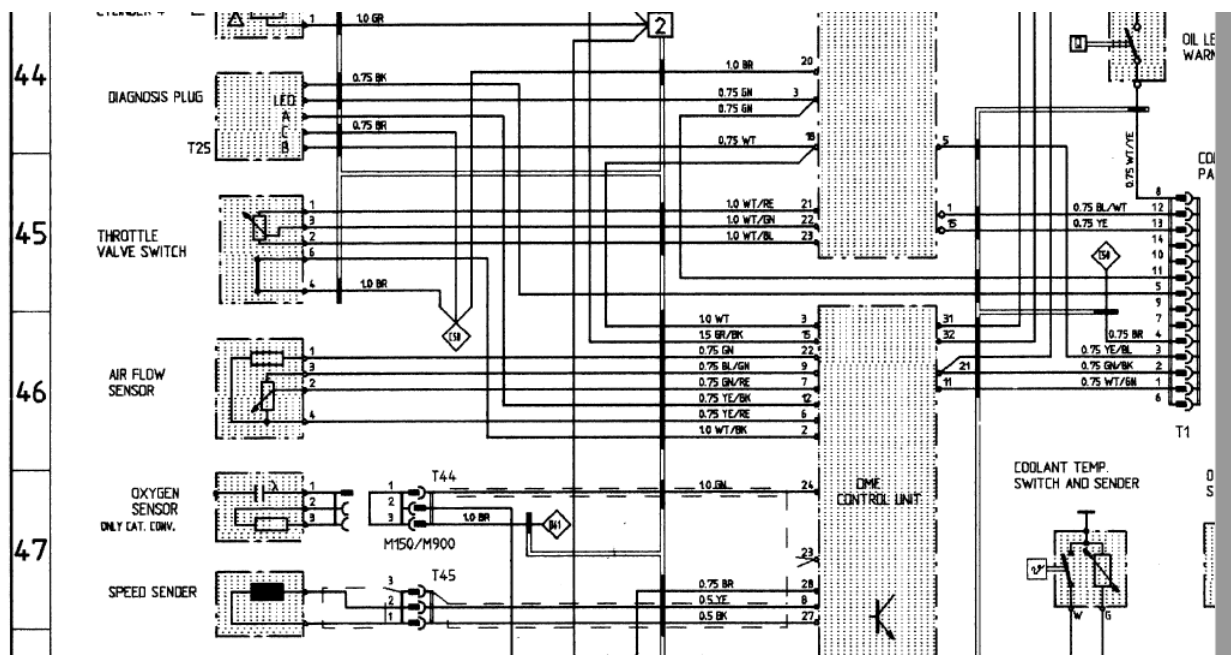
The TPS Closed ADC variable must be set to the value of the parameter '*Raw TPS*' when the throttle is closed. The value of '*Raw TPS*' can be viewed through the dial system in Augment Automotive 3D Tuner. If the value of '*Raw TPS*' is in volts e.g 1.2V then the value must be divided by (5/1024) before being entered into the ECU Variable window. E.g. $1.2 / (5/1024) = 245.76$ rounded up to 246.

The TPS Fully Open ADC variable must be set to the value of the parameter '*Raw TPS*' when the throttle is fully open. The value of '*Raw TPS*' can be viewed through the dial system in Augment Automotive 3D Tuner. If the value of '*Raw TPS*' is in volts e.g 1.2V then the value must be divided by (5/1024) before being entered into the ECU Variable window.

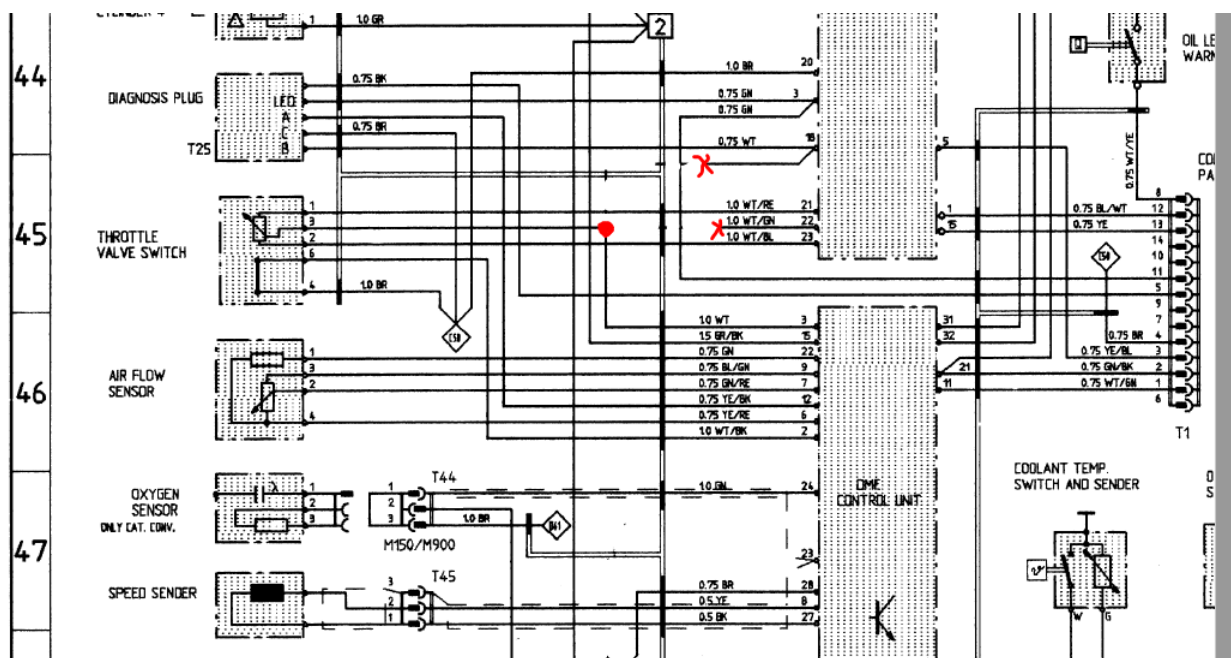
Once these two variables are set the ECU EEPROM should be saved to make the settings permanent. The dial menu can then be used to check the actual calculated throttle position. The dial should be set to display '*Throttle Position*'. The value should raise smoothly from 0 to 100% as the throttle is opened.

KNOCK CONTROL PLUG CONNECTIONS – 944 Turbo





Original TPS Wiring



Modified TPS wiring - X indicates a cut and a O indicates a join