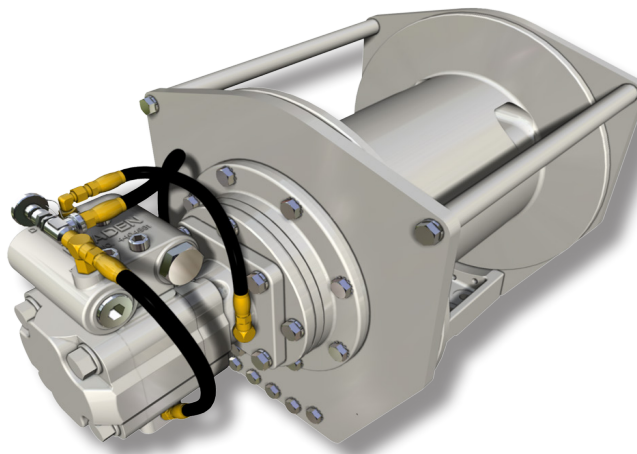


# PARTS LIST



**WRITE HOIST SERIAL NUMBER BELOW**

--	--	--	--	--	--	--	--	--	--



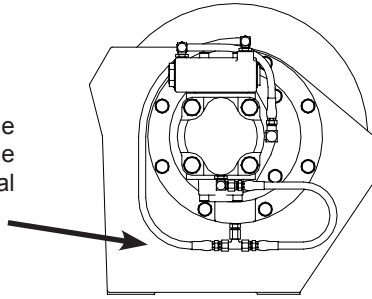
**First 2 numbers indicate  
year manufactured**

For serial number location see page 2

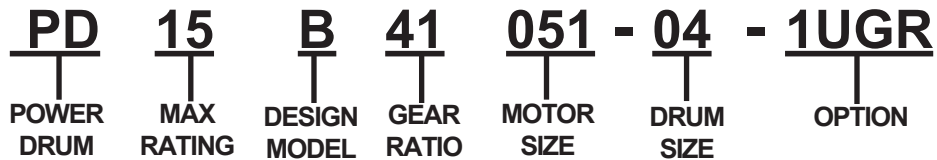
Visit our Web site at [www.paccarwinch.com](http://www.paccarwinch.com) for the most comprehensive collection of winch, hoist, and drive information on the Internet. Most publications and specification sheets are available for downloading.

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:

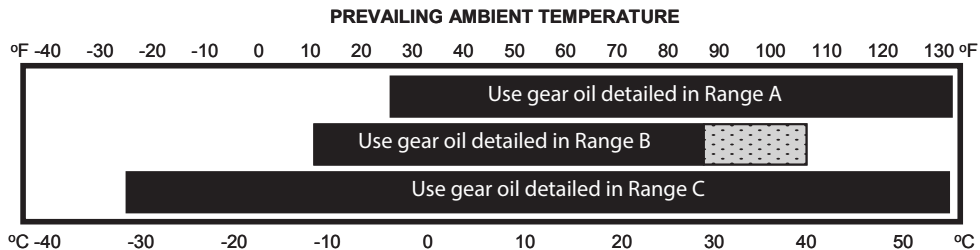
1. List model and serial numbers of the winch.
2. Refer to exploded view and select the component(s) needed and note item number.
3. Find item number on material list, show part number, description, and quantity required on your order.
4. Refer to Parts List and show price for each component or assembly.

### 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



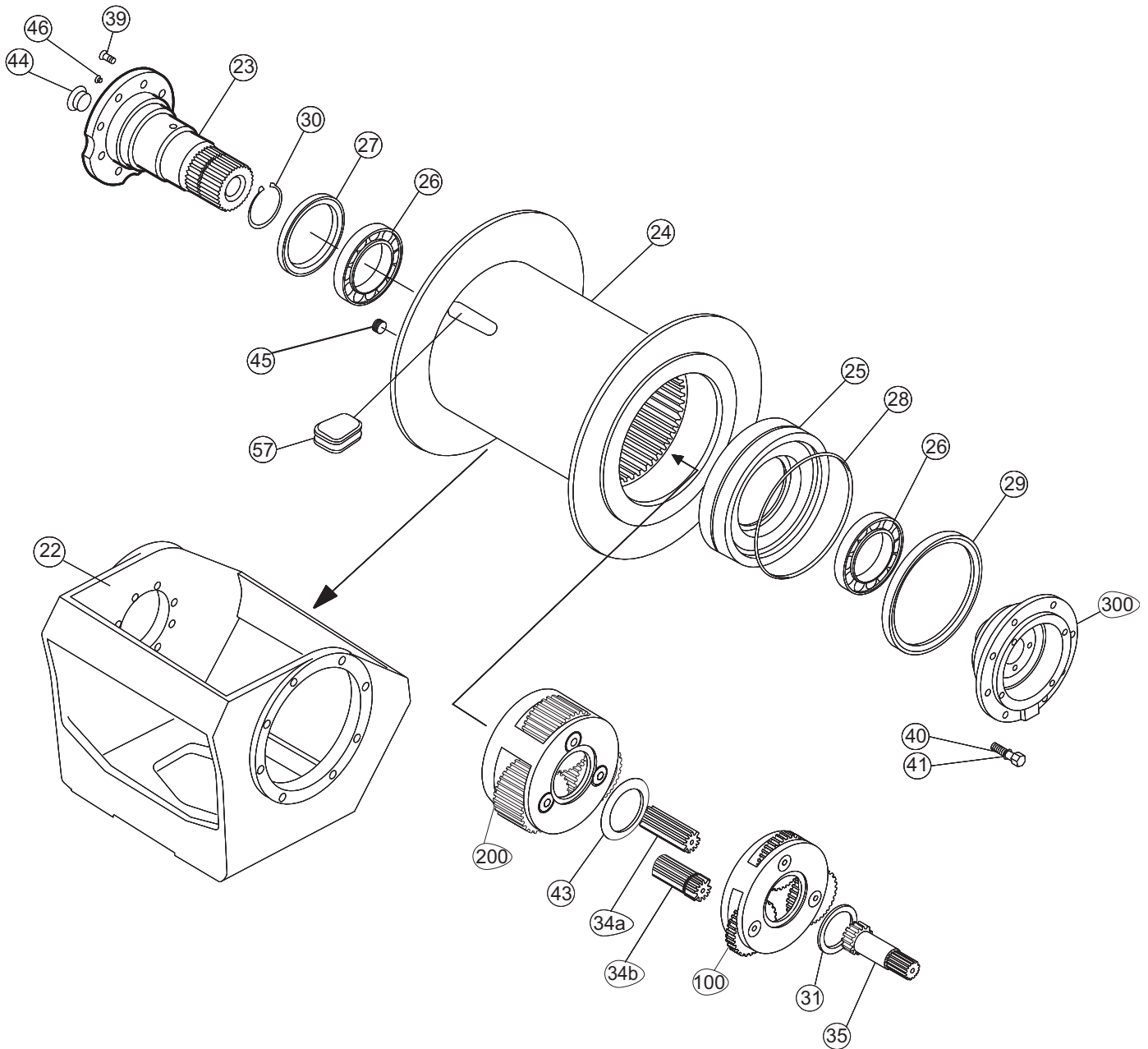
Winches are factory filled with Mobilgear 600 XP 150 or equivalent. Consult your oil supplier for other equivalent oils if required.

	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



Authorized Distributor:  
Pacific Marine & Industrial  
www.pacificmarine.net  
info@pacificmarine.net



**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

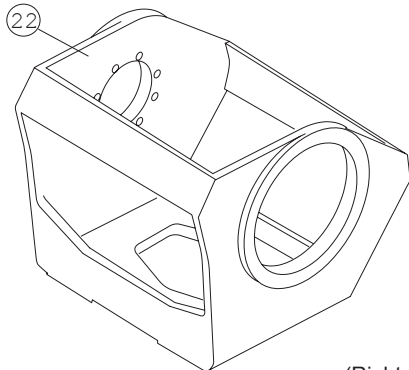
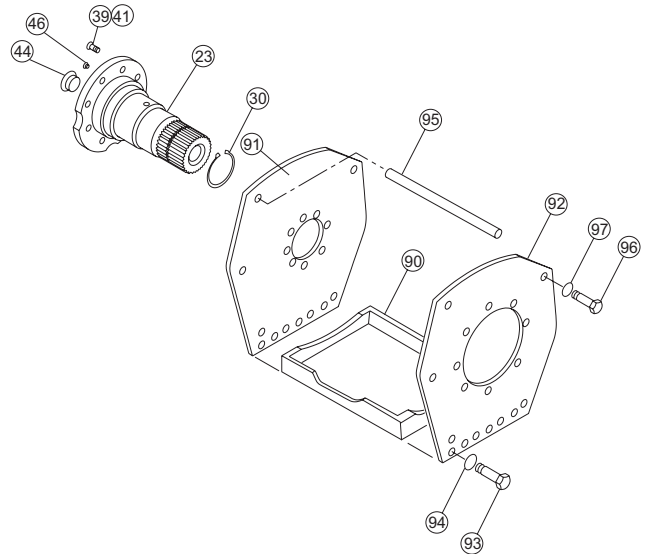
**Part Number 61715 - PD15B Seal Kit**  
 (Contains all seals and O-rings to service any PD15B winch. Not all parts in this kit will be used on any one winch.)  
 \* indicates part in seal kit

**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)

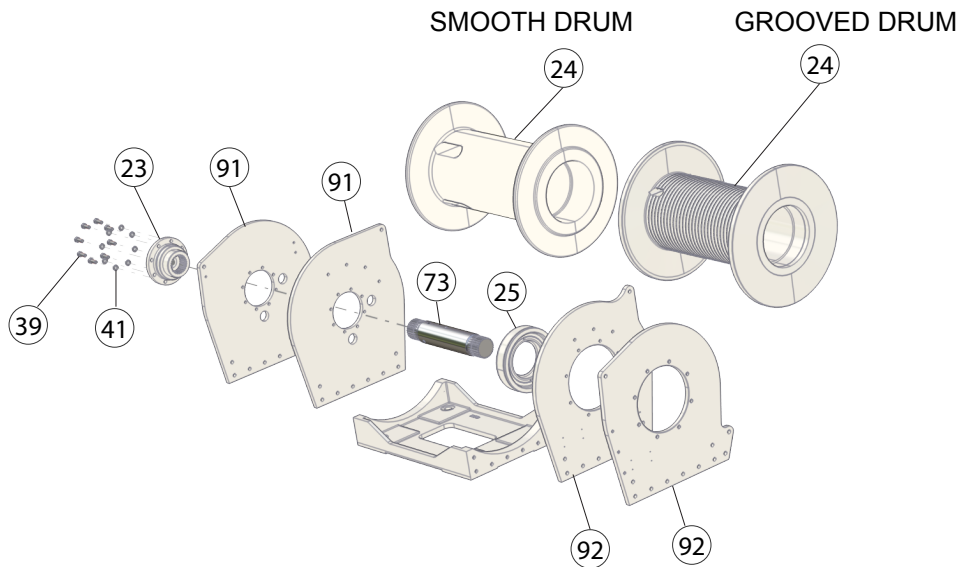
ITEM #	DESCRIPTION	PART #	QTY.
22	Base (Right-hand)	25615	1
	Base (Left-hand)	101074	1
39	Capscrew (1/2 - 13 x 1-1/2 G8 Z)	104322	8
41	Lockwasher - 05 Drum	11026	8

### 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**

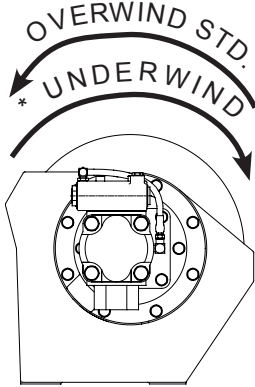
Winch Model	Winch Part No	Cable Drum	Sideplate - Motor End	Sideplate - Bearing Support	Base	Bearing Support	Bearing Support Shaft	Drum Closure	Cable Wedge
ITEM #	N/A	24	92	91	90	23	73	25	(Not pictured)
-06UG Underwound Grooved Drum	05156	104057	102033	102032	102031	102012	102030	27866	102385
-06G Standard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



Authorized Distributor:  
**Pacific Marine & Industrial**  
[www.pacificmarine.net](http://www.pacificmarine.net)  
[info@pacificmarine.net](mailto:info@pacificmarine.net)

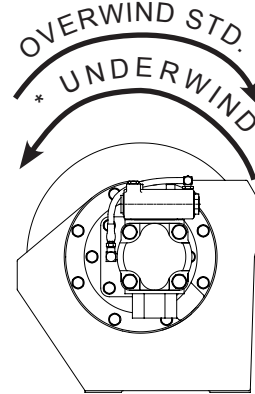
## DRUM ROTATION TO HOIST

04 and 05 DRUM/ BASE SHOWN



RIGHT-HAND  
BASE (Standard)

Underwound will have "U" in  
model number

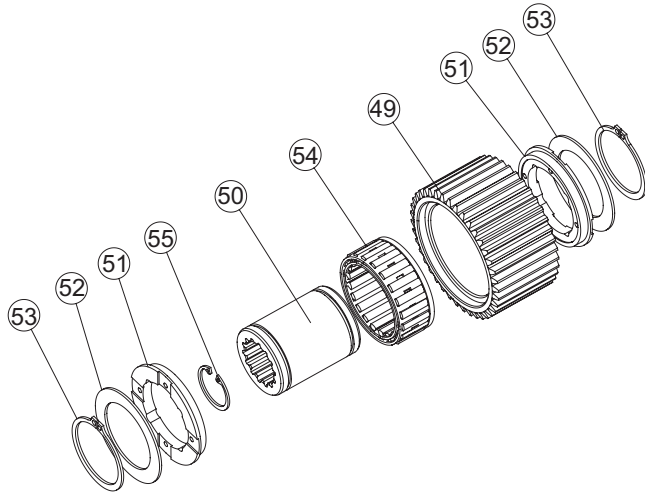


LEFT-HAND  
BASE (Optional)

## 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.



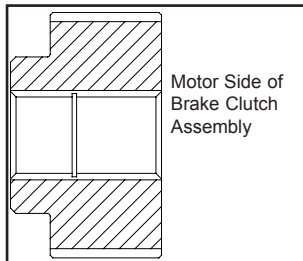
## BRAKE CLUTCH ROTATION

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

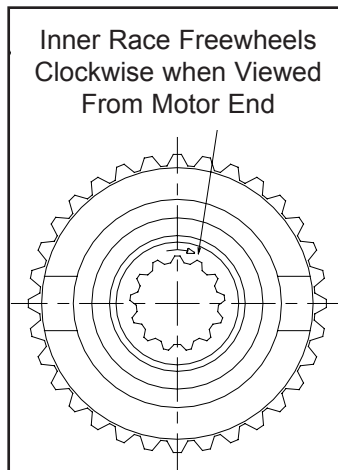
On the BRADEN PD15B the inner race of the brake clutch sprag assembly, when viewed from the motor side, must freewheel in the opposite direction as the cable drum during hoisting

PART NUMBER 81716

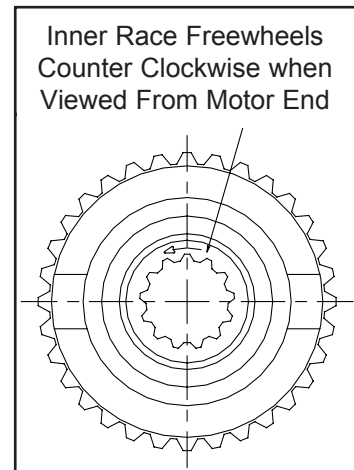
PART NUMBER 81776



Motor Side of  
Brake Clutch  
Assembly



Inner Race Freewheels  
Clockwise when Viewed  
From Motor End



Inner Race Freewheels  
Counter Clockwise when  
Viewed From Motor End

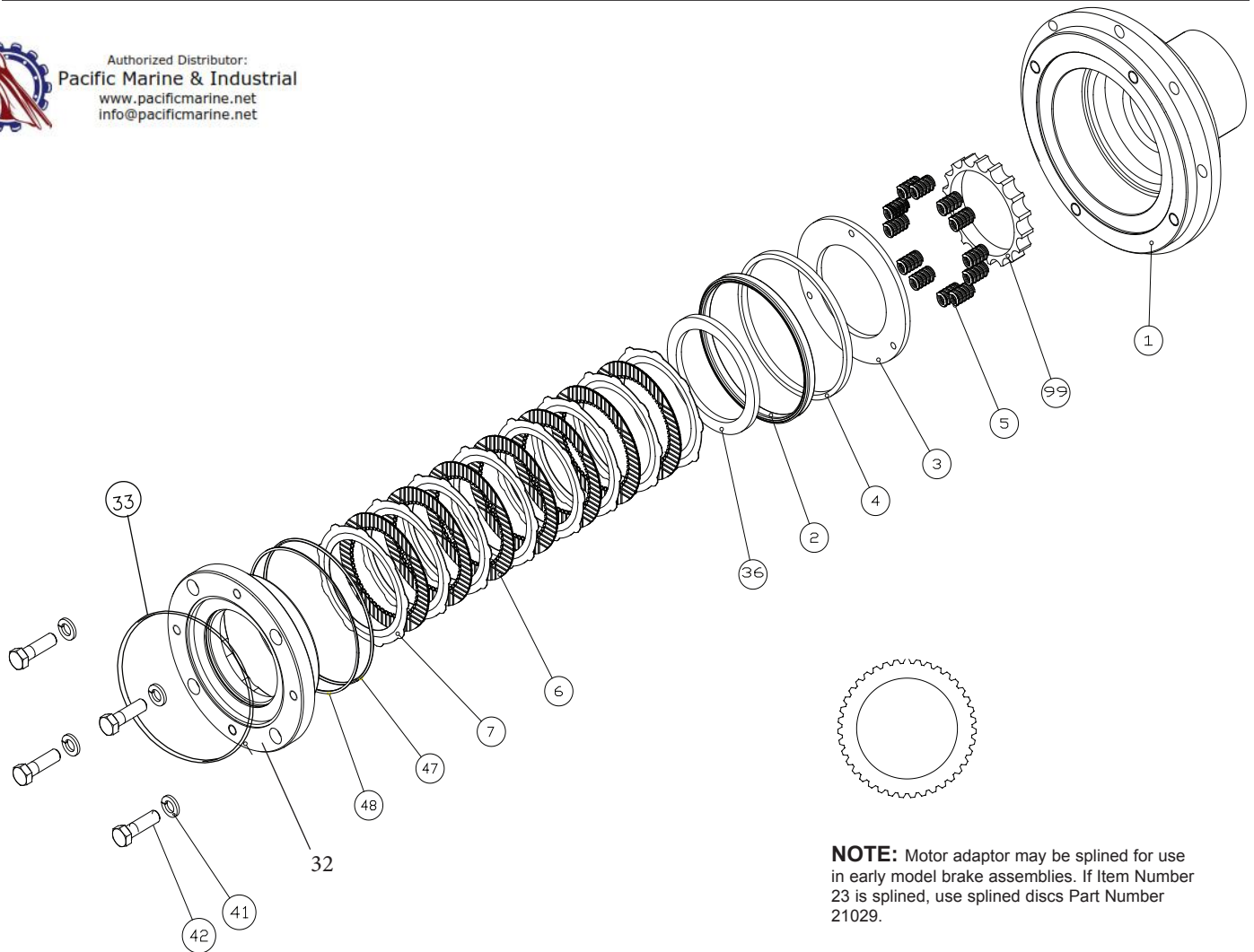
## COMPLETE BRAKE CLUTCH ASSEMBLIES

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



Authorized Distributor:  
**Pacific Marine & Industrial**  
[www.pacificmarine.net](http://www.pacificmarine.net)  
[info@pacificmarine.net](mailto:info@pacificmarine.net)



**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

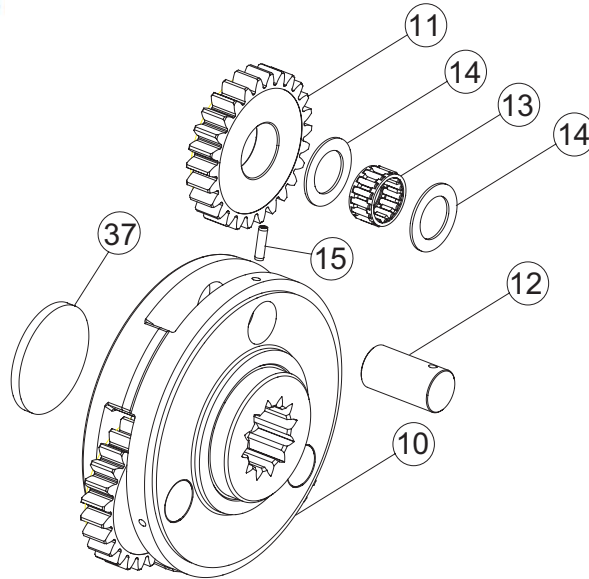
\*2 = Brake Cylinder with cast spring pockets Part Number 25564 is replaced by 100035 brake cylinder and 100200 spring spacer

# PRIMARY PLANET CARRIER ASSEMBLY

Part Number 82342 (serial number 970222 and higher)



Authorized Distributor:  
**Pacific Marine & Industrial**  
[www.pacificmarine.net](http://www.pacificmarine.net)  
[info@pacificmarine.net](mailto:info@pacificmarine.net)

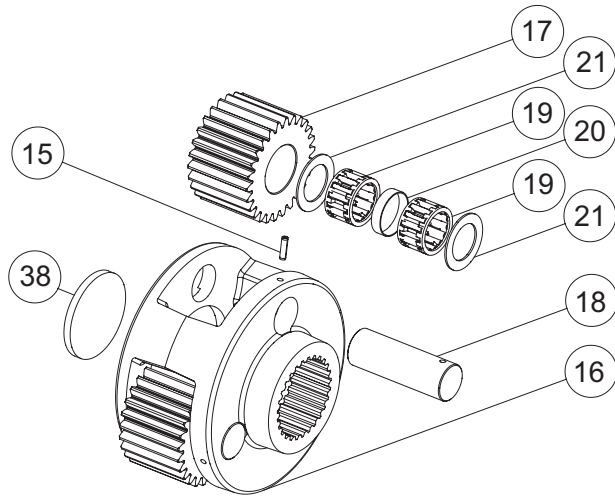


ITEM #	DESCRIPTION	PART #			QTY.
		34:1 RATIO	41:1 RATIO SERIAL # 970221 & LOWER	41:1 RATIO SERIAL # 970222 & HIGHER	
-	PRIMARY PLANET CARRIER ASSEMBLY	82343	81844	82342	1
10	PRIMARY PLANET CARRIER	100853	25730	100852	1
11	PRIMARY PLANET GEAR	40237	26466	26466	3
12	PLANET GEAR SHAFT	25614	25614	25614	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

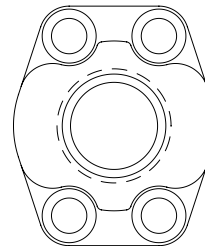
O-ring 10330\* for all "C" motor pilots

### GEAR MOTORS

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

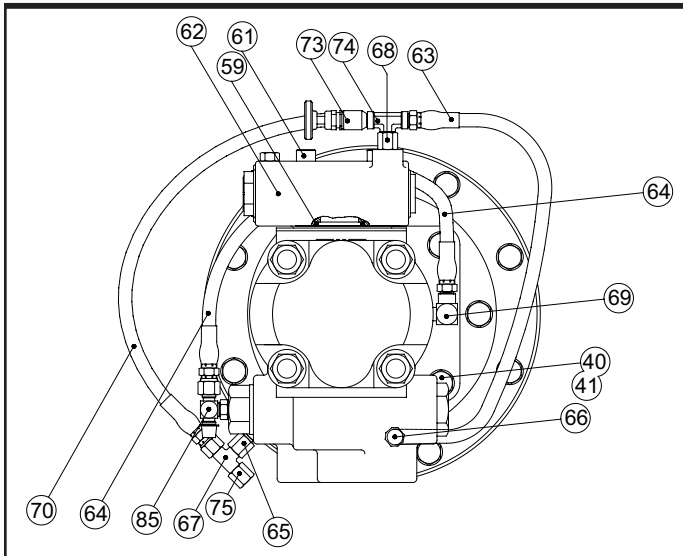
## FLANGE ADAPTER

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*

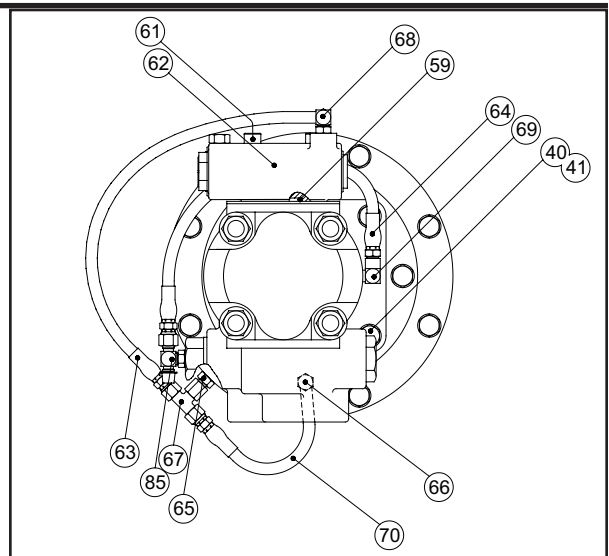


Authorized Distributor:  
**Pacific Marine & Industrial**  
[www.pacificmarine.net](http://www.pacificmarine.net)  
[info@pacificmarine.net](mailto:info@pacificmarine.net)

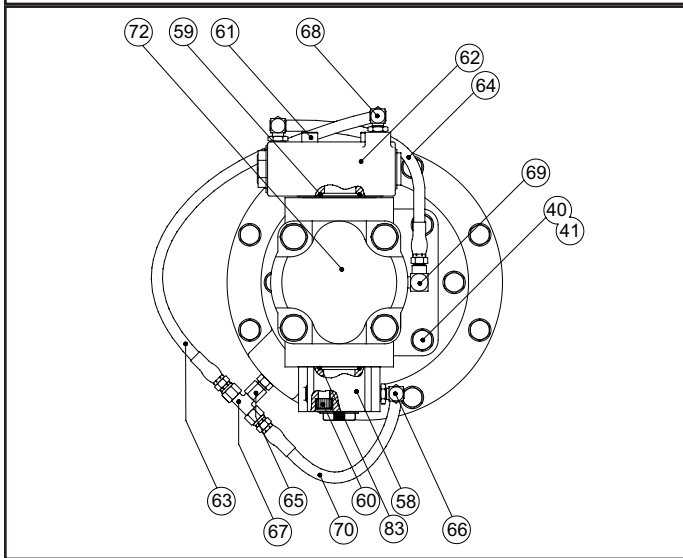
## MOTOR GROUPS AND BRAKE VALVES



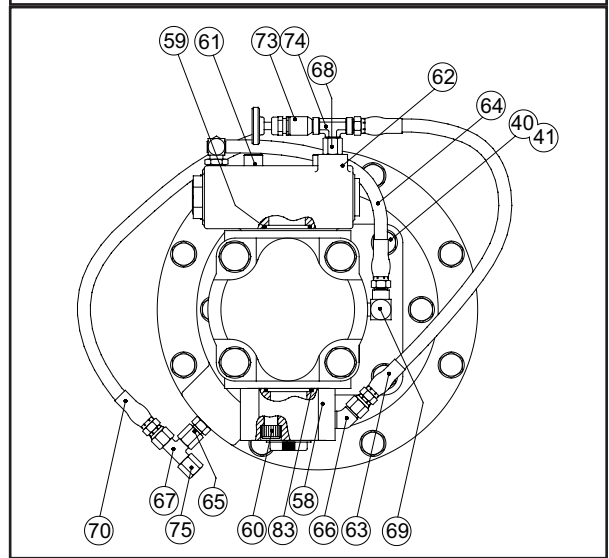
**064 / 032 MOTOR  
TWO-SPEED PERSONNEL HANDLING**



**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

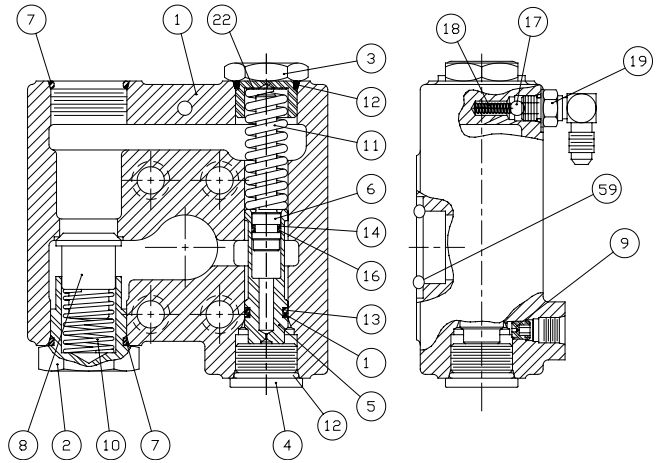
**NOTE:** The above drawings are standard configurations. Verify hoses, fittings, and capscrews using tables found on pages 8 and 9.



Authorized Distributor:  
**Pacific Marine & Industrial**  
www.pacificmarine.net  
info@pacificmarine.net

## 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
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PARTS IN  
81984  
BRAKE  
VALVE

### CAPSCREWS AND LOCKWASHERS

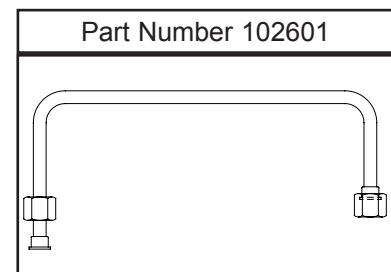
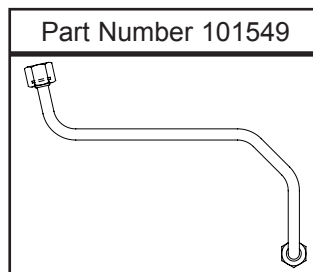
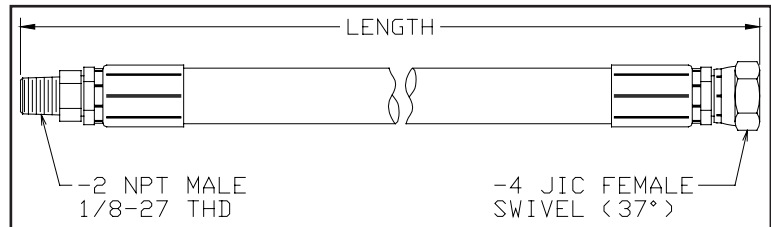
PART	DESCRIPTION
21135	7/16 NC x 1-1/2 Grade 8, socket head
104318	7/16 NC x 1-3/4 Grade 8, hex head
21144	7/16 NC x 2 Grade 8, socket head
21134	7/16 NC x 3 Grade 8, socket head
101150	7/16 NC x 3-3/4 Grade 8, socket head
104174	1/2 NC x 1-1/4 Grade 8, hex head
104322	1/2 NC x 1-1/2 Grade 8, hex head
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

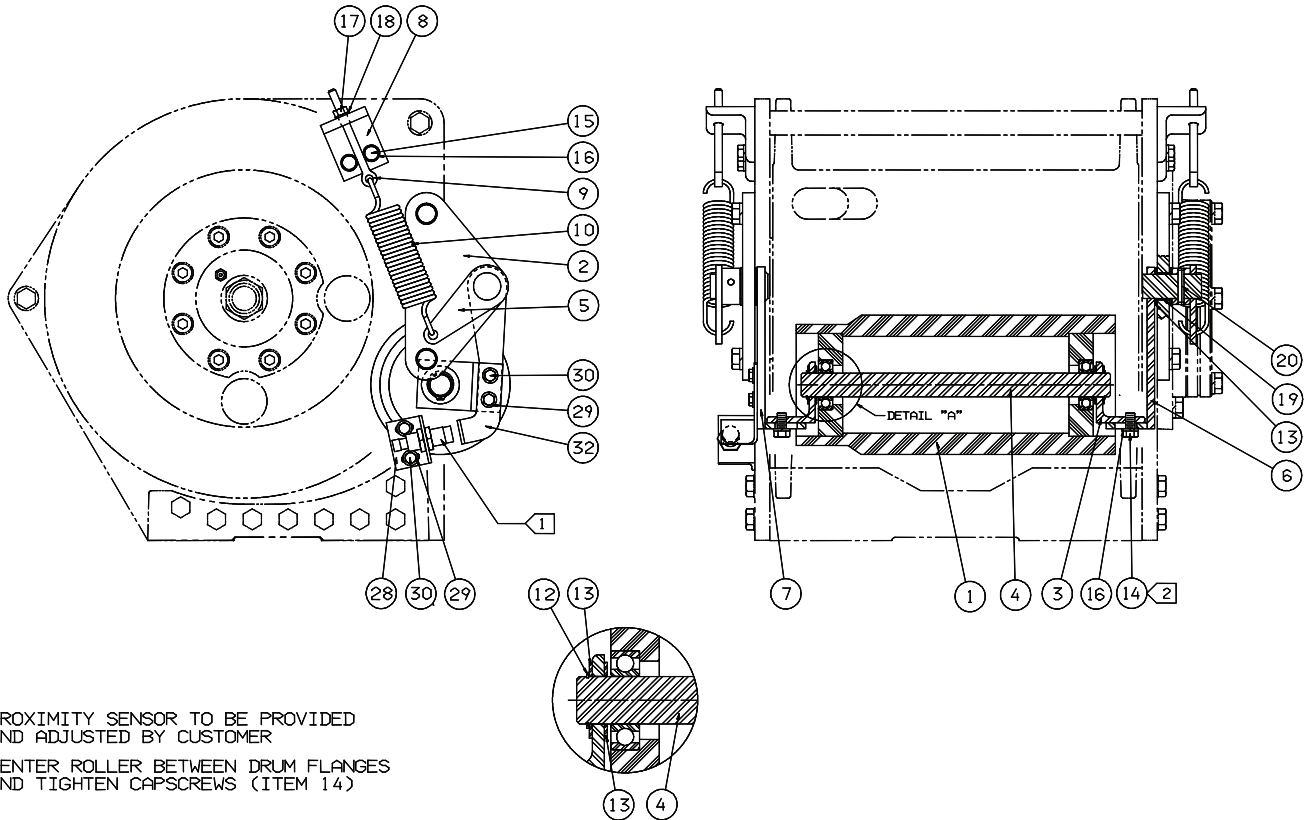
Item #	Description	Part #	QTY.
	<b>049/ 026 Motor</b>		
89	Brake Valve	102394	1
	<b>049 Motor</b>		
89	Valve Block	29577	1
90	Valve Cartridge	29598	1

### 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 \*

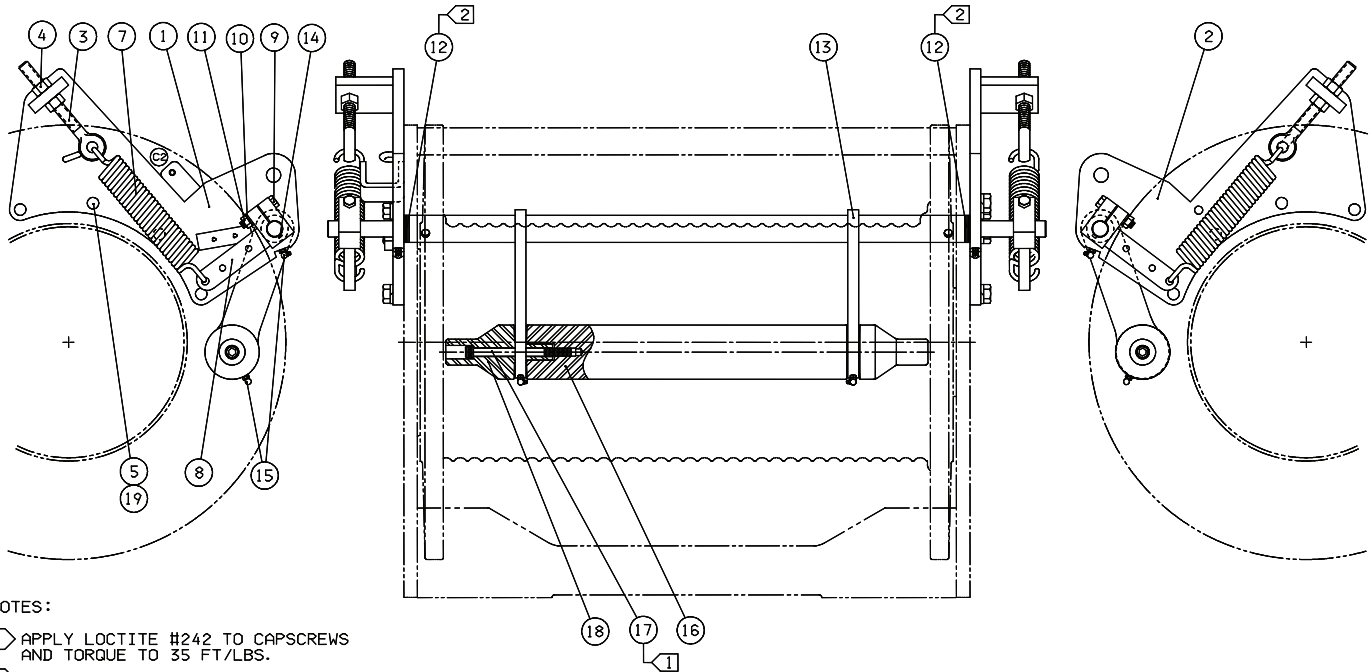


- 1 PROXIMITY SENSOR TO BE PROVIDED AND ADJUSTED BY CUSTOMER
- 2 CENTER ROLLER BETWEEN DRUM FLANGES AND TIGHTEN CAPSCREWS (ITEM 14)

\* 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:**

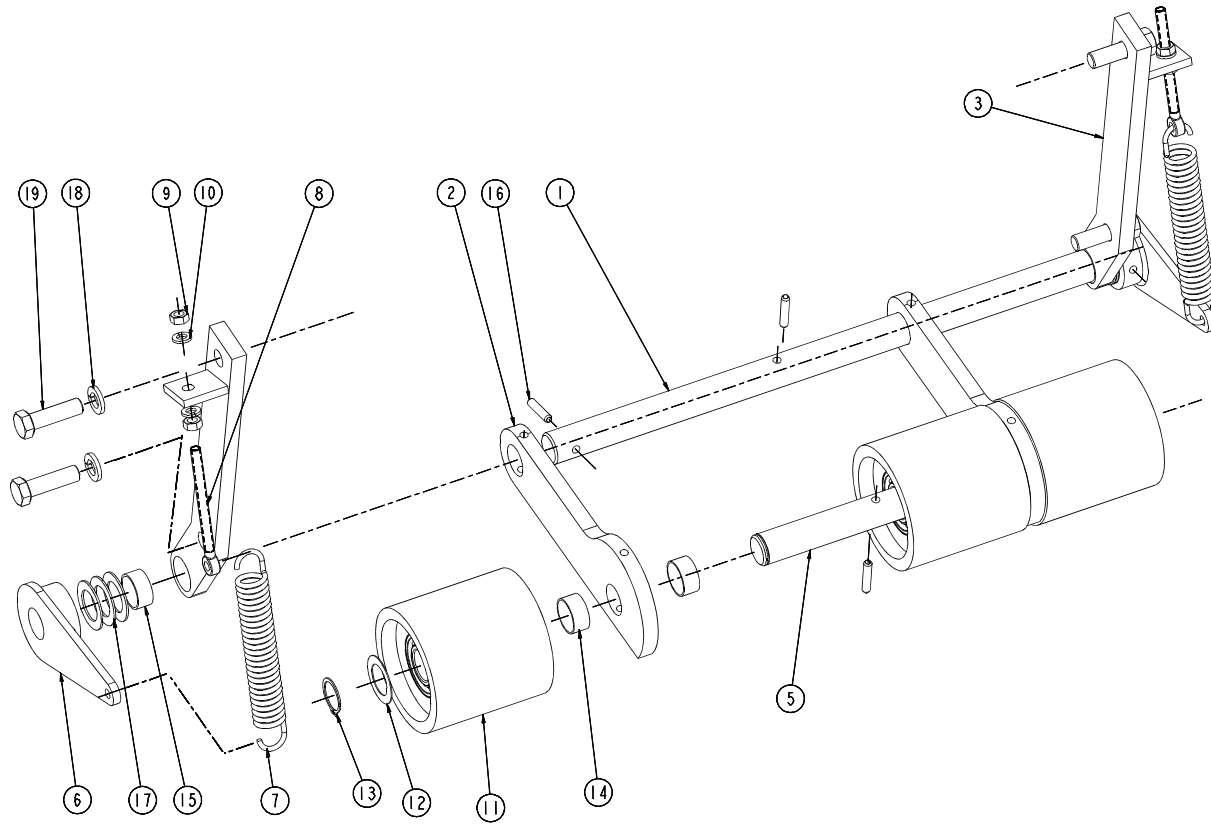
- 1 APPLY LOCTITE #242 TO CAPSCREWS AND TORQUE TO 35 FT/LBS.
- 2 ADJUST SHIMS TO POSITION ROLLER IN CENTER OF WINCH DRUM BETWEEN DRUM FLANGES.
3. ROLLER ASSEMBLY COMPATIBLE WITH PD12C/PD15B -06G DRUM.

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



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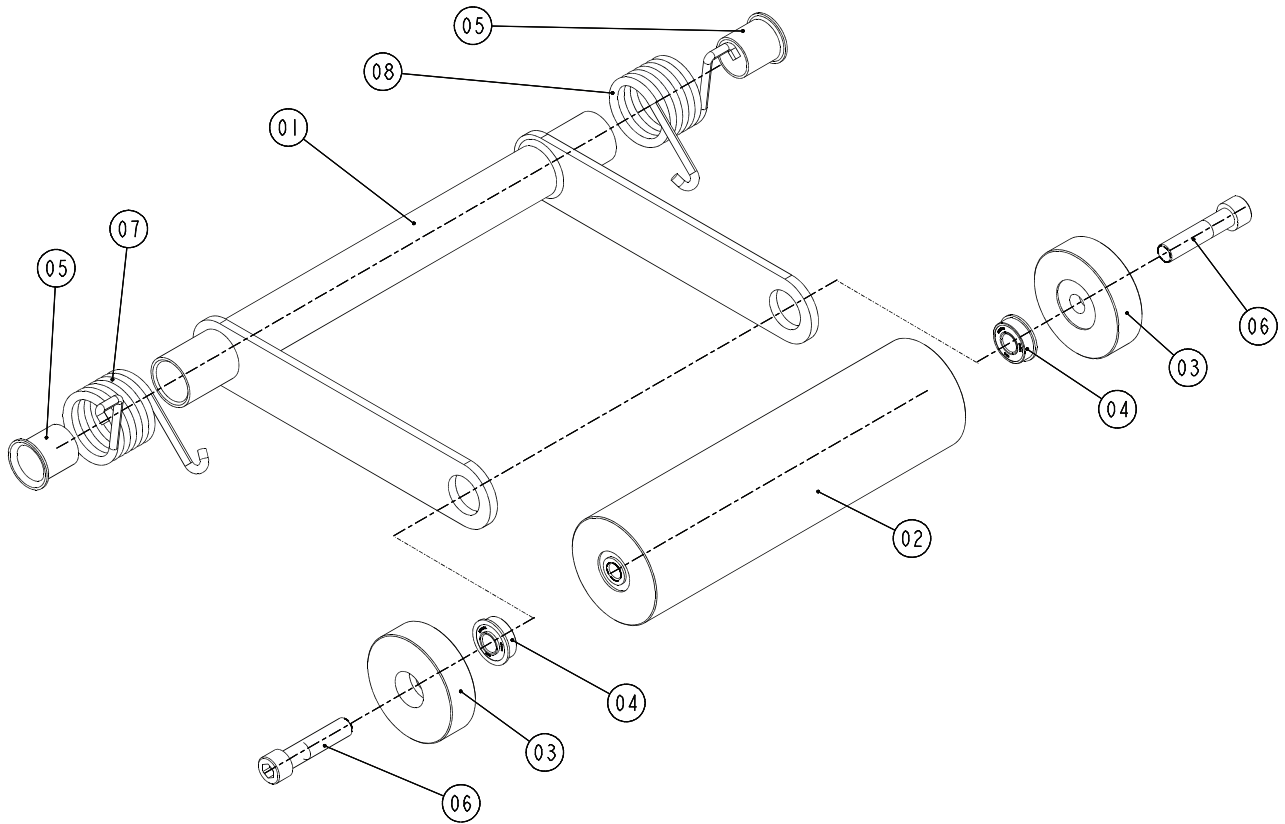
## 64696 ROLLER GROUP FOR 04 DRUM ONLY \*



\* 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 \*



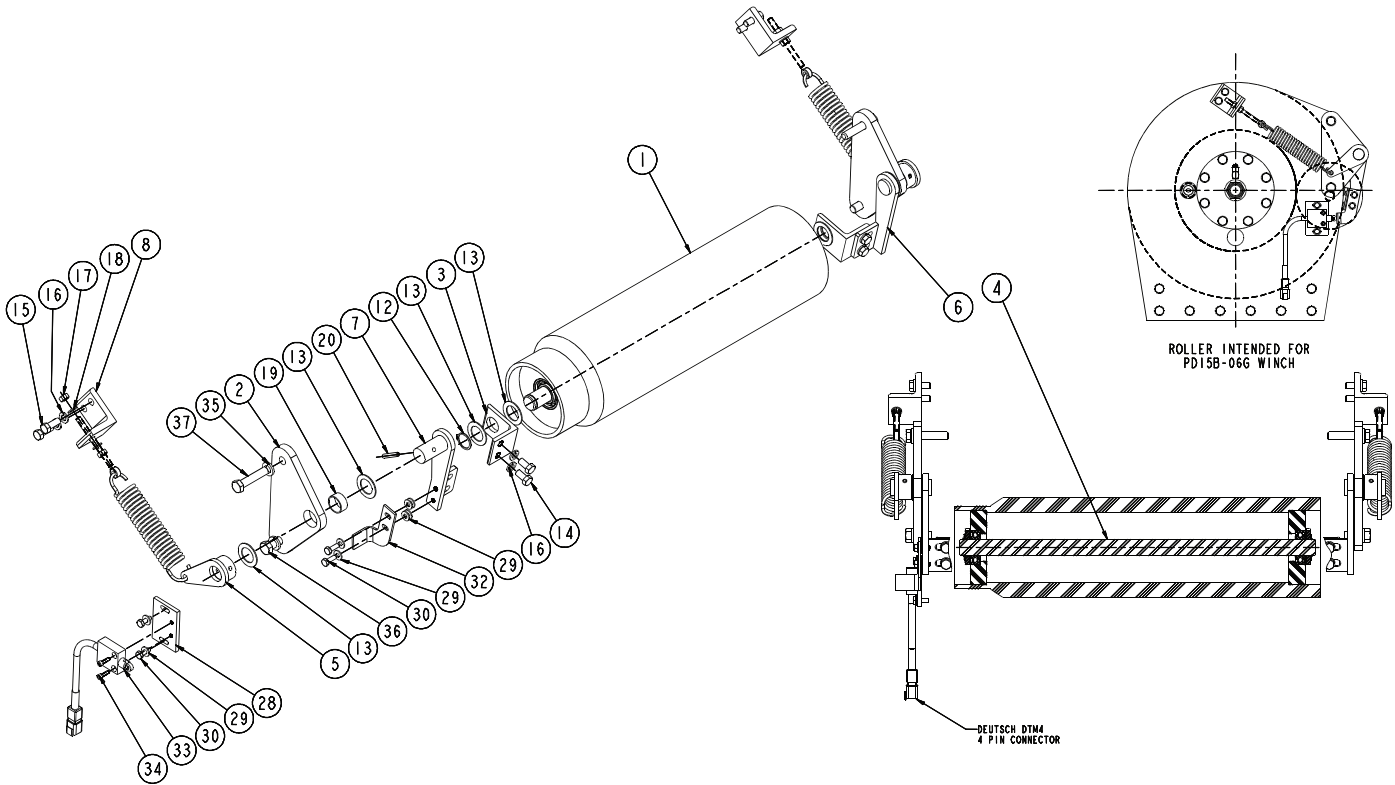
\* REQUIRES 3-PIECE BASE

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



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## 64738 FOR 06 STANDARD ROTATION DRUM \*

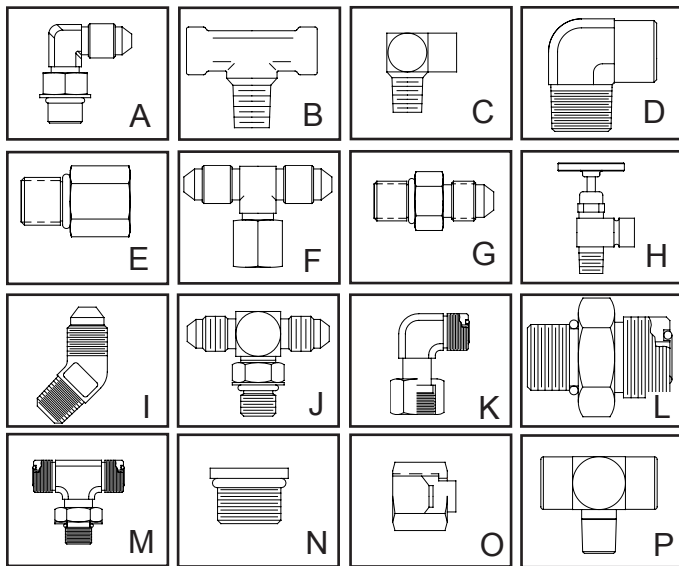


\* REQUIRES 3-PIECE BASE WITH SIDEPLATES 109362 AND 109363.  
SIDEPLATES 103930 AND 103929 CAN USED WITH MODIFICATIONS.  
1-STEP ROLLER DESIGN

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				



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**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

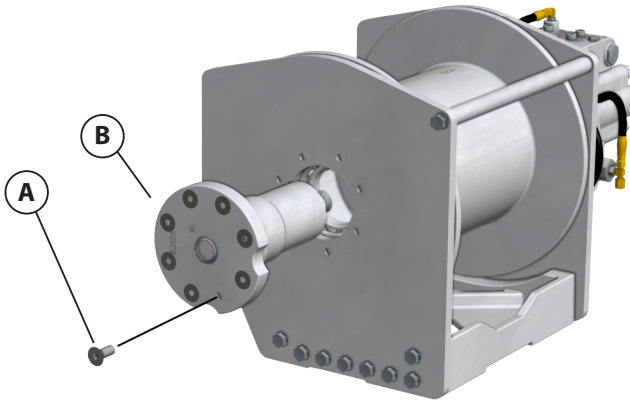
## INSTALLATION INSTRUCTIONS

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.

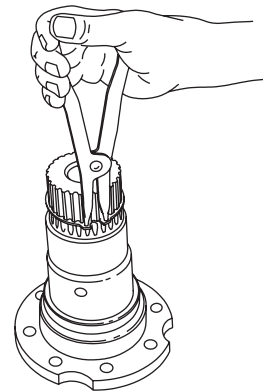
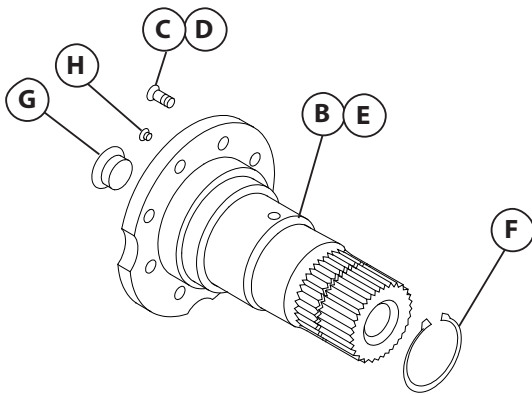
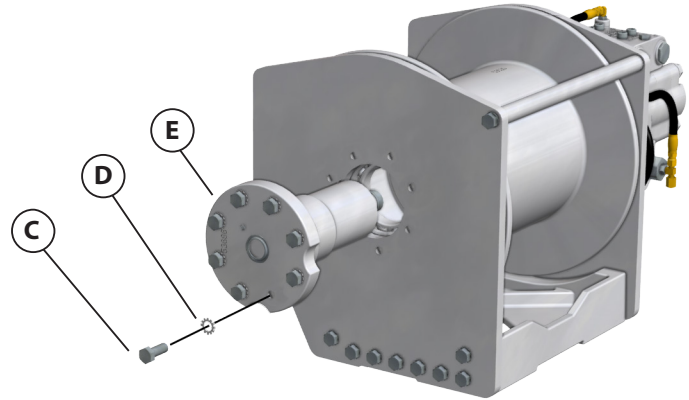


	DESCRIPTION	PART NO.	QTY.
A	PREVIOUS FLATHEAD CAPSCREWS	25096	8
B	PREVIOUS BEARING SUPPORT	101645	1
C	NEW HEX HEAD CAPSCREWS	104174	8
D	NEW LOCKWASHERS	12781	8
E	NEW BEARING SUPPORT	106459	1
F	RETAINING RING	70575	1
G	PLUG HEX (STANDARD WINCHES)	31386	1
	PLUG FLUSH	24420	1
	SIGHT GLASS (-1 OPTION)	25958	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.



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# 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 <sup>2</sup> (sq.in.)	X 645.15	= millimeters <sup>2</sup> (mm <sup>2</sup> )	millimeters <sup>2</sup> (mm <sup>2</sup> )	X 0.000155	= inches <sup>2</sup> (sq.in.)
feet <sup>2</sup> (sq.ft.)	X 0.0929	= meters <sup>2</sup> (m <sup>2</sup> )	meters <sup>2</sup> (m <sup>2</sup> )	X 10.764	= feet <sup>2</sup> (sq.ft.)

### VOLUME

inches <sup>3</sup> (cu.in.)	X 0.01639	= liters (l)	liters (l)	X 61.024	= inches <sup>3</sup> (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 <sup>3</sup> (cu.in.)	X 16.39	= centimeters <sup>3</sup> (cc)	centimeters <sup>3</sup> (cc)	X 0.06102	= inches <sup>3</sup> (cu.in.)
feet <sup>3</sup> (cu.ft.)	X 28.317	= liters (l)	liters (l)	X 0.03531	= feet <sup>3</sup> (cu.ft.)
feet <sup>3</sup> (cu.ft.)	X 0.02832	= meters <sup>3</sup> (m <sup>3</sup> )	meters <sup>3</sup> (m <sup>3</sup> )	X 35.315	= feet <sup>3</sup> (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 <sup>2</sup> )	kilograms/sq.cm. (kg/cm <sup>2</sup> )	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 <sub>2</sub> O (60°F)	X 0.2488	= kilopascals (kPa)	kilopascals (kPa)	X 4.0193	= inches H <sub>2</sub> 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 <sup>6</sup>	deci	(d)	= 0.1 or 10 <sup>-1</sup>
kilo	(k)	= 1,000 or 10 <sup>3</sup>	centi	(c)	= 0.01 or 10 <sup>-2</sup>
hecto	(h)	= 100 or 10 <sup>2</sup>	milli	(m)	= 0.001 or 10 <sup>-3</sup>
deka	(da)	= 10 or 10 <sup>1</sup>	micro	(μ)	= 0.000.001 or 10 <sup>-6</sup>