

FIX-N-FAX #114

CALIFORNIA DEPARTMENT OF FORESTRY AND FIRE PROTECTION

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D6C Winches

During the 1967 Hunter Liggett bulldozer performance test trials, separate trials were run to determine whether underwound or overwound winches were most desirable for Forestry fire control operation. These tests indicated the overwound winch to be more desirable, both in terms of operation and cable life.

Subsequent to the Hunter Liggett tests, individual tests have been run on the Hyster D6C and D6D power shift winches to test out a new type of winch control. The new type controls are now available through Hyster as part of a winch modification kit (from underwind to overwind).

Forestry Equipment Managers in Regions I, III and IV have received instructions in making the modification; Forestry Equipment Managers in Region II will subsequently receive instructions. Once the changeover has been made on all of the D6C bulldozers, we will then proceed with the overwind modification as necessary in the test of the fire control bulldozers.

Modification kits should be ordered through the State Foresters's Office to retain continuity of modification. Kits will be shipped directly to each region by CDF "X" number. Hyster Service Manuals are now on order and should be shipped to each respective Forestry Equipment Manager within the next 10 days. Below are listed step-by-step modification instructions. This modification is to be done only under direct supervision of a Forestry Equipment Manager.

D6C AND D6D HYSTER WINCH MODIFICATION

1. Park the tractor so that the grousers on the right hand track are in position to allow the main winch cross shaft to slide to the right between the grousers.
2. a. If the machine has a Selby canopy, the work may be performed without removing the canopy wraparound tank guard. On the Selby wraparound tank guard, protect the fuel tank with asbestos or sheet metal. Cut out a segment of the wraparound tank guard up 4" from the bottom the full width of the winch.

- b. The Medford wraparound tank guard must be removed for cutting. There is not enough area between tank guard and the fuel tank to safely allow cutting the segment from the tank guard. Remove the tank guard and notch out a segment 4" up from the bottom the full width of the winch.
3. Remove the winch control valve from the winch and install the replacement spool valve.
 4. Remove the brake drum and the wraparound brake assembly complete. Note the position of the brake assembly anchor pin. The anchor pin will be reversed when the brake is reassembled in the opposite position.
 5. Remove the ring and pinion inspection cover and oil pickup tube.
 6. Remove the left and right hand cross shaft and caps. Note: keep the shims with their respective end caps.
 7. Remove the nut and lock washer from the right-hand side of the cross shaft. Slide the cross shaft slightly left and remove the left snap ring, then back to the right and remove the right-hand snap ring. Note: Heavy duty snap ring pliers will be required for this operation.
 8. Roll the cross shaft and clutch packs until the oil holes appear on the top of the clutch packs. The clutch packs should be held in this position while ring gear transition is made.
 9. Support the left-hand clutch with belting or something similar and move the cross shaft to the right far enough to remove the bevel gear and spacers.
 10. Reverse the position of the bevel gear and spacers to the opposite side of the pinion gear.
 11. Move the cross shaft back through the spacers, bevel gear and left-hand clutch pack, making sure that the oil hole in the cross shaft lines up with the oil hole in the left-hand clutch pack.
 12. Reinstall left and right-hand snap rings and right hand lock and nut.

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