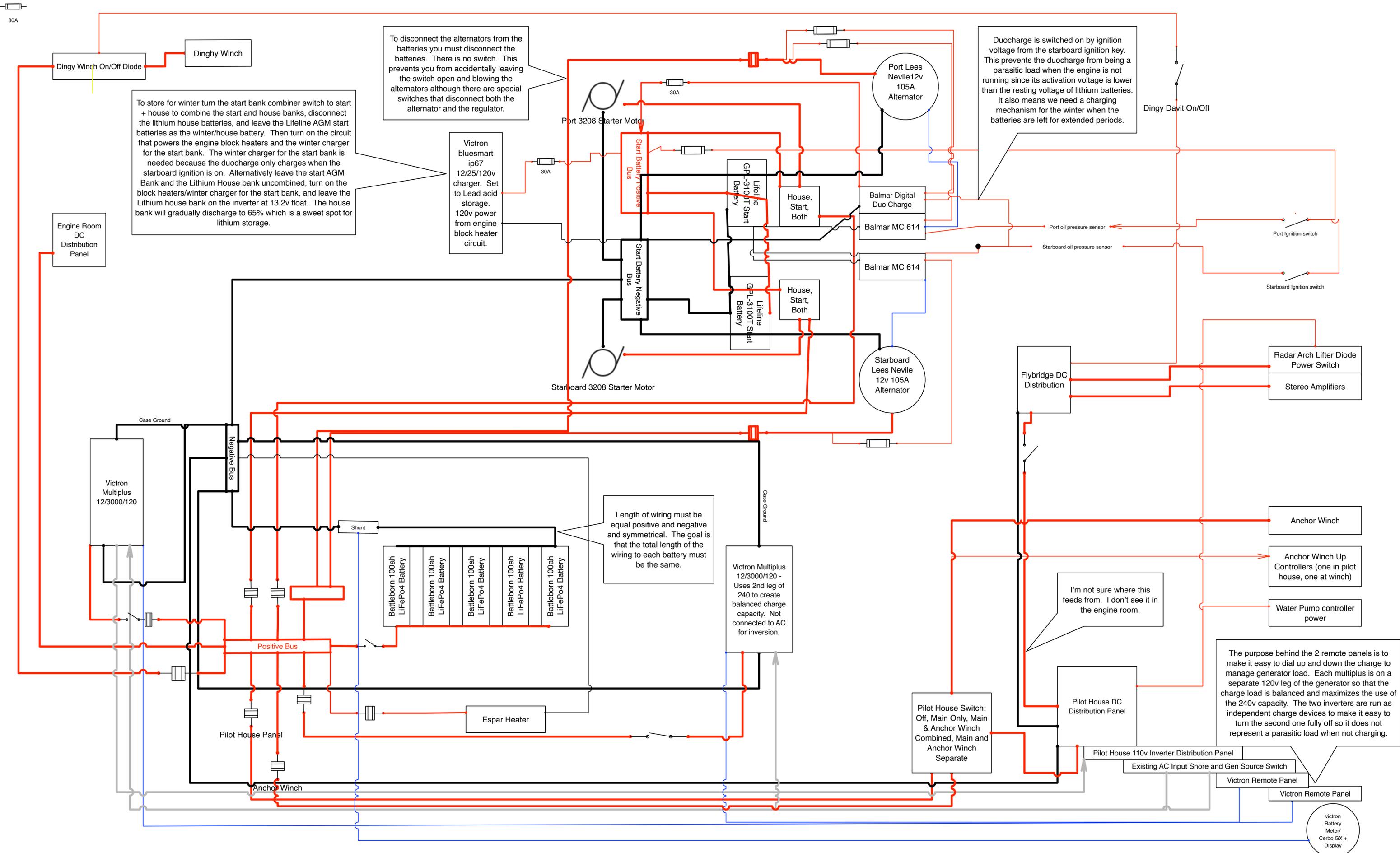


# Henry Young Electrical Using Battleborn Drop-in LiFePo4 Batteries 2020 04



To disconnect the alternators from the batteries you must disconnect the batteries. There is no switch. This prevents you from accidentally leaving the switch open and blowing the alternators although there are special switches that disconnect both the alternator and the regulator.

To store for winter turn the start bank combiner switch to start + house to combine the start and house banks, disconnect the lithium house batteries, and leave the Lifeline AGM start batteries as the winter/house battery. Then turn on the circuit that powers the engine block heaters and the winter charger for the start bank. The winter charger for the start bank is needed because the duocharge only charges when the starboard ignition is on. Alternatively leave the start AGM Bank and the Lithium House bank uncombined, turn on the block heaters/winter charger for the start bank, and leave the Lithium house bank on the inverter at 13.2v float. The house bank will gradually discharge to 65% which is a sweet spot for lithium storage.

Victron bluesmart ip67 12/25/120v charger. Set to Lead acid storage. 120v power from engine block heater circuit.

Duocharge is switched on by ignition voltage from the starboard ignition key. This prevents the duocharge from being a parasitic load when the engine is not running since its activation voltage is lower than the resting voltage of lithium batteries. It also means we need a charging mechanism for the winter when the batteries are left for extended periods.

Length of wiring must be equal positive and negative and symmetrical. The goal is that the total length of the wiring to each battery must be the same.

I'm not sure where this feeds from. I don't see it in the engine room.

The purpose behind the 2 remote panels is to make it easy to dial up and down the charge to manage generator load. Each multiplus is on a separate 120v leg of the generator so that the charge load is balanced and maximizes the use of the 240v capacity. The two inverters are run as independent charge devices to make it easy to turn the second one fully off so it does not represent a parasitic load when not charging.

Engine Room DC Distribution Panel

Dinghy Winch

Port 3208 Starter Motor

Starboard 3208 Starter Motor

Port Lees Nevile 12v 105A Alternator

Starboard Lees Nevile 12v 105A Alternator

Lifeline GPL-3100T Start Battery

Lifeline GPL-3100T Start Battery

Victron Multiplus 12/3000/120 - Uses 2nd leg of 240 to create balanced charge capacity. Not connected to AC for inversion.

Balmar Digital Duo Charge

Balmar MC 614

Balmar MC 614

Flybridge DC Distribution

Pilot House DC Distribution Panel

Pilot House 110v Inverter Distribution Panel

Existing AC Input Shore and Gen Source Switch

Victron Remote Panel

Victron Remote Panel

victron Battery Meter/ Cerbo GX + Display

Radar Arch Lifter Diode Power Switch

Stereo Amplifiers

Anchor Winch

Anchor Winch Up Controllers (one in pilot house, one at winch)

Water Pump controller power

Pilot House Switch: Off, Main Only, Main & Anchor Winch Combined, Main and Anchor Winch Separate

Dingy Davit On/Off

Port oil pressure sensor

Starboard oil pressure sensor

Port Ignition switch

Starboard Ignition switch

Pilot House Panel

Anchor Winch

Espar Heater

Battleborn 100ah LiFePo4 Battery

Negative Bus

Positive Bus

Shunt

Case Ground

Case Ground

30A

30A

30A

30A

30A

30A

30A

30A

30A

30A