



Oceanburo Container Packing Manual for SB20

What you need:

- 4 x SB20
- 2 x SB20 road trailers
- 1 x 40' HC Container (if you can get doors at each end its even easier but doors at just one is OK)
- 1 x sheet polystyrene foam 1200 x 2400 x 150
- 1 x wood saw
- 4 x pool noodles (split)
- 4 x rolls grey Duct tape (not cloth tape)
- 20 x Carpet or foam squares (for placing under straps)
- 6 x adjustable car stands (pin type) { 3 per trailer }
- 2 x sets of metal wheel chocks (you need four chock sets – 2 per trailer)
- Heaps of 6mm double braid rope you can cut into lengths for ties.
- 10 x 50mm ratchet straps
- 8 x 25mm ratchet straps (or two per mast)
- 1 x cartridge liquid nails (and gun)
- Small tube white sikaflex 291
- Battery drill with screw driver bits
- Socket set with heads to fit keel top plate bols
- Cling Wrap
- Forklift
- Lifting slings - one set per boat
- Fenders/Padding/Carpet/Foam or such (to assist with rolling boat over)
- 1 chain hoist 1000kg (optional)
- 2m strep ladder
- Load Skates or furniture trolley or dolly.

Overview:

We pack the container with boat one inverted and on top of the other, keels out, on a road trailer. The bottom boat is simply on its road trailer. The top boat is inverted and sits on the bottom boat with large polystyrene blocks as support. The trailer is thus not overloaded weight wise and there is less chance of damage to keels from moving boats on the journey. By inverting the top boat we win in three ways. 1. There is very little risk of damage to the underwater surfaces of the top hull and little chance of abrasion and 2. It opens up the top edges of the container for mast storage and 3. It allows more room between cockpit areas to allow hatches to be open and sails to be stowed.

As you will no doubt ask...is the bottom boat at any risk from bearing the top boat weight? We do not believe so. The footprint of the pads between and their location is such that there is very little loading on the bottom boat that would not occur when the boat is sailed by her crew.

The top boat weighs approx. 320kg; it is supported along the side decks of the bottom boat in four locations and also near the bow. These areas support significantly more weight under normal sailing circumstances and the shape and structure of the boat in these areas makes them, we believe, very suitable for loading this way. In reality each pad is only supporting something like 65kg over and area of 600 x 300mm per pad.



Figure 1 - Inverted Boats

Once the boats are loaded on top of each other and strapped/tied and padded on the extremity. They are ready to be loaded.

Masts and two keels would be packed into the container prior to the first two boats being loaded. Then remaining keels would then be placed and last of all the last two boats. Bow first this time as the boat trailers must overlap (more detail to follow – this is just the overview!!)

The trailers must have the front mast supports removed fully and spare tyre brackets and tyres, if fitted removed. This is because the nose of the trailer's overlap within the container.

1. Remove all loose gear from boats being packed – this means jib sheet cars/blocks and kite sheet blocks too. Idea is to remove anything that can rattle. The traveller/backstay/mainsheet blocks may stay in situ but should be taped.
2. Remove keels from all boats – you will need to remove the top plate from the keel and at least one of the front buffer strips. We normally remove both as it makes getting the keel in and out quicker. Wrap the keel top plate/buffer strips and any fastenings in cling wrap and then bubble wrap.
3. Lift the boat that will be on top, off its keel (using lifting sling and forklift) and place on padding on ground. Poke the slings through the empty keel case.
4. Roll this boat over (we can do this with three people , two lifting/pushing one side and the other on the 'deck' side to balance the boat when it is one side up – the other two then come around and assist the lay down. Do not try and carry the boat – just roll over on the gunnel edge. Once the boat is rolled over make sure the slings are through and that the slings are sitting correctly on the lifting pins.
5. Lift the boat on the trailer off its keel, remove keel from trailer and reposition boat on trailer.
6. Cut padding blocks from foam : (this is per boat pair)
 - 6.1. 5 x rectangular blocks 600 x 300 (from the 150 mm thick foam)
 - 6.2. 4 x Wedge blocks 600 x 300 with the tall side to be 120 and the short side to be 30 (note that you can make two opposite wedges from one 600 x 300 x 150 rectangle)
 - 6.3. Tape together 1 x rectangular block and 1 x wedge block , repeat 3 more times (so you end up with 4 blocks that are 180mm on one side and 270mm on other)
7. Lift the upside down boat up and position the boat on trailer under it , position the taped blocks along gunnel on lower boat (one at rear end of granny rail and other at front end as per picture) and the remaining rectangle block at bow (as per pic) , gently lower top boat onto foam. It should be aligned so the top boat fits within the shape of the bottom, bow to bow, stern to stern and gunnel to gunnel. (see pic)



Figure 2 - Making Rectangular Blocks



Figure 3 - Making Wedge Blocks



Figure 4 - Wedge blocks in situ (note please tape them together - we didn't)



Figure 5 - Bow block and tie

8. At this stage spend a few moments going around the boats to ensure they are sitting relatively level on the pads (they don't have to be perfect) and that the boats fit within the lines of the other. It's really important that the top boat does not project forward/behind/sideways of the bottom one.

9. Start the tie down – we tie the two gennaker poles together (firmly) to compress the boat foam and ensure it cannot move. We also drill a hole in the projected edges of this foam and pass a line through from trailer to D ring on bow of top boat.



Figure 6 - Bow block with locator/safety tie to trailer/boat

10. We then tie the boat together at the rear of each granny rail and also at the stern but make sure the stern ties run diagonally as this will lock the boats from sideways movement.
11. Strap the bottom boat down to the trailer with a 50mm ratchet strap (and padding at any rub points) and ratchet down firmly – do this aft only adjacent to the rear trailer pad – you may have to feed the strap under the aft foam pad – depending on where your trailer strong points are.
12. Attach a shackle to the chainplate of the top boat each side and using a 25mm ratchet , ratchet the top boat down firmly (do not over tighten)
13. Run a line or ratchet from the bottom boat D ring to the trailer and ratchet firmly.
14. Using split pool noodle, pad the rear corners of the boats, we attach with sikaflex (run a bead in the split) and also tape using packing tape. The sika is easily removed with a blade at the 'regatta end'. The tape residue with Mineral turps or Metho.



Figure 7 - Tie boats together firmly

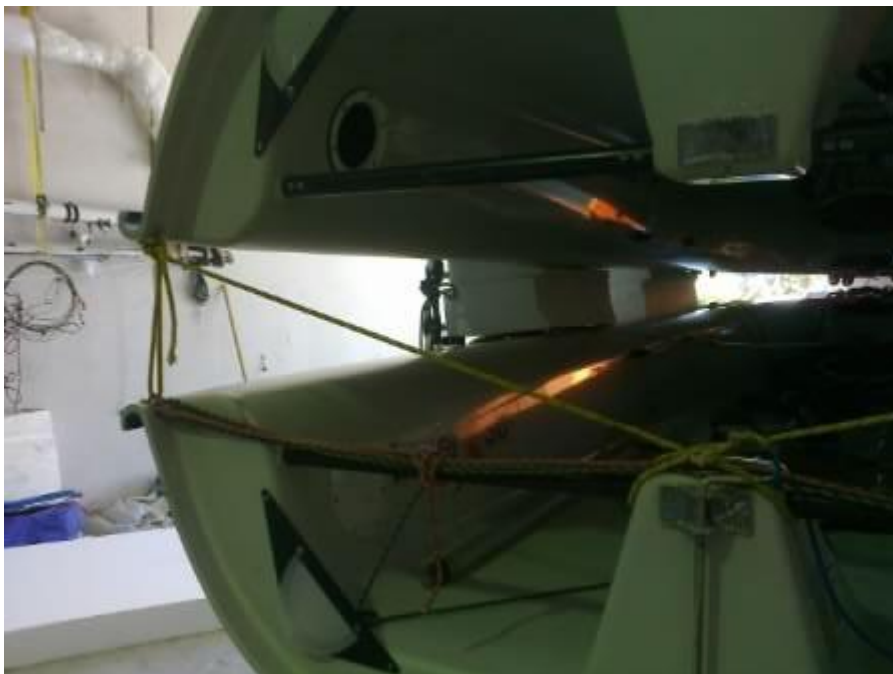


Figure 8 - Tie boats at stern diagonally and vertically



Figure 9 - Forward ratchet and pad - aft will be similar



Figure 10 - Padding at stern edges



Figure 11 - Padding at stern edges



Figure 12 - Potential Conflict

Potential Conflict area – cleats and fittings - make two custom wedges and slide in from each side and then tape together around and around (the shape will ensure they cannot move far) OR – remove the mast gates form each boat before loading

Loading the container

Assuming you have got all this sorted it's time to get the boats into the containers. In a nutshell the four boats/two trailers fit but snugly. You may need a few attempts to get the positions correct. You may also vary what we suggest as your trailers may be slightly different to those we have packed. Bottom line is thinking about it before you do it ...it all fits but you have to be sequential and understand the parameters.

- We mark the centre of the container with some tape with a + to show the halfway and the centreline (measure the internal floor and allow for the doors to be closed). This helps with positioning.
 - Masts should be prepared as they load first, we strip of all spreaders and standing rigging (these can go in your dock bag or boat).
 - Masts get tied into the top corners of the container. The containers have multiple tie down loops along top edges and bottom edges. Pad the mast well at any conflict points and tie them up , we normally have one tight in the apex of the corner and one maybe 300mm below , one each side. If you have more masts you may wish to consider using a bar suspended high on the container ceiling and spreading the masts across on this. Masts are easy, pad them well and tie them against side wall by running a line from top tie down over masts to bottom tie down points on container floor.
- Before loading the keels cut 4 x blocks of foam from the remaining polystyrene that are 1200 long and 400 wide – these are used to sit the keels on. Also cut some smaller blocks approx. 400 x 400 to use between the keel heads and also the keel heads and container side. The first two keels should be now loaded into the container. We use load skates to move them but you can also pick up with a forklift (sling on shackles to keel lift point) or you can sit them on the polystyrene blocks and move with a furniture trolley. These should go down into one far corner of the container and be strapped in side by side hard against that corner with the fins aligned fore and aft (that is along the long wall). Pack the head of the keels together with foam and the head of the outside keel against

the container wall with foam. We recommend you sit the bulb on a piece of polystyrene, the keel will bed into the foam and it will resist movement. Ratchet them down well.

- The first boat/trailer pair should now load into the container. Wheel in stern first. Before you start, develop a mental picture that the boats/trailers must overlap to fit in the box. The box floor is just less than 12m long; the boats on trailers are around 7.2m long. Fortunately they taper! The first pair of boats will be offset slightly to one side of the box as they load and then will have the bow/trailer nose pulled off to one side so allow overlap. Get this boat pair in first and have a look at how it all works BUT don't lock it in at this stage as you need to get the last two keels in. Be aware of the two keels in the rear corner as you load. These two keels will be again packed side by side, in the gap that will be left by the overlapping trailers, you may also find room to pack them in tandem (as per my mud map), and it all depends on your trailers.
- Load the second boat/trailer pair in bow/nose first but don't lock into place, just check it's going to fit then back it out a few metres to allow you to ratchet down the first trailer and put the car supports in place



Figure 13 - Car support at front of trailer - jockey wheel up



Figure 14 - car support rear of trailer - one each side please

- It is really important you do not rely on the jockey wheel for support during the trip. Use the adjustable car supports, two at rear of trailers and one at front. When you ratchet the trailer down you need to do it hard and you want the weight to be transferred to the supports not the springs/wheels/tyres of the trailer.
- Using the loops on the floor of the container take straps over trailer frame at rear and at nose and ratchet HARD. Place any wheel chocks you have under tyres and tape them in situ.
- Once you have the first trailer and all keels strapped in, finish positioning the second boat/trailer pair and ratchet down.
- Position any gear into the container you may need.
- Lock the doors (but do not padlock)
- **NB – PLEASE DO NOT LEAVE YOUR HANDBRAKES ON. THE DRUMS BRAKES MAY SIEZE DURING TRIP AND ITS NO FUN IF THIS HAPPENS....IF YOU HAVE TIED THE TRAILER SIN PROPERLY THE TRAILERS DO NOT NEED BRAKES**

- PREPARE TO GET DIRTY – SOMEONE HAS TO CLIMB ALL OVER AND UNDER TO TIES DOWN AND SUCH.
- WE CUT FOAM BLOCKS AND USING LIQUID NAILS, AFFIX TO THE CONTAINER WALLS WHERE CONFLICT IS LIKELY WITH BOATS (ESPECIALLY AFT CORNERS) AFTER YOU HAVE DONE YOUR TEST LOAD THINK ABOUT DOING THIS. IT'S BETTER TO SPEND AN EXTRA HOUR PADDING THAN AN HOUR REPAIRING!!
- LEAVE YOUR HATCHES OPEN (ALL OF THEM)
- DO NOT USE TIMBER TO CHOCK/PAD OR SUPPORT AS IT MAY INFRINGE AUSTRALIAN QUARANTINE...COULD BE EXPENSIVE FOR YOU AND TIME CONSUMING
- DO NOT SHIP FOOD STUFFS OR ANY COMMERCIAL GOODS
- MAKE SURE BOATS AND TRAILERS ARE DRY AND FREE OF DIRT – AGAIN I CAN ONLY STRESS HOW STRINGENT AND THOROUGH HOW EFFICIENT OUR QUARANTINE IS.

Some Variations

1. You can leave the keel in the bottom boat if you wish, (but of course the top plate and buffers need to be removed) it will project up into the case of the top boat and will , as long as it is padded within that case (you can push foam down from the top hull after it is in). This certainly saves a bit of time and also makes packing easier.
2. If you have access to the cradles that the boats shipped to your dealer on , use these , you can easily roll them into the container using 2.4m long 50mm diameter galvanised steel tube.
3. You can also easily make metal supports for the top boat to sit on its hull pads (from its trailer) and this sit upright. These frames would bolt to the bottom trailer using U clamps/bolts/
4. You can make foam pads using same materials we specified and ship the boats upright – we turn over to make sure we do not have rub marks on hulls (from straps going over) and it also makes it easier to shape the foam blocks. It also makes more room for masts our way BUT we have done it right side up as well. It's just more work.

There is no one way to pack a container – we have evolved to this method over time as we seek to minimise effort (\$\$)... don't hesitate to allow way more time on padding and strapping. As in the notes, a moment spent tying down or padding may save you some grief later.

40' High Cube (HC) Container Dimensions

Internal		
Length	12.03 m	39' 06"
Width	2.35 m	7' 08"
Height	2.70 m	8' 10"
External		
Length	12.19 m	40' 00"
Width	2.44 m	8' 00"
Height	2.90 m	9' 6"
Door opening		
Width	2.34 m	7' 08"
Height	2.58 m	8' 05"
Cubic capacity	76.2 m ³	2.690 ft ³
Cargo weight capacity	28.590 kg	63.030 lbs.
Tare weight	3.910 kg	8.620 lbs.
Max. gross weight	32.500 kg	71.650 lbs.

Please see associated Container Mud Map PDF file