

Bier tent instructions

The tent was originally a temporary car garage, probably manufactured in the 60s. In 1999 it was liberated from someone's parents and the legs were then cut off for transport to Austria. The tarp was already brittle and a little broken when it came to expo. It then suffered as an expo stalwart for another few years steadily getting more brittle and holy. In 2018 the old tarp was disposed of and a new tarp was fashioned from a second hand lorry tarp. The PVC is not a heavy duty as the original but should last us a decade or two, if looked after. (Putting it up and taking it down causes the most strain on the fabric.)

The bier tent comprises of a metal frame with a PVC tarpaulin cover. The metal frame sockets together and requires four diagonal ties to keep it square and stopping it falling over in strong winds. The PVC tarpaulin cover comprises of a main roof and sides which is flat so it can be installed reasonably easily. A rear tarp is attached directly to the back of the metal frame. A door attaches to the roof and walls by threading loops through eyelets, the door can be fully or partially removed whilst the bier tent is in use.

Assembly

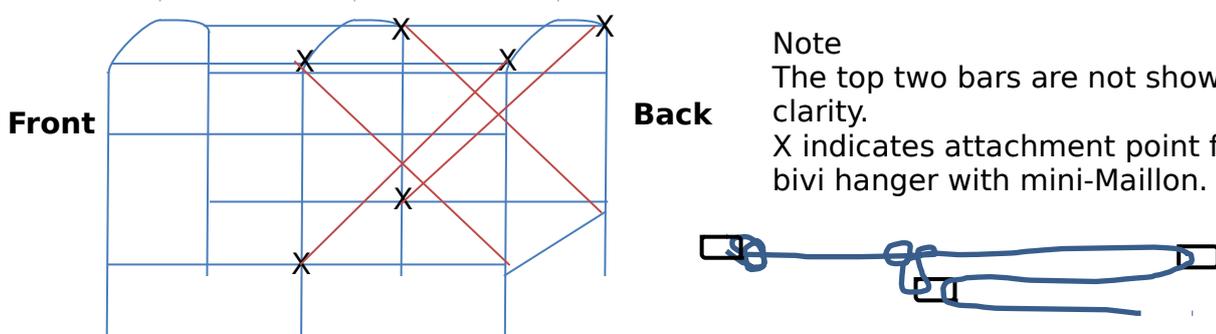
Bring down from the storage loft the 6 legs, 3 top hoops, 1 back bar and 8 side bars

Assemble the legs and hoops, matching the colours. If in the future the coloured tape is lost, basically make all three hoops the same height, (the legs are slightly different lengths). All of the legs have a dogleg bend in them the bend is positioned such that the bottom of the frame is wider than the top.

The legs are attached to the top bent section with smaller tubes fixed inside across the join. The smaller inner bars are attached to the legs using bolts and captive nuts, these bolts do not need removing. The holes in the top hoops will not line up with the inner bars and do not need to. (They used to - they don't any more)

The back legs and hoops are coloured XXXXX and XXXXX, the rear hoop also has a crosspiece. The middle legs and hoops are coloured XXXXX and XXXXX
The front legs and hoops are coloured XXXXX and XXXXX

Three additional people will be required to hold the hoops and legs upright. A fourth person should then attach the side bars to the legs and hoops. The frame will have some stability when the first sides bars are attached and the nuts are tightened. When eight of the side and roof bars have been attached, remove the nuts from the side bar attachments indicated in diagram below with an 'X'. Attach an aluminium bivi hanger and mini Maillon, using a washer to hold the hanger on with a nut. (It is important that a mini Maillon is used because string will pass through this and needs to have low-ish friction)



Install four rope or strong string diagonals with a 'highway-man's hitch' (As shown in diagram) and tighten them up such that the frame is square. These need to be reasonably tight. The reason for this is the new PVC tarp does not stiffen the bier tent in the same way as the old one did, and additional support is required.

Use Mini-Maillons to reduce friction, which allows the diagonals to be really tightened.

Note Nylon creeps and will need tightening again in a few hours and a second time in a few days.

Attach the rear PVC tarp to the metal frame by wrapping it around the frame and tying it in place on the inside.

Determine the front and the underside of the main roof and sides tarp. The front is marked front along with the position of front hoop. The inside is indicated by the direction of the heat welded hems. Basically it is hemmed to the inside.

Carefully lift the roof and sides tarp over the frame, do not drag it over the frame in case the protruding bolt heads snag on it and tear it.

Position the tarp such that there is approximately 150mm extending beyond the front. The bottom edges of the sides should be roughly equal.

Determine the inside and outside of the front door tarp. The loops are on the outside, the bottom edge does not have any loops.

Attach the front door to the main tarp with the captive loops, start using the loops in the top-right looking at the front of the tent. Pull the first loop through the hole in the roof tarp, pull the second loop through the next hole and pass it through the first loop, continue. It's like an old scout tent, but I'm probably showing my age now...You'll work it out. Note. The door attaches inside, so the rain runs down the outside of the door.

Adjust the position of the main tarp such that the door is tight and the tarp is straight on the frame.

Using string tie the rear of the tarp to itself such that it becomes captive.

The main reason for tying the tarp down is it reduces pooling of water on the roof.

Nail down the main tarp and rear tarp to the ground using the large 25cm 'Earl' nails, put the nails through the eyelets. Generally the main tarp will not need nailing down in more than 6 or 8 places, if it blows strong enough to lift the bier tent we will likely have lots of other more pressing issues.

Find the wooden slats and insert them between the tarp and the roof bars, this is to stop pooling of water on the roof. There are never quite enough slats because people use them for other stuff... At some point it might be worth making some large slats with plywood.

Take down

Take down is the reverse of putting it up :-)) Be careful removing the roof tarp from the metal frame.

There is no reason to un-bolt the inner tubes from the legs, the bolts are captive for a reason, just don't do it, please.

Keep all the nuts, bolts, bivi hangers, washers and Maillons in a jar or strong bag, if everything is wet try and not seal the bolts in for the winter, they will corrode, dry them out and coat them in oil perhaps.

If nuts and bolts are missing new ones are available in Bad Aussee.

Tarp maintenance

The tarp is a PVC nylon reinforced lorry tarp, it was second hand and the wrong shape, so was joined by heat welding various patches together, hemming and installing lots of eyes.

If the tarp is ripped or one of the joins starts to fail it can be fixed by heat welding or gluing.

For heat welding you need a hot air heat gun, Zinser make temperature controlled heat guns specifically for this task, a paint stripping gun could be used but it will be much more difficult to use. The hot air melts the two faces of PVC that are to be joined and a small roller is then used to squeeze the two parts together. There is a trick to it, watch a video on youtube and then practise on some scrap. The difference between setting fire to the PVC and melting it is relatively fine, especially if you don't have the correct temperature controlled heat gun..

PVC glues reasonably well, if you have the right glue. The best glue seems to be PolyMarine PVC two part adhesive. There are two types, a single part adhesive which is also good for overalls and a two part adhesive which is stronger. The instructions require a solvent to

soften the PVC and remove the oxidised surface, I used cellulose thinners. I also gave the PVC a good clean with dishwashing water and a light sanding before starting with the solvent.

Frame maintenance

Keep the legs and hoops suitably marked with tape.

If the frame breaks, it will probably need welding, see Hilda or one of the old lags, welding is easy for those with the kit and some practise, and it is not expensive. Basically it is probably worth fixing the bier tent even if it receives significant damage, try hard not to throw it away, it can always be fixed next year. Take photographs of any damage.