

1. In all situations you will have to drop the rudder. To do this, your boat must be sufficiently off the ground to free the rudder shaft (I think it is 14"). To loosen the rudder, remove the helm and the rudder fitting in the cockpit. Keep an eye on the key in the rudder fitting and try to remember how far it is in the fitting - you may find the brass somewhat discoloured and that is sufficient for putting it back.
2. After the rudder shaft is freed in the cockpit, put some blocks under the rudder, to prevent accidental dropping.
3. Once secured, undo the three bolts in the bronze fitting (the nuts are on starboard side). This bronze fitting holds the rudder up. With a piece of 2*4 and a hammer, knock the bronze fitting down. It may take some blows as there is some caulking in between the fitting and the hull. Once it is loosened, grab the rudder and kick the blocks out of the way. Gradually lower the rudder, until free.
4. Now start working on the prop shaft:
 - Note: While this is not necessary, I have made it a habit to always mark settings before I undo something. I use a white-out correction pen (on permanent loan from the office) and would mark a ring on the shaft where it leaves the coupling and a long stripe where the bolt is that secures the shaft through the coupling. Also, make a mark on the side of the coupling where the nut of the through bolt is.

To continue with the prop shaft removal:

Remove the four hex set screws (metric size key, for sale at Canadian Tire in a rather cheap set). You may want to use a short pipe to extend the arm of the hex key, as the screws have been there for some twenty years and are well stuck. It is a good idea to use a drop of oil a few days before you do this job. this job you can do best laying on your back on starboard (after squeezing through the locker).

5. Remove the nut/bolt that the Bayfield yard used to secure the shaft (instead of a key). To work on the screw you may want to change your body position.... move your legs up to port and to the stern (remain in front of the rudder shaft). Once you are a little bit upwards, you can turn your body and move on your front towards the coupling. The advantage of this position is that you can see what you are doing. When doing this I found it is best to count the number of revolutions when removing the bolt (e.g. 3 1/2). This because it is very hard to see if the cotterpin fits though the hole (was pretty crookedly drilled) and even a half revolution makes the difference.
6. Remove shaft from coupling:
 - There are various coupling in use on B25's. The coupling can be seen as a flat round plate with a cylinder on top that surrounds the shaft. This cylinder in most cases fully encloses the shaft.
 - In some cases, the cylinder has two open grooves lengthways that expose the shaft. For purpose of this instruction, it is referred to as the "split". This set-up allows the two cylinder halves to be pushed out and split open up for release of the shaft. Loosen the shaft by jamming two flat screwdrivers (one on each side) in the splits of the shaft and you don't need to undo the plates.
 - If you have no split, there is a lot more work: You would have to disconnect the two coupling plates. Stick a short piece of pipe (I have used a "pipe style" nut with a bolt) in the centre of the two plates and bolt the two plates together, causing the pipe to displace the shaft a short distance. Then, undo the bolts holding the plates, replace the pipe piece by a longer one (or screw the pipe-style nut somewhat out) and bolt them together again. You probably get the picture....it takes a number of times before the shaft comes out. All tightening/loosening has to be done in a very awkward position.

7. Once the shaft is out of the coupling, have a friend pull it out or climb out of the bowels of the boat, retrieve it and take a break.
8. Get back in the forward position of (5) above and remove the hose clamps. Use a utility knife to cut the hose length wise over approximately 3 inches. Once this is done, you should be able to break the hose down wards and take it outside.
9. Undo the packing nut and take the packing out.
10. To finish the job work is the reversed order of the above:
11. Using Teflon packing (1/4"), make three rings - around the diameter of the shaft.
 - As the packing nut is not very large, you may want to slice the middle ring in half the width to provide an extra turn on the nut. Without that, the nut will turn four times, before it is stuck. (The literature suggests that you may want to cut those under an angle, but I think that it make little or no difference.) While still outside your boat, put the nut on the shaft and
12. Line the three rings up so that the cut in ring one is 0 degrees, ring two 120 degrees and ring three 240 degrees, when jamming them into the packing nut. Use a (Robertson) screwdriver for this endeavour. Once done, take the nut with the packing in of the shaft - do this just before doing the assembling of the box in your boat. While doing this wiggle the nut to give the packing some play - you need this to get it back on once below in the boat.
13. Make sure that you use stuffing box hose (that is a rubber ply hose with **NO** wire in it - you can get it from HMP in Toronto). The hose is very tight on the through hull fitting and somewhat loose on the packing side. To make installation easier, pre-stretch the hose at one end with a piece of wood for a few days and remove the wood just before you assemble the box in your boat: It is easier to do the stretching in any other place than in the bottom of your boat.
14. Cut the hose to the same length as the old one (5 1/2 ") and assemble the barbed side of the packing gland with hose clamps and 3M 5200 caulking (it will deteriorate over the next twenty years and should not cause a problem to get loose by then).
15. Put the two other hose clamps on loosely and descend in the now familiar work position (forwards)
16. Remove the wood with which you stretched the hose, prepare the hose with 3M 5200 and quickly push the hose over the barb of the through hull fitting. Then apply the two hose clamps to further secure the job (I suggest you buy new clamps - your old ones are somewhat rusty and may be worn).
17. Get the prop shaft with the packing nut. Remove the nut with the packing in it (see 11-wiggle it).
18. Stick the shaft through the hose with the other half of the packing gland, for about 10 inches.
19. Climb in the boat, put the nut over the shaft and hand tighten the nut onto the packing gland.
20. While inside, pull the shaft and guide it into the coupling. If you marked it as suggested, you will see how far you have to go and or to turn it to get it in the original position. Putting the shaft back in is easier, as you can grease the shaft and you can hit the shaft from the outside (gently) with a hammer via a piece of wood - as long as you don't push it too far. In case of the split, putting the shaft back is

easier as you can manipulate the shaft in by hand (that is turn it to align the securing bolt or key and pull it further in/out), all while you are inside the boat

21. Assemble securing bolt and nut.
22. Tighten set hex screws
23. Hand tighten the packing nut and then turn $1/4$ to $1/2$ turn with a wrench.
24. Secure packing nut by turning inside nut against outside nut in opposite direction.