

MGBGTV8 restoration project – Report 13

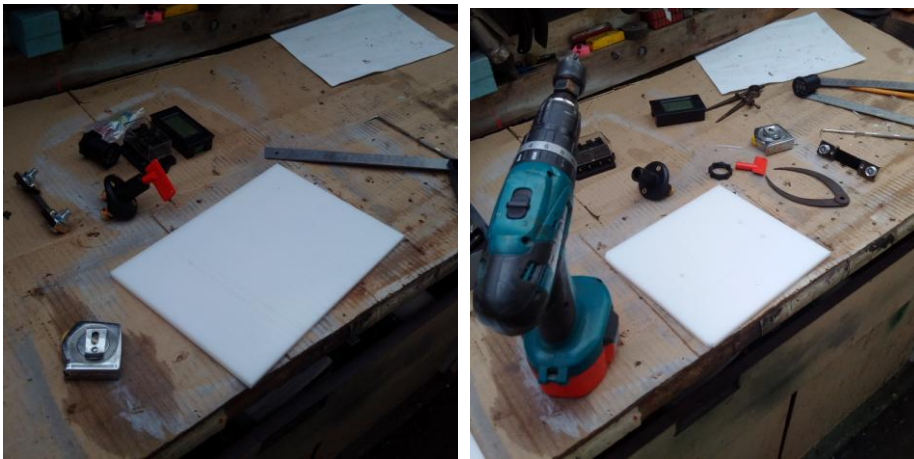
I decided to install a power monitoring system in the near side 6 V battery bay which will allow me to see discharge and charge rates monitor voltage and I will also be installing an inertia switch and battery disconnect switch in the compartment.

I am moving the battery to the spare wheel well on the near side.

To simplify the installation all the equipment will be mounted on an acetal insulating board, the battery isolation switch will be installed on the board which will be mounted at a height in the well such a that the switch will protrude through the battery well cover.

An additional fuse board will be installed in the well to feed the instrumentation.

The feed to the fuel pump which is mounted in the off side battery well will be used to energize the instrumentation.



Acetal is very easy to cut and is a very good insulator so I can mount the shunt direct to the plate for easy connection. The shunt is used to measure the current flowing in a DC circuit.

I selected a Digital Multimeter DC 6.5-100V 100A Voltage Amperage Power Energy Meter DC Volt Amp Testing Gauge Monitor LCD Blue Backlight Digital Display with 100A/75mV External Shunt 0 – 100A
Working Voltage: 6.5 ~ 100VDC
Measuring Range: 6.5 ~ 100VDC
Rated Power: 100A/10000W
Measuring Accuracy: 1.0 grade

The instrument has a test range and display format as follows:

Power Range: 0~10kW
within 1kW, display 0.0~999.9W;

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above 1kW, display 1000~9999W.
Energy Range: 0~9999kWh
within 10kWh, display 0~9999Wh;
above 10kWh, display 10~9999kWh.
Voltage Range: 6.5~100V (display 6.50~99.99V)
Current Range: 0~100A (display 0.00~99.99A)

Instrument Function:

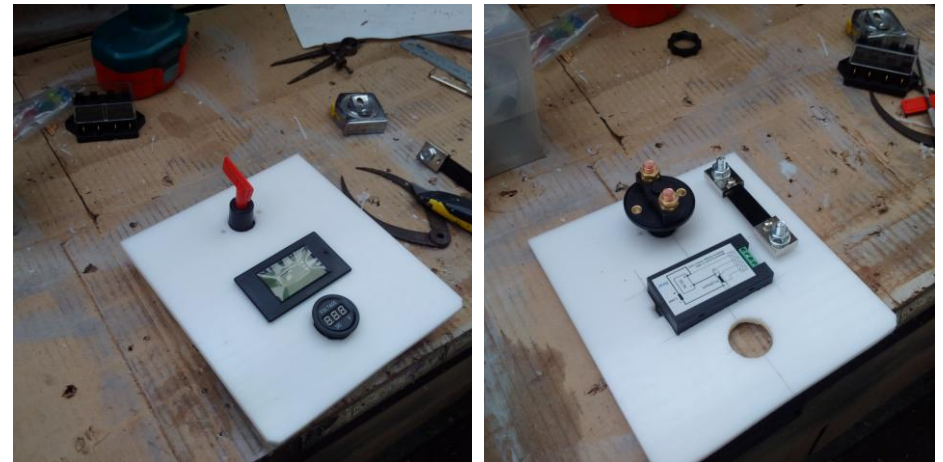
Electrical parameter measurement function (voltage, current, power, energy)
Voltage alarm function (over voltage alarm threshold, backlight and power will flash to alarm)

Reset Function: the energy can be reset by button

Store data when power off

Large-screen LCD (display voltage, current, power, energy at the same time)

Backlight function



I assembled the board fully on the bench before installing in the car, I soldered the power connections lugs to the tri rated cable as well as crimping.

All cables have crimped connections and are colour coded. I have added the system to a wiring diagram which will be kept in the service manual for the vehicle. As many changes have been made the service manual has been built up using manufacture data for suspension and braking systems which differ from that originally installed.

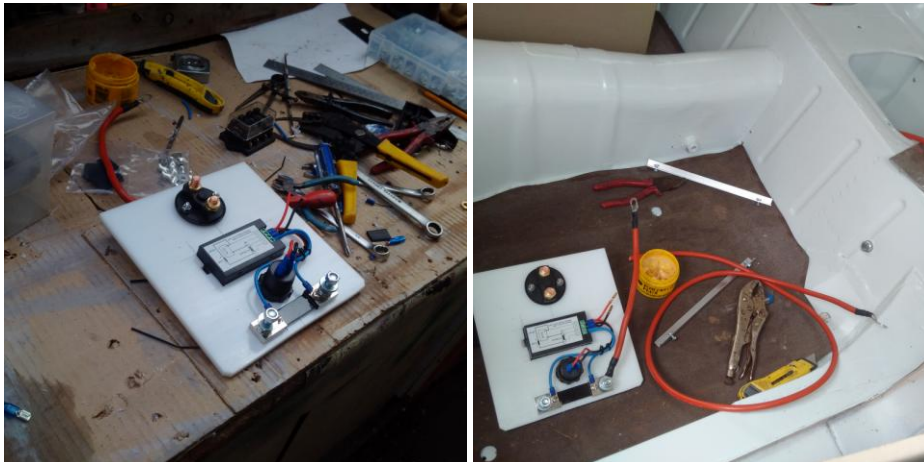
Fuses protect all instrumentation circuits and the instrumentation is sub-fused from the ignition circuit so if any instrument fails it will not interfere with the operation of the car.

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The shunt is connected to the negative battery connection and I have moved the main earth point (ground) in to the instrument well where it is easy to maintain.

I have connected the instrument ground negative connection to a separate earth point so that if the connection to ground becomes loose the instrument will show this by displaying a lower voltage than the voltmeter that I have installed below the power monitor.



I tested the system on the bench and in the car using a 9 volt battery hence the readings in the pictures.

