

PARTS BOOK AND INSTRUCTION MANUAL

D6C TOWING WINCH

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INDEX

SECTION A

Service, Operation and Installation Instructions

SECTION B

Frames and Mounting Studs

SECTION D

Gear Train and Shaft Groups

SECTION E

Brake and Shifter Mechanism
For Direct Drive Winch

SECTION F

Brake and Hydraulic System
For Power Controlled Winch

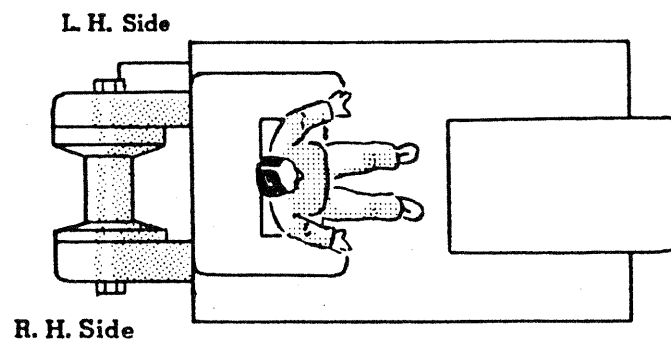
SECTION G

Optional Equipment

SECTION Q

Numerical Index

Parts Referred to in This Book as Right or Left Hand Parts
Are in Accordance with the Sketch Below



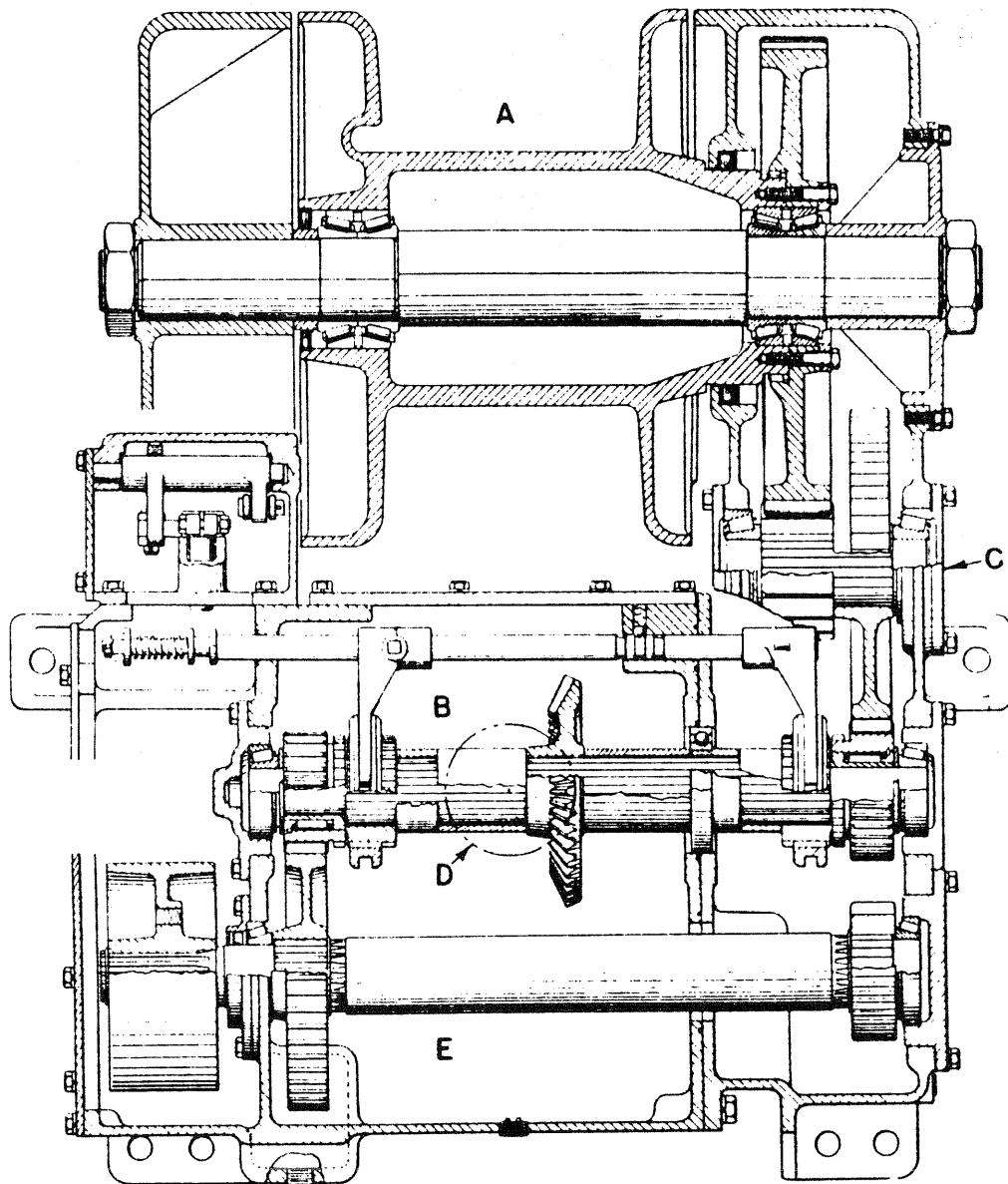
CAUTION!

Never Attempt to Clean, Oil or Adjust a Machine
While it is in Motion

Strict Observance of this Rule will Prevent Accidents

NOTE: All Studs and Capscrews used in this Winch
are Heat-treated.

GEAR TRAIN
(Direct Drive Winch Shown)



- A—DRUM SHAFT GROUP**
- B—BEVEL GEAR SHAFT GROUP**
- C—INTERMEDIATE GEAR GROUP**
- D—POWER TAKE-OFF GROUP**
- E—BRAKE SHAFT GROUP**

Section A

SERVICE, OPERATION AND INSTALLATION INSTRUCTIONS

INDEX

ALTERATIONS TO TRACTOR	A1
CABLE GUIDE ROLLS INSTALLATION (Optional)	A15
DISASSEMBLY INSTRUCTIONS	A32
FAIRLEAD INSTALLATION (Optional)	A16
FREE SPOOLING INSTALLATION (Optional)	A16
INTEGRAL ARCH INSTALLATION (Optional)	A17
LUBRICATION INSTRUCTIONS	A47
OPERATING INSTRUCTIONS	A19
SERVICING INSTRUCTIONS	A23
SPECIFICATIONS	A44
WINCH INSTALLATION	A10

NOTE: BURN OUT SHADED AREAS

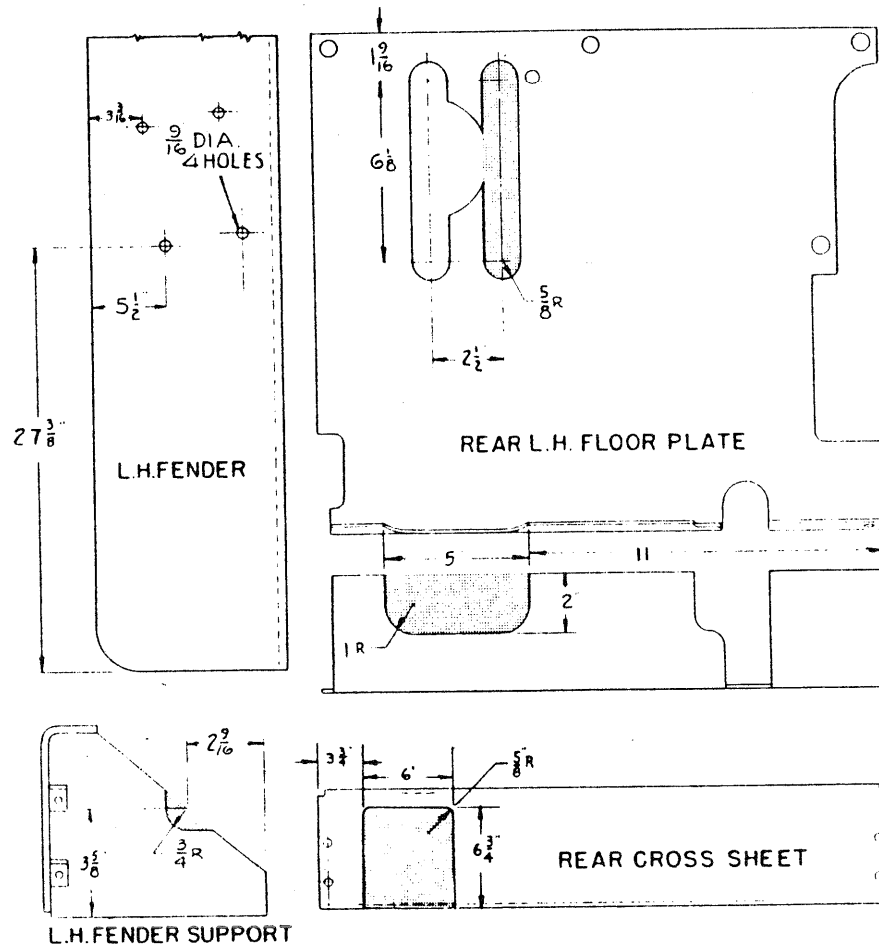
- HYSTER COMPANY**
PORTLAND, OREGON

INSTALLATION INSTRUCTIONS

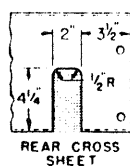
**Alterations for D6 Tractors Serial No. 8U1 & Up — 9U1 & Up Only
For Mounting Direct Drive Winch**

NOTE: BURN OUT SHADED AREAS

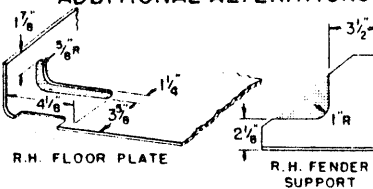
1. Remove rear L. H. floor plate and alter as shown.
2. Straighten master clutch control lever to clear all other handlevers and relocate in new slot added in floor plate.



ADDITIONAL ALTERATIONS FOR FREE SPOOLING



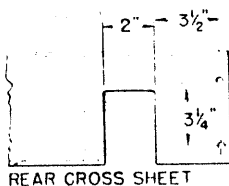
REAR CROSS SHEET



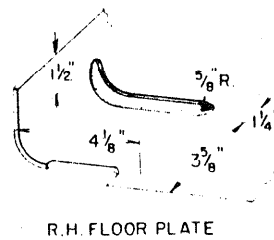
R.H. FLOOR PLATE

R.H. FENDER SUPPORT

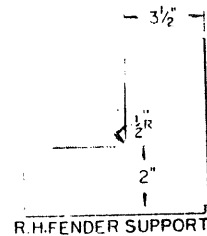
**For Winches Serial No. B39L-1733
and B39L-2241 & Up**



REAR CROSS SHEET



R.H. FLOOR PLATE



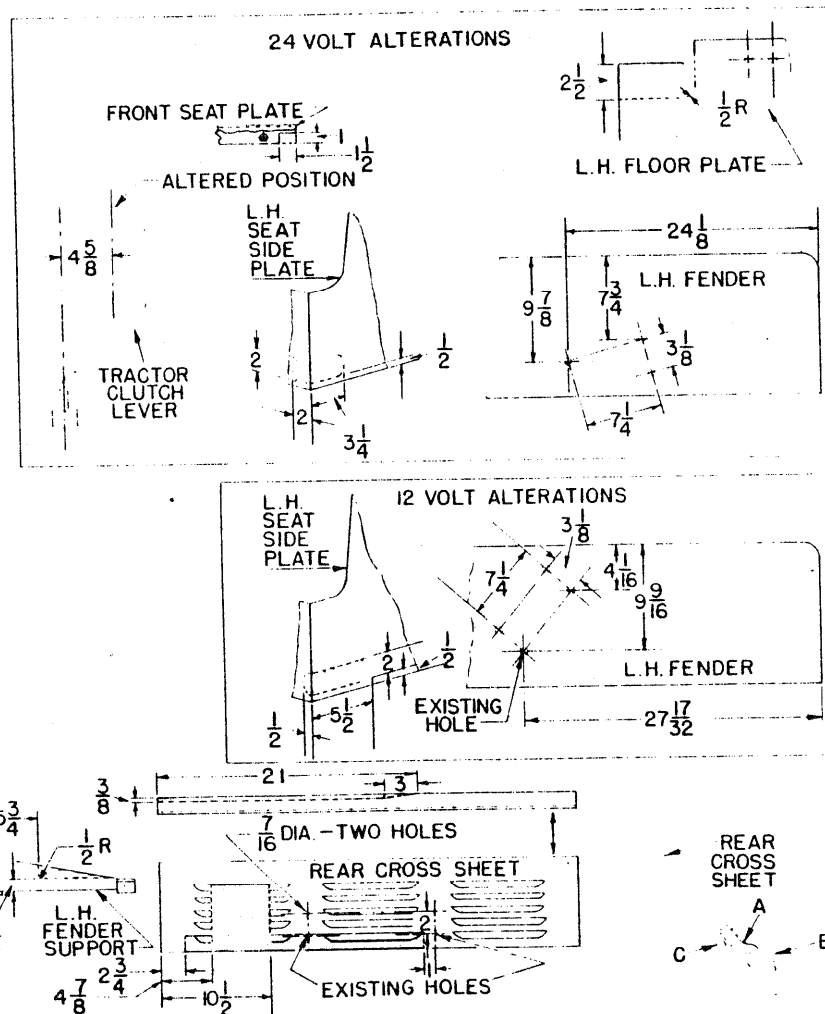
R.H. FENDER SUPPORT

For Winches Up to Ser. No. B39L-1732 Incl. and B39L-1734 Up to B39L-2240 Incl.

INSTALLATION INSTRUCTIONS

Alterations for D6 Tractor Serial No. 74A1 & Up

For Mounting Direct Drive Winch

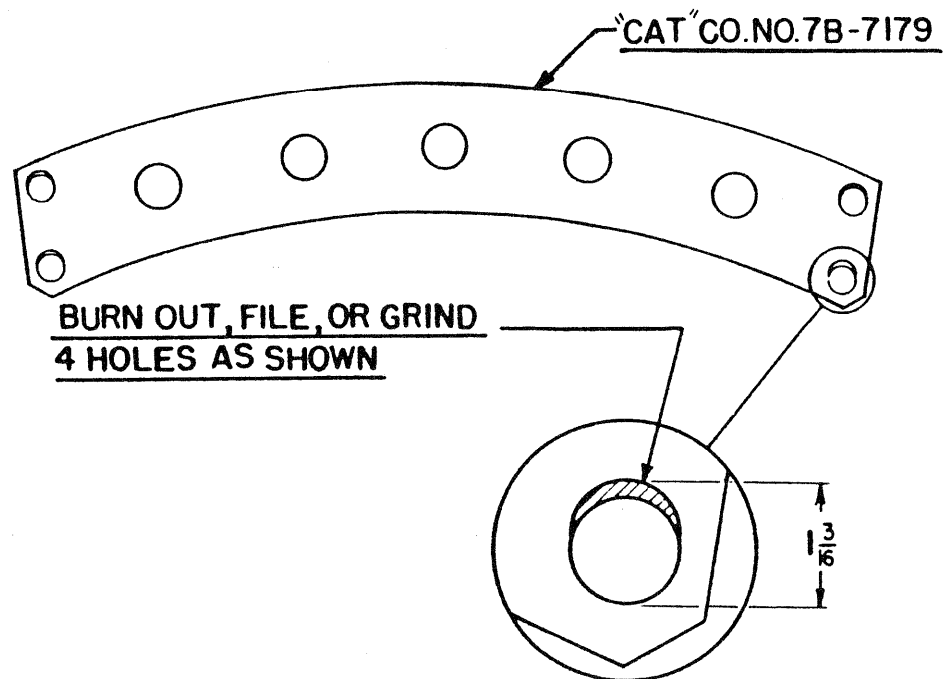


NOTE: BURN OUT SHADED AREAS

1. Alter L. H. fender support as shown.
2. Remove rear cross sheet and burn out shaded area. Drill two 7/16 diameter holes as shown.
3. Alter L. H. seat side plate as shown.
4. Drill three 9/16 diameter holes in L. H. fender as shown.
5. For 24 volt tractor mounting, alter clutch lever, front seat plate, and L. H. floor plate as shown.
6. Install two Hyster plates (A) on tractor, using Hyster capscrews (B) 3/8 UNC x 1. "Caterpillar" capscrews (C) are used later to attach cross sheet.
7. For optional free spooling, make additional alterations shown on next page.

INSTALLATION INSTRUCTIONS

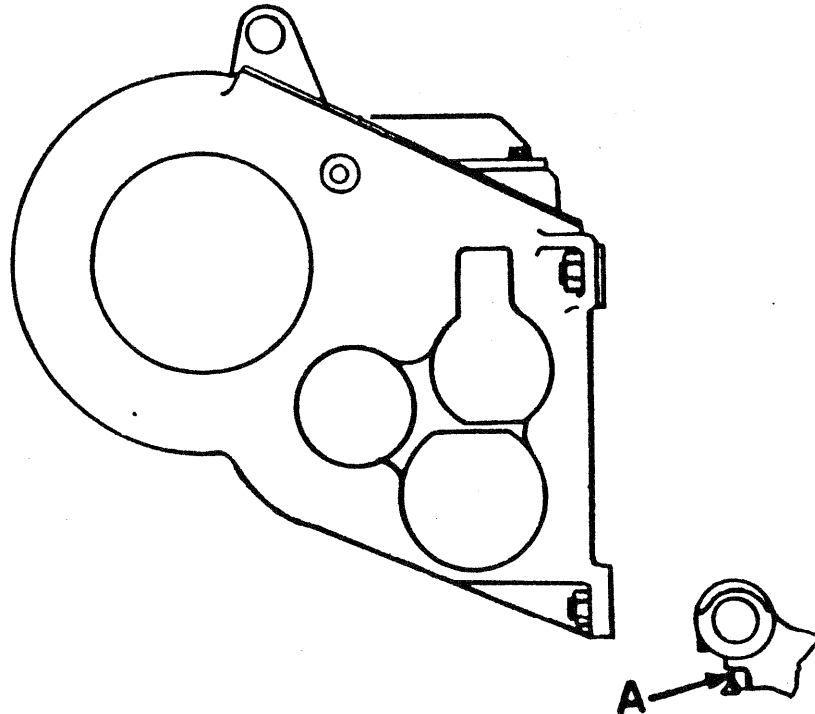
Drawbar Alteration for D74A Tractor With Direct Drive Winch



1. Alter "Caterpillar" drawbar No. 7B-7179 as shown.

INSTALLATION INSTRUCTIONS

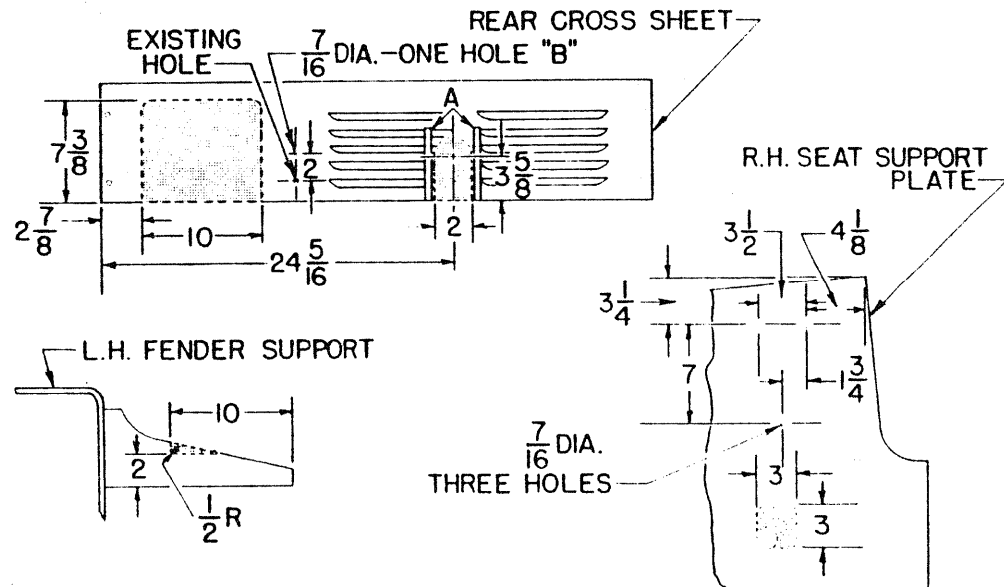
Alteration to R.H. and L.H. Diagonal Brace Bearing Lubrication
Arrangement for D6 Tractors Serial No. 74A1 & Up — 76A1 & Up
For Direct Drive or Power Controlled Winch



1. Install 60° elbow body fitting No. 13987 "A" between fitting and diagonal brace bearing.

INSTALLATION INSTRUCTIONS

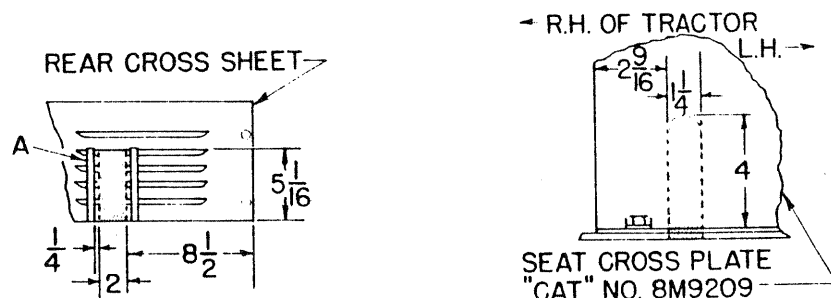
Alterations for D6 Tractors Serial No. 74A1 & Up — 76A1 & Up For Mounting Power Controlled Winch



NOTE: BURN OUT SHADED AREAS

1. Remove rear cross sheet and burn out shaded areas. Weld two support strips (A) as shown, with $\frac{1}{8}$ tack weld between louvers. Drill one $\frac{7}{16}$ diameter hole at (B) for Hyster support plate.
2. Alter L. H. fender support as shown.
3. Cut 3 x 3 hole in R. H. seat support plate for Hyster control cables and drill three $\frac{7}{16}$ diameter holes for mounting handlever bracket.
4. Remove tractor fuel tank to simplify winch installation.
5. See side elevation of rear cross sheet on page A3. Install one plate (A) on tractor using Hyster capscrew (B) $\frac{3}{8}$ UNC x 1. "Caterpillar" cap-screw (C) is used later for installing cross sheet.
6. For optional free-spooling, make additional alterations as shown.

Additional Alterations for D6 Tractors Serial No. 74A1 and up and 76A1 and up for Mounting Direct Drive or Power Controlled Winch with Optional Free Spool



NOTE: BURN OUT SHADED AREAS

1. Burn out shaded area of rear cross sheet and weld two Hyster support strips No. 97554 (A) as shown. Use $\frac{1}{8}$ fillet tack weld between louvers.
2. Burn the R. H. side of tractor front seat cross plate ("Cat" No. 8M9209) as shown. Extend burn to floor plate. (This opening for Hyster free spool shift lever.)

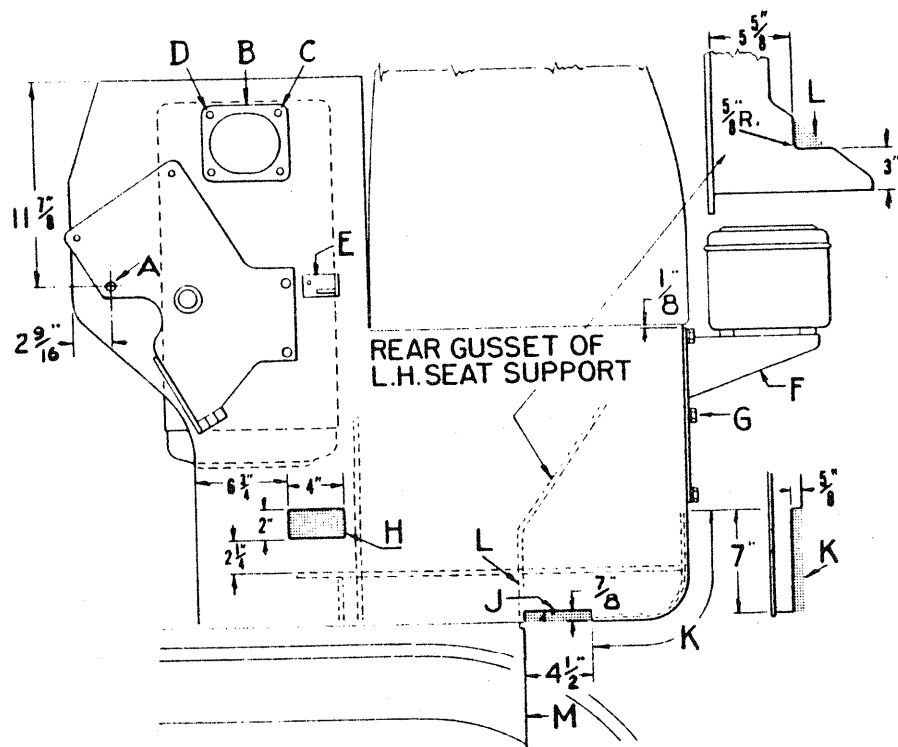
INSTALLATION INSTRUCTIONS

Alterations for 977 Traxcavators Serial No. 53A1 & Up For Mounting Direct Drive Winch

NOTE: BURN OUT SHADED AREAS

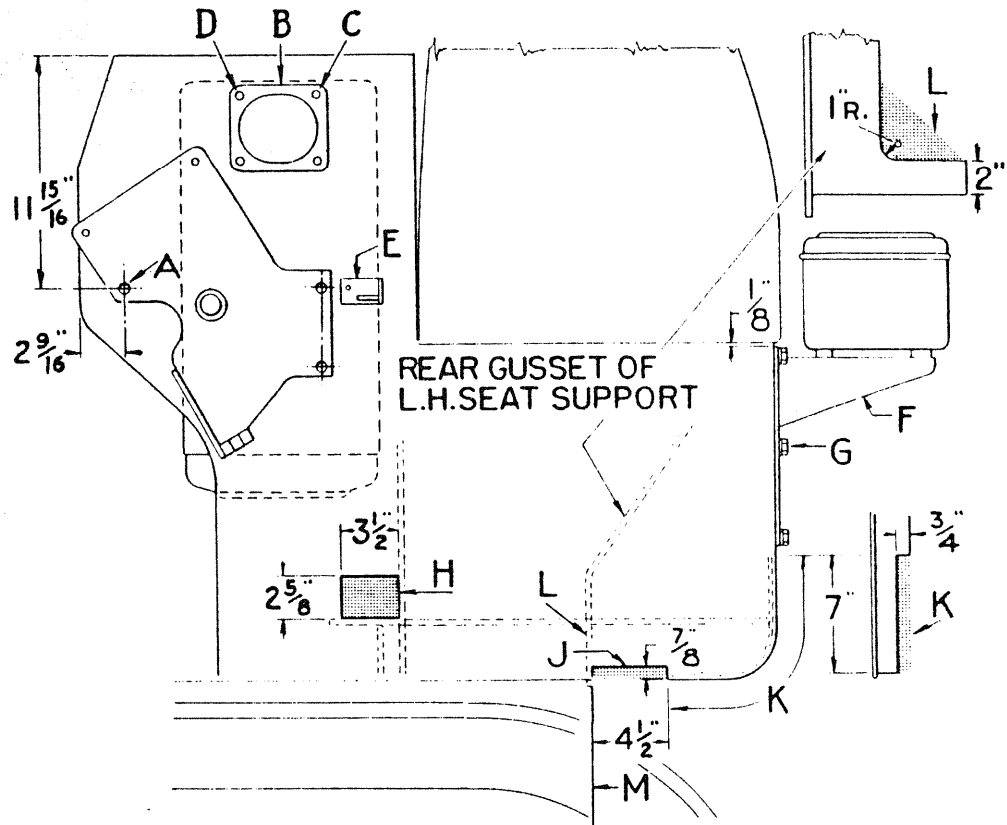
1. Drill three holes, 9/16" dia. "A." Use handlever bracket as template.
2. Mount Hyster spacer and gasket "B." Discard two capscrews (1/2 UNC x 3) from "C" and replace with two capscrews (1/2 UNC x 5 3/4) from "D." Install two Hyster capscrews (1/2 UNC x 8 1/2) at "D."
3. Remove air cleaner and support brace and discard brace. Attach bracket "E" to air cleaner and tractor, using existing holes and tractor capscrews, nuts and lockwashers.
4. Remove tractor tool box and cover assembly beneath fuel tank. Locate Hyster tool box bracket "F" on center line of tractor and 1/8" below fuel tank using bracket as template, drill six holes 25/64" diameter and tap 7/16-20 UNF at "G."
5. Burn hole at "H," in L. H. side plate of seat support.
6. Burn 7/8x4 1/2 from bottom of L. H. and R. H. tractor side sheets, at "J," starting at rear face of tractor transmission case "M."
7. Burn off 5/8" along flange of L. H. side sheet as indicated at "K."
8. Burn out rear gusset of L. H. seat support as indicated at "L."
9. Install studs and mount winch as directed.

Alterations for 977 Traxcavator Serial No. 53A1907 & Up (With Oil Clutch and Brakes)



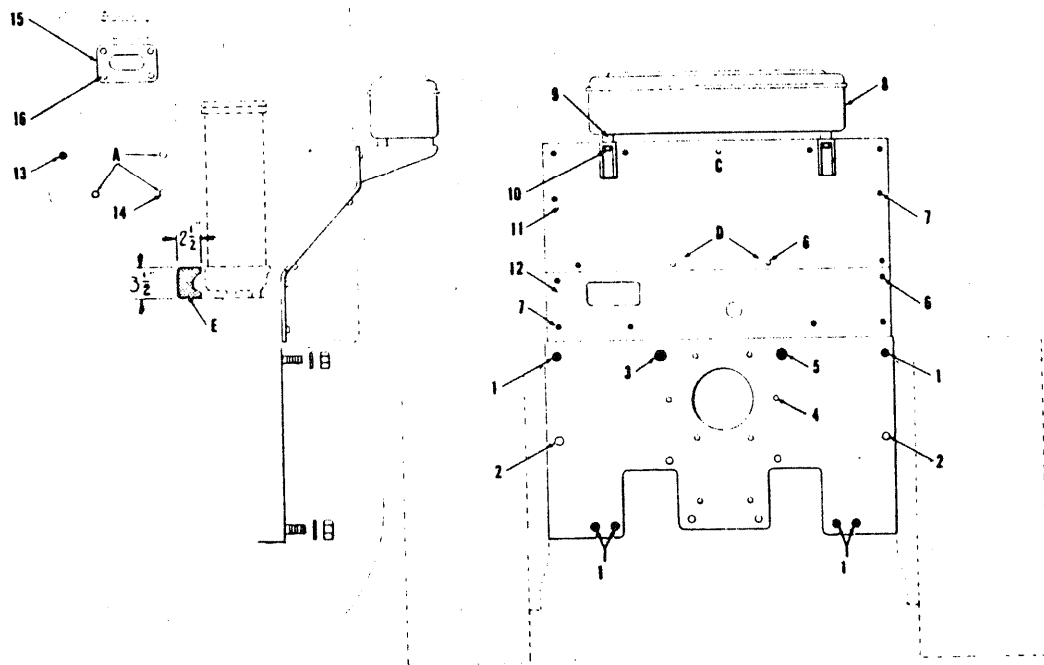
INSTALLATION INSTRUCTIONS

Alterations for 977 Traxcavator Serial No. 53A1 and Up
To 53A1906 Incl.



INSTALLATION INSTRUCTIONS

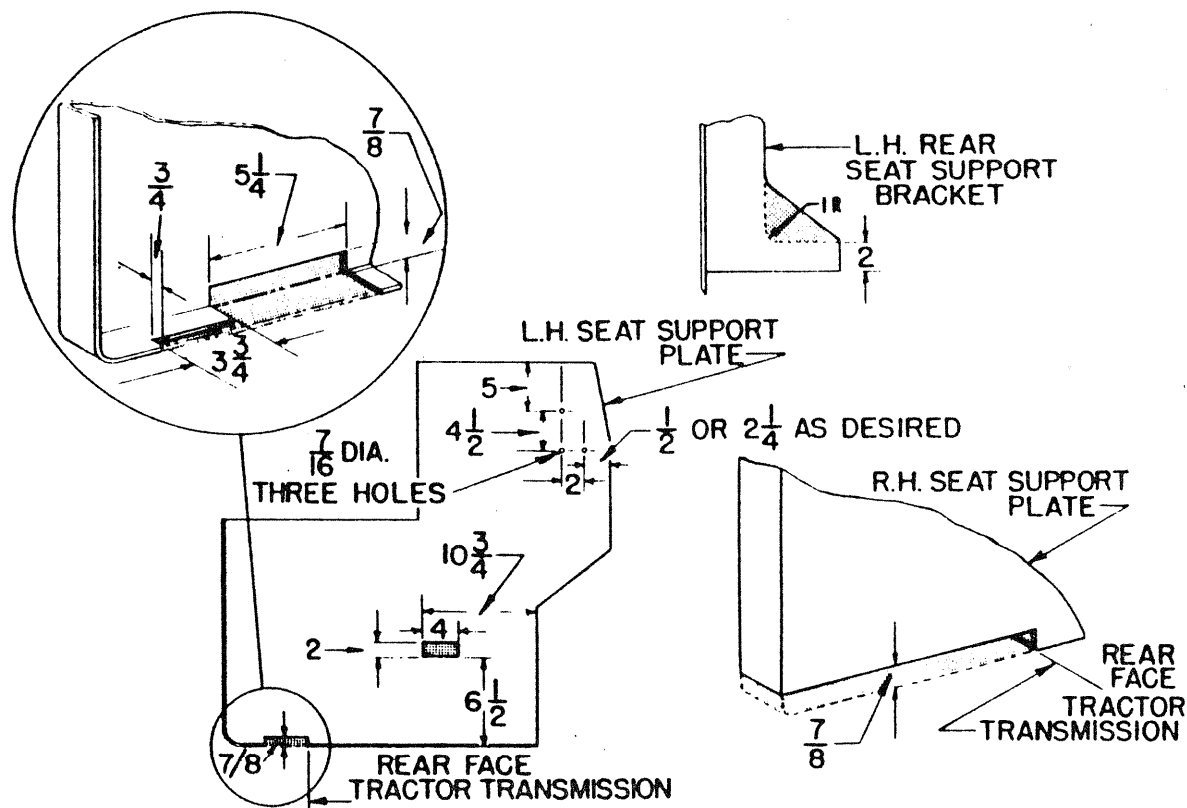
Alterations for 977 Traxcavators Serial No. 20A1 & Up For Mounting Direct Drive Winch



NOTE: BURN OUT SHADED AREAS

1. Remove Traxcavator tool box and discard. Save capscrews.
2. Locate tool box support (11) with hole "C."
3. Bolt cover (12) to support (11) with two capscrews ($\frac{3}{8}$ UNC x $\frac{3}{4}$) at "D."
4. Using support (11) and cover (12) as template, drill and tap fourteen $\frac{3}{8}$ UNC holes.
5. Bolt tool box support (11) and cover (12) to Traxcavator using capscrews removed in Instruction 1 and two Hyster capscrews, $\frac{3}{8}$ UNC x $\frac{3}{4}$.
6. Remove three Traxcavator capscrews at "A" and fasten handle lever bracket with two $\frac{1}{2}$ UNF x $1\frac{1}{2}$ capscrews (14). Drill one $\frac{9}{16}$ hole and install $\frac{1}{2}$ UNF x $1\frac{1}{2}$ capscrew at (13).
7. Enlarge filter opening in L.H. side seat support as shown at "E." (For Hyster control cables)
8. Install air cleaner spacer (15) and gasket, using four capscrews, $\frac{1}{2}$ UNF x $1\frac{1}{2}$ (16).
9. Install studs and mount winch as directed.

INSTALLATION INSTRUCTIONS **Alterations for 977 Traxcavators** **Serial No. 53A1 & Up** **For Mounting Power Controlled Winch**



NOTE: BURN OUT SHADED AREAS

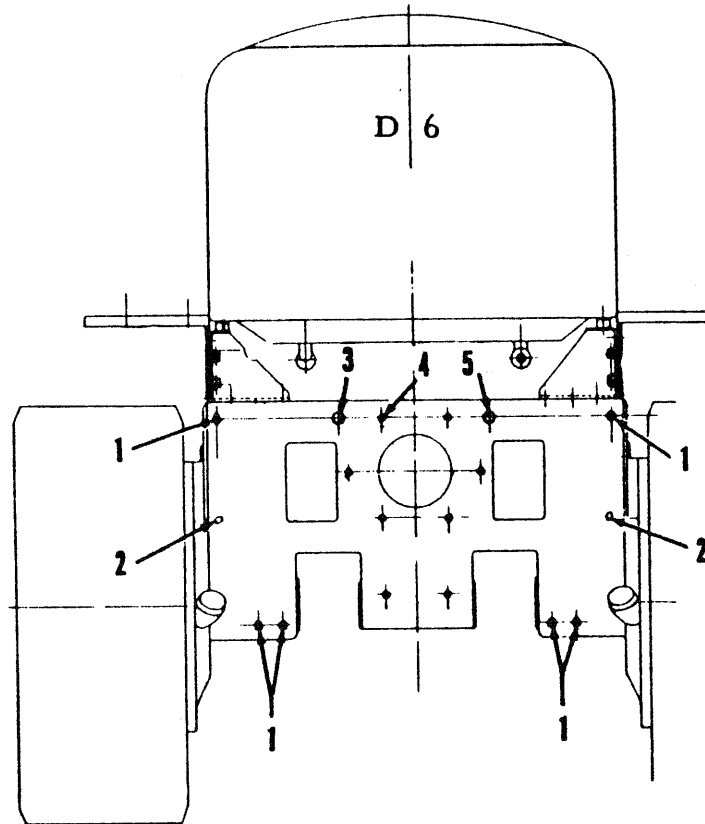
1. Remove tool box and cover beneath fuel tank.
2. Burn out area of L. H. rear seat support bracket as shown.
3. Burn out area of R. H. seat support plate as shown.
4. Burn out hole in side and area at bottom of L. H. seat support plate.
5. Remove grab iron and discard.
6. Drill three $\frac{7}{16}$ " dia. holes in L. H. seat support plate (for handlever bracket).
7. Install studs and mount winch as directed.

INSTALLATION INSTRUCTIONS

For Mounting on D6 Tractors

Serial No. 8U1 & Up — 9U1 & Up — 37A1 & Up — 44A1 & Up
44A1 & Up — 74A1 & Up — 76A1 & Up

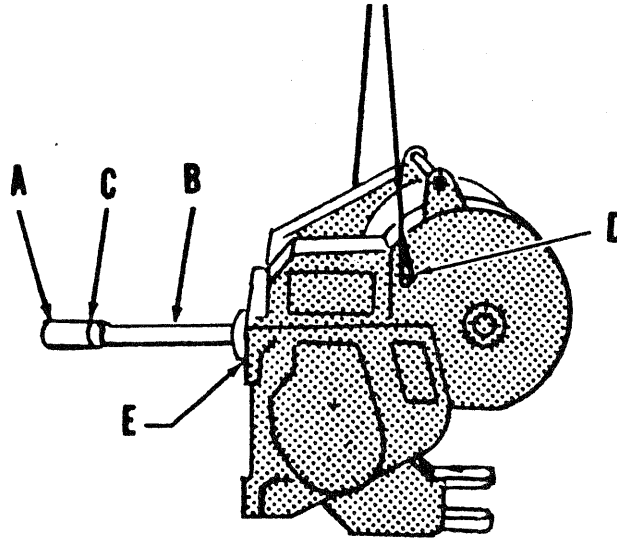
Also 977 Traxcavators Serial No. 20A1 & Up — 53A1 & Up



1. Remove drawbar brackets.
2. Remove "Caterpillar" power take-off cover and plug the six tapped holes at (4) with corks, Hyster No. 18004. If required, move studs from location (2) to location (1) above and plug the two tapped holes at (2) with corks, Hyster No. 18005.
Smooth out the bevel edge of the P.T.O. bore. Remove all burrs and nicks. Smooth out machining marks on the surface of the bore. Use a round back or emery.
3. Check rear face of transmission case for high spots particularly of welds near mounting studs where winch pads are to make contact. Grind or file to insure proper fit.
4. For all Tractors and Traxcavators except S.N. 74A1 & Up — 76A1 & Up. Install $1\frac{1}{4} \times 3\frac{1}{2}$ stud, Hyster No. 92672, at (5) and $1\frac{1}{4} \times 3-27/32$ drilled stud, Hyster No. 95952 at (3).
The six studs at (1) are "Caterpillar" drawbar studs. (Furnished by Hyster for Traxcavator Installations.)
5. For Tractors S.N. 74A1 & Up — 76A1 & Up only. Install $1\frac{1}{4} \times 4\frac{1}{8}$ taperlock stud, Hyster No. 89036, at (5) and $1\frac{1}{4} \times 4$ drilled taperlock stud, Hyster No. 89035 at (3).
6. If required, remove drawbar studs not used and plug holes with corks.

INSTALLATION INSTRUCTIONS

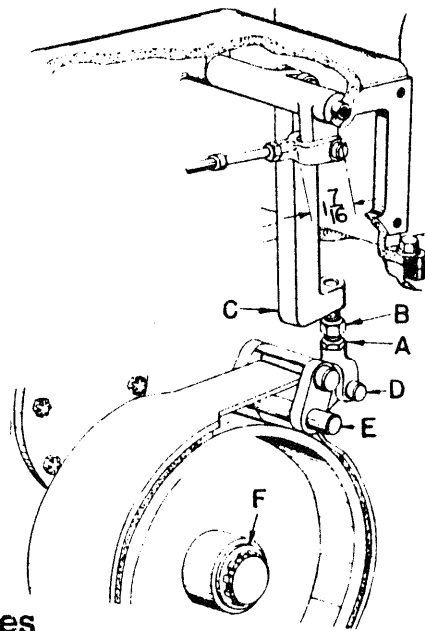
WINCH INSTALLATION



1. Be sure that coupling "A" is secured to shaft "B" at "C" with pin and lock ring.
2. Apply a liberal coat of heavy type sealant to "O" ring and to bearing carrier where "O" ring makes contact, and install "O" ring on bearing carrier at "E."
3. Install $\frac{7}{8}$ " UNF capscrews in side frames at "D" and attach sling as illustrated.
4. Clean mounting surfaces and be sure that tractor P.T.O. cover bolt holes are plugged.
5. Remove winch transmission cover and remove plastic plugs, two in cable openings and one in stud hole in winch mounting face.
6. Move winch toward tractor and line up splines on tractor P.T.O. with splines on coupling "A."
7. When winch is in place, install nuts and lockwashers on the two upper mounting studs first. *Note:* Coat the stud that is inside the winch with Permatex, Plastic Lead Seal or comparable sealant. Install nuts and lockwashers on the remaining mounting studs and tighten all mounting nuts securely. Be sure cotter is installed in drilled stud inside winch.
8. Remove cover on handling gear control box and install cables (see illustrations showing adjustments required). *Note:* Brake cable goes in the opening toward the center of the tractor. Be sure locknuts at rod ends are tight and that set screws in housing are in grooves in cables and are tight. Replace cover.
9. Install handlever bracket and connect cables. Cross cables for proper handlever operations. This will place the brake cable away from the center of the tractor at the handlever end. (See routing diagram on page A12.) *Note:* For Traxcavator installations rod end pins at handlever end must be inserted with heads away from Traxcavator.
10. Replace altered rear cross sheet (and fuel tank, if removed).
11. Check and adjust brake lining clearance.
12. For direct drive winch check and adjust clutch shifter.
13. Recheck to see that all fastenings are tight.

INSTALLATION INSTRUCTIONS

For Direct Drive Winches Serial No. B39L-2336 & Up



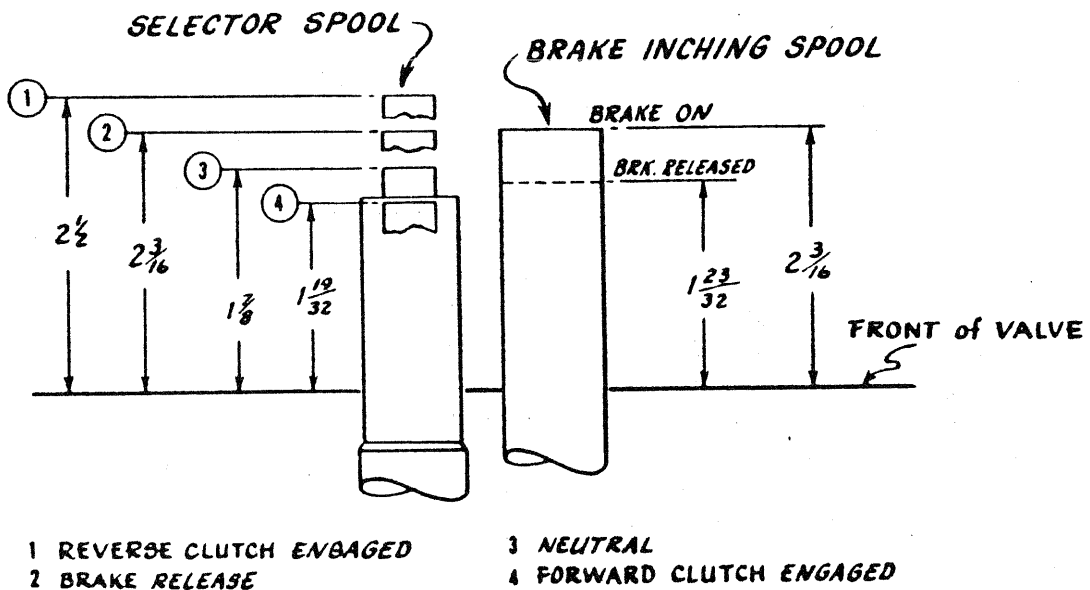
Setting Control Cables

1. Place brake handlever in released position and clutch handlever in neutral.
2. With the brake handlever in full release position, adjust control cable to the 1-7/16" dimension as shown.

Note: Large grommets on cables must be removed to insert cables in winch openings, then replaced.

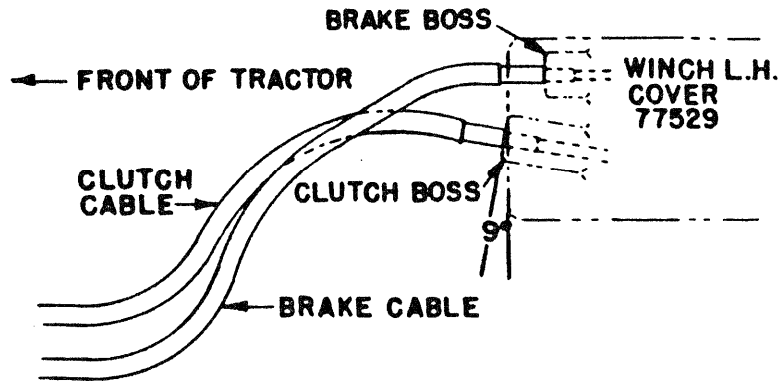
Control Valve Spool Positions for Power Controlled Winch

After installation, the control cable adjustment should be checked by measuring the control valve spool positions at each position of the control levers. The spool positions must be equal to the dimensions shown. If the spool positions do not check with these dimensions, the push-pull cables must be readjusted until the spools are in the correct positions as indicated.



INSTALLATION INSTRUCTIONS

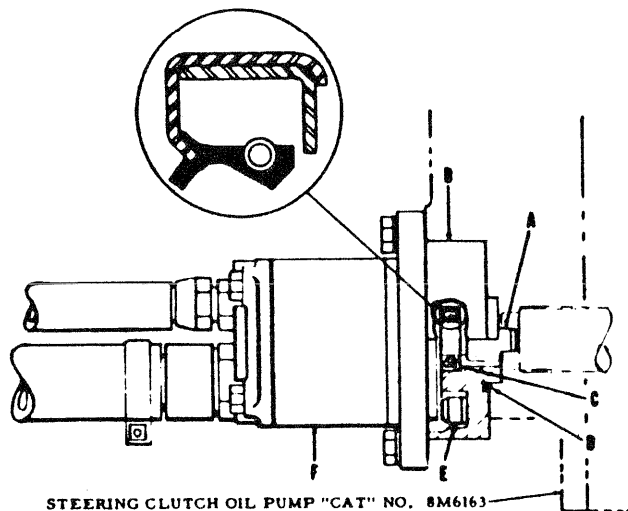
Control Cable Routing (Diagram Shows Plan View Installation for 977 Traxcavator Serial No. 53A1907 & Up, with Oil Clutch and Brakes)



1. Cross brake cable over clutch cable to outside of handling gear bracket as shown.

Note: Handling gear cover box (77529) is required for Traxcavators Serial No. 53A1907 & up. The boss for the clutch cable on this cover is on 9° slant.

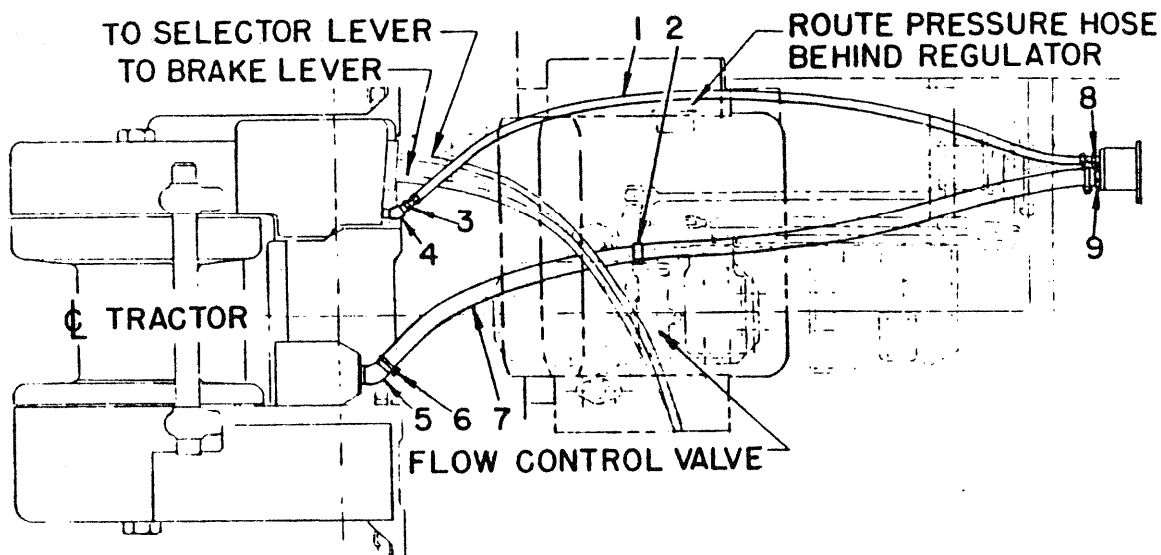
Power Control Winch Pump Installation for Tractors Serial No. 74A1 & Up — 76A1 & Up



1. Remove tractor floor plates and left brake pedal.
2. Remove cover from tractor steering clutch oil pump "Cat" No. 8M6163, located below tractor L. H. brake pedal.
3. Install coupling (A). Polish coupling tongues with emery cloth if coupling does not slide freely.
4. Assemble pump bracket (B) "O" ring (D) and oil seal (C) and install on tractor pump with two $\frac{3}{8}$ UNC x 1 capscrews (E). *Note:* Install oil seal (C) as shown in enlarged view.
5. Install Hyster pump (F) with fittings below center line.

INSTALLATION INSTRUCTIONS

Hydraulic Hose Routing — Power Controlled Winch on D6 Tractors Serial No. 74A1 & Up, 76A1 & Up

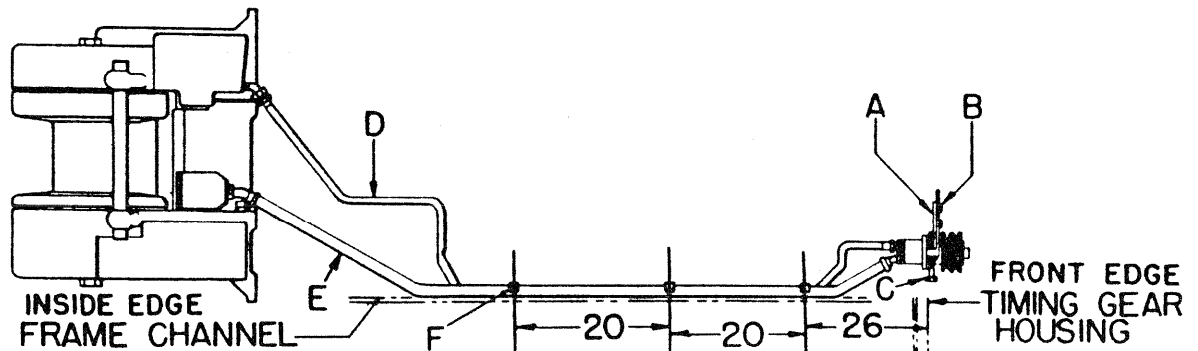


1. Remove protective plugs and attach hose (1) to L. H. side of winch using 45° elbow fitting (4) and male connector (3).
2. Attach hose (7) to R. H. side of winch using hose nipple (5) and clamp (6).
3. Attach opposite end of hose (4) to pump using special hose fitting (9) and another clamp (6).
4. Fasten hose (4) to "Caterpillar" flow control valve with clamp (2) using existing capscrew.
5. Route hose (1) to the left, behind regulator and connect to pump with male connector fitting (8).

Note: Be sure Hyster hydraulic lines do not rub on any moving tractor parts.

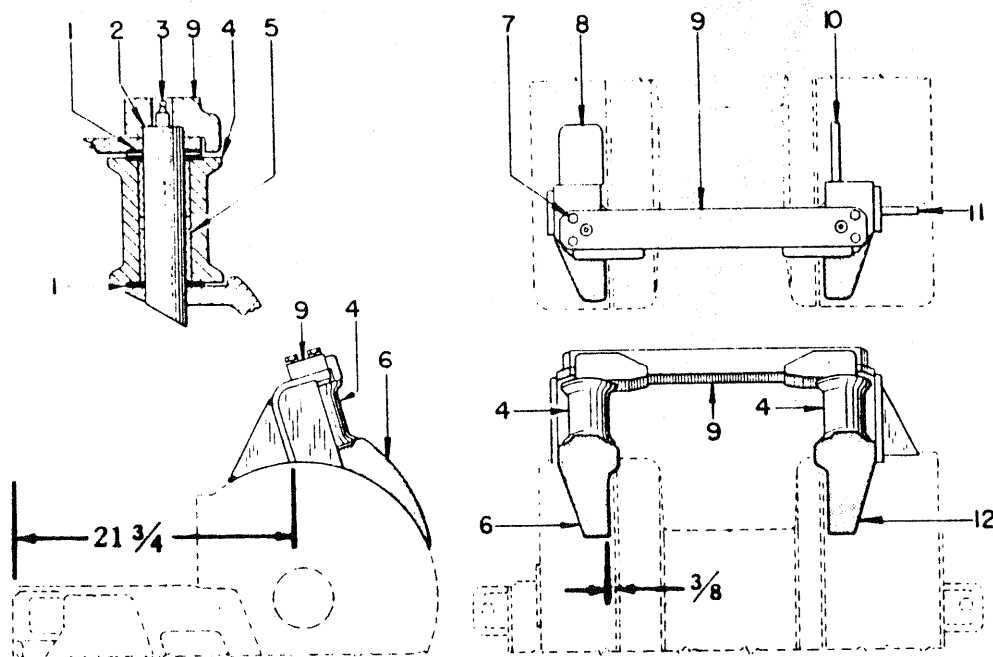
INSTALLATION INSTRUCTIONS

Pump and Hose Installation — Power Controlled Winch on 977 Traxcavator Serial No. 53A1 & Up



1. Remove $\frac{1}{8}$ pipe plug from pump assembly and check oil level. Fill with winch transmission oil, if required, and replace plug.
2. Remove "Caterpillar" belt tightener group and install Hyster pump assembly to timing gear cover.
For Traxcavators Serial No. 53A2272 and up (and previous series with spring-loaded belt tightener) use three capscrews $\frac{1}{2}$ UNC x $1\frac{1}{2}$ "B" with plain washers and lockwashers. Shimming may be required at "A" (between timing gear cover and pump bracket) for proper belt alignment.
For 977 Traxcavators with screw-type belt tightener, use plain washers and lockwashers with "Caterpillar" nuts.
3. Tighten belts with adjusting screw "C."
4. Drill three $\frac{5}{16}$ holes in side of Traxcavator frame channel, approximately 4" down from top and install Hyster hydraulic hoses "D" and "E." Use three Hyster clamps "F," with the larger hose on top as shown.

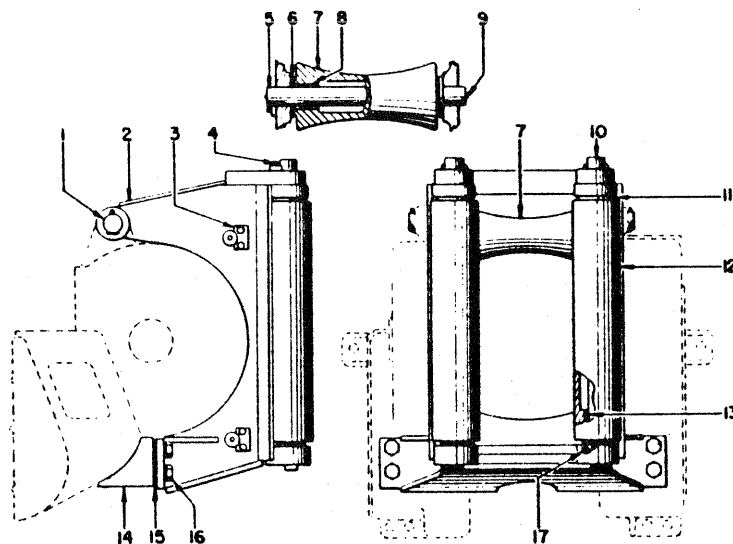
INSTALLATION INSTRUCTIONS CABLE GUIDE ROLL GROUP



1. Remove tie bar and tie bar ears from winch.
2. Assemble cable guide roll parts, place on winch as shown, and tack weld to winch frame. Tack weld support (8) to bracket (6) and gussets (10 and 11) to bracket (12).
3. Weld securely to winch using intermittent weld to avoid distorting winch side frames. Complete welding support (8) and gussets (10 & 11).

Note: Front part of brackets (6) and (12), where they contact the winch side frames, should be $21 \frac{3}{4}$ " from the rear face of the tractor and the inside edges of these brackets should be $\frac{3}{8}$ " from edges of winch side frames nearest the drum.

FAIRLEAD INSTALLATION



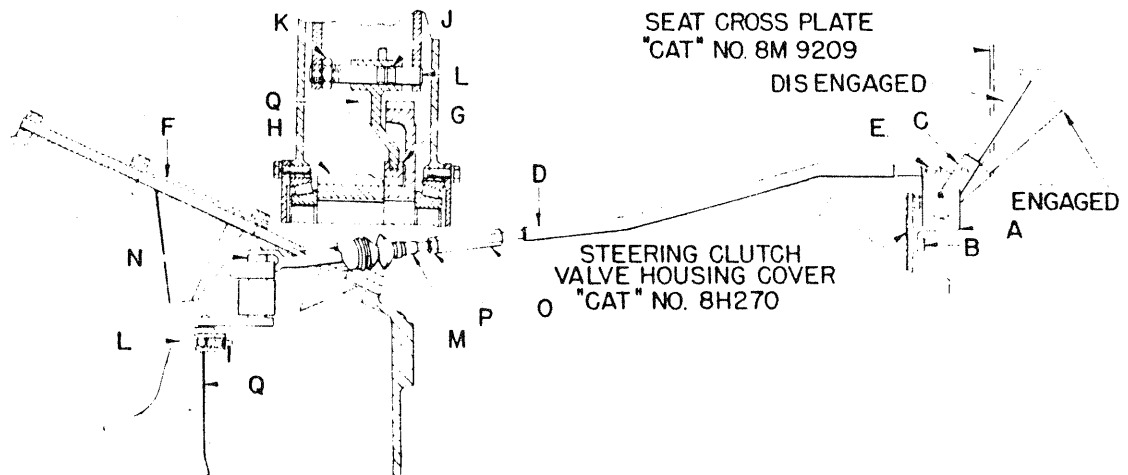
INSTALLATION INSTRUCTIONS

FAIRLEAD ASSEMBLY

1. Remove winch tie rod (1).
2. Swing fairlead into position and insert tie rod (1) through tie rod ears on winch and fairlead brackets. If tie rod (1) is bent, replace it with a new one. Install cotters, $\frac{3}{8}$ x 3, in ends of tie rod (1).
3. Bolt brackets (14) to each side of fairlead frame using shims (15) as required. There should now be $\frac{1}{8}$ " clearance between winch drums and fairlead frame.
4. With fairlead frame correctly in position, weld brackets (14) securely to winch frame.

FREE SPOOL GROUP INSTALLATION

(For Tractors Serial No. 74A1 & Up — 76A1 & Up)

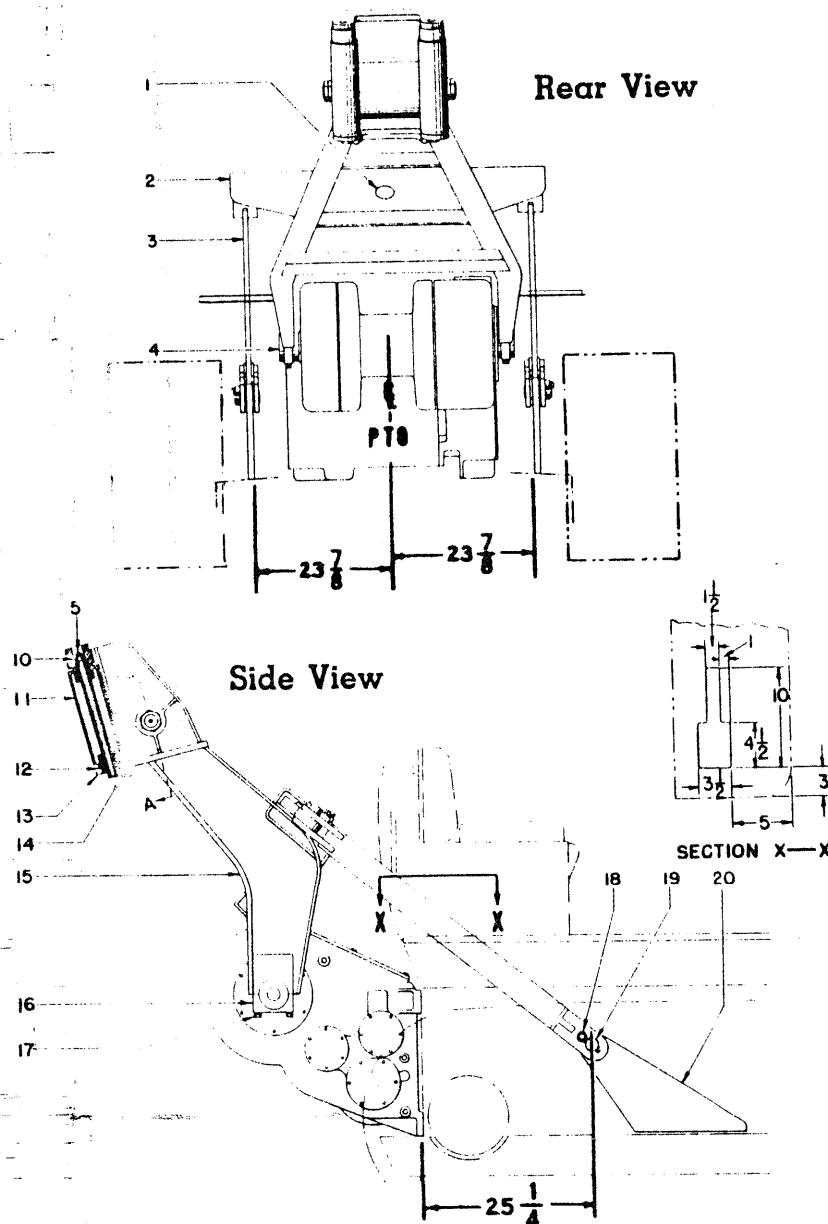


1. Remove two capscrews from steering clutch valve housing cover, "Caterpillar" No. 8H270, and install Hyster lever bracket "A," using Hyster capscrews "B," $\frac{3}{8}$ UNC x 1, with lockwashers.
2. Install Hyster lever "C" through opening cut in seat cross plate "Caterpillar" No. 8M9209.
3. Attach link "D" to lever crank at "E."
4. Remove winch cover "F" and check shifting arrangement inside of winch as follows:
5. With the dental clutch "G" fully disengaged from gear "H" as shown, detent ball (in boss of shifter "Q") should be in notch "J." If not properly adjusted, loosen jam nut "K" on shaft "L" and turn shaft in or out as required. Be sure to tighten jam nut "K." Once the shifter "Q" is properly adjusted, it will not require other adjustment.
6. Section "M" of link "D" is attached to crank "N" inside the winch at the factory. Connect section "M" to turn buckle "O" and adjust link "D" to proper length. Be sure to tighten jam nut "P" after adjustment.
7. Replace cover "F."
8. Push lever all the way down for drum rotation under power. Move lever all the way up for free spooling drum.

INSTALLATION INSTRUCTIONS

INTEGRAL ARCH

(For Wide Gauge Tractors Prior to Serial No. 74A1 — 76A1)

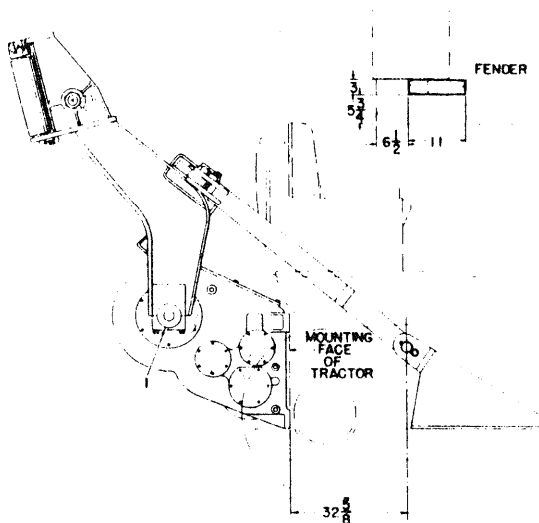
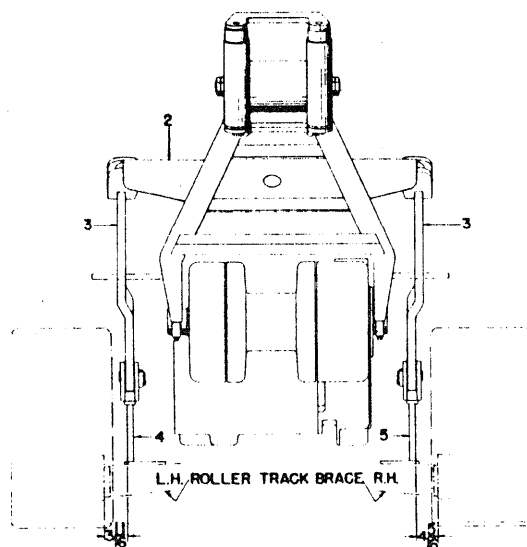


1. Remove winch drum shaft nuts and replace with special nut (4).
2. Remove tool box and alter fenders as shown at X—X.
3. Remove winch tie rod.
4. Install frame (15), equalizer assembly (2), bar supports (3) and support assemblies (20).
5. Tack weld support assemblies (20) to tractor as shown: $23\frac{7}{8}$ " from each side of P.T.O. center line.
6. Check alignment and complete welding support assemblies (20) to tractor: $\frac{3}{8}$ " fillet weld on inside and $\frac{1}{2}$ " fillet weld on outside.
7. Install tool box in most convenient location.

INSTALLATION INSTRUCTIONS

INTEGRAL ARCH

For D6 Tractors Serial No. 74A1 & Up — 76A1 & Up



REMOVE SHADED AREA

1. Remove winch drum shaft nuts and replace with special nuts (1).
2. Remove tool box and alter tractor fenders as shown.
3. Remove winch tie rod.
4. Install equalizer (2), struts (3) and brackets (4) and (5).
5. Tack weld brackets (4 and 5) to tractor R.H. and L.H. track roller braces.
6. Check for alignment and complete welding of brackets with $\frac{3}{8}$ fillet weld.
7. Install tool box in a convenient location.

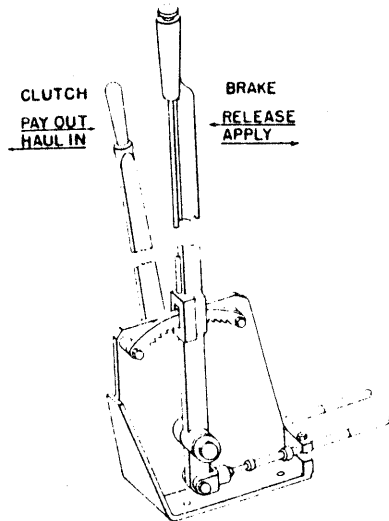
OPERATING INSTRUCTIONS

DIRECT DRIVE WINCH

Do Not Operate Winch While Tractor Is In Motion

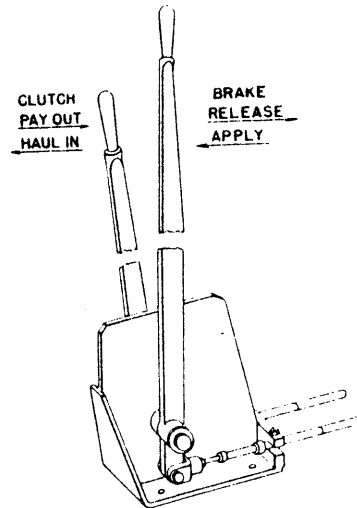
**FOR WINCHES SER. NO. B39L-2336
AND UP**

**To Apply the Brake PULL THE
HANDLEVER BACK.
PUSH FORWARD to release.**



**FOR WINCHES PRIOR TO
SER. NO. B39L-2336**

**To Apply the Brake PUSH THE
HANDLEVER FORWARD.
PULL BACK to release.**



CAUTION: With a standard brake, the brake handlever must be released *before* operating the winch. The tractor master clutch must be disengaged *before* the winch brake is applied to avoid stalling the tractor motor or burning the winch brake lining.

The optional automatic brake should be applied while hauling in a load, but *must* be released to pay out cable.

To haul in a load push the clutch lever forward. Pull back to pay out cable.

**CAUTION: DO NOT APPLY MORE HANDLEVER EFFORT
THAN NECESSARY TO OPERATE BRAKE OR SHIFTER**

Clutch Operating Instructions

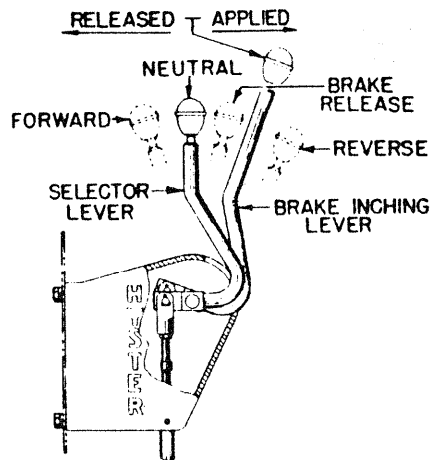
For 977 Traxcavators with Power Shift Transmissions (Serial No. 53A1 and up):

1. Disengage traxcavator power shift transmission.
2. Put traxcavator range selector in "Neutral."
3. Engage winch transmission.
4. Re-engage tractor power shift transmission to line speed desired.

For All Tractors and Traxcavators Without Power Shift Transmission:

1. Disengage the tractor master clutch.
2. Engage winch transmission.
3. Re-engage the tractor master clutch.

OPERATING INSTRUCTIONS POWER CONTROLLED WINCH

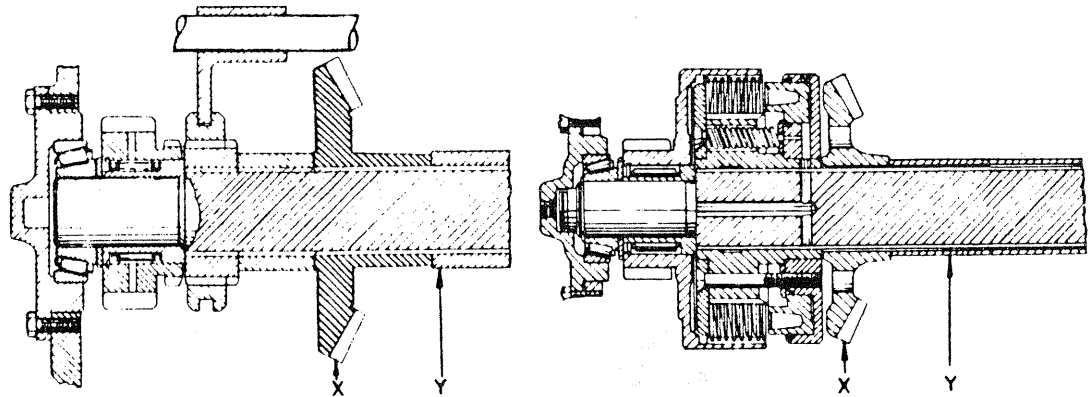


For normal operation the selector lever only is used; push for reverse and pull for forward. The brake is automatically released when the clutches are engaged and applied when the clutches are disengaged. For inching a load pull on the brake lever. It will automatically return to the applied position.

CAUTION: Do not operate winch if clutches slip. Investigate cause.

Vary line speed by throttling engine. Low idle is recommended for reverse. Clutch lever must be in neutral for gradual brake-off. Ease clutch lever into neutral to hold a tight line.

OVERWIND — UNDERWIND



Direct Drive

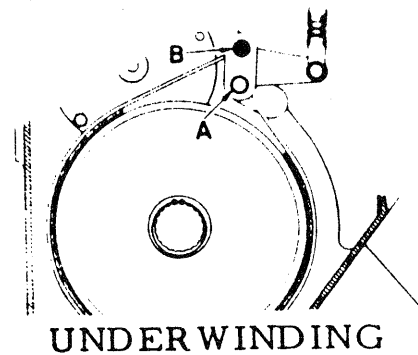
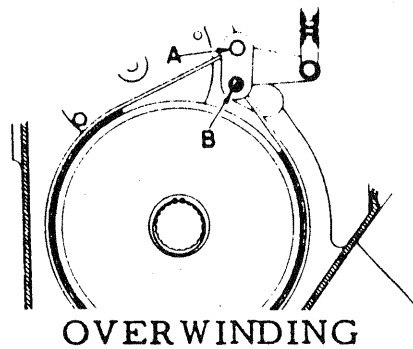
Power Controlled

Unless otherwise specified, all winches are set to wind the cable over the top of the drum barrel.

For underwind operation remove bevel gear "X" and spacer "Y" and replace them as shown.

OPERATING INSTRUCTIONS

BRAKE BAND CHANGE FROM OVERWIND TO UNDERWIND



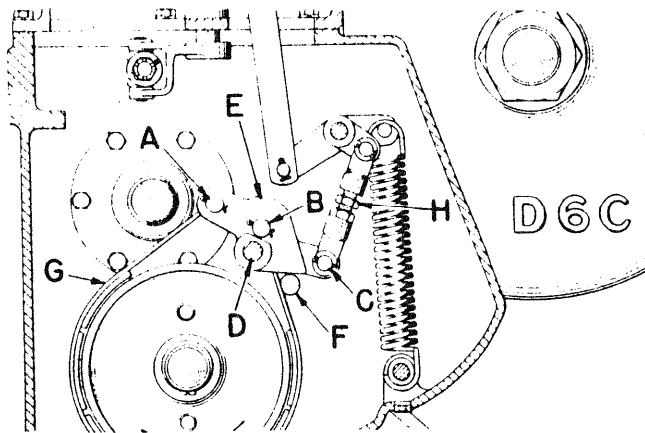
FOR WINCHES

SERIAL NO. B39L-2336 AND UP; A82L-1501 AND UP

Pin "A," $4\frac{5}{8}$ " long with cotter hole in center, holds the moveable end of the brake band.

Pin "B," $6\frac{3}{8}$ " long with tapped hole in end, is the anchor pin.

1. To change from overwind to underwind, remove pins "A" and "B" from positions shown in illustration marked "overwinding" and insert them in positions shown in illustration marked "underwinding."

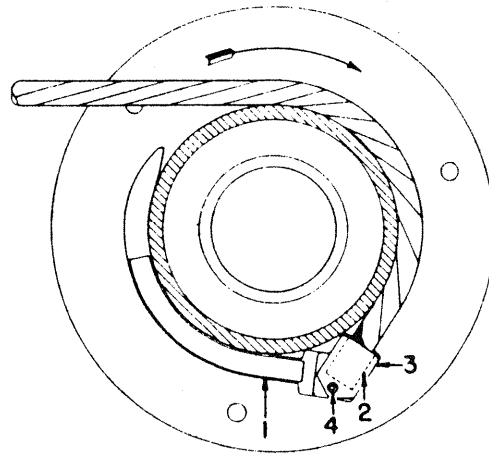


FOR WINCHES PRIOR TO
SERIAL NO. B39L-2336

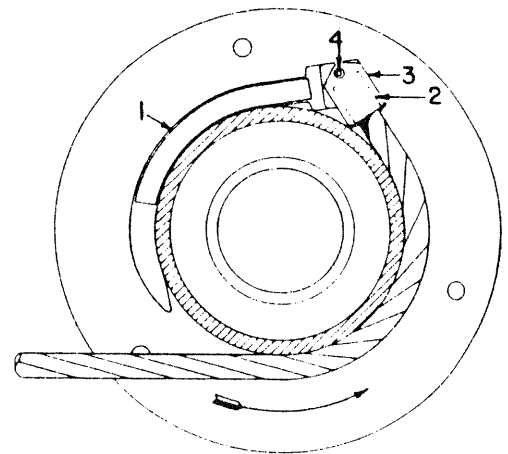
1. Remove pins, "C" and "D." (Pins "A" and "B" need not be removed.)
2. Turn crank "E" over (along with brake band "G") and replace pin "D" in new location at "F."
3. Adjust link "H" and replace pin "C." Adjust so there is approximately $\frac{1}{32}$ " clearance between brake lining and drum with brake handle lever in fully released position.

OPERATING INSTRUCTIONS

METHOD OF ATTACHING CABLE FOR OVERWINDING OR UNDERWINDING DRUM



OVERWINDING



UNDERWINDING

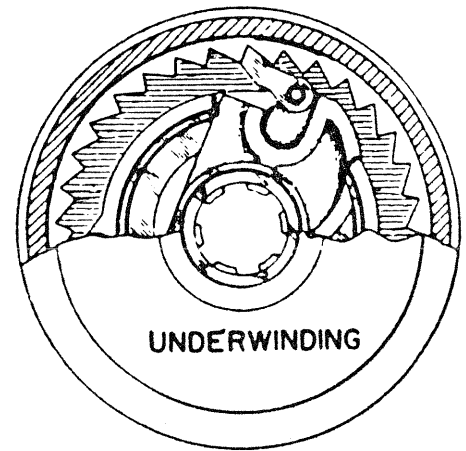
Place cable groove filler (1) in drum barrel as shown and tack weld in place.

Place ferrule (2) in pocket and lock in place with ferrule lock (3), using capscrew (4).

SPECIAL AUTOMATIC BRAKE (Optional Equipment)



OVERWINDING



UNDERWINDING

When cable is to be used "overwinding" the side of brake which is marked overwinding should face outwardly. When cable is to be used "underwinding," the automatic brake should be removed and re-installed in the reverse position with the side marked "underwinding" facing outward.

Instructions covering brake linkage and adjustments on standard brake apply also to the optional automatic brake.

SERVICE INSTRUCTIONS

TROUBLESHOOTING FOR DIRECT DRIVE WINCHES

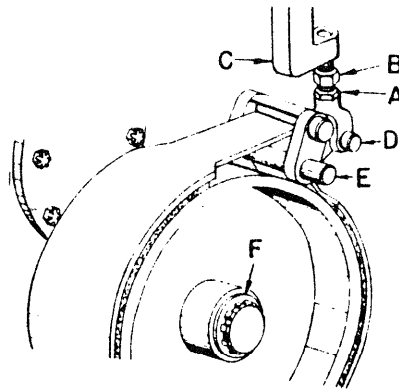
A. Brake Not Holding

1. Drain water from brake compartment.
2. Check brake lining for oil saturation and wear.
3. Check brake band adjustment.
4. Check push-pull cable for proper adjustment.

B. Hard Shifting

1. Check push-pull cable for freeness.
2. Check clutch handlever for binding due to rust, dirt, etc.
3. Disconnect push-pull cable and check the shifter shaft for binding in the transmission case and R. H. side frame bores.

For Winches Serial No. B39L-2336 & Up



Brake Band Adjustment

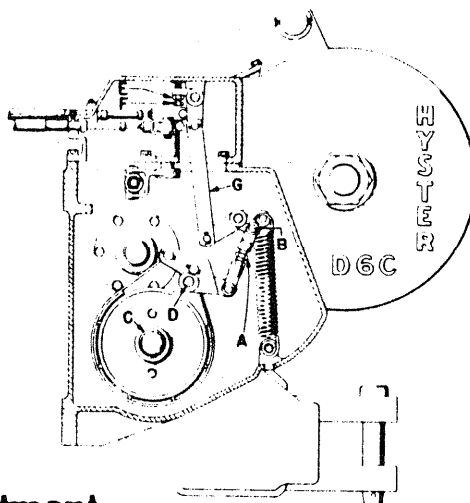
1. Remove the small brake cover from L. H. side of winch.
2. Push brake handlever to release position.
3. Loosen jam nut "A" and turn adjusting link "B" in or out of link "C," as required.
4. Adjust to approximately $1/32$ " clearance between brake and drum, or just enough to prevent "Brake Drag."
5. Tighten jam nut "A."
6. Replace cover removed in Instruction 1.

Brake Band Removal

1. With brake in the "Release" position, remove pins "D" and "E."
2. Remove snap ring "F."
3. Slide drum from shaft and remove brake band.

SERVICING INSTRUCTIONS FOR DIRECT DRIVE WINCH

For Winches Prior to Serial No. B39L-2336



Brake Band Adjustment

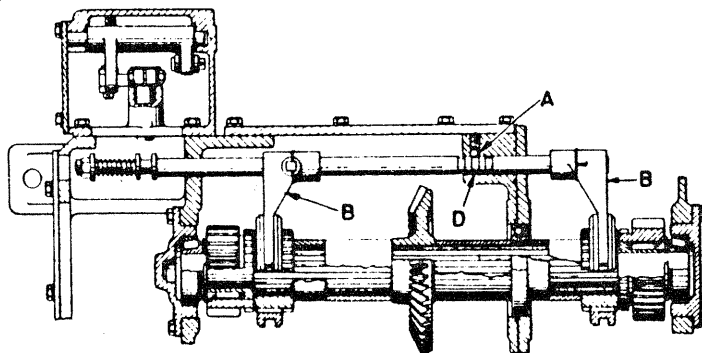
1. Remove both covers on the L. H. side of winch.
2. Pull brake handlever back into the "release" position.
3. Loosen jam nut on link "A" and turn link to the right to tighten or to the left to loosen brake band. Allow sufficient clearance between drum and lining to prevent "dragging."

Brake Band Removal

1. With brake in the "release" position, remove pin "B."
2. Remove pin "D" and snap ring "C."
3. Slide drum from shaft and remove brake band.

Resetting Brake Linkage (After Removal for Servicing)

1. Pull brake handlever back into the "Release" position.
2. Loosen jam nut "E" and turn capscrew "F" slowly until link "G" will just hold brake band in "Release" position. Over toggling will prevent brake from being applied.
3. Tighten jam nut "E."



Shifter Adjustment

1. Ball and spring "A" holds shifter rod and forks "B" in forward, neutral or reverse position.
2. With shifter in neutral position as shown at "D," make necessary adjustments with the rod ends on control cable. No adjustment inside the winch is necessary.

SERVICING INSTRUCTIONS

TROUBLESHOOTING FOR POWER CONTROLLED WINCH

A. Winch fails to operate or is sluggish in its operation:

1. Check filter for leaks or excessively plugged.
2. Check all connections in suction line to see if they are tight.
3. Check winch oil level.
4. Check pump for proper flow output.
5. Check relief valve (part of control valve) for proper setting.
6. Check all hoses inside of winch case for leaks.
7. Check push-pull cables for proper adjustment. The push-pull cables should have one inch of travel with the valve spools and handlevers connected to the cables. If the cable does not have the specified travel, adjust valve spool and handlever adjustment until the one inch travel is obtained.

If the trouble is not eliminated with the above check, some internal parts are probably broken. Check the following:

A. Low Operating Pressure: Check Control Valve for:

1. Broken relief valve spring.
2. Dirt jammed in relief valve port.
3. Adjusting washers left out by mistake.

B. Brake Not Holding Properly

1. Water in brake compartment.
2. Improper brake band adjustment.
3. Oil on brake band.
4. Broken brake spring.
5. Sticky piston in brake cylinder due to dirt, chips or damaged piston.
6. Worn poppet on control valve selector spool allowing spool to shift to "Brake Release Position."

C. Low Clutch Pressure:

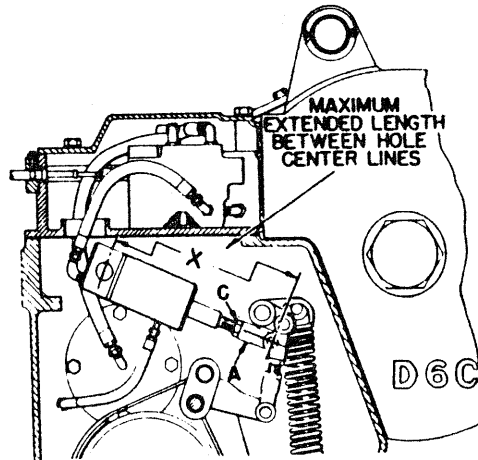
1. Improper stroke adjustment on push-pull cable to selector spool.
2. Broken seal ring on bevel gear shaft.
3. Damaged "O" Ring in clutch pack.
4. Damaged or badly worn pump.
5. Plugged filter

D. Slow Response:

1. Cold temperature operation with warm weather oil.
2. Improper stroke adjustment on push-pull cable to selector spool.
3. Filter plugged
4. Tractor engine idled too low.

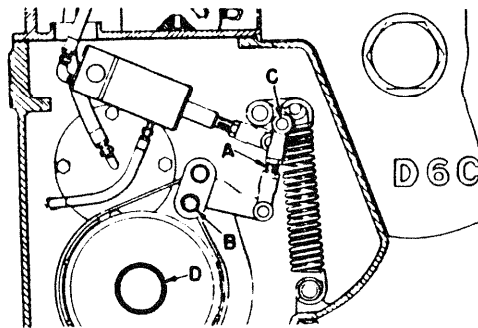
SERVICING INSTRUCTIONS FOR POWER CONTROLLED WINCHES

Brake Cylinder Adjustment



Fully extend cylinder rod and adjust rod end "A" to maximum extended length of "X." (For S. N. A82L-1726 and up, "X" = $10\frac{7}{8}$ ". For S. N. prior to A82L-1726, "X" = $10\frac{5}{8}$ ".) After adjustment be sure to tighten jam nut "C."

Brake Band Adjustment



1. Release brake.
2. Loosen jam nut on adjusting link "A" and turn link to the right or to the left as required for $\frac{1}{32}$ " clearance between band and drum.
3. Tighten jam nut.

Brake Band Removal

1. Remove pins "B" and "C."
2. Remove snap ring "D" and slide brake drum from shaft.
3. Remove brake band from drum.

Clutch Adjustment

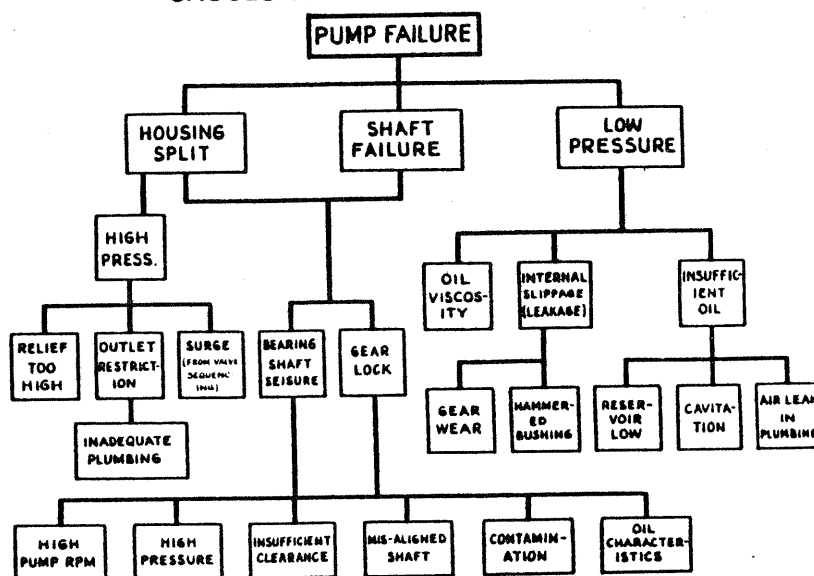
No adjustment of clutches is required.

CAUTION: Do not operate winch if clutches slip. Slipping will cause clutch plate failure. If clutches slip, check hydraulic system for: Plugged filter, faulty pump operation, incorrect relief valve setting, leaking lines, etc. If this caution is observed, the clutches will give years of satisfactory operation without overhaul.

SERVICING INSTRUCTIONS — POWER CONTROLLED WINCH

Servicing Pump

CAUSES OF FAILURE—GEAR PUMPS



The pump contains two steel gears, a drive and driven shaft, and four bearing assemblies. The machined housings support the gear shafts and are provided with oil seal rings.

When servicing the pump, extreme care must be taken to prevent foreign matter from entering the unit and causing damage to the machined surfaces.

Disassembly

- Remove the four screws and washers (1) and lift covers (2 and 9) from body (4). If covers stick, tap lightly with raw-hide mallet.
- Bearings (5) should be match marked in their respective locations for reassembly.
- Identify gears (6 and 11) with match marks for correct reassembly.

Cleaning

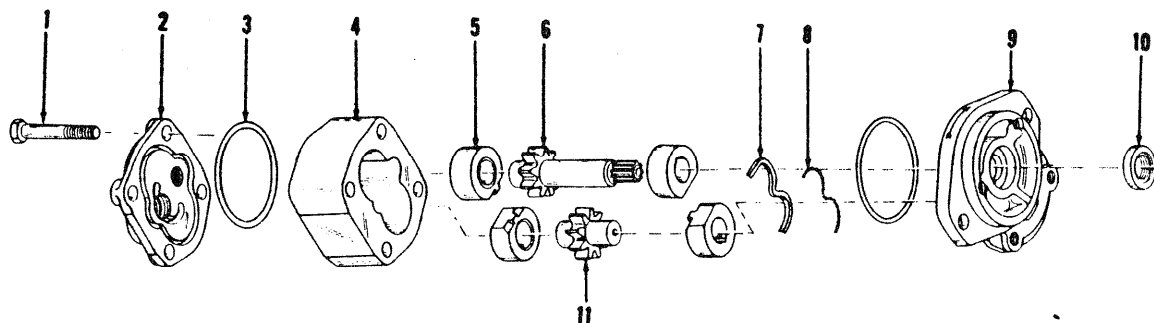
- Wash all parts in a suitable cleaning solvent and dry with filtered compressed air.

Inspection and Repair

- Inspect gears for chipping or evidence of wear.
- Inspect bearing bore for scoring or wear.
- Inspect bearing surfaces for deep grooving or scoring and refinish if necessary. Bearing surfaces may be dressed on a piece of fine abrasive paper held to a true flat surface plate. Do not dress enough to remove oil groove.

SERVICING INSTRUCTIONS — POWER CONTROLLED WINCH

Servicing Pump — Continued



- d. Check bearing flats and bearing for wedging in their respective housings. If bearings wedge in the housings or new bearings are installed, proceed as follows: Hold the bearings at extreme ends of a discarded gear shaft from which the teeth have been removed and dress the flats lightly against a piece of fine abrasive paper held to a true flat surface plate. Dress a little at a time and repeat. Check in the housing until the bearings slide into place freely. The clearance between the flats, when assembled in their housing, should not exceed .005 to prevent turning of the bearing, resulting in lowering the pump efficiency.

Lubrication

- a. Lubricate drive gear journal with SAE No. 10 oil before installing.

Reassembly

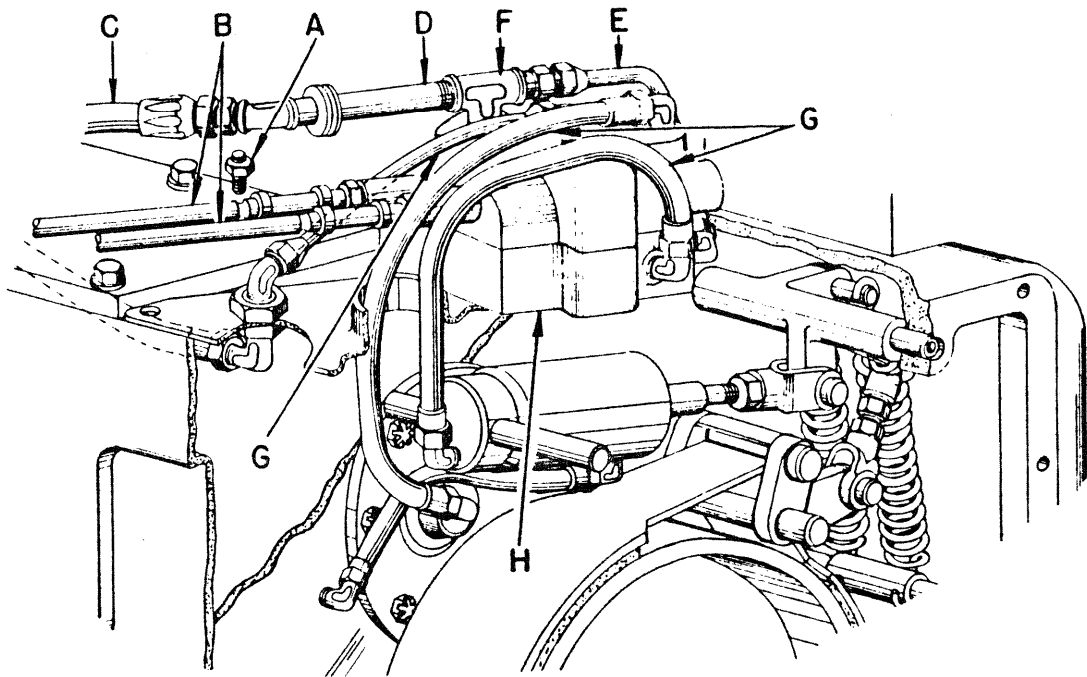
- a. Discard all rubber seal rings and replace at time of overhaul.
- b. Insert body bearings (5) in their previously match-marked positions.
- c. Insert drive gear (6) into body bearing.
- d. Insert driven gear (11) into body bearing in the same position from which it was removed. (Do not invert driven gear.)
- e. Insert seal rings (3) in recesses.
- f. Secure covers to body with the four screws torqued to 28-32 foot pounds.

SERVICING INSTRUCTIONS — POWER CONTROLLED WINCH

Servicing Control Valve

Remove valve for servicing. Clean thoroughly and place on a clean work area. The internal parts of the valve have finely ground finishes and any nicks or scratches may cause irreparable damage.

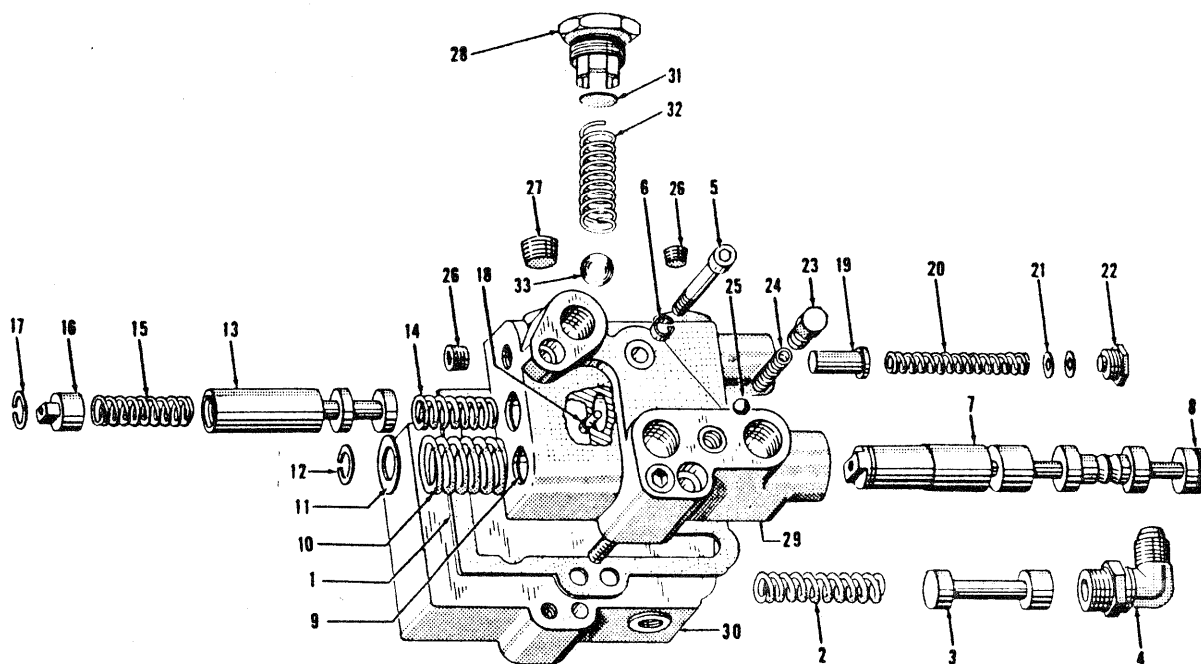
Removal of Valve From Winch



1. Remove valve housing cover set screws "A" and loosen push-pull cable lock nuts on the valve spools.
2. Remove cables from handlever bracket on tractor and unscrew the cable ends from the valve spools by turning the free ends of the cables "B."
3. Remove the pump supply hose "C" and nipple "D."
4. Remove the valve housing.
5. Detach tube assembly "E" and remove tee "F."
6. Disconnect the clutch and brake hoses "G."
7. Remove socket head capscrews attaching valve "H" to winch.
8. Remove valve "H" from winch. Remove or secure the "O" Ring that seals between the valve and the winch. Be sure "O" Ring is replaced when reinstalling valve on winch to avoid seepage around base of control valve.
9. Reverse above procedure for valve installation and check for proper stroke adjustment between the push-pull cables and spools.

SERVICING INSTRUCTIONS — POWER CONTROLLED WINCH

Control Valve



Selector Spool Removal

This may be accomplished without removing the valve body (29) from the support (30).

1. Remove the snap ring (12), washer (11), and spring (10).
2. Remove the plug (23), spring (24), and ball (25).
3. Remove the spool (7), by pushing the rod end through the valve body as shown.

CAUTION: Do not pull the rod end of the spool after the ball (25), has been removed or the "O" Ring (8), on the spool will come in contact with a dump port and be damaged.

Selector Spool Inspection and Reinstallation

1. Inspect for nicks on the spool. Light nicks may be removed by lapping but if there are deep nicks spool must be replaced.
2. Replace "O" Rings (8) and (9) with new parts.
3. Use a light oil on all parts before reassembly. Install "O" Ring (9) and install spool in reverse manner from removal. "O" Ring (8) is replaced last and does not pass over port.

CAUTION: Do not pull on spool (7) to get "O" Ring (8) compressed into spool bore. Tap end of spool to accomplish this, and avoid over-travel causing damage to "O" Ring (8) in internal ports.

SERVICING INSTRUCTIONS — POWER CONTROLLED WINCH

Control Valve—Continued

Brake Inching Spool Removal

1. Plug (16) or spring (15) may be removed without removing the inching spool (13) by removing snap ring (17).
2. To remove spool (13) remove capscrews (5) and detach the valve body (29) from the support (30).
3. Remove the spool stop capscrew (18) on the under side of the valve body while pressing gently on the inching spool to take the load off the stop.
4. Remove the spool and return spring (14).

Inching Spool Inspection and Assembly

1. Check bore and spool (13) for dirt or nicks. Remove light nicks by lapping. Deep nicks necessitate new parts.
2. Oil all parts generously. Place new "O" Ring firmly in groove and install spring (14) and spool. Tap spool gently to pass over "O" Ring, and while holding in position, replace spool stop capscrew (18).
3. Clean out socket for travel spring (15), grease lightly and replace spring and cable plug (16).

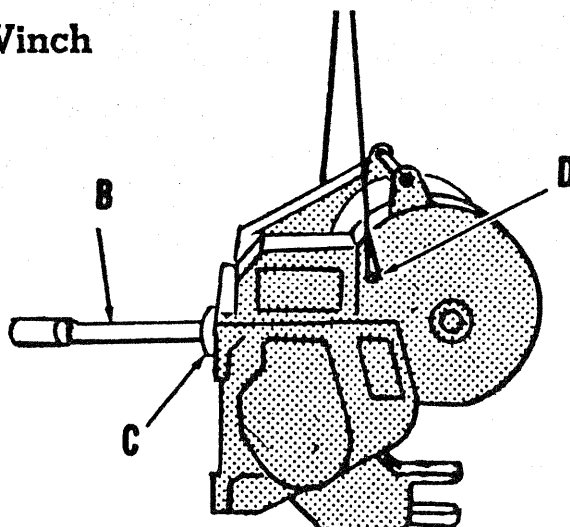
Relief Valve and Quick Release Valve

1. Remove retainer (22), washers (21), spring (20) and piston (19). The washers (21) regulate relief valve pressure. Add washers to increase pressure, remove washers to decrease pressure. The relief valve setting is as follows: 225 PSI at 6-1/2 GPM—1,000 RPM—Oil Temperature 70°.
2. To check quick release valve spring (2), remove fitting (4) and piston (3).
3. After checking and cleaning all parts thoroughly, lubricate with SAE No. 10 engine oil and assemble in the reverse order of disassembly. Replace pistons (19) and (3) with new parts if there are deep nicks, and remove light nicks by lapping.

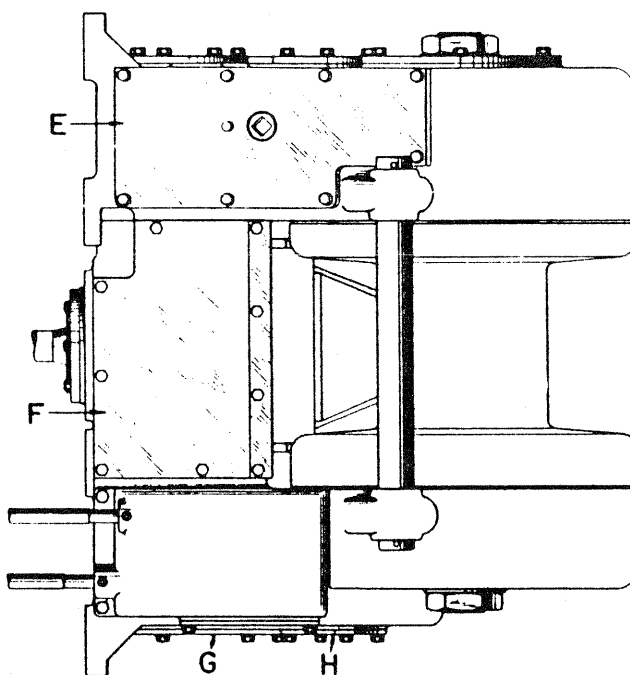
SERVICING INSTRUCTIONS

REMOVAL OF WINCH

Removal of Winch

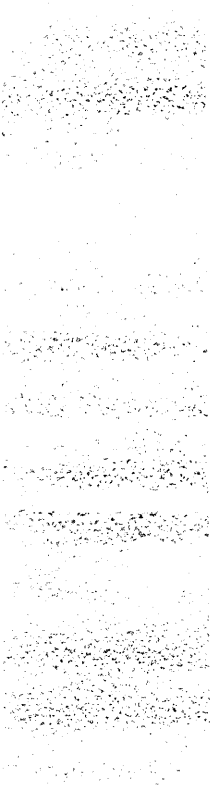


1. Disconnect all control linkage.
2. Install two $\frac{1}{8}$ " UNC capscrews in the winch side frames at "D" and mount a sling as shown.
3. Remove winch and drain the oil from both transmission compartments.
4. Remove power take-off shaft "B" being careful not to damage the shims behind bearing carrier "C."
5. Remove cover plates "E," "F," "G" and "H."



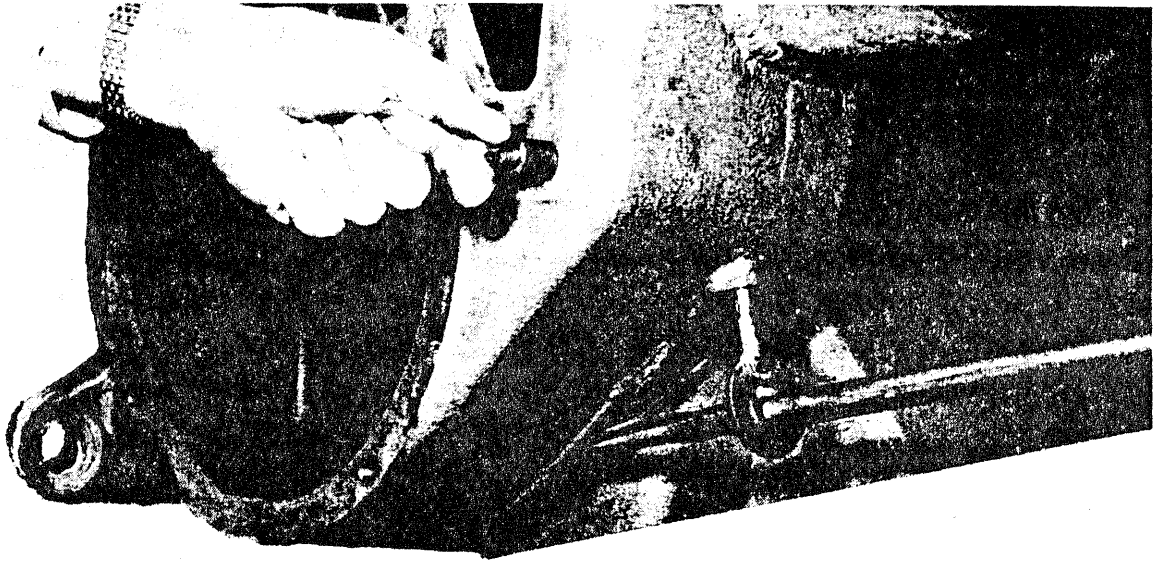
P.T.O. Assembly Removal

Unbolt the P.T.O. bearing carrier and remove the complete P.T.O. assembly.

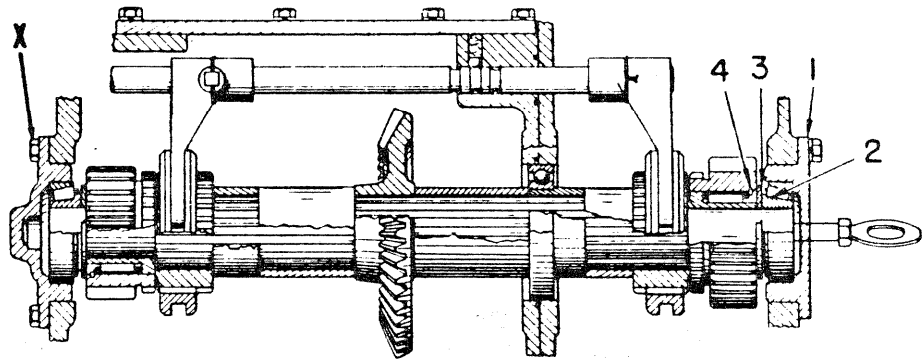


DISASSEMBLY OF WINCH

Brake Shaft Removal — Continued



Bevel Gear Shaft Removal — Direct Drive Winch



1. Remove the brake drum and linkage as instructed.
2. Remove nut from L. H. end of drum shaft (if drum shaft is to be removed).
3. Turn winch so that R. H. side is up.
4. Remove bearing carrier "1," bearing cone "2," washer "3" and snap ring "4."

WINCH DISASSEMBLY

Bevel Gear Shaft Removal — Power Controlled Winch

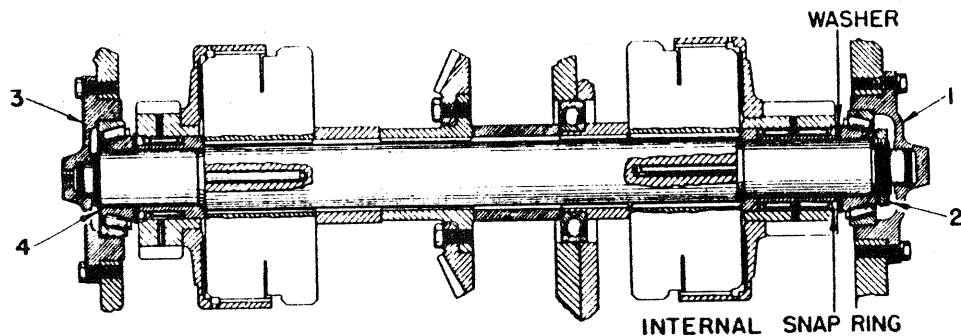


Figure 7

1. Remove brake drum and linkage as instructed.
2. Disconnect the hydraulic line to bearing retainer (3) Figure 7.
3. Remove bearing retainer taking care to protect shims.
4. Remove the top side frame cover and disconnect the hydraulic line as shown in Figure 9.
5. Remove the R. H. bearing retainer (1), Figure 7.
6. Loosen bearing nut (2) enough to permit removal of snap ring (4).
7. Replace bearing retainers (1) and (3), Figure 7, for support. (If drum is to be removed, remove L. H. drum shaft nut.)
8. Turn winch with R. H. side up and remove retainer (1).

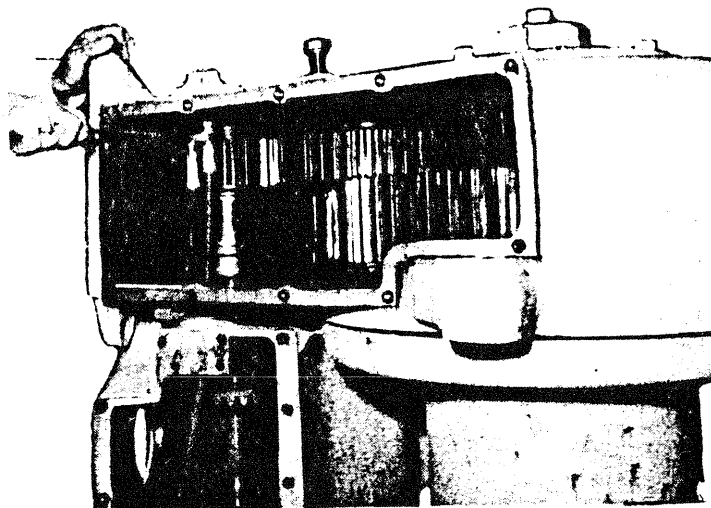


Figure 9

9. Remove bearing nut (2) Figure 7.
10. Slide roller bearing and the spacer washer from the shaft.
11. Remove the internal snap ring retaining the bearing and clutch drive gear as shown in Figure 10.

WINCH DISASSEMBLY

Bevel Gear Shaft Removal—Continued

For Direct Drive and Power Controlled Winches

1. Insert a $\frac{5}{8}$ UNF bolt (with a ring or washer welded to it) into the threaded end of the shaft.
2. Pull shaft slowly as shown in Figure 11.
3. DO NOT pound or drive on the ends of the bevel gear shaft.
4. Slide the shaft completely away from the unit freeing all component parts on the shaft, Figure 13.

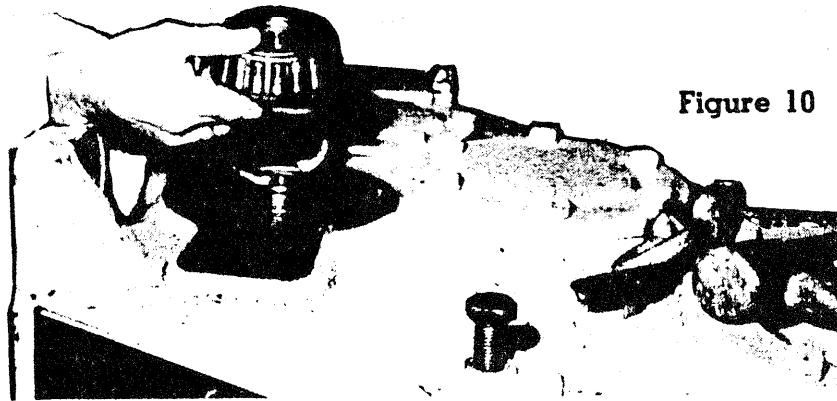


Figure 10

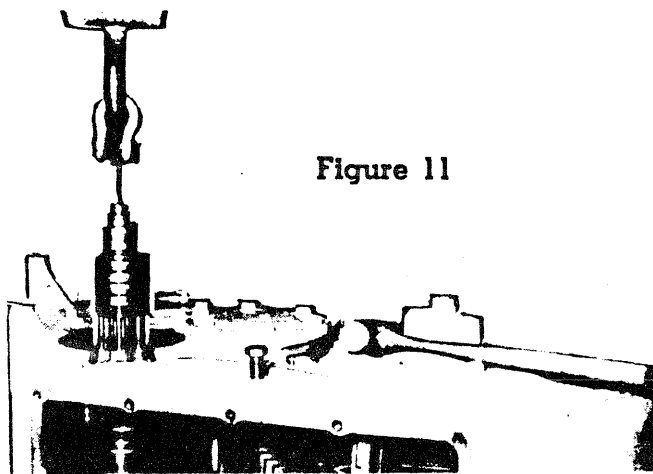


Figure 11



Figure 12

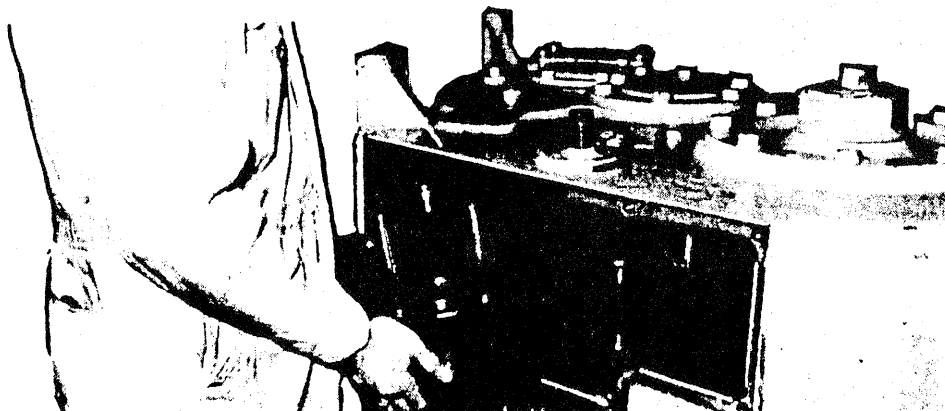


Figure 13

WINCH DISASSEMBLY

Intermediate Gear Shaft Removal

1. Remove bearing retainer.
2. Insert puller screw in shaft.
3. Pull shaft as shown in Figure 15.
4. Remove intermediate gear and drum pinion as shown in Figure 16.

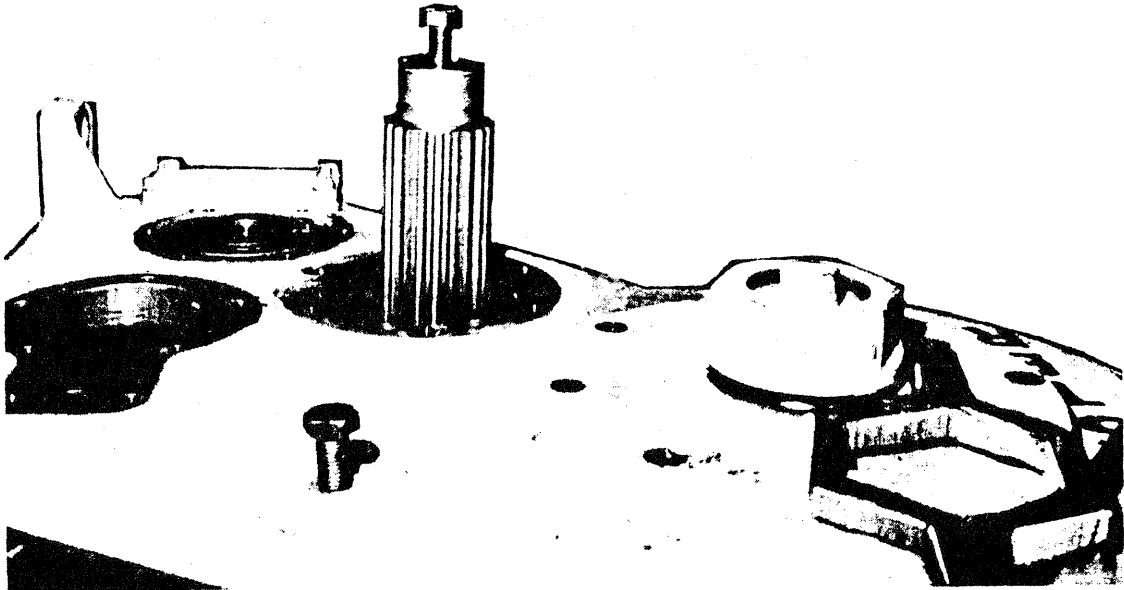


Figure 15

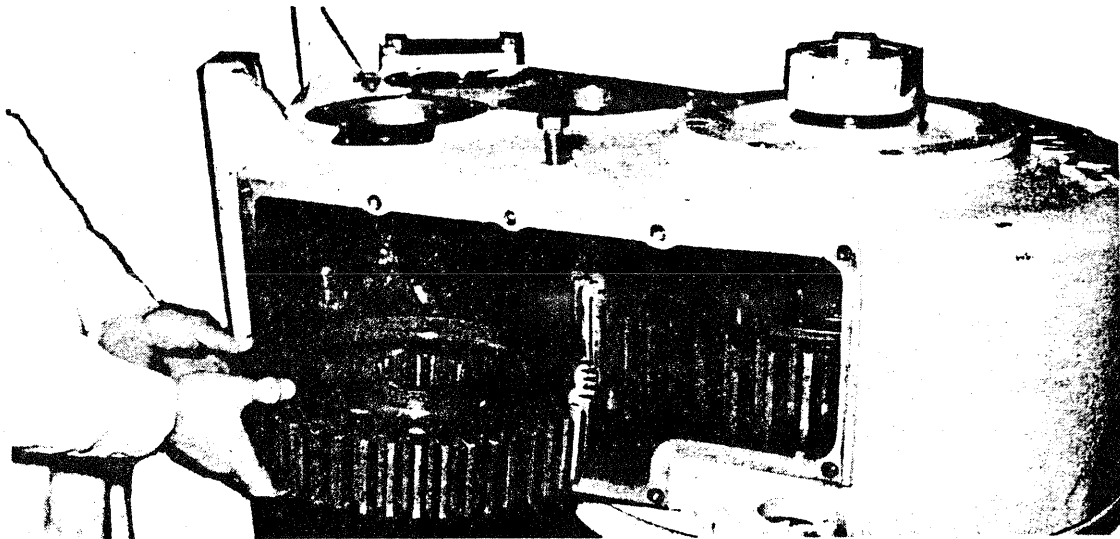


Figure 16

WINCH DISASSEMBLY

Drum Shaft Removal

1. Unscrew drum shaft nut.
2. Remove bearing retainer as shown in Figure 17.
3. Remove place bolts in drum gear.
4. Rethread nut on shaft.
5. Sling shaft using nut.
6. Pull shaft straight up as shown in Figure 18.

NOTE: Place pan under drum shaft to catch oil that is in the drum. Be sure to add two quarts of oil to drum at reassembly.

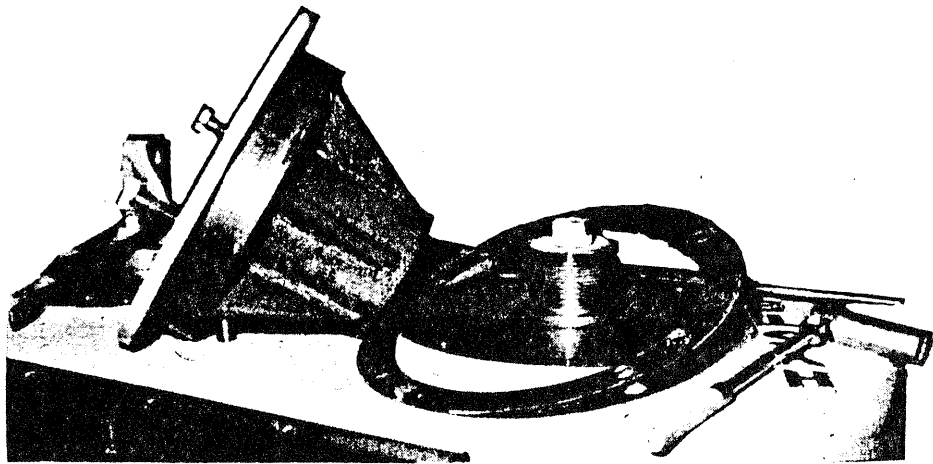


Figure 17

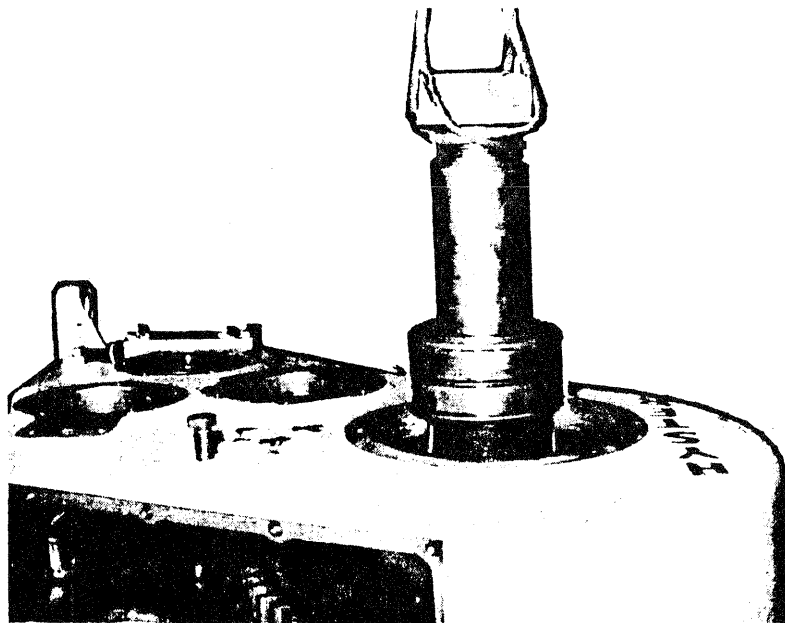


Figure 18

WINCH DISASSEMBLY

Side Frame Removal

1. Remove securing capscrews as shown in Figure 19.
2. Sling side frame and lift straight up as shown in Figure 20.

CAUTION: Use care when lifting side frame to protect oil seals around drum.

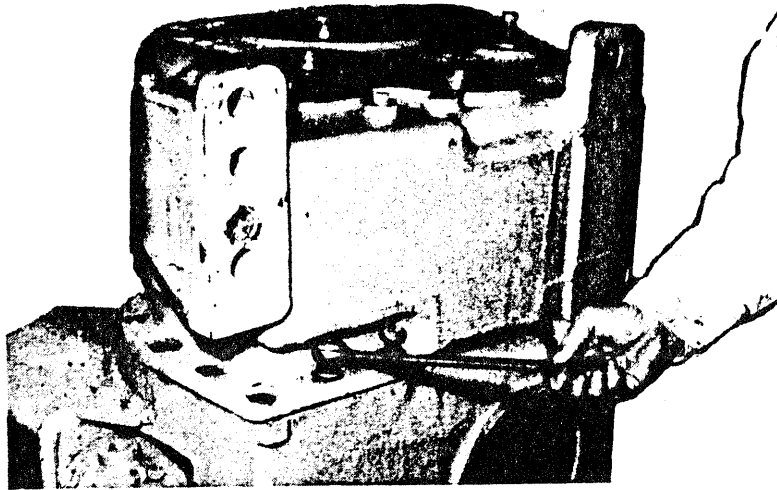


Figure 19

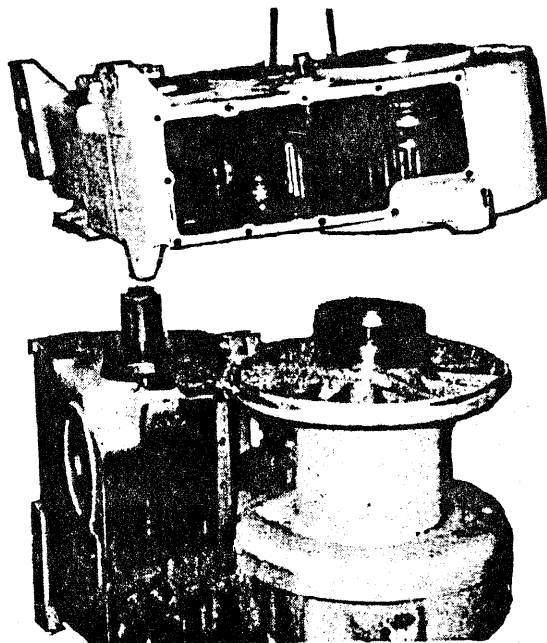


Figure 20

WINCH DISASSEMBLY

POWER CONTROLLED WINCHES ONLY

Clutch Disassembly

NOTE: It is unlikely that the clutch discs and separator plates will have to be replaced because of wear. Overheating due to slipping or lack of cooling oil will cause most damage to the discs and separator plates. Over heating causes both parts to warp which causes clutch drag. The clutch discs are flat. The separators are hardened steel with a slight dish built into them as shown in Figure 27.

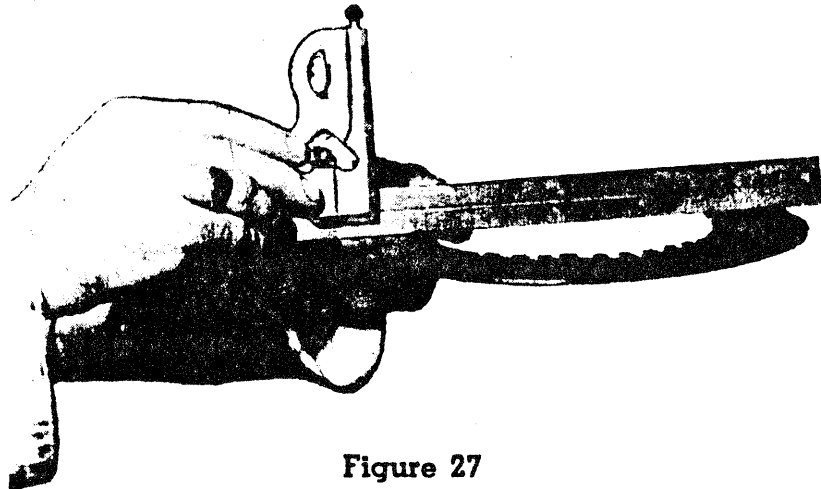


Figure 27

THE HYDRAULIC CLUTCH MUST BE SERVICED IN A CLEAN AREA. The clutch pack contains two parts: The clutch (1), Figure 21, contains friction discs and separator plates, and the clutch spider (2). The two parts are not fastened together and may be separated by sliding them apart as shown. The clutch is held together by six flat head capscrews that are locked on the back side by six allen head set screws.

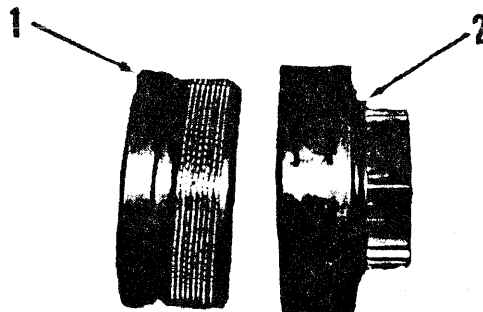


Figure 21

1. Remove the allen head set screws (17) Figure 23.
2. Turn clutch over and remove flat head capscrews (1), remove end plate (2) Figure 23, exposing the clutch discs (10) and return springs (4).
3. Lift discs (10) and separator plates (11) from the drive hub (3).
4. Lift drive hub (3) and clutch piston (12) from retainer plate (15).

WINCH DISASSEMBLY — POWER CONTROLLED

Clutch Disassembly — Continued

5. The cross drilled stud with three holes is the cooling valve (5). Remove by unscrewing to the left and disassemble for cleaning.

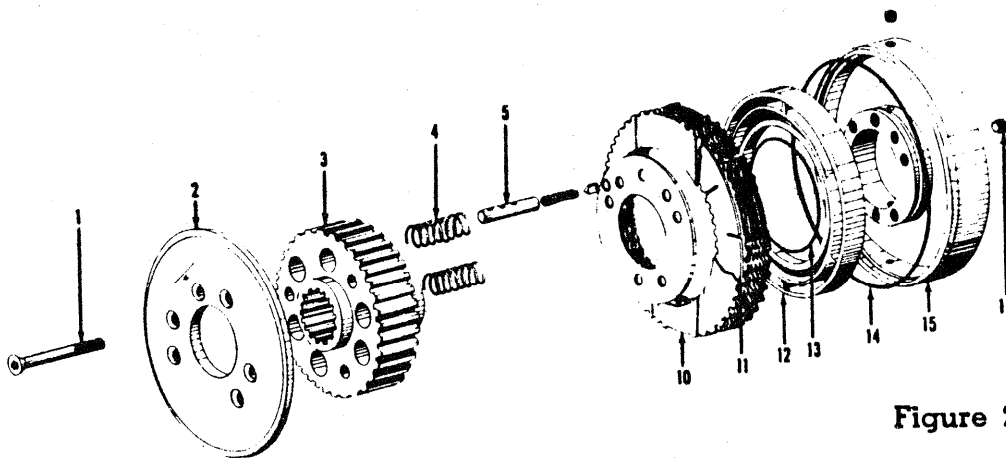


Figure 23

Clutch Reassembly

Reassembly is opposite of disassembly.

Observe the following precautions during reassembly.

1. Dish in separator plates **MUST** all face same way as a unit. The direction of the unit is unimportant.
2. The forward and reverse clutch packs are interchangeable but the spiders are not.
3. **NEVER** assemble a clutch pack dry. Presoak all parts in oil.
4. Small parts and passages must be free of dirt and foreign matter.
5. When sliding the clutch piston into the retainer plate, be certain that the "O" rings (13 and 14) are well lubricated and are seated in their respective grooves.
6. When assembled, the holes "A" in the clutch hub will be in line with the oil cooling valve "B" as shown in Figure 28.
7. Blanked out teeth on friction discs (10) must be in line.
8. Assembled clearance to be from .040 to .070 Use shims as required.
9. Torque capscrews (1) with 70 ft. lbs., set screws (17) with 40 ft. lbs.

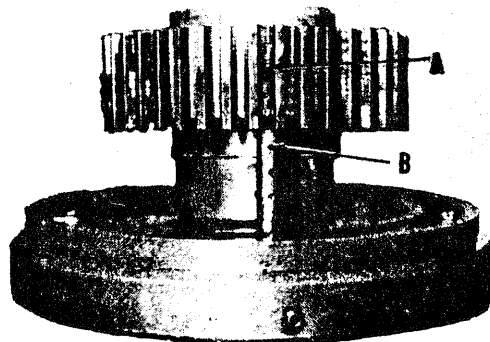


Figure 28

WINCH REASSEMBLY

Assemble winch in reverse order of disassembly.

Drum Shaft Assembly

1. Check all oil seals and install drum and drum shaft.
2. Add two quarts of oil to drum cavity before installing R. H. bearings (SAE 90 for Direct Drive—SAE 30 Series E for Power Controlled).
3. Bolt drum gear to drum torquing the place bolts to 75 ft. lbs. lubed or 115 ft. lbs. dry.

Intermediate Shaft Assembly

1. Install intermediate shaft with .004 to .007 end play in bearings.
2. Torque place bolts on inside retainer to 75 ft. lbs. lubed or 115 ft. lbs. dry.

Bevel Gear Shaft Assembly — Direct Drive Winch

1. Place all of the parts into the winch case in the same manner as they were removed.
2. Lower the bevel gear shaft into the stacked parts. DO NOT use a hammer to drive the shaft through the component parts. Fix the shaft in place and revolve the winch to an upright position. Bearing adjustment is made by shims under each bearing retainer. Set the bearing end play at .006 to .009.

Bevel Gear Shaft Assembly — Power Controlled Winch

1. Place all parts into winch case in the same order they were removed.
2. Line up the marked pipe plugs in the outer diameter of the retainer plate in the clutch packs, with holes in the bevel gear shaft splines. (Only one of the plugs will be correct as cross hole goes through one major diameter and one minor diameter of spline.)
3. Sling the bevel gear shaft.



Figure 12

4. Lower the shaft through side frame, being certain that the match marks on the shaft line up with the match marks on the clutches. The two holes in the shaft (for hydraulic oil to the clutches) shown in Figure 12 will then line up with the holes in the clutch retainer plate. DO NOT use a hammer to drive the shaft through the component parts.
Note: Coat side and top of seals (8 and 9, Page D3) with Lubriplate before inserting in shaft.
5. Fix the shaft in place and revolve winch to upright position.
6. Lock the bearings on the end of the shaft that is toward brake compartment, with snap rings provided.
7. Install the bearing nut on the opposite end (torque to 200 Ft. Lbs. ± 25) and lock it with lockwasher provided. (Always use new lockwasher.) DO NOT install metal seal rings on ends of shaft.
8. Adjust end play to .000 - .004 by use of shims under each bearing retainer.
9. Remove bearing retainers and install metal seal rings on ends of shafts. Be sure these seal rings are not broken or damaged when reinstalling

WINCH REASSEMBLY

Brake Shaft Assembly

1. Install brake shaft with end play in bearings as follows: Direct Drive, .006 to .009; Power Controlled, .000 to .004.
2. Apply plastic lead seal No. 2 or equivalent to threads of capscrews holding oil seal retainer at brake end of shaft.

Power Take-Off Assembly

1. Recheck the backlash and gear mesh of the bevel gear set. This is best done by painting the gears with white lead and obtaining a gear pattern as shown in Figure 30.
2. After the correct gear pattern is obtained, move the bevel ring gear away from the pinion to obtain .006 - .014 backlash.

The following diagrams show the results of too little or too much pinion depth as determined from the impression of the tooth bearing on the white lead.



- a. Check adjustments at driveside of bevel gear tooth.



- b. Shows correct tooth contact.



- c. Shows short contact at heel. To correct, move gear toward pinion. Then move pinion away from gear to again secure correct backlash.



- d. Shows short contact at toe. To correct, move gear way from pinion. Then move pinion toward gear to again secure correct backlash.



- e. Shows heavy contact on flank or lower portion of tooth. To correct, move pinion away from gear until contact comes to full working depth of tooth without breaking contact at flank. Then move gear toward pinion to secure correct backlash.



- f. Shows heavy contact on face or upper portion of tooth. To correct, move pinion toward gear until contact covers flank of tooth without breaking contact at face. Then move gear away from pinion to secure correct backlash.

Figure 30

SPECIFICATIONS

DRUM SIZE:	Standard Speed	Lo-Speed
	Winch	Winch
Barrel Diameter	10"	7"
Flange Diameter	21"	21"
Barrel Length	10 $\frac{1}{8}$ "	10 $\frac{1}{8}$ "

CABLE CAPACITY

$\frac{3}{4}$ " LINE (Recommended)	401 ft.	461 ft.
$\frac{7}{8}$ " LINE	295 ft.	339 ft.

Allowance should be made for loose or unevenly spooled line in towing service.

NOTE: Important

Available line pulls may be greater than the breaking point of cable used. Line pulls should be limited by the operator to comply with all safety laws applicable where the equipment is being used.

FERRULE SIZE.....for $\frac{3}{4}$ in. line, L6; for $\frac{7}{8}$ in. line, L7

HYDRAULIC SYSTEM (For Power Controlled Winch)

Pump	Gear-Type, 9.2 GPM at 1800 RPM
Maximum operating pressure	230 P.S.I.
Valve	Special two spool
Filter	Full flow, 50 mesh screen cartridge

WEIGHT, Approximate (without cable) (Power Controlled Winch)

Net ‡	2000 lbs.
Without Drawbar	1900 lbs.

WEIGHT, Approximate (without cable) (Direct Drive Winch)

Net ‡	1900 lbs.
Without Drawbar	1800 lbs.

AUTOMATIC BRAKE — For Direct Drive Winch (Optional) 50 lbs.

FAIRLEAD ASSEMBLY (Optional) 530 lbs.

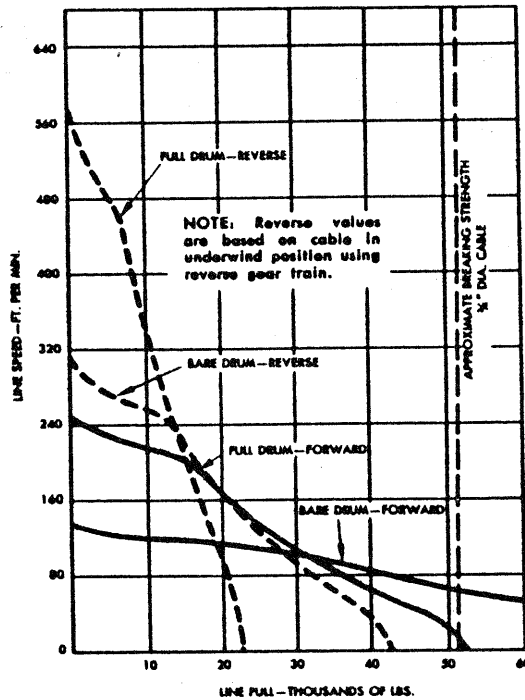
GUIDE ROLLS (Optional) 150 lbs.

FREESPOOLING GROUP (Optional) 100 lbs.

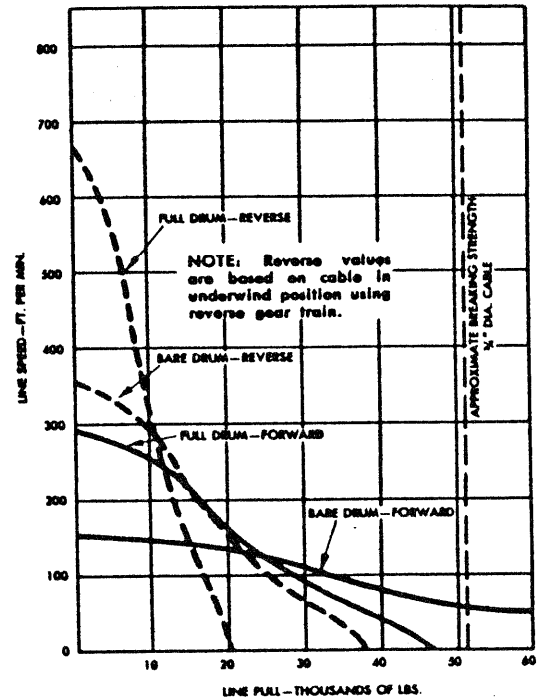
‡The Caterpillar drawbar group, weighing approximately 300 pounds, cannot be used with the D6C Towing Winch equipped with built-in drawbar, thus decreasing the Net Applied Weight on the tractor.

SPECIFICATIONS FOR POWER CONTROLLED WINCH

Standard Speed Winch



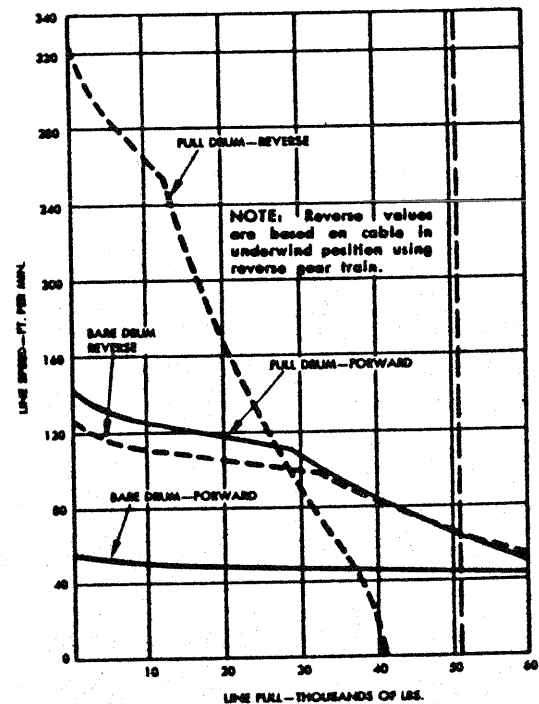
Winch performance on Caterpillar D6, Series C Power-Shift Tractor, 120 HP (at flywheel) using $\frac{3}{4}$ " cable.



Winch performance on Caterpillar Traxcavator Loader Series H, 150 HP (at flywheel) using $\frac{3}{4}$ " cable.

Lo-Speed Winch

Winch performance on Caterpillar D6, Series C, Power-Shift Tractor, 120 HP (at flywheel) using $\frac{3}{4}$ " cable.



SPECIFICATIONS FOR DIRECT DRIVE WINCH

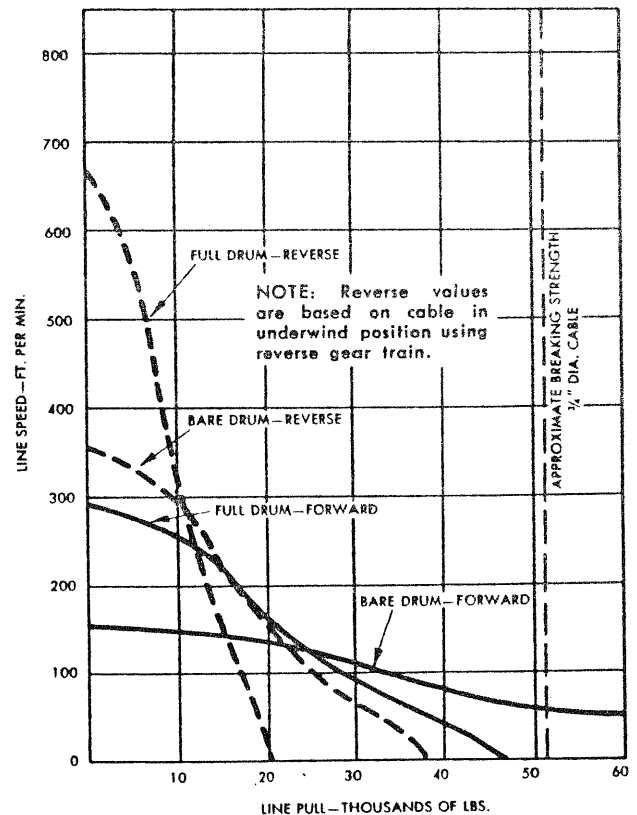
	Standard Speed Winch	Lo-Speed Winch
*AVAILABLE LINE PULLS	Forward	Forward
Bare Drum	36,700 lbs.	79,600 lbs.
Full Drum	19,500 lbs.	42,300 lbs.
	Reverse	Reverse
Bare Drum	15,900 lbs.	47,800 lbs.
Full Drum	8,420 lbs.	18,300 lbs.
LINE SPEED:	Forward	Forward
Bare Drum	112 F.P.M.	32 F.P.M.
Full Drum	212 F.P.M.	85 F.P.M.
	Reverse	Reverse
Bare Drum	259 F.P.M.	75 F.P.M.
Full Drum	489 F.P.M.	196 F.P.M.

***STANDARD SPEED WINCH** on Caterpillar D6 Series C Direct Drive Tractor, 120 HP (at flywheel) at 1800 RPM.

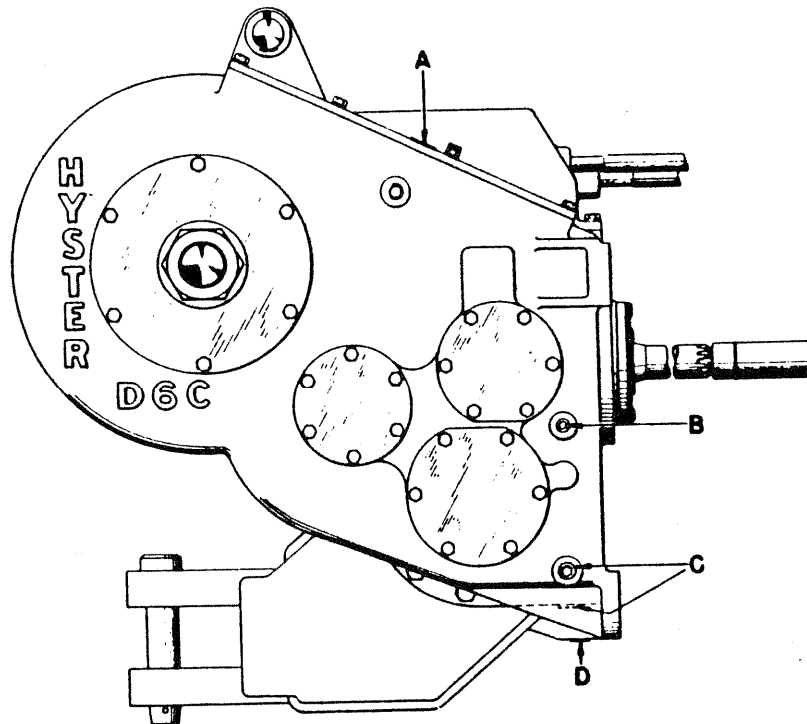
***LO-SPEED WINCH** on Caterpillar D6 Series C Direct Drive Tractor, at maximum engine torque speed of 1300.

Standard Speed Winch

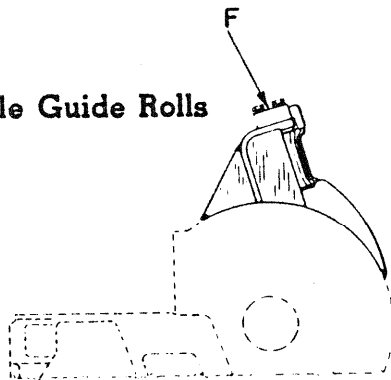
Winch performance on Caterpillar 977 Tractor Loader, Series H, with 150 HP at 1950 RPM using $\frac{3}{4}$ " cable.



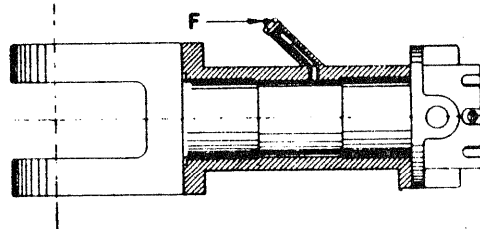
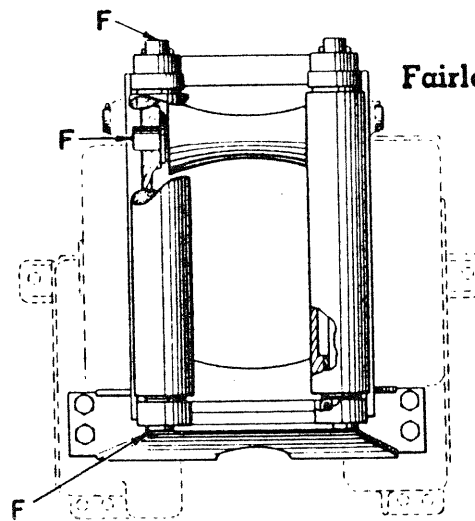
LUBRICATION CHART



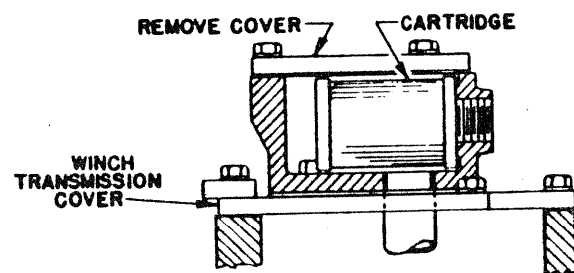
Cable Guide Rolls



Fairlead Rolls



Swiveling Drawbar



Filter (Power Controlled Winch)

LUBRICATION INSTRUCTIONS

Every Eight Hours or Daily

Swiveling Drawbar, Fairlead and Cable Guide Rolls (optional):

Lubricate with pressure gun grease.

Rod End Pins:

Rod end pins, shifter rods, lever fulcrums, pin connections and other moving parts should be lubricated with SAE 30 engine oil at the end of each shift.

Every 50 Hours or Weekly

Transmission:

Check oil level at plug "B"; add oil if necessary.

If winch is new, drain, flush and refill with new oil.

NOTE: When checking oil level in winches mounted on powershift tractors, stop tractor engine to obtain a correct reading. On winches mounted on direct drive tractors, disengage the tractor master clutch to obtain a correct reading.

Every 200 Hours or Four Weeks

Loosen plugs "C" and drain any accumulation of water in the transmission. Tighten plugs when oil appears, and check oil level.

Remove plug "D" and drain any water which may have accumulated in the brake compartment. Replace plug and tighten securely.

Every 500 Hours or When Tractor Engine Oil Filter Is Changed Power Controlled Winch Only

Filter:

Remove filter housing cover.

Remove cartridge, clean thoroughly and replace.

Pump Drive (For Traxcavator):

Remove pipe plug and add oil (HCE30) as required.

Every 1000 Hours or Six Months (Under Normal Conditions)

Transmission

Drain, flush and refill with new oil. At the factory the winch is filled to proper level with SAE 90 oil in standard winch and SAE 30 Series 3 oil in power control winch. In service, use the same oil as used in tractor transmission, for all weather conditions.

To simplify maintenance, use of identical oil as used in tractor transmission is recommended for all weather conditions.

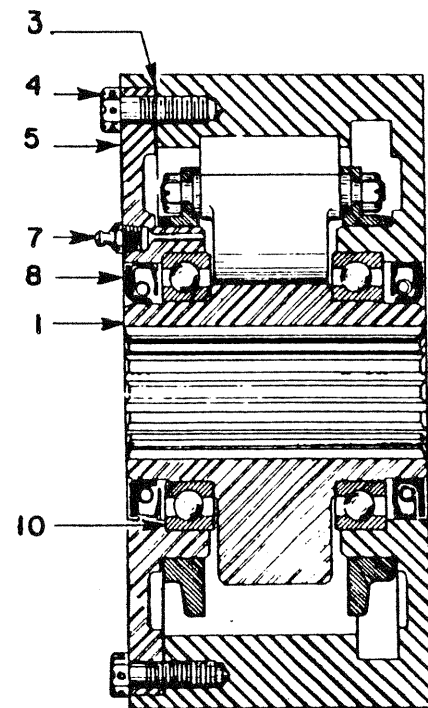
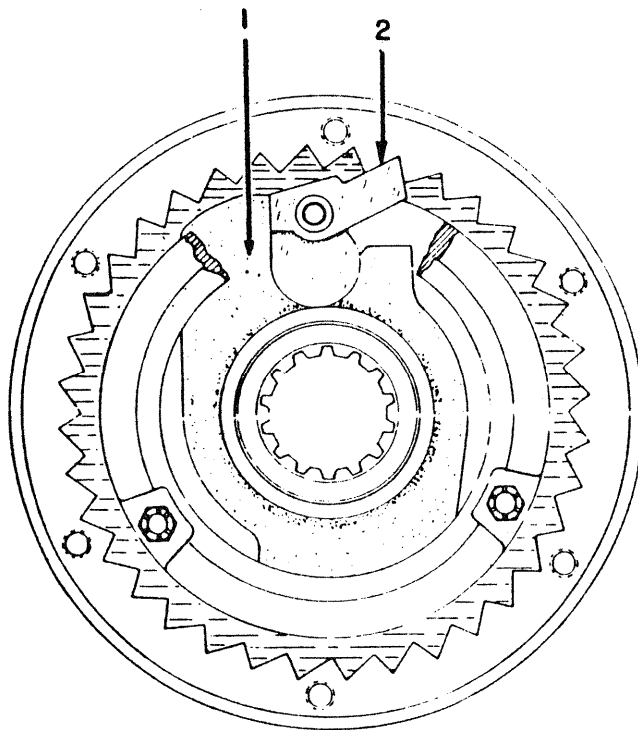
Drain through plugs "C." Refill through plug "A" up to level plug "B."

CAPACITY—Direct Drive Winch.....10 Gallons

CAPACITY—Power Controlled Winch..... 6 Gallons

LUBRICATING INSTRUCTIONS

Automatic Brake (Optional)



Every 1000 hours the brake should be cleaned and repacked with a high melting point grease. Proceed as follows:

1. Remove the cover plate on the L. H. side frame brake compartment.
2. Remove pins in the ends of brake band and remove brake band.
3. Remove snap ring from the end of the brake shaft, and pull the brake assembly out.
4. Remove lockwire and the six drilled head cover capscrews (4).
5. Open brake by tapping hub from opposite side, being careful not to damage oil seals (8).
6. Remove hub (1), assembled with pawl (2) and drag rings from cover (5).
7. Clean all parts thoroughly and repack brake with one pound of high melting point grease. Apply carefully to bearings (10) and all wearing surfaces.

Caution! Do not fill brake completely with grease. Item (7) is a vent plug. Do not attempt to grease through this fitting.

8. After servicing, replace center assembly removed in Instruction 6.
9. Clean gasket surfaces thoroughly and use new gasket (3). Install oil seals (8) with lips turned in as shown.
10. Coat both sides of gasket (3) with Plastic Lead Seal No. 2 and assemble cover (5) onto case being careful not to damage oil seal (8).
11. Use a liberal amount of Plastic Lead Seal No. 2 in each cover capscrew hole. Install capscrews (4) and tighten securely. Replace lockwire through capscrew heads.
12. Install assembled brake wheel on shaft with word "overwind" to the outside for overwind operation. Lock in place with snap ring.
13. Install brake band on brake wheel, anchoring with pins removed in Instruction 2.
14. Replace cover removed in Instruction 1.

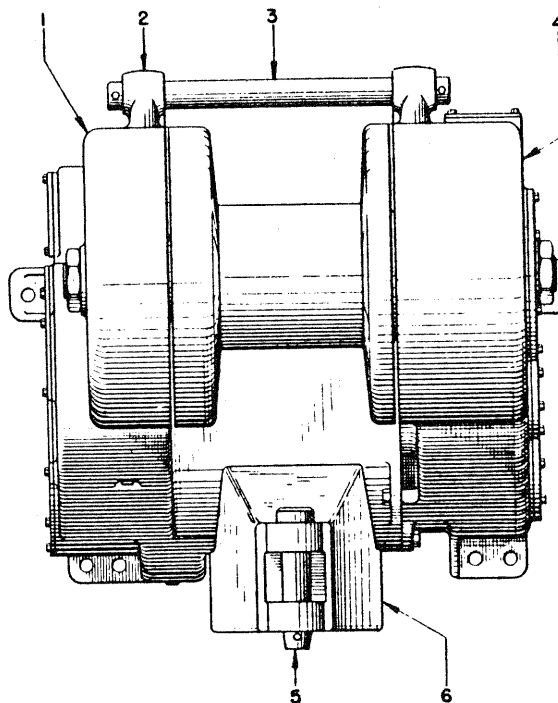
Section B

INDEX

FRAMES AND MOUNTING STUDS

MOUNTING STUDS	B4
TRAXCAVATOR MOUNTING PARTS	B5
WINCH ASSEMBLY—REAR	B1
WINCH ASSEMBLY—L. H. SIDE	B2
WINCH ASSEMBLY—R. H. SIDE	B3

WINCH ASSEMBLY — REAR



Ref. No.	Hyster Part No.	NAME OF PART	Qty. Req.
1	* 89012W	Housing—Transmission } For Power	1
	† 89003W	Housing—Transmission } Controlled	1
	† 89040W	Housing—Transmission } Winches	1
	* 77183W	Housing—Transmission } See Note 2	1
	† 77185W	Housing—Transmission }	1
	† 77184W	Housing—Transmission }	1
	† 16385	Capscrew—1-14 NF x 4	4
	† 15166	Lockwasher—1"	4
2	93771	Bracket—Tie Rod (welded to frames)	2
3	95981	Rod—Tie	1
	15272	Cotter— $\frac{3}{8}$ x 3	2
4	* 89006W	Frame—Side, R.H. } For Power	1
	† 89042W	Frame—Side, R.H. } Controlled Winches	1
	* 95936W	Frame—Side, R.H. } For Direct	1
	† 96532W	Frame—Side, R.H. } Drive Winches	1
5	* 95959	Pin—Drawbar	1
	†	Pin—Drawbar (furnished with Tractor) See Note 1	1
	† 16385	Capscrew—1-14 NF x 4	4
	† 15166	Lockwasher—1"	4
6	* 15273	Cotter— $\frac{3}{8}$ x $2\frac{1}{2}$	1
	* 95863W	Bracket—Drawbar } Welded to	1
	† 96536W	Bracket—Drawbar } Housing	1

*Parts used with rigid drawbar.

†Parts used with swiveling drawbar.

‡Parts used with "Caterpillar" drawbar.

Note 1: When "Caterpillar" drawbar is used, drawbar pin must be inserted from underneath.

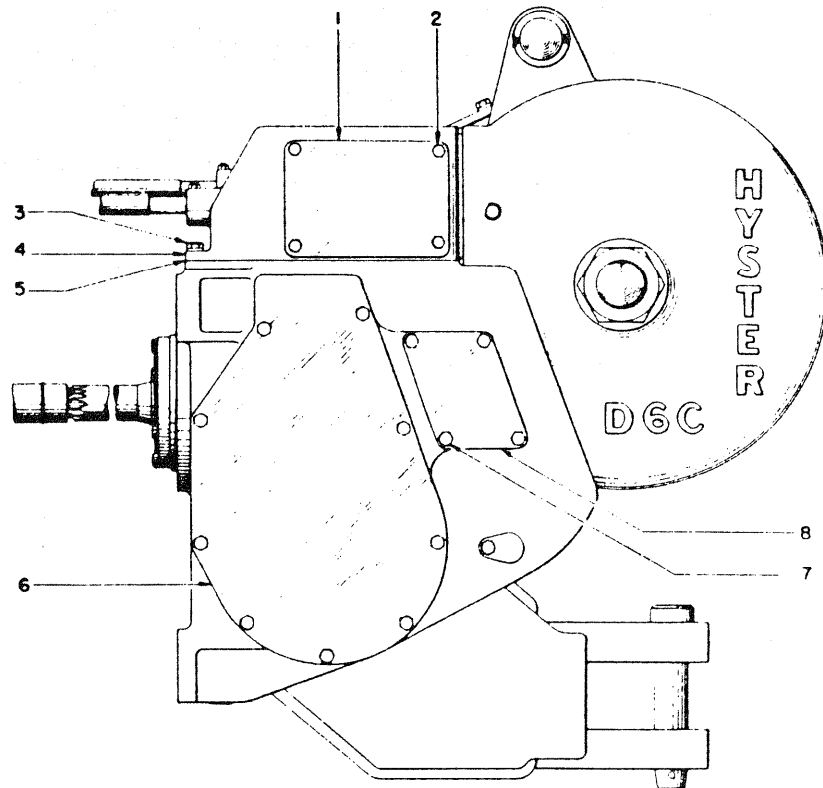
Note 2: For Direct Drive Winches.

First used on Winch Ser. No. B36L-2336. Prior to this Serial No. included the following:
For D6 Tractors Ser. No. 37A1-44A1 & up—Kit No. 79093A . . . For D6 Tractors Ser. No. 8U1-9U1 & up—Kit No. 79094A . . . For 977 Traxcavators Ser. No. 20A1-53A1 & up—Kit No. 79213A.

HYSTER COMPANY
PORTLAND, OREGON

WINCH ASSEMBLY — L. H. SIDE

(Direct Drive Winch Shown)



Ref. No.	Hyster Part No.	NAME OF PART	Qty. Req.
1	95985	Plate—Cover	1
	* 95986	Gasket—Cover	1
2	16829	Capscrew— $\frac{1}{2}$ UNC x 1 .	4
	15158	Lockwasher— $\frac{1}{2}$	4
3	37562	Capscrew— $\frac{1}{2}$ UNF x $1\frac{1}{4}$	6
	15158	Lockwasher— $\frac{1}{2}$	6
4	†142507	Cover	1
	95983	Cover	1
5	* 95984	Gasket	1
	95953	Plate—Cover	1
6	*†95954	Gasket	1
	16820	Capscrew— $\frac{1}{2}$ UNF x 1	9
	15158	Lockwasher— $\frac{1}{2}$	9
7	16820	Capscrew— $\frac{1}{2}$ UNF x 1	4
	15158	Lockwasher— $\frac{1}{2}$	4
8	95955	Plate—Cover	1
	*†95956	Gasket	1

†Included in Gasket Kit 124596 for Power Controlled Winch.

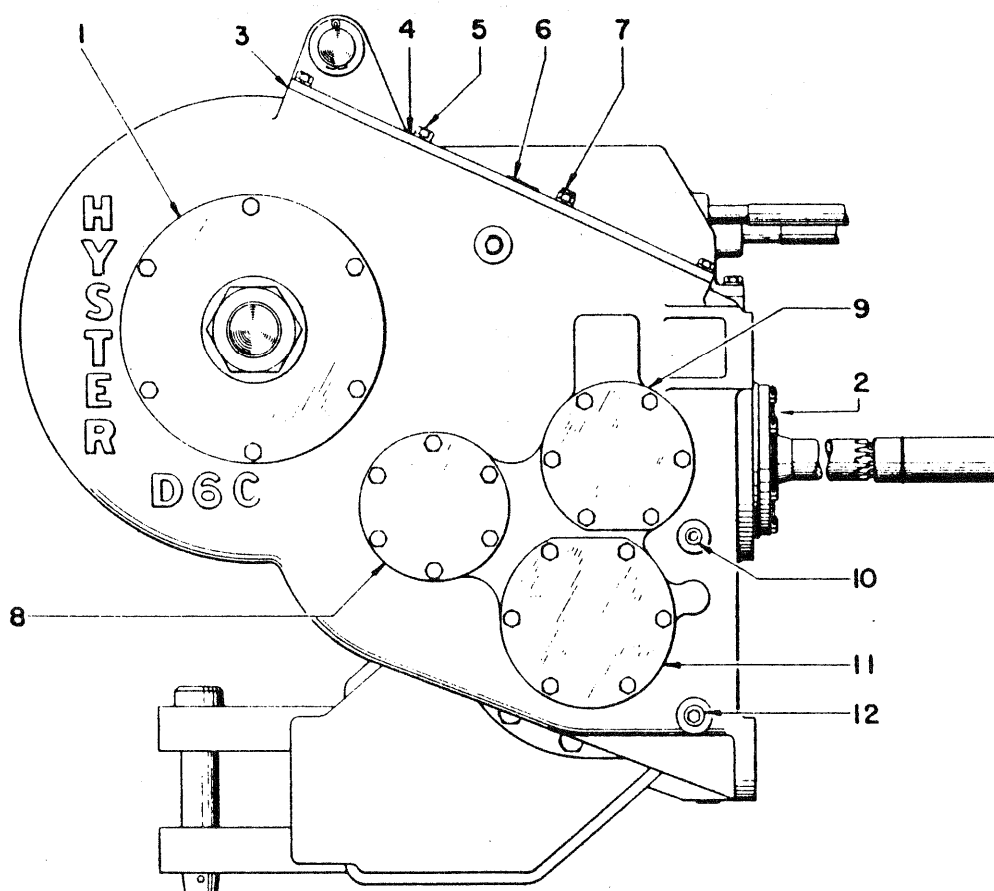
*Included in Gasket Kit 96302A for Direct Drive Winch.

†First used on Serial No. B39L-2336.

NOTE: Items 1 to 5 inclusive are for Direct Drive Winch only. See page F2 for equivalent parts for Power Controlled Winch. Items 6, 7, 8 are the same for both.

WINCH ASSEMBLY — R. H. SIDE

(Direct Drive Winch Shown)



Ref. No.	Hyster Part No.	NAME OF PART	Qty. Req.
1	.....	Drum Shaft Group—Page D7	
2	.....	Power Take-off Group—Page D1	
3	‡*95958	Gasket	1
4	95957	Plate—Top Cover	1
5	{ 16820	Capscrew— $\frac{1}{2}$ UNF x 1	8
	{ 15158	Lockwasher— $\frac{1}{2}$	8
6	15319	Pipe Plug— $1\frac{1}{2}$	1
7	21420	Vent Plug	1
8	.....	Intermediate Gear Group—Page D6	
9	.....	Bevel Gear Shaft Group—Page D2	
10	15303	Pipe Plug— $\frac{1}{2}$	1
11	.....	Brake Shaft Group—Page D5	
12	10389	Pipe Plug— $\frac{3}{4}$, Magnetic	2
13	13987	Fitting—Elbow Body	2

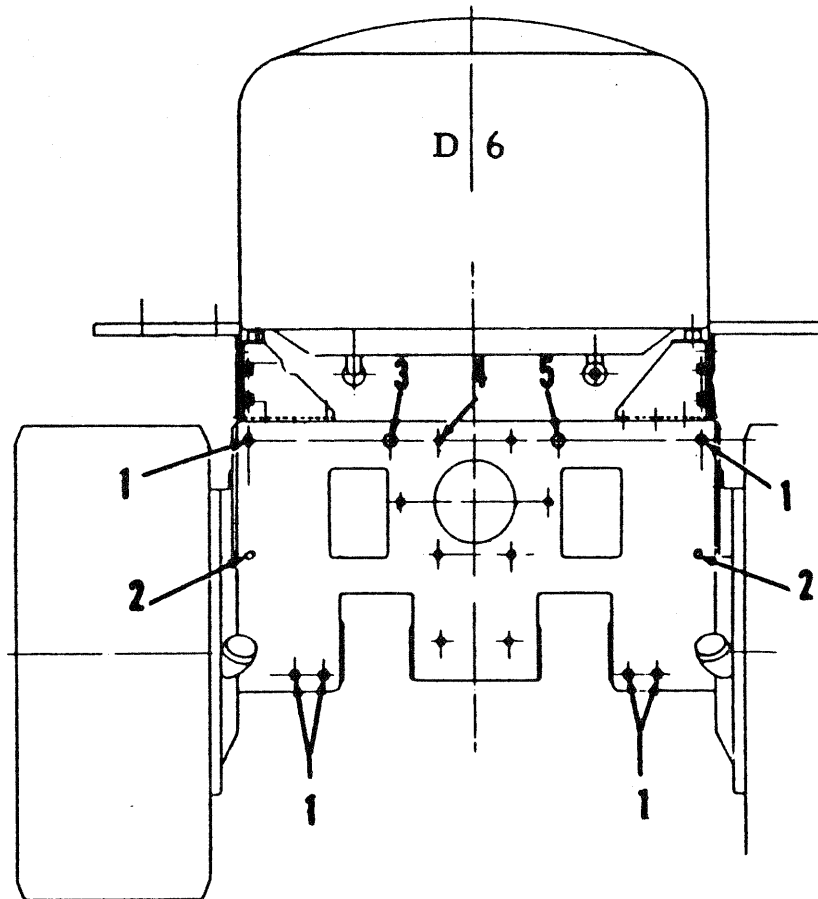
*Included in Gasket Kit 96302A for Direct Drive Winch.

‡Included in Gasket Kit 124596 for Power Controlled Winch.

MOUNTING STUDS

For D6 Tractors

Serial No. 8U1 & Up — 9U1 & Up — 37A1 & Up — 44A1 & Up
74A1 & Up — 76A1 & Up



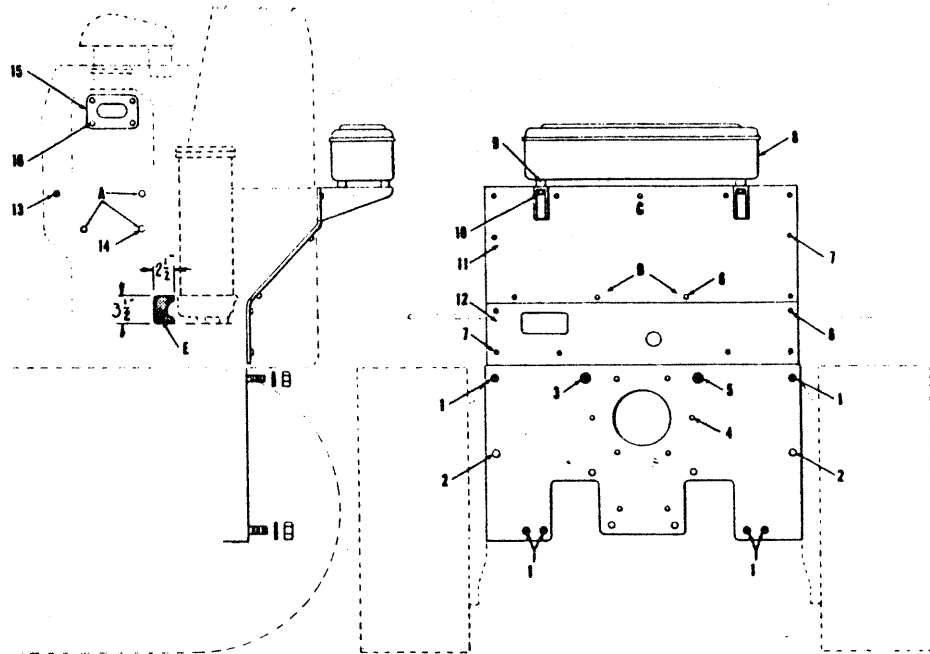
Ref. No.	Hyster Part No.	NAME OF PART	Qty. Req.
1	.....	Stud (furnished with tractor)	6
	* 15016	Nut—1"—14 UNS	6
	* 15166	Lockwasher—1"	6
	† 127156	Locknut—1"—8 UNC	6
	18005	Cork No. 11	2
3	* 95952	Stud	1
	† 89035	Stud—Taperlock	1
	134821	Nut—1¼ UNF	1
	15239	Cotter—5/32 x 2½	1
4	136384	Plug	6
5	* 92672	Stud	1
	† 89036	Stud—Taperlock	1
	32796	Nut—Jam, 1¼ UNF	1
	16088	Lockwasher—1-5/16	1

*For Series 8U-9U-37A-44A.

†For Series 74A-76A.

ATTACHING PARTS — DIRECT DRIVE WINCH

For 977 Traxcavator Serial No. 20A1 & Up

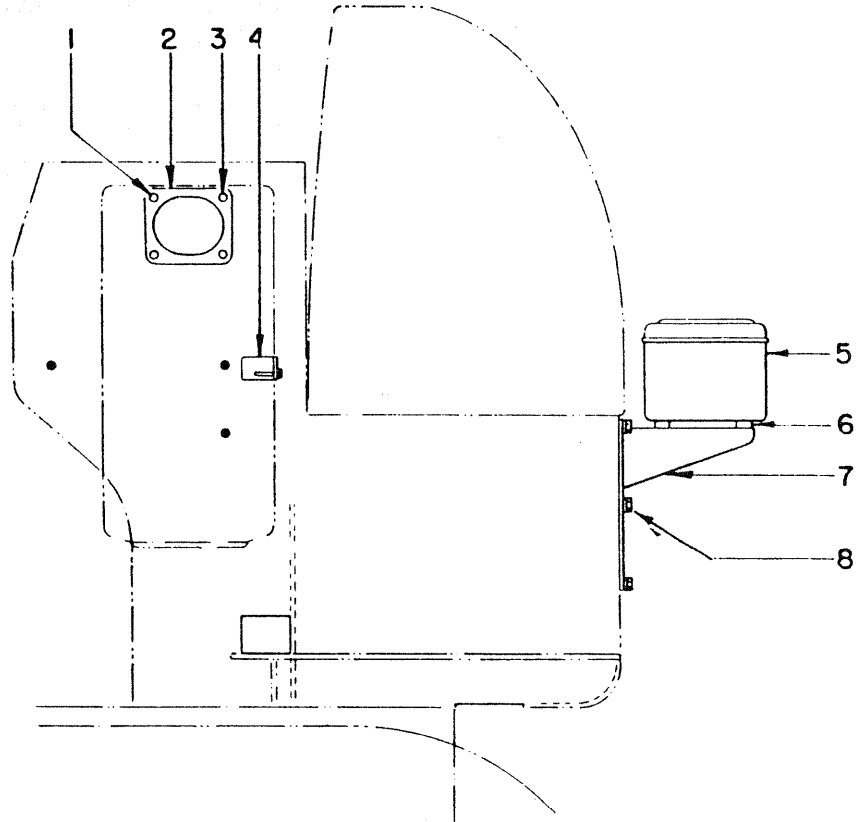


Ref. No.	Hyster Part No.	NAME OF PART	Qty. Req.
1	35680	Stud—"Caterpillar" No. 7B9672	6
	15016	Nut—1" UNF	6
	15166	Lockwasher—1"	6
2	18005	Cork	2
3	95952	Stud	1
	134821	Nut—1 1/4 UNF	1
	15239	Cotter—5/32 x 2 1/2	1
4	136384	Plug	6
5	92672	Stud	1
	32796	Nut—Jam, 1 1/4 UNF	1
	16088	Lockwasher—1-5/16	1
6	15525	Capscrew—3/8 UNC x 3/4	4
	15156	Lockwasher—3/8	4
7	.....	Capscrew—"Caterpillar" No. S-509	13
	.....	Lockwasher—"Caterpillar" No. 3B-4506	13
8	94293	Tool Box	1
9	94294	Spacer	4
10	15532	Capscrew—3/8 UNF x 1 1/4	4
	15134	Washer—3/8	8
	15156	Lockwasher—3/8	4
	15006	Nut—3/8 UNF	4
11	95298W	Support	1
12	96514W	Cover	1
13	15607	Capscrew—1/2 UNF x 3 3/4	1
14	15509	Capscrew—1/2 UNF x 1 1/2	2
	15158	Lockwasher—1/2	3
	15008	Nut—1/2 UNF	3
	92058	Spacer	1
15	92059	Gasket	1
	.....	Gasket "Caterpillar" No. 4F7818	1
	15509	Capscrew—1/2 UNF x 1 1/2	4
	15158	Lockwasher—1/2	4
16	15008	Nut—1/2 UNF	4

HYSTER COMPANY
PORTLAND, OREGON

ATTACHING PARTS — DIRECT DRIVE WINCH

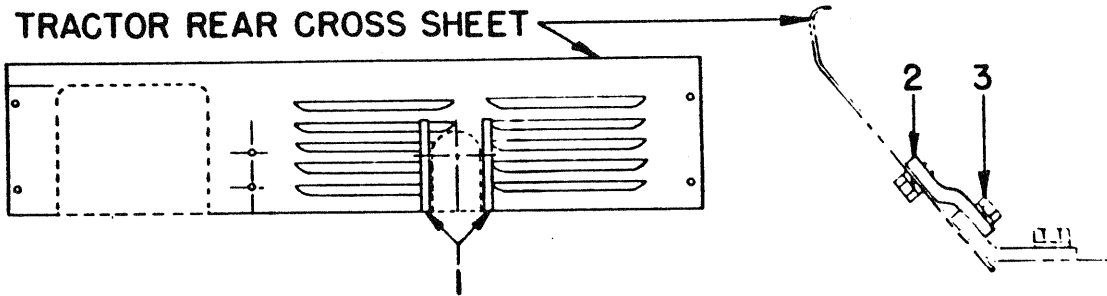
For 977 Traxcavators Serial No. 53A1 & Up



Ref. No.	Hyster Part No.	NAME OF PART	Qty. Reqd.
1	18848	Capscrew— $\frac{1}{2}$ UNC x $8\frac{1}{2}$	2
2	{ 96245	Spacer	1
	{ 96255	Gasket	1
3	.....	Capscrews, $\frac{1}{2}$ UNC x $5\frac{3}{4}$ (furnished w/Traxcavator)	2
4	96585W	Bracket	1
5	94293	Tool Box	1
	{ 15532	Capscrew— $\frac{3}{8}$ UNF x $1\frac{1}{4}$	4
	{ 15134	Washer— $\frac{3}{8}$	8
6	{ 15156	Lockwasher— $\frac{3}{8}$	4
	{ 15006	Nut— $\frac{3}{8}$ UNF	4
	{ 94294	Spacer	4
7	96252W	Bracket—Cover	1
8	{ 17149	Capscrew— $\frac{7}{16}$ UNF x $\frac{3}{4}$	6
	{ 15157	Lockwasher— $\frac{7}{16}$	6

Note: Mounting studs are the same as items 1 to 5 inclusive on Page B5.

TRACTOR ALTERATION PARTS
D6 Tractors Serial No. 74A1 & Up — 76A1 & Up
For Power Controlled Winch

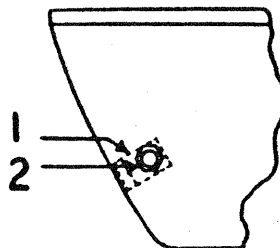


Ref. No.	Hyster Part No.	NAME OF PART	Qty. Req.
1	97554	Strip	2
2	97556	Plate	1
3	16805	Capscrew— $\frac{3}{8}$ UNC x 1	1
	15156	Lockwasher— $\frac{3}{8}$	1

D6 Tractors Serial No. 74A1 & Up
For Direct Drive Winch

Ref. No.	Hyster Part No.	NAME OF PART	Qty. Req.
2	97556	Plate	2
3	16805	Capscrew— $\frac{3}{8}$ UNC x 1	2
	15156	Lockwasher— $\frac{3}{8}$	2

D6 Tractors Serial No. 37A-44A
For Direct Drive Winch



Ref. No.	Hyster Part No.	NAME OF PART	Qty. Req.
1	96798	Lug—Fender Support	2
2	16820	Capscrew— $\frac{1}{2}$ UNF x 1	2
	15156	Lockwasher— $\frac{1}{2}$	2

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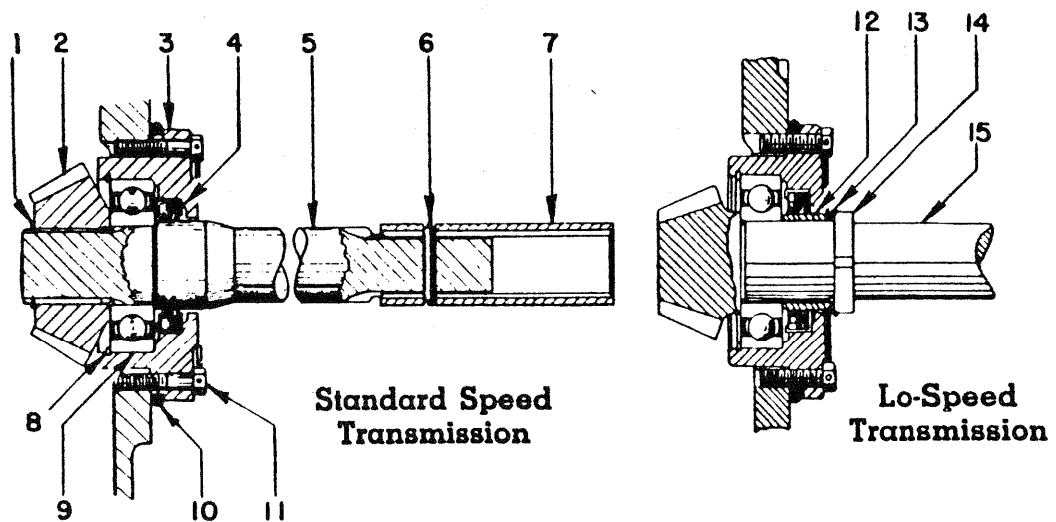
Section D

GEAR TRAIN AND SHAFT ASSEMBLIES

INDEX

BEVEL GEAR SHAFT	D2-D3
BRAKE SHAFT	D5
CABLE LOCK	D8
CLUTCH ASSEMBLY	D4
DRUM SHAFT	D7
INTERMEDIATE GEAR	D6
POWER TAKE-OFF	D1

POWER TAKE-OFF



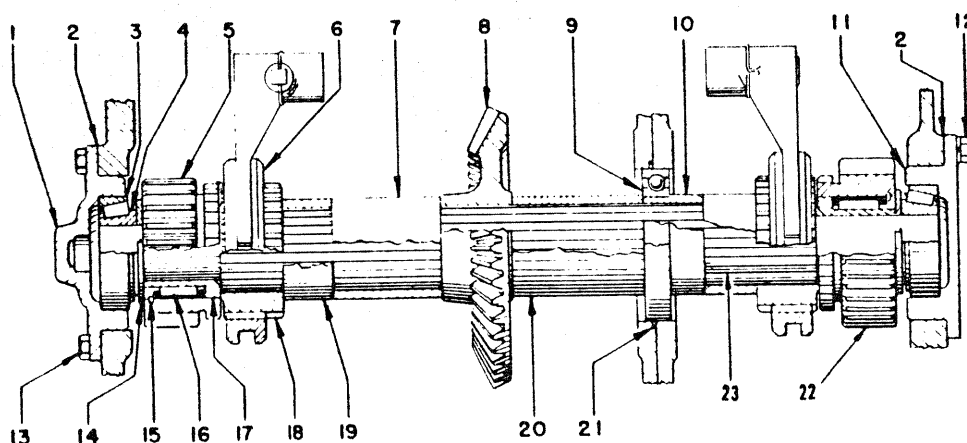
Ref. No.	Hyster Part No.	NAME OF PART	Qty. Req.
1	12916	Snap Ring	1
2	96020	Gear—Bevel	1
3	98598	Carrier—Bearing	1
4	79389	Oil Seal	1
5	{ ‡ 89064	Shaft—P.T.O. } (Standard	1
	{ * 96019	Shaft—P.T.O. } Speed	1
	{ † 96591	Shaft—P.T.O. } Transmission)	1
6	{ 9563	Pin ("Caterpillar" No. L2124)	1
	{ 9554	Ring—Lock ("Caterpillar" No. 3B1224)	1
7	97553	Coupling	1
8	35573	Snap Ring	1
9	124684	Bearing	1
10	{ 90937	"O" Ring	1
	{ 92667	Shim Set	1
11	{ 26379	Capscrew—Drilled Head	6
	{	Lockwire	1
12	96027	Spacer	1
13	6036	Lockwasher	1
14	6037	Nut—Lock	1
	{ ‡ 89065	Shaft—P.T.O. } Lo-Speed Transmission Parts	1
15	{ * 96026	Shaft—P.T.O. }	1
	{ † 96593	Shaft—P.T.O. }	1

*For D6 Tractors and 977 Traxcavators prior to Serial No. 53A1.

‡For 977 Traxcavators Serial No. 53A1 & Up.

†For D6 Tractors Serial No. 74A1 & Up—76A1 & Up.

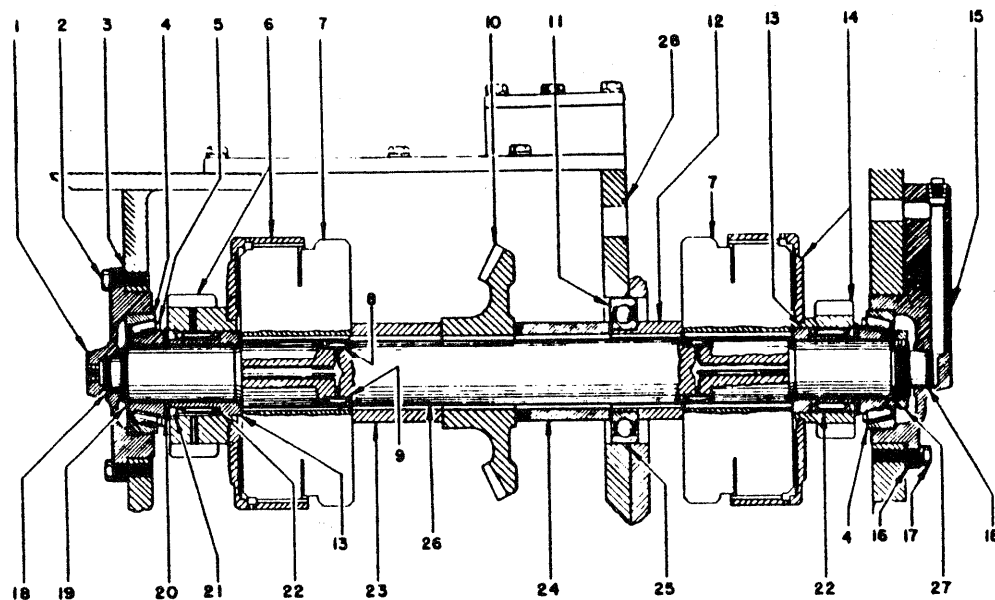
BEVEL GEAR SHAFT For Direct Drive Winch



Ref. No.	Hyster Part No.	NAME OF PART	Qty. Req.
1	95942	Carrier—Bearing	1
2	110934	Shim—.005	4
	110935	Shim—.007	8
	110936	Shim—.020	2
3	230351	Bearing Cup	2
4	230405	Bearing Cone	2
5	95944	Gear—(22 teeth)	1
6	95946	Clutch—Dental	2
7	95963	Spacer	1
8	96021	Gear—Bevel (45 teeth), Standard Speed	1
	96028	Gear—Bevel (45 teeth), Lo-Speed	1
9	44316	Bearing	1
10	95965	Carrier—Bearing	1
11	95948	Retainer—Bearing	1
12	16807	Capscrew— $\frac{1}{2}$ UNF x $1\frac{1}{2}$	6
	15158	Lockwasher— $\frac{1}{2}$	6
13	37562	Capscrew— $\frac{1}{2}$ UNF x $1\frac{1}{4}$	6
	15158	Lockwasher	6
14	95962	Washer	2
15	58938	Snap Ring	2
16	230407	Roller Bearing	2
17	95961	Carrier—Bearing	2
18	95945	Hub—Dental Clutch	2
19	95947	Spacer	2
20	95964	Spacer	1
21	15892	“O” Ring	1
22	96022	Gear—(20 teeth), Standard Speed	1
	96029	Gear—(17 teeth), Lo-Speed	1
23	95943	Shaft	1

BEVEL GEAR SHAFT

Power Controlled Winch



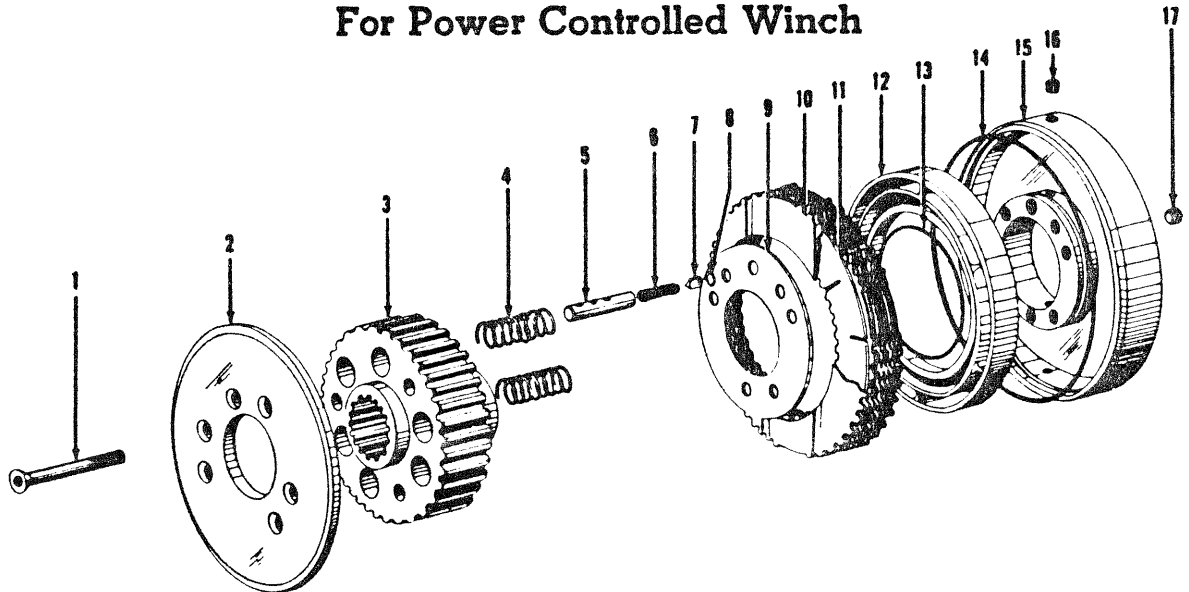
Ref. No.	Hyster Part No.	NAME OF PART	Qty. Req.
1	95966	Retainer—Bearing	1
2	{ 37562	Capscrew— $\frac{1}{2}$ UNF x $1\frac{1}{4}$	6
	{ 15158	Lockwasher— $\frac{1}{2}$	6
	{ 110934	Shim—.005	2
3	{ 110935	Shim—.007	4
	{ 110936	Shim—.020	1
4	230351	Cup—Bearing	2
5	230405	Cone—Bearing	2
6	96469W	Spider—Second Reduction	1
7	89028A	Clutch Assembly	2
8	96783	Seal (three teeth)	2
9	96784	Seal (two teeth)	2
10	{ 96021	Gear—Bevel, Standard Speed	1
	{ 96028	Gear—Bevel, Lo-Speed	1
11	44316	Bearing—Ball	1
12	95965	Carrier—Bearing	1
13	95961	Carrier—Bearing	1
14	{ 89009W	Spider—Reverse, Standard Speed	1
	{ 97775W	Spider—Reverse, Lo-Speed	1
15	{ 96472	Retainer—Bearing	1
	{ 15302	Fitting—Pipe Plug, $\frac{3}{8}$	1
16	96473	Shim Set	1
17	{ 37562	Capscrew— $\frac{1}{2}$ UNF x $1\frac{1}{4}$	7
	{ 15158	Lockwasher— $\frac{1}{2}$	7
18	95581	Ring—Seal	2
19	12916	Snap Ring	1
20	95962	Washer	2
21	58938	Snap Ring	2
22	230407	Bearing—Roller	2

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23	95963	Spacer	1
24	95964	Spacer	1
25	15892	"O" Ring	1
26	89027	Shaft—Clutch	1
27	{ 21013	Lockwasher	1
	{ 21014	Locknut	1
28	55287	"O" Ring	1

CLUTCH ASSEMBLY — 132580

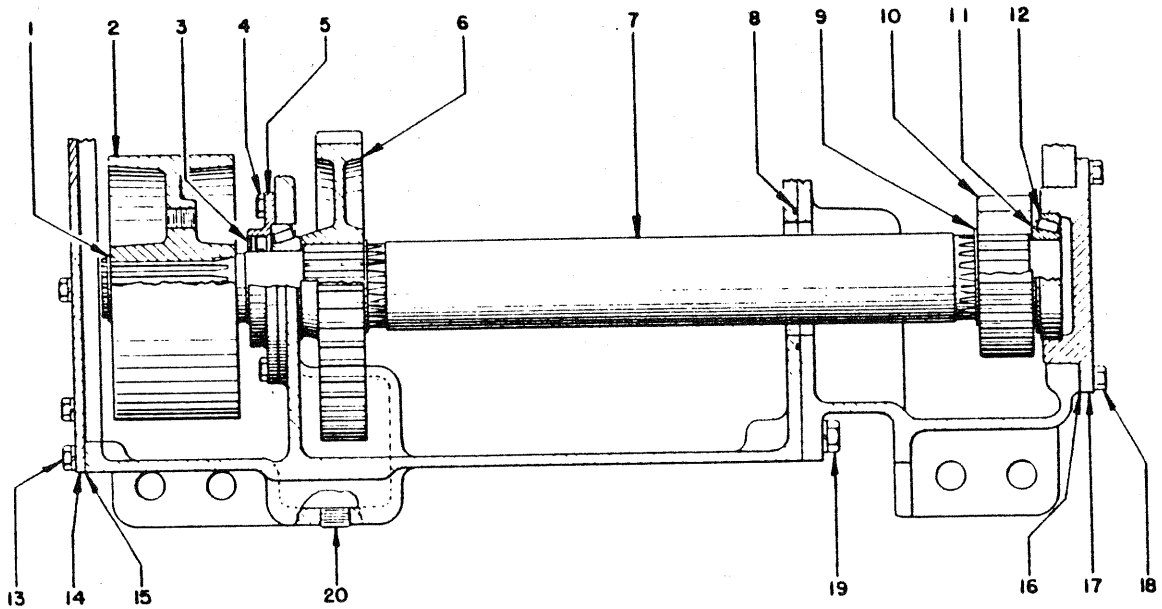
For Power Controlled Winch



Ref. No.	Hyster Part No.	NAME OF PART	Qty. Req.
1	89031	Capscrew— $\frac{1}{2}$ UNF x $3\frac{1}{4}$	6
2	96467	Plate	1
3	89029	Hub	1
4	89030	Spring	6
5	*132579	Body—Valve	1
6	89033	Spring	1
7	* 95831	Plunger	1
8	{ 89770	Snap Ring	1
	{ * 54132	Snap Ring	1
9	96461	Retainer—Spring	1
10	133917	Friction Disc	6
11	96464	Plate—Separator	6
12	96462	Piston—Clutch	1
13	89777	"O" Ring	1
14	79972	"O" Ring	1
15	96463	Plate—Retainer	1
16	15961	Plug	1
17	17118	Set Screw— $\frac{1}{2}$ UNF x $\frac{1}{2}$	6
	96785	Shim (not illustrated, between items 2 and 3)	8

*First used on S.N. A82L-1786. Prior to this S.N. replace items 5 or 7 with four items, 5, 6, 7 and 8.

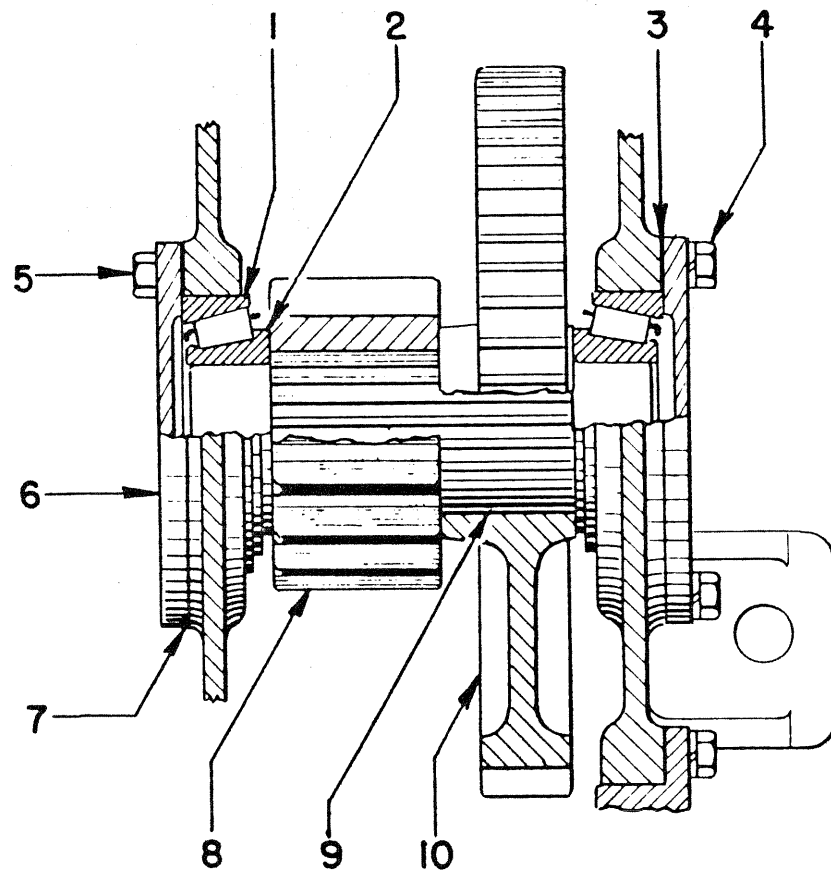
BRAKE SHAFT



Ref. No.	Hyster Part No.	NAME OF PART	Qty. Req.
1	58954	Snap Ring	1
2	96036	Wheel—Brake	1
3	87656	Oil Seal	1
4	{ 37562	Capscrew— $\frac{1}{2}$ UNF x $1\frac{1}{4}$	6
	{ 15158	Lockwasher— $\frac{1}{2}$	6
5	{ 89727	Retainer—Oil Seal	1
	{ * 92649	Gasket	1
6	95969	Gear—(51 teeth)	1
7	95968	Shaft—Brake	1
8	15889	“O” Ring	1
9	12915	Snap Ring	2
10	{ 96023	Gear—(20 teeth), Standard	1
	{ 96030	Gear—(17 teeth), Lo-Speed	1
11	230310	Bearing Cone	2
12	230311	Bearing Cup	2
13	{ 16820	Capscrew— $\frac{1}{2}$ UNF x 1	9
	{ 15158	Lockwasher— $\frac{1}{2}$	9
14	95953	Plate—Cover	1
15	* 95954	Gasket	1
	{ 95033	Shim—.005	2
16	{ 95166	Shim—.007	3
	{ 95034	Shim—.020	4
17	95970	Carrier—Bearing	1
18	{ 16807	Capscrew— $\frac{1}{2}$ UNF x $1\frac{1}{2}$	6
	{ 15158	Lockwasher— $\frac{1}{2}$	6
	{ 12479	Capscrew— $\frac{5}{8}$ UNF x $1\frac{3}{4}$	7
19	{ 15160	Lockwasher— $\frac{5}{8}$	7
	{ 95440	Pin—Dowel	1
20	15316	Pipe Plug— $\frac{3}{4}$	1

**Included in Gasket Kit 96302A and Gasket Kit 124596.*

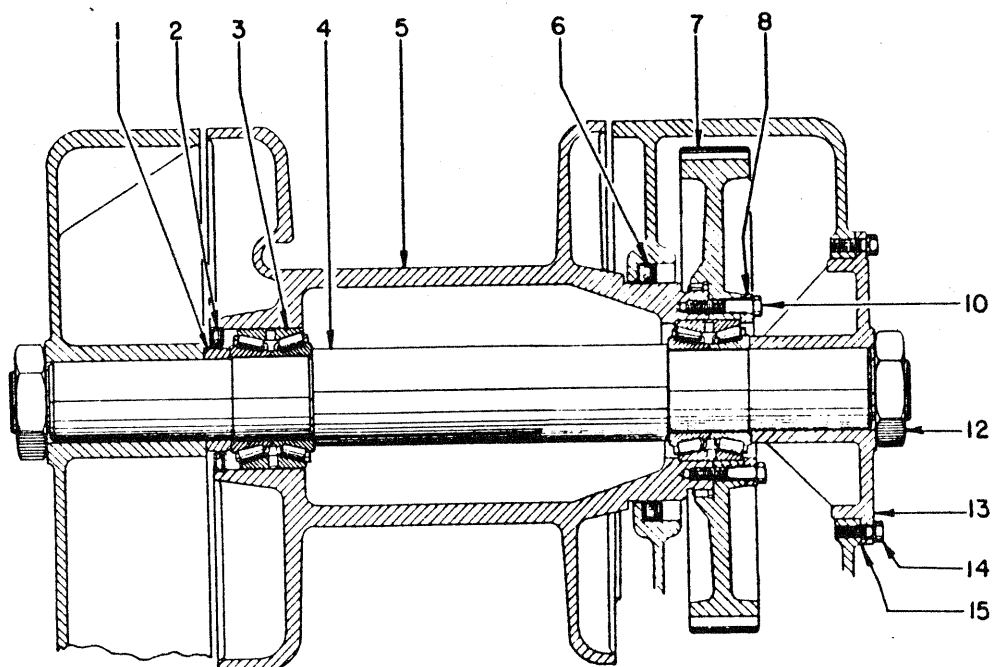
INTERMEDIATE GEAR



Ref. No.	Hyster Part No.	NAME OF PART	Qty. Req'd.
1	30059	Bearing Cup	2
2	30080	Bearing Cone	2
3	93258	Shim Set	1
4	{ 37562	Capscrew— $\frac{1}{2}$ UNF x $1\frac{1}{4}$	6
	{ 15158	Lockwasher— $\frac{1}{2}$	6
5	93260	Place Bolt— $\frac{1}{2}$ UNF x $1\frac{1}{4}$	6
6	93254	Retainer—Bearing	2
7	* 95971	Gasket	1
8	95973	Gear (16 teeth)	1
9	95972	Shaft—Intermediate	1
10	{ 96024	Gear—(49 Teeth) Standard	1
	{ 96031	Gear—(52 Teeth) Lo-Speed	1

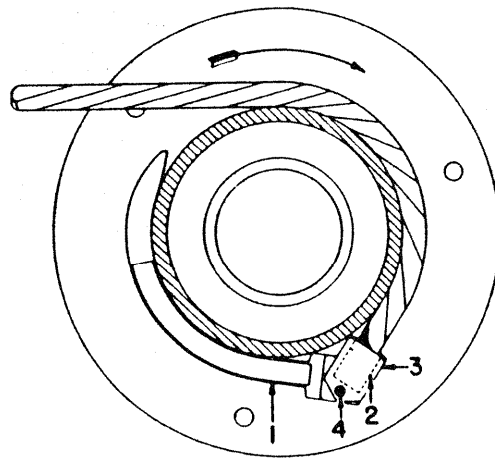
**Included in Gasket Kit 96302A and Gasket Kit 124596.*

DRUM SHAFT

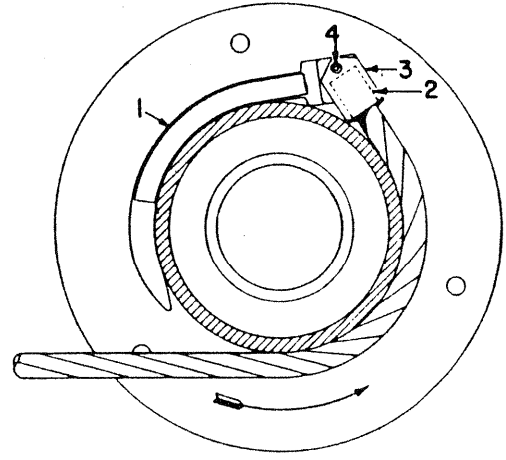


Ref. No.	Hyster Part No.	NAME OF PART	Qty. Reqd.
1	95979	Spacer	1
2	44547	Oil Seal	1
3	230406A	Bearing Assembly	2
4	95976	Shaft	1
5	{ 96032	Drum—10" Standard Speed Winch	1
	{ 96034	Drum—7" Lo-Speed Winch	1
6	44546	Oil Seal (2 Required for Power Controlled Winch).	1
7	95977	Gear	1
8	95978	Plate—Retainer	1
10	18811	Place Bolt— $\frac{1}{2}$ UNF x $2\frac{1}{2}$	8
12	6607	Nut—Special	2
13	95974	Retainer	1
14	{ 16807	Capscrew— $\frac{1}{2}$ UNF x $1\frac{1}{2}$	6
	{ 15158	Lockwasher— $\frac{1}{2}$	6
15	95975	Shim Set	1

CABLE LOCK



OVERWINDING



UNDERWINDING

Ref. No.	Hyster Part No.	NAME OF PART	Qty. Reqd.
1	{ 96033	Filler—10" Std. Drum	1
	{ 96035	Filler—7" Lo-Speed Drum	1
2	30712	Ferrule	1
3	95980	Lock—Ferrule	1
4	{ 16324	Capscrew— $\frac{1}{2}$ UNF x $2\frac{1}{2}$	1
	{ 15158B	Lockwasher— $\frac{1}{2}$	1



Section E

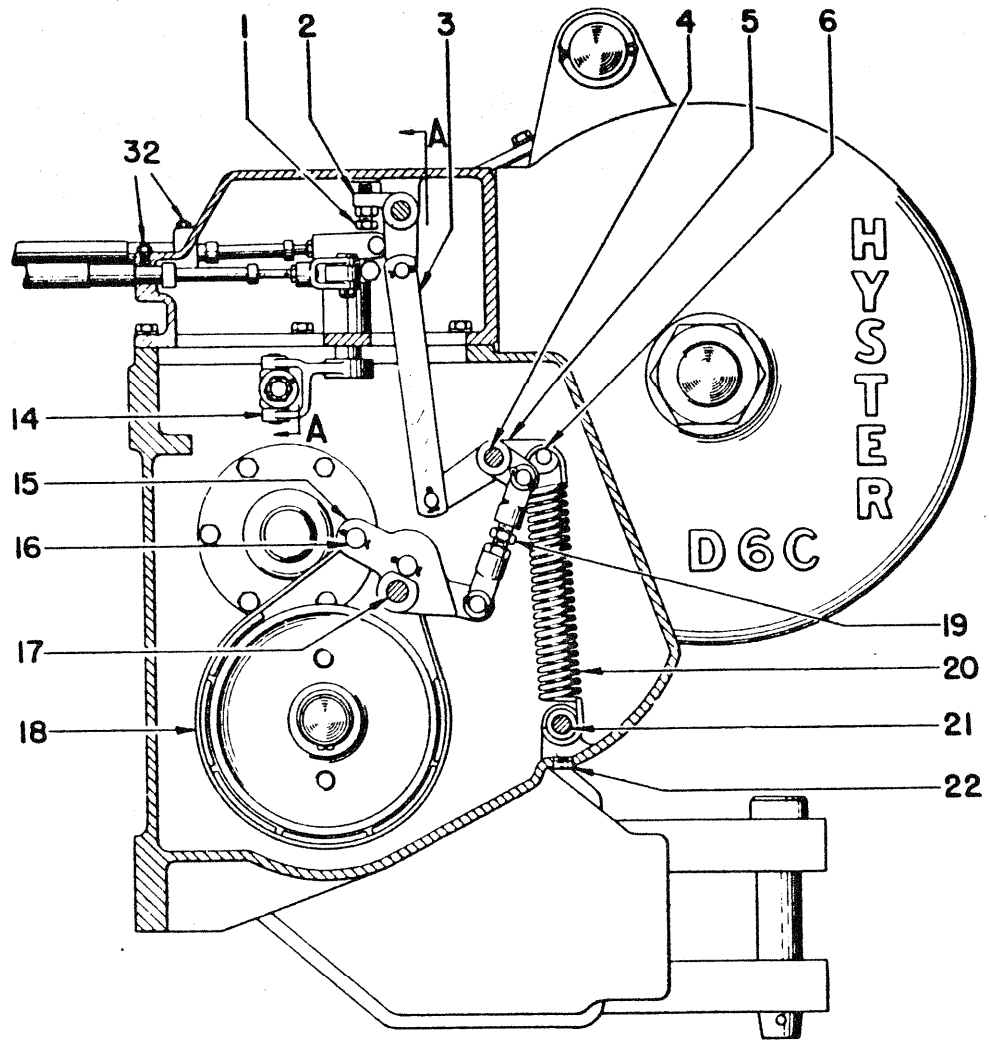
BRAKE AND SHIFTER MECHANISM

FOR DIRECT DRIVE WINCH

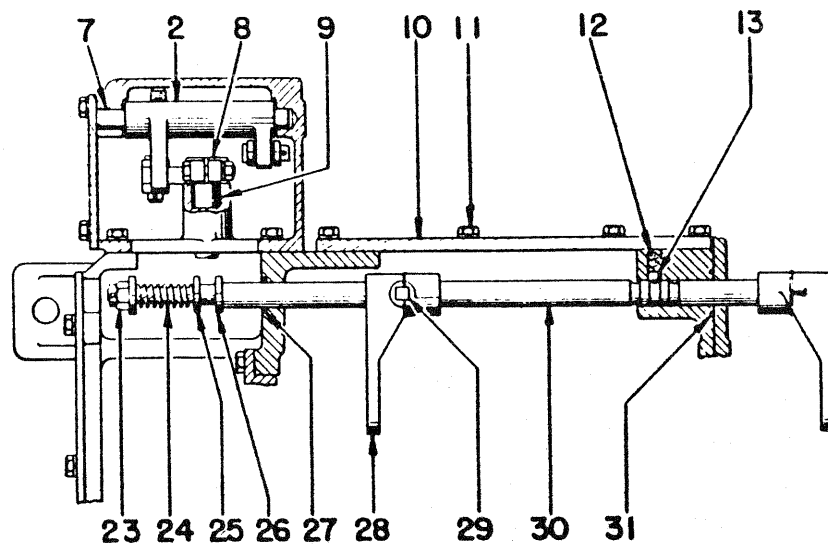
INDEX

BRAKE MECHANISM—For Winches	
Serial No. B39L-2336 & up	E3
BRAKE AND SHIFTER MECHANISM	E1
HANDLEVER GROUP—For D6 Tractors	
Serial No. 37A1 & up — 44A1 & up — 74A1 & up	E4-E5
HANDLEVER GROUP—For D6 Tractors	
Serial No. 8U1 & up — 9U1 & up	E6-E7
HANDLEVER GROUP—For 977 Traxcavators	
Serial No. 20A1 & up	E8
HANDLEVER GROUP—For 977 Traxcavators	
Serial No. 53A1 & up	E11
HANDLEVER GROUPS—For Winches	
Serial No. B39L-2336 & up	
Mounted on 977 Traxcavators	E9-E10

BRAKE AND SHIFTER MECHANISM



SECTION A-A



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BRAKE AND SHIFTER MECHANISM

Ref. No.	Hyster Part No.	NAME OF PART	Qty. Reqd.
1 ‡	16807	Capscrew— $\frac{1}{2}$ UNF x $1\frac{1}{2}$	1
	15008	Nut— $\frac{1}{2}$ UNF	1
2 ‡	95990A	Crank with Bushing	1
	92705	Bushing	2
	95992	Plate—Link	2
3 ‡	159	Pin—Rod End	2
	15223	Cotter— $\frac{1}{8}$ x 1	2
4 ‡	95989	Pin	1
5 ‡	95993A	Crank with Bushing and Item 6	1
	92705	Bushing	2
6 ‡	95995	Pin	1
7	95989	Pin	1
	95987A	Crank with Capscrew, Nut, Lockwasher	1
8	15527	Capscrew— $\frac{3}{8}$ UNF x $1\frac{3}{4}$	1
	15006	Nut— $\frac{3}{8}$ UNF	1
	15156	Lockwasher— $\frac{3}{8}$	1
9	95615	Bushing	2
10	95938W	Cover—Transmission	1
	95941	Gasket—Transmission Cover	1
	16397	Capscrew— $\frac{1}{2}$ UNF x $1\frac{3}{4}$	4
11	37562	Capscrew— $\frac{1}{2}$ UNF x $1\frac{1}{4}$	5
	15158	Lockwasher— $\frac{1}{2}$	9
12	96545	Spring	1
13	6348	Ball— $\frac{1}{2}$	1
14	95636W	Crank—Shifter	1
	33717	Shoe	2
15 ‡	96002A	Lever with Bushing—Brake	1
	104607	Bushing	2
16 ‡	96008	Pin—Brake	2
	15243	Cotter— $\frac{3}{16}$ x $1\frac{1}{4}$	4
17 ‡	96004	Pin	1
18 ‡	96005A	Band Assembly—Brake (includes Lining)	1
	96300A	Lining Set with Rivets (Drill at Assembly)	1
	95628A	Link Assembly—Adjustment	1
	* 95629	Link	1
	* 15030	Nut— $\frac{5}{8}$ UNF	1
19 ‡	* 92689	Rod End—R. H. Thread	1
	* 92688	Rod End—L. H. Thread	1
	* 159	Pin—Rod End	2
	* 15223	Cotter— $\frac{1}{8}$ x 1	2
20 ‡	141441	Spring—Brake	2
	95998W	Pin—Brake	1
21 ‡	16820	Capscrew— $\frac{1}{2}$ UNF x 1	1
	15158	Lockwasher— $\frac{1}{2}$	1
	95996W	Spacer—Spring	1
22	15315	Plug— $\frac{1}{2}$	1
23	63085	Nut—Lock, $\frac{5}{8}$ UNF	1
24	95950	Spring	1
25	33682	Washer	2
26	33681	Washer	1
27	44551	Oil Seal	1
28	95951	Fork—Shifter	2
29	27936	Lockscrew	2
		Lockwire	2
30	95949	Shaft—Shifter	1
31	55287	"O" Ring	1
32	16212	Setscrew— $\frac{3}{8}$ UNC x $1\frac{1}{4}$	2
	15086	Nut—Jam, $\frac{3}{8}$ UNC	2

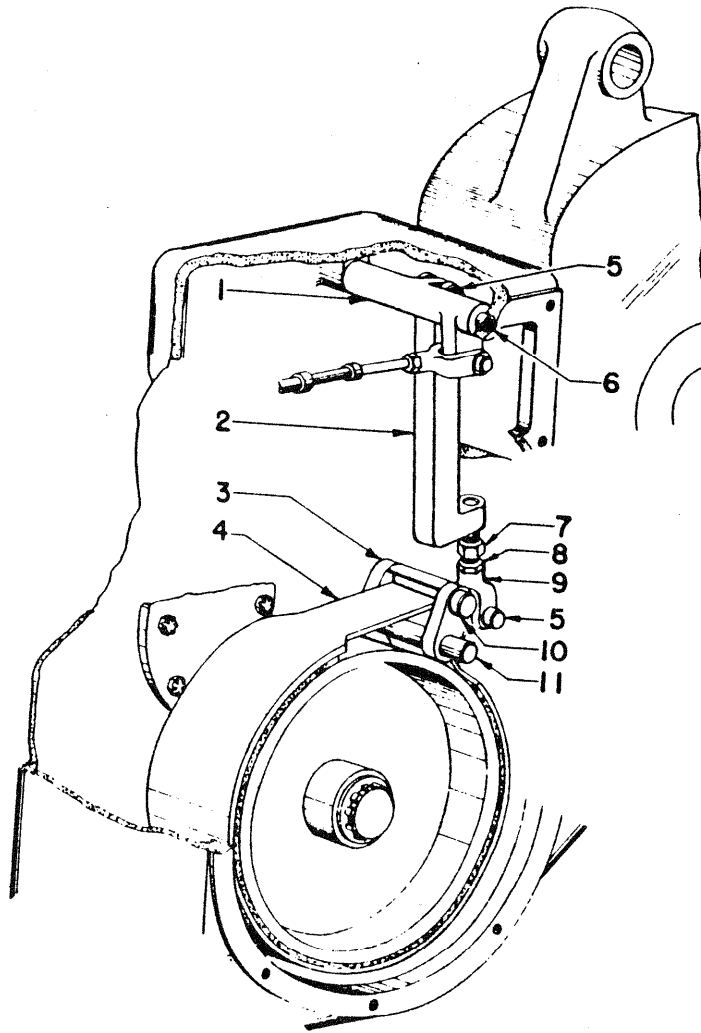
*Included in Assembly 95628A.

‡Included in Gasket Kit 96302A.

†Last used on Winch Serial No. B39L-2335.

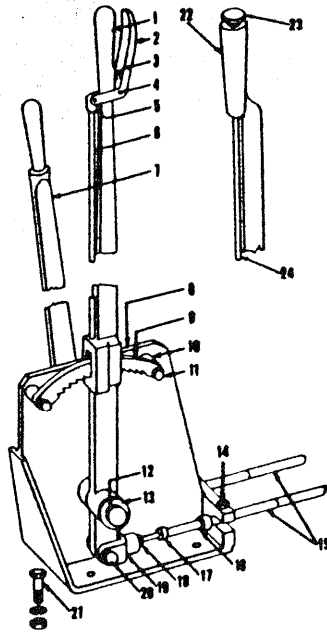
BRAKE MECHANISM

(First used on Winch Serial No. B39L-2336)



Ref. No.	Hyster Part No.	NAME OF PART	Qty. Req.
1	{ 77114A	Crank Assembly—Brake (Includes Bushings)	1
	{ 92705	Bushing	2
2	76697	Link—Brake	1
3	{ 76695A	Lever Assembly—Brake (Includes Bushings)	1
	{ 104607	Bushing	2
4	{ 128386	Brake Band Assembly (Includes Lining Set)	1
	{ 96300A	Lining Set with Rivets (Drill at Assembly)	1
5	{ 159	Pin—Rod End	2
	{ 15223	Cotter— $\frac{1}{8}$ x 1	2
6	95989	Pin	1
7	76696	Link—Adjusting	1
8	15030	Nut—Jam, $\frac{5}{8}$ UNF	1
9	91629	Rod End	1
10	{ 96725	Pin—Brake	1
	{ 15226	Cotter— $\frac{1}{8}$ x $1\frac{3}{4}$	1
11	128383	Pin	1

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HANDLEVER GROUP — 77222A

(For D6 Tractors Serial No.
37A1 & up — 44A1 & up
74A1 & up)

(First used on Winch Serial No.
B39L-2336)

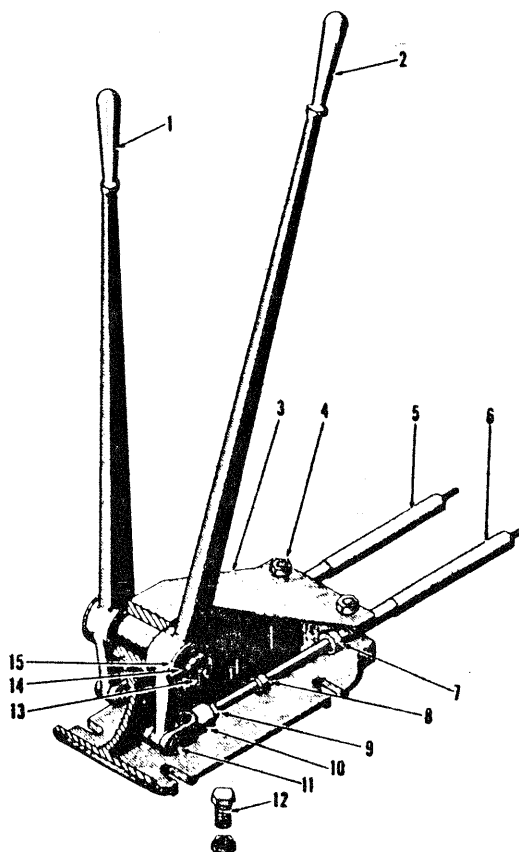
Ref. No.	Hyster Part No.	NAME OF PART	Qty. Req.
1	* 92557A	Handlever Assembly—Brake (Includes items 2, 3, 4, 5 & 6)	1
2	32694	Handle	1
3	32695	Spring	1
4	{ 37476	Machine Screw—Special	2
	{ 15052	Nut—No. 10-24	2
5	32693	Rod End	1
6	92561	Rod—Latch	1
7	95750	Handlever—Clutch	1
8	76706W	Bracket	1
9	77188	Quadrant—Bar	1
10	94891	Spacer	2
	{ 18451	Capscrew— $\frac{3}{8}$ UNF x 2	2
11	{ 15156	Lockwasher— $\frac{3}{8}$	2
	{ 15006	Nut— $\frac{3}{8}$ UNF	2
12	58907	Snap Ring	2
13	90267	Washer	2
14	{ 16212	Setscrew— $\frac{3}{8}$ UNF 1 $\frac{1}{4}$	4
	{ 15086	Nut—Jam, $\frac{3}{8}$ UNC	4
	† 123422	Cable—Push-Pull (Clutch, 56") (Includes items 16 and 17)	1
	† 125629	Cable—Push-Pull (Brake, 58")	1
15	† 121181	Clamp	2
	† 96240	Cable—Push-Pull (Brake) (Includes	1
	† 96241	Cable—Push-Pull (Clutch) (Items 16 & 17)	1
16	94381	Grommet—Large	4
17	95905	Grommet—Small	4
18	15026	Nut—Jam, $\frac{3}{8}$ UNF	4
19	92683	Rod End	4
20	{ 159	Pin—Rod End	4
	{ 15223	Cotter— $\frac{1}{8}$ x 1	4
	{ 16807	Capscrew— $\frac{1}{2}$ UNF x 1 $\frac{1}{2}$	4
21	{ 15158	Lockwasher— $\frac{1}{2}$	4
	{ 15008	Nut— $\frac{1}{2}$ UNF	4
22	77187A	Handlever Assembly—Brake (Includes items 23 & 24)	1
23	{ 79418	Button	1
	{ 79417	Spring	1
24	79416	Pawl and Rod	1

*Replace with Handlever Assembly 77187A, Item 22.

†For Tractors Serial No. 37A1 & up — 44A1 & up.

†For Tractors Serial No. 74A1 & up.

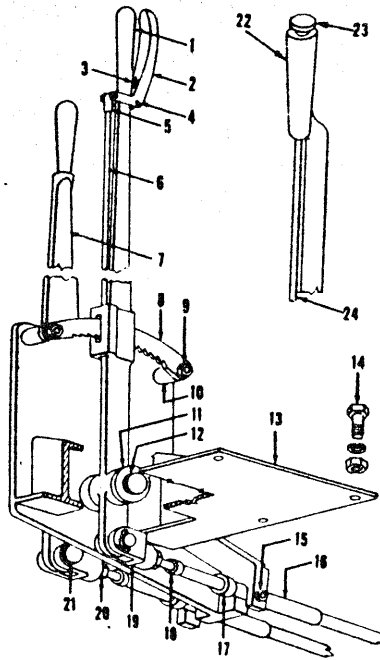
HANDLEVER GROUP — 96583A
(For D6 Tractors Serial No. 37A1 & Up — 44A1 & Up
(Last used on Winch Serial No. B39L-2335)



Ref. No.	Hyster Part No.	NAME OF PART	Qty. Reqd.
1	95750	Handlever—Clutch	1
2	95749	Handlever—Brake	1
3	95605	Bracket	1
4	{ 16212	Setscrew— $\frac{3}{8}$ UNC x $1\frac{1}{4}$	4
	{ 15086	Nut—Jam, $\frac{3}{8}$ UNC	4
5	96241	Cable—Clutch	1
6	96240	Cable—Brake	1
7	94381	Grommet—Large } Included with	4
8	95905	Grommet—Small } Cables	4
9	15026	Nut—Jam, $\frac{3}{8}$ UNF	4
	{ 92683	Rod End (Handlever End)	2
10	{ 92683	Rod End—Clutch (Winch End)	1
	{ 93077W	Rod End—Brake (Winch End)	1
11	{ 159	Pin—Rod End	4
	{ 15223	Cotter— $\frac{1}{8}$ x 1	4
	{ 16807	Capscrew— $\frac{1}{2}$ UNF x $1\frac{1}{2}$	4
12	{ 15158	Lockwasher— $\frac{1}{2}$	4
	{ 15008	Nut— $\frac{1}{2}$ UNF	4
13	95606	Shaft	1
14	58907	Snap Ring	2
15	90267	Washer	2

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HANDLEVER GROUP — 77221A



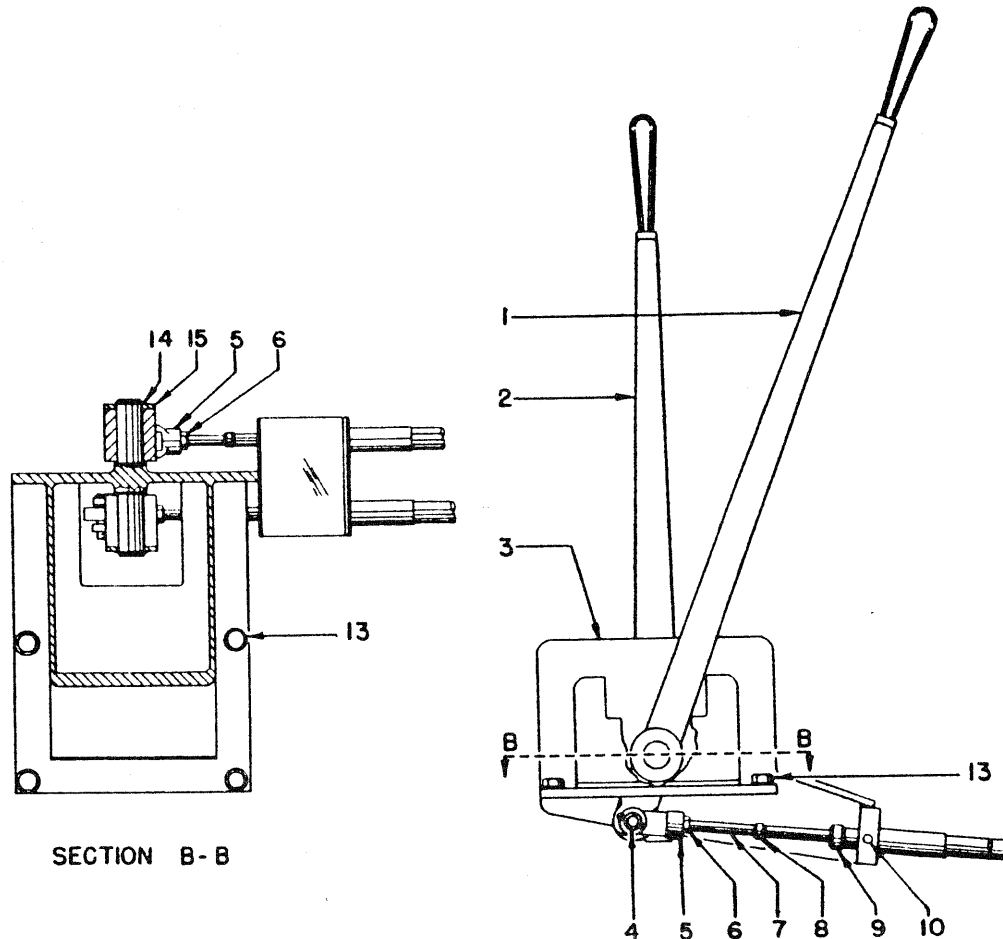
(For D6 Tractors Serial No.
8U1—9U1 & Up)

(First used on Winch Serial No.
B39L-2336)

Ref. No.	Hyster Part No.	NAME OF PART	Qty. Req.
1	* 92557A	Handlever Assembly—Brake (Includes items 2, 3, 4, 5 & 6)	1
2	32694	Handle	1
3	32695	Spring	1
4	{ 37476	Machine Screw—Special	2
	{ 15052	Nut—No. 10-24	2
5	32693	Rod End	1
6	92561	Rod—Latch	1
7	96016	Handlever—Clutch	1
8	77188	Quadrant—Bar	1
9	{ 18451	Capscrew— $\frac{3}{8}$ UNF x 2	2
	{ 15006	Nut— $\frac{3}{8}$ UNF	2
	{ 15156	Lockwasher— $\frac{3}{8}$	2
10	94891	Spacer	2
11	90267	Washer	2
12	58907	Snap Ring	2
13	76702W	Bracket	1
14	{ 16807	Capscrew— $\frac{1}{2}$ UNF x $1\frac{1}{2}$	4
	{ 15008	Nut— $\frac{1}{2}$ UNF	4
	{ 15158	Lockwasher— $\frac{1}{2}$	4
15	{ 16212	Setscrew— $\frac{3}{8}$ UNC x $1\frac{1}{4}$	2
	{ 15086	Nut—Jam, $\frac{3}{8}$ UNC	2
16	96017	Cable—Push-Pull (Includes items 17 & 18)	2
17	94381	Grommet—Large	4
18	95905	Grommet—Small	4
19	92683	Rod End	4
20	15026	Nut—Jam, $\frac{3}{8}$ UNF	4
21	{ 159	Pin—Rod End	4
	{ 15223	Cotter— $\frac{1}{8}$ x 1	4
22	77187A	Handlever Assembly—Brake (Includes items 23 & 24)	1
23	{ 79418	Button	1
	{ 79417	Spring	1
24	79416	Pawl and Rod	1

*Replace with Handlever Assembly 77187A, Item 22.

HANDLEVER GROUP — 96582A
(For D6 Tractors Serial No. 8U1 & Up — 9U1 & Up)
(Last used on Winch Serial No. B39L-2335)



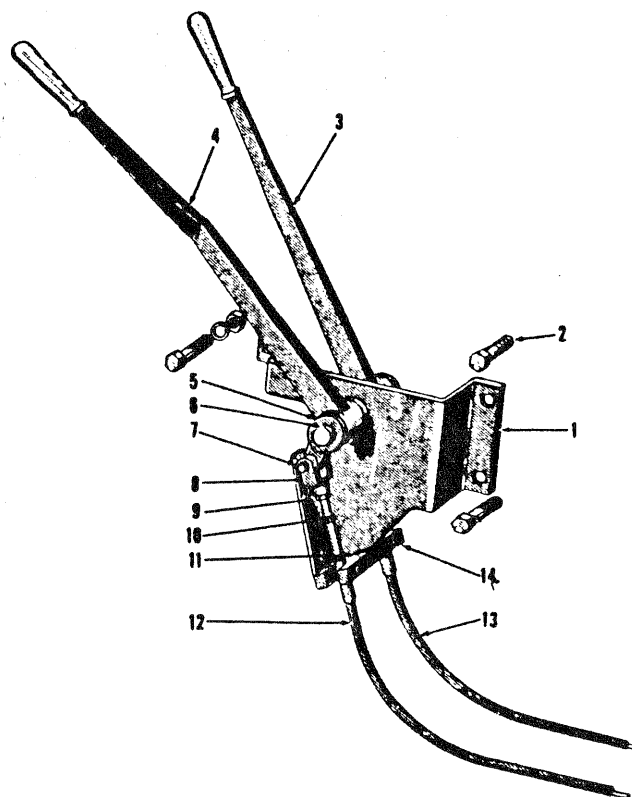
Ref. No.	Hyster Part No.	NAME OF PART	Qty. Reqd.
1	96016	Handlever—Clutch	1
2	96015	Handlever—Brake	1
3	96010W	Bracket	1
4	159	Pin—Rod End	4
	15223	Cotter— $\frac{1}{8}$ x 1	4
	92683	Rod End (Handlever End)	2
5	92683	Rod End—Clutch (Winch End)	1
	93077W	Rod End—Brake (Winch End)	1
6	15026	Nut—Jam, $\frac{3}{8}$ UNF	4
7	96017	Cable—Includes items 8-9	2
8	95905	Grommet—Small	4
9	94381	Grommet—Large	4
10	16212	Setscrew— $\frac{3}{8}$ UNC x $1\frac{1}{4}$	4
	15086	Nut—Jam, $\frac{3}{8}$ UNC	4
	16807	Capscrew— $\frac{1}{2}$ UNF x $1\frac{1}{2}$	4
13	15158	Lockwasher— $\frac{1}{2}$	4
	15008	Nut— $\frac{1}{2}$ UNF	4
14	58907	Snap Ring	2
15	90267	Washer	2

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HANDLEVER GROUP

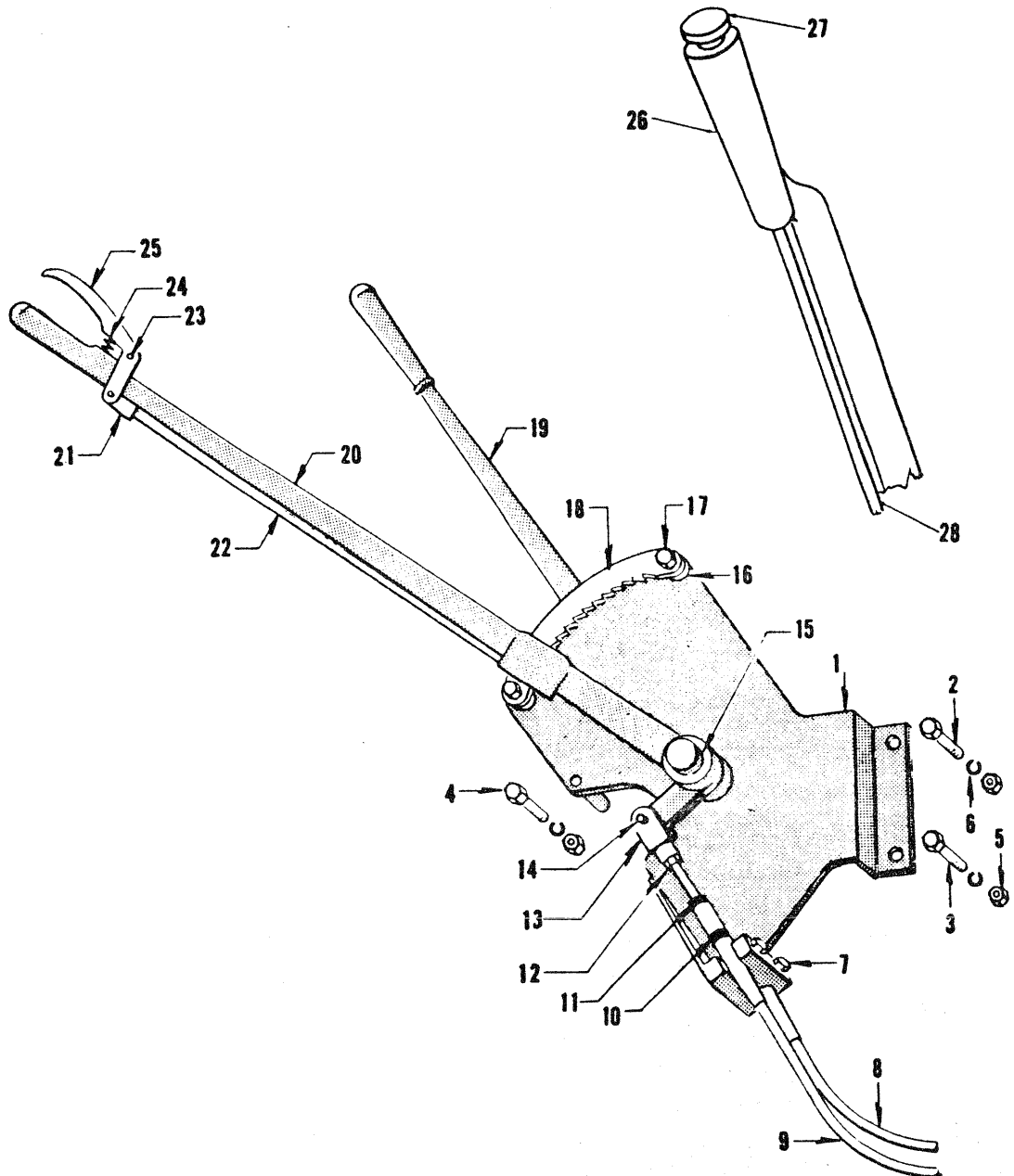
(For 977 Traxcavator Serial No. 20A1 & Up)

(Last used on Winch Serial No. B39L-2335)



Ref. No.	Hyster Part No.	NAME OF PART	Qty. Reqd.
1	96248W	Bracket	1
2	15509	Capscrew— $\frac{1}{2}$ UNF x $1\frac{1}{2}$	3
	15158	Lockwasher— $\frac{1}{2}$	3
	15008	Nut— $\frac{1}{2}$ UNF	3
3	96247	Handlever—Clutch	1
4	96246	Handlever—Brake	1
5	90267	Washer	2
6	58907	Snap Ring	2
7	159	Pin—Rod End	4
	15223	Cotter— $\frac{1}{8}$ x 1	4
	92683	Rod End—Handlever End	2
8	92683	Rod End—Clutch, Wind End	1
	93077W	Rod End—Brake, Winch End	1
9	15026	Nut—Jam, $\frac{3}{8}$ UNF	4
10	95905	Grommet—Small	4
11	94381	Grommet—Large	4
12	96243	Cable—Brake } Includes Grommets	1
13	96244	Cable—Clutch } items 10 and 11	1
14	16212	Setscrew— $\frac{3}{8}$ UNC x $1\frac{1}{4}$	4
	15086	Nut—Jam, $\frac{3}{8}$ UNC	4

(First used on Winch Serial No. B39L-2336)



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HANDLEVER GROUP

(For 977 Traxcavators)

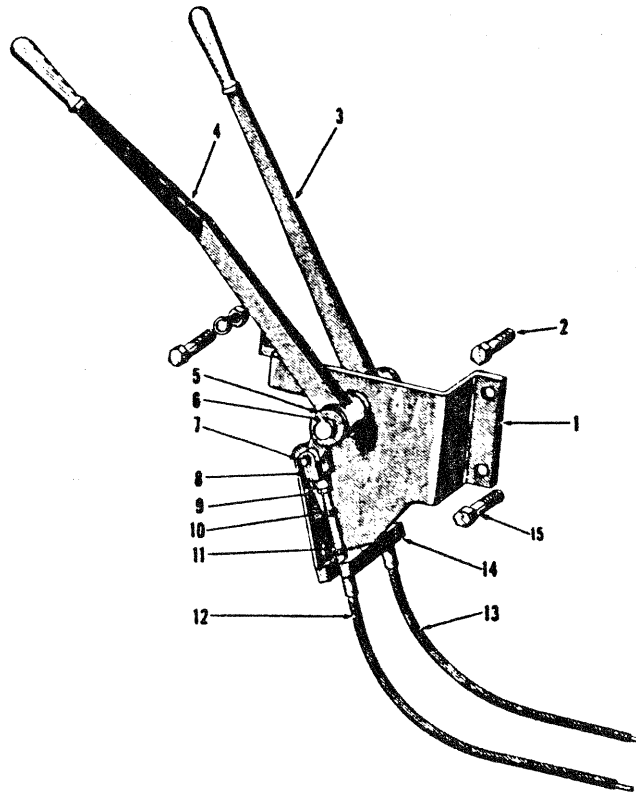
(First used on Winch Serial No. B39L-2336)

Ref. No.	Hyster Part No.	NAME OF PART	Qty. Req.
1	77129W	Bracket—Handlever	1
2	{* 37562	Capscrew— $\frac{1}{2}$ UNF x $1\frac{1}{4}$	1
	† 16807	Capscrew— $\frac{1}{2}$ UNF x $1\frac{1}{2}$	1
3	16807	Capscrew— $\frac{1}{2}$ UNF x $1\frac{1}{2}$	1
4	{* 17141	Capscrew— $\frac{1}{2}$ UNF x $3\frac{1}{2}$	1
	† 17148	Capscrew— $\frac{1}{2}$ UNF x $3\frac{3}{4}$	1
5	15008	Nut— $\frac{1}{2}$ UNF	3
6	15158	Lockwasher— $\frac{1}{2}$	3
7	{ 16212	Setscrew— $\frac{3}{8}$ UNC x $1\frac{1}{4}$	2
	15086	Nut—Jam— $\frac{3}{8}$ UNC	2
8	{* 96581	Cable—Clutch } Includes items	1
	† 96244	Cable—Clutch { 10 and 11	1
9	{* 96241	Cable—Brake } Includes items	1
	† 96243	Cable—Brake { 10 and 11	1
10	94381	Grommet—Large	4
11	95905	Grommet—Small	4
12	15026	Nut—Jam, $\frac{3}{8}$ UNF	4
13	92683	Rod End	4
14	{ 159	Pin—Rod End	4
	15223	Cotter— $\frac{1}{8}$ x 1	4
15	{ 90267	Washer	2
	58907	Snap Ring	2
16	89711	Spacer	2
	16594	Capscrew— $\frac{3}{8}$ UNF x $1\frac{3}{4}$	2
17	{ 15006	Nut— $\frac{3}{8}$ UNF	2
	15156	Lockwasher— $\frac{3}{8}$	2
18	77188	Quadrant—Bar	1
19	96247	Handlever—Clutch	1
20	77127W	Handlever—Brake (Incl. items 21 to 25) (Replace with Item 26)	1
21	32693	Rod End	1
22	92561	Rod—Latch	1
23	{ 15052	Nut—No. 10-24	2
	37476	Capscrew—Special	2
24	32695	Spring	1
25	32694	Handle	1
26	79394W	Handlever—Brake (Includes items 27 and 28)	1
27	{ 79418	Button	1
	79417	Spring	1
28	79416	Pawl and Rod	1

*For 977 Traxcavators Serial No. 53A1 & up.

†For 977 Traxcavators Serial No. 20A1 & up.

HANDLEVER GROUP
(For 977 Traxcavators Serial No. 53A1 & Up)
(Last used on Winch Serial No. B39L-2335)



Ref. No.	Hyster Part No.	NAME OF PART	Qty. Req'd.
1	96248W	Bracket	1
2	37562	Capscrew— $\frac{1}{2}$ UNF x $1\frac{1}{4}$	2
	15158	Lockwasher— $\frac{1}{2}$	2
3	15008	Nut— $\frac{1}{2}$ UNF	2
	96247	Handlever—Clutch	1
4	96246	Handlever—Brake	1
5	90267	Washer	2
6	58907	Snap Ring	2
7	159	Pin—Rod End	4
	15223	Cotter— $\frac{1}{8}$ x 1	4
8	92683	Rod End—Handlever End	2
	92683	Rod End—Clutch, Winch End	1
	93077	Rod End—Brake, Winch End	1
9	15026	Nut—Jam, $\frac{3}{8}$ UNF	4
10	95905	Grommet—Small	4
11	94381	Grommet—Large	4
12	96581	Cable—Brake } Includes Grommets,	1
13	96584	Cable—Clutch } Items 10 and 11	1
14	16212	Setscrew— $\frac{3}{8}$ UNC x $1\frac{1}{4}$	4
	15086	Nut—Jam, $\frac{3}{8}$ UNC	4
	16807	Capscrew— $\frac{1}{2}$ UNF x $1\frac{1}{2}$	1
15	15158	Lockwasher— $\frac{1}{2}$	1
	15008	Nut— $\frac{1}{2}$ UNF	1

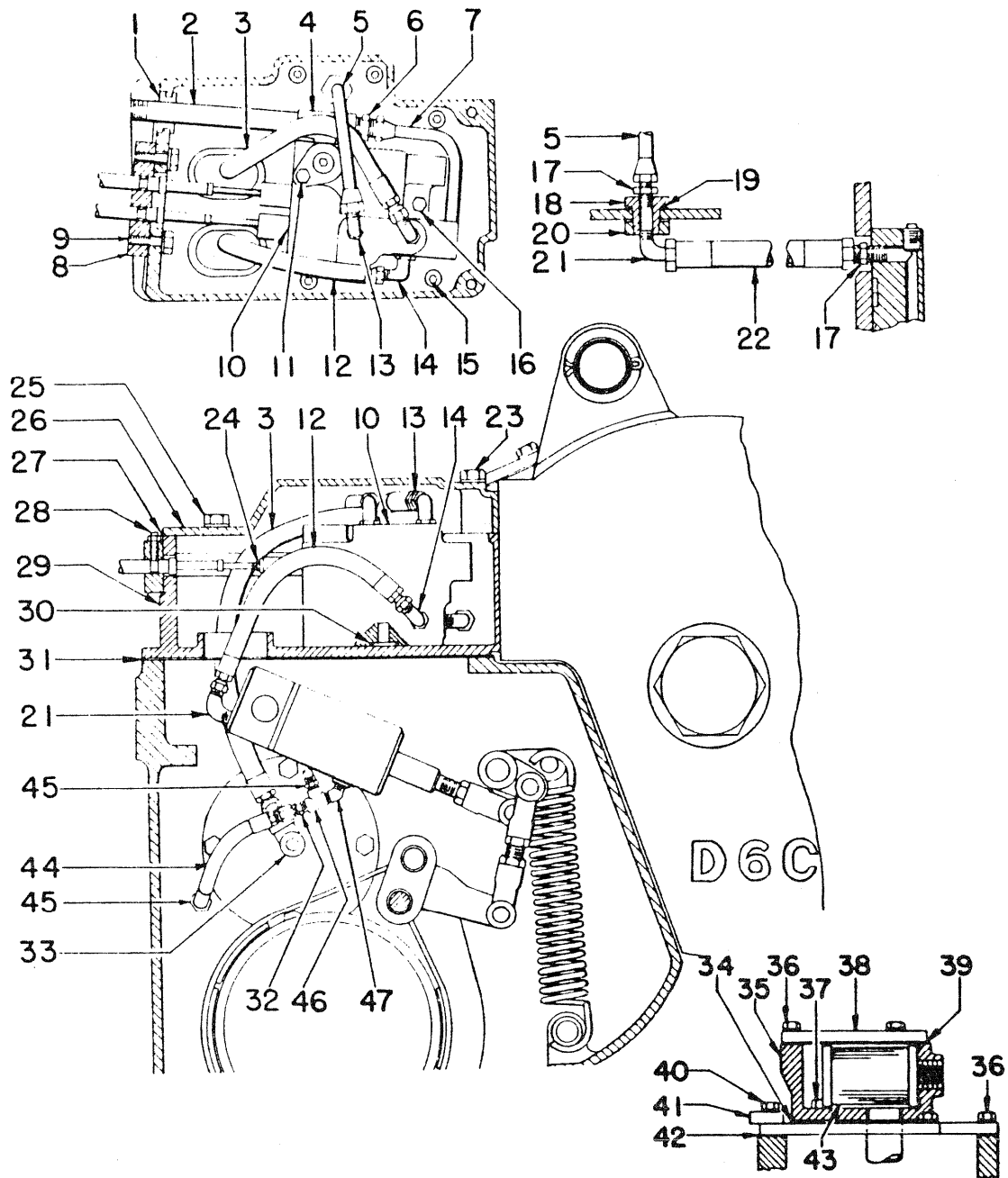
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Section F

BRAKE AND HYDRAULIC SYSTEM FOR POWER CONTROLLED WINCH INDEX

BRAKE MECHANISM	F3
CYLINDER ASSEMBLY	F9
HANDLING GEAR ASSEMBLY	
For D6 Tractors 74A1 & up — 76A1 & up	F5
HANDLING GEAR ASSEMBLY	
For 977 Traxcavators Serial No. 53A1 & up	F6
HYDRAULIC SYSTEM	F1
PUMP ASSEMBLY	
For D6 Tractors Serial No. 74A1 & up — 76A1 & up	F12
PUMP ASSEMBLY	
For 977 Traxcavators Serial No. 53A1 & up	F14
PUMP AND HOSES	
For D6 Tractors Serial No. 74A1 & up — 76A1 & up	F10
PUMP AND HOSES	
For 977 Traxcavators Serial No. 53A1 & up	F11
PUMP AND PULLEY ASSEMBLY	
For 977 Traxcavators Serial No. 53A1 & up	F13
VALVE ASSEMBLY	F7

HYDRAULIC SYSTEM



Ref. No.	Hyster Part No.	NAME OF PART	Qty. Req.
1	95737	Grommet	1
2	19667	Fitting—Long Nipple, $\frac{1}{2}$ x 7	1
3	88297	Hose	1
4	124768	Fitting—"T"	1
5	89052	Tube Assembly	1
6	17302	Fitting—Male Connector	1
7	89050	Tube Assembly	1
8	89061	Block	1
9	16814	Capscrew— $\frac{3}{8}$ UNF x $1\frac{1}{2}$	2
	15156	Lockwasher— $\frac{3}{8}$	2

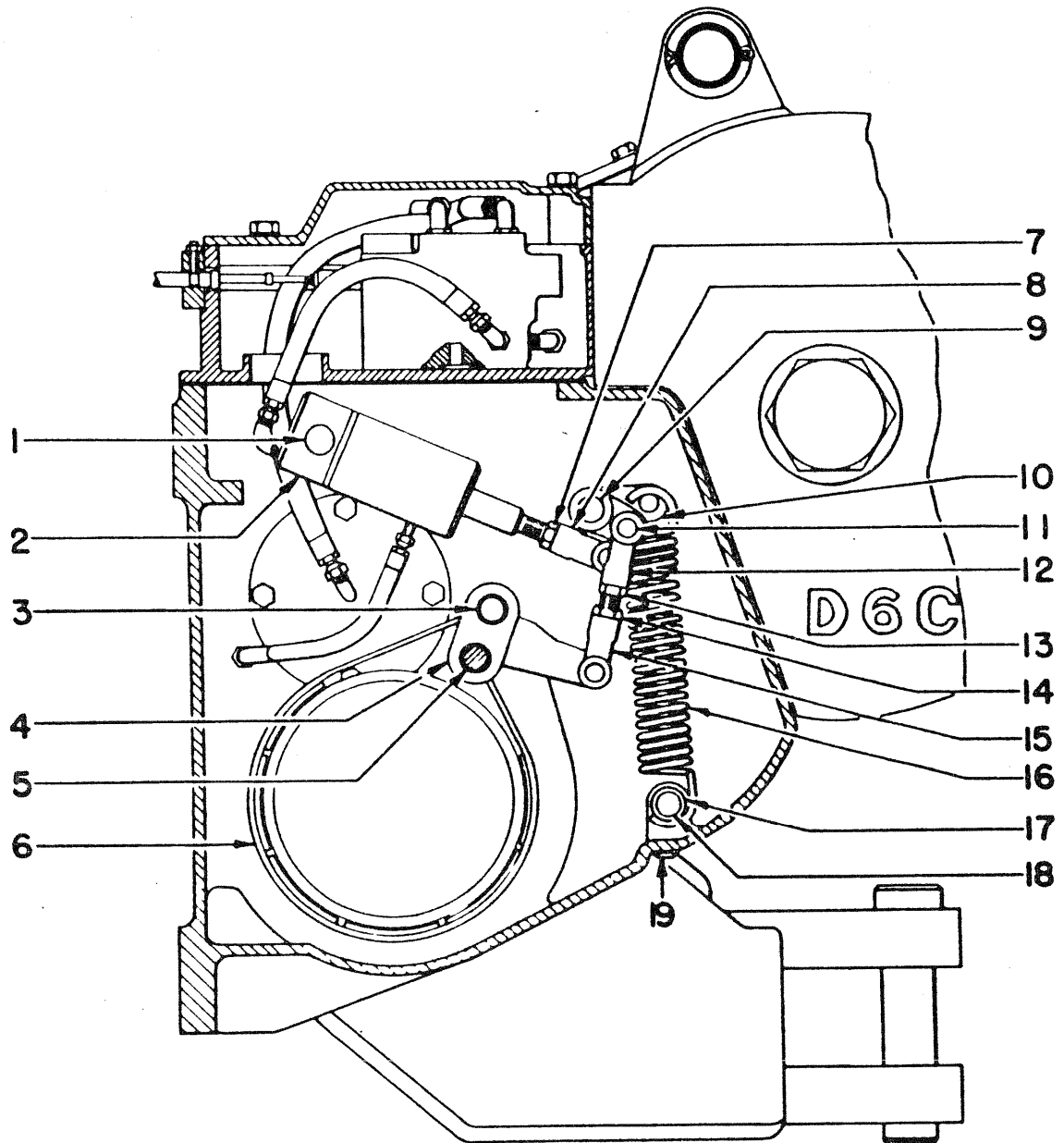
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HYDRAULIC SYSTEM

Ref. No.	Hyster Part No.	NAME OF PART	Qty. Req.
10	89764A	Valve Assembly	1
11	{ 18789	Capscrew— $\frac{3}{8}$ UNC x 5	2
	{ 15156B	Lockwasher— $\frac{3}{8}$	2
12	132005	Hose	1
13	16559	Fitting—Elbow	2
14	96521	Fitting—Special	1
15	{ 28149	Capscrew— $\frac{1}{2}$ UNF x 1	5
	{ 15158B	Lockwasher— $\frac{1}{2}$	5
16	{ 18889	Capscrew— $\frac{3}{8}$ UNC x $3\frac{1}{2}$	1
	{ 15156B	Lockwasher— $\frac{3}{8}$	1
17	17315	Fitting—Male Connector	2
18	132002	Fitting—Special	1
19	61056	"O" Ring	1
20	{ 15036	Nut—Jam 1" NF	1
	{ 15936	Lockwasher—Shakeproof, 1"	1
21	17309	Fitting, Elbow	2
22	141698	Hose	1
23	{ 18538	Capscrew— $\frac{3}{8}$ UNC x $2\frac{3}{4}$	2
	{ 15156	Lockwasher— $\frac{3}{8}$	2
24	15025	Nut—Jam, $\frac{5}{16}$ UNF	2
25	{ 16598	Capscrew— $\frac{3}{8}$ UNC x $\frac{7}{8}$	2
	{ 15156	Lockwasher— $\frac{3}{8}$	2
26	89059	Cover	1
27	‡ 89060	Gasket	1
28	{ 16254	Set Screw— $\frac{5}{16}$ UNC x 1	2
	{ 15001	Nut—Jam, $\frac{5}{16}$ UNC	2
29	89057	Housing—Control Valve	1
30	61142	"O" Ring	1
31	‡ 89058	Gasket	1
32	14668	Fitting—Male Connector	1
33	{ 19535	Fitting—Tee	1
	{ 12877	Fitting—Plug	1
34	‡ 89022	Gasket	1
35	138923	Manifold—Intake	1
36	{ 37562	Capscrew— $\frac{1}{2}$ UNF x $1\frac{1}{4}$	10
	{ 15158	Lockwasher— $\frac{1}{2}$	10
37	{ 86229	Washer—Seal	3
	{ 37562	Capscrew— $\frac{1}{2}$ UNF x $1\frac{1}{4}$	3
38	89025	Cover	1
39	‡ 89023	Gasket	1
40	{ 16397	Capscrew— $\frac{1}{2}$ UNF x $1\frac{3}{4}$	4
	{ 15158	Lockwasher— $\frac{1}{2}$	4
41	89016W	Cover—Transmission	1
42	‡ 89026	Gasket	1
43	95893	Cartridge	1
44	140288	Hose	1
45	*128002	Fitting—Ball Check Connector	2
46	* 16186	Fitting—Tee	1
47	12821	Fitting—Elbow	1

*First used on S.N. A82L-1628. May be used on all units if desired.
If not used, use two 14668 connectors.

BRAKE MECHANISM



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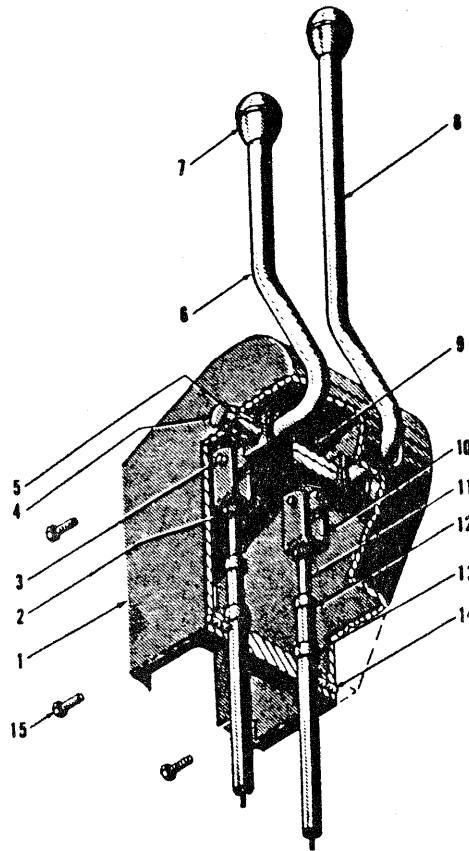
BRAKE MECHANISM

Ref. No.	Hyster Part No.	NAME OF PART	Qty. Req.
1	89051	Pin	1
2	97978A	Cylinder—Brake	1
3	96725	Pin	1
4	96780A	Lever Assembly (Includes Bushings)	1
	104607	Bushing	2
	15226	Cotter— $\frac{1}{8}$ x $1\frac{3}{4}$	1
5	128383	Pin	1
6	128386	Band Assembly (Includes Lining Set)	1
	96300A	Lining Set with Rivets (Drill at Assembly)	1
7	15030	Nut—Jam, $\frac{5}{8}$ UNF	1
8	92689	Rod End	1
	159	Pin—Rod End	1
	15223	Cotter— $\frac{1}{8}$ x 1	1
9	95989	Pin	1
10	128384	Crank Assembly (Includes Bushings)	1
	92705	Bushing	2
11	* 159	Pin—Rod End	2
	* 15223	Cotter— $\frac{1}{8}$ x 1	2
12	* 92689	Rod End—R. H.	1
13	* 15030	Nut—Jam, $\frac{5}{8}$ UNF	1
14	* 95629	Link—Adjusting	1
15	* 92688	Rod End—L. H.	1
16	141441	Spring	2
17	95996W	Spacer	1
18	95998W	Pin	1
	16820	Capscrew— $\frac{1}{2}$ UNF x 1	1
	15158	Lockwasher— $\frac{1}{2}$	1
19	15315	Fitting—Pipe Plug, $\frac{1}{2}$	1

*Included in Link Assembly 95628A.

HANDLING GEAR ASSEMBLY — 123279

D6 Tractors Serial 74A1 & up — 76A1 & up

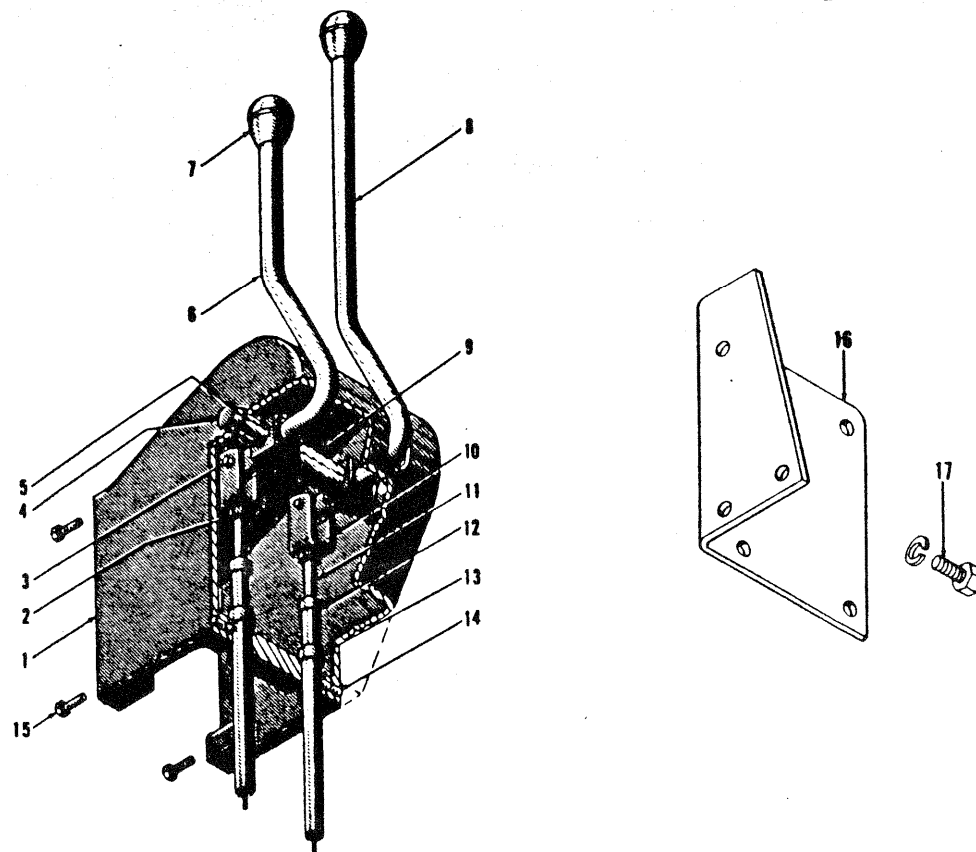


Ref. No.	Hyster Part No.	NAME OF PART	Qty. Req.
1	123278	Bracket	1
2	* 15025	Nut—Jam, 5/16 UNF	2
3	{ * 142	Pin—Rod End	2
	{ * 15212	Cotter—3/32 x 3/4	2
4	95708	Pin	1
5	58951	Snap Ring	2
6	123277	Lever—Selector	1
7	66716	Knob	2
8	123276	Lever—Brake	1
9	95707	Spacer	1
10	* 95709	Rod End	2
11	* 89038	Cable—Control (includes grommets)	2
12	* 95876	Grommet—Small	4
13	* 94380	Grommet—Large	4
14	16202	Setscrew—5/16 UNC x 3/8	4
15	{ * 16597	Capscrew—3/8 UNC x 3/4	3
	{ * 15156	Lockwasher—3/8	3

**Not included in assembly 123279.*

HANDLING GEAR ASSEMBLY — 95703A

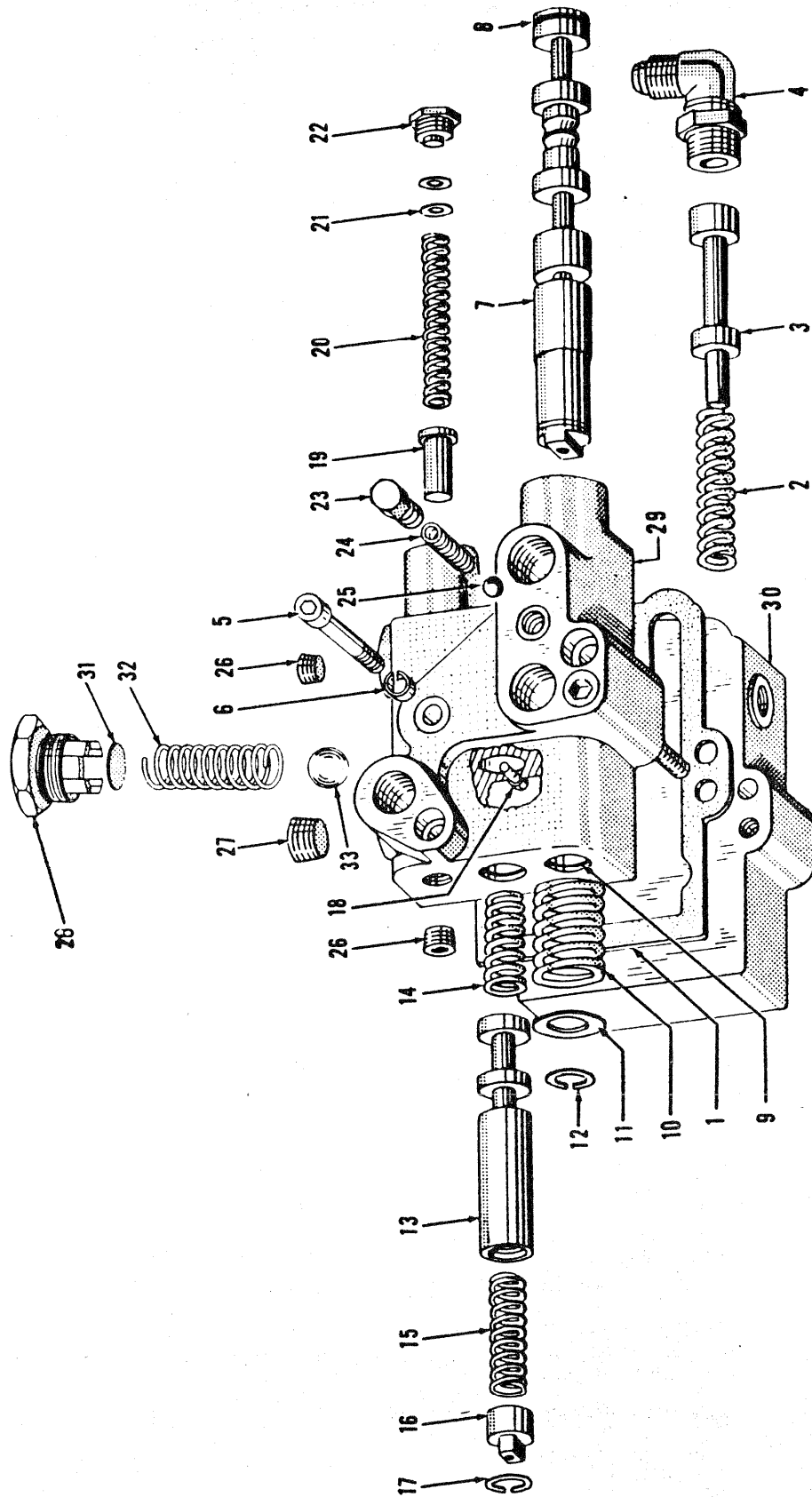
977 Traxcavators Serial No. 53A1 & up



Ref. No.	Hyster Part No.	NAME OF PART	Qty. Req.
1	95704	Bracket	1
2	* 15025	Nut—Jam, 5/16 UNF	2
3	{ * 142	Pin—Rod End	2
	{ * 15212	Cotter—3/32 x 3/4	2
4	95708	Pin	1
5	58951	Snap Ring	2
6	95706	Lever—Selector	1
7	66716	Knob	2
8	95705	Lever—Brake	1
9	95707	Spacer	1
10	* 95709	Rod End	2
11	* 95611	Cable—Control (includes grommets)	2
12	* 95876	Grommet—Small	4
13	* 94380	Grommet—Large	4
14	16202	Setscrew—5/16 UNC x 3/8	4
15	{ * 16598	Capscrew—3/8 UNC x 7/8	4
	{ * 15156	Lockwasher—3/8	4
16	* 97949	Bracket	1
	{ * 16634	Capscrew—3/8 UNF x 1	3
17	{ * 15156	Lockwasher—3/8	3
	{ * 15006	Nut—3/8 UNF	3

*Not included in assembly 95703A.

VALVE ASSEMBLY



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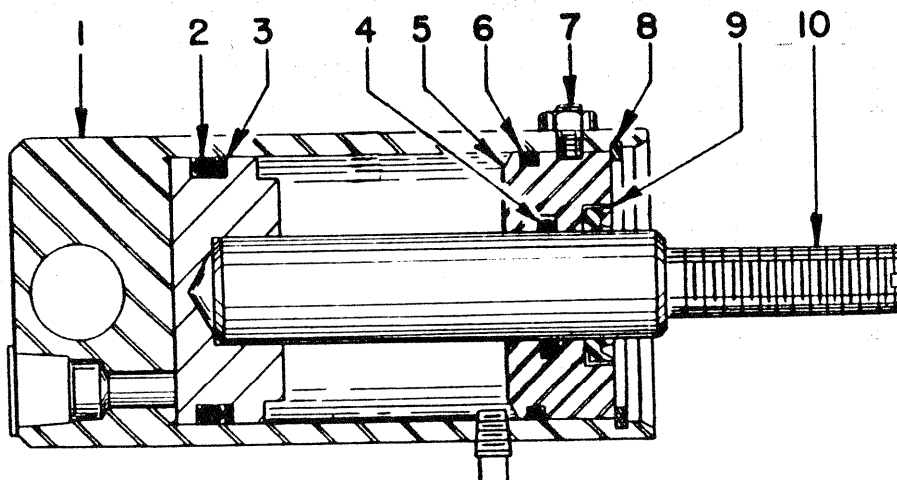
VALVE ASSEMBLY — 89764A

Ref. No.	Hyster Part No.	NAME OF PART	Qty. Req.
1	‡ 95725	Gasket	1
2	95675	Spring	1
3	129198	Piston	1
4	{ 16559	Elbow—Male (includes "O" Ring and Locknut)	1
	{ 16484	"O" Ring	1
	{ 16586	Locknut	1
5	17138	Capscrew—S. H., 3/8 UNC x 3	2
6	15156B	Lockwasher—3/8	2
7	77975	Spool	1
8	95721	"O" Ring	1
9	95716	"O" Ring	2
10	95612	Spring	1
11	95676	Washer	1
12	58950	Snap Ring	1
13	95718	Spool	1
14	95717	Spring (2-3/32" Long)	1
15	95719	Spring	1
16	95720	Plug	1
17	12992	Snap Ring	1
18	{ 133469	Capscrew—1/4 UNC x 1/2	1
	{ 15154	Lockwasher—1/4	1
	{ 139197	Capscrew—Special } First used on	1
	{ 15155	Lockwasher—5/16 } S. N. A82L-2029	1
19	95714	Piston	1
20	95715	Spring	1
21	108408	Washer	As Required
22	{ 108407	Retainer—Spring	1
	{ 29582	Gasket—Copper	1
23	{ 77736	Plug—Special	1
	{ 16482	"O" Ring	1
24	96234	Spring	1
25	55280	Ball—5/16	1
26	15347	Plug—Pipe, 1/4 NPT	2
27	15315	Plug—Pipe, 1/2 NPT	1
28	{ 89766	Fitting—Special	1
	{ 16982	"O" Ring	1
29	89778	Body—Valve	1
30	89765	Support—Valve	1
31	89768	Shim	As req.
32	89767	Spring (1-29/32" Long)	1
33	89769	Ball—13/16	1

‡Included in Gasket Kit 124596.

NOTE: Do not interchange Springs 14 and 32.

CYLINDER ASSEMBLY — 97978A

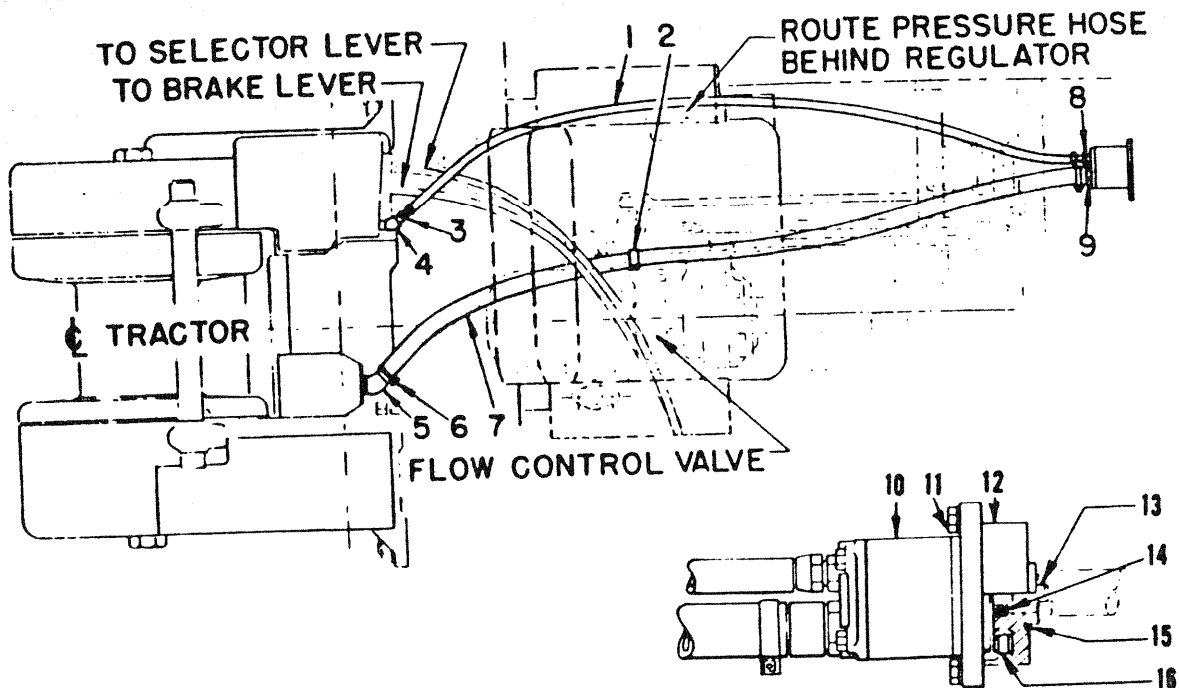


Ref. No.	Hyster Part No.	NAME OF PART	Qty. Req.
1	76982	Tube and Head Assembly	1
2	63655	"O" Ring	1
3	63654	Back-Up Ring	1
4	* 61056	"O" Ring	1
5	98359A	Guide Assembly	1
6	57664	"O" Ring	1
7	{ 16246	Setscrew— $\frac{1}{4}$ UNC x $\frac{1}{2}$	1
	} 15000	Nut—Jam, $\frac{1}{4}$ UNC	1
8	54129	Snap Ring	1
9	* 44573	Oil Seal	1
10	76984	Rod Assembly	1

**Included in Guide Assembly 98359A.*

PUMP AND HOSES

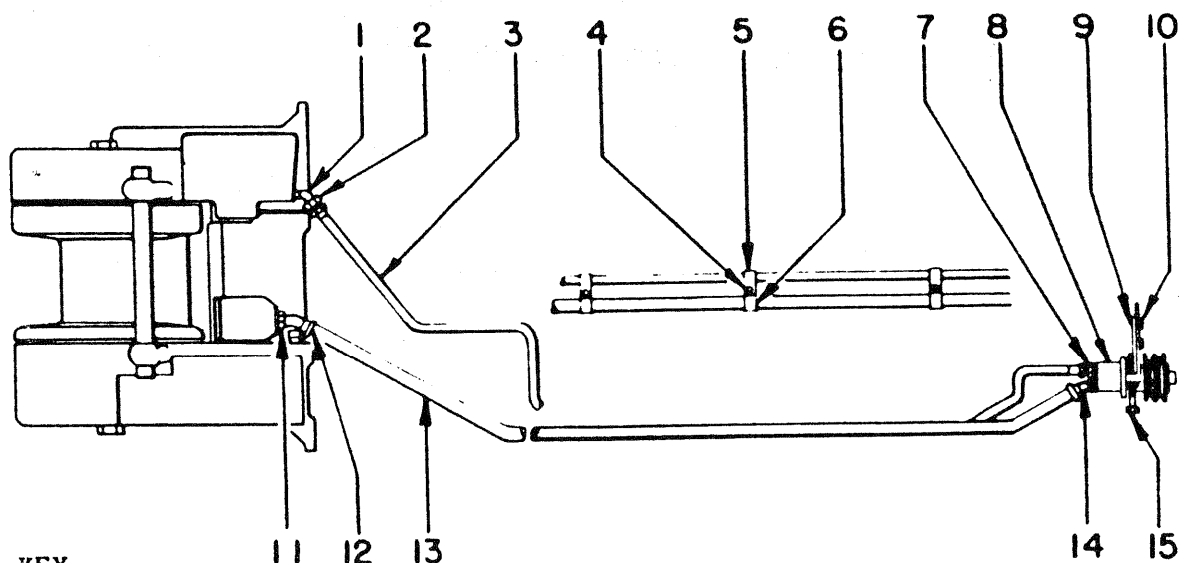
For D6 Tractors Serial No. 74A1 & up — 76A1 & up



Ref. No.	Hyster Part No.	NAME OF PART	Qty. Req.
1	99445	Hose—Hydraulic	1
2	123426	Clamp	1
3	17302	Fitting—Connector	1
4	19512	Fitting—Elbow	1
5	16845	Fitting—Elbow	1
6	18999	Clamp—Hose	2
7	89055	Hose	1
8	16541	Fitting—Connector	1
9	98599	Fitting—Special	1
10	123280	Pump	1
11	{ 16828	Capscrew— $\frac{3}{8}$ UNC x $1\frac{1}{4}$	2
	{ 15156	Lockwasher— $\frac{3}{8}$	1
12	89045	Bracket—Pump	1
13	89047	Coupling—Shaft	1
14	89046	Oil Seal	1
15	55407	"O" Ring	2
16	{ 27187	Capscrew— $\frac{3}{8}$ UNC x 1	2
	{ 15156B	Lockwasher— $\frac{3}{8}$	2

PUMP AND HOSES

For 977 Traxcavator Serial No. 53A1 & up



KEY

A—For Traxcavators Serial Number 53A-4797 and up
 B—For Traxcavators Prior to Above Serial Number

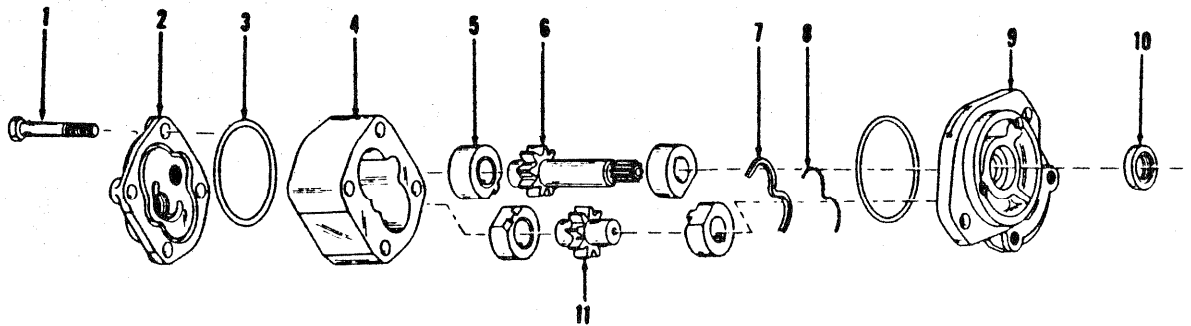
Ref. No.	Hyster Part No.	NAME OF PART	Qty. Req.	
			A	B
1	19512	Fitting—45° Elbow	1	1
2	17302	Fitting—Connector	1	1
3	{ 89888	Hose	1	..
	{ 97962	Hose .....	..	1
	{ 18467	Capscrew— $\frac{1}{4}$ UNF x $1\frac{1}{4}$	3	3
4	{ 15004	Nut— $\frac{1}{4}$ UNF	3	3
	{ 15154	Lockwasher— $\frac{1}{4}$	3	3
5	60016	Clamp—1"	3	3
6	15978	Clamp— $1\frac{3}{4}$ "	3	3
7	{ 16541	Fitting—Connector	1	1
	{ 16484	"O" Ring	1	1
8	97950A	Pump Assembly	1	1
	{ * 18588	Capscrew— $\frac{1}{2}$ UNC x $1\frac{1}{2}$	3	3
10	{ 15158	Lockwasher— $\frac{1}{2}$	3	3
	{ 15135	Washer— $\frac{1}{2}$ Plain	3	3
11	{ 135488	Fitting—30° Nipple	1	..
	{ 111330	Fitting—45° Nipple .....	..	1
12	18999	Clamp—Hose	2	2
13	{ 135486	Hose	1	..
	{ 97963	Hose .....	..	1
14	{ 97961	Fitting—Special	1	1
	{ 16486	"O" Ring	1	1
15	{ 97964	Bolt—Adjusting	1	1
	{ 15015	Nut—Jam, $\frac{5}{8}$ UNC	1	1

**For Tractors with Spring-Loaded Idler.*

HYSTER COMPANY
 PORTLAND, OREGON

PUMP ASSEMBLY — 123280

For D6 Tractors Serial No. 74A1 & up — 76A1 & up



Ref. No.	Hyster Part No.	NAME OF PART	Qty. Req.
1	{*125869	Capscrew	4
	{*235931	Washer	4
2	124241	Cover—Rear	1
3	†*.....	Seal	2
4	.....	Body (N.S.S.)	1
5	*.....	Bearing	4
6	‡.....	Gear	1
7	†*.....	Gasket	1
8	†*.....	Spacer	1
9	124240	Cover—Front	1
10	†*.....	Seal—Shaft	1
11	‡.....	Gear	1

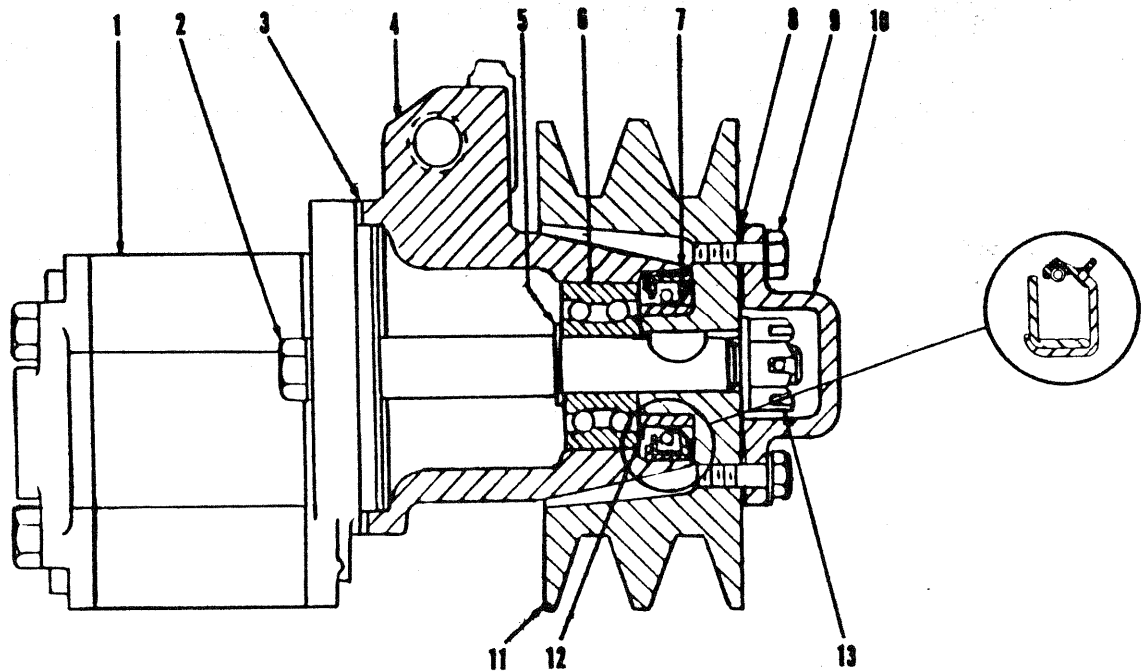
*Included in Major Kit 125868.

†Included in Minor Kit 125870.

‡Included in Gear Kit 125867.

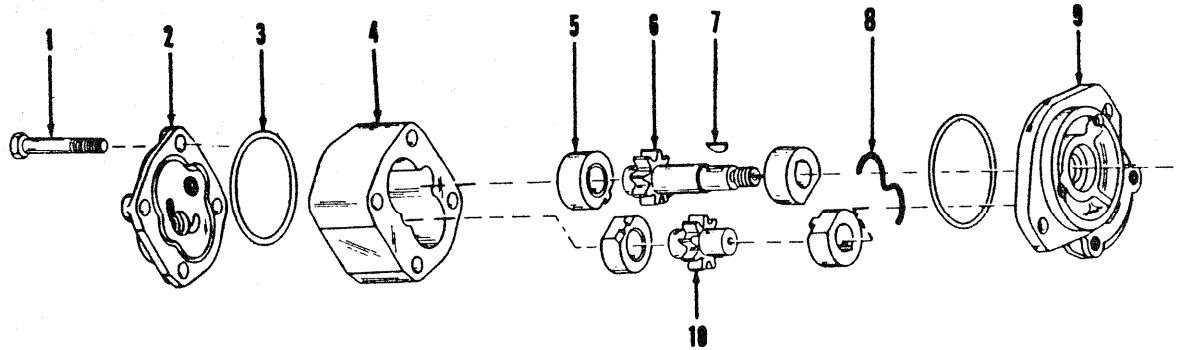
PUMP AND PULLEY ASSEMBLY — 97950A

For 977 Traxcavators Serial No. 53A1 & up



Ref. No.	Hyster Part No.	NAME OF PART	Qty. Req.
1	97951A	Pump—Hydraulic	1
2	{ 16634	Capscrew— $\frac{3}{8}$ UNF x 1	2
	{ 15156	Lockwasher— $\frac{3}{8}$	2
3	97952	Gasket	1
4	97953	Bracket—Pump Drive	1
5	97954	Washer—Special	1
6	45303	Bearing—Ball	1
7	97955	Oil Seal	1
8	97959	Gasket	1
9	{ 18460	Capscrew— $\frac{1}{4}$ UNC x $\frac{3}{4}$	4
	{ 15154	Lockwasher— $\frac{1}{4}$	4
10	97960	Cover—Pulley	1
11	97956A	Pulley Assembly (Includes Item 12)	1
12	97958	Sleeve—Wear	1
	{ 15135	Washer— $\frac{1}{2}$	1
13	{ 15078	Nut— $\frac{1}{2}$ UNF	1
	{ 15213	Cotter— $\frac{3}{32}$ x 1	1
		(Not Illustrated)	
	15306	Fitting—Pipe Plug, $\frac{1}{8}$	1

PUMP ASSEMBLY — 97951A
For 977 Traxcavators Serial No. 53A1 & up



Ref. No.	Hyster Part No.	NAME OF PART	Qty. Req.
1	*124247	Capscrew	4
2	124241	Cover—Rear	1
3	†*.....	Seal	2
4	.....	Body (N.S.S.)	1
5	*.....	Bearing	4
6	‡.....	Gear	1
7	*124248	Key	1
8	†*.....	Gasket	1
9	124240	Cover—Front	1
10	‡.....	Gear	1

*Included in Major Kit 124245.

†Included in Minor Kit 124249.

‡Included in Gear Kit 124242.



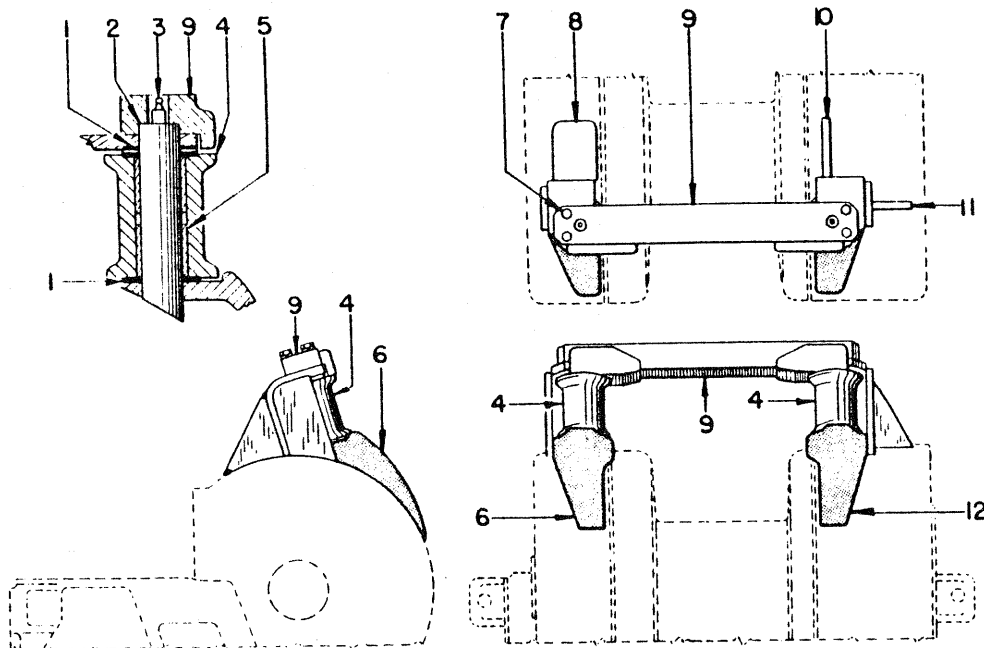
Section G

INDEX

OPTIONAL EQUIPMENT

AUTOMATIC BRAKE	G2
CABLE GUIDE ROLLS GROUP	G1
FAIRLEAD ASSEMBLY	G7
FREE-SPOOLING GROUP	G3
For D6 Tractors Serial No. 74A1 & Up — 76A1 & Up	
FREE-SPOOLING GROUP	G5
For D6 Tractors Serial No. 8U1 — 9U1 & Up	
37A1 — 44A1 & Up	
INTEGRAL ARCH	G9
SWIVELING DRAWBAR GROUP	G8

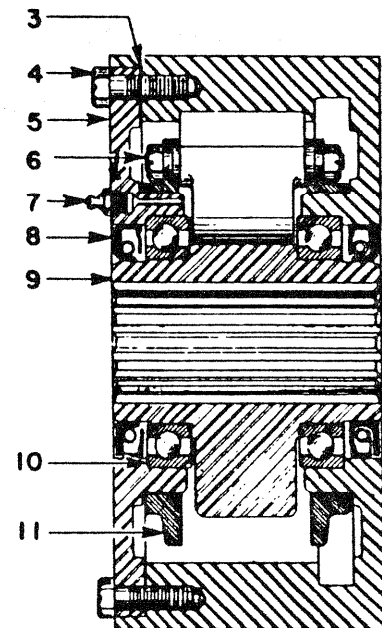
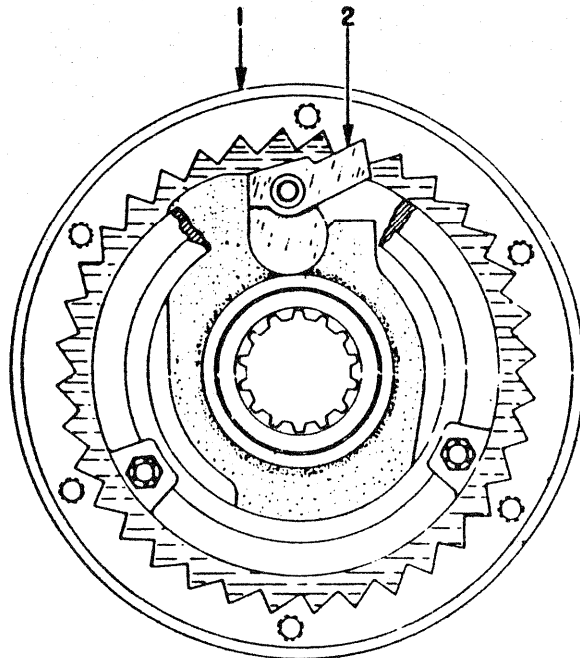
CABLE GUIDE ROLL GROUP — 95896A



Ref. No.	Hyster Part No.	NAME OF PART	Qty. Reqd.
1	95668	Washer	6
2	95669	Pin	2
3	16006	Grease Fitting	2
4	95666A	Roller Assembly (includes item 5)	2
5	35135	Bushing	4
6	95879W	Bracket—L. H.	1
7	{	16645 Capscrew— $\frac{5}{8}$ UNF x $2\frac{1}{4}$	4
		15160 Lockwasher— $\frac{5}{8}$	4
8	95890	Support	1
9	95898W	Guard and Tie	1
10	95892	Gusset	1
11	95891	Gusset	1
12	95883W	Bracket—R. H.	1

AUTOMATIC BRAKE — 96037A

For Direct Drive Winches

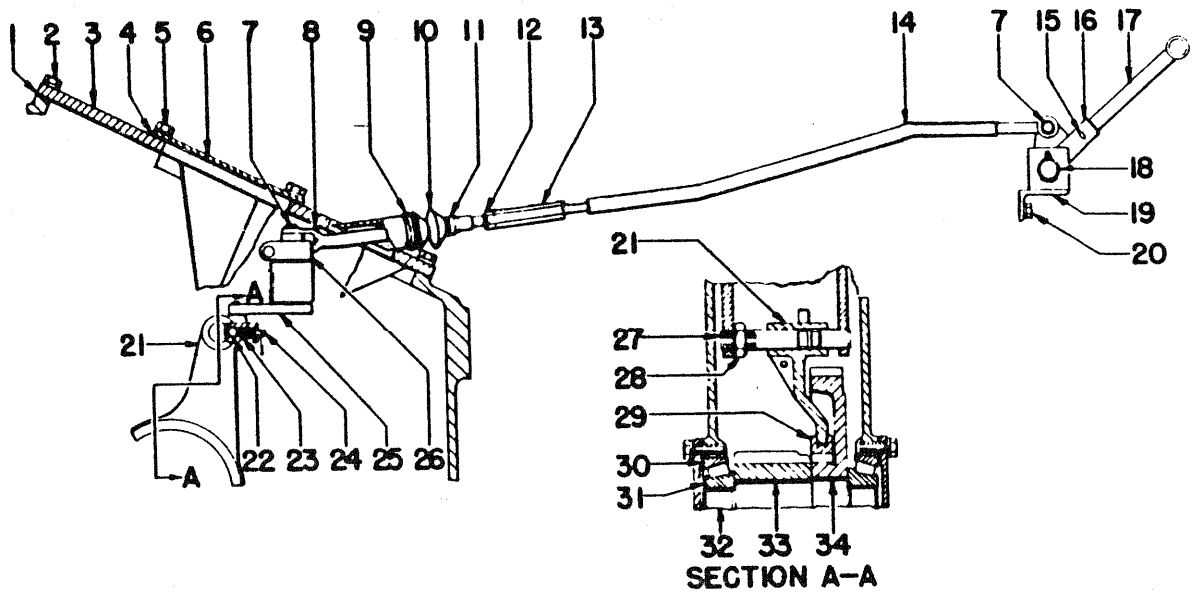


Ref. No.	Hyster Part No.	NAME OF PART	Qty. Req'd.
1	59389A	Wheel—Brake	1
2	59393	Pawl	1
3	* 59396	Gasket	1
4	{ 27259	Capscrew—Drilled Head	6
	{	Lockwire	1
5	59387	Cover	1
	{ 94599	Link	3
6	{ 12430	Nut—5/16 UNF	6
	{ 15201	Cotter—1/16 x 3/4	6
7	46187	Plug—Vent, Special	1
8	59395	Oil Seal	2
9	96039	Hub	1
10	44313	Bearing	2
11	92945	Ring—Drag	2
	58700	Grease—3 lb. can (High Melting Point)	

***Included in Gasket Kit 96302A.**

FREE-SPOOLING GROUP

For D6 Tractors Serial No. 74A1 & Up — 76A1 & Up



Ref. No.	Hyster Part No.	NAME OF PART	Qty. Req.
1	‡ 95958	Gasket	1
2	{ 37562	Capscrew— $\frac{1}{2}$ UNF x $1\frac{1}{4}$	4
	{ 15158	Lockwasher— $\frac{1}{2}$	4
3	123412	Cover	1
4	‡ 96061	Gasket	1
5	{ 16807	Capscrew— $\frac{1}{2}$ UNF x $1\frac{1}{2}$	4
	{ 15158	Lockwasher— $\frac{1}{2}$	4
6	96060	Cover	1
7	{ 153	Pin	2
	{ 15223	Cotter— $\frac{1}{8}$	2
8	123414	Link Assembly	1
9	96570	Clamp—Hose	1
10	96062	Sleeve	1

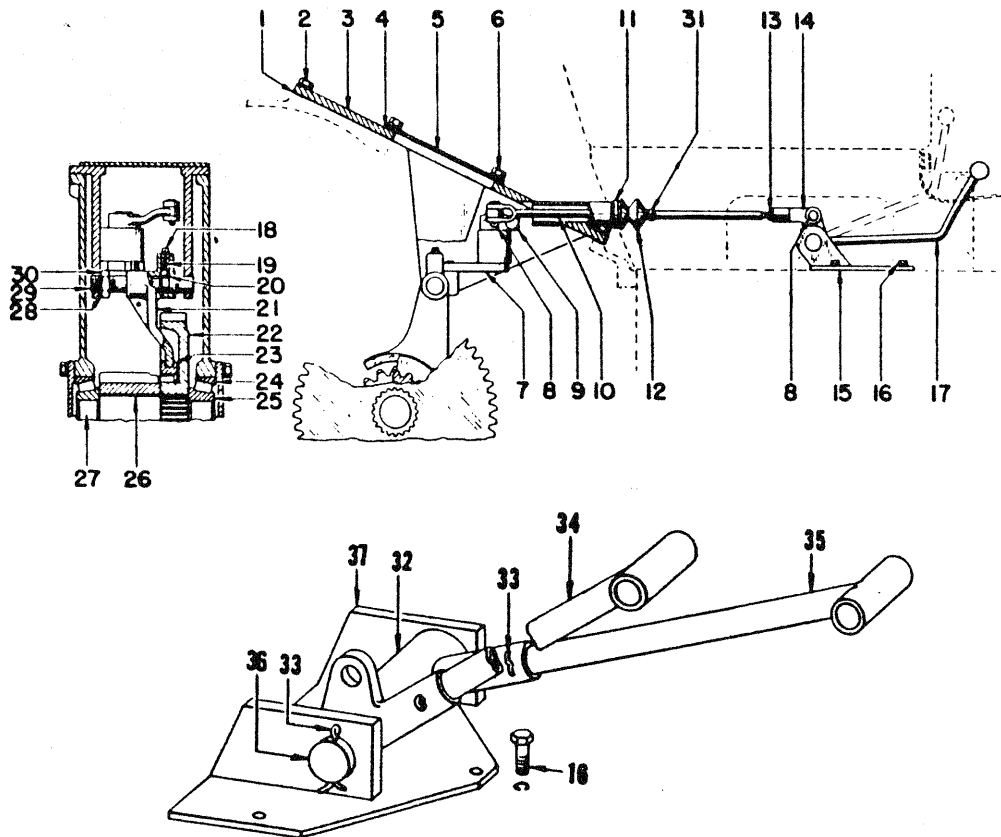
FREE-SPOOLING GROUP

For D6 Tractors Serial No. 74A1 & Up — 76A1 & Up

Ref. No.	Hyster Part No.	NAME OF PART	Qty. Req.
11	135024	Clamp—Hose	1
12	15028	Nut—Jam, 1/2 UNF	1
13	93877	Turnbuckle	1
14	123425	Link Assembly	1
15	15244	Cotter—3/16 x 1 1/2	3
16	123418	Crank	1
17	96759W	Lever	1
18	123419	Pin	1
19	145434	Bracket—Lever	1
20	{ 16805	Capscrew—3/8 UNC x 1	2
	{ 15156	Lockwasher—3/8	2
21	{ 123457	Shifter Assembly	1
	{ 92867	Pin	1
22	6348	Ball—1/2, Steel	1
23	96375	Spring	1
24	{ 46578	Plug—Drilled Head	1
	{	Lockwire	1
25	92904A	Crankshaft	1
	{ 92907A	Crank Assembly	1
26	{ 15547	Capscrew—1/2 UNC x 1 1/2	1
	{ 15158	Lockwasher—1/2	1
27	96057	Shaft—Shifter	1
28	{ 15036	Nut—Jam, 1" UNF	1
	{ 136409	Lockwasher—1" Shakeproof	1
29	96047	Clutch—Dental	1
30	30059	Cup—Bearing	2
31	30058	Cone—Bearing	2
32	96042	Shaft—Intermediate Gear	1
33	{ 96043A	Gear Assembly	1
	{ 96044	Bushing	1
34	{ 96046	Gear (Standard Speed Transmission)	1
	{ 96747	Gear (Lo-Speed Transmission)	1
	97554	Strip (For Supporting Tractor Rear Cross Sheet) (Not illustrated)	2

FREE-SPOOLING GROUP

For D6 Tractors Serial No. 8U1 — 9U1 & Up — 37A1 — 44A1 & Up



Ref. No.	Hyster Part No.	NAME OF PART	Qty. Req.
1	95958	Gasket	1
2	{ 37562	Capscrew— $\frac{1}{2}$ UNF x $1\frac{1}{4}$	4
	{ 15158	Lockwasher— $\frac{1}{2}$	4
3	96048W	Cover	1
4	96061	Gasket	1
5	96060	Plate—Cover	1
6	{ 16807	Capscrew— $\frac{1}{2}$ UNF x $1\frac{1}{2}$	4
	{ 15158	Lockwasher— $\frac{1}{2}$	4
7	92904A	Crankshaft	1
8	{ 153	Pin—Rod End	2
	{ 15223	Cotter— $\frac{1}{8}$ x 1	2
	{ 92907A	Crank (Includes Capscrew and Lockwasher)	1
9	{ 15547	Capscrew— $\frac{1}{2}$ UNC x $1\frac{1}{2}$	1
	{ 15158	Lockwasher— $\frac{1}{2}$	1
10	{† 96058W	Link Assembly	1
	{† 96756W	Link Assembly	1

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FREE-SPOOLING GROUP

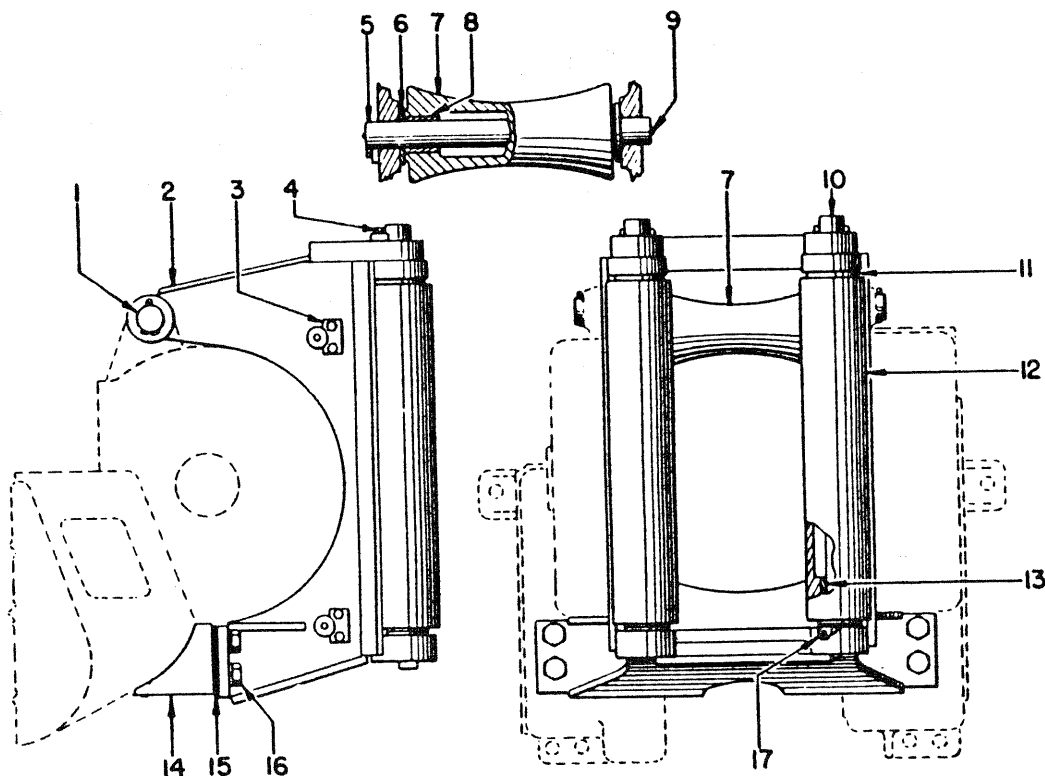
For D6 Tractors Serial No. 8U1 — 9U1 & Up — 37A1 — 44A1 & Up

Ref. No.	Hyster Part No.	NAME OF PART	Qty. Req.
11	96570	Clamp—Hose	1
12	96062	Sleeve	1
13	{ † 15026	Nut—Jam, $\frac{3}{8}$ UNF	1
	{ ‡ 15028	Nut—Jam, $\frac{1}{2}$ UNF	1
14	{ † 92886	Rod End— $\frac{3}{8}$ UNF	1
	{ ‡ 152	Rod End— $\frac{1}{2}$ UNF	1
15	† 96063W	Bracket—Lever	1
16	{ 15156	Lockwasher— $\frac{3}{8}$	4
	{ 16805	Capscrew— $\frac{3}{8}$ UNC x 1	4
	{ † 96560W	Lever (D6 Tractors S. N. 37A1—44A1 & up)	1
17	{ † 96067W	Lever (D6 Tractors S. N. 8U1—9U1 & up)	1
	{ † 15133	Washer	1
	{ † 58933	Snap Ring	1
18	{ 46578	Plug—Drilled Head	1
	{	Lockwire—18 ga. x 13	1
19	96375	Spring	1
20	6348	Steel Ball— $\frac{1}{2}$ dia.	1
21	{ 96055A	Shifter Assembly with Pin	1
	{ 92867	Pin	1
22	{ 96046	Gear (Std. Transmission)	1
	{ 96747	Gear (Lo-Speed Transmission)	1
23	96047	Clutch—Dental	1
24	30059	Cup—Bearing	2
25	30058	Cone—Bearing	2
26	{ 96043A	Gear Assembly (Includes Bushing)	1
	{ 96044	Bushing	1
27	96042	Shaft—Intermediate	1
28	136409	Lockwasher—1"	1
29	96057	Shaft—Free Spool Shifter	1
30	15036	Nut—Jam, 1" UNF	1
31	135024	Clamp—Hose, Small	1
32	‡ 96754W	Crank	1
33	‡ 15244	Cotter— $\frac{3}{16}$ x $1\frac{1}{2}$	3
34	‡ 96759W	Lever (D6 Tractors S. N. 8U1—9U1 & up)	1
35	‡ 96761W	Lever (D6 Tractors S. N. 37A1—44A1 & up)	1
36	‡ 31671	Pin	1
37	‡ 96750W	Bracket—Lever	1

† Last used on Winch S. N. B39L-1732 and B39L-1734 to B39L-2240 incl.

‡ First used on Winch S. N. B39L-1733 and B39L-2241 & up.

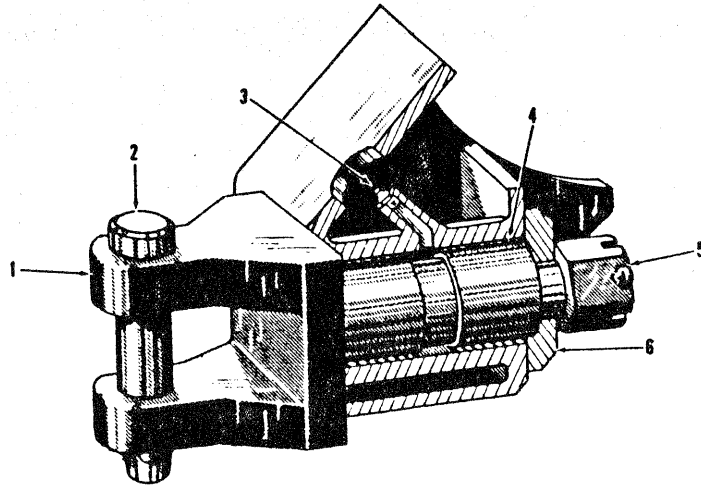
FAIRLEAD ASSEMBLY — 96071A



Ref. No.	Hyster Part No.	NAME OF PART	Qty. Reqd.
1	{ * 95981	Rod—Tie	1
	{ 15272	Cotter— $\frac{3}{8}$ x 3	2
2	96074W	Frame	1
	{ 93166	Keeper	4
3	{ 15514	Capscrew— $\frac{1}{2}$ UNF x $1\frac{1}{4}$	4
	{ 15158	Lockwasher— $\frac{1}{2}$	4
4	{ 15511	Capscrew— $\frac{1}{2}$ UNF x 1	4
	{ 15158	Lockwasher— $\frac{1}{2}$	4
5	96086	Shaft	2
6	92720	Washer	4
7	92212A	Roller Assembly (Includes item 8)	2
8	59419	Bushing	4
9	16001	Grease Fitting	8
10	96087	Shaft	2
11	33394	Washer	2
12	36206A	Roller Assembly (Includes item 13)	2
13	2570	Bushing	4
14	96088	Bracket	2
15	93878	Shim	8
16	{ 15598	Capscrew—1" NF x $2\frac{1}{2}$	4
	{ 15166	Lockwasher—1"	4
17	230336	Bearing	2

**Not included in 96071A.*

SWIVELING DRAWBAR



Ref. No.	Hyster Part No.	NAME OF PART	Qty. Reqd.
1	96542	Drawbar	1
2	{ 94369	Pin—Drawbar	1
	{ 15273	Cotter— $\frac{3}{8}$ x $2\frac{1}{2}$	1
3	16002	Fitting—Lubrication	1
4	92671	Bushing	2
5	{ 15041	Nut—Slotted, $2-4\frac{1}{2}$ NC	1
	{ 15274	Cotter— $\frac{3}{8}$ x $3\frac{1}{2}$	1
6	96541	Bar	1

"CATERPILLAR" SWINGING DRAWBAR

For Tractors 8U, 9U, 37A, 44A with Direct Drive Winch, use

- 4 — 16385 Capscrew—1" - 14 NF x 4.
- 4 — 15166 Lockwasher—1".

For Tractors 74A with Direct Drive Winch, use

- 2 — 123788 Spacer.
- 4 — 18683 Capscrew—1" NF x 6.
- 4 — 15166 Lockwasher—1".

For Tractors 74A, 76A with Power Controlled Winch, use

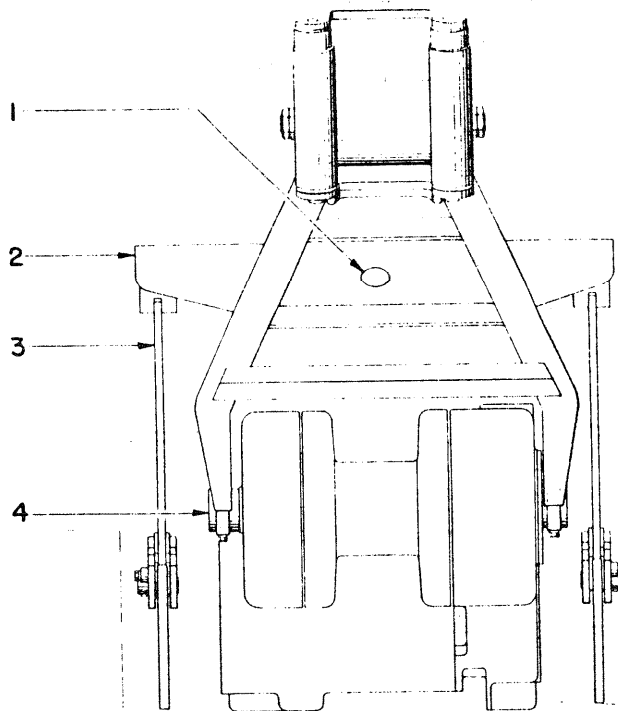
- 4 — 16385 Capscrew—1" - 14 NF x 4.
- 4 — 15166 Lockwasher—1".

NOTE: Drawbar pin must be inserted from underneath.

INTEGRAL ARCH

For D6 Tractors Serial No. 8U1 — 9U1 & Up — 37A1 — 44A1 & Up

Rear View

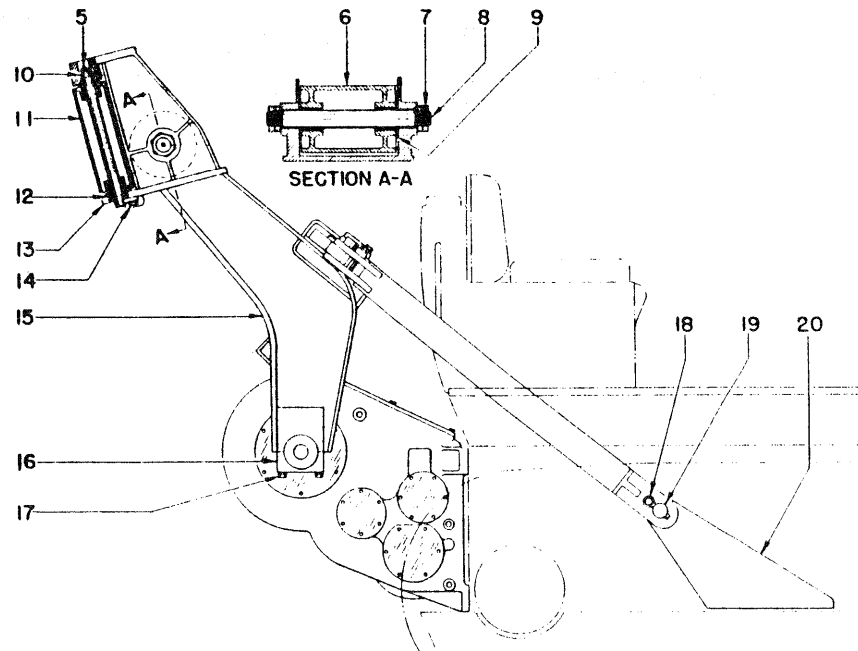


Ref. No.	Hyster Part No.	NAME OF PART	Qty. Reqd.
1	84866	Pin	1
2	84861A	Equalizer Assembly (includes Bushings)	1
	84865	Bushing—Center	1
	84856	Bushing—Side	2
3	84857W	Support—Bar	2
4	84869	Nut—Special	2
5	16002	Fitting—Lubrication	4

HYSTER COMPANY
PORTLAND, OREGON

INTEGRAL ARCH

For D6 Tractors Serial No. 8U1 — 9U1 & Up — 37A1 — 44A1 & Up
Side View

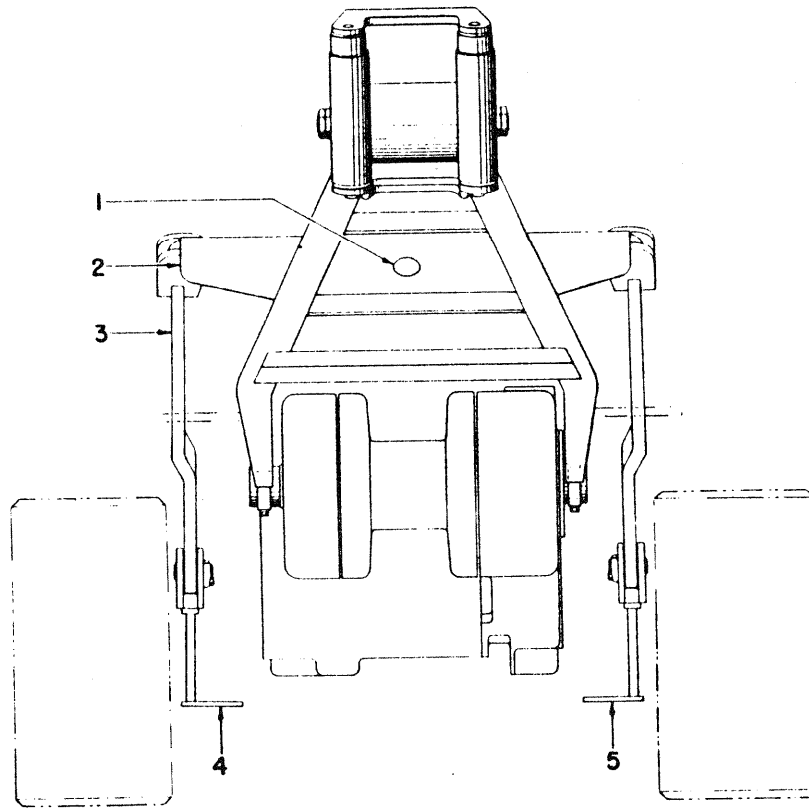


	Hyster Part No.	NAME OF PART	Qty. Reqd.
6	{ 2816A	Roller Assembly—Horizontal (includes Bushings)	1
	{ 2817	Bushing	2
7	7043	Nut—2-12 UN	4
8	2818B	Shaft	1
9	2821	Washer	2
10	59423	Pin	2
11	{ 59846A	Roller Assembly—Vertical (includes Bushings)....	2
	{ 59419	Bushing	4
12	35843	Washer	2
13	84837W	Frame—Fairlead (welded to Arch Frame)	1
	{ 31541	Keeper	2
14	{ 16804	Capscrew— $\frac{5}{8}$ UNF x $1\frac{1}{4}$	2
	{ 15160	Lockwasher— $\frac{5}{8}$	2
15	84823A	Frame—Arch	1
16	84830A	Block Assembly (Welded to Frame)	2
		(includes Capscrews 17)	
17	{ 18630	Capscrew— $\frac{3}{4}$ UNF x $3\frac{3}{4}$	4
	{ 15162	Lockwasher— $\frac{3}{4}$	4
	{ 80926	Anchor	5
18	{ 16823	Capscrew— $\frac{5}{8}$ UNF x $1\frac{1}{2}$	5
	{ 15160	Lockwasher— $\frac{5}{8}$	5
19	84867	Pin	4
20	{ 84852A	Support Assembly (includes Bushing)	2
	{ 84856	Bushing	2

INTEGRAL ARCH

For D6 Tractors Serial No. 74A1 & Up — 76A1 & Up

REAR VIEW



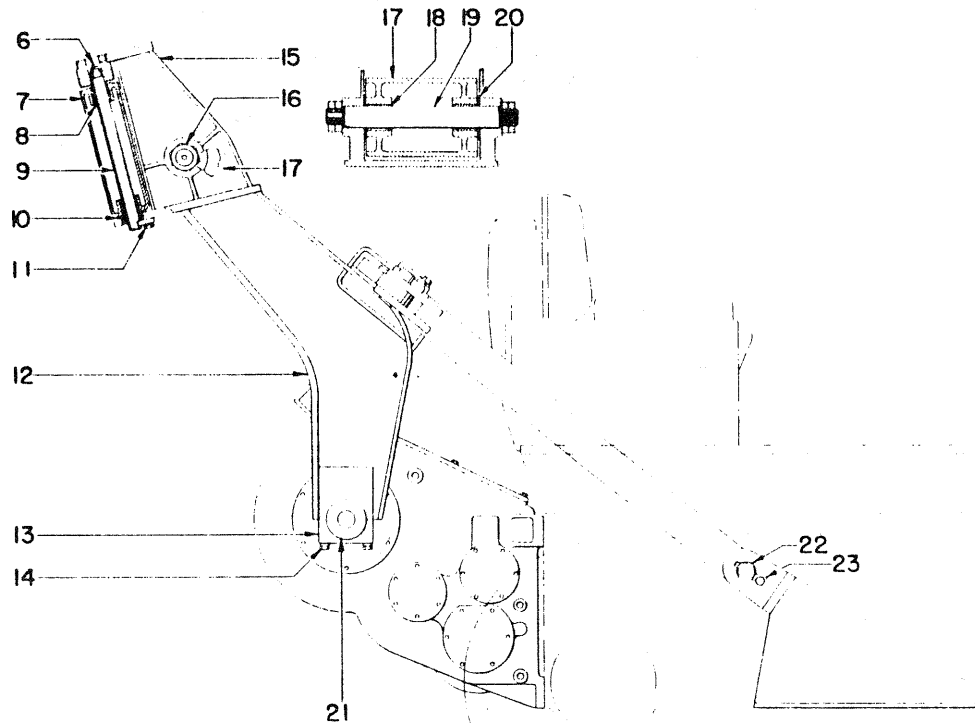
Ref. No.	Hyster Part No.	NAME OF PART	Qty. Req.
1	84866	Pin—Equalizer	1
2	{ 84861A	Equalizer Assembly (Includes Bushings)	1
	{ 84865	Bushing—Center	1
	{ 84856	Bushing—Side	2
3	{ 125492	Strut Assembly (Includes Bushing)	2
	{ 84856	Bushing	2
4	125486	Bracket—L.H.	1
5	125487	Bracket—R.H.	1
6	16002	Grease Fitting	4
7	59846A	Roller Assembly (Includes Bushings)	2
8	59419	Bushing	4
9	59423	Pin	2
10	35843	Washer	2
11	{ 31541	Keeper	2
	{ 16804	Capscrew— $\frac{5}{8}$ UNF x $1\frac{1}{4}$	2
	{ 15160	Lockwasher— $\frac{5}{8}$	2

HYSTER COMPANY
PORTLAND, OREGON

INTEGRAL ARCH

For D6 Tractors Serial No. 74A1 & Up — 76A1 & Up

SIDE VIEW



Ref. No.	Hyster Part No.	NAME OF PART	Qty. Req.
12	84823W	Frame—Arch	1
13	* 84830A	Block Assembly (Includes Capscrews)	2
14	{ * 18630	Capscrew— $\frac{3}{4}$ UNF x $3\frac{3}{4}$	4
	{ * 15162	Lockwasher— $\frac{3}{4}$	4
15	* 84837W	Bracket—Fairlead	1
16	7043	Nut—2-12 UN	4
17	2816A	Roller Assembly (Includes Bushings)	1
18	2817	Bushing	2
19	2818B	Shaft	1
20	2821	Washer	2
21	84869	Nut—Special	2
22	84867	Pin	4
23	{ 80926	Anchor	5
	{ 16823	Capscrew— $\frac{5}{8}$ UNF x $1\frac{1}{2}$	5
	{ 15160	Lockwasher— $\frac{5}{8}$	5

*Included in Frame Assembly 84823W

1. The first part of the document is a list of names and addresses of the members of the committee. The names are listed in alphabetical order, and the addresses are listed below each name. The list includes the names of the members of the committee, the names of the members of the sub-committee, and the names of the members of the advisory committee. The addresses are listed in the same order as the names.

2. The second part of the document is a list of the names and addresses of the members of the committee. The names are listed in alphabetical order, and the addresses are listed below each name. The list includes the names of the members of the committee, the names of the members of the sub-committee, and the names of the members of the advisory committee. The addresses are listed in the same order as the names.

Section Q

NUMERICAL

INDEX

NUMERICAL INDEX

Part No.	Page	Part No.	Page	Part No.	Page	Part No.	Page
142	F6	15239	B5	17138	F8	45303	F13
152	G6	15243	E2	17141	E10	46187	G2
153	G5	15244	G6	17148	E10	46578	G6
159	F4	15272	G7	17149	B6	54129	F9
2570	G7	15273	G8	17302	F11	54132	D4
2816 A	G12	15274	G8	17309	F2	55280	F8
2817	G12	15302	D3	17315	F2	55287	E2
2818 B	G12	15303	B3	18005	B5	55407	F10
2821	G12	15306	F13	18451	E6	57664	F9
6036	D1	15315	F8	18460	F13	58700	G2
6037	D1	15316	D5	18467	F11	58907	E11
6348	G6	15319	B3	18538	F2	58933	G6
6607	D7	15347	F8	18586	F2	58938	D3
7043	G12	15509	E8	18588	F11	58950	F8
9554	D1	15511	G7	18630	G12	58951	F6
9563	D1	15514	G7	18683	G8	58954	D5
10389	B3	15525	B5	18789	F2	59387	G2
12430	G2	15527	E2	18811	D7	59389 A	G2
12479	D5	15532	B6	18848	B6	59393	G2
12821	F2	15547	G5	18889	F2	59395	G2
12877	F2	15598	G7	18999	F10	59396	G2
12915	D5	15607	B5	19512	F11	59419	G11
12916	D3	15889	D5	19535	F2	59423	G11
12992	F8	15892	D4	19667	F1	59846 A	G11
13987	B3	15936	F2	21013	D4	60016	F11
14668	F2	15961	D4	21014	D4	61056	F9
15000	F9	15978	F11	21420	B3	61142	F2
15001	F2	16001	G7	26379	D1	63085	E2
15004	F11	16002	G11	27187	F10	63654	F9
15006	F6	16006	G1	27259	G2	63655	F9
15008	E11	16088	B5	27936	E2	66716	F6
15015	F11	16186	F2	28149	F2	69656	F10
15016	B5	16202	F6	29582	F8	76695 A	E3
15025	F6	16212	E11	30058	G6	76696	E3
15026	G6	16246	F9	30059	G6	76697	E3
15028	G6	16254	F2	30080	D6	76702 W	E6
15030	F4	16324	D8	30712	D8	76706 W	E4
15036	G6	16385	B1	31541	G11	76982	F9
15041	G8	16397	F2	31671	G6	76984	F9
15052	E10	16482	F8	32693	E10	77114 A	E3
15078	F13	16484	F8	32694	E10	77127 W	E10
15086	E11	16486	F11	32695	E10	77129 W	E10
15133	G6	16541	F11	32796	B5	77183 W	B1
15134	B6	16559	F8	33394	G7	77184 W	B1
15135	F13	16586	F8	33681	E2	77185 W	B1
15154	F13	16594	E10	33682	E2	77187 A	E6
15155	F8	16597	F5	33717	E2	77188	E10
15156	G6	16598	F2	35135	G1	77221 A	E6
15156 B	F10	16634	F13	35573	D1	77222 A	E4
15157	B6	16645	G1	35680	B5	77416	E6
15158	G7	16804	G11	35843	G11	77736	F8
15158 B	F2	16805	G6	36206 A	G7	77975	F8
15160	G12	16807	G5	37476	E10	79093 A	B1
15162	G12	16814	F1	37562	G5	79094 A	B1
15166	G7	16820	F4	44313	G2	79213 A	B1
15201	G2	16823	G12	44316	D3	79389	D1
15212	F6	16828	F10	44546	D7	79394 W	E10
15213	F13	16829	B2	44547	D7	79416	E10
15223	G5	16982	F8	44551	E2	79417	E10
15226	F4	17118	D4	44573	F9	79418	E10

NUMERICAL INDEX

Part No.	Page	Part No.	Page	Part No.	Page	Part No.	Page
79972	D4	89778	F8	95704	F6	95972	D6
80926	G12	89888	F11	95705	F6	95973	D6
84823 A	G10	90267	E11	95706	F6	95974	D7
84823 W	G12	90937	D1	95707	F6	95975	D7
84830 A	G12	91629	E3	95708	F6	95976	D7
84837 W	G12	92058	B5	95709	F6	95977	D7
84852 A	G10	92059	B5	95714	F8	95978	D7
84856	G11	92212 A	G7	95715	F8	95979	D7
84857 W	G9	92557 A	E6	95716	F8	95980	D8
84861 A	G11	92561	E10	95717	F8	95981	G7
84865	G11	92649	D5	95718	F8	95983	B2
84866	G11	92667	D1	95719	F8	95984	B2
84867	G12	92671	G8	95720	F8	95985	B2
84869	G12	92672	B5	95721	F8	95986	B2
86229	F2	92683	E11	95725	F8	95987 A	E2
87656	D5	92688	F4	95737	F1	95989	F4
88297	F1	92689	F4	95749	E5	95990 A	E2
89003 W	B1	92705	F4	95750	E5	95992	E2
89006 W	B1	92720	G7	95831	D4	95993 A	E2
89009 W	D3	92867	G6	95863 W	B1	95995	E2
89012 W	B1	92886	G6	95876	F6	95996 W	F4
89016 W	F2	92904 A	G5	95879 W	G1	95998 W	F4
89022	F2	92907 A	G5	95883 W	G1	96002 A	E2
89023	F2	92945	G2	95890	G1	96005 A	E2
89025	F2	93077	E11	95891	G1	96008	E2
89026	F2	93077 W	E8	95892	G1	96010 W	E7
89027	D4	93166	G7	95893	F2	96015	E7
89029	D4	93254	D6	95896 A	G1	96016	E7
89030	D4	93258	D6	95898 W	G1	96017	E7
89031	D4	93260	D6	95905	E11	96019	D1
89033	D4	93771	B1	95936 W	B1	96020	D1
89035	B4	93877	G4	95938 W	E2	96021	D3
89036	B4	93878	G7	95941	E2	96022	D2
89038	F5	94293	B6	95942	D2	96023	D5
89040 W	B1	94294	B6	95943	D2	96024	D6
89042 W	B1	94369	G8	95944	D2	96026	D1
89045	F10	94380	F6	95945	D2	96027	D1
89046	F10	94381	E11	95946	D2	96028	D3
89047	F10	94599	G2	95947	D2	96029	D2
89050	F1	94891	E6	95948	D2	96030	D5
89051	F4	95033	D5	95949	E2	96031	D6
89052	F1	95034	D5	95950	E2	96032	D7
89055	F10	95166	D5	95951	E2	96033	D8
89057	F2	95298 W	B5	95952	B5	96034	D7
89058	F2	95440	D5	95953	D5	96035	D8
89059	F2	95581	D3	95954	D5	96036	D5
89060	F2	95605	E5	95955	B2	96037 A	G2
89061	F1	95606	E5	95957	B3	96039	G2
89064	D1	95611	F6	95958	G5	96042	G6
89065	D1	95612	F8	95959	B1	96043 A	G6
89711	E10	95615	E2	95961	D3	96044	G6
89727	D5	95628 A	F4	95962	D3	96046	G6
89764 A	F8	95629	F4	95963	D4	96048 W	G5
89765	F8	95636 W	E2	95964	D4	96055 A	G6
89766	F8	95666 A	G1	95965	D3	96057	G6
89767	F8	95668	G1	95966	D3	96058 W	G5
89768	F8	95669	G1	95968	D5	96060	G5
89769	F8	95675	F8	95969	D5	96061	G5
89770	D4	95676	F8	95970	D5	96062	G6
89777	D4	95703 A	F6	95971	D6	96063 W	G6

NUMERICAL INDEX

Part No.	Page	Part No.	Page	Part No.	Page	Part No.	Page
96067 W	G6	97556	B7	125867	F12		
96071 A	G7	97775 W	D3	125868	F12		
96074 W	G7	97949	F6	125869	F12		
96086	G7	97950 A	F13	125870	F12		
96087	G7	97951 A	F14	127156	B4		
96088	G7	97952	F13	128002	F2		
96234	F8	97953	F13	128383	F4		
96240	E5	97954	F13	128384	F4		
96241	E10	97955	F13	128386	F4		
96243	E10	97956 A	F13	129198	F8		
96244	E10	97958	F13	132002	F2		
96245	B6	97959	F13	132005	F2		
96246	E11	97960	F13	132579	D4		
96247	E11	97961	F11	132580	D4		
96248 W	E11	97962	F11	133469	F8		
96252 W	B6	97963	F11	133917	D4		
96255	B6	97964	F11	134821	B4		
96300 A	F4	97978 A	F9	135024	G6		
96302 A	G2	98359 A	F9	135486	F11		
96375	G6	98598	D1	135488	F11		
96461	D4	98599	F10	136384	B4		
96462	D4	98658	F11	136409	G4		
96463	D4	99445	F10	138923	F2		
96464	D4	104607	F4	139197	F8		
96467	D4	108407	F8	140288	F2		
96469 W	D3	108408	F8	141441	E2		
96472	D3	110934	D3	141698	F2		
96473	D3	110935	D3	142507	B2		
96514 W	B5	110936	D3	230310	D5		
96521	F2	111330	F11	230311	D5		
96532 W	B1	121181	E4	230336	G7		
96536 W	B1	123276	F5	230351	D3		
96541	G8	123277	F5	230405	D3		
96542	G8	123278	F5	230406 A	D7		
96545	E2	123279	F5	230407	D3		
96560 W	G6	123280	F12	235931	F12		
96570	G6	123412	G3				
96581	E11	123414	G3				
96582 A	E7	123416	G4				
96583 A	E5	123418	G4				
96584	E11	123419	G4				
96585 W	B6	123422	E4				
96591	D1	123425	G4				
96593	D1	123426	F10				
96725	F4	123457	G4				
96747	G6	123788	G8				
96748	G4	124240	F14				
96750 W	G6	124241	F14				
96754 W	G6	124242	F14				
96756 W	G5	124245	F14				
96759 W	G6	124247	F14				
96761 W	G6	124248	F14				
96780 A	F4	124249	F14				
96783	D3	124596	F8				
96784	D3	124684	D1				
96785	D4	124768	F1				
96798	B7	125486	G11				
96956	B2	125487	G11				
97553	D1	125492	G11				
97554	G4	125629	E4				