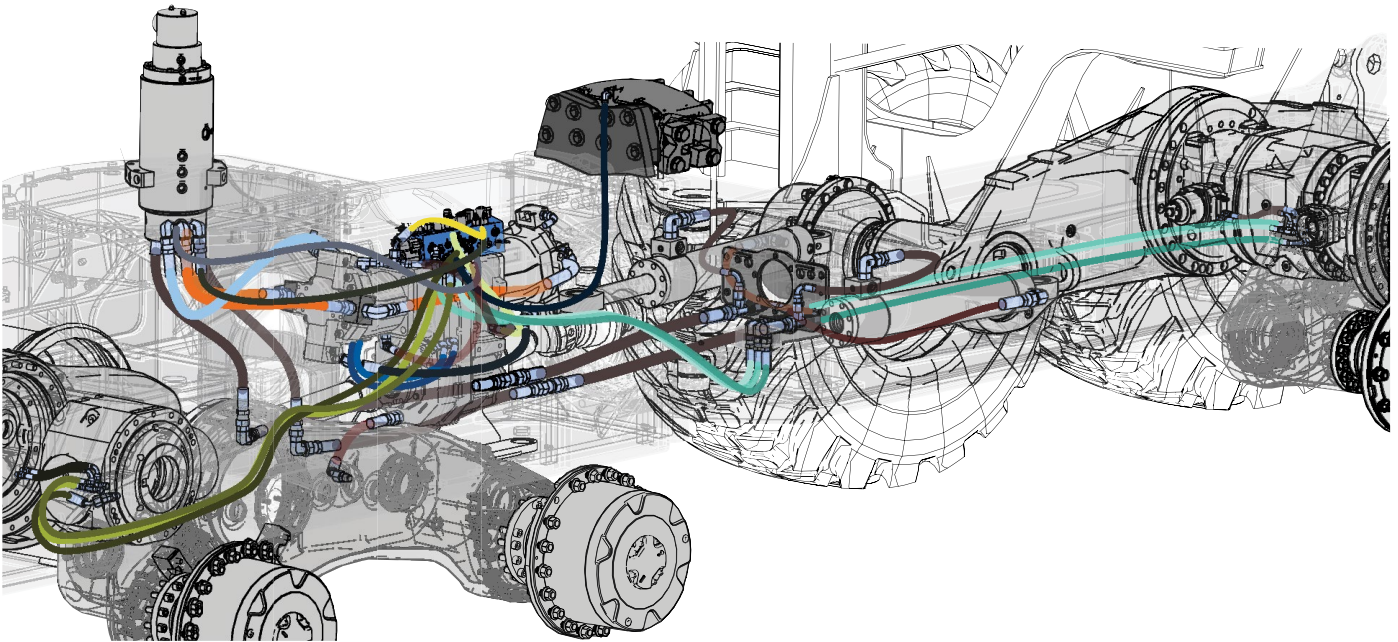


# SECTION LH-1

## 830/840 FORWARD AND REAR HYDRAULICS AT LOWER FRAME



## LOWER FRAME HYDRAULICS



## LOWER FRAME HYDRAULICS

### WHEEL DRIVE MOTOR - REXROTH 160 CC (STANDARD OPTION)

REF	PART #	QTY	DESCRIPTION	SEE SECTION
1	51869-0-FF	1	☐ MOTOR, wheel drive - Rexroth AA6VM160 (Front) (w/speed counter ring) (Vg Min = 0 cubic meters) (flushing)	
	51869-70-FF	1	☐ MOTOR, wheel drive - Rexroth AA6VM160 (Rear) (w/speed counter ring) (Vg Min = 70 cubic meters) (flushing)	
2	20685-FF	1	RING, snap	
3	20686-FF	1	SHIM, shaft seal	
4	20687-FF	1	⌘ SEAL, shaft	
5	19692-FF	1	PLUG - 26mm-1.5P (BSPP thread)	
6	51987-FF	1	SCREW, adjusting (0 - Displacement min)(needed for front motor)	
	20688-FF	2	SCREW, adjusting (Displacement min & max)	
7	20689-FF	2	⌘ NUT, seal	
8	20690-FF	1	☐ STROKING PISTON COVER ASSEMBLY	
9	20691-FF	1	PLUG	
10	20713-FF	1	⌘ O-RING	
11	20714-FF	1	SHIM	
12	20715-FF	1	SPRING	
13	20716-FF	1	POPPET	
14	20718-FF	1	RING, snap	
15	20719-FF	2	PLUG	
16	20720-FF	2	⌘ O-RING	
17	20721-FF	2	SPRING	
18	20722-FF	2	RETAINER, spring	
19	NSS	1	SPOOL	
20	20693-FF	1	PLUG - 14mm-1.5P (BSPP thread)	
21	20723-FF	4	BOLT, allen head	
22	20724-FF	1	⌘ O-RING	
23	20717-FF	1	ORIFICE, flushing - 1.2mm	
24	NSS	8	O-RING	
25	REF.	1	STROKING PISTON CONTROL ASSEMBLY . . . . .	FF-5
26	24656-FF	1	SENSOR, SPEED PICKUP (rexroth hydro motor)	
27	51098-FF	1	FITTING, speed pickup rexroth (sae)	
28	20967-FF	1	O-RING, WHEEL DRIVE MOTOR (gearbox pilot)	
-	20725-FF	1	KIT, seal repair - complete AA6VM160 motor	

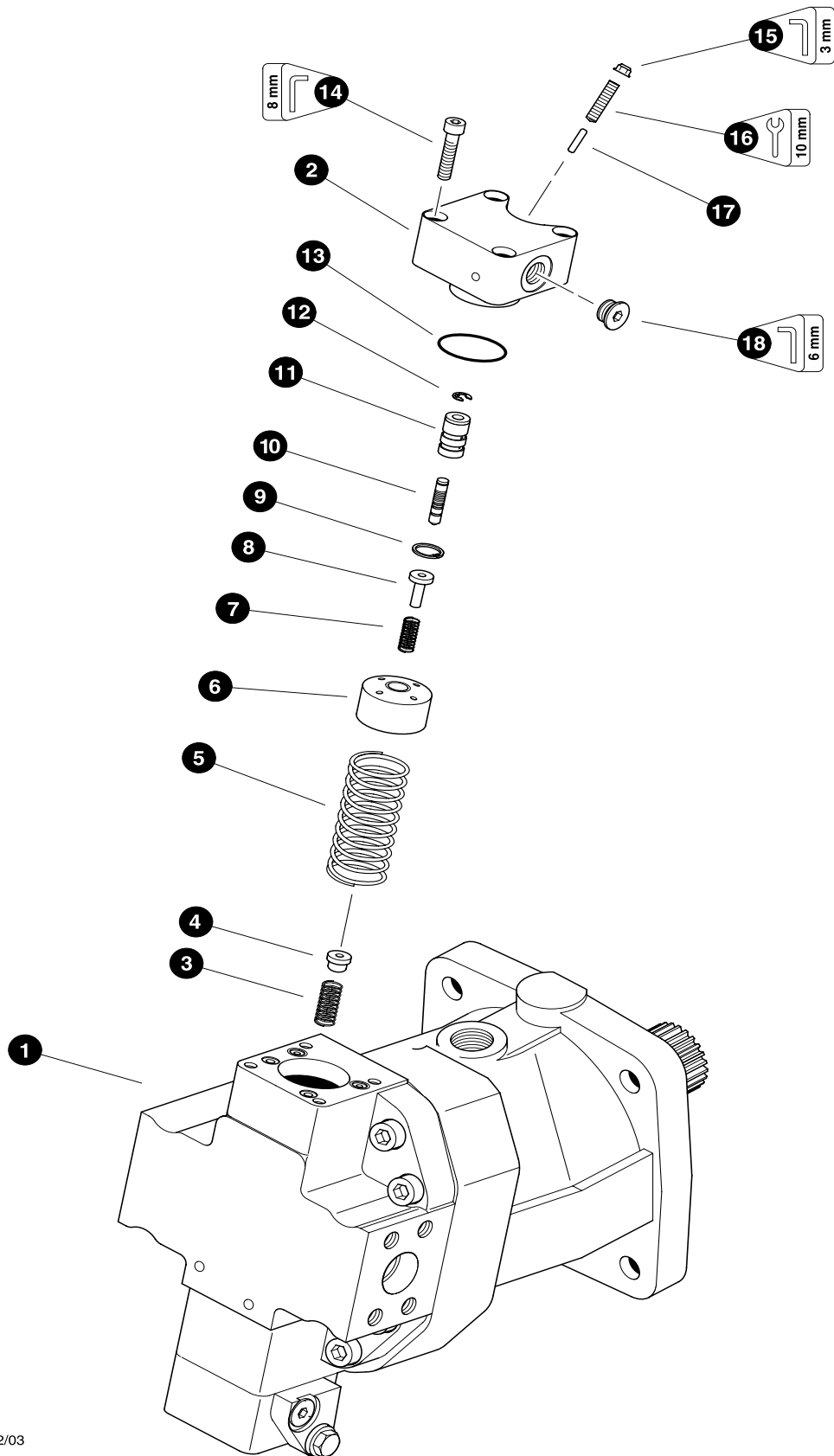
- ☐ Kit or Assembly - includes all items indented underneath.
- ⌘ Included in seal repair kit Part # 20725-FF.

**Note:**

Due to warranty policy restrictions imposed by component suppliers, it is not recommended that the component be disassembled further than is shown in the illustration.

# LOWER FRAME HYDRAULICS

## WHEEL DRIVE MOTOR - REXROTH 160 CC (HA2T CONTROLLER OPTION)



Parts T2811 08/12/03  
37.50



## LOWER FRAME HYDRAULICS

### WHEEL DRIVE MOTOR - REXROTH 160 CC (HA2T CONTROLLER OPTION)

REF	PART #	QTY		DESCRIPTION	SEE SECTION
1	51869-0-FF	1	☐	MOTOR, wheel drive - Rexroth AA6VM160 ( <i>Front</i> ) ( <i>w/speed counter ring</i> ) ( <i>Vg Min = 0 cubic meters</i> ) ( <i>flushing</i> )	
	51869-70-FF	1	☐	MOTOR, wheel drive - Rexroth AA6VM160 ( <i>Rear</i> ) ( <i>w/speed counter ring</i> ) ( <i>Vg Min = 70 cubic meters</i> ) ( <i>flushing</i> )	
2	20726-FF	1	☐	CONTROL, MOTOR STROKE ASSEMBLY (HA2T)	
3	---	1		SPRING, (HU00444549)	
4	---	1		RETAINER, spring (HU00421860)	
5	---	1		SPRING (HU00651116)	
6	---	1		BUSHING, spring (HU00651118)	
7	20729-FF	1		SPRING	
8	---	1		RETAINER, spring (HU00921351)	
9	20731-FF	1		RING, snap	
10	---	1		SPOOL, control (HU00430748)	
11	20732-FF	1		BUSHING, control spool	
12	20734-FF	1		E-CLIP, control spo	
13	---	1	⌘	O-RING (68103-025)	
14	---	4		BOLT, allen head (60118-063)	
15	20737-FF	1	⌘	NUT, seal	
16	20738-FF	1		SCREW, adjusting ( <i>Stroke control</i> )	
17	---	1		PIN, stroke adjustment (69116-019)	
18	20693-FF	1		PLUG - 14mm-1.5P ( <i>BSPP thread</i> )	
-	20725-FF	1		KIT, seal repair - complete AA6VM160 motor	

☐ Kit or Assembly - includes all items indented underneath.

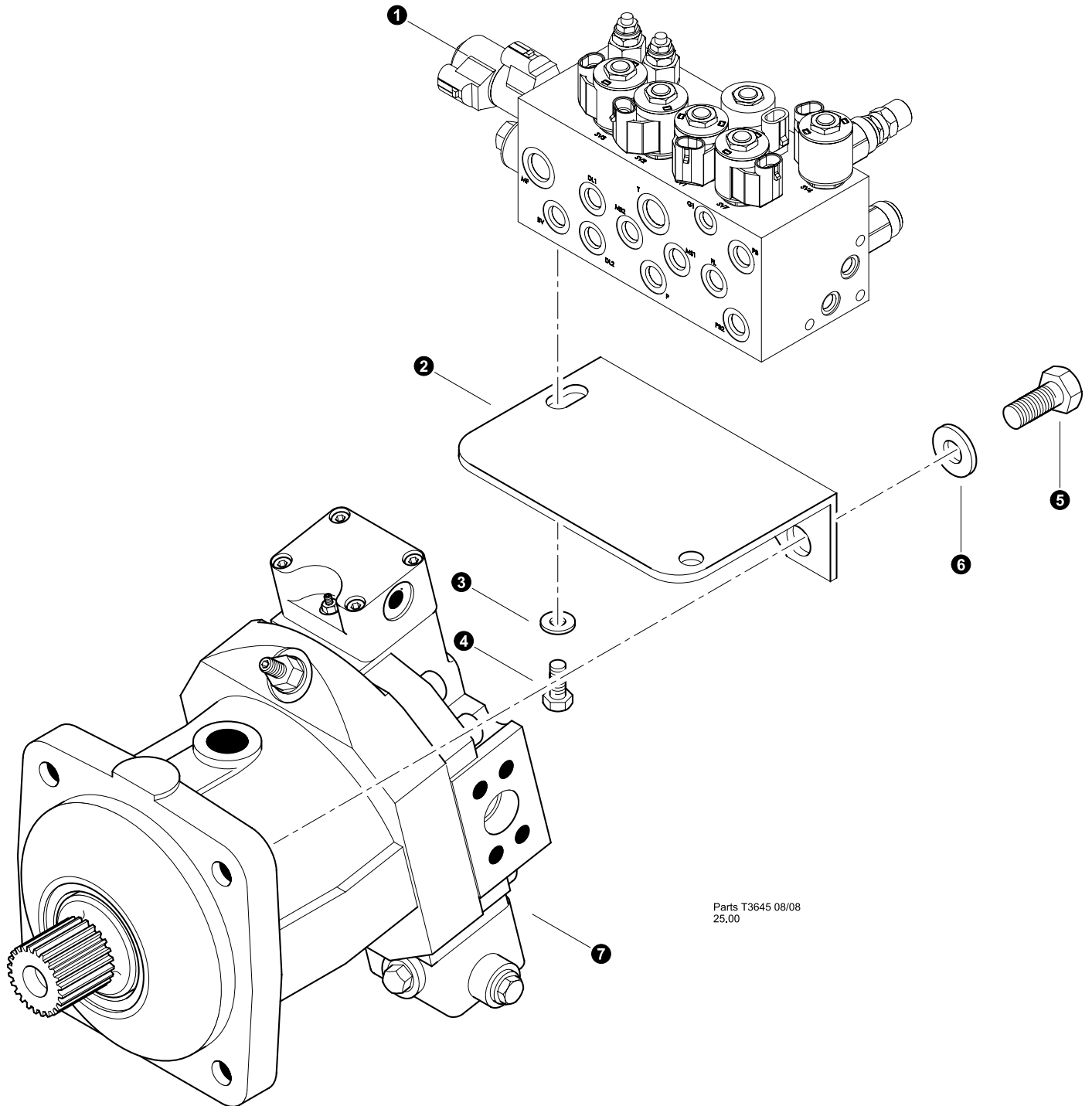
⌘ Included in seal repair kit Part # 20725-FF

#### **Note:**

Due to warranty policy restrictions imposed by component suppliers, it is not recommended that the component be disassembled further than is shown in the illustration.

# LOWER FRAME HYDRAULICS


## LOWER FRAME MAIN CONTROL VALVE INSTALLATION




Parts T3645 08/08  
25.00

# LOWER FRAME HYDRAULICS

## LOWER FRAME MAIN CONTROL VALVE INSTALLATION

REF	PART #	QTY	DESCRIPTION	SEE SECTION
1	REF.	1	 LOWER SOLENOID MANIFOLD .....	FF-4
2	52380-	1	BRACKET, MANIFOLD MOUNT FRT FRAME	
3	10802-	2	WASHER, flat - 3/8"	
4	15542-	2	BOLT - .375" X .75"	
5	18525-FR	8	BOLT, - 20mm X 50 mm <i>(See Note #1 Below) (Torque to 180 ft-lbs)</i>	
6	42110-FR	8	WASHER, FLAT - 20MM	

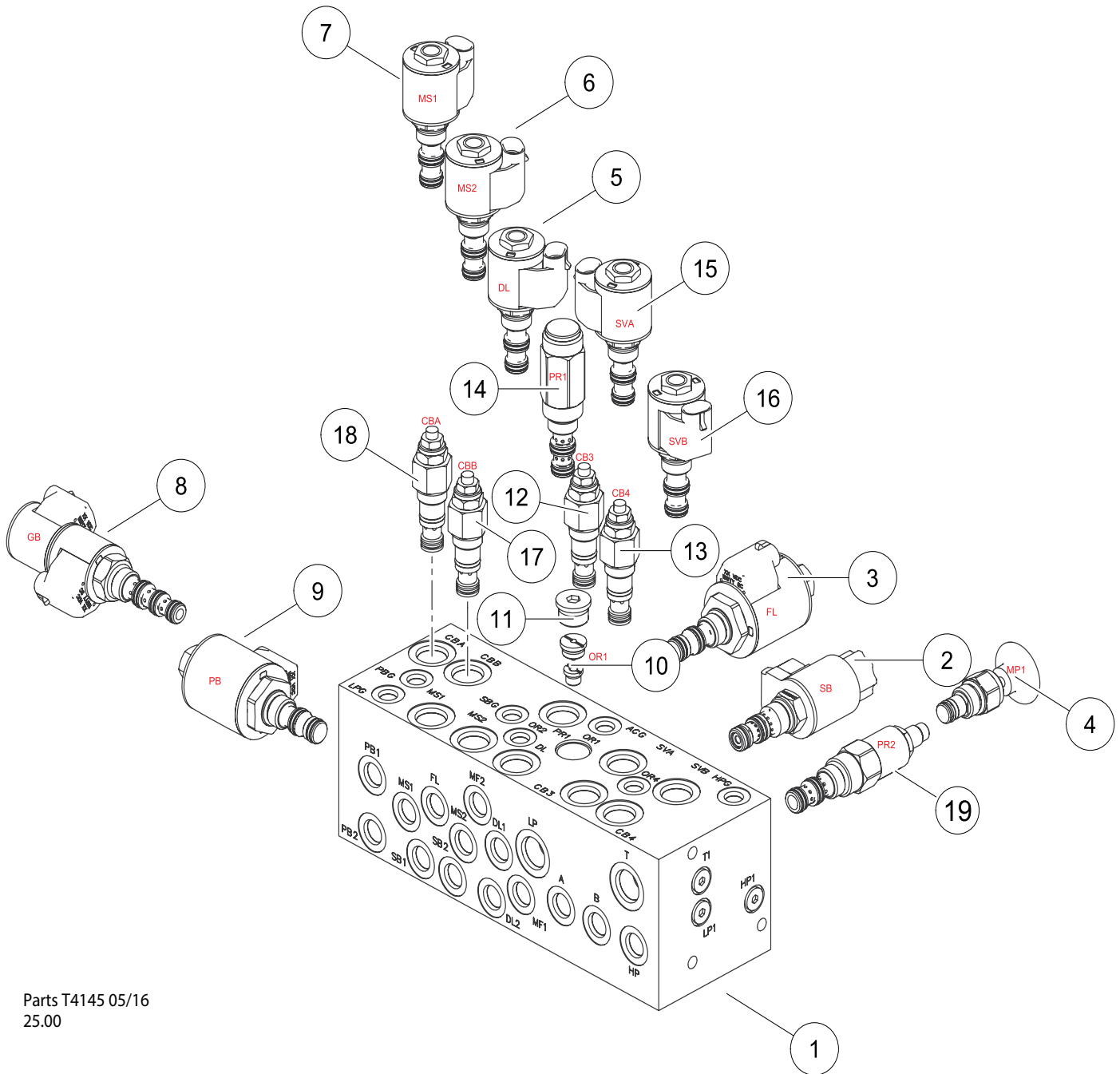
 See referenced page for component or assembly breakdown.

**Note #1:**

Use Loctite 242 (BLUE) during install.

# LOWER FRAME HYDRAULICS

## LOWER FRAME MAIN CONTROL VALVE ASSEMBLY



Parts T4145 05/16  
25.00

# LOWER FRAME HYDRAULICS

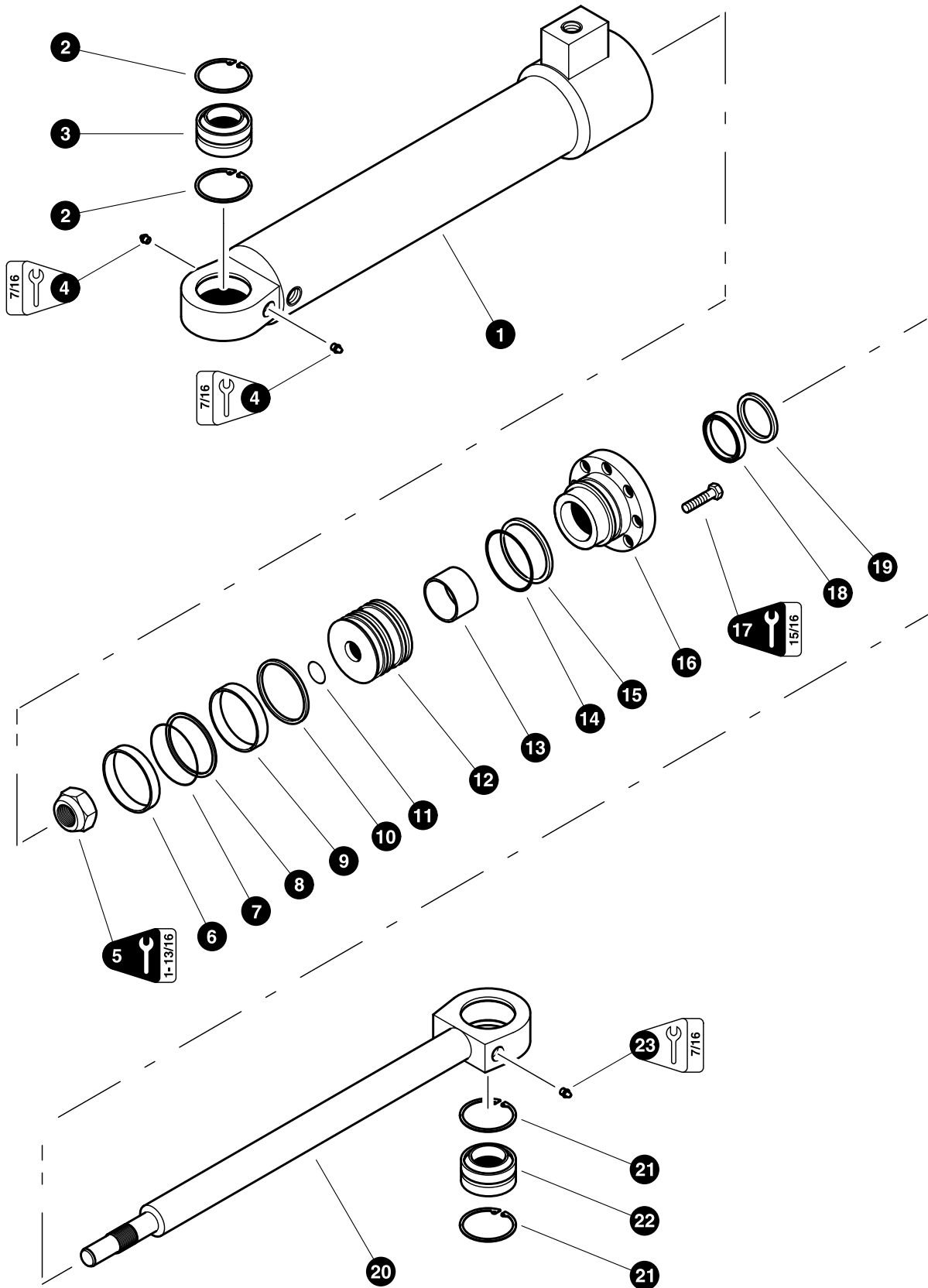
## LOWER FRAME MAIN CONTROL VALVE ASSEMBLY

REF	PART #	QTY	DESCRIPTION	SEE SECTION
1	54263	1	☐ VALVE, LOWER MANIFOLD - Fluid Systems	
2	55403	1	■ Valve, Proportional (PDR08-01-C-N-110-24PN-8.8) Service Brake	
3	-	1	⌘ Valve, Directional Control (SV38-38-N-24EY) Frame Lock	
4	-	1	☒ Valve, Manual Directional Valve (MP08-20J) ACC Pressure Bleed	
5	-	1	⌘ Valve, Directional Control (SV08-31-0-N-24EY) Diff Lock	
6	-	1	⌘ Valve, Directional Control (SV08-31-0-N-24EY) Motor Shift 1	
7	-	1	⌘ Valve, Directional Control (SV08-31-0-N-24EY) Motor Shift 2	
8	-	1	◆ Valve, Directional Control (SV08-47D-0-N-24EY) Gear Box Shift	
9	-	1	⌘ Valve, Directional Control (SV38-38-N-24EY) Parking Brake	
10	-	1	VENTURI PLUG, 210101804 - 90 & 91	
11	-	1	PLUG, 08 ORB	
12	54128	1	❖ Valve, Counterbalance (5008-3-500)	
13	54128	1	❖ Valve, Counterbalance (5008-3-500)	
14	-	1	⊗ Valve, Pressure Reducing (PR58-38H-0-N-20/9.0) 900PSI PARK BRAKE	
15	-	1	⌘ Valve, Directional Control (SV08-31-0-N-24EY) Step Valve A	
16	-	1	⌘ Valve, Directional Control (SV08-31-0-N-24EY) Step Valve B	
17	54128	1	❖ Valve, Counterbalance (5008-3-500) Gear Shift Load Check Valve	
18	54128	1	❖ Valve, Counterbalance (5008-3-500) Gear Shift Load Check Valve	
19	-	1	⊗ Valve, Pressure Reducing (PR58-38H-0-N-20/5.0) 500 PSI STEP	
-	53921	1	☐ VALVE, GATE VALVE (optional)	
23	-	1	◆ Valve, Directional Control (SV08-47D-0-N-24EY) Gate Control	
24	54128	1	❖ Valve, Counterbalance (5008-3-500)	
25	54128	1	❖ Valve, Counterbalance (5008-3-500)	
26	-	1	BLOCK, (204101401-44B)	
27	-	1	O-Rings	
28	-	1	Bolts	

- ☐ Kit or Assembly - includes all items indented underneath.
- ⌘ Seal Repair Kit (TP# 17799; Supp. # SK08-3N-MM) / Coil (4303810) / Nut (7004400)
- Seal Repair Kit (TP# 20293; Supp. # SK10-3N-BM)
- Seal Repair Kit (03054795) / Coil (24PN-8.8-40-1836)
- ◆ Seal Repair Kit (SK08-4N-MMM) / Coil (4303810) / Nut (7004400) / Spacer (4534720)
- ❖ Seal Repair Kit (12106)
- ☒ Seal Repair Kit (SK08-2X-T)
- ⊗ Seal Repair Kit (SK08-3X-BM)

# LOWER FRAME HYDRAULICS

## JARP STEERING CYLINDER ASSEMBLY



00194 01/17/97

## LOWER FRAME HYDRAULICS

### JARP STEERING CYLINDER ASSEMBLY

REF	PART #	QTY	DESCRIPTION	SEE SECTION
-	51584-FR	2	☐ CYLINDER, STEER (2.25" ROD) - JARP	
1	51681-FR	1	☐ BARREL ASSEMBLY	
2	19916-FR	2	RING, snap	
3	19917-FR	1	BUSHING, spherical - 2"	
4	10704-FR	1	FITTING, straight grease - 1/8" pipe thread	
5	-FR	1	NUT, cylinder rod - 1-3/4" <b>(Torque to 885 +/- 60 ft.lbs.(1175 +/- 80 Nm))</b>	
6	NSS	1	⌘ RING, piston wear	
7	NSS	1	⌘ RING, piston loader	
8	NSS	1	⌘ RING, piston chem-cast	
9	NSS	1	⌘ RING, piston wear	
10	NSS	1	⌘ RING, piston seal	
11	NSS	1	⌘ O-RING, piston	
12	-FR	1	PISTON	
13	NSS	1	⌘ RING, rod bearing wear	
14	NSS	1	⌘ O-RING, rod bearing	
15	NSS	1	⌘ RING, rod bearing back-up	
16	51685-FR	1	BEARING, rod	
17	15681-FR	8	BOLT - 5/8" x 2-1/4" <b>(Torque to 175 ft.lbs (233 Nm))</b>	
18	NSS	1	⌘ U-CUP, rod bearing	
19	NSS	1	⌘ WIPER, rod	
20	51682-FR	1	☐ ROD ASSEMBLY	
21	19916-FR	2	RING, snap	
22	19917-FR	1	BUSHING, spherical - 2"	
23	10704-FR	1	FITTING, straight grease - 1/8" pipe thread	
-	51683-FR	1	KIT, seal repair - steer cylinder	

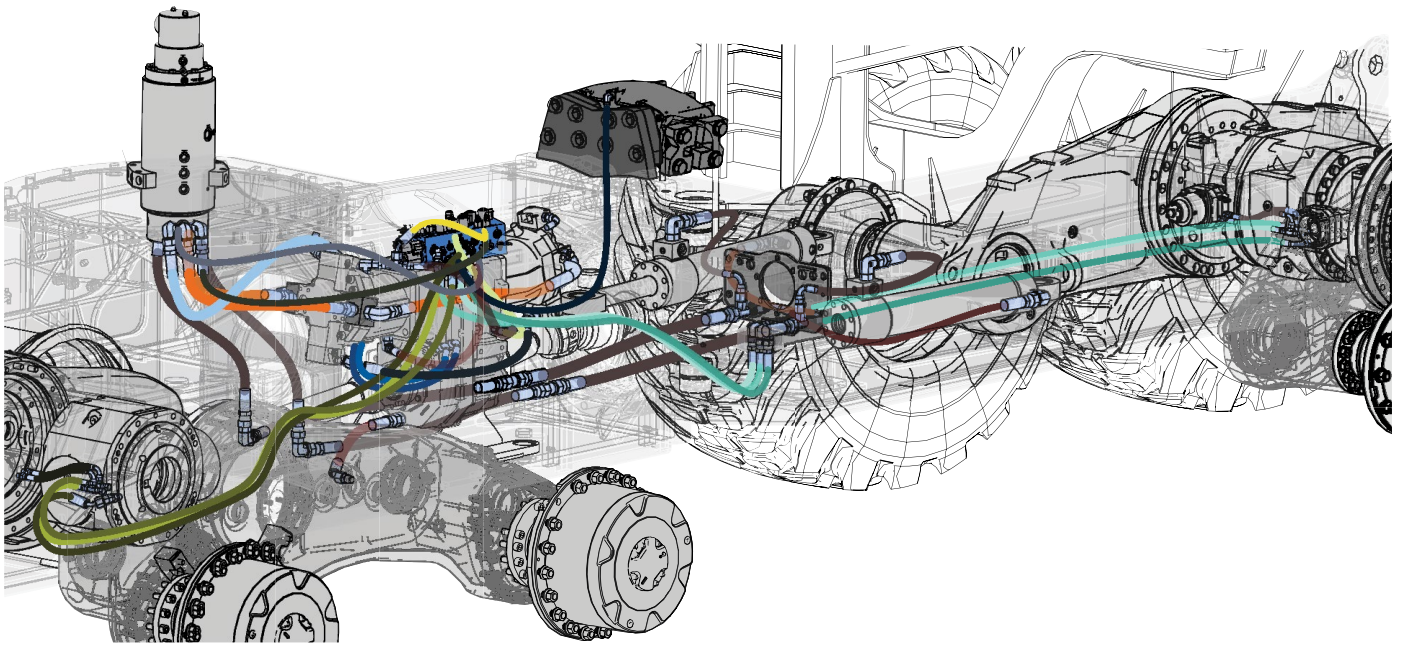
- ☐ Kit or Assembly - includes all items indented underneath.  
 ⌘ Included in seal repair kit Part # 51683.



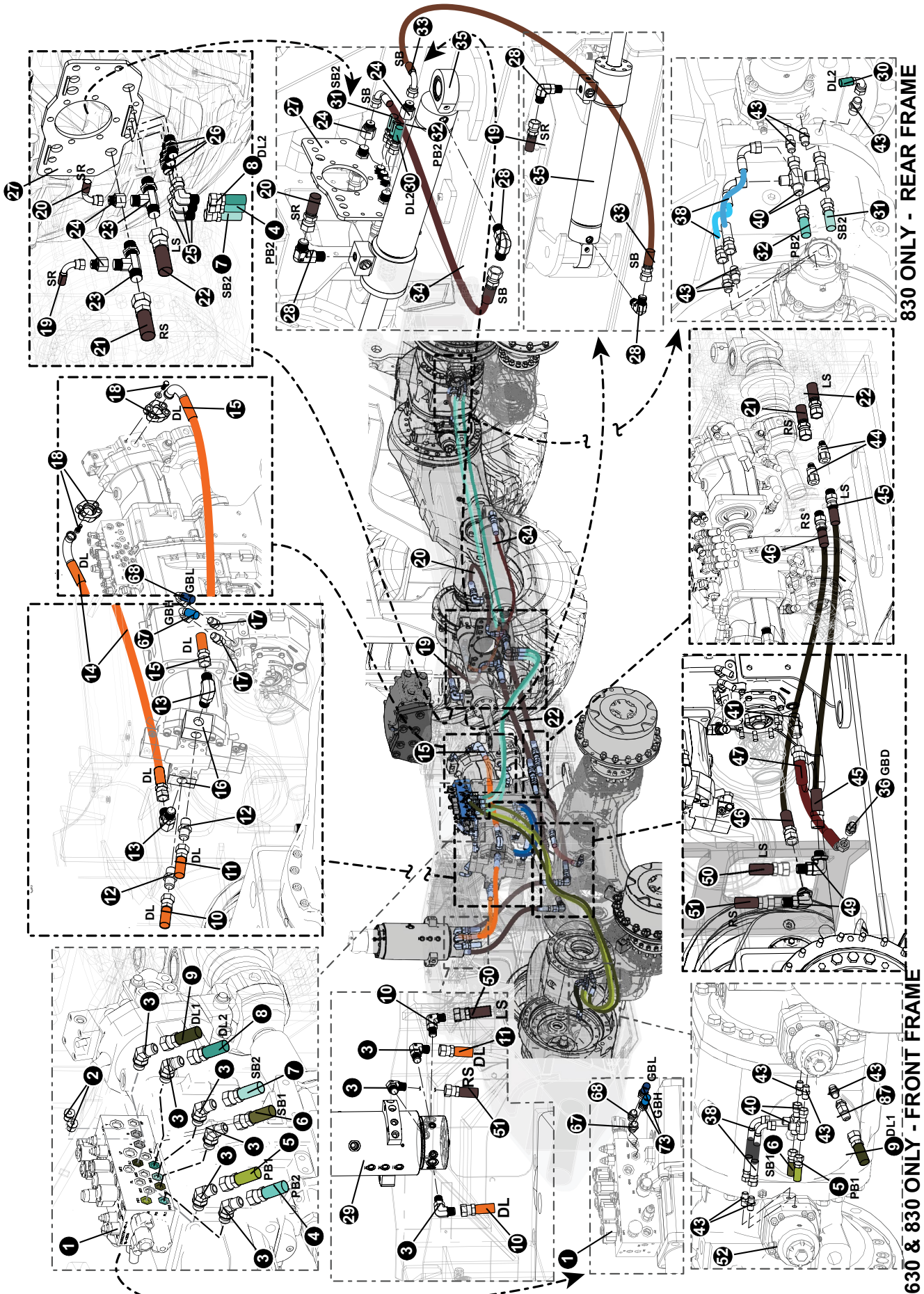
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## SECTION LH-2

### 830/840 FORWARD AND REAR HYDRAULICS AT LOWER FRAME



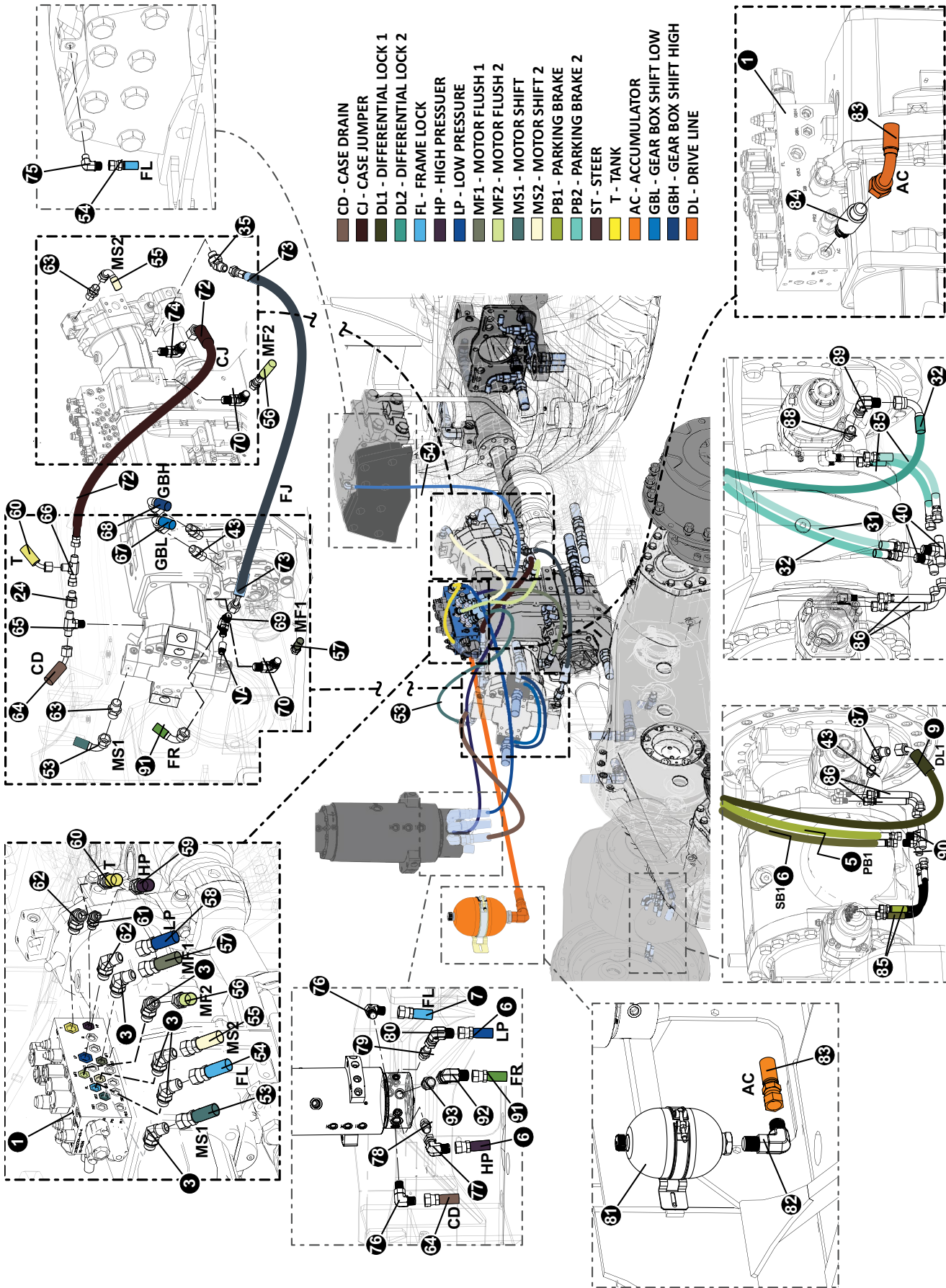
## LOWER FRAME HYDRAULICS



830 ONLY - REAR FRAME

630 & 830 ONLY - FRONT FRAME





- CD - CASE DRAIN
- CJ - CASE JUMPER
- DL1 - DIFFERENTIAL LOCK 1
- DL2 - DIFFERENTIAL LOCK 2
- FL - FRAME LOCK
- HP - HIGH PRESSURER
- LP - LOW PRESSURER
- MF1 - MOTOR FLUSH 1
- MF2 - MOTOR FLUSH 2
- MS1 - MOTOR SHIFT 1
- MS2 - MOTOR SHIFT 2
- PB1 - PARKING BRAKE
- PB2 - PARKING BRAKE 2
- ST - STEER
- T - TANK
- AC - ACCUMULATOR
- GBL - GEAR BOX SHIFT LOW
- GBH - GEAR BOX SHIFT HIGH
- DL - DRIVE LINE

840 ONLY - FRONT AXLE HYDRAULICS (See Previous Page for Main View)

840 ONLY - REAR AXLE HYDRAULICS (See Previous Page for Main View)

# LOWER FRAME HYDRAULICS

## HOSE AND FITTING ASSEMBLY

REF	PART #	QTY	DESCRIPTION	SEE SECTION
1	<a href="#">(Click Here)</a>	1	VALVE, LOWER MANIFOLD - VAC BRAKE/DIFF	
2	(See Description)	2	Plug ( <b>Supplier Part # 6409-04-54263</b> )	
3	19646	12	FITTING, HOSE - .3125" JIC (HY04)	
4	(See Description)	1	Hose ( <b>Part #471TC92-04-04OS-04OS</b> ) PB-2 MCV (Main Control Valve) to BH	
5	(See Description)	1	Hose ( <b>Part #471TC84-04-04OS-04OS</b> ) PB-1 MCV to Front Axle	
6	(See Description)	1	Hose ( <b>Part #471TC83-04-04OS-04OS</b> ) SB-1 MCV to Front Axle	
7	(See Description)	1	Hose ( <b>Part #471TC94-04-04OS-04OS</b> ) SB-2 MCV to BH	
8	(See Description)	1	Hose ( <b>Part #471TC92.5-04-04OS-04OS</b> ) DL-2 MCV to BH	
9	(See Description)	1	Hose ( <b>Part #471TC85-04-04OS-04O4</b> ) DL-1 MCV to Front Axle	
10	(See Description)	1	Hose ( <b>Part #797TC33-16-16OS-16OS</b> ) DL to Rotary Manifold	
11	(See Description)	1	Hose ( <b>Part #797TC33-16-16OS-16OS</b> ) DL to Rotary Manifold	
12	15225	2	CONNECTOR, straight - 6400-16	
13	15228	2	ELBOW, 90 - 6801-16	
14	(See Description)	1	Hose ( <b>Part #797TC39-16-16OS-20PH9</b> ) DRIVE-LINE-JUMPER	
15	(See Description)	1	Hose ( <b>Part #797TC37.5-16-16OS-20PH9</b> ) DRIVE-LINE-JUMPER	
16	51869	2	MANIFOLD, REXROTH 160CC MOTOR(S)	
17	19470	2	CONNECTOR, STR METRIC - 4M14F8OMLOS	
18	15114	2	KIT, SPLIT FLANGE - 1.25" (CODE 62)	
		8	BOLT, supplied with 15114 Kit	
		8	LOCK WASHER, supplied with 15114 Kit	
		2	ORING - 1.25" SF (CODE 61/62), supplied with 15114 Kit	
19	(See Description)	1	Hose ( <b>Part #787TC4608-08OS-08O9</b> ) STEER ROD	
20	(See Description)	1	Hose ( <b>Part #787TC4608-08OS-08O9</b> ) STEER ROD	
21	(See Description)	1	Hose ( <b>Part #787TC40 12-12OS-12JS-SG</b> ) RIGHT STEER	
22	(See Description)	1	Hose ( <b>Part #787TC40 12-12OS-12JS-SG</b> ) LEFT STEER	
23	20029	2	TEE, BULKHEAD RUN - 12 WJJLO	
24	18581	3	CONNECTOR, REDUCER - ORS FF2281T-0812S	
25	15145	(Varies)	ELBOW, 90 SWIVEL - 6500-4	
26	18582	(Varies)	CONNECTOR, STR BULKHEAD - FF1994T-0404S	
27	52486	1	BRACKET, BRG MOUNT - DRIVE 830	
28	16360	2	ELBOW, 90 - FF1868T-0808S	
29	<a href="#">(Click Here)</a>	1	Rotary Manifold	
30	(See Description)	1	Hose ( <b>Part #471TC130-04-04OS-04O9</b> ) DL2 to Rear Axle	
31	(See Description)	1	Hose ( <b>Part #471TC126-04-04OS-04O9</b> ) SB2 to Rear Axle	
32	(See Description)	1	Hose ( <b>Part #471TC126-04-04OS-04O9</b> ) PB2 to Rear Axle	
33	(See Description)	1	Hose ( <b>Part #787TC44-08-08OS-08O4</b> ) Steer Base	
34	(See Description)	1	Hose ( <b>Part #787TC44-08-08OS-08O4</b> ) Steer Base	
35	51584	2	CYLINDER, STEER - 2.25" ROD (JARP)	
36	15201	1	CONNECTOR, STR - FF2031T-1212S	
38	(See Description)	4	Hose ( <b>Part #471TC9.5-04-04JS-04J9</b> ) Differential Lock & Parking Brake Jumper	
40	15176	4	TEE - FF2114T-0404S	
43	19470	10	CONNECTOR, STR METRIC - 4M14F8OMLOS	
44	18782	2	SWIVEL, INLINE STR LS2406-1212	
45	(See Description)	1	Hose ( <b>Part #787TC49 12-12OS-12MJ-SG</b> ) LEFT STEER	
46	(See Description)	1	Hose ( <b>Part #787TC49 12-12OS-12MJ-SG</b> ) RIGHT STEER	
47	(See Description)	1	Hose ( <b>Part #471TC24-12-12OS-12O4</b> ) Gear Box Drain	
49	24188	2	ELBOW, 90 BULKHEAD - 855BH-TT-12	
50	(See Description)	1	Hose ( <b>Part #787TC44-12-12OS-12OS</b> ) LS to Rotary Manifold	
51	(See Description)	1	Hose ( <b>Part #787TC40-12-12OS-12OS</b> ) RS to Rotary Manifold	
52	<a href="#">(Click Here)</a>	1	Front Axle	

## LOWER FRAME HYDRAULICS HOSE AND FITTING ASSEMBLY (CONT'D)

REF	PART #	QTY	DESCRIPTION	SEE SECTION
53	(See Description)	1	Hose (Part #471TC23-04-04OS-0409) MS1 to MCV (Main Control Valve)	
54	(See Description)	1	Hose (Part #471TC74-04-04OS-040S) Frame Lock Brake to MCV	
55	(See Description)	1	Hose (Part #471TC45-04-04OS-040S) MS2 to MCV	
56	(See Description)	1	Hose (Part #471TC46-06-06OS-060S) MF2 to Rear Motor	
57	(See Description)	1	Hose (Part #471TC26.5-06-06OS-060S) MF1 to Front Motor	
58	(See Description)	1	Hose (Part #471TC72-08-08OS-080S) LP1 to MCV	
59	(See Description)	1	Hose (Part #471TC72-06-06OS-060S) HP to MCV	
60	(See Description)	1	Hose (Part #471TC22-08-08OS-0809) Case "T" to Manifold Tank	
61	23015	1	ELBOW, 45 - 6 V5OLO-S	
62	19126	2	ELBOW, 45 - FF2068T-0808S	
63	15124	2	CONNECTOR, STR - FF1852T-0406S	
64	(See Description)	1	Hose (Part #471TC53-12-12OS-1204) Case Drain to Rotary Manifold	
65	20027	1	TEE - FF1861T-1212S	
66	15433	1	TEE - FF2114T-0808S	
67	(See Description)	1	Hose (Part #471TC36-04-04OS-0409) GB (GearBox Shift Line)	
68	(See Description)	1	Hose (Part #471TC36-04-04OS-0409) GA (GearBox Shift Line)	
69	20066	1	TEE - 8 S5OLO-S - BRANCH	
70	23034	1	ELBOW, 90 - 6-10 C5OLO-S	
71	23084	1	ELBOW, 90 - 6-10 C5OLO-S	
72	(See Description)	1	Hose (Part #471TC39.5-08-08OS-0804) Case Jumper	
73	(See Description)	1	Hose (Part #471TC43-08-08OS-0804) Flush Jumper	
74	15372	1	ELBOW, 90 - FF1868T-0812S	
75	16540	1	ELBOW, 90 - FF1868T-0404S	
76	17688	1	ELBOW, 90 - FF1868T-1212S	
77	20035	1	ELBOW, 90 SWIVEL - 6 C6LO-S	
78	53130	1	FITTING, STRAIGHT THREAD CONNECTOR 6-4	
79	15457	1	CONNECTOR, STR - FF1852T-0806S	
80	16297	1	ELBOW, 90 SWIVEL - FF2098T-0808S	
81	53970	1	ACCUMULATOR, LOWER BRAKE MANIFOLD	
82	16360	1	ELBOW, 90 - FF1868T-0808S	
83	(See Description)	1	Hose (Part #471TC 66 08-08OS 0809) Accumulator to Main Control Valve	
84	19091	1	CONNECTOR, STR LONG - 848L-TTO-08X08	
85	(See Description)	2	Hose (Part #471TC 13.5 04-04OS-060S) Motor Flush 2 and Parking Brake 1	
86	(See Description)	2	Hose (Part #471TC 04 04-06OS-0409) Motor Flush 2 and Parking Brake 1	
87	53719	1	FITTING, SWIVEL NUT ELBOW - 45 DEG	
88	53137	1	FITTING, CONNECTOR - #4 ORF - 14MM	
89	15145	1	ELBOW, 90 SWIVEL - FF2098T-0404S	
90	15139	2	TEE - FF1898T-0404S	
91	(See Description)	1	Hose (Part #471TC51-08-08OS-0809) Flush Return	
92	16297	1	ELBOW, 90 SWIVEL - FF2098T-0808S	
93	15457	1	CONNECTOR, STR - FF1852T-0806S	

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