

# **Changing the clutch in a LEDCO C-30 Cutter**

I have written up these instructions for you so you can change the clutch. This is assuming that the clutch is all that is wrong with the machine. While the operation is not that difficult, there are several mistakes that can be made when changing this component that can result in damage to the machine so if you have any questions please call me. (Let me know when you will be onsite so I can be sure I am available.)

## **Overview:**

To change the clutch you will have to remove the top blade holder, the teardrop bearing mechanisms, the clutch shaft assembly. You then reassemble the machine because instead of sending just the clutch, we removed the clutch and shaft assembly from a cutter here so you don't have to align the clutch. This will save you an hour. The most common issues we have are damage to the fiber optic cable, putting the spacers in the wrong order, and turning on the machine before running it manually. If the blades are not aligned properly and they jam and it destroys the new clutch.

## **Procedure:**

1. **Unplug the machine and place the cutter in a location so you have at least 4 feet on the right side so you can remove the clutch shaft.**
2. **Remove the 3 E-clips from the clutch shaft. There is one on the end of the clutch shaft on the control panel side and 2 on the inside of the teardrop bearings under the top hood. Be careful not to drop anything in the blade area, if you do you must find it as any metal object that jams the blades will destroy the clutch.**
3. **Remove the 2 wires that go to the solenoid on the clutch.**
4. **Loosen the 4 motor bolts and slide the motor towards the clutch. Remove the drive belt from the motor.**
5. **Remove the 4 bolts that hold the clutch plate in place.**
6. **Remove the bolts that hold the top cutter blade holder arms. These are the bolts on the arms closest to the front of the machine. (there is 1 bolt on each arm)**
7. **Grab the top blade holder and rotate it forward underneath the clutch shaft, top first, and swivel it so the 4 bolts that hold it on are accessible. Examine the position of the teardrops and the brackets so you can position the blade holder properly for reassembly Note: The blade is attached to this bar and is extremely sharp. The black fiber optic cable is very fragile. It cannot be crushed, bent, or cut. Be extremely careful not to set the blade holder on it or allow the blade to cut it. Even a small slice will cause the light to be deflected and renders the cable unusable.**
8. **Remove the 4 bolts that hold the blade holder on the swivels and set the blade holder aside.**

9. Slide the two tear drop assemblies towards the center of the shaft. Remove the 4 woodruff keys from the shaft. Note that there are spacers on either side of the teardrops. You will be pulling the shaft out the non-operator side of the machine. Be careful not to lose these spacers. The bearing on the operator side of the machine will also fall out into the housing. You will reinstall it later.
10. Pull the clutch shaft out the non-operator side of the cutter. You will need to slide the teardrop assemblies down the shaft as you remove it. Remember which way they are positioned so you can reinstall them correctly.
11. Place the new drive belt around the clutch pulley and slide the new clutch assembly into the cutter sliding the teardrops on as you go. Remember to install the spacers you removed. When the shaft is all the way in the bearing on the clutch side should slide into the side panel. Install the 4 clutch bolts to hold the assembly in place.
12. On the operator's side, slide the bearing onto the shaft, into the side panel, and install the Eclip so it holds the shaft in place.
13. Doing one side at a time, install the woodruff keys in the clutch shaft and slide the teardrop on. You may have to angle the woodruff keys a bit to get them to slide on. If you have to tap them more than gently, check to see if something is in the way. Reinstall the Eclips
14. Take the top blade holder and reinstall it onto the swivels, Once again, be very careful not to damage the fiber optic cable.
15. Feed the blade holder under the clutch shaft and down into place. The top blade goes behind the bottom blade. In the up position the blades only overlap on the non operator side for an inch or so.
16. Reattach the cutter blade arms. You will have roll the non operator side teardrop towards the rear of the machine to release the pressure bar tension in order to get the arm bolt in.
17. Plug in the wires to the clutch, they are not polarity sensitive, and reinstall the drive belt. NOTE: The drive belt should have considerable play in it. The belt is Kevlar and does not stretch. If the belt is too tight it causes premature wear of the bearing in the clutch and can cause the clutch to bind.
18. Run the clutch manually. Turn the drive belt clock wise and trip the clutch dog. You should be able to cycle the blade with minimum effort. Do this several times.
19. Check to see that all the fasteners are tight, close it up and test.

Thanks,

Ken Schroeder  
LEDCO Inc.  
1-800-937-9293 X 309