

## Checklist for Pulling 1999 Mercruiser Alpha-One Gen II Drive and Lubing Splines (Coupler) and Universals

- ❑ Ensure engine is off and battery is disconnected.
- ❑ Drain drive oil and lube monitor in engine compartment.
- ❑ Put shifter in Forward gear.
- ❑ Remove speedometer hose on backside of drive near shift foot. It clips on with a pressure clip.
- ❑ Disconnect trim pistons. Pay attention to the installation order of snap rings, caps, and washers. Carefully let them hang down to the ground or even better, tie them up with string or wire so they are suspended and out of the way.
- ❑ Remove the 6 nuts holding the drive on. Be sure to have the drive supported as you start pulling bolts out. Pay attention, as one bolt won't have a regular washer behind it. This is normal.
- ❑ Begin to remove drive, but don't fully remove it. You may have to wiggle a bit to "break" the seal.
- ❑ Remove drive completely. Have a stand or something similar ready to support it. You may want help for this step.
- ❑ If drive comes out with difficulty, engine alignment may be off. You should check it anyway though.
- ❑ From inside engine compartment, blow out the hose from the lube monitor that goes to the drive to ensure it isn't clogged.
- ❑ To grease coupler splines, put spline grease directly on drive shaft splines. Lube it well, don't be stingy.
- ❑ To grease gimbal bearing, use zerk on outside gimbal ring, or put grease inside gimbal by hand.
- ❑ Grease universal joint through zerk on joint if it has one. Some are Perm-A-Lube joints and can't be greased. Check for play and ensure universals look ok for another season.
- ❑ Inspect for any gear damage or signs of problems. Fix as necessary.
- ❑ Make sure the shift mechanism (right side of transom mount when facing rear of boat) is still facing straight back and forth (forward gear) before reinserting the drive.
- ❑ Install all new gaskets and O rings from gasket kit. Use Ultrablack on paper gasket (thin coat) and water passage O ring to help hold it in place. Thin coats, don't glob it on.
- ❑ Insert drive shaft back into bell housing.
- ❑ Keep some counterclockwise pressure on the prop to help align gears. Spinning clockwise will mess up the shifter position and you'll have to pull the drive again and set the shifter by hand (throttle/shifter should still be in forward position).
- ❑ Slide drive back on. If drive doesn't slide in smoothly, engine alignment is most likely necessary. You should have checked it anyway before reinstalling drive, and adjusted engine as needed.
- ❑ Reinstall the 6 nuts that hold drive onto the transom assembly. Torque them evenly to the specs called for in the service manual.
- ❑ Reinstall trim pistons paying attention to the installation order of snap rings, caps and washers.
- ❑ Reinstall speedometer hose on back of drive.
- ❑ Inspect reassembly for any visible problems.
- ❑ Fill drive with gear oil and fill lube monitor according to Mercruiser specs and directions.
- ❑ Start boat on land (with water supplied to drive via muffs) and check lube monitor for water. Let it run for a bit. Check water temp to ensure water passage is not blocked/impacted during reassembly. Check drive oil level again in case air burped out of system and lowered oil level.
- ❑ Once boat is in water, check engine compartment for leaks (if so, it's most likely to be the bellows that are leaking, or the drive itself.)