



Power Take-Offs Parts List

890, 897 Series



WARNING – User Responsibility

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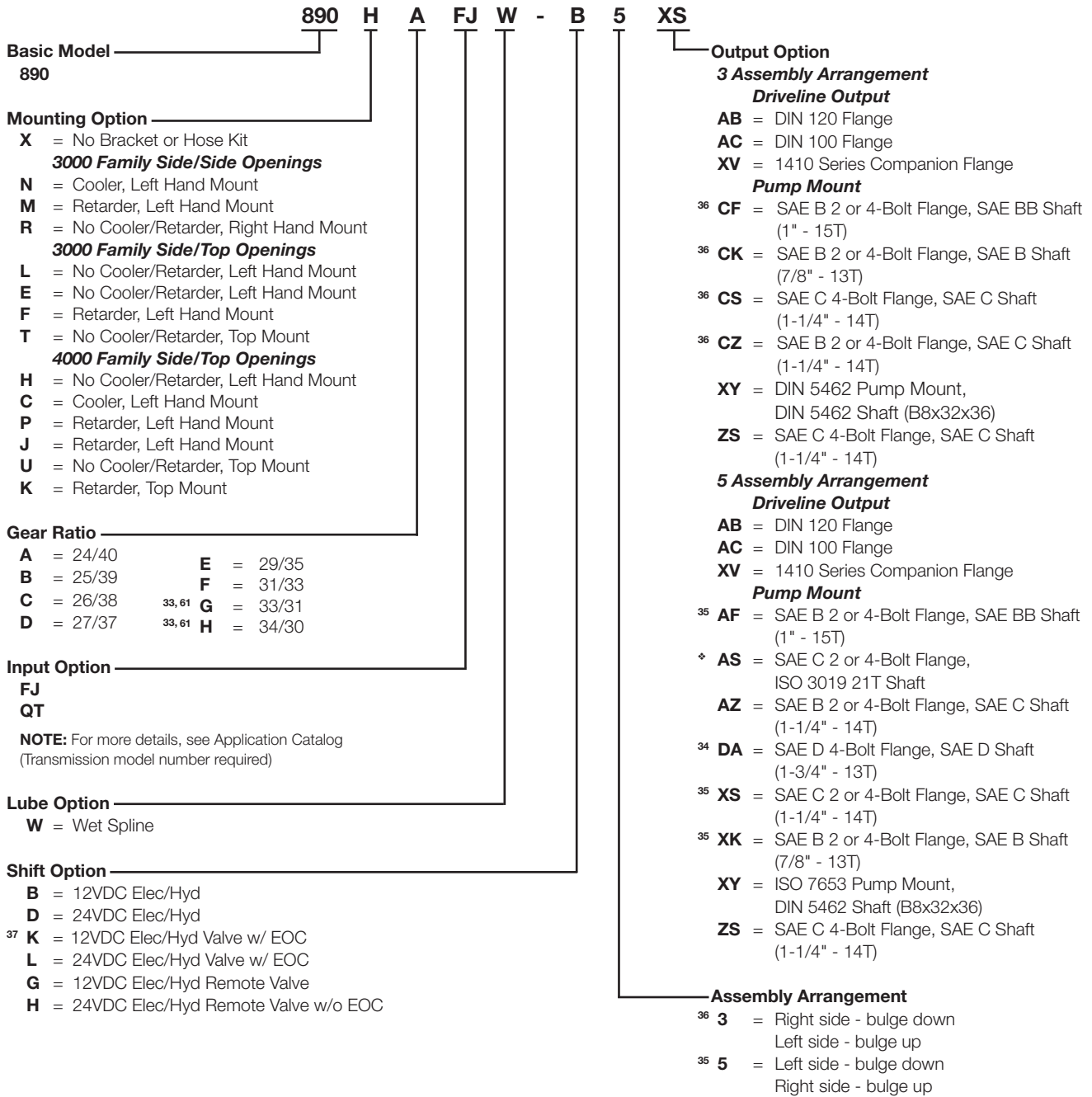
890 Series

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897 Series

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Model Number Designator

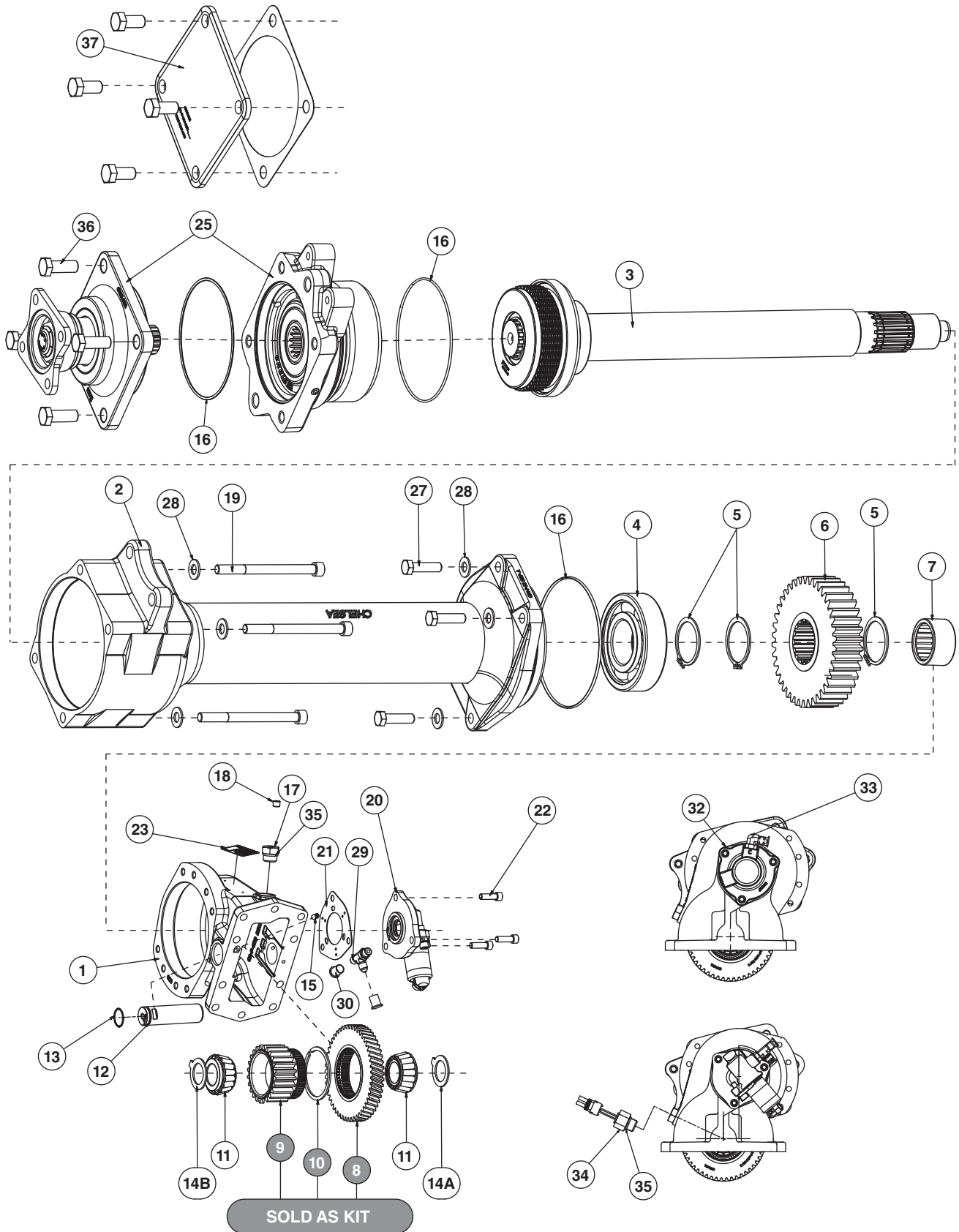


³³ G & H ratio for Allison 3000 Series only
³⁴ DA output is not available for transmission with a retarder or cooler
³⁵ XS, XK, AF, AZ, outputs available with 5 Assembly arrangement
³⁶ CS, CK, CF, CZ, outputs only available with 3 Assembly arrangement
³⁷ Automatically pressure lubed with Wet Spline
⁶¹ For the Allison 4000 Series, Engineering Approval required

♦ No longer a current option per Chelsea Suggested List Price.

Exploded View

Parts List
890 Series



Bill of Materials

**Parts List
890 Series**

Item	Part Number	Description	Qty.
1	1-P-631	Housing (3 Arrangement)	1 or
	1-P-668	Housing (3 Arrangement) (N Mounting)	1 or
	1-P-658	Housing (5 Arrangement) (M & P Mounting)	1 or
	1-P-629	Housing (5 Arrangement)	1
2	54-P-22	Bearing Retainer	1
3	329607X	Drive Shaft & Clutch Assembly (See page 10)	1
4	550026	Ball Bearing (1.771" x 3.937" x .984")	1
5	379668	Lockring	3
6	See Page 6	Output Gear	1
7	560972	Needle Roller Bearing Assembly (1.500" x 1.875" x 1.000")	1
SOLD AS KIT			
8	See Page 6	Input Gear	1
9	See Page 6	Gear Ratio	1
10	380064	Lockring	1
11	561026	Tapered Cone Bearing (1.181" x .984")	2
12	9-P-99	Idler Shaft	1
13	28-P-42	O-ring (1.051" x .070")	1
14A	14-P-82-1	Spacer (1.191" x 1.750" x .080")	A.R.
14B	14-P-82-1	Spacer (1.191" x 1.750" x .080") (Thickness As Required)	A.R.
	14-P-82-2	Spacer (1.191" x 1.750" x .085")	A.R.
	14-P-82-3	Spacer (1.191" x 1.750" x .090")	A.R.
	14-P-82-4	Spacer (1.191" x 1.750" x .094")	A.R.
15	378452-7	Set Screw Socket Head (.250"-20 x .500")	1
16	28-P-245	O-ring (5.017" x .103") (AB, AC, *AS, XS, XV, ZS Outputs)	1 or
	28-P-252	O-ring (2.987" x .103") (XY Output)	1 or
	28-P-259	O-ring (3.984" x .139") (AF, AZ, CF, CK, CZ, XK Outputs)	1 or
	28-P-291	O-ring (5.984" x .139") (DA Output)	1
17	379242	Adapter Straight (.125"-27 x .750"-16)	1
18	379231	Pipe Plug (.125"-27)	1
19	379433-18	Socket Head Cap Screw (.375"-16 x 4.500")	4
20	329463-12X	12VDC Valve Cap Assembly (see page 8)	1 or
	329463-24X	24VDC Valve Cap Assembly (see page 8)	1
21	22-P-112	Valve Cap Gasket	1
22	378447-6	Socket Head Cap Screw (.312"-18 x 1.000")	3
23	68-P-51-1	Adhesive Label	1
25	See Pages 10-17	Output Assembly	1
27	378431-13	Hex Head Cap Screw (.375"-16 x 1.375")	4
28	380076-07	Hardened Washer Flat (.410" x .816" x .066")	8
29	379659	Tee (.438"-20)	1

A.R. – As Required

Continued on Next Page

* No longer a current option per Chelsea Suggested List Price.

Parts List
890 Series

Bill of Materials

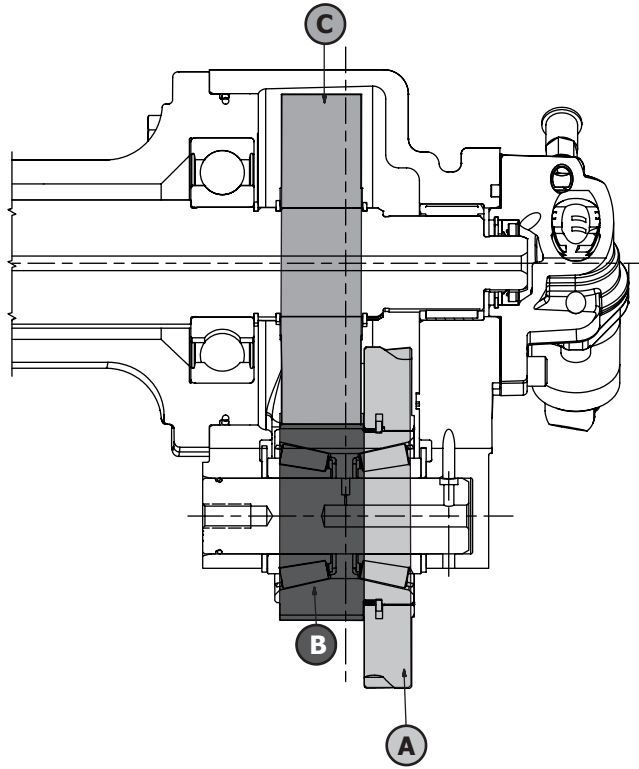
Item	Part Number	Description	Qty.
32	329403X	Seal Cap Assembly (G & H Shift Only) (see page 8)	1
33	379486	Elbow 90° (.438"-20) (G & H Shift Only)	1
34	379243	Speed Sensor (w/ EOC)	1
See Output Options pages 20-23 for more output options.			
35	28-P-171	O-ring (.644" x .087") (w/ EOC).....	1
36	378433-14	Hex Head Cap Screw (.500"-13 x 1.500") (XV, AB, AC Outputs).....	4
See Cover Kits Bill of Materials page 19			
37	329654X	Cover Kit (AS, CS, XS, ZS Outputs)	1 or
	329658X	Cover Kit (AF, AZ, CF, *CK, CZ, *XK Outputs).....	1 or
	330159X	Cover Kit (XY Output Only)	1 or
	329722X	Cover Kit (DA Output Only)	1
N.S	69-P-30	Caution Tag.....	1
See pages 48-51 for Bill of Materials for the below loose parts.			
GASKET KIT			
	328948-36X	Gasket & Installation Kit (All).....	1
STUD KITS			
	7170-86X	Stud Kit (5 Arrangement)	1
	7170-123X	Stud Kit (3 Arrangement)	1
	329899-1X	Lube Hose Kit (All Outputs).....	1
BRACKET & HOSE KITS			
	329897-1X	Bracket & Hose Kit (L Mount)	1
	329897-2X	Bracket & Hose Kit (R Mount).....	1
	329897-3X	Bracket & Hose Kit (H Mount).....	1
	329897-4X	Bracket & Hose Kit (E Mount)	1
	329897-5X	Bracket & Hose Kit (T Mount)	1
	329897-6X	Bracket & Hose Kit (U Mount).....	1
	329897-7X	Bracket & Hose Kit (C Mount).....	1
	329897-10X	Bracket & Hose Kit (J Mount).....	1
	329897-11X	Bracket & Hose Kit (K Mount).....	1
	329897-12X	Bracket & Hose Kit (M Mount)	1
	329897-13X	Bracket & Hose Kit (N Mount).....	1
	329897-14X	Bracket & Hose Kit (F Mount)	1
	329897-15X*	Bracket & Hose Kit (G Mount).....	1
	329897-19X	Bracket & Hose Kit (P Mount).....	1
	329897-21X*	Bracket & Hose Kit (D Mount).....	1
N.S. – Not Shown			Continued on Next Page

* No longer a current option per Chelsea Suggested List Price.

Item	Part Number	Description	Qty.
		INSTALLATION KITS	
	329898-1X	Mounting & Installation Kit (AS, CS, XS, ZS Outputs)	1 or
	329898-2X	Mounting & Installation Kit (AF, AZ, CF, *CK, CZ, *XK Outputs)	1 or
	329898-3X	Mounting & Installation Kit (XY Output).....	1 or
	329898-4X	Mounting & Installation Kit (DA Output)	1
	329024-12X	12VDC Installation Kit (B Shift Option).....	1 or
	329024-24X	24VDC Installation Kit (D Shift Option).....	1
	329653-12X	12VDC Remote Valve Installation Kit w/o EOC (G Shift Option)	1 or
	329653-24X	24VDC Remote Valve Installation Kit w/o EOC (H Shift Option)	1
	329076X	12VDC Installation Kit w/ EOC (K & L Shift Option)	1 or
	329076-24X	24VDC Installation Kit w/ EOC (K & L Shift Option)	1
	329650X	Controls Electronic Overspeed (K & L Shift Option).....	1
		HOSE ASSEMBLIES	
	329057-4X	Hose Assembly (Remote Valve Option Only) (All Mounting Options)	1
	328075X	Hose Assembly (Remote Valve Option Only) (All Mounting Options)	1
	329130-2X	Hose Assembly (Remote Valve Option Only) (All Mounting Options)	1
	329130-5X	Hose Assembly (Remote Valve Option Only) (C, E, F, H, J, L, M Mounting Options).....	1
	329075-1X	Hose Assembly (Remote Valve Option Only) (N & R Mounting Options).....	1
	329075-4X	Hose Assembly (Remote Valve Option Only) (K, T, U Mounting Options)	1
		SERVICE PARTS	
	329071-46X	Gasket & Seal Kit (AF, AS, AZ, CS, CK, CF, CZ, XK, XS, ZS).....	1 or
	329071-47X	Gasket & Seal Kit (XY)	1
	329071-48X	Bearing Kit (AF, AS, AZ, CS, CK, CF, CZ, XK, XS, ZF)	1
	329071-49X	Bearing Kit (XY)	1
	329071-50X	Clutch Repair Kit	1
	329071-51X	Bearing Kit (AB, AC, XV)	1
	329071-52X	Gasket & Seal Kit (AB, AC, XV)	1
	329071-53X	Bearing Kit (DA).....	1
	329071-54X	Gasket & Seal Kit (DA)	1
	329354-12X	12VDC Remote Mount Valve Conversion Kit.....	1
	329354-24X	24VDC Remote Mount Valve Conversion Kit.....	1
		CONVERSION KITS	
	329160-63X	Conversion Kit (XS to XV) (XS, ZS, CS Outputs).....	1
	329160-64X	Conversion Kit (XS to AB) (XS, ZS, CS Outputs)	1
	329160-65X	Conversion Kit (XS to AC) (XS, ZS, CS Outputs) (3 Arrangement).....	1
	329160-66X	Conversion Kit (XS to AC) (RK Outputs) (5 Arrangement)	1

* No longer a current option per Chelsea Suggested List Price.

Gear Chart



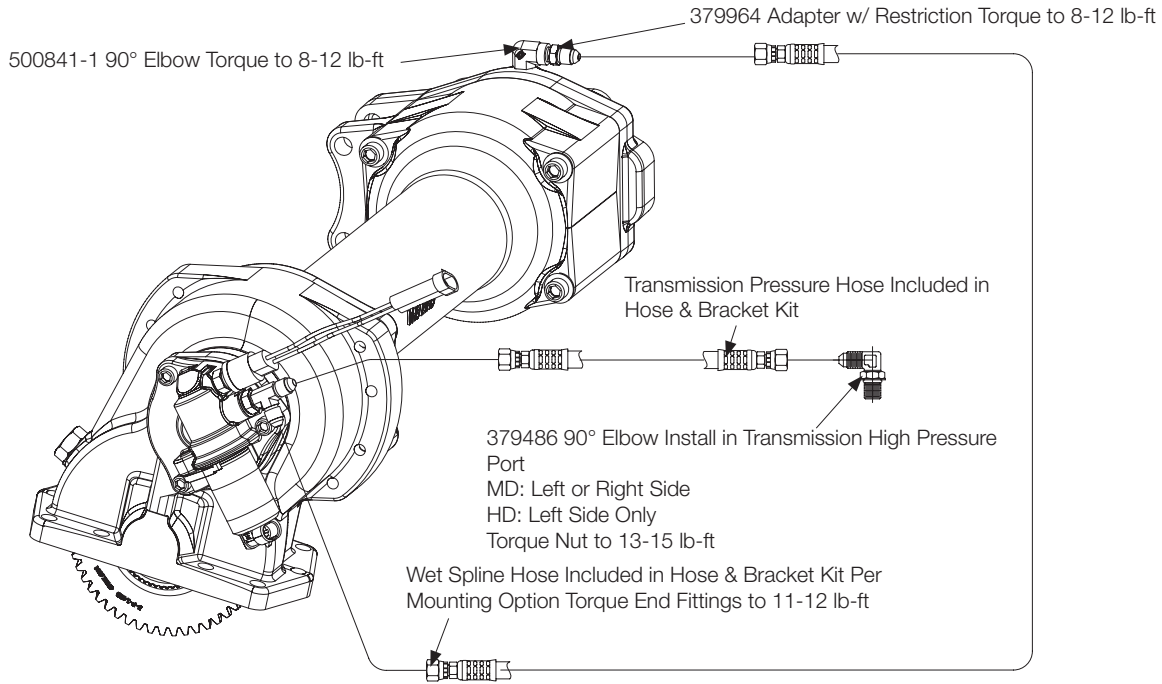
GEAR DESIGNATOR	INPUT GEAR ASSEMBLY	SOLD AS KIT				OUTPUT GEAR	NO. TEETH C (6)
		INPUT GEAR	NO. TEETH A (8)	RATIO GEAR	NO. TEETH B (9)		
890*AFJ	5-P-1428-11X	5-P-1428	50	5-P-1545	24	2-P-862	40
890*BFJ	5-P-1428-12X	5-P-1428	50	5-P-1546	25	2-P-872	39
890*CFJ	5-P-1428-3X	5-P-1428	50	5-P-1439	26	2-P-873	38
890*DFJ	5-P-1428-4X	5-P-1428	50	5-P-1440	27	2-P-874	37
890*EFJ	5-P-1428-5X	5-P-1428	50	5-P-1432	29	2-P-865	35
890*FFJ	5-P-1428-6X	5-P-1428	50	5-P-1433	31	2-P-866	33
890*GFJ (8)	5-P-1428-7X	5-P-1428	50	5-P-1457	33	2-P-888	31
890*HFJ (8)	5-P-1428-8X	5-P-1428	50	5-P-1455	34	2-P-881	30
890*AQT	5-P-1663-1X	5-P-1663X	50	5-P-1545	24	2-P-862	40
890*BQT	5-P-1663-2X	5-P-1663X	50	5-P-1546	25	2-P-872	39
890*CQT	5-P-1663-3X	5-P-1663X	50	5-P-1439	26	2-P-873	38
890*DQT	5-P-1663-4X	5-P-1663X	50	5-P-1440	27	2-P-874	37
890*EQT	5-P-1663-5X	5-P-1663X	50	5-P-1432	29	2-P-865	35
890*FQT	5-P-1663-6X	5-P-1663X	50	5-P-1433	31	2-P-866	33
890*GQT	5-P-1663-7X	5-P-1663X	50	5-P-1457	33	2-P-888	31
890*HQT	5-P-1663-8X	5-P-1663X	50	5-P-1455	34	2-P-881	30

(8) G and H ratios only available on MD transmissions

Shift/Lube Hose Installation

(SK-504 Rev A)

WARNING: Restriction Fitting Required to Prevent Damage to PTO, Transmission, and Hydraulic Pump.



Bracket & Hose Installation Chart

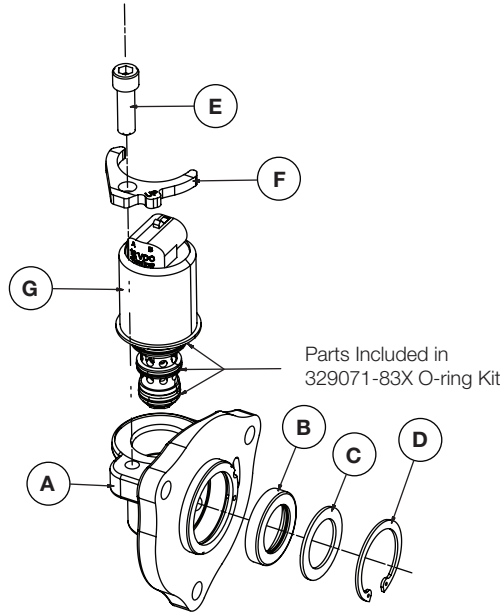
Model	Arr.	Mounting PTO Code	Bracket Kit and Hose Description	Bracket Kit and Hose Part Number	Bracket	Pressure Hose	Shoulder Bolts (Qty.)	Trans Bracket Bolts (Qty.)
3000 Series Side/Side								
890	5	L	Left side	329897-1X	50-P-60	329130-5X	380071 (2)	380075 (3)
890	5	R	Right side w/ or w/o cooler	329897-2X	50-P-61	329130-11X	380071 (2)	380075 (3)
890	5	Y	Right side clocked right	329897-24X	50-P-156	329130-11X	380071 (2)	380075 (3)
890	3	N	Left side w/ cooler	329897-13X	50-P-151	329130-5X	380071 (2)	380075 (3)
890	5	M	Left side w/ retarder	329897-12X	50-P-146	329130-5X	380071 (2)	380075 (3)
3000 Series Side/Top								
890	5	E	Left side	329897-4X	50-P-72	329130-5X	380071 (2)	380075 (3)
890	5	T	Right top side w/ or w/o cooler	329897-5X	50-P-67	329075-2X	380071 (2)	380075 (3)
890	5	F	Left side w /retarder	329897-14X	50-P-129	329130-5X	380071 (2)	380075 (3)
4000 Series 6-Speed								
890	5	H	Left side	329897-3X	50-P-62	329130-4X	380071 (2)	380075 (3)
890	5	U	Right top side w/ or w/o cooler	329897-6X	50-P-73	329075-2X	380071 (2)	380075 (3)
890	3	C	Left side w/ cooler	329897-7X	50-P-74	329130-4X	380071 (2)	380075 (3)
890	5	P	Left side w/ retarder	329897-19X	50-P-130	329130-4X	380071 (2)	380075 (3)
890	3	J	Left side w/ retarder	329897-10X	50-P-126	329130-4X	380071 (2)	380075 (3)
890	5	K	Right top side w/ retarder	329897-11X	50-P-127	329075-2X	380071 (2)	380075 (3)

Arr. = Assembly Arrangement

NOTE: All kits include cap screws for mounting the bracket to the transmission and PTO.

PTO Series	Wet Spline Hose Kit			
	Kit Number	Elbow	Orifice	Hose
890	329899-1X	500841-1	379964	329130-11X

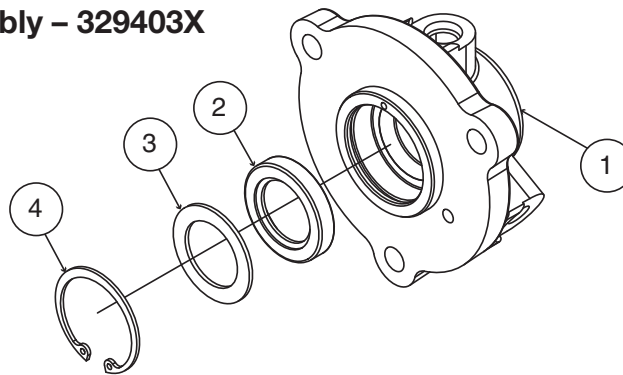
Valve Cap Assembly



Item	Part Number	Description	Qty.
20	329463-12X	Valve & Cap Assembly (12VDC) (FJ Pitch Only).....	1 or
	329463-24X	Valve & Cap Assembly (24VDC) (FJ Pitch Only).....	1
A	34-P-143	Valve Cap	1
B	28-P-119	Oil Seal (High Pressure)	1
C	378811	Washer.....	1
D	378849	Lockring.....	1
E	378447-6	Socket Head Cap Screw (.312"-18 x 1.000").....	1
F	380012	Clamp (FJ) used with 380011 Valve.....	1 or
	380124	Clamp (FJ) used with 380123 Valve.....	1
G	380123-12	Hydraulic Valve (12VDC) (FJ) (White Connector Top) (New Style).....	1 or
	380123-24	Hydraulic Valve (24VDC) (FJ) (Black Connector Top) (New Style).....	1
N.S.	329071-83X	Hydraulic Solenoid Valve O-ring Kit.....	1

N.S. – Not Shown

Remote Valve Cap Assembly – 329403X

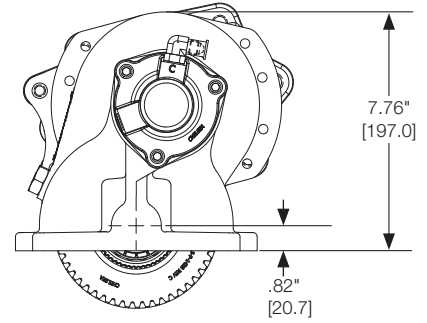
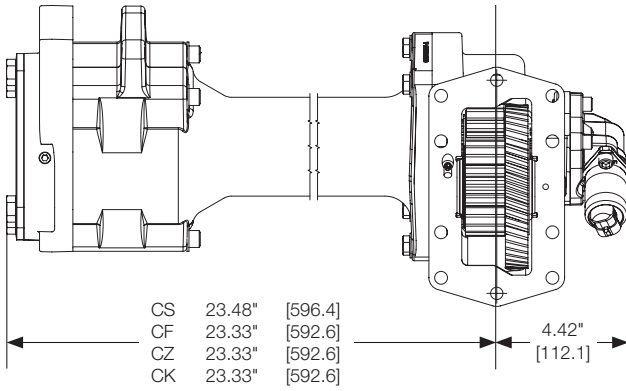


Item	Part Number	Description	Qty.
A	21-P-701	Cap Seal	1 or
B	28-P-119	Oil Seal (1.379" x .875" x .250").....	1
C	378811	Washer.....	1
D	378849	Lockring	1
N.S.	500897-6	Shipping Plug.....	2

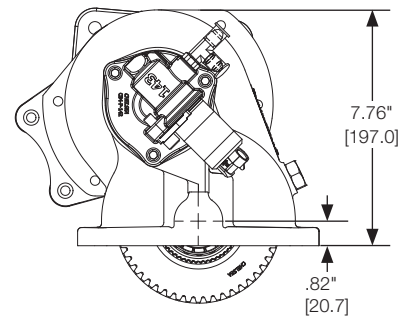
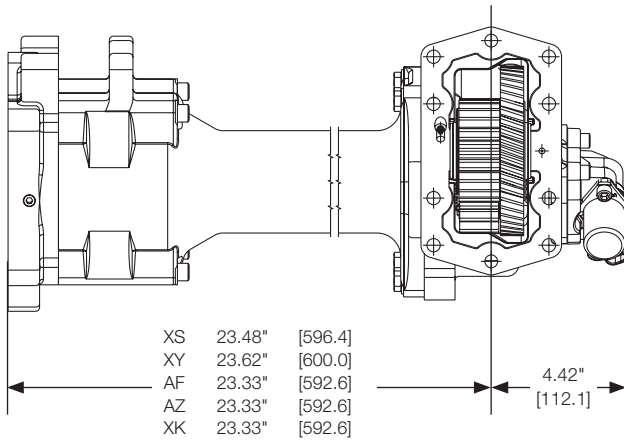
N.S. – Not Shown

Assembly Arrangements

Housing Dimensions – 890 Series



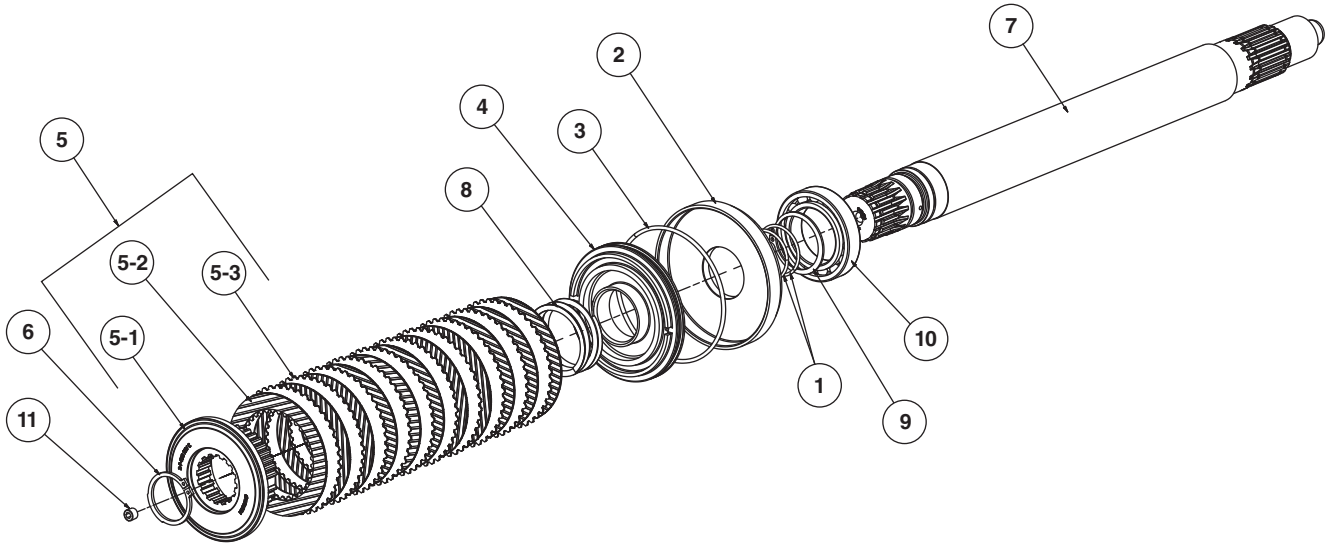
3 Arrangement



5 Arrangement

Output Options

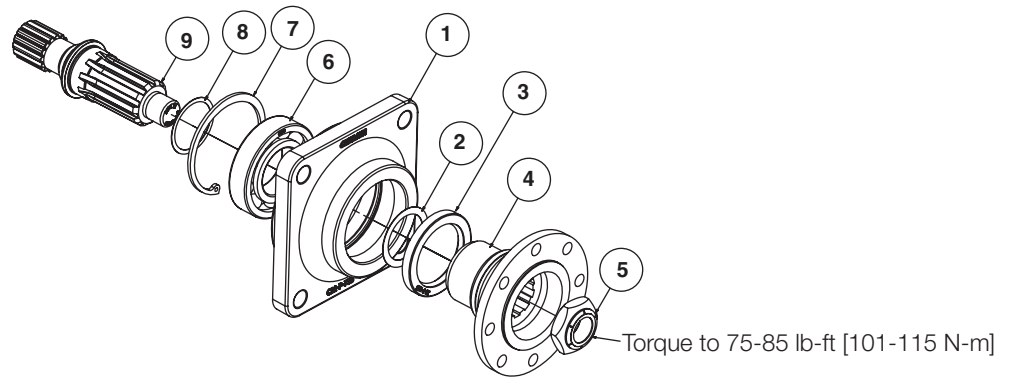
Drive Shaft & Clutch Assembly – 329607X



Item	Part Number	Description	Qty.
1	28-P-285	O-ring (1.597" x .103").....	2
2	380051	Cylinder Clutch Back-Up.....	1
3	28-P-178	O-ring (4.359" x .138").....	1
4	380110X	Piston Clutch.....	1
5	329678X	Gear & Plates Kit	
5.1	2-P-858	Output Gear.....	1
5.2	379485	Friction Disc.....	11
5.3	380065	Clutch Plate.....	10
6	380069	Lockring.....	1
7	3-P-1007	Output Shaft.....	1
8	37-P-72	Spring (2.140" x 1.941").....	1
9	380070	Lockring.....	1
10	561028	Ball Bearing (1.969" x 3.150" x .630").....	1
11	379231	Pipe Plug (.125"-27).....	1

Output Options

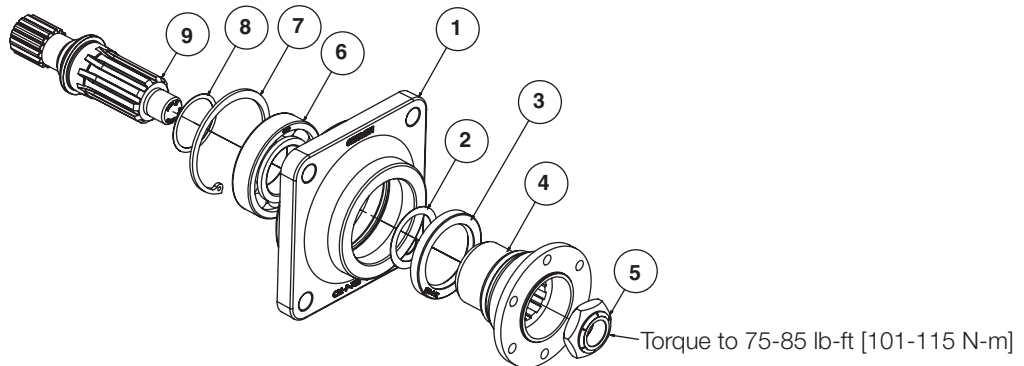
(AB) DIN 120 Companion Flange – 329608-2X



Item	Part Number	Description	Qty.
1	21-P-736	Bearing Cap	1
2	378161	Gasket 4600	1
3	28-P-283	Oil Seal (2.754" x 2.000" x .313").....	1
4	379558	DIN 120 Companion Flange	1
5	380486	Stop Nut (7/8" - 14T) Spline	1
6	561020	Ball Bearing (1.574" x 3.149" x .708").....	1
7	378836	Lockring	1
8	35-P-103	Gasket Shaft	1
9	3-P-1009	Output Shaft 10T Straight.....	1
N.S.	380076-13	Flat Hardened Washer (.950" x 1.762" x .157").....	1
N.S.	28-P-245X	O-ring (5.017" x .103").....	1

N.S. – Not Shown

(AC) DIN 100 Companion Flange – 329608-3X

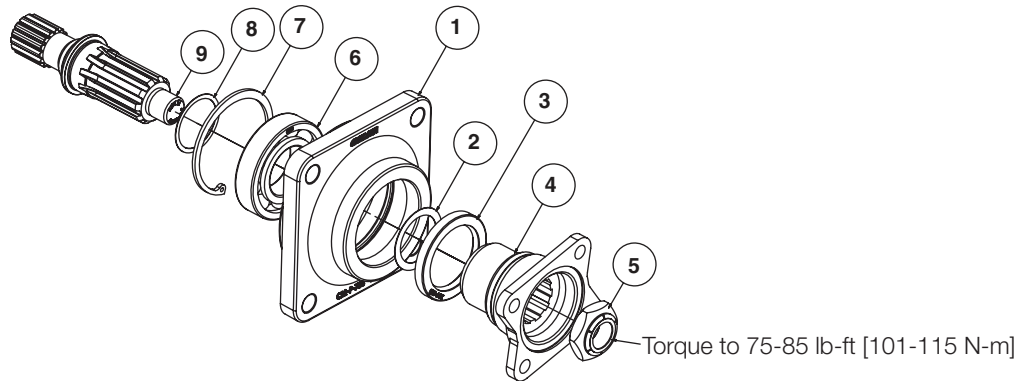


Item	Part Number	Description	Qty.
1	21-P-736	Bearing Cap	1
2	378161	Gasket 4600	1
3	28-P-283	Oil Seal (2.754" x 2.000" x .313").....	1
4	379742	DIN 100 Companion Flange	1
5	380486	Stop Nut (7/8" - 14T) Spline	1
6	561020	Ball Bearing (1.574" x 3.149" x .708").....	1
7	378836	Lockring	1
8	35-P-103	Gasket Shaft	1
9	3-P-1009	Output Shaft 10T Straight.....	1
N.S.	380076-13	Hardened Flat Washer (.950" x 1.762" x .157").....	1
N.S.	28-P-245X	O-ring (5.017" x .103").....	1

N.S. – Not Shown

Output Options

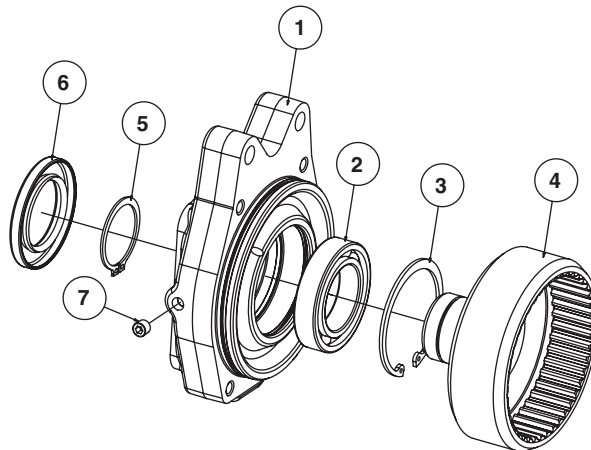
(XV) SAE 1410 Companion Flange – 329608-1X



Item	Part Number	Description	Qty.
1	21-P-736	Bearing Cap AB, AC, XV	1
2	378161	Gasket 4600	1
3	28-P-283	Oil Seal (2.754" x 2.000" x .313").....	1
4	3-1-3431	1410 Series Companion Flange.....	1
5	380486	Stop Nut (7/8" - 14T) Spline	1
6	561020	Ball Bearing (1.574" x 3.149" x .708").....	1
7	378836	Lockring	1
8	35-P-103	Gasket Shaft	1
9	3-P-1009	Output Shaft 10T Straight.....	1
N.S.	380076-13	Flat Hardened Washer (.950" x 1.762" x .157").....	1
N.S.	28-P-252X	O-ring (2.987" x .103").....	1

N.S. – Not Shown

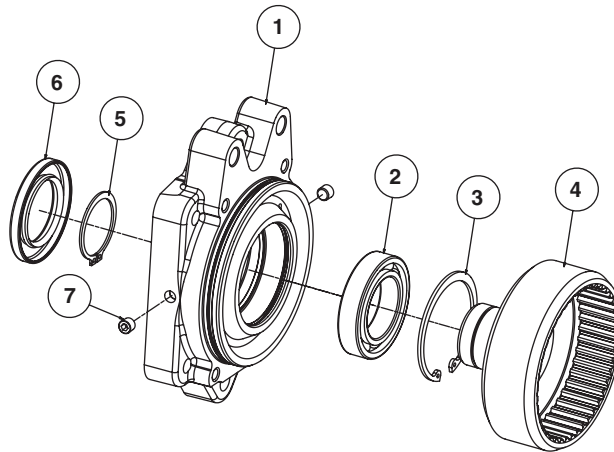
(AF) SAE B 2 or 4-Bolt 1" - 15T – 329609-3X



Item	Part Number	Description	Qty.
1	21-P-723	Pump Flange.....	1
2	561018	Ball Bearing (1.772" x 2.953" x .630").....	1
3	379919	Lockring	1
4	2-P-875	Output Gear (1" - 15T) Spline	1
5	379668	Lockring	1
6	28-P-278	Oil Seal (2.953" x 1.772" x .315").....	1
7	379231	Pipe Plug (.125"-27)	2
N.S.	28-P-259X	O-ring (3.984" x .139")	1

N.S. – Not Shown

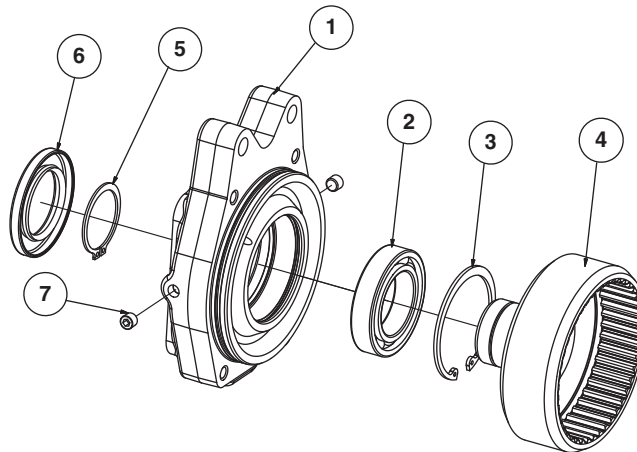
(*AS) SAE C 2 or 4-Bolt ISO 3019 21T – 329609-9X



Item	Part Number	Description	Qty.
1	21-P-717	Pump Flange.....	1
2	561018	Ball Bearing (1.772" x 2.953" x .630").....	1
3	379919	Lockring.....	1
4	2-P-906	Output Gear.....	1
5	379668	Lockring.....	1
6	28-P-278	Oil Seal (2.953" x 1.772" x .315").....	1
7	379231	Pipe Plug (.125"-27).....	2
N.S.	28-P-245X	O-ring (5.017" x .103") (Wet Spline Pump Mount).....	1

N.S. – Not Shown

(AZ) SAE B 2 or 4-Bolt 1-1/4" - 14T – 329609-5X



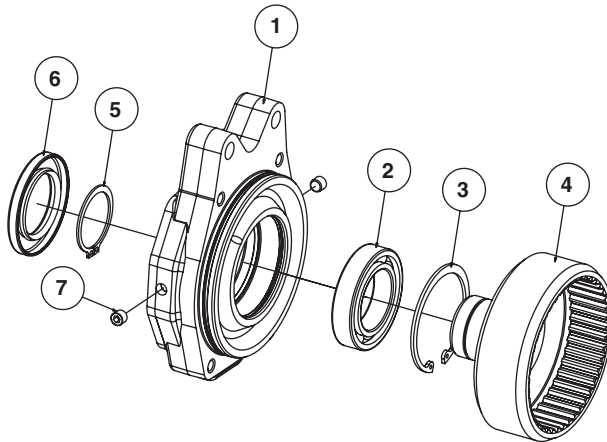
Item	Part Number	Description	Qty.
1	21-P-723	Pump Flange.....	1
2	561018	Ball Bearing (1.772" x 2.953" x .630").....	1
3	379919	Lockring.....	1
4	2-P-877	Output Gear (14T) Spline.....	1
5	379668	Lockring.....	1
6	28-P-278	Oil Seal (2.953" x 1.772" x .315").....	1
7	379231	Pipe Plug (.125"-27).....	2
N.S.	28-P-259X	O-ring (3.984" x .139").....	1

N.S. – Not Shown

* No longer a current option per Chelsea Suggested List Price.

Output Options

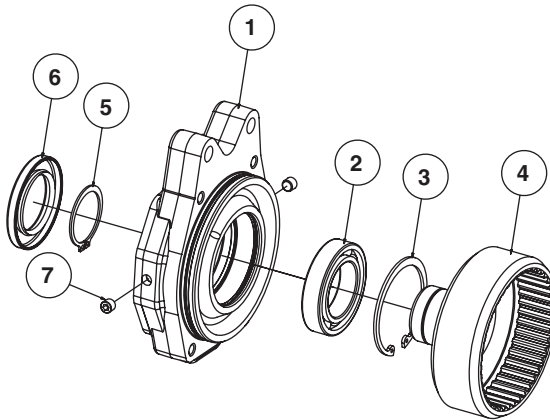
(CF) SAE B 2 or 4-Bolt 1" - 15T - 329673-3X



Item	Part Number	Description	Qty.
1	21-P-739	Pump Flange.....	1
2	561018	Ball Bearing (1.772" x 2.953" x .630").....	1
3	379919	Lockring.....	1
4	2-P-875	Output Gear (1" - 15T) Spline.....	1
5	379668	Lockring.....	1
6	28-P-278	Oil Seal (2.953" x 1.772" x .315").....	1
7	379231	Pipe Plug (.125"-27).....	2
N.S.	28-P-259X	O-ring (3.984" x .139").....	1

N.S. - Not Shown

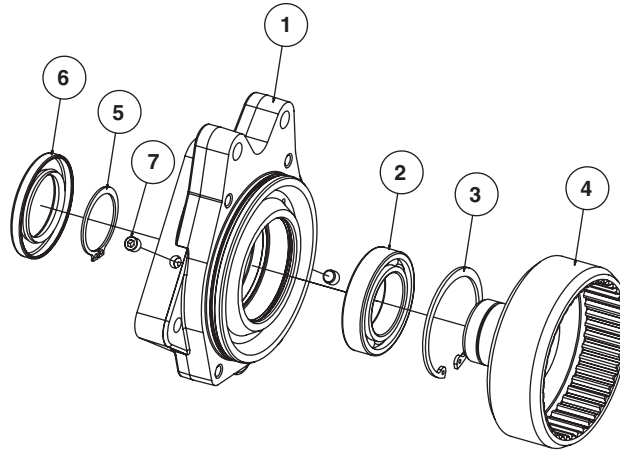
(CK) SAE B 2 or 4-Bolt 7/8" - 13T - 329673-2X



Item	Part Number	Description	Qty.
1	21-P-739	Pump Flange.....	1
2	561018	Ball Bearing (1.772" x 2.953" x .630").....	1
3	379919	Lockring.....	1
4	2-P-877	Output Gear (7/8" - 13T) Spline.....	1
5	379668	Lockring.....	1
6	28-P-278	Oil Seal (2.953" x 1.772" x .315").....	1
7	379231	Pipe Plug (.125"-27).....	2
N.S.	28-P-259X	O-ring (3.984" x .139").....	1

N.S. - Not Shown

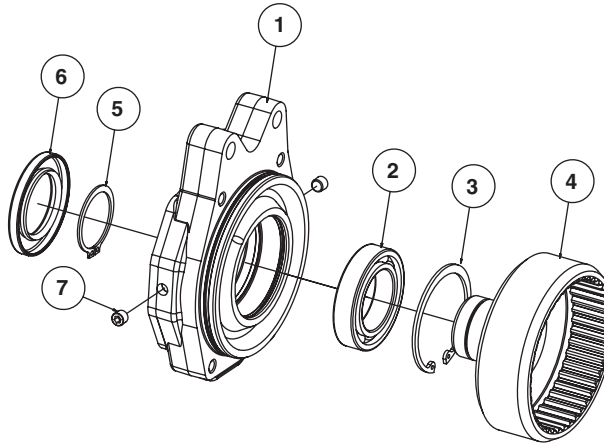
(CS) SAE C 4-Bolt 1-1/4" - 14T - 329673-1X



Item	Part Number	Description	Qty.
1	21-P-742	Pump Flange.....	1
2	561018	Ball Bearing (1.772" x 2.953" x .630").....	1
3	379919	Lockring.....	1
4	2-P-867	Gear Output (1-1/4" - 14T) Spline.....	1
5	379668	Lockring.....	1
6	28-P-278	Oil Seal (2.953" x 1.772" x .315").....	1
7	379231	Pipe Plug (.125"-27).....	1
N.S.	28-P-245X	O-ring (5.017" x .103") (Wet Spline Pump Mount).....	1

N.S. - Not Shown

(CZ) SAE B 2 or 4-Bolt 1-1/4" - 14T - 329673-5X

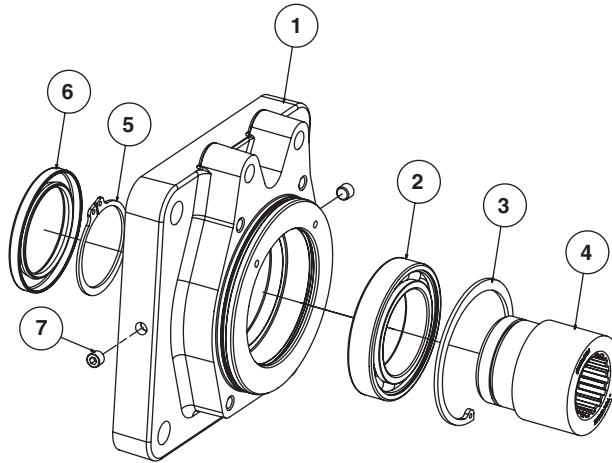


Item	Part Number	Description	Qty.
1	21-P-739	Pump Flange.....	1
2	561018	Ball Bearing (1.772" x 2.953" x .630").....	1
3	379919	Lockring.....	1
4	2-P-867	Output Gear (1-1/4" - 14T) Spline.....	1
5	379668	Lockring.....	1
6	28-P-278	Oil Seal (2.953" x 1.772" x .315").....	1
7	379231	Pipe Plug (.125"-27).....	2
N.S.	28-P-259X	O-ring (3.984" x .139") (Wet Spline Pump Mount).....	1

N.S. - Not Shown

Output Options

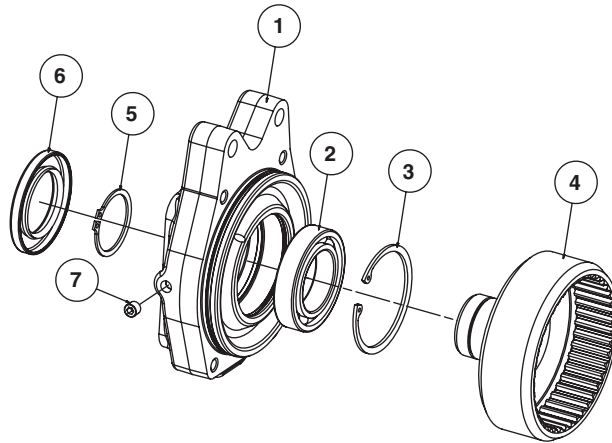
(DA) Class D 4-Bolt Pump Mount – 329657-6X



Item	Part Number	Description	Qty.
1	21-P-746	Pump Flange.....	1
2	550509	Ball Bearing (2.362" x 3.740" x .708").....	1
3	378553	Lockring.....	1
4	2-P-882	Output Gear (3/4" - 13T) Spline.....	1
5	378553	Internal Lockring.....	1
6	28-P-292	Oil Seal (3.346" x 2.362" x .315").....	1
7	379231	Pipe Plug (.125"-27).....	2
N.S.	28-P-291X	O-ring (5.984" x .139") (Wet Spline Pump Mount).....	1

N.S. – Not Shown

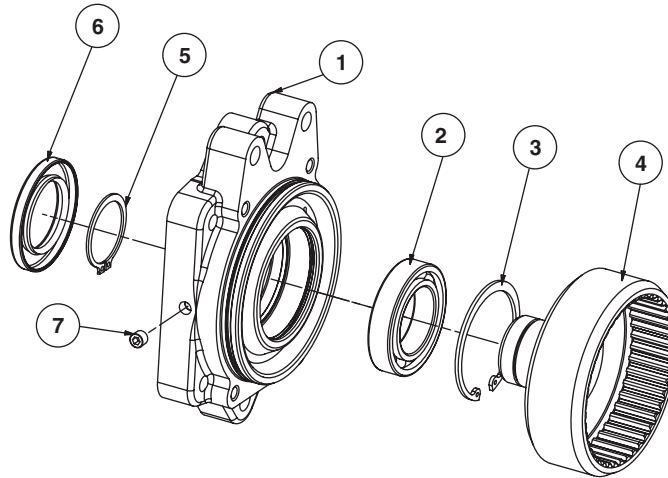
(XK) SAE B 2 or 4-Bolt 7/8" - 13T – 329609-2X



Item	Part Number	Description	Qty.
1	21-P-723	Pump Flange.....	1
2	561018	Ball Bearing (1.772" x 2.953" x .630").....	1
3	379919	Lockring.....	1
4	2-P-877	Output Gear (7/8" - 13T) Spline.....	1
5	379668	Lockring.....	1
6	28-P-278	Oil Seal (2.953" x 1.772" x .315").....	1
7	379231	Pipe Plug (.125"-27).....	2
N.S.	28-P-259X	O-ring (3.984" x .139").....	1

N.S. – Not Shown

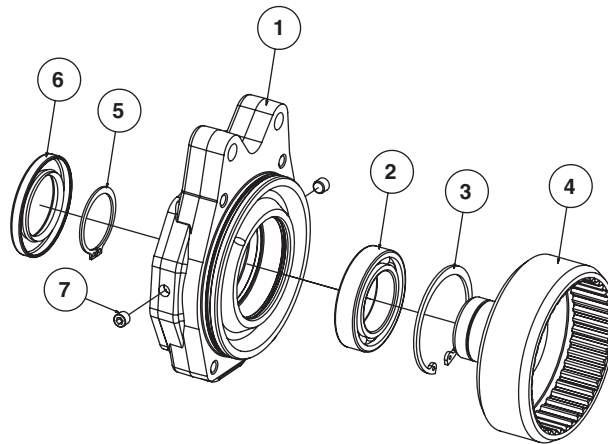
(XS) SAE C 2 or 4-Bolt 1-1/4" - 14T - 329609-1X



Item	Part Number	Description	Qty.
1	21-P-717	Pump Flange.....	1
2	561018	Ball Bearing (1.772" x 2.953" x .630").....	1
3	379919	Lockring	1
4	2-P-867	Gear Output (1-1/4" - 14T) Spline.....	1
5	379668	Lockring	1
6	28-P-278	Oil Seal (2.953" x 1.772" x .315").....	1
7	379231	Pipe Plug (.125"-27)	2
N.S.	28-P-245X	O-ring (5.017" x .103") (Wet Spline Pump Mount).....	1

N.S. - Not Shown

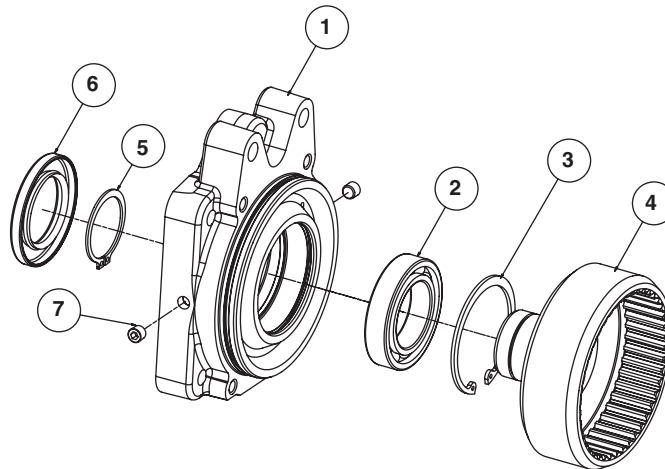
(XY) DIN 5462 4-Bolt 1-1/4" - 8T - 329609-4X



Item	Part Number	Description	Qty.
1	21-P-725	Pump Flange.....	1
2	550311	Ball Bearing (1.770" x 3.346" x .748").....	1
3	378263	Lockring	1
4	2-P-876	Output Gear (8T) Spline.....	1
5	379555	Lockring	1
6	28-P-267	Oil Seal (2.627" x 1.750" x .312").....	1
7	379231	Pipe Plug (.125"-27)	2
N.S.	28-P-259X	O-ring (3.984" x .139")	1

N.S. - Not Shown

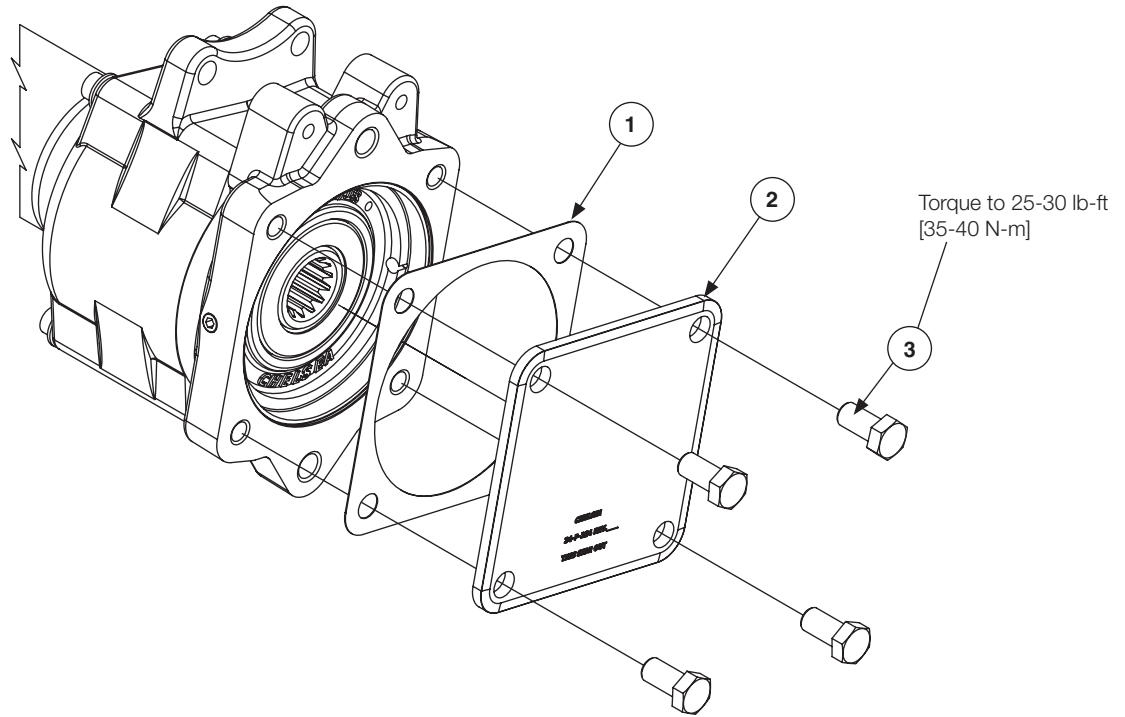
(ZS) SAE C 4-Bolt 1-1/4" - 21T - 329609-7X



Item	Part Number	Description	Qty.
1	21-P-764	Pump Flange.....	1
2	561018	Ball Bearing (1.772" x 2.953" x .630").....	1
3	379919	Lockring.....	1
4	2-P-867	Output Gear (1-1/4" - 14T) Spline.....	1
5	379668	Lockring.....	1
6	28-P-278	Oil Seal (2.953" x 1.772" x .315").....	1
7	379231	Pipe Plug (.125"-27).....	2
N.S.	28-P-259X	O-ring (3.984" x .139").....	1

N.S. - Not Shown

Wet Spline Output Cover Plates

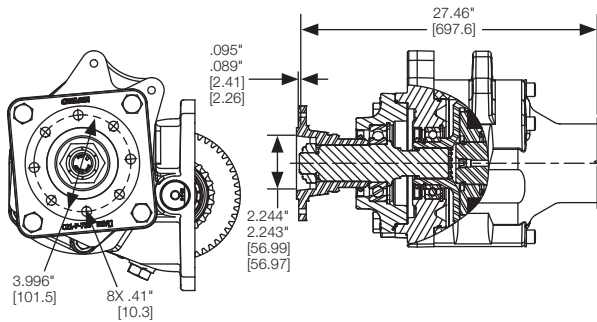


KITS: 329654X XS, CS Output
 329658X XK, AF, AZ, CK, CF, CZ Output
 330159X XY Output
 329722X DA Output

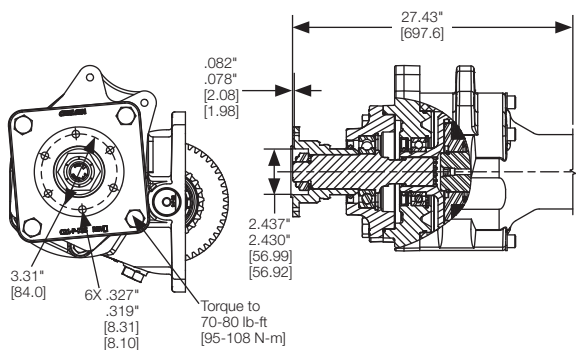
Item	Part Number	Description	Qty.
1	22-P-25-2	Gasket (XS, CS Output).....	1 or
	35-P-104	Gasket (XK, AF, AZ, CK, CF, CZ Output)	1 or
	379943	Gasket (XY Output).....	1 or
	22-P-114	Gasket (DA Output)	1
2	34-P-284	Cover (XS, CS)	1 or
	34-P-285	Cover (XK, AF, AZ, CK, CF, CZ).....	1 or
	379940	Cover (XY)	1 or
	34-P-309	Cover (DA Output)	1
3	378433-10	5/16" Hex Head Cap Screw (XS, CS) (.500"-13 x 1.000").....	4 or
	378433-10	5/16" Hex Head Cap Screw (XK, AF, AZ, CK, CF, CZ) (.500"-13 x 1.000")	4 or
	379579-4	19 mm Hex Head Cap Screw (XY) (M12-1.75 x 20 mm)	4 or
	500403-7	1-1/4" Hex Head Cap Screw (DA) (.750"-10 x 1.250")	4

Output Options

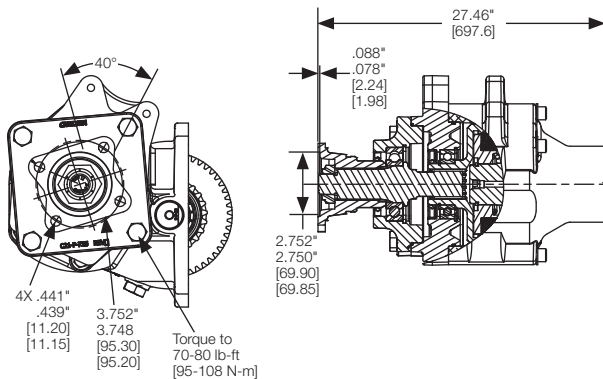
Bill of Materials - Driveline Output



AB Output Option (3 & 5 Arrangement) DIN 120 Flange		
Part Number	Description	Qty.
28-P-245X	O-ring (5.017" x .103").....	1
329608-2X	Output Assembly	1
378433-14	Hex Head Cap Screw (.500"-13 x 1.500")	4
†329160-64X	Conversion Kit (XS to AB)	



AC Output Option (3 & 5 Arrangement) DIN 100 Flange		
Part Number	Description	Qty.
28-P-245X	O-ring (5.017" x .103").....	1
329608-3X	Output Assembly	1
378433-14	Hex Head Cap Screw (.500"-13 x 1.500")	4
†329160-65X	Conversion Kit (XS to AC) (5 Arrangement)	
†329160-66X	Conversion Kit (XS to AC) (3 Arrangement)	



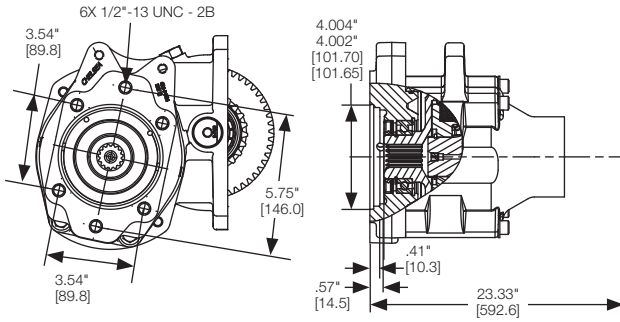
XV Output Option (*3 & 5 Arrangement) 1410 Series Companion Flange		
Part Number	Description	Qty.
28-P-245X	O-ring (5.017" x .103").....	1
329608-1X	Output Assembly	1
378433-14	Hex Head Cap Screw (.500"-13 x 1.500")	4
†329160-63X	Conversion Kit (XS to XV)	

†Conversion Kits do not include all parts listed above. See page 53 for Conversion Kit BOMs.

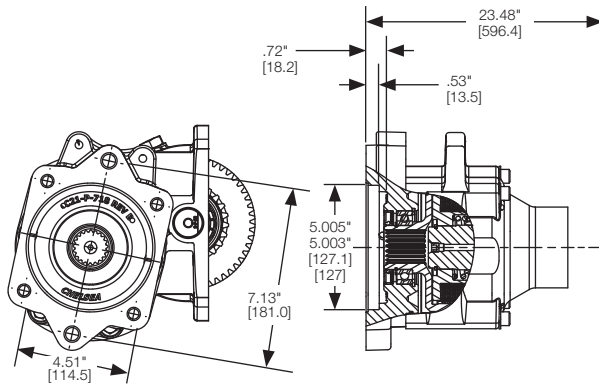
*No longer a current option per Chelsea Suggested List Price.

Output Options

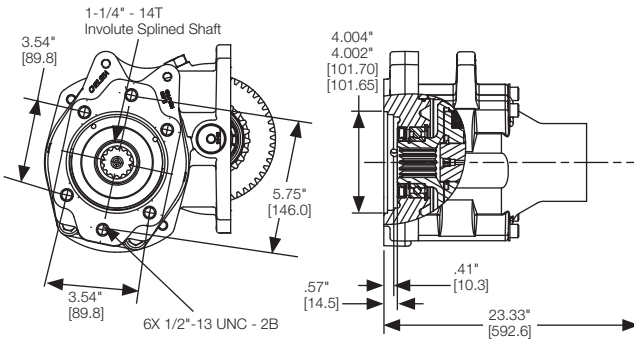
Bill of Materials - Pump Mount



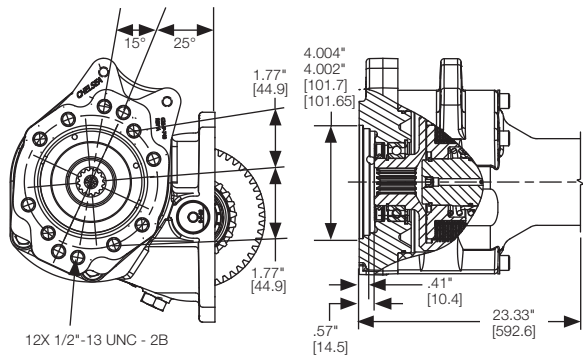
AF Output Option (5 Arrangement) SAE B 2 or 4-Bolt Flange, SAE BB Shaft (1" - 15T)		
Part Number	Description	Qty.
329609-3X	Output Assembly	1
69-P-18	Wet Spline Tag	1
WET SPLINE LOOSE PARTS		
28-P-259X	O-ring (3.984" x .139").....	1



*AS Output Option (5 Arrangement) SAE C 2 or 4-Bolt Flange, ISO3019 21T Shaft		
Part Number	Description	Qty.
329609-9X	Output Assembly	1
69-P-18	Wet Spline Tag	1
WET SPLINE LOOSE PARTS		
28-P-245X	O-ring (5.017" x .103").....	1



AZ Output Option (5 Arrangement) SAE B 2 or 4-Bolt Flange, SAE C Shaft (1-1/4" - 14T)		
Part Number	Description	Qty.
329609-5X	Output Assembly	1
69-P-18	Wet Spline Tag	1
WET SPLINE LOOSE PARTS		
28-P-259X	O-ring (3.984" x .139").....	1



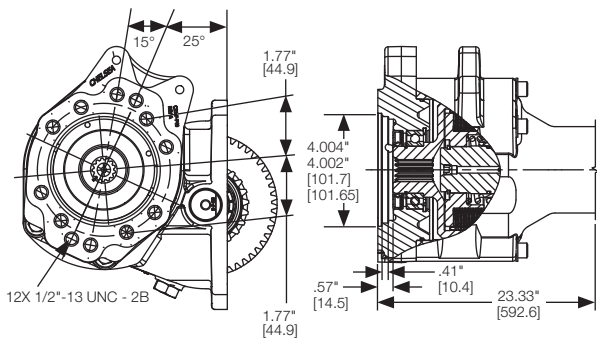
CF Output Option (3 Arrangement) SAE B 2 or 4-Bolt Flange, SAE BB Shaft (1" - 15T)		
Part Number	Description	Qty.
329673-3X	Output Assembly	1
69-P-18	Wet Spline Tag	1
WET SPLINE LOOSE PARTS		
28-P-259X	O-ring (3.984" x .139").....	1

†Conversion Kits do not include all parts listed above. See page 53 for Conversion Kit BOMs.

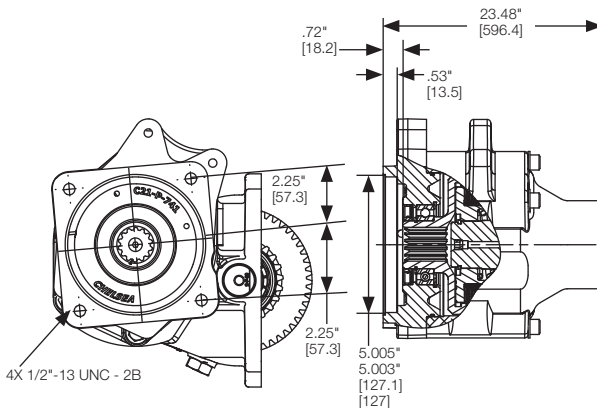
♦No longer a current option per Chelsea Suggested List Price.

Output Options

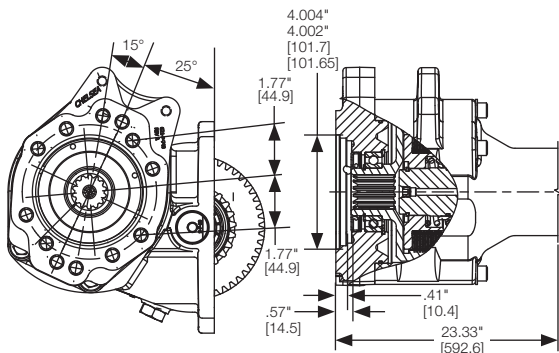
Bill of Materials - Pump Mount (Continued)



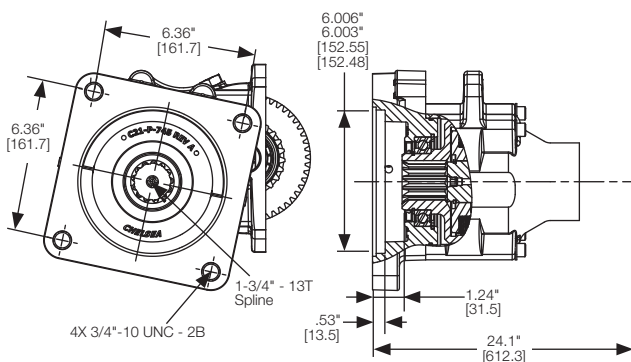
CK Output Option (3 Arrangement) SAE B 2 or 4-Bolt Flange, SAE B Shaft (7/8" - 13T)		
Part Number	Description	Qty.
329673-2X	Output Assembly	1
69-P-18	Wet Spline Tag	1
WET SPLINE LOOSE PARTS		
28-P-259X	O-ring (3.984" x .139").....	1



CS Output Option (3 Arrangement) SAE C 4-Bolt Flange, SAE C Shaft (1-1/4" - 14T)		
Part Number	Description	Qty.
329673-1X	Output Assembly	1
69-P-18	Wet Spline Tag	1
WET SPLINE LOOSE PARTS		
28-P-245X	O-ring (5.017" x .103").....	1



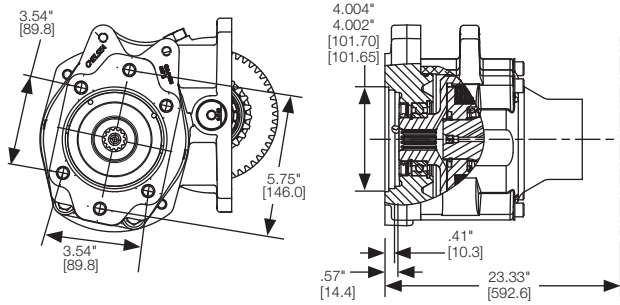
CZ Output Option (3 Arrangement) SAE B 2 or 4-Bolt Flange, SAE C Shaft (1-1/4" - 14T)		
Part Number	Description	Qty.
329673-3X	Output Assembly	1
69-P-18	Wet Spline Tag	1
WET SPLINE LOOSE PARTS		
28-P-259X	O-ring (3.984" x .139").....	1



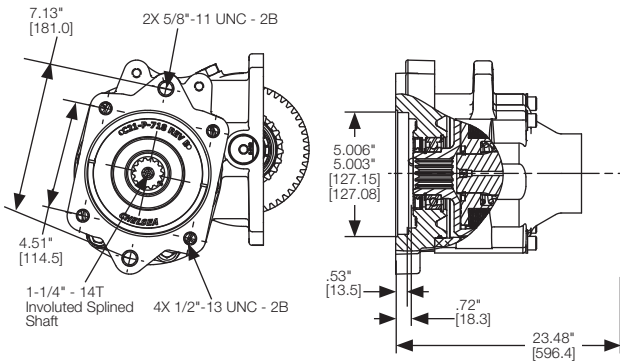
DA Output Option (5 Arrangement) SAE B 4-Bolt Flange, SAE D Shaft (1-3/4" - 13T)		
Part Number	Description	Qty.
329657-6X	Output Assembly	1
69-P-18	Wet Spline Tag	1
WET SPLINE LOOSE PARTS		
28-P-291X	O-ring (5.984" x .139").....	1

Output Options

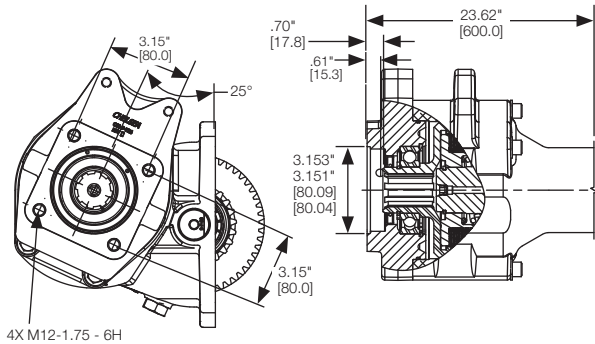
Bill of Materials - Pump Mount (Continued)



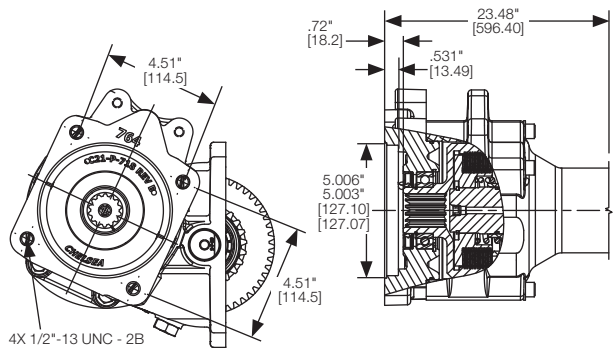
XK Output Option (5 Arrangement) SAE B 2 or 4-Bolt Flange, SAE B Shaft (7/8" - 13T)		
Part Number	Description	Qty.
329609-2X	Output Assembly	1
69-P-18	Wet Spline Tag	1
WET SPLINE LOOSE PARTS		
28-P-259X	O-ring (3.984" x .139").....	1



XS Output Option (5 Arrangement) SAE C 2 or 4-Bolt Flange, SAE C Shaft (1-1/4" - 14T)		
Part Number	Description	Qty.
329609-1X	Output Assembly	1
69-P-18	Wet Spline Tag	1
WET SPLINE LOOSE PARTS		
28-P-245X	O-ring (3.984" x .139").....	1



XY Output Option (3 & 5 Arrangement) DIN 5462 Pump Mount, DIN 5462 Shaft (B8x32x36)		
Part Number	Description	Qty.
329609-4X	Output Assembly	1
69-P-18	Wet Spline Tag	1
WET SPLINE LOOSE PARTS		
28-P-252X	O-ring (2.987" x .103").....	1

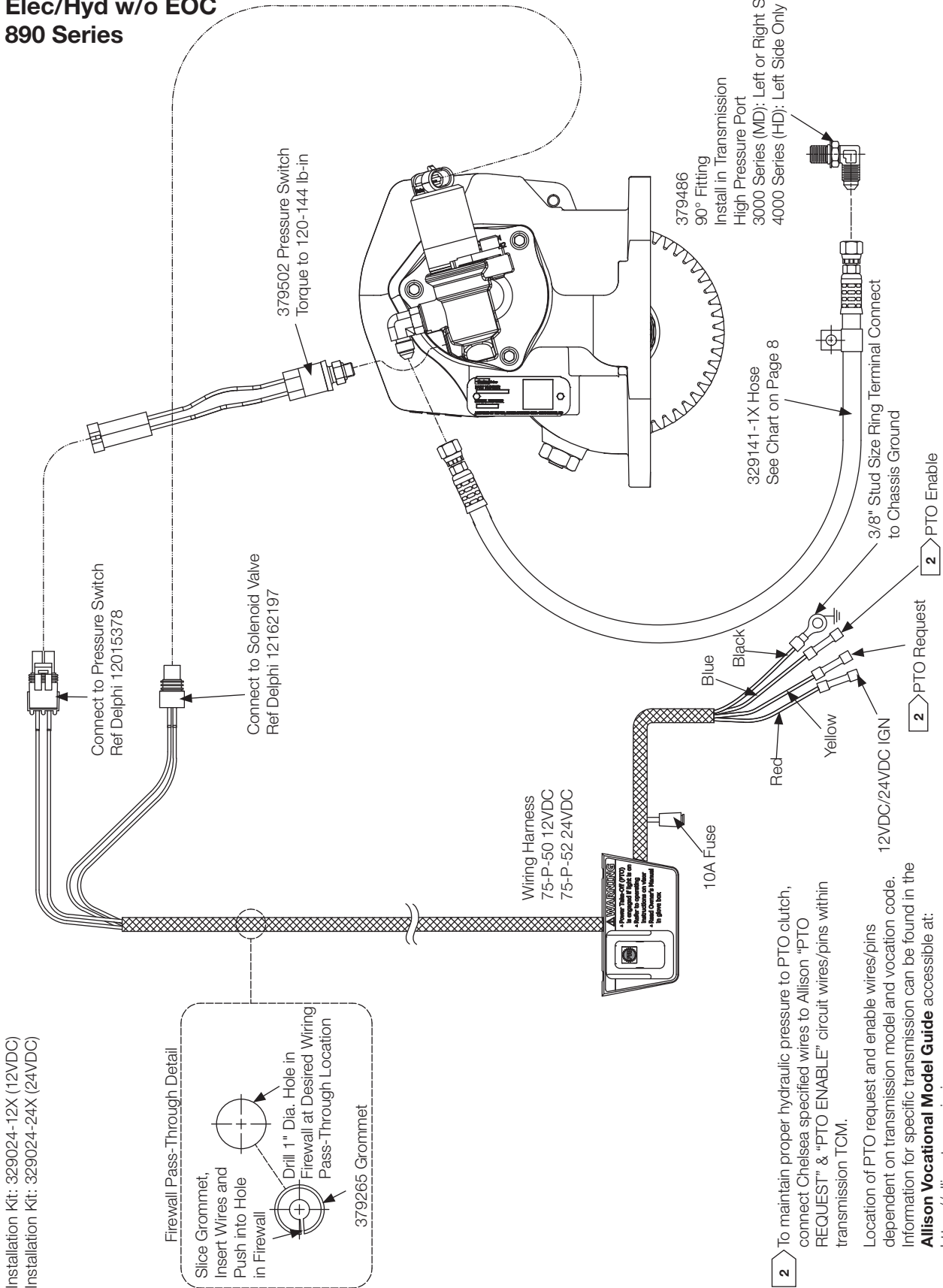


ZS Output Option (3 & 5 Arrangement) SAE C 4-Bolt Flange, SAE C Shaft (1-1/4" - 14T)		
Part Number	Description	Qty.
329609-7X	Output Assembly	1
69-P-18	Wet Spline Tag	1
WET SPLINE LOOSE PARTS		
28-P-245X	O-ring (5.017" x .103").....	1

†Conversion Kits do not include all parts listed above. See page 53 for Conversion Kit BOMs.

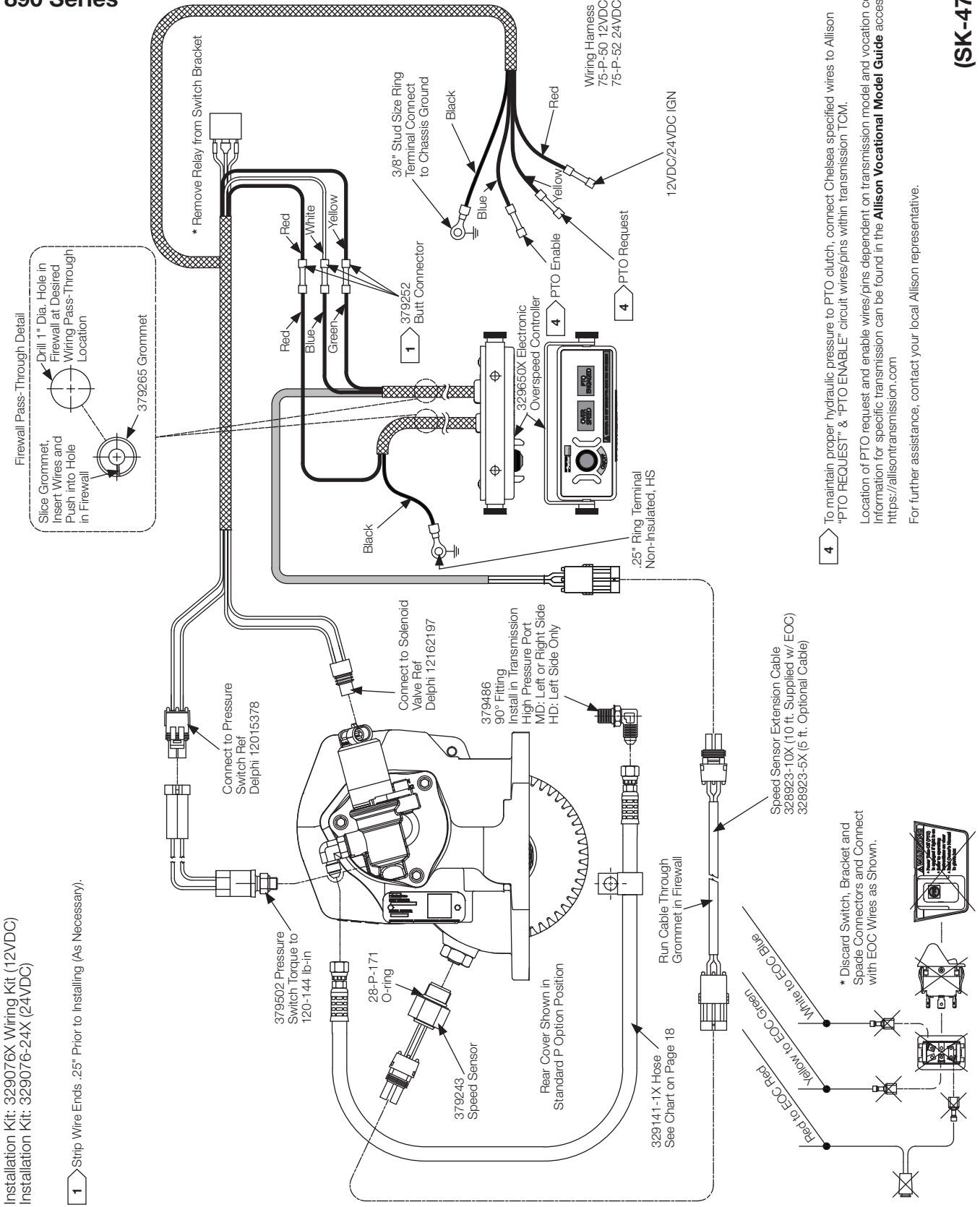
**Allison Transmission
Shift Option B & D
Elec/Hyd w/o EOC
890 Series**

(SK-347 Rev P)



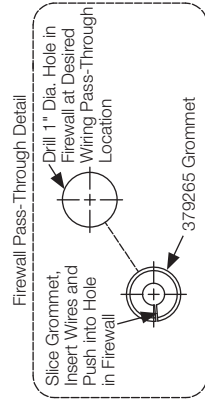
**Allison Transmission
Shift Option K & L
Elec/Hyd w/ EOC
890 Series**

(SK-472 Rev F)



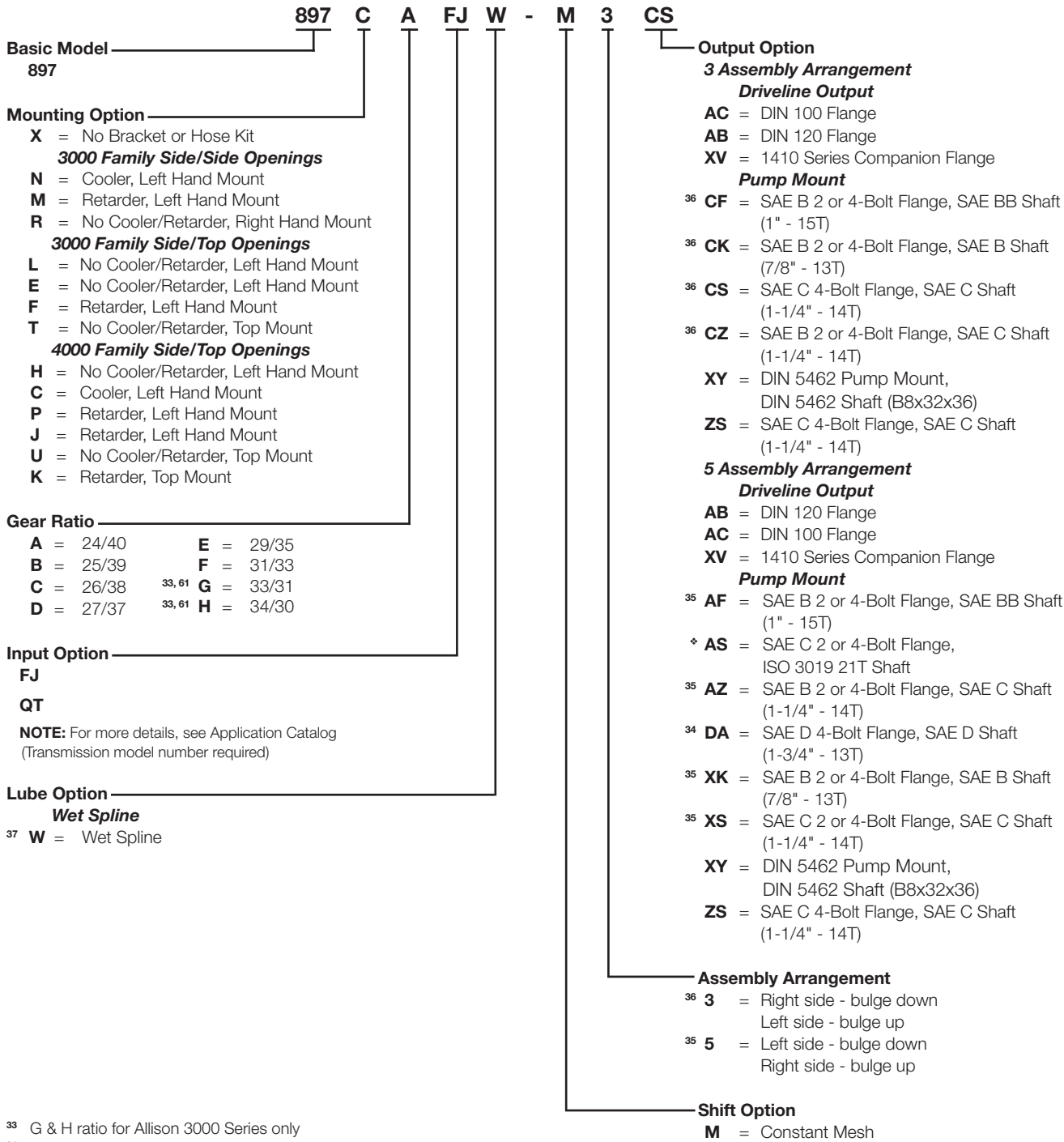
Installation Kit: 329076X Wiring Kit (12VDC)
Installation Kit: 329076-24X (24VDC)

1 Strip Wire Ends .25" Prior to Installing (As Necessary).



4 To maintain proper hydraulic pressure to PTO clutch, connect Chelsea specified wires to Allison "PTO REQUEST" & "PTO ENABLE" circuit wires/pins within transmission TCM.
Location of PTO request and enable wires/pins dependent on transmission model and vocation code. Information for specific transmission can be found in the **Allison Vocational Model Guide** accessible at: <https://allisontransmission.com>
For further assistance, contact your local Allison representative.

Model Number Designator

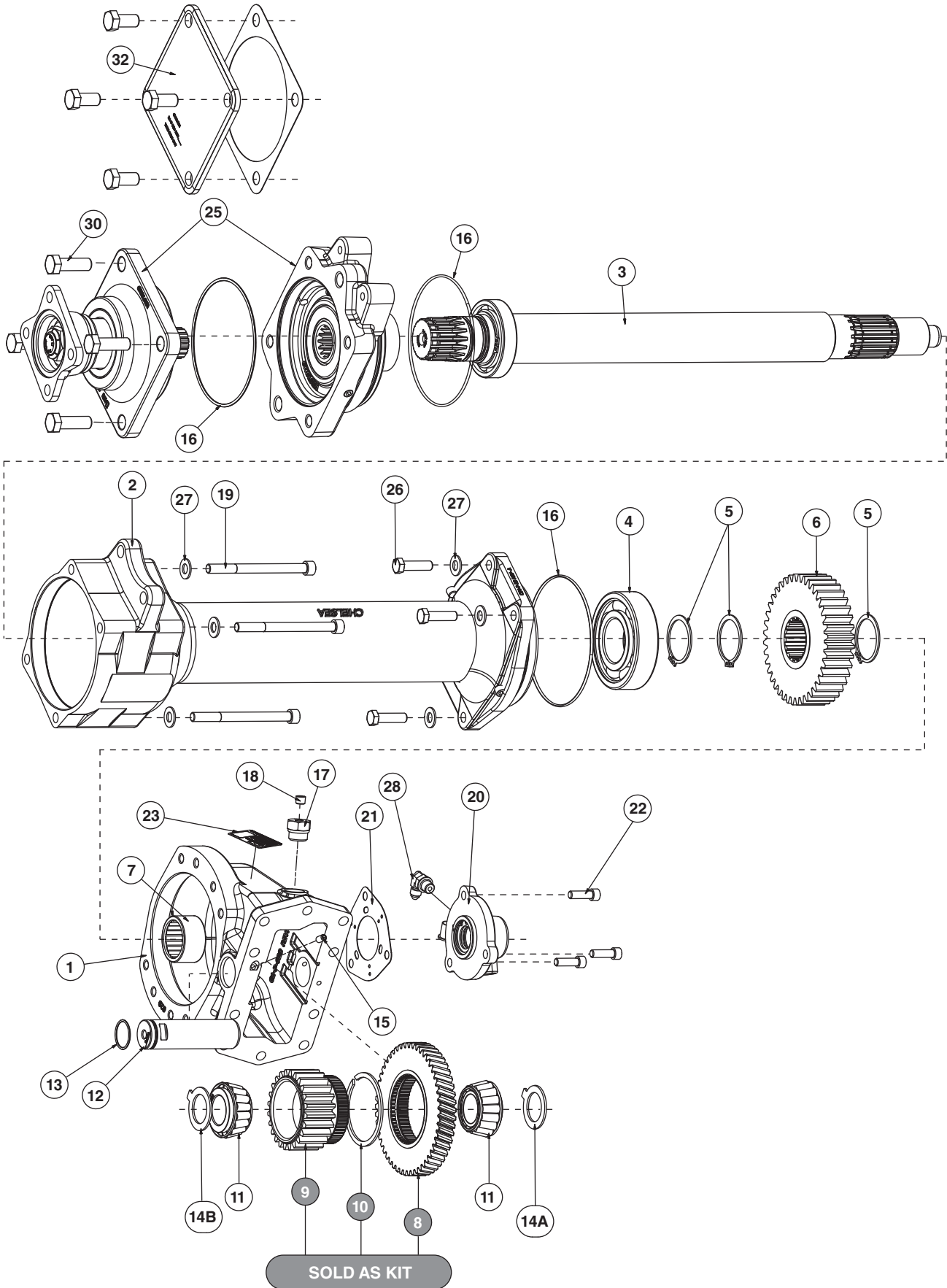


³³ G & H ratio for Allison 3000 Series only
³⁴ DA output is not available for transmission with a
retarder or cooler
³⁵ XS, XK, AF, AZ, outputs available with 5
Assembly arrangement
³⁶ CS, CK, CF, CZ, outputs only available with 3
Assembly arrangement
³⁷ Automatically pressure lubed with wet spline
⁶¹ For the Allison 4000 Series, Engineering Approval
required

* No longer a current option per Chelsea Suggested List Price.

Exploded View

Parts List
897 Series



Bill of Materials

Parts List
897 Series

Item	Part Number	Description	Qty.
1	1-P-631	Housing (3 Arrangement) (C & J Mounting)	1 or
	1-P-668	Housing (3 Arrangement) (N Mounting)	1 or
	1-P-658	Housing (5 Arrangement) (M & P Mounting)	1 or
	1-P-629	Housing (5 Arrangement)	1
2	54-P-22	Bearing Retainer	1
3	329655X	Drive Shaft & Clutch Assembly (See page 35)	1
4	550026	Ball Bearing (1.771" x 3.937" x .984")	1
5	379668	Lockring	3
6	See Page 31	Output Gear	1
7	560972	Needle Roller Bearing Assembly (1.500" x 1.875" x 1.000")	1
SOLD AS KIT			
8	See Page 31	Input Gear	1
9	See Page 31	Gear Ratio	1
10	380064	Lockring	1
11	561026	Tapered Cone Bearing (1.181" x .984")	2
12	9-P-99	Idler Shaft	1
13	28-P-42	O-ring (1.051" x .070")	1
14A	14-P-82-1	Spacer (1.191" x 1.750" x .080")	A.R.
14B	14-P-82-1	Spacer (1.191" x 1.750" x .080") (Thickness as required)	A.R.
	14-P-82-2	Spacer (1.191" x 1.750" x .085")	A.R.
	14-P-82-3	Spacer (1.191" x 1.750" x .090")	A.R.
	14-P-82-4	Spacer (1.191" x 1.750" x .094")	A.R.
15	378452-7	Socket Head Set Screw (.250"-20 x .500")	1
16	28-P-245	O-ring (5.017" x .103") (AB, AC, *AS, XS Outputs)	1 or
	28-P-252	O-ring (2.987" x .103") (XY, Outputs)	1 or
	28-P-259	O-ring (3.984" x .139") (AF, AZ, CF, CK, CZ, XK, ZS Outputs)	1 or
	28-P-291	O-ring (5.984" x .139") (DA Output)	1
17	379242	Adapter Straight (.125"-27 x .750"-16)	1
18	379231	Pipe Plug (.125"-27)	1
19	379433-18	Socket Head Cap Screw (.375"-16 x 4.500")	4
N.S.	21-P-690	Seal Cap (Prior to February 22, 2016) (See page 33)	1 or
20	329895X	Seal Cap (After February 22, 2016) (See page 33)	1
21	22-P-112	Gasket	1
22	378447-6	Socket Head Cap Screw (.312"-18 x 1.000")	3
23	68-P-51-1	Adhesive Label	1
25	See Pages 33-43	Output Assembly	1
26	378431-13	Hex Head Cap Screw (.375"-16 x 1.375")	4
27	380076-07	Hardened Washer Flat (.410" x .816" x .066")	8
28	379486	Elbow 90° (.438"-20) (After February 22, 2016)	1
	379556	Tee (.438"-20) (Prior to February 22, 2016)	1
29	379564-2	Thread Cap (.438")	1
30	378433-14	Hex Head Cap Screw (.500"-13 x 1.500") (AB, AC & XV)	4
	See Cover Kits Bills of Material page 19		
32	329654X	Cover Kit (AS, CS, XS, ZS Outputs)	1
	329658X	Cover Kit (AF, AZ, CF, CK, CZ, XK Outputs)	1
	330159X	Cover Kit (XY Output Only)	1
	329722X	Cover Kit (DA Output Only)	1

N.S. – Not Shown A.R. – As Required

Continued on Next Page

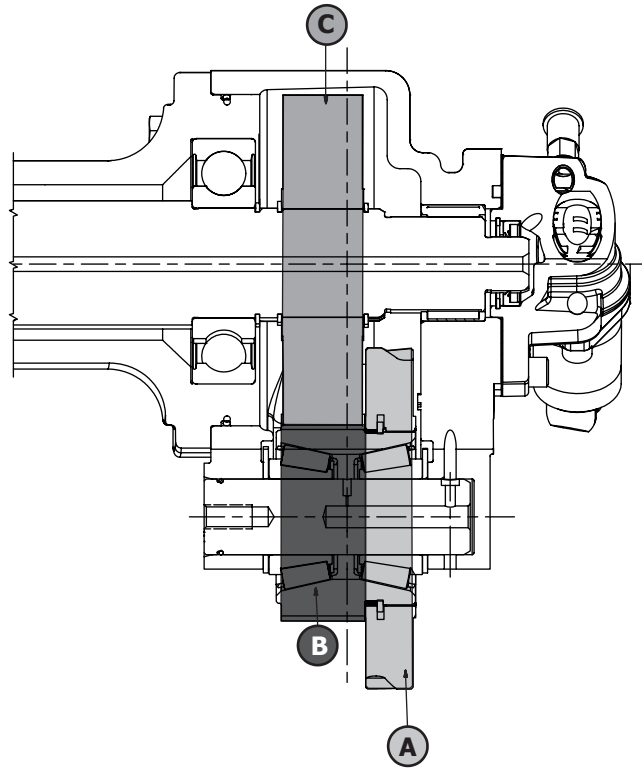
Parts List
897 Series

Bill of Materials

Item	Part Number	Description	Qty.
	See pages 48-53 for Bill of Materials for the below loose parts.		
	GASKET KIT		
	328948-36X	Gasket & Installation Kit (All).....	1
	STUD KITS		
	7170-86X	Stud Kit (5 Arrangement)	1
	7170-123X	Stud Kit (3 Arrangement)	1
	BRACKET & HOSE KITS		
	329897-1X	Bracket & Hose Kit (L Mount)	1
	329897-2X	Bracket & Hose Kit (R Mount).....	1
	329897-3X	Bracket & Hose Kit (H Mount).....	1
	329897-4X	Bracket & Hose Kit (E Mount)	1
	329897-5X	Bracket & Hose Kit (T Mount)	1
	329897-6X	Bracket & Hose Kit (U Mount).....	1
	329897-7X	Bracket & Hose Kit (C Mount).....	1
	329897-10X	Bracket & Hose Kit (J Mount).....	1
	329897-11X	Bracket & Hose Kit (K Mount).....	1
	329897-12X	Bracket & Hose Kit (M Mount)	1
	329897-13X	Bracket & Hose Kit (N Mount).....	1
	329897-14X	Bracket & Hose Kit (F Mount)	1
	329897-15X*	Bracket & Hose Kit (G Mount).....	1
	329897-19X	Bracket & Hose Kit (P Mount).....	1
	329897-21X*	Bracket & Hose Kit (D Mount).....	1
	INSTALLATION KITS		
	All Mounting and Installation Kits below (include (2) 380071 Shoulder Bolts)		
	329898-1X	Mounting & Installation Kit (AS, CS, XS, ZS Outputs).....	1
	329898-2X	Mounting & Installation Kit (AF, AZ, CF, CK, CZ, XK Outputs)	1
	329898-3X	Mounting & Installation Kit (XY Output).....	1
	329898-4X	Mounting & Installation Kit (DA Output)	1
	SERVICE PARTS		
	329071-46X	Gasket & Seal Kit (AF, AS, AZ, CS, CK, CF, CZ, XK, XS, ZS).....	1 or
	329071-47X	Gasket & Seal Kit (XY)	1
	329071-48X	Bearing Kit (AF, AS, AZ, CS, CK, CF, CZ, XK, XS, ZS).....	1
	329071-49X	Bearing Kit (XY)	1
	329071-51X	Bearing Kit (AB, AC, XV).....	1
	329071-52X	Gasket & Seal Kit (AB, AC, XV)	1
	329071-53X	Bearing Kit (DA).....	1
	329071-54X	Gasket & Seal Kit (DA).....	1
	CONVERSION KITS		
	329160-63X	Conversion Kit (XS to XV).....	1
	329160-64X	Conversion Kit (XS to AB).....	1
	329160-65X	Conversion Kit (XS to AC).....	1

* No longer a current option per Chelsea Suggested List Price.

Gear Chart



GEAR DESIGNATOR	INPUT GEAR ASSEMBLY	SOLD AS KIT				OUTPUT GEAR	NO. TEETH C (6)
		INPUT GEAR	NO. TEETH A (8)	RATIO GEAR	NO. TEETH B (9)		
897*AFJ	5-P-1428-11X	5-P-1428	50	5-P-1545	24	2-P-862	40
897*BFJ	5-P-1428-12X	5-P-1428	50	5-P-1546	25	2-P-872	39
897*CFJ	5-P-1428-3X	5-P-1428	50	5-P-1439	26	2-P-873	38
897*DFJ	5-P-1428-4X	5-P-1428	50	5-P-1440	27	2-P-874	37
897*EFJ	5-P-1428-5X	5-P-1428	50	5-P-1432	29	2-P-865	35
897*FFJ	5-P-1428-6X	5-P-1428	50	5-P-1433	31	2-P-866	33
897*GFJ (8)	5-P-1428-7X	5-P-1428	50	5-P-1457	33	2-P-888	31
897*HFJ (8)	5-P-1428-8X	5-P-1428	50	5-P-1455	34	2-P-881	30
897*AQT	5-P-1663-1X	5-P-1663X	50	5-P-1545	24	2-P-862	40
897*BQT	5-P-1663-2X	5-P-1663X	50	5-P-1546	25	2-P-872	39
897*CQT	5-P-1663-3X	5-P-1663X	50	5-P-1439	26	2-P-873	38
897*DQT	5-P-1663-4X	5-P-1663X	50	5-P-1440	27	2-P-874	37
897*EQT	5-P-1663-5X	5-P-1663X	50	5-P-1432	29	2-P-865	35
897*FQT	5-P-1663-6X	5-P-1663X	50	5-P-1433	31	2-P-866	33
897*GQT	5-P-1663-7X	5-P-1663X	50	5-P-1457	33	2-P-888	31
897*HQT	5-P-1663-8X	5-P-1663X	50	5-P-1455	34	2-P-881	30

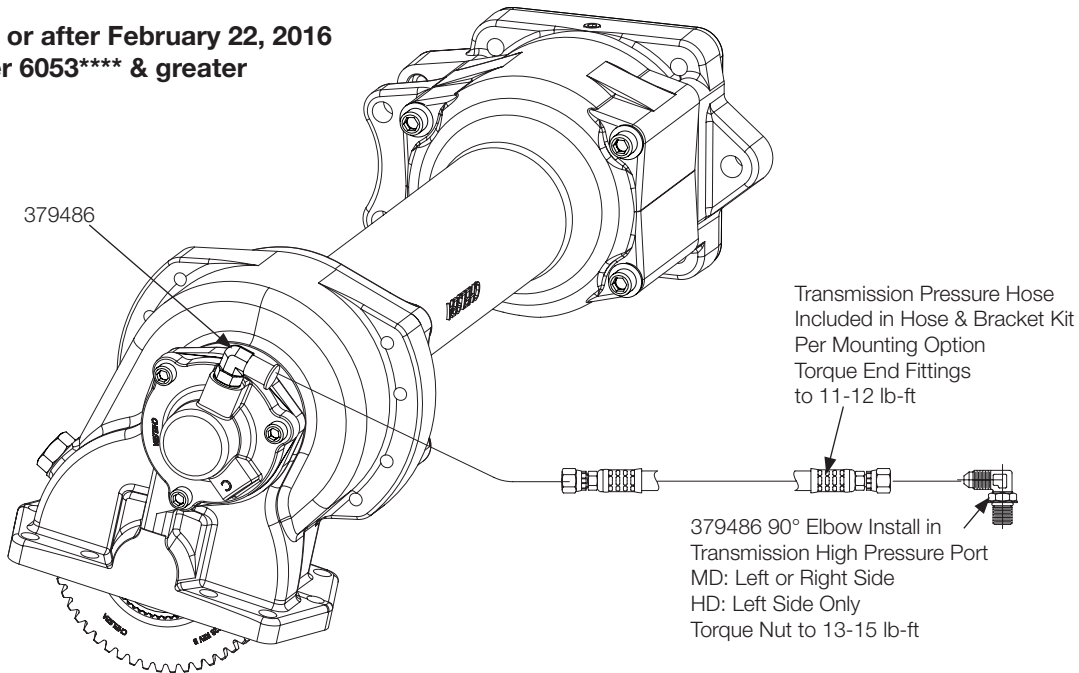
(8) G and H ratios only available on MD transmissions

Lube Options

Lube Hose Installation

(SK-599)

Units built on or after February 22, 2016
Serial Number 6053**** & greater



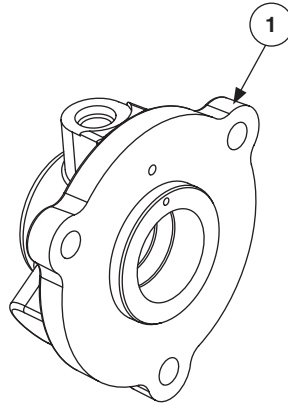
Bracket & Hose Installation Chart

Model	Arr.	Mounting PTO Code	Bracket Kit and Hose Description	Bracket Kit and Hose Part Number	Bracket	Pressure Hose	Shoulder Bolts (Qty.)	Trans Bracket Bolts (Qty.)
3000 Series Side/Side								
897	5	L	Left side	329897-1X	50-P-60	329130-5X	380071 (2)	380075 (3)
897	5	R	Right side w/ or w/o cooler	329897-2X	50-P-61	329130-11X	380071 (2)	380075 (3)
897	5	Y	Right side clocked right	329897-24X	50-P-156	329130-11X	380071 (2)	380075 (3)
897	3	N	Left side w/ cooler	329897-13X	50-P-151	329130-5X	380071 (2)	380075 (3)
897	5	M	Left side w/ retarder	329897-12X	50-P-146	329130-5X	380071 (2)	380075 (3)
3000 Series Side/Top								
897	5	E	Left side	329897-4X	50-P-72	329130-5X	380071 (2)	380075 (3)
897	5	T	Right top side w/ or w/o cooler	329897-5X	50-P-67	329075-2X	380071 (2)	380075 (3)
897	5	F	Left side w/ retarder	329897-14X	50-P-129	329130-5X	380071 (2)	380075 (3)
4000 Series 6-Speed								
897	5	H	Left side	329897-3X	50-P-62	329130-4X	380071 (2)	380075 (3)
897	5	U	Right top side w/ or w/o cooler	329897-6X	50-P-73	329075-2X	380071 (2)	380075 (3)
897	3	C	Left side w/ cooler	329897-7X	50-P-74	329130-4X	380071 (2)	380075 (3)
897	5	P	Left side w/ retarder	329897-19X	50-P-130	329130-4X	380071 (2)	380075 (3)
897	3	J	Left side w/ retarder	329897-10X	50-P-126	329130-4X	380071 (2)	380075 (3)
897	5	K	Right top side w/ retarder	329897-11X	50-P-127	329075-2X	380071 (2)	380075 (3)

Arr. = Assembly Arrangement

NOTE: All kits include Cap Screws for mounting the bracket to the transmission and PTO.

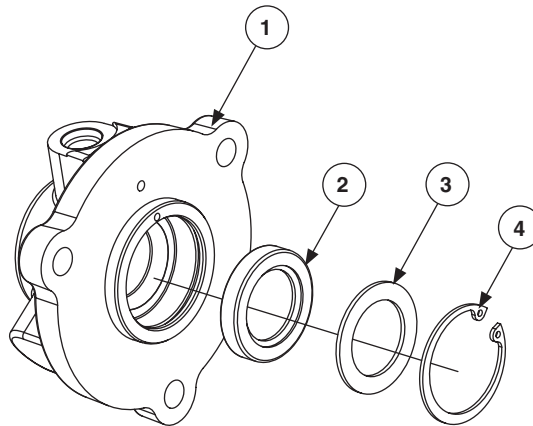
Seal Cap Assembly – 329895X



Item	Part Number	Description	Qty.
1	21-P-690	Seal Cap	1
N.S.	22-P-112	Gasket.....	1

N.S. – Not Shown

NOTE: Use this cap for PTOs that have an external lube hose to supply the oil to the output section of the PTO. Factory serial number 6052*** and prior.



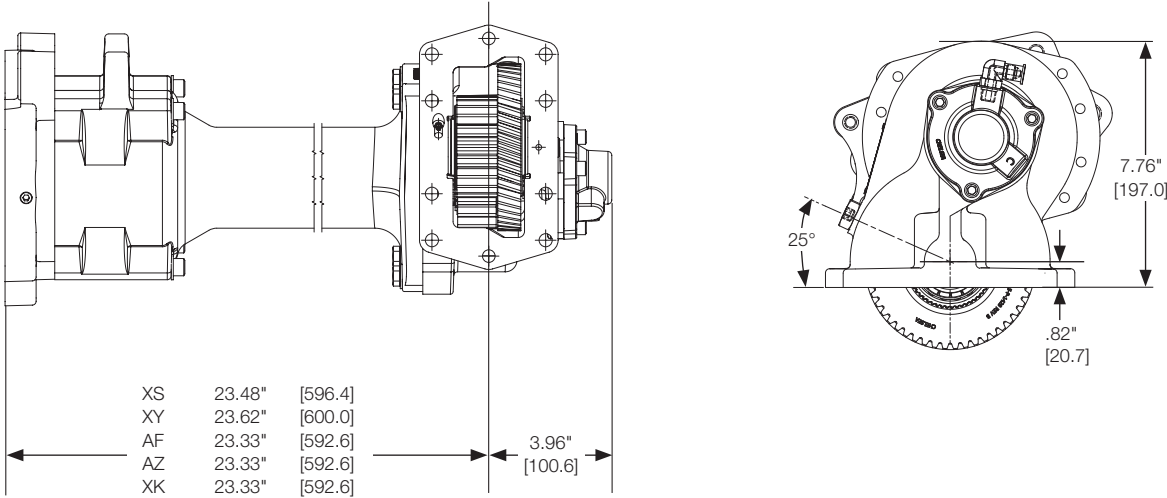
Item	Part Number	Description	Qty.
1	21-P-846	Seal Cap	1
2	28-P-119	Oil Seal (1.379" x .875" x .250").....	1
3	378811	Seal Back-Up Plate	1
4	378849	Lockring	1
N.S.	22-P-112	Gasket.....	1

N.S. – Not Shown

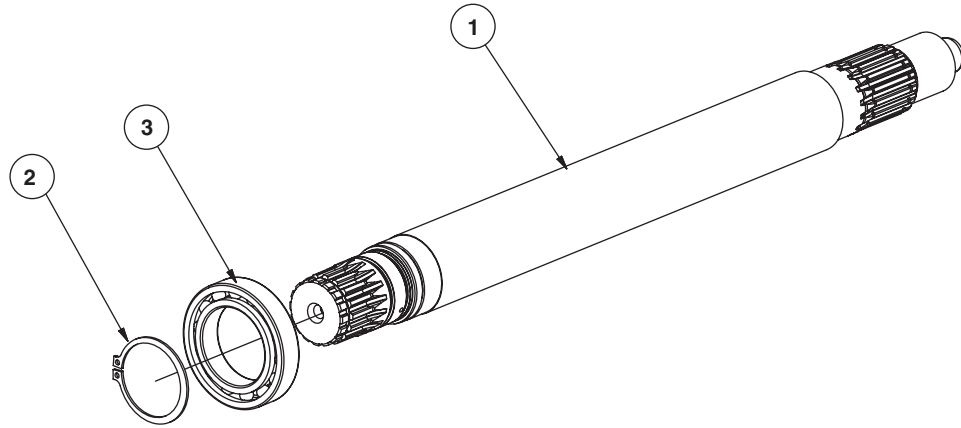
NOTE: Use this cap for PTOs that DO NOT have an external lube hose to supply the oil to the output section of the PTO. Factory serial number 6053*** and later.

Assembly Arrangements

Housing Dimensions



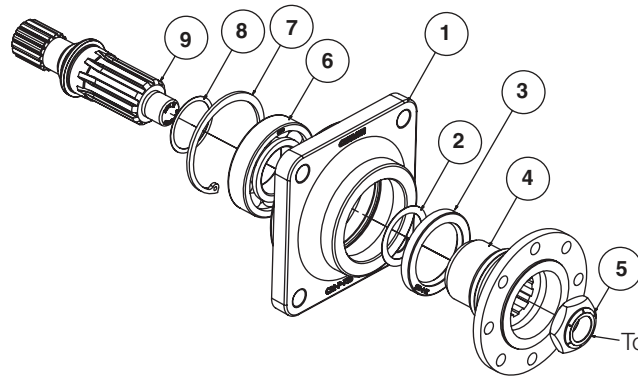
Drive Shaft Assembly – 329655X



Item	Part Number	Description	Qty.
1	3-P-1007	Output Shaft.....	1
2	380070	Lockring.....	1
3	561028	Ball Bearing (1.969" x 3.150" x .630").....	1

Output Options

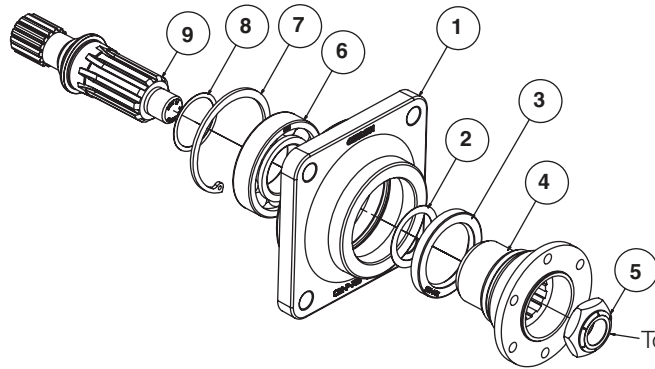
(AB) DIN 120 Companion Flange – 329608-2X



Item	Part Number	Description	Qty.
1	21-P-736	Bearing Cap	1
2	378161	Gasket 4600	1
3	28-P-283	Oil Seal (2.754" x 2.000" x .313").....	1
4	379558	DIN 120 Companion Flange	1
5	380486	Stop Nut (7/8" - 14T) Spline	1
6	561020	Ball Bearing (1.574" x 3.149" x .708").....	1
7	378836	Lockring	1
8	35-P-103	Gasket Shaft	1
9	3-P-1009	Output Shaft 10T Straight.....	1
N.S.	380076-13	Hardened Flat Washer (.950" x 1.762" x .157").....	1
N.S.	28-P-245X	O-ring (5.017" x .103").....	1

N.S. – Not Shown

(AC) DIN 100 Companion Flange – 329608-3X

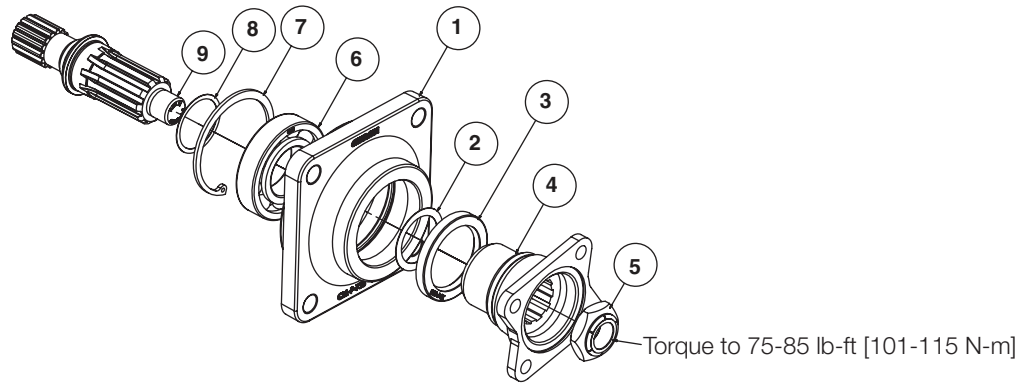


Item	Part Number	Description	Qty.
1	21-P-736	Bearing Cap	1
2	378161	Gasket 4600	1
3	28-P-283	Oil Seal (2.754" x 2.000" x .313").....	1
4	379742	DIN 100 Companion Flange	1
5	380486	Stop Nut (7/8" - 14T) Spline	1
6	561020	Ball Bearing (1.574" x 3.149" x .708").....	1
7	378836	Lockring	1
8	35-P-103	Gasket Shaft	1
9	3-P-1009	Output Shaft 10T Straight.....	1
N.S.	380076-13	Hardened Flat Washer (.950" x 1.762" x .157").....	1
N.S.	28-P-245X	O-ring (5.017" x .103").....	1

N.S. – Not Shown

Output Options

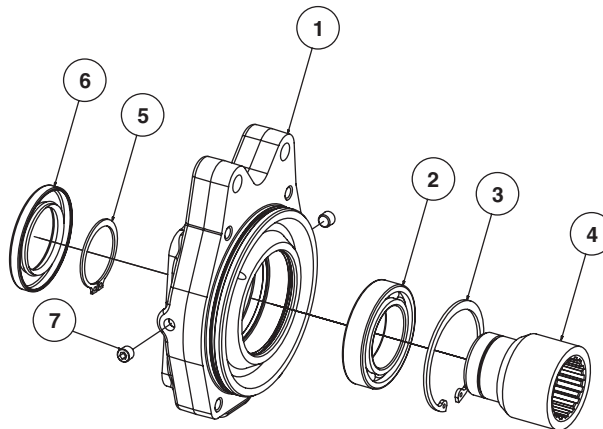
(XV) SAE 1410 Companion Flange – 329608-1X



Item	Part Number	Description	Qty.
1	21-P-736	Bearing Cap AB, AC, XV	1
2	378161	Gasket 4600	1
3	28-P-283	Oil Seal (2.754" x 2.000" x .313").....	1
4	3-1-3431	1410 Series Companion Flange.....	1
5	380486	Stop Nut (7/8" - 14T) Spline	1
6	561020	Ball Bearing (1.574" x 3.149" x .708").....	1
7	378836	Lockring	1
8	35-P-103	Gasket Shaft	1
9	3-P-1009	Output Shaft 10T Straight.....	1
N.S.	380076-13	Hardened Flat Washer (.950" x 1.762" x .157").....	1
N.S.	28-P-245X	O-Ring (5.017" x .103") (Wet Spline Pump Mount).....	1

N.S. – Not Shown

(AF) SAE B 2 or 4-Bolt 1" - 15T – 329657-3X

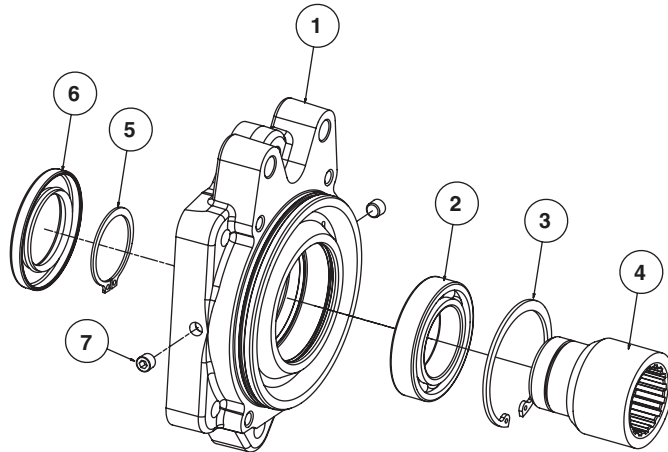


Item	Part Number	Description	Qty.
1	21-P-723	Pump Flange.....	1
2	561018	Ball Bearing (1.772" x 2.953" x .630").....	1
3	379919	Lockring	1
4	380093	Coupling AF Output (1" - 15T/16T)	1
5	379668	Lockring	1
6	28-P-278	Oil Seal (2.953" x 1.772" x .315").....	1
7	379231	Pipe Plug (.125"-27)	2
N.S.	28-P-259X	O-ring (3.984" x .139").....	1

N.S. – Not Shown

Output Options

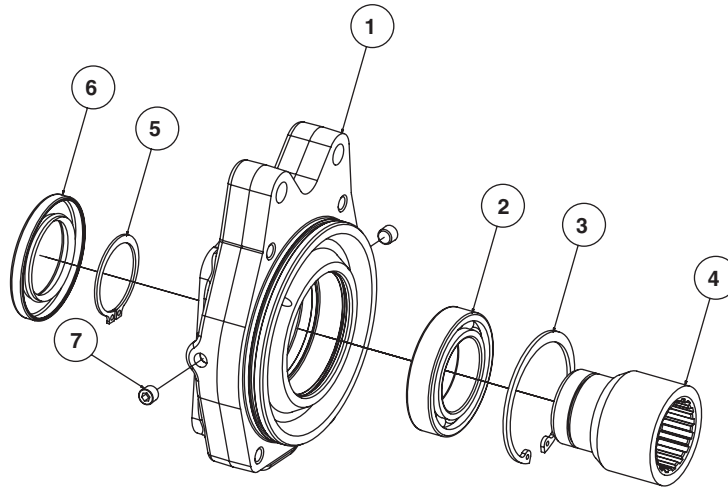
(AS) SAE C 2 or 4-Bolt 1-3/8" - 21T - 329657-9X



Item	Part Number	Description	Qty.
1	21-P-717	Pump Flange.....	1
2	561018	Ball Bearing (1.772" x 2.953" x .630").....	1
3	379919	Lockring.....	1
4	380457	Coupling XS Output (1-3/8" - 21T/16T)	1
5	379668	Lockring.....	1
6	28-P-278	Oil Seal (2.953" x 1.772" x .315").....	1
7	379231	Pipe Plug (.125"-27)	2
N.S.	28-P-245X	O-ring (5.017" x .103") (Wet Spline Pump Mount).....	1

N.S. - Not Shown

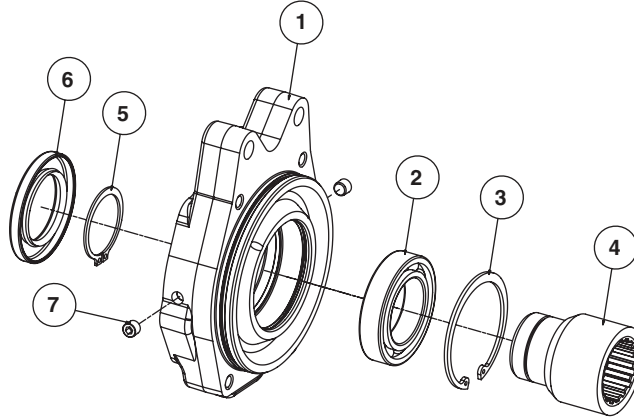
(AZ) SAE B 2 or 4-Bolt 1-1/4" - 14T - 329657-5X



Item	Part Number	Description	Qty.
1	21-P-723	Pump Flange.....	1
2	561018	Ball Bearing (1.772" x 2.953" x .630").....	1
3	379919	Lockring.....	1
4	380094	Coupling XS Output (1-1/4" - 14T/16T)	1
5	379668	Lockring.....	1
6	28-P-278	Oil Seal (2.953" x 1.772" x .315").....	1
7	379231	Pipe Plug (.125"-27)	2
N.S.	28-P-259X	O-ring (3.984" x .139").....	1

N.S. - Not Shown

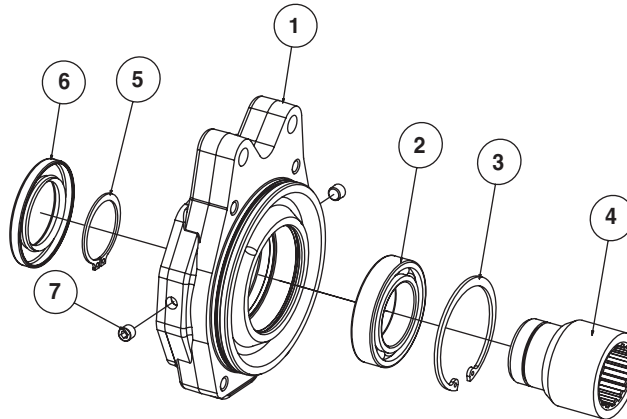
(CF) SAE 2 or 4-Bolt 1" - 15T - 329677-3X



Item	Part Number	Description	Qty.
1	21-P-739	Pump Flange.....	1
2	561018	Ball Bearing (1.772" x 2.953" x .630").....	1
3	379919	Lockring	1
4	380093	Coupling AF Output (1" - 15T/16T)	1
5	379668	Lockring	1
6	28-P-278	Oil Seal (2.953" x 1.772" x .315").....	1
7	379231	Pipe Plug (.125"-27)	2
N.S.	28-P-259X	O-ring (3.984" x .139") (Wet Spline Pump Mount)	1

N.S. - Not Shown

(CK) SAE B 2 or 4-Bolt 7/8" - 13T - 329677-2X

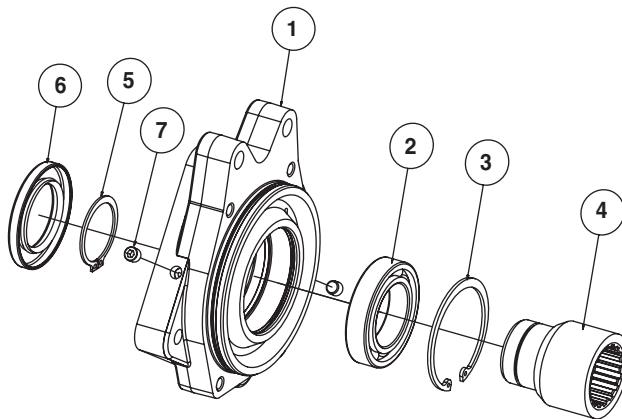


Item	Part Number	Description	Qty.
1	21-P-739	Pump Flange.....	1
2	561018	Ball Bearing (1.772" x 2.953" x .630").....	1
3	379919	Lockring	1
4	380092	Coupling XK Output (7/8" - 13T/16T).....	1
5	379668	Lockring	1
6	28-P-278	Oil Seal (2.953" x 1.772" x .315").....	1
7	379231	Pipe Plug (.125"-27)	2
N.S.	28-P-259X	O-ring (3.984" x .139").....	1

N.S. - Not Shown

Output Options

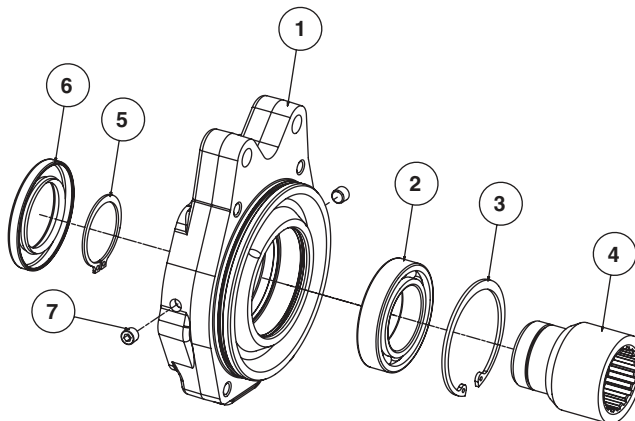
(CS) SAE C 4-Bolt 1-1/4" - 14T - 329677-1X



Item	Part Number	Description	Qty.
1	21-P-742	Pump Flange.....	1
2	561018	Ball Bearing (1.772" x 2.953" x .630").....	1
3	379919	Lockring.....	1
4	380094	Coupling XS Output (1-1/4" - 14T/16T).....	1
5	379668	Lockring.....	1
6	28-P-278	Oil Seal (2.953" x 1.772" x .315").....	1
7	379231	Pipe Plug (.125"-27).....	2
N.S.	28-P-245X	O-ring (5.017" x .103") (Wet Spline Pump Mount).....	1

N.S. - Not Shown

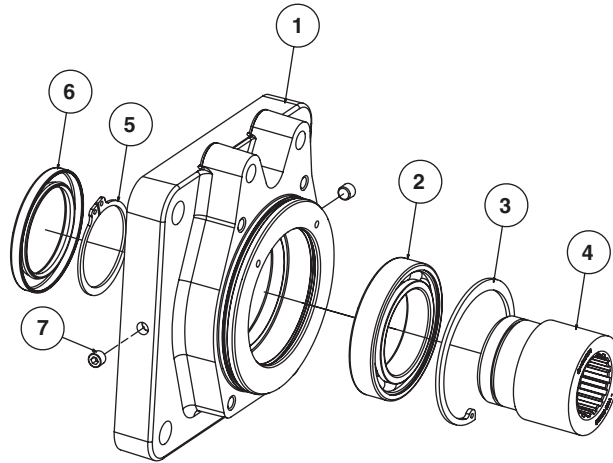
(CZ) SAE C 2 or 4-Bolt 1-1/4" - 14T - 329677-5X



Item	Part Number	Description	Qty.
1	21-P-739	Pump Flange.....	1
2	561018	Ball Bearing (1.772" x 2.953" x .630").....	1
3	379919	Lockring.....	1
4	380094	Coupling XS Output (1-1/4" - 14T/16T).....	1
5	379668	Lockring.....	1
6	28-P-278	Oil Seal (2.953" x 1.772" x .315").....	1
7	379231	Pipe Plug (.125"-27).....	2
N.S.	28-P-259X	O-ring (3.984" x .139").....	1

N.S. - Not Shown

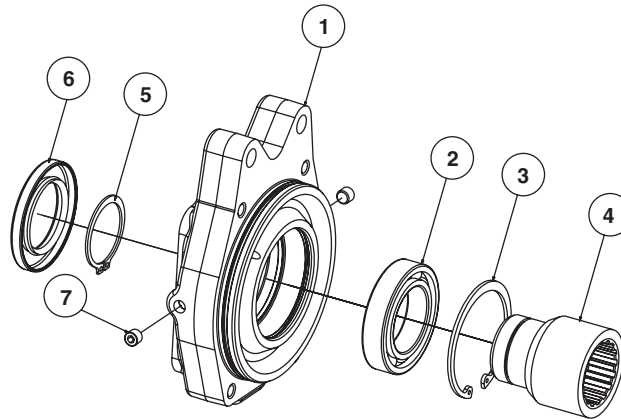
(DA) SAE 4-Bolt 1-3/4" - 13T - 329657-6X



Item	Part Number	Description	Qty.
1	21-P-746	Pump Flange.....	1
2	550509	Ball Bearing (2.362" x 3.740" x .708").....	1
3	378553	Lockring.....	1
4	380268	Coupling DA Output (1-3/4" - 13T/16T).....	1
5	378552	Lockring.....	1
6	28-P-292	Oil Seal (3.346" x 2.362" x .315").....	1
7	379231	Pipe Plug (.125"-27).....	2
N.S.	28-P-291X	O-ring (5.984" x .139") (Wet Spline Pump Mount).....	1

N.S. - Not Shown

(XK) SAE B 2 or 4-Bolt 7/8" - 13T - 329657-2X

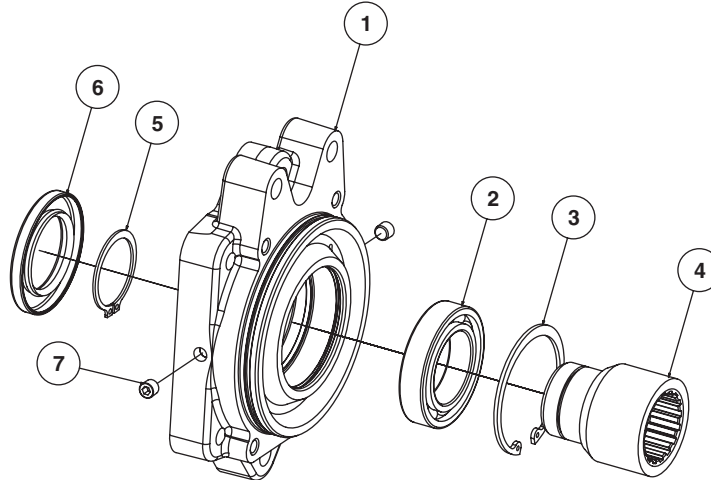


Item	Part Number	Description	Qty.
1	21-P-723	Pump Flange.....	1
2	561018	Ball Bearing (1.772" x 2.953" x .630").....	1
3	379919	Lockring.....	1
4	380092	Coupling XK Output (7/8" - 13T/16T).....	1
5	379668	Lockring.....	1
6	28-P-278	Oil Seal (2.953" x 1.772" x .315").....	1
7	379231	Pipe Plug (.125"-27).....	2
N.S.	28-P-259X	O-ring (3.984" x .139").....	1

N.S. - Not Shown

Output Options

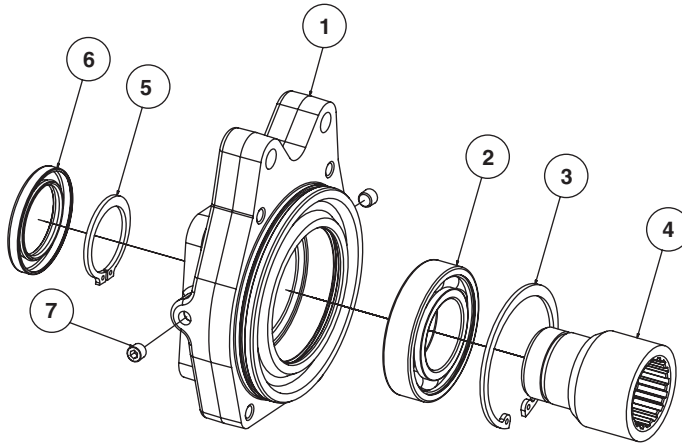
(XS) SAE C 2 or 4-Bolt 1-1/4" - 14T - 329657-1X



Item	Part Number	Description	Qty.
1	21-P-717	Pump Flange.....	1
2	561018	Ball Bearing (1.772" x 2.953" x .630").....	1
3	379919	Lockring.....	1
4	380094	Coupling XS Output (1-1/4" - 14T/16T).....	1
5	379668	Lockring.....	1
6	28-P-278	Oil Seal (2.953" x 1.772" x .315").....	1
7	379231	Pipe Plug (.125"-27).....	2
N.S.	28-P-245X	O-ring (5.017" x .103") (Wet Spline Pump Mount).....	1

N.S. - Not Shown

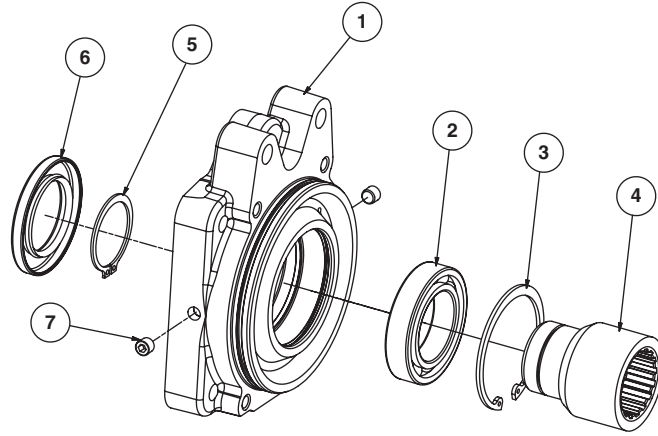
(XY) DIN 5462 4-Bolt 1-1/4" - 8T - 329657-4X



Item	Part Number	Description	Qty.
1	21-P-725	Pump Flange.....	1
2	550311	Ball Bearing (1.770" x 3.346" x .748").....	1
3	378263	Lockring.....	1
4	380095	Coupling XY Output 8T Straight 16T.....	1
5	379555	Lockring.....	1
6	28-P-267	Oil Seal (2.627" x 1.750" x .312").....	1
7	379231	Pipe Plug (.125"-27).....	2
N.S.	28-P-252X	O-ring (2.987" x .103") (Wet Spline Pump Mount).....	1

N.S. - Not Shown

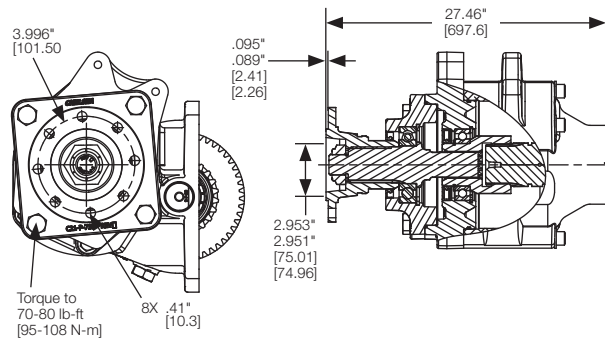
(ZS) SAE C 4-Bolt 1-1/4" - 14T - 329657-7X



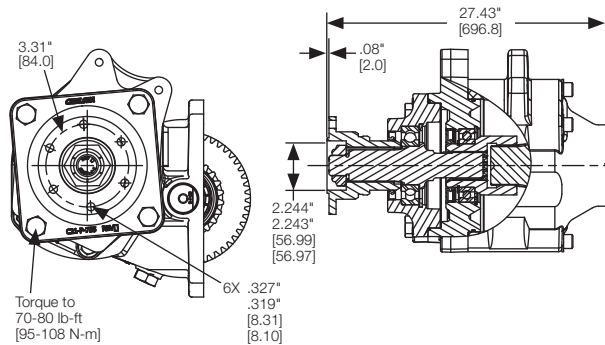
Item	Part Number	Description	Qty.
1	21-P-764	Pump Flange.....	1
2	561018	Ball Bearing (1.772" x 2.953" x .630").....	1
3	379919	Lockring.....	1
4	380094	Coupling XS Output (1-1/4" - 14T/16T).....	1
5	379668	Lockring.....	1
6	28-P-278	Oil Seal (2.953" x 1.772" x .315").....	1
7	379231	Pipe Plug (.125"-27).....	2
N.S.	28-P-245X	O-ring (5.017" x .103") (Wet Spline Pump Mount).....	1
N.S. - Not Shown			

Output Options

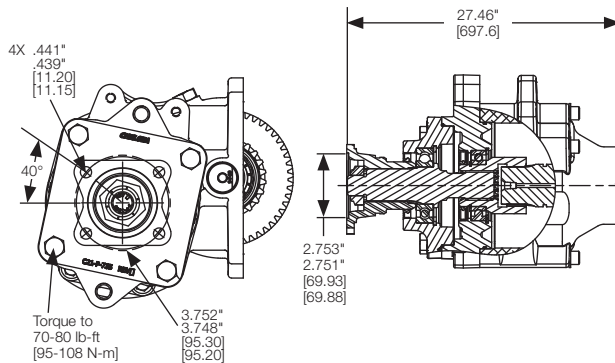
Bill of Materials - Driveline Output



AB Output Option (3 & 5 Arrangement) DIN 120 Flange		
Part Number	Description	Qty.
28-P-245X	O-ring (5.017" x .103").....	1
329608-2X	Output Assembly.....	1
378433-14	Hex Head Cap Screw (.500"-13 x 1.500")	4
†329160-64X	Conversion Kit (XS to AB)	

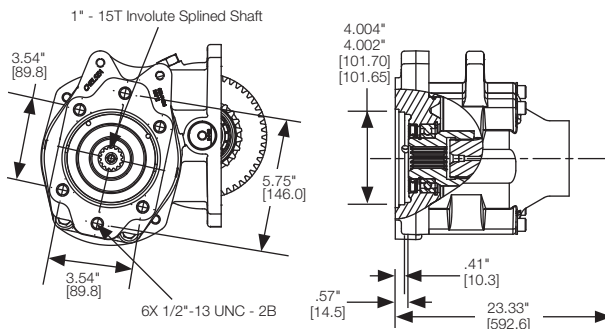


AC Output Option (3 & 5 Arrangement) DIN 100 Flange		
Part Number	Description	Qty.
28-P-245X	O-ring (5.017" x .103").....	1
329608-3X	Output Assembly.....	1
378433-14	Hex Head Cap Screw (.500"-13 x 1.500")	4
†329160-65X	Conversion Kit (XS to AC)	



XV Output Option (*3 & 5 Arrangement) 1410 Series Companion Flange		
Part Number	Description	Qty.
28-P-245X	O-ring (5.017" x .103").....	1
329608-1X	Output Assembly	1
378433-14	Hex Head Cap Screw (.500"-13 x 1.500")	4
†329160-63X	Conversion Kit (XS to XV)	

Bill of Materials - Pump Mount

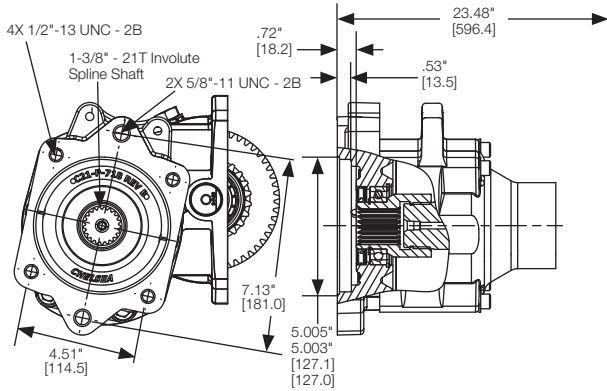


AF Output Option (5 Arrangement) SAE B 2 or 4-Bolt Flange, SAE BB Shaft (1" - 15T)		
Part Number	Description	Qty.
329657-3X	Output Assembly.....	1
69-P-18	Wet Spline Tag	1
WET SPLINE LOOSE PARTS		
28-P-259X	O-ring (3.984" x .139").....	1

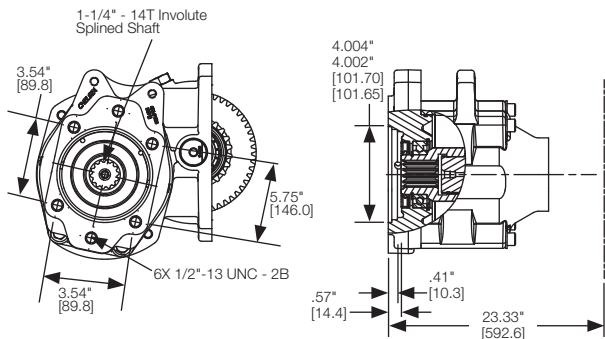
♦ No longer a current option per Chelsea Suggested List Price.

Output Options

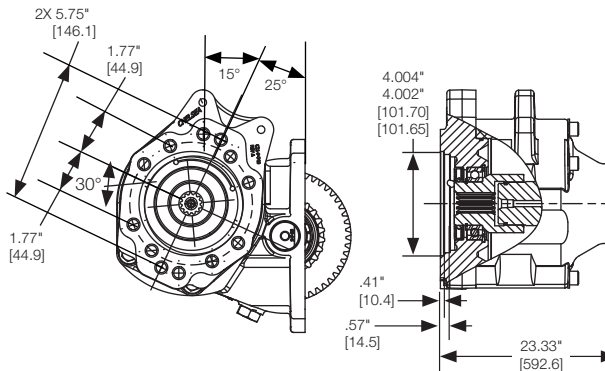
Bill of Materials - Pump Mount (Continued)



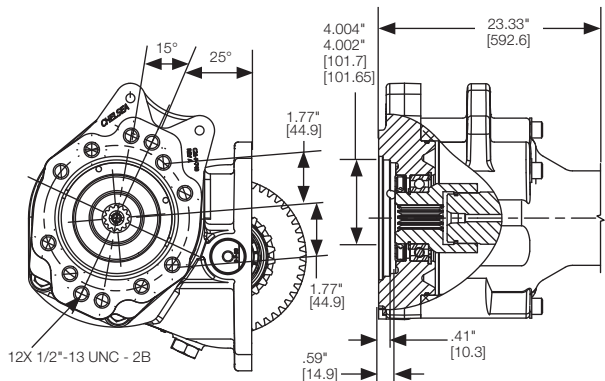
*AS Output Option (5 Arrangement) SAE C 2 or 4-Bolt Flange, ISO3019 21T Shaft		
Part Number	Description	Qty.
329609-9X	Output Assembly	1
69-P-18	Wet Spline Tag	1
WET SPLINE LOOSE PARTS		
28-P-245X	O-ring (5.017" x .103")	1



AZ Output Option (5 Arrangement) SAE B 2 or 4-Bolt Flange, SAE C Shaft (1-1/4" - 14T)		
Part Number	Description	Qty.
329657-5X	Output Assembly	1
69-P-18	Wet Spline Tag	1
WET SPLINE LOOSE PARTS		
28-P-259X	O-ring (3.984" x .139")	1



CF Output Option (3 Arrangement) SAE B 2 or 4-Bolt Flange, SAE BB Shaft (1" - 15T)		
Part Number	Description	Qty.
329677-3X	Output Assembly	1
69-P-18	Wet Spline Tag	1
WET SPLINE LOOSE PARTS		
28-P-259X	O-ring (3.984" x .139")	1

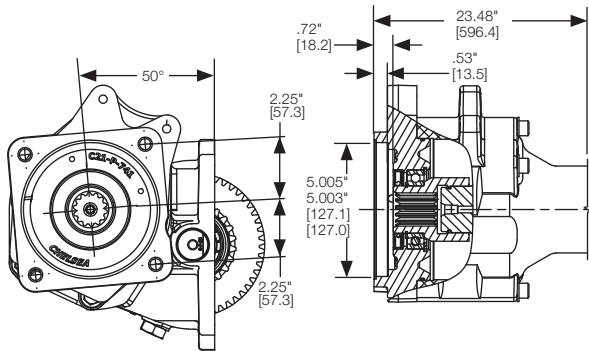


CK Output Option (3 Arrangement) SAE B 2 or 4-Bolt Flange, SAE B Shaft (7/8" - 13T)		
Part Number	Description	Qty.
329677-2X	Output Assembly	1
69-P-18	Wet Spline Tag	1
WET SPLINE LOOSE PARTS		
28-P-259X	O-ring (3.984" x .139")	1

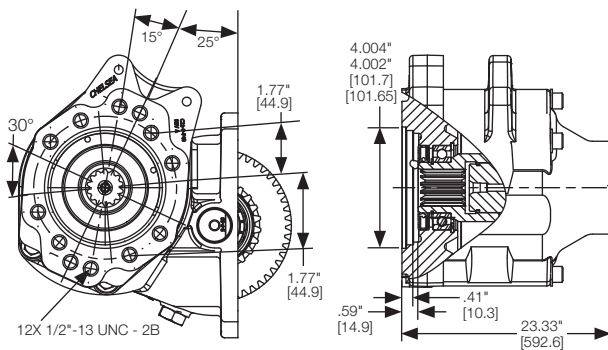
†Conversion Kits do not include all parts listed above. See page 53 for Conversion Kit BOMs.

Output Options

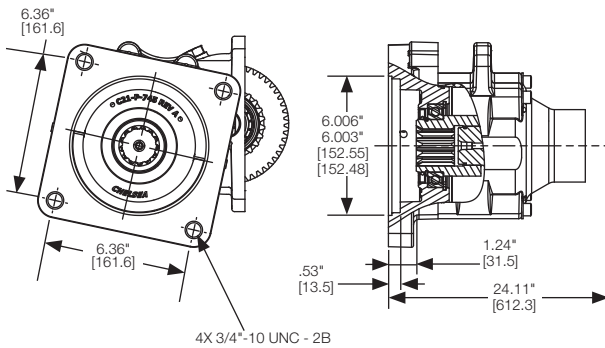
Bill of Materials - Pump Mount (Continued)



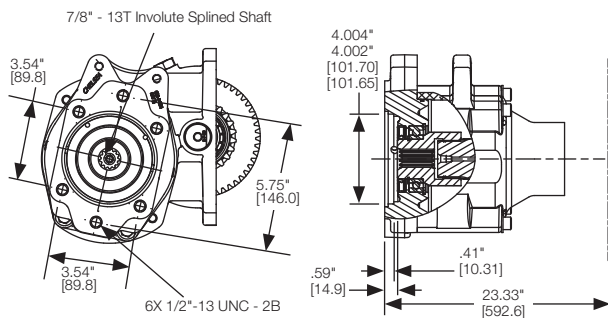
CS Output Option (3 Arrangement) SAE C 4-Bolt Flange, SAE C Shaft (1-1/4" - 14T)		
Part Number	Description	Qty.
329677-1X	Output Assembly	1
69-P-18	Wet Spline Tag	1
WET SPLINE LOOSE PARTS		
28-P-245X	O-ring (5.017" x .103").....	1



CZ Output Option (3 Arrangement) SAE B 2 or 4-Bolt Flange, SAE C Shaft (1-1/4" - 14T)		
Part Number	Description	Qty.
329677-5X	Output Assembly	1
69-P-18	Wet Spline Tag	1
WET SPLINE LOOSE PARTS		
28-P-259X	O-ring (3.984" x .139").....	1



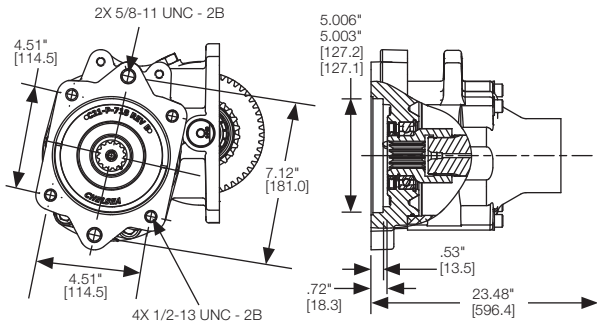
DA Output Option (5 Arrangement) SAE D 4-Bolt Flange, SAE D Shaft (1-3/4" - 13T)		
Part Number	Description	Qty.
329657-6X	Output Assembly	1
69-P-18	Wet Spline Tag	1
WET SPLINE LOOSE PARTS		
28-P-291X	O-ring (5.984" x .139").....	1



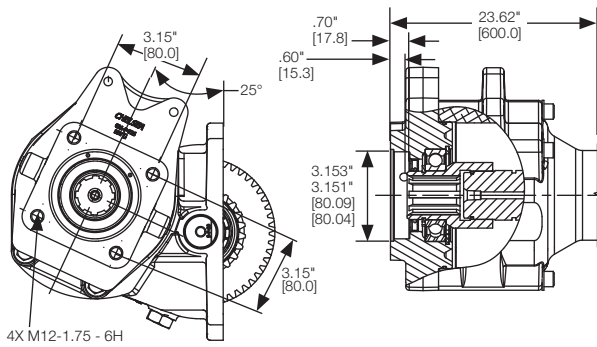
XK Output Option (5 Arrangement) SAE B 2 or 4-Bolt Flange, SAE B Shaft (7/8" - 13T)		
Part Number	Description	Qty.
329657-2X	Output Assembly	1
69-P-18	Wet Spline Tag	1
WET SPLINE LOOSE PARTS		
28-P-259X	O-ring (3.984" x .139").....	1

Output Options

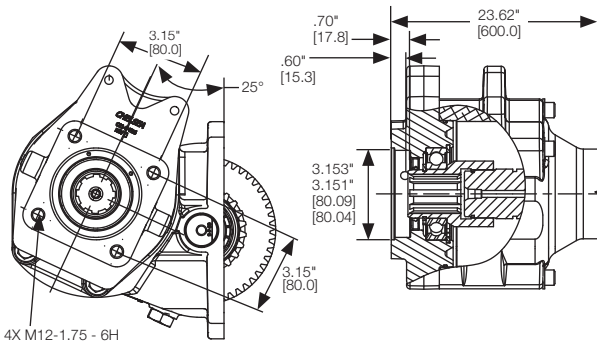
Bill of Materials - Pump Mount (Continued)



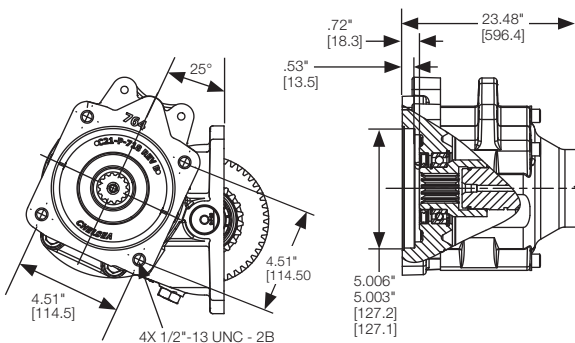
XS Output Option (5 Arrangement) SAE C 2 or 4-Bolt Flange, SAE C Shaft (1-1/4" - 14T)		
Part Number	Description	Qty.
329657-1X	Output Assembly	1
69-P-18	Wet Spline Tag	1
WET SPLINE LOOSE PARTS		
28-P-245X	O-ring (5.017" x .103").....	1



XY Output Option (3 & 5 Arrangement) ISO 7653 Pump Mount DIN 5462 Shaft		
Part Number	Description	Qty.
329657-4X	Output Assembly	1
69-P-18	Wet Spline Tag	1
WET SPLINE LOOSE PARTS		
28-P-252X	O-ring (2.987" x .103").....	1



XY Output Option (5 Arrangement) DIN 5462 Pump Mount, DIN 5462 Shaft (B8x32x36)		
Part Number	Description	Qty.
329657-4X	Output Assembly	1
69-P-18	Wet Spline Tag	1
WET SPLINE LOOSE PARTS		
28-P-290X	O-ring (3.109" x .139").....	1



ZS Output Option (3 & 5 Arrangement) SAE C 4-Bolt Flange, SAE C Shaft (1-1/4" - 14T)		
Part Number	Description	Qty.
329657-7X	Output Assembly	1
69-P-18	Wet Spline Tag	1
WET SPLINE LOOSE PARTS		
28-P-245X	O-ring (5.017" x .103").....	1

Part Number	Description	Qty.	Part Number	Description	Qty.
GASKET KIT			STUD KITS		
328948-36X	Gasket & Installation Kit (All)		7170-86X	Stud Kit (5 Arrangement.) (All)	
328946X	Caution Label Kit	1	379451	Pilot Screw (M10-1.5 x .984")	2
35-P-74	Shim Gasket.....	1	379453-10	Cap Screw (M10-1.5 x 1.378")	8
379085-2	Instructions Label	1	379486	90° Elbow (.438"-20)	1
379624	Product Warranty Card	1	SK-355	Mounting Kit Installation Card	1
Owner's Manual	HY25-1890-M1/US	1			
Safety Guide	HY25-1002-M1/US	1	7170-123X	Stud Kit (3 Arrangement.) (All)	
			379451	Pilot Screw (M10-1.5 x .984")	2
			379453-10	Cap Screw (M10-1.5 x 1.378")	7
			379486	90° Elbow (.438"-20)	1
			379428-18	Stud (M10-1.5 x .375"-24 x 2.000").....	1
			379744	Flange Nut (.375"-24)	1

Continued on Next Page

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

Kits Bill of Materials

Part Number	Description	Qty.	Part Number	Description	Qty.
BRACKET AND HOSE KITS			BRACKET AND HOSE KITS (Continued)		
329897-1X	Bracket & Hose Kit (L Mount) (All)		329897-10X	Bracket & Hose Kit (J Mount) (890 Series)	
50-P-60	Bracket Rear Support - MD Left Side	1	50-P-126	Rear Support Bracket - HD Left w/ Retarder (3 Arrangement)	1
329130-5X	Hose Assembly	1	329130-4X	Hose Assembly	1
380075	Hex Head Cap Screw (M12-1.75 x 2.170")	3	380075	Hex Head Cap Screw (M12-1.75 x 2.170")	3
380071	Socket Head Shoulder Cap Screw (.375"-16 x 3.375")	2	380071	Socket Head Shoulder Cap Screw (.375"-16 x 3.375")	2
329897-2X	Bracket & Hose Kit (R Mount) (All)		329897-11X	Bracket & Hose Kit (K Mount) (890 Series)	
50-P-61	Rear Support Bracket - MD Right Side	1	50-P-127	Rear Support Bracket - HD Top w/ Retarder	1
329130-11X	Hose Assembly	1	329075-2X	Hose Assembly	1
380075	Hex Head Cap Screw (M12-1.75 x 2.170")	3	380075	Hex Head Cap Screw (M12-1.75 x 2.170")	3
380071	Socket Head Shoulder Cap Screw (.375"-16 x 3.375")	2	380071	Socket Head Shoulder Cap Screw (.375"-16 x 3.375")	2
329897-3X	Bracket & Hose Kit (H Mount) (All)		329897-12X	Bracket & Hose Kit (M Mount) (890 Series)	
50-P-62	Rear Support Bracket - HD Left Side	1	50-P-146	Bracket- Rear Support - MD S/S Left w/ Retarder	1
329130-4X	Hose Assembly	1	329130-5X	Hose Assembly	1
380075	Hex Head Cap Screw (M12-1.75 x 2.170")	3	380364	Hex Head Cap Screw (M12-1.75 x 5.510")	3
380071	Socket Head Shoulder Cap Screw (.375"-16 x 3.375")	2	380071	Socket Head Shoulder Cap Screw (.375"-16 x 3.375")	2
329897-4X	Bracket & Hose Kit (E Mount) (All)		329897-13X	Bracket & Hose Kit (N Mount) (890 Series)	
50-P-72	Rear Support Bracket - MD S/T Left Side	1	50-P-151	Bracket- Rear Support - MD S/S Left w/ Cooler	1
329130-5X	Hose Assembly	1	329130-5X	Hose Assembly	1
380075	Hex Head Cap Screw (M12-1.75 x 2.170")	3	380075	Hex Head Cap Screw (M12-1.75 x 2.170")	3
380071	Socket Head Shoulder Cap Screw (.375"-16 x 3.375")	2	380071	Socket Head Shoulder Cap Screw (.375"-16 x 3.375")	2
329897-5X	Bracket & Hose Kit (T Mount) (All)		329897-14X	Bracket & Hose Kit (F Mount) (890 Series)	
50-P-67	Rear Support Bracket - MD S/T Top	1	50-P-129	Rear Support Bracket - MD S/T Left w/ Retarder	1
329075-2X	Hose Assembly	1	329130-5X	Hose Assembly	1
380075	Hex Head Cap Screw (M12-1.75 x 2.170")	3	380364	Hex Head Cap Screw (M12-1.75 x 5.510")	3
380071	Socket Head Shoulder Cap Screw (.375"-16 x 3.375")	2	380071	Socket Head Shoulder Cap Screw (.375"-16 x 3.375")	2
329897-6X	Bracket & Hose Kit (U Mount) (All)		329897-15X*	Bracket & Hose Kit (G Mount) (890 Series)	
50-P-73	Rear Support Bracket - HD Top	1	50-P-129	Rear Support Bracket - MD S/T Left w/ Retarder	1
329075-2X	Hose Assembly	1	329130-5X	Hose Assembly	1
380075	Hex Head Cap Screw (M12-1.75 x 2.170")	3	380364	Hex Head Cap Screw (M12-1.75 x 5.510")	3
380071	Socket Head-Shoulder Cap Screw (.375"-16 x 3.375")	2	380071	Socket Head Shoulder Cap Screw (.375"-16 x 3.375")	2
329897-7X	Bracket & Hose Kit (C Mount) (890 Series)				
50-P-74	Rear Support Bracket - HD Left Side w/ Cooler	1			
329130-4X	Hose Assembly	1			
380075	Hex Head Cap Screw (M12-1.75 x 2.170")	3			
380071	Socket Head Shoulder Cap Screw (.375"-16 x 3.375")	2			

Continued on Next Page

* No longer a current option per Chelsea Suggested List Price.

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

Part Number	Description	Qty.
BRACKET AND HOSE KITS (Continued)		
329897-19X	Bracket & Hose Kit (P Mount) (890 Series)	
50-P-130	Rear Support Bracket - HD Left w/ Retarder (5 Arrangement)	1
329130-4X	Hose Assembly	1
380075	Hex Head Cap Screw (M12-1.75 x 2.170")	3
380071	Socket Head Shoulder Cap Screw (.375"-16 x 3.375")	2
329897-20X	Bracket & Hose Kit (D Mount) (890 Series)	
50-P-12	Rear Support Bracket - MD S/T Left w/ Cooler.....	1
329130-5X	Hose Assembly	1
380075	Hex Head Cap Screw (M12-1.75 x 2.170")	3
380071	Socket Head Cap Screw Shoulder (.375"-16 x 3.375")	2
329897-21X*	Bracket & Hose Kit (D Mount) (890 Series)	
50-P-130	Rear Support Bracket - HD Left w/ Retarder (5 Arrangement)	1
329130-5X	Hose Assembly	1
380075	Hex Head Cap Screw (M12-1.75 x 2.170")	3
380071	Socket Head Shoulder Cap Screw (.375"-16 x 3.375")	2
329898-1X	O-ring & Tube Mounting (XS Output)	
28-P-245X	O-ring (5.017" x .103") Kit.....	2
378431-13	Hex Head Cap Screw (.375"-16 x 1.375") ...	4
329898-2X	O-ring & Tube Mounting (XK, AF, AZ Output)	
28-P-245X	O-ring (5.017" x .103") Kit.....	1
378431-13	Hex Head Cap Screw (.375"-16 x 1.375") ...	4
28-P-259X	O-ring (3.984" x .139").....	1
329898-3X	O-ring & Tube Mounting (XY Output)	
28-P-245X	O-ring (5.017" x .103") Kit.....	1
378431-13	Hex Head Cap Screw (.375"-16 x 1.375") ...	4
28-P-252X	O-ring (2.987" x .103") Kit.....	1
329898-4X	O-ring & Tube Mounting (DA Output)	
28-P-245X	O-ring (5.017" x .103") Kit.....	1
378431-13	Hex Head Cap Screw (.375"-16 x 1.375") ...	4
28-P-291X	O-ring (5.984" x .139") Kit.....	1
329899-1X	Lube Hose Kit (890 Series)	
329130-11X	Hose Assembly	1
379964	Restriction Adapter (.438"-20 x .125"-27)	1
500841-1	90° Elbow.....	1

Part Number	Description	Qty.
INSTALLATION KITS		
329024-12X	12VDC Installation Kit (B Shift Option) (890 Series)	
380668X	Bracket & Label Assembly	1
75-P-45-12	Light Rocker Switch Electrical.....	1
379061	Plastic Wire Tie.....	6
379252	Electrical Butt Connector	1
379257	Electrical Connector	2
379265	Grommet.....	1
SK-347	Installation Sketch	1
379502	Pressure Switch	1
379504	Valve Connector Wiring	1
379900	Fuse Holder Assembly.....	1
379254-17	Electrical Wire 14G Fork	1
380672	Female Spade Connector (.250").....	3
329024-24X	24VDC Installation Kit (D Shift Option) (890 Series)	
380668X	Bracket & Label Assembly	1
75-P-45-24	Light Rocker Switch Electrical 24VDC.....	1
379061	Plastic Wire Tie.....	6
379252	Electrical Butt Connector	1
379257	Electrical Connector	2
379265	Grommet.....	1
SK-347	Installation Sketch	1
379502	Pressure Switch	1
379504	Valve Connector Wiring	1
379900	Fuse Holder Assembly.....	1
379254-17	Electrical Wire 14G Fork	1
380672	Female Spade Connector (.250").....	3
329076X	12DVC Installation w/ EOC Kit (K & L Shift) (890 Series)	
379061X	Plastic Wire Tie Assembly	1
379252	Electrical Butt Connector	1
379257	Electrical Connector Speed Limiter	1
379265	Grommet with Speed Control	1
379502	Pressure Switch	1
379504	Valve Connector & Wire	1
75-P-46X	Wire and Connectors Kit.....	1
329076-24X	24VDC Installation w/ EOC Kit (K & L Shift) (890 Series)	
379252	Electrical Butt Connector.....	1
379265	Grommet w/ Speed Control.....	1
379502	Pressure Switch.....	1
SK-472	Installation Sketch w/ EOC	1
75-P-53	24VDC Wire Harness Assembly.....	1
329650X	Electronic Overspeed Control (K & L Shift) (890 Series)	
328923-10X	Speed Sensor Cable - 10 ft.....	1
	(.250"-20) NC Hex Bolt x 1" Lg.....	2
	(.250") Flat Washer	2
	(.250") Lock Washer	2
	(.250") Hex Nut.....	2
Owner's Manual	HY25-1650-M1/US	1
20071-3	EOC Unit (NSS)	1

Continued on Next Page

* No longer a current option per Chelsea Suggested List Price.

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

Kits Bill of Materials

Part Number	Description	Qty.
INSTALLATION KITS (Continued)		
329653-12X	12VDC Remote Valve Installation Kit w/o EOC (G Shift Option) (890 Series)	
75-P-45-12	Light Rocker Switch Electrical 12VDC.....	1
75-P-46X	Wire and Connectors.....	1
379252	Electrical Butt Connector	1
379257	Speed Limiter Electrical Connector.....	2
379258	Solenoid Valve Mounting Bracket.....	1
379265	Grommet w/ Speed Control.....	1
380672	Female Spade Connector (.250").....	3
380668X	Bracket and Label (Assembly).....	1
379449	Male Connector (.438"-20 x .250"-18).....	1
379502	Pressure Switch.....	1
379700	Swivel Nut Tee (.438"-20)	2
379711	Tee (.375"-24 x .438"-20 x .438"-20).....	1
379900	Fuse Holder Assembly.....	1
379910	Male Connector (.438"-20 x .125"-27).....	1
380010	Female SAE Swivel Nut Union (.438"-20)....	1
329231X	Valve Connector Wire Assembly	1
379131-1	Pipe Reducer Bushing (.125"-27 x .250"-18).....	1
379254-17	14G Electrical Fork Wire	1
379686-1	12VDC Hydraulic Shifter Solenoid Valve.....	1
500357-7	Lock Washer (.194" x .337" x .047").....	2
500457-6	Slotted Screw (.190"-32 x .438")	2
SK-503	Installation Schematic	1
500841-1	90° Elbow.....	1

329653-24X	24VDC Remote Valve Installation Kit w/o EOC (H Shift Option) (890 Series)	
75-P-45-12	Light Rocker Switch Electrical 24VDC.....	1
75-P-46X	Wire and Connectors.....	1
379252	Electrical Butt Connector	1
379257	Speed Limiter Electrical Connector.....	2
379258	Solenoid Valve Mounting Bracket.....	1
379265	Grommet w/ Speed Control.....	1
380672	Female Spade Connector (.250").....	3
380668X	Bracket and Label (Assembly).....	1
379449	Male Connector (.438"-20 x .250"-18).....	1
379502	Pressure Switch.....	1
379700	Swivel Nut Tee (.438"-20)	2
379711	Tee (.375"-24 x .438"-20 x .438"-20).....	1
379900	Fuse Holder Assembly.....	1
379910	Male Connector (.438"-20 x .125"-27).....	1
380010	Female SAE Swivel Nut Union (.438"-20)....	1
329231X	Valve Connector Wire Assembly	1
379131-1	Pipe Reducer Bushing (.125"-27 x .250"-18).....	1
379254-17	14G Electrical Fork Wire	1
379686-2	24VDC Hydraulic Shifter Solenoid Valve.....	1
500357-7	Lock Washer (.194" x .337" x .047").....	2
500457-6	Slotted Screw (.190"-32 x .438")	2
SK-503	Installation Schematic	1
500841-1	90° Elbow.....	1

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

Part Number	Description	Qty.
INSTALLATION KITS (Continued)		
329898-1X	O-ring & Tube Mounting Kit (XS Output) (890 Series)	
28-P-245X	O-ring (5.017" x .103").....	2
378431-13	Hex Head Cap Screw (.375"-16 x 1.375") ...	4
329898-2X	O-ring & Tube Mounting Kit (AF, AZ, XK Output) (890 Series)	
28-P-245X	O-ring Kits (5.017" x .103").....	1
378431-13	Hex Head Cap Screw (.375"-16 x 1.375") ...	4
28-P-259X	O-ring Kits (3.984" x .139").....	1
329898-3X	O-ring & Tube Mounting Kit (XY Output) (890 Series)	
28-P-245X	O-ring (5.017" x .103").....	1
378431-13	Hex Head Cap Screw (.375"-16 x 1.375") ...	4
28-P-259X	O-ring (3.984" x .139").....	1
329898-4X	O-ring & Tube Mounting Kit (DA Output) (890 Series)	
28-P-245X	O-ring (5.017" x .103").....	1
378431-13	Hex Head Cap Screw (.375"-16 x 1.375") ...	4
28-P-291X	O-ring (5.984" x .139").....	1
SK-503	Installation Schematic.....	1
500841-1	90° Elbow.....	1

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Part Number	Description	Qty.
SERVICE KITS		
329071-46X	Gasket & Seal Kit XS, CS, XK, CK, AF, CF, AZ, CZ Output (All)	
22-P-112	Valve Cap Gasket.....	1
28-P-42	O-ring (1.051" x .070").....	1
28-P-119	Oil Seal (1.379" x .875" x .249").....	1
28-P-178	O-ring (4.484" x .138").....	1
28-P-245	O-ring (5.017" x .103").....	2
28-P-278	Oil Seal (2.953" x 1.772" x .315").....	1
28-P-285	O-ring (1.597" x .103").....	2
35-P-74	Shim Gasket.....	1
329071-47X	Gasket & Seal Kit XY Output (All)	
22-P-112	Gasket Valve Cap.....	1
28-P-42	O-ring (1.051" x .070").....	1
28-P-119	Oil Seal (1.379" x .875" x .249").....	1
28-P-178	O-ring (4.484" x .138").....	1
28-P-245	O-ring (5.017" x .103").....	2
28-P-267	Oil Seal (2.627" x 1.750" x .312").....	1
28-P-285	O-ring (1.597" x .103").....	2
35-P-74	Shim Gasket.....	1
329071-48X	Bearing Kit XS, CS, XK, CK, AF, CF, AZ, CZ (All)	
379668	Lockring.....	4
379919	Lockring.....	1
380070	Lockring.....	1
550026	Ball Bearing (1.771" x 3.937" x .984").....	1
560972	Needle Roller Bearing Assembly (1.500" x 1.875" x 1.000").....	1
561018	Ball Bearing (1.772" x 2.953" x .630").....	1
561026	Tapered Cone Bearing (1.181" x .984").....	2
561028	Ball Bearing (1.969" x 3.150" x .630").....	1
14-P-82-1	Spacer (1.191" x 1.750") (.079"-.081").....	2
14-P-82-2	Spacer (1.191" x 1.750") (.084"-.086").....	1
14-P-82-3	Spacer (1.191" x 1.750") (.089"-.091").....	1
14-P-82-4	Spacer (1.191" x 1.750") (.093"-.095").....	1
329071-49X	Bearing XY Kit Output (All)	
378263	Lockring.....	1
379555	Lockring.....	1
379668	Lockring.....	3
380070	Lockring.....	1
550026	Ball Bearing (1.771" x 3.937" x .984").....	1
550311	Ball Bearing (1.771" x 3.346" x .748").....	1
560972	Needle Roller Bearing Assembly (1.500" x 1.875" x 1.000").....	1
561026	Tapered Bearing (1.181" x .984").....	2
561028	Ball Bearing (1.969" x 3.150" x .630").....	1
14-P-82-1	Spacer (1.191" x 1.750") (.079"-.081").....	2
14-P-82-2	Spacer (1.191" x 1.750") (.084"-.086").....	1
14-P-82-3	Spacer (1.191" x 1.750") (.089"-.091").....	1
14-P-82-4	Spacer (1.191" x 1.750") (.093"-.095").....	1

Part Number	Description	Qty.
SERVICE KITS (Continued)		
329071-50X	Clutch Repair Kit	
379485	Friction Disc.....	11
380051	Clutch Back-Up Cylinder.....	1
380110X	Clutch Piston.....	1
380065	Clutch Plate.....	10
380069	Internal Lockring.....	1
28-P-178	O-ring (4.484" x .138").....	1
28-P-285	O-ring (1.597" x .103").....	2
329071-51X	Bearing Kit (AB, AC, XV) (All)	
379668	Lockring.....	4
379919	Lockring.....	1
380070	Lockring.....	1
550026	Ball Bearing (1.771" x 3.937" x .984").....	1
560972	Needle Roller Bearing Assembly (1.500" x 1.875" x 1.000").....	1
561018	Ball Bearing (1.772" x 2.953" x .630").....	1
561026	Tapered Cone Bearing (1.181" x .984").....	2
561028	Ball Bearing (1.969" x 3.150" x .630").....	1
14-P-82-1	Spacer (1.191" x 1.750" x .080").....	2
14-P-82-2	Spacer (1.191" x 1.750" x .085").....	1
14-P-82-3	Spacer (1.191" x 1.750" x .090").....	1
14-P-82-4	Spacer (1.191" x 1.750" x .094").....	1
561020	Ball Bearing (1.574" x 3.149" x .708").....	1
378836	Lockring.....	1
329071-52X	Gasket & Seal Kit XV, AB, AC Output (All)	
22-P-112	Valve Cap Gasket.....	1
28-P-42	O-ring (1.051" x .070").....	1
28-P-119	Oil Seal (1.379" x .875" x .249").....	1
28-P-178	O-ring (4.484" x .138").....	1
28-P-245	O-ring (5.017" x .103").....	2
28-P-278	Oil Seal (2.953" x 1.772" x .315").....	1
28-P-285	O-ring (1.597" x .103").....	2
378161	Gasket.....	1
35-P-103	Shaft Seal Gasket.....	1
28-P-283	Oil Seal (2.754" x 2.000" x .313").....	1
35-P-74	Shim Gaskets.....	1
329071-53X	Bearing Kit (DA) (890 Series)	
379668	Lockring.....	3
378552	External Lockring.....	1
378553	Internal Lockring.....	1
380070	Lockring.....	1
550026	Ball Bearing (1.771" x 3.937" x .984").....	1
560972	Needle Roller Bearing Assembly (1.500" x 1.875" x 1.000").....	1
550509	Ball Bearing (2.362" x 3.740" x .708").....	1
561026	Tapered Cone Bearing (1.181" x .984").....	2
561028	Ball Bearing (1.969" x 3.150" x .630").....	1
14-P-82-1	Spacer (1.191" x 1.750" x .080").....	2
14-P-82-2	Spacer (1.191" x 1.750" x .085").....	1
14-P-82-3	Spacer (1.191" x 1.750" x .090").....	1
14-P-82-4	Spacer (1.191" x 1.750" x .094").....	1

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

Kits Bill of Materials

Part Number	Description	Qty.	Part Number	Description	Qty.
SERVICE KITS (Continued)			CONVERSION KITS		
329071-54X	Gasket & Seal Kit (DA) (All)		329160-63X	Conversion Kit (XS to XV) (All)	
22-P-112	Gasket.....	1	329608-1X	Output Assembly.....	1
28-P-42	O-ring (1.051" x .070").....	1	28-P-245	O-ring (5.017" x .103").....	1
28-P-119	Oil Seal (1.379" x .875" x .249").....	1	378433-14	Hex Head Cap Screw (.500"-13 x 1.500") ...	4
28-P-178	O-ring (4.484" x .138").....	1			
28-P-245	O-ring (5.017" x .103").....	2	329160-64X	Conversion Kit (XS to AB)	
28-P-292	Oil Seal (3.346" x 2.362" x .315").....	1	329608-2X	Output Assembly.....	1
28-P-285	O-ring (1.597" x .103").....	2	28-P-245	O-ring (5.017" x .103").....	1
35-P-74	Gasket Shim.....	1	378433-14	Hex Head Cap Screw (.500"-13 x 1.500") ...	4
329354-12X	Remote Valve Conversion Kit 12VDC		329160-65X	Conversion Kit (XS to AC)	
22-P-112	Valve Cap Gasket	1	329608-3X	Output Assembly.....	1
329230X	Wire & Butt Connector.....	1	28-P-245	O-ring (5.017" x .103").....	1
329231X	Valve Connector Wire	1	378433-14	Hex Head Cap Screw (.500"-13 x 1.500") ...	4
379258	Solenoid Valve Mounting Bracket.....	1			
379449	Male Connector (.438"-20 x .250"-18).....	2	329160-66X	Conversion Kit (XD to RK)	
379686-1	Hyd Shifter Solenoid Valve	1	22-P-112	Gasket.....	1
500357-7	Lock Washer (.337" x .190" x .047").....	2	21-P-759	Bearing Cap	1
500457-6	Round HD Slotted Screw (.190"-32 x .438").....	2	21-P-731	Flange Pump.....	1
			22-P-101	Gasket.....	1
379564-2	Shipping Cap	2	28-P-225	Oil Seal (2.004" x 1.375" x .315").....	1
328075X	Hose Assembly (36")	1	378447-8	Socket Head Cap Screw	8
379700	Swivel Nut Tee (.438"-20)	1	28-P-244	O-ring (1.174" x .103").....	2
380010	Female SAE Swivel Nut Union (.438"-20).....	1	3-P-1051	Output Shaft (7/8" - 13T)	1
379486	90° Elbow (.438"-20)	1	378576	Lockring	2
329403X	Seal Cap Assembly	1	379746	Lockring	1
379711	Tee (.375"-24 x .438"-20 x .438"-20).....	1	378849	Lockring	1
379131-1	Pipe Reducer Bushing.....	1	379688	Spline Lubricant.....	1
SK-432	Remote Solenoid Installation Kit 12VDC	1	28-P-119	Oil Seal (1.379" x .875" x .249").....	1
329057-4X	Hose Assembly (16.75")	2	380069	Lockring	1
329354-24X	Remote Valve Conversion Kit 24VDC				
22-P-112	Valve Cap Gasket	1			
329230X	Wire & Butt Connector.....	1			
329231X	Valve Connector Wire	1			
379258	Solenoid Valve Mounting Bracket.....	1			
379449	Male Connector (.438"-20 x .250"-18).....	1			
379686-1	Hyd Shifter Solenoid Valve	1			
500357-7	Lock Washer (.337" x .190" x .047").....	2			
500457-6	Round HD Slotted Screw (.190"-32 x .438").....	2			
379564-2	Shipping Cap	2			
328075X	Hose Assembly (36")	1			
379700	Swivel Nut Tee (.438"-20)	1			
380010	Female SAE Swivel Nut Union (.438"-20).....	1			
379486	90° Elbow (.438"-20)	1			
329403X	Seal Cap Assembly	1			
379711	Tee (.375"-24 x .438"-20 x .438"-20).....	1			
379131-1	Pipe Reducer Bushing.....	1			
SK-432	Remote Solenoid Installation Kit 24VDC	1			
329057-4X	Hose Assembly (16.75")	2			

Offer of Sale



WARNING: This product can expose you to chemicals including Lead and Lead Compounds, and Di(2-ethylhexyl)phthalate (DEHP) which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

1. Definitions. As used herein, the following terms have the meanings indicated.

- Buyer:** means any customer receiving a Quote for Products.
- Buyer's Property:** means any tools, patterns, plans, drawings, designs, specifications materials, equipment, or information furnished by Buyer, or which are or become Buyer's property.
- Confidential Information:** means any technical, commercial, or other proprietary information of Seller, including, without limitation, pricing, technical drawings or prints and/or part lists, which has been or will be disclosed, delivered, or made available, whether directly or indirectly, to Buyer.
- Goods:** means any tangible part, system or component to be supplied by Seller.
- Intellectual Property Rights:** means any patents, trademarks, copyrights, trade dress, trade secrets or similar rights.
- Products:** means the Goods, Services and/or Software as described in a Quote.
- Quote:** means the offer or proposal made by Seller to Buyer for the supply of Products.
- Seller:** means Parker-Hannifin Corporation, all divisions, subsidiaries and businesses selling products under these terms.
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- Services:** means any services to be provided by Seller.
- Software:** means any software related to the Goods, whether embedded or separately downloaded.
- Special Tooling:** means equipment acquired by Seller or otherwise owned by Seller necessary to manufacture Goods, including but not limited to tools, jigs, and fixtures.
- Terms:** means the terms and conditions of this Offer of Sale.

2. Terms. All sales of Products by Seller will be governed by, and are expressly conditioned upon Buyer's assent to, these Terms. These Terms are incorporated into any Quote provided by Seller to Buyer. Buyer's order for any Products whether communicated to Seller verbally, in writing, by electronic data interface or other electronic commerce, shall constitute acceptance of these Terms. Seller objects to any contrary or additional terms or conditions of Buyer. Reference in Seller's order acknowledgement to Buyer's purchase order or purchase order number shall in no way constitute an acceptance of any of Buyer's terms or conditions of purchase. Any Quote made by Seller to Buyer shall be considered a firm and definite offer and shall not be deemed to be otherwise despite any language on the face of the Quote. Seller reserves all rights to accept or reject any purported acceptance by Buyer to Seller's Quote if such purported acceptance attempts to vary the terms of the Quote. If Seller ships Products after Buyer issues an acceptance to the Quote, any additional or different terms proposed by Buyer will not become part of the parties' business relationship unless agreed to in a writing that is signed by an authorized representative of Seller, excluding email correspondence. If the transaction proceeds without such agreement on the part of Seller, the business relationship will be

governed solely by these Terms and the specific terms in Seller's Quote.

3. Price; Payment. The Products set forth in the Quote are offered for sale at the prices indicated in the Quote. Unless otherwise specifically stated in the Quote, prices are valid for thirty (30) days and do not include any sales, use, or other taxes or duties. Seller reserves the right to modify prices for any reason and at any time by giving ten (10) days prior written notice. Unless otherwise specified by Seller, all prices are F.C.A. Seller's facility (INCOTERMS 2020). All sales are contingent upon credit approval and full payment for all purchases is due thirty (30) days from the date of invoice (or such date as may be specified in the Quote). Under any circumstances, Buyer may not withhold or suspend payment of any amounts due and payable as a deduction, set-off or recoupment of any amount, claim or dispute with Seller. Unpaid invoices beyond the specified payment date incur interest at the rate of 1.5% per month or the maximum allowable rate under applicable law. Seller reserves the right to require advance payment or provision of securities for first and subsequent deliveries if there is any doubt, in Seller's sole determination, regarding the Buyer's creditworthiness or for other business reasons. If the requested advance payment or securities are not provided to Seller's satisfaction, Seller reserves the right to suspend performance or reject the purchase order, in whole or in part, without prejudice to Seller's other rights or remedies, including the right to full compensation. Seller may revoke or shorten any payment periods previously granted in Seller's sole determination. The rights and remedies herein reserved to Seller are cumulative and in addition to any other or further rights and remedies available at law or in equity. No waiver by Seller of any breach by Buyer of any provision of these terms will constitute a waiver by Seller of any other breach of such provision.

4. Shipment; Delivery; Title and Risk of Loss. All delivery dates are approximate, and Seller is not responsible for damages or additional costs resulting from any delay. All deliveries are subject to our ability to procure materials from our suppliers. Regardless of the manner of shipment, delivery occurs and title and risk of loss or damage pass to Buyer, upon placement of the Products with the carrier at Seller's facility. Unless otherwise agreed prior to shipment and for domestic delivery locations only, Seller will select and arrange, at Buyer's sole expense, the carrier and means of delivery. When Seller selects and arranges the carrier and means of delivery, freight and insurance costs for shipment to the designated delivery location will be prepaid by Seller and added as a separate line item to the invoice. Buyer shall be responsible for any additional shipping charges incurred by Seller due to Buyer's acts or omissions. Buyer shall not return or repackage any Products without the prior written authorization from Seller, and any return shall be at the sole cost and expense of Buyer.

5. Warranty. The warranty for the Products is as follows: (i) Seller warrants that all products sold conform to the applicable Parker Chelsea standard specification for the lesser period of 2 years (24 Months) from date of service or 2-1/2 years (30 Months) from date of build (as marked on the product name plate; (ii) Services shall be performed in accordance with generally accepted practices and using the degree of care and skill that is ordinarily exercised and customary in the field to which the Services pertain and are warranted for a period of six (6) months from the date of completion of the Services; and (iii) Software is only warranted to perform in accordance with applicable specifications provided by Seller to Buyer for ninety (90) days from the date of delivery or, when downloaded by a Buyer or end-user, from the date of the initial download. All prices are based upon the exclusive limited warranty stated above, and upon the following disclaimer: **EXEMPTION CLAUSE; DISCLAIMER OF WARRANTY, CONDITIONS, REPRESENTATIONS: THIS WARRANTY IS THE SOLE AND ENTIRE WARRANTY, CONDITION, AND REPRESENTATION,**

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Offer of Sale (Continued)

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6. Claims; Commencement of Actions. Buyer shall promptly inspect all Products upon receipt. No claims for shortages will be allowed unless reported to Seller within ten (10) days of delivery. Buyer shall notify Seller of any alleged breach of warranty within thirty (30) days after the date the non-conformance is or should have been discovered by Buyer. Any claim or action against Seller based upon breach of contract or any other theory, including tort, negligence, or otherwise must be commenced within twelve (12) months from the date of the alleged breach or other alleged event, without regard to the date of discovery.

7. LIMITATION OF LIABILITY. IN THE EVENT OF A BREACH OF WARRANTY, SELLER WILL, AT ITS OPTION, REPAIR OR REPLACE THE NON-CONFORMING PRODUCTS, RE-PERFORM THE SERVICES, OR REFUND THE PURCHASE PRICE PAID WITHIN A REASONABLE PERIOD OF TIME. IN NO EVENT IS SELLER LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES INCLUDING ANY LOSS OF REVENUE OR PROFITS, WHETHER BASED IN CONTRACT, TORT OR OTHER LEGAL THEORY. IN NO EVENT SHALL SELLER'S LIABILITY UNDER ANY CLAIM MADE BY BUYER EXCEED THE PURCHASE PRICE PAID FOR THE PRODUCTS.

8. Confidential Information. Buyer acknowledges and agrees that Confidential Information has been and will be received in confidence and will remain the property of Seller. Buyer further agrees that it will not use Seller's Confidential Information for any purpose other than for the benefit of Seller and shall return all such Confidential Information to Seller within thirty (30) days upon request.

9. Loss to Buyer's Property. Buyer's Property will be considered obsolete and may be destroyed by Seller after two (2) consecutive years have elapsed without Buyer ordering the Products manufactured using Buyer's Property. Also, Seller shall not be responsible for any loss or damage to Buyer's Property while it is in Seller's possession or control.

10. Special Tooling. Seller may impose a tooling charge for any Special Tooling. Special Tooling shall be and remain Seller's property. In no event will Buyer acquire any interest in the Special Tooling, even if such Special Tooling has been specially converted or adapted for manufacture of Goods for Buyer and notwithstanding any charges paid by Buyer. Unless otherwise agreed, Seller has the right to alter, discard or otherwise dispose of any Special Tooling or other property owned by Seller in its sole determination at any time.

11. Security Interest. To secure payment of all sums due from Buyer, Seller retains a security interest in all Products delivered to Buyer and, Buyer's acceptance of these Terms is deemed to be 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 Seller's security interest.

12. User Responsibility. Buyer, through its own analysis and testing, is solely responsible for making the final selection of the Products and assuring that all performance, endurance, maintenance, safety and warning requirements of the application of the Products are met. Buyer must analyze all aspects of the application and follow applicable industry standards, specifications, and any technical information provided with the Quote or the Products, such as Seller's instructions, guides and specifications.

If Seller provides options of or for Products based upon data or specifications provided by Buyer, Buyer is responsible for determining that such data and specifications are suitable and sufficient for all applications and reasonably foreseeable uses of the Products. In the event Buyer is not the end-user of the Products, Buyer will ensure such end-user complies with this paragraph.

13. Use of Products, Indemnity by Buyer. Buyer shall comply with all instructions, guides and specifications provided by Seller with the Quote or the Products. If Buyer uses or resells the Products in any way prohibited by Seller's instructions, guides or specifications, or Buyer otherwise fails to comply with Seller's instructions, guides and specifications, Buyer acknowledges that any such use, resale, or non-compliance is at Buyer's sole risk. Further, Buyer shall indemnify, defend, and hold Seller harmless from any losses, claims, liabilities, damages, lawsuits, judgments and costs (including attorney fees and defense costs), whether for personal injury, property damage, intellectual property infringement or any other claim, arising out of or in connection with: (a) improper selection, design, specification, application, or any misuse of Products; (b) any act or omission, negligent or otherwise, of Buyer; (c) Seller's use of Buyer's Property; (d) damage to the Products from an external cause, repair or attempted repair by anyone other than Seller, failure to follow instructions, guides and specifications provided by Seller, use with goods not provided by Seller, or opening, modifying, deconstructing, tampering with or repackaging the Products; or (e) Buyer's failure to comply with these Terms, including any legal or administrative proceedings, collection efforts, or other actions arising from or relating to such failure to comply. Seller shall not indemnify Buyer under any circumstance except as otherwise provided in these Terms.

14. Cancellations and Changes. Buyer may not cancel or modify, including but not limited to movement of delivery dates for the Products, any order 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 and any additional expense. Seller, at any time, may change features, specifications, designs and availability of Products.

15. Assignment. Buyer may not assign its rights or obligations without the prior written consent of Seller.

16. Force Majeure. Seller is not liable for delay or failure to perform any of its obligations by reason of any events or circumstances beyond its reasonable control. Such circumstances include without limitation: accidents, labor disputes or stoppages, government acts or orders, acts of nature, pandemics, epidemics, other widespread illness, or public health emergency, cyber related disruptions, cyber-attacks, ransomware sabotage, delays or failures in delivery from carriers or suppliers, shortages of materials, sudden increases in the price of raw material or components, shutdowns or slowdowns affecting the supply of raw materials or components, or the transportation thereof, oil shortages or oil price increases, energy crisis, energy or fuel interruption, war (whether declared or not) or the serious threat of same, riots, rebellions, acts of terrorism, embargoes, fire or any reason whether similar to the foregoing or otherwise. Seller will resume performance as soon as practicable after the event of force majeure has been removed. All delivery dates affected by an event of force majeure shall be tolled for the duration of such event of force majeure and rescheduled for mutually agreed dates as soon as practicable after the event of force majeure ceases to exist. The right to allocate capacity is in the Seller's sole discretion. An event of force majeure shall not include financial distress, insolvency, bankruptcy, or other similar conditions affecting one of the parties, affiliates and/or subcontractors. An event of force majeure in the meaning of these Terms means any circumstances beyond Seller's control that permanently or temporarily hinders performance, even where that circumstance was already foreseen. Buyer shall not be entitled to cancel any orders following its claim of an event of force majeure.

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Offer of Sale (Continued)

WARNING: This product can expose you to chemicals including Lead and Lead Compounds, and Di(2-ethylhexyl)phthalate (DEHP) which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

17. Waiver and Severability. Failure to enforce any provision of these Terms will not invalidate that provision; nor will any such failure prejudice either party's right to enforce that provision in the future. Invalidation of any provision of these Terms shall not invalidate any other provision herein and, the remaining provisions will remain in full force and effect.

18. Duration. Unless otherwise stated in the Quote, any agreement governed by or arising from these Terms shall: (a) be for an initial duration of one (1) year; and (b) shall automatically renew for successive one-year terms unless terminated by Buyer with at least 180-days written notice to Seller or if Seller terminates the agreement pursuant to Section 19 of these Terms.

19. Termination. Seller may, without liability to Buyer, terminate any agreement governed by or arising from these Terms for any reason and at any time by giving Buyer thirty (30) days prior written notice. Seller may immediately terminate, in writing, if Buyer: (a) breaches any provision of these Terms, (b) becomes or is deemed insolvent, (c) appoints or has appointed a trustee, receiver or custodian for all or any part of Buyer's property, (d) files a petition for relief in bankruptcy on its own behalf, or one is filed against Buyer by a third party, (e) makes an assignment for the benefit of creditors; or (f) dissolves its business or liquidates all or a majority of its assets.

20. Ownership of Rights. Buyer agrees that (a) Seller (and/or its affiliates) owns or is the valid licensee of Seller's IP and (b) the furnishing of information, related documents or other materials by Seller to Buyer does not grant or transfer any ownership interest or license in or to Seller's IP to Buyer, unless expressly agreed in writing. Without limiting the foregoing, Seller retains ownership of all Software supplied to Buyer. In no event shall Buyer obtain any greater right in and to the Software than a right in a license limited to the use thereof and subject to compliance with any other terms provided with the Software. Buyer further agrees that it will not, directly or through intermediaries, reverse engineer, decompile, or disassemble any Software (including firmware) comprising or contained within a Product, except and only to the extent that such activity may be expressly permitted, either by applicable law or, in the case of open-source software, the applicable open-source license.

21. Indemnity for Infringement of Intellectual Property Rights. Seller is not liable for infringement of any Intellectual Property Rights except as provided in this Section. 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 a third-party claim that one or more of the Products infringes the Intellectual Property Rights of a third party in the country of delivery of the Products by Seller to Buyer. Seller's obligation to defend and indemnify Buyer is contingent on Buyer notifying Seller within ten (10) days after Buyer becomes aware of any such claim, and Seller having sole control over the defense of the claim including all negotiations for settlement or compromise. If one or more Products is subject to such a claim, Seller may, at its sole expense and option, procure for Buyer the right to continue using the Products, replace or modify the Products to render them non-infringing, or offer to accept return of the Products and refund the purchase price less a reasonable allowance for depreciation. Seller has no obligation or liability for any claim of infringement: (i) arising from information provided by Buyer (including Seller's use of Buyer's Property); or (ii) directed to any Products for which the designs are specified in whole or part by Buyer; or (iii) resulting from the modification, combination or use in a system of any Products. The foregoing provisions of this Section constitute Seller's sole and exclusive liability and Buyer's sole and exclusive remedy for claims of infringement of Intellectual Property Rights.

22. Governing Law. These Terms, the terms of any Quote, and the sale and delivery of all Products are 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 the sale and delivery of the Products.

23. Entire Agreement. These Terms, along with the terms set forth in the Quote, forms the entire agreement between the Buyer and Seller and constitutes the final, complete and exclusive expression of the terms of sale and purchase. In the event of a conflict between any term set forth in the Quote and these Terms, the terms set forth in the Quote shall prevail. All prior or contemporaneous written or oral agreements or negotiations with respect to the subject matter shall have no effect. No modification to these Terms will be binding on Seller unless agreed to in a writing that is signed by an authorized representative of Seller, excluding email correspondence, 'clickwrap' or other purported electronic assent to different or additional terms. Sections 2-25 of these Terms shall survive termination or cancellation of any agreement governed by or arising from these Terms.

24. No 'Wrap' Agreements/No Authority to Bind. Seller's clicking any buttons or any similar action, such as clicking "I Agree" or "Confirm," to utilize Buyer's software or webpage for the placement of orders, is NOT an agreement to Buyer's Terms and Conditions. **NO EMPLOYEE, AGENT OR REPRESENTATIVE OF SELLER HAS THE AUTHORITY TO BIND SELLER BY THE ACT OF CLICKING ANY BUTTON OR SIMILAR ACTION ON BUYER'S WEBSITE OR PORTAL.**

25. Compliance with Laws. Buyer agrees to comply with all applicable laws, regulations, and industry and professional standards, including those of the United States of America, and the country or countries in which Buyer may operate, including without limitation the U.S. Foreign Corrupt Practices Act ("FCPA"), the U.S. Anti-Kickback Act ("Anti-Kickback Act"), U.S. and E.U. export control and sanctions laws ("Export Laws"), the U.S. Food Drug and Cosmetic Act ("FDCA"), and the rules and regulations promulgated by the U.S. Food and Drug Administration ("FDA"), each as currently amended. Buyer agrees to indemnify, defend, and hold harmless Seller from the consequences of any violation of such laws, regulations and standards by Buyer, its employees or agents. Buyer represents that it is familiar with all applicable provisions of the FCPA, the Anti-Kickback Act, Export Laws, the FDCA and the FDA and certifies that Buyer will adhere to the requirements thereof and not take any action that would make Seller violate such requirements. Buyer represents and agrees that Buyer will not make any payment or give anything of value, directly or indirectly, to any governmental official, foreign political party or official thereof, candidate for foreign political office, or commercial entity or person, for any improper purpose, including the purpose of influencing such person to purchase Products or otherwise benefit the business of Seller. Buyer further represents and agrees that it will not receive, use, service, transfer or ship any Products from Seller in a manner or for a purpose that violates Export Laws or would cause Seller to be in violation of Export Laws. Buyer agrees to promptly and reliably provide Seller all requested information or documents, including end-user statements and other written assurances, concerning Buyer's ongoing compliance with Export Law.

09/22



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