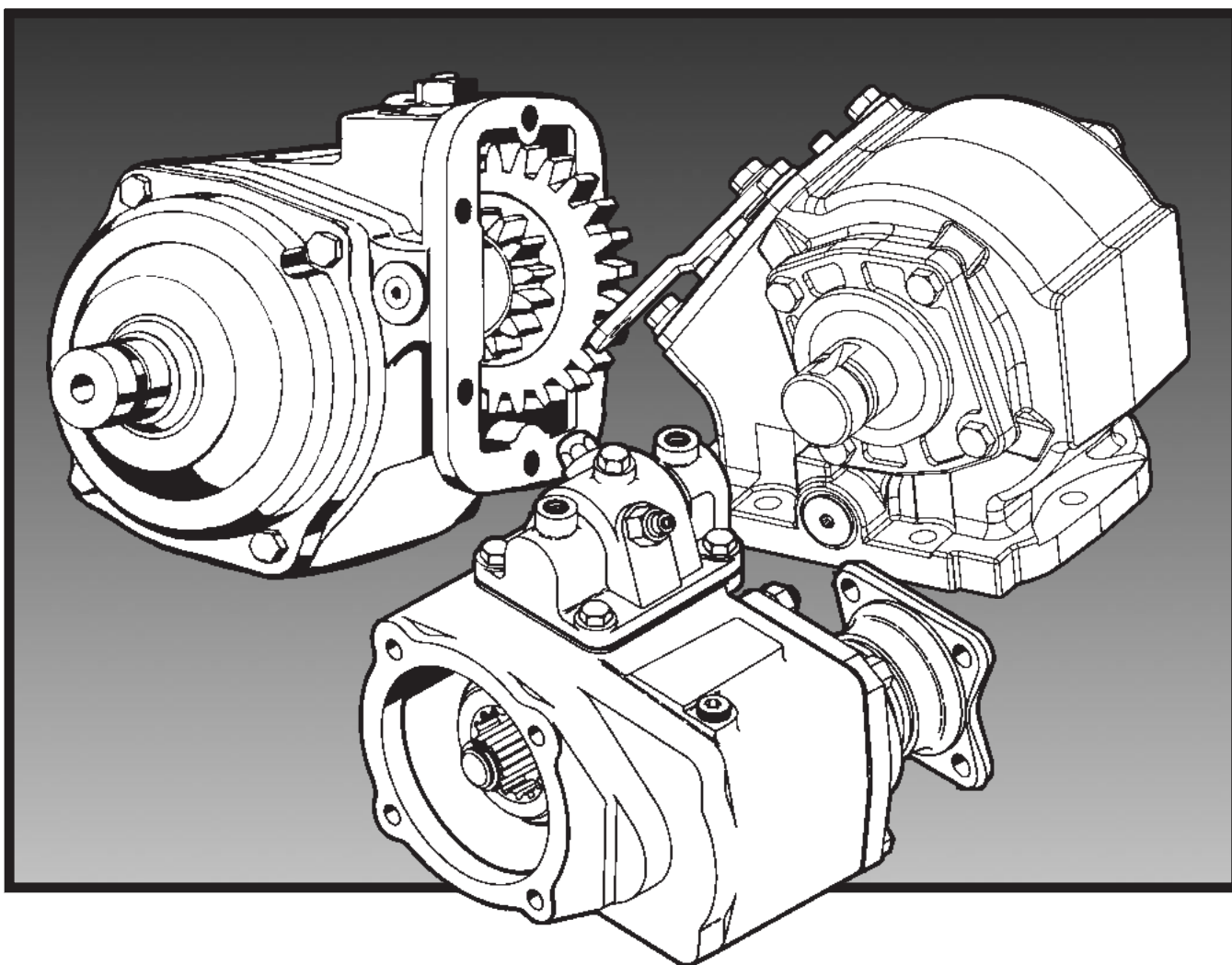


Parts List 890/897 Series

Effective: June 15, 2010
Supersedes: HY25-2890-M1/US January 15, 2010





WARNING — User Responsibility

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

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

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

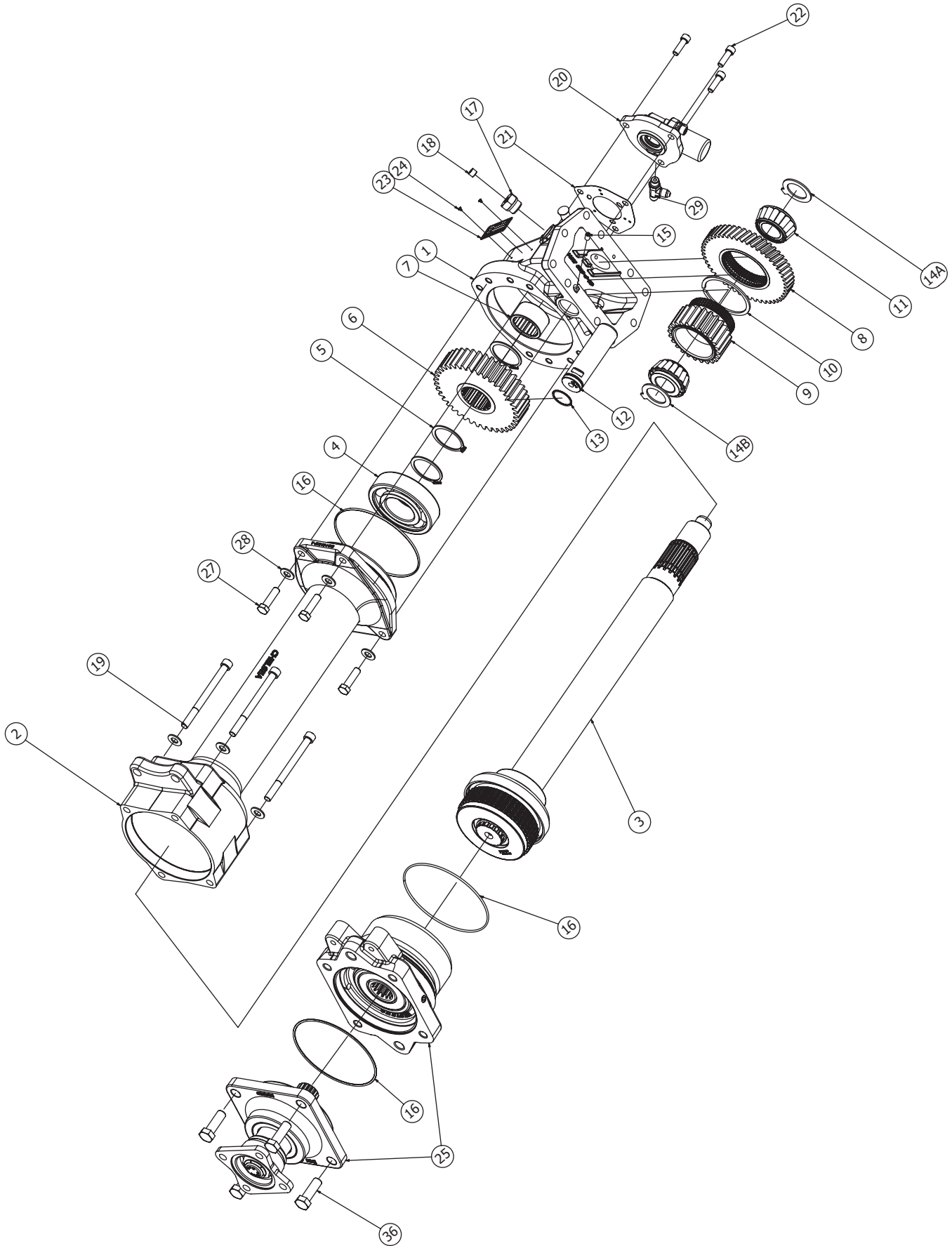
To the extent that Parker or its subsidiaries or authorized distributors provide component or system options based upon data or specifications provided by the user, the user is responsible for determining that such data and specifications are suitable and sufficient for all applications and reasonably foreseeable uses of the components or systems.

Offer of Sale

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

© Copyright 2010, Parker Hannifin Corporation, All Rights Reserved

890 Exploded View	1
890 Bill of Materials	2-3
890 Assembly and Installation Kits	4
890 Gasket, Seal & Clutch Kits	5-6
890 Drive Shaft & Clutch Assembly	7
890 Flange & Shaft Assemblies	8-15
890 Wet Spline Output Cover Plates	16
890 Gear Chart	17
890 Housing Dimensions	17
890 Model Number Designation	17
897 Exploded View	19
897 Bill of Materials	20-21
897 Gasket, Seal & Clutch Kits	22-23
897 Flange & Shaft Assemblies	24-32
897 Wet Spline Output Cover Plates	33
897 Gear Chart	34
897 Housing Dimensions	34
897 Model Number Designation	34
Offer of Sale	36



Bill of Materials

890 Series

Item	Part Number	Description	Quantity
1	1-P-629	Housing 890	1
2	54-P-22	Retainer Bearing 890	1
3	329607X	Ass'y Drive Shaft & Clutch.....	1
4	550026	Bearing Ball 1.771" x 3.937" x .984".....	1
5	379668	Lockring.....	3
6	See Chart Pg 17	Gear Output.....	1
7	560972	Bearing Needle Roller Ass'y 1.500" x 1.875" x 1.000"	1
8	See Chart Pg 17	Gear Input.....	1
9	See Chart Pg 17	Gear Ratio	1
10	380064	Lockring.....	1
11	561026	Bearing Tapered Cone 1.181" x .984"	2
12	9-P-99	Shaft Idler 1.180".....	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".....	1
14B	14-P-82-1	Spacer 1.191" x 1.750" x .080".....	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 SH .250"-20 x .500".....	1
16	28-P-245	O-Ring 5.017" x .103" ("XS", "XK", "AF", "XY", "AZ" Outputs).....	2
16	28-P-245	O-Ring 5.017" x .103" ("XV", "AB", "AC" Outputs)	3
17	379242	Adapter Straight .125"-27 x .750"-16 (w/o E.O.C. Only)	1
18	379231	Plug Pipe .125"-27 (w/o E.O.C. Only)	1
19	379433-18	Capscrew SH .375"-16 x 4.500".....	4
20	329463-12X	Ass'y Valve Cap 12V (12 Volt)	1
	329463-24X	Ass'y Valve Cap 24V (24 Volt)	1
21	22-P-112	Gasket	1
22	378447-6	Capscrew SH .312"-18 x 1.000".....	3
23	68-P-2	Plate Name.....	1
24	378422	Screw Drive	2
25	See Pgs 8-15	Ass'y Output.....	1
26	500897-5	Plug Shipping	2
27	378431-13	Capscrew HH .375"-16 x 1.375".....	4
28	380076-07	Washer Flat Hardened .410" x .816" x .066"	8
29	379659	Tee .438"-20	2
30	379564-2	Cap Shipping.....	5
32	329403X	Ass'y Seal Cap.....	1
33	379486	Elbow 90° .438"-20.....	1
34	379243	Sensor Speed (w/E.O.C. Only).....	1
35	28-P-171	O-Ring .644" x .087" (w/E.O.C. Only).....	1
36	378433-14	Capscrew HH .500"-13 x 1.500" ("XV", "AB", "AC" Outputs Only).....	4
		Loose Parts	
	328948-36X	Kit Gasket & Installation (All)	1
	7170-86X	Kit Mounting (All)	1
	329645-1X	Kit Bracket & Hose ("L" Mount)	1
	329645-2X	Kit Bracket & Hose ("R" Mount)	1
	329645-3X	Kit Bracket & Hose ("H" Mount)	1
	329645-4X	Kit Bracket & Hose ("E" Mount)	1
	329645-5X	Kit Bracket & Hose ("T" Mount).....	1
	329645-6X	Kit Bracket & Hose ("U" Mount)	1
	329644-1X	Kit Mounting & Installation ("XS" Output).....	1
	329644-2X	Kit Mounting & Installation ("XK", "AF", "AZ" Output).....	1
	329644-3X	Kit Mounting & Installation ("XY" Output).....	1
	329024-12X	Kit Installation 12V ("B" Shift)	1
	329024-24X	Kit Installation 24V ("D" Shift)	1

A.R.—As Required

Continued On Next Page

Bill of Materials

Item	Part Number	Description	Quantity
		Loose Parts Continued	
	329653-12X	Kit Installation 12V Rem Valve w/o E.O.C. ("G" Shift)	1
	329653-24X	Kit Installation 24V Rem Valve w/o E.O.C. ("H" Shift)	1
	329076X	Kit Installation E.O.C. ("K", "L" Shift)	1
	328924-12X	Ass'y Speed Limiter 12V ("K" Shift)	1
	328924-24X	Ass'y Speed Limiter 24V ("L" Shift)	1
	329057-4X	Hose Assembly (Remote Valve Option Only) (All Mounts)	1
	328075X	Hose Assembly (Remote Valve Option Only) (All Mounts)	1
	329130-2X	Hose Assembly (Remote Valve Option Only) (All Mounts)	1
	329130-5X	Hose Assembly (Remote Valve Option Only) ("L", "H", "E" Mounts)	1
	329075-1X	Hose Assembly (Remote Valve Option Only) ("R" Mount)	1
	329075-4X	Hose Assembly (Remote Valve Option Only) ("T", "U" Mounts)	1
	329654X	Kit Cover (Optional) ("XS" Output)	1
	329658X	Kit Cover (Optional) ("XK", "AF", "AZ" Output)	1
	329659X	Kit Cover (Optional) ("XY" Output)	1
		Service Parts	
	329071-46X	Kit Gasket & Seal ("XS", "XK", "AF", "AZ" Outputs)	1
	329071-47X	Kit Gasket & Seal ("XY" Output)	1
	329071-48X	Kit Bearing ("XS", "XK", "AF", "AZ" Outputs)	1
	329071-49X	Kit Bearing ("XY" Output)	1
	329071-50X	Kit Clutch Repair	1
	329354-12X	Conversion Kit 12V Remote Mount Valve	1
	329354-24X	Conversion Kit 24V Remote Mount Valve	1
	329160-63X	Kit Conversion "XS" To "XV" ("XS" Output)	1
	329160-64X	Kit Conversion "XS" To "AB" ("XS" Output)	1
	329160-65X	Kit Conversion "XS" To "AC" ("XS" Output)	1

A.R.—As Required

329645-1X Kit Bracket & Hose Assembly

Item	Part Number	Description	Quantity
1	329130-11X	Ass'y Hose.....	1
2	50-P-60	Bracket Rear Support-MD Left Side.....	1
3	329130-2X	Ass'y Hose.....	1

329645-2X Kit Bracket & Hose Assembly

Item	Part Number	Description	Quantity
1	329130-11X	Ass'y Hose.....	2
2	50-P-61	Bracket Rear Support-MD Right Side.....	1

329645-3X Kit Bracket & Hose Assembly

Item	Part Number	Description	Quantity
1	329130-11X	Ass'y Hose.....	1
2	50-P-62	Bracket Rear Support-MD Left Side.....	1
3	329130-2X	Ass'y Hose.....	1

329644-1X Kit Mounting & Installation “XS” Output

Item	Part Number	Description	Quantity
1	379556	Tee .438"-20.....	1
2	3 AOE5-S	Elbow 90°.....	1
3	379964	Adapter Restriction .438"-20 x .125"-27.....	1
4	500841-1	Elbow .127"-27 Pipe.....	1
5	380071	Capscrew SH Shoulder .375"-16 x 3.375".....	2
6	380075	Capscrew HH M12 x 1.750" x 2.17".....	3
7	28-P-245X	O-Ring 5.017" x .103".....	2
8	378431-13	Capscrew HH .375"-16 x 1.375".....	4
9	SK-461	Fitting Instructions.....	1

329644-2X Kit Mounting & Installation “XK”, “AF”, “AZ” Output

Item	Part Number	Description	Quantity
1	379556	Tee .438"-20.....	1
2	3 AOE5-S	Elbow 90°.....	1
3	379964	Adapter Restriction .438"-20 x .125"-27.....	1
4	500841-1	Elbow .127"-27 Pipe.....	1
5	380071	Capscrew SH Shoulder .375"-16 x 3.375".....	2
6	380075	Capscrew HH M12 x 1.750" x 2.170".....	3
7	28-P-245X	O-Ring 5.017" x .103".....	1
8	378431-13	Capscrew HH .375"-16 x 1.375".....	4
9	SK-461	Fitting Instructions.....	1
10	28-P-259X	O-Ring 3.984" x .139".....	1

329644-3X Kit Mounting & Installation “XY” Output

Item	Part Number	Description	Quantity
1	379556	Tee .438"-20.....	1
2	3 AOE5-S	Elbow 90°.....	1
3	379964	Adapter Restriction .438"-20 x .125"-27.....	1
4	500841-1	Elbow .127"-27 Pipe.....	1
5	380071	Capscrew SH Shoulder .375"-16 x 3.375".....	2
6	380075	Capscrew HH M12 x 1.75" x 2.17".....	3
7	28-P-245	O-Ring 5.017" x .103".....	1
8	378431-13	Capscrew HH .375"-16 x 1.375".....	4
9	SK-461	Fitting Instructions.....	1
10	28-P-252X	O-Ring 2.987" x .103".....	1

329071-46X Kit Gasket & Seal “XS”, “XK”, “AF”, “AZ” Output

Item	Part Number	Description	Quantity
1	22-P-112	Gasket Valve Cap	1
2	28-P-42	O-Ring 1.051" x .070"	1
3	28-P-119	Oil Seal 1.379" x .875" x .249"	1
4	28-P-178	O-Ring 4.484" x .138"	1
5	28-P-245	O-Ring 5.017" x .103"	2
6	28-P-278	Oil Seal 2.953" x 1.772" x .315"	1
7	28-P-285	O-Ring 1.597" x .103"	2

329071-47X Kit Gasket & Seal “XY” Output

Item	Part Number	Description	Quantity
1	22-P-112	Gasket Valve Cap	1
2	28-P-42	O-Ring 1.051" x .070"	1
3	28-P-119	Oil Seal 1.379" x .875" x .249"	1
4	28-P-178	O-Ring 4.484" x .138"	1
5	28-P-245	O-Ring 5.017" x .103"	2
6	28-P-267	Oil Seal 2.627" x 1.750" x .312"	1
7	28-P-285	O-Ring 1.597" x .103"	2

329071-48X Kit Bearing “XS”, “XK”, “AF”, “AZ” Output

Item	Part Number	Description	Quantity
1	379668	Lockring	4
2	379919	Lockring	1
3	380070	Lockring	1
4	550026	Bearing Ball 1.771" x 3.937" x .984"	1
5	560972	Bearing Needle Roller Ass’y 1.500" x 1.875" x 1.000"	1
6	561018	Bearing Ball 1.772" x 2.953" x .630"	1
7	561026	Bearing Tapered Cone 1.181" x .984"	2
8	561028	Bearing Ball 1.969" x 3.150" x .630"	1
9	14-P-82-1	Spacer 1.191" x 1.750" (.079"-.081")	2
10	14-P-82-2	Spacer 1.191" x 1.750" (.084"-.086")	1
11	14-P-82-3	Spacer 1.191" x 1.750" (.089"-.091")	1
12	14-P-82-4	Spacer 1.191" x 1.750" (.093"-.095")	1

329071-49X Kit Bearing “XY” Output

Item	Part Number	Description	Quantity
1	378263	Lockring	1
2	379555	Lockring	1
3	379668	Lockring	3
4	380070	Lockring	1
5	550026	Bearing Ball 1.771" x 3.937" x .984"	1
6	550311	Bearing Ball 1.771" x 3.346" x .748"	1
7	560972	Bearing Needle Roller Ass’y 1.500" x 1.875" x 1.000"	1
8	561026	Bearing Tapered Cone 1.181" x .984"	2
9	561028	Bearing Ball 1.969" x 3.150" x .630"	1
10	14-P-82-1	Spacer 1.191" x 1.750" (.079"-.081")	2
11	14-P-82-2	Spacer 1.191" x 1.750" (.084"-.086")	1
12	14-P-82-3	Spacer 1.191" x 1.750" (.089"-.091")	1
13	14-P-82-4	Spacer 1.191" x 1.750" (.093"-.095")	1

329071-50X Kit Clutch Repair

Item	Part Number	Description	Quantity
1	379485	Disc Friction 275	11
2	380051	Cylinder Clutch Back-Up	1
3	380110X	Piston Clutch	1
4	380065	Plate Clutch	10
5	380069	Lockring Internal	1
6	28-P-178	O-Ring 4.484" x .138"	1
7	28-P-285	O-Ring 1.597" x .103"	2

329160-63X Kit Conversion “XS” to “XV”

Item	Part Number	Description	Quantity
1	329608-1X	Ass’y Output	1
2	28-P-245	O-Ring	1
3	378433-14	Capscrew Hex	4

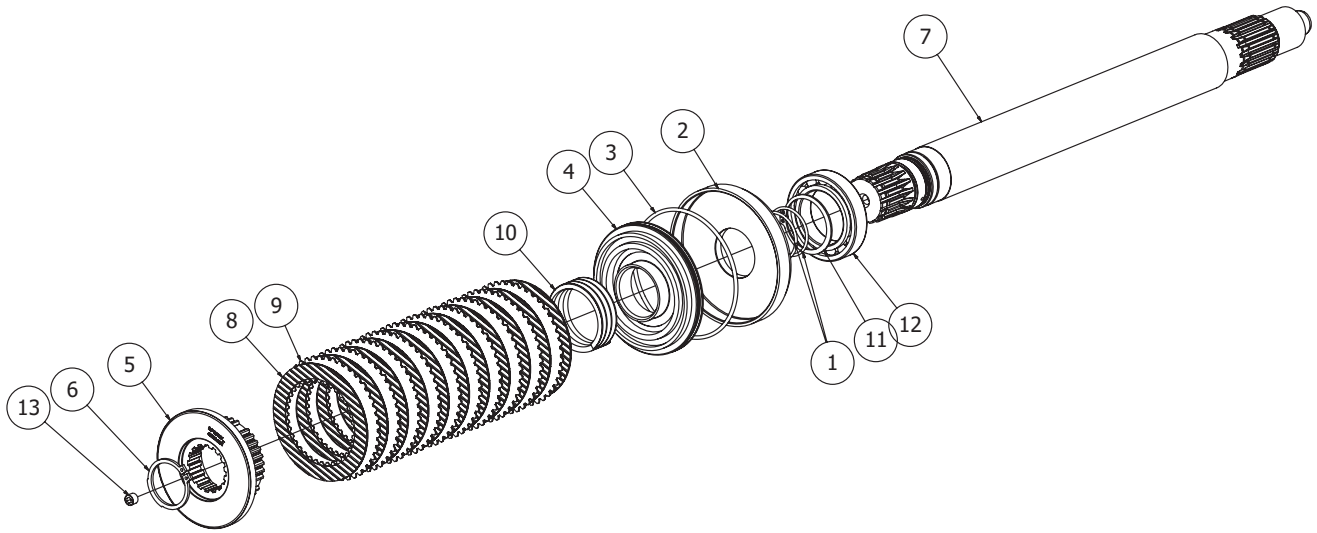
329160-64X Kit Conversion “XS” to “AB”

Item	Part Number	Description	Quantity
1	28-P-245	O-Ring	1
2	329608-2X	Ass’y Output	1
3	378433-14	Capscrew Hex	4

329160-65X Kit Conversion “XS” to “AC”

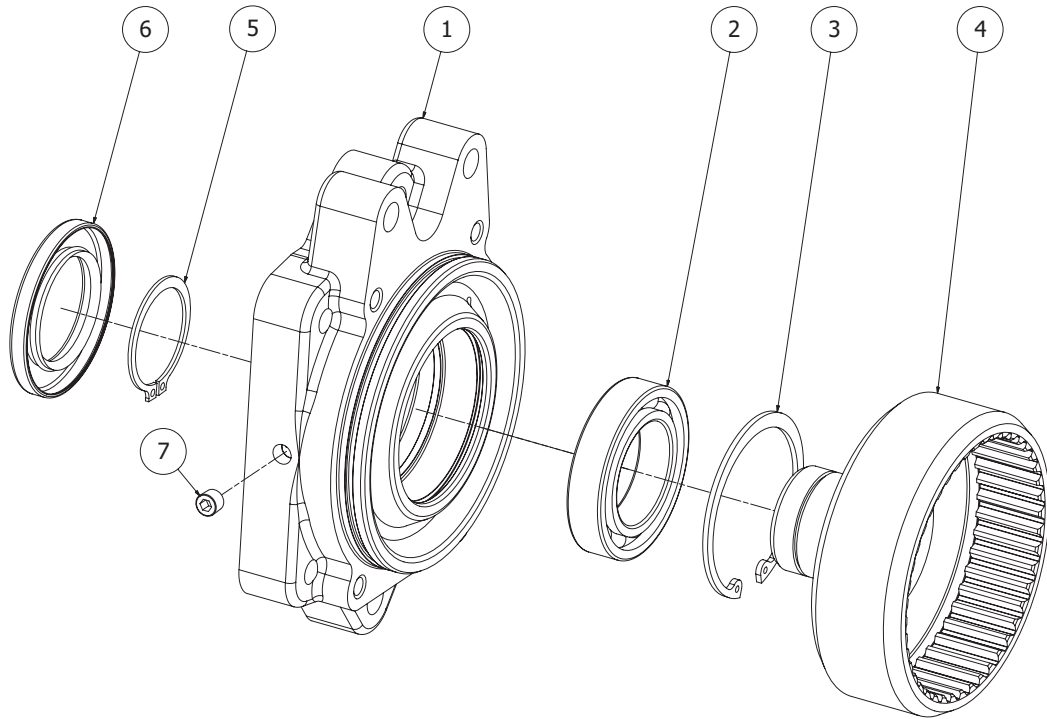
Item	Part Number	Description	Quantity
1	329608-3X	Ass’y Output	1
2	28-P-245	O-Ring	1
3	378433-14	Capscrew Hex	4

329607X Drive Shaft & Clutch Assembly



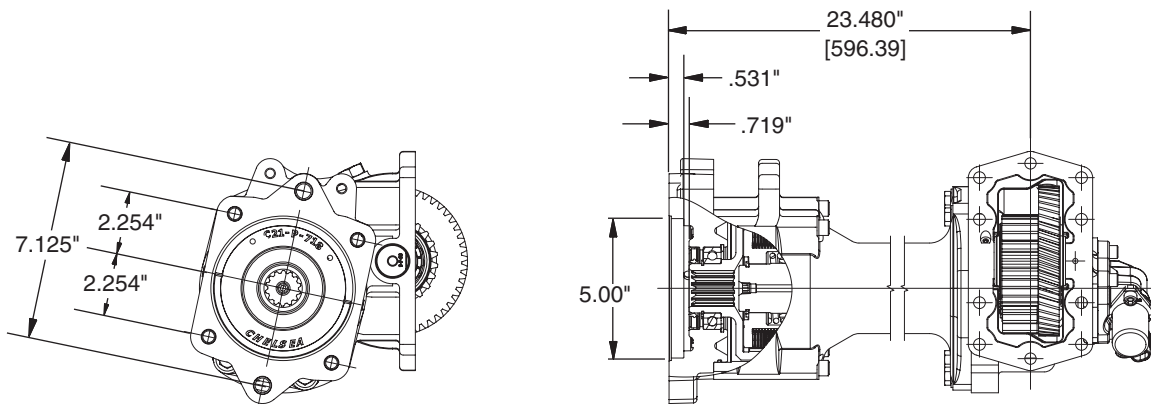
Item	Part Number	Description	Quantity
1	28-P-285	O-Ring 1.597" x .103".....	2
2	380051	Cylinder Clutch Back-Up	1
3	28-P-178	O-Ring 4.484" x .138".....	1
4	380110X	Piston Clutch	1
5	2-P-858	Gear Output 36 Tooth	1
6	380069	Lockring	1
7	3-P-1007	Shaft Output	1
8	379485	Disc Friction.....	11
9	380065	Plate Clutch	10
10	37-P-62	Spring 2.140" x 1.729".....	1
11	380070	Lockring	1
12	561028	Bearing Ball 1.969" x 3.150" x .630".....	1
13	379231	Plug Pipe .125"-27.....	1

329609-1X ("XS") S.A.E "C" 2 or 4-Bolt 1.25" - 14 Tooth

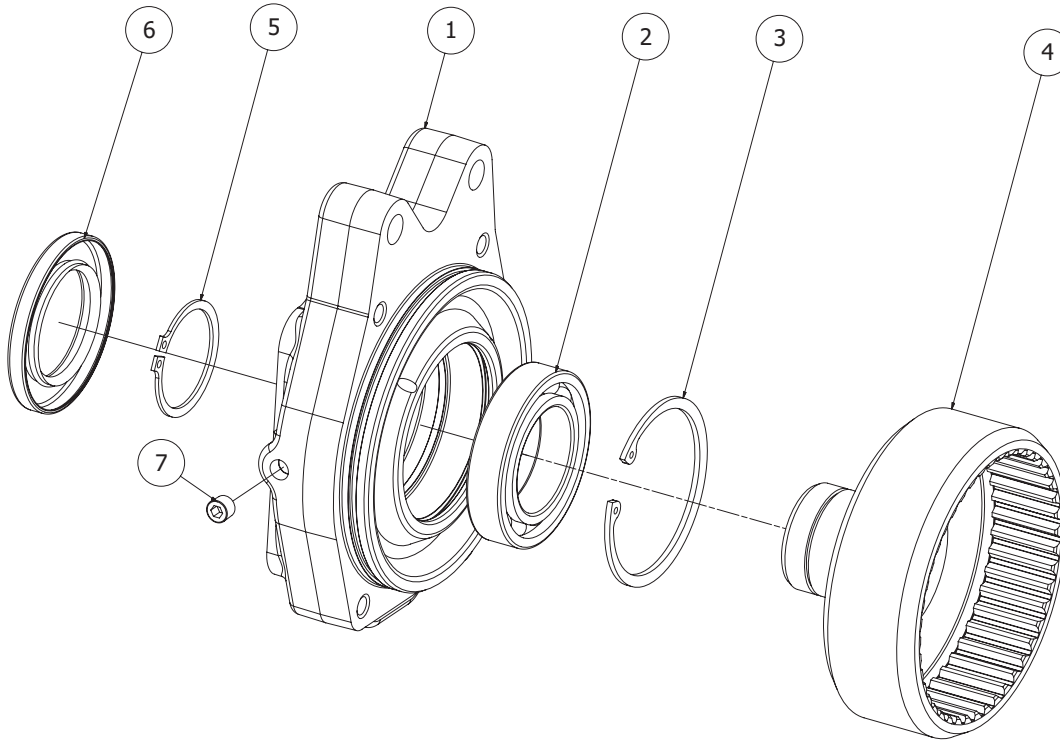


Item	Part Number	Description	Quantity
1	21-P-717	Flange Pump "XS" S.A.E. "C" 2 or 4-Bolt	1
2	561018	Bearing Ball 1.772" x 2.953" x .630"	1
3	379919	Lockring	1
4	2-P-867	Gear Output 1.250" - 14T Spline	1
5	379668	Lockring	1
6	28-P-278	Oil Seal 2.953" x 1.772" x .315"	1
7	379231	Plug Pipe .125"-27	2
N.S.	28-P-259X	O-Ring 3.984" x .139" (Wet Spline Pump Mounting)	1

N.S. — Not Shown

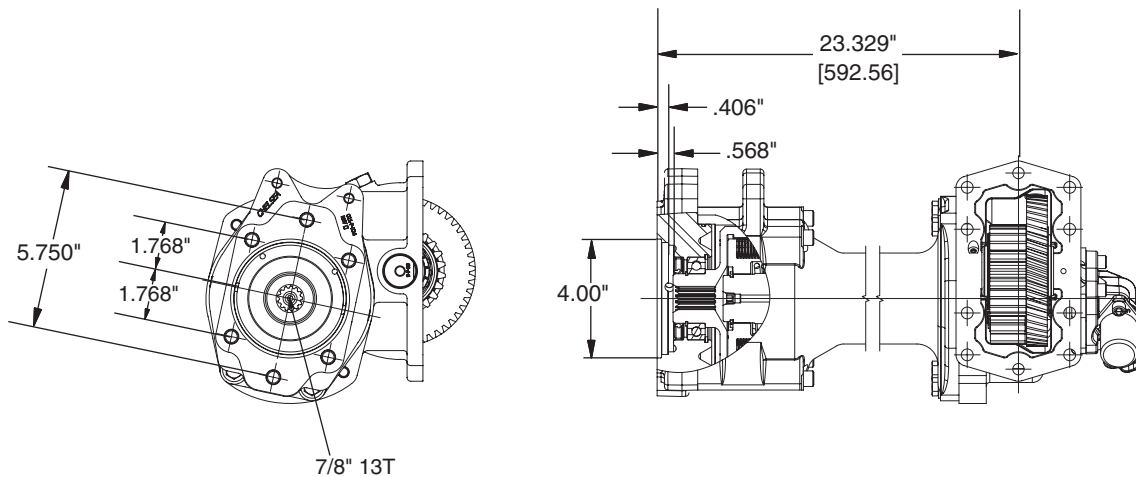


329609-2X ("XK") S.A.E. "B" 2 or 4-Bolt 7/8" - 13 Tooth

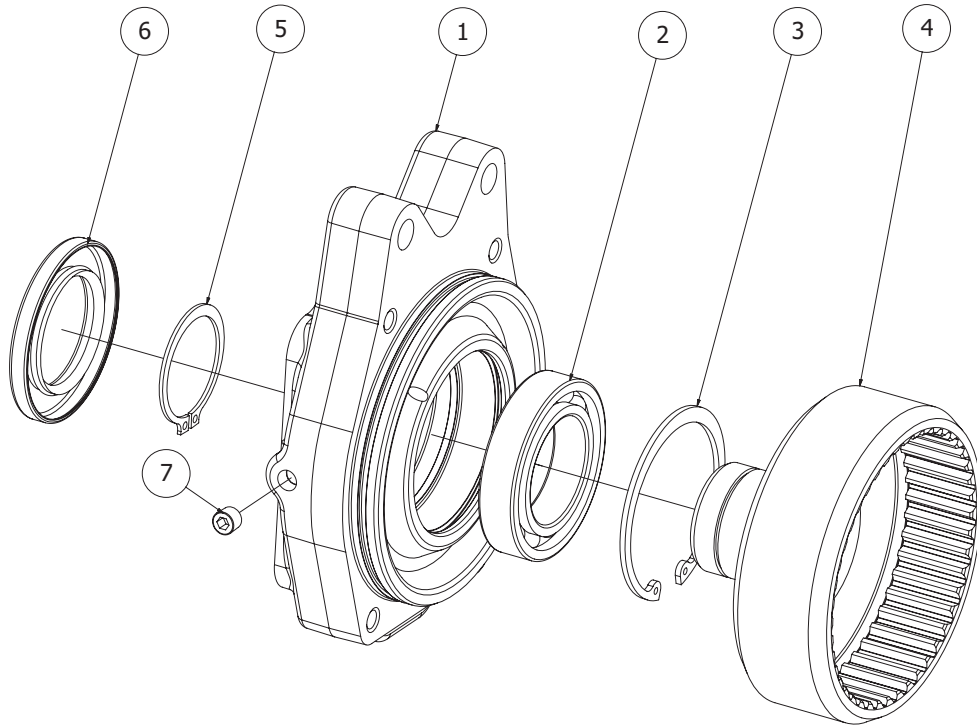


Item	Part Number	Description	Quantity
1	21-P-723	Flange Pump "XK" S.A.E. "B" 2 or 4-Bolt	1
2	561018	Bearing Ball 1.772" x 2.953" x .630"	1
3	379919	Lockring	1
4	2-P-877	Gear Output 7/8" - 13 Tooth	1
5	379668	Lockring	1
6	28-P-278	Oil Seal 2.953" x 1.772" x .315"	1
7	379231	Plug Pipe .125"-27	2
N.S.	28-P-259X	O-Ring 3.984" x .139" (Wet Spline Pump Mounting)	1

N.S. — Not Shown

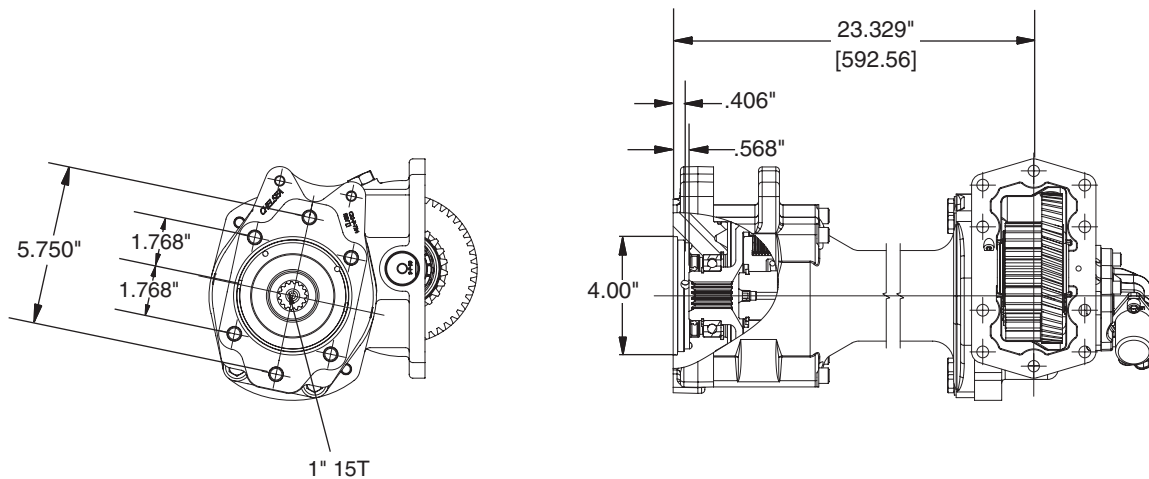


329609-3X ("AF") S.A.E. "B-B" 2 or 4-Bolt 1.00" - 15 Tooth

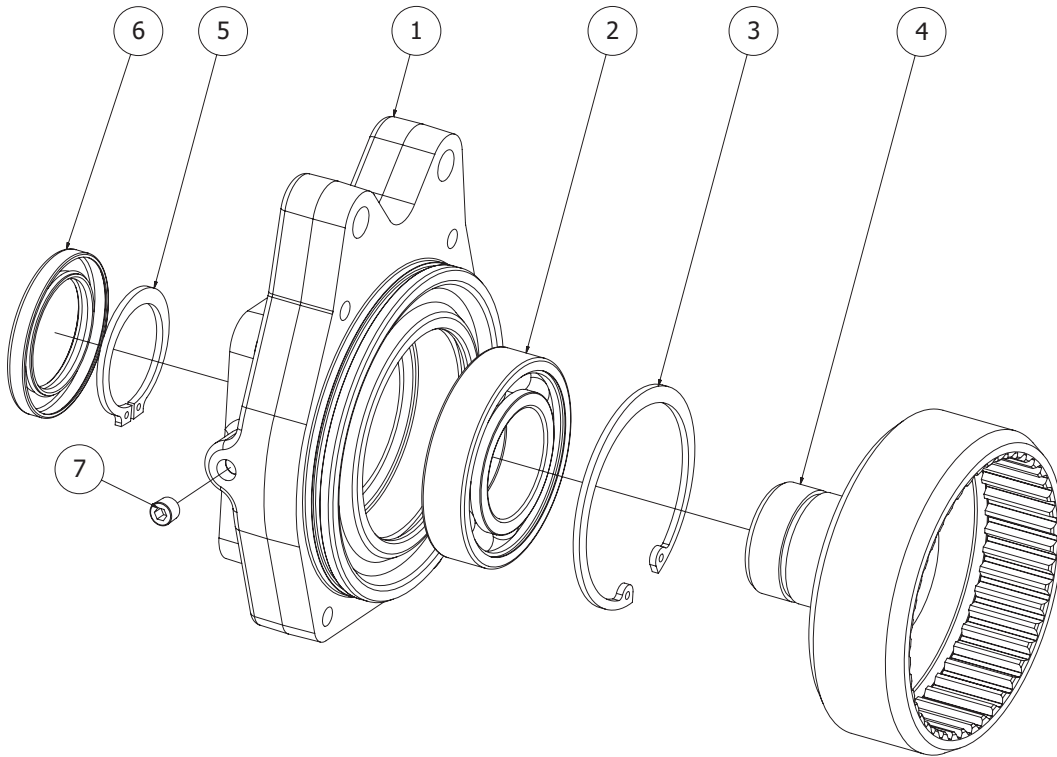


Item	Part Number	Description	Quantity
1	21-P-723	Flange Pump "XK" S.A.E. 2 or 4-Bolt.....	1
2	561018	Bearing Ball 1.772" x 2.953" x .630".....	1
3	379919	Lockring.....	1
4	2-P-875	Gear Output 1.0" 15 Tooth Spline.....	1
5	379668	Lockring.....	1
6	28-P-278	Oil Seal 2.953" x 1.772" x .315".....	1
7	379231	Plug Pipe .125"-27.....	2
N.S.	28-P-259X	O-Ring 3.984" x .139" (Wet Spline Pump Mounting).....	1

N.S. — Not Shown

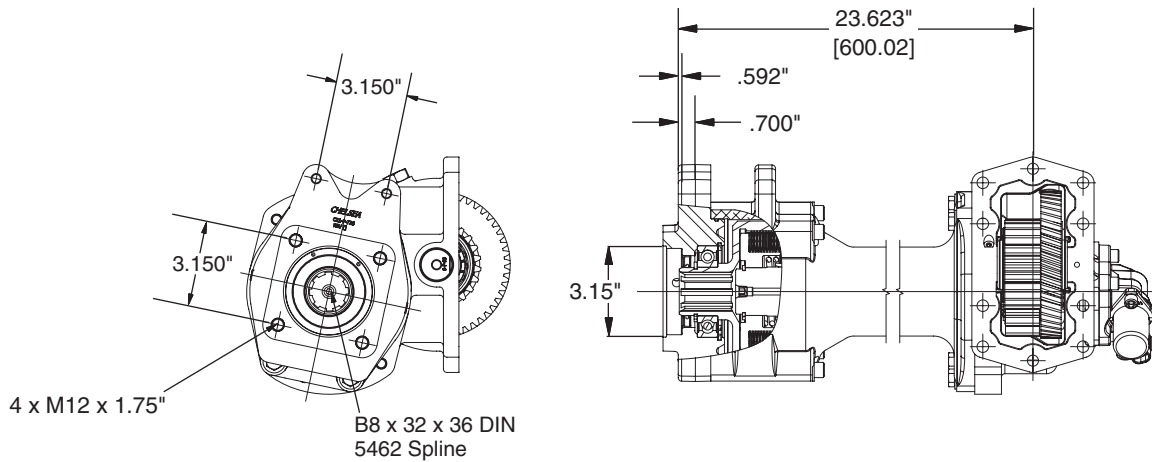


329609-4X ("XY") DIN 5462 4-Bolt - 8 Tooth

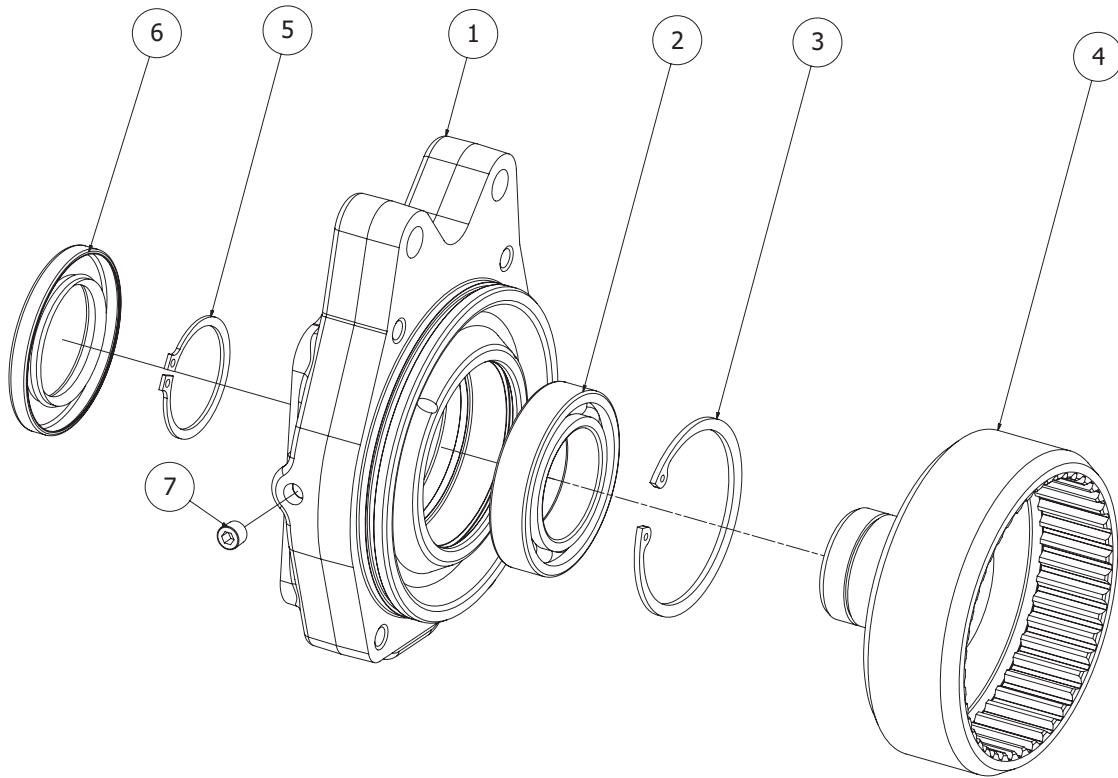


Item	Part Number	Description	Quantity
1	21-P-725	Flange Pump "XY" DIN 5462 4-Bolt.....	1
2	550311	Bearing Ball 1.770" x 3.346" x .748".....	1
3	378263	Lockring.....	1
4	2-P-876	Gear Output 8 Tooth Spline.....	1
5	379555	Lockring.....	1
6	28-P-267	Oil Seal 2.627" x 1.750" x .312".....	1
7	379231	Plug Pipe .125"-27.....	2
N.S.	28-P-259X	O-Ring 3.984" x .139" (Wet Spline Pump Mounting).....	1

N.S. — Not Shown

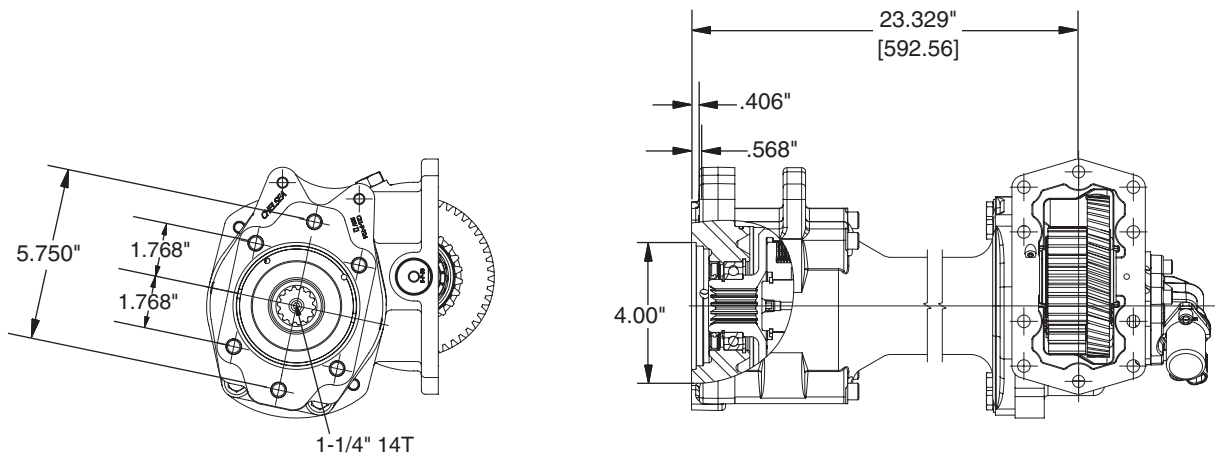


329609-5X ("AZ") S.A.E. "B" 2 or 4-Bolt 1-1/4" - 14 Tooth

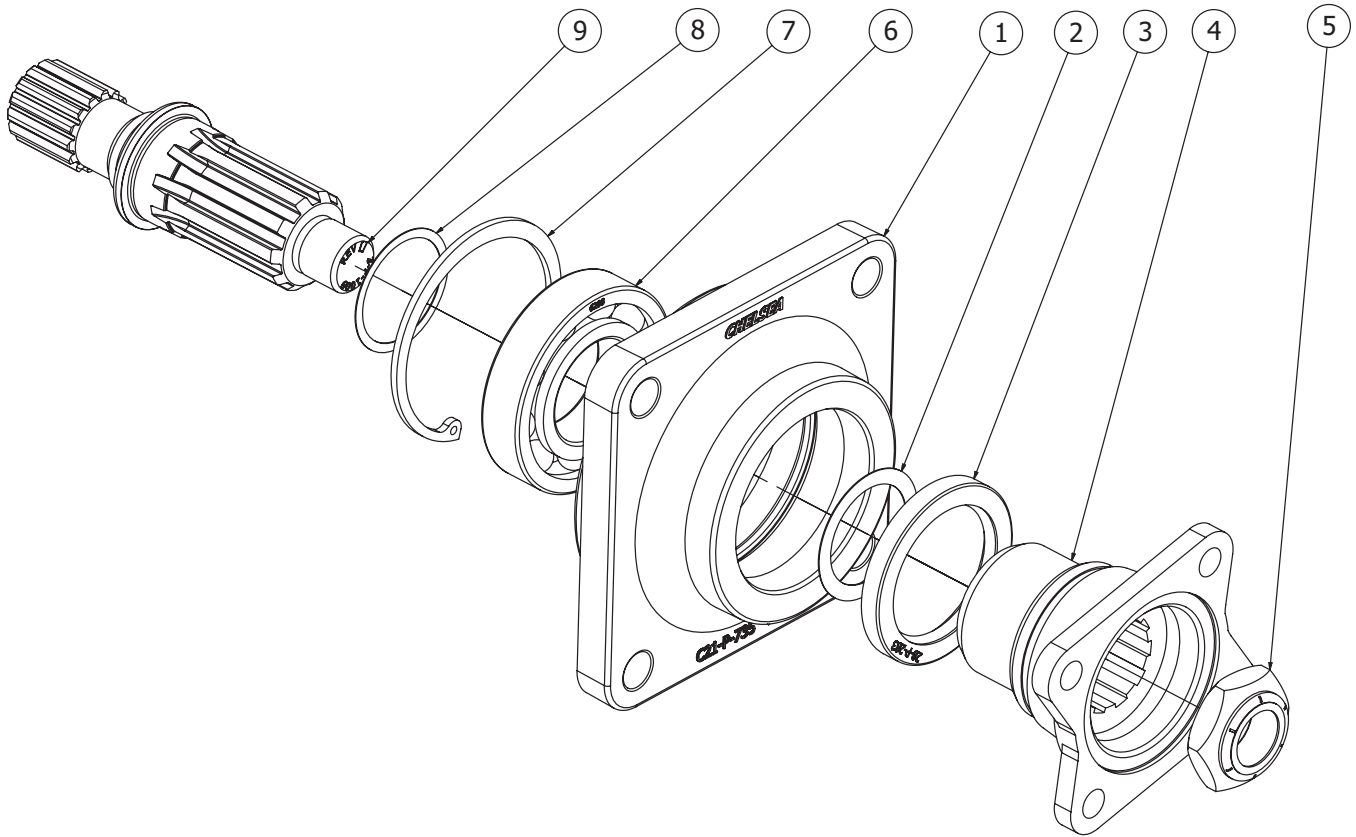


Item	Part Number	Description	Quantity
1	21-P-723	Flange Pump "AZ" S.A.E. "B" 2 or 4-Bolt	1
2	561018	Bearing Ball 1.772" x 2.953" x .630"	1
3	379919	Lockring	1
4	2-P-877	Gear Output 14 Tooth	1
5	379668	Lockring	1
6	28-P-278	Oil Seal 2.953" x 1.772" x .315"	1
7	379231	Plug Pipe .125"-27	2
N.S.	28-P-259X	O-Ring 3.984" x .139" (Wet Spline Pump Mounting)	1

N.S. — Not Shown

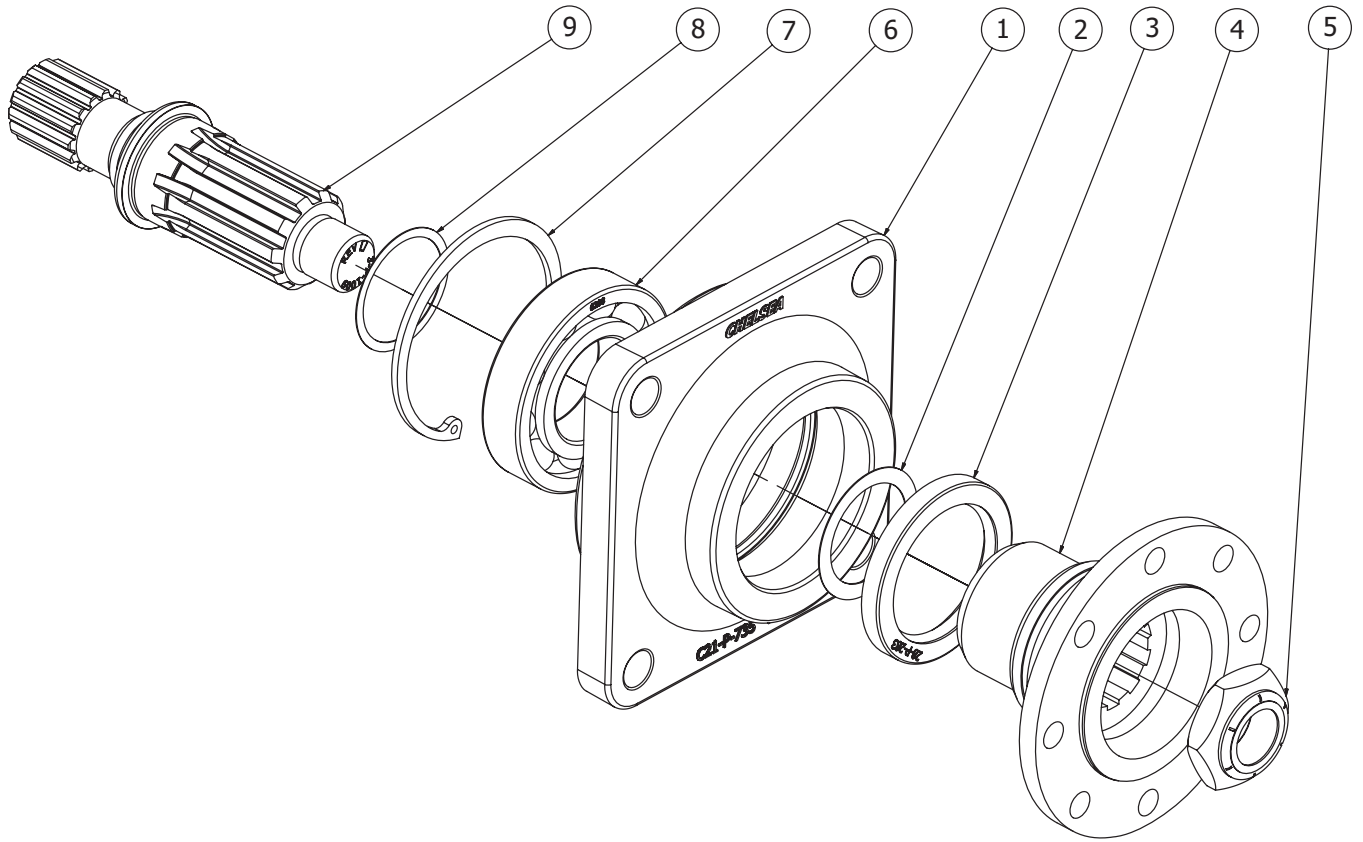


329608-1X "XV" S.A.E. 1410 Companion Flange



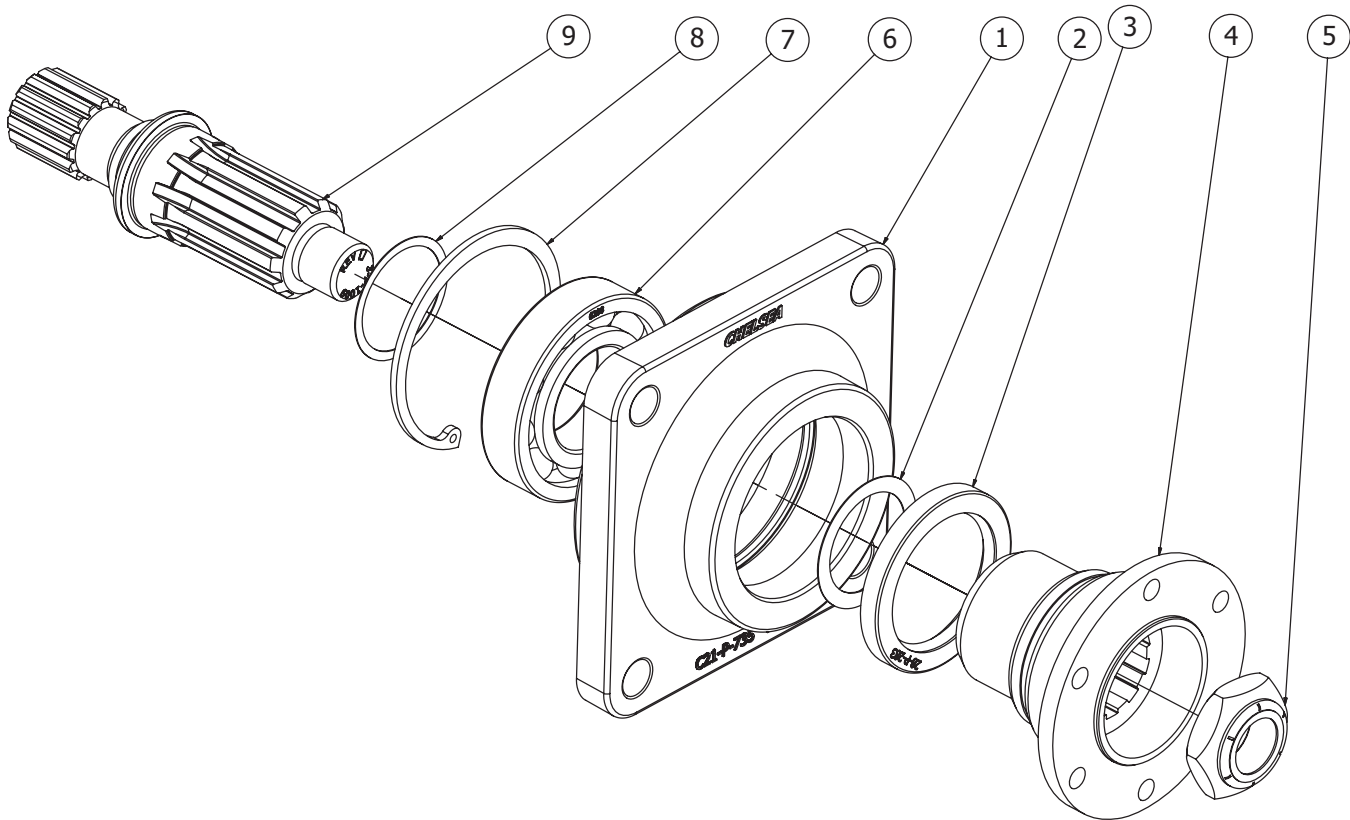
Item	Part Number	Description	Quantity
1	21-P-736	Cap Bearing "XV", "AB", "AC"	1
2	378161	Gasket 4600	1
3	28-P-283	Oil Seal 2.754" x 2.000" x .313"	1
4	3-1-3431	Companion Flange 1410	1
5	378382	Nut Stop .875"-14	1
6	561020	Bearing Ball 1.574" x 3.149" x .708"	1
7	378836	Lockring	1
8	35-P-103	Gasket Shaft Seal 890	1
9	3-P-1009	Shaft Output 10T Straight	1

329608-2X "AB" DIN 120 Companion Flange



Item	Part Number	Description	Quantity
1	21-P-736	Cap Bearing "XV", "AB", "AC"	1
2	378161	Gasket 4600	1
3	28-P-283	Oil Seal 2.754" x 2.000" x .313"	1
4	379558	Companion Flange DIN 120	1
5	378382	Nut Stop .875"-14	1
6	561020	Bearing Ball 1.574" x 3.149" x .708"	1
7	378836	Lockring	1
8	35-P-103	Gasket Shaft Seal 890	1
9	3-P-1009	Shaft Output 10T Straight	1

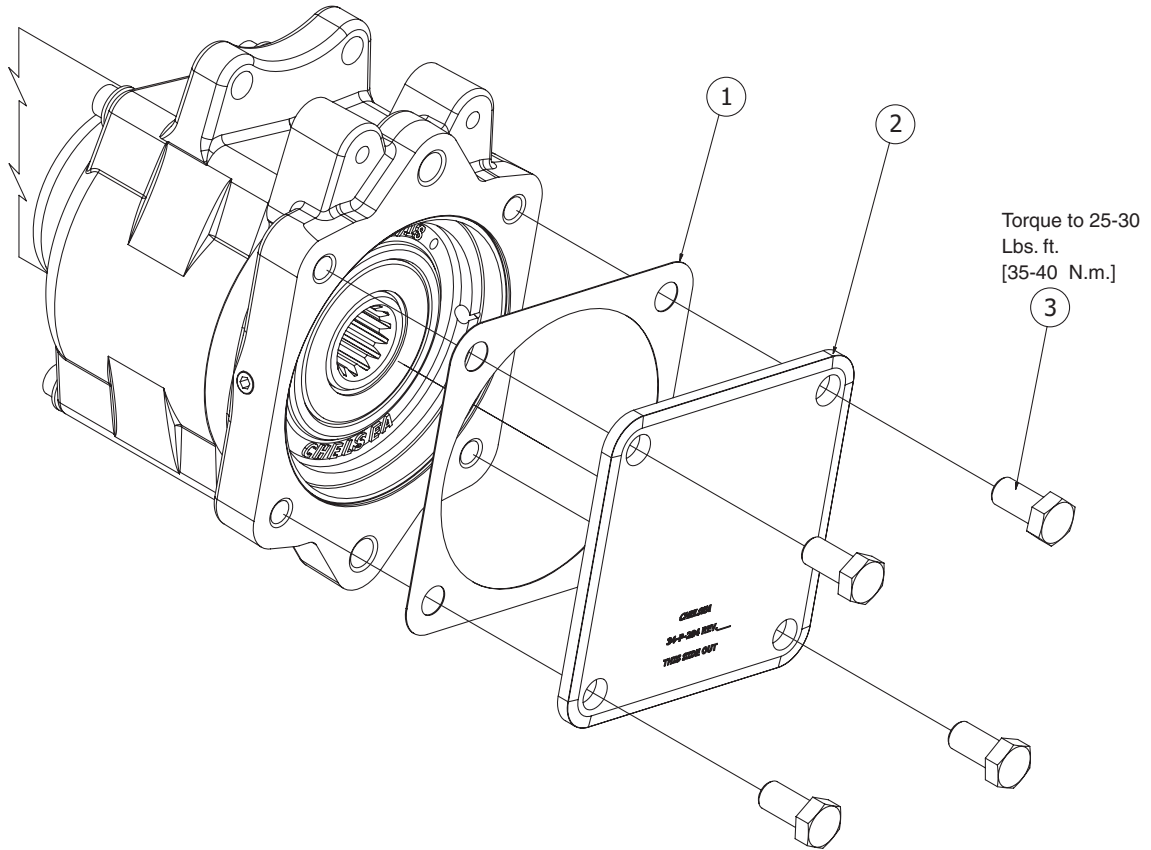
329608-3X "AC" DIN 100 Companion Flange



Item	Part Number	Description	Quantity
1	21-P-736	Cap Bearing "XV", "AB", "AC"	1
2	378161	Gasket 4600	1
3	28-P-283	Oil Seal 2.754" x 2.000" x .313"	1
4	379742	Companion Flange DIN 100	1
5	378382	Nut Stop .875"-14	1
6	561020	Bearing Ball 1.574" x 3.149" x .708"	1
7	378836	Lockring	1
8	35-P-103	Gasket Shaft Seal 890	1
9	3-P-1009	Shaft Output 10T Straight	1

Wet Spline Output Cover Plates

890 Series



KITS: 329654X "XS" Output
 329658X "XK", "AF", "AZ" Output
 329659X "XY" Output

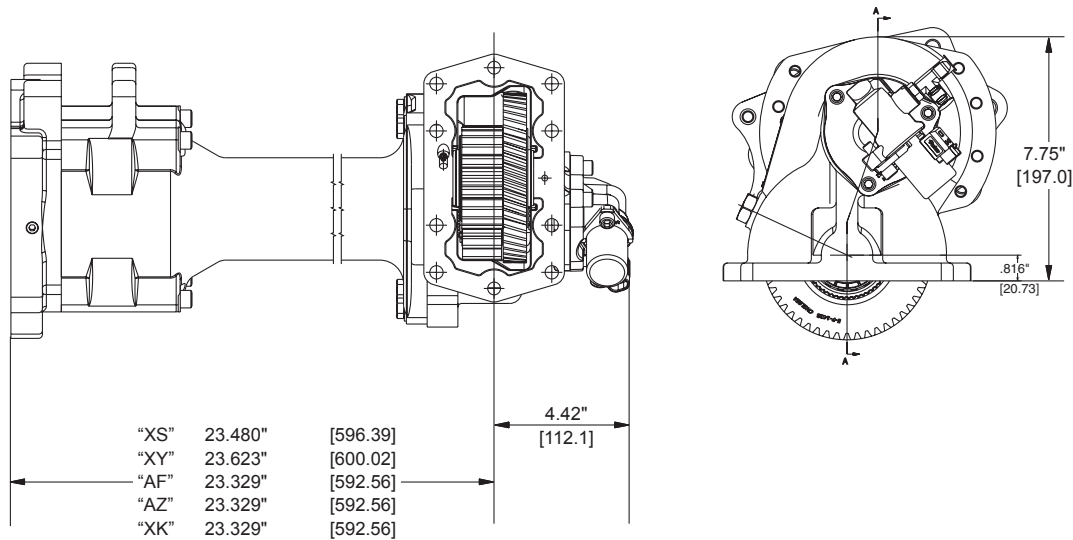
Item	Part Number	Description	Quantity
1	22-P-25-2	Gasket "XS" Output	1 or
	35-P-104	Gasket "XK", "AF", "AZ" Output.....	1 or
	379943	Gasket "XY" Output	1
2	34-P-284	Cover "XS"	1 or
	34-P-285	Cover "XK", "AF", "AZ"	1 or
	379940	Cover "XY"	1
3	378433-10	Capscrew "XS"	1 or
	378433-10	Capscrew "XK", "AF", "AZ"	1 or
	379579-4	Capscrew "XY"	1

Dimensions & Model Number

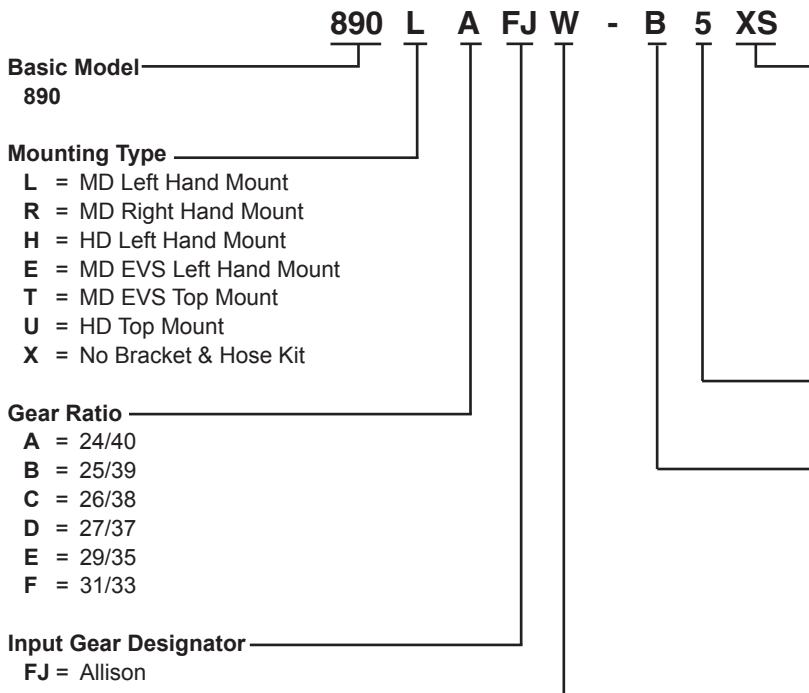
890 Gear Chart

GEAR DESIGNATOR	INPUT GEAR (8)	NO. TEETH A	RATIO GEAR (9)	NO. TEETH B	OUTPUT GEAR (6)	NO. TEETH C
890*AFJ	5-P-1428	50	5-P-1429	24	2-P-862	40
890*BFJ	5-P-1428	50	5-P-1438	25	2-P-872	39
890*CFJ	5-P-1428	50	5-P-1439	26	2-P-873	38
890*DFJ	5-P-1428	50	5-P-1440	27	2-P-874	37
890*EFJ	5-P-1428	50	5-P-1432	29	2-P-865	35
890*FFJ	5-P-1428	50	5-P-1433	31	2-P-866	33

Housing Dimensions



Model Number Designation



Output Designation

- XS** = Class "C" 2 & 4-Bolt Pump Mount
- XK** = Class "B" 2 & 4-Bolt Pump Mount
- AF** = Class "B-B" 2 & 4-Bolt Pump Mount
- XY** = DIN 5462 Pump Mount
- AZ** = Class "B" 2 & 4-Bolt Pump Flange, Class "C" Shaft
- XV** = 1-1/2" 10T Spline Shaft w/1410 Flange
- AB** = 1-1/2" 10T Spline Shaft w/DIN 120 Flange
- AC** = 1-1/2" 10T Spline Shaft w/DIN 100 Flange

Assembly Arrangement

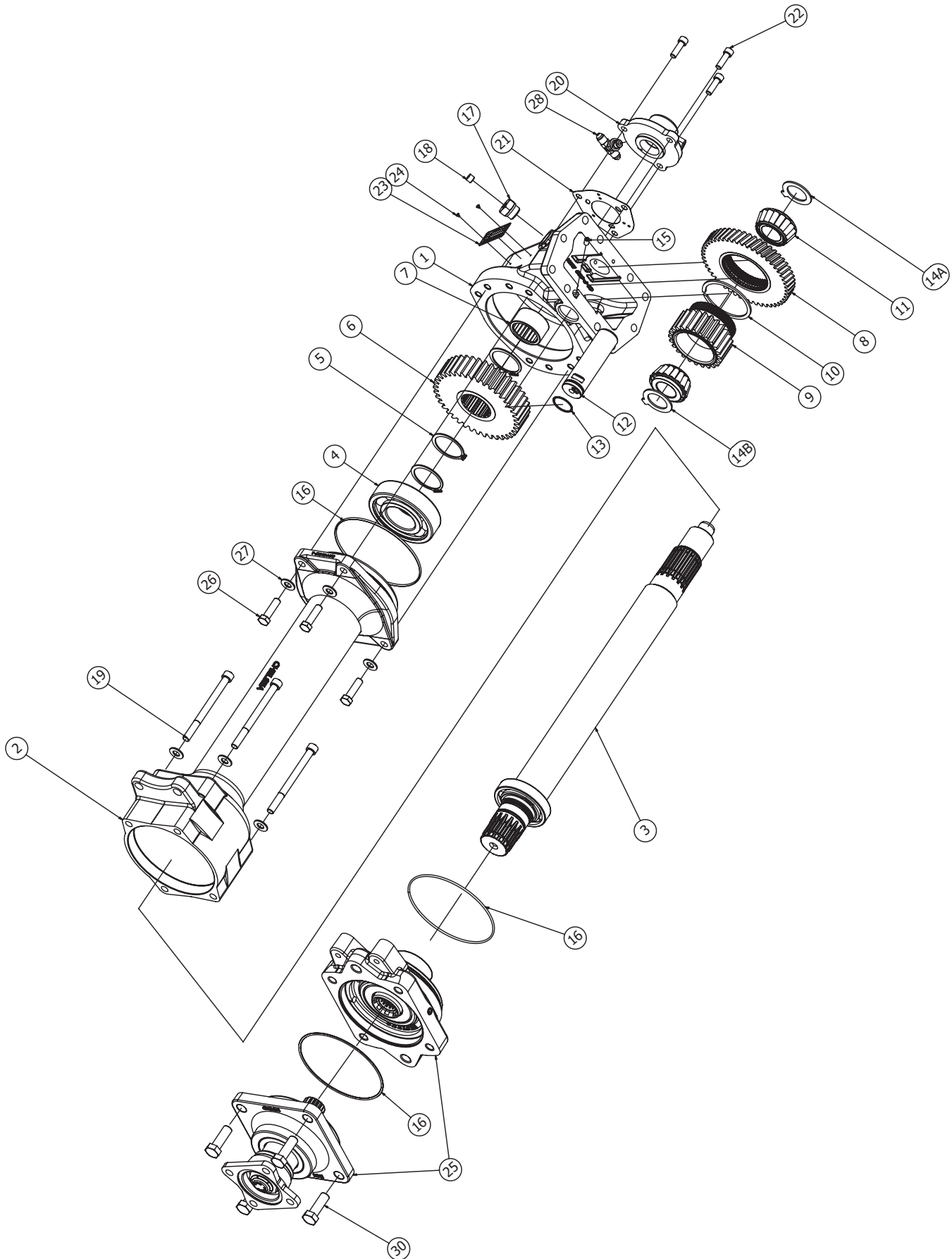
5 Gear Forward Left Side Mount

Shifter Type

- B** = 12V Hydraulic Valve
- D** = 24V Hydraulic Valve
- K** = 12V Hydraulic Valve with E.O.C.
- L** = 24V Hydraulic Valve with E.O.C.
- G** = 12V Remote Valve without E.O.C.
- H** = 24V Remote Valve without E.O.C.

Lubrication

W = Wet Spline



Bill of Materials

897 Series

Item	Part Number	Description	Quantity
1	1-P-629	Housing 897	1
2	54-P-22	Retainer Bearing 897	1
3	329655X	Ass'y Drive Shaft	1
4	550026	Bearing Ball 1.771" x 3.930" x .984"	1
5	379668	Lockring	3
6	See Chart Pg 34	Gear Output	1
7	560972	Bearing Needle Roller Ass'y 1.500" x 1.875" x 1.000"	1
8	See Chart Pg 34	Gear Input	1
9	See Chart Pg 34	Gear Ratio	1
10	380064	Lockring	1
11	561026	Bearing Tapered Cone 1.181" x .984"	2
12	9-P-99	Shaft Idler 1.180"	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"	1
14B	14-P-82-1	Spacer 1.191" x 1.750" x .080"	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 SH .250"-20 x .500"	1
16	28-P-245	O-Ring 5.017" x .103" ("XS", "XK", "AF", "XY", "AZ" Outputs)	2
16	28-P-245	O-Ring 5.017" x .103" ("XV", "AB", "AC" Outputs)	3
17	379242	Adapter Straight .125"-27 x .750"-16	1
18	379231	Plug Pipe .125"-27	1
19	379433-18	Capscrew SH .375"-16 x 4.500"	4
20	21-P-690	Cap Seal 866	1
21	22-P-112	Gasket	1
22	378447-6	Capscrew SH .312"-18 x 1.000"	3
23	68-P-2	Plate Name	1
24	378422	Screw Drive	2
25	See Pg 24-32	Ass'y Output	1
26	378431-13	Capscrew HH .375"-16 x 1.375"	4
27	380076-07	Washer Flat Hardened .410" x .816" x .066"	8
28	379556	Tee .438"-20	1
29	379564-2	Cap Shipping	2
30	378433-14	Capscrew HH .500"-13 x 1.500" ("XV", "AB", "AC" Outputs)	4
		Loose Parts	
	328948-36X	Kit Gasket & Installation (All)	1
	7170-86X	Kit Mounting (All)	1
	329645-1X	Kit Bracket & Hose ("L" Mount)	1
	329645-2X	Kit Bracket & Hose ("R" Mount)	1
	329645-3X	Kit Bracket & Hose ("H" Mount)	1
	329645-4X	Kit Bracket & Hose ("E" Mount)	1
	329645-5X	Kit Bracket & Hose ("T" Mount)	1
	329645-6X	Kit Bracket & Hose ("U" Mount)	1
	329644-1X	Kit Mounting & Installation ("XS" Output)	1
	329644-2X	Kit Mounting & Installation ("XK", "AF", "AZ" Output)	1
	329644-3X	Kit Mounting & Installation ("XY" Output)	1
	329654X	Kit Cover (Optional) ("XS" Output)	1
	329658X	Kit Cover (Optional) ("XK", "AF", "AZ" Output)	1
	329659X	Kit Cover (Optional) ("XY" Output)	1

A.R.—As Required

Continued On Next Page

Bill of Materials

Item	Part Number	Description	Quantity
		Service Parts	
	329071-46X	Kit Gasket & Seal ("XS", "XK", "AF", "AZ" Outputs).....	1
	329071-47X	Kit Gasket & Seal ("XY" Output).....	1
	329071-48X	Kit Bearing ("XS", "XK", "AF", "AZ" Outputs).....	1
	329071-49X	Kit Bearing ("XY" Output).....	1
	329071-51X	Kit Bearing ("XV", "AB", "AC" Outputs).....	1
	329071-52X	Kit Gasket & Seal ("XV", "AB", "AC" Outputs).....	1
	329160-63X	Kit Conversion "XS" to "XV" ("XS" Output).....	1
	329160-64X	Kit Conversion "XS" to "AB" ("XS" Output).....	1
	329160-65X	Kit Conversion "XS" to "AC" ("XS" Output).....	1

A.R.—As Required

329071-46X Kit Gasket & Seal "XS", "XK", "AF", "AZ" Output

Item	Part Number	Description	Quantity
1	22-P-112	Gasket Valve Cap	1
2	28-P-42	O-Ring 1.051" x .070"	1
3	28-P-119	Oil Seal 1.379" x .875" x .249"	1
4	28-P-178	O-Ring 4.484" x .138"	1
5	28-P-245	O-Ring 5.017" x .103"	2
6	28-P-278	Oil Seal 2.953" x 1.772" x .315"	1
7	28-P-285	O-Ring 1.597" x .103"	2

329071-47X Kit Gasket & Seal "XY" Output

Item	Part Number	Description	Quantity
1	22-P-112	Gasket Valve Cap	1
2	28-P-42	O-Ring 1.051" x .070"	1
3	28-P-119	Oil Seal 1.379" x .875" x .249"	1
4	28-P-178	O-Ring 4.484" x .138"	1
5	28-P-245	O-Ring 5.017" x .103"	2
6	28-P-267	Oil Seal 2.627" x 1.750" x .312"	1
7	28-P-285	O-Ring 1.597" x .103"	2

329071-48X Kit Bearing "XS", "XK", "AF", "AZ" Output

Item	Part Number	Description	Quantity
1	379668	Lockring	4
2	379919	Lockring	1
3	380070	Lockring	1
4	550026	Bearing Ball 1.771" x 3.937" x .984"	1
5	560972	Bearing Needle Roller Ass'y 1.500" x 1.875" x 1.000"	1
6	561018	Bearing Ball 1.772" x 2.953" x .630"	1
7	561026	Bearing Tapered Cone 1.181" x .984"	2
8	561028	Bearing Ball 1.969" x 3.150" x .630"	1
9	14-P-82-1	Spacer 1.191" x 1.750" (.079"-.081")	2
10	14-P-82-2	Spacer 1.191" x 1.750" (.084"-.086")	1
11	14-P-82-3	Spacer 1.191" x 1.750" (.089"-.091")	1
12	14-P-82-4	Spacer 1.191" x 1.750" (.093"-.095")	1

329071-49X Kit Bearing "XY" Output

Item	Part Number	Description	Quantity
1	378263	Lockring	1
2	379555	Lockring	1
3	379668	Lockring	3
4	380070	Lockring	1
5	550026	Bearing Ball 1.771" x 3.937" x .984"	1
6	550311	Bearing Ball 1.771" x 3.346" x .748"	1
7	560972	Bearing Needle Roller Ass'y 1.500" x 1.875" x 1.000"	1
8	561026	Bearing Tapered Cone 1.181" x .984"	2
9	561028	Bearing Ball 1.969" x 3.150" x .630"	1
10	14-P-82-1	Spacer 1.191" x 1.750" (.079"-.081")	2
11	14-P-82-2	Spacer 1.191" x 1.750" (.084"-.086")	1
12	14-P-82-3	Spacer 1.191" x 1.750" (.089"-.091")	1
13	14-P-82-4	Spacer 1.191" x 1.750" (.093"-.095")	1

329071-51X Kit Bearing “XV”, “AB”, “AC”

Item	Part Number	Description	Quantity
1	379668	Lockring	4
2	379919	Retaining	1
3	380070	Lockring	1
4	550026	Bearing	1
5	560972	Needle Bearing.....	1
6	561018	Ball Bearing	1
7	561026	Bearing Tapered	2
8	561028	Bearing Ball	1
9	14-P-82-1	Spacer	2
10	14-P-82-2	Spacer	1
11	14-P-82-3	Spacer	1
12	14-P-82-4	Spacer	1
13	561020	Bearing Ball	1
14	378836	Lockring	1

329071-52X Kit-Gasket & Seal “XV”, “AB”, “AC”

Item	Part Number	Description	Quantity
1	22-P-112	Valve Cap	1
2	28-P-42	O-Ring	1
3	28-P-119	Oil Seal	1
4	28-P-178	O-Ring	1
5	28-P-245	O-Ring	2
6	28-P-278	Oil Seal	1
7	28-P-285	O-Ring	2
8	378161	Gasket	1
9	35-P-103	Gasket Shaft Seal.....	1
10	28-P-283	Oil Seal	1

329160-63X Kit Conversion “XS” to “XV”

Item	Part Number	Description	Quantity
1	329608-1X	Ass’y Output	1
2	28-P-245	O-Ring	1
3	378433-14	Capscrew Hex	4

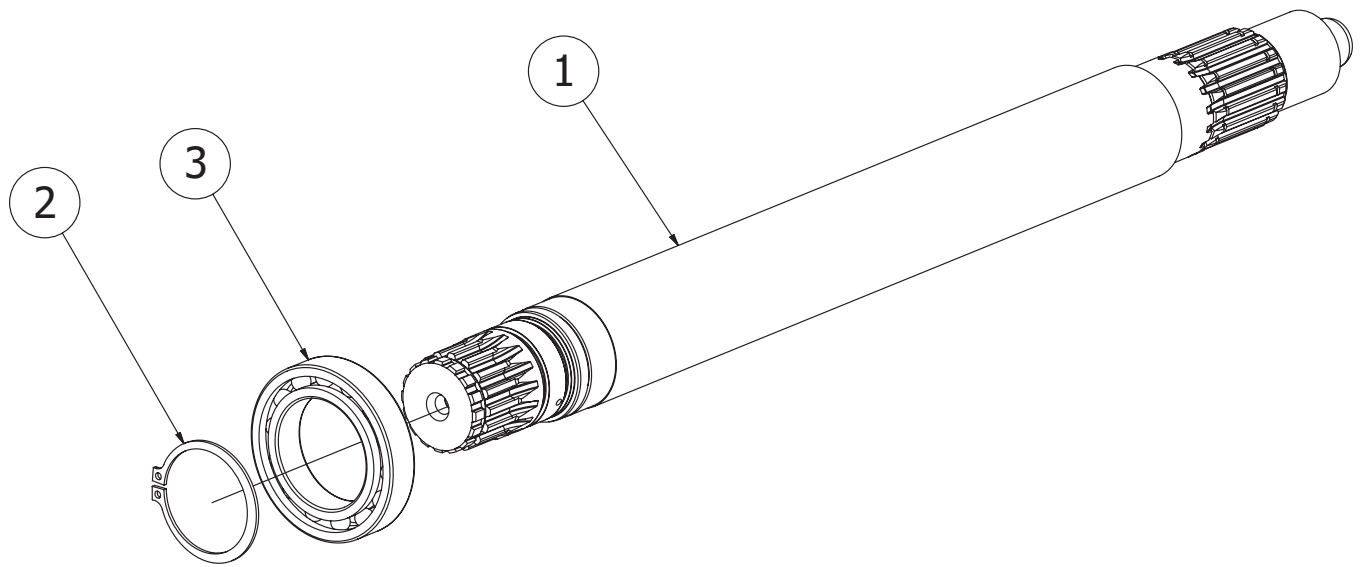
329160-64X Kit Conversion “XS” to “AB”

Item	Part Number	Description	Quantity
1	28-P-245	O-Ring	1
2	329608-2X	Ass’y Output	1
3	378433-14	Capscrew Hex	4

329160-65X Kit Conversion “XS” to “AC”

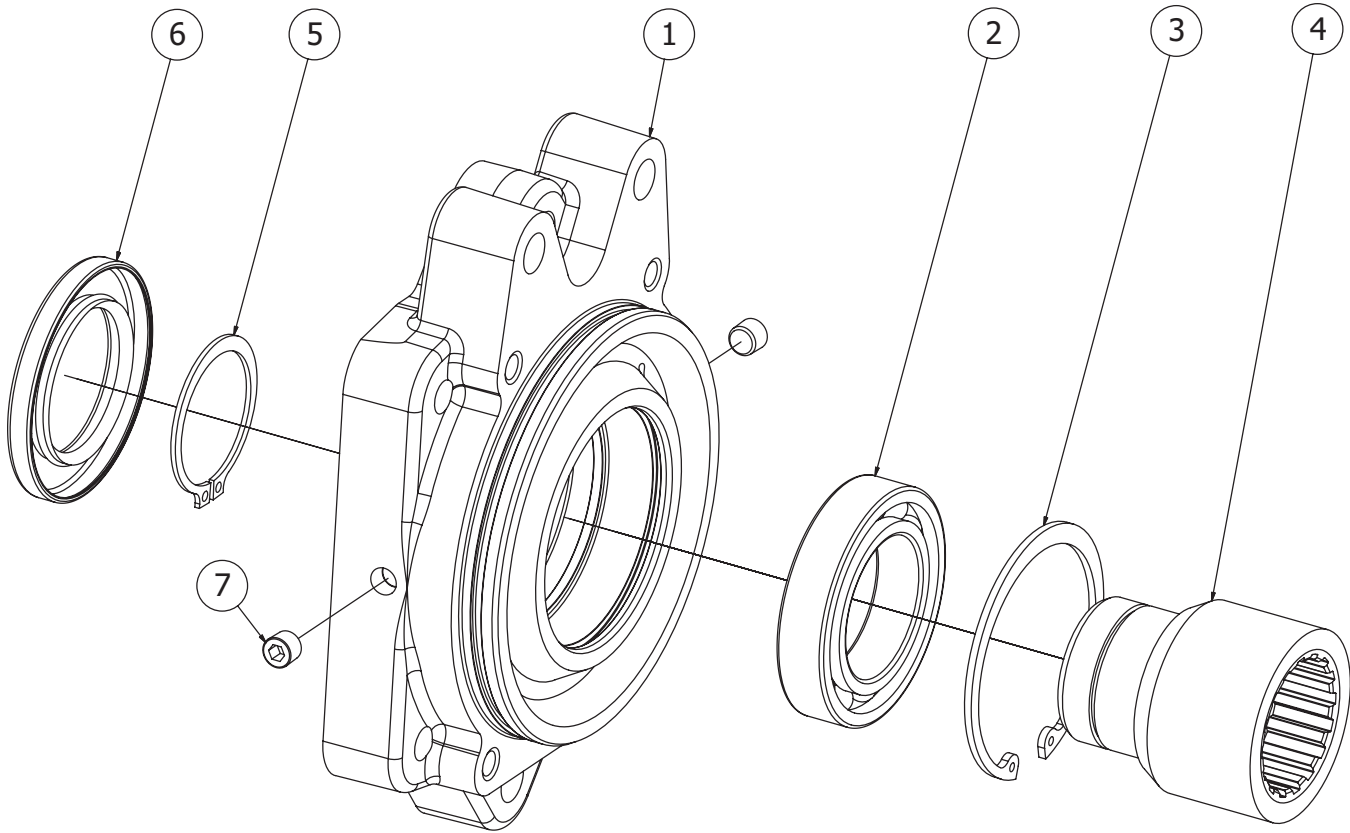
Item	Part Number	Description	Quantity
1	329608-3X	Ass’y Output	1
2	28-P-245	O-Ring	1
3	378433-14	Capscrew Hex	4

329655X Drive Shaft Assembly



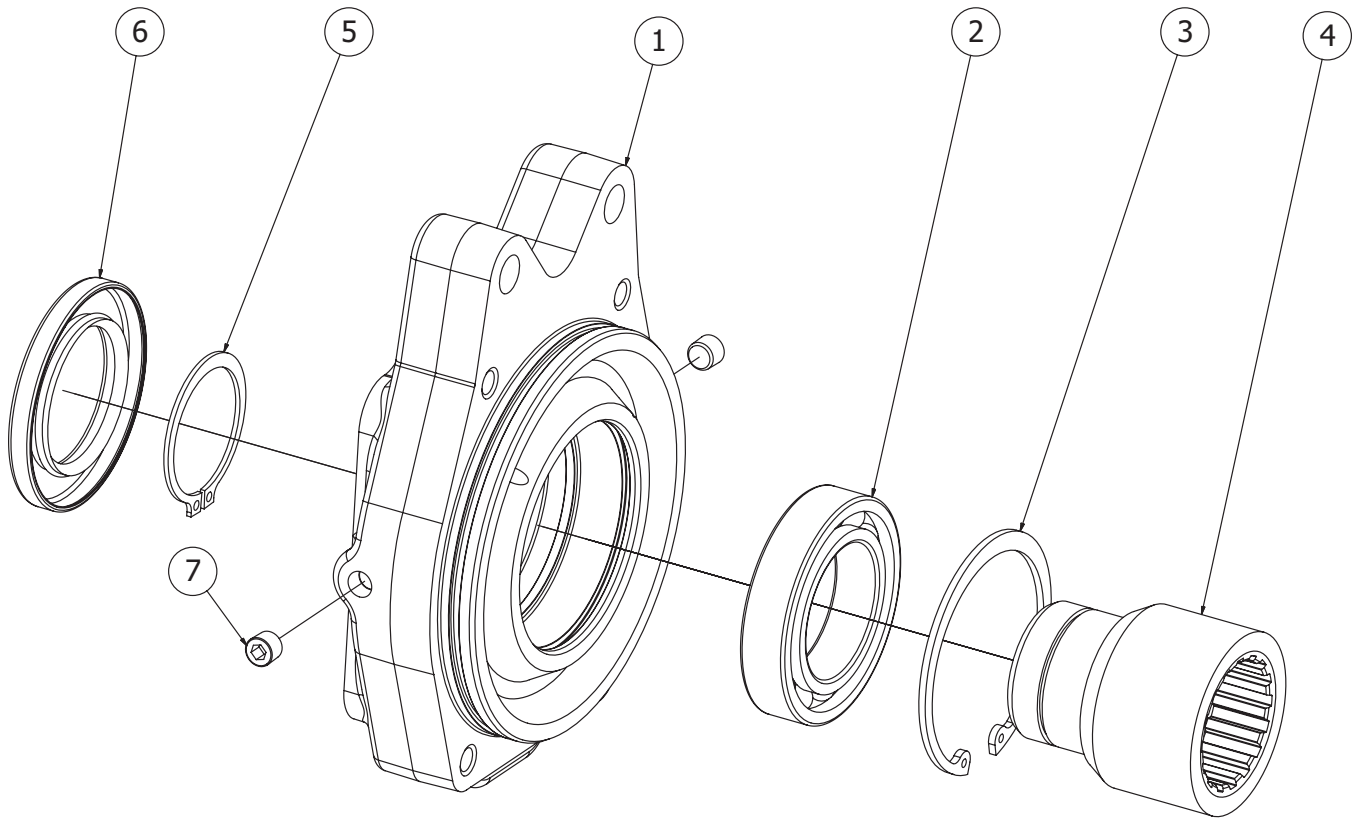
Item	Part Number	Description	Quantity
1	3-P-1007	Shaft Output	1
2	380070	Lockring	1
3	561028	Bearing Ball 1.969" x 3.150" x .630"	1

329657-1X "XS" S.A.E. "C" 2 or 4-Bolt 1.25" - 14 Tooth



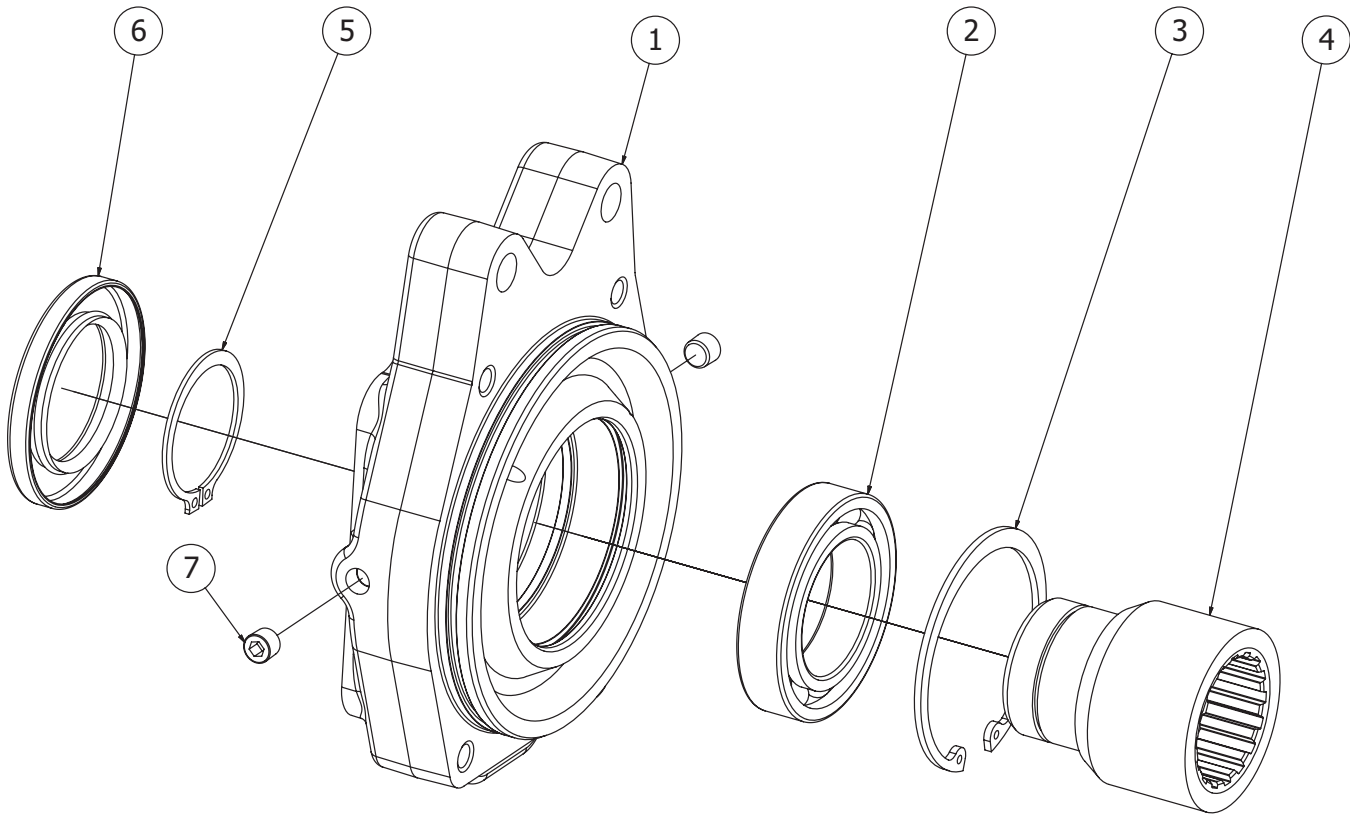
Item	Part Number	Description	Quantity
1	21-P-717	Flange Pump "XS"	1
2	561018	Bearing Ball 1.772" x 2.953" x .630"	1
3	379919	Lockring	1
4	380094	Coupling "XS" Output 1-1/4 - 14T/16T	1
5	379668	Lockring	1
6	28-P-278	Oil Seal 2.953" x 1.772" x .315"	1
7	379231	Plug Pipe .125"-27	2

329657-2X "XK" S.A.E. "B" 2 or 4-Bolt 7/8" - 13 Tooth



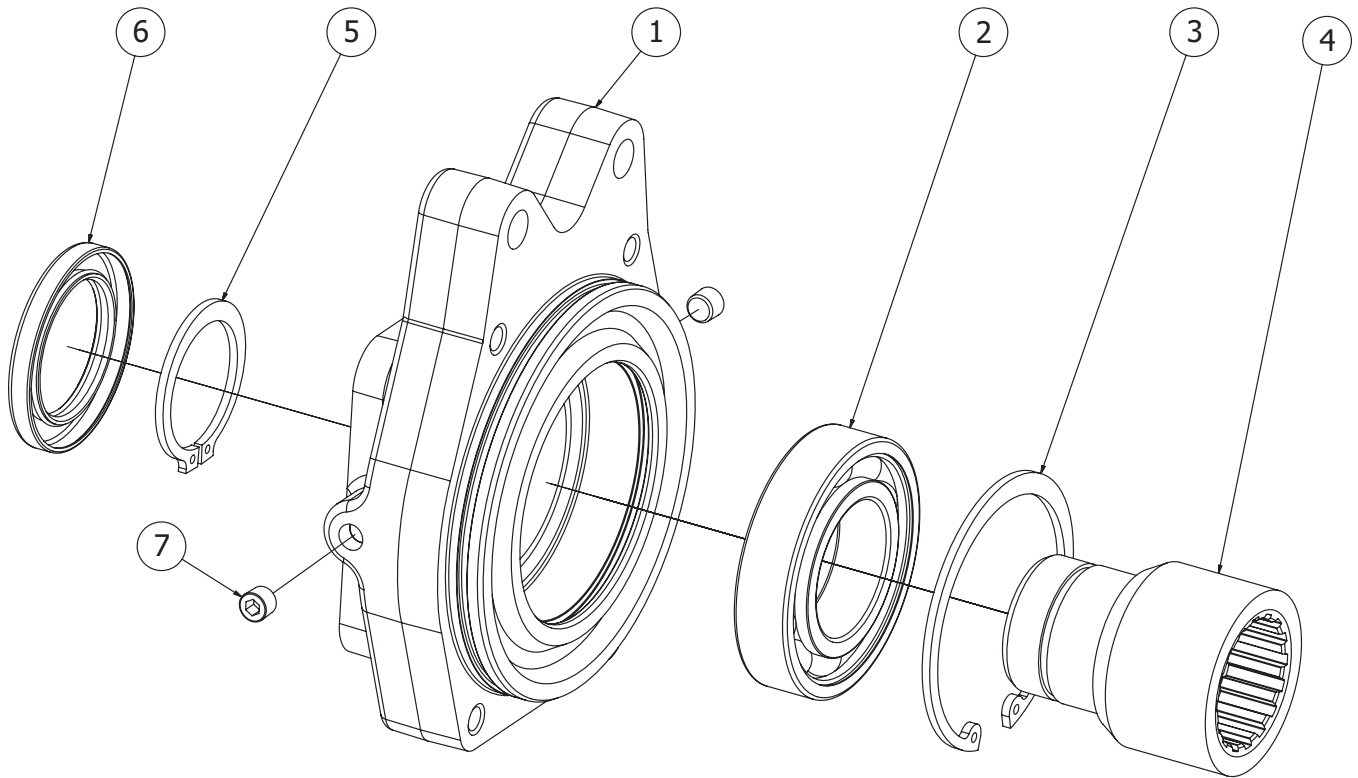
Item	Part Number	Description	Quantity
1	21-P-723	Flange Pump "XK"	1
2	561018	Bearing Ball 1.772" x 2.953" x .630"	1
3	379919	Lockring	1
4	380092	Coupling "XK" Output 7/8" - 13T/16T	1
5	379668	Lockring	1
6	28-P-278	Oil Seal 2.953" x 1.772" x .315"	1
7	379231	Plug Pipe .125"-27	2

329657-3X "AF" S.A.E. "B-B" 2 or 4-Bolt 1.00" - 15 Tooth



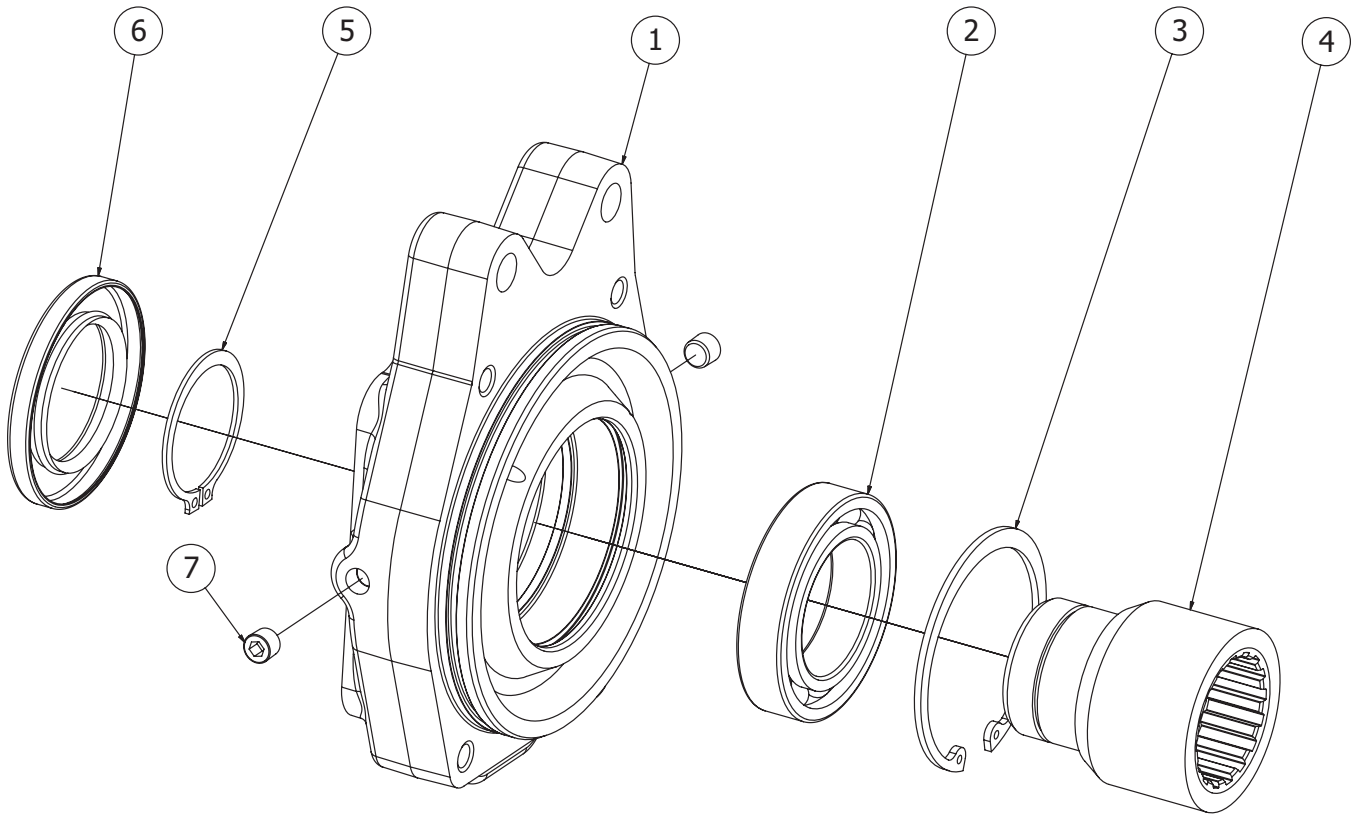
Item	Part Number	Description	Quantity
1	21-P-723	Flange Pump "AF"	1
2	561018	Bearing Ball 1.772" x 2.953" x .630"	1
3	379919	Lockring	1
4	380093	Coupling "AF" Output 1.000" - 15T/16T	1
5	379668	Lockring	1
6	28-P-278	Oil Seal 2.953" x 1.772" x .315"	1
7	379231	Plug Pipe .125"-27	2

329657-4X "XY" DIN 5462 4-Bolt 1.25" - 8 Tooth



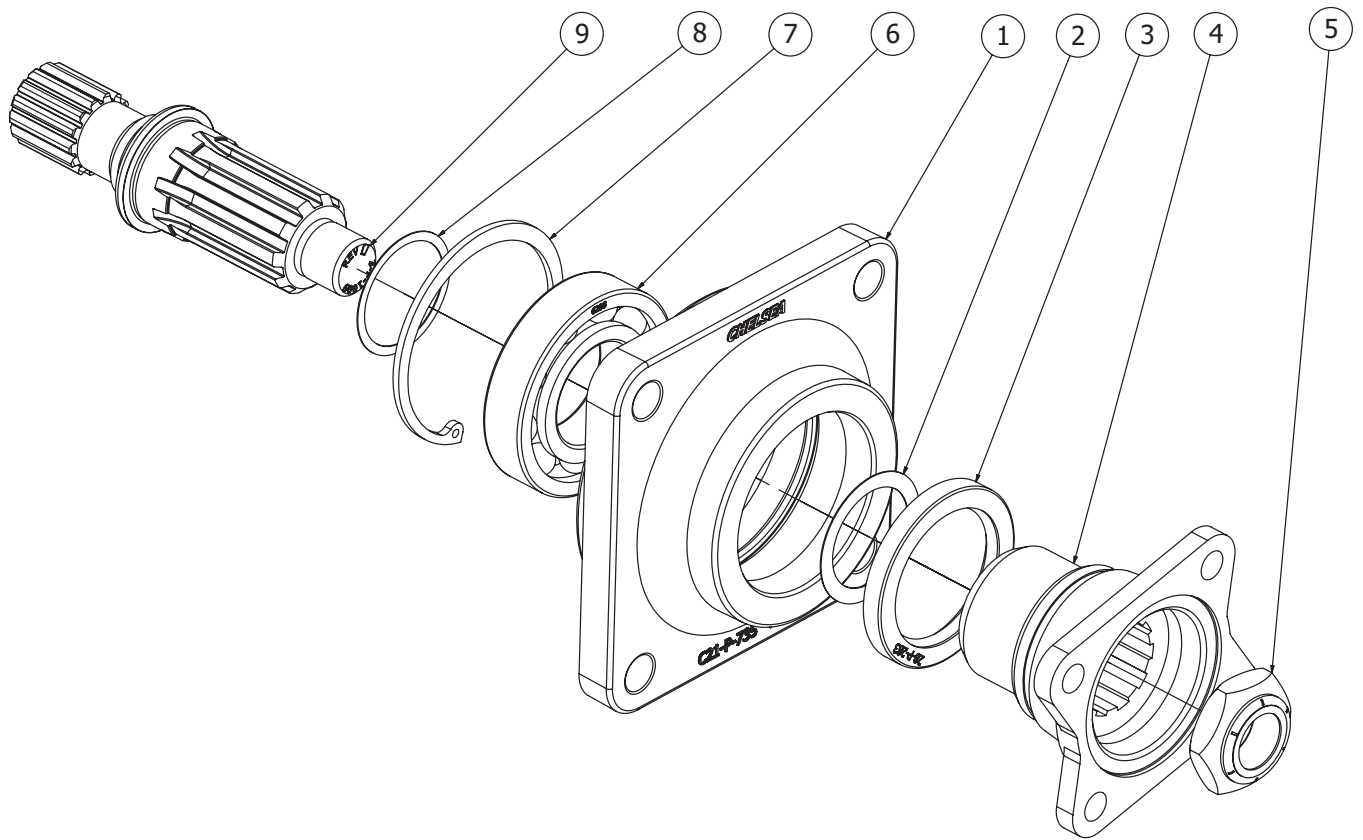
Item	Part Number	Description	Quantity
1	21-P-725	Flange Pump "XY"	1
2	550311	Bearing Ball 1.770" x 3.346" x .748"	1
3	378263	Lockring	1
4	380095	Coupling "XY" Output 8T Straight 16T	1
5	379555	Lockring	1
6	28-P-267	Oil Seal 2.627" x 1.750" x .312"	1
7	379231	Plug Pipe .125"-27	2

329657-5X "AZ" S.A.E. "B" 2 or 4-Bolt 1-1/4" - 14 Tooth



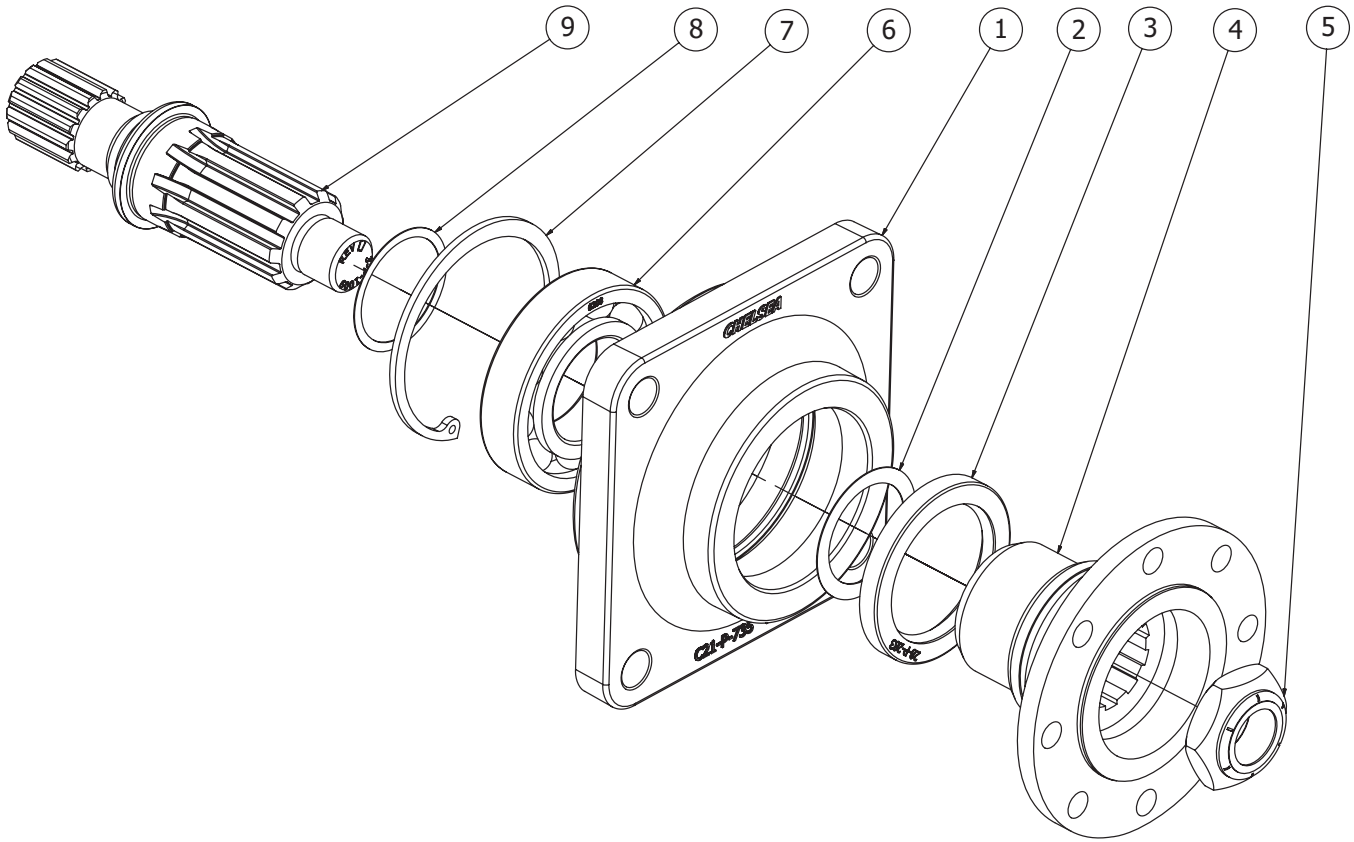
Item	Part Number	Description	Quantity
1	21-P-723	Flange Pump "AZ"	1
2	561018	Bearing Ball 1.772" x 2.953" x .630".....	1
3	379919	Lockring	1
4	380094	Coupling "AZ" Output 1-1/4" - 14T/16T.....	1
5	379668	Lockring	1
6	28-P-278	Oil Seal 2.953" x 1.772" x .315"	1
7	379231	Plug Pipe .125"-27.....	2

329608-1X "XV" S.A.E. 1410 Companion Flange



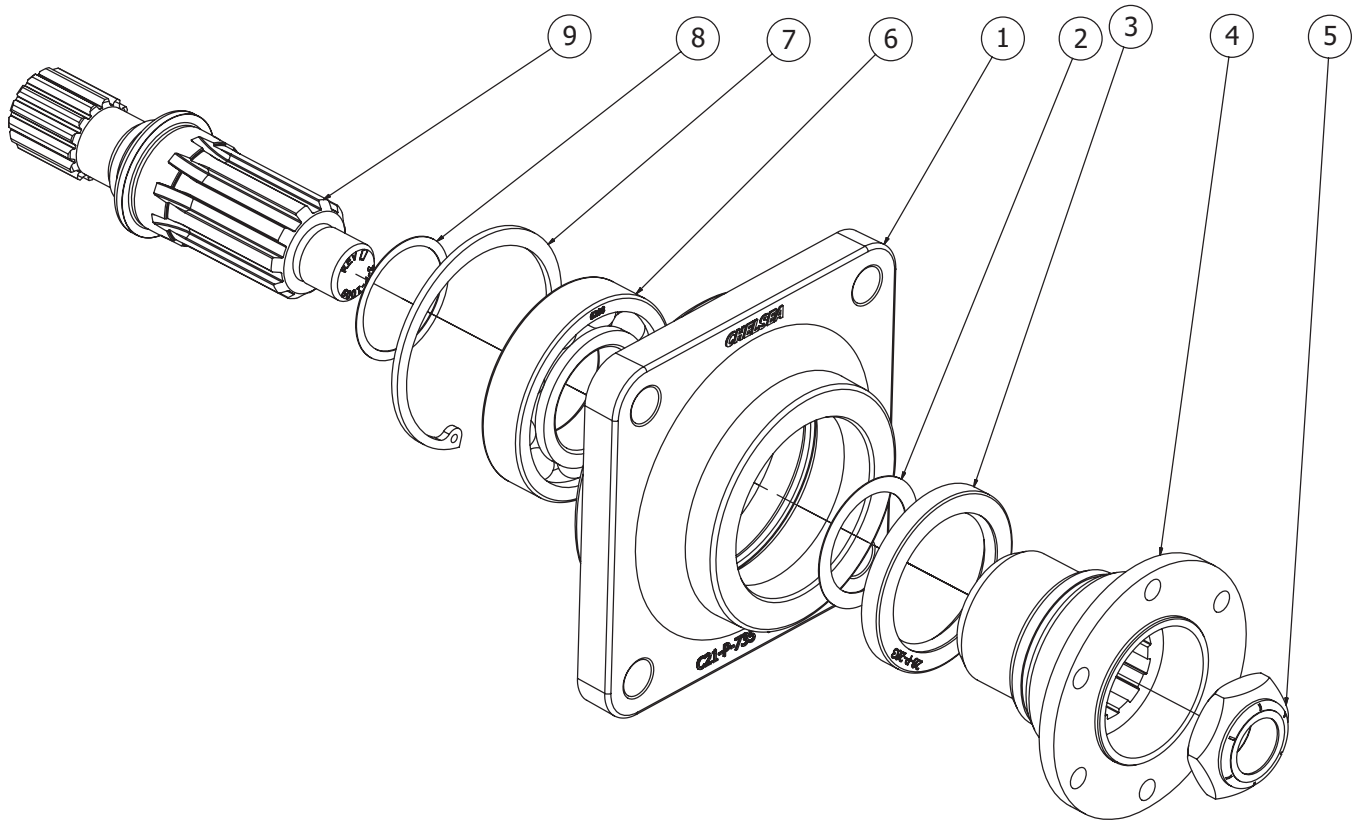
Item	Part Number	Description	Quantity
1	21-P-736	Cap Bearing "XV", "AB", "AC"	1
2	378161	Gasket 4600	1
3	28-P-283	Oil Seal 2.754" x 2.000" x .313"	1
4	3-1-3431	Companion Flange 1410	1
5	378382	Nut Stop .875"-14	1
6	561020	Bearing Ball 1.574" x 3.149" x .708"	1
7	378836	Lockring	1
8	35-P-103	Gasket Shaft Seal 897	1
9	3-P-1009	Shaft Output 10T Straight	1

329608-2X "AB" DIN 120 Companion Flange

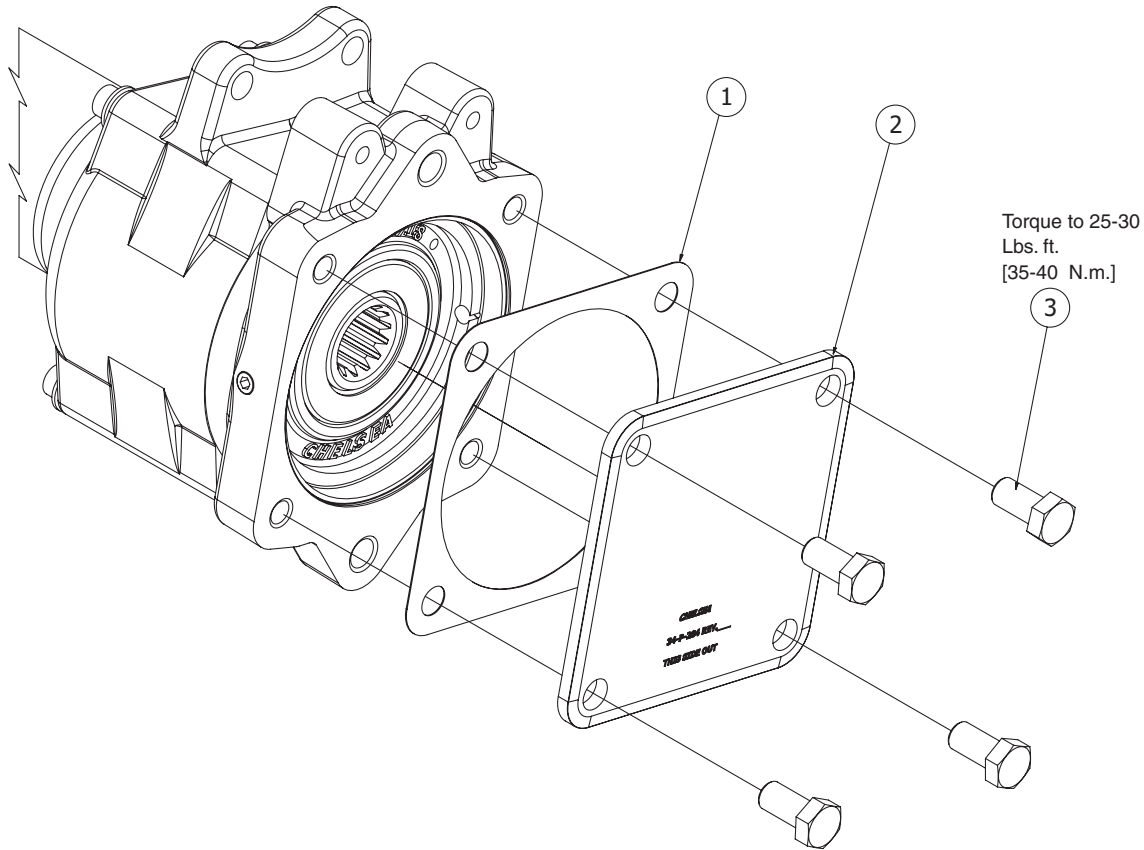


Item	Part Number	Description	Quantity
1	21-P-736	Cap Bearing "XV", "AB", "AC"	1
2	378161	Gasket 4600	1
3	28-P-283	Oil Seal 2.754" x 2.000" x .313"	1
4	379558	Companion Flange DIN 120	1
5	378382	Nut Stop .875"-14	1
6	561020	Bearing Ball 1.574" x 3.149" x .708"	1
7	378836	Lockring	1
8	35-P-103	Gasket Shaft Seal 897	1
9	3-P-1009	Shaft Output 10T Straight	1

329608-3X "AC" DIN 100 Companion Flange



Item	Part Number	Description	Quantity
1	21-P-736	Cap Bearing "XV", "AB", "AC"	1
2	378161	Gasket 4600	1
3	28-P-283	Oil Seal 2.754" x 2.000" x .313"	1
4	379742	Companion Flange DIN 100	1
5	378382	Nut Stop .875"-14	1
6	561020	Bearing Ball 1.574" x 3.149" x .708"	1
7	378836	Lockring	1
8	35-P-103	Gasket Shaft Seal 897	1
9	3-P-1009	Shaft Output 10T Straight	1



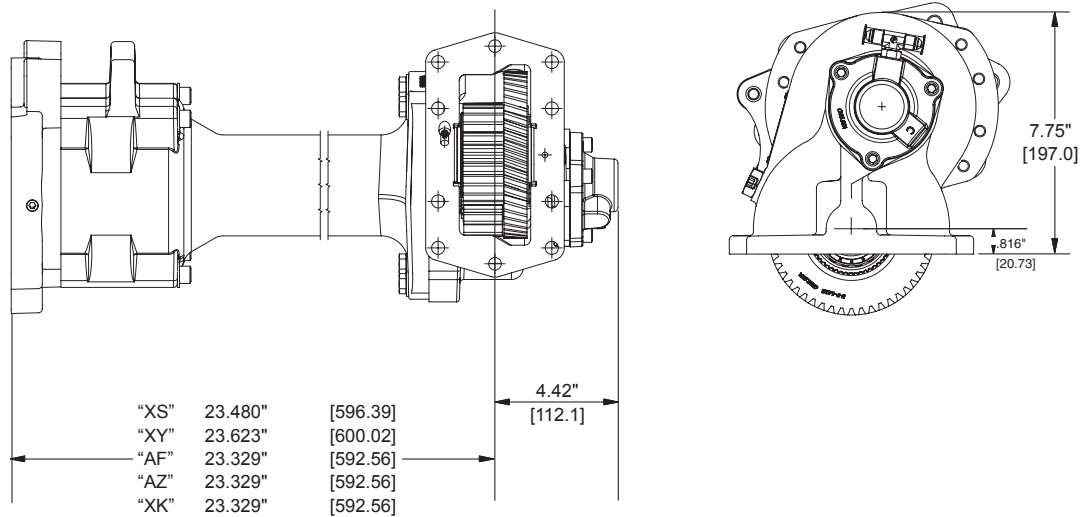
KITS: 329654X "XS" Output
 329658X "XK", "AF", "AZ" Output
 329659X "XY" Output

Item	Part Number	Description	Quantity
1	22-P-25-2	Gasket "XS" Output	1 or
	35-P-104	Gasket "XK", "AF", "AZ" Output.....	1 or
	379943	Gasket "XY" Output	1
2	34-P-284	Cover "XS"	1 or
	34-P-285	Cover "XK", "AF", "AZ"	1 or
	379940	Cover "XY"	1
3	378433-10	Capscrew "XS"	1 or
	378433-10	Capscrew "XK", "AF", "AZ"	1 or
	379579-4	Capscrew "XY"	1

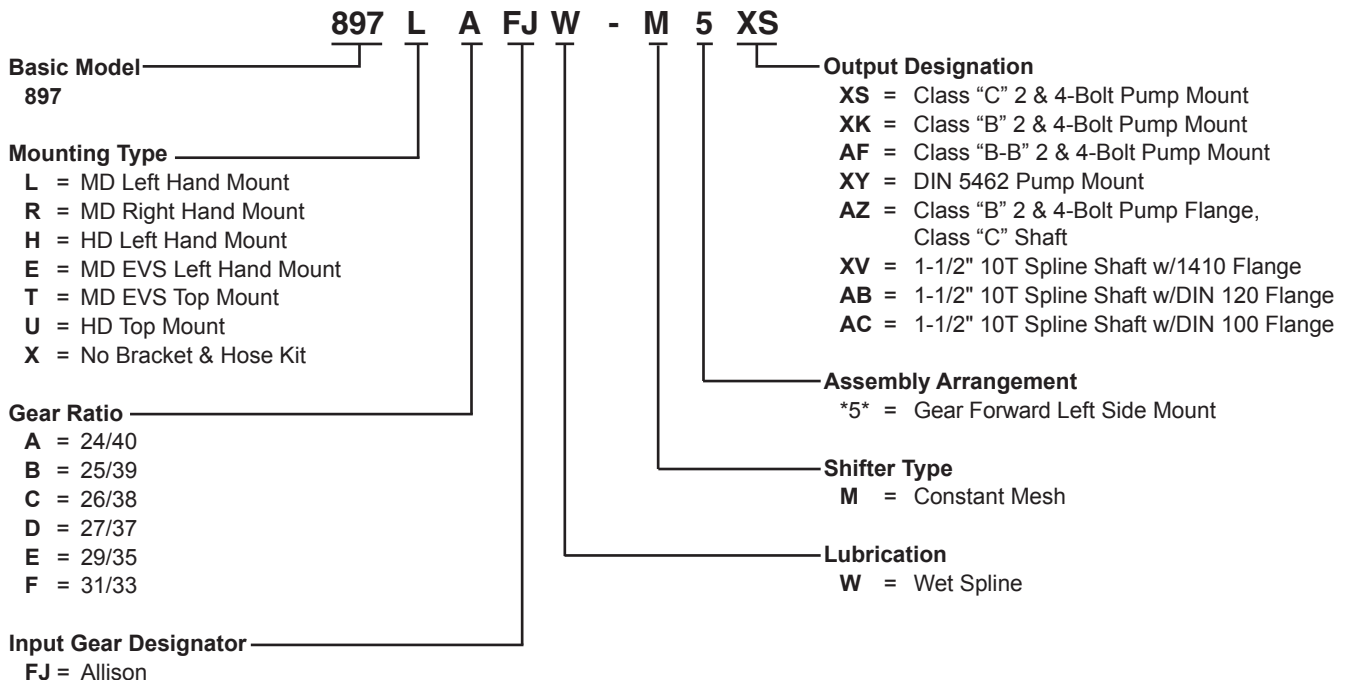
897 Gear Chart

GEAR DESIGNATOR	INPUT GEAR (8)	NO. TEETH A	RATIO GEAR (9)	NO. TEETH B	OUTPUT GEAR (6)	NO. TEETH C
890*AFJ	5-P-1428	50	5-P-1429	24	2-P-862	40
890*BFJ	5-P-1428	50	5-P-1438	25	2-P-872	39
890*CFJ	5-P-1428	50	5-P-1439	26	2-P-873	38
890*DFJ	5-P-1428	50	5-P-1440	27	2-P-874	37
890*EFJ	5-P-1428	50	5-P-1432	29	2-P-865	35
890*FFJ	5-P-1428	50	5-P-1433	31	2-P-866	33

Housing Dimensions



Model Number Designation



Offer of Sale

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

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

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

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

4. Warranty: Seller warrants that certain Products, namely PTOs, SEMs, and Wet Line Kits sold hereunder shall be free from defects in material or workmanship for a period of twenty four months from the date of delivery to Buyer. Seller warrants that certain Products namely Pumps, and Hydraulic Accessories shall be free from defects in material or workmanship for a period of eighteen months from the date of delivery to the Buyer. The prices charged for Seller's products are based upon the exclusive limited warranty stated above, and upon the following disclaimer: **DISCLAIMER OF WARRANTY: THIS WARRANTY COMPRISES THE SOLE AND ENTIRE WARRANTY PERTAINING TO PRODUCTS PROVIDED HEREUNDER. SELLER DISCLAIMS ALL OTHER WARRANTIES, EXPRESS AND IMPLIED, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.**

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

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

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

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

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

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

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

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

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

10/09-P



Parker Hannifin Corporation
Chelsea Products Division
8225 Hacks Cross Road
Olive Branch, Mississippi 38654 USA
Tel: (662) 895-1011
Fax: (662) 890-5379
www.parker.com/chelsea