I had to go through the ordeal recently of repairing the blade height adjustment on my B3000. The way this works is that the crank drives a shaft with a bevel gear on the end. The mating bevel gear turns a threaded shaft. The casting on the end of the motor (also supports the saw arbor) has a lug cast into it. This lug is threaded internally and the threaded shaft passes through this lug. As the shaft turns, the lug raises and lowers the motor and the saw arbor. There is another part to this story with the slides on either side of the casting. These slides need to be kept lubricated or they hang up, cock the motor assembly and jam.

Then the load goes up on the threaded drive assembly. As manufactured, the lug is aluminum, the shaft steel. If you try to force it, you risk stripping the threads in the lug. The same applies if you run the adjustment to the full height. This is what happened in my case. Needless to say, I stripped the thread out of the lug.

Message 1. Keep the slides and the threads lubricated and don't force the adjustment handle.

The first problem is that RYOBI does not sell individual castings. The lowest level of part where the lug is replaced is the motor assembly at about $199 each.

The solution that I followed was to remove the shaft and gear, remove the motor, drill out the lug and install a wire coil threaded insert and reassemble. It is possible to do the repair without removing the motor assembly. I tried that and eventually had to redo it. Removing the motor will add work but makes the repair process on the lug much easier. The following is the process I went through.

1. Strip the accessory tables, SMT off of the saw to give some working room. You don't have to pull the rails for this.

2. Raise the tilt to 90 degree and lock.

3. If you have not done it yet unplug the saw from the wall outlet

4. Remove the right side cover (the one with the electrical outlet).

5. Rotate the cover around the bottom edge and there will be a couple of ground wires attached. Remove these and remove the cover.

6. At this point the lift mechanism should be fully exposed. You do not have to remove the adjustment wheel and tilt clutch assembly. At the top of the threaded shaft, there is a bolt, washer, a jam nut assembly. Remove these and the spacer that rides on the shaft.

7. At the bottom of the threaded shaft are two hex nuts and a washer. Remove these.

8. The next step is to remove the bevel gear on the shaft. This is secured with a roll pin. (This is a pin made from a curled piece of hardened steel.) Rotate the threaded shaft (use the adjustment wheel) so that you can see the end of the roll pin on the hub of the gear.

9. At this point I found it easier to get under the saw, flat on my back. Take a small punch (1/8" diameter) or large nail set and a hammer. Start to tap the roll pin through the gear hub and the threaded shaft. Depending on the size and shape of the punch it may or may not go through itself but once it's started and inside the hub a 10d finishing nail works fine. Once it has started through, rotate the gear so you are pushing the pin towards the infeed side of the saw. You will find clearances getting tight but it will go until the pin hits the support bracket. Now rotate the gear so you can get a pair of diagonal cutters on the pin and pry against the side of the gear. The pin will slide out releasing the gear from the shaft. The pin is reusable but you may choose to replace the pin with a new one, it is a 5/32 diameter pin 1.25" long.

10. Go to the blade tilt mechanism, release and rotate to 45 degree. At his point the shaft is free and can be removed. There may be enough thread remnants that you will have to thread it out. The bevel gear and the thrust washer underneath it will drop out as the shaft is lifted.

11. I typically keep screws and loose parts together in zip lock sandwich bags by subassembly. Cuts down on the search patrol later and insures that the right fasteners are available.

12. Now remove the switch and outlet assembly. This has to be detached to remove the motor totally. To cut down on the length of this dissertation, the next step is to follow the instructions on this site for replacing the belts. Essentially you move to the left side of the saw. Pull the left cover, the dust cover, blade and the left casting. Keep the shims in order and remove the motor

13. The shaft on my saw was a 9/16 x 12 thread. I strongly recommend checking the size out before going further to be sure yours is the same. I had no success getting that information from RYOBI. Insert kits containing a tap, insertion tool and a half dozen or so inserts are available from fastener suppliers, industrial equipment suppliers and frequently a good auto supply store. Helicoil is a common brand but there are others that are less expensive. The one I bought was about $40.00 for the set. For about the same price, you might find an automotive machine shop that can do the job for you if they have the tap and insertion tool. 9/16 x 12 is a standard thread but not commonly used. You will also need a way to ream out the old threads and open the hole to 19/32 diameter. I suggest that when drilling out the old threads that you set the motor up in a drill press and find some way to reference the axis of the existing hole. If the insert gets set in at an angle, the hole in the lug on the frame won't line up when it comes time to reassemble.

14. I was fortunate to have a friendly machine shop nearby to re-chase the shaft threads with a die nut. Whether it was necessary, I'm not sure. The threads were deformed but I wound the die on by hand, no wrench needed.

15. The next step is to tap the hole with the tap in the kit and install the insert from the topside of the lug. Before I installed the insert, I cleaned it and the hole with a solvent. Then I put some 10-minute epoxy on the outside of the insert before threading it in to make sure it wouldn't wind out during use. Finally, break off the drive tang on the insert. Don't try to bend it off with pliers, you could bend the last thread out. Snap it off with a punch. I used the drive end of a 7/16 drill through the insert against the tang, a piece of oak against the drill point and tapped the oak with a hammer. The tang broke off cleanly

16. At his point check your work. The threaded rod should go in quite easily, if it's tight find out why now.

17. You are done with the repair, start the re-assembly process as the reverse of the tear down. A few of points:

A. Now is a great time to get in with a shop vac and clean up all of the sawdust. If you think there might be a potential belt problem, why not replace them. Since the switch is out, if you have not taken care of the switch recall, it's a good time to take care of that as well.

B. Lubricate slides and the threads while everything is in the open. A spray dry lube is the product of choice.

C. I spent a few minutes and bonded the shims in place on the motor housing and the left casting with contact cement. I was working by myself and after trying it once with grease I figured I either glued them on or would have to grow another arm or two.

D. When you install the lower washer and two nuts on the shaft, don't tighten the nut solidly against the washer. If you do, you may lock up the shaft. Back it off about a quarter turn and secure with the jam nut.

E. When you tear the saw down to this level you find adjustments that the manual never talks about. For example, the maximum height of the blade is controlled by the height of the washer, nut assembly on the top of the threaded shaft. There is not lot of adjustment, but for those of you, who can't quite cut through the long side of a 2x4, there is the adjustment. Be sure there is no interference with the blade and stabilizers at the max height you set.

18. Realize that you have really torn the saw down in this process. A complete realignment of the SMT, blade angle, and rip fence will be needed.