

## Servicing the Maxwell VC 500 Windlass

Here is a heads-up regarding a maintenance item likely overlooked by many. The Maxwell VC 500 windlass manual recommends that the oil be checked and shaft greased annually, and oil changed every three years. While I have greased the shaft regularly, I doubt if the windlass gear oil on hull #690 has ever been changed. A recent exchange on our discussion list encouraged me to undertake this maintenance task. I thank Warren Updike (#62, *Warr de Mar*) for providing much of this content.

Because the unit is installed in the horizontal rather than the vertical for which it was designed, you cannot check the oil level unless you remove it, because the sight glass is at the top in the horizontal installation. It is a real pain just to check the oil level, so I can see why this is a job that rarely gets done.

To begin with, it is so tucked away under the deck at the bow that you have to remove the panel at the forward end of the V-berth. Above and below the shelf in the V-berth there are plywood panels. Technically, you only need to remove the lower panel to access the windlass. Just remove maybe 6 screws along the sides. You may need to pry the panel out. Try using a bent coat hanger or such to get behind the edge. I wound up removing the shelf as well; but, this required that I remove a lot of other idle trim pieces as well to get it to slide out. It's a real pain, so if you don't need to do it, don't bother. If there is a thin flexible sheet of fiberglass in your way, just cut off enough to get in far enough to remove the wires from the windlass. Once you have the panel out, you can stick your head in the space and see the windlass.

Removing the windlass itself was a breeze. To remove the unit, first use a knife or thin blade screwdriver to pop the plastic cap on the end of the drum. Then unscrew the machine screw in the center under the cap. The drum should pull right off (don't lose the shaft key). If it hasn't been removed in years, the grease may be dried and you will have to use a puller to get it off. Once the drum is off, you'll find 4 bolts underneath. Remove those



four bolts, and the unit can be removed from the V-berth. Note that the mounting ring is held in-place by 4 more bolts accessed only from inside. These do not need to be removed. After the four mounting bolts are removed inside the anchor locker, from the V-berth you can slide the unit towards starboard and drop it towards you. It's really quite easy.

To change the oil, leave the unit in a warm (room temp) place so the oil will flow. The oil is removed by unscrewing the plastic sight cap that is screwed on. I removed about 3oz

of old oil, and replaced with 4.5oz of 80W90 gear oil. This may be more oil than recommended (ie. halfway up the sight glass) but that is for a vertical installation. Because the C320 MkI installations are horizontal, the extra oil will insure that the top bearing race is partially immersed. Note that the Maxwell manual recommends an extreme pressure, SAE 90 gear oil, and suggests two brands of ISO 320 oil. These may be difficult to find. In researching viscosities, I think 80W90 gear oil (such as lower unit oil) is an acceptable compromise if you cannot find straight 90 weight or the ISO 320 oils. It will actually flow better at low temperatures and still has



adequate extreme pressure additives. Most of us do not put enough time on the windlass to be concerned about additive breakdown.

If this is the first time you've done this, it's a good idea to remove all the wires and the footswitch too, in order to thoroughly clean and retighten all the connections. The motor draws up to 70 or so amps so good connections are necessary. Also tighten the 2 bolts that mount the motor to the gearbox. I found that the square ring at the end of the shaft had deteriorated. Since one was not readily available, I substituted a pair

of o-rings. Remember to liberally grease the shaft. Treating the drum with CRC 3097 spray or equivalent may help hold off corrosion.

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