

# TROLLBRIDGE36® COMBINER

## CHARGE 36 VOLT TROLLING BATTERIES FROM 12 VOLTS

The Trollbridge36® Combiner allows you to charge your 36 volt trolling motor battery from the 12 volt alternator on your main engine, from your trailer hookup or from any single output 12 volt charger. It works automatically by switching the 12 volt batteries in series when you need to run the trolling motor and in parallel for charging.

### FEATURES

Fully automatic changeover from running to charging  
 Radio Remote button for running BOTH motors  
 Can be used on 3 or 4 battery 36 volt systems.  
 Compatible with all 36 volt trolling motors  
 Eliminates the need for multiple output chargers  
 Compatible with existing multiple output chargers  
 Compact, 4"x5"x2", can be located with the batteries  
 Built in Combiner isolates starting battery from discharge  
 Rated for 12 volt charging sources up to **100 amps**  
 Rated for 36 volt trolling motors up to **85 amps**  
 LED shows when charging, remote LED output available  
 Batteries are charged in parallel so charge is equalized  
 Nearly UNLIMITED warranty, see **WARNING** and §  
 Waterproof - will operate submerged in water  
 Ignition rated for explosive atmospheres  
 99% efficient, no heat sink or cooling fan required  
 Simple installation, cables included  
 Draws no current when not charging, no switch needed  
 Withstands ambient temperature to over 175 F (80 C)

### WARNING WARNING

**IF ANY EXISTING BATTERY JUMPERS ARE NOT REMOVED THE TROLLBRIDGE36® WILL SELF DESTRUCT AND VOID THE WARRANTY.**

**Internal automatic switches in the Trollbridge36® will take the place of the jumpers as it switches between series and parallel.**

**DANGER: During installation voltages may be present on unattached cables. Wrap them and keep them clear until each is ready to install.**

**Four Battery System.** Uses the starting battery and three trolling batteries to make 36 volts. The three batteries should be dedicated to the 36 volt motor and NOTHING else should connect to them. For maximum life, trolling batteries should be matched as close as possible for chemistry, capacity and age. The trolling motor will never use power from the starting battery. See the schematic page two.

**Three Battery System.** With three batteries, trolling battery #1 is used as a starting battery and 12 volt instruments, etc. it should be made much larger than the other two so you can still start the engine when batteries 2 & 3 are low. Batteries 2 and 3 should be matched for chemistry, capacity and age for maximum life. On the

schematic you will omit the starting battery and connect the main engine to the battery with **BLACK** and **RED** cables. The **YELLOW** cable will go to the same terminal as **RED**.

### INSTALLATION

See the appendix for use of circuit breakers and fuses.

The following connections do not have to be made right on the battery terminals but any wire or cable extensions between the battery and the Trollbridge36® must be heavy enough to carry the trolling motor and charging currents.

**MAKING ANY Trollbridge36® SUPPLIED CABLES SHORTER WILL VOID THE WARRANTY.** Extending with 6 or 10 gauge wire is OK. Cutting off existing terminals to make extensions is OK.

**DOUBLE CHECK SCHEMATIC BEFORE MAKING EACH CONNECTION.** A mistake can cause sparks and damage the Trollbridge36®.

1. Remove **ALL** existing battery cables, **SEE WARNING**.
  2. On a 4 battery system, connect the negative of the starting battery to the negative of battery 1.
  3. Connect the **BLACK** Trollbridge36® ground wire to the Negative terminal of battery 1. This terminal also connects to the negative of the starting battery and the negative side of the trolling motor.
  4. The **RED** cable is connected to the positive terminal of battery 1. *On 3 battery systems this is also the starter motor positive connection.*
  5. The **YELLOW** cable is the incoming charging line and will be connected to the positive of the starting battery. *On a 3 battery system connect it to the **RED** terminal.*
  6. Connect the **PURPLE** wire to battery 2 negative. **See §**
  7. Connect the **WHITE** cable to battery 2 positive. **See §**
  8. The **GREEN** cable goes to battery 3 negative. **See §**
- NO OTHER WIRES CONNECT TO THESE TERMINALS**
9. Connect the **BLUE** cable to the trolling battery 3 positive terminal. This is the +36 volt supply to the trolling motor

### TROLLING MOTOR CONNECTION

The positive terminal of battery 3 will connect to the trolling motor positive supply. 6 gauge wire is normal. A 50 amp circuit breaker is recommended in this motor connection for protection against shorts, motor failure and as a safety disconnect.

The negative side of the trolling motor connects to the negative terminal of battery 1 as stated above. 6 gauge wire is recommended.

### OPERATING INSTRUCTIONS.

**DEEP DISCHARGE IS THE BIGGEST BATTERY KILLER.**  
**Avoid running below 37 volts as much as possible.**

#### 1. Off

The Trollbridge36® draws no power when not charging or trolling and does not need an on/off switch. It should be left connected to the batteries at all times. When "off" there will be 36 volts available to the trolling motor.

#### 2. Charging

When you start the main engine, or apply any charging source to the starting battery, the Trollbridge36® will first wait for the starting battery to get some charge (13 volts) then

