

A “Swing-Up” Outboard Motor Bracket for Pixie

By Alex & Angeline Crook, Shrimper 211 (*Pixie*) (April 2015)

As an owner of a Mk 1 outboard powered Cornish Shrimper, I feel sure that I am not the first to ponder the idea of fitting a swing-up outboard motor bracket to this type of boat. The advantages are obvious; it would enable you to keep the prop out of the water when the boat was not in use, and alleviate the chore of removing and returning a heavy outboard motor to and from the cockpit locker each time you go sailing.

We tried leaving the outboard in the well on our Shrimper for a whole season during 2013, but found a build-up of tiny crustaceans inside the water intake, which if not removed, could restrict the flow of cooling water and hence cause engine overheating problems.

Another option would be to simply change the engine for a much lighter one. We have a 2hp Yamaha outboard which will push our Shrimper along quite happily in calm conditions. However, 2hp would not be sufficient power to propel our Shrimper through Poole Harbour entrance against an Ebb Spring Tide. So another solution had to be found.

After a few rough sketches on paper, a design emerged which looked as though it might work. The first prototype bracket was made from of aluminum angle and plywood. There is not much room inside the outboard well of Mk1 Shrimper, which caused a bit of “head scratching”. The bracket would have to lift up high enough, and swing forward sufficiently, so that the prop cleared the cutout aperture to the water. Once the prop was clear, it was a simple matter of inserting a plywood plug into the cutout aperture and resting the skeg of the outboard motor onto the plug. Importantly, the weight and thrust of the outboard motor would still be transmitted through the original angle iron steel brackets, which remain in their original position.

We made a second prototype from mild steel, and once painted, fitted it to our Shrimper in the Spring of 2014. It worked very well and we didn't once have to remove our outboard during the sailing season. We have made another bracket now, out of marine grade 316 stainless steel, which was welded together for us by Hood Engineering of Broadmayne. This final bracket included a couple modifications over the original design to make it easier to use.

The following photos show how it all works. As the engine mounting pad is free to swing and lift, it is essential to secure it down and prevent engine thrust pushing it forward. The moveable pad sits on a fixed block secured through the original lower pad mounting holes in the angles. This carries a thrust block comprising an inverted angle with a holding down bolt attached – see figs 2, 10 & 11.

The bracket has been designed around a Mariner 5 hp four stroke standard shaft length outboard. Other engines will undoubtedly fit, but with barely 5 mm clearance between propeller and aft face of the well (see fig 9), it is important to check the shaft length. It should also be noted that the bracket was developed for *Pixie*, which is a Mk 1 Shrimper having an outboard well 11 inches (279 mm) wide x 27 inches (685 mm) long measured at deck level. Mk 2 Shrimpers have an outboard well measuring 13 inches (330 mm) wide but only 24 inches (610 mm) long at deck level, so will probably require changes to the bracket geometry if the engine is to lift satisfactorily.



Fig 1: Original Bracket & Well

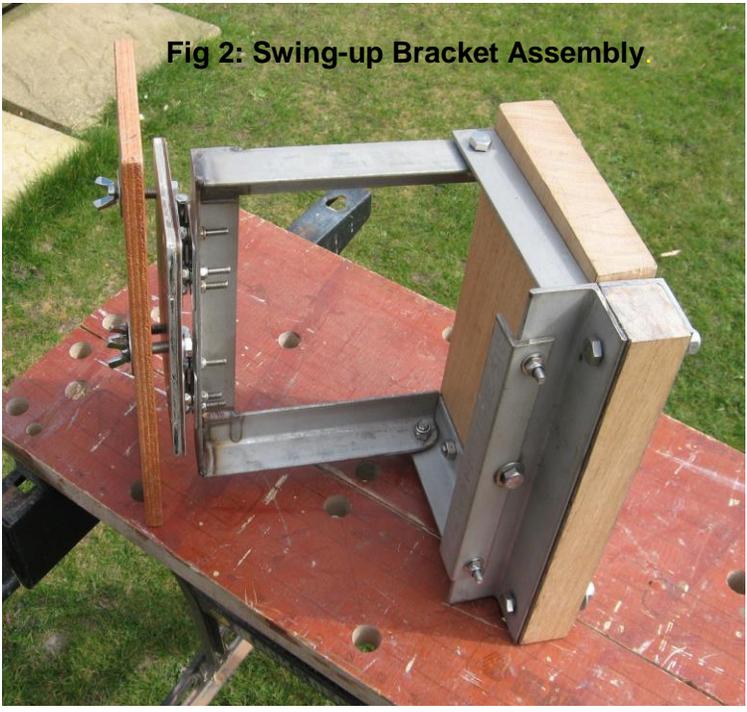


Fig 2: Swing-up Bracket Assembly



Fig 3: Swing-up Bracket Fitted in Boat



Fig 4: Swing-up Bracket with Engine attached



Fig 5: Engine fully lifted



Fig 6: Engine in stowed position resting on well infill



Fig 7: Engine in Stowed position

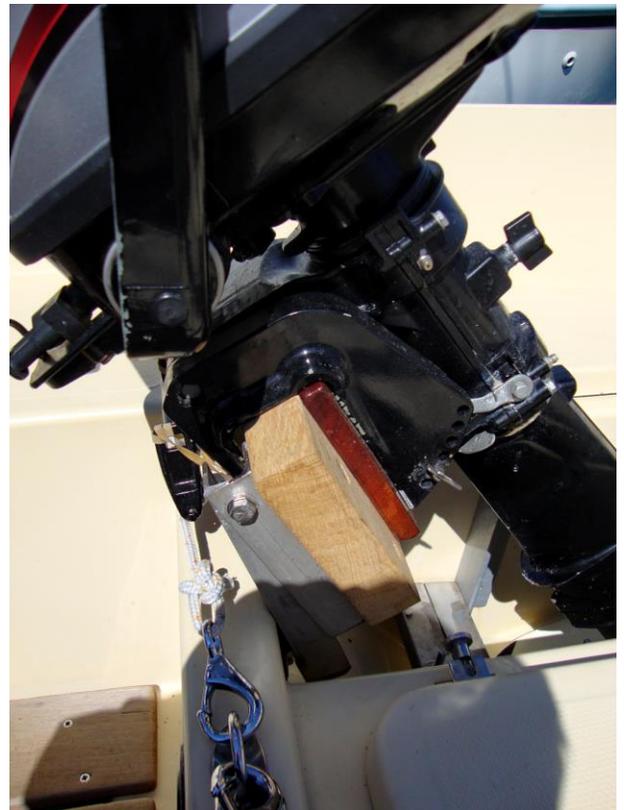


Fig 8: Engine Mounting Pad with Bracket Fully Raised



Fig 9: Prop Clearance at Aft End of Well



Fig 10: Fixed Support & Thrust Block Angle



Fig 11: Thrust Block Arrangement Before Fitting Securing Washers & Wingnut