KNOWLEDGE BASE

Article Type: **Instructions**

Collector Removal and Replacement on PTS and Trac-a-Rack cable Drums.

Description:

Instruction on how to replace and install the collector on cable drums. PTS and Trac-a-Rack car systems.

WARNING

Never work on, clean or service this unit, control panel or any machine or open or remove any protective cover, guard, grate, door, or maintenance panel until the power or energy sources has been turned off, locked out / tagged out, and all moving parts have come to a complete stop and or blocked to prevent movement. Machinery is dangerous – avoid personal injury and or death by following manufacture, Local, and OHSA safety procedures. Contact Columbia Machine for safety decals, guards, horns and beacons.

Collector removal and replacement on PTS and Trac-a-Rac cable drums

Estimated time start to finish 4-6 hours.

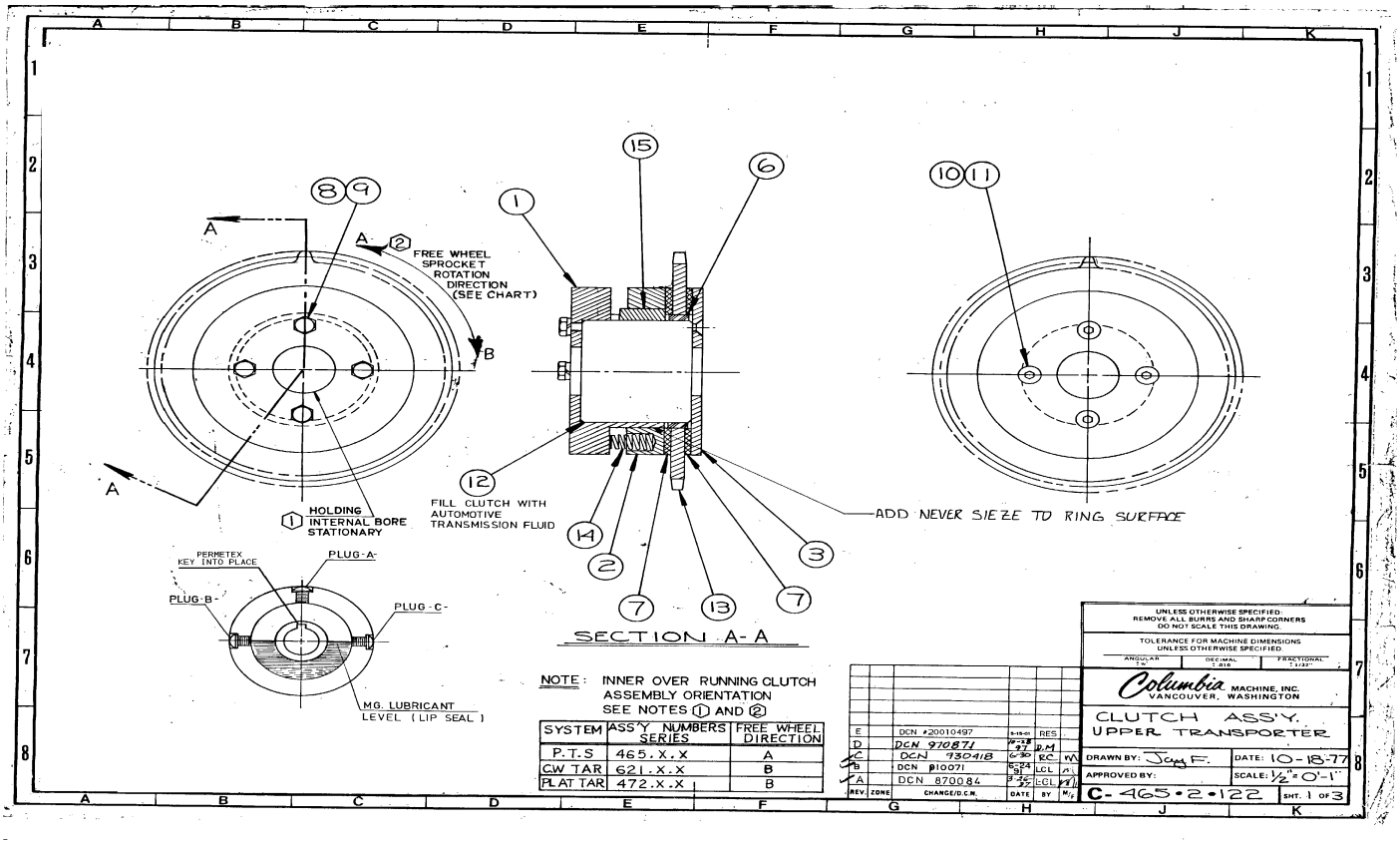
- **SAFETY FIRST - First, turn off power and follow lock-out-tag-out procedures.**

Dis-assembly:

1. Remove the clutch drive chain.
2. Before removing the drum, remove the clamps on the orange hose or SO type cable. Then loosen the screws on the wire terminals and pull orange hose/SO cable and wires out of drum.
3. Using a floor jack and some way of supporting the drum remove all bearing bolts and then lower drum assembly.
   Optional: When the drum is lowered down or completely out, look in the left side of drum, you will see eight 1/4X20 bolts. Remove these bolts and pull the complete supporting shaft assembly out of drum. By doing this, you will see the backside of the collector backing plate. This will add some time, but will make putting wires in from collector easer. **Removing and installing the collector can be done without removing shaft assembly, if you choose. When feeding new wires through backing plate you will need a coat hanger bent like a small hook. This will allow you to pull the wires through the one inch hole so they can be mounted to terminal blocks.**
4. Remove right pillar bearing from shaft.
5. You will see a set of wires coming from a one inch hole in the backing plate, these wires go from terminal connection point to collector. Remove the wires from the terminals, these wires should have spiral wrap grouping them, remove wrap so the wires are loose.
6. Loosen the two set screws on the die case hub on collector.
7. Now slide the collector off the drum shaft, as you work the wires through the holes.

Re-assembly:

1. Looking over the new collector, make sure the leads have shrink tubing installed, for added protection.
2. The drum should have rubber grommets in the six small holes and electrical bushing and nut/hub on the one inch hole for protection. Replacing these will require shaft and left side removal.
3. Group wires into two's, as you slide collector on drum hub feed the wires through small holes.
4. **SEE STEP 3 ABOVE**: If you removed the shaft, reach into left side opening and feed wires through one inch hole. Replace shaft assembly when done. **IF YOU DIDN'T** remove the shaft, use the bent coat hanger to pull these wires through the one inch hole.
5. Before re-installing clutch check the oil level and fill as needed. To check and fill with automatic transmission fluid as shown on print. Also make sure hole in clutch key-way is siliconed over so fluid will not leak out. Install key in key-way.
6. Re-install clutch and shaft assembly.
7. Attach the wires to terminal block.
8. Tighten set screws to hold collector in place.
9. Install bearing on shaft.
10. Lift drum back into place and re-install bearing mounting bolts. Make sure drum turns freely.
11. Install orange hose or SO cable with hose clamps so power source is held to drum, attach wires to terminal blocks.
12. Verify all wires and connections and mounting bolts are tight.
13. Install clutch drive chain and side guards.



Below, you will see some photos of the drum and collector assembly.
1-Fixed terminal block for up-car power, located on collector:
2-Collector:
3-Collector wires, passing through backing plate:
Drum terminal blocks for collector leads and orange hose wires coming from Lo-car power source:
4-Backing plate, pass through holes, grommets on small holes and bushing and lock nut for the large hole: