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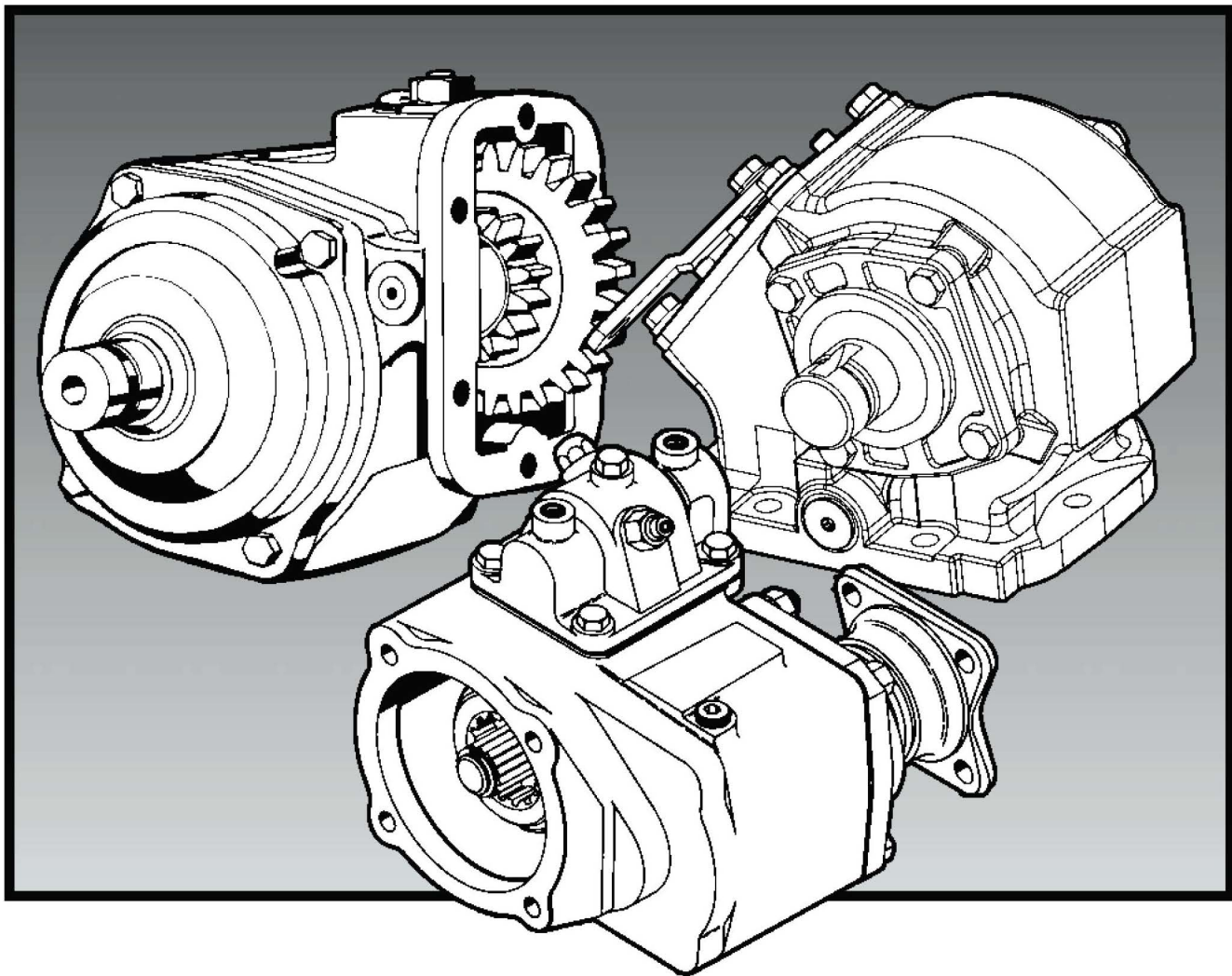
CHELSEA[®]

Replacement Parts List

859 Series Manual

Bulletin HY25-2859-M1/US

Effective: May 15, 2002
Supersedes: P410-858 Dated July 1998



Parker
Hydraulics

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This document and other information from Parker Hannifin Corporation, its subsidiaries and authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application and review the information concerning the product or system in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met.

The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by Parker Hannifin Corporation and its subsidiaries at any time without notice.

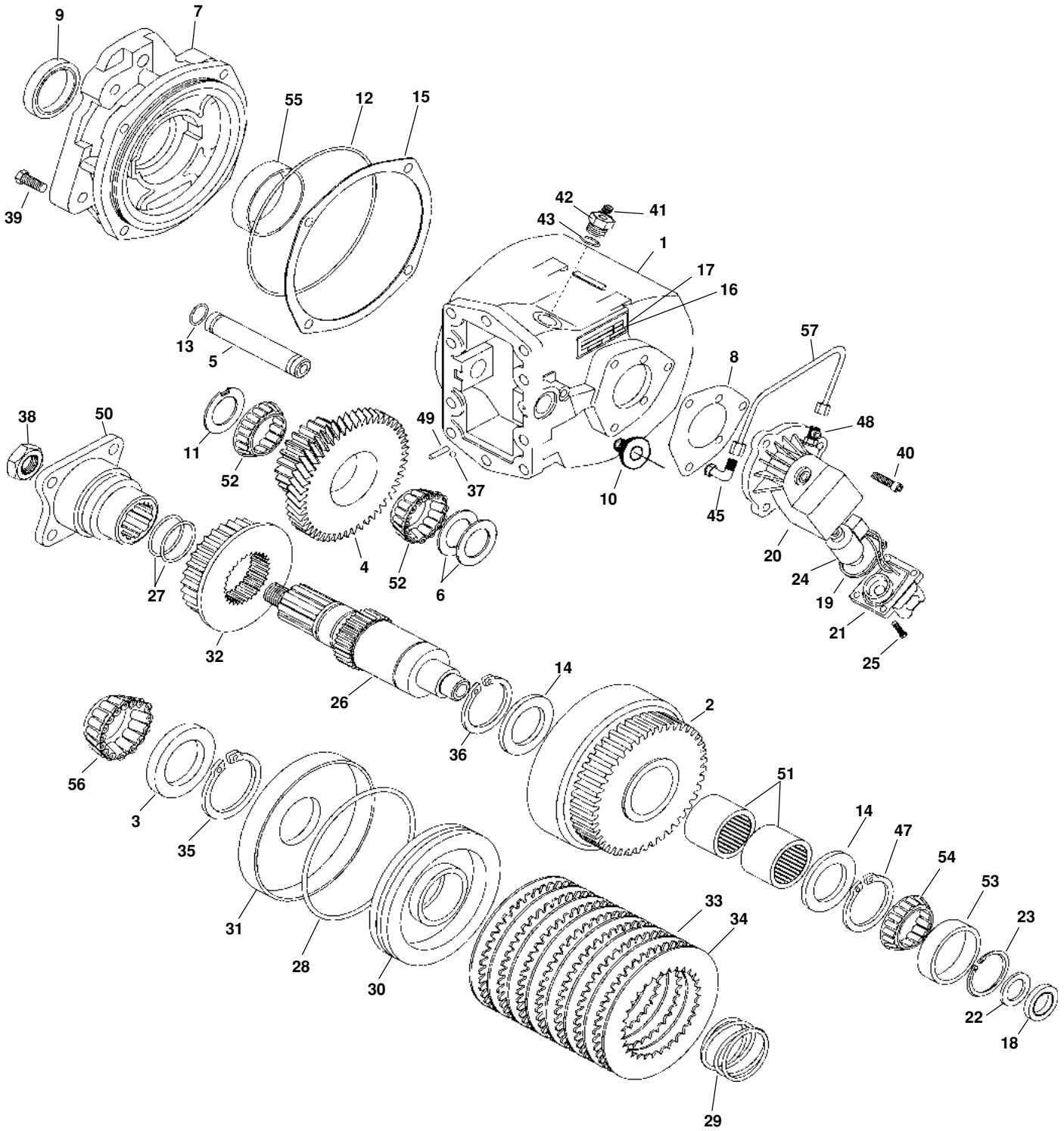
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Bill of Materials

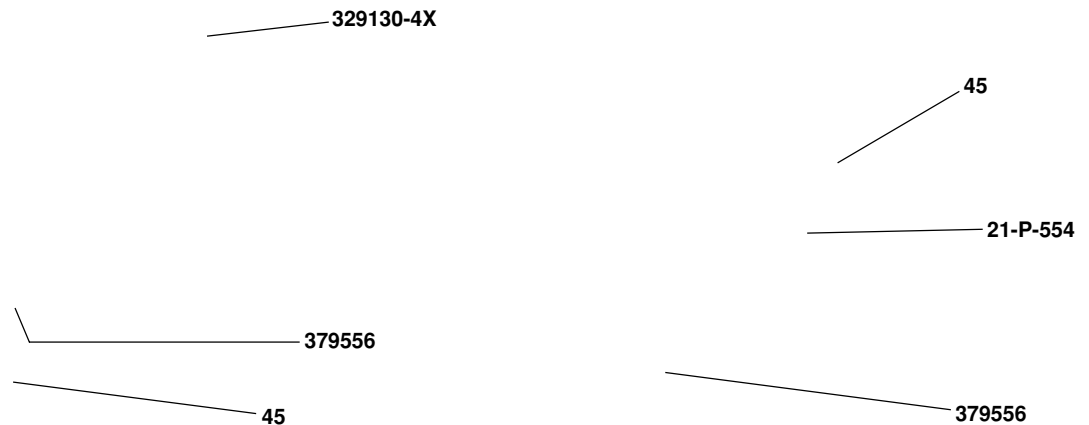
**Power Take-Off
859 Series**

Item	Part Number	Description	Quantity
1	1-P-555X	Housing (Includes Item 49)	1
2	See Chart I (pg. 4)	Output Gear	1
3	See Chart II (pg. 4)	Spacer, Driveshaft	1
4	See Chart I (pg. 4)	Input Gear	1
5	9-P-92	Idler Shaft (Pressure Lube)	1
6	14-P-66	Bearing Adjusting Spacer	A.R.
7	See Chart II (pg. 4)	Bearing Cap	1
8	22-P-112	Gasket, Valve Cap	1
9	See Chart II (pg. 4)	Oil Seal	1
10	379719	NWD Plug	1
11	31-P-94	Thrust Washer	1
12	28-P-196	O-Ring	1
13	28-P-198	O-Ring	1
14	31-P-92	Thrust Washer	2
15	55-P-20-1	Shim, Bearing Cap (.003 Green)	A.R.
	55-P-20-2	Shim, Bearing Cap (.010 Brown)	A.R.
	55-P-20-3	Shim, Bearing Cap (.020 Yellow)	A.R.
16	68-P-2	Name Plate	1
17	378422	Drive Screw	2
	329145-12X	12 Volt Valve & Valve Cap Assembly (Includes Items 18-25)	1
	329145-24X	24 Volt Valve & Valve Cap Assembly (Includes Items 18-25)	1
18	28-P-119	Oil Seal (High Pressure)	1
19	28-P-193	Ring	1
20	34-P-123	Valve Cap	1
21	329144X	Valve Cap Assembly	1
	329144-1X	Valve Cap Assembly 24V	1
22	378811	Washer	1
23	378849	Retaining Ring	1
24	379604-1	Hydraulic Valve 12V	1
	379604-2	Hydraulic Valve 24V	1
25	379565	Hex. Capscrew	4
	329153-1X	Driveshaft & Clutch Assembly (XV, AB and AC) (Includes Items 26 - 36)	1
	329153-2X	Driveshaft & Clutch Assembly (XS and AZ Pump) (Includes Items 26 - 36)	1
	329153-3X	Driveshaft & Clutch Assembly (XY Pump) (Includes Items 26 - 36)	1
26	See Chart II (pg. 4)	Output Shaft	1
27	28-P-194	O-Ring	2
28	28-P-195	O-Ring	1
29	37-P-24	Spring	1
30	329078X	Piston Assembly	1
N.S.	378858	Wiggle Wire	
31	329079X	Backup Cylinder Assembly	1
32	329128X	Inner Clutch Gear Assembly	1
33	379488	Clutch Plate (Steel)	7
34	379489	Clutch Plate (Friction)	8
35	379465	Lockring	1
36	379532	Lockring	1
37	378108	Steel Ball	1
38	378382	Hex Locknut (XV & AB Output Only)	1
39	378431-11	Hex Capscrew (.375"-16 X 1.125")	4

A.R. As Required

Item	Part Number	Description	Quantity
40	378447-6	Soc. Capscrew (.312" X 1.000")	3
41	379231	Pipe Plug (.125"-27) NPTF (w/o E.O.C.)	1
42	379242	O-Ring Boss Plug (w/o E.O.C.)	1
43	28-P-171	O-Ring (with E.O.C.)	1
N.S.	379243	Speed Sensor (with E.O.C.)	1
45	379486	90 Degrees, O-Ring Boss	1
47	379511	Lockring	1
48	379659	Run Tee, O-Ring Boss	1
49	500597-16	Pin	1
50	3-1-3431	Companion Flange (1410 Series)	1
	379558	Companion Flange (DIN 120 "AB")	1
	379742	Companion Flange (DIN 100 "AC")	1
51	560975	Caged Roller Bearing	2
52	560978	Tapered Bearing Cone	2
53	560982	Tapered Bearing Cup	1
54	560986	Tapered Bearing Cone	1
55	See Chart II (pg. 4)	Tapered Bearing Cup	1
56	See Chart II (pg. 4)	Tapered Bearing Cone	1
N.S.	378898	Flat H.d. Soc. Screw (.438"-14 X 1.000"), "XY" Output	1
N.S.	379560	Spline Coupling, "XY" Output	1
N.S.	379465	Lockring, "XY" Output	1
57	379661	Steel Tubing	1
	328948-9X	Gasket and Installation Instructions	1
	329024-12X	Installation Kit 12V (Less E.O.C.)	1
	329024-24X	Installation Kit 24V (Less E.O.C.)	1
	329076X	Installation Kit 12V & 24V (with E.O.C.)	1
	329237-12X	Installation Kit 12V Remote Valve	1
	329237-24X	Installation Kit 24V Remote Valve	1
	328924-12X	Control Box 12V (with E.O.C.)	1
	328924-24X	Control Box 24V (with E.O.C.)	1
	7170-86X	Mounting Kit	1
	329071-3X	Gasket & Seal Kit	1
	329071-6X	Bearing Kit	1
	329071-8X	Clutch Repair Kit	1
	329240-12X	Conversion Kit 12V Remote Valve	1
	329250X	Conversion Kit 858 Series to 859 Series	1

N.S. Not Shown



859 Lubrication Option "R"

**Shifter Options "G" & "H" for
 Remote Mounted Valve**

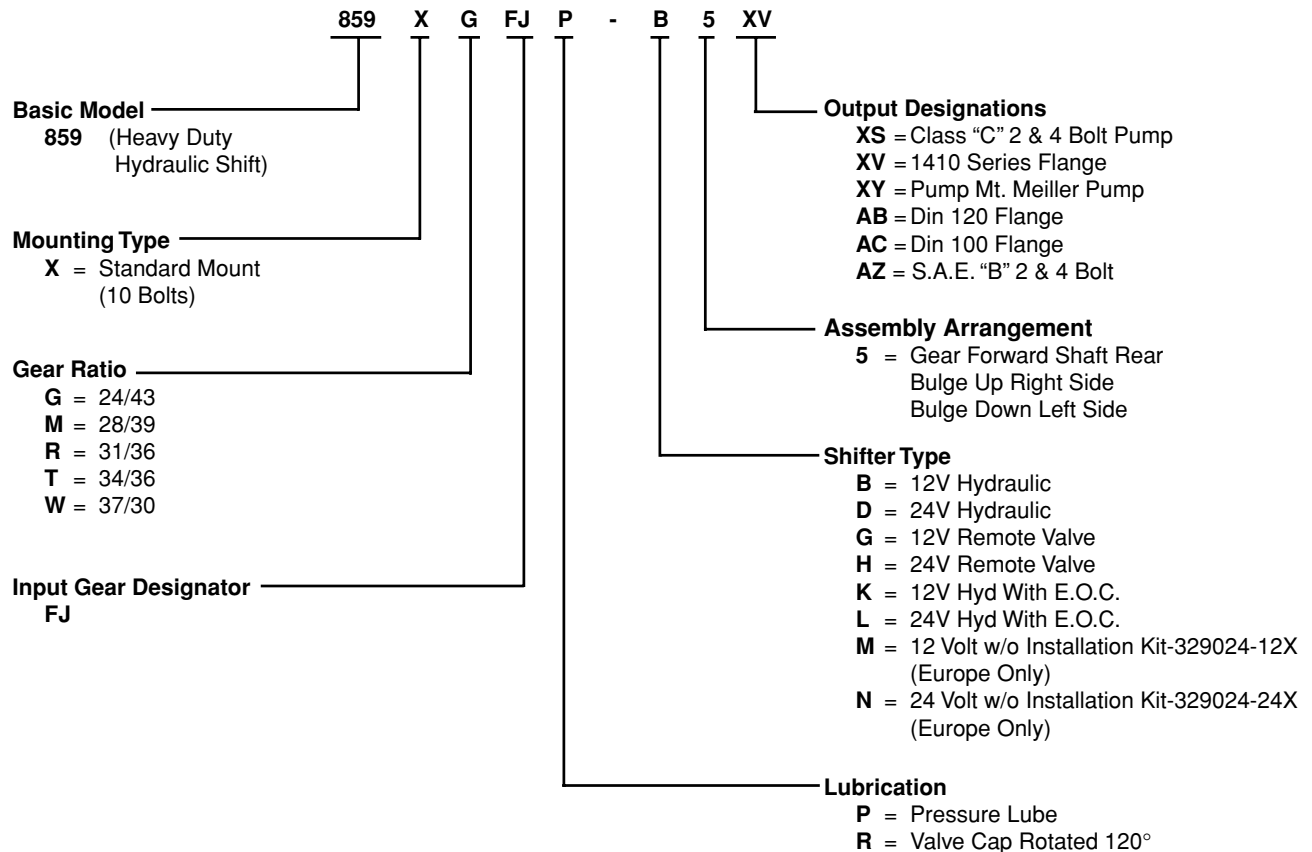
Chart I Gear Data

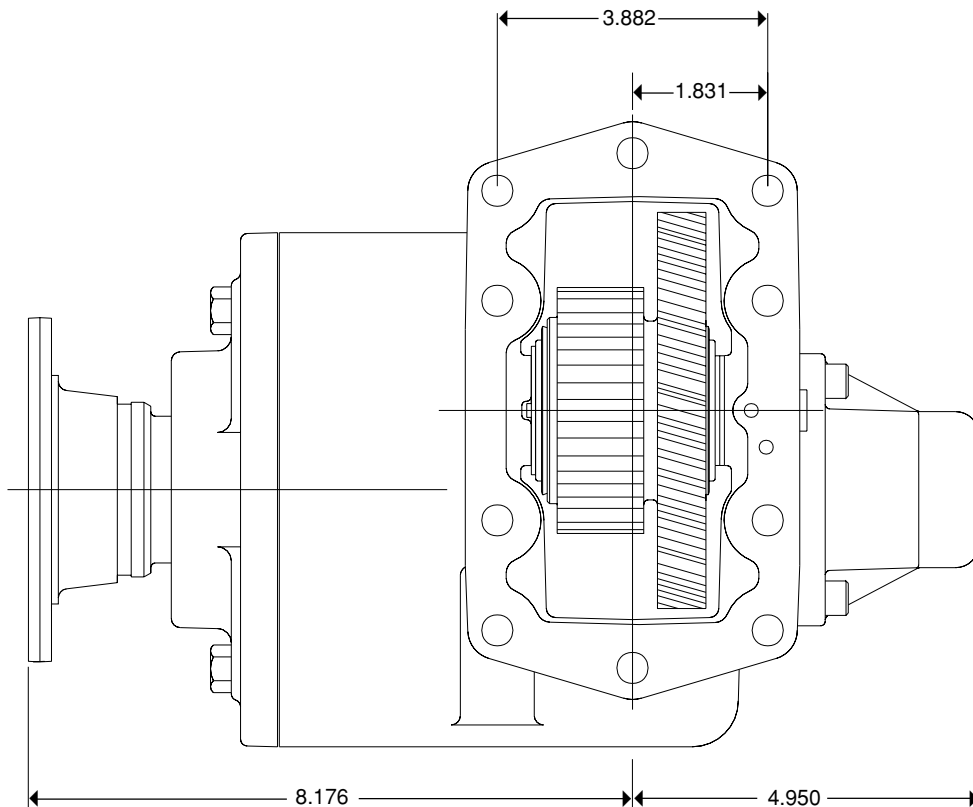
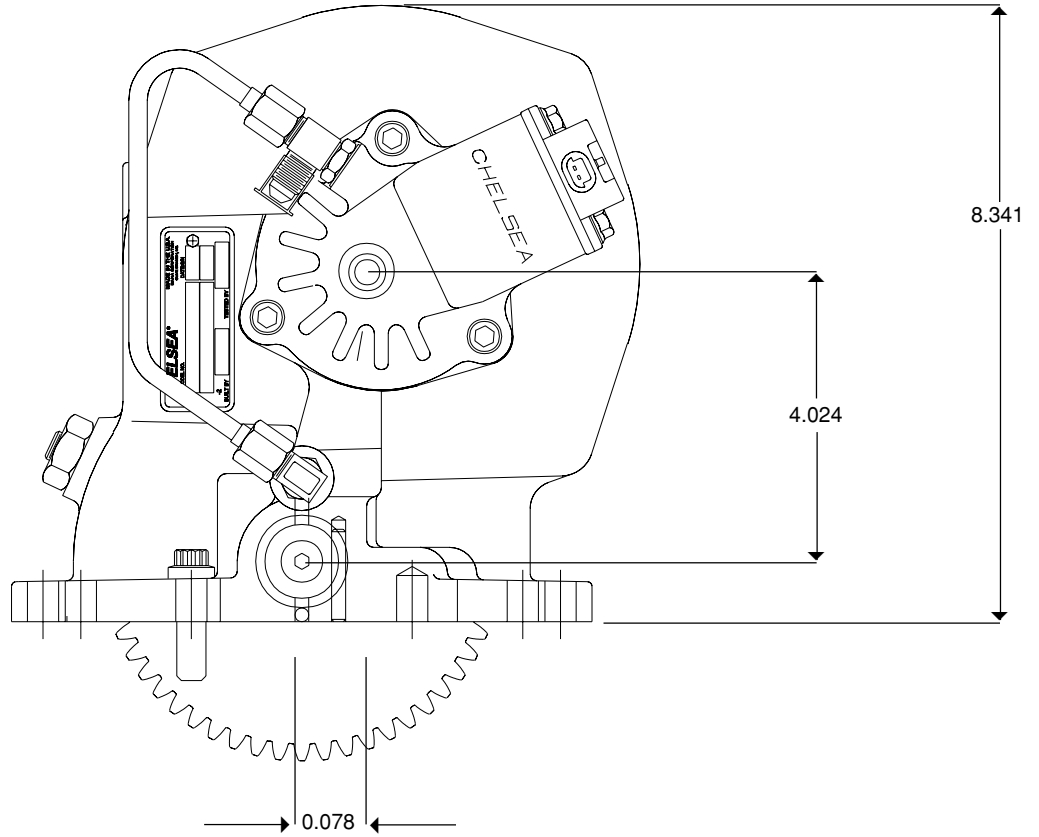
Model Number	Input Gear Item No. 4	Number Teeth	Output Gear Item No. 2	Number Teeth
859*GFJ	5-P-1160	24	2-P-752	43
859*MFJ	5-P-1161	28	2-P-753	39
859*RFJ	5-P-1162	31	2-P-754	36
859*TFJ	5-P-1212	34	2-P-764	33
859*WFJ	5-P-1309	50	2-P-796	35

Chart II Output Components Data

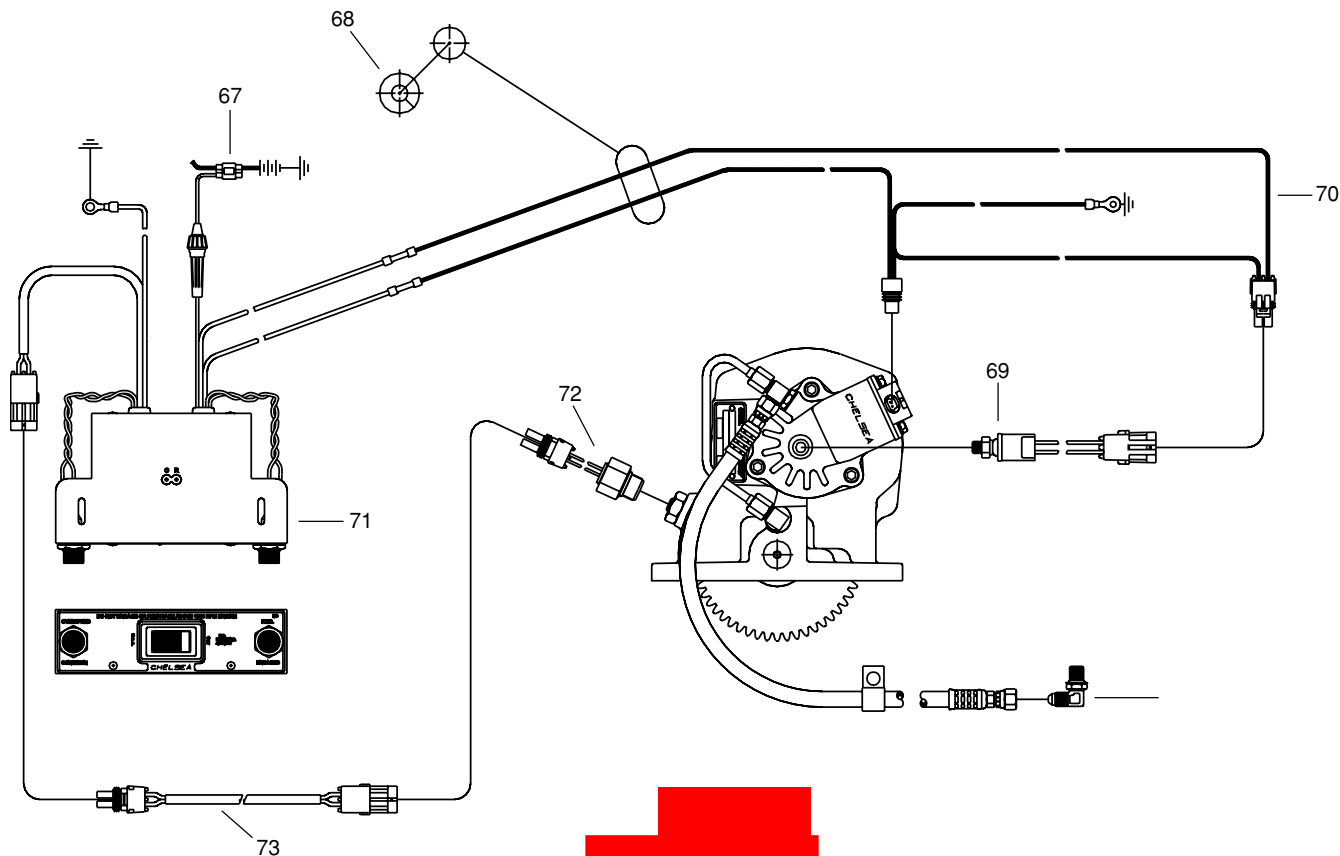
Model Number	Bearing Cap Item No. 7	Output Shaft Item No. 26	Oil Seal Item No. 9	Bearing Cup Item No. 55	Bearing Cone Item No. 56	Spacer Item No. 3
859-**XS	21-P-515	3-P-890	28-P-219	560977	560976	4-P-161
859-**XV	21-P-517	3-P-889	28-P-211	560982	560986	4-P-162
859-**XY	21-P-549	3-P-891	28-P-230	550258	560986	4-P-162
859-**AB	21-P-517	3-P-889	28-P-211	560982	560986	4-P-162
859-**AC	21-P-517	3-P-889	28-P-211	560982	560986	4-P-162
859-**AZ	21-P-539	3-P-890	28-P-219	560977	560976	4-P-161

Model Number Designation



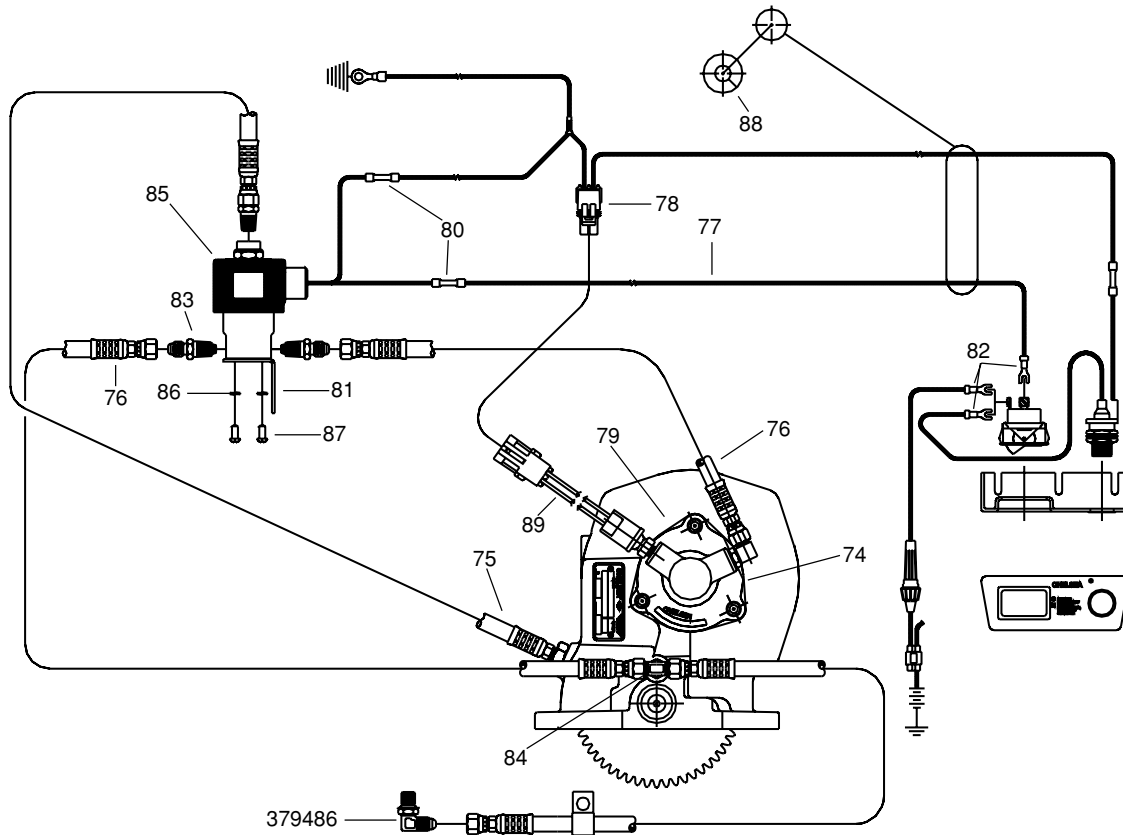


Shift Installation Kit With Electronic Overspeed Control



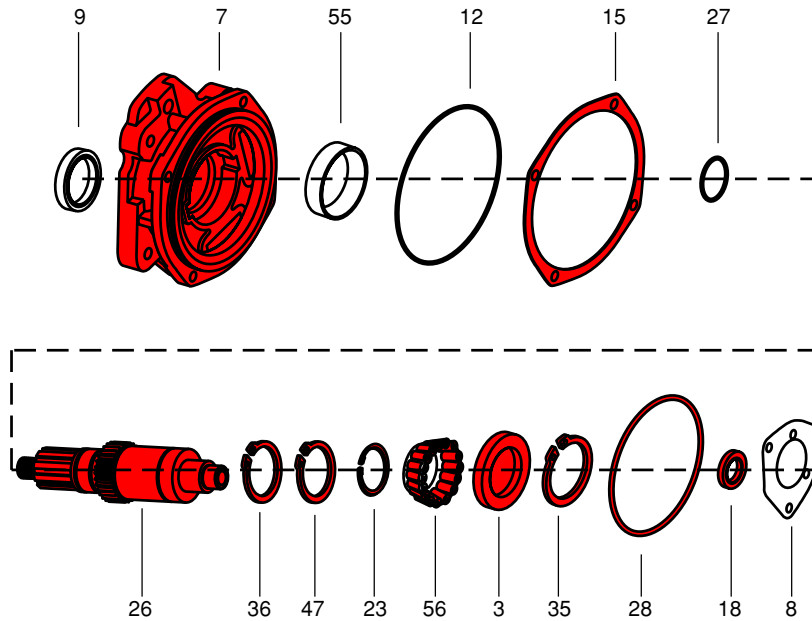
Item	Part Number	Description	Quantity
	329175-12X	E.O.C. Field Conversion Kit, 12 Volt, "K" Shift Option	1
	329175-24X	E.O.C. Field Conversion Kit, 24 Volt, "L" Shift Option	1
	329076X	Shift Installation Kit	1
67	379257	Connector, Splice	1
68	379265	Grommet	1
69	379502	Pressure Switch	1
70	379504	Valve Connector & Wire	1
N.S.	379252	Butt Connector	1
N.S.	379061	Wire Tie	6
71	328924-12X	Chelsea E.O.C., 12 Volt	1
	328924-24X	Chelsea E.O.C., 24 Volt	1
72	379243	Speed Sensor	1
73	328923-10X	Connector Cable (10 Ft. Furnished)	1
	328923-5X	Connector Cable (5 Ft. Optional)	1

N.S. Not Shown



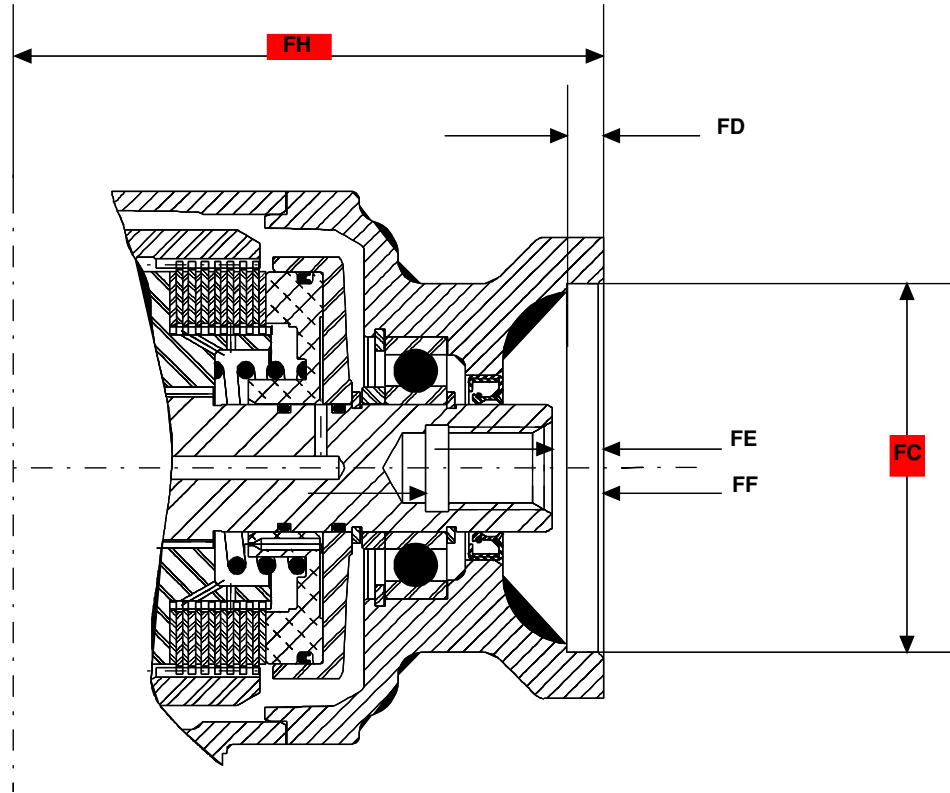
Item	Part Number	Description	Quantity
	329240-12X	12 Volt Remote Mount Solenoid Conversion Kit (Items 74-88)	
	329240-24X	24 Volt Remote Mount Solenoid Conversion Kit (Items 74-88)	
74	22-P-92	Valve Cap Gasket	1
75	328075X	Hose Assembly	1
76	329130-1X	Hose Assembly	2
77	329230X	Connector Wire	1
78	329231X	Valve Connector Wire	1
79	329239X	Seal Cap Assembly Kit Contains next 4 items	1
N.S.	21-P-554	Seal Cap	1
N.S.	28-P-119	Oil Seal	1
N.S.	378811	Seal Plate	1
N.S.	378849	Retainer Ring	1
80	379252	Butt Connector	2
81	379258	Mounting Bracket Solenoid	1
82	379306	Fork Connector	3
83	379449	Male Connector	2
84	379556	Run Tee	1
85	379686-1	Solenoid Valve, 12 Volt D.C. for 329240-12X Kit	1
	379686-2	Solenoid Valve, 24 Volt D.C. for 329240-24X Kit	1
86	500357-7	Lockwasher	2
87	500457-6	Mtg. Screw	2
88	379265	Grommet	1
89	379502	Pressure Switch	1

N.S. Not Shown



Item	Part Number	Description	Quantity
	329160-29X	"XS" Output, Conversion Kit (XD to XS)	
	329160-40X	"XY" Output, Conversion Kit (XV to XY)	
	329160-44X	"AZ" Output, Conversion Kit	1
3	4-P-161	Spacer Output "XS"	1
7	21-P-515	Bearing Cap "XS"	1
	21-P-541	Bearing Cap "XY"	1
8	22-P-92	Valve Cap Gasket	1
9	28-P-219	Oil Seal, "XS"	1
	28-P-230	Oil Seal, "XY"	1
12	28-P-196	O-Ring	1
15	55-P-20-1	Shim Bearing Cover	2
	55-P-20-2	Shim Bearing Cover	2
	55-P-20-3	Shim Bearing Cover	2
18	28-P-119	Oil Seal	1
23	378849	Retaining Ring	1
26	3-P-890	Output Shaft "XS"	1
	3-P-891	Output Shaft "XY"	1
27	28-P-194	O-Ring	2
28	28-P-195	Block Vee Ring	1
35	379465	External Lockring	1
36	379532	External Lockring	1
47	379511	Lockring	1
55	560982	Tapered Bearing Cup, "XY"	1
	560977	Tapered Bearing Cup, "XS"	1
56	560976	Tapered Bearing Cone, "XS"	1
	560986	Tapered Bearing Cone, "XY"	2
N.S.	378898	Hex Socket Screw, "XY"	1
N.S.	379560	Coupling	1
N.S.	379688	Lubricant-spline	1
	329160-44X	"AZ" Output, Conversion Kit	1

N.S. Not Shown



Pump Flange Suffix	Bolt Circle Diameter	BOLT HOLES		FC	FD	FE	FF	FH	OUTPUT SHAFT
		Tapered Hole	No. Equally Spaced	Female Pilot Diameter	Pilot Depth	Face To End Of Shaft	Face Thru Hole	Face To Center Of P.T.O.	Hole Diameter
XS	7.125	.625-11	2	5.002	.531	.699	2.574	7.607	1.25-14 Spline
	6.375	.500-13	4	5.004					
XY	4.455	M12-1.75	4	3.151	.394	.516	2.500	9.153	8- Spline DIN 5462
	(113-157)			3.153 (80.035) (80.086)					

Numbers in parenthesis are mm.

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

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

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

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

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

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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.

9/01-P

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