Plate Alloy Australia's 5.0m Sportfish

Shown here and below: Tricked up as a full competition fishing machine, the new 5.0m tiller steer can be set-up to suit individual preferences i.e side or centre console.

Part Two of Three Parts

'School' Is In For This Terrific DIY Ally Boat Building Course

Re-introducing the latest plate alloy kit from the Plate Alloy Oz team in Melbourne, where these guys are having heaps of fun with their week-long, ally boat building courses.

People are travelling to Melbourne from all over Australia, from all walks of life - with a common goal: they want to learn how to build their own plate alloy boat at home. Sensibly, safely, soundly, and yes, to professional standards.

Although the Plate Alloy team supply professional yards and amateurs across Australia, the word has spread that for people who just don't have quite enough confidence to take on the project by themselves, the PAA Boat Buildiing Courses have been a god-send.

During the week's course, the small classes - usually eight people - are taught everything they need to know about setting up a kit, stitching it first, the welding out, finishing. By week's end, with everybody usually staying in the same motel, firm friendships are made, many laughs are shared and the week ends up with a boat launching and a BBQ.

So here we go, a new boat, we have read the build sequence, now for the practical.

We started with a group of 8 enthusiastic budding boat builders who first needed a good introduction into welding aluminium.

In this February Welding and Boat Building Course, we had Gabriel from Columbia, Nabil and Andrew from New South Wales, Jamie from South Australia, Ricky, Jim, John and Rick from Victoria and Benedito from Brazil (yes, nearer to Columbia than Melbourne). So the courses attract local and international boaties all with common interests.

The courses are great fun, everyone makes new friends and we enjoy sharing our knowledge in aluminium welding and boatbuilding.

We started the course on the Monday morning at 8am. An OH&S overview is first, then we discuss the safety equipment required when working with aluminium. This is followed by a factory tour then the entire day is dedicated to welding aluminium. We have a dedicated 300m2 training area where we have 8 different welders set up. All the machines are set up for aluminium and we go through the various machine types, (Transformer, Inverter, Pulse, Single and 3 phase etc), and how to set them up for aluminium, we discuss different welding guns, then we weld play.

We concentrate on the welds required to build a boat, any boat, any size. We have plenty of aluminium off cuts cut into strips where students practice to develop and fine tune their techniques in fillet, butt join and corner to corner welding. We also spend a little time in the finishing and sanding of aluminium. Believe me the latter is a lesson in its own right.

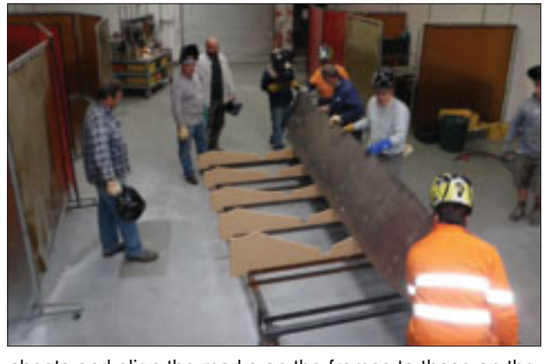
Time to build the boat.

The first thing to do is set up the jig frame. We find a suitable place where we have a little room to move around the outside of the jig. The boat will be sitting on the jig and we may need to move the welder to access certain areas of the boat, so we will need a little area around the boat.

When we cut the kits, the parts are held into the sheet with small tags. These are to be removed and all the parts sanded to remove any sharp edges. Before welding any aluminium, all parts must be degreased thoroughly. We usually do this using methylated spirits.

Gabriel from Columbia is shown (above) sanding the edges, getting all the parts ready for assembly.

With the jig level, the first step is to lay the bottom sheets into the jig. The jig frames match the bottom profile of the boat exactly, so we need to position the

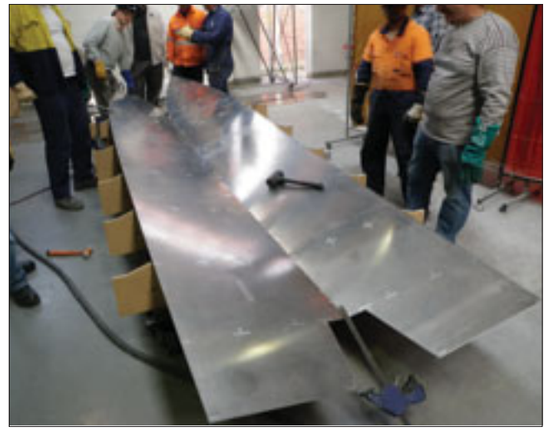


sheets and align the marks on the frames to those on the timber jigs. This will ensure that the boat is in the correct position in the jig.

Gareth, (below, centre), is showing the method used to weld a section of angle to the top of the frames. This may be done in the boat, but it is much easier on the bench or stand.

It is a good idea to prepare all the frames if and where angle is welded to the top. All angle lengths are listed on the construction drawings that are included with the boat kit. The angle on the frame top has two functions, it gives the frame additional stiffness and also gives us a flat surface to affix our floor (or deck) to.

The second bottom sheet is placed in the jig, and the corresponding marks on the bottom sheets are aligned with each other. There are also marks on the timber jigs, these too are aligned with the same frame number. When in place, the plates are tacked together in the centre, along the keel line. Place the tacks about 100mm apart.



We can now fit frame 1. We align the frame with the marks on the bottom plates and tack the frame in place. There are also marks for the stringers, so these must also be centred and aligned with the marks. All engraving points toward the bow, so with any part, it is easy to see which way it fits into the boat. Once the frame is in, it may be clamped to the jig to hold it in place as shown. All stringers point forward with the numbers abutting the frame, ie: Frame 2 fits next to stringer 2A and 2B and also aligns with frame 2 on the bottom plate and also the timber jig. ***(See pic top left next page)***