BALMAR®
DC CHARGING SOLUTIONS

Centerfielder II
CFII-12/24

INSTALLATION AND OPERATION MANUAL

Introduction

Designed for use in application requiring balanced charge control from two alternators and two regulators on twin engines, the Centerfielder II: CFII-12/24 makes it possible to utilize the combined output of both alternators to supply optimized charging to a single large battery bank.

By monitoring the ignition and field voltages at port and starboard regulators, the CFII-12/24 determines when both engines are running, and directs field current from the master (starboard) regulator to both alternators. By controlling both alternators with the same field source, the CFII-12/24 ensures that alternators can work together to ensure optimal charging at a single large battery bank.

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Safety Considerations

1. *Always disconnect your battery banks and ensure that switches are "OFF" prior to installing your regulator.*
2. *Remove loose-fitting clothing or jewelry, which could become entangled in your motor or other machinery prior to installing regulator.*
3. *Wear ANSI-approved safety eye-wear and protective gear.*
4. *DO NOT attempt to modify the regulator. Modifications could result in damage to your charging system, and will void your warranty.*
5. *DO NOT attempt installation if you are tired or fatigued.*
6. *Ensure that the engine has cooled before initiating installation.*
7. *DO NOT attempt regulator installation while using alcohol or medication that could impair your judgment or reaction time.*
8. *Always use the right tool for the job. Improper tool use may damage regulator or your vessel, and could result in personal injury.*
9. *Take time to read the manual. Equipment damage and possible injuries may result from an incomplete understanding of the installation and operation of the MC-612-DUAL regulator. If you are unfamiliar with marine electrical systems, consult with a licensed marine electrician.*

CAUTION: The following instructions are intended for use by experienced marine electrical installers. If you are not experienced at installing electrical system components, we recommend the use of a qualified marine electrical technician.

CFII-12/24 Installation

The following information is intended to provide the installer with the basic information required to complete installation. This section of the installation manual will deal with mounting and wiring connections.

Unpacking the Box

Your Max Charge CFII-12/24 regulator kit is packaged with the following items:

- Centerfielder II: CFII-12/24
- Collection of wiring terminal connectors
- (2) fused 12-gauge RED wires required to replace the standard
- 14-gauge RED power wires in the Max Charge regulator's wiring harness
- CFII-12/24 Quick Start Guide

Installation

The Centerfieldr II is easy to install. You will find, included with the Centerfielder II, a collction of wiring terminal connectors as well as two fused 12-gauge RED wires required to replace the standard 14-gauge RED power wires in the Max Charge regulator' wiring harnesses.

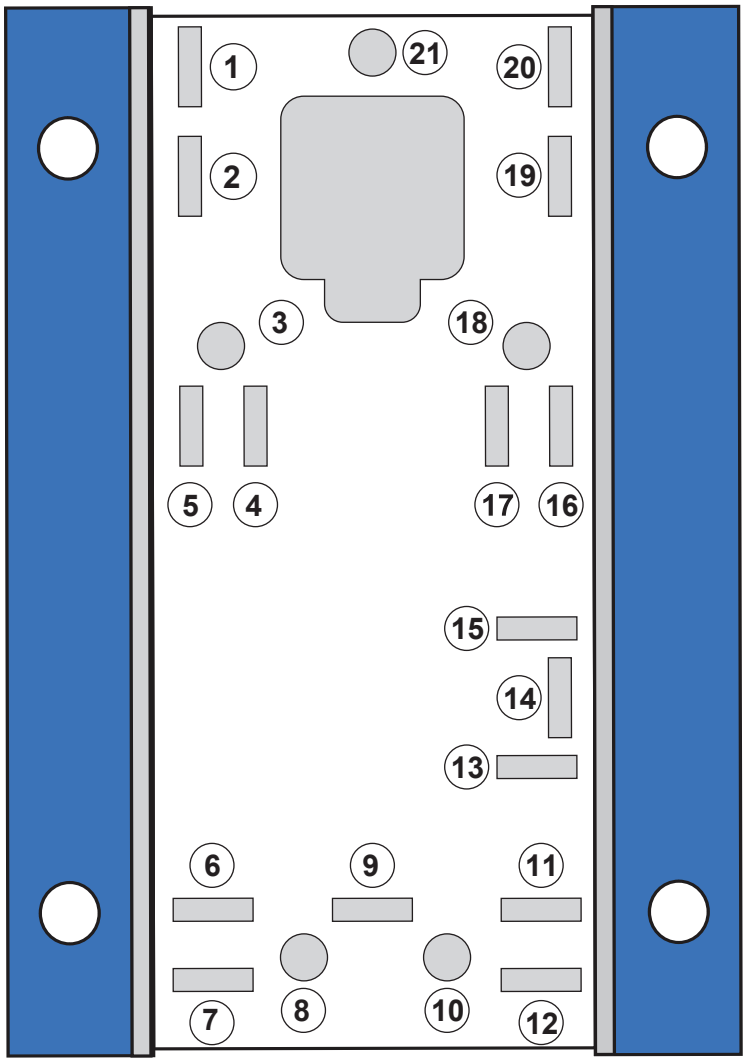
Use wire size calculation in alternator manual to determine required wire size based on the length of wire run needed to connect charging system components.

To Install:

1. Disconnect batteries or turn battery switches to the OFF position.
2. Install the CFII 12/24 on a bulkhead or other flat surface that's away from extreme heat or moisture. Typically, the CFII-12/24 is mounted close to one or the other voltage regulator.
3. Determine the distances and gauges required for wire runs between the CFII-12/24, the Max Charge regulators and the port and starboard alternators.
4. Connect the supplied wiring connectors to their appropriate wires, as described to the right, and connect to the CFII-12/24, regulators and alternators as shown.
5. Remove the exiting RED power wires from the Max Charge wiring harnesses and replace with the included, fused RED 12-gauge wires.
6. Re-connect batteries and start engines. Indicator LEDs will light as the CFII-12/24 controls field output from the regulators to the two alternators.

CFII-12/24 Regulator Terminal Layout

1. **PORT REGULATOR FIELD INPUT TERMINAL**
2. **PORT ALTERNATOR FIELD OUTPUT TERMINAL**
3. **PORT "IGNITION ACTIVATED" LED (RED)**
4. **PORT REGULATOR IGNITION**
5. **PORT IGNITION INPUT**
6. **PORT REGULATOR DASH LAMP TERMINAL**
7. **PORT DASH LAMP TERMINAL**
8. **PORT "DASH LAMP" LED (RED)**
9. **GROUND TERMINAL**
10. **STARBOARD "DASH LAMP: LED (GREEN)**
11. **STARBOARD REGULATOR DASH LAMP TERMINAL**
12. **STARBOARD DASH LAMP TERMINAL**
13. **COMMUNICATIONS PORT**
14. **COMMUNICATIONS PORT**
15. **COMMUNICATIONS PORT**
16. **STARBOARD IGNITION INPUT**
17. **STARBOARD REGULATOR IGNITION**
18. **STARBOARD "IGNITION ACTIVATED" LED (GREEN)**
19. **STARBOARD ALTERNATOR FIELD OUTPUT TERMINAL (MASTER)**
20. **STARBOARD REGULATOR FIELD INPUT TERMINAL (MASTER)**
21. **"COMBINE" LED (AMBER)**



1. **PORT REGULATOR FIELD INPUT TERMINAL -** Connect Terminal #1 to port voltage regulator's Field Output terminal via a user-supplied 12-gauge BLUE wire. A female 1/4" spade terminal is supplied for connection to Terminal #1. The 12-gauge BLUE wire will replace the regulator's 14-gauge field wire.

2. **PORT ALTERNATOR FIELD OUTPUT TERMINAL -** Connect Terminal #2 to the port alternator's field input terminal via a user supplied 12-gauge BLUE wire. A female 1/4" spade terminal is supplied for connection to Terminal #2. Alternator-side termination will vary based on alternator, and may require a user-supplied spade or ring terminal connector, depending on the alternator configuration.

3. **PORT "IGNITION ACTIVATED" LED (RED) -** Indicates activation of port voltage regulator's ignition wire. If LED is illuminated, but the port voltage regulator is inactive, check for voltage at the regulator's ignition terminal.
4.
5. **PORT REGULATOR IGNITION -** Connect Terminal #4 to the port voltage regulator's BROWN ignition wire. A BROWN 14-Gauge user-supplied wire is recommended. A female 1/4" spade terminal is supplied with the Centerfielder II.

6. **PORT IGNITION INPUT -** Connect Terminal #5 to the port engine ignition switch or port engine oil pressure switch. Terminal #5 must see zero volts when the port engine is turned off, and battery voltage when the port engine is running. BROWN 14-Gauge user-supplied wire is recommended. A female 1/4" spade terminal is supplied for connection to Terminal.

7. **PORT REGULATOR DASH LAMP TERMINAL-** Connect Terminal #6 to the port voltage regulator's dash lamp terminal via a user supplied 16-gauge wire. Female 1/4" spade terminals are supplied for connecting to Terminal #6.

8. **PORT DASH LAMP TERMINAL-** Connect Terminal #7 to the port dash lamp via a user supplied 16-gauge wire. Female 1/4" spade terminals are supplied for connection to Terminal #7.

9. **GROUND TERMINAL -** Connect Terminal #9 to system ground via 14-gauge BLACK wire. A female 1/4" spade terminal is supplied for connection to Terminal #9. Termination to system ground will require a user-supplied spade or ring terminal connector, depending on the ground location chosen. ALL GROUND CONNECTIONS MUST BE COMMON.

10. **STARBOARD "DASH LAMP" LED (GREEN)-** Indicates activation of starboard voltage regulator's Dash Lamp terminal. Activation of the Dash Lamp may occur as a result of high or low voltage, high alternator or high battery temperature. If LED is illuminated, inspect the starboard voltage regulator long display for advisory codes.

11. **STARBOARD REGULATOR DASH LAMP TERMINAL-** Connect Terminal #11 to the starboard voltage regulator's dash lamp terminal via a user supplied 16-gauge wire. Female 1/4" spade terminals are supplied for connection to Terminal #11.

12. **STARBOARD DASH LAMP TERMINAL-** Connect Terminal #12 to the starboard dash lamp via a user supplied 16-gauge wire. Female 1/4" spade terminals are supplied for connection to Terminal #12, and for connection to the starboard regulator's dash lamp.

13. **COMMUNICATION PORT-** Factory use only.

14. **COMMUNICATION PORT-** Factory use only.

15. **COMMUNICATION PORT-** Factory use only.

16. **STARBOARD IGNITION INPUT-** Connect Terminal #16 to the starboard ignition switch or starboard engine oil pressure switch. Terminal #16 must see zero volts when the starboard engine is turned off, and battery voltage when the starboard engine is running. BROWN 14-Gauge user-supplied wire is recommended. A female 1/4" spade terminal is supplied for connection to Terminal #16.

17. **STARBOARD REGULATOR IGNITION-** Connect Terminal #17 to the starboard voltage regulator's BROWN ignition wire. A BROWN ignition wire. A BROWN 14-Gauge user-supplied wire is recommended. A female 1/4" spade terminal is supplied for connection to Terminal #17.

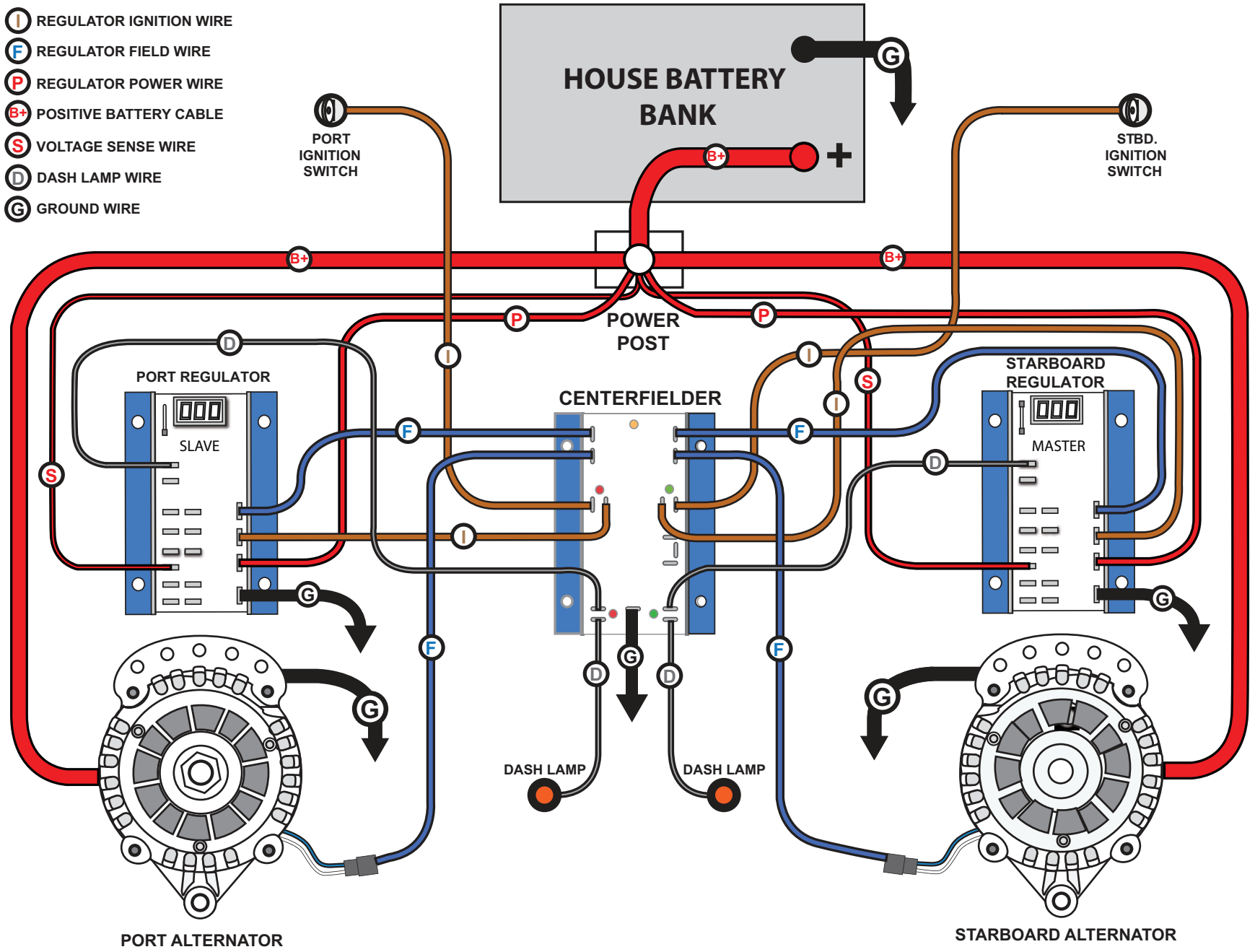
18. **STARBOARD "IGNITION ACTIVATED" LED (GREEN)-** Indicates activation of starboard voltage regulator's ignition wire. If LED is illuminated, but the starboard voltage regulator is inactive, check for voltage at the regulator's ignition terminal.

19. **STARBOARD ALTERNATOR FIELD OUTPUT TERMINAL (MASTER)-** Connect Terminal #19 to the starboard alternator's field input terminal via a user supplied 12-Gauge BLUE wire. A female 1/4" spade terminal is supplied for connection to Terminal #19. Alternator-side termination will require a user-supplied spade or ring terminal connector, depending on the alternator configuration.

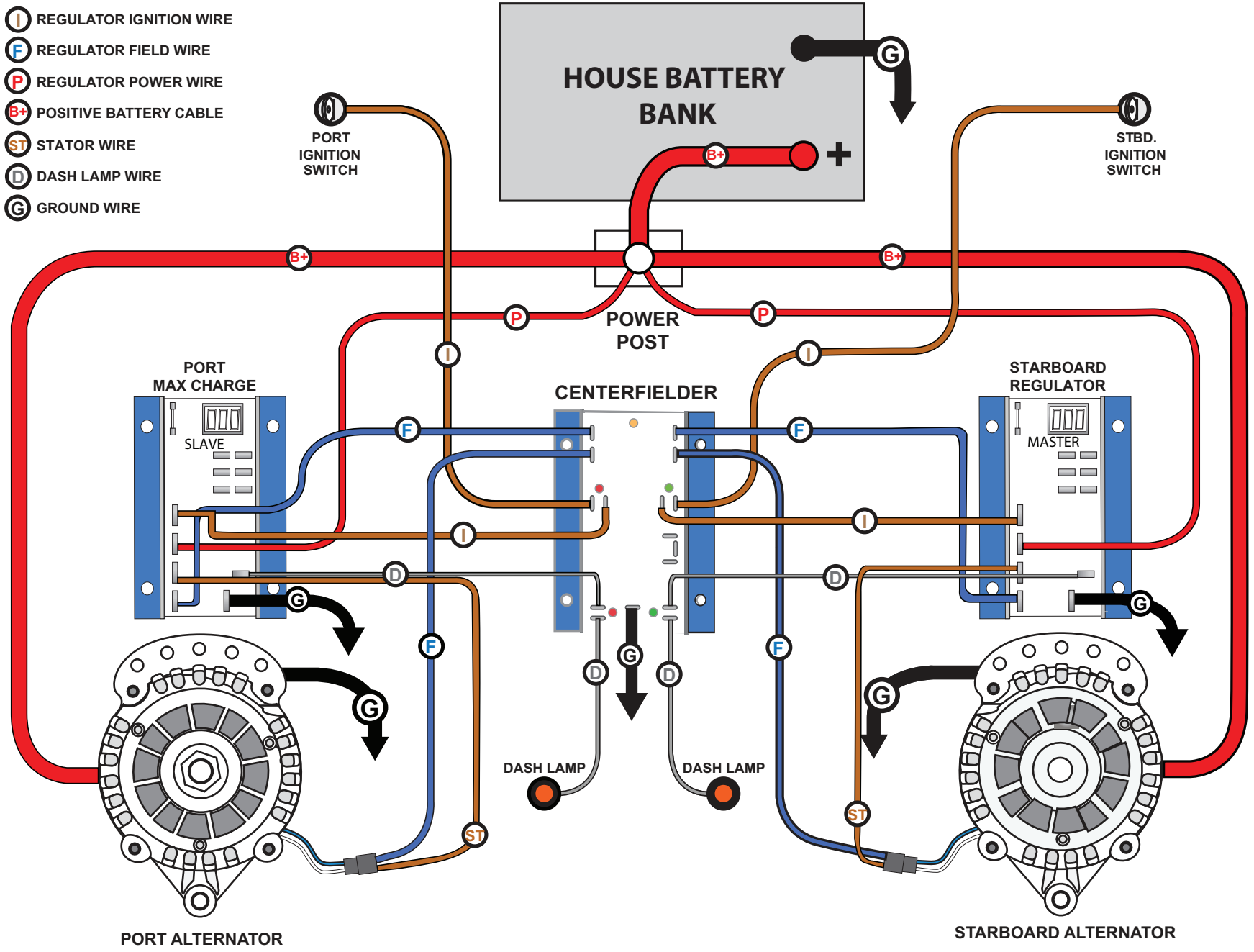
20. **STARBOARD REGULATOR FIELD INPUT TERMINAL (MASTER)-** Connect Terminal #20 to starboard voltage regulator's Field Output terminal via a user-supplied 12-Gauge BLUE wire. A female 1/4" spade terminal is supplied for connection to Terminal #20. The 12-Gauge BLUE wire will replace the regulator's 14-Gauge field wire.

21. **"COMBINE" LED (AMBER)-** Indicates activation of port and starboard alternators and voltage regulators. The CFII - 12/24 will continue to supply balanced field current to both port and starboard alternators when the LED is activated.

Centerfielder II Installation - 12-Volt System



Centerfielder II Installation - 24-Volt System



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