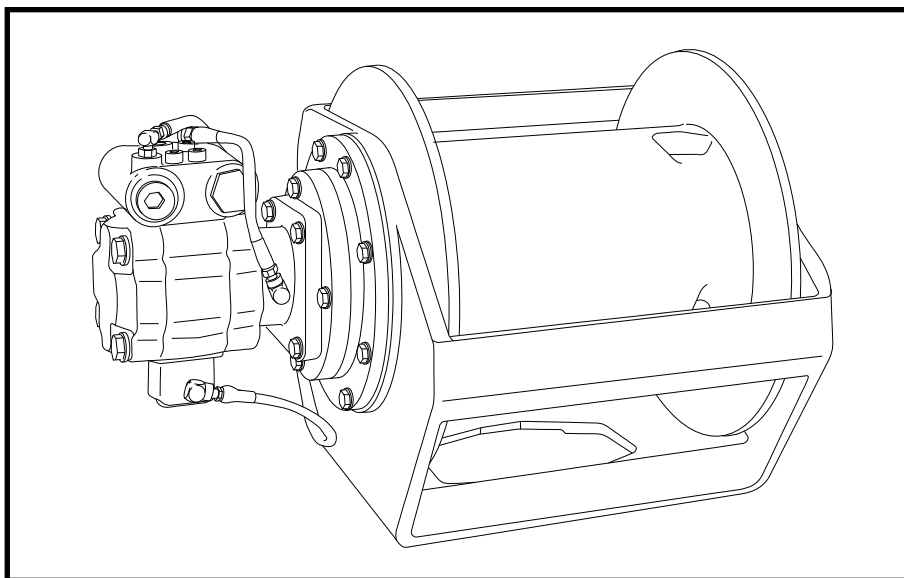


BRADEN

PD15B

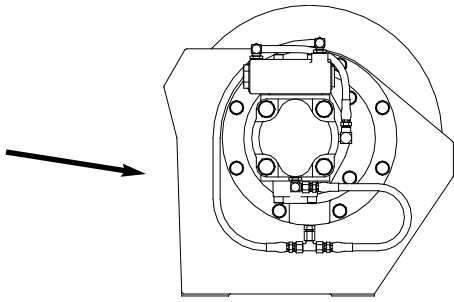
MATERIAL LIST



Visit our website 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.

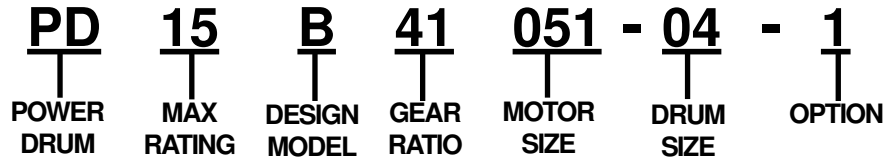
Refer to Publication LIT2103 for maintenance and service procedures.

PACCAR WINCH DIVISION
P.O. BOX 547 BROKEN ARROW, OK U.S.A. 74013
PHONE (918) 251-8511 FAX (918) 259-1575
www.paccarwinch.com



Serial Numbers and Model Numbers are located to the left hand side of the hydraulic motor, stamped into the base. Always refer to the Serial Number and Model Number when requesting information or service parts.

EXPLANATION OF MODEL NUMBER



- PD** DESIGNATES POWER DRUM
- 15** DESIGNATES 15,000 LB. FIRST LAYER LINE PULL
- B** DESIGNATES THE MODEL SERIES RELATING TO DESIGN CHANGES
- 41** DESIGNATES TOTAL GEAR REDUCTION, 41 = 41.62:1
- 051** DESIGNATES HYDRAULIC MOTOR DISPLACEMENT IN CU IN/REV (DECIMAL POINT ELIMINATED. EXAMPLE: 051 = 5.1 CU IN/REV)
- 04** DESIGNATES THE DRUM (U DESIGNATES UNDERWIND, L DESIGNATES LEFT HAND BASE)
- 1** PERMITS TESTING AND INSPECTION PER API 2C FOR OFFSHORE CRANES

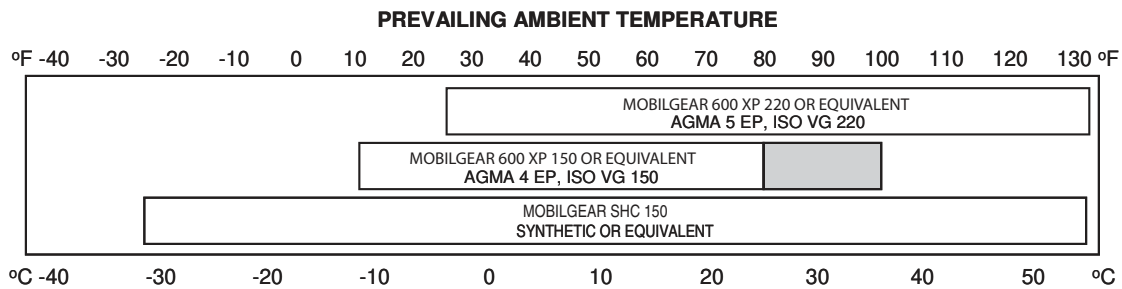
TO ORDER:

- (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.

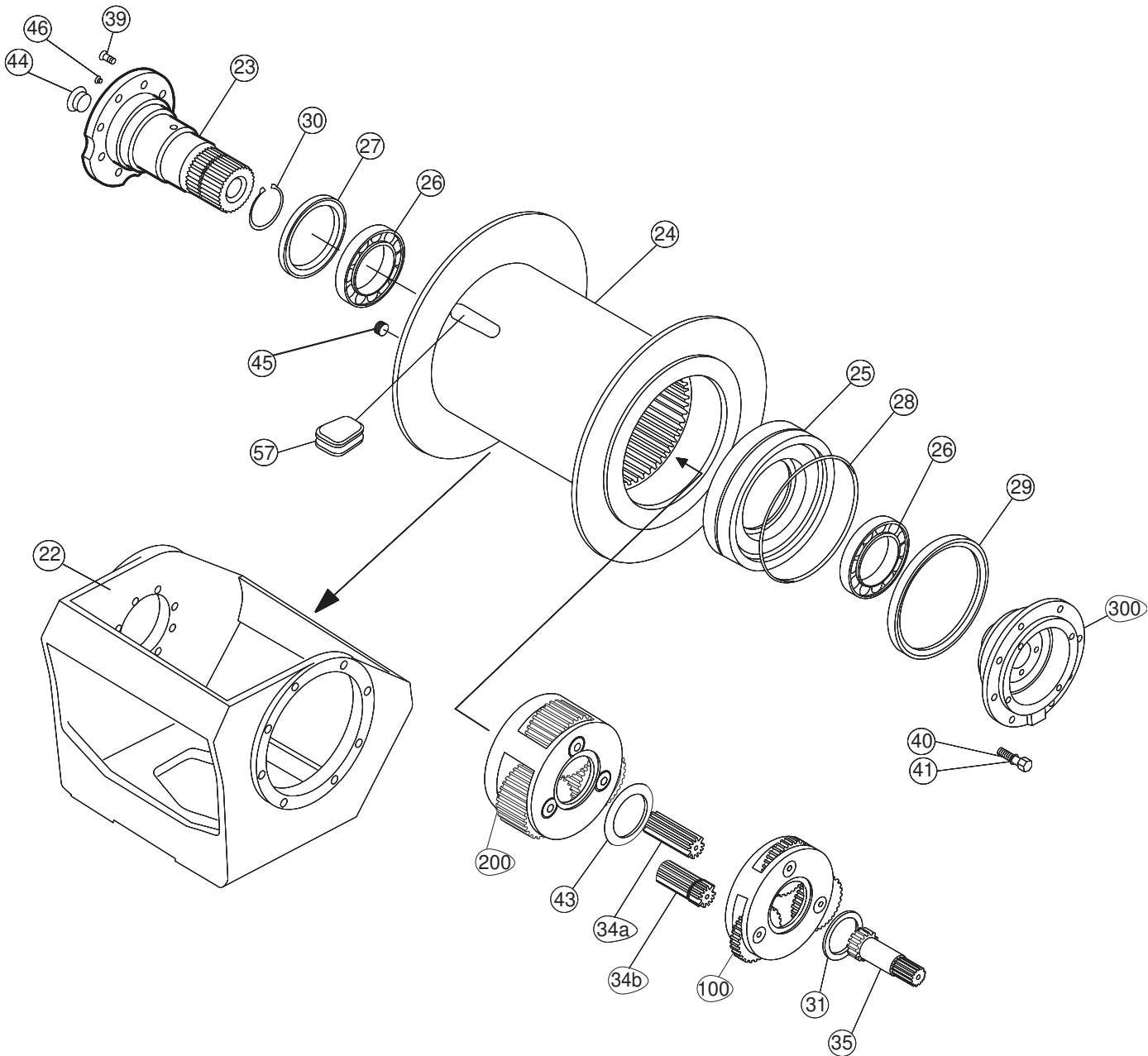


NOTE: SHADED TEMPERATURE RANGE IN THE CHART ABOVE NOT RECOMMENDED FOR SEVERE APPLICATIONS SUCH AS: OFFSHORE CRANES, SUSTAINED FAST DUTY CYCLES OR FREQUENT LIFTING.

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

Mobil	Shell	Chevron	Texaco
Mobilgear 600 XP 150	Omala 150	Gear Compounds EP 150	Meropa 150
Mobilgear 600 XP 220	Omala 220	Gear Compounds EP 220	Meropa 220

BRADEN PD15B COMPONENTS



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

BRADEN PD15B MAIN ASSEMBLY COMPONENTS

ITEM #	DESCRIPTION	PART #	QTY
100	Primary Planet Carrier Assembly (Page 5)		1
200	Output Planet Carrier Assembly (Page 6)		1
300	Brake Cylinder Assembly ((Page 5)		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)	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	26479	1
40	Capscrew (05 Hex Head 1/2 x 1 1/2)	104322	8
	Capscrew (04 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 #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

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.)

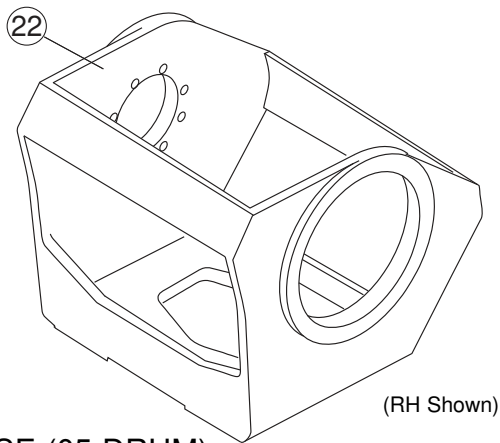
* indicates part in seal kit

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

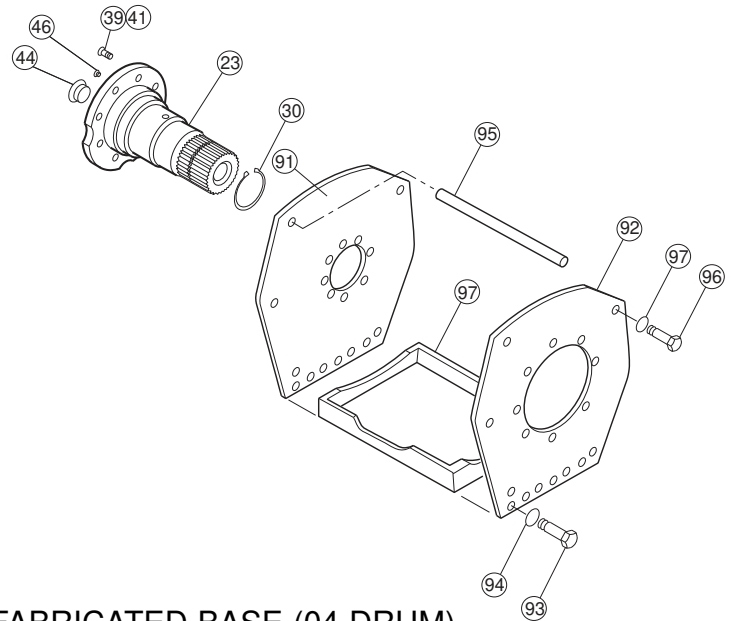
COMMON BASE PARTS

ITEM #	DESCRIPTION	PART #	QTY.
23	Bearing Support (04 Drum)	101645	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 *	24186	1
46	Relief	18062	1



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

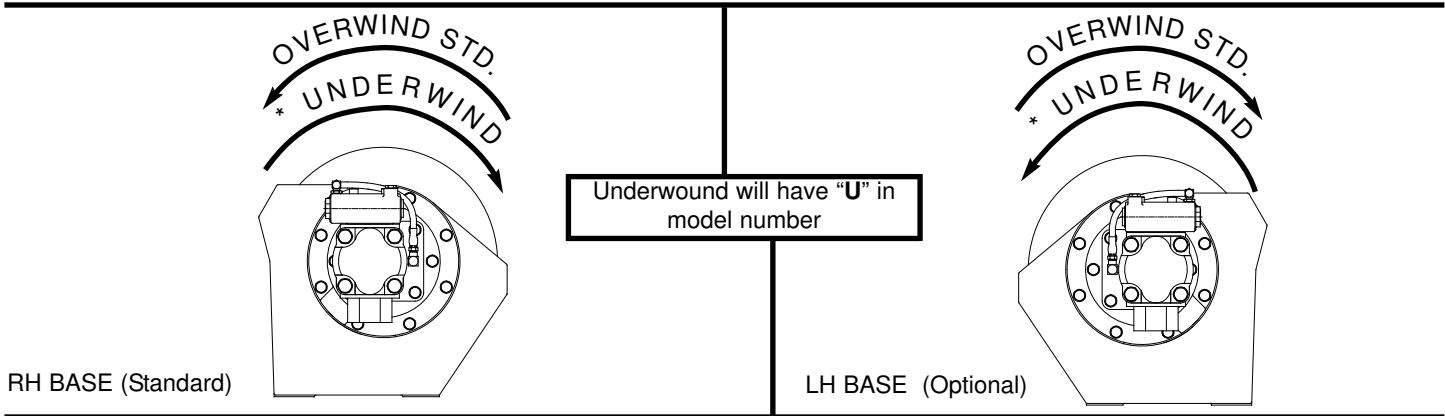


FABRICATED BASE (04 DRUM)

ITEM #	DESCRIPTION	PART NO.	QTY.
39	Capscrew (04 Flat Head 1/2 x 1 1/4)	25096	8
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

DRUM ROTATION TO HOIST

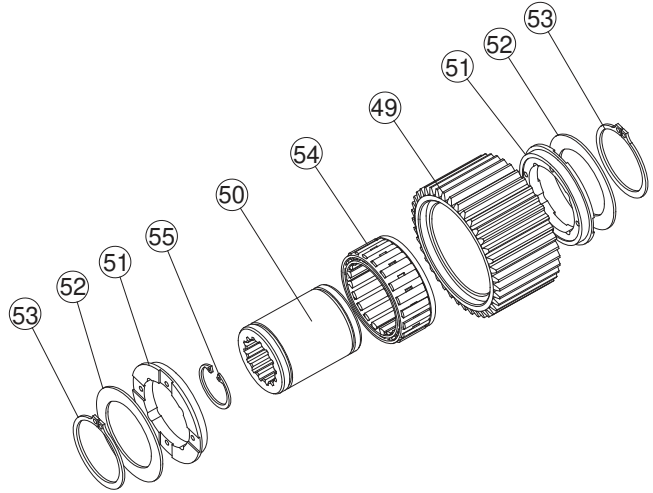
04 & 05 DRUM/ BASE SHOWN



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

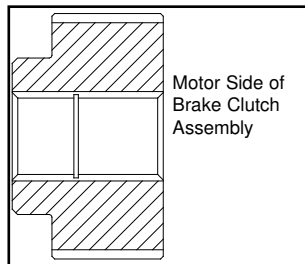
NSS - Not Services Separately. Replace complete assembly.



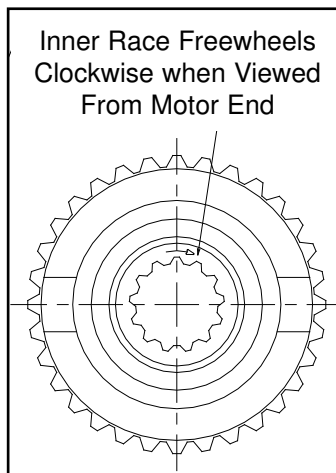
BRAKE CLUTCH ROTATION

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

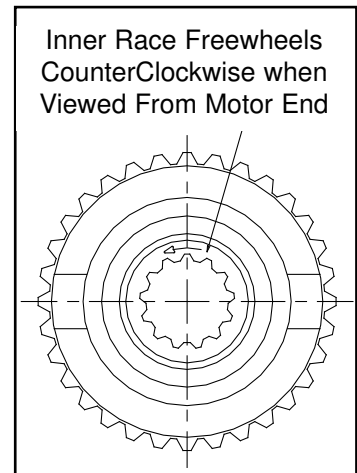
On the BRADEN PD15B the inner race of the brake clutch sprag assembly, when viewed from the motor side, must freewheel in the opposite direction as the cable drum during hoisting



PART #81716



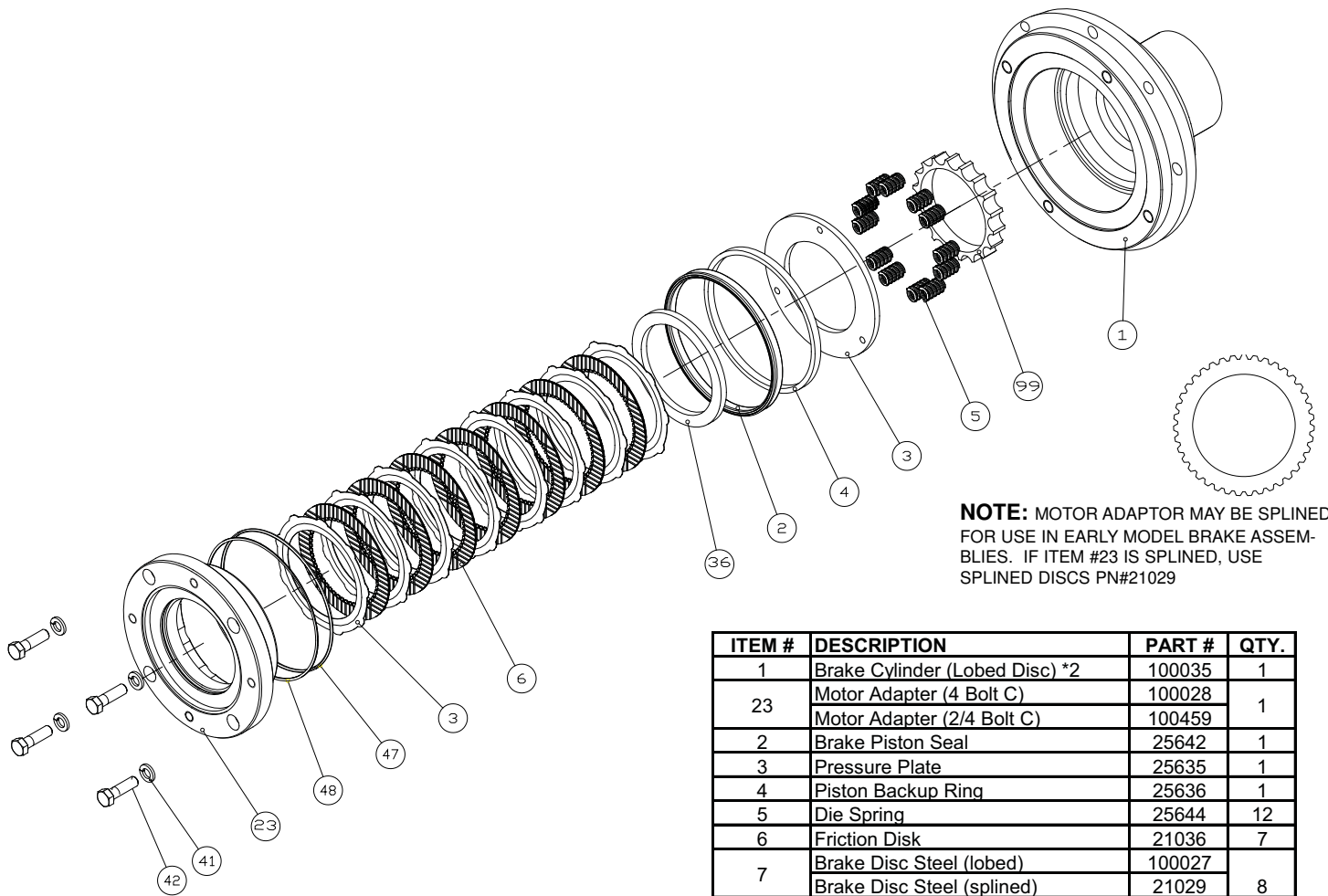
PART #81776



COMPLETE BRAKE CLUTCH ASSEMBLIES

PART #	DESCRIPTION	APPLICATION
81716	SAE C 14T	RH Base Overwind, LH Base Underwind
81776		RH Base Underwind, LH Base Overwind

BRAKE CYLINDER ASSEMBLY

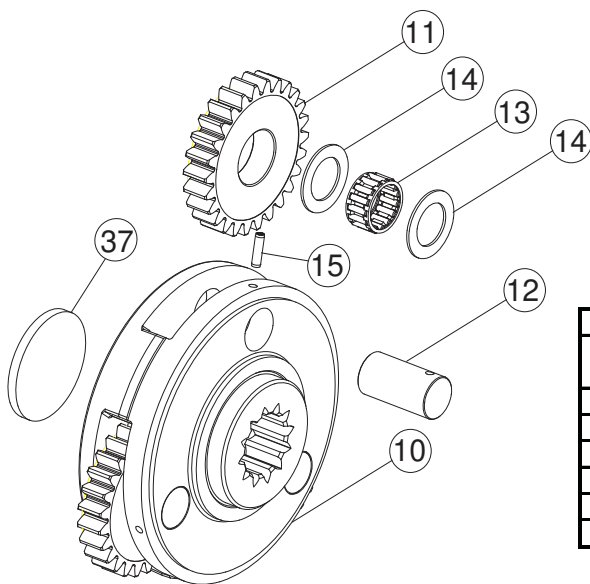


NOTE: MOTOR ADAPTOR MAY BE SPLINED FOR USE IN EARLY MODEL BRAKE ASSEMBLIES. IF ITEM #23 IS SPLINED, USE SPLINED DISCS PN#21029

ITEM #	DESCRIPTION	PART #	QTY.
1	Brake Cylinder (Lobed Disc) *2	100035	1
23	Motor Adapter (4 Bolt C)	100028	1
	Motor Adapter (2/4 Bolt C)	100459	1
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	
	Brake Disc Steel (splined)	21029	8
36	Spacer	25637	1
41	Lockwasher	11026	4
42	Cap screw (1/2 NC x 2 GD8)	29855	
	Cap screw 1* (1/2 NC x 1 1/2 GD8)	21908	4
47	O-ring*	24981	1
48	Backup Spacer*	25643	1
99	Spring Spacer	100200	1

PRIMARY PLANET CARRIER ASSEMBLY

PN # 82342 (serial number 9702222 and higher)



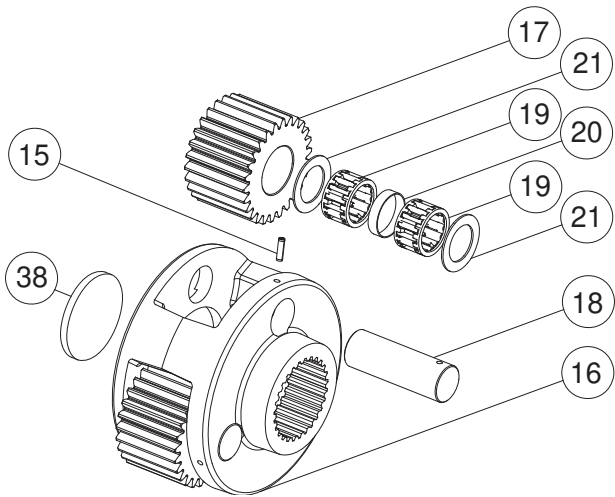
ITEM #	DESCRIPTION	PART #	QTY.
10	Primary Planet Carrier (serial #9702222 and higher)	100852	1
	Primary Planet Carrier (serial #9702221 and lower)	25730	1
11	Primary Planet Gear	26466	3
12	Planet Gear Shaft	25614	3
13	Roller Bearing	24175	3
14	Thrust Washer	25361	6
15	Rollipin	24113	3
37	Primary Thrust Plate	25729	1

*1= For winches with 049/026 motors

*2= Brake Cylinder with cast spring pockets P/N 25564 is replaced by 100035 brake cylinder and 100200 spring spacer

OUTPUT PLANET CARRIER ASSEMBLY

PN #81845



ITEM #	DESCRIPTION	PART #	QTY.
15	Roll Pin	23584	3
16	Output Planet Carrier (41:1 Ratio)	25602	1
17	Output Planet Gear (41:1 Ratio)	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

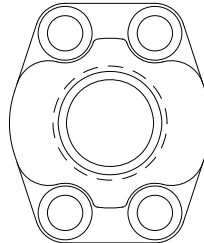
O-Ring 10330* for all "C" motor pilots

GEAR MOTORS

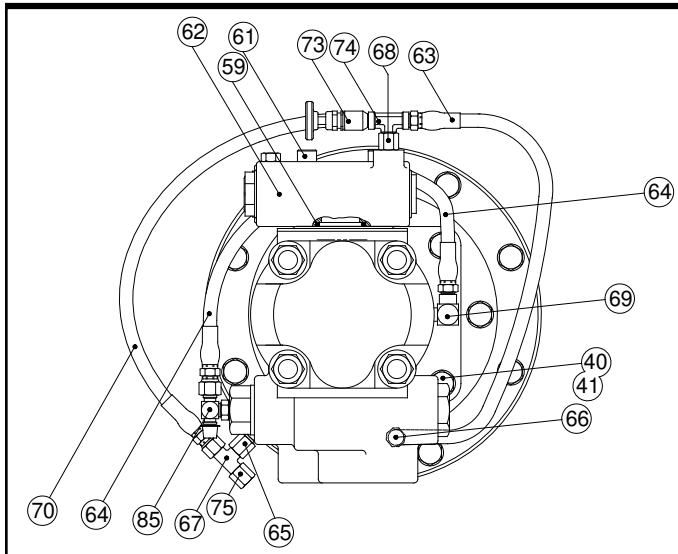
PART #	MOTOR CODE	FLANGE MOUNT
25987	51	4 Bolt C
28956	064/032	
25777	64	

FLANGE ADAPTER

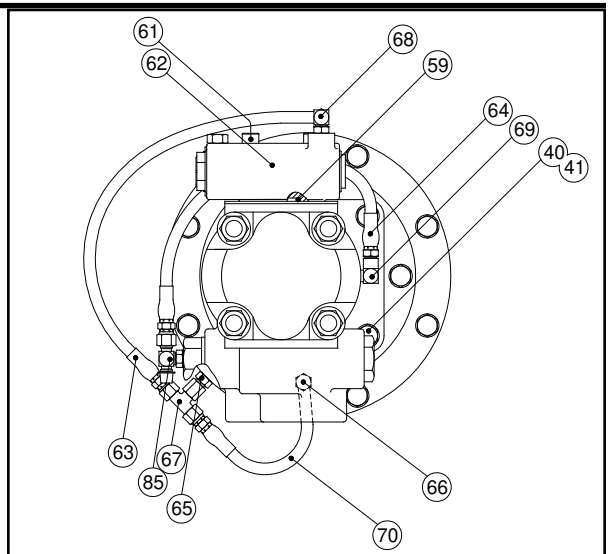
PART #	DESCRIPTION	O-Ring
28964	1" Code 62 to -12 ORB	25366*
24779	1 1/4" Code 61 to -16 ORB	21150*
101500	Spacer 1" Code 62	25366*



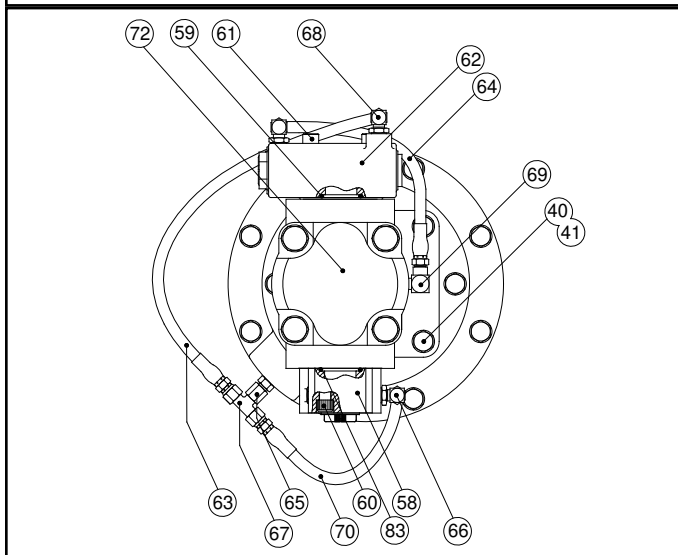
MOTOR GROUPS AND BRAKE VALVES



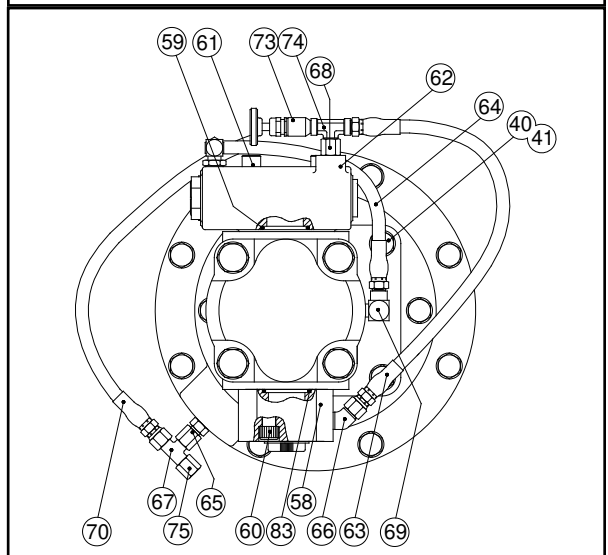
**064 / 032 MOTOR
TWO-SPEED PERSONNEL HANDLING**



**064 / 032 MOTOR
TWO-SPEED**



**051 / 064 MOTOR
SINGLE-SPEED**



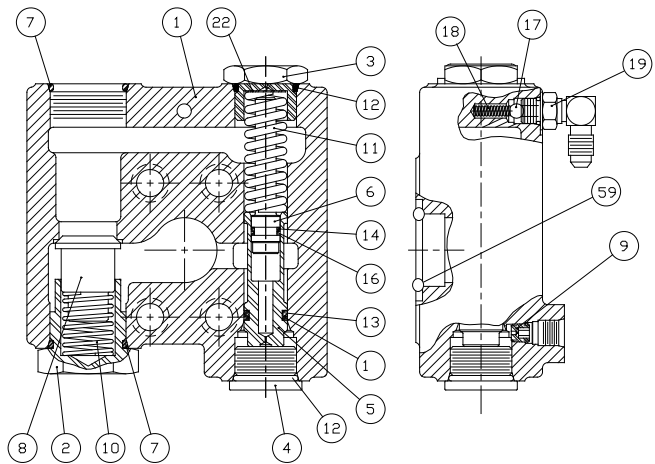
**051 / 064
SINGLE-SPEED PERSONNEL HANDLING**

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	16445-4 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



PARTS IN STANDARD GEAR MOTOR VALVE PN# 81712

ITEM #	DESCRIPTION	PART #	QTY
17	Steel Ball	21158	1
18	Compression Spring	25480	
19	Elbow Fitting	25302	

PARTS IN
81984
BRAKE
VALVE

TWO-SPEED MOTOR VALVE

19	Plug (-4 ORB)	25663	1
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NSS = Not Serviced Separately
* = Included in Brake O-Ring Kit #61567

CAPSCREWS AND LOCKWASHERS

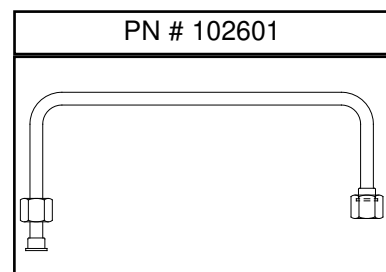
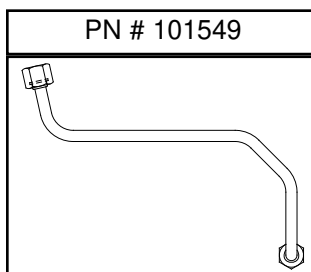
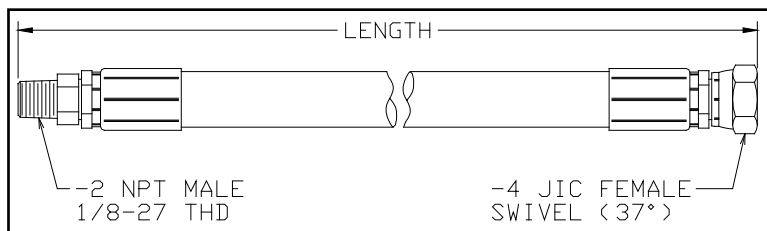
PART	DESCRIPTION
21135	7/16 NC x 1-1/2 GD8, socket head
104318	7/16 NC x 1-3/4 GD8, hex head
21144	7/16 NC x 2 GD8, socket head
21134	7/16 NC x 3 GD8, socket head
101150	7/16 NC x 3-3/4 GD8, socket head
104174	1/2 NC x 1-1/4 GD8, hex head
104322	1/2 NC x 1-1/2 GD8, hex head
21908	1/2 NC x 1-1/2 GD8, socket head
29855	1/2 NC x 2 GD8, socket head
103249	5/8 NC x 1-3/4 GD8, Hex head
11026	Lockwasher, 1/2 Split
102423	Lockwasher, 5/8 Split

PISTON MOTOR BRAKE VALVES

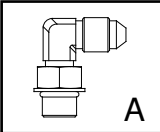
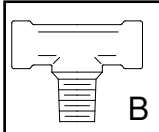
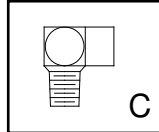
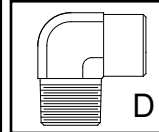
Item #	Description	Part #	QTY
	049/ 026 Motor		
89	Brake Valve	102394	1
	049 Motor		
89	Valve Block	29577	1
90	Valve Cartridge	29598	1

HOSE ASSEMBLIES

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



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				

METRIC CONVERSION TABLE

MULTIPLY:	BY:	TO GET:	MULTIPLY:	BY:	TO GET:
LINEAR					
inches (in.)	X 25.4	= millimeters (mm)	millimeters (mm)	X 0.3937	= 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					
°Celsius = 0.556 (°F - 32)			°Fahrenheit = (1.8 X °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