

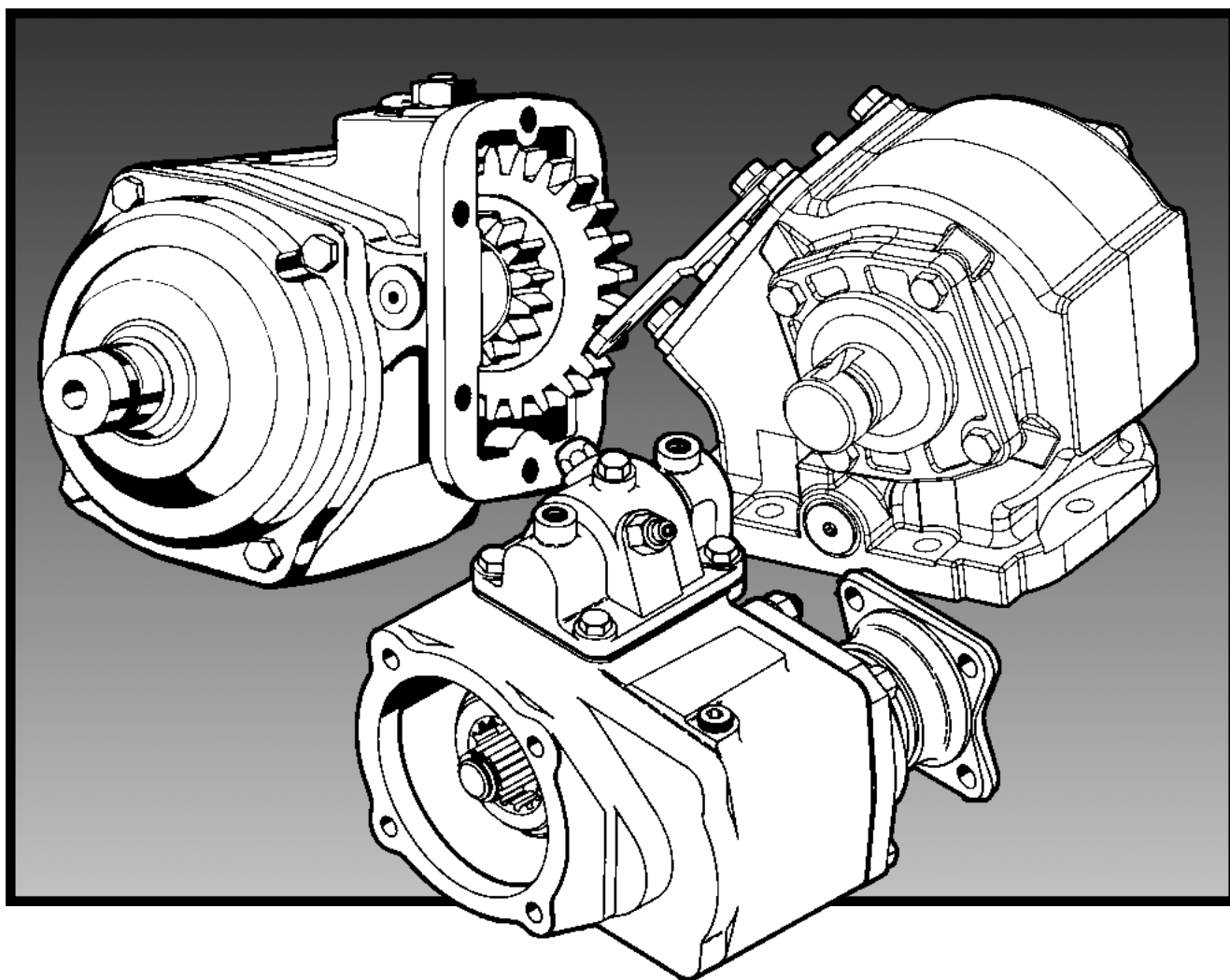
**CHELSEA<sup>®</sup>**

Bulletin HY25-2270-M1/US

## Parts List 270/271 Series

Effective: November 15, 2001  
Supersedes: P410-270/271 Dated April 2000

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**Parker**  
Hydraulics

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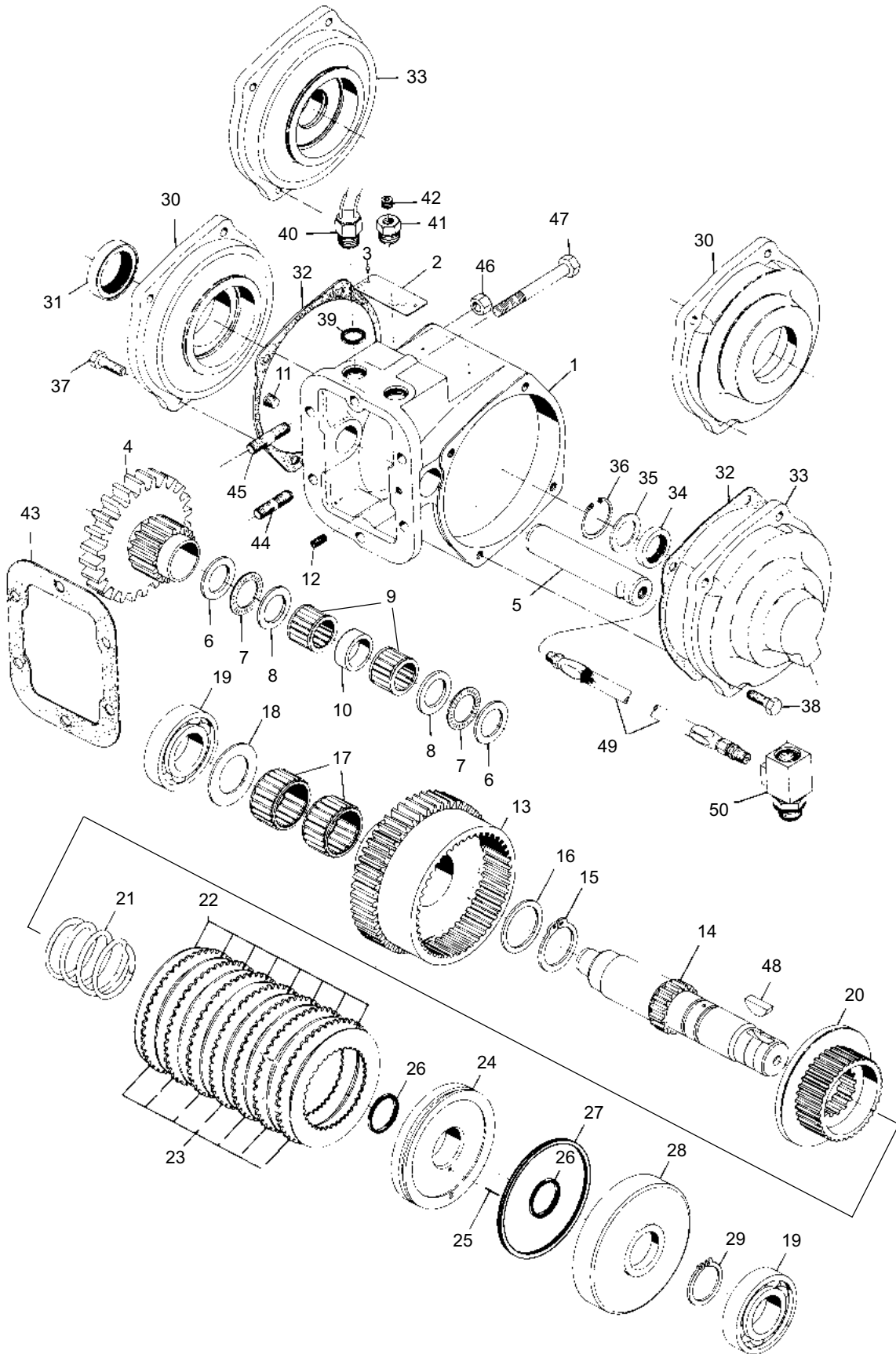
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**Contents**

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270 Exploded View .....	1
270 Bill of Materials .....	2-3
270/271 Assembly Arrangements .....	3
270/271 Gear Chart .....	4
270/271 Model Number Designation .....	4
271 Exploded View .....	5
271 Bill of Materials .....	6
Shift Installation .....	7
Electronic Overspeed Control .....	8
Flange Options .....	9
270/271 Case Dimensions .....	9
Offer of Sale .....	12



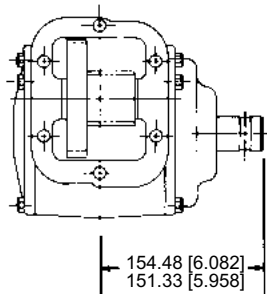
Item	Part Number	Description	Quantity
1	1-P-437	Housing, Standard Mount .....	1
	1-P-460	Housing, Special Mount for Jatco .....	1
2	68-P-2	Name Plate .....	1
3	378422	Drive Screw .....	2
4	See Chart Pg. 4	Gear, Input .....	1
5	9-P-54	Shaft, Input Idler (Pressure Lube) .....	1
	9-P-55	Shaft, Input Idler (No Pressure Lube) .....	1
6	31-P-61	Thrust Washer (0.031" Thick) .....	2
7	560920	Bearing, Needle Thrust .....	2
8	31-P-62	Thrust Washer (0.125" Thick) .....	2
9	550886	Roller Bearing (Idler Pin) .....	2
10	14-P-54	Spacer, Needle Bearing (Idler Shaft) .....	1
11	379231	Pipe Plug (0.125"-27 N.P.T.F.) .....	1
12	378452-7	Set Screw (0.250"-20 x 0.312") .....	1
13	See Chart Pg. 4	Gear, Output .....	1
14	3-P-679	Output Shaft, Standard Output 1-.250" Rd. (Assemblies 3 & 5) .....	1
N.S.	3-P-677	Output Shaft, Standard Output 1-.250" Rd. (Assemblies 4 & 6) .....	1
N.S.	3-P-678	Shaft, Output 0.875" 13 Tooth Internal Spline ("XK" & "XP" Assemblies 4 & 6) .....	1
N.S.	3-P-686	Shaft, Output 0.875" 13 Tooth Internal Spline ("XK" & "XP" Assemblies 3 & 5) .....	1
N.S.	3-P-703	Shaft, Output 0.875" 13 Tooth Internal Spline ("RA" & "RB" & "XR" Assemblies 3 & 5) .....	1
N.S.	3-P-787	Shaft, Output 1.250 Tapered -.312 key way ("XX" Assemblies 3 & 5) .....	1
N.S.	3-P-788	Shaft, Output 1.250 Tapered -.312 key way ("XX" Assemblies 4 & 6) .....	1
N.S.	3-P-896	Shaft, Output 1" 15 Tooth Internal Spline ("AF" Assemblies 3 & 5) .....	1
N.S.	3-P-895	Shaft, Output 1" 15 Tooth Internal Spline ("AF" Assemblies 4 & 6) .....	1
15	378608	Snap Ring .....	1
16	14-P-49	Spacer, Needle Bearing (Drive Shaft) .....	1
17	560918	Roller Bearing (Output Shaft) .....	2
18	31-P-57	Thrust Washer (Output Shaft) .....	1
19	550010	Ball Bearing (Output Shaft) .....	2
20	2-P-458	Inner Clutch Gear .....	1
21	37-P-39	Clutch Spring .....	1
22	379485	Friction Disc .....	8
23	379595	Clutch Plate .....	7
	328676X	Clutch Piston & Ball Assembly .....	1
24	379133	Piston .....	1
25	378856	Wiggler Wire (.012" Diameter) .....	1
26	28-P-244	O-Ring .....	2
27	28-P-121	Block Vee Ring .....	1
28	378760	Clutch Back-up Cylinder .....	1
29	378576	Snap Ring .....	1
30	21-P-451	Bearing Cover, Open End (Assemblies 3 & 5) .....	1
	21-P-297	Bearing Cover, Open End (Assemblies 4 & 6) .....	1
31	28-P-119	Oil Seal .....	1
32	22-P-53	Gasket, Bearing Cover .....	2
	328806X	Bearing Cover Assembly, Closed End (Assemblies 3 & 5) .....	1
	328988X	Bearing Cover Assembly, Closed End (Assemblies 4 & 6) .....	1
		(Includes items 33 thru 36)	
33	21-P-295	Bearing Cover, Closed End (Assemblies 3 & 5) .....	1
	21-P-449	Bearing Cover, Closed End (Assemblies 4 & 6) .....	1
34	28-P-119	Oil Seal .....	1
35	378811	Back-up Plate .....	1
36	378849	Snap Ring .....	1
37	378430-10	Capscrew, Hex Head (.312"-18 x 1") Assemblies 4 & 6, Open End .....	4
	378430-12	Capscrew, Hex Head (.312"-18 x 1.250") Assemblies 3 & 5, Closed End .....	4
38	378430-10	Capscrew, Hex Head (.312"-18 x 1") Assemblies 3 & 5, Open End .....	4
	378430-12	Capscrew, Hex Head (.312"-18 x 1.250") Assemblies 4 & 6, Closed End .....	4
39	28-P-171	O-Ring, Speed Sensor .....	1
40	379243	Speed Sensor (Transducer) Included w/Electronic Overspeed Control .....	1
41	379242	Adapter Plug with E.O.C. .....	1 or
		Adapter Plug without E.O.C. .....	2

Parts List continued on next page.

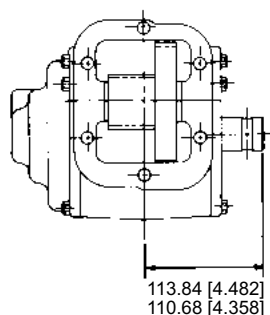
Item	Part Number	Description	Quantity
42	379231	Pipe Plug (.125"-27 N.P.T.F.) with E.O.C. ....	1 or
	328951-6X	Pipe Plug (.125"-27 N.P.T.F.) without E.O.C. ....	2
43	35-P-41	Mounting Gasket & Installation Instructions .....	1
		Gasket, Mounting .....	1
<b>LOOSE PARTS</b>			
	328170-101X	Mounting Parts Kit (Items 44 thru 47) .....	1 or
44	379457-13	Shoulder Stud (.375"-16 & .375"-24—1.75") .....	1
N.S.	379423-14	Stud (.375"-16 & .375"-24—1.75") .....	2
45	379423-16	Stud (.375"-16 & .375"-24—1.875") .....	2
N.S.	379224	Tab-lock Washer .....	1
46	379774	Flange Nut (.375"-24) .....	5
47	378935	Capscrew (.375"-16 x 3 .250") .....	1
	328170-205X	Mounting Parts Kit, Aisin A445 Only .....	1 or
	7170-87X	Mounting Parts Kit, Jatco 270J .....	1 or
	7170-103X	Mounting Parts Kit, Allison 1000, 2000/2400 .....	1
N.S.	379111	Square Key ("XX" Output) .....	1 or
48	500007-29	Woodruff Key .....	1
49	328075X	Pressure Lube Hose, Allison .....	1
	329087X	Pressure Lube Hose, Jatco 270J .....	1
50	378840	Street Tee, Allison AT Series .....	1
	378970	Street Tee, Allison MT Series 1975 & After .....	1
	378880	Street Tee, Allison MT Series 1974 & Before .....	1
	378897	Street Tee, Allison CLT, CLBT & HT Series .....	1
N.S.	329049X	Fitting Kit, Jatco .....	1
N.S.	329297X	Fitting Kit, Allison 1000, 2000/2400 (High Pressure Port) .....	1
N.S.	329246X	Fitting Kit, Aisin .....	1
		<b>For Item 50 or Fitting Kits, see application pages for correct fittings</b>	
	328748X	Pump Mounting Kit ("XR" Output Only) .....	1
<b>SERVICE KITS</b>			
N.S.	328356-21X	Gasket & Seal Kit .....	1
N.S.	328970X	Service Kit, Clutch Pack .....	1
N.S.	328971X	Service Kit, Clutch Pack & Back-Up Piston .....	1
N.S.	328992X	Hose Kit, For Solenoid Valve Plumbing .....	1
N.S.	328933-12X	Housing Conversion Kit (With E.O.C.) 12 Volt .....	1
N.S.	328933-24X	Housing Conversion Kit (With E.O.C.) 24 Volt .....	1
N.S.	328935-12X	Field Conversion Kit / 12 volt .....	1

N.S. — Not Shown

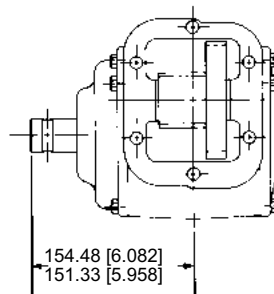
**Assembly Arrangements - 270 Series**



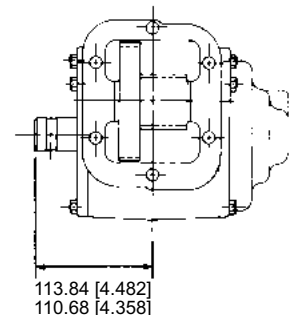
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4



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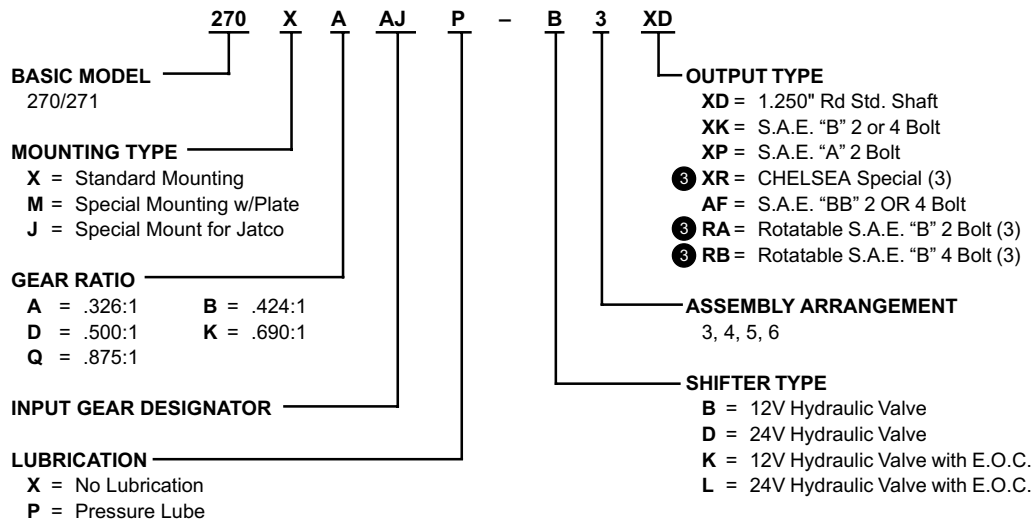
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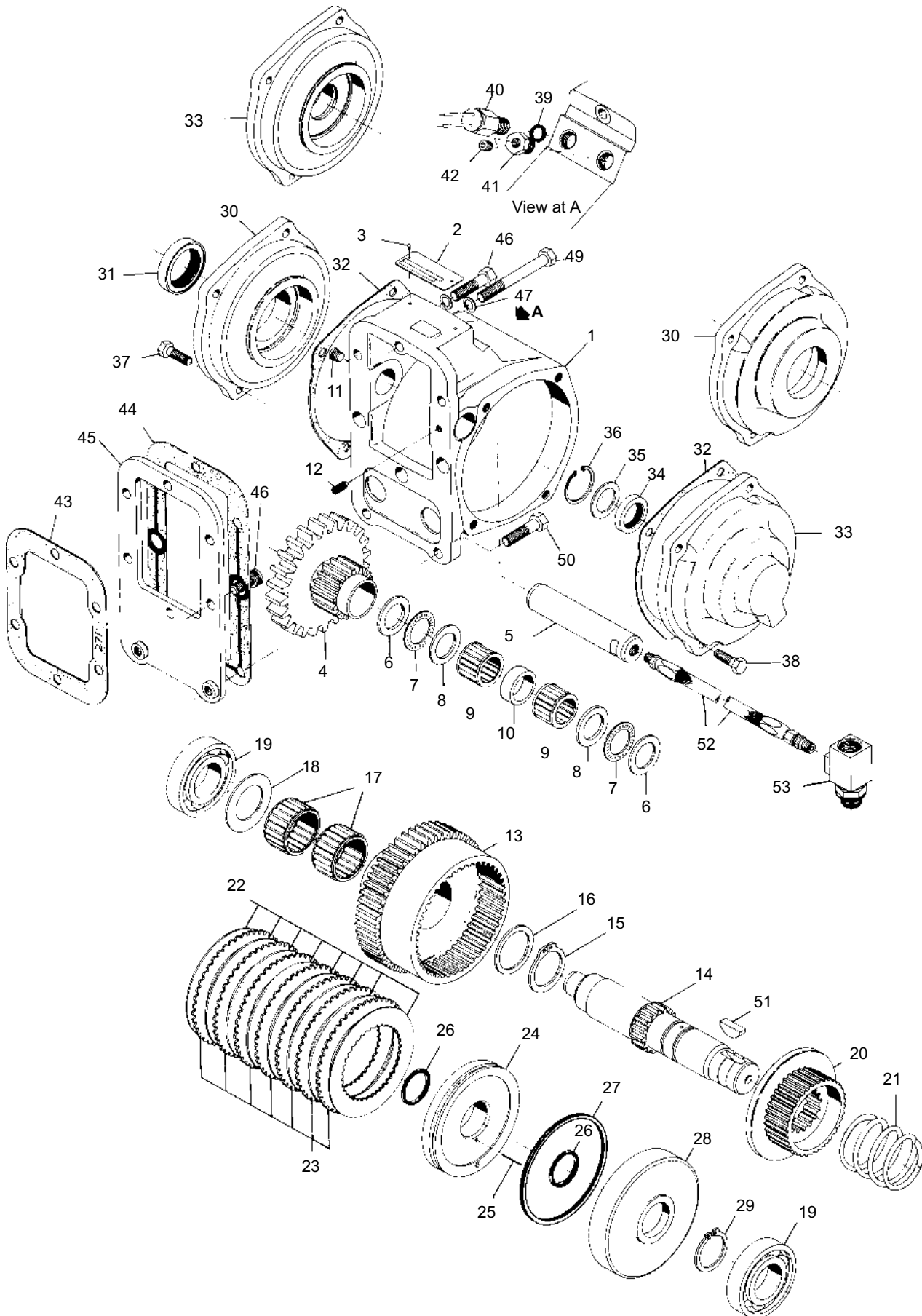
**Gear Chart**

P.T.O. MODEL NO	PART NUMBER	NO TEETH IN CLUSTER (Lg)-(Sm)	APPLICATION & GEAR TYPE	OUTPUT GEAR ITEM 13	
				PART NO.	NO. TEETH
270XAAJ } 271MAAJ }	5-P-567	25-18	Allison, Spur	2-P-473	53
270XAAK	5-P-548	25-18	Allison, Spur	2-P-473	53
270XBAJ } 271MBAJ }	5-P-568	25-15	Allison, Spur	2-P-481	34
270XDAJ } 271MDAJ }	5-P-695	25-24	Allison, Spur	2-P-606	47
270XDAK	5-P-807	25-24	Allison, Spur	2-P-606	47
270XDFR	5-P-960	35-24	Fuller, Spur	2-P-606	47
270JGFA	5-P-882	36-19	Jatco, Spur	2-P-481	34
270XKAJ } 271MKAJ }	5-P-769	25-29	Allison, Spur	2-P-638	42
271MKAK	5-P-881	25-29	Allison, Spur	2-P-638	42
270XKFR	5-P-949	35-29	Fuller, Spur	2-P-638	42
270XKGR	5-P-1159	25-29	Z/F, Spur	2-P-638	42
270XQGR	5-P-1158	25-34	Z/F, Spur	2-P-639	37
270XAJF	5-P-1251	36-18	Aisin A445, Spur	2-P-473	53
270XBJF	5-P-1252	36-15	Aisin A445, Spur	2-P-481	53
270XDJF	5-P-1253	36-24	Aisin A445, Spur	2-P-606	47
270XKJF	5-P-1254	36-29	Aisin A445, Spur	2-P-638	42
270XQJF	5-P-1255	36-34	Aisin A445, Spur	2-P-639	37
270GAHV } 271GAHV }	5-P-1295	27-18	Allison 1000, 2000/2400, Spur	2-P-473	53
270GBHV } 271GBHV }	5-P-1296	27-15	Allison 1000, 2000/2400, Spur	2-P-481	34
270GDHV } 271GDHV }	5-P-1297	27-24	Allison 1000, 2000/2400, Spur	2-P-606	47

**Model Number Designation**



③ Available assembly 3 & 5 only

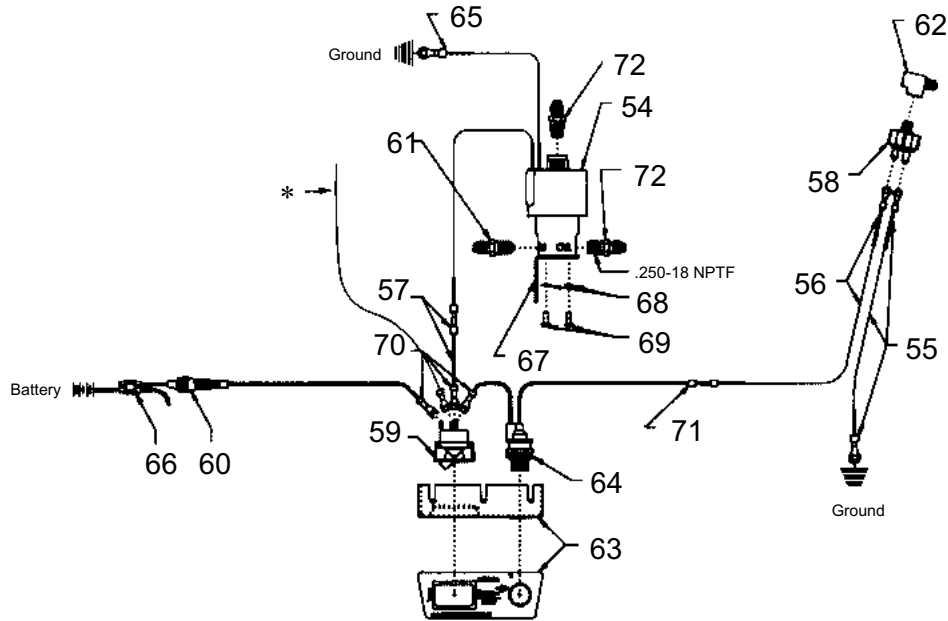




Item	Part Number	Description	Quantity
1	1-P-436	Housing, Standard Mount .....	1
2	68-P-2	Name Plate .....	1
3	378422	Drive Screw .....	2
4	See Chart Pg. 4	Gear, Input .....	1
5	9-P-54	Shaft, Input Idler (Pressure Lube) .....	1
	9-P-55	Shaft, Input Idler (No Pressure Lube) .....	1
6	31-P-61	Thrust Washer (Idler Shaft 0.031" Thick) .....	2
7	560920	Bearing, Needle Thrust .....	2
8	31-P-62	Thrust Race (Idler shaft 0.125" Thick) .....	2
9	550886	Roller Bearing (Idler Pin) .....	2
10	14-P-54	Spacer, Needle Bearing (Idler Shaft) .....	1
11	379231	Pipe Plug (0.125"-27 N.P.T.F.) .....	1
12	378452-7	Setscrew (0.250"-20 x 0.312") .....	1
13	See Chart Pg. 4	Gear, Output .....	1
14	3-P-679	Shaft, Output 1.250" Rd. ("XD" Assemblies 3 & 5) .....	1 or
N.S.	3-P-677	Shaft, Output 1.250" Rd. ("XD" Assemblies 4 & 6) .....	1
N.S.	3-P-678	Shaft, Output 0.875" 13 Tooth Internal Spline ("XK & XP" Assemblies 4 & 6) .....	1
N.S.	3-P-686	Shaft, Output 0.875" 13 Tooth Internal Spline ("XK & XP" Assemblies 3 & 5) .....	1
N.S.	3-P-703	Shaft, Output 0.875" 13 Tooth Internal Spline ("RA & RB & XR" Assemblies 3 & 5) .....	1
N.S.	3-P-787	Shaft, Output 1.250 Tapered -.312 key way ("XX" Assemblies 3 & 5) .....	1
N.S.	3-P-788	Shaft, Output 1.250 Tapered -.312 key way ("XX" Assemblies 4 & 6) .....	1
N.S.	3-P-896	Shaft, Output 1" 15 Tooth Internal Spline ("AF" Assemblies 3 & 5) .....	1
N.S.	3-P-895	Shaft, Output 1" 15 Tooth Internal Spline ("AF" Assemblies 4 & 6) .....	1
15	378608	Snap Ring .....	1
16	14-P-49	Spacer .....	1
17	560918	Roller Bearing .....	2
18	31-P-57	Thrust Washer .....	1
19	550010	Ball bearing .....	2
20	2-P-458	Inner Clutch Gear .....	1
21	37-P-39	Clutch Spring .....	1
22	379485	Friction Disc .....	8
23	378684	Clutch Plate .....	7
	328676X	Clutch Piston & Ball Assembly .....	1
24	379133	Piston .....	1
25	378856	Wiggler Wire (.012" Diameter) .....	1
26	28-P-244	O-Ring .....	2
27	28-P-121	Block Vee Ring .....	1
28	378760	Clutch Back-up Cylinder .....	1
29	378576	Snap Ring .....	1
30	21-P-451	Bearing Cover, Open End (Assemblies 3 & 5) .....	1
	21-P-297	Bearing Cover, Open End (Assemblies 4 & 6) .....	1
31	28-P-225	Oil Seal .....	1
32	22-P-53	Gasket, Bearing Cover .....	2
	328806X	Bearing Cover Assembly, Closed End (Assemblies 3 & 5) .....	1
	328988X	Bearing Cover Assembly, Closed End (Assemblies 4 & 6) .....	1
		(Includes items 33 thru 36)	
33	21-P-295	Bearing Cover, Closed End (Assemblies 3 & 5) .....	1
	21-P-449	Bearing Cover, Closed End (Assemblies 4 & 6) .....	1
34	28-P-119	Oil Seal .....	1
35	378811	Back-Up Plate .....	1
36	378849	Snap Ring .....	1
37	378430-10	Capscrew, Hex Head (0.312"-18 x 1") Assemblies 4 & 6, Open End .....	4
	378430-12	Capscrew, Hex Head (0.312"-18 x 1.250") Assemblies 3 & 5, Closed End .....	4
38	378430-10	Capscrew, Hex Head (0.312"-18 x 1") Assemblies 3 & 5, Open End .....	4
	378430-12	Capscrew, Hex Head (0.312"-18 x 1.250") Assemblies 4 & 6, Closed End .....	4
39	28-P-171	O-Ring, Speed Sensor .....	1
40	379243	Speed Sensor (Transducer) Included w/Electronic Overspeed Control .....	1

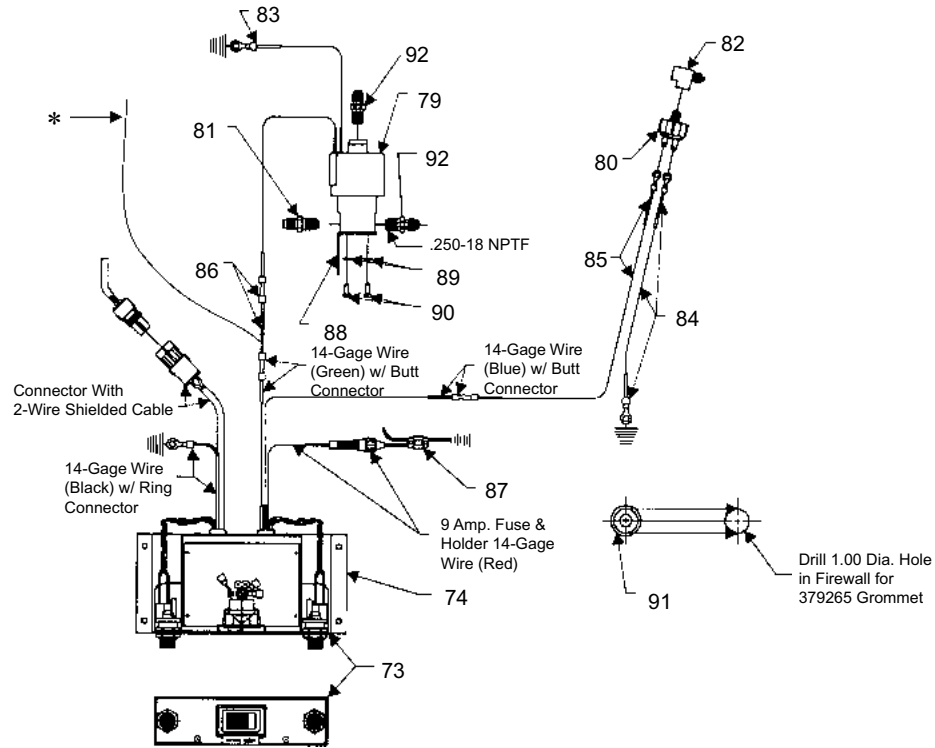
Parts List continued on next page.

**Shift Installation Kits**



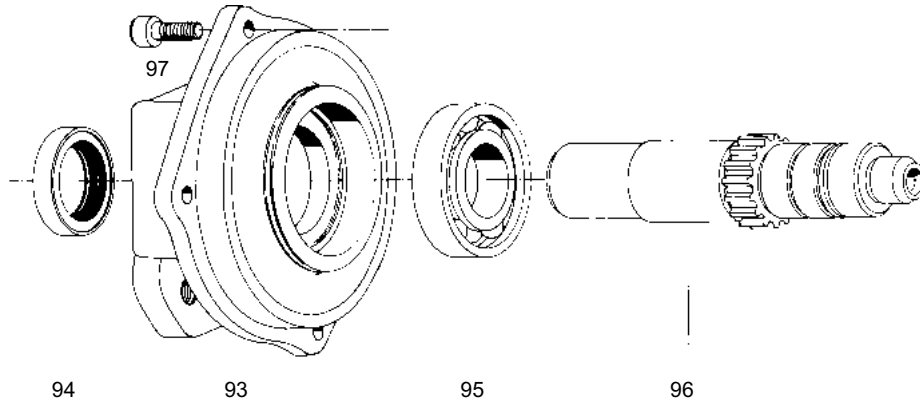
Item	Part Number	Description	Quantity
	<b>328715X</b>	12V SHIFT INSTALLATION KIT .....	1
		(Includes items 54 thru 72)	
	<b>328749X</b>	24V SHIFT INSTALLATION KIT .....	1
		(Includes items 54 thru 72)	
54	<b>379686-1</b>	Solenoid Valve, 12 Volt for 328715X Kit .....	1
	<b>379686-2</b>	Solenoid Valve, 24 Volt for 328749X Kit .....	1
55	<b>379254-14</b>	Wire, Black w/Two Ring Connectors .....	1
56	<b>379254-13</b>	Wire, Blue w/One Ring Connector .....	1
57	<b>379254-3</b>	Wire, Green w/One Butt Connector .....	1
	<b>328963X</b>	Parts Bag, 12 Volt Kit (328715X) .....	1
	<b>328964X</b>	Parts Bag, 24 Volt Kit (328749X) .....	1
58	<b>379547</b>	Pressure Switch .....	1
59	<b>378881</b>	Rocker Switch .....	1
60	<b>378884</b>	Fuse Holder, 9 Amp .....	1
61	<b>379449</b>	Screened Adaptor, 1/4-18 NPT .....	1
62	<b>378966</b>	Street Tee, Screened .....	1
63	<b>379336</b>	Bracket .....	1
64	<b>378978</b>	Indicator Light, 12V (Kits 328963X & 328715X) .....	1
	<b>379005</b>	Indicator Light, 24V (Kits 328964X & 328749X) .....	1
	<b>379253</b>	Ring Connector .....	2
N.S.	<b>379061</b>	Wire Ties .....	6
66	<b>379257</b>	Splice Connector .....	1
67	<b>379258</b>	Bracket, Solenoid Mounting .....	1
68	<b>500357-7</b>	Lock Washer .188 I.D. ....	2
69	<b>500457-6</b>	Screw, Mounting .190-32 x .438 .....	2
70	<b>379306</b>	Fork Connector .....	3
71	<b>379252</b>	Butt Connector .....	1
72	<b>379280</b>	Adaptor Fitting .....	2
*	<b>329336-1X</b>		
	<b>379254-17</b>		

**Electronic Overspeed Control**



Item	Part Number	Description	Quantity
	<b>328924-12X</b>	12V E.O.C. (Includes Items 73 thru 78) .....	1
	<b>328924-24X</b>	24V E.O.C. (Includes Items 73 thru 78) .....	1
73	<b>328922-12X</b>	Control Box E.O.C. 12 volt .....	1
	<b>328922-24X</b>	Control Box E.O.C. 24 volt .....	1
74	<b>379244</b>	Bracket, E.O.C. Mounting .....	1
75	<b>328923-10X</b>	Connector Cable, 10 ft. Standard .....	1
	<b>328923-5X</b>	Connector Cable, 5 ft. Optional .....	1
	<b>328931X</b>	Mounting Parts, E.O.C. Bracket .....	1
76	<b>500448-9</b>	Screw, 10-24 .....	4
77	<b>500357-7</b>	Lockwasher .....	4
78	<b>500376-6</b>	Nut, Hex 10-24 .....	4
	<b>328929-12X</b>	12V E.O.C. Installation Kit (Includes Items 79 thru 92) .....	1
	<b>328929-24X</b>	24V E.O.C. Installation Kit (Includes Items 79 thru 92) .....	1
79	<b>379686-1</b>	Solenoid Valve, 12 Volt (for 328929-12X) .....	1
	<b>379686-2</b>	Solenoid Valve, 24 Volt (for 328929-24X) .....	1
80	<b>379547</b>	Pressure Switch .....	1
81	<b>379449</b>	Screened Adaptor, 1/4-18 NPT .....	1
82	<b>378966</b>	Street Tee, Screened .....	1
83	<b>379253</b>	Ring Connector .....	1
84	<b>379254-14</b>	Wire, Black w/Two Ring Connectors .....	1
85	<b>379254-13</b>	Wire, Blue w/One Ring Connector .....	1
86	<b>379254-3</b>	Wire, Green w/One Butt Connector .....	1
87	<b>379257</b>	Splice Connector .....	1
88	<b>379258</b>	Bracket, Solenoid Mounting .....	1
89	<b>500357-7</b>	Lockwasher .188 I.D. .....	2
90	<b>500457-6</b>	Screw, Mounting .190-32 x .438 .....	2
91	<b>379265</b>	Grommet .....	1
92	<b>379280</b>	Adaptor Fitting .....	2
*	<b>329336-24</b>		
	<b>379254-8</b>		

**Pump Shafts & Flanges**



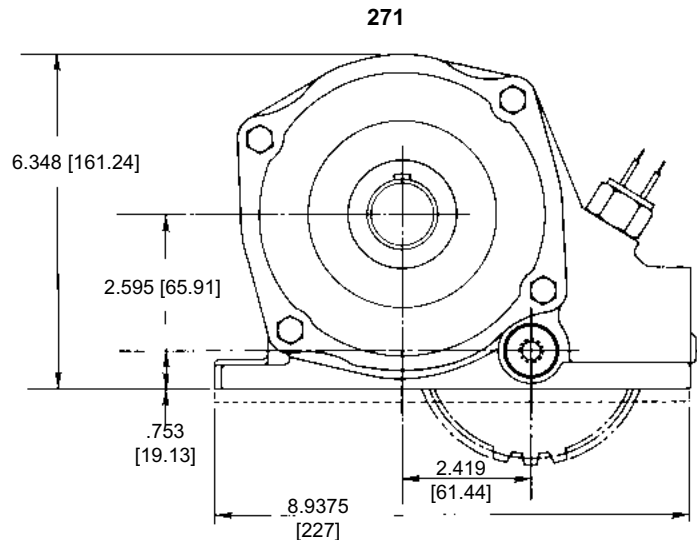
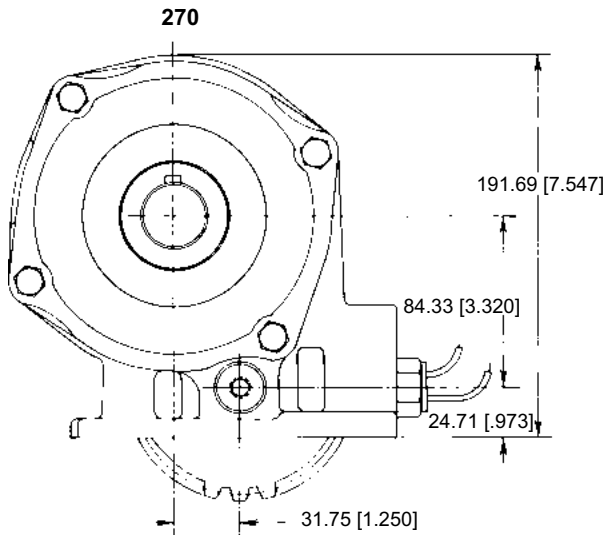
Pump Mounting Suffix (See Note)	Flange Item 93	Seal Item 94	Bearing Item 95	Output Shaft Item 96	Hex Socket Head Screw Item 97	Output Type
XK- Assembly 3 & 5 Assembly 4 & 6	21-P-445 21-P-303	28-P-225 28-P-225	550010 550010	3-P-686 3-P-678	378447-7 378447-6	S.A.E. "B" 2 & 4 Bolt .875"-13T Pump Mount
XP- Assembly 3 & 5 Assembly 4 & 6	21-P-313 21-P-301	28-P-225 28-P-225	550010 550010	3-P-686 3-P-678	378447-7 378447-6	S.A.E. "A" 2 Bolt .875"-13T Pump Mount
XR- Assembly 3 & 5 (Only)*	21-P-333	28-P-225	550010	3-P-703	378447-7	Special Chelsea .875"-13T Pump Mount
XY- Assembly 3 & 5 Assembly 4 & 6	21-P-468 21-P-468	28-P-230 28-P-230	550010 550010	3-P-787 3-P-788	378447-7 378447-7	DIN 5462 Pump Mount
AF- Assembly 3 & 5 Assembly 4 & 6	21-P-445 21-P-303	28-P-225 28-P-225	550010 550010	3-P-896 3-P-895	378447-7 378447-6	S.A.E. "BB" 2 & 4 Bolt 1"-13T Pump Mount

The Rotatable Flanges attach to the "XR" Flange.

	Flange**	Hex Head Capscrew	Output Type
RA -	21-P-628	378447-6	Rotatable S.A.E. "B" 2 Bolt .875"-13T Pump Mount
RB -	21-P-572	378447-6	Rotatable S.A.E. "B" 4 Bolt .875"-13T Pump Mount

\* 328748X Pump to Flange Mounting Kit must Be Used with "R" Suffix  
 Kit Contains: (4) 378430-11 Hex Head Cap Screws (.312"-18 x 1.125)  
 (4) 378919 Washers (Special)  
 (4) 45-P-11 Bushing Guide

**Case Dimensions**







## Offer of Sale

The items described in this document and other documents or descriptions provided by Parker Hannifin Corporation, its subsidiaries and its authorized distributors are hereby offered for sale at prices to be established by Parker Hannifin Corporation, its subsidiaries and its authorized distributors. This offer and its acceptance by any customer ("Buyer") shall be governed by all of the following Terms and Conditions. Buyer's order for any such items, when communicated to Parker Hannifin Corporation, its subsidiary or an authorized distributor ("Seller") verbally or in writing, shall constitute acceptance of this offer.

**1. Terms and Conditions of Sale:** All descriptions, quotations, proposals, offers, acknowledgments, acceptances and sales of Seller's products are subject to and shall be governed exclusively by the terms and conditions stated herein. Buyer's acceptance of any offer to sell is limited to these terms and conditions. Any terms or conditions in addition to, or inconsistent with those stated herein, proposed by Buyer in any acceptance of an offer by Seller, are hereby objected to. No such additional, different or inconsistent terms and conditions shall become part of the contract between Buyer and Seller unless expressly accepted in writing by Seller. Seller's acceptance of any offer to purchase by Buyer is expressly conditional upon Buyer's assent to all the terms and conditions stated herein, including any terms in addition to, or inconsistent with those contained in Buyer's offer. Acceptance of Seller's products shall in all events constitute such assent.

**2. Payment:** Payment shall be made by Buyer net 30 days from the date of delivery of the items purchased hereunder. Amounts not timely paid shall bear interest at the maximum rate permitted by law for each month or portion thereof that the Buyer is late in making payment. Any claims by Buyer for omissions or shortages in a shipment shall be waived unless Seller receives notice thereof within 30 days after Buyer's receipt of the shipment.

**3. Delivery:** Unless otherwise provided on the face hereof, delivery shall be made F.O.B. Seller's plant. Regardless of the method of delivery, however, risk of loss shall pass to Buyer upon Seller's delivery to a carrier. Any delivery dates shown are approximate only and Seller shall have no liability for any delays in delivery.

**4. Warranty:** Seller warrants that the items sold hereunder shall be free from defects in material or workmanship for a period of:

(A) All Power Take-Off units one (1) year from date of installation.

(B) Except 267, 277, 278, 242, 244, 250, 251 and 859 series two (2) years from date of installation. **THIS WARRANTY COMPRISES THE SOLE AND ENTIRE WARRANTY PERTAINING TO ITEMS PROVIDED HEREUNDER. SELLER MAKES NO OTHER WARRANTY, GUARANTEE, OR REPRESENTATION OF ANY KIND WHATSOEVER. ALL OTHER WARRANTIES, INCLUDING BUT NOT LIMITED TO, MERCHANTABILITY AND FITNESS FOR PURPOSE, WHETHER EXPRESS, IMPLIED, OR ARISING BY OPERATION OF LAW, TRADE USAGE, OR COURSE OF DEALING ARE HEREBY DISCLAIMED. NOTWITHSTANDING THE FOREGOING, THERE ARE NO WARRANTIES WHATSOEVER ON ITEMS BUILT OR ACQUIRED WHOLLY OR PARTIALLY, TO BUYER'S DESIGNS OR SPECIFICATIONS.**

**5. Limitation Of Remedy: SELLER'S LIABILITY ARISING FROM OR IN ANY WAY CONNECTED WITH THE ITEMS SOLD OR THIS CONTRACT SHALL BE LIMITED EXCLUSIVELY TO REPAIR OR REPLACEMENT OF THE ITEMS SOLD OR REFUND OF THE PURCHASE PRICE PAID BY BUYER, AT SELLER'S SOLE OPTION. IN NO EVENT SHALL SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES OF ANY KIND OR NATURE WHATSOEVER, INCLUDING BUT NOT LIMITED TO LOST PROFITS ARISING FROM OR IN ANY WAY CONNECTED WITH THIS AGREEMENT OR ITEMS SOLD HEREUNDER, WHETHER ALLEGED TO ARISE FROM BREACH OF CONTRACT, EXPRESS OR IMPLIED WARRANTY, OR IN TORT, INCLUDING WITHOUT LIMITATION, NEGLIGENCE, FAILURE TO WARN OR STRICT LIABILITY.**

**6. Changes, Reschedules and Cancellations:** Buyer may request to modify the designs or specifications for the items sold hereunder as well as the quantities and delivery dates thereof, or may request to cancel all or part of this order, however, no such requested modification or cancellation shall become part of the contract between Buyer and Seller unless accepted by Seller in a written amendment to this Agreement. Acceptance of any such requested modification or cancellation shall be at Seller's discretion, and shall be upon such terms and conditions as Seller may require.

**7. Special Tooling:** A tooling charge may be imposed for any special tooling, including without limitation, dies, fixtures, molds and patterns, acquired to manufacture items sold pursuant to this contract. Such special tooling shall be and remain Seller's property notwithstanding payment of any charges by Buyer. In no event will Buyer acquire any interest in apparatus belonging to Seller which is utilized in the manufacture of the items sold hereunder, even if such apparatus has been specially converted or adapted for such manufacture and notwithstanding any charges paid by Buyer. Unless otherwise agreed, Seller shall

have the right to alter, discard or otherwise dispose of any special tooling or other property in its sole discretion at any time.

**8. Buyer's Property:** Any designs, tools, patterns, materials, drawings, confidential information or equipment furnished by Buyer or any other items which become Buyer's property, may be considered obsolete and may be destroyed by Seller after two (2) consecutive years have elapsed without Buyer placing an order for the items which are manufactured using such property, Seller shall not be responsible for any loss or damage to such property while it is in Seller's possession or control.

**9. Taxes:** Unless otherwise indicated on the face hereof, all prices and charges are exclusive of excise, sales, use, property, occupational or like taxes which may be imposed by any taxing authority upon the manufacture, sale or delivery of the items sold hereunder. If any such taxes must be paid by Seller or if Seller is liable for the collection of such tax, the amount thereof shall be in addition to the amounts for the items sold. Buyer agrees to pay all such taxes or to reimburse Seller therefore upon receipt of its invoice. If Buyer claims exemption from any sales, use or other tax imposed by any taxing authority, Buyer shall save Seller harmless from and against any such tax, together with any interest or penalties thereon which may be assessed if the items are held to be taxable.

**10. Indemnity For Infringement of Intellectual Property Rights:** Seller shall have no liability for infringement of any patents, trademarks, copyrights, trade dress, trade secrets or similar rights except as provided in this Part 10. Seller will defend and indemnify Buyer against allegations of infringement of U.S. Patents, U.S. Trademarks, copyrights, trade dress and trade secrets (hereinafter 'Intellectual Property Rights'). Seller will defend at its expense and will pay the cost of any settlement or damages awarded in an action brought against Buyer based on an allegation that an item sold pursuant to this contract infringes the Intellectual Property Rights of a third party. Seller's obligation to defend and indemnify Buyer is contingent on Buyer notifying Seller within ten (10) days after Buyer becomes aware of such allegations of infringement, and Seller having sole control over the defense of any allegations or actions including all negotiations for settlement or compromise. If an item sold hereunder is subject to a claim that it infringes the Intellectual Property Rights of a third party, Seller may, at its sole expense and option, procure for Buyer the right to continue using said item, replace or modify said item so as to make it noninfringing, or offer to accept return of said item and return the purchase price less a reasonable allowance for depreciation. Notwithstanding the foregoing, Seller shall have no liability for claims of infringement based on information provided by Buyer, or directed to items delivered hereunder for which the designs are specified in whole or part by Buyer, or infringements resulting from the modification, combination or use in a system of any item sold hereunder. The foregoing provisions of this Part 10 shall constitute Seller's sole and exclusive liability and Buyer's sole and exclusive remedy for infringement of Intellectual Property Rights.

If a claim is based on information provided by Buyer or if the design for an item delivered hereunder is specified in whole or in part by Buyer, Buyer shall defend and indemnify Seller for all costs, expenses or judgments resulting from any claim that such item infringes any patent, trademark, copyright, trade dress, trade secret or any similar right.

**11. Force Majeure:** Seller does not assume the risk of and shall not be liable for delay or failure to perform any of Seller's obligations by reason of circumstances beyond the reasonable control of Seller (hereinafter 'Events of Force Majeure'). Events of Force Majeure shall include without limitation, accidents, acts of God, strikes or labor disputes, acts, laws, rules or regulations of any government or government agency, fires, floods, delays or failures in delivery of carriers or suppliers, shortages of materials and any other cause beyond Seller's control.

**12. Entire Agreement/Governing Law:** The terms and conditions set forth herein, together with any amendments, modifications and any different terms or conditions expressly accepted by Seller in writing, shall constitute the entire Agreement concerning the items sold, and there are no oral or other representations or agreements which pertain thereto. This Agreement shall be governed in all respects by the law of the State of Ohio. No actions arising out of the sale of the items sold hereunder or this Agreement may be brought by either party more than two (2) years after the cause of action accrues.

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