

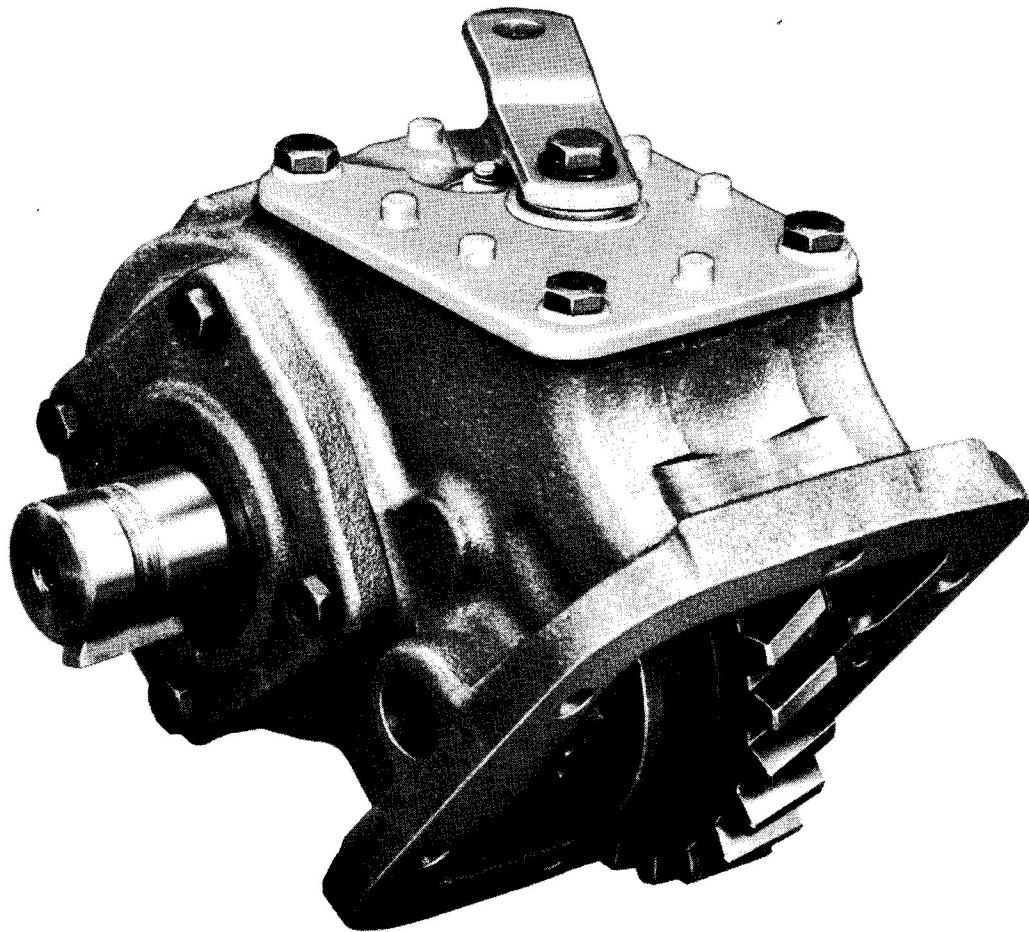
# CHELSEA<sup>®</sup>



WEATHERLY INDEX 086  
P.T.O. Parts List  
P410-410  
September, 1981  
410 Series  
Supersedes P410-41S  
Dated April, 1979

## 410 Series Power Take-Off

Side Mounted, S.A.E. Six Hole, Two Gear-Single Speed

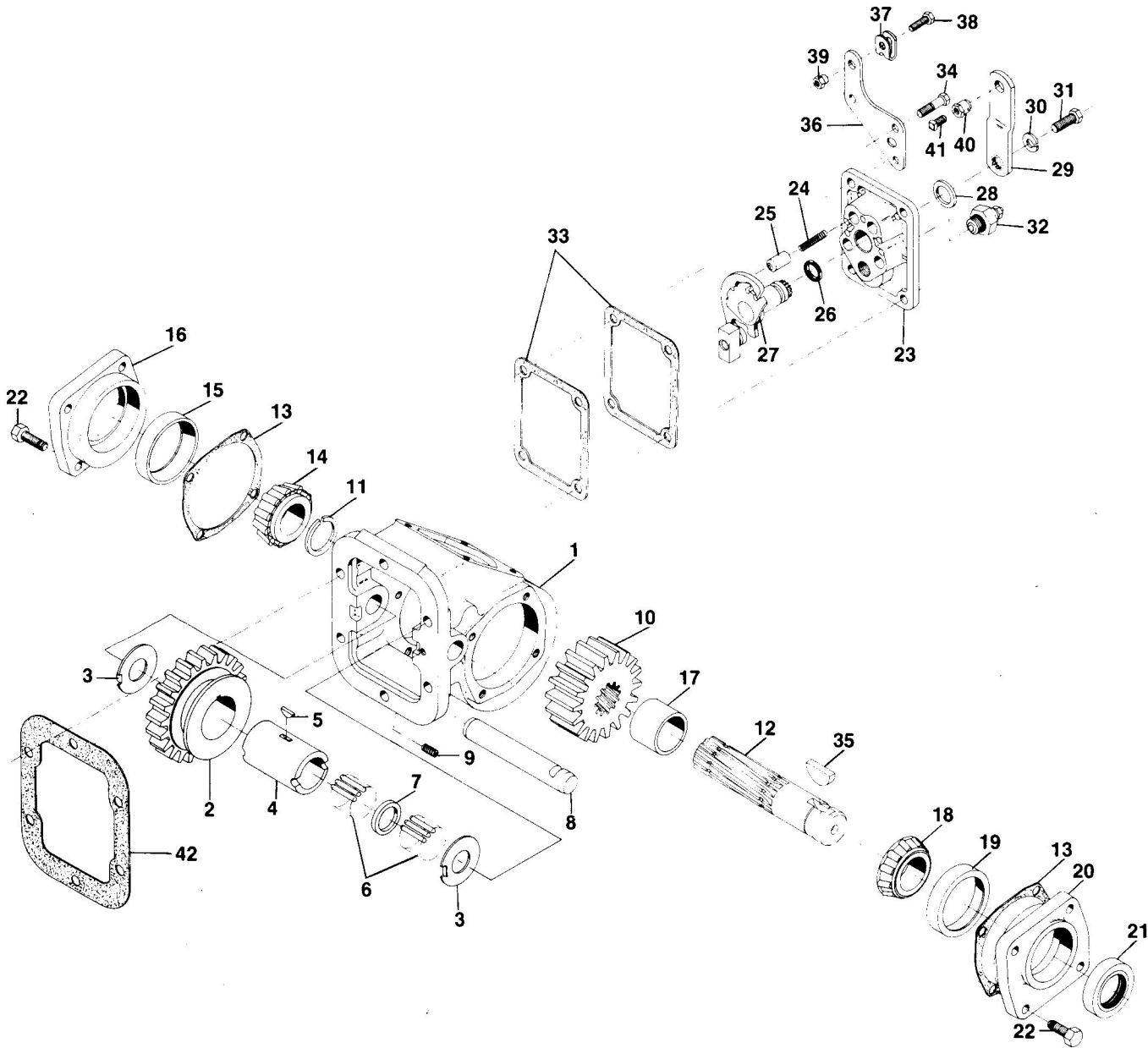


DRIVETRAIN SERVICE DIVISION

DANA CORPORATION, P.O. BOX 321, TOLEDO, OHIO 43691



the Work Force  
in power take-offs



Item	Part Number	Description	Quantity
1	{ 1-P-195 1-P-196	HOUSING—Standard Mount .....	1
		HOUSING—Deep Mount .....	1
2	See Chart Pg. 10 328889X	SLIDING GEAR, Input .....	1
		NEEDLE BEARING & IDLER SHAFT SERVICE KIT (contains Items 3-9) .....	1
3	31-P-78	THRUST WASHER (1 $\frac{3}{4}$ " Outside Diameter) .....	2
4	6-P-14	BEARING SLEEVE .....	1
5	378210	HI-PRO KEY .....	1
	328297-10X	NEEDLE BEARING REPLACEMENT KIT (contains Item 6) .....	1
6	379114	NEEDLE BEARING (two sets, 15 per set) .....	30
7	14-P-63	NEEDLE BEARING SPACER (.225" wide) .....	1
8	9-P-60	IDLER SHAFT .....	1
9	{ 378452-7 378452-4	SET SCREW—For Standard Mount (1/4" - 20 x 1/2") .....	1
		SET SCREW—For Deep Mount (1/4" - 20 x 5/16") .....	1
10	See Chart Pg. 10	GEAR, Output .....	1
11	378391	LOCK RING .....	1
12	3-P-202	DRIVE SHAFT, Output (1 $\frac{1}{4}$ " Round) .....	1
13	{ 22-P-24-1 22-P-24-2	BEARING CAP GASKET (.010") .....	A.R.
		BEARING CAP GASKET (.020") .....	A.R.

A.R.—As Required

**410 SERIES  
WIRE CONTROL**

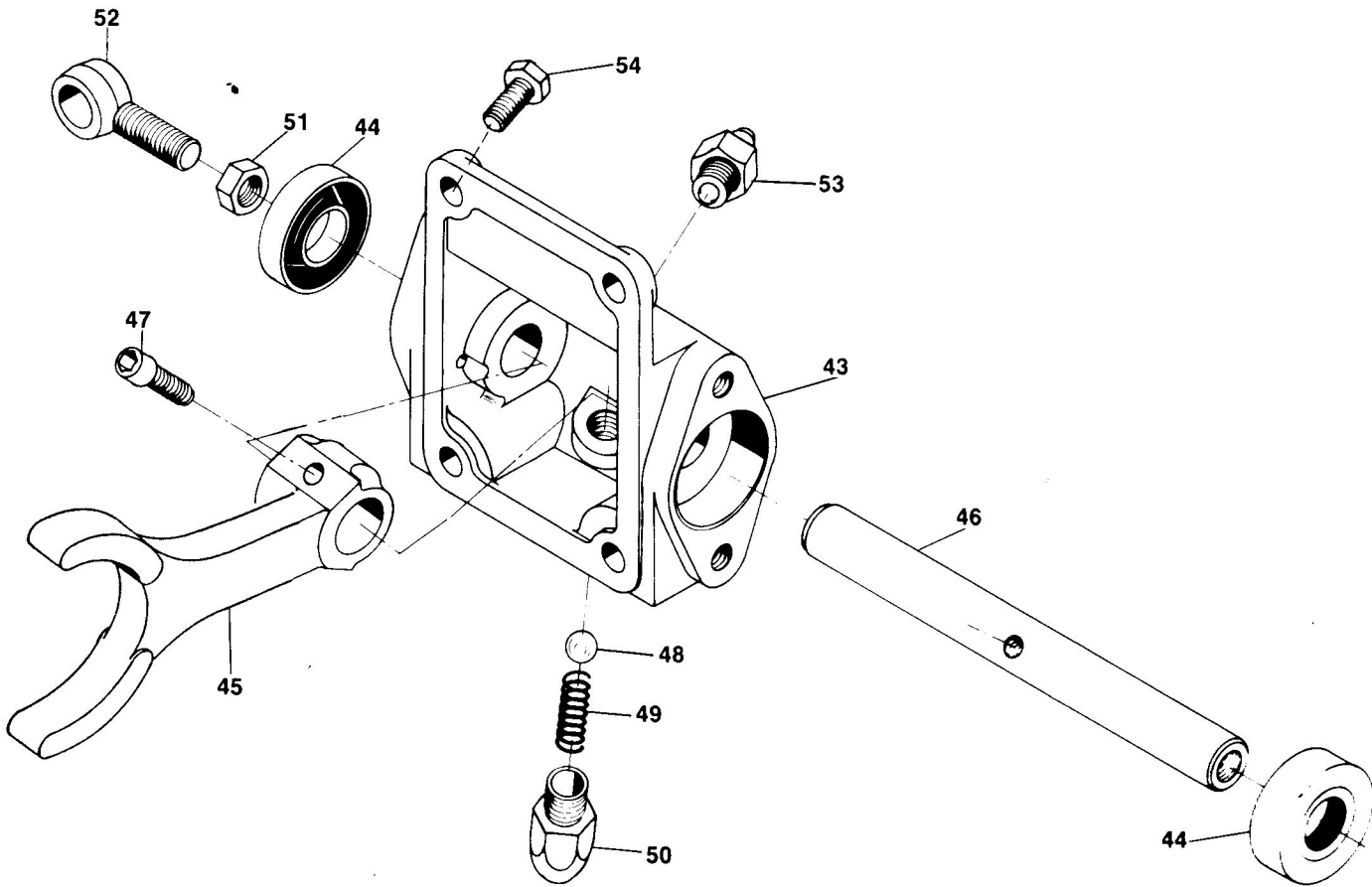
**CHELSEA®**



P410-410

Item	Part Number	Description	Quantity
14	550532	BEARING CONE, Closed End .....	1
	328274X	BEARING CAP ASSEMBLY, Closed End (contains Items 15-16) .....	1
15	550221	BEARING CUP, Closed End .....	1
16	21-P-131	BEARING CAP, Closed End .....	N.S.S.
17	4-P-63	DRIVE SHAFT SPACER .....	1
18	550397	BEARING CONE, Output .....	1
	328273X	BEARING CAP ASSEMBLY, Output (contains Items 19-20) .....	1
19	550221	BEARING CUP, Output .....	1
20	21-P-130	BEARING CAP, Output .....	N.S.S.
21	28-P-52	OIL SEAL, Output .....	1
22	378430-10	SCREW, hex head (Eslock 5/16" - 18 x 1") .....	8
	328818-1X	WIRE SHIFT COVER ASSEMBLY, Assembly 3 & 6 (contains Items 23-32) .....	1
	328818-2X	WIRE SHIFT COVER ASSEMBLY, Assembly 4 & 5 (contains Items 23-32) .....	1
23	34-P-74	SHIFTER COVER .....	1
24	37-P-19	SHIFTER SPRING .....	1
25	63-P-16	POPPET .....	1
26	28-P-49	O-RING (3/4" Outside Diameter) .....	1
27	{ 328817-1X	POST & PLATE ASSEMBLY (Assembly 3 & 6) .....	1
	{ 328817-2X	POST & PLATE ASSEMBLY (Assembly 4 & 5) .....	1
28	378004	FLAT WASHER (1" Outside Diameter) .....	1
29	51-P-22	SHIFTER LEVER .....	1
30	378003	LOCK WASHER (5/16") .....	1
31	500409-6	SCREW, hex head (5/16" - 24 x 5/8") .....	1
32	378969	INDICATOR SWITCH .....	1
33	35-P-8	SHIFTER COVER GASKET (.020") .....	2
34	378430-10	SCREW, hex head (Eslock 5/16" - 18 x 1") .....	4
		<b>LOOSE PARTS</b>	
35	500007-29	WOODRUFF KEY .....	1
N.S.	328346-10X	WIRE CONTROL CABLE ASSEMBLY (10X = 10 Foot Cable) .....	1
	328380X	WIRE CONTROL MOUNTING PARTS (contains Items 36-41) .....	1
36	50-P-17	BRACKET .....	1
37	50-P-19	SWIVEL BRACKET .....	1
38	500396-8	SCREW, hex head (1/4" - 20 x 3/4") .....	1
39	378326	NUT, hex (1/4" - 20) .....	1
40	378019	PIVOT PIN .....	1
41	500568-4	SET SCREW (1/4" - 20 x 1/2") .....	1
42	{ 35-P-9-1	GASKET, housing (.010") .....	A.R.
	{ 35-P-9-2	GASKET, housing (.020") .....	A.R.
		<b>PTO MOUNTING STUD KIT (See P400-A For Optional Kits)</b>	
N.S.	328170-76X	For Standard Mount .....	1
N.S.	328170-77X	For Deep Mount .....	1
		<b>GASKET &amp; SEAL KIT</b>	
N.S.	328356-13X	Must be Ordered Separate (contains 4 pieces Item 13; 2 pieces Item 33; 1 piece each Item 11, 21, 26 & 42) .....	1

N.S.-Not shown  
A.R.-As Required  
N.S.S.-Not Sold Separately



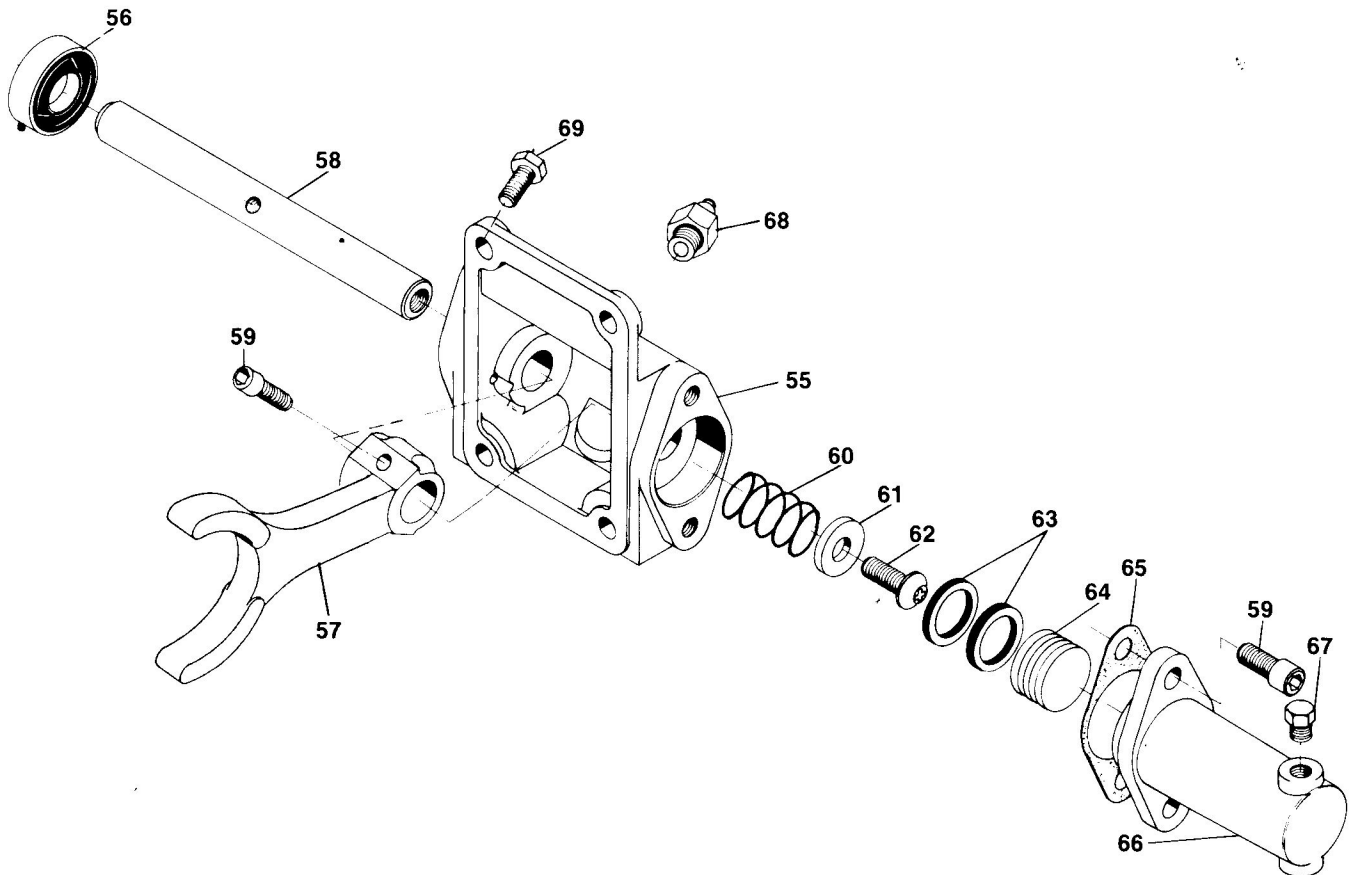
Item	Part Number	Description	Quantity
	<b>328833-1X</b>	LEVER CONTROL COVER ASSEMBLY, Assembly 3 & 6 (contains Items 43-53).....	1
	<b>328833-2X</b>	LEVER CONTROL COVER ASSEMBLY, Assembly 4 & 5 (contains Items 43-53).....	1
43	<b>34-P-87</b>	SHIFTER COVER.....	1
44	<b>28-P-4</b>	OIL SEAL.....	2
45	<b>32-P-145</b>	SHIFTER FORK.....	1
46	<b>11-P-112</b>	SHIFTER SHAFT.....	1
47	<b>378447-4</b>	SCREW, hex socket (5/16" - 18 x 3/4").....	1
48	<b>378002</b>	SHIFTER BALL.....	1
49	<b>37-P-14</b>	SHIFTER SPRING.....	1
50	<b>378554</b>	SPRING CAP.....	1
51	<b>500381-3</b>	JAM NUT, hex head.....	1
52	<b>36-P-1</b>	EYE BOLT.....	1
53	<b>378969</b>	INDICATOR SWITCH.....	1
54	<b>378430-8</b>	SCREW, hex head (Eslock 5/16" - 18 x 3/4").....	4



# 410 SERIES AIR CONTROL



P410-410



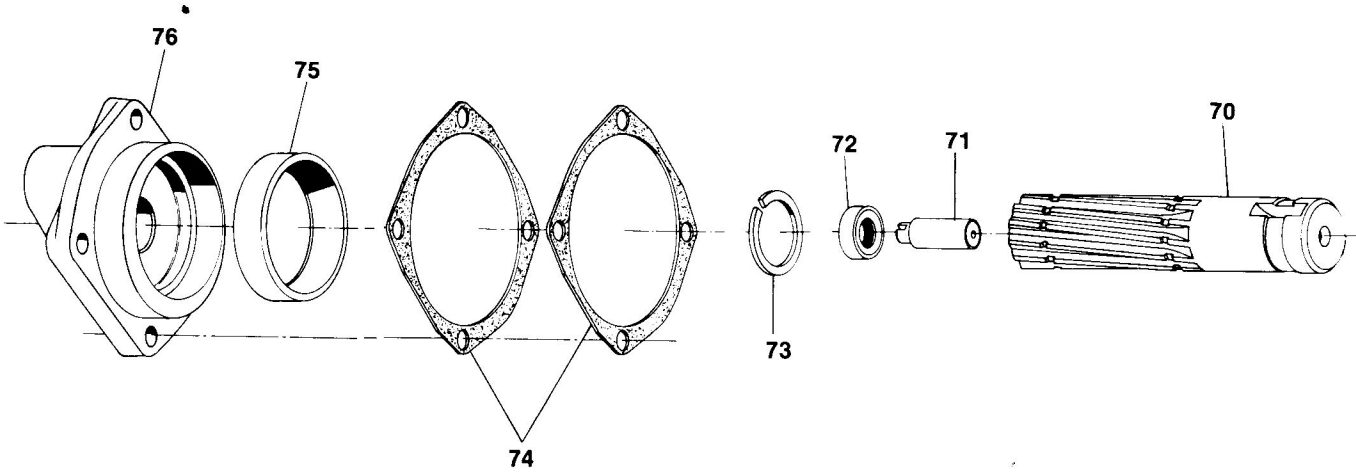
**NOTE:** To Assemble Air Shift Cover Assembly From Lever Control Cover Assembly, omit Shifter Ball, Spring, Cylinder End Oil Seal, Jam Nut and Eye Bolt.

Item	Part Number	Description	Quantity
	<b>328834-1X</b>	AIR SHIFT COVER ASSEMBLY, Assembly 3 & 6 (contains Items 55-68).....	1
	<b>328834-2X</b>	AIR SHIFT COVER ASSEMBLY, Assembly 4 & 5 (contains Items 55-68).....	1
55	<b>34-P-76</b>	SHIFTER COVER.....	1
56	<b>28-P-4</b>	OIL SEAL (Used Only on Side Without Cylinder) .....	1
57	<b>32-P-145</b>	SHIFTER FORK .....	1
58	<b>11-P-122</b>	SHIFTER SHAFT .....	1
59	<b>378447-4</b>	SCREW, hex socket ( $\frac{5}{16}$ " - 18 x $\frac{3}{4}$ ") .....	3
60	<b>37-P-25</b>	SHIFTER SPRING .....	1
61	<b>378462</b>	SPRING RETAINER WASHER.....	1
62	<b>378908</b>	SCREW, button head .....	1
63	<del>28-P-55</del> <b>28-P-254</b>	BLOCK VEE RING.....	2
64	<b>66-P-4</b>	PISTON.....	1
65	<b>35-P-14</b>	CYLINDER CAP GASKET.....	1
66	<b>65-P-14</b>	CYLINDER CAP.....	1
67	<b>500118-3</b>	PIPE PLUG ( $\frac{1}{8}$ " - 27 N.P.T.).....	1
N.S.	<b>500897-3</b>	SHIPPING PLUG .....	1
68	<b>378969</b>	INDICATOR SWITCH.....	1
69	<b>378430-8</b>	SCREW, hex head (Eslock $\frac{5}{16}$ " - 18 x $\frac{3}{4}$ ").....	4
N.S.	<b>328388-27X</b>	AIR SHIFT INSTALLATION KIT .....	1

N.S.-Not shown

## AIR SHIFT CONVERSION KITS

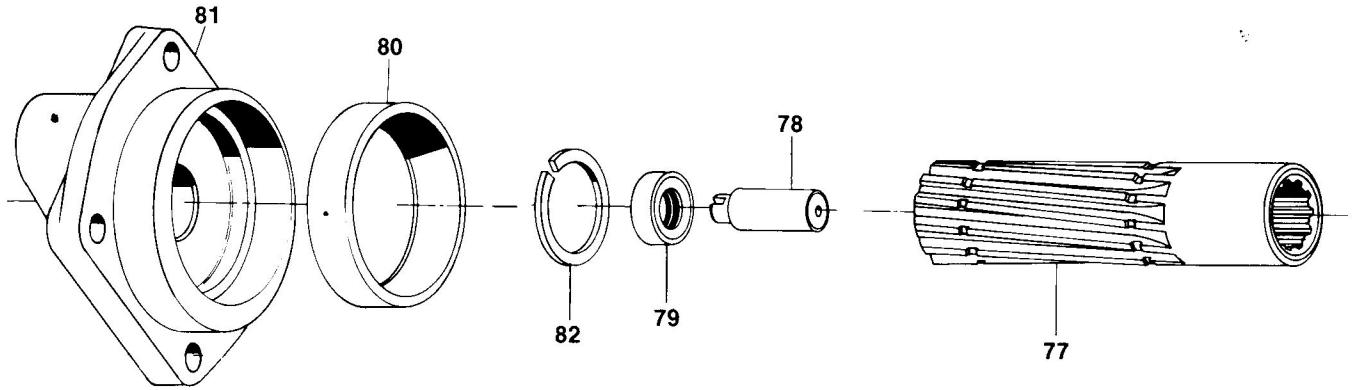
Description	Part Number	Quantity
Wire to Air for Assembly 3 & 6 .....	<b>328390-65X</b>	1
Wire to Air for Assembly 4 & 5 .....	<b>328390-66X</b>	1
Lever to Air All Assemblies.....	<b>328390-67X</b>	1



Item	Part Number	Description	Quantity
	<b>328648X</b>	<b>HOLLEY GOVERNOR DRIVE CONVERSION KIT</b> (contains Items 70-76) .....	1
	<b>328060X</b>	<b>DRIVE SHAFT &amp; SPINNER ASSEMBLY</b> (contains Items 70-71) .....	1
70	<b>3-P-270</b>	DRIVE SHAFT, Standard .....	1
71	<b>378178</b>	SPINNER .....	1
72	<b>28-P-53</b>	OIL SEAL .....	1
73	<b>378391</b>	LOCK RING .....	1
74	<b>22-P-24-1</b>	BEARING CAP GASKET (.010") .....	1
	<b>22-P-24-2</b>	BEARING CAP GASKET (.020") .....	1
	<b>328588X</b>	<b>BEARING CAP ASSEMBLY</b> (contains Items 75-76) .....	1
75	<b>550221</b>	BEARING CUP .....	1
76	<b>21-P-272</b>	BEARING CAP .....	N.S.S.

N.S.S.-Not Sold Separately

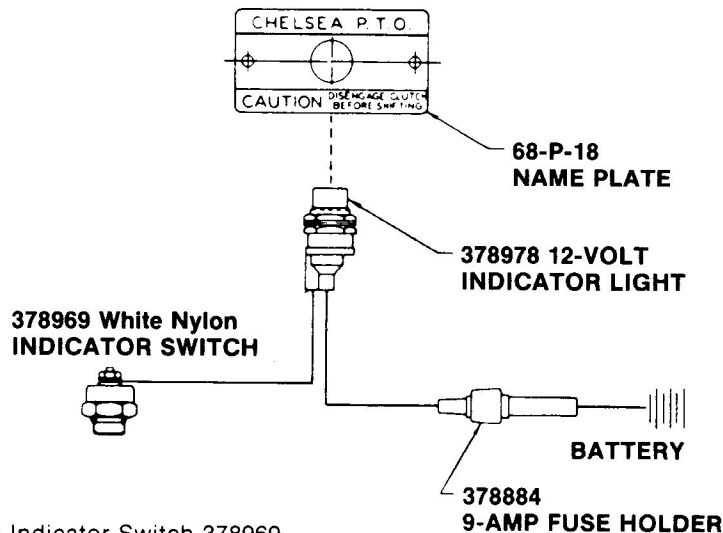
# 410 SERIES HOLLEY GOVERNOR DRIVE WITH PUMP SHAFT



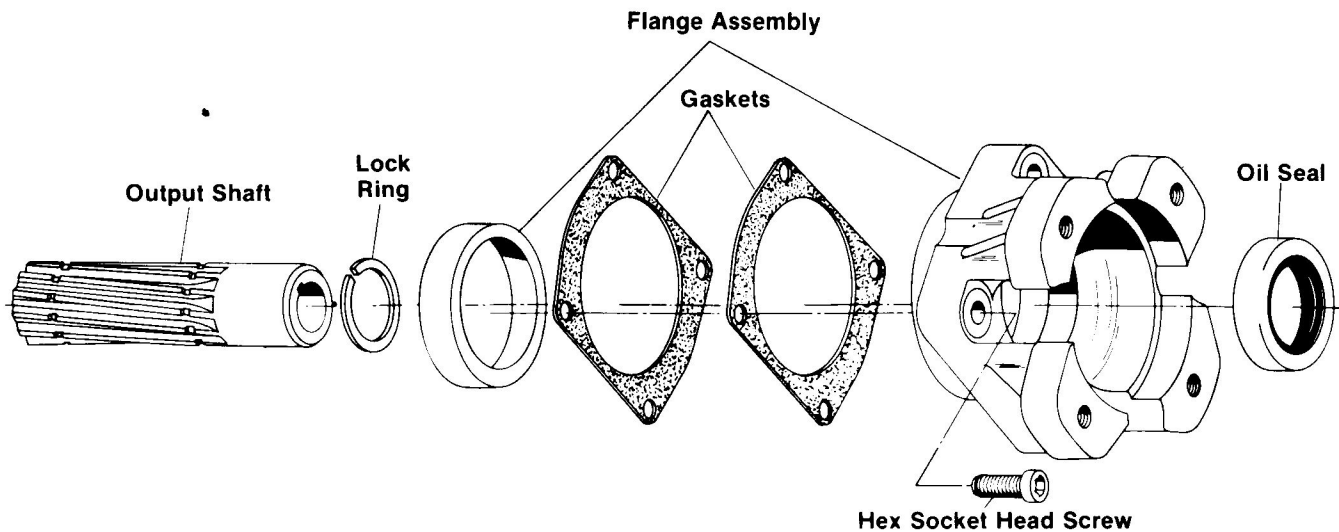
Item	Part Number	Description	Quantity
	<b>328160X</b>	PUMP SHAFT & SPINNER ASSEMBLY (contains Items 77-78), (For Pump Suffix G) .....	1
	<b>328097X</b>	PUMP SHAFT & SPINNER ASSEMBLY (contains Items 77-78), (For Pump Suffix J,M) .....	1
	<b>328096X</b>	PUMP SHAFT & SPINNER ASSEMBLY (contains Items 77-78), (For Pump Suffix K, N, P, Q) .....	1
	<b>328743X</b>	PUMP SHAFT & SPINNER ASSEMBLY (contains Items 77-78), (For Pump Suffix L,R) .....	1
77	<b>3-P-348</b>	PUMP SHAFT (For Pump Suffix G) .....	1
	<b>3-P-311</b>	PUMP SHAFT (For Pump Suffix J,M) .....	1
	<b>3-P-310</b>	PUMP SHAFT (For Pump Suffix K, N, P, Q) .....	1
	<b>3-P-702</b>	PUMP SHAFT (For Pump Suffix L, R) .....	1
78	<b>378178</b>	SPINNER .....	1
79	<b>28-P-53</b> <b>328588X</b>	OIL SEAL .....	1
		HOLLEY GOVERNOR DRIVE BEARING CAP ASSEMBLY, (contains Items 80-81) .....	1
80	<b>550221</b>	BEARING CUP .....	1
81	<b>21-P-272</b>	BEARING CAP .....	N.S.S.
82	<b>378391</b>	LOCK RING .....	1

N.S.S.-Not Sold Separately

## WIRE & LEVER CONTROL INDICATOR LIGHT INSTALLATION KIT 328751X\*



\* This kit does not contain Indicator Switch 378969.

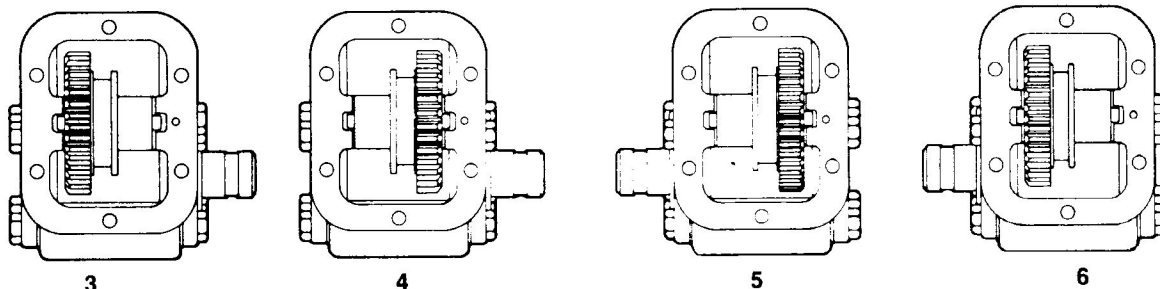


Pump Mounting Suffix	Output Shaft	Flange Assembly (Includes Pump Flange & 550221 Bearing Cup)	Hex Socket Head Screw & Dimensions Quantity Required — Four	Conversion Kit ①
▲ F	3-P-349	21-P-118	378447-8 (1/2" - 18 x 1 1/2")	328591-6X
G	3-P-281	328580X	378447-8 (1/2" - 18 x 1 1/2")	328591-10X
J	3-P-284	328580X	378447-8 (1/2" - 18 x 1 1/2")	328591-11X
K	3-P-282	328333X ②	378447-8 (1/2" - 18 x 1 1/2")	328591-16X
L	3-P-283	328580X	378447-8 (1/2" - 18 x 1 1/2")	328591-18X
M	3-P-284	328583X	378447-7 (1/2" - 18 x 1 1/4")	328591-20X
N	3-P-282	328584X	378447-8 (1/2" - 18 x 1 1/2")	328591-21X
O	3-P-284	328328X	378447-7 (1/2" - 18 x 1 1/4")	328591-26X
P	3-P-282	328328X	378447-7 (1/2" - 18 x 1 1/4")	328591-23X
Q ③	3-P-282	328589X ④	378447-8 (1/2" - 18 x 1 1/2")	328591-17X
R ⑤	3-P-283	328710X	378918 Stud (4 Required)	328591-25X

▲ Ball Bearing Type - to convert a Conventional P.T.O. to a Hydraulic Pump Mount P.T.O. - is not interchangeable with tapered roller bearing type pump shaft & flange. Conversion Kits consist of all items listed plus 550697 Closed End Ball Bearing, 21-P-287 Closed End Bearing Cap, 378237 Lock Ring, 4-P-65 additional Drive Shaft Spacer, 550698 Output Ball Bearing, 28-P-54 Oil Seal, and 22-P-24-1, 22-P-24-2 Gaskets.

- ① Conversion Kits consist of all items listed plus 28-P-52 Oil Seal, 378391 Lock Ring, and 22-P-24-1, 22-P-24-2 Gaskets, except 328591-6X.
- ② 328333X Pump Flange interferes with Air Shift Cylinder on Assembly Arrangement 3 & 5 use 'Q' Flange Assembly.
- ③ Similar to 'K' Assembly, only rotated 65°
- ④ 328589X Pump Flange interferes with Mounting Base on Deep Mount Assembly Arrangement 3.
- ⑤ 328711X Pump to P.T.O. Mounting Kit contains 4 each: 378919 Washer and 500963-1 Hex Locknut.

**ASSEMBLY ARRANGEMENTS**



# 410 SERIES

**CHELSEA**<sup>®</sup>

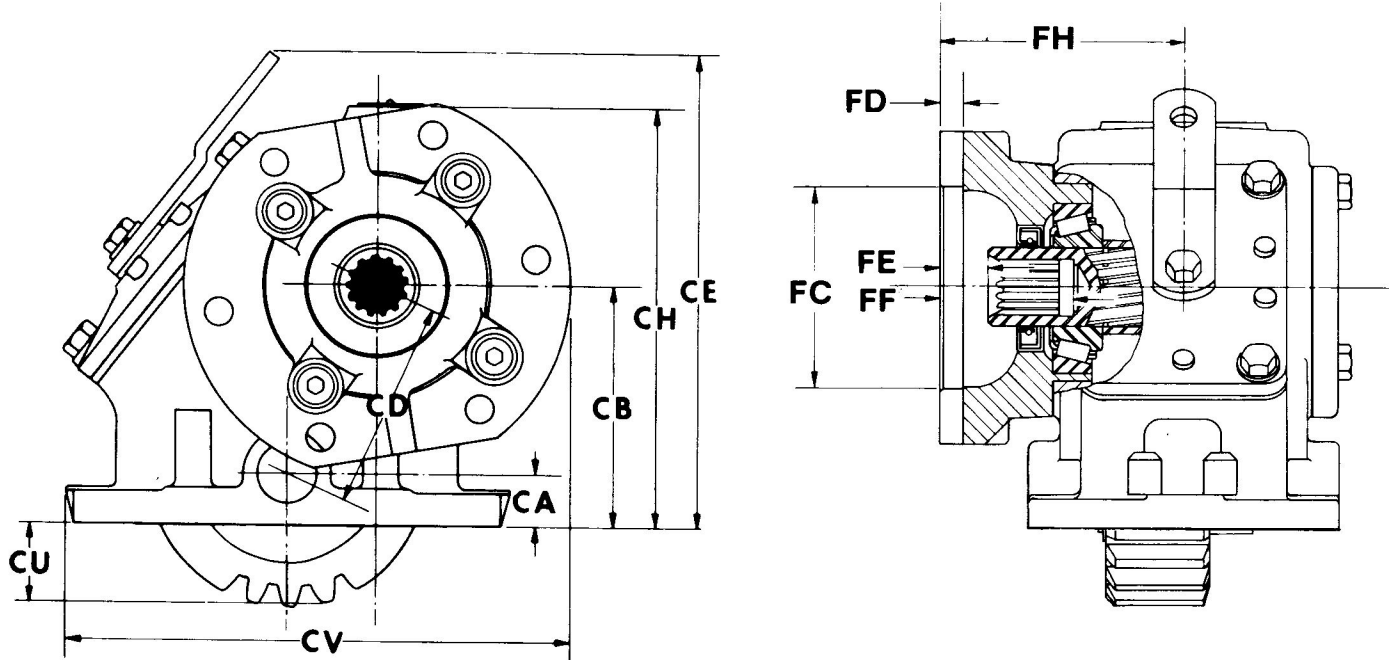


P410-410

## P.T.O. CASE PUMP FLANGE & SHAFT DIMENSIONS

P.T.O. Series	Part Number	CA	CB	CD	CE (d)	CH (d)	CU	CV
410XU Standard	1-P-195	.792"	3.669"	3.317"	7.500"	6.250"	1.100"	7.250"
410ZU Deep Mount	1-P-196	.572"	3.449"	3.317"	7.2187"	6.000"	1.320"	7.250"
410XW Standard	1-P-195	.792"	3.603"	3.087"	7.500"	6.250"	1.100"	7.250"
410ZW Deep Mount	1-P-196	.572"	3.383"	3.087"	7.2187"	6.000"	1.320"	7.250"
410XX Standard	1-P-195	.792"	3.447"	3.052"	7.500"	6.250"	1.100"	7.250"
410ZX Deep Mount	1-P-196	.572"	3.227"	3.052"	7.2187"	6.000"	1.320"	7.250"

(d) - Approximate Dimension for estimating clearance in installations.



Pump Suffix	Bolt Holes			FC Female Pilot Diameter	FD Depth of Pilot	FE Face to outer end of Shaft	FF Face thru Shaft Hole	FH Face to Center of P.T.O.	Output Shaft Hole		
	Circle	Tapped Hole	Number Equally Spaced						Round Hole Dia.	Keyway Width	Spline Hole Dia.
F	{ 5.000"	1/2"-13	4	4.0005/4.0025"	.406"	.516"	1.984"	3.688"	7/8"	1/4"	—
	{ 5.750"	1/2"-13	2								
G	4.188"	3/8"-16	4	3.251/3.253"	.562"	.469"	2.094"	4.562"	3/4"	3/16"	—
J	4.188"	3/8"-16	4	3.251/3.253"	.562"	1.406"	2.812"	4.562"	3/4"	3/16"	—
K	{ 5.000"	1/2"-13	4	4.0005/4.0025"	.406"	.562"	1.938"	3.688"	—	—	7/8"-13T
	{ 5.750"	1/2"-13	2								
L	4.188"	3/8"-16	4	3.251/3.253"	.562"	.562"	2.062"	4.562"	—	—	7/8"-13T
M	3.250"	3/8"-16	6	2.626/2.631"	.688"	.312"	1.719"	3.438"	3/4"	3/16"	—
N	4.750"	13/32"	Drill 6	3.251/3.253"	.375"	.750"	2.125"	3.875"	—	—	7/8"-13T
O	{ 5.000"	1/2"-13	4	3.251/3.253"	.344"	.562"	1.937"	3.688"	3/4"	3/16"	—
	{ 4.188"	3/8"-16	2								
P	{ 5.000"	1/2"-13	4	3.251/3.253"	.344"	.562"	1.937"	3.688"	—	—	7/8"-13T
	{ 4.188"	3/8"-16	2								
Q	{ 5.000"	1/2"-13	4	4.0005/4.0025"	.406"	.562"	1.938"	3.688"	—	—	7/8"-13T
	{ 5.750"	1/2"-13	2								
R	Special Assembly For Mounting To Chelsea 1438 Only. See Page 8										



**410 SERIES  
P.T.O. — MODEL, GEAR & PITCH DATA**

P410-410

P.T.O. Model	Input Sliding Gear	No. of Teeth	Transmission Applications	Pitch & Pressure Angle	Output Gear	No. of Teeth
<b>410*U — MEDIUM SPEED</b>						
410*UAB	5-P-255	19	Universal 5-Pitch	5P-20° PA-Spur	2-P-221	14
410*UAG	5-P-262	22	Spicer 5650, 5750 & 5850 Series	6P-17° 30' PA-Spur	2-P-228	17
410*UAH	5-P-256	22	Universal 6-Pitch	6/8P-20° PA-Spur	2-P-222	17
410*UAR	5-P-261	21	Spicer 6350, 6450 & 6850 Series	6P-17° 30' PA-26° 10'37" L.H.	2-P-227	15
410*UAW ①	5-P-266	21	New Process 541-GD (R. Side)	6P-20° PA-17° 40'41" L.H.	2-P-232	17
410*UBG	5-P-421	24	Spicer 5000 Series (R. Side 8-Hole)	7P-17° 30' PA-28° 4'23" L.H.	2-P-394	18
410*UBH	5-P-264	25	Spicer 3150, 3550 & 3850 Series	7P-20° PA-20° R.H.	2-P-230	19
410*UBJ	5-P-258	25	Spicer 3150, 3550 & 3850 Series	7P-20° PA-20° L.H.	2-P-224	19
410*UBQ	5-P-357	25	Chevrolet CH-465 4 Speed & GMC	7.3449P-20° PA-24° L.H.	2-P-357	19
410*UBR	5-P-341	26	New Process 4 Speed Synchro-Shift & Clark	7.6168P-18° 29'22" PA-23° 12'57" R.H.	2-P-320	20
410*UBS	5-P-259	26	New Process 4 Speed Synchro-Shift (420)	7.6168P-18° 29'22" PA-23° 12'57" L.H.	2-P-225	21
410*UBY	5-P-260	26	Warner T-98	8.0829P-20° PA-30° R.H.	2-P-226	21
410*UBZ	5-P-263	26	Warner T-98A	8.0829P-20° PA-30° L.H.	2-P-229	21
410*UCB	5-P-275	25	New Process 4 Speed 435-L Series & others	8.1160P-20° PA-33° 30' L.H.	2-P-251	19
410*UDD	5-P-688	20	Spicer 1310 Series	5.8500P-20° PA-Spur	2-P-602	16

**410\*W — HIGH SPEED**

410*WAC	5-P-574	19	Fiat 2860	5.34737P-22° 30' PA-Spur	2-P-555	14
410*WAG	5-P-262	22	Spicer 5650, 5750 & 5850 Series	6P-17° 30' PA-Spur	2-P-239	14
410*WAH	5-P-256	22	Universal 6-Pitch	6/8P-20° PA-Spur	2-P-233	14
410*WAW ①	5-P-266	21	New Process 541-GD (R. Side)	6P-20° PA-17° 40'41" L.H.	2-P-378	14
410*WBA	5-P-267	22	IHC (F-51, F-51C) T-32, T-33, T-34 & T-35 Series	6.5400P-18° 27'54" PA-23° 26'48" L.H.	2-P-241	15
410*WBH	5-P-264	25	Spicer 3150, 3550 & 3850 Series	7P-20° PA-20° R.H.	2-P-238	15
410*WBJ	5-P-258	25	Chevrolet 4 Speed & Spicer 3150, 3550 & 3850 Series	7P-20° PA-20° L.H.	2-P-235	15
410*WBN	5-P-269	22	New Process 5 Speed Synchro-Shift (540)	7.1952P-16° 53'01" PA-33° 30' L.H.	2-P-243	14
410*WBQ	5-P-357	25	Chevrolet CH-465 4 Speed & GMC	7.3449P-20° PA-24° L.H.	2-P-356	16
410*WBR	5-P-341	26	New Process 4 Speed & Clark	7.6168P-18° 29'22" PA-23° 12'57" R.H.	2-P-321	17
410*WBS	5-P-259	26	New Process 4 Speed Synchro-Shift (420)	7.6168P-18° 29'22" PA-23° 12'57" L.H.	2-P-236	17
410*WBY	5-P-260	26	Warner T-98	8.0829P-20° PA-30° R.H.	2-P-237	17
410*WBZ	5-P-263	26	Warner T-98A	8.0829P-20° PA-30° L.H.	2-P-240	17
410*WCB	5-P-275	25	New Process 4 Speed 435-L Series & others	8.1160P-20° PA-33° 30' L.H.	2-P-252	16
410*WDD	5-P-688	20	Spicer 1310 Series	5.8500P-20° PA-Spur	2-P-601	19

**410\*X — EXTRA HIGH SPEED**

410*XAG ②	5-P-509	23	Spicer 5650, 5750 & 5850 Series	6/8P-17° 30' PA-Spur	2-P-499	12
410*XAH ②	5-P-299	24	Universal 6-Pitch	6/8P-20° PA-Spur	2-P-436	12
410*XBA ③	5-P-303	23	I.H.C. 5 Speed	6.5400P-18° 27'54" PA-23° 26'48" L.H.	2-P-269	12
410*XBN ③	5-P-302	23	New Process 5 Speed Synchro-Shift (540)	7.1952P-16° 53'01" PA-33° 30' L.H.	2-P-268	12
410*XCB ①	5-P-450	27	New Process & others	8.1160P-20° PA-33° 30' L.H.	2-P-328	14

- ① Filler Block 7-A-062 required to mount P.T.O. with 1-P-195 Housing
- ② Filler Block 7-A-032 required to mount P.T.O. with 1-P-195 Housing
- ③ Filler Block 7-A-125 required to mount P.T.O. with 1-P-195 Housing

**When reinstalling the Power Take-Off on the transmission, the backlash between the Power Take-Off gear and the transmission gear should be approximately .006-.012". If too few gaskets are used, the unit will whine; if too many, the unit will clatter.**

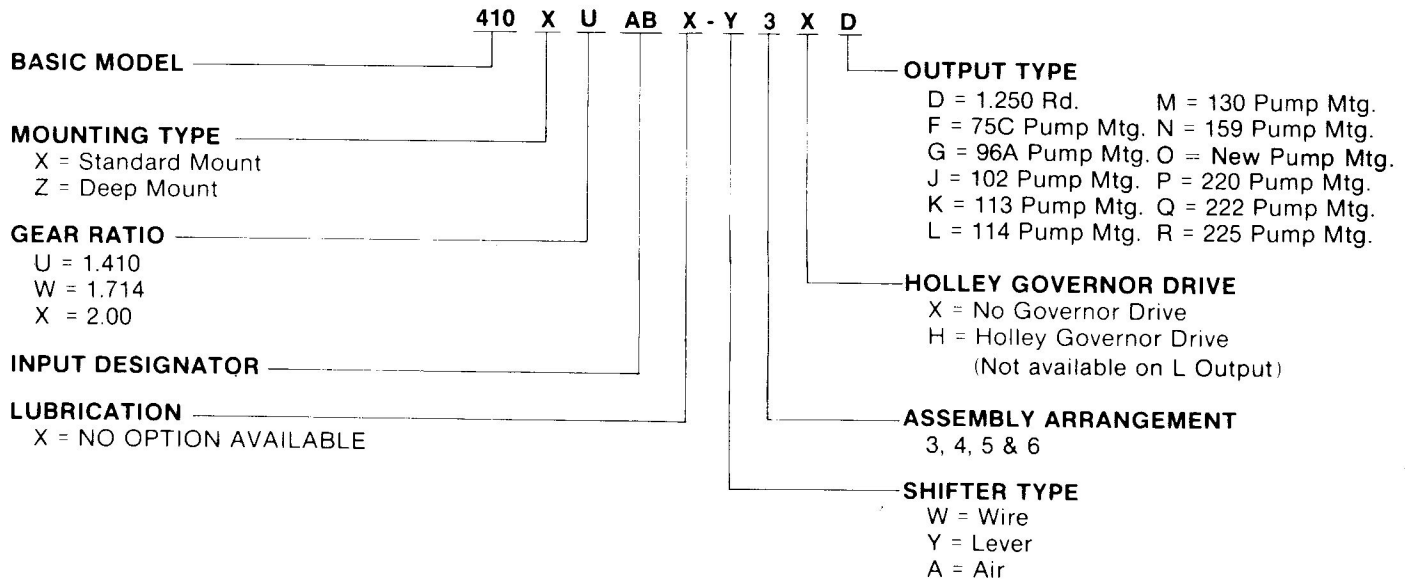
410 SERIES

**CHELSEA®**



P410-410

**CHELSEA MODEL NUMBER CONSTRUCTION**



**SPECIFICATIONS**

	410*U	410*W	410*X
Torque Rating	125 lbs. ft.*	110 lbs. ft.*	85 lbs. ft.*
Horsepower Rating			
500 RPM of Output Shaft	11.9*	10*	8*
1000 RPM of Output Shaft	23.5*	20*	16*
Approximate Weight	26 Lbs.		

\*-Based on Intermittent Service