

Chelsea 282 Parts Manual

Pro Gear Chelsea 282 Parts Manual to assist with technical information for your Chelsea Power Take Off unit.

If you need any assistance identifying the correct Power Take Off unit for your truck and equipment, contact your Chelsea replacement part specialists at Pro Gear and Transmission.

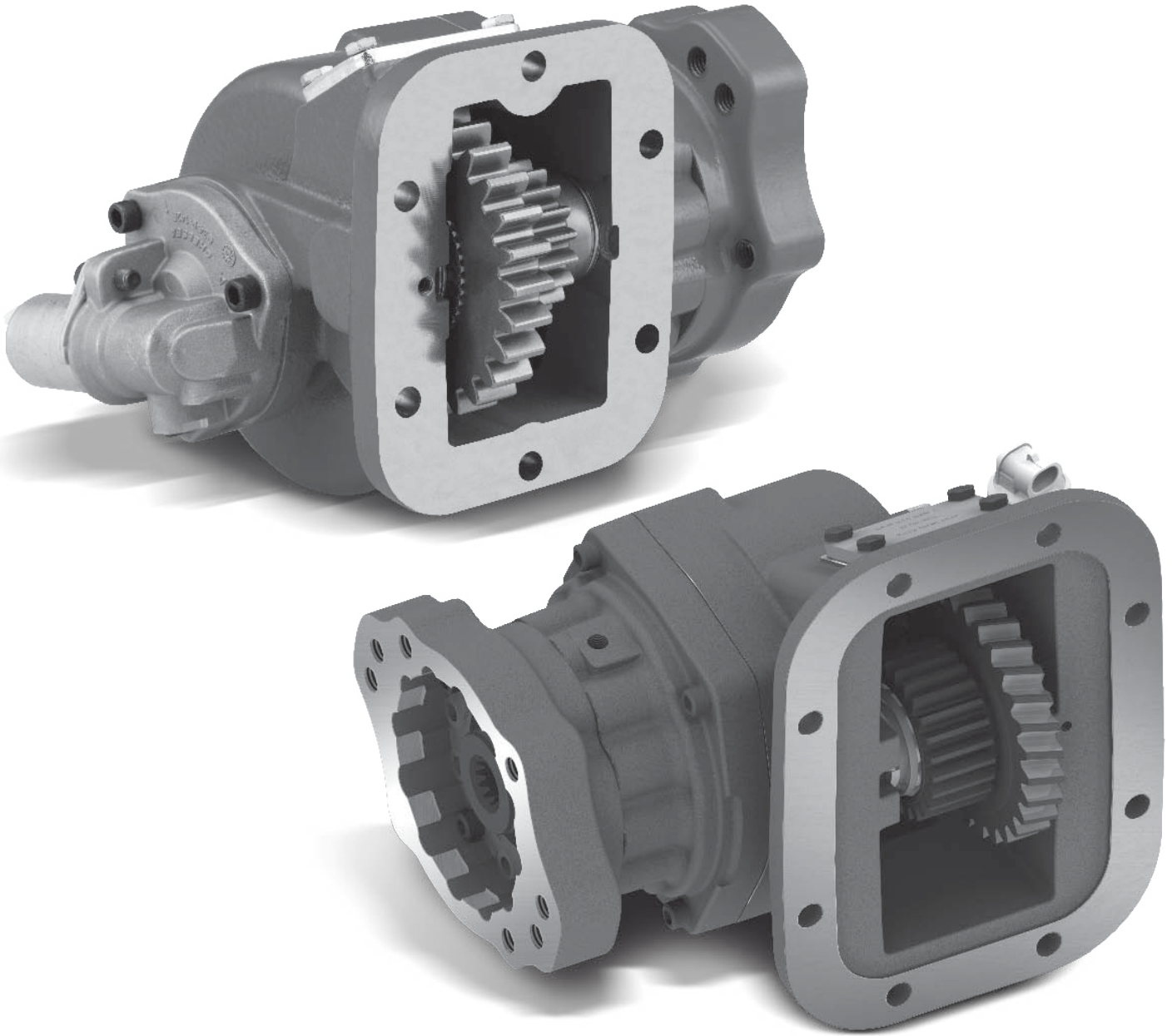
Pro Gear stocks every part for your Parker Chelsea PTO including: PTO housings, mounts, drive-shafts, gears, bearings, gaskets, cable shift cover assembly, post and plate assembly, brackets, stud kits, seal kits, lever control assembly, air shift cover assembly, direct mount pump conversion kits, stud kits including English and metric references, CAT D&H parts and much more.

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For parts or service contact the Chelsea specialists at Pro Gear & Transmission, Inc.

1 (877) 776-4600
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Effective: May 15, 2017
Supersedes: HY25-2272-M1/US January 15, 2017



Power Take-Offs Parts List

272, 282 Series



ENGINEERING YOUR SUCCESS.



WARNING — User Responsibility

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

This document and other information from Parker Hannifin Corporation, its subsidiaries and authorized distributors provide product or system options for further investigation by users having technical expertise.

The user, through its own analysis and testing, is solely responsible for making the final selection of the system and components and assuring that all performance, endurance, maintenance, safety and warning requirements of the application are met. The user must analyze all aspects of the application, follow applicable industry standards, and follow the information concerning the product in the current product catalog and in any other materials provided from Parker or its subsidiaries or authorized distributors.

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Offer of Sale

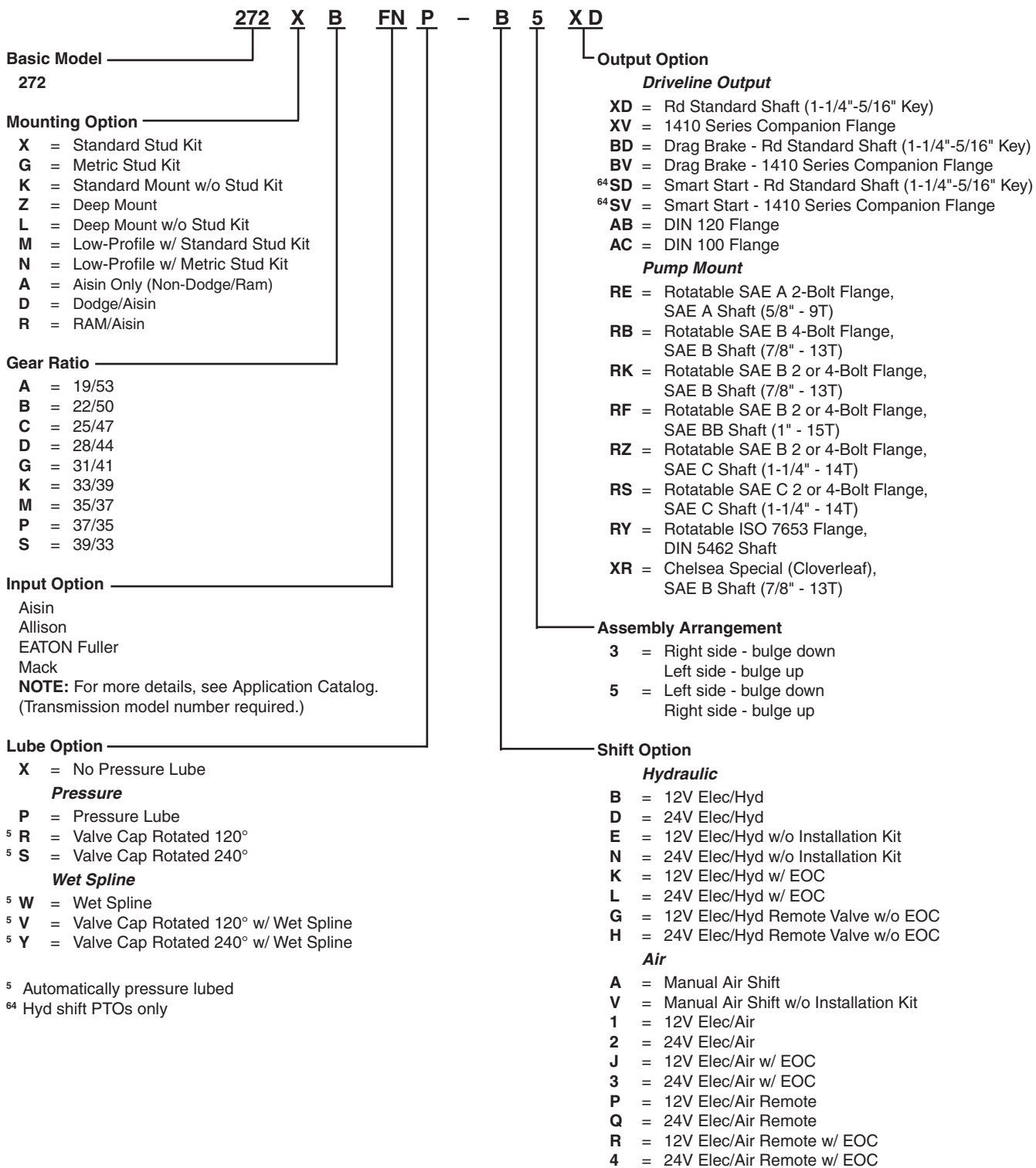
The items described in this document are hereby offered for sale by Parker Hannifin Corporation, its subsidiaries or its authorized distributors. This offer and its acceptance are governed by the provisions stated in the "Offer of Sale".

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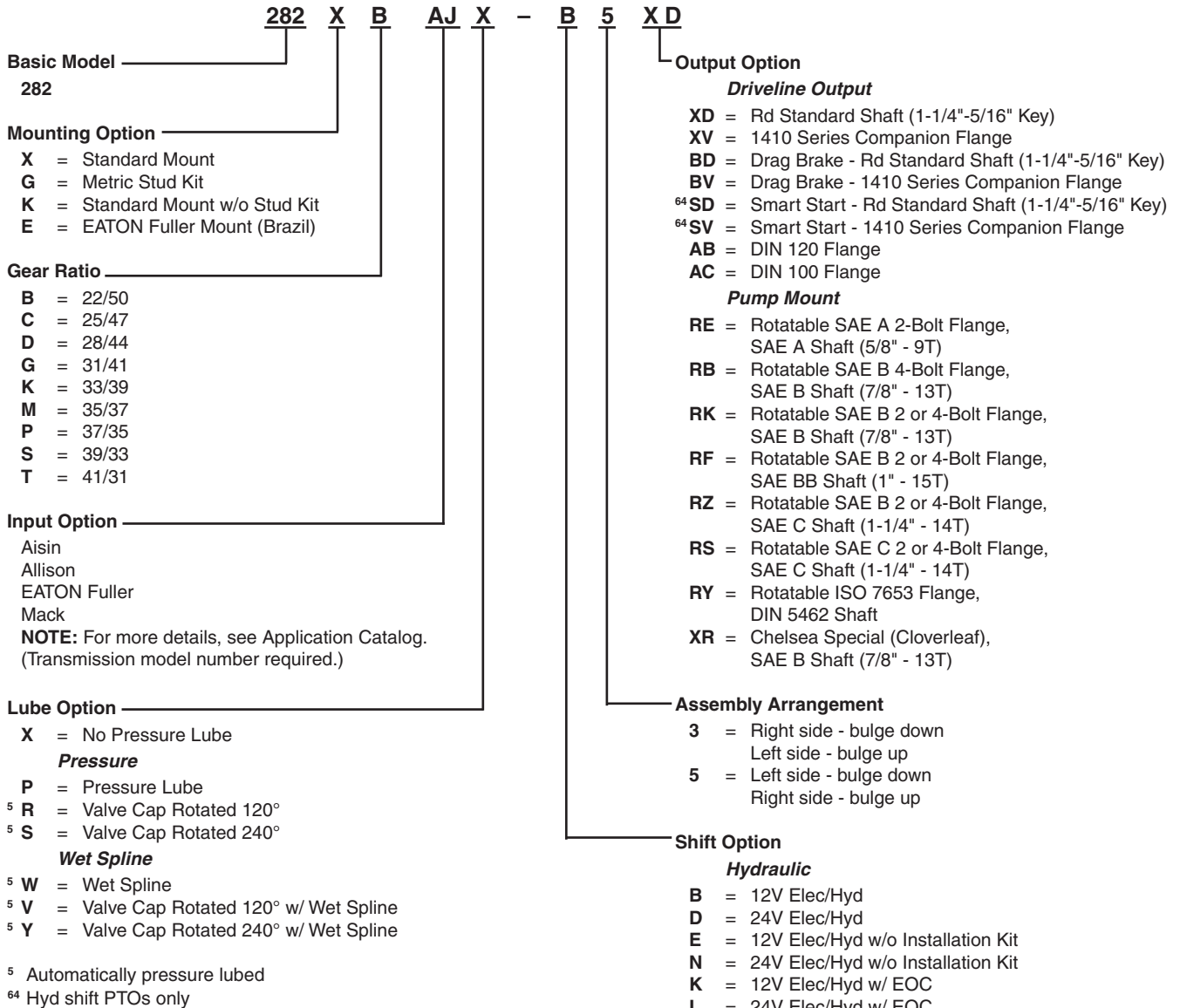
Model Number Designator



⁵ Automatically pressure lubed

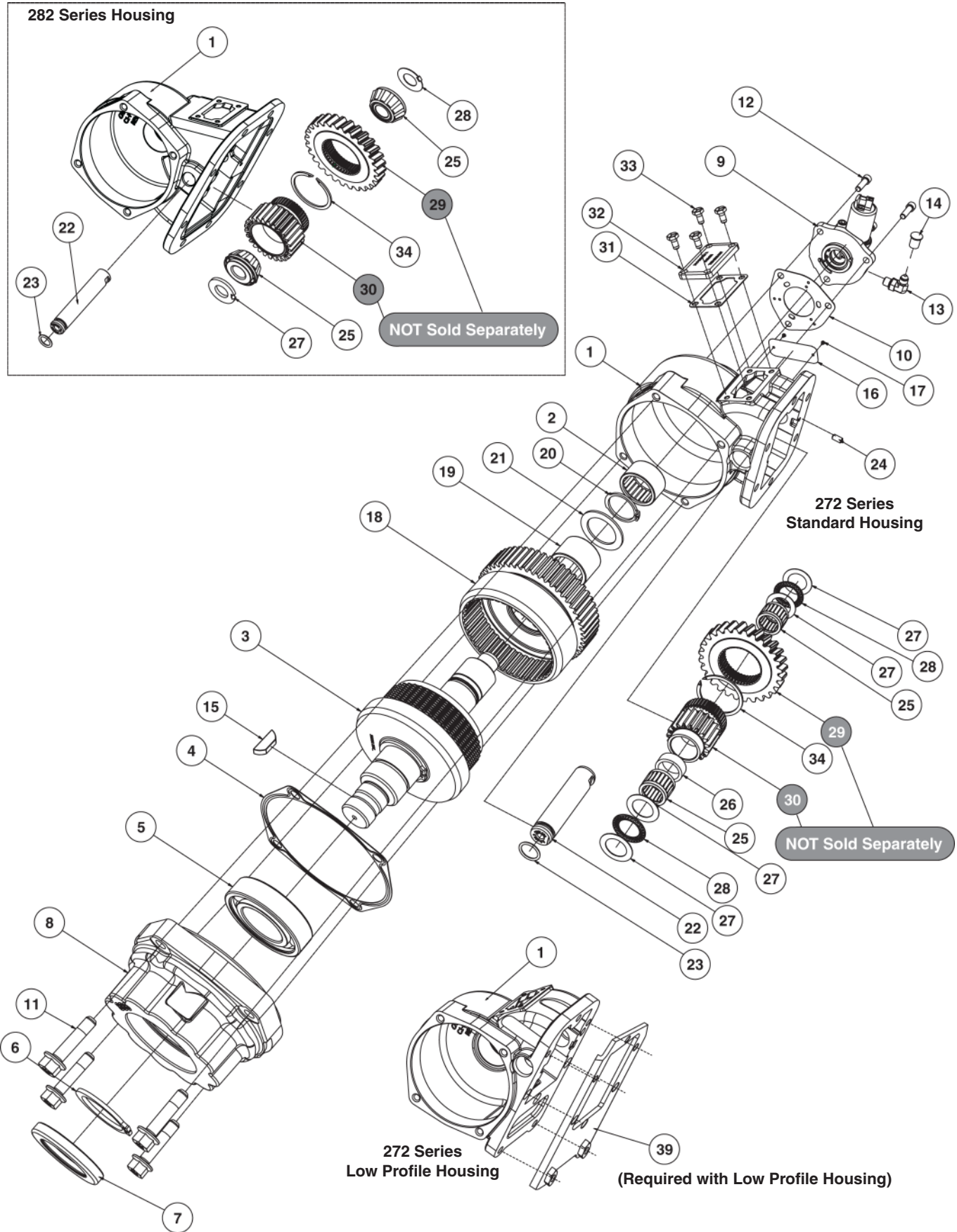
⁶⁴ Hyd shift PTOs only

Model Number Designator



⁵ Automatically pressure lubed

⁶⁴ Hyd shift PTOs only



Bill of Materials

Item	Part Number	Description	Qty.	
			272	282
1	1-P-766	Housing (3 Arrangement A, D, G, K, R, X)	1 or	
	1-P-767	Housing (5 Arrangement A, D, G, K, R, X)	1 or	
	1-P-769	Housing (3 Arrangement, Low Profile M, N)	1 or	
	1-P-771	Housing (5 Arrangement, Low Profile M, N)	1 or	
	1-P-722	Housing (3 Arrangement, Deep Mount L, Z)	1 or	
	1-P-723	Housing (5 Arrangement, Deep Mount L, Z)	1	
	1-P-770	Housing (3 Arrangement ALL)		1 or
	1-P-772	Housing (5 Arrangement ALL)		1
2	560972	Needle Roller Bearing Ass'y 1.500" x 1.875" x 1.000"	1	1
3	329828-1X	Drive Shaft & Clutch Ass'y XD (3-P-1133 Shaft) (HYD)	1 or	1 or
	329829X	Drive Shaft & Clutch Ass'y BV (3-P-1139 Shaft) (HYD)	1 or	1 or
	329832-1X	Drive Shaft & Clutch Ass'y XD (3-P-1133 Shaft) (AIR)	1	1
	329833X	Drive Shaft & Clutch Ass'y BV (3-P-1139 Shaft) (AIR)	1	1
4	22-P-151	Gasket	1	1
5	550311	Bearing-Ball 1.77" x 3.346" x .748"	1	1
6	379555	Lockring	1	1
7	28-P-267	Oil Seal 2.627" x 1.750" x .312"	1	
	28-P-225	Oil Seal 2.004" x 1.375" x .315"		1
8	21-P-886	Bearing Cap	1	1
9	See pages 11-12	Valve and Shift Cap Assembly	1	1
10	22-P-112	Valve Cap Gasket	1	1
11	380563-14	Hex Flange Head Capscrew .375"-16 x 1.500" Grade 8 (Non-Drag Brake Option)	4 or	4 or
	380563-28	Hex Flange Head Capscrew .375"-16 x 3.500" Grade 8 (Drag Brake Option)	4	4
12	378447-6	Socket Head Capscrew .312"-18 x 1.000"	3	3
13	379486	90° Elbow .438"-20 (Hydraulic Shift Options Only)	1	1
14	379564-2	Thread Cap .438" (Hydraulic Shift Options Only)	1	1
15	500007-29	Woodruff Key (XD Output Only)	1	1
16	68-P-51	Name Plate	1	1
17	378422	Drive Screw	2	2
18	See pages 7-9	Output Gear	1	1
19	561088	Bearing-Needle Roller Ass'y 1.500" x 1.875" x 1.250"	1	1
20	379746	Lockring	1	1
21	31-P-70	Thrust Washer 1.507" x 2.167" x .094"	1	1
22	9-P-109	Idler Shaft 1.00"	1	
	9-P-106	Idler Shaft .75"	N/R	1
23	28-P-198	O-Ring .798" x .103"	1	
	28-P-191	O-Ring .549" x .103"	N/R	1
24	378452-7	Set Screw Socket Head .250"-20 x .500"	1	1
25	550886	Bearing-Needle Roller Ass'y 1.000" x 1.312" x 1.000"	2	N/R
	550439	Bearing-Tapered Cone .750" x .8598"	N/R	2
	561006	Bearing-Tapered Cone .750" x .655" (B Ratio Only)	N/R	2
26	14-P-54	Spacer 1.035" x 1.310" x .462"	1	N/R
27	31-P-61	Thrust Washer 1.007" x 1.542" x .031"	4	N/R
	14-P-73-1	Spacer .762" x 1.5" x .150"	N/R	1
	14-P-73-2	Spacer .762" x 1.5" x .153"	N/R	1
	14-P-73-3	Spacer .762" x 1.5" x .156"	N/R	1
28	560920	Thrust Bearing 1.000" x .078"	2	N/R
	31-P-102	Thrust Washer .754" x .440" x .030	N/R	1

N/R = Not Required

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Bill of Materials

Item	Part Number	Description	Qty.	
			272	282
Not Sold Separately				
29	See pages 7-9	Input Gear.....	1	1
30	See pages 7-9	Ratio Gear.....	1	1
31	35-P-118	Gasket	1	1
32	34-P-315	Cover Plate.....	1 or	1 or
	34-P-316	Cover Plate EOC (w/ EOC or J, K, L, R, 3, 4 Shift Types Only).....	1	1
33	378429-4	Hex Head Capscrew .250"-20 x .500"	4	4
34	379522	Lockring.....	1	1
35	380511	Tapered Plug .302" (W, V & Y Lubrication Only).....	1	1
36	69-P-18	Wet Spline Tag (W, V & Y Lubrication Only)	1	1
37	379231	Pipe Plug .125"-27 (w/ EOC or J, K, L, R, 3, 4 Shift Types Only)	1	1
38	379242	Straight Adapter .125"-27 x .750"-16 (w/ EOC or J, K, L, R, 3, 4 Shift Types Only)	1	1
39	329150X	Adapter Plate.....	1	
See pages 46-58 for Bill of Materials for the below loose parts.				
SERVICE KITS				
	329071-62X	Gasket & Seal Kit (All Outputs Except BD, BV) For BD, BV Outputs use 329071-62X plus parts below:		
	28-P-244	O-Ring 1.174" x .103".....	2	
	22-P-151	Gasket	1	
	329071-63X	Bearing Kit AB, AC, XD, XV, RF, RK, RS, RY, RZ (All Outputs Except BV, BD)		
	329071-64X	Bearing Kit (BV & BD Outputs)		
	329071-83X	Hydraulic Solenoid Valve O-Ring Kit (For Part Number 380123**)		
	329678X	Gear & Clutch Plates Kit (All)		
STUD KITS				
	7170-127X	Standard Stud Kit (272M).....	1 or	
	7170-129X	Standard Stud Kit (272X, E).....	1 or	
	7170-130X	Metric Stud Kit (272N).....	1 or	
	7170-72X	Metric Stud Kit (272G Except KU Gear).....	1 or	
	7170-128X	Metric Stud Kit (272G*KU).....	1 or	
	7170-131X	Stud Kit (272Z)	1	
	328170-200X	Stud Kit (282X)		1 or
	328170-201X	Metric Stud Kit (282G).....		1
INSTALLATION INSTRUCTIONS KITS (Mounting Gaskets are included in Gasket Kits)				
	328950-6X	Gasket & Installation Instructions Kit (All 272 Except M & N Mounting).....	1 or	
	328948-5X	Gasket & Installation Instructions Kit (All 272 M & N Mounting).....	1	
	3298951-8X	Gasket & Installation Instructions Kit (All 282).....		1
MOUNTING GASKETS				
(All 272 Except M & N Mounting)				
	35-P-9-1	Mounting Gasket .010" 6-Bolt.....	2	
	35-P-9-2	Mounting Gasket .020" 6-Bolt.....	2	
	35-P-41	Mounting Gasket .030" 6-Bolt.....	1	
(All 272 M & N Mounting)				
	35-P-69	Mounting Gasket	1	
	35-P-84	Mounting Gasket (Long).....	1	
(All 282)				
	35-P-15-1	Mounting Gasket .010" 8-Bolt.....		2
	35-P-15-2	Mounting Gasket .020" 8-Bolt.....		2

N/R = Not Required

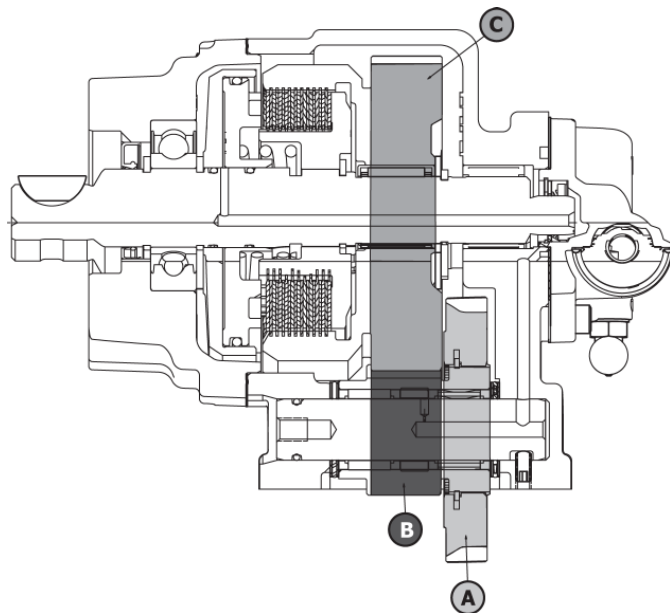
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Bill of Materials

Item	Part Number	Description	Qty.	
			272	282
		HYDRAULIC INSTALLATION KITS		
	329892-12X	12V Hyd Valve Installation Kit (B Shift, Except HV Gear)	1 or	1 or
	329882-12X	12V Hyd Valve Installation Kit (B Shift, HV Gear)	1 or	
	329907-12X	12V Hyd Valve Installation Kit (B Shift, KU Gear, Except D, R Mount)	1 or	
	329884-12X	12V Hyd Valve Installation Kit (B Shift, KU Gear, D Mount)	1 or	
	329841-12X	12V Hyd Valve Installation Kit (B Shift, KU Gear, R Mount)	1 or	
	329892-24X	24V Hyd Valve Installation Kit (D Shift, Except HV Gear)	1 or	1 or
	329882-24X	24V Hyd Valve Installation Kit (D Shift, HV Gear)	1 or	
	329907-24X	24V Hyd Valve Installation Kit (D Shift, KU Gear, Except D, R Mount)	1 or	
	329885-12X	12V Remote Hyd Valve Installation Kit (G Shift, Except HV Gear)	1 or	1 or
	329842-12X	12V Remote Hyd Valve Installation Kit (G Shift, HV Gear)	1 or	
	329908-12X	12V Remote Hyd Valve Installation Kit (G Shift, KU Gear, Except D, R Mount)	1 or	
	329888-12X	12V Remote Hyd Valve Installation Kit (G Shift, KU Gear, D Mount)	1 or	
	329887-12X	12V Remote Hyd Valve Installation Kit (G Shift, KU Gear, R Mount)	1 or	
	329885-24X	24V Remote Hyd Valve Installation Kit (H Shift, Except HV Gear)	1 or	1 or
	329842-24X	24V Remote Hyd Valve Installation Kit (H Shift, HV Gear)	1 or	
	329908-24X	24V Remote Hyd Valve Installation Kit (H Shift, KU Gear, Except D, R Mount)	1 or	
	329900X	12V & 24V Hyd Valve Installation Kit w/ EOC (K Shift & L Shift, Except HV, KU Gear)	1 or	1
	329883X	12V & 24V Hyd Valve Installation Kit w/ EOC (K Shift & L Shift, HV Gear)	1 or	
	329886X	12V & 24V Hyd Valve Installation Kit w/ EOC (K Shift & L Shift, KU Gear, D, R Mount)	1	
		AIR INSTALLATION KITS		
	328388-113X	Air Shift Installation Kit (A Shift)	1 or	1 or
	329893-12X	12V Elec/Air Valve Installation Kit (1 Shift)	1 or	1 or
	329909-12X	12V Elec/Air Valve Installation Kit (1 Shift, HV Gear)	1 or	
	329891-12X	12V Remote Elec/Air Valve Installation Kit (P Shift, Except HV Gear)	1 or	1 or
	329910-12X	12V Remote Elec/Air Valve Installation Kit (P Shift, HV Gear)	1 or	
	329889-12X	12V Remote Elec/Air Valve Installation Kit w/ EOC (R Shift, Except HV Gear)	1 or	1 or
	329890-12X	12V Remote Elec/Air Valve Installation Kit w/ EOC (R Shift, HV Gear)	1 or	
	329893-24X	24V Elec/Air Valve Installation Kit (2 Shift, Except HV Gear)	1 or	1 or
	329909-24X	24V Elec/Air Valve Installation Kit (2 Shift, HV Gear)	1 or	
	329891-24X	24V Remote Elec/Air Valve Installation Kit (Q Shift, Except HV Gear)	1 or	1 or
	329910-24X	24V Remote Elec/Air Valve Installation Kit (Q Shift, HV Gear)	1 or	
	329889-24X	24V Remote Elec/Air Valve Installation Kit w/ EOC (4 Shift, Except HV Gear)	1 or	1 or
	329890-24X	24V Remote Elec/Air Valve Installation Kit w/ EOC (4 Shift, HV Gear)	1 or	
	329894X	12V & 24V Elec/Air Valve Installation Kit w/ EOC (J Shift & 3 Shift, Except HV Gear)	1 or	1 or
	329911X	12V & 24V Elec/Air Valve Installation Kit w/ EOC (J Shift & 3 Shift, HV Gear)	1 or	
		CONVERSION KITS		
	329175-12X	12V w/ EOC Conversion Kit		
	329354-12X	12V Remote Hyd Valve Conversion Kit (All)		
	329175-24X	24V w/ EOC Conversion Kit		
	329354-24X	24V Remote Hyd Valve Conversion Kit (All)		
	See pages 55-58	Output Conversion Kits Bill of Materials		

N/R = Not Required

Gear Chart – 272 Series



GEAR DESIGNATOR	INPUT GEAR ASSEMBLY	NOT Sold Separately				OUTPUT GEAR (18)	NO. TEETH C
		INPUT GEAR (29)	NO. TEETH A	RATIO GEAR (30)	NO. TEETH B		
272*AFN	5-P-1509-1X	5-P-1509	28	5-P-1498	19	2-P-925	53
272*BFN	5-P-1509-2X	5-P-1509	28	5-P-1499	22	2-P-926	50
272*CFN	5-P-1509-3X	5-P-1509	28	5-P-1500	25	2-P-927	47
272*DFN	5-P-1509-4X	5-P-1509	28	5-P-1501	28	2-P-928	44
272*GFN	5-P-1509-5X	5-P-1509	28	5-P-1502	31	2-P-929	41
272*KFN	5-P-1509-6X	5-P-1509	28	5-P-1503	33	2-P-931	39
272*MFN	5-P-1509-7X	5-P-1509	28	5-P-1504	35	2-P-933	37
272*PFN	5-P-1509-8X	5-P-1509	28	5-P-1505	37	2-P-935	35
272*SFN	5-P-1509-9X	5-P-1509	28	5-P-1506	39	2-P-936	33
272*AAJ	5-P-1510-1X	5-P-1510	25	5-P-1498	19	2-P-925	53
272*BAJ	5-P-1510-2X	5-P-1510	25	5-P-1499	22	2-P-926	50
272*CAJ	5-P-1510-3X	5-P-1510	25	5-P-1500	25	2-P-927	47
272*DAJ	5-P-1510-4X	5-P-1510	25	5-P-1501	28	2-P-928	44
272*GAJ	5-P-1510-5X	5-P-1510	25	5-P-1502	31	2-P-929	41
272*KAJ	5-P-1510-6X	5-P-1510	25	5-P-1503	33	2-P-931	39
272*MAJ	5-P-1510-7X	5-P-1510	25	5-P-1504	35	2-P-933	37
272*PAJ	5-P-1510-8X	5-P-1510	25	5-P-1505	37	2-P-935	35
272*SAJ	5-P-1510-9X	5-P-1510	25	5-P-1506	39	2-P-936	33
272*ADA	5-P-1511-1X	5-P-1511	27	5-P-1498	19	2-P-925	53
272*BDA	5-P-1511-2X	5-P-1511	27	5-P-1499	22	2-P-926	50
272*CDA	5-P-1511-3X	5-P-1511	27	5-P-1500	25	2-P-927	47
272*DDA	5-P-1511-4X	5-P-1511	27	5-P-1501	28	2-P-928	44
272*GDA	5-P-1511-5X	5-P-1511	27	5-P-1502	31	2-P-929	41
272*KDA	5-P-1511-6X	5-P-1511	27	5-P-1503	33	2-P-931	39
272*MDA	5-P-1511-7X	5-P-1511	27	5-P-1504	35	2-P-933	37
272*PDA	5-P-1511-8X	5-P-1511	27	5-P-1505	37	2-P-935	35
272*SDA	5-P-1511-9X	5-P-1511	27	5-P-1506	39	2-P-936	33
272*AES	5-P-1512-1X	5-P-1512	23	5-P-1498	19	2-P-925	53
272*BES	5-P-1512-2X	5-P-1512	23	5-P-1499	22	2-P-926	50
272*CES	5-P-1512-3X	5-P-1512	23	5-P-1500	25	2-P-927	47
272*DES	5-P-1512-4X	5-P-1512	23	5-P-1501	28	2-P-928	44
272*GES	5-P-1512-5X	5-P-1512	23	5-P-1502	31	2-P-929	41
272*KES	5-P-1512-6X	5-P-1512	23	5-P-1503	33	2-P-931	39
272*MES	5-P-1512-7X	5-P-1512	23	5-P-1504	35	2-P-933	37
272*PES	5-P-1512-8X	5-P-1512	23	5-P-1505	37	2-P-935	35
272*SES	5-P-1512-9X	5-P-1512	23	5-P-1506	39	2-P-936	33

NOTE: Input Gear Assembly includes Input Gear, Ratio Gear and 379522 pre-assembled.

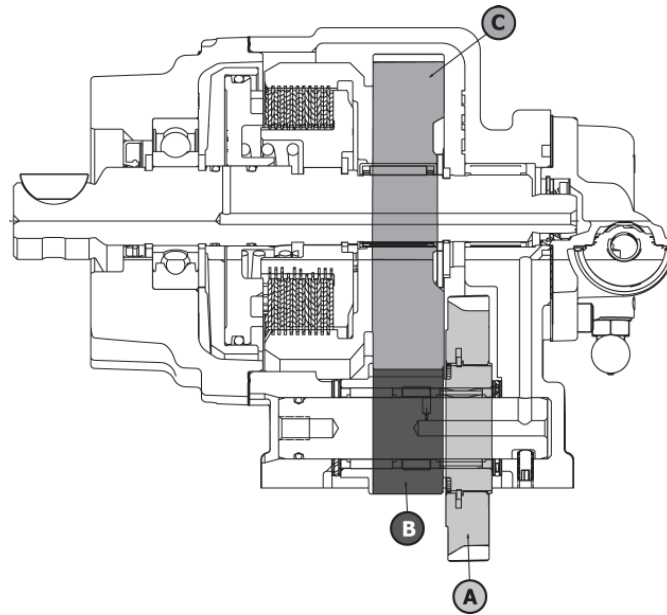
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Gear Chart – 272 Series (Continued)

GEAR DESIGNATOR	INPUT GEAR ASSEMBLY	NOT Sold Separately				OUTPUT GEAR (18)	NO. TEETH C
		INPUT GEAR (29)	NO. TEETH A	RATIO GEAR (30)	NO. TEETH B		
272*AJK	5-P-1513-1X	5-P-1513	26	5-P-1498	19	2-P-925	53
272*BJK	5-P-1513-2X	5-P-1513	26	5-P-1499	22	2-P-926	50
272*CJK	5-P-1513-3X	5-P-1513	26	5-P-1500	25	2-P-927	47
272*DJK	5-P-1513-4X	5-P-1513	26	5-P-1501	28	2-P-928	44
272*GJK	5-P-1513-5X	5-P-1513	26	5-P-1502	31	2-P-929	41
272*KJK	5-P-1513-6X	5-P-1513	26	5-P-1503	33	2-P-931	39
272*MJK	5-P-1513-7X	5-P-1513	26	5-P-1504	35	2-P-933	37
272*PKJ	5-P-1513-8X	5-P-1513	26	5-P-1505	37	2-P-935	35
272*SJK	5-P-1513-9X	5-P-1513	26	5-P-1506	39	2-P-936	33
272*A JW	5-P-1514-1X	5-P-1514	25	5-P-1498	19	2-P-925	53
272*B JW	5-P-1514-2X	5-P-1514	25	5-P-1499	22	2-P-926	50
272*C JW	5-P-1514-3X	5-P-1514	25	5-P-1500	25	2-P-927	47
272*D JW	5-P-1514-4X	5-P-1514	25	5-P-1501	28	2-P-928	44
272*G JW	5-P-1514-5X	5-P-1514	25	5-P-1502	31	2-P-929	41
272*K JW	5-P-1514-6X	5-P-1514	25	5-P-1503	33	2-P-931	39
272*M JW	5-P-1514-7X	5-P-1514	25	5-P-1504	35	2-P-933	37
272*P JW	5-P-1514-8X	5-P-1514	25	5-P-1505	37	2-P-935	35
272*S JW	5-P-1514-9X	5-P-1514	25	5-P-1506	39	2-P-936	33
272*AKU	5-P-1515-1X	5-P-1515	36	5-P-1498	19	2-P-925	53
272*BKU	5-P-1515-2X	5-P-1515	36	5-P-1499	22	2-P-926	50
272*CKU	5-P-1515-3X	5-P-1515	36	5-P-1500	25	2-P-927	47
272*DKU	5-P-1515-4X	5-P-1515	36	5-P-1501	28	2-P-928	44
272*GKU	5-P-1515-5X	5-P-1515	36	5-P-1502	31	2-P-929	41
272*KKU	5-P-1515-6X	5-P-1515	36	5-P-1503	33	2-P-931	39
272*MKU	5-P-1515-7X	5-P-1515	36	5-P-1504	35	2-P-933	37
272*PKU	5-P-1515-8X	5-P-1515	36	5-P-1505	37	2-P-935	35
272*SKU	5-P-1515-9X	5-P-1515	36	5-P-1506	39	2-P-936	33
272*AHV	5-P-1516-1X	5-P-1516	27	5-P-1498	19	2-P-925	53
272*BHV	5-P-1516-2X	5-P-1516	27	5-P-1499	22	2-P-926	50
272*CHV	5-P-1516-3X	5-P-1516	27	5-P-1500	25	2-P-927	47
272*DHV	5-P-1516-4X	5-P-1516	27	5-P-1501	28	2-P-928	44
272*GHV	5-P-1516-5X	5-P-1516	27	5-P-1502	31	2-P-929	41
272*KHV	5-P-1516-6X	5-P-1516	27	5-P-1503	33	2-P-931	39
272*MHV	5-P-1516-7X	5-P-1516	27	5-P-1504	35	2-P-933	37
272*PHV	5-P-1516-8X	5-P-1516	27	5-P-1505	37	2-P-935	35
272*SHV	5-P-1516-9X	5-P-1516	27	5-P-1506	39	2-P-936	33
272*AAK	5-P-1517-1X	5-P-1517	25	5-P-1498	19	2-P-925	53
272*BAK	5-P-1517-2X	5-P-1517	25	5-P-1499	22	2-P-926	50
272*CAK	5-P-1517-3X	5-P-1556	25	5-P-1500	25	2-P-927	47
272*DAK	5-P-1517-4X	5-P-1517	25	5-P-1501	28	2-P-928	44
272*GAK	5-P-1517-5X	5-P-1517	25	5-P-1502	31	2-P-929	41
272*KAK	5-P-1517-6X	5-P-1517	25	5-P-1503	33	2-P-931	39
272*MAK	5-P-1517-7X	5-P-1517	25	5-P-1504	35	2-P-933	37
272*PAK	5-P-1517-8X	5-P-1517	25	5-P-1505	37	2-P-935	35
272*SAK	5-P-1517-9X	5-P-1517	25	5-P-1506	39	2-P-936	33
272*AKN	5-P-1556-1X	5-P-1556	25	5-P-1498	19	2-P-925	53
272*BKN	5-P-1556-2X	5-P-1556	25	5-P-1499	22	2-P-926	50
272*CKN	5-P-1556-3X	5-P-1556	25	5-P-1500	25	2-P-927	47
272*DKN	5-P-1556-4X	5-P-1556	25	5-P-1501	28	2-P-928	44
272*GKN	5-P-1556-5X	5-P-1556	25	5-P-1502	31	2-P-929	41
272*KKN	5-P-1556-6X	5-P-1556	25	5-P-1503	33	2-P-931	39
272*MKN	5-P-1556-7X	5-P-1556	25	5-P-1504	35	2-P-933	37
272*PKN	5-P-1556-8X	5-P-1556	25	5-P-1505	37	2-P-935	35
272*SKN	5-P-1556-9X	5-P-1556	25	5-P-1506	39	2-P-936	33

NOTE: Input Gear Assembly includes Input Gear, Ratio Gear and 379522 pre-assembled.

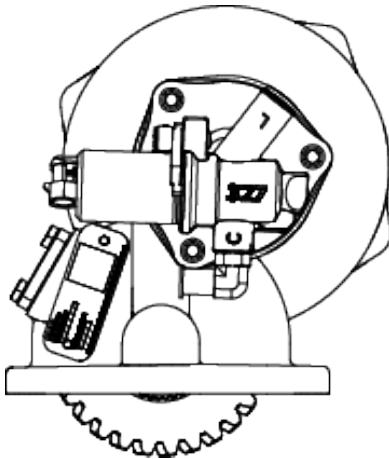
Gear Chart – 282 Series



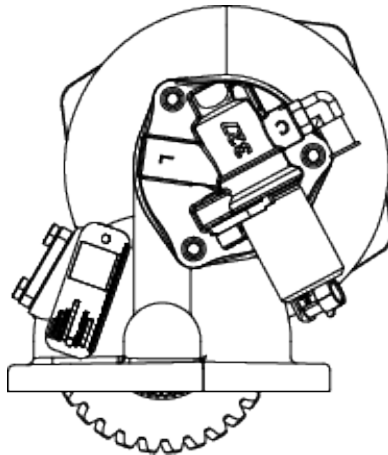
GEAR DESIGNATOR	INPUT GEAR ASSEMBLY	NOT Sold Separately				OUTPUT GEAR (18)	NO. TEETH C
		INPUT GEAR (29)	NO. TEETH A	RATIO GEAR (30)	NO. TEETH B		
282*BAJ	5-P-1510-11X	5-P-1510	25	5-P-1478	22	2-P-926	50
282*CAJ	5-P-1510-12X	5-P-1510	25	5-P-1495	25	2-P-927	47
282*DAJ	5-P-1510-13X	5-P-1510	25	5-P-1479	28	2-P-928	44
282*GAJ	5-P-1510-14X	5-P-1510	25	5-P-1480	31	2-P-929	41
282*KAJ	5-P-1510-15X	5-P-1510	25	5-P-1481	33	2-P-931	39
282*MAJ	5-P-1510-16X	5-P-1510	25	5-P-1482	35	2-P-933	37
282*PAJ	5-P-1510-17X	5-P-1510	25	5-P-1483	37	2-P-935	35
282*SAJ	5-P-1510-18X	5-P-1510	25	5-P-1484	39	2-P-936	33
282*TAJ	5-P-1510-19X	5-P-1510	25	5-P-1497	41	2-P-937	31
282*BDA	5-P-1511-11X	5-P-1511	27	5-P-1478	22	2-P-926	50
282*CDA	5-P-1511-12X	5-P-1511	27	5-P-1495	25	2-P-927	47
282*DDA	5-P-1511-13X	5-P-1511	27	5-P-1479	28	2-P-928	44
282*GDA	5-P-1511-14X	5-P-1511	27	5-P-1480	31	2-P-929	41
282*KDA	5-P-1511-15X	5-P-1511	27	5-P-1481	33	2-P-931	39
282*MDA	5-P-1511-16X	5-P-1511	27	5-P-1482	35	2-P-933	37
282*PDA	5-P-1511-17X	5-P-1511	27	5-P-1483	37	2-P-935	35
282*SDA	5-P-1511-18X	5-P-1511	27	5-P-1484	39	2-P-936	33
282*TDA	5-P-1511-19X	5-P-1511	27	5-P-1497	41	2-P-937	31
282*BAK	5-P-1517-11X	5-P-1517	25	5-P-1478	22	2-P-926	50
282*CAK	5-P-1517-12X	5-P-1517	25	5-P-1495	25	2-P-927	47
282*DAK	5-P-1517-13X	5-P-1517	25	5-P-1479	28	2-P-928	44
282*GAK	5-P-1517-14X	5-P-1517	25	5-P-1480	31	2-P-929	41
282*KAK	5-P-1517-15X	5-P-1517	25	5-P-1481	33	2-P-931	39
282*MAK	5-P-1517-16X	5-P-1517	25	5-P-1482	35	2-P-933	37
282*PAK	5-P-1517-17X	5-P-1517	25	5-P-1483	37	2-P-935	35
282*SAK	5-P-1517-18X	5-P-1517	25	5-P-1484	39	2-P-936	33
282*TAK	5-P-1517-19X	5-P-1517	25	5-P-1497	41	2-P-937	31

NOTE: Input Gear Assembly includes Input Gear, Ratio Gear and 379522 pre-assembled.

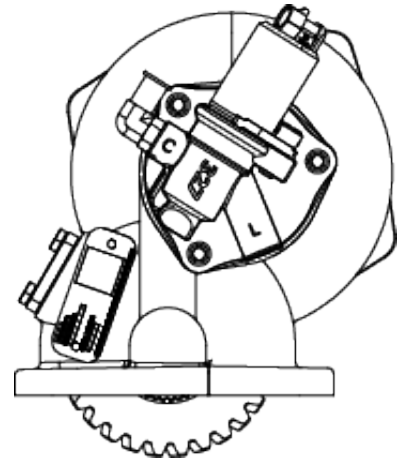
Pressure Lube



P = Pressure Lube

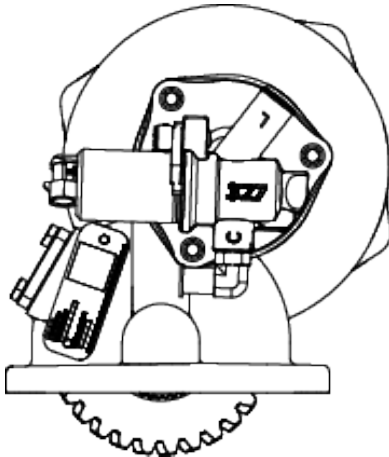


R = Valve Cap Rotated 120°

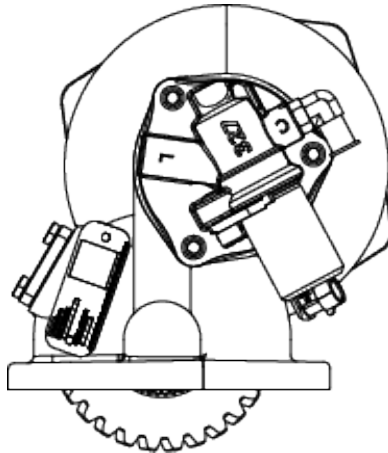


S = Valve Cap Rotated 240°

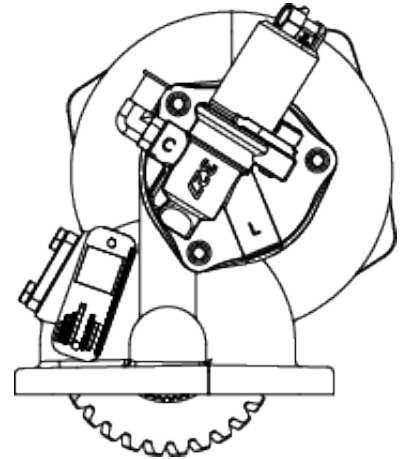
Wet Spline



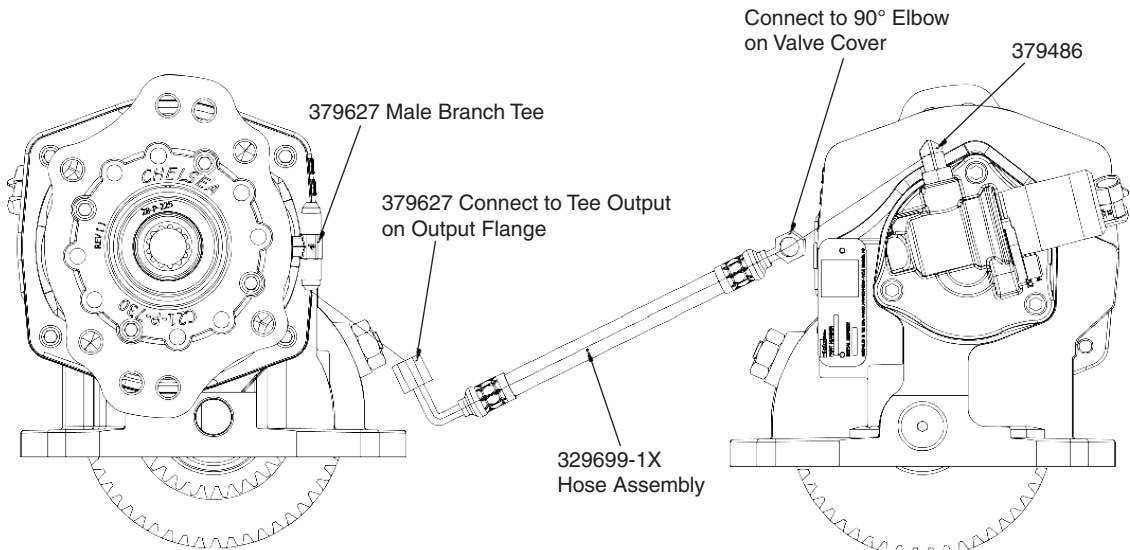
W = Wet Spline



V = Valve Cap Rotated 120°
w/ Wet Spline



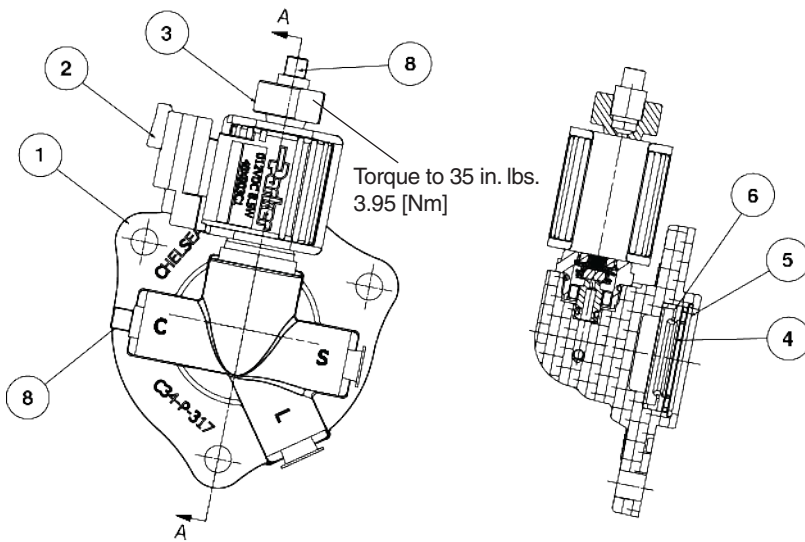
Y = Valve Cap Rotated 240°
w/ Wet Spline



Wet Spline Hose Connections

NOTE: Valve position displayed are for 5 Arrangement PTO

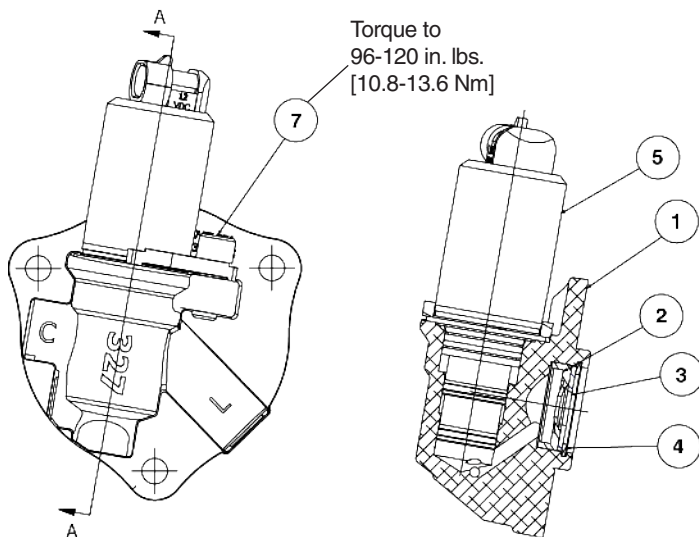
Valve Cap Assembly (Air) – 329858-*X



Pressure Lube	Shift Option	Assembly
Yes	J & 1	329858-1X
No	J & 1	329858-2X
Yes	3 & 2	329858-3X
No	3 & 2	329858-4X

Item	Part Number	Description	Qty.
1	34-P-318-1	Air Integral Cap w/o Lube (329858-2X & 329858-4X).....	1
	34-P-318	Air Integral Cap w/ Lube (329858-1X & 329858-3X)	1 or
2	75-P-35-12	Air Valve Coil 12V (329858-1X & 329858-2X)	1 or
	75-P-35-24	Air Valve Coil 24V (329858-3X & 329858-4X)	1
3	380574	Valve-Pneumatic Plunger Ass'y	1
4	378811	Seal Plate Backup	1
5	378849	Lockring.....	1
6	28-P-179	Oil Seal 1.379" x .875" x .249".....	1

Valve Cap Assembly (Hydraulic) – 329872-*X

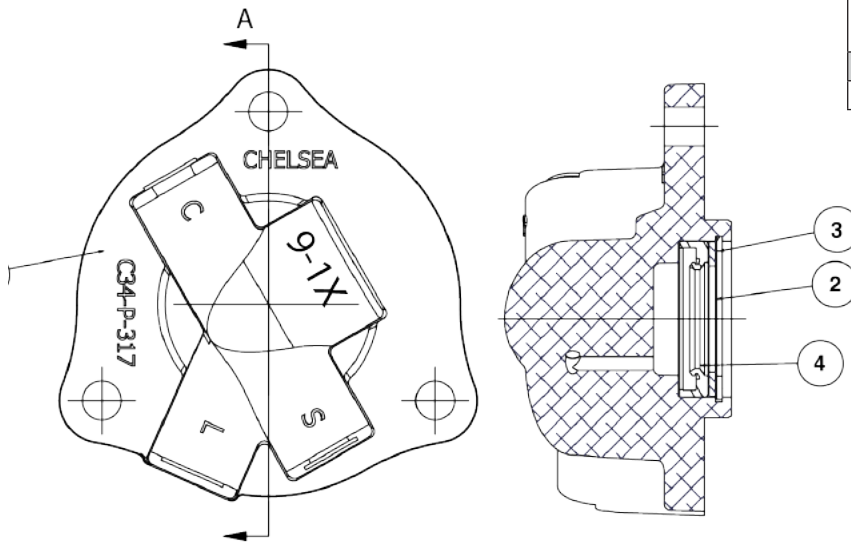


Pressure Lube	Shift Option	Assembly
Yes	B, E, & K	329872-1X
No	B, E, & K	329872-2X
Yes	D, L, & N	329872-3X
No	D, L, & N	329872-4X

Item	Part Number	Description	Qty.
1	34-P-327	High Pressure w/ Lube Valve Cap Solenoid Port (329872-1X & 329872-3X).....	1 or
	34-P-326	High Pressure w/ Lube Valve Cap Solenoid Port (329872-2X & 329872-4X).....	1
2	28-P-119	Oil Seal 1.379" x .875" x .250".....	1
3	378811	Seal Backup Plate	1
4	378849	Lock ring	1
5	380123-12	Non Regulating Cartridge Valve 12V (329872-1X & 329872-2X)	1 or
	380123-24	Non Regulating Cartridge Valve 24V (329872-3X & 329872-4X)	1
7	378447-4	Socket Head Capscrew .312"-18 x .750".....	1
N.S.	329071-83X	Hydraulic Solenoid Valve O-Ring Kit.....	1

N.S. – Not Shown

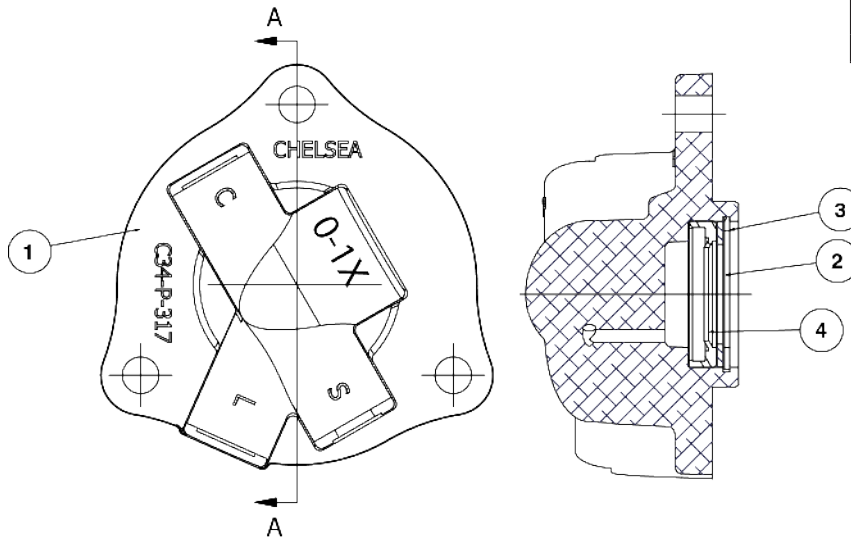
Remote Valve Cap Assembly (Air) – 329859X



Pressure Lube	Shift Option	Assembly
Yes	A, P, Q, R, V, & 4	329859-1X
No	A, P, Q, R, V, & 4	329859-2X

Item	Part Number	Description	Qty.
1	34-P-318-2 34-P-318-3	Remote Air Cap w/ Lube (329859-1X) Remote Air Cap w/o Lube (329859-2X)	1 or 1
2	378811	Backup Seal Plate	1
3	378849	Lock ring	1
4	28-P-179	Oil Seal 1.379" x .875" x .249"	1

Remote Valve Cap Assembly (Hydraulic) – 329880X

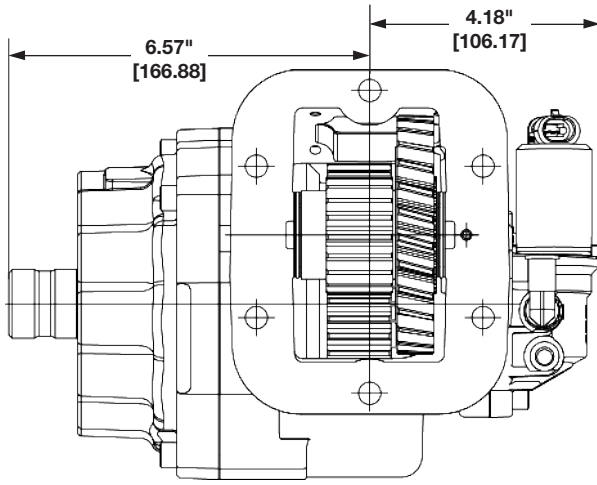


Pressure Lube	Shift Option	Assembly
Yes	G & H	329880-1X

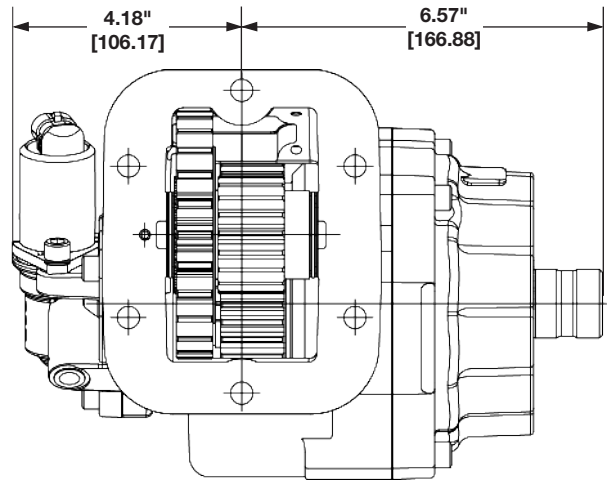
Item	Part Number	Description	Qty.
1	34-P-320	Hydraulic Remote Cap w/ Lube (329880-1X)	11
2	378811	Backup Seal Plate	1
3	378849	Lock ring	1
4	28-P-119	Oil Seal 1.379" x .875" x .250"	1

Housing Dimensions

272 Series



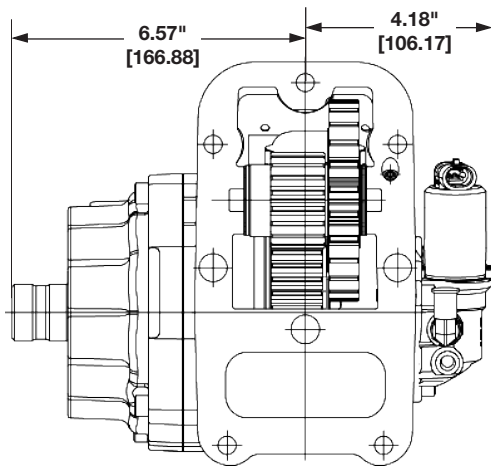
5 Arrangement



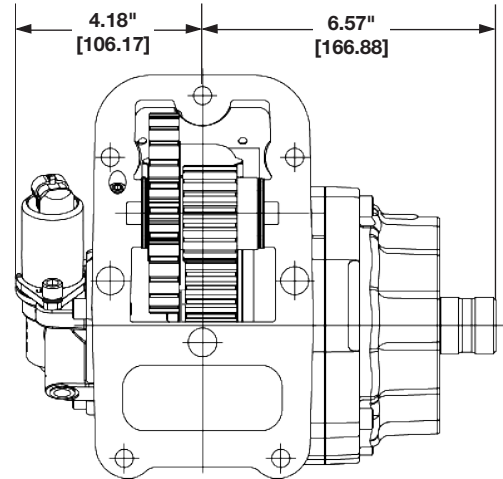
3 Arrangement

in. [mm]

272M Series



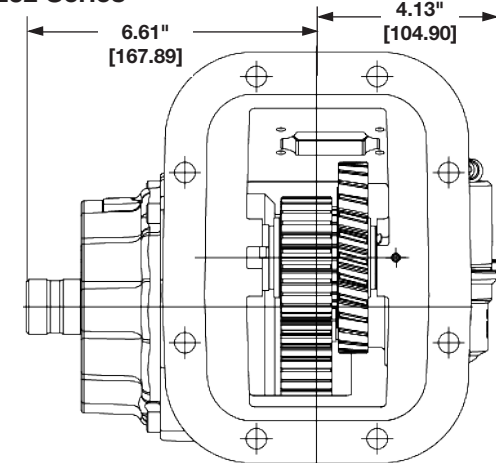
5 Arrangement



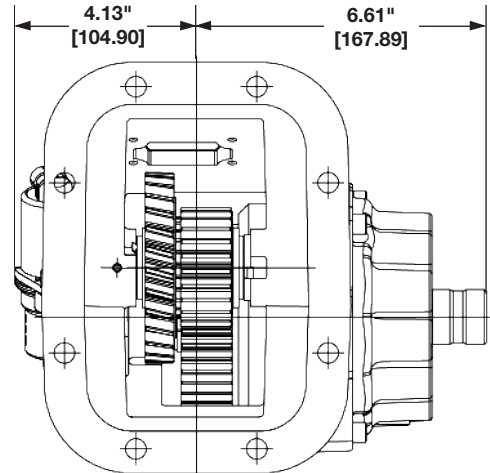
3 Arrangement

in. [mm]

282 Series



5 Arrangement

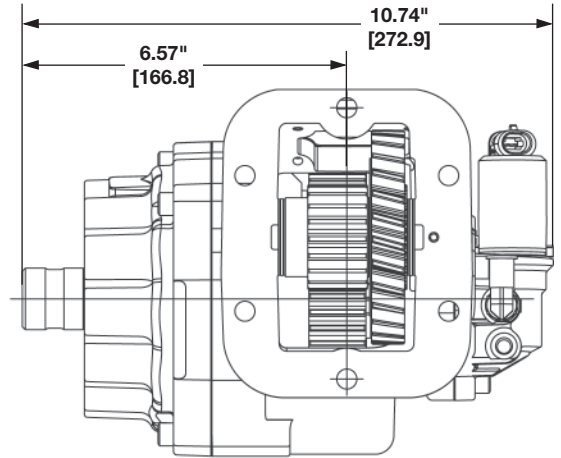
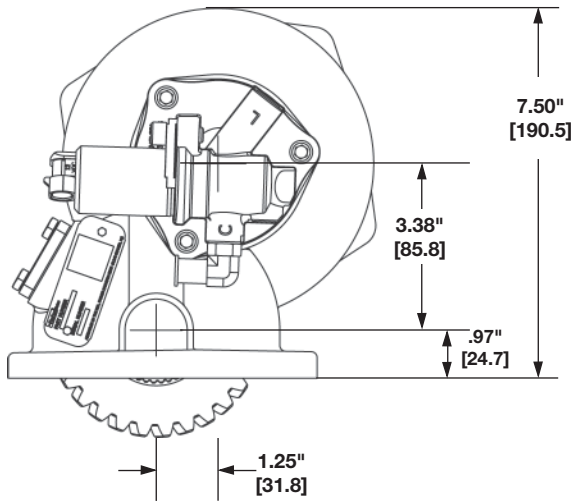


3 Arrangement

in. [mm]

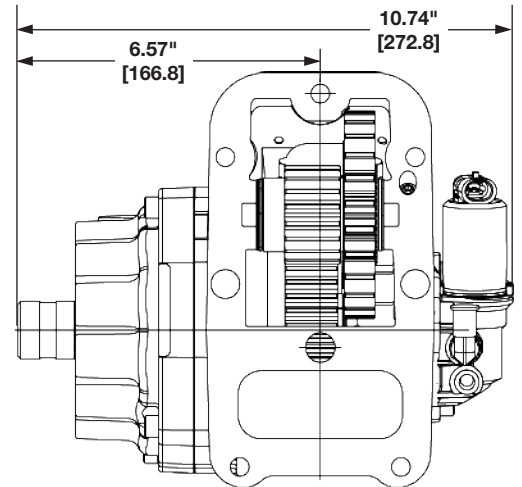
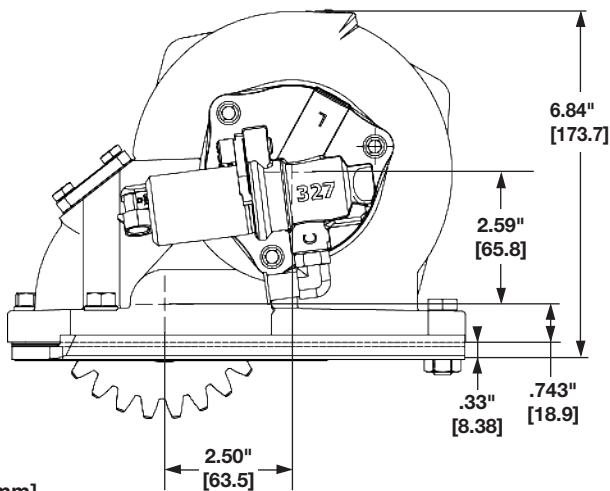
Housing Dimensions

272 Series



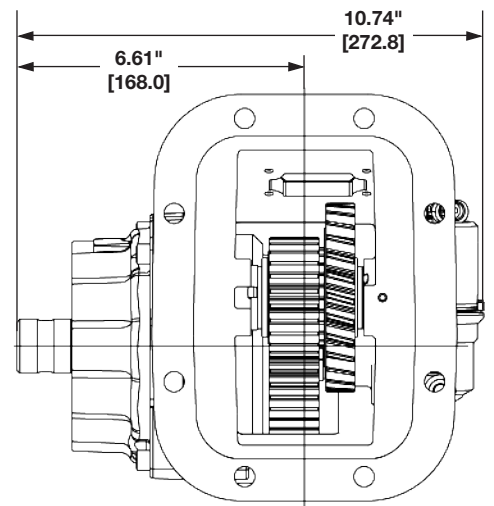
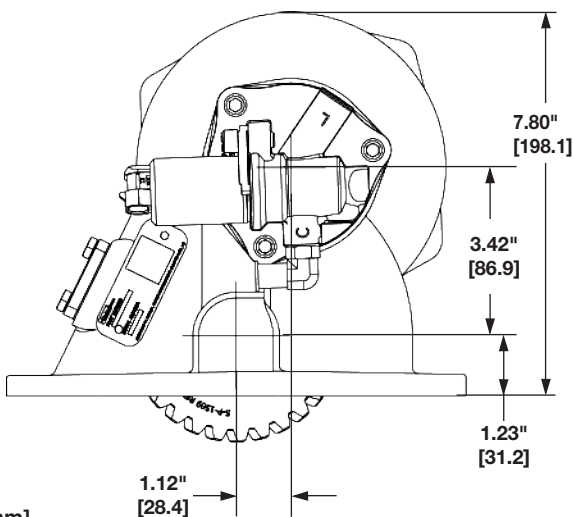
in. [mm]

272M Series



in. [mm]

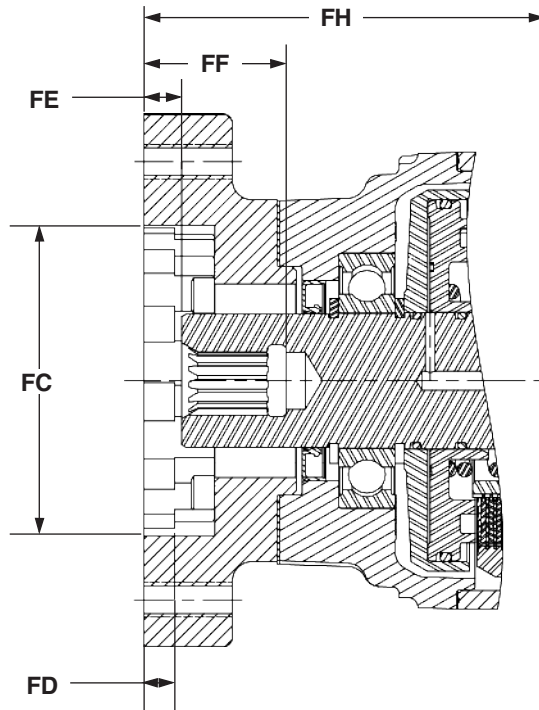
282 Series



in. [mm]

Output Options

Pump Flange & Shaft Dimensions



Pump Flange Suffix	Bolt Circle Dia.	Bolt Holes		FC	FD	FE	FF	FH	Output Shaft	
		Tapped Hole	No. Equally Spaced	Female Pilot Dia.	Pilot Depth	Face to End of Shaft	Face thru Hole	Face to Center of PTO	Nominal Shaft Size M = Male F = Female	Key-way Width
AB	3.996"	.404" ▶	8	2.952"	.0892"			7.486"	M	
AC	3.307"	.323" ▶	6	2.243"	.0892"			7.455	M	
BD								8.852	M	1-1/4"
BV	3.750"	.440" ▶	4	2.751"	.0830"			8.734	M	
RE	4.188"	5/16"-18 UNC-2B	16	3.251"	.344"	.4000"	1.502"	5.640"	5/8" - 9T Spline - F	
RF	5.000"	1/2"-13 UNC-2B	4	4.003"	.406"	.592"	2.060"	6.861"	1" - 15T Spline - F	
	5.750"	1/2"-13 UNC-2B	4	4.003"	.406"	.592"	2.060"	6.861"	1" - 15T Spline - F	
RK	5.000"	1/2"-13 UNC-2B	4	4.003"	.406"	.497"	1.872"	6.861"	7/8" - 13T Spline - F	
	5.750"	1/2"-13 UNC-2B	4	4.003"	.406"	.497"	1.872"	6.861"	7/8" - 13T Spline - F	
RS	6.375"	1/2"-13 UNC-2B	4	5.004	.531"	.730"	2.700"	6.861"	1-1/4" - 14T Spline - F	
	7.125"	5/8"-11 UNC-2B	2	5.004	.531"	.730"	2.700"	6.861"	1-1/4" - 14T Spline - F	
RY	4.454"	M12 x 1.75"	4	3.152"		.581	2.281"	6.456"	DIN 5462 - F	
RZ	5.000"	1/2"-13 UNC-2B	4	4.003"	0.406"	.730"	2.700"	6.861"	1-1/4" - 14T Spline - F	
	5.750"	1/2"-13 UNC-2B	4	4.003"	0.406"	.730"	2.700"	6.861"	1-1/4" - 14T Spline - F	
SD								6.570"	M	1-1/4"
SV	3.750"	.442" ▶	4	2.751"	.082"			7.486"	1-1/2" - 10T Spline - M	
XR	3.712"								F	
XV	3.750"	.442" ▶	4	2.751"	.0830			7.486"	1-1/2" - 10T Spline - M	

- Rotatable Flange Rotates in 30° Increments
- Two Set of Holes Spaced 14° Apart
- ▶ Not Tapped

Output Conversion Kits

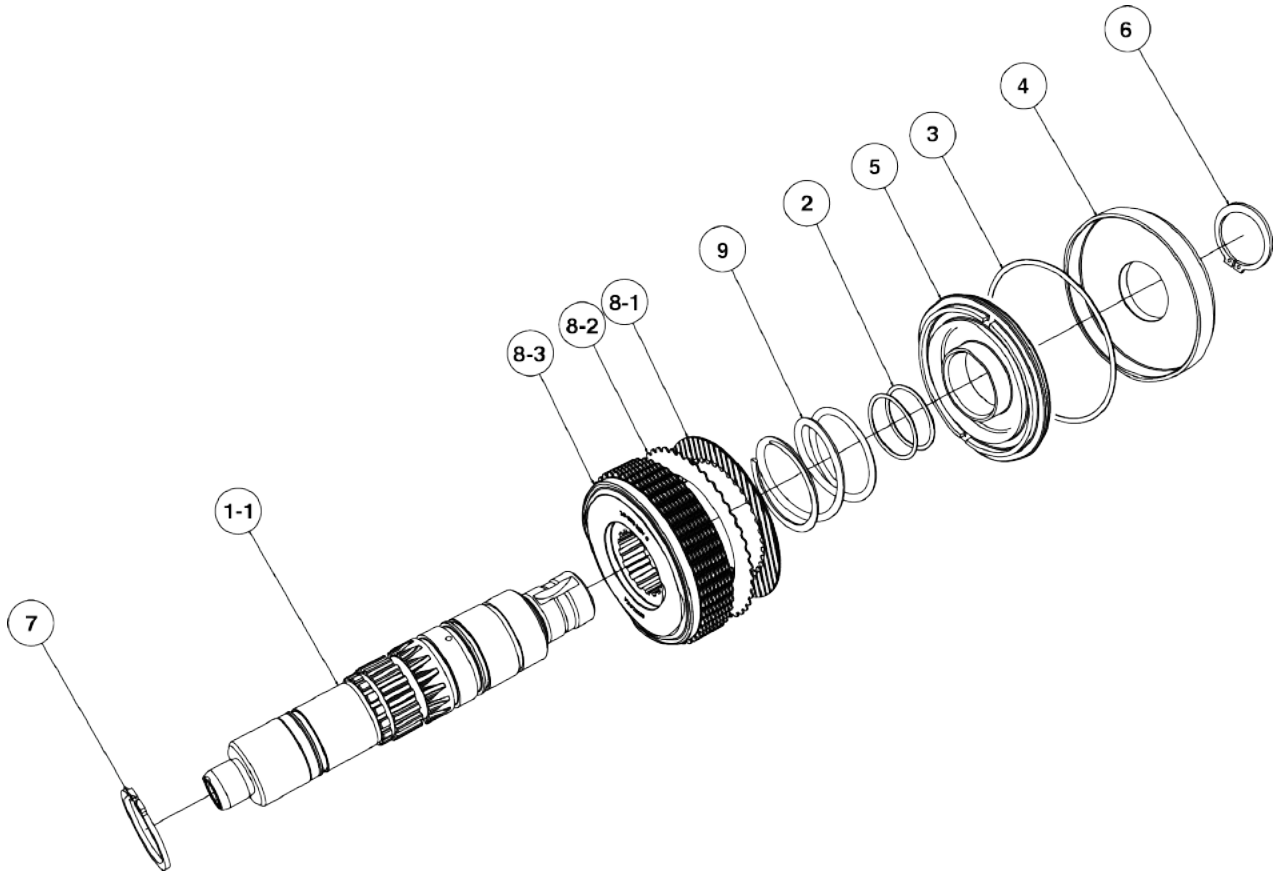
Output Option	Flange Type	Shaft Type	Conversion Kit	
AB	DIN 120	DIN 120 Series Companion Flange	XD to AB	329160-112X
AC	DIN 100	DIN 100 Series Companion Flange	XD to AC	329160-113X
BD	N/A	Rd Standard Shaft (1-1/4"-5/16" Key) w/ Drag Brake	XD to BD	329160-103X
BV	N/A	1410 Series Companion Flange w/ Drag Brake	XD to BV	329160-102X
RE	SAE A 2-Bolt Flange	SAE A Shaft (5/8" - 9T)	XD to RE (DRY)	329160-118X
RF	SAE B 2 or 4-Bolt Flange	SAE BB Shaft (1" - 15T)	XD to RF (DRY)	329160-104X
			XD to RF (WET)	329160-105X
RK	SAE B 2 or 4-Bolt Flange	SAE B Shaft (7/8" - 13T)	XD to RK (DRY)	329160-100X
			XD to RK (WET)	329160-101X
RS	SAE C 2 or 4-Bolt Flange	SAE C Shaft (1-1/4" - 14T)	XD to RS (DRY)	329160-106X
			XD to RS (WET)	329160-107X
RY	ISO 7653 (80 x 80 mm)	DIN 5462 Shaft (B8x32x36)	XD to RY (DRY)	329160-108X
			XD to RY (WET)	329160-109X
RZ	SAE B 2 or 4-Bolt Flange	SAE C Shaft (1-1/4" - 14T)	XD to RZ (DRY)	329160-110X
			XD to RZ (WET)	329160-111X
XV	N/A	1410 Series Companion Flange	XD to XV	329160-116X
XR	Chelsea Special (Cloverleaf)	SAE B Shaft (7/8" - 13T)	XD to XR	329160-143X

N/A = Not Applicable
NOTE: Check Current Price Sheet for Availability of Output Options

SAE Chart

SAE Standard	A	B	BB	C	D
Flange Pilot	3.25"	4.00"		5.00"	6.00"
Shaft	.625"	.875"	1.00"	1.25"	1.75"
Spline Count	9T	13T	15T	14T	13T

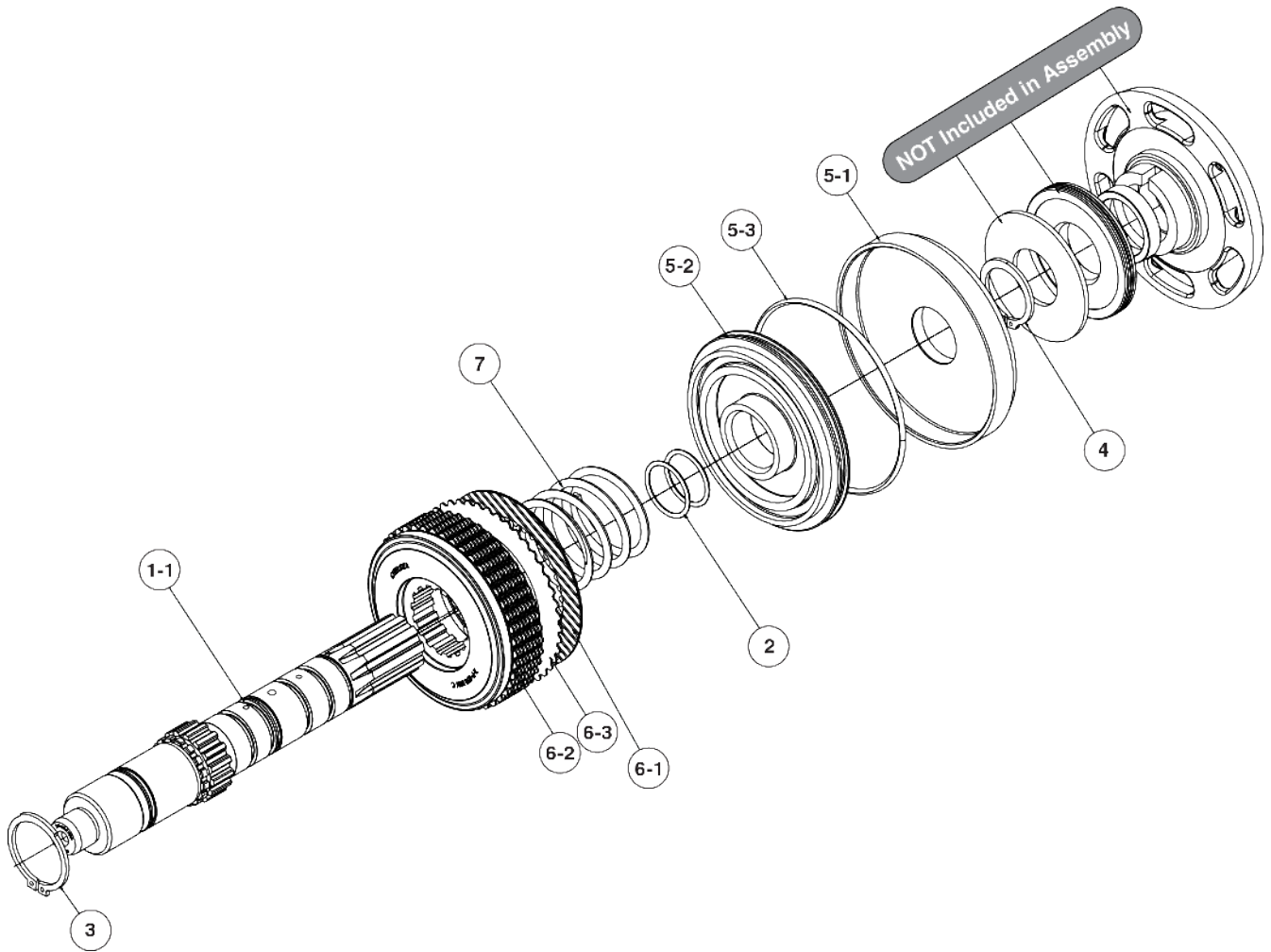
Drive Shaft & Clutch Assembly – (Hyd) 329828-*X & (Air) 329832-*X



Item	Part Number	Description	Qty.
1-1	3-P-1133	XD Output Shaft (329828-1X & 329832-1X).....	1 or
	3-P-1134	XV, AB, & AC Output Shaft 10T Straight (329828-2X & 329832-2X).....	1 or
	3-P-1135	RK & XR Output Shaft .875" - 13T (329828-3X & 329832-3X)	1 or
	3-P-1136	RF Output Shaft 1.02" - 15T (329828-4X & 329832-4X)	1 or
	3-P-1137	RS, RZ Output Shaft 1.25" - 14T (329828-5X & 329832-5X)	1 or
	3-P-1138	RY Output Shaft DIN 8T (329828-6X & 329832-6X)	1
	3-P-1168	SD Smart Start, Output Shaft (329828-8X)	1
	3-P-1169	SV Smart Start, 10T Straight Output Shaft (329828-9X).....	1
	3-P-1170	RE Output Shaft .625" - 9T (329828-10X & 329832-8X).....	1
2	28-P-285	O-Ring 1.597" x .103".....	2
3	28-P-178	O-Ring 4.484" x .138"	1
4	380051	Clutch Back up Cylinder	1
5	380110-1	Clutch Piston (Hydraulic Shift).....	1
	380110-2	Clutch Piston (Air Shift).....	1
6	379555	Lock ring	1
7	380069	Lock ring	1
8	329678X	Gear & Clutch Plates Kit	1
8-1	379485	Friction Disc	11
8-3	2-P-858	Inner Hub Gear.....	1
8-2	380065	Clutch Plate	10
9	37-P-72	Spring 2.14" x 1.941".....	1

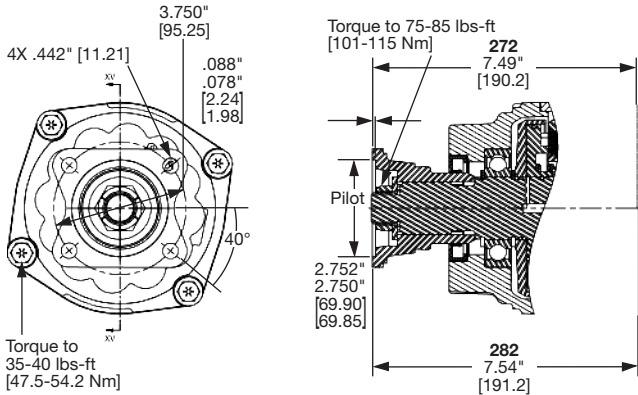
Output Options

**Drive Shaft & Clutch Assembly – (Hyd) 329829-*X & (Air) 329833-*X
w/ Drag Brake**



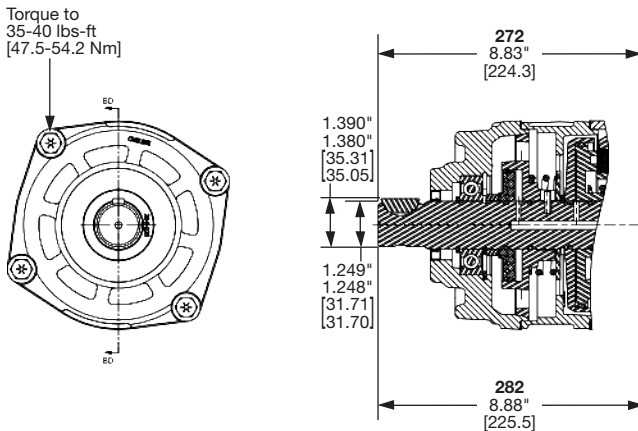
Item	Part Number	Description	Qty.
1-1	3-P-1139	BV Output Shaft (329829X & 329833X)	1 or
	3-P-1142	BD Output Shaft (329829-1X & 329833-1X).....	1
2	28-P-244	O-Ring 1.174" x .103"	2
3	380069	Lock ring	1
4	378576	Lock ring	1
5	329179X	Piston & Back up Cylinder Ass'y (Hydraulic Shift)	1 or
	329179-1X	Piston & Back up Cylinder Ass'y (Air Shift).....	1
5-1	379323	Back up Clutch Cylinder (Hydraulic Shift)	1 or
	379323-1	Back up Clutch Cylinder (Air Shift)	1
5-2	380057	Air Clutch Piston (Hydraulic Shift).....	1 or
	380057-1	Air Clutch Piston (Air Shift)	1
5-3	28-P-178	O-Ring 4.359" x .138"	1
6	329678X	Gear & Clutch Plates Kit	1
6-1	379485	Friction Disc	11
6-2	2-P-858	Inner Hub Gear	1
6-3	380065	Clutch Plate	10
7	37-P-39	Spring 2.552" x 1.985"	1

Bill of Materials

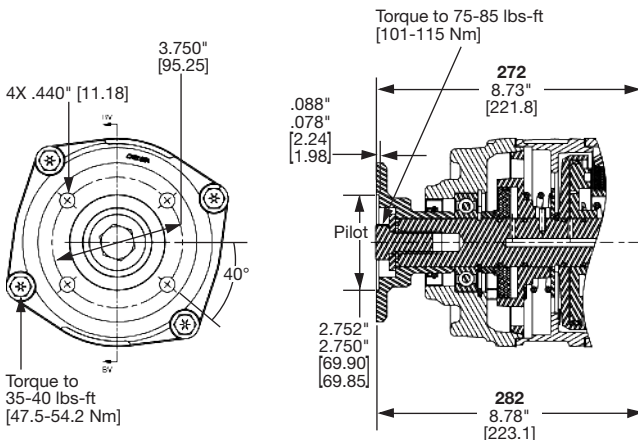


XV Output Option 1410 Series Companion Flange*		
Part Number	Description	Qty.
329828-2X	Shaft & Clutch Ass'y (3-P-1134 Shaft) (HYD)	1 or
329832-2X	Shaft & Clutch Ass'y (3-P-1134 Shaft) (AIR)	1
28-P-211	Oil Seal 3.001" x 2.00" x .375"	1
21-P-886	Bearing Cap	1
380563-14	Hex Flange Head Capscrew .375"-16 x 1.5"	4
380486	Lock Nut - Nylon, Thin .875"-14	1
380076-13	Flat Washer - Hardened .950" x 1.762" x .157"	1
380503	1410 Series Companion Flange	1
†329160-116X	Conversion Kit (XD to XV)	

* 1-1/2" - 10T Spline Shaft



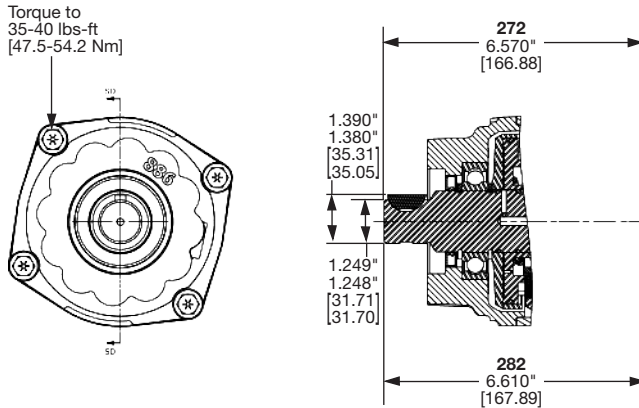
BD Output Option Rd Standard Shaft (1-1/4"-5/16" Key) with Drag Brake		
Part Number	Description	Qty.
329829-1X	Shaft & Clutch Ass'y (3-P-1142 Shaft) (HYD)	1 or
329833-1X	Shaft & Clutch Ass'y (3-P-1142 Shaft) (AIR)	1
22-P-151	Gasket	1
550010	Ball Bearing 1.378" x 2.8346" x .6693"	1
28-P-225	Oil Seal 2.004" x 1.375" x .315"	1
21-P-888	Bearing Cap - Drag Brake	1
380563-28	Hex Flange Head Capscrew .375"-16 x 3.500"	4
500007-29	Woodruff Key	1
378576	Lockring	2
28-P-244	O-Ring 1.175" x .103"	2
23-P-73	Bearing Cap Spacer - Drag Brake	1
31-P-113	Thrust Washer 1.385" x 3.125" x .125"	1
329410X	Brake Ass'y	1
379977	Spring Pin	1
4-P-186	Spacer 1.385" x 1.750" x .365"	1
37-P-24	Spring 2.531" x 2.13" x .207" (AIR)	1
†329160-103X	Conversion Kit (XD to BD)	



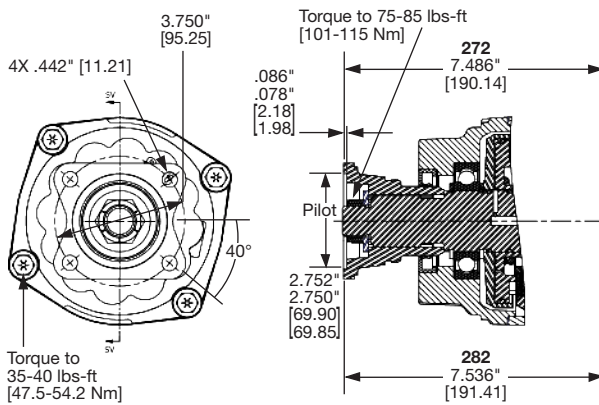
BV Output Option 1410 Companion Flange with Drag Brake		
Part Number	Description	Qty.
329829X	Shaft & Clutch Ass'y (3-P-1139 Shaft) (HYD)	1 or
329833X	Shaft & Clutch Ass'y (3-P-1139 Shaft) (AIR)	1
22-P-151	Gasket	1
550010	Ball Bearing 1.378" x 2.8346" x .6693"	1
28-P-212	Oil Seal 2.506" x 1.750" x .315"	1
21-P-884	Bearing Cap	1
378435-7	Hex Head Capscrew .625"-11 x 1.250"	1
380563-28	Hex Flange Head Capscrew .375"-16 x 3.500"	4
378895	Lockring	1
378576	Lockring	1
28-P-244	O-Ring 1.175" x .103"	2
23-P-73	Oil Seal 2.506" x 1.750" x .315"	1
31-P-113	Thrust Washer 1.385" x 3.125" x .125"	1
329410X	Brake Ass'y	1
379977	Spring Pin	1
4-P-186	Spacer 1.385" x 1.750" x .365"	1
37-P-60	Spring 2.531" x 2.13" x .172" (HYD)	1 or
37-P-24	Spring 2.531" x 2.13" x .207" (AIR)	1
4-P-130	Spacer .640" x 1.620" x .188"	1
380081	1410 Series Companion Flange	1
†329160-102X	Conversion Kit (XD to BV)	

†Conversion Kits do not include all parts shown above.

Bill of Materials

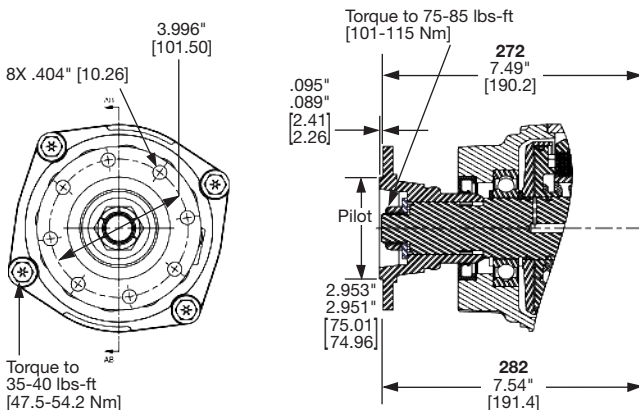


SD Output Option Rd Standard Shaft (1-1/4"-5/16" Key) – Smart Start		
Part Number	Description	Qty.
329828-8X	Shaft & Clutch Ass'y XD Smart Start (3-P-1168) ...	1
28-P-267	Oil Seal 2.627" x 1.75" x .312".....	1
21-P-886	Bearing Cap.....	1
380563-14	Hex Flange Head Capscrew .375"-16 x 1.5"	4
500007-29	Woodruff Key	1
†329160-142X	Conversion Kit (XD to SD)	



SV Output Option 1410 Series Companion Flange – Smart Start*		
Part Number	Description	Qty.
329828-9X	Shaft & Clutch Ass'y XV Smart Start (3-P-1169)	1
21-P-886	Bearing Cap.....	1
28-P-211	Oil Seal 3.001" x 2.00" x .375".....	1
380563-14	Hex Flange Head Capscrew .875"-16 x 1.5"	4
380486	Lock Nut - Nylon, Thin .875"-14.....	1
380076-13	Flat Washer - Hardened .950" x 1.762" x .157"	1
380081	1410 Series Companion Flange.....	1
†329160-144X	Conversion Kit (XD to SV)	

* 1-1/2" - 10T Spline Shaft

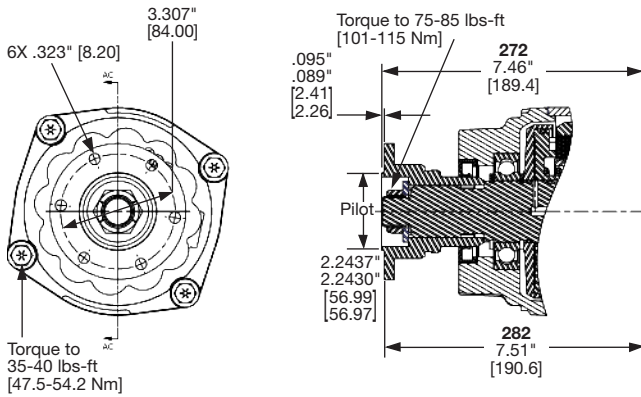


AB Output Option DIN 120 Flange*		
Part Number	Description	Qty.
329828-2X	Shaft & Clutch Ass'y (3-P-1134 Shaft) (HYD)	1 or
329832-2X	Shaft & Clutch Ass'y (3-P-1134 Shaft) (AIR)	1
28-P-211	Oil Seal 3.001" x 2.00" x .375".....	1
21-P-886	Bearing Cap.....	1
380563-14	Hex Flange Head Capscrew .875"-16 x 1.5"	4
380486	Lock Nut - Nylon, Thin .875"-14.....	1
380076-13	Flat Washer - Hardened .950" x 1.762" x .157"	1
379558	DIN 120	1
†329160-112X	Conversion Kit (XD to AB)	

* 1-1/2" - 10T Spline Shaft

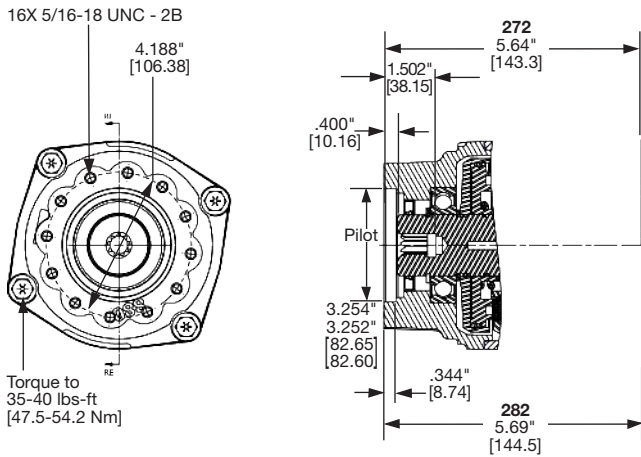
†Conversion Kits do not include all parts shown above.

Bill of Materials

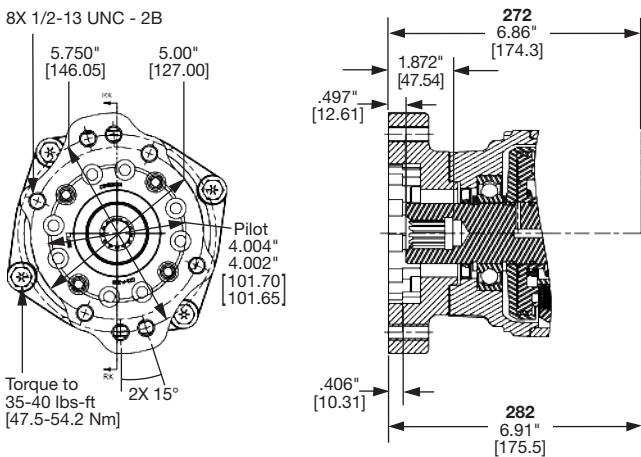


AC Output Option DIN 100 Flange*		
Part Number	Description	Qty.
329828-2X	Shaft & Clutch Ass'y (3-P-1134 Shaft) (HYD)	1 or
329832-2X	Shaft & Clutch Ass'y (3-P-1134 Shaft) (AIR)	1
28-P-211	Oil Seal 3.001" x 2.00" x .375".....	1
21-P-886	Bearing Cap.....	1
380563-14	Hex Flange Head Capscrew .875"-16 x 1.5"	4
380486	Lock Nut - Nylon, Thin .875"-14.....	1
380076-13	Flat Washer - Hardened .950" x 1.762" x .157"	1
379742	DIN 100	1
†329160-113X	Conversion Kit (XD to AC)	

* 1-1/2" - 10T Spline Shaft



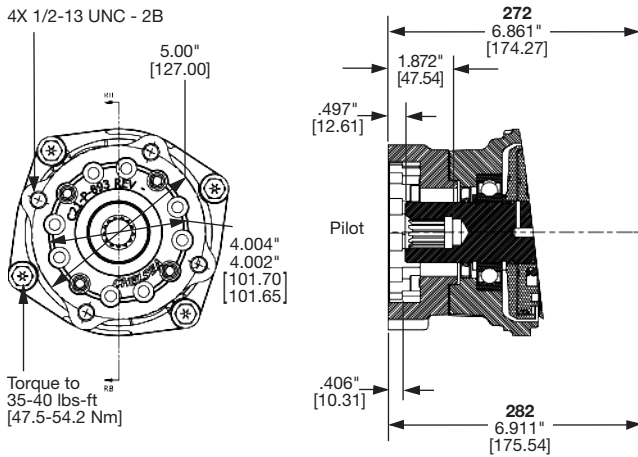
RE Output Option Rotatable SAE A 2-Bolt Flange, SAE A Shaft (5/8" - 9T)		
Part Number	Description	Qty.
329828-10X	Shaft & Clutch Ass'y (3-P-1170 Shaft) (HYD)	1 or
329832-8X	Shaft & Clutch Ass'y (3-P-1170 Shaft) (AIR)	1
28-P-267	Oil Seal 2.627" x 1.750" x .312".....	1
21-P-880	Bearing Cap RE (DRY).....	1
380563-14	Hex Flange Head Capscrew .875"-16 x 1.5"	4
†329160-118X	Conversion Kit (XD to RE DRY)	



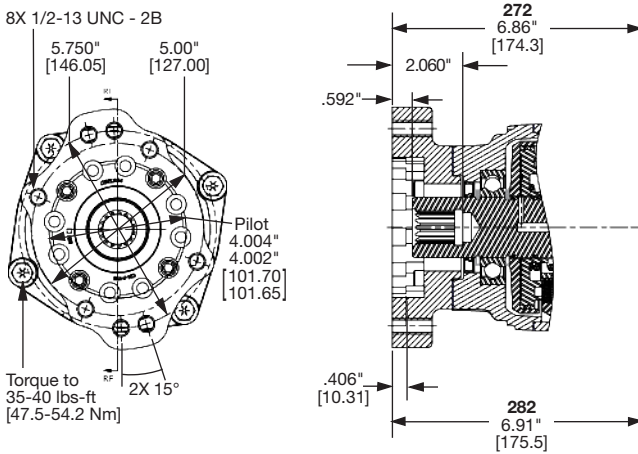
RK Output Option Rotatable SAE B 2 or 4-Bolt Flange, SAE B Shaft (7/8" - 13T)		
Part Number	Description	Qty.
329828-3X	Shaft & Clutch Ass'y (3-P-1135 Shaft) (HYD)	1 or
329832-3X	Shaft & Clutch Ass'y (3-P-1135 Shaft) (AIR)	1
28-P-267	Oil Seal 2.627" x 1.750" x .312".....	1
21-P-885	Bearing Cap (DRY).....	1 or
21-P-887	Bearing Cap (WET).....	1
380563-14	Hex Flange Head Capscrew .875"-16 x 1.5"	4
328170-216X	Capscrew Kit (378447-8 Qty. 4).....	1
21-P-731	Pump Flange	1
35-P-101	Bearing Cap Gasket - Wet Spline.....	1
WET SPLINE LOOSE PARTS		
329699-1X	Hose Assembly.....	1
329700X	Wet Spline Parts Kit.....	1
329658X	Cover Kit.....	1
†329160-100X	Conversion Kit (XD to RK DRY)	
†329160-101X	Conversion Kit (XD to RK WET)	

†Conversion Kits do not include all parts shown above.

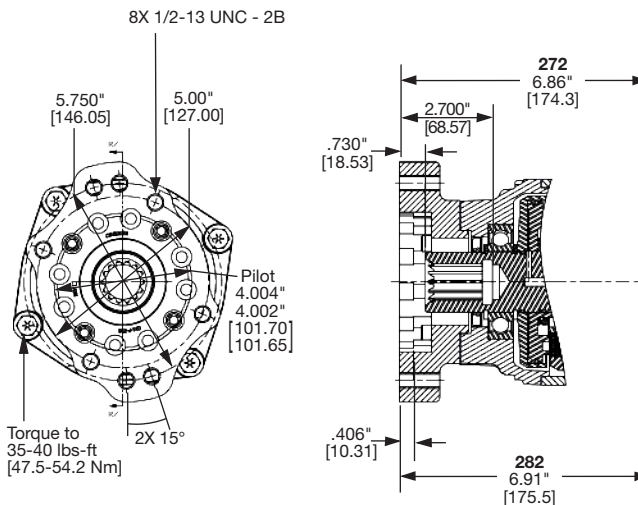
Bill of Materials



RB Output Option		
Rotatable SAE B 4-Bolt Flange, SAE B Shaft (7/8" - 13T)		
Part Number	Description	Qty.
329828-3X	Shaft & Clutch Ass'y (3-P-1135 Shaft) (HYD)	1 or
329832-3X	Shaft & Clutch Ass'y (3-P-1135 Shaft) (AIR)	1
28-P-267	Oil Seal 2.627" x 1.750" x .312"	1
21-P-885	Bearing Cap (DRY)	1 or
21-P-887	Bearing Cap (WET)	1
380563-14	Hex Flange Head Capscrew .875"-16 x 1.5"	4
328170-216X	Capscrew Kit (378447-8 Qty. 4)	1
21-P-894	Pump Flange	1
35-P-101	Bearing Cap Gasket - Wet Spline	1
WET SPLINE LOOSE PARTS		
329699-1X	Hose Assembly	1
329700X	Wet Spline Parts Kit	1
329658X	Cover Kit	1
†329160-145X	Conversion Kit (XD to RB DRY)	
†329160-146X	Conversion Kit (XD to RB WET)	



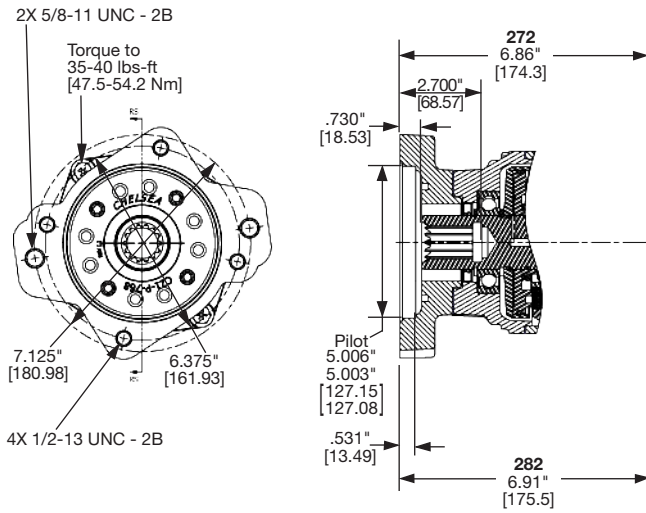
RF Output Option		
Rotatable SAE B 2 or 4-Bolt Flange, SAE BB Shaft (1" - 15T)		
Part Number	Description	Qty.
329828-4X	Shaft & Clutch Ass'y (3-P-1136 Shaft) (HYD)	1 or
329832-4X	Shaft & Clutch Ass'y (3-P-1136 Shaft) (AIR)	1
28-P-267	Oil Seal 2.627" x 1.750" x .312"	1
21-P-885	Bearing Cap (DRY)	1 or
21-P-887	Bearing Cap (WET)	1
380563-14	Hex Flange Head Capscrew .875"-16 x 1.5"	4
328170-216X	Capscrew Kit (378447-8 Qty. 4)	1
21-P-731	Pump Flange	1
35-P-101	Bearing Cap Gasket - Wet Spline	1
WET SPLINE LOOSE PARTS		
329699-1X	Hose Assembly	1
329700X	Wet Spline Parts Kit	1
329658X	Cover Kit	1
†329160-104X	Conversion Kit (XD to RF DRY)	
†329160-105X	Conversion Kit (XD to RF WET)	



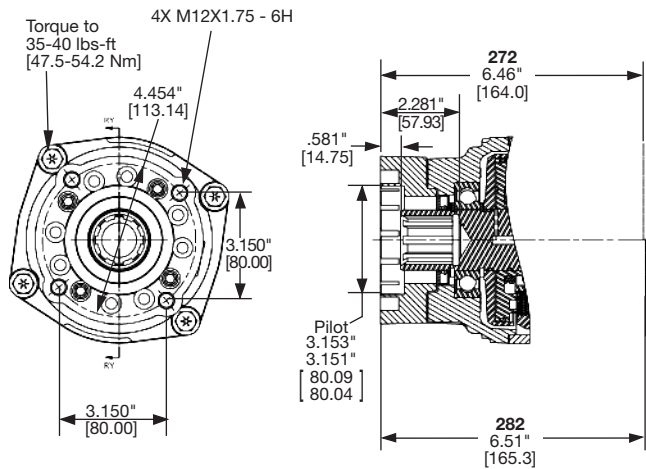
RZ Output Option		
Rotatable SAE B 2 or 4-Bolt Flange, SAE C Shaft (1-1/4" - 14T)		
Part Number	Description	Qty.
329828-5X	Shaft & Clutch Ass'y (3-P-1137 Shaft) (HYD)	1 or
329832-5X	Shaft & Clutch Ass'y (3-P-1137 Shaft) (AIR)	1
28-P-267	Oil Seal 2.627" x 1.750" x .312"	1
21-P-885	Bearing Cap (DRY)	1 or
21-P-887	Bearing Cap (WET)	1
380563-14	Hex Flange Head Capscrew .875"-16 x 1.5"	4
328170-216X	Capscrew Kit (378447-8 Qty. 4)	1
21-P-731	Pump Flange	1
35-P-101	Bearing Cap Gasket - Wet Spline	1
WET SPLINE LOOSE PARTS		
329699-1X	Hose Assembly	1
329700X	Wet Spline Parts Kit	1
329658X	Cover Kit	1
†329160-110X	Conversion Kit (XV to RZ DRY)	
†329160-111X	Conversion Kit (XV to RZ WET)	

†Conversion Kits do not include all parts shown above.

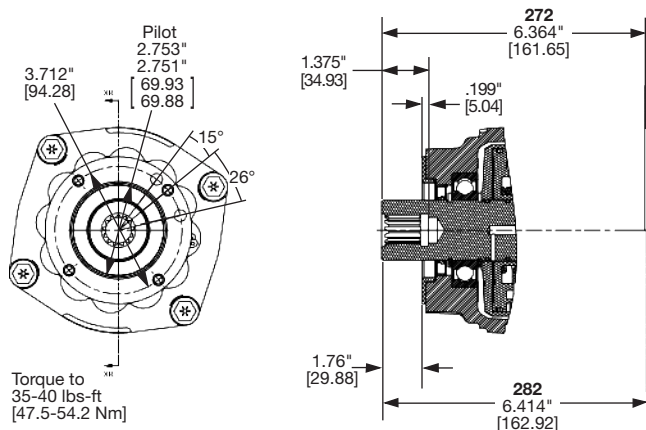
Bill of Materials



RS Output Option Rotatable SAE C 2 or 4-Bolt Flange, SAE C Shaft (1-1/4" - 14T)		
Part Number	Description	Qty.
329828-5X	Shaft & Clutch Ass'y (3-P-1137 Shaft) (HYD)	1 or
329832-5X	Shaft & Clutch Ass'y (3-P-1137 Shaft) (AIR)	1
28-P-267	Oil Seal 2.627" x 1.750" x .312"	1
21-P-885	Bearing Cap (DRY)	1 or
21-P-887	Bearing Cap (WET)	1
380563-14	Hex Flange Head Capscrew .875"-16 x 1.5"	4
328170-216X	Capscrew Kit (378447-8 Qty. 4)	1
21-P-769	Pump Flange	1
35-P-101	Bearing Cap Gasket - Wet Spline	1
WET SPLINE LOOSE PARTS		
329699-1X	Hose Assembly	1
329744X	Wet Spline Loose Parts Kit	1
329654X	Cover Kit	1
†329160-106X	Conversion Kit (XD to RS DRY)	
†329160-107X	Conversion Kit (XD to RS WET)	



RY Output Option Rotatable ISO 7653 Pump Mount, DIN 5462 Shaft		
Part Number	Description	Qty.
329828-6X	Shaft & Clutch Ass'y (3-P-1138 Shaft) (HYD)	1 or
329832-6X	Shaft & Clutch Ass'y (3-P-1138 Shaft) (AIR)	1
28-P-267	Oil Seal 2.627" x 1.750" x .312"	1
21-P-885	Bearing Cap (DRY)	1 or
21-P-887	Bearing Cap (WET)	1
380563-14	Hex Flange Head Capscrew .875"-16 x 1.5"	4
328170-216X	Capscrew Kit (378447-8 Qty. 4)	1
21-P-771	Pump Flange	1
35-P-101	Bearing Cap Gasket - Wet Spline	1
WET SPLINE LOOSE PARTS		
329699-1X	Hose Assembly	1
329742X	Wet Spline Loose Parts Kit	1
329659X	Cover Kit	1
†329160-108X	Conversion Kit (XD to RY DRY)	
†329160-109X	Conversion Kit (XD to RY WET)	

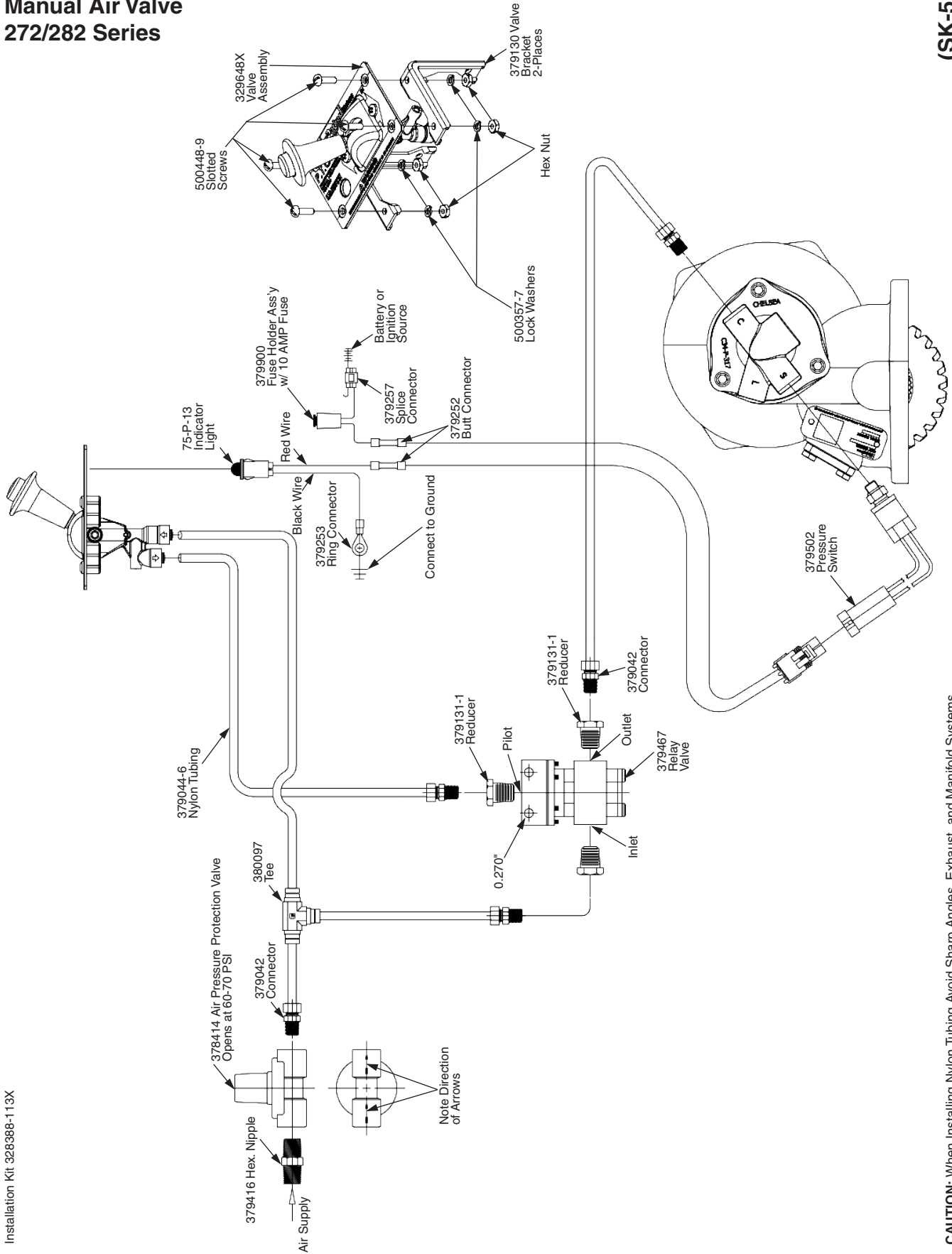


XR Output Option Chelsea Special (Cloverleaf), SAE B Shaft (7/8" - 13T)		
Part Number	Description	Qty.
329828-3X	Shaft & Clutch Ass'y (3-P-1135 Shaft) (HYD)	1 or
329832-3X	Shaft & Clutch Ass'y (3-P-1135 Shaft) (AIR)	1
28-P-267	Oil Seal 2.627" x 1.750" x .312"	1
21-P-885	Bearing Cap (DRY)	1
380563-14	Hex Flange Head Capscrew .875"-16 x 1.5"	4
4-P-209	Spacer, (Included in Kit)	1
328748X	XR Pump Mounting Kit	1
†329160-143X	Conversion Kit (XD to XR)	

†Conversion Kits do not include all parts shown above.

Shift Option A
Manual Air Valve
272/282 Series

(SK-595)

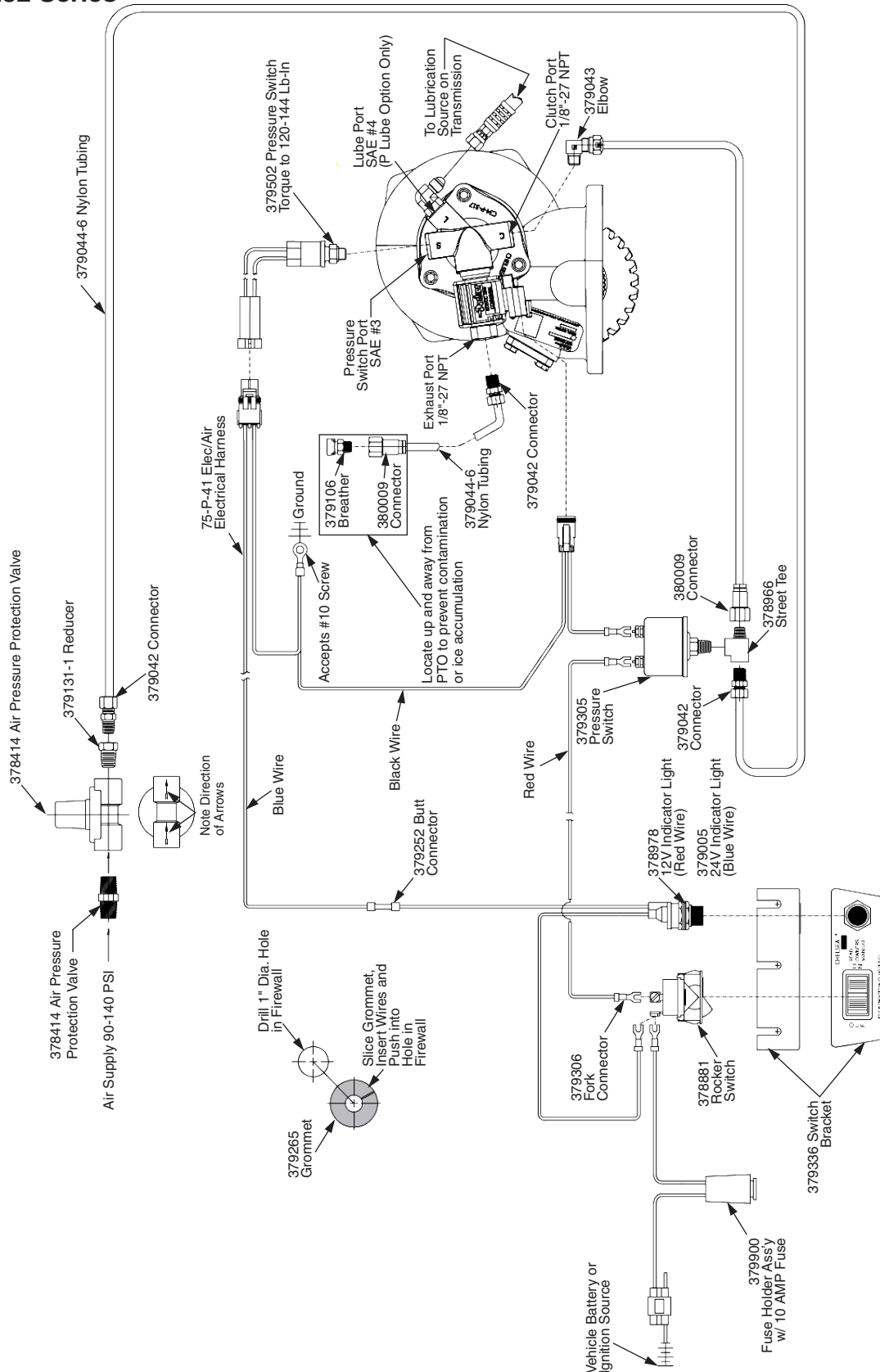


Installation Kit 328388-113X

CAUTION: When Installing Nylon Tubing Avoid Sharp Angles, Exhaust, and Manifold Systems.

**Shift Option 1 (12V) & 2 (24V)
 Elec/Air w/o EOC (Integral Air Valve)
 272/282 Series**

(SK-589)

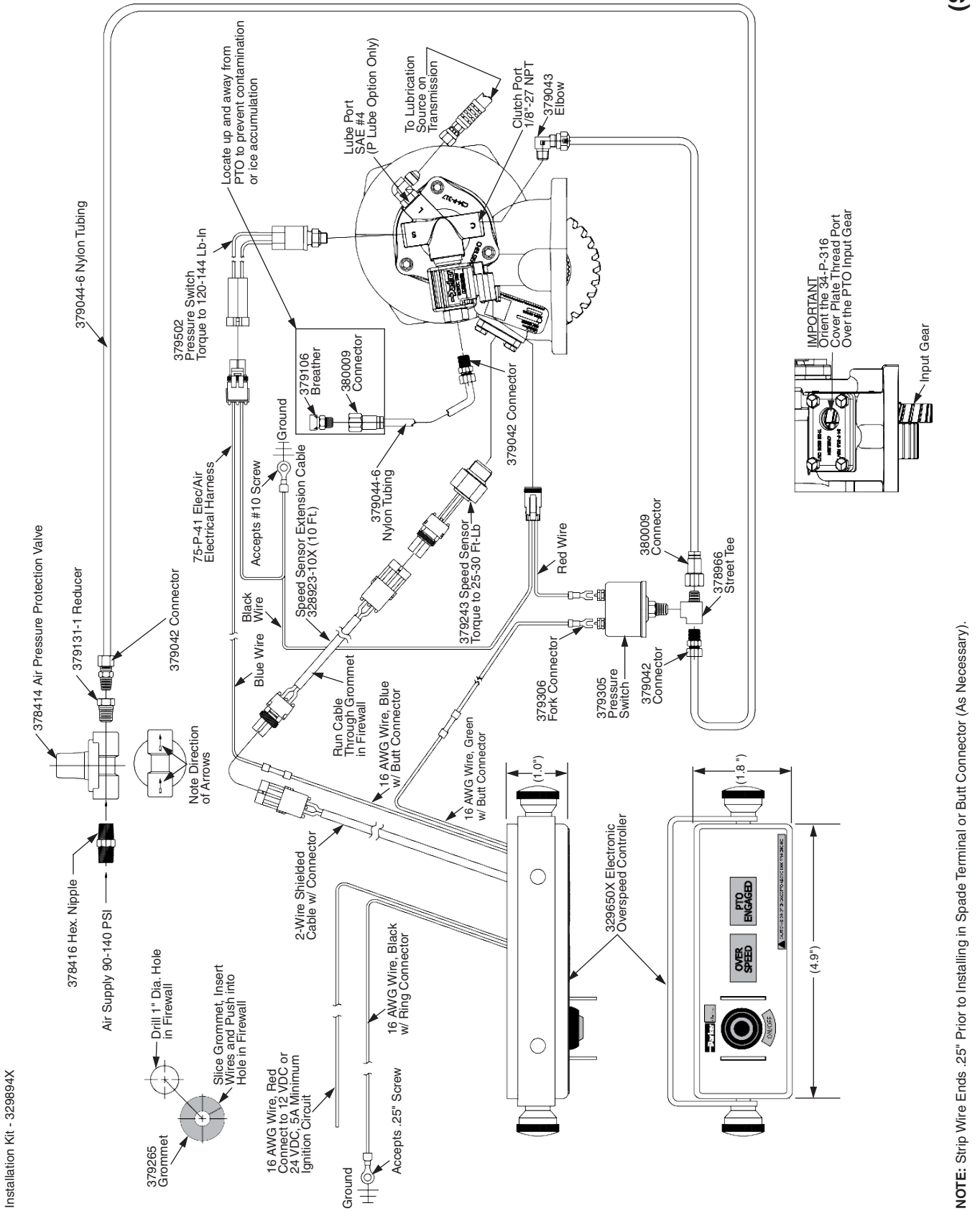


Installation - Kit 329893-12X (12V)
 Installation - Kit 329893-24X (24V)

NOTE: Strip Wire Ends .25" Prior to Installing in Spade Terminal or Butt Connector (As Necessary).

Shift Option J (12V) & 3 (24V)
Elec/Air w/ EOC (Integral Air Valve)
272/282 Series

(SK-590)

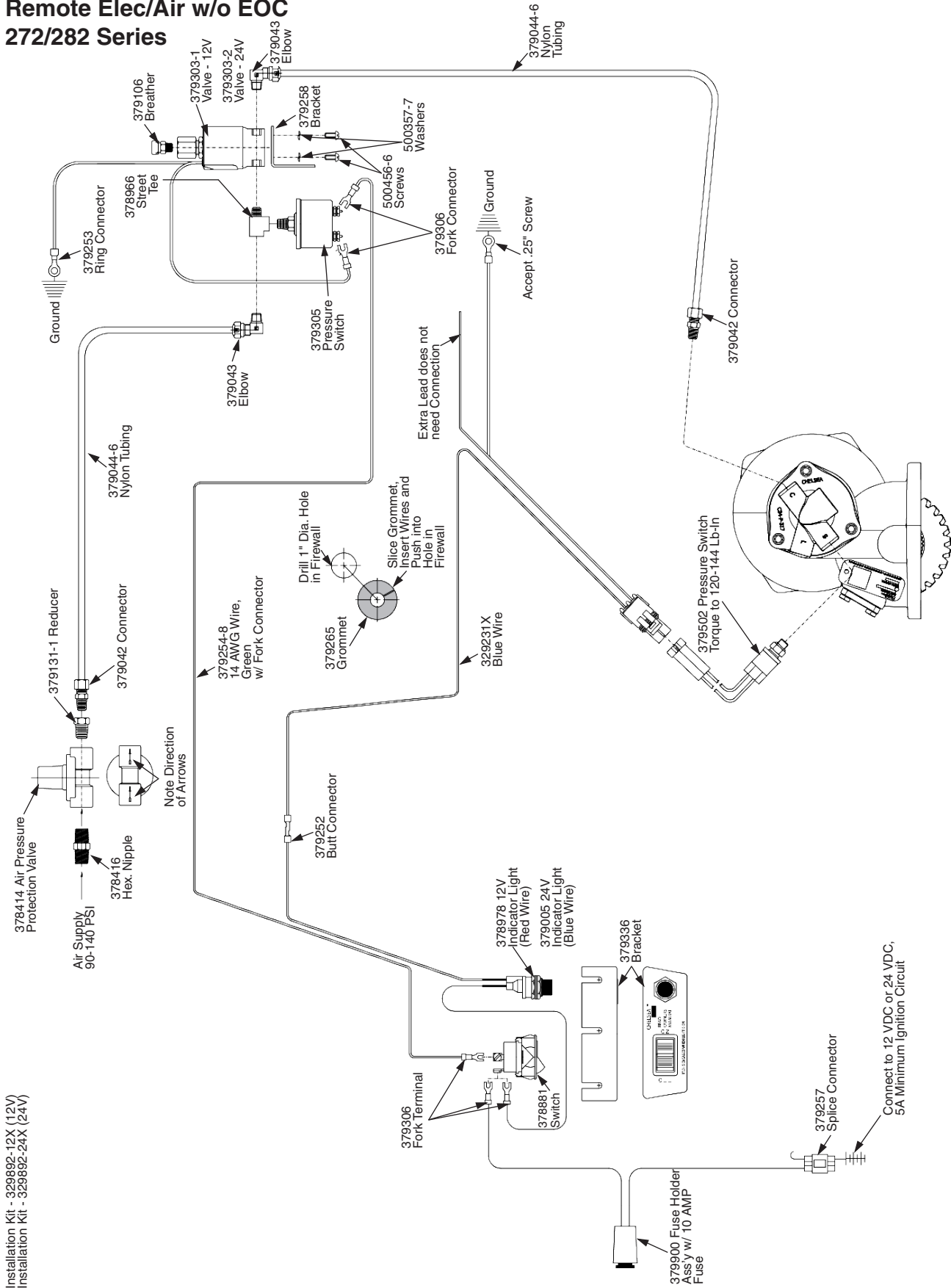


Installation Kit - 329894X

NOTE: Strip Wire Ends .25" Prior to Installing in Spade Terminal or Butt Connector (As Necessary).

Shift Option P (12V) & Q (24V)
Remote Elec/Air w/o EOC
272/282 Series

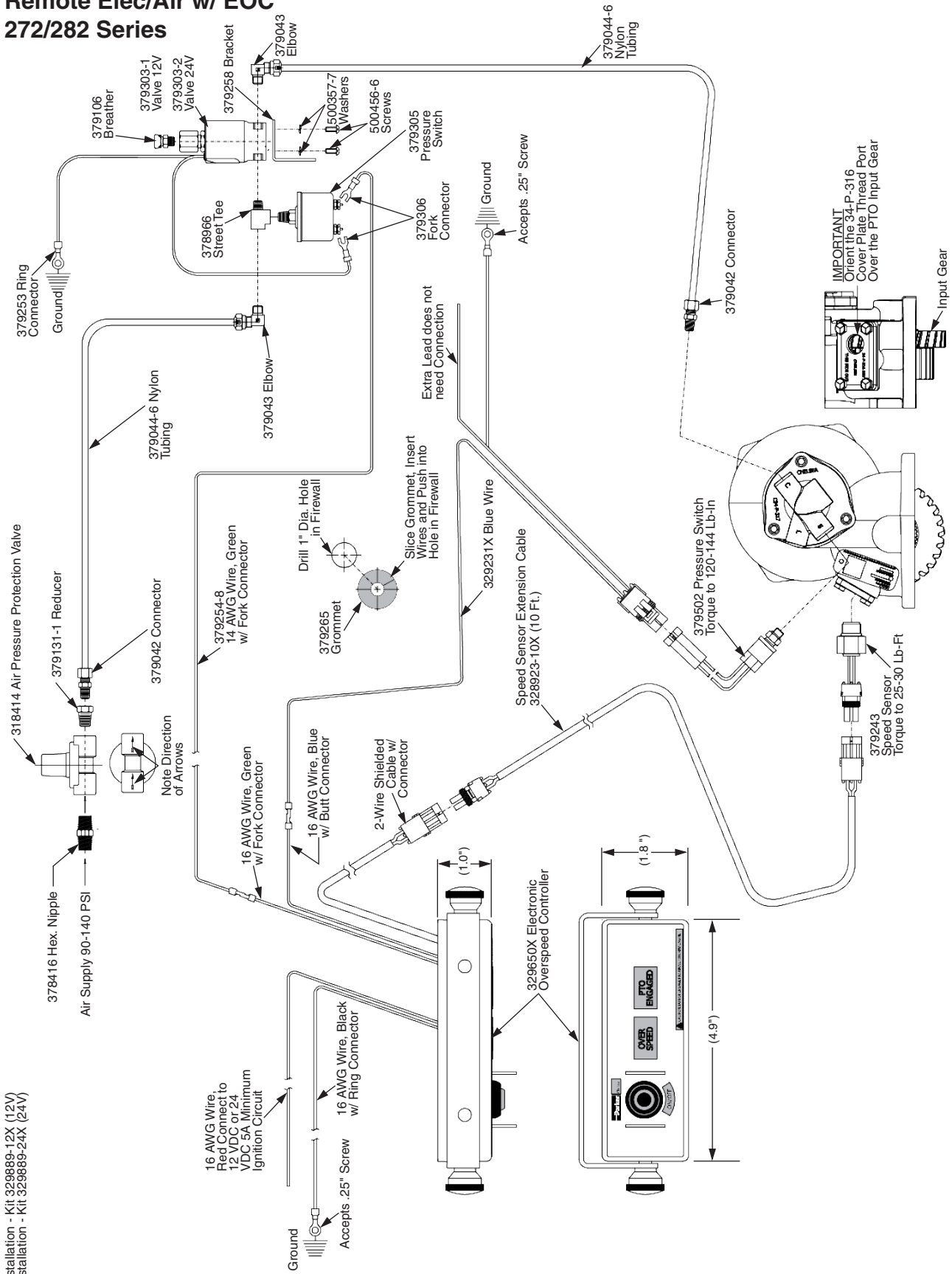
(SK-596)



NOTE: Strip Wire Ends .25" Prior to Installing in Spade Terminal or Butt Connector (As Necessary).

Shift Option R (12V) & 4 (24V)
Remote Elec/Air w/ EOC
272/282 Series

(SK-583)

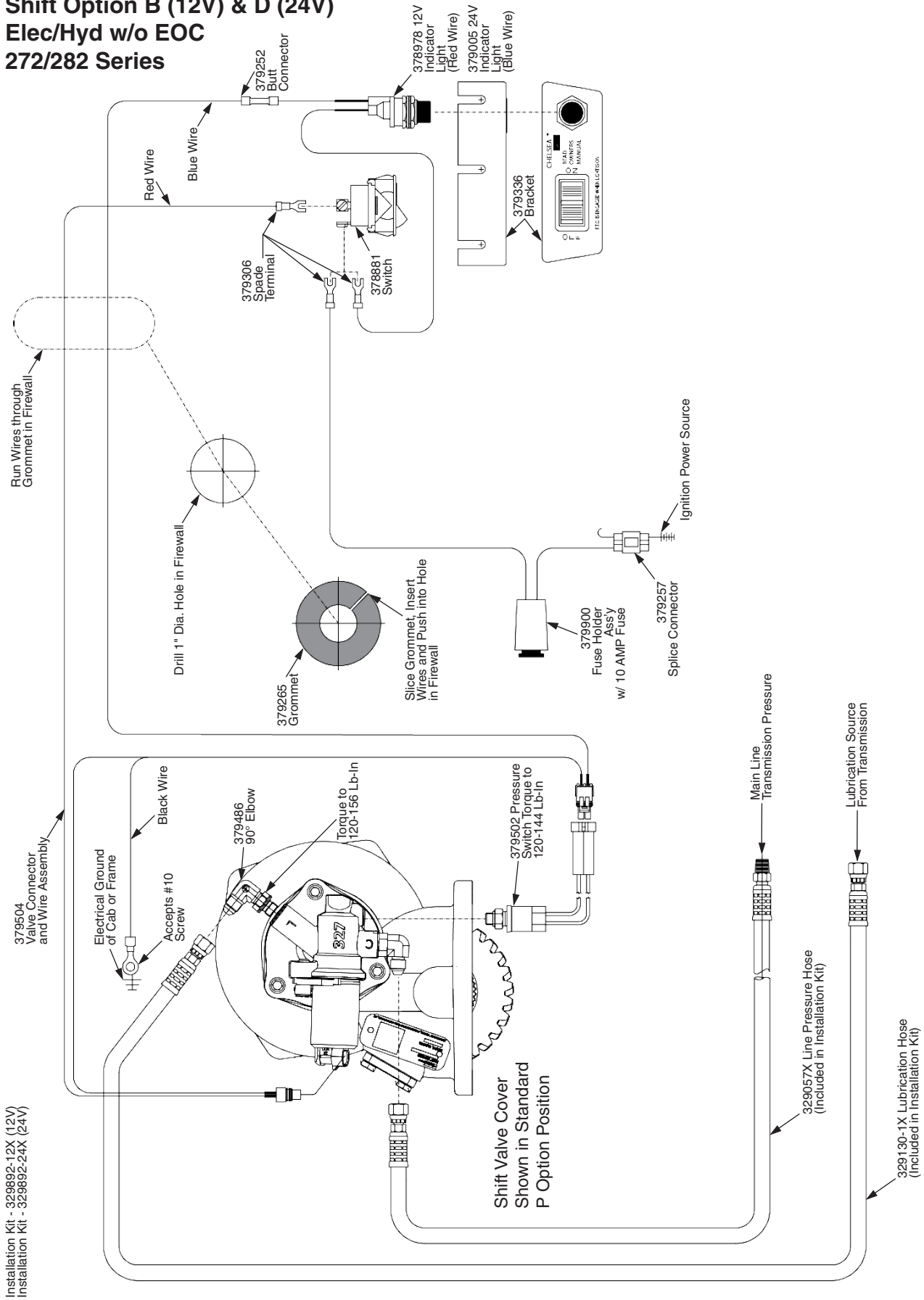


Installation - Kit 329889-12X (12V)
 Installation - Kit 329889-24X (24V)

NOTE: Strip Wire Ends .25" Prior to Installing in Spade Terminal or Butt Connector (As Necessary).

**Shift Option B (12V) & D (24V)
 Elec/Hyd w/o EOC
 272/282 Series**

(SK-572)

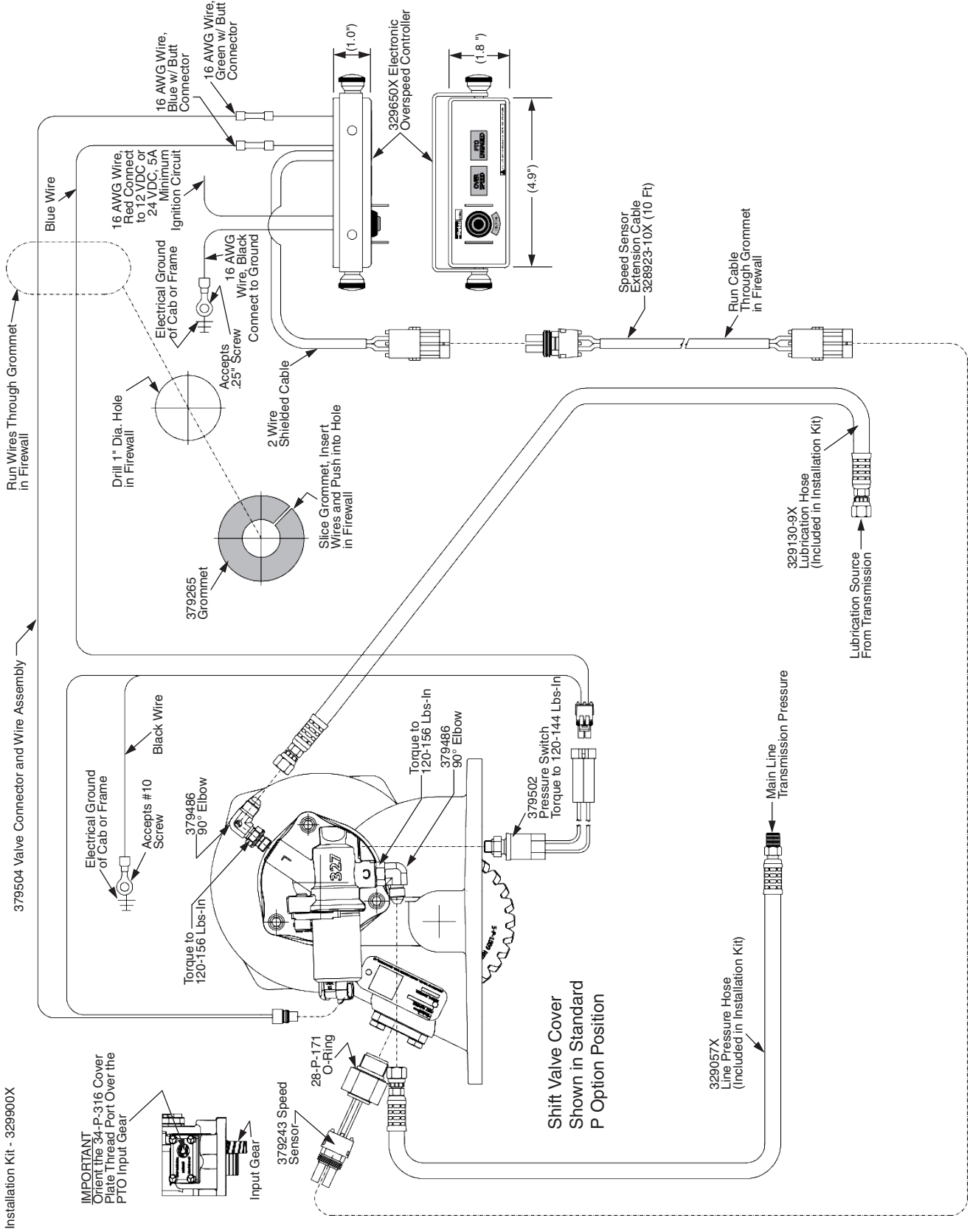


Installation Kit - 329892-12X (12V)
 Installation Kit - 329892-24X (24V)

NOTE: Strip Wire Ends .25" Prior to Installing in Spade Terminal or Butt Connector (As Necessary).

**Shift Option K (12V) & L (24V)
 Elec/Hyd w/ EOC
 282 Series**

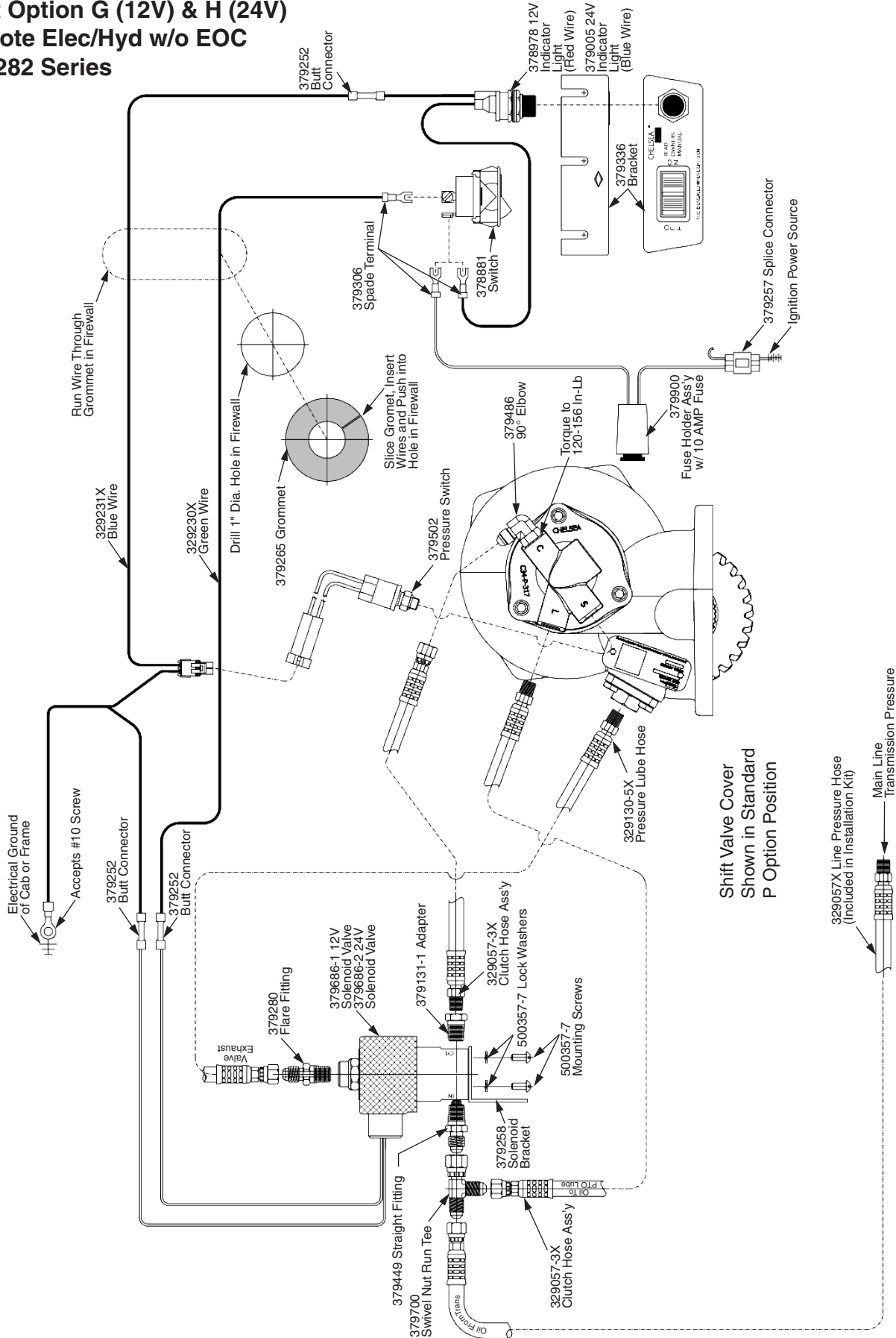
(SK-598)



NOTE: Strip Wire Ends .25" Prior to Installing in Spade Terminal or Butt Connector (As Necessary).

Shift Option G (12V) & H (24V)
Remote Elec/Hyd w/o EOC
272/282 Series

(SK-576)



Shift Valve Cover
 Shown in Standard
 P Option Position

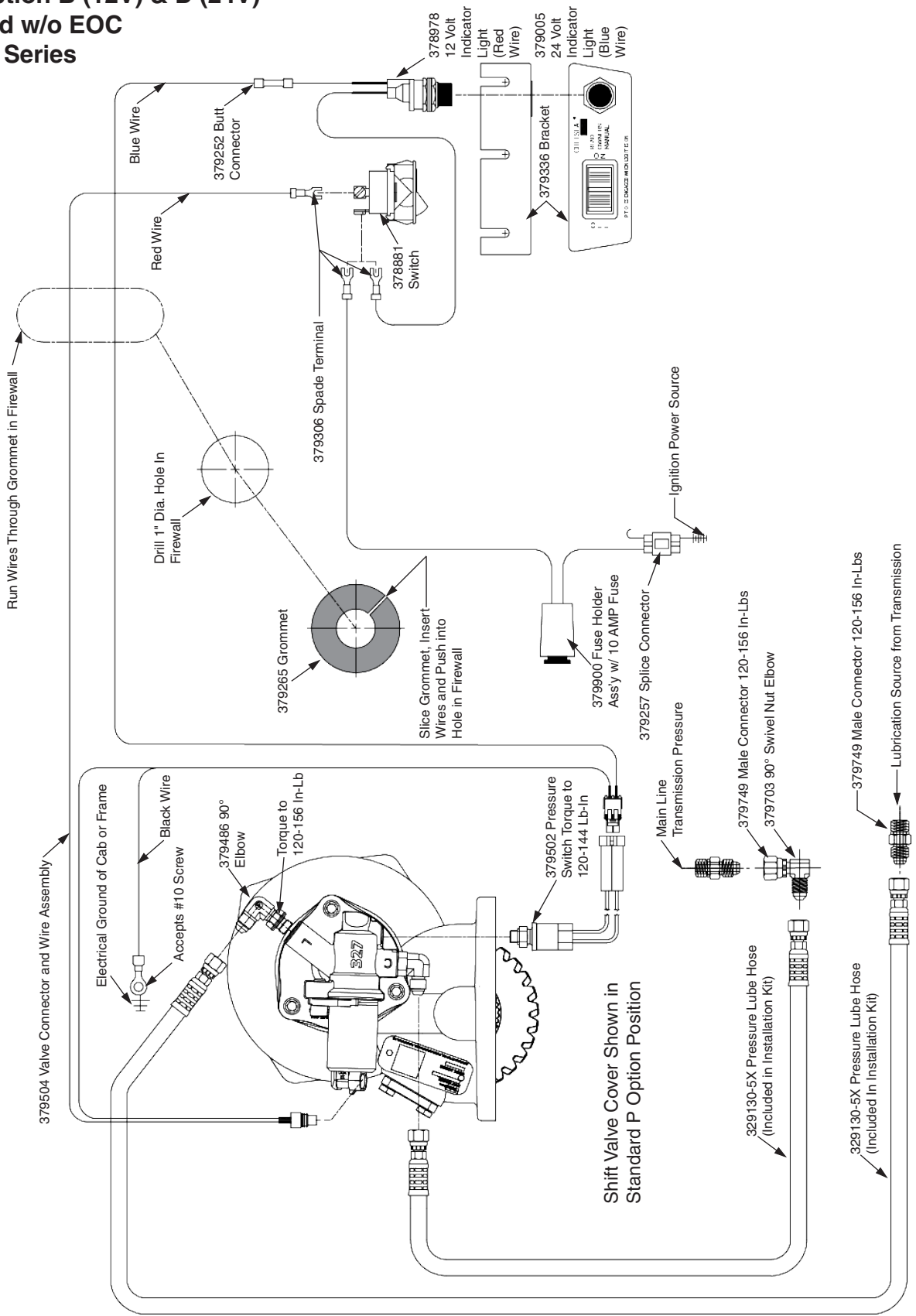
NOTE: Strip Wire Ends .25" Prior to Installing in Spade Terminal or Butt Connector (As Necessary).

Installation Kit - 329885-12X (12V)
 Installation Kit - 329885-24X (24V)

Transmission Models MY400, MY600, A445, A443E MO35A4
Non Dodge/RAM
Shift Option B (12V) & D (24V)
Elec/Hyd w/o EOC
272/282 Series

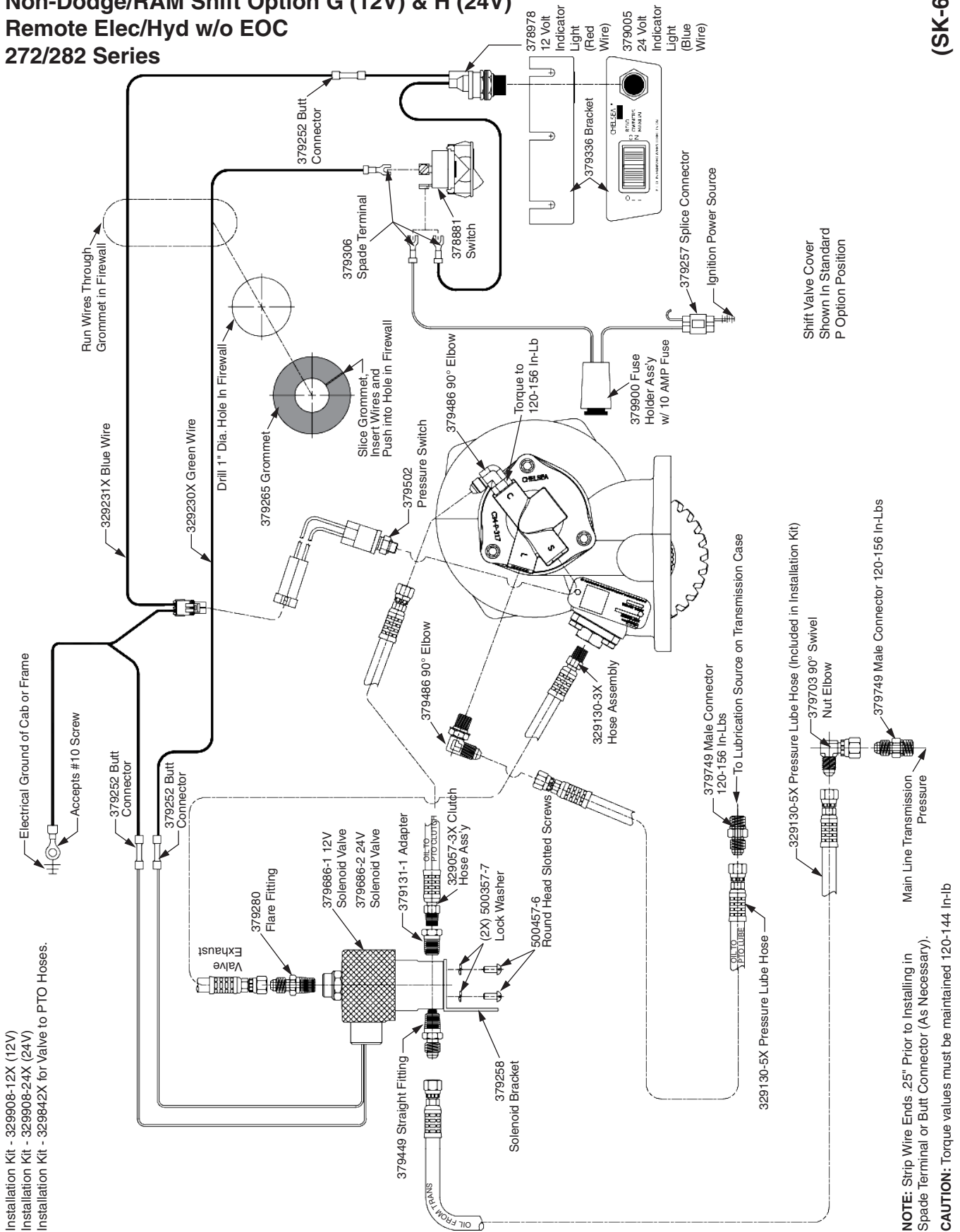
(SK-603)

Installation Kit 329907-12X (12V)
 Installation Kit 329907-24X (24V)



Transmission Models MY400, MY600, A445, A443E MO35A4
Non-Dodge/RAM Shift Option G (12V) & H (24V)
Remote Elec/Hyd w/o EOC
272/282 Series

(SK-604)



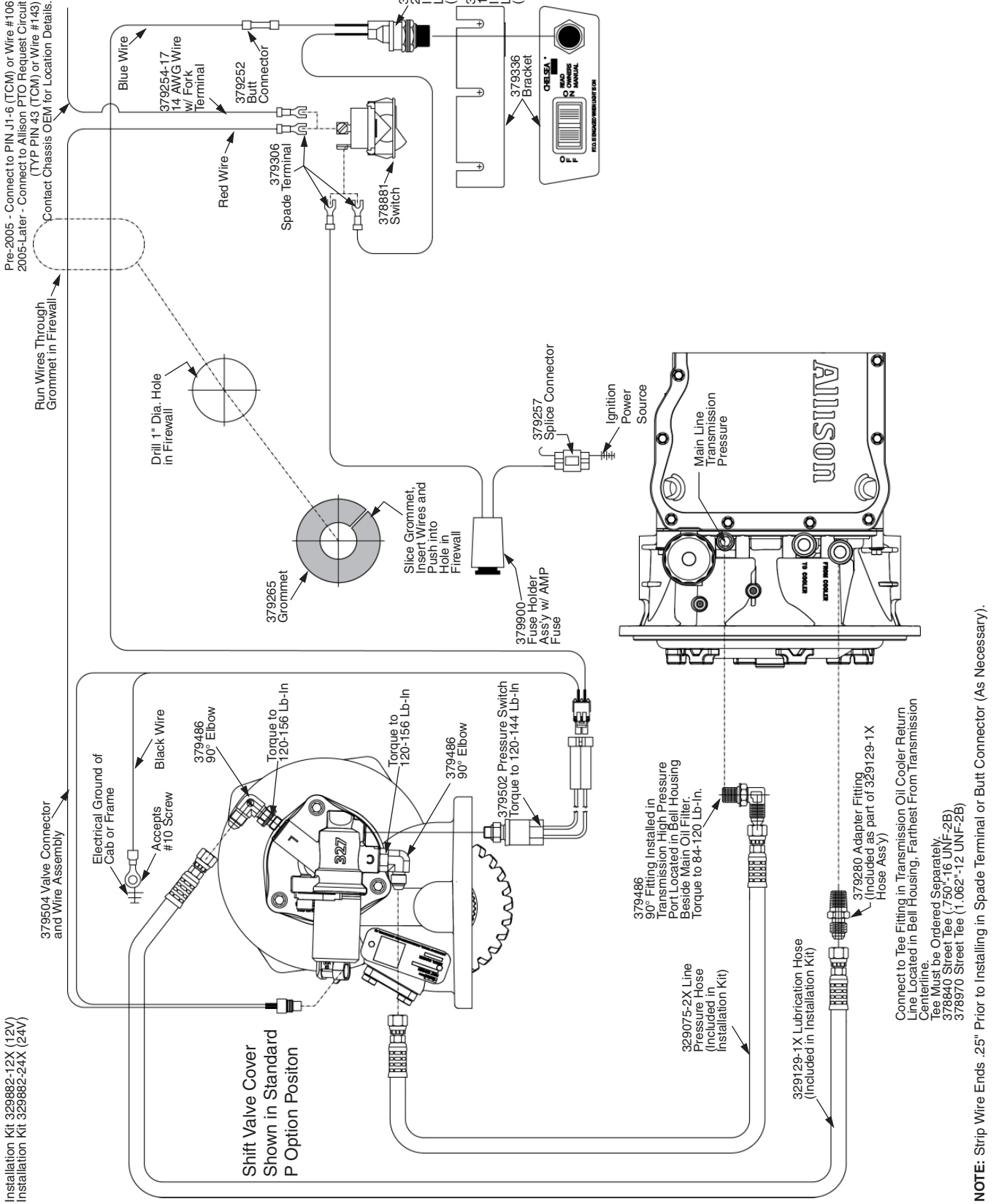
Installation Kit - 329908-12X (12V)
 Installation Kit - 329908-24X (24V)
 Installation Kit - 329842X for Valve to PTO Hoses.

NOTE: Strip Wire Ends .25" Prior to Installing in Spade Terminal or Butt Connector (As Necessary).
CAUTION: Torque values must be maintained 120-144 In-lb



Transmission Models 1000, 2000, 2500
Shift Option B (12V) & D (24V)
Elec/Hyd w/o EOC
272 Series

(SK-574)



Pre-2005 - Connect to PIN J1-6 (TCM) or Wire #106
 2005-Later - Connect to Allison PTO Request Circuit
 (TYP PIN 43 (TCM) or Wire #143)
 Contact Chassis OEM for Location Details.

Run Wires Through
 Grommet in Firewall

Drill 1" Dia. Hole
 in Firewall

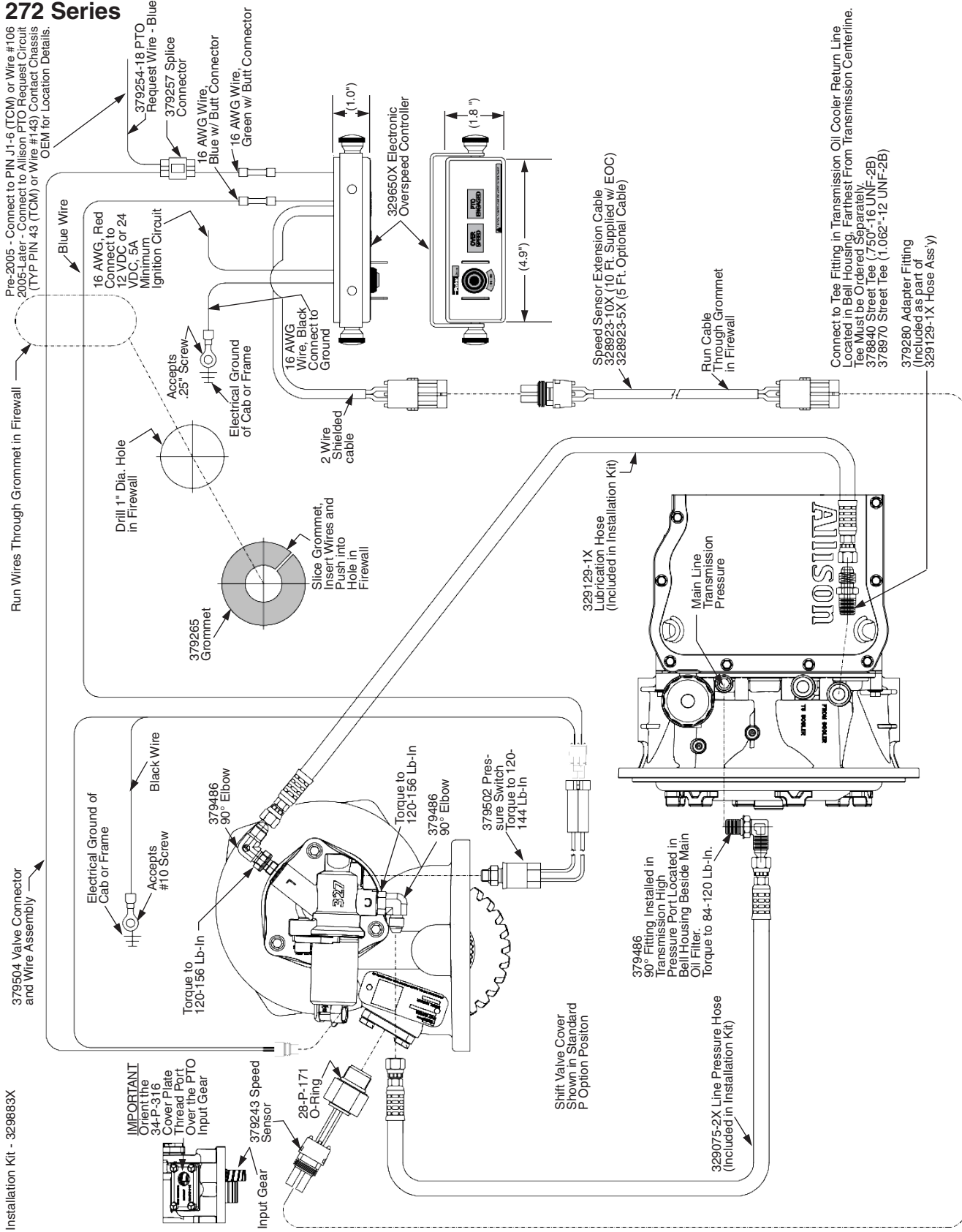
379504 Valve Connector
 and Wire Assembly

Installation Kit 329882-12X (12V)
 Installation Kit 329882-24X (24V)



Transmission Models 1000, 2000, 2500
Shift Option K (12V) & L (24V)
Elec/Hyd w/ EOC
272 Series

(SK-575)



Pre-2005 - Connect to PIN J1-6 (TCM) or Wire #106
 2005-Later - Connect to Allison PTO Request Circuit
 (TYP P PIN 43 (TCM) or Wire #143) Contact Chassis
 OEM for Location Details.

Run Wires Through Grommet in Firewall

379504 Valve Connector and Wire Assembly

Installation Kit - 329863X

IMPORTANT
 Orient the
 34-P-316
 Cover Plate
 Thread Port
 Over the PTO
 Input Gear

379243 Speed
 Sensor

28-P-171
 O-Ring

Input Gear

379486
 90° Elbow

Torque to
 120-156 Lb-In

379486
 90° Elbow

Torque to
 120-156 Lb-In

379502 Pres-
 sure Switch
 Torque to 120-
 144 Lb-In

379502 Pres-
 sure Switch
 Torque to 120-
 144 Lb-In

379502 Pres-
 sure Switch
 Torque to 120-
 144 Lb-In

379502 Pres-
 sure Switch
 Torque to 120-
 144 Lb-In

379502 Pres-
 sure Switch
 Torque to 120-
 144 Lb-In

379502 Pres-
 sure Switch
 Torque to 120-
 144 Lb-In

379502 Pres-
 sure Switch
 Torque to 120-
 144 Lb-In

379502 Pres-
 sure Switch
 Torque to 120-
 144 Lb-In

379502 Pres-
 sure Switch
 Torque to 120-
 144 Lb-In

379502 Pres-
 sure Switch
 Torque to 120-
 144 Lb-In

379502 Pres-
 sure Switch
 Torque to 120-
 144 Lb-In

379502 Pres-
 sure Switch
 Torque to 120-
 144 Lb-In

379502 Pres-
 sure Switch
 Torque to 120-
 144 Lb-In

379502 Pres-
 sure Switch
 Torque to 120-
 144 Lb-In

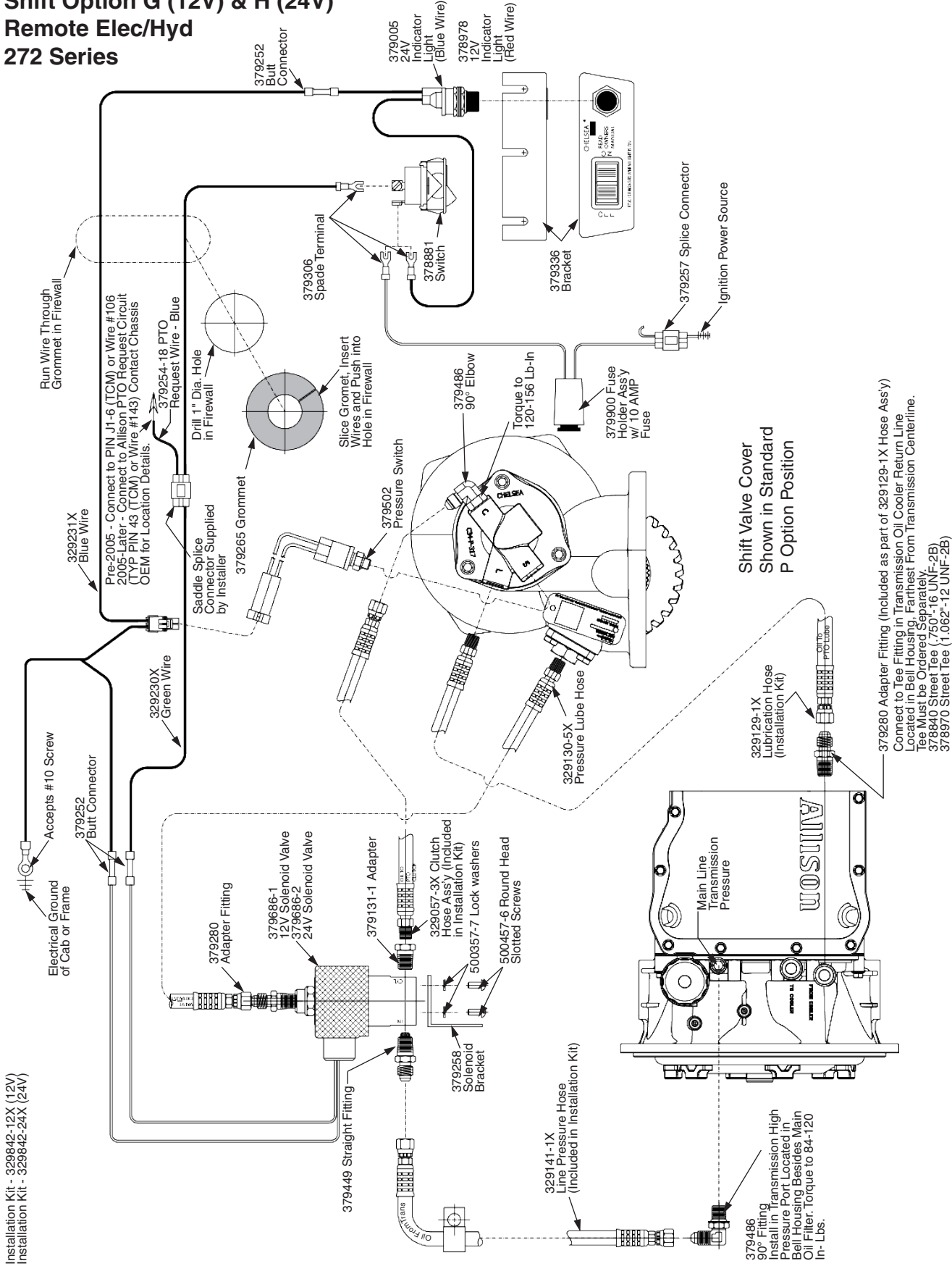
379502 Pres-
 sure Switch
 Torque to 120-
 144 Lb-In

379502 Pres-
 sure Switch
 Torque to 120-
 144 Lb-In

NOTE: Strip Wire Ends .25" Prior to Installing in Spade Terminal or Butt Connector (As Necessary).

(SK-579)

Transmission Models 1000, 2000, 2500
Shift Option G (12V) & H (24V)
Remote Elec/Hyd
272 Series

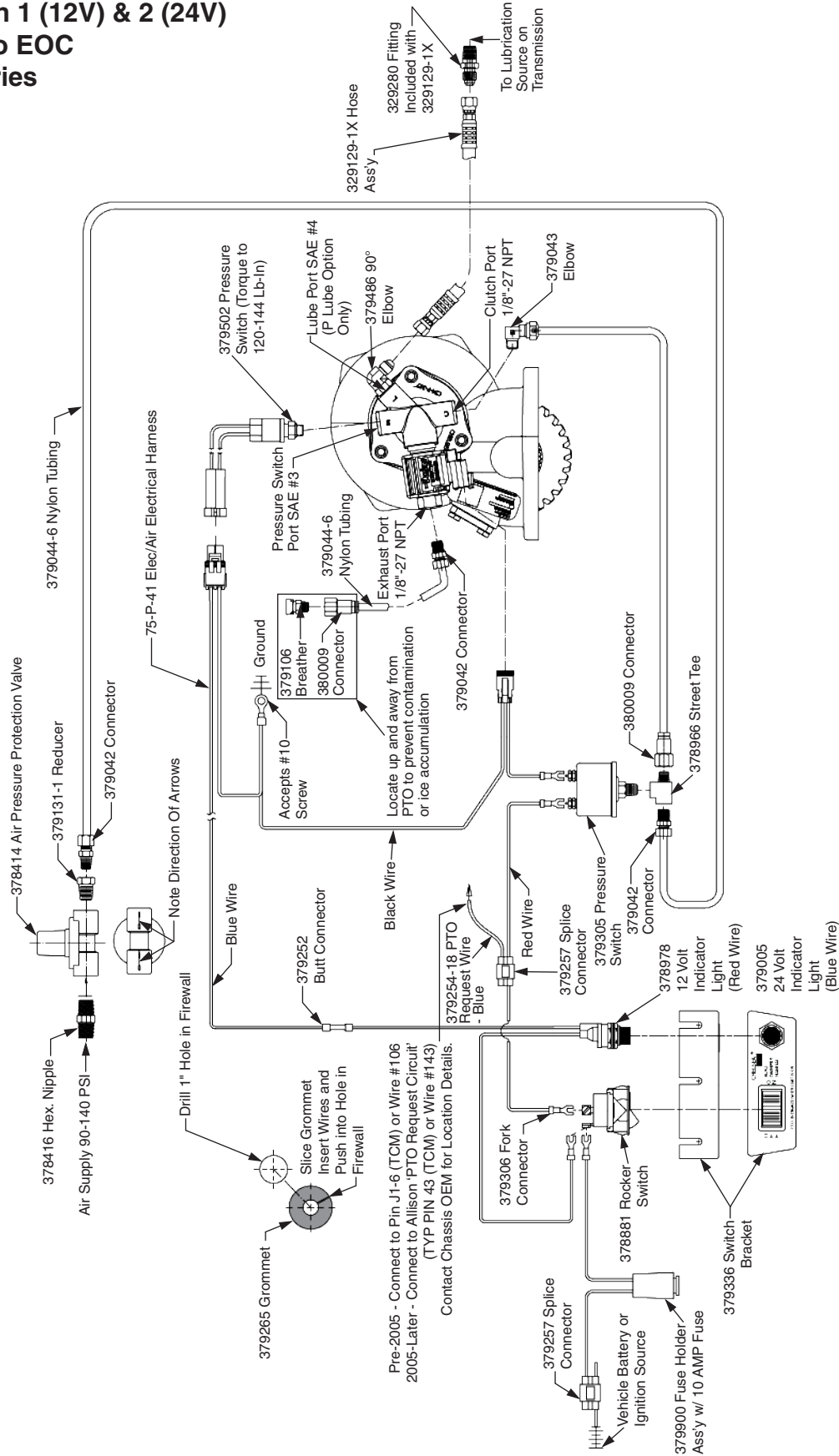


Installation Kit - 329842-12X (12V)
 Installation Kit - 329842-24X (24V)

Transmission Models 1000, 2000, 2500
Shift Option 1 (12V) & 2 (24V)
Elec/Air w/o EOC
272/282 Series

(SK-605)

Installation Kit 329909-12X (12V)
 Installation Kit 329909-24X (24V)

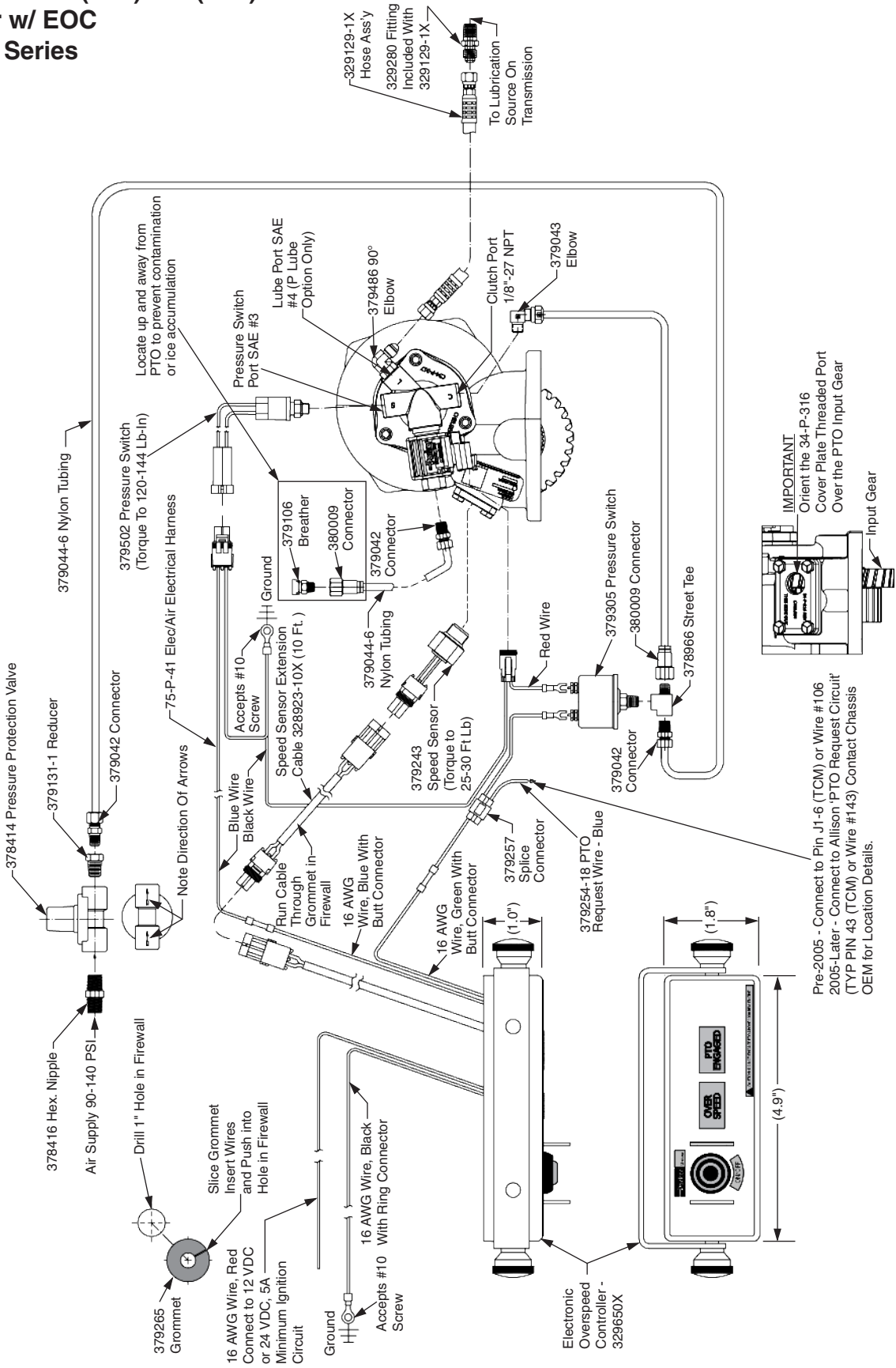


NOTE: Strip Wire Ends .25" Prior to Installing Fork and Butt Connectors

Transmission Models 1000, 2000, 2500
Shift Option J (12V) & 3 (24V)
Elec/Air w/ EOC
272/282 Series

(SK-606)

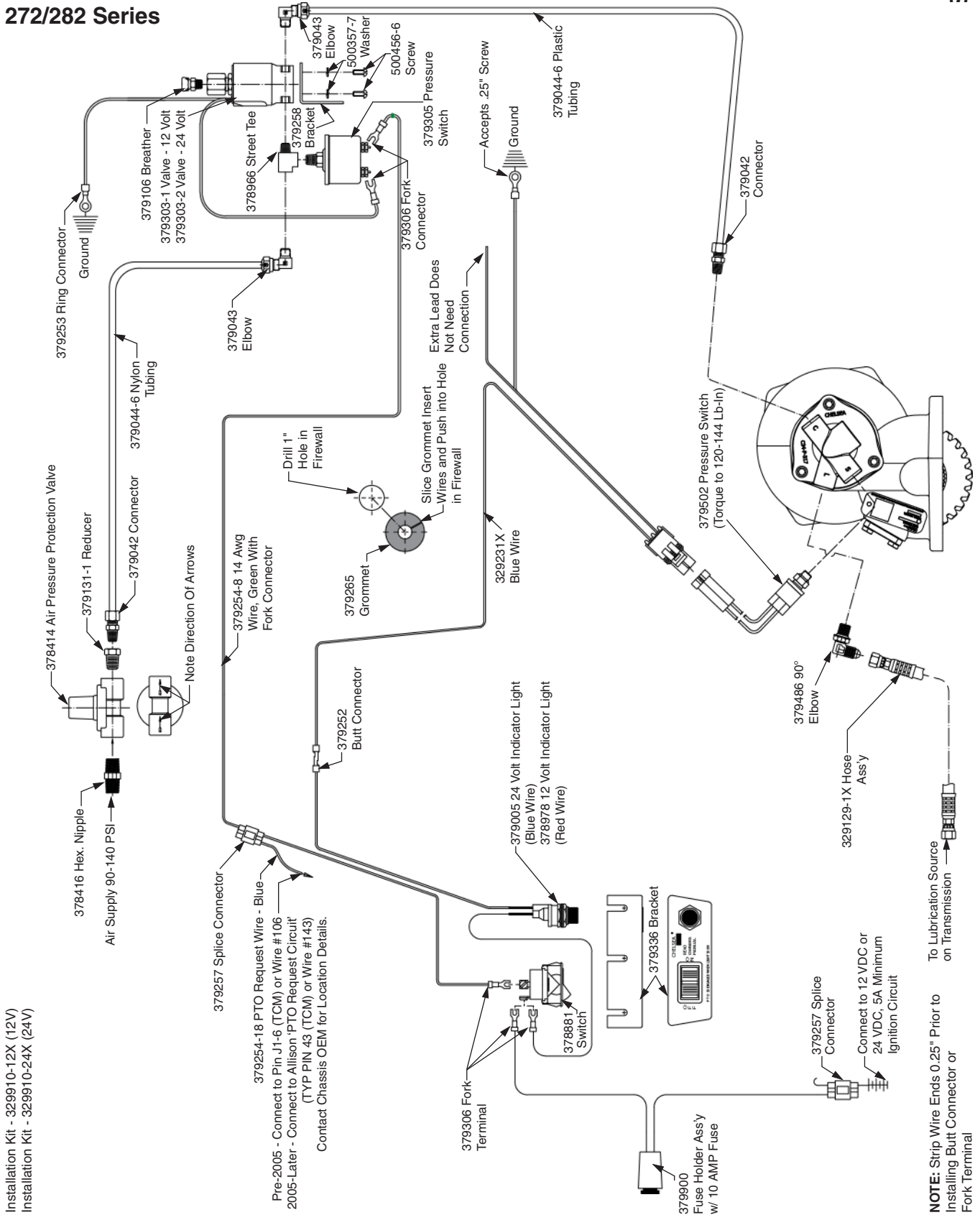
Installation Kit - 329911X (12/24V)



NOTE: Strip Wire Ends .25" Prior to Installing Fork and Butt Connectors

**Transmission Models 1000, 2000, 2500
 Shift Option P (12V) & Q (24V)
 Remote Elec/Air w/o EOC
 272/282 Series**

3K-607

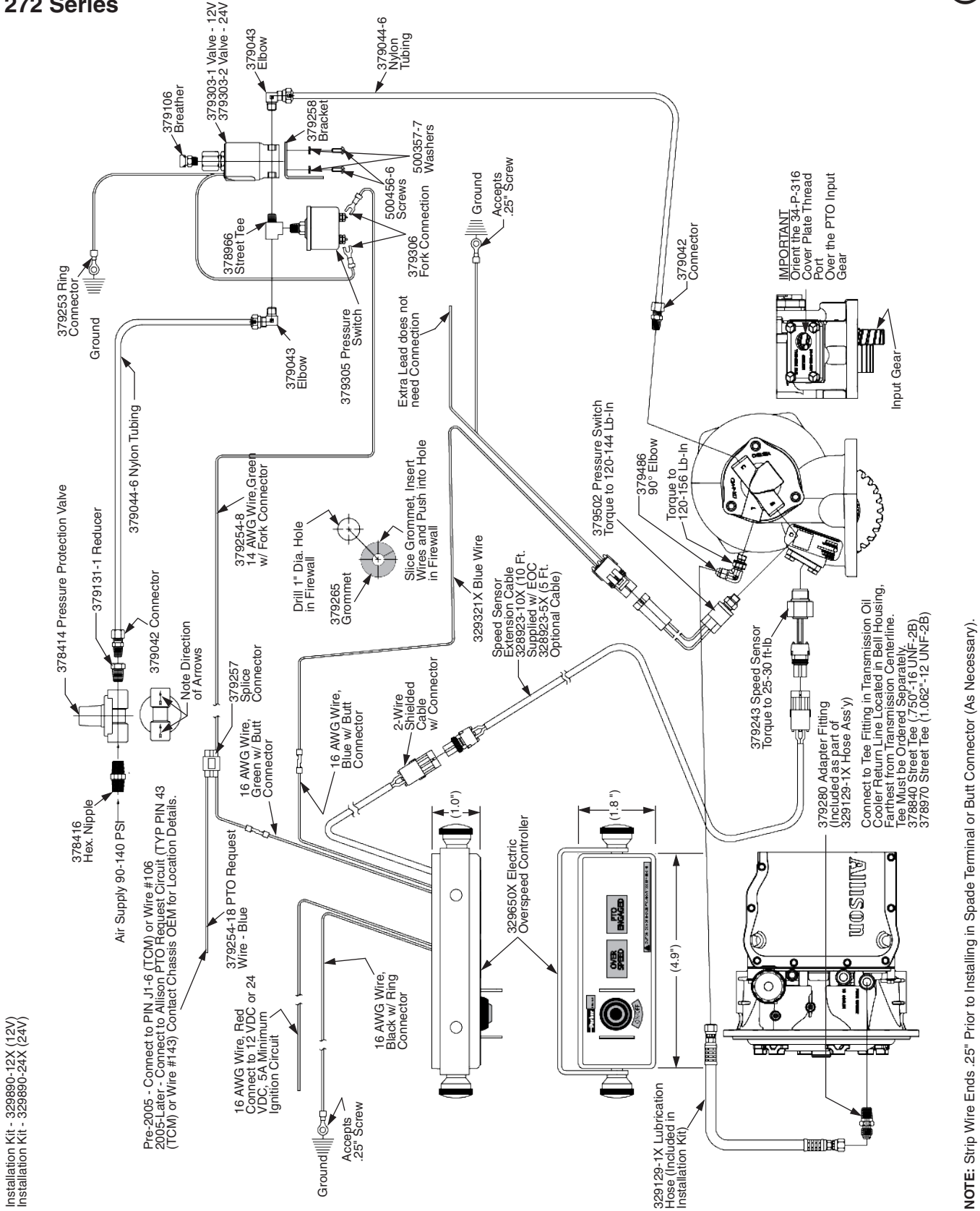


Installation Kit - 329910-12X (12V)
 Installation Kit - 329910-24X (24V)

Pre-2005 - Connect to Pin J1-6 (TCM) or Wire #106
 2005-Later - Connect to Allison 'PTO Request Circuit'
 (TYP PIN 43 (TCM) or Wire #143)
 Contact Chassis OEM for Location Details.

NOTE: Strip Wire Ends 0.25" Prior to
 Installing Butt Connector or
 Fork Terminal
 To Lubrication Source
 on Transmission

Transmission Models 1000, 2000, 2500
Shift Option R (12V), 4 (24V)
Remote Elec/Air w/ EOC
272 Series



Installation Kit - 329890-12X (12V)
 Installation Kit - 329890-24X (24V)

Pre-2005 - Connect to PIN J1-6 (TCM) or Wire #106
 2005-Later - Connect to Allison PTO Request Circuit (TYP PIN 43
 (TCM) or Wire #143) Contact Chassis OEM for Location Details.

Ground
 Accepts .25" Screw

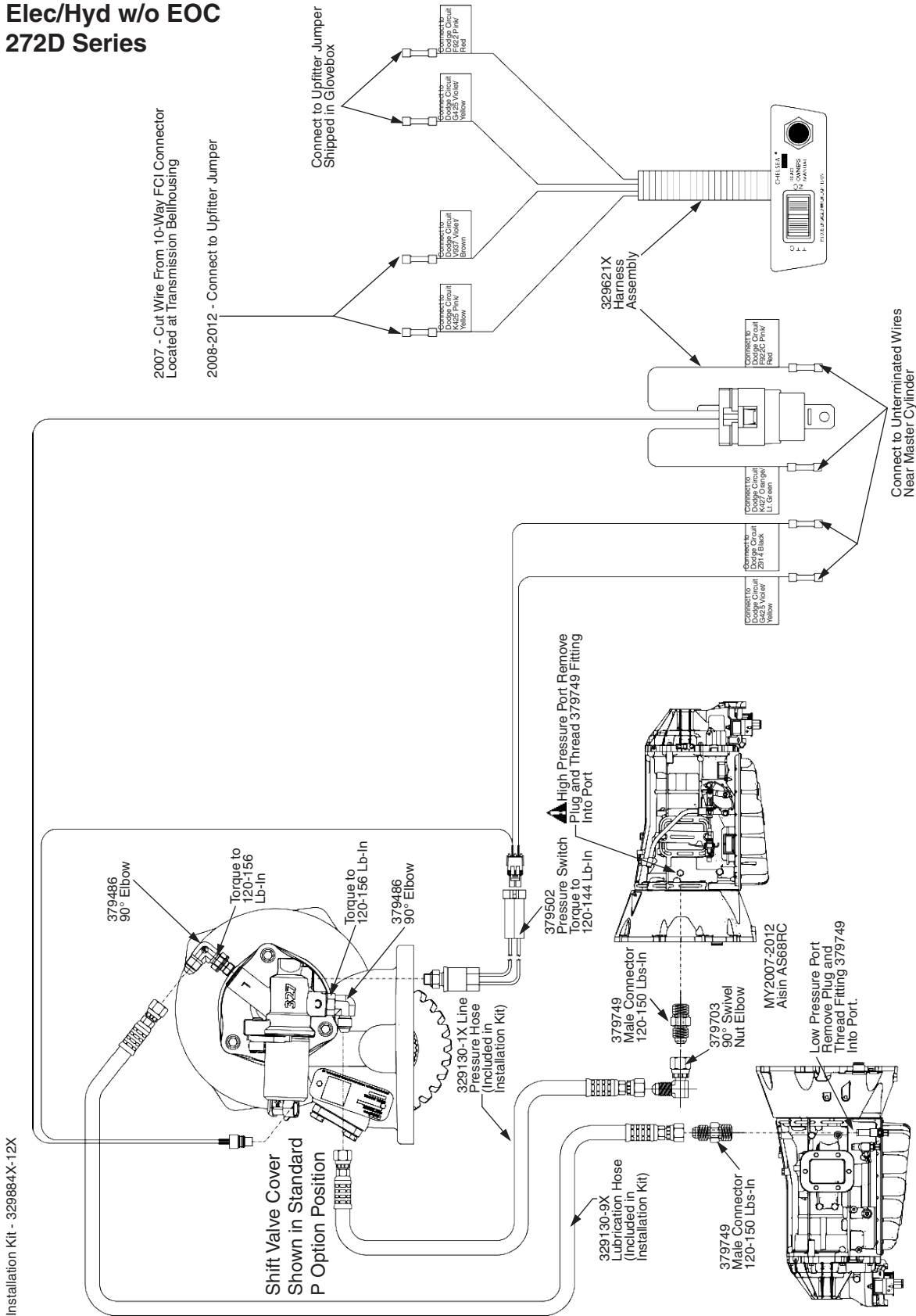
IMPORTANT
 Orient the 3/4"-P-316
 Cover Plate Thread
 Port
 Over the PTO Input
 Gear

379280 Adapter Fitting
 (Included as part of
 329129-1X Hose Ass'y)
 Connect to Tee Fitting in Transmission Oil
 Cooler Return Line Located in Bell Housing.
 Farnest from Transmission Centerline.
 Tee Must be Ordered Separately
 378840 Street Tee (7.50" ID UNF-2B)
 378970 Street Tee (1.062"-12 UNF-2B)

NOTE: Strip Wire Ends .25" Prior to Installing in Spade Terminal or Butt Connector (As Necessary).

**Dodge Cab/Chassis MY2007-2012
 AISIN (AS68RC) Transmission
 Shift Option B (12V)
 Elec/Hyd w/o EOC
 272D Series**

(SK-577)

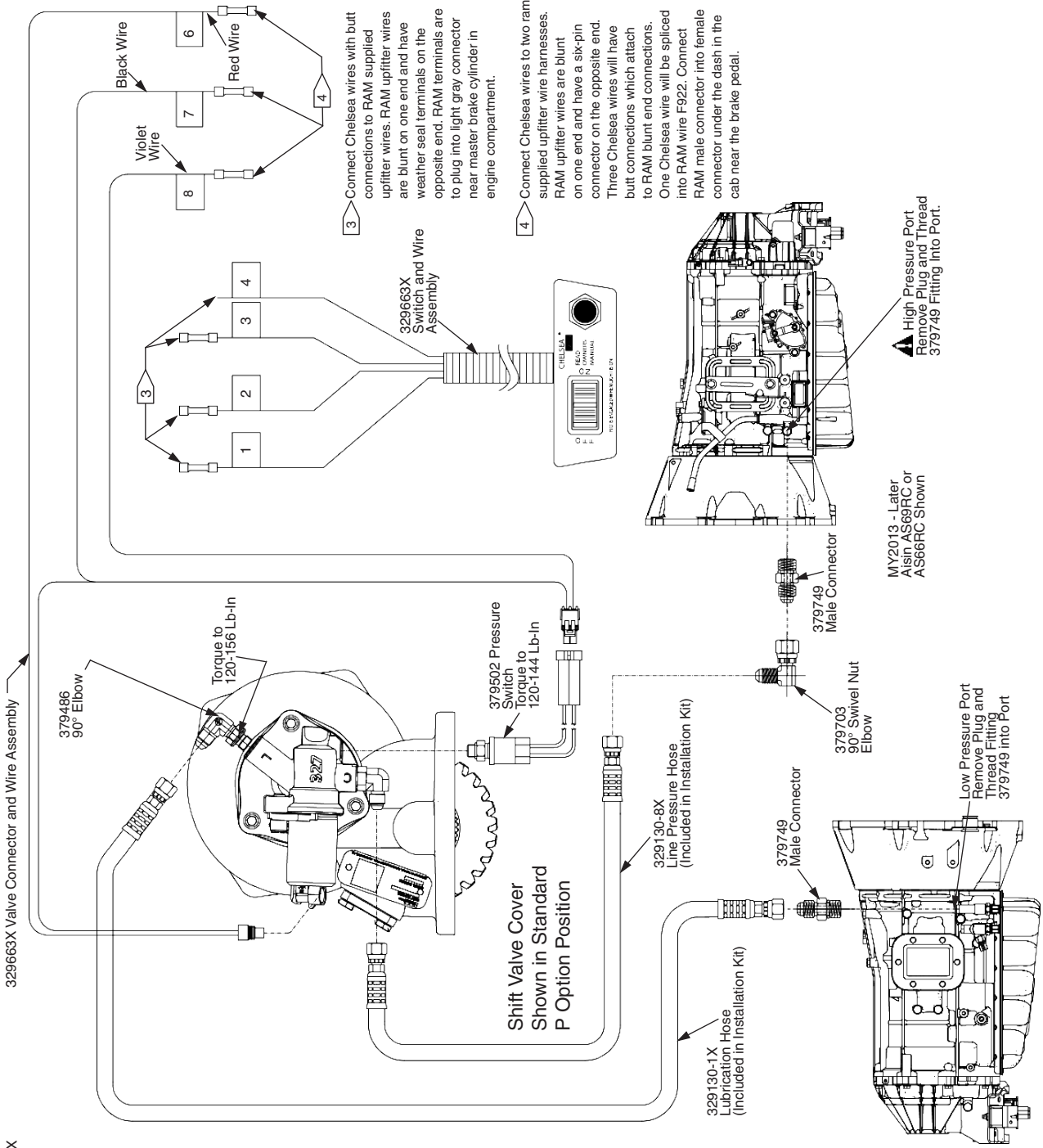


Installation Kit - 329884X-12X

WARNING: Only Use a .500"-20 Straight Thread Fitting to Avoid Breaking the Transmission Case.
NOTE: Strip Wire Ends .25" Prior to Installing in Spade Terminal or Butt Connector (As Necessary).

**RAM Cab/Chassis MY2013-Later
 AISIN (AS69RC/AS66RC) Transmission
 Shift Option B (12V)
 Remote Elec/Hyd w/o EOC
 272R Series**

(SK-581)

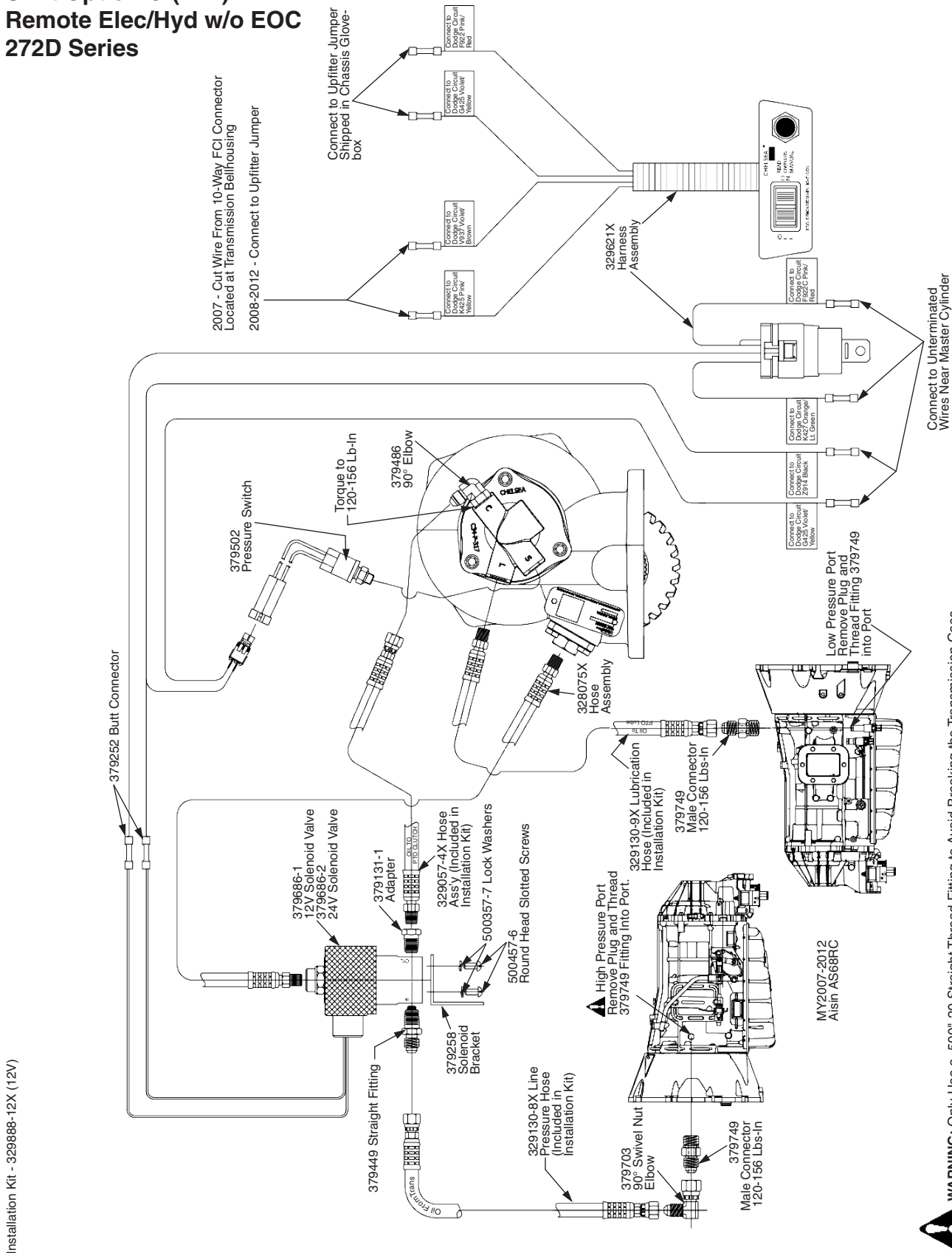


Installation Kit - 329669-12X

WARNING: Only Use a .500"-20 Straight Thread Fitting to Avoid Breaking the Transmission Case.
NOTE: Transmission Shown, Used as Representation of Aisin AS69RC, May Vary Slightly.

Dodge Cab/Chassis MY2007-2012
AISIN (AS68RC) Transmission
Shift Option G (12V)
Remote Elec/Hyd w/o EOC
272D Series

(SK-580)



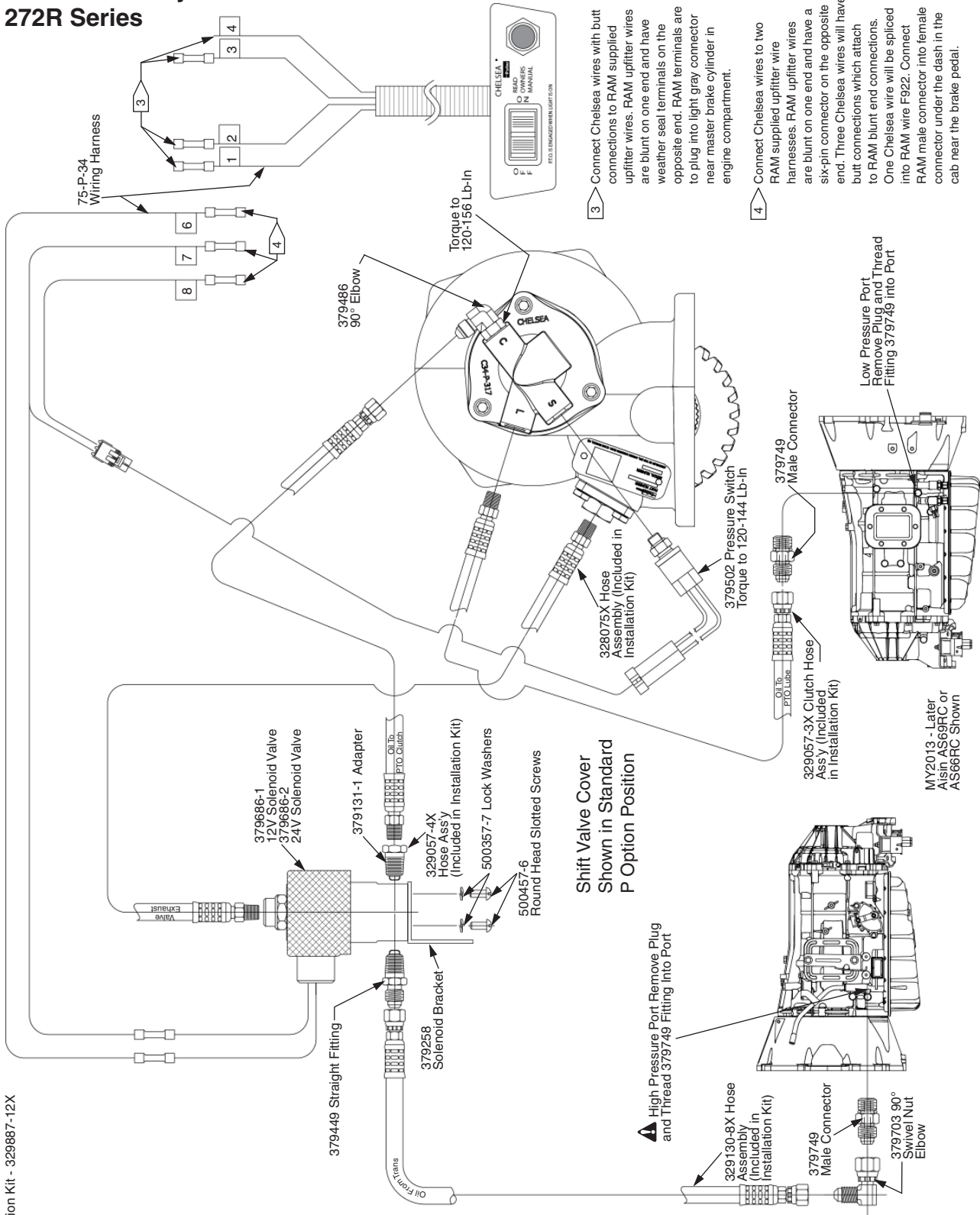
Installation Kit - 329888-12X (12V)

WARNING: Only Use a .500"-20 Straight Thread Fitting to Avoid Breaking the Transmission Case.
NOTE: Strip Wire Ends .25" Prior to Installing in Spade Terminal or Butt Connector (As Necessary).
CAUTION: Torque Values Must be Maintained at 120-144 Lb-in.



**RAM Cab/Chassis MY2013-Later
 AISIN (AS69RC/AS66RC) Transmission
 Shift Option G (12V)
 Remote Elec/Hyd w/o EOC
 272R Series**

(SK-582)



3 Connect Chelsea wires with butt connections to RAM supplied upfitter wires. RAM upfitter wires are blunt on one end and have weather seal terminals on the opposite end. RAM terminals are to plug into light gray connector near master brake cylinder in engine compartment.

4 Connect Chelsea wires to two RAM supplied upfitter wire harnesses. RAM upfitter wires are blunt on one end and have a six-pin connector on the opposite end. Three Chelsea wires will have butt connections which attach to RAM blunt end connections. One Chelsea wire will be spliced into RAM wire F922. Connect RAM male connector into female connector under the dash in the cab near the brake pedal.

Installation Kit - 329887-12X

WARNING: Only Use a .500"-20 Straight Thread Fitting to Avoid Breaking the Transmission Case.

Part Number	Description	Qty.
SERVICE KITS		
329071-62X	Gasket & Seal Kit	
22-P-112	Gasket	1
22-P-101	Gasket	1
28-P-191	O-Ring .549" x .103"	1
28-P-119	Oil Seal 1.379" x .875" x .250"	1
28-P-211	Oil Seal 3.001" x 2.00" x .375"	1
28-P-267	Oil Seal 2.627" x 1.750" x .312"	1
28-P-285	O-Ring 1.597" x .103"	2
28-P-178	O-Ring 4.359" x .138"	1
28-P-198	O-Ring .798" x .103"	1
35-P-101	Bearing Cap Gasket - Wet Spline	1
35-P-9-1	Mounting Gasket .010" 6-Bolt	2
35-P-9-2	Mounting Gasket .020" 6-Bolt	2
35-P-15-1	Mounting Gasket .010" 8-Bolt	2
35-P-15-2	Mounting Gasket .020" 8-Bolt	2
35-P-41	Mounting Gasket .030" 6-Bolt	1
35-P-69	Mounting Gasket	1
35-P-84	Mounting Gasket (Long)	1
329071-63X	Bearing Kit AB, AC, XD, XV, RF, RK, RS, RY, RZ, XR (All Outputs Except BV)	
379746	Lock ring	1
378263	Internal Lock ring	1
379555	Lock ring	1
560972	Needle Roller Bearing Ass'y 1.500" x 1.875" x 1.000"	2
550311	Ball Bearing 1.77" x 3.346" x .748"	1
550439	Tapered Cone Bearing .750"x .8598"	2
31-P-102	Thrust Washer .754" x .440" x .030"	1
14-P-73-1	Spacer .762" x 1.500" x .150"	1
14-P-73-2	Spacer .762" x 1.500" x .153"	1
14-P-73-3	Spacer .762" x 1.500" x .156"	1
329071-64X	Bearing Kit (BV & BD Outputs)	
379746	Lock ring	1
378263	Internal Lock ring	1
379555	Lock ring	1
378895	Lock ring	1
378576	Lock ring	1
550010	Ball Bearing 1.378" x 2.8346" x .6693"	1
560972	Needle Roller Bearing Ass'y 1.500" x 1.875" x 1.000"	2
550439	Tapered Cone Bearing .750"x .8598"	2
31-P-102	Thrust Washer .754" x .440" x .030"	1
14-P-73-1	Spacer .762" x 1.500" x .150"	1
14-P-73-2	Spacer .762" x 1.500" x .153"	1
14-P-73-3	Spacer .762" x 1.500" x .156"	1
329071-83X	Hydraulic Solenoid Valve O-Ring Kit	
2016V-7	O-Ring .614" x .070"	1
2017V-7	O-Ring .676" x .070"	1
2020V-7	O-Ring .864" x .070"	2
329678X	Gear & Clutch Plates Kit (All)	
2-P-858	Inner Hub Gear	1
379485	Friction Disc	11
380065	Clutch Plate	10

Part Number	Description	Qty.
STUD KITS		
7170-72X	Metric Stud Kit (272G Except KU Gear)	
379428-14	Stud M10	6
379744	Flange Nut .375"-24	6
7170-127X	Standard Stud Kit (272M)	
378431-12	Hex Head Capscrew .375"-16 x 1.250"	2
378431-15	Hex Head Capscrew .375"-16 x 1.625"	3
379433-6	Socket Head Capscrew .375"-16 x 1.00"	3
7170-128X	Metric Stud Kit (272G* KU)	
379745	Flange Nut .438"-20	6
379908	Metric Stud M10 x 1.25" x 1.750"	4
379908-1	Metric Stud M10 x 1.25" x 1.625"	2
7170-129X	Standard Stud Kit (272X, E)	
379423-12	Standard Stud	2
379423-15	Standard Stud	4
379745	Flange Nut .375"-24	6
7170-130X	Metric Stud Kit (272N)	
378431-12	Hex Head Capscrew .375"-16 x 1.250"	2
379428-22	Metric Stud	3
379744	Flange Nut .375"-24	3
379433-6	Socket Head Capscrew .375"-16 x 1.00"	3
7170-131X	Standard Stud Kit (272Z)	
379744	Flange Nut .375"-24	6
379423-9	Standard Stud	6
328170-200X	Standard Stud Kit (282X)	
379224	Lockwasher	6
378432-12	Capscrew	6
379424-18	Stud	2
379745	Flange Nut .438"-20	2
328170-201X	Metric Stud Kit (282G)	
379745	Flange Nut .438"-20	8
379429-19	Metric Stud	8

Continued on Next Page

BOMs in each kit group are listed in order based on part number.

Kits Bill of Materials

**Parts List
272/282 Series**

Part Number	Description	Qty.	Part Number	Description	Qty.
INSTALLATION INSTRUCTIONS KITS			HYDRAULIC INSTALLATION KITS		
328948-5X	Gasket & Installation Instructions Kit (All 272 M & N Mounting)		329841-12X	12V Hyd Valve Installation Kit (B Shift, KU Gear, R Mount)	
35-P-69	Mounting Gasket	1	329663X	Wiring Harness Ass'y	1
35-P-84	Mounting Gasket (Long)	1	379502	Pressure Switch.....	1
328946X	Caution Label Kit	1	379703	Swivel Nut 90° Elbow .438"-20	1
379085-2	Instructions Label	1	379749	Connector .438"-20 x .500"-20	2
379624	Product Warranty Card	1	379486	90° Elbow .438"-20	1
Owners Manual	HY25-1240-M1/US	1	329130-8X	Transmission Main Line Pressure Hose Assembly.....	1
Safety Guide	HY25-1002-M1/US	1	329130-1X	Hose Assembly, 16.25"	1
328950-6X	Gasket & Installation Instructions Kit (All 272 Except M & N Mounting)		329842-12X	12V Remote Hyd Valve Installation Kit (G Shift, HV Gear)	
35-P-9-1	Mounting Gasket .010" 6-Bolt.....	2	329230X	Green Wire 120.25" with Butt Connector.....	1
35-P-9-2	Mounting Gasket .020" 6-Bolt.....	2	329231X	Electrical Wiring Harness	1
35-P-41	Mounting Gasket .030" 6-Bolt.....	1	378881	Rocker Switch.....	1
328946X	Caution Label Kit	1	378978	12V Indicator Light.....	1
379085-2	Instructions Label	1	379131-1	Pipe Reducer Bushing.....	1
379624	Product Warranty Card	1	379252	Butt Connector.....	2
Owners Manual	HY25-1240-M1/US	1	379254-18	PTO Request Wire - Blue	1
Safety Guide	HY25-1002-M1/US	1	379257	Splice Connector	1
328951-8X	Gasket & Installation Instructions Kit (All 282)		379258	Solenoid Valve Mounting Bracket	1
35-P-15-1	Mounting Gasket .010" 8-Bolt.....	2	379265	Grommet.....	1
35-P-15-2	Mounting Gasket .020" 8-Bolt.....	2	379306	Electrical Fork Terminal	3
328946X	Caution Label Kit	1	379336	Switch Bracket.....	1
379085-2	Instructions Label	1	379449	Screen Adapter.....	1
379624	Product Warranty Card	1	379502	Pressure Switch.....	1
Owners Manual	HY25-1240-M1/US	1	379686-1	12V Hydraulic Solenoid Valve.....	1
Safety Guide	HY25-1002-M1/US	1	379900	Fuse Holder Ass'y w/ 10 AMP Fuse	1
			500357-7	Lock washer .194" x .337" x .047"	2
			500457-6	Round Head Slotted Screw .191"-32 x .438"..	2
			379486	90° Elbow .438"-20	1
			329057-3X	Clutch Hose Ass'y	1
			329129-1X	Hose Assembly with Fitting 16"	1
			329130-5X	Pressure Lube Hose.....	1
			329141-1X	Transmission Main Line Pressure Hose Assembly.....	1

Continued on Next Page

BOMs in each kit group are listed in order based on part number.

Part Number	Description	Qty.
HYDRAULIC INSTALLATION KITS (Cont'd)		
329842-24X	24V Remote Hyd Valve Installation Kit (H Shift, HV Gear)	
329230X	Green Wire 120.25" with Butt Connector.....	1
329231X	Electrical Wiring Harness	1
378881	Rocker Switch.....	1
379005	24V Indicator Light.....	1
379131-1	Pipe Reducer Bushing.....	1
379252	Butt Connector.....	2
379254-18	PTO Request Wire - Blue	1
379257	Splice Connector	1
379258	Solenoid Valve Mounting Bracket	1
379265	Grommet.....	1
379306	Electrical Fork Terminal	3
379336	Switch Bracket.....	1
379449	Screen Adapter.....	1
379502	Pressure Switch.....	1
379686-2	24V Hydraulic Solenoid Valve.....	1
379900	Fuse Holder Ass'y w/ 10 AMP Fuse	1
500357-7	Lock washer .194" x .337" x .047".....	2
500457-6	Round Head Slotted Screw .191"-32 x .438".....	2
379486	90° Elbow .438"-20.....	1
329057-3X	Clutch Hose Ass'y	1
329129-1X	Hose Assembly with Fitting 16"	1
329130-5X	Pressure Lube Hose.....	1
329141-1X	Transmission Main Line Pressure Hose Assembly.....	1
329882-12X	12V Hyd Valve Installation Kit (B Shift, HV Gear)	
329024-12X	12V Installation Kit.....	1
379486	90° Elbow .438"-20.....	1
329075-2X	Transmission Main Line Pressure Hose Assembly.....	1
329129-1X	Hose Assembly with Fitting 16"	1
329882-24X	24V Hyd Valve Installation Kit (D Shift, HV Gear)	
329024-24X	24V Installation Kit.....	1
379486	90° Elbow .438"-20.....	1
329075-2X	Transmission Main Line Pressure Hose Assembly.....	1
329129-1X	Hose Assembly with Fitting 16"	1
329883X	12V & 24V Hyd w/ EOC Installation Kit (K Shift & L Shift Except HV Gear)	
329076X	24V Installation Kit.....	1
379486	90° Elbow .438"-20.....	1
329075-2X	Transmission Main Line Pressure Hose Assembly.....	1
329129-1X	Hose Assembly with Fitting 16"	1

Part Number	Description	Qty.
HYDRAULIC INSTALLATION KITS (Cont'd)		
329884-12V	12V Hyd Valve Installation Kit (B Shift, KU Gear, D Mount)	
329621X	Non EOC Dodge Wiring Harness Ass'y	1
379502	Pressure Switch.....	1
379703	Swivel Nut 90° Elbow .438"-20	1
379749	Connector .438"-20 x .500"-20	2
379486	90° Elbow .438"-20.....	1
329130-1X	Hose Assembly, 16.25".....	1
329130-9X	Lubrication Hose Ass'y.....	1
329885-12X	12V Remote Hyd Valve Installation Kit (G Shift, Except HV Gear)	
329230X	Green Wire 120.25" with Butt Connector.....	1
329231X	Electrical Wiring Harness	1
378881	Rocker Switch.....	1
378978	12V Indicator Light.....	1
379131-1	Pipe Reducer Bushing.....	1
379252	Butt Connector.....	2
379257	Splice Connector	1
379258	Solenoid Valve Mounting Bracket	1
379265	Grommet.....	1
379306	Electrical Fork Terminal	3
379336	Switch Bracket.....	1
379449	Screen Adapter.....	1
379502	Pressure Switch.....	1
379686-1	12V Hydraulic Solenoid Valve.....	1
379700	Swivel Nut Run Tee .438"-20	1
379900	Fuse Holder Ass'y w/ 10 AMP Fuse	1
500357-7	Lock washer .194" x .337" x .047".....	2
500457-6	Round Head Slotted Screw .191"-32 x .438".....	2
329057-3X	Clutch Hose Ass'y	2
329130-5X	Pressure Lube Hose.....	1
329057X	Hose Assembly, 48".....	1
SK-576	Remote Hyd Valve Installation Sketch.....	1
329885-24X	24V Remote Hyd Valve Installation Kit (H Shift, Except HV Gear)	
329230X	Green Wire 120.25" with Butt Connector.....	1
329231X	Electrical Wiring Harness	1
378881	Rocker Switch.....	1
379005	24V Indicator Light.....	1
379131-1	Pipe Reducer Bushing.....	1
379252	Butt Connector.....	2
379257	Splice Connector	1
379258	Solenoid Valve Mounting Bracket	1
379265	Grommet.....	1
379306	Electrical Fork Terminal	3
379336	Switch Bracket.....	1
379449	Screen Adapter.....	1
379502	Pressure Switch.....	1
379686-2	24V Hydraulic Solenoid Valve.....	1
379700	Swivel Nut Run Tee .438"-20	1
379900	Fuse Holder Ass'y w/ 10 AMP Fuse	1
500357-7	Lock washer .194" x .337" x .047".....	2
500457-6	Round Head Slotted Screw .191"-32 x .438".....	2
329057-3X	Clutch Hose Ass'y	2
329130-5X	Pressure Lube Hose.....	1
329057X	Hose Assembly, 48".....	1
SK-576	Remote Hyd Valve Installation Sketch.....	1

BOMs in each kit group are listed in order based on part number.

Continued on Next Page



Part Number	Description	Qty.	Part Number	Description	Qty.
HYDRAULIC INSTALLATION KITS (Cont'd)			HYDRAULIC INSTALLATION KITS (Cont'd)		
329886X	12V & 24V Hyd w/ EOC Installation Kit (K Shift & L Shift, KU Gear, R & D Mount)		329892-24X	24V Hyd Valve Installation Kit (D Shift, Except HV Gear)	
329076	12V & 24V w/ EOC Installation Kit.....	1	329024-24X	24V Installation Kit.....	1
379703	Swivel Nut 90° Elbow .438"-20	1	379486	90° Elbow .438"-20.....	1
379749	Connector .438"-20 x .500"-20	2	329057X	Hose Assembly, 48".....	1
329130-1X	Hose Assembly, 16.25".....	1	329130-1X	Hose Assembly, 16.25".....	1
329130-9X	Lubrication Hose Ass'y.....	1			
329887-12X	12V Hyd Valve Installation Kit (G Shift, KU Gear, R Mount)		329900X	12V & 24V Hyd w/ EOC Installation Kit (K Shift & L Shift Except HV, KU Gear)	
75-P-34	Electrical Harness	1	329076X	12V & 24V w/EOC Installation Kit.....	1
379131-1	Pipe Reducer Bushing.....	1	379486	90° Elbow .438"-20.....	1
379258	Solenoid Valve Mounting Bracket	1	329057X	Hose Assembly, 48".....	1
379265	Grommet.....	1	329130-1X	Hose Assembly, 16.25".....	1
379449	Screen Adapter.....	1			
379502	Pressure Switch.....	1	329907-12X	12V Hyd Valve Installation Kit (B Shift, KU Gear, Except D, R Mount)	
379686-1	12V Hydraulic Solenoid Valve.....	1	329504	Electrical Wiring Harness	1
379703	Swivel Nut 90° Elbow .438"-20	1	379502	Pressure Switch.....	1
379749	Connector .438"-20 x .500"-20	2	379703	Swivel Nut 90° Elbow .438"-20	1
500357-7	Lock washer .194" x .337" x .047"	2	379749	Connector .438"-20 x .500"-20	2
500457-6	Round Head Slotted Screw .191"-32 x .438" ..	2	379486	90° Elbow .438"-20.....	1
329057-4X	Hose Assembly 16.75"	1	329130-5X	Pressure Lube Hose.....	2
329057-3X	Clutch Hose Ass'y	1	379252	Butt Connector.....	1
329075X	Valve Exhaust Hose Ass'y.....	1	379265	Grommet.....	1
329130-8X	Transmission Main Line Pressure Hose Assembly.....	1	378881	Rocker Switch.....	1
			378978	12V Indicator Light.....	1
			379257	Splice Connector	1
329888-12X	12V Hyd Valve Installation Kit (G Shift, KU Gear, D Mount)		379306	Electrical Fork Terminal	4
329621X	Non EOC Dodge Wiring Harness Ass'y	1	379336	Switch Bracket.....	1
379131-1	Pipe Reducer Bushing.....	1	379900	Fuse Holder Ass'y w/ 10 AMP Fuse	1
379252	Butt Connector.....	1	SK-603	Hyd Shift Installation Kit.....	1
379258	Solenoid Valve Mounting Bracket	1			
379265	Grommet.....	1	329907-24X	24V Hyd Valve Installation Kit (D Shift, KU Gear, Except D, R Mount)	
379449	Screen Adapter.....	1	329504	Electrical Wiring Harness	1
379502	Pressure Switch.....	1	379502	Pressure Switch.....	1
379686-1	12V Hydraulic Solenoid Valve.....	1	379703	Swivel Nut 90° Elbow .438"-20	1
379703	Swivel Nut 90° Elbow .438"-20	1	379749	Connector .438"-20 x .500"-20	2
379749	Connector .438"-20 x .500"-20	2	379486	90° Elbow .438"-20.....	1
500357-7	Lock washer .194" x .337" x .047"	2	329130-5X	Pressure Lube Hose.....	2
500457-6	Round Head Slotted Screw .191"-32 x .438" ..	2	379252	Butt Connector.....	1
329057-4X	Hose Assembly 16.75"	1	379265	Grommet.....	1
329130-9X	Lubrication Hose Ass'y.....	1	378881	Rocker Switch.....	1
329075X	Valve Exhaust Hose Ass'y.....	1	379005	24V Indicator Light.....	1
329130-8X	Transmission Main Line Pressure Hose Assembly.....	1	379257	Splice Connector	1
			379306	Electrical Fork Terminal	4
			379336	Switch Bracket.....	1
329892-12X	12V Hyd Valve Installation Kit (B Shift, Except HV Gear)		379900	Fuse Holder Ass'y w/ 10 AMP Fuse	1
329024-12X	12V Installation Kit.....	1	SK-603	Hyd Shift Installation Kit.....	1
379486	90° Elbow .438"-20.....	1			
329057X	Hose Assembly, 48".....	1			
329130-1X	Hose Assembly, 16.25".....	1			

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BOMs in each kit group are listed in order based on part number.

Part Number	Description	Qty.
HYDRAULIC INSTALLATION KITS (Cont'd)		
329908-12X	12V Remote Hyd Valve Installation Kit (G Shift, KU Gear Except D, R Mount)	
329231X	Electrical Wiring Harness	1
379502	Pressure Switch.....	1
379703	Swivel Nut 90° Elbow .438"-20	1
379749	Connector .438"-20 x .500"-20	2
379486	90° Elbow .438"-20	1
329130-5X	Pressure Lube Hose	3
379131-1	Pipe Reducer Bushing.....	1
379252	Butt Connector.....	3
379258	Solenoid Valve Mounting Bracket	1
379265	Grommet.....	1
379449	Screen Adapter.....	1
329057-3X	Clutch Hose Ass'y	1
379686-1	12V Hydraulic Solenoid Valve.....	1
500357-7	Lock washer .194" x .337" x .047"	2
500457-6	Round Head Slotted Screw .191"-32 x .438" ..	2
378881	Rocker Switch.....	1
378978	12V Indicator Light.....	1
379257	Splice Connector	1
379306	Electrical Fork Terminal	4
379336	Switch Bracket	1
379900	Fuse Holder Ass'y w/ 10 AMP Fuse	1
329230X	Green Wire 120.25" with Butt Connector.....	1
SK-604	Remote Hyd Valve Installation Kit.....	1
329908-24X	24V Remote Hyd Valve Installation Kit (H Shift, KU Gear Except D, R Mount)	
329231X	Electrical Wiring Harness	1
379502	Pressure Switch.....	1
379703	Swivel Nut 90° Elbow .438"-20	1
379749	Connector .438"-20 x .500"-20	2
379486	90° Elbow .438"-20	1
329130-5X	Pressure Lube Hose	3
379131-1	Pipe Reducer Bushing.....	1
379252	Butt Connector.....	3
379258	Solenoid Valve Mounting Bracket	1
379265	Grommet.....	1
379449	Screen Adaptor.....	1
329057-3X	Clutch Hose Ass'y	1
379686-2	24V Hydraulic Solenoid Valve.....	1
500357-7	Lock washer .194" x .337" x .047"	2
500457-6	Round Head Slotted Screw .191"-32 x .438" ..	2
378881	Rocker Switch.....	1
379005	24V Indicator Light.....	1
379257	Splice Connector	1
379306	Electrical Fork Terminal	4
379336	Switch Bracket.....	1
379900	Fuse Holder Ass'y w/ 10 AMP Fuse	1
329230X	Green Wire 120.25" with Butt Connector.....	1
SK-604	Remote Hyd Valve Installation Sketch	1

Part Number	Description	Qty.
AIR INSTALLATION KITS		
328388-113X	Air Shift Installation Kit (A Shift)	
328931X	Valve Mounting Kit.....	1
329090-6X	Valve Kit.....	1
378416	Hex Nipple .25"-18.....	1
379042	Male Connector .250" Tubex .125"-27	5
379044-6	Nylon Tubing .253" x .179" x 30 ft.....	1
379130	Air Shifter Support Bracket	2
379131-1	Pipe Reducer Bushing.....	3
379253	Ring Connector.....	1
75-P-40	Press Switch Electrical Wiring Harness.....	1
379257	Splice Connector	1
379497	Relay Valve	1
379502	Pressure Switch.....	1
379900	Fuse Holder Ass'y w/ 10 AMP Fuse	1
380097	Union Tee .250" Tube.....	1
379252	Butt Connector.....	2
75-P-13	LED Indicator Light.....	1
329889-12X	12V Elec/Air w/ EOC Installation Kit (R Shift, Except HV Gear)	
378414	Air Pressure Protection Valve	1
378416	Hex Nipple .25"-18.....	1
378966	Street Tee .125"-27	1
379042	Male Connector .250" Tubex .125"-27	2
379043	90° Male Elbow .250" Tubex .125"-27	2
379106	Breather .125"-27	1
379253	Ring Connector.....	1
379258	Solenoid Valve Mounting Bracket	1
379265	Grommet.....	1
379305	Pressure Switch.....	1
379306	Electrical Terminal Fork	1
379502	Pressure Switch.....	1
329231X	Electrical Wiring Harness	1
329650X	EOC Controller	1
379044-6	Nylon Tubing .253" x .179" x 30 ft.....	1
379131-1	Pipe Reducer Bushing.....	1
379254-8	Green Wire 125" with Fork Connector.....	1
379303-1	12V Solenoid Valve.....	1
500357-7	Lock washer .194" x .337" x .047"	2
500457-6	Round Head Slotted Screw .191"-32 x .438" ..	2

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BOMs in each kit group are listed in order based on part number.



Part Number	Description	Qty.	Part Number	Description	Qty.
AIR INSTALLATION KITS (Cont'd)			AIR INSTALLATION KITS (Cont'd)		
329889-24X	24V Remote Elec/Air w/ EOC Installation Kit (4 Shift, Except HV Gear)		329890-24X	24V Remote Elec/Air w/ EOC Installation Kit (4 Shift, HV Gear)	
378414	Air Pressure Protection Valve	1	378414	Air Pressure Protection Valve	1
378416	Hex Nipple .25"-18.....	1	378416	Hex Nipple .25"-18.....	1
378966	Street Tee .125"-27.....	1	378966	Street Tee .125"-27.....	1
379042	Male Connector .250" Tubex .125"-27	2	379042	Male Connector .250" Tubex .125"-27	2
379043	90° Male Elbow .250" Tubex .125"-27.....	2	379043	90° Male Elbow .250" Tubex .125"-27.....	2
379106	Breather .125"-27	1	379106	Breather .125"-27	1
379253	Ring Connector.....	1	379253	Ring Connector.....	1
379258	Solenoid Valve Mounting Bracket	1	379257	Splice Connector	1
379265	Grommet.....	1	379258	Solenoid Valve Mounting Bracket	1
379305	Pressure Switch.....	1	379265	Grommet.....	1
379306	Electrical Terminal Fork	1	379305	Pressure Switch.....	1
379502	Pressure Switch.....	1	379306	Electrical Terminal Fork	1
329231X	Electrical Wiring Harness	1	379486	90° Elbow .438"-20.....	1
329650X	EOC Controller	1	379502	Pressure Switch.....	1
379044-6	Nylon Tubing .253" x .179" x 30 ft.....	1	329231X	Electrical Wiring Harness	1
379131-1	Pipe Reducer Bushing.....	1	329650X	EOC Controller	1
379254-8	Green Wire 125" with Fork Connector.....	1	379044-6	Nylon Tubing .253" x .179" x 30 ft.....	1
379303-2	24V Solenoid Valve.....	1	379131-1	Pipe Reducer Bushing.....	1
500357-7	Lock washer .194" x .337" x .047"	2	379254-8	Green Wire 125" with Fork Connector.....	1
500457-6	Round Head Slotted Screw .191"-32 x .438"..	2	379254-18	PTO Request Wire - Blue	1
			379303-2	24V Solenoid Valve.....	1
			500357-7	Lock washer .194" x .337" x .047"	2
			500457-6	Round Head Slotted Screw .191"-32 x .438"..	2
329890-12X	12V Elec/Air w/ EOC Installation Kit (R Shift, HV Gear)		329129-1X	Hose Assembly with Fitting 16"	1
378414	Air Pressure Protection Valve	1			
378416	Hex Nipple .25"-18.....	1	329891-12X	12V Elec/Air Installation Kit (P Shift, Except HV Gear)	
378966	Street Tee .125"-27	1	378414	Air Pressure Protection Valve	1
379042	Male Connector .250" Tubex .125"-27	2	378416	Hex Nipple .25"-18.....	1
379043	90° Male Elbow .250" Tubex .125"-27.....	2	378881	Rocker Switch.....	1
379106	Breather .125"-27	1	378966	Street Tee .125"-27	1
379253	Ring Connector.....	1	378978	12V Indicator Light.....	1
379257	Splice Connector	1	379042	Male Connector .250" Tubex .125"-27	2
379258	Solenoid Valve Mounting Bracket	1	379043	90° Male Elbow .250" Tubex .125"-27.....	2
379265	Grommet.....	1	379106	Breather .125"-27	1
379305	Pressure Switch.....	1	379253	Ring Connector.....	1
379306	Electrical Terminal Fork	1	379257	Splice Connector	1
379486	90° Elbow .438"-20.....	1	379258	Solenoid Valve Mounting Bracket	1
379502	Pressure Switch.....	1	379265	Grommet.....	1
329231X	Electrical Wiring Harness	1	379305	Pressure Switch.....	1
329650X	EOC Controller	1	379306	Electrical Terminal Fork	4
379044-6	Nylon Tubing .253" x .179" x 30 ft.....	1	379336	Switch Bracket.....	1
379131-1	Pipe Reducer Bushing.....	1	379502	Pressure Switch.....	1
379254-8	Green Wire 125" with Fork Connector.....	1	379900	Fuse Holder Ass'y w/ 10 AMP Fuse	1
379254-18	PTO Request Wire - Blue	1	329231X	Electrical Wiring Harness	1
379303-1	12V Solenoid Valve.....	1	329650X	EOC Controller	1
500357-7	Lock washer .194" x .337" x .047"	2	379044-6	Nylon Tubing .253" x .179" x 30 ft.....	1
500457-6	Round Head Slotted Screw .191"-32 x .438"..	2	379131-1	Pipe Reducer Bushing.....	1
329129-1X	Hose Assembly with Fitting 16"	1	379254-8	Green Wire 125" with Fork Connector.....	1
			379303-1	12V Solenoid Valve.....	1
			500357-7	Lock washer .194" x .337" x .047"	2
			500457-6	Round Head Slotted Screw .191"-32 x .438"..	2

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BOMs in each kit group are listed in order based on part number.



Part Number	Description	Qty.
AIR INSTALLATION KITS (Cont'd)		
329891-24X	24V Remote Elec/Air Installation Kit (Q Shift Except HV Gear)	
378414	Air Pressure Protection Valve	1
378416	Hex Nipple .25"-18.....	1
378881	Rocker Switch.....	1
378966	Street Tee .125"-27	1
379005	12V Indicator Light.....	1
379042	Male Connector .250" Tubex .125"-27	2
379043	90° Male Elbow .250" Tubex .125"-27.....	2
379106	Breather .125"-27	1
379253	Ring Connector.....	1
379257	Splice Connector	1
379258	Solenoid Valve Mounting Bracket	1
379265	Grommet.....	1
379305	Pressure Switch.....	1
379306	Electrical Terminal Fork	4
379336	Switch Bracket	1
379502	Pressure Switch.....	1
379900	Fuse Holder Ass'y w/ 10 AMP Fuse	1
329231X	Electrical Wiring Harness	1
379044-6	Nylon Tubing .253" x .179" x 30 ft.....	1
379131-1	Pipe Reducer Bushing.....	1
379254-8	Green Wire 125" with Fork Connector.....	1
379303-2	24V Solenoid Valve.....	1
500357-7	Lock washer .194" x .337" x .047"	2
500457-6	Round Head Slotted Screw .191"-32 x .438" ..	2
329893-12X	12V Elec/Air Installation Kit (1 Shift, Except HV Gear)	
378414	Air Pressure Protection Valve	1
378416	Hex Nipple .25"-18.....	1
378881	Rocker Switch.....	1
378966	Street Tee .125"-27	1
378978	12V Indicator Light.....	1
379042	Male Connector .250" Tubex .125"-27	2
379043	90° Male Elbow .250" Tubex .125"-27.....	2
379106	Breather .125"-27	1
379252	Butt Connector.....	1
379257	Splice Connector	1
379265	Grommet.....	1
379305	Pressure Switch.....	1
379306	Electrical Terminal Fork	4
379336	Switch Bracket	1
379502	Pressure Switch.....	1
379900	Fuse Holder Ass'y w/ 10 AMP Fuse	1
75-P-41	Elec/Air Electrical Harness	1
379044-6	Nylon Tubing .253" x .179" x 30 ft.....	1
379131-1	Pipe Reducer Bushing.....	1
379254-8	Green Wire 125" with Fork Connector.....	1
380009	Female Connector .125" NPT x .125" Tube PTC	2

Part Number	Description	Qty.
AIR INSTALLATION KITS (Cont'd)		
329893-24X	24V Elec/Air w/ EOC Installation Kit (2 Shift, Except HV Gear)	
378414	Air Pressure Protection Valve	1
378416	Hex Nipple .25"-18.....	1
378881	Rocker Switch.....	1
378966	Street Tee .125"-27	1
379005	24V Indicator Light.....	1
379042	Male Connector .250" Tubex .125"-27	2
379043	90° Male Elbow .250" Tubex .125"-27.....	2
379106	Breather .125"-27	1
379252	Butt Connector.....	1
379257	Splice Connector	1
379265	Grommet.....	1
379305	Pressure Switch.....	1
379306	Electrical Terminal Fork	4
379336	Switch Bracket	1
379502	Pressure Switch.....	1
379900	Fuse Holder Ass'y w/ 10 AMP Fuse	1
75-P-41	Elec/Air Electrical Harness	1
379044-6	Nylon Tubing .253" x .179" x 30 ft.....	1
379131-1	Pipe Reducer Bushing.....	1
379254-8	Green Wire 125" with Fork Connector.....	1
380009	Female Connector .125" NPT x .125" Tube PTC	2
329894X	12V Elec/Air w/ EOC Installation Kit (J Shift & 3 Shift, Except HV Gear)	
378414	Air Pressure Protection Valve	1
378416	Hex Nipple .25"-18.....	1
378966	Street Tee .125"-27	1
379042	Male Connector .250" Tubex .125"-27	3
379043	90° Male Elbow .250" Tubex .125"-27.....	1
379106	Breather .125"-27	1
379265	Grommet.....	1
379305	Pressure Switch.....	1
379502	Pressure Switch.....	1
380009	Female Connector .125" NPT x .125" Tube PTC	1
75-P-41	Elec/Air Electrical Harness	1
329650X	EOC Controller	1
379044-6	Nylon Tubing .253" x .179" x 30 ft.....	1
379131-1	Pipe Reducer Bushing.....	1

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BOMs in each kit group are listed in order based on part number.



Part Number	Description	Qty.	Part Number	Description	Qty.
AIR INSTALLATION KITS (Cont'd)			AIR INSTALLATION KITS (Cont'd)		
329909-12X	12V Elec/Air Valve Installation Kit (1 Shift, HV Gear)		329910-12X	12V Remote Elec/Air Valve Installation Kit (P Shift, HV Gear)	
75-P-41	Elec/Air Electrical Harness	1	329231X	Electrical Wiring Harness	1
379502	Pressure Switch.....	1	379502	Pressure Switch.....	1
379486	90° Elbow .438"-20.....	1	379486	90° Elbow .438"-20.....	1
379131-1	Pipe Reducer Bushing.....	1	379131-1	Pipe Reducer Bushing.....	1
379252	Butt Connector.....	1	379252	Butt Connector.....	2
379265	Grommet.....	1	379258	Solenoid Valve Mounting Bracket	1
378414	Air Pressure Protection Valve	1	379265	Grommet.....	1
378416	Hex Nipple .25"-18.....	1	379303-1	12V Solenoid Valve.....	1
378881	Rocker Switch.....	1	500357-7	Lock washer .194" x .337" x .047"	2
378966	Street Tee .125"-27	1	500457-6	Round Head Slotted Screw .191"-32 x .438" ..	2
378978	12V Indicator Light.....	1	378414	Air Pressure Protection Valve	1
379042	Male Connector .250" Tubex .125"-27	3	378416	Hex Nipple .25"-18.....	1
379043	90° Male Elbow .250" Tubex .125"-27.....	1	378881	Rocker Switch.....	1
379106	Breather .125"-27	1	378966	Street Tee .125"-27	1
379257	Splice Connector	2	378978	12V Indicator Light.....	1
379305	Pressure Switch.....	1	379042	Male Connector .250" Tubex .125"-27	2
379306	Electrical Fork Terminal	3	379043	90° Male Elbow .250" Tubex .125"-27.....	2
379336	Switch Bracket.....	1	379106	Breather .125"-27	1
379900	Fuse Holder Ass'y w/ 10 AMP Fuse	1	379257	Splice Connector	2
379044-6	Nylon Tubing .253" x .179" x 30 ft.....	1	379305	Pressure Switch.....	1
380009	Female Connector .125" NPT x .125" Tube PTC	2	379306	Electrical Fork Terminal	4
329129-1X	Hose Assembly with Fitting 16"	1	379336	Switch Bracket.....	1
379254-18	PTO Request Wire - Blue	1	379900	Fuse Holder Ass'y w/ 10 AMP Fuse	1
			379044-6	Nylon Tubing .253" x .179" x 30 ft.....	1
			329129-1X	Hose Assembly with Fitting 16"	1
			379254-18	PTO Request Wire - Blue	1
			379254-8	Green Wire 125" with Fork Connector.....	1
			379253	Ring Connector.....	1
			SK-607	Elec/Air Shift w/o EOC Installation Sketch ...	1

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BOMs in each kit group are listed in order based on part number.

Part Number	Description	Qty.
AIR INSTALLATION KITS (Cont'd)		
329910-24X	24V Remote Elec/Air Valve Installation Kit (Q Shift, HV Gear)	
329231X	Electrical Wiring Harness	1
379502	Pressure Switch.....	1
379486	90° Elbow .438"-20.....	1
379131-1	Pipe Reducer Bushing.....	1
379252	Butt Connector.....	2
379258	Solenoid Valve Mounting Bracket	1
379265	Grommet.....	1
379303-2	24V Solenoid Valve.....	1
500357-7	Lock washer .194" x .337" x .047"	2
500457-6	Round Head Slotted Screw .191"-32 x .438" ..	2
378414	Air Pressure Protection Valve	1
378416	Hex Nipple .25"-18.....	1
378881	Rocker Switch.....	1
378966	Street Tee .125"-27	1
379005	24V Indicator Light.....	1
379042	Male Connector .250" Tubex .125"-27	2
379043	90° Male Elbow .250" Tubex .125"-27.....	2
379106	Breather .125"-27	1
379257	Splice Connector	2
379305	Pressure Switch.....	1
379306	Electrical Fork Terminal	4
379336	Switch Bracket	1
379900	Fuse Holder Ass'y w/ 10 AMP Fuse	1
379044-6	Nylon Tubing .253" x .179" x 30 ft.....	1
329129-1X	Hose Assembly with Fitting 16"	1
379254-18	PTO Request Wire - Blue	1
379254-8	Green Wire 125" with Fork Connector.....	1
379253	Ring Connector.....	1
SK-607	Elec/Air Shift w/o EOC Installation Sketch ...	1
329911X	12V/24V Elec/Air Valve w/ EOC Installation Kit (J Shift & 3 Shift, HV Gear)	
329231X	Electrical Wiring Harness	1
379502	Pressure Switch.....	1
379486	90° Elbow .438"-20.....	1
379131-1	Pipe Reducer Bushing.....	1
379265	Grommet.....	1
378414	Air Pressure Protection Valve	1
378416	Hex Nipple .25"-18.....	1
378966	Street Tee .125"-27	1
379042	Male Connector .250" Tubex .125"-27	3
379043	90° Male Elbow .250" Tubex .125"-27.....	1
379106	Breather .125"-27	1
379257	Splice Connector	2
379305	Pressure Switch.....	1
379306	Electrical Fork Terminal	1
379044-6	Nylon Tubing .253" x .179" x 30 ft.....	1
380009	Female Connector .125" NPT x .125" Tube PTC	2
329129-1X	Hose Assembly with Fitting 16"	1
379254-18	PTO Request Wire - Blue	1
329650X	EOC Controller	1
SK-606	Elec/Air Shift w/ EOC Installation Sketch	1

Part Number	Description	Qty.
SHIFTER CONVERSION KITS		
329175-12X	12V EOC Conversion Kit (All)	
28-P-171	O-Ring .644" x .087"	1
329650X	EOC Controller	1
329076X	12V & 24V Installation Kit w/ EOC.....	1
379243	Speed Sensor.....	1
329175-24X	24V EOC Conversion Kit (All)	
28-P-171	O-Ring .644" x .087"	1
329650X	EOC Controller	1
329076X	12V & 24V Installation Kit w/ EOC.....	1
379243	Speed Sensor.....	1
329354-12X	12V Remote Hyd Valve Conversion Kit (All)	
22-P-112	Gasket	1
500457-6	Round Head Slotted Screw .191"-32 x .438" ..	2
500357-7	Lock washer .194" x .337" x .047"	2
379686-1	12V Hydraulic Solenoid Valve.....	1
379449	Screen Adapter.....	1
379258	Solenoid Valve Mounting Bracket	1
379564-2	Cap Thread.....	2
329231X	Electrical Wiring Harness	1
329230X	Green Wire 120.25" with Butt Connector.....	1
328075X	Hose Assembly.....	1
379700	Swivel Nut Run Tee .438"-20	1
380010	Union Female	1
379486	90° Elbow .438"-20.....	1
329403X	Assembly Seal.....	1
379711	Female Bracket.....	1
379131-1	Pipe Reducer Bushing.....	1
SK-432	Installation	1
329354-24X	24V Remote Hyd Valve Conversion Kit (All)	
500457-6	Round Head Slotted Screw .191"-32 x .438" ..	2
500357-7	Lock washer .194" x .337" x .047"	2
379686-2	24V Hydraulic Solenoid Valve.....	1
379449	Screen Adapter.....	1
379258	Solenoid Valve Mounting Bracket	1
379564-2	Cap Thread.....	2
329231X	Electrical Wiring Harness	1
329230X	Green Wire 120.25" with Butt Connector.....	1
328075X	Hose Assembly.....	1
22-P-112	Gasket	1
379700	Swivel Nut Run Tee .438"-20	1
380010	Union Female	1
379486	90° Elbow .438"-20.....	1
329403X	Assembly Seal.....	1
379711	Female Bracket.....	1
379131-1	Pipe Reducer Bushing.....	1
SK-432	Installation	1
329057-4X	Hose Assembly 16.75"	2

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BOMs in each kit group are listed in order based on part number.



Part Number	Description	Qty.	Part Number	Description	Qty.
OUTPUT CONVERSION KITS			OUTPUT CONVERSION KITS (Cont'd)		
329160-102X	Conversion Kit (XD to BV)		329160-100X	Conversion Kit (XD to RK DRY)	
378576	Lockring	2	379555	Lockring	1
378895	Lockring	1	379688	Spline Lubricant.....	1
379746	Lockring	1	379746	Lockring	1
379977	Spring Pin .187" x .625".....	1	380069	Lockring	1
380069	Lockring	1	28-P-267	Oil Seal 2.627" x 1.750" x .312".....	1
380081	1410 Series Companion Flange.....	1	21-P-731	Pump Flange	1
550010	Ball Bearing 1.378" x 2.8346" x .6693".....	1	21-P-885	Bearing Cap (DRY).....	1
21-P-884	Bearing Cap.....	1	22-P-151	Gasket	1
22-P-151	Gasket	2	28-P-285	O-Ring 1.597" x .103".....	2
23-P-73	Bearing Cap Spacer - Drag Brake.....	1	328170-216X	Capscrew Kit	1
28-P-212	Oil Seal 2.506" x 1.750" x .315".....	1	380563-14	Hex Flange Head Capscrew .375"-16 x 1.5".....	4
28-P-244	O-Ring 1.174" x .103".....	4	3-P-1135	Output Shaft RK	1
31-P-113	Thrust Washer 1.385" x 3.125" x .125".....	1			
329410X	Brake Ass'y.....	1	329160-101X	Conversion Kit (XD to RK WET)	
378435-7	Hex Head Capscrew .625"-11 x 1.250".....	1	379555	Lockring	1
37-P-60	Spring 2.531" x 2.13" x .172".....	1	379746	Lockring	1
380563-28	Hex Flange Head Capscrew .375-16 x 3.500"	4	380069	Lockring	1
3-P-1139	Output Shaft BV.....	1	21-P-731	Pump Flange	1
4-P-130	Spacer .640" x 1.620" x .188".....	1	21-P-887	Bearing Cap (WET)	1
4-P-186	Spacer 1.385" x 1.750" x .365".....	1	22-P-151	Gasket	1
			28-P-267	Oil Seal 2.627" x 1.750" x .312".....	1
329160-103X	Conversion Kit (XD to BD)		28-P-285	O-Ring 1.597" x .103".....	2
378576	Lockring	2	328170-216X	Capscrew Kit	1
378895	Lockring	1	329658X	Cover Kit.....	1
379746	Lockring	1	329699-1X	Overall Hose Ass'y	1
379977	Spring Pin .187" x .625".....	1	329700X	Wet Spline Parts Kit.....	1
380069	Lockring	1	380563-14	Hex Flange Head Capscrew .375"-16 x 1.5".....	4
550010	Ball Bearing 1.378" x 2.8346" x .6693".....	1	3-P-1135	Output Shaft RK	1
21-P-888	Bearing Cap - Drag Brake	1			
22-P-151	Gasket	2	329160-104X	Conversion Kit (XD to RF DRY)	
23-P-73	Bearing Cap Spacer - Drag Brake.....	1	379555	Lockring	1
28-P-225	Oil Seal 2.004" x 1.375" x .315".....	1	379688	Spline Lubricant.....	1
28-P-244	O-Ring 1.174" x .103".....	4	379746	Lockring	1
31-P-113	Thrust Washer 1.385" x 3.125" x .125".....	1	380069	Lockring	1
329410X	Brake Ass'y.....	1	21-P-731	Pump Flange	1
37-P-60	Spring 2.531" x 2.13" x .172".....	1	21-P-885	Bearing Cap (DRY).....	1
380563-28	Hex Flange Head Capscrew .375-16 x 3.500"	4	22-P-151	Gasket	1
3-P-1142	Output Shaft BD	1	28-P-267	Oil Seal 2.627" x 1.750" x .312".....	1
4-P-186	Spacer 1.385" x 1.750" x .365".....	1	28-P-285	O-Ring 1.597" x .103".....	2
			328170-216X	Capscrew Kit	1
329160-116X	Conversion Kit (XD to XV)		380563-14	Hex Flange Head Capscrew .375"-16 x 1.5".....	4
379555	Lockring	1	3-P-1136	Output Shaft RF.....	1
379746	Lockring	1			
380069	Lockring	1			
380486	Lock Nut - Nylon, Thin .875"-14.....	1			
380503	1410 Series Companion Flange.....	1			
22-P-151	Gasket	1			
28-P-211	Oil Seal 3.001" x 2.00" x .375".....	1			
28-P-285	O-Ring 1.597" x .103".....	2			
380563-14	Hex Flange Head Capscrew .375"-16 x 1.5".....	4			
380076-13	Flat Washer - Hardened .950" x 1.762" x .157"	1			
3-P-1134	Output Shaft XV.....	1			

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BOMs in each kit group are listed in order based on part number.



Part Number	Description	Qty.
OUTPUT CONVERSION KITS (Cont'd)		
329160-105X	Conversion Kit (XD to RF WET)	
379555	Lockring	1
379746	Lockring	1
380069	Lockring	1
21-P-731	Pump Flange	1
21-P-887	Bearing Cap (WET)	1
22-P-151	Gasket	1
28-P-267	Oil Seal 2.627" x 1.750" x .312"	1
28-P-285	O-Ring 1.597" x .103"	2
328170-216X	Capscrew Kit	1
329658X	Cover Kit	1
329699-1X	Overall Hose Ass'y	1
329700X	Wet Spline Parts Kit	1
380563-14	Hex Flange Head Capscrew .375"-16 x 1.5"	4
3-P-1136	Output Shaft RF	1
329160-106X	Conversion Kit (XD to RS DRY)	
379555	Lockring	1
379688	Spline Lubricant	1
379746	Lockring	1
380069	Lockring	1
21-P-769	Pump Flange RS	1
21-P-885	Bearing Cap (DRY)	1
22-P-151	Gasket	1
28-P-267	Oil Seal 2.627" x 1.750" x .312"	1
28-P-285	O-Ring 1.597" x .103"	2
328170-216X	Capscrew Kit	1
380563-14	Hex Flange Head Capscrew .375"-16 x 1.5"	4
3-P-1137	Output Shaft RS	1
329160-107X	Conversion Kit (XD to RS WET)	
379555	Lockring	1
379746	Lockring	1
380069	Lockring	1
21-P-769	Pump Flange RS	1
21-P-887	Bearing Cap (WET)	1
22-P-151	Gasket	1
28-P-267	Oil Seal 2.627" x 1.750" x .312"	1
28-P-285	O-Ring 1.597" x .103"	2
328170-216X	Capscrew Kit	1
329654X	Cover Kit XS	1
329699-1X	Overall Hose Ass'y	1
329744X	Wet Spline Parts Kit	1
380563-14	Hex Flange Head Capscrew .375"-16 x 1.5"	4
3-P-1137	Output Shaft RS	1

Part Number	Description	Qty.
OUTPUT CONVERSION KITS (Cont'd)		
329160-108X	Conversion Kit (XD to RY DRY)	
379555	Lockring	1
379688	Spline Lubricant	1
379746	Lockring	1
380069	Lockring	1
21-P-771	Pump Flange RY	1
21-P-885	Bearing Cap (DRY)	1
22-P-151	Gasket	1
28-P-267	Oil Seal 2.627" x 1.750" x .312"	1
28-P-285	O-Ring 1.597" x .103"	2
328170-216X	Capscrew Kit	1
380563-14	Hex Flange Head Capscrew .375"-16 x 1.5"	4
3-P-1138	Output Shaft RY	1
329160-109X	Conversion Kit (XD to RY WET)	
379555	Lockring	1
379746	Lockring	1
380069	Lockring	1
21-P-771	Pump Flange RY	1
21-P-887	Bearing Cap (WET)	1
22-P-151	Gasket	1
28-P-267	Oil Seal 2.627" x 1.750" x .312"	1
28-P-285	O-Ring 1.597" x .103"	2
328170-216X	Capscrew Kit	1
329659X	Cover Kit	1
329699-1X	Overall Hose Ass'y	1
329742X	Wet Spline Loose Parts Kit	1
380563-14	Hex Flange Head Capscrew .375"-16 x 1.5"	4
3-P-1138	Output Shaft RY	1
329160-110X	Conversion Kit (XV to RZ DRY)	
379555	Lockring	1
379688	Spline Lubricant	1
379746	Lockring	1
380069	Lockring	1
21-P-731	Pump Flange	1
21-P-885	Bearing Cap (DRY)	1
22-P-151	Gasket	1
28-P-267	Oil Seal 2.627" x 1.750" x .312"	1
28-P-285	O-Ring 1.597" x .103"	2
328170-216X	Capscrew Kit	1
380563-14	Hex Flange Head Capscrew .375"-16 x 1.5"	4
3-P-1137	Output Shaft RZ	1
329160-111X	Conversion Kit (XV to RZ WET)	
379555	Lockring	1
379746	Lockring	1
380069	Lockring	1
21-P-731	Pump Flange	1
21-P-887	Bearing Cap (WET)	1
22-P-151	Gasket	1
28-P-267	Oil Seal 2.627" x 1.750" x .312"	1
28-P-285	O-Ring 1.597" x .103"	2
328170-216X	Capscrew Kit	1
329658X	Cover Kit	1
329699-1X	Overall Hose Ass'y	1
329700X	Wet Spline Parts Kit	1
380563-14	Hex Flange Head Capscrew .375"-16 x 1.5"	4
3-P-1137	Output Shaft RZ	1

BOMs in each kit group are listed in order based on part number.

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Part Number	Description	Qty.	Part Number	Description	Qty.
OUTPUT CONVERSION KITS (Cont'd)			OUTPUT CONVERSION KITS (Cont'd)		
329160-112X	Conversion Kit (XD to AB)		329160-143X	Conversion Kit (XD to XR)	
379555	Lockring	1	379555	Lockring	1
379558	DIN 120	1	379688	Spline Lubricant.....	1
379746	Lockring	1	379746	Lockring	1
380069	Lockring	1	380069	Lockring	1
380486	Lock Nut - Nylon, Thin .875"-14.....	1	28-P-267	Oil Seal 2.627" x 1.750" x .312".....	1
22-P-151	Gasket	1	329906X	Pump Kit XR	1
28-P-211	Oil Seal 3.001" x 2.00" x .375".....	1	21-P-885	Bearing Cap (DRY).....	1
28-P-285	O-Ring 1.597" x .103".....	2	22-P-151	Bearing Cap Gasket	1
380563-14	Hex Flange Head Capscrew .375"-16 x 1.5"	4	28-P-285	O-Ring 1.597" x .103".....	2
380076-13	Flat Washer - Hardened .950" x 1.762" x .157"	1	380563-14	Hex Flange Head Capscrew .375"-16 x 1.5"	4
3-P-1134	Output Shaft AB.....	1	3-P-1135	Output Shaft XR	1
329160-113X	Conversion Kit (XD to AC)		329160-144X	Conversion Kit (XD to SV)	
379555	Lockring	1	379555	Lockring	1
379742	DIN 100	1	379746	Lockring	1
379746	Lockring	1	380069	Lockring	1
380069	Lockring	1	380486	Lock Nut - Nylon, Thin .875"-14.....	1
380486	Lock Nut - Nylon, Thin .875"-14.....	1	380503	1410 Series Companion Flange	1
22-P-151	Gasket	1	22-P-151	Bearing Cap Gasket	1
28-P-211	Oil Seal 3.001" x 2.00" x .375".....	1	28-P-211	Oil Seal 3.001" x 2.00" x .375".....	1
28-P-285	O-Ring 1.597" x .103".....	2	28-P-285	O-Ring 1.597" x .103".....	2
380563-14	Hex Flange Head Capscrew .375"-16 x 1.5"	4	380563-14	Hex Flange Head Capscrew .375"-16 x 1.5"	4
380076-13	Flat Washer - Hardened .950" x 1.762" x .157"	1	380076-13	Flat Washer - Hardened .950" x 1.762" x .157"	1
3-P-1134	Output Shaft AC	1	3-P-1169	Output Shaft	1
329160-118X	Conversion Kit (XD to RE DRY)		329160-145X	Conversion Kit (XD to RB DRY)	
379555	Lockring	1	379555	Lockring	1
379688	Spline Lubricant.....	1	379688	Spline Lubricant.....	1
379746	Lockring	1	379746	Lockring	1
380069	Lockring	1	380069	Lockring	1
21-P-880	Bearing Cap RE (DRY).....	1	28-P-267	Oil Seal 2.627" x 1.750" x .312".....	1
22-P-151	Gasket	1	21-P-894	Pump Flange	1
28-P-267	Oil Seal 2.627" x 1.750" x .312".....	1	21-P-885	Bearing Cap (DRY).....	1
28-P-285	O-Ring 1.597" x .103".....	2	22-P-151	Gasket	1
380563-14	Hex Flange Head Capscrew .375"-16 x 1.5"	4	28-P-285	O-Ring 1.597" x .103".....	2
3-P-1170	Output Shaft RE	1	328170-216X	Capscrew Kit	1
329160-142X	Conversion Kit (XD to SD)		380563-14	Hex Flange Head Capscrew .375"-16 x 1.5"	4
379555	Lockring	1	3-P-1135	Output Shaft RB	1
379746	Lockring	1	329160-146X	Conversion Kit (XD to RB WET)	
380069	Lockring	1	379555	Lockring	1
22-P-151	Bearing Cap Gasket	1	379746	Lockring	1
28-P-267	Oil Seal 2.627" x 1.750" x .312".....	1	380069	Lockring	1
28-P-285	O-Ring 1.597" x .103".....	2	21-P-894	Pump Flange	1
380563-14	Hex Flange Head Capscrew .375"-16 x 1.5"	4	21-P-887	Bearing Cap (WET)	1
3-P-1168	Output Shaft	1	22-P-151	Gasket	1
500007-29	Woodruff Key	1	28-P-267	Oil Seal 2.627" x 1.750" x .312".....	1
			28-P-285	O-Ring 1.597" x .103".....	2
			328170-216X	Capscrew Kit	1
			329658X	Cover Kit.....	1
			329699-1X	Overall Hose Ass'y	1
			329700X	Wet Spline Parts Kit.....	1
			380563-14	Hex Flange Head Capscrew .375"-16 x 1.5"	4
			3-P-1135	Output Shaft RB	1

BOMs in each kit group are listed in order based on part number.

Parker Hannifin Corporation – Chelsea Division
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6. LIMITATION OF LIABILITY. UPON NOTIFICATION, SELLER WILL, AT ITS OPTION, REPAIR OR REPLACE A DEFECTIVE PRODUCT, OR REFUND THE PURCHASE PRICE. IN NO EVENT SHALL SELLER BE LIABLE TO BUYER FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF, OR AS THE RESULT OF, THE SALE, DELIVERY, NON-DELIVERY, SERVICING, USE OR LOSS OF USE OF THE PRODUCTS OR ANY PART THEREOF, OR FOR ANY CHARGES OR EXPENSES OF ANY NATURE INCURRED WITHOUT SELLER'S WRITTEN CONSENT, EVEN IF SELLER HAS BEEN NEGLIGENT, WHETHER IN CONTRACT, TORT OR OTHER LEGAL THEORY. IN NO EVENT SHALL SELLER'S LIABILITY UNDER ANY CLAIM MADE BY BUYER EXCEED THE PURCHASE PRICE OF THE PRODUCTS.

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9. Special Tooling. A tooling charge may be imposed for any special tooling, including without limitation, dies, fixtures, molds and patterns, acquired to manufacture Products. 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 Products, 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.

10. Buyer's Obligation; Rights of Seller. To secure payment of all sums due or otherwise, Seller shall retain a security interest in the goods delivered and this agreement shall be deemed a Security Agreement under the Uniform Commercial Code. Buyer authorizes Seller as its attorney to execute and file on Buyer's behalf all documents Seller deems necessary to perfect its security interest.

11. Improper use and Indemnity. Buyer shall indemnify, defend, and hold Seller harmless from any claim, liability, damages, lawsuits, and costs (including attorney fees), whether for personal injury, property damage, patent, trademark or copyright infringement or any other claim, brought by or incurred by Buyer, Buyer's employees, or any other person, arising out of: (a) improper selection, improper application or other misuse of Products purchased by Buyer from Seller; (b) any act or omission, negligent or otherwise, of Buyer; (c) Seller's use of patterns, plans, drawings, or specifications furnished by Buyer to manufacture Product; or (d) Buyer's failure to comply with these terms and conditions. Seller shall not indemnify Buyer under any circumstance except as otherwise provided.

12. Cancellations and Changes. Orders shall not be subject to cancellation or change by Buyer for any reason, except with Seller's written consent and upon terms that will indemnify, defend and hold Seller harmless against all direct, incidental and consequential loss or damage. Seller may change product features, specifications, designs and availability with notice to Buyer.

13. Limitation on Assignment. Buyer may not assign its rights or obligations under this agreement without the prior written consent of Seller.

14. Force Majeure. Seller does not assume the risk 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, strikes or labor disputes, acts of any government or government agency, acts of nature, delays or failures in delivery from carriers or suppliers, shortages of materials, or any other cause beyond Seller's reasonable control.

15. Waiver and Severability. Failure to enforce any provision of this agreement will not waive that provision nor will any such failure prejudice Seller's right to enforce that provision in the future. Invalidation of any provision of this agreement by legislation or other rule of law shall not invalidate any other provision herein. The remaining provisions of this agreement will remain in full force and effect.

16. Termination. Seller may terminate this agreement for any reason and at any time by giving Buyer thirty (30) days written notice of termination. Seller may immediately terminate this agreement, in writing, if Buyer: (a) commits a breach of any provision of this agreement (b) appoints a trustee, receiver or custodian for all or any part of Buyer's property (c) files a petition for relief in bankruptcy on its own behalf, or by a third party (d) makes an assignment for the benefit of creditors, or (e) dissolves or liquidates all or a majority of its assets.

17. Governing Law. This agreement and the sale and delivery of all Products hereunder shall be deemed to have taken place in and shall be governed and construed in accordance with the laws of the State of Ohio, as applicable to contracts executed and wholly performed therein and without regard to conflicts of laws principles. Buyer irrevocably agrees and consents to the exclusive jurisdiction and venue of the courts of Cuyahoga County, Ohio with respect to any dispute, controversy or claim arising out of or relating to this agreement.

18. 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 Section. Seller will defend and indemnify Buyer against allegations of infringement of U.S. patents, U.S. trademarks, copyrights, trade dress and trade secrets ("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 a Product sold pursuant to this Agreement 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 a Product 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 the Product, replace or modify the Product so as to make it noninfringing, or offer to accept return of the Product 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 Products 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 Product sold hereunder. The foregoing provisions of this Section shall constitute Seller's sole and exclusive liability and Buyer's sole and exclusive remedy for infringement of Intellectual Property Rights.

19. Entire Agreement. This agreement contains the entire agreement between the Buyer and Seller and constitutes the final, complete and exclusive expression of the terms of sale. All prior or contemporaneous written or oral agreements or negotiations with respect to the subject matter are herein merged.

20. Compliance with Law, U. K. Bribery Act and U.S. Foreign Corrupt Practices Act. Buyer agrees to comply with all applicable laws and regulations, including both those of the United Kingdom and the United States of America, and of the country or countries of the Territory in which Buyer may operate, including without limitation the U. K. Bribery Act, the U.S. Foreign Corrupt Practices Act ("FCPA") and the U.S. Anti-Kickback Act (the "Anti-Kickback Act"), and agrees to indemnify and hold harmless Seller from the consequences of any violation of such provisions by Buyer, its employees or agents. Buyer acknowledges that they are familiar with the provisions of the U. K. Bribery Act, the FCPA and the Anti-Kickback Act, and certifies that Buyer will adhere to the requirements thereof. In particular, Buyer represents and agrees that Buyer shall not make any payment or give anything of value, directly or indirectly to any governmental official, any foreign political party or official thereof, any candidate for foreign political office, or any commercial entity or person, for the purpose of influencing such person to purchase products or otherwise benefit the business of Seller.

07/14



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