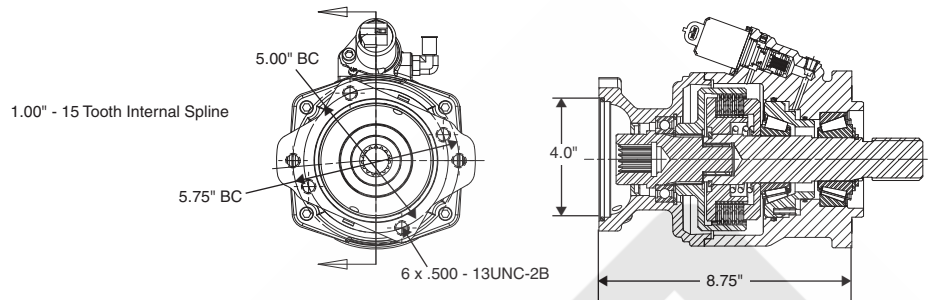


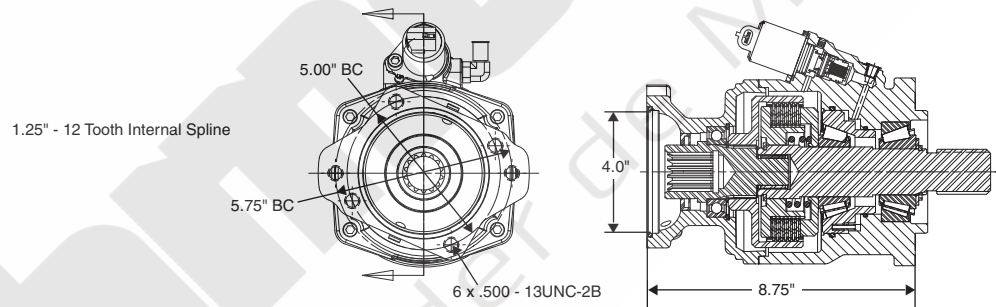
AF Output

Available for the following P.T.O.s:
CAT-H



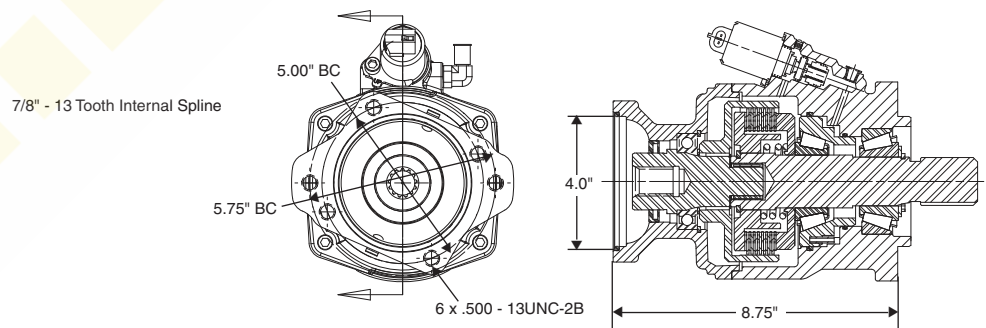
AZ Output

Available for the following P.T.O.s:
CAT-H



XK Output

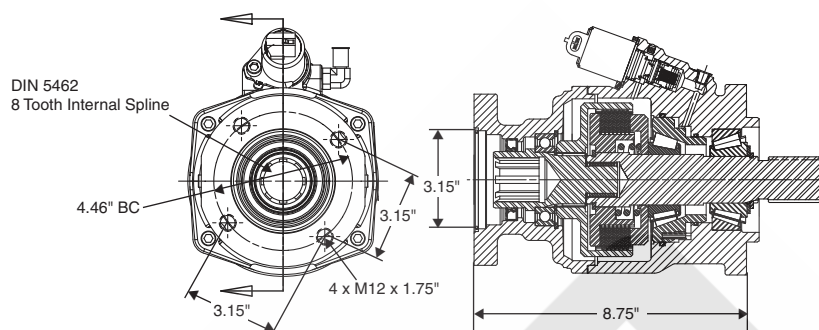
Available for the following P.T.O.s:
CAT-H



XY Output

Available for the following P.T.O.s:

CAT-H



Dual Output Shaft P.T.O.s

P.T.O. Options Chart – Dual Output Shaft P.T.O.s		
P.T.O. Series		452
Lubrication		
X	Standard	x
Shifting		
W	Single Shift Wire Control	x
Output		
DD	1-1/4" Round Dual Shafts	x

NOTE: Always Check Price Book for Current Options

Reversible P.T.O.s

P.T.O. Options Chart – Reversible P.T.O.s				
P.T.O. Series		340	352	863
Lubrication				
X	Standard	x	x	x
P	Pressure			x
Shifting				
A	Air	x	x	
C	Heavy Duty Bracket Less Cable			
G	Air Shift w/cyl. Location Opposite of Output	x	x	
V	“A” Shift, Less Installation Kit	x		
W	Wire		x	
X	Less Cable and Knob			
Y	Lever		x	x
Output				
LG	1-1/2" 10 Spline w/1410 & Self Lube			x
XD	1-1/4" Round Shaft	x	x	
XV	1-1/2" 10 Spline w/1410 Series Flange			x

NOTE: Always Check Price Book for Current Options

Asia Pacific P.T.O.s

P.T.O. Options Chart – Asia Pacific P.T.O.s

P.T.O. Series		429	435
Lubrication			
X	Standard	x	x
Shifting			
A	Air	x	x
P	Electric/Air 12V	x	
W	Wire		x
Output			
AZ	Non Standard Flange, "C" Shaft (1-1/4" 14 - Tooth)		x
GA	Rotatable "B" 2 Bolt Flange, "B" Shaft (7/8" 13 - Tooth) (Greaseable)		x
GB	Rotatable "B" 4 Bolt Flange, "B" Shaft (7/8" 13 - Tooth) (Greaseable)		x
GH	Rotatable "B" 2 Bolt Flange, "BB" Shaft (1.00" 15 - Tooth) (Greaseable)		x
GJ	Rotatable "B" 4 Bolt Flange, "BB" Shaft (1.00" 15 - Tooth) (Greaseable)		x
GQ*	S.A.E. "B" 2 or 4 Bolt Flange, "B" Shaft (7/8" 13 - Tooth) (Greaseable)		x
GR	Chelsea Special Pump Mount, "B" Shaft (7/8" 13 - Tooth) (Greaseable)		x
RA	Rotatable "B" 2 Bolt Flange, "B" Shaft (7/8" 13 - Tooth)	x	x
RB	Rotatable "B" 4 Bolt Flange, "B" Shaft (7/8" 13 - Tooth)	x	x
RE	Rotatable "B" 4 Bolt Flange, "BB" Shaft (1.00" 15 - Tooth)	x	x
RF	Rotatable "B" 2 Bolt Flange, "BB" Shaft (1.00" 15 - Tooth)	x	x
XD	1-1/4" Round Shaft	x	x
XE	S.A.E. "A" 2 or 4 Bolt Flange, "A" Shaft (5/8" 9 - Tooth)	x	
XQ*	S.A.E. "B" 2 or 4 Bolt Flange, "B" Shaft (7/8" 13 - Tooth)	x	x
XR	1-1/2" 10 Spline w/1410 Ser. Flange	x	x

*XQ/GQ same as XK/GK except flange rotated 90°

NOTE: See Pages 2.5 thru 2.15 for flange dimensions

NOTE: Always Check Price Book for Current Options

Pump Flange Field Conversion Kits

Pump Suffix	Kit No. Suffix	Kit Number	Flange Type	Shaft Type
AF	XD to AF	328591-30X	S.A.E. "BB" 2 or 4 Bolt	1.00" 15 - Tooth Splined
AK	XD to AK	328591-28X	S.A.E. "B" 2 Bolt	7/8" 13 - Tooth Splined
GA	XD to GA	328591-72X	S.A.E. "B" 2 Bolt	*7/8" 13 - Tooth Internal Spline
	XR to GA	328591-73X		
	RA to GA	328591-106X		
GB	XD to GB	328591-74X	S.A.E. "B" 4 Bolt	*7/8" 13 - Tooth Internal Spline
	XR to GB	328591-75X		
	RB to GB	328591-107X		
GH	XD to GH	328591-116X	S.A.E. "BB" 2 Bolt Rotatable	*1.00" 15 - Tooth Internal Spline
	RF to GH	328591-114X		
GJ	XD to GJ	328591-138X	S.A.E. "B" 4 Bolt Rotatable	*1.00" 15 - Tooth Splined
	RE to GJ	328591-114X		
GQ	XD to GQ	328591-91X	S.A.E. "B" 2 or 4 Bolt	*7/8" 13 - Tooth Internal Spline
	XQ to GQ	328591-86X		
GR	XD to GR	328591-76X	CHELSEA SPECIAL 4 Bolt	*7/8" 13 - Tooth Internal Spline
RA	XD to RA	328591-55X	S.A.E. "B" 2 Bolt Rotatable	7/8" 13 - Tooth Internal Spline
	XR to RA	328591-53X		
RB	XD to RB	328591-56X	S.A.E. "B" 4 Bolt Rotatable	7/8" 13 - Tooth Internal Spline
	XR to RB	328591-54X		
RE	XD to RE	328591-134X	S.A.E. "B" 4 Bolt Rotatable	1.00" 15 - Tooth Splined
RF	XD to RF	328591-45X	S.A.E. "BB" 2 Bolt Rotatable	1.00" 15 - Tooth Splined
XE	XD to XE	328591-27X	S.A.E. "A" 2 or 4 Bolt	5/8" 9 - Tooth Splined
XQ	XD to XQ	328591-17X	S.A.E. "B" 2 or 4 Bolt	7/8" 13 - Tooth Splined
XR	XD to XR	328591-52X	CHELSEA SPECIAL	7/8" 13 - Tooth Splined

*Grease fitting on end of shaft

Field Conversion Kits

Series/ Application	Assembly Arrang.	Wire To Air	Lever To Air	Wire to Elec. over Air	
				12 Volt	24 Volt
435	3&6			328390-119X	328390-120X

Cover Assemblies

Series/ Application	Assembly Arrangement	Wire Control	Air Control
429	5	329121-2X w/ 5-A-188	329361X
435	3 & 6	329038-1X	329361X

Shifter Installation Kits

Series/ Application	Wire Control	Air Control	Electric Over Air 12 Volt
429		328388-37X	328388-47X
435	328380X	328388-37X	

Specification Charts

Specifications Chart – 901 Series

Standard Output Shaft Size	— 1-3/4" 10 Spline —	
Intermittent Torque Rating (Lbs. ft)	500	
Intermittent Torque Rating (N.m.)	678	
Horsepower Rating for Intermittent Service		
At 500 R.P.M. of the Output Shaft (HP)	48	
At 1000 R.P.M. of the Output Shaft (HP)	95	
At 500 R.P.M. of the Output Shaft (Kw)	36	
At 1000 R.P.M. of the Output Shaft (Kw)	71	
Approximate Weight:	— 185 lbs. [84 kg] —	

Specifications Chart – 912 Series

Standard Output Shaft Size	— 2-3/4" 10 Spline —	
Max Thru Torque Capacity	Lbs. ft	Nm
w/ Diesel Engine		
Automatic Transmission	13,000	17,625
Manual Transmission	12,000	16,270
w/ Gas Engine		
Automatic Transmission	16,000	21,693
Manual Transmission	15,000	20,337
Approximate Weight:	— 130 lbs. [59 kg] —	

Specifications Chart – 941 Series

Standard Output Shaft Size	— 1-1/2" 12 Spline —	
Max Thru Torque Capacity	Lbs. ft	Nm
w/ Diesel Engine		
Automatic Transmission	3,100	4,203
Manual Transmission	2,900	3,932
w/ Gas Engine		
Automatic Transmission	4,200	5,694
Manual Transmission	3,900	5,288
Approximate Weight:	— 60 lbs. [27 kg] —	

Split Shafts

P.T.O. Options Chart - Split Shaft P.T.O.s

P.T.O. Series		901	912	941
Shifting				
A	Air	x	x	x
Y	Lever	x	x	x
Input-Output Shaft				
C	1-3/4" 10 Spline	x		
G	2-3/4" Shaft w/1710 1/2 Rd. Yoke		x	
H	2-3/4" Shaft w/1810 1/2 Rd. Yoke		x	
J	Without Flanges		x	x
K	1410 Series Flange			x
L	1550 Series Flange			x
M	2-3/4" Shaft w/ 1610 companion flange		x	
P	Output shaft for Spicer 170-4-521-1X		x	
S	Output shaft for Spicer 250-4-241-1X		x	
P.T.O. Output Shaft				
XV	1-1/2" 10 Spline	x		
XK	S.A.E. "B" 2 or 4 Bolt	x		
XS	S.A.E. "C" 4 Bolt	x		
XU	S.A.E. "C" 2 Bolt	x		
XX	No P.T.O. Shaft			x
XX	2 - 8-Bolt P.T.O. openings with air shift or 3 - 8-Bolt opening		x	

A Guide to Specifying Chelsea Geared Adapters

When you need to change P.T.O. output shaft rotation or clear a mounting obstacle, a geared adapter may fit the bill. However, it is important to note the following:

- Geared adapters will change the direction of P.T.O. rotation. Consider this when specifying driven equipment.
- Not all applications can use geared adapters. These situations are called out on the bottom of the Chelsea applications catalog pages. Check there before you spend time trying to specify a geared adapter.
- If an application cannot use an adapter, consider changing the P.T.O. assembly arrangement, moving the P.T.O. to the other side of the transmission, or using a change rotation gear box.
- Adapters are not available for use with P.T.O.s on automatic transmissions except the Allison 1000, 2000/2400 Series.
- Adapters are not available for use with 8-Bolt P.T.O.s.
- Current model Chelsea adapters do not change the P.T.O. speed.

Standard Geared Adapter Assemblies

Assembly Number	Figure Number	Number of Teeth	A Body Thickness or Degree of Angularity	B Pitch Line to Outer Face	C Pitch Line To Inner Face
328530-1X	1	22	1.650"	1.085"	3.100"
328530-2X	1	18	1.650"	1.117"	3.067"
328554-1X	2	19	22°	1.085"	1.110"
329138X-1X	3	24	49°	1.085"	1.085"

Figure 1

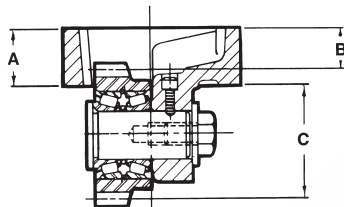
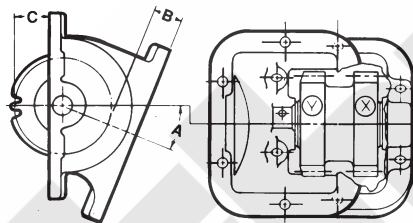
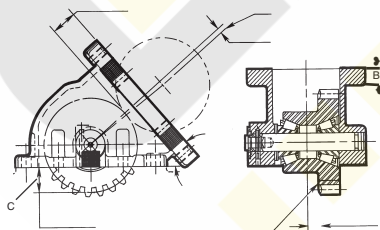
328530-1X
328530-2X

Figure 2



328554-1X

Figure 3



329138X,-1X

Where Used

328530-1X,-2X: Use on either side, any assembly arrangement, where the transmission gear pitch and pressure angle allows. These adapters will move the P.T.O. straight out from the transmission. These are deep reach geared adapters that generally require the use of extra spacers and special stud kits.

328554-1X: Use on the R.H. side of transmissions with a 6 pitch 20° pressure angle P.T.O. drive gear located towards the front of the opening. The adapter will move the P.T.O. down and towards the rear of the truck. Use a P.T.O. with a "3" assembly and an "AH" gear designator. This adapter requires the application to be derated by 30%.

329138X: Use on the R.H. side of transmissions with a 6 pitch 20° pressure angle P.T.O. drive gear located towards the **front** of the truck, or on the L.H. when the P.T.O. drive gear is located towards the **rear** of the truck. The adapter will drop the P.T.O. straight down at a 49° angle. Use P.T.O.s with the same assembly arrangement and gear detail as shown in the application catalog.

329138-1X: Use on the R.H. side of transmissions with a 6 pitch 20° pressure angle P.T.O. drive gear located towards the **rear** of the truck, or on the L.H. when the P.T.O. drive gear is located towards the **front** of the truck. The adapter will drop the P.T.O. straight down at a 49° angle. Use P.T.O.s with the same assembly arrangement and gear detail as shown in the application catalog.

When a geared adapter can be used, four steps will help you specify it correctly.

1. Identify the correct gear detail and gear location.
2. Select the style that will perform the necessary function.
3. Calculate the correct backlash/spacing.
4. Select the correct stud kit.

Step 1: Identify the Gear Detail and Gear Location

The first step is to find adapters that will fit your application.

At the top of each transmission application page, Chelsea lists gear data. For example, on FLR-34, on the right hand side, the transmission gear is a 6 pitch, 20° spur gear (AH Input Gear). The transmission gear is forward of the centerline of the P.T.O. opening.

To select an adapter for this application, look only at adapters that have a 6 pitch, 20° spur gear (AH Input Gear) that is forward of the adapter body centerline when used on the right hand side of a transmission.

NOTE: If gear pitch unknown contact Chelsea Customer Service.

Step 2: Select the Style

The second step is to further narrow down your choices according to your application requirement.

If the purpose of specifying a geared adapter is simply to change rotation, look for the least expensive adapter available. Typically, this means an adapter that will bring the P.T.O. straight out from the transmission. Also check whether the adapter requires you to derate the P.T.O. torque rating. This occurs when the adapter contains needle bearings rather than roller bearings.

If the purpose of specifying a geared adapter is to clear mounting obstacles, determine whether moving the P.T.O. away from the transmission is enough, or whether it is necessary to angle the P.T.O. down to clear the object.

Always keep in mind how much room you have to work with and what mounting obstacles exist.

For our example, let's say we have 328530-1X on the shelf and it looks like it will work.

Step 3: Calculate the Backlash and Spacing.

Next, you must establish correct backlash between the transmission and the geared adapter. To do this, calculate the adapter P.L. (pitch line) to inner face dimension minus the transmission pitch line to aperture face dimension.

On page 2.74 of this booklet, we see that the adapter P.L. (pitch line) to inner face dimension for adapter 328530-1X is 3.100. On FLR-34 application page, for the right hand opening, we see that the P.L. (pitch line) to aperture face dimension for the transmission is 1.0850.

$$\begin{array}{r} 3.100 \text{ (adapter pitch line to inner face dimension)} \\ - 1.085 \text{ (transmission P.L. to aperture face dimension)} \\ \hline 2.015 \end{array}$$

In this example, we would need to back the adapter away from the transmission gear 2.015" to establish correct backlash. We would select a 7-A-2000 filler block (page 2.18 of this booklet), and use a thin gasket (.010") on each side of the filler block.

Our theoretical backlash is .003". We need to have between .006" and .012". Most likely, once the adapter is actually mounted and backlash is measured, it will fall between the accepted range. This is because the transmission case and the adapter may vary a few thousandths from the listed measurements.

NOTE: It is always the responsibility of the installer to measure and establish correct backlash. Follow the instructions given in the P.T.O. Owner's Manual and the Adapter Gears Owner's Manual.

Step 4: Select the Correct Stud Kit

To calculate the necessary length of the mounting studs for a P.T.O./adapter combination, add the following dimensions together.

Body thickness of the adapter	
+ Thickness of spacers/filler blocks	
+ Thickness of P.T.O. mounting flange	
+ Gaskets between the transmission adapter, and P.T.O.	
+ Stud outer diameter x 4	
Required stud length, $\pm 1/16$ "	

In our example:

328530-1X adapter body thickness	1.650"
7-A-200 filler thickness	2.000"
442X Series mounting flange thickness	.563"
(4) .010" gaskets*	.024"
Stud diameter** (.375) x 4	<u>1.500"</u>
	5.737"

Stud kit 7170-32X contains studs that are 5.750" long. Stud kits are listed in Chelsea publication HY25-2002-M1/US.

Remember that each application is different. It is up to the installer to make sure backlash between the transmission and adapter, and between the adapter and the P.T.O., is correct.

The 626, 628, 630 and 645 family of adapters is designed to simplify your selection and installation of a geared adapter when you require a change in rotation or are trying to clear an obstacle.

These adapters use the same input gears as the 442 and 489 Series P.T.O.s, and are available in kits. The 626 adapter fits a 6-Bolt opening and moves the P.T.O. straight out from the transmission. The 630 fits a 6-Bolt opening and angles the P.T.O. down at a 30° angle. The 645 fits a 6-Bolt opening and angles the P.T.O. down at a 45° angle. The 628 adapter fits an 8-Bolt transmission opening and accommodates a 6-Bolt P.T.O. The 626 and 645 are designed to mount to the Eaton Lightning transmission.

The 626, 630 and 645 adapter assemblies have the same pitch line to mounting face dimensions as the 442 Series, while the 628 will have the same mounting dimensions as the 489 Series. This means the same mounting hardware and spacers you use to mount the P.T.O. to a specific application will be the same hardware you use to mount the geared adapter to that application.

Using the 626, 628, 630 or 645 will change the direction of P.T.O. rotation. It will not change the speed of the P.T.O.

* A .010" gasket will compress to .006" if the capscrews or nuts are torqued properly. A .020" will compress to .012".

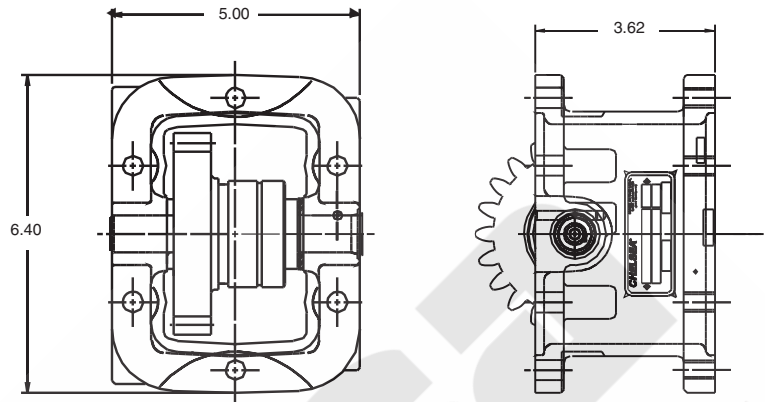
** Based on standard 442 stud diameter for this example.

Kit-Style Geared Adapters

626 Series

Six Bolt to Six Bolt Straight

- 6-Bolt P.T.O. for a 6-Bolt Transmission Opening
- Moves the P.T.O. straight out from the transmission
- Uses the same input gears as the 442 and 489 Series
- Uses the same mounting hardware and spacers used to mount a 442 Series to a specific application.

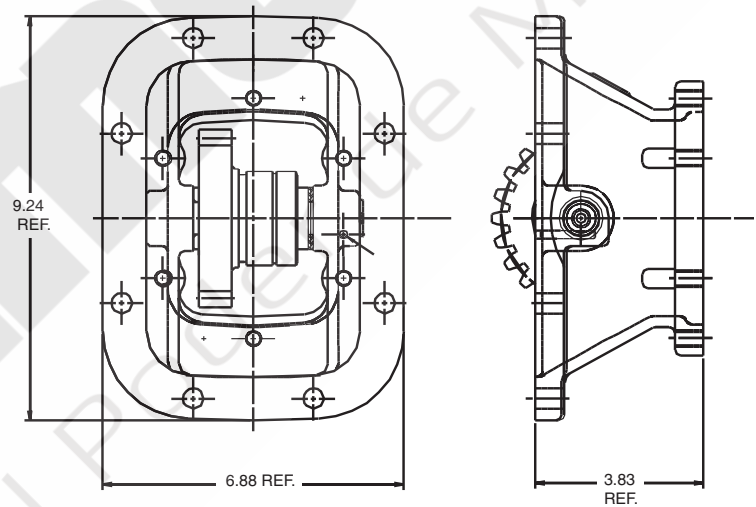


626 Series

628 Series

Six Bolt to Eight Bolt Straight

- 6-Bolt P.T.O. for a 8-Bolt Transmission Opening
- Moves the P.T.O. straight out from the transmission
- Uses the same input gears as the 442 and 489 Series
- Uses the same mounting hardware and spacers used to mount a 489 Series to a specific application.

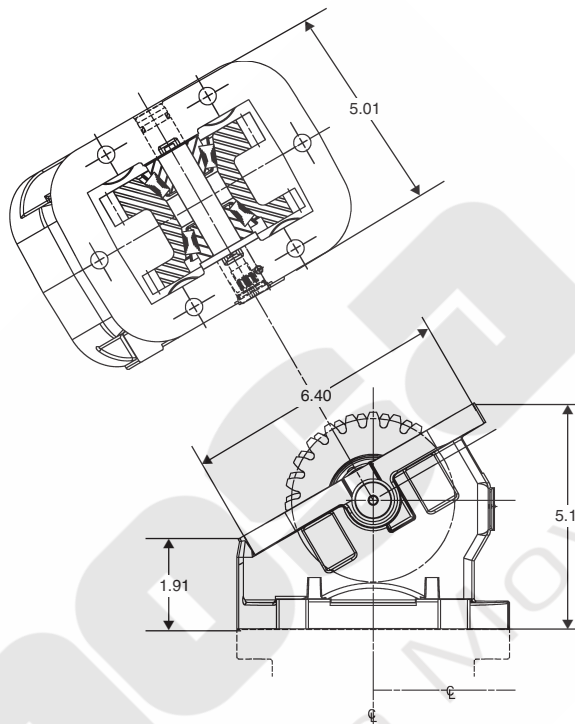


628 Series

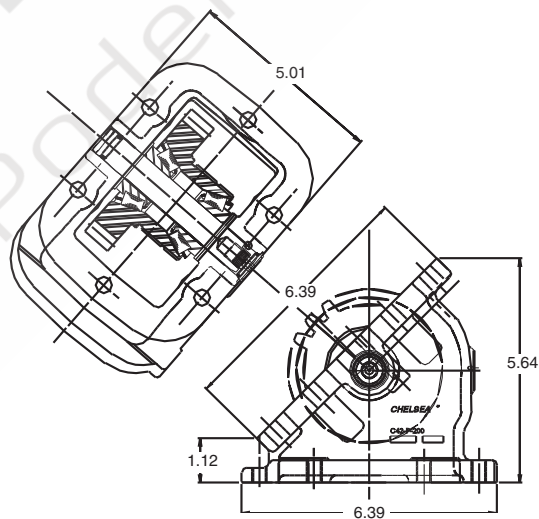
Kit-Style Geared Adapters (continued)

630 Series**Six Bolt to Six Bolt 30 Degrees**

- 6-Bolt P.T.O. for a 6-Bolt Transmission Opening
- Moves the P.T.O. down at a 30° angle, helping to eliminate interference problems
- Uses the same input gears as the 442 and 489 Series

**645 Series****Six Bolt to Six Bolt 45 Degrees**

- 6-Bolt P.T.O. for a 6-Bolt Transmission Opening
- Moves the P.T.O. down at a 45° angle, helping to eliminate interference problems
- Uses the same input gears as the 442 and 489 Series



626 Gear Chart

Adapter Input Gear				Mounting Information P.T.O. to Adapter		P.T.O. Gear (Packaged Loose w/Adapter)			
Model No.	Part No.	Helix Angle	No. Teeth	Spacer Designator	Stud Kit	P.T.O. Pitch	Part No.	Helix Angle	No. Teeth
626*AB	5-P-1001	Spur	19	7-A-140	7170-3X	—**AB	5-P-1001	Spur	19
626*AH	5-P-1004	Spur	22	7-A-140	7170-3X	—**AH	5-P-1004	Spur	22
626*AP	5-P-1006	Left Hand	21	7-A-140	7170-3X	—**GX	5-P-1183	Right Hand	21
626*AR	5-P-1008	Left Hand	21	7-A-187	7170-3X	—**GY	5-P-1184	Right Hand	21
626*AW	5-P-1009	Left Hand	22	7-A-270	7170-4X	—**GZ	5-P-1185	Right Hand	22
626*BG	5-P-1015	Left Hand	23	7-A-140	7170-3X	—**HB	5-P-1187	Right Hand	23
626*BQ	5-P-1023	Left Hand	25	7-A-200	7170-4X	—**BP	5-P-1022	Right Hand	26
626*CB	5-P-1029	Left Hand	25	7-A-140	7170-3X	—**HD	5-P-1189	Right Hand	25
626*CD	5-P-1031	Left Hand	27	7-A-270	7170-4X	—**HE	5-P-1190	Right Hand	27
626*DA	5-P-1037	Spur	23	—	—	—**DA	5-P-1037	Spur	23
626*DU	5-P-1050	Left Hand	28	7-A-240	7170-4X	—**HH	5-P-1193	Right Hand	28
626*ED	5-P-1056	Left Hand	34	7-A-240	7170-4X	—**HK	5-P-1195	Right Hand	34
626*ES	5-P-1059	Left Hand	22	7-A-062	—	—**HL	5-P-1196	Right Hand	22
626*EV	5-P-1060	Spur	40	7-A-300	7170-4X	—**EV	5-P-1060	Spur	40
626*EW	5-P-1061	Left Hand	20	7-A-125	7170-3X	—**HM	5-P-1197	Right Hand	20
626*FC	5-P-1064	Left Hand	26	7-A-165	7170-3X	—**HP	5-P-1199	Right Hand	26
626*HY	5-P-1237	Left Hand	26	7-A-125	328170-94X	—**JB	5-P-1244	Right Hand	26
626*IT	KIT ADAPTER	—	—	—	—	—	—	—	—
626*JK	5-P-1261	Left Hand	24	7-A-187	7170-3X	—**JL	5-P-1262	Right Hand	24
626*JM	5-P-1263	Left Hand	22	7-A-125	7170-3X	—**JN	5-P-1264	Right Hand	22
626*JU	5-P-1316	Left Hand	25	7-A-200	7170-4X	—**KA	5-P-1318	Right Hand	25
626*JW	5-P-1319	Left Hand	23	7-A-093	7170-3X	—**KB	5-P-1321	Right Hand	23
626*KX	5-P-1411	Left Hand	26	7-A-125	328170-94X	—**KY	5-P-1412	Right Hand	26

628 Gear Chart

Adapter Input Gear				Mounting Information P.T.O. to Adapter		P.T.O. Gear (Packaged Loose w/Adapter)			
Model No.	Part No.	Helix Angle	No. Teeth	Spacer Designator	Stud Kit	P.T.O. Pitch	Part No.	Helix Angle	No. Teeth
628*AB	5-P-1001	Spur	19	7-A-140	7170-3X	—**AB	5-P-1001	Spur	19
628*AH	5-P-1004	Spur	22	7-A-165	7170-3X	—**AH	5-P-1004	Spur	22
628*AR	5-P-1008	Left Hand	21	7-A-200	7170-3X	—**GY	5-P-1184	Right Hand	21
628*BG	5-P-1015	Left Hand	23	7-A-165	7170-3X	—**HB	5-P-1187	Right Hand	23
628*DA	5-P-1037	Spur	23	—	328170-76X	—**DA	5-P-1037	Spur	23
628*DU	5-P-1050	Left Hand	28	7-A-270	7170-5X	—**HH	5-P-1193	Right Hand	28
628*EV	5-P-1060	Spur	40	7-A-300	7170-5X	—**EV	5-P-1060	Spur	40
628*IT	KIT ADAPTER	—	—	—	—	—	—	—	—

630 Gear Chart

Adapter Input Gear				Mounting Information P.T.O. to Adapter		P.T.O. Gear (Packaged Loose w/Adapter)			
Model No.	Part No.	Helix Angle	No. Teeth	Spacer Designator	Stud Kit	P.T.O. Pitch	Part No.	Helix Angle	No. Teeth
630*AB	5-P-1001	Spur	19	7-A-140	7170-3X	—**AB	5-P-1001	Spur	19
630*AB	5-P-1001	Spur	19	7-A-140	7170-3X	—**AB	5-P-1001	Spur	19
630*AH	5-P-1004	Spur	22	7-A-140	7170-3X	—**AH	5-P-1004	Spur	22
630*AP	5-P-1006	Left Hand	21	7-A-140	7170-3X	—**GX	5-P-1183	Right Hand	21
630*AR	5-P-1008	Left Hand	21	7-A-187	7170-3X	—**GY	5-P-1184	Right Hand	21
630*BG	5-P-1015	Left Hand	23	7-A-140	7170-3X	—**HB	5-P-1187	Right Hand	23
630*BQ	5-P-1023	Left Hand	25	7-A-200	7170-4X	—**BP	5-P-1022	Right Hand	26
630*BS	5-P-1025	Left Hand	26	7-A-062	7170-4X	—**BR	5-P-1024	Right Hand	26
630*CD	5-P-1031	Left Hand	27	7-A-270	7170-4X	—**HE	5-P-1190	Right Hand	27
630*DA	5-P-1037	Spur	23	—	—	—**DA	5-P-1037	Spur	23
630*DU	5-P-1050	Left Hand	28	7-A-240	7170-4X	—**HH	5-P-1193	Right Hand	28
630*ED	5-P-1056	Left Hand	34	7-A-240	7170-4X	—**HK	5-P-1195	Right Hand	34
630*ES	5-P-1059	Left Hand	22	7-A-062	—	—**HL	5-P-1196	Right Hand	22
630*EV	5-P-1060	Spur	40	7-A-300	7170-4X	—**EV	5-P-1060	Spur	40
630*EW	5-P-1061	Left Hand	20	7-A-125	7170-3X	—**HM	5-P-1197	Right Hand	20
630*FN	5-P-1070	Left Hand	26	7-A-300	7170-4X	—**HR	5-P-1201	Right Hand	26
630*HY	5-P-1237	Left Hand	26	7-A-125	7170-1X	—**JB	5-P-1244	Right Hand	26
630*IT	KIT ADAPTER	—	—	—	—	—	—	—	—
630*JK	5-P-1261	Left Hand	24	7-A-187	7170-3X	—**JL	5-P-1262	Right Hand	24
630*JM	5-P-1263	Left Hand	22	7-A-125	7170-3X	—**JN	5-P-1264	Right Hand	22
630*JU	5-P-1316	Left Hand	25	7-A-200	7170-4X	—**KA	5-P-1318	Right Hand	25
630*JW	5-P-1319	Left Hand	23	7-A-093	7170-3X	—**KB	5-P-1321	Right Hand	23
630*KX	5-P-1411	Left Hand	26	7-A-125	328170-94X	—**KY	5-P-1412	Right Hand	—

645 Gear Chart

Adapter Input Gear				Mounting Information P.T.O. to Adapter		P.T.O. Gear (Packaged Loose w/Adapter)			
Model No.	Part No.	Helix Angle	No. Teeth	Spacer Designator	Stud Kit	P.T.O. Pitch	Part No.	Helix Angle	No. Teeth
645*AB	5-P-1001	Spur	19	7-A-140	7170-3X	—**AB	5-P-1001	Spur	19
645*AB	5-P-1001	Spur	19	7-A-140	7170-3X	—**AB	5-P-1001	Spur	19
645*AG	5-P-1003	Spur	22	7-A-140	7170-3X	—**AG	5-P-1003	Spur	22
645*AH	5-P-1004	Spur	22	7-A-140	7170-3X	—**AH	5-P-1004	Spur	22
645*AP	5-P-1006	Left Hand	21	7-A-140	7170-3X	—**GX	5-P-1183	Right Hand	21
645*AR	5-P-1008	Left Hand	21	7-A-187	7170-3X	—**GY	5-P-1184	Right Hand	21
645*AW	5-P-1009	Left Hand	22	7-A-270	7170-4X	—**GZ	5-P-1185	Right Hand	22
645*BQ	5-P-1023	Left Hand	25	7-A-200	7170-4X	—**BP	5-P-1022	Right Hand	26
645*CB	5-P-1029	Left Hand	25	7-A-140	7170-3X	—**HD	5-P-1189	Right Hand	25
645*CD	5-P-1031	Left Hand	27	7-A-270	7170-4X	—**HE	5-P-1190	Right Hand	27
645*DA	5-P-1037	Spur	23	—	—	—**DA	5-P-1037	Spur	23
645*DU	5-P-1050	Left Hand	28	7-A-240	7170-4X	—**HH	5-P-1193	Right Hand	28
645*ED	5-P-1056	Left Hand	34	7-A-240	7170-4X	—**HK	5-P-1195	Right Hand	34
645*ES	5-P-1059	Left Hand	22	7-A-062	—	—**HL	5-P-1196	Right Hand	22
645*EV	5-P-1060	Spur	40	7-A-300	7170-4X	—**EV	5-P-1060	Spur	40
645*EW	5-P-1061	Left Hand	20	7-A-125	7170-3X	—**HM	5-P-1197	Right Hand	20
645*FC	5-P-1064	Left Hand	26	7-A-165	7170-3X	—**HP	5-P-1199	Right Hand	26
645*FN	5-P-1070	Left Hand	26	7-A-300	7170-4X	—**HR	5-P-1201	Right Hand	26
645*GR	5-P-1157	Spur	23	7-A-062	—	—**GR	5-P-1157	Spur	23
645*HY	5-P-1237	Left Hand	26	7-A-125	328170-94X	—**JB	5-P-1244	Right Hand	26
645*IT	KIT ADAPTER	—	—	—	—	—	—	—	—
645*JD	5-P-1248	Left Hand	20	7-A-200	7170-3X	—**JE	5-P-1249	Right Hand	20
645*JK	5-P-1261	Left Hand	24	7-A-187	7170-3X	—**JL	5-P-1262	Right Hand	24
645*JM	5-P-1263	Left Hand	22	7-A-125	7170-3X	—**JN	5-P-1264	Right Hand	22
645*JP	5-P-1268	Left Hand	33	7-A-187	7170-3X	—**JQ	5-P-1269	Right Hand	33
645*JS	5-P-1310	Left Hand	20	7-A-062	—	—**JY	5-P-1312	Right Hand	20
645*JU	5-P-1316	Left Hand	25	7-A-200	7170-4X	—**KA	5-P-1318	Right Hand	25
645*JW	5-P-1319	Left Hand	23	7-A-093	7170-3X	—**KB	5-P-1321	Right Hand	23
645*KJ	5-P-1405	Left Hand	33	—	328170-94X	—**KK	5-P-1406	Right Hand	33
645*KL	5-P-1407	Left Hand	29	7-A-200	7170-4X	—**KM	5-P-1408	Right Hand	29
645*KN	5-P-1383	Left Hand	27	7-A-270	7170-4X	—**KP	5-P-1384	Right Hand	27
645*KX	5-P-1411	Left Hand	26	7-A-125	328170-94X	—**KY	5-P-1412	Right Hand	—

Geared Adapters and Plates for Import Transmissions

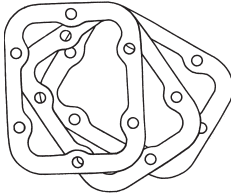
When these adapters or plates appear on a transmission application page or come with the P.T.O. assembly, they MUST be used. There are no substitutes.

As with other Chelsea P.T.O.s, these geared adapters will change P.T.O. rotation, but they will not change P.T.O. speed.

Geared Adapters and Plates for Import Transmissions

Transmission	Adapter Gear or Plate General Description	"A" Body Thickness or Degree of Angularity
Hino		
328888X (4)	Hino KA & KB, MF06S "KK" Code Models 3320, 3323 & 5523	2"
328887-1X (1)	Hino LA, LE05S "CG" Code, LH05S, LB	2"
328962X (1)	Hino LF06S "DG" Code, Models 2218 & 2218LP	2"
328993X (1)	Hino MG06S "LK" & "LL" Codes	2"
329007X (1)	Hino LF06S "DH" & "DJ" Codes	2"
329095X (1)	Hino LF05S Models 1415 & 1715	2"
Isuzu		
328960-1X (1)	Isuzu MBG5B & MBG5H	3.750"
328960-2X (1)	Isuzu MBG5F	3.750"
328983X (1)	Isuzu MLH5G	2.500"
329000-1X (1)	Isuzu MSA-5D & MXA-5D	1.155"
328985X (1)	Isuzu MLD6E, MLD6C, MLD6F & MLD6Q	1.750"
329017X (1)	Isuzu MBG5C, MBD5A & MBG5A	3.665"
Mitsubishi		
328997X (1)	M4, M5, M6, M5S5 Models FH100 & FK415, M6S5 Models FK455 & FM555, M6S6 Model FM555	45°
329211X (2)	(After 4/1/94) M8S6	45°
329210X (2)	(After 4/1/94) M8S2X5	45°
42-P-211 (3)	MO35S5 (included with 447C P.T.O.)	1.470"
Nissan		
329011X (4)	MPS-50V, TMH-402 "CPB" Series, TMH-425 "CPB" Series, & TMH-462	24°
329015X (4)	MPS-60B UD3000HD and UD3300, & TMH-464 "CPC" Series	24°
329086X (1)	TMH-704, TMH-762, MHS-50, MHS-60, MHS-50A, MHS-50U, MHS-60U, & MHS60-A	4.360"
329000-2X (1)	MES-50A, MES-50B & MES-50C	1.155"
42-P-190 (3)	MLS-61A, MLS-61B UD3000SD (included with 447A P.T.O.)	1.329"

- (1) This geared adapter adapts a non-standard opening on the transmission to a standard 6-Bolt opening. It will move the P.T.O. straight out from the transmission by approximately the amount indicated in column "A".
- (2) This is a wedge shaped adapter that adapts a non-standard 8-Bolt opening on the transmission to a standard 6-Bolt opening. It will move the P.T.O. out approximately 2.5" and down at a 45° angle.
- (3) This is an adapter plate that converts the non-standard opening on the transmission to a standard 6-Bolt opening.
- (4) This is a wedge shaped spacer that adapts the non-standard 8-Bolt opening on the transmission to a standard 6-Bolt opening.



The lubricant in the transmission also lubricates the P.T.O. Therefore, one or more gaskets (as required) must always be used between the metal surfaces of the Power Take-Off, the adapter gear assembly, the adapter plate, and the filler block(s).

Mounting Gasket Kits

Gasket Kit Part Number	Qty.	Gasket Part Number	Application
328570-1X	25	35-P-15-1	Standard 8 Bolt
	25	35-P-15-2	
328570-2X	10	35-P-15-1	Standard 8 Bolt
328570-3X	100	35-P-9-1	Standard 6 Bolt
328570-4X	100	35-P-9-2	Standard 6 Bolt
328570-6X	50	35-P-9-2	Standard 6 Bolt
329062-3X	25	35-P-56	328888X, 329011X, & Adapters
		329015X	
329062-5X	25	35-P-63-1	328957X Adapter
	25	35-P-63-2	
329062-7X	25	35-P-65	328962X & 328993X Adapters
329062-8X	25	35-P-67	328983X Adapter
329062-9X	25	35-P-68-1	328985X Adapter
	25	35-P-68-2	
329062-10X	25	35-P-72	328997X Adapter
329062-11X	25	35-P-73	329000-1X Adapter

Special Mounting Gaskets

Gasket Part Number	Application
35-P-41	270 X AAJ
35-P-69	271 Series Adapter Plate Mounting
35-P-74	267, 269, 277/278, 859, 867
35-P-65	435, 437
35-P-84	271 Series P.T.O. mounting

Cable Controls Stainless Steel Vinyl Covered Wire

Assembly (Wire & Knob)	Wire Only	Knob Only
328346-10X*	378441-10 (10 Foot Length)	378502
328346-15X**	378441-15 (15 Foot Length)	378502
328346-20X	378441-20 (20 Foot Length)	378502
328346-25X	378441-25 (25 Foot Length)	378502
328346-30X	378441-30 (30 Foot Length)	378502

*This 10 foot cable and knob are standard on the following Chelsea P.T.O.s with a "W" shifter type: 100, 221, 260, 290, 352, 435, 442, 447, 489, and 812.

** The 15 foot cable is standard on the 2442.

Gasket and Seal Kits				
P.T.O. Series Part Number	Gasket and Seal Kit	Shifter Cover Seal Kit Part Number		
		Cable Control	Lever Control	Air Control
100	328356-15X	328356-15X	328356-26X	328356-17X
221	328356-13X			
230	328356-55X			
	329043-13X (BD Output)			
231	328356-56X			
236	329043-7X*			
	329043-8X**			
	329043-13X (BD Output)			
246	329376-1X			
267	329337-2X			
270	328970X*			
	328971X***			
	329043-18X (BA Output)			
	328356-21X			
271	328970X*			
	328971X***			
	329043-18X (BA Output)			
	328356-22X			
277/278	329071-33X (XY Output Only)			
	329071-19X			
290	328356-67X			328356-71X
295			328356-71X	
442,447	328356-67X	328356-15X	328356-26X	328356-71X
	328356-69X (A, B & C Ratio)			
452	328356-59X	328356-15X		
489	328356-50X	328356-15X	328356-26X	328356-17X
	328356-69X (A & C Ratio)			
660/680	328356-15X	328356-26X	328356-17X	
812	328356-48X	328356-15X	328356-18X	328356-19X
823 Standard Output		328356-2X	328356-2X	
823				
w/shifter seal (AB, AC & XV Output)		328356-3X	328356-3X	
less shifter seal (AB, AC & XV Output)		328356-5X	328356-5X	
859	329071-20X			
863	328356-39X			
867	329071-27X (XS Output)			
	329071-28X (XV & AB Output)			
	329071-29X (XY Output)			
	329071-34X (AF Output)			
880				
Standard Output	328356-51X		328356-53X	328356-54X
Pump Output	328356-52X		328356-53X	328356-54X
901	328267X			328356-40X
912	328356-65X		328356-62X	
Speedometer	328356-63X			
w/o Speedometer	328356-64X			
931				
Standard Output	328356-45X			
Pump Flange	328356-46X			
2230				
Top Unit	328356-15X			
Bottom Unit	328356-55X			
2442				
Top Unit	328356-15X			
Bottom Unit	328356-13X	328356-15X	328356-26X	328356-17X

* Seal, Gasket, Bearing, Clutch Pack Kit

** Seal, Gasket Bearing, Piston, Clutch Pack Kit

*** Gasket, Seal, Bearing, Clutch Pack Kit w/Piston & Back-up Cylinder

The kits shown below are included for standard applications. Many applications require special stud kits. These are called out on the application pages in the Chelsea HY25-3000/US catalog. Therefore, always consult the application pages in the Chelsea HY25-3000/US before specifying stud kits.

Mounting Kits				
Series	Standard (X*)	Deep Mount (Z*)	Metric (G*)	Miscellaneous
CAT-D	7170-120X			7170-119X (XV)
CAT-H	7170-120X			
100	8000-4X		7170-64X	
221	328170-1X	328170-26X		(R*) 328170-155X
230	328170-101X		7170-103X	
231			7170-104X	(M*) 7170-74X
236	7170-1X	328170-95X	7170-72X	
243				(A*) 7170-100X
246				(F*) 8000-19X
250			7170-102X	
267	7170-86X (FJ) 7170-117X (KV)			
269	7170-107X			(J*) 7170-87X
270	328170-101X		7170-103X	(A*) 328170-205X
271			7170-104X	(M*) 7170-74X
277	7170-86X (FJ) 7170-117X (KV)			
278	7170-86X (FJ) 7170-117X (KV)			
290	328170-76X		7170-72X	
295	328170-76X		7170-72X	(K*) 328170-76X
340	7170-1X	328170-95X	7170-72X	(S*) 328170-95X
352	7170-2X	7170-1X	7170-72X	
429			7170-72X	
435	Varies by transmission. Consult the Chelsea HY25-3000/US catalog.			
442	328170-76X	328170-77X	7170-72X	
447	328170-76X	328170-77X	7170-72X	
452	7170-2X	7170-1X	7170-72X	
489	328170-200X	328170-200X	7170-68X	
522	8000-18X			
541	328794-50X			
660	328170-76X	328170-77X	7170-72X	(D*) 7170-72X
680	328170-200X	328170-200X	7170-68X	
800	328170-113X			
812	328170-115X	328170-115X	7170-113X	
823	328170-8X		328170-185X	
852	328170-8X			
859	7170-86X (FJ) 7170-118X (KV)			
863	328170-8X		328170-185X	
867	7170-86X (FJ) 7170-118X (KV)			
880	328170-192X	328170-195X	328170-201X	
885	328170-192X			
626	328170-76X		7170-72X	7170-72X (626DJA*)
628	328170-209X	328170-209X	328170-201X	
630	328170-76X	328170-77X	7170-78X	7170-72X (630DJA*)
645	328170-76X	328170-77X	7170-78X	7170-72X (645DJA*)
329138X,-1X	328170-95X			
328481X	328170-128X			
328481G			8000-14X	
328564X	328170-127X			
328564G			8000-15X	

* This letter is the Mounting Type Designator found in the Model Number — Example: 442XSAHX-A3XK

P.T.O./Dump Pump Combo Valve:

This shift option is designed to make P.T.O./dump pump air shift applications safer and easier. The compact design features a safety interlock to prevent accidental P.T.O. engagement, automatic P.T.O. disengagement when in the “lower” position to prevent the P.T.O. from being accidentally left in gear, and controlled lowering (feathering) for smooth dump body descent. The controls are easily operated, even when the driver is wearing gloves. It is ideal for use in systems with Chelsea dump pumps, wet line reservoirs and P.T.O.s.

**Features**

Part Number	P.T.O. Kick Out	Spring Return to Neutral on Dump Valve Control	Manual Return to Neutral on Dump Valve	Safety Lock on P.T.O.	Detent Lock on Neutral	Smooth Descent	LED Light
Air Shift P.T.O.s							
329214X & -2X	x	x		x	x	x	x
329316X & -2X			x	x	x	x	x
Hydraulic Shift P.T.O.s							
329214-1X	x	x		x	x	x	x
329216-1X			x	x	x	x	x

Order Code	P.T.O. Models	Chelsea Part No.	Installation Kit	Description
Air Shift P.T.O.s				
S	442 & 489	329214X	328388-65X	Hoist-P.T.O. control valve that allows a smooth descent of the body in the “lower” position. Features automatic disengagement of the P.T.O. in “lower”. Lever on the control valve returns to neutral from the “raise” position when released (dead man’s handle).
S	230/231 & 236	329214-2X	328388-89X	
T	442 & 489	329316X	328388-72X	Hoist-P.T.O. control valve that allows a smooth descent of the body in the “lower” position. Requires manual disengagement of the P.T.O. in “lower”.
T	230/231 & 236	329316-2X	328388-90X	
Hydraulic Shift P.T.O.s				
S	277/278	329214-1X	328388-85X	Hoist-P.T.O. control valve that allows a smooth descent of the body in the “lower” position. Features automatic disengagement of the P.T.O. in “lower”. Lever on the control valve returns to neutral from the “raise” position when released (dead man’s handle).
S	270/271	329214-1X	328388-87X	
T	277/278	329216-1X	328388-86X	Hoist-P.T.O. control valve that allows a smooth descent of the body in the “lower” position. Requires manual disengagement of the P.T.O. in “lower”.
T	270/271	329216-1X	328388-88X	

General Specifications

Pump	Gear Width	GPM US at 1000 R.P.M.	Cubic Inch Displacement	Horsepower Input (at 2000 PSI) 1000 R.P.M.	Maximum Pressure	Maximum Speed
C101/102-20	2.000"	22	5.1	25.6	2500	2400 R.P.M.
C101/102-25	2.500"	27.6	6.38	31	2500	2400 R.P.M.
G101/102-1-0.7	.750"	6.4	1.48	6.2	2500	2400 R.P.M.
G101/102-1-1.5	1.500"	12.8	2.96	13.7	2500	2400 R.P.M.
G101/102-1-2.0	2.000"	17	3.94	18.8	2500	2400 R.P.M.

All data based on S.A.E. 10W oil at 150°F. Minimum pump speed at pressure is 800 R.P.M. US Gallons displacements are theoretical. They will vary depending on speed, pressure, and temperature.

Three-Line Installation (for intermittent or continuous operation)

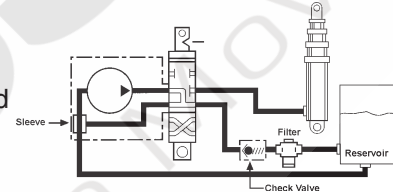
With the internal sleeve installed and three-line installation, two advantages are provided:

- A. Minimizes the possibility of overheating
- B. The filter keeps the system clean for prolonged trouble-free operation.*

*If filter is used, check valve must be added to prevent backflushing filter.

Dump Pump 3-Line System Shown in the Neutral Mode

In the neutral mode, all the flow goes across the spool to the Return Port and back to tank because the internal by-pass passage is blocked by the sleeve in the inlet port. Any pressure higher than the setting of the relief valve is relieved internally through the by-pass to the Return Port.

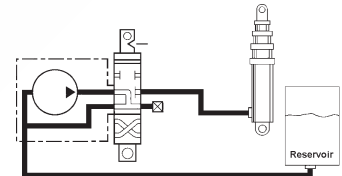


Two-Line Installation (for intermittent operation only)

With the internal sleeve removed a two-line hook-up can be arranged, however the oil circulates internally (within the pump). Continuous operation may result in overheating.

Dump Pump 2-Line System Shown in the Neutral Mode

In the neutral mode, the flow goes across the spool to the Return Port and the integral by-pass passages. Because the Return Port is plugged, and the pressure drop through the by-pass is less than what is required to activate the cylinder, all flow goes through the by-pass back to the inlet side of the pump. Any pressure higher than the setting of the relief valve is relieved internally through the by-pass, back to the inlet port.



These pumps are shipped with an internal sleeve for three-line (continuous duty, filtered) systems. For two-line systems for intermittent duty cycles*, discard the sleeve.

*Pump/P.T.O. operates 5 out of every 15 minutes. Note that three-line systems are always recommended to prolong the trouble-free operation of the hydraulic system.

Notes

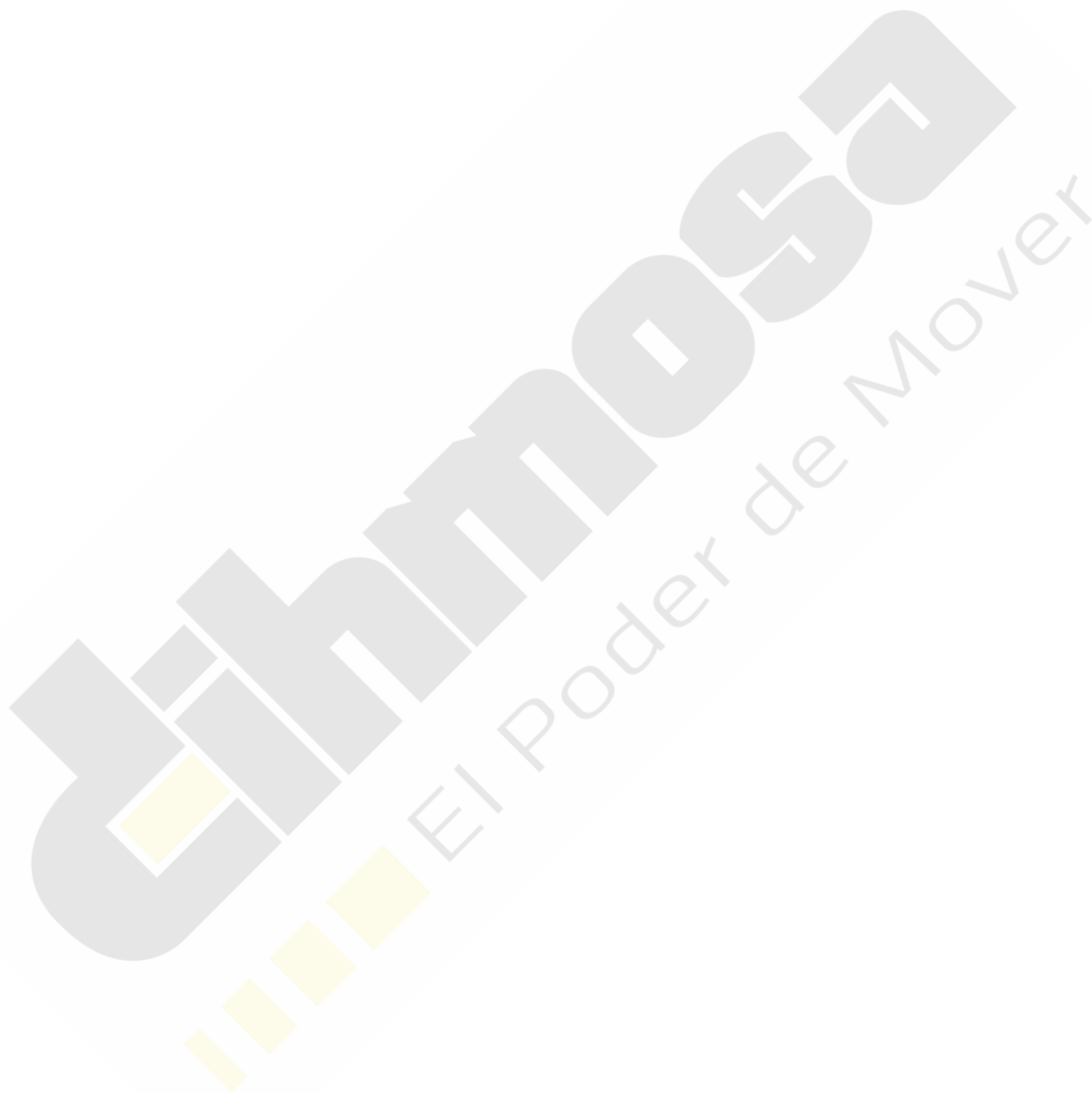
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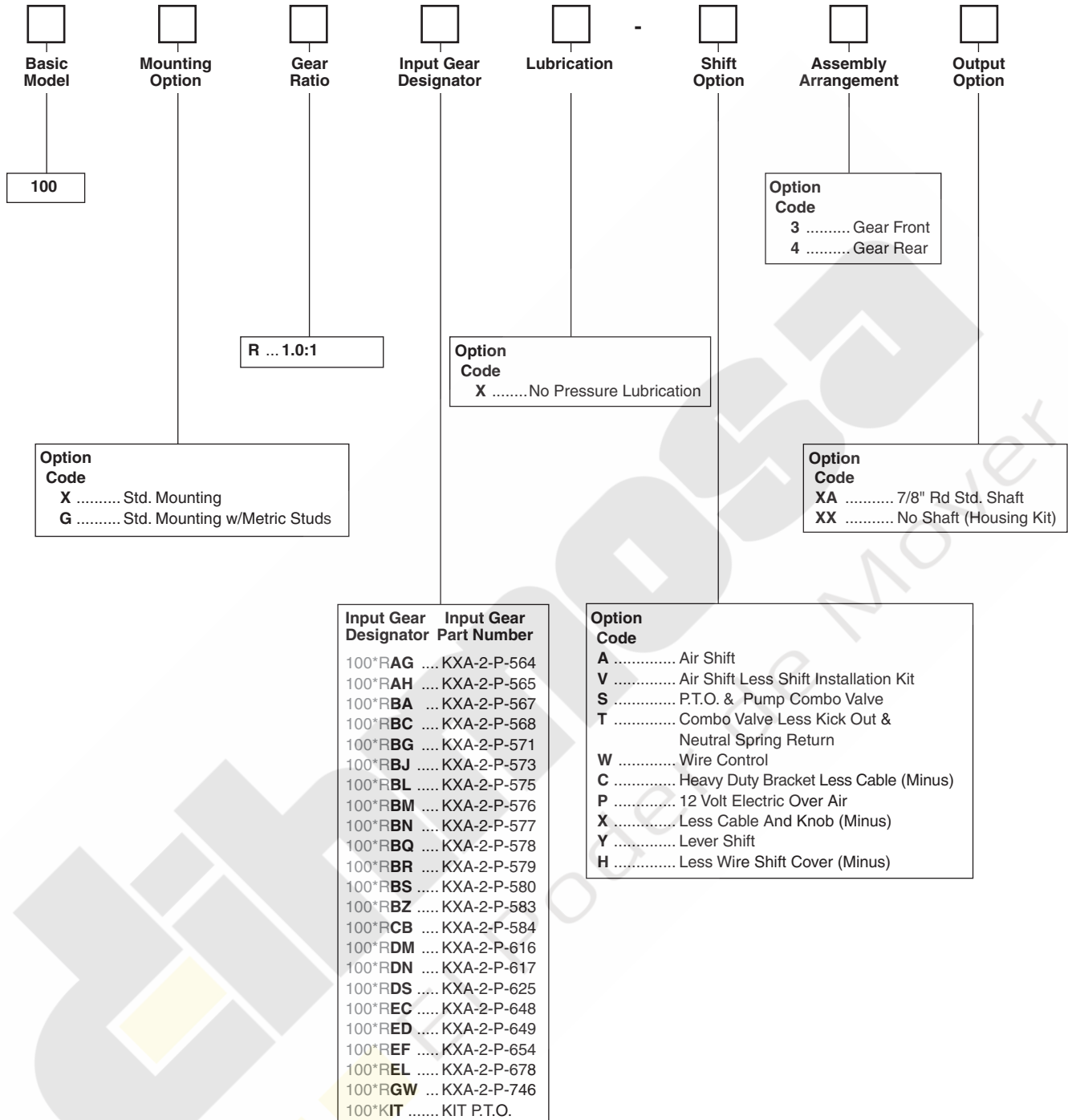
Assembly Options

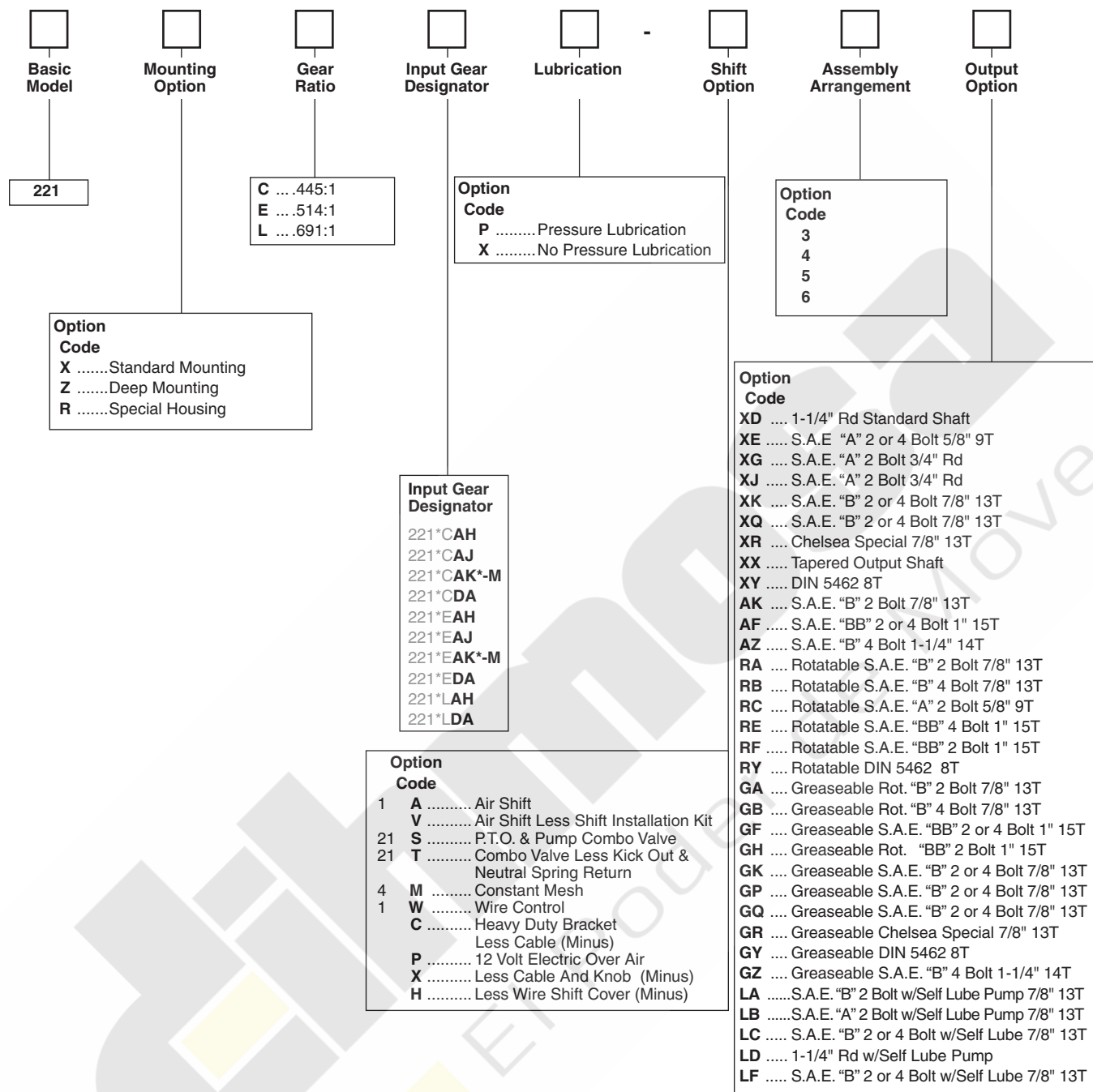


Chemos
El Poder de Mover

100 Series	3.1
221 Series	3.2
230/231 Series	3.3
236 Series	3.4
243 Series	3.5
246 Series	3.6
250 Series	3.7
267 Series	3.8
269 Series	3.9
270/271 Series	3.10
277/278 Series	3.11
290 Series	3.12
340 Series	3.13
352 Series	3.14
429 Series	3.15
435 Series	3.16
442 Series	3.17
447 Series	3.18
452 Series	3.19
489 Series	3.20
522 Series	3.21
541 Series	3.22
660 Series	3.23
680 Series	3.24
800 Series	3.25
812 Series	3.26
823 Series	3.27
852 Series	3.28
859 Series	3.29
863 Series	3.30
867 Series	3.31
880 Series	3.32
885 Series	3.33
901 Series	3.34
912 Series	3.35
941 Series	3.36
CAT-D	3.37
CAT-H	3.38
2230 Series	3.39
2442 Series	3.40
626, 628, 630 and 645 Series	3.41





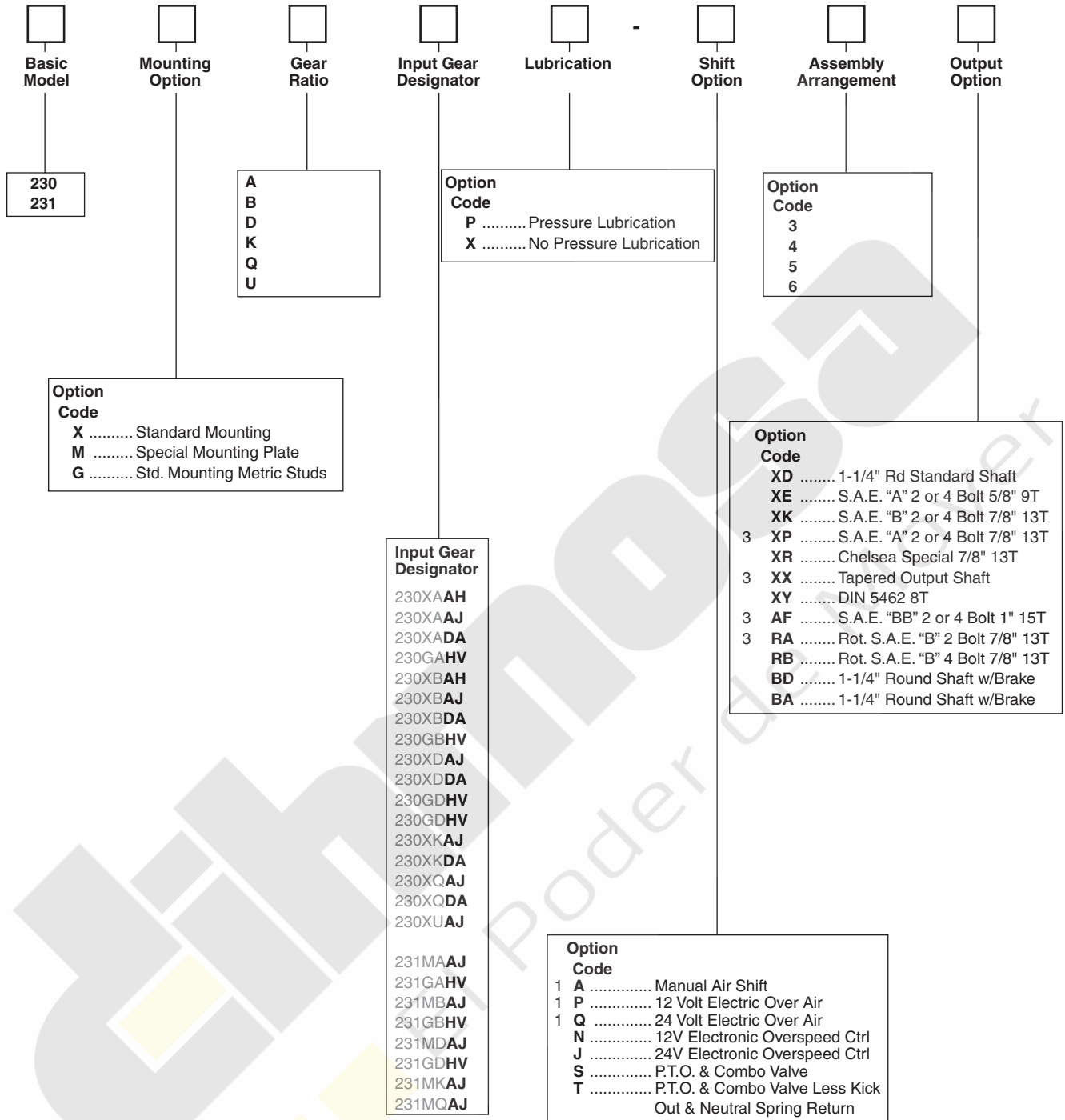


① Includes mounting parts

④ Available only on 221*CAK and 221*EAK

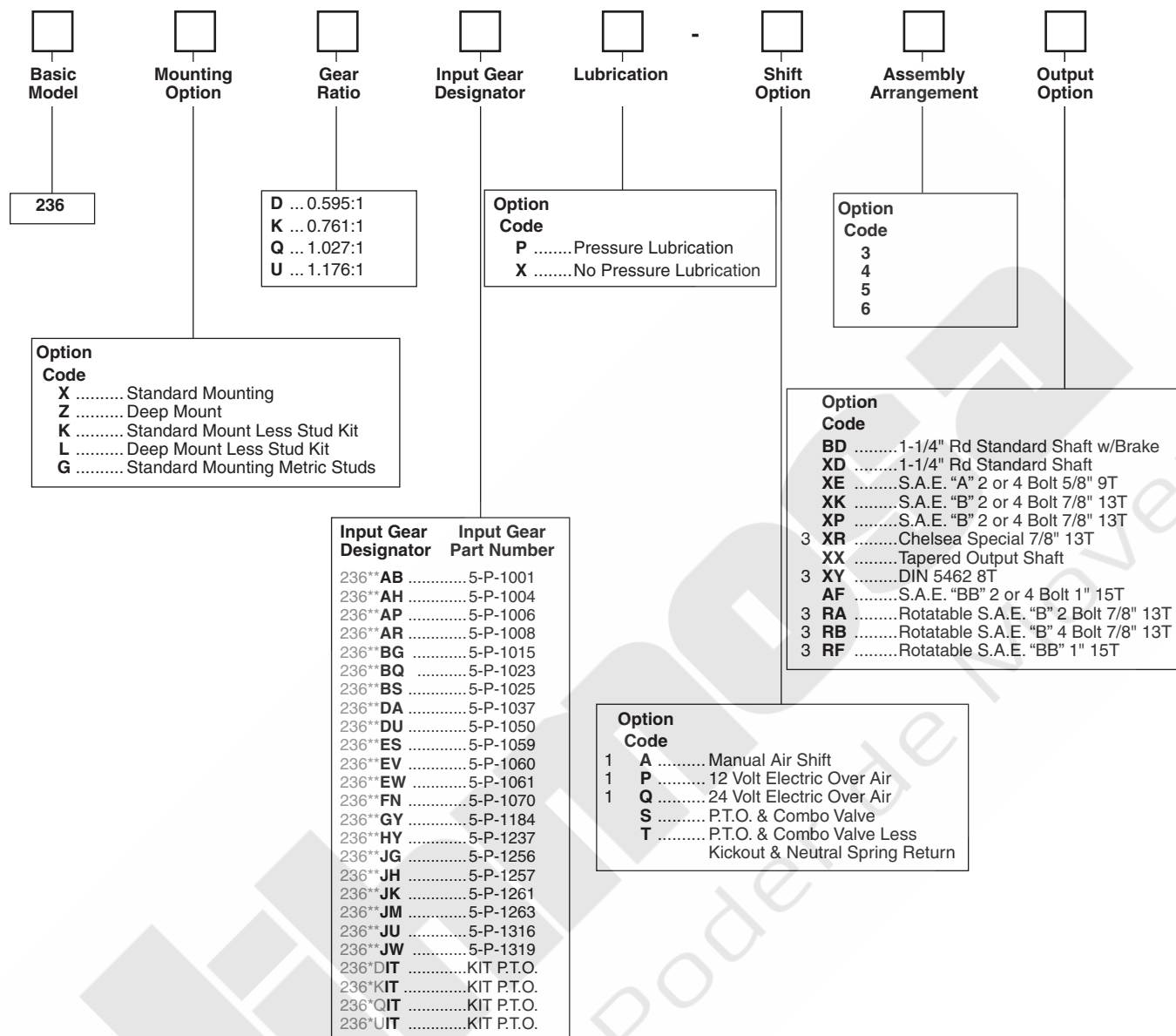
② Includes installation kit, console sold separately

Assembly Options

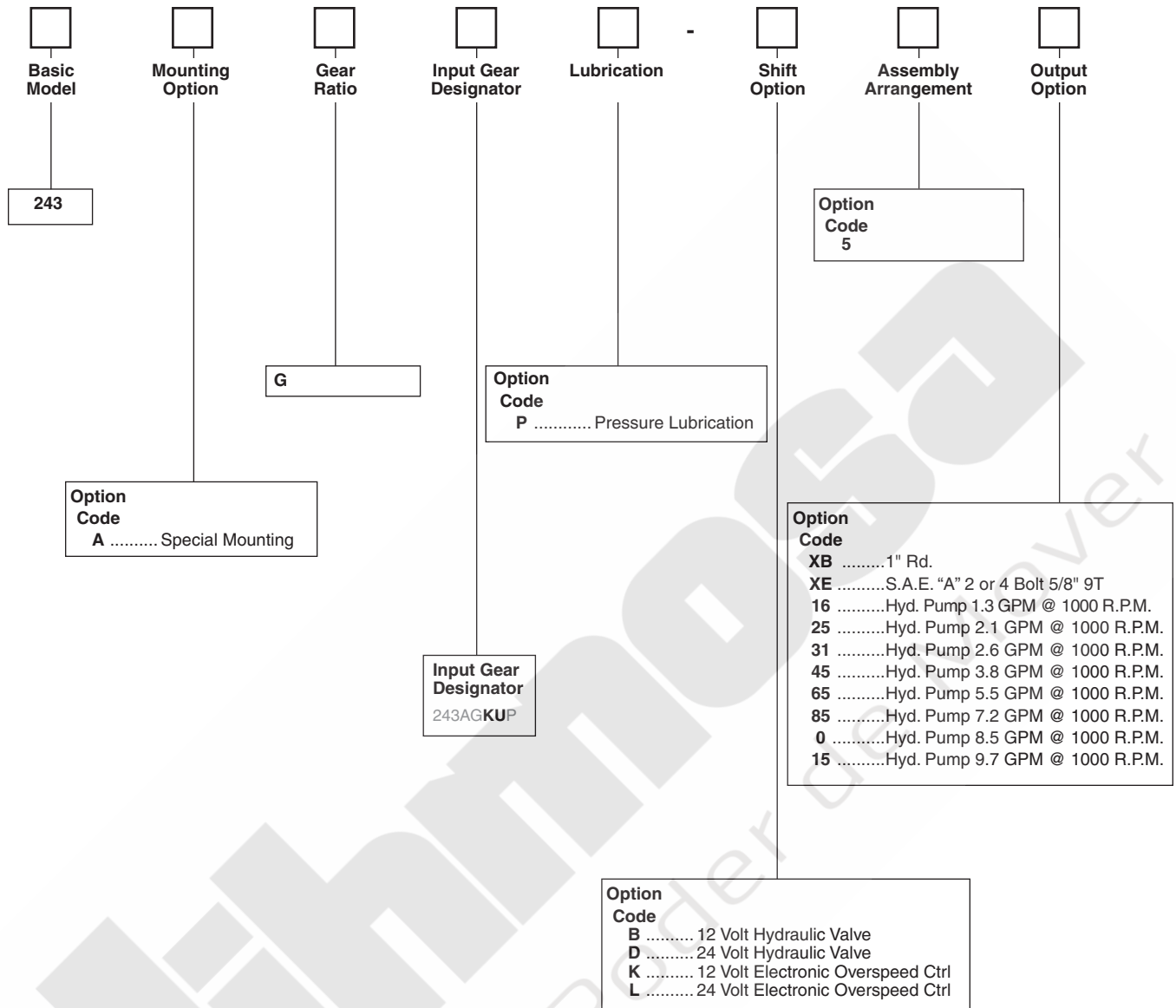
Six Bolt Powershift
230/231 Series

- ① Includes mounting parts
③ Available assembly 3 and 5 only

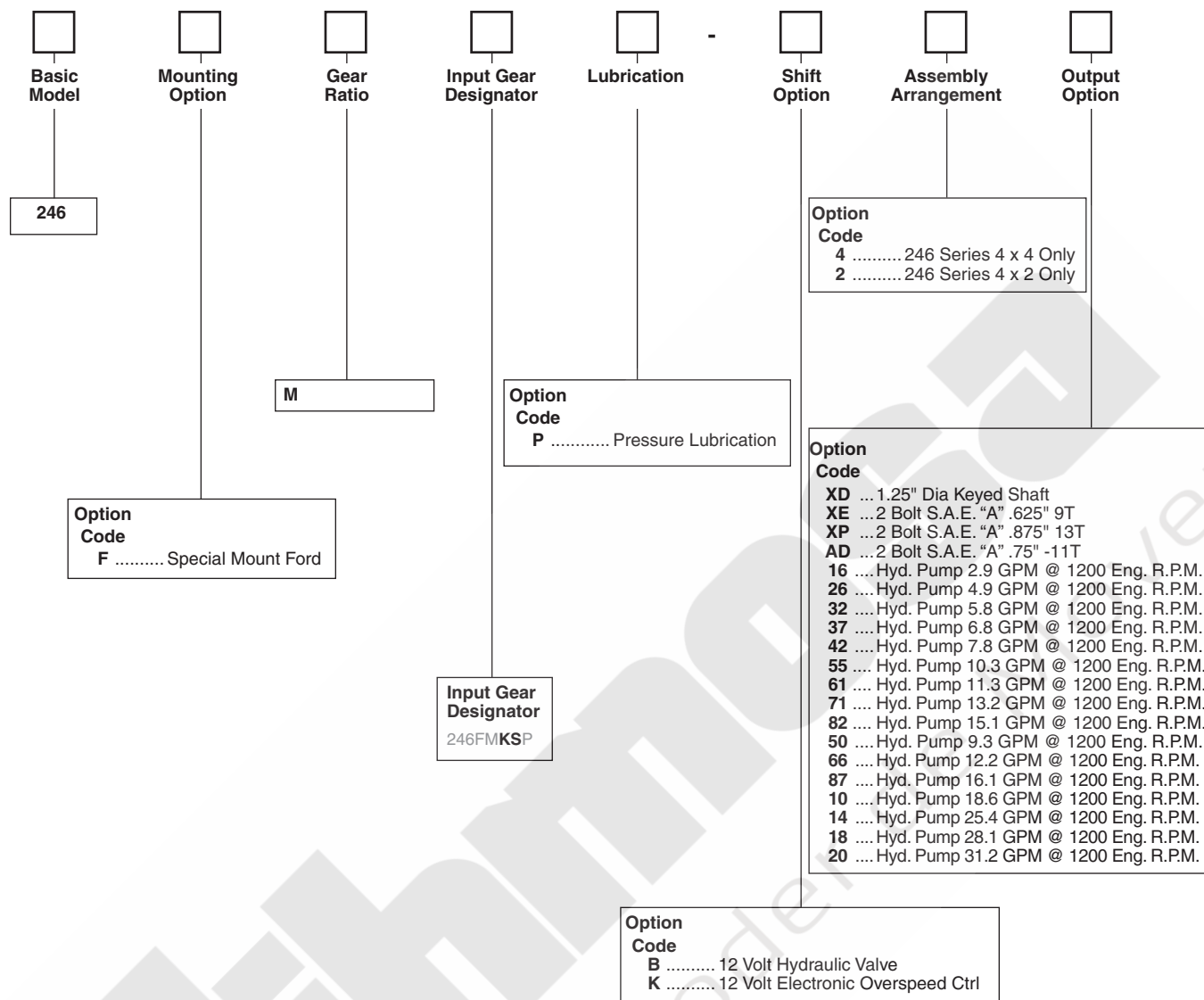
Assembly Options

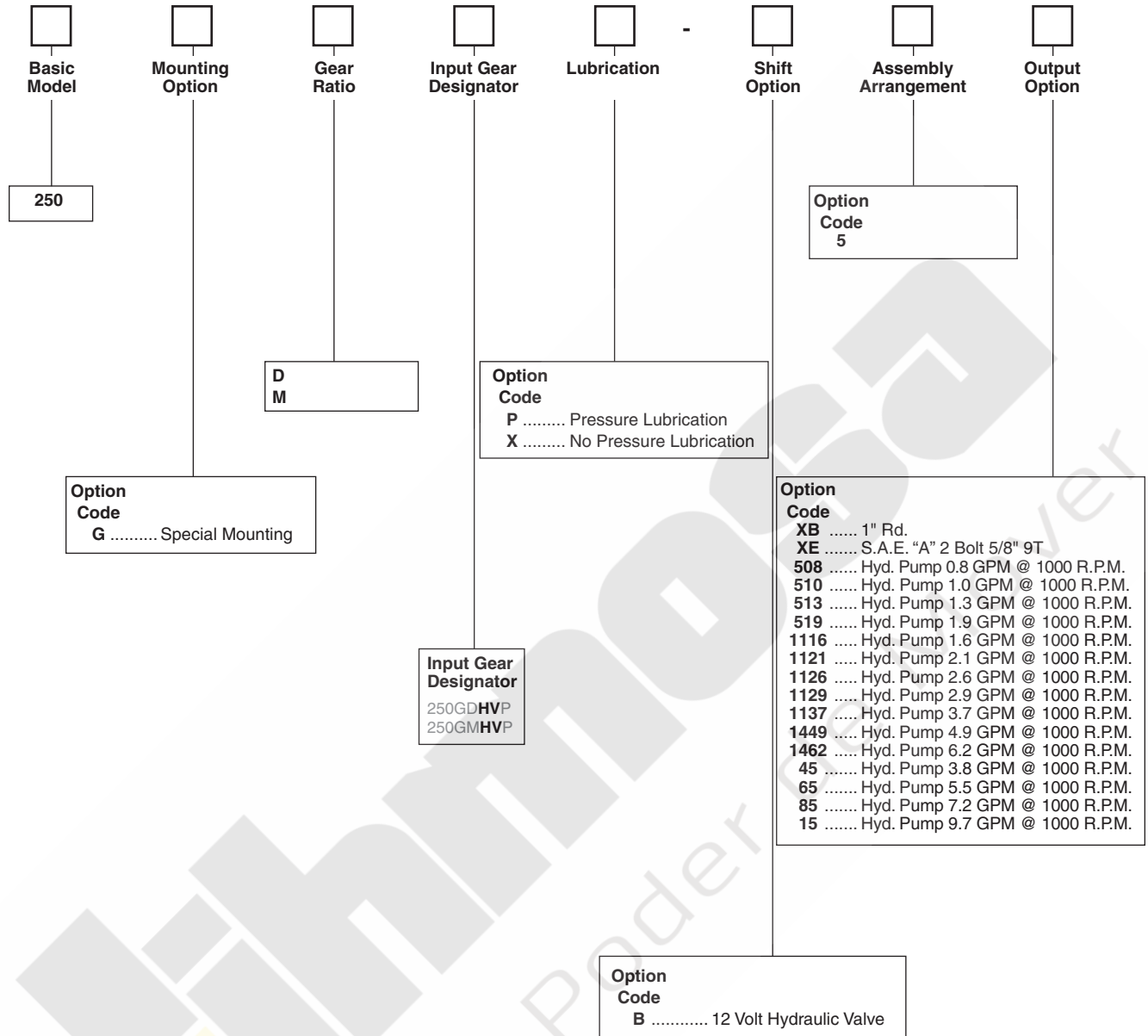
Six Bolt Powershift
236 Series

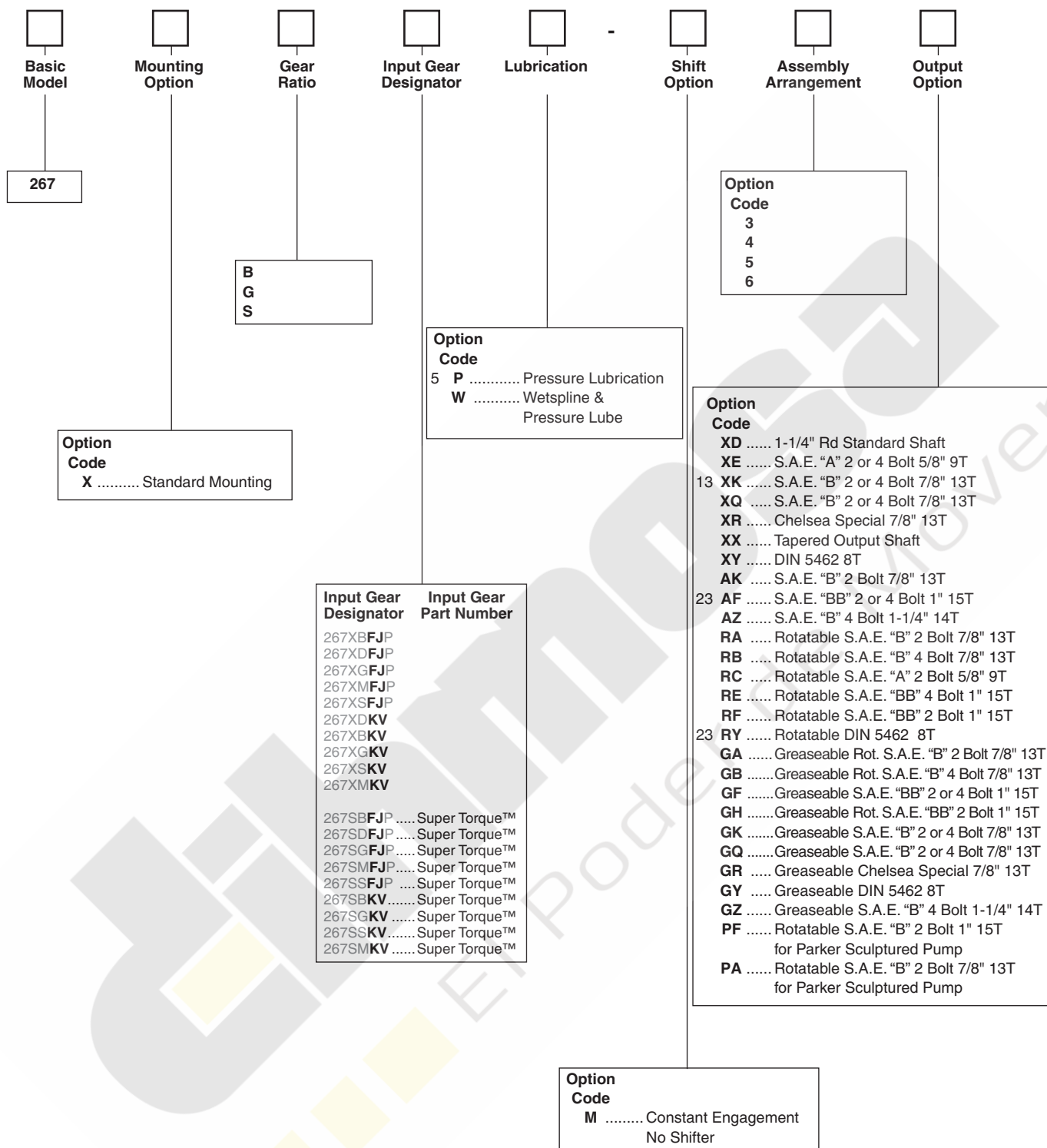
- ① Includes mounting parts
③ Available assembly 3 and 5 only



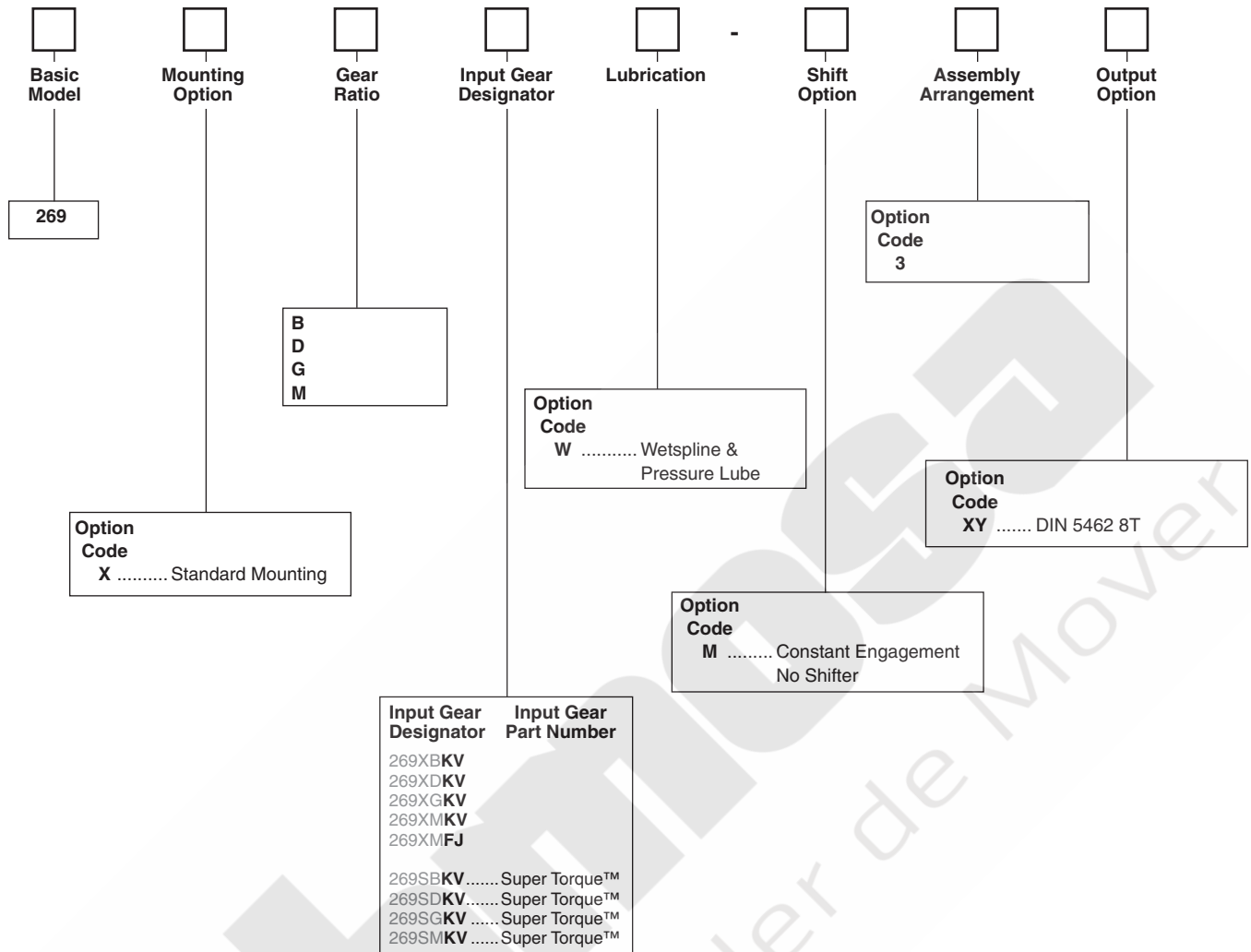
Assembly Options

Six Bolt Powershift
246 Series

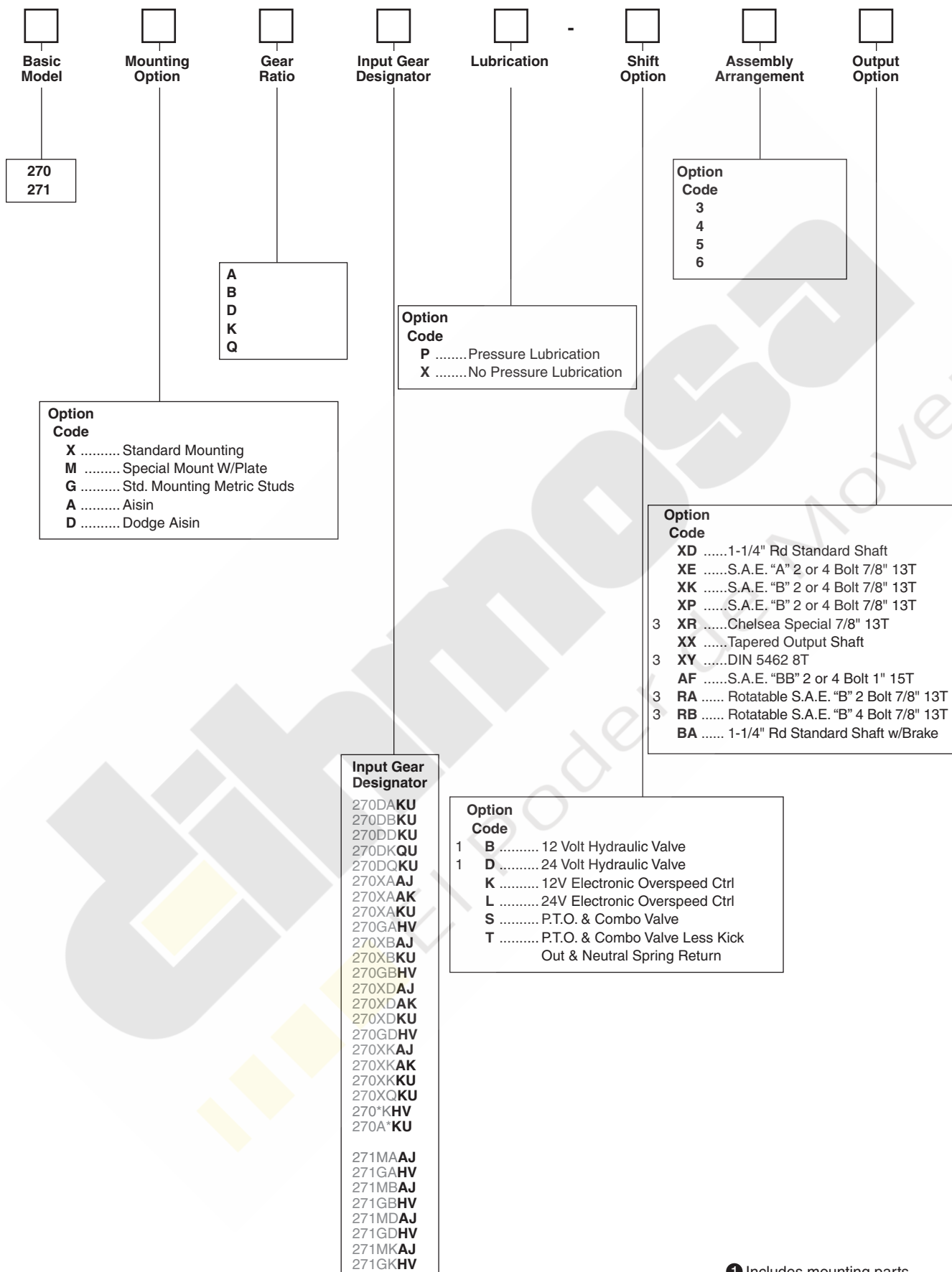




- ⑤ Automatically pressure lubed
 13 Available assembly "5" only
 23 Must be purchased with wetspline



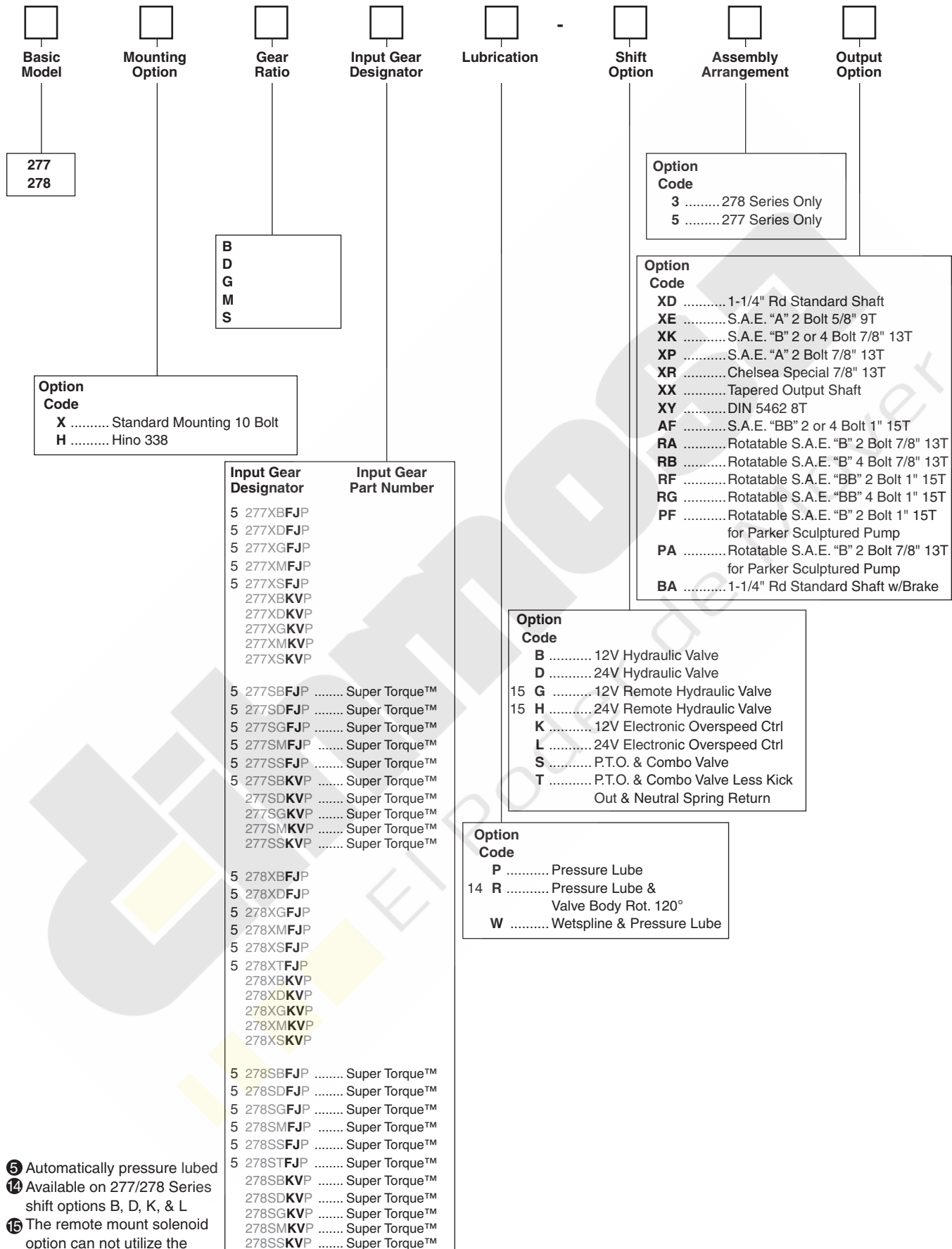
Assembly Options

Six Bolt Powershift
270/271 Series

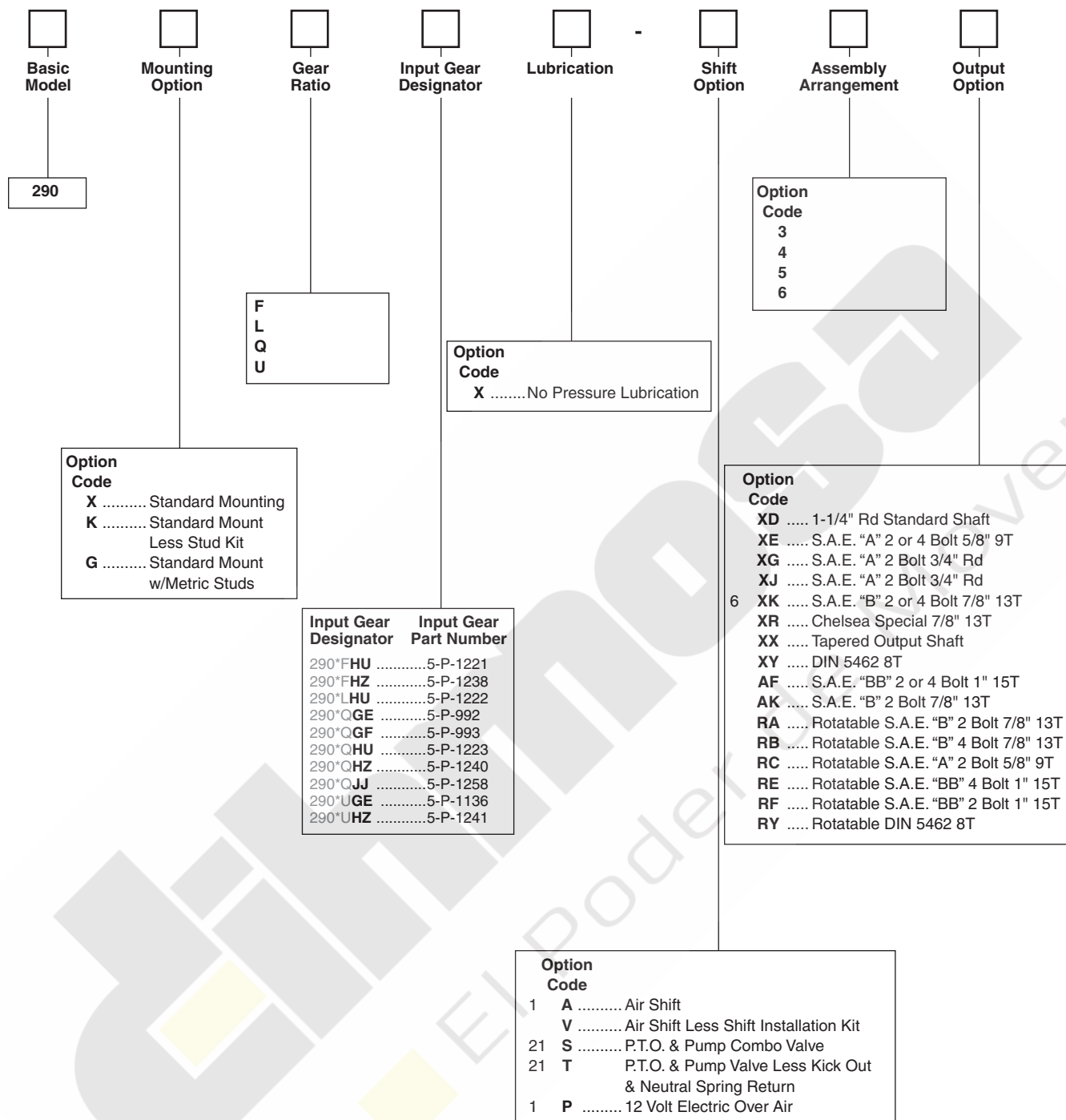
① Includes mounting parts

③ Available assembly 3 & 5 only

Assembly Options

Ten Bolt Powershift
277/278 Series

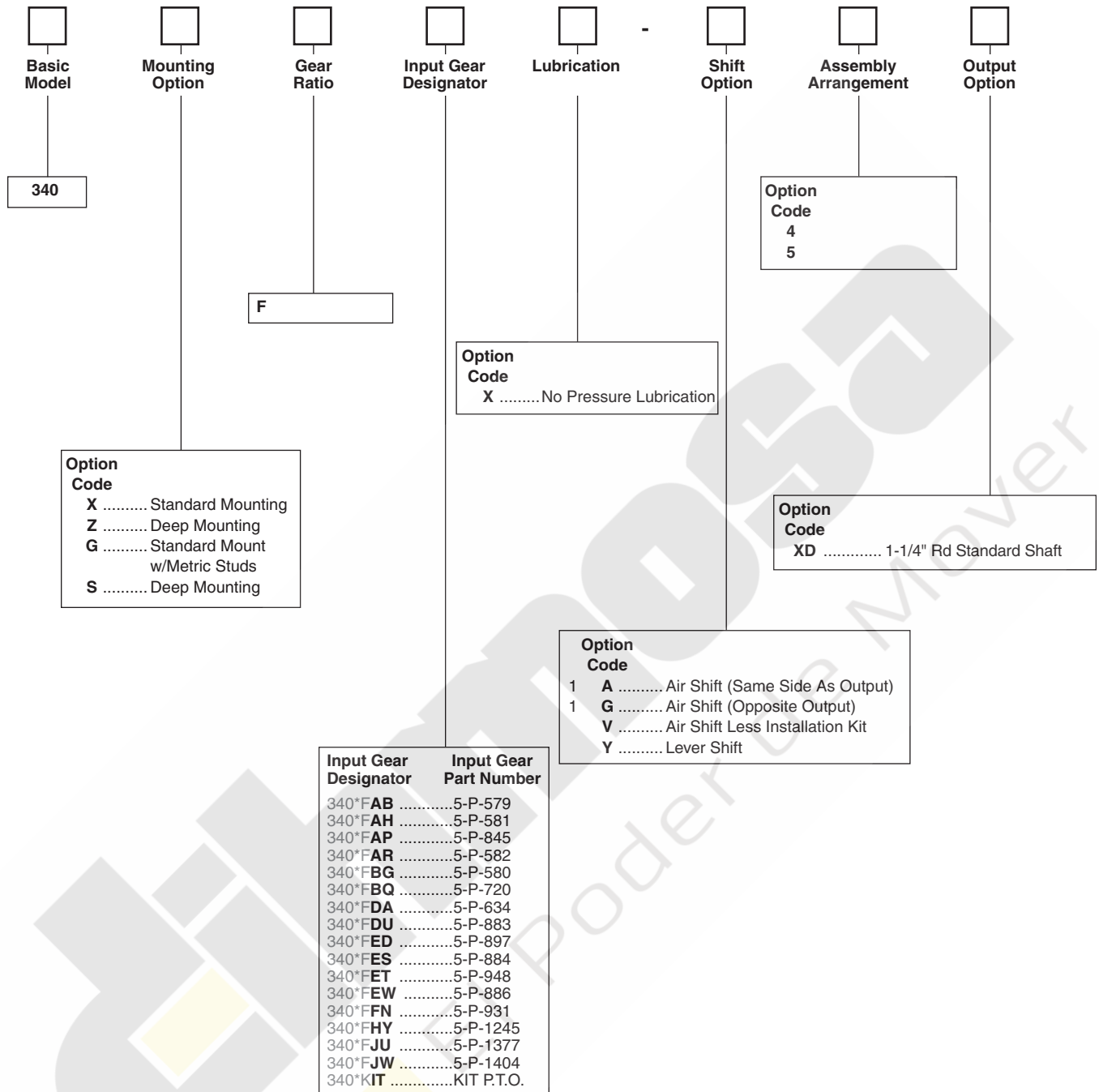
Assembly Options

Six Bolt P.T.O.
290 Series

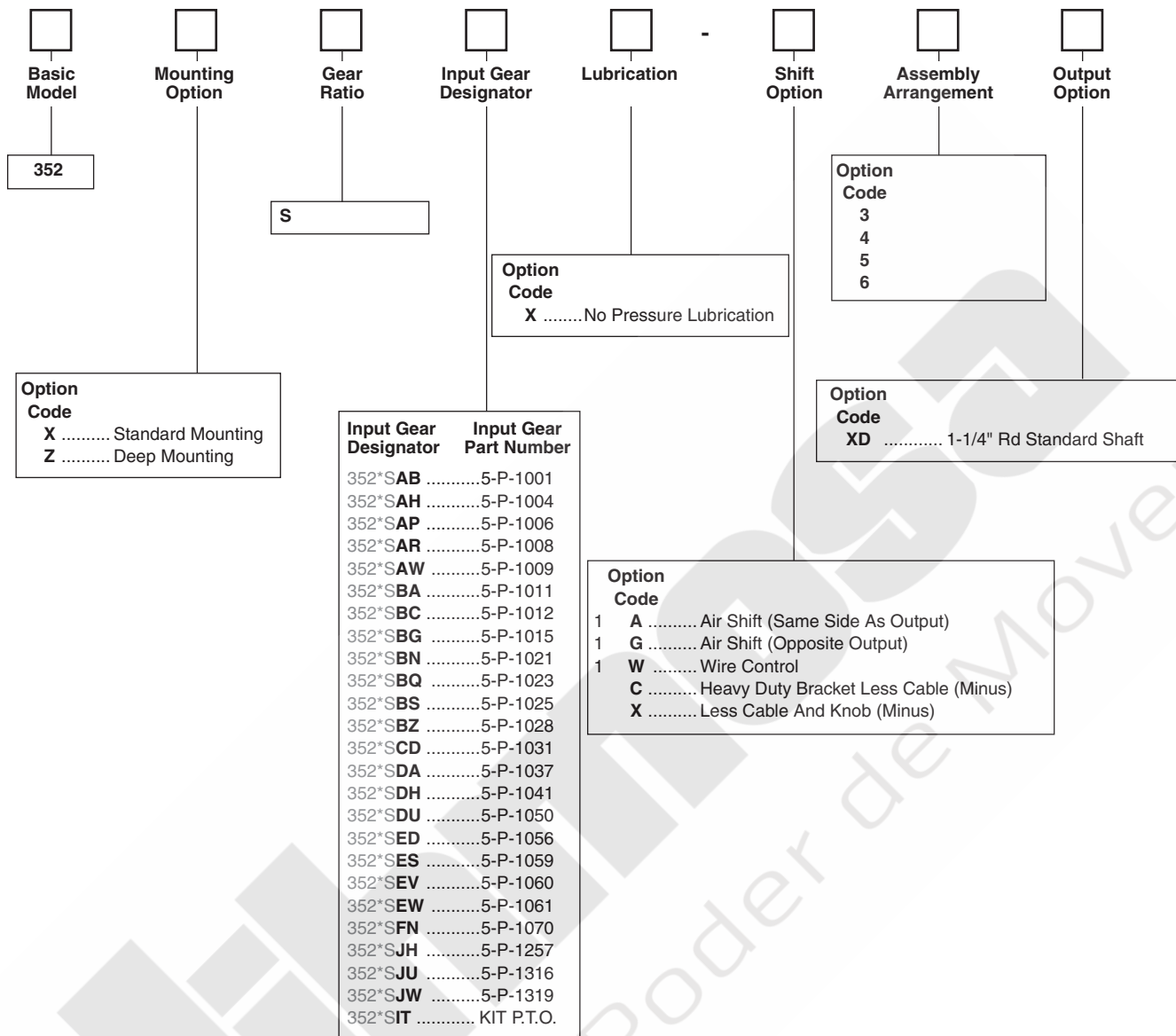
① Includes mounting parts

⑥ Available on "Q" ratio only

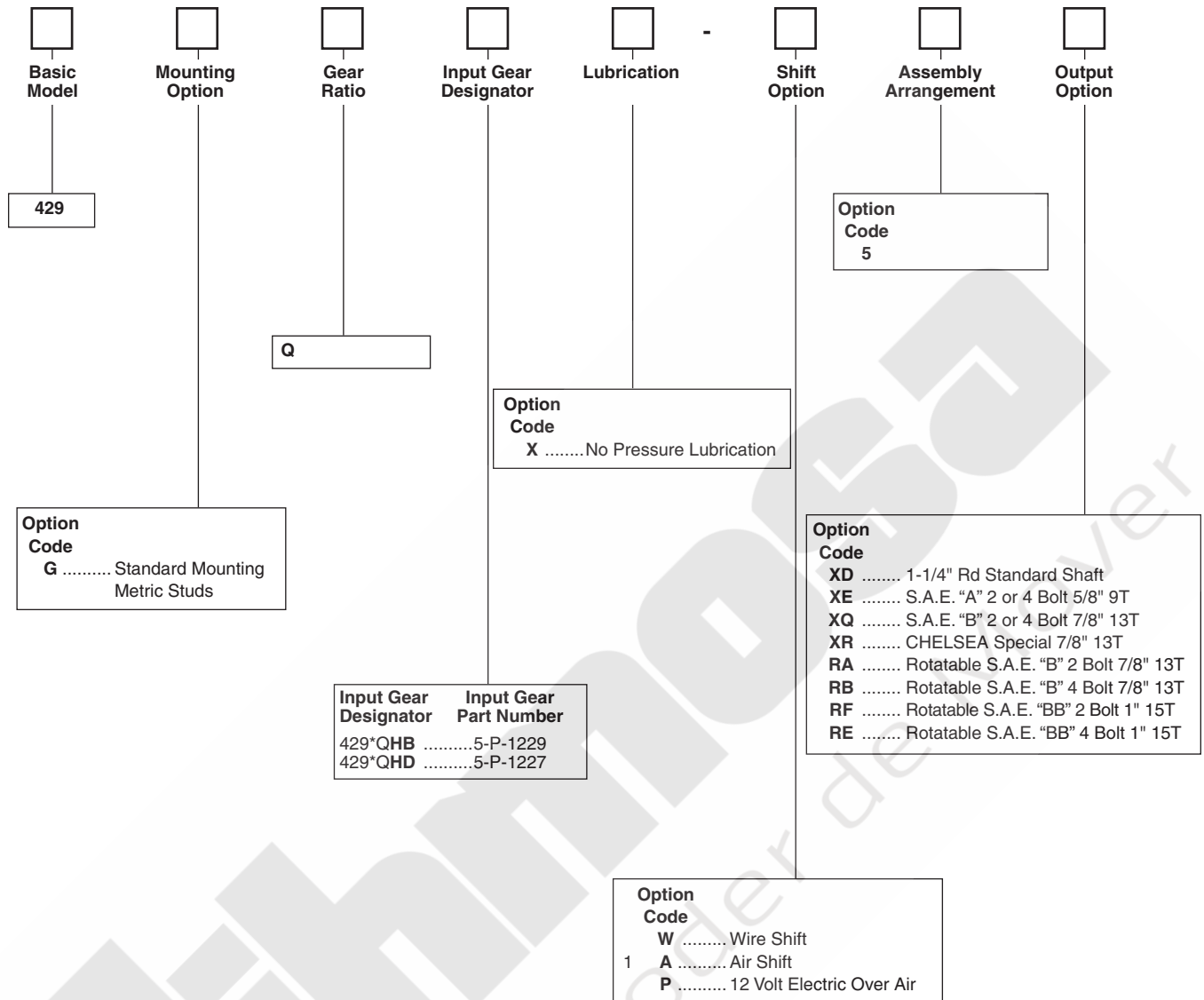
② Includes installation kit, console sold separately



① Includes mounting parts

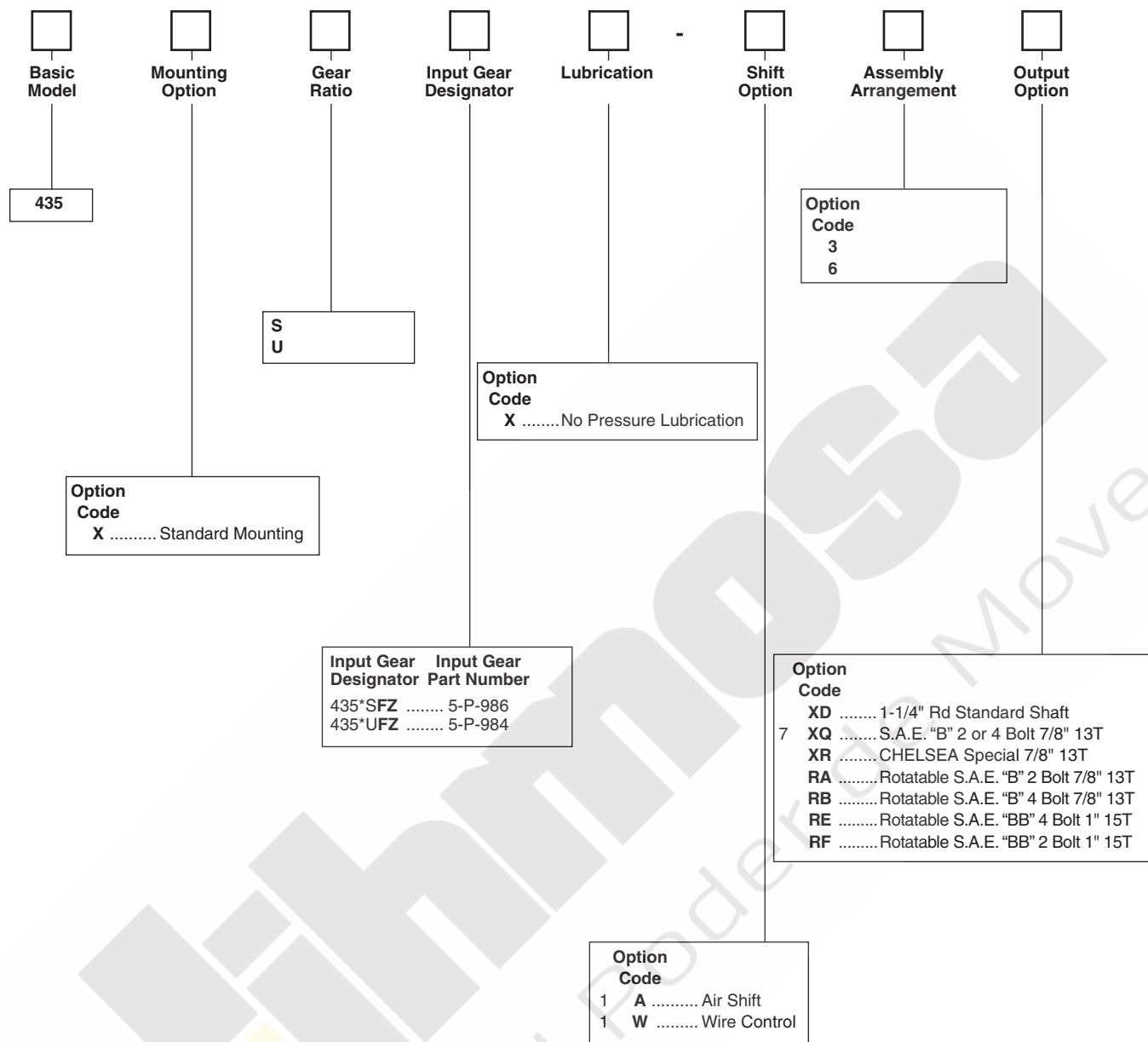


① Includes mounting parts



① Includes mounting parts

Assembly Options

Six Bolt P.T.O.
435 Series

- ① Includes mounting parts
⑦ Available assembly "3" only

Assembly Options

Six Bolt P.T.O.
442 Series

☐	☐	☐	☐	☐	☐	☐	☐
Basic Model	Mounting Option	Gear Ratio	Input Gear Designator	Lubrication	Shift Option	Assembly Arrangement	Output Option
442		Option Code A 0.391:1 C 0.489:1 F 0.520:1 H 0.716:1 L 0.691:1 Q 0.865:1 R 0.941:1 S 1.205:1 U 1.410:1 W 1.713:1 X 2.000:1		Option Code P Pressure Lube X No Pressure Lube		Option Code 3 4 5 6	
Option Code G Standard Mount w/Metric Studs K Standard Mount Less Stud Kit L Deep Mount Less Stud Kit X Standard Mount Z Deep Mount					Option Code 1 A Air Shift V Air Shift Less Installation Kit 21 S P.T.O. & Pump Combo Valve 21 T P.T.O. & Pump Valve Less Kick Out & Neutral Spring Return 1 W Cable Shift C Heavy Duty Bracket Less Cable (Minus) M Constant Mesh 1 P 12 Volt Electric Over Air X Less Cable and Knob (Minus) H Less Wire Shift Cover (Minus)		

Input Gear Designator	Input Gear Part Number	Input Gear Designator	Input Gear Part Number	Input Gear Designator	Input Gear Part Number
442**AB	5-P-1001	442**JH	5-P-1257	442*FBQ	5-P-1084
442**AH	5-P-1004	442**JK	5-P-1261	442*FDA	5-P-1085
442**AP	5-P-1006	442**JU	5-P-1316	442*FDU	5-P-1088
442**AR	5-P-1008	442**JW	5-P-1319	442*FED	5-P-1090
442**BG	5-P-1015	442**JY	5-P-1312	442*FES	5-P-1092
442**BQ	5-P-1023	442**KB	5-P-1321	442*FEV	5-P-1094
442**BZ	5-P-1028	442*AAB	5-P-1279	442*FEW	5-P-1095
442**DA	5-P-1037	442*AAH	5-P-1280	442*FFN	5-P-1097
442**DU	5-P-1050	442*AAP	5-P-1282	442*FGS	5-P-1151
442**ES	5-P-1059	442*AAR	5-P-1283	442*FHV	5-P-1300
442**EV	5-P-1060	442*ADA	5-P-1284	442*FJU	5-P-1317
442**EW	5-P-1061	442*AES	5-P-1285	442*FJW	5-P-1320
442**FC	5-P-1064	442*BAH	5-P-1418	442*HAH	5-P-1364
442**FN	5-P-1070	442*CAB	5-P-1286	442*HDA	5-P-1365
9 442**GR	5-P-1157	442*CAH	5-P-1287	442*AIT	KIT P.T.O.
442**GY	5-P-1184	442*CAP	5-P-1289	442*CIT	KIT P.T.O.
442**GZ	5-P-1185	442*CAR	5-P-1290	442*FIT	KIT P.T.O.
442**HD	5-P-1189	442*CDA	5-P-1291	442*HIT	KIT P.T.O.
442**HG	5-P-1192	442*CES	5-P-1292	442*LIT	KIT P.T.O.
442**HH	5-P-1193	442*FAB	5-P-1076	442*QIT	KIT P.T.O.
442**HL	5-P-1196	442*FAH	5-P-1077	442*RIT	KIT P.T.O.
442**HQ	5-P-1200	442*FAP	5-P-1079	442*SIT	KIT P.T.O.
442**HY	5-P-1237	442*FAR	5-P-1080	442*UIT	KIT P.T.O.
442**JE	5-P-1249	442*FBC	5-P-1081	442*VIT	KIT P.T.O.
442**JG	5-P-1256	442*FBG	5-P-1082	442*XIT	KIT P.T.O.

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

- ① Includes mounting parts
⑨ Includes adapter 329181-2X
② Includes installation kit, console sold separately

Assembly Options

Six Bolt P.T.O.
447 Series

Basic Model	Mounting Option	Gear Ratio	Input Gear Designator	Lubrication	Shift Option	Assembly Arrangement	Output Option
447		Q S U W					

Option Code	Description
X	Standard Mounting
Z	Deep Mounting
G	Standard Mount w/Metric Studs
K	Standard Mount Less Stud Kit
L	Deep Mount Less Stud Kit

Option Code	Description
P	Pressure Lube
X	No Pressure Lube

Input Gear Designator	Input Gear Part Number
447*QES	5-P-869
447*QET	5-P-865
447*SES	5-P-870
447*UES	5-P-871
447*UET	5-P-867
447*UFY	5-P-976
447*WES	5-P-872
447*AWFY	5-P-977
447*WGP	5-P-1148
447*QIT	KIT P.T.O.
447*SIT	KIT P.T.O.
447*UIT	KIT P.T.O.
447*WIT	KIT P.T.O.

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

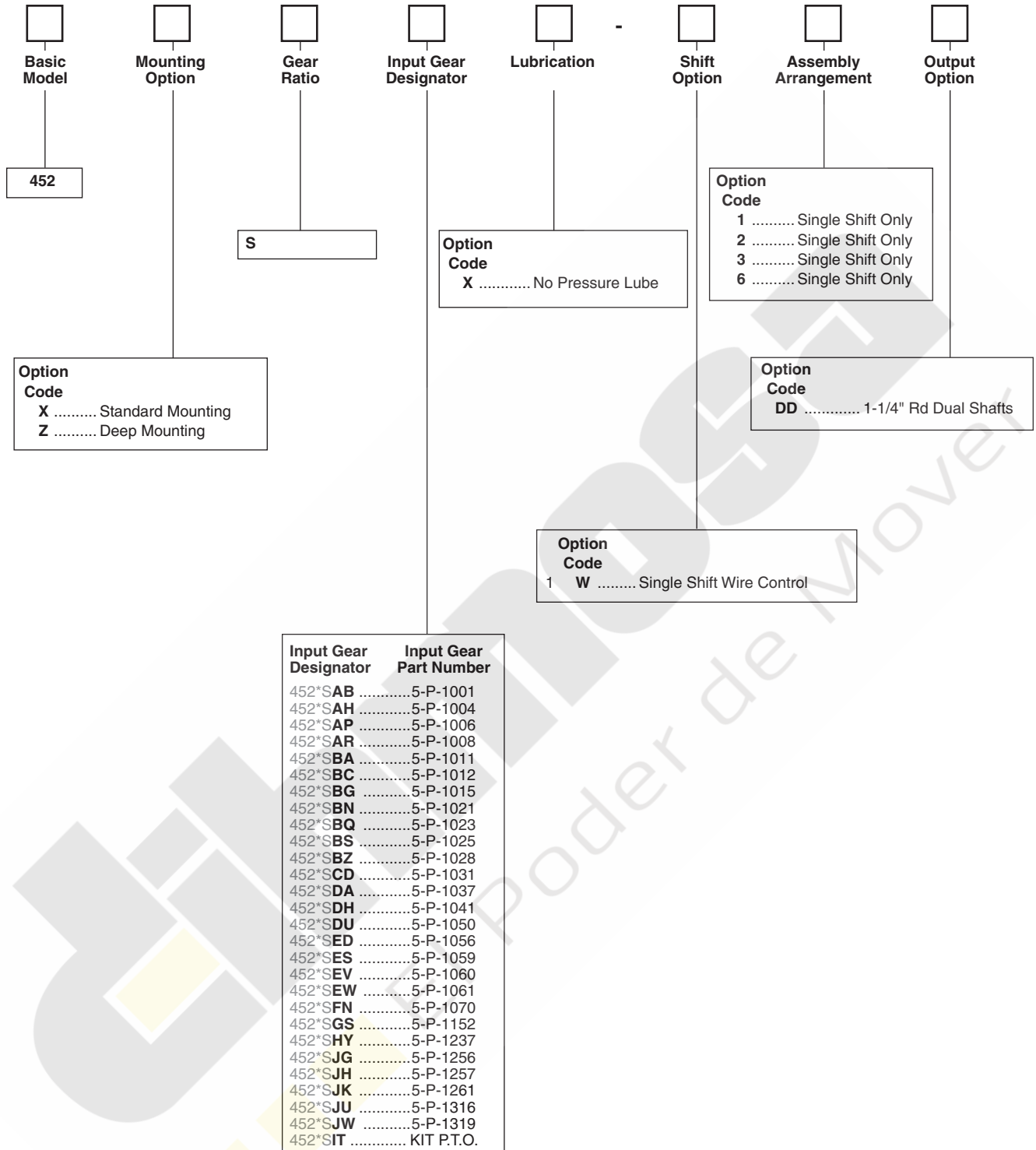
Option Code	Description
1 A	Air Shift
21 V	Air Shift Less Shift Installation Kit
21 S	P.T.O. & Pump Combo Valve
21 T	P.T.O. & Pump Valve Less Kick Out & Neutral Spring Return
W	Wire Control
C	Heavy Duty Bracket Less Cable (Minus)
M	Constant Mesh
P	12 Volt Electric Over Air
17 E	NISSAN & 447A P.T.O. 1995 - 1998
10 G	NISSAN & 447A P.T.O. 1999 & After
X	Less Cable And Knob (Minus)
H	Less Wire Shift Cover (Minus)

① Includes mounting parts

⑩ Must use with the 447A P.T.O. for Nissan 1999 and after

⑪ Must use with the 447A P.T.O., for Nissan 1995 through 1998

⑫ Includes installation kit, console sold separately

Assembly Options**Six Bolt Dual Shift P.T.O.
452 Series**

① Includes mounting parts

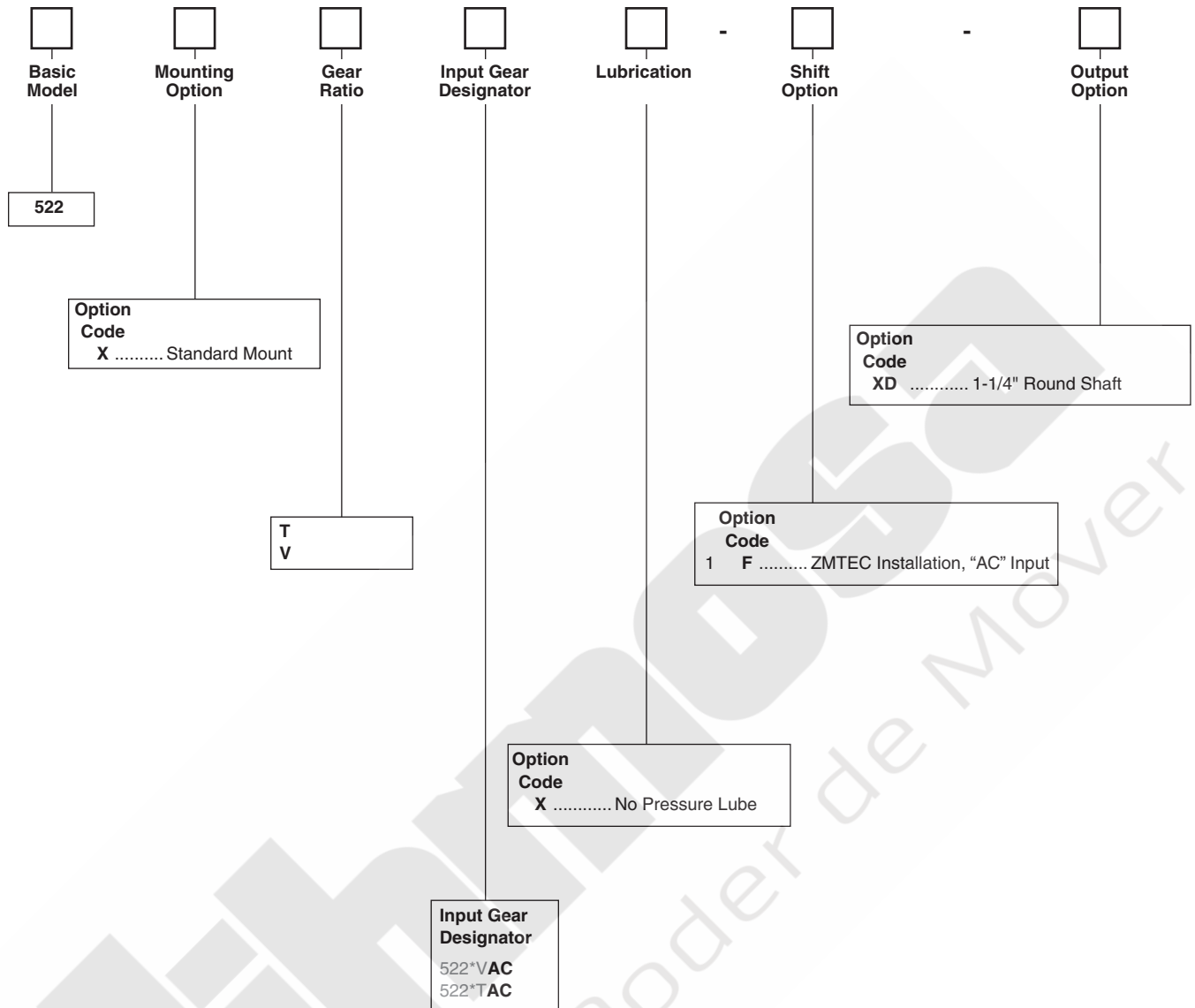
Assembly Options

Six Bolt P.T.O. With Eight Bolt Flange
489 Series

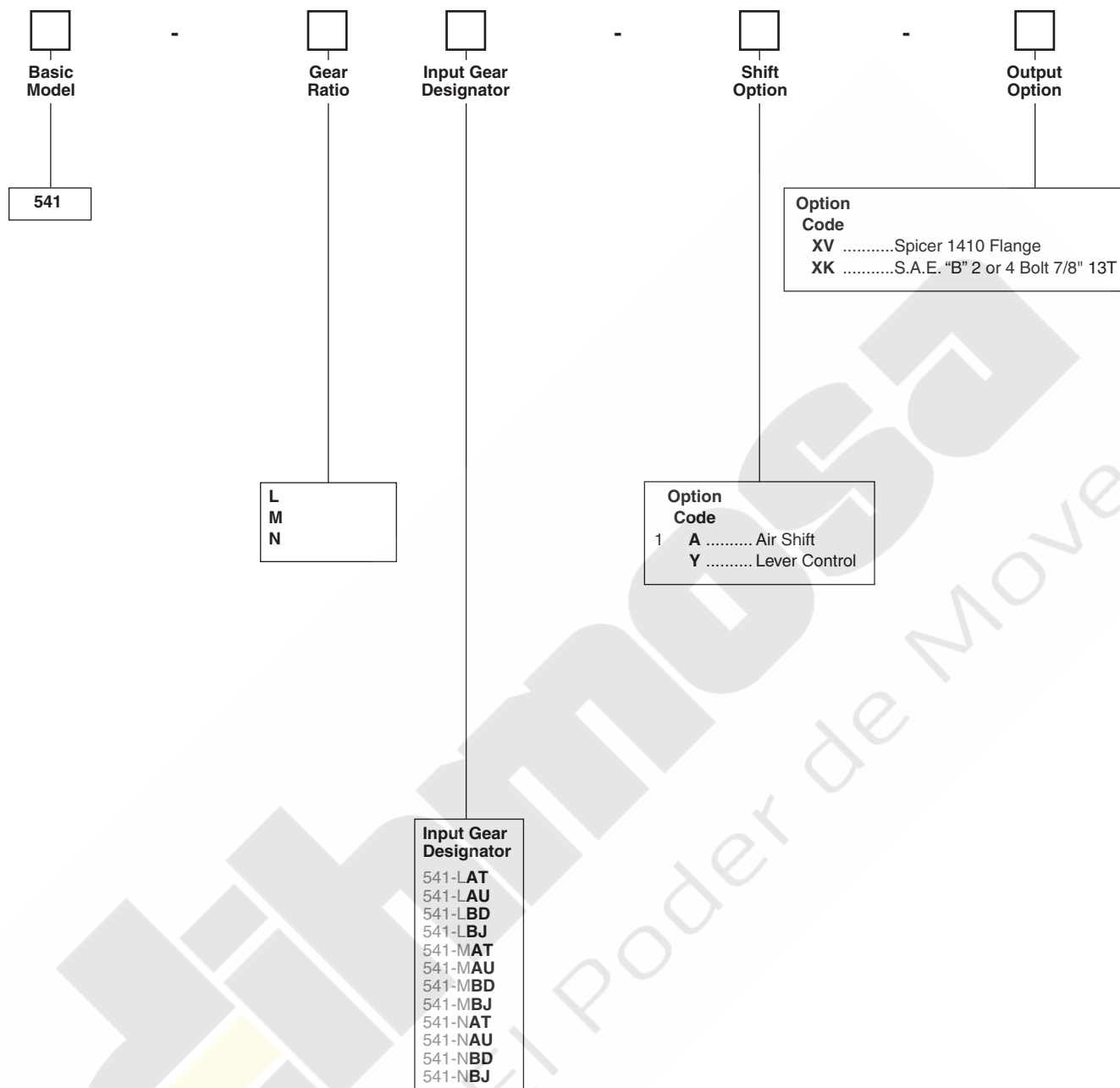
Basic Model	Mounting Option	Gear Ratio	Input Gear Designator	Lubrication	Shift Option	Assembly Arrangement	Output Option
489		A0.391:1 C0.489:1 F0.520:1 H0.716:1 L0.691:1 Q0.865:1 R0.941:1 S1.205:1 U1.410:1 W1.713:1 X2.000:1	Option Code P Pressure Lube X No Pressure Lube		Option Code 3 4 5 6	Option Code XD 1-1/4" Rd Standard Shaft XE S.A.E. "A" 2 or 4 Bolt 5/8" 9T XG S.A.E. "A" 2 Bolt 3/4" Rd XJ S.A.E. "A" 2 Bolt 3/4" Rd XK S.A.E. "B" 2 or 4 Bolt 7/8" 13T XQ S.A.E. "B" 2 or 4 Bolt 7/8" 13T XR Chelsea Special 7/8" 13T XX Tapered Output Shaft XY DIN 5462 8T AK S.A.E. "B" 2 Bolt 7/8" 13T AF S.A.E. "BB" 2 or 4 Bolt 1" 15T AZ S.A.E. "B" 4 Bolt 1-1/4" 14T RA Rotatable S.A.E. "B" 2 Bolt 7/8" 13T RB Rotatable S.A.E. "B" 4 Bolt 7/8" 13T RC Rotatable S.A.E. "A" 2 Bolt 5/8" 9T RE Rotatable S.A.E. "BB" 4 Bolt 1" 15T RY Rotatable DIN 5462 8T GA Greaseable Rotatable "B" 2 Bolt 7/8" 13T GB Greaseable Rotatable "B" 4 Bolt 7/8" 13T GF Greaseable S.A.E. "BB" 2 or 4 Bolt 1" 15T GH Greaseable Rot. S.A.E. "BB" 2 Bolt 1" 15T GK Greaseable S.A.E. "B" 2 or 4 Bolt 7/8" 13T GP Greaseable S.A.E. "B" 2 or 4 Bolt 7/8" 13T GQ Greaseable S.A.E. "B" 2 or 4 Bolt 7/8" 13T GR Greaseable Chelsea Special 7/8" 13T GY Greaseable DIN 5462 8T GZ Greaseable S.A.E. "B" 4 Bolt 1-1/4" 14T LA S.A.E. "B" 2 Bolt w/Self Lube Pump 7/8" 13T LB S.A.E. "A" 2 Bolt w/Self Lube Pump 7/8" 13T LC S.A.E. "B" 2 or 4 Bolt w/Self Lube 7/8" 13T LD 1-1/4" Rd w/Self Lube Pump LF S.A.E. "B" 2 or 4 Bolt w/Self Lube 7/8" 13T	
Option Code G Standard Mount w/Metric Stud Kit X Standard Mount Z Deep Mount		Input Gear Designator Input Gear Part Number 489** AB5-P-1001 489** AH5-P-1004 489** AR5-P-1008 489** BG5-P-1015 489** DA5-P-1037 489** DU5-P-1050 489** EV5-P-1060 489** AB5-P-1279 489** AH5-P-1280 489** AR5-P-1283 489** ADA5-P-1284 489** CAB5-P-1286 489** CAH5-P-1287 489** CAR5-P-1290 489** CDA5-P-1291 489** FAB5-P-1076 489** FAH5-P-1077 489** FAR5-P-1080 489** FBG5-P-1082 489** FDA5-P-1085 489** FDU5-P-1088 489** FEV5-P-1094 489** HAH5-P-1364 489** HDA5-P-1365 489** AITKIT P.T.O. 489** CITKIT P.T.O. 489** FITKIT P.T.O. 489** HITKIT P.T.O. 489** LITKIT P.T.O. 489** QITKIT P.T.O. 489** RITKIT P.T.O. 489** SITKIT P.T.O. 489** UITKIT P.T.O. 489** WITKIT P.T.O. 489** XITKIT P.T.O.	Option Code 1 A Air Shift V Air Shift Less Installation Kit 21 S P.T.O. & Pump Combo Valve 21 T P.T.O. & Pump Valve Less Kick Out & Neutral Spring Return 1 W Cable Shift C Heavy Duty Bracket Less Cable (Minus) M Constant Mesh 1 P 12 Volt Electric Over Air X Less Cable And Knob (Minus) H Less Wire Shift Cover (Minus)				

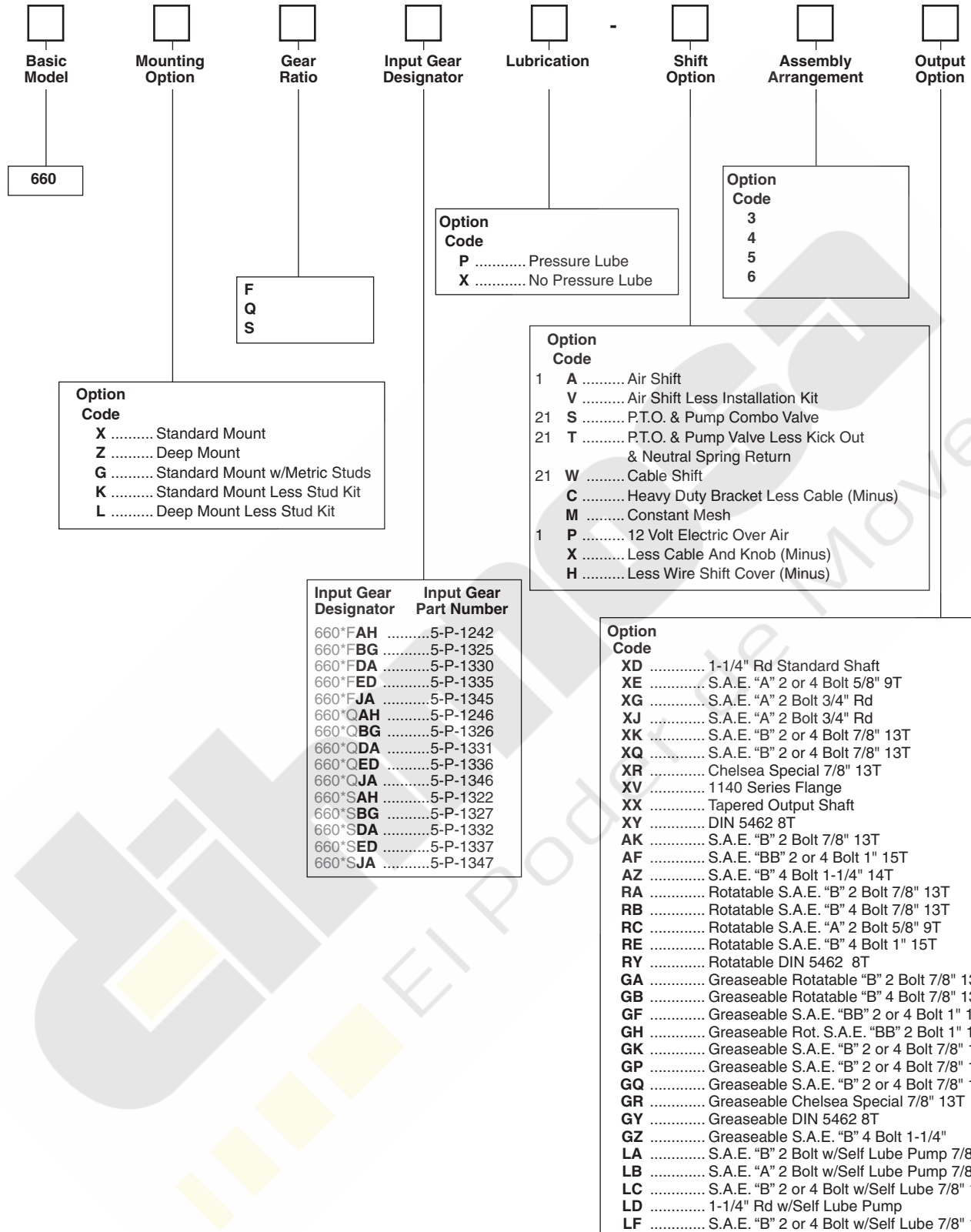
① Includes mounting parts

② Includes installation kit, console sold separately



① Includes mounting parts





① Includes mounting parts

② Includes installation kit, console sold separately

Assembly Options

Eight Bolt P.T.O.
680 Series

Basic Model	Mounting Option	Gear Ratio	Input Gear Designator	Lubrication	Shift Option	Assembly Arrangement	Output Option
680		F Q S					

Option Code	Option Code
X Standard Mount	XD 1-1/4" Rd Standard Shaft
Z Deep Mount	XE S.A.E. "A" 2 or 4 Bolt 5/8" 9T
G Standard Mount w/Metric Studs	XG S.A.E. "A" 2 Bolt 3/4" Rd
	XJ S.A.E. "A" 2 Bolt 3/4" Rd
	XK S.A.E. "B" 2 or 4 Bolt 7/8" 13T
	XQ S.A.E. "B" 2 or 4 Bolt 7/8" 13T
	XR Chelsea Special 7/8" 13T
	XV 1410 Series Flanges
	XX Tapered Output Shaft
	XY DIN 5462 8T
	AK S.A.E. "B" 2 Bolt 7/8" 13T
	AF S.A.E. "BB" 2 or 4 Bolt 1" 15T
	AZ S.A.E. "B" 4 Bolt 1-1/4" 14T
	RA Rotatable S.A.E. "B" 2 Bolt 7/8" 13T
	RB Rotatable S.A.E. "B" 4 Bolt 7/8" 13T
	RC Rotatable S.A.E. "A" 2 Bolt 5/8" 9T
	RE Rotatable S.A.E. "BB" 4 Bolt 1" 15T
	RY Rotatable DIN 5462 8T
	GA Greaseable Rot. "B" 2 Bolt 7/8" 13T
	GB Greaseable Rot. "B" 4 Bolt 7/8" 13T
	GF Greaseable S.A.E. "BB" 2 or 4 Bolt 1" 15T
	GH Greaseable Rot. S.A.E. "BB" 2 Bolt 1" 15T
	GK Greaseable S.A.E. "B" 2 or 4 Bolt 7/8" 13T
	GP Greaseable S.A.E. "B" 2 or 4 Bolt 7/8" 13T
	GQ Greaseable S.A.E. "B" 2 or 4 Bolt 7/8" 13T
	GR Greaseable Chelsea Special 7/8" 13T
	GY Greaseable DIN 5462 8T
	GZ Greaseable S.A.E. "B" 4 Bolt 1-1/4" 14T
	LA S.A.E. "B" 2 Bolt w/Self Lube Pump 7/8" 13T
	LB S.A.E. "A" 2 Bolt w/Self Lube Pump 7/8" 13T
	LC S.A.E. "B" 2 or 4 Bolt w/Self Lube 7/8" 13T
	LD 1-1/4" Rd w/Self Lube Pump
	LF S.A.E. "B" 2 or 4 Bolt w/Self Lube 7/8" 13T

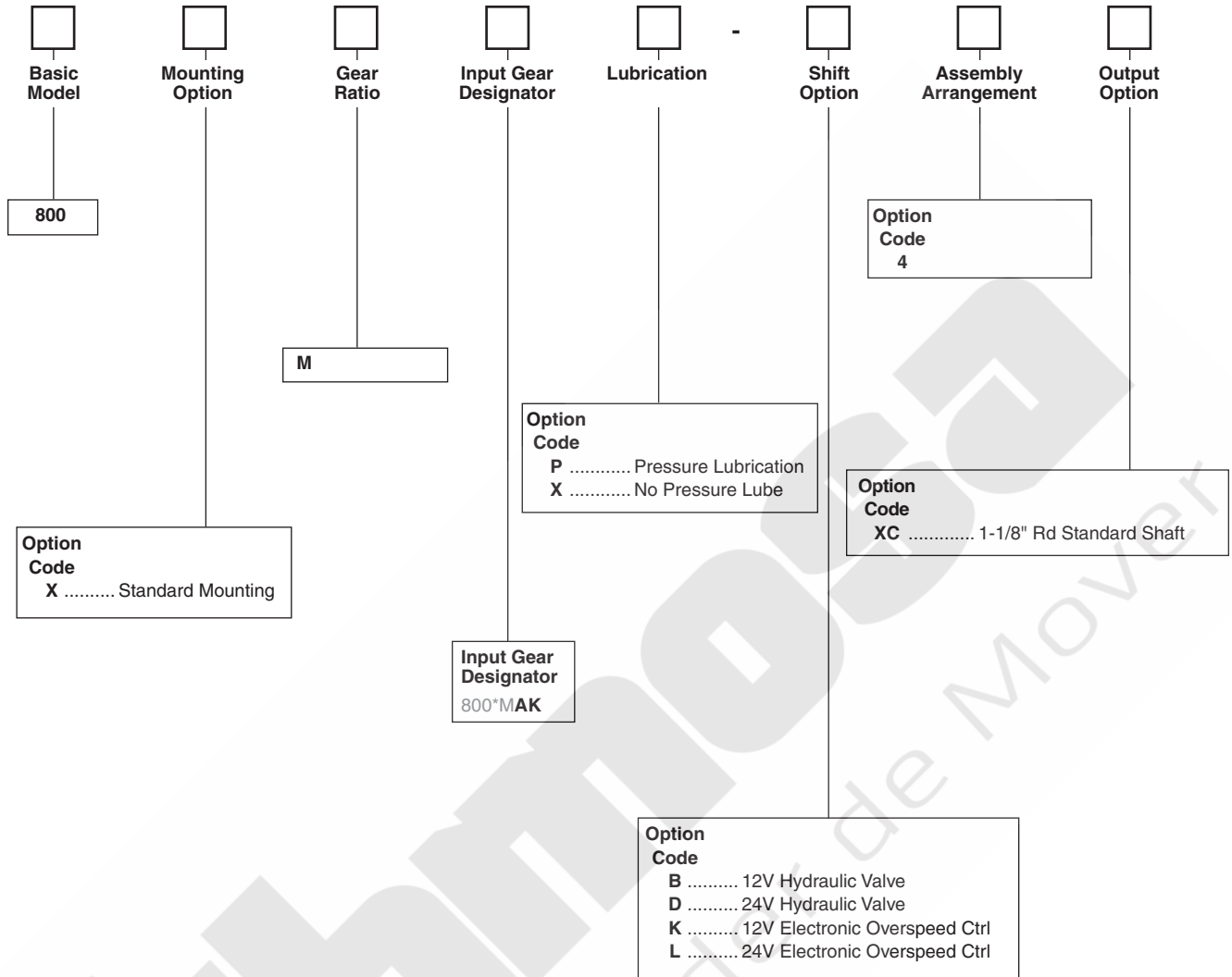
Option Code	Option Code
1 A Air Shift	
V Air Shift Less Installation Kit	
21 S P.T.O. & Pump Combo Valve	
21 T P.T.O. & Pump Valve Less Kick Out & Neutral Spring Return	
1 W Cable Shift	
C Heavy Duty Bracket Less Cable (Minus)	
M Constant Mesh	
1 P 12 Volt Electric Over Air	
X Less Cable And Knob (Minus)	
H Less Wire Shift Cover (Minus)	

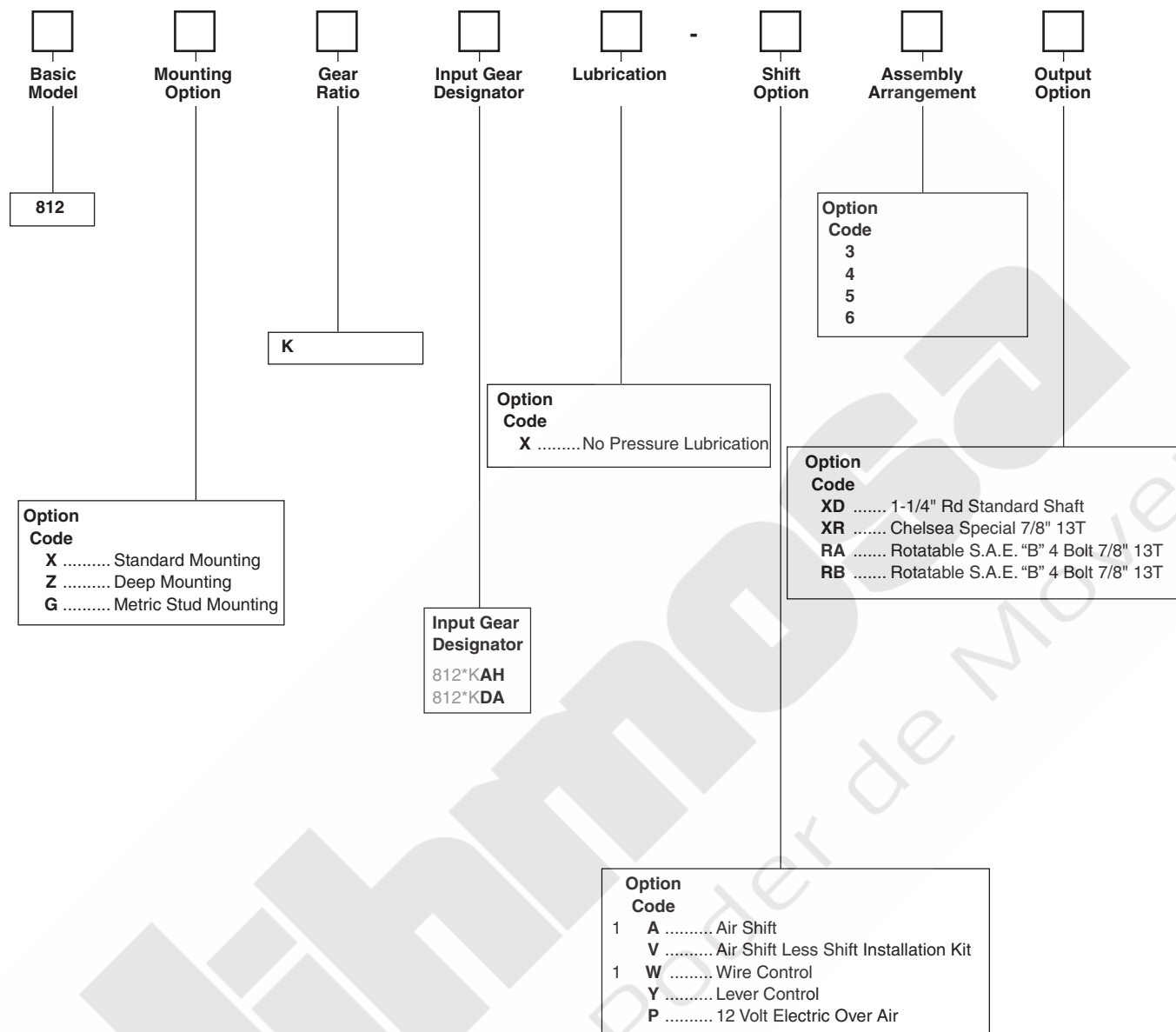
Input Gear Designator	Input Gear Part Number
680*FAH	5-P-1242
680*FBG	5-P-1325
680*FDA	5-P-1330
680*QAH	5-P-1246
680*QBG	5-P-1326
680*QDA	5-P-1331
680*SAH	5-P-1322
680*SBG	5-P-1327
680*SDA	5-P-1332

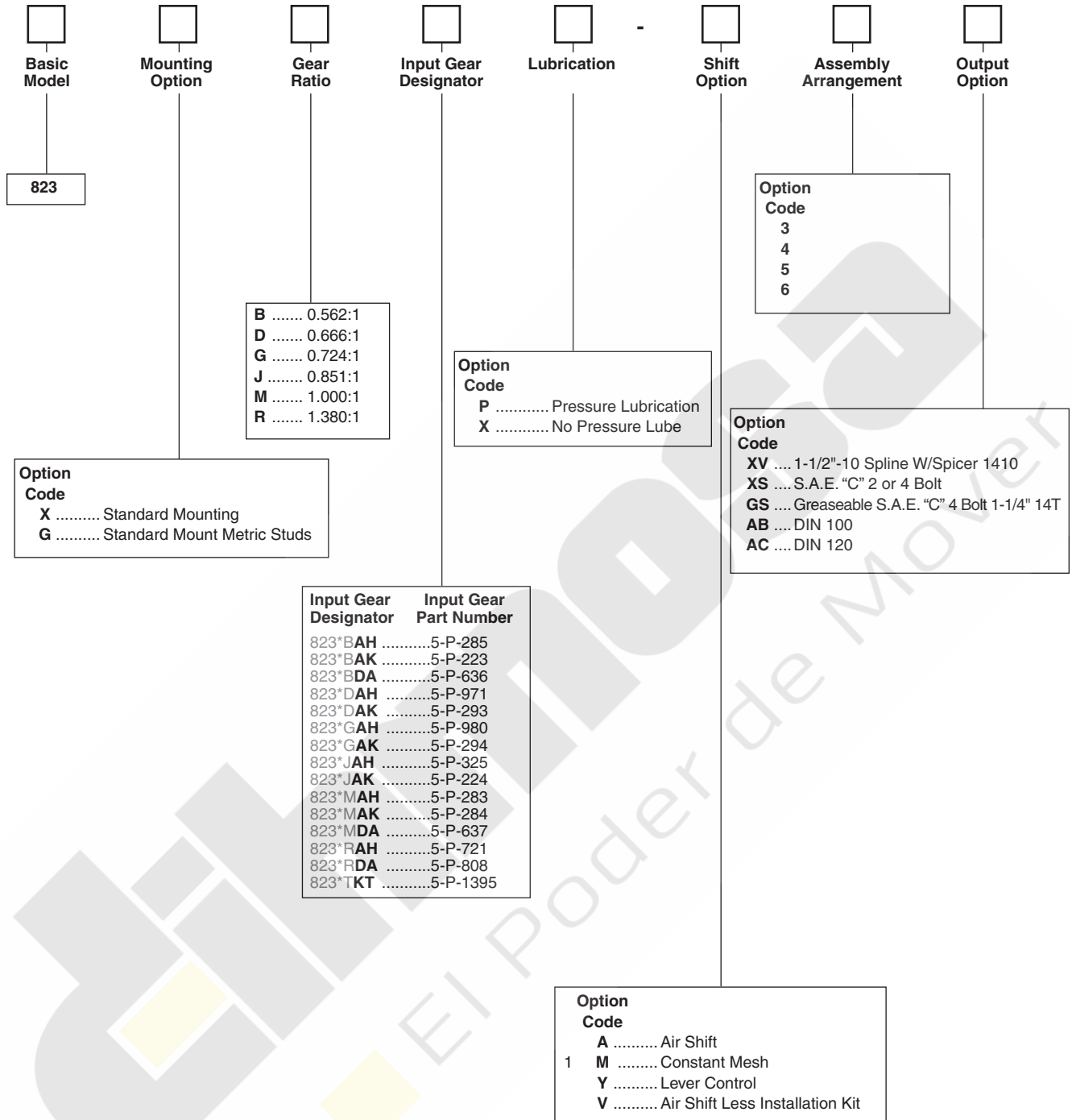
Option Code	Option Code
P Pressure Lube	

① Includes mounting parts

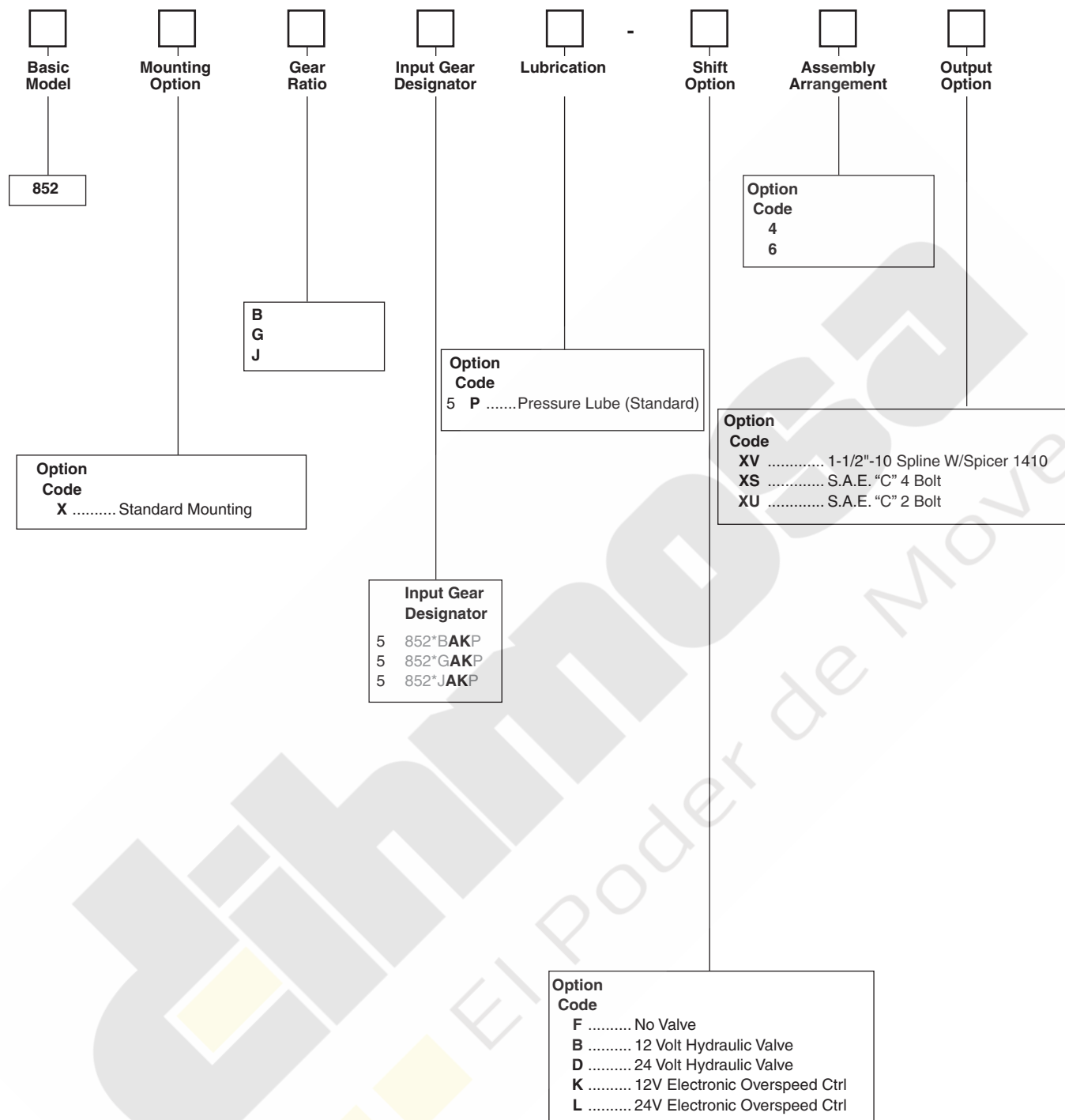
② Includes installation kit,
console sold separately



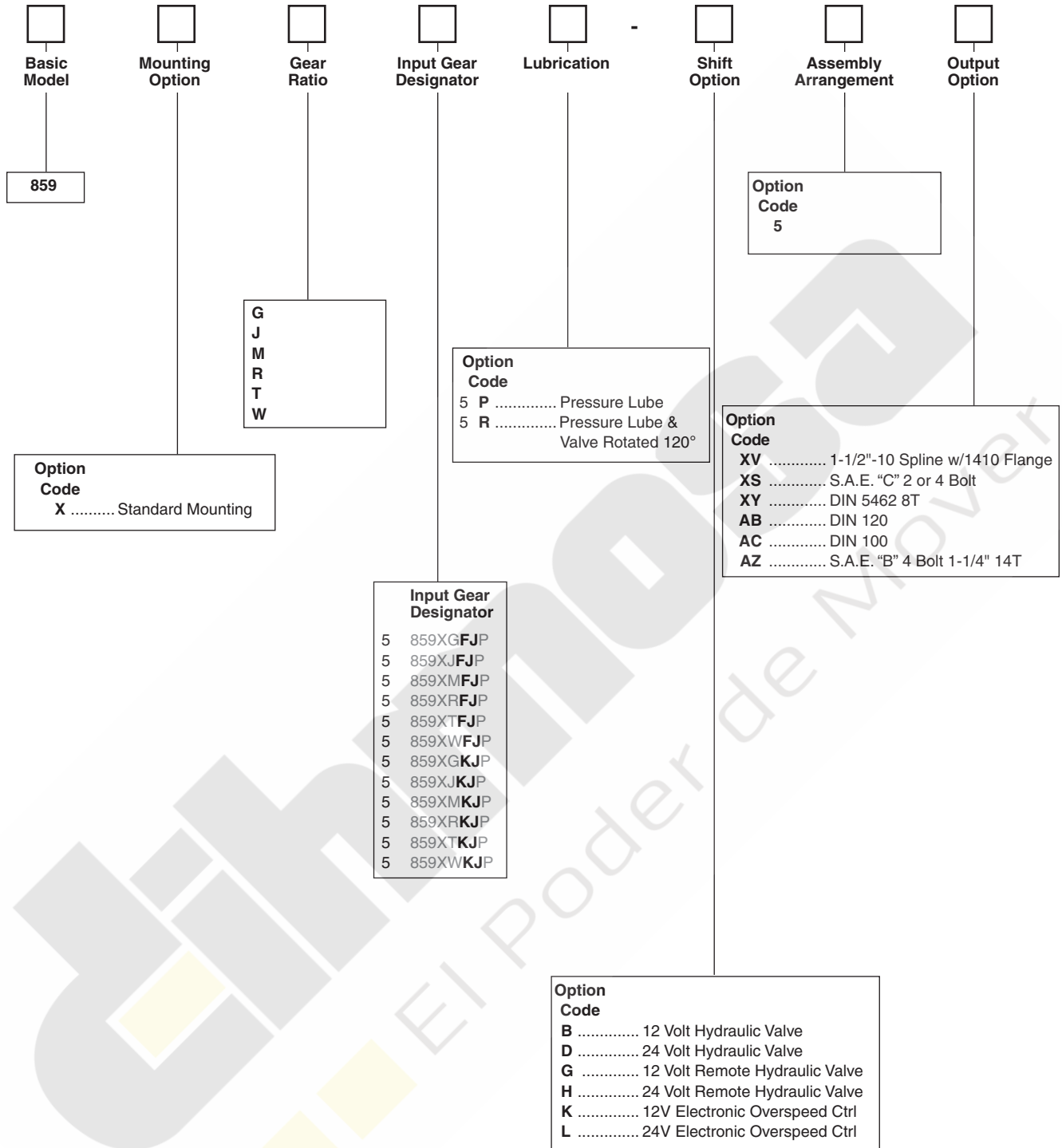




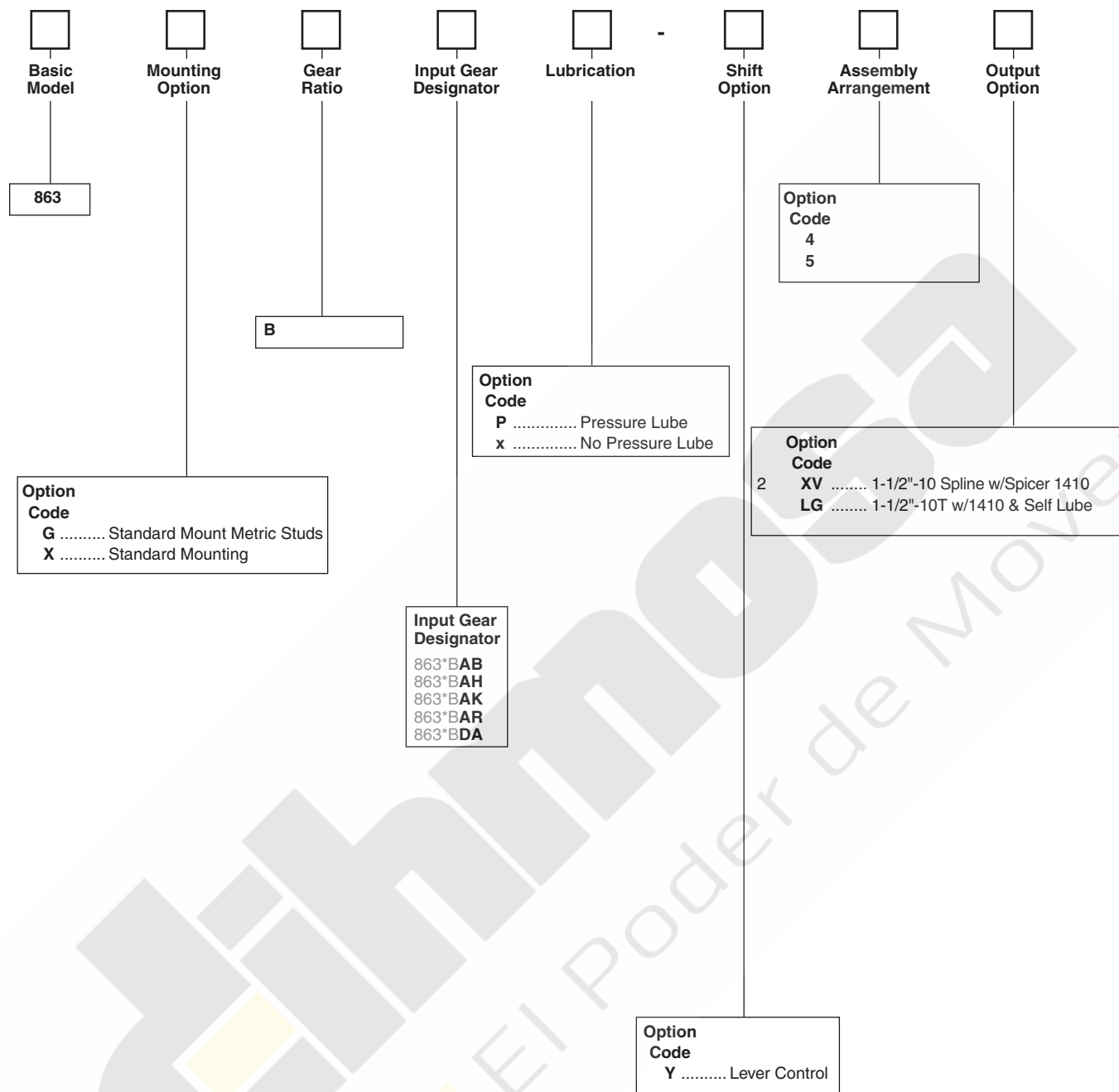
① Includes mounting parts

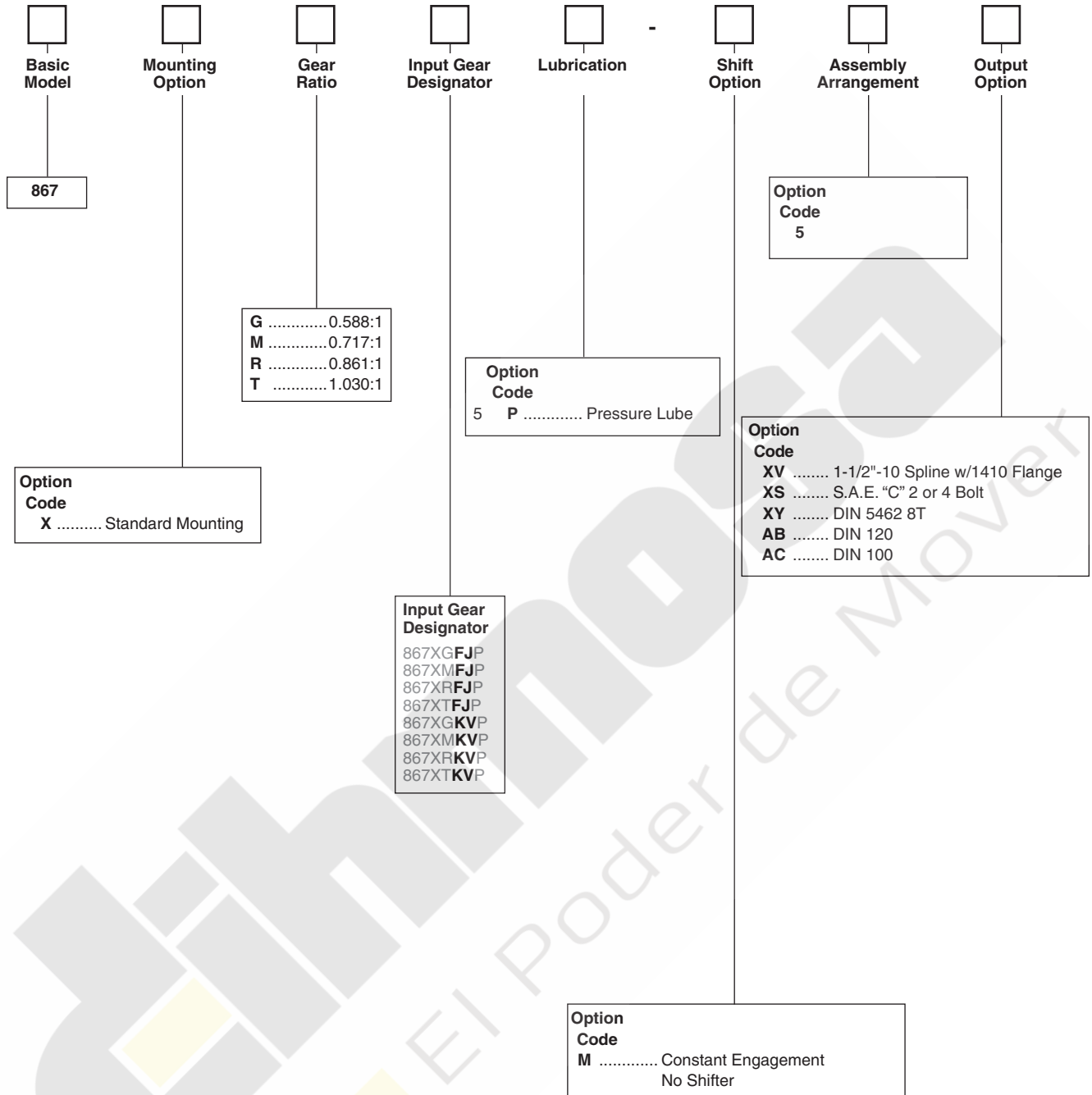


⑤ Automatically pressure lubed



⑤ Automatically pressure lubed





Assembly Options

Eight Bolt P.T.O.
880 Series

Basic Model	Mounting Option	Gear Ratio	Input Gear Designator	Lubrication	Shift Option	Assembly Arrangement	Output Option
880		B D G J M Q R T					

Option Code

X Standard Mounting

Z Deep Mounting

K Standard Mount Less Stud Kit

L Deep Mount Less Stud Kit

G Standard Mount Metric Studs

Option Code

P Pressure Lube

X No Pressure Lube

Option Code

3

4

5

6

Option Code

AF S.A.E. "BB" 2 or 4 Bolt 1" 15T

XV 1-1/2"-10 Spline w/Spicer 1410

XS S.A.E. "C" 4 Bolt

XK S.A.E. "B" 2 or 4 Bolt 7/8" 13T

SS Double Pump

LF S.A.E. "B" 2 or 4 Bolt w/Lube Pump 7/8" 13T

LG 1-1/2"-10T w/1410 w/Lube Pump

LH S.A.E. "C" 2 or 4 Bolt w/Lube Pump

GS Greaseable S.A.E. "C" 4 Bolt 1-1/4" 14T

Input Gear Designator	Input Gear Part Number
880*BAH	5-P-1100
880*BAK	5-P-1106
880*BDA	5-P-1120
880*DAH	5-P-1101
880*DAK	5-P-1107
880*GAH	5-P-1135
880*GAK	5-P-1108
880*GDA	5-P-1174
880*JAH	5-P-1102
880*JAK	5-P-1109
880*MAH	5-P-1103
880*MAK	5-P-1110
880*MDA	5-P-1121
880*QAH	5-P-1385
880*RAH	5-P-1104
880*RDA	5-P-1122
880*TAH	5-P-1105
880*TDA	5-P-1123
880*TDU	5-P-1131
880*BIT	KIT P.T.O.
880*DIT	KIT P.T.O.
880*GIT	KIT P.T.O.
880*JIT	KIT P.T.O.
880*MIT	KIT P.T.O.
880*RIT	KIT P.T.O.
880*TIT	KIT P.T.O.

Option Code

1 A Air Shift

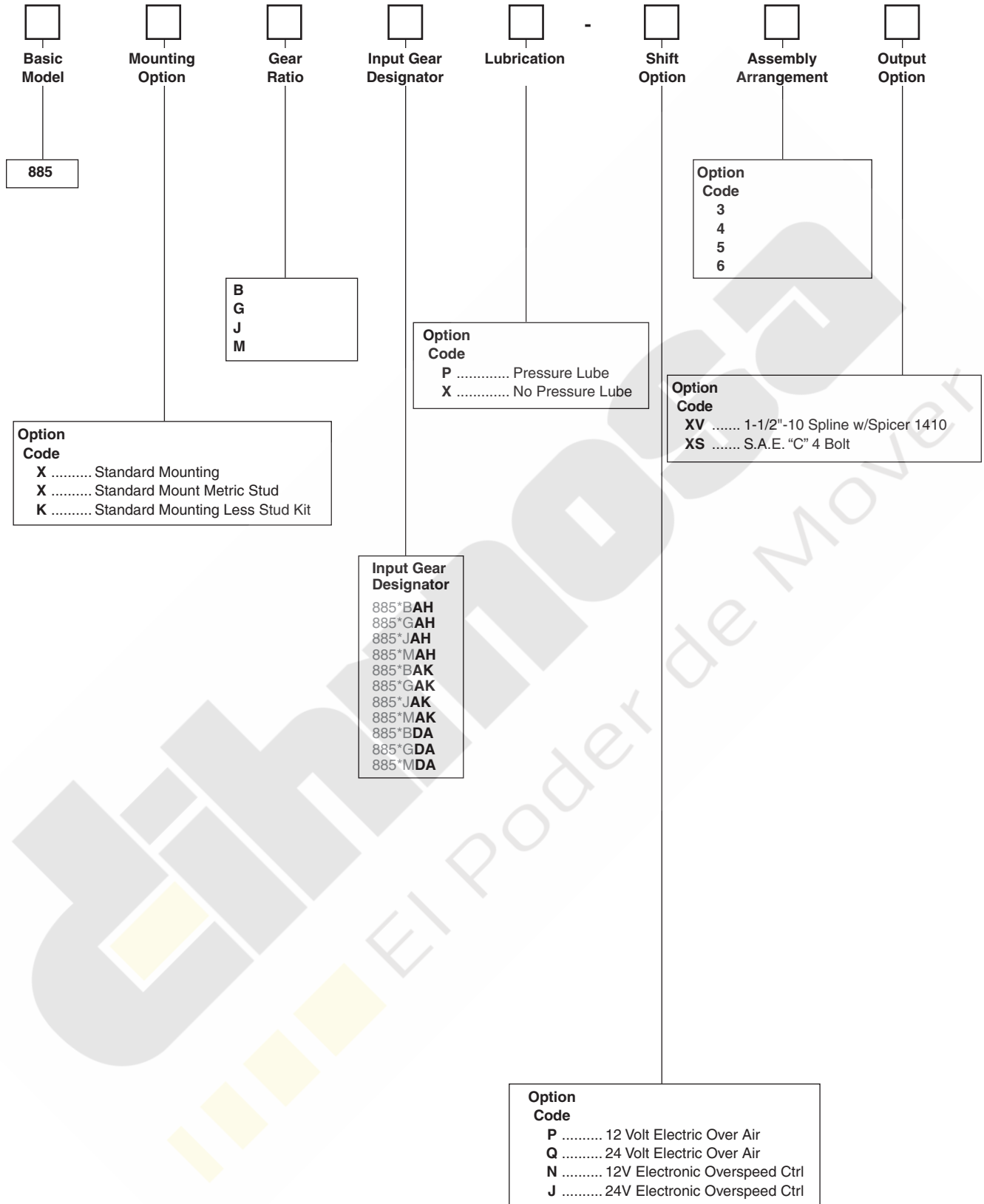
M Constant Mesh

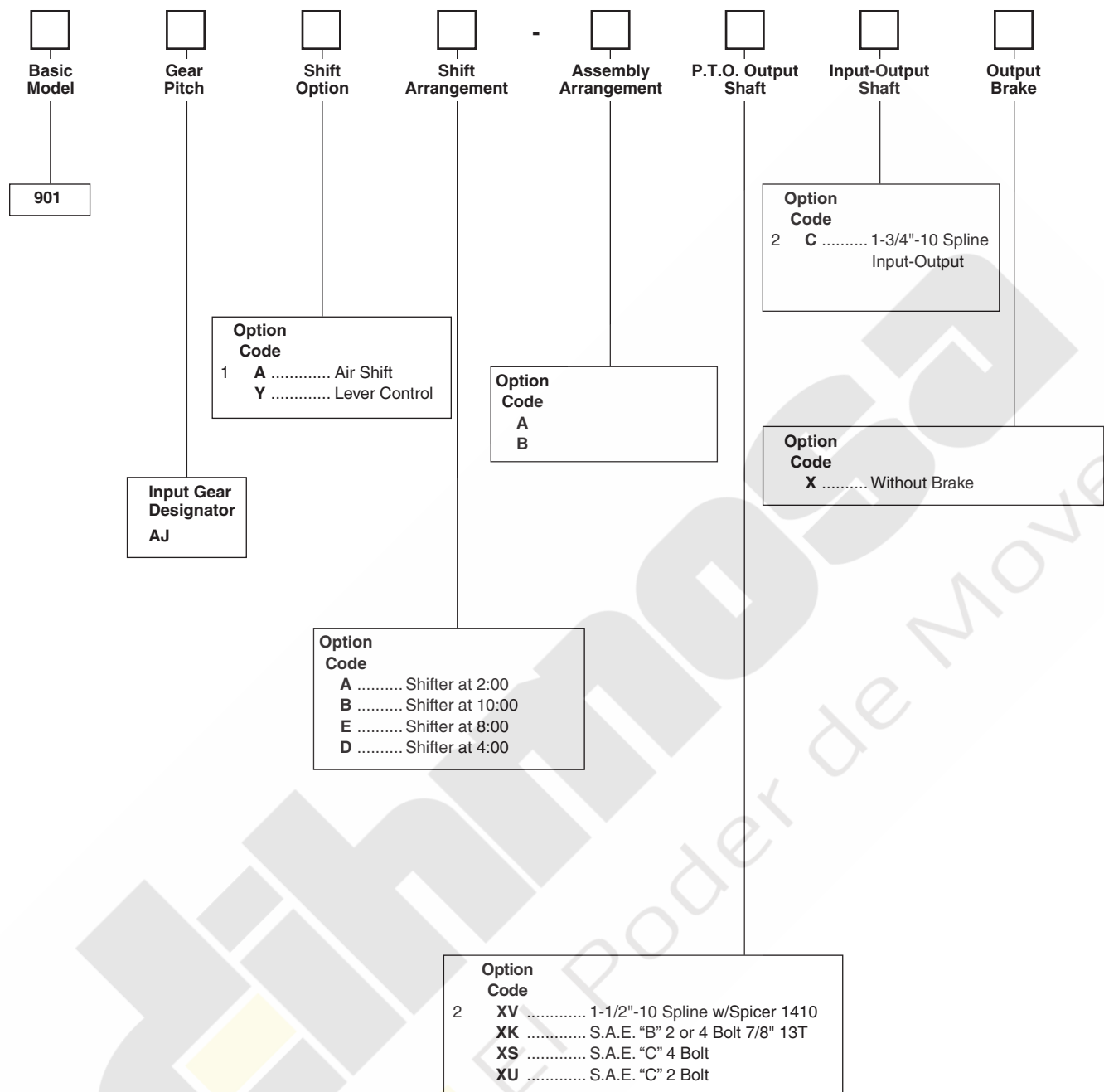
Y Lever Control

H Less Shift Cover

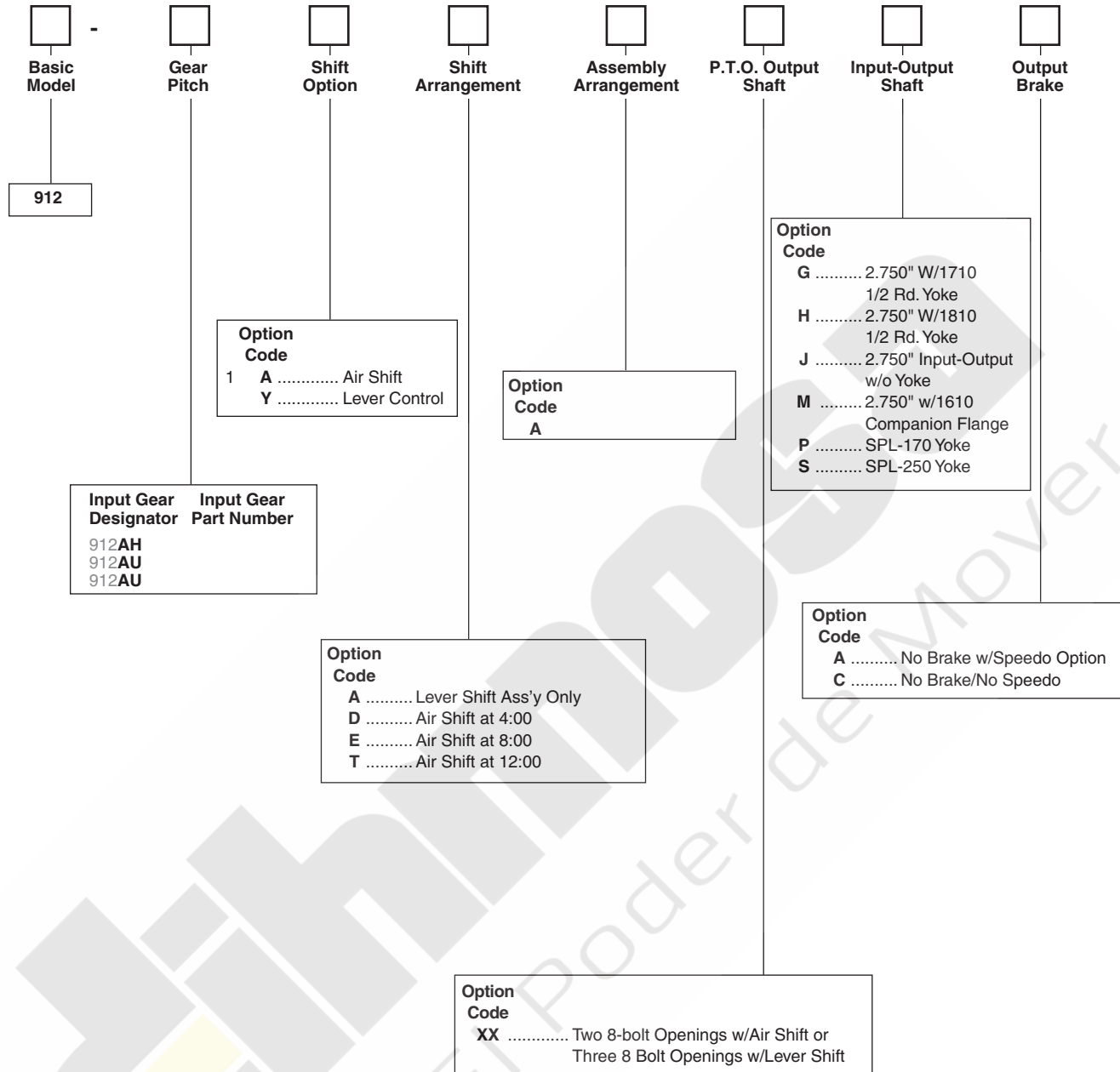
V Air Shift Less Installation Kit

① Includes mounting parts

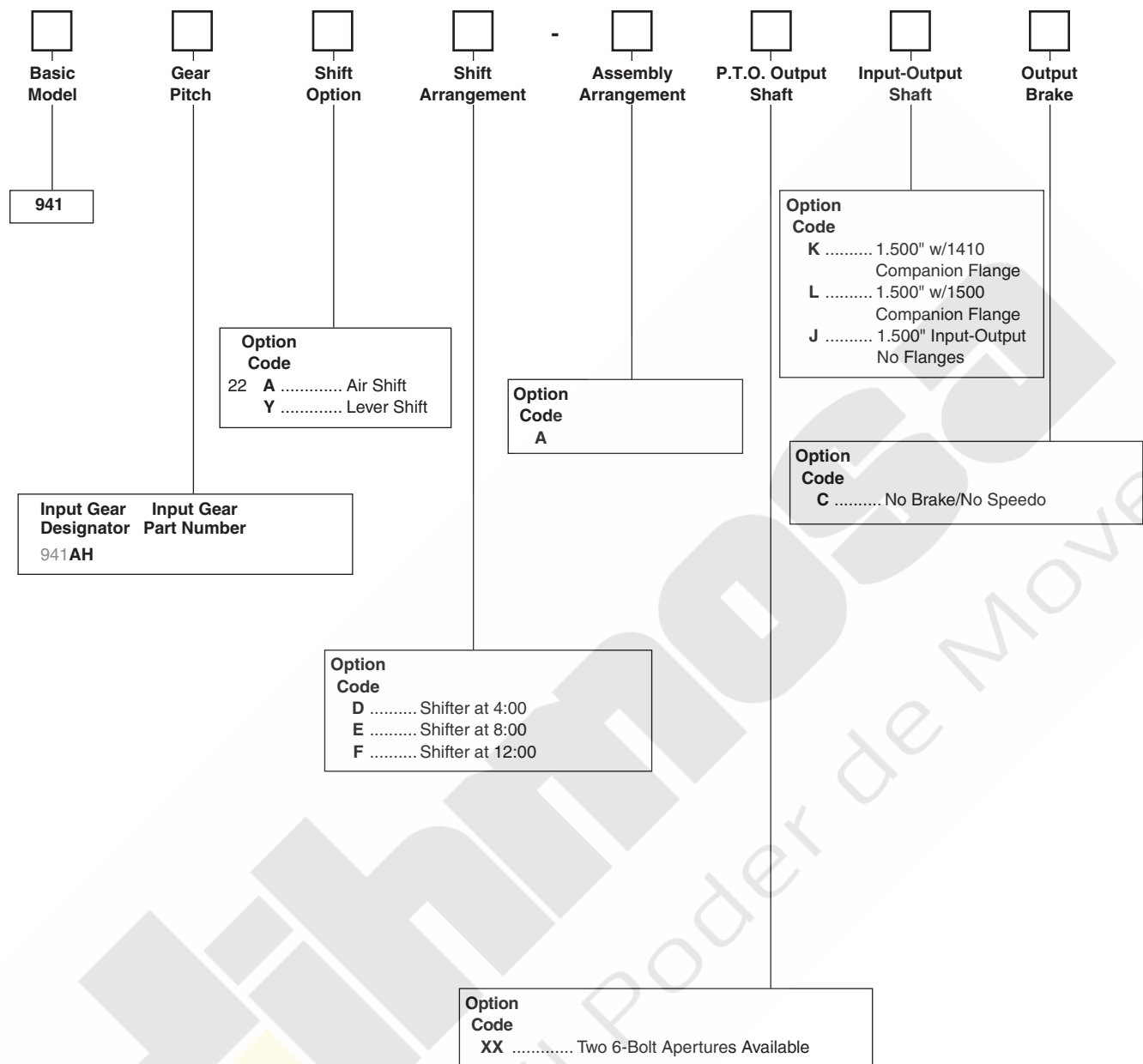




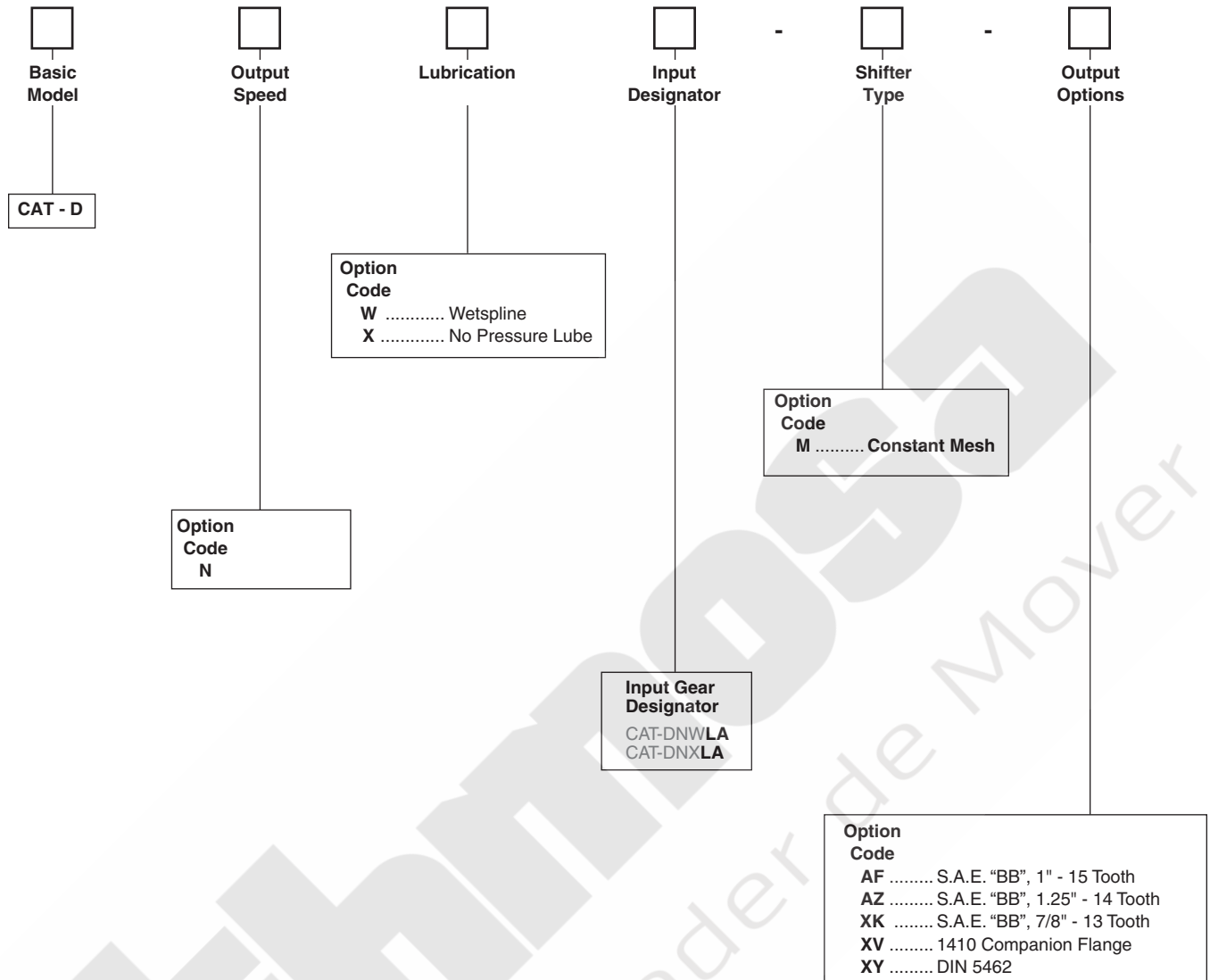
① Includes mounting parts
 ② Standard shaft

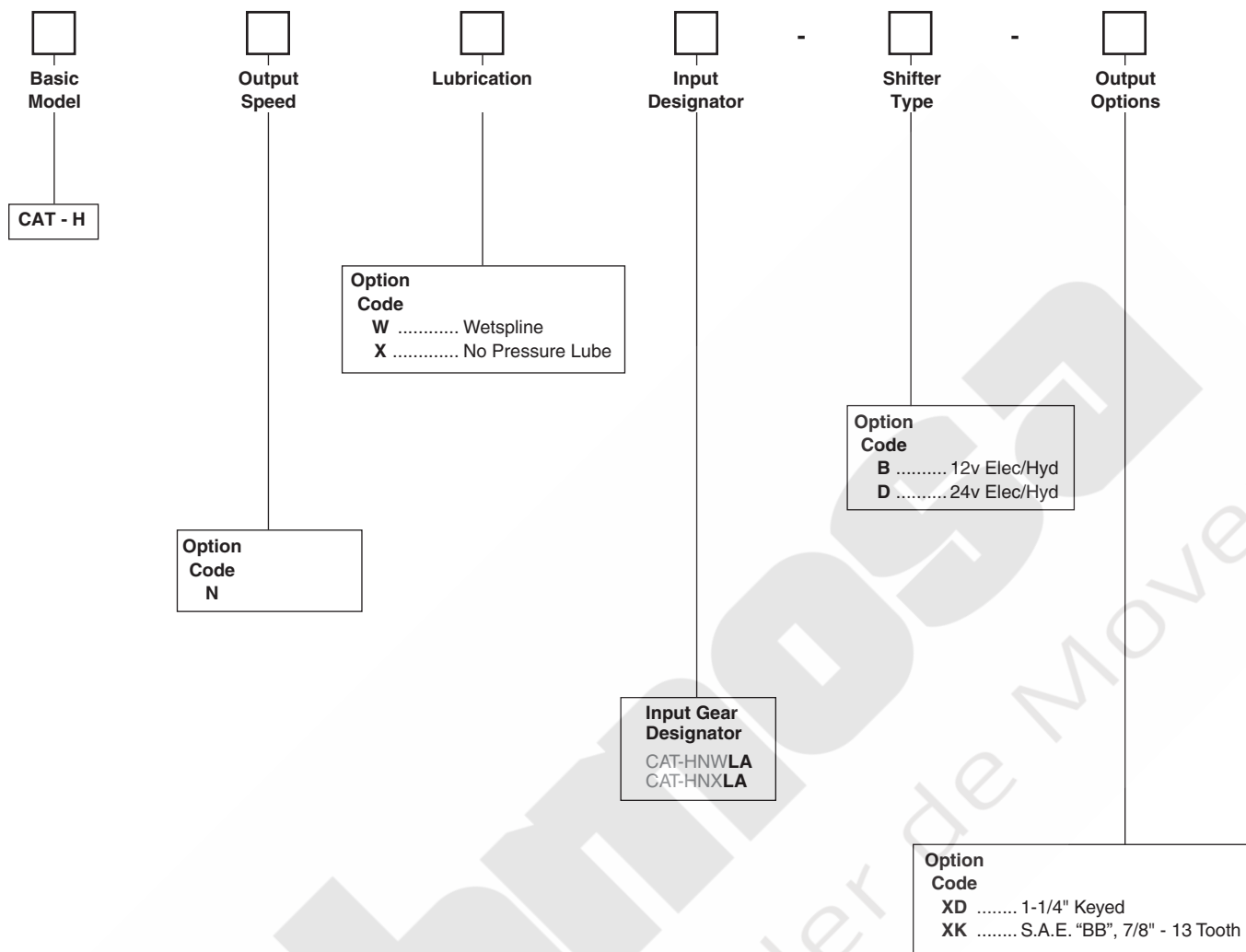


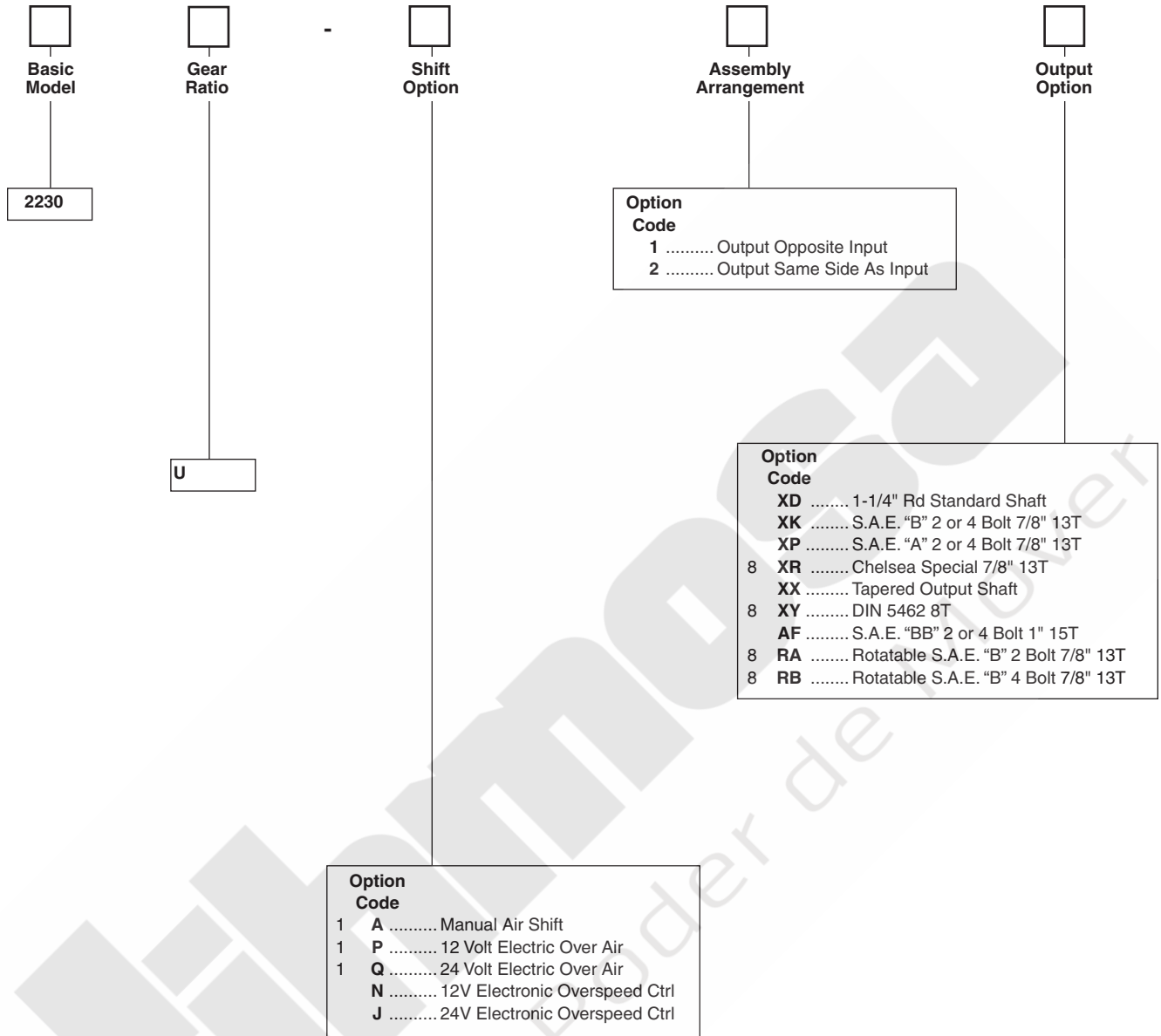
① Includes mounting parts



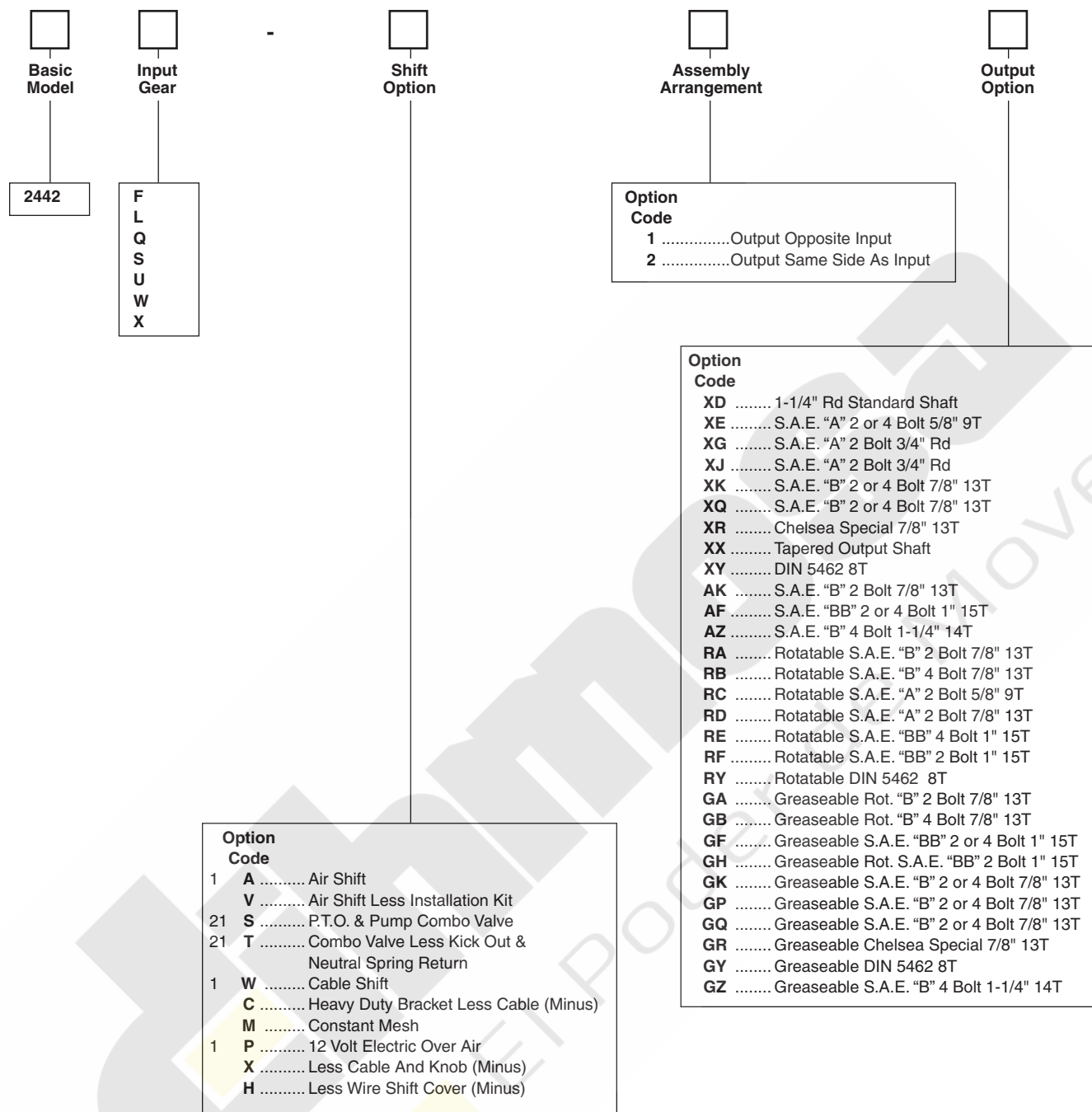
22 Includes air shift installation kit







① Includes mounting parts
 ⑧ Available assembly "1" only



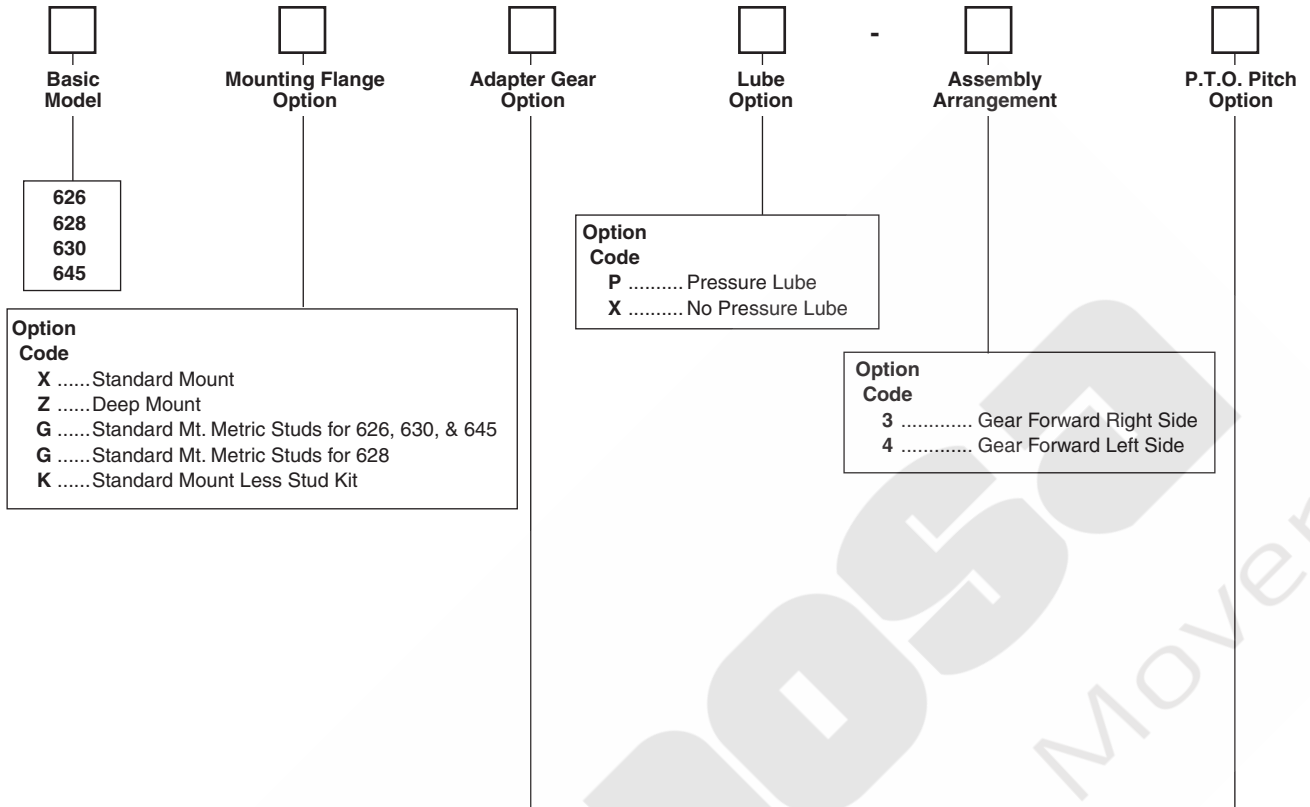
① Includes mounting parts

② Includes installation kit,
console sold separately

Assembly Options

Geared Adapters

626, 628, 630 and 645 Series



Input Gear Designator	Input Gear Part Number	Input Gear Designator	Input Gear Part Number
626*AB	5-P-1001	630*BS	5-P-1025
626*AH	5-P-1004	630*CD	5-P-1031
626*AP	5-P-1006	630*DA	5-P-1037
626*AR	5-P-1008	630*DU	5-P-1050
626*BG	5-P-1015	630*ED	5-P-1056
626*BQ	5-P-1023	630*ES	5-P-1059
626*CD	5-P-1031	630*EV	5-P-1060
626*DA	5-P-1037	630*EW	5-P-1061
626*DU	5-P-1050	630*FN	5-P-1070
626*ED	5-P-1056	630*HY	5-P-1237
626*ES	5-P-1059	630*IT	KIT ADAPTER
626*EV	5-P-1060	630*JK	5-P-1261
626*EW	5-P-1061	630*JM	5-P-1263
626*FN	5-P-1070	630*JU	5-P-1316
626*HY	5-P-1237	630*JW	5-P-1319
626*JK	5-P-1261	645*AB	5-P-1001
626*JM	5-P-1263	645*AH	5-P-1004
626*JU	5-P-1316	645*AP	5-P-1006
626*JW	5-P-1319	645*AR	5-P-1008
626*IT	KIT ADAPTER	645*BQ	5-P-1023
628*AB	5-P-1001	645*CD	5-P-1031
628*AH	5-P-1004	645*DA	5-P-1037
628*AR	5-P-1008	645*DU	5-P-1050
628*BG	5-P-1015	645*ED	5-P-1056
628*BQ	5-P-1023	645*ES	5-P-1059
628*CD	5-P-1031	645*EV	5-P-1060
628*DA	5-P-1037	645*EW	5-P-1061
628*DU	5-P-1050	645*FN	5-P-1070
628*ED	5-P-1056	645*HY	5-P-1237
628*EV	5-P-1060	645*IT	KIT ADAPTER
628*IT	KIT ADAPTER	645*JK	5-P-1261
630*AB	5-P-1001	645*JM	5-P-1263
630*AH	5-P-1004	645*JU	5-P-1316
630*AP	5-P-1006		
630*AR	5-P-1008		
630*BG	5-P-1015		
630*BQ	5-P-1023		

Input Gear Designator	Input Gear Part Number	Input Gear Designator	Input Gear Part Number
626*AB	5-P-1001	630*BS	5-P-1025
626*AH	5-P-1004	630*CD	5-P-1031
626*AP	5-P-1006	630*DA	5-P-1037
626*AR	5-P-1008	630*DU	5-P-1050
626*BG	5-P-1015	630*ED	5-P-1056
626*BQ	5-P-1023	630*ES	5-P-1059
626*CD	5-P-1031	630*EV	5-P-1060
626*DA	5-P-1037	630*EW	5-P-1061
626*DU	5-P-1050	630*FN	5-P-1070
626*ED	5-P-1056	630*HY	5-P-1237
626*ES	5-P-1059	630*IT	KIT ADAPTER
626*EV	5-P-1060	630*JK	5-P-1261
626*EW	5-P-1061	630*JM	5-P-1263
626*FN	5-P-1070	630*JU	5-P-1316
626*HY	5-P-1237	630*JW	5-P-1319
626*JK	5-P-1261	645*AB	5-P-1001
626*JM	5-P-1263	645*AH	5-P-1004
626*JU	5-P-1316	645*AP	5-P-1006
626*JW	5-P-1319	645*AR	5-P-1008
626*IT	KIT ADAPTER	645*BQ	5-P-1023
628*AB	5-P-1001	645*CD	5-P-1031
628*AH	5-P-1004	645*DA	5-P-1037
628*AR	5-P-1008	645*DU	5-P-1050
628*BG	5-P-1015	645*ED	5-P-1056
628*BQ	5-P-1023	645*ES	5-P-1059
628*CD	5-P-1031	645*EV	5-P-1060
628*DA	5-P-1037	645*EW	5-P-1061
628*DU	5-P-1050	645*FN	5-P-1070
628*ED	5-P-1056	645*HY	5-P-1237
628*EV	5-P-1060	645*IT	KIT ADAPTER
628*IT	KIT ADAPTER	645*JK	5-P-1261
630*AB	5-P-1001	645*JM	5-P-1263
630*AH	5-P-1004	645*JU	5-P-1316
630*AP	5-P-1006		
630*AR	5-P-1008		
630*BG	5-P-1015		
630*BQ	5-P-1023		

Notes

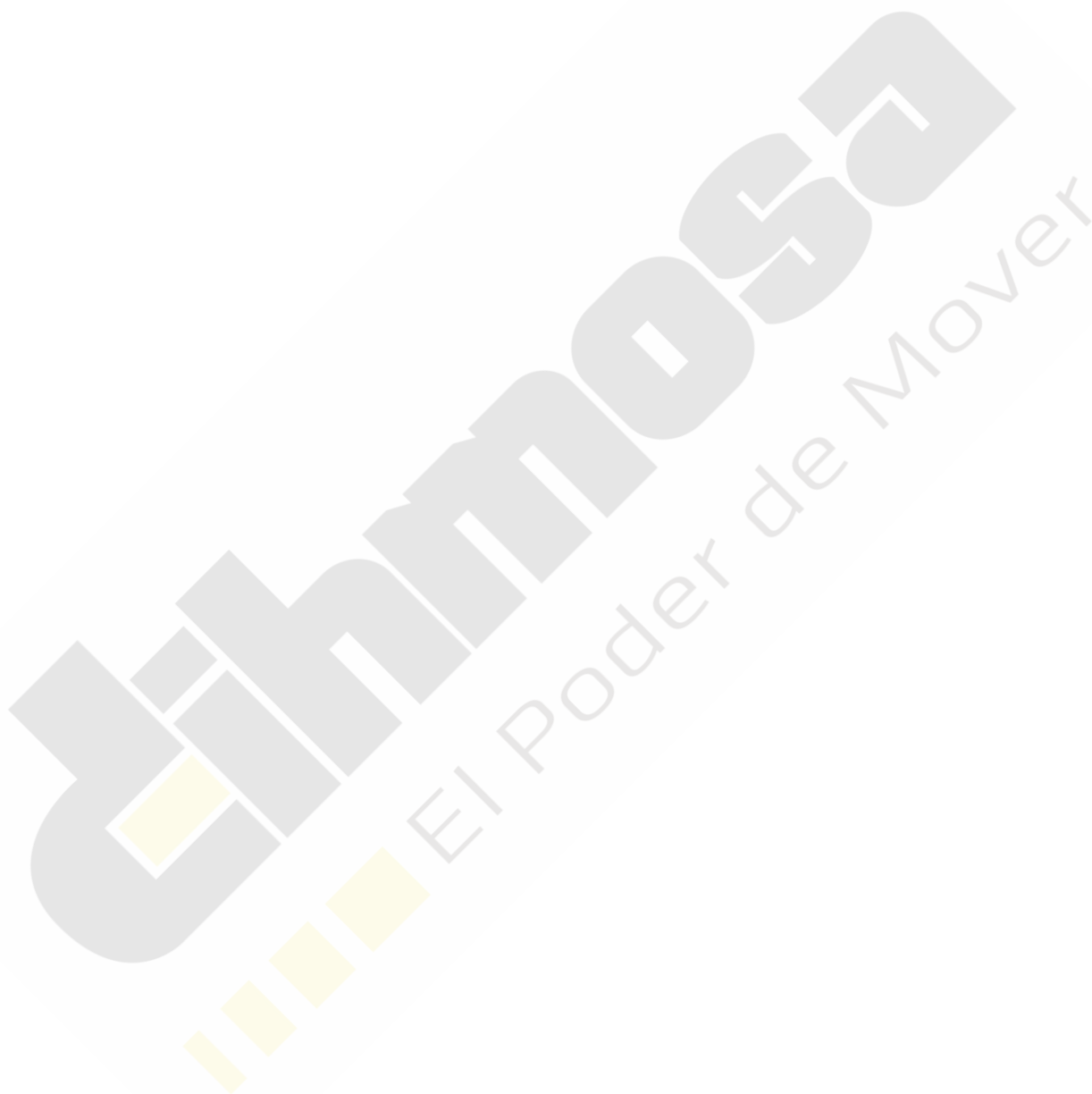
Handwritten notes area with horizontal lines. A large, faint watermark reading "El Poder de Mover" is visible diagonally across the page.

Applications





Aisin	4.1.1 thru 4.1.4
Allison	4.2.1 thru 4.2.22
Caterpillar	4.3.1 thru 4.3.16
Chelsea	4.4.1 thru 4.4.8
Dodge	4.5.1 thru 4.5.4
Eaton Fuller	4.6.1 thru 4.6.70
Ford	4.7.1 thru 4.7.2
GM	4.8.1 thru 4.8.6
Hino	4.9.1 thru 4.9.8
Isuzu	4.10.1 thru 4.10.14
Mack	4.11.1 thru 4.11.52
Mercedes	4.12.1 thru 4.12.6
Meritor (includes Rockwell)	4.13.1 thru 4.13.24
Mitsubishi	4.14.1 thru 4.14.14
New Process	4.15.1 thru 4.15.6
New Venture	4.16.1 thru 4.16.6
Nissan	4.17.1 thru 4.17.6
Renault	4.18.1 thru 4.18.4
Tremec	4.19.1 thru 4.19.4
TTC (Includes Spicer)	4.20.1 thru 4.20.124
Warner	4.21.1 thru 4.21.4
ZF	4.22.1 thru 4.22.15





AISIN



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AISIN TRANSMISSION INDEX

Transmission Make and Model	P.T.O. Appl. Number	Number Forward Speeds	Teeth in P.T.O. Driver
A443E	AIS-1	4	L58
A445	AIS-1	4	L58
A450-43LE	IZU-12	4	L58
MY600	AIS-2	6	L69



IMPORTANT: See Safety Information
in Section 1 of the Chelsea Applications
catalog HY25-3000/US.

Transmission P.T.O. Driver & Aperatures (Viewed from Rear of Transmission)

L-Left Side R-Right Side B-Bottom Side T-Top Side

For transmission not listed, contact your authorized Chelsea Distributor.

January 2008

A443E
A445
MO35A4

LEFT SIDE ONLY

TRANSMISSION GEAR DATA:

L.H. 6-Bolt Opening Gear FORWARD of Centerline

58 Teeth - SPUR

PITCH LINE TO APERTURE FACE:

1.0880" (27.6352MM)

Caution: Application Approval Required for P.T.O. Output Shaft Speeds Above 2500 R.P.M.

LEFT Side P.T.O. Model	Inter. Torq.	Dir. Rot.	Engine %		Filler Block	Adapter Assy.	Stud Kit	P.T.O. Model	Inter. Torq.	Dir. Rot.	Engine %		Filler Block	Adapter Assy.	Stud Kit
			Hi	Rev							Hi	Rev			

ONE SPEED - TWO GEAR - POWERSHIFT (HYDRAULIC)

243AGKUP-*5 (1)	85	Opp	140				Furnished
270AAKUP-*5 (2)	210	Eng	55				Furnished
270ABKUP-*5 (3)	163	Eng	71				Furnished
270ADKUP-*5 (4)	139	Eng	82				Furnished
270AKKUP-*5 (5)	104	Eng	111				Furnished
270AQKUP-*5 (6)	78	Eng	130				Furnished

Continued Next Page

NOTE: When ordering the 270 "A", the hose kit 329246X and metric stud kit 328170-205X is furnished with the P.T.O. The hose kit and metric stud kit are required for completing the 270 Series installation. The 329246X kit supplies hoses for the low pressure lube, high pressure oil, and drain back oil.

NOTE: The torque ratings shown for the 270 Series are based on the maximum allowable torque capacity of the P.T.O. drive gear in the transmission.

NOTE: To mount the 243 Series or 270 Series a revision to the 6 bolt aperture face had to be made so the input gear of the PTO did not interfere with the transmission case. The revised transmission case will have a serial number of 8D3394 or higher.

- (1) Input Gear Part No. 5-P-1352
(2) Input Gear Part No. 5-P-1353
(3) Input Gear Part No. 5-P-1354
(4) Input Gear Part No. 5-P-1355
(5) Input Gear Part No. 5-P-1356
(6) Input Gear Part No. 5-P-1359

January 2008

MY600
MO36A6

LEFT SIDE ONLY**TRANSMISSION GEAR DATA:**

L.H. 6-Bolt Opening Gear FORWARD of Centerline

69 Teeth - SPUR

PITCH LINE TO APERTURE FACE:

1.0880" (27.6352MM)

Caution: Application Approval Required for P.T.O. Output Shaft Speeds Above 2500 R.P.M.

LEFT Side P.T.O. Model	Inter. Torq.	Dir. Rot.	Engine %		Filler Block	Adapter Assy.	Stud Kit	P.T.O. Model	Inter. Torq.	Dir. Rot.	Engine %		Filler Block	Adapter Assy.	Stud Kit
			Hi	Rev							Hi	Rev			

ONE SPEED - TWO GEAR - POWERSHIFT (HYDRAULIC)

243AGKUP-*5 (1)	65	Opp	167		7-A-032		Furnished
270AAKUP-*5 (2)	167	Eng	65		7-A-032		Furnished
270ABKUP-*5 (3)	129	Eng	85		7-A-032		Furnished
270ADKUP-*5 (4)	112	Eng	98		7-A-032		Furnished
270AKKUP-*5 (5)	82	Eng	132		7-A-032		Furnished
270AQKUP-*5 (6)	78	Eng	155		7-A-032		Furnished

NOTE: When ordering the 270 "A", the Hose Kit 329246X and Metric Stud Kit 328170-205X are furnished with the P.T.O. The Hose and Metric Stud Kit are required for completing the 270 Series installation. The 329246X kit supplies the hoses for the low pressure lube, high pressure oil, and drain back oil.

- (1) Input Gear Part No. 5-P-1352
(2) Input Gear Part No. 5-P-1353
(3) Input Gear Part No. 5-P-1354
(4) Input Gear Part No. 5-P-1355
(5) Input Gear Part No. 5-P-1356
(6) Input Gear Part No. 5-P-1359

January 2008

A450-43LE 450-43LE

LEFT SIDE ONLY	
-----------------------	--

TRANSMISSION GEAR DATA: L.H. 6-Bolt Opening Gear FORWARD of Centerline 58 Teeth - SPUR PITCH LINE TO APERTURE FACE: 1.0880" (27.6352MM)	
---	--

Caution: Application Approval Required for P.T.O. Output Shaft Speeds Above 2500 R.P.M.

LEFT Side P.T.O. Model	Inter. Torq.	Dir. Rot.	Engine %		Filler Block	Adapter Assy.	Stud Kit	P.T.O. Model	Inter. Torq.	Dir. Rot.	Engine %		Filler Block	Adapter Assy.	Stud Kit
			Hi	Rev							Hi	Rev			

ONE SPEED - TWO GEAR - POWERSHIFT (HYDRAULIC)

270AAKUP-*5 (1)	210	Eng	55				Furnished
270ABKUP-*5 (2)	163	Eng	71				Furnished
270ADKUP-*5 (3)	139	Eng	82				Furnished
270AKKUP-*5 (4)	104	Eng	111				Furnished
270AQKUP-*5 (5)	78	Eng	148				Furnished

NOTE: When ordering the 270 "A", the hose kit 329246X and metric stud kit 328170-205X is furnished with the P.T.O. The hose kit and metric stud kit are required for completing the 270 Series installation. The 329246X kit supplies hoses for the low pressure lube, high pressure oil, and drain back oil.

NOTE: The torque ratings shown for the 270 Series are based on the maximum allowable torque capacity of the P.T.O. drive gear in the transmission.

NOTE: The P.T.O.s shown on this application page will fit Isuzu NQR model trucks with serial number X7901741 and later only.

NOTE: The P.T.O.s shown on this application page will fit Isuzu NPR model trucks with wheel bases of 109" or 132" and a serial number of X7006763 and later.

NOTE: The P.T.O.s shown on this application page will also fit the same NPR model trucks with wheel bases of 150" and 176" after August of 1998 and serial number of X7006763 and later.

NOTE: The serial number is the last eight digits found on the VIN plate which is located in the cab behind the driver.

- (1) Input Gear Part No. 5-P-1353
- (2) Input Gear Part No. 5-P-1354
- (3) Input Gear Part No. 5-P-1355
- (4) Input Gear Part No. 5-P-1356
- (5) Input Gear Part No. 5-P-1359

January 2008



ALLISON



WARNING

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Allison Transmission has redesigned the transmission nameplates for all 1000/2000 and 3000/4000 Product Family transmissions. The new nameplate design contains only the information essential to the identification of the transmission. The transmission model number will no longer appear on the nameplate, it has been replaced by the serial number. This change was implemented July 2005.

The transmission product family is identified by the first two digits of the transmission serial number:

Serial Number

63xxxxxxx
65xxxxxxx
66xxxxxxx

Product Family

1000 and 2000 Product Family
3000 Product Family
4000 Product Family

“SP” models will contain additional information to accommodate military applications. The transmission E-number is embossed on the “SP” models and when required for other models sold to the military. The transmission model number is embossed on the nameplate for “SP” model and “MD” and “HD” models sold to the military. The model number will not be embossed for any other model. (Ref: Allison Watch #335 Rev. A)

For further assistance contact Allison Technical Assistance at (800) 252-5283.

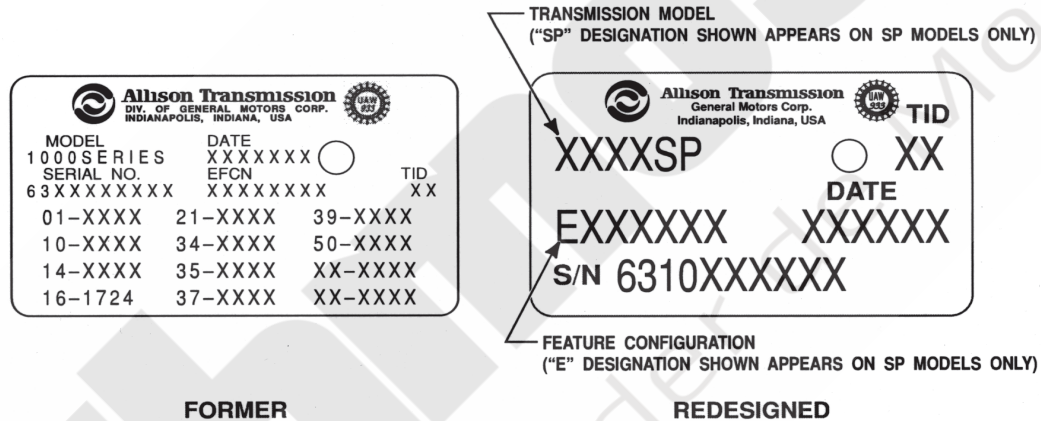


Figure 1. 1000 and 2000 Product Families Nameplates

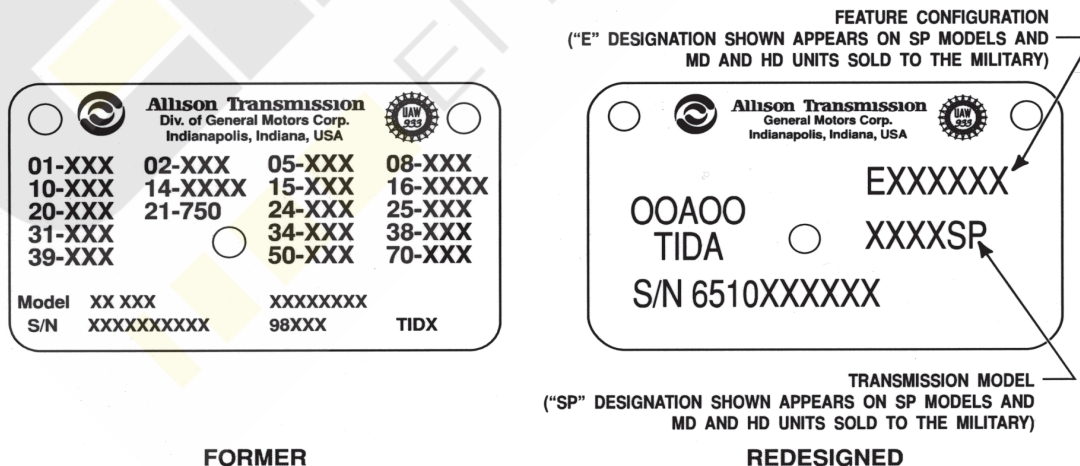


Figure 2. 3000 and 4000 Product Families Nameplates

Notes

ALLISON TRANSMISSION INDEX

Transmission Make and Model	P.T.O. Appl. Number	Number Forward Speeds	Teeth in P.T.O. Driver
AT-540	ALL-4	4	R55
AT-542	ALL-4	4	R55
AT-543	ALL-4	4	R55
AT-545	ALL-4	4	R55
B 210	ALL-15	5	L64-R64
B 220	ALL-15	5	L64-R64
B 300	ALL-13	6	L68-R68
B 400	ALL-13	6	L68-R68
B 500	ALL-14	6	L97-R97
CLBT-750	ALL-6	5	L78
CLBT-750 (With Optional 8-bolt Opening Ahead of Torque Converter)	ALL-12	5	L64-T40
CLBT-754	ALL-6	5	L78
CLBT-754 (With Optional 8-bolt Opening Ahead of Torque Converter)	ALL-12	5	L64-T40
CLT-750	ALL-6	5	L78
CLT-750 (With Optional 8-bolt Opening Ahead of Torque Converter)	ALL-12	5	L64-T40
CLT-754	ALL-6	5	L78
CLT-754 (With Optional 8-bolt Opening Ahead of Torque Converter)	ALL-12	5	L64-T40
CLT-9485	ALL-11	6	R52
CLT-9880	ALL-11	6	R52
CLT-9884	ALL-11	6	R52
CLT-9885	ALL-11	6	R52
HD-4060P (Close Ratio)	ALL-14	6	L97-R97
HD-4070P	ALL-14	7	L97-R97
HD-4560P (Wide Ratio)	ALL-14	6	L97-R97
HT-740CRD	ALL-6	4	L78
HT-740D	ALL-6	4	L78
HT-740DRD	ALL-6	4	L78
HT-740T	ALL-6	4	L78
HT-750CRD	ALL-6	5	L78
HT-750CRD (W/Optional 8-Bolt Opening Ahead of Torque Converter)	ALL-12	5	L64-T40
HT-750D	ALL-6	5	L78
HT-750DP	ALL-6	5	L78
HT-750DRD	ALL-6	5	L78
HT-750DT	ALL-6	5	L78
HT-750HT	ALL-6	5	L78
HT-750T	ALL-6	5	L78



IMPORTANT: See Safety Information in Section 1 of the Chelsea Applications catalog HY25-3000/US.

Transmission P.T.O. Driver & Aperatures (Viewed from Rear of Transmission)

L-Left Side R-Right Side B-Bottom Side T-Top Side

For transmission not listed, contact your authorized Chelsea Distributor.

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ALLISON TRANSMISSION INDEX

Transmission Make and Model	P.T.O. Appl. Number	Number Forward Speeds	Teeth in P.T.O. Driver
HT-754CR	ALL-6	5	L78
M5600 ("M" = "Mobil Mode")	ALL-8	6	R46
M6600 ("M" = "Mobil Mode")	ALL-8	6	R46
M9600 ("M" = "Mobil Mode")	ALL-11	6	R52
M9800 ("M" = "Mobil Mode")	ALL-11	8	R52
MD-3060P (Close Ratio)	ALL-13	6	L68-R68
MD-3066P (Europe Only)	ALL-16	6	L83-R83
MD-3070P (Close Ratio)	ALL-13	7	L68-R68
MD-3560P (Wide Ratio)	ALL-13	6	L68-R68
MT-640	ALL-5	4	R64
MT-643	ALL-5	4	R64
MT-644	ALL-5	4	R64
MT-650	ALL-5	5	R64
MT-653	ALL-5	5	R64
MT-654	ALL-5	5	R64
S5600 ("S" = "Stationary Mode")	ALL-8	6	R46
S6600 ("S" = "Stationary Mode")	ALL-8	6	R46
S9600 ("S" = "Stationary Mode")	ALL-11	6	R52
S9800 ("S" = "Stationary Mode")	ALL-11	8	R52
1000	ALL-15	5	L64-R64
1000 (GM 3600 Cab-Chassis)	ALL-17	5	R64
1000 EVS	ALL-15	5	L64-R64
1000 MH	ALL-15	5	L64-R64
1000 RDS	ALL-15	5	L64-R64
2000	ALL-15	5	L64-R64
2100 EVS	ALL-15	5	L64-R64
2100 MH	ALL-15	5	L64-R64
2100 RDS	ALL-15	5	L64-R64
2200 EVS	ALL-15	5	L64-R64
2200 MH	ALL-15	5	L64-R64
2200 RDS	ALL-15	5	L64-R64
2300 RDS	ALL-15	6	L64-R64
2400	ALL-15	5	L64-R64
2500 EVS	ALL-15	5	L64-R64
2500 MH	ALL-15	5	L64-R64
2500 RDS	ALL-15	5	L64-R64



IMPORTANT: See Safety Information
in Section I of the Chelsea Applications
catalog HY25-3000/US.

Transmission P.T.O. Driver & Apertures (Viewed from Rear of Transmission)

L-Left Side R-Right Side B-Bottom Side T-Top Side

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For transmission not listed, contact your authorized Chelsea Distributor.

ALLISON TRANSMISSION INDEX

Transmission Make and Model	P.T.O. Appl. Number	Number Forward Speeds	Teeth in P.T.O. Driver
3000 EVS (Emergency Vehicles Only Top / Side PTO Provisions)	ALL-16EV	6	L83-T83
3000 MH	ALL-13	6	L68-R68
3000 RDS	ALL-13	6	L68-R68
3000 TRV	ALL-13	6	L68-R68
3200 TRV	ALL-13	6	L68-R68
3500 EVS (Emergency Vehicles Only Top / Side PTO Provisions)	ALL-16EV	6	L83-T83
3500 RDS	ALL-13	6	L68-R68
4000 EVS	ALL-14	6	L97-R97
4000 MH	ALL-14	6	L97-R97
4000 RDS	ALL-14	6	L97-R97
4000 TRV	ALL-14	6	L97-R97
4500 EVS	ALL-14	6	L97-R97
4500 RDS	ALL-14	6	L97-R97
4700 EVS	ALL-14	7	L97-R97
4700 OFS	ALL-14	7	L97-R97
4700 RDS	ALL-14	6	L97-R97
4800 EVS	ALL-14	7	L97-R97



IMPORTANT: See Safety Information
in Section 1 of the Chelsea Applications
catalog HY25-3000/US.

Transmission P.T.O. Driver & Apertures (Viewed from Rear of Transmission)

L-Left Side R-Right Side B-Bottom Side T-Top Side

For transmission not listed, contact your authorized Chelsea Distributor.

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AT-540
AT-542
AT-543
AT-545

RIGHT SIDE ONLY

TRANSMISSION GEAR DATA:

R.H. 6-Bolt Opening Gear FORWARD of Centerline

55 Teeth - SPUR

PITCH LINE TO APERTURE FACE:

1.0850" (27.5600MM)

Caution: Application Approval Required for P.T.O. Output Shaft Speeds Above 2500 R.P.M.

P.T.O. Model	Inter. Torq.	Dir. Rot.	Engine %		Filler Block	Adapter Assy.	Stud Kit	RIGHT Side P.T.O. Model	Inter. Torq.	Dir. Rot.	Engine %		Filler Block	Adapter Assy.	Stud Kit
			Hi	Rev							Hi	Rev			

ONE SPEED - TWO GEAR - MECHANICAL SHIFT

221XCAJP-*3 (1)	235	Eng	106	Furnished
221XEAJP-*3 (1)	212	Eng	118	Furnished
442XBAHP-*3 (2)	250	Eng	90	Furnished

ONE SPEED - TWO GEAR - POWERSHIFT (HYDRAULIC)

270XAAJP-*3 (3)	300	Eng	75	Furnished
270XBAJP-*3 (4)	250	Eng	97	Furnished
270XDAJP-*3 (5)	222	Eng	112	Furnished
270XKAJP-*3 (6)	165	Eng	152	Furnished
271MAAJP-*5 (3)	250	Eng	75	Furnished
271MBAJP-*5 (4)	250	Eng	97	Furnished
271MDAJP-*5 (5)	222	Eng	112	Furnished
271MKAJP-*5 (6)	165	Eng	152	Furnished

ONE SPEED - TWO GEAR - POWERSHIFT (AIR)

230XAAJP-*3 (3)	300	Eng	75	Furnished
230XBAJP-*3 (4)	250	Eng	97	Furnished
230XDAJP-*3 (5)	222	Eng	112	Furnished
230XKAJP-*3 (6)	165	Eng	152	Furnished
230XQAJJP-*3 (7)	125	Eng	202	Furnished
231MAAJP-*5 (3)	250	Eng	75	Furnished
231MBAJP-*5 (4)	250	Eng	97	Furnished
231MDAJP-*5 (5)	222	Eng	112	Furnished
231MKAJP-*5 (6)	165	Eng	152	Furnished
231MQAJP-*5 (7)	125	Eng	202	Furnished

CAUTION: P.T.O. output shaft torque ratings are based on the maximum intermittent torque rating of 250 lb-ft torque for the 55 tooth gear in the AT-540 series transmission.

NOTE: Speeds shown are with engine RPM at or above torque converter lockup speed. If the P.T.O. is going to be operated below torque converter lockup speeds, contact your CHELSEA distributor for specific speeds and torque requirements.

NOTE: 378840 street tee required for pressure lube and must be purchased separately. Only the pressure lube line 328075X (line to the idler pin) is included with the P.T.O. For 270/271 Series due to varying valve installation locations on the vehicle installer must supply the following hoses or order the following separately. One 329087X (line from tranny to valve) and two 328075X (valve dump back to PTO housing & valve to P.T.O. clutch).

NOTE: For 230 & 270 Series rated at 300 lb/ft. Without pressure lube option reduce intermittent torque rating to 250 lb/ft.

NOTE: The "AJ" input gear designator shown on this application, which is a full addendum 6-pitch gear, is recommended for use on these transmissions. The "AH" input gear designator, which is a 6/8-pitch gear, can also be used on these transmissions; however, you may notice some additional rattle between the meshing gears. NOTE: Do not use adapter gear assemblies on any Allison automatic transmissions.

NOTE: If Ordering the 230/231 Series with the Shaft Brake Option, order the "BA" Output for Automatic Transmissions and the "BD" Output for Manual Transmissions.

(1) Input Gear Part No. 5-P-569
(2) Input Gear Part No. 5-P-1418
(3) Input Gear Part No. 5-P-567
(4) Input Gear Part No. 5-P-568
(5) Input Gear Part No. 5-P-695
(6) Input Gear Part No. 5-P-769

(7) Input Gear Part No. 5-P-770

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MT-640	MT-654
MT-643	
MT-644	
MT-650	
MT-653	

RIGHT SIDE ONLY

TRANSMISSION GEAR DATA:

R.H. 6-Bolt Opening Gear FORWARD of Centerline

64 Teeth - SPUR

PITCH LINE TO APERTURE FACE:

1.0850" (27.5600MM)

Caution: Application Approval Required for P.T.O. Output Shaft Speeds Above 2500 R.P.M.

P.T.O. Model	Inter. Torq.	Dir. Rot.	Engine %		Filler Block	Adapter Assy.	Stud Kit	RIGHT Side P.T.O. Model	Inter. Torq.	Dir. Rot.	Engine %		Filler Block	Adapter Assy.	Stud Kit
			Hi	Rev							Hi	Rev			

ONE SPEED - TWO GEAR - MECHANICAL SHIFT

221XCAJP-*3	250	Eng	124	Furnished
221XEAJP-*3	250	Eng	137	Furnished
442XBAHP-*3 (1)	250	Eng	104	Furnished

ONE SPEED - TWO GEAR - POWERSHIFT (HYDRAULIC)

270XAAJP-*3	300	Eng	87	Furnished
270XBAJP-*3	300	Eng	113	Furnished
270XDAJP-*3	300	Eng	131	Furnished
270XKAJP-*3	300	Eng	177	Furnished
271MAAJP-*5	250	Eng	87	Furnished
271MBAJP-*5	250	Eng	113	Furnished
271MDAJP-*5	250	Eng	131	Furnished
271MKAJP-*5	250	Eng	177	Furnished

ONE SPEED - TWO GEAR - POWERSHIFT (AIR)

230XAAJP-*3	300	Eng	87	Furnished
230XBAJP-*3	300	Eng	113	Furnished
230XDAJP-*3	300	Eng	131	Furnished
230XKAJP-*3	300	Eng	177	Furnished
230XQAJJP-*3	300	Eng	235	Furnished
231MAAJP-*5	250	Eng	87	Furnished
231MBAJP-*5	250	Eng	113	Furnished
231MDAJP-*5	250	Eng	131	Furnished
231MKAJP-*5	250	Eng	177	Furnished
231MQAJP-*5	250	Eng	235	Furnished

NOTE: Do not use adapter gear assemblies on any Allison automatic transmissions.

NOTE: Speeds shown are with engine RPM at, or above, torque converter lockup speed. If the P.T.O. is going to be operated below torque converter lockup speeds, contact your CHELSEA distributor for specific speeds and torque requirements.

NOTE: 378970 street tee required for pressure lube for 1975 and after, and must be purchased separately. 378880 street tee required for pressure lube prior to 1975. Only the pressure lube line 328075X (line to the idler pin) is included with the P.T.O. For 270/271 Series due to varying valve installation locations on the vehicle installer must supply the following hoses or order the following separately. One 329087X (line from tranny to valve) and two 328075X (valve dump back to PTO housing & valve to P.T.O. clutch).

NOTE: For 270/271 series rated at 300 lb/ft. Without pressure lube option reduce intermittent torque rating to 250 lb/ft.

NOTE: The "AJ" input gear designator shown on this application, which is a full addendum 6-pitch gear, is recommended for use on these transmissions. The "AH" input gear designator, which is a 6/8-pitch gear, can also be used on these transmissions; however, you may notice some additional rattle between the meshing gears.

NOTE: If the 270/271/230/231 Series is ordered with the Drag Brake option the rear cover of the P.T.O. will interfere with the transmission clutch housing.

(1) Input Gear Part No. 5-P-1418

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CLBT-750	HT-740D	HT-750DP	HT-754CR
CLBT-754	HT-740DRD	HT-750DRD	
CLT-750	HT-740T	HT-750DT	
CLT-754	HT-750CRD	HT-750HT	
HT-740CRD	HT-750D	HT-750T	

LEFT SIDE ONLY**TRANSMISSION GEAR DATA:**

L.H. 6-Bolt Opening Gear FORWARD of Centerline

78 Teeth - SPUR

PITCH LINE TO APERTURE FACE:

1.0850" (27.5600MM)

Caution: Application Approval Required for P.T.O. Output Shaft Speeds Above 2500 R.P.M.

LEFT Side P.T.O. Model	Inter. Torq.	Dir. Rot.	Engine %		Filler Block	Adapter Assy.	Stud Kit	P.T.O. Model	Inter. Torq.	Dir. Rot.	Engine %		Filler Block	Adapter Assy.	Stud Kit
			Hi	Rev							Hi	Rev			

ONE SPEED - TWO GEAR - MECHANICAL SHIFT

221XCAJP-*5	250	Eng	151				Furnished
221XEAJP-*5	250	Eng	167				Furnished
442XBAHP-*5 (1)	250	Eng	127				Furnished

ONE SPEED - TWO GEAR - POWERSHIFT (HYDRAULIC)

270XAAJP-*5	300	Eng	106				Furnished
270XBAJP-*5	300	Eng	138				Furnished
270XDAJP-*5	300	Eng	159				Furnished
270XKAJP-*5	300	Eng	215				Furnished
271MAAJP-*5	250	Eng	106				Furnished
271MBAJP-*5	250	Eng	138				Furnished
271MDAJP-*5	250	Eng	159				Furnished
271MKAJP-*5	250	Eng	215				Furnished

ONE SPEED - TWO GEAR - POWERSHIFT (AIR)

230XAAJP-*5	300	Eng	106				Furnished
230XBAJP-*5	300	Eng	138				Furnished
230XDAJP-*5	300	Eng	159				Furnished
230XKAJP-*5	300	Eng	215				Furnished
230XQAJJP-*5	300	Eng	287				Furnished
231MAAJP-*5	250	Eng	106				Furnished
231MBAJP-*5	250	Eng	138				Furnished
231MDAJP-*5	250	Eng	159				Furnished
231MKAJP-*5	250	Eng	215				Furnished
231MQAJP-*5	250	Eng	287				Furnished

NOTE: Do not use adapter gear assemblies on any Allison automatic transmissions.**NOTE:** Speeds shown are with engine RPM at, or above, torque converter lockup speed. If the P.T.O. is going to be operated below torque converter lockup speeds, contact your CHELSEA distributor for specific speeds and torque requirements.**NOTE:** 378897 street tee required for pressure lube and must be purchased separately. Only the pressure lube line 328075X (line to the idler pin) is included with the P.T.O. For 270/271 Series due to varying valve installation locations on the vehicle installer must supply the following hoses or order the following separately. One 329087X (line from tranny to valve) and two 328075X (valve dump back to PTO housing & valve to P.T.O. clutch).**NOTE:** Aperture is located at 10 o'clock when viewed from rear of transmission.**NOTE:** The "AJ" input gear designator shown on this application, which is a full addendum 6-pitch gear, is recommended for use on these transmissions. The "AH" input gear designator, which is a 6/8-pitch gear, can also be used on these transmissions; however, you may notice some additional rattle between the meshing gears.**NOTE:** If Ordering the 230/231 Series with the Shaft Brake Option, order the "BA" Output for Automatic Transmissions and the "BD" Output for Manual Transmissions.

(1) Input Gear Part No. 5-P-1418

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M5600
M6600
S5600
S6600

TOP SIDE ONLY	RIGHT SIDE ONLY
TRANSMISSION GEAR DATA: TOP 8-Bolt Opening Gear REAR of Centerline 38 Teeth - SPUR PITCH LINE TO APERTURE FACE: .8020" (20.3708MM)	TRANSMISSION GEAR DATA: R.H. 8-Bolt Opening Gear REAR of Centerline 46 Teeth - SPUR PITCH LINE TO APERTURE FACE: .8020" (20.3708MM)

Caution: Application Approval Required for P.T.O. Output Shaft Speeds Above 2500 R.P.M.

P.T.O. Model	Inter. Torq.	Dir. Rot.	Engine %		Filler Block	Adapter Assy.	Stud Kit	RIGHT Side P.T.O. Model	Inter. Torq.	Dir. Rot.	Engine %		Filler Block	Adapter Assy.	Stud Kit
			Hi	Rev							Hi	Rev			

ONE SPEED - TWO GEAR - MECHANICAL SHIFT

221ZCAKP-*6	250	Opp	89			328564X	Furnished	221ZCAKP-*4	250	Eng	89			328564X	Furnished
221ZEA KP-*6	250	Opp	99			328564X	Furnished	221ZEA KP-*4	250	Eng	99			328564X	Furnished
823XBAKP-*6 (1)	500	Opp	81				Furnished	823XBAKP-*4 (1)	500	Eng	81				Furnished
823XDAKP-*6 (2)	500	Opp	96				Furnished	880XBAKP-*4 (6)	500	Eng	81				Furnished
823XGAKP-*6 (3)	500	Opp	104				Furnished								
823XJAKP-*6 (4)	500	Opp	122				Furnished								
823XMAKP-*6 (5)	500	Opp	144				Furnished								
880XBAKP-*6 (6)	500	Opp	81				Furnished								
880XDAKP-*6 (7)	500	Opp	96				Furnished								
880XGAKP-*6 (8)	500	Opp	104				Furnished								
880XJAKP-*6 (9)	500	Opp	122				Furnished								
880XMAKP-*6 (10)	500	Opp	144				Furnished								

ONE SPEED - SINGLE GEAR - POWERSHIFT (HYDRAULIC)

800XMAKP-*4	250	Eng	144				Furnished								
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ONE SPEED - TWO GEAR - POWERSHIFT (HYDRAULIC)

270XAAKP-*6	250	Opp	62			328481X	Furnished	270XAAKP-*4	300	Eng	62			328481X	Furnished
270XDAKP-*6	250	Opp	94			328481X	Furnished	270XDAKP-*4	300	Eng	94			328481X	Furnished
270XKAKP-*6	225	Opp	127			328481X	Furnished	270XKAKP-*4	300	Eng	127			328481X	Furnished
852XBAKP-*6	500	Opp	81				Furnished	852XBAKP-*4	500	Eng	81				Furnished
852XGAKP-*6	500	Opp	104				Furnished	852XGAKP-*4	500	Eng	104				Furnished
852XJAKP-*6	500	Opp	122				Furnished	852XJAKP-*4	500	Eng	122				Furnished

ONE SPEED - TWO GEAR - POWERSHIFT (AIR)

885XBAKP-*6 (6)	500	Opp	81				Furnished	885XBAKP-*4 (6)	500	Eng	81				Furnished
885XGAKP-*6 (8)	500	Opp	104				Furnished								
885XJAKP-*6 (9)	500	Opp	122				Furnished								
885XMAKP-*6 (10)	500	Opp	144				Furnished								

NOTE: CRT-5630 & 5631 have only R.H. openings

NOTE: Do not use Adapter Gear Assemblies on any Allison Automatic Transmissions.

NOTE: Right Side opening is optional. Input gear interference prohibits use of any P.T.O.s other than those shown.

NOTE: Only the pressure lube line 328075X (line to the idler pin) is included with the P.T.O. For 270/271 Series due to varying valve installation locations on the vehicle installer must supply the following hoses or order the following separately. One 329087X (line from tranny to valve) and two 328075X (valve dump back to PTO housing & valve to P.T.O. clutch).

- (1) Input Gear Part No. 5-P-223
- (2) Input Gear Part No. 5-P-293
- (3) Input Gear Part No. 5-P-294
- (4) Input Gear Part No. 5-P-224
- (5) Input Gear Part No. 5-P-284
- (6) Input Gear Part No. 5-P-1106

- (7) Input Gear Part No. 5-P-1107
- (8) Input Gear Part No. 5-P-1108
- (9) Input Gear Part No. 5-P-1109
- (10) Input Gear Part No. 5-P-1110

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CLT-9485	M9800
CLT-9880	S9600
CLT-9884	S9800
CLT-9885	
M9600	

TOP SIDE ONLY	RIGHT SIDE ONLY
TRANSMISSION GEAR DATA: TOP 8-Bolt Opening Gear REAR of Centerline 39 Teeth - SPUR PITCH LINE TO APERTURE FACE: 0.8100" (20.5700MM)	TRANSMISSION GEAR DATA: R.H. 8-Bolt Opening Gear REAR of Centerline 52 Teeth - SPUR PITCH LINE TO APERTURE FACE: 0.8100" (2.0574MM)

Caution: Application Approval Required for P.T.O. Output Shaft Speeds Above 2500 R.P.M.

P.T.O. Model	Inter. Torq.	Dir. Rot.	Engine %		Filler Block	Adapter Assy.	Stud Kit	RIGHT Side P.T.O. Model	Inter. Torq.	Dir. Rot.	Engine %		Filler Block	Adapter Assy.	Stud Kit
			Hi	Rev							Hi	Rev			

ONE SPEED - TWO GEAR - MECHANICAL SHIFT

221ZCAKP-*6	250	Opp	114			328564X	Furnished	221ZCAKP-*4	250	Eng	114			328564X	Furnished
221ZEA KP-*6	250	Opp	127			328564X	Furnished	221ZEA KP-*4	250	Eng	126			328564X	Furnished
823XBAKP-*6 (1)	500	Opp	104				Furnished	823XBAKP-*4 (1)	500	Eng	104				Furnished
823XDAKP-*6 (2)	500	Opp	123				Furnished	880XBAKP-*4 (6)	500	Eng	104				Furnished
823XGAKP-*6 (3)	500	Opp	134				Furnished								
823XJAKP-*6 (4)	500	Opp	157				Furnished								
823XMAKP-*6 (5)	500	Opp	185				Furnished								
880XBAKP-*6 (6)	500	Opp	104				Furnished								
880XDAKP-*6 (7)	500	Opp	123				Furnished								
880XGAKP-*6 (8)	500	Opp	134				Furnished								
880XJAKP-*6 (9)	500	Opp	157				Furnished								
880XMAKP-*6 (10)	500	Opp	185				Furnished								

ONE SPEED - SINGLE GEAR - POWERSHIFT (HYDRAULIC)

800XMAKP-*4	250	Eng	185				Furnished								
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ONE SPEED - TWO GEAR - POWERSHIFT (HYDRAULIC)

270XAAKP-*6	250	Opp	80			328481X	Furnished	270XAAKP-*4	300	Eng	80			328481X	Furnished
270XDAKP-*6	250	Opp	121			328481X	Furnished	270XDAKP-*4	300	Eng	121			328481X	Furnished
852XBAKP-*6	500	Opp	104				Furnished	852XBAKP-*4	500	Eng	104				Furnished
852XGAKP-*6	500	Opp	134				Furnished								
852XJAKP-*6	500	Opp	157				Furnished								

ONE SPEED - TWO GEAR - POWERSHIFT (AIR)

885XBAKP-*6 (6)	500	Opp	104				Furnished	885XBAKP-*4 (6)	500	Eng	104				Furnished
885XGAKP-*6 (8)	500	Opp	134				Furnished								
885XJAKP-*6 (9)	500	Opp	157				Furnished								
885XMAKP-*6 (10)	500	Opp	185				Furnished								

NOTE: R.H. opening is optional. Input gear interference prohibits use of any P.T.O. other than those shown.

NOTE: Do not use Adapter Gear Assemblies on any Allison Automatic Transmissions.

NOTE: Use a 3/8" NPT to 1/4" NPT pipe reducer to adapt to the pressure lube hose supplied with the unit.

NOTE: The "CLT or CLBT" prefix refers to an engine driven section mounted to the front of the transmission.

NOTE: The 8000 and 9000 Series transmission models use all the same P.T.O. models.

NOTE: Only the pressure lube line 328075X (line to the idler pin) is included with the P.T.O. For 270/271 Series due to varying valve installation locations on the vehicle installer must supply the following hoses or order the following separately. One 329087X (line from tranny to valve) and two 328075X (valve dump back to PTO housing & valve to P.T.O. clutch).

- (1) Input Gear Part No. 5-P-223
- (2) Input Gear Part No. 5-P-293
- (3) Input Gear Part No. 5-P-294
- (4) Input Gear Part No. 5-P-224
- (5) Input Gear Part No. 5-P-284
- (6) Input Gear Part No. 5-P-1106

- (7) Input Gear Part No. 5-P-1107
- (8) Input Gear Part No. 5-P-1108
- (9) Input Gear Part No. 5-P-1109
- (10) Input Gear Part No. 5-P-1110

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