

# TROLLBRIDGE24® COMBINER

## CHARGE 24 VOLT TROLLING BATTERIES FROM 12 VOLTS

### SUMMARY

© July 2010

The Trollbridge24® Combiner allows you to charge your 24 volt trolling motor battery from the 12 volt alternator on your main engine, your trailer hookup or any single or multi-output 12 volt charger.

It is designed to allow using your starting battery as one of the trolling motor batteries. If you plan on using two 12 volt batteries for the trolling motor and keeping the starting battery separate you should use the Trollbridge 12X24.

It works automatically by putting two 12 volt batteries in series when you need to run the trolling motor and putting them in parallel for charging. It is bidirectional so when not trolling, the second trolling battery backs up your starting or house battery.

When using the starting batteries as one of the trolling batteries you have to be alert to the charge remaining so you can start the motor. Using a higher capacity starting battery can help.

### FEATURES

- ▶ Fully automatic, no switches or connectors to change
- ▶ You can run BOTH motors at the same time.
- ▶ Manual 12/24 volt switching available
- ▶ Uses the starting battery, for a 2 battery setup
- ▶ Both batteries operate in parallel when not trolling
- ▶ Eliminates the need for multiple output chargers
- ▶ Can be conveniently located with the batteries
- ▶ Rated for 12 volt alternators up to **150 amps**
- ▶ Rated for 24 volt trolling motors up to **85 amps**
- ▶ Green LED indicates 24 volt output active
- ▶ Optional remote indicator compatible §
- ▶ Nearly UNLIMITED warranty \*
- ▶ Waterproof - will operate submerged in salt water
- ▶ Ignition rated for explosive atmospheres
- ▶ No voltage drop so batteries reach full charge
- ▶ No voltage drop so motor gets full power
- ▶ No wasted power, no heat sink or cooling required
- ▶ No modification to alternator or 12 volt wiring
- ▶ Simple 5 wire basic installation
- ▶ Comes with all cables for basic hookup
- ▶ Draws no current when off
- ▶ No diodes to burn out if accidentally shorted
- ▶ Withstands ambient temperature to over 175°F (80°C) for engine compartment mounting

**DANGER: During installation voltages may be present on unattached cables. Make sure these do not short out to boat ground, battery positive, or to each other.**

### HOW IT WORKS

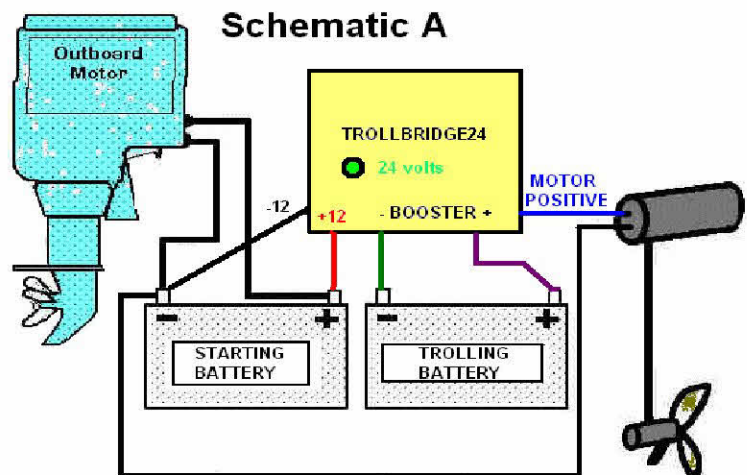
The Trollbridge24® uses two 12 volt batteries to make 24 volts. They are in parallel at 12 volts when not trolling.

One of these batteries can be either the normal starting battery (Schematic A), or a 12 volt "house" battery if your boat has one (Schematic B). If you use the house battery, it should be connected to the starting battery with a battery Combiner100 so both batteries will get a charge from the alternator when the main engine is running.

The other "trolling" or "booster" battery is used only for the trolling motor and **cannot be connected to anything else**.

The Starting battery (or House battery if used) can also be used for other 12 volt loads.

**CAUTION** If your trolling motor has a built in fish finder transducer some of these do not allow a common ground. Check with the manufacturer to see if it is compatible.



### INSTALLATION

We recommend 6 gauge wire for the motor cables and for extending the supplied cables. The 10 gauge wire supplied is used for current limiting protection - see explanation under WARRANTY at end of these instructions.

**DO NOT** bundle the cables together inside a plastic conduit. The cables are rated for 60 amps in free air, in a conduit they may overheat and melt the insulation.

Connections must be clean and tight.

1. **IMPORTANT** Remove any existing jumper from battery 1 positive to battery 2 negative. Sometimes this jumper is inside the trolling motor plug.
2. Any existing battery charger cables can be left as-is.
3. Connect the **BLACK** Trollbridge24® ground wire to the common negative of your main 12 volt starting or house battery ground terminal. Lengthen with 8 or 6 gauge wire if needed.
4. The **RED** cable is connect to the positive terminal of the main 12 volt starting or house battery. If you want a safety breaker in this circuit it should be rated at 100 amps maximum. **SHORTENING THIS CABLE WILL VOID THE WARRANTY \***. Extending is OK.

The connections do not have to be made right on the battery terminals but any wire or cables between the battery

