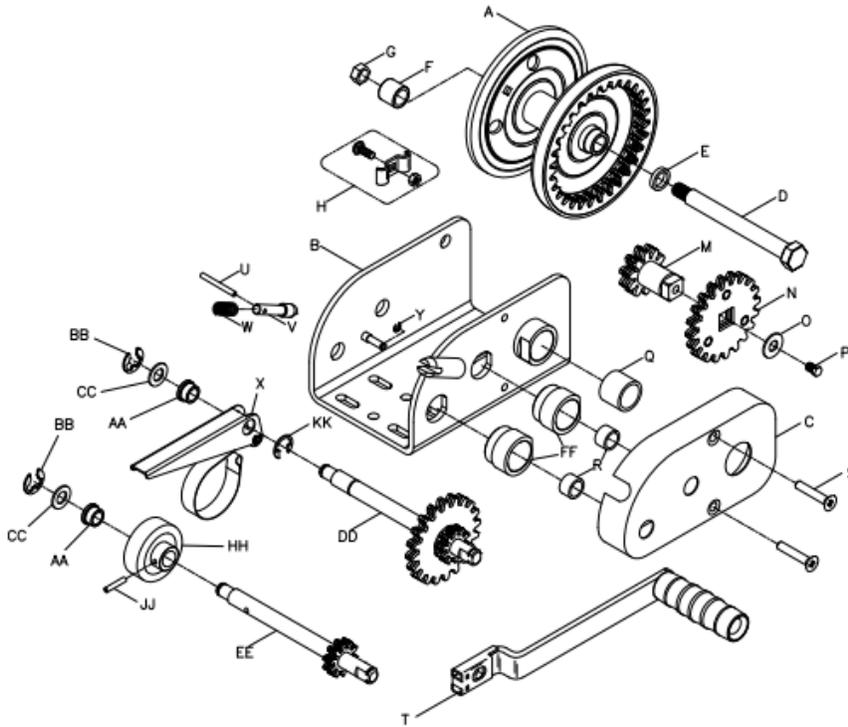
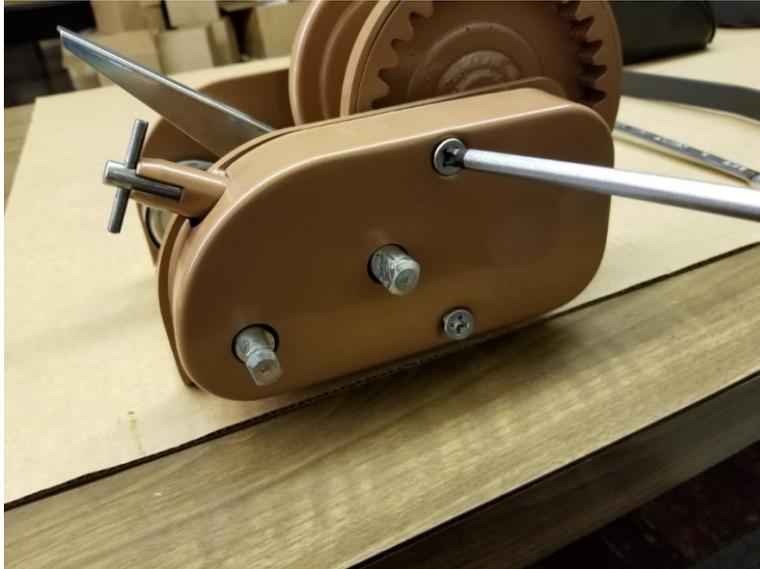


MODEL DL3500B
RATCHET PLUNGER REPLACEMENT INSTRUCTIONS



Replacement of the ratchet plunger (V), ratchet spring (W), and roll pin (U), will require some disassembly. The gear cover (C), 20 tooth gear (N), and intermediate drive shaft (DD) will need to be removed in order to access the bottom of the ratchet plunger housing. This will require a large Phillips screwdriver, a 9/16" wrench (for screw (P) removal), a straight screwdriver or snap-ring pliers (for retaining ring removal), and a 5/32" diameter pin-removal punch (for roll pin (U)).

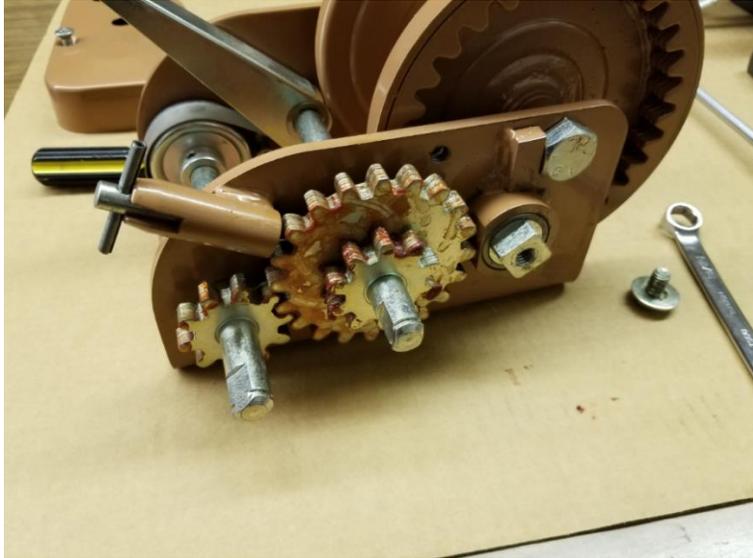
REPLACEMENT INSTRUCTIONS



1. Remove gear cover screws (S) using a large Phillips screwdriver. Then pull gear cover (C) off of winch in order to expose gears and ratchet plunger housing.

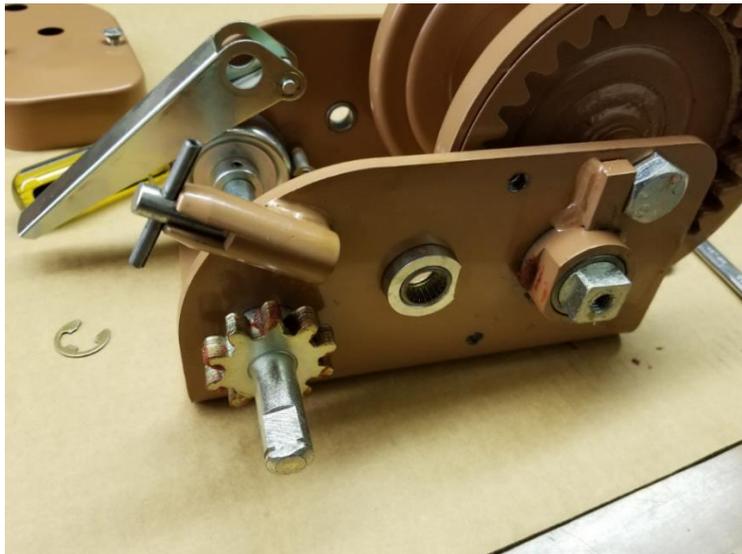


2. Using a 9/16" wrench, remove screw (P) and washer (O) from middle of 20 tooth gear (N) by loosening the screw counterclockwise. This process can be accomplished easier by pressing the Brake Handle Assy (X) down with one hand while loosening the screw with the other hand, jamming a screwdriver in between the gears, or, if the ratchet plunger still has some spring pressure, allowing the plunger to lock the gears. Then remove the 20 tooth gear and set it aside.



3. At this point, the winch should look like the picture above. The intermediate drive shaft (DD) must be removed next. This can be achieved by removing two retaining rings (BB & KK) from the shaft using a straight screwdriver or snap ring pliers. Once these rings are removed, the shaft should be able to be pulled out of the winch in order to access the bottom of the ratchet plunger housing.

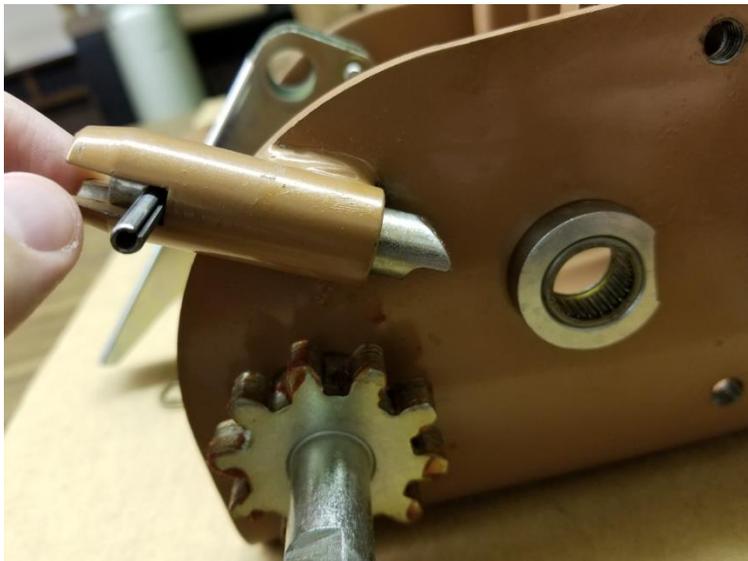
Note: The roll pin (U) could also be removed during this step so that the gears from the intermediate drive shaft keep the ratchet plunger and spring in place during removal. See next step (4) for details on roll pin removal.



4. Turn the ratchet plunger to the engaged position (roll pin turned sideways and plunger sticking out). Using a 5/32" diameter pin-removal punch, remove the roll pin from the ratchet plunger. The ratchet plunger (V) and spring (W) can now be removed from the bottom of the housing.



5. Grab the new ratchet plunger and spring and assemble as shown in the picture above.



6. Now it is time to reassemble the components. This process is simply working back through the steps above. Push the new ratchet plunger and spring (V & W) up into the ratchet housing from the bottom of the housing, and then tap the roll pin (U) into the plunger from the side as shown in the picture above.

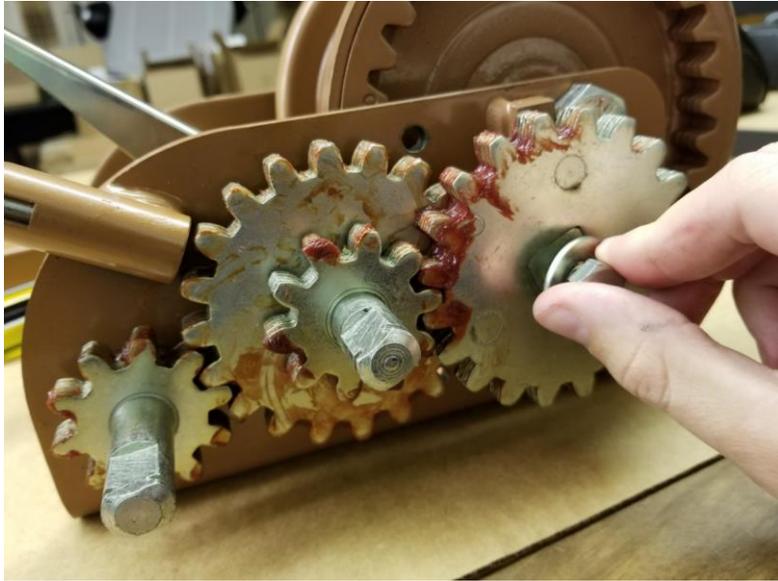
Note: For this step, it can be easier to insert the intermediate drive shaft back into the winch so the gear can hold the plunger and spring into place while driving in the roll pin. See next step (7) for details on reinstalling the intermediate drive shaft.



7. Pull the ratchet plunger out into the disengaged position and place the intermediate drive shaft (DD) back into the winch, passing through the Brake Handle Assy (X) and both bearings so that the notch on the end of the shaft is completely visible on the other side of the winch. Place washer (CC) back onto the end of the shaft, and snap on retaining ring (BB) using snap-ring pliers or a retaining ring applicator.



8. Next, snap retaining ring (KK) back onto drive shaft in front of Brake Handle Assy (X) using snap-ring pliers or a retaining ring applicator. The intermediate drive shaft should now be fully locked into place, and should have adequate gear mesh with the primary drive shaft (EE).



9. Place the 20 tooth gear (N) back onto short drive shaft (M) with the gear breakout side (flat side) facing away from the base. Then place washer (O) and screw (P) in middle hole and tighten in clockwise direction. 20 tooth gear and intermediate drive shaft should have suitable gear mesh and the winch should operate normally.



10. The winch should now look like the picture above. The gear cover (C) can now be placed back onto the winch, and can be tightened down by its two screws (S).