



Instruction Manual

P/N 30-3438 AEMnet Adapter Harness Installation for Series 2 EMS 30-6820 & 30-6821

AEMnet

AEMnet is an open architecture software and hardware interface based on the CAN 2.0 specification, which provides the ability for multiple AEMnet enabled devices to easily communicate with each other through a single cable. The hardware connection is made through a Deutsch 4P DTM connector. Devices connected to the AEMnet transmit data through this one connection. Once the AEMnet adapter is installed, the Series 2 EMS will be able to send and receive data on the AEMnet. Instructions for configuring the Series 2 EMS to output data are included in this manual. Instructions on configuring the Series 2 EMS to receive data from other AEMnet enabled products are contained in the individual product manuals. Upon completion of these instructions, the Series 2 EMS will be configured to output data to an AQ1 Data Logger or other data receiving device.

The following AEM products are currently AEMnet enabled:

Series 2 Engine Management System

EMS-4 Universal Standalone Engine Management System

4-Channel Wideband UEGO Controller

AQ-1 Data Logger

Dyno Shaft On-Vehicle Dynamometer

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AEMnet CONNECTORS

The AEMnet has four wires, two are for communication (white pin 1 and green pin 2) and two are for powering (red pin 3 and black pin 4) certain AEMnet devices. Only the two communication wires (white pin 1 and green pin 2) are needed for the Series 2 EMS to send/receive data as the EMS is not powered by AEMnet. The red and black wires will need to be connected when using the Series 2 EMS with devices that are powered by AEMnet such as the Dyno-Shaft (see individual instructions for details). The AEMnet connectors are shown below in figure 1. See table 1 for the AEMnet connection pinout.

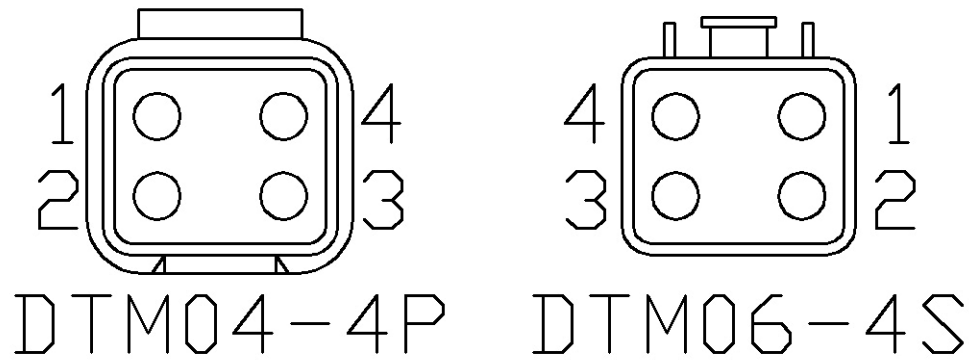


Figure 1: AEMnet connectors, wire entry view

AEMnet Connector		Series 2 EMS Connector
Pin 1	White	CAN1H
Pin 2	Green	CAN1L
Pin 3	Red	AEMnet Power (switched 12 volts)
Pin 4	Black	AEMnet Ground

Table 1: AEMnet connector pinout

REMOVE EXISTING WIRES FROM ECU PLUG(S)

1. Locate a small screwdriver (a precision 1mm wide flathead screwdriver is recommended) and carefully pry white plastic retainer (this connector is especially difficult to release, so be patient and don't use excessive force) using the middle slot in the retainer so it disengages vertically about 1mm as shown in figures 2 and 3:

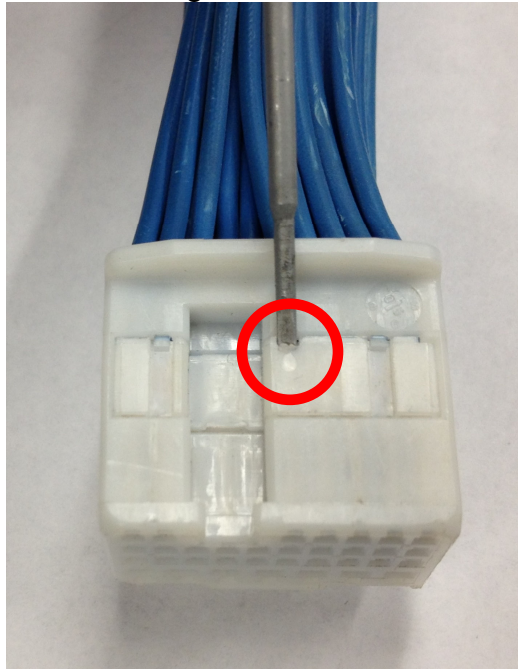


Figure 2: Pry in these areas

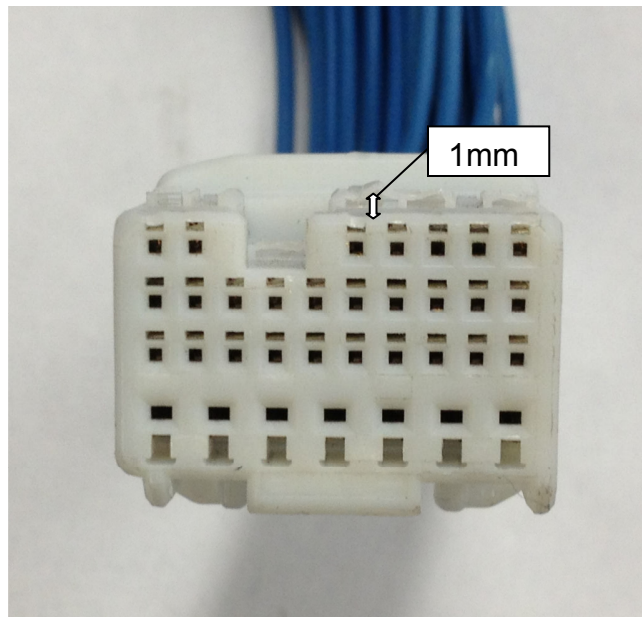


Figure 3: Lock that has to move up

- Next remove the pin from the plastic connector by inserting the removal tool (factory recommended part available at Digikey, number 1276565-1 or alternatively you can use a cheaper Molex depinning tool, part number 11-03-0043) to release the pin from the plastic connector, then gently pulling on the wire at the same time as shown in figure 4.

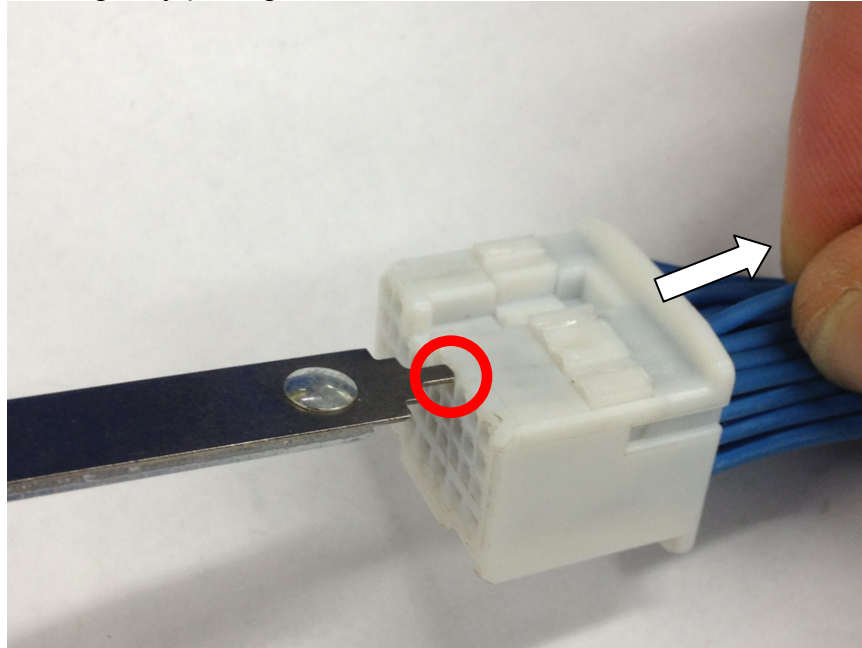


Figure 4: Insert removal tool (Molex tool shown) and pull on wire

INSTALL AEMnet ADAPTER HARNESS

- Table 2 below lists the corresponding CAN1L and CAN1H pin locations for each Series 2 EMS.

		CAN1L (Green wire)	CAN1H (White wire)
EMS	Adapter p/n	LOCATION	LOCATION
30-6820	30-3438	B29	B28
30-6821	30-3438	B29	B28

Table 2: CAN1L and CAN1H pin locations

Figure 5 below shows the connectors for the 6820 and 6821 Series 2 EMSs.

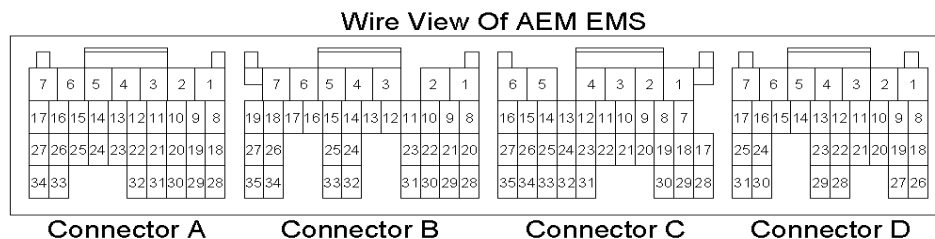


Figure 5: Wire-side view of pinout for 6820 and 6821 EMS

4. Make sure that the clip that holds the pin in the ECU connector is up so that it will clip properly into the connector. To install the harness into the ECU plug, align the CANL and CANH pins into the receptacle of the plug and push in until it clicks as shown in figure 6:

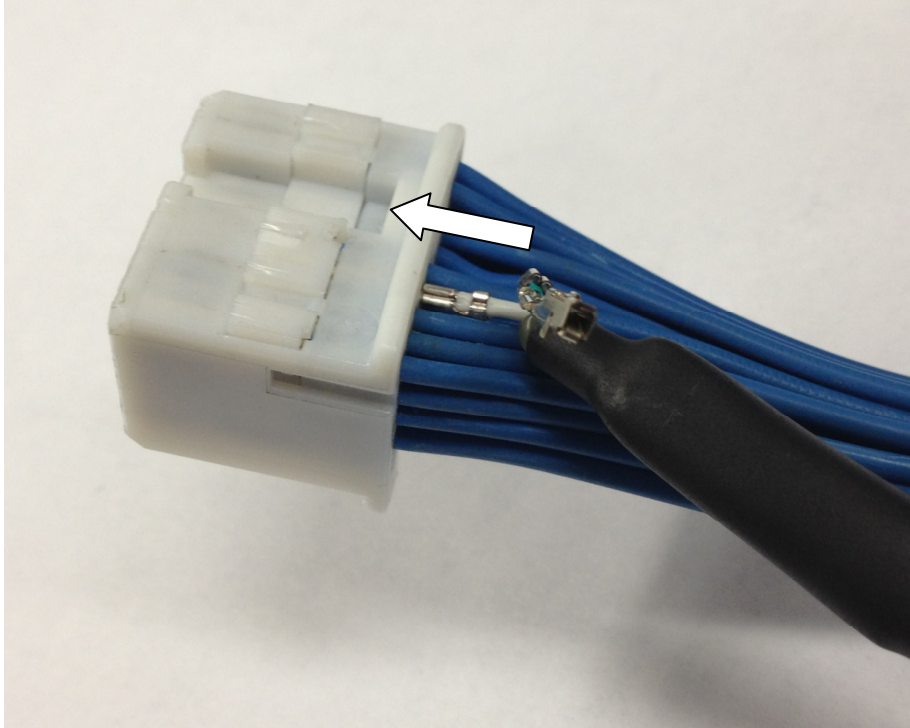


Figure 6: Pushing pin into ECU plug

5. Push the pin lock back into place until it is flush with the ECU plug as shown in figure 7:

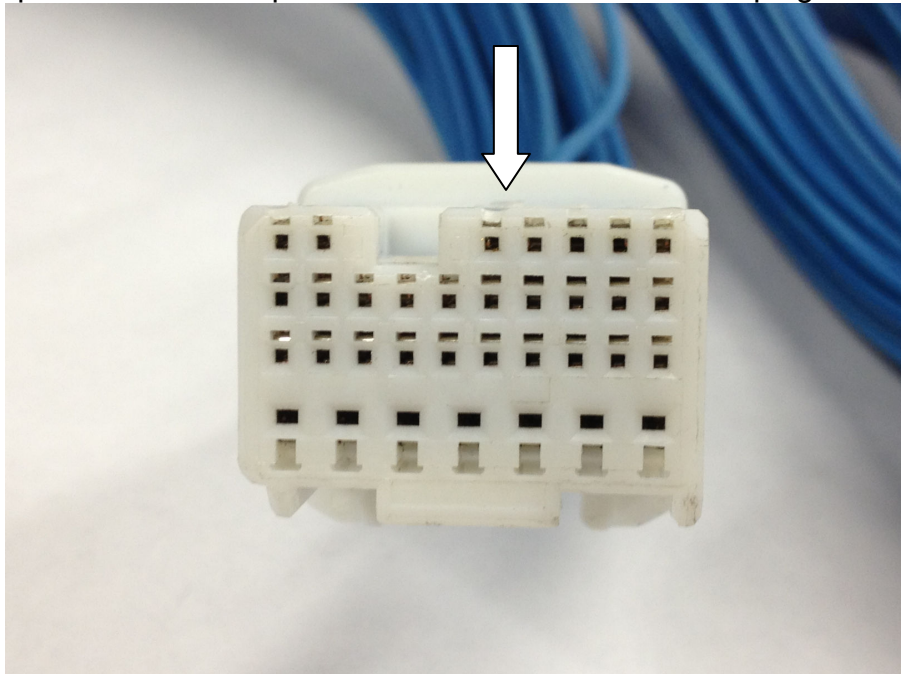


Figure 7: Ensure pin lock is relocked

CONFIGURING THE SERIES 2 EMS

The AEMnet data stream is compatible with version AEM25 01v23 firmware and later. To activate the AEMnet data stream, open AEMTuner and go to Wizards > Setup Wizard and select the AEMnet Data Stream. See figure 8 below.

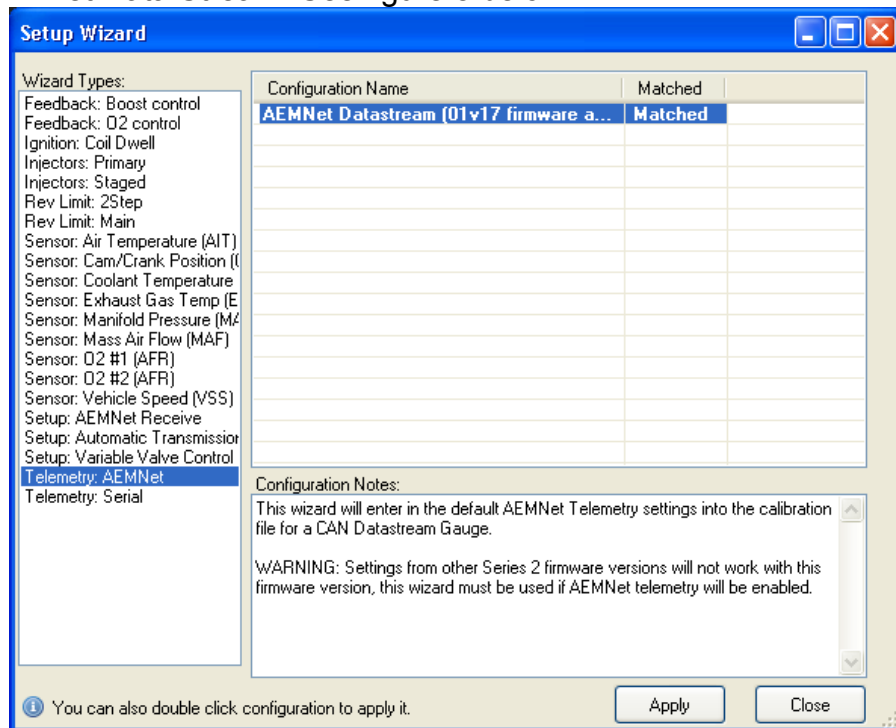


Figure 8: Selecting the AEMnet Datastream

With the AEMnet enabled, the Series 2 EMS broadcasts information as shown below in figure 9.

	Name	Scaler	Offset	Live Data	Units
AEM Series 2 EMS					
1	Engine Speed	1	0	0.00	rpm
2	Engine Load	1	0	234.83	kPa(abs)
3	Throttle	1	0	50.12	%
4	Air Temp	1	0	48.00	°C
5	Coolant Temp	1	0	5.00	°C
6	ADCR11	1	0	5.01	V
7	ADCR13	1	0	0.05	V
8	ADCR14	1	0	0.10	V
9	ADCR17	1	0	0.13	V
10	ADCR18	1	0	0.04	V
11	ADCR15	1	0	0.05	V
12	ADCR16	1	0	0.38	V
13	ADCR08	1	0	13.60	V
14	O2 #1	1	0	0.65	Lambda
15	O2 #2	1	0	0.45	Lambda
16	Vehicle Speed	1	0	0.00	mph
17	Gear Calculated	1	0	7.00	Decimal
18	Ign Timing	1	0	-17.00	Decimal
19	Battery Volts	1	0	13.58	V

Figure 9: AEMnet Data

WARRANTY

12 MONTH LIMITED WARRANTY

Advanced Engine Management Inc. warrants to the consumer that all AEM High Performance products will be free from defects in material and workmanship for a period of twelve (12) months from date of the original purchase. Products that fail within this 12-month warranty period will be repaired or replaced at AEM's option, when determined by AEM that the product failed due to defects in material or workmanship. This warranty is limited to the repair or replacement of the AEM part. In no event shall this warranty exceed the original purchase price of the AEM part nor shall AEM be responsible for special, incidental or consequential damages or cost incurred due to the failure of this product. Warranty claims to AEM must be transportation prepaid and accompanied with dated proof of purchase. This warranty applies only to the original purchaser of product and is non-transferable. All implied warranties shall be limited in duration to the said 12 month warranty period. Improper use or installation, accident, abuse, unauthorized repairs or alterations voids this warranty. AEM disclaims any liability for consequential damages due to breach of any written or implied warranty on all products manufactured by AEM. Warranty returns will only be accepted by AEM when accompanied by a valid Return Goods Authorization (RGA) number. Product must be received by AEM within 30 days of the date the RGA is issued.

Please note that before AEM can issue an RGA for any product, it is first necessary for the installer or end user to contact the AEM Performance Electronics tech line at 1-800-423-0046 to discuss the problem. Most issues can be resolved over the phone. Under no circumstances should a system be returned or a RGA requested before the above process transpires.

Need additional help? Contact the AEM Performance Electronics tech department at 1-800-423-0046 or tech@aempower.com, or visit the AEM Performance Electronics forum at <http://forum.aempower.com/forum/>