

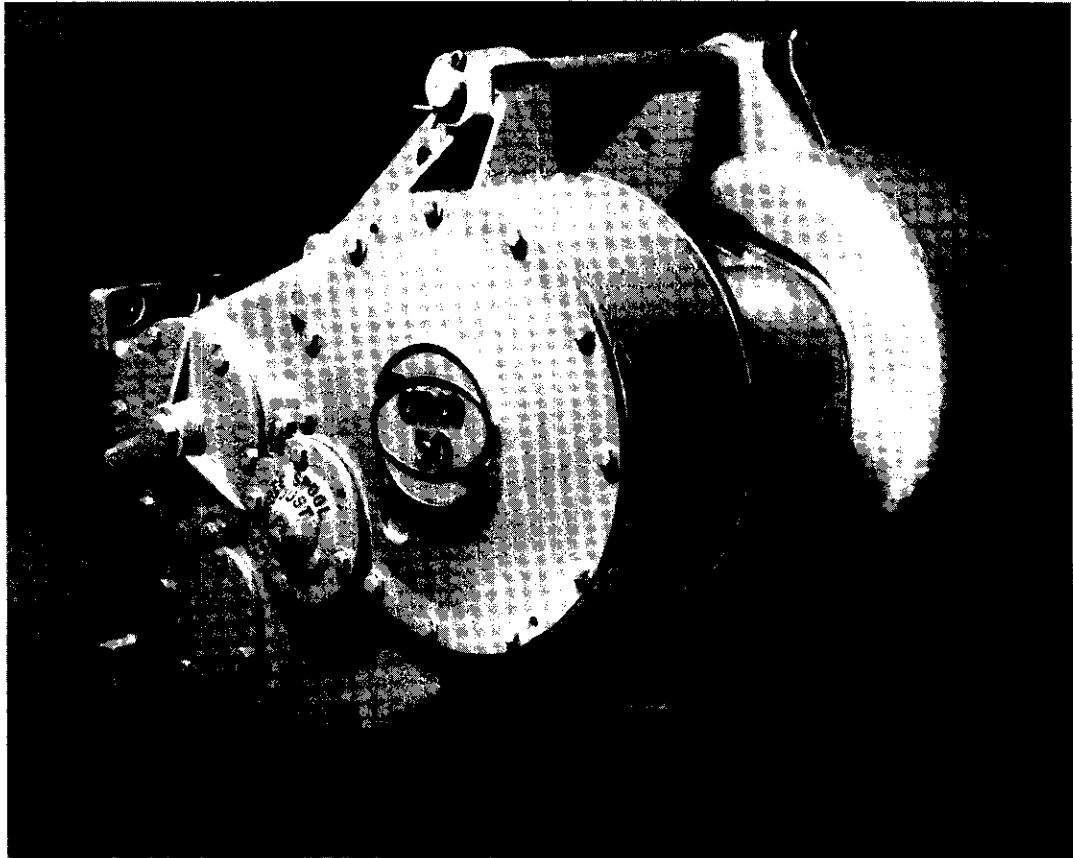
CARCO

PARTS MANUAL

CARCO MODEL 50-PS AND PSC WINCH

FOR

JI CASE 1150C TRACTOR



CARCO® WINCH PRODUCTS

A DIVISION OF **PACCAR** / 1400 NORTH 4TH STREET, RENTON, WA 98055 U.S.A. (206) 251-7834/TELEX: 32-8942

Winch Specifications

CABLE DRUM DATA:

Barrel Diameter 10" (254mm)
 Flange 19-7/8" (504mm)
 Barrel Length 10" (254mm)

CABLE CAPACITIES: (Wire Rope)

1/2" (13mm) 682' (208m)
 5/8" (16mm) 448' (136m)
 3/4" (19mm) 316' (96m)

Weight Approx. 1900-2300 lb.

CABLE FERRULE SIZE:

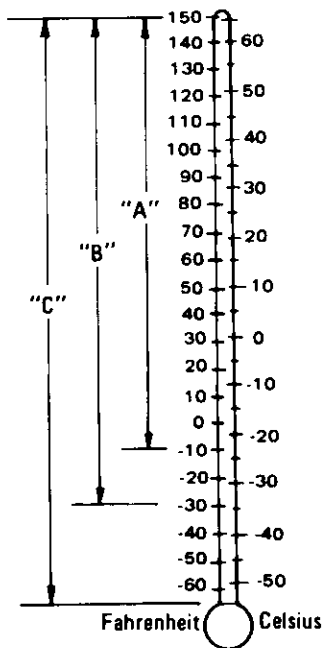
25456-1 (B4) for 1/2" Wire Rope
 25456-2 (B5) for 5/8" Wire Rope
 25456-3 (B6) for 3/4" Wire Rope

OIL CAPACITY

Model 50 (Std PTO) – 73 Qts (69.0 Liters)
 Model 50 (Low PTO) – 59 Qts (55.8 Liters)

TEMPERATURE RANGES & RECOMMENDED LUBRICANTS

Prevailing Ambient Temperatures



- "A" MIL-L-2104C Grade 10
- "B" Dexron® II
 Type "A" Suffix "A"
 HTF Type "C-3"
- "C" Contact local oil supplier for proper oil.

Note: DEXRON® is a registered trademark of General Motors

Note: Park tractor unit in level condition before checking oil level.

Change oil and clean suction filter after each 1,000 hours or six months of operation, whichever occurs first.

INDEX
CARCO MODEL 50-PS AND PSC WINCH
FOR
JI CASE 1150C TRACTOR

| | Page |
|---|---------------|
| ACCUMULATOR | 22,23 |
| ARCH, INTEGRAL | NA |
| BEVEL GEAR GROUP | 6 |
| BRAKE ASSEMBLY | 17,14,15 |
| CABLE, CONTROL – SHIFT AND FREE SPOOL | 8 |
| CASE AND COVERS | 12,13 |
| CLUTCH ASSEMBLY | 16,14,15 |
| CLUTCH SHAFT GROUP | 14,15 |
| CONTROL GROUP– CONTROL STAND – CABLES – GAUGE KIT | 8 |
| CONTROL STAND | 8,10,11 |
| DRAWBAR | 12,13 |
| DRIVE LINE, PTO | 7 |
| DRUM GROUP, CABLE | 18,19 |
| FAIRLEAD | 28 |
| FERRULES | 2,18,19 |
| FILTER, STRAINER | 26,27 |
| FREE SPOOL CONTROL CABLE | 8 |
| FREE SPOOL GROUP | 20,21 |
| GAUGE KIT, OPERATOR'S | 8,9 |
| HOSES & FITTINGS, HYDRAULIC | 22,23,26,27,9 |
| HYDRAULIC CONTROL | 22,23 |
| MOUNTING GROUP | 7 |
| PTO SHAFT, DRIVE LINE | 7 |
| PUMP GROUP | 26,27 |
| SHIFT CONTROL CABLE | 8 |
| STRAINER, SUCTION | 26,27 |
| VALVE, ACCUMULATOR CHECK | 24,25 |
| VALVE, HYDRAULIC CONTROL | 24,25,22,23 |
| VALVE, RELIEF | 24,25 |
| WINCH IDENTIFICATION | 4,5 |
| WINCH SPECIFICATIONS | 2 |

Note: Purchased parts, such as bearings and oil seals may be substituted with parts of equal quality on the manufacturer's recommendation, and with the approval of Carco.

ATTENTION: Be sure to give correct part number, part name and complete serial number of winch when ordering. Also name and model of the tractor on which the winch is mounted.

WINCH MODEL IDENTIFICATION

The Model 50 Power Shift winch is manufactured as a Standard PTO or Low PTO, depending on tractor application.

In the Standard PTO, the bevel gear group, clutch and brake components are located in the upper bores of the winch case. See Figures 1 and 2.

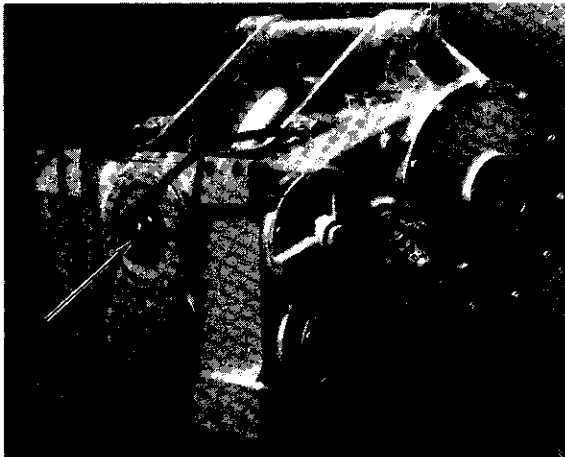


FIGURE 1



FIGURE 2

The Model 50 Low PTO winch has the bevel gear group, clutch and brake components located in the lower bores of the winch case. See Figures 3 and 4.

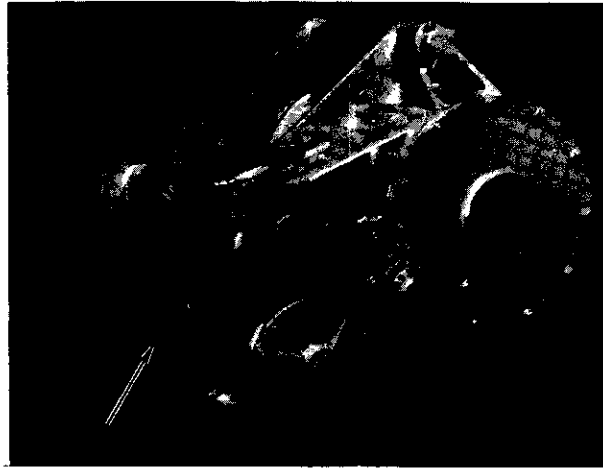


FIGURE 3



FIGURE 4

The winch identification plate is located on the right-hand side of the winch case. See Figures 5 and 6.

The winch serial number is also stamped into the upper right-hand corner of the mounting pad. See Figure 5.

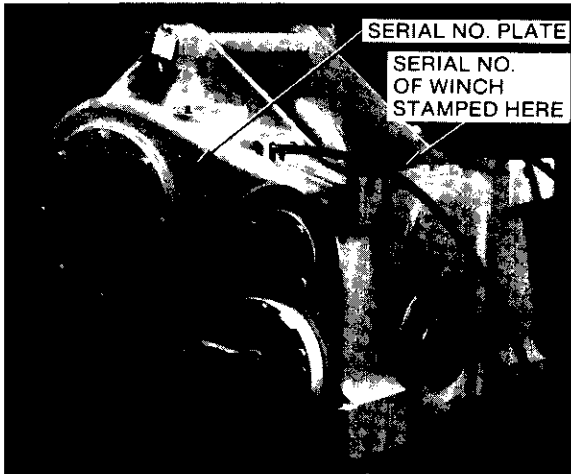


FIGURE 5

and configuration details stamped in the "model" space. Example:

| MODEL | | | |
|---|----------|----------|------------|
| 50 PS | C | 0 | 000 |
| MODEL 50 POWER SHIFT | | | |
| BEVEL GEAR RATIO A OR K = 1:1 B OR L = 1.27:1 C OR M = 1.64:1 D OR N = 2.1:1 E OR P = 2.78:1 | | | |
| CABLE DRUM ROTATION 0 = STD SPEED OVERWIND 1 = LOW SPEED OVERWIND | | | |
| CLUTCH SHAFT GROUP 000 = STD SPEED 100 = LOW SPEED | | | |

CARCO WINCH

MODEL SERIAL

| | |
|-------------|-------|
| 50 PS C0000 | 5-XXX |
|-------------|-------|

FILL TO PROPER LEVEL APPROX XX QTS

USE ATF DEXRON[®] HTF TYPE C-2 OR
 EO MIL-L-2104C. GRADE 10

CLEAN SUCTION FILTER AND REFILL AT
TRACTOR TRANS. SERVICE INTERVALS

CAUTION

WINCH HYDRAULIC SYSTEM CONTAINS
ACCUMULATORS. HIGH PRESSURE OIL
MUST BE BLED OFF BEFORE SERVICING
HYDRAULIC SYSTEM. CONSULT SER-
VICE MANUAL.

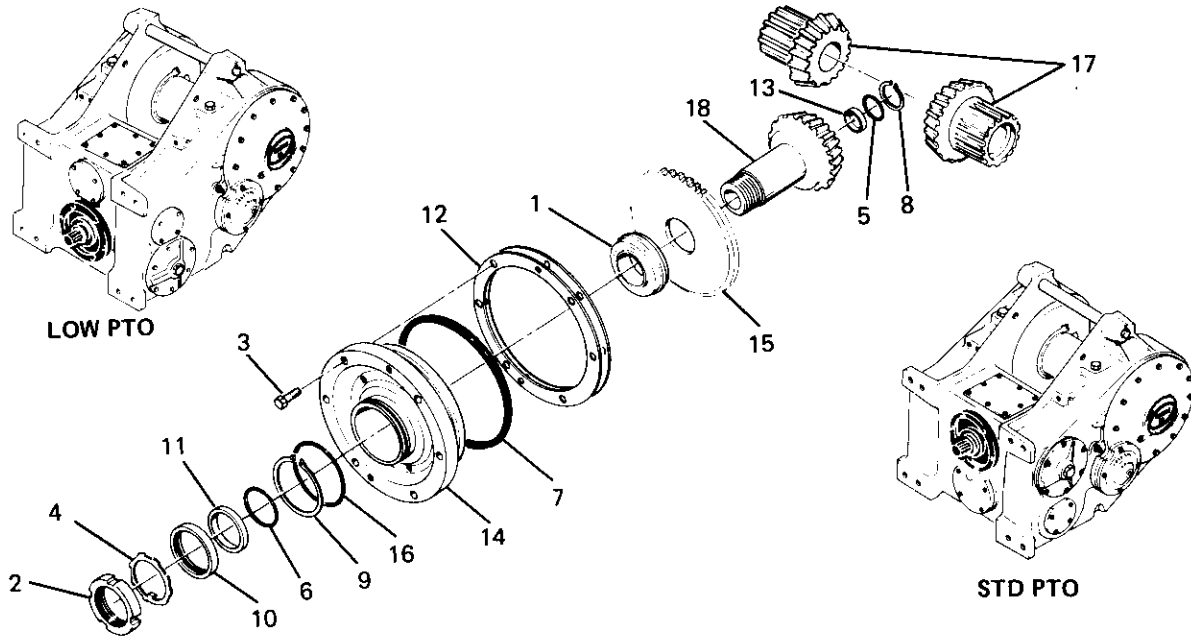
CARCO WINCH PRODUCTS
A DIVISION OF PACOR / RENTON WASHINGTON, U.S.A.

FIGURE 6

The winch model number is an important reference. By decoding the last five digits as shown, specific information is revealed as to what optional components were used when the unit was manufactured. The winch serial number and information tag has the model

IMPORTANT: When repair items are needed, please include unit serial number with parts order.

CARCO MODEL 50-PS & PSC WINCH
BEVEL GEAR GROUP
 JI CASE 1150C TRACTOR



BEVEL GEAR SET 53120-0103 STD OR SLOW SPEED *

| REF. | CARCO PART NO. | NAME AND DESCRIPTION | QUAN. PER UNIT |
|------|----------------|---------------------------------------|----------------|
| 1 | 15312 | Bearing Assembly | 1 |
| 2 | 16041-11 | Nut, Bearing Lock (AFBMA N-11, TN-11) | 1 |
| 3 | 16047-808 | Screw, Hex Hd. Cap (1/2 x 1 UNC) | 6 |
| 4 | 16068-11 | Washer, Bearing Lock (AFBMA W-11) | 1 |
| 5 | 16262-126 | O-Ring (NAT'L. 610076) | 1 |
| 6 | 16262-139 | O-Ring (NAT'L. 610092) | 1 |
| 7 | 16262-266 | O-Ring (NAT'L. 623044) | 1 |
| 8 | 16314-137 | Ring, Retaining (TRUARC N5000-137) | 1 |
| 9 | 16314-354 | Ring, Retaining (TRUARC N5000-354) | 1 |
| 10 | 16342-27 | Seal, Oil (NAT'L. 415322) | 1 |
| 11 | 53047-0001 | Spacer, Seal | 1 |
| 12 | 53048-0001 | Shim Set | 1 |
| 13 | 53063-0011 | Plug | 1 |
| 14 | 53097-0001 | Carrier | 1 |
| 15 | 53114 | Pinion, Pump | 1 |
| 16 | 16262-346 | O-Ring (NAT'L. 622749) | 1 |
| 17 | * 53049-0003 | Gear, Bevel | 2 |
| 18 | * 53050-0013 | Pinion, Bevel | 1 |

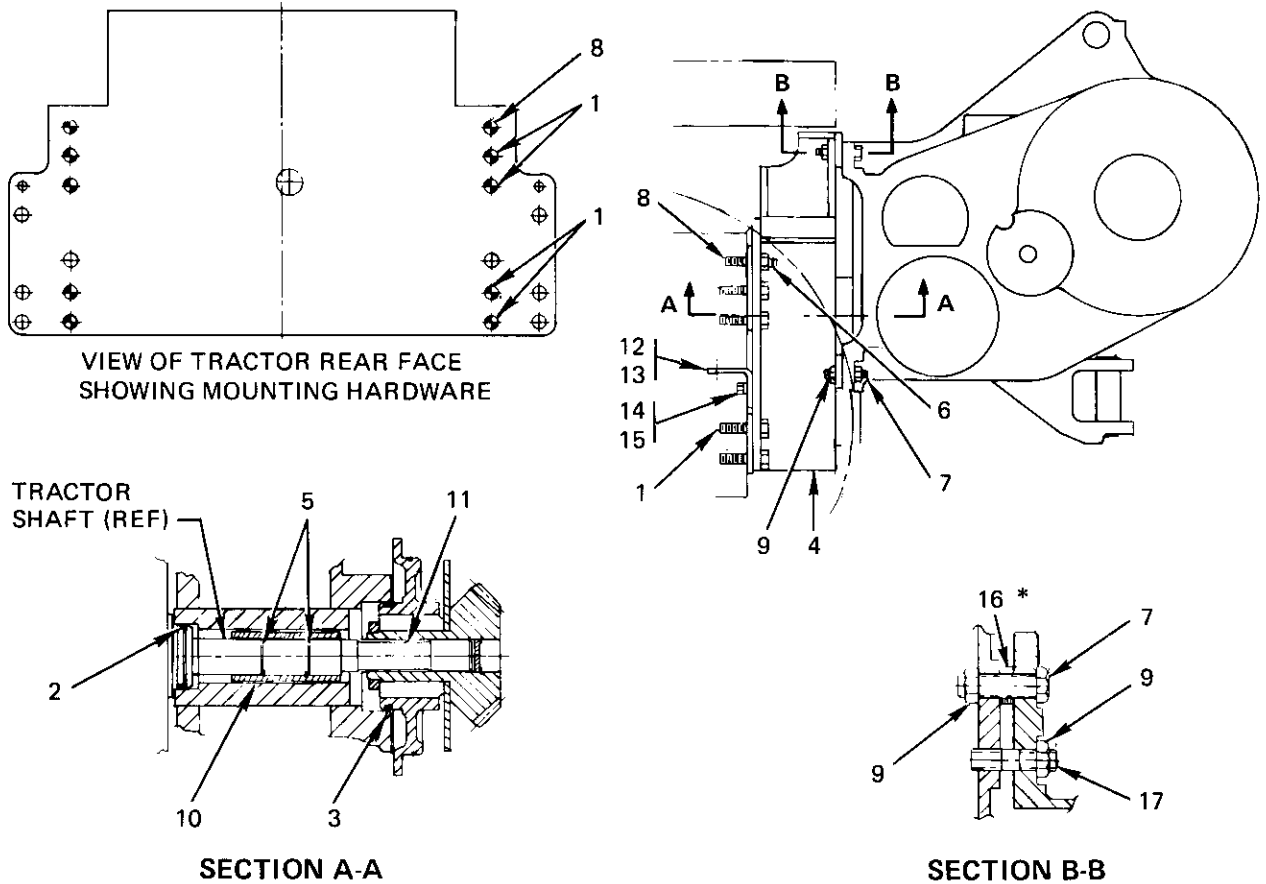
*NOTE: The Bevel Gear and Pinion Group are the same for standard and slow speed. For the slow speed application see the fourth shaft components shown on pages 14 & 15.

BEVEL GEAR SET LISTINGS

NOTE: The Bevel Gear Set above is standard for the adaption indicated. Below are gear combinations to provide a range of line speeds and pulls for various winching requirements. Important – Prior to ordering or quoting on any optional Bevel Gear Set be sure to check with factory on availability, and if the gear set would be recommended for the application.

| GEAR SET NO. | BEVEL GEAR | | BEVEL PINION | | RATIO |
|--------------|------------|-------|--------------|-------|--------|
| | Part No. | Teeth | Part No. | Teeth | |
| 53120-0101 | 53049-0001 | 30 | 53050-0011 | 30 | 1/1 |
| 53120-0102 | 53049-0002 | 33 | 53050-0012 | 26 | 1.27/1 |
| 53120-0103 | 53049-0003 | 36 | 53050-0013 | 22 | 1.64/1 |
| 53120-0104 | 53049-0004 | 38 | 53050-0014 | 18 | 2.11/1 |
| 53120-0105 | 53049-0005 | 39 | 53050-0015 | 14 | 2.76/1 |

CARCO MODEL 50-PS & PSC WINCH
MOUNTING GROUP
JI CASE 1150C TRACTOR

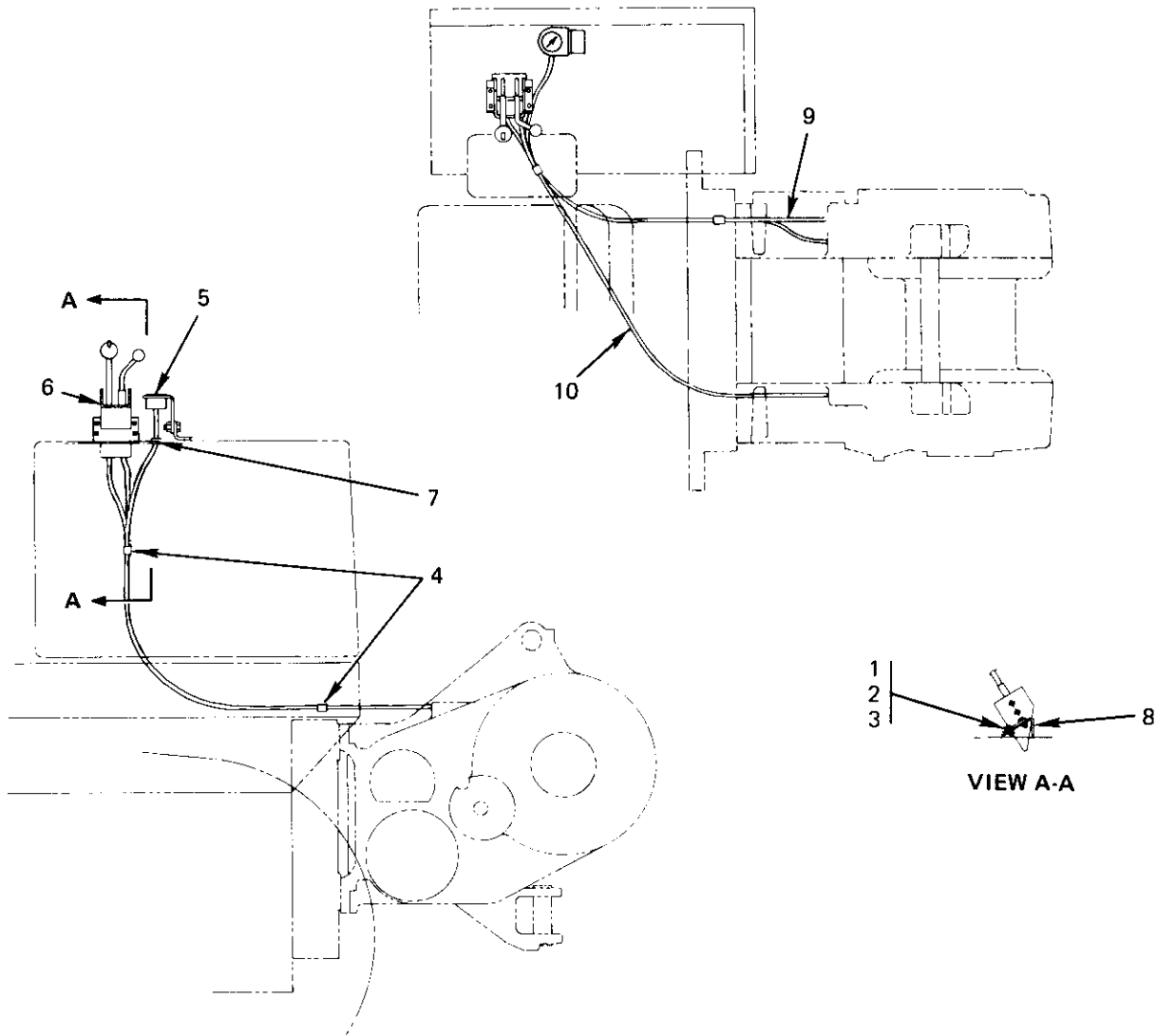


MOUNTING GROUP - 53198-53180
JI CASE 1150C

| REF. | CARCO PART NO. | NAME AND DESCRIPTION | QUAN. PER UNIT |
|------|----------------|-------------------------------------|----------------|
| 1 | 16027-1622 | Screw, Hex Hd Cap (1 x 2-3/4 UNC) | 8 |
| 2 | 16262-230 | O-Ring (NAT'L 623008) | 1 |
| 3 | 16262-346 | O-Ring (NAT'L 622749) | 1 |
| 4 | 53241 | Adapter | 1 |
| 5 | 16314-137 | Ring, Retaining (TRUARC N5000-137) | 2 |
| 6 | 16400-16 | Nut, Hex (1 UNC) | 2 |
| 7 | 16027-1426 | Screw, Hex Hd Cap (7/8 x 3-1/4 UNC) | 6 |
| 8 | 45050-1628 | Stud (1 x 3-1/2 UNC) | 2 |
| 9 | 16400-14 | Nut, Hex (7/8 UNC) | 8 |
| 10 | 53771 | Coupling | 1 |
| 11 | 53772 | Shaft, Splined | 1 |
| 12 | 53828-0001 | Clip, Belly Pan RH | 1 |
| 13 | 53828-0002 | Clip, Belly Pan LH | 1 |
| 14 | 16047-1008 | Screw, Hed Hd Cap (5/8 x 1 UNC) | 2 |
| 15 | 16067-10 | Washer, Lock (5/8) | 2 |
| 16 | 16064-14 | * Washer, Plain (7/8) | 20 |
| 17 | 51495-1428 | Stud (7/8 x 3-1/2 UNC) | 2 |

*Use (5) washers, item 16, at each of the four outside bolt locations to space between winch and adapter.

CARCO MODEL 50-PS & PSC WINCH
 CONTROL GROUP
 JI CASE 1150C TRACTOR



CONTROL GROUP – 53182
J I CASE 1150C

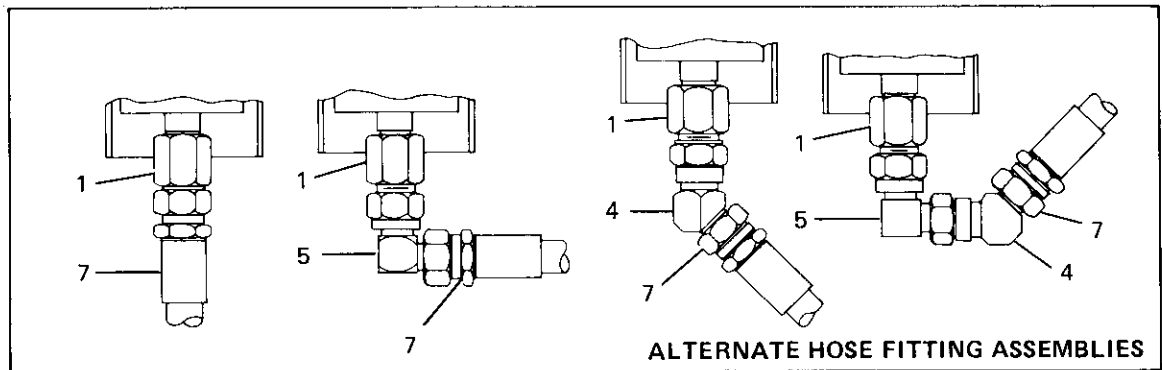
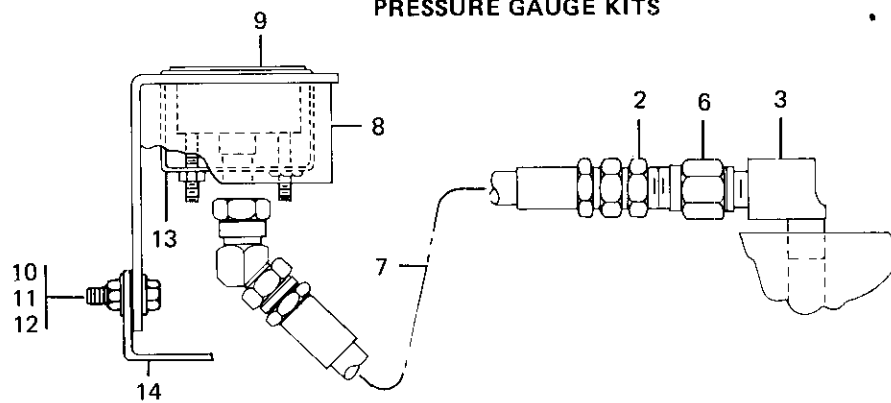
| REF. | CARCO PART NO. | NAME AND DESCRIPTION | QUAN. PER UNIT |
|------|----------------|-------------------------------------|----------------|
| 1 | 16033-6 | Nut, Hex (3/8 UNC) | 4 |
| 2 | 16047-610 | Screw, Hex Hd Cap (3/8 x 1-1/4 UNC) | 4 |
| 3 | 16067-6 | Washer, Lock (3/8) | 4 |
| 4 | 16459-2 | Strap, Retaining (ADEL 668-4-9-DR) | 2 |
| 5 | 48944-120 | * Gauge Kit, Pressure | 1 |
| 6 | 49805-8 | ** Stand, Control | 1 |
| 7 | 16528-0001 | Grommet (BOYD 930-4) | 1 |
| 8 | 53827 | Bracket, Riser | 2 |
| 9 | 52000-090 | Cable, Control – Shift | 1 |
| 10 | 52000-096 | Cable, Control – Freespool | 1 |

*See Page 9 for components.

**See Pages 10, 11 for components.

CARCO MODEL 50-PS & PSC WINCH
HYDRAULIC GAUGE, HOSE & FITTINGS

PRESSURE GAUGE KITS



ALTERNATE HOSE FITTING ASSEMBLIES

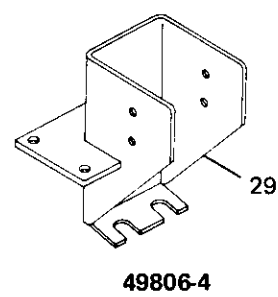
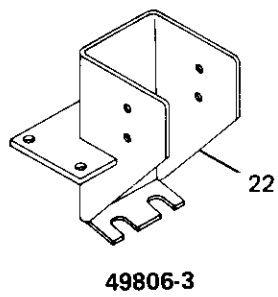
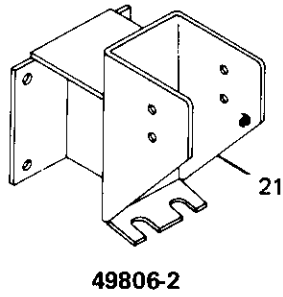
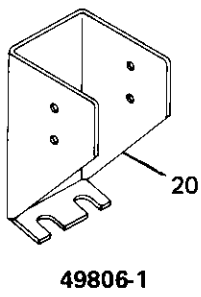
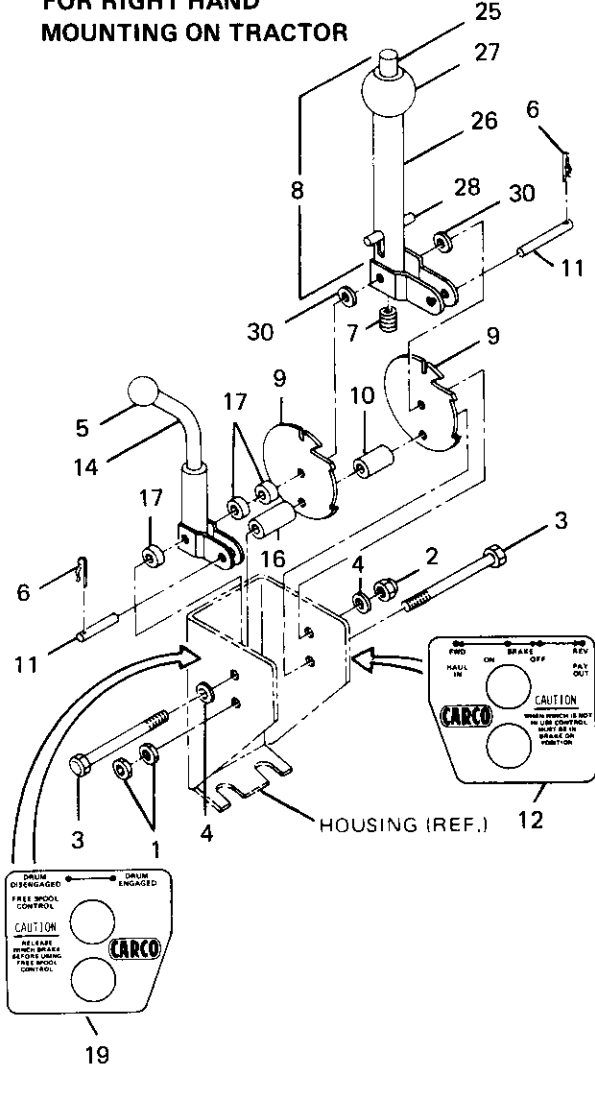
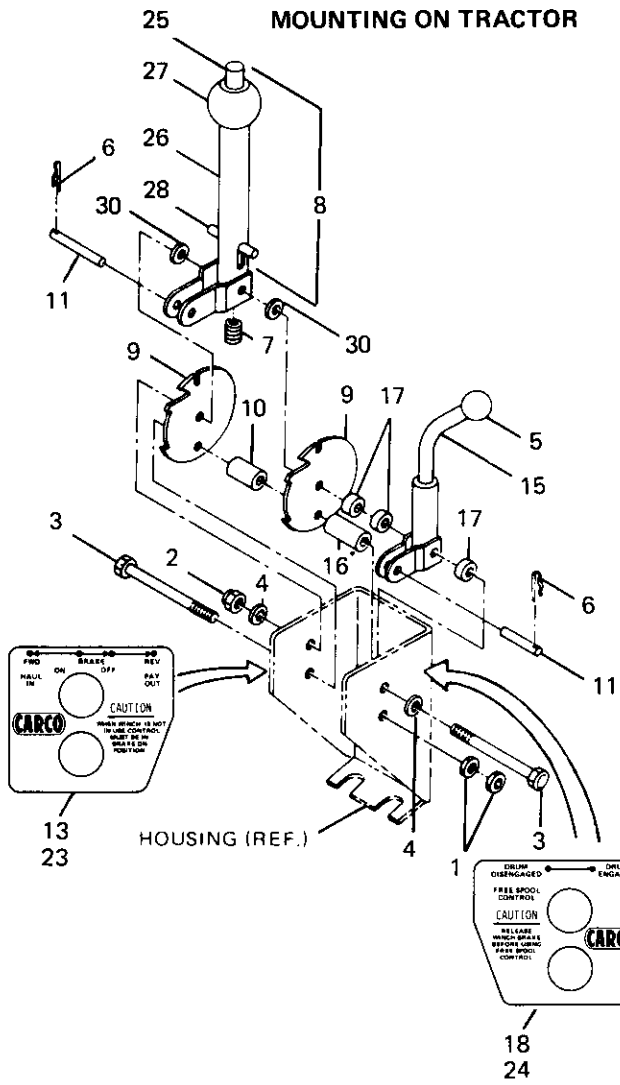
| REF. | CARCO PART NO. | NAME AND DESCRIPTION | KIT NUMBER | | |
|------|----------------|------------------------------------|----------------|----------------|----------------|
| | | | 48944-120 | 48700-120 | 51480-1 |
| | | | QUAN. PER UNIT | QUAN. PER UNIT | QUAN. PER UNIT |
| 1 | 16116-44 | Adapter (WTHRD. C5255 x 4 x 4) | 1 | 1 | 1 |
| 2 | (Ref) 16129-44 | * Connector (WTHRD. C5205 x 4 x 4) | 1 | 1 | 1 |
| 3 | (Ref) 16171-44 | * Elbow (WTHRD. 3400 x 4) | 1 | 1 | 1 |
| 4 | 16184-44 | Union (WTHRD. C5356 x 4) | 1 | 1 | — |
| 5 | 16185-44 | Union (WTHRD. C5506 x 4) | 1 | 1 | — |
| 6 | (Ref) 16362-44 | * Snubber (CHEMIQUIP 25B-D) | 1 | 1 | 1 |
| 7 | 44921-120 | Hose Assembly | 1 | 1 | 1 |
| 8 | 48687 | Bracket | 1 | 1 | — |
| 9 | 48693-1 | Gauge | 1 | 1 | 1 |
| 10 | 16047-608 | Screw, Hex Hd Cap (3/8 x 1 UNC) | 1 | — | — |
| 11 | 16033-6 | Nut, Hex (3/8 UNC) | 1 | — | — |
| 12 | 16063-6 | Washer (3/8) | 1 | — | — |
| 13 | 49121 | Bracket | 1 | 1 | 1 |
| 14 | 49343-2 | Bracket | 1 | — | — |

*Items 2, 3 and 6 are also shown in hydraulic control section.

**CARCO MODEL 50-PS & PSC WINCH
CONTROL STAND ASSEMBLY**

**ODD DASH NUMBERS
FOR LEFT HAND
MOUNTING ON TRACTOR**

**EVEN DASH NUMBERS
FOR RIGHT HAND
MOUNTING ON TRACTOR**



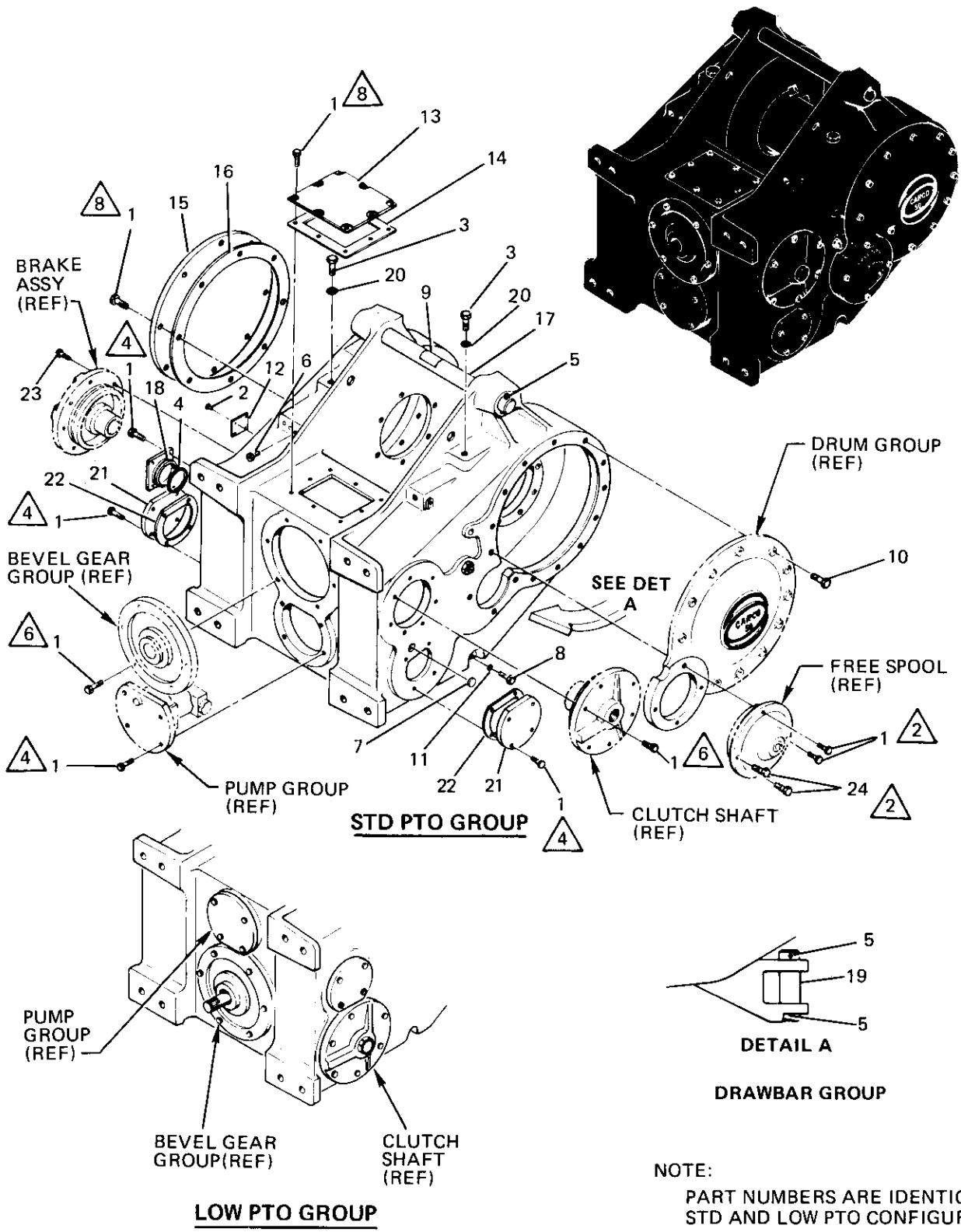
CONTROL STAND ASSEMBLY 49805-01 THRU -09 (POWER SHIFT W/FREE SPOOL)

CARCO MODEL 50-PS & PSC WINCH
CONTROL STAND ASSEMBLY

| REF. | CARCO PART NO. | NAME AND DESCRIPTION | QUANTITY | | | | | | | | |
|------|----------------|-------------------------------------|----------|----|----|----|----|----|----|----|----|
| | | | -1 | -2 | -3 | -4 | -5 | -6 | -7 | -8 | -9 |
| 1 | 16033-6 | Nut (3/8 UNC Hex) | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 2 | 16039-66 | Nut, Lock (ESNA 21NE-066) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 3 | 16047-632 | Screw, Hex Hd Cap (3/8 x 4 UNC) | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 4 | 16064-6 | Washer (3/8) | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 5 | 16236-4 | Knob (REID B-8) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 6 | 16381-13 | Pin, Hitch (WESTERN WIRE WW-13) | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 7 | 41403 | Spring | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 8 | 49003 * | Lever Assy, Power Shift | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 9 | 49007 | Plate, Lock | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 10 | 49804-3 | Spacer | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 11 | 49010 | Pin | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 12 | 49314 | Plate, Power Shift Instruction (RH) | | 1 | | 1 | | 1 | | 1 | |
| 13 | 49314-2 | Plate, Power Shift Instruction (LH) | 1 | | 1 | | 1 | | | | 1 |
| 14 | 49802-2 | Lever Assy., Free Spool (RH) | | 1 | | 1 | | 1 | | 1 | |
| 15 | 49802-1 | Lever Assy., Free Spool (LH) | 1 | | 1 | | 1 | | 1 | | 1 |
| 16 | 49804-1 | Spacer | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 17 | 49804-2 | Spacer | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 18 | 49807-1 | Plate, Free Spool Instruction (LH) | 1 | | 1 | | 1 | | | | 1 |
| 19 | 49807-2 | Plate, Free Spool Instruction (RH) | | 1 | | 1 | | 1 | | 1 | |
| 20 | 49806-1 | Housing | 1 | 1 | | | | | | | |
| 21 | 49806-2 | Housing | | | 1 | 1 | | | | | |
| 22 | 49806-3 | Housing | | | | | 1 | 1 | 1 | | |
| 23 | 50911 | Plate, Power Shift Instruction | | | | | | | 1 | | |
| 24 | 50912 | Plate, PTO Valve Instruction | | | | | | | 1 | | |
| 25 | 49004 * | Rod, Push | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 26 | 49005 * | Handle | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 27 | 41404 * | Ball | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 28 | 16294-824 * | Pin, Spring (1/4 x 1-1/2) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 29 | 49806-4 | Housing | | | | | | | | 1 | 1 |
| 30 | 16009-6 | Bearing, Thrust (BUNTING TW 37) | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |

*Items 25, 26, 27, 28 are included in item 8.

CARCO MODEL 50-PS & PSC WINCH
CASE AND COVERS



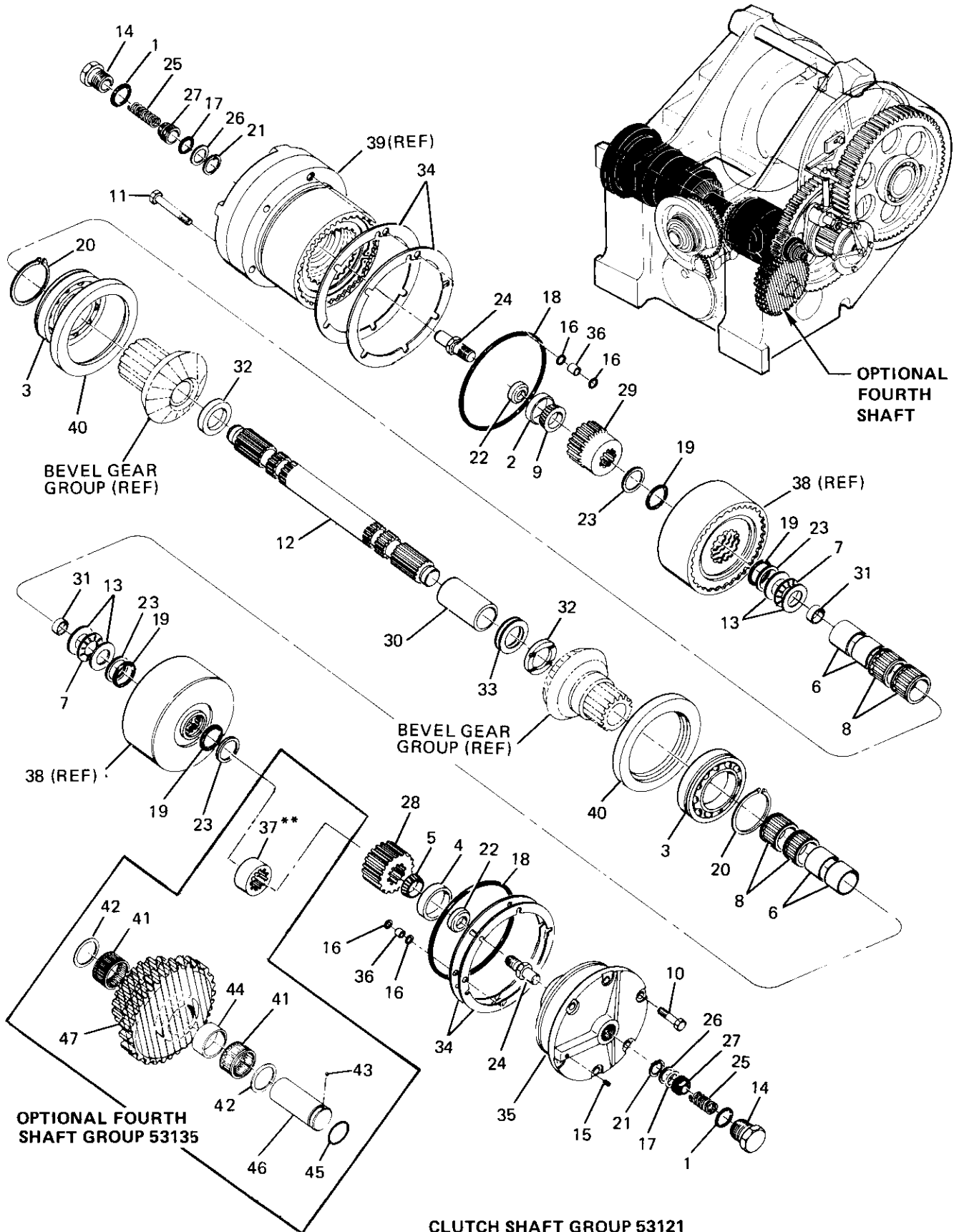
CASE AND COVERS (53136)

△ INDICATES QUANTITY USED

CARCO MODEL 50-PS & PSC WINCH
CASE AND COVERS

| REF. | CARCO PART NO. | NAME AND DESCRIPTION | QUAN. PER UNIT |
|------|----------------|---|----------------------|
| 1 | 16047-808 | Screw, Hex Hd Cap (1/2 x 1 UNC Grade 5) | 46 |
| 2 | 16055-5 | Screw, Drive (#10 x 3/8 Steel) | 4 |
| 3 | 16166-20 | Plug, O-Ring, Hex Hd (Includes Item 20) (WH 7237x20) | 2 |
| 4 | 16262-236 | O-Ring (NAT'L. 623012) | 1 |
| 5 | 16288-1248 | Pin, Cotter (3/8 x 3) | 4 |
| 6 | 16378-0004 | Vent, Breather (ARROW ASP-2BV) | 1 |
| 7 | 16540-0002 | Plug, Cup Expansion (1-3/4 SEASTROM 5791-22) | 1 |
| 8 | 16166-12 | Plug, O-Ring, Hex Hd (Includes Item 11) (WH 7237x12) | 1 |
| | 25978 | Tag, Underwind | 1 |
| 9 | 25979 | Tag, Overwind | 1 |
| 10 | 16047-810 | Screw, Hex Hd Cap (1/2 x 1-1/4 UNC Grade 5) | 11 |
| 11 | 16262-912 | O-Ring (Included w/Item 8) (NAT'L. 600501) | 1 |
| 12 | 52126 | Plate, Winch Serial No. | 1 |
| 13 | 53044-0001 | Plate | 1 |
| 14 | 53051 | Gasket | 1 |
| 15 | 53054 | Cover | 1 |
| 16 | 53055 | Gasket | 1 |
| 17 | 53064 | Bar, Tie | 1 |
| 18 | 53068 | Cover, Strainer | 1 |
| 19 | 53101 | Pin, Drawbar | 1 |
| 20 | 16262-920 | O-Ring (Included w/Item 3) (NAT'L. 600602) | 2 |
| 21 | 53223 | Cover | 2 |
| 22 | 53224 | Gasket | 2 |
| 23 | 16047-818 | Screw, Hex Hd Cap (1/2 x 2-1/4 UNC Grade 5) | 6 |
| 24 | 16047-814 | Screw, Hex Hd Cap (1/2 x 1-3/4 UNC Grade 5) | 2 |

CARCO MODEL 50-PS & PSC WINCH
CLUTCH SHAFT GROUP



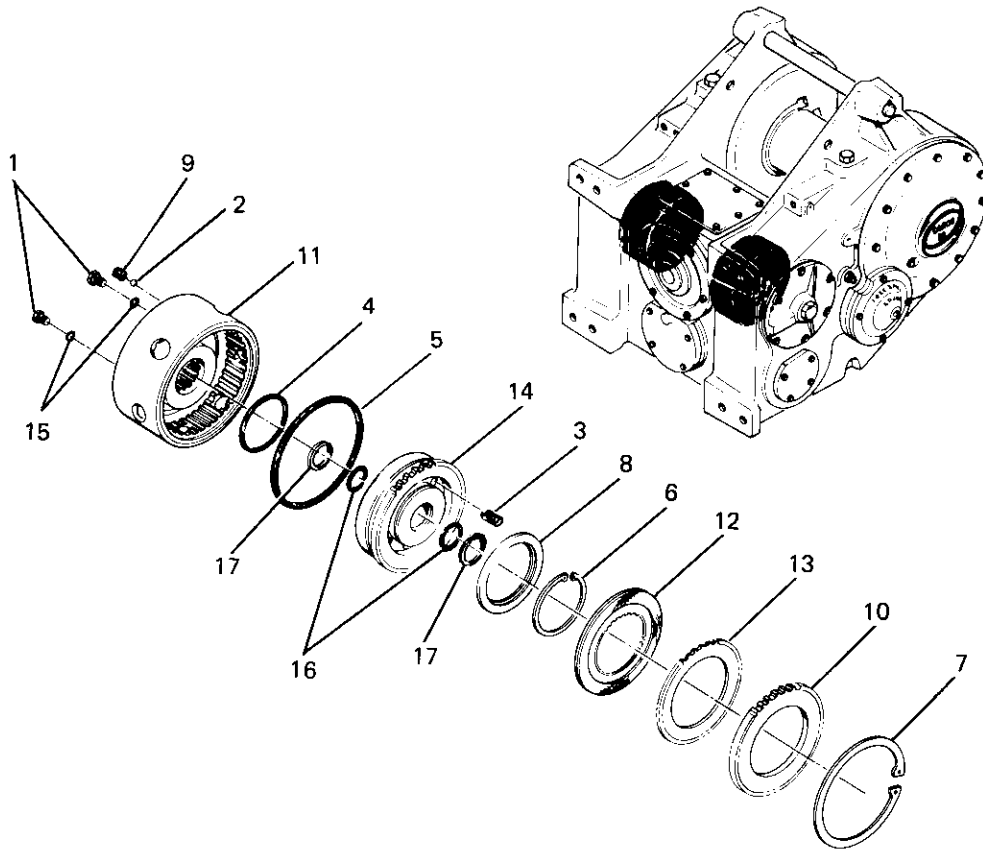
CARCO MODEL 50-PS & PSC WINCH
CLUTCH SHAFT GROUP

| REF. | CARCO PART NO. | NAME AND DESCRIPTION | QUAN. PER UNIT |
|------|----------------|---|----------------|
| 1 | 16262-920 | O-Ring (Part of No. 14) (NAT'L. 600602) | 2 |
| 2 | (Ref) 15323 | Cup (Also shown in Brake Assembly) (TIMKEN LM67010) | 1 |
| 3 | 15313 | Bearing, Ball (SKF 6020 NR) | 2 |
| 4 | 15179 | Cup (TIMKEN 26820) | 1 |
| 5 | 15180 | Cone (TIMKEN 26880) | 1 |
| 6 | 15314 | Race, Inner (TORRINGTON 1R3024) | 4 |
| 7 | 15315 | Bearing, Thrust (TORRINGTON NTA-3648) | 2 |
| 8 | 15316 | Bearing, Needle (TORRINGTON WJ344024) | 4 |
| 9 | 15324 | Cone (Also shown in Brake Assembly) (TIMKEN LM67048) | 1 |
| 10 | 16047-808 | Screw, Hex Hd Cap (1/2 x 1 UNC) | 6 |
| 11 | 16047-818 | Screw, Hex Hd Cap (1/2 x 2-1/4 UNC) | 6 |
| 12 | { 53222 | * Shaft, Clutch (Standard Unit) | 1 |
| | { 53201 | ** Shaft, Clutch (Used with 4th Shaft only) | 1 |
| 13 | 16066-01 | Washer, Thrust (TORRINGTON TRD 3648) | 4 |
| 14 | 16166-20 | Plug, O-Ring, Hex Hd (WH 7236x20) (Includes #1) | 2 |
| 15 | 16167-4 | Plug, Hex Socket (1/4 NPTF) | 1 |
| 16 | 16262-907 | O-Ring (NAT'L. 600827) | 8 |
| 17 | 16262-121 | O-Ring (NAT'L. 610067) | 2 |
| 18 | 16262-266 | O-Ring (NAT'L. 623044) | 2 |
| 19 | 16262-326 | O-Ring (NAT'L. 622729) | 4 |
| 20 | 16313-393 | Ring, Retaining (TRUARC 5100-393) | 2 |
| 21 | 16314-125 | Ring, Retaining (TRUARC N5000-125) | 2 |
| 22 | 53204 | Retainer | 2 |
| 23 | 16300-0326 | Ring, Back-up (PARKER 8-326-N300-9) | 4 |
| 24 | 53221 | Shaft, Rotary Seal | 2 |
| 25 | 44753 | Spring, Seal Retaining | 2 |
| 26 | 44940 | Washer, Back-up | 2 |
| 27 | 44949 | Seal (TEFLON) | 2 |
| 28 | 53013 | Pinion | 1 |
| 29 | 53014 | Hub, Brake | 1 |
| 30 | 53019 | Spacer | 1 |
| 31 | 53021 | Spacer | 2 |
| 32 | 53026 | Washer, Thrust | 2 |
| 33 | 53046-0001 | Shim Set | 1 |
| 34 | 53048-0001 | Shim Set | 2 |
| 35 | { 53103 | * Carrier (Standard Unit) | 1 |
| | { 53207 | ** Carrier (Used only with 4th Shaft) | 1 |
| 36 | 53066-0001 | Sleeve, O-Ring | 4 |
| 37 | 53202 | ** Spacer (Used only with 4th Shaft) | 1 |
| 38 | (REF) 53129 | Clutch Assembly (See Page 16) | 2 |
| 39 | (REF) 53130 | Brake Assembly (See Page 17) | 1 |
| 40 | 53015 | Carrier, Bearing | 2 |
| 41 | 15327 | ** Bearing, Needle (TORRINGTON B-2824) | 2 |
| 42 | 16066-0002 | ** Washer (TORRINGTON TRB-2840) | 2 |
| 43 | 16217-6 | ** Ball, (Steel - 3/8) | 1 |
| 44 | 50333-0002 | ** Spacer | 1 |
| 45 | 16262-222 | ** O-Ring (NAT'L. 622727) | 1 |
| 46 | 53203 | ** Pin, Countershaft | 1 |
| 47 | 53205 | ** Gear, Cluster | 1 |

* Used on standard unit without fourth shaft.

** Used on unit with fourth shaft option.

CARCO MODEL 50-PS & PSC WINCH
CLUTCH ASSEMBLY

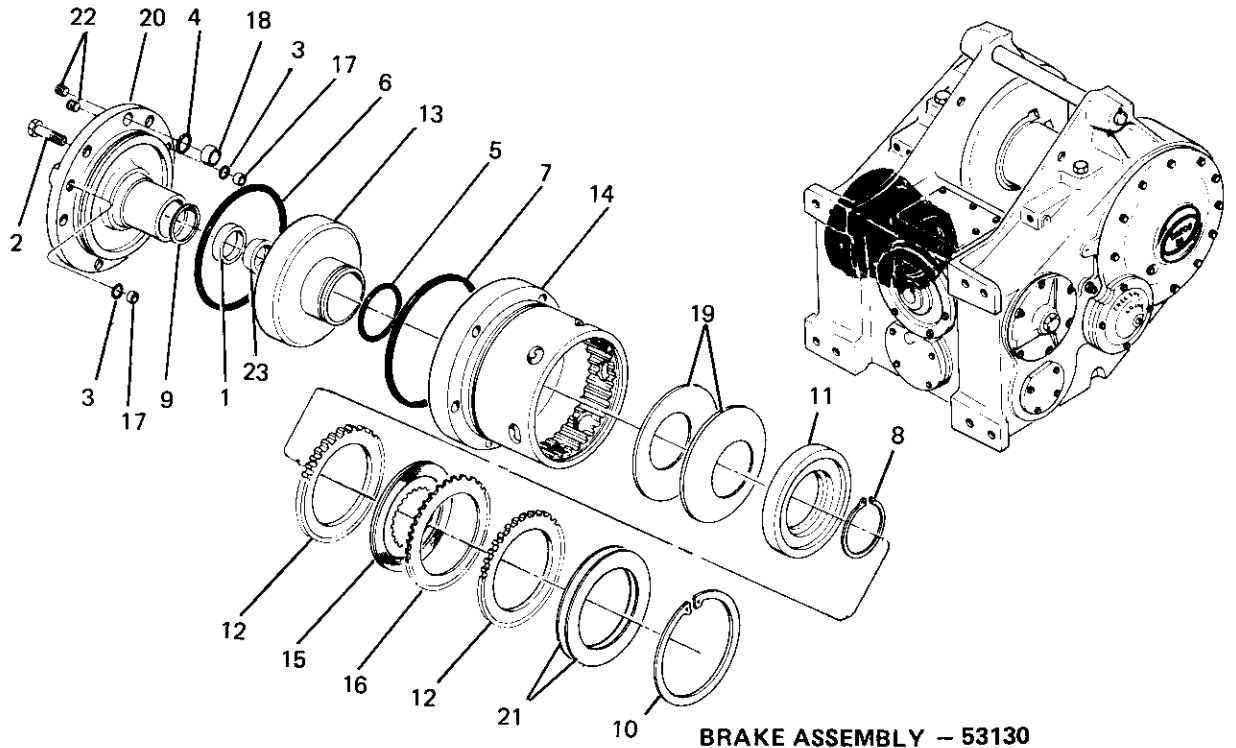


CLUTCH ASSEMBLY – 53129

| REF. | CARCO PART NO. | NAME AND DESCRIPTION | QUAN. PER UNIT |
|------|------------------|---|----------------|
| — | 53129 | Clutch Assy (Includes the following) | 1 |
| 1 | 16496-3 | Plug, O-Ring Flush (WH 7231 x 3) (Includes #15) | 2 |
| 2 | 16217-4 | Ball (Steel – 1/4") | 1 |
| 3 | 16240-19 | Spring | 8 |
| 4 | 16262-240 | O-Ring (NAT'L. 623018) | 1 |
| 5 | 16262-262 | O-Ring (NAT'L. 623040) | 1 |
| 6 | 16313-393 | Ring, Retaining (TRUARC 5100-393) | 1 |
| 7 | 16314-700 | Ring, Retaining (TRUARC N5000-700) | 1 |
| 8 | 53717 | Retainer, Spring | 1 |
| 9 | 53018 | Seat, Valve | 1 |
| 10 | 53020 | Plate, Pressure | 1 |
| 11 | 53034-0002 | Housing Assembly | 1 |
| 12 | 53880-0001 | Disc, Friction | 5 |
| 13 | 53062 | Disc, Steel | 4 |
| 14 | 53071 | Piston, Clutch | 1 |
| 15 | 16262-903 | O-Ring (NAT'L. 600599) (Part of #1) | 2 |
| 16 | (Ref) 16262-326 | * O-Ring (NAT'L. 622729) | 2 |
| 17 | (Ref) 16300-0326 | * Ring, Back up (Parker 8-326-N300-9) | 2 |

*Not Part of Clutch Assembly

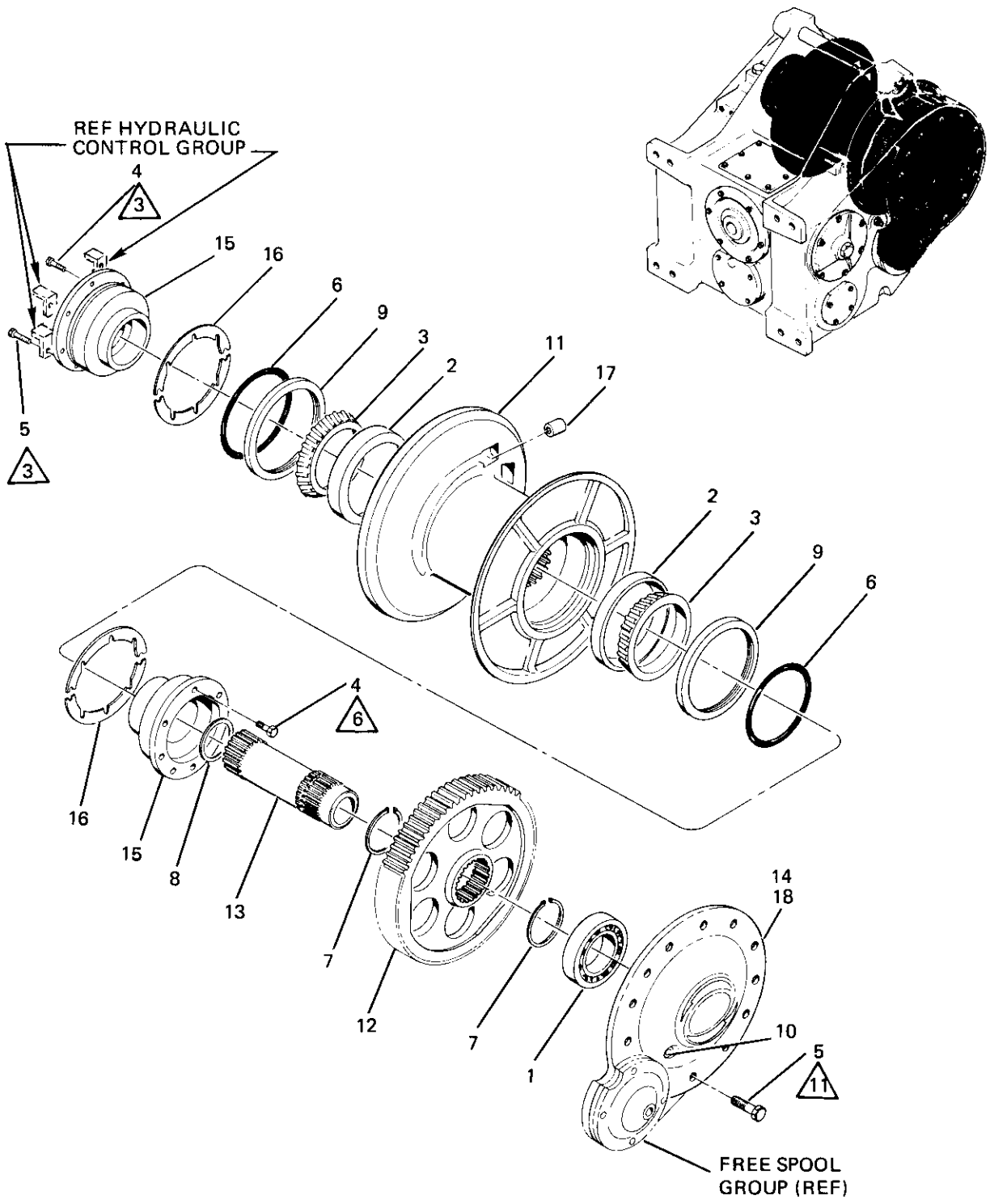
CARCO MODEL 50-PS & PSC WINCH
BRAKE ASSEMBLY



| REF. | CARCO PART NO. | NAME AND DESCRIPTION | QUAN. PER UNIT |
|------|----------------|--|----------------|
| — | 53130 | Brake Assy (Includes the following) | 1 |
| 1 | 15323 | Cup, Bearing (TIMKEN LM67010) (Also shown on Clutch Shaft Group) | 1 |
| 2 | 16047-608 | Screw, Hex Hd Cap (3/8 x 1 UNC Grade 5) | 2 |
| 3 | 16262-907 | O-Ring (NAT'L. 600827) | 2 |
| 4 | 16262-122 | O-Ring (NAT'L. 610068) | 1 |
| 5 | 16262-238 | O-Ring (NAT'L. 623016) | 1 |
| 6 | 16262-261 | O-Ring (NAT'L. 623039) | 1 |
| 7 | 16262-262 | O-Ring (NAT'L. 623040) | 1 |
| 8 | 16313-343 | Ring, Retaining (TRUARC 5100-343) | 1 |
| 9 | 16314-125 | Ring, Retaining (TRUARC N5000-125) | 1 |
| 10 | 16314-700 | Ring, Retaining (TRUARC N5000-700) | 1 |
| 11 | 53016 | Retainer, Spring | 1 |
| 12 | 53020 | Plate, Pressure | 2 |
| 13 | 53031 | Piston, Brake | 1 |
| 14 | 53042 | Housing, Brake | 1 |
| 15 | 53880-0001 | Disc, Friction | 8 |
| 16 | 53062 | Disc, Steel | 7 |
| 17 | 53066-0001 | Sleeve, O-Ring | 2 |
| 18 | 53066-0002 | Sleeve, O-Ring | 1 |
| 19 | 53070 | Spring, Disc | 2 |
| 20 | 53105 | Carrier | 1 |
| 21 | 53708-0001 | Shim Set | 1 |
| 22 | 16167-4 | Plug, Hex Socket (1/4 NPTF) | 2 |
| 23 | (Ref) 15324 | * Cone (TIMKEN LM67048) (Also shown on Clutch Shaft Group) | 1 |

* Not included in brake assembly

CARCO MODEL 50-PS & PSC WINCH
 CABLE DRUM GROUP



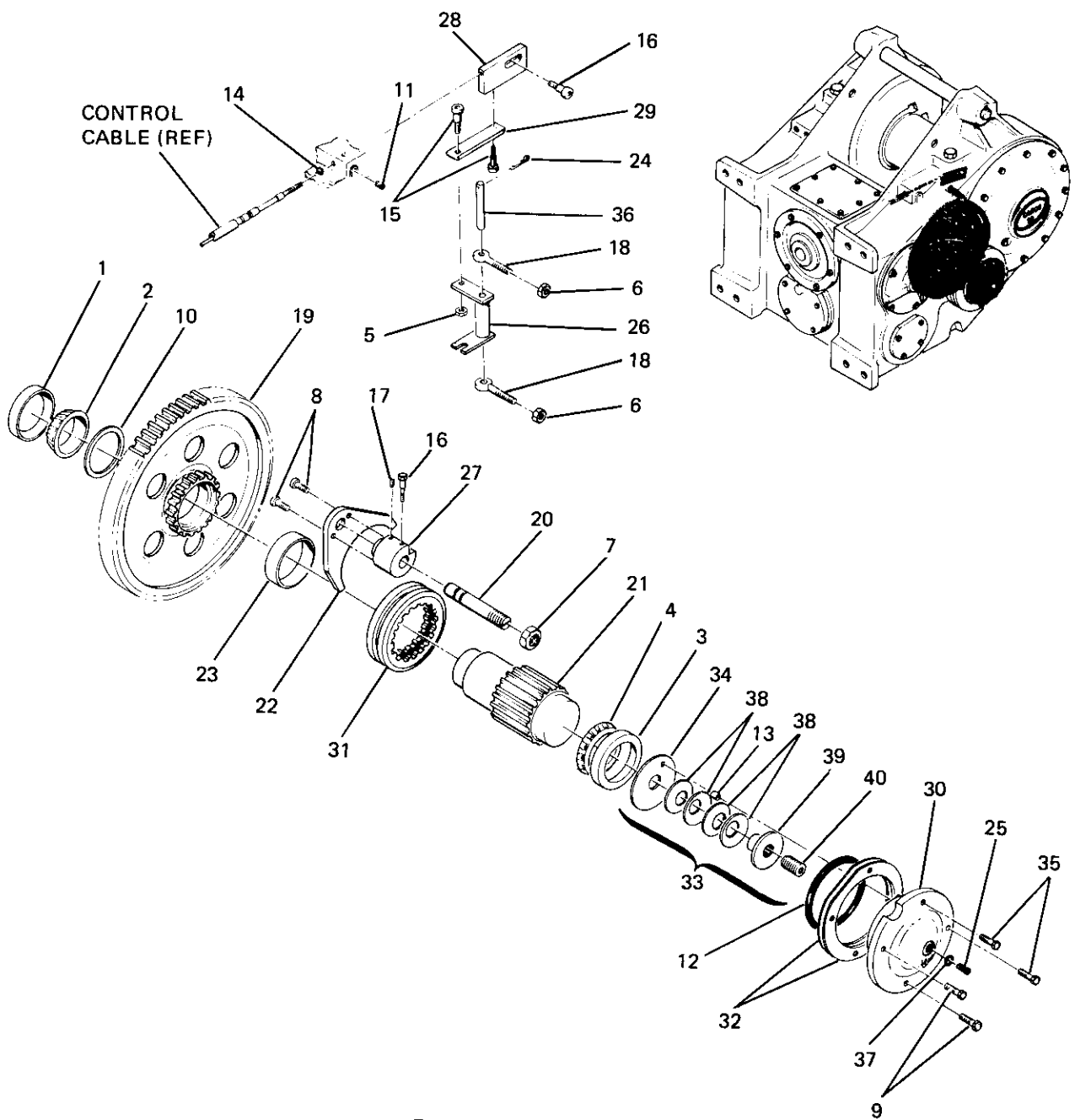
CABLE DRUM GROUP - 53127

△ INDICATES QUANTITY USED

CARCO MODEL 50-PS & PSC WINCH
CABLE DRUM GROUP

| REF. | CARCO PART NO. | NAME AND DESCRIPTION | QUAN. PER UNIT |
|------|----------------|---|----------------------|
| 1 | 15042 | Bearing, Ball (SKF 6218) | 1 |
| 2 | 15317 | Cup (TIMKEN 48320) | 2 |
| 3 | 15318 | Cone (TIMKEN 48393) | 2 |
| 4 | 16047-808 | Screw, Hex Hd Cap (1/2 x 1 UNC Grade 5) | 9 |
| 5 | 16047-810 | Screw, Hex Hd Cap (1/2 x 1-1/4 UNC Grade 5) | 14 |
| 6 | 16262-263 | O-Ring (NAT'L. 62304) | 2 |
| 7 | 16313-437 | Ring, Retaining (TRUARC 5100-437) | 2 |
| 8 | 16314-400 | Ring, Retaining (TRUARC N5000-400) | 1 |
| 9 | 16342-26 | Seal, Oil (NAT'L. 415867) | 2 |
| 10 | 16539-0010 | Gauge, Oil Level | 1 |
| 11 | 53008 | Drum, Cable | 1 |
| 12 | 53025 | Gear, 2nd Reduction | 1 |
| 13 | 53032 | Shaft, 2nd Reduction Gear | 1 |
| 14 | 53090 | Carrier, Bearing | 1 |
| 15 | 53093 | Carrier, Bearing | 2 |
| 16 | 53095-0001 | Shim Set | 2 |
| 17 | 25456-1 | Ferrule, Cable (1/2") (B4) | 1 |
| | 25456-2 | Ferrule, Cable (5/8") (B5) | 1 |
| | 25456-3 | Ferrule, Cable (3/4") (B6) | 1 |
| 18 | 16453-5 | Sealant (Not Shown) (DOW CORNING Silastic No. 732 RTV5 oz. tube) | 1 |

CARCO MODEL 50-PS & PSC WINCH
 FREE SPOOL GROUP

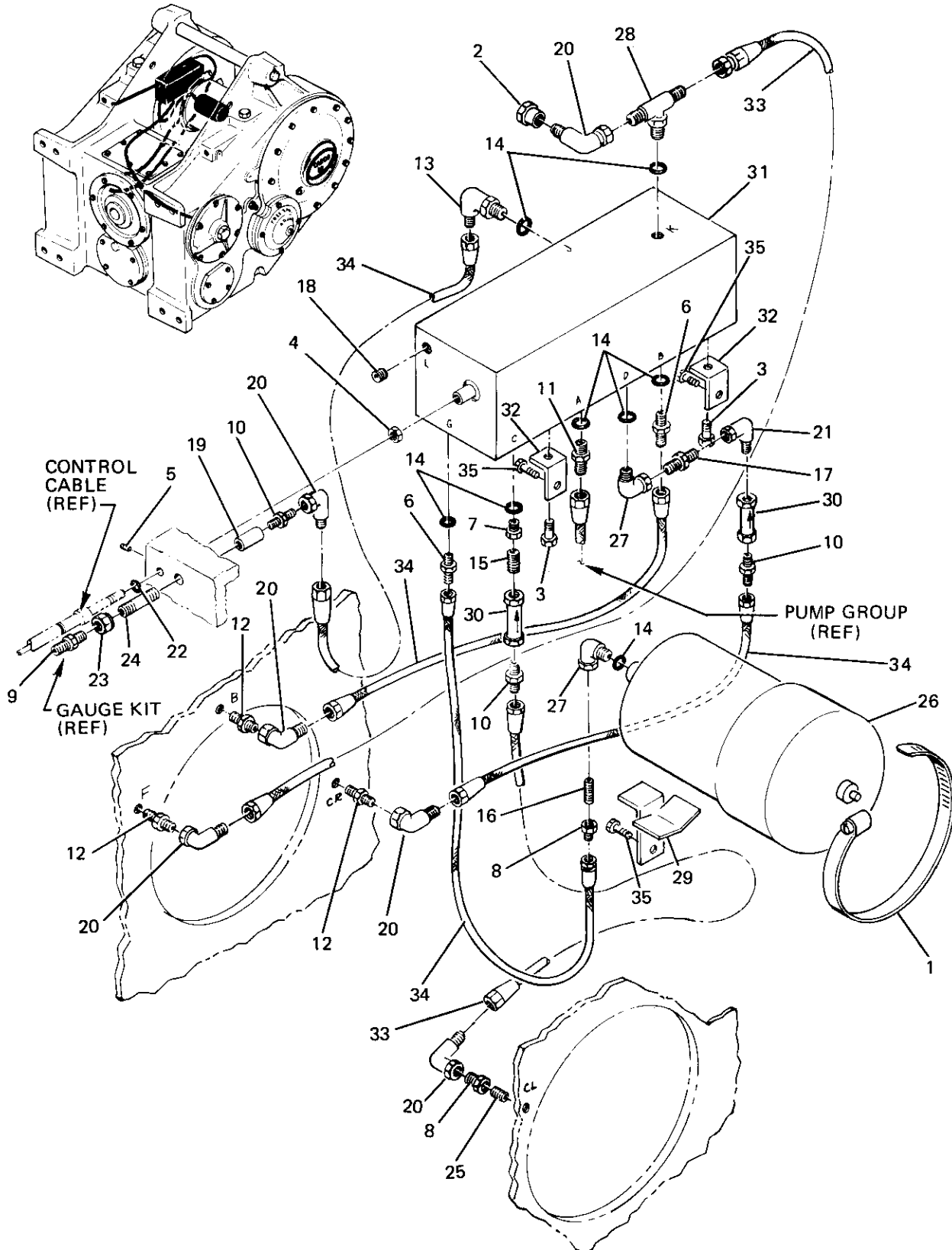


FREE SPOOL GROUP - 53126

CARCO MODEL 50-PS & PSC WINCH
FREE SPOOL GROUP

| REF. | CARCO PART NO. | NAME AND DESCRIPTION | QUAN. PER UNIT |
|------|----------------|--|----------------------|
| 1 | 15319 | Cup (TIMKEN JLM 506810) | 1 |
| 2 | 15320 | Cone (TIMKEN JLM 506849) | 1 |
| 3 | 15321 | Cup (TIMKEN JLM 714110) | 1 |
| 4 | 15322 | Cone (TIMKEN JLM 714149) | 1 |
| 5 | 16043-5 | Nut, Hex Jam (5/16 UNC Grade 2) | 1 |
| 6 | 16044-8 | Nut, Hex Jam (1/2 UNF Grade 2) | 2 |
| 7 | 16044-16 | Nut, Hex Jam (1-14 Grade 2) | 1 |
| 8 | 16047-606 | Screw, Hex Hd Cap (3/8 x 3/4 UNC Grade 5) | 2 |
| 9 | 16047-814 | Screw, Hex Hd Cap (1/2 x 1-3/4 UNC Grade 5) | 2 |
| 10 | 16066-01 | Washer, Thrust (TORRINGTON TRD-3648) | 1 |
| 11 | 16056-612 | Screw, Soc Set (3/8 x 3/4 UNC Cup Point) | 1 |
| 12 | 16262-249 | O-Ring (NAT'L. 623027) | 1 |
| 13 | 16290-1212 | Pin, Dowel (3/8 x 3/4 .0002 Oversize) | 1 |
| 14 | 16262-114 | O-Ring (NAT'L. 622712) | 1 |
| 15 | 16357-0603 | Screw, Shoulder (3/8 x 3/8 5/16 UNC Thread) | 2 |
| 16 | 16357-0804 | Screw, Shoulder (1/2 x 1/2 3/8 UNC Thread) | 2 |
| 17 | 16403-2 | Plunger, Ball (CARR-LANE CL70-BP3) | 1 |
| 18 | 16526-0001 | Rod End (HEIM CHM-8) | 2 |
| 19 | 53023 | Gear, First Reduction | 1 |
| 20 | 53027 | Rail, Shift | 1 |
| 21 | 53028 | Pinion, Second Reduction | 1 |
| 22 | 53029 | Yoke | 1 |
| 23 | 53035 | Bushing | 1 |
| 24 | 16288-312 | Pin, Cotter (3/32 x 3/4) | 1 |
| 25 | 16496-3 | Plug, Flush (PARKER 3HP50N-S) (Includes #37) | 1 |
| 26 | 53211 | Bellcrank | 1 |
| 27 | 53040 | Collar, Shift | 1 |
| 28 | 53691 | Guide | 1 |
| 29 | 53692 | Link | 1 |
| 30 | 53075 | Retainer, Bearing | 1 |
| 31 | 53091 | Collar, Clutch | 1 |
| 32 | 53094-0001 | Shim Set | 1 |
| 33 | 53132 | Retarder Assembly (Includes #34, 38, 39, 40) | 1 |
| 34 | 53080 | Disc, Drag (Part of #33) | 1 |
| 35 | 16047-808 | Screw, Hex Hd Cap (1/2 x 1 UNC Grade 5) | 2 |
| 36 | 53214 | Pin | 1 |
| 37 | 16262-903 | O-Ring (NAT'L. 600599) (Part of #25) | 1 |
| 38 | 49333-0002 | Disc, Spring (Part of #33) | 4 |
| 39 | 53058 | Collar (Part of #33) | 1 |
| 40 | 16057-620 | Screw, Socket Set, 1-1/4 x 3/8 UNF (Part of #33) | 1 |

CARCO MODEL 50-PS & PSC WINCH
 HYDRAULIC CONTROL GROUP

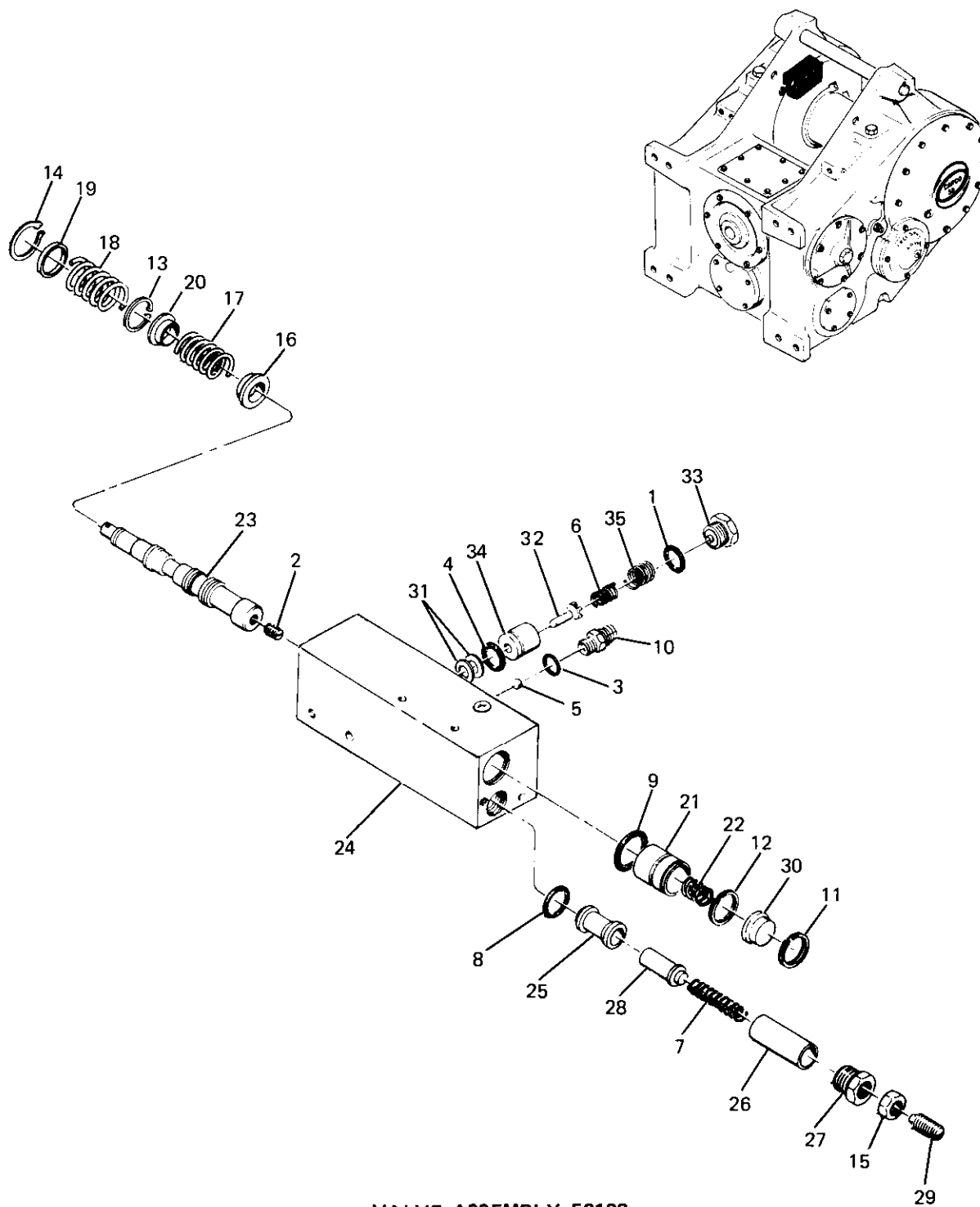


HYDRAULIC CONTROL GROUP 53137

CARCO MODEL 50-PS & PSC WINCH
HYDRAULIC CONTROL GROUP

| REF. | CARCO PART NO. | NAME AND DESCRIPTION | QUAN. PER UNIT |
|------|-----------------|--|----------------------|
| 1 | 16013-18 | Clamp, Hose (DUPAGE B64H) | 1 |
| 2 | 53740 | Cap | 1 |
| 3 | 16024-0020 | Screw, Hex Hd Cap (drilled head 3/8-16 x 5/8) | 2 |
| 4 | 16034-4 | Nut, Hex (1/4-28 UNF-2B) | 1 |
| 5 | 16056-612 | Screw, Soc Set (3/8 x 3/4 UNC-3A cup) | 1 |
| 6 | 16113-88 | Adapter (AIRWAY 6400-8-8) | 2 |
| 7 | 16114-84 | Adapter (WH C3269 x 8 x 4) | 1 |
| 8 | 16116-68 | Adapter (WH C5255 x 8) | 2 |
| 9 | 16129-44 | Connector (WH C5205 x 4 x 4) | 1 |
| 10 | 16129-0048 | Connector (WH C5205 x 8 x 4) | 3 |
| 11 | (Ref) 53069 | Adapter, Ball Check (Part of #31) | 1 |
| 12 | 16129-68 | Connector (WH C5205 x 8) | 3 |
| 13 | 16146-88 | Elbow, 90° (WH C5515 x 8) | 1 |
| 14 | 16262-908 | O-Ring (NAT'L. 600503) | 8 |
| 15 | 16158-407 | Nipple, Pipe (1/4 x 7/8) | 1 |
| 16 | 16158-624 | Nipple, Pipe (3/8 x 3) | 1 |
| 17 | 16160-0064 | Nipple, Hex (WH C3069 x 6 x 4) | 1 |
| 18 | 16167-6 | Plug, Hex Soc Pipe (3/8 NPTF) | 1 |
| 19 | 16135-4 | Coupling, Pipe (1/4 NPT) | 1 |
| 20 | 16185-88 | Union, 90° (ANCHOR 8JMA-8JUFS) | 6 |
| 21 | 16197-4 | Elbow, 90° Street (WH C3409 x 4) | 1 |
| 22 | 16262-114 | O-Ring (NAT'L. 622712) | 1 |
| 23 | 16362-44 | Snubber (CHEMIQUIP 25B-D) | 1 |
| 24 | 16158-428 | Nipple, Pipe (1/4 x 3-1/2 NPT) | 1 |
| 25 | 16158-616 | Nipple, Pipe (3/8 x 2-1/2 NPT) | 1 |
| 26 | 16475-4 | Accumulator (GREER A-67547-200) | 1 |
| 27 | 16498-0086 | Elbow, 90° (WH C3459 x 8) | 2 |
| 28 | 16545-0008 | Tee (WH C5715 x 8) | 1 |
| 29 | 53217 | Bracket | 1 |
| 30 | 51278-03 | Valve, Flow Control (CIRCLE SEAL 2595-2PP .188) | 2 |
| 31 | (Ref) 53133 | Valve Assy (See Pages 24,25) | 1 |
| 32 | 53045 | Bracket | 2 |
| 33 | 53113-0046 | Hose Assy | 2 |
| 34 | 53113-0024 | Hose Assy | 4 |
| 35 | (Ref) 16047-810 | Screw, Hex Hd Cap (1/2 x 1-1/4 UNC Grade 5) | 3 |

CARCO MODEL 50-PS & PSC WINCH
VALVE ASSEMBLY



VALVE ASSEMBLY 53133

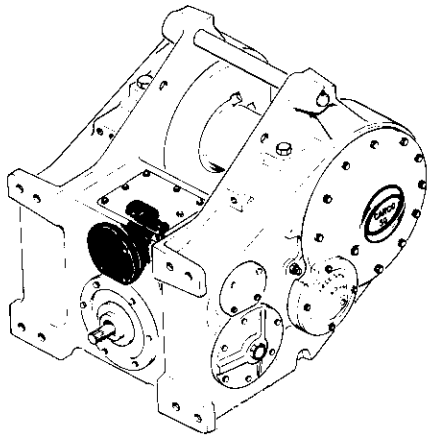
CARCO MODEL 50-PS & PSC WINCH
VALVE ASSEMBLY

| REF. | CARCO PART NO. | NAME AND DESCRIPTION | QUAN. PER UNIT |
|------|-------------------|---|----------------------|
| — | 53133 | Valve Assy | 1 |
| 1 | 16262-912 | O-Ring (NAT'L. 600501) | 1 |
| 2 | 16057-608 | Screw, Soc Set (3/8 x 1/2 UNF) | 1 |
| 3 | 16262-908 | O-Ring (NAT'L. 600503) | 1 |
| 4 | 16262-116 | O-Ring (NAT'L. 622714) | 1 |
| 5 | 16217-8 | Ball, Steel (1/2) | 1 |
| 6 | 52392 | Spring | 1 |
| 7 | 52719 | Spring | 1 |
| 8 | 16262-210 | O-Ring (NAT'L. 622715) | 1 |
| 9 | 16262-215 | O-Ring (NAT'L. 622720) | 1 |
| 10 | 53069 | Adapter, Ball, Check | 1 |
| 11 | 16305-157 | Ring, Retaining (SPIROLOX RR-157) | 1 |
| 12 | 16308-131 | Ring, Retaining (SPIROLOX RS-131) | 1 |
| 13 | 16313-75 | Ring, Retaining (TRUARC 5100-75) | 1 |
| 14 | 16314-150 | Ring, Retaining (TRUARC N5000-150) | 1 |
| 15 | 16044-12 | Nut, Hex Jam (3/4 UNC) | 1 |
| 16 | 44259-1 | Stop, Spring | 1 |
| 17 | 45548 | Spring | 1 |
| 18 | 45549 | Spring | 1 |
| 19 | 45622 | Washer | 1 |
| 20 | 45623 | Stop, Spring | 1 |
| 21 | NSS | * Piston | 1 |
| 22 | 45857 | Spring | 1 |
| 23 | NSS | * Spool, Valve | 1 |
| 24 | NSS | * Body, Valve | 1 |
| 25 | NSS | ** Seat, Relief Valve | 1 |
| 26 | NSS | ** Tube, Relief Valve | 1 |
| 27 | 51133 | Screw, Retaining | 1 |
| 28 | NSS | ** Piston, Relief Valve | 1 |
| 29 | 51135 | Screw, Adjusting | 1 |
| 30 | 51154 | Stop, Spring | 1 |
| 31 | 51881-10 | Shim Set | 1 |
| 32 | 51164 | Piston, Accum. Check | 1 |
| 33 | 51883-1 | Retainer Assy | 1 |
| 34 | 51886 | Seat | 1 |
| 35 | 51894 | Spring | 1 |
| 36 | 52651 (Not Shown) | Kit, Valve Spool (Items 2, 5, 9, 11, 12, 13, 14, 17, 18, 22) | 1 |
| 37 | 52652 (Not Shown) | Kit, Relief Valve (Items 7, 8, 25, 26, 28) | 1 |
| 38 | 52653 (Not Shown) | Kit, Accumulator Check (Items 1, 4, 8, 31, 32, 34, 35) | 1 |

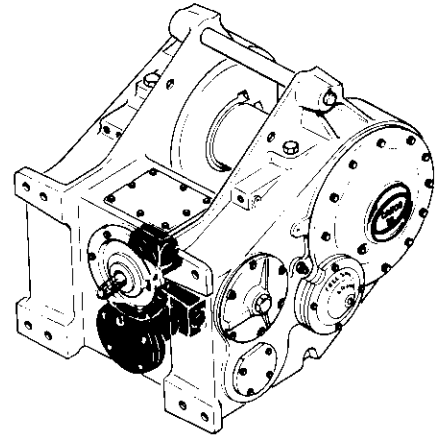
*Items 21, 23, 24 Not Serviced Separately. Order 53133 Valve Assembly.

**Available in Kit Only. See Item 37.

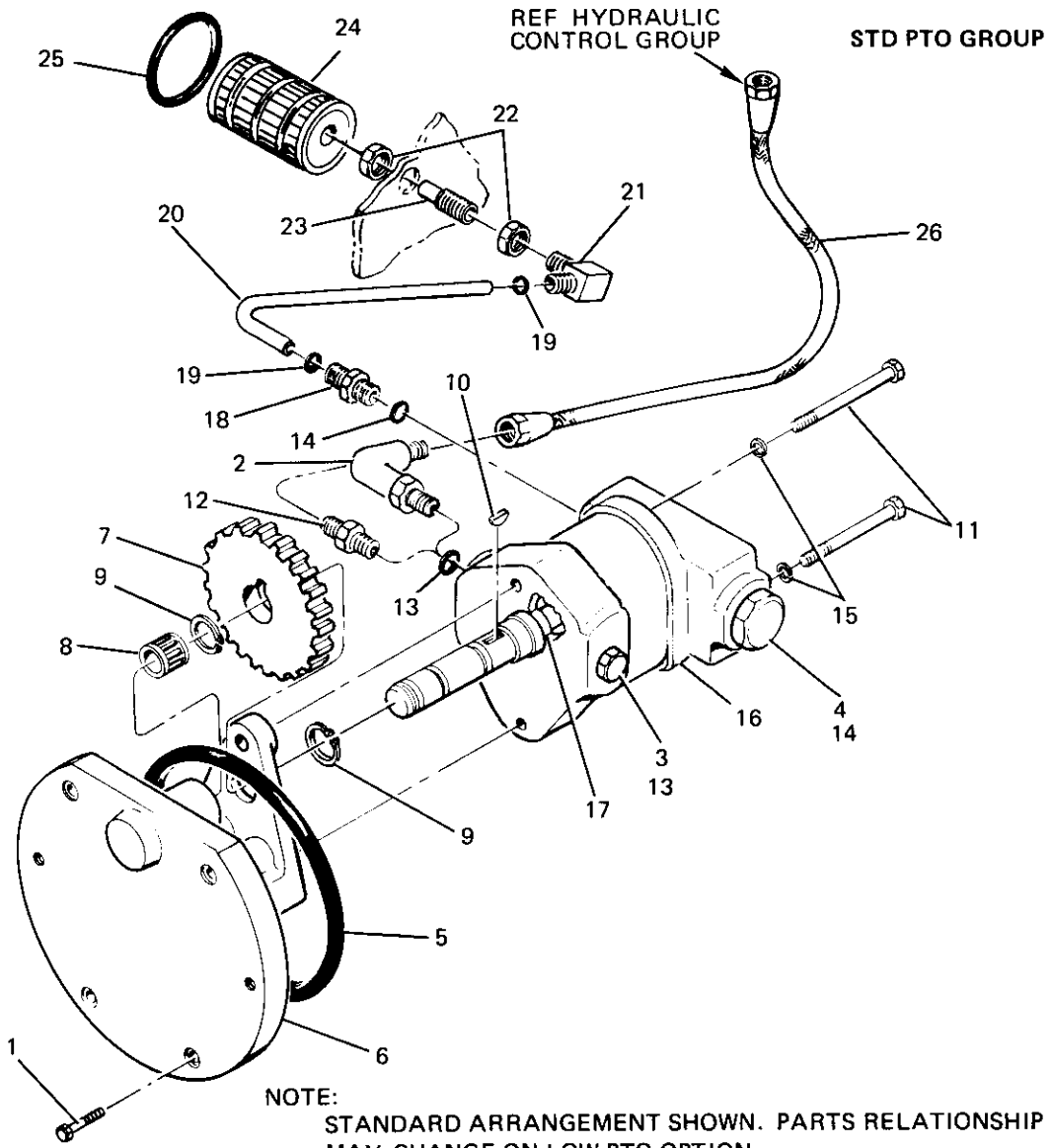
CARCO MODEL 50-PS & PSC WINCH
PUMP GROUP



LOW PTO GROUP



STD PTO GROUP



PUMP GROUP 53122

CARCO MODEL 50-PS & PSC WINCH
PUMP GROUP

| REF. | CARCO PART NO. | NAME AND DESCRIPTION | QUAN. PER UNIT |
|------|-----------------|--|----------------------|
| 1 | 16047-808 | Screw, Hex Hd Cap (1/2 x 1 UNC grade 5) | 4 |
| 2 | 16146-88 | * Elbow, 90° Male (WH C5515 x 8) | 1 |
| 3 | 16166-8 | Plug, O-Ring Hex Hd (WH 7237 x 8) | 1 |
| 4 | 16166-12 | Plug, O-Ring Hex Hd (WH 7237 x 12) | 1 |
| 5 | 16262-258 | O-Ring (NAT'L. 623036) | 1 |
| 6 | 53079 | Mount, Pump | 1 |
| 7 | 53012 | Gear | 1 |
| 8 | 15305 | Bearing, Needle (TORRINGTON J1012) | 1 |
| 9 | 16313-62 | Ring, Retaining (TRUARC 5100-62) | 2 |
| 10 | 16226-7 | Key (WOODRUFF #3) (Part of #16) | 1 |
| 11 | 16047-428 | Screw, Hex Hd Cap (1/4 x 3-1/2 UNC grade 5) | 2 |
| 12 | 16113-88 | ** Adapter (WH C5315 x 8) | 1 |
| 13 | 16262-908 | O-Ring (NAT'L. 600503) | 2 |
| 14 | 16262-912 | O-Ring (NAT'L. 600501) | 2 |
| 15 | 16064-4 | Washer, Plain (1/4) | 2 |
| 16 | { 53140-0001 | *** Pump, CCW Webster | 1 |
| | { 53139 | **** Pump, CW Webster | 1 |
| 17 | 16284-95 | Seal (WEBSTER 151-35818) (Part of #16) | 1 |
| 18 | 53220 | Connector (LENZ A105-12BT) | 1 |
| 19 | 16262-018 | O-Ring (NAT'L. 610025) | 2 |
| 20 | { 51959-07 | * Tube, Suction (Std PTO) | 1 |
| | { 51959-08 | ** Tube, Suction (Low PTO) | 1 |
| 21 | 16152-0012 | Elbow (LENZ 405-12) | 1 |
| 22 | 16017-0020 | Nut, Lock 1-5/8-12 (WH 7924 x 20) | 2 |
| 23 | 53218 | Connector | 1 |
| 24 | 16538-0001 | Strainer (MARVEL 510-5-M-40) | 1 |
| 25 | (Ref) 16262-236 | O-Ring (NAT'L. 623014) (REF Case and Covers) | 1 |
| 26 | 53113-0032 | Hose | 1 |

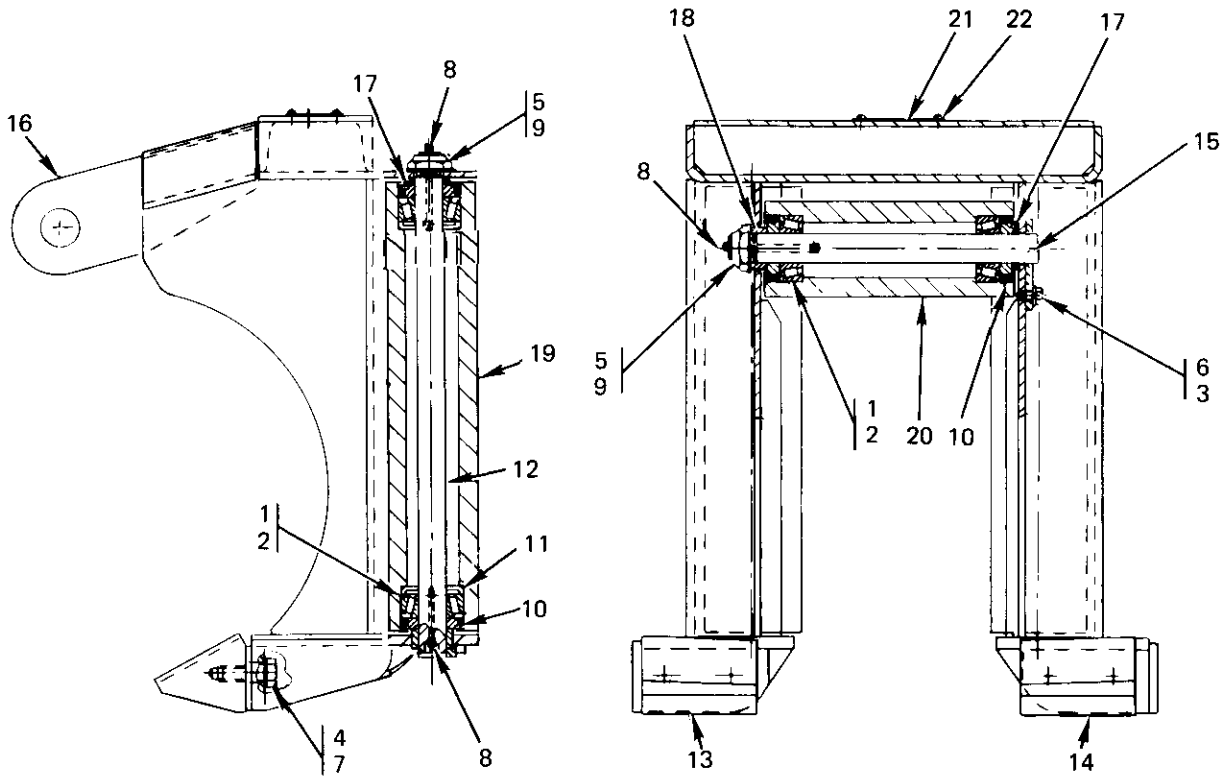
*Used on Standard PTO only

**Used on Low PTO only

***For use on Cat, Case, IH & JD only

****For use on Fiat and Komatsu only

CARCO MODEL 50-PS & PSC WINCH
FAIRLEAD ASSEMBLY



FAIRLEAD ASSEMBLY 53249

| REF. | CARCO PART NO. | NAME AND DESCRIPTION | QUAN. PER UNIT |
|------|----------------|---|----------------|
| — | 53249 | Fairlead Assy (includes the following): | 1 |
| 1 | 15178 | Cone, Bearing (TIMKEN 4388) | 6 |
| 2 | 15235 | Cup, Bearing (TIMKEN 4335) | 6 |
| 3 | 16047-808 | Screw, Hex Hd Cap (1/2 x 1 UNC) | 1 |
| 4 | 16047-1418 | Screw, Hex Hd Cap (7/8 x 2-1/4 UNC) | 4 |
| 5 | 16064-24 | Washer, Plain (1-1/2) | 3 |
| 6 | 16067-8 | Washer, Lock (1/2) | 1 |
| 7 | 16067-14 | Washer, Lock (7/8) | 4 |
| 8 | 16222-2 | Fitting, Grease (ALEMITE 16108L) | 5 |
| 9 | 16533-24 | Nut, Lock (ESNA 41NTE-242) | 3 |
| 10 | 30044 | Guard, Dust | 6 |
| 11 | 30045 | Retainer, Grease | 4 |
| 12 | 53243-0001 | Shaft, Vertical | 2 |
| 13 | 53244-0001 | Plate, Tap, R.H. | 1 |
| 14 | 53244-0002 | Plate, Tap, L.H. | 1 |
| 15 | 53245-0001 | Shaft, Horizontal | 1 |
| 16 | 53248 | Frame | 1 |
| 17 | 53281-0001 | Spacer | 3 |
| 18 | 53281-0003 | Spacer | 1 |
| 19 | 53283-0002 | Roller, Vertical | 2 |
| 20 | 53283-0003 | Roller, Horizontal | 1 |
| 21 | 53449 | Plate, Name | 1 |
| 22 | 16055-5 | Screw, Tapping (#10 x 3/8) | 4 |