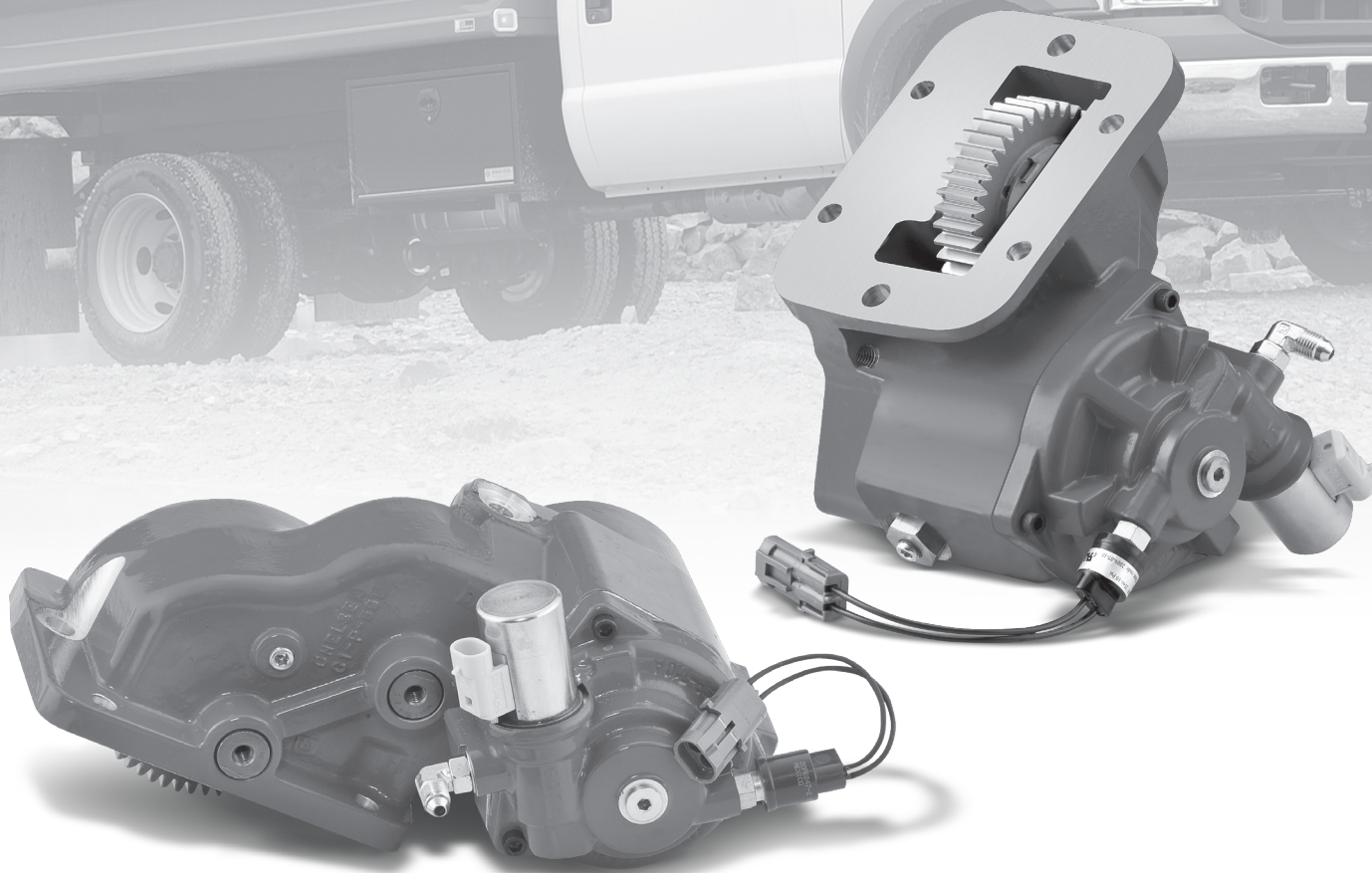


# FORD



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January 2012

## FORD TRANSMISSION INDEX

Transmission Make and Model	P.T.O. Appl. Number	Number Forward Speeds	Teeth in P.T.O. Driver
S5-47 (FORD SUPER DUTY)	ZF-4	5	L45-R45
S6-650 (Ford Truck Models Prior to January 2007)	ZF-45	6	L39
S6-650 (Ford Trucks Models After January 2007)	ZF-50	6	L39
TORQSHIFT (Ford Super Duty MY2010 and Prior - Gas Only for MY2011)	FRD-9	5	L121
TORQSHIFT 6 (Ford Super Duty MY2011 and Later - Diesel Only)	FRD-10	6	L52
TORQSHIFT 6 (Ford Medium Duty F-650 MY2013 and Later - Gas Engine)	FRD-11	6	L52

Ford



**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 2013

TORQSHIFT (Ford Super Duty MY2010 and Prior)

**LEFT SIDE ONLY**

**TRANSMISSION GEAR DATA:**  
 L.H. 06-Bolt Opening Gear REAR of Centerline  
 121 Teeth - SPUR  
**PITCH LINE TO APERTURE FACE:**  
 1.3390" (33.7800MM)

**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)**

247FMKSP-*2 (A) (1) 120	Opp	154	Furnished
247FMKSP-*4 (B) (1) 120	Opp	154	Furnished

**Chelsea CGP-P11 Series Pump Specifications for 4x4 or 4x2 Vehicles (3/4" - 11 Tooth Pump Spline)**

Order Code w/ PTO (3)	Chelsea Pump Model	Displacement in <sup>3</sup> /rev	GPM (1)	Pump (1)		Pressure PSI		Max Speed RPM		Max Pump Flow GPM
				HP	Lbs.-ft.	Intermittent	Continuous	Pump	Engine (2)	
16	CGP-P11A016-5FC	0.37	2.96	6.3	17.8	3990	3625	3500	2273	5.6
26	CGP-P11A026-5FC	0.61	4.89	10.3	29.4	3990	3625	3400	2208	9.0
32	CGP-P11A032-5FC	0.73	5.85	12.4	35.1	3990	3625	2500	1623	7.9
37	CGP-P11A037-5FC	0.85	6.81	14.4	40.9	3990	3625	2500	1623	9.2
42	CGP-P11A042-5FC	0.98	7.85	16.6	47.1	3990	3625	2350	1526	10.0
55	CGP-P11A055-5FC	1.28	10.25	20.4	57.9	3480	3410	1850	1201	10.3
61	CGP-P11A061-5FE	1.40	11.20	21.3	60.6	3410	3265	2750	1786	16.7
71	CGP-P11A071-5FE	1.65	13.21	21.2	60.3	2900	2755	2350	1526	16.8
82	CGP-P11A082-5FE	1.89	15.13	21.1	60.0	2465	2395	2100	1364	17.2
86	CGP-P11A087-5FE	2.01	16.10	21.1	60.0	2320	2250	2000	1299	17.4

**Chelsea FGP-P17 Series Pump Specifications for 4x2 Vehicles Only (7/8" - 13 Tooth Pump Spline)**

Order Code w/ PTO	Chelsea Pump Model	Displacement in <sup>3</sup> /rev	GPM (1)	Pump (1)		Pressure PSI		Max Speed RPM		Max Pump Flow GPM
				HP	Lbs.-ft.	Intermittent	Continuous	Pump	Engine (2)	
50	FGP-P17A050-2AN	1.15	9.21	19.5	55.3	3625	3625	3300	2143	16.4
66	FGP-P17A066-2AN	1.53	12.25	25.9	73.6	3625	3625	3100	2013	20.5
87	FGP-P17A087-2AN	2.01	16.10	34.0	96.7	3625	3625	3100	2013	27.0
10	FGP-P17A100-2AN	2.32	18.58	39.3	111.6	3625	3625	3000	1948	30.1
14	FGP-P17A137-2AN	3.14	25.15	42.5	120.8	2900	2900	2600	1688	35.3

**NOTE:** FGP-P17 Pumps have a special housing design for mounting to the Ford TorqShift transmission.

**Chelsea P16 Series Pump Specifications for 4x2 Vehicles Only (7/8" - 13 Tooth Pump Spline)**

Order Code w/ PTO	Chelsea Pump Model	Displacement in <sup>3</sup> /rev	GPM (1)	Pump (1)		Pressure PSI		Max Speed RPM		Max Pump Flow GPM
				HP	Lbs.-ft.	Intermittent	Continuous	Pump	Engine (2)	
18	P16-180A-2D1	3.51	28.12	36.1	102.5	2200	2200	2500	1623	38.0
20	P16-200A-2D1	3.90	31.25	36.5	103.5	2000	2000	2200	1429	37.2

- (1) GPM & Pump Input HP @ 1200 Engine RPM & 1850 P.T.O. Output Shaft RPM & Continuous Pressure Rating
- (2) Max Engine Speed = (Max Pump Speed) / (1.54) for P.T.O. Ratio Increase
- (3) For Pump Codes 61, 71, 82 & 86- 45 degree fittings are required to connect hydraulic hoses for clearance. Order Kit number 329667X

**WARNING:** To guarantee full torque capability at the automatic transmission P.T.O. gear, and the P.T.O., the TorqShift transmission torque converter must be locked (Engine RPM @ 1200 RPM), and hydraulic line pressure to the P.T.O. clutch must be elevated to a minimum of 110 psi. On Diesel engines the Stationary Elevated Idle Control (SEIC) strategy is 1200 RPM and on the Gas engines Stationary Elevated Idle Control (SEIC) strategy is 900 RPM. Therefore for stationary operations a discrete signal, which is supplied with Chelsea 247 wire harness 329598X, must be used to elevate engine idle to a minimum of 1200 RPM. Battery voltage must be applied to the P.T.O. circuit to begin SEIC strategy for both mobile and stationary applications. Failure to follow these procedures may lead to P.T.O. clutch wear and internal damage to the P.T.O./Transmission. See Chelsea Owner's/Installation Manual HY25-1715-M1/US or Contact Chelsea Technical Services (662-895-1052) for complete details.

**NOTE (A):** 247FMKSP-\*2 -- 4 x 2 applications, all output options and all pumps listed in the pump chart are available.

**NOTE (B):** 247FMKSP-\*4 -- 4 x 4 applications only and will come with a modified PGP-P11 (CGP-P11) pump with the P.T.O. from the factory when one of the following output option codes is ordered; 16,26,32,37,42,55,61,71, 82, 87 (See Pump Chart). Or one of the following output shafts "XD", "XE", "XP" or "AD".

**NOTE:** Standard Parker PGP-P17 pumps may interfere with the transmission shift lever, order Chelsea FGP-P17 Series pumps to assure shifter clearance.

**NOTE:** The P.T.O. mounting gasket (22-P-120) is supplied with the P.T.O. It is the correct thickness and material so that the customer does not have to set backlash. DO NOT use gasket supplied with the transmission under the 6-bolt cover plate.

**NOTE:** Ford provides an option for the use of one of the "Upfitter" Switches to be used as a P.T.O. switch. Chelsea does not recommend the use of the UNPROTECTED switch for P.T.O. function, but if required, contact Chelsea Technical Services for assistance.(662-895-1052)

(1) Input Gear Part No. 5-P-1387

TORQSHIFT 6 (Ford Super Duty MY2011 and Later)

**LEFT SIDE ONLY**

**TRANSMISSION GEAR DATA:**  
 L.H. 06-Bolt Opening Gear FORWARD of Centerline  
 52 Teeth - SPUR  
**PITCH LINE TO APERTURE FACE:**  
 3.4550" (87.7640MM)

**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)**

249FMLLX-*2 (A) (1) 200	Opp	124	Furnished
249FMLLX-*4 (B) (1) 200	Opp	124	Furnished

**Chelsea CGP-P11 Series Pump Specifications for 4x4 or 4x2 Vehicles (3/4" - 11 Tooth Pump Spline)**

Order Code w/ PTO (3)	Chelsea Pump Model	Displacement in <sup>3</sup> /rev	GPM (1)	Pump (1) HP	Torque (1) Lbs.-ft.	Pressure PSI		Max Speed RPM		Max Pump Flow GPM
						Intermittent	Continuous	Pump	Engine (2)	
16	CGP-P11A016-5GC	0.37	1.99	4.2	17.8	3990	3625	3500	2823	5.6
26	CGP-P11A026-5GC	0.61	3.27	6.9	29.3	3990	3625	3400	2742	9.0
32	CGP-P11A032-5GC	0.73	3.92	8.3	35.1	3990	3625	2500	2016	7.9
37	CGP-P11A037-5GC	0.85	4.56	9.6	40.9	3990	3625	2500	2016	9.2
42	CGP-P11A042-5GC	0.98	5.26	11.1	47.1	3990	3625	2100	1694	8.9
55	CGP-P11A055-5GC	1.28	6.87	13.7	57.9	3480	3410	1600	1290	8.9
61	CGP-P11A061-5GE	1.40	7.52	14.3	60.6	3410	3265	2750	2218	16.7
71	CGP-P11A071-5GE	1.65	8.86	14.2	60.3	2900	2755	2350	1895	16.8
82	CGP-P11A082-5GE	1.89	10.15	14.2	60.0	2465	2395	2100	1694	17.2
87	CGP-P11A087-5GE	2.01	10.79	14.2	60.0	2320	2250	2000	1613	17.4

**Chelsea PGP-315 Series Pump Specifications for 4x2 Vehicles Only (3/4" - 11 Tooth Pump Spline)**

Order Code w/ PTO	Chelsea Pump Model	Displacement in <sup>3</sup> /rev	GPM (1)	Pump (1) HP	Torque (1) Lbs.-ft.	Pressure PSI		Max Speed RPM		Max Pump Flow GPM
						Intermittent	Continuous	Pump	Engine (2)	
08	CGP-P31B081-5AG	1.86	9.98	19.2	81.4	3300	3300	3000	2419	24.2
09	CGP-P31B094-5AG	2.17	11.65	19.7	83.5	2900	2900	3000	2419	28.2
11	CGP-P31B107-5AG	2.48	13.31	19.4	82.2	2500	2500	3000	2419	32.2

**Chelsea P16 Series Pump Specifications for 4x2 Vehicles Only (7/8" - 13 Tooth Pump Spline)**

Order Code w/ PTO	Chelsea Pump Model	Displacement in <sup>3</sup> /rev	GPM (1)	Pump (1) HP	Torque (1) Lbs.-ft.	Pressure PSI		Max Speed RPM		Max Pump Flow GPM
						Intermittent	Continuous	Pump	Engine (2)	
15	P16-150A-2D1	2.93	15.73	27.5	116.6	3000	3000	2800	2258	35.5
18	P16-180A-2D1	3.51	18.85	24.2	102.5	2200	2200	2500	2016	38.0
20	P16-200A-2D1	3.90	20.95	24.4	103.5	2000	2000	2200	1774	37.2

- (1) GPM & Pump Input HP @ 1000 Engine RPM & 1240 P.T.O. Output Shaft RPM & Continuous Pressure Rating
- (2) Max Engine Speed = (Max Pump Speed) / (1.24) for P.T.O. Ratio Increase
- (3) For Pump Codes 61, 71, 82 & 87- 45 degree fittings are required to connect hydraulic hoses for clearance. Order Kit number 329667X

**CAUTION:** Mobile and Stationary Mode Operations are Supported. The Maximum Load (Torque) Allowable for Mobile Mode is 150 Ft.lbs at the Transmission P.T.O. Gear and 120 Ft.lbs at the P.T.O. Output. If the P.T.O. Feature is Used for Extended Periods of Time Without Vehicle Movement it is Recommended to Switch to Stationary Mode. In Stationary Mode Maximum Load (Torque) is 250 Ft.lbs at the Transmission P.T.O. Gear and 200 Ft.lbs at the P.T.O. Output.

**NOTE (A):** 249FMLLX-\*2 -- 4 x 2 applications, all output options and all pumps listed in the pump chart are available.

**NOTE (B):** 249FMLLX-\*4 -- 4 x 4 applications only and will come with a modified PGP-P11 (CGP-P11) pump with the P.T.O. from the factory when one of the following output option codes is ordered; 16,26,32,37,42,55,61,71,82,87 (See Pump Chart). Or one of the following output shafts "XD", "XP" or "AD".

**NOTE:** Ford provides an option for the use of one of the "Upfitter" Switches to be used as a P.T.O. switch. Chelsea does not recommend the use of the UNPROTECTED switch for P.T.O. function, but if required, contact Chelsea Technical Services for assistance.(662-895-1052)

(1) Input Gear Part No. 5-P-1436

TORQSHIFT 6 (Ford Medium Duty F-650 MY2013 and Later - Gas Engine)

**LEFT SIDE ONLY**

**TRANSMISSION GEAR DATA:**  
 L.H. 06-Bolt Opening Gear FORWARD of Centerline  
 52 Teeth - SPUR  
**PITCH LINE TO APERTURE FACE:**  
 3.4550" (87.7640MM)

**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)**

249GMLLX-\*2 (A) (1) 200 Opp 124 Furnished

**Chelsea CGP-P11 Series Pump Specifications for 4x2 Vehicles (3/4" - 11 Tooth Pump Spline)**

Order Code w/ PTO (3)	Chelsea Pump Model	Displacement in <sup>3</sup> /rev	GPM (1)	Pump (1)		Torque (1)		Pressure PSI		Max Speed RPM		Max Pump Flow GPM
				HP	Lbs.-ft.	Intermittent	Continuous	Pump	Engine (2)			
16	CGP-P11A016-5GC	0.37	1.99	4.2	17.8	3990	3625	3500	2823	5.6		
26	CGP-P11A026-5GC	0.61	3.27	6.9	29.3	3990	3625	3400	2742	9.0		
32	CGP-P11A032-5GC	0.73	3.92	8.3	35.1	3990	3625	2500	2016	7.9		
37	CGP-P11A037-5GC	0.85	4.56	9.6	40.9	3990	3625	2500	2016	9.2		
42	CGP-P11A042-5GC	0.98	5.26	11.1	47.1	3990	3625	2100	1694	8.9		
55	CGP-P11A055-5GC	1.28	6.87	13.7	57.9	3480	3410	1600	1290	8.9		
61	CGP-P11A061-5GE	1.40	7.52	14.3	60.6	3410	3265	2750	2218	16.7		
71	CGP-P11A071-5GE	1.65	8.86	14.2	60.3	2900	2755	2350	1895	16.8		
82	CGP-P11A082-5GE	1.89	10.15	14.2	60.0	2465	2395	2100	1694	17.2		
87	CGP-P11A087-5GE	2.01	10.79	14.2	60.0	2320	2250	2000	1613	17.4		

**Chelsea PGP-315 Series Pump Specifications for 4x2 Vehicles (3/4" - 11 Tooth Pump Spline)**

Order Code w/ PTO	Chelsea Pump Model	Displacement in <sup>3</sup> /rev	GPM (1)	Pump (1)		Torque (1)		Pressure PSI		Max Speed RPM		Max Pump Flow GPM
				HP	Lbs.-ft.	Intermittent	Continuous	Pump	Engine (2)			
08	CGP-P31B081-5AG	1.86	9.98	19.2	81.4	3300	3300	3000	2419	24.2		
09	CGP-P31B094-5AG	2.17	11.65	19.7	83.5	2900	2900	3000	2419	28.2		
11	CGP-P31B107-5AG	2.48	13.31	19.4	82.2	2500	2500	3000	2419	32.2		

**Chelsea P16 Series Pump Specifications for 4x2 Vehicles (7/8" - 13 Tooth Pump Spline)**

Order Code w/ PTO	Chelsea Pump Model	Displacement in <sup>3</sup> /rev	GPM (1)	Pump (1)		Torque (1)		Pressure PSI		Max Speed RPM		Max Pump Flow GPM
				HP	Lbs.-ft.	Intermittent	Continuous	Pump	Engine (2)			
15	P16-150A-2D1	2.93	15.73	27.5	116.6	3000	3000	2800	2258	35.5		
18	P16-180A-2D1	3.51	18.85	24.2	102.5	2200	2200	2500	2016	38.0		
20	P16-200A-2D1	3.90	20.95	24.4	103.5	2000	2000	2200	1774	37.2		

- (1) GPM & Pump Input HP @ 1000 Engine RPM & 1240 P.T.O. Output Shaft RPM & Continuous Pressure Rating
- (2) Max Engine Speed = (Max Pump Speed) / (1.24) for P.T.O. Ratio Increase
- (3) For Pump Codes 61, 71, 82 & 87- 45 degree fittings are required to connect hydraulic hoses for clearance. Order Kit number 329667X

**CAUTION:** Only Stationary Mode Operations are Supported. The Maximum Load (Torque) In Stationary Mode is 250 Ft.lbs at the Transmission P.T.O. Gear and 200 Ft.lbs at the P.T.O. Output.

**NOTE:** Ford Does Not Recommend P.T.O. Operation At or Below 900 rpm for the 6.8L Gas Engine. Minimum Engine Speed 910 rpm and Maximum 2400 rpm. Reference Ford Bulletin Q-215 for Latest Information.

**NOTE:** For MY2013 Ford F650 4 x 2 w/Gas engine will come with a 6R140 transmission. This will require a heat shield (329790X) to protect the P.T.O. from the exhaust. Also a new Chelsea wiring harness (329789X) will be required. These are included with the P.T.O. when ordering the 249"G" mounting option.

**NOTE:** (A): 249GMLLX-\*2 -- 4 x 2 applications, all output options and all pumps listed in the pump chart are available.

**NOTE:** Ford provides an option for the use of one of the "Upfitter" Switches to be used as a P.T.O. switch. Chelsea does not recommend the use of the UNPROTECTED switch for P.T.O. function, but if required, contact Chelsea Technical Services for assistance (662-895-1052).

S6-650 6S-650 6S-750
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**LEFT SIDE ONLY**

<b>TRANSMISSION GEAR DATA:</b> L.H. 06-Bolt Opening Gear FORWARD of Centerline 39 Teeth - R.H. HELIX <b>PITCH LINE TO APERTURE FACE:</b> 0.9330" (23.6982MM)
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**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**

442XLHYX-*5 (1)	250	Opp	65				Furnished								
442XQHXYX-*5 (1)	225	Opp	70				Furnished								
442XRHYX-*5 (1)	225	Opp	81				Furnished								
442XSHYX-*5 (1)	200	Opp	96				Furnished								
442XUHYX-*5 (1)	195	Opp	115				Furnished								
442XWHYX-*5 (1)	175	Opp	135				Furnished								
442XXHYX-*5 (1)	140	Opp	160				Furnished								

**ONE SPEED - TWO GEAR - POWERSHIFT (AIR)**

236XDHYX-*5 (1)	250	Opp	53				Furnished								
236XKHXYX-*5 (1)	250	Opp	67				Furnished								
236XQHXYX-*5 (1)	250	Opp	91				Furnished								
236XUHYX-*5 (1)	225	Opp	104				Furnished								

**ONE SPEED - FORWARD & REVERSE**

340XFHYX-*5 (2)	200	Opp	46	48			Furnished								
352XSHYX-*5 (1)	140	Opp	98	126			Furnished								

**ONE SPEED - DUAL SHAFT**

452XSHYX-*5 (1)	140	Opp	98				Furnished								
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**GEARED ADAPTERS**

626XHYX-*4JB	250						Furnished								
630XHYX-*4JB	250	Eng					Furnished								
645XHYX-*4JB	250						Furnished								

**NOTE:** A "5" assembly is shown here, but other assembly arrangements may work better depending on the chassis setup, whether or not a direct mount pump is to be used, and whether or not a geared adapter is to be used. Chelsea P16-45 and -65 pumps can be direct mounted rearward if the P.T.O. is a "3" assembly (bulge up), uses the XK pump flange, and is the L,R,S or U ratio. All other combinations will have interference problems. Chelsea P16-45 and -65 pumps can be direct mounted forward if a "4" assembly is used (bulge down), an XK pump flange is used, and is the L,R,S, or U ratio. All other combinations will have interference problems. Other ratios, assemblies, pump flanges and pumps may work if a geared adapter is used, but the P.T.O. may be the lowest component on the truck. It would be vulnerable to damage.

**NOTE:** The 236 series cannot be used on this transmission unless the truck is equipped with an auxiliary air supply.

**NOTE:** If a 626, 630 or 645 series geared adapter is used, the P.T.O. input gear is the 5-P-1244 JB gear, and the HY gear is used in the adapter. If a 626XHY, 630XHY or 645XHY Series geared adapter is going to be used, the P.T.O. must be a deep mount (ex: 442Z\*JB). Use a 7-A-125 filler block, gaskets to establish .006" -.012" backlash, and a 328170-76X stud kit to mount the P.T.O. to the adapter. Be aware that using a geared adapter will change the direction of P.T.O. rotation, but will not affect the speeds shown above.

**NOTE:** Ford Super Duty MY 2005 applications with the 6.8L gas engine may have P.T.O. to engine exhaust pipe interference problems. It is recommended that you use an assembly arrangement "3". This still leaves the P.T.O. close to the engine exhaust pipe. Route cable and wiring away from the exhaust pipe. Heat may be an issue for P.T.O. operation due to the proximity of the engine exhaust pipe.

**NOTE:** Refer to Ford Body Builders Book (Power Take-Off Applications SEIC/PTO) for information on removal of a tab on the M60D transmission case. This will help in direct mount pump installations.

(1) Input Gear Part No. 5-P-1237  
(2) Input Gear Part No. 5-P-1245

S6-650  
6S-650  
6S-750

## LEFT SIDE ONLY

## TRANSMISSION GEAR DATA:

L.H. 06-Bolt Opening Gear FORWARD of Centerline

39 Teeth - R.H. HELIX

## PITCH LINE TO APERTURE FACE:

0.9330" (23.6982MM)

**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

442XLKXX-*5 (1)	250	Opp	65				Furnished
442XQKXX-*5 (1)	225	Opp	70				Furnished
442XRKXX-*5 (1)	225	Opp	81				Furnished
442XSXXX-*5 (1)	200	Opp	96				Furnished
442XUKXX-*5 (1)	195	Opp	115				Furnished
442XWKXX-*5 (1)	175	Opp	135				Furnished
442XXKXX-*5 (1)	140	Opp	160				Furnished

## ONE SPEED - TWO GEAR - POWERSHIFT (AIR)

236XDKXX-*5 (1)	250	Opp	53				Furnished
236XKXX-*5 (1)	250	Opp	67				Furnished
236XQKXX-*5 (1)	250	Opp	91				Furnished
236XUKXX-*5 (1)	225	Opp	104				Furnished

## ONE SPEED - FORWARD &amp; REVERSE

352XSXXX-*5 (1)	140	Opp	98	126			Furnished
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## ONE SPEED - DUAL SHAFT

452XSXXX-*5 (1)	140	Opp	98				Furnished
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## GEARED ADAPTERS

626XKXX-*4KY (1)	250	Eng					Furnished
630XKXX-*4KY (1)	250	Eng					Furnished
645XKXX-*4KY (1)	250	Eng					Furnished

**CAUTION:** This ZF transmission model is the same as the model in Ford MY05 & MY06 trucks except for the change in the Pressure Angle (PA) of the 39 tooth P.T.O. transmission drive gear. The PA was changed from 20 degrees to 22 degrees. P.T.O. models from ZF-45 ("HY" Input Gear) application page "CAN NOT" be used on this transmission.

**NOTE:** Refer to Ford Body Builders Book (Power Take-Off Installations) for information on removal of a tab on the M60D transmission case. This will help in direct mount pump installations.

**NOTE:** A "5" assembly is shown here, but other assembly arrangements may work better depending on the chassis setup, whether or not a direct mount pump is to be used, and whether or not a geared adapter is to be used. Chelsea P16-45 and -65 pumps can be direct mounted rearward if the P.T.O. is a "3" assembly (bulge up), uses the XK pump flange, and is the L,R,S or U ratio. All other combinations will have interference problems. Chelsea P16-45 and -65 pumps can be direct mounted forward if a "4" assembly is used (bulge down), an XK pump flange is used, and is the L,R,S, or U ratio. All other combinations will have interference problems. Other ratios, assemblies, pump flanges and pumps may work if a geared adapter is used, but the P.T.O. may be the lowest component on the truck. It would be vulnerable to damage.

**NOTE:** The 236 Series cannot be used on this transmission unless the truck is equipped with an auxiliary air supply.

**NOTE:** If a 626, 630 or 645 Series geared adapter is used, the P.T.O. input gear is the 5-P-1412, KY gear, and the 5-P-1411, KX gear is used in the adapter. If a 626XKX, 630XKX or 645XKX Series geared adapter is going to be used, the P.T.O. must be a deep mount (ex: 442Z\*KY). Use a 7-A-125 filler block with gaskets to establish .006"-.012" backlash, and a 328170-76X stud kit to mount the P.T.O. to the adapter. Be aware that using a geared adapter will change the direction of P.T.O. rotation, but will not affect the speeds shown above.

**NOTE:** Refer to Ford Body Builders Book (Power Take-Off Applications SEIC/PTO) for information on removal of a tab on the M60D transmission case. This will help in direct mount pump installations.

(1) Input Gear Part No. 5-P-1411

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