Yandina LLC.

# 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.
- Compatible with most 36 volt trolling motors
- The Lithium version should be used with Lithium batteries
- 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.
- 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 TYPICAL EXISTING BATTERY JUMPERS ARE NOT DISCARDED THE TROLLBRIDGE36® WILL SELF DESTRUCT AND VOID THE WARRANTY.**

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

**✦DANGER: During installation voltages may be present on unattached cables. Use supplied terminal covers to protect from sparks.**

**15% of installations are destroyed by connection errors. Replacements are $75 if installed wrong.**

**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** if using the starting battery for trolling.

**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 theTrollbridge36® must be heavy enough to carry the trolling motor and charging currents.

***SHORTENING ANY Trollbridge36® SUPPLIED CABLES WILL VOID THE WARRANTY.*** Extending with 6 to 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®.

Stick the supplied color coded stickers to the batteries beside terminals. Wire color should match sticker.

**DO NOT** bundle cables in plastic conduit, their current rating is only for open air. In conduit they may overheat.

1. Remove **ALL** existing battery cables, **SEE WARNING**.
2. On a 4 battery system with isolatead starting battery, 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. When extending use no heavier than 10 gauge up to 10 feet, 8 gauge over 10 feet. *On a 3 battery system connect* **YELLOW** *cable to the* **RED** *terminal.*
6. Connect the **PURPLE** 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