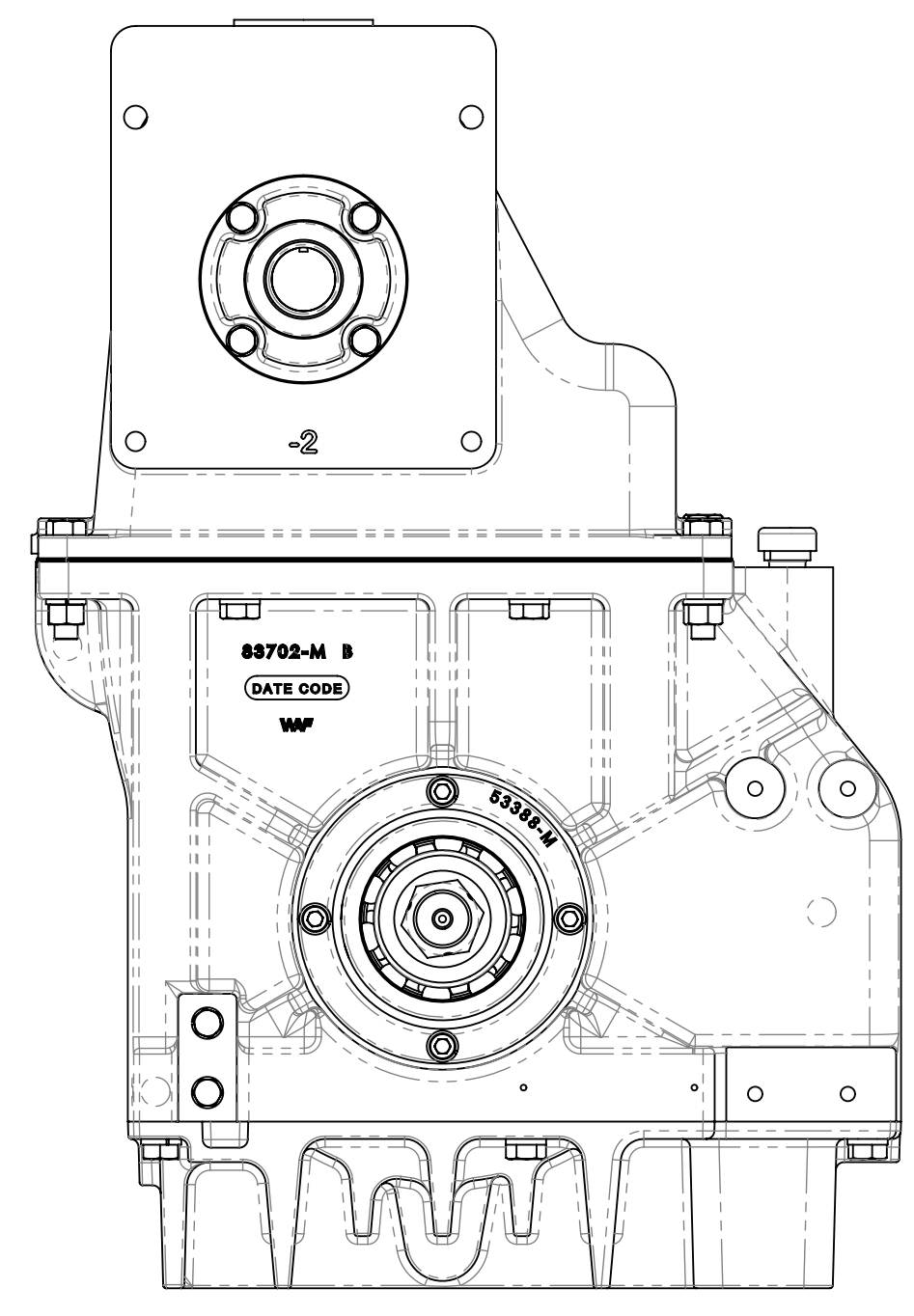
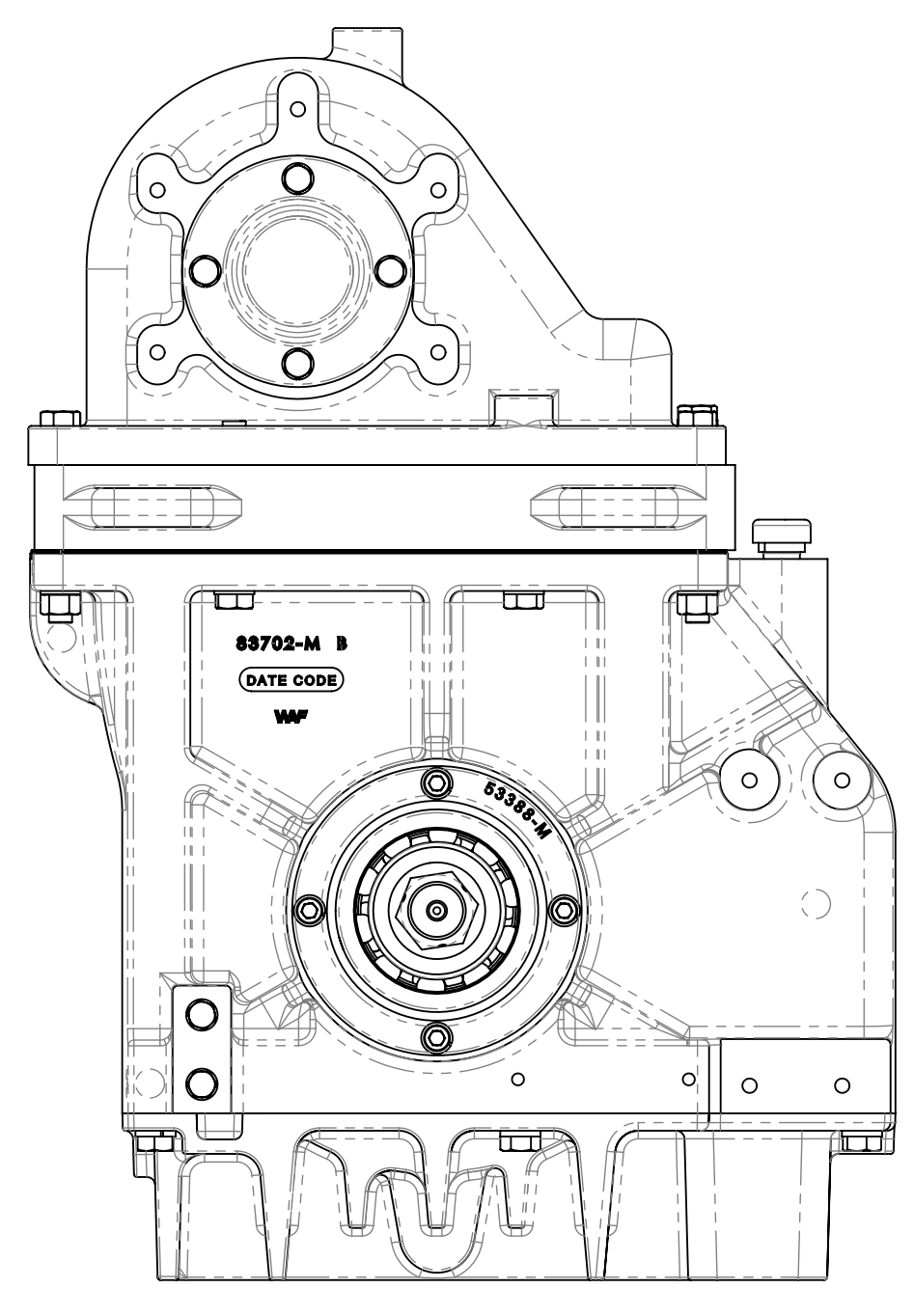


**C22 Series Fire Pump Transmissions
TC22 Series Power Take-Off's
Service Parts List**

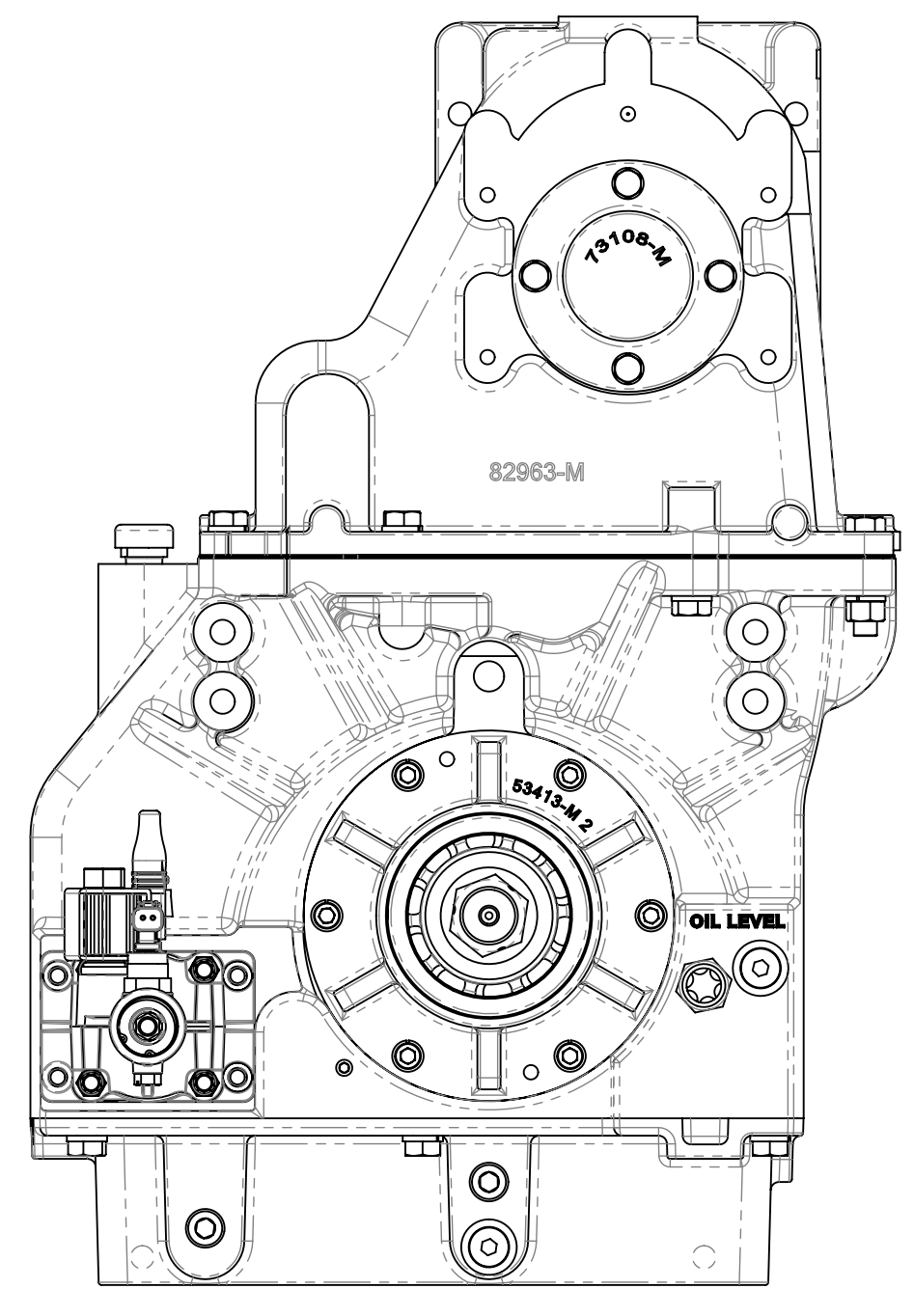
Document Number SPL83747	Issue Date 01/17/23	Rev. Date 01/24/25
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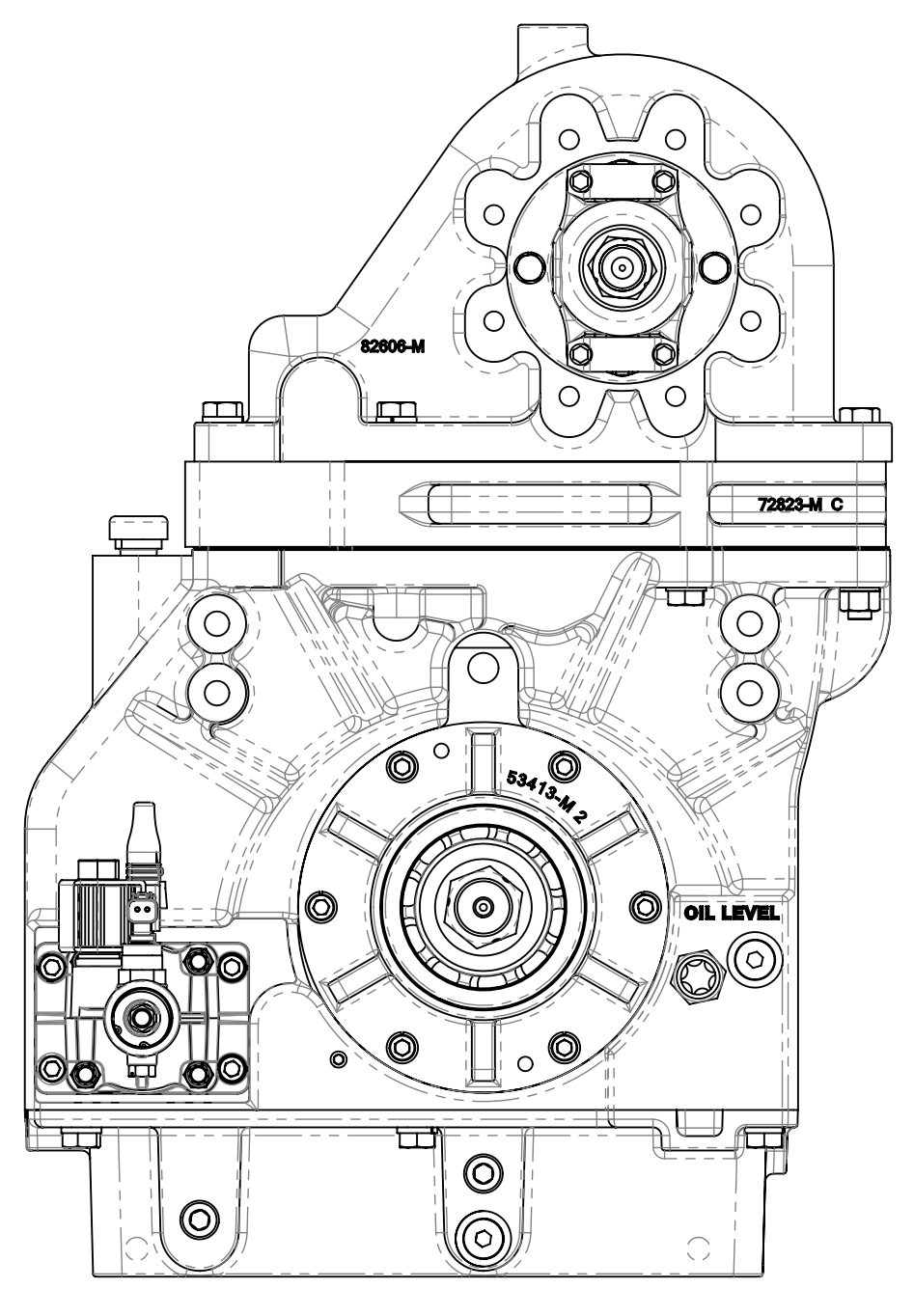
Input Shaft Side of Case



Input Shaft Side of Case



Output Shaft Side of Case



Output Shaft Side of Case

C22 Series Fire Pump Transmissions

TC22 Series Power Take-Offs

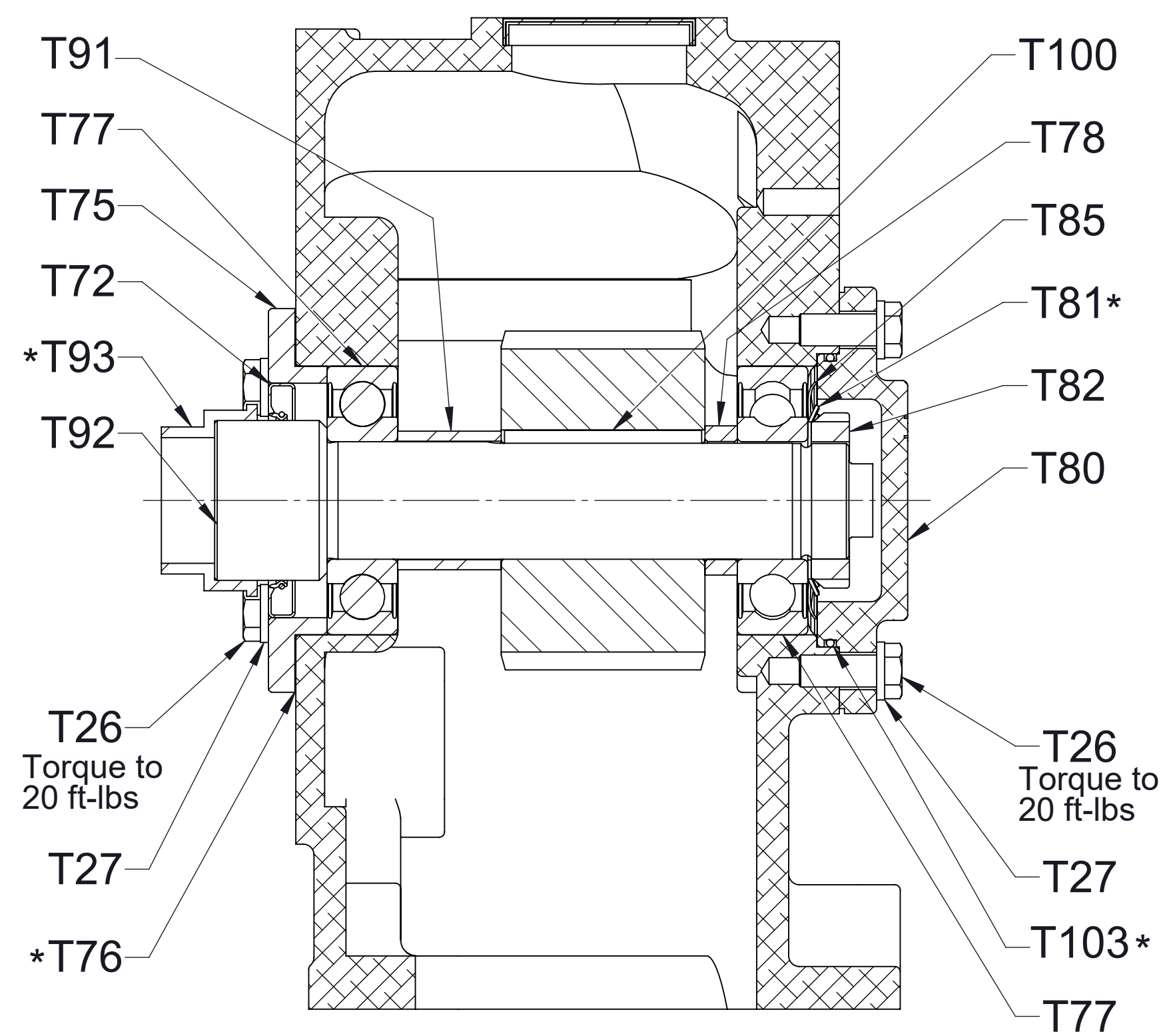
Component	Pump Model	Transmission Mounting on Pump	Driven Shaft		See Page							
			Location on Transmission	Configuration	Shaft	Cap					Shims	
						Cap and Spacer	Hardware by Transmission Model					
C22B	C22C	C22D	C22E	C22F								
Driven Shaft and Cap	CM, CMU CMCGV CMUCGV CS, CSU	Rear of Pump (Input Shaft Side of Transmission)	Rear (Output Shaft Side)	None (Blank)	3	29	37	38	39	39	39	41
				CAFS Model Eclipse, 150-D, 150-ECL	4							
				Hydraulic Adapter (SAE Class B 2-Bolt)	5							
				External Oil Cooler	6							
				Combination Pump	7							
		Front of Pump (Output Shaft Side of Transmission)	Front (Input Shaft Side)	None (Blank)	8							
	Pump Model	Pump Mounting on Transmission	Driven Shaft		See Page							
			Location on Transmission	Configuration	Shaft	Cap and Spacer	Cap					Shims
	C22B	C22C	C22D	C22E	C22F							
	CGV CGVG CGVN CGVR CXN CXS CXV	Front (Input Shaft Side)	Rear (Output Shaft Side)	None (Blank)	9	29	37	38	39	39	41	
				CAFS Model Eclipse ES, 150-ESD, 150-ESECL	10							
				Hydraulic Adapter (SAE Class B 2-Bolt)	11							
		Rear (Output Shaft Side)	Front (Input Shaft Side)	None (Blank)	12							
	S100 S101	Front (Input Shaft Side)	Rear (Output Shaft Side)	None (Blank)	13	31	37	38	39	39	41	
				CAFS Model Eclipse ES	14							
				Hydraulic Adapter (SAE Class B 2-Bolt)	15							
		Rear (Output Shaft Side)	Front (Input Shaft Side)	None (Blank)	16							32
	Hydraulic Adapter (SAE Class B 2-Bolt)	17										
	ESU1	Front (Input Shaft Side)	Rear (Output Shaft Side)	None (Blank)	18	33	N/A	38	39	40	41	
				Hydraulic Adapter (SAE Class B 2-Bolt)	19							
		Rear (Output Shaft Side)	Front (Input Shaft Side)	None (Blank)	20	34						
Hydraulic Adapter (SAE Class B 2-Bolt)				21								
PTO Model	Driven (Output) Shaft		See Page									
	Type	Front Output (Input Shaft Side of PTO)	Rear Output (Output Shaft Side of PTO)	Shaft	Cap and Spacer	Cap					Shims	
TC22B	TC22C	TC22D	TC22E	TC22F								
TC22B TC22C TC22D TC22E TC22F	Single Output	1410 Series End Yoke	None (Blank)	22	35	37	38	39	39	39	41	
		Hydraulic Adapter (SAE Class B 2-Bolt)	None (Blank)	23								
		None (Blank)	1410 Series End Yoke	24								
			Hydraulic Adapter (SAE Class B 2-Bolt)	25								
	Dual Output	1410 Series End Yoke	CAFS Model Eclipse ES, 150-ESD, 150-ESECL (1410 End Yoke Output)	26	36							
			Hydraulic Adapter (SAE Class B 2-Bolt)	27	35							
		Hydraulic Adapter (SAE Class B 2-Bolt)	1410 Series End Yoke	28								

Component	Configuration	See Page
Case	All	42
Driveline	Input and Output Shaft (With Shift)	43
	Input Shaft Only (Without Shift)	44
Sprockets and Chain	All	45
Optional Internal Oil Cooler	Transmission Fittings	46
	CM/CS Pump Fittings	47
	CX Pump Fittings	48
Optional Driveline End Yokes and Companion Flanges	All	49
Transmission Mounted Shift Unit	See Pneumatic Shift Unit Service Parts List (Not Used with Input Shaft Only Driveline)	
Optional Transmission Mounted Drain Valve	See Drain Valve Service Parts List	
Optional Transmission Mounted Priming Pump	See Priming Pump Service Parts List	
Optional CAFS Components	See CAFS Service Parts List for CAFS Model used with Transmission or PTO	
Gasket and O-Ring Kit Reference Number T30	Contains all gaskets, o-rings and other items needed for an overhaul. Components included in the kit are identified by an asterisk on each page.	

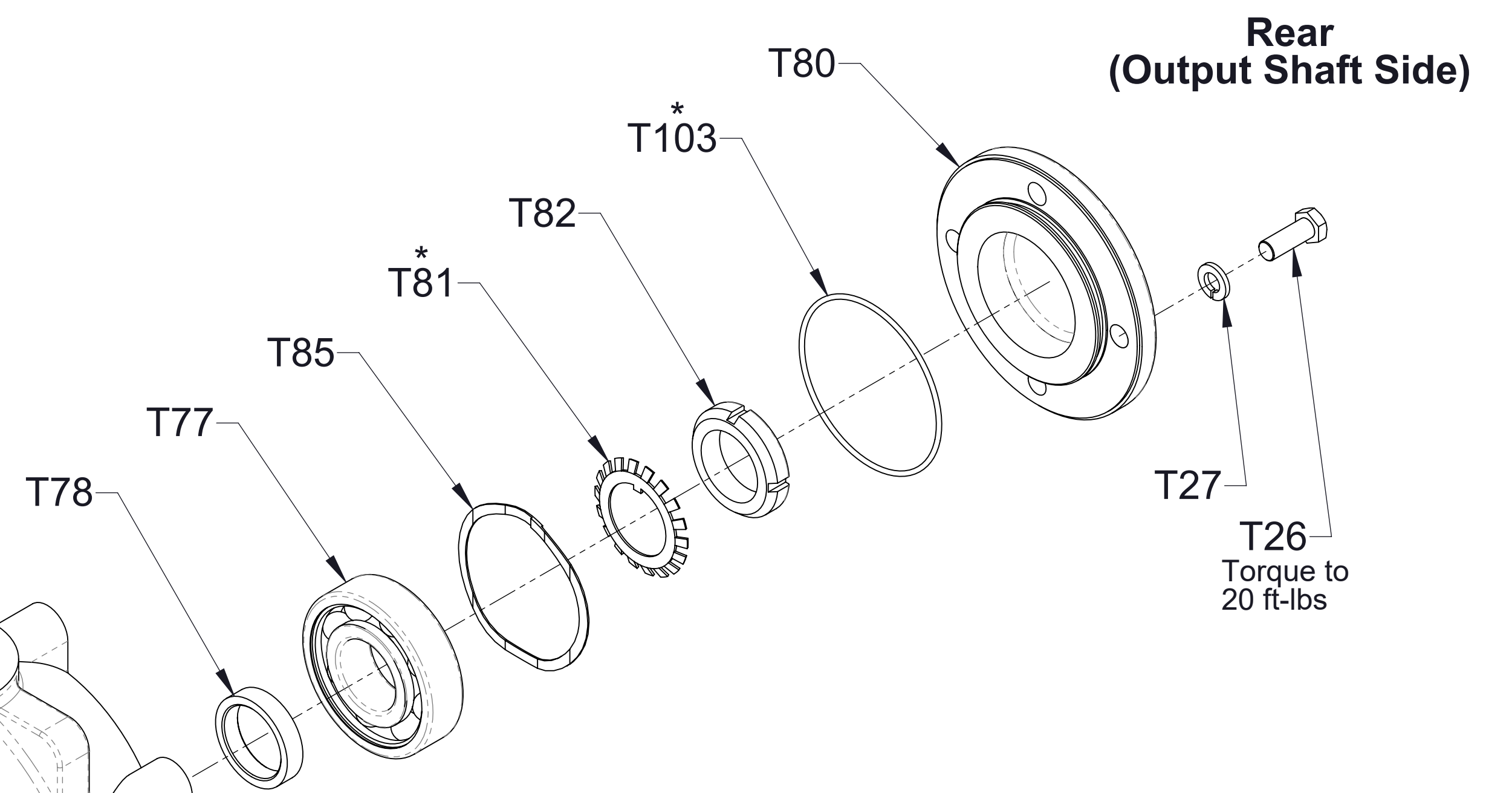
Note: When ordering parts, provide pump, transmission or PTO serial number.

Ref No.	Description
T26	Screw-Hex Hd, 3/8-16 x 1 in
T27	Washer-Lock, 3/8 in
T72	Seal-Oil, 1-7/8 X 2-3/4
T75	Housing-Oil Seal
* T76	Gasket-Oil Seal Housing
T77	Bearing, Ball, Single Row, 35 x 80 x 21 mm
T78	Spacer, .38in
T80	Cover-Bearing
* T81	Washer-Lock, Bearing, W07
T82	Nut-Lock, Bearing, N07
T85	Spring-Wave
T91	Spacer-Impeller Shaft
T92	Shaft-Driven
* T93	Boot-Sealing
T100	Key-Square, 5/16 x 2-5/16 in
* T103	O-Ring, 3-1/4 x 3-7/16 in

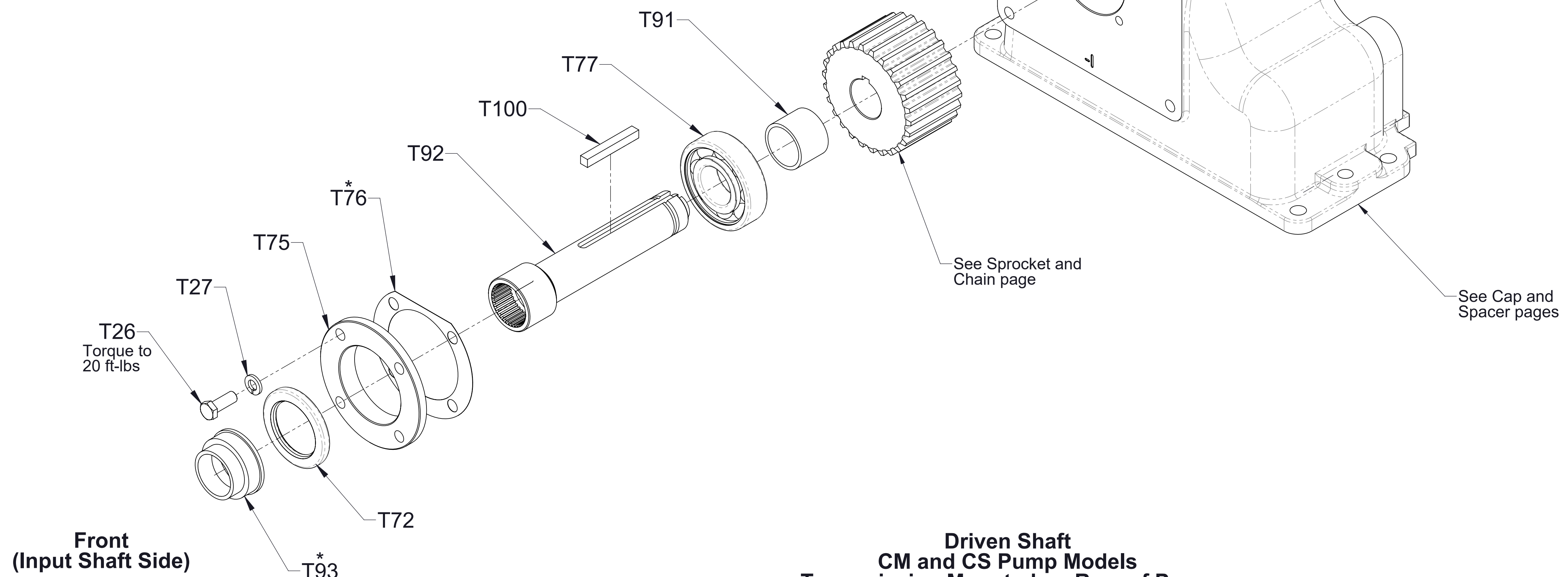
*Included in Ref No. T30 Gasket and O-ring Repair Kit



Cross-Section View



Rear (Output Shaft Side)

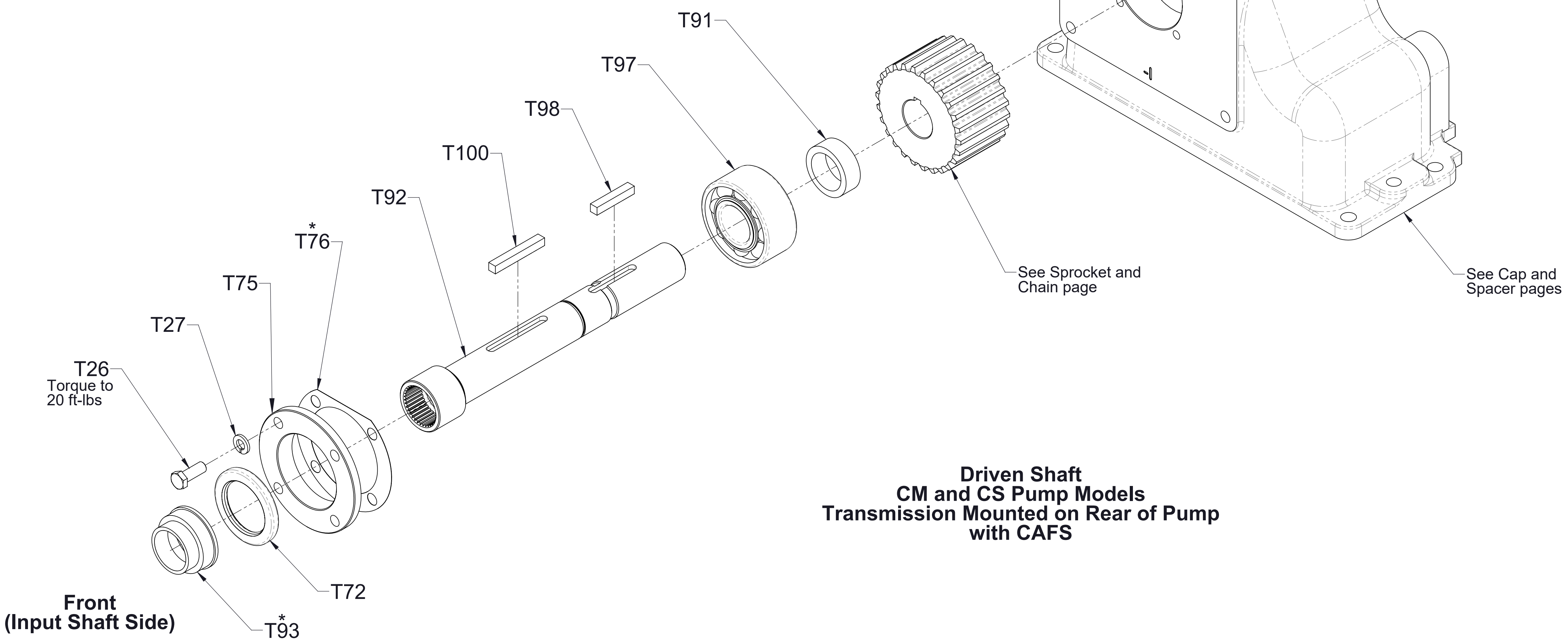
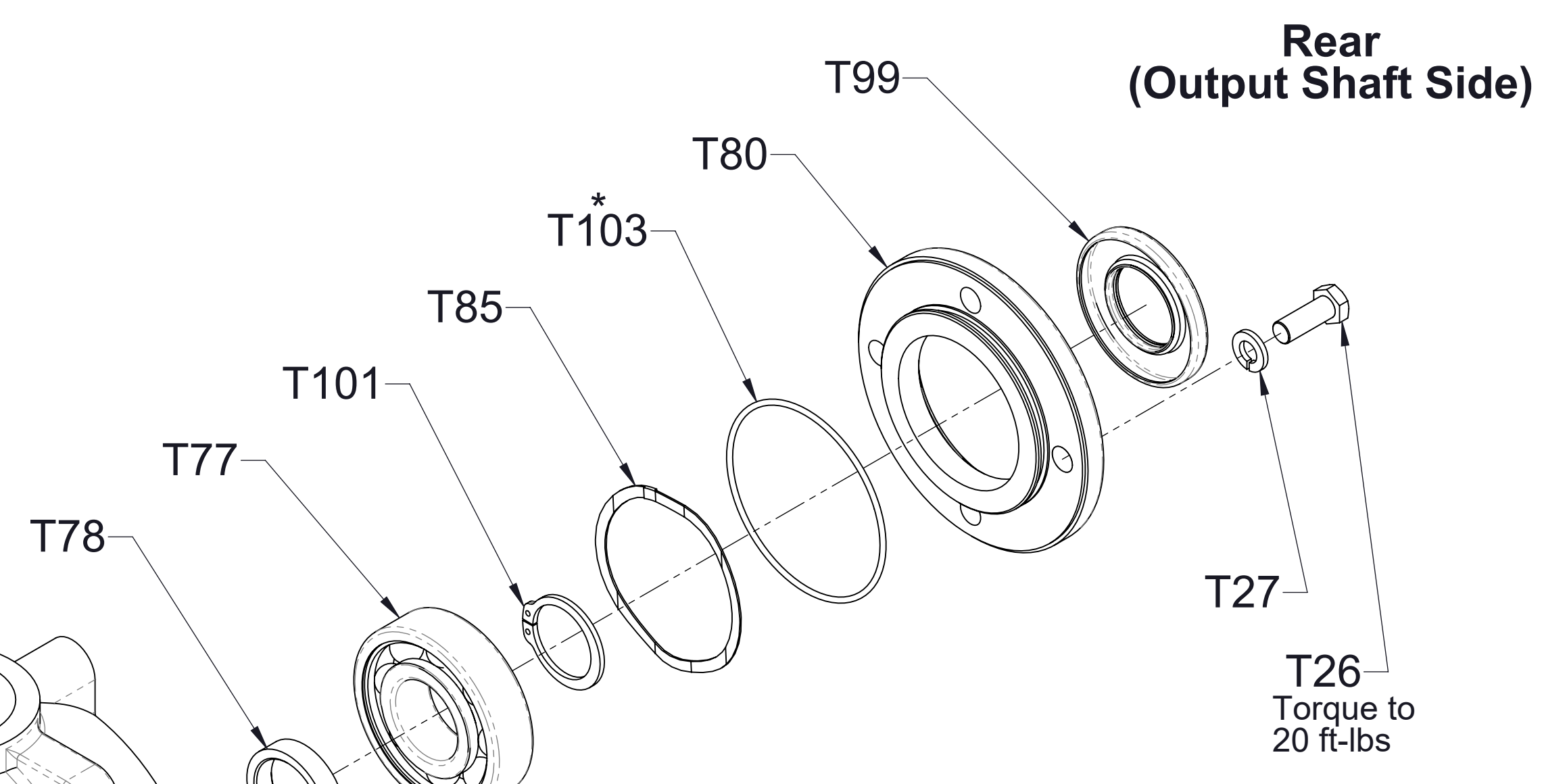
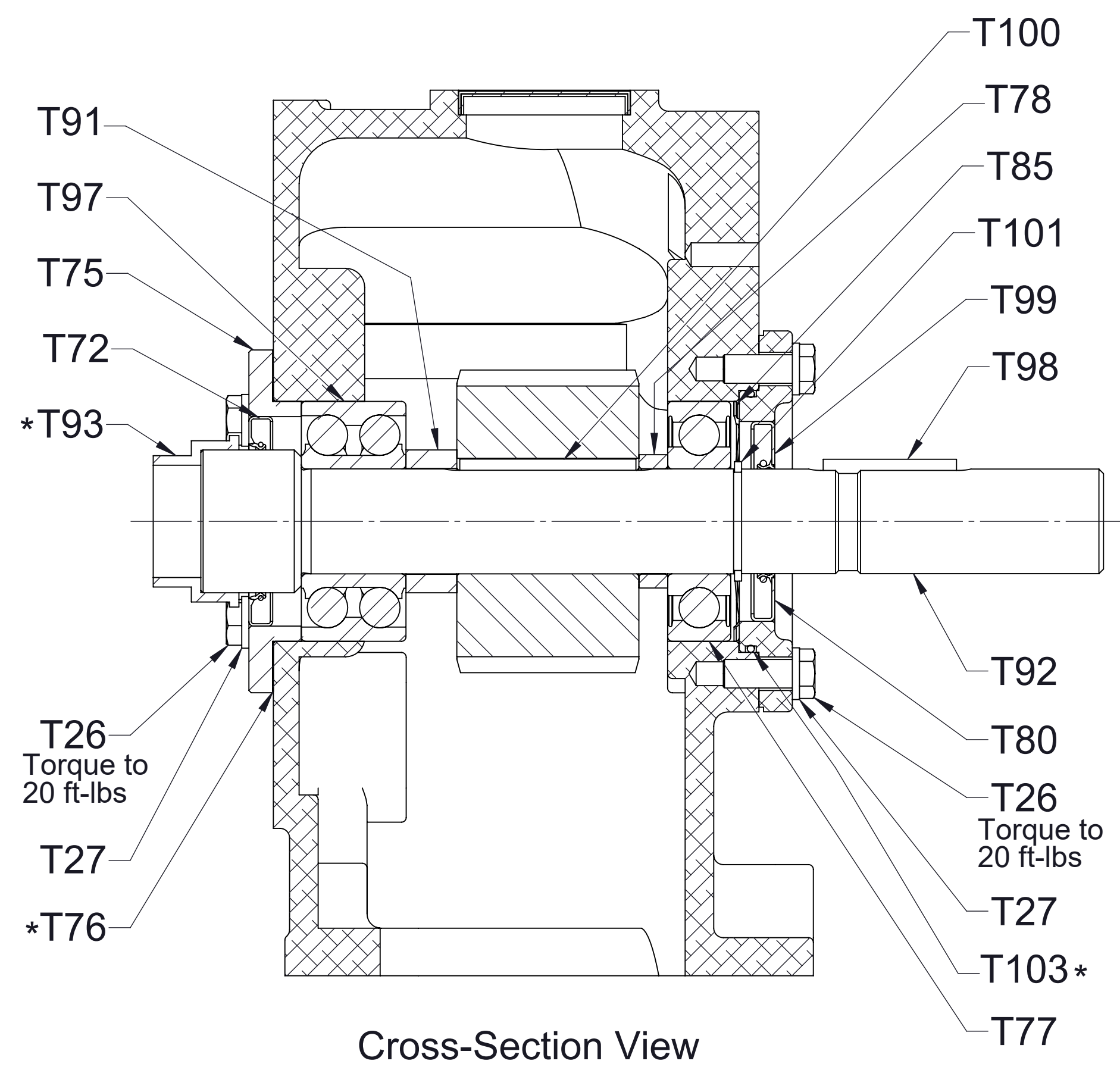


Front (Input Shaft Side)

Driven Shaft
CM and CS Pump Models
Transmission Mounted on Rear of Pump
No Rear Facing Components

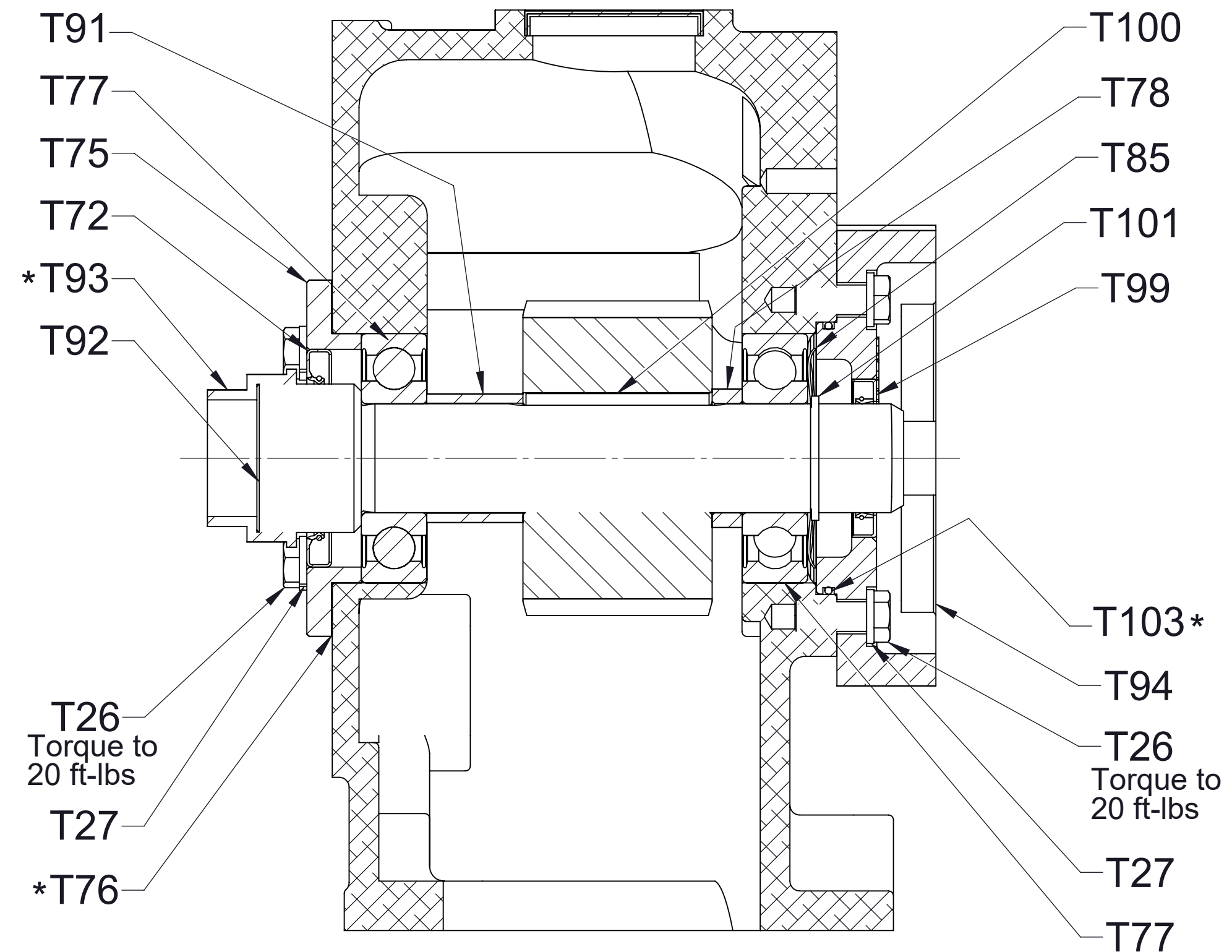
Ref No.	Description
T26	Screw-Hex Hd, 3/8-16 x 1 in
T27	Washer-Lock, 3/8 in
T72	Seal-Oil, 1-7/8 X 2-3/4
T75	Housing-Oil Seal
* T76	Gasket-Oil Seal Housing
T77	Bearing, Ball, Single Row, 35 x 80 x 21 mm
T78	Spacer, .38in
T80	Housing-Seal, Oil
T85	Spring-Wave
T91	Spacer-Bearing
T92	Shaft-Driven
* T93	Boot-Sealing
T97	Bearing, Ball, Double Row, 35 x 80 x 34.9 mm
T98	Key-Square, 5/16 x 1-3/4 in
T99	Seal-Oil, Dual Lip, 1-3/8 x 2-5/8
T100	Key-Square, 5/16 x 2-5/16 in
T101	Ring-Retaining, External, 1-3/8 in Shaft Dia
* T103	O-Ring, 3-1/4 x 3-7/16 in

*Included in Ref No. T30 Gasket and O-ring Repair Kit

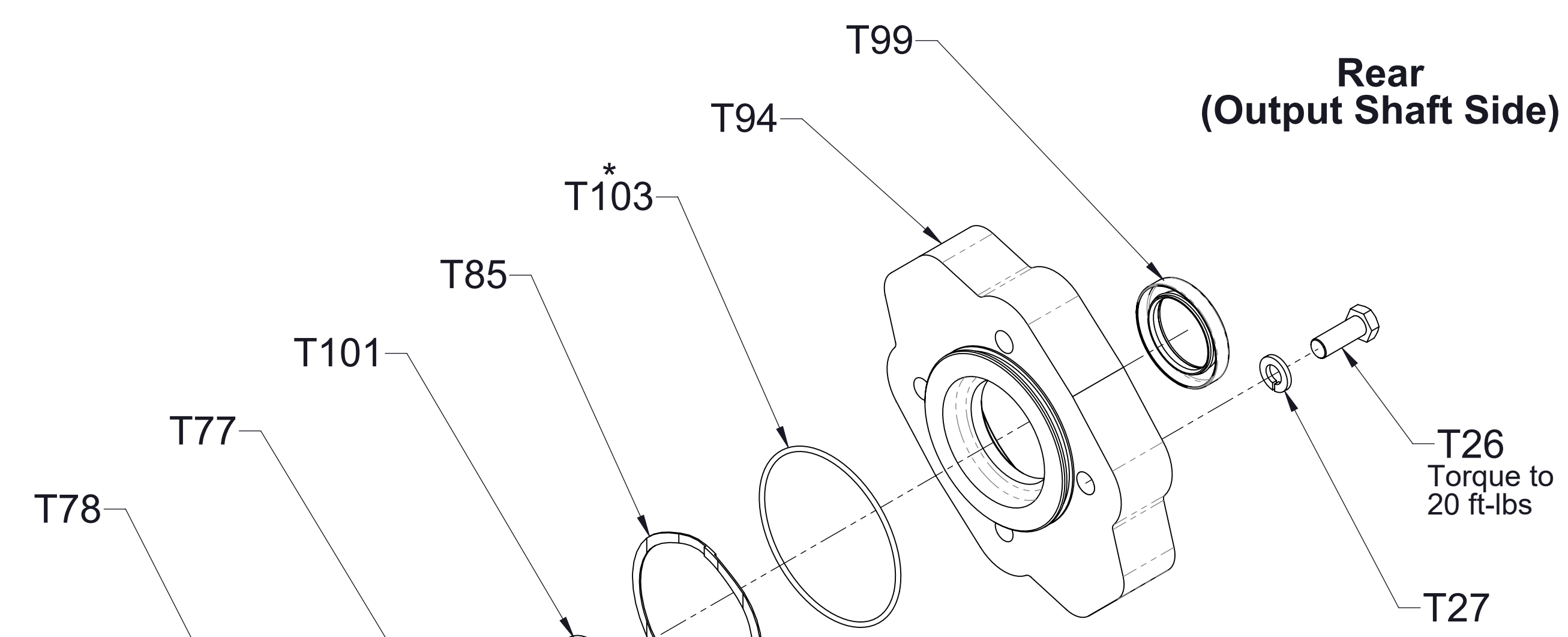


Ref No.	Description
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T27	Washer-Lock, 3/8 in
T72	Seal-Oil, 1-7/8 X 2-3/4
T75	Housing-Oil Seal
* T76	Gasket-Oil Seal Housing
T77	Bearing, Ball, Single Row, 35 x 80 x 21 mm
T78	Spacer, .38in
T85	Spring-Wave
T91	Spacer-Impeller Shaft
T92	Shaft-Driven, Hydraulic Adapter
* T93	Boot-Sealing
T94	Adapter-Hydraulic Flange
T99	Seal-Oil, 1-3/8 x 2 in
T100	Key-Square, 5/16 x 2-5/16 in
T101	Ring-Retaining, External, 1-3/8 in Shaft Dia
* T103	O-Ring, 3-1/4 x 3-7/16 in

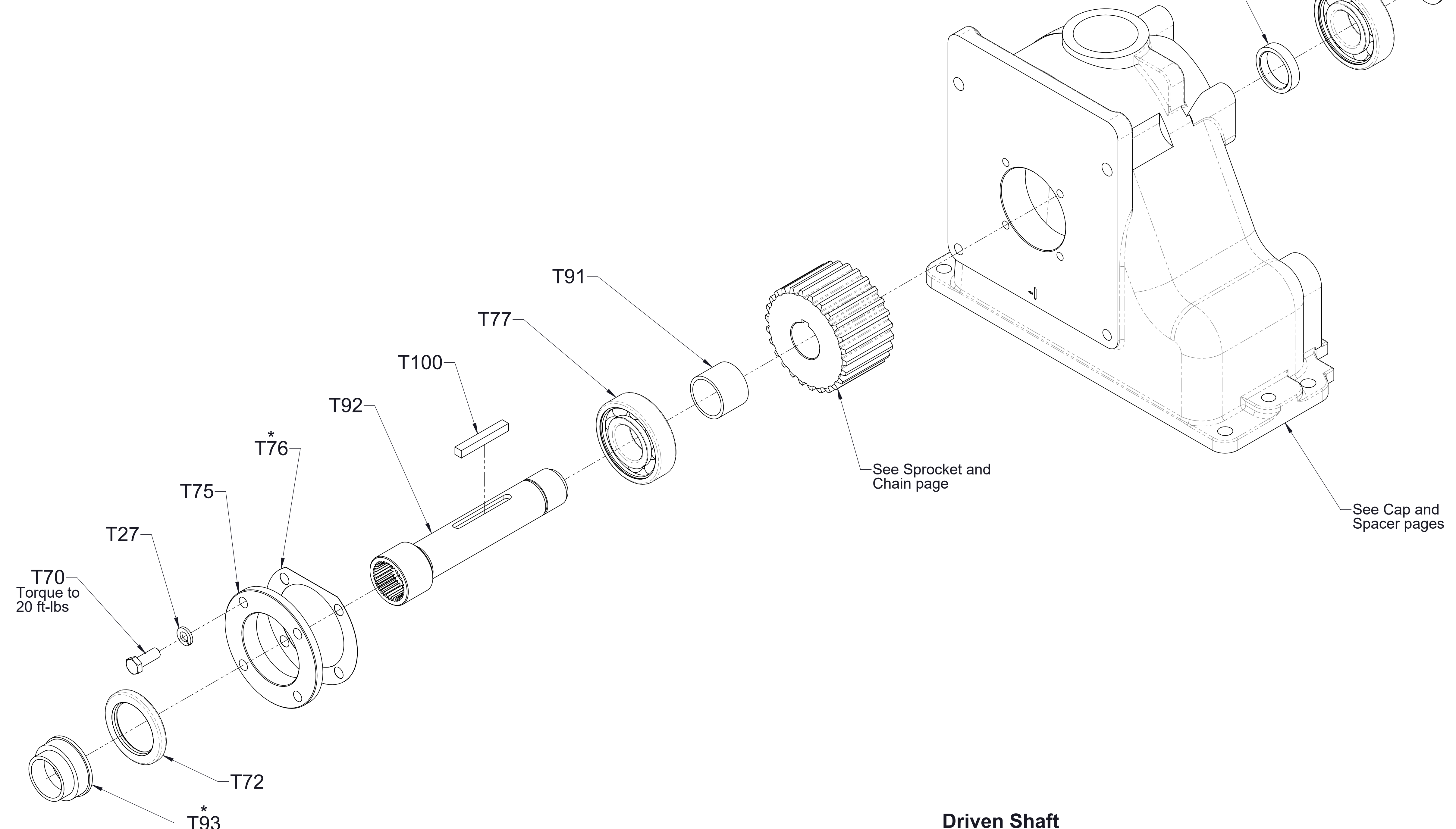
*Included in Ref No. T30 Gasket and O-ring Repair Kit



Cross-Section View



Rear (Output Shaft Side)

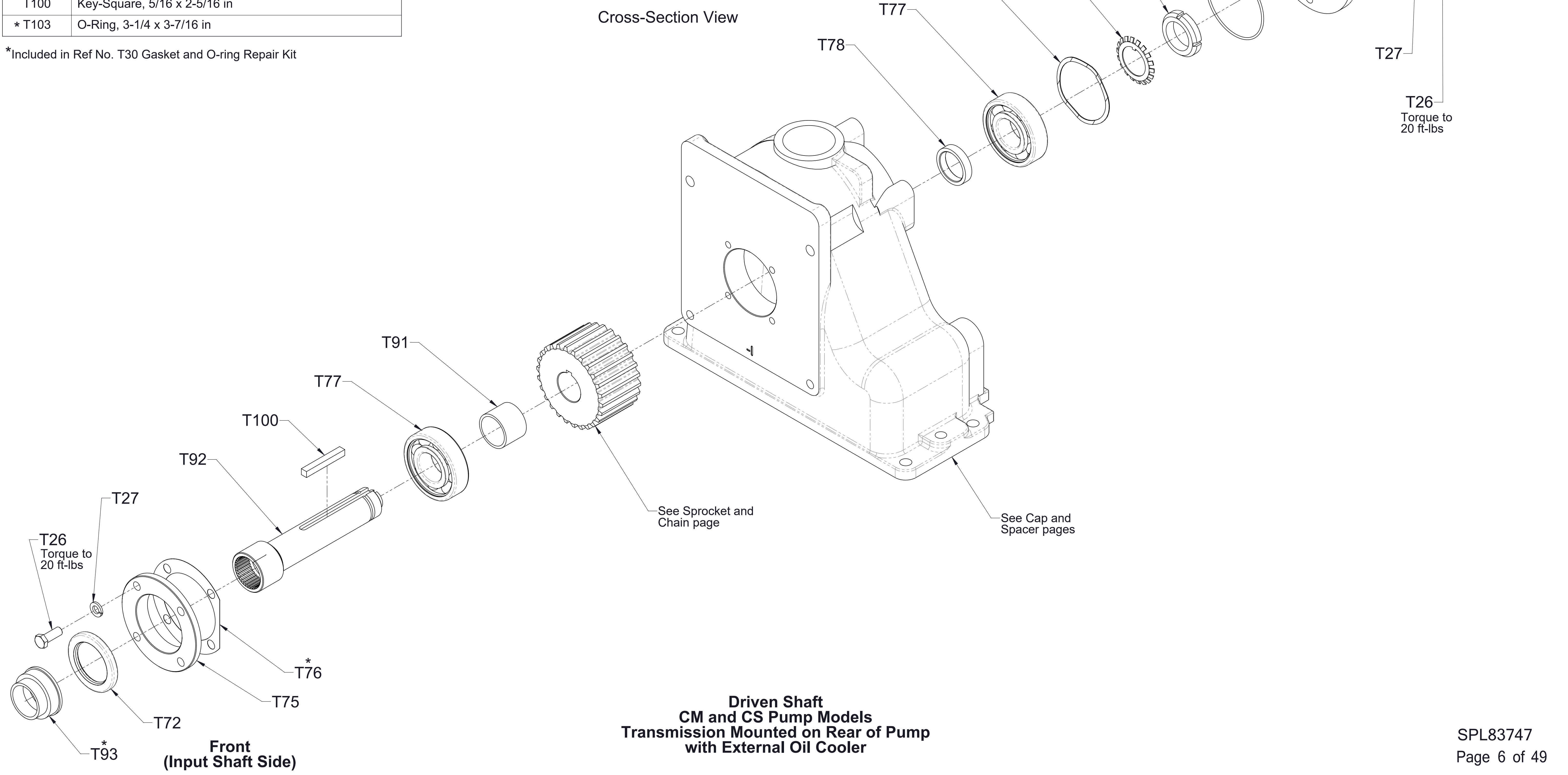
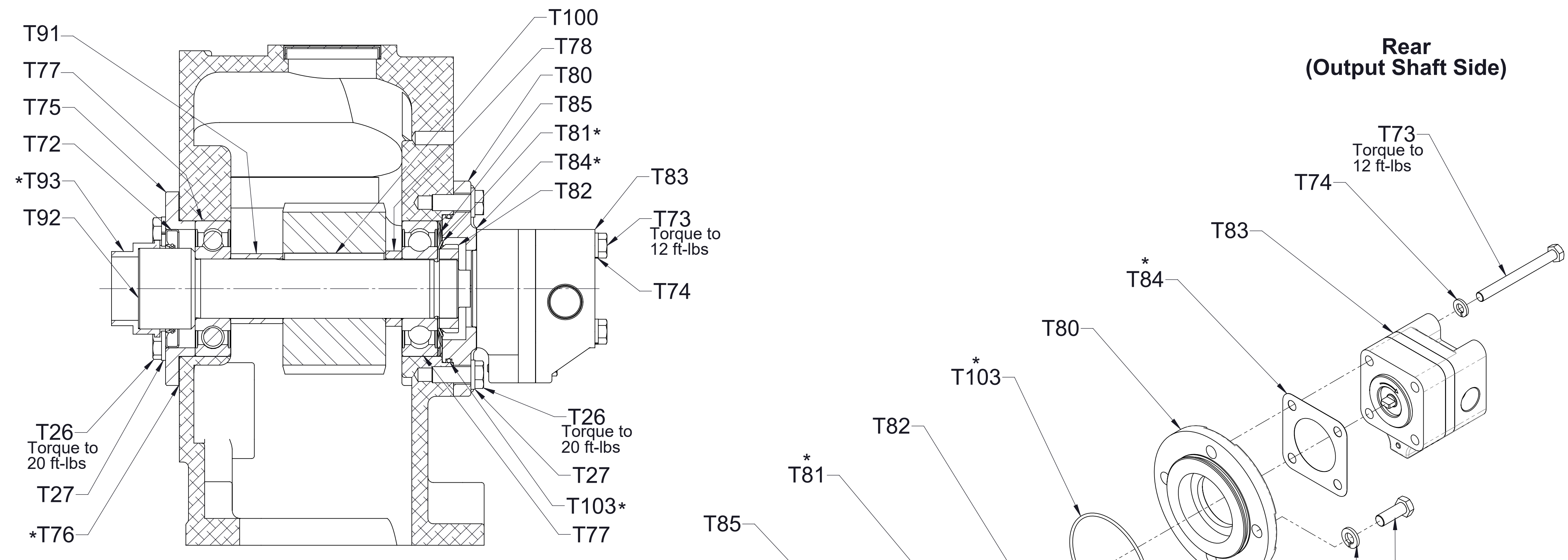


Front (Input Shaft Side)

Driven Shaft
CM and CS Pump Models
Transmission Mounted on Rear of Pump
with Hydraulic Adapter

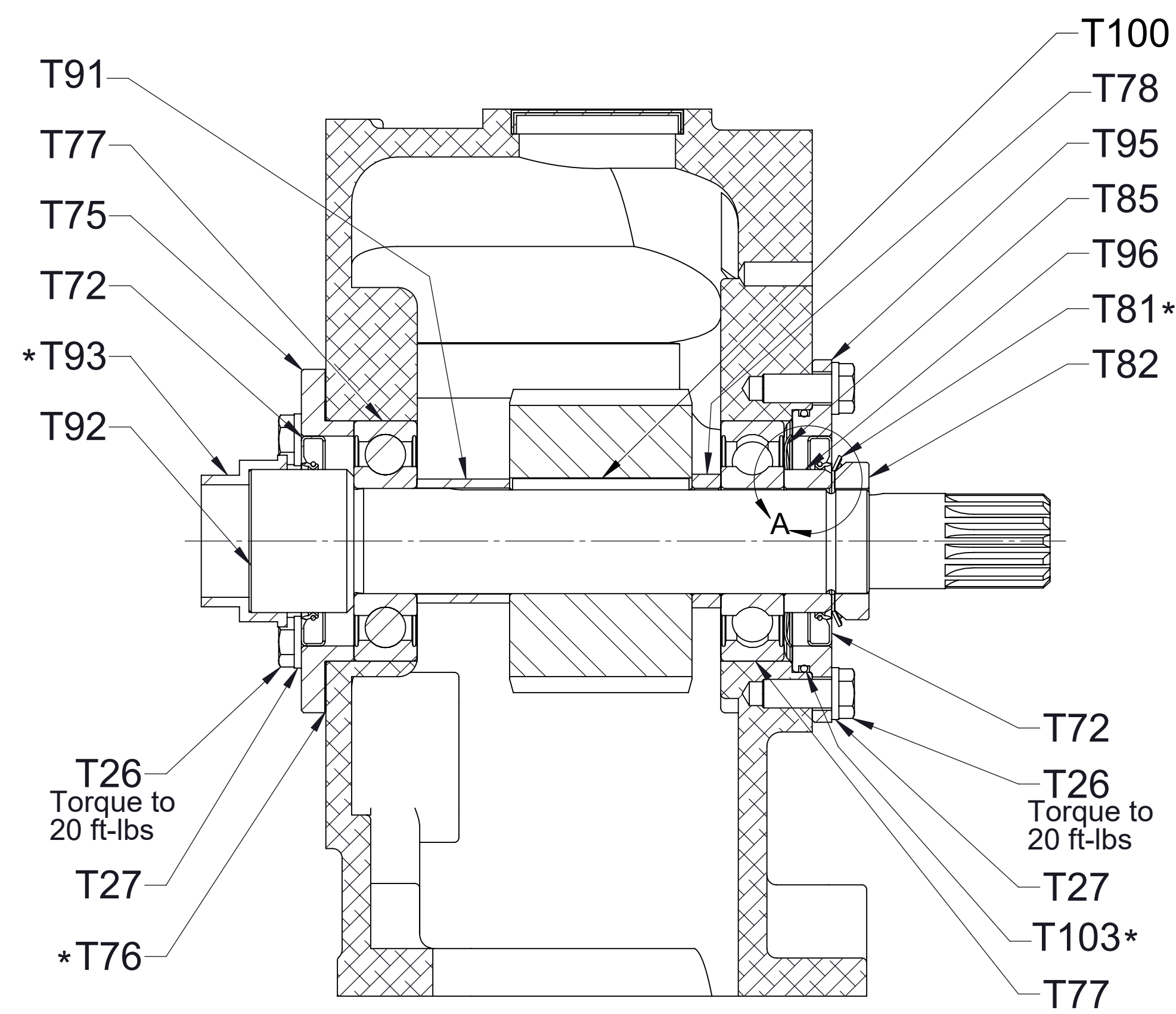
Ref No.	Description
T26	Screw-Hex Hd, 3/8-16 x 1 in
T27	Washer-Lock, 3/8 in
T72	Seal-Oil, 1-7/8 X 2-3/4
T73	Screw-Hex Hd, 5/16-18 x 3-1/4 in
T74	Washer-Lock, 5/16 in
T75	Housing-Oil Seal
* T76	Gasket-Oil Seal Housing
T77	Bearing, Ball, Single Row, 35 x 80 x 21 mm
T78	Spacer, .38in
T80	Housing-Oil Seal
* T81	Washer-Lock, Bearing, W07
T82	Nut-Lock, Bearing, N07
T83	Pump-Oil, Circulating
* T84	Gasket-Oil Pump
T85	Spring-Wave
T91	Spacer-Impeller Shaft
T92	Shaft-Driven
* T93	Boot-Sealing
T100	Key-Square, 5/16 x 2-5/16 in
* T103	O-Ring, 3-1/4 x 3-7/16 in

*Included in Ref No. T30 Gasket and O-ring Repair Kit

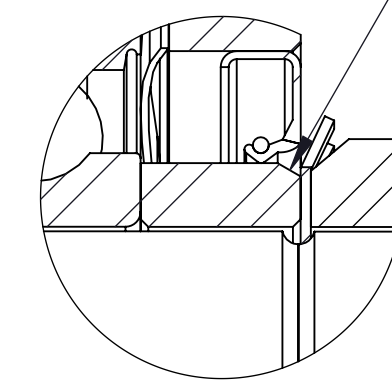


Ref No.	Description
T26	Screw-Hex Hd, 3/8-16 x 1 in
T27	Washer-Lock, 3/8 in
T72	Seal-Oil, 1-7/8 X 2-3/4
T75	Housing-Oil Seal
* T76	Gasket-Oil Seal Housing
T77	Bearing, Ball, Single Row, 35 x 80 x 21 mm
T78	Spacer, .38in
* T81	Washer-Lock, Bearing, W07
T82	Nut-Lock, Bearing, N07
T85	Spring-Wave
T91	Spacer-Impeller Shaft
T92	Shaft-Driven
* T93	Boot-Sealing
T95	Housing-Oil Seal
T96	Sleeve-Oil Seal
T100	Key-Square, 5/16 x 2-5/16 in
* T103	O-Ring, 3-1/4 x 3-7/16 in

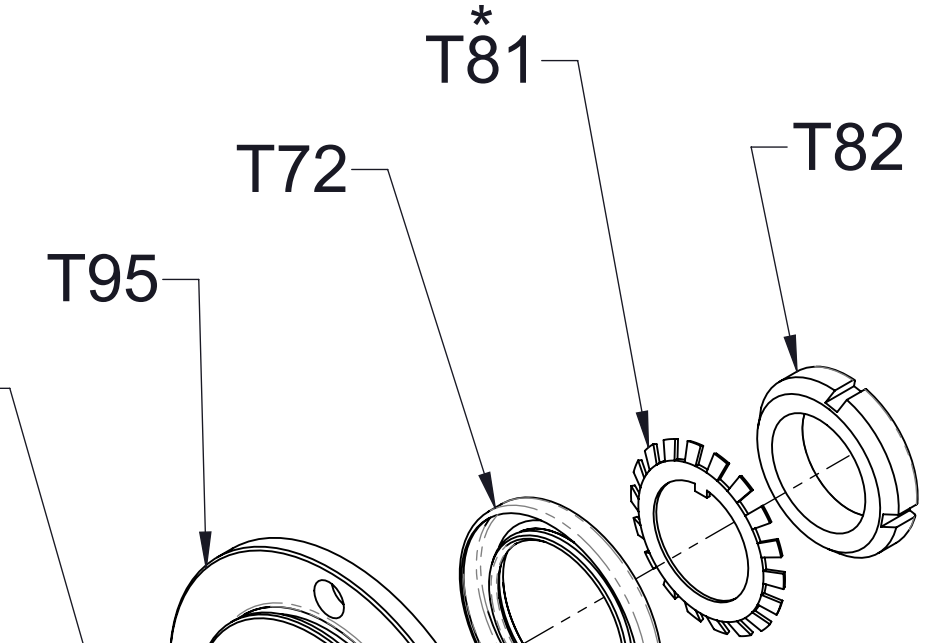
*Included in Ref No. T30 Gasket and O-ring Repair Kit



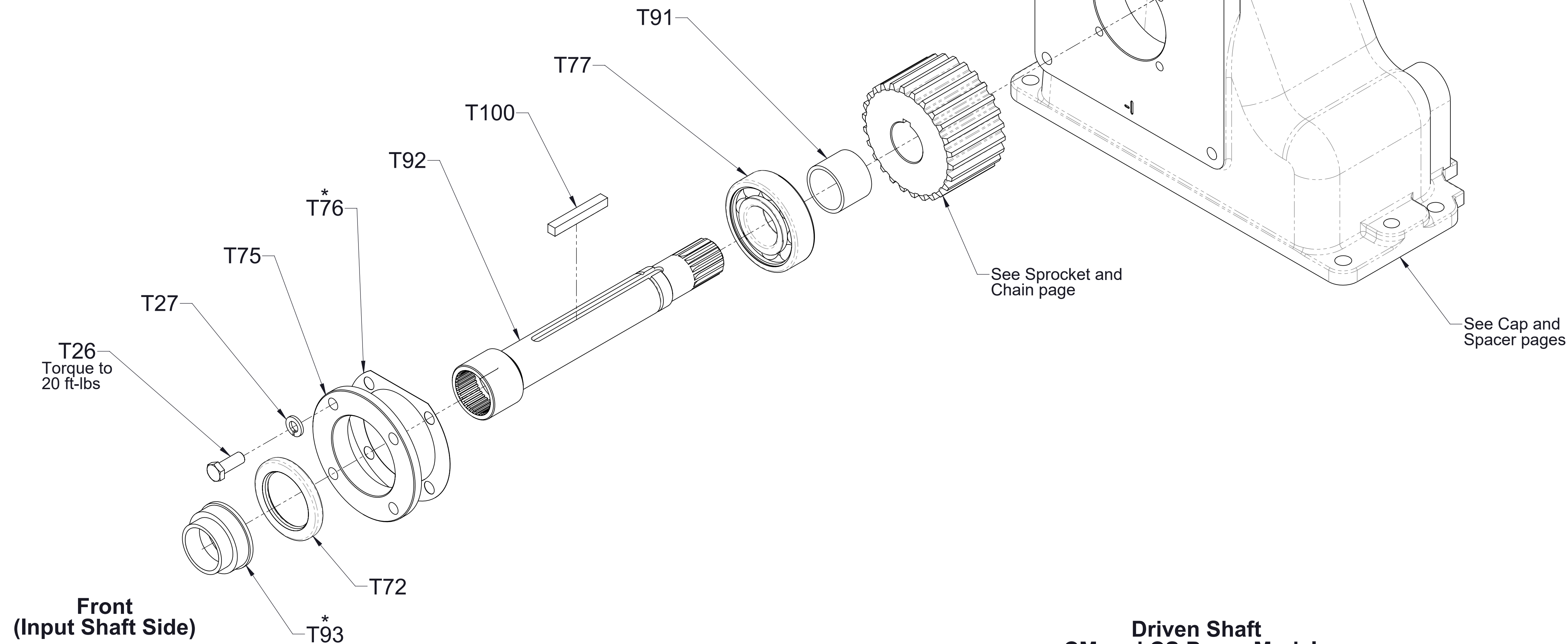
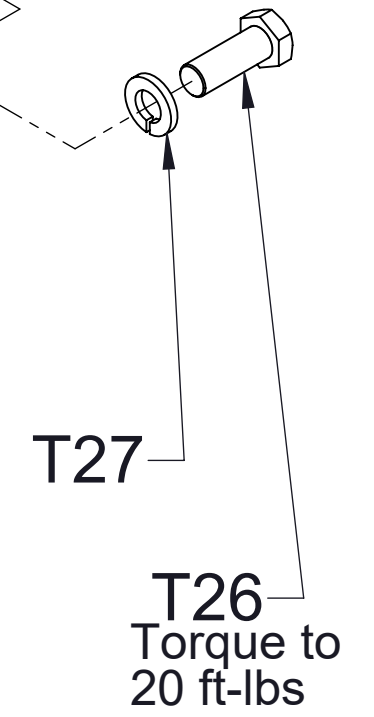
Install with chamfer facing away from bearing



DETAIL A



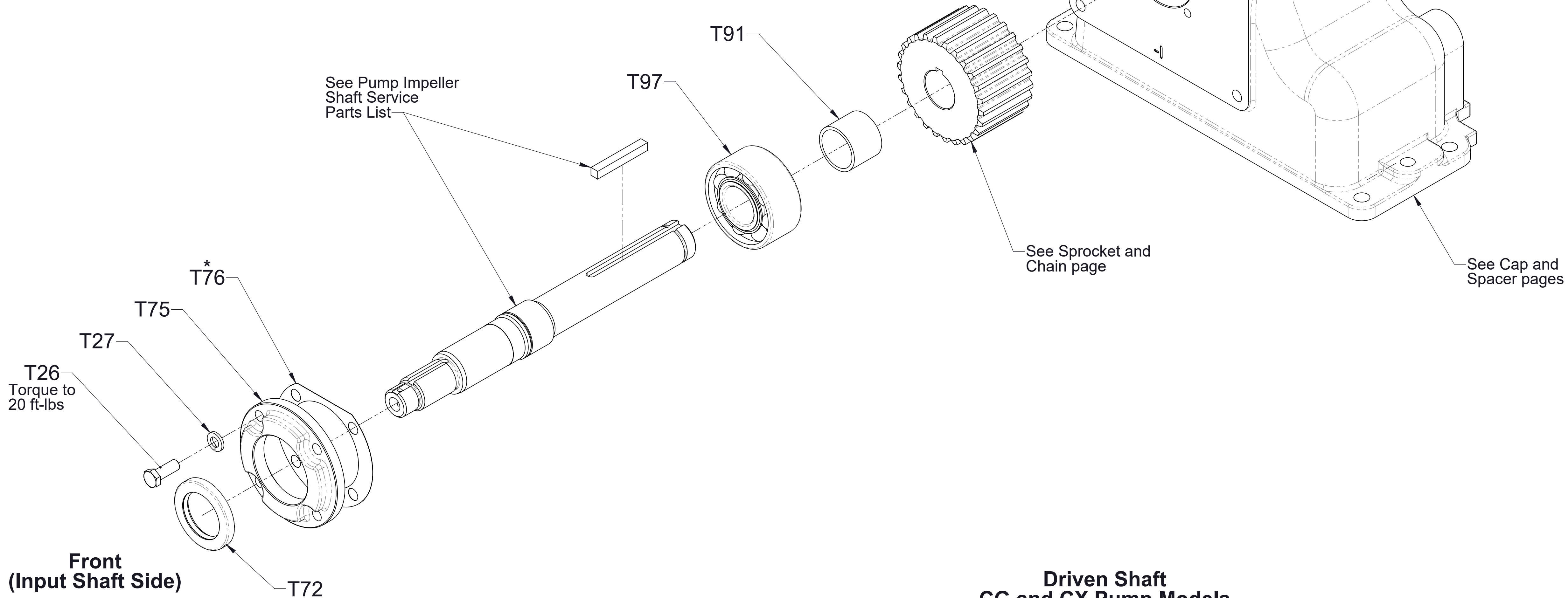
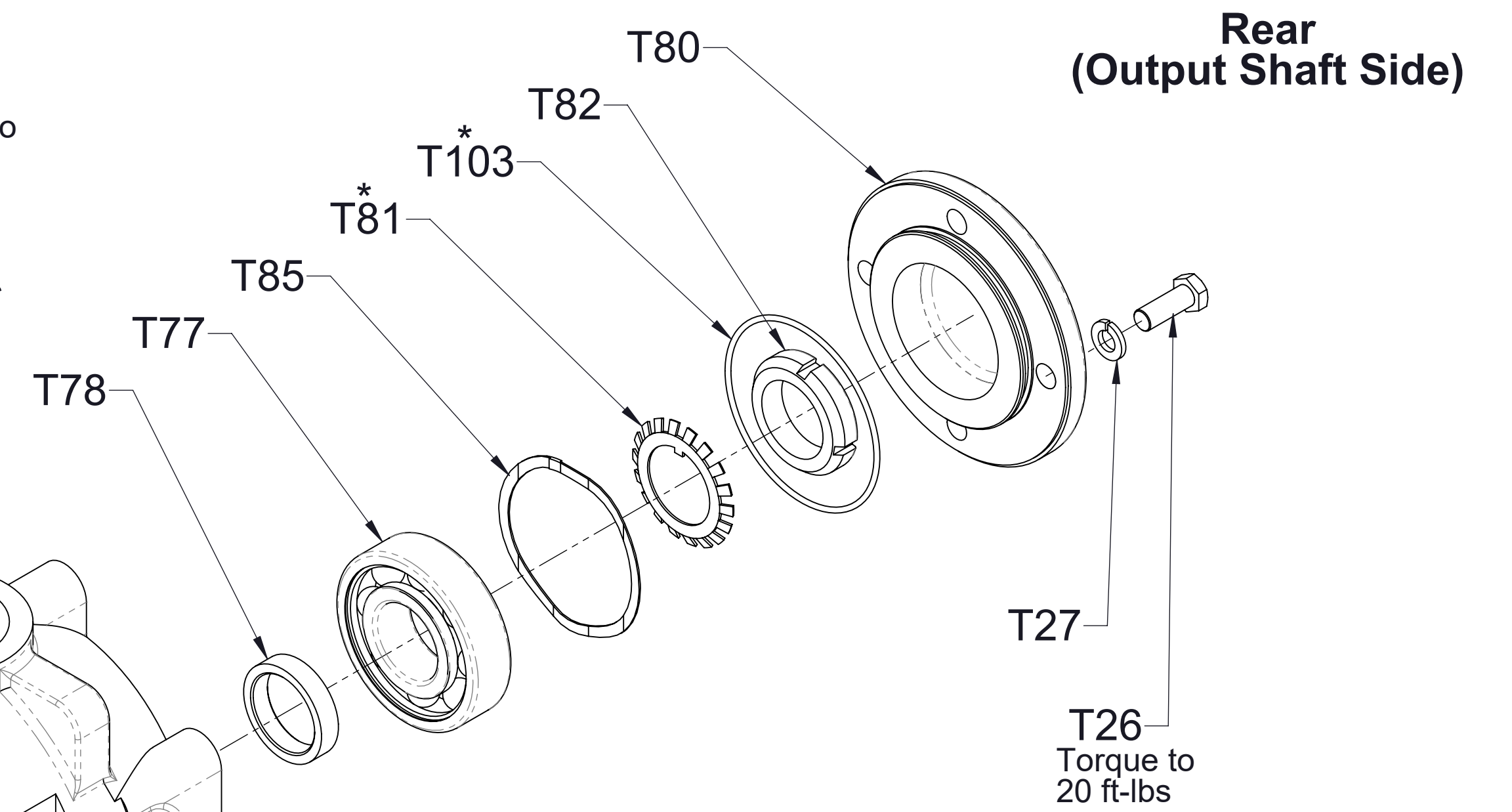
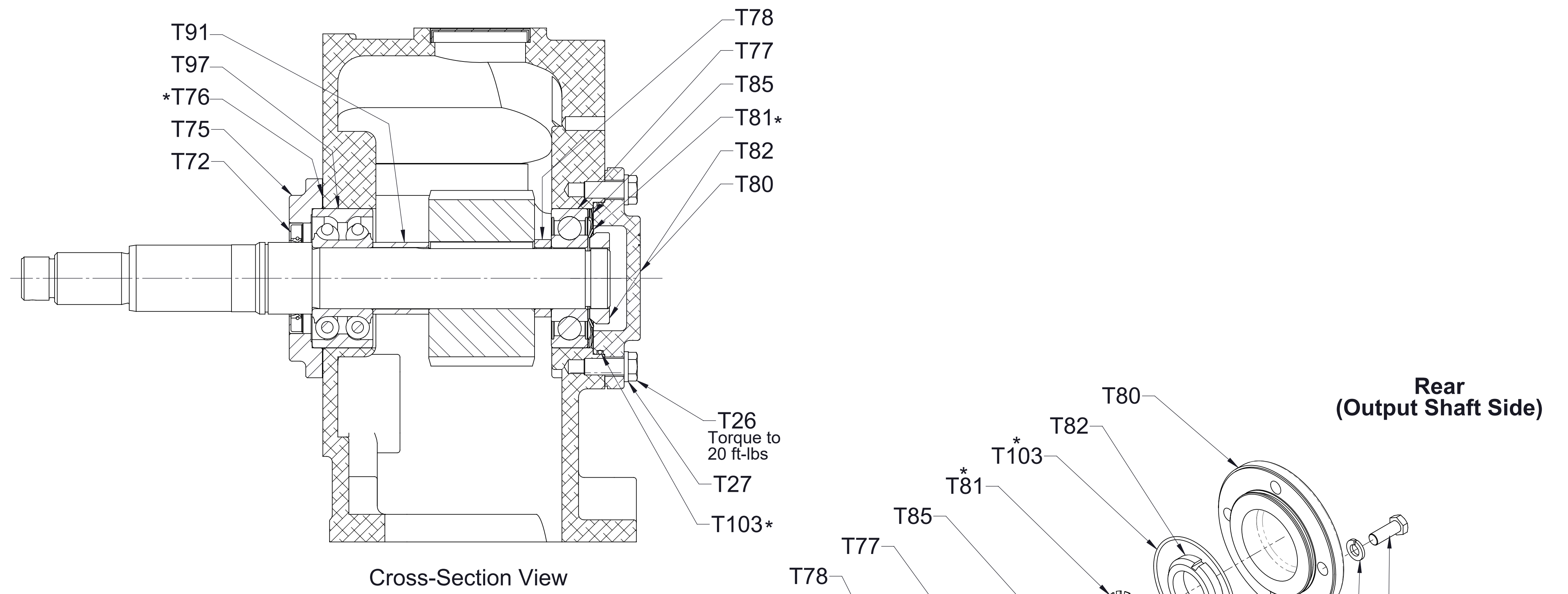
Rear (Output Shaft Side)



**Driven Shaft
CM and CS Pump Models
Transmission Mounted on Rear of Pump
with Combination Pump**

Ref No.	Description
T26	Screw-Hex Hd, 3/8-16 x 1 in
T27	Washer-Lock, 3/8 in
T72	Seal-Oil, 1-5/8 x 2-1/2 in
T75	Housing-Seal, Oil
* T76	Gasket-Oil Seal Housing
T77	Bearing, Ball, Single Row, 35 x 80 x 21 mm
T78	Spacer, .38in
T80	Cover-Bearing
* T81	Washer-Lock, Bearing, W07
T82	Nut-Lock, Bearing, N07
T85	Spring-Wave
T91	Spacer-Impeller Shaft
T97	Bearing, Ball, Double Row, 35 x 80 x 34.9 mm
* T103	O-Ring, 3-1/4 x 3-7/16 in

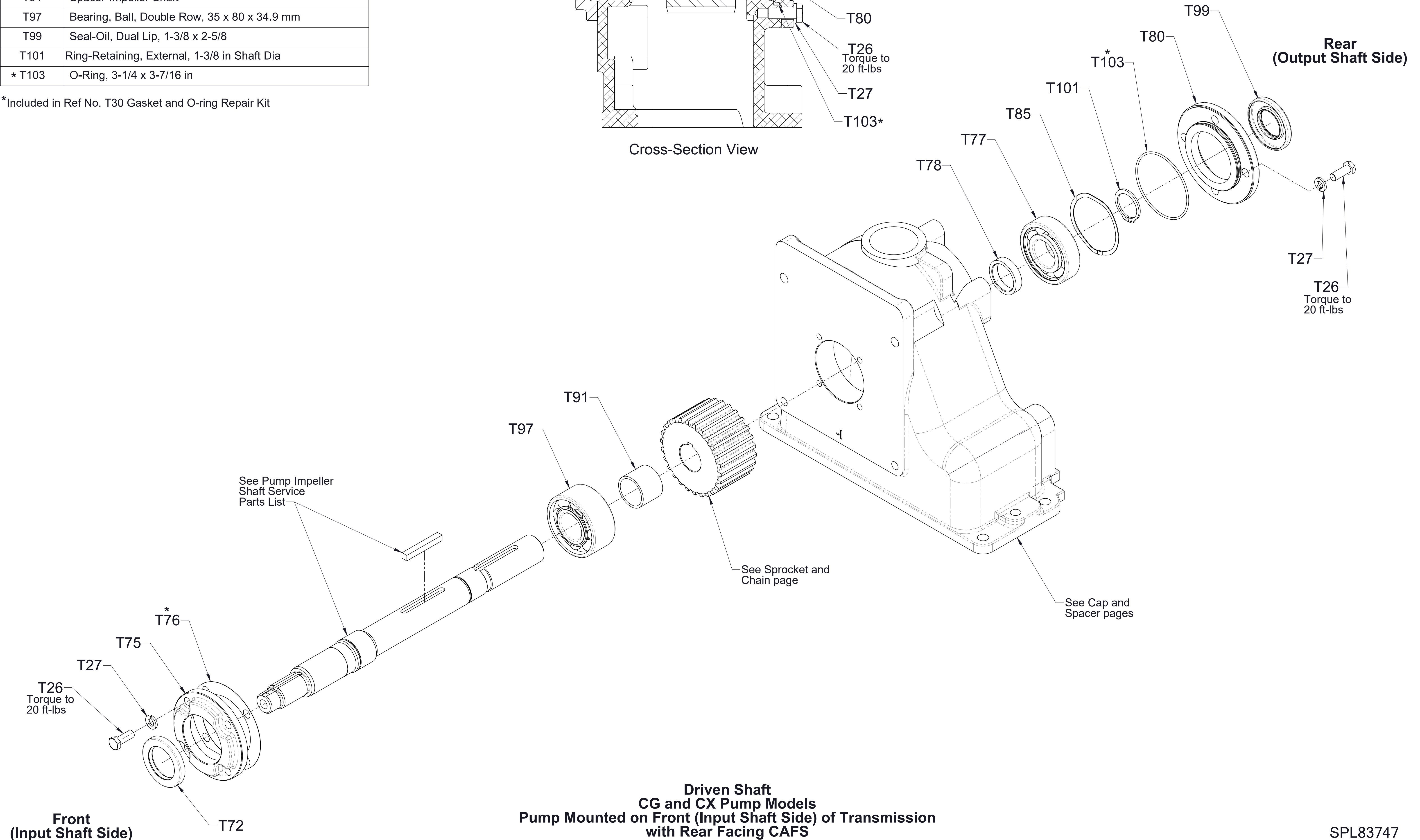
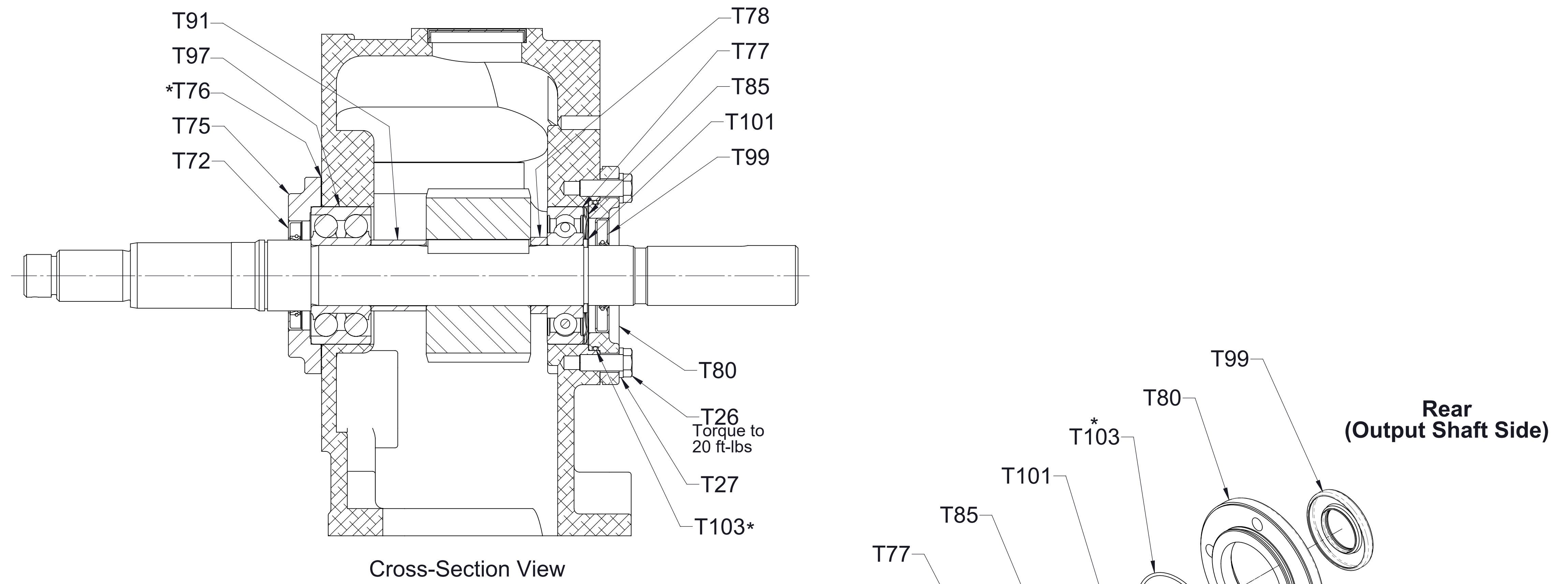
*Included in Ref No. T30 Gasket and O-ring Repair Kit



**Driven Shaft
CG and CX Pump Models
Pump Mounted on Front (Input Shaft Side) of Transmission
No Rear Facing Components**

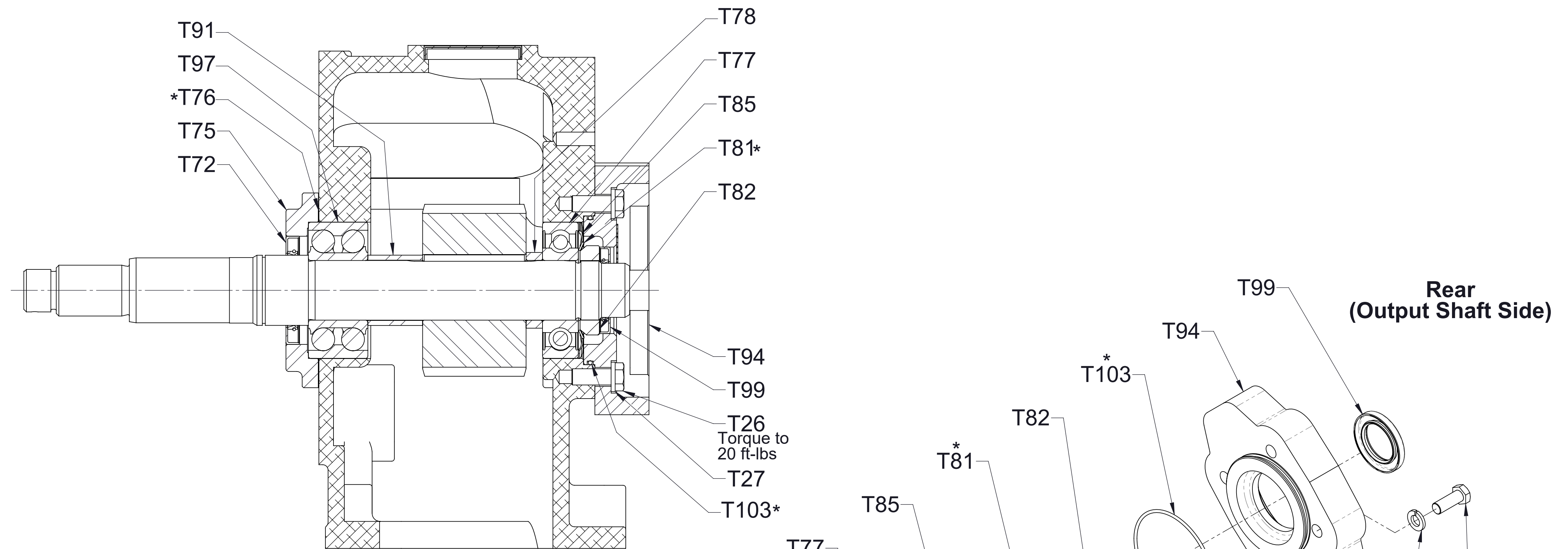
Ref No.	Description
T26	Screw-Hex Hd, 3/8-16 x 1 in
T27	Washer-Lock, 3/8 in
T72	Seal-Oil, 1-5/8 x 2-1/2 in
T75	Housing-Seal, Oil
* T76	Gasket-Oil Seal Housing
T77	Bearing, Ball, Single Row, 35 x 80 x 21 mm
T78	Spacer, .38in
T80	Housing-Seal, Oil
T85	Spring-Wave
T91	Spacer-Impeller Shaft
T97	Bearing, Ball, Double Row, 35 x 80 x 34.9 mm
T99	Seal-Oil, Dual Lip, 1-3/8 x 2-5/8
T101	Ring-Retaining, External, 1-3/8 in Shaft Dia
* T103	O-Ring, 3-1/4 x 3-7/16 in

*Included in Ref No. T30 Gasket and O-ring Repair Kit

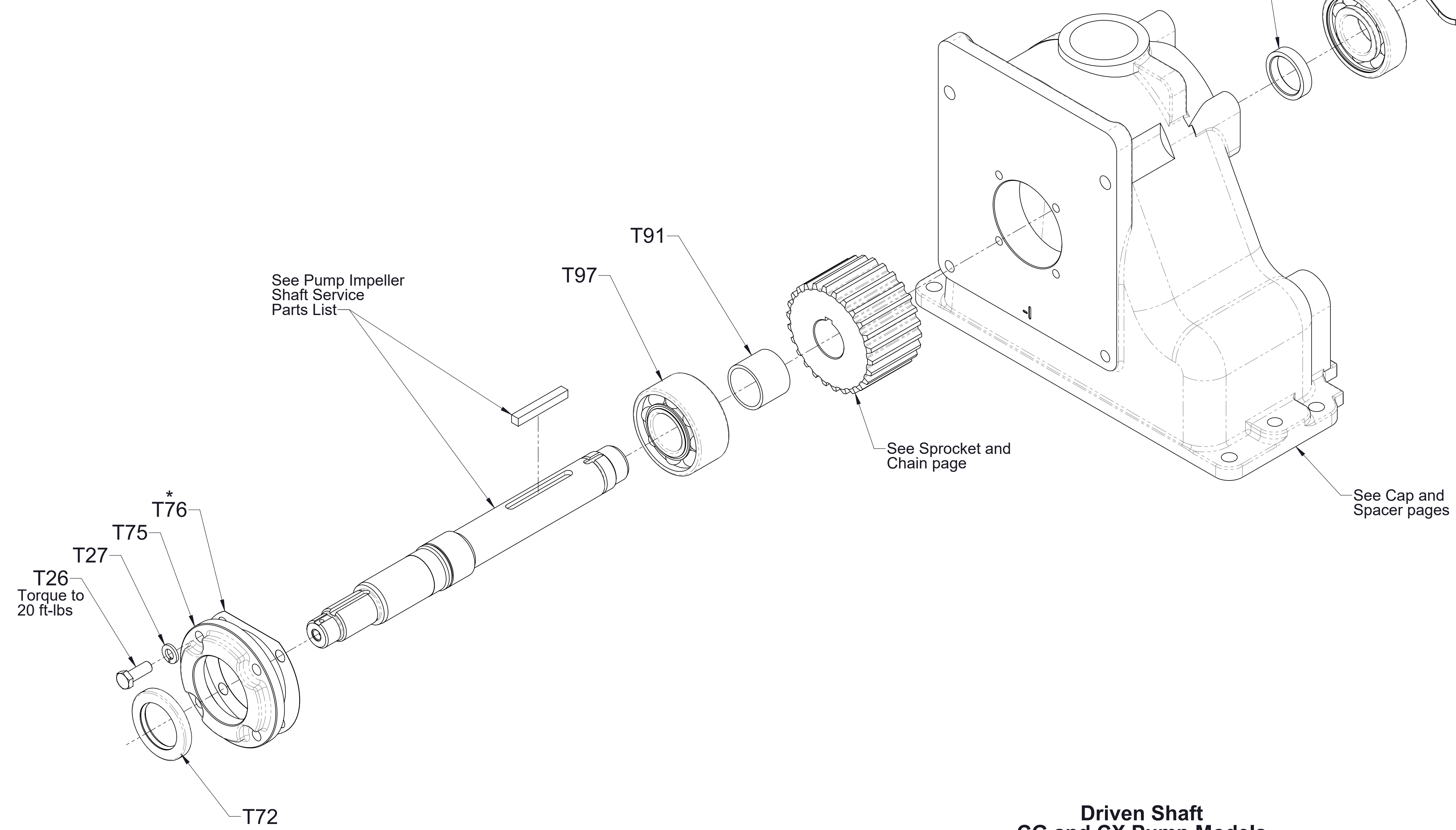
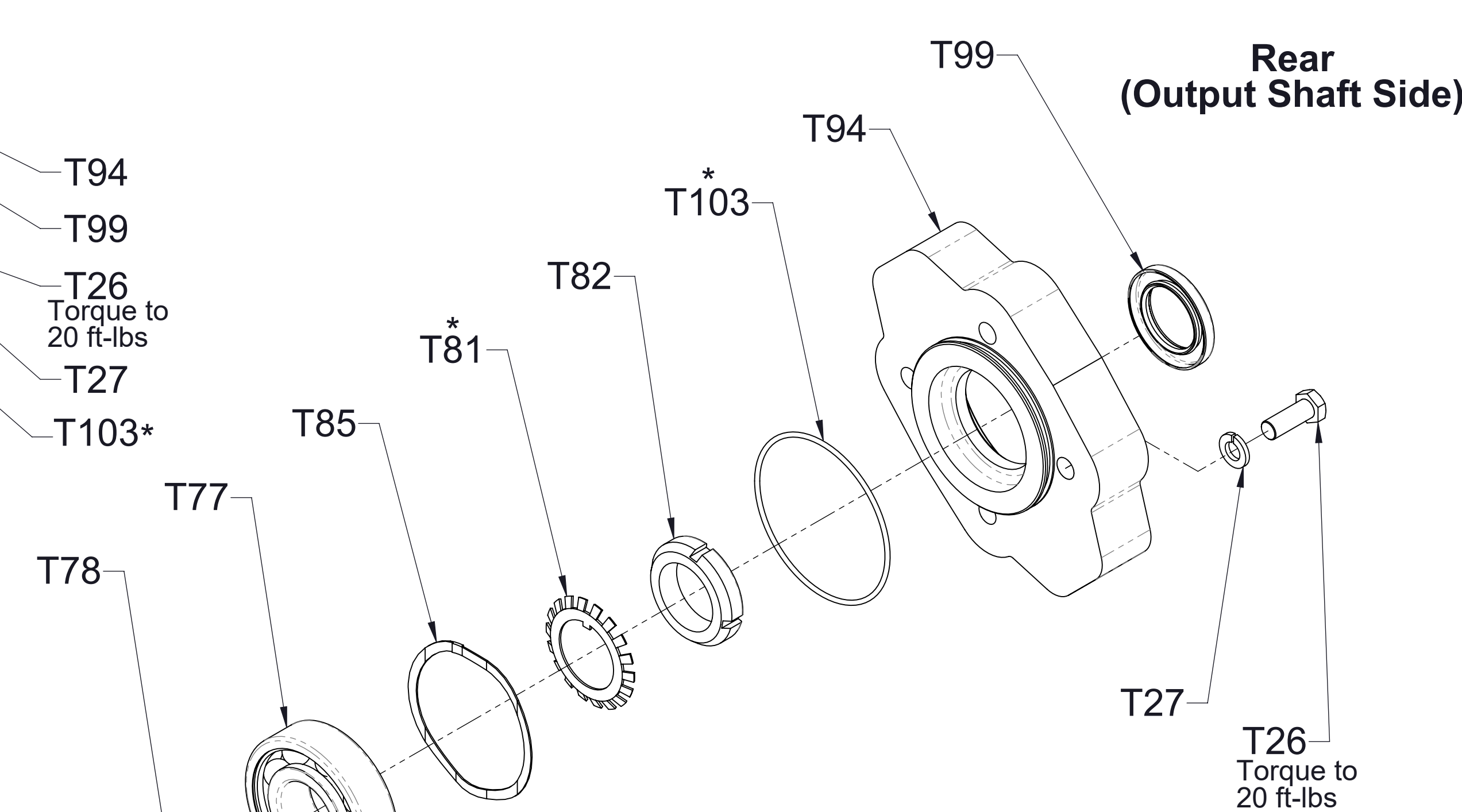


Ref No.	Description
T26	Screw-Hex Hd, 3/8-16 x 1 in
T27	Washer-Lock, 3/8 in
T72	Seal-Oil, 1-5/8 x 2-1/2 in
T75	Housing-Seal, Oil
* T76	Gasket-Oil Seal Housing
T77	Bearing, Ball, Single Row, 35 x 80 x 21 mm
T78	Spacer, .38in
* T81	Washer-Lock, Bearing, W07
T82	Nut-Lock, Bearing, N07
T85	Spring-Wave
T91	Spacer-Impeller Shaft
T94	Adapter-Hydraulic Flange
T97	Bearing, Ball, Double Row, 35 x 80 x 34.9 mm
T99	Seal-Oil, 1-1/4 x 2 in
* T103	O-Ring, 3-1/4 x 3-7/16 in

*Included in Ref No. T30 Gasket and O-ring Repair Kit



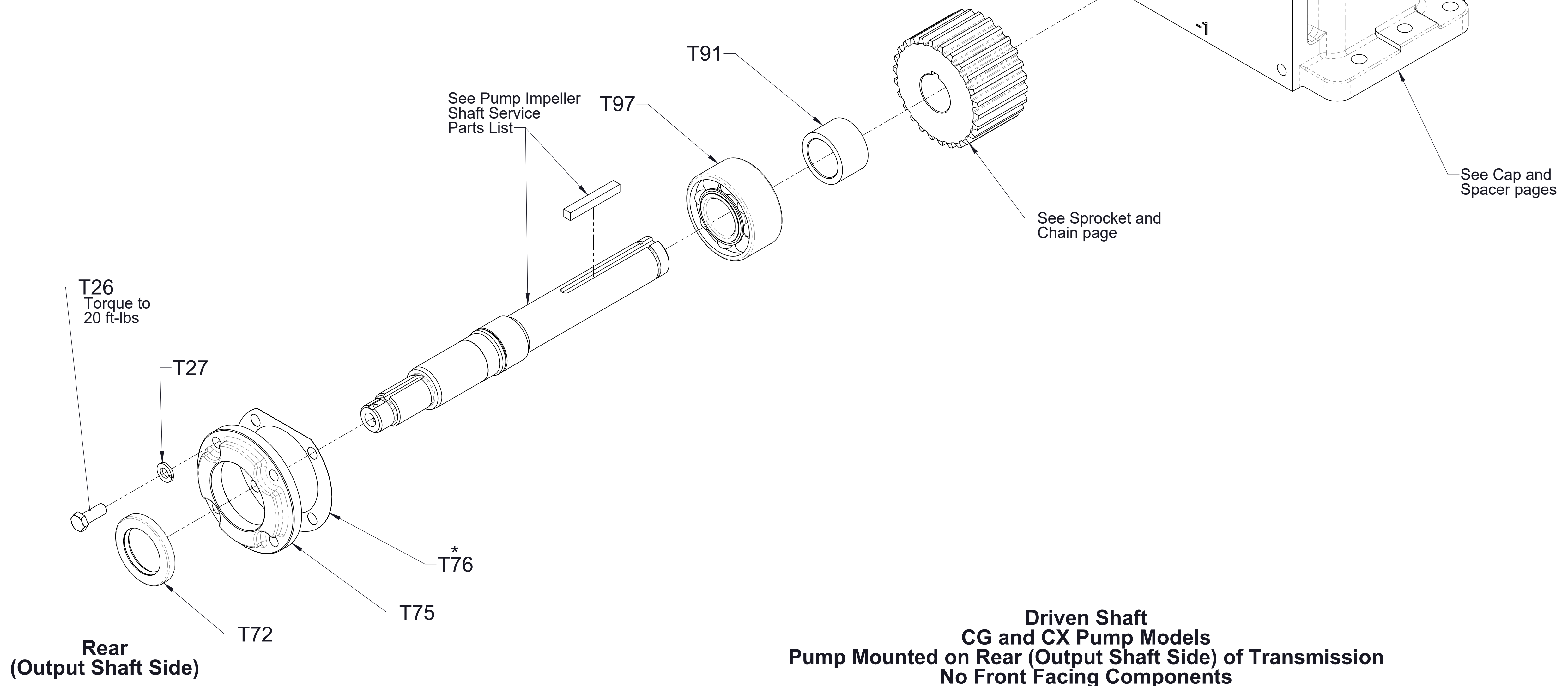
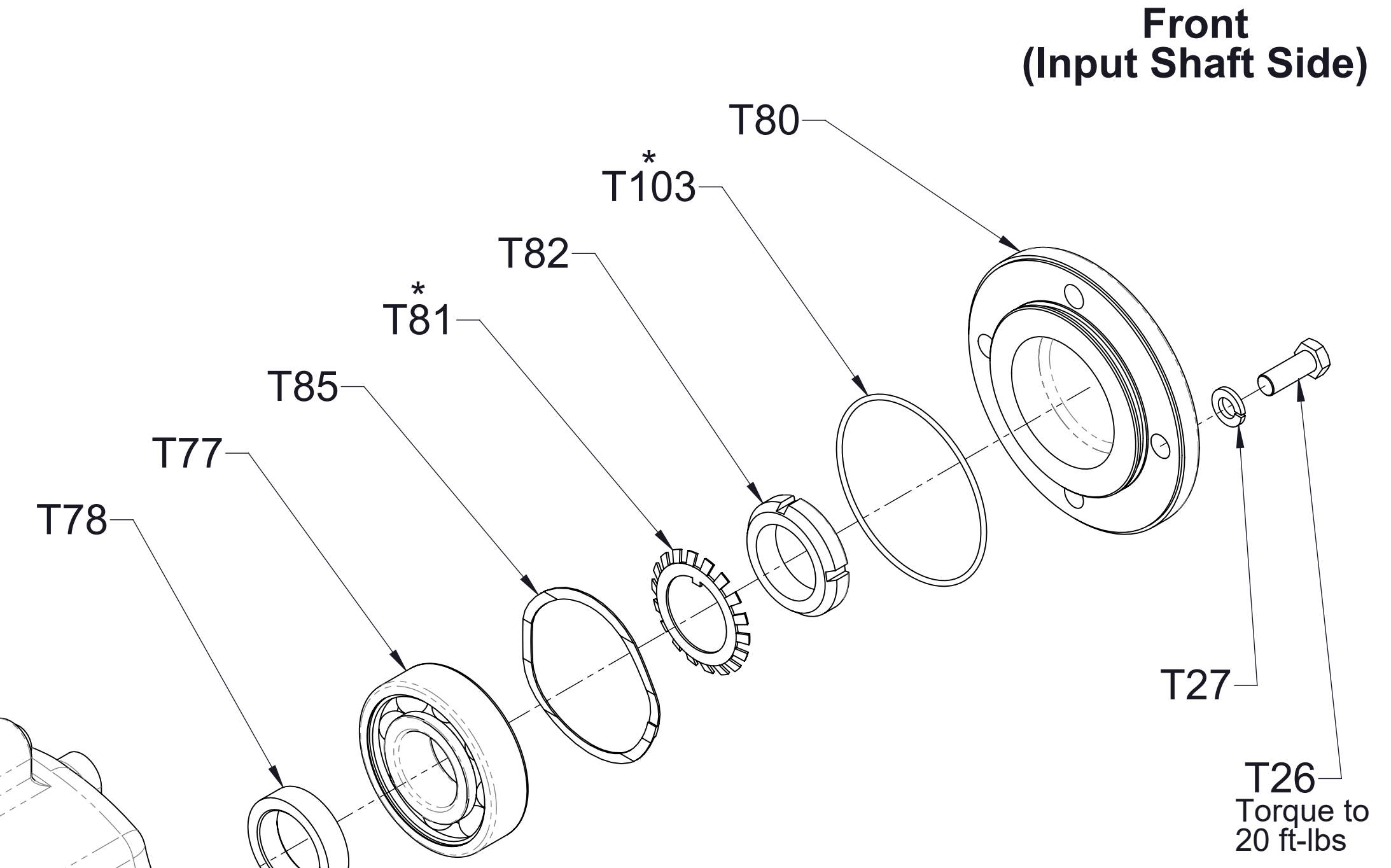
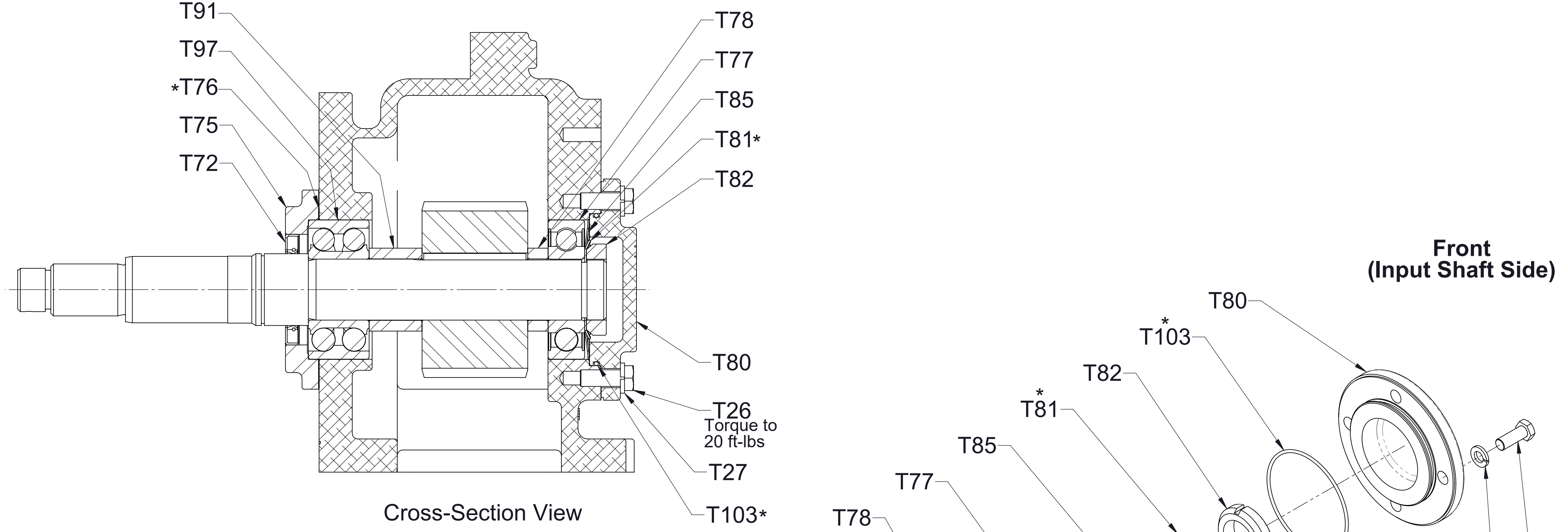
Cross-Section View



**Driven Shaft
CG and CX Pump Models
Pump Mounted on Front (Input Shaft Side) of Transmission
with Hydraulic Adapter**

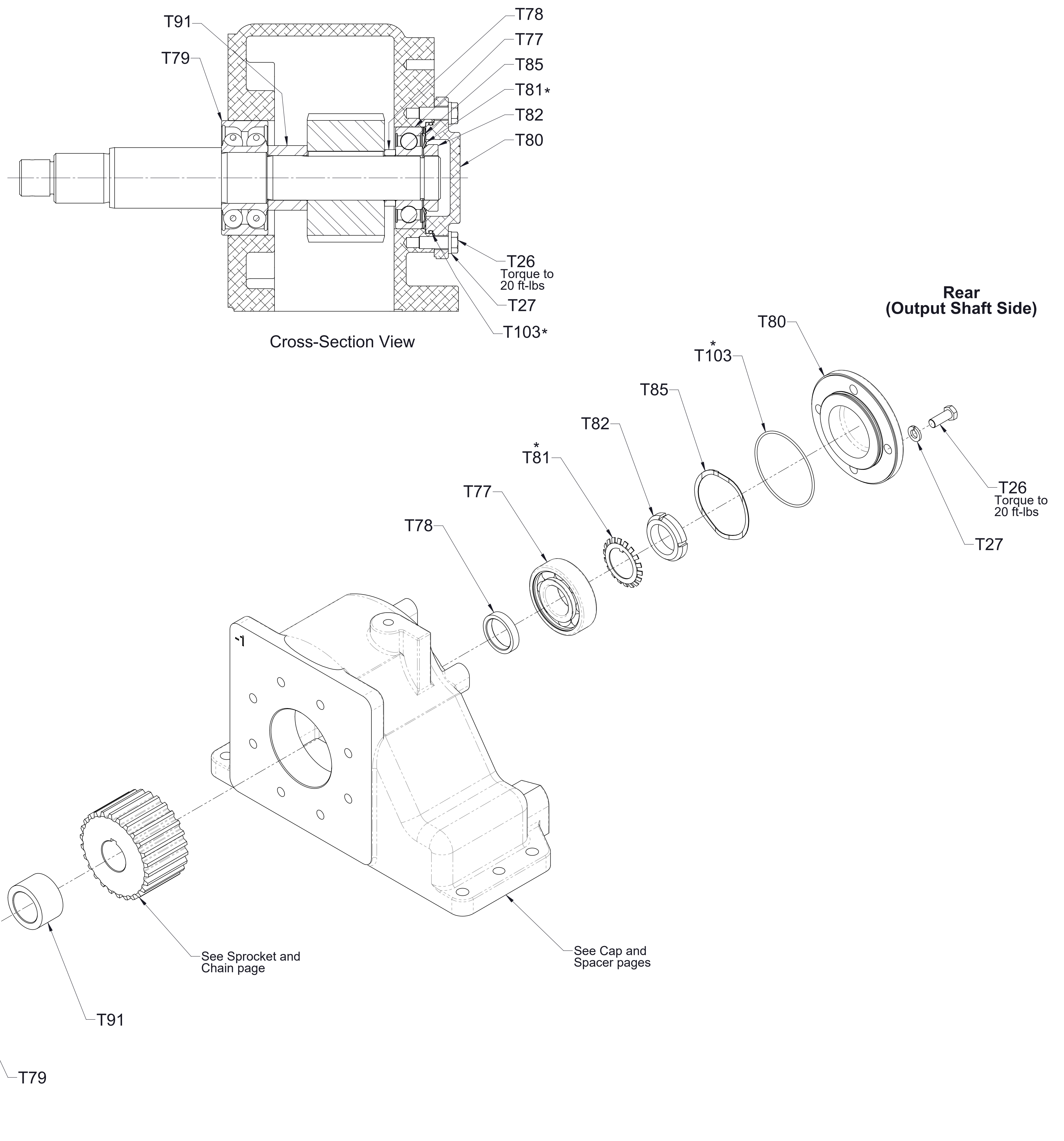
Ref No.	Description
T26	Screw-Hex Hd, 3/8-16 x 1 in
T27	Washer-Lock, 3/8 in
T72	Seal-Oil, 1-5/8 x 2-1/2 in
T75	Housing-Seal, Oil
* T76	Gasket-Oil Seal Housing
T77	Bearing, Ball, Single Row, 35 x 80 x 21 mm
T78	Spacer-Shaft, Driven
T80	Cover-Bearing
* T81	Washer-Lock, Bearing, W07
T82	Nut-Lock, Bearing, N07
T85	Spring-Wave
T91	Spacer-Shaft, Driven
T97	Bearing, Ball, Double Row, 35 x 80 x 34.9 mm
* T103	O-Ring, 3-1/4 x 3-7/16 in

*Included in Ref No. T30 Gasket and O-ring Repair Kit



Ref No.	Description
T26	Screw-Hex Hd, 3/8-16 x 1 in
T27	Washer-Lock, 3/8 in
T77	Bearing, Ball, Single Row, 35 x 80 x 21 mm
T78	Spacer
T79	Bearing, Ball, Double Row, 40° Angular Contact, 40 x 90 x 36.5 mm
T80	Cover-Bearing
* T81	Washer-Lock, Bearing, W07
T82	Nut-Lock, Bearing, N07
T85	Spring-Wave
T91	Spacer
* T103	O-Ring, 3-1/4 x 3-7/16 in

*Included in Ref No. T30 Gasket and O-ring Repair Kit

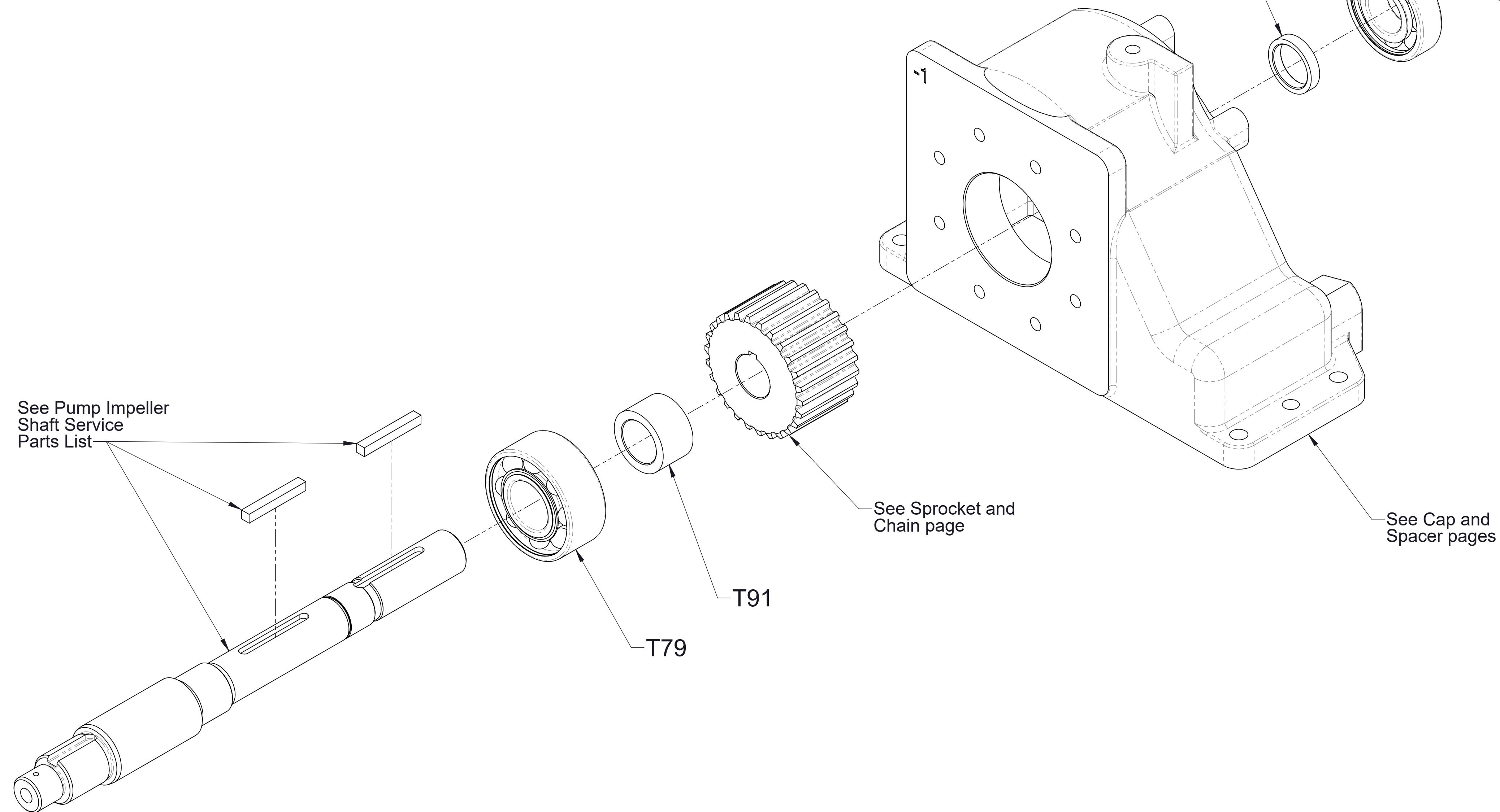
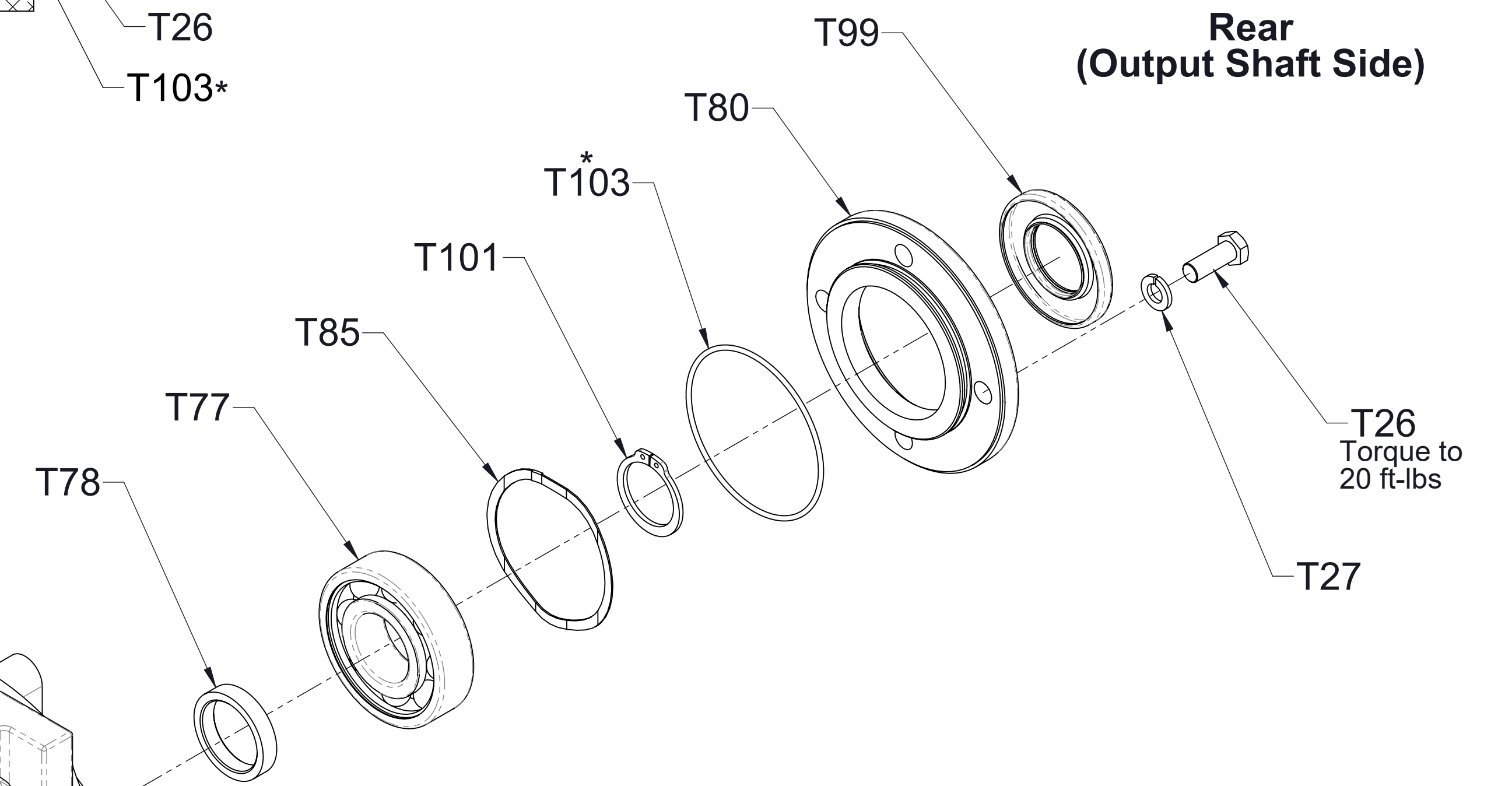
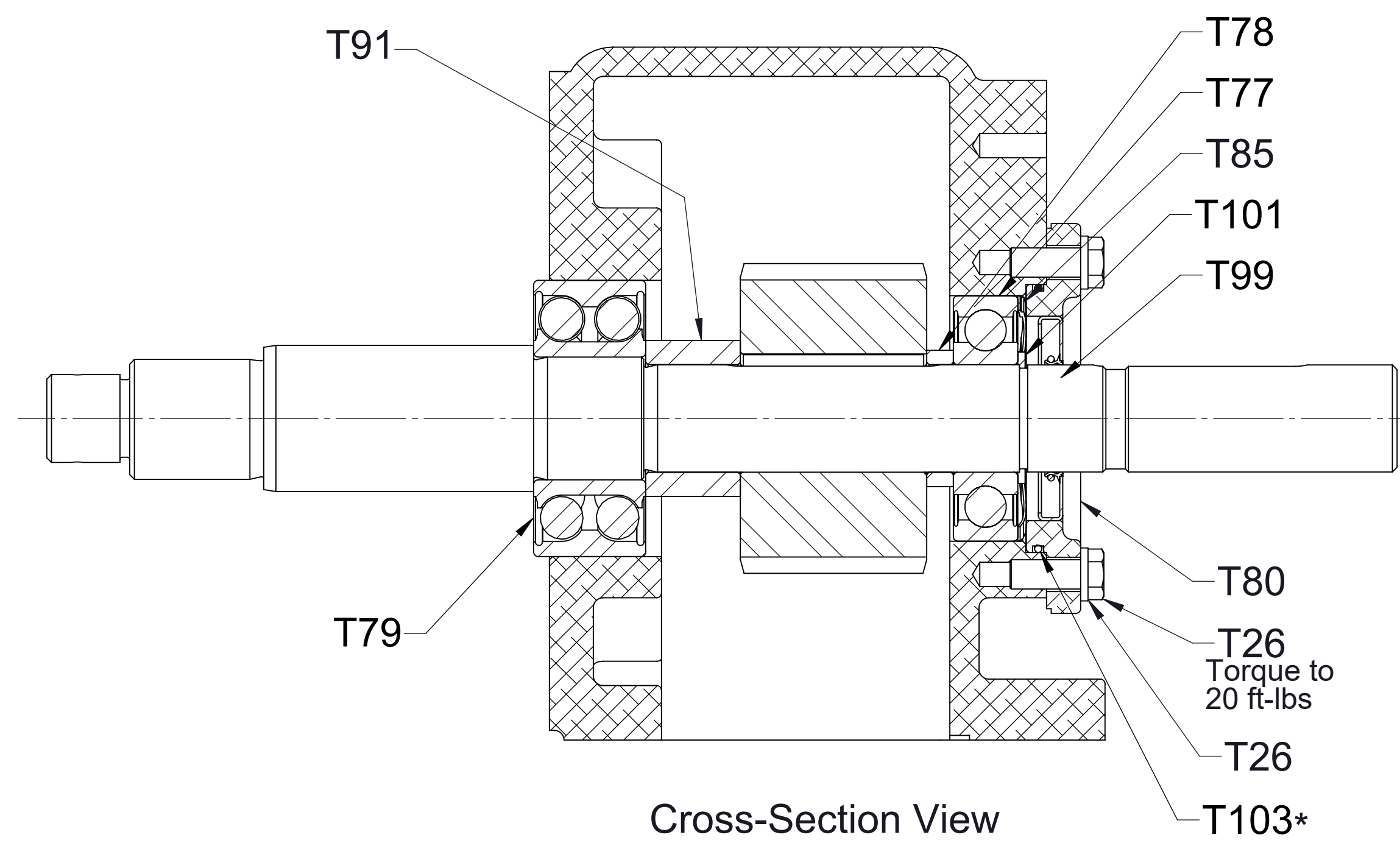


**Front
(Input Shaft Side)**

**Driven Shaft
S100 and S101 Pump Models
Pump Mounted on Front (Input Shaft Side) of Transmission
No Rear Facing Components**

Ref No.	Description
T26	Screw-Hex Hd, 3/8-16 x 1 in
T27	Washer-Lock, 3/8 in
T77	Bearing, Ball, Single Row, 35 x 80 x 21 mm
T78	Spacer
T79	Bearing, Ball, Double Row, 40° Angular Contact, 40 x 90 x 36.5 mm
T80	Housing-Seal, Oil
T85	Spring-Wave
T91	Spacer
T99	Seal-Oil, Dual Lip, 1-3/8 x 2-5/8
T101	Ring-Retaining, External, 1-3/8 in Shaft Dia
* T103	O-Ring, 3-1/4 x 3-7/16 in

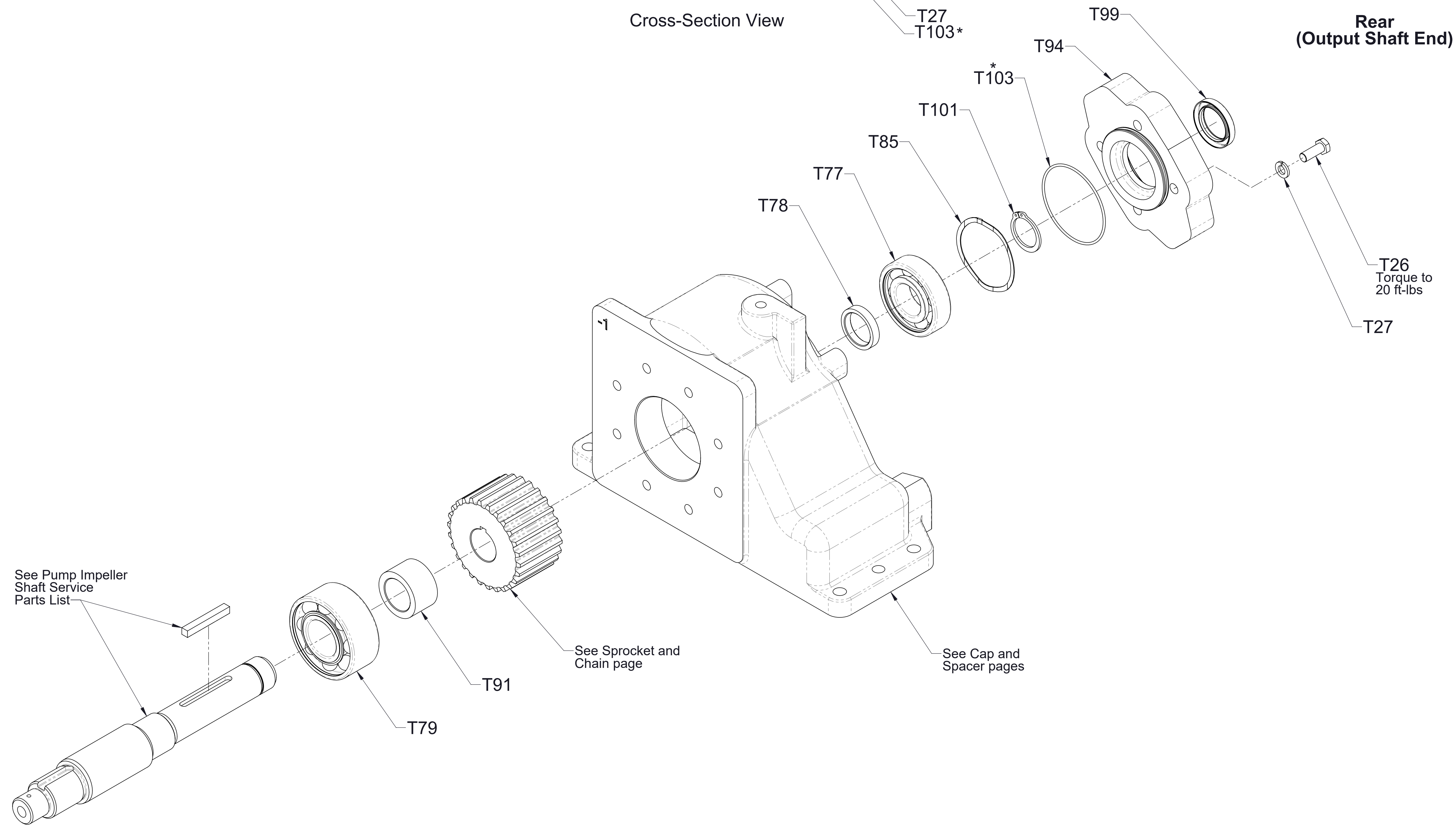
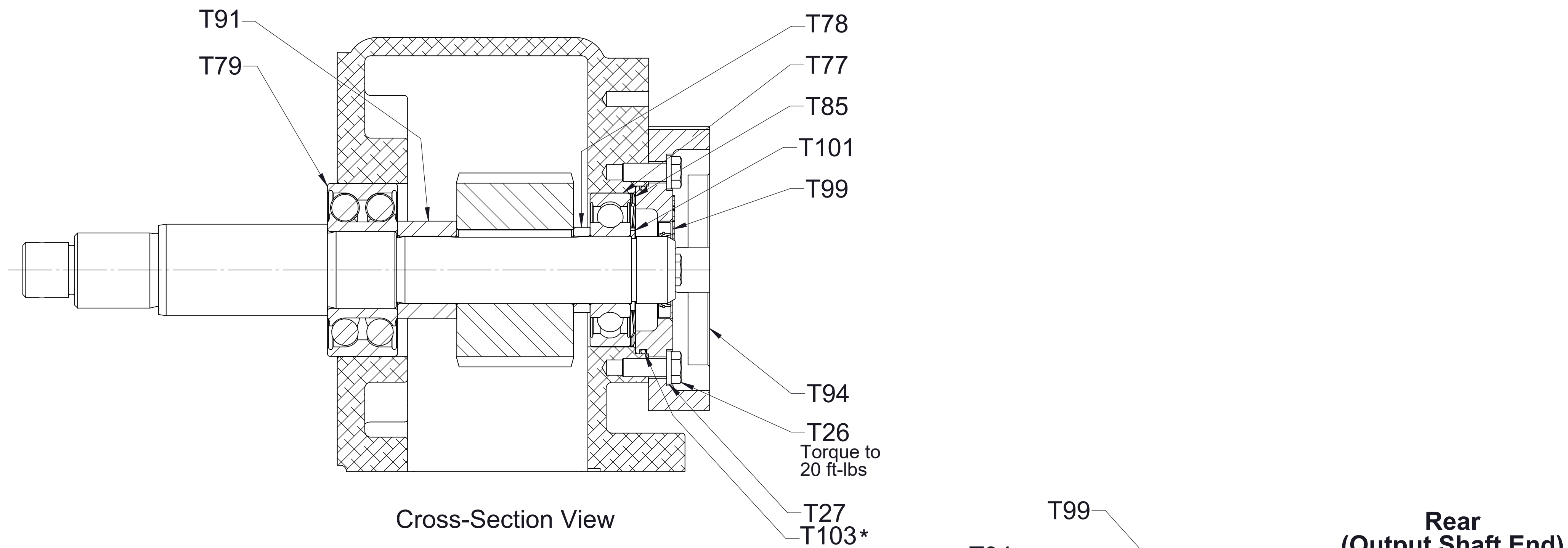
*Included in Ref No. T30 Gasket and O-ring Repair Kit



**Driven Shaft
S100 and S101 Pump Models
Pump Mounted on Front (Input Shaft Side) of Transmission
with CAFS**

Ref No.	Description
T26	Screw-Hex Hd, 3/8-16 x 1 in
T27	Washer-Lock, 3/8 in
T77	Bearing, Ball, Single Row, 35 x 80 x 21 mm
T78	Spacer
T79	Bearing, Ball, Double Row, 40° Angular Contact, 40 x 90 x 36.5 mm
T85	Spring-Wave
T91	Spacer
T94	Adapter-Hydraulic Flange
T99	Seal-Oil, 1-3/8 x 2 in
T101	Ring-Retaining, External, 1-3/8 in Shaft Dia
* T103	O-Ring, 3-1/4 x 3-7/16 in

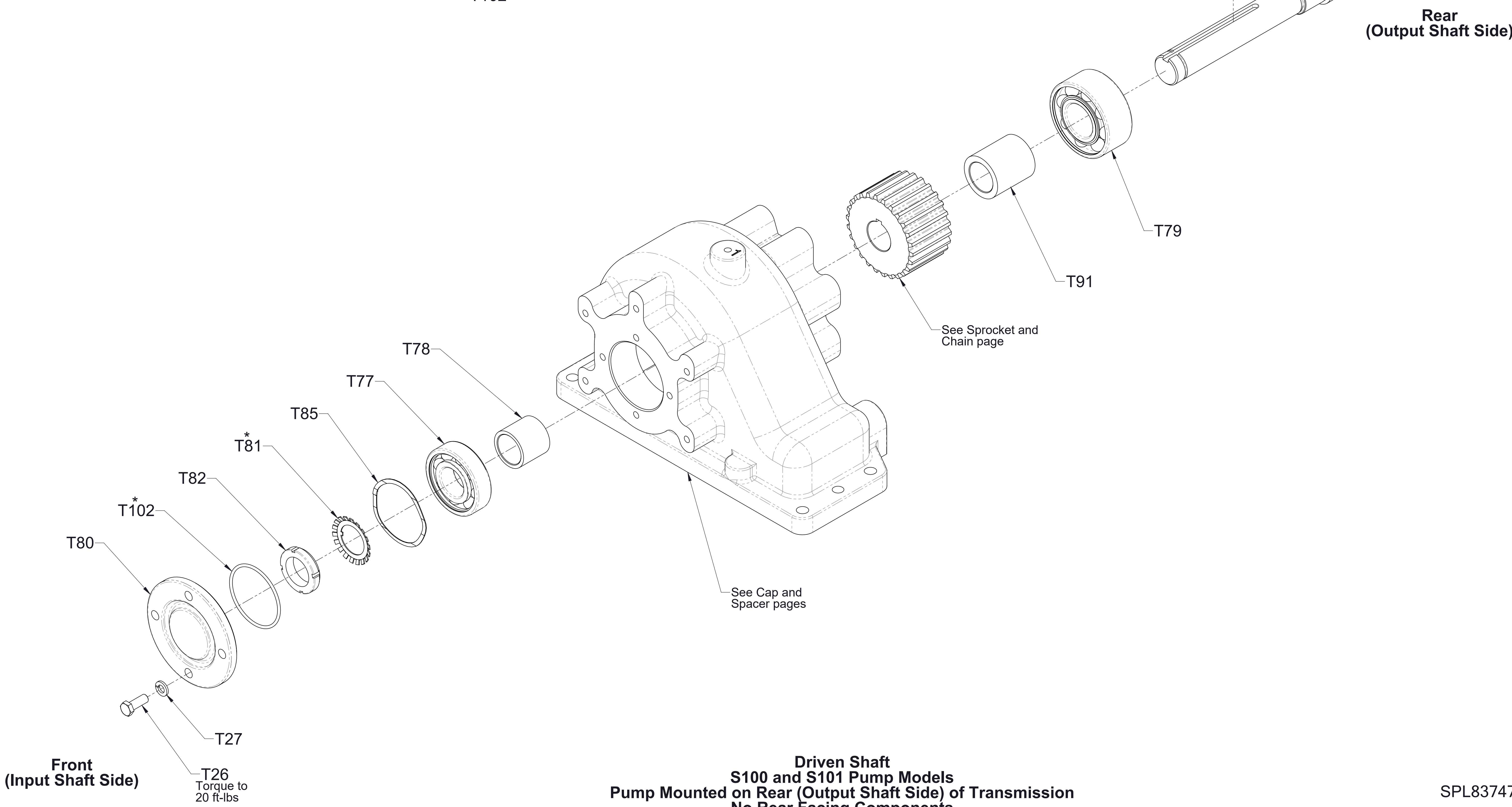
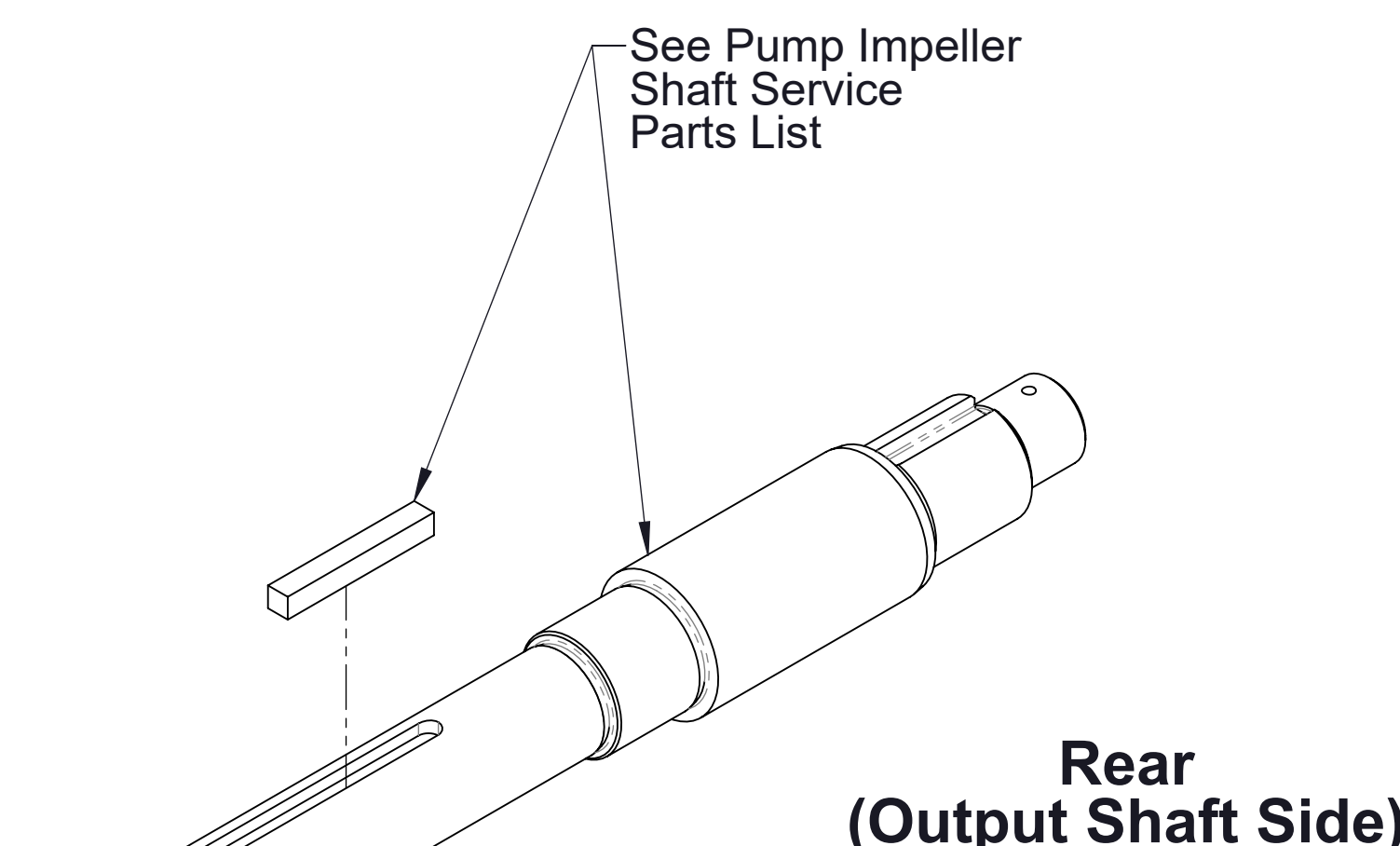
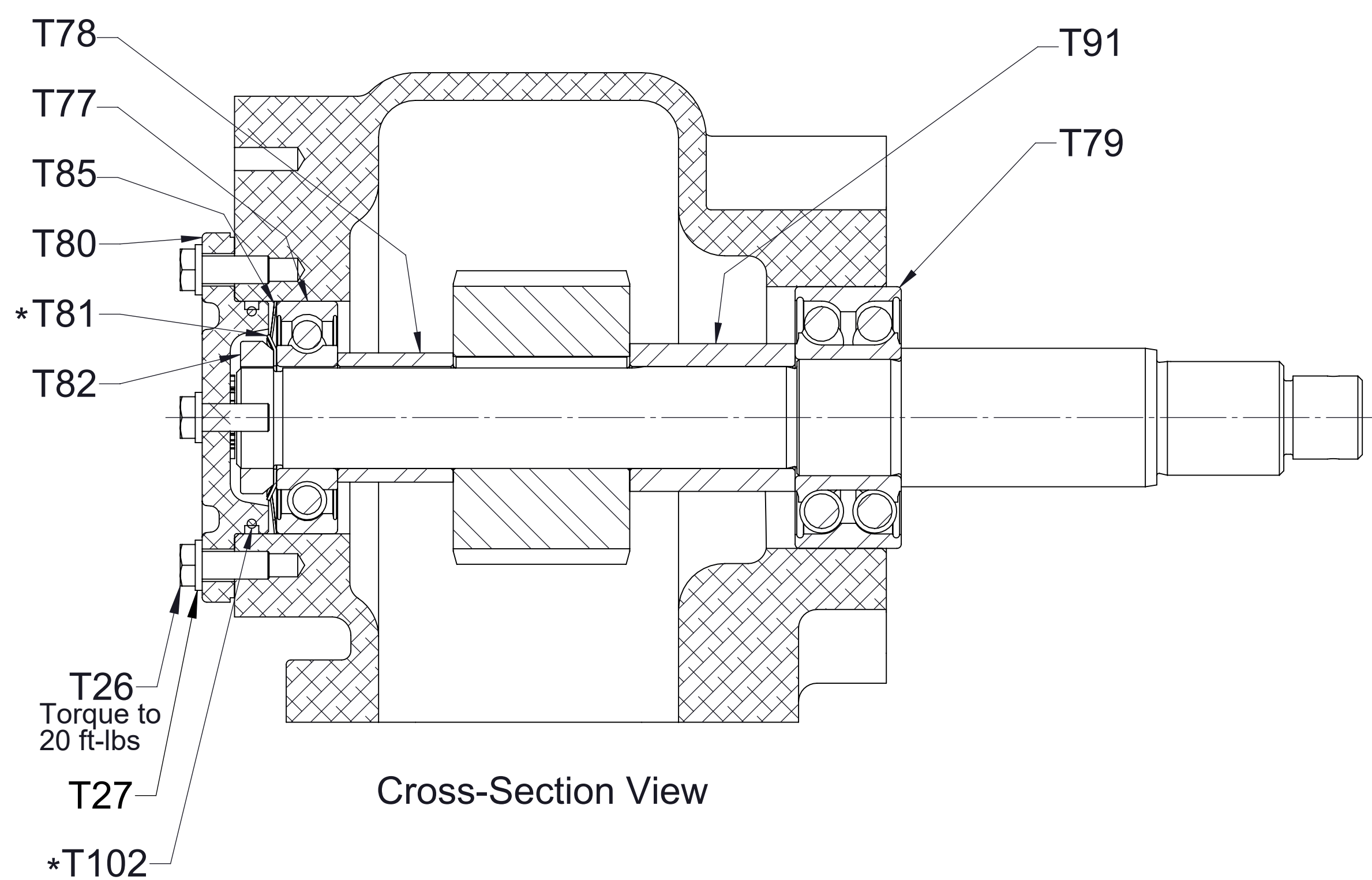
*Included in Ref No. T30 Gasket and O-ring Repair Kit



**Driven Shaft
S100 and S101 Pump Models
Pump Mounted on Front (Input Shaft Side) of Transmission
with Hydraulic Adapter**

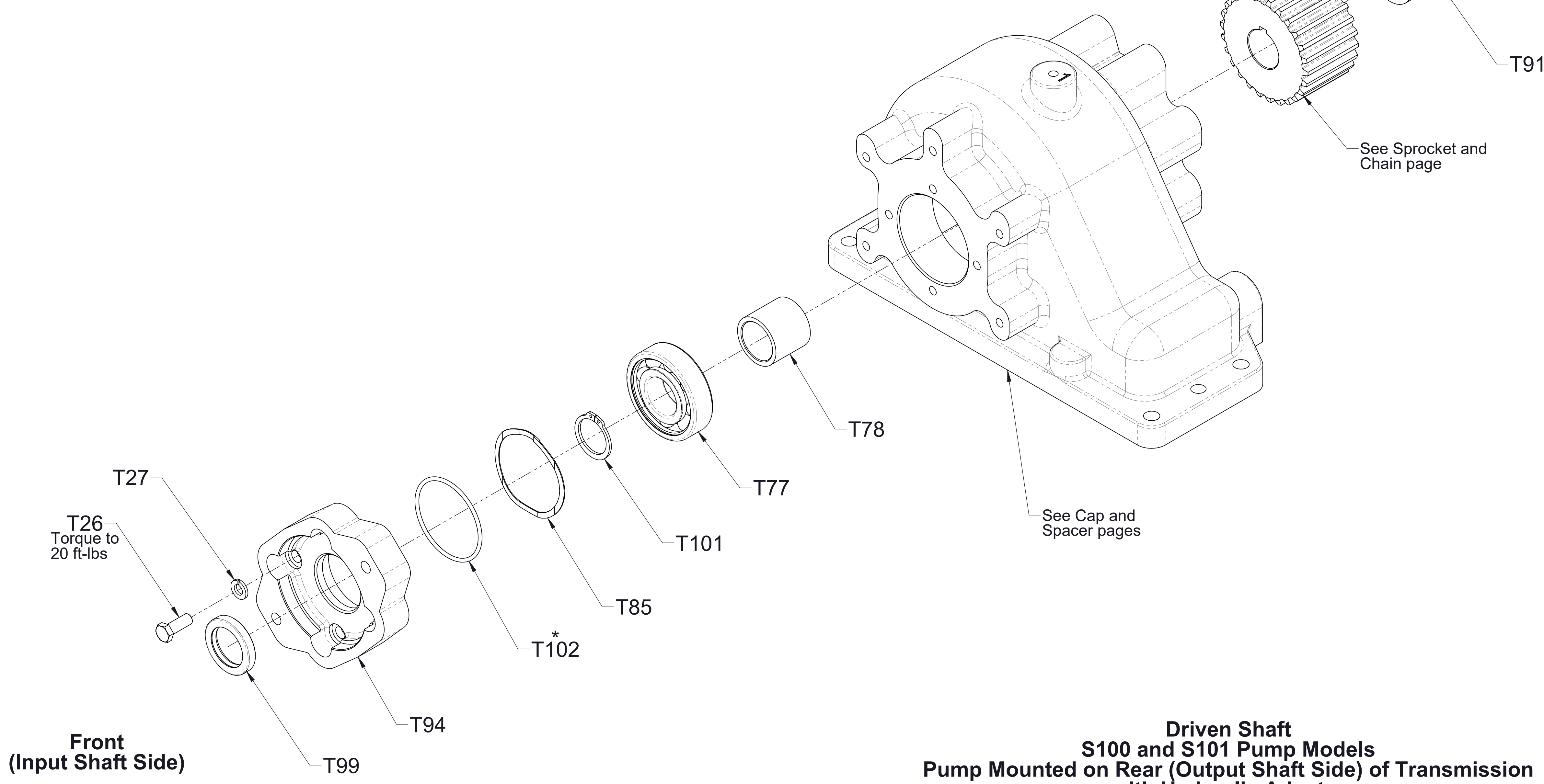
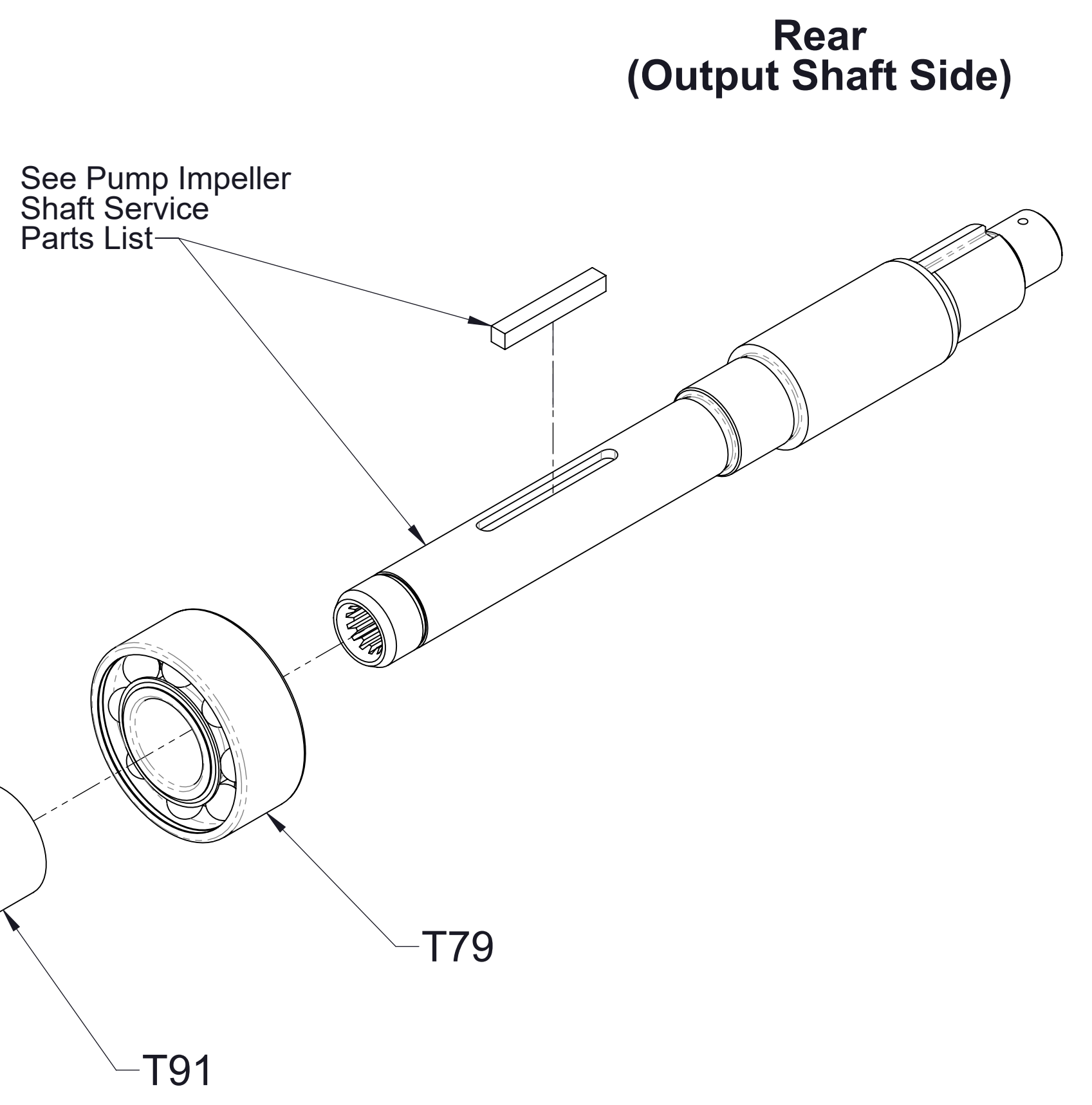
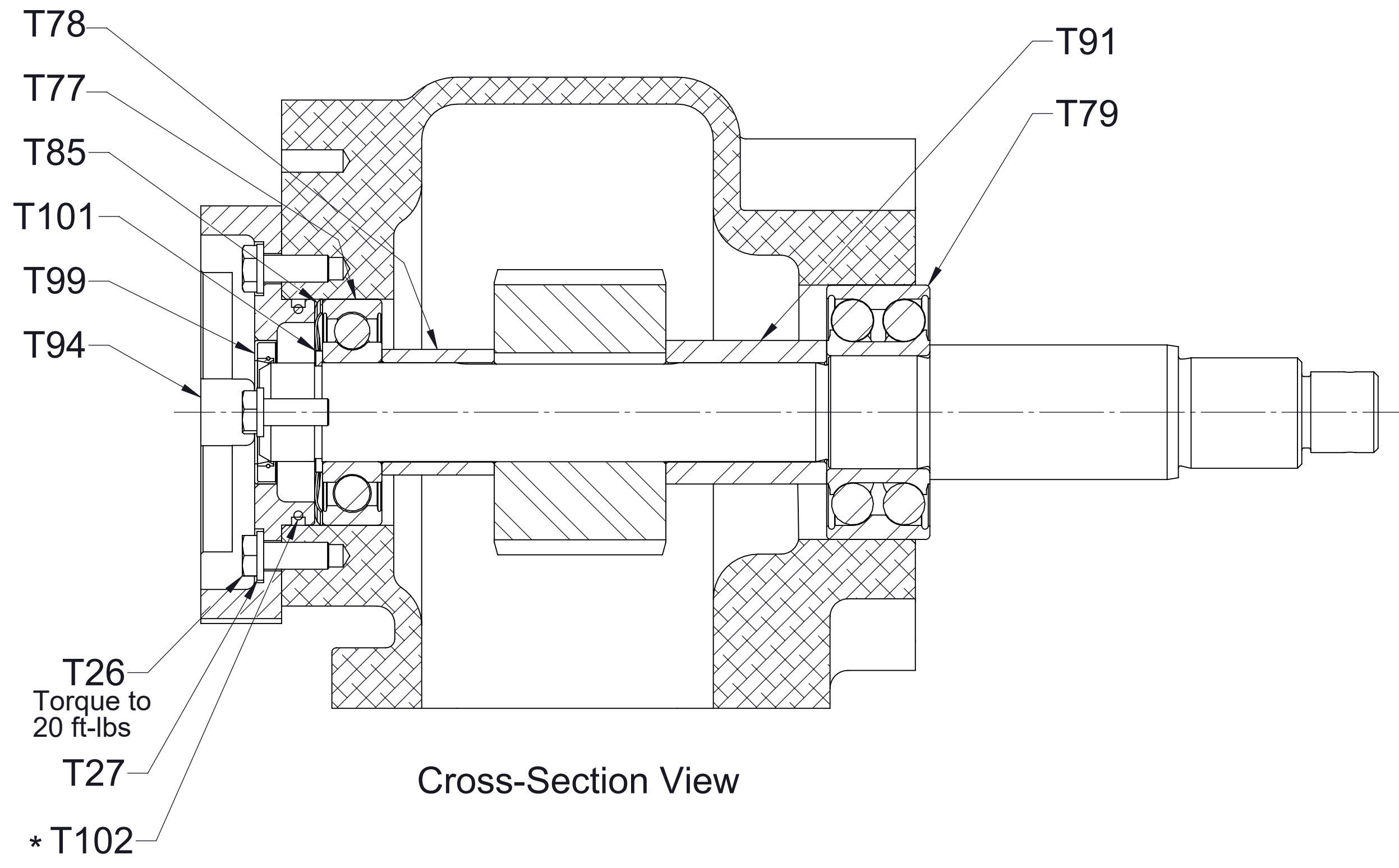
Ref No.	Description
T26	Screw-Hex Hd, 3/8-16 x 1 in
T27	Washer-Lock, 3/8 in
T77	Bearing, Ball, Single Row, 35 x 80 x 21 mm
T78	Spacer
T79	Bearing, Ball, Double Row, 40° Angular Contact, 40 x 90 x 36.5 mm
T80	Cover-Housing
* T81	Washer-Lock, Bearing, W07
T82	Nut-Lock, Bearing, N07
T85	Spring-Wave
T91	Spacer
* T102	O-Ring, 2-3/4 x 3 in

*Included in Ref No. T30 Gasket and O-ring Repair Kit



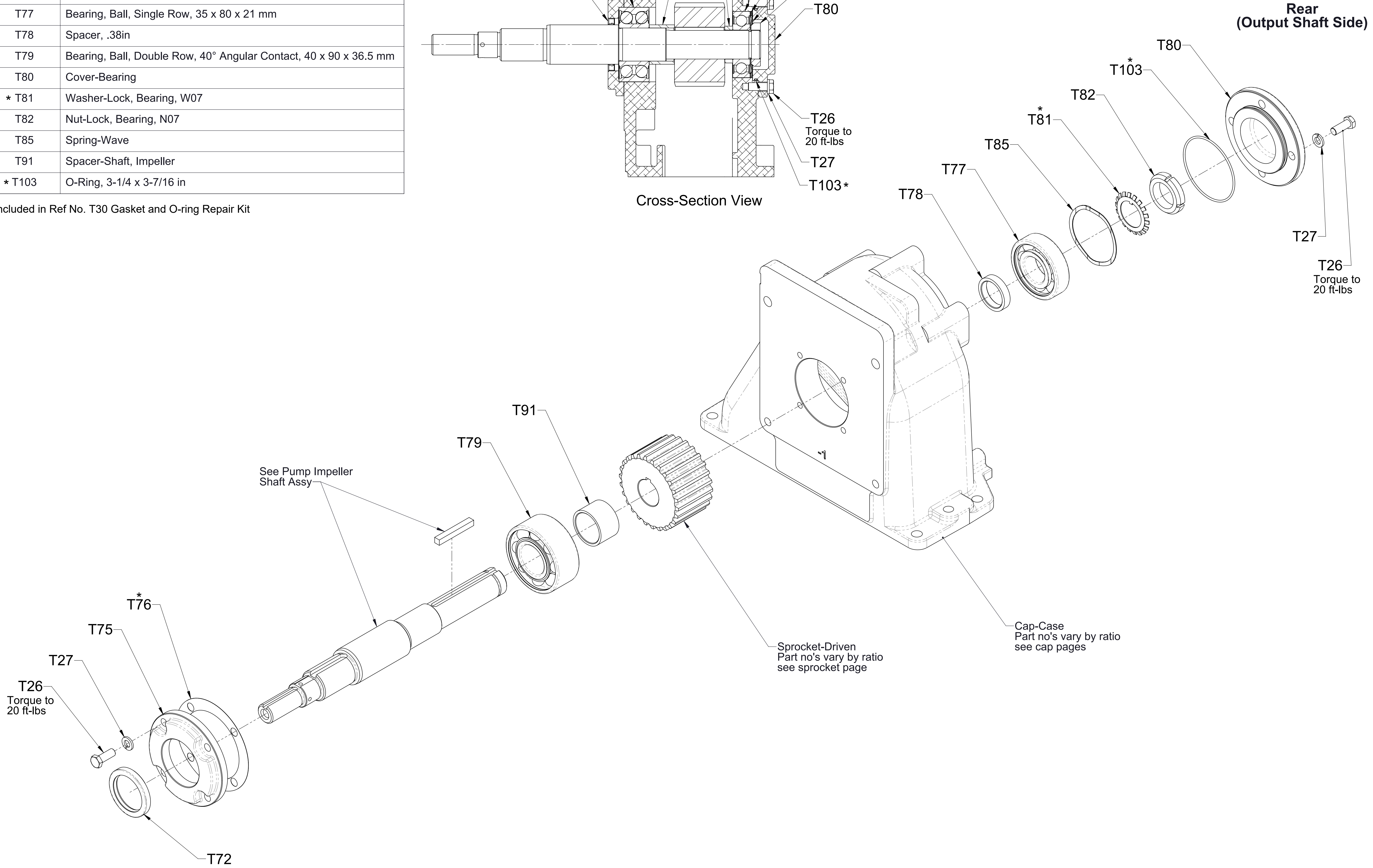
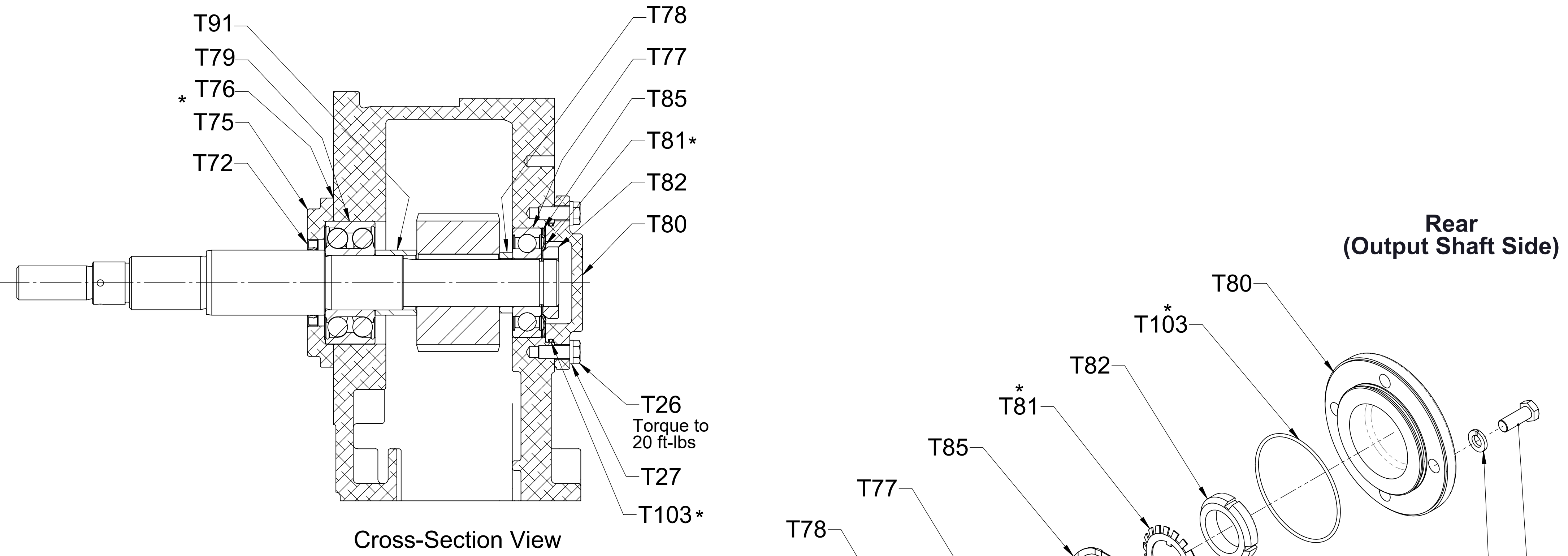
Ref No.	Description
T26	Screw-Hex Hd, 3/8-16 x 1 in
T27	Washer-Lock, 3/8 in
T77	Bearing, Ball, Single Row, 35 x 80 x 21 mm
T78	Spacer
T79	Bearing, Ball, Double Row, 40° Angular Contact, 40 x 90 x 36.5 mm
T85	Spring-Wave
T91	Spacer
T94	Adapter-Hydraulic Flange
T99	Seal-Oil, 1-3/8 x 2 in
T101	Ring-Retaining, External, 1-3/8 in Shaft Dia
* T102	O-Ring, 2-3/4 x 3 in

*Included in Ref No. T30 Gasket and O-ring Repair Kit



Ref No.	Description
T26	Screw-Hex Hd, 3/8-16 x 1 in
T27	Washer-Lock, 3/8 in
T72	Seal-Oil, 1-7/8 x 2-1/2 in
T75	Housing-Oil Seal
* T76	Gasket-Oil Seal Housing
T77	Bearing, Ball, Single Row, 35 x 80 x 21 mm
T78	Spacer, .38in
T79	Bearing, Ball, Double Row, 40° Angular Contact, 40 x 90 x 36.5 mm
T80	Cover-Bearing
* T81	Washer-Lock, Bearing, W07
T82	Nut-Lock, Bearing, N07
T85	Spring-Wave
T91	Spacer-Shaft, Impeller
* T103	O-Ring, 3-1/4 x 3-7/16 in

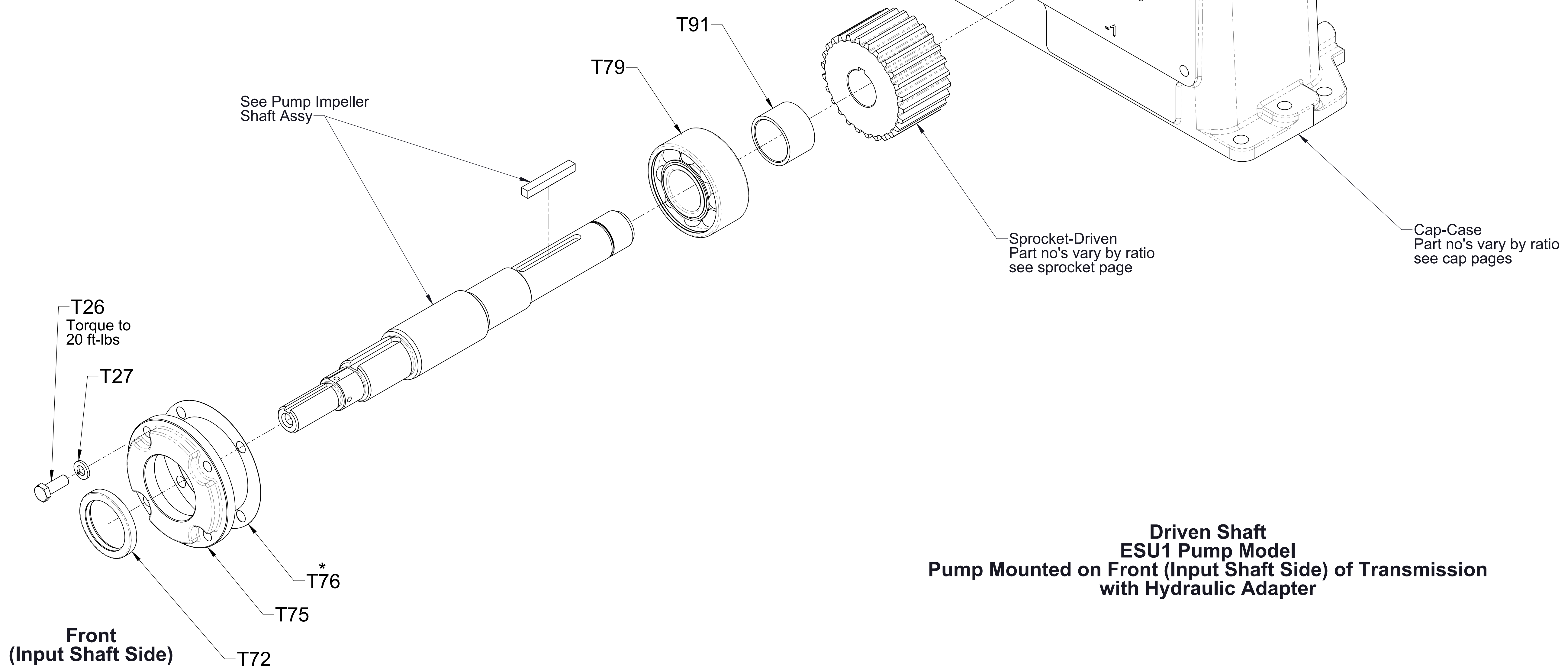
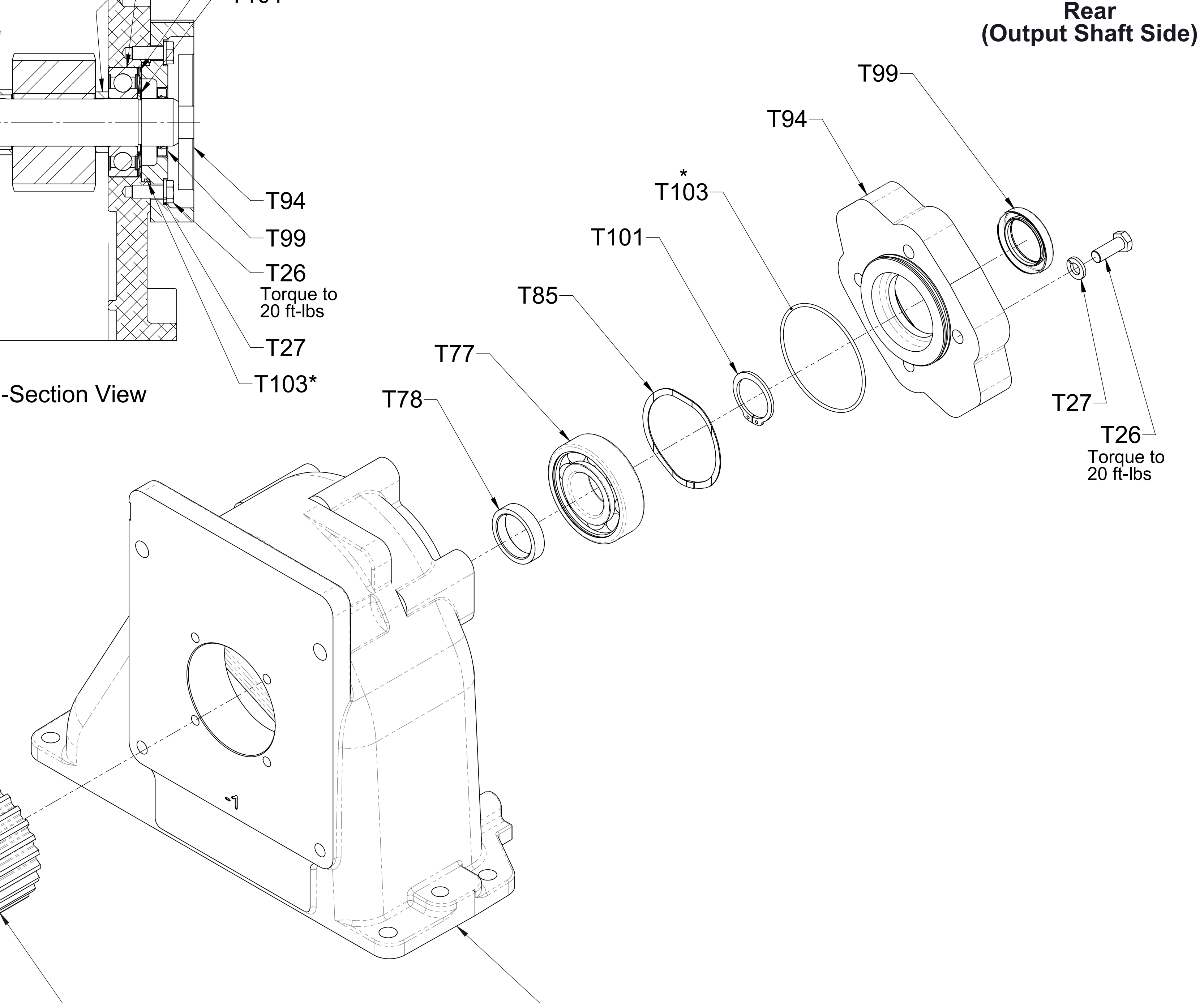
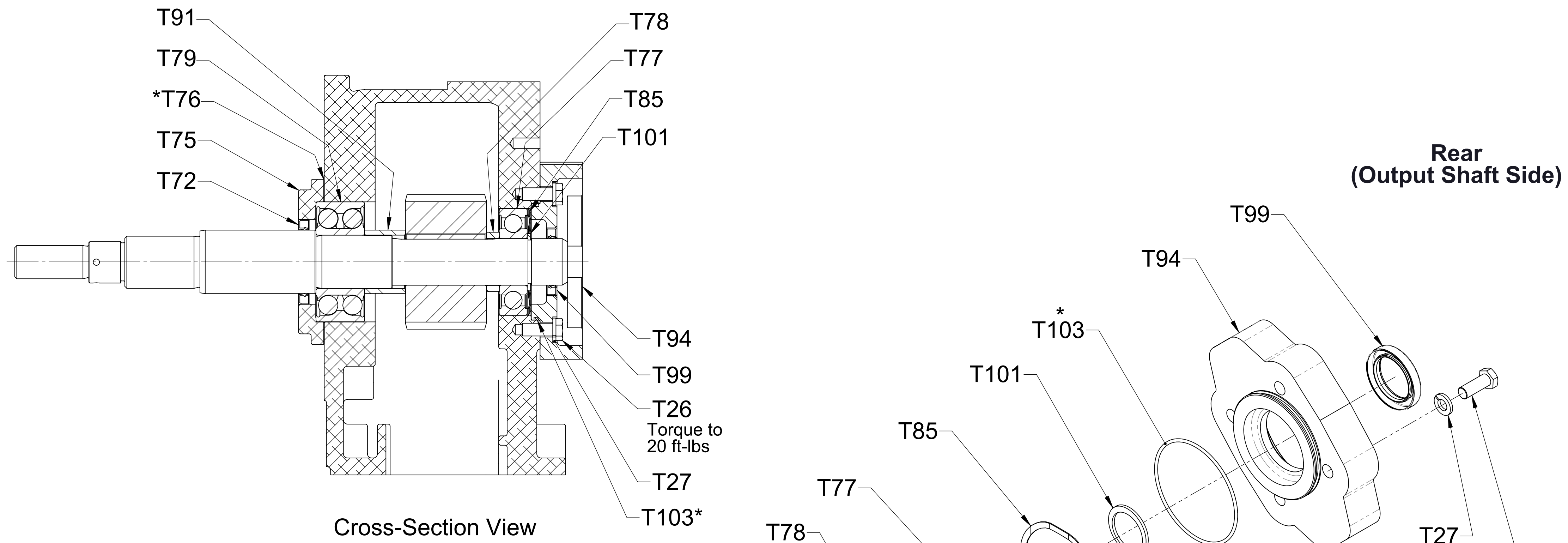
*Included in Ref No. T30 Gasket and O-ring Repair Kit



**Driven Shaft
ESU1 Pump Model
Pump Mounted on Front (Input Shaft Side) of Transmission
No Rear Facing Components**

Ref No.	Description
T26	Screw-Hex Hd, 3/8-16 x 1 in
T27	Washer-Lock, 3/8 in
T72	Seal-Oil, 1-7/8 x 2-1/2 in
T75	Housing-Oil Seal
* T76	Gasket-Oil Seal Housing
T77	Bearing, Ball, Single Row, 35 x 80 x 21 mm
T78	Spacer-Shaft, Impeller
T79	Bearing, Ball, Double Row, 40° Angular Contact, 40 x 90 x 36.5 mm
T85	Spring-Wave
T91	Space-Shaft, Impeller
T94	Adapter-Hydraulic Flange
T99	Seal-Oil, 1-3/8 x 2 in
T101	Ring-Retaining, External, 1-3/8 in Shaft Dia
* T103	O-Ring, 3-1/4 x 3-7/16 in

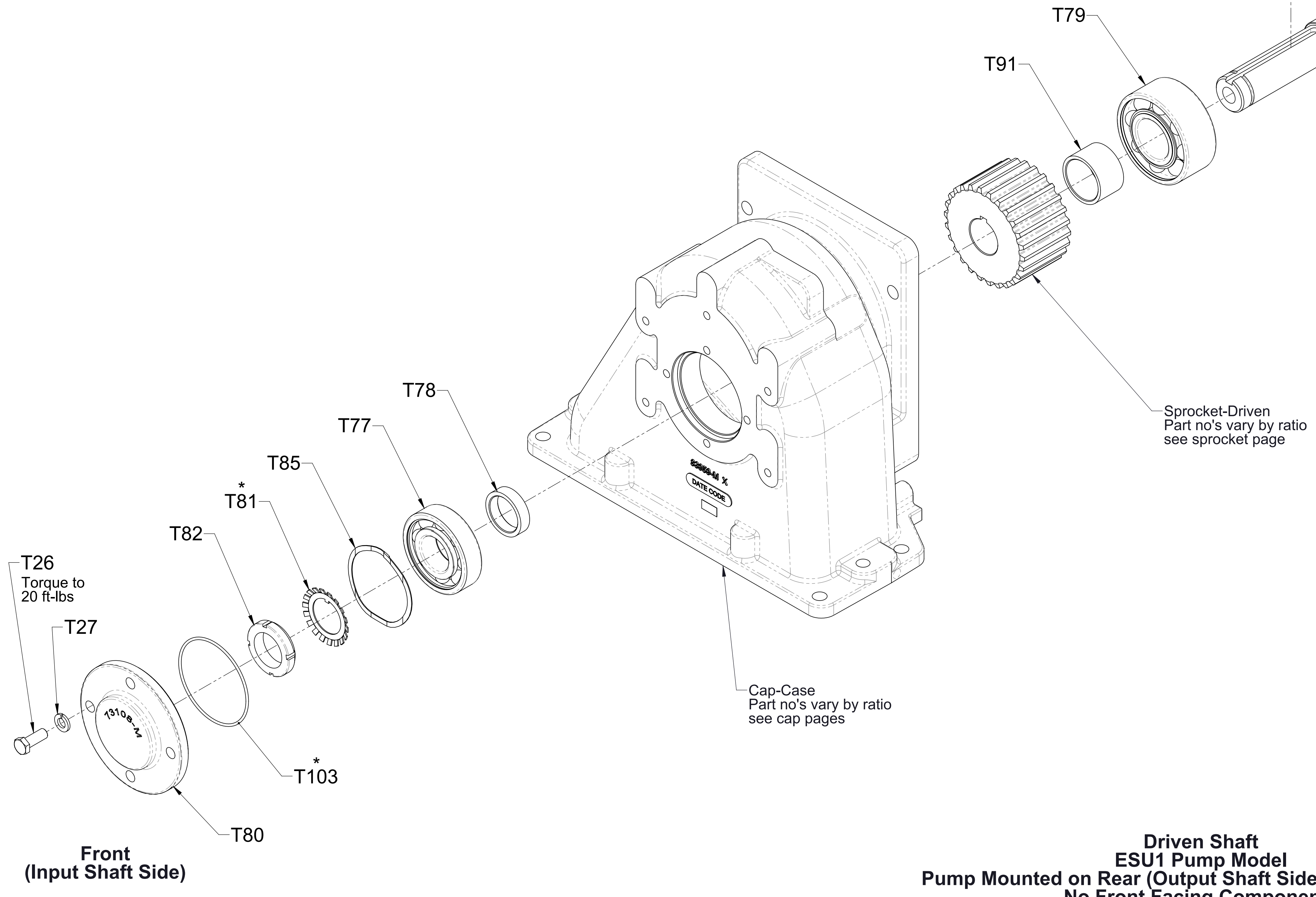
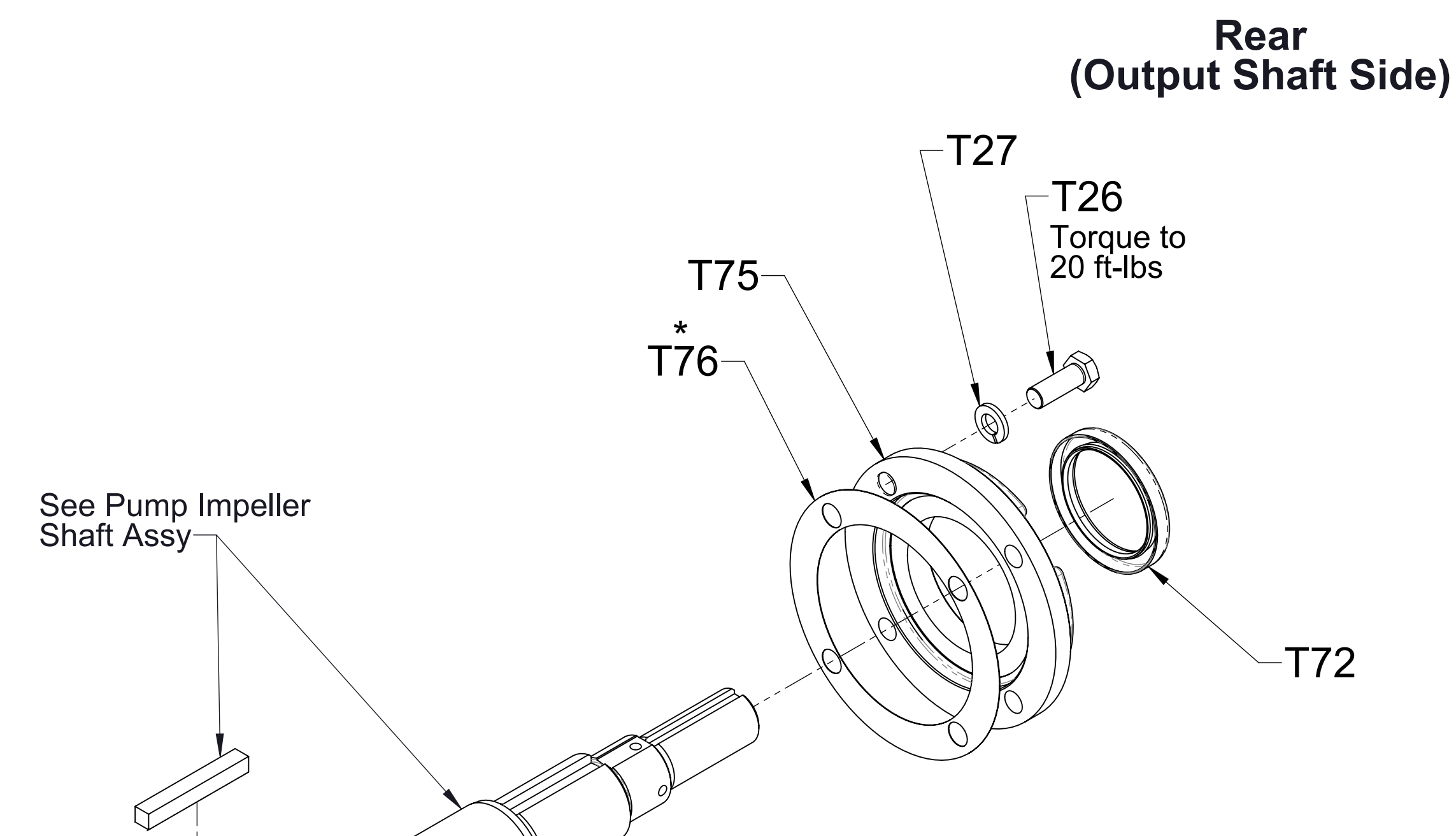
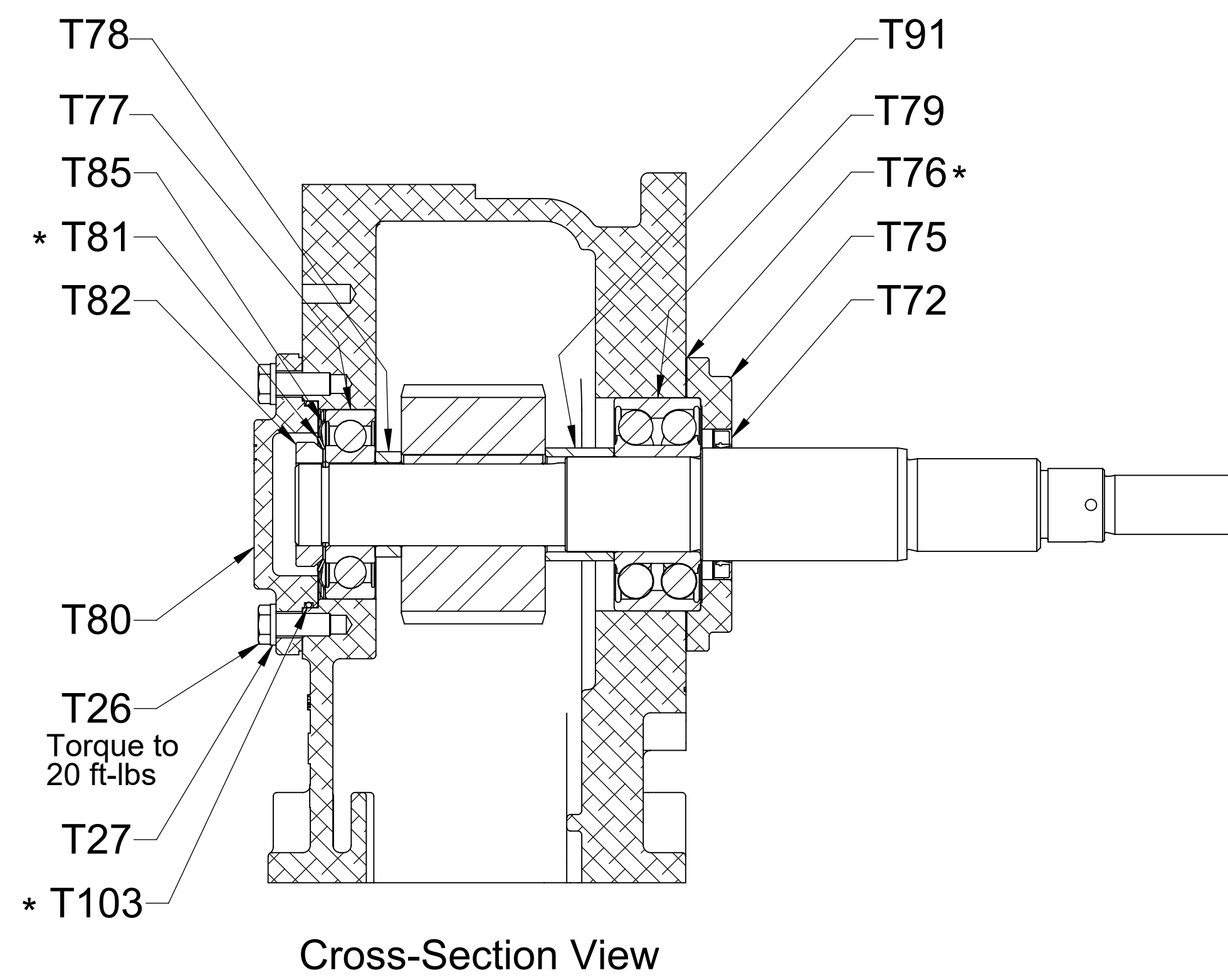
*Included in Ref No. T30 Gasket and O-ring Repair Kit



**Driven Shaft
ESU1 Pump Model
Pump Mounted on Front (Input Shaft Side) of Transmission
with Hydraulic Adapter**

Ref No.	Description
T26	Screw-Hex Hd, 3/8-16 x 1 in
T27	Washer-Lock, 3/8 in
T72	Seal-Oil, 1-7/8 x 2-1/2 in
T75	Housing-Oil Seal
* T76	Gasket-Oil Seal Housing
T77	Bearing, Ball, Single Row, 35 x 80 x 21 mm
T78	Space-Shaft, Impeller
T79	Bearing, Ball, Double Row, 40° Angular Contact, 40 x 90 x 36.5 mm
T80	Cover-Bearing
* T81	Washer-Lock, Bearing, W07
T82	Nut-Lock, Bearing, N07
T85	Spring-Wave
T91	Spacer-Shaft, Impeller
* T103	O-Ring, 3-1/4 x 3-7/16 in

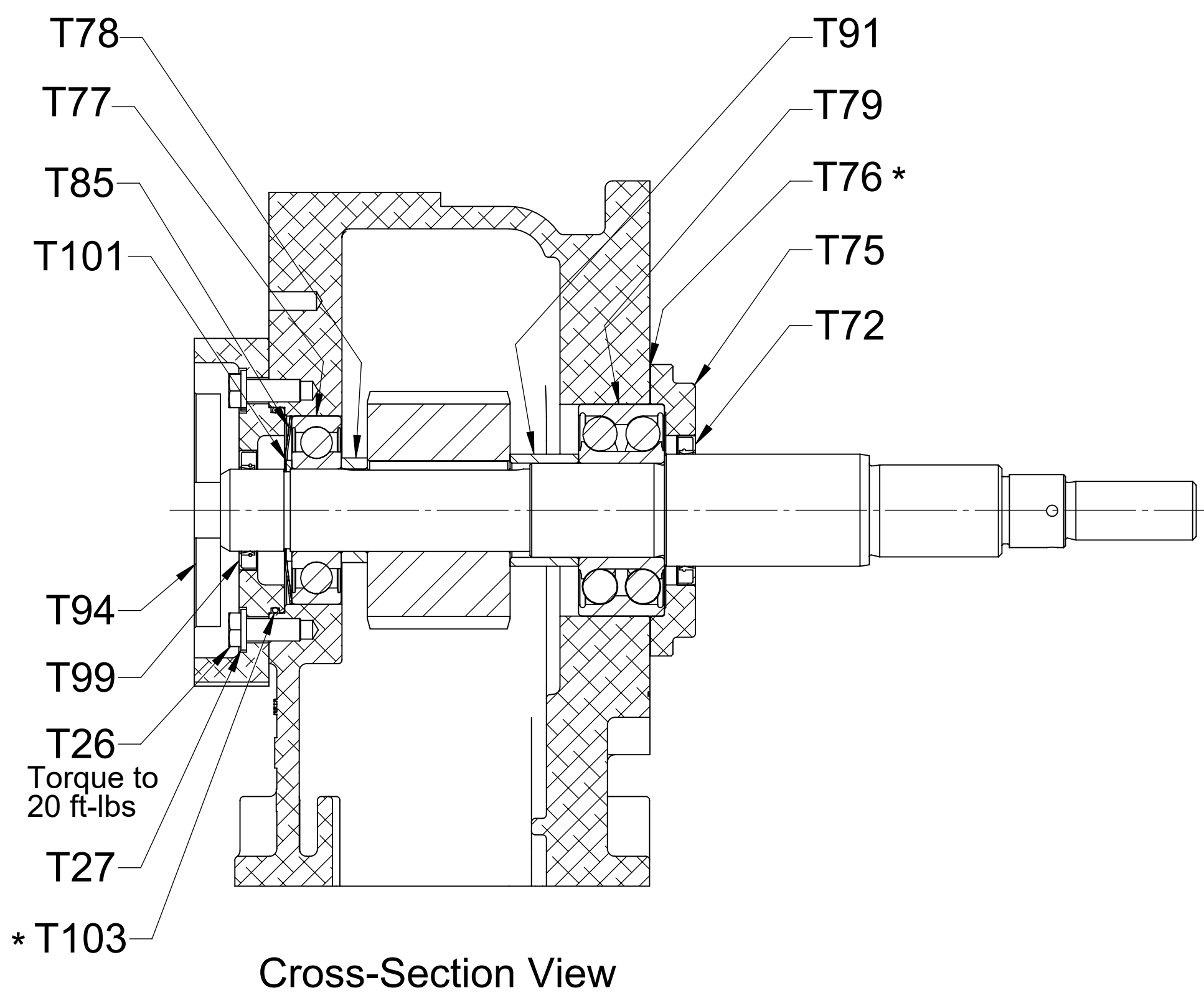
*Included in Ref No. T30 Gasket and O-ring Repair Kit



Front (Input Shaft Side)

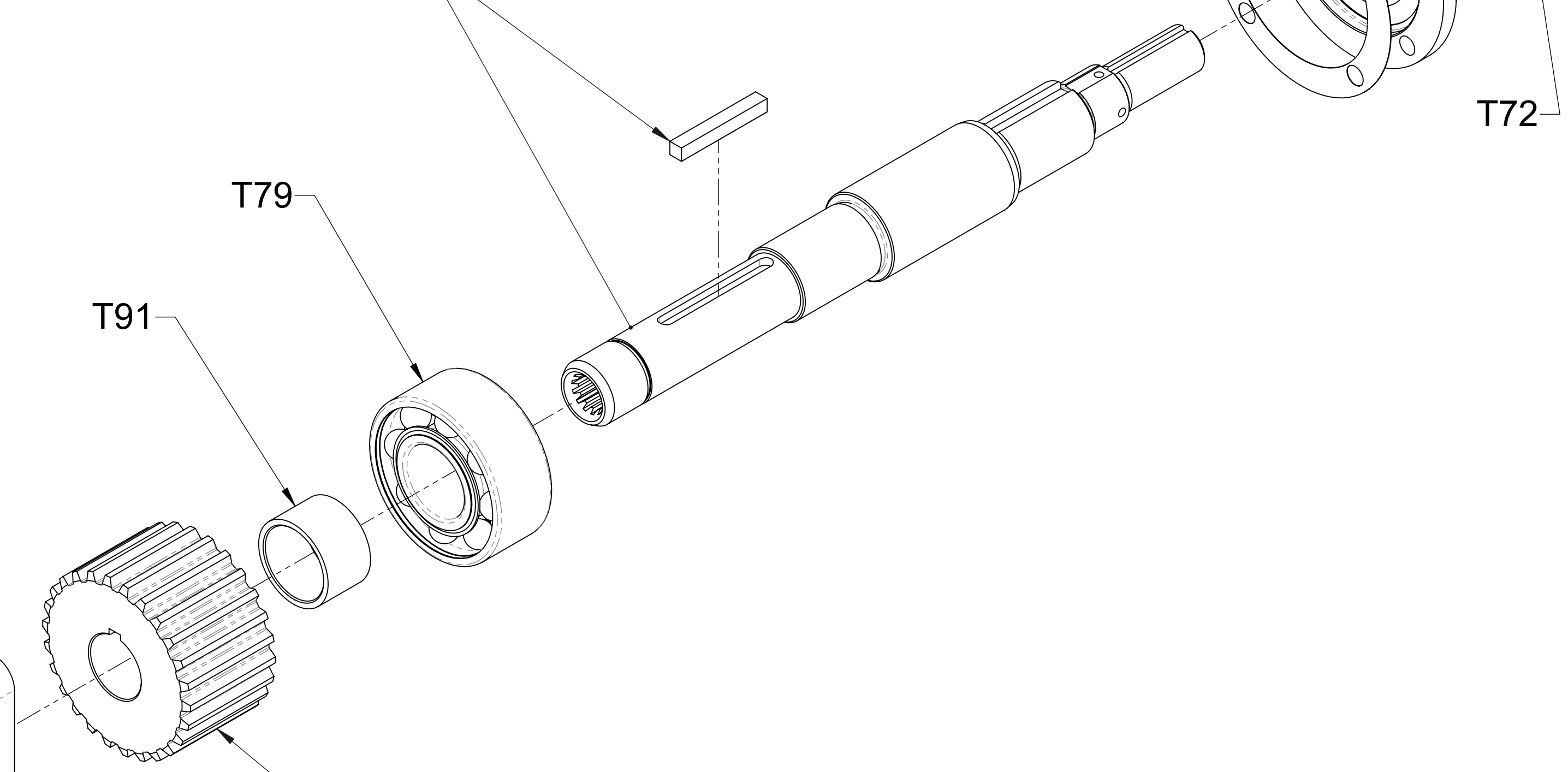
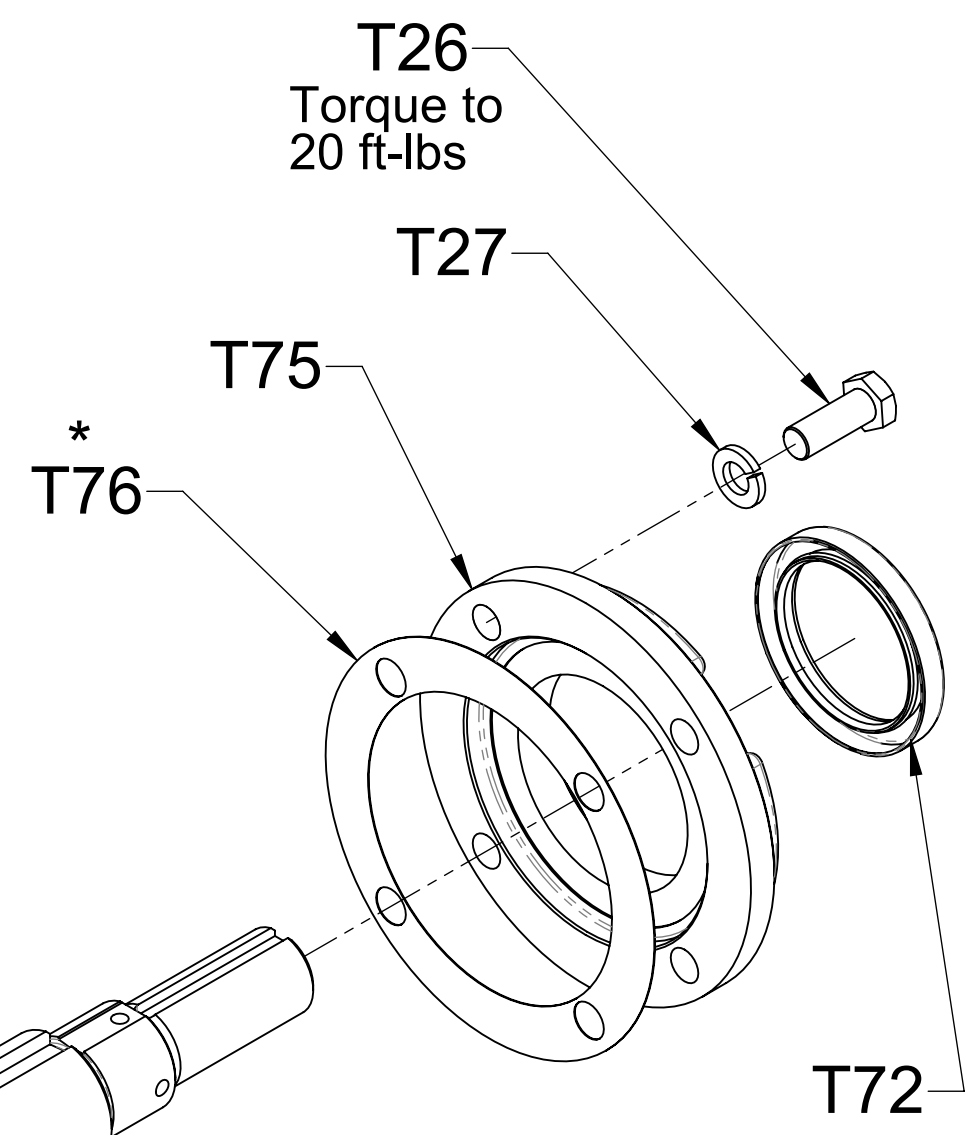
Ref No.	Description
T26	Screw-Hex Hd, 3/8-16 x 1 in
T27	Washer-Lock, 3/8 in
T72	Seal-Oil, 1-7/8 x 2-1/2 in
T75	Housing-Oil Seal
* T76	Gasket-Oil Seal Housing
T77	Bearing, Ball, Single Row, 35 x 80 x 21 mm
T78	Space-Shaft, Impeller
T79	Bearing, Ball, Double Row, 40° Angular Contact, 40 x 90 x 36.5 mm
T85	Spring-Wave
T91	Spacer-Shaft, Impeller
T94	Adapter-Hydraulic Flange
T99	Seal-Oil, 1-3/8 x 2 in
T101	Ring-Retaining, External, 1-3/8 in Shaft Dia
* T103	O-Ring, 3-1/4 x 3-7/16 in

*Included in Ref No. T30 Gasket and O-ring Repair Kit



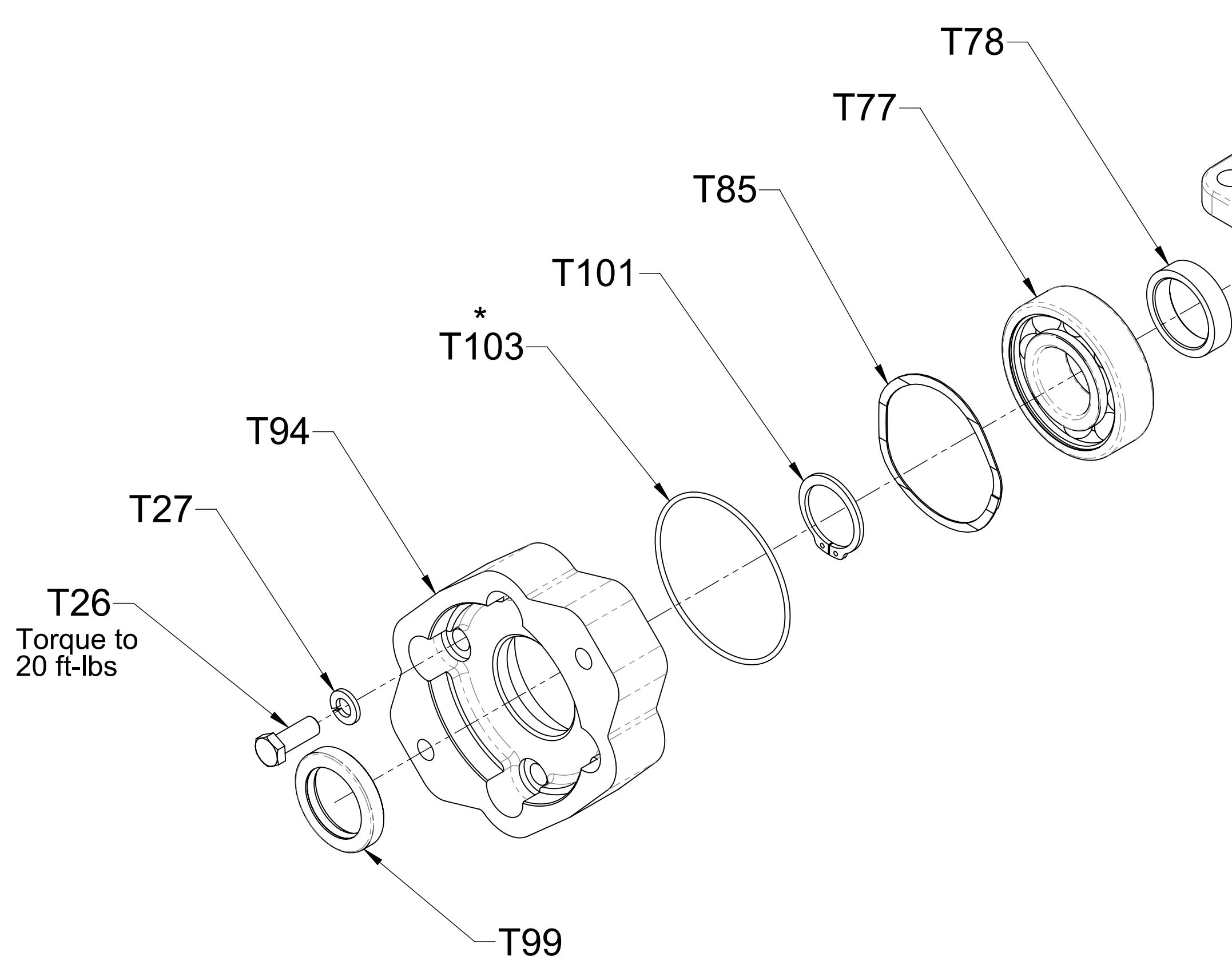
See Pump Impeller Shaft Assy

Rear (Output Shaft Side)



Sprocket-Driven Part no's vary by ratio see sprocket page

Cap-Case Part no's vary by ratio see cap pages

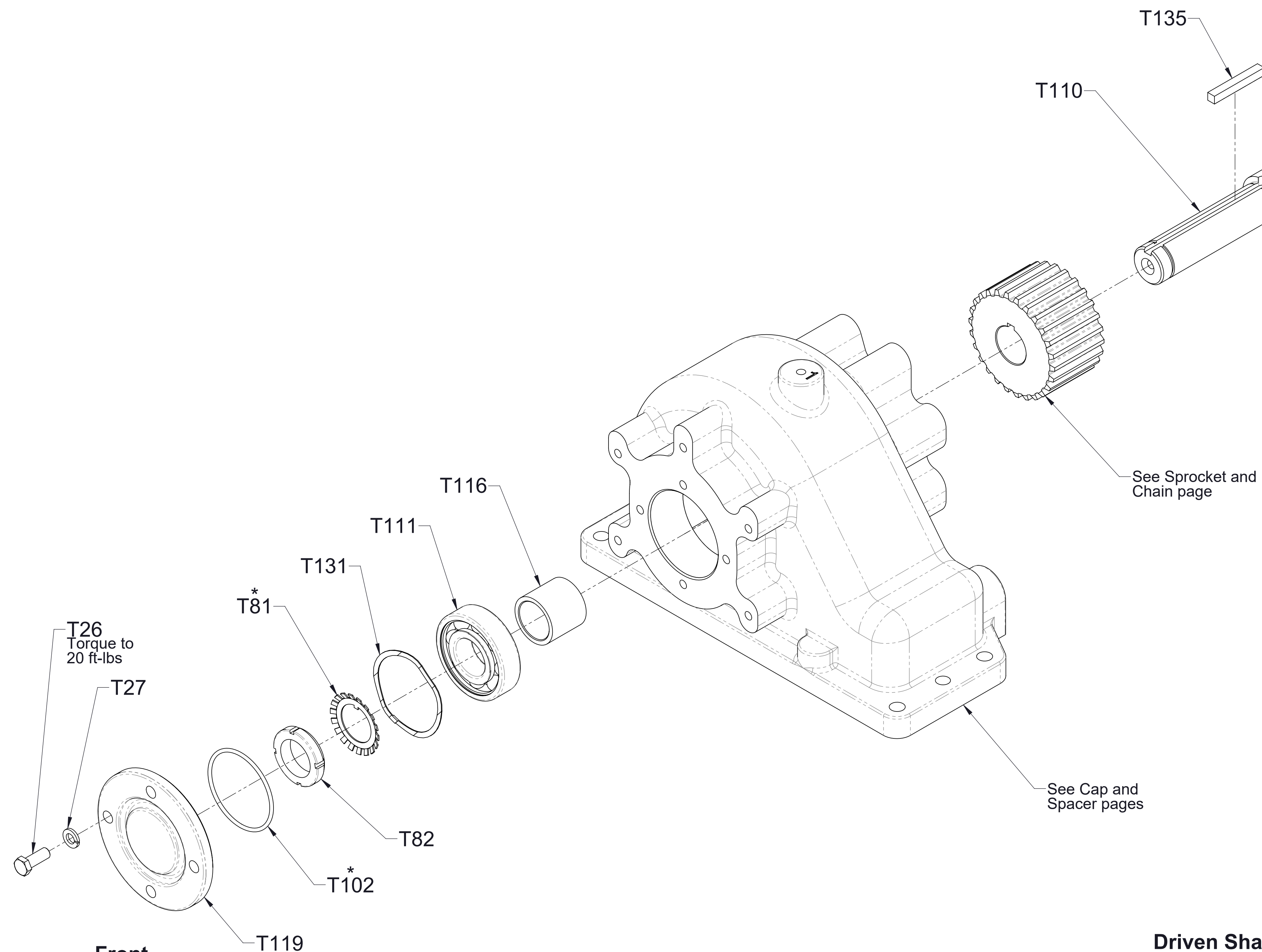
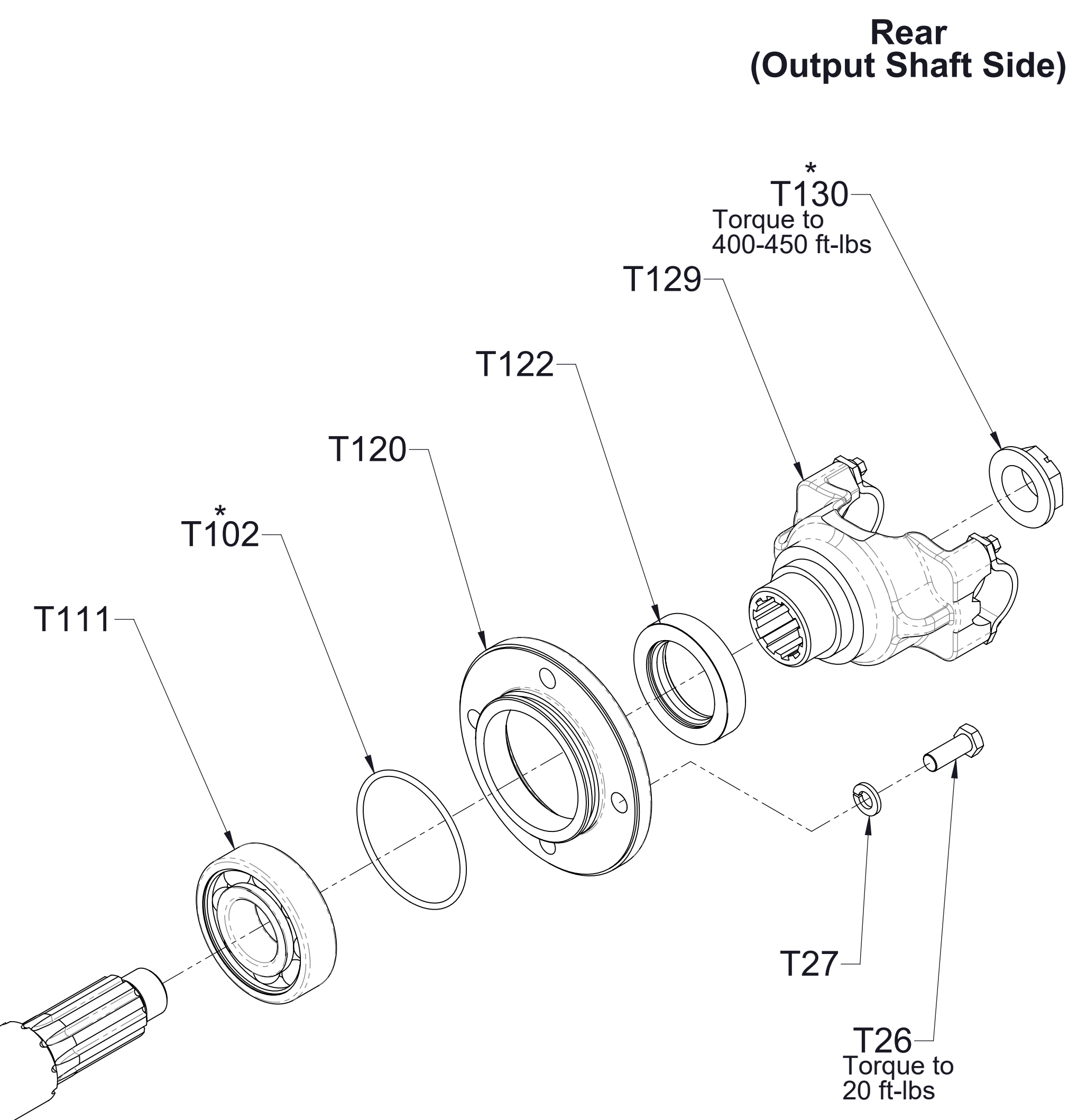
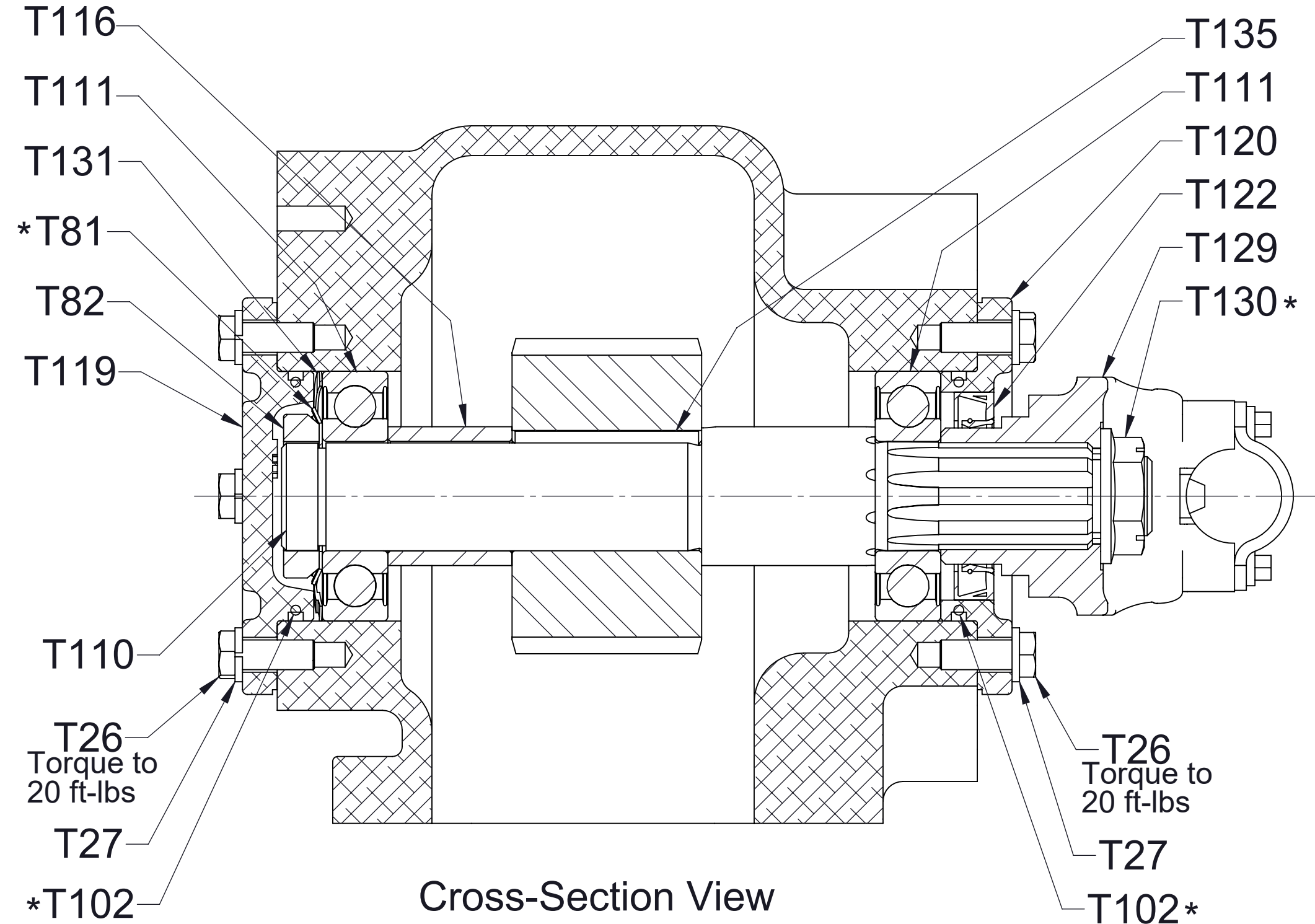


Front (Input Shaft Side)

**Driven Shaft
ESU1 Pump Model
Pump Mounted on Rear (Output Shaft Side) of Transmission
with Hydraulic Adapter**

Ref No.	Description
T26	Screw-Hex Hd, 3/8-16 x 1 in
T27	Washer-Lock, 3/8 in
* T81	Washer-Lock, Bearing, W07
T82	Nut-Lock, Bearing, N07
* T102	O-Ring, 2-3/4 x 3 in
T110	Shaft-Driven
T111	Bearing, Ball, Single Row, 35 x 80 x 21 mm
T116	Spacer
T119	Cover-Housing
T120	Housing-Oil Seal
T122	Seal-Oil, 1-23/32 x 2-5/8 in
T129	Yoke-End
* T130	Nut-Self Locking, 1-20 UNEF-2B
T131	Spring-Wave
T135	Key-Square, 5/16 x 2-5/16 in

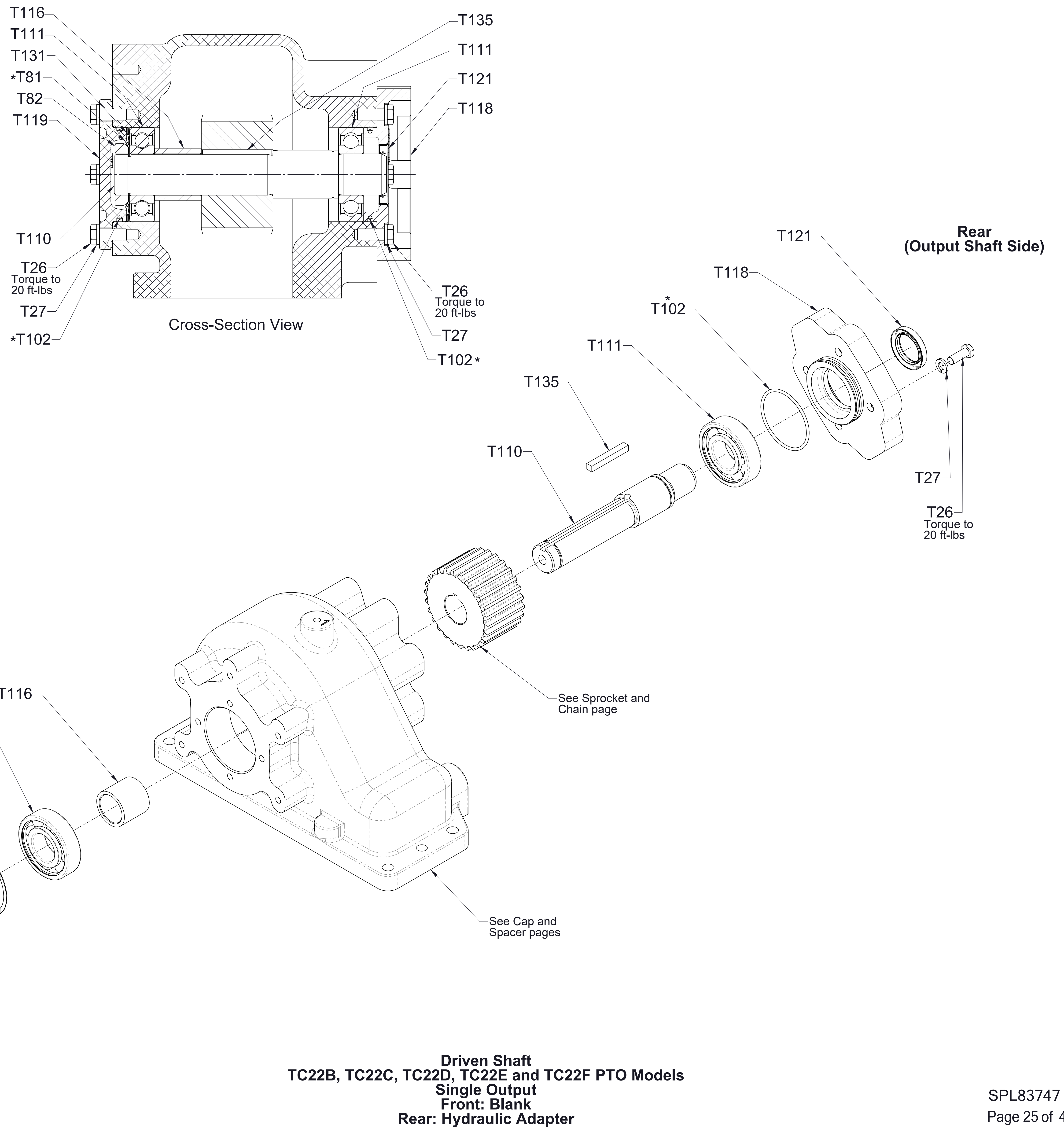
*Included in Ref No. T30 Gasket and O-ring Repair Kit



Driven Shaft
TC22B, TC22C, TC22D, TC22E and TC22F PTO Models
Single Output
Front: Blank
Rear: 1410 Series End Yoke

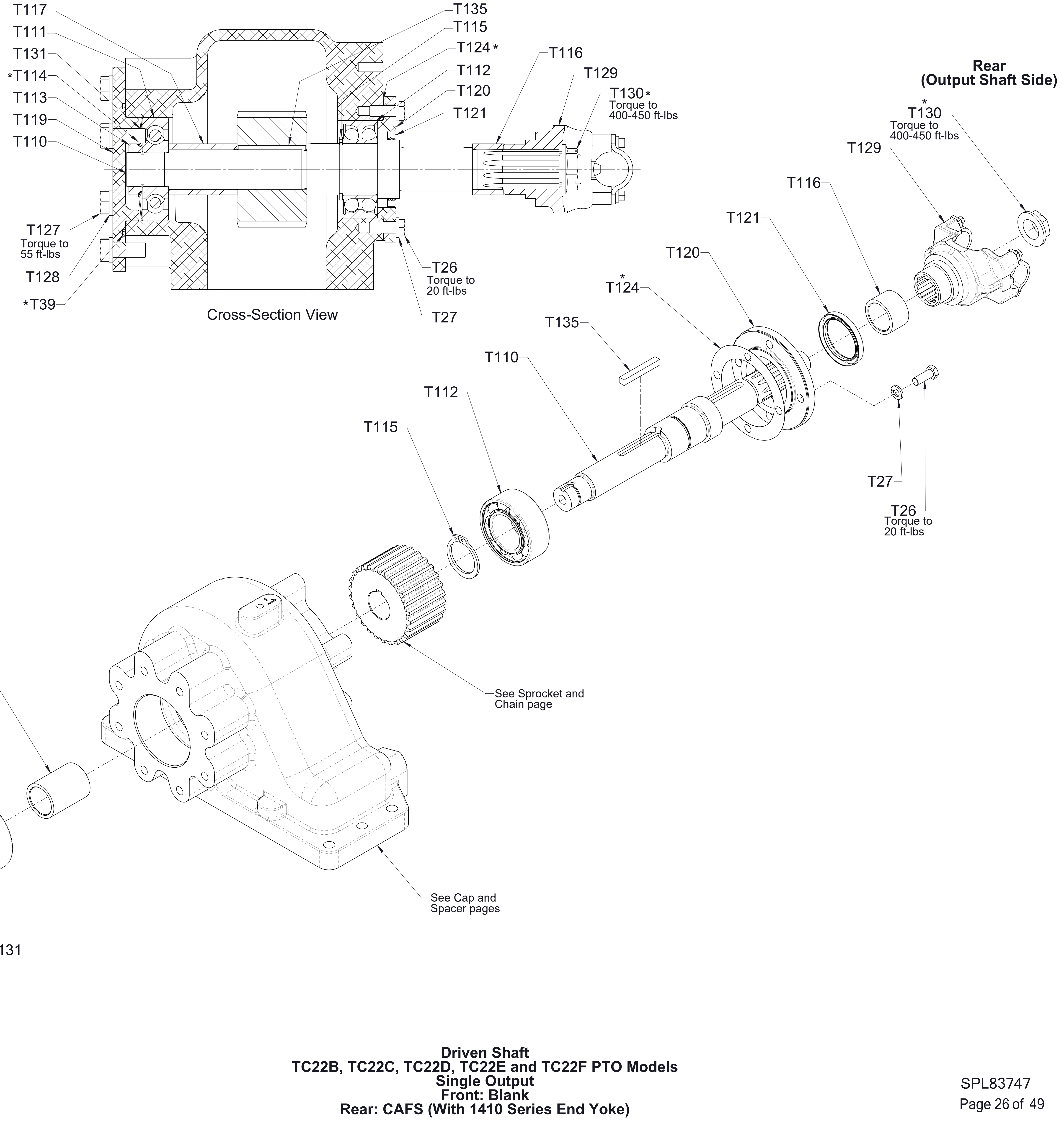
Ref No.	Description
T26	Screw-Hex Hd, 3/8-16 x 1 in
T27	Washer-Lock, 3/8 in
* T81	Washer-Lock, Bearing, W07
T82	Nut-Lock, Bearing, N07
* T102	O-Ring, 2-3/4 x 3 in
T110	Shaft-Driven, Rear Facing
T111	Bearing, Ball, Single Row, 35 x 80 x 21 mm
T116	Spacer
T118	Adapter-Hydraulic Flange
T119	Cover-Housing
T121	Seal-Oil, 1-3/8 x 2 in
T131	Spring-Wave
T135	Key-Square, 5/16 x 2-5/16 in

*Included in Ref No. T30 Gasket and O-ring Repair Kit



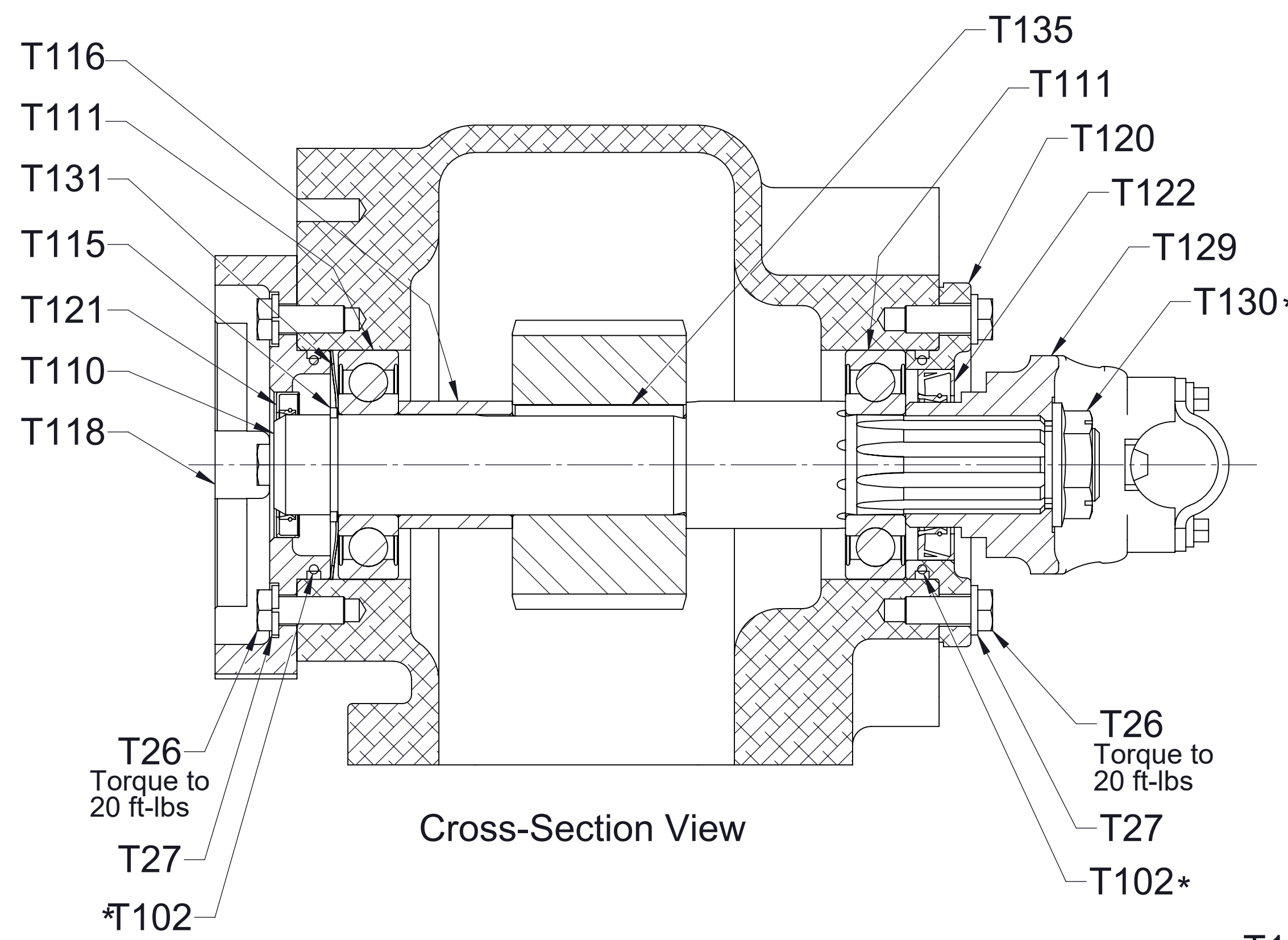
Ref No.	Description
T26	Screw-Hex Hd, 3/8-16 x 1 in
T27	Washer-Lock, 3/8 in
* T39	O-Ring, 4-1/4 x 4-1/2 in
T110	Shaft-Driven
T111	Bearing, Ball, Single Row, 30 x 90 x 23 mm
T112	Bearing, Ball, Double Row, 45 x 85 x 30.2 mm
T113	Nut-Lock, Bearing, N06
* T114	Washer-Lock, Bearing, W06
T115	Ring-Retaining, External, 1-3/4 in Shaft Dia
T116	Spacer-Bearing
T117	Spacer-Bearing
T119	Cover-Bearing
T120	Housing-Oil Seal
T121	Seal-Oil, 2 x 2-5/8 in
* T124	Shim-Shaft, Driven
T127	Screw-Hex Hd, 1/2-13 x 1-1/4 in
T128	Washer-Lock, 1/2 in
T129	Yoke-End
* T130	Nut-Self Locking, 1-20 UNEF-2B
T131	Spring-Wave
T135	Key-Square, 5/16 x 2-5/16 in

*Included in Ref No. T30 Gasket and O-ring Repair Kit

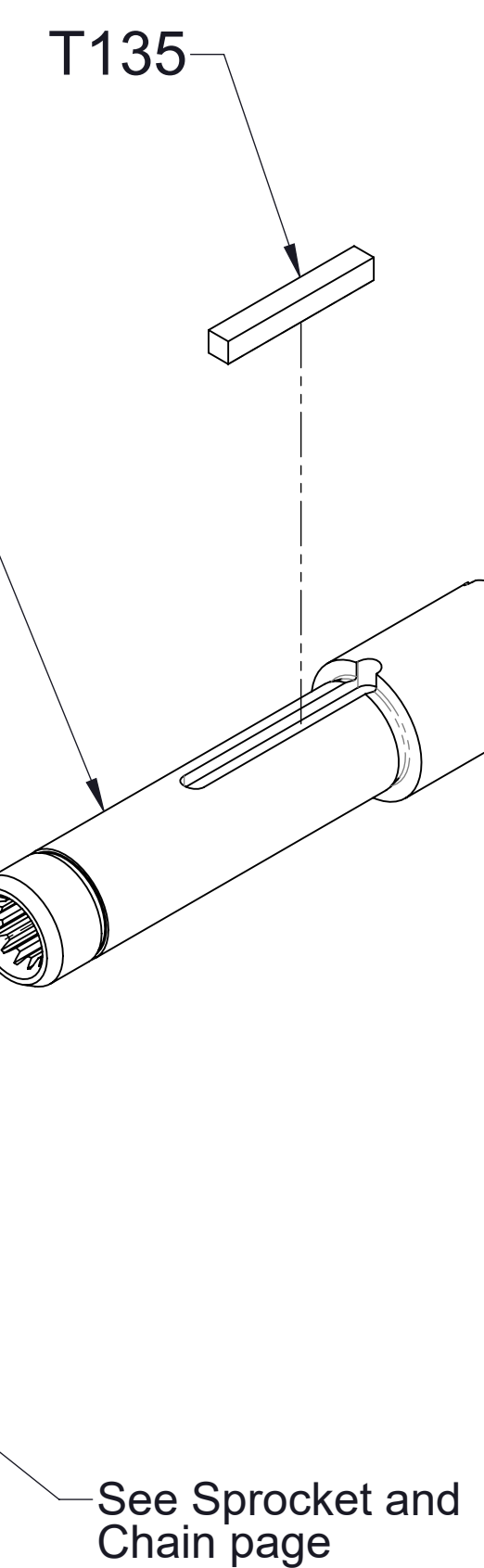
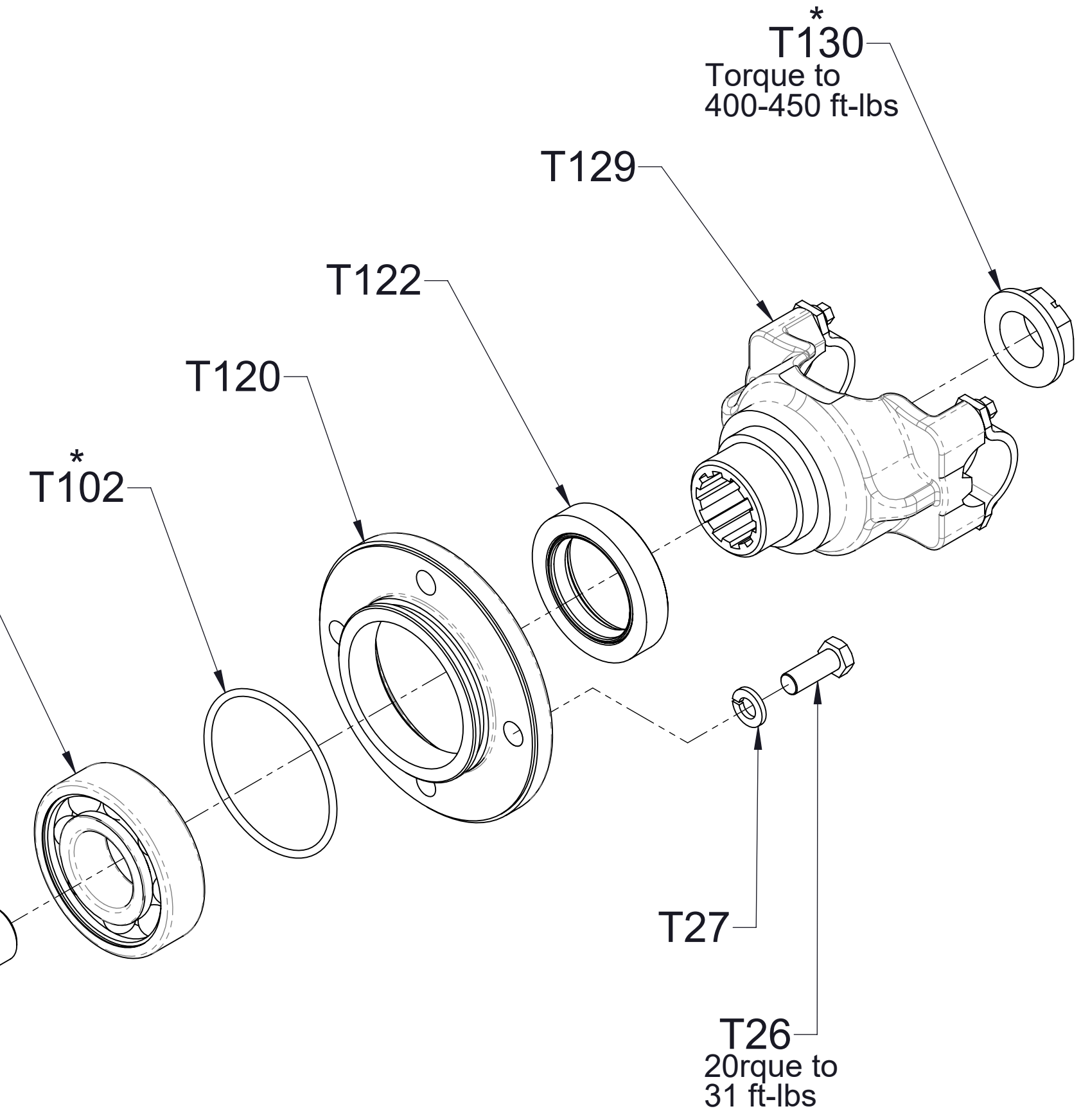


Ref No.	Description
T26	Screw-Hex Hd, 3/8-16 x 1 in
T27	Washer-Lock, 3/8 in
*T102	O-Ring, 2-3/4 x 3 in
T110	Shaft-Driven
T111	Bearing, Ball, Single Row, 35 x 80 x 21 mm
T115	Ring-Retaining, External, 1-3/8 in Shaft Dia
T116	Spacer
T118	Adapter-Hydraulic Flange
T120	Housing-Oil Seal
T121	Seal-Oil, 1-3/8 x 2 in
T122	Seal-Oil, 1-23/32 x 2-5/8 in
T129	Yoke-End
*T130	Nut-Self Locking, 1-20 UNEF-2B
T131	Spring-Wave
T135	Key-Square, 5/16 x 2-5/16 in

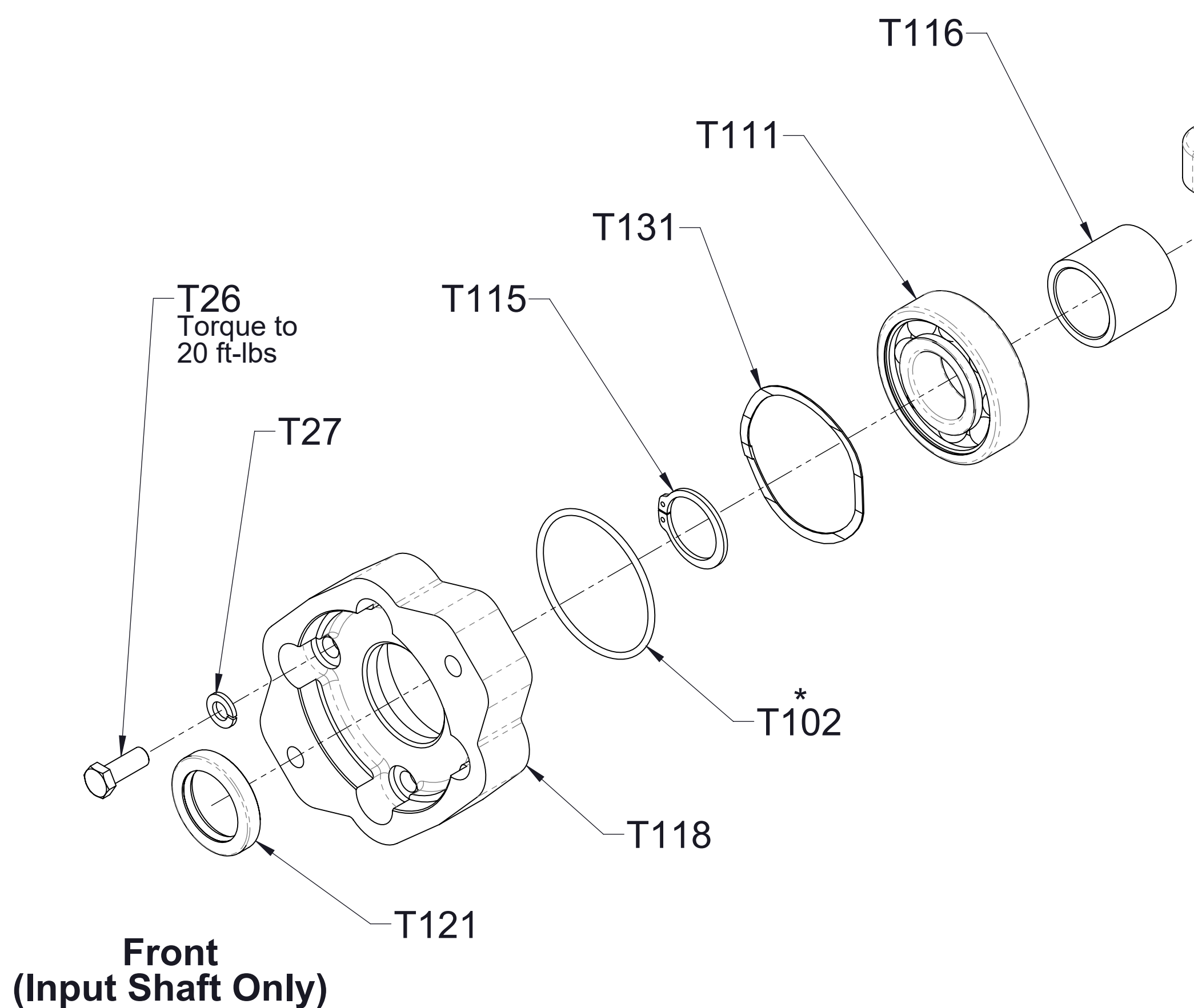
*Included in Ref No. T30 Gasket and O-ring Repair Kit



**Rear
(Output Shaft Side)**



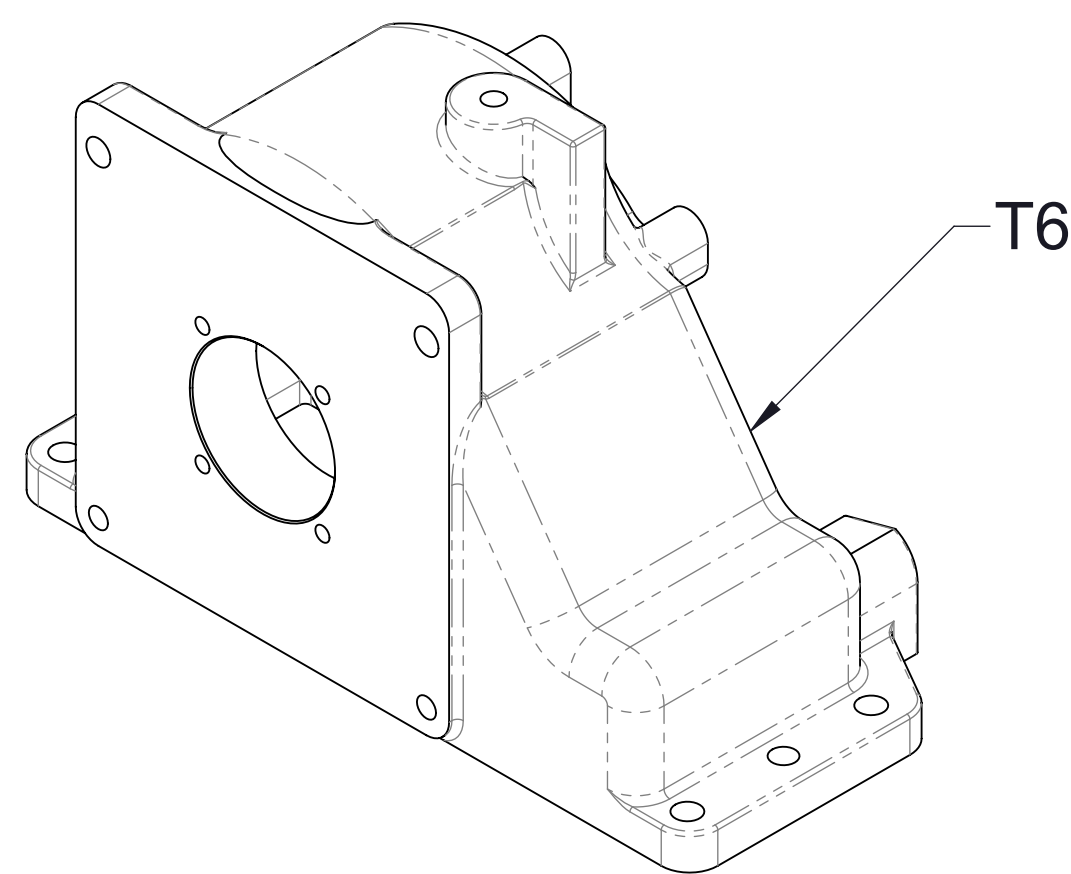
See Cap and Spacer pages



**Front
(Input Shaft Only)**

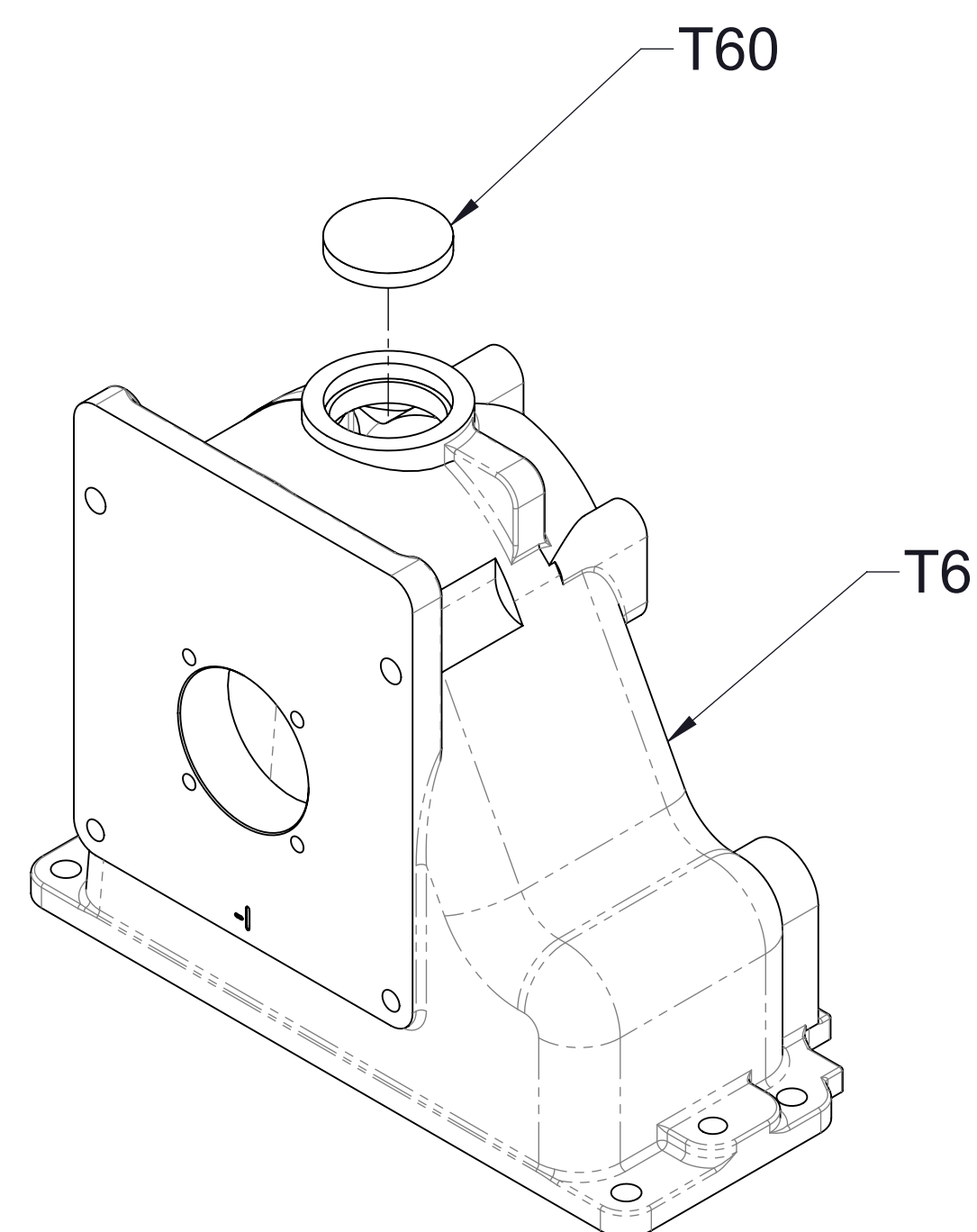
**Driven Shaft
TC22B, TC22C, TC22D, TC22E and TC22F PTO Models
Dual Output
Front: Hydraulic Adapter
Rear: 1410 Series End Yoke**

Ref No.	Description
T6	Cap-Transmission
T7	Spacer-Transmission
T60	Plug-Cap
T61	Tube-Oil



Input Side Shown

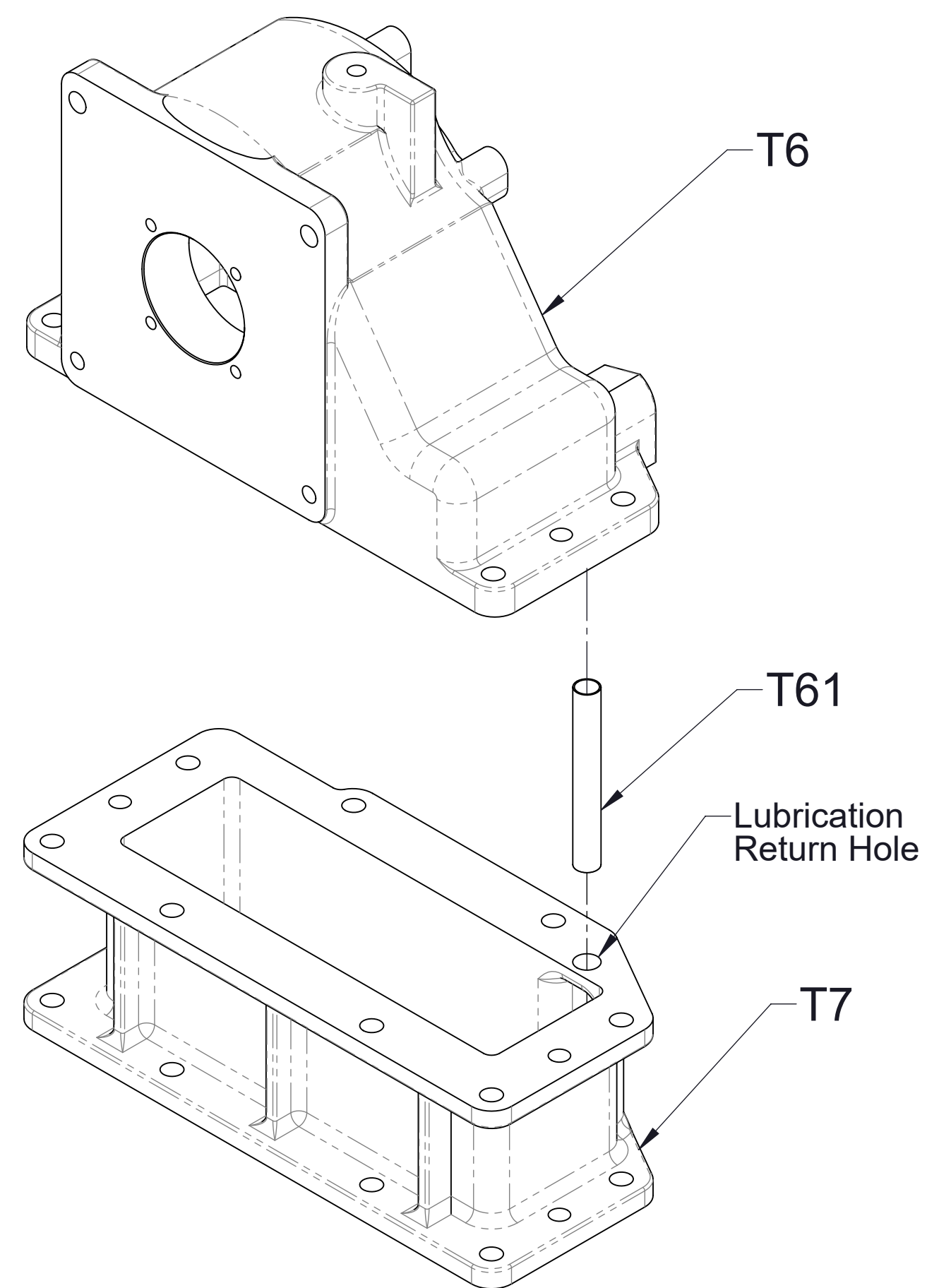
Model C22B



Input Side Shown

Model C22C, C22D

Cap and Spacer

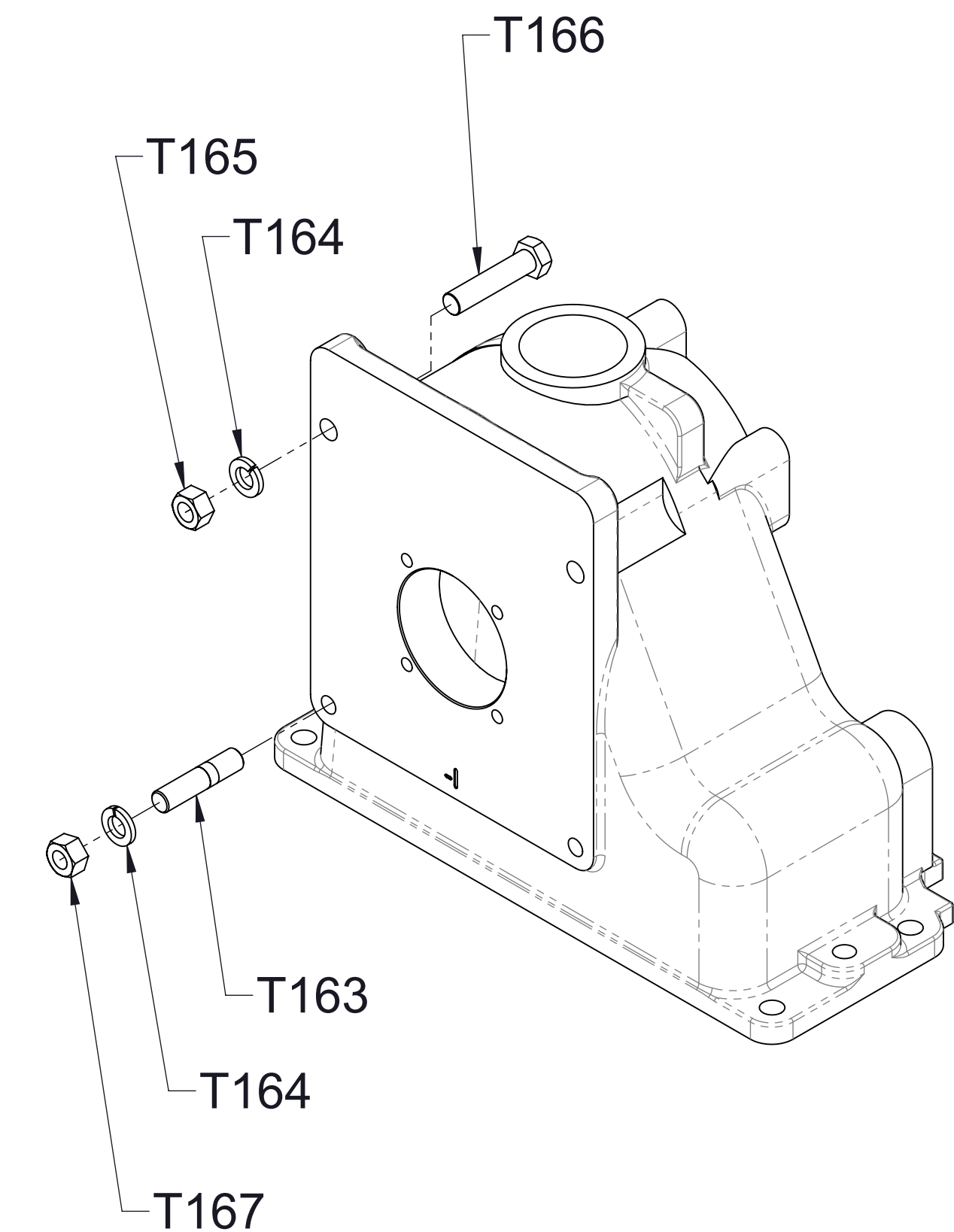


Input Side Shown

Models C22E, C22F

Ref No.	Description	Torque To
T163	Stud-Coarse, 1/2-13 x 2-1/4 in	55 ft-lbs
T164	Washer-Lock, 1/2 in	--
T165	Nut-Hex, 1/2-20	--
T166	Screw-Hex Hd, 1/2-20 x 2-1/4 in	60 ft-lbs
T167	Nut-Hex, 1/2-13	--

Note:
Apply Loctite #242 (blue) to threads.



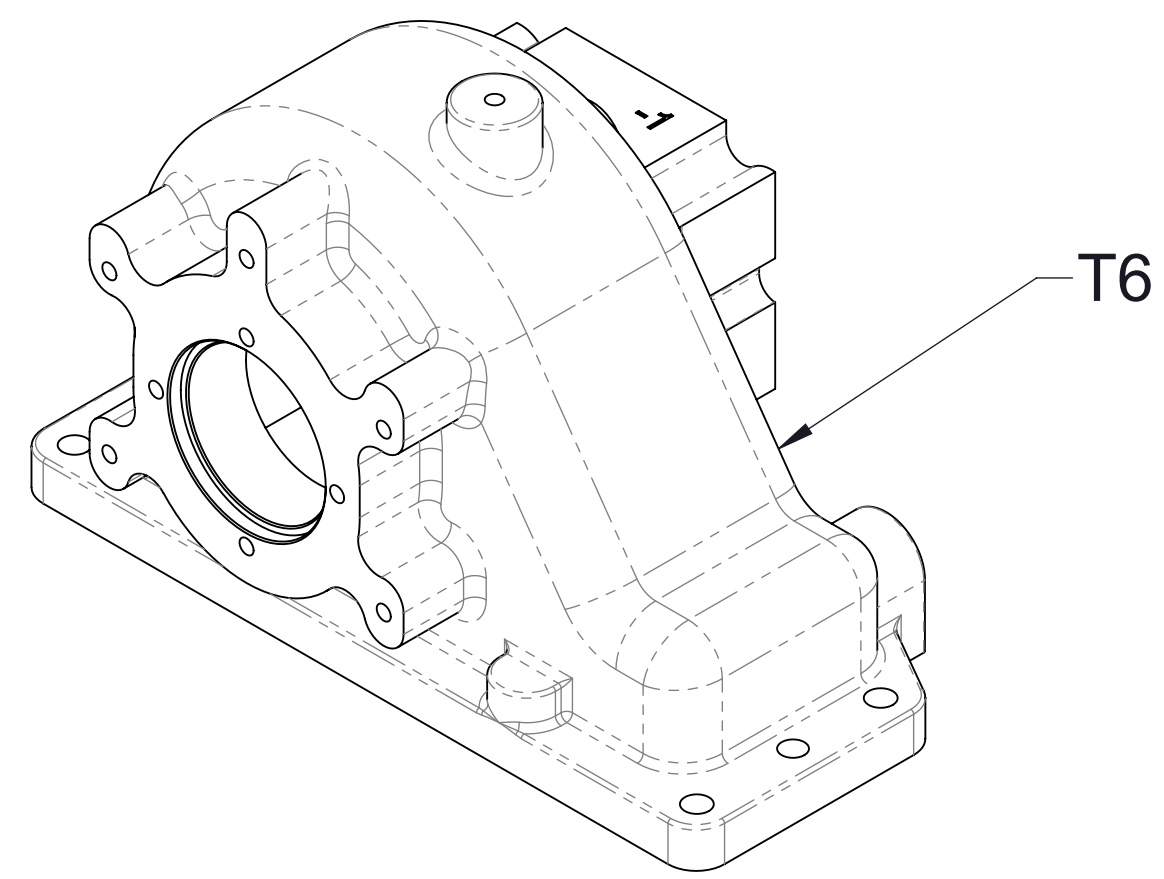
Input Side Shown

**CM and CS Rear Mounted Transmission
CG Front Mounted Pump (Input Shaft Side)
CX Front Mounted Pump (Input Shaft Side)
CX Rear Mounted Pump (Output Shaft Side)**

Pump Mounting Hardware

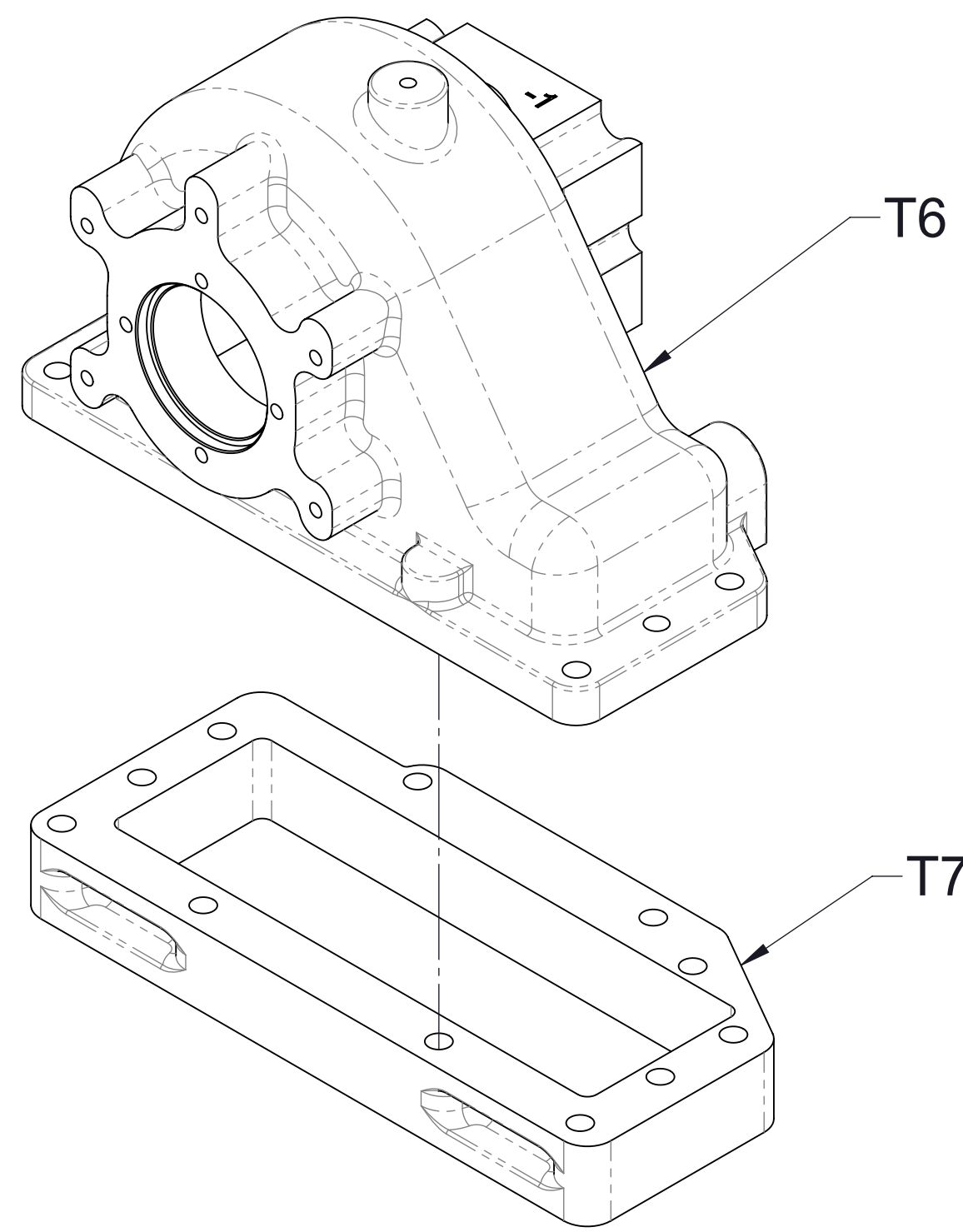
**Cap, Spacer and Pump Mounting Hardware
CM and CS Rear Mounted Transmission
CG Front Mounted Pump (Input Shaft Side)
CX Front Mounted Pump (Input Shaft Side)
CX Rear Mounted Pump (Output Shaft Side)**

Ref No.	Description
T6	Cap-Transmission
T7	Spacer-Transmission
T61	Tube-Oil



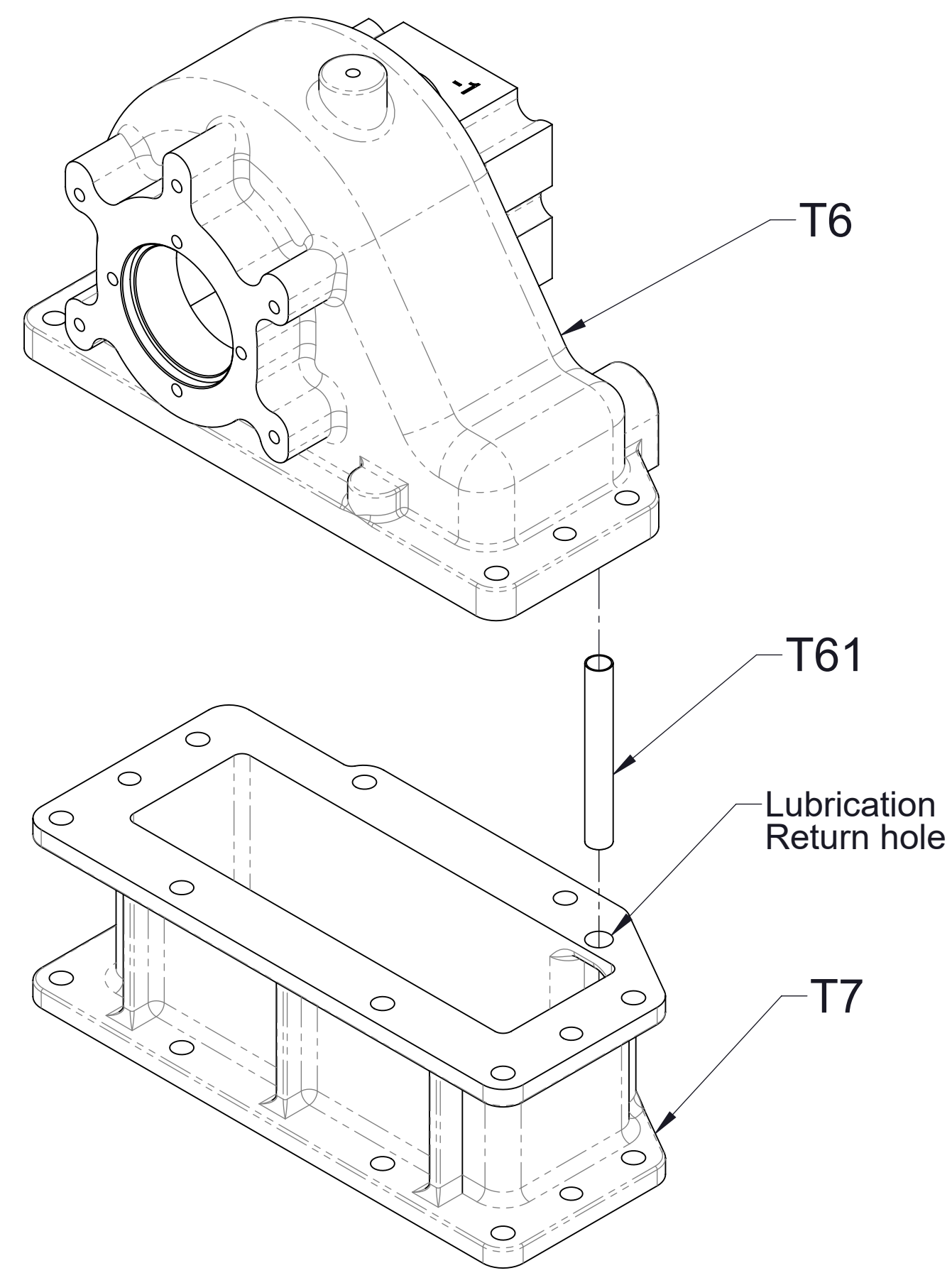
Input Side Shown

Model C22B



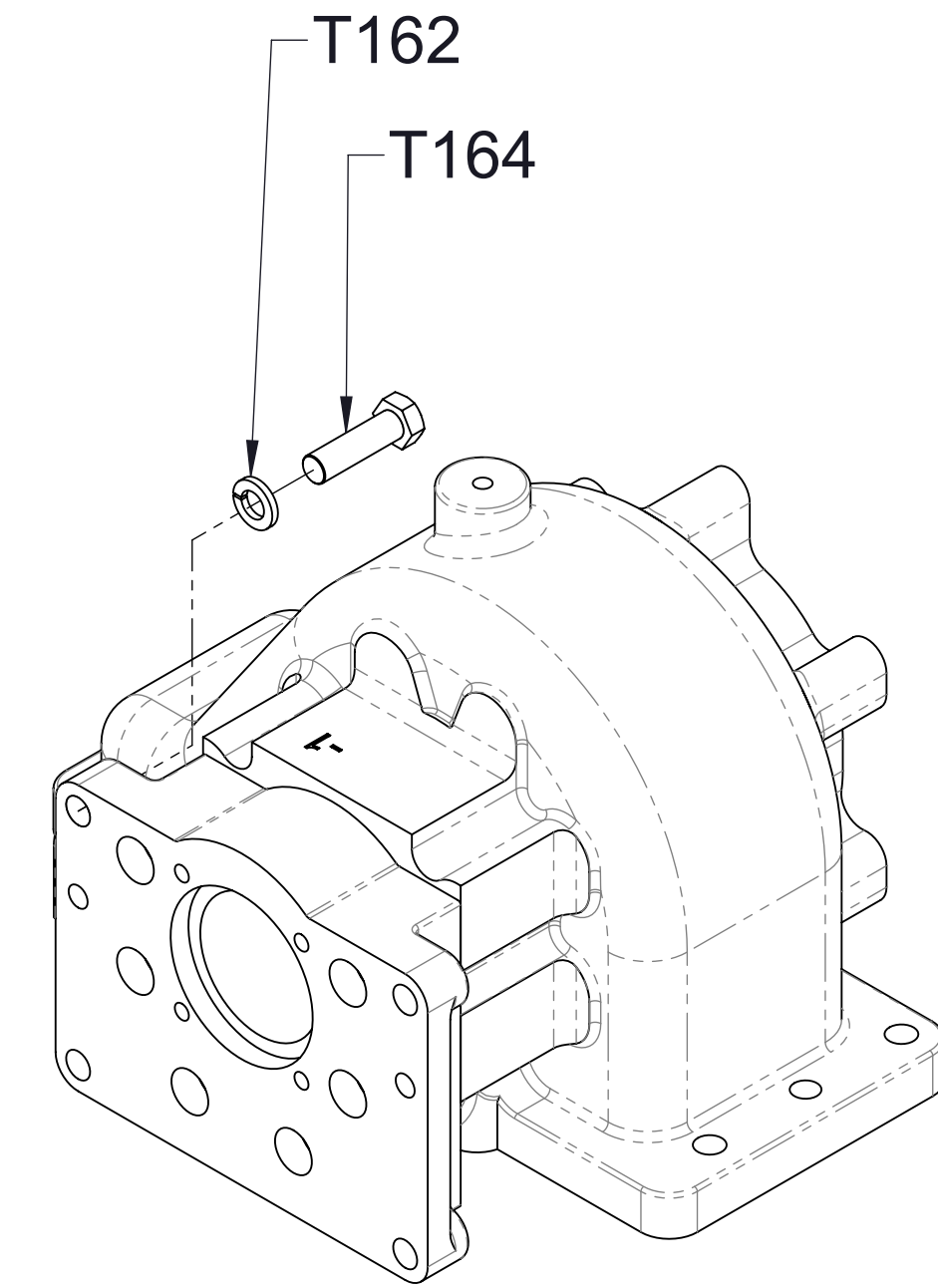
Input Side Shown

Model C22C
Cap and Spacer



Input Side Shown

Models C22D, C22E, C22F



Output Side Shown

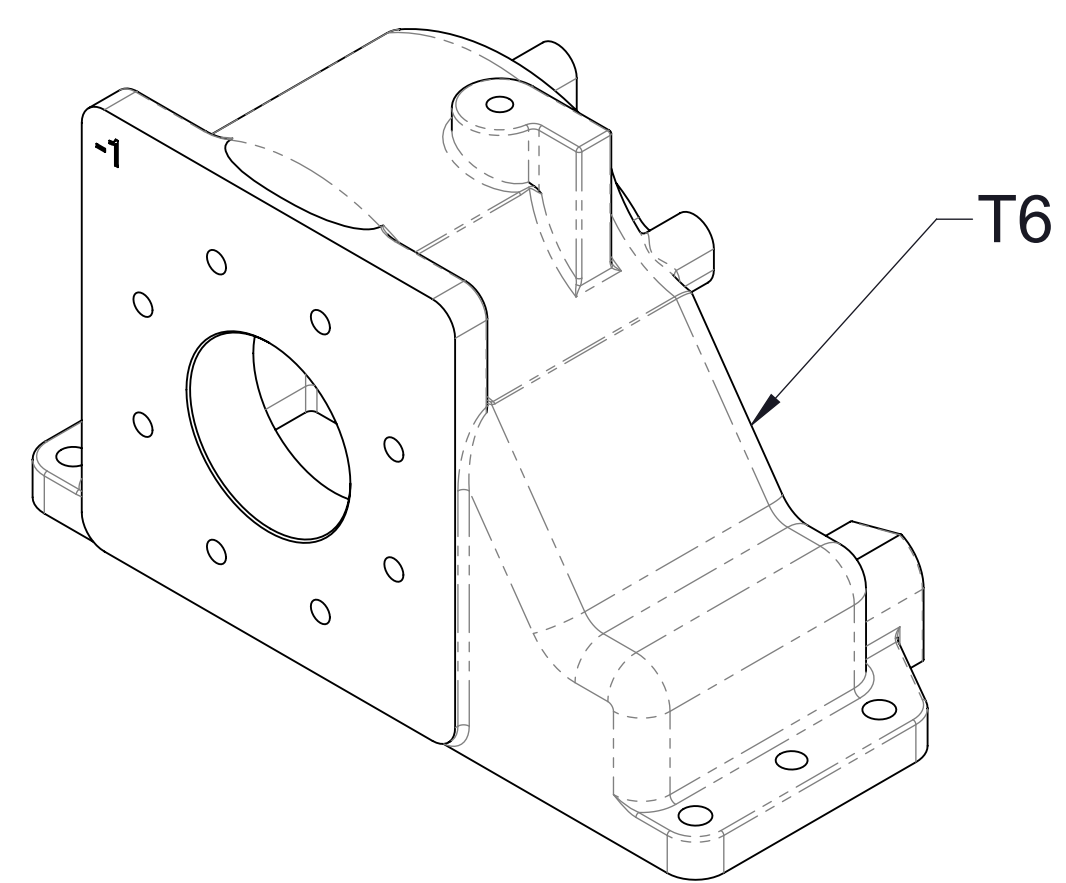
Pump Mounting Hardware

Ref No.	Description	Torque To
T162	Screw-Hex Hd, 1/2-13 x 1-3/4 in	55 ft-lbs
T164	Washer-Lock, 1/2 in	--

Note:
Apply Loctite #242 (blue) to threads.

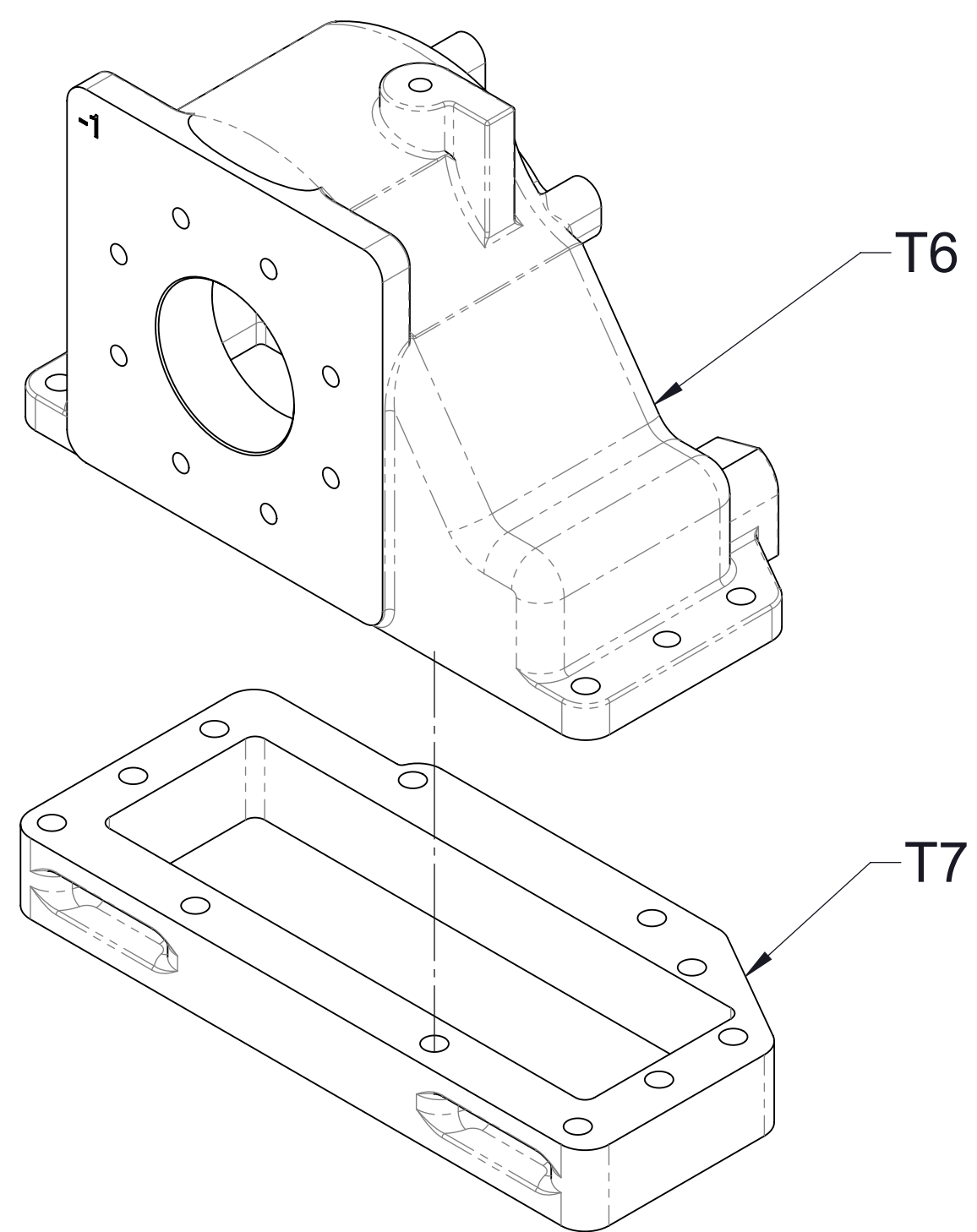
**Cap, Spacer and Pump Mounting Hardware
CM and CS Front Mounted Transmission**

Ref No.	Description
T6	Cap-Transmission
T7	Spacer-Transmission
T61	Tube-Oil



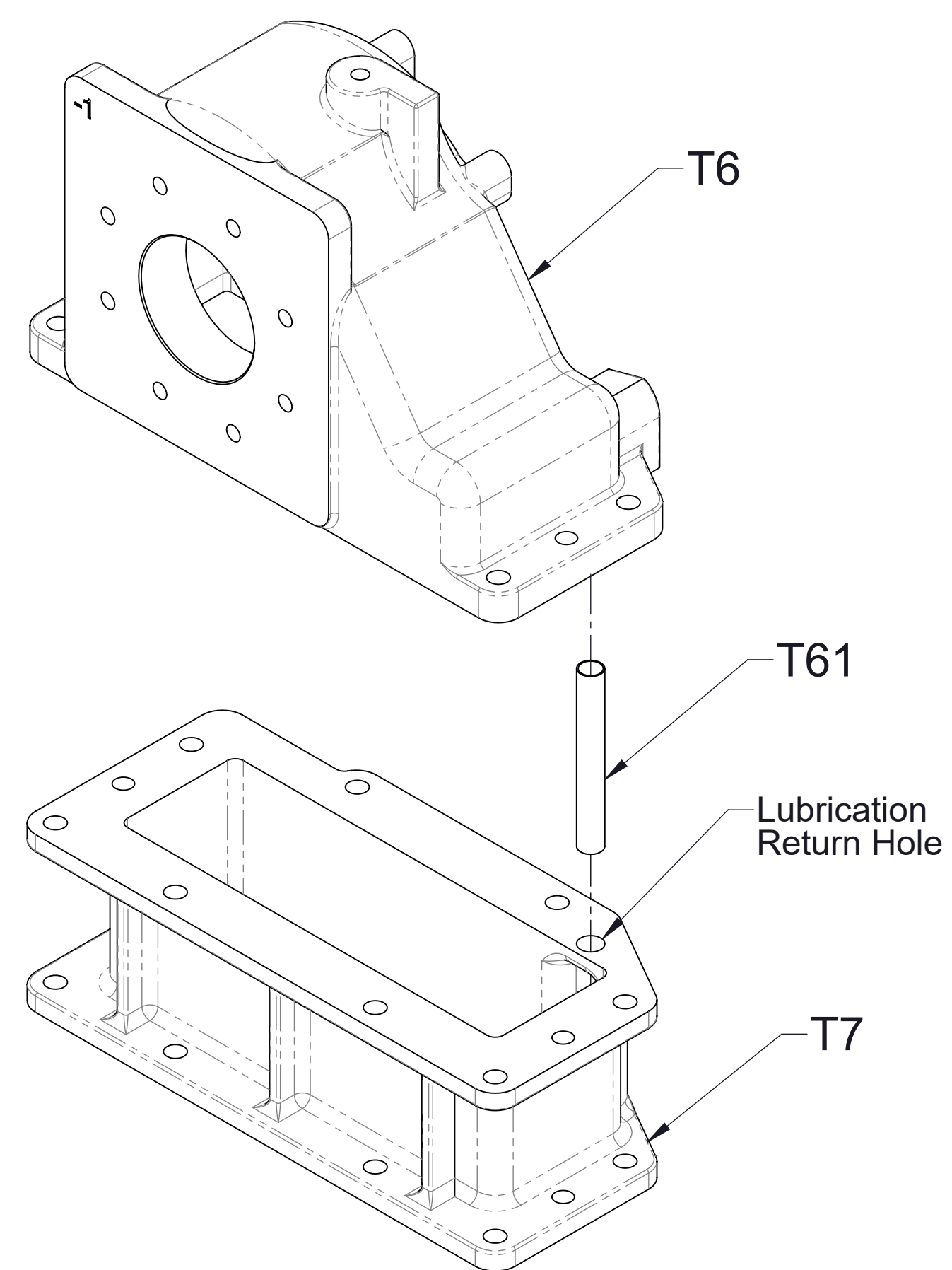
Input Side Shown

Model C22B



Input Side Shown

Model C22C
Cap and Spacer

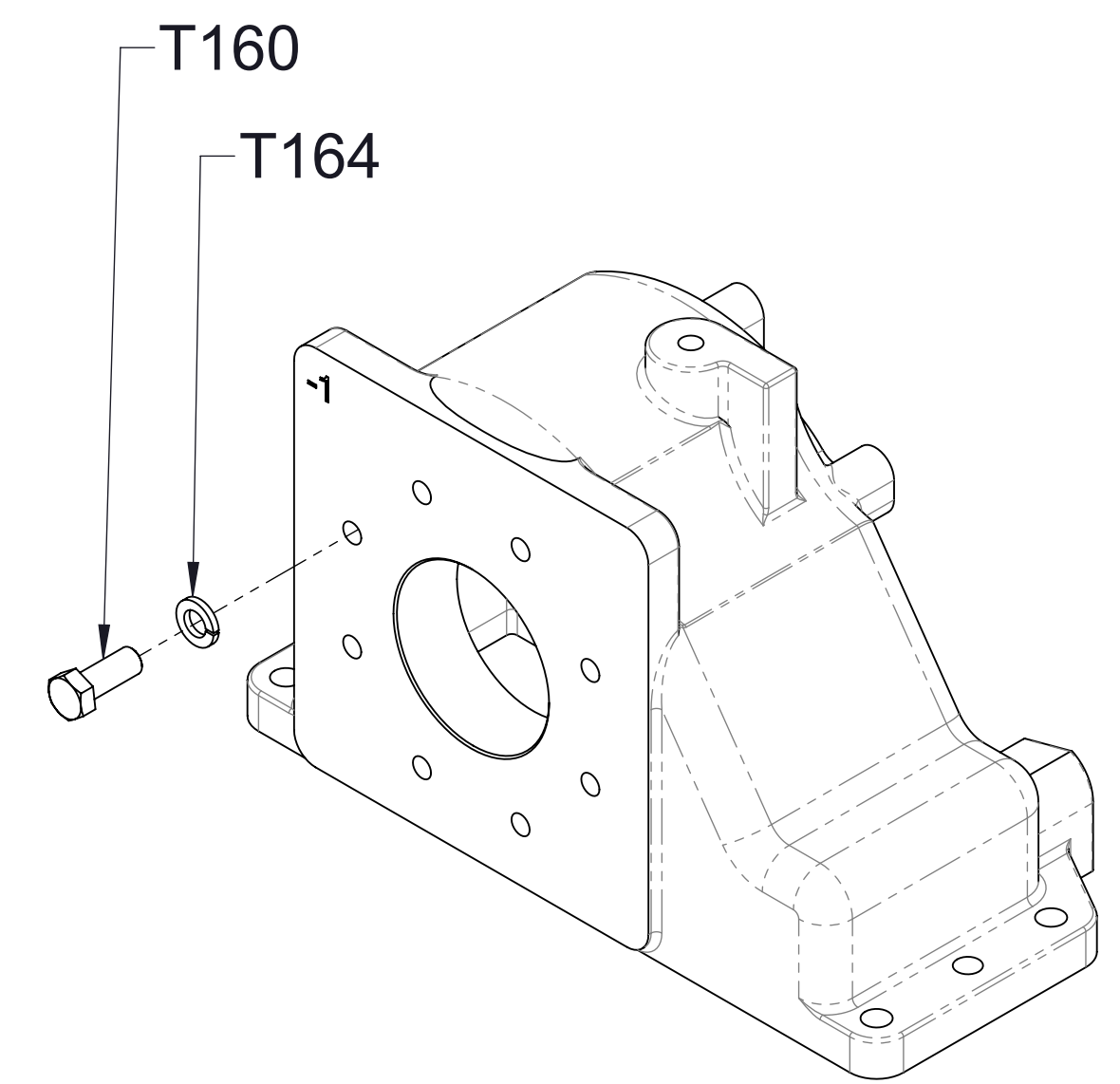


Input Side Shown

Models C22D, C22E, C22F

Ref No.	Description	Torque To
T160	Screw-Hex Hd, 1/2-13 x 1-1/4 in	55 ft-lbs
T164	Washer-Lock, 1/2 in	--

Note:
Apply Loctite #242 (blue) to threads.

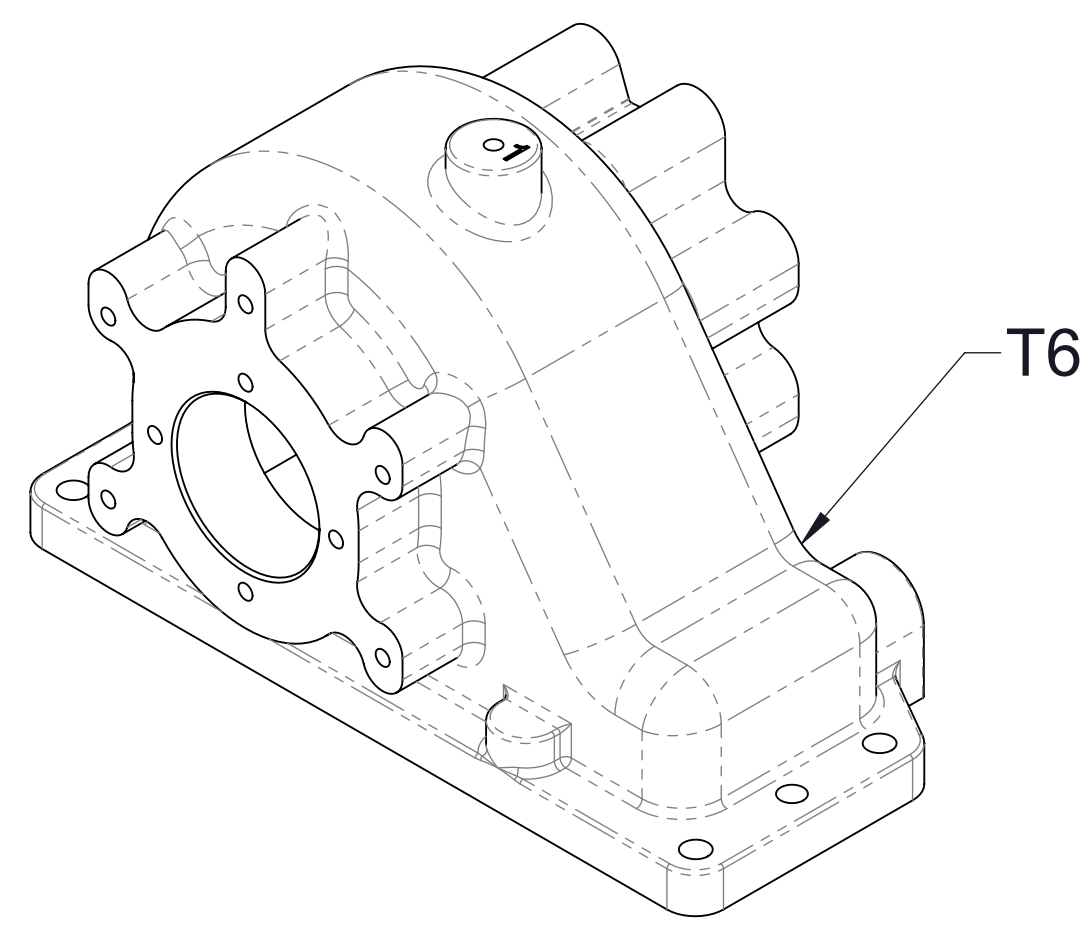


Input Side Shown

Pump Mounting Hardware

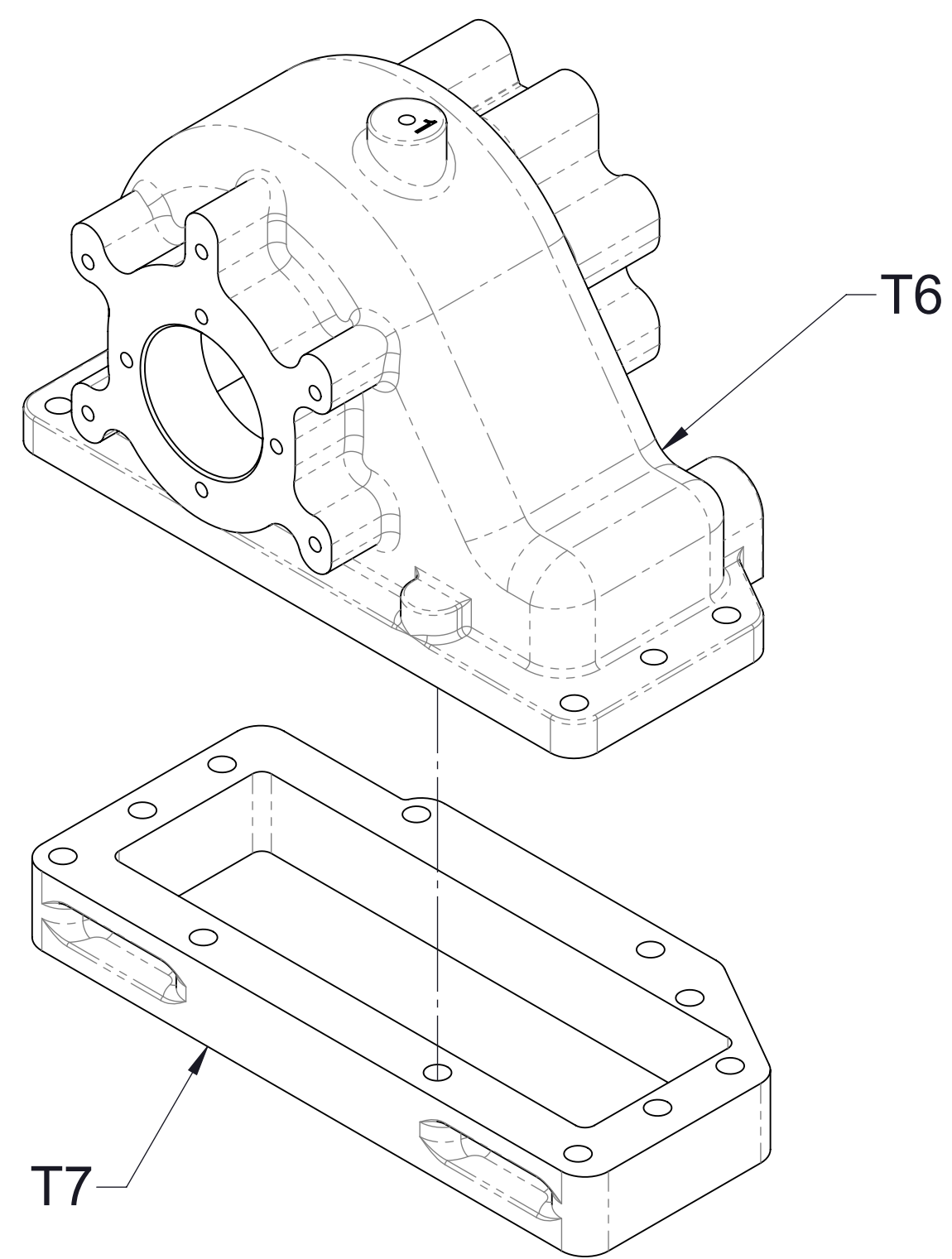
**Cap, Spacer and Pump Mounting Hardware
S100 and S101, Front Mounted Transmission (Input Side)**

Ref No.	Description
T6	Cap-Transmission
T7	Spacer-Transmission
T61	Tube-Oil



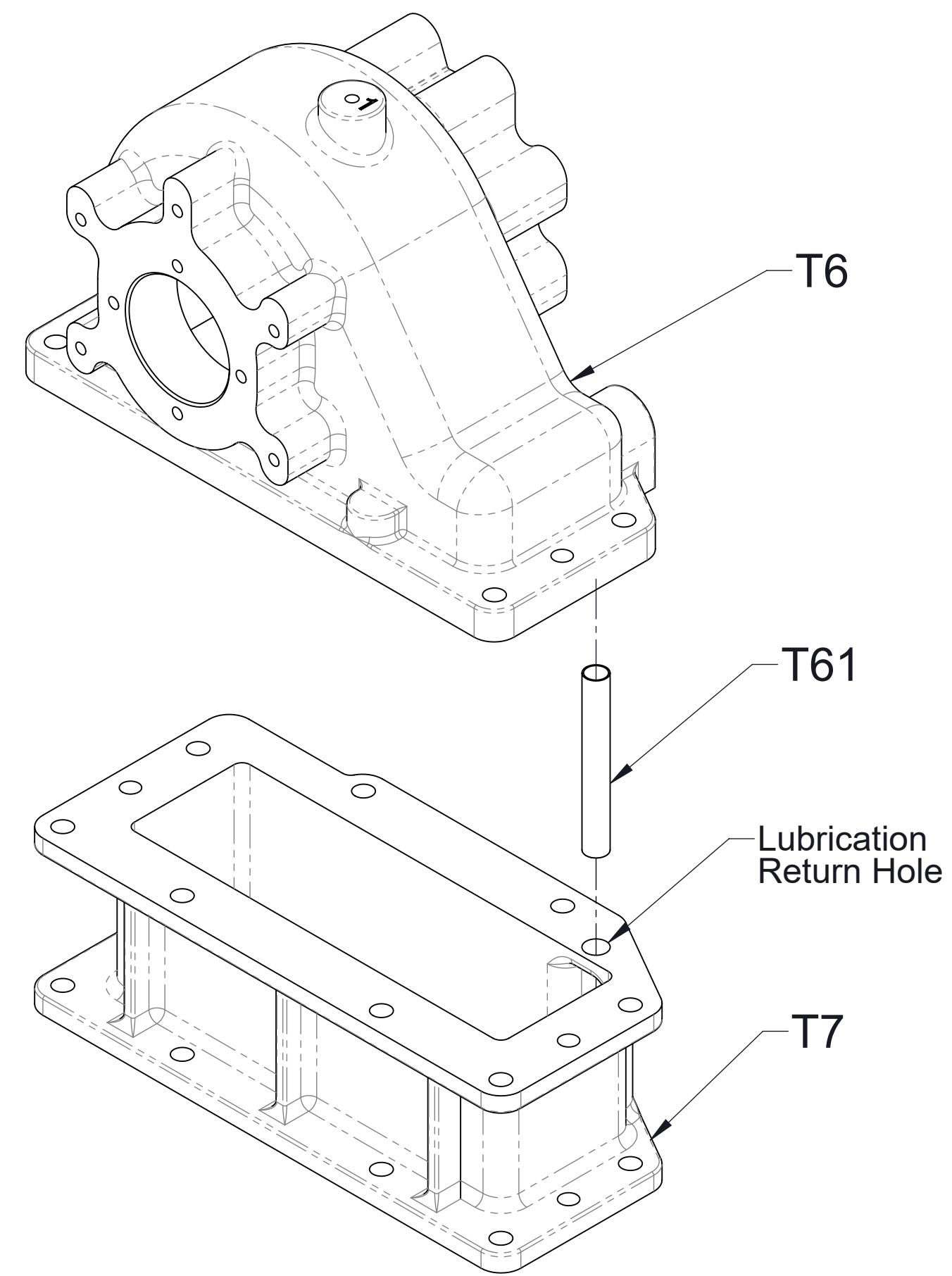
Input Side Shown

Model C22B



Input Side Shown

Model C22C
Cap and Spacer

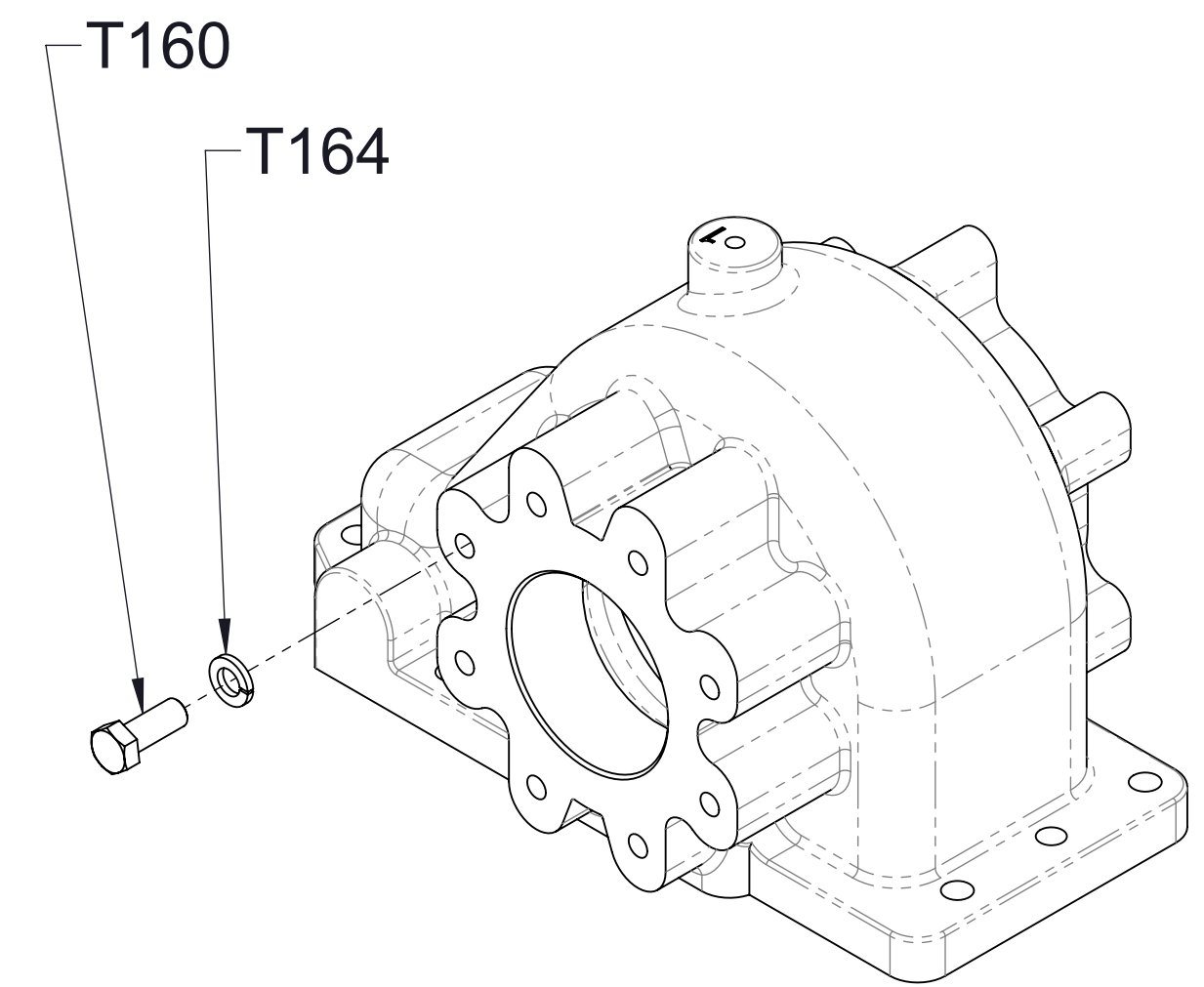


Input Side Shown

Models C22D, C22E, C22F

Ref No.	Description	Torque To
T160	Screw-Hex Hd, 1/2-13 x 1-1/4 in	55 ft-lbs
T164	Washer-Lock, 1/2 in	--

Note:
Apply Loctite #242 (blue) to threads.

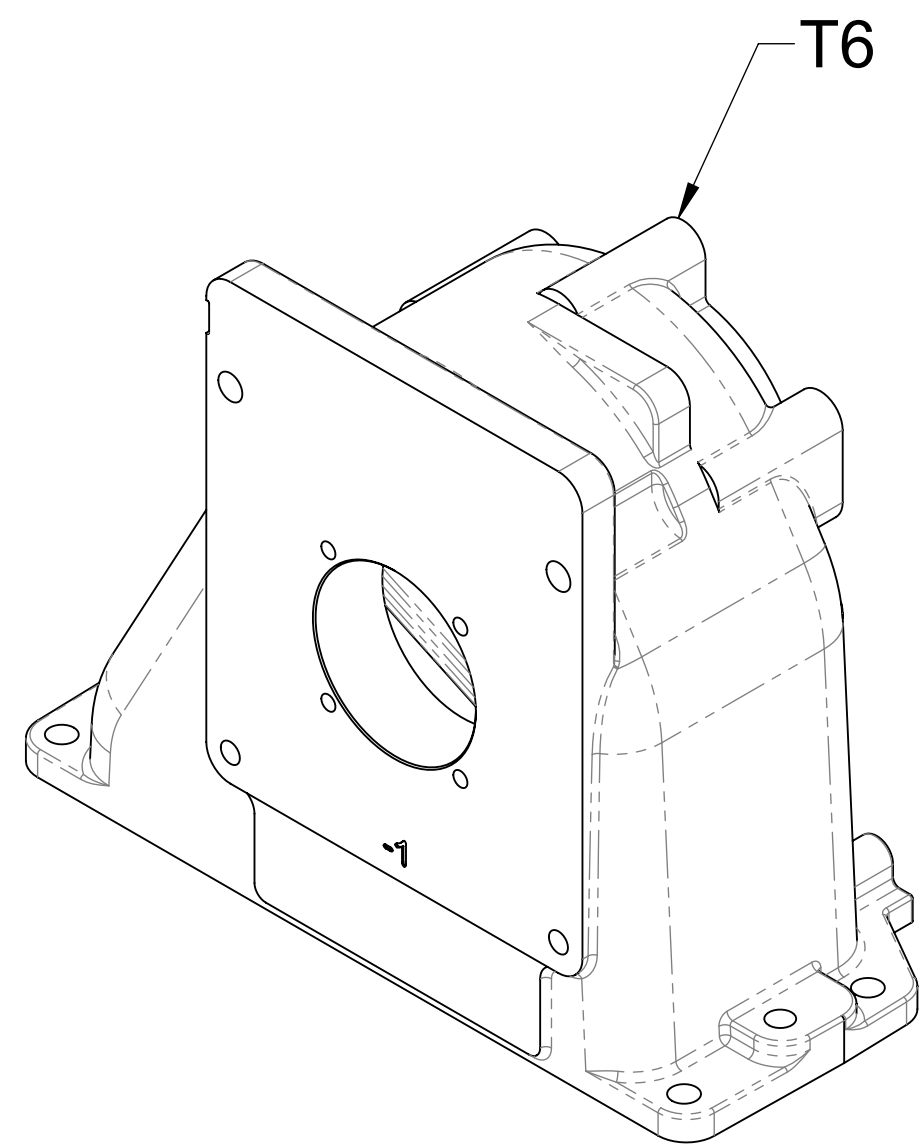


Output Side Shown

Pump Mounting Hardware

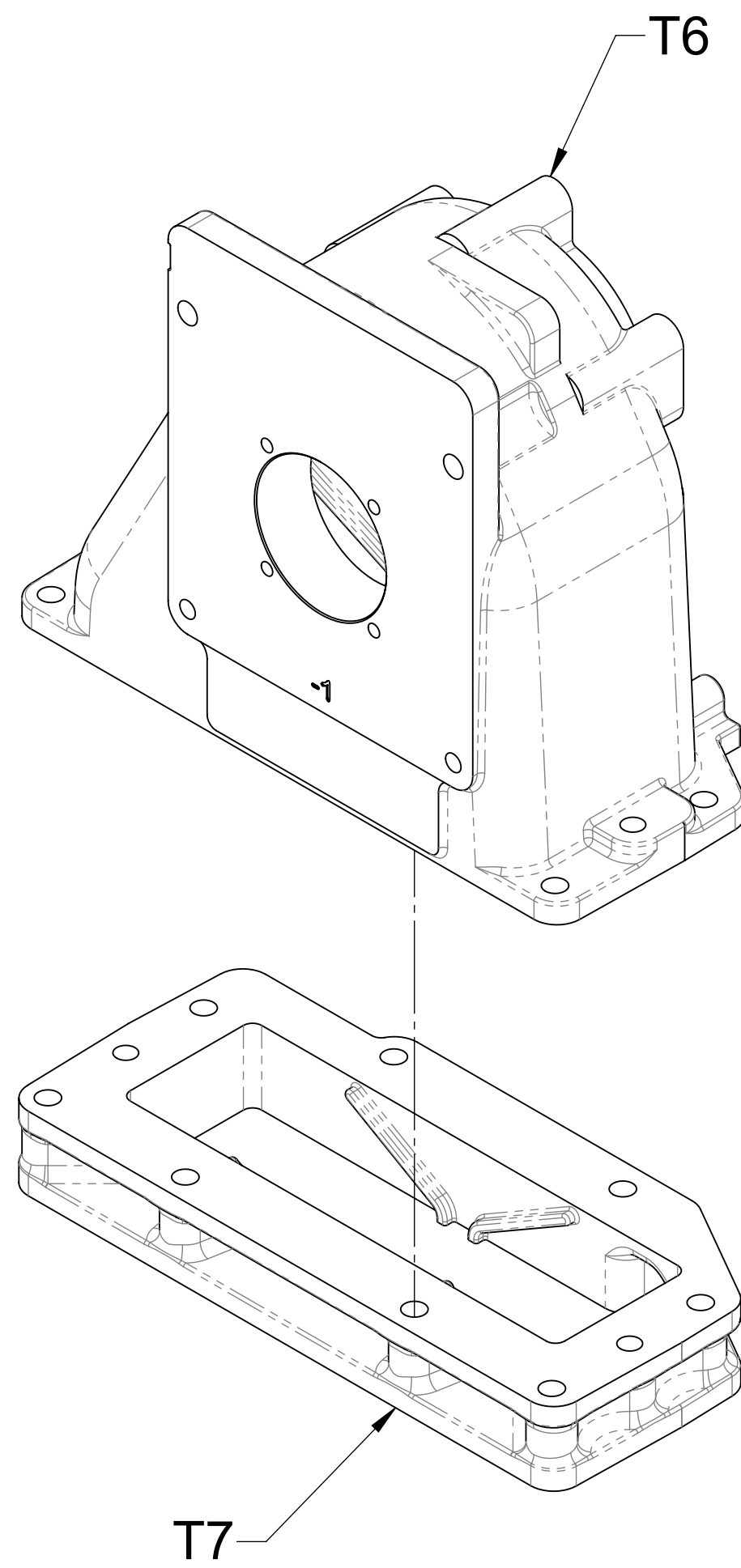
**Cap, Spacer and Pump Mounting Hardware
S100, Rear Mounted Pump (Output Side)**

Ref No.	Description
T6	Cap-Transmission
T7	Spacer-Transmission



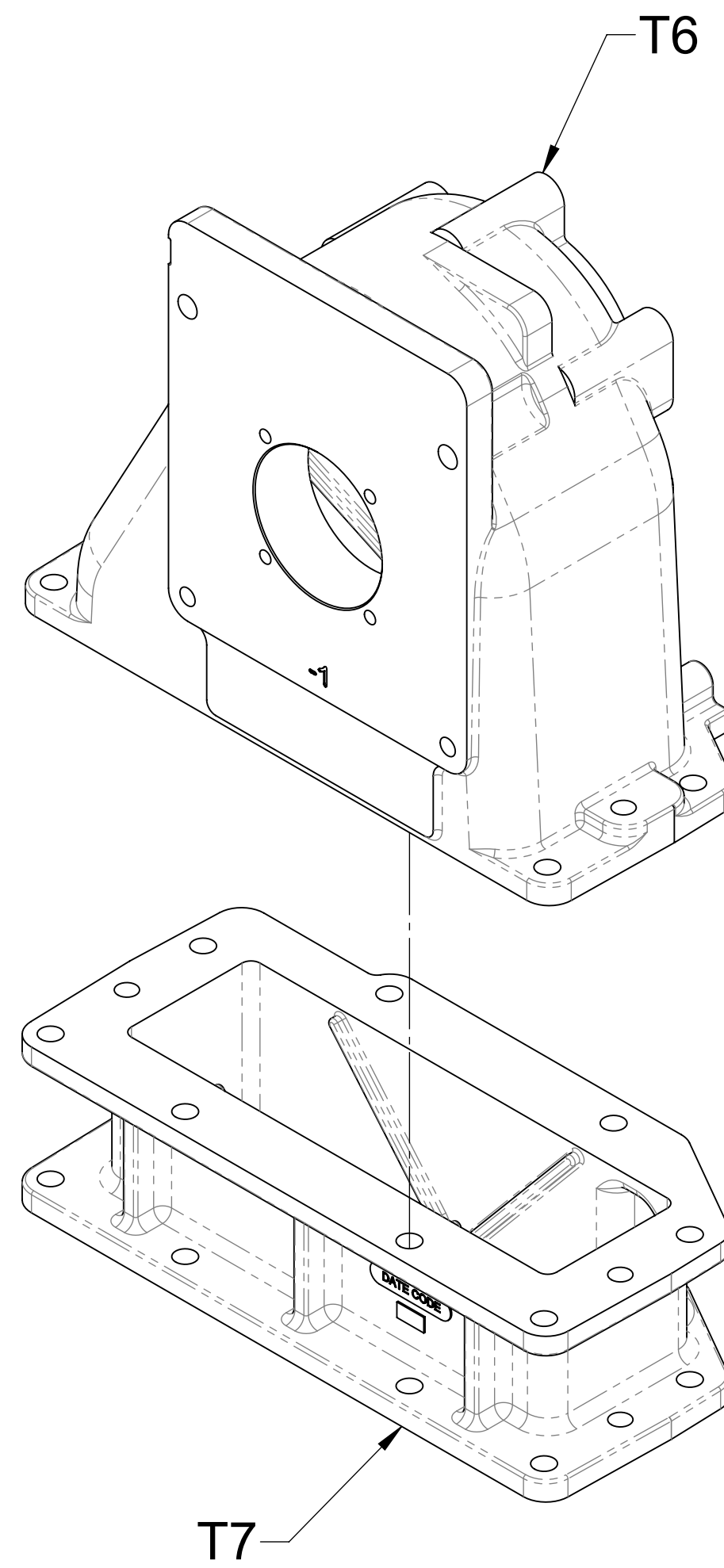
Input Side Shown

Models C22C, C22D



Input Side Shown

Model C22E
Cap and Spacer

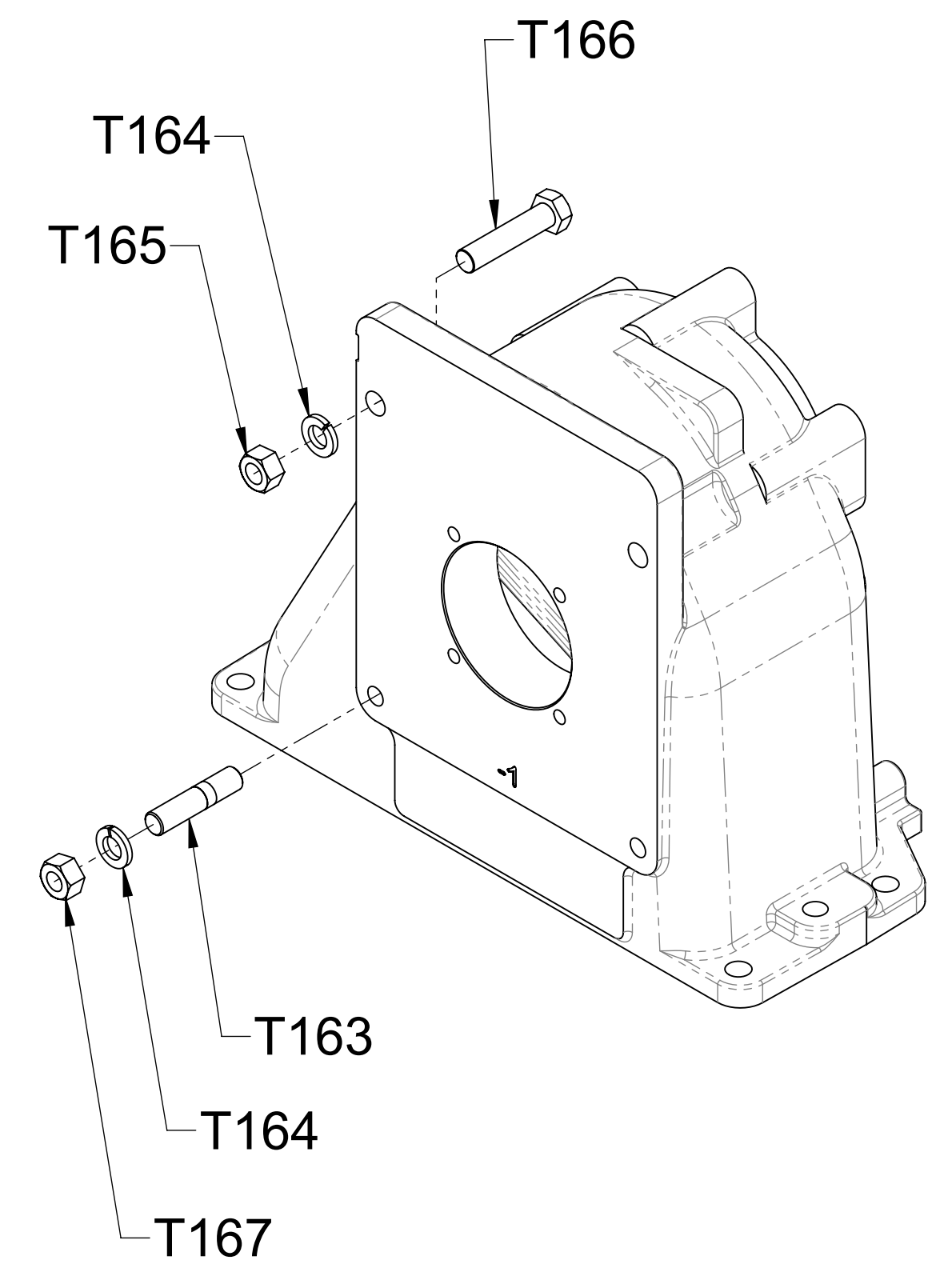


Input Side Shown

Model C22F

Ref No.	Description	Torque To
T163	Stud-Coarse, 1/2-13 x 2-1/4 in	55 ft-lbs
T164	Washer-Lock, 1/2 in	--
T165	Nut-Hex, 1/2-20	--
T166	Screw-Hex Hd, 1/2-20 x 2-1/4 in	60 ft-lbs
T167	Nut-Hex, 1/2-13	--

Note:
Apply Loctite #242 (blue) to threads.

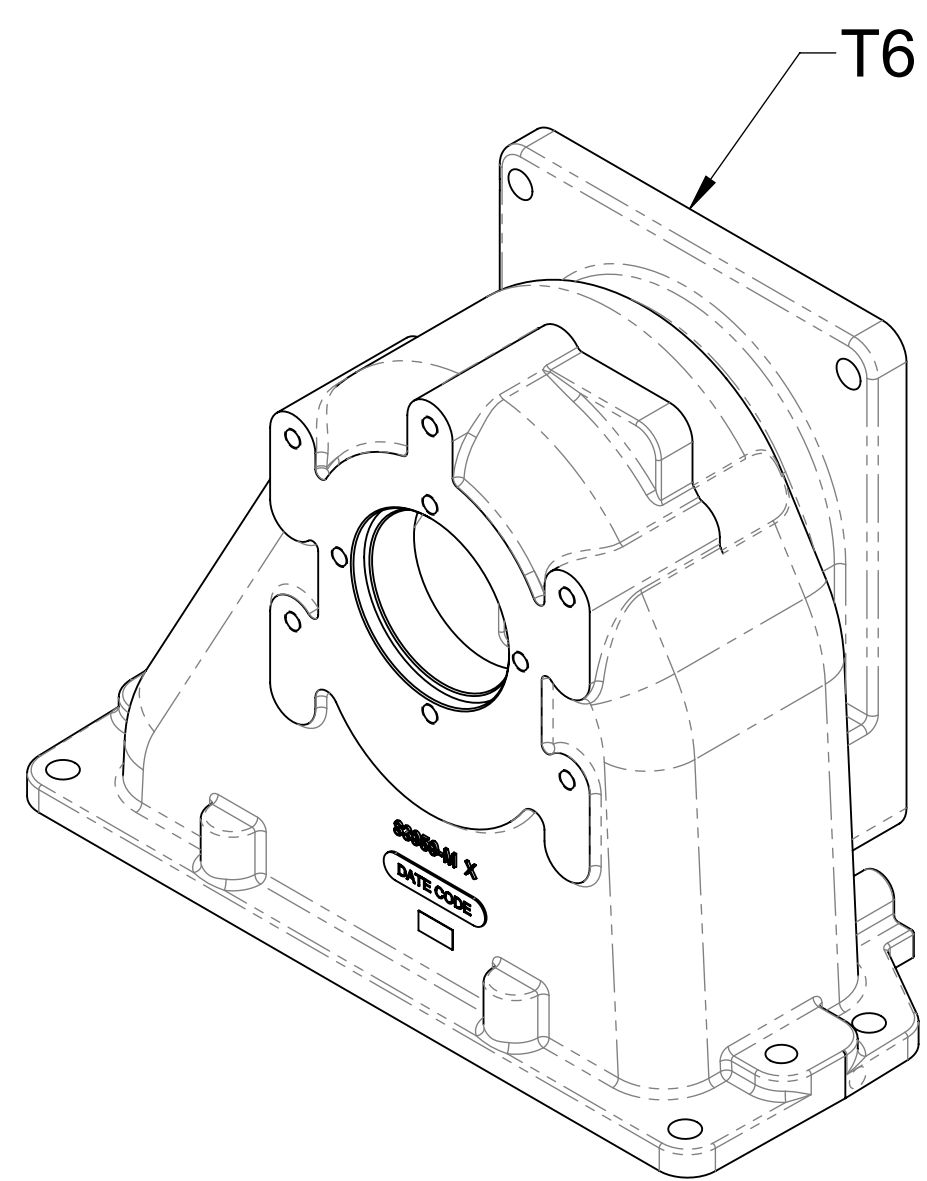


Output Side Shown

Pump Mounting Hardware

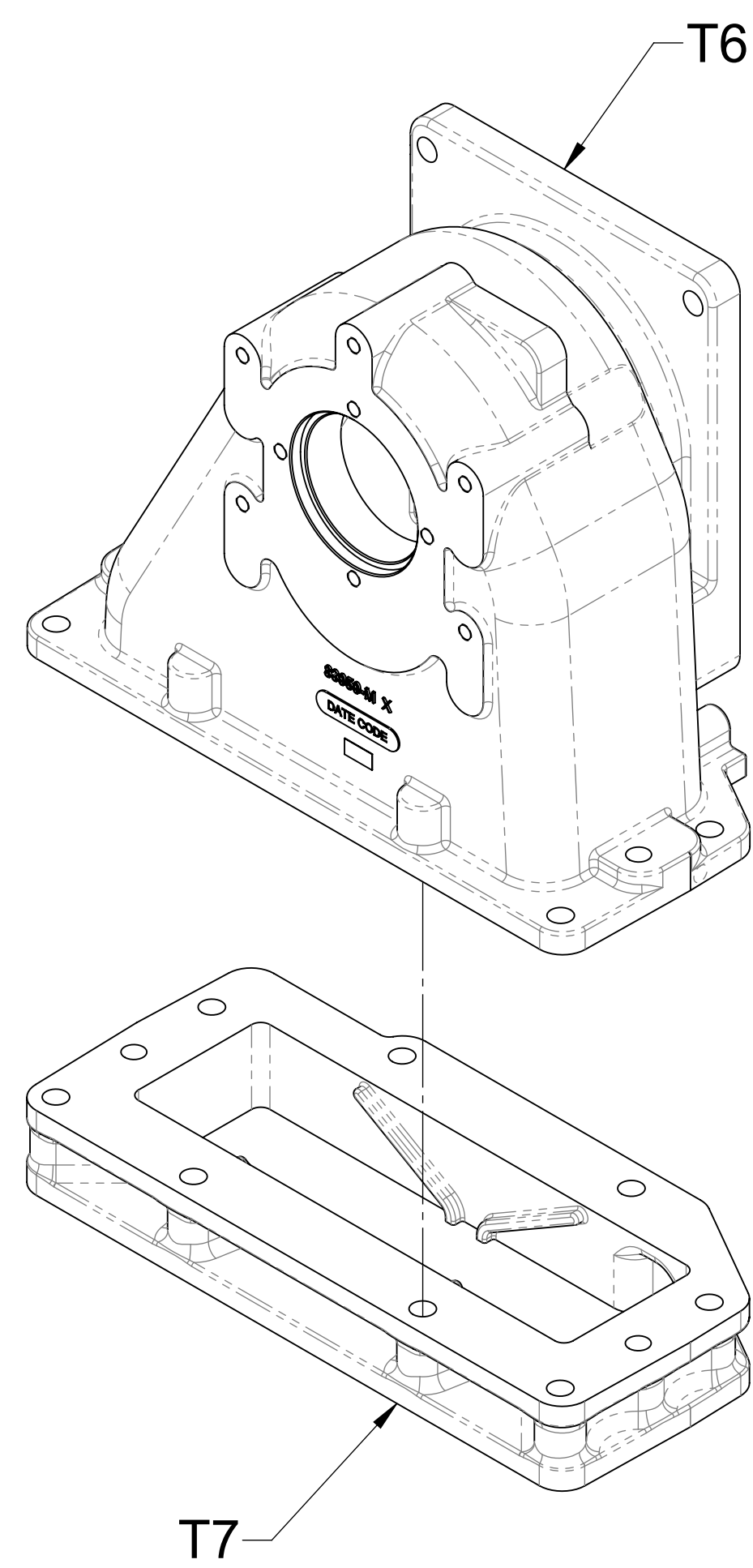
**Cap, Spacer and Pump Mounting Hardware
ESU1, Front Mounted Pump (Input Side)**

Ref No.	Description
T6	Cap-Transmission
T7	Spacer-Transmission



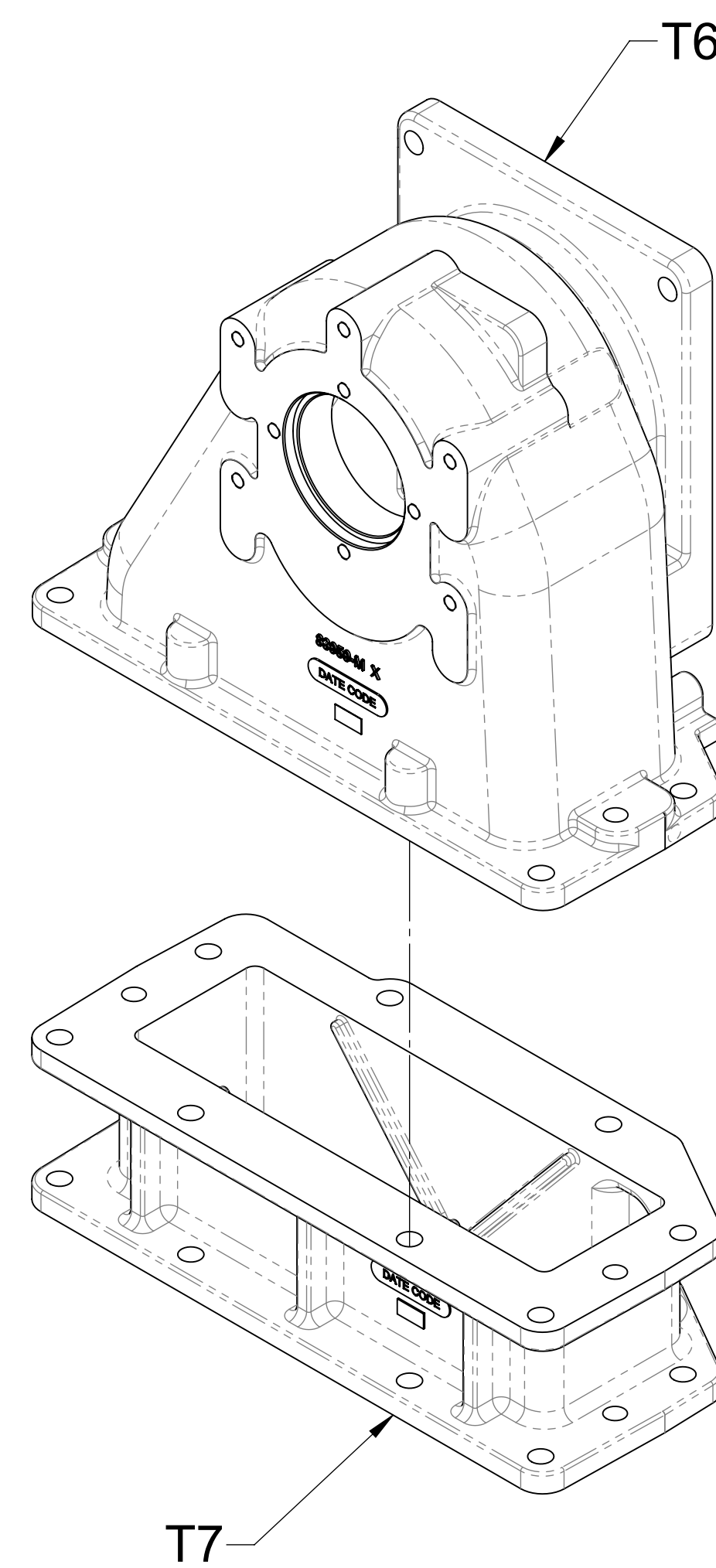
Input Side Shown

Models C22C, C22D



Input Side Shown

Model C22E
Cap and Spacer

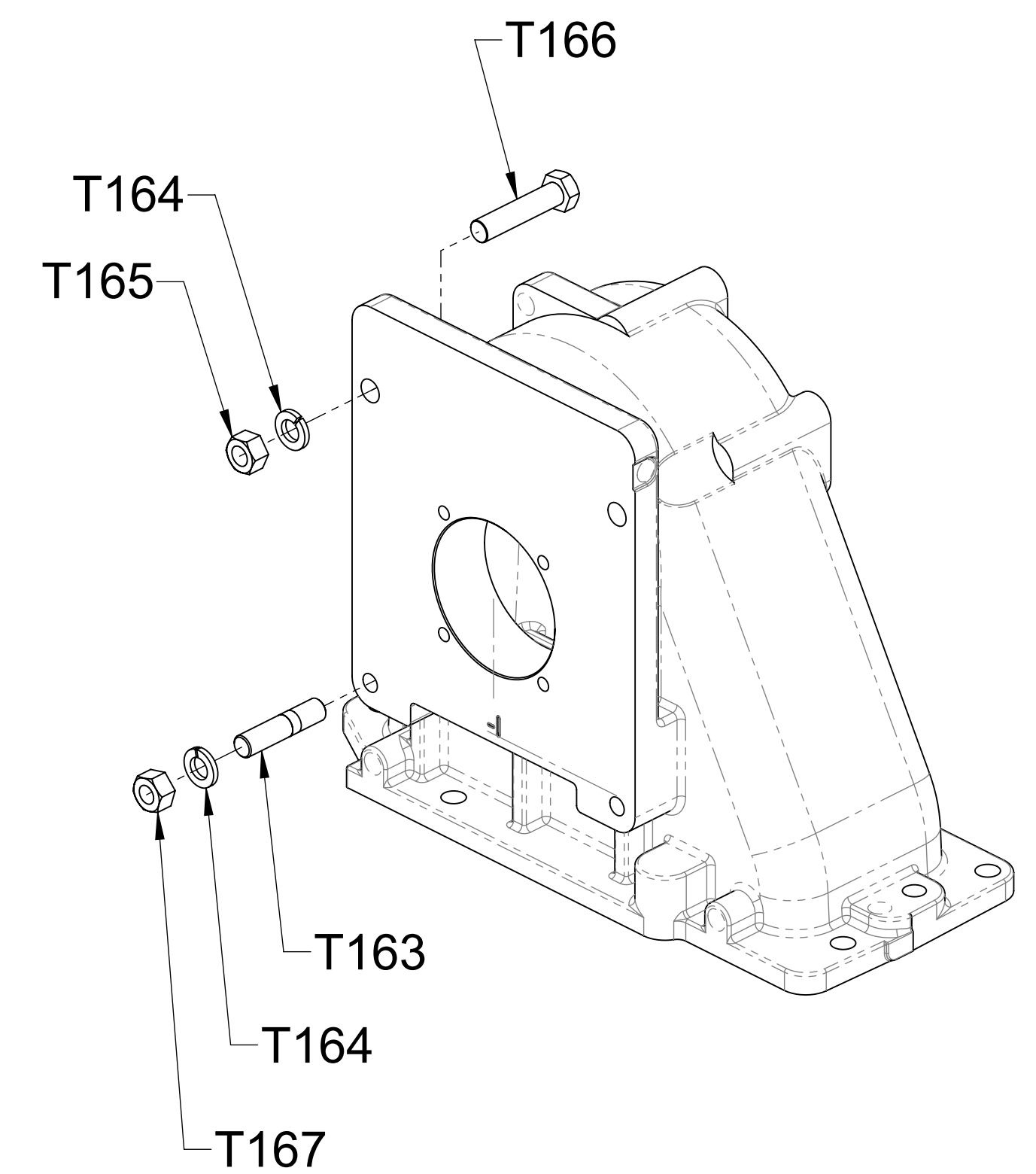


Input Side Shown

Model C22F

Ref No.	Description	Torque To
T163	Stud-Coarse, 1/2-13 x 2-1/4 in	55 ft-lbs
T164	Washer-Lock, 1/2 in	--
T165	Nut-Hex, 1/2-20	--
T166	Screw-Hex Hd, 1/2-20 x 2-1/4 in	60 ft-lbs
T167	Nut-Hex, 1/2-13	--

Note:
Apply Loctite #242 (blue) to threads.

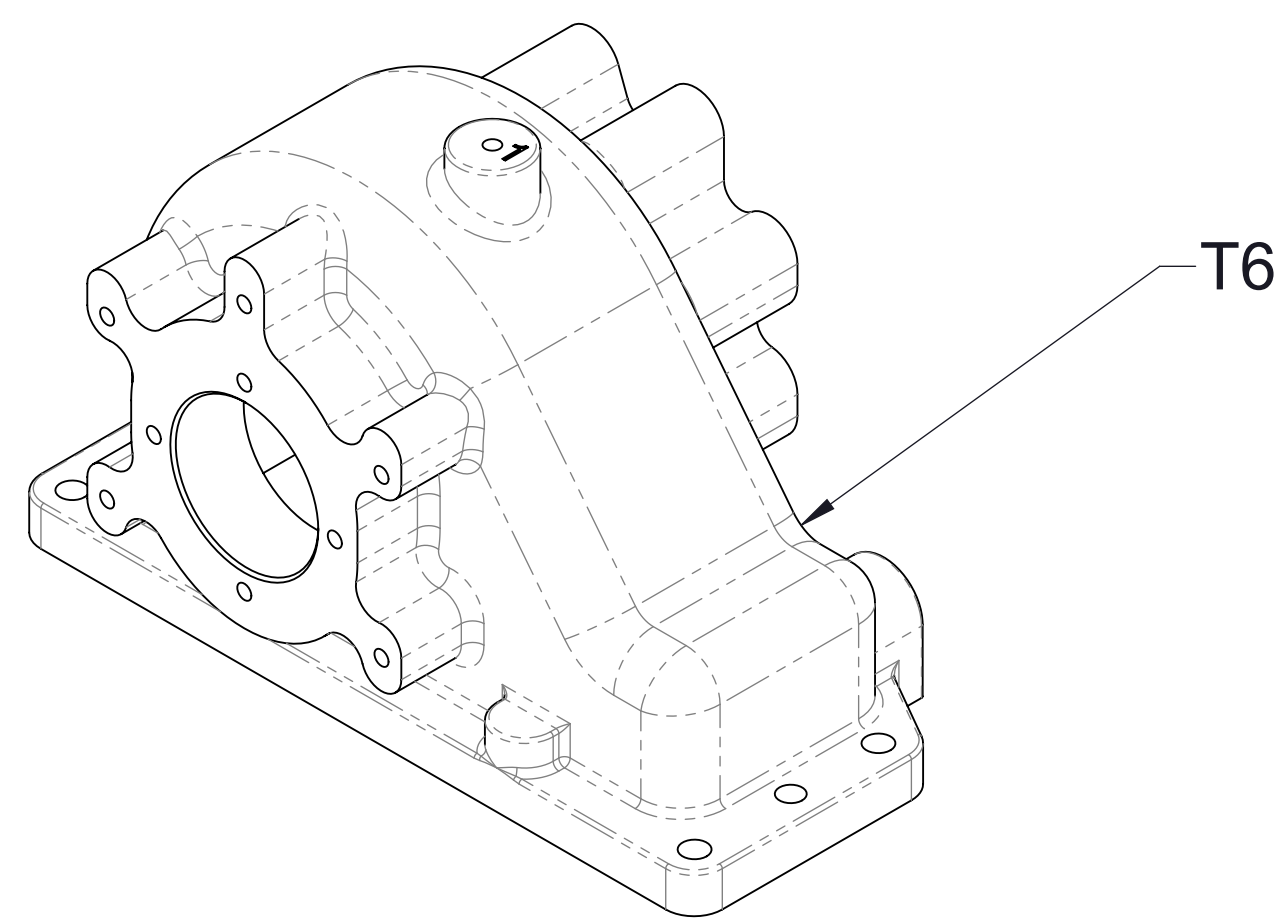


Output Side Shown

Pump Mounting Hardware

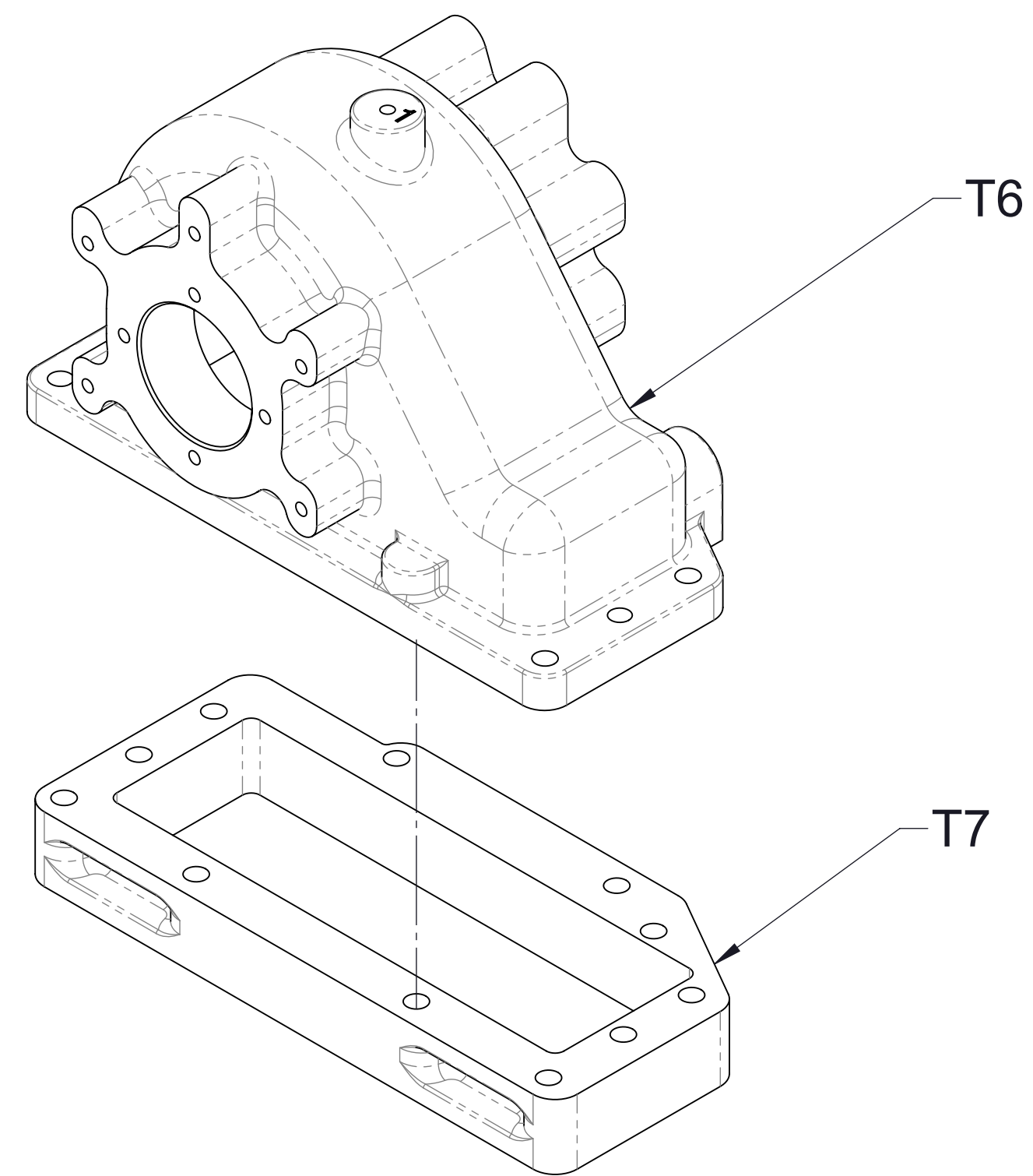
Cap, Spacer and Pump Mounting Hardware
ESU1, Rear Mounted Pump (Output Side)

Ref No.	Description
T6	Cap-Transmission
T7	Spacer-Transmission
T61	Tube-Oil



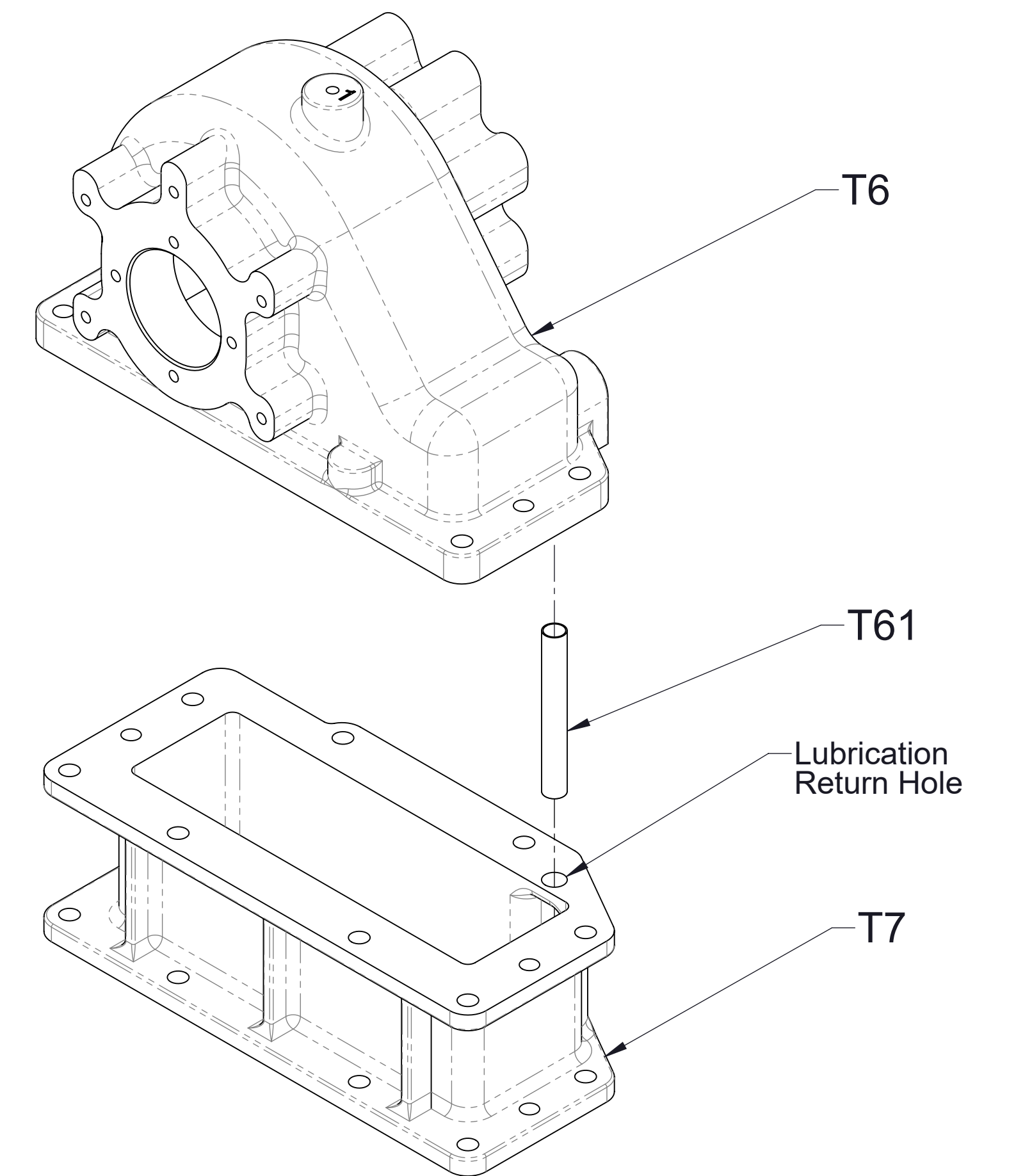
Input Side Shown

Model TC22B



Input Side Shown

Model TC22C

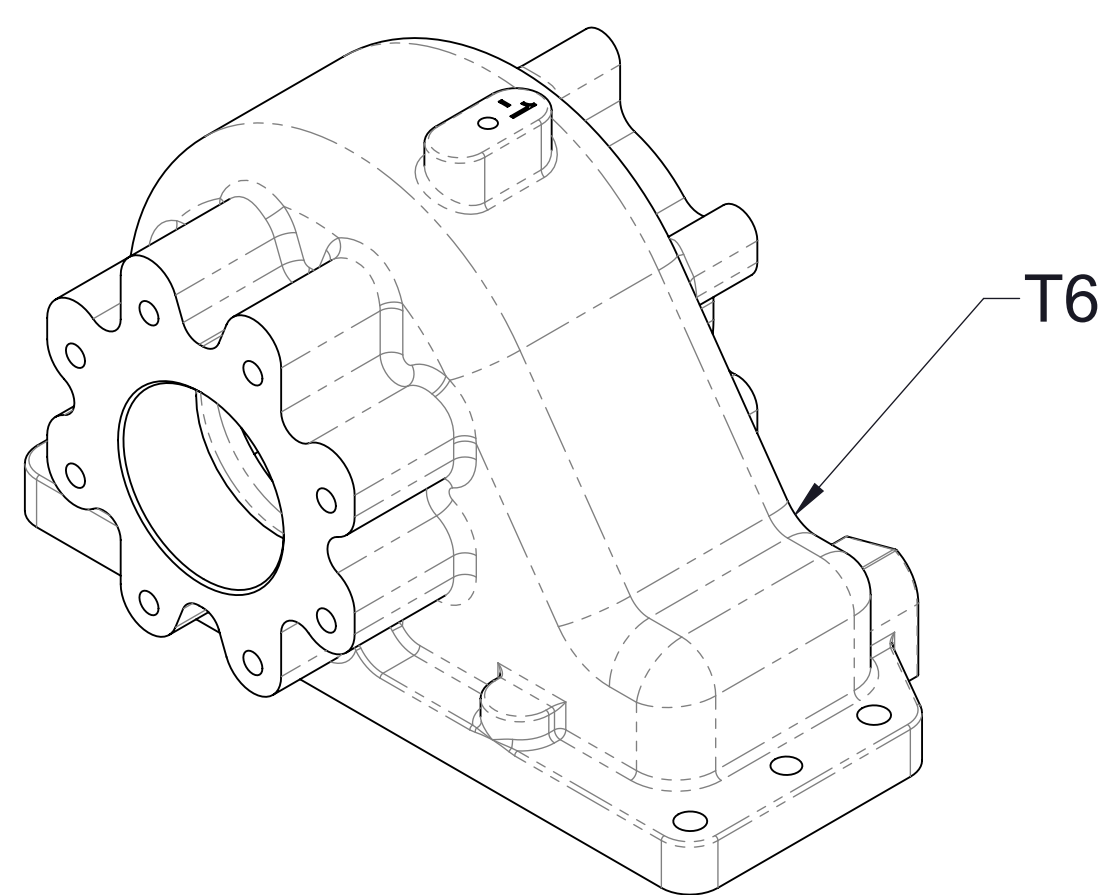


Input Side Shown

Models TC22D, TC22E, TC22F

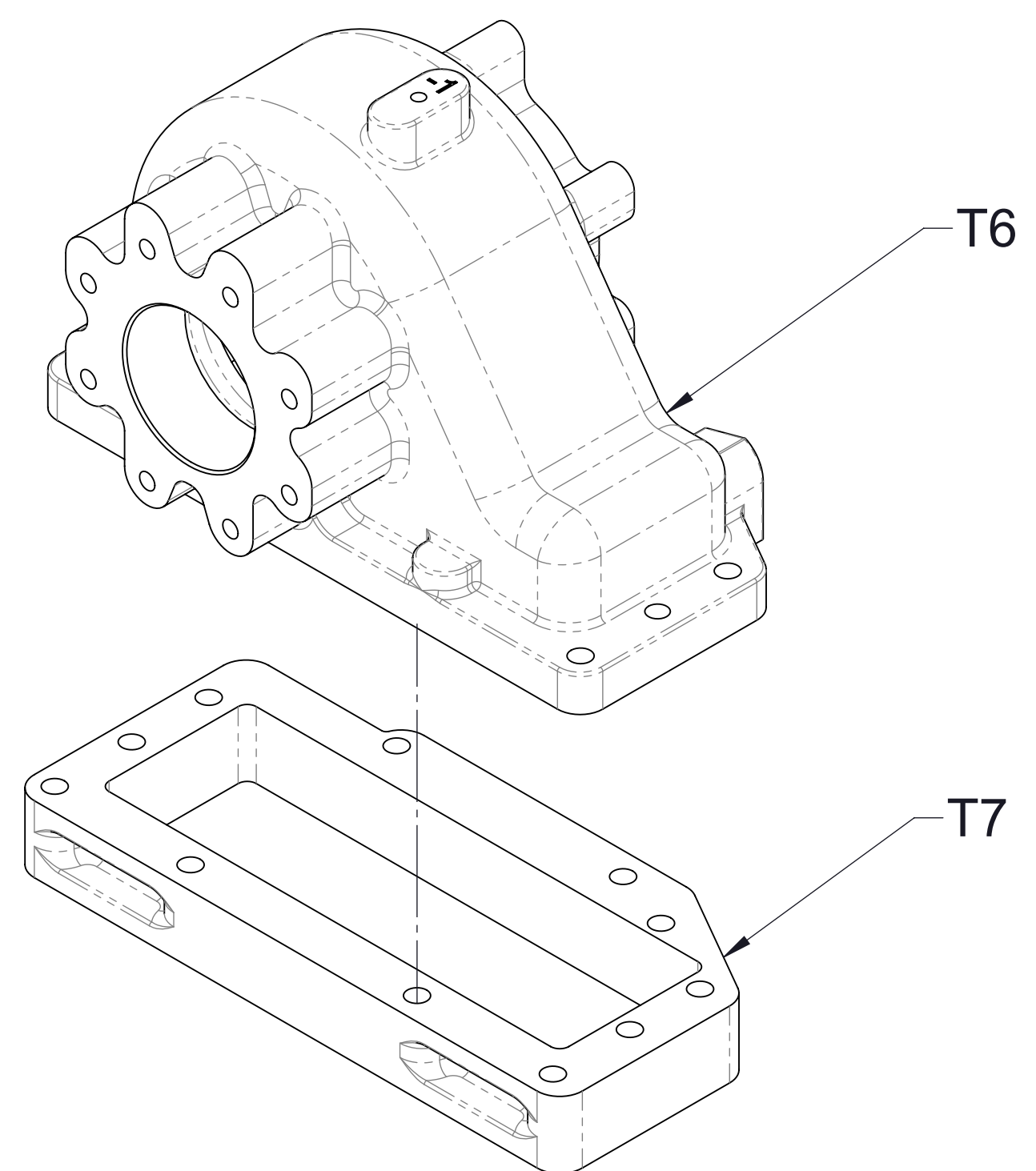
**Cap and Spacer
TC22 PTO's without CAFS**

Ref No.	Description
T6	Cap-Transmission
T7	Spacer-Transmission
T61	Tube-Oil



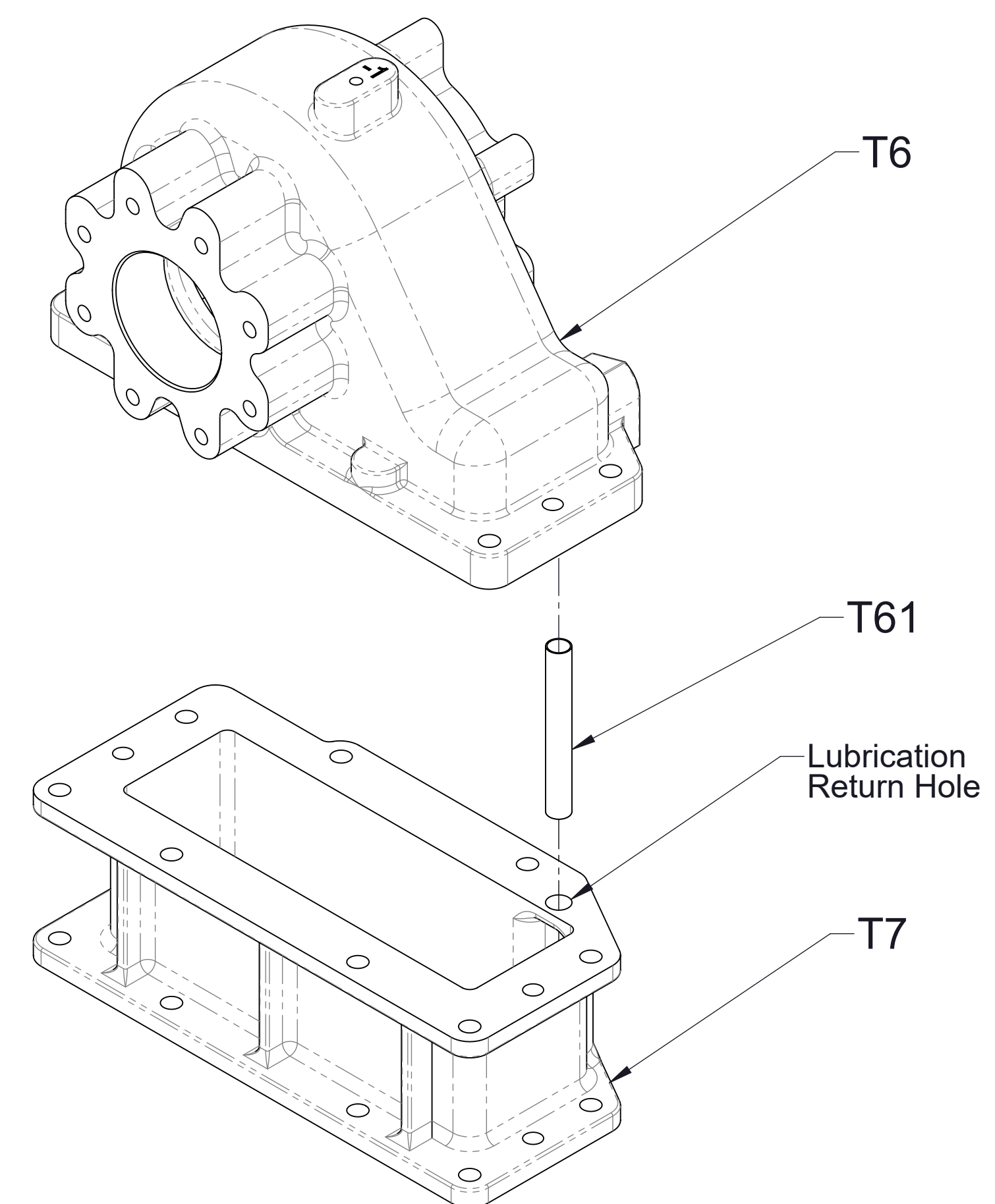
Input Side Shown

Model TC22B



Input Side Shown

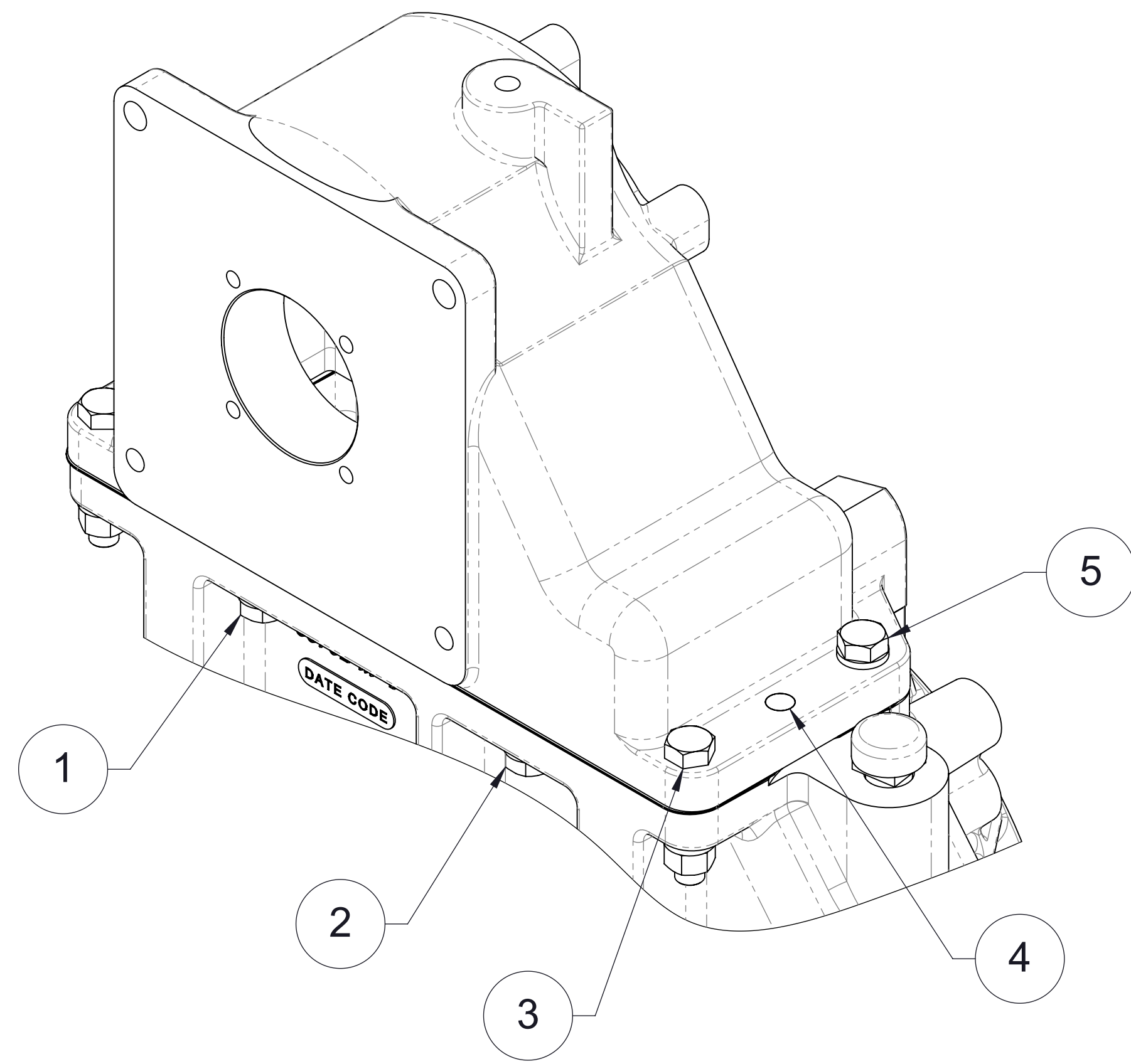
Model TC22C



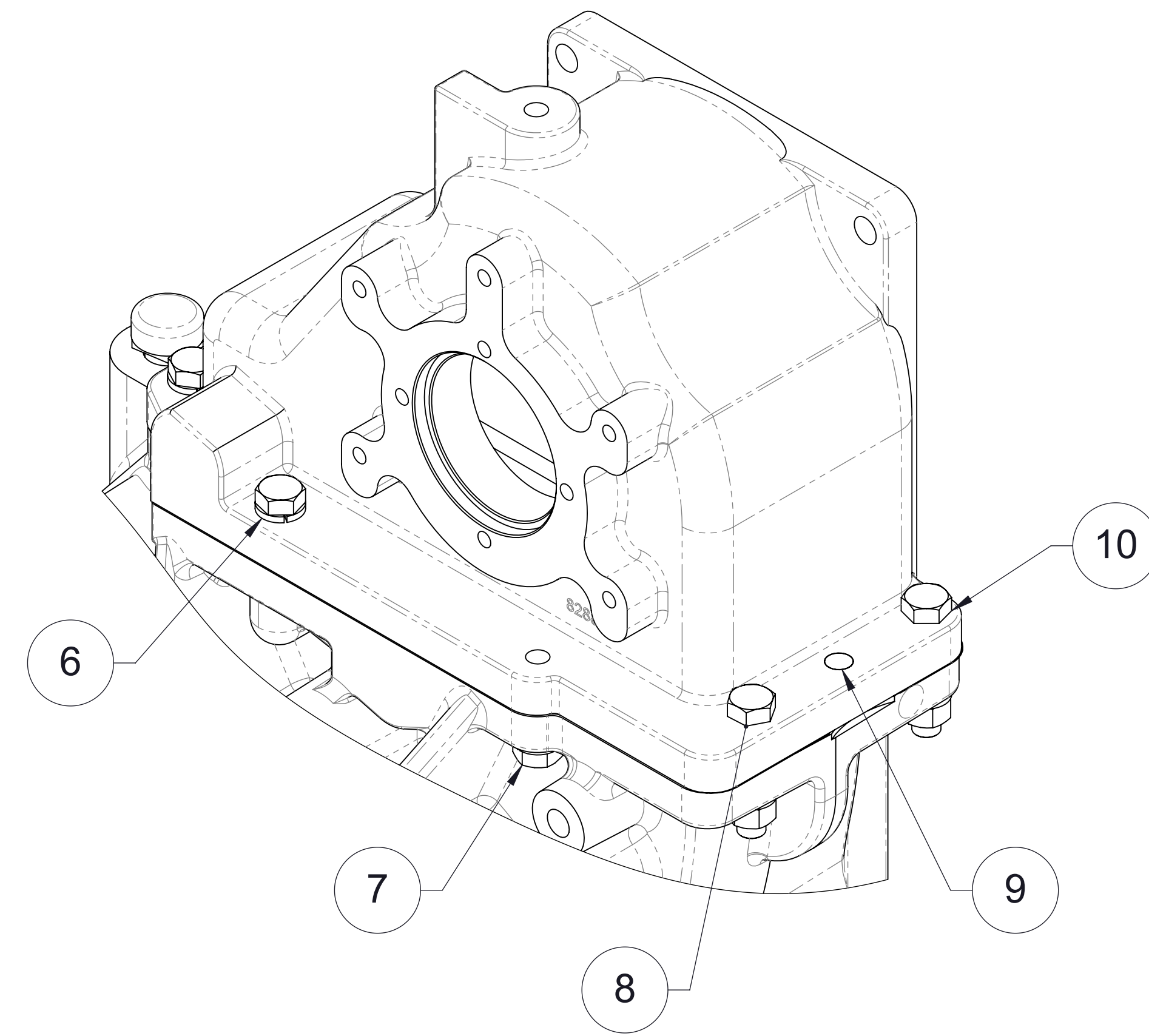
Input Side Shown

Models TC22D, TC22E, TC22F

**Cap and Spacer
TC22 PTO's with CAFS**



Input Side of Case



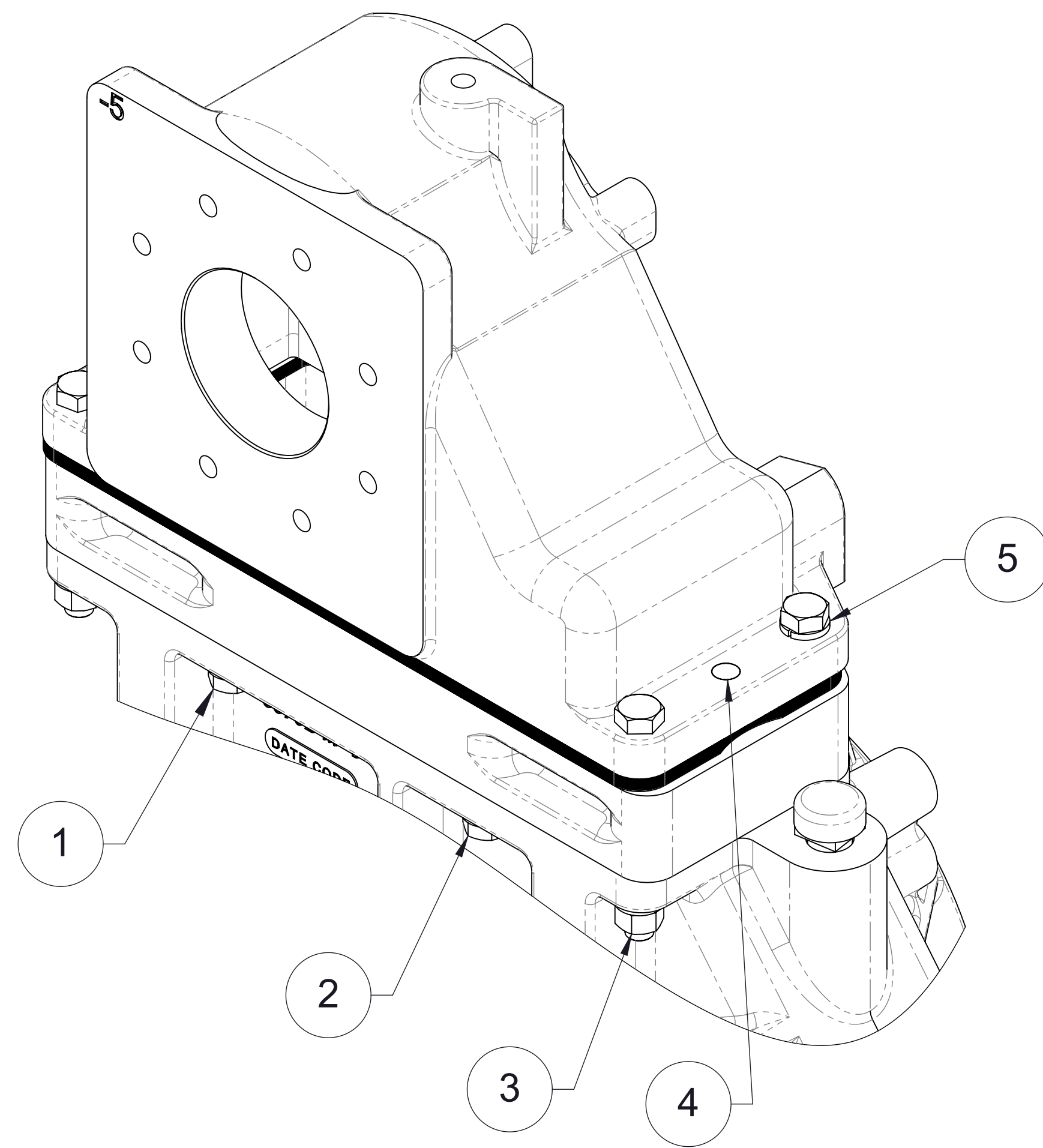
Output Side of Case

Transmission or PTO Model	Ratio	Flange Hole									
		1	2	3	4	5	6	7	8	9	10
C22B, TC22B	All	T141, T150	T141, T150	T146, T149, T150	T151	T141, T150	T141, T150	T141, T150	T146, T149, T150	T151	T146, T149, T150
C22C, C22D, TC22C, TC22D	1.27 Only	T141, T150	T141, T150	T146, T149, T150	T151	T141, T150	T141, T150	T141, T150	T146, T149, T150	T151	T146, T149, T150
	1.41 thru 2.68	T141, T150	T141, T150	T145, T149, T150	T151	T141, T150	T141, T150	T141, T150	T145, T149, T150	T151	T145, T149, T150

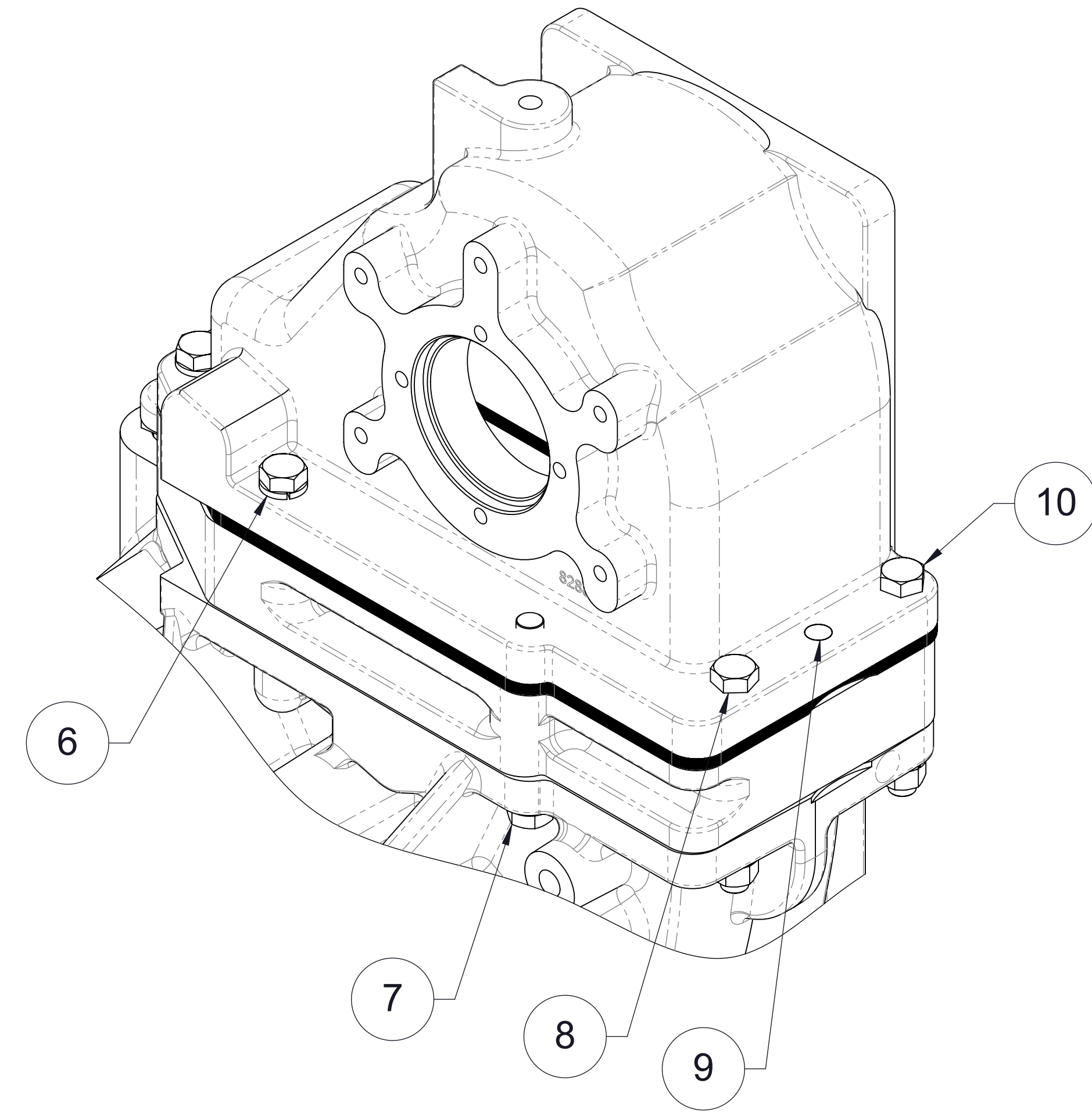
Note:
Holes 1, 2 and 7 are blind holes that are tapped into the cap and are not shown.

Ref No.	Description	Torque To
T141	Screw-Hex Head, 1/2-13 x 1.75 in.	55 ft-lbs
T145	Screw-Hex Head, 1/2-20 x 2.25 in.	60 ft-lbs
T146	Screw-Hex Head, 1/2-20 x 2.50 in.	60 ft-lbs
T149	Nut-Hex, 1/2-20	--
T150	Washer-Lock, 1/2 in.	--
T151	Pin-Dowel, .50 x 1.50 in.	--

**Cap Hardware
Single Flange between Cap and Case
Spacer not Used**



Input Side of Case



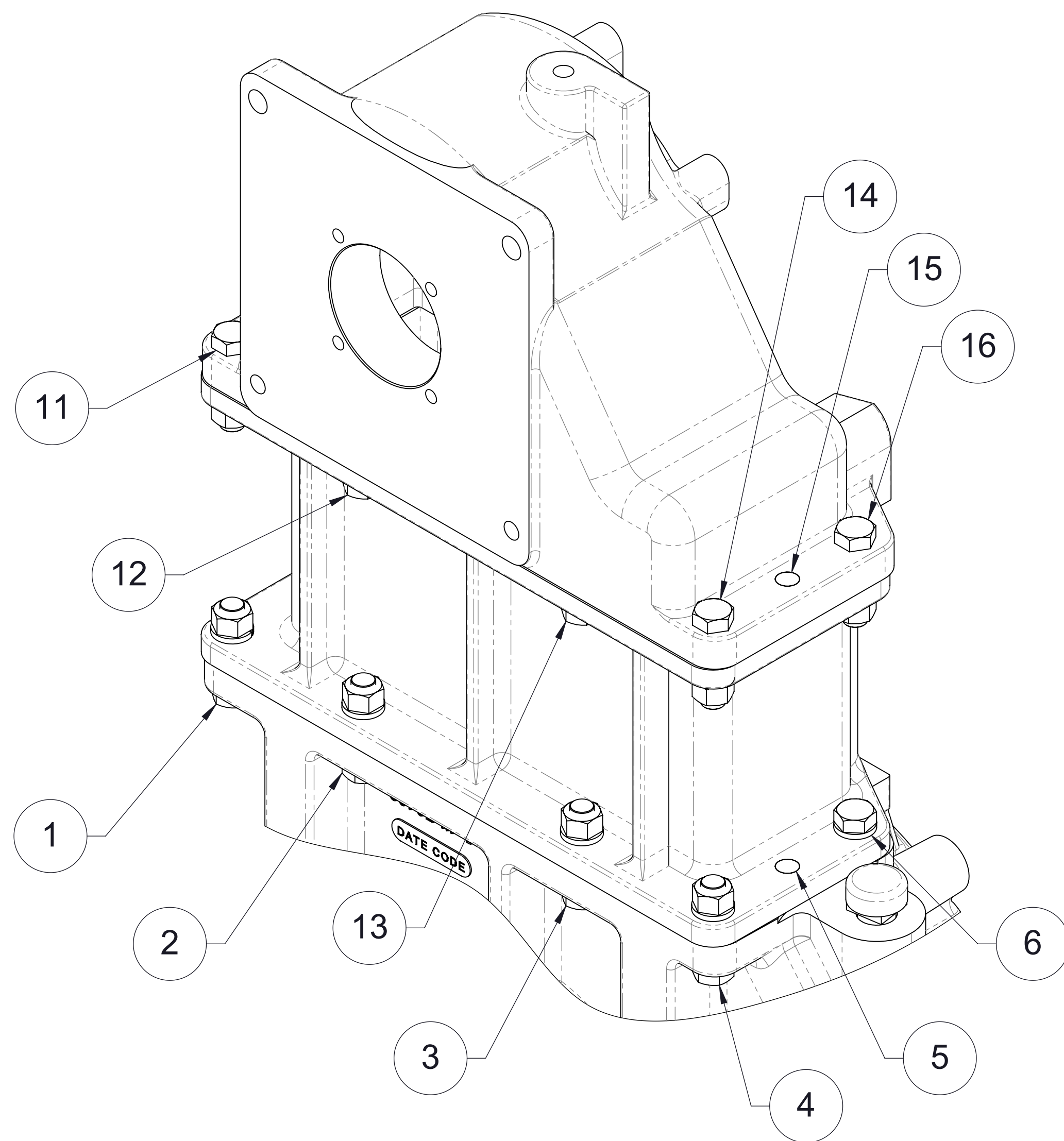
Output Side of Case

Transmission or PTO Model	Ratio	Flange Hole									
		1	2	3	4	5	6	7	8	9	10
C22C, TC22C	1.27 Only	T143, T150	T143, T150	T148, T149, T150	T152	T143, T150	T143, T150	T143, T150	T148, T149, T150	T152	T148, T149, T150
	1.41 thru 2.68	T142, T150	T142, T150	T147, T149, T150	T152	T142, T150	T142, T150	T142, T150	T147, T149, T150	T152	T147, T149, T150

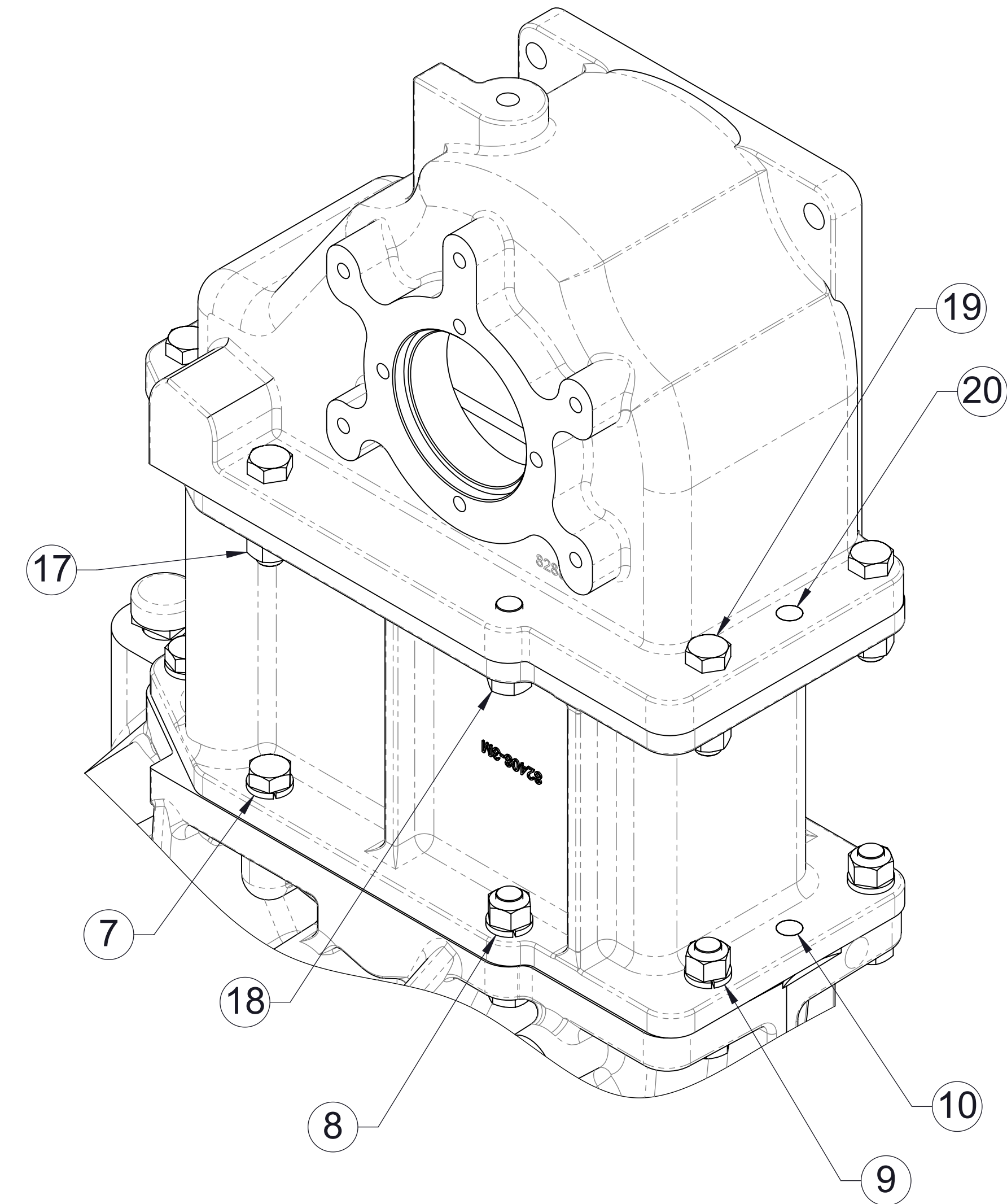
Note:
Holes 1, 2 and 7 are blind holes that are tapped into the cap and are not shown.

Ref No.	Description	Torque To
T142	Screw-Hex Head, 1/2-13 x 3.75 in.	55 ft-lbs
T143	Screw-Hex Head, 1/2-13 x 4.00 in.	55 ft-lbs
T147	Screw-Hex Head, 1/2-20 x 4.25 in.	60 ft-lbs
T148	Screw-Hex Head, 1/2-20 x 4.50 in.	60 ft-lbs
T149	Nut-Hex, 1/2-20	--
T150	Washer-Lock, 1/2 in.	--
T152	Pin-Dowel, .50 x 3.00 in.	--

Cap Hardware
Single Flange with Spacer between Cap and Spacer
1.840 in. Long Spacer Used



Input Side of Case



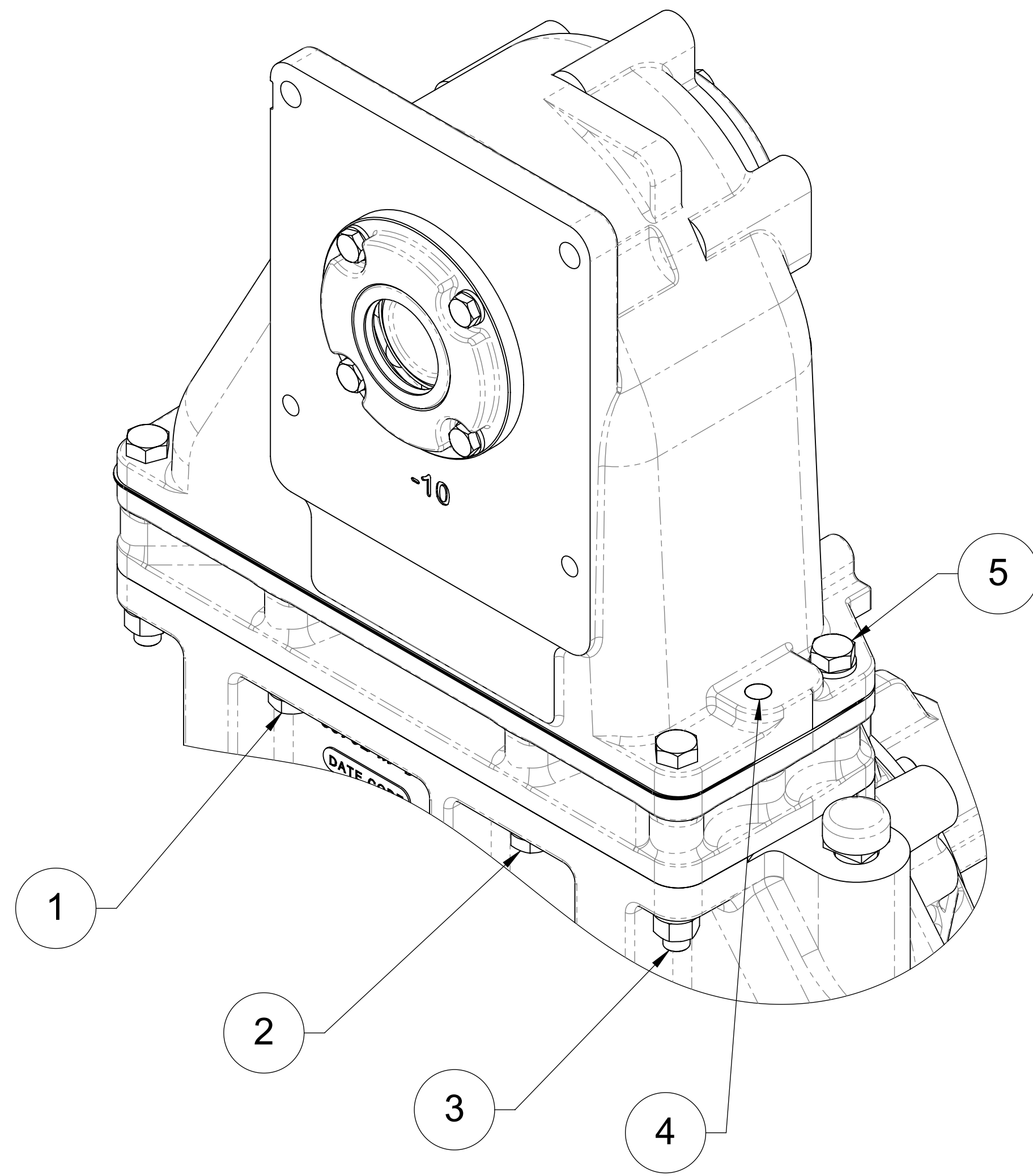
Output Side of Case

Transmission or PTO Model	Ratio	Case Flange Hole									
		1	2	3	4	5	6	7	8	9	10
C22D, C22E, C22F TC22D, TC22E, TC22F	All	T144, T149, T150	T144, T149, T150	T144, T149, T150	T144, T149, T150	T151	T140, T150	T140, T150	T144, T149, T150	T144, T149, T150	T151
		Cap Flange Hole									
		11	12	13	14	15	16	17	18	19	20
		T144, T149, T150	T140, T150	T140, T150	T144, T149, T150	T151	T144, T149, T150	T144, T149, T150	T140, T150	T144, T149, T150	T151

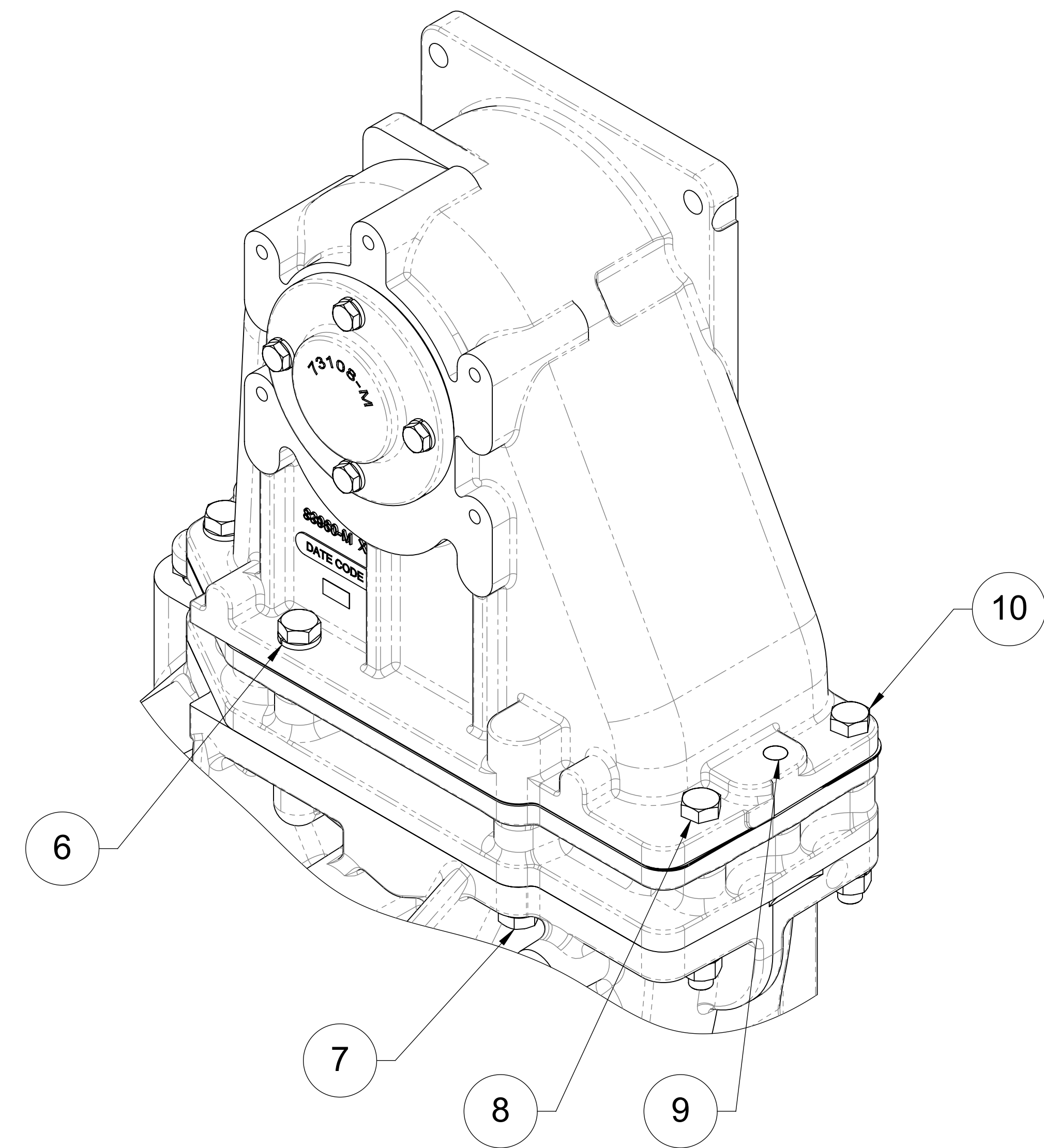
Note:
Holes 12, 13 and 18 are blind holes that are tapped into the cap and are not shown.

Ref No.	Description	Torque To
T140	Screw-Hex Head, 1/2-13 x 1.50 in.	55 ft-lbs
T144	Screw-Hex Head, 1/2-20 x 2.00 in.	60 ft-lbs
T149	Nut-Hex, 1/2-20	--
T150	Washer-Lock, 1/2 in.	--
T151	Pin-Dowel, .50 x 1.50 in.	--

Cap Hardware
Two Flanges between Cap and Case
2.857 in., 4.811 in. or 6.682 in. Long Spacer Used



Input Side of Case



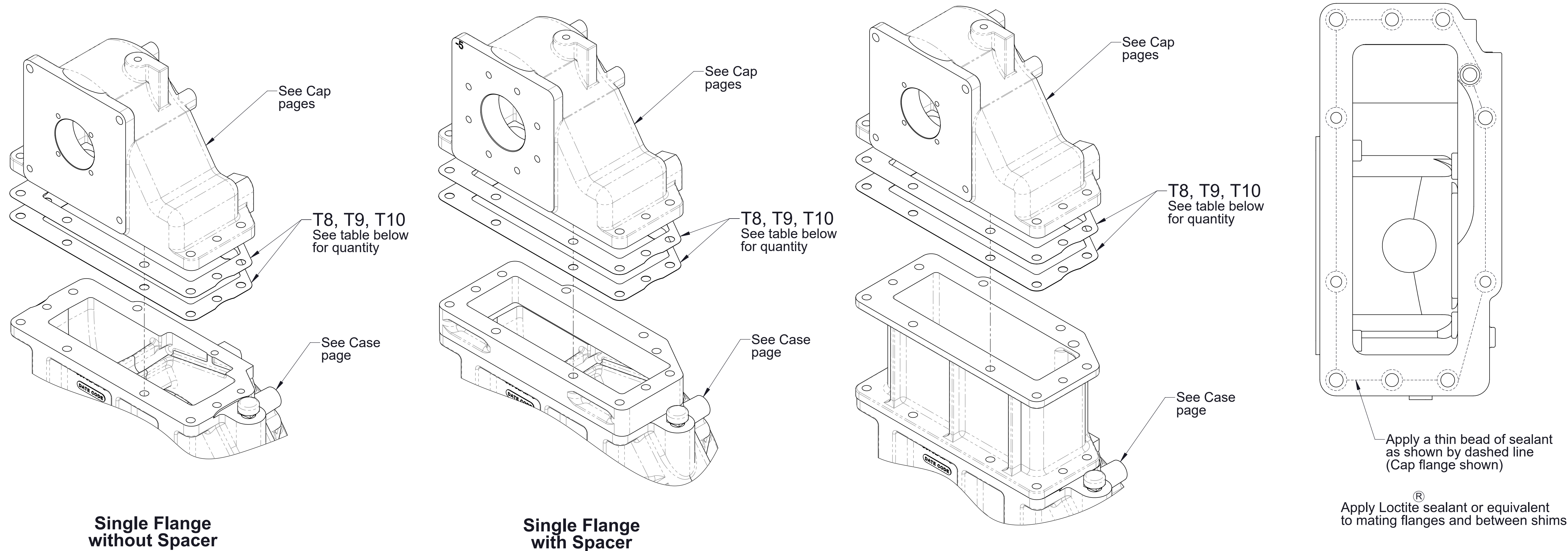
Output Side of Case

Transmission	Ratio	Flange Hole									
		1	2	3	4	5	6	7	8	9	10
C22E Center Cap	All	T142, T150	T142, T150	T147, T149, T150	T152	T142, T150	T142, T150	T142, T150	T147, T149, T150	T151	T147, T149, T150

Note:
Holes 1, 2 and 7 are blind holes that are tapped into the cap and are not shown.

Ref No.	Description	Torque To
T142	Screw-Hex Head, 1/2-13 x 3.75 in.	55 ft-lbs
T147	Screw-Hex Head, 1/2-20 x 4.25 in.	60 ft-lbs
T149	Nut-Hex, 1/2-20	--
T150	Washer-Lock, 1/2 in.	--
T151	Pin-Dowel, .50 x 1.50 in.	--

Cap Hardware
Single Flange with Spacer between Cap and Spacer
2.000 in. Long Spacer Used



Single Flange without Spacer

Single Flange with Spacer

Two Flanges

Note that shims are installed between the cap and spacer flanges.

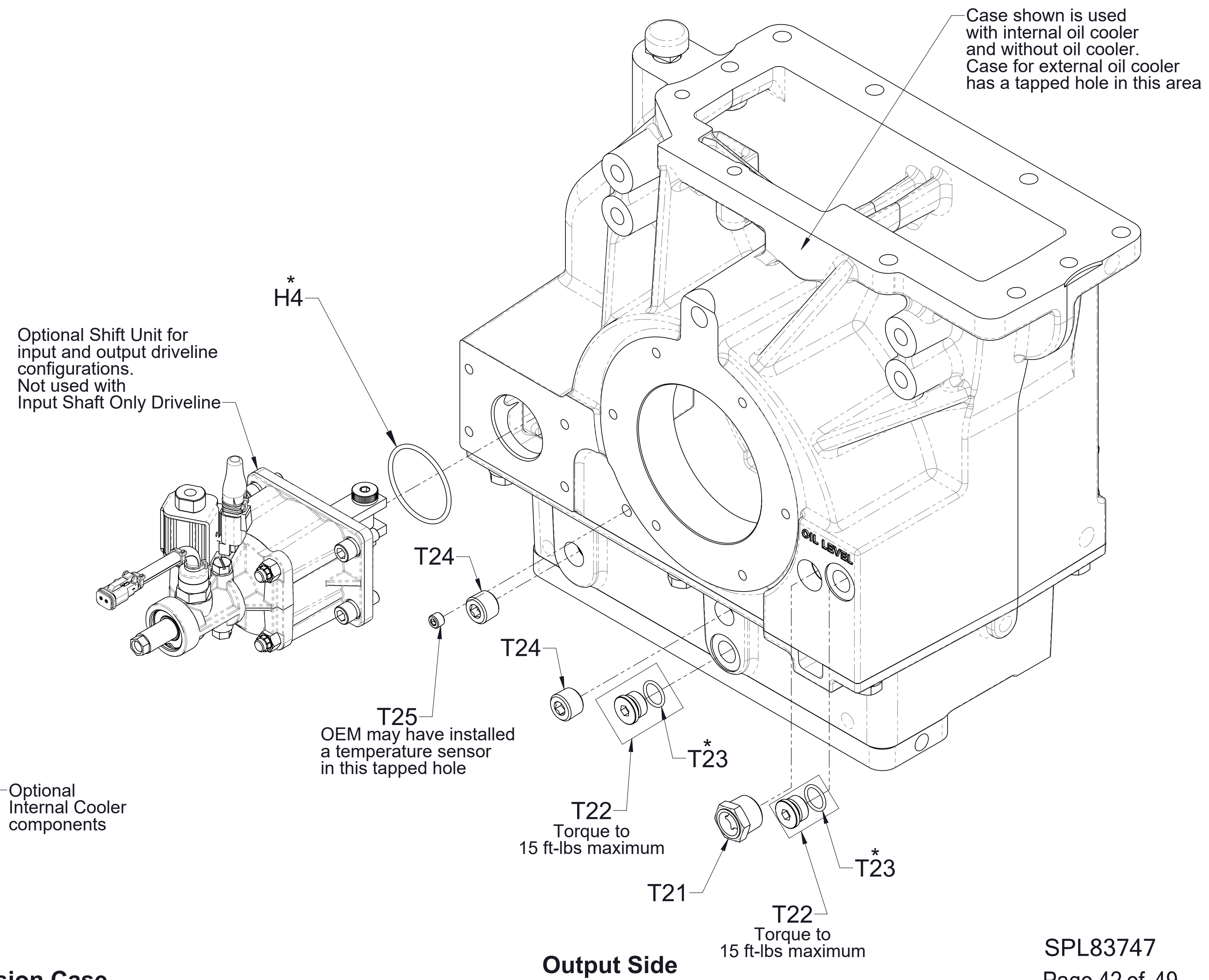
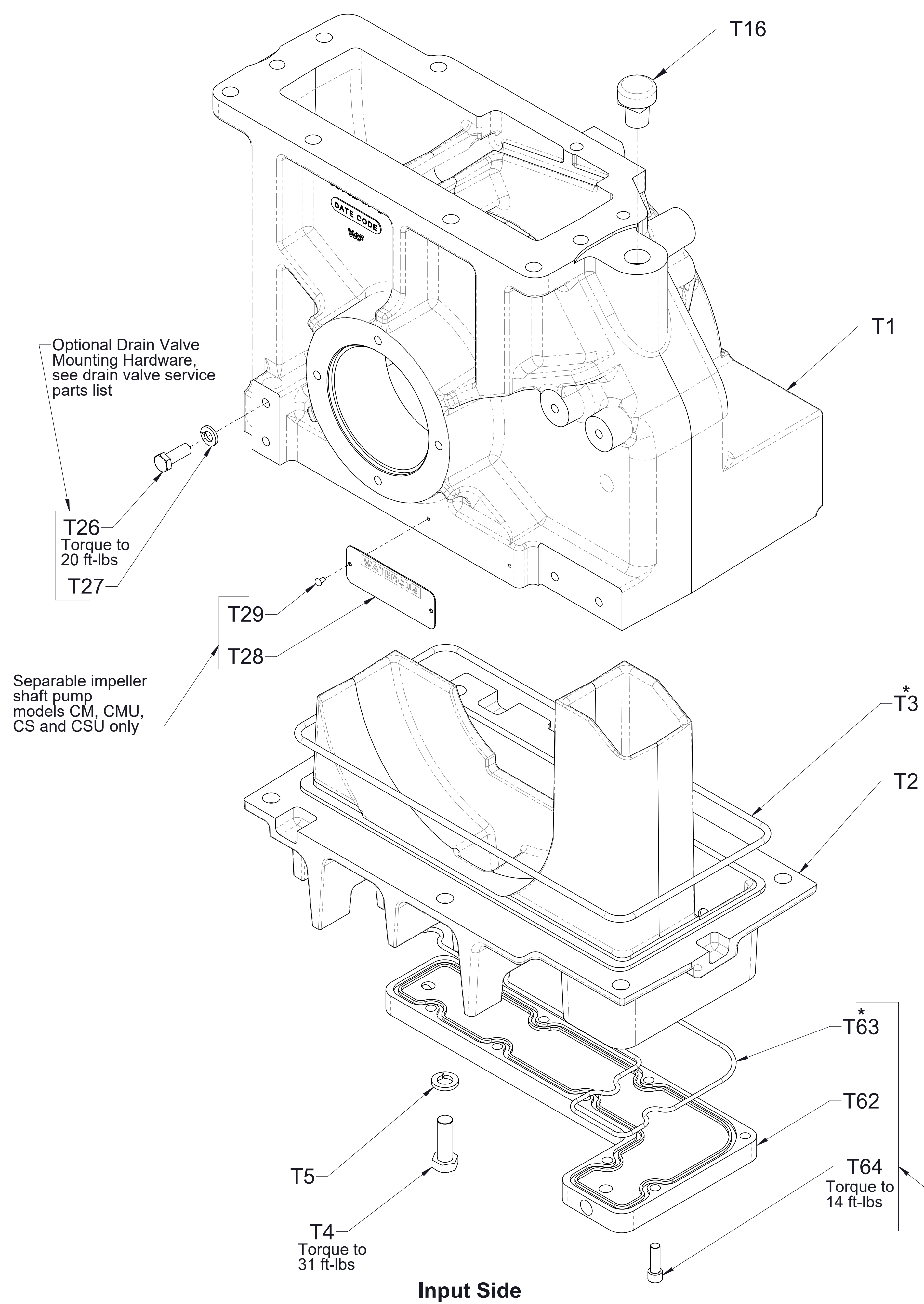
Quantity Used			Total Shim Thickness	Used with Transmission/PTO Model by Ratio (Offset Caps)					Used with Transmission Model by Ratio (Center Caps)			
Ref No. T8 .010 in. Thick, Brown	Ref No. T9 .025 in. Thick, White	Ref No. T10 .031 in. Thick, Orange		C22B, TC22B	C22C, TC22C	C22D, TC22D	C22E, TC22E	C22F, TC22F	C22C	C22D	C22E	C22F
0	0	0	0.000	1.41, 1.58, 2.03	1.69, 1.79	2.27	2.27	1.58, 2.27	1.69, 1.79	2.27		
1	0	0	0.010		1.88, 2.68	1.79		1.48	1.88, 2.68	1.79		2.03
2	0	0	0.020	1.88	1.58	1.69, 1.88	1.58			1.69, 1.88		
0	1	0	0.025			2.46				2.46		
0	0	1	0.031		1.97		1.48	1.27, 1.41	1.97		1.69, 1.79, 2.27	
1	1	0	0.035	1.14, 2.27	2.03	1.58			2.03			
4	0	0	0.040			2.68		1.97		2.68	1.88	1.69, 1.79
2	1	0	0.045	1.27, 2.46								1.88
0	2	0	0.050			1.48	1.27, 1.41, 1.97	1.88				2.27
3	1	0	0.055			1.97	2.68	1.14		1.97	2.46	
1	2	0	0.060	1.79, 2.68	1.41	2.03		2.68		2.03		
4	1	0	0.065		1.14			1.88		2.03		
2	2	0	0.070			1.27	2.03					
0	3	0	0.075		2.27	1.41	1.14		2.27		1.97, 2.68	
2	0	2	0.082									2.46
1	3	0	0.085	1.69	2.46				2.46		2.03	
0	0	3	0.093									1.97
0	4	0	0.100	1.97		1.14		1.69, 1.79				
1	0	3	0.103									2.68
3	2	1	0.111				1.69, 1.79					
4	2	1	0.121	1.48								
2	1	3	0.138				2.46	2.46				
3	2	2	0.142		1.48							
3	7	2	0.267		1.27							

Cap Shims

Ref No.	Description
T1	Case-Transmission
T2	Pan-Transmission
* T3	Gasket-Molded
T4	Screw-Hex Hd, 1/2-13 x 1-1/2 in
T5	Washer-Lock, 1/2 in
T16	Breather, 1/2 NPT
T21	Plug-Site, Glass, 3/4 NPT
T22	Plug-Magnetic, 3/4 in (Includes T23)
* T23	O-ring, 16.4mm x 20.8mm
T24	Plug-Pipe, Headless, 1/2 NPT
T25	Plug-Pipe, Headless, 1/8 NPT
T26	Screw-Hex Hd, 3/8-16 x 1 in
T27	Washer-Lock, 3/8 in
T28	Plate-Serial
T29	Screw-Drive, #6 x 1/4 in
T62	Plate-Cooler
* T63	Gasket-Molded, Cooler Plate
T64	Screw-Cap, Hex Soc Hd, 5/16-18 x 1 in
* H4	O-ring, 2-1/4 x 2-1/2 in.

*Included in Ref No. T30 Gasket and O-ring Repair Kit

Note:
1. Apply thread sealant to pipe threads.

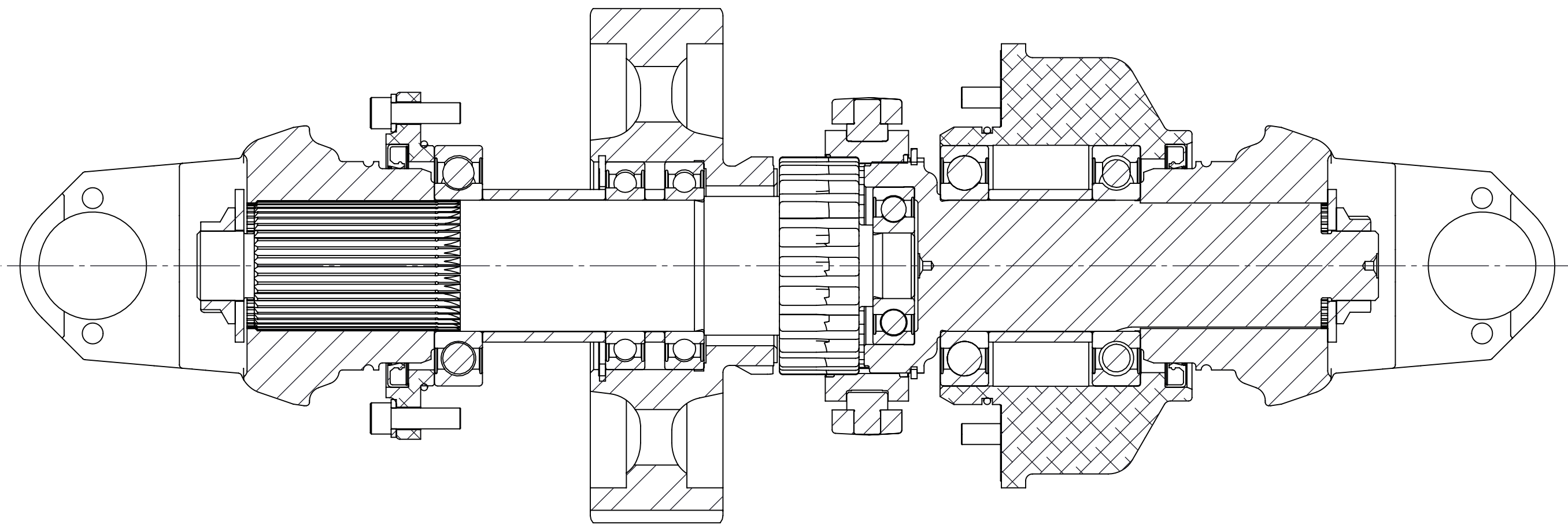


Transmission Case

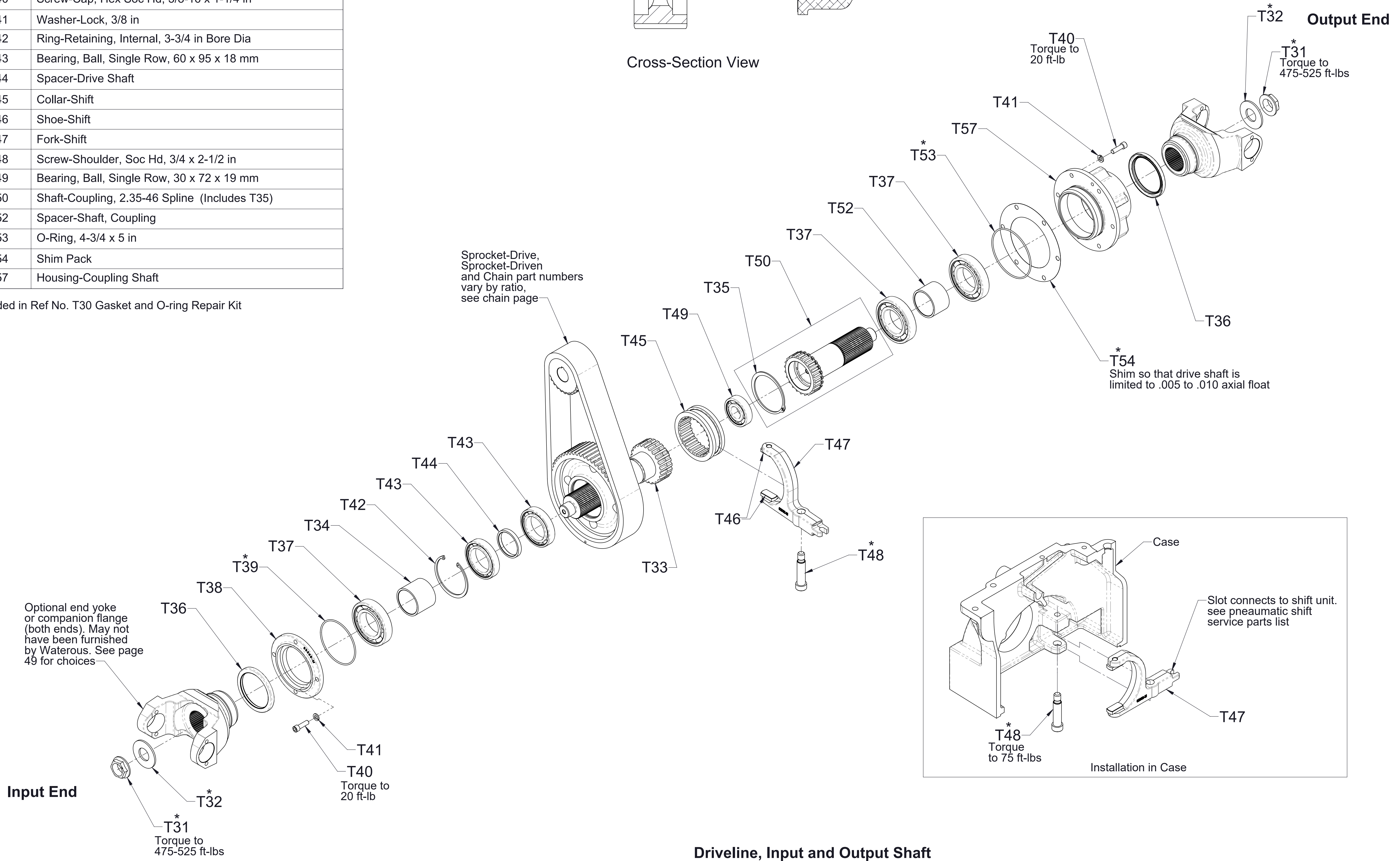
Output Side

Ref No.	Description
* T31	Nut-Self Locking, 1-1/4-18 UNEF-2B
* T32	Washer-Plain, 1-1/4 in
T33	Shaft-Drive, 2.35-46 Spline
T34	Spacer-Bearing
T35	Ring-Retaining, External, 3-15/16 in Shaft Dia
T36	Seal-Oil, 3-1/2 x 4-3/8 x 3/8
T37	Bearing, Ball, Single Row, 60 x 110 x 22 mm
T38	Housing - Drive Shaft
* T39	O-Ring, 4-1/4 x 4-1/2 in
T40	Screw-Cap, Hex Soc Hd, 3/8-16 x 1-1/4 in
T41	Washer-Lock, 3/8 in
T42	Ring-Retaining, Internal, 3-3/4 in Bore Dia
T43	Bearing, Ball, Single Row, 60 x 95 x 18 mm
T44	Spacer-Drive Shaft
T45	Collar-Shift
T46	Shoe-Shift
T47	Fork-Shift
* T48	Screw-Shoulder, Soc Hd, 3/4 x 2-1/2 in
T49	Bearing, Ball, Single Row, 30 x 72 x 19 mm
T50	Shaft-Coupling, 2.35-46 Spline (Includes T35)
T52	Spacer-Shaft, Coupling
* T53	O-Ring, 4-3/4 x 5 in
* T54	Shim Pack
T57	Housing-Coupling Shaft

*Included in Ref No. T30 Gasket and O-ring Repair Kit



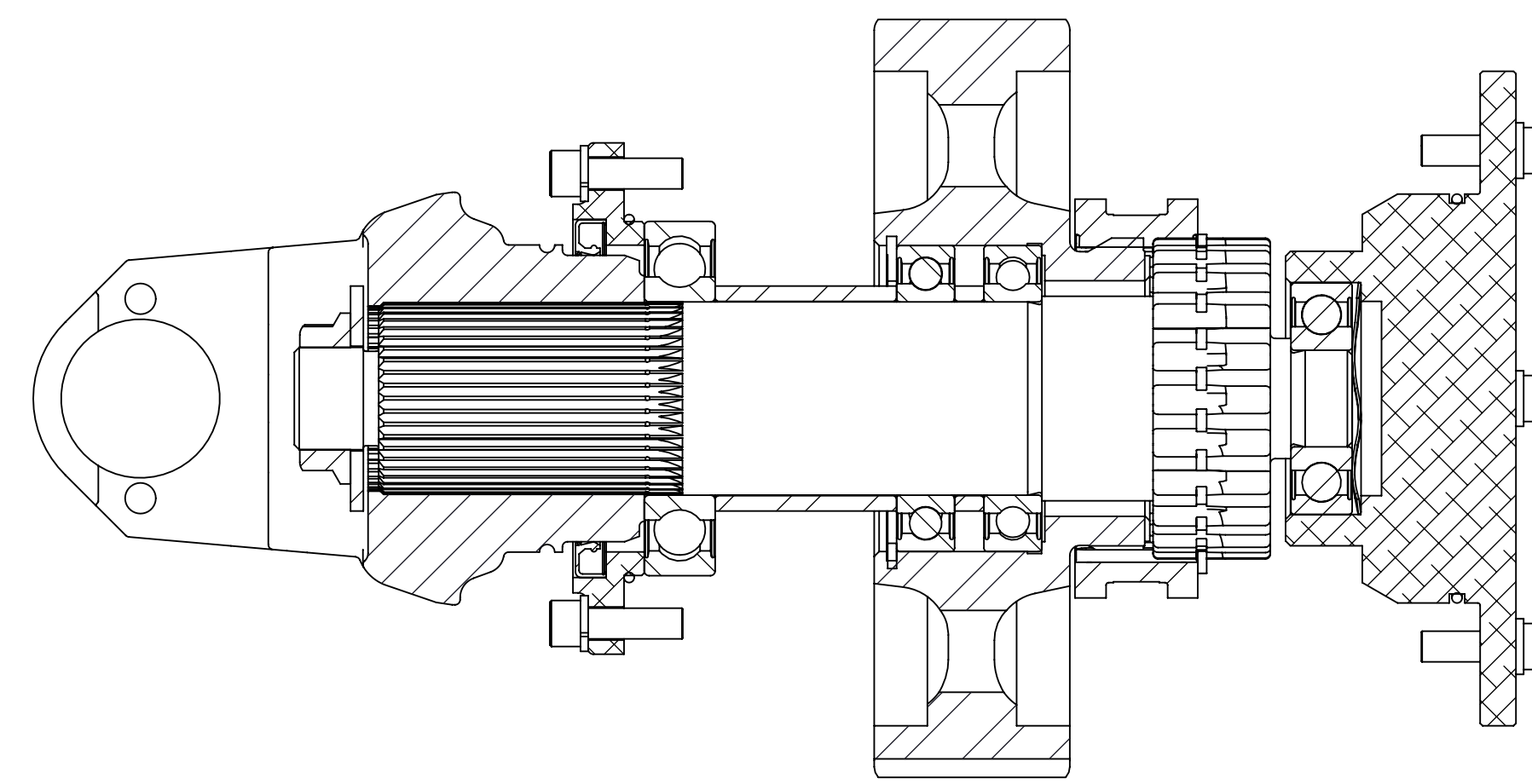
Cross-Section View



Driveline, Input and Output Shaft

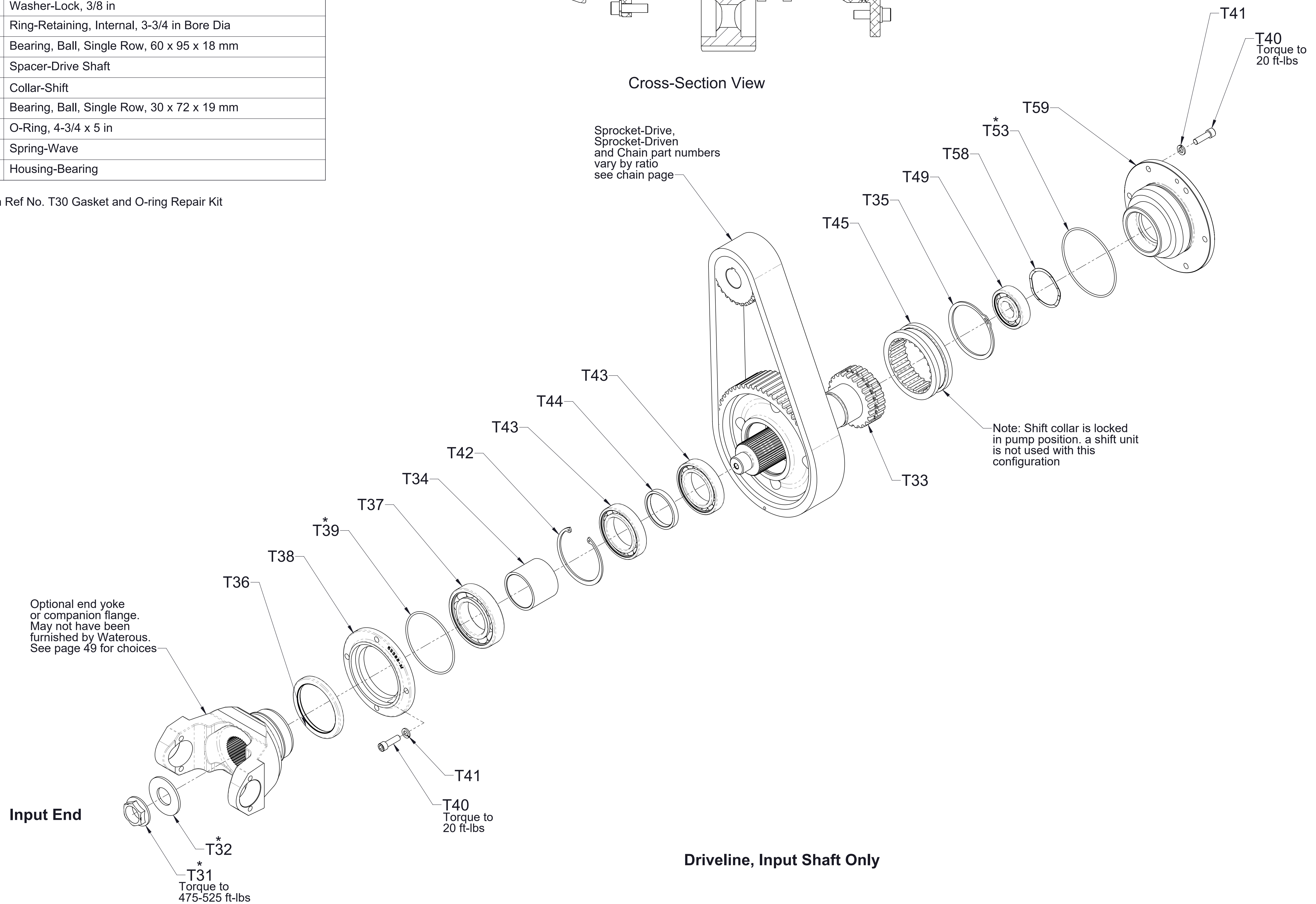
Ref No.	Description
* T31	Nut-Self Locking, 1-1/4-18 UNEF-2B
* T32	Washer-Plain, 1-1/4 in
T33	Shaft-Drive, 2.35-46 Spline, Input Only
T34	Spacer-Bearing
T35	Ring-Retaining, External, 3-15/16 in Shaft Dia
T36	Seal-Oil, 3-1/2 x 4-3/8 x 3/8
T37	Bearing, Ball, Single Row, 60 x 110 x 22 mm
T38	Housing - Drive Shaft
* T39	O-Ring, 4-1/4 x 4-1/2 in
T40	Screw-Cap, Hex Soc Hd, 3/8-16 x 1-1/4 in
T41	Washer-Lock, 3/8 in
T42	Ring-Retaining, Internal, 3-3/4 in Bore Dia
T43	Bearing, Ball, Single Row, 60 x 95 x 18 mm
T44	Spacer-Drive Shaft
T45	Collar-Shift
T49	Bearing, Ball, Single Row, 30 x 72 x 19 mm
* T53	O-Ring, 4-3/4 x 5 in
T58	Spring-Wave
T59	Housing-Bearing

*Included in Ref No. T30 Gasket and O-ring Repair Kit



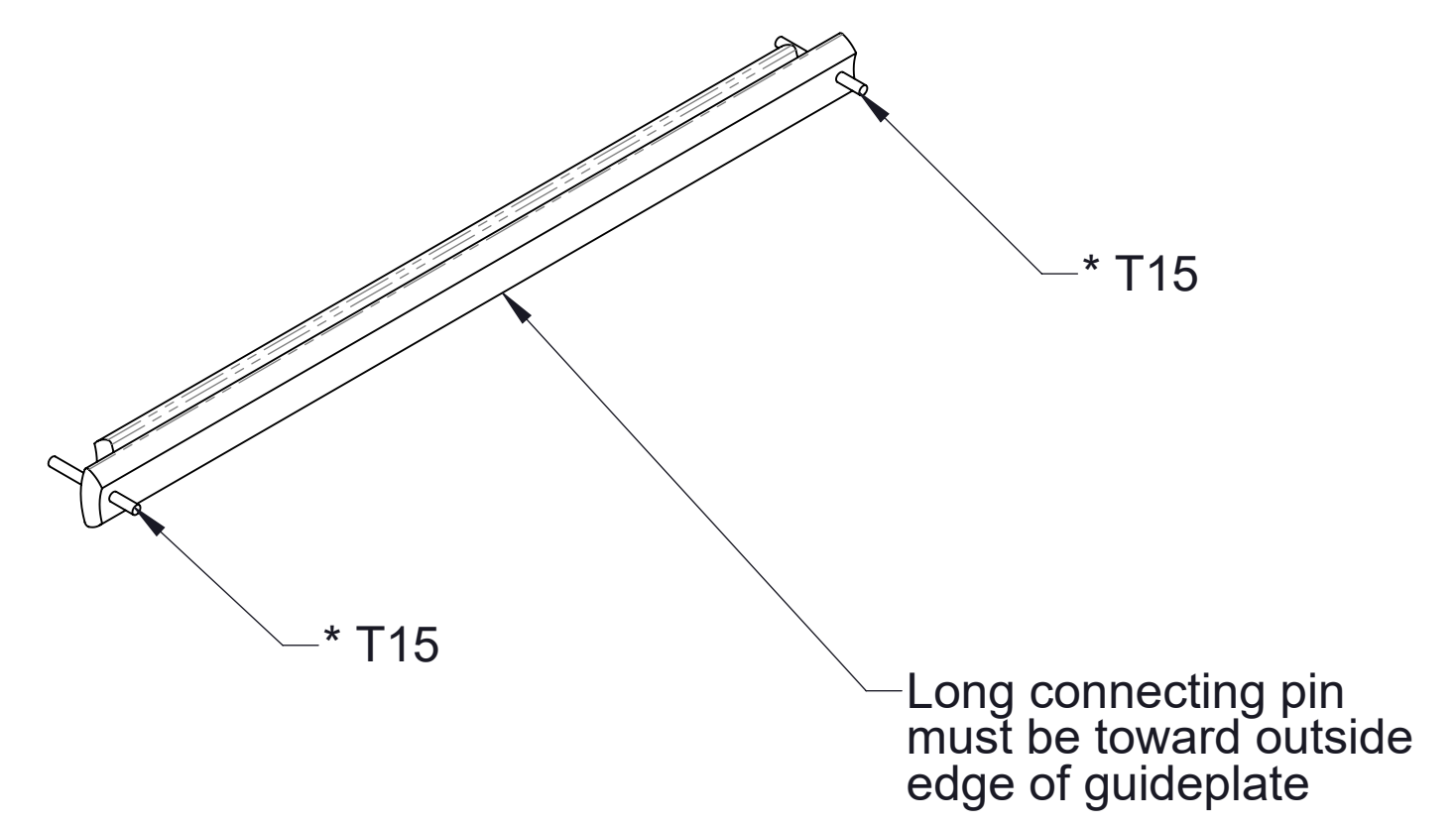
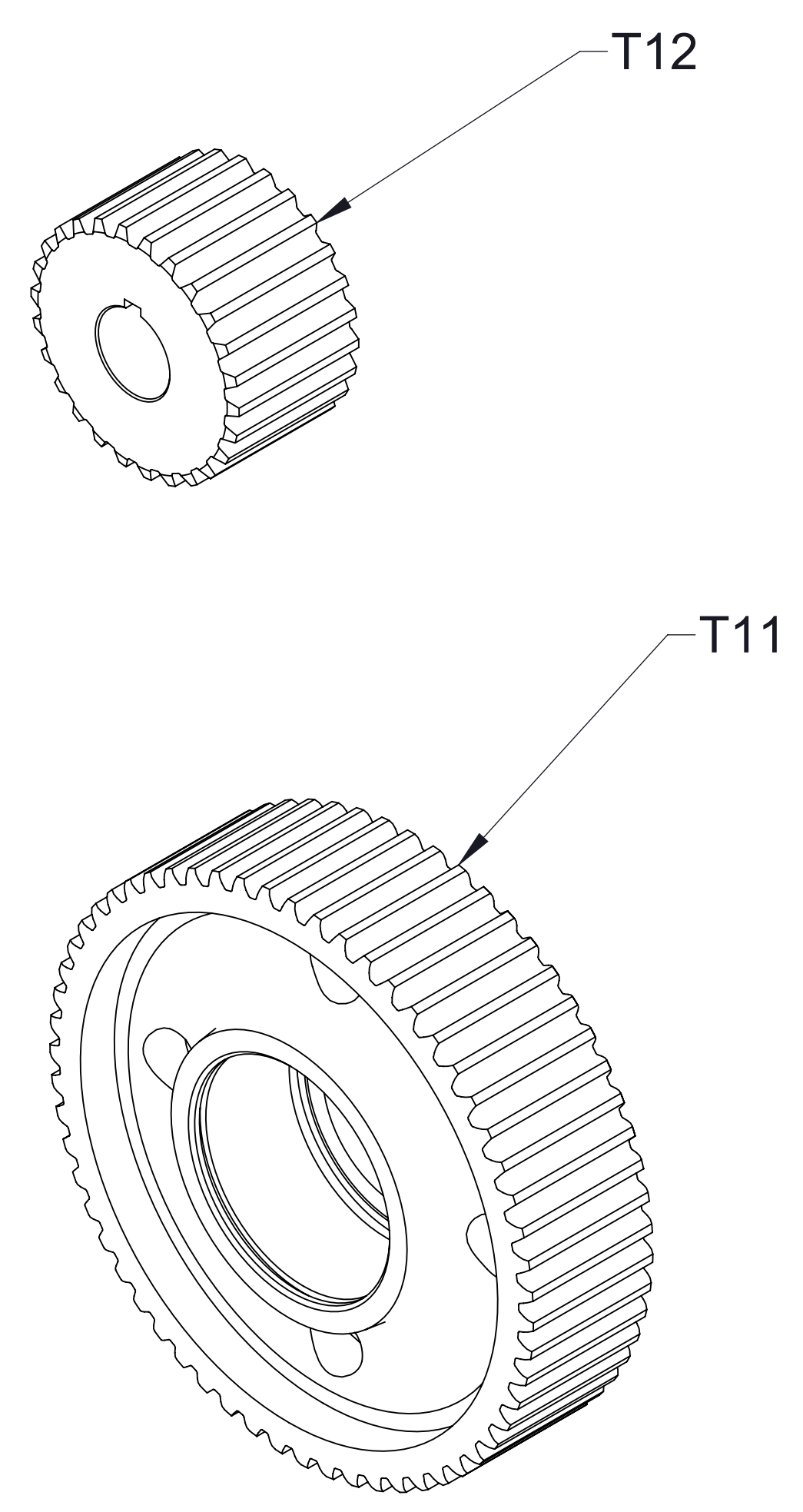
Cross-Section View

Sprocket-Drive, Sprocket-Driven and Chain part numbers vary by ratio see chain page

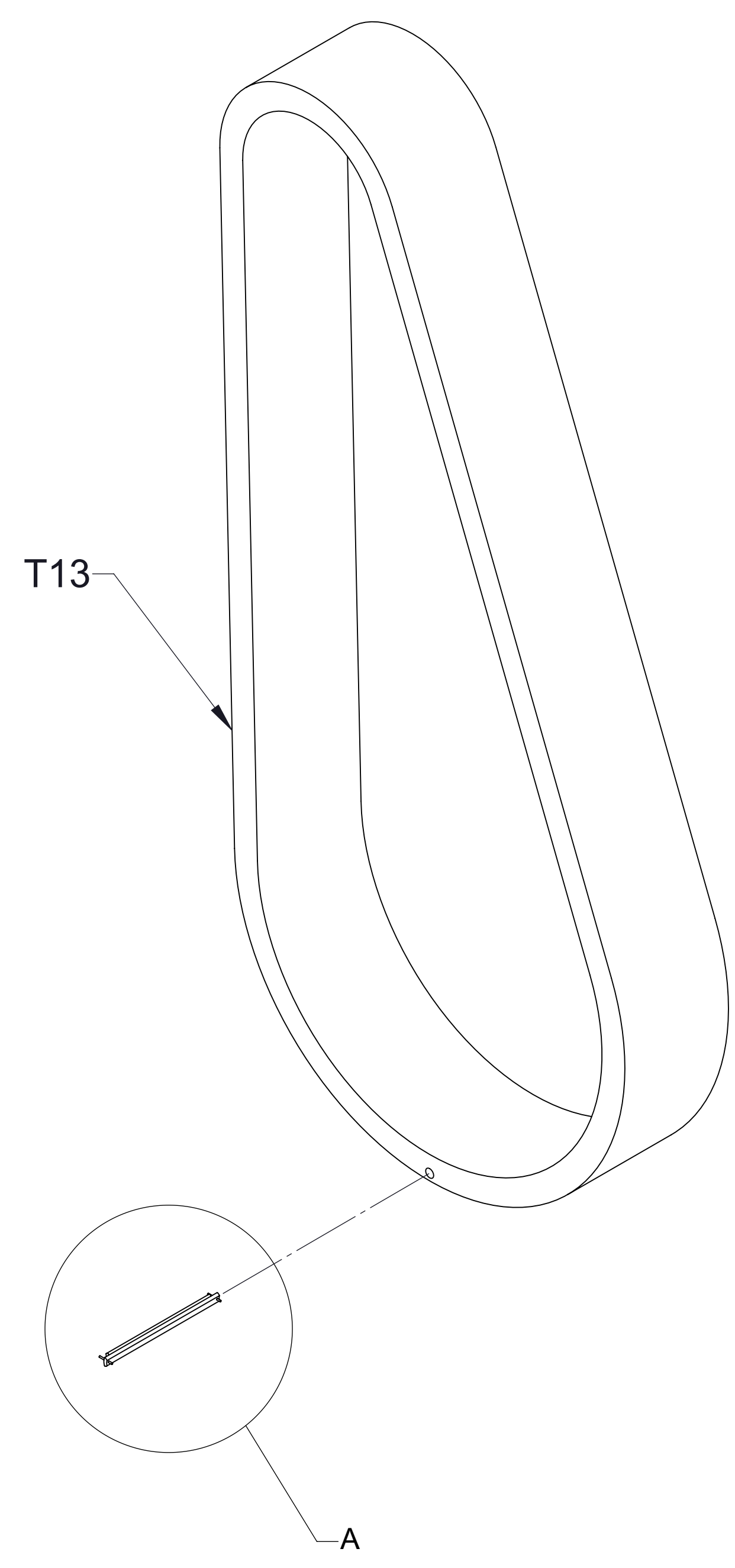


Ref No.	Description
T11	Sprocket-Drive
T12	Sprocket-Driven
T13	Chain
T14	Pin-Set, Connecting
* T15	Pin-Spirol, 1/16 x 5/16

*Included in Ref No. T30 Gasket and O-ring Repair Kit



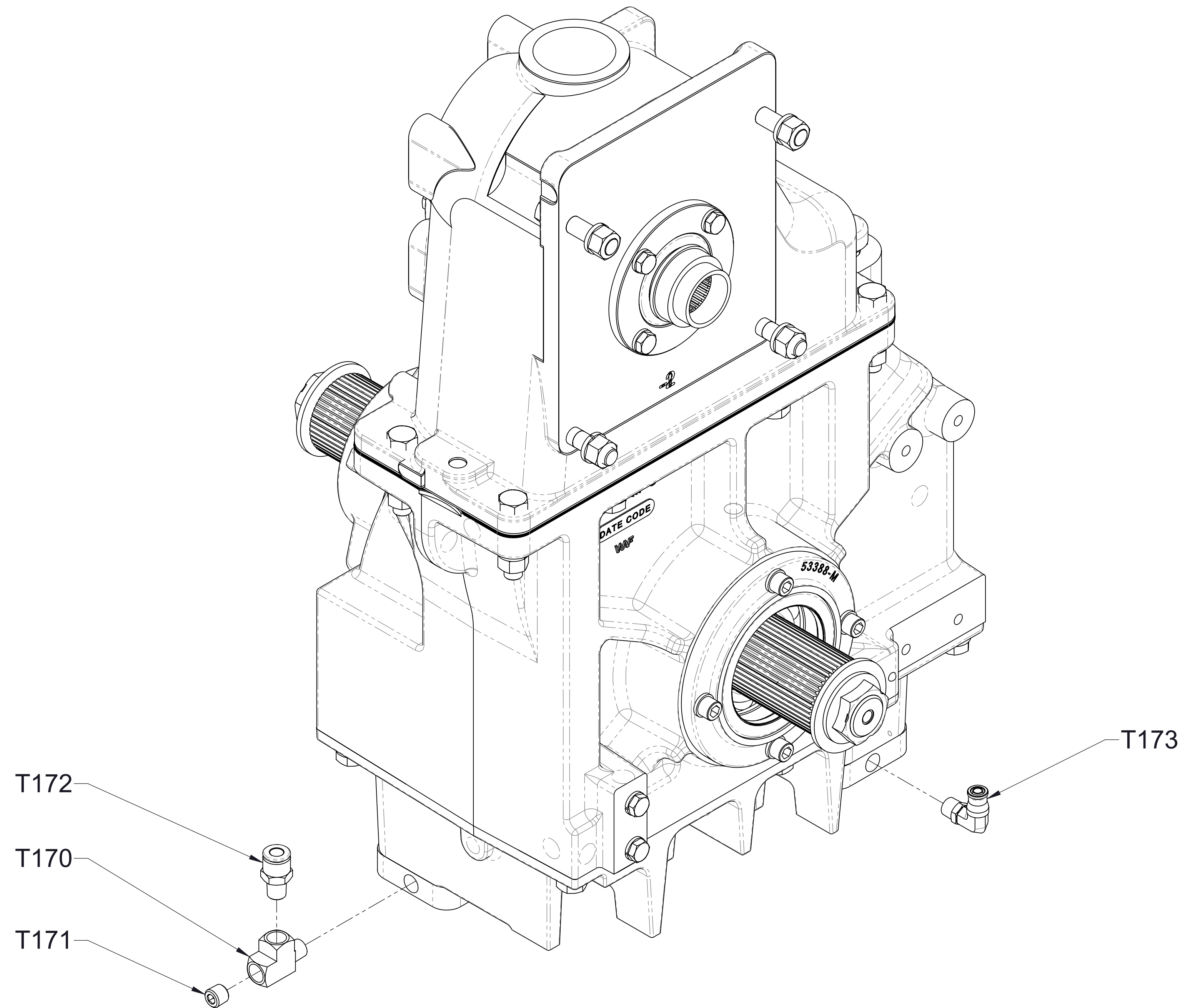
DETAIL A
SCALE 2 : 1



Sprockets and Chain

Ref No.	Description
T170	Tee-Run, 1/4 FNPT x 1/4 MNPT x 1/4 FNPT
T171	Plug-Pipe, Headless, 1/4 NPT
T172	Adapter-3/8 PTC x 1/4 MNPT
T173	Fitting-Elbow, 3/8 PTC x 1/4 MNPT, 90°

Note:
1. Apply thread sealant to pipe threads.

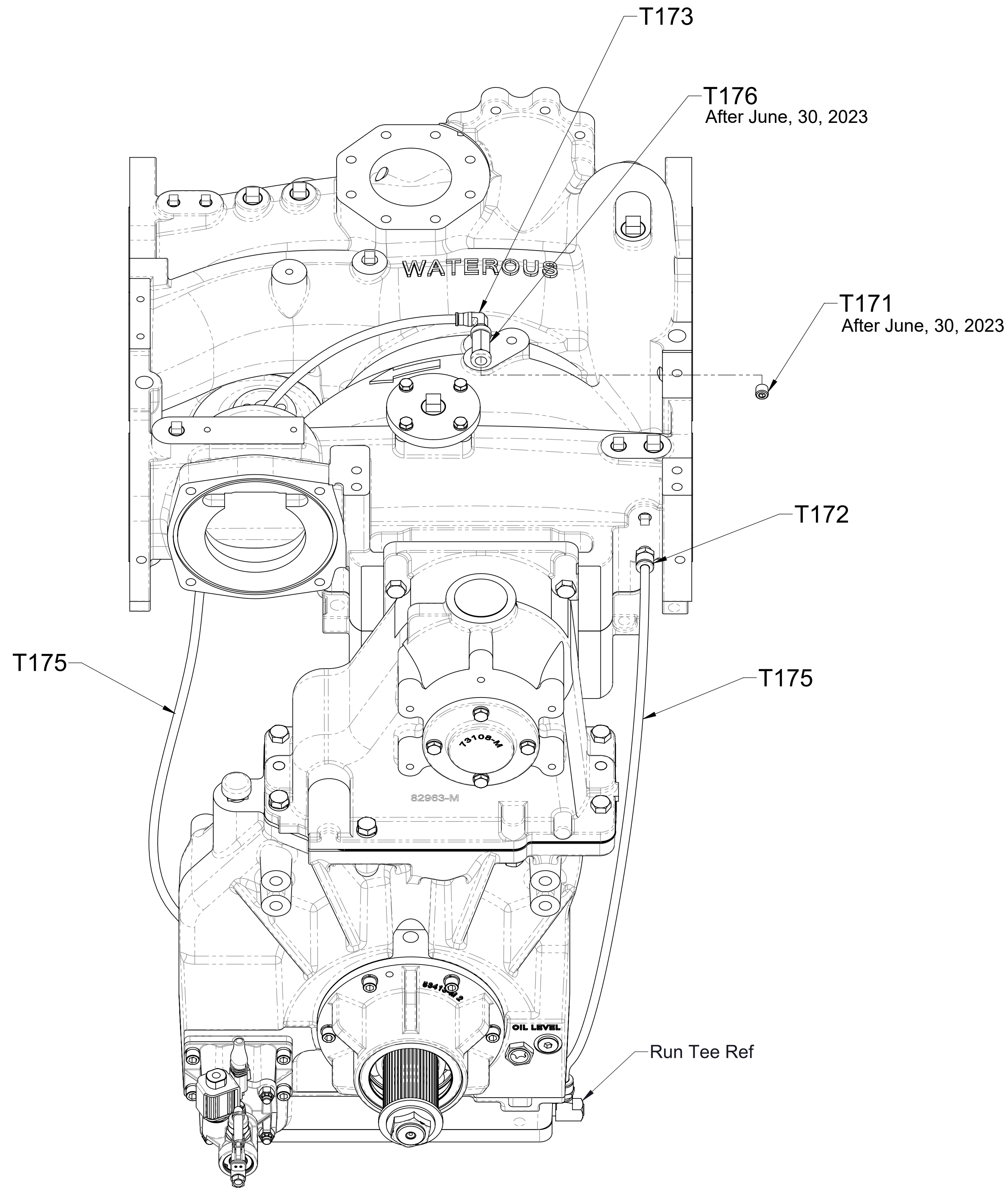


**Optional Internal Oil Cooler
Transmission Fittings**

Ref No.	Description
T171	Plug-Pipe, Headless, 1/4 NPT
T172	Adapter-3/8 PTC x 1/4 MNPT
T173	Fitting-Elbow, 3/8 PTC x 1/4 MNPT, 90°
T175	Tubing-Air Brake, 3/8 in, Green
T176	Tee-Male Branch, 1/4 FNPT x 1/4 MNPT x 1/4 FNPT

Notes:

1. Apply thread sealant to pipe threads.
2. Tubing to be cut to required length.
3. Route tubing so water drains through run tee on cooler plate.

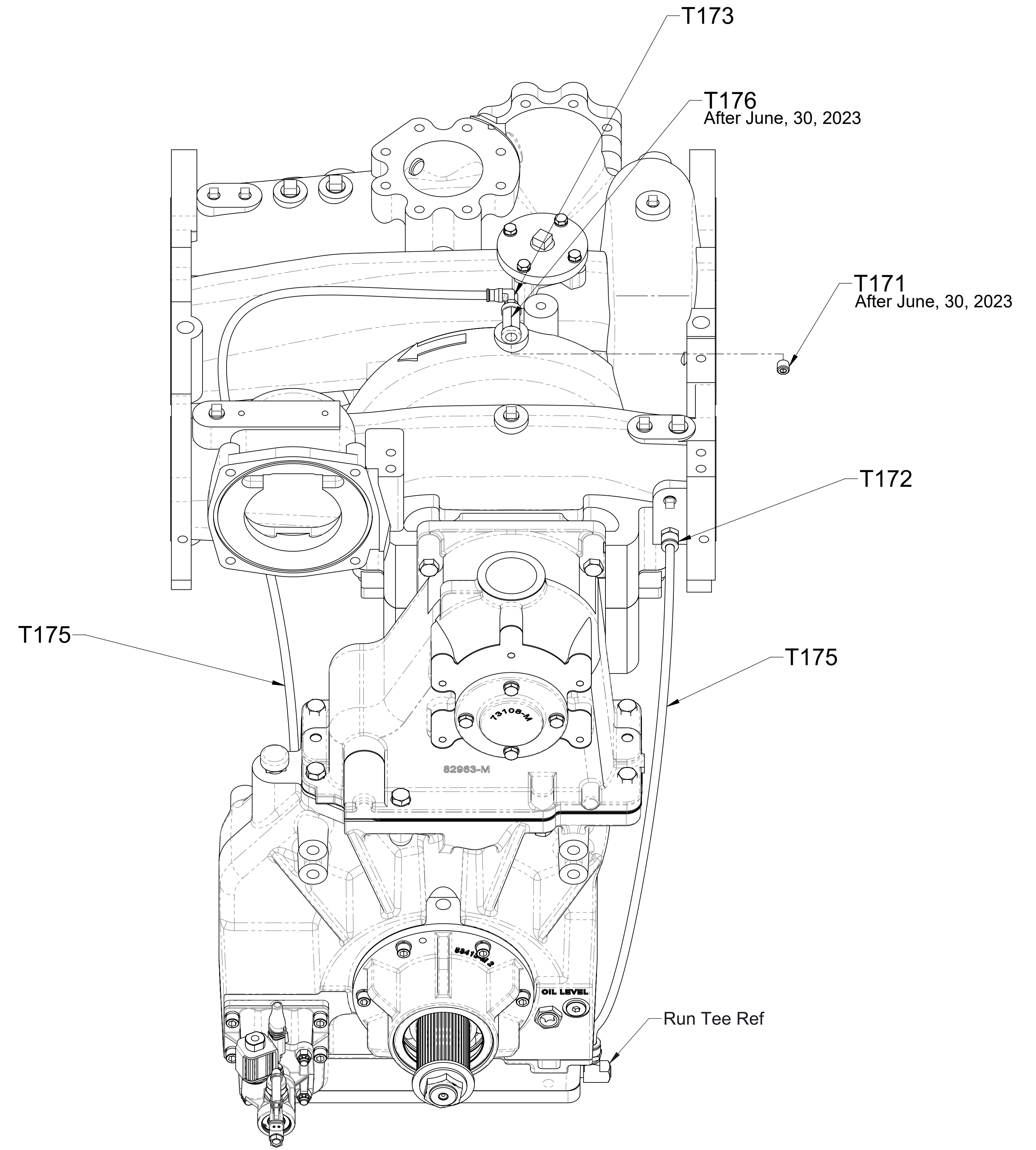


**Optional Internal Oil Cooler
CM Pump Fittings and Tubing**

Ref No.	Description
T171	Plug-Pipe, Headless, 1/4 NPT
T172	Adapter-3/8 PTC x 1/4 MNPT
T173	Fitting-Elbow, 3/8 PTC x 1/4 MNPT, 90°
T175	Tubing-Air Brake, 3/8 in, Green
T176	Tee-Male Branch, 1/4 FNPT x 1/4 MNPT x 1/4 FNPT

Notes:

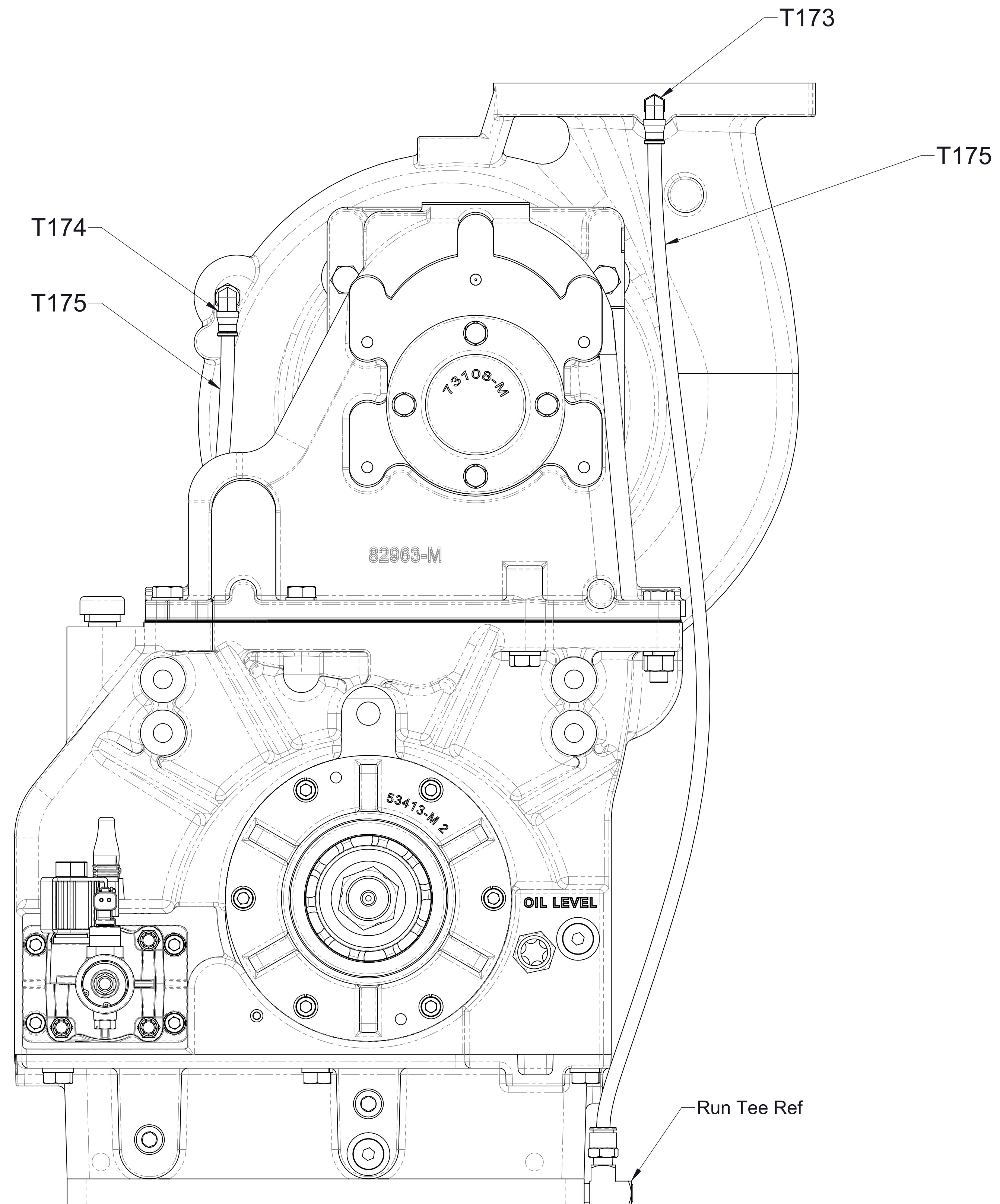
1. Apply thread sealant to pipe threads.
2. Tubing to be cut to required length.
3. Route tubing so water drains through run tee on cooler plate.



**Optional Internal Oil Cooler
CS Pump Fittings and Tubing**

Ref No.	Description
T173	Fitting-Elbow, 3/8 PTC x 1/4 MNPT, 90°
T174	Fitting-Elbow, 3/8 PTC X 3/8 MNPT, 90°
T175	Tubing, 3/8, Green, 6 Feet

- Notes:
1. Discharge UP shown.
 2. Apply thread sealant to pipe threads.
 3. Tubing to be cut to required length depending on pump orientation.
 4. Route tubing so water drains through run tee on cooler plate.



**Optional Internal Oil Cooler
CX Pump Fittings and Tubing**

Type	U-Joint Series	Pilot Diameter	Part No.	
			Flange	End Yoke Cross and Bearing Kit
End Yoke, Bearing Plate Type	1710	--	V 2837	V 2839
	1810	--	V 2838	V 2840
	SPL 140	--	V 3388	V 3389
End Yoke, Half Round Type	1710	--	V 4101	Uses Spicer 5-675X (Not available from Waterous)
	1810	--	V 4102	
Companion Flange	ISO 8667 Serrated	--	63714	--
	1650/1710	7.750 in.	V 3619	--
	1480/1610	6.625 in.	V 3719	--

Optional Driveline End Yokes and Companion Flanges
May have been furnished by Truck Builder