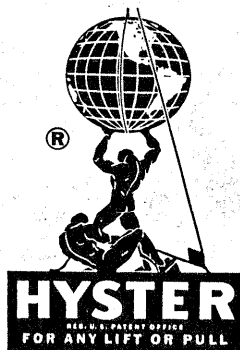


**PARTS BOOK
AND
INSTRUCTION MANUAL
for
HYSTER®
D4D TOWING WINCH**



EFFECTIVE WITH
HYSTER NO. BWD-95644

HYSTER COMPANY

PORTLAND 8, OREGON ▪ PEORIA 1, ILLINOIS ▪ DANVILLE, ILLINOIS
U. S. A.

FORM NO. 837C
599182W

LITHO IN U.S.A.

4000-1056

INSTRUCTIONS FOR ORDERING HYSTER REPAIR PARTS

1. Always give the serial number of machine, which is found on name plate.
2. Always specify name, number and letter of part required.
3. Always specify shipping destination and definite shipping instructions such as Parcel Post, Express, Air Express, Auto Freight or Rail Freight.

The illustrations shown in this parts book may not accurately show all the details of your machine. If the picture does not correspond exactly to the machine, please give a **COMPLETE DESCRIPTION** of the part required and the reference number of the part nearest to its location including also the page number. Then, by reference to the **SERIAL NUMBER** of your machine, we can send you the correct part.

Note: The oil for the transmission shall be a straight mineral type, stable, properly refined, free from fatty acids, resins, abrasives or other non-petroleum material; and shall meet the following requirements.

1. Viscosity at 210° F. 80 - 90 Seconds
Saybolt Universal
2. Viscosity Index, Minimum 85
3. Pour Point, Maximum Minus 10° F.
4. B. S. & W., Maximum05%
5. Color, Maximum 8

Black oils or residuum materials will NOT be considered as satisfactory for this specification.

MASTER PARTS CATALOG NOTICE

Supplement No. 2

May 15, 1958

D4D Towing Winch

Form No. 837C

- Page 2, Index, Section D, Delete-Fairlead-Optional,
and add-Fender-Tank Tractors Installation.
- Page 4, Delete - The following Instructions are taken,
etc. down to and including Instruction D.
- Page 18, start Instruction 10 as follows: Measure and install
Control Cables before installing Seat Channels, and seat.
See Adjustments on Pages 12 and 13.
- Page 22, Ref. 3, Change 17324 to 16787.
- Page 23, Ref. 7, 8, 9, 10 and 12, Add the following:
- | | |
|--|---|
| *15034 Nut - Jam, 7/8 UNF----- | 4 |
| *15934 Lockwasher-Shakeproof, 7/8----- | 2 |
| *94381 Grommet (Large)----- | 2 |
| *94380 Grommet (Small)----- | 2 |
| *16040 Grease Fitting----- | 2 |
- At bottom of page add:
- *Included in Assembly Under Which Listed.
- Page 33, Ref. 3, Second Line, Change $1/8 \times 1-1/4$ to $1/8 \times 1-1/2$.
- Page 35, Ref. 1, Add: 94024 Bushing - Split Type-----2
- Ref. 2, Second Line, Revise as follows:
- | | |
|---|---|
| 15224 Cotter - $1/8 \times 1-1/4$ ----- | 1 |
|---|---|
- Ref. 4, Change 93874 to 94641A, and add
- | | |
|----------------------------------|---|
| *92707 Bushing - Split Type----- | 1 |
|----------------------------------|---|
- Page 39, Ref. 1, 2 and 3, Add the following:
- | | |
|--|---|
| *15034 Nut - Jam, 7/8 UNF----- | 4 |
| *15934 Lockwasher - Shakeproof, 7/8----- | 2 |
| *94381 Grommet (Large)----- | 2 |
| *94380 Grommet (Small)----- | 2 |
| *16040 Grease Fitting----- | 2 |
- Under Ref. 8 Add:
- *Included in Assembly Under Which Listed.

Important: Please make these changes promptly

HYSTER COMPANY

PORTLAND 8, OREGON

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DANVILLE, ILLINOIS

U. S. A.

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2 M - 558

Add the following to Page 39:

For tractors prior to Tractor S.N. 6G2076 and 7J9215 order Handling Gear Group No. 94511A, which includes Basic Handling Gear and Parts listed below.

94509W	Plate - Tie (RH)-----	1
94510W	Plate - Tie (LH)-----	1
15548	Capscrew - 1" NF x 5 -----	2
15016	Nut - Hex, 1" NF -----	2
15036	Nut - Jam, 1" NF -----	2
15547	Capscrew - 1/2 UNC, x 1-1/2-----	18
15158	Lockwasher - 1/2 -----	18
15508	Capscrew - 3/8 UNF x 1 -----	4
15006	Nut - Hex, 3/8 UNF-----	4
15156	Lockwasher - 3/8 -----	4
15675	Capscrew - 1/4 UNC x 7/8-----	4
15054	Nut - Hex, 1/4 UNC -----	4
15154	Lockwasher - 1/4 -----	4

Page 40, new cut - General Arrangement

(For mounting on 6 Volt No. 955 Traxcavator)

Page 41, Ref. 2, second line, change 92819 to 92918

Ref. 9, change Qty. Req. to 4

Ref. 10, second line, revise as follows:

15224 Cotter - 1/8 x 1-1/4

Ref. 14, 15 and 16, add the following:

*15034	Nut - Jam, 7/8 UNF-----	4
*15934	Lockwasher - 7/8 Shakeproof -----	2
*94381	Grommet (Large)-----	2
*94380	Grommet (Small) -----	2
*16040	Grease Fitting-----	2

Ref. 22, add (Caterpillar No. 3H8388, less Battery 8F2142).

Add: 29 - 94733 Bracket ----- 1

30 - 16821 Capscrew - 1/2 UNF x 2-1/4----- 2

At bottom of page add:

*Included In Assembly Under Which Listed.

Page 42, add: remove 1/2 UNF x 1 Capscrew from winch at "L" and attach Bracket (29) using Capscrews (30) 1/2 UNF x 2-1/4. Drill two 9/16" dia. holes "K" through Bracket (29) at assembly.

Page 44, revise title as follows:

Drawbar Bracket - No. 94450A (Optional)

(For use with 955 Traxcavator)

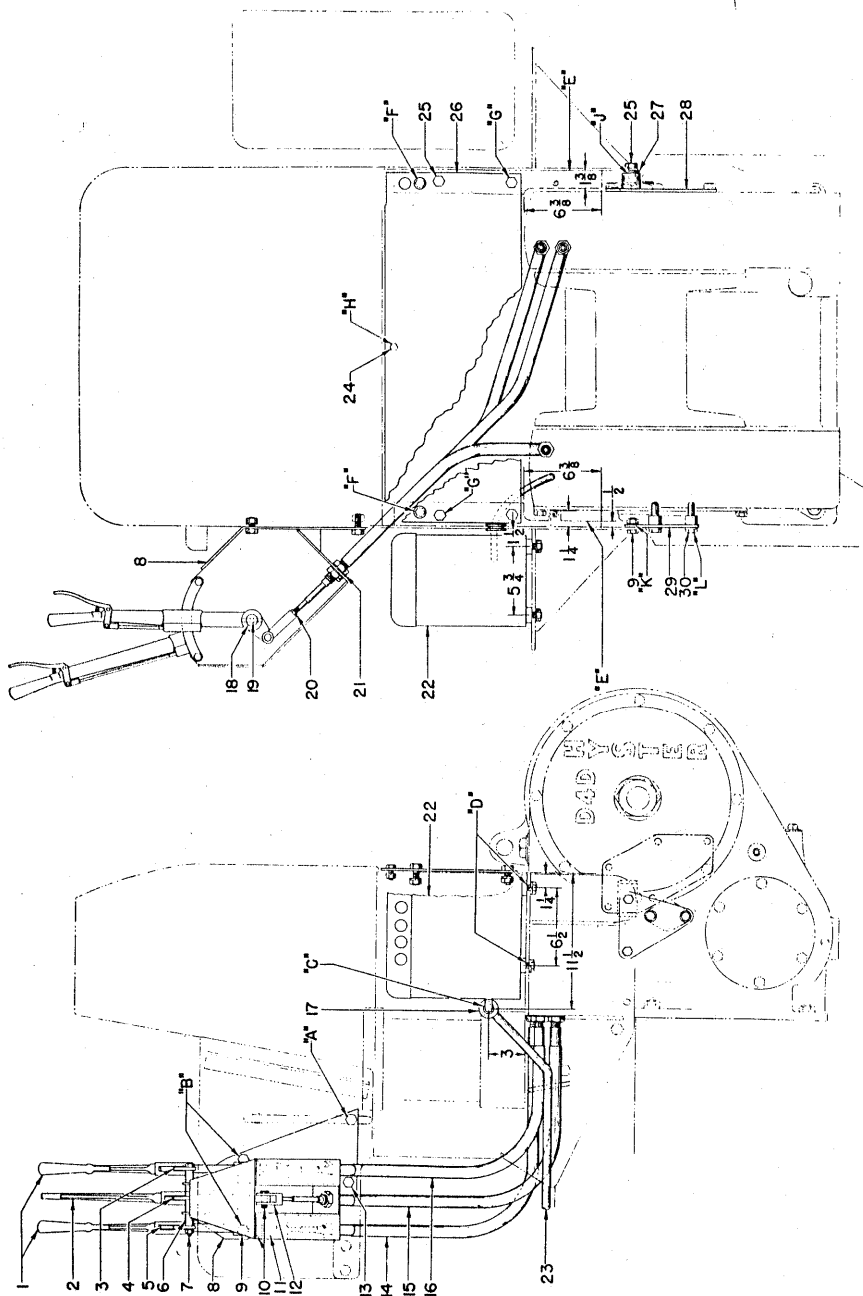
Ref. 2, change 99439W to 94439W.

INSTALLATION INSTRUCTIONS
(For Mounting On 24 Volt No. 955 Traxcavator)

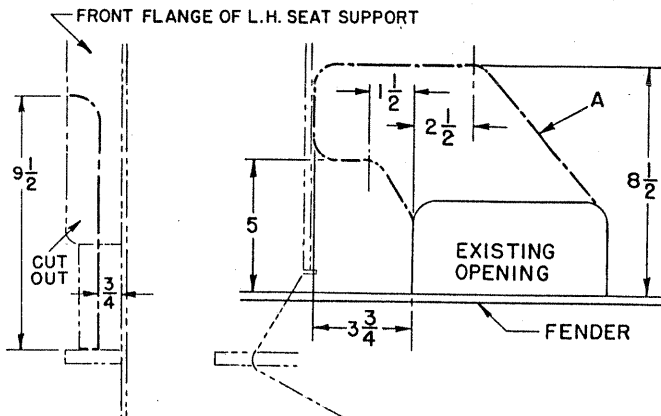
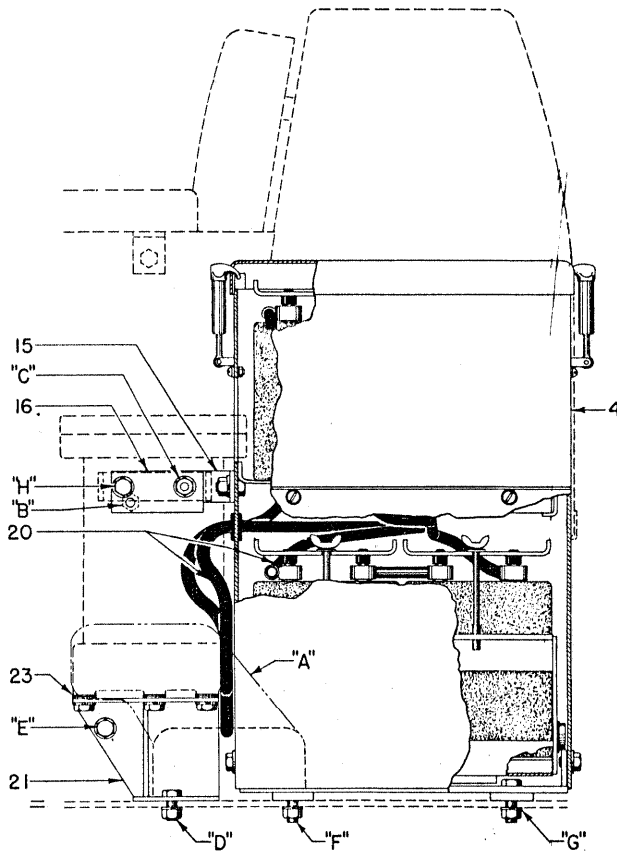
These instructions are in addition to alterations for 6 Volt Traxcavator which are also required for 24 Volt (except 6 volt Battery Box).

1. Disconnect and remove all Battery Cables and all four batteries from Battery Compartment of Tractor. Remove the Rear Door Assembly, (Cat. #6H2868), the Battery Base Assembly, (Cat. #6H2903), and the Angle Assembly (Cat. #6H2905).
2. Loosen all Capscrews on both Hydraulic Lines to the Hydraulic Oil Filter and one Hydraulic Line from Filter to Tank. Loosen only enough so that the Hydraulic Lines will turn but not leak. Do not drain oil from Hydraulic System or remove hoses unless necessary.
3. Remove all Capscrews holding the Hydraulic Oil Filter and remove Grab Iron.
4. Burn out opening in Seat Support Plate at "A" as shown. Cut out front flange of L. H. Seat Support as shown).
5. Attach Bar (16) to left hand side on outside of Handlever Bracket. Use one Capscrew "B" (1/2 UNF x 1-1/4) with Head on inside of seat side. (Capscrew at "H" is 1/2 UNF x 7/8).
6. Drill one 9/16 dia. hole "C" in L. H. seat side using Bar (16) as Template.
7. Slip Clip (15) between seat side and Bar (16). Insert 1/2 UNF x 2 Capscrew at "C", thru seat side, Clip and Bar.
8. Move Filter forward and up, slip Bracket (21) under Filter, and attach to Filter using old Capscrews. Use Washers (23) as needed to shim up Filter.
9. Attach Bracket (21) to L. H. Fender using existing forward Filter Mounting Hole "D" for location.
10. Drill one 9/16 dia. hole in L. H. Seat Support Plate at "E" using Bracket (21) as template.
11. Bolt Bracket (21) to L. H. Seat Side at "E". Tighten all Hose Connections and check for leaks.
12. Attach Battery Box (4) to L. H. Fender using existing Rear Filter Mounting Hole "F" for location.
13. Drill three 9/16 dia. holes "G" in L. H. Fender using Battery Box (4) as Template.
14. Finish bolting Battery Box (4) to L. H. Fender and bolt Clip (15) to Battery Box.
15. Thread Battery Cables thru Grommets in Box and opening in Seat Support Plate. Positive Cable (18) goes thru Grommet nearest Tractor.
16. Install Batteries in Box, Positive Terminals nearest Tractor and connect Cables as shown in hook-up view.
17. Connect Negative Cable (20) to "Cat" Part No. 1H4904 Switch Terminal and Positive Cable (18) to "Cat" Part No. 4H-7949 Breaker Terminal.

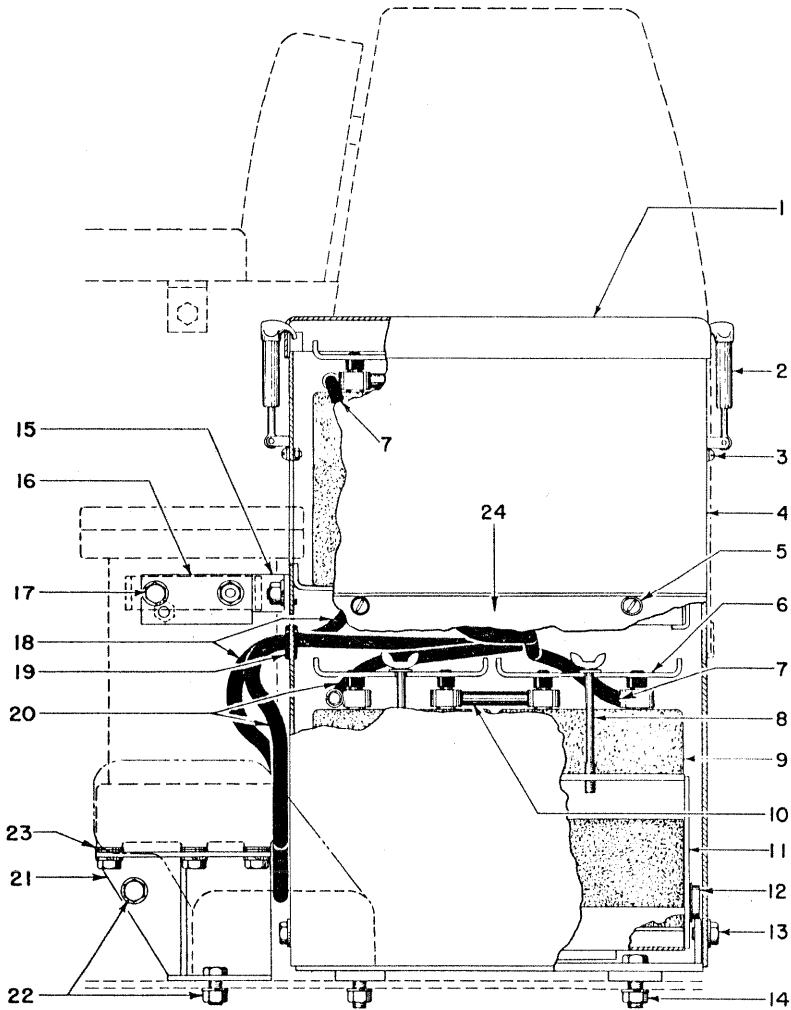
(For Mounting On 6 Volt No. 955 Traxcavator)



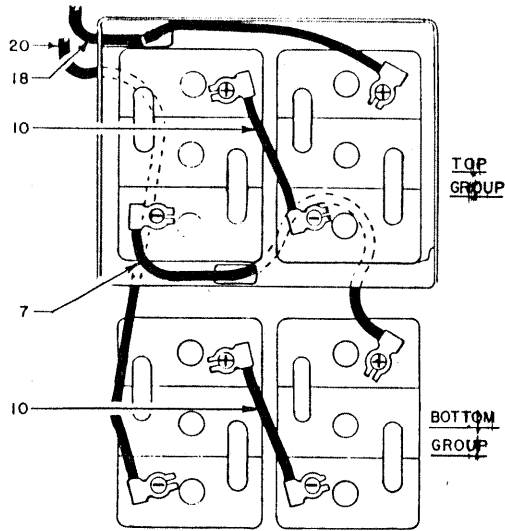
INSTALLATION INSTRUCTIONS (For Mounting On 24 Volt No. 955 Traxcavator)



GENERAL ARRANGEMENT
(For Mounting On 24 Volt No. 955 Traxcavator)



BATTERY CABLES (For Mounting On 24 Volt No. 955 Traxcavator)



PLAN VIEW
BATTERY ARRANGEMENT AND HOOK-UP

GENERAL ARRANGEMENT

(For Mounting On 24 Volt No. 955 Traxcavator)

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY. REQ.
1	94711W	Cover - Top-----	1
2	2009B	Catch-----	2
3	(16708	Machine Screw-Round Head #10-----	4
	(UNF x 1/2	
	(15152	Lockwasher - 3/16-----	4
	(15002	Nut - Hex #10 UNF-----	4
4	94691W	Box - Battery-----	1
5	94709A	Fastener Assembly - Cowl-----	2
6	-----	Plate - (Cat. #6H3662)-----	4
7	95567	Cable - Battery-----	1
8	-----	Bolt (Cat. #6H3008) -----	4
9	(-----	Battery (Cat. #8B1672)-----	4
	(-----	Mat Assembly (Cat. #6H3654)-----	4
10	-----	Cable Assembly (Cat. #5H3627)-----	2
11	94714A	Carriage Assembly - Battery-----	1
12	*(94723	Roller-----	4
	*(58951	Snap Ring - External-----	4
13	(95547	Pin-----	2
	(15135	Washer - Plain, 1/2-----	2
	(94708	Spacer-----	2
	(12986	Ring - Retaining, Self Locking-----	2
14	(15574	Capscrew - 1/2 UNF x 1-3/4-----	4
	(15158	Lockwasher - 1/2-----	4
	(15008	Nut - 1/2 UNF-----	4
15	(94732	Clip-----	1
	(15511	Capscrew - 1/2 UNF x 1-----	1
	(15158	Lockwasher - 1/2-----	1
	(15008	Nut - 1/2 UNF-----	1
16	94731	Bar-----	1
17	(15514	Capscrew - 1/2 UNF x 1-1/4-----	1
	(15648	Capscrew - 1/2 UNF x 7/8-----	1
	(15516	Capscrew - 1/2 UNF x 2-----	1
	(15158	Lockwasher - 1/2-----	3
	(15008	Nut - Hex, 1/2 UNF-----	1
18	95574	Cable - Battery (Positive)-----	1
19	94724	Grommet-----	2
20	95573	Cable - Battery (Negative)-----	1
21	94728W	Bracket-----	1
22	(15511	Capscrew - 1/2 UNF x 1-----	2
	(15158	Lockwasher - 1/2-----	2
	(15008	Nut - Hex, 1/2 UNF-----	2
23	15135	Washer - 1/2-----	6
24	94704W	Cover - Side-----	1

*Included In Assembly Under Which Listed.

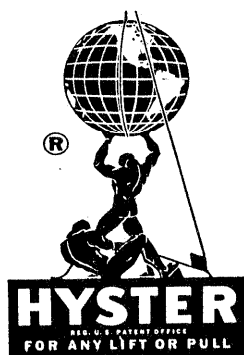
**PARTS BOOK
AND
INSTRUCTION MANUAL
for**

HYSTER

D4D TOWING WINCH

For "Caterpillar" D4 and R4 Tractors

TRACTOR MODEL SERIAL NUMBERS 6G-2076 and up
7J-9215 and up



Including
Installation, Lubrication and
Servicing Instructions

HYSTER COMPANY

PORTLAND 8, OREGON ▪ PEORIA 1, ILLINOIS ▪ DANVILLE, ILLINOIS

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SECTION A

Operation

TRACTOR OPERATOR PRECAUTIONS

1. While the tractor is in motion, extreme care should be taken to prevent accidents and personal injuries.
 2. Before stopping the engine and dismounting from the tractor
 - A. Stop the motion of the tractor.
 - B. Disengage the tractor master clutch.
 - C. Place the tractor transmission gearshift lever in neutral.
 - D. Set and lock the tractor brakes. (When parking on a hill, the tractor should be chocked.)
 3. At the start of the shift, check to be sure that all steps under Instruction 2 have been carried out. If these instructions are not followed, there is danger of the tractor moving when the operator is starting the engine, and he may be dragged under the tractor or otherwise seriously injured.
-

Do not operate tractor while the winch is being operated under load as damage to winch or tractor may result from accidently pulling rigging around winch drum.

OPERATION

This section, in addition to instructions for operating, contains illustrations pertaining to certain simple adjustments and replacements which can readily be made.

Lubrication instructions are provided and should be carefully studied. The lubricant recommended should be used.

Keep all bolts and nuts tight and check all other connections.

BE SURE WINCH GEAR SHIFT LEVER IS IN NEUTRAL POSITION BEFORE MOVING THE TRACTOR

THE TRACTOR MASTER CLUTCH MUST BE DISENGAGED BEFORE CHANGING GEARS IN THE WINCH.

The following instructions are taken from the TRACTOR parts book and are especially applicable to tractors equipped with winches, as the transmission shaft bearings receive oil only *when transmission gears are revolving*. When winch-equipped tractors remain stationary for a period of three hours or more, it is necessary to take the following steps to insure lubrication of the tractor upper transmission shaft bearings:

- A. Disengage main clutch and shift gears into high.
- B. Release both steering clutches and engage the main clutch for a minute or two, to allow oil to be well splashed about in case.
- C. Disengage main clutch, let go of steering clutch levers, and shift the tractor gears to neutral.
- D. **WARNING: DO NOT** let go of steering clutch levers until main clutch has been disengaged.

Brake

A pawl and ratchet are provided to hold the brake in the applied position.

CAUTION - The brake should always be released before attempting to operate the winch, otherwise serious damage will result.

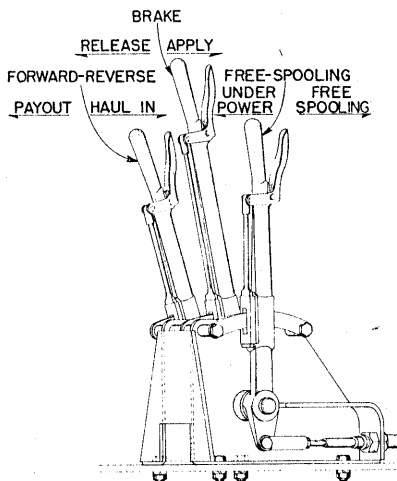
NOTE: When optional automatic brake is used brake may be applied when hauling in a load, and must be released to pay out line.

RIGHT AND LEFT-HAND SIDE OF TOWING WINCH

The part of the towing winch on the right-side of the tractor, when the driver is sitting in the tractor seat, is known as the right-hand side.

OPERATING INSTRUCTIONS—Continued

LOCATION AND OPERATION OF LEVERS



LOCATION OF LEVERS

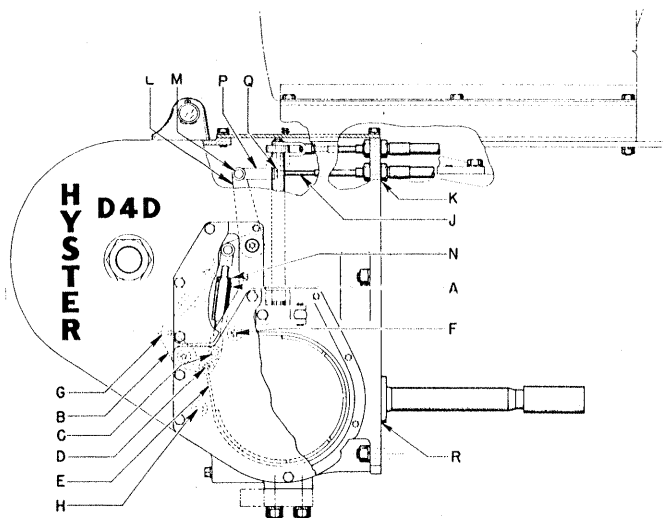
The standard mounting of the winch handle levers is on the left-hand tractor fender.

The handlever closest to the operator is the forward and reverse lever. Push the lever all the way forward to pay out the line. Pull the lever all the way back to haul in the line. The center location is neutral.

The middle handlever is for the brake. Pull back on the lever to stop the drum rotation. Push the handlever forward to release brake.

The handlever farthest from the operator is for drum free-spooling. When the handlever is all the way forward the gear train is engaged and the drum will revolve under power. When the handlever is in a vertical position the drum is free spooling.

OPERATING INSTRUCTIONS—Continued



BRAKE LINKAGE OVERWIND - UNDERWIND

NOTE: If not otherwise specified, all winches are set for drum to be pulling cable in overwinding (over the top of the drum barrel). (Underwinding position shown in illustration.)

BRAKE LINKAGE - OVERWINDING

When the drum is overwinding, the brake link "A" should be connected to the crank "B" at point "G" which is on the end opposite the connection "D". When in overwinding position, the loose end of brake band "E" is connected at "D" and the anchored end at "H".

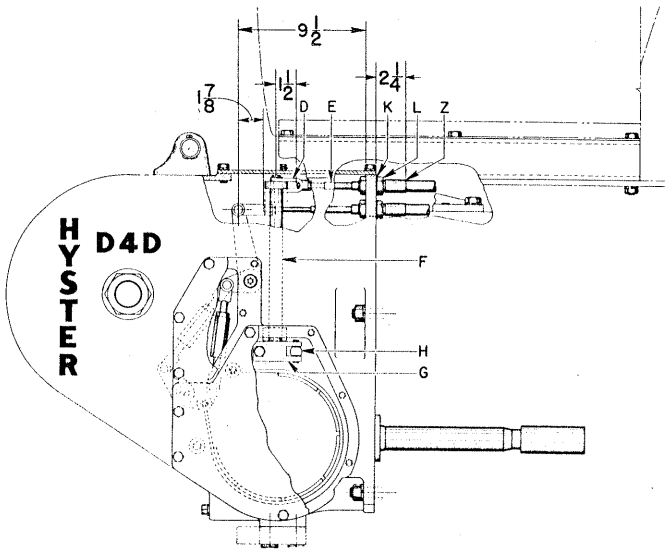
To change from one position to the other, remove both pins holding brake band in place and remove brake band. Turn band over so that the slotted end of band always matches the connection for loose end of band at "D" and the plain end of band always matches the location for anchored end. ("H" for overwinding and "F" for underwinding.)

BRAKE LINKAGE - UNDERWINDING

When the drum is underwinding, the brake link "A" should be connected to the crank "B" at point "C" which is on the same side and just above the connection "D" for the loose end of the brake band "E". "F" is anchored end of the brake band "E" when in underwinding position.

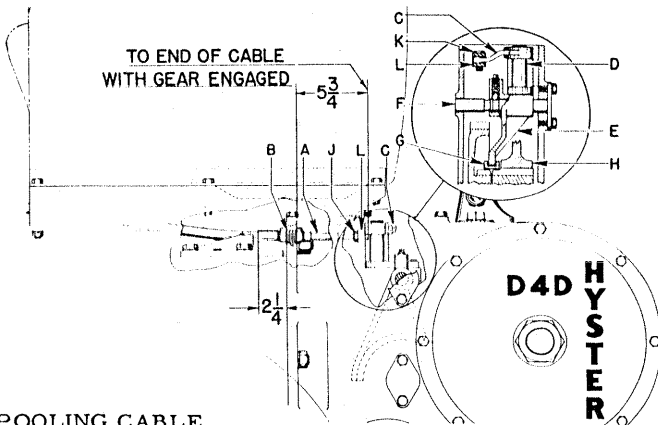
With one end of cable "J" connected to brake handlever (center lever), run other end through lower hole "K" in right-hand side frame, and connect to crank "L" at connection "M". Tighten jam nuts on both sides of case at "K". (See Page 14 for Cable Adjustment).

OPERATING INSTRUCTIONS—Continued



FORWARD AND REVERSE CABLE

With one end of cable "E" connected to forward and reverse handlever closest to operator), run other end through upper hole "K" in right-hand side frame and tighten jam nuts "L" on both sides of case. Connect rod end "D" to top part of crank "F". (See Page 14 for Cable Adjustment).

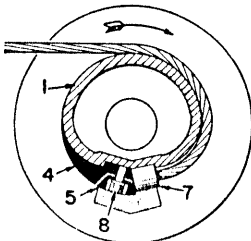


FREE-SPOOLING CABLE

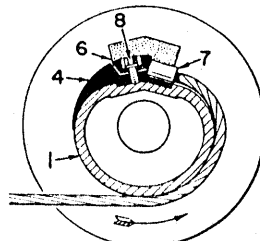
With one end of cable "A" connected to free-spooling handlever (farthest from operator), run other end through hole "B" in left-hand side frame, and connect to crank "C". Crank "C" is bolted to crank shaft "D" which actuates shifter assembly "E". Shifter assembly "E", sliding along shaft, "F" engages and disengages dental clutch "G" with drum gear "H".

OPERATING INSTRUCTIONS—Continued

Method of Attaching Cable for Overwinding or Underwinding Drum



OVERWINDING



UNDERWINDING

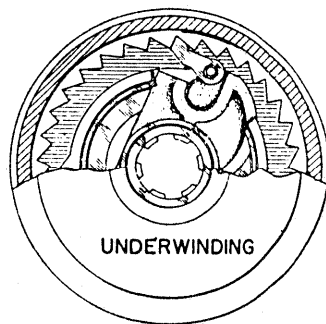
OVERWINDING—Place ferrule (7) in pocket and lock into place with filler (4) and ferrule lock (5), using capscrew (8) and lockwasher.

UNDERWINDING—Place ferrule (7) in pocket and lock into place with filler (4) and ferrule lock (6), using capscrew (8) and lockwasher.

Automatic Brake (Optional Equipment)



OVERWINDING



UNDERWINDING

If the winch is equipped with an automatic brake, it will be noted that one side is marked "overwinding" and the other side marked "underwinding."

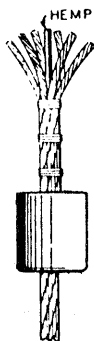
When cable is to be used "overwinding" the side of brake which is marked overwinding should face outwardly. When cable is to be used "underwinding," the automatic brake should be removed and re-installed in the reverse position with the side marked "underwinding" facing outward.

Instructions on Pages 12 and 14, covering brake linkage and adjustment on regular brake apply also to the special automatic brake.

METHOD OF ATTACHING FERRULES



- 1 MEASURE FROM END OF CABLE A LENGTH EQUAL TO LENGTH OF FERRULE. SERVE WITH NOT LESS THAN THREE SEIZINGS.



- 3 CUT OUT HEMP CENTER.
IF CABLE HAS A WIRE ROPE OR STEEL STRAND CENTER, DO NOT CUT OUT



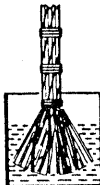
- 5 IF WIRES ARE VERY GREASY. CLEAN WITH SOLVENT A CHEAP PAINT BRUSH DIPPED IN THE SOLVENT CAN BE USED TO REMOVE THE SURPLUS GREASE.
DRY THOROLY.



- 2 SLIP FERRULE OVER CABLE AND PUSH DOWN OVER SEIZINGS.



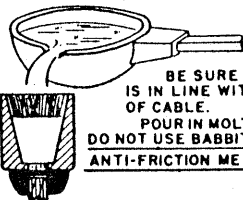
- 4 SEPARATE WIRES OF STRANDS AND STRAIGHTEN TO FORM A BRUSH.



- 6 DIP WIRES FOR $\frac{3}{4}$ OF THE DISTANCE TO FIRST SERVING INTO ACID BATH CONSISTING OF NOT OVER ONE PART OF MURIATIC AND ONE PART WATER. TAKE CARE THAT ACID DOES NOT GET ON ANY OTHER PART OF CABLE. KEEP IN LONG ENOUGH TO BE THOROLY CLEANED. DRY THOROLY.



- 7 SLIP FERRULE UP DISTRIBUTE WIRES EVENLY IN RECESS AND FLUSH WITH TOP OF FERRULE
DO NOT CRIMP OVER ENDS OF WIRES.
PLACE MUD SEAL AROUND BOTTOM OF FERRULE AS AT "A"



- 9 BE SURE FERRULE IS IN LINE WITH AXIS OF CABLE.
POUR IN MOLTEN ZINC. DO NOT USE BABBITT OR OTHER ANTI-FRICTION METAL.



- 10 REMOVE SEIZINGS EXCEPT THE ONE UNDER THE FERRULE.
COOL SLOWLY.

Section B

SERVICING INSTRUCTIONS

LUBRICATION INSTRUCTIONS

The lubrication chart shown the location of the filler, drain, and oil level plugs on the transmission compartment and side frames.

NOTE: When checking oil level, if the tractor motor is running, throw out the master clutch so that hoist gears are stationary; otherwise, a false reading will result.

On a new winch the oil should be drained from transmission case at the end of about 10 days, flushed and refilled with fresh oil. Approximately three gallons of oil required for refilling.

All transmission gears, bearings and drum bearings are lubricated by a splash system from the winch housings. The oil level should be checked weekly by removing pipe plug (b) located in the left-hand side frame. If the oil level drops below this plug, the upper gears and drum bearings will not receive proper lubrication. Oil may be added through the oil filler hole by removing plug (A) in the top left-hand side frame.

On a new winch, after 30 days of operation drain the oil, flush and re-fill case up to the proper level with clean oil. The oil level should be checked weekly, keeping the case filled up to oil level plug (B).

Under normal operating conditions, drain the oil and flush through drain plug (C) every 30 to 90 days, depending on operating conditions. Refill until oil comes up to level plug. In general, for refilling, use SAE 90 or the same gravity oil as is required in "Caterpillar" tractor transmission.

Periodic inspection should be made for condensation, particularly after long periods of idleness. Loosen drain plug (C) and allow water to drain. When oil begins to appear, tighten drain plug and check oil level.

Also check brake compartment for condensation. Remove drain plug (D) and after all water has drained, replace plug (D).

The pipe plugs (E) are filler plugs for the tractor final drive.

NOTE: Although equipped with grease fittings at each end, control cables should not be lubricated unless they become stiff or inoperative. Use LUB-RIPLATE 105V or AERO only if grease is required.

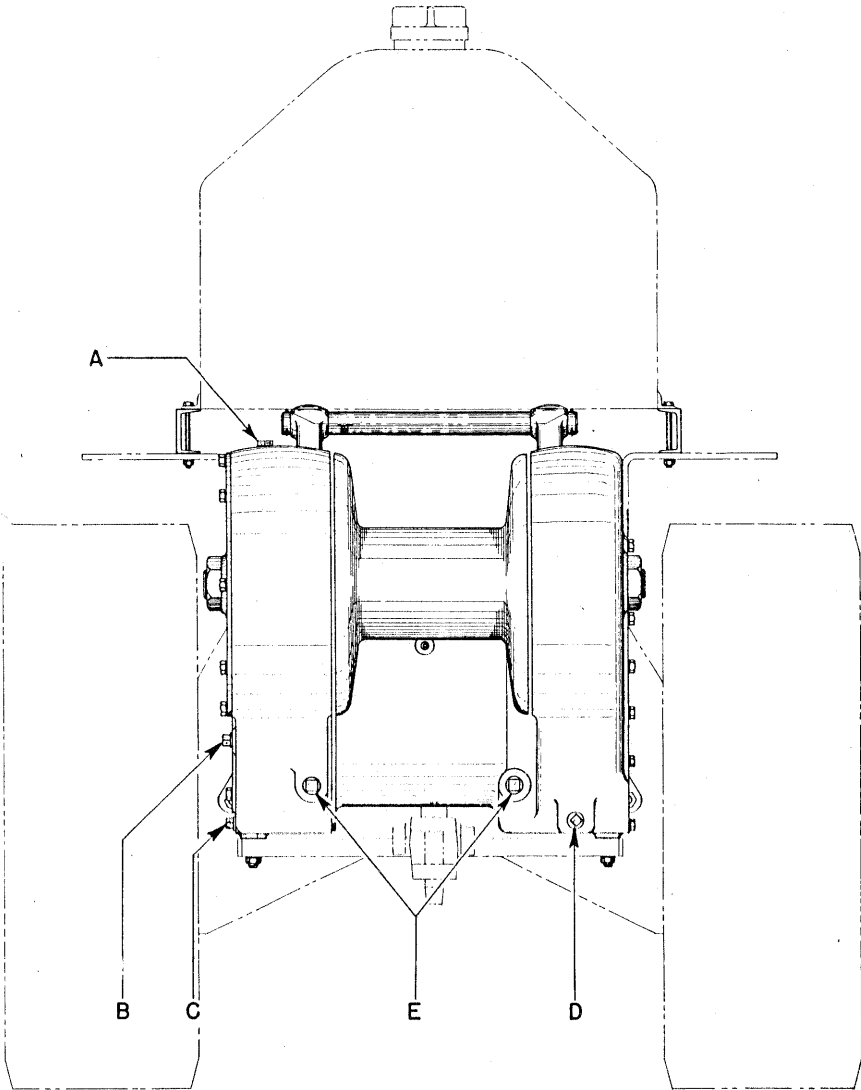
If this is not available, do not lubricate at all. Too much lubricant will blow out seals of cables and permit foreign matter to enter.

Servicing Drum

When reassembling drum unit after servicing, add two quarts of oil, SAE 90, to drum barrel.

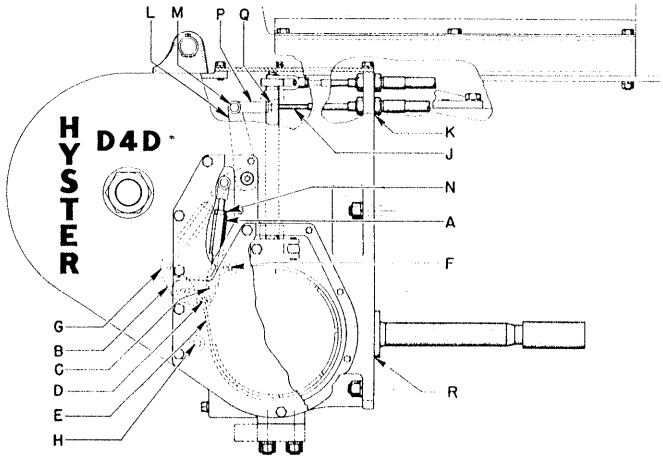
SERVICING INSTRUCTIONS—Continued

LUBRICATION CHART



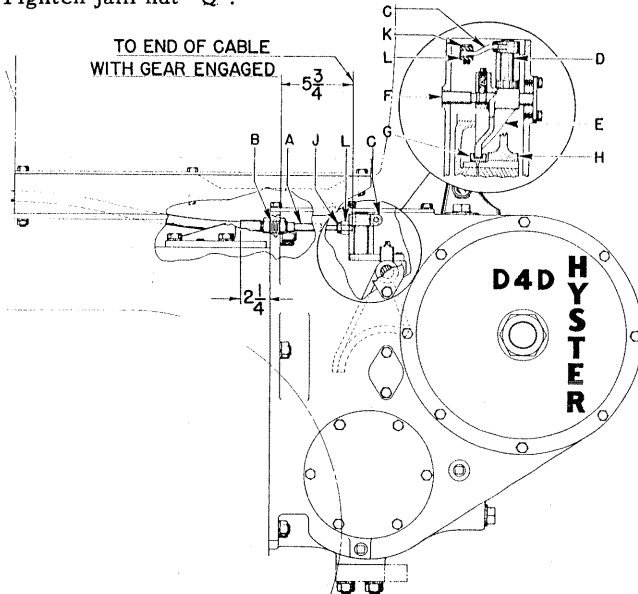
SERVICING INSTRUCTIONS—Continued

BRAKE ADJUSTMENT



BRAKE ADJUSTMENT

With brake handlever (center lever) pushed all the way forward (released) adjust link "A" until there is approximately $1/32$ " clearance between drum and lining. Loosen jam nut "N" and adjust turnbuckle part of link "A". Be sure to tighten nut "N" after adjustment. If required, additional adjustment may be obtained through rod ends "P" on brake cable "J". Remove rod end pin, loosen jam nut "Q" and turn rod end in or out as required. Tighten jam nut "Q".

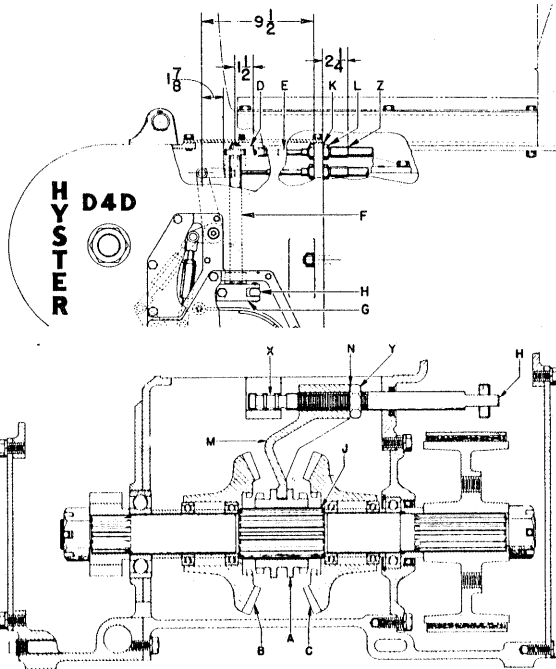


SERVICING INSTRUCTIONS—Continued

FREE-SPOOLING ADJUSTMENT

(Standard Mounting on Left-Hand Fender)

The free-spooling handlever is the one farthest from the operator. When this handlever is in the vertical position the drum is free-spooling, that is it can easily be turned by hand. Check to see that dental clutch "G" is clear of the drum pinion gear "H" when the handlever is in free-spooling position. (Clutch "G" shown in engaged position). To adjust, loosen jam nut "J" and pull pin "K" holding rod end "L" to crank "C". Turn rod end "L" in or out as required to place dental clutch "G" so that it is entirely disengaged from pinion gear "H". Rod end at handlever end of cable may also be adjusted in the same way, if required. When the handlever is pushed all the way forward the gears are engaged and the drum is turned under power.

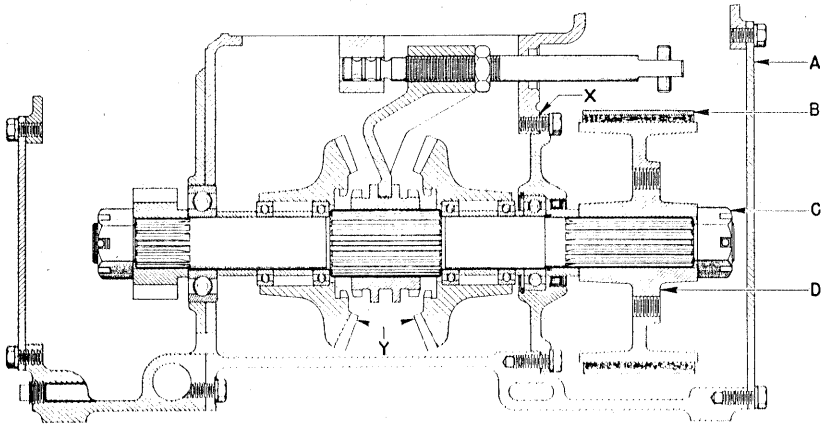


FORWARD AND REVERSE ADJUSTMENT

(Standard Mounting on Left-Hand Fender)

With the forward and reverse handlever (the one closest to operator) in the neutral position, that is, the center notch on the quadrant bar, and the shifter rod "H" in the neutral position, that is with the steel ball engaged in the center groove "X", check to see if the sliding clutch "A" is centered between bevel gears "B" and "C". If the clutch "A" is not in the exact center, remove crank "G", loosen nut "Y" and turn shifter shaft "H" until shifter fork "M" centers sliding clutch "A" between gears "B" and "C". Tighten nut "Y" and stake in place at (N). To adjust cable, turn rod end in or out as required. For additional adjustment, remove the rod end "D" from end of cable "E" and turn in or out until proper adjustment is acquired.

SERVICING INSTRUCTIONS—Continued



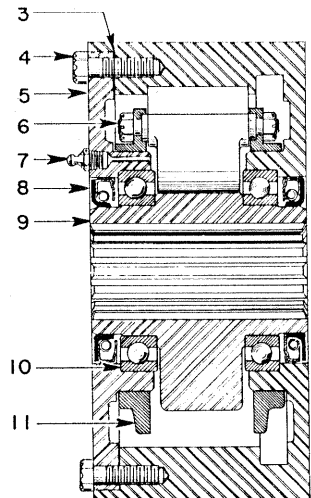
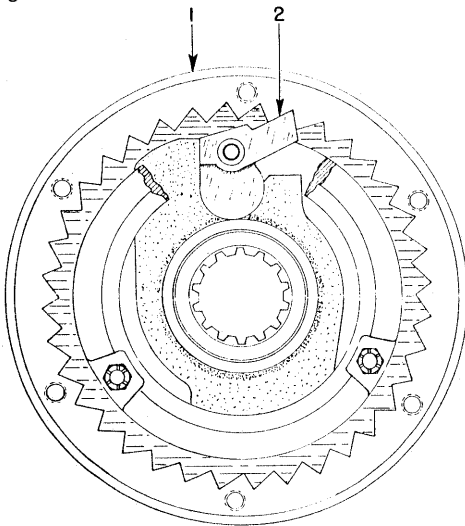
BEVEL GEAR ADJUSTMENT

Adjust bevel gears ("Y" above) in proper relationship with pinion on end of power take-off gear shaft (6, page 26) by the use of shims ("X" above and 12, page 26). Add or remove shims as required to center gears "Y" with pinion on P. T. O. gear shaft and to produce .006-.014 total backlash.

BRAKE AND FORWARD-REVERSE CABLE ADJUSTMENT

Cables should be set according to dimensions shown on upper drawing page 13. For brake cable, center of rod end pin should be 1-7/8" from end of cable and 9-1/2" to inside of housing.

Forward-reverse cable should be set with center of rod end pin 1-1/2" from end of cable "E", and end of collar "Z" 2-1/4" from outside of housing at "K".



SERVICING INSTRUCTIONS—Continued

OPTIONAL AUTOMATIC BRAKE

Every 1000 hours of service the brake wheel should be cleaned and repacked with a high melting point (HMP) grease. To prepare the wheel for inspection and servicing, follow the steps given below.

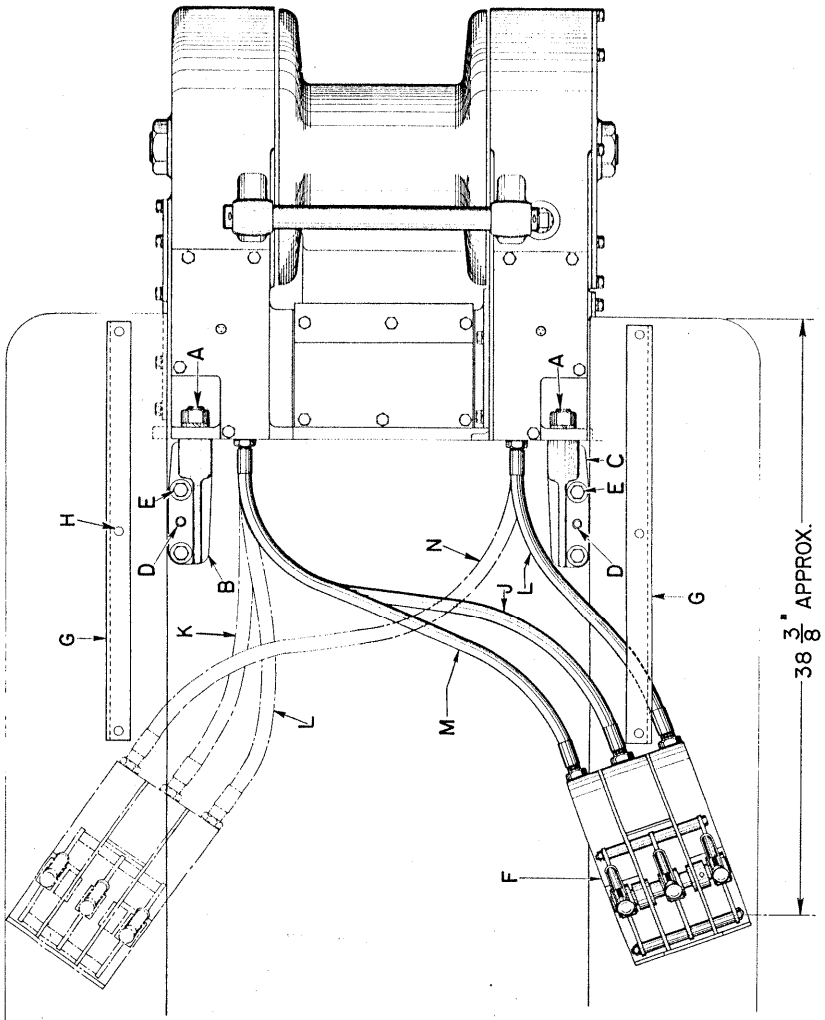
1. The cover plate "A" on the right-hand side frame brake compartment must be removed to gain access to the brake.
2. Pull pins in ends of brake band "B" and remove brake band assembly from winch to provide ample clearance in removing brake wheel. This also makes the installation of wheel assembly after servicing much easier.
3. Remove cotter and flange nut "C" from end of shaft.
4. Assembled wheel "D" can then be pulled from shaft. If wheel is tight, an appropriate puller may have to be used.
5. Remove six wired capscrews (4). Brake may now be opened by tapping hub from opposite side. Hub (9), assembled with pawl (2) and drag rings (11) will come out with cover (5).
6. Clean all parts thoroughly and repack brake with about 1/2 pound of grease of a high melting point. Apply carefully to bearings and all rubbing surfaces.

CAUTION: Do not fill brake completely with grease.

7. After servicing brake, replace hub (9) assembled with pawl (2) and drag rings (11). Check to see that seal (8) is in good condition.
8. NOTE: Install oil seals so that lips of both are pointing in as shown.
9. Clean gasket surfaces making certain that no grease remains. Use new gasket (3). Coat both sides of the gasket with Permatex Gasket cement. Carefully assemble cover (5) onto case. With side cover in place, squeeze a liberal amount of permatex No. 1 gasket cement into each bolt hole. (Use enough so that when the bolt is tightened the cement will squeeze out all around the head). Fasten securely with six capscrews (4) provided. Secure them by wiring.
10. Install assembled brake wheel on shaft in winch and lock in place with flange nut and cotter removed in instruction 3.
11. Release brake hand lever and install brake band over brake wheel; anchoring with pins removed in instruction 2.
12. Replace cover "A" removed in instruction 1.

Section C

INSTALLATION INSTRUCTIONS

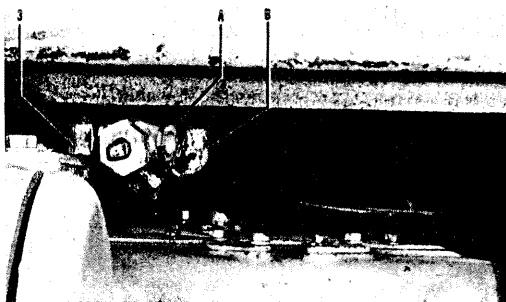


INSTALLATION INSTRUCTIONS-Continued

For installing HYSTER D4D Towing Winch on "Caterpillar" D4 tractors with seat-mounted fuel tanks.

1. Block up rear end of tractor six or eight inches high. This prevents the oil from running out of the transmission case when covers are removed, and makes installation easier.
2. Remove tractor seat, P. T. O. cover, brake inspection covers, drawbar brackets, and final drive filler cups from tractor. Plug P. T. O. cover capscrew holes with corks.
3. Remove nuts and studs tying drawbar brackets to drawbar plate, for installation later in pads on bottom of winch frames.
4. Place "O" Ring over winch P. T. O. shaft at "R", page 12 and place gaskets for R. H. and L. H. winch frames in position.
5. Swing the winch into place on the rear face of the tractor. Make sure the splines on the power take-off shaft enter those of the coupling on the tractor.
6. When the winch is in place, place nuts and lockwashers on the studs. Tighten all nuts so that winch is securely fastened to tractor.
7. Before mounting brackets (B and C) on top of tractor transmission cover, insert studs (A) in ends of brackets. Fasten brackets securely with dowel pins (D) and capscrews (E) (5/8 NC x 1-1/4) to tractor transmission cover.
8. Fasten the winch securely to brackets (B and C) with studs (A) (Installed under instruction 7 above). Fasten tractor drawbar plate to winch, using the studs and nuts which were removed from tractor drawbar brackets.
9. Remove drain cock from bottom of tractor fuel tank and grind off 3/16" from face (A). Install street ell Hyster No. 17324 (3) in fuel tank and install drain cock in street ell.

NOTE: Fitting (B) may have to be turned so that drain cock will pass.



INSTALLATION INSTRUCTIONS - Continued

10. Place channels (G) in place on tractor fenders, and tractor seat on top of channels. Fasten seat securely with capscrews (1/2 x 4-1/2 at (H) through angle on bottom of seat, channels (G) and tractor fender.
11. Drill holes in fender and install lever bracket assembly (F). Fasten securely to L. H. tractor fender with capscrews, 1/2 NF x 1-1/4. Install in most convenient location for operator. For adjustments, see instructions on pages 12 and 13.
12. Check all bolts and connections making sure that all bolts, nuts and other connections are in place and securely tightened.
13. The filler plugs (4, page 22) are provided in the Hyster unit to fill the tractor final drive to proper oil level. (Filler cups removed in instruction 2).

When the handlever group is to be mounted on the right-hand side of the tractor (optional mounting), the following changes must be made.

14. Remove the handlever bracket (F) from the left-hand fender and relocate it on the right-hand fender in the most convenient location for operator.
15. Remove brake cable (J) and replace it with new cable (K) (Hyster No. 92929). Remove forward - reverse cable (M) and replace it with new cable (N) Hyster No. 92685).
16. Disconnect free-spooling cable (L) inside the housing by removing rod end pins and jam nuts holding cable to case. Relocate the new cable (N) in the hole from which the free-spooling cable was removed, and connect the rod end to the free-spooling crank. Run the free-spooling cable (L) through the hole from which the forward reverse cable was removed and connect it to the forward-reverse crank. The two handlevers are now reversed. However, as the lever group is now on the right-hand side of the tractor, the lever closest to the operator is for forward-reverse and the lever farthest from the operator is for free-spooling.

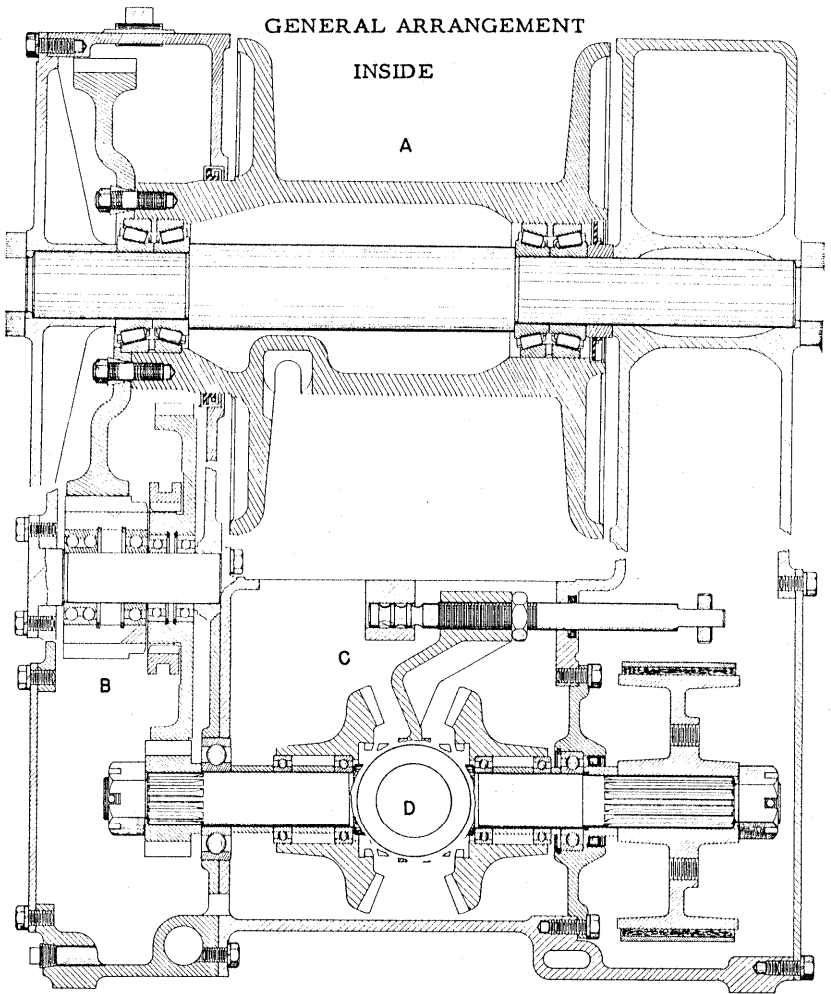
Remove the forward-reverse and free-spooling handlever quadrant bars and reinstall them so that the quadrant bar for the forward - reverse lever is on the inside, closer to the center of the tractor and the quadrant bar for the free-spooling is on the outside, away from center.

Section D

List of Parts and Illustrations

The numerical index in the back of the book lists all parts in numerical sequence and shows the page number, on which they are illustrated.

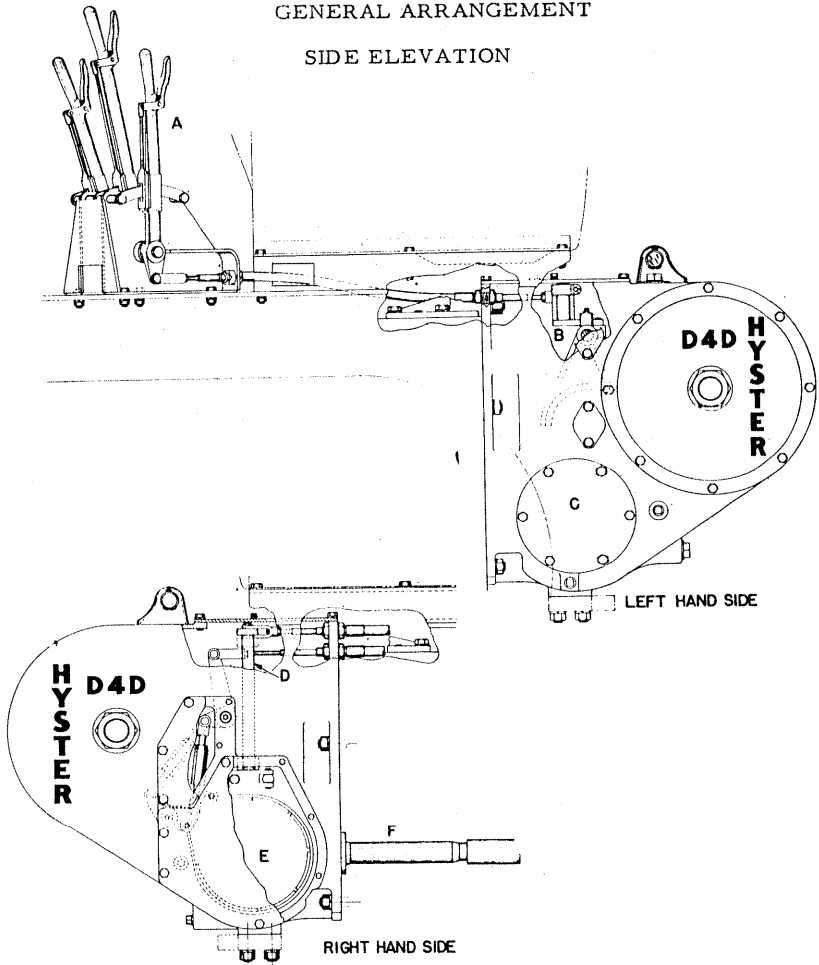
Note: Unnumbered parts in the illustrations are the same as corresponding parts shown with number. Particular attention should be given to the location of bolts, capscrews, washers, etc., so that they are replaced in the holes from which they were removed.



REF.	GROUP	PAGE NO.
A	DRUM ASSEMBLY -----	28
B	INTERMEDIATE GEAR GROUP -----	32
C	FORWARD & REVERSE SHIFTER AND BRAKE SHAFT GROUP-----	30
D	POWER TAKE-OFF GROUP -----	21

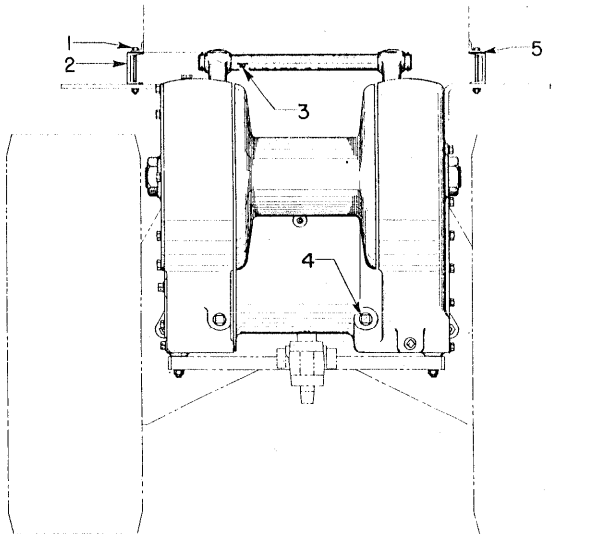
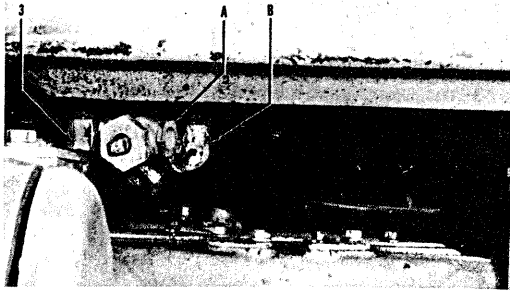
GENERAL ARRANGEMENT

SIDE ELEVATION



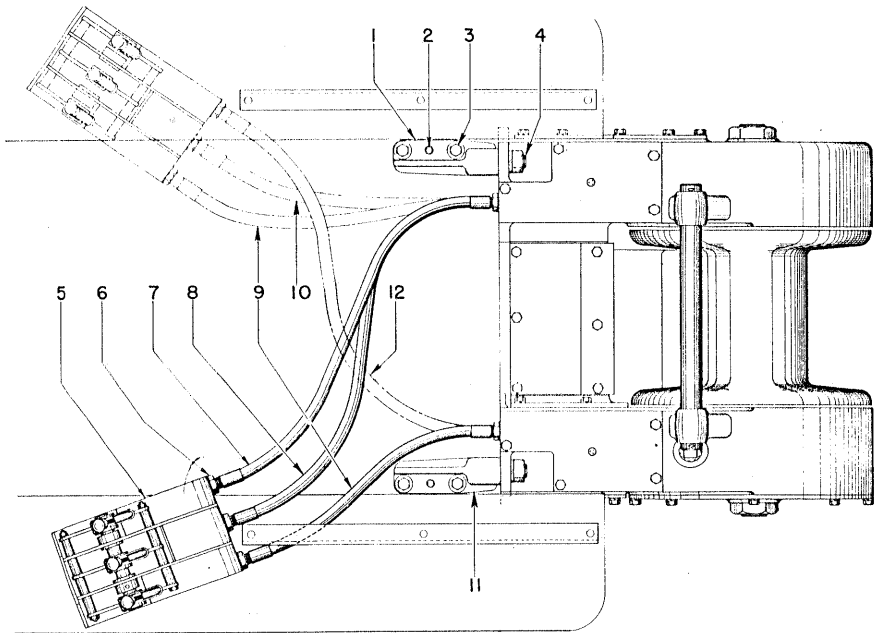
REF.	GROUP	PAGE NO.
A	HANDLEVER GROUP -----	36
B	FREE-SPOOLING SHIFT GROUP -----	34
C	FRAMES AND COVERS -----	24
D	FORWARD-REVERSE SHIFT GROUP -----	33
E	BRAKE CONTROL GROUP -----	35
F	POWER TAKE-OFF GROUP -----	26

REAR ELEVATION



REF. NO.	HYSTER PART NO.	NAME OF PART	QTY. REQ.
1	(15592	Capscrew 1/2 UNF x 4-1/2 -----	6
	(15008	Nut - Hex 1/2 UNF -----	6
	(15158	Lockwasher 1/2 -----	6
(2)	92935	Channel - Seat Support-----	2
(3)	17324	Street Ell, (For Tractor Drain Valve)-----	1
4	15308	Pipe Plug - 1-1/4 -----	2
(5)	93891	Plate - Spacer-----	2

PLAN VIEW

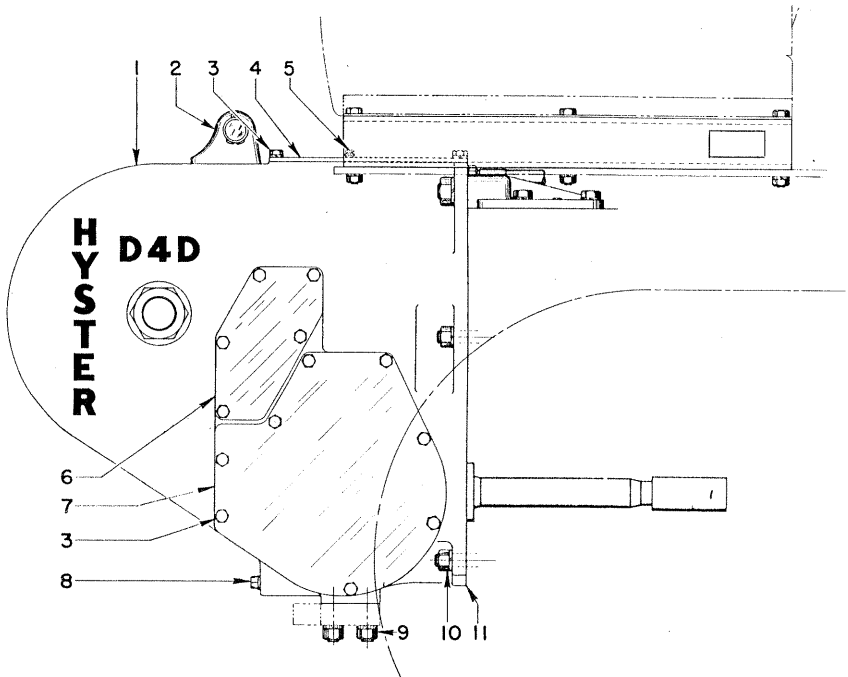


REF. NO.	HYSTER PART NO.	NAME OF PART	QTY. REQ.
1	92933	Bracket - R. H. -----	1
2	38454	Pin - Dowel -----	2
3	(15531	Capscrew - 5/8 UNC x 1-1/4 -----	4
	(15160	Lockwasher - 5/8-----	4
4	(92934	Stud-----	2
	(15016	Nut - Hex 1" NF-----	2
	(15166	Lockwasher 1"-----	2
5	-----	Handlever Group (See Page 36)	
6	15934	Lockwasher - Special 7/8-----	6
7	92927	Cable (48" Long)-----	1
8	(92718	Cable-Brake (Standard LH Mounting)(54" Long) ---	1
	or (92926	Cable-Brake (49" Long)-----	1
9	(93486 ✓	Cable (36" Long)-----	1
	or (92928	Cable (38" Long)-----	1
10	92929	Cable-Brake (Optional RH Mounting)(39" Long)---	1
11	92932	Bracket LH-----	1
12	(92685	Cable (53" Long)-----	1
	or (92927	Cable (48" Long)-----	1

Parts Not Illustrated

34797	Wrench (For 3/8 Socket Head Capscrews)-----	1
93792A ✓	Complete Gasket Set For D4D Towing Winch----	1

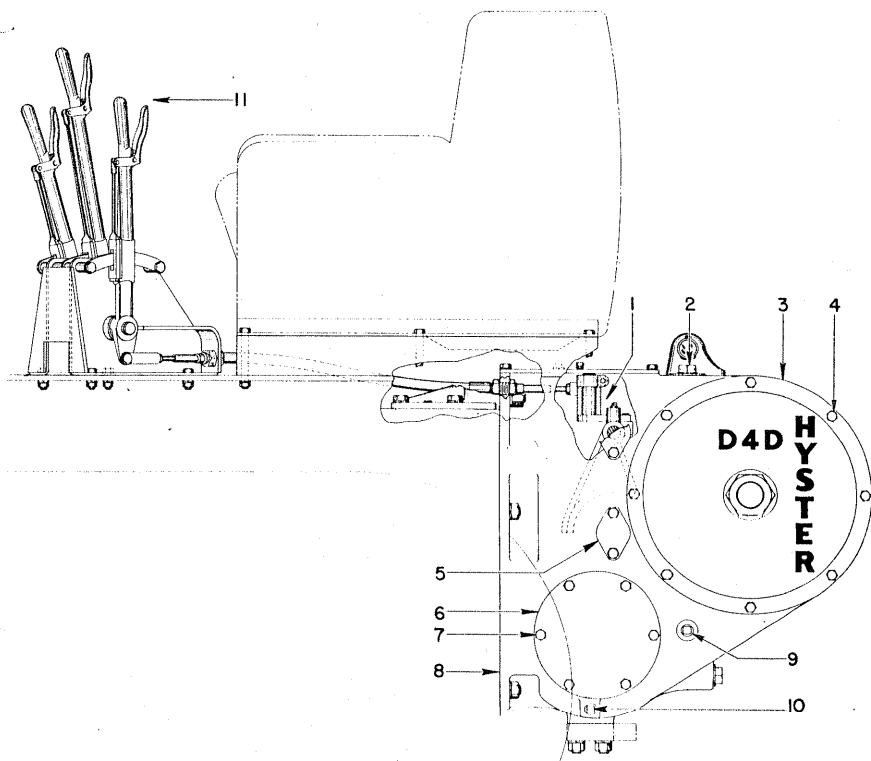
NOTE: When ordering cables, give overall length without rod ends.



REF. NO.	HYSTER PART NO.	NAME OF PART	QTY. REQ.
1	93928 W NRS	Housing - Transmission -----	1
2	*93926	Ear-Tie (Owner To Weld If Ordered Separately)-	1
3	(16820)	Cap screw-Hardened 1/2UNF x 1-----	21
	(15158)	Lockwasher 1/2 -----	21
4	(92896 NRS	Cover-Side Frame, Top-----	2
	(92897	Gasket-Side Frame Top Cover -----	2
5	21420	Plug - Breather-----	2
6	(92894	Cover - Brake Adjustment-----	1
	(92895	Gasket - Brake Adjustment Cover -----	1
7	(92892	Cover - Brake Drum -----	1
	(92893	Gasket - Brake Drum Cover-----	1
8	15303	Pipe Plug - 1/2" Square Head -----	1
9	-----	(Studs, Nuts and Lockwashers (From Tractor Drawbar	
10	-----	(Studs, Nuts and Lockwashers (Formerly Holding Tractor Drawbar Brackets	
11	92931	Gasket - R.H. Winch to Tractor -----	1

Danville, Illinois

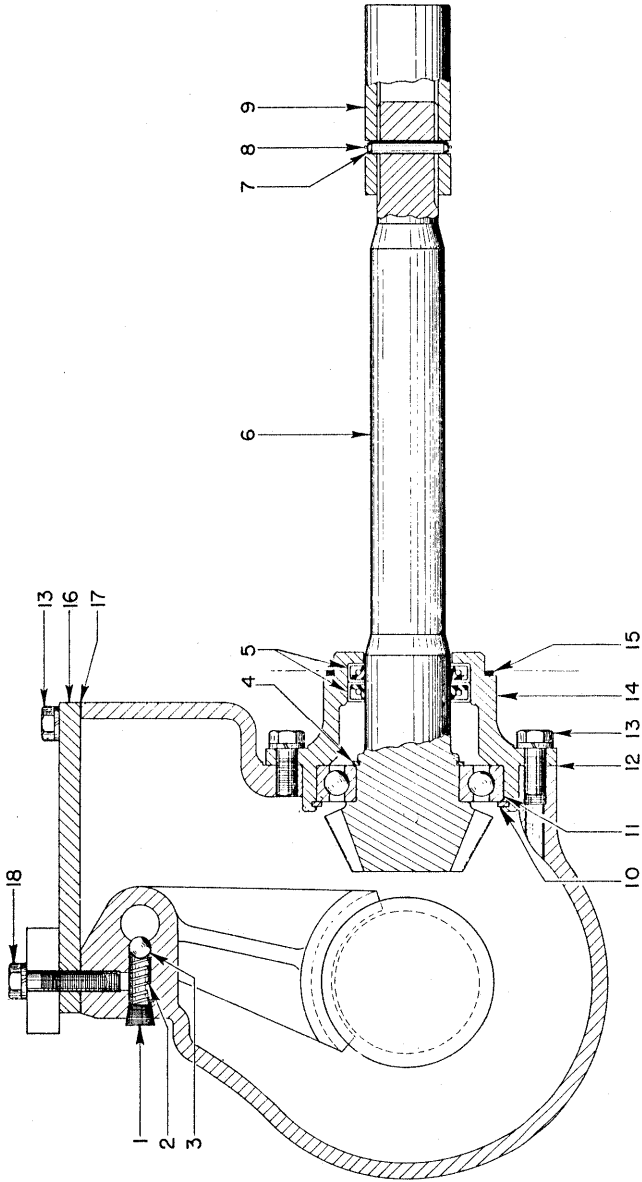
SIDE ELEVATION-LEFT HAND



REF. NO.	HYSTER PART NO.	NAME OF PART	QTY. REQ.
1	-----	Free-Spool Shift Group (See Page 34)	
2	15308	Pipe Plug- 1-1/4-----	1
3	(92849 NRS	Cover-Drum Gear-----	1
	(92848	Gasket-Drum Gear Cover-----	1
4	(37562	Capscrew-Hardened, 1/2 UNF x 1-1/4-----	8
	(15158	Lockwasher - 1/2-----	8
5	-----	Intermediate Gear Group (see page 32)	
6	92852	Cover-Intermediate Pinion-----	1
7	(16820	Capscrew-Hardened 1/2 UNF x 1-----	6
	(15158	Lockwasher - 1/2-----	6
8	(93929W	Frame - Side, L. H.-----	1
	*(93926	Ear-Tie (Owner To Weld If Ordered Separately)-	1
	(92930	Gasket - L. H., Winch To Tractor-----	1
9	15303	Pipe Plug-1/2" Square Head-----	1
10	35502	Pipe Plug 1/2" Magnetic-----	1
11	-----	Handlever Group (See Page 37)	

*Included In Assembly Under Which Listed.

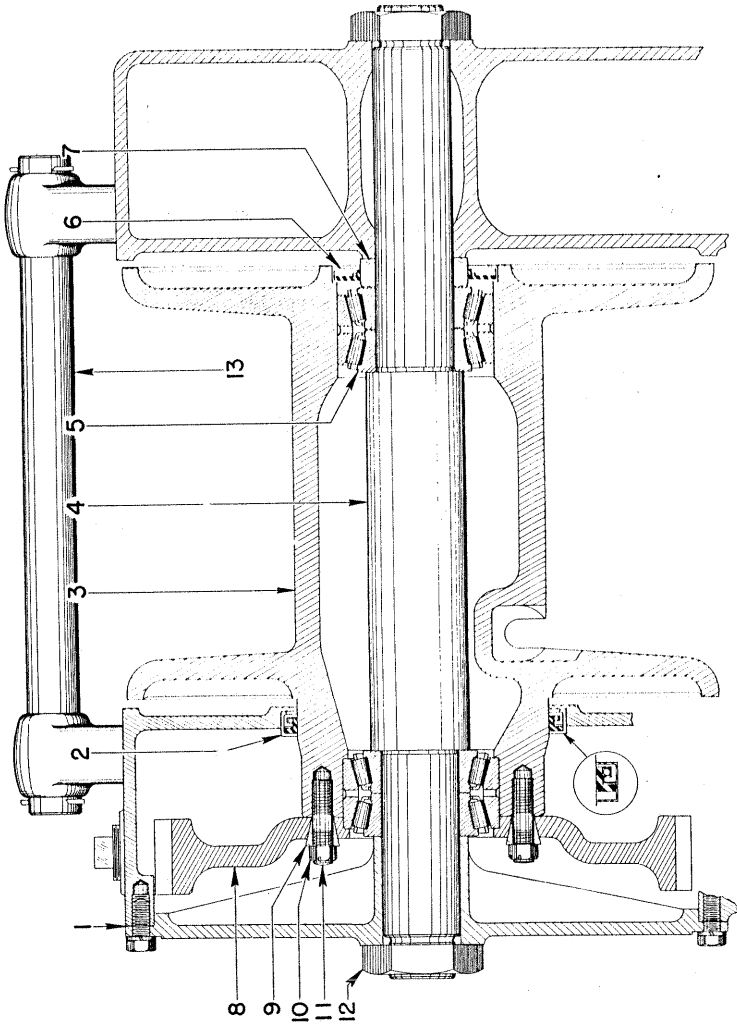
POWER TAKE-OFF SHAFT



POWER TAKE-OFF SHAFT

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY. REQ.
1	15314	Pipe Plug - Countersunk 3/8 -----	1
2	6347D	Spring -----	1
3	6348	Ball 1/2" Dia. -----	1
4	12917	Snap Ring -----	1
5	44492	Oil Seal -----	1
6	276323 92828	Gear Shaft - Bevel Pinion -----	1
7	9563	Pin ("Caterpillar" No. L-2124) -----	1
8	9554	Ring - Lock ("Caterpillar" no. 3B-1224) -----	1
9	6852	Coupling ("Caterpillar" No. 3B-1042) -----	1
10	12919	Snap Ring -----	1
11	41212	Bearing -----	1
12	92830	Shim Set -----	1
13	(37562 (15158	Capscrew - Hardened, 1/2 UNF x 1-1/4 ----- Lockwasher 1/2 -----	9 9
14	92829	Carrier - P. T. O. -----	1
15	92831	"O" Ring -----	1
16	94430W	Cover - Top -----	1
17	92868	Gasket -----	1
18	(16808 (15158	Capscrew - Hardened 1/2 UNF x 2 ----- Lockwasher - 1/2 -----	3 3

BRAKE SHAFT AND SHIFTER

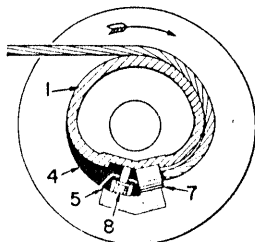


DRUM UNIT

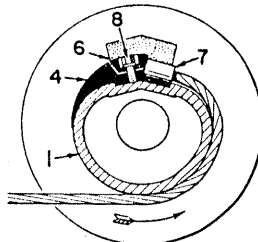
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY. REQ.
1	92848	Gasket - Drum Gear Cover -----	1
2	44489	Oil Seal -----	1
3	92833	Drum-----	1
4	92834	Shaft - Drum-----	1
5	230317A	Roller Bearing Assembly----- <i>11.280.21</i>	2
6	44490	Oil Seal-----	1
7	92835	Spacer-----	1
8	92840	Gear - Drum (54 Teeth)-----	1
9	53559	Dowel - Split Taper-----	10
10	92839	Locknut - 5/8 UNF-----	10
11	92838	Stud-----	10
12	59058	Nut - Hex, Special -----	2
13	(93927	Rod - Tie-----	1
	(15247	Cotter-3/16 x 2-1/4-----	2

Add two quarts oil SAE 90 to drum at assembly.

FERRULE - LOCK GROUP



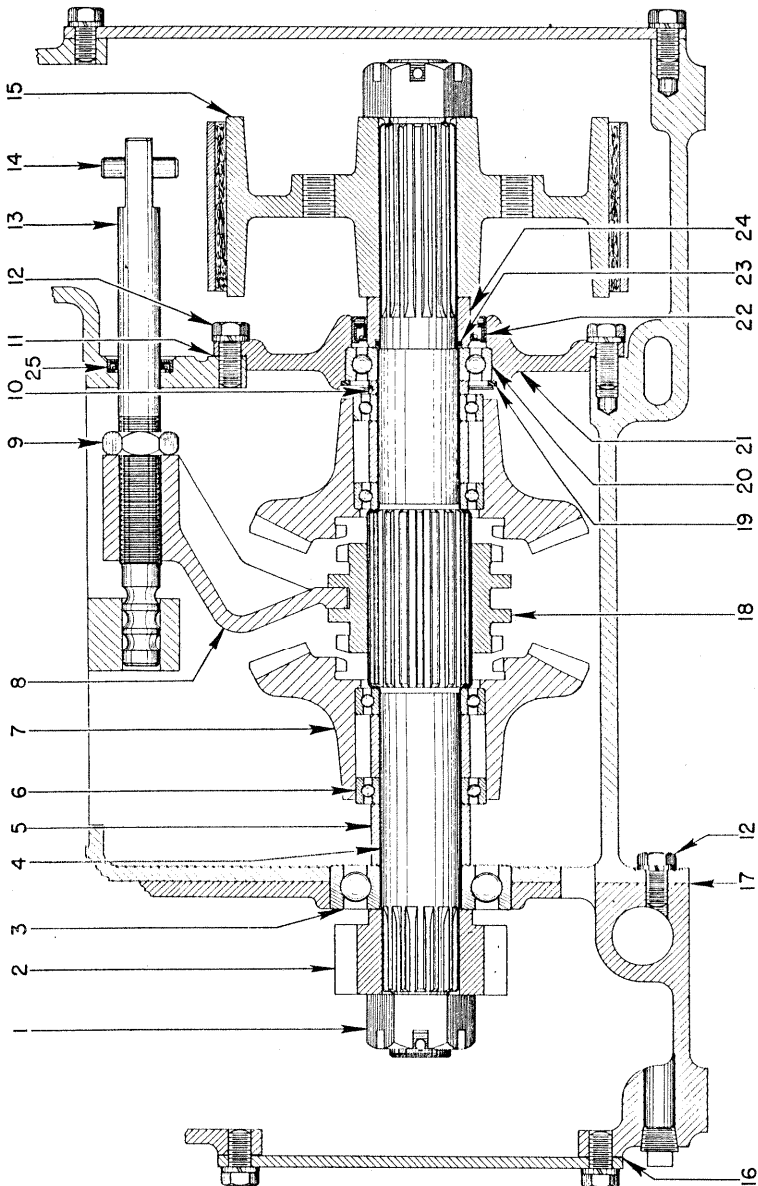
OVERWINDING



UNDERWINDING

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY. REQ.
1		Drum Unit	
4	92870	Filler - Cable Groove -----	1
5	92871	Ferrule Lock - Overwind -----	1
6	92872	Ferrule Lock - Underwind -----	1
7	(9008	Ferrule 5/8 -----	1
	(35506	Ferrule 3/4 -----	1
	34811	Capscrew 3/8 UNF x 1 -----	1

BRAKE SHAFT AND SHIFTER

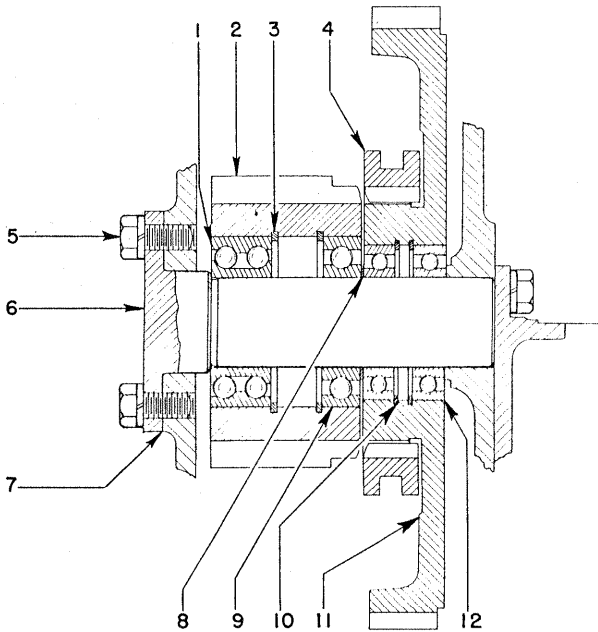


BRAKE SHAFT AND SHIFTER

EF. NO.	HYSTER PART NO.	NAME OF PART	QTY. REQ.
1	(32515 (15259	Nut - Slotted ----- Cotter 1/4 x 3 -----	2 2
2	92857	Gear - Intermediate Pinion (14 Teeth) -----	1
3	43310	Bearing -----	1
4	92853	Shaft - Brake -----	1
5	92856	Spacer -----	3
6	44310	Bearing -----	4
7	92855	Gear - Bevel (40 Teeth) -----	2
8	92864	Shifter - Forward and Reverse -----	1
9	15036	Nut - Hex, Jam, 1" NF -----	1
10	92858	Spacer -----	1
11	92860	Shim Set -----	1
12	(37562 (15158	Capscrew - Hardened 1/2 UNF x 1-1/4 ----- Lockwasher 1/2 -----	11 11
13	92865A	Shaft - Shifter -----	1
14	* 92867	Dowel - Pin -----	1
15	92863	Wheel - Brake -----	1
16	92851	Gasket -----	1
17	92837	Gasket - Transmission -----	1
18	92854	Clutch - Dental -----	1
19	67551	Snap Ring -----	1
20	43210	Bearing - -----	1
21	92859	Retainer -----	1
22	⁷¹³⁸⁷ 44491	Oil Seal -----	1
23	92861	"O" Ring -----	1
24	92862	Spacer - Brake -----	1
25	23206	Oil Seal -----	1

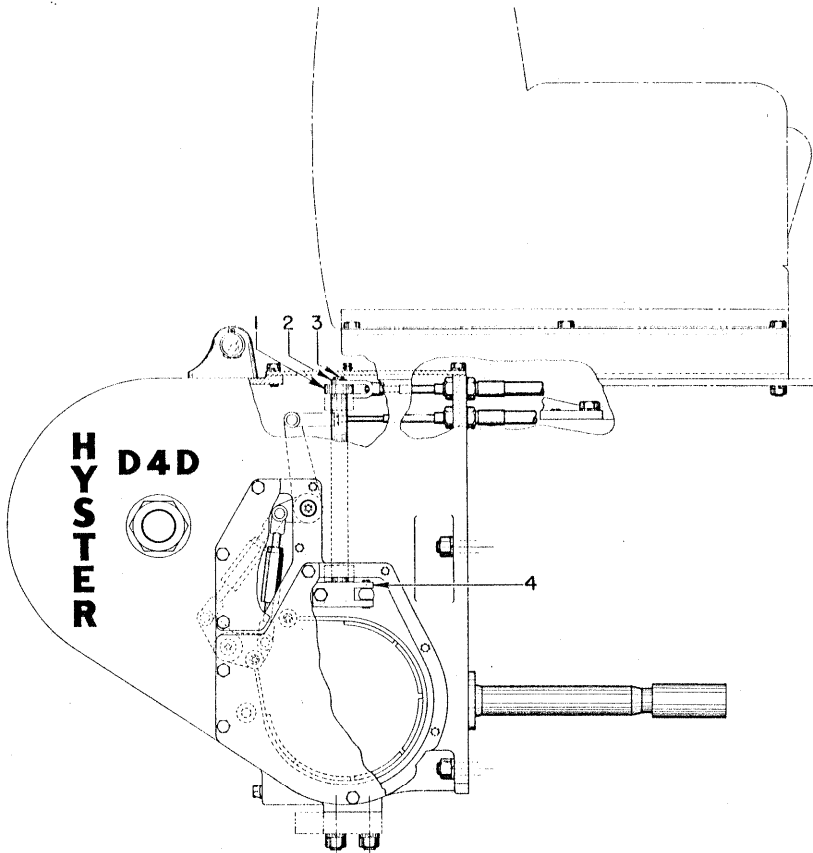
*Included in Assembly under which listed.

INTERMEDIATE GEAR GROUP



REF. NO.	HYSTER PART NO.	NAME OF PART	QTY. REQ.
1	45209	Bearing -----	1
2	92843	Gear-Drum Pinion (18 Teeth) -----	1
3	12895	Snap Ring -----	2
4	92842	Clutch - Dental -----	1
5	(16820)	Capscrew - Hardened, 1/2 UNF x 1 -----	2
	(15158)	Lockwasher 1/2 -----	2
6	92844A	Shaft-Intermediate -----	1
7	92847	Gasket-Intermediate Shaft-----	1
8	36150	Snap Ring -----	1
9	43209	Bearing -----	1
10	12918	Snap Ring -----	2
11	92841	Gear-Intermediate (18 Teeth)-----	1
12	44309	Bearing-----	2

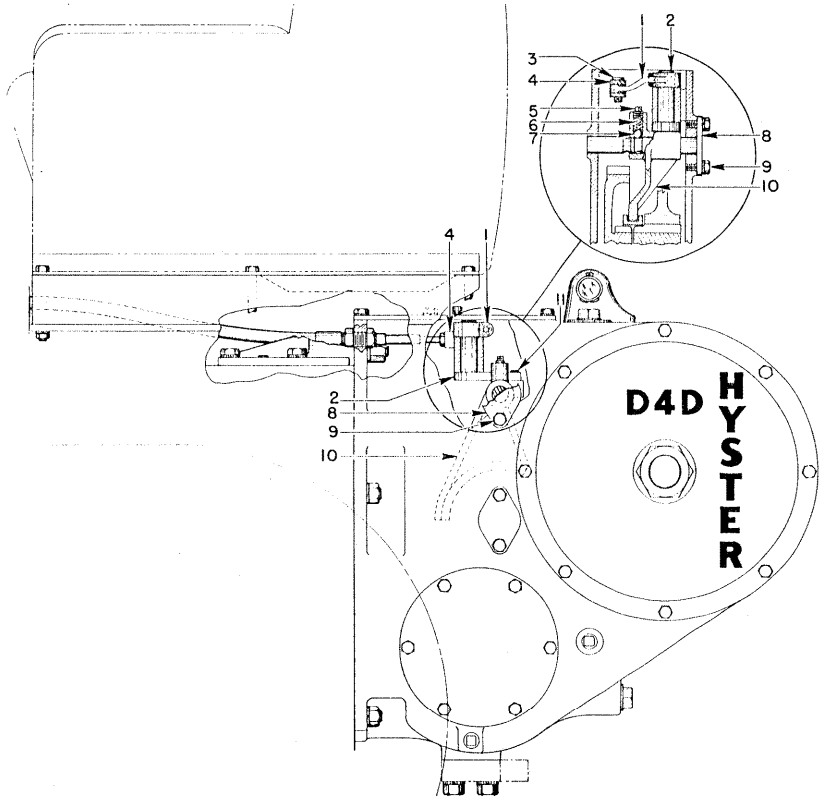
FORWARD-REVERSE SHIFTER GROUP



Ref. No.	Hyster Part No.	NAME OF PART	Qty. Reqd.
1	{ 92889A	Crank—Shaft	1
	{ 93296	Bushing—Split Type	2
2	{ 92886	Rod End	1
	{ 15026	Nut—Jam, $\frac{3}{8}$ UNF	1
3	{ 153	Pin—Rod End	1
	{ 15225	Cotter— $\frac{1}{8}$ x $1\frac{1}{4}$	1
	{ 92887A	Crank Assembly—Shifter	1
4	* 15510	Capscrew— $\frac{1}{2}$ UNF x $2\frac{1}{4}$	1
	* 15158	Lockwasher— $\frac{1}{2}$	1
	* 15008	Nut—Hex, $\frac{1}{2}$ UNF	1

Included in Assembly under which listed.

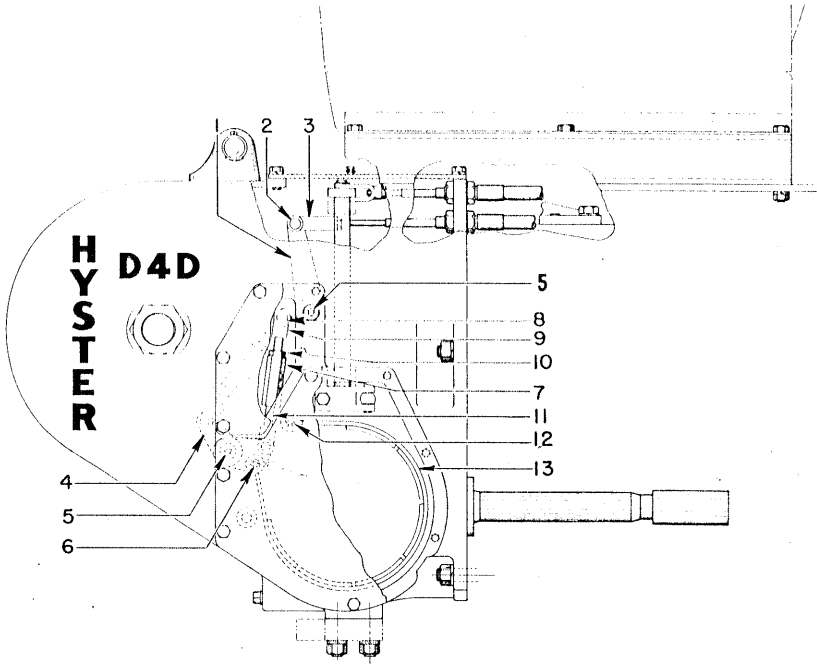
FREE-SPOOL SHIFT GROUP



REF. NO.	HYSTER PART NO.	NAME OF PART	QTY. REQ.
1	(92907A	Crank Assembly -----	1
	*(15547	Capscrew 1/2 UNC x 1-1/2-----	1
	*(15158	Lockwasher 1/2 -----	1
2	92904A	Crankshaft -----	1
3	(153	Pin - Rod End-----	1
	(15225	Cotter - 1/8 x 1-1/2-----	1
4	(92909	Rod End -----	1
	(15026	Nut - Jam, 3/8 UNF -----	1
5	(46578	Plug - Drilled Head -----	1
	(67355	Lockwire - 18GA x 12" Long -----	1
6	6347B	Spring -----	1
7	6348	Ball -----	1
8	92899A	Shaft-Free Spool Shifter -----	1
9	(16820	Capscrew - Hardened 1/2 UNF x 1 -----	2
	(15158	Lockwasher 1/2 -----	2
10	92902A	Shifter Assembly -----	1
11	*92867	Pin - Dowel -----	1

*Included in Assembly under which listed.

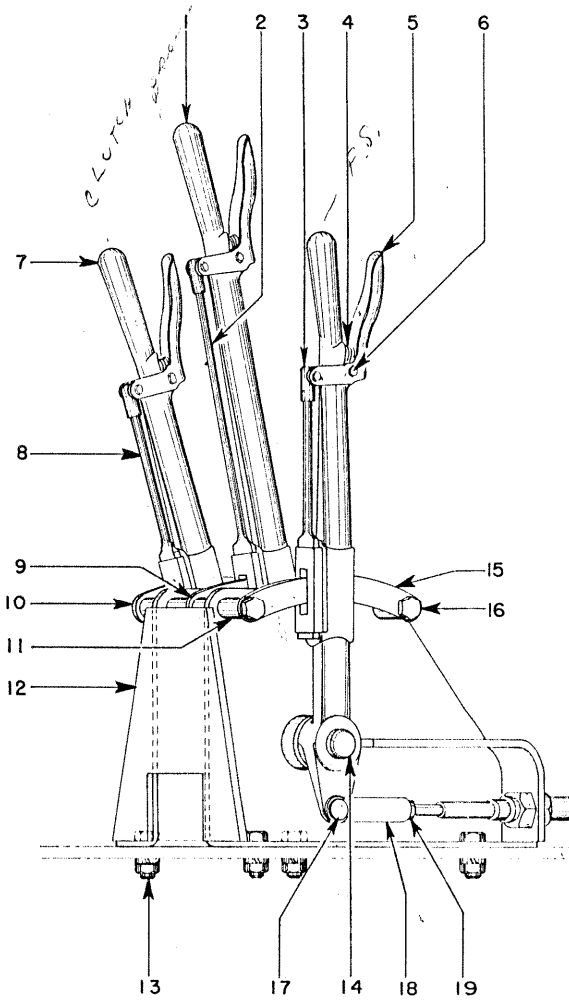
BRAKE CONTROL GROUP



REF. NO.	HYSTER PART NO.	NAME OF PART	QTY. REQ.
1	92881A	Crank - Brake-----	1
2	(153	Pin - Rod End-----	1
	(15222	Cotter 1/8 x 3/4 -----	1
3	(92886	Rod End -----	1
	(15026	Nut - Jam, 3/8 UNF	
4	93874	Crank-Loose End (Prior To S. N. 101298, Include One Turn Buckle, (Item 7))-----	1
5	92879	Shaft - Brake Crank-----	2
6	(92880	Shaft - Brake Band Anchor-----	1
	(15228	Cotter - 1/8 x 2-1/4-----	1
7	93875A	Turnbuckle Assembly -----	1
8	*(153	Pin - Rod End -----	2
	*(15224	Cotter 1/8 x 1-1/4 -----	2
9	* 93876	Rod End (R. H. Thread)-----	1
10	* 15028	Nut - Jam, 1/2 UNF-----	1
11	* 92885	Rod End (L. H. Thread)-----	1
12	92877	Shaft - Brake Band Anchor-----	1
13	(92874A	Brake Band Assembly-----	1
	*(93673A	Lining and Rivet Set-----	1

*Included in Assembly under which listed.

HANDLEVER GROUP



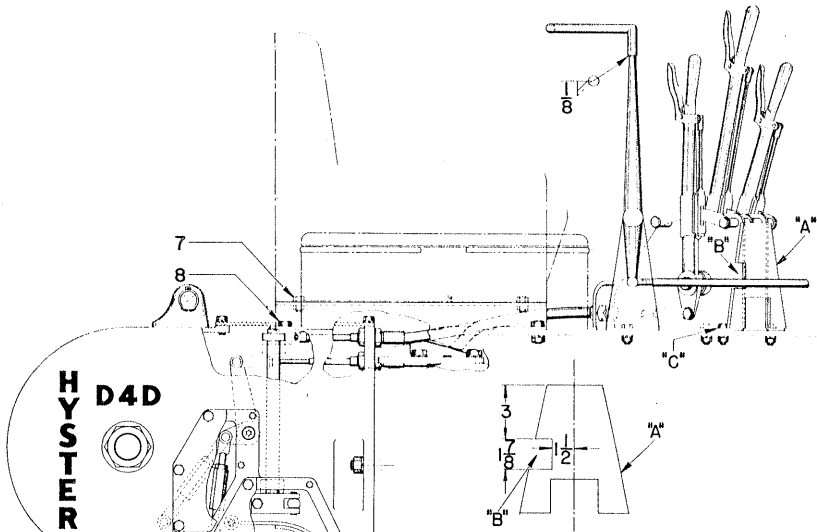
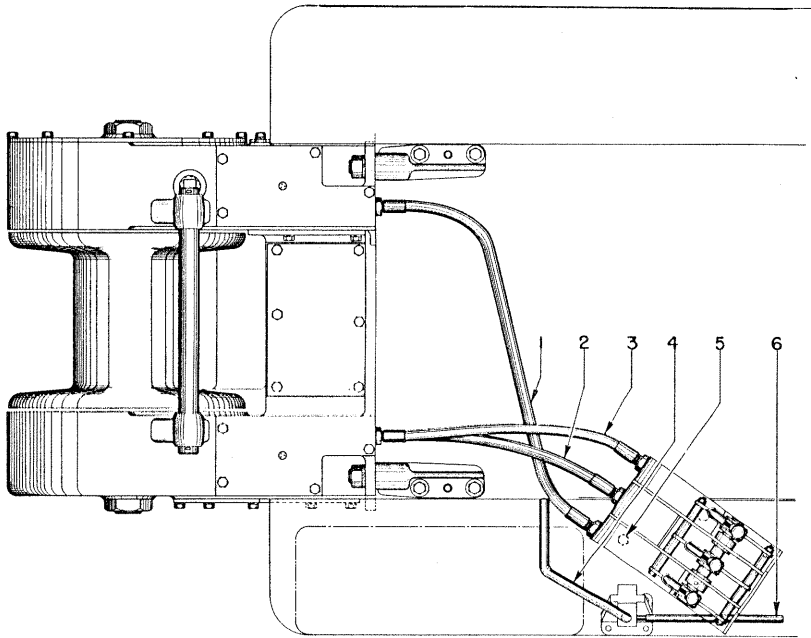
HANDLEVER - GROUP — 94348A

Includes Cables, Rod Ends, Pins and Items 2, 3 & 5 on Page 22)

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY. REQ.
①	(92909	Rod End - Brake (Lever End Of Cable) -----	1
	(92916A	Handlever - Brake -----	1
2	*92918	Rod - Pawl -----	1
3	* 32693	Rod End -----) -----	3
4	* 32695	Spring -----) Included -----	3
5	* 32694	Handle -----) with -----	3
6	*(37476	Machine Screw - Special -----) each -----	6
	*(15052	Nut - Hex, No. 10-24 -----) handlever -----	6
7	92920A	Handlever, 1 1/2" x 1 1/2" -----	2
8	* 92922	Rod - Pawl -----	2
9	90371	Quadrant - Brake -----	1
10	32657	Quadrant - Forward & Reverse -----	1
11	92924	Spacer -----	8
12	—92910A	Bracket - Handling Gear -----	1
13	(37562	Capscrew - Hardened 1/2 UNF x 1-1/4 -----	4
	(15008	Nut - Hex, 1/2 UNF -----	4
	(15158	Lockwasher 1/2 -----	4
14	(92919	Shaft - Handlever -----	1
	(19909	Roll Pin 1/4 x 1-3/4 -----	1
15	92923	Quadrant - Free Spooling -----	1
16	(14578	Capscrew 3/8 UNF x 7 -----	2
	(15006	Nut - Hex 3/8 UNF -----	2
	(15156	Lockwasher 3/8 -----	2
17	(153	Pin - Rod End -----	3
	(15224	Cotter 1/8 x 1-1/4 -----	3
18	92925	Rod End -----	2
19	15026	Nut - Jam, 3/8 UNF -----	3

*Included in assembly under which listed.

HANDLING GEAR ARRANGEMENT FOR FENDER-TANK TYPE TRACTORS



HANDLING GEAR ARRANGEMENT FOR FENDER-TANK TYPE TRACTORS

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY. REQ.
1	92927	Cable-Push-Pull <i>Tree spool</i> -----	1
2	93487	Cable-Push-Pull <i>Brake</i> -----	1
3	93486	Cable-Push-Pull <i>Clutch</i> -----	1
4	93489	Rod -----	1
5	(15514	Capscrew-1/2 NF x 1-1/4 -----	8
	(15158	Lockwasher-1/2 -----	8
	(15008	Nut-Hex 1/2 NF -----	8
6	93488W	Rod-Control -----	1
7		Existing Tractor Parts	
8	93484	Plate-Formed -----	2

INSTALLATION INSTRUCTIONS

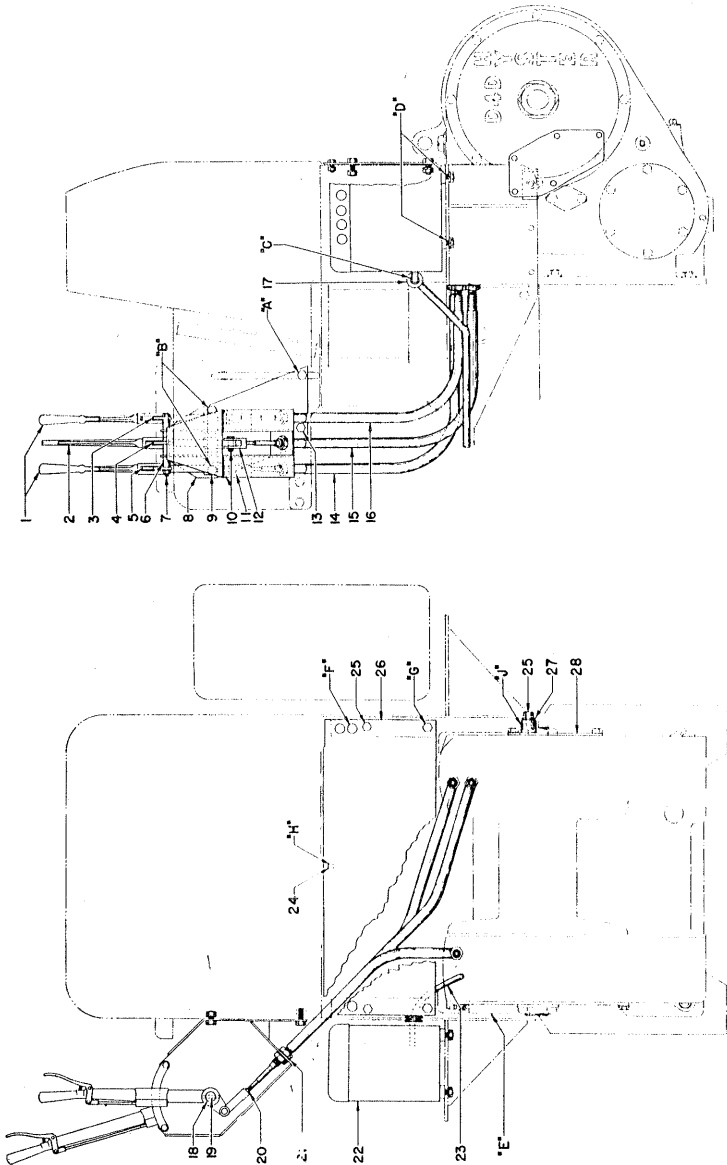
FOR TRACTORS SERIAL NO. 6U-5843, 7U-11952 AND UP

Cut out handlever bracket "A" as shown at "B". Measuring 3" from top of bracket, cut back to within 1-1/2" of bracket centerline, down 1-7/8, and back to edge of bracket.

FOR TRACTORS PRIOR TO SERIAL NO. 6U-5843 AND 7U-11952

Raise handlever bracket "A" two inches by placing pieces of pipe (1/2" x 2" long, furnished by winch owner) under capscrews "C". This will permit rod to run under bracket.

GENERAL ARRANGEMENT **(For Mounting on 6-Volt No. 955 Traxcavator)**



GENERAL ARRANGEMENT - 95916-AS

(For Mounting on 6-Volt No. 955 Traxcavator)

Ref. No.	Hyster Part No.	NAME OF PART	Qty. Reqd.
1	93919A	Handlever	2
	*92922	Rod—Pawl	2
	*32693	Rod End	2
	*32695	Spring	2
	*32694	Handle	2
	*37476	Machine Screw	4
2	*15052	Nut—Hex, No. 10-24	4
	93920A	Handlever (includes items above with *, except Rod—Pawl)	1
3	*92819	Rod—Pawl	1
4	92923	Quadrant—Free Spool	1
5	90371	Quadrant—Brake	1
6	32657	Quadrant—Forward, Reverse	1
7	94352	Spacer	8
	12337	Capscrew— $\frac{3}{8}$ UNF x 6	2
	15006	Nut—Hex, $\frac{3}{8}$ UNF	2
8	15156	Lockwasher— $\frac{3}{8}$	2
	93910W	Bracket—Handlever	1
9	15511	Capscrew— $\frac{1}{2}$ UNF x 1	2
	15008	Nut—Hex, $\frac{1}{2}$ UNF	2
	15158	Lockwasher— $\frac{1}{2}$	2
10	153	Pin—Rod End	3
	15222	Cotter— $\frac{1}{8}$ x $\frac{3}{4}$	3
11	92925	Rod End	2
12	92909	Rod End—Brake	1
13	15538	Capscrew— $\frac{1}{2}$ UNC x $1\frac{1}{4}$	1
	15008	Nut—Hex, $\frac{1}{2}$ UNC	1
	15158	Lockwasher— $\frac{1}{2}$	1
14	92791	Cable—Forward, Reverse (61" long) <i>N.L.A. See chart 190195</i>	1
15	93079	Cable—Brake (59" long)	1
16	92927	Cable—Free Spool (48" long)	1
17	94351	Grommet	1
18	94353	Shaft—Handlever	1
19	19909	Roll Pin— $\frac{1}{4}$ x $1\frac{3}{4}$	1
20	15026	Nut—Jam, $\frac{3}{8}$ UNF	3
21	15934	Lockwasher—Special	6
22	93937	Box—Battery	1
23	93942	Cable—Battery	1
24	15508	Capscrew— $\frac{3}{8}$ UNF x 1	1
	15006	Nut—Hex, $\frac{3}{8}$ UNF	1
	15156	Lockwasher— $\frac{3}{8}$	1
25	15514	Capscrew— $\frac{1}{2}$ UNF x $1\frac{1}{4}$	5
	15008	Nut—Hex, $\frac{1}{2}$ UNF	5
	15158	Lockwasher— $\frac{1}{2}$	5
26	93939	Plate—Cross	1
7	15178	Washer	2
8	94349W	Cover—Brake Adjustment	1

INSTALLATION INSTRUCTIONS
(For Mounting On 6-Volt No. 955 Traxcavator)

NOTE: No. 955 Traxcavator fixed drawbar and D4D Towing Winch cannot be attached simultaneously. Optional Hyster fixed drawbar available.

1. Disconnect battery from cable and remove battery, pad, mat, plate, and wing bolts from battery box. Detach battery base ("Caterpillar" No. 6H-2903), rear door ("Caterpillar" 6H-2868) and angle ("Caterpillar" No. 6H-2905).
 2. Remove grab iron. Keep lower capscrew to attach handlever bracket at "A".
 3. Drill two 9/16" dia. holes in L. H. seat side at "B", using handlever bracket (8) as template.
 4. Drill 1-1/4" dia. hole in L. H. side at "C" and insert grommet (17).
 5. Replace "Caterpillar" battery cable with Hyster cable (23), threading it through grommet (17).
 6. Drill four 9/16" dia. holes in L. H. fender at "D" to locate battery box (22).
 7. Burn rear of seat support as shown at "E". Do not burn out 3/8" tapped holes unless necessary.
 8. Attach D4D towing winch as directed in Parts Book, page 16.
 9. Use 1" dia. holes "F" to locate cross plate (26).
 10. Drill four 9/16" dia. holes at "G" and one 7/16" dia. hole at "H" using cross plate (26) as a template.
 11. Remove winch brake adjustment cover and drill one 9/16" dia. hole "J" through new cover (28) at assembly. Bolt to R. H. side of tractor.
 12. Bolt handlever bracket (8) in place, attach new control cables (14, 15 and 16) and thread them through L. H. side below seat, as shown.
- Bolt battery box (27) to L. H. fender and install battery.

SPECIFICATIONS

HYSTER MODEL -----D4D Mounted On 955 Trax.

Drum Size:

Barrel Dia.-----7-1/2

Flange Dia. -----17-1/2

Barrel Length -----10-1/4

Cable Capacity, Maximum Line -----(298 Ft. Of 3/4" Line
(or 430 Ft. Of 5/8" Line

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

Available Line Pulls:

Bare Drum -----26,500 Lbs.

Full Drum -----13,050 Lbs.

Line Speeds:

Bare Drum -----86.9 F. P. M.

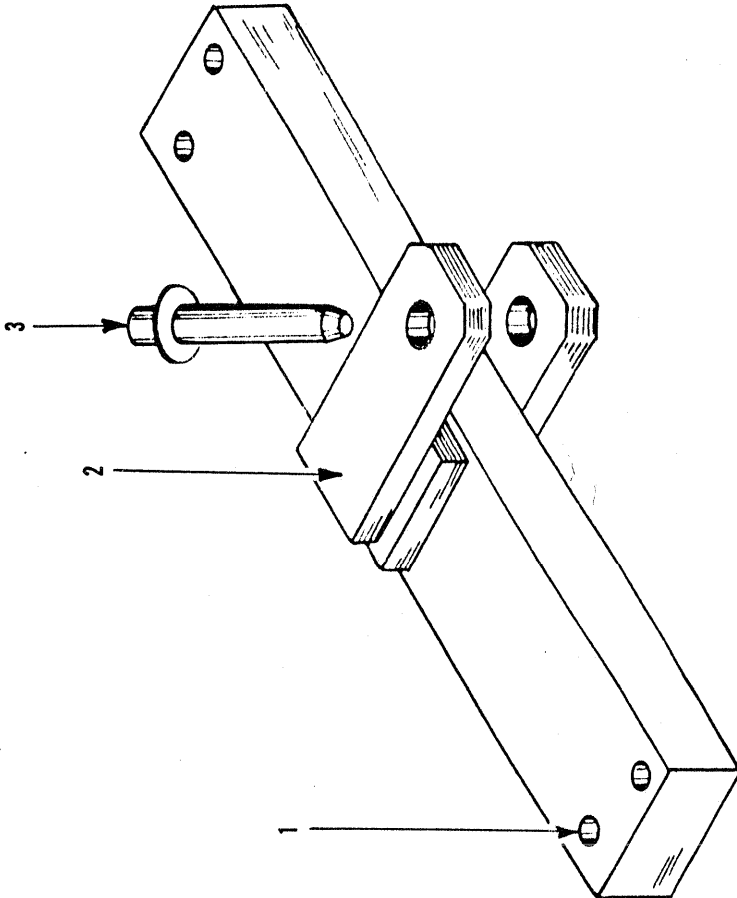
Full Drum -----176.8 F. P. M.

Above figures are based on 70 H. P. at 977RPM of
P. T. O. using 3/4" line.

NOTE: IMPORTANT

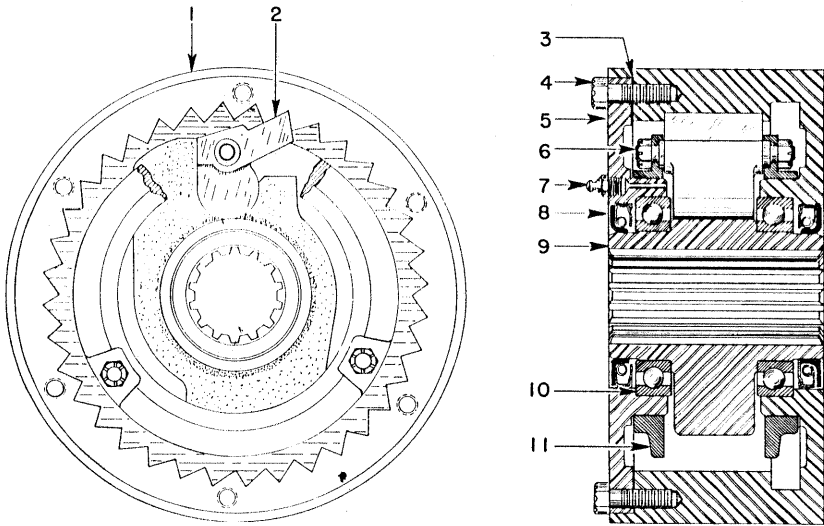
Available line pulls may be greater than the breaking point of cable used. Line pulls should be limited by winch owner to comply with all safety laws applicable where the equipment is being used. A multi-part line should be employed for loads beyond the safe limit of a single cable.

DRAWBAR BRACKET (OPTIONAL)



Ref. No.	Hyster Part No.	NAME OF PART	Qty. Req'd.
1	15784	Capscrew— $\frac{3}{4}$ UNC x $2\frac{3}{4}$	4
	15162	Lockwasher— $\frac{3}{4}$	4
2	99439W	Bracket—Drawbar	1
3	94448	Pin	1
	15264	Cotter— $\frac{5}{16}$ x $1\frac{3}{4}$	1

AUTOMATIC BRAKE NO. 92826A--OPTIONAL



REF. NO.	HYSTER PART NO.	NAME OF PART	QTY. REQ.
1	59389A	Wheel - Brake -----	1
2	59393	Pawl-----	1
3	59396	Gasket-----	1
4	27259	Capscrew - Drilled Head -----	6
5	59387	Cover-----	1
6	(94599	Link-----	3
	(12430	Nut-Hex Slotted-----	6
	(15201	Cotter -1/16 x 3/4-----	6
7	46187	Plug - Vent, Special-----	1
8	59395	Oil Seal -----	2
9	92950	Hub-----	1
10	44313	Bearing -----	2
11	92945	Ring - Drag -----	2
	58700	Grease-5 Lb. Can (High Melting Point)	

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SPECIFICATIONS

HYSTER MODEL-----D4D Towing Winch

Drum Size:

Barrel Diameter-----7-1/2"

Flange Diameter-----17-1/2"

Barrel Length-----10-1/4"

Cable Capacity, Maximum Line-----{ 298 ft. of 3/4" Line
(or 430 ft. of 5/8" Line

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

Available Line Pulls:

Bare Drum-----19,200 Lbs.

Full Drum ----- 9,450 Lbs.

Line Speeds:

Bare Drum-----98 f. p. m.

Full Drum -----199 f. p. m.

Above figures are based on 57 H. P. at 1100 R. P. M.
of P. T. O. using 3/4" line.

NOTE: IMPORTANT

Available line pulls may be greater than the breaking point of cable used. Line pulls should be limited by winch owner to comply with all safety laws applicable where the equipment is being used. A multi-part line should be employed for loads beyond the safe limit of a single cable.

Net Weight with Standard Brake (without cable)----- 1,140 Lbs.

Domestic Shipping Weight, Approx.-----1,200 Lbs.

OIL SEALS

1 - 23206

1 - 44489

1 - 44490

2 - 94492

1 - 79387

W/AUTO BRAKE 2 - 59395.

