



Caerbont Automotive
Instruments

INSTALLATION INSTRUCTIONS
FOR 80mm (3.2") 12Volt
SEMI-PROGRAMMABLE
TACHOMETER

Limited Warranty

CAI Instruments Inc. warrants its products against defects in factory workmanship and materials for 24 months after purchase. This warranty applies to the first retail purchaser and covers products exposed to normal use or service. This warranty shall not apply to a product used for purposes for which it was not designed, or which has been altered in any way that would be detrimental to its performance or life, or misapplication misuse, negligence or accident. CAI Instruments Inc. will, at its discretion, repair or replace defective parts after examination by CAI Instruments Inc. CAI Instruments Inc. will accept no liability for diagnosis, removal and/or installation labor, loss of vehicle use, loss of time, inconvenience or any other consequential loss. The warranties herein are in lieu of any other warranties, expressed or implied, including implied warranty of merchantability or fitness, and any other obligation on the part of CAI Instruments Inc. or selling dealer. (NOTE:- This is a "Limited Warranty" as defined by the Magnusson-Moss Warranty Act of 1975).

CAI Ltd. Abercraze, Swansea, SA9 1SH
Tel. 044-1639-712200 Fax. 044-1639-712201

FITTING INSTRUCTIONS

CAUTION

GAUGE TO BE FITTED TO NEGATIVE EARTH VEHICLES ONLY

DISCONNECT THE BATTERY CABLE PRIOR TO

GENERAL INFORMATION:

OPERATING VOLTAGE: +11-17VDC. NOTE-Instrument is equipped with a 12v lamp.

INPUT SIGNAL: Battery Ignition (Coil), Alternator tap (Diesel engine), Digital ECU.

TRANSIENT PROTECTION: +80V, -80V
REVERSE VOLTAGE PROTECTED

CALIBRATION:

The Semi-Programmable tachometer is calibrated (programmed) by setting a combination of six switches found on the rear of the instrument. To gain access to these switches remove the hole plug by pressing above the center to allow a small coin, screwdriver, etc. to be inserted in the slot behind the upper edge.

Set the switches prior to installing the instrument.

NOTE: The switch setting must be done with the power 'OFF'.

CALIBRATION PROCEDURE: Set the switches to the correct values for the number of cylinders or for diesel engine refer to the "CALIBRATION SWITCH SETTING" table with this number. Locate the setting, then set the switches marked with "0" to the "OFF" position (down).

Calibration Switch Settings:(petrol engines)

No of cylinders	Pulses/rev	Sw 1	Sw 2	Sw 3
8 cylinders	4	ON	OFF	ON
6 cylinders	3	OFF	ON	ON
4 cylinders	2	OFF	OFF	ON

Signal Input Settings:

	Sw 4	Sw 5
Input signal	OFF	ON
Contact Breaker ignition	OFF	ON
Hall Effect	ON	ON
Ecui (Open collector output)	ON	ON
Ecui	OFF	ON
Alternator	OFF	ON
Signal Generator	OFF	OFF

EXAMPLE: Number of cylinders= 4, contact breaker ignition: therefore, switches 1,2,4, and 6 are switched "OFF".

Calibration Switch Settings:(Diesel Engines)

Pulses/rev	Sw 1	Sw 2	Sw 3
8 to 3	ON	OFF	OFF
16 to 6	OFF	OFF	OFF

To adjust the tachometer to the correct engine speed, remove the hole plug as explained earlier in this section. Ensure that all electrical connections have been completed. (Instrument must not be fitted into the instrument panel at this time). Start engine, adjust potentiometer until the tachometer indicates the correct engine speed. If Engine speed is unknown, Take vehicle to an engine tuning Center and Calibrate the tachometer to the engine speed.

Switch '6' is NOT used for calibration and must be switched 'OFF'.

INSTALLATION:

When mounting the gauge in an instrument panel, cut a hole in the instrument panel 80mm (3.2") diameter.

Mount speedo the tachometer in the dash panel and connect the wires as described below:

GREEN -Connect to ignition power source. (+ve)
BLACK - Connect to ground and sensor wire. (-ve)
BROWN/SLATE - N/A (Tacho hourmeter only)
RED/WHITE - Connect to dash lamp power

Sender unit connection options:-

WHITE/BLACK - Connect to Tacho output ECU/ Wterminal on alternator (Diesel engines only)
RED/BLUE - Magnetic Connect to Contact Breaker (Low Tension side of coil)

INSTALLATION HINTS:

- 1) When power is supplied the instrument will be operational. If it isn't, there may be a poor connection in the positive (GREEN wire) or ground (BLACK wire) circuit. Check power to the meter by measuring with a voltmeter at the plug (meter leads on the pins that attach to the GREEN and BLACK wires). If there is power to the plug, the problem is in the gauge.
- 2) Low voltage can cause inaccurate reading. If inaccuracy is suspected, measure the voltage with the vehicle operating and meter connected. This can be done by connecting a voltmeter to the power source (i.e. fuse block, etc.).

