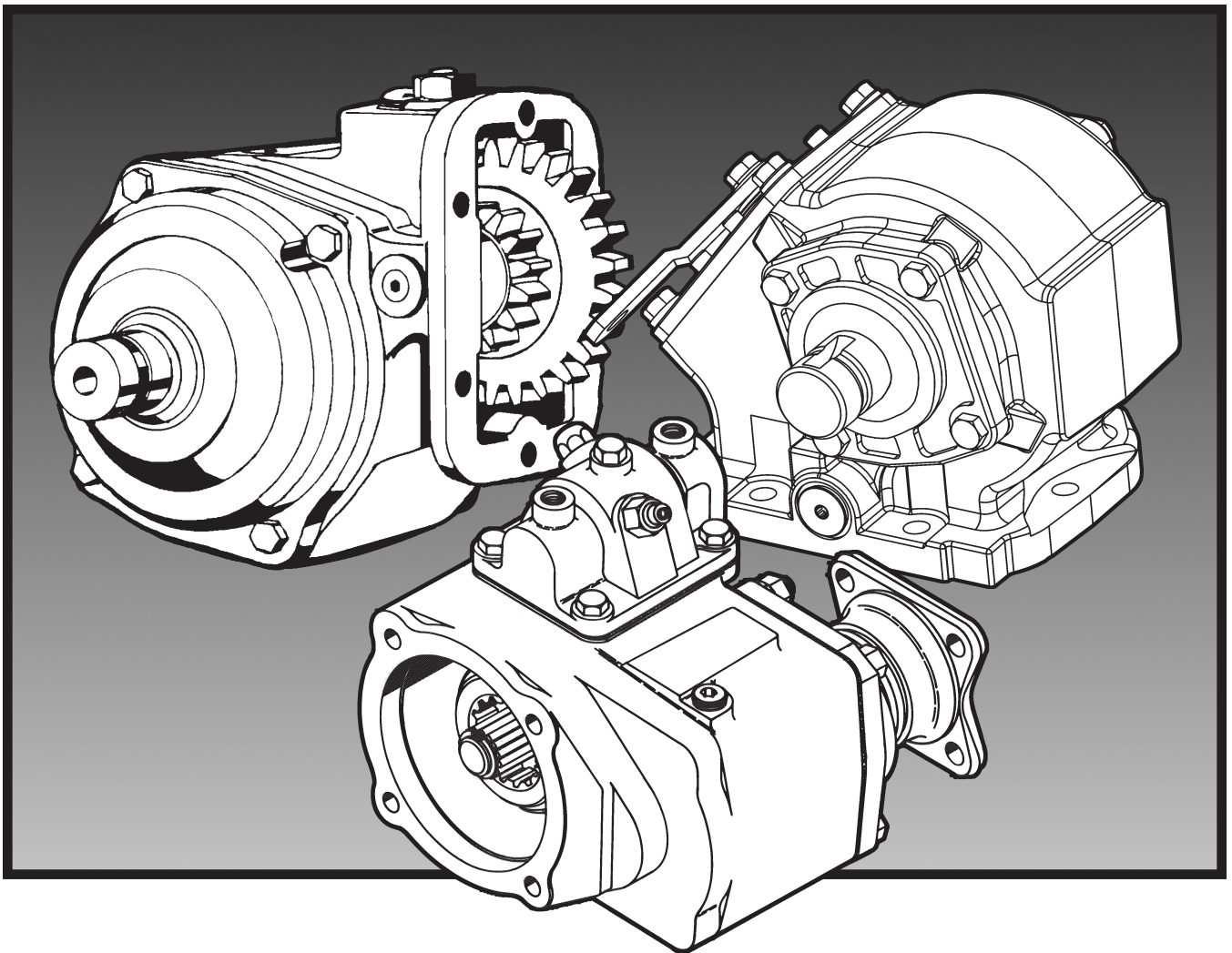


Parts List 270/271 Series

Effective: January 15, 2009
Supersedes: HY25-2270-M1/US Dated July 2007



 **WARNING**

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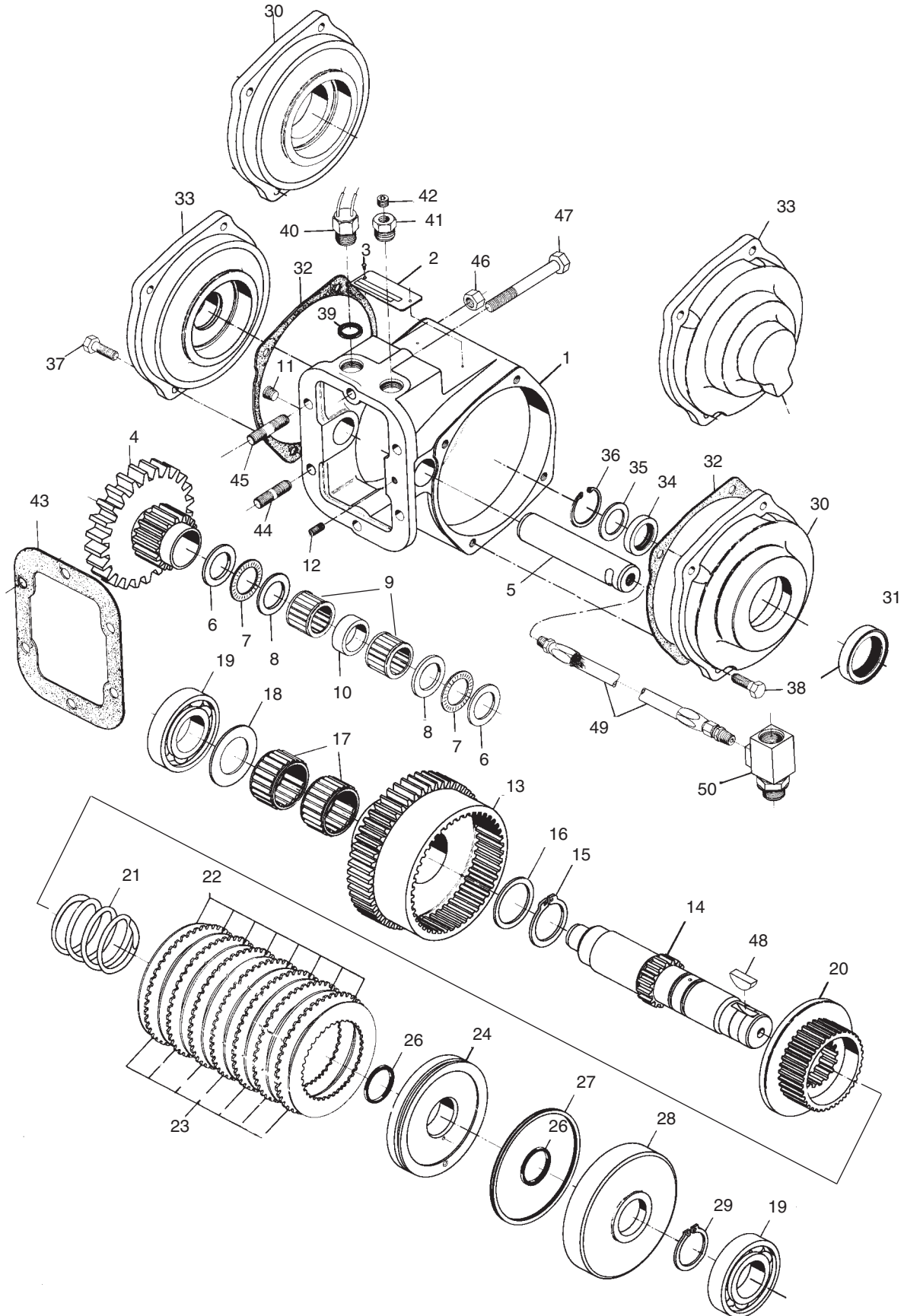
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Assembly Arrangements 3 & 5

Item	Part Number	Description	Quantity
1	1-P-437	Housing, Standard Mount ("X", "A" & "G" Mounting).....	1
2	68-P-2	Name Plate.....	1
3	378422	Drive Screw	2
4	See Chart Pg. 5	Gear, Input.....	1
5	9-P-54	Shaft, Input Idler (Pressure Lube "P").....	1
	9-P-55	Shaft, Input Idler (No Pressure Lube "X").....	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.) With E.O.C. "P" Lube	2 or
		Without E.O.C. "P" Lube	3 or
		With E.O.C. "X" Lube	1 or
		Without E.O.C. "X" Lube	2
12	378452-7	Set Screw (0.250"-20 x 0.500")	1
13	See Chart Pg. 5	Gear, Output.....	1
14	3-P-679	Shaft, Output 1.250" Rd. ("XD" Assemblies 3 & 5)	1
	NOTE: See Page 16 for Driveshaft and Clutch Assembly Numbers		
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 w/.312 key way ("XX" Assemblies 3 & 5)	1
N.S.	3-P-788	Shaft, Output 1.250 Tapered w/.312 key way ("XX" Assemblies 4 & 6)	1
N.S.	3-P-896	Shaft, Output 1.0"- 15 Tooth Internal Spline ("AF" Assemblies 3 & 5)	1
N.S.	3-P-895	Shaft, Output 1.0"- 15 Tooth Internal Spline ("AF" Assemblies 4 & 6)	1
N.S.	3-P-957	Shaft, Output .625"-9 Tooth Internal Spline ("RF" Assemblies 3 & 5).....	1
N.S.	3-P-964	Shaft, Output 1.0"-15 Tooth Internal Spline ("XE" Assemblies 3 & 5).....	1
N.S.	3-P-970	Shaft, Output 1.250" Rd. ("BA" Assemblies 3 & 5).....	1
	NOTE: For "BA" Option See Page 10 for Bill of Material		
15	379746	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), All Except "BA".....	1
19	550010	Ball Bearing (Output Shaft)	2
	328925X	Clutch Piston & Back-up Cylinder (Includes Items 15, 20 thru 29).....	1
	329179-1X	Assembly, Piston Back-up Cylinder (Includes Items 24, 27 & 28)	
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
24	380057-1	Piston	1
26	28-P-244	O-Ring	2
27	28-P-178	O-Ring.....	1
28	379323-1	Clutch Back-up Cylinder.....	1
29	378576	Snap Ring.....	1
30	21-P-451	Bearing Cover, Open End (Assemblies 3 & 5) "XX", "XD" & "BA" Options	1
	21-P-297	Bearing Cover, Open End (Assemblies 4 & 6) "XX" & "XD" Options.....	1
31	28-P-225	Oil Seal	1
32	22-P-53	Gasket, Bearing Cover	2

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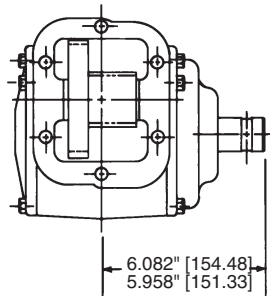
Item	Part Number	Description	Quantity
	328806X	Bearing Cover Assembly, Closed End (Assemblies 3 & 5), All Except "BA".....	1
	328988X	Bearing Cover Assembly, Closed End (Assemblies 4 & 6).....	1
		(Includes items 33 thru 36)	
33	21-P-295	Bearing Cover, Closed End (Assemblies 3 & 5)	1
	21-P-449	Bearing 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
	328988-1X	Bearing Cover Assembly, Closed End (Assemblies 3 & 5), "BA"	
		NOTE: For "BA" Option See Page 10 for Bill of Material	
37	378430-10	Capscrew, Hex Head (.312"-18 x 1.0") "XX" & "XD" Assemblies 4 & 6, Open End.....	4
	378430-10	Capscrew, Hex Head (.312"-18 x 1.0") Assemblies 3 & 5, Closed End / Except "BA" ...	4
38	378430-12	Capscrew, Hex Head (.312"-18 x 1.250") "XX" & "XD" Assemblies 3 & 5, Open End ...	4
	378430-12	Capscrew, Hex Head (.312"-18 x 1.250") Assemblies 4 & 6 ("BA" Ass'y 3 & 5), Closed End	4
39	28-P-171	O-Ring, w/Speed Sensor	1
40	379243	Speed Sensor (Transducer) Included w/Electronic Overspeed Control	1
	379917	Speed Sensor (Allison 1000, 2000/2400)	
41	379242	Adapter Plug with E.O.C.....	1 or
		Adapter Plug without E.O.C.....	2
42	379231	Pipe Plug (.125"-27 N.P.T.F.) with E.O.C.....	1 or
		Pipe Plug (.125"-27 N.P.T.F.) without E.O.C.....	2
	328951-6X	Mounting Gasket & Installation Instructions	1
43	35-P-41	Gasket, Mounting	1
		LOOSE PARTS	
	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	379744	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
		For Item 50 or Fitting Kits, see application pages for correct fittings	
	328748X	Pump Mounting Kit ("XR" Output Only)	1
		SERVICE KITS	
	328356-21X	Gasket & Seal Kit	1
	328933-12X	Housing Conversion Kit w/E.O.C. 12 Volt	
	328933-24X	Housing Conversion Kit w/E.O.C. 24 Volt	1
	328935-12X	Field Conversion Kit / 12 volt	1
	328935-24X	Field Conversion Kit / 24 volt	1

N.S. — Not Shown

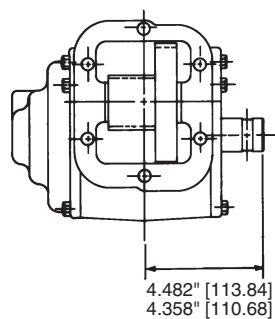
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Item	Part Number	Description	Quantity
	328938-12X	270 to 271 Conversion Kit w/E.O.C. 12 Volt.....	1
	328938-24X	270 to 271 Conversion Kit w/E.O.C. 24 Volt.....	1
	328970X	Service Kit, for Bearing, Seal, Gasket and Clutch Pack	1
	328971X	Service Kit, for Bearing, Seal, Gasket and Clutch Pack w/ Piston & Back-Up Cylinder Sub Ass'y.....	1
	329043-16X	Gasket & Seal Kit, "BA" Option.....	1
	329043-18X	Repair Kit, "BA" Ass'y 3 & 5, Brake Section Only	1
	329366-12X	Housing Conversion Kit w/E.O.C. 12 Volt, Allison 1000, 2000/2400	
	329366-24X	Housing Conversion Kit w/E.O.C. 24 Volt, Allison 1000, 2000/2400	
	329367-12X	E.O.C. Field Installation Kit 12 Volt, Allison 1000, 2000/2400	
	329367-24X	E.O.C. Field Installation Kit 24 Volt, Allison 1000, 2000/2400	
	329368-12X	270 to 271 Conversion Kit w/E.O.C. 12 Volt, Allison 1000, 2000/2400	
	329368-24X	270 to 271 Conversion Kit w/E.O.C. 24 Volt, Allison 1000, 2000/2400	

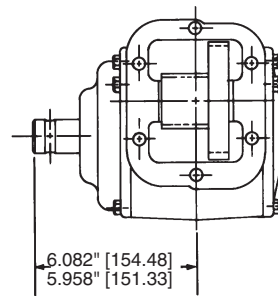
Assembly Arrangements - 270/271 Series



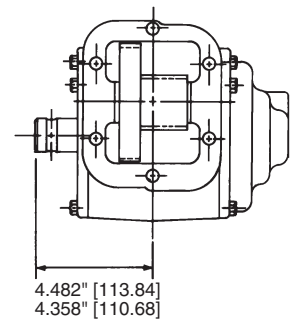
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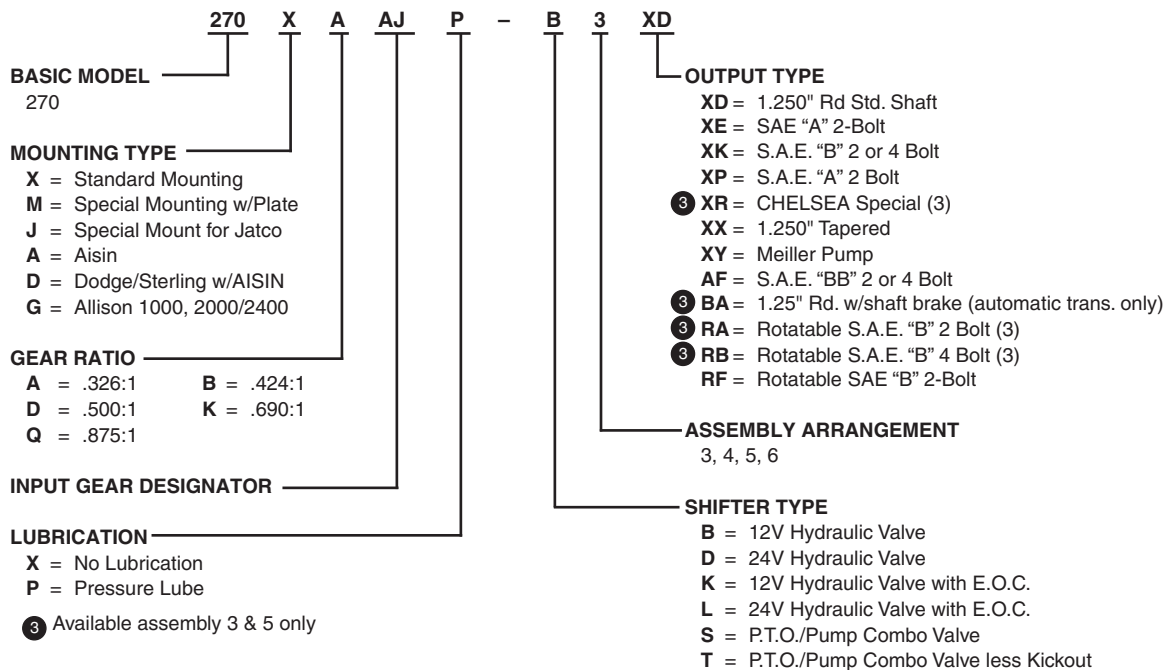


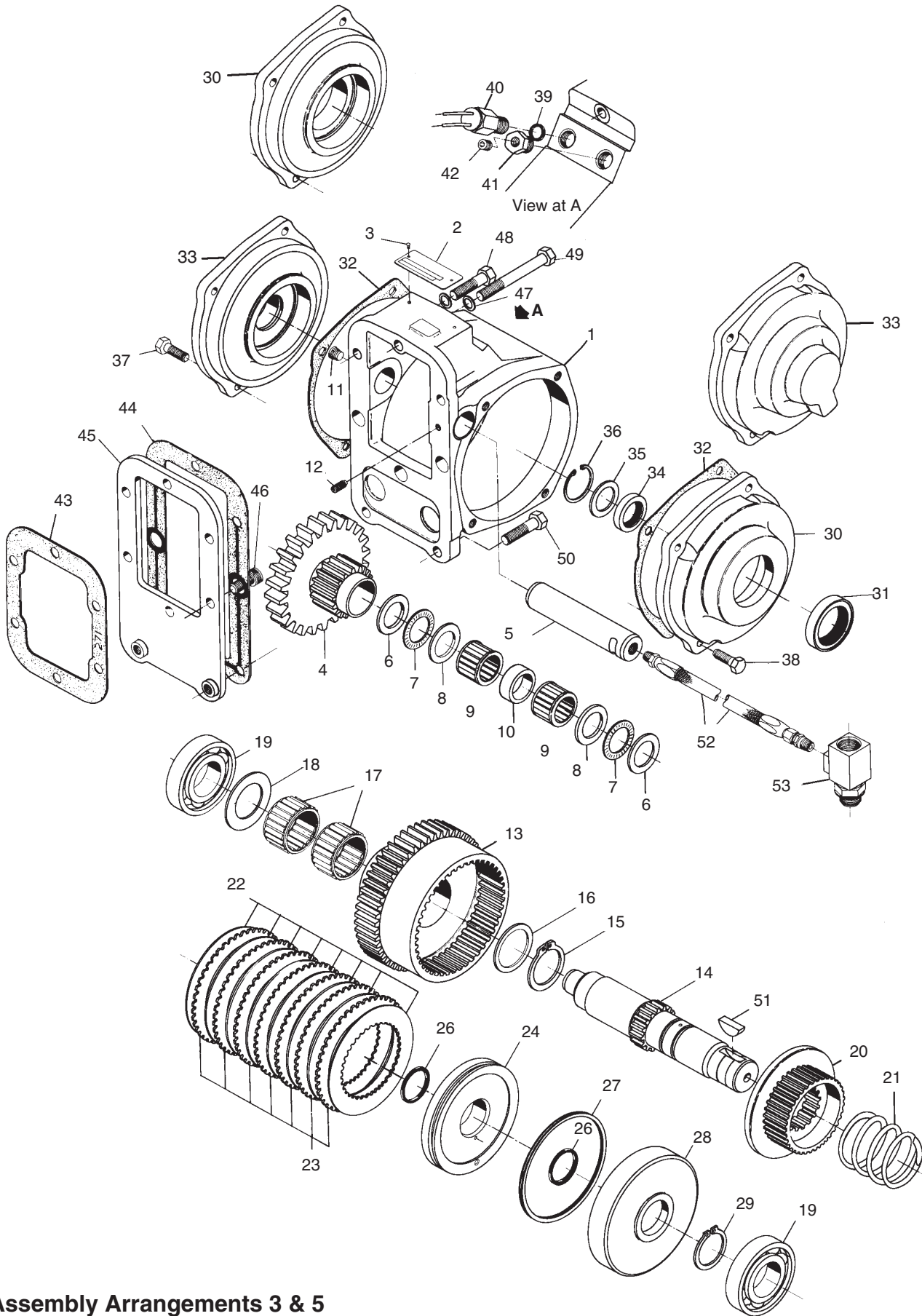
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Gear Chart

P.T.O. MODEL NO	PART NUMBER	NO TEETH IN CLUSTER (Lg)-(Sm)	APPLICATION & GEAR TYPE	OUTPUT GEAR ITEM 13	
				PART NO.	NO. TEETH
270*AAJ	5-P-567	25-18	Allison, Spur	2-P-473	53
271*AAJ	5-P-567	25-18	Allison, Spur	2-P-473	53
270*AAK	5-P-548	25-18	Allison, Spur	2-P-473	53
271*AAK	5-P-548	25-18	Allison, Spur	2-P-473	53
270*AHV	5-P-1295	27-18	Allison 1000, 2000/2400, Spur	2-P-473	53
271*AHV	5-P-1295	27-18	Allison 1000, 2000/2400, Spur	2-P-473	53
270*AKU	5-P-1353	36-18	Aisin MY600 & Dodge AS68RC, Spur	2-P-473	53
270*BAJ	5-P-568	25-15	Allison, Spur	2-P-481	34
271*BAJ	5-P-568	25-15	Allison, Spur	2-P-481	34
270*BFR	5-P-961	35-15	Fuller Ceemat	2-P-481	34
270*BHV	5-P-1296	27-15	Allison 1000, 2000/2400, Spur	2-P-481	34
271*BHV	5-P-1296	27-15	Allison 1000, 2000/2400, Spur	2-P-481	34
271*BKU	5-P-1354	36-15	Aisin MY600 & Dodge AS68RC, Spur	2-P-481	34
270*DAJ	5-P-695	25-24	Allison, Spur	2-P-606	47
271*DAJ	5-P-695	25-24	Allison, Spur	2-P-606	47
270*DAK	5-P-807	25-24	Allison, Spur	2-P-606	47
271*DAK	5-P-807	25-24	Allison, Spur	2-P-606	47
270*DFR	5-P-960	35-24	Fuller, Spur	2-P-606	47
270*DHV	5-P-1297	27-24	Allison 1000, 2000/2400, Spur	2-P-606	47
271*DHV	5-P-1297	27-24	Allison 1000, 2000/2400, Spur	2-P-606	47
270*DKU	5-P-1355	36-24	Aisin MY600 & Dodge AS68RC, Spur	2-P-606	47
270*KAK	5-P-881	25-29	Allison, Spur	2-P-638	42
271*KAK	5-P-881	25-29	Allison, Spur	2-P-638	42
271*KAJ	5-P-769	25-29	Allison, Spur	2-P-638	42
270*KFR	5-P-949	35-29	Fuller, Spur	2-P-638	42
270*KKU	5-P-1356	36-29	Aisin MY600 & Dodge AS68RC, Spur	2-P-638	42
270*QKU	5-P-1359	36-34	Aisin MY600 & Dodge AS68RC, Spur	2-P-639	37

Model Number Designation



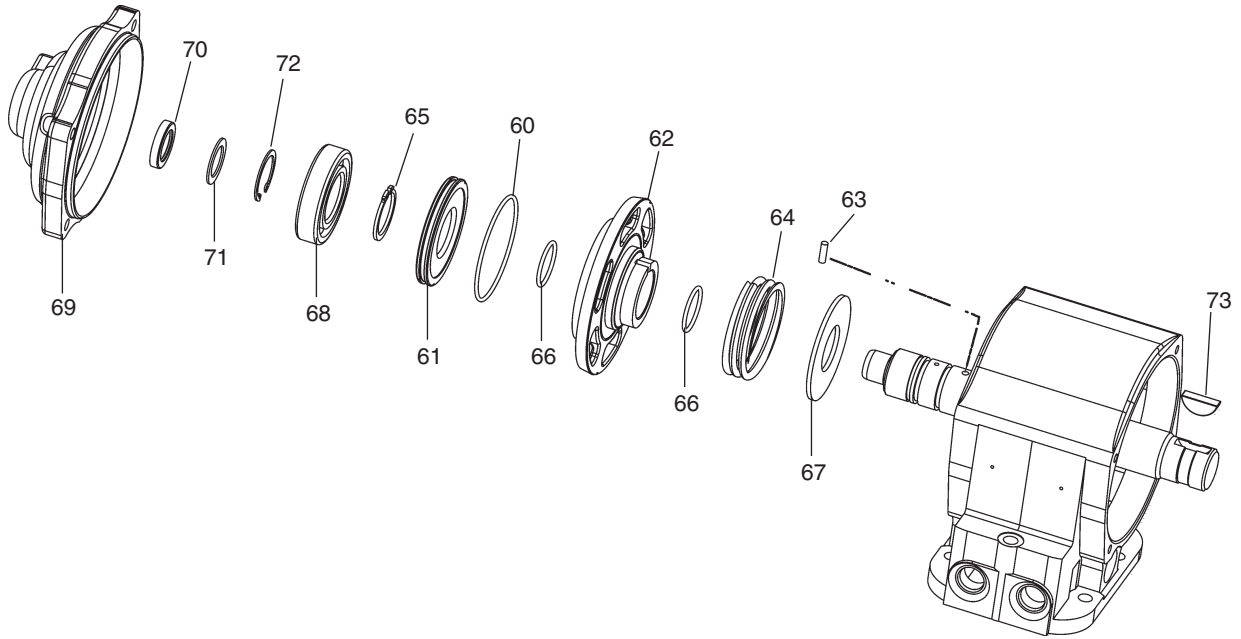


Assembly Arrangements 3 & 5

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. 5	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	378452-4	Setscrew (0.250"-20 x 0.312")	1
13	See Chart Pg. 5	Gear, Output	1
NOTE: See page 16 for Driveshaft and Clutch Assembly Numbers			
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 w/.312 key way ("XX" Assemblies 3 & 5)	1
N.S.	3-P-788	Shaft, Output 1.250 Tapered w/.312 key way ("XX" Assemblies 4 & 6)	1
N.S.	3-P-896	Shaft, Output 1.0" 15 Tooth Internal Spline ("AF" Assemblies 3 & 5).....	1
N.S.	3-P-895	Shaft, Output 1.0" 15 Tooth Internal Spline ("AF" Assemblies 4 & 6).....	1
N.S.	3-P-957	Shaft, Output .625"-9 Tooth Internal Spline ("RF" Assemblies 3 & 5)	1
N.S.	3-P-964	Shaft, Output 1.0"-15 Tooth Internal Spline ("XE" Assemblies 3 & 5)	1
N.S.	3-P-970	Shaft, Output 1.250" Rd. ("BA" Assemblies 3 & 5).....	1
NOTE: For "BA" Option See Page 10 for Bill of Material			
15	379746	Snap Ring	1
16	14-P-49	Spacer.....	1
17	560918	Roller Bearing	2
18	31-P-57	Thrust Washer (Output Shaft), All Except "BA"	1
19	550010	Ball bearing.....	2
	328925X	Clutch Piston & Back-up Cylinder (Includes Items 15, 20 thru 29)	1
	329179-1X	Assembly, Piston Back-up Cylinder (Includes Items 24, 27 & 28)	1
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
24	380057-1	Piston	1
26	28-P-244	O-Ring.....	2
27	28-P-178	O-Ring.....	1
28	379323-1	Clutch Back-up Cylinder	1
29	378576	Snap Ring	1
30	21-P-451	Bearing Cover, Open End (Assemblies 3 & 5) "XX", "XD" & "BA" Options.....	1
	21-P-297	Bearing Cover, Open End (Assemblies 4 & 6) "XX" & "XD" Options.....	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), All Except "BA"	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

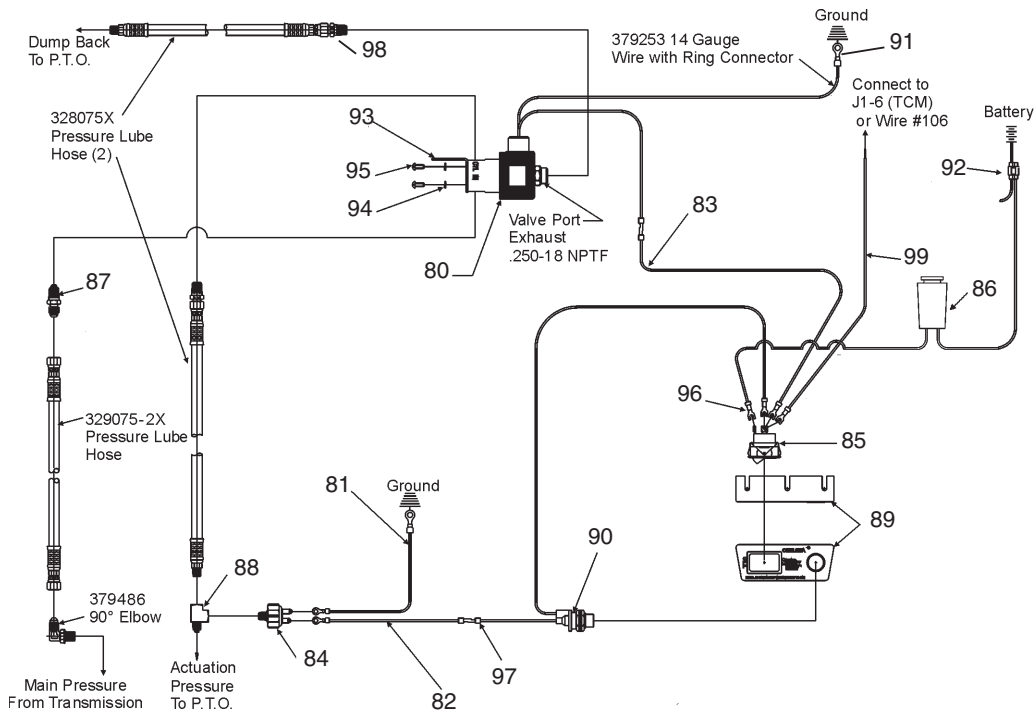
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Item	Part Number	Description	Quantity
35	378811	Back-Up Plate.....	1
36	378849	Snap Ring.....	1
	328988-1X	Bearing Cover Assembly, Closed End (Assemblies 3 & 5), "BA"	
		NOTE: For "BA" Option See Page 10 for Bill of Material	
37	378430-10	Capscrew, Hex Head (.312"-18 x 1.0") "XX" & "XD" Assemblies 4 & 6, Open End	4
	378430-10	Capscrew, Hex Head (.312"-18 x 1.0") Assemblies 3 & 5, Closed End / Except "BA"	4
38	378430-12	Capscrew, Hex Head (.312"-18 x 1.250") "XX" & "XD" Assemblies 3 & 5, Open End ...	4
	378430-12	Capscrew, Hex Head (.312"-18 x 1.250") Assemblies 4 & 6 ("BA" Ass'y 3 & 5), Closed End	4
39	28-P-171	O-Ring, Speed Sensor.....	1
40	379243	Speed Sensor (Transducer) Included w/Electronic Overspeed Control.....	1
	379917	Speed Sensor (Allison 1000, 2000/2400)	
41	379242	Adapter Plug with E.O.C.	1 or
		Adapter Plug without E.O.C.	2
42	379231	Pipe Plug (0.125"-27 N.P.T.F.) with E.O.C.....	1 or
		Pipe Plug (0.125"-27 N.P.T.F.) without E.O.C.....	2
	328948-5X	Mounting & Installation Instructions (Includes 43 & 44).....	1
43	35-P-69	Gasket	1
44	35-P-84	Gasket	1
45	329150X	Adapter Plate Assembly (6 Bolt)	1
		LOOSE PARTS	
	7170-74X	Mounting Parts Kit (Items 46 thru 50)	1
46	379433-6	Socket Head Capscrew (0.375"-18 x 1")	3
47	378774	Tab-Lock Washer	5
48	378431-15	Hex Capscrew (0.375"-16 x 1.625")	2
49	378431-27	Hex Capscrew (0.375"-16 x 3.250")	1
50	378431-11	Hex Capscrew (0.375"-16 x 1.250")	2
	7170-104X	Mounting Parts Kit, Allison 1000,2000/2400	1
51	500007-29	Woodruff Key	1
52	328075X	Pressure Lube Hose, Allison.....	1
53	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.	329297X	Fitting Kit, Allison 1000, 2000/2400 (High Pressure Port).....	1
		For Item 53 or Allison 1000,2000/2400, see application pages for correct fittings	
N.S.	328748X	Pump Mounting Kit.....	1
		SERVICE KITS	
	328356-22X	Gasket & Seal Kit.....	1
	328933-12X	Housing Conversion Kit w/E.O.C. 12 Volt.....	1
	328933-24X	Housing Conversion Kit w/E.O.C. 24 Volt.....	1
	328935-12X	Field Conversion Kit / 12 volt	1
	328935-24X	Field Conversion Kit / 24 volt	1
	328938-12X	270 to 271 Conversion Kit w/E.O.C. 12 Volt.....	1
	328938-24X	270 to 271 Conversion Kit w/E.O.C. 24 Volt.....	1
	328970X	Service Kit, for Bearing, Seal, Gasket and Clutch Pack.....	1
	328971X	Service Kit, for Bearing, Seal, Gasket and Clutch Pack w/ Piston & Back-Up Cylinder Sub Ass'y	
	329043-16X	Gasket & Seal Kit, "BA" Option	1
	329043-18X	Repair Kit, "BA" Ass'y 3 & 5, Brake Section Only.....	1
	329366-12X	Housing Conversion Kit w/E.O.C. 12 Volt, Allison 1000, 2000/2400	1
	329366-24X	Housing Conversion Kit w/E.O.C. 24 Volt, Allison 1000, 2000/2400	
	329367-12X	E.O.C. Field Installation Kit 12 Volt, Allison 1000, 2000/2400	
	329367-24X	E.O.C. Field Installation Kit 24 Volt, Allison 1000, 2000/2400	
	329368-12X	270 to 271 Conversion Kit w/E.O.C. 12 Volt, Allison 1000, 2000/2400	
	329368-24X	270 to 271 Conversion Kit w/E.O.C. 24 Volt, Allison 1000, 2000/2400	



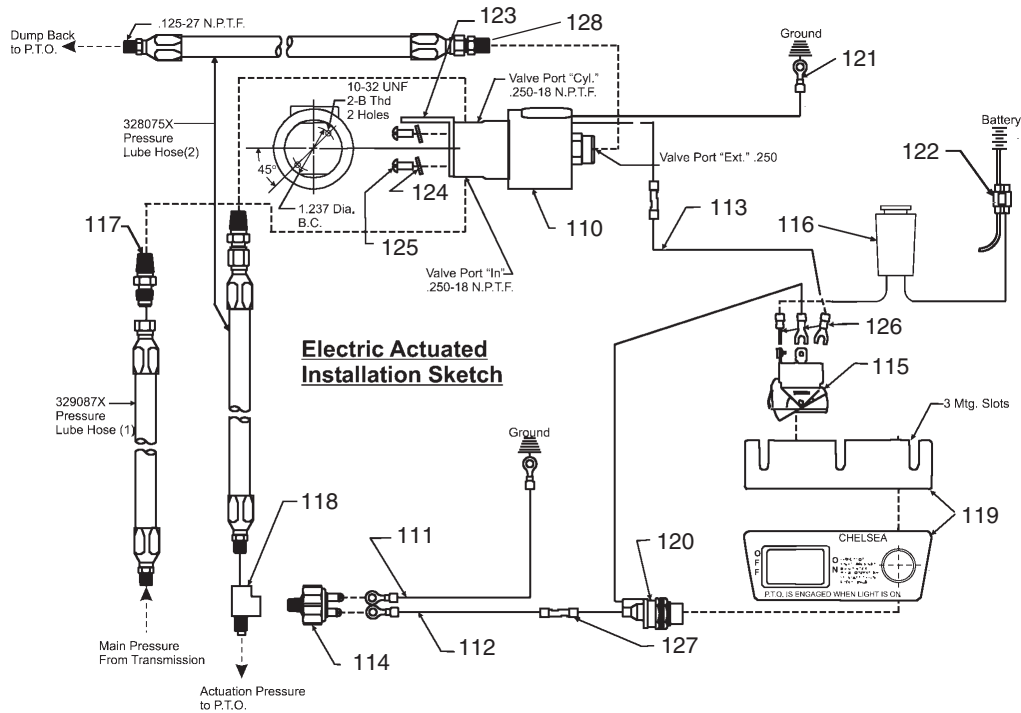
Item	Part Number	Description	Quantity
	329410X	Brake Assembly (“BA” Output).....	1
60	28-P-252	O-Ring	1
61	66-P-49	Piston	1
62	379976	Brake Disk	1
63	379977	Pin (.187" x .625"), (“BA” Output)	1
64	37-P-60	Spring, Automatic Transmissions (“BA” Output)	
65	378576	Retaining Ring, (“BA”Output)	1
66	28-P-244	O-Ring, (“BA” Output).....	2
67	31-P-113	Thrust Washer (“BA”Output Shaft)	1
68	550010	Ball Bearing	1
69	328988-1X	Bearing Cap Sub Assembly (Closed End 3 & 5, “BA”)	
70	21-P-670	Bearing Cap	1
71	28-P-119	Oil Seal.....	1
72	378811	Back-up Plate	1
73	378849	Retainer Ring	1
74	500007-29	Woodruff Key (“XD”, “BA” Outputs Only)	1

Shift Installation Kits 12 & 24 Volt without E.O.C. (Allison 1000, 2000/2400) (SK-329)



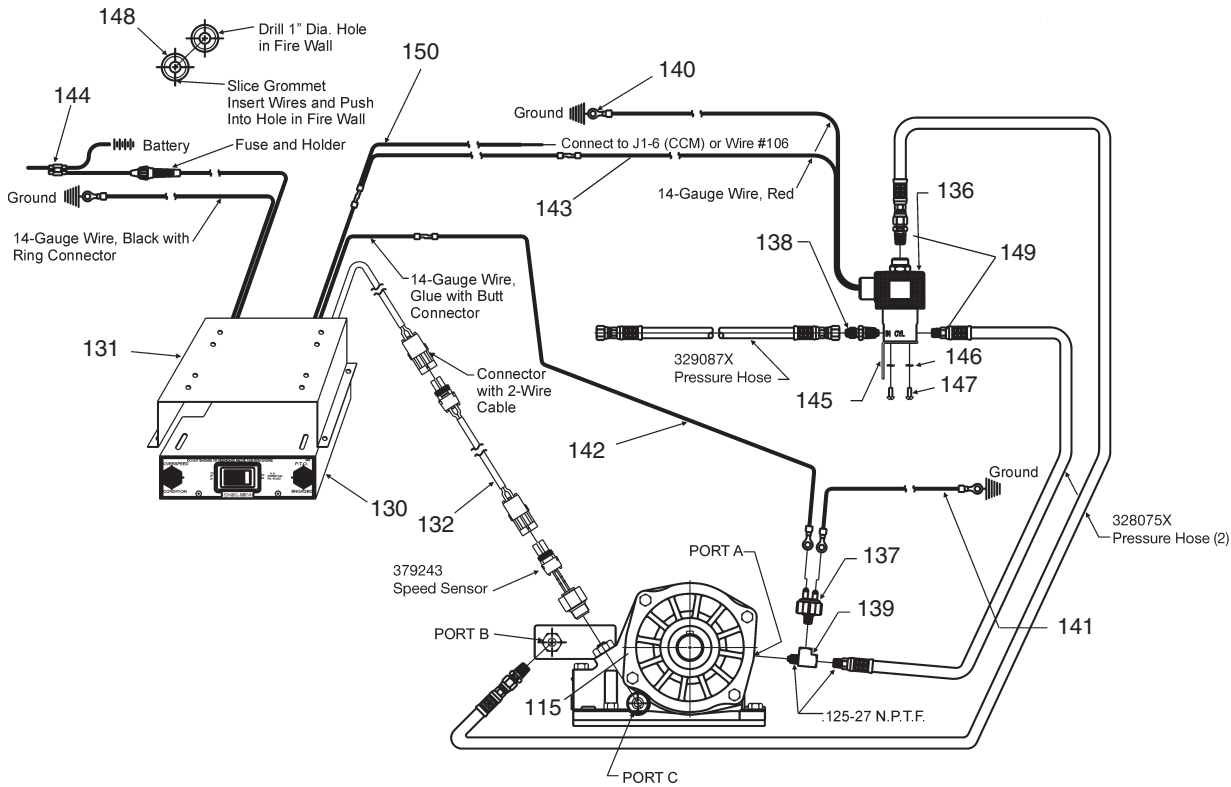
Item	Part Number	Description	Quantity
	328715X	12V SHIFT INSTALLATION KIT	1
		(Includes items 80 thru 98)	
	328749X	24V SHIFT INSTALLATION KIT	1
		(Includes items 80 thru 98)	
80	379686-1	Solenoid Valve, 12 Volt for 328715X Kit.....	1
	379686-2	Solenoid Valve, 24 Volt for 328749X Kit.....	1
81	379254-14	Wire, Black w/Two Ring Connectors.....	1
82	379254-13	Wire, Blue w/One Ring Connector.....	1
83	379254-3	Wire, Green w/One Butt Connector.....	1
	328963X	Parts Bag, 12 Volt Kit (328715X)	1
	328964X	Parts Bag, 24 Volt Kit (328749X)	1
		(Includes items 84 thru 98)	
84	379547	Pressure Switch	1
85	378881	Rocker Switch.....	1
86	379900	Fuse Holder, 10 Amp.....	1
87	379449	Screened Adaptor, 1/4"-18 NPT	1
88	378966	Street Tee, Screened.....	1
89	379336	Bracket	1
90	378978	Indicator Light, 12V (Kits 328963X & 328715X).....	1
	379005	Indicator Light, 24V (Kits 328964X & 328749X).....	1
91	379253	Ring Connector	2
N.S.	379061	Wire Ties	6
92	379257	Splice Connector	1
93	379258	Bracket, Solenoid Mounting.....	1
94	500357-7	Lock Washer .188 I.D.....	2
95	500457-6	Screw, Mounting .190-32 x .438.....	2
96	379306	Fork Connector.....	3
97	379252	Butt Connector	1
98	379280	Adaptor Fitting.....	2
	329336-1X	Allison 1000, 2000/2400 Series Wire Kit (not part of installation kits)	1
99	379254-17	Blue Wire 14 Gauge w/Fork Terminal	

Shift Installation Kits 12 & 24 Volt without E.O.C. (Allison) (SK-225)



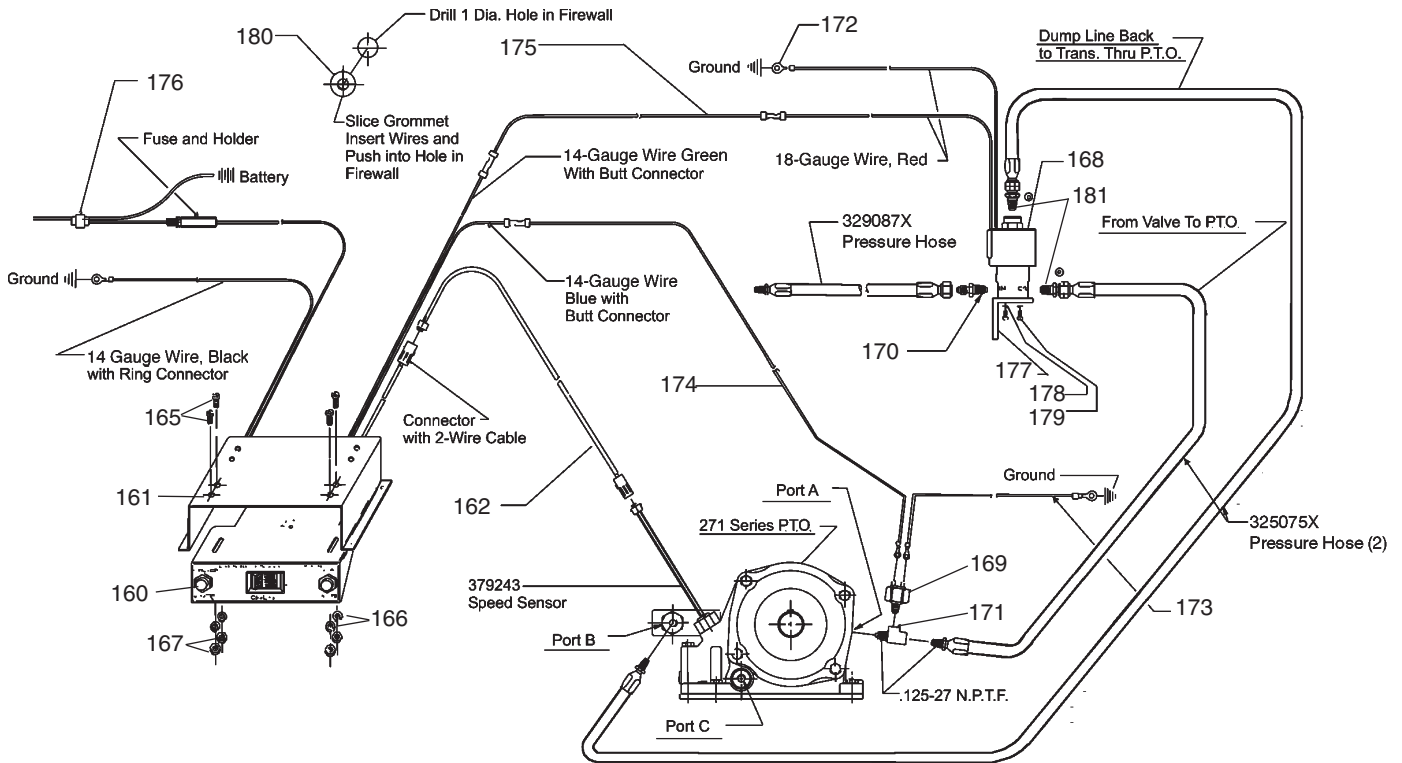
Item	Part Number	Description	Quantity
	328715X	12V SHIFT INSTALLATION KIT	1
		(Includes items 110 thru 128)	
	328749X	24V SHIFT INSTALLATION KIT	1
		(Includes items 110 thru 128)	
110	379686-1	Solenoid Valve, 12 Volt for 328715X Kit.....	1
	379686-2	Solenoid Valve, 24 Volt for 328749X Kit.....	1
111	379254-14	Wire, Black w/Two Ring Connectors.....	1
112	379254-13	Wire, Blue w/One Ring Connector.....	1
113	379254-3	Wire, Green w/One Butt Connector.....	1
	328963X	Parts Bag, 12 Volt Kit (328715X).....	1
	328964X	Parts Bag, 24 Volt Kit (328749X).....	1
		(Includes items 114 thru 128)	
114	379547	Pressure Switch	1
115	378881	Rocker Switch.....	1
116	379900	Fuse Holder, 10 Amp.....	1
117	379449	Screened Adaptor, 1/4-18 NPT	1
118	378966	Street Tee, Screened.....	1
119	379336	Bracket	1
120	378978	Indicator Light, 12V (Kits 328963X & 328715X).....	1 or
	379005	Indicator Light, 24V (Kits 328964X & 328749X).....	1
121	379253	Ring Connector	2
N.S.	379061	Wire Ties	6
122	379257	Splice Connector.....	1
123	379258	Bracket, Solenoid Mounting.....	1
124	500357-7	Lock Washer .188 I.D.....	2
125	500457-6	Screw, Mounting .190-32 x .438.....	2
126	379306	Fork Connector.....	3
127	379252	Butt Connector	1
128	379280	Adaptor Fitting.....	2

Shift Installation Kits 12 & 24 Volt with E.O.C (Allison1000, 2000/2400) (SK-328)



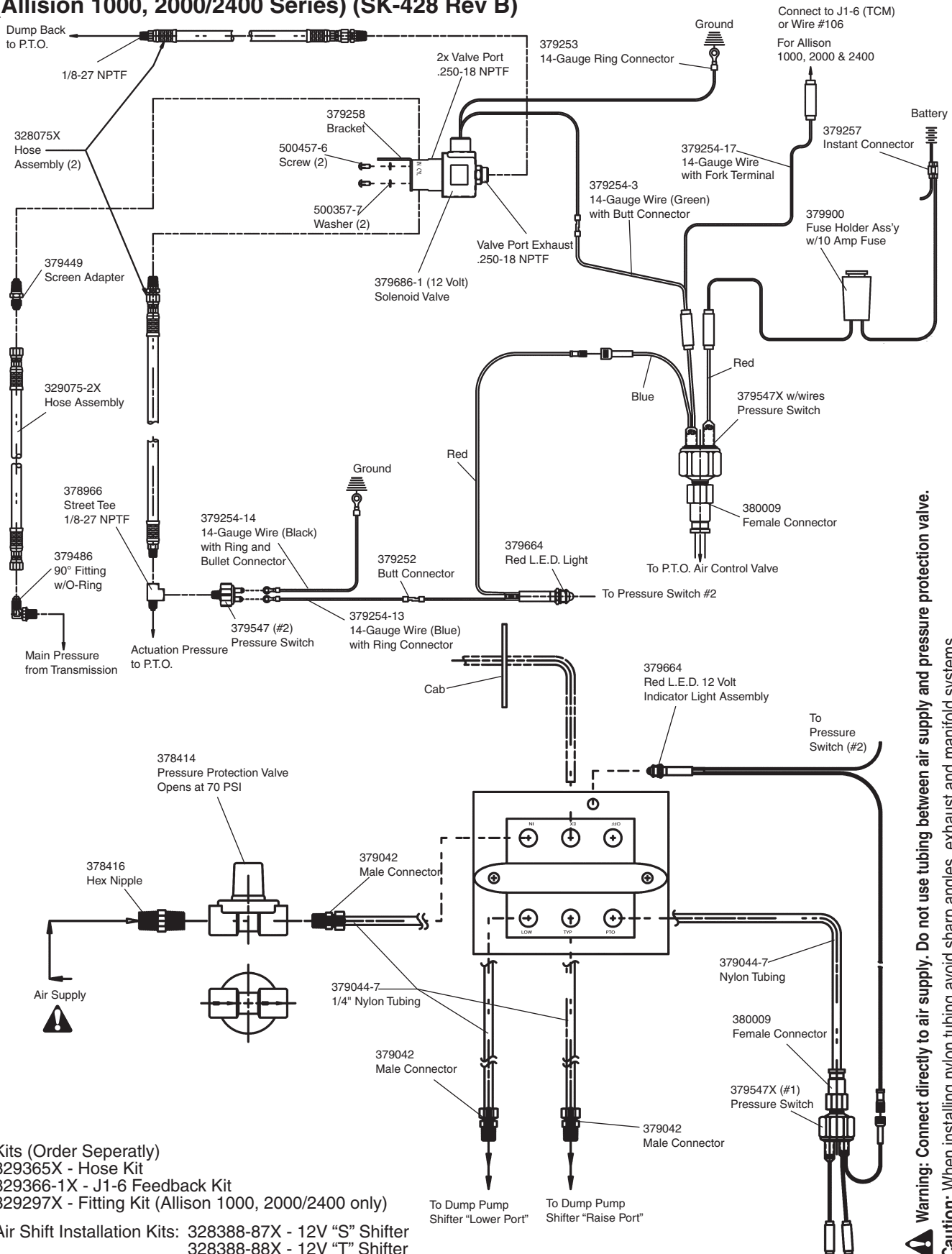
Item	Part Number	Description	Quantity
	328924-12X	12V E.O.C.....	1
	328924-24X	24V E.O.C.....	1
130	328922-12X	Control Box E.O.C. 12 volt.....	1
	328922-24X	Control Box E.O.C. 24 volt.....	1
131	379244	Bracket, E.O.C. Mounting.....	1
132	328923-10X	Connector Cable, 10 ft. Standard.....	1 or
	328923-5X	Connector Cable, 5 ft. Optional.....	1
	328931X	Mounting Parts, E.O.C. Bracket.....	1
N.S.	500448-9	Screw, 10-24.....	4
N.S.	500357-7	Lockwasher.....	4
N.S.	500376-6	Nut, Hex 10-24.....	4
	328929-12X	12V E.O.C. Installation Kit (Includes Items 136 thru 149).....	1
	328929-24X	24V E.O.C. Installation Kit (Includes Items 136 thru 149).....	1
136	379686-1	Solenoid Valve, 12 Volt (for 328929-12X).....	1
	379686-2	Solenoid Valve, 24 Volt (for 328929-24X).....	1
137	379547	Pressure Switch.....	1
138	379449	Screened Adaptor, 1/4"-18 NPT.....	1
139	378966	Street Tee, Screened.....	1
140	379253	Ring Connector.....	1
141	379254-14	Wire, Black w/Two Ring Connectors.....	1
142	379254-13	Wire, Blue w/One Ring Connector.....	1
143	379254-3	Wire, Green w/One Butt Connector.....	1
144	379257	Splice Connector.....	1
145	379258	Bracket, Solenoid Mounting.....	1
146	500357-7	Lockwasher .188" I.D.....	2
147	500457-6	Screw, Mounting .190"-32 x .438.....	2
148	379265	Grommet.....	1
149	379280	Adaptor Fitting.....	2
150	329336-2X	Allison 1000, 2000/2400 Series Wire Kit (not part of installation kit).....	1
	379254-18	Green Wire 14 Gauge.....	

Shift Installation Kits 12 & 24 Volt with E.O.C. (Allison) (SK-224)



Item	Part Number	Description	Quantity
160	328924-12X	12V E.O.C. (Includes Items 160 thru 181)	1
	328924-24X	24V E.O.C. (Includes Items 160 thru 181)	1
161	328922-12X	Control Box E.O.C. 12 volt	1
	328922-24X	Control Box E.O.C. 24 volt	1
162	379244	Bracket, E.O.C. Mounting	1
165	328923-10X	Connector Cable, 10 ft. Standard	1 or
	328923-5X	Connector Cable, 5 ft. Optional	1
166	328931X	Mounting Parts, E.O.C. Bracket	1
	500448-9	Screw, 10-24	4
167	500357-7	Lockwasher	4
168	500376-6	Nut, Hex 10-24	4
	328929-12X	12V E.O.C. Installation Kit (Includes Items 168 thru 181)	1
169	328929-24X	24V E.O.C. Installation Kit (Includes Items 168 thru 181)	1
	379686-1	Solenoid Valve, 12 Volt (for 328929-12X)	1
170	379686-2	Solenoid Valve, 24 Volt (for 328929-24X)	1
171	379547	Pressure Switch	1
172	379449	Screened Adaptor, 1/4-18 NPT	1
173	378966	Street Tee, Screened	1
174	379253	Ring Connector	1
	379254-14	Wire, Black w/Two Ring Connectors	1
175	379254-13	Wire, Blue w/One Ring Connector	1
176	379254-3	Wire, Green w/One Butt Connector	1
177	379257	Splice Connector	1
178	379258	Bracket, Solenoid Mounting	1
179	500357-7	Lockwasher .188" I.D.	2
180	500457-6	Screw, Mounting .190"-32 x .438	2
181	379265	Grommet	1
	379280	Adaptor Fitting	2

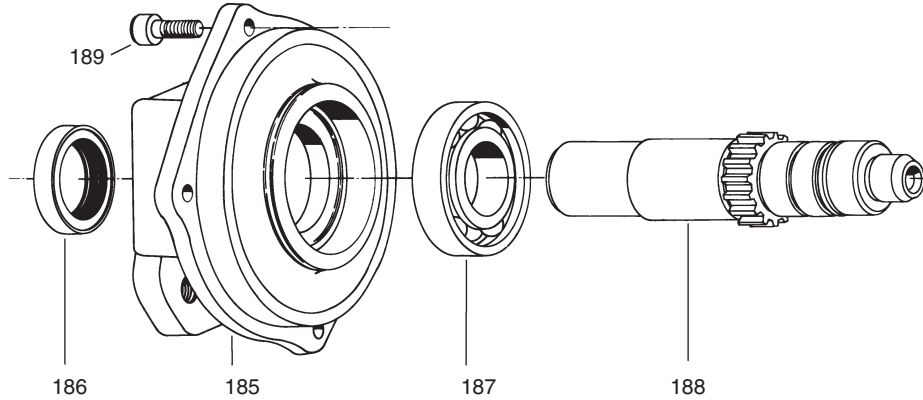
P.T.O./Combo Valve Installation Sketch, 270/271 Series
(Allison 1000, 2000/2400 Series) (SK-428 Rev B)



Kits (Order Separately)
 329365X - Hose Kit
 329366-1X - J1-6 Feedback Kit
 329297X - Fitting Kit (Allison 1000, 2000/2400 only)
 Air Shift Installation Kits: 328388-87X - 12V "S" Shifter
 328388-88X - 12V "T" Shifter

Warning: Connect directly to air supply. Do not use tubing between air supply and pressure protection valve.
Caution: When installing nylon tubing avoid sharp angles, exhaust and manifold systems.

Pump Shafts & Flanges



Pump Mounting Suffix (See Note)	Flange Item 185	Bearing Cap Gasket	Seal Item 186	Bearing Item 187	Driveshaft & Clutch		Output Shaft Spacer	Hex Socket Head Screw Item 189
					Assembly Number**	Output Shaft Item 188		
BA Assembly 3 & 5	21-P-451	22-P-53 (2)	28-P-225	550010	328925-13X	3-P-970		378430-12
XE Assembly 3 & 5	21-P-568	22-P-53 (2)	28-P-225	550010	328925-12X	3-P-964	4-P-183	378447-7
XK Assembly 3 & 5 Assembly 4 & 6	21-P-445	22-P-53 (2)	28-P-225	550010	328925-4X	3-P-686		378447-7
	21-P-303	22-P-53 (2)	28-P-225	550010	328925-3X	3-P-678		378447-6
XP Assembly 3 & 5 Assembly 4 & 6	21-P-443	22-P-53 (2)	28-P-225	550010	328925-4X	3-P-686		378447-7
	21-P-301	22-P-53 (2)	28-P-225	550010	328925-3X	3-P-678		378447-6
XR Assembly 3 & 5 (Only)	21-P-447	22-P-53 (2)	28-P-225	550010	328925-5X	3-P-703		378447-7
XX Assembly 3 & 5 Assembly 4 & 6	21-P-297	22-P-53 (2)	28-P-225	550010	328925-6X	3-P-787		378430-12
	21-P-297	22-P-53 (2)	28-P-225	550010	328925-7X	3-P-788		378430-10
XY Assembly 3 & 5	21-P-468	22-P-53 (2)	28-P-230	550010	328925-8X	3-P-825		378447-7
AF Assembly 3 & 5 Assembly 4 & 6	21-P-445	22-P-53 (2)	28-P-225	550010	328925-9X	3-P-896		378447-7
	21-P-303	22-P-53 (2)	28-P-225	550010	328925-10X	3-P-895		378447-6
*RA Assembly 3 & 5	21-P-628•	22-P-53 (2)	28-P-225	550010	328925-5X	3-P-703		378447-7
*RB Assembly 3 & 5	21-P-572•	22-P-53 (2)	28-P-225	550010	328925-5X	3-P-703		378447-7
*RF Assembly 3 & 5	21-P-628•	22-P-53 (2)	28-P-225	550010	328925-11X	3-P-957		378447-7

The Rotatable Flanges attach to the 21-P-447 Flange

* - 328748X Pump to Flange Mounting Kit Must Be Used with "R" Suffix

Kit Contains: (4) 378430-11 Hex Head Capscrews (.3125" - 18 x 1.125")

(4) 378919 Washers (Special)

(4) 45-P-11 Bushing Guide

** - Assembly Includes the Pump Shaft Shown Plus Items 20 thru 29 on page 2

• Rotatable Flange Mounts to 21-P-447

NOTE: For "BA" option see page 10 for complete bill of material.

Conversion Kit Number	Ass'y	Flange Type	Shaft Type	
329043-14X	XD to BA	3 & 5	"XD" Output w/ Shaft Brake	1.25" Round w/key
329160-1X	XD to XK	3 & 5	S.A.E. "B" 2 or 4 Bolt Flange	S.A.E. "B" .875" 13 - Tooth
329160-2X	XD to XP	3 & 5	S.A.E. "A" 2 Bolt (4.188 BC) w/ S.A.E. "B" 4 Bolt (5.0" BC)	S.A.E. "B" .875" 13 - Tooth
329160-3X	XD to XR	3 & 5	For Parker P16 "S" Flange Pumps	S.A.E. "B" .875" 13 - Tooth
329160-4X	XD to XY	3 & 5	DIN 5462	DIN 5462
329160-5X	XD to XK	4 & 6	S.A.E. "B" 2 or 4 Bolt Flange	S.A.E. "B" .875" 13 - Tooth
329160-6X	XD to XP	4 & 6	S.A.E. "A" 2 Bolt (4.188 BC) w/ S.A.E. "B" 4 Bolt (5.0" BC)	S.A.E. "B" .875" 13 - Tooth
329160-31X	XD to RA	3 & 5	S.A.E. "B" 2 Bolt Rotatable Flange	S.A.E. "B" .875" 13 - Tooth
329160-32X	XD to RB	3 & 5	S.A.E. "B" 4 Bolt Rotatable Flange	S.A.E. "B" .875" 13 - Tooth
329160-35X	XR to RA	3 & 5	S.A.E. "B" 2 Bolt Rotatable Flange	S.A.E. "B" .875" 13 - Tooth
329160-36X	XR to RB	3 & 5	S.A.E. "B" 4 Bolt Rotatable Flange	S.A.E. "B" .875" 13 - Tooth
329160-42X	XD to XX	All	DIN 100	Round Tapered w/ key
329160-47X	XD to RF	3 & 5	S.A.E. "B" 2 Bolt Rotatable Flange	S.A.E. "BB" 1.0" 15 - Tooth
329160-52X	XD to AF	3 & 5	S.A.E. "B" 2 or 4 Bolt Flange	S.A.E. "BB" 1.0" 15 - Tooth
329160-53X	XD to AF	4 & 6	S.A.E. "B" 2 or 4 Bolt Flange	S.A.E. "BB" 1.0" 15 - Tooth
329160-54X	XD to XE	3 & 5	S.A.E. "A" Pilot 2 Bolt	S.A.E. .625" 9 - Tooth

Bills of Materials for Pump Flange Conversion Kits

Part Number	Description	Quantity
329043-14X	Conversion Kit (XD to BA) 3 & 5 Assembly	
378576	Snap Ring.....	2
379746	Snap Ring.....	1
379977	Pin	1
550010	Bearing, Roller.....	2
22-P-53	Bearing Cap Gasket.....	2
28-P-225	Oil Seal.....	1
28-P-244	O-Ring	4
31-P-113	Washer, Spacer	1
328988-1X	Bearing Cap Assembly.....	1
329410X	Brake Assembly.....	1
35-P-9-1	Gasket	2
35-P-9-2	Gasket	2
37-P-60	Spring	1
3-P-970	Pump Shaft.....	1
500007-29	Woodruff Key.....	1
329160-1X	Conversion Kit (XD to XK)	
378576	Snap Ring.....	1
378849	Retainer Ring	1
379688	Grease Packet.....	1
379746	Lock Ring.....	1
21-P-445	Bearing Cap	1
22-P-53	Bearing Cap Gasket.....	2
28-P-119	Oil Seal.....	1
28-P-121	Block Vee Ring	1
28-P-225	Oil Seal.....	1
28-P-244	O-Ring	2
378447-7	Socket Head Capscrew (.312" - 18 x 1.250")	4
3-P-686	Pump Shaft.....	1

Continued on next page.

Part Number	Description	Quantity
329160-2X	Conversion Kit (XD to XP)	
378576	Snap Ring.....	1
378849	Retainer Ring	1
379688	Grease Packet.....	1
379746	Lock Ring.....	1
21-P-443	Bearing Cap	1
22-P-53	Bearing Cap Gasket.....	2
28-P-119	Oil Seal.....	1
28-P-121	Block Vee Ring	1
28-P-225	Oil Seal.....	1
28-P-244	O-Ring	2
378447-7	Socket Head Capscrew (.312" - 18 x 1.250")	4
3-P-686	Pump Shaft.....	1
329160-3X	Conversion Kit (XD to XR)	
378576	Snap Ring.....	1
378849	Retainer Ring	1
379688	Grease Packet.....	1
379746	Lock Ring.....	1
21-P-447	Bearing Cap	1
22-P-53	Bearing Cap Gasket.....	2
28-P-119	Oil Seal.....	1
28-P-121	Block Vee Ring	1
28-P-225	Oil Seal.....	1
28-P-244	O-Ring	2
378447-7	Socket Head Capscrew (.312" - 18 x 1.250")	4
3-P-703	Pump Shaft.....	1
329160-4X	Conversion Kit (XD to XY)	
378576	Snap Ring.....	1
378849	Retainer Ring	1
378898	Flat Head Socket Capscrew (.438" - 14 x 1.00")	1
379335	Coupling, Splined	1
379688	Grease Packet.....	1
379746	Lock Ring.....	1
21-P-468	Bearing Cap	1
22-P-53	Bearing Cap Gasket.....	2
28-P-119	Oil Seal.....	1
28-P-121	Block Vee Ring	1
28-P-230	Oil Seal.....	1
28-P-244	O-Ring	2
378447-7	Socket Head Capscrew (.312" - 18 x 1.250")	4
3-P-825	Pump Shaft.....	1
329160-5X	Conversion Kit (XD to XK)	
378576	Snap Ring.....	1
378849	Retainer Ring	1
379688	Grease Packet.....	1
379746	Lock Ring.....	1
21-P-303	Bearing Cap	1
22-P-53	Bearing Cap Gasket.....	2
28-P-119	Oil Seal.....	1
28-P-121	Block Vee Ring	1
28-P-225	Oil Seal.....	1
28-P-244	O-Ring	2
378447-6	Socket Head Capscrew (.312" - 18 x 1.00")	4
3-P-678	Pump Shaft.....	1

Continued on next page.

Pump Flange Conv. Kits Bills of Materials

Part Number	Description	Quantity
329160-6X	Conversion Kit (XD to XP)	
378576	Snap Ring.....	1
378849	Retainer Ring	1
379688	Grease Packet.....	1
379746	Lock Ring.....	1
21-P-301	Bearing Cap	1
22-P-53	Bearing Cap Gasket.....	2
28-P-119	Oil Seal.....	1
28-P-121	Block Vee Ring	1
28-P-225	Oil Seal.....	1
28-P-244	O-Ring	2
378447-6	Socket Head Capscrew (.312" - 18 x 1.00")	4
3-P-678	Pump Shaft.....	1
329160-31X	Conversion Kit (XD to RA)	
378576	Snap Ring.....	1
378849	Retainer Ring	1
379688	Grease Packet.....	1
379746	Lock Ring.....	1
21-P-447	Bearing Cap	1
21-P-628	Pump Flange	1
22-P-53	Bearing Cap Gasket.....	2
28-P-119	Oil Seal.....	1
28-P-121	Block Vee Ring	1
28-P-225	Oil Seal.....	1
28-P-244	O-Ring	2
378447-6	Socket Head Capscrew (.312" - 18 x 1.00")	4
378447-7	Socket Head Capscrew (.312" - 18 x 1.250")	4
3-P-703	Pump Shaft.....	1
329160-32X	Conversion Kit (XD to RB)	
378576	Snap Ring.....	1
378849	Retainer Ring	1
379688	Grease Packet.....	1
379746	Lock Ring.....	1
21-P-447	Bearing Cap	1
21-P-572	Pump Flange	1
22-P-53	Bearing Cap Gasket.....	2
28-P-119	Oil Seal.....	1
28-P-121	Block Vee Ring	1
28-P-225	Oil Seal.....	1
28-P-244	O-Ring	2
378447-6	Socket Head Capscrew (.312" - 18 x 1.00")	4
378447-7	Socket Head Capscrew (.312" - 18 x 1.250")	4
3-P-703	Pump Shaft.....	1
329160-35X	Conversion Kit (XR to RA)	
21-P-628	Pump Flange	1
378447-6	Socket Head Capscrew (.312" - 18 x 1.00")	4
329160-36X	Conversion Kit (XR to RB)	
21-P-572	Pump Flange	1
378447-6	Socket Head Capscrew (.312" - 18 x 1.00")	4

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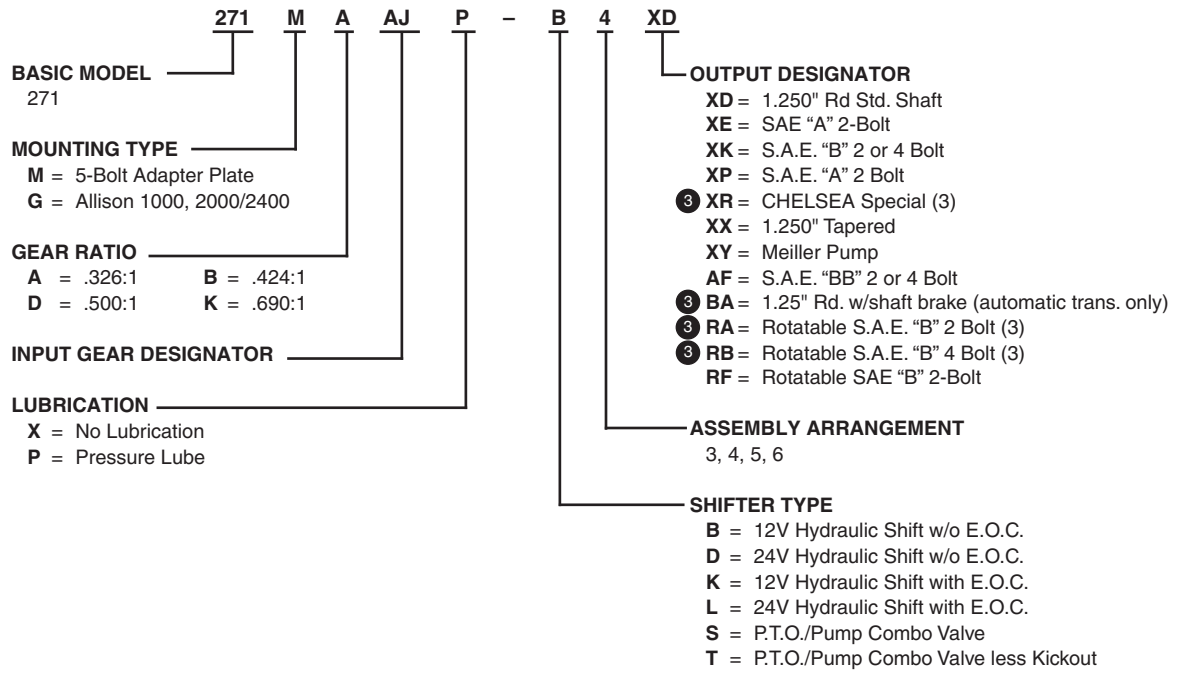
Part Number	Description	Quantity
329160-42X	Conversion Kit (XD to XX)	
378576	Snap Ring.....	1
378849	Retainer Ring	1
379111	Square Key.....	1
379746	Lock Ring.....	1
501181	Hex Nut.....	1
22-P-53	Bearing Cap Gasket.....	2
28-P-119	Oil Seal.....	1
28-P-121	Block Vee Ring	1
28-P-225	Oil Seal.....	1
28-P-244	O-Ring	2
378430-10	Hex Capscrew (.312" - 18 x 1.00")	4
378430-12	Hex Capscrew (.312" - 18 x 1.25")	4
3-P-787	Pump Shaft.....	1
3-1-604	Companion Flange (Sold Separately)	1
329160-47X	Conversion Kit (XD to RF)	
378576	Snap Ring.....	1
378849	Retainer Ring	1
379688	Grease Packet.....	1
379746	Lock Ring.....	1
21-P-447	Bearing Cap	1
21-P-628	Pump Flange.....	1
22-P-53	Bearing Cap Gasket.....	2
28-P-121	Block Vee Ring	1
28-P-119	Oil Seal.....	1
28-P-225	Oil Seal.....	1
28-P-244	O-Ring	2
378447-6	Socket Head Capscrew (.312" - 18 x 1.00")	4
378447-7	Socket Head Capscrew (.312" - 18 x 1.250")	4
3-P-957	Pump Shaft.....	1
329160-52X	Conversion Kit (XD to AF)	
378576	Snap Ring.....	1
378849	Retainer Ring	1
379688	Grease Packet.....	1
379746	Lock Ring.....	1
21-P-445	Bearing Cap	1
22-P-53	Bearing Cap Gasket.....	2
28-P-121	Block Vee Ring	1
28-P-119	Oil Seal.....	1
28-P-225	Oil Seal.....	1
28-P-244	O-Ring	2
378447-7	Socket Head Capscrew (.312" - 18 x 1.250")	4
3-P-896	Pump Shaft.....	1
329160-53X	Conversion Kit (XD to AF)	
378576	Snap Ring.....	1
378849	Retainer Ring	1
379688	Grease Packet.....	1
379746	Lock Ring.....	1
21-P-303	Pump Flange.....	1
22-P-53	Bearing Cap Gasket.....	2
28-P-121	Block Vee Ring	1
28-P-119	Oil Seal.....	1
28-P-244	O-Ring	2
28-P-225	Oil Seal.....	1
378447-6	Socket Head Capscrew (.312" - 18 x 1.00")	4
3-P-895	Pump Shaft.....	1

Continued on next page.

Pump Flange Conv. Kits Bills of Materials

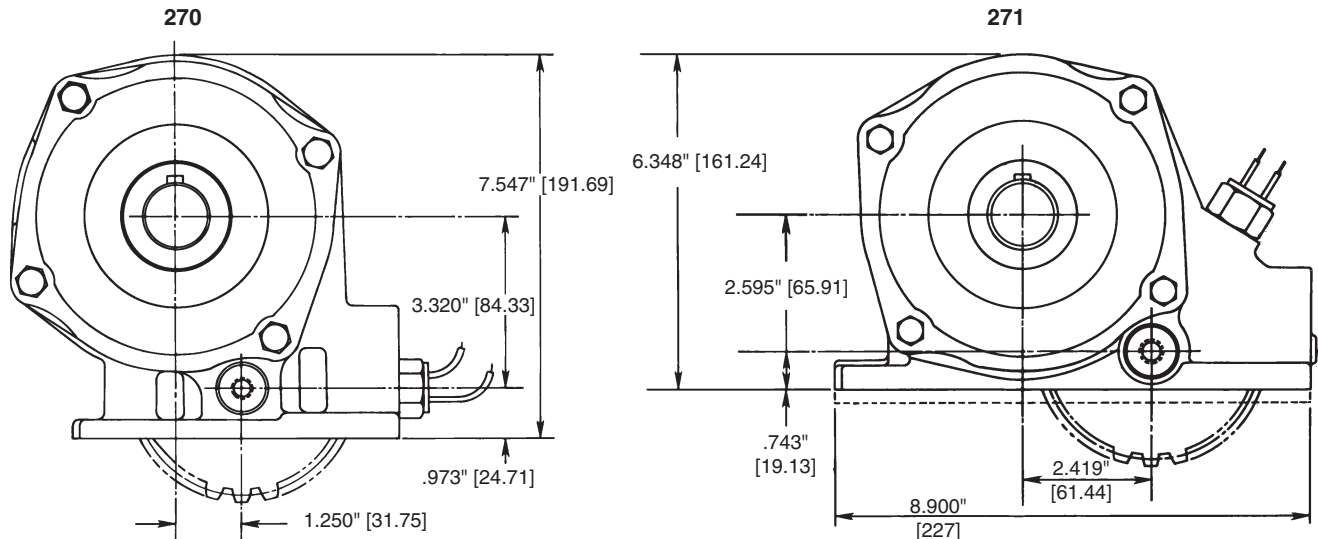
Part Number	Description	Quantity
329160-54X	Conversion Kit (XD to XE)	
378576	Snap Ring.....	1
378849	Retainer Ring	1
379688	Grease Packet	1
379746	Lock Ring.....	1
21-P-568	Bearing Cap	1
22-P-53	Bearing Cap Gasket	2
28-P-121	Block Vee Ring	1
28-P-119	Oil Seal.....	1
28-P-225	Oil Seal.....	1
28-P-244	O-Ring	2
378447-7	Socket Head Capscrew (.312" - 18 x 1.250")	4
3-P-964	Pump Shaft.....	1
4-P-183	Spacer	1

Model Number Designation



③ Available assembly 3 & 5 only

Case Dimensions



Offer of Sale

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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 18 months from date of sale.

(B) Except 267, 269, 277, 278, 246, 247, 250, 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.

6/08-P



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