

CARCO®

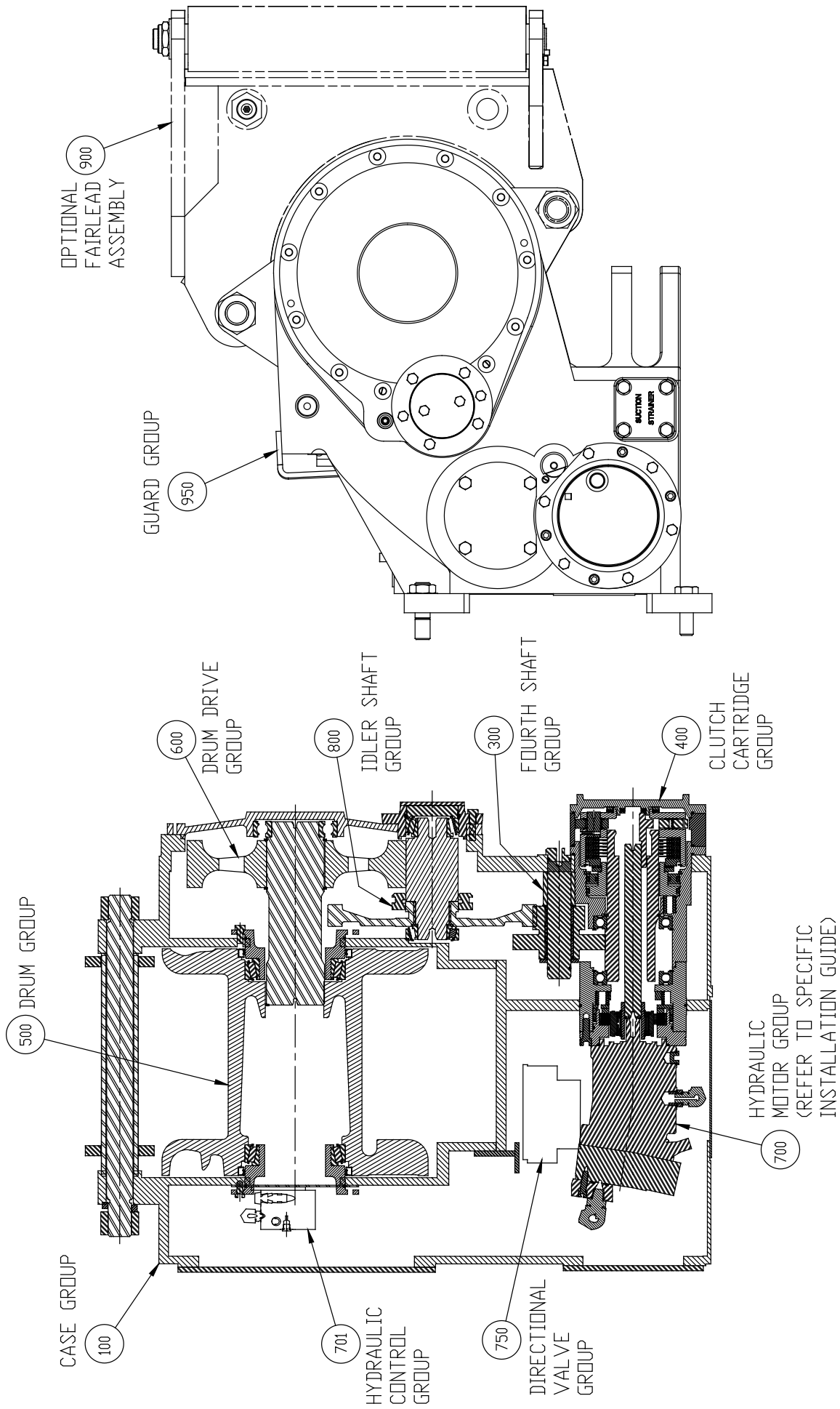
WINCH PARTS MANUAL

MODEL H85VS

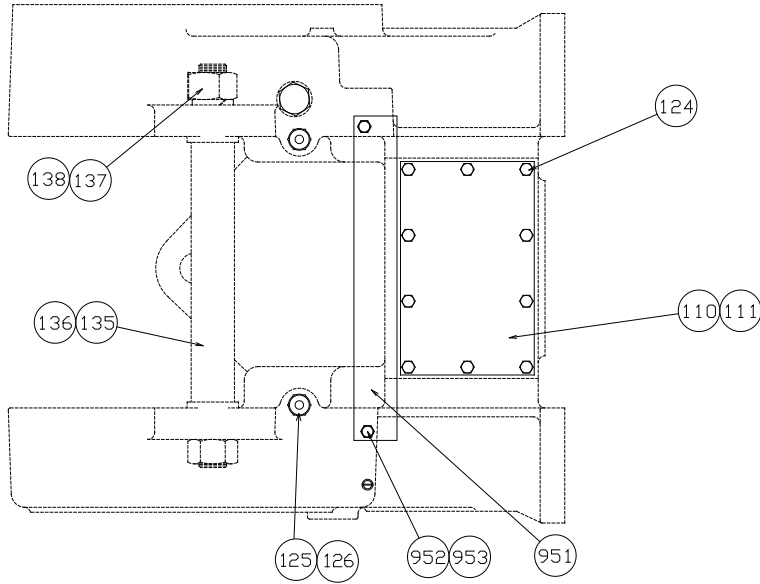
NOTE: This manual covers all common winch parts only. For all other parts, refer to the installation and parts manual for your specific tractor. Because this manual covers several winch configurations, not all parts shown will apply to your winch. Care should be taken to properly identify parts before replacements are ordered. Always include the winch model and serial numbers when requesting information or ordering parts.

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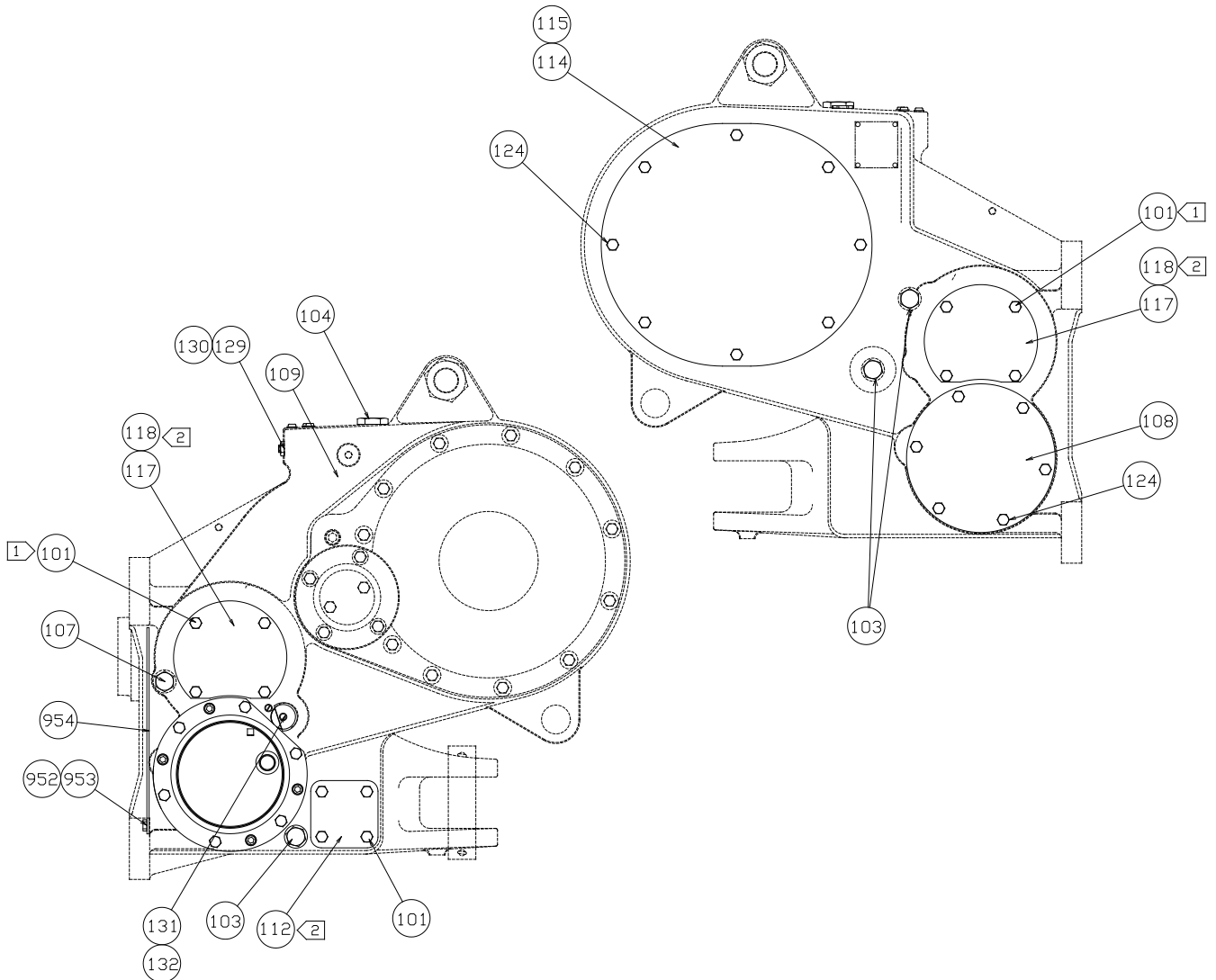


**CASE AND COVERS GROUP
H85VS**



NOTES:

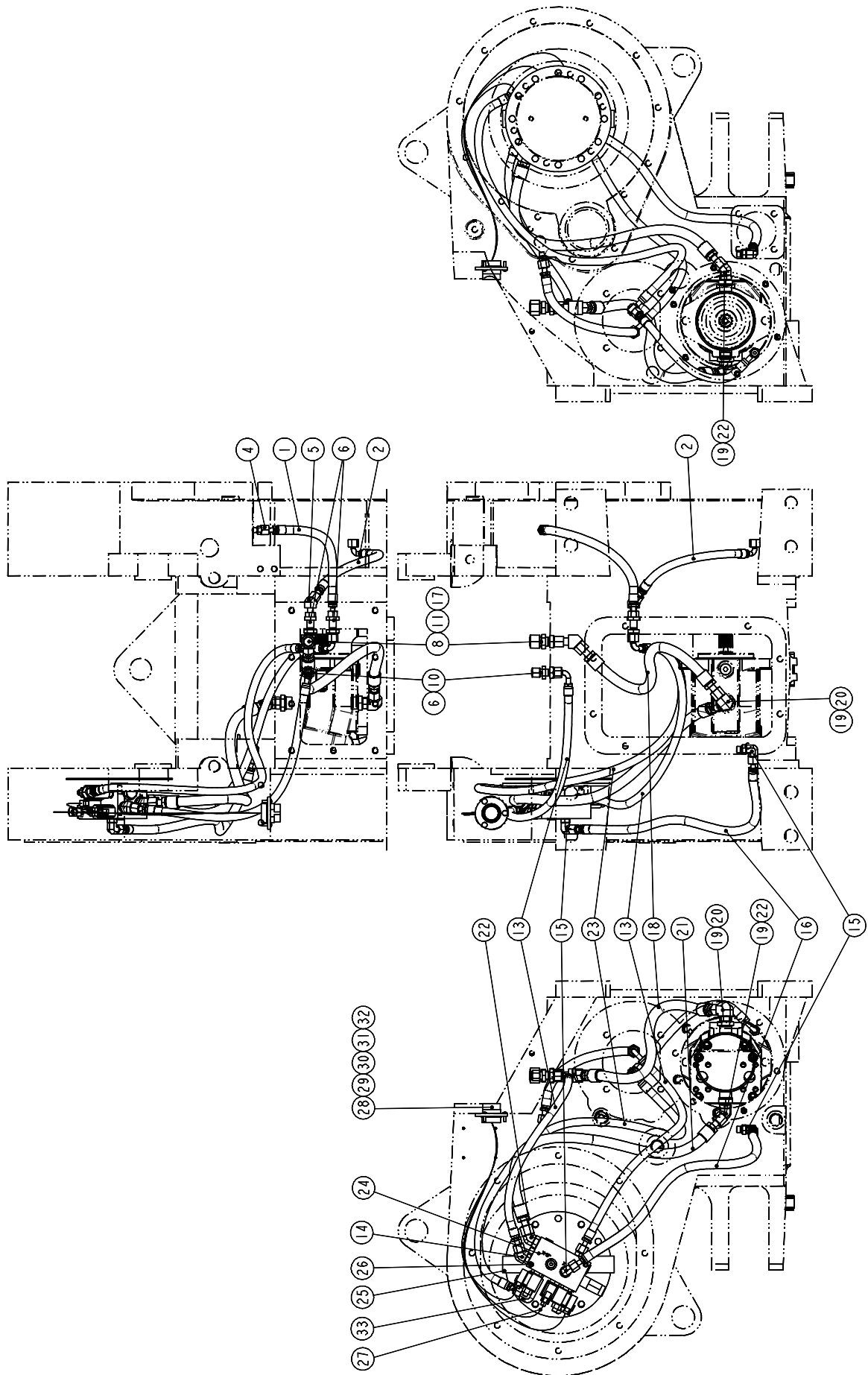
1. APPLY "LOCTITE 242" TO CLEAN, DRY THREADS AND TORQUE FASTENERS TO 75-83 FT-LBS.
2. APPLY "RTV 732" SILASTIC SEALANT



**CASE AND COVERS GROUP
H85VS**

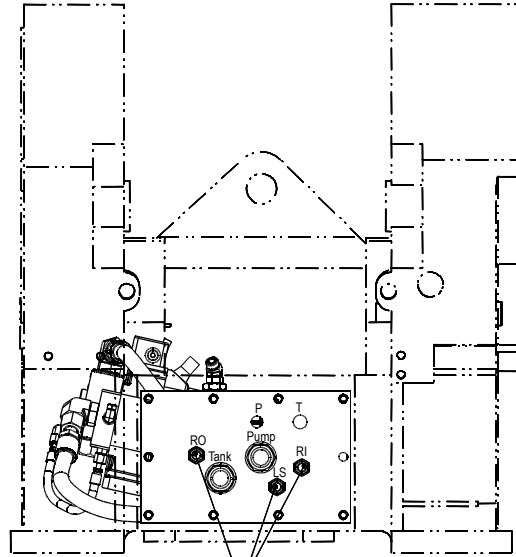
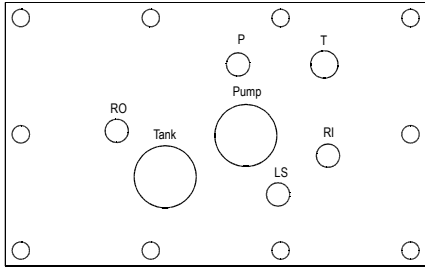
ITEM	PART NO.	DESCRIPTION	QTY.
101	104320	CAPSCREW, HEX HD (½-13 X 1, G5 Z)	12
103	70118	PLUG	3
	31607	O-RING	3
104	29825	PLUG	1
	31608	O-RING	1
107	70 193	SIGHT GAUGE	1
108	105469	COVER	1
109	105235	WINCH CASE	1
110	109575	COVER, TOP	1
111	27806	TOP COVER GASKET	1
112	26 174	COVER, STRAINER	1
114	69951	COVER, SIDE ACCESS	1
115	69950	GASKET	1
117	27807	COVER, ACCESS	2
118	27808	GASKET	2
124	27745	CAPSCREW, HEX HD (½-13 X 1, G5 SS)	24
125	102883	CAPSCREW, HEX HD (1-8 X 1-1/2 G8 Z)	2
126	101205	WASHER, HARD (1 IN Z)	2
129	26868	REDUCER	1
130	10074	VENT	1
131	106468	CAPSCREW, HEX HD (½-13 X ¾, G8 Z)	1
132	100859	WASHER, HARD (½, Z)	1
135	27804	TUBE	1
136	28772	TIE BOLT	1
137	27666	WASHER, LOCK	1
138	27655	NUT, HEX HD	2
951	105468	GUARD	1
952	104174	CAPSCREW, HEX HD (½-13 X 1¼, G8 Z)	10
953	102987	WASHER, HARD (1¼)	10
954	105471	COVER	1

HYDRAULIC CONTROL GROUP
H85VS

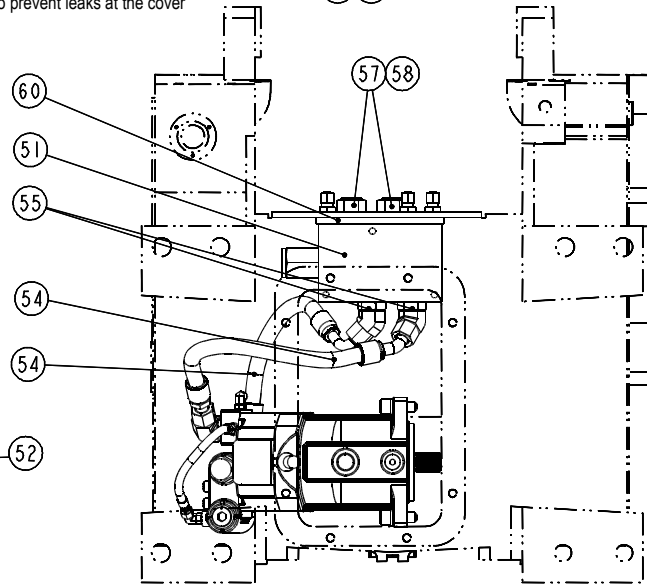
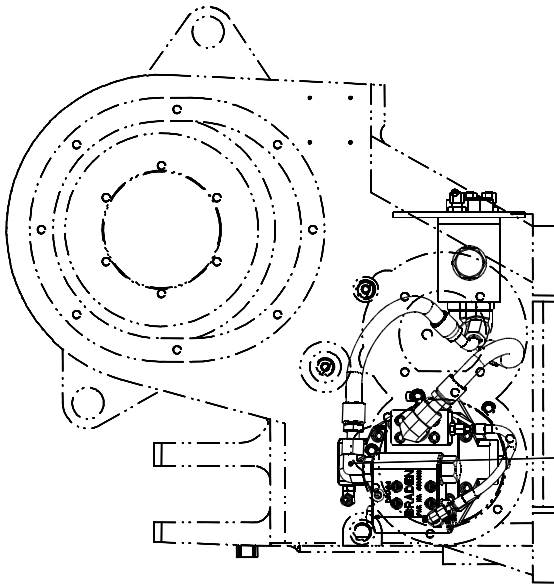


ITEM	PART NO.	DESCRIPTION	QTY.
1	101435	HOSE ASSY -6 X 16 In. (406 mm)	1
2	106372	HOSE ASSY -6 X 21 In. (533 mm)	1
3	101222	ADAPTER, ORFS/ORB	2
4	100946	ADAPTER, ORS STR THD	1
5	101281	ELBOW, 45°	1
6	103224	BULKHEAD UNION, -6 ORFS MALE	3
8	105961	BULKHEAD UNION	1
9	106386	BULKHEAD NUT,-8 ORFS	1
10	101581	CAP	1
11	105963	CAP	1
13	109579	HOSE ASSY -6 ORFS X 30.00 In. (762 mm)	2
14	101286	ELBOW 45°	1
15	40107	ELBOW, ORB TO ORFS -6/6	2
16	101259	HOSE ASSY -6 X 23 In. (584 mm)	1
17	105964	ELBOW 45°	1
18	105965	HOSE ASSEMBLY-8 ORFS X 15 In. (381 mm)	1
19	101218	WASHER, HARD (1¼")	2
20	101282	ELBOW 90°	1
21	101830	HOSE -8 X 29 In. (737 mm)	1
22	101438	ELBOW 45°	2
23	106139	HOSE ASSY -6 X 44 In. (1,118 mm)	1
24	105002	VALVE	1
25	105466	VALVE MOUNTING PLATE	1
26	21043	CAPSCREW, FLAT HEAD 5/16 - 18, ¾, ASTM F835	2
27	105523	COVER	1
28	105971	WIRING HARNESS	1
29	13838	O-RING	1
30	100784	FLANGE	1
31	100794	CAPSCREW, BUTTON HD (#10-24 X ½, SS)	3
32	100967	SHIPPING PLUG	1
33	101296	ELBOW 90°, LONG	1

**VALVE GROUP
H85VS**

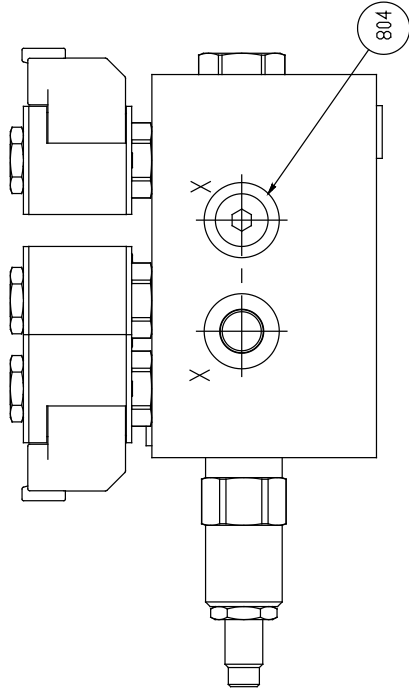
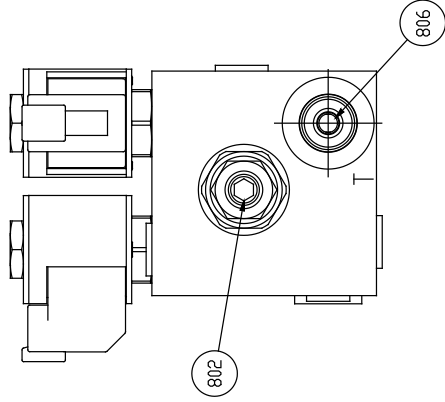
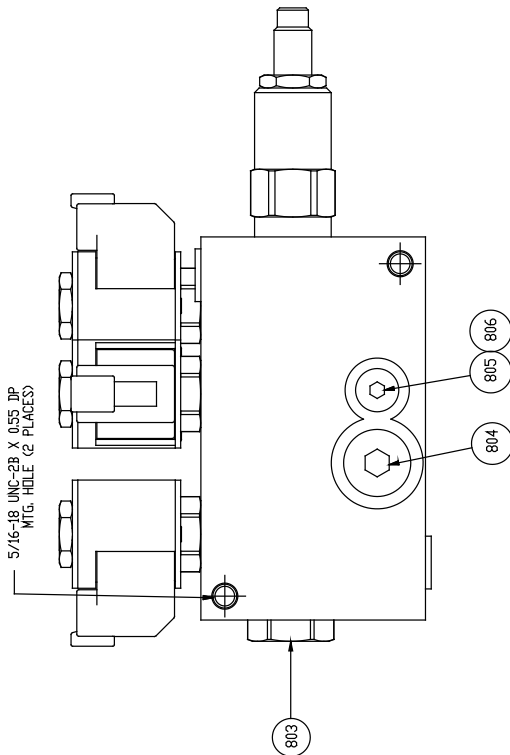
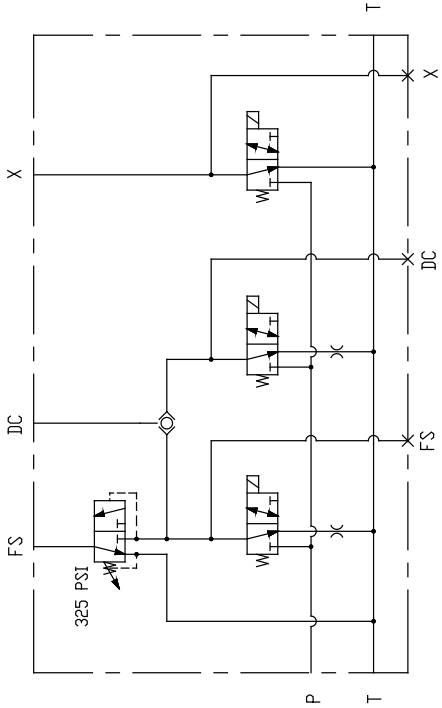
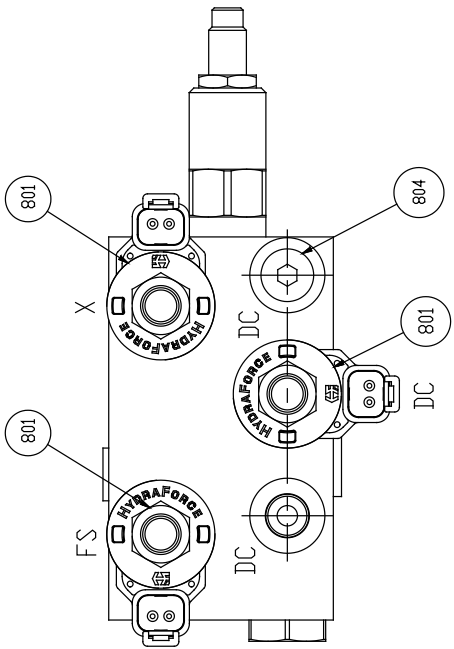


NOTE: Apply silicone sealer as required to prevent leaks at the cover



ITEM	PART NO.	DESCRIPTION	QTY.
51	109516	DIRECTIONAL CONTROL VALVE	1
52	102608	ELBOW, -12 ORB/ORFS	2
54	109177	HOSE, -12ORFS X 18.0 STR/90°	2
55	106371	ELBOW 45° -16 ORB / -12 ORFS	2
56	106061	ADAPTER, BULKHEAD -6 ORB/ORFS	3
57	104660	ADAPTER ORB-ORFS	2
60	109723	GASKET	1

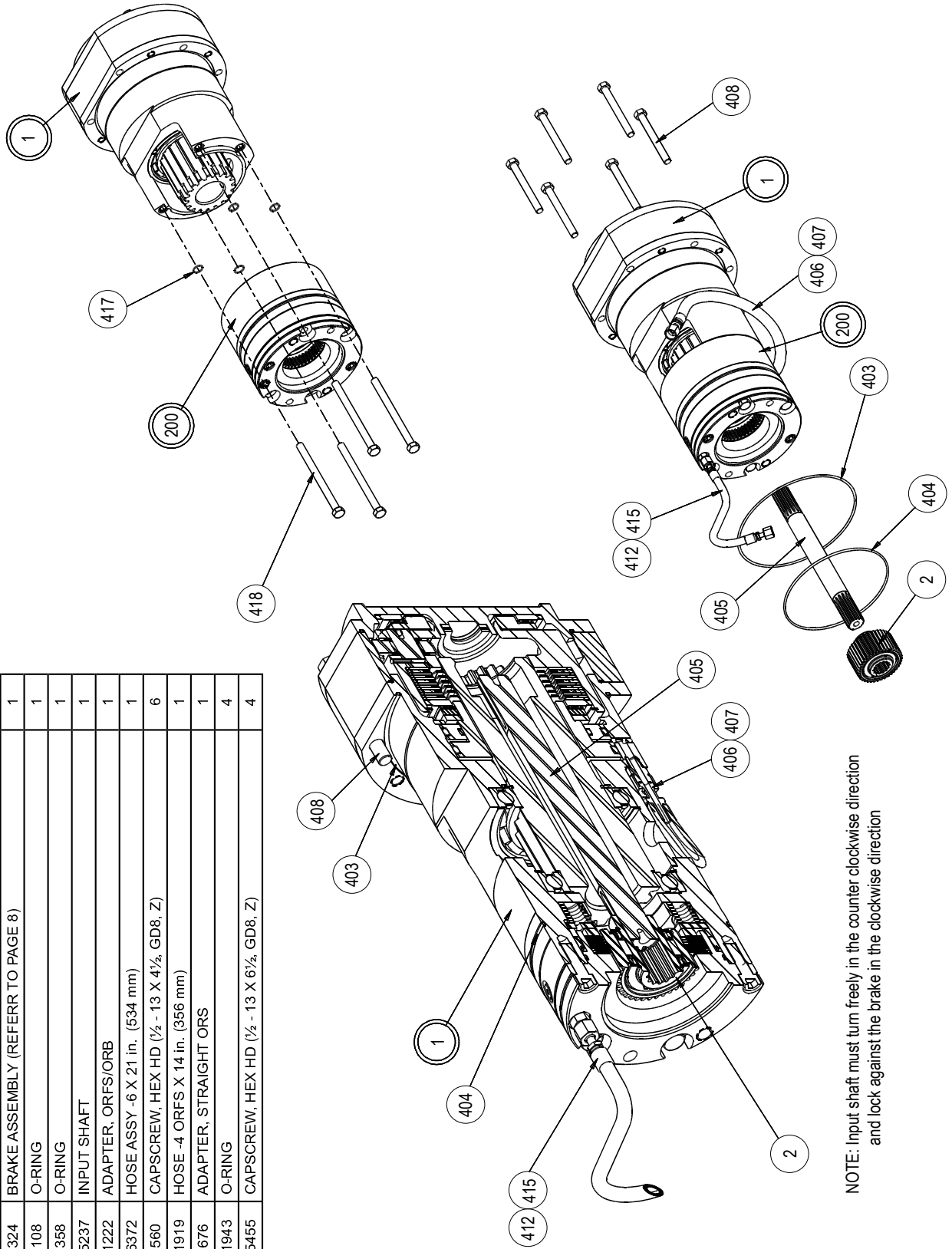
VALVE ASSEMBLY H85VS



ITEM	PART NO.	DESCRIPTION	QTY.
---	105002	VALVE ASSEMBLY (COMPLETE)	1
801	106518	SOLENOID VALVE CARTRIDGE	3
	29821	SEAL KIT (FOR SOLENOID VALVE)	3
	106378	COIL, 24 VDC (FOR SOLENOID VALVE)	3
802	106515	SEQUENCE VALVE CARTRIDGE	1
	29821	SEAL KIT (FOR SEQUENCE VALVE)	1
803	106516	SHUTTLE VALVE CARTRIDGE	1
	63856	SEAL KIT (FOR SHUTTLE VALVE)	1
804	25665	PLUG, -6 ORB	4
805	69325	PLUG, -4 ORB	1
806	106517	ORIFICE PLUG	2

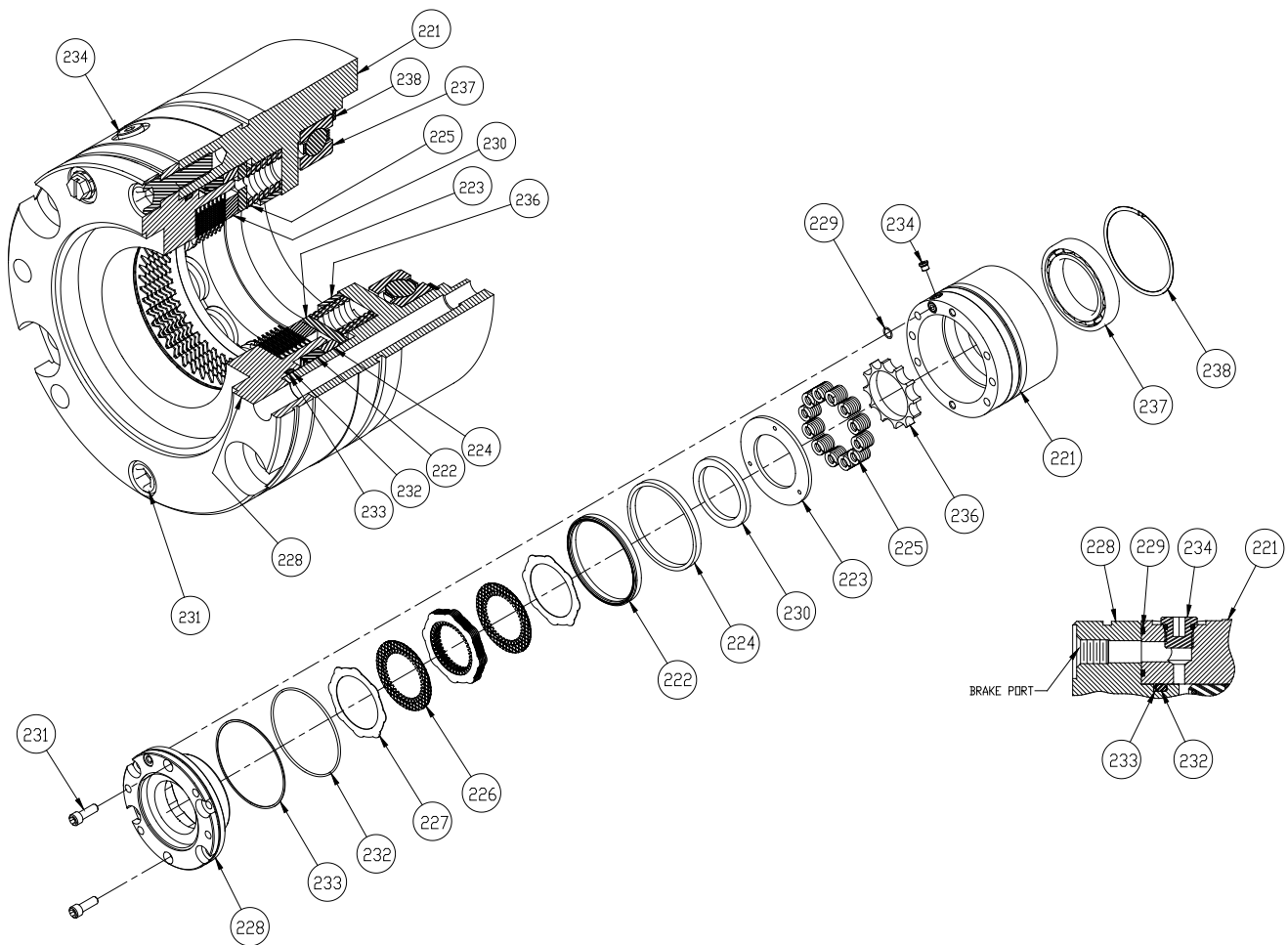
CARTRIDGE GROUP H85VS

ITEM	PART NO.	DESCRIPTION	QTY.
-	83955	CARTRIDGE ASSEMBLY (INCLUDES ITEMS 1, 16, 17, 18 BELOW)	1
1	83941	CLUTCH ASSEMBLY (REFER TO PAGE 9)	1
2	81776	SPRAG CLUTCH (SEE PAGE 12)	1
200	83324	BRAKE ASSEMBLY (REFERR TO PAGE 8)	1
403	25108	O-RING	1
404	22358	O-RING	1
405	105237	INPUT SHAFT	1
406	101222	ADAPTER, ORFS/ORB	1
407	106372	HOSE ASSY -6 X 21 in. (534 mm)	1
408	23560	CAPSCREW, HEX HD (1/2 - 13 X 4 1/2, GD8, Z)	6
412	101919	HOSE -4 ORFS X 14 in. (356 mm)	1
415	26676	ADAPTER, STRAIGHT ORS	1
417	101943	O-RING	4
418	105455	CAPSCREW, HEX HD (1/2 - 13 X 6 1/2, GD8, Z)	4



NOTE: Input shaft must turn freely in the counter clockwise direction and lock against the brake in the clockwise direction

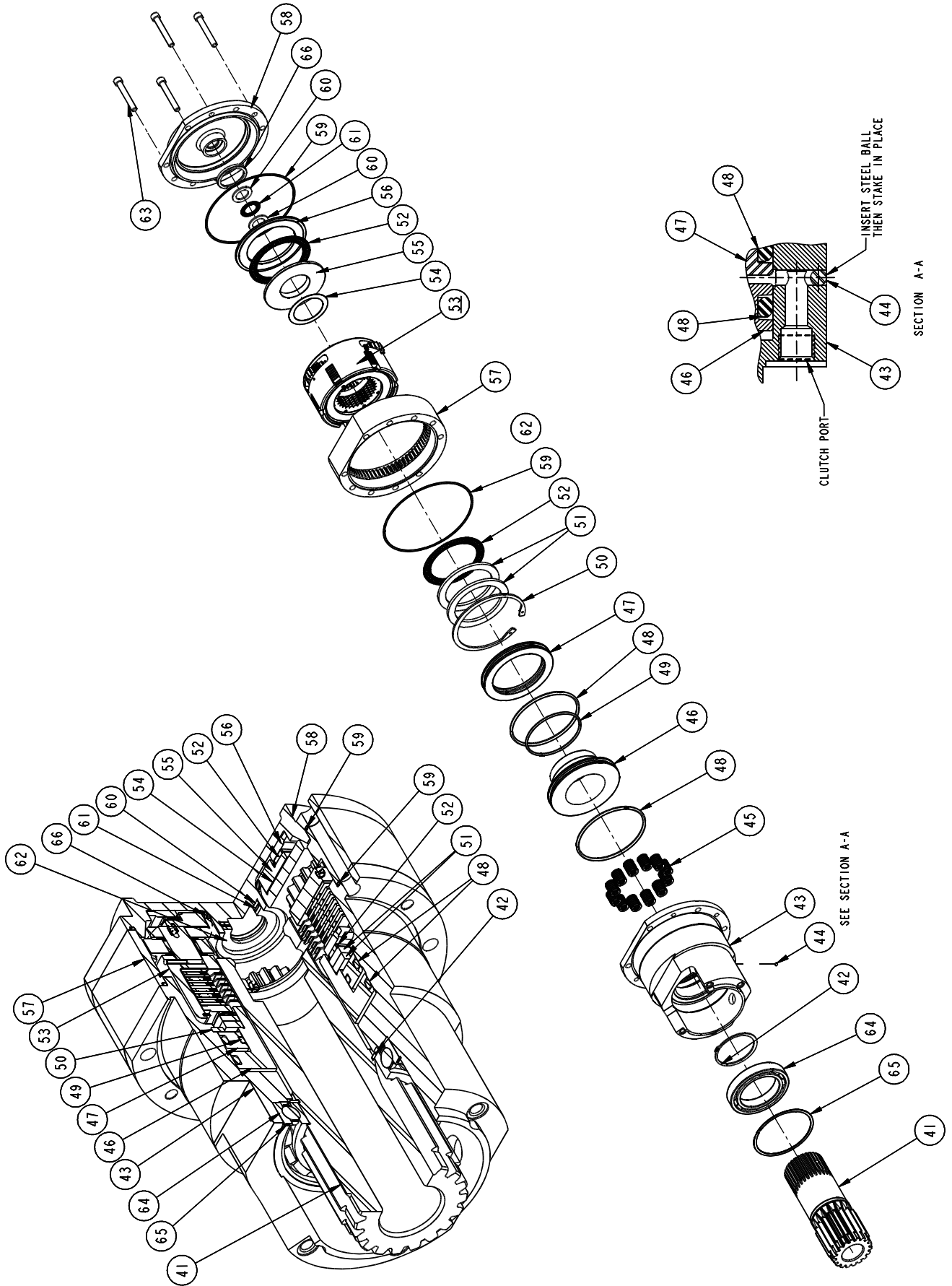
BRAKE ASSEMBLY H85VS



Notice Different Quantities for Standard and Closed Loop

ITEM NO.	PART NO.	DESCRIPTION	QTY.	
			STD	CLOSED LOOP
--	83324	BRAKE ASSEMBLY (COMPLETE)	1	-
	84026	BRAKE ASSEMBLY (COMPLETE)	-	1
221	105240	BRAKE CYLINDER	1	-
	109026	BRAKE CYLINDER	-	1
222	25642	SEAL	1	-
	1109027	SEAL	-	1
223	25635	PRESSURE PLATE	1	-
	109028	PRESSURE PLATE	-	1
224	25636	PISTON BACKUP RING	1	-
225	25644	DIE SPRING	12	12
226	21036	FRICION DISC	7	9
227	100027	BRAKE DISC	8	10
228	105142	MOTOR SUPPORT	1	-
	109030	MOTOR SUPPORT	-	1
229	22452	O-RING	1	1
230	25637	SPACER	1	1
231	21908	CAPSCREW, SOCKET HD (½-13 X 1½, G8, Z)	2	2
232	24981	O-RING	1	-
	109035	O-RING	-	1
233	25643	BACK-UP RING	1	-
	109036	BACK-UP RING	-	1
234	69325	PLUG	1	1
236	100200	SPRING SPACER	1	1
237	105637	BALL BEARING	1	1
238	PA7M1250	RETAINING RING	1	1

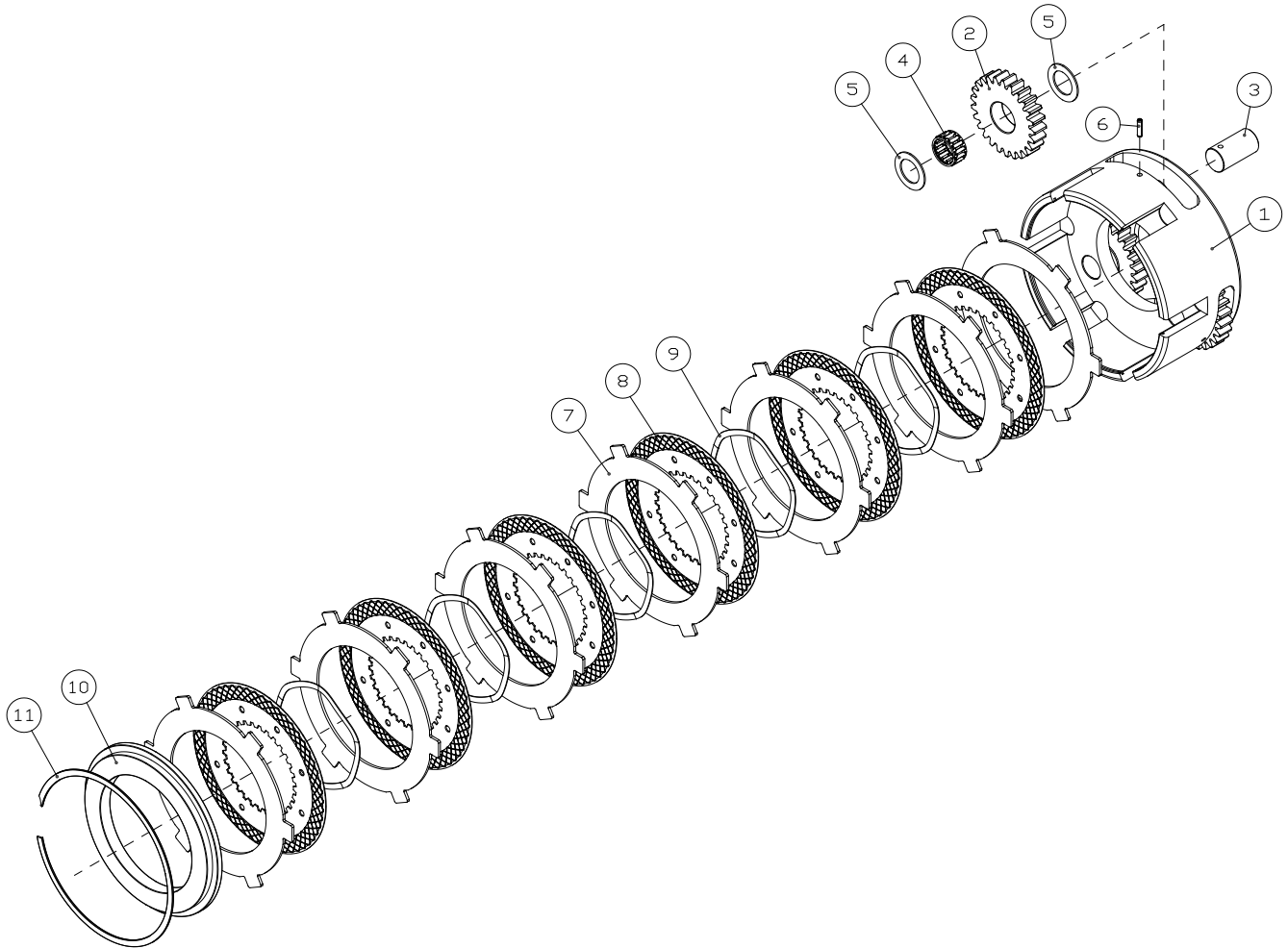
CLUTCH ASSEMBLY H85VS



**CLUTCH ASSEMBLY
H85VS**

ITEM	PART NO.	DESCRIPTION	QTY.
41	105236	PINION GEAR	1
42	70158	RETAINING RING	1
43	105238	BRAKE CYLINDER	1
44	70126	STEEL BALL	1
45	103013	SPRING	12
46	105147	PISTON	1
47	105146	SEAL RING	1
48	31604	O-RING	2
49	24229	O-RING	1
50	27925	RETAINING RING	1
51	105148	THRUST WASHER	2
52	103176	NEEDLE ROLLER BEARING	2
53	83857	CARRIER CLUTCH ASSEMBLY (REFER TO PAGE 11)	1
54	103179	THRUST WASHER	1
55	108144	BEARING RETAINER	1
56	108143	THRUST WASHER	1
57	105143	RING GEAR	1
58	108754	WASHER, HARD (1/4")	1
66	108929	BUSHING	1
59	25108	O-RING	2
60	73294	THRUST RACE	2
61	24305	BEARING	1
62	104075	PRIMARY SUN GEAR	1
63	102474	CAPSCREW, SOCKET HEAD (1/2 - 13 X 3/8, G8, Z)	4
64	105637	BALL BEARING	1
65	PA7M1250	RETAINING RING	1

**CARRIER CLUTCH ASSEMBLY
H85VS**

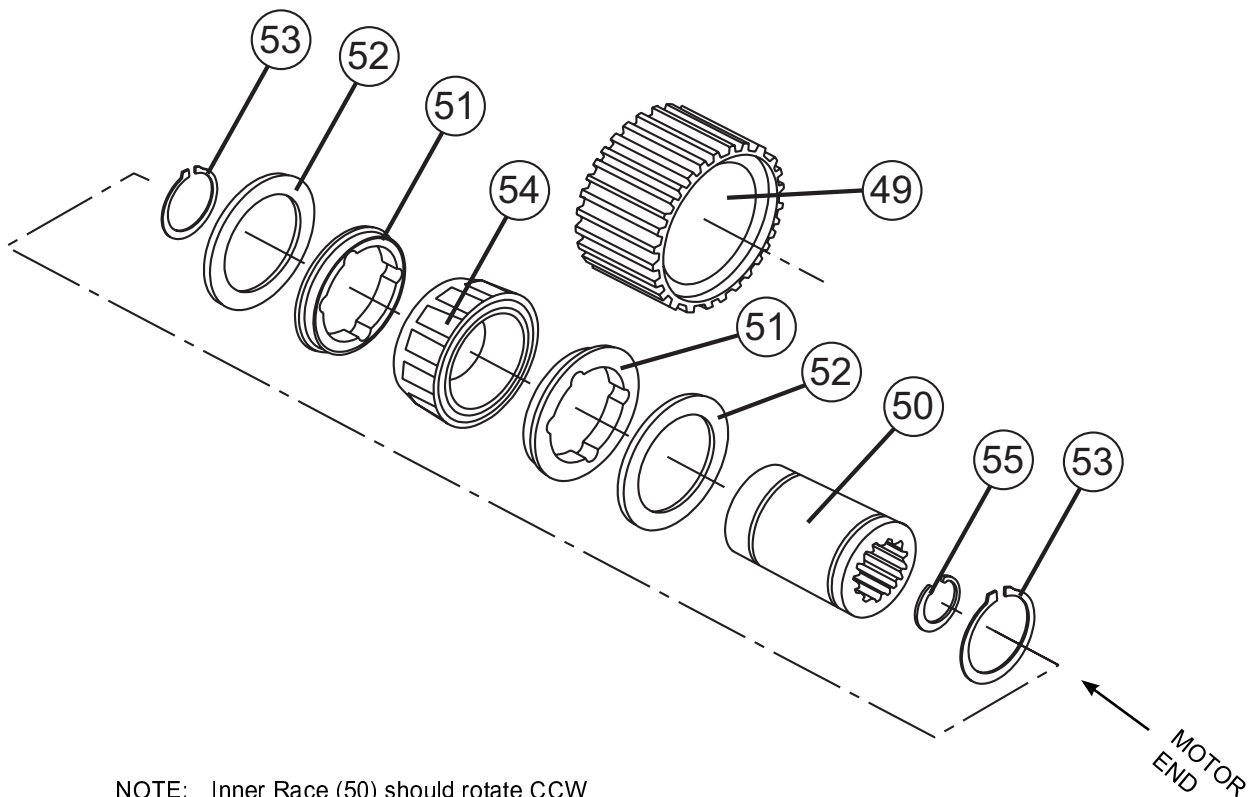


ITEM	PART NO.	DESCRIPTION	QTY.
--	83857	CARRIER CLUTCH ASSEMBLY	1
1	102780	CARRIER CLUTCH	1
2	40237	PLANET GEAR	3
3	25614	PLANET GEAR SHAFT	3
4	24175	ROLLING BEARING	3
5	25361	BEARING RACE	6
6	24113	ROLL PIN	3
7	101377	BRAKE PLATE	7
8	107634	FRICTION DISC	6
9	103182	WAVE SPRING	5
10	108143	THRUST RING	1
11	26147	RETAINING RING	1

**SPRAG CLUTCH ASSEMBLY
H85VS**

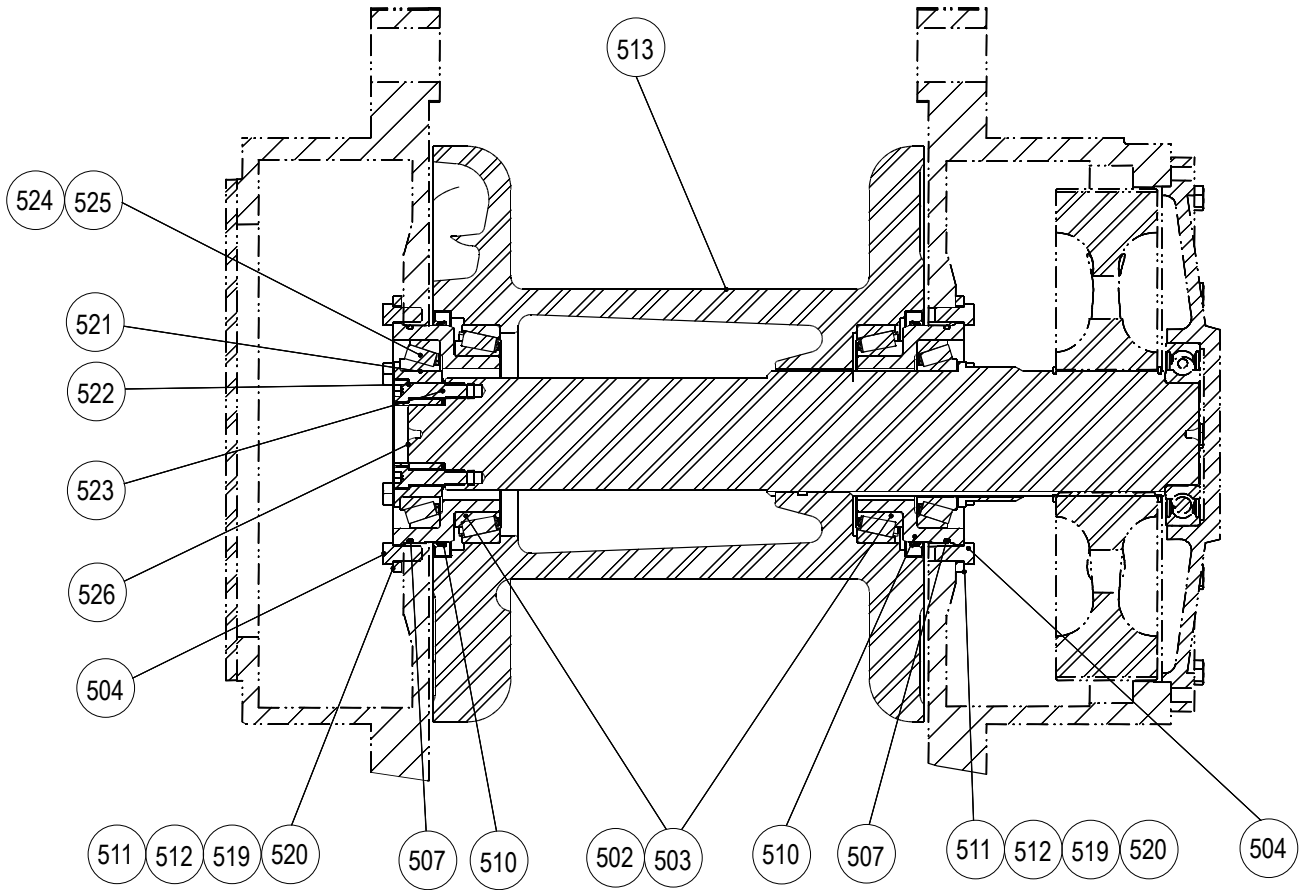
ITEM NO.	PART NO.	DESCRIPTION	QTY.
--	81776	SPRAG CLUTCH ASSEMBLY	1
49	NSS	OUTER BRAKE RACE	1
50	NSS	INNER BRAKE RACE	1
51	27684	SPRAG BEARING	2
52	24581	THRUST BEARING	2
53	12034	RETAINING RING	2
54	NSS	SPRAG CLUTCH	1
55	24506	RETAINING RING	1

NSS - NOT SERVICED SEPARATELY

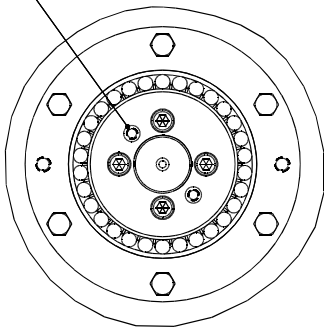


NOTE: Inner Race (50) should rotate CCW when viewed from Motor End.

**CABLE DRUM GROUP
H85VS**



Measure depth from surface to shaft face,
add shims (item 523) to obtain axial bearing
fit of .002 loose condition.



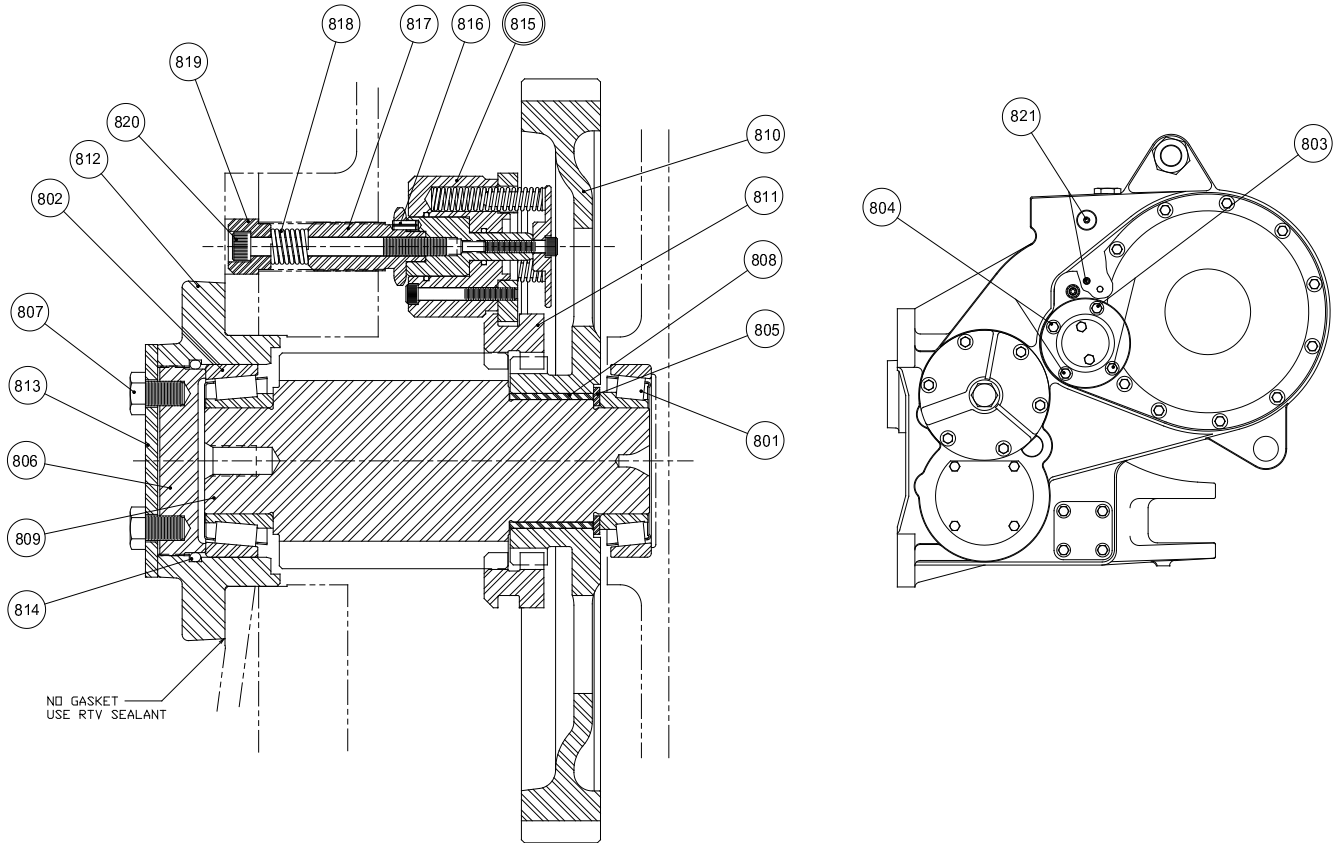
NOTES:

1. Select shims (items 512, 519 & 520) in sets of matched thickness to obtain axial bearing fit from .004 - .006 loose. Install shims with gap between sets parallel to top of winch case. Distribute shims on left and/or right side to control gap between cable drum and winch case.
2. Apply Loctite 242 to clean dry threads and torque to 75-83 lb.-ft.
3. Oil seals must be installed with wiper seal facing out. Lubricate seal ID with STP or equal.
4. Lubricate bearings before installation with multi-purpose medium grease.
5. Engineering approval required for sealant substitutions.

**CABLE DRUM GROUP
H85VS**

ITEM	PART NO.	DESCRIPTION	QTY.
502	70078	BEARING CUP	2
503	70079	BEARING CONE	2
504	27745	CAPSCREW (½ - 13 X 1, G5, SS)	12
507	70140	O-RING	2
510	107186	LIP SEAL	2
511	105098	BEARING CARRIER	2
512	70265	SHIM (.005)	4
513	29019	CABLE DRUM	1
519	70266	SHIM (.007)	4
520	70267	SHIM (.020)	4
521	105096	BEARING RETAINER	1
522	22573	CAPSCREW, SOCKET HEAD (½ - 13 X 2 ASTM A574)	4
523	105097	SHIM SET (Includes 1 each, .005, .007, .020)	4
524	PA8S9075	CONE - TAPERED ROLLER BEARING	2
525	PA8S9076	CUP - TAPERED ROLLER BEARING	2
526	105095	DRUM SHAFT	1
-	29424	FERRULE - 3/4 in. (not shown)	1
-	29425	FERRULE - 7/8 in. (not shown)	1
-	29426	FERRULE - 1 in. (not shown)	1

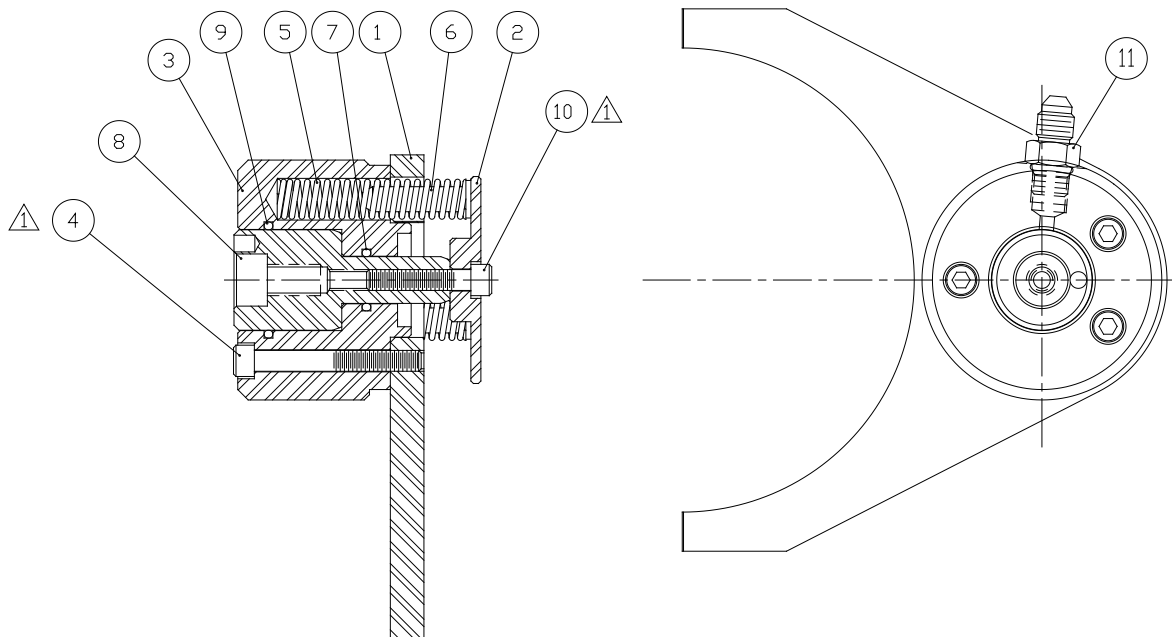
IDLER SHAFT GROUP H85VS



ITEM	PART NO.	DESCRIPTION	QTY.
801	69013	BEARING ASSEMBLY	1
802	69014	BEARING ASSEMBLY	1
803	104174	CAPSCREW, HEX HEAD (1/2 - 13 X 1-1/4) GD 8, Z	2
804	29855	CAPSCREW, HEX HEAD (1/2 - 13 X 2) GD 8, Z	2
805	11892	THRUST WASHER	1
806	69592	ADJUSTER	1
807	103250	CAPSCREW (1/2 - 13 X 3/4) GD 8, Z	2
808	70349	BUSHING	1
809	69984	SECOND REDUCTION PINION	1
810	101055	FIRST REDUCTION GEAR	1
811	69979	CLUTCH COLLAR	1
812	69974	CARRIER	1
813	69655	LOCK PLATE	1
814	25880	O-RING	1
815	82320	FREESPOOL CYLINDER ASSEMBLY - (REFER TO PAGE 16)	1
816	12026	ROLL PIN	1
817	100810	CYLINDER STUD	1
818	24916	SPRING	1
819	100812	BOLT RETAINER	1
820	102309	CAPSCREW, SOC. HEAD (3/8 - 16 X 4-1/4)	1
821	25915	SET SCREW, SOC. HEAD (1/2 - 20 X 1)	2

Note: No gasket used under carrier [12]. Use RTV silicone sealant.

**FREESPOOL CYLINDER ASSEMBLY
H85VS**

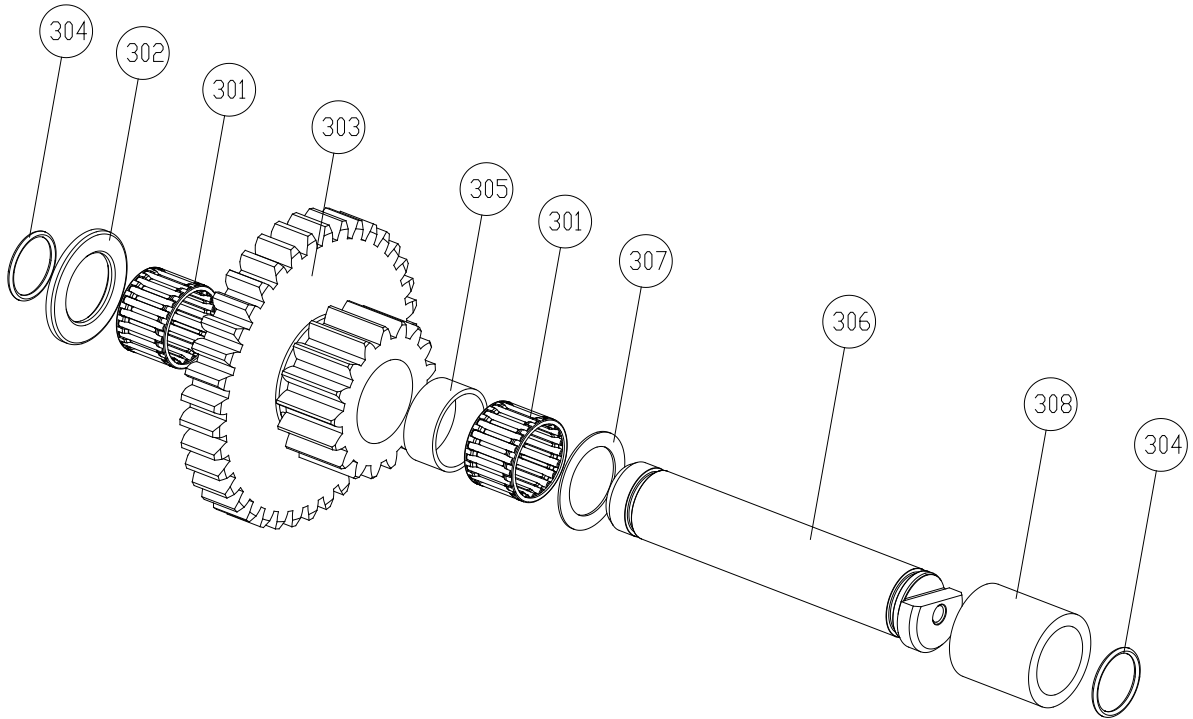


NOTE:

- 1 APPLY LOCTITE 242 OR 243 TO CLEAN DRY THREADS OF ITEMS 4 & 10 AND TIGHTEN TO 13 LB·FT (18 N·m)

ITEM	PART NO.	DESCRIPTION	QTY.
--	82320	FREESPOOL CYLINDER ASSEMBLY (COMPLETE)	1
1	100804	YOKE	1
2	100805	CYLINDER RETAINER	1
3	100806	FREESPOOL CYLINDER	1
4	100823	CAPSCREW, SOC. HEAD (¼ - 20 x 2 GD 8, Z)	3
5	100807	SPRING	3
6	100808	SPRING GUIDE	3
7	72097	O-RING	1
8	100809	CYLINDER ROD	1
9	23633	O-RING	1
10	101511	CAPSCREW, SOC. HEAD (¼ - 20 x 1-¼ GD 8, Z)	1
11	25864	ADAPTER	1

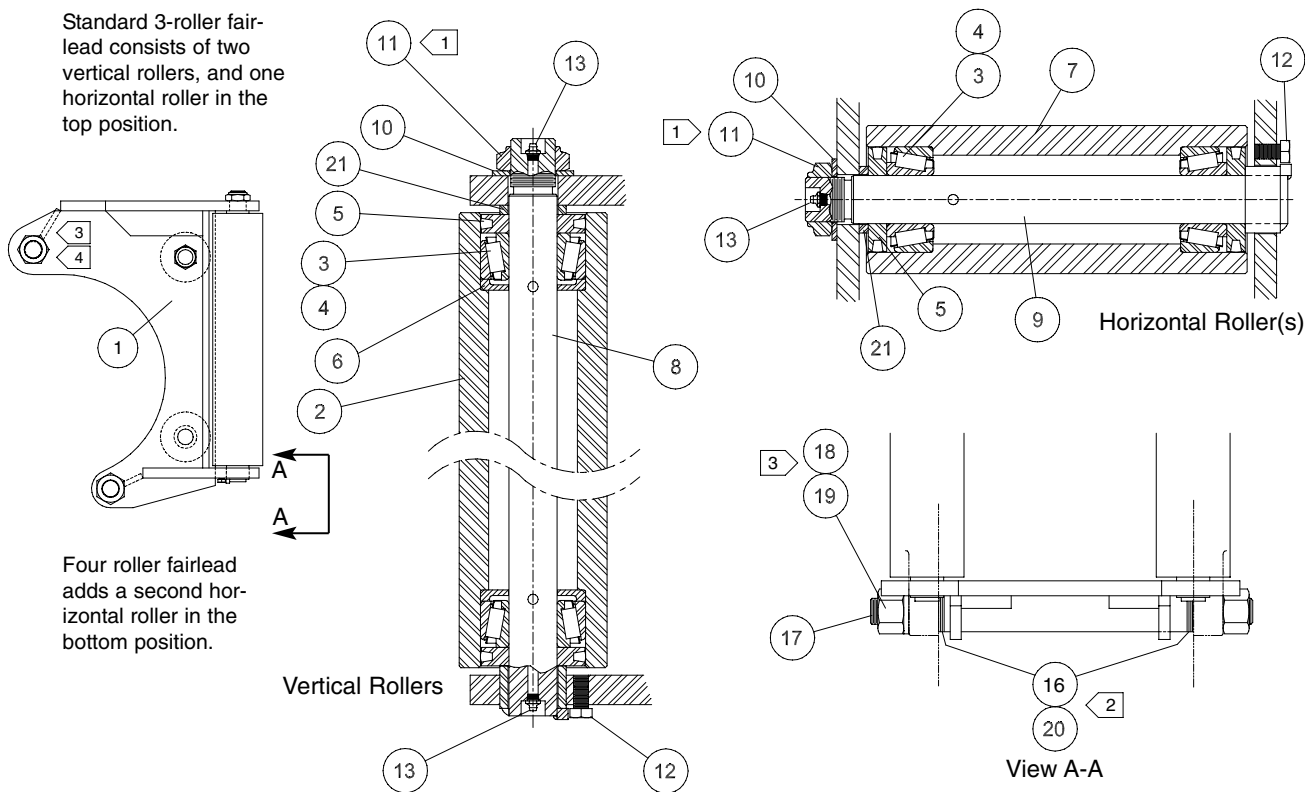
**FOURTH SHAFT GROUP
H85VS**



ITEM	PART NO.	DESCRIPTION	QTY.
301	70648	ROLLER BEARING	2
302	24581	THRUST WASHER - .217 in. (5.5 mm)	1
303	28925	CLUSTER GEAR 37/17 TEETH	1
304	13838	O-RING	2
305	28926	SPACER	1
306	105145	COUNTERSHAFT PIN	1
308	28924	THRUST RACE - .062 in. (1.58 mm)	1
309	105144	SPACER	1

FAIRLEAD ASSEMBLY

Standard 3-roller fairlead consists of two vertical rollers, and one horizontal roller in the top position.



Four roller fairlead adds a second horizontal roller in the bottom position.

NOTES:

- 1 WHILE TURNING ROLLER, TIGHTEN NUT. WHEN ROLLER WILL NO LONGER TURN, BACK OFF NUT 1/8 TURN.
- 2 SHIM BOTH SIDES AS REQUIRED TO REDUCE END PLAY TO LESS THAN 0.030 in. (0.8 mm).
- 3 TIGHTEN NUT TO 200 - 300 LB•FT (271 - 407 N•m) TORQUE.
- 4 WHEN INSTALLING FAIRLEAD ON WINCH IN FIELD, REMOVE ORIGINAL CABLE GUARD SPACER TUBE AND RE-USE UPPER TIE BOLT (28772), LOCKWASHER (27666) AND NUT (27655).

THOROUGHLY PACK ALL FAIRLEAD BEARINGS WITH MULTI-PURPOSE GREASE ON ASSEMBLY.

ITEM NO.	PART NO.	DESCRIPTION	QUANTITY	
			3 ROLLER	4 ROLLER
	81970	3 ROLLER FAIRLEAD ASSEMBLY		
	81971	4 ROLLER FAIRLEAD ASSEMBLY		
1	27817	FAIRLEAD FRAME	1	1
2	36788	ROLLER - VERTICAL	2	2
3	70833	BEARING CONE	6	8
4	70834	BEARING CUP	6	8
5	70864	DUST GUARD ASSEMBLY	6	8
6	70865	GREASE RETAINER	4	4
7	27886	ROLLER - HORIZONTAL	1	2
8	36797	SHAFT - VERTICAL	2	2
9	27901	SHAFT - HORIZONTAL	1	2
10	70850	WASHER	3	4
11	70863	LOCK NUT	3	4
12	22729	CAPSCREW, HEX HEAD (1/2 - 13 X 3/4)	3	4
13	18047	GREASE FITTING	5	6
16	24912	WASHER - .030 in. (.8 MM)	5	6
17	28772	TIE BOLT	1	1
18	27666	LOCK WASHER (1 3/4)	1	1
19	27655	NUT, HEX (1 3/4 - 5)	1	1
20	25590	SHIM - .125 in. (3.18 mm)	6-AR	6-AR
21	70880	SPACER	3	4
	82751	4TH ROLLER KIT, CONTAINS ONE EACH 7, 9, 10, 11, 12, 13, 21 AND TWO EACH 3, 4 & 5	1	--

AR - AS REQUIRED