

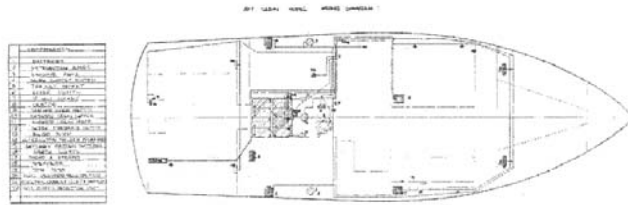
# REWIRE IT Part 2

Tim Groom



## Wiring Layout PART 2

Original drawing from Moonraker manual – Wiring Diagram



## Engine Wiring Diagram

These drawings provide all Moonraker owners with a picture of what a wiring diagram looks like but doesn't provide us with the information on how to get there or what we should plan to give us the optimum use of our equipment.

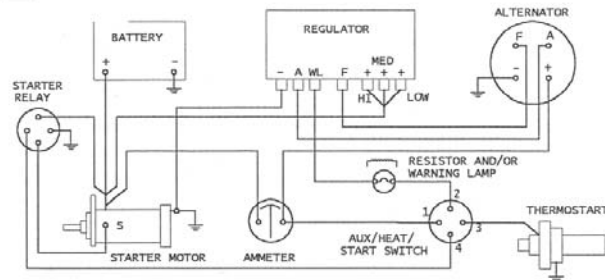
To do this we need to refer back to our list of equipment and then take a look at our vessels and match the two items together. This may sound difficult but it can easily be achieved. Our first task is to identify what types of power we have on our boats. We have normally the following.

24-volt batteries for engine starting and an independent wiring system. (We shall refer to this as the engine wiring from now on)

12-volt batteries for general use, lights, instruments, fridge, etc (We shall refer to this as the domestic wiring from now on)

(Sometimes a 12volt tap off from the 24 volt system is used this will be covered later)

In addition there may be a 240-volt set up for shore power with perhaps the ability to rectify this to 12 or 24 volt.



When our boats are running we rely on the alternators to keep the batteries charged.

Normally there isn't a problem with 24volts as once the engines are started they are required for limited use such as engine instruments.

However we demand a lot from our 12-volt systems not only do they provide us with lighting but also they are our main supply for navigation, radio contact, depth sounders, weather forecasts, fridges, portable TVs etc. etc. It can be easily seen that if a problem is to occur it will be with this system where the problems of a flat battery may easily occur.

In most cases our vessels don't have one battery but they are equipped with a whole range. Port and Starboard Engine starting batteries and either one or two 12 volt systems for those who are lucky enough they will have 2 two 24volt batteries and two 12 batteries all fed from their own alternators.

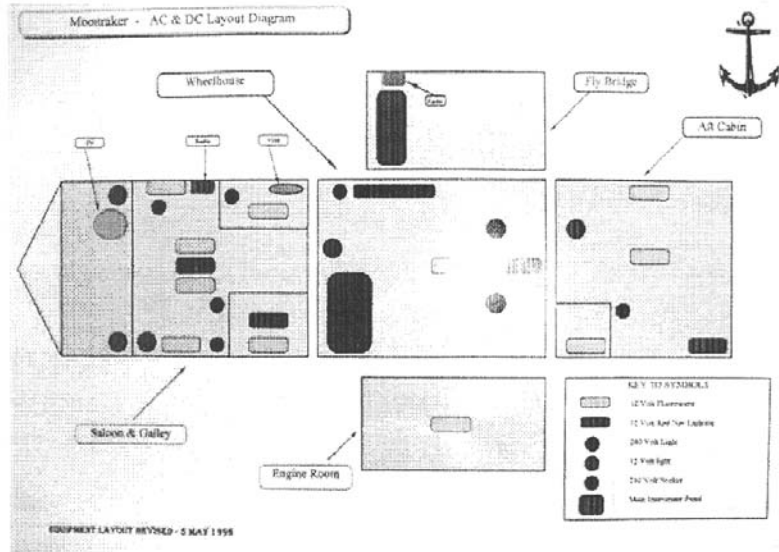
By carefully planning what is connected to which battery we can minimise the damage or inconvenience of a flat battery.

In order to do this, the easiest way is to take a large sheet of paper and draw the shape of our boat on it; we then mark all the items of equipment and their location on the boat and the voltage 12/24v that they use. At this point ignore the engines and their instruments, as they will be treated as a totally separate rewire. You should end up with some thing like this although the one shown was done on a computer a sheet of wallpaper would be just as good.

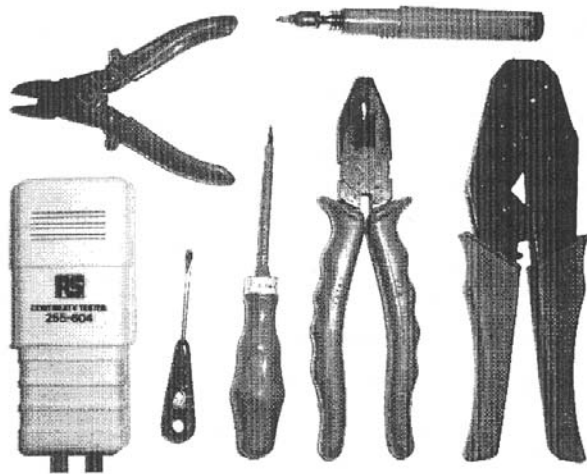
From this we can see that there are 4 main areas. 2 cabins a wheelhouse and a fly bridge/external fittings. We also have port and starboard sides to each area. These give us our first decisions with the cabins the trick is to share lighting across each battery with the main lights (The ones you use most often) connected to the battery which will not be used for main navigation. Lets say you decide on port for secondary lights and navigation equipment and starboard for main lights, fridge, TV, radio etc. A decision like this will reduce the risk of a flat battery when it is most needed. The heavy domestics could flatten one battery but still leave you ready to sail the next day. By spreading lights across both batteries it will always leave you with some lighting in the event of a flat battery like wise if fore and aft cabins are spread across both batteries you will always have some power in each cabin.

To put this on paper is simple. In the middle of your wheel house draw two squares which represent port and starboard batteries and from each draw lines to each item of equipment you intend to feed from each battery you will end up with port lights starboard lights etc you then need to decide where you can run wire down each

side of the boat up to the fly bridge and back to the cabins. It may take several attempts but eventually you will end up with some thing like this.



In the next issue I will cover the tools and techniques on how to run the wires, what wires to use, fuses and different ways of fixing from conduit pipes to clips and tie straps.



# MEMBERS SURVEY RESULTS

Barry Greenwood

Many Thanks to the fifteen members who returned the survey forms.

Although only a small sample of the total membership, the survey covered all production years from 1970 through to the latest model in 1991.

All models had aft cabins and twelve had fly bridges. Four craft had been re-engined and two had rebuilt engines.

They were powered by various makes of engines and power ratings.

- 2 craft had Perkins 145hp turbo engines. Boat speeds were 17-19 kts.
- 8 craft had Perkins 175hp turbo engines. Boat speeds were 17-24 kts. \*
- 1 craft had Ford Mermaid 212hp. Boat speed was 24kts.
- 1 craft had Mercruiser 220hp. Boat speed was 25kts.
- 1 craft had Sabre 225hp. Boat speed was 20kts.
- 1 craft had Sabre 250hp. Boat speed was 25kts.
- 1 craft had Iveco 330hp. Boat speed was 30kts!

As you can see the speeds achieved reflect the power fitted.

\*I think the member who claimed 24kts from a Perkins 175 @ 2200rpm was viewing his speed log through rose tinted glasses or had been reading the Moonraker sales brochure (or both)! The average was 19kts, and the spread 17-21kts.

The standard propellers fitted to the Moonraker are 17" x 14" 3blade.

Four members had changed to 4 blade and the dia. and pitch had been tweaked to improve RPM and boat speed. The larger engines required different dia. and pitch to cater for the increased power. One member reported 20" dia. props to transmit his 330hp. He must have fitted larger 'P' brackets, as there is insufficient tip clearance for this size of propeller.

(On those boats with the larger engines, were the shaft sizes increased to handle the extra power?)

Three members had fitted rope strippers/prop. protectors\*\*. Apart from the obvious benefits of these units, it has been said that they take a knot or so off top speed but this could not be determined from survey results.

Three members did not know their hull number and three members did not know the exact year of build. If they can find the hull number I may be able to work out the year of manufacture. Five members did not know their model designation. Again, with the hull number and a photo I may be able to identify the model.

Thanks again to the members who participated.

Q. Has any member experience of overhauling rudder bearings?

\*\*Word of warning. In heavily sand laden sea areas, rope strippers can cause problems through excessive wear, which eventually necessitates the removal of these otherwise excellent rope cutters.

Ed.