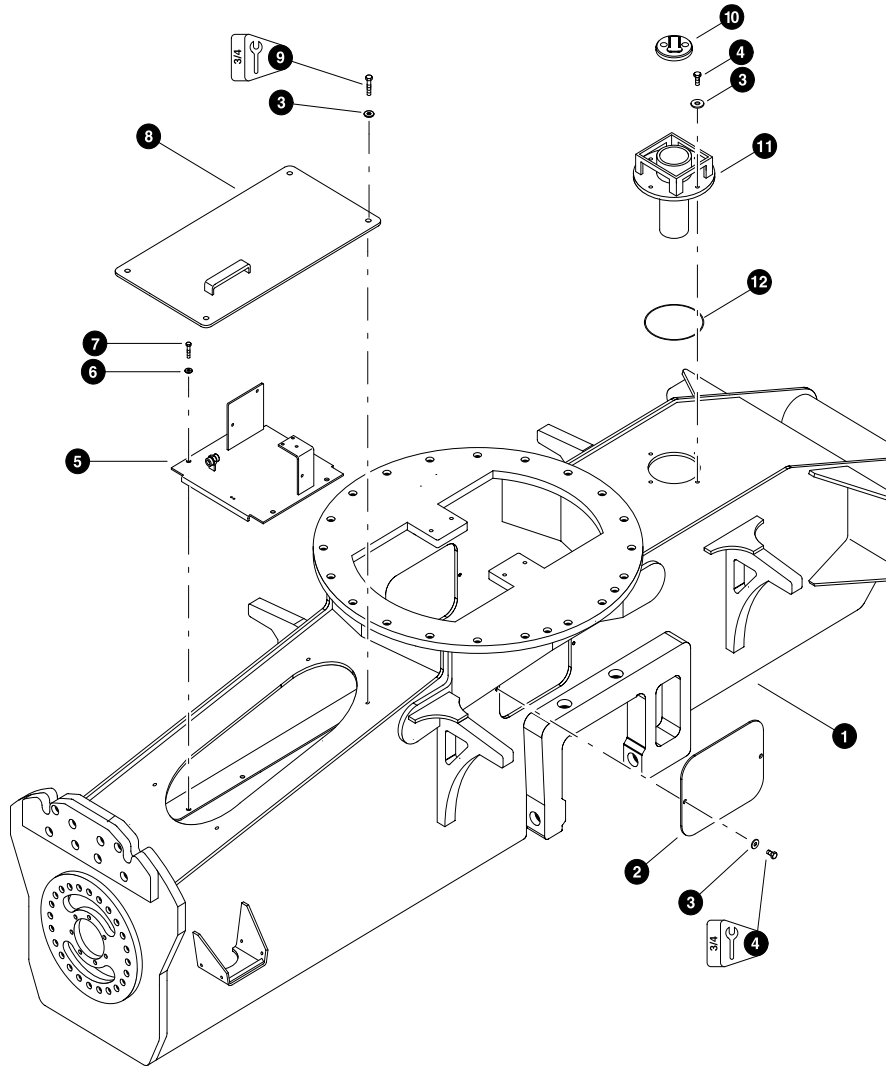


Section FF-1

TF 820 Front Frame - Frame / Covers / Steps

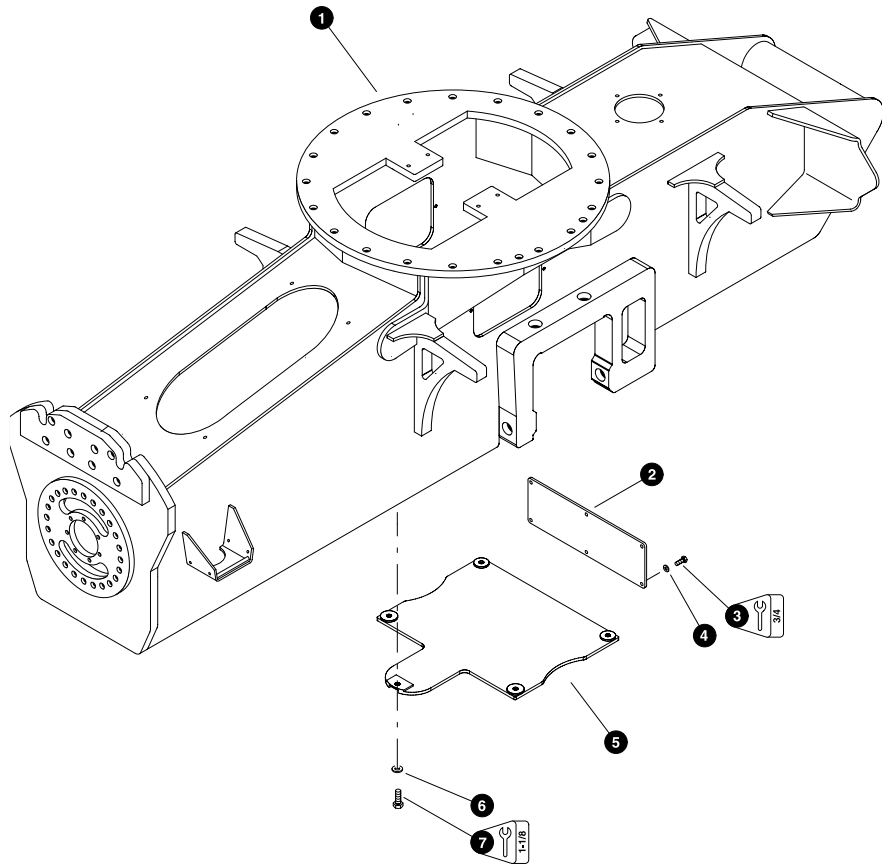


Parts T2947 12/30/2003
9.375

FRAME ACCESS COVERS (Upper Areas)

REF	PART #	QTY	DESCRIPTION	SEE SECTION
1	50953-FF	1	WELDMENT, front frame	
2	40894-FF	2	COVER, side access	
3	15534-FF	18	WASHER, SAE flat - 1/2"	
4	10783-FF	8	BOLT - 1/2" x 1"	
5	80833-FF	1	BRACKET, lower mono block	
6	15528-FF	8	WASHER, SAE flat - 3/8"	
7	10402-FF	4	BOLT - 3/8" X 1 1/4"	
8	40962-FF	1	COVER, access - top frame	
9	10736-FF	8	BOLT - 1/2" x 2"	
10	16585-FF	1	CAP, FUEL (locking)	
11	REF	1	COVER, FUEL	FF-4
12	15600-FF	1	O-RING, fuel tank cover	

See referenced page for component or assembly breakdown.

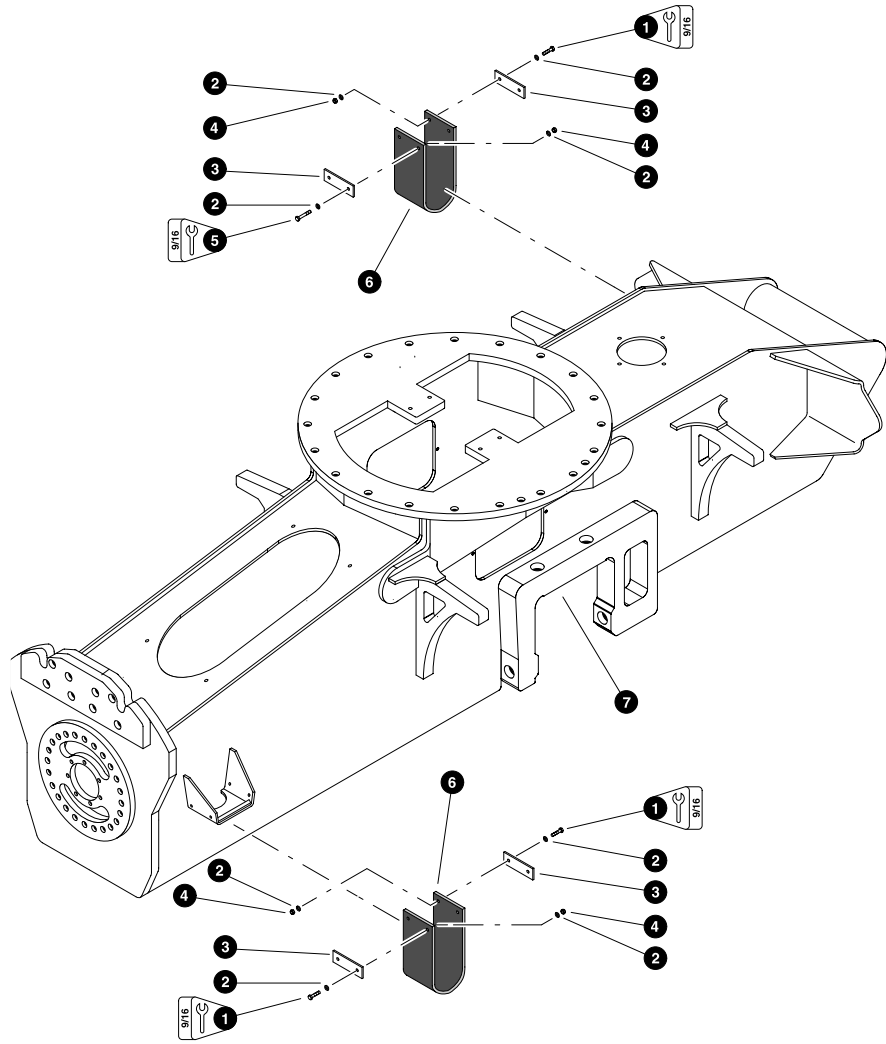


Parts T2948 01/02/2004
9,375

**FRAME ACCESS COVERS
(Lower Areas)**

REF	PART #	QTY	DESCRIPTION	SEE SECTION
1	REF.	1	FRONT FRAME WELDMENT	FF-1-2
2	40884-FF	1	COVER, access - front frame axle box	
3	10783-FF	6	BOLT - 1/2" x 1"	
4	15534-FF	6	WASHER, SAE flat - 1/2"	
5	40954-FF	1	COVER, access - bottom front frame	
6	15550-FF	5	WASHER, SAE flat - 3/4	
7	15549-FF	5	BOLT - 3/4" X 1 1/2"	

See referenced page for component or assembly breakdown.

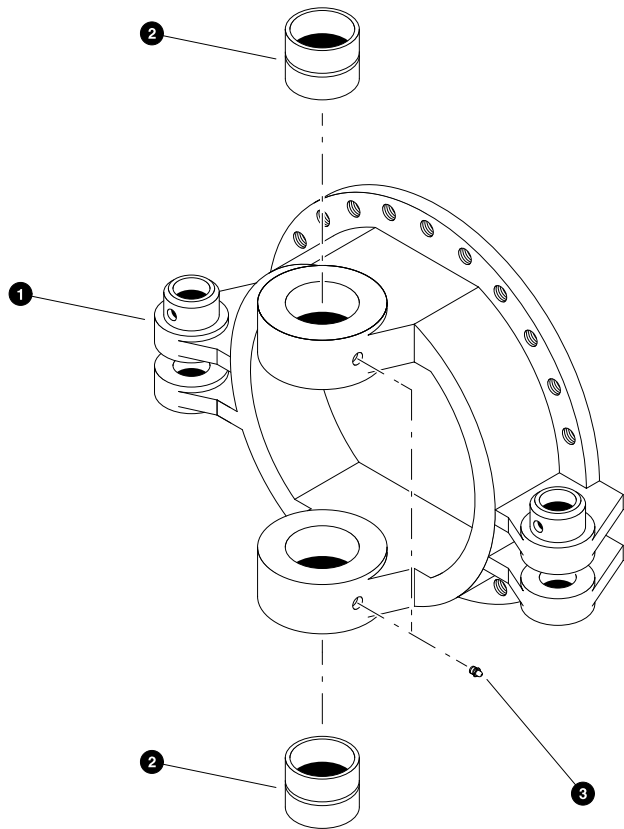


Parts T2949 01/02/2004
9,375

FRAME STEPS INSTALLATION

REF	PART #	QTY	DESCRIPTION	SEE SECTION
1	20084-FF	6	BOLT - 3/8" x 1-3/4"	
2	15528-FF	16	WASHER, SAE flat - 3/8"	
3	20209-FF	4	RETAINER, rubber step	
4	10813-FF	8	NUT, lock - 3/8"	
5	20084-FF	2	BOLT - 3/8" x 1-3/4"	
6	20210-FF	2	STEP, rubber	
7	REF.	1	FRONT FRAME WELDMENT	FF-1-2

See referenced page for component or assembly breakdown.

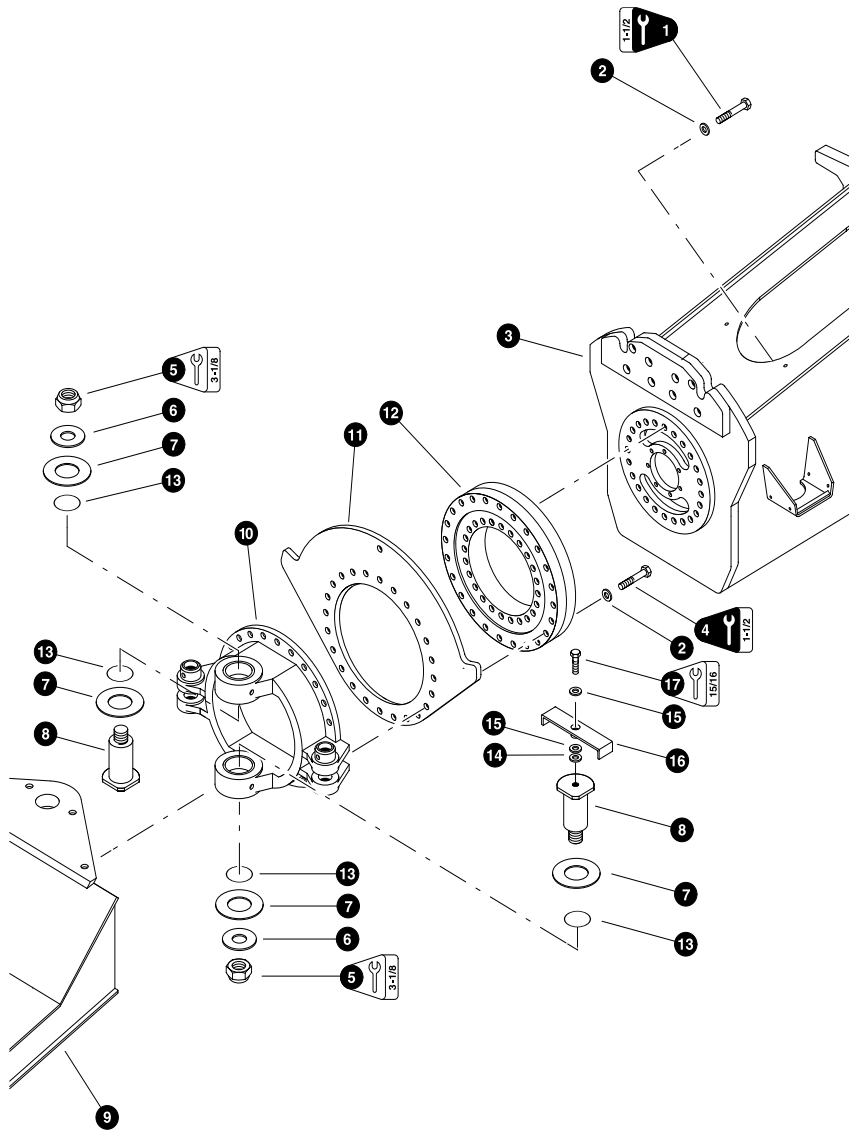


Parts 01720 07/27/2000
25.00

FRAME ARTICULATION CASTING

REF	PART #	QTY	DESCRIPTION	SEE SECTION
1	23099-FF	1	<input type="checkbox"/> CASTING, frame articulation (tapped holes)	
2	23103-FF	2	BUSHING - 3-1/2" x 2-3/4"	
3	10704-FF	2	FITTING, grease - 1/8" pipe thread	

Kit or Assembly - includes all items indented underneath.

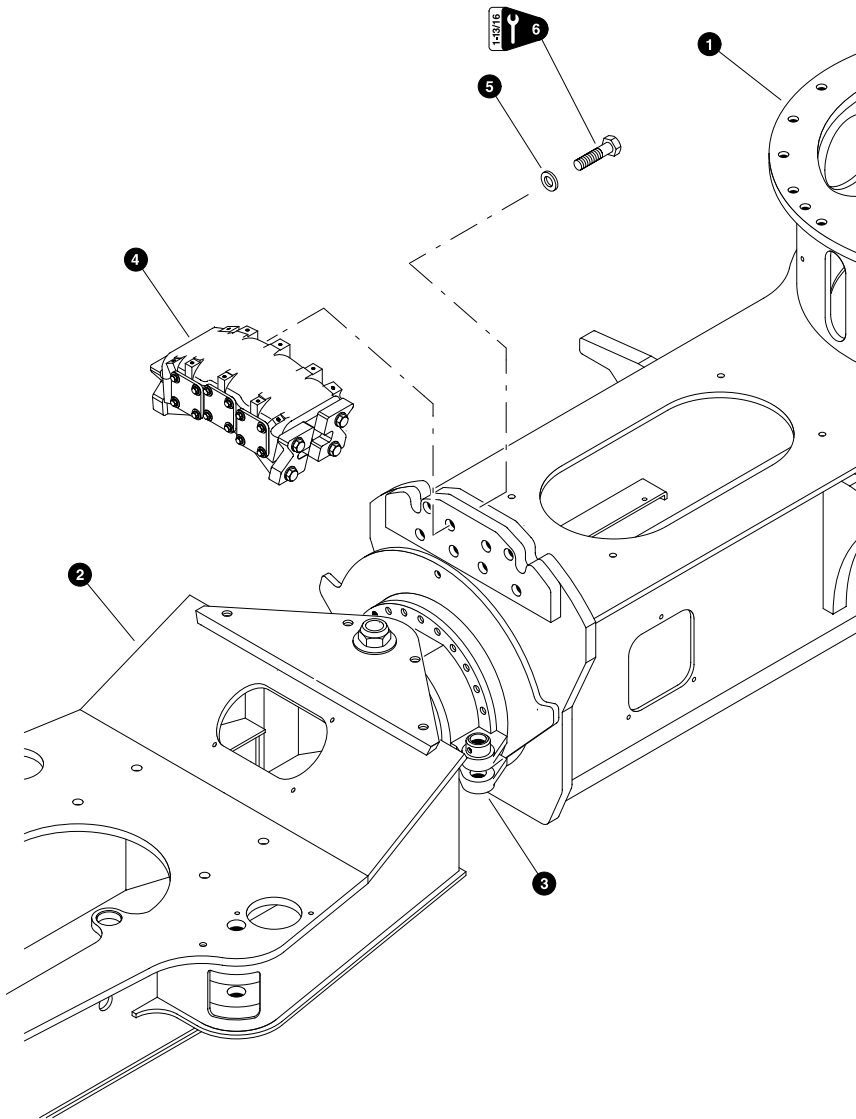


Parts T2954 01/02/20041
9,375

FRAME ARTICULATION INSTALLATION

REF	PART #	QTY	DESCRIPTION	SEE SECTION
1	23387-FF	24	BOLT - 1" x 6-1/2" (Torque to 1000 ft.lbs (1330 Nm))	
2	15579-FF	48	WASHER, SAE flat - 1"	
3	REF.	1	FRONT FRAME WELDMENT	FF-1
4	18672-FF	24	BOLT - 1" x 7-1/2" (Torque to 1000 ft.lbs (1330 Nm))	
5	10728-FF	2	NUT, nylock - 2"	
6	51499-FF	2	WASHER, articulation pin (3/8" thick)	
7	23106-FF	AR	WASHER, thrust - thin (Brass)	
	23105-FF	AR	WASHER, thrust - thick (Brass)	
8	23102-FF	2	PIN, articulation - 3-1/2" x 8-5/8"	
9	REF.	1	REAR FRAME WELDMENT	FR-1
10	REF.	1	FRAME ARTICULATION CASTING	FF-2
11	80830-FF	1	PLATE, braking	
12	24999-FF	1	BEARING, articulation	
13	21577-FF	AR	O-RING - thin	
	24546-FF	AR	O-RING - thick	
14	50464-FF	2	WASHER, SAE flat - 3/4" thick	
15	15550-FF	4	WASHER, SAE flat - 3/4"	
16	40830-FF	2	BRACKET, articulation joint hose	
17	10840-FF	2	BOLT - 3/4 X 3"	

See referenced page for component or assembly breakdown.
40830-FF 2 BRACKET, articulation joint hose

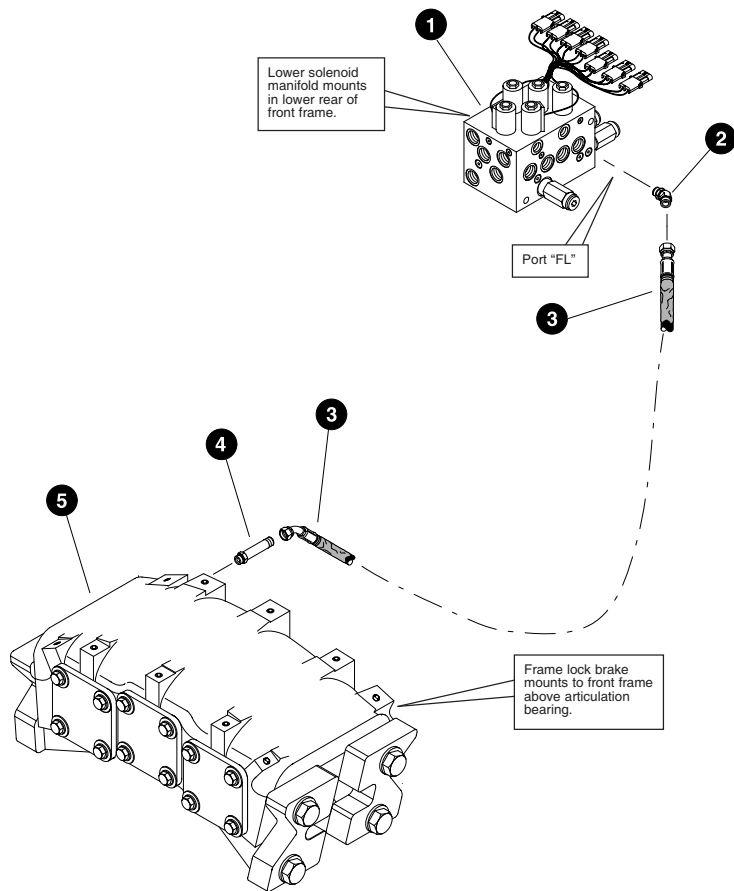


Parts T2610 10/31/2002
12.50

FRAME LOCK BRAKE INSTALLATION

REF	PART #	QTY	DESCRIPTION	SEE SECTION
1	REF.	1	FRONT FRAME WELDMENT	FF-1
2	REF.	1	REAR FRAME WELDMENT	FR-1
3	REF.	1	FRAME ARTICULATION CASTING	FF-2
4	REF.	1	FRAME LOCK BRAKE	FF-2
5	22531-FF	8	WASHER - 1-1/4"	
6	23351-FF	8	BOLT - 1-1/4" x 4-1/2" NF	

See referenced page for component or assembly breakdown.

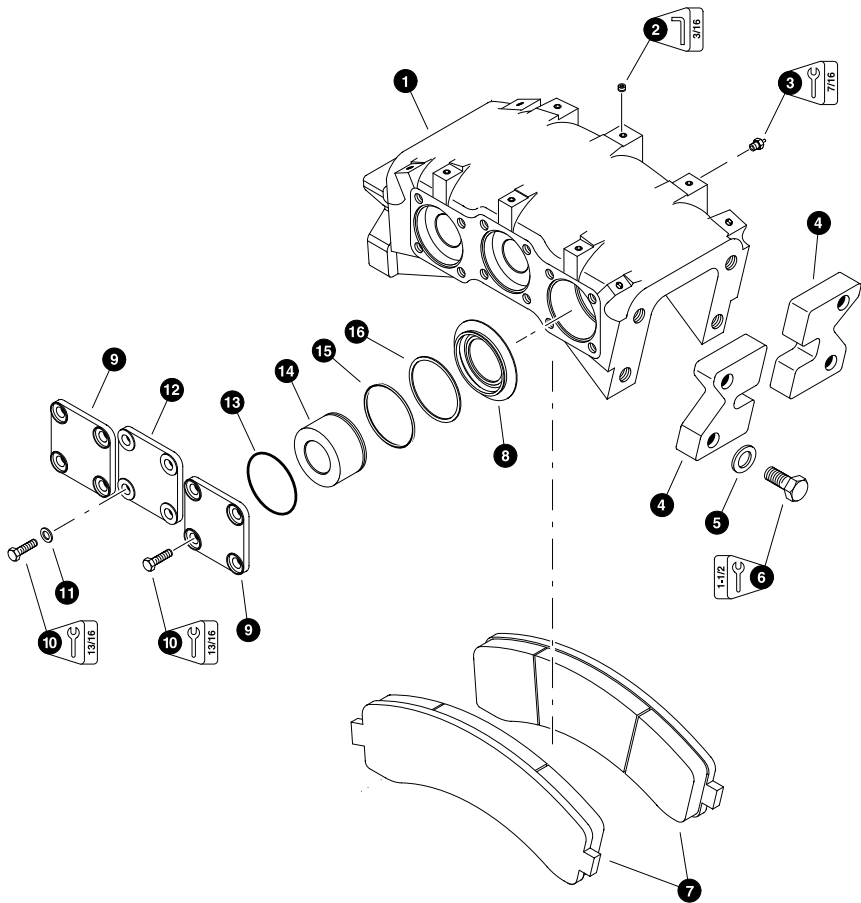


Parts T2650 02/17/20031
25,00

FRAME LOCK BRAKE RELEASE LINE
(From Lower Solenoid Valve)

REF	PART #	QTY	DESCRIPTION	SEE SECTION
1	REF.	1	LOWER SOLENOID MANIFOLD	FF-5
2	17646-FF	1	ELBOW, 45° - FF2068T-0404S	
3	50606-FF	1	HOSE ASSEMBLY - 2043-04-040S-0404-W (Lower solenoid manifold port "FL" to frame lock brake port)	
4	20991-FF	1	CONNECTOR, STR long - 848L-TTO-04 x 04	
5	REF.	1	FRAME LOCK BRAKE	FF-2

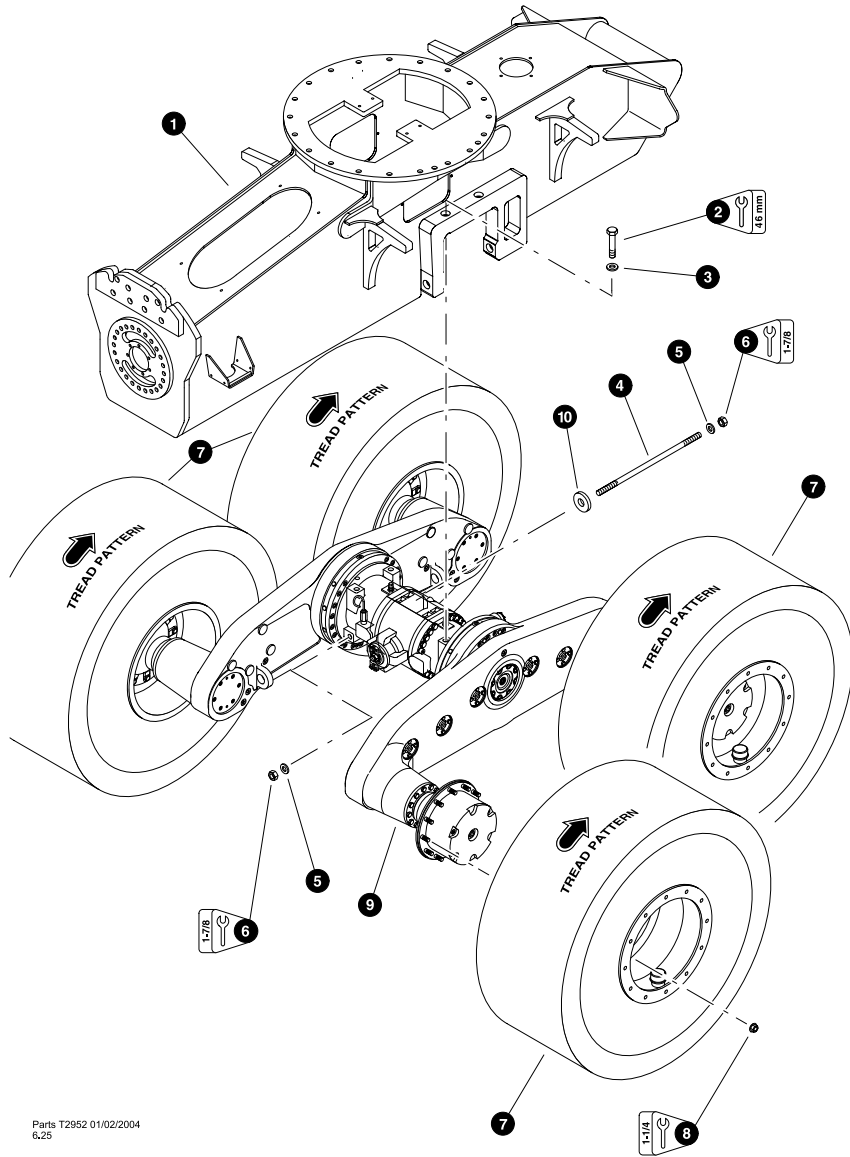
See referenced page for component or assembly breakdown.



FRAME LOCK BRAKE

REF	PART #	QTY	DESCRIPTION	SEE SECTION
-	20953-FF	1	FRAME LOCK BRAKE	
1	NSS	1	HOUSING	
2	----	13	PLUG	
3	----	1	SCREW, bleed	
4	----	4	RETAINER, brake pad	
5	----	8	WASHER	
6	----	8	BOLT	
7	24406-FF	1	PAD, brake (pair)	
8	NSS	6	BOOT, piston	
9	23445-FF	2	COVER, piston (Machined special to countersink bolt heads)	
10	24088-FF	12	BOLT - 9/16" x 1-1/4"	
11	----	4	WASHER	
12	23444-FF	1	COVER, piston	
13	NSS	6	O-RING, piston cover	
14	24434-FF	6	PISTON, brake caliper	
15	NSS	6	SEAL, piston	
16	NSS	6	RING, back-up	
-	23113-FF	1	KIT, seal repair - frame lock brake	

Kit or Assembly - includes all items indented underneath.
 Included in seal repair kit PN# 23113.



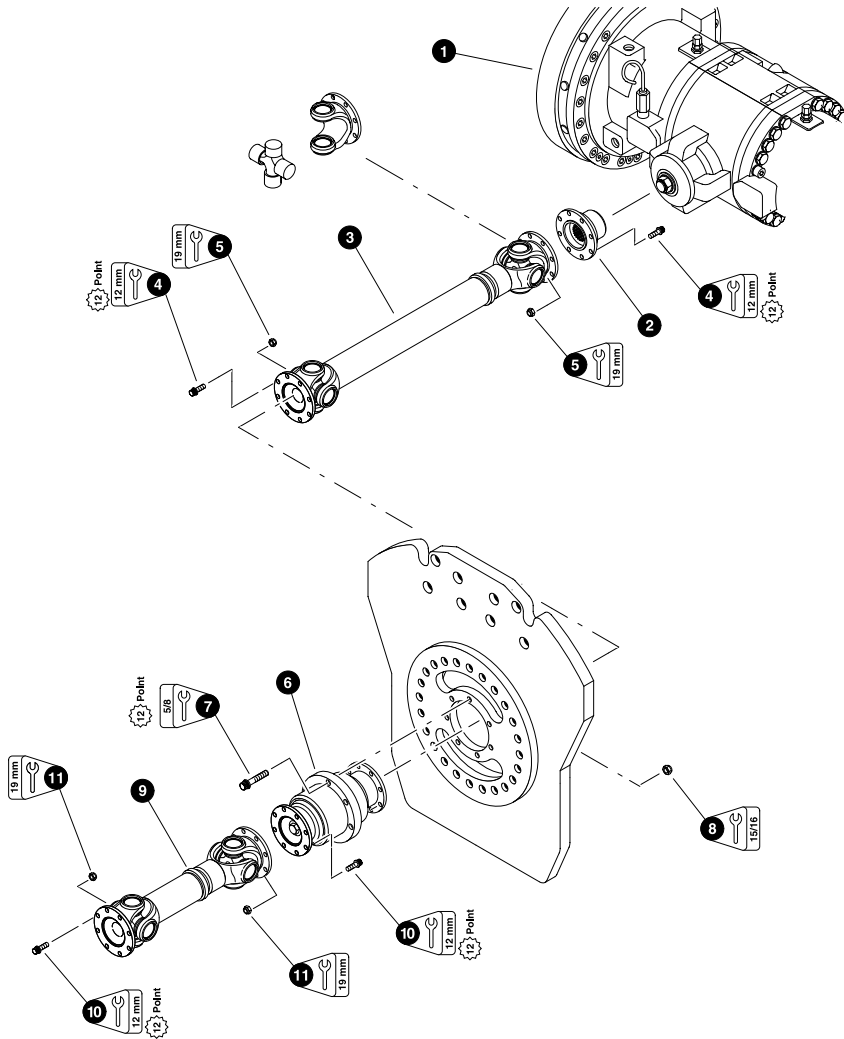
Parts T2952 01/02/2004
6.25

FRONT AXLE INSTALLATION

(Machines built after 12/01/03)

REF	PART #	QTY	DESCRIPTION	SEE SECTION
1	REF.	1	FRONT FRAME WELDMENT	FF-1
2	23567-FF	4	BOLT - 30mm-3.5P x 220mm (Torque to 1100 ft.lbs. (1465 Nm))	
3	23568-FF	4	WASHER, hardened flat - 30mm	
4	23851-FF	2	STUD, axle spreader box - 1-1/4" (Torque to 1200 ft.lbs. (1600 Nm))	
5	22531-FF	4	WASHER, SAE flat - 1-1/4"	
6	23989-FF	4	NUT, lock - 1-1/4"	
7	REF.	4	WHEEL ASSEMBLY	AX-3
8	19361-FF	48	NUT, lug (Torque to 600 ft.lbs. (800 Nm))	
9	REF.	1	FRONT AXLE	AX-1
10	24003-FF	2	SPACER, axle spreader stud	

See referenced page for component or assembly breakdown.



Parts T2613 01/14/2003
12.50

DRIVE SHAFT INSTALLATION (Machines built after 040102)

REF	PART #	QTY	DESCRIPTION	SEE SECTION
1	REF.	1	FRONT AXLE	AX-1
2	23997-FF	1	YOKE, companion flange - axle (Torque nut to 590 ft.lbs.(800 Nm) (see note #2))	
3	51384-FF	1	DRIVE SHAFT, heavy duty (Center joint to front axle)(475677-61)	
	-----	2	FITTING, 90° grease - 10mm	
	50466-FF	2	KIT, CROSS & BEARING	
	50467-FF	2	YOKE, FLANGE (90mm)	
4	50261-FF	16	BOLT, 12 point - 12mm-1.75P x 35mm (See Note #1 Below)	
5	50262-FF	16	NUT, lock - 12mm	
6	25218-FF	1	IDLER, driveshaft (HD)	
7	50050	6	BOLT, 12 point - 5/8" x 3" (See Note #1 Below) (Torque to 130 ft.lbs. (175 Nm))	
8	10816	6	NUT, lock - 5/8"	
9	25968-FF	1	DRIVE SHAFT (Center joint) (20" (503mm) C/L-C/L) (fits all TF front frames with HD driveshafts)	
	-----	2	FITTING, 90° grease - 10mm	
	50466-FF	2	KIT, CROSS & BEARING	
	50467-FF	2	YOKE, FLANGE (90mm)	
10	50261-FF	16	BOLT, 12 point - 12mm-1.75P x 35mm (See Note #1 Below)	
11	50262-FF	16	NUT, lock - 12mm	

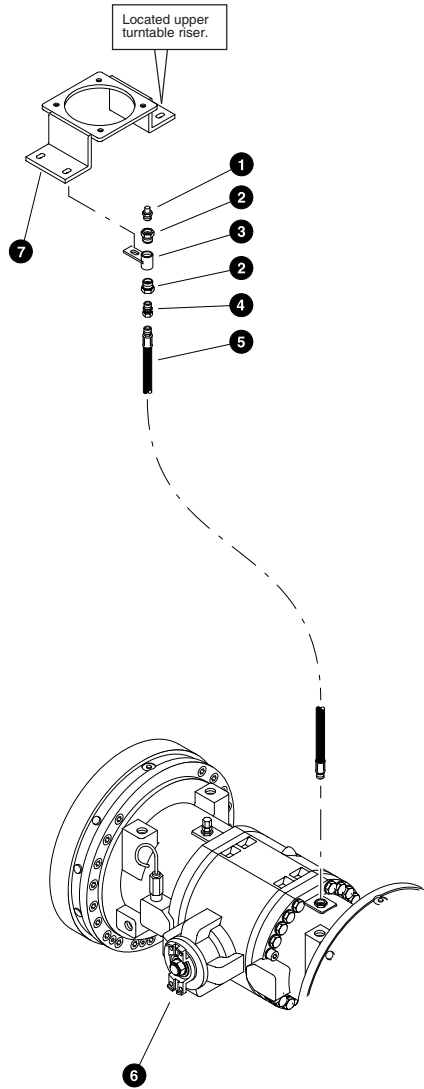
- See referenced page for component or assembly breakdown.
- Kit or Assembly - includes all items indented underneath.

Note #1:

Use Loctite 243 (blue) on threads during installation.

Note #2:

Use Loctite 271 (red) on threads during installation.

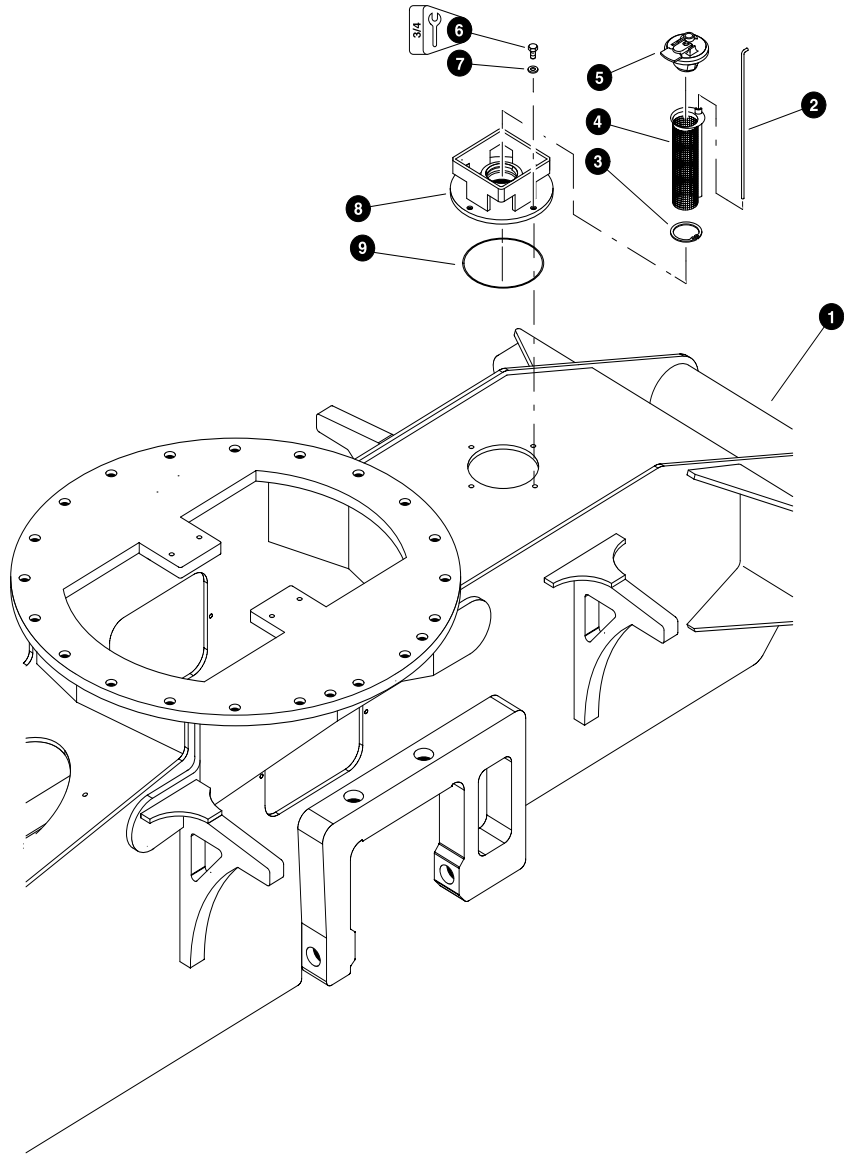


Parts 01780 08/25/2000
12.50

FRONT AXLE VENT LINE

REF	PART #	QTY	DESCRIPTION	SEE SECTION
1	22570-FF	1	VENT, axle	
2	15513-FF	2	BUSHING, reducer - 5406-12-8	
3	22203-FF	1	BRACKET, vent mount	
4	10322-FF	1	CONNECTOR, straight swivel - 1404-8-8	
5	22389-FF	1	HOSE ASSEMBLY - 2030-08-08MP-08MP (Axle vent port to vent mounting bracket)	
6	REF.	1	FRONT AXLE	AX-1
7	REF.	1	ROTARY MANIFOLD MOUNTING BRACKET	UP-1

See referenced page for component or assembly breakdown.

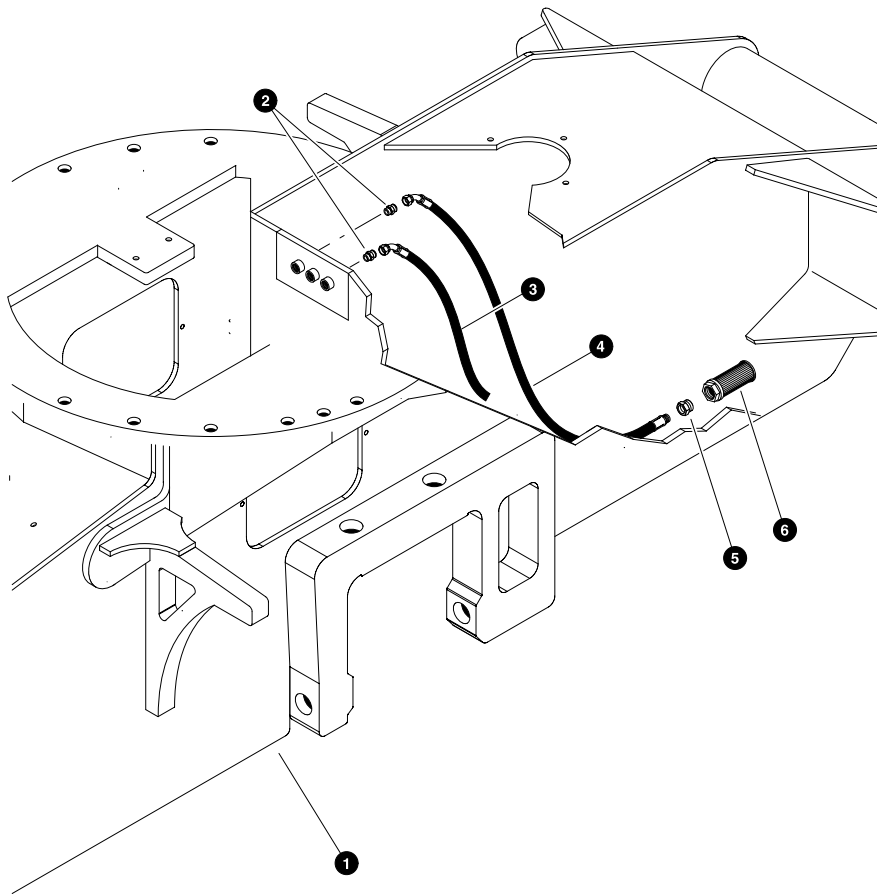


Parts T2955 03/010/2000
12.50

FUEL FILL STRAINER INSTALLATION

REF	PART #	QTY	DESCRIPTION	SEE SECTION
1	REF.	1	FRONT FRAME WELDMENT	FF-1
2	17492-FF	1	DIPSTICK, fuel level	
3	17115-FF	1	RING, snap - fuel strainer retainer	
4	17114-FF	1	STRAINER, fuel	
5	16585-FF	1	CAP, fuel	
6	10783-FF	4	BOLT - 1/2" x 1"	
7	15534-FF	4	WASHER, SAE flat - 1/2"	
8	16516-FF	1	COVER, fuel tank	
9	15600-FF	1	O-RING - 8"	

See referenced page for component or assembly breakdown.

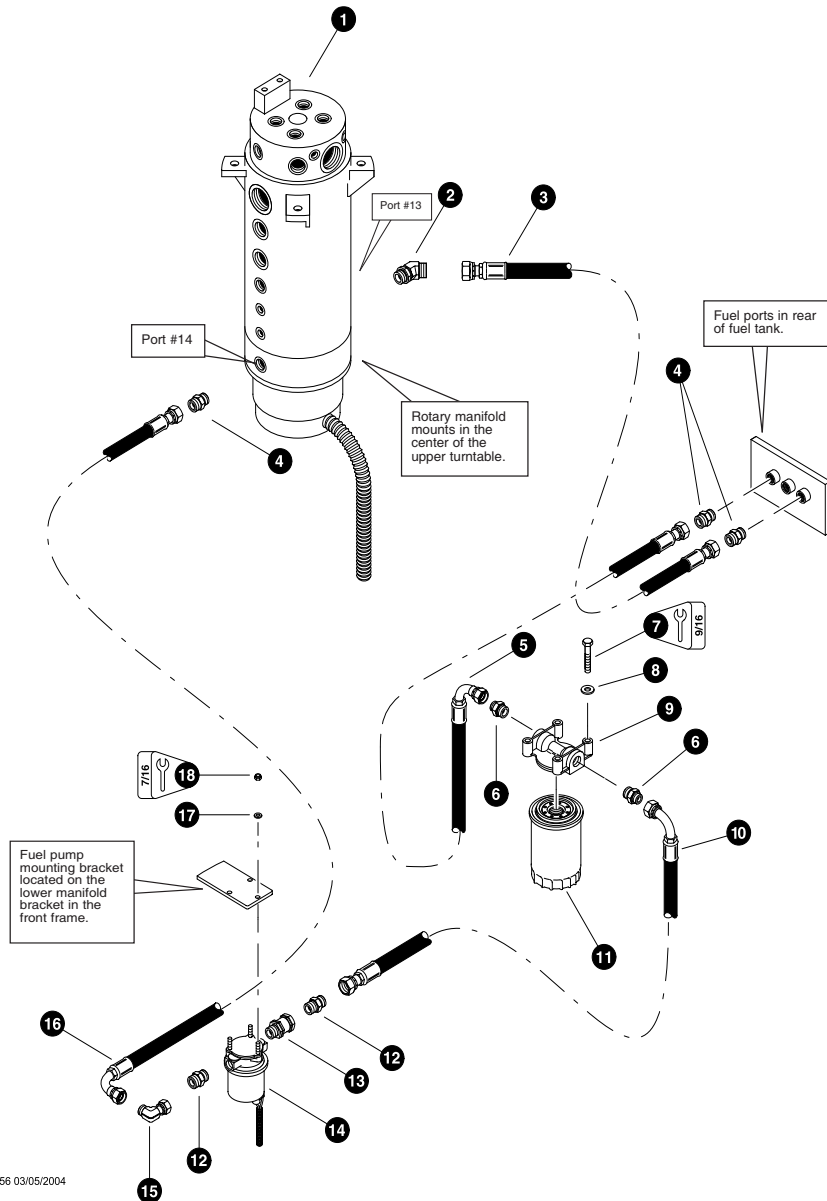


Parts T2953 01/02/2004
12.50

FUEL LINES
(Supply & Return Lines Inside Fuel Tank)

REF	PART #	QTY	DESCRIPTION	SEE SECTION
1	REF.	1	FRONT FRAME WELDMENT	FF-1
2	15117-FF	2	CONNECTOR, straight - FF1852T-0808S	
3	50613-FF	1	HOSE ASSEMBLY - 4018-08-0809-open (Fuel return)	
4	17271-FF	1	FILTER, screen	
5	50615-FF	1	HOSE ASSEMBLY - 4067-08-0809-08MPS (Fuel supply)	

See referenced page for component or assembly breakdown.

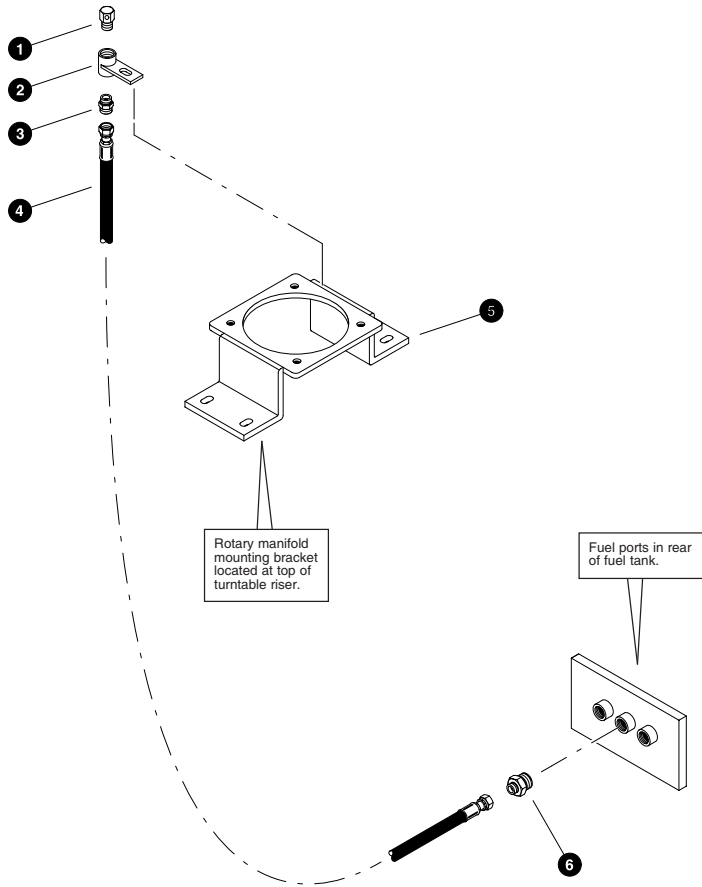


Parts T2956 03/05/2004
18,75

FUEL LINES
(Supply & Return Lines From Fuel Tank To Rotary Manifold)
(Machines built after 12/01/03)

REF	PART #	QTY	DESCRIPTION	SEE SECTION
1	REF.	1	ROTARY MANIFOLD	UP-1
2	19126-FF	1	ELBOW, 90° - FF2068T-0808S	
3	51294-FF	1	HOSE ASSEMBLY - 2013-08-080S-080S (Fuel return from lower rotary manifold port #13 to fuel tank return port)	
4	15117-FF	3	CONNECTOR, straight - FF1852T-0808S	
5	51296-FF	1	HOSE ASSEMBLY - 2054-08-080S-0809 (Fuel tank supply port to fuel filter inlet port)	
6	15115-FF	4	CONNECTOR, straight - FF1852T-0810S	
7	20084-FF	2	BOLT - .375" X 1.75"	
8	15528-FF	2	WASHER, SAE flat - 3/8"	
9	16574-FF	1	MOUNT, filter head	
10	51295-FF	1	HOSE ASSEMBLY - 4025-08-080S-0809 (Fuel filter outlet port to fuel pump inlet port)	
11	16575-FF	1	FILTER, spin-on fuel	
12	22902-FF	2	CONNECTOR, STR - 848-TT-08x06	
13	15652-FF	1	VALVE, check	
14	23358-FF	1	PUMP, fuel - 24 volt	
-	21966-FF	1	PUMP, fuel - 12 volt (machine built after 02/01/04)	
15	16297-FF	1	ELBOW, 90 SWIVEL - FF2098T-0808S	
16	51293-FF	1	HOSE ASSEMBLY - 2048-08-080S-0809W (Fuel supply from fuel pump outlet port to lower rotary manifold port #14)	
17	10757-FF	3	WASHER, SAE flat - 1/4"	
18	10755-FF	3	NUT, hex - 1/4"	

See referenced page for component or assembly breakdown.

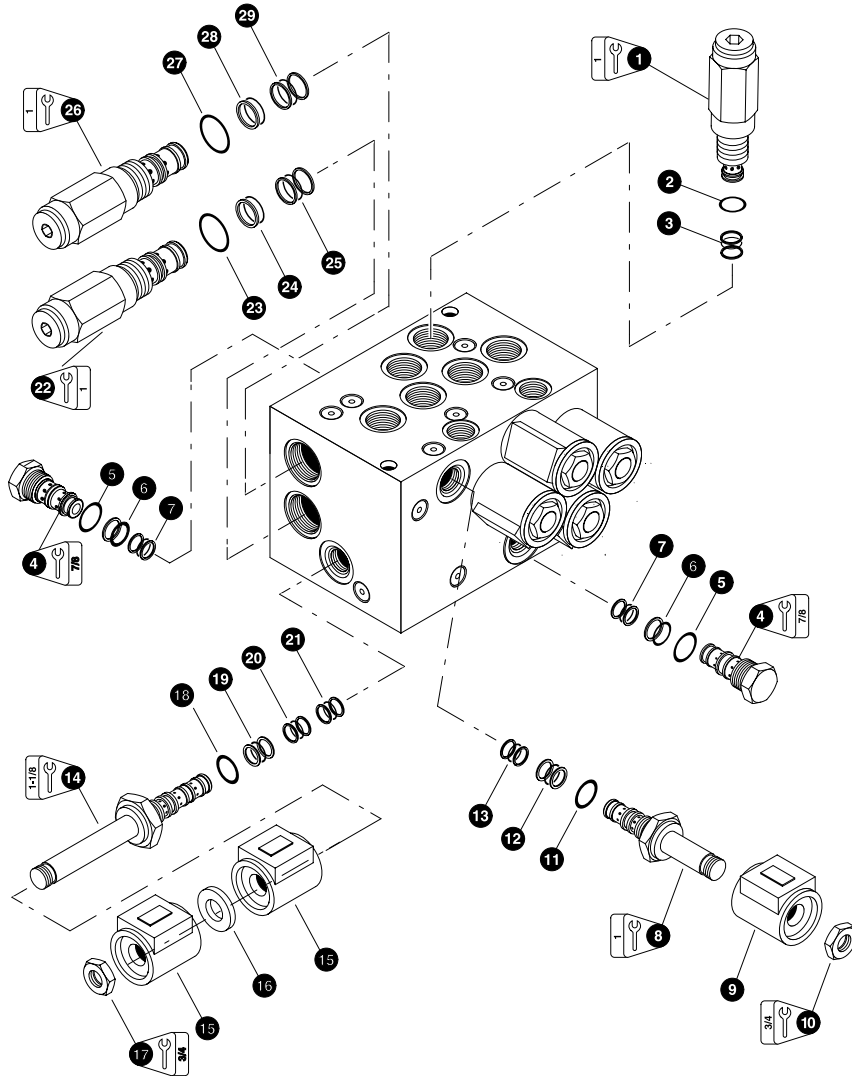


Parts 01613 03/10/2000
18.75

**FUEL LINES
(Fuel Tank Vent)**

REF	PART #	QTY	DESCRIPTION	SEE SECTION
1	22906-FF	1	BREATHER, fuel vent	
2	23393-FF	1	BRACKET, 800 Fuel tank vent	
3	15131-FF	1	CONNECTOR, straight - FF2031T-0404S	
4	50610-FF	1	HOSE ASSEMBLY - 2022-04-040S-040SW (Fuel tank vent port to fuel vent breather)	
5	REF.	1	ROTARY MANIFOLD MOUNTING BRACKET	UP-1-2
6	15504-FF	1	CONNECTOR, straight - FF2031T-0408S	

See referenced page for component or assembly breakdown.



Parts T2633 12/30/2002
62,50

LOWER SOLENOID MANIFOLD

(new style manifold(50377) is a direct replacement of old (23611))

REF	PART #	QTY	DESCRIPTION	SEE SECTION
-	50377-FF	1	<input type="checkbox"/> MANIFOLD, lower solenoid - 24V	
1	50451-FF	1	CARTRIDGE, relief valve (RV1) (RV08-20H-0-N-9/5)	
2	NSS	1	<input type="checkbox"/> O-RING, body	
3	NSS	1	<input type="checkbox"/> SEALS, chamber	
4	24071-FF	2	<input type="checkbox"/> CARTRIDGE, (check valve) (PC08-30-0-N-25)	
4	51403-FF	2	<input type="checkbox"/> CARTRIDGE, (check valve) (PC08-30-0333)(used after 03/01/04 (will not directly replace #24071))	
5	NSS	1	<input type="checkbox"/> O-RING, body	
6	NSS	1	<input type="checkbox"/> SEALS, chamber (Large)	
7	NSS	1	<input type="checkbox"/> SEALS, chamber (Small)	
8	24072-FF	5	<input type="checkbox"/> CARTRIDGE, solenoid valve - 24V (Motor Shift, Diff lock, Frame Lock, and Parking Brake) (SV07-31-0-N-24DW) COIL - 24V (Green harness wires)	
9	23622-FF	1	COIL - 24V (Green harness wires)	
10	NSS	1	NUT	
11	NSS	1	<input type="checkbox"/> O-RING, body	
12	NSS	1	<input type="checkbox"/> SEALS, chamber (Large)	
13	NSS	1	<input type="checkbox"/> SEALS, chamber (Small)	
14	24074-FF	4	<input type="checkbox"/> CARTRIDGE, solenoid valve - 24V (Gear Box Shift) (SV08-47D-0-N-24DW)	
15	23622-FF	2	COIL - 24V (Green harness wires)	
16	NSS	1	SPACER, coil	
17	NSS	1	NUT	
18	NSS	1	<input type="checkbox"/> O-RING, body	
19	NSS	1	<input type="checkbox"/> SEALS, chamber (Large)	
20	NSS	1	<input type="checkbox"/> SEALS, chamber (Medium)	
21	NSS	1	<input type="checkbox"/> SEALS, chamber (Small)	
22	24075-FF	1	<input type="checkbox"/> CARTRIDGE, relief valve (PR1) (PR10-31H-0-N-06.5/4.0)	
23	NSS	1	<input type="checkbox"/> O-RING, body	
24	NSS	1	<input type="checkbox"/> SEALS, chamber (Large)	
25	NSS	1	<input type="checkbox"/> SEALS, chamber (Small)	
26	24076-FF	1	<input type="checkbox"/> CARTRIDGE, relief valve (PR2) (PR10-31H-0-N-35/8.0)	
27	NSS	1	<input type="checkbox"/> O-RING, body	
28	NSS	1	<input type="checkbox"/> SEALS, chamber (Large)	
29	NSS	1	<input type="checkbox"/> SEALS, chamber (Small)	
-	50452-FF	1	KIT, seal repair - relief valve cartridge (RV-08)	
-	24083-FF	1	KIT, seal repair - check valve cartridge (PC-08)	
-	20288-FF	1	KIT, seal repair - solenoid valve cartridge (SV07)	
-	24084-FF	1	KIT, seal repair - solenoid valve cartridge (SV08)	
-	24085-FF	1	KIT, seal repair - reducing valve cartridge (PR10)	

Kit or Assembly - includes all items indented underneath.

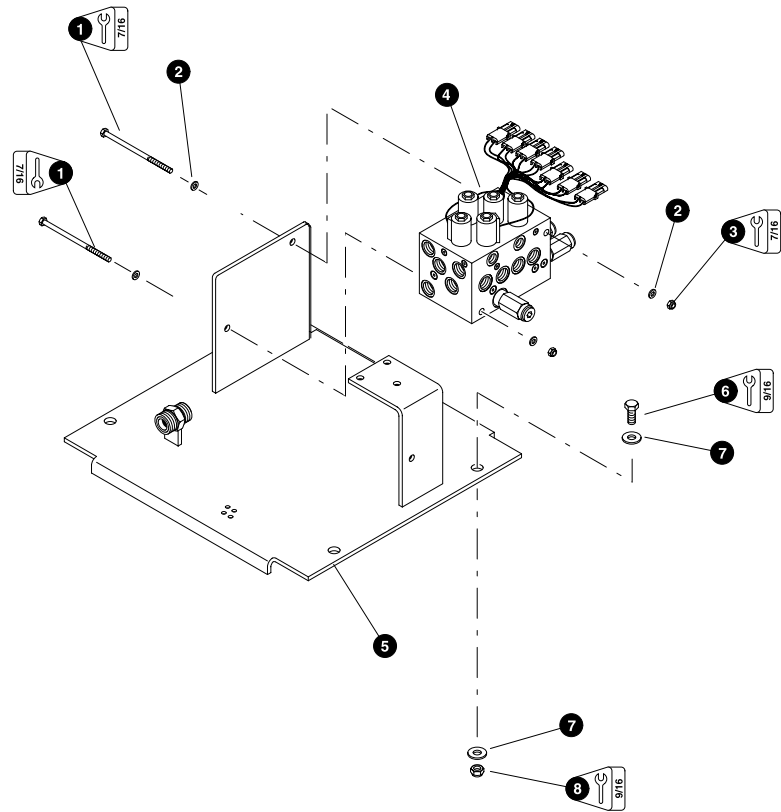
Included in seal repair kit Part # 50452-FF.

Included in seal repair kit Part # 24083-FF.

Included in seal repair kit Part # 20288-FF.

Included in seal repair kit Part # 24084-FF.

Included in seal repair kit Part # 24085-FF.

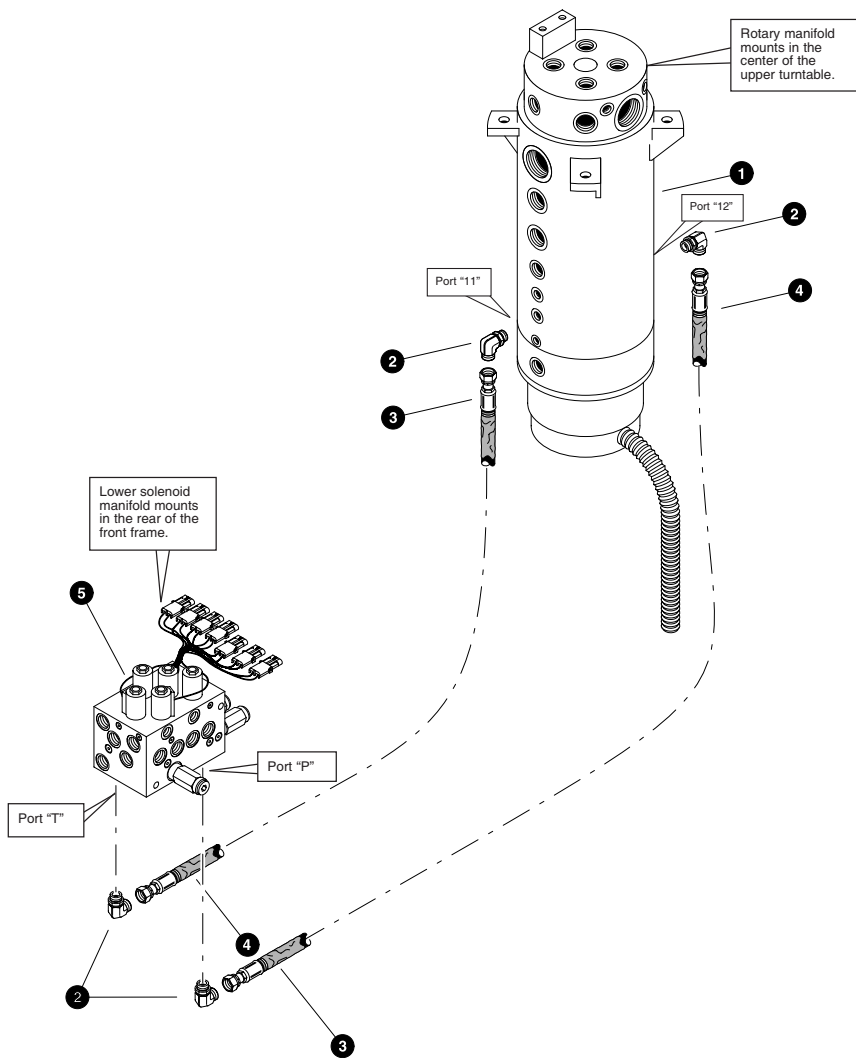


Parts T2648 01/15/2003
25.00

LOWER SOLENOID MANIFOLD (installation)

REF	PART #	QTY	DESCRIPTION	SEE SECTION
1	50077-FF	1	BOLT - 1/4" x 6" (Mounts lower solenoid valve and pressure check manifold)	
2	10757-FF	10	WASHER, SAE flat - 1/4"	
3	10811-FF	4	NUT, lock - 1/4"	
4	REF.	1	LOWER SOLENOID MANIFOLD	FF-5
5	80833-FF	1	BRACKET, manifold/fuel pump mounting	
6	10402-FF	4	BOLT - 3/8" x 1 1/4"	
7	10802-FF	8	WASHER, flat - 3/8"	
8	10813-FF	4	NUT, lock - 3/8"	

- See referenced page for component or assembly breakdown.
- Kit or Assembly - includes all items indented underneath.

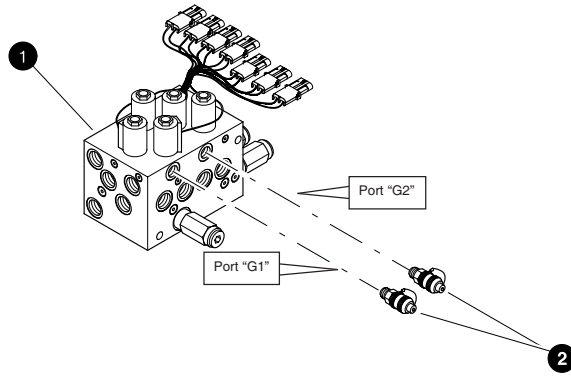


Parts T2957 03/06/2004
25,00

LOWER SOLENOID MANIFOLD PRESSURE & RETURN LINES
(Machines built after 12/01/03)

REF	PART #	QTY	DESCRIPTION	SEE SECTION
1	REF.	1	ROTARY MANIFOLD	UP-1
2	16296-FF	4	ELBOW, 90° - FF1868T-0606S	
3	50611-FF	1	HOSE ASSEMBLY - 4052-06-060S-060S (Rotary manifold lower port "12" to lower solenoid manifold port "P")	
4	51292-FF	1	HOSE ASSEMBLY - 4045-06-060S-060S (Lower solenoid manifold port "T" to rotary manifold lower port "11")	
5	REF.	1	LOWER SOLENOID MANIFOLD	FF-5

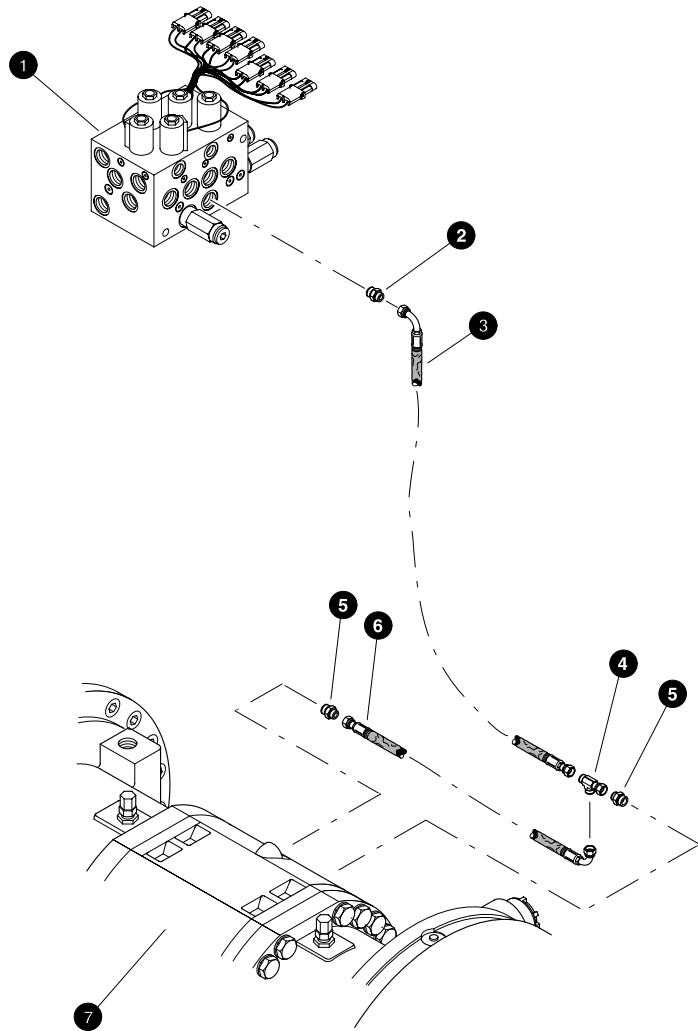
See referenced page for component or assembly breakdown.



LOWER SOLENOID MANIFOLD PRESSURE GAUGE TEST PORTS
(Machines built after 12/01/03)

REF	PART #	QTY	DESCRIPTION	SEE SECTION
1	REF.	1	LOWER SOLENOID MANIFOLD	FF-5
2	16037-FF	2	TAP, gauge port (#4 SAE)	

See referenced page for component or assembly breakdown.

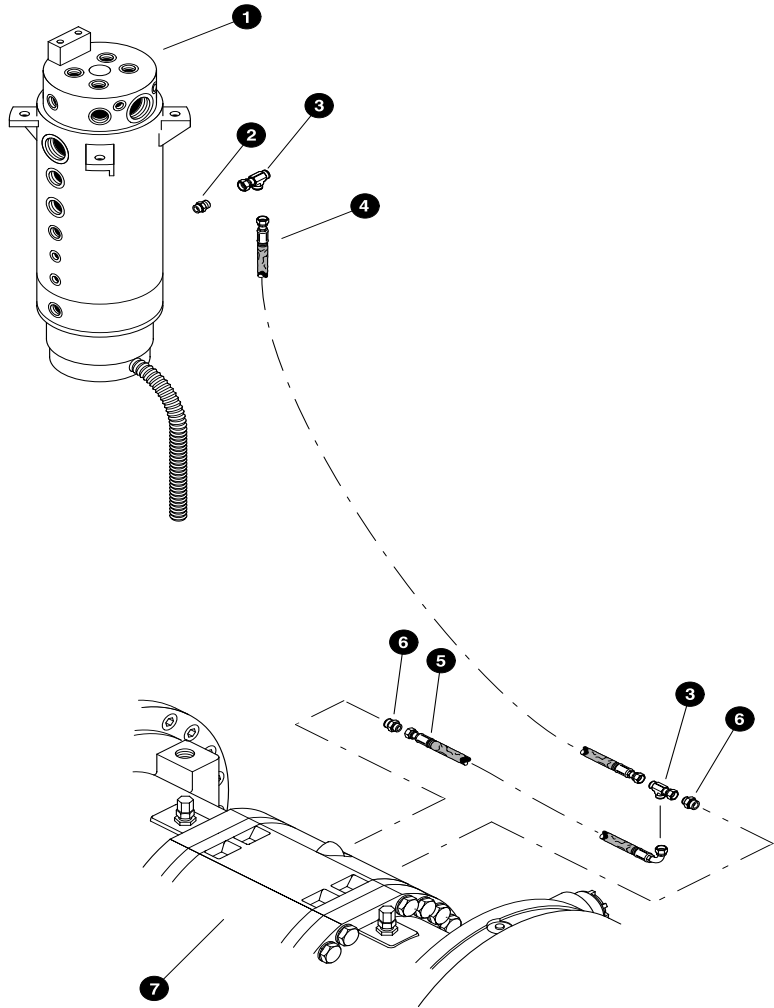


**LOWER SOLENOID MANIFOLD
PARKING BRAKE CIRCUIT
(front frame)**

(Machines built after 12/01/03)

REF	PART #	QTY	DESCRIPTION	SEE SECTION
1	REF.	1	LOWER SOLENOID MANIFOLD	FF-5
2	19683-FF	1	CONNECTOR, straight - FF1852T-0406S	
3	-FF	1	HOSE ASSEMBLY - 2083-04-040S-0409 (Lower solenoid manifold port "PB" to front axle parking brake tee)	
4	15176-FF	1	TEE, SWIVEL NUT RUN FF2114T-0404S	
5	19470-FF	2	CONNECTOR, straight - 4M14F8OMLO-S	
6	50607-FF	1	HOSE ASSEMBLY - 2099.5-04-040S-0409 (Front axle parking brake tee to RH brake chamber)	
7	REF.	1	FRONT AXLE	AX-1

See referenced page for component or assembly breakdown.

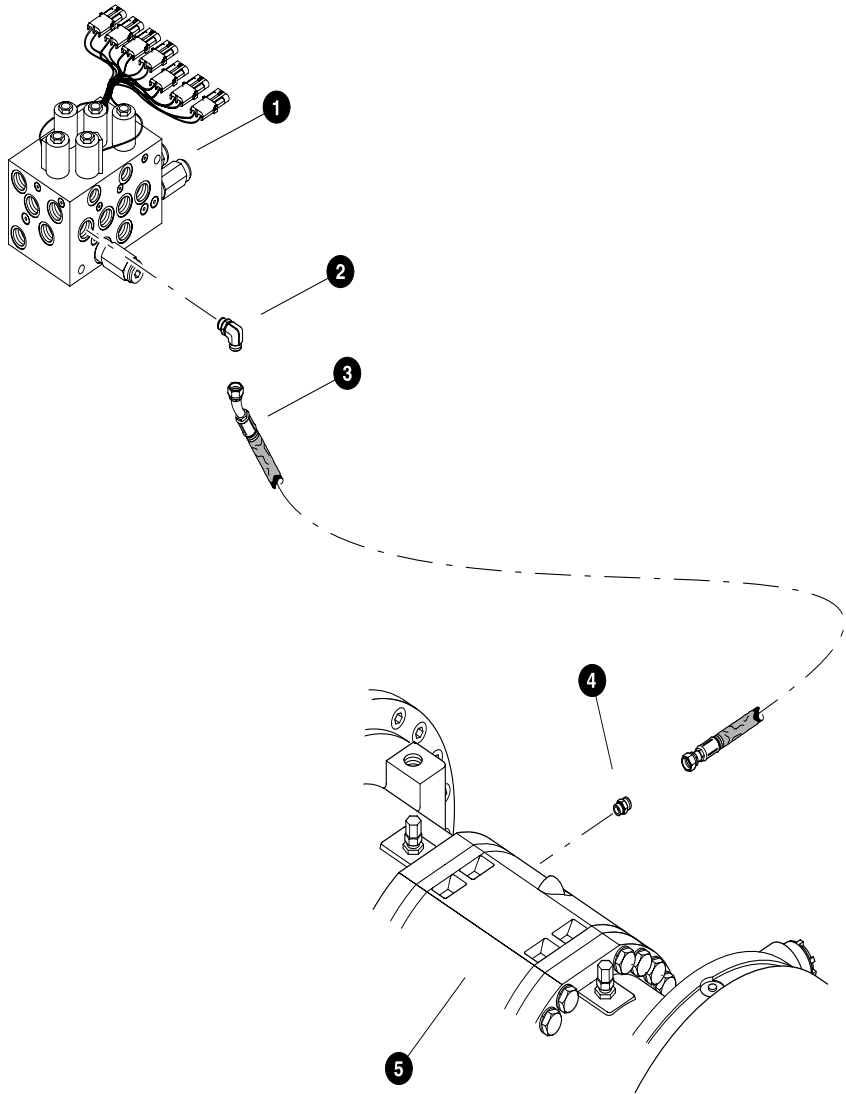


Parts T2958 03/06/2004
18.75

**Front Frame Travel Brake Hoses
(NEW INSTALLATION)**
(Machines built after 12/01/03)

REF	PART #	QTY	DESCRIPTION	SEE SECTION
1	REF.	1	ROTARY MANIFOLD	UP-1
2	15124-FF	1	CONNECTOR, straight - FF1852T-0404S	
3	15176-FF	2	TEE - FF2114T-0404S	
4	50598-FF	1	HOSE ASSEMBLY - 2050-04-040S-040S (Rotary manifold lower port "10" to front travel brake tee)	
5	50607-FF	1	HOSE ASSEMBLY - 2009.5-04-040S-0409-W (Front axle travel brake tee to LH brake chamber)	
6	19470-FF	2	CONNECTOR, straight - 4M14F8OMLO-S	
7	REF.	1	FRONT AXLE	AX-1

See referenced page for component or assembly breakdown.



LOWER SOLENOID MANIFOLD DIFF LOCK HOSES
(Machines built after 12/01/03)

REF	PART #	QTY	DESCRIPTION	SEE SECTION
1	REF.	1	LOWER SOLENOID MANIFOLD	FF-5
2	15133-FF	1	ELBOW, 90 - FF1868T-0406S	
3	-FF	1	HOSE ASSEMBLY - 2080-04-040S-0404 (Lower solenoid manifold port "DL" tee to front axle differential lock port)	
4	19470-FF	1	CONNECTOR, straight - 4M14F8OMLO-S	
5	REF.	1	FRONT AXLE	AX-1

See referenced page for component or assembly breakdown.

