

ADAPTER SECTION
FOR CARCO SERVICE AND PARTS MANUAL

Carco Model A Winch Series 1

ON ALLIS-CHALMERS HD-5

SPECIFICATIONS

CABLE DRUM SIZES:

Barrel Diameter 6"
Flange Diameter 15"
Barrel Length 7"

CABLE CAPACITIES:

Calculated Capacities. Allowance must be made for loose or uneven spooling.

$\frac{3}{8}$ " 221'
 $\frac{1}{2}$ " 273'
 $\frac{5}{8}$ " 347'
 $\frac{3}{4}$ " 615'

LINE PULL IN POUNDS AT SPEED IN FEET PER MINUTE: *

Based on 50.25 Belt H.P. @ 963 R.P.M. of P.T.O.

STANDARD SPEED GEARING

| | Lbs. | F.P.M. |
|-----------------|----------|--------|
| Bare Drum | 18,200 @ | 91 |
| Full Drum | 8,050 @ | 206 |

*Applies to either overwinding or underwinding line.

Height from ground to center of cable drum 30 $\frac{3}{8}$ "

WEIGHTS:

| | |
|----------------|----------|
| Applied | 745 lbs. |
| Shipping | 800 lbs. |

PURPOSE OF YOUR MOUNTING INSTRUCTIONS

The Adapter Section of this manual is designed to aid in the mounting of the unit to the tractor. By following these instructions the operator should have no difficulty in mounting the unit; therefore the operator is urged to carefully read these instructions before starting the mounting operation.

PACIFIC CAR AND FOUNDRY COMPANY
RENTON, WASHINGTON, U. S. A.

MOUNTING INSTRUCTIONS

EQUIPMENT NEEDED FOR INSTALLATION

The installation of the Carco Model A-1 Winch on the tractor is made much easier if the work is done under cover in a reasonably well-equipped shop. A hoist or chain block capable of handling approximately 750 pounds should be available. If the tractor has been used prior to the installation of the winch, it is advisable to thoroughly clean the rear face of the tractor transmission. Make sure that there is no loose dirt on the tractor which could fall into the tractor transmission case while installing the winch.

PREPARING THE TRACTOR FOR THE INSTALLATION

Remove the P.T.O. cover plate by taking out the four capscrews (*A, Figure 1*) securing it to the tractor. Remove the corks (*B and C, Figure 1*) from the holes in the tractor face corresponding to the mounting holes in the adapter.

The tractor drawbar and supports may be left in place when mounting the winch.

ADAPTER PARTS ASSEMBLY

Take out the twelve capscrews (*A and*

C, Figure 2) holding the winch case to the adapter. Put three of these capscrews in the threaded holes (*B, Figure 2*), and use them as jack screws to loosen the winch case from the adapter plate. Using a bar, pry the case free of the adapter. Be careful not to damage the gasket between the winch case and the adapter, so that it may be re-used at time of re-assembly.

Assemble the P.T.O. coupling (*17, Figure 7*) to the shaft of the P.T.O. assembly. This assembly consists of the shaft (*19, Figure 7*), bearing (*20, Figure 7*), spacer

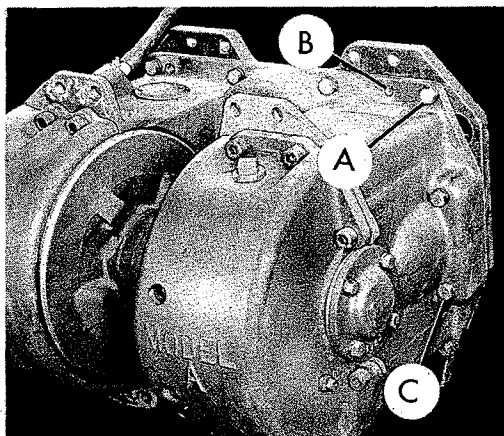


FIGURE 2

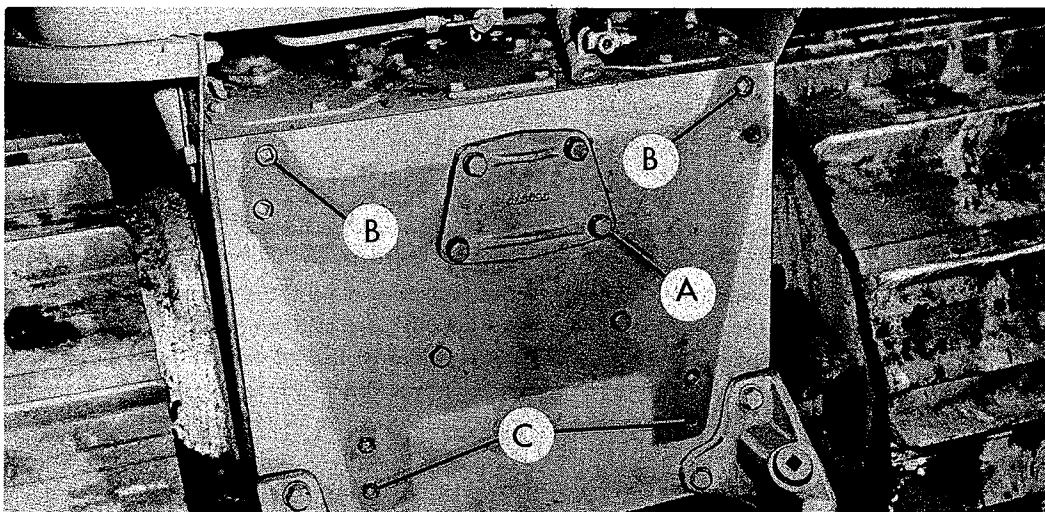


FIGURE 1

MOUNTING INSTRUCTIONS

(30, *Figure 7*), gear (29, *Figure 7*), and snap ring (28, *Figure 7*).

Install the P.T.O. shaft and coupling assembly through the P.T.O. opening (A, *Figure 3*) in the adapter plate, meshing the gear with the idler gear (A, *Figure 4*); press in until the snap ring on the bearing seats against the adapter plate. Place the O-ring (B, *Figure 3*) in its groove on the pilot (C, *Figure 3*). Press the pilot into the bore in the adapter plate until it seats against the snap ring on the bearing.

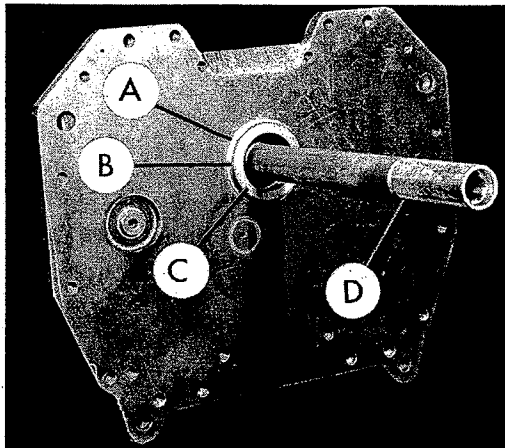


FIGURE 3

MOUNTING OF THE WINCH

Position the adapter plate assembly against the transmission face of the tractor, rocking it slightly to assist in engaging the splines of the P.T.O. coupling (D, *Figure 3*) with the splines of the P.T.O. shaft in the tractor. Install the two short capscrews, with their lockwashers (31 and 32, *Figure 7*); through the counterbored holes (B, *Figure 4*) in the adapter plate and into the tractor face. Install the two long capscrews, with their lockwashers (23 and 22, *Figure 7*), through the bottom holes (C, *Figure 4*) in the adapter plate. Tighten the capscrews securely.

NOTE: The P.T.O. coupling and shaft

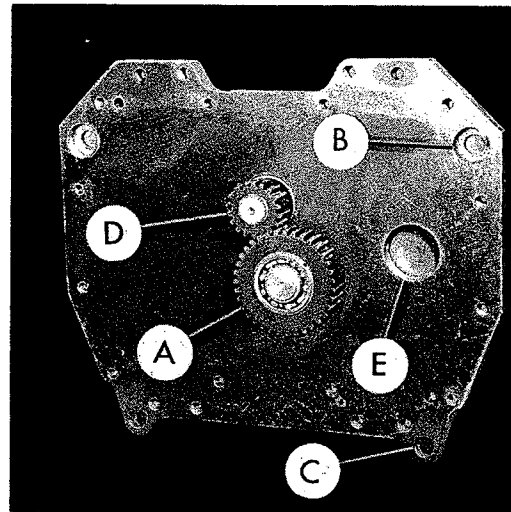


FIGURE 4

assembly, with the pilot and O-ring in position against the bearing snap ring (see ADAPTER PARTS ASSEMBLY) can be installed on the P.T.O. shaft of the tractor first. The adapter plate is then placed over the gear (D, *Figure 4*), which is meshed with the idler gear (A, *Figure 4*) as the adapter plate is pushed to the tractor.

Using a suitable gasket cement, position the gasket (A, *Figure 5*) on the winch flange. Check to be sure that the dowels (B, *Figure 5*) are still in place in the flange.

Using suitable lifting equipment, raise the winch (approximately 750 pounds) into position for mounting. Balance the winch as it is swung into position. Guide and push it slowly toward the tractor. As it moves into place, guide the control cable forward and under the seat.

As the winch approaches the adapter plate, rock it slightly to assist in meshing the reduction gear (C, *Figure 5*) with the idler gear (A, *Figure 4*). Then guide the reduction gear bearing (D, *Figure 5*) into its bore (E, *Figure 4*), and the two dowels into their matching holes, in the adapter plate.

Using copper washers, start the two long capscrews (C, *Figure 2*) through the

MOUNTING INSTRUCTIONS

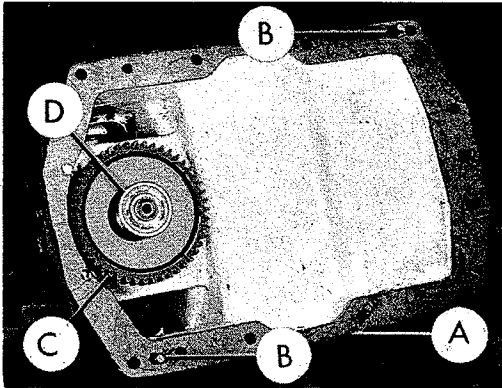


FIGURE 5

mounting holes at the gear end of the winch; start the other ten capscrews and lockwashers (A, Figure 2) through the mounting holes in the flange of the winch case. Tighten all capscrews until the winch is solidly against the adapter plate. Then slack off the hoist and again tighten all capscrews securely. *Caution: Do not slack off on the hoist until all capscrews are in place and tight.*

INSTALLATION OF THE CONTROL STAND

Feed the control cable forward, and through the existing hole in the left side of the panel below the seat.

Position the control stand at a convenient angle across the left fender (see

Figure 6). In locating the stand, be sure that the hand lever, when pulled all the way back, will not interfere with the tractor clutch lever. Use the control stand as a template to drill holes in the fender for the two mounting bolts (7, Figure 7). Bolt stand to fender.

Install the control cable in the stand, and lock in place with the set screw (3, Figure 7). Put the compression spring (12, Figure 7) on the end of the cable; follow this with the washer and jam nut (11 and 10, Figure 7), and the yoke (9, Figure 7). Connect the yoke to the control stand lever. See also **SETTING THE CONTROL CABLE** in the *Service Section* of this manual.

LUBRICATION

Remove the 1/4-inch pipe plug from the top of the gear side case flange and pour three gallons of a good grade of lubricating oil in the winch transmission case. Usually the same type of oil that is used in the tractor transmission is suitable for the winch.

Before operating the winch it is advisable to thoroughly read the operating and service instructions given in the *Service Section* of this manual. Note also the lubrication chart at the end of the *Service Section*.

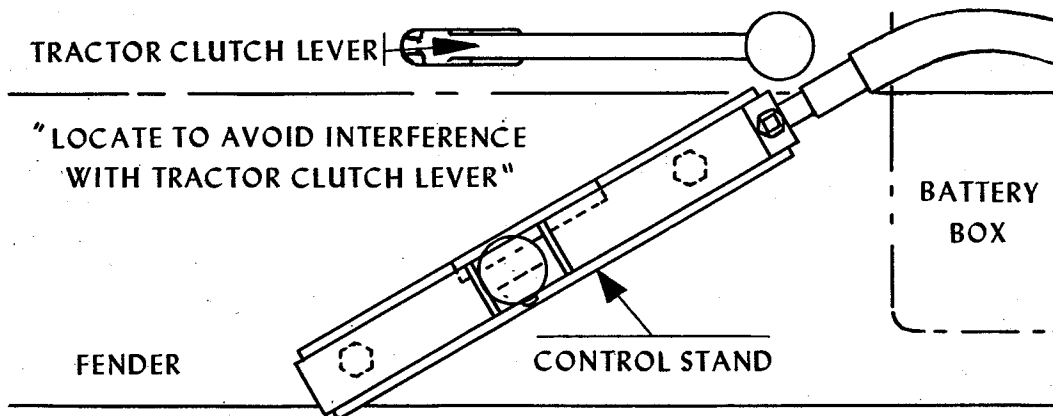


FIGURE 6

CARCO MODEL A-1 WINCH
ON ALLIS-CHALMERS HD-5
ADAPTER SECTION—PAGE 5
ADAPTER PARTS

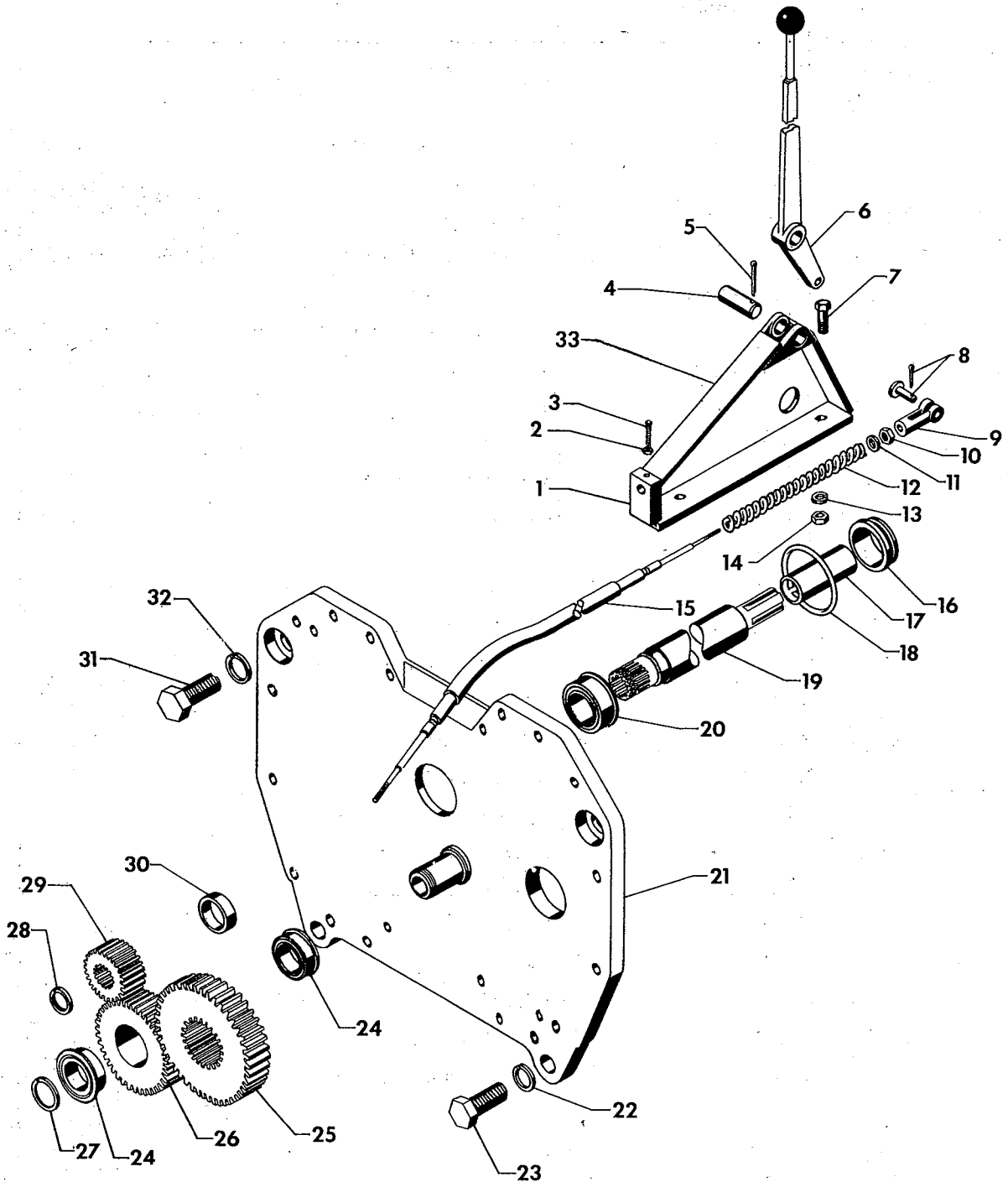


FIGURE 7

See opposite side
of this page for
the parts list.

CARCO MODEL A-1 WINCH
ON ALLIS-CHALMERS HD-5
ADAPTER SECTION—PAGE 6
ADAPTER PARTS

| REF. | PART NO. | NAME | Quan. per Unit |
|------|------------------------------|--|----------------------|
| 1 | 30749 | Control Stand | 1 |
| 2 | 3/8"NC | Hex Nut | 1 |
| 3 | 3/8"NCx1 1/4" | Square Head Set Screw | 1 |
| 4 | 30751 | Control Stand Pin | 1 |
| 5 | 3/16"x2 1/4" | Cotter Pin | 1 |
| 6 | 30752 | Control Stand Lever | 1 |
| 7 | 1/2"NCx1 1/4" | Hex Head Capscrew | 2 |
| 8 | 2708 1/2-4A | Cleveland Yoke Pin & Cotter | 1 |
| 9 | 2703-1A | Cleveland Yoke End | 1 |
| 10 | 3/8"NF | Jam Nut | 1 |
| 11 | 3/8" | Washer | 1 |
| 12 | 28698-8 | Compression Spring | 1 |
| 13 | 1/2" | Lockwasher | 2 |
| 14 | 1/2"NC | Hex Nut | 2 |
| 15 | 27040-39 34000-69 | Control Cable | 1 |
| 16 | 30812 | Pilot Ring | 1 |
| 17 | X-2212 | P.T.O. Coupling | 1 |
| 18 | 6230-22 | "O" Ring | 1 |
| 19 | 30813 | P.T.O. Shaft | 1 |
| 20 | 209-GPP | Fafnir Ball Bearing | 1 |
| 21 | 31585 | Adapter Plate | 1 |
| 22 | 7/8" | Lockwasher | 2 |
| 23 | 7/8"NCx2 1/2" | Hex Head Capscrew | 2 |
| 24 | 209-G | Fafnir Ball Bearing | 2 |
| 25 | 30734 | Gear | 1 |
| 26 | 30735 | Idler Gear | 1 |
| 27 | 5100-177 | Truarc Retaining Ring | 1 |
| 28 | 5100-162 | Truarc Retaining Ring | 1 |
| 29 | 31178 | Gear | 1 |
| 30 | 30811 | Spacer | 1 |
| 31 | 30820-1 | Capscrew | 2 |
| 32 | 1" | Lockwasher | 2 |
| 33 | 31177 | Control Stand Assembly (incl. items 1-6) | |

REFER TO FIGURE 7