

Disassembly of a CH-3 Upper Assembly

1. Remove soft plug on the pulley side of the unit with a chisel / punch and drain the oil and BB's out of the shaft.
 2. Laying the upper assembly on its side on a soft surface such as plywood with the prop hub facing downward, using a solid bar that is 2' feet long x 1" inch diameter. Insert bar into the shaft bore and drive out the aluminum prop plug by pounding on the bar with a small sledge hammer.
 3. Remove prop dowels by using $\frac{1}{2}$ x 20 x 6 bolt. Thread the bolt into prop dowels at least $\frac{1}{2}$ " then using a hammer drive the dowel out the back of the hub and unscrew the bolt. (Repeat this process for all of the six dowels.)
- **DO NOT TRY TO PRESS APART THIS ASSEMBLY, ALL PARTS MUST BE HEATED TO TAKE APART**
4. To remove pulley support the pulley between the bearing holder and pulley, making sure there is enough room to let the rest of the upper assembly to drop out underneath. Be sure to cushion the area where the upper assembly will land. You will also want to have the aluminum plug you removed earlier to tap on the shaft with a small sledge hammer and a water hose to spray the inside of the shaft to keep it cool. Now start heating the pulley to 350° + degrees. Once to temperature spray water into the shaft without cooling down the pulley. The rest of the assembly may slide out but if it does not, use the aluminum plug and a small sledge hammer to drive the shaft out of the pulley. Cool both parts with a water hose when apart.
 5. To remove prop hub, support the prop hub in between the hub and the bearing holder. You will find a small flat on the prop hub in next to the bearing. This is where you want to support the prop hub by hanging the unit over a cushion while you heat the propeller hub. Heat the prop hub to 350° + degrees then cool shaft with water inside the shaft, the use the aluminum plug and a small sledge hammer to drive the shaft and balance of the upper assembly out of the prop hub. Then cool both parts when done.
 6. Using (2) straight screw drivers remove the (2) locking rings on the outside of both bearings. Also you will want to remove the (2) grease zerks prior to heating the assembly. Support the bearing holder on the machined face where it would bolt onto main housing. Then heat the whole bearing housing to 350° + degrees, the shaft and (2) bearings should slide out if not then tap on shaft with aluminum plug and hammer. Cool all parts to room temperature when apart.

7. Remove the excess grease from the shaft and bearings to avoid a fire. Remove all (4) set screws on the bearings and both keys from the shaft. (Save the key because you will need them when reassembling the unit). Lightly sand off any burrs or rust from the shaft before trying to remove the bearings.
8. You will need to support the bearings close to the shaft. Heat the bearing to 500° + degrees. When the bearing is at temperature cool the inside of the shaft with water, then either press the shaft out of the bearing or use the aluminum plug and a small sledge hammer to drive the shaft out of the bearing. (If this does not work the first try, then cool all parts and re-heat the bearing to a higher temperature and try again) You will want to do the same steps to remove both bearings. Remember at this point we are only saving the shaft as the bearings are no good!
9. Clean all parts and inspect, then polish the shaft lightly and clean both bores. Next you can sandblast the prop hub, bearing holder, keys and shaft as long as you make sure you completely remove all abrasives from the grease ports. You will need to remove any marks made by the set screws on the shaft to a sub-surface condition prior to re-assembly.

NOTE: DO NOT SANDBLAST THE PULLEY; ONLY USE EMERY CLOTH IN THE BORE TO LIGHTLY CLEAN PRIOR TO RE-ASSEMBLY.

10. Prop dowels can be just wire wheeled and run ½ x 20 NF tap through to check on threads and clean out.
11. Clean all parts thoroughly to prep for re-assembly.