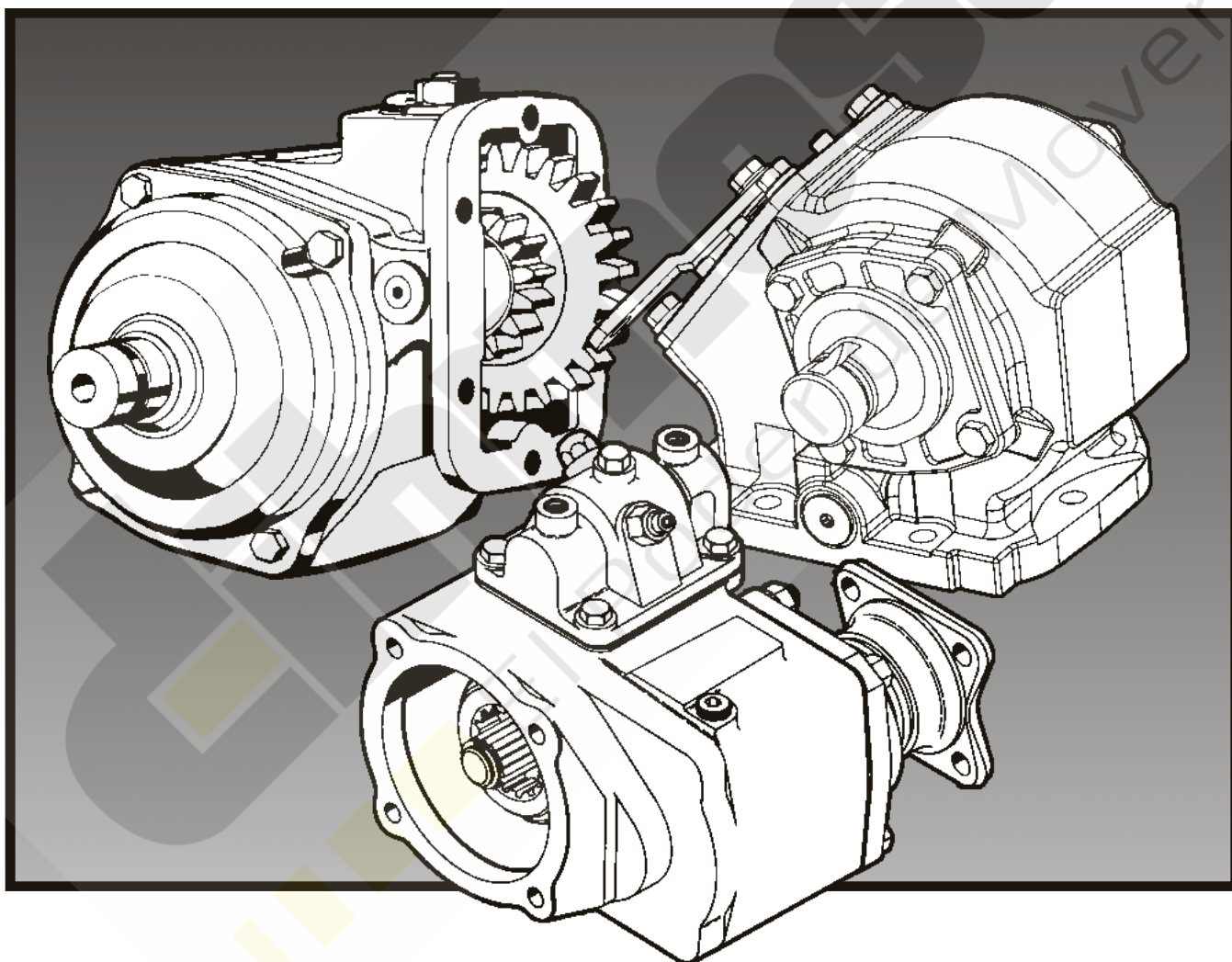


Parts List 442, 442GMT, 447 & 489 Series

Effective: June 15, 2007
Supersedes: HY25-2442-M1/US Dated August 2006



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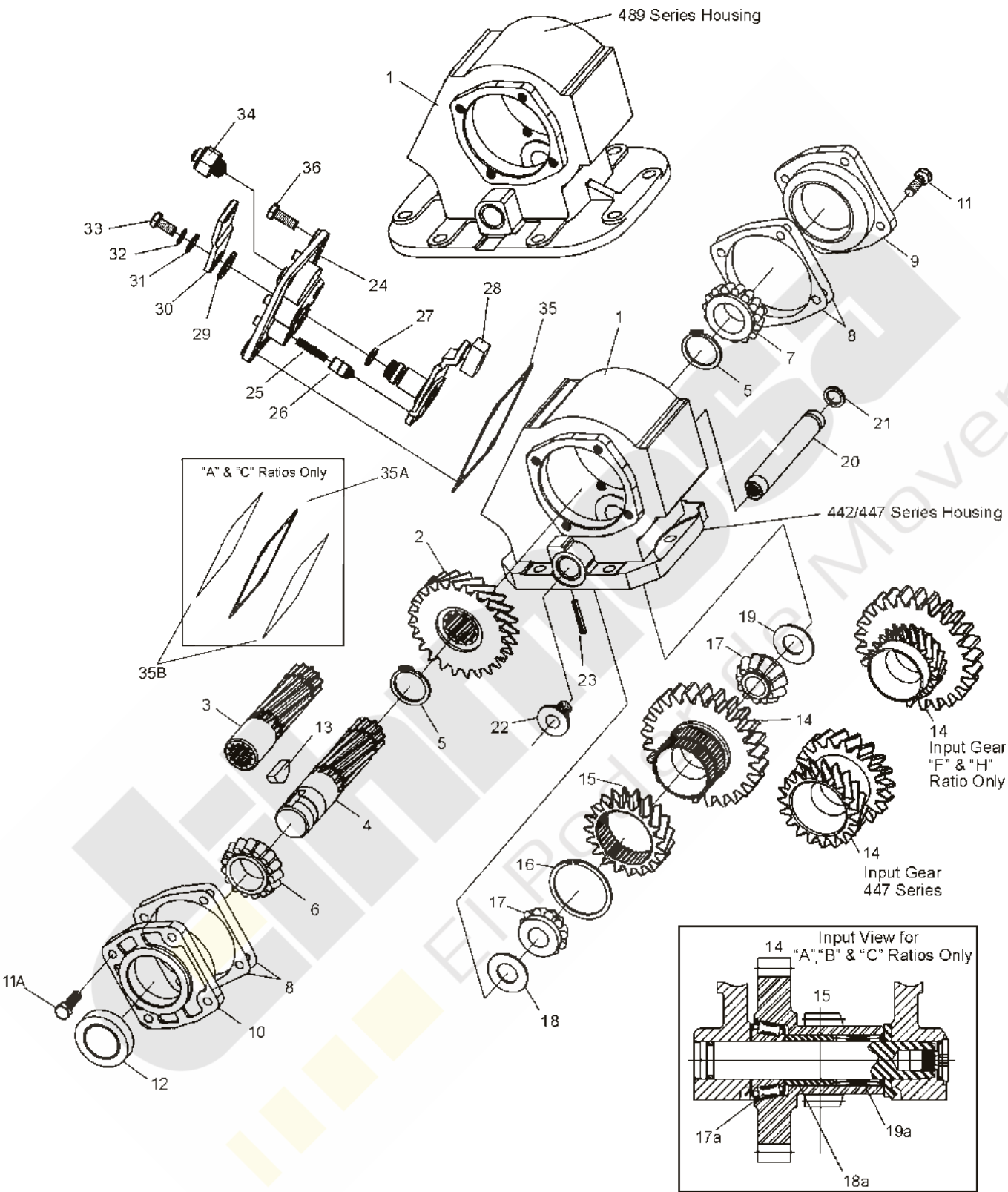
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Bill of Materials

Power Take-Offs

442, 442GMT, 447 & 489 Series

Item	Part Number	Description	Quantity		
			442	447	489
1	1-P-557X	Housing, Standard Mount ("X", "G" & "K") (Includes Item 23)	1	1	-
	1-P-558X	Housing, Deep Mount ("Z" & "L") (Includes Item 23)	1	1	-
	1-P-552X	Housing, Standard Mount (Includes Item 23)	-	-	1
	1-P-562X	Housing, Deep Mount (Includes Item 23)	-	-	1
2	See Charts, Pgs 11-14	Gear, Output	1	1	1
3	See Charts, Pgs 17-20	Shaft, Output Pump Mount	1	1	1
4	3-P-202	Shaft, Output ("XD") Standard 1.250" Rd. .313" K.W.	1	1	1
	3-P-978	Shaft, Output ("XD" for "B" Ratio Only) Standard 1.250" Rd. .313" K.W. ...	1	-	-
5	378391	Lockring (All other shifter types Except "M")	2	2	2
6	550397	Bearing Cone	1	1	1
7	550532	Bearing Cone	1	1	1
8	22-P-24-1	Gasket, Bearing Cap (.010")	A.R.	A.R.	A.R.
	22-P-24-2	Gasket, Bearing Cap (.020")	A.R.	A.R.	A.R.
	22-P-24-3	Gasket, Bearing Cap (.015")	A.R.	A.R.	A.R.
9	328274X	Bearing Cap Assembly, Close End	1	1	1
N.S.	550221	Bearing Race	1	1	1
10	328273X	Bearing Cap Assembly, Open End ("XD" Output)	1	1	1
N.S.	550221	Bearing Race	1	1	1
	See Charts, Pgs 17-20	Bearing Cap Assembly, Pump Mounts	1	1	1
11	378430-10	Capscrew, Hex Head (.312"-18 x 1.00") (Closed cap side)	4	4	4
11A	378430-10	Capscrew, Hex Head (.312"-18 x 1.00") ("XD" Output)	4	4	4
12	28-P-216	Oil Seal, "XD" Output	1	1	1
	See Charts, Pgs 17-20	Oil Seal	1	1	1
13	500007-29	Key, Woodruff ("XD" Output)	1	1	1
14	See Charts, Pgs 11-14	Gear, Input	1	1	1
15	See Charts, Pgs 11-14	Gear, Input Ratio	1	1	1
16	379522	Lock Ring	1	1	1
17	550439	Bearing Cone	2	2	2
17A	561006	Bearing Cone, Tapped ("A", "B" & "C" only)	1	-	1
18A	14-P-75	Spacer, Input Bearing ("A", "B" & "C" only)	1	-	1
19A	550890	Bearing, Needle Roller ("A", "B" & "C" only)	1	-	1
18	14-P-73-1	Spacer, Idler Gear (.149"-.151")	A.R.	A.R.	A.R.
	14-P-73-2	Spacer, Idler Gear (.152"-.154")	A.R.	A.R.	A.R.
	14-P-73-3	Spacer, Idler Gear (.155"-.157")	A.R.	A.R.	A.R.
	14-P-73-4	Spacer, Idler Gear (.158"-.160")	A.R.	A.R.	A.R.
	14-P-73-5	Spacer, Idler Gear (.161"-.163")	A.R.	A.R.	A.R.
19	31-P-102	Thrust Washer, Bearing	1	1	1
20	9-P-88	Shaft, Idler Standard	1	1	1
	9-P-89	Shaft, Idler Pressure Lube ("P")	1	1	1
21	28-P-191	O-Ring	1	1	1
22	379672	Plug, O-Ring w/Socket Face (NWD Plug)	1	1	1
23	500597-14	Roll Pin, Deep Mount (1" long)	1	1	1
	500597-16	Roll Pin, Standard Mount (1.125" long)	1	1	1
		CABLE CONTROL COVER ASSEMBLIES			
		Ratios "Q", "W" & "X"			
	329119-1X	Shifter Cover Ass'y, Wire Control (Assy 3 & 6)	1	-	1
	329119-2X	Shifter Cover Ass'y, Wire Control (Assy 4 & 5)	1	-	1
		Ratios "F", "H", "L", "R", "S" & "U"			
	329121-1X	Shifter Cover Ass'y, Wire Control (Assy 3 & 6)	1	-	1
	329121-2X	Shifter Cover Ass'y, Wire Control (Assy 4 & 5)	1	-	1
		Ratios "A", "B" & "C"			
	329271-1X	Shifter Cover Assembly, Wire Control (Ass'y 3 & 6)	1	-	1
	329271-2X	Shifter Cover Assembly, Wire Control (Ass'y 4 & 5)	1	-	1

N.S.— Not Shown A.R.—As Required

Continued on Next Page

Bill of Materials

Power Take-Offs

442, 442GMT, 447 & 489 Series

Item	Part Number	Description	Quantity		
			442	447	489
		Ratios "Q" & "W"			
	329151-1X	Shifter Cover Assembly, Wire Control (Ass'y 3 & 6)	-	1	-
	329151-2X	Shifter Cover Assembly, Wire Control (Ass'y 4 & 5)	-	1	-
		Ratios "R", "S" & "U"			
	329152-1X	Shifter Cover Assembly, Wire Control (Ass'y 3 & 6)	-	1	-
	329152-2X	Shifter Cover Assembly, Wire Control (Ass'y 4 & 5)	-	1	-
		All the above shift cover assemblies include items 24 thru 35			
24	34-P-39	Cover Plate, Shifter - Constant Mesh	1	1	1
	34-P-74	Cover Plate, Shifter	1	-	1
25	37-P-19	Spring	1	1	1
26	63-P-16	Poppet Pin	1	1	1
27	28-P-191	O-Ring	1	1	1
		Ratios "Q" & "W" & "X"			
28	329118-1X	Post And Plate Assembly, (Ass'y 3 & 6)	1	1	1
28	329118-2X	Post And Plate Assembly, (Ass'y 4 & 5)	1	1	1
		Ratios "F", "H", "L", "R", "S" & "U"			
28	329120-1X	Post And Plate Assembly, (Ass'y 3 & 6)	1	1	1
28	329120-2X	Post And Plate Assembly, (Ass'y 4 & 5)	1	1	1
		Ratios "A", "B" & "C"			
28	329265-1X	Post And Plate Assembly, (Ass'y 3 & 6)	1	-	1
28	329265-2X	Post And Plate Assembly, (Ass'y 4 & 5)	1	-	1
29	378004	Flat Washer	1	1	1
30	51-P-22	Shifter Lever	1	1	1
31	500365-22	Flat Washer	1	1	1
32	500356-10	Lockwasher	1	1	1
33	500409-6	Capscrew, Hex Head (.312"-24 x .625")	1	-	1
34	379639	Indicator Switch, Pin Style (Normally Off)	1	-	1
	379652	Indicator Switch, Pin Style (Normally On)	-	1	-
35	35-P-8	Gasket, Shifter Cover	1	1	1
35A	5-A-188	Gasket, Shifter Cover ("A", "B" & "C" Ratio Only)	1	-	1
35B	35-P-8	Gasket, Shifter Cover ("A", "B" & "C" Ratio Only)	2	-	2
36	378430-9	Capscrew, Hex Head (.312"-18 x .875") (Wire, Electric & Air Shift)	4	4	4
	378430-10	Capscrew, Hex Head (.312"-18 x 1.000") (Wire Shift "A", "B" & "C" Ratio)	4	-	4
N.S.	68-P-2	Name Plate	1	1	1
N.S.	378422	Drive Screw, Name Plate	2	2	2
		Loose Parts			
		P.T.O. Mounting Kit			
	328170-76X	Mounting Kit ("X" Mounting Type)	1	1	-
	328170-77X	Mounting Kit ("Z" Mounting Type)	1	1	-
	7170-72X	Mounting Kit ("G" Metric Mounting Type)	1	1	-
	328170-201X	Mounting Kit ("G" Metric Mounting Type)	-	-	1
	328170-200X	Mounting Kit ("X" & "Z" Mounting)	-	-	1
	328346-10X	Cable, Wire Control ("W" Shifter)	1	1	1
	328380X	Parts Bag, Wire Control ("W" Shifter)	1	1	1
	329245X	Bracket Kit, Wire Control ("C" Shifter)	1	-	1
		Air Shift Installation Kit			
	328388-37X	Air Shift Installation Kit ("A" Shifter)	1	1	1
	328388-47X	Air Shift Installation Kit ("P" Shifter)	1	1	1
	328388-48X	Air Shift Installation Kit ("Q" Shifter)	1	1	1
	328388-65X	Air Shift Installation Kit ("S" Shifter)	1	1	1
	328388-72X	Air Shift Installation Kit ("T" Shifter)	1	-	1

N.S.— Not Shown A.R.—As Required

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Bill of Materials

Power Take-Offs

442, 442GMT, 447 & 489 Series

Item	Part Number	Description	Quantity		
			442	447	489
	328751-1X	Installation Kit ("C", "H", "W", "X", "Y")	1	1	1
	68-P-18	Name Plate	1	1	1
	378978	Indicator Light, 12V	1	1	1
	379900	Fuse Holder, 10-Amp	1	1	1
	379252	Butt Connector	2	2	2
	379640	Booted Connector ("V" Shifter Option)	1	-	1
	379319	Indicator Switch Booth	1	1	1
	328948-6X	Gasket and Installation Instructions	1	1	-
	328948-8X	Gasket and Installation Instructions	-	-	1
	329166-12X	Electric Shift Installation Kit	1	1	1
	379640	Booted Connector ("V" Shifter Option)	1	-	1
	378414	Pressure Protection Valve ("V" Shifter Option)	1	1	1
	328075X	Pressure Lube Hose ("HVP" Input Gear Only)	1	-	-
	328711X	Pump Mounting Kit ("XR" Output)	-	1	-
		Service Kits			
	329202X	Indicator Switch Connector Service Kit	1	-	1
	329218X	Indicator Switch Service Kit	1	-	1
	329304X	Bearing Cap and Seal Assembly (Pressure Lube)	1	-	1
	See Pgs 15-16	Pump Field Conversion Kit	1	1	1
	328356-67X	Gasket & Seal Kit			
	22-P-24-1	Gasket, Bearing Cap	4	-	-
	22-P-24-2	Gasket, Bearing Cap	4	-	-
	22-P-24-3	Gasket, Bearing Cap	4	-	-
	28-P-191	O-Ring	2	-	-
	28-P-216	Oil Seal	1	-	-
	35-P-8	Gasket, Shifter Cover	1	-	-
	35-P-9-1	Gasket, Housing	2	-	-
	35-P-9-2	Gasket, Housing	2	-	-
	378391	Lockring	2	-	-
	328356-13X	Gasket & Seal Kit	-	1	-
	22-P-24-1	Gasket, Bearing Cap	-	4	-
	22-P-24-2	Gasket, Bearing Cap	-	4	-
	22-P-24-3	Gasket, Bearing Cap	-	2	-
	28-P-190	O-Ring	-	1	-
	28-P-191	O-Ring	-	2	-
	28-P-216	Oil Seal	-	1	-
	35-P-8	Gasket, Shifter Cover	-	2	-
	35-P-9-1	Gasket, Housing (.010)	-	2	-
	35-P-9-2	Gasket, Housing (.020)	-	2	-
	378391	Lockring	-	2	-
	378774	Lockwasher	-	6	-

N.S.— Not Shown A.R.—As Required

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Bill of Materials

Power Take-Offs

442, 442GMT, 447 & 489 Series

Item	Part Number	Description	Quantity		
			442	447	489
		Service Kits (Continued)			
	328356-50X	Gasket & Seal Kit	-	-	1
	22-P-24-1	Gasket, Bearing Cap	-	-	4
	22-P-24-2	Gasket, Bearing Cap	-	-	4
	22-P-24-3	Gasket, Bearing Cap	-	-	4
	28-P-190	O-Ring	-	-	1
	28-P-191	O-Ring	-	-	1
	28-P-216	Oil Seal	-	-	1
	35-P-8	Gasket, Shifter Cover	-	-	1
	35-P-15-1	Gasket, Housing	-	-	1
	35-P-15-2	Gasket, Housing	-	-	1
	378391	Lockring	-	-	2
	328356-15X	Shifter Cover Seal Kit (Wire Control)	1	1	1
	22-P-69	Gasket	1	1	1
	28-P-191	O-Ring	1	1	1
	28-P-226	Oil Seal	1	1	1
	35-P-8	Gasket, Shifter Cover	1	1	1
	35-P-9-1	Gasket, Housing	2	2	2
	35-P-9-2	Gasket, Housing	2	2	2
	328356-69X	Shifter Cover Seal Kit (Wire Control "A", "B" & "C" ratio)	1	-	1
	22-P-69	Gasket	1	-	1
	28-P-191	O-Ring	1	-	1
	28-P-226	Oil Seal	1	-	1
	5-A-188	Spacer	1	-	1
	35-P-9-1	Gasket, Housing	2	-	2
	35-P-9-2	Gasket, Housing	2	-	2
	328356-71X	Shifter Cover Seal Kit (Air Shift)	1	1	1
	28-P-41	O-Ring	1	1	1
	28-P-42	O-Ring	2	2	2
	378316	Retainer	2	2	2
	35-P-8	Gasket, Shifter Cover	2	2	2
	35-P-9-1	Gasket, Housing	1	1	1
	35-P-9-2	Gasket, Housing	1	1	1
	329096-1X	Field Conversion Kit (Self Lube Replace 3-P-202)	-	1	-
	329097-1X	Field Conversion Kit (Self Lube Replace 3-P-282)	-	1	-
	328594-13X	Bearing and Spacer Kit (Non-Pressure Lube)	1	1	1
	14-P-73-1	Spacer, Idler Gear (.149" - .151")	1	1	1
	14-P-73-2	Spacer, Idler Gear (.152" - .154")	1	1	1
	14-P-73-3	Spacer, Idler Gear (.155" - .157")	1	1	1
	14-P-73-4	Spacer, Idler Gear (.158" - .160")	1	1	1
	14-P-73-5	Spacer, Idler Gear (.161" - .163")	1	1	1
	28-P-191	O-Ring	1	1	1
	31-P-102	Thrust Washer, Bearing	1	1	1
	379672	NWD Plug	1	1	1
	550439	Bearing	2	2	2
	9-P-88	Shaft, Idler	1	1	1

N.S.—Not Shown A.R.—As Required

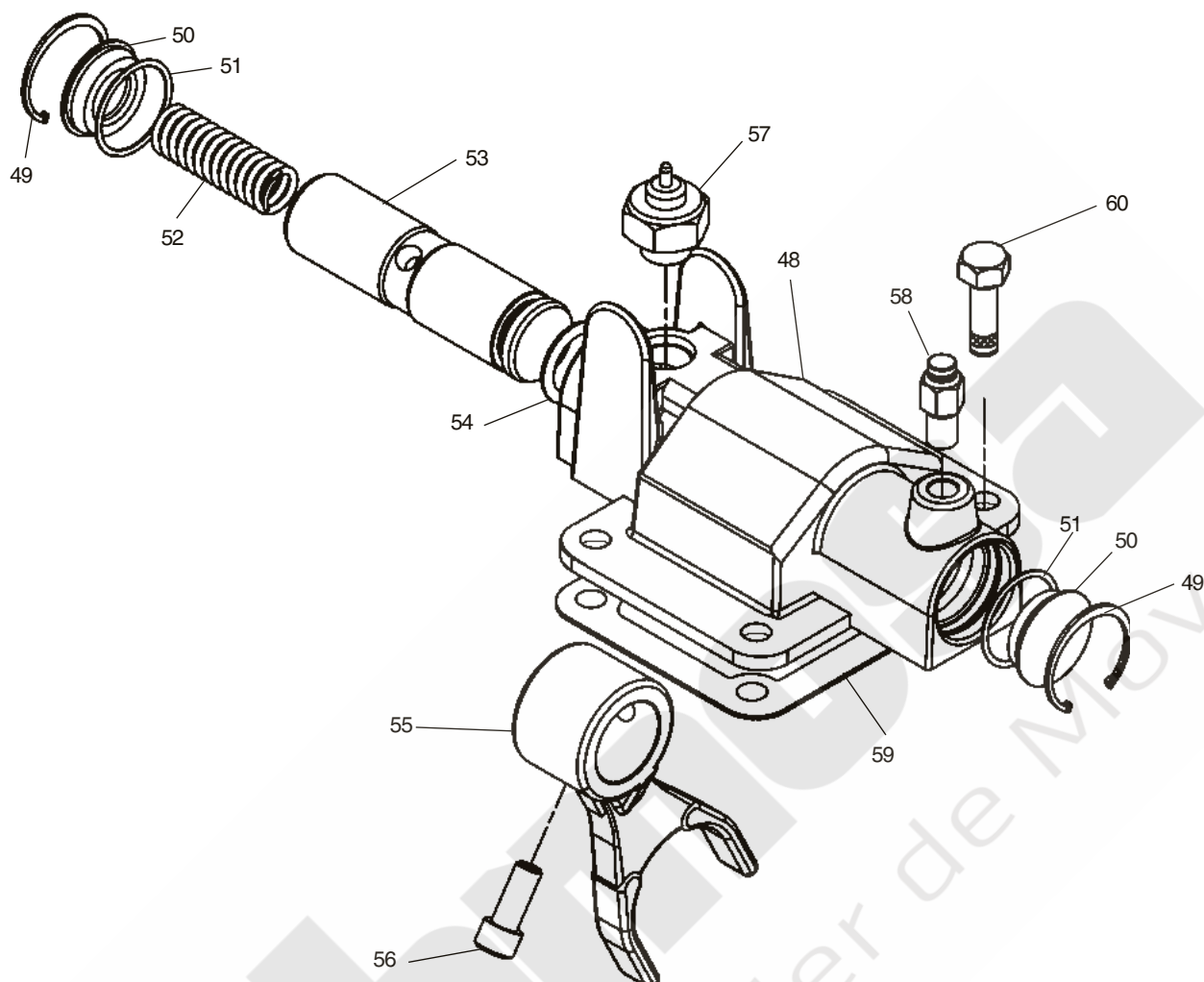
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Bill of Materials

Power Take-Offs

442, 442GMT, 447 & 489 Series

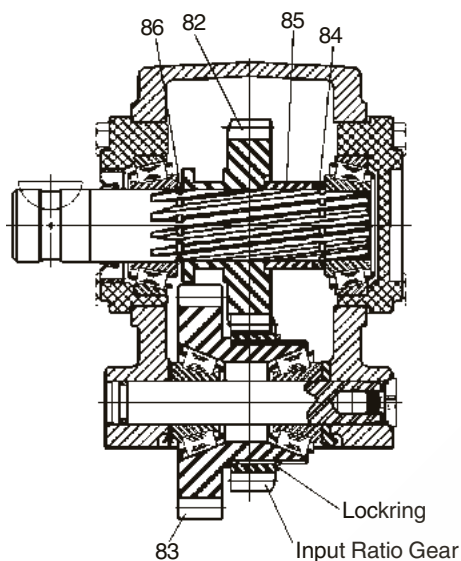
Item	Part Number	Description	Quantity		
			442	447	489
		Service Kits (Continued)			
	328594-14X	Bearing and Spacer Kit (Pressure Lube)			
	14-P-73-1	Spacer, Idler Gear (.149" - .151")	1	-	1
	14-P-73-2	Spacer, Idler Gear (.152" - .154")	1	-	1
	14-P-73-3	Spacer, Idler Gear (.155" - .157")	1	-	1
	14-P-73-4	Spacer, Idler Gear (.158" - .160")	1	-	1
	14-P-73-5	Spacer, Idler Gear (.161" - .163")	1	-	1
	28-P-191	O-Ring	1	-	1
	31-P-102	Thrust Washer	1	-	1
	379672	NWD Plug	1	-	1
	500841-1	Street Elbow 90°	1	-	1
	500897-3	Shipping Plug	1	-	1
	550439	Bearing	2	-	2
	9-P-89	Shaft, Idler	1	-	1
	328594-15X	Bearing and Spacer Kit (Non-Pressure Lube "A", "B" & "C" ratio)			
	14-P-73-1	Spacer, Idler Gear (.149" - .151")	1	-	1
	14-P-73-2	Spacer, Idler Gear (.152" - .154")	1	-	1
	14-P-73-3	Spacer, Idler Gear (.155" - .157")	1	-	1
	14-P-73-4	Spacer, Idler Gear (.158" - .160")	1	-	1
	14-P-73-5	Spacer, Idler Gear (.161" - .163")	1	-	1
	14-P-75	Spacer, Input Bearing	1	-	1
	28-P-191	O-Ring	1	-	1
	31-P-102	Thrust Washer	1	-	1
	379672	Plug, NWD	1	-	1
	550890	Needle Bearing	1	-	1
	561006	Bearing	1	-	1
	9-P-88	Shaft, Idler	1	-	1
	328594-16X	Bearing and Spacer Kit (Pressure Lube "A", "B" & "C" Ratio)	1	-	1
	14-P-73-1	Spacer, Idler Gear (.149" - .151")	1	-	1
	14-P-73-2	Spacer, Idler Gear (.152" - .154")	1	-	1
	14-P-73-3	Spacer, Idler Gear (.155" - .157")	1	-	1
	14-P-73-4	Spacer, Idler Gear (.158" - .160")	1	-	1
	14-P-73-5	Spacer, Idler Gear (.161" - .163")	1	-	1
	14-P-75	Spacer, Input Bearing	1	-	1
	28-P-191	O-Ring	1	-	1
	31-P-102	Thrust Washer	1	-	1
	379672	Plug, NWD	1	-	1
	500841-1	Street Elbow 90°	1	-	1
	500897-3	Plug, Shipping	1	-	1
	550890	Needle Bearing	1	-	1
	561006	Bearing	1	-	1
	9-P-89	Shaft, Idler	1	-	1
	329260X	Conversion Kit, 440 to 442 series	1	-	-
	329261X	Conversion Kit, 440 deep mount to 442 deep mount	1	-	-
	329262X	Conversion Kit, 488 to 489 Series	-	-	1
	329263X	Conversion Kit, 488 deep mount to 489 deep mount	-	-	1



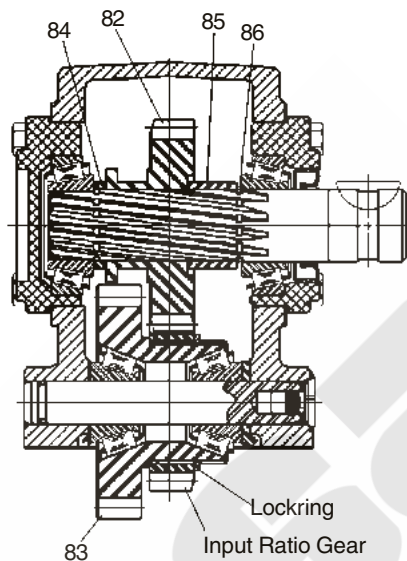
Item	Part Number	Description	Quantity		
			442	447	489
	329361X	Shifter Cover Assembly, Air Shift (Includes Items 48-57)	1	-	1
	329363X	Shifter Cover Assembly, Air Shift	-	1	-
48	34-P-130	Shifter Cover	1	1	1
49	378316	Snap Ring	2	2	2
50	378315	Cover Plug	2	2	2
51	28-P-42	O-Ring	2	2	2
52	37-P-21	Shifter Spring	1	1	1
53	11-P-75	Shaft, Shifter	1	1	1
54	28-P-41	O-Ring	1	1	1
55	32-P-180	Shifter Fork	1	1	1
56	378447-4	Capscrew, Socket Head w/ lockpatch (.312"-18 x .750")	1	1	1
57	379639	Indicator Switch (Normally OFF)	1	1	1
58	379904	Push Connect, for 1/4" tubing	1	1	1
59	35-P-8	Gasket, Shifter Cover	1	1	1
60	378430-8	Capscrew, Hex Head (.312"-18 x .875")	4	4	4
	Air Shift Conversion Kits				
	328390-117X	Lever or Cable to Air	1	-	1
	328390-119X	Lever or Cable to Electric/Air, 12V	1	-	1
	328390-120X	Lever or Cable to Electric/Air, 24V	1	-	1
	328390-125X	Wire to Air	-	1	-
	328390-127X	Wire to Electric/Air 12V	-	1	-
	328390-129X	Wire to Electric/Air 24V	-	1	-

For P.T.O.'s ordered without the shifter (Shifter Type "H"), the kits shown below will provide all the components required to complete the assembly.

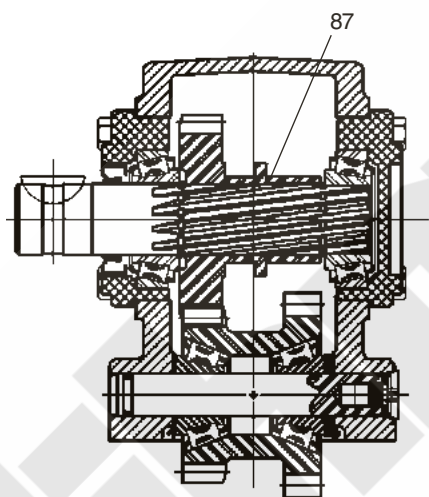
Part Number	Description	Quantity		
		442	447	489
329106-39X	Shifter Kit (Air Shift, "A" shift option)	1	-	1
329106-43X	Shifter Kit (Air Shift, "P" shift option)	1	-	1
329106-45X	Shifter Kit (Air Shift, "Q" shift option)	1	-	1
329106-71X	Shifter Kit (Air Shift, "A" shift option)	-	1	-
329106-75X	Shifter Kit (Air Shift, "P" shift option)	-	1	-
329106-77X	Shifter Kit (Air Shift, "Q" shift option)	-	1	-
329106-105X	Shifter Kit (Wire Control 3 & 6, "Q", "W", "X" ratio; "W" shift option)	1	-	1
329106-106X	Shifter Kit (Wire Control 4 & 5, "Q", "W", "X" ratio; "W" shift option)	1	-	1
329106-107X	Shifter Kit (Wire Control 3 & 6, "Q", "W", "X" ratio; "X" shift option)	1	-	1
329106-108X	Shifter Kit (Wire Control 4 & 5, "Q", "W", "X" ratio; "X" shift option)	1	-	1
329106-109X	Shifter Kit (Wire Control 3 & 6, "F", "L", "R", "S", "U" ratio; "W" shift option)	1	-	1
329106-110X	Shifter Kit (Wire Control 4 & 5, "F", "L", "R", "S", "U" ratio; "W" shift option)	1	-	1
329106-111X	Shifter Kit (Wire Control 3 & 6, "F", "L", "R", "S", "U" ratio; "X" shift option)	1	-	1
329106-112X	Shifter Kit (Wire Control 4 & 5, "F", "L", "R", "S", "U" ratio; "X" shift option)	1	-	1
329106-113X	Shifter Kit (Wire Control 3 & 6, "Q" & "W" ratio; "W" shift option)	-	1	-
329106-114X	Shifter Kit (Wire Control 4 & 5, "Q" & "W" ratio; "W" shift option)	-	1	-
329106-117X	Shifter Kit (Wire Control 3 & 6, "Q" & "W" ratio; "X" shift option)	-	1	-
329106-118X	Shifter Kit (Wire Control 4 & 5, "Q" & "W" ratio; "X" shift option)	-	1	-
329106-135X	Constant Mesh Kit	1	-	1
329106-143X	Shifter Kit (Wire Control 3 & 6, "A" "B" & "C" ratio; "W" shift option)	1	-	1
329106-144X	Shifter Kit (Wire Control 4 & 5, "A" "B" & "C" ratio; "W" shift option)	1	-	1
329106-145X	Shifter Kit (Wire Control 3 & 6, "A" "B" & "C" ratio; "X" shift option)	1	-	1
329106-146X	Shifter Kit (Wire Control 4 & 5, "A" "B" & "C" ratio; "X" shift option)	1	-	1
329106-151X	Shifter Kit ("V" shift option)	-	1	-
329106-153X	Shifter Kit ("V" shift option)	1	-	1
329143X	Field Conversion Kit (Shifter Shaft)	1	1	1



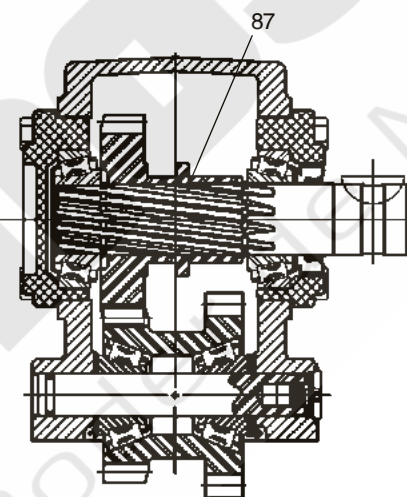
442 & 489 Series Ass'y 4 & 6



442 & 489 Series Ass'y 3 & 5



447 Series Ass'y 3 & 5

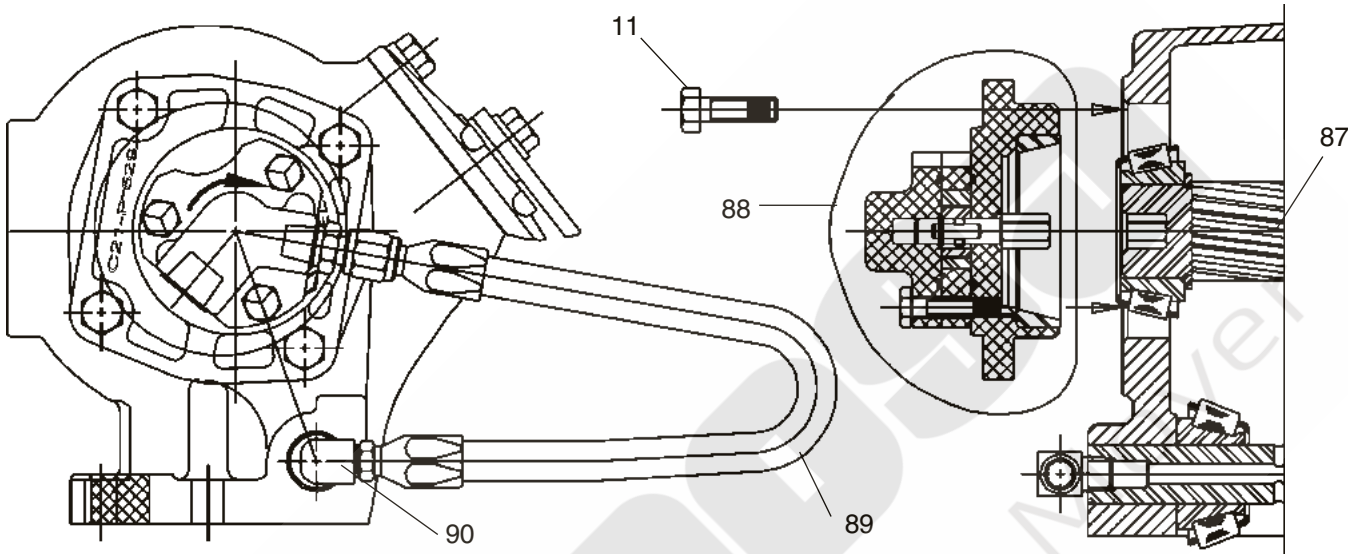


447 Series Ass'y 4 & 6

Item	Part Number	Description	Quantity		
			442	447	489
82	See Charts, Pgs 11-14	Gear, Output	1	-	1
83	See Charts, Pgs 11-14	Gear, Input	1	-	1
84	4-P-177	Spacer, Drive Shaft	1	-	1
85	4-P-178	Spacer, Drive Shaft	1	-	1
86	378391	Lockring (Shifter Type "M")	1	-	1
87	4-P-165	Spacer, Drive Shaft	-	1	-
N.S.	34-P-39	Cover Plate, Shifter	1	1	1
N.S.	35-P-8	Gasket, Shifter Cover	1	1	1
N.S.	378430-6	Capscrew, Hex Head (.312"-18 X .625")	4	4	4

N.S.— Not Shown

NOTE: Pump must rotate in direction of arrow



NOTE: Install Street Elbow into idler shaft before installing idler shaft

Pump assembly as shown is for "Q", "W" and "X" ratios.
Rotate as needed for "A", "C", "F", "H", "L", "R", "S" and "U" ratios.

Item	Part Number	Description	Quantity		
			442	447	489
11	378430-10	Capscrew, Hex Head (.312"-18 x 1.00")	4	4	4
87	3-P-857	Shaft, Output ("LD" Output)	1	1	1
	3-P-858	Shaft, Output ("LA", "LB", "LC", "LE", "LF" Output)	1	1	1
88	329091X	Lube Pump & Bearing Cap Assembly	1	1	1
89	329092X	Pressure Lube Hose Assembly	1	1	1
90	500841-1	Street Elbow, 90°	1	1	1

Input Gear Chart — 442 Series

Model Number	Part Number	Gear Type	No. Teeth Input Gear	No. Teeth Ratio Gear	Model Number	Part Number	Gear Type	No. Teeth Input Gear	No. Teeth Ratio Gear
442**AB	5-P-1001	SPUR	19		442**FC	5-P-1064	Left Helix	26	
442**AC	5-P-1002	SPUR	19		442**FE	5-P-1065	Left Helix	29	
442**AG	5-P-1003	SPUR	22		442**FF (OBS)	5-P-1066	Left Helix	32	
442**AH	5-P-1004	SPUR	22		442**FK	5-P-1067	Left Helix	21	
442**AL (OBS)	5-P-1005	SPUR	22		442**FL	5-P-1068	Left Helix	25	
442**AP	5-P-1006	Left Helix	21		442**FM	5-P-1069	SPUR	28	
442**AQ	5-P-1007	Left Helix	21		442**FN	5-P-1070	Left Helix	26	
442**AR	5-P-1008	Left Helix	21						
442**AW	5-P-1009	Left Helix	22		442**FP	5-P-1071	Left Helix	23	
442**AX	5-P-1010	Left Helix	22		442**FQ (OBS)	5-P-1072	Left Helix	21	
442**BA	5-P-1011	Left Helix	23		442**FW	5-P-1098	Left Helix	28	
442**BC	5-P-1012	Left Helix	18		442**GQ	5-P-1150	Left Helix	26	
442**BE (OBS)	5-P-1013	SPUR	27		442**GS	5-P-1152	Left Helix	29	
					442**GR (OBS)	5-P-1157	SPUR	23	
442**BG	5-P-1015	Left Helix	23						
442**BH	5-P-1016	Right Helix	25		442**HW	5-P-1235	SPUR	35	
442**BJ	5-P-1017	Left Helix	25		442**HX	5-P-1236	SPUR	32	
442**BK	5-P-1018	Left Helix	23		442**HY	5-P-1237	Left Helix	26	
442**BL	5-P-1019	Right Helix	22						
442**BM	5-P-1020	Left Helix	22		442**JD	5-P-1248	Left Helix	20	
442**BN	5-P-1021	Left Helix	22		442**JG	5-P-1256	Left Helix	28	
442**BP	5-P-1022	Right Helix	26		442**JH	5-P-1257	Left Helix	29	
442**BQ	5-P-1023	Left Helix	25		442**JK	5-P-1261	Left Helix	24	
442**BR	5-P-1024	Right Helix	26		442**JM	5-P-1263	Left Helix	22	
442**BS	5-P-1025	Left Helix	26		442**JP	5-P-1268	Left Helix	33	
442**BU (OBS)	5-P-1026	SPUR	33		442**JS	5-P-1310	Left Helix	20	
442**BY	5-P-1027	Right Helix	26		442**JT (OBS)	5-P-1313	Left Helix	19	
442**BZ	5-P-1028	Left Helix	26		442**JU	5-P-1316	Left Helix	25	
442**CB	5-P-1029	Left Helix	25		442**JW	5-P-1319	Left Helix	23	
					442**KC	5-P-1341	Left Helix	41	
442**CD	5-P-1031	Left Helix	27		442**KH	5-P-1343	Left Helix	32	
442**CM (OBS)	5-P-1035	SPUR	22		442**KJ	5-P-1405	Left Helix	33	
442**CR	5-P-1036	Left Helix	17		442**KL	5-P-1407	Left Helix	29	
					442**KN	5-P-1383	Left Helix	27	
442**DA	5-P-1037	SPUR	23		Input Gears "A" Ratio Only				
442**DB	5-P-1038	SPUR	39		442*AAB	5-P-1279	SPUR	19	14
442**DC	5-P-1039	SPUR	19		442*AAH	5-P-1280	SPUR	22	14
442**DD	5-P-1040	SPUR	20		442*AAP	5-P-1282	Left Helix	21	14
442**DH	5-P-1041	Left Helix	21		442*AAR	5-P-1283	Left Helix	21	14
442**DJ	5-P-1042	Left Helix	28		442*ADA	5-P-1284	SPUR	23	14
442**DK	5-P-1043	Left Helix	26		442*AES	5-P-1285	Left Helix	22	14
					Input Gears "B" Ratio Only				
442**DM	5-P-1045	Left Helix	17		442*BHV	5-P-1358	SPUR	24	14
442**DN	5-P-1046	Left Helix	19		442*BAH	5-P-1418	SPUR	22	14
442**DP	5-P-1047	Left Helix	27		Input Gears "C" Ratio Only				
442**DQ	5-P-1048	Left Helix	20		442*CAB	5-P-1286	SPUR	19	17
					442*CAH	5-P-1287	SPUR	22	17
442**DU	5-P-1050	Left Helix	28						
442**DX	5-P-1052	Left Helix	26		442*CAB	5-P-1286	SPUR	19	17
442**DY (OBS)	5-P-1053	Left Helix	16		442*CAH	5-P-1287	SPUR	22	17
442**EA	5-P-1054	Left Helix	26						
442**EC	5-P-1055	Left Helix	36		442*CAP	5-P-1289	Left Helix	21	17
442**ED	5-P-1056	Left Helix	34		442*CAR	5-P-1290	Left Helix	21	17
442**EL	5-P-1075	Right Helix	30		442*CDA	5-P-1291	SPUR	23	17
442**EP	5-P-1057	Right Helix	35		442*CES	5-P-1292	Left Helix	22	17
442**EQ	5-P-1058	Left Helix	30		Input Gears "F" Ratio Only				
442**ES	5-P-1059	Left Helix	22		442*FAB	5-P-1076	SPUR	19	21
442**EV	5-P-1060	SPUR	40		442*FAH	5-P-1077	SPUR	22	21
					442*FAP	5-P-1079	Left Helix	21	21
442**EW	5-P-1061	Left Helix	20		442*FAR	5-P-1080	Left Helix	21	21
442**FB (OBS)	5-P-1063	Left Helix	25		442*FBC	5-P-1081	Left Helix	18	21
					442*FBG	5-P-1082	Left Helix	23	21
					442*FBM	5-P-1083	Left Helix	22	21
					442*FBQ	5-P-1084	Left Helix	25	21
					442*FDA	5-P-1085	SPUR	23	21
					442*FDJ	5-P-1086	Left Helix	28	21

Continued on Next Page

Input Gear Chart — 442 Series (Continued)

Model Number	Part Number	Gear Type	No. Teeth Input Gear	No. Teeth Ratio Gear	Model Number	Part Number	Gear Type	No. Teeth Input Gear	No. Teeth Ratio Gear
442*FDN	5-P-1087	Left Helix	19	21	442*FGQ	5-P-1149	Left Helix	26	21
442*FDU	5-P-1088	Left Helix	28	21	442*FGS	5-P-1151	Left Helix	29	21
442*FEC	5-P-1089	Left Helix	36	21	442*FHV	5-P-1300	SPUR	24	21
442*FED	5-P-1090	Left Helix	34	21	442*FJS	5-P-1311	Left Helix	20	21
442*FEP	5-P-1091	Right Helix	35	21	442*FJT	5-P-1314	Left Helix	19	21
442*FES	5-P-1092	Left Helix	22	21	442*FJU	5-P-1317	Left Helix	25	21
442*FET	5-P-1093	Left Helix	19	21	442*FJW	5-P-1320	Left Helix	23	21
442*FEV	5-P-1094	SPUR	40	21	Input Gears "H" Ratio Only				
442*FEW	5-P-1095	Left Helix	20	21	442*HAH	5-P-1364	SPUR	22	23
442*FFE	5-P-1096	Left Helix	29	21	442*HDA	5-P-1365	SPUR	23	23
442*FFN	5-P-1097	Left Helix	26	21					

Input Ratio Gear Chart — 442 Series

Ratio	Part Number	No. Teeth
442*A	See Input Gear Chart	
442*B	See Input Gear Chart	
442*C	See Input Gear Chart	
442*F	See Input Gear Chart	
442*L	5-P-964	25
442*Q	5-P-965	19
442*R	5-P-1214	22
442*S	5-P-966	24
442*U	5-P-967	26
442*W	5-P-968	26
442*X	5-P-969	38

Output Gear Chart — 442 Series

Ratio	Part Number	No. Teeth
442*A	2-P-791	39
442*B	2-P-833	39
442*C	2-P-792	37
442*F	2-P-726	37
442*H	2-P-802	35
442*L	2-P-727	34
442*Q	2-P-559	24
442*R	2-P-559	24
442*S	2-P-637	22
442*U	2-P-560	20
442*W	2-P-561	17
442*X	2-P-728	21

Geared Adapter Gears — 442 Series

Model Number	Part Number	Gear Type	No. Teeth	Adapter Input Gear	Part Number	Gear Type	No. Teeth
442**GX	5-P-1183	Right Helix	21	AP	5-P-1006	Left Helix	21
442**GY	5-P-1184	Right Helix	21	AR	5-P-1008	Left Helix	21
442**GZ	5-P-1185	Right Helix	22	AW	5-P-1009	Left Helix	22
442**HA	5-P-1186	Left Helix	22	AX	5-P-1010	Right Hand	22
442**HB	5-P-1187	Right Helix	23	BG	5-P-1015	Left Helix	23
442**HC	5-P-1188	Right Helix	22	BM	5-P-1020	Left Helix	22
442**HD	5-P-1189	Right Helix	25	CB	5-P-1029	Left Helix	25
442**HE	5-P-1190	Right Helix	27	CD	5-P-1031	Left Helix	27
442**HF	5-P-1191	Right Helix	17	DM	5-P-1045	Left Helix	17
442**HG	5-P-1192	Right Helix	19	DN	5-P-1046	Left Helix	19
442**HH	5-P-1193	Right Helix	28	DU	5-P-1050	Left Helix	28
442**HJ	5-P-1194	Right Helix	36	EC	5-P-1055	Left Helix	36
442**HK	5-P-1195	Right Helix	34	ED	5-P-1056	Left Helix	34
442**HL	5-P-1196	Right Helix	22	ES	5-P-1059	Left Helix	22
442**HM	5-P-1197	Right Helix	20	EW	5-P-1061	Left Helix	20
442**HP	5-P-1199	Right Helix	26	FC	5-P-1064	Left Helix	26
442**HQ	5-P-1200	Right Helix	29	FE	5-P-1065	Left Helix	29
442**HR	5-P-1201	Right Helix	26	FN	5-P-1070	Left Helix	26
442**JB	5-P-1244	Right Helix	26	HY	5-P-1237	Left Helix	26
442**JC	5-P-1247	Right Helix	27	DJA	5-P-1243	Left Helix	27
442**JE	5-P-1249	Right Helix	20	JD	5-P-1248	Left Helix	20
442**JL	5-P-1262	Right Helix	24	JK	5-P-1261	Left Helix	24
442**JN	5-P-1264	Right Helix	22	JM	5-P-1263	Left Helix	22
442**JQ	5-P-1269	Right Helix	33	JP	5-P-1268	Left Helix	33
442**JY	5-P-1312	Right Helix	20	JS	5-P-1310	Left Helix	20
442**KA	5-P-1318	Right Helix	25	JU	5-P-1316	Left Helix	25
442**KB	5-P-1321	Right Helix	23	JW	5-P-1319	Left Helix	23
442**KK	5-P-1406	Right Helix	33	KJ	5-P-1405	Left Helix	33
442**KM	5-P-1408	Right Helix	29	KL	5-P-1407	Left Helix	29
442**KP	5-P-1384	Right Helix	27	KN	5-P-1383	Left Helix	27

Gear Chart — 447 Series

Model Number	Part No. Input Gear	Helix Angle	No. Teeth* Input Gear	No. Teeth** Ratio Gear	Part No. Output Gear	No. Teeth Output Gear
447*QET	5-P-865	Left Helix	19	19	2-P-697	24
447*QES	5-P-869	Left Helix	22	19	2-P-697	24
447*QFX	5-P-979	Left Helix	24	19	2-P-697	24
447*QGP	5-P-1145	Spur	23	19	2-P-697	24
447*QCD	5-P-1178	Left Helix	27	19	2-P-697	24
447*QEV	5-P-1205	Spur	40	19	2-P-697	24
447*SET	5-P-866	Left Helix	19	24	2-P-698	22
447*SES	5-P-870	Left Helix	22	24	2-P-698	22
447*SFF	5-P-891	Left Helix	32	24	2-P-698	22
447*SEQ	5-P-892	Left Helix	30	24	2-P-698	22
447*SCD	5-P-1179	Left Helix	27	24	2-P-698	22
447*SEV	5-P-1206	Spur	40	24	2-P-698	22
447*SJX	5-P-1270	Spur	40	24	2-P-698	22
447*RET	5-P-1215	Left Helix	19	22	2-P-697	24
447*RES	5-P-1216	Left Helix	22	22	2-P-697	24
447*RGP	5-P-1217	Spur	23	22	2-P-697	24
447*RCD	5-P-1218	Left Helix	27	22	2-P-697	24
447*REV	5-P-1219	Spur	40	22	2-P-697	24
447*UET	5-P-867	Left Helix	19	26	2-P-699	20
447*UES	5-P-871	Left Helix	22	26	2-P-699	20
447*UFE	5-P-889	Left Helix	29	26	2-P-699	20
447*UGP	5-P-1147	Spur	23	26	2-P-699	20
447*UCD	5-P-1180	Left Helix	27	26	2-P-699	20
447*UEV	5-P-1207	Spur	40	26	2-P-699	20
447*UJX	5-P-1271	Spur	40	26	2-P-699	20
447*WET	5-P-868	Left Helix	19	26	2-P-700	17
447*WES	5-P-872	Left Helix	22	26	2-P-700	17
447*WFE	5-P-890	Left Helix	29	26	2-P-700	17
447GWFH	5-P-900	Right Helix	20	26	2-P-700	17
447GWFG	5-P-901	Right Helix	18	26	2-P-700	17
447*WFX	5-P-976	Spur	38	14	2-P-700	17
447*WGD	5-P-988	Right Helix	19	26	2-P-700	17
447*WGP	5-P-1148	Spur	23	26	2-P-700	17
447*WCD	5-P-1181	Left Helix	27	26	2-P-700	17
447*WEV	5-P-1208	Spur	40	26	2-P-700	17
447*WJX	5-P-1272	Spur	40	26	2-P-700	17

* Input gear meshes with the transmission

** Ratio gear meshes with the P.T.O. Output Gear

NOTE: The unique design of the 447 Series input gear requires that the spacers used to shim the input bearings be placed opposite of the normal position found on the 442 and 489 series. For the 447 Series install the Input gear spacers (item # 18 on pg. 2) on the idler shaft between the Input Gear and P.T.O. housing.

Input Gear Chart — 489 Series

Model Number	Part Number	Gear Type	No. Teeth Input Gear	No. Teeth Ratio Gear	Model Number	Part Number	Gear Type	No. Teeth Input Gear	No. Teeth Ratio Gear
489**AB	5-P-1001	Spur	19		489*CAB	5-P-1286	Spur	19	17
489**AH	5-P-1004	Spur	22		489*CAH	5-P-1287	Spur	22	17
489**AR	5-P-1008	Left Helix	21		489*CAR	5-P-1290	Left Helix	21	17
489**BG	5-P-1015	Left Helix	23		489*CDA	5-P-1291	Spur	23	17
489**DA	5-P-1037	Spur	23						
489**DU	5-P-1050	Left Helix	28		489*FAB	5-P-1076	Spur	19	21
489**EV	5-P-1060	Spur	40		489*FAH	5-P-1077	Spur	22	21
489**DB	5-P-1038	Spur	39		489*FAR	5-P-1080	Left Helix	21	21
489**CR	5-P-1036	Left Helix	17		489*FBG	5-P-1082	Left Helix	23	21
489**HW	5-P-1235	Spur	35		489*FDA	5-P-1085	Spur	23	21
489**HX	5-P-1236	Spur	32		489*FDU	5-P-1088	Left Helix	28	21
					489*FEV	5-P-1094	Spur	40	21
489*AAB	5-P-1279	Spur	19	14	489*HAH	5-P-1364	Spur	22	23
489*AAH	5-P-1280	Spur	22	14	489*HDA	5-P-1365	Spur	23	23
489*AAR	5-P-1283	Left Helix	21	14					
489*ADA	5-P-1284	Spur	23	14					

Ratio Gear Chart — 489 Series

Input Ratio Gear Chart — 489 Series

Ratio	Part Number	No. Teeth
489*A	See Chart Above	
489*C	See Chart Above	
489*F	See Chart Above	
449*H	See Chart Above	
489*L	5-P-964	25
489*Q	5-P-965	19
489*R	5-P-1214	22
489*S	5-P-966	24
489*U	5-P-967	26
489*W	5-P-968	26
489*X	5-P-969	38

Output Gear Chart — 489 Series

Ratio	Part Number	No. Teeth
489*A	2-P-791	39
489*C	2-P-792	37
489*F	2-P-726	37
449*H	2-P-802	35
489*L	2-P-727	34
489*Q	2-P-559	24
489*R	2-P-559	24
489*S	2-P-637	22
489*U	2-P-560	20
489*W	2-P-561	17
489*X	2-P-728	21

Flange Suffix	Flange Type	Shaft Type	Conversion Kit
AA	Special for England	.982"-6 Spline	
AF	S.A.E. "B" 2 or 4 Bolt	1.0"-15 Spline	XD to AF 328591-30X
AK	S.A.E. "B" 2 Bolt	7/8"-13 Spline ("B" Ratio Only)	XD to AK 328591-28X XD to AK 329436-7X
AZ	Non-Standard	1-1/4"-14 Spline	XD to AZ 328591-70X
FF	S.A.E. "B" 2 or 4 Bolt	7/8" Round w/1/4" key	XD to FF 328591-29X
GA	Rotatable S.A.E. "B" 2 Bolt	● 7/8"-13 Spline	XD to GA 328591-72X XR to GA 328591-73X RA to GA 328591-106X
GB	Rotatable S.A.E. "B" 4 Bolt	● 7/8"-13 Spline	XD to GB 328591-74X XR to GB 328591-75X RB to GB 328591-107X
GF	S.A.E. "BB" 2 or 4 Bolt	● 1.0"-15 Spline	XD to GF 328591-71X AF to GF 328591-108X
GH	Rotatable S.A.E. "BB" 2 Bolt	● 1.0"-15 Spline	XD to GH 328591-116X RF to GH 328591-114X
GJ	S.A.E. "B" 4 Bolt Rotatable	● 1.0"-15 Spline	XD to GJ 328591-138X RE to GJ 328591-114X
GK	S.A.E. "B" 2 or 4 Bolt	● 7/8"-13 Spline	XD to GK 328591-89X XK to GK 328591-86X
GP	S.A.E. "A" Pilot 2 or 4 Bolt	● 7/8"-13 Spline	XD to GP 328591-90X XP to GP 328591-86X
■ GQ	S.A.E. "B" 2 or 4 Bolt	● 7/8"-13 Spline	XD to GQ 328591-91X XQ to GQ 328591-86X
GR	Chelsea Special 4 Bolt	● 7/8"-13 Spline	XD to GR 328591-76X
GY	Din 5462 Pump Mounting	● 7/8"-13 Spline	XD to GY 328591-92X XY to GY 328591-87X
GZ	Non-standard 4 Bolt	● 1-1/4"-14 Spline	XD to GZ 328591-93X AZ to GZ 328591-88X
» LA	S.A.E. "B" 2 Bolt	7/8"-13 Spline	AK to LA 328591-44X
» LB	S.A.E. "A" Pilot 2 Bolt	7/8"-13 Spline	XP to LB 328591-45X
» LC	S.A.E. "B" 2 Or 4 Bolt	7/8"-13 Spline	XQ to LC 328591-46X
» LD	Similar to "XD"	1-1/4" Round	XD to LD
» LE	6 Bolt Round	7/8"-13 Spline	XN to LE 328591-47X
» LF	S.A.E. "B" 2 or 4 Bolt	7/8"-13 Spline	XK to LF 328591-48X

NOTE: Check Current Price Sheet for Availability of Output Options

Continued on Next Page

XR to "XK" Conversion Flange 21-P-525

● Shaft with Grease Fitting

■ Similar to Ass'y "XK" Flange Rotated 90°

» Lube Pump Option

Flange Suffix	Flange Type	Shaft Type	Conversion Kit
PA	Parker P2-060 Pump Mounting	7/8"-13 Spline	XD to PA 328591-143X
PF	Parker P2-060 Pump Mounting	1.0"-15 Spline	XD to PF 328591-142X
RA	Rotatable S.A.E. "B" 2 Bolt	7/8"-13 Spline	XD to RA 328591-55X
		("B" Ratio Only)	XR to RA 328591-53X
			XD to RA 329436-1X
RB	Rotatable S.A.E. "B" 4 Bolt	7/8"-13 Spline	XD to RB 328591-56X
		("B" Ratio Only)	XR to RB 328591-54X
			XR to RB 329436-2X
RC	Rotatable S.A.E. "A" 2 Bolt	5/8"-9 Spline	XD to RC 328591-112X
RD	Rotatable S.A.E. "A" 2 Bolt	7/8"-13 Spline	XD to RD 328591-113X
		("B" Ratio Only)	XD to RD 329436-8X
RE	S.A.E. "B" 4 Bolt Rotatable	1.0"-15 Spline	XD to RE 328591-134X
RF	Rotatable S.A.E. "B" 2 Bolt	1.0"-15 Spline	XD to RF 328591-78X
RY	Rotatable DIN 5462	DIN 5462	XD to RY 328591-131X
SQ	S.A.E. "B" 4 Bolt	7/8"-13 Spline	XD to SQ 328591-149X
		("B" Ratio Only)	XD to SQ 329436-9X
XE	S.A.E. "A" 2 or 4 Bolt	5/8"-9 Spline	XD to XE 328591-27X
XG	Non-standard S.A.E. "A" 2 Bolt	3/4" Round w/ 3/16 key	XD to XG 328591-10X
XJ	Non-standard 2 Bolt	3/4" Round	XD to XJ 328591-11X
XK	S.A.E. "B" 2 or 4 Bolt	7/8"-13 Spline	XD to XK 328591-16X
		("B" Ratio Only)	XD to XK 329436-3X
XL	Non-standard 2 Bolt	7/8"-13 Spline	XD to XL 328591-18X
		("B" Ratio Only)	XD to XL 329436-4X
XO	S.A.E. "A" Pilot 2 Bolt	3/4" Round w/ 3/16 key	XD to XO 328591-26X
XP	S.A.E. "A" Pilot 2 Bolt	7/8"-13 Spline	XD to XP 328591-23X
		("B" Ratio Only)	XD to XP 329436-5X
■ XQ	S.A.E. "B" 2 or 4 Bolt	7/8"-13 Spline	XD to XQ 328591-17X
		("B" Ratio Only)	XD to XQ 329436-6X
XR	Chelsea Special 4 Bolt	7/8"-13 Spline	XD to XR 328591-52X
XV	Round Shaft	1-1/4" w/ set screw	XD to XV 328591-130X
XX	S.A.E Tapered Shaft	1-1/4" w/ 5/16" key	XD to XX 328591-122X
XY	Din 5462 Pump Mounting	DIN 5462	XD to XY 328591-121X

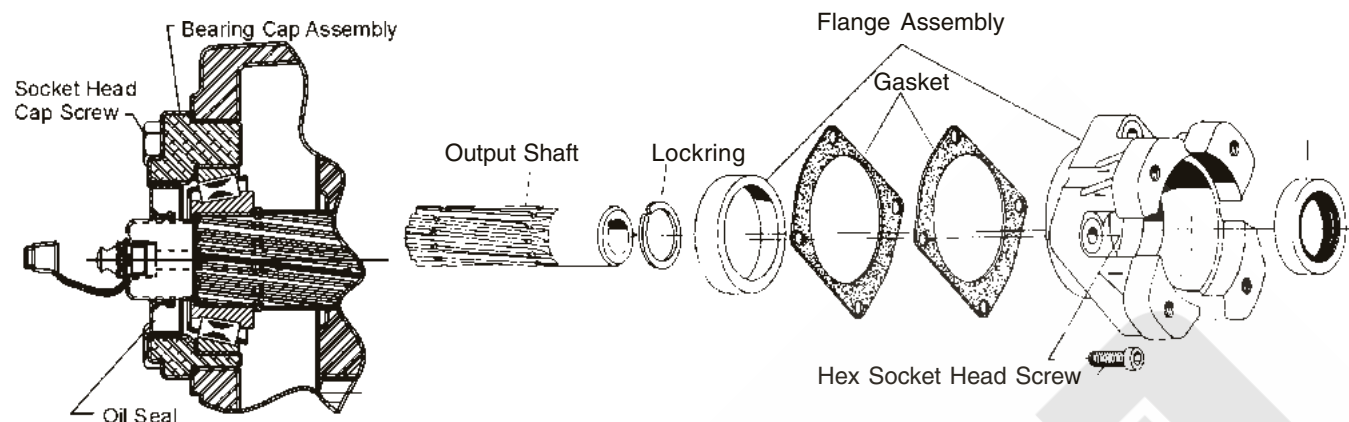
NOTE: Check Current Price Sheet for Availability of Output Options

XR to "XK" Conversion Flange 21-P-525

● Shaft with Grease Fitting

■ Similar to Ass'y "XK" Flange Rotated 90°

►► Lube Pump Option



Output Flange	Part Number	Description	Qty
AA	3-P-862	Output Shaft	1
	28-P-216	Oil Seal	1
	239102X	Bearing Cap Assy.(21-P-532)	1
	378447-8	Socket Head Capscrew (.312" - 18 x 1.5")	4
AF	3-P-854	Output Shaft	1
	28-P-219	Oil Seal	1
	329088X	Bearing Cap Assy.(21-P-522)	1
	378447-10	Socket Head Capscrew (.312" - 18 x 2.0")	4
AK	3-P-282	Output Shaft	1
	3-P-979	Output Shaft ("B" Ratio Only)	1
	28-P-216	Oil Seal	1
	328989X	Bearing Cap Assy.(21-P-472)	1
	378447-8	Socket Head Capscrew (.312" - 18 x 1.5")	4
AZ	3-P-844	Output Shaft	1
	28-P-275	Oil Seal	1
	329052X	Bearing Cap Assy.(21-P-508)	1
	378447-11	Socket Head Capscrew (.312" - 18 x 2.5")	4
FF	3-P-851	Output Shaft	1
	28-P-219	Oil Seal	1
	329088X	Bearing Cap Assy. (21-P-522)	1
	378447-10	Socket Head Capscrew (.312" - 18 x 2.0")	4
G*	3-P-923X	"GA", "GB", "GR", Shaft Assemblies	1 or
	3-P-981X	"GE" Shaft Assembly	1 or
	3-P-921X	"GF" Shaft Assemblies	1 or
	3-P-933X	"GQ", "GK", "GP" Shaft Assemblies	1 or
	3-P-938X	"GY" Shaft Assemblies	1 or
	3-P-939X	"GZ" Shaft Assemblies	1 or
	3-P-941X	"GH", "GJ" Shaft Assemblies	1
	500168-2	Lube Fitting (Zerk)	1
	379819	Grease Fitting Cap	1
	379688	Coupling Lube Pack (5/8 fl.oz)	1
	28-P-268	Rear Bearing Cap Shaft Oil Seal	1
	328273X	Rear Bearing Cap Assembly	1
	378430-10	Rear Bearing Cap Hex Head Capscrew (.312-18" x 1.00")	4
L*	3-P-857	Output Shaft ("LD")	1
	3-P-858	Output Shaft ("LA", "LB", "LC", "LF")	1
	329091X	Lube Pump & Bearing Cap Assy.	1
	329092X	Pressure Lube Hose Assy.	1
	500841-1	Elbow 90° Street	1
	378430-10	Hex Capscrew (.312" - 18 x 1.0")	4

Continued on following page

Output Options Bills of Material**Power Take-Offs****442, 442GMT, 447 & 489 Series**

Output Flange	Part Number	Description	Qty
PA	3-P-283	Output Shaft	1
	28-P-216	Oil Seal	1
	329195X	Bearing Cap Assy. (21-P-574)	1
	21-P-661	Pump Flange	1
	378447-6	Socket Head Capscrew (.312" - 18 x 1.0")	4
	328170-207X	Capscrew Bag Kit	1
	378447-6	Socket Head Capscrew (.312" - 18 x 1.0")	3
PF	3-P-924	Output Shaft	1
	28-P-219	Oil Seal	1
	329264X	Bearing Cap Assy. (21-P-629)	1
	21-P-661	Pump Flange	1
	378447-6	Socket Head Capscrew (.312" - 18 x 1.0")	4
	28-P-271	O-Ring	1
RA	3-P-283	Output Shaft	1
	3-P-980	Output Shaft ("B" Ratio Only)	1
	28-P-216	Oil Seal	1
	329195X	Bearing Cap Assy. (21-P-574)	1
	21-P-628	Pump Flange (Ship Loose with unit)	1
	378447-6	Socket Head Capscrew	4
	328170-207X	Capscrew Bag Kit	1
	378170-6	Socket Head Capscrew	3
RB	3-P-283	Output Shaft	1
	3-P-980	Output Shaft ("B" Ratio Only)	1
	28-P-216	Oil Seal	1
	329195X	Bearing Cap Assy. (21-P-574)	1
	21-P-572	Pump Flange (Ship Loose with unit)	1
	378447-6	Socket Head Capscrew	4
	328170-207X	Capscrew Bag Kit	1
	378170-6	Socket Head Capscrew	3
RC	3-P-800	Output Shaft	1
	28-P-216	Oil Seal	1
	329322X	Bearing Cap Assy (21-P-640)	1
	21-P-638	Pump Flange	1
	378447-6	Socket Head Capscrew (.312" - 18 x 1.0")	4
	328170-210X	Capscrew Bag Kit	1
	378447-4	Socket Head Capscrew (.312" - 18 x .75")	6
RE	3-P-924	Output Shaft	1
	28-P-219	Oil Seal	1
	329264X	Bearing Cap Assy. (21-P-629)	1
	21-P-654	Pump Flange	1
	378447-6	Socket Head Capscrew (.312" - 18 x 1.0")	4
	28-P-271	O-Ring	1
RF	3-P-924	Output Shaft	1
	28-P-219	Oil Seal	1
	329264X	Bearing Cap Assy. (21-P-629)	1
	21-P-626	Pump Flange	1
	378447-6	Socket Head Capscrew (.312" - 18 x 1.0")	7
	28-P-271	O-Ring	1
RY	3-P-768	Output Shaft	1
	21-P-625	Pump Flange	1
	329356X	Bearing Cap Assy (21-P-532)	1
	378447-8	Socket Head Capscrew (.312" - 18 x 1.5")	4
	329355-1X	Standard Loose Parts Kit	1
	379740-6	Socket Head Capscrew (M10 - 1.5" x .984")	3
	22-P-100	Gasket	1
	22-P-84	Gasket	1
	379231	Pipe Plug	2

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Output Options Bills of Material

Power Take-Offs

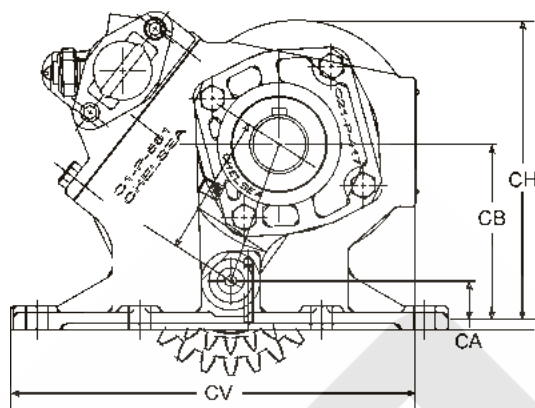
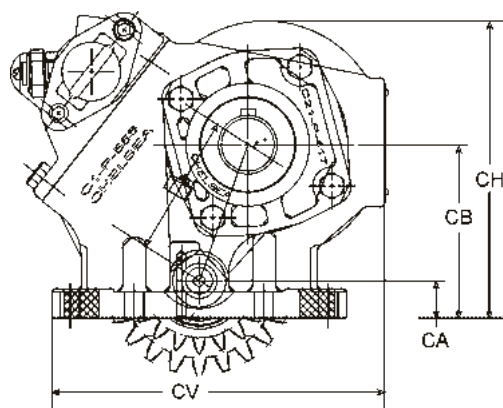
442, 442GMT, 447 & 489 Series

Output Flange	Part Number	Description	Qty
XE	3-P-800	Output Shaft	1
	28-P-216	Oil Seal	1
	328328X	Bearing Cap Assy. (21-P-161)	1
	378447-8	Socket Head Capscrew (.312" - 18 x 1.5")	4
XG	3-P-281	Output Shaft	1
	28-P-216	Oil Seal	1
	328580X	Bearing Cap Assy. (21-P-259)	1
	378447-8	Socket Head Capscrew (.312" - 18 x 1.5")	4
XJ	3-P-284	Output Shaft	1
	28-P-216	Oil Seal	1
	328580X	Bearing Cap Assy. (21-P-259)	1
	378447-8	Socket Head Capscrew (.312" - 18 x 1.5")	4
XK	3-P-282	Output Shaft	1
	3-P-979	Output Shaft ("B" Ratio Only)	1
	28-P-216	Oil Seal	1
	328333X	Bearing Cap Assy. (21-P-424)	1
XL	3-P-283	Output Shaft	1
	3-P-980	Output Shaft ("B" Ratio Only)	1
	28-P-216	Oil Seal	1
	328580X	Bearing Cap Assy. (21-P-259)	1
XO	3-P-284	Output Shaft	1
	28-P-216	Oil Seal	1
	328328X	Bearing Cap Assy. (21-P-161)	1
	378447-8	Socket Head Capscrew (.312" - 18 x 1.5")	4
XP	3-P-282	Output Shaft	1
	3-P-979	Output Shaft ("B" Ratio Only)	1
	28-P-216	Oil Seal	1
	328328X	Bearing Cap Assy. (21-P-161)	1
XQ	3-P-282	Output Shaft	1
	3-P-979	Output Shaft ("B" Ratio Only)	1
	28-P-216	Oil Seal	1
	328589X	Bearing Cap Assy. (21-P-269)	1
XR	3-P-283	Output Shaft	1
	28-P-216	Oil Seal	1
	329194X	Bearing Cap Assembly (21-P-574)	1
	379673	Hex Shoulder Screw (.312" - 24)	4
XV	379063	Flat Washer	4
	328711X	Pump Mounting Kit	1
	378919	Washer	4
	500963-1	Hex Lock Nut (.312" - 24)	4
XV	3-P-202	Output Shaft	1
	28-P-216	Oil Seal	1
	3-P-978	Output Shaft ("B" Ratio Only)	1
	328273X	Bearing Cap Assy. (21-P-418)	1
XV	378430-10	Hex Capscrew (.312" - 18 x 1.0")	4
	500007-29	Woodruff Key	1
	379828	Companion Flange	1
	378431-8	Set Screw	1

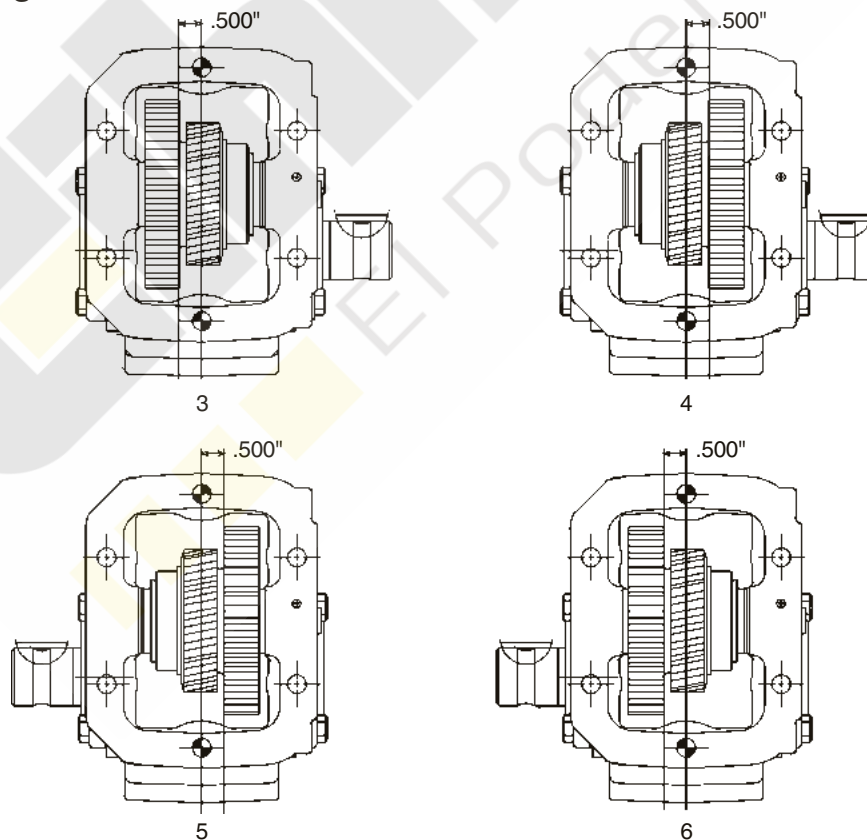
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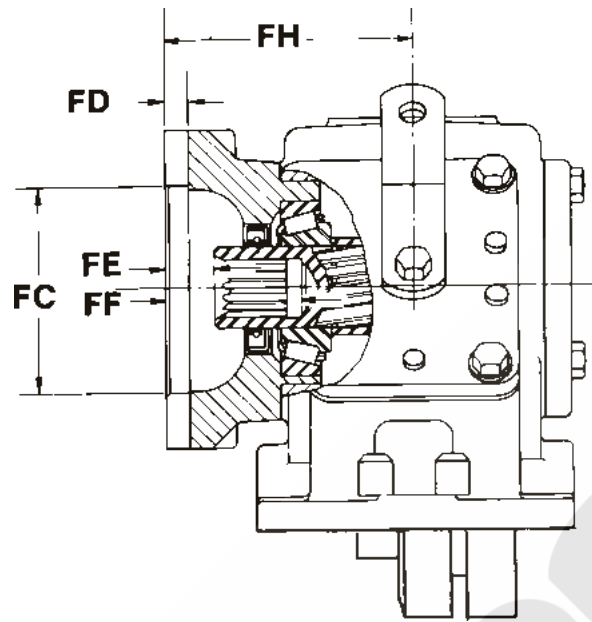
Output Options Bills of Material**Power Take-Offs****442, 442GMT, 447 & 489 Series**

Output Flange	Part Number	Description	Qty
XX	3-P-766	Output Shaft	1
	28-P-216	Oil Seal	1
	378430-10	Hex Capscrew (.312" - 18 x 1.0")	4
	379111	Square Key	1
	501181	Hex Locknut (1.0" - 20)	1
XY	3-P-768	Output Shaft	1
	28-P-275	Oil Seal	1
	328234X	Bearing Cap Assy. (21-P-614)	1
	378447-6	Socket Head Capscrew (.312" - 18 x 1.0")	4
SQ	3-P-282	Output Shaft	1
	3-P-979	Output Shaft ("B" Ratio Only)	1
	28-P-216	Oil Seal	1
	329449X	Bearing Cap Assy. (21-P-692)	1
	378447-8	Socket Head Capscrew (.312" - 18 x 1.5")	4



P.T.O. Series	Part Number	CA	CB	CD	CH	CV
442/447 Standard	1-P-557X	0.793	3.800 (F,H,L,R,S,U) 3.701 (Q,W,X) 3.568 (A,C)	3.317 (F,H,L,R,S,U) 3.087 (Q,W,X) 3.050 (A,C)	6.428	7.000
442/447 Deep Mount	1-P-558X	0.573	3.580 (F,H,L,R,S,U) 3.481 (Q,W,X) 3.348 (A,C)	3.317 (F,H,L,R,S,U) 3.087 (Q,W,X) 3.050 (A,C)	6.207	7.000
489 Standard	1-P-552X	1.072	4.079 (F,H,L,R,S,U) 3.980 (Q,W,X) 3.847 (A,C)	3.317 (F,H,L,R,S,U) 3.087 (Q,W,X) 3.050 (A,C)	6.708	8.500
489 Deep Mount	1-P-562X	0.930	3.937 (F,H,L,R,S,U) 3.838 (Q,W,X) 3.705 (A,C)	3.317 (F,H,L,R,S,U) 3.087 (Q,W,X) 3.050 (A,C)	6.566	8.500

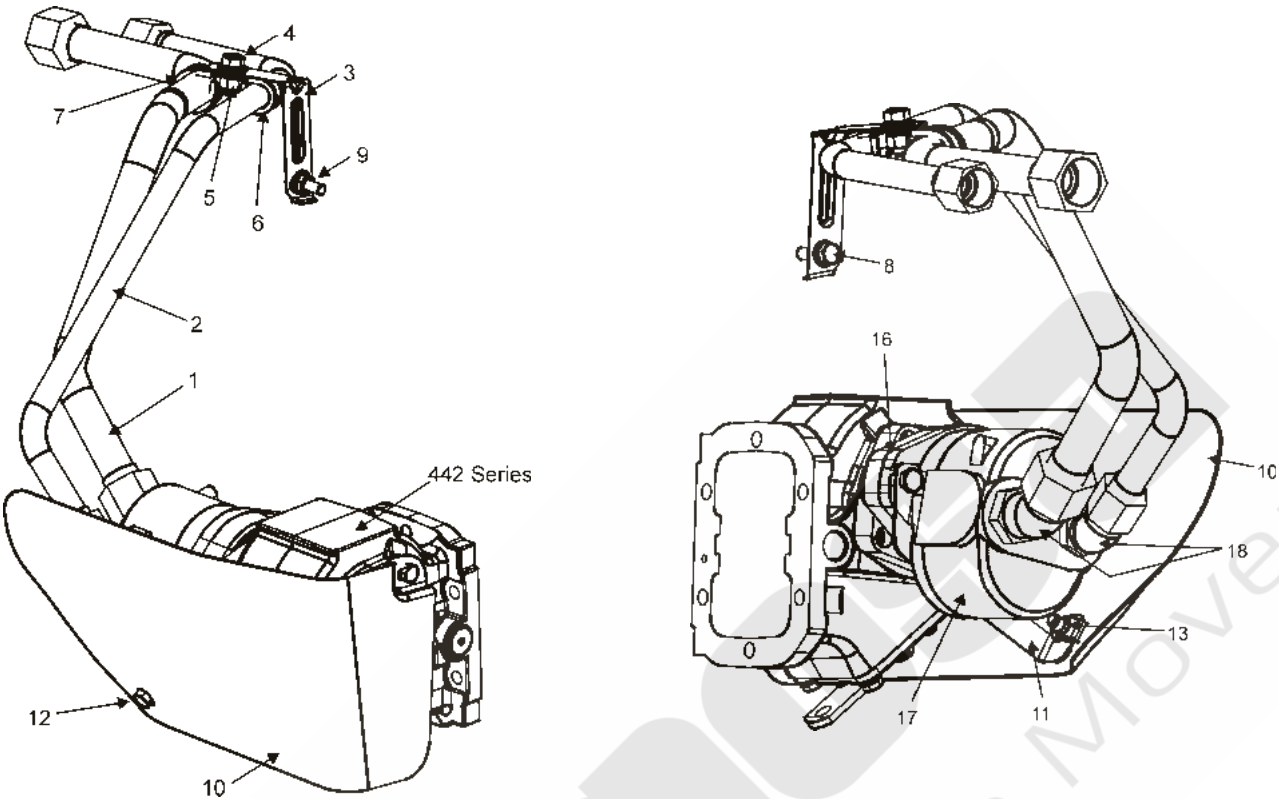
Assembly Arrangements



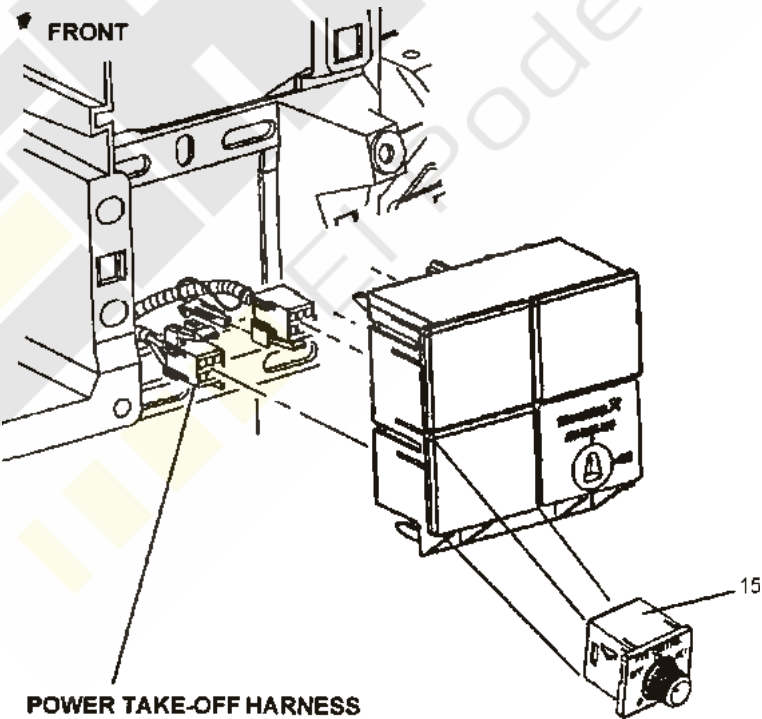
Pump Flange Suffix	Bolt Circle Dia.	Bolt Holes		FC	FD	FE	FF	FH	Output Shaft	Keyway Width
		Tapped Hole	No. Equally Spaced	Female Pilot Dia.	Pilot Depth	Face to end of Shaft	Face thru Hole	Face to Center of P.T.O.	Hole Diameter	
AA	2.834	M10-1.5	6	2.05	N/A	N/A	N/A	3.447	.982/.816 - 6 Spline	—
AF, GF	5.750	.500"-13	2	4.003	0.406	0.516	1.984	4.322	1"-15 Spline	—
	5.000	.500"-13	4	4.003	0.406	0.516	1.984	4.322	—	—
AK	5.750	.500"-13	2	4.003	0.406	0.562	2.062	3.688	7/8" - 13 Spline	—
AZ, GZ	5.000	.500"-13	4	4.003	0.406	0.695	2.392	4.985	1 1/4" - 14 Spline	—
FF	5.750	.500"-13	2	4.003	0.406	0.516	1.984	4.322	7/8" Round	1/4"
	5.000	.500"-13	4	4.003	0.406	0.516	1.984	4.322	—	—
MY, GM	3.15 x 3.15	M12-1.75	12	3.152	0.393	0.594	2.508	4.697	DIN 5462	—
● PA	5.750	0.536	2	4.003	0.406	0.558	2.058	4.588	7/8"-13 Spline	—
● PF	5.750	0.536	2	4.003	0.406	0.501	1.969	4.569	1"-15 Spline	—
● RA, GA	5.750	.500"-13	2 ■	4.003	0.406	0.558	2.058	4.588	7/8"-13 Spline	—
● RB, GB	5.000	.500"-13	4	4.003	0.406	0.558	2.058	4.588	7/8"-13 Spline	—
● RC	4.188	.375"-16	2 ■	3.253	0.270	0.525	1.462	3.694	5/8"-9 Spline	—
● RD	4.188	.375"-16	2 ■	3.253	0.270	0.525	1.462	3.694	7/8"-13 Spline	—
● RE, GJ	3.532x3.532	.500"-13	4	4.003	0.406	0.501	1.969	4.569	1.0"-15 Spline	—
● RF, GH	5.750	.500"-13	2 ■	4.003	0.406	0.501	1.969	4.569	1"-15 Spline	—
● RY	3.150	M12-1.75	4	3.152	0.394	0.360	2.274	4.790	DIN 5462	—
XE	5.000	.500"-13	4	3.253	0.344	0.562	1.500	3.688	5/8"-9 Spline	—
XG	4.188	.375"-16	4	3.253	0.562	0.593	2.218	4.562	3/4" Round	3/16"
XJ	4.188	.375"-16	4	3.253	0.562	1.406	2.906	4.562	3/4" Round	3/16"
XK, GK	5.750	.531"-134	2	4.003	0.406	0.562	2.062	3.688	7/8"-13 Spline	—
	5.000	.531"-134	4	4.003	0.406	0.562	2.062	3.688	—	—
XL	4.188	.375"-16	4	3.253	0.562	0.562	2.062	4.562	7/8"-13 Spline	—
XO	5.000	.500"-13	4	3.253	0.344	0.562	2.062	3.688	3/4" Round	3/16"
	4.188	.375"-16	2	3.253	0.344	0.562	2.062	3.688	—	—
XP, GP	5.000	.500"-13	4	3.253	0.344	0.562	2.062	3.688	7/8"-13 Spline	—
	4.188	.375"-16	2	3.253	0.344	0.562	2.062	3.688	—	—
XY, GY	4.454	M12-1.75	4	3.152	0.393	0.594	2.508	4.697	DIN 5462	—
XQ, GQ, SQ	5.750	.500"-13	2	4.003	0.406	0.562	2.062	3.688	7/8"-13 Spline	—
	5.000	.500"-13	4	4.003	0.406	0.562	2.062	3.688	—	—
XR, GR	3.710	.312"-24(Studs)	4	2.752	0.281	N/A	N/A	2.809	7/8"-13 Spline	—

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

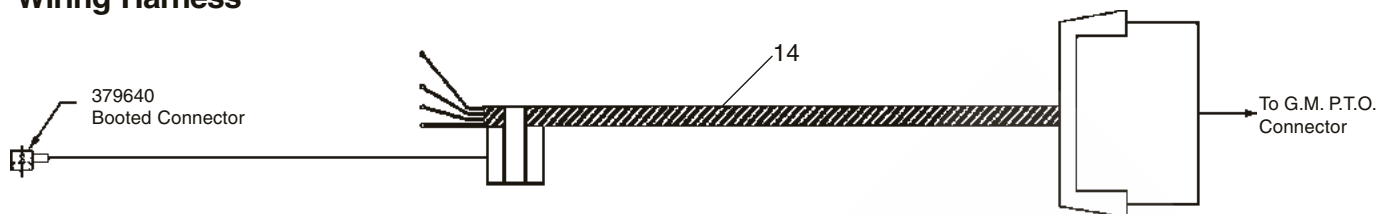
NOTE: To convert an "XR" to an "XK", use conversion flange number 21-P-525



P.T.O. Switch



Wiring Harness



Item	Part Number	Description	Quantity
	329333X	Installation Kit 442 P.T.O. (Includes 329333-1X, 329333-2X, 329333-3X & 329333-4X)	1 or
	329333-1X	Pump Tube Kit (Includes 329333-2X)	
1	379846	Tube Assembly Pump, Suction	1
2	379845	Tube Assembly Pump, Discharge	1
	329333-2X	Pump Tube Support Kit	
3	379848	Bracket, Hydraulic Tube Support	1
4	379706	Bolt, 13mm Clamp Tube (M10 x 1.5)	
5	379141-9	Nut, 13mm Clamp Tube (M10 x 1.5)	1
6	501211-8	Clamp, Discharge 3/4"	1
7	501211-12	Clamp, Suction 1"	1
8	379892	Bolt, Hex Flange Head (M8 X 1.25)	1
9	379893	Nut, Hex Flange Head (M8 X 1.25)	1
	329333-3X	Heat Shield Kit	
10	379847	Heat Shield	1
	329333-5X	Heat Shield Installation Kit	1
11	379862	Heat Shield Bracket	N.S.S.
12	378430-8	Hex Head Capscrew (.3125"-18 x .750")	N.S.S.
13	379872	U-Nut	N.S.S.
	329333-4X	Wiring Harness	
14	379895	Wiring Harness Assembly w/379640 Booted Connector	N.S.S.
15	379857	P.T.O. Switch	N.S.S.
16	328591-112X	Pump Field Conversion Kit (Converts "XD" to "RC")	1

N.S.S. - Not Sold Separately

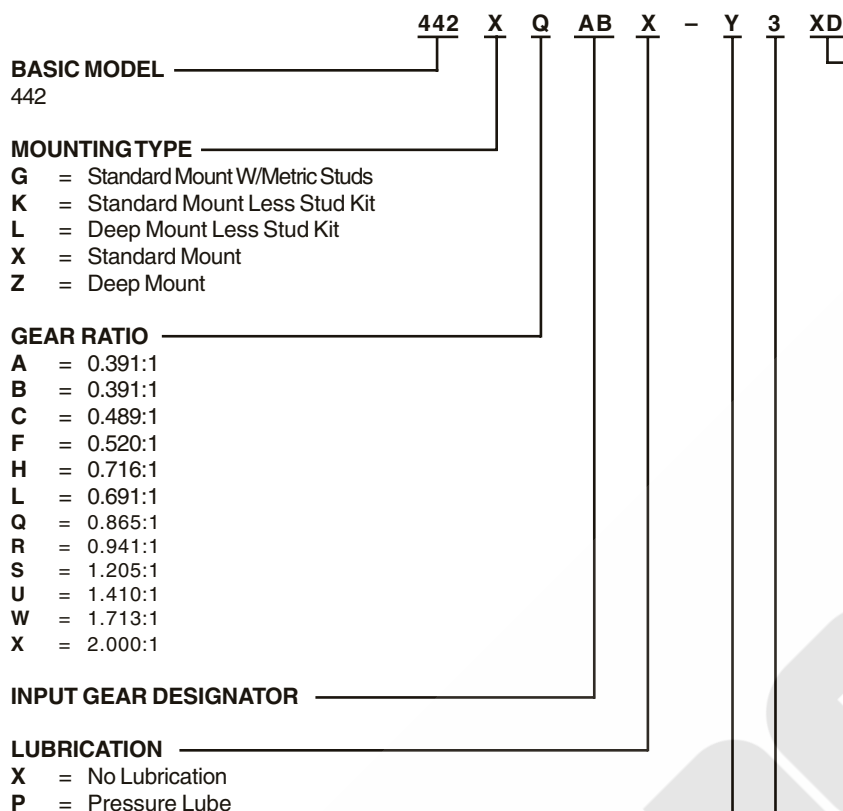
442GMT Pumps

Pump Model Number (Item 17)	Cubic Inch Displacement	Gals/Min @ 1000 R.P.M.	Maximum Pressure (PSI)	Maximum Speed (R.P.M.)
CGP-P5A008-1AA	0.18	0.80	4400	4000
CGP-P5A010-1AA	0.23	1.00	4400	4000
CGP-P5A013-1AA	0.31	1.34	4400	4000
CGP-P5A019-1AA	0.44	1.90	4400	3300
CGP-P11A016-1AC	0.37	1.60	4400	4000
CGP-P11A021-1AC	0.49	2.10	4400	4000
CGP-P11A026-1AC	0.60	2.60	4400	3600
CGP-P11A029-1AC	0.67	2.90	4400	3600
CGP-P11A037-1AC	0.85	3.70	4400	3300
CGP-P14A049-1AE	1.13	4.90	3000	3600
CGP-P14A062-1AE	1.43	6.20	3000	3400

442GMT Pumps & Fittings

Pump Series	Fitting Kit (Item 18)	Swivel Nut Suction	Std Th'd O-Ring Suction	Swivel Nut Discharge	Std Th'd O-Ring Discharge
CGP-P5	329335-1X	379866*	379870	379868*	379869
CGP-P11	329335-2X	379866*	379867	-	379850*
CGP-P14	329335-3X	-	379849*	-	379850*

* 45° Elbow Fitting

Model Number Designation**442, 442GMT, 447 & 489 Series****OUTPUT TYPE**

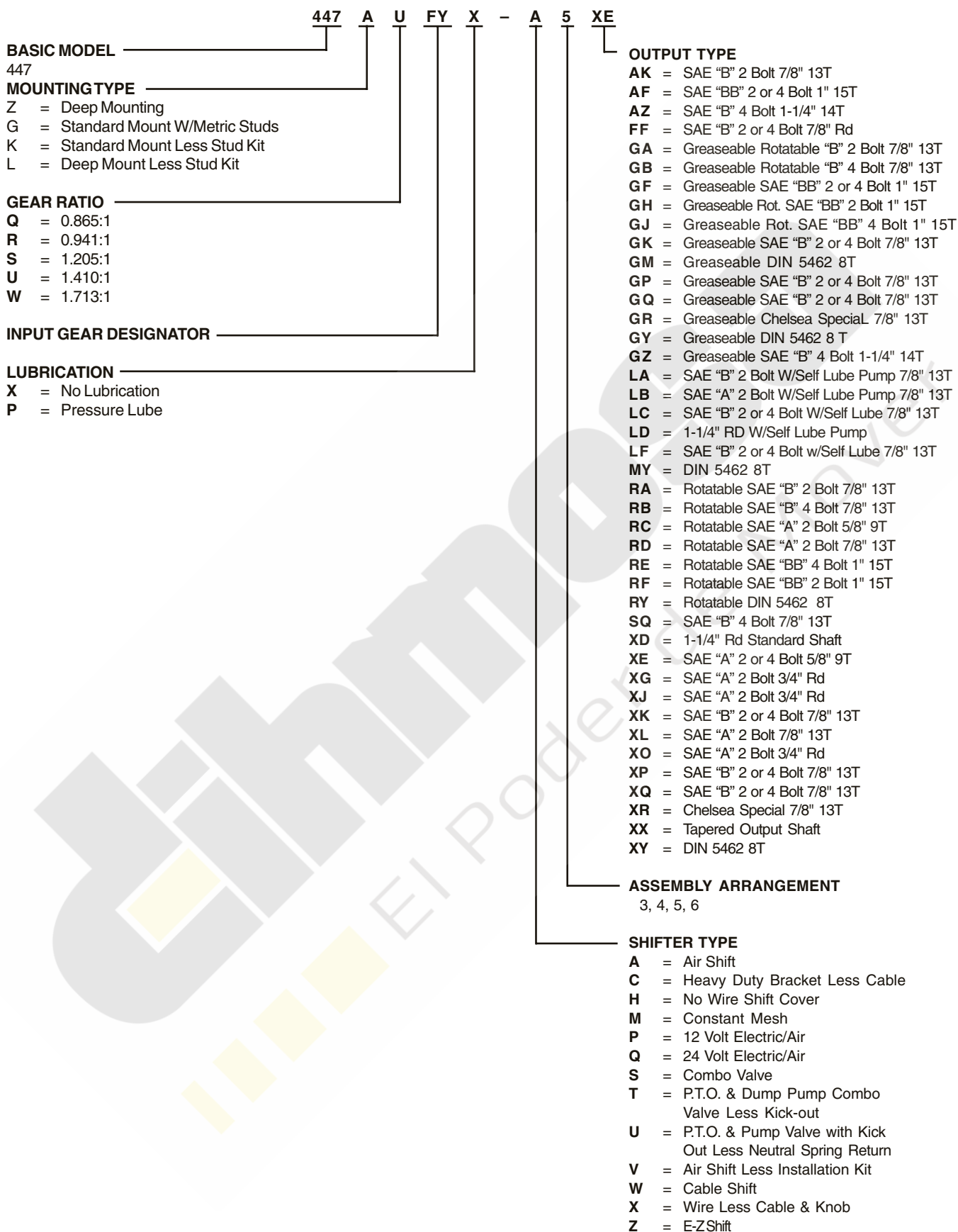
AK = SAE "B" 2 Bolt 7/8" 13T
 AF = SAE "BB" 2 or 4 Bolt 1" 15T
 AZ = SAE "B" 4 Bolt 1-1/4" 14T
 FF = SAE "B" 2 or 4 Bolt 7/8" Rd
 GA = Greaseable Rotatable "B" 2 Bolt 7/8" 13T
 GB = Greaseable Rotatable "B" 4 Bolt 7/8" 13T
 GF = Greaseable SAE "BB" 2 or 4 Bolt 1" 15T
 GH = Greaseable Rot. SAE "BB" 2 Bolt 1" 15T
 GJ = Greaseable Rot. SAE "BB" 4 Bolt 1" 15T
 GK = Greaseable SAE "B" 2 or 4 Bolt 7/8" 13T
 GM = Greaseable DIN 5462 8T
 GP = Greaseable SAE "B" 2 or 4 Bolt 7/8" 13T
 GQ = Greaseable SAE "B" 2 or 4 Bolt 7/8" 13T
 GR = Greaseable Chelsea Special 7/8" 13T
 GY = Greaseable DIN 5462 8T
 GZ = Greaseable SAE "B" 4 Bolt 1-1/4" 14T
 LA = SAE "B" 2 Bolt w/Self Lube Pump 7/8" 13T
 LB = SAE "A" 2 Bolt w/Self Lube Pump 7/8" 13T
 LC = SAE "B" 2 or 4 Bolt w/Self Lube 7/8" 13T
 LD = 1-1/4" RD w/Self Lube Pump
 LF = SAE "B" 2 or 4 Bolt w/Self Lube 7/8" 13T
 MY = DIN 5462 8T
 RA = Rotatable SAE "B" 2 Bolt 7/8" 13T
 RB = Rotatable SAE "B" 4 Bolt 7/8" 13T
 RC = Rotatable SAE "A" 2 Bolt 5/8" 9T
 RD = Rotatable SAE "A" 2 Bolt 7/8" 13T
 RE = Rotatable SAE "BB" 4 Bolt 1" 15T
 RF = Rotatable SAE "BB" 2 Bolt 1" 15T
 RY = Rotatable DIN 5462 8T
 SQ = SAE "B" 4 Bolt 7/8" 13T
 XD = 1-1/4" Rd Standard Shaft
 XE = SAE "A" 2 or 4 Bolt 5/8" 9T
 XG = SAE "A" 2 Bolt 3/4" Rd
 XJ = SAE "A" 2 Bolt 3/4" Rd
 XK = SAE "B" 2 or 4 Bolt 7/8" 13T
 XL = SAE "A" 2 Bolt 7/8" 13T
 XO = SAE "A" 2 Bolt 3/4" Rd
 XP = SAE "B" 2 or 4 Bolt 7/8" 13T
 XQ = SAE "B" 2 or 4 Bolt 7/8" 13T
 XR = Chelsea Special 7/8" 13T
 XX = Tapered Output Shaft
 XY = DIN 5462 8T

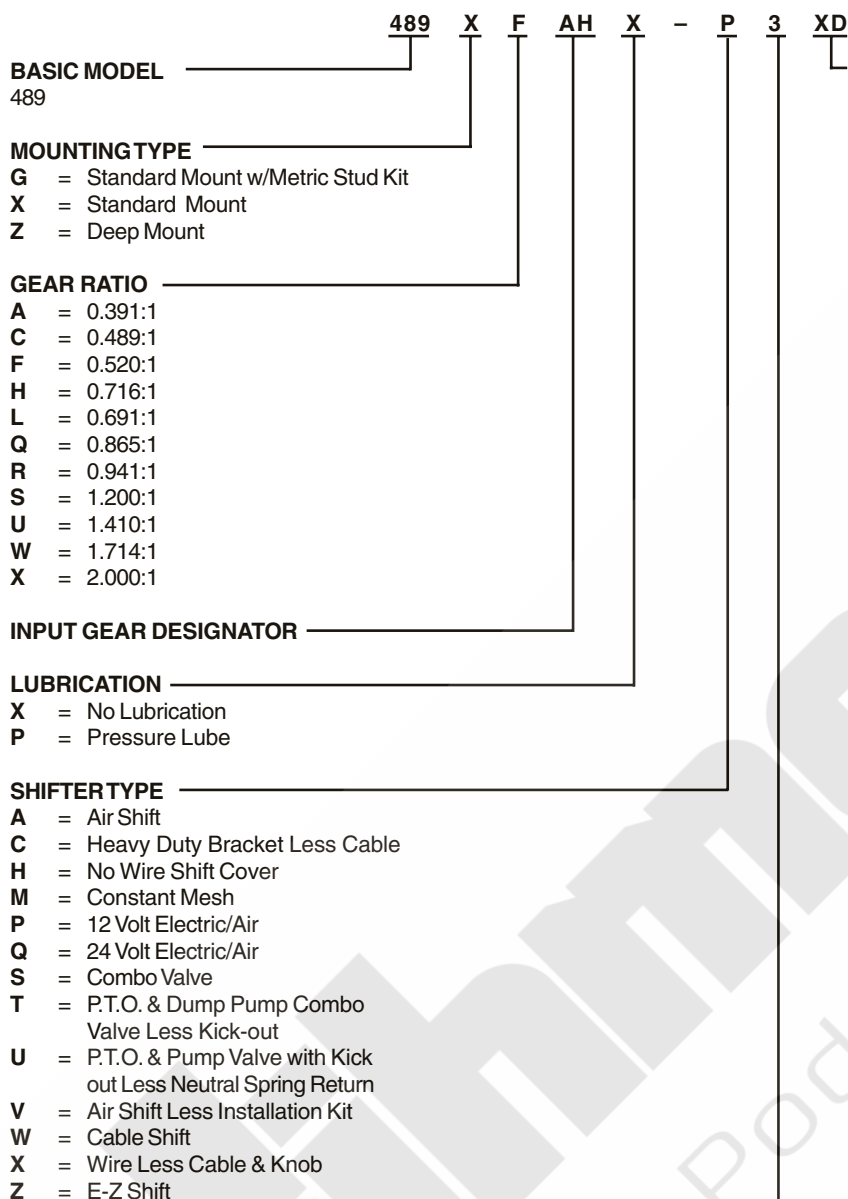
ASSEMBLY ARRANGEMENT

3, 4, 5, 6

SHIFTERTYPE

A = Air Shift
 C = Heavy Duty Bracket Less Cable
 H = No Wire Shift Cover
 M = Constant Mesh
 P = 12 Volt Electric/Air
 Q = 24 Volt Electric/Air
 S = Combo Valve
 T = P.T.O. & Dump Pump Combo Valve Less Kick-out
 U = P.T.O. & Pump Valve with Kick out Less Neutral Spring Return
 V = Air Shift Less Installation Kit
 W = Cable Shift
 X = Wire Less Cable & Knob
 Z = E-Z Shift - 12 Volt



Model Number Designation**442, 442GMT, 447 & 489 Series****OUTPUT TYPE**

AK = SAE "B" 2 Bolt 7/8" 13T
 AF = SAE "BB" 2 or 4 Bolt 1" 15T
 AZ = SAE "B" 4 Bolt 1-1/4" 14T
 FF = SAE "B" 2 or 4 Bolt 7/8" Rd
 GA = Greaseable Rotatable "B" 2 Bolt 7/8" 13T
 GB = Greaseable Rotatable "B" 4 Bolt 7/8" 13T
 GF = Greaseable SAE "BB" 2 or 4 Bolt 1" 15T
 GH = Greaseable Rot. SAE "BB" 2 Bolt 1" 15T
 GJ = Greaseable Rot. SAE "BB" 4 Bolt 1" 15T
 GK = Greaseable SAE "B" 2 or 4 Bolt 7/8" 13T
 GM = Greaseable DIN 5462 8T
 GP = Greaseable SAE "B" 2 or 4 Bolt 7/8" 13T
 GQ = Greaseable SAE "B" 2 or 4 Bolt 7/8" 13T
 GR = Greaseable Chelsea Special 7/8" 13T
 GY = Greaseable DIN 5462 8T
 GZ = Greaseable SAE "B" 4 Bolt 1-1/4" 14T
 LA = SAE "B" 2 Bolt w/Self Lube Pump 7/8" 13T
 LB = SAE "A" 2 Bolt w/Self Lube Pump 7/8" 13T
 LC = SAE "B" 2 or 4 Bolt w/Self Lube 7/8" 13T
 LD = 1-1/4" Rd w/Self Lube Pump
 LF = SAE "B" 2 or 4 Bolt w/Self Lube 7/8" 13T
 MY = DIN 5462 8T
 PA = Special SAE "B" 2 Bolt 7/8"-13 Spline
 PF = Special SAE "B" 2 Bolt 1"-15 Spline
 RA = Rotatable SAE "B" 2 Bolt 7/8" 13T
 RB = Rotatable SAE "B" 4 Bolt 7/8" 13T
 RC = Rotatable SAE "A" 2 Bolt 5/8" 9T
 RD = Rotatable SAE "A" 2 Bolt 7/8" 13T
 RE = Rotatable SAE "BB" 4 Bolt 1" 15T
 RF = Rotatable SAE "BB" 2 Bolt 1" 15T
 RY = Rotatable DIN 5462 8T
 SQ = SAE "B" 4 Bolt 7/8" 13T
 XD = 1-1/4" Rd Standard Shaft
 XE = SAE "A" 2 or 4 Bolt 5/8" 9T
 XG = SAE "A" 2 Bolt 3/4" Rd
 XJ = SAE "A" 2 Bolt 3/4" Rd
 XK = SAE "B" 2 or 4 Bolt 7/8" 13T
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 XO = SAE "A" 2 Bolt 3/4" Rd
 XP = SAE "B" 2 or 4 Bolt 7/8" 13T
 XQ = SAE "B" 2 or 4 Bolt 7/8" 13T
 XR = Chelsea Special 7/8" 13T
 XX = Tapered Output Shaft
 XY = DIN 5462 8T

ASSEMBLY ARRANGEMENT

3, 4, 5, 6

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 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, 245, 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.**

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

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

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

have the right to alter, discard or otherwise dispose of any special tooling or other property in its sole discretion at any time.

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

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

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

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

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

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

9/01-P

Chmossa
El Poder de Mover



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