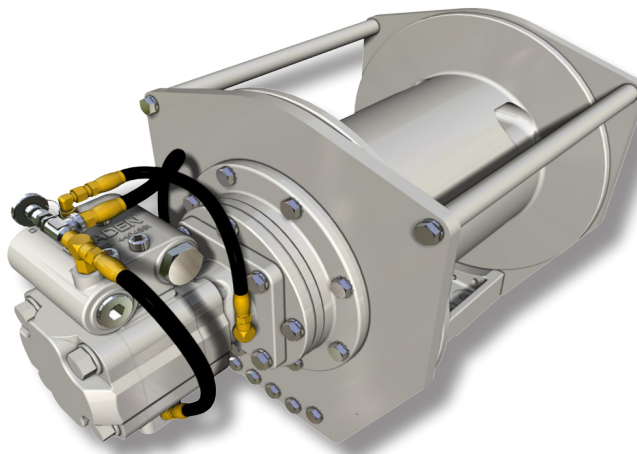


PARTS LIST



WRITE HOIST SERIAL NUMBER BELOW

| | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|
| | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|



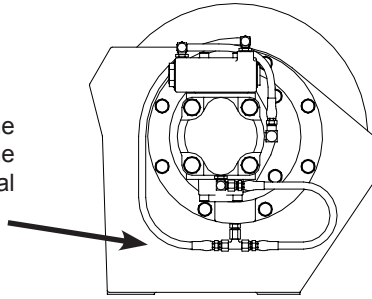
**First 2 numbers indicate
year manufactured**

For serial number location see page 2

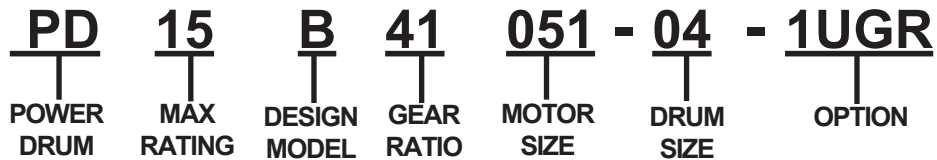
Visit our Web site at www.paccarwinch.com for the most comprehensive collection of winch, hoist, and drive information on the Internet. Most publications and specification sheets are available for downloading.

Refer to Publication LIT2103 for maintenance and service procedures.

Model numbers and serial numbers are located to the left-hand side of the hydraulic motor, stamped into the base. Always refer to the model number and serial number when requesting information or service parts.



EXPLANATION OF MODEL NUMBER



- PD** Power drum
- 15** 15,000-lb. first-layer line pull
- B** Model series relating to design changes
- 41** Total gear reduction, 41 = 41.62:1
- 051** Hydraulic motor displacement in cu. in/rev (Secimal point eliminated. Example: 051 = 5.1 cu. in/rev)
- 04** Drum (U = underwind, L = left-hand base)
- 1** Permits testing and inspection per API 2C for offshore cranes
- U** Underwound
- G** Grooved drum option
- R** Tension roller option

TO ORDER:

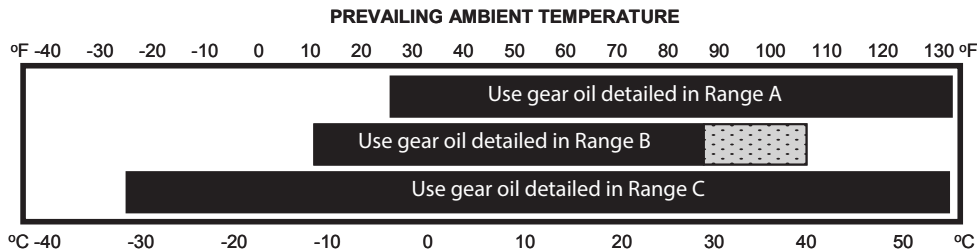
1. List model and serial numbers of the winch.
2. Refer to exploded view and select the component(s) needed and note item number.
3. Find item number on material list, show part number, description, and quantity required on your order.
4. Refer to Parts List and show price for each component or assembly.

RECOMMENDED PLANETARY GEAR OIL

For simplicity, BRADEN has listed available products in each temperature range that have been tested and found to meet our specifications. This is not to say that other lubricant brands would not perform equally as well.

If the following lubricant brands are not available in your area, make certain your lubricant vendor supplies you with oil that is equivalent to those products listed below.

RECOMMENDED GEAR OIL

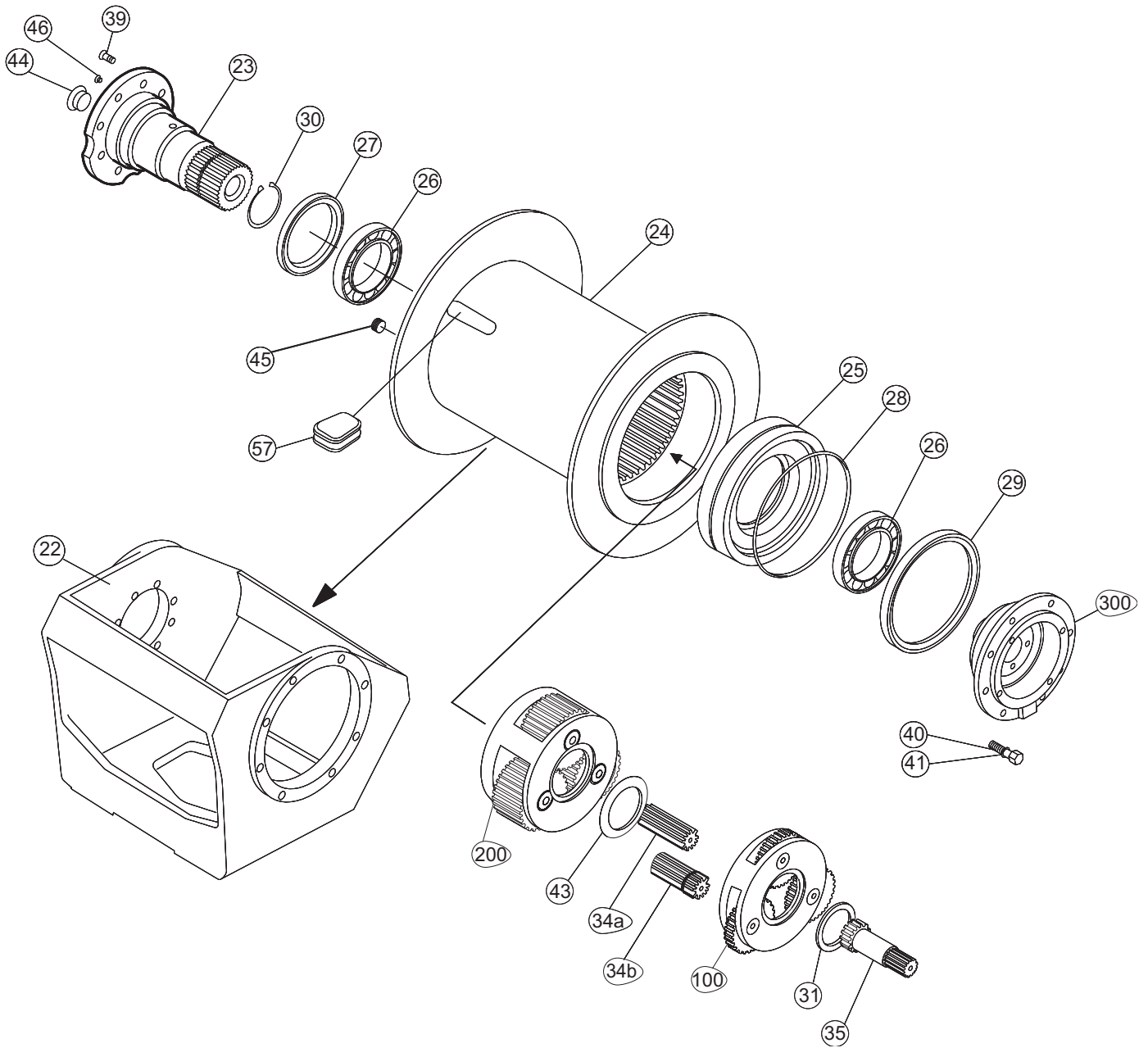


SHADED TEMPERATURE RANGE IN THE CHART ABOVE NOT RECOMMENDED FOR SEVERE APPLICATIONS SUCH AS SUSTAINED FAST DUTY CYCLES OR FREQUENT WINCHING.

Winches are factory filled with Mobilgear 600 XP 150 or equivalent. Consult your oil supplier for other equivalent oils if required.

| | Mobil | Shell | Chevron | Texaco |
|---------|----------------------|-----------------|-----------------------|------------|
| Range A | Mobilgear 600 XP 220 | Omala S2 G 220 | Gear Compounds EP 220 | Meropa 220 |
| Range B | Mobilgear 600 XP 150 | Omala S2 G 150 | Gear Compounds EP 150 | Meropa 150 |
| Range C | Mobilgear SHC 150 | Omala S4 GX 150 | | |

BRADEN PD15B COMPONENTS



NOTE: Standard PD15B configurations are defined in this publication. Nonstandard or OEM specific units may require further information. Please contact PACCAR Winch for help with nonstandard or OEM specific assemblies.

BRADEN PD15B MAIN ASSEMBLY COMPONENTS

| ITEM # | DESCRIPTION | PART # | QTY. |
|--------|---|--------|------|
| 100 | Primary Planet Carrier Assembly (Page 8) | | 1 |
| 200 | Output Planet Carrier Assembly (Page 9) | | 1 |
| 300 | Brake Cylinder Assembly (Page 7) | | 1 |
| 22 | Base (see below) | ----- | 1 |
| 24 | Cable Drum (04 Drum) | 28832 | 1 |
| | Cable Drum (05 Drum) | 26464 | 1 |
| 25 | Cable Drum Closure (04 Drum, 06 Drum) | 27866 | 1 |
| | Cable Drum Closure (05 Drum) | 26480 | 1 |
| 26 | Ball Bearing | 24110 | 2 |
| 27 | Oil Seal* | 24109 | 1 |
| 28 | O-ring* | 76208 | 1 |
| 29 | Oil Seal* | 22818 | 1 |
| 31 | Primary Thrust Race | 40128 | 1 |
| 34a | Output Sun (serial number 9702222 and higher) | 100854 | 1 |
| 34b | Output Sun (serial number 9702221 and lower) | 26478 | 1 |
| 35 | Primary Sun Gear 34:1 Ratio | 40238 | 1 |
| | Primary Sun Gear 41:1 Ratio | 26479 | 1 |
| 39 | Capscrew (05 Drum Hex Head 1/2 x 1 1/2) | 104322 | 8 |
| | Capscrew (04 Drum Hex Head 1/2 x 1-1/4) ** | 104174 | 8 |
| 41 | Lockwasher | 11026 | 8 |
| 43 | Output Thrust Race | 40129 | 1 |
| 45 | Drain Plug | 32411 | 1 |
| | O-ring* for item number 45 | 23950 | 1 |
| 57 | Cable Wedge Standard (7/16 - 5/8 in) | 40130 | 1 |
| | Cable Wedge (3/8 in. 10 mm) | 24494 | 1 |
| | Cable Wedge (3/4 in. 19 mm) | 24492 | 1 |
| | Cable Wedge (Poly Rope 1- 1 1/8 in) | 24413 | 1 |

** See Service Bulletin LIT2601, Page 18

O-RING AND SEAL KITS

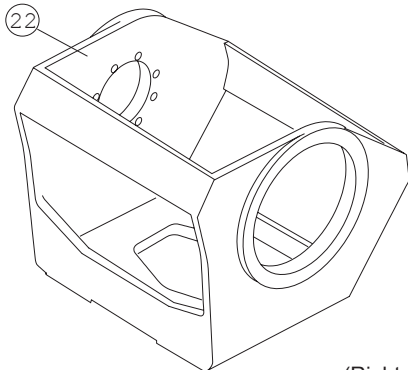
Part Number 61715 - PD15B Seal Kit
 (Contains all seals and O-rings to service any PD15B winch. Not all parts in this kit will be used on any one winch.)
 * indicates part in seal kit

Part Number 61567- Brake Valve O-ring Kit
 (Contains all O-rings and backup rings to service all BRADEN PD15B gear motor brake valves.)

BASE CONFIGURATIONS

COMMON BASE PARTS

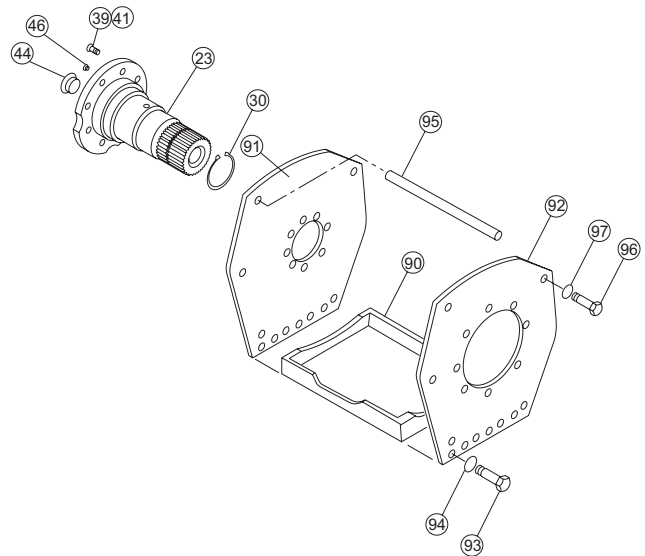
| ITEM # | DESCRIPTION | PART # | QTY. |
|--------|------------------------------|--------|------|
| 23 | Bearing Support (04 Drum) ** | 106459 | 1 |
| | Bearing Support (05 Drum) | 101644 | 1 |
| 30 | Retaining Ring | 70575 | 1 |
| 44 | Plug Hex (Standard Winches) | 31386 | 1 |
| | Plug Flush | 24420 | 1 |
| | Sight Glass (-1 Option) | 25958 | 1 |
| | O-ring* for item number 44 | 24186 | 1 |
| 46 | Vent Relief Valve | 18062 | 1 |



(Right-hand shown)

CAST BASE (05 DRUM)

| ITEM # | DESCRIPTION | PART # | QTY. |
|--------|----------------------------------|--------|------|
| 22 | Base (Right-hand) | 25615 | 1 |
| | Base (Left-hand) | 101074 | 1 |
| 39 | Capscrew (1/2 - 13 x 1-1/2 G8 Z) | 104322 | 8 |
| 41 | Lockwasher - 05 Drum | 11026 | 8 |

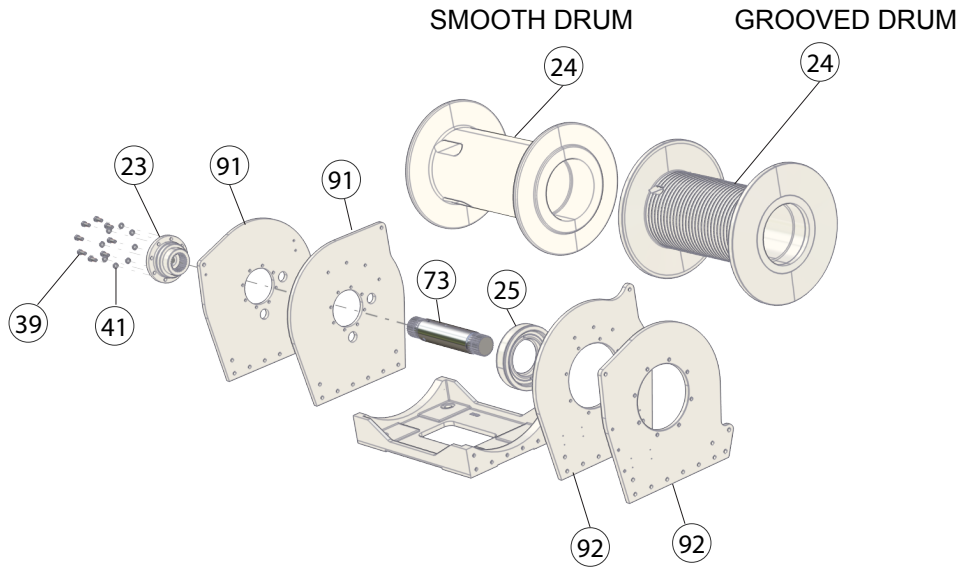


FABRICATED BASE (04 DRUM)

| ITEM # | DESCRIPTION | PART NO. | QTY. |
|--------|----------------------------------|----------|------|
| 90 | Base Plate | 26344 | 1 |
| 91 | Side Plate (Bearing Support End) | 27212 | 1 |
| 92 | Side Plate (Motor End) | 27213 | 1 |
| 93 | Capscrew (Special) | 103314 | 16 |
| 94 | Washer | 12781 | 16 |
| 95 | Tie Bar | 26223 | 2 |
| 96 | Capscrew (1/2 - 13 x 1 1/4 G8 Z) | 104174 | 4 |
| 97 | Lockwasher | 11026 | 4 |

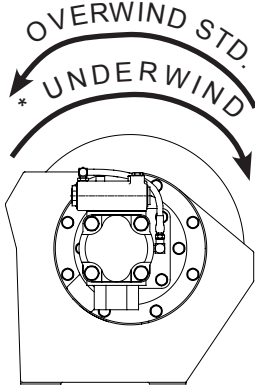
Below are material list variables of models with the 06 style drum

| Winch Model | Winch Part No | Cable Drum | Sideplate - Motor End | Sideplate - Bearing Support | Base | Bearing Support | Bearing Support Shaft | Drum Closure | Cable Wedge |
|-------------------------------------|---------------|------------|-----------------------|-----------------------------|--------|-----------------|-----------------------|--------------|----------------|
| ITEM # | N/A | 24 | 92 | 91 | 90 | 23 | 73 | 25 | (Not pictured) |
| -06UG Underwound Grooved Drum | 05156 | 104057 | 102033 | 102032 | 102031 | 102012 | 102030 | 27866 | 102385 |
| -06G Standard Rotation Grooved Drum | 05191 | 103949 | 103929 | 103930 | 102031 | 102012 | 102030 | 27866 | 102385 |
| -06U Underwound Smooth Drum | 05111 | 103619 | 102033 | 102032 | 102031 | 102012 | 102030 | 27866 | 102385 |



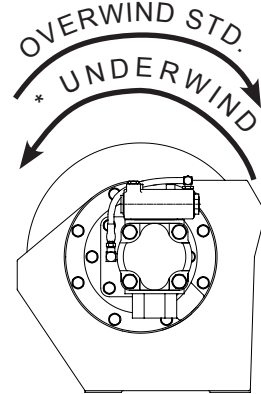
DRUM ROTATION TO HOIST

04 and 05 DRUM/ BASE SHOWN



RIGHT-HAND
BASE (Standard)

Underwound will have "U" in
model number

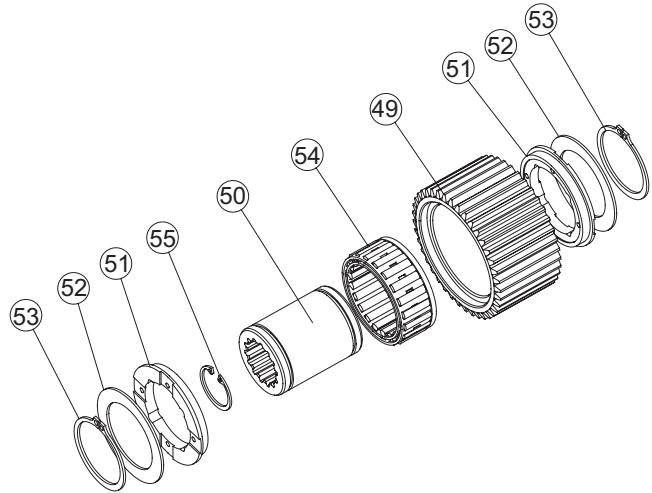


LEFT-HAND
BASE (Optional)

BRAKE CLUTCH COMPONENTS

| ITEM # | DESCRIPTION | PART # | QTY. |
|--------|------------------|--------|------|
| 49 | Outer Brake Race | NSS | 1 |
| 50 | Inner Brake Race | NSS | 1 |
| 51 | Sprag Bearing | 27684 | 2 |
| 52 | Thrust Washer | 24581 | 2 |
| 53 | Retaining Ring | 12034 | 2 |
| 54 | Sprag Clutch | NSS | 1 |
| 55 | Retaining Ring | 24506 | 1 |

NSS - Not serviced separately. Replace complete assembly.

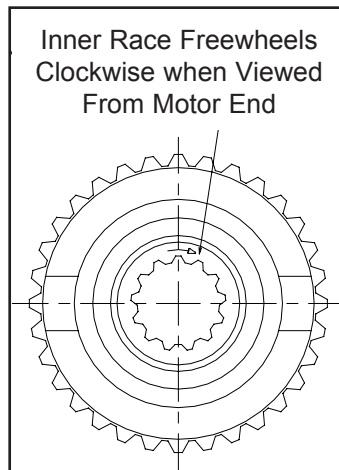


BRAKE CLUTCH ROTATION

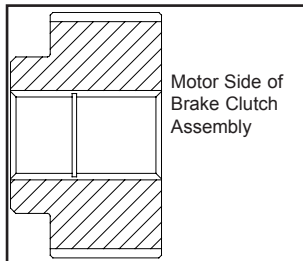
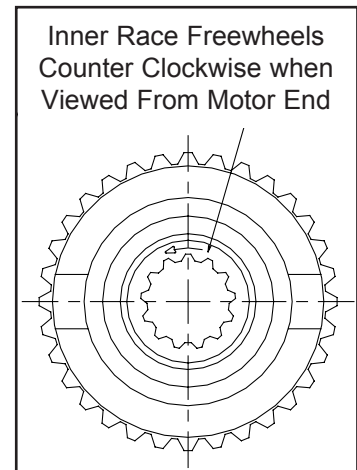
NOTE: Designation of cable drum rotation is determined by viewing winch from hydraulic motor end while hoisting.

On the BRADEN PD15B the inner race of the brake clutch sprag assembly, when viewed from the motor side, must freewheel in the opposite direction as the cable drum during hoisting

PART NUMBER 81716



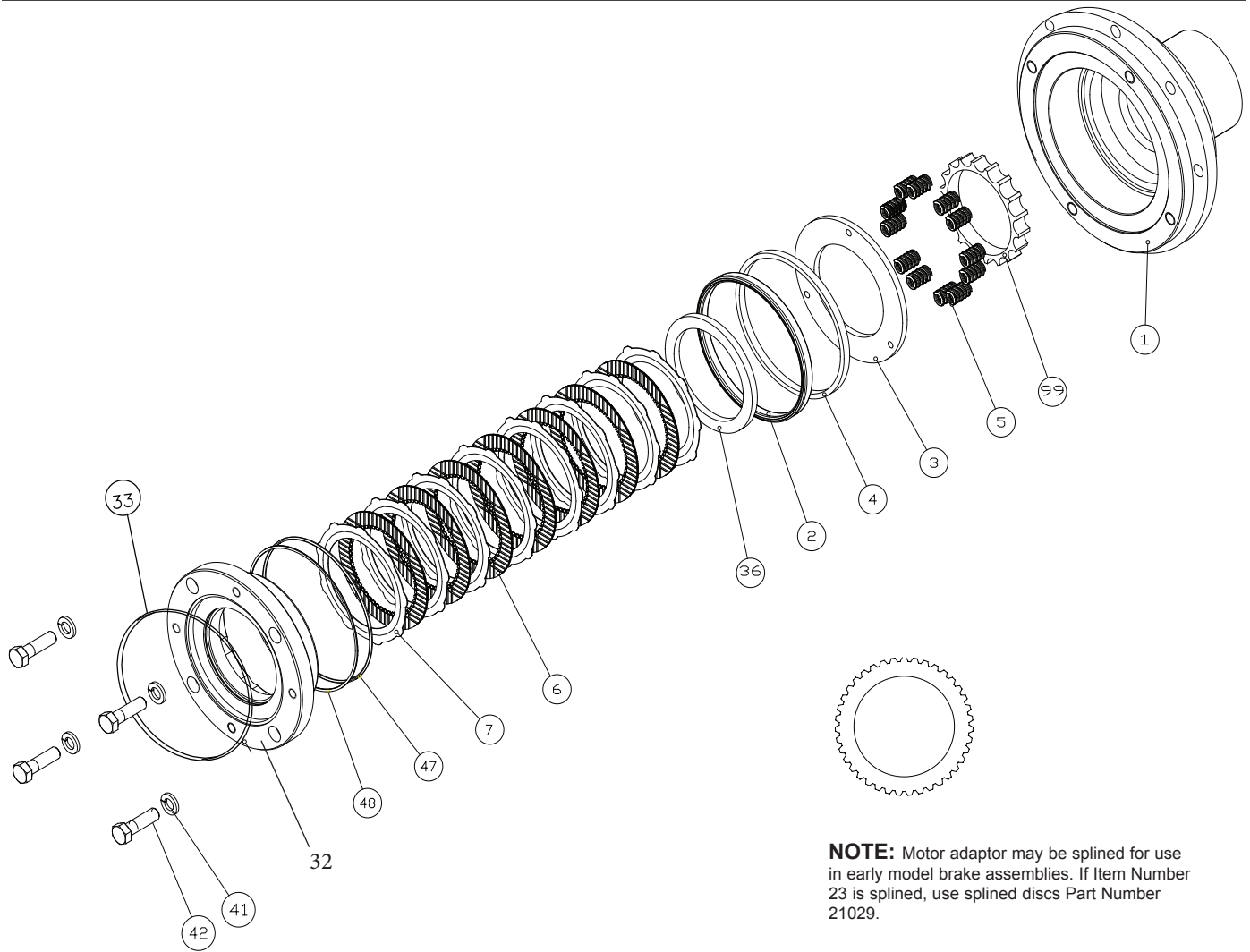
PART NUMBER 81776



COMPLETE BRAKE CLUTCH ASSEMBLIES

| PART # | DESCRIPTION | APPLICATION |
|--------|-------------|--|
| 81716 | SAE C 14T | Right-hand Base Overwind, Left-hand Base Underwind |
| 81776 | | Right-hand Base Underwind, Left-hand Base Overwind |

BRAKE CYLINDER ASSEMBLY



NOTE: Motor adaptor may be splined for use in early model brake assemblies. If Item Number 23 is splined, use splined discs Part Number 21029.

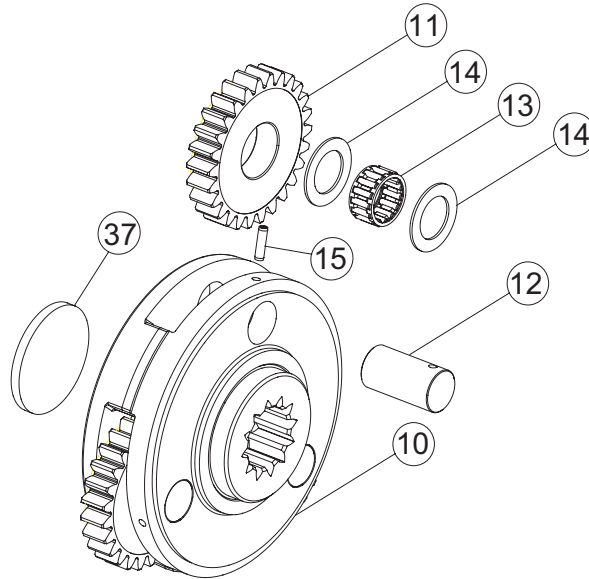
| ITEM # | DESCRIPTION | PART # | QTY. |
|--------|---|--------|------|
| 1 | Brake Cylinder (Lobed Disc) *2 | 100035 | 1 |
| 32 | Motor Adapter (4 Bolt C) | 100028 | 1 |
| | Motor Adapter (2 Bolt C) | 100459 | |
| 2 | Brake Piston Seal * | 25642 | 1 |
| 3 | Pressure Plate | 25635 | 1 |
| 4 | Piston Backup Ring | 25636 | 1 |
| 5 | Die Spring | 25644 | 12 |
| 6 | Friction Disk | 21036 | 7 |
| 7 | Brake Disc Steel (lobed) | 100027 | 8 |
| | Brake Disc Steel (splined) | 21029 | |
| 33 | Motor Pilot O-ring - 2 Bolt SAE B Pilot (Approximately 4 inches diameter) | 21063 | 1 |
| | Motor Pilot O-ring - 4 Bolt SAE C Pilot (Approximately 5 inches diameter) | 10330 | 1 |
| 36 | Spacer | 25637 | 1 |
| 41 | Lockwasher | 11026 | 4 |
| | Capscrew (1/2 NC x 2 Grade 8) | 29855 | |
| 42 | Capscrew 1* (1/2 NC x 11/2 Grade 8) | 21908 | 4 |
| 47 | O-ring* | 24981 | 1 |
| 48 | Backup Ring* | 25643 | 1 |
| 99 | Spring Spacer | 100200 | 1 |

*1 = For winches with 049/026 motors

*2 = Brake Cylinder with cast spring pockets Part Number 25564 is replaced by 100035 brake cylinder and 100200 spring spacer

PRIMARY PLANET CARRIER ASSEMBLY

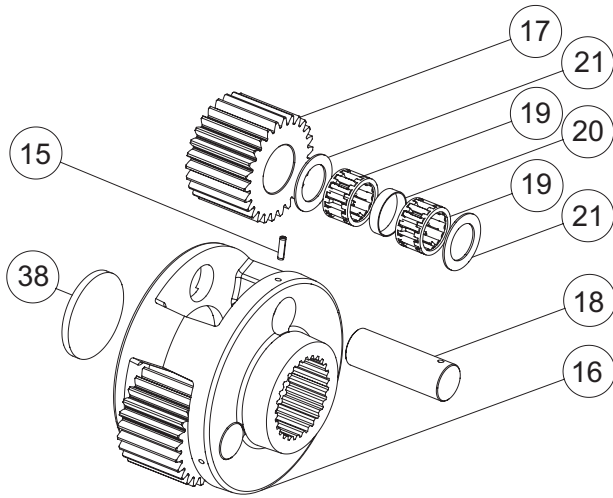
Part Number 82342 (serial number 970222 and higher)



| ITEM # | DESCRIPTION | PART # | | | QTY. |
|--------|---------------------------------|------------|------------------------------------|-------------------------------------|------|
| | | 34:1 RATIO | 41:1 RATIO SERIAL # 970221 & LOWER | 41:1 RATIO SERIAL # 970222 & HIGHER | |
| - | PRIMARY PLANET CARRIER ASSEMBLY | 82343 | 81844 | 82342 | 1 |
| 10 | PRIMARY PLANET CARRIER | 100853 | 25730 | 100852 | 1 |
| 11 | PRIMARY PLANET GEAR | 40237 | 26466 | 26466 | 3 |
| 12 | PLANET GEAR SHAFT | 25614 | 25614 | 25614 | 3 |
| 13 | ROLLER BEARING | 24175 | 24175 | 24175 | 3 |
| 14 | THRUST WASHER | 25361 | 25361 | 25361 | 6 |
| 15 | ROLL PIN (3/16 X 3/4) | 24113 | 24113 | 24113 | 3 |
| 37 | PRIMARY THRUST PLATE | 25729 | 25729 | 25729 | 1 |

OUTPUT PLANET CARRIER ASSEMBLY

Part Number 81845



| ITEM # | DESCRIPTION | PART # | QTY. |
|--------|--------------------------|--------|------|
| - | OUTPUT CARRIER ASSEMBLY | 81845 | 1 |
| 15 | ROLL PIN (3/16 X 1) | 23584 | 3 |
| 16 | OUTPUT PLANET CARRIER | 25602 | 1 |
| 17 | OUTPUT PLANET GEAR | 26467 | 3 |
| 18 | OUTPUT PLANET GEAR SHAFT | 25613 | 3 |
| 19 | ROLLER BEARING | 25292 | 6 |
| 20 | BEARING SPACER | 25443 | 1 |
| 21 | THRUST BEARING | 24306 | 6 |
| 38 | OUTPUT THRUST PLATE | 25638 | 1 |

MOTOR GROUP PARTS

PISTON MOTORS

| PART # | MOTOR CODE | FLANGE MOUNT |
|--------|------------|--------------|
| 102410 | 049/026 | 2 Bolt C |
| 102899 | 49 | 4 Bolt C |

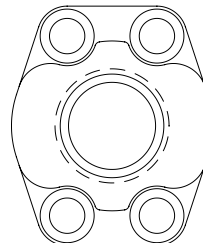
O-ring 10330* for all "C" motor pilots

GEAR MOTORS

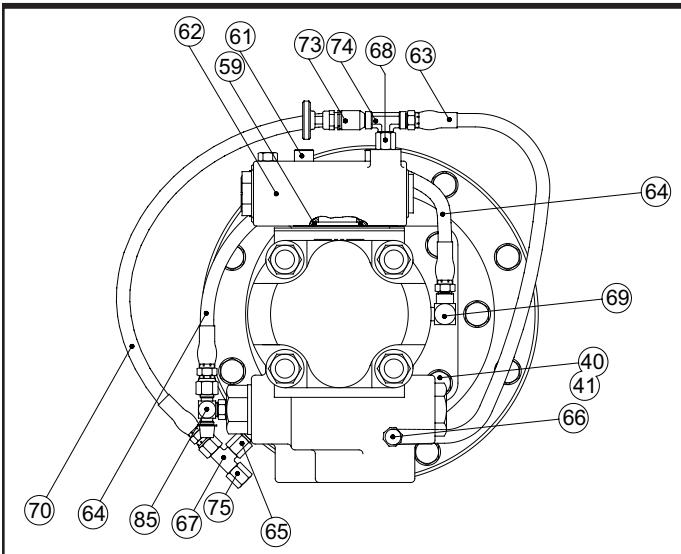
| PART # | MOTOR CODE | FLANGE MOUNT |
|--------|------------|--------------|
| 25987 | 51 | 4 Bolt C |
| 28956 | 064/032 | |
| 25777 | 64 | |

FLANGE ADAPTER

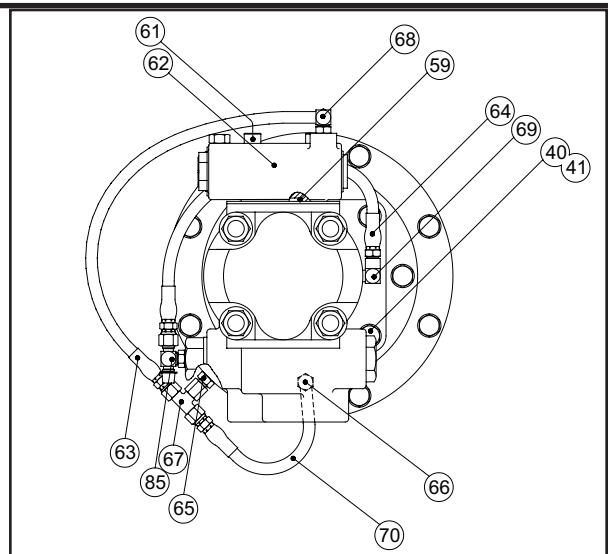
| PART # | DESCRIPTION | O-ring |
|--------|---------------------------|--------|
| 28964 | 1" Code 62 to -12 ORB | 25366* |
| 24779 | 1 1/4" Code 61 to -16 ORB | 21150* |
| 101500 | Spacer 1" Code 62 | 25366* |



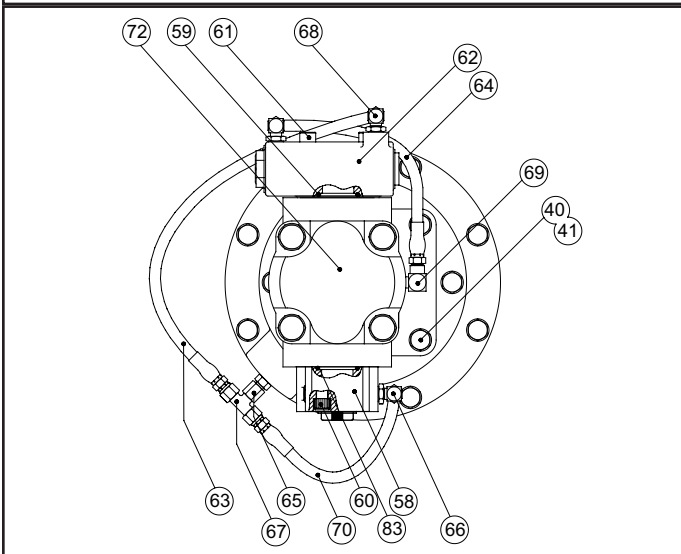
MOTOR GROUPS AND BRAKE VALVES



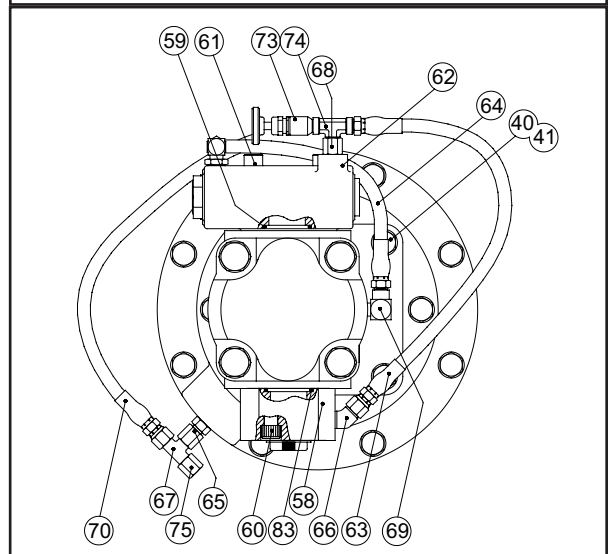
**064 / 032 MOTOR
TWO-SPEED PERSONNEL HANDLING**



**064 / 032 MOTOR
TWO-SPEED**



**051 / 064 MOTOR
SINGLE-SPEED**



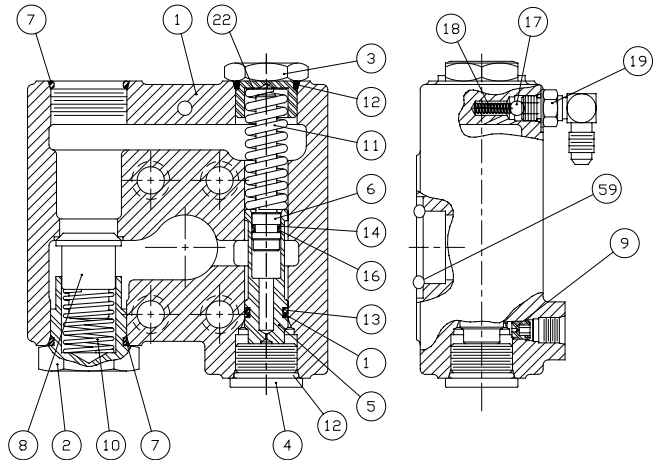
**051 / 064
SINGLE-SPEED PERSONNEL HANDLING**

| ITEM | QTY. | DESCRIPTION | 051 & 064 | PERSONNEL RATED 051 & 064 | 064/032 | PERSONNEL RATED 064/032 |
|------|------|----------------------|-----------|------------------------------|---------|----------------------------|
| 40 | 4 | CAPSCREW | 104322 | 104322 | 104322 | 104322 |
| 41 | 4 | LOCKWASHER | 11026 | 11026 | 11026 | 11026 |
| 58 | 1 | MANIFOLD | 24779 | 24779 | | |
| 59 | 1 | O-RING * | 13838 | 13838 | 13838 | 13838 |
| 60 | 4 | CAPSCREW | 21144 | 21144 | | |
| 61 | 4 | CAPSCREW | 21134 | 21134 | 21134 | 21134 |
| 62 | 1 | BRAKE VALVE ASSEMBLY | 81712 | 81712 | 81984 | 81984 |
| 63 | 1 | HOSE ASSEMBLY | 25749 | 13707 | 25749 | 13707 |
| 64 | 1 | HOSE ASSEMBLY | 13704 | 13704 | 13707 | 13704 |
| 65 | 1 | ADAPTER | 25864 | 25864 | 25864 | 25864 |
| 66 | 1 | FITTING | 21163 | 21165 | 25864 | 25302 |
| 67 | 1 | SWIVEL TEE | 25748 | 25748 | 25748 | 25748 |
| 68 | 1 | CONNECTOR | 25302 | 24784 | 25302 | 24784 |
| 69 | 1 | REDUCER ELBOW | 24236 | 24236 | 24236 | 24236 |
| 70 | 1 | HOSE ASSEMBLY | 25750 | 13731 | 25750 | 13731 |
| 72 | 1 | HYDRAULIC MOTOR | | | | |
| 73 | 1 | NEEDLE VALVE | | 25258 | | 25258 |
| 74 | 1 | TEE- MALE BRANCH | | 22934 | | 22934 |
| 75 | 1 | CAP NUT | | 70182 | | 70182 |
| 76 | 1 | WARNING TAG | | 25257 | | 25257 |
| 83 | 1 | O-RING * | 21150 | 21150 | | |
| 85 | 1 | TEE, -4 ORB | | | 29078 | 29078 |

NOTE: The above drawings are standard configurations. Verify hoses, fittings, and capscrews using tables found on pages 8 and 9.

BRAKE VALVE PARTS

| ITEM # | DESCRIPTION | PART # | QTY. |
|--------|-----------------------|--------|------|
| 1 | BRAKE VALVE HOUSING | NSS | 1 |
| 2 | VALVE SPRING RETAINER | 24424 | 1 |
| 3 | SPRING RETAINER | 24183 | 1 |
| 4 | PLUG | 22450 | 1 |
| 5 | SPOOL | NSS | 1 |
| 6 | DAMPER PISTON | NSS | 1 |
| 7 | O-RING * | 24186 | 2 |
| 8 | CHECK VALVE POPPET | 24423 | 1 |
| 9 | PILOT ORIFICE | 24200 | 1 |
| 10 | CHECK VALVE SPRING | 24190 | 1 |
| 11 | SPOOL SPRING | 24192 | 1 |
| 12 | O-RING* | 23601 | 2 |
| 13 | O-RING* | 24193 | 1 |
| 14 | O-RING* | 24194 | 1 |
| 15 | BACK-UP RING* | 24195 | 1 |
| 16 | BACK-UP RING* | 24196 | 1 |
| 17 | BALL, STEEL | 21158 | 1 |
| 18 | COMPRESSION SPRING | 25480 | 1 |
| 19 | ELBOW FITTING | 25302 | 1 |
| 19 | Plug (-4 ORB) | 25663 | 1 |
| 22 | SHIM, VALVE SPRING | 25661 | - |
| 59 | O-ring | 13838 | 1 |



STANDARD GEAR MOTOR VALVE PN# 81712

PARTS IN
81712
BRAKE
VALVE

| ITEM # | DESCRIPTION | PART # | QTY. |
|--------|--------------------|--------|------|
| 17 | Steel Ball .250 SS | 21158 | 1 |
| 18 | Compression Spring | 25480 | |
| 19 | Elbow Fitting | 25302 | |

NSS = Not Serviced Separately
* = Included in Brake O-ring Kit #61567

TWO-SPEED MOTOR VALVE

| | | | |
|----|---------------|-------|---|
| 19 | Plug (-4 ORB) | 25663 | 1 |
|----|---------------|-------|---|

PARTS IN
81984
BRAKE
VALVE

CAPSCREWS AND LOCKWASHERS

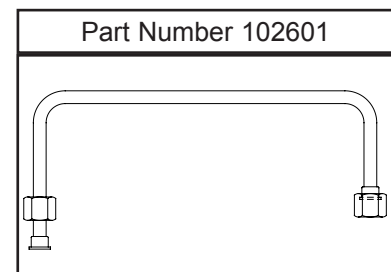
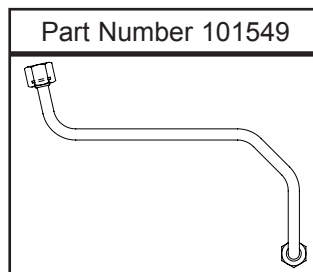
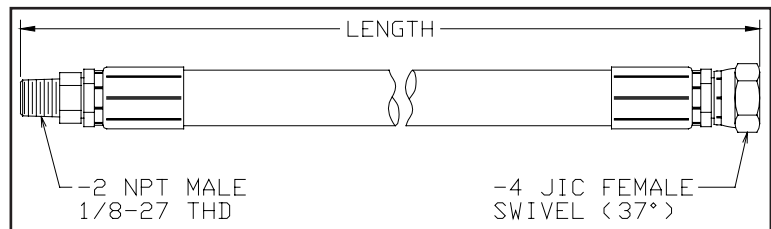
| PART | DESCRIPTION |
|--------|--------------------------------------|
| 21135 | 7/16 NC x 1-1/2 Grade 8, socket head |
| 104318 | 7/16 NC x 1-3/4 Grade 8, hex head |
| 21144 | 7/16 NC x 2 Grade 8, socket head |
| 21134 | 7/16 NC x 3 Grade 8, socket head |
| 101150 | 7/16 NC x 3-3/4 Grade 8, socket head |
| 104174 | 1/2 NC x 1-1/4 Grade 8, hex head |
| 104322 | 1/2 NC x 1-1/2 Grade 8, hex head |
| 21908 | 1/2 NC x 1-1/2 Grade 8, socket head |
| 29855 | 1/2 NC x 2 Grade 8, socket head |
| 103249 | 5/8 NC x 1-3/4 Grade 8, Hex head |
| 11026 | Lockwasher, 1/2 Split |
| 102423 | Lockwasher, 5/8 Split |

PISTON MOTOR BRAKE VALVES

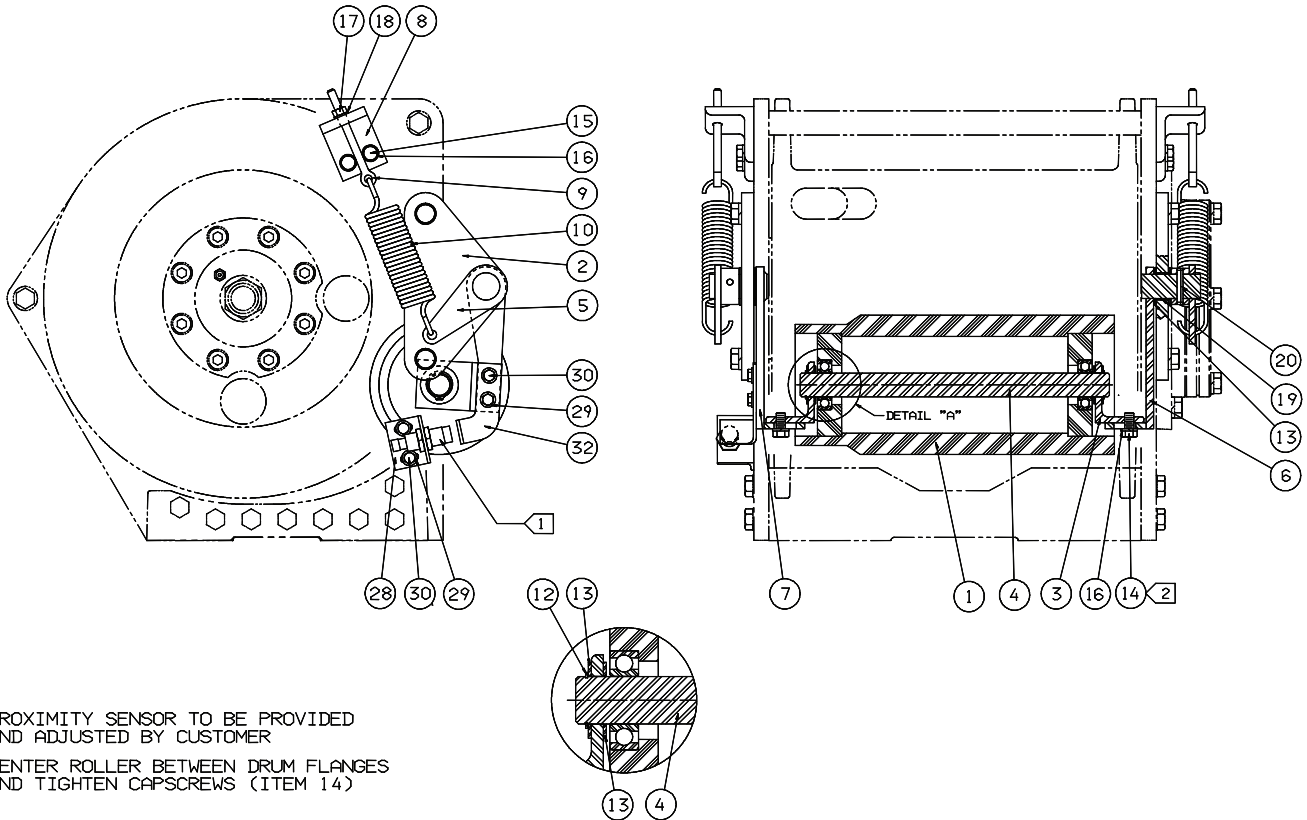
| Item # | Description | Part # | QTY. |
|--------|-----------------------|--------|------|
| | 049/ 026 Motor | | |
| 89 | Brake Valve | 102394 | 1 |
| | 049 Motor | | |
| 89 | Valve Block | 29577 | 1 |
| 90 | Valve Cartridge | 29598 | 1 |

HOSE ASSEMBLIES

| Part # | Length | Fittings |
|--------|-------------|------------------|
| 13704 | 12 inches | NPT -2 to JIC -4 |
| 13706 | 16 inches | NPT -2 to JIC -4 |
| 13707 | 17 inches | NPT -2 to JIC -4 |
| 13710 | 8 inches | NPT -2 to JIC -4 |
| 13711 | 10 inches | NPT -2 to JIC -4 |
| 13731 | 22 inches | NPT -2 to JIC -4 |
| 24948 | 30 inches | NPT -2 to JIC -4 |
| 25749 | 22.5 inches | JIC -4 both ends |
| 25750 | 17 inches | JIC -4 both ends |
| 106270 | 17 inches | ORFS Swivel -8 |
| 106269 | 14 inches | ORFS Swivel -8 |
| 102601 | tube | ORFS Swivel -8 |
| 101549 | tube | ORFS Swivel -8 |



63913 ROLLER GROUP FOR 05 UNDERWOUND DRUM ONLY *

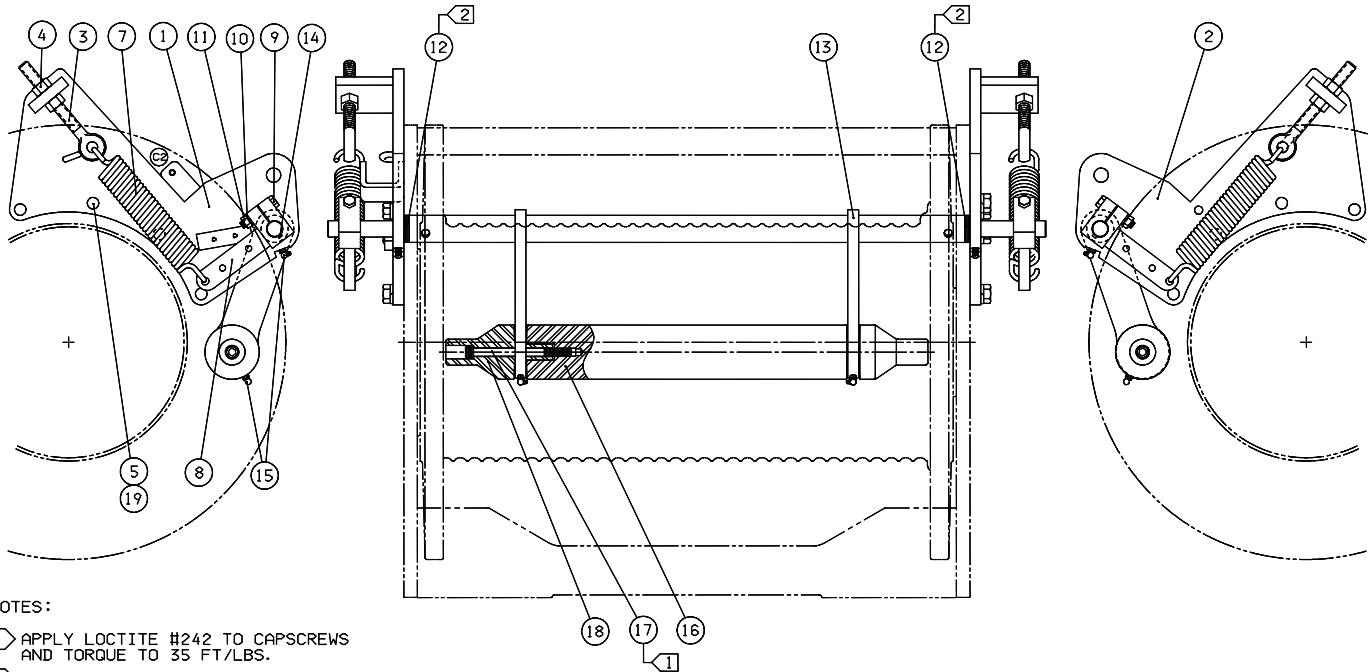


- 1 PROXIMITY SENSOR TO BE PROVIDED AND ADJUSTED BY CUSTOMER
- 2 CENTER ROLLER BETWEEN DRUM FLANGES AND TIGHTEN CAPSCREWS (ITEM 14)

* REQUIRES 3-PIECE BASE WITH SIDEPLATES 16520 AND 106521.
ONE-STEP ROLLER DESIGN.

| ITEM | DESCRIPTION | PART # | QTY. |
|------|--|--------|------|
| 1 | ROLLER | 106522 | 1 |
| 2 | ROLLER PLATE | 102043 | 2 |
| 3 | ROLLER BRACKET | 106315 | 2 |
| 4 | ROLLER SHAFT | 106528 | 1 |
| 5 | LEVER | 102046 | 2 |
| 6 | ROLLER LEVER, RIGHT-HAND | 102047 | 1 |
| 7 | ROLLER LEVER, LEFT-HAND | 106434 | 1 |
| 8 | ROLLER BRACKET | 102055 | 2 |
| 9 | ROLLER ROD END | 101726 | 2 |
| 10 | ROLLER SPRING | 101724 | 2 |
| 12 | SNAP RING | 11953 | 2 |
| 13 | THRUST WASHER | 25361 | 8 |
| 14 | CAPSCREW (3/8-16 x 3/4 ASTM A574 SKT HEAD) | 13796 | 4 |
| 15 | CAPSCREW (3/8-16 X 1 GRADE 8 Z HEX HEAD) | 104309 | 4 |
| 16 | LOCKWASHER (3/8 Z) | 27152 | 8 |
| 17 | NUT (5/16 ELASTIC) | 23558 | 2 |
| 18 | LOCKWASHER (5/16 Z) | 13873 | 2 |
| 19 | BUSHING | 22533 | 2 |
| 20 | ROLL PIN | 18055 | 2 |
| 28 | SENSOR BRACKET | 106529 | 1 |
| 29 | LOCKWASHER (1/4 Z) | 11072 | 4 |
| 30 | CAPSCREW (1/4-20 x 3/4 ASTM A574 Z HEX HEAD) | 104301 | 4 |
| 32 | SWITCH BRACKET | 106341 | 1 |

63053 ROLLER GROUP FOR 06 UNDERWOUND DRUM ONLY

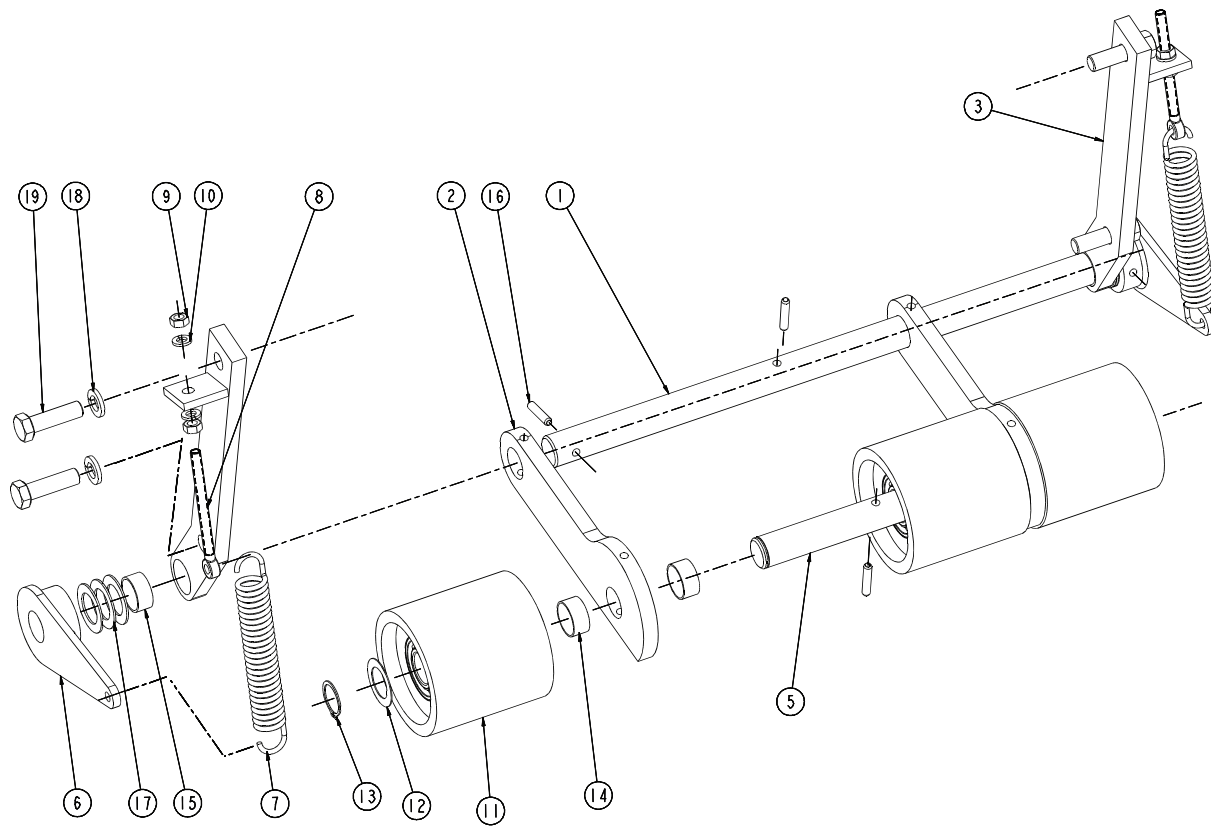


NOTES:

- 1 APPLY LOCTITE #242 TO CAPSCREWS AND TORQUE TO 35 FT/LBS.
- 2 ADJUST SHIMS TO POSITION ROLLER IN CENTER OF WINCH DRUM BETWEEN DRUM FLANGES.
3. ROLLER ASSEMBLY COMPATIBLE WITH PD12C/PD15B -06G DRUM.

| ITEM | DESCRIPTION | PART # | QTY. |
|------|--|--------|------|
| 1 | BRACKET (LEFT-HAND) | 102051 | 1 |
| 2 | BRACKET (RIGHT-HAND) | 101605 | 1 |
| 3 | EYE BOLT | 101610 | 2 |
| 4 | HEX NUT (1/2-13 HEX HEAD GRADE 8 Z) | 101439 | 4 |
| 5 | CAPSCREW (1/2-13 X 1-1/4 GRADE 8-Z HEX HEAD) | 104174 | 8 |
| 7 | SPRING | 103727 | 2 |
| 8 | BELLCRANK | 101608 | 2 |
| 9 | CAPSCREW (5/16-18 X 1 3/4 GRADE 8 Z) | 75243 | 2 |
| 10 | LOCKWASHER (5/16 Z) | 11024 | 2 |
| 11 | HEX NUT (5/16-18 GRADE 8 Z) | 104254 | 2 |
| 12 | BEARING RACE-THRUST | 24913 | 8 |
| 13 | LEVER | 102050 | 1 |
| 14 | SHAFT KEY WOODRUFF-9 | 13033 | 2 |
| 15 | ZERK | 13897 | 4 |
| 16 | CENTER ROLLER | 102052 | 1 |
| 17 | CAPSCREW (5/16-18 X 4 1/4 ASTM A574 Z) | 102309 | 2 |
| 18 | ROLLER CAP | 101609 | 2 |
| 19 | LOCKWASHER (1/2 Z) | 11026 | 8 |

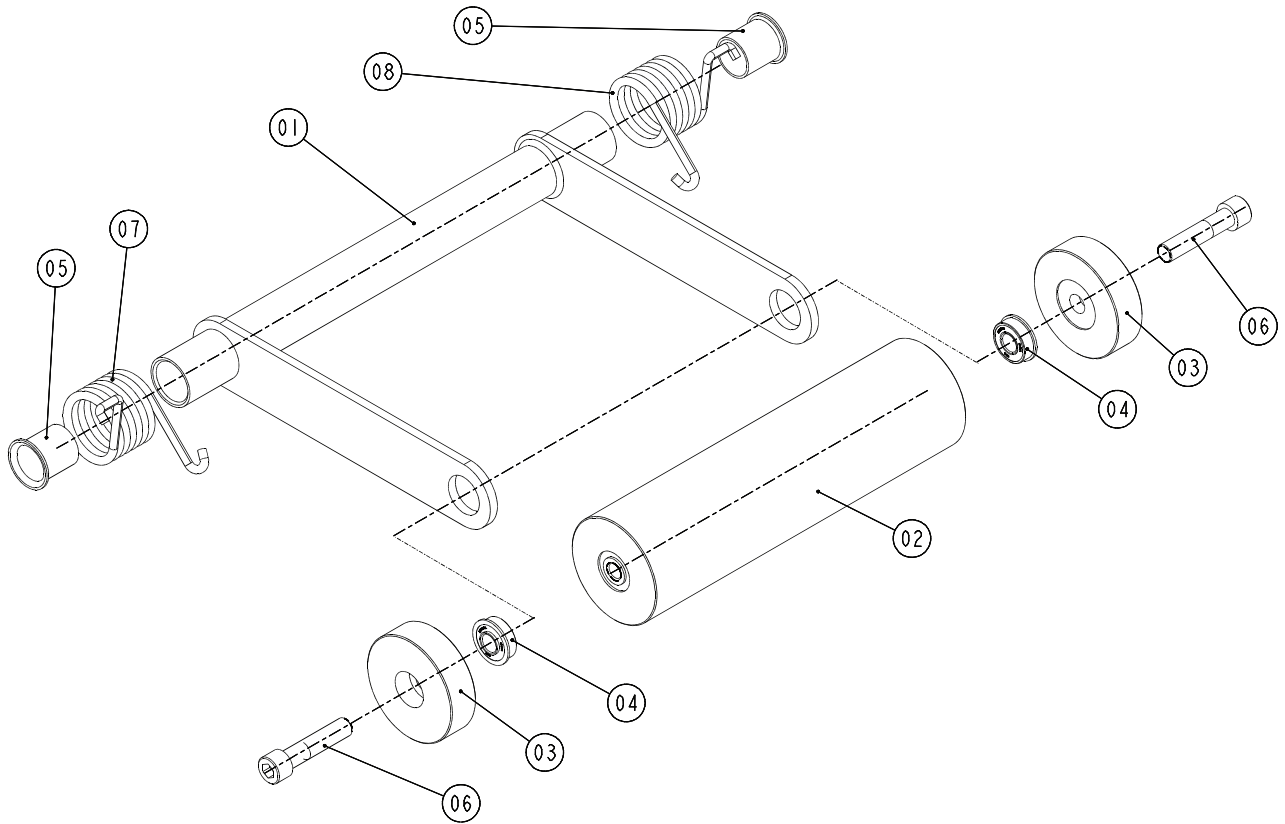
64696 ROLLER GROUP FOR 04 DRUM ONLY *



*** REQUIRES 3-PIECE BASE WITH SIDEPLATES 27212 AND 27213.
STRAIGHT ROLLER DESIGN.**

| ITEM | DESCRIPTION | PART # | QTY. |
|------|--|--------|------|
| 1 | PIVOT SHAFT | 109250 | 1 |
| 2 | ROLLER ARM | 109253 | 2 |
| 3 | PIVOT BRACKET, LEFT-HAND | 109248 | 1 |
| 4 | PIVOT BRACKET, RIGHT-HAND | 109249 | 1 |
| 5 | ROLLER SHAFT | 109254 | 1 |
| 6 | ROLLER LEVER | 101728 | 2 |
| 7 | TENSION SPRING | 101879 | 2 |
| 8 | ROLLER ROD END | 101726 | 2 |
| 9 | NUT (5/16 Z) | 69644 | 4 |
| 10 | LOCKWASHER (5/16 Z) | 11024 | 4 |
| 11 | ROLLER ASSEMBLY W/BEARINGS | 109252 | 3 |
| 12 | THRUST BEARING | 24167 | 2 |
| 13 | SNAP RING | 11953 | 2 |
| 14 | SPACER | 109251 | 4 |
| 15 | BUSHING | 22533 | 2 |
| 16 | ROLL PIN | 11836 | 6 |
| 17 | THRUST WASHER | 25361 | 6 |
| 18 | LOCKWASHER (1/2 Z) | 11026 | 4 |
| 19 | CAPSCREW 1/2-13 X 1-3/4 GRADE 8 Z HEX HEAD | 104323 | 4 |

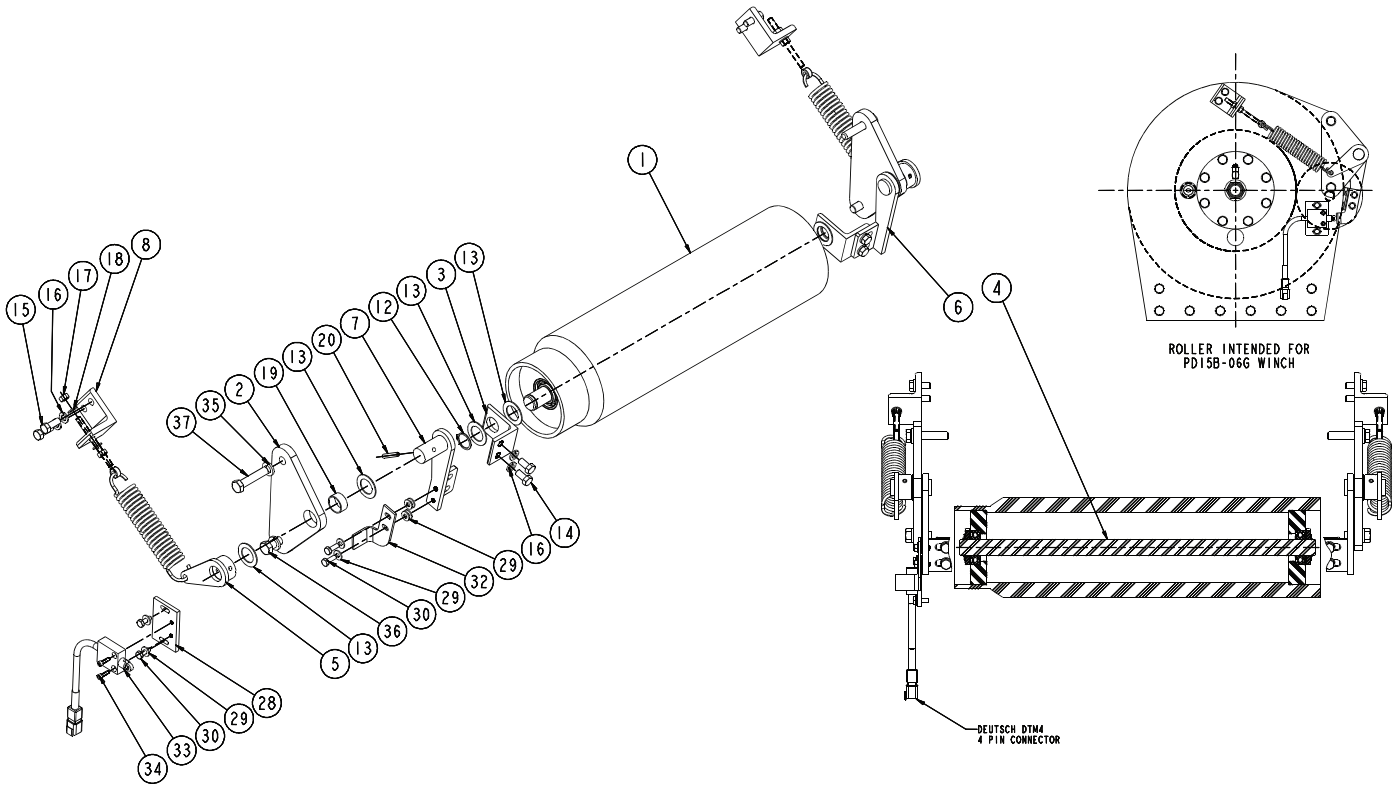
64156 ROLLER GROUP FOR 02 DRUM ONLY *



*** REQUIRES 3-PIECE BASE**

| ITEM | DESCRIPTION | PART # | QTY. |
|------|--|--------|------|
| 1 | ROLLER FRAME | 107450 | 1 |
| 2 | ROLLER - CENTER | 107447 | 1 |
| 3 | ROLLER - OUTER | 107448 | 2 |
| 4 | BEARING FLANGE | 107454 | 2 |
| 5 | BUSHING FLANGE | 107455 | 2 |
| 6 | CAPSCREW (1/2-13 X 2-1/4 ASTM A574 SKT HEAD) | 103252 | 2 |
| 7 | SPRING, TORSION (RIGHT-HAND) | 107460 | 1 |
| 8 | SPRING, TORSION (LEFT-HAND) | 107459 | 1 |

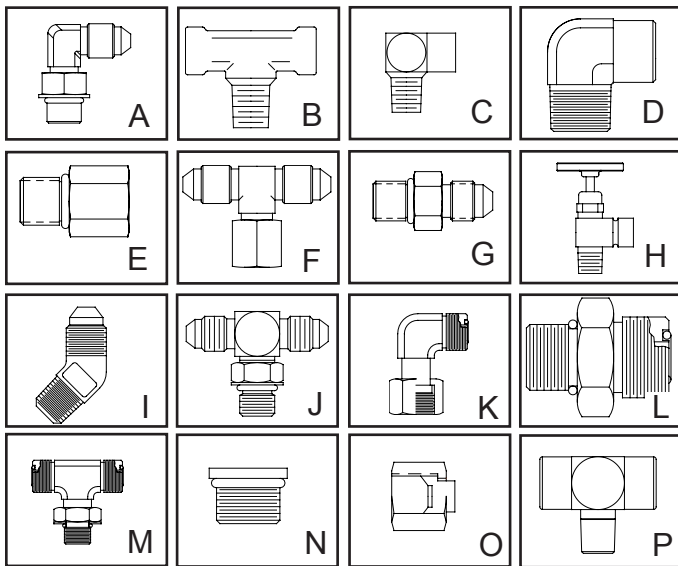
64738 FOR 06 STANDARD ROTATION DRUM *



* REQUIRES 3-PIECE BASE WITH SIDEPLATES 109362 AND 109363.
 SIDEPLATES 103930 AND 103929 CAN USED WITH MODIFICATIONS.
 1-STEP ROLLER DESIGN

| ITEM | DESCRIPTION | PART # | QTY. |
|------|--|--------|------|
| 1 | ROLLER | 109364 | 1 |
| 2 | ROLLER PLATE | 102043 | 2 |
| 3 | ROLLER BRACKET | 109366 | 2 |
| 4 | ROLLER SHAFT | 109365 | 1 |
| 5 | LEVER | 102046 | 2 |
| 6 | ROLLER LEVER, RIGHT-HAND | 102047 | 1 |
| 7 | ROLLER LEVER, LEFT-HAND | 106434 | 1 |
| 8 | ROLLER BRACKET | 102055 | 2 |
| 9 | ROLLER ROD END | 101726 | 2 |
| 10 | ROLLER SPRING | 101724 | 2 |
| 12 | SNAP RING | 11953 | 2 |
| 13 | THRUST WASHER | 25361 | 8 |
| 14 | CAPSCREW (3/8-16 x 3/4 ASTM A574 SKT HEAD) | 13796 | 4 |
| 15 | CAPSCREW (3/8-16 X 1 GRADE 8 Z HEX HEAD) | 104309 | 4 |
| 16 | LOCKWASHER | 27152 | 8 |
| 17 | NUT (5/16 ELASTIC) | 23558 | 4 |
| 18 | LOCKWASHER (5/16 Z) | 13873 | 4 |
| 19 | BUSHING | 22533 | 2 |
| 20 | ROLL PIN | 18055 | 2 |
| 28 | SWITCH PLATE | 106001 | 1 |
| 29 | LOCKWASHER (1/4 Z) | 11072 | 8 |
| 30 | CAPSCREW (1/4-20 x 3/4 ASTM A574 Z HEX HEAD) | 104301 | 4 |
| 32 | SWITCH BRACKET | 106341 | 1 |
| 33 | LIMIT SWITCH ASSEMBLY | 106306 | 1 |
| 34 | CAPSCREW (10-24 x 5/8 ASTM A574 Z SKT HEAD) | 106356 | 2 |
| 35 | LOCKWASHER (1/2 Z) | 11026 | 4 |
| 36 | CAPSCREW (1/2 - 13 X 1-1/4 G8 Z) | 104174 | 2 |
| 37 | CAPSCREW (1/2-13 X 2-1/4 GRADE 8-Z HEX HEAD) | 104137 | 2 |

FITTINGS



| PART # | DESCRIPTION | DRAWING |
|--------|---|---------|
| 23508 | Reducer Pipe -4 to -2 | - |
| 25302 | Elbow -4 JIC to -4 ORB | A |
| 25131 | Elbow -4 JIC to -6 ORB | A |
| 22934 | Tee, 1/8-27 NPT-F Run to 1/8-27 NPT-M Branch | B |
| 22934 | Tee, Female pipe to Male pipe -2 | B |
| 24236 | Street Elbow, Reducer, 1/4-18M to 1/8-27F | C |
| 13708 | Street Elbow, 1/8-27 | D |
| 24784 | Adapter, -4 ORB to -2 NPT-F | E |
| 25748 | Swivel Tee, -4 JIC M Run X -4 JIC F Swivel Branch | F |
| 25864 | Adapter, -4 JIC to -4 ORB | G |
| 25258 | Needle Valve | H |
| 21165 | Elbow (45°) -2 NPT to -4 JIC | I |
| 21163 | Elbow (90°) -2 NPT to -4 JIC | I |
| 29078 | Tee, -4 ORB to -4 JIC | J |
| 100945 | Elbow, ORFS Swivel | K |
| 100946 | Adapter, -4 ORB to -6 ORFS | L |
| 102632 | Tee, -4 ORFS to -6 ORB | M |
| 69325 | Plug, -4 ORB | N |
| 70182 | Cap, -4 JIC | O |

RECOMMENDED FASTENER TORQUE

| Bolt Dia. Inches | Thds Per Inch | Torque (LB-FT) | | | |
|---------------------|------------------|----------------|-------|---------|-------|
| | | Grade 5 | | Grade 8 | |
| | | Dry | Lubed | Dry | Lubed |
| 1/4 | 20 | 8 | 6 | 12 | 9 |
| | 28 | | | | |
| 5/16 | 18 | 17 | 13 | 24 | 18 |
| | 24 | | | | |
| 3/8 | 16 | 31 | 23 | 45 | 35 |
| | 24 | | | | |
| 7/16 | 14 | 50 | 35 | 70 | 50 |
| | 20 | | | | |
| 1/2 | 13 | 75 | 55 | 110 | 80 |
| | 20 | | | | |
| 9/16 | 12 | 110 | 80 | 150 | 110 |
| | 18 | | | | |
| 5/8 | 11 | 150 | 115 | 210 | 160 |
| | 18 | | | | |

| Bolt Dia. Inches | Thds Per Inch | Torque (LB-FT) | | | |
|---------------------|------------------|----------------|-------|---------|-------|
| | | Grade 5 | | Grade 8 | |
| | | Dry | Lubed | Dry | Lubed |
| 3/4 | 10 | 265 | 200 | 380 | 280 |
| | 16 | | | | |
| 7/8 | 9 | 420 | 325 | 600 | 450 |
| | 14 | | | | |
| 1 | 8 | 640 | 485 | 910 | 680 |
| | 14 | | | | |
| 1 1/8 | 7 | 790 | 590 | 1290 | 970 |
| | 12 | | | | |
| 1 1/4 | 7 | 1120 | 835 | 1820 | 1360 |
| | 12 | | | | |
| 1 3/8 | 6 | 1460 | 1095 | 2385 | 1790 |
| | 12 | | | | |
| 1 1/2 | 6 | 1940 | 1460 | 3160 | 2370 |
| | 12 | | | | |

Product: PD12C/PD15B with the 01 and 04 Style Drum
Title: PD12C/PD15B Bearing Support Product Improvement
Purpose: Product Improvement

If drum bearing support, Part Number 101645, requires replacement in PD12C and PD15B model hoists with the 01 and 04 style drum, an upgraded bearing support must be purchased. The upgraded bearing support uses Hex Head Capscrews (Part Number 11174) and Lockwashers (Part Number 12781) to provide easier servicing. The previous designs using Flathead Capscrews (Part Number 25096) and Bearing Support (Part Number 101645) were sometimes difficult to remove from the hoist when servicing.

SERVICE PRECAUTIONS

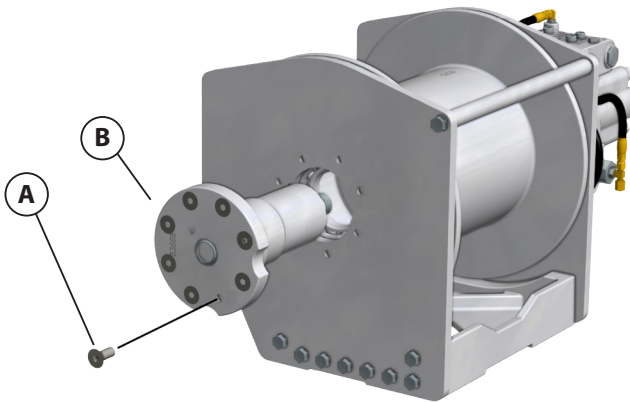
- Before any part is removed from the hoist, all service instructions should be read and understood
- Work in a clean, dust free area as cleanliness is of utmost importance when servicing hydraulic equipment
- Inspect all replacement parts, prior to installation, to detect any damage which might have occurred in shipment
- Use only genuine BRADEN replacement parts for optimum results. Never reuse expendable parts such as oil seals and O-rings
- Inspect all machined surfaces for excessive wear or damage ... before reassembly operations are begun
- Lubricate all O-rings and oil seals with gear oil prior to installation
- Use a sealing compound on the outside surface of oil seals
- Thoroughly clean all parts in a good grade of nonflammable safety solvent. Wear protective clothing as required

INSTALLATION INSTRUCTIONS

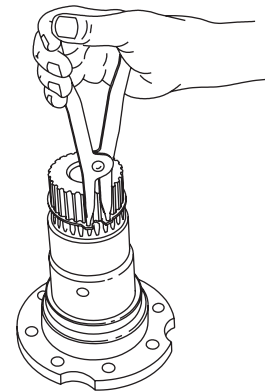
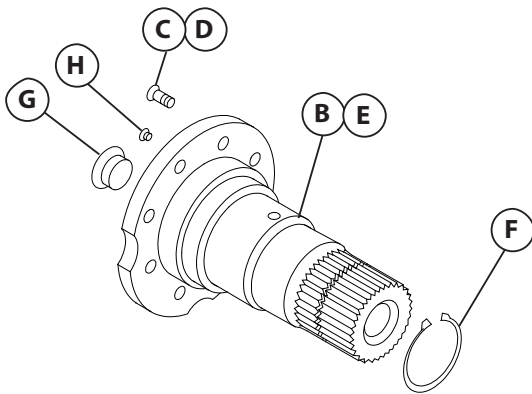
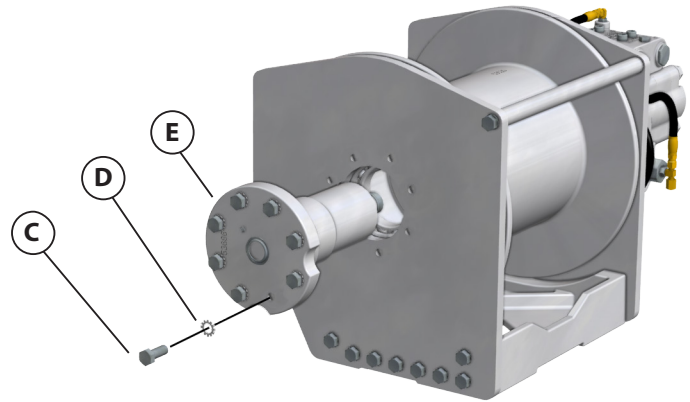
1. Refer to Service Manual LIT2103 for instructions on how to disassemble hoist.
2. Remove or replace Relief Valve (Part Number 18062) from existing Bearing support and install on upgraded Bearing Support.
3. Hoists will be equipped with either a Hex Plug (Part Number 31386), Flush Plug (Part Number 24420), or Sight Glass (Part Number 25958). Remove from existing Bearing support and install on upgraded Bearing Support.
4. Reassemble winch per procedure in Service Manual LIT2103.

| | DESCRIPTION | PART NO. | QTY. |
|----|-----------------------------|----------|------|
| A | PREVIOUS FLATHEAD CAPSCREWS | 25096 | 8 |
| B | PREVIOUS BEARING SUPPORT | 101645 | 1 |
| C | NEW HEX HEAD CAPSCREWS | 104174 | 8 |
| D | NEW LOCKWASHERS | 12781 | 8 |
| E | NEW BEARING SUPPORT | 106459 | 1 |
| F | RETAINING RING | 70575 | 1 |
| G | PLUG HEX (STANDARD WINCHES) | 31386 | 1 |
| | PLUG FLUSH | 24420 | 1 |
| | SIGHT GLASS (-1 OPTION) | 25958 | 1 |
| G1 | O-RING FOR ITEM 44 PLUGS | 24186 | 1 |
| H | RELIEF VALVE | 18062 | 1 |

PREVIOUS DESIGN



UPDATED DESIGN



⚠ CAUTION ⚠

Make certain the snap ring is installed on the bearing support. This snap ring will keep the output planet carrier correctly positioned in the hoist. Gear train damage may occur if this snap ring is omitted.

METRIC CONVERSION TABLE

English to Metric

Metric to English

LINEAR

| | | | | | |
|--------------|----------|--------------------|------------------|-----------|----------------|
| inches (in.) | X 25.4 | = millimeters (mm) | millimeters (mm) | X 0.03937 | = inches (in.) |
| feet (ft.) | X 0.3048 | = meters (m) | meters (m) | X 3.281 | = feet (ft.) |
| miles (mi.) | X 1.6093 | = kilometers (km) | kilometers (km) | X 0.6214 | = miles (mi.) |

AREA

| | | | | | |
|------------------------------|----------|---|---|------------|--------------------------------|
| inches ² (sq.in.) | X 645.15 | = millimeters ² (mm ²) | millimeters ² (mm ²) | X 0.000155 | = inches ² (sq.in.) |
| feet ² (sq.ft.) | X 0.0929 | = meters ² (m ²) | meters ² (m ²) | X 10.764 | = feet ² (sq.ft.) |

VOLUME

| | | | | | |
|------------------------------|-----------|---|---------------------------------------|-----------|--------------------------------|
| inches ³ (cu.in.) | X 0.01639 | = liters (l) | liters (l) | X 61.024 | = inches ³ (cu.in.) |
| quarts (qts.) | X 0.94635 | = liters (l) | liters (l) | X 1.0567 | = quarts (qts.) |
| gallons (gal.) | X 3.7854 | = liters (l) | liters (l) | X 0.2642 | = gallon (gal.) |
| inches ³ (cu.in.) | X 16.39 | = centimeters ³ (cc) | centimeters ³ (cc) | X 0.06102 | = inches ³ (cu.in.) |
| feet ³ (cu.ft.) | X 28.317 | = liters (l) | liters (l) | X 0.03531 | = feet ³ (cu.ft.) |
| feet ³ (cu.ft.) | X 0.02832 | = meters ³ (m ³) | meters ³ (m ³) | X 35.315 | = feet ³ (cu.ft.) |
| fluid ounce (fl.oz.) | X 29.57 | = milliliters (ml) | milliliters (ml) | X 0.03381 | = fluid ounce (fl.oz.) |

MASS

| | | | | | |
|-------------------------|-----------|-------------------|-----------------|------------|---------------------------|
| ounces (oz.) | X 28.35 | = grams (g) | grams (g) | X 0.03527 | = ounces (oz.) |
| pounds (lbs.) | X 0.4536 | = kilograms (kg) | kilograms (kg) | X 2.2046 | = pounds (lbs.) |
| tons (2000 lbs.) | X 907.18 | = kilograms (kg) | kilograms (kg) | X 0.001102 | = tons (2000 lbs.) |
| tons (2000 lbs.) | X 0.90718 | = metric tons (t) | metric tons (t) | X 1.1023 | = tons (2000 lbs.) |
| tons (long) (2240 lbs.) | X 1013.05 | = kilograms (kg) | kilograms (kg) | X 0.000984 | = tons (long) (2240 lbs.) |

PRESSURE

| | | | | | |
|--------------------------------|----------|--|--|----------|----------------------------------|
| inches Hg (60°F) | X 3600 | = kilopascals (kPa) | kilopascals (kPa) | X 0.2961 | = inches Hg (60°F) |
| pounds/sq.in. (PSI) | X 6.895 | = kilopascals (kPa) | kilopascals (kPa) | X 0.145 | = pounds/sq.in. (PSI) |
| pounds/sq.in. (PSI) | X 0.0703 | = kilograms/sq.cm. (kg/cm ²) | kilograms/sq.cm. (kg/cm ²) | X 14.22 | = pounds/sq.in. (PSI) |
| pounds/sq.in. (PSI) | X 0.069 | = bars | bars | X 14.5 | = pounds/sq.in. (PSI) |
| inches H ₂ O (60°F) | X 0.2488 | = kilopascals (kPa) | kilopascals (kPa) | X 4.0193 | = inches H ₂ O (60°F) |
| bars | X 100 | = kilopascals (kPa) | kilopascals (kPa) | X 0.01 | = bars |

POWER

| | | | | | |
|-----------------|----------|------------------|----------------|---------|-------------------|
| horsepower (hp) | X 0.746 | = kilowatts (kW) | kilowatts (kW) | X 1.34 | = horsepower (hp) |
| ft.-lbs./min. | X 0.0226 | = watts (W) | watts (W) | X 44.25 | = ft.-lbs./min. |

TORQUE

| | | | | | |
|-------------------------|-----------|--------------------------|-----------------------|----------|---------------------------|
| pound-inches (in.-lbs.) | X 0.11298 | = newton-meters (N-m) | newton-meters (N-m) | X 8.851 | = pound-inches (in.-lbs.) |
| pound-feet (ft.-lbs.) | X 1.3558 | = newton-meters (N-m) | newton-meters (N-m) | X 0.7376 | = pound-feet (ft.-lbs.) |
| pound-feet (ft.-lbs.) | X .1383 | = kilograms/meter (kg-m) | kilogram/meter (kg-m) | X 7.233 | = pound-feet (ft.-lbs.) |

VELOCITY

| | | | | | |
|------------------------|-----------|---------------------------|-------------------------|----------|--------------------------|
| miles/hour (m/h) | X 0.11298 | = kilometers/hour (km/hr) | kilometers/hour (km/hr) | X 0.6214 | = miles/hour (m/h) |
| feet/second (ft./sec.) | X 0.3048 | = meter/second (m/s) | meters/second (m/s) | X 3.281 | = feet/second (ft./sec.) |
| feet/minute (ft./min.) | X 0.3048 | = meter/minute (m/min) | meters/minute (m/min) | X 3.281 | = feet/minute (ft./min.) |

TEMPERATURE

$$^{\circ}\text{Celsius} = 0.556 (^{\circ}\text{F} - 32)$$

$$^{\circ}\text{Fahrenheit} = (1.8^{\circ}\text{C}) + 32$$

COMMON METRIC PREFIXES

| | | | | | |
|-------|------|--------------------------------|-------|-----|---------------------------------|
| mega | (M) | = 1,000,000 or 10 ⁶ | deci | (d) | = 0.1 or 10 ⁻¹ |
| kilo | (k) | = 1,000 or 10 ³ | centi | (c) | = 0.01 or 10 ⁻² |
| hecto | (h) | = 100 or 10 ² | milli | (m) | = 0.001 or 10 ⁻³ |
| deka | (da) | = 10 or 10 ¹ | micro | (μ) | = 0.000.001 or 10 ⁻⁶ |