

## 2.7 METRE OBSERVATORY INSTALLATION GUIDE

*Installation of the Pulsar 2.7m Observatory takes approx 4 hours for 2 persons.*

*Tools required: 13mm and 10mm spanners, an SDS drill for rawlbolts if used, and electric drill with bits will also be required.*

*Dome panels can be cleaned with cellulose thinners (paint thinners), sparingly, to remove residue of packaging tape.*

*Items not supplied – floor fixings, silicone sealant.*

### *PARTS CHECK LIST (N.B. There are less M8 bolts for a dome and track installation)*



- **PREPARING THE BASE**

You may find it useful, but not essential, to find the centre of your base and mark out a circle approximately 2.6 m in diameter to use as a rough guide to positioning your dome base walls. This will also assist you if you are installing a pier. If you are also installing a wedge you may want to offset your pier by moving it off centre by about 4" - 6" towards the South. The pier should be installed after you have secured the base wall sections. Use a compass to mark a north to south line. If you are installing a roof-mounted dome, mark the inside of the dome track wall before cutting the hole in your roof.



- **ASSEMBLY OF WALL PANELS**

Place the wall panels on to a flat, level surface. Apply a bead of silicone to one surface only, down the center of the flange, and bring 2 panels together. Use M8 bolts and washers supplied (1 either side), and bolt together the panels, starting from the top, making sure that the outside wall surfaces, particularly the track joins, where the dome wheels touch, are perfectly aligned. This is important to allow smooth rotation of the dome top. Insert a second bolt halfway down the wall, again, making sure that the panels are correctly aligned. Then insert a third bolt at the base of the panels, and then immediately fix the remaining bolts. Wipe off excess silicone with white spirit. Complete the assembly of the wall panels.

- **ASSEMBLY OF DOME TOP**

Move the base to one side (if not already bolted down) and place the dome sections onto the flat surface, in the order they are to be assembled. Silicone and bolt together 2 dome quadrants (one front quadrant and one back) that will form half a dome top, on one side of the aperture opening. Repeat for the other side. Use the method as described above, bolting from the top first, making sure that all outside surfaces are aligned, particularly where the dome aperture lid wheels locate and run. Bolt the two dome halves together to complete the dome top.



Now is a good time to run a thin silicone bead along the outside joints of the dome top assembly, to ensure a watertight structure, and give a pleasing finish. This is done



but cutting a 45 degree angle on the silicone tube nozzle, that will produce a bead approximately 2mm wide. The trick when applying the silicone is to keep the gun moving to prevent a build up, and then using your finger moistened, quickly run down the joint to smooth it in. (If you are not confident with a silicone gun, practice first, or get someone with



experience to do it for you). Attach the rubber sealing strip to the top of the aperture opening as shown.

- **APERTURE LID ASSEMBLY**

Fit the larger rear aperture lid first, with the aluminium strip facing towards the front opening of the dome. Working at the open end of the dome top, bend the sides of the aperture lid outwards to allow the wheels to slot into the sliding channel. Push this lid over to the fully open position, out of the way. Attach the pulley to the bolt at the top of the aperture opening, using washers and an M8 nyloc nut, ensuring that the pulley and the lid rope line up correctly. Attach the front-hinged lid, using the 2 remaining bolts (nuts on the inside), ensuring that a washer is located between the lid and dome wall. Fix the chains to the aperture wall sides, using the M6 bolts and locknuts provided. The dome top is now ready to be lifted on to the base wall.



- **FIXING THE BASE WALLS**

Position the assembled base section onto your concrete hard standing, making sure that you have positioned the door opening in your preferred position. Bolt the base to the concrete using rawlbolts supplied. A silicone seal can be applied around the base when the installation is complete provided the concrete is dry. Do not apply if wet or damp, as the silicon will not adhere to the concrete.



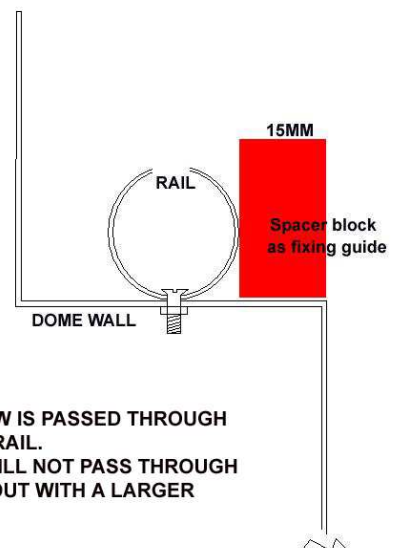
- **INSTALLING THE ALUMINIUM TRACK**

Place the 4 x metal sections around the dome wall joining them together with the connectors supplied. The 4 x metal sections should butt together with no gaps. Make sure the metal track is positioned so that no hole can be drilled over a wall seam.

To drill the first hole a 15mm spacer (anything solid 15mm thick) should be positioned to the side of first hole and flush with the outside wall and the outside of the metal track. Hold the spacer and track in position, place the 6mm bit through the metal track holes and drill into the wall. Present a 6mm bolt through the holes and tighten underneath with the 6mm nut.

**Note:** The metal track is already supplied drilled but make sure the larger hole is showing uppermost.

Do the same for all the remaining holes in turn, working around the dome from the starting point.



THE RAIL FIXING SCREW IS PASSED THROUGH THE TOP HOLE IN THE RAIL. IF THE SCREW HEAD WILL NOT PASS THROUGH THE TOP HOLE, OPEN OUT WITH A LARGER DRILL SIZE.

- **FINAL ASSEMBLY**

*With assistance (at least 3 more able bodied persons), lift the dome top into position on the base wall, ensuring that the structure is correctly in position over the base before lowering down. Check on the inside, that all the wheels are positioned correctly on the track.*

- **FINALLY...**

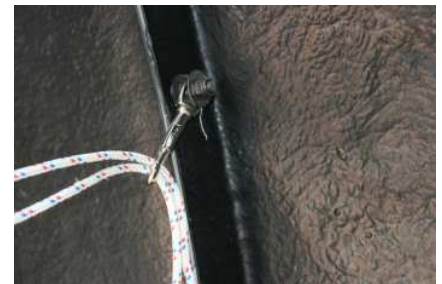
*Seal all remaining external joins between panels with a fine bead of silicone (again, cut the nozzle at 45 degrees, near the top, to give a bead of 2mm). It is a good idea to apply silicone to the outside of the base before you put the top on as the top of the wall will not be accessible once the dome top is fitted. Silicon will take 24hours to harden. Check inside the observatory for any sharp, or raised edges that could be dangerous, and rub them down carefully, using course grade sandpaper. When sealants have dried (next day), wipe down the interior of the observatory with a damp cloth, to remove any trace of glassfibre dust.*

*To give a pleasing finish to the observatory interior, use Flat Black aerosol paint and carefully spray over the dome top joins and bolts, and any other interior marks. Repeat using Flat White aerosol paint for the wall joints.*

*Fit the security clamps to the dome top as shown in picture, using washers and an M8 nyloc nut to secure them at the correct tension. The brackets may need bending slightly to achieve the correct fit. Additional clamps are provided, and can be fitted if required.*



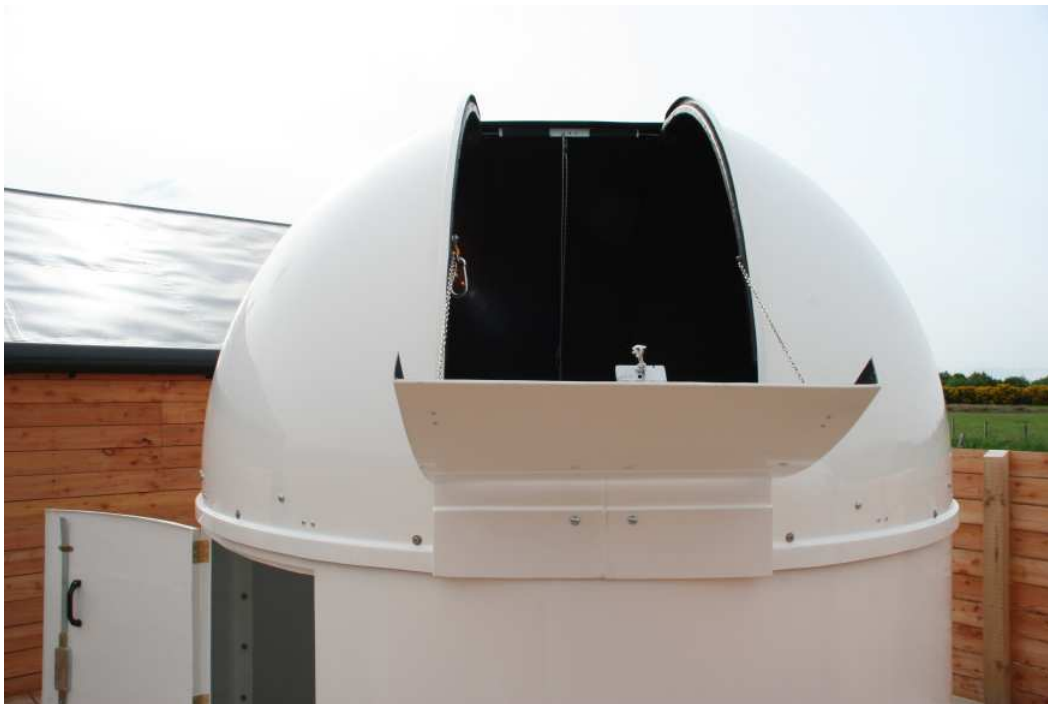
*Additional clamps can be used to tie back the rear lid pulley rope when not in use (not provided), and an extra swivel clamp at the front will help to reduce the effort required when closing the rear aperture lid.*



*Opening and closing the observatory shutters is relatively simple, but some time spent practicing in daylight is worthwhile. When opening the rear aperture lid, pull down on the cord while holding onto the other side of the cord to slow the lid, preventing it from crashing down. The same technique is used for closing the lid, inserting the cord through the front clamp will help.*

*The front aperture will easily push out and can be lowered gently down with the attached cord. A small padlock is required to bolt the 2 lids in the closed position.*

*The only maintenance required for your observatory is an occasional wash down of the exterior gel coat with a mild detergent.*



***YOU ARE NOW READY TO INSTALL YOUR EQUIPMENT!***

***FOR TECHNICAL SUPPORT CALL +44( 0)1353 886128***