

**PARTS BOOK
AND
INSTRUCTION MANUAL
for
HYSTER
D7D TOWING WINCH**



EFFECTIVE WITH
HYSTER NO. VWD-95457

HYSTER COMPANY

PORTLAND 8, OREGON

PEORIA 1, ILLINOIS

DANVILLE, ILLINOIS

U. S. A.

FORM NO. 842

Lithographed in U.S.A.

2300-455

PRICE 75 CENTS

VWD
model
#10 Cat
Serial
103638

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. 1 — October 17, 1955

D7D Towing Winch Parts Book Form No. 842

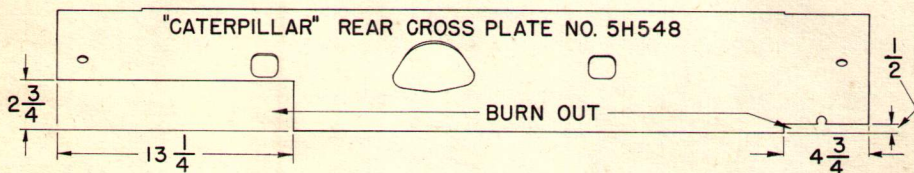
Please correct your book as indicated

PAGE 4—Under Brake, first paragraph, change as follows:

The brake lever is located on the left-hand side of the operator.

PAGE 5—Location of levers, at end of paragraph, change period to comma and add: and the shifter in forward and reverse position.

PAGE 14—This drawing showing tractor fender rear cross plate alteration, supersedes drawing on page 14.



PAGE 20, add the following:

Parts not illustrated:

18001	Cork No. 17 (To plug 1 1/4" holes)	2
18004	Cork No. 7 (To plug 3/4" holes)	6
32076	Wrench—Socket, "T" Handle	1

PAGE 22—Ref. 1, add the following:

93771	Bracket—Tie Rod (owner to weld)	2
-------	---------------------------------	---

PAGE 25—Ref. 4, revise as follows:

93738	Plug—Vent	1
-------	-----------	---

Important: Please make these changes promptly

HYSTER COMPANY

PORTLAND 8, OREGON

PEORIA 1, ILLINOIS

DANVILLE, ILLINOIS

U. S. A.

*PAGE 27, Ref. 11—Change Part No. 92942 to 12496.
Ref. 26, change qty. req. to 2.*

PAGE 29, Ref. 4—Change Part No. 92942 to 12496.

PAGE 33—Ref. 5, revise as follows:

15580	Capscrew— $\frac{3}{8}$ UNF x $1\frac{1}{2}$	1
15934	Lockwasher— $\frac{3}{8}$	2

Ref. 9, second line: change Part No. 93149A to 59802AB.

PAGE 35—Ref. 13, add the following:

93909	Clip	1
-------	------------	---

At the bottom of the page add:

Note:

Although equipped with grease fittings at each end, control cables should not be lubricated unless they become stiff or inoperative. Use *lubriplate* only if grease is required.

PAGE 37—Ref. 3, add the following:

93878	Shim (use as required)	
-------	------------------------	--

PAGE 38—Ref. 6, revise as follows:

†93812	Link—Shoulder	3
63632	Nut	6

At bottom of page add:

†Replace link 36008 which has two drilled holes, with link 93812 and two nuts 67632.

Inside Rear Cover, after Specifications, add:

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 state 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.

**PARTS BOOK
AND
INSTRUCTION MANUAL
FOR**

**HYSTER
D7D TOWING WINCH**

For model D7 "Caterpillar" Tractor

Tractor Serial No. 7MI and Up



Including
Installation, Lubrication and
Servicing Instructions

HYSTER COMPANY

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

PRINTED
IN
U.S.A.

INDEX

SECTION A--Operating Instructions -----	3-7
Location and Operation of Levers-----	5
Method of Attaching Cable -----	7
Optional Automatic Brake--Overwind, Underwind ----	7
Overwind--Underwind -----	6
SECTION B--Servicing Instructions -----	8-13
Brake Adjustment -----	13
Clutch Link Adjustment -----	13
Lubrication Instructions -----	8-11
SECTION C--Installation Instructions -----	14-19
Drawbar for Arch Service -----	18
Method of Attaching Ferrules -----	19
Preparing Tractor for Mounting Winch -----	14
SECTION D--List of Parts and Illustrations -----	20-39
Automatic Brake--Optional -----	38
Brake Compartment -----	32
Brake Shaft -----	28
Drum -----	30
Fairlead--Optional-----	36
General Arrangement--Inside -----	21
General Arrangement--Outside-----	20
Handlevers -----	34
Numerical Index -----	39
Plan View -----	18
Power Take-Off -----	24
Rear View-----	22
Shifter Group -----	26
Side View -----	23
Transmission -----	20-23
SPECIFICATIONS-----	Inside Back Cover

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 master clutch.
 - C. Place the tractor transmission gear shift lever in neutral.
 - D. Set and lock the 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.

OPERATING INSTRUCTIONS — Continued

This section, in addition to instructions for operating, contains illustrations and instructions pertaining to certain simple adjustments.

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 SHOULD BE DISENGAGED
BEFORE SHIFTING GEARS IN THE WINCH.**

TRACTOR LUBRICATION FOR STATIONARY WORK CAUTION

In order to provide adequate lubrication for the D7 tractor upper transmission shaft bearings, always engage flywheel clutch, leave forward-reverse lever in gear, and speed selector lever in neutral when operating winch or other rear-mounted attachments.

Brake

The brake lever is located on the right-hand side of the operator. 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.

RIGHT AND LEFT HAND SIDE OF TOWING WINCH

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

Operating Instructions -- Continued

LOCATION OF LEVERS

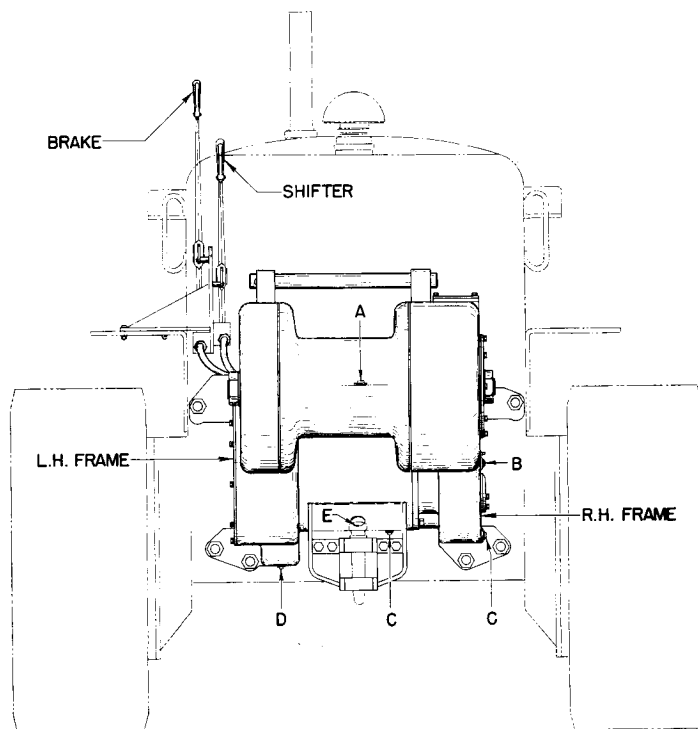
The brake and shifter levers are located on the left hand side of operator. A pawl and ratchet are provided to hold brake lever in applied position.

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

BRAKE

The brake hand lever is the longer lever. When pushed forward the brake is released; when pulled backward the brake is applied.

The brake is an external contracting band type. Care should be exercised in applying the brake. Apply brake **ONLY** when tractor master clutch is disengaged, otherwise the tractor motor will be stalled and damage could result to the winch mechanism.



Operating Instructions -- Continued**OVERWINDING**

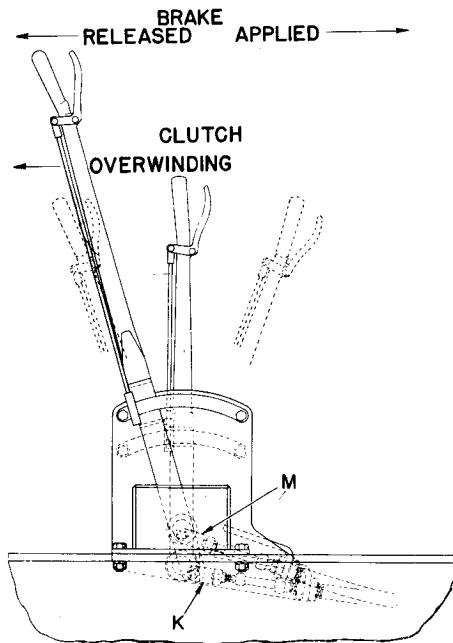
When the winch is used with the cable leading from the top of the drum, the drum is **OVERWINDING**. To wrap the cable around the drum or pull in a load the shifter lever should be pushed away from the operator. Center location is neutral. To pay out line, shift lever backward.

NOTE

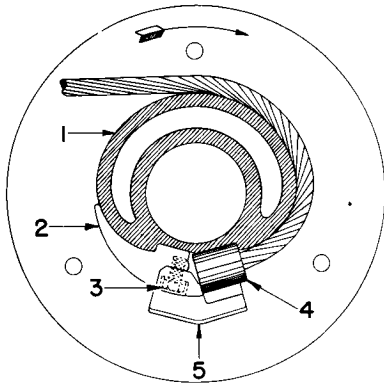
If not otherwise specified, all winches are shipped with the brake set up for drum to be pulling cable in **OVERWINDING** (over the top of the drum barrel).

UNDERWINDING

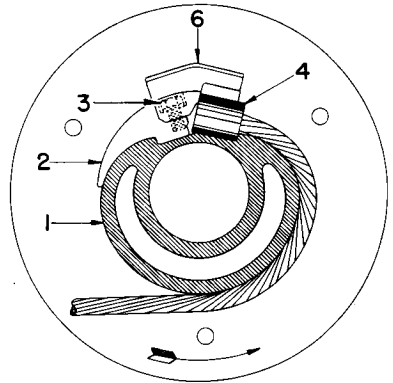
When the winch is used with the cable leading from the bottom of the drum, it is said to be **UNDERWINDING**. To wrap the cable around the drum or pull in a load the shifter lever should be pulled back toward the operator. Center location is neutral. To pay out line, shift lever forward.



Operating Instructions -- Continued

METHOD OF ATTACHING CABLE FOR
OVERWINDING OR UNDERWINDING DRUM

OVERWINDING



UNDERWINDING

The figures above illustrate the cable installation for overwinding and underwinding drum.

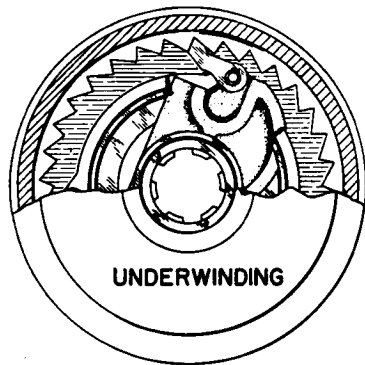
OVERWINDING--Place ferrule (4) in pocket and lock into place with filler (2) and ferrule lock (5), using capscrew (3) and lockwasher.

UNDERWINDING--Place ferrule (4) in pocket and lock into place with filler (2) and ferrule lock (6), using capscrew (3) and lockwasher.

SPECIAL AUTOMATIC BRAKE



OVERWINDING



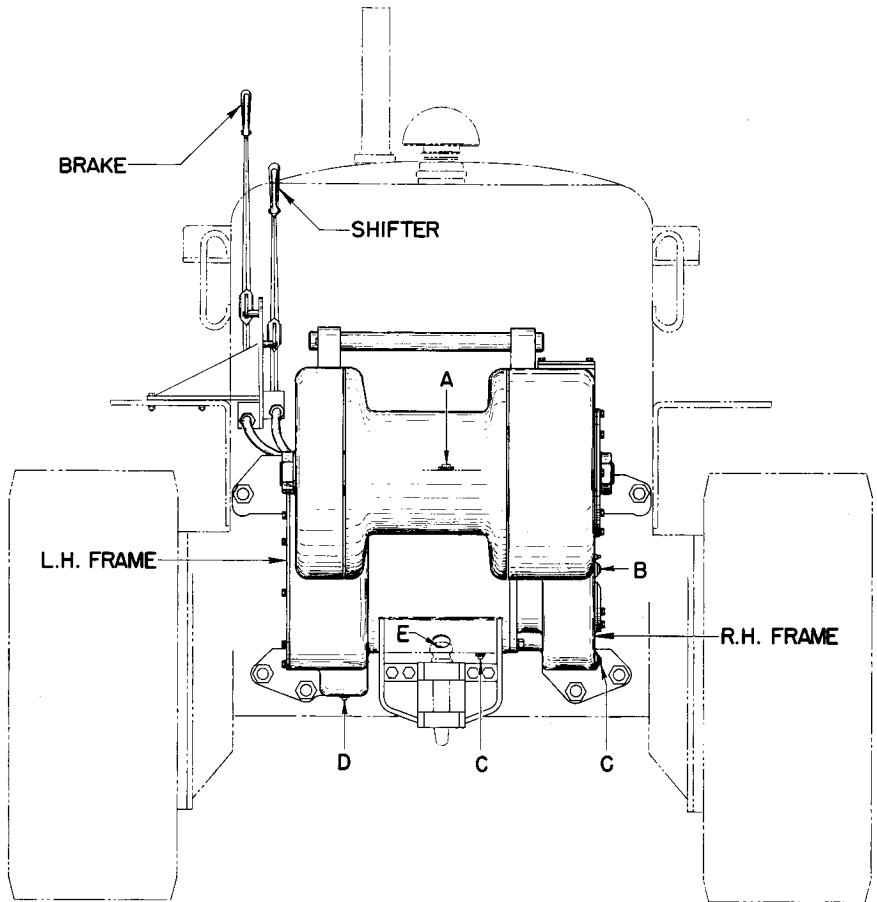
UNDERWINDING

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 covering brake linkage and adjustments on regular brake apply also to the special automatic brake.

LUBRICATION CHART



SECTION B
SERVICING INSTRUCTIONS

LUBRICATION INSTRUCTIONS

The Lubrication Chart shows the location of the various lubrication points, and filler and drain plugs on the transmission case and brake compartment.

All bearings and gears in the Hoist Unit, including the drum bearings, are lubricated from the oil in the transmission case and gear drive compartment. One oil level check plug for both compartments is located on the right-hand side frame at "B". (See chart on page 8.)

The oil should be drained from both the transmission and large drum gear drive compartment of a new hoist after about one week's service, and each compartment flushed and refilled with fresh oil.

The oil level in transmission case should be checked weekly, keeping case filled up to the oil level plug "B". The two drainplugs are located at "C", one on the right-hand side frame as indicated, and the other on the underside of the transmission case.

Drain oil and flush through drain plugs at "C" every 60 days (or whenever the oil is changed in the tractor transmission case). Refill through filler plug "A" until oil comes up to level plug. In general, for refilling, use SAE 90 or the same gravity oil as is required in "Caterpillar's" transmission.

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

Filler hole, provided with pipe plug, is located in top cover of transmission case at "A".

Handlever pivots and cable connections should be oiled once every day with a few drops of oil from an ordinary oil can.

The drain plug "D" should be removed occasionally to permit any water accumulated from condensation to drain from brake compartment.

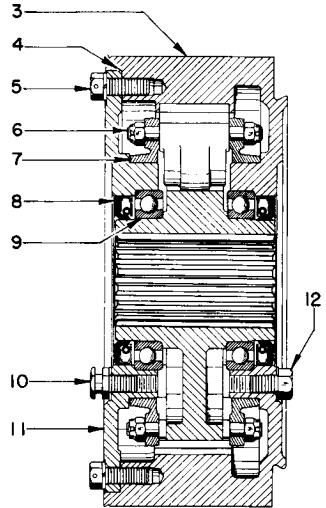
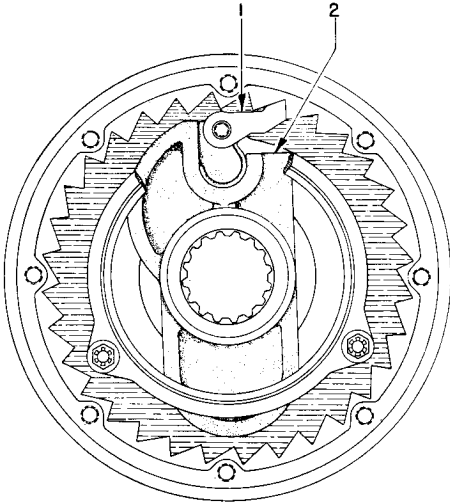
BUILT-IN DRAWBAR

If the Hyster built-in drawbar is used in the swiveling set-up, it should be lubricated through the grease fitting "E".

SERVICING INSTRUCTIONS - - Continued

LUBRICATION INSTRUCTIONS

AUTOMATIC BRAKE (Optional Equipment)



Every 1000 hours of service the brake 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 large cover plate on the left-hand side frame brake compartment must be removed to gain access to the brake.
2. Pull pins in ends of brake band 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 from end of brake shaft.
4. Assembled wheel can then be pulled from shaft. If wheel is tight, an appropriate puller may have to be used. Two 1/2" NF tapped holes, plugged with vent plug (10) and 1/2 capscrews (12) with copper washers, are provided for using an appropriate puller. Remove these, taking care not to lose the copper washers as they prevent leakage of the lubricant when reassembled.
5. Remove eight capscrews and lockwashers (5).

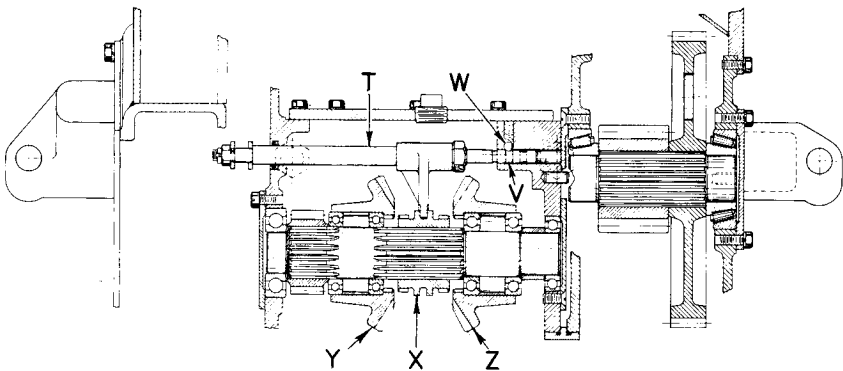
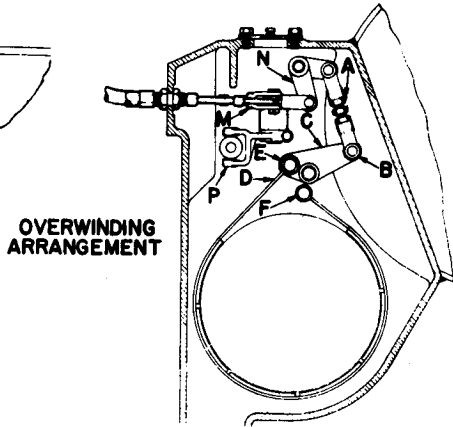
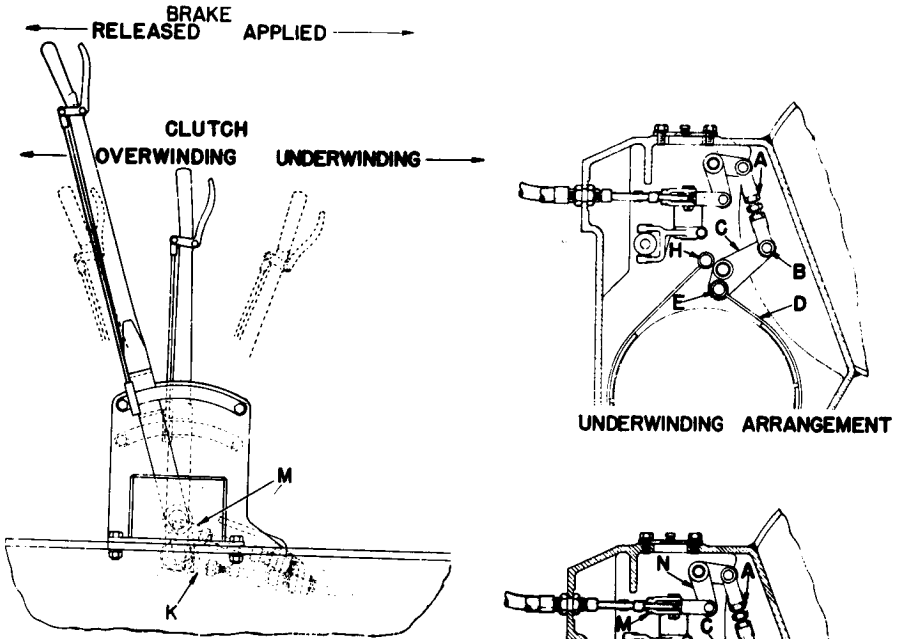
SERVICING INSTRUCTIONS - - Continued

LUBRICATION INSTRUCTIONS

6. Remove cover with appropriate puller, using the holes in cover from which the capscrew and vent plug (10) with copper gasket washers were removed. Take care not to damage oil seal.
7. After brake is open, pull out hub (2), assembled with pawl (1) and drag rings (7).
8. Clean all parts thoroughly and repack brake with about 3/4 pound of heavy duty wheel bearing grease of a high melting point. Apply carefully to bearings and all rubbing surfaces.

CAUTION. Do not fill brake completely with grease.

9. After servicing brake, replace hub (2) assembled with pawl (1) and drag rings (7). Check to see that seals (8) are in good condition.
10. NOTE: Install oil seals so that lips of both are pointing in as shown.
11. Clean gasket surfaces making certain that no grease remains. Use new gasket (4). Coat both sides of the gasket with Permatex Gasket cement. Carefully assemble cover (11) onto case. With side cover in place, squeeze a liberal amount of Permatex No. 1 gasket cement into each capscrew hole. (Use enough so that when the capscrew is tightened the cement will squeeze out all around the head.) Fasten securely with eight capscrews and lockwashers provided.
12. Be sure to replace the vent plug (10) and capscrew with copper washers, removed in instruction 4.
13. Install assembled brake wheel on shaft in winch, and lock in place with flanged nut and cotter, removed in instruction 3.
14. Release brake handlever and install brake band over brake wheel, anchoring with pins removed in instruction 2.



SERVICING INSTRUCTIONS - - Continued

BRAKE ADJUSTMENT (Also see "Brake and Clutch Cables" installation instruction 12)

For "overwinding" cable connect link "A" to crank "C" at hole "B", and loose end "D" of brake band at "E". "F" is anchored end of brake band.

For "underwinding" cable remove link connection from hole "B" and brake band connection from hole "E" of crank "C". Remove pin from anchored end "F" of brake band. Turn crank "C" upside down so that hole "E" will line up with end of brake band which was formerly anchored at "F". Reinsert pin which was removed from connection "F", in new location of anchored end of brake band at "H".

See page 7 for additional changes required when winch is equipped with optional automatic brake.

If brake is used with incorrect setting, it will be much harder to apply, and the load will be difficult to hold.

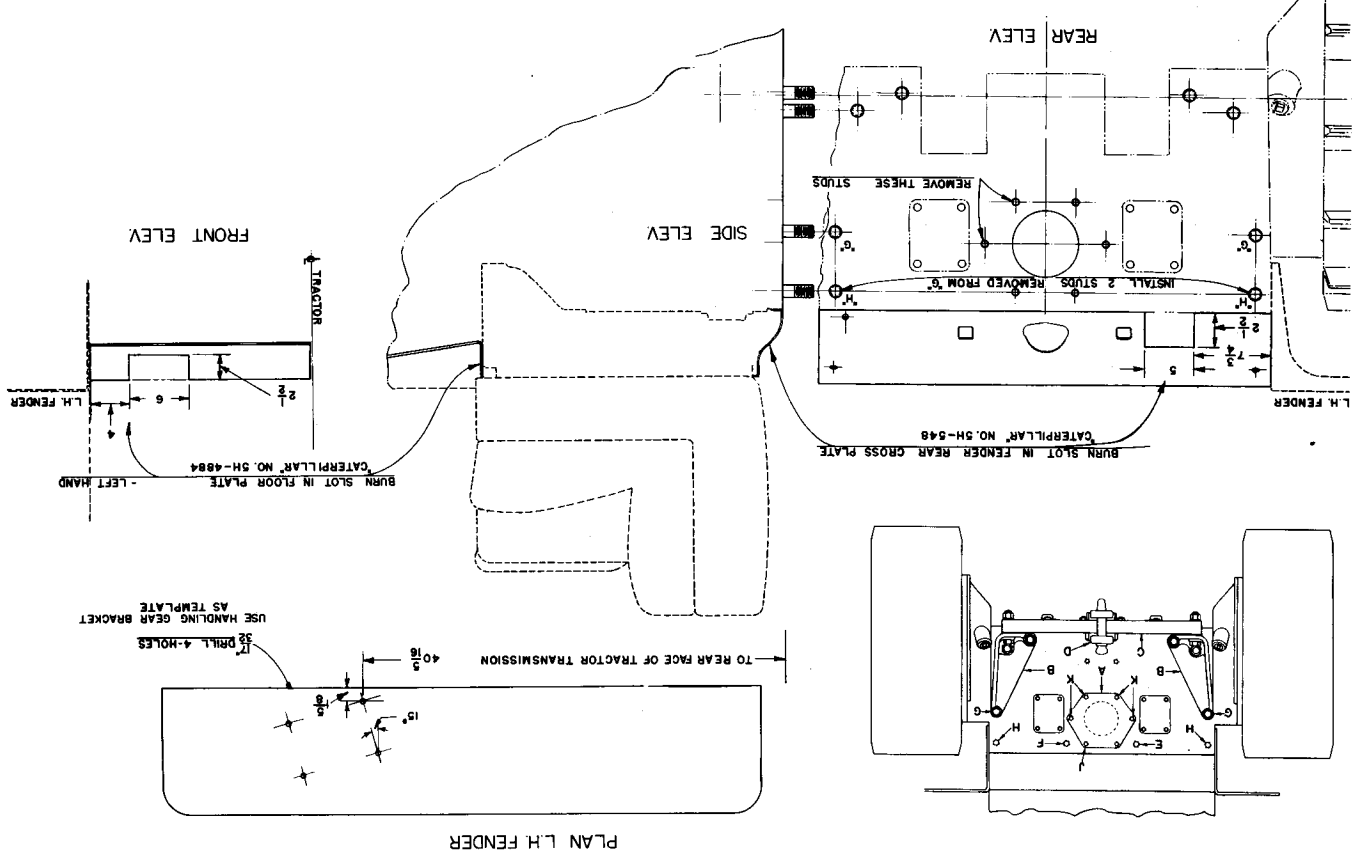
As the brake band wears and brake handlever comes too far back on quadrant to hold load, it will be necessary to shorten link "A". This can be done by loosening the lock nuts and adjusting the turnbuckle of link "A". After the adjustment has been made, tighten the lock nuts.

Additional brake adjustment is provided in the cable connecting the handlever with the crank "N" inside the housing. Loosen lock nuts and turn rod ends "K". Tighten lock nuts after adjustment.

NOTE: Release the brake handlever after each adjustment and check to see if brake band is sufficiently free to keep from "dragging" and burning up the lining. Care should be taken to have the brake band lining about 1/32" free from the brake drum when the handlever is pushed all the way forward.

CLUTCH ADJUSTMENT

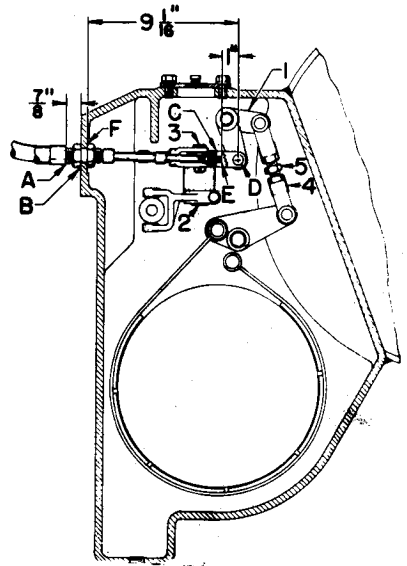
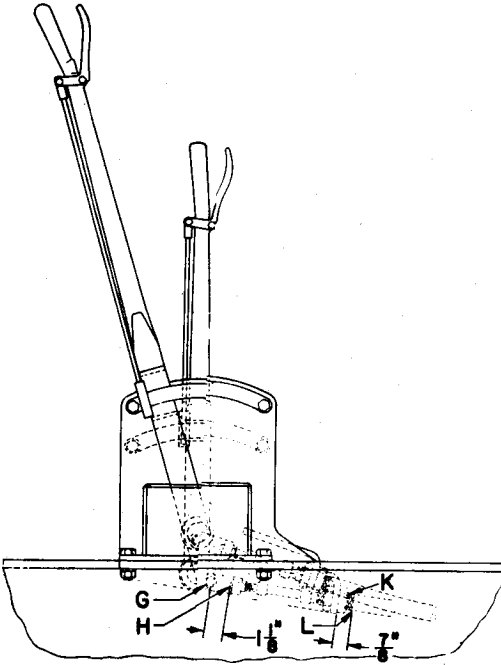
The pawl of the clutch handlever should be in the notch of the clutch quadrant when the sliding clutch "X" is in neutral as shown. That is with clutch "X" midway between gears "Y" and "Z" and ball "W" in center notch "V" of shifter shaft "T". Adjust rod ends "M" on clutch cable until sliding clutch and handlever are both in neutral position. Tighten lock nuts at rod ends. Rod end "M" inside the case connects to a crank which in turn is connected to shifter fork "P".



SECTION C
INSTALLATION INSTRUCTIONS
D7D TOWING WINCH

There are several steps necessary to PREPARE THE TRACTOR for installing the Hyster D7D Winch on the "Caterpillar" D7 Diesel Tractor.

1. Remove the power take-off cover plate "A", drawbar braces "B", drawbar plate "C" and drawbar "D" and discard.
2. Remove left-hand floor plate and fender rear cross plate from tractor, and burn slots as shown on page 14. Move tool box from left to right fender.
3. Mark and drill four 17/32" holes in left fender for quadrant support bracket. Bracket should be mounted in most convenient location for operator, or approximately as shown on drawing. Use bracket as template.
4. Install one stud 1-1/4" Dia. x 3-1/2" long at "E" and one stud 1-1/4" Dia. x 4-1/8" long at "F".
5. Remove two studs "G" and install them in holes "H". The two lower studs, which previously held the drawbar bracket to the tractor, are left in position to hold lower lugs of winch.
6. Remove six studs "J" and plug four holes "K" with corks to prevent oil from leaking out of the tractor transmission.
7. Replace altered left-hand floor plate and fender rear cross plate in their respective positions. Check to see that power take-off coupling is secured to winch drive shaft, and locked with snap ring. Wipe all mounting pads and transmission face so that they are clean and free of any foreign matter.
8. Hoist winch unit and swing toward tractor. When nearing tractor drive shaft, turn the power take-off shaft, until the coupling will enter the splines, at the same time being careful to see that the fastening holes in side frames match with the 1-1/4" studs on the tractor. Slip lockwashers over the studs and start the nuts, tightening them as the winch progresses closer to the tractor transmission. Draw up all nuts tightly.



INSTALLATION INSTRUCTIONS - - Continued

9. Install control lever assembly over holes on left-hand fender. (Drilled in instruction 3)

10. Remove top and upper side covers from brake compartment of transmission housing. (Left side of winch)

11. Pass brake and gear shift cables under the seat and through the holes in the rear of the housing, connect brake cable rod end "C" to Crank (1) with Pin "D". Connect gear shift cable to top arm of crank (2) with pin (3). Tighten cables to housing with jam nuts provided.

BRAKE AND CLUTCH CABLES

12. For most efficient operation, the cables connecting the handlevers with the mechanism inside the brake compartment, should be adjusted according to the dimensions shown. At the end inside the case, adjust both cables as follows: End of threaded portion "A" should be 7/8" from milled face of winch case "B". The brake rod end "C" should be set with pin centerline "D" one inch from threaded end "E" of brake cable. In fully released position centerline "D" should be 9-1/16" from inside face of winch case at "F".

At the handlever ends, both cables should be set with the centerlines of pins "G" 1-1/8" from ends "H" of cables, and nuts "K" 7/8" from threaded portion "L".

13. Loosen jam nuts (4) and adjust turnbuckle (5) until there is approximately 1/32" clearance between brake lining and drum, with the brake hand lever in released position. After adjustment, tighten jam nuts (4).

NOTE: Brake setting as shown is for overwinding. For underwinding see page 12. If brake is used with incorrect setting, it will be much harder to apply and the load will be difficult to hold. (For automatic brake, see page 7.)

14. Put gear shift handlever in neutral slot. Check to see if gears in transmission are in neutral. (Transmission cover plate should be removed to do this.) Adjust length of connecting cable by means of threaded rod ends and secure with locknuts. Connect to handlever, and then shift gears to see if gears mesh properly.

The sliding clutch "X" should be centered between gears "Y" and "Z" when the handlever is in neutral slot. The spring-loaded ball should now be in the center groove on the shifter fork stem. This can all be easily checked with transmission cover removed. Check all connections to see that all cotters are installed.

BEFORE replacing transmission cover, see that oil level is about up to the center of the sliding pinion shaft.

Replace transmission cover and bolt tightly.

15. Check all bolts and connections, and make sure that all nuts and lockwashers are in place and drawn up tightly.

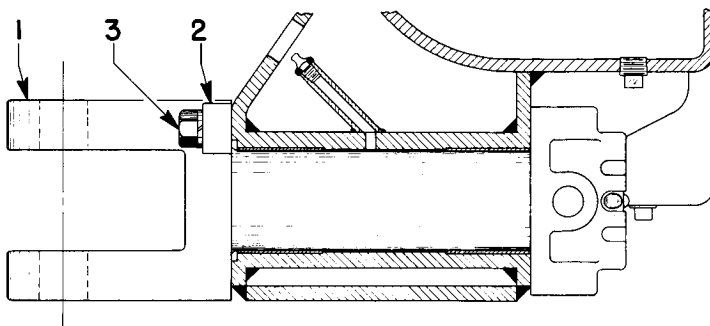
DRAWBAR FOR ARCH SERVICE

NOTE: This drawbar (1) has two lock plates (2) held in place with two capscrews (3) each, to keep it from swiveling, and **MUST BE USED AS FOLLOWS:**

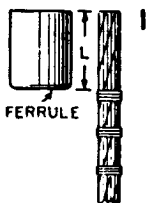
Rule 1. If coupler in logging arch is swiveling, the drawbar in towing winch has to be locked.

Rule 2. If coupler in logging arch is locked, the drawbar in towing winch has to be swiveling. This is accomplished by removing lock plates (2).

Failure to observe these rules will result in broken drawbar and coupler parts. When connecting the arch to the towing winch, a special Hyster drawbar bolt with castellated nut is sent with each coupler. This nut must be drawn up tightly and locked at all times. Failure to do this will cause undue expense in broken couplers and drawbar yokes.



METHOD OF ATTACHING FERRULES



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

2 SLIP FERRULE OVER CABLE AND PUSH DOWN OVER SEIZINGS.



HEMP CENTER

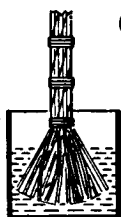


3 CUT OUT HEMP CENTER. IF CABLE HAS A WIRE ROPE OR STEEL STRAND CENTER, DO NOT CUT OUT.

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



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.

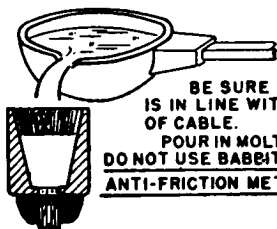


6 DIP WIRES FOR $\frac{3}{4}$ OF THE DISTANCE TO FIRST SERVING INTO ACID BATH CONSISTING OF NOT OVER ONE PART OF MURIATIC AND ONE PART WATER. TAKE CARE THAT ACID DOES NOT GET ON ANY OTHER PART OF CABLE. KEEP IN LONG ENOUGH TO BE THOROLY CLEANED. DRY THOROLY.



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"

8 HEAT THE ZINC TO THE POINT WHERE A SMALL STICK OF SOFT WOOD DIPPED INTO THE ZINC AND QUICKLY WITHDRAWN WILL BE SCORCHED BUT NOT IGNITED.



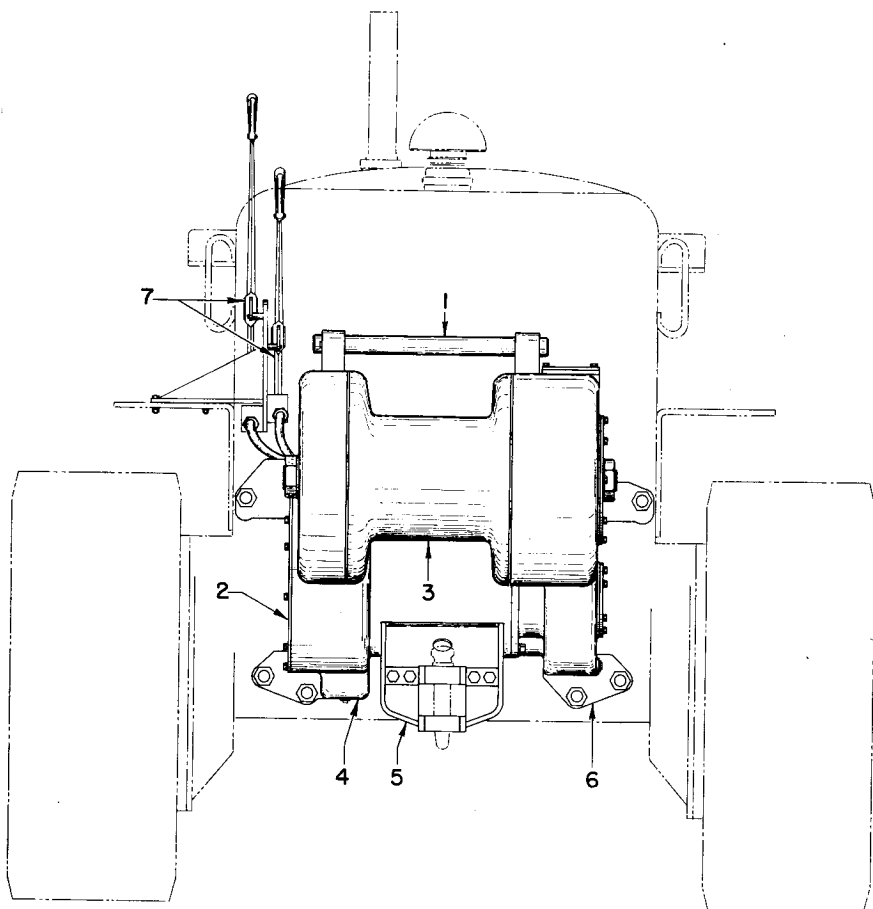
9 BE SURE FERRULE IS IN LINE WITH AXIS OF CABLE. POUR IN MOLTEN ZINC. DO NOT USE BABBITT OR OTHER ANTI-FRICTION METAL.



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

GENERAL ARRANGEMENT

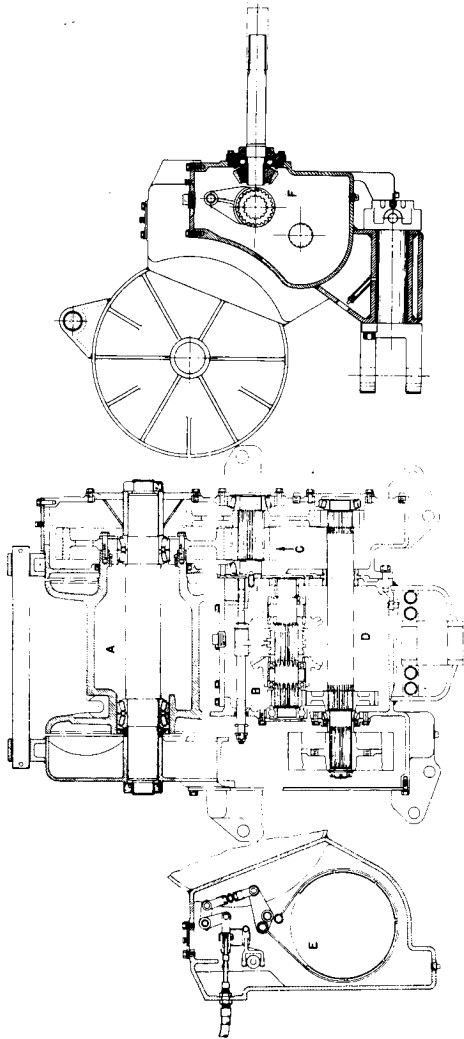
OUTSIDE



REF. NO.	DESCRIPTION	PAGE
1	Tie Rod -----	22
2	Left Hand Side Covers -----	23
3	Drum Unit -----	31
4	Transmission Housing -----	22
5	Drawbar -----	24
6	Right Hand Side Frame -----	22
7	Hand levers -----	34

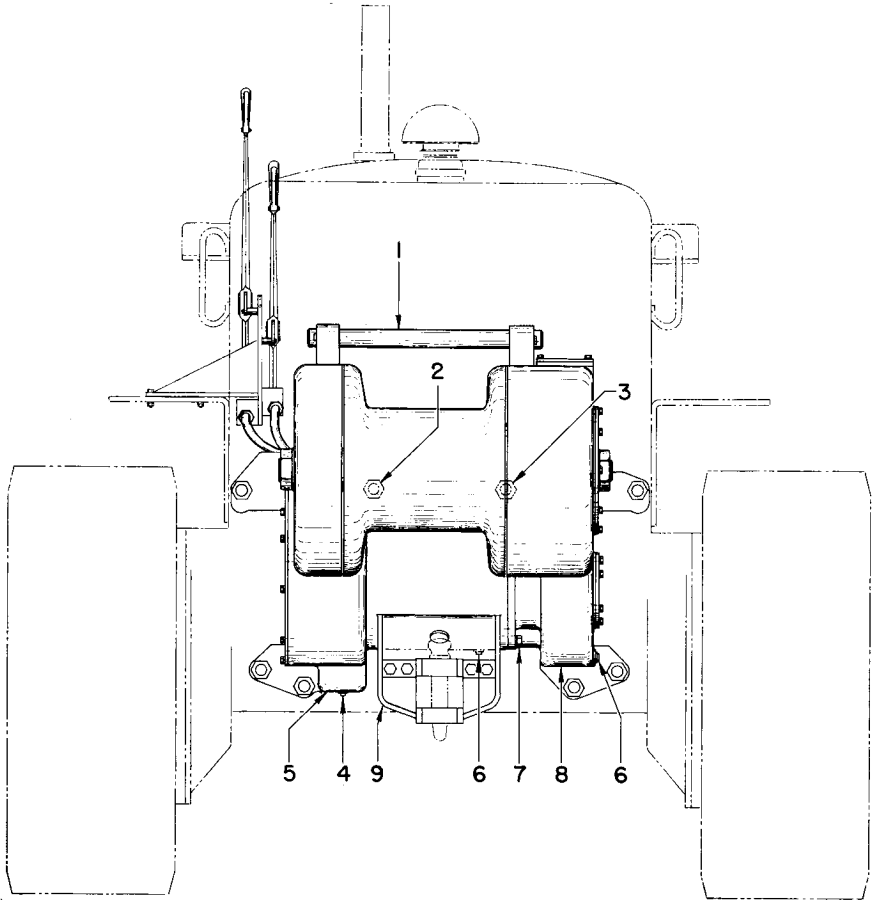
GENERAL ARRANGEMENT

INSIDE



	PAGE
A	Drum Shaft Group ----- 31
B	Shifter Group ----- 27
C	Intermediate Drum Gear Group ----- 29
D	Brake Shaft Group ----- 29
E	Brake Compartment Group ----- 32
F	Power Take-Off and Drawbar Groups ----- 24

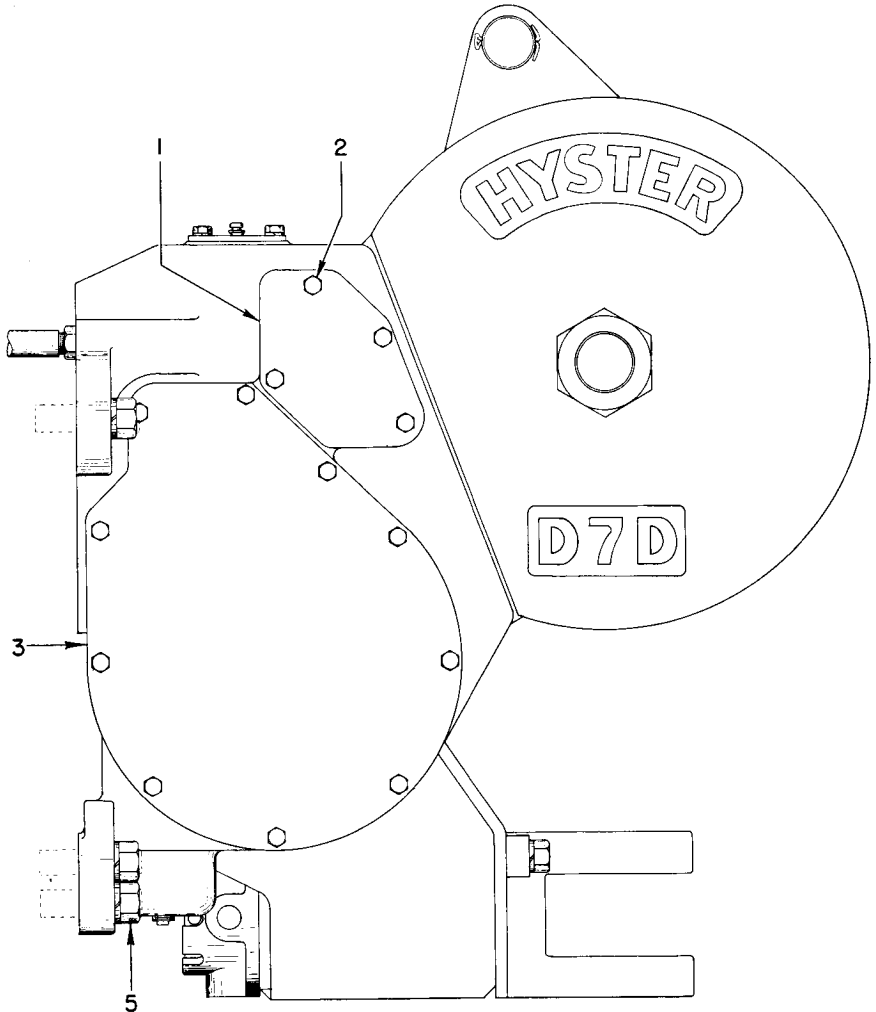
REAR VIEW



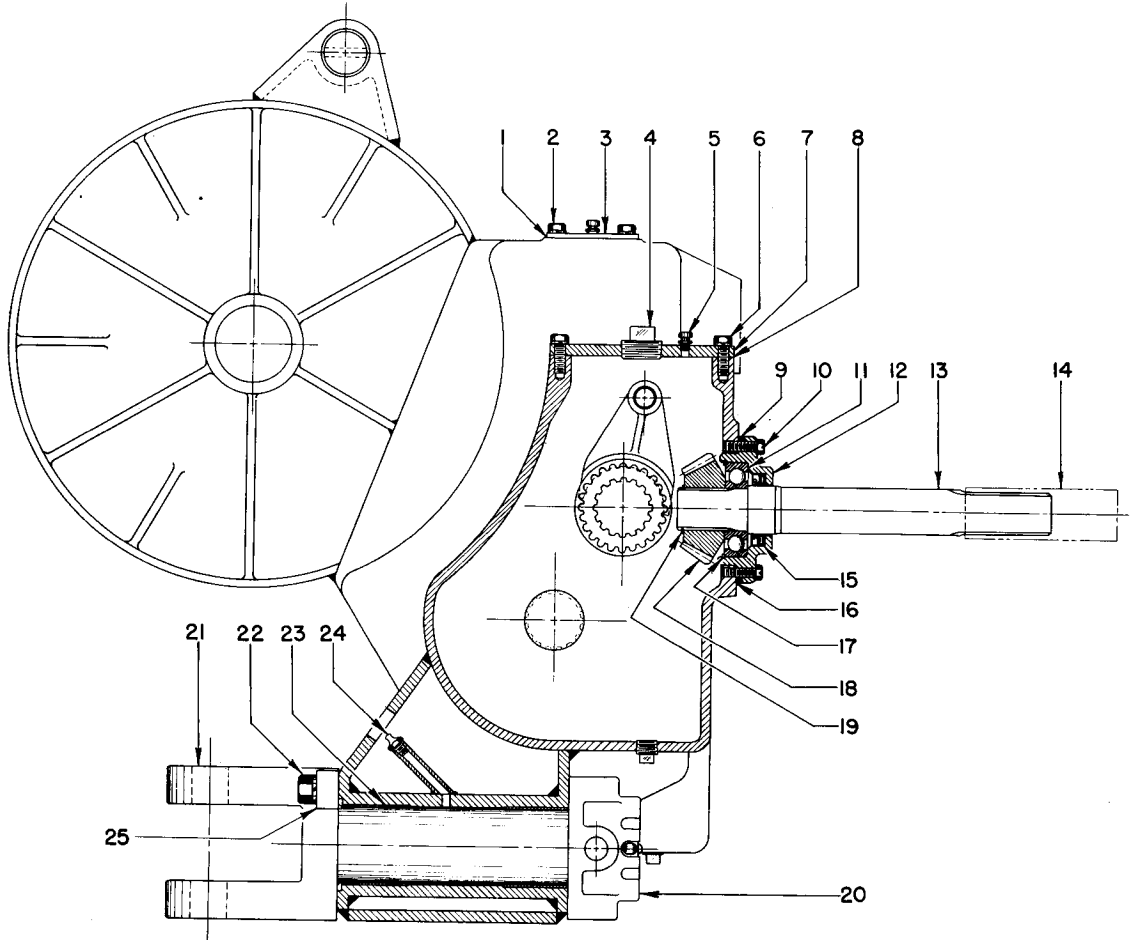
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY. REQ.
1	(92606 15286)	Rod-Tie ----- Cotter-3/8 x 2-3/4-----	1 2
2	(92672 14496 32796)	Stud-1-1/4 Dia. x 3-1/2 Long ----- Lockwasher-Shakeproof, 1-1/4 ----- Nut-Jam, 1-1/4 UNF -----	1 1 1
3	(6694 14496 32796)	Stud-1-1/4 Dia. x 4-1/8 Long ----- Lockwasher-1-1/4 ----- Nut-Jam, 1-1/4 UNF -----	1 1 1
4	15304	Pipe Plug-3/4 , Square Head -----	2
5	92589A	Housing-Transmission -----	1
6	35503	Pipe Plug-3/4 , Magnetic -----	2
7	(16800 15162)	Capscrew-Hardened, 3/4 UNF x 2 ----- Lockwasher-3/4 -----	10 10
8	92604A	Frame-Side R. H. -----	1
9	92598A	Bracket-Drawbar (Included with Transmission Housing)-----	1

Complete Gasket Set for D7D T. W. No. 92993A

SIDE ELEVATION - LEFT HAND



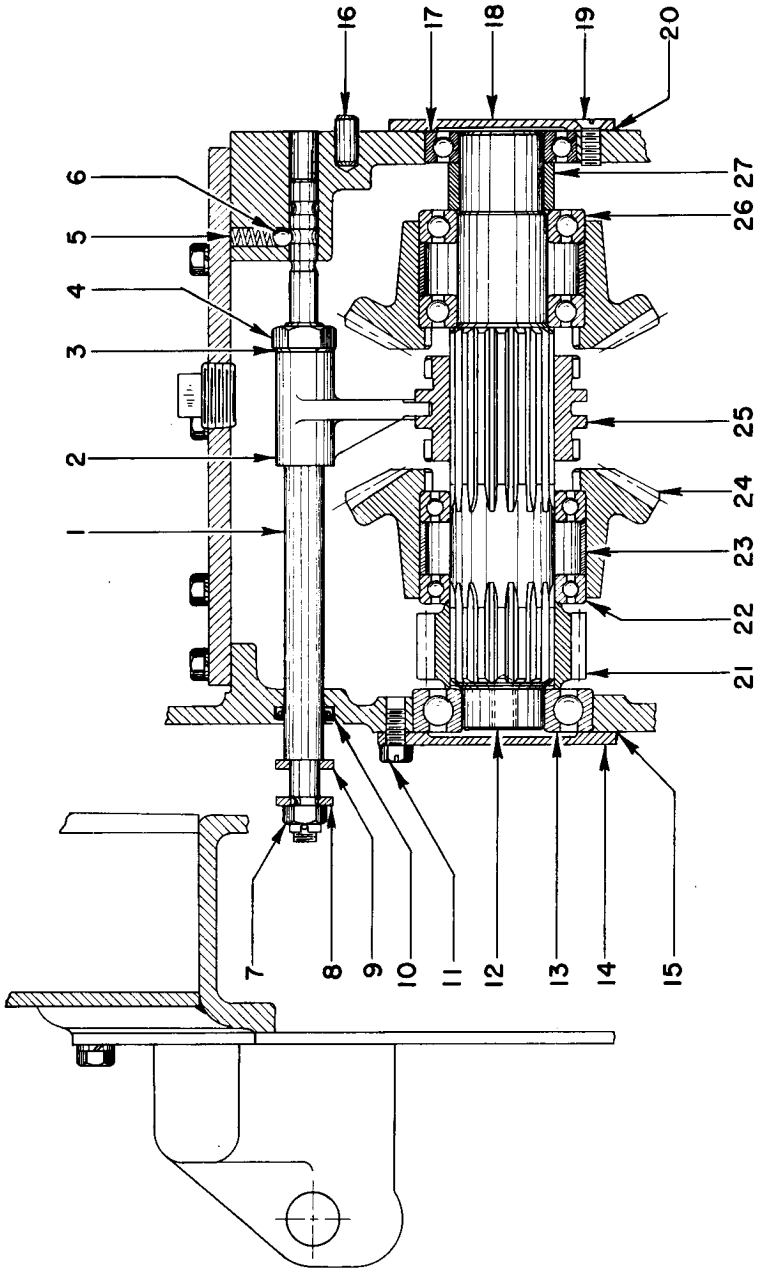
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY. REQ.
1	(92657 92656)	Plate-Cover ----- Gasket-----	1 1
2	(16820 15158)	Capscrew-Hardened, 1/2 UNF x 1 ----- Lockwasher-1/2 -----	14 14
3	(92659 92658)	Plate-Cover ----- Gasket -----	1 1
5	((Nut (Furnished with Tractor. Lockwasher (Formerly used to hold (Tractor Drawbar Brackets.	



POWER TAKE-OFF

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY. REQ.
1	92664	Gasket -----	1
2	(16820 (15158)	Capscrew-Hardened, 1/2 UNF x 1----- Lockwasher-1/2-----	4 4
3	92665	Plate-Cover -----	1
4	15309	Pipe Plug 1-1/2-----	1
5	21420	Vent Fitting -----	2
6	(16807 (15158)	Capscrew-Hardened, 1/2 UNF x 1-1/2 ----- Lockwasher-1/2 -----	9 9
7	92661	Plate-Cover -----	1
8	92660	Gasket -----	1
9	46389	"O" Ring -----	1
10	92588	Place Bolt 7/16 UNF x 1-1/2 -----	6
11	41310L	Bearing-----	1
12	92668	Carrier-Bearing -----	1
13	92669	Shaft-Power Take-Off -----	1
14	(33785 (33786 (9528	Coupling ("Caterpillar" No. 7B-2719)----- Pin ("Caterpillar" No. 1A-4653)----- Snap Ring ("Caterpillar" No. 1A-5803)-----	1 1 1
15	44486	Oil Seal -----	1
16	92667	Shim Set -----	1
17	35573	Snap Ring -----	1
18	92666	Gear-Bevel (24 Teeth) -----	1
19	12916	Snap Ring -----	1
20	(33618 (15295	Nut ----- Cotter 1/2 x 5 -----	1 1
21	33787	Drawbar -----	1
22	(16800 (15162	Capscrew-Hardened, 3/4 UNF x 2 ----- Lockwasher 3/4 -----	4 4
23	92671	Bushing-Split Type-----	2
24	16002	Grease Fitting-----	1
25	92670	Keeper -----	2

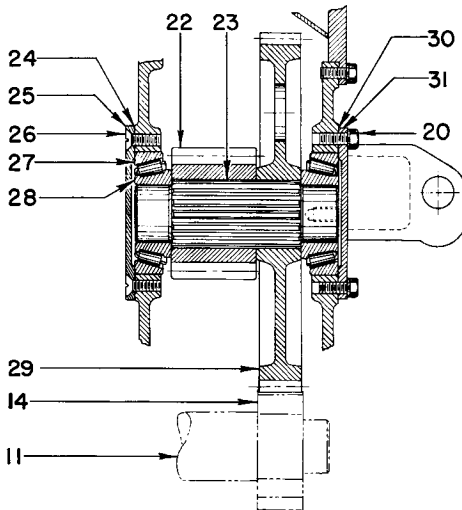
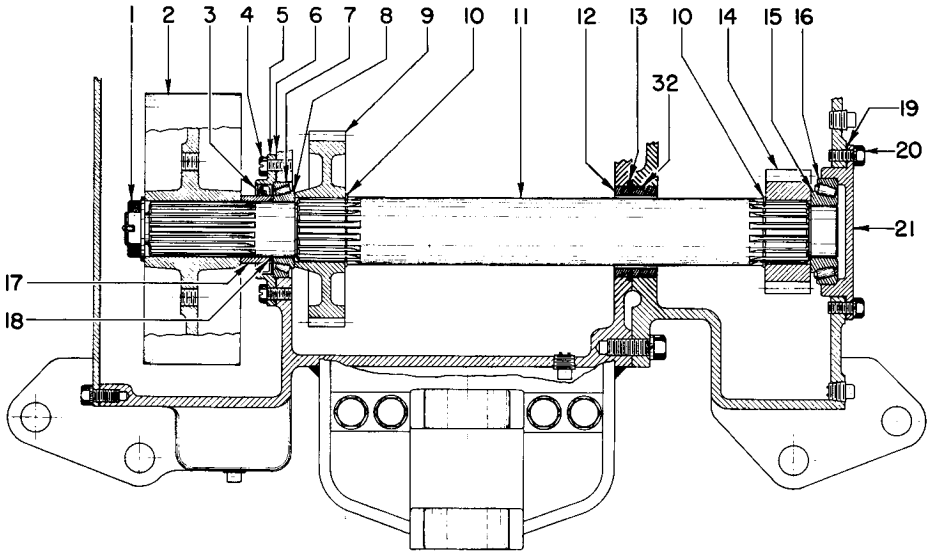
SHIFTER GROUP



SHIFTER GROUP

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY. REQ.
1	92627	Rod-Shifter -----	1
2	92629	Fork-Shifter -----	1
3	15936B	Washer-1", Shakeproof -----	1
4	15036	Nut-Jam, 1" NF -----	1
5	6347C	Spring -----	1
6	6348	Ball-1/2 -----	1
7	(37474 (15224	Nut-Castellated, 5/8 NF ----- Cotter-1/8 x 1-1/4-----	1 1
8	33682	Washer -----	1
9	33681	Washer-----	1
10	23206	Oil Seal-----	1
11	92942	Place Bolt-1/2 UNF x 1 -----	6
12	92635	Shaft-----	1
13	41311	Bearing -----	1
14	92634	Retainer -----	1
15	92633	Gasket-----	1
16	46224	Pin-Dowel -----	1
17	41211	Bearing -----	1
18	92642	Plate-Cover -----	1
19	16352	Capscrew-Flat Head, 1/2 UNF x 1-1/4 (Stake in Place) -----	6
20	92641	Shim Set -----	1
21	92636	Gear (20 Teeth) -----	1
22	44314	Bearing -----	2
23	92638	Spacer -----	2
24	92637	Gear-Bevel (41 Teeth) -----	2
25	92639	Clutch-Sliding -----	1
26	43212	Bearing-----	1
27	92640	Spacer -----	1

BRAKE SHAFT

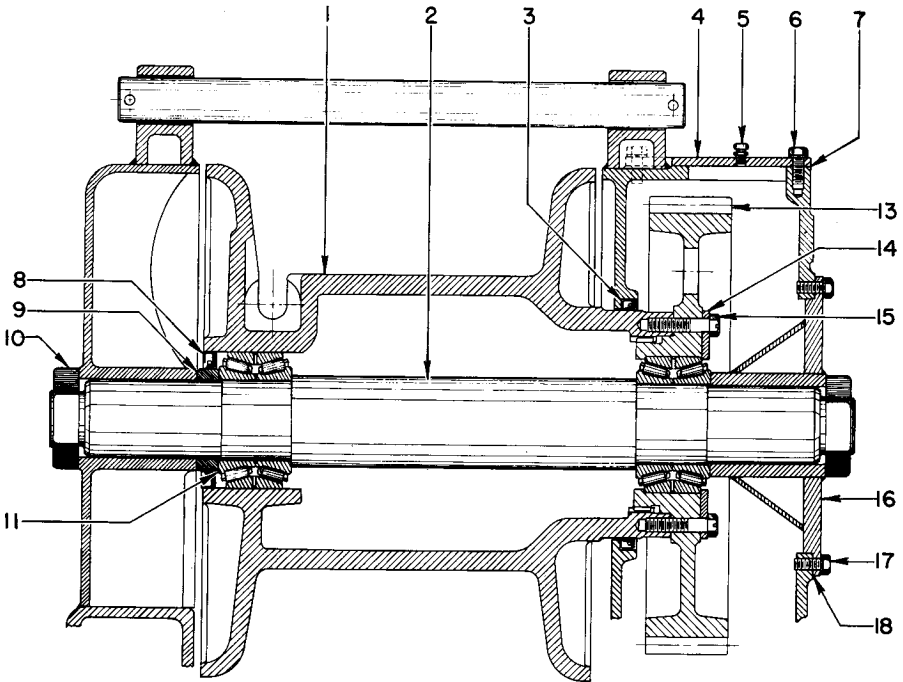


BRAKE SHAFT

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY. REQ.
1	(6466 (15250	Nut----- Cotter-3/16 x 3 -----	1 1
2	92652	Wheel-Brake -----	1
3	44485	Oil Seal -----	1
4	92942	Place Bolt-1/2 UNF x 1-----	6
5	92650	Retainer-Oil Seal-----	1
6	92649	Gasket-----	1
7	230311	Bearing Cup -----	1
8	230310	Bearing Cone -----	1
9	92647	Gear (41 Teeth) -----	1
10	12915	Snap Ring -----	2
11	92643	Shaft-Brake-----	1
12	92644	Spacer-----	1
13	34508	Snap Ring-----	1
14	†{ 92646 } 93479	Gear (20 Teeth) (Standard) Gear (17 Teeth) (Optional)	1 1
15	30078	Bearing Cone -----	1
16	30079	Bearing Cup -----	1
17	92651	Spacer -----	1
18	46388	"O" Ring -----	1
19	92625	Shim Set-----	1
20	(37562 (15158	Capscrew-Hardened, 1/2 UNF x 1-1/4----- Lockwasher-1/2 -----	12 12
21	92626	Retainer-Bearing-----	1
22	92621	Gear (15 Teeth)-----	1
23	92620	Shaft-Intermediate -----	1
24	92618	Gasket -----	1
25	92619	Cover -----	1
26	16352	Capscrew-Flathead, 1/2 x 1-1/4----- (Stake in Place)	6
27	30091	Bearing Cup-----	2
28	230309	Bearing Cone -----	2
29	†{ 92622 } 93480	Gear (61 Teeth) (Standard) Gear (64 Teeth) (Optional)	1 1
30	92624	Shim Set	1
31	92623	Cover	1
32	92482	"O" Ring	1

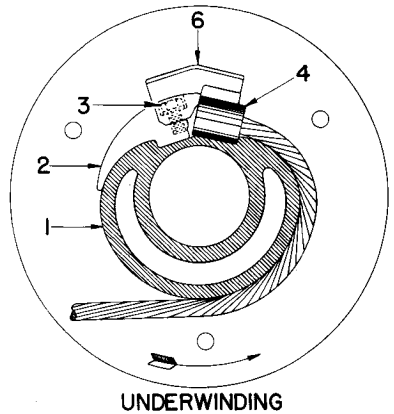
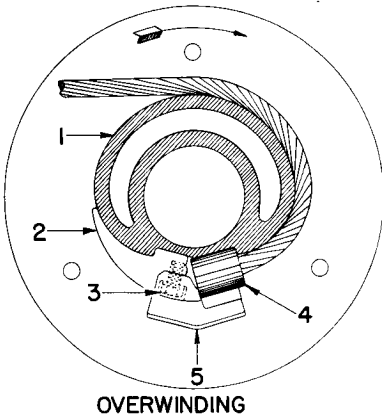
†Optional Slow-speed Gear Set No. 93371 which includes 93479 and 93480, replaces standard gears 92646 and 92622. Must be replaced in sets.

DRUM UNIT

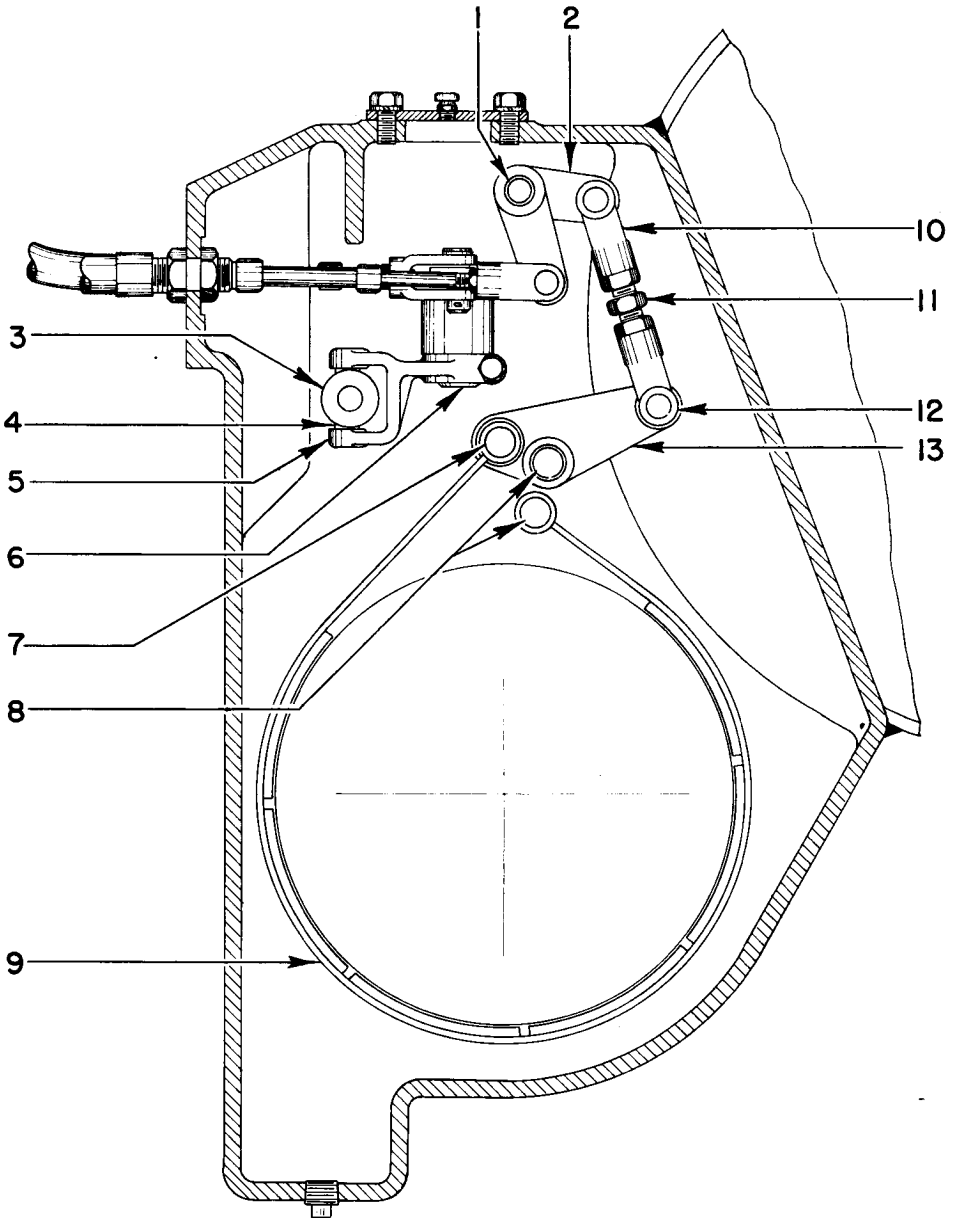


DRUM UNIT

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY. REQ.
1	92617	Drum -----	1
2	92607	Shaft-Drum -----	1
3	35030	Oil Seal -----	1
4	92612	Plate-Cover -----	1
5	21420	Breather Plug-----	1
6	(37562 15158)	Capscrew-Hardened, 1/2 UNF x 1-1/4----- Lockwasher-1/2 -----	10 10
7	92648	Gasket -----	1
8	44484	Oil Seal -----	1
9	92608	Spacer -----	1
10	6607	Nut -----	2
11	230319A	Roller Bearing -----	2
13	92609	Gear-Drum (58 Teeth)-----	1
14	92610	Plate-Retainer-----	1
15	92590	Place Bolt-5/8 UNF x 2-1/2 -----	8
16	92613A	Retainer -----	1
17	(37562 15158)	Capscrew-Hardened, 1/2 UNF x 1-1/4 ----- Lockwasher-1/2-----	8 8
18	92616	Shim Set -----	1



REF. NO.	HYSTER PART NO.	NAME OF PART	QTY. REQ.
1		Drum Assembly -----	
2	92712	Filler - Cable Groove-----	1
3	(15500 15160)	Capscrew - 5/8 UNF x 1-1/2----- Lockwasher - 5/8-----	1 1
4	6697	Ferrule - Cable-----	1
5	92713	Lock-Ferrule (Overwind)-----	1
6	92714	Lock-Ferrule (Underwind)-----	1

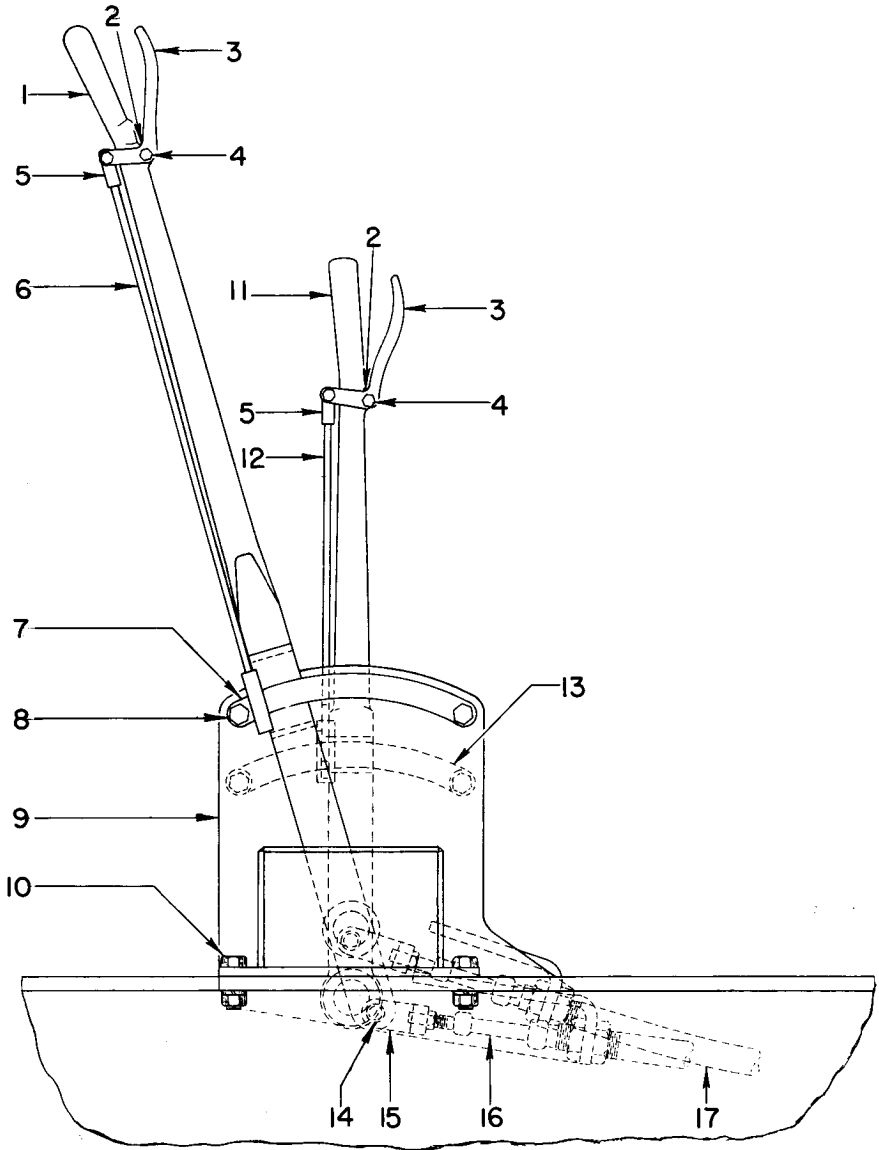


BRAKE COMPARTMENT GROUP

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY. REQ.
1	92694	Pin -----	1
2	(93125A *(92695	Crank Assembly ----- Bushing-Split Type -----	1 2
3		Shift Group (See page 27)	
4	33717	Shoe-Shifter -----	2
5	(92699 (15527 (15156 (15006	Fork-Shifter ----- Capscrew-3/8 UNF x 1-3/4 ----- Lockwasher-3/8 ----- Nut-Hex, 3/8 UNF-----	1 1 1 1
6	(92696A (92707	Crank ----- Bushing-Split Type-----	1 1
7	(92706 (15246	Pin-Brake (Loose End) ----- Cotter-3/16 x 2-----	1 1
8	92704	Pin-Brake -----	2
9	(92708A *(93149A	Band Assembly-Brake----- Lining Set (To be drilled by owner at assembly)---	1 1
10	(92686A *(92688 *(32414 *(92689 *(15030	Link Assembly ----- Rod End-Left Hand Thread ----- Nut-Hex, Jam 5/8 UNF Left Hand Thread ----- Rod End-Right Hand Thread ----- Nut-Hex, Jam, 5/8 UNF Right Hand Thread -----	1 1 1 1 1
11	*92687	Turnbuckle -----	1
12	*(159 *(15223	Pin-Rod End ----- Cotter-1/8 x 1 -----	2 2
13	(93142A *(92705	Lever Assembly - Brake ----- Bushing-Split Type -----	1 2

*Included in assembly under which listed.

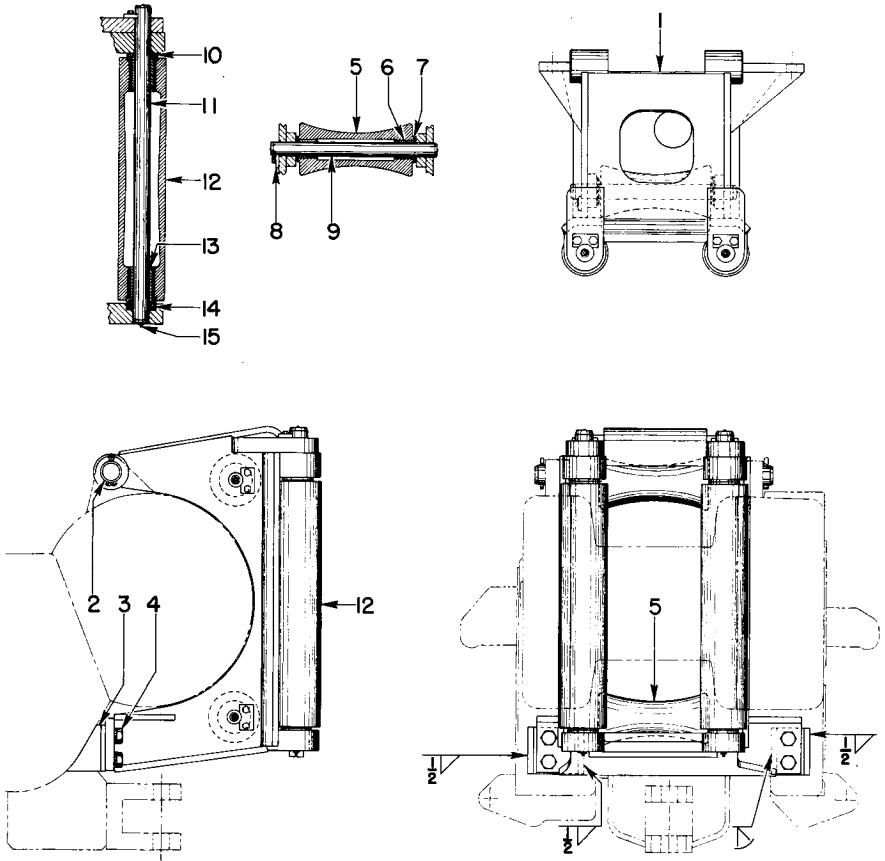
HANDLEVER GROUP NO. 93150A



HANDLEVER GROUP NO. 93150A

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY. REQ.
1	92557A	Handlever-Brake-----	1
2	*32695	Spring-----	1
3	*32694	Handle-----	1
4	*(37476 *(15052	Capscrew-Special----- Nut-Hex, No. 10-24-----	2 2
5	*32693	Rod End -----	1
6	*92561	Rod-Pawl -----	1
7	92564	Quadrant-Ratchet, Brake-----	1
8	(15518 (15156	Capscrew-3/8 UNF x 7/8 ----- Lockwasher-3/8-----	4 4
9	92673A	Bracket-Quadrant-----	1
10	(15509 (15158 (15008	Capscrew-1/2 UNF x 1-1/2 ----- Lockwasher-1/2 ----- Nut-Hex, 1/2 UNF -----	4 4 4
11	46381AD	Handlever-Clutch ----- (Includes Items 2, 3, 4 and 5)	1
12	*92566	Rod-Pawl -----	1
13	92682	Quadrant-Clutch -----	1
14	(159 (15223	Pin-Rod End ----- Cotter-1/8 x 1 -----	4 4
15	92683	Rod End -----	4
16	92718	Cable-Brake-----	1
17	92685	Cable-Clutch -----	1

*Included in assembly under which listed.



INSTALLATION INSTRUCTIONS

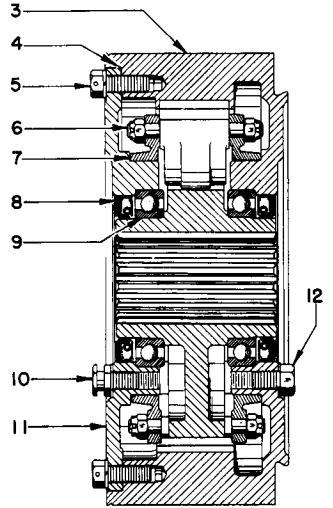
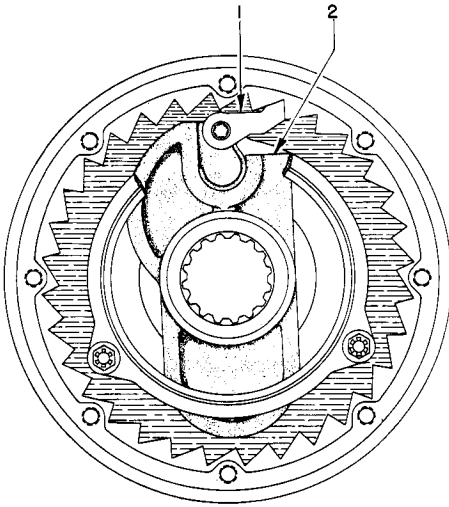
1. Remove winch tie rod (2). NOTE: If bent, discard and replace with new one. This part is not included with fairlead assembly and must be ordered separately if required.
2. Swing fairlead in position in back of winch.
3. Insert tie rod (2) through ears of winch and fairlead frame, securing it with cotters ($3/8 \times 2-3/4$).
4. Bolt brackets (3) to left hand and right sides of fairlead frame as shown.
5. Check for clearance of fairlead frame around towing winch drum. There should be approximately $1/8$ " clearance all around drum. If there is not sufficient clearance, burn as required.
6. Weld brackets (3) securely to towing winch frame using $1/2$ " fillet weld.

FAIRLEAD ASSEMBLY - NO. 93430 A

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY. REQ.
1	93431A	Frame-Fairlead -----	1
2	(92606	Rod-Tie) Not included in -----	1
	(15286	Cotter - 3/8 x 2-3/4) Fairlead Assembly -----	2
3	(93662A	Bracket- R. H. -----	1
	(93659A	Bracket- L. H. -----	1
4	(15598	Capscrew 1" NF x 2-1/2 -----	4
	(15166	Lockwasher 1" -----	4
5	92212A	Roller Assembly-Horizontal -----	2
6	*59419	Bushing -----	4
7	92720	Washer-----	4
8	(93166	Keeper-----	4
	(15511	Capscrew 1/2 NF x 1-----	8
	(15158	Lockwasher 1/2-----	8
9	93658	Shaft-Horizontal-----	2
10	33394	Washer-----	2
11	93652	Shaft-Vertical-----	2
12	36206A	Roller Assembly-Vertical-----	2
13	* 2570	Bushing-----	4
14	230336	Bearing-Thrust-----	2
15	16001	Grease Fitting-----	8

*Included in Assembly under which listed.

AUTOMATIC BRAKE NO. 92716A - OPTIONAL



REF. NO.	HYSTER PART NO.	NAME OF PART	QTY. REQ.
1	36007	Pawl -----	1
2	92684	Hub -----	1
3	59425A	Wheel Assembly - Brake -----	1
4	59432	Gasket - Cover -----	1
5	92942	Place Bolt 7/16 UNF x 1 -----	8
6	(36008)	Link - Shoulder -----	3
	(38848)	Nut - Castellated 3/8 UNF -----	6
	(15201)	Cotter 1/16 x 3/4 -----	6
7	36006	Ring - Drag -----	2
8	33783	Oil Seal -----	2
9	36000	Bearing -----	2
10	(59370)	Vent Plug -----	1
	(35159)	Gasket -----	1
11	59397	Cover - Side -----	1
12	(15515)	Capscrew 1/2 UNF x 3/4 -----	3
	(35159)	Gasket -----	3

NUMERICAL INDEX

NUMBER	PAGE	NUMBER	PAGE	NUMBER	PAGE
159	33-35	15511	37	35503	22
2570	37	15515	38	35573	25
6347	27	15518	35	36000	38
6348	27	15527	33	36006	38
6466	29	15598	37	36007	38
6607	31	15936B	27	36008	38
6694	22	16001	37	36206A	37
6697	31	16002	25	37474	27
9528	25	16352	27-29	37476	35
12915	29	16800	22-25	37562	29-31
12916	25	16807	25	38848	38
14496	22	16820	23-25	41211	27
15006	33	21420	25-31	41310L	25
15008	35	23206	27	41311	27
15030	33	30078	29	41312	27
15036	27	30079	29	41314	27
15052	35	30091	29	44484	31
15156	33-35	32414	33	44485	29
		32693	35	44486	25
15158	23-25-29 31-35-37	32694	35	46224	27
15160	31	32695	35	46381AD	35
15162	22-25	32796	22	46388	29
15166	37	33394	37	46389	25
15201	38	33618	25	59370	38
15223	33-35	33681	27	59397	38
15224	27	33682	27	59419	37
15246	33	33717	33	59425A	38
15250	29	33783	38	59432	38
15286	22-37	33785	25	92212A	37
15295	25	33786	25	92482	29
15304	22	33787	25	92557	35
15309	25	34508	29	92561	35
15500	31	35030	31	92564	35
15509	35	35159	38	92566	35

NUMERICAL INDEX--Continued

NUMBER	PAGE	NUMBER	PAGE	NUMBER	PAGE
92588	25	92642	27	92694	33
92589A	22	92643	29	92695	33
92590	31	92644	29	92696A	33
92598A	22	92646	29	92699	33
92604A	22	92647	29	92704	33
92606	22-37	92648	31	92705	33
92607	31	92649	29	92706	33
92608	31	92650	29	92707	33
92609	31	92651	29	92708A	33
92610	31	92652	29	92712	31
92612	31	92656	23	92713	31
92613A	31	92657	23	92714	31
92616	31	92658	23	92716A	38
92617	31	92659	23	92718	35
92618	29	92660	25	92720	37
92619	29	92661	25	92742	27-29-38
92620	29	92664	25	92993A	22
92621	29	92665	25	93125A	33
92622	29	92666	25	93142A	33
92623	29	92667	25	93149A	33
92624	29	92668	25	93150A	35
92625	29	92669	25	93166	37
92626	29	92670	25	93430A	37
92627	27	92671	25	93431A	37
92629	27	92672	22	93657	37
92633	27	92673	35	93658	37
92634	27	92682	35	93659A	37
92635	27	92683	35	93662A	37
92636	27	92684	38	230309	29
92637	27	92685	35	230310	29
92638	27	92686A	33	230311	29
92639	27	92687	33	230319	31
92640	27	92688	33	230336	37
92641	27	92689	33		

SPECIFICATIONS

HYSTER MODEL D7D Towing Winch

Drum size:

Barrel Diameter	12 "
Flange Diameter	22 $\frac{1}{2}$ "
Barrel Length	12 $\frac{3}{8}$ "
Cable Capacity, Maximum Line	382 ft. $\frac{7}{8}$ " or 293 ft. 1 "

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

Available Line Pulls (with Standard Intermediate Gears):

Bare Drum	42,800 lbs.
Full Drum	25,800 lbs.

Line Speeds:

Bare Drum	98.8 f.p.m.
Full Drum	163.5 f.p.m.

(Line Speeds and Pulls are the same when overwinding or underwinding.)

Net Weight (without cable)	2,500 lbs.
Domestic Shipping Weight, Approx.	2,600 lbs.

The above specifications are based on 128 H.P. @ 1200 R.P.M.

