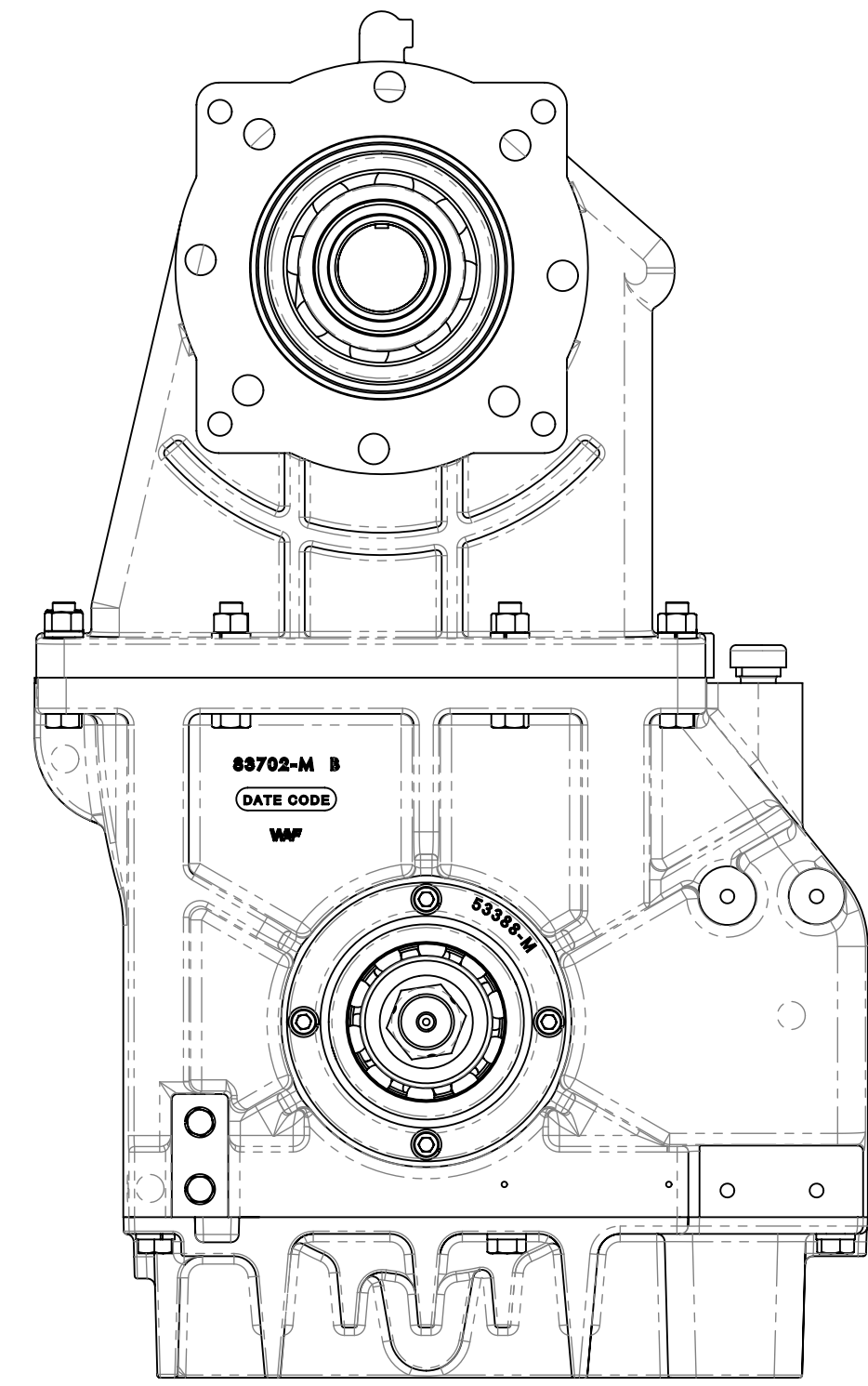
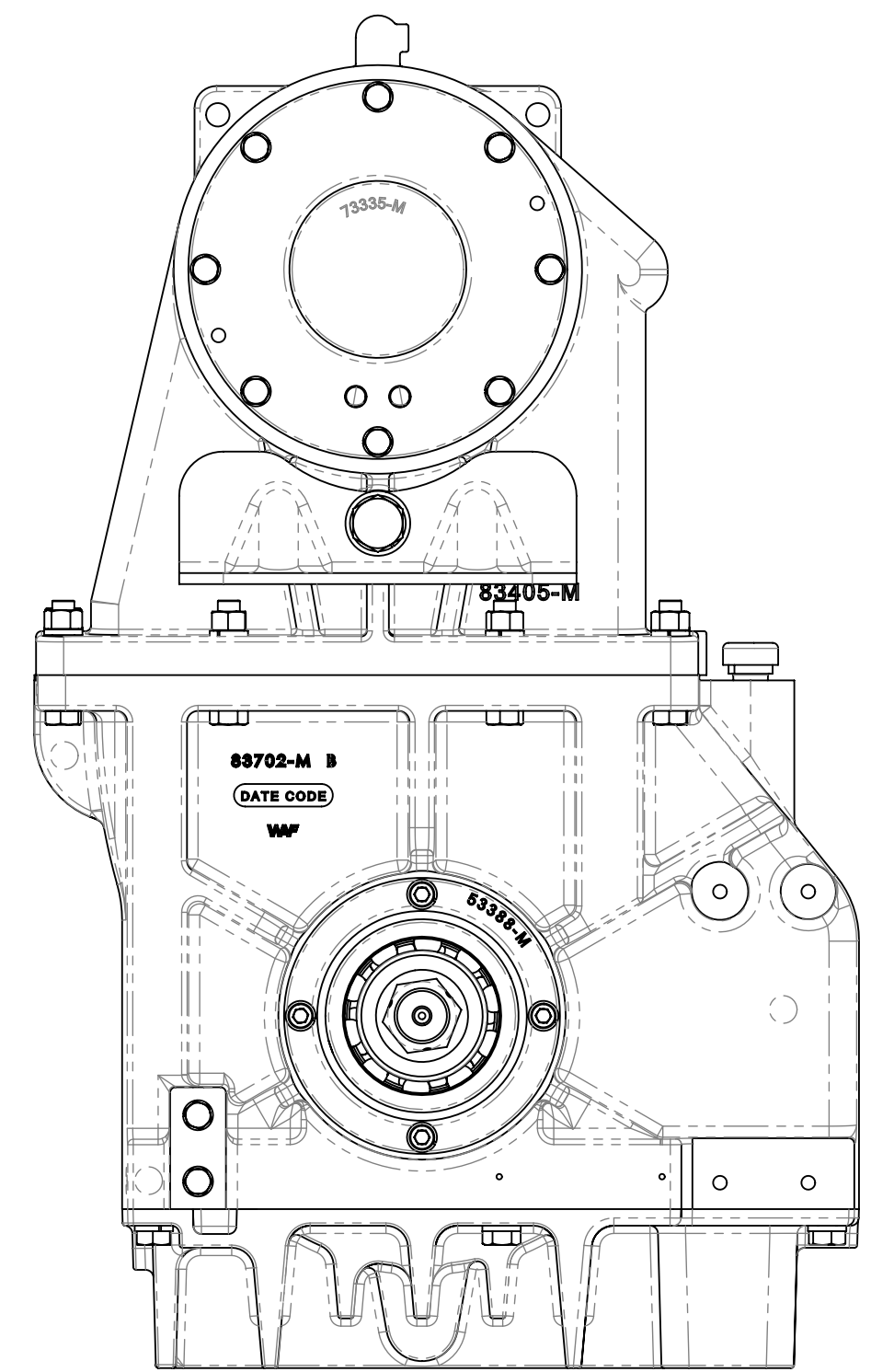


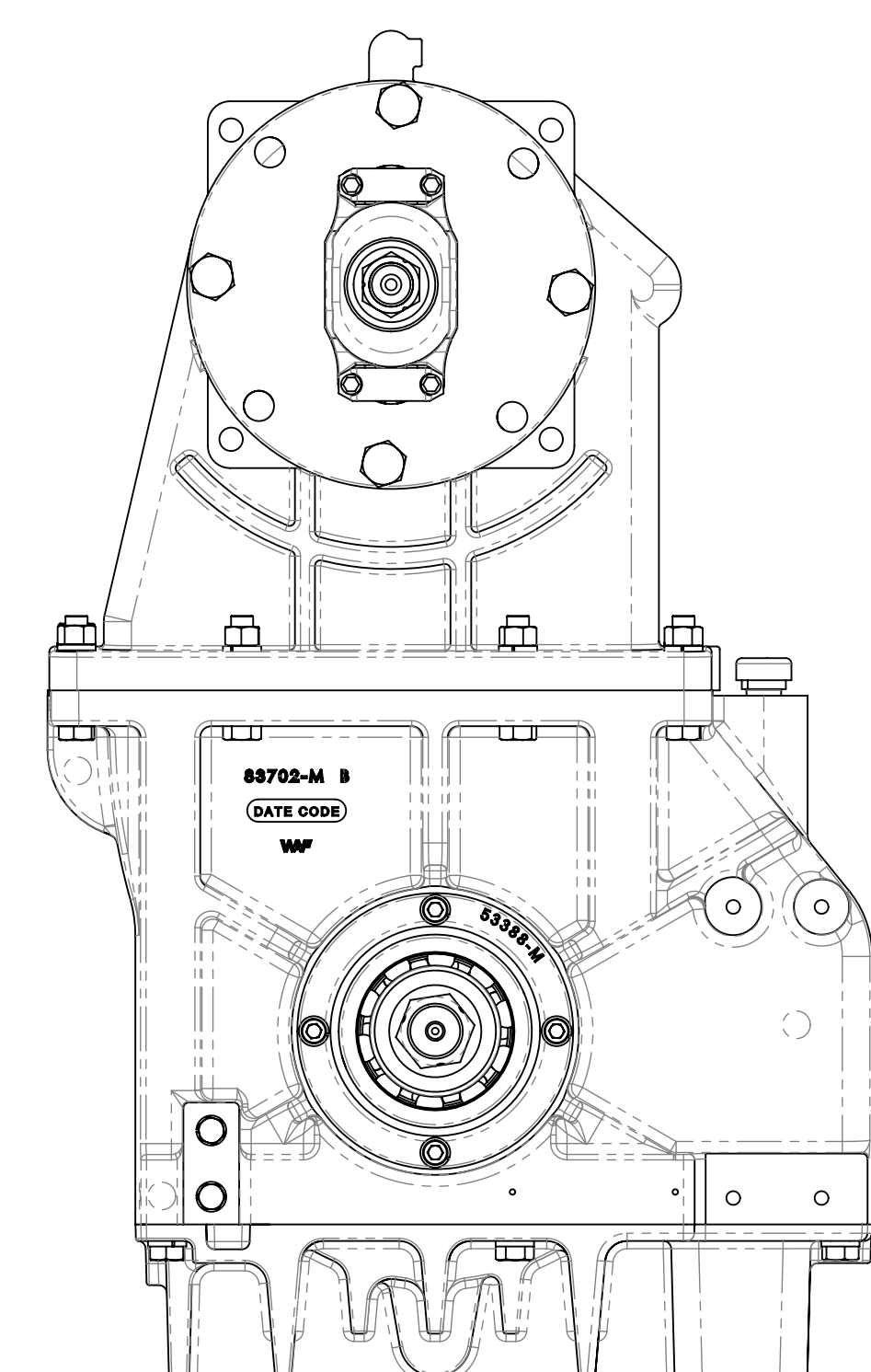
## C23 Series Fire Pump Transmissions TC23 Series Power Take-Off's Service Parts List



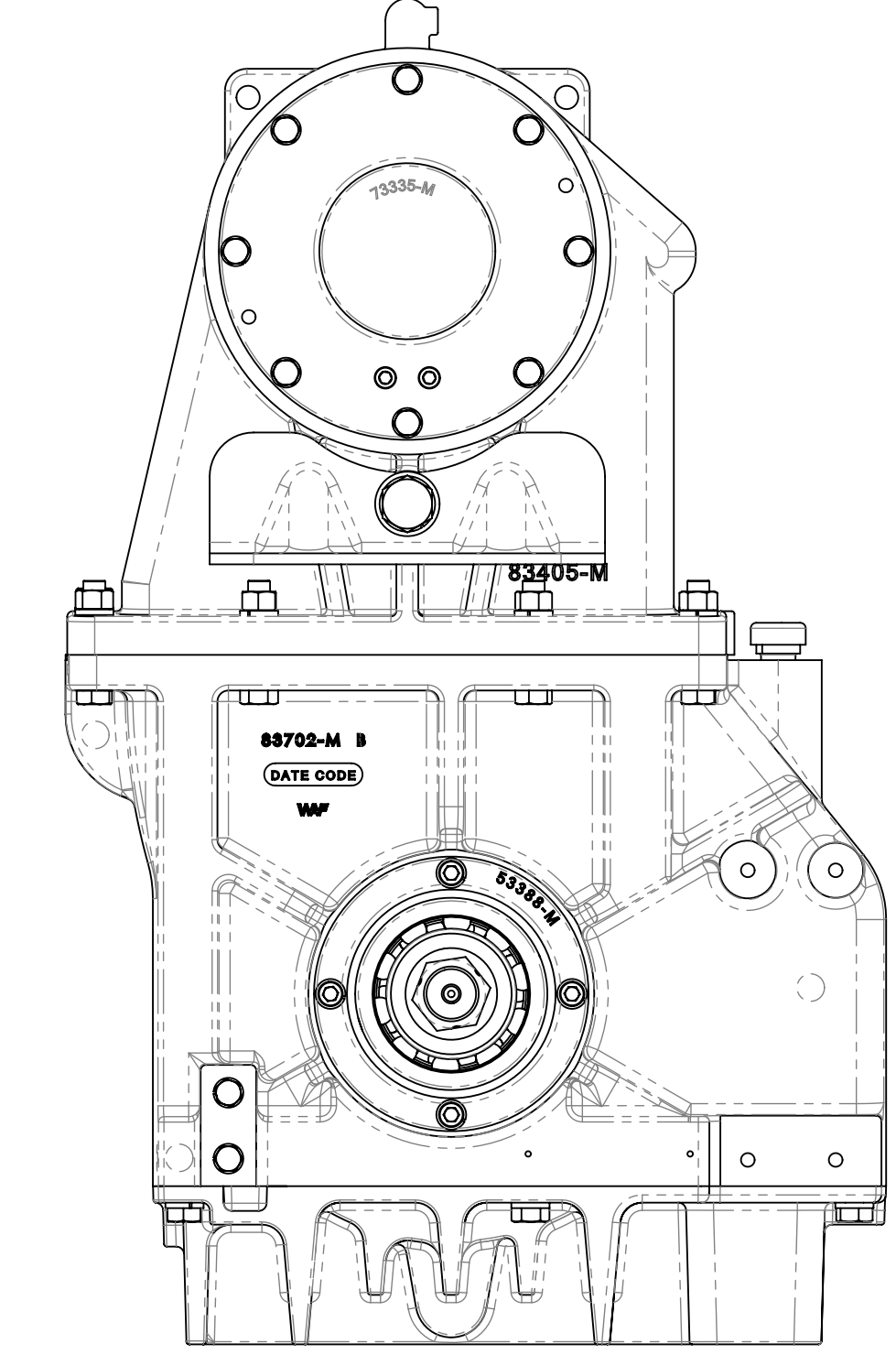
Front Facing  
Input Shaft Side of Case



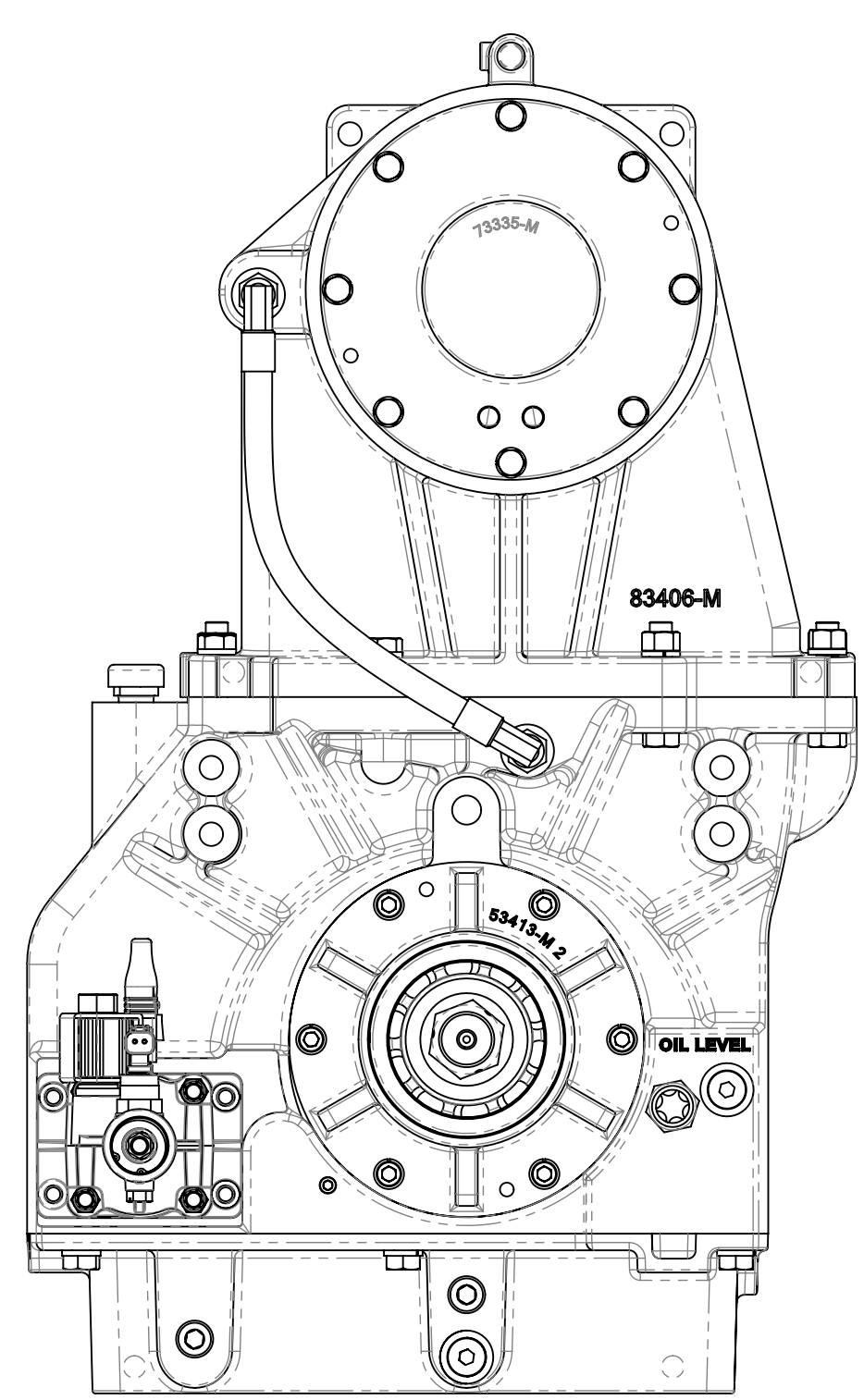
Rear Facing  
Input Shaft Side of Case



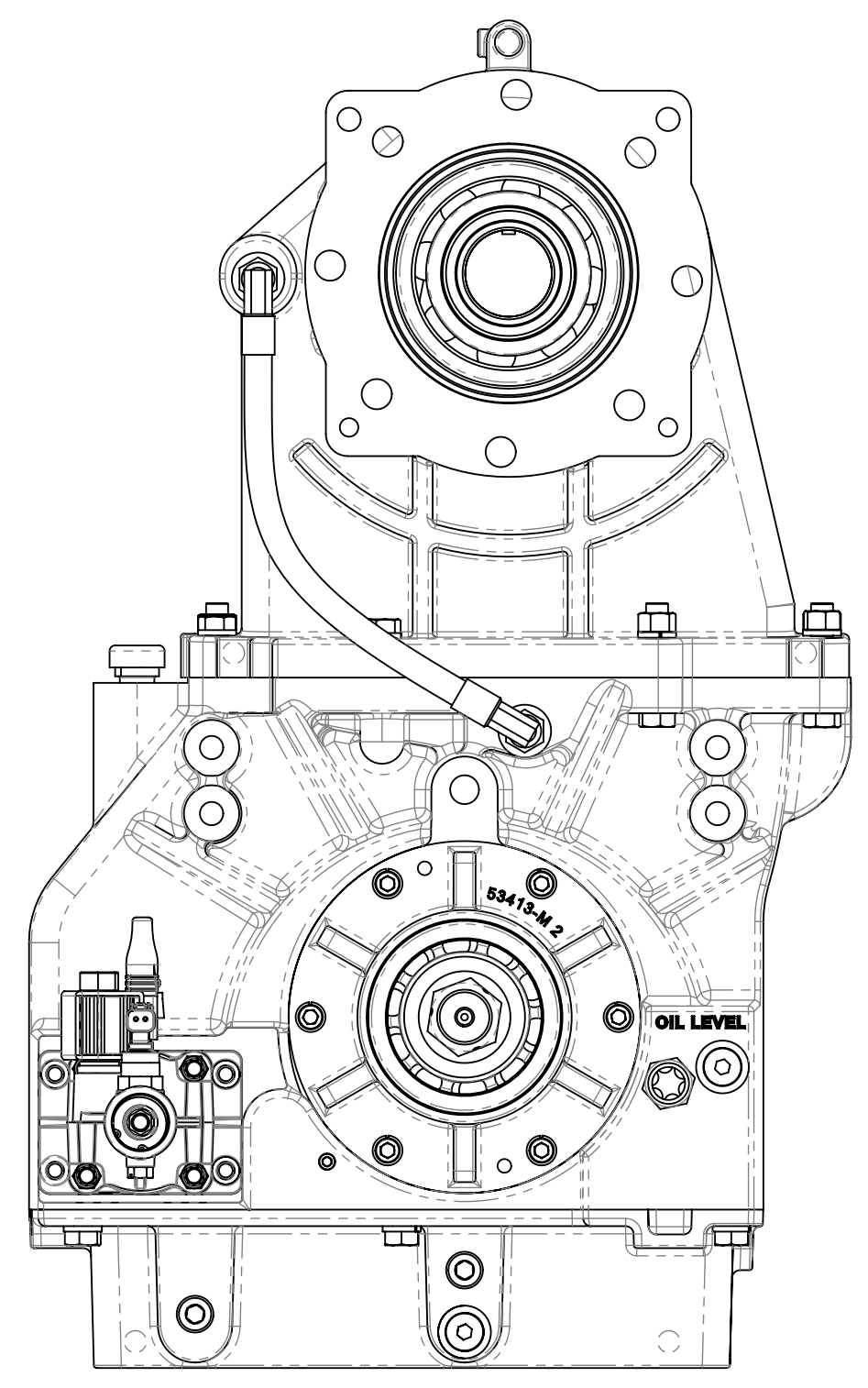
Front Facing  
Input Shaft Side of Case



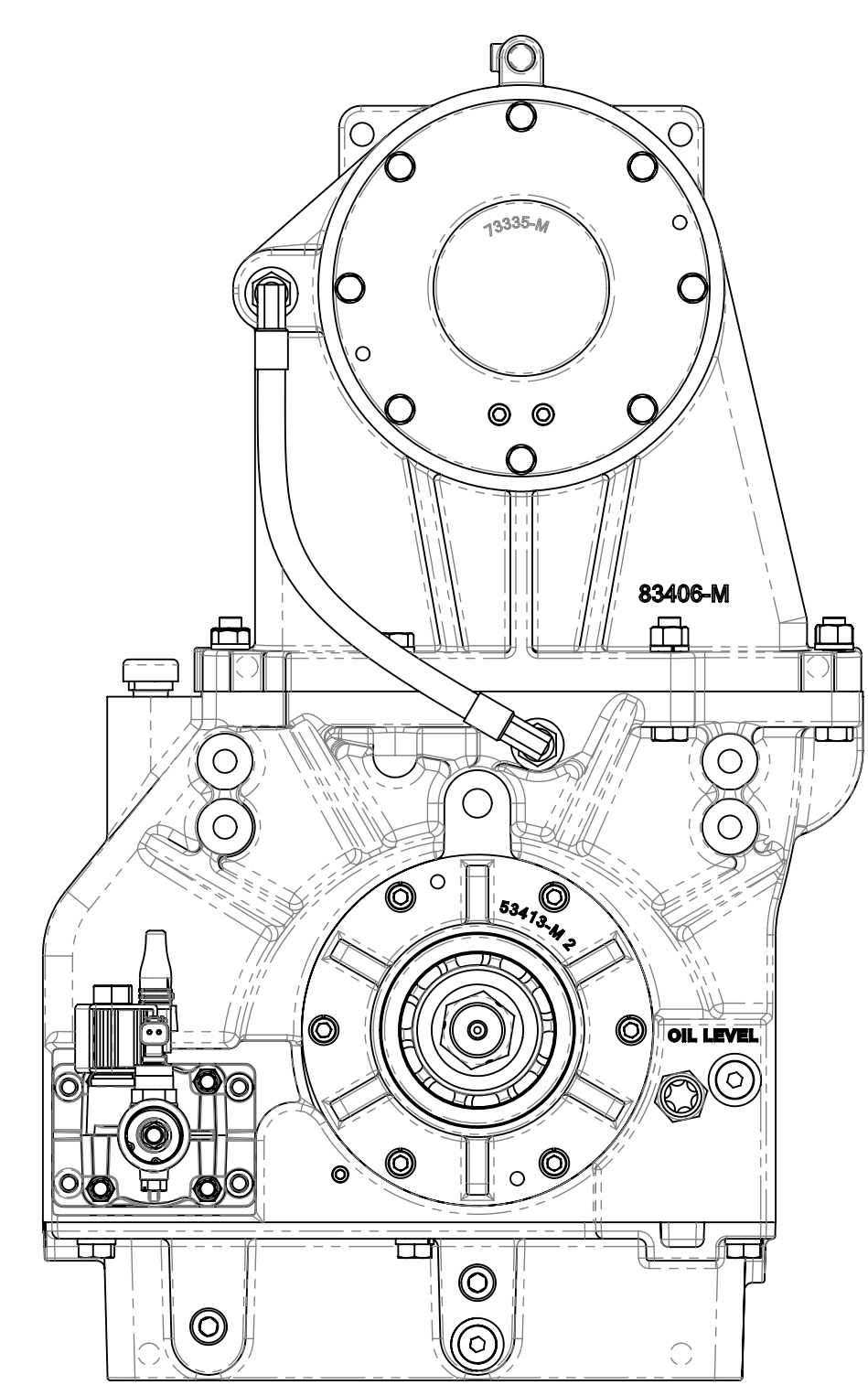
Rear Facing  
Input Shaft Side of Case



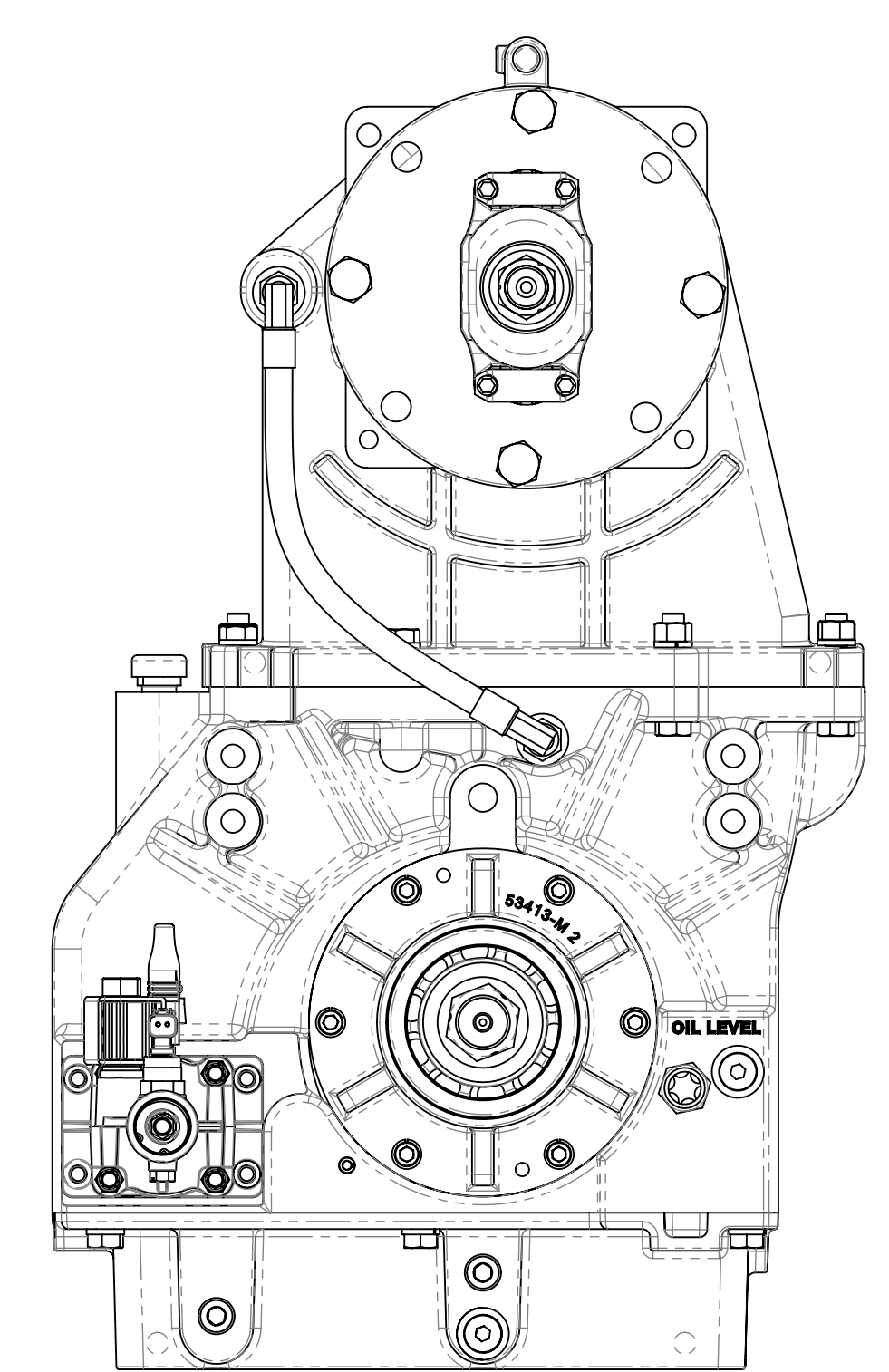
Front Facing  
Output Shaft Side of Case



Rear Facing  
Output Shaft Side of Case



Front Facing  
Output Shaft Side of Case



Rear Facing  
Output Shaft Side of Case

### C23 Series Fire Pump Transmissions

### TC23 Series Power Take-Offs

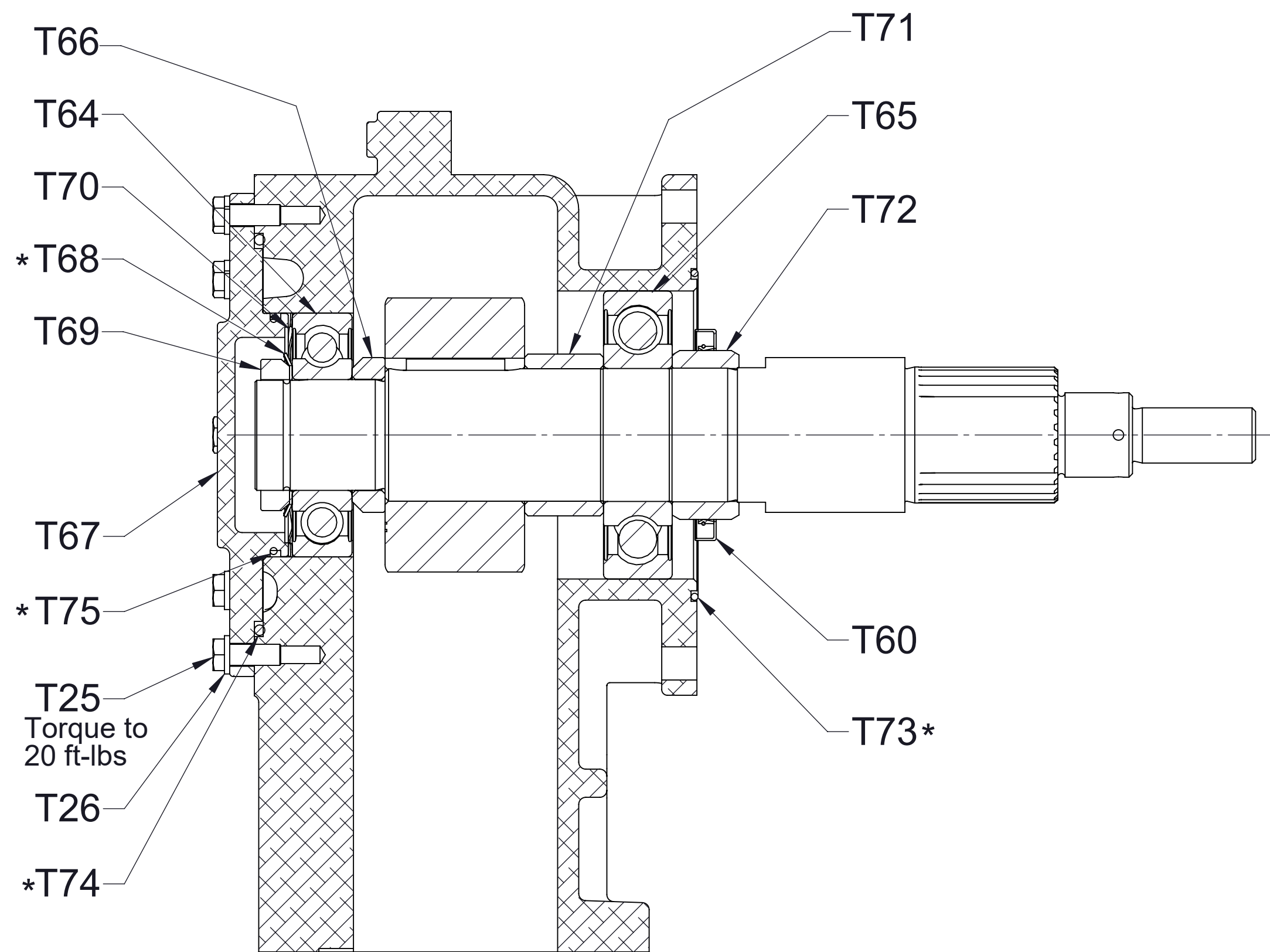
# Index:

Component	Pump Model	Transmission Mounting on Pump	Driven Shaft		See Page	
			Location	Configuration		
Driven Shaft	CRU-2	Front (Input Shaft Side)	No Shaft (Impeller Shaft Extends through Transmission Cap)	None	3	
		Rear (Output Shaft Side)			4	
		Front (Input Shaft Side)	Rear (Output Shaft Side)	Hydraulic Pump Adapter SAE Class C, 4 Bolt	5	
		Rear (Output Shaft Side)	Front (Input Shaft Side)		6	
	PTO Model	Driven (Output) Shaft			See Page	
		Type	Front (Input Shaft Side)	Rear (Output Shaft Side)		
	TC23	Single		End Yoke	None (Cooler Connection)	7
				None (Cooler Connection)	End Yoke	8
		Dual		End Yoke	Hydraulic Pump Adapter SAE Class C, 4 Bolt (Cooler Connection)	9
				Hydraulic Pump Adapter SAE Class C, 4 Bolt (Cooler Connection)	End Yoke	10
Case	Used With		Configuration	See Page		
	Pump Model	PTO Model				
	CRU-2	TC23			All	11
Driveline	Driveline		Shift	See Page		
	Size	Type				
	2.35-46T Involute	Input and Output Shaft			With Pneumatic (Required)	12
		Input Shaft Only			Without Shift (Not Available)	13
Cap	Used on:			See Page		
	C23 Transmission	TC23 PTO				
	Pump Model and Mounting Location	Front Connection (Input Shaft Side)	Rear Connection (Output Shaft Side)		Ratio	
	CRU-2 Front Mounted (Input Shaft Side)	1550 Series End Yoke	None or Hydraulic Adapter		1.77	
					1.95	
CRU-2 Rear Mounted (Output Shaft Side)	None or Hydraulic Adapter	1550 Series End Yoke	1.77			
			1.95			
<b>Sprockets and Chain</b>					15	
<b>Cap Hardware</b>			<b>Ratio</b>		<b>See Page</b>	
			1.77		16	
			1.95		17	
<b>Pump Mounting Hardware</b>					18	
<b>Internal Cooler</b>					19	
<b>Optional Driveline End Yokes and Companion Flanges All</b>					20	
<b>Transmission Mounted Shift Unit</b> See Pneumatic Shift Unit Service Parts List (Not used with Input Shaft Only Driveline)						
<b>Optional Transmission Mounted Drain Valve</b> See Drain Valve Service Parts List						
<b>Optional Transmission Mounted Priming Pump</b> See Priming Pump Service Parts List						
<b>Gasket and O-ring Kit Ref No. T27</b> Contains all gaskets, O-rings and other items needed for an overhaul. Components included in the kit are identified by an asterick on each page.						

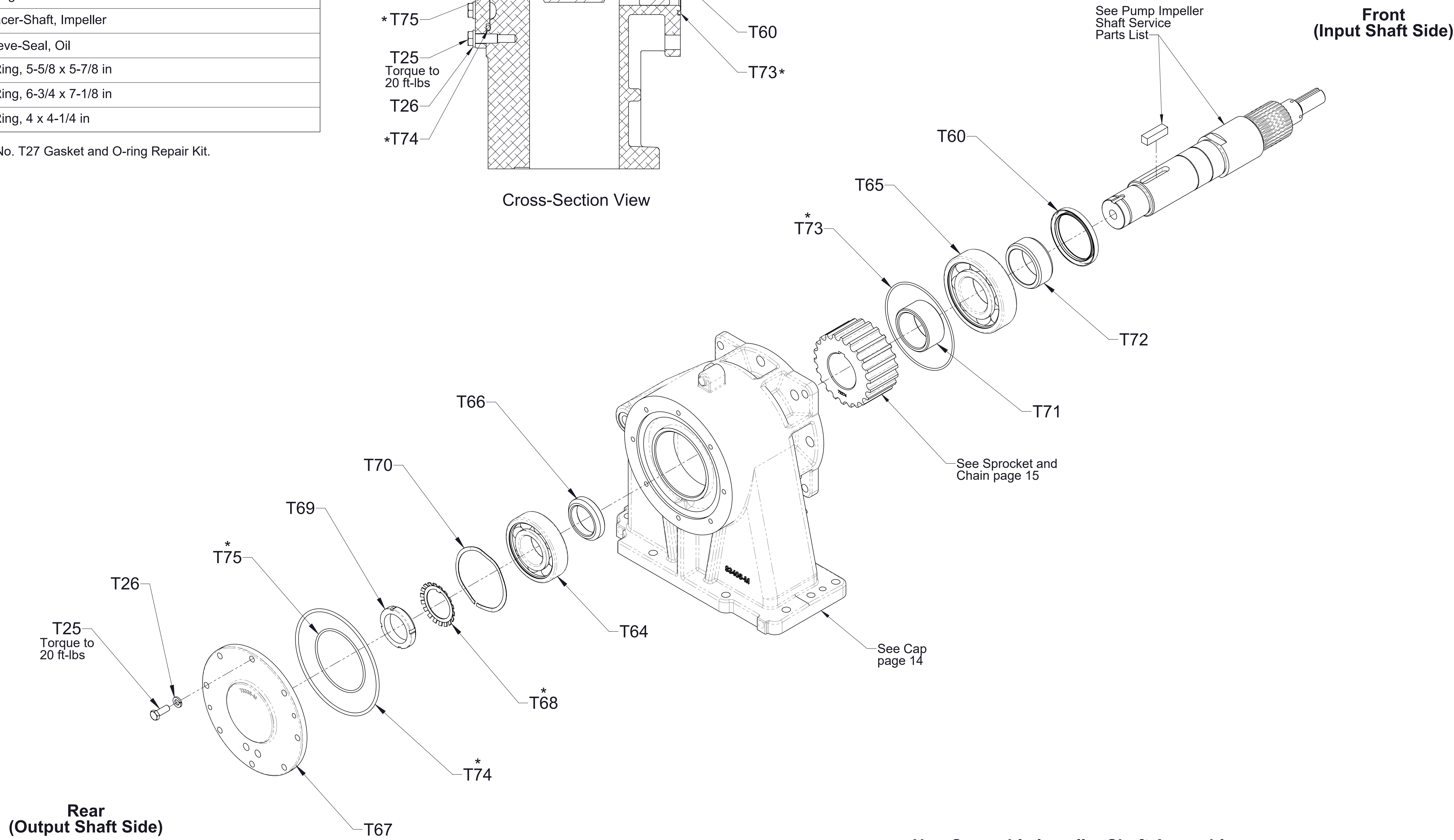
**NOTE: When ordering parts, provide Pump, Transmission or PTO Serial Number.**

Ref No.	Description
T25	Screw-Hex Hd, 3/8-16 x 1 in
T26	Washer-Lock, 3/8 in
T60	Seal-Oil, 3 x 3-3/4 in
T64	Bearing, Ball, Single Row, 50 x 110 x 27 mm
T65	Bearing, Ball, Single Row, 60 x 130 x 31 mm
T66	Spacer-Shaft, Impeller
T67	Cover-Bearing
* T68	Washer-Lock, Bearing, W10
T69	Nut-Lock, Bearing, N10
T70	Spring-Wave
T71	Spacer-Shaft, Impeller
T72	Sleeve-Seal, Oil
* T73	O-Ring, 5-5/8 x 5-7/8 in
* T74	O-Ring, 6-3/4 x 7-1/8 in
* T75	O-Ring, 4 x 4-1/4 in

\*Included in Ref No. T27 Gasket and O-ring Repair Kit.



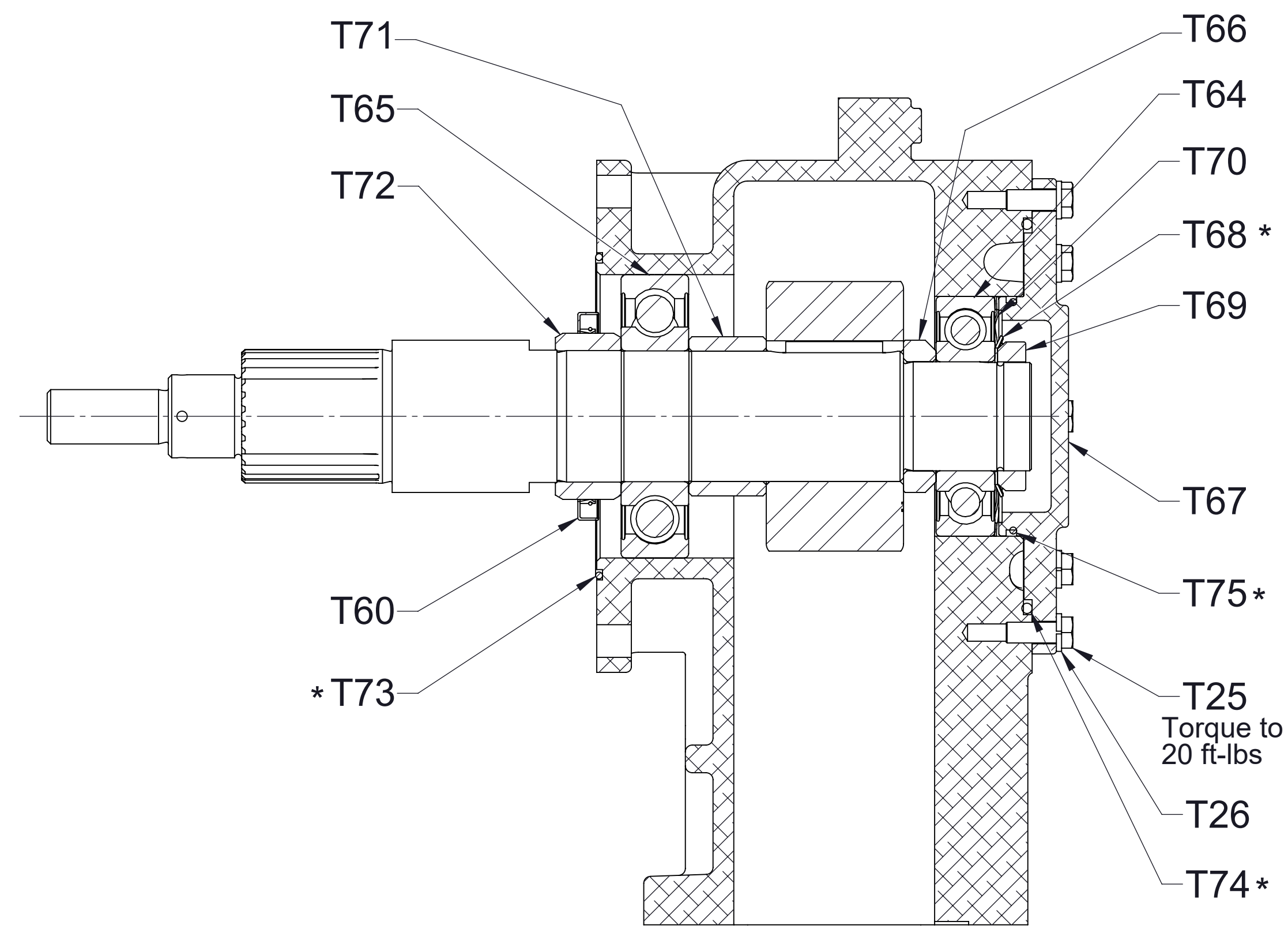
Cross-Section View



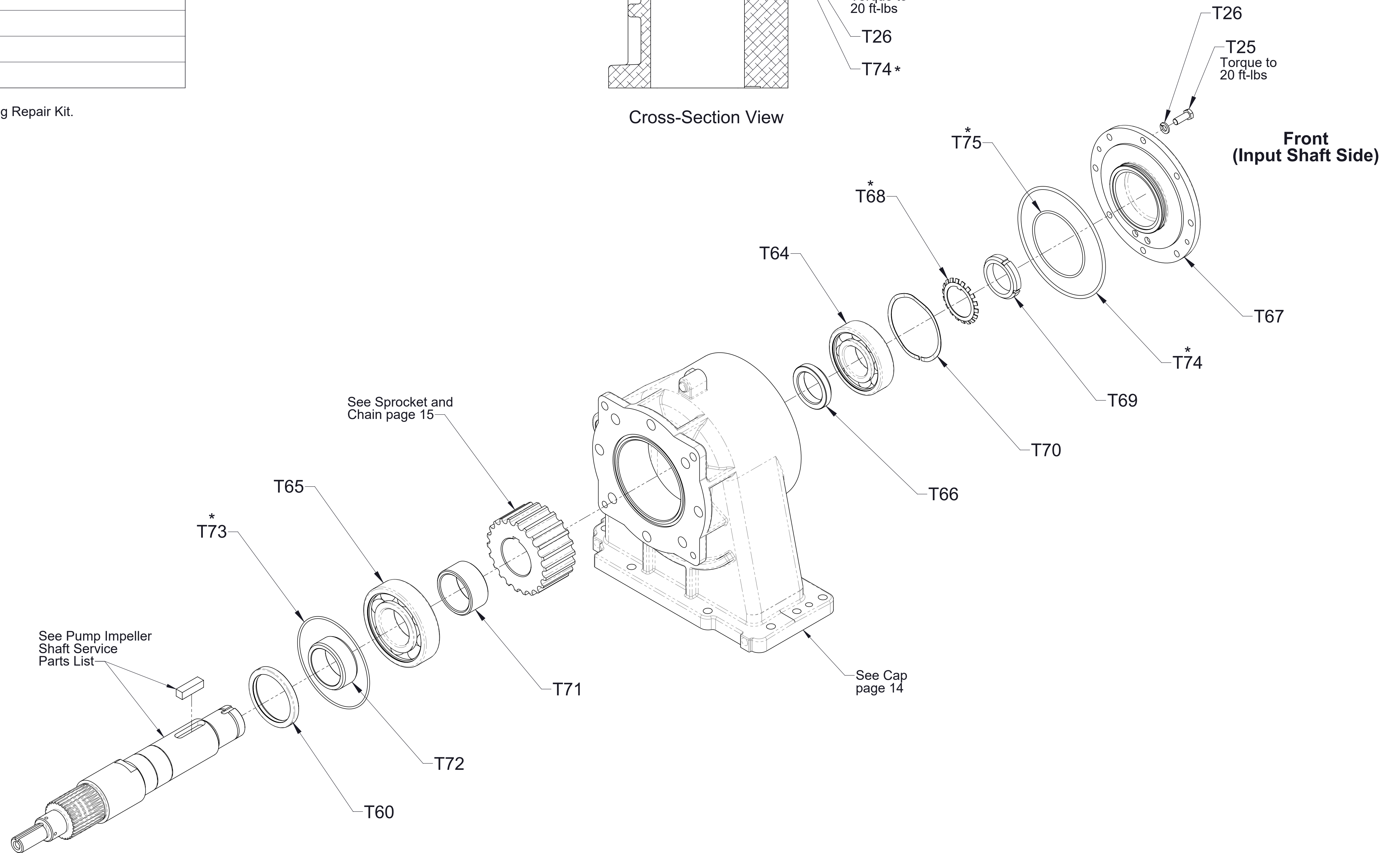
**Non-Separable Impeller Shaft Assembly  
CRU-2 Pump Model  
Pump Mounted on Front of Transmission  
with No Rear Facing Output**

Ref No.	Description
T25	Screw-Hex Hd, 3/8-16 x 1 in
T26	Washer-Lock, 3/8 in
T60	Seal-Oil, 3 x 3-3/4 in
T64	Bearing, Ball, Single Row, 50 x 110 x 27 mm
T65	Bearing, Ball, Single Row, 60 x 130 x 31 mm
T66	Spacer-Shaft, Impeller
T67	Cover-Bearing
* T68	Washer-Lock, Bearing, W10
T69	Nut-Lock, Bearing, N10
T70	Spring-Wave
T71	Spacer-Shaft, Impeller
T72	Sleeve-Seal, Oil
* T73	O-Ring, 5-5/8 x 5-7/8 in
* T74	O-Ring, 6-3/4 x 7-1/8 in
* T75	O-Ring, 4 x 4-1/4 in

\*Included in Ref No. T27 Gasket and O-ring Repair Kit.



Cross-Section View



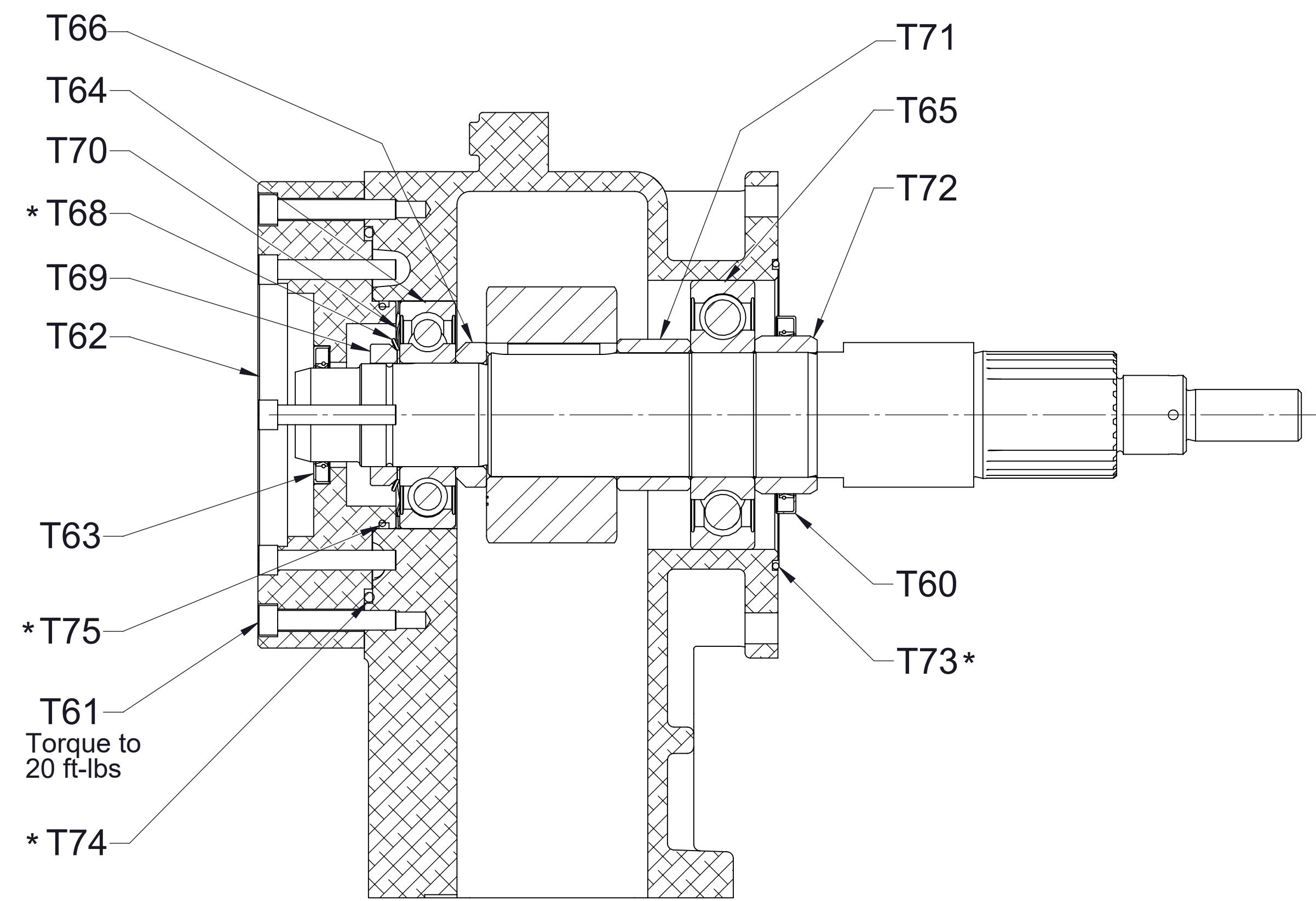
Rear  
(Output Shaft Side)

Front  
(Input Shaft Side)

Non-Separable Impeller Shaft Assembly  
CRU-2 Pump Model  
Pump Mounted on Rear of Transmission  
with No Front Facing Output

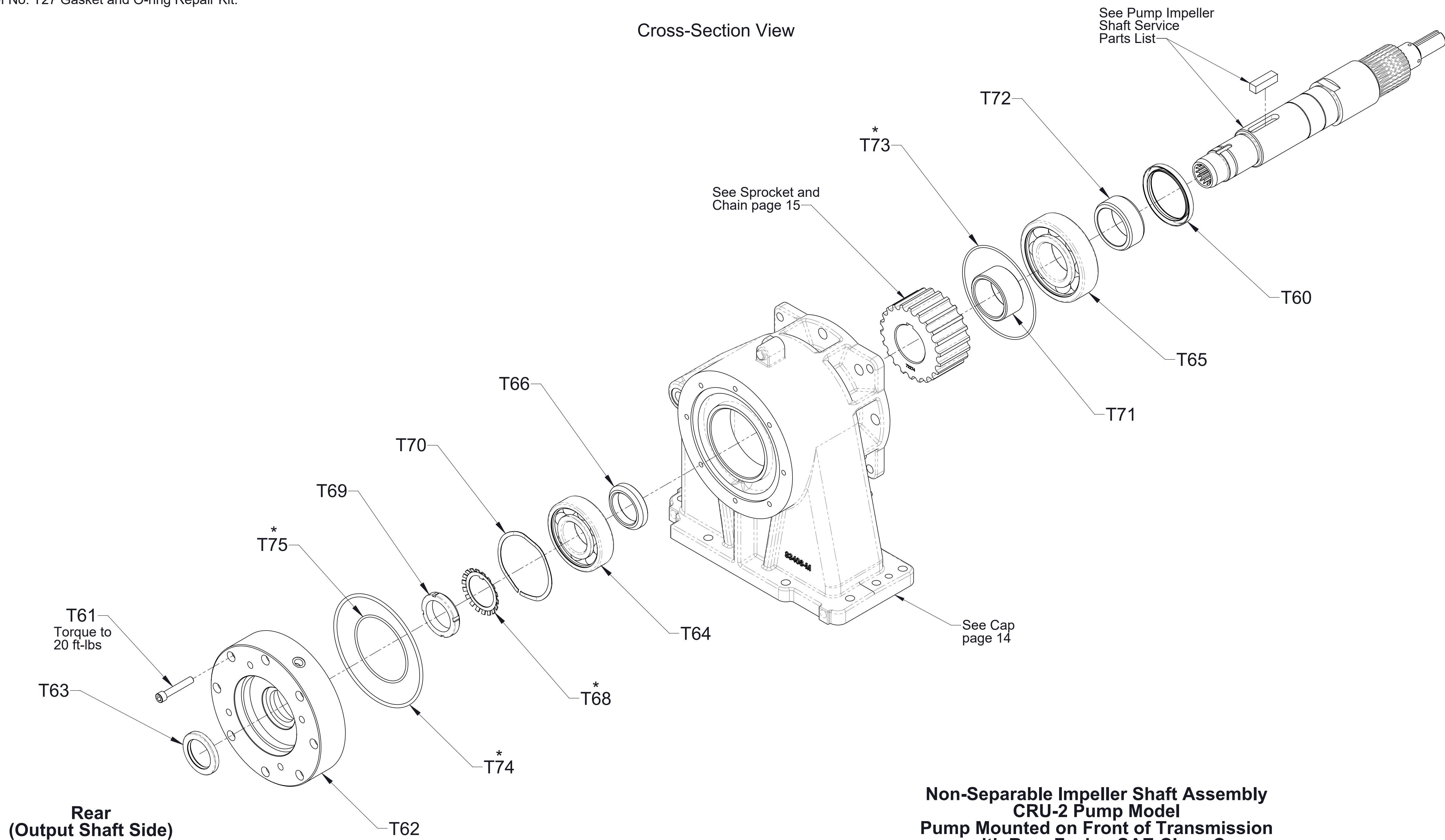
Ref No.	Description
T60	Seal-Oil, 3 x 3-3/4 in
T61	Screw-Cap, Hex Soc Hd, 3/8-16 x 2-1/4 in
T62	Adapter-Hydraulic, SAE Class C 4-Bolt
T63	Seal-Oil, 1-25/32 x 2-5/8 in
T64	Bearing, Ball, Single Row, 50 x 110 x 27 mm
T65	Bearing, Ball, Single Row, 60 x 130 x 31 mm
T66	Spacer-Shaft, Impeller
* T68	Washer-Lock, Bearing, W10
T69	Nut-Lock, Bearing, N10
T70	Spring-Wave
T71	Spacer-Shaft, Impeller
T72	Sleeve-Seal, Oil
* T73	O-Ring, 5-5/8 x 5-7/8 in
* T74	O-Ring, 6-3/4 x 7-1/8 in
* T75	O-Ring, 4 x 4-1/4 in

\*Included in Ref No. T27 Gasket and O-ring Repair Kit.



Cross-Section View

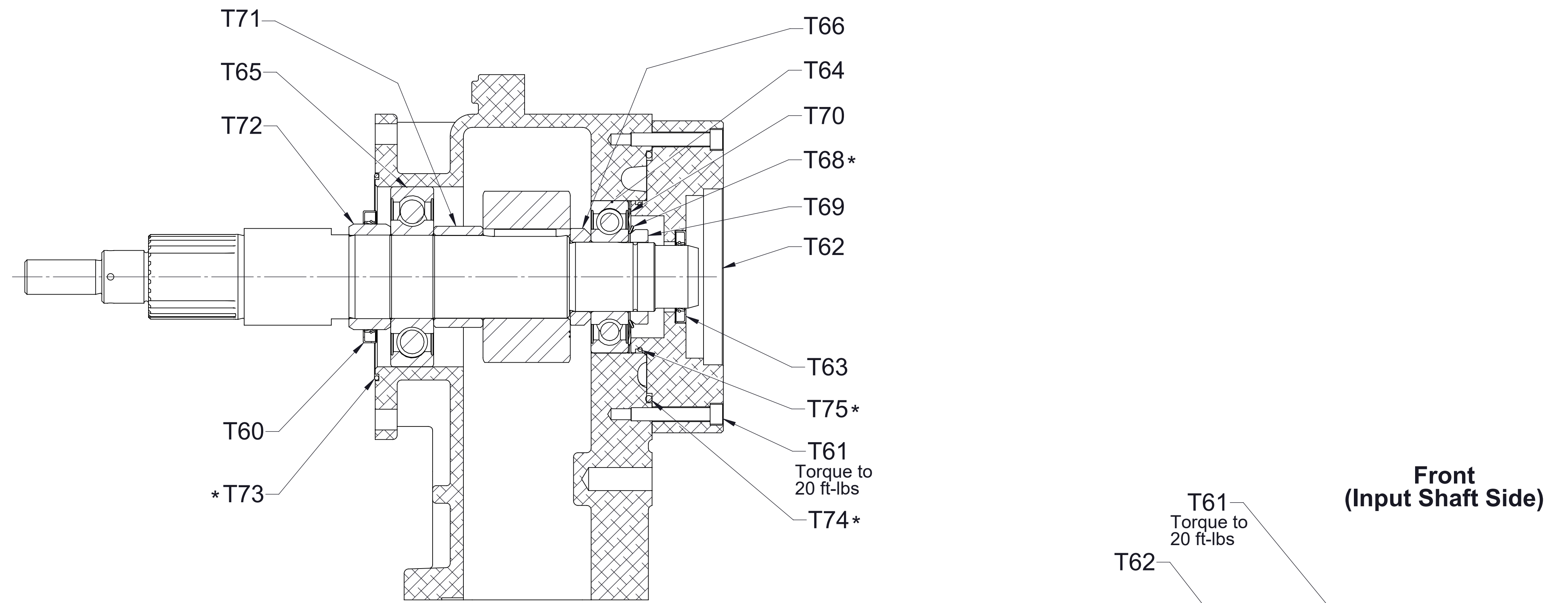
Front  
(Input Shaft Side)



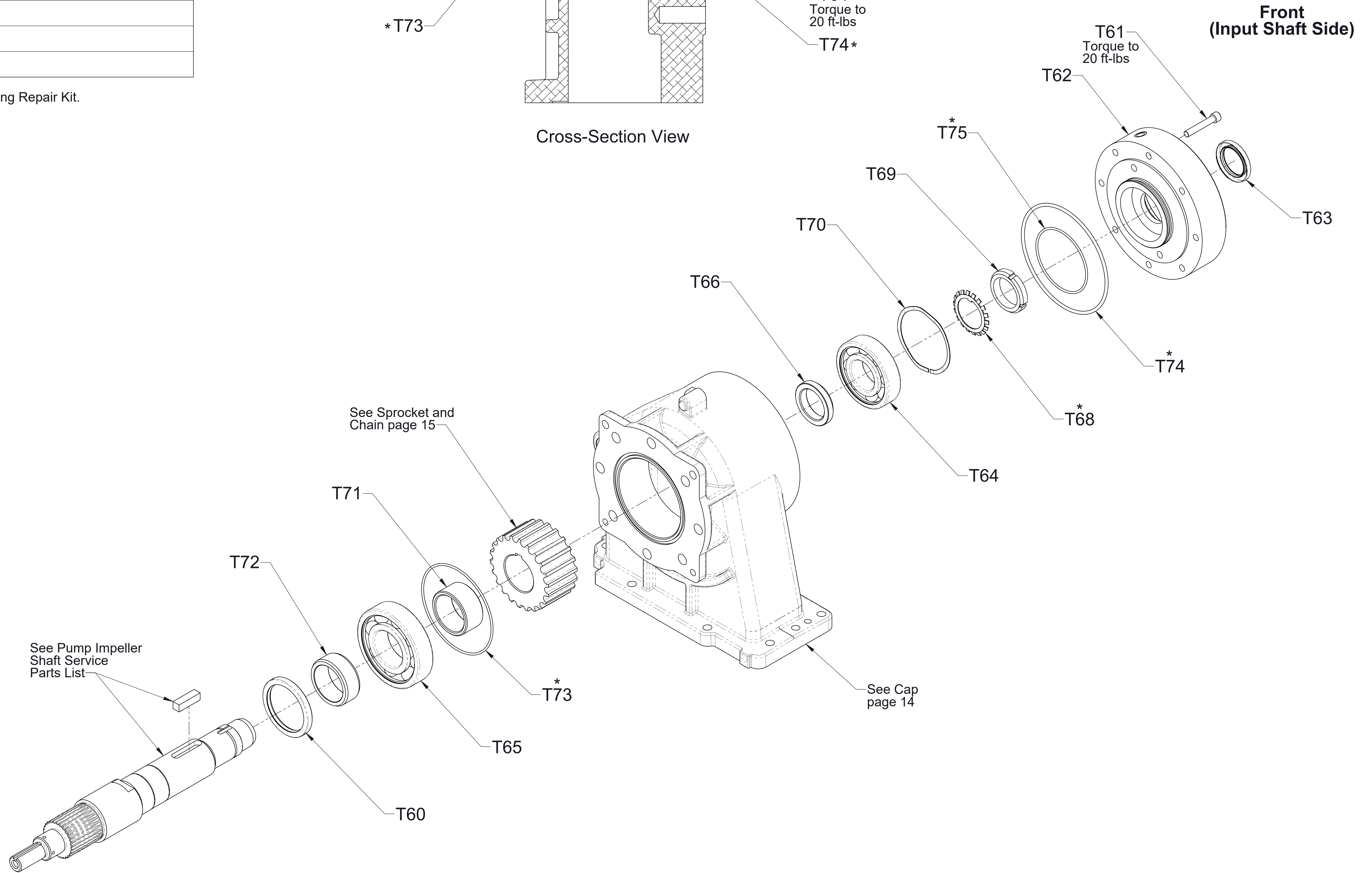
**Non-Separable Impeller Shaft Assembly  
CRU-2 Pump Model  
Pump Mounted on Front of Transmission  
with Rear Facing SAE Class C  
4-Bolt Hydraulic Adapter**

Ref No.	Description
T60	Seal-Oil, 3 x 3-3/4 in
T61	Screw-Cap, Hex Soc Hd, 3/8-16 x 2-1/4 in
T62	Adapter-Hydraulic, SAE Class C 4-Bolt
T63	Seal-Oil, 1-25/32 x 2-5/8 in
T64	Bearing, Ball, Single Row, 50 x 110 x 27 mm
T65	Bearing, Ball, Single Row, 60 x 130 x 31 mm
T66	Spacer-Shaft, Impeller
* T68	Washer-Lock, Bearing, W10
T69	Nut-Lock, Bearing, N10
T70	Spring-Wave
T71	Spacer-Shaft, Impeller
T72	Sleeve-Seal, Oil
* T73	O-Ring, 5-5/8 x 5-7/8 in
* T74	O-Ring, 6-3/4 x 7-1/8 in
* T75	O-Ring, 4 x 4-1/4 in

\*Included in Ref No. T27 Gasket and O-ring Repair Kit.



Cross-Section View

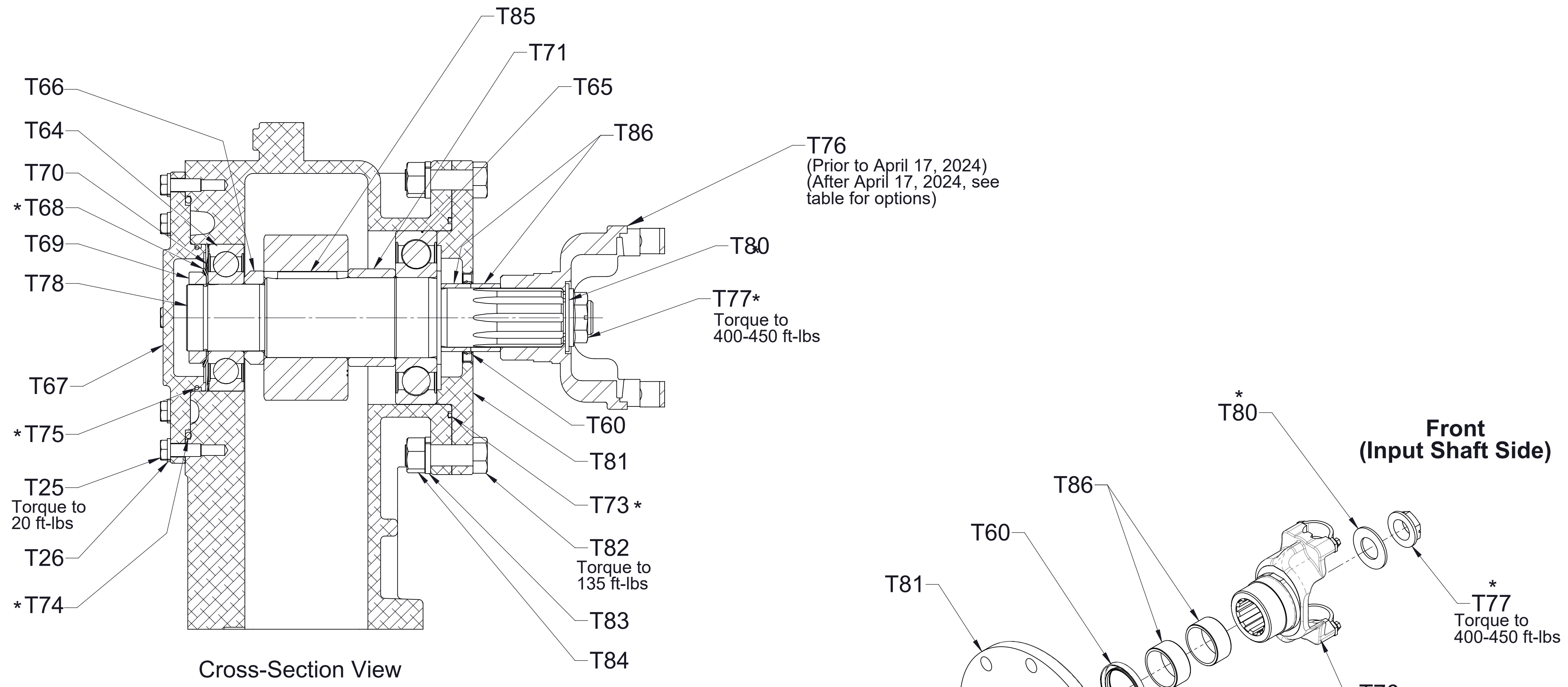


Rear  
(Output Shaft Side)

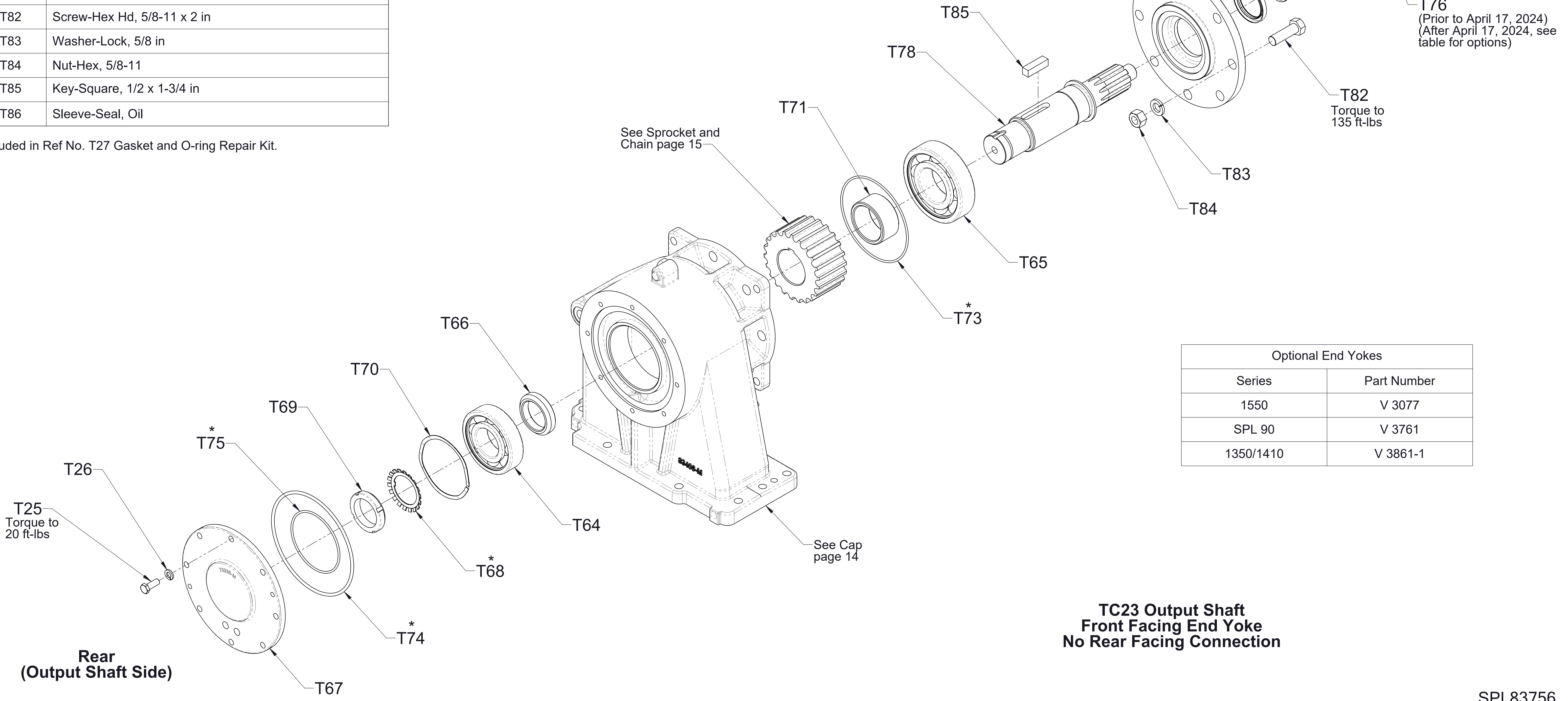
Non-Separable Impeller Shaft Assembly  
CRU-2 Pump Model  
Pump Mounted on Rear of Transmission  
with Front Facing SAE Class C  
4-Bolt Hydraulic Adapter

Ref No.	Description
T25	Screw-Hex Hd, 3/8-16 x 1 in
T26	Washer-Lock, 3/8 in
T60	Seal-Oil, 2 x 2-5/8 in
T64	Bearing, Ball, Single Row, 50 x 110 x 27 mm
T65	Bearing, Ball, Single Row, 60 x 130 x 31 mm
T66	Spacer-Shaft, Impeller
T67	Cover-Bearing
* T68	Washer-Lock, Bearing, W10
T69	Nut-Lock, Bearing, N10
T70	Spring-Wave
T71	Spacer-Shaft, Impeller
* T73	O-Ring, 5-5/8 x 5-7/8 in
* T74	O-Ring, 6-3/4 x 7-1/8 in
* T75	O-Ring, 4 x 4-1/4 in
T76	Yoke-End, 1550 Series (1-3/4-10 Spline)
* T77	Nut-Self Locking, 1-20 UNEF-2B
T78	Shaft-Driven, Front & Rear Output
* T80	Washer-Plain, 1 in
T81	Housing-Oil Seal
T82	Screw-Hex Hd, 5/8-11 x 2 in
T83	Washer-Lock, 5/8 in
T84	Nut-Hex, 5/8-11
T85	Key-Square, 1/2 x 1-3/4 in
T86	Sleeve-Seal, Oil

\*Included in Ref No. T27 Gasket and O-ring Repair Kit.



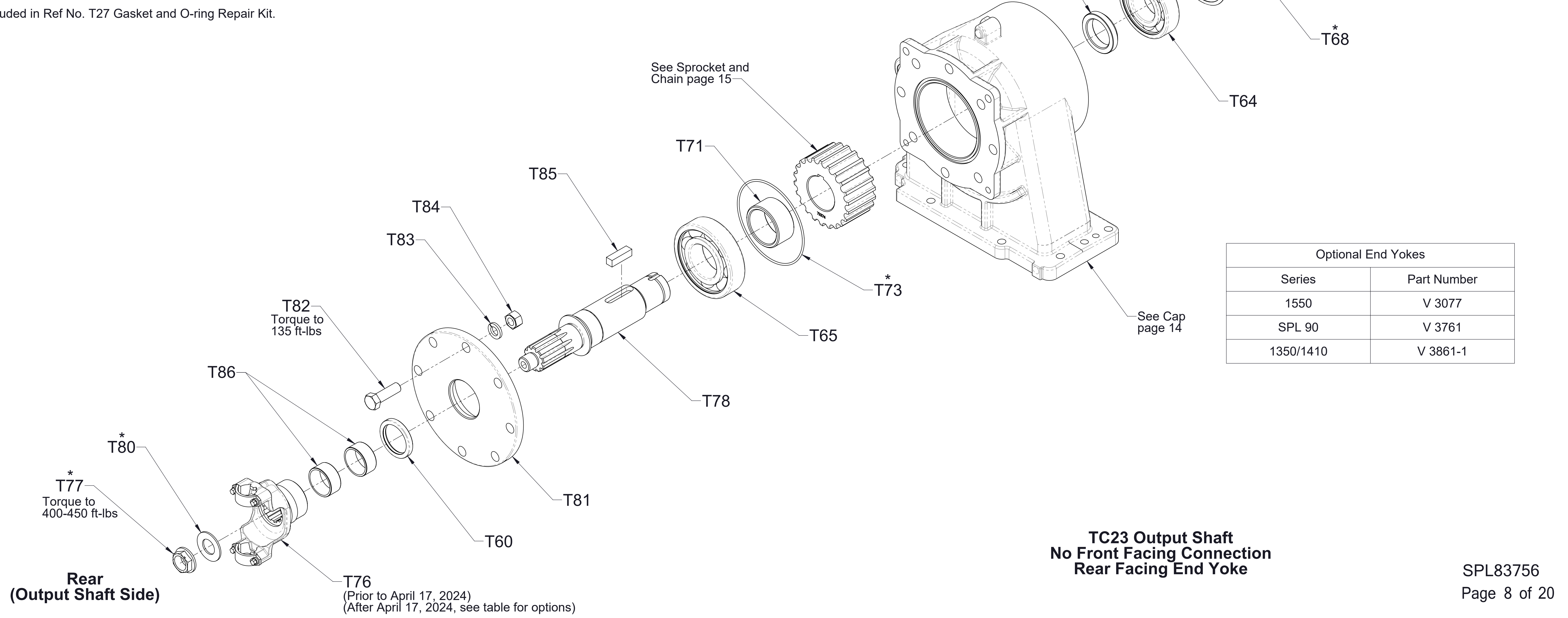
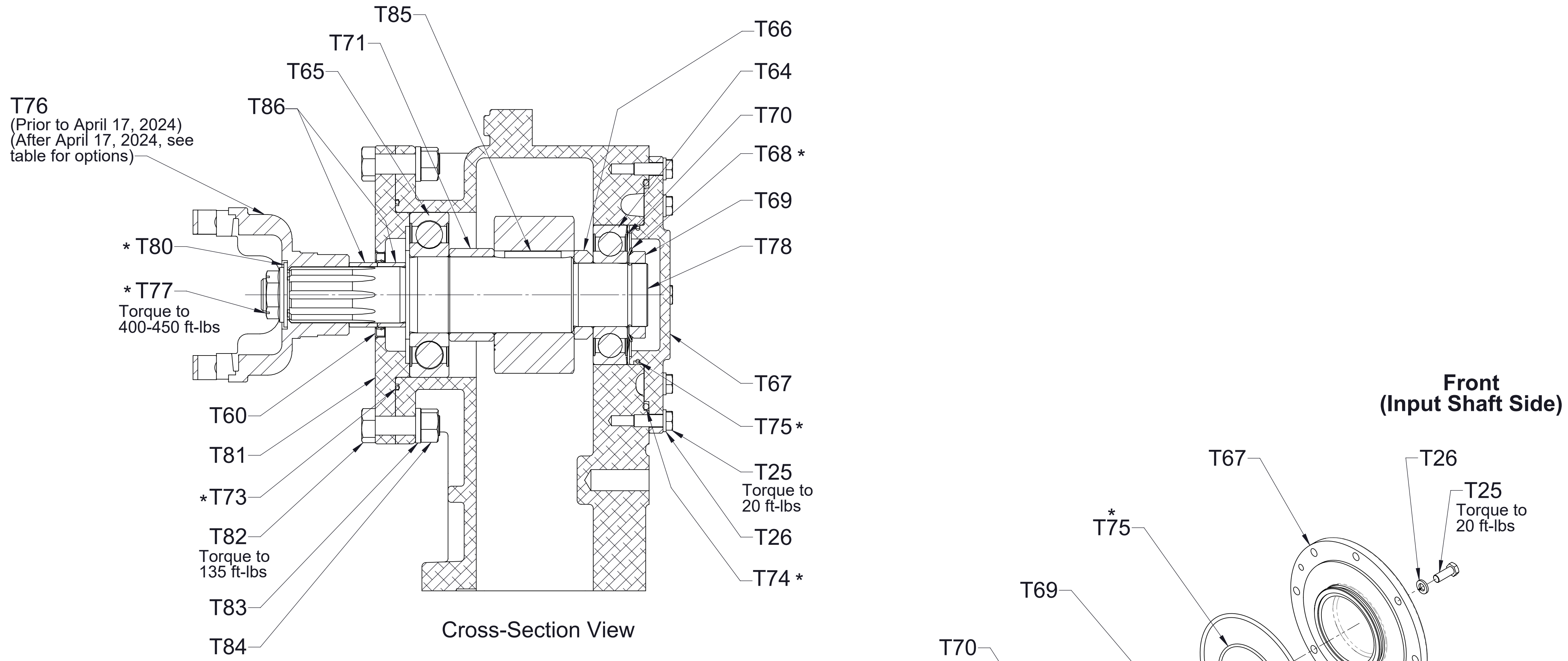
Cross-Section View



Optional End Yokes	
Series	Part Number
1550	V 3077
SPL 90	V 3761
1350/1410	V 3861-1

Ref No.	Description
T25	Screw-Hex Hd, 3/8-16 x 1 in
T26	Washer-Lock, 3/8 in
T60	Seal-Oil, 2 x 2-5/8 in
T64	Bearing, Ball, Single Row, 50 x 110 x 27 mm
T65	Bearing, Ball, Single Row, 60 x 130 x 31 mm
T66	Spacer-Shaft, Impeller
T67	Cover-Bearing
* T68	Washer-Lock, Bearing, W10
T69	Nut-Lock, Bearing, N10
T70	Spring-Wave
T71	Spacer-Shaft, Impeller
* T73	O-Ring, 5-5/8 x 5-7/8 in
* T74	O-Ring, 6-3/4 x 7-1/8 in
* T75	O-Ring, 4 x 4-1/4 in
T76	Yoke-End, 1550 Series (1-3/4-10 Spline)
* T77	Nut-Self Locking, 1-20 UNEF-2B
T78	Shaft-Driven, Front & Rear Output
* T80	Washer-Plain, 1 in
T81	Housing-Oil Seal
T82	Screw-Hex Hd, 5/8-11 x 2 in
T83	Washer-Lock, 5/8 in
T84	Nut-Hex, 5/8-11
T85	Key-Square, 1/2 x 1-3/4 in
T86	Sleeve-Seal, Oil

\*Included in Ref No. T27 Gasket and O-ring Repair Kit.



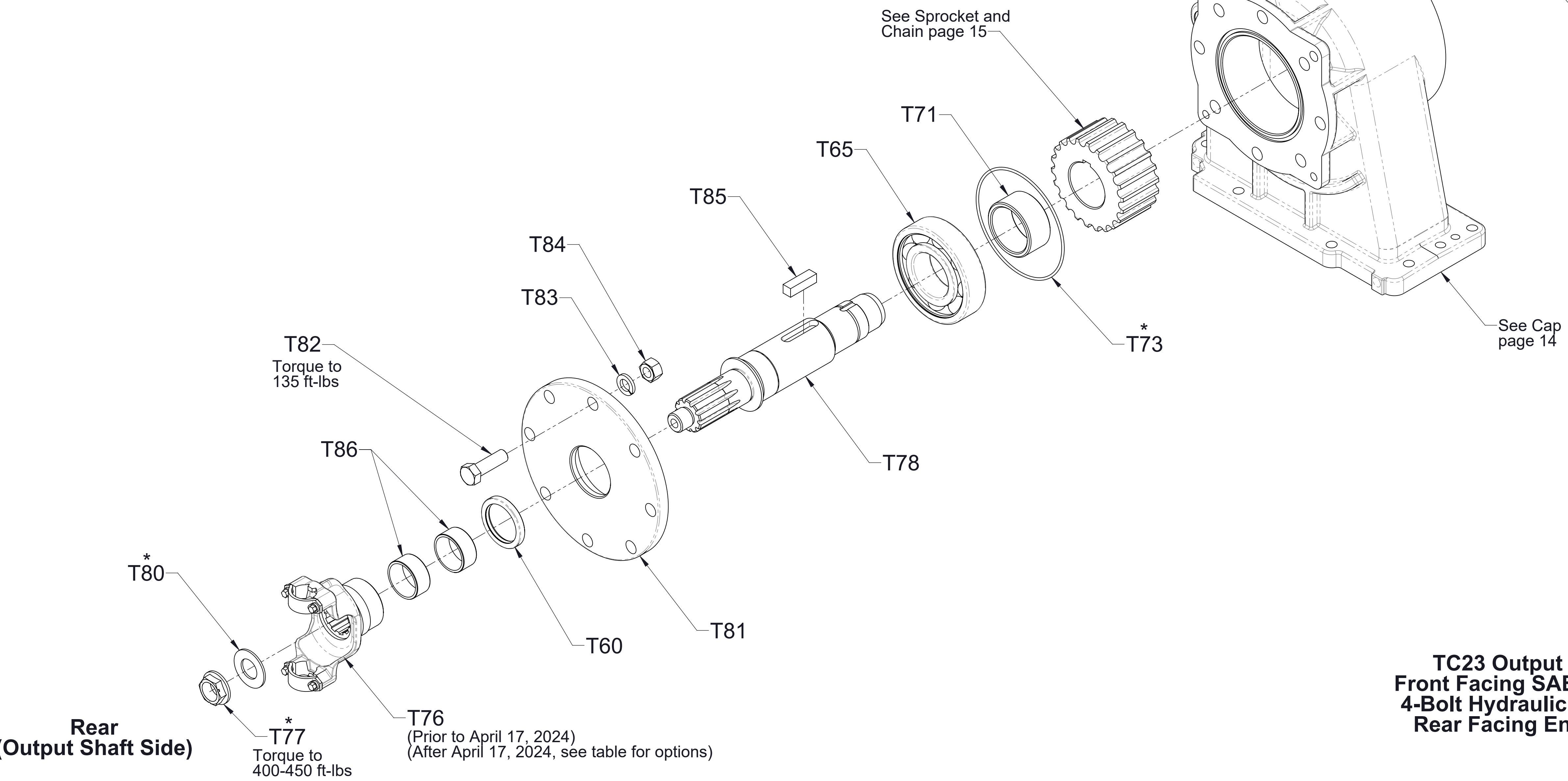
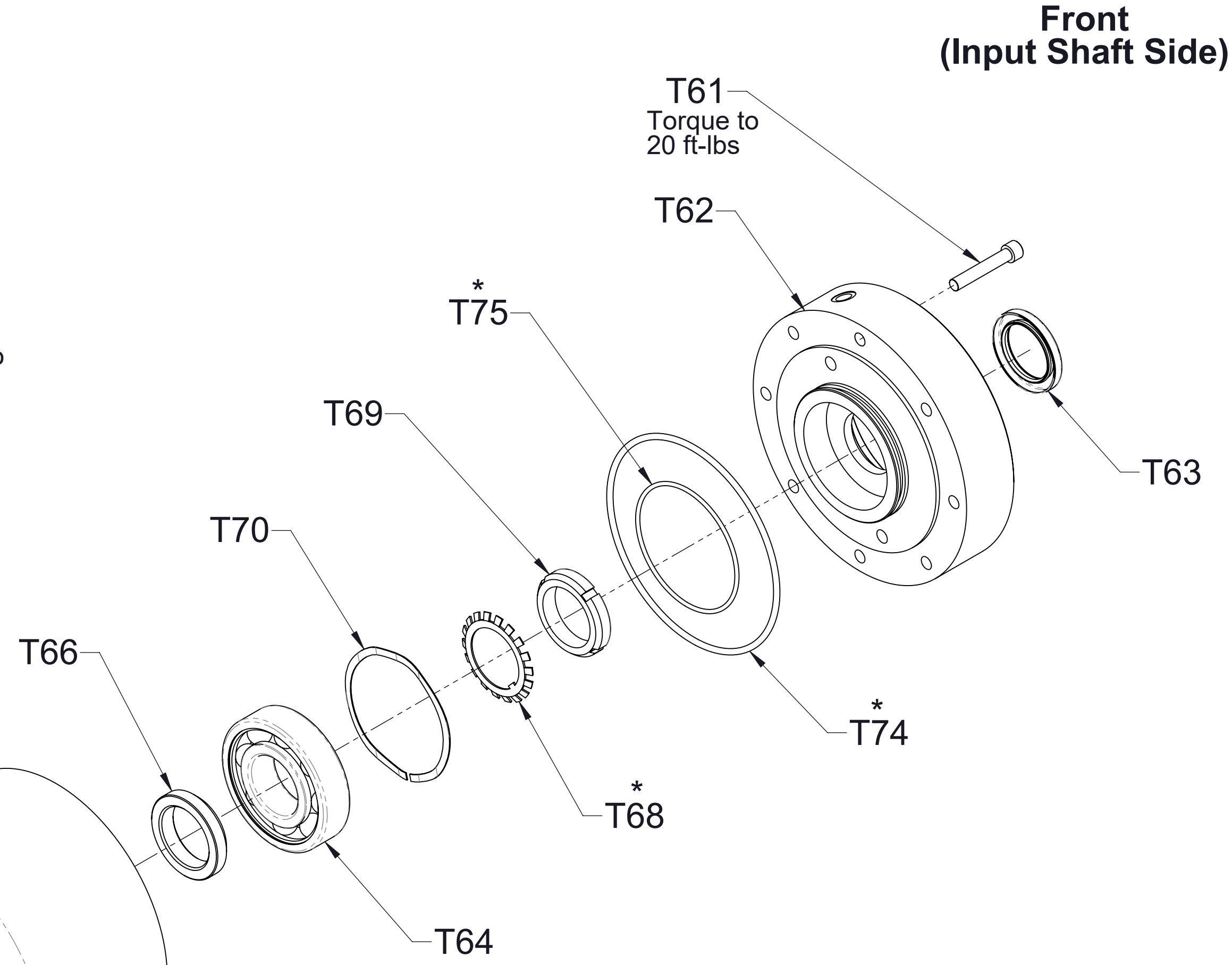
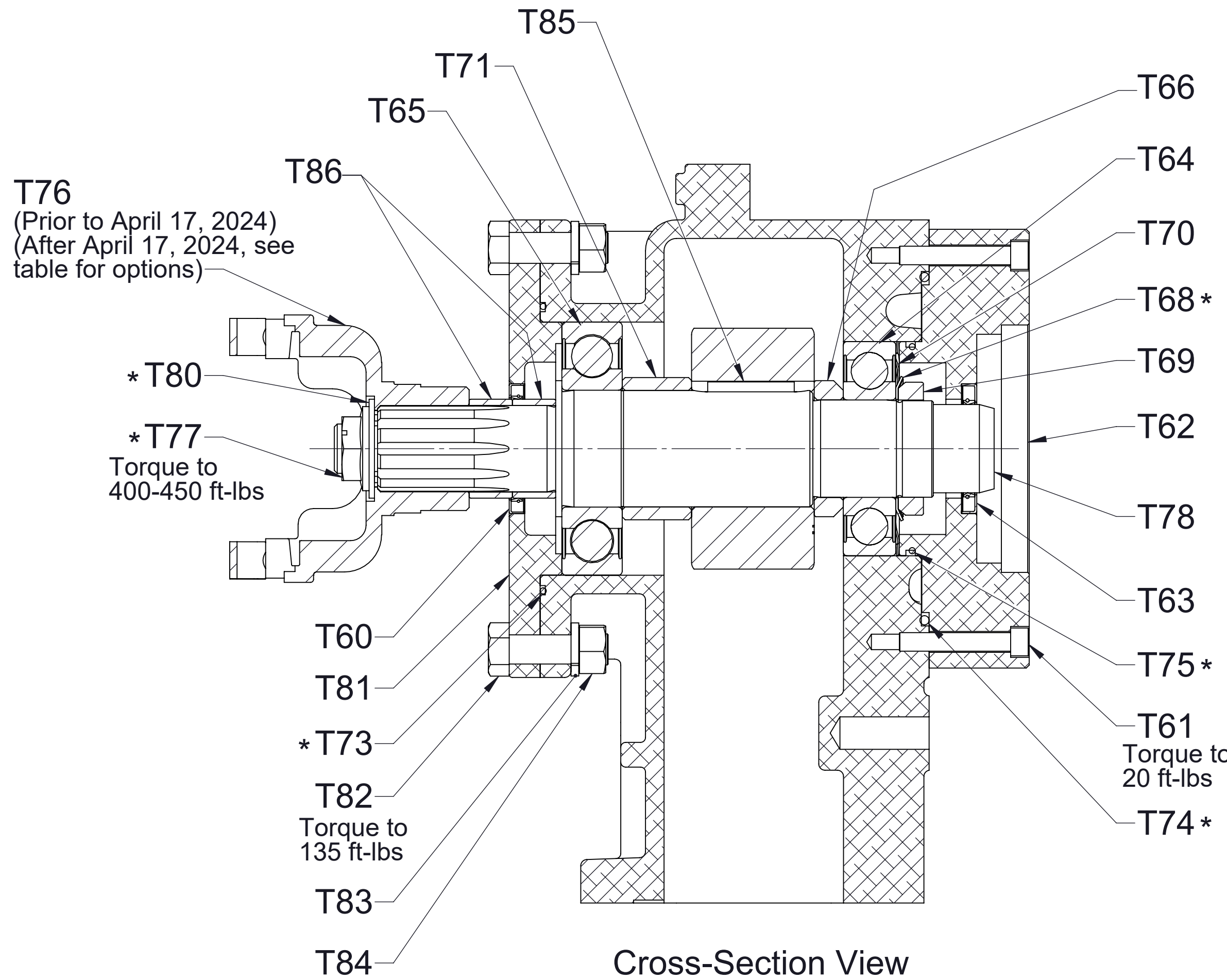
Optional End Yokes	
Series	Part Number
1550	V 3077
SPL 90	V 3761
1350/1410	V 3861-1





Ref No.	Description
T60	Seal-Oil, 2 x 2-5/8 in
T61	Screw-Cap, Hex Soc Hd, 3/8-16 x 2-1/4 in
T62	Adapter-Hydraulic, SAE Class C 4-Bolt
T63	Seal-Oil, 1-25/32 x 2-5/8 in
T64	Bearing, Ball, Single Row, 50 x 110 x 27 mm
T65	Bearing, Ball, Single Row, 60 x 130 x 31 mm
T66	Spacer-Shaft, Impeller
* T68	Washer-Lock, Bearing, W10
T69	Nut-Lock, Bearing, N10
T70	Spring-Wave
T71	Spacer-Shaft, Impeller
* T73	O-Ring, 5-5/8 x 5-7/8 in
* T74	O-Ring, 6-3/4 x 7-1/8 in
* T75	O-Ring, 4 x 4-1/4 in
T76	Yoke-End, 1550 Series (1-3/4-10 Spline)
* T77	Nut-Self Locking, 1-20 UNEF-2B
T78	Shaft-Driven, Hydraulic
* T80	Washer-Plain, 1 in
T81	Housing-Oil Seal
T82	Screw-Hex Hd, 5/8-11 x 2 in
T83	Washer-Lock, 5/8 in
T84	Nut-Hex, 5/8-11
T85	Key-Square, 1/2 x 1-3/4 in
T86	Sleeve-Seal, Oil

\*Included in Ref No. T27 Gasket and O-ring Repair Kit.



Optional End Yokes	
Series	Part Number
1550	V 3077
SPL 90	V 3761
1350/1410	V 3861-1

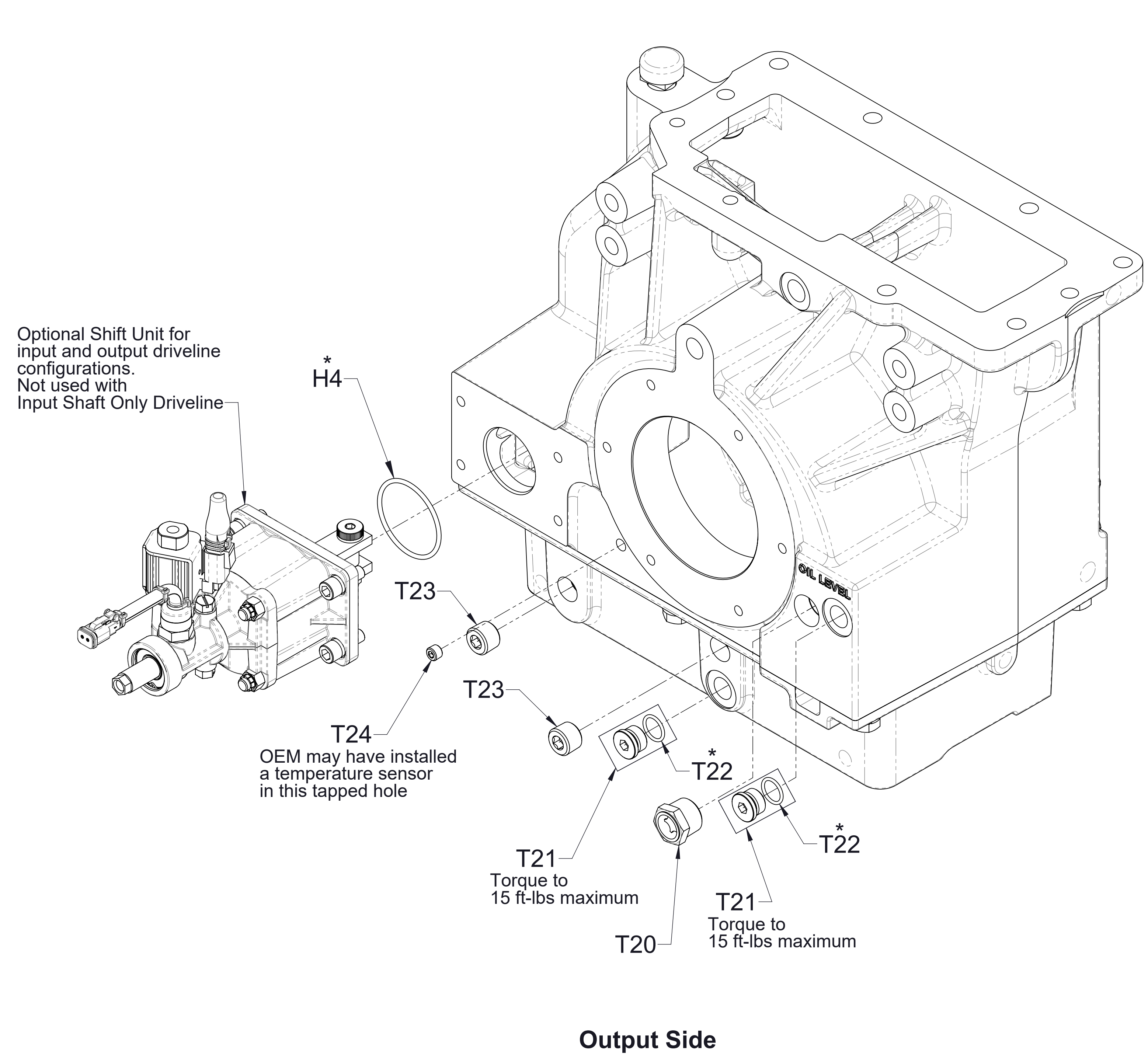
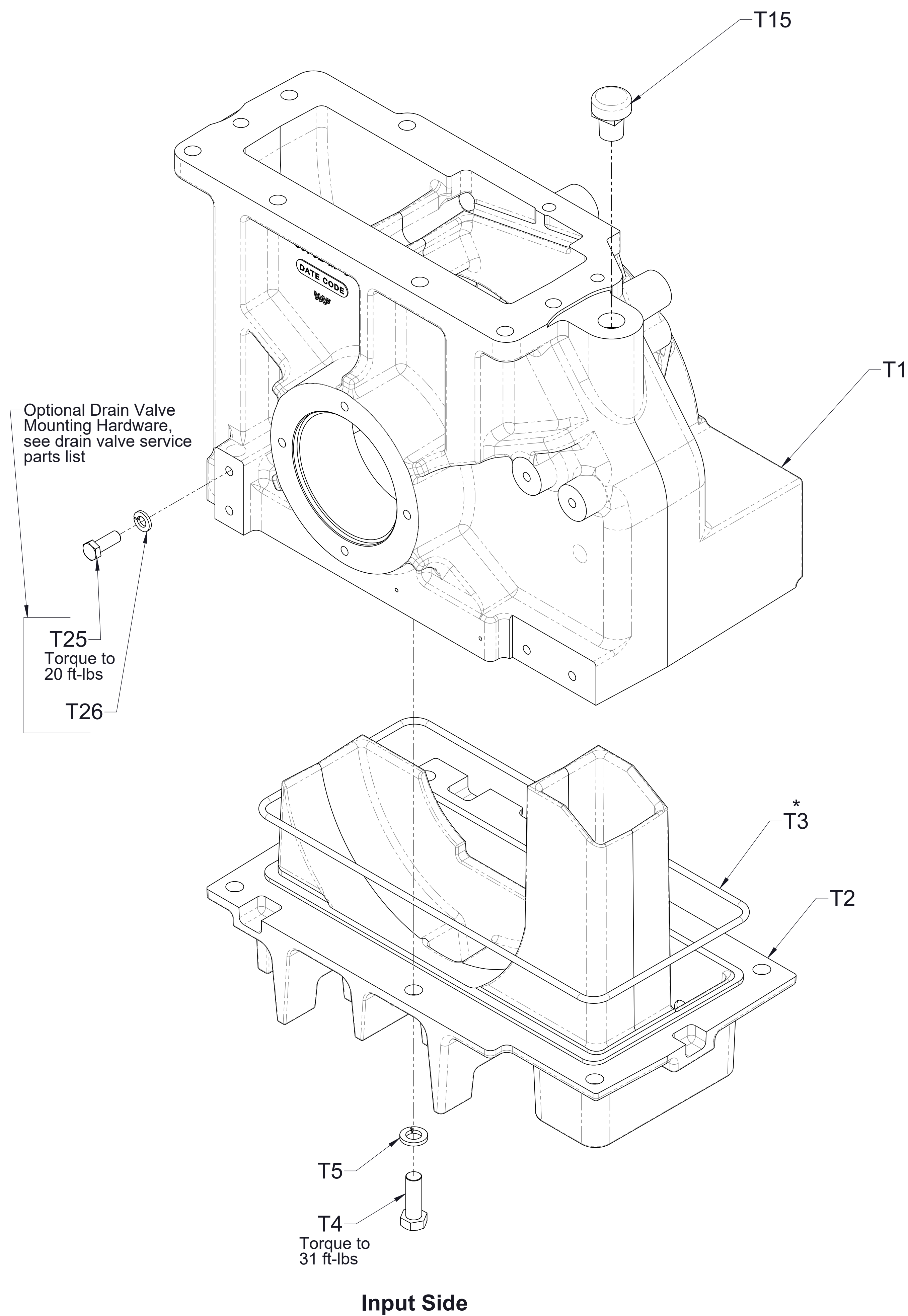
**TC23 Output Shaft  
Front Facing SAE Class C  
4-Bolt Hydraulic Adapter  
Rear Facing End Yoke**

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
T15	Breather, 1/2 NPT
T20	Plug-Site, Glass, 3/4 NPT
T21	Plug-Magnetic, 3/4 in
T22	O-ring, 16.2mm x 20.8mm
T23	Plug-Pipe, Headless, 1/2 NPT
T24	Plug-Pipe, Headless, 1/8 NPT
*T25	Screw-Hex Hd, 3/8-16 x 1 in
T26	Washer-Lock, 3/8 in
H4	O-ring, 2-1/4 x 2-1/2 in.

\*Included in Ref No. T27 Gasket and O-ring Repair Kit.

Note:

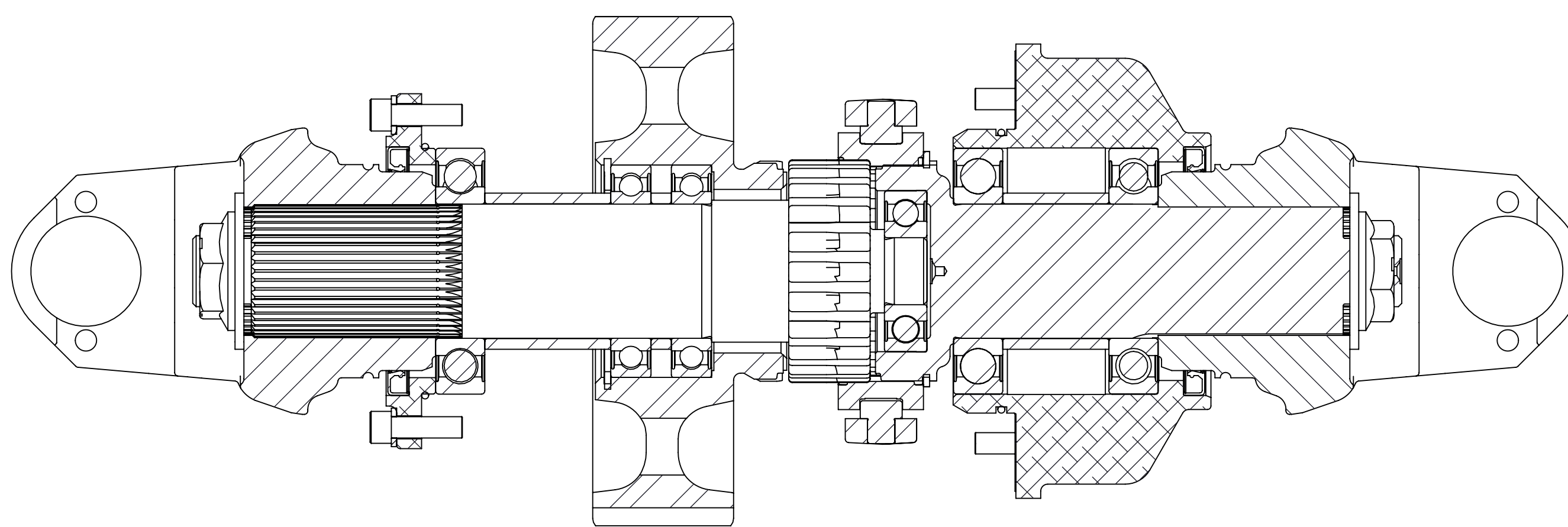
1. Apply thread sealant to pipe threads.



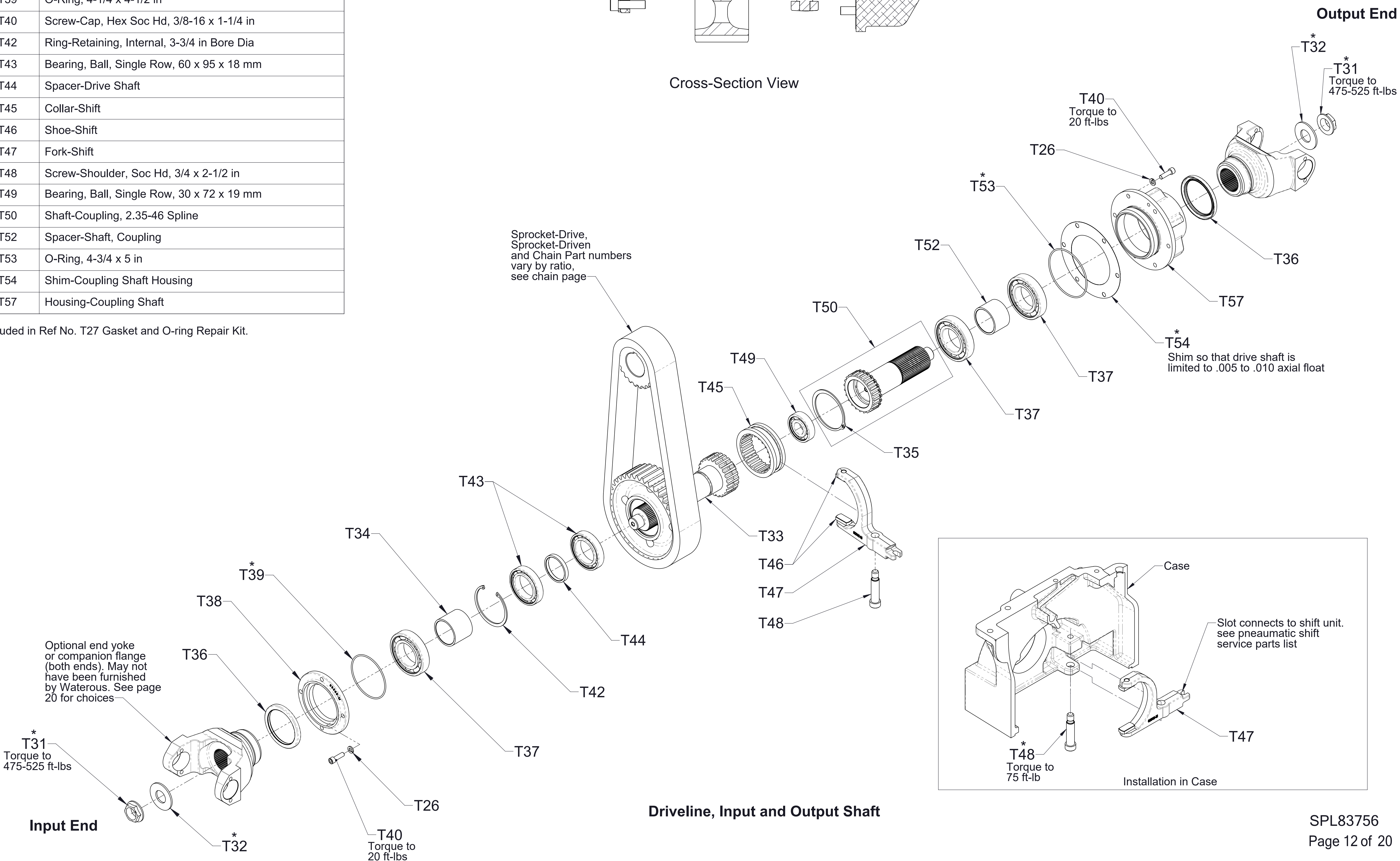
**Transmission Case**

Ref No.	Description
T26	Washer-Lock, 3/8 in
* 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
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
T52	Spacer-Shaft, Coupling
* T53	O-Ring, 4-3/4 x 5 in
* T54	Shim-Coupling Shaft Housing
T57	Housing-Coupling Shaft

\*Included in Ref No. T27 Gasket and O-ring Repair Kit.



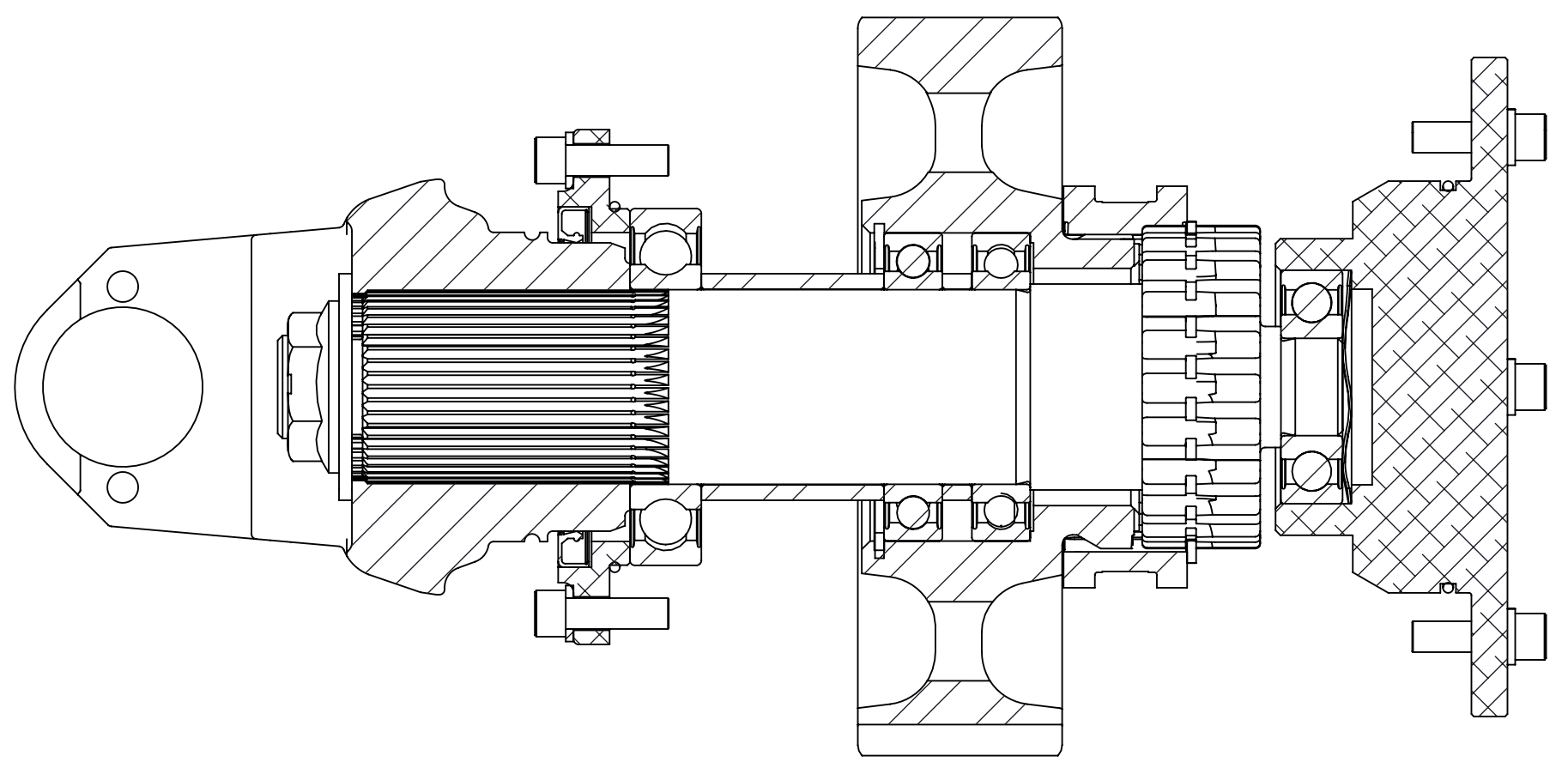
Cross-Section View



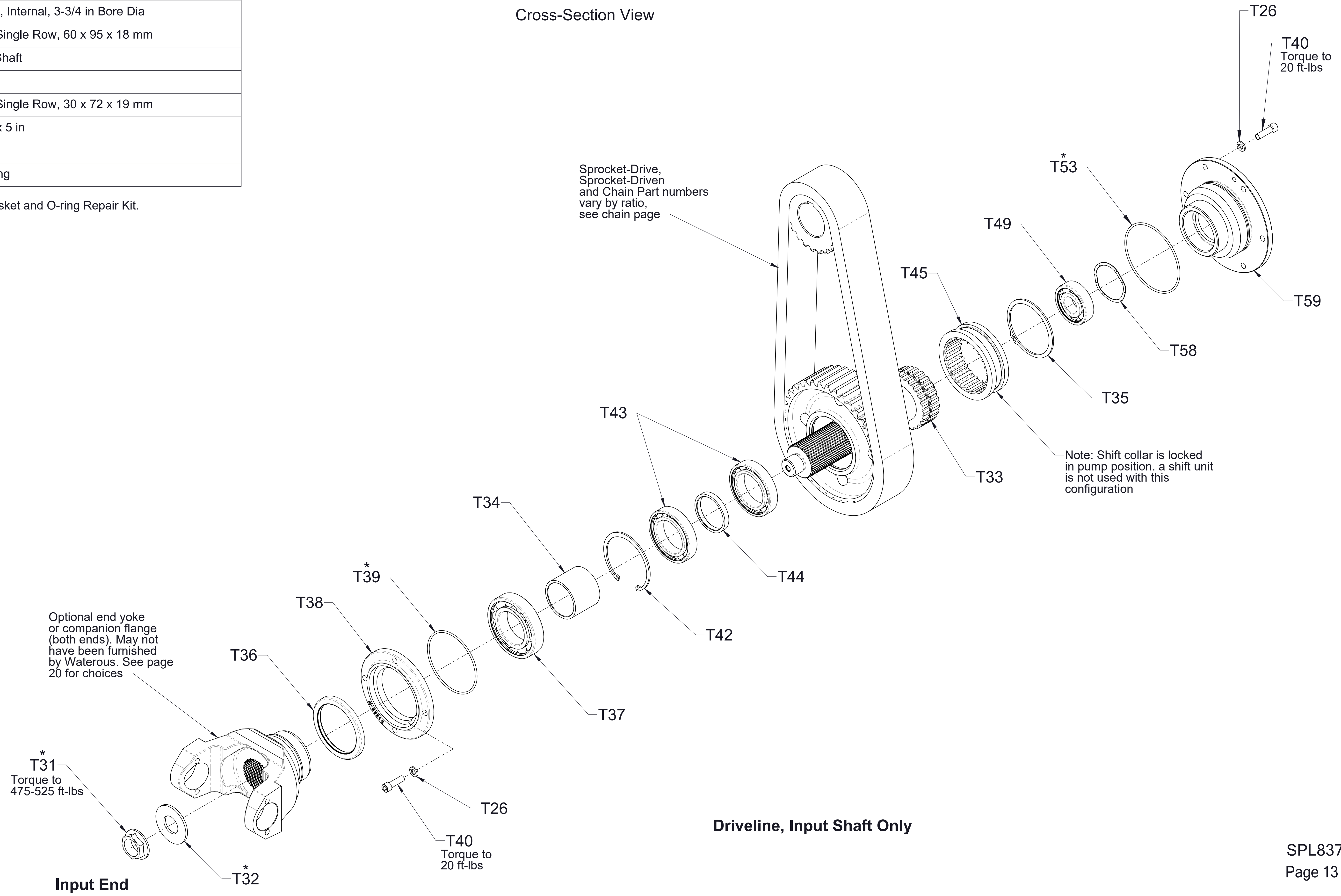
Driveline, Input and Output Shaft

Ref No.	Description
T26	Washer-Lock, 3/8 in
* 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
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. T27 Gasket and O-ring Repair Kit.



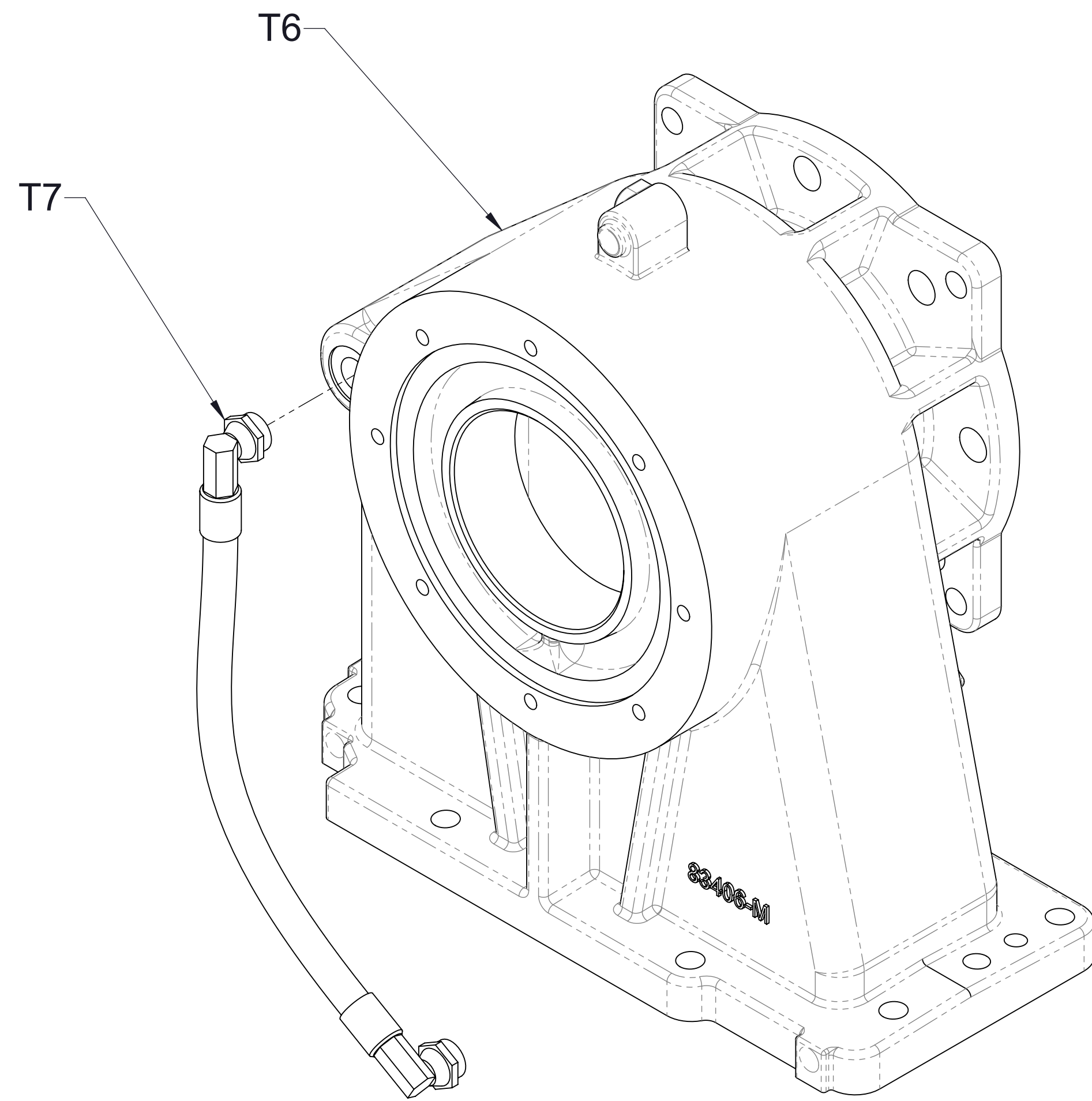
Cross-Section View



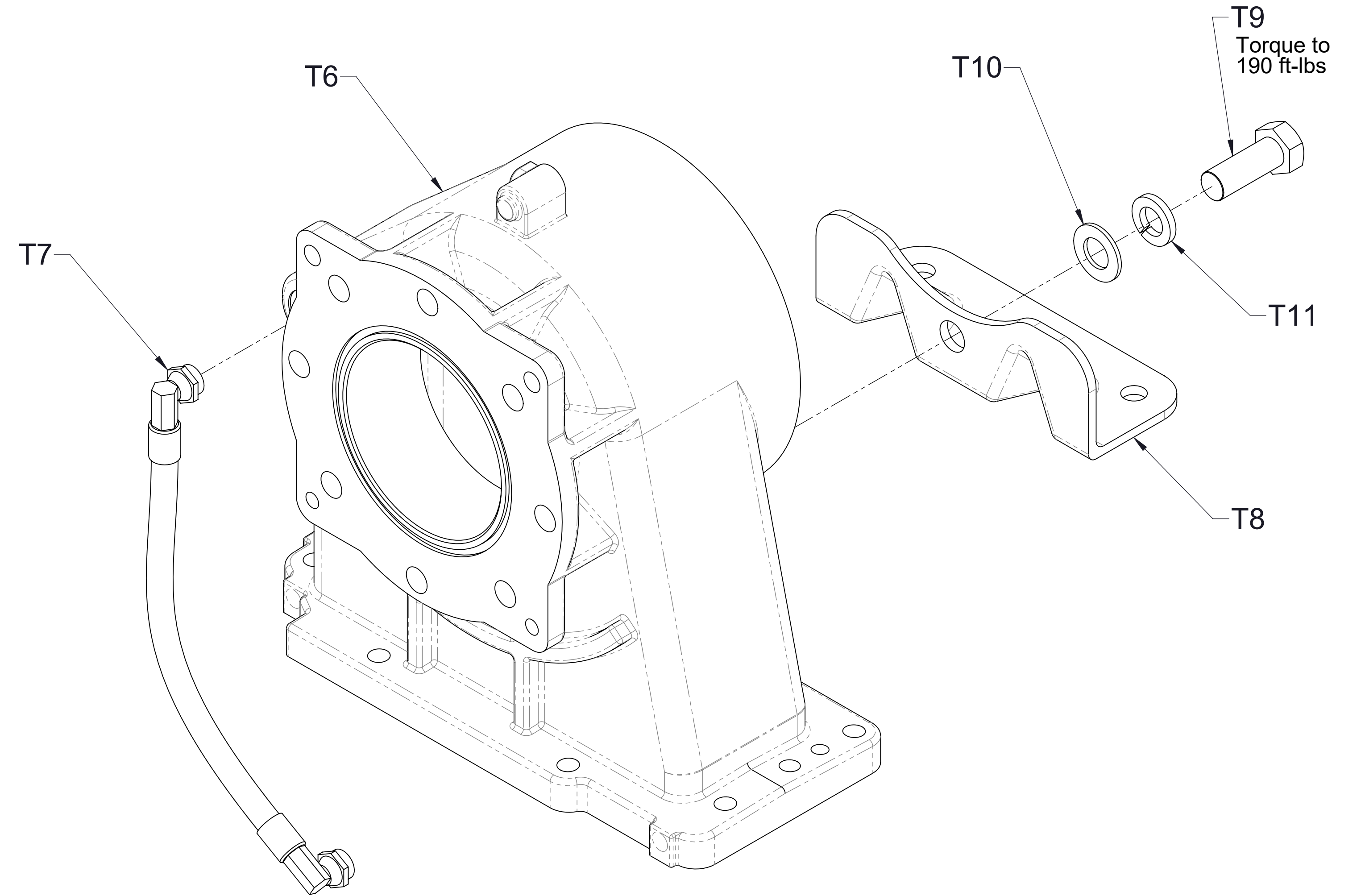
Driveline, Input Shaft Only

Ref No.	Description
T6	Cap-Transmission, Front Facing
T7	Hose Assembly

Ref No.	Description
T6	Cap-Transmission, Rear Facing
T7	Hose Assembly
T8	Bracket-Mounting, Case
T9	Screw-Hex Hd, 3/4-10 x 2 in
T10	Washer-Plain, 3/4 in
T11	Washer-Lock, 3/4 in

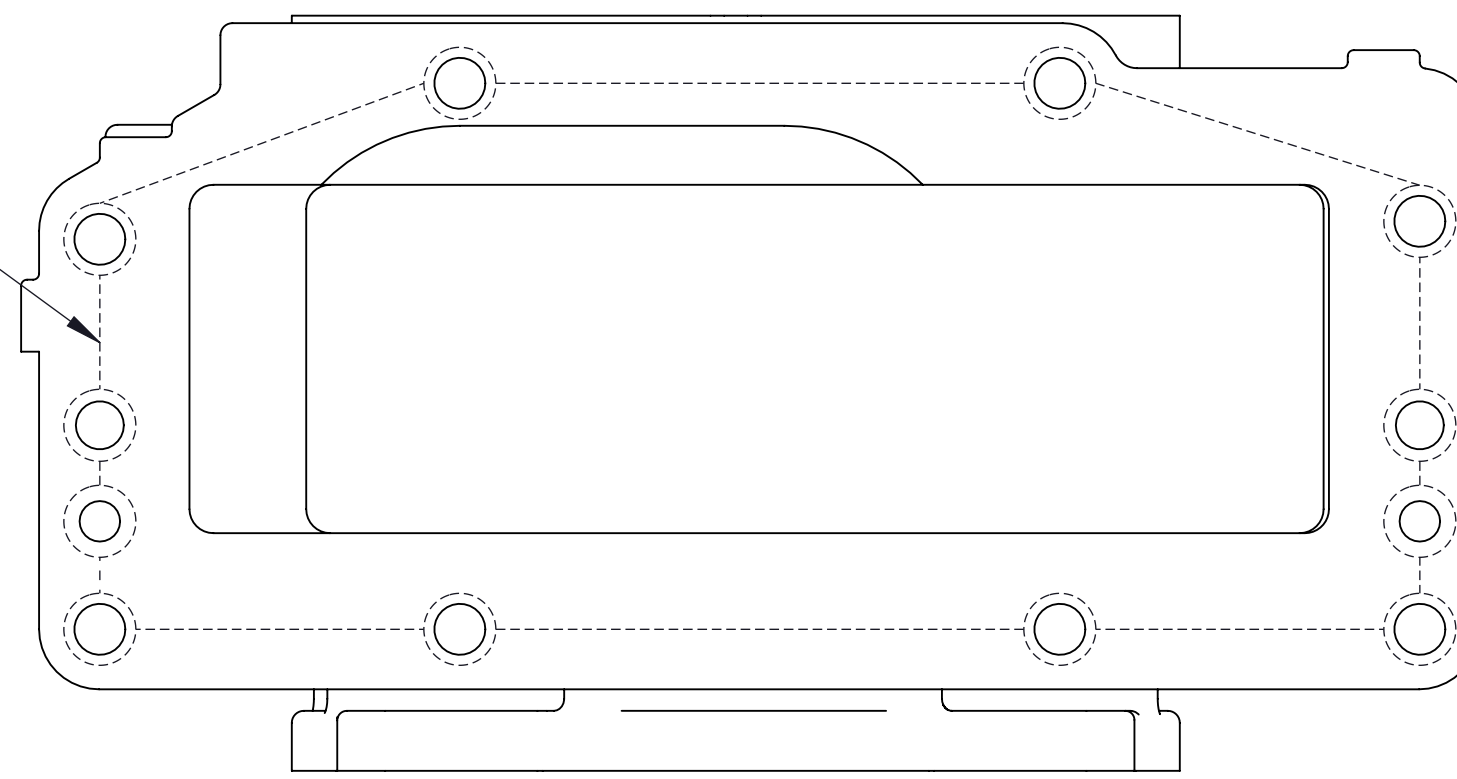


**CRU-2 Front Mounted (Input Side)  
TC23 Front Connection (Input Side)**



**CRU-2 Rear Mounted (Output Side)  
TC23 Rear Connection (Output Side)**

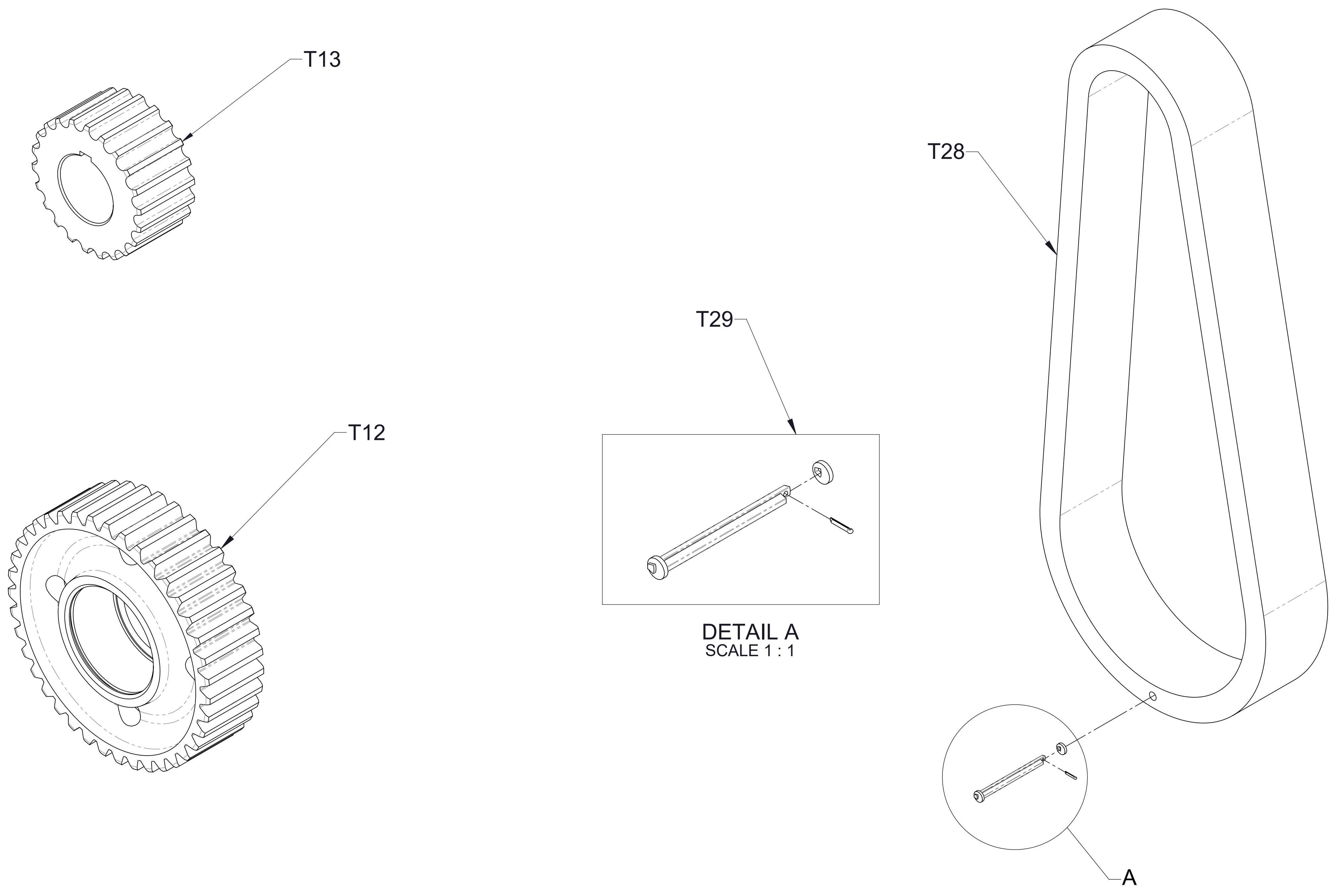
Apply a thin bead of sealant as shown by dashed line



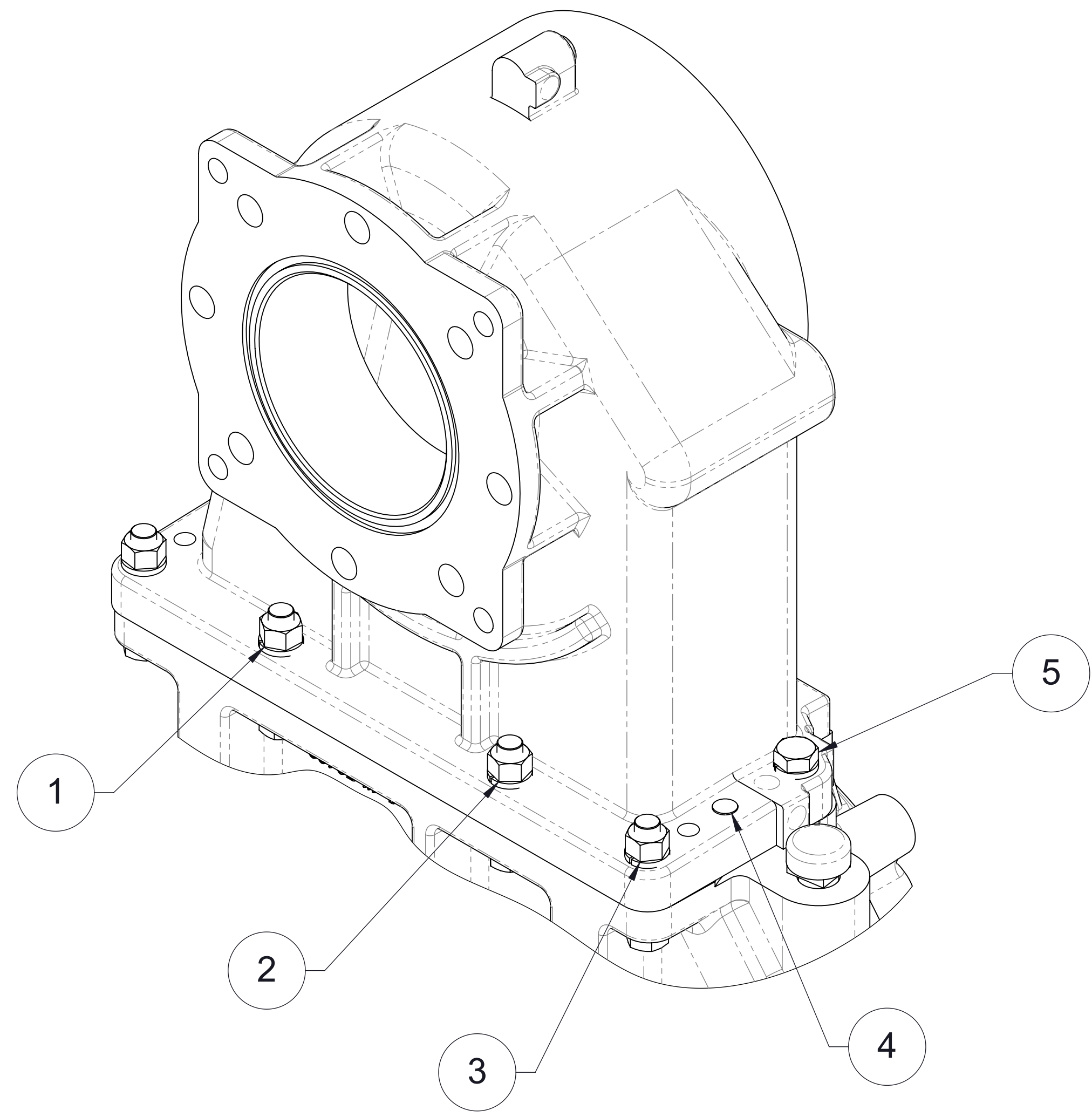
Apply Loctite<sup>®</sup> 518 sealant or equivalent to mating flanges

**Caps  
C23 Transmission and TC23 PTO**

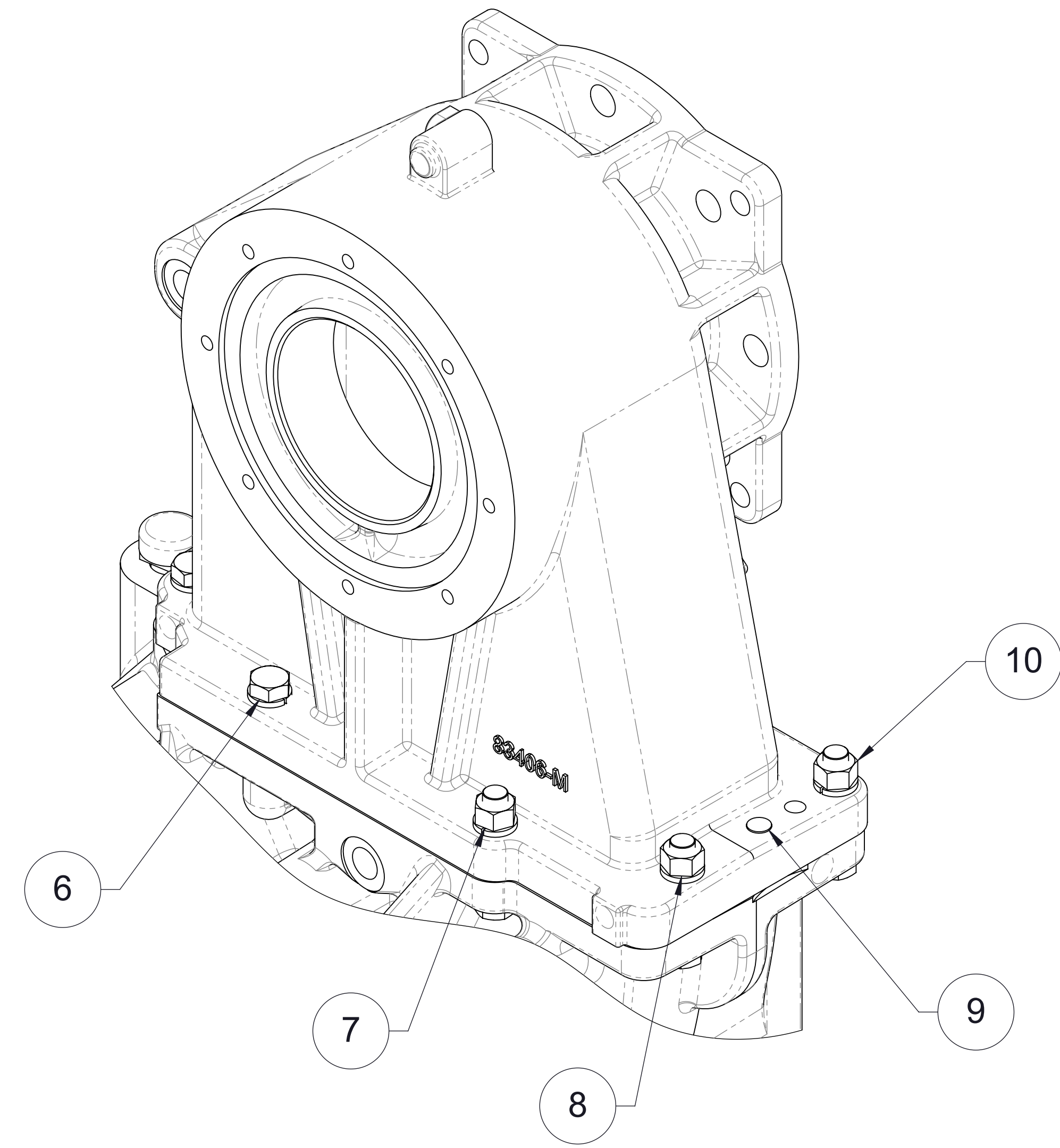
Ref No.	Description
T12	Sprocket-Drive
T13	Sprocket-Driven
T28	Chain and Pin Set
T29	Connecting Pin Set (Repairs)



**Sprockets and Chain**



**Input Side of Case**

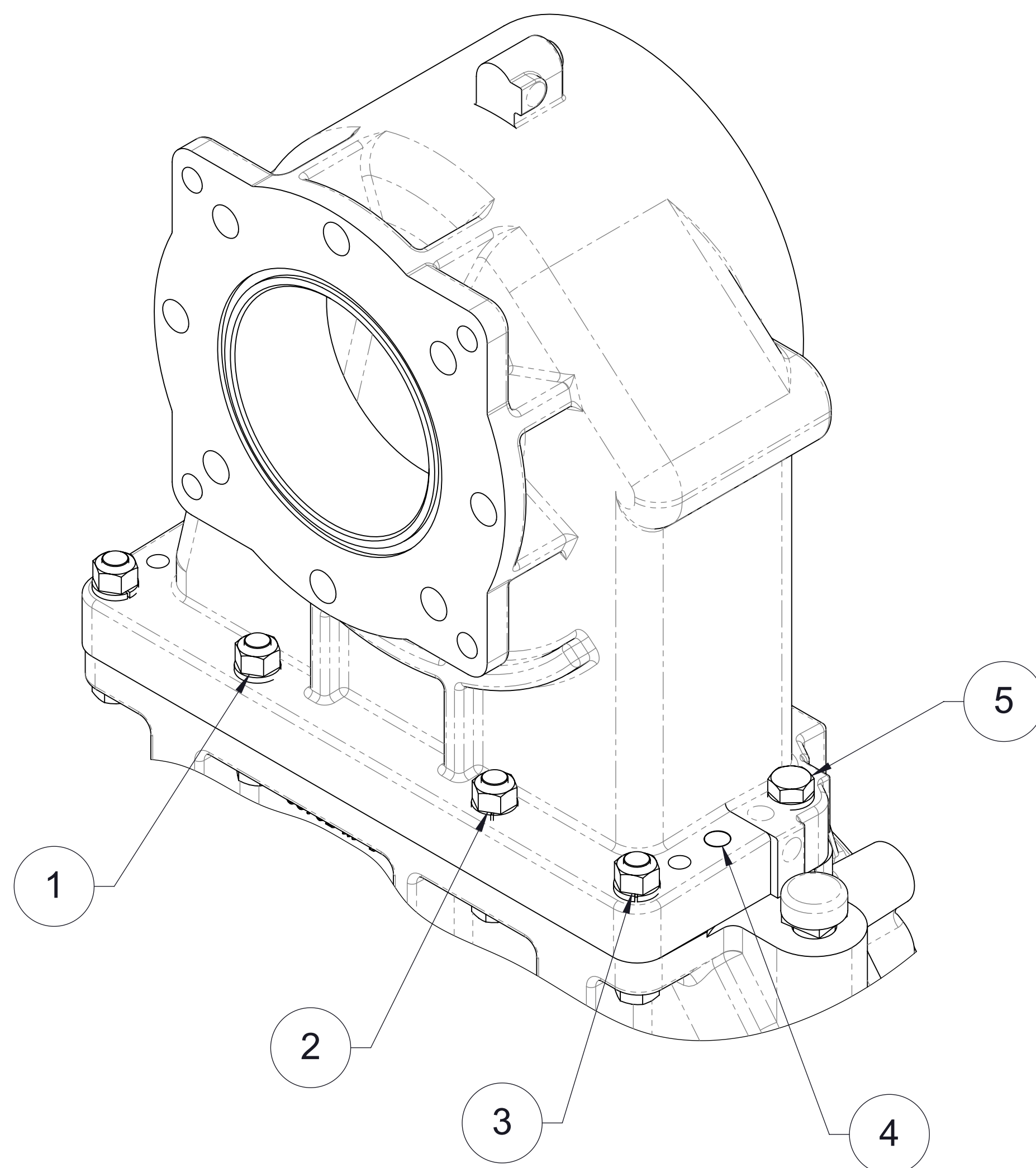


**Output Side of Case**

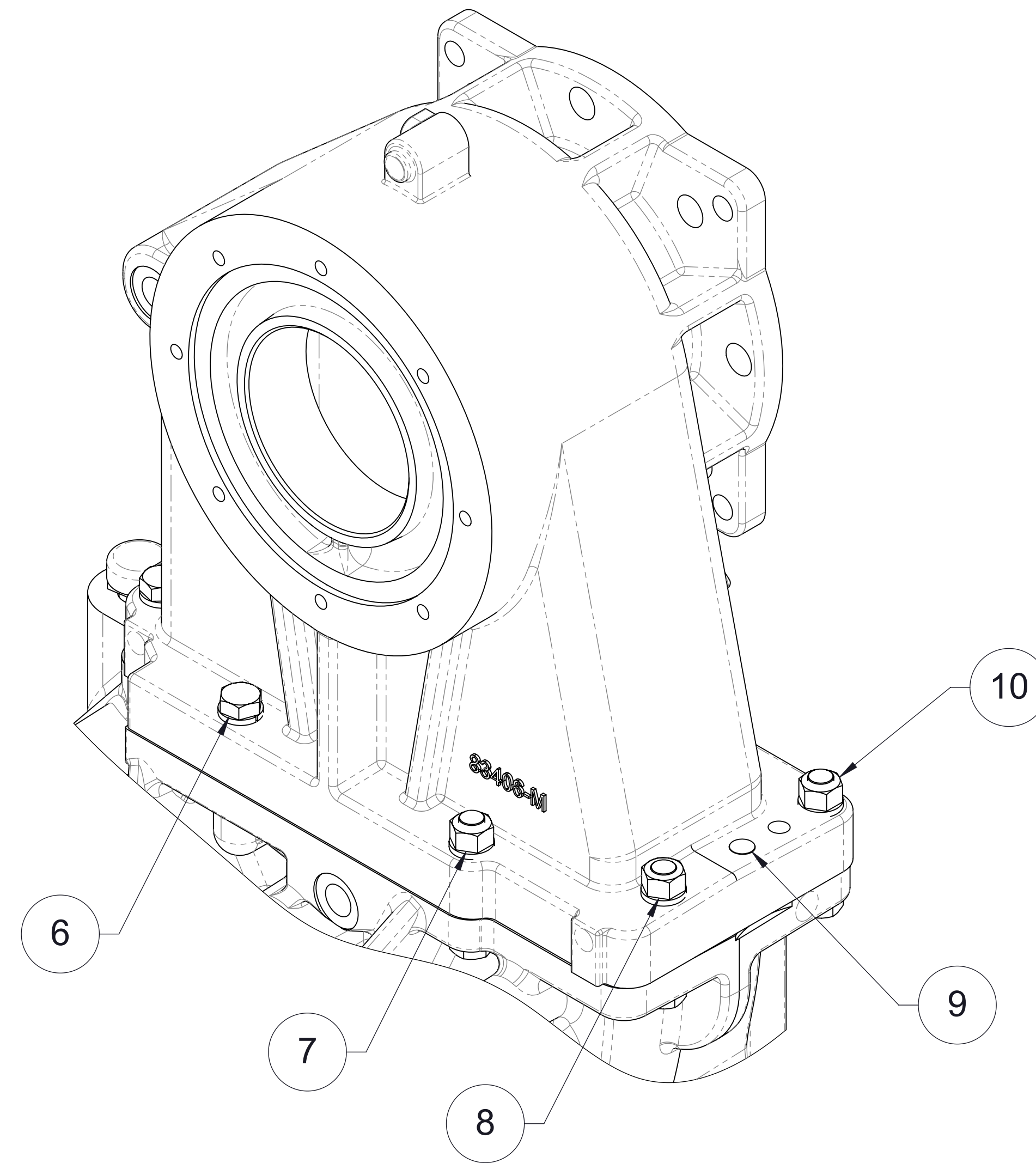
Flange Hole									
1	2	3	4	5	6	7	8	9	10
T5, T91, T94	T5, T91, T94	T5, T91, T94	T95	T5, T90	T5, T90	T5, T91, T94	T5, T91, T94	T95	T5, T91, T94

Ref No.	Description	Torque To
T5	Washer-Lock, 1/2 in.	--
T90	Screw-Hex Hd, 1/2-13 x 1.75 in.	55 ft-lbs
T91	Screw-Hex Hd, 1/2-20 x 2.50 in.	60 ft-lbs
T94	Nut-Hex, 1/2-20	--
T95	Pin-Dowel, 1/2 x 1.75 in.	--





**Input Side of Case**

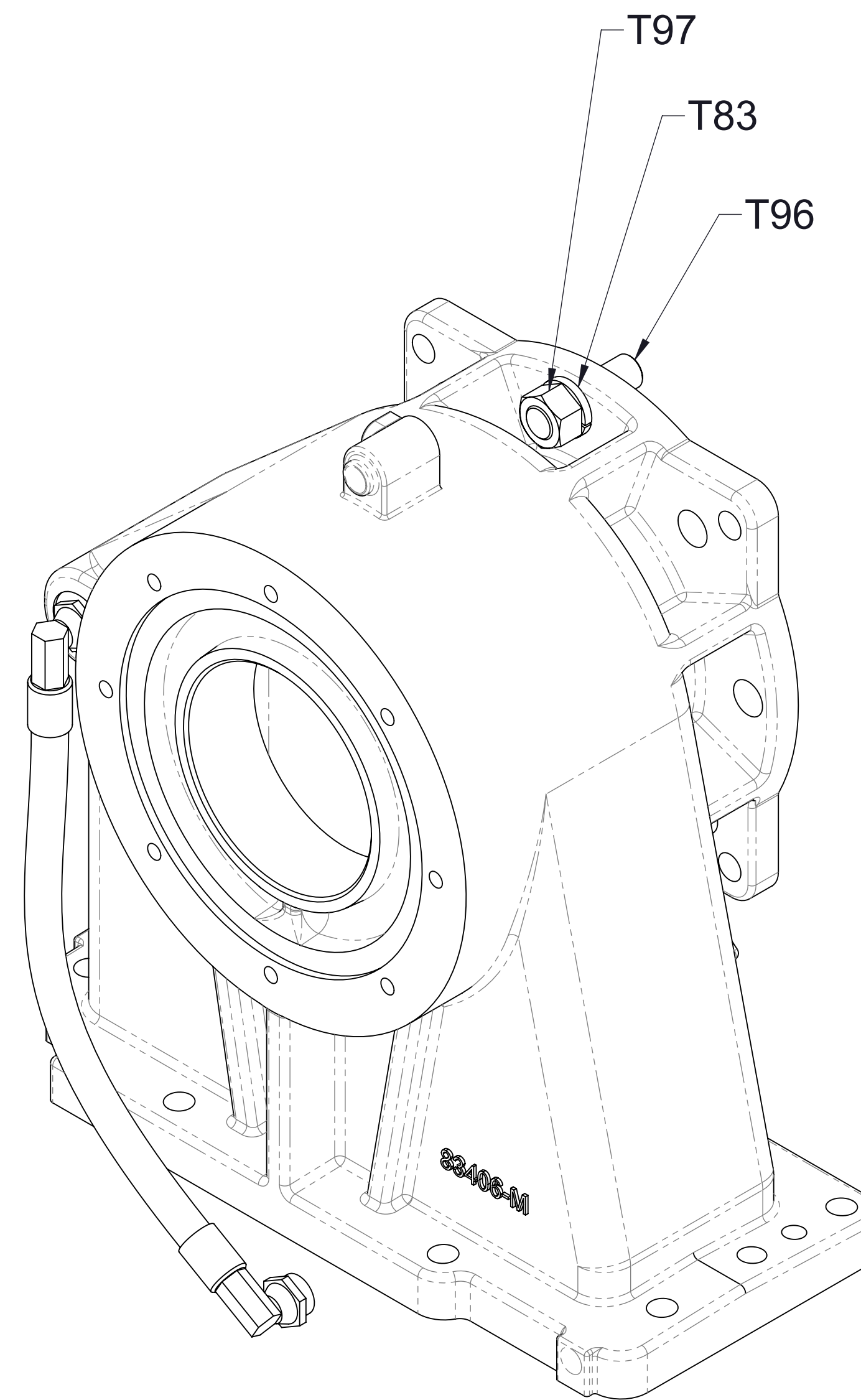


**Output Side of Case**

Flange Hole									
1	2	3	4	5	6	7	8	9	10
T5, T93, T94	T5, T93, T94	T5, T93, T94	T95	T5, T92	T5, T92	T5, T93, T94	T5, T93, T94	T95	T5, T93, T94

Ref No.	Description	Torque To
T5	Washer-Lock, 1/2 in.	--
T92	Screw-Hex Hd, 1/2-13 x 2.25 in.	55 ft-lbs
T93	Screw-Hex Hd, 1/2-20 x 2.75 in.	60 ft-lbs
T94	Nut-Hex, 1/2-20	--
T95	Pin-Dowel, 1/2 x 1.75 in.	--

**Cap Hardware  
Front or Rear Facing  
1.95 Ratio**



**CRU-2**  
**Front Mounted Pump (Input Shaft Side) (Shown)**  
**Rear Mounted Pump (Output Shaft Side)**

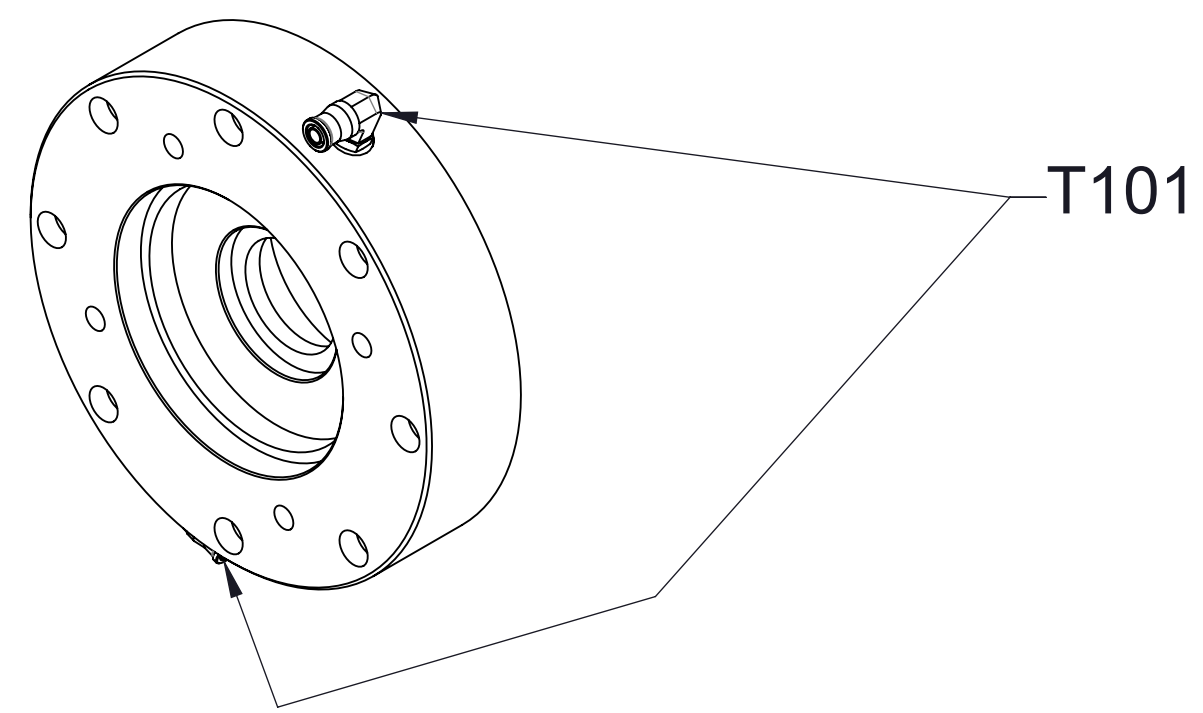
Ref No.	Description	Torque to
T83	Washer-Lock, 5/8 in	--
T96	Stud-5/8-11 UNC x 5/8-18 UNF, 2-3/16 in	--
T97	Nut-Hex, 5/8-18	120 ft-lbs

**Pump Mounting Hardware**

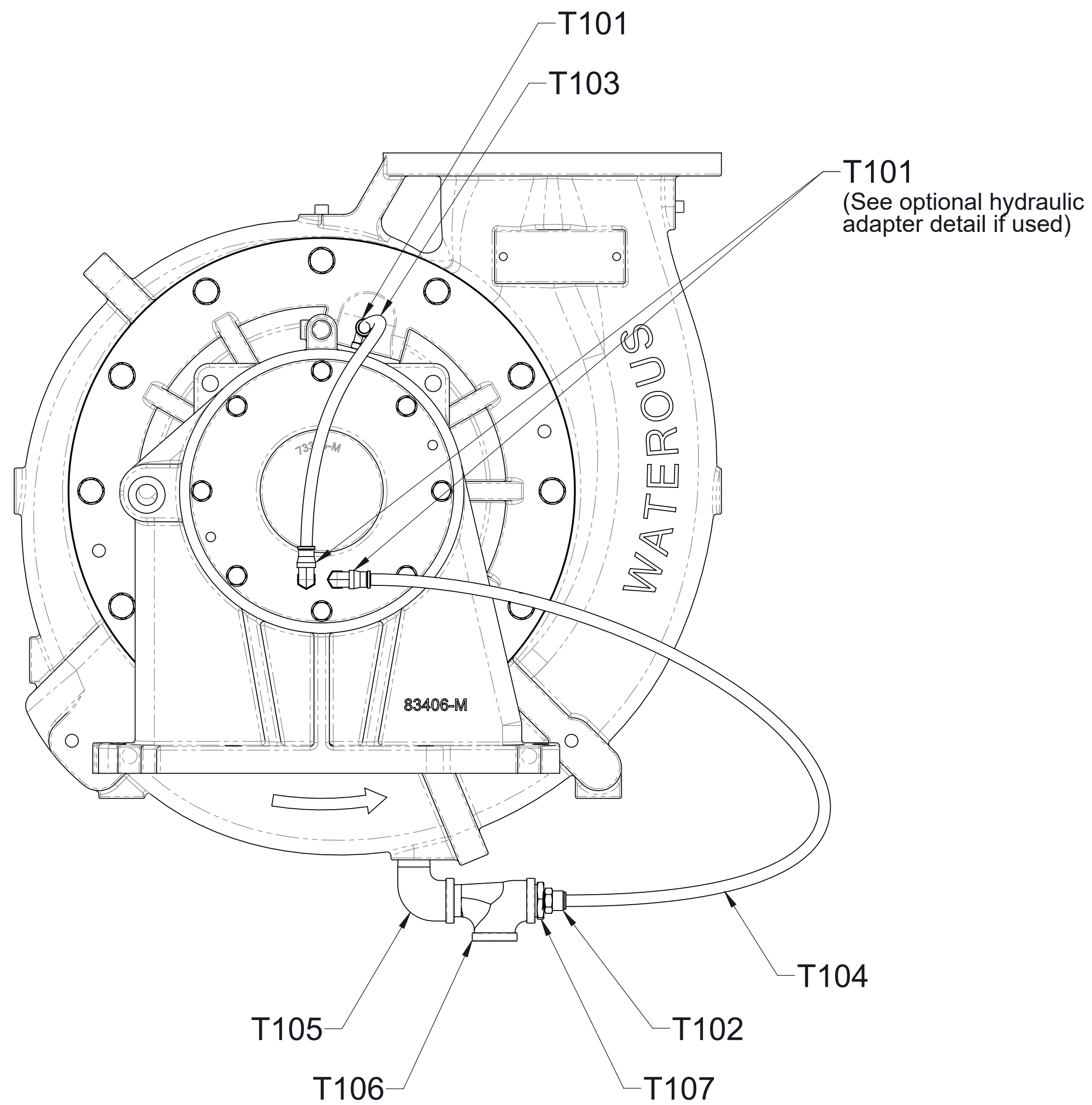
Ref No.	Description
T101	Fitting-Elbow, 3/8 PTC x 1/4 MNPT, 90°
T102	Fitting-Straight, 3/8 PTC x 3/8 MNPT
T103	Tubing-Nylon, 3/8 in
T104	Tubing-Nylon, 3/8 in
T105	Elbow-Street, 90°, 3/4 NPT
T106	Tee-Street, 3/4 NPT
T107	Bushing-Reducing, Pipe, 3/4 x 3/8 NPT

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 3/4 NPT street tee on bottom of volute.



Optional Hydraulic Adapter

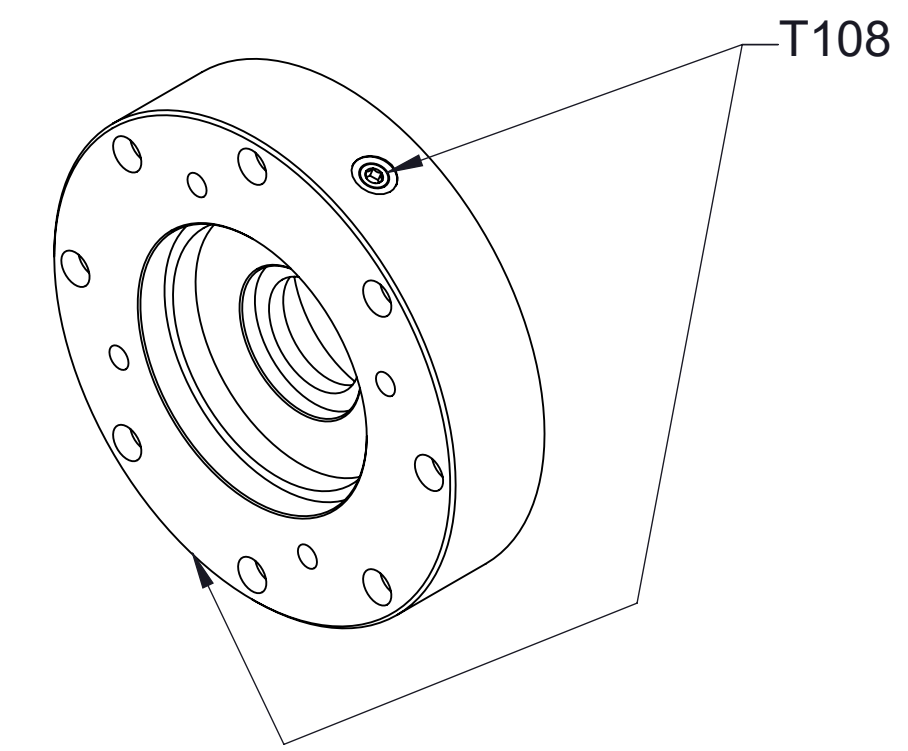


C23 Internal Cooler  
Front or Rear Facing

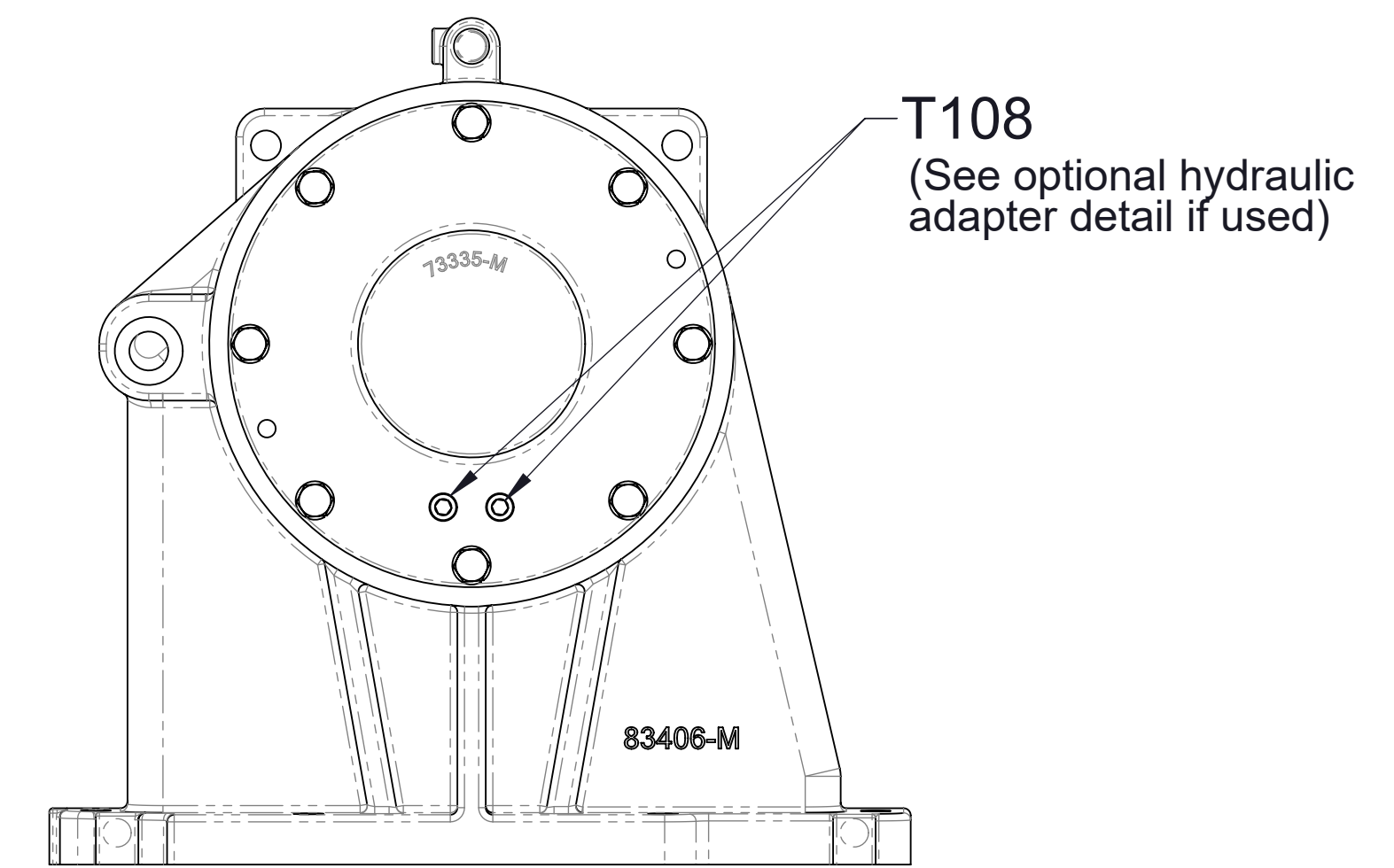
Ref No.	Description
T108	Plug-Pipe, Headless, 1/4 NPT

Note:

1. Apply thread sealant to pipe threads.



Optional Hydraulic Adapter



TC23 Internal Cooler  
Front or Rear Facing

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