

OLYMPIC WIRING DIAGRAMS

WIRING DIAGRAMS CHANGES

(See control panel schematic for key)
All switches and relays are shown in the OFF position

October 2020

The feed from the “Alternator Bootstrap Relay” (in the “Barrus Panel Additions”) to the Alternator positive has been removed. This was used to feed an excitation voltage (via resistors) to the alternator when it is not generating (i.e. zero volts produced by the stator when externally rectified in the isolator box). Olympic’s alternator expects to have the battery it is charging directly connected to its positive terminal and uses the battery volts to power its field winding. On Olympic the connection is made to the Sterling Battery Charge controller which delivers the charging current to the battery without supplying this voltage to the static alternator.

The current feed is now supplied by a diode, connected between starter battery positive (from the connector on the starter solenoid) to the Alternator positive. There is no detectable current through the diode in the non-running state – clearly an essential feature of the alternator to avoid discharging a directly connected battery. (The alternator’s internal regulator uses the weak voltage generated by residual magnetism in the field to connect the field winding to the volts on the positive terminal - either supplied or generated)

(24/11/20).The relay and other remnants of the original excitation system need to be removed from the Barrus Panel.

November 2020

Within the “Isolator Box” diodes have been inserted into the positive feeds of the isolation relays. One diode from the Domestic battery bank to the three relays it feeds and one diode from the Starter battery to the single relay it feeds.

Originally all the relays were fed from the Starter battery but the drain of 4 relays was tending to make starting less certain if left with “Boat on” for longer than overnight (without running the engine and possibly with an aging battery). 2-3 years ago only the relay controlling start and ignition was retained as powered by the Starter battery and the others moved to operate from the Domestic batteries..

While investigating the total flattening of the domestic batteries in early 2020 it was realised that when the “Boat on” switch is off the starter battery will discharge through its relay, through the (in this state floating) negative connecting all the relays and through the other three relays to the possibly flat Domestic batteries (and their bilge pump loads). The additional diodes will block both domestic to starter and starter to domestic discharge. *This change has yet to be implemented on Olympic*

March 2021

Barrus box removed and a new starter relay (fitted with a capacitor to prevent arcs as the contacts break) installed on the shunts box.

Barrus harness and other associated wires re-routed to service the relay.

New 4 position Boat isolator installed.

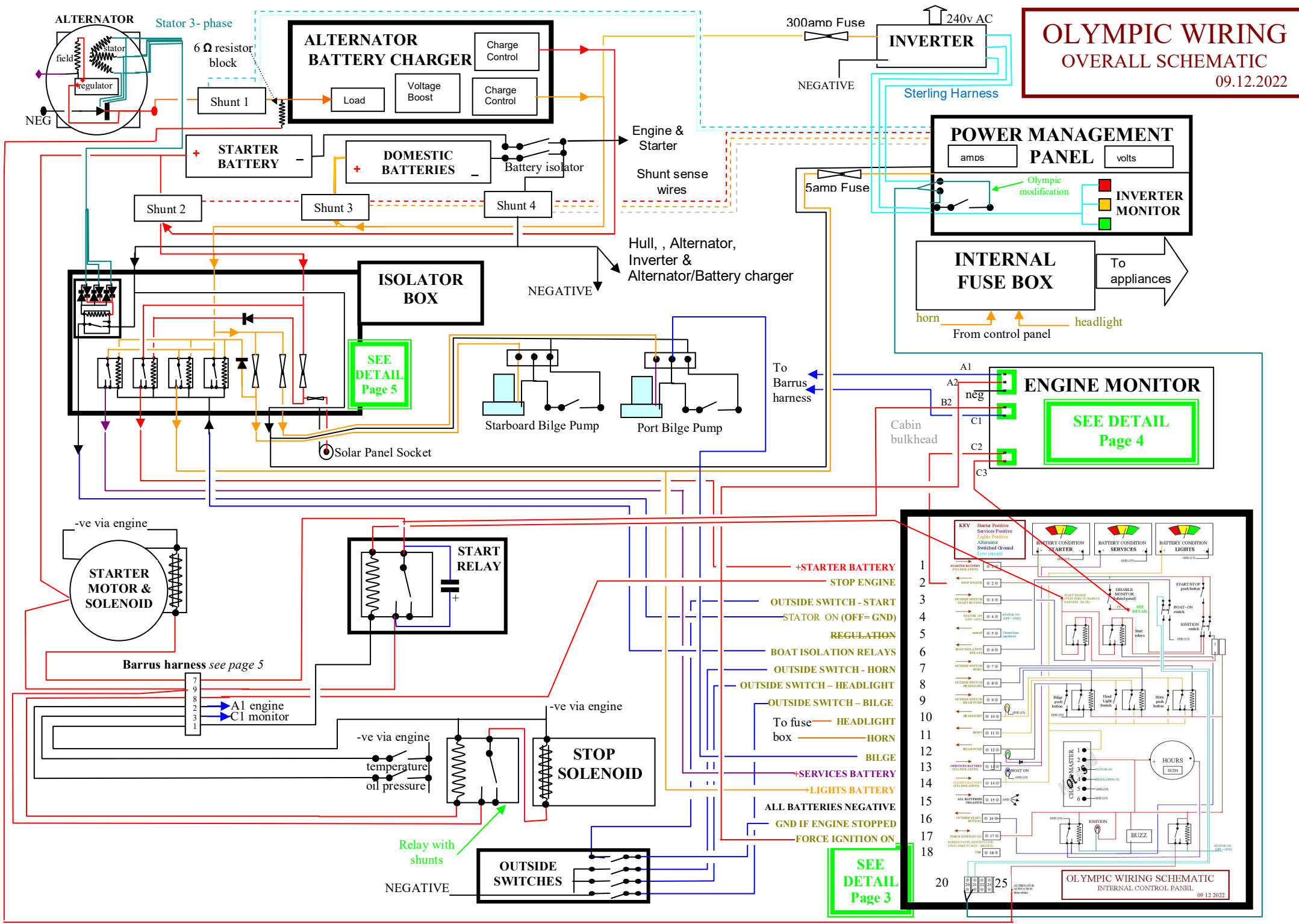
December 2022

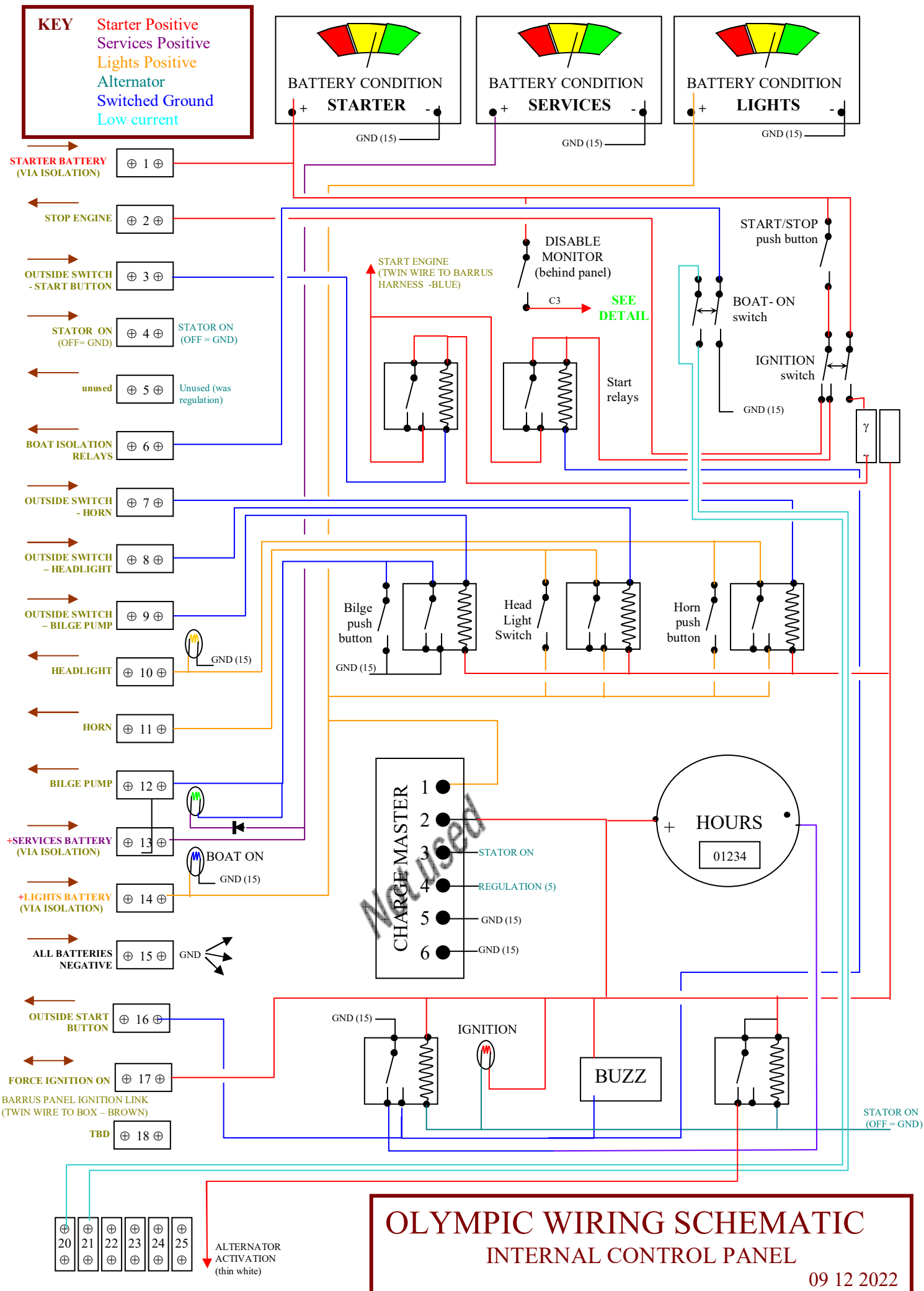
New Alternator Activation Relay added within the Control Box (see page 3 bottom right)

Diode activation from battery+ removed (diode failed). Relay driven wire added via a resistor to alternator+ to limit current surge at the contacts.

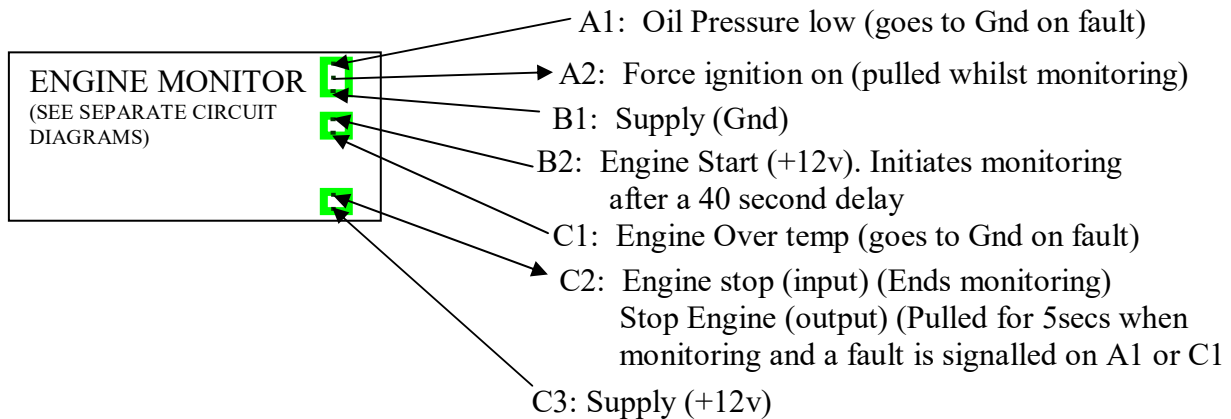
OLYMPIC WIRING OVERALL SCHEMATIC

09.12.2022





ENGINE MONITOR BLOCK DIAGRAM



Wire Number	FROM	TO	Wire
A1	Monitor	Barrus Harness Pin 3	Multi-core blue
A2	Monitor	Control Panel 17	
B1	Monitor	Control Panel 15	
B2	Monitor	Barrus Harness Pin 7	Multi-core orange/white
C1	Monitor	Barrus Harness Pin 2	Multi-core white/blue
C2	Monitor	Control Panel 2	
C3	Monitor	Control Panel switch	

For more detail see:

Engine Monitor

[Operational Description and Operational Flow Diagram](#)

[Circuit Diagram](#)

[PCB Physical Layout](#)

OTHER WIRING INFORMATION

The following documents require an Acrobat reader and can be found on the web site:

FOR DETAILS OF THE WIRING OF POWER MANAGEMENT COMPONENTS (BATTERIES, ALTERNATOR, BATTERY CHARGING, BATTERY MONITORING AND ISOLATOR BOX):

(Shows actual wired connections rather than a pure schematic)

[Engine Bay wiring diagrams \(Coast to Coast version\)](#) (2 page document)

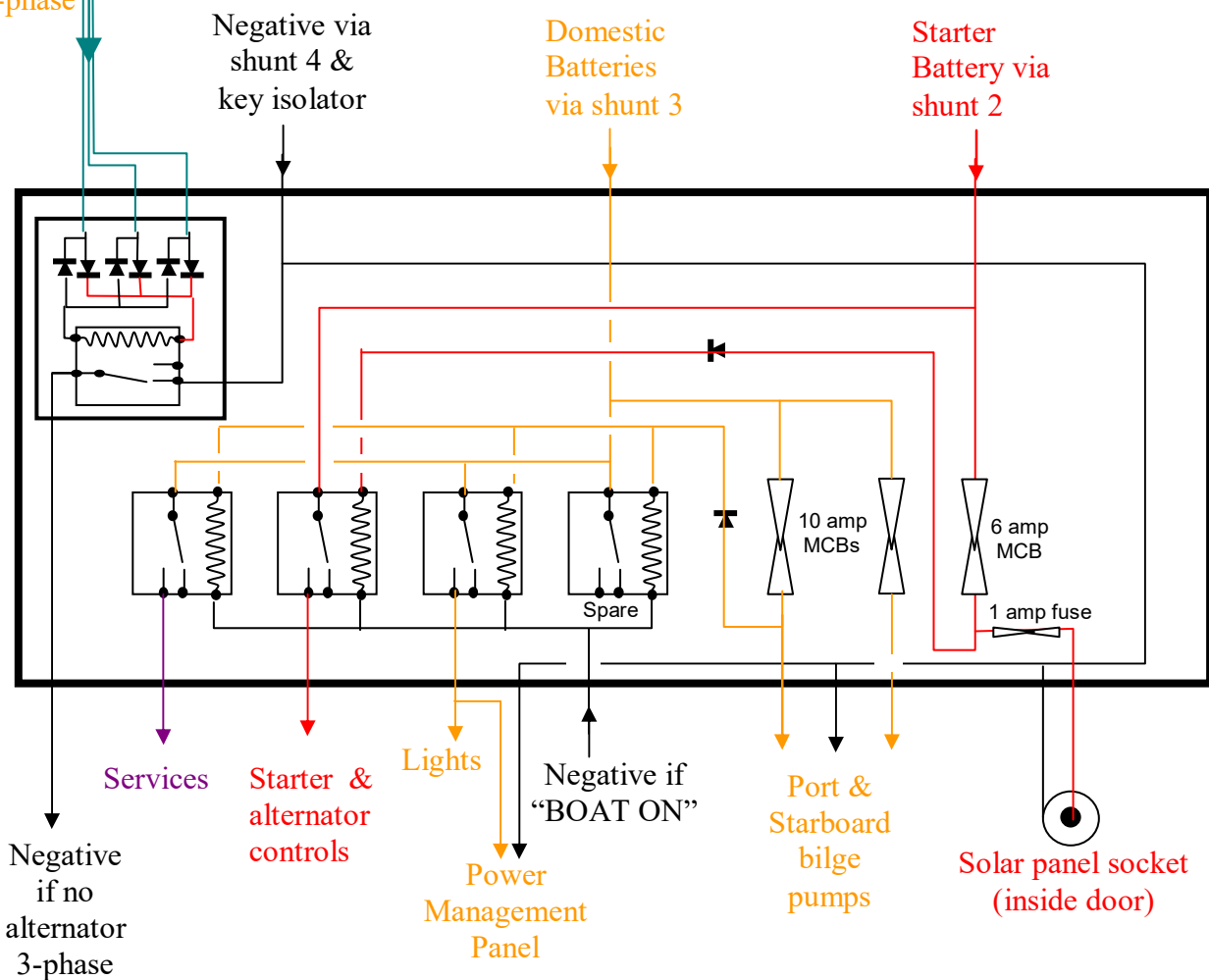
FOR DETAILS OF BARRUS WIRING (NEEDS INTERPRETATION SINCE THE BARRUS ALTERNATOR IS NO LONGER IN USE)

[Engine](#)

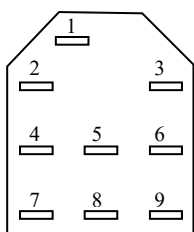
[Panel](#) (retained for history only – no longer exists)

Alternator
Stator
3-phase

ISOLATOR BOX (behind steps)



BARRUS HARNESS CONNECTOR (sited Beneath the shunts)



	Harness wire colour	
1	black	From engine
2	green-yellow	From oil pressure switch
3	blue-yellow	From over-temperature switch
4	brown-yellow	<i>Not connected.</i> Was from Barrus alternator
5	yellow	<i>Not connected.</i> Was from Barrus alternator
6	black-blue	<i>Not connected.</i> Was from Barrus alternator
7	thick red-white	To starter solenoid coil
8	black-white	To stop relay coil
9	thick brown	From battery+ on starter