

# TROLLBRIDGE12X24®

## (TROLLBRIDGE24+COMBINER100)

### CHARGE 24 VOLT TROLLING BATTERIES FROM 12 VOLTS

#### SUMMARY

© July 2010

The Trollbridge12X24® is a 12 volt Combiner100 and Trollbridge24 all in one package which 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 without any risk of running down your starting battery. 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 only charges the trolling batteries when the main engine is on.

#### FEATURES

Fully automatic, no switches or connectors to change  
Starting battery will never discharge into trolling motor  
Both batteries operate in parallel when not trolling  
Automatically switches in series for 24 volt output  
Batteries are only charged when the outboard is running  
Eliminates the need for multiple output chargers  
Can be conveniently located with the batteries  
Rated for 12 volt alternators up to **100 amps**  
Rated for 24 volt trolling motors up to **85 amps**  
Use the Trollbridge2400 for up to **600 amps** load  
Use the Trollbridge24 if you already have a Combiner  
Use the Trollbridge24 on TWO battery systems  
Green LED indicates 24 volt output active  
Amber LED indicates charging is in progress  
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 6 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.**

#### **WARNING**

**Fuses are not normally used on the trolling battery cables however if you do BOTH must be fused.**

#### HOW IT WORKS

The Trollbridge12X24® connects two 12 volt batteries to your starting battery to make 24 volts. The 2 trolling batteries are in parallel at 12 volts when not trolling.

When the starting battery reaches 13 volts or more the amber LED comes on and the trolling batteries receive charge.

The first trolling battery can also be used as a house battery for other 12 volt loads..

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

#### INSTALLATION

We recommend 6 gauge wire for the motor cables and for extending the supplied cables. Flash cables before connecting to check for sparks which indicate a wiring error.

Since the connections made in the battery circuits can carry hundreds of amps, it is imperative that you have low resistance connections. This means having clean metal to metal contact, the right size ring terminals, properly crimped terminals, and secure mechanical fastenings.

- IMPORTANT** Remove any existing jumper from trolling battery **1positive** to battery **2negative**. Sometimes this jumper connection is inside the trolling motor plug.
- Any existing battery charger cables can be left as-is.
- Connect starting battery negative to the first trolling battery negative with a black cable. 10 gauge is OK but if the run is over 10 feet use 8 or 6 gauge.
- Connect the **BLACK** Trollbridge12X24® ground wire to the negative of the first trolling battery. Lengthen if needed.
- The **RED** cable is connect to the positive terminal of the first trolling battery which can also be used as a house battery. **SHORTENING THIS CABLE WILL VOID THE WARRANTY\***. Extending is OK .  
If you want a safety breaker in this circuit it should be rated at 100 amps maximum. See **WARNING** - - the **PURPLE** cable must be fused also. .
- Connect the **GREEN** cable to the second trolling battery negative terminal. **No other connections should be made to this negative battery terminal. SHORTENING THIS CABLE WILL VOID THE WARRANTY\***. Extending with 8 or 6 gauge wire is OK.
- Connect the **PURPLE** (sometimes WHITE) cable to the second trolling battery positive terminal. The trolling motor does **NOT** connect to this terminal. **No other connections should be made to this positive battery terminal. SHORTENING THIS CABLE WILL VOID THE WARRANTY\***. Extending with 8 or 6 gauge wire is OK. If you want a safety breaker in this circuit it should be rated at 100 amps maximum. See **WARNING** - - the **RED** cable must be fused also. .
- The **YELLOW** wire connects to the starting battery positive terminal. **SHORTENING THIS CABLE WILL VOID THE WARRANTY\***. Lengthening with 10 gauge is OK but if the run is over 10 feet use 8 gauge.

