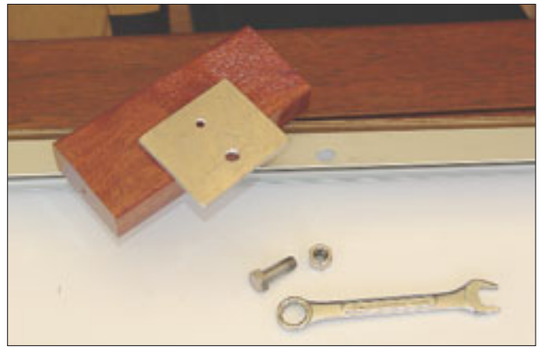
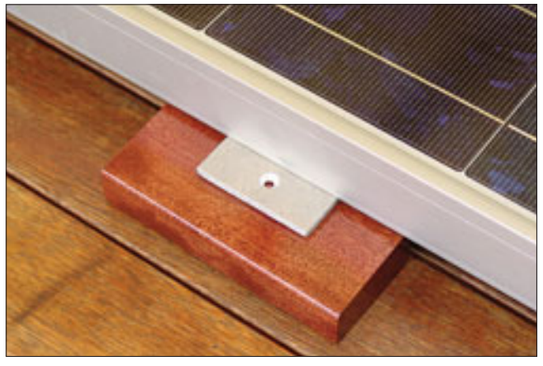


Installing the solar panels is relatively simple. The underside of the frame is pre-drilled, and because the maker's recommend that you don't install the panel (and its all-important electrical controls) hard onto the roof, we prefer to lift it up about 20-25mm so that it sits clear of the roof - and rain or hose water can then pass harmlessly underneath.



Solar Power

- Free, Efficient and Environmentally Friendly!

The F&B Team has enjoyed real success with solar power, running their 110 litre deep freeze entirely on the input of the three solar panels embedded on the roof of *Far-Away*, F&B's 8.2m Honda-powered 'Salty' plate alloy cruiser. In fact, they have been so successful, they decided they could solar power their creek fishin' dory too!

It will come as no surprise to long term readers that we are very passionate about the use of solar power on our boats, whether they are solar panels just for keeping a battery charged through winter, or as back-up to the boat's engine alternator(s). Or, as in *Far-Away's* case, our new Salty 27, as the primary auxiliary 12v power source.

Solar panels are achieving new and exciting levels of efficiency, output and reliability.

Over the last couple of months, we've been settling in the new 8.2m cruiser at the end of the wharf here on the Gold Coast, as we simultaneously tended to the myriad jobs that need to be completed before *Far-Away* is ready to cut its umbilical cord to civilisation.

One of the main jobs has been to establish the power efficiency of the solar panels we've installed, and then marry their output up to the boat's 12-volt electrical system.

As a result of these preliminary trials, we have now upgraded the original 210amp AGM battery to a 255amp model, and completely changed the refrigerator and freezer system from a Waeco evaporator plate system to a more traditional eutectic freezer system, using custom made, heavily insulated freezer chests.

This was primarily because the Waeco system, although good value for money, draws more power than we can generate in a boat that does not have a generator, and will be used away from 240v power for weeks on end.

The Waeco-type evaporator plate refrigerator or freezer systems work very well if you can plug them into the marina's 240-volt power system, or attach it to the mains power source on your jetty at home, but it simply doesn't work if the boat has to leave the 240v power supply for more than 4 or 5 days. Without 240v power to drive a battery charger to keep the 'house' batteries topped up, the power consumption needed to run either (or both) the Waeco refrigerator or freezer will drain the biggest batteries in a matter of days – unless, I stress, the engines are running for many hours, and/or the boat is plugged back in to a 240V power source, to charge it all up again.

Alternator Power Drawbacks

After weeks of trials, we concluded that between the Honda 150hp 4-stroke outboard's phenomenal alternator output and the solar panels, we still couldn't generate enough electricity from the combination without using the Hondas for too long.

Anybody building or planning to build a new boat needs to understand this point really carefully.

Our two Honda 150's were approved by Honda to run at 1200 r/min 24/7 if necessary. Because they are such capable 4-stroke engines, running at trolling or low speeds, all day all night, makes no difference to them. With the two engines running at 1200 r/min, it is theoretically possible for us to generate a massive 70amps, and at face value, that would seem to be more than enough to charge the big AGM 210amp house battery in short order.

But this is the part most people (including us, if the truth be known) haven't really taken on board.

Yes, the Hondas will generate this much surplus power (easily) but as we quickly discovered, even with one of the world's best brands of AGM batteries, the amount of electricity we could put back into that battery was restricted to such an extent that we could only put in 40 - 50 amps, before the battery's ability to absorb the inbound charge would rapidly taper off to a progressively slower absorption rate.

In fact, the AGM battery would only accept around 40 amps when it was almost discharged ie, it was down to a capacity of about 80 or 90 amps out of its original 210. At this point, the AGM battery would cop 40-50 amps very quickly, but in the second hour,