

# ***SKYTRAK***<sup>®</sup>

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## ***Illustrated Parts Manual Service and Maintenance Manual***

***Model  
8042  
10042  
10054***

**8990187**

April 06, 2015

***ANSI***



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***JLG***<sup>®</sup>



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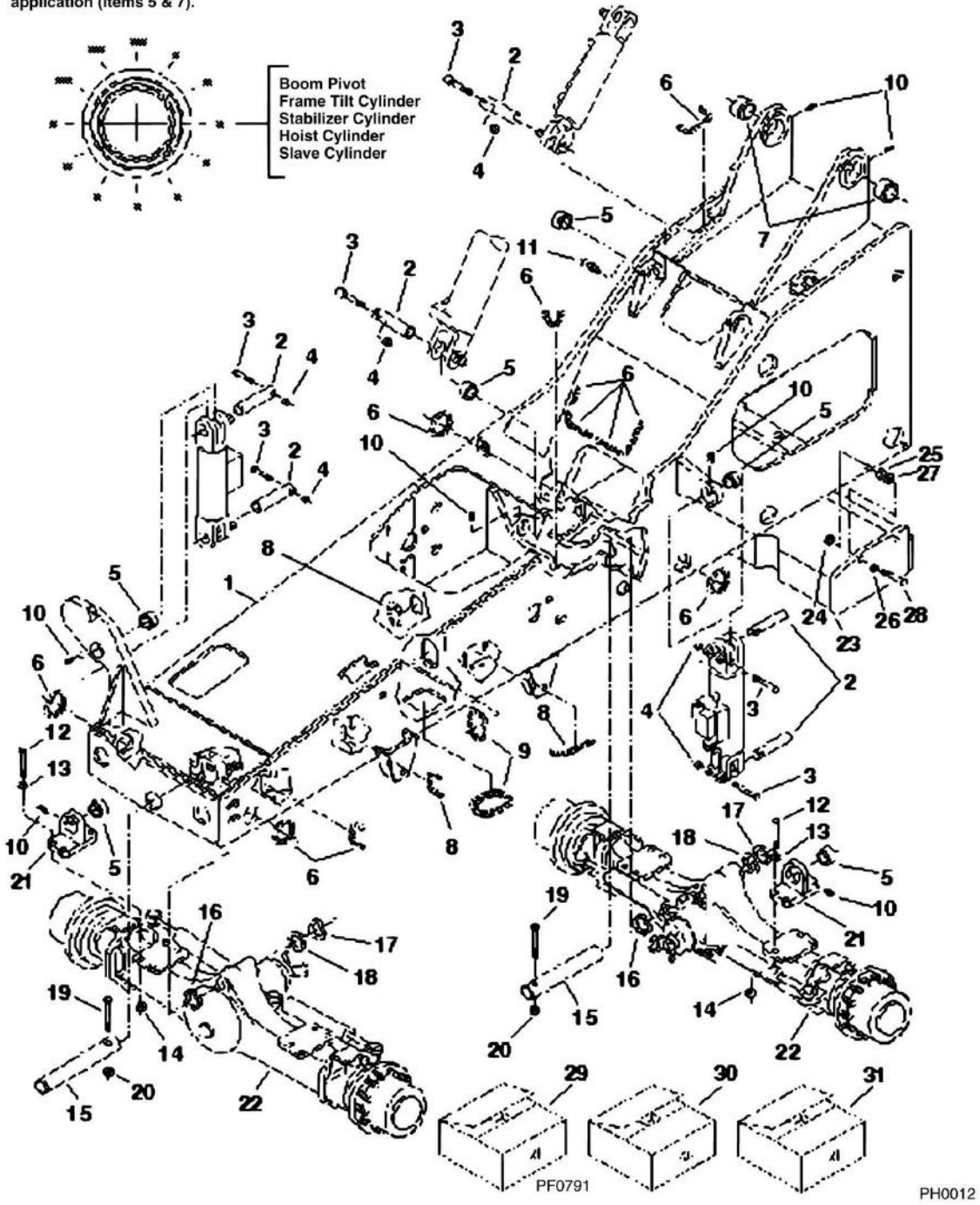
# SECTION 1 - MAIN FRAME AND GUARDS

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## FIGURE 1-1. MAIN FRAME

Locate the fracture in bearing outer race at the clock position shown for each application (Items 5 & 7).





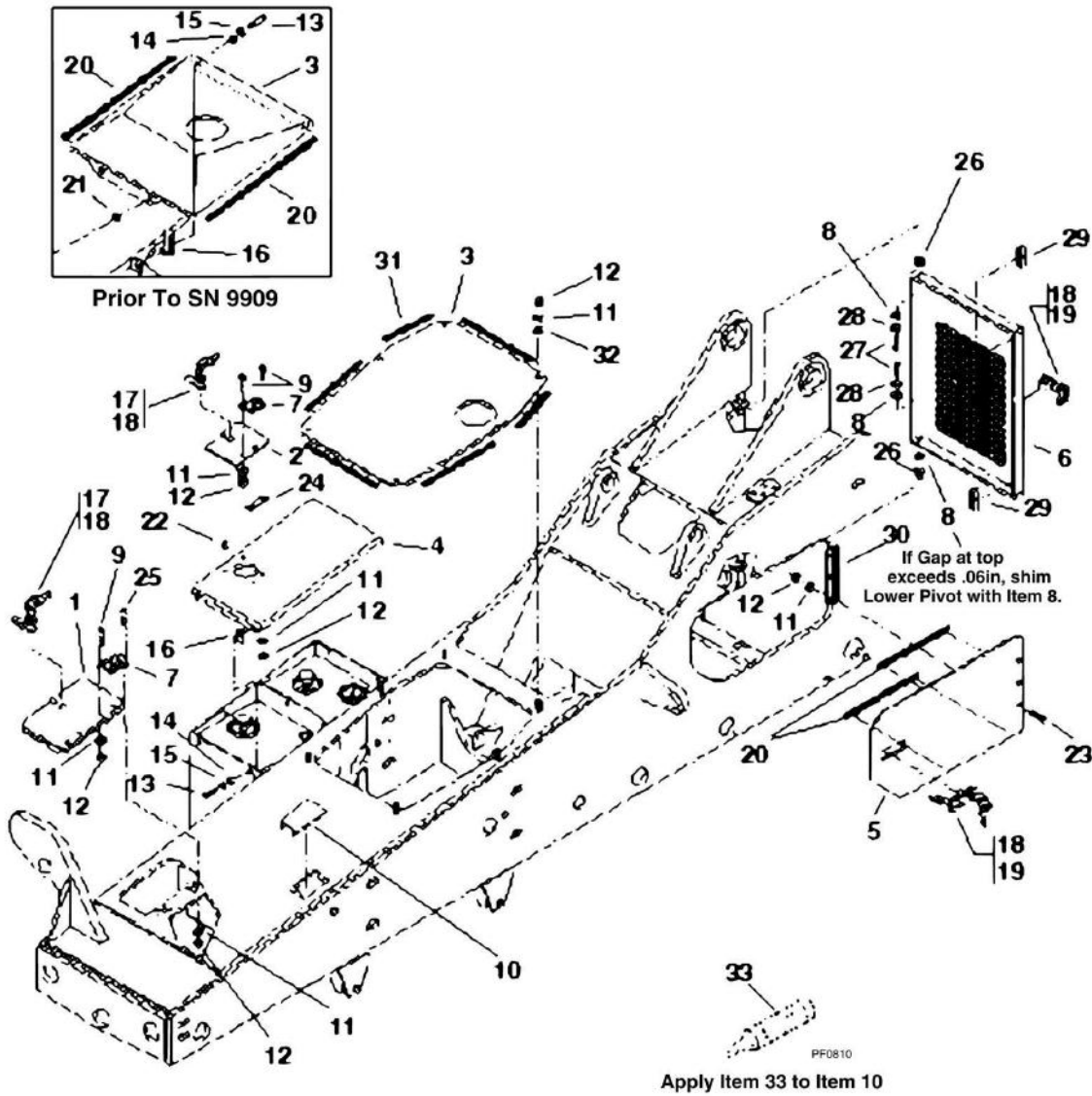
# SECTION 1 - MAIN FRAME AND GUARDS

## FIGURE 1-1. MAIN FRAME

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	Consult Factory	1	Weldment, Frame	
2	7092292	8	Pin, Hoist, Slave, Tilt, and Stabilizer Cylinders	
3	8303782	8	HHCS, 1/2-13 x 4in	
4	8305644	8	Nut, Hex Lock Elastic 1/2-13	
5	8065640	8	Bearing, 2in I.D.	
6	6620531	AR	Conduit, 1 x 5ft - Cut to Fit	
7	8065641	2	Bearing, 2-3/4 I.D.	
8	7124331	AR	Conduit, 1/2 x 5ft - Cut to Fit	
9	7125861	AR	Conduit, 3/4 x 5ft - Cut to Fit	
10	8520013	8	Fitting, Grease	
11	8520021	2	Fitting, Grease 90	
12	8303724	8	HHCS, 3/4-10 x 3-1/2in	
13	8310111	8	Washer, Flat .81 x 2 x .15in	
14	8310067	8	Nut, Hex Lock Elastic 3/4-10	
15	7079442	2	Pin, Axle Pivot	
16	8307913	AR	Spacer, Washer .12in Thick	
17	8307912	AR	Spacer, Washer .06in Thick	
18	8310259	AR	Spacer, Washer .09in Thick	
19	8303655	2	HHCS, 5/8-11 x 4-1/2in	
20	8305643	2	Nut, Hex Lock Elastic 5/8-11	
21	7099312	2	Anchor, Cylinder	
22	8040258	2	Axle	
23	7098563	1	Counterweight	
24	8305021	4	Nut, Hex 1in-8	
25	5724302	2	Washer, Shim .06in Thick	
26	8307012	4	Washer, Lock 1in	
27	8310066	2	Washer, Flat .134in Thick	
28	8310051	4	HHCS, 1-8 x 4in	
		Ref	<b>KITS</b>	
29	7138302	1	Kit, Cylinder Anchor (Includes 1 of Item 5, 1 of Item 10 & 1 of Item 21)	
30	7129313	1	Kit, Hoist Cylinder Pivot Left Side (Includes 1 of Item 2, 1 of Item 5 & 1 of Item 10)	
31	7129323	1	Kit, Hoist Cylinder Pivot Right Side (Includes 1 of Item 2, 1 of Item 5 & 1 of Item 10)	

# SECTION 1 - MAIN FRAME AND GUARDS

## FIGURE 1-2. HOODS AND GUARDS



PH1330

# SECTION 1 - MAIN FRAME AND GUARDS

## FIGURE 1-2. HOODS AND GUARDS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7098262	1	Cover, Tool Box	
2	7084792	1	Cover, Fuel Tank	
3	7111164	1	Cover, Transmission <b>(Prior to SN 9909)</b>	
3	7150393	1	Cover, Transmission <b>(SN 9909 to Present)</b>	
4	NLA	1	Cover, Fuel/Hydraulic Tank, For Service, Order P/N 7138614 <b>(Prior to SN 11021)</b>	
4	7138614	1	Cover, Fuel/Hydraulic Tank <b>(SN 11021 to Present)</b>	
5	7095452	2	Cover, Side Access	
6	7097174	1	Cover, Radiator	
7	8344010	3	Hinge	
8	8307110	AR	Washer, Flat 3/8in	
9	8303034	8	TRHDCS, 1/4-20 x 3/4in	
10	7111473	1	Cover	
11	8307002	18	Washer, Lock 1/4in	
12	8305004	18	Nut, Hex 1/4-20	
13	8303656	6	HHCS, 5/16-18 x 7/8in	
14	8307203	6	Washer, Flat 5/16in	
15	8307004	6	Washer, Lock 5/16in	
16	8305906	6	Nut, Retaining 5/16in	
17	8342807	2	Lock w/Key	
18	8342808	AR	Key Set	
19	8342416	3	Latch, w/Lock and Key	
20	8581007	4	Tape, Foam, 38in (sold in 50in increments)	
21	8580213	2	Grommet	
22	8582413	2	Plug, Bumper	
23	8303729	6	HHCS, 1/4-20 x 5/8in	
24	7084821	1	Shim	
25	8310136	4	TRHDCS, 1/4-20 x 1-1/4in	
26	7082311	2	Insert	
27	8304660	2	SHCS, 3/8-16 x 3/4in	
28	8307005	2	Washer, Lock 3/8in	
29	5724742	2	Gasket	
30	7094682	2	Hinge, Side Access Cover	
31	8581007	AR	Tape, Foam - 170in (Cut to Fit)	
32	8307202	6	Washer, Flat 1/4in	
33	8526035	AR	Caulk, Clear RTV-08	

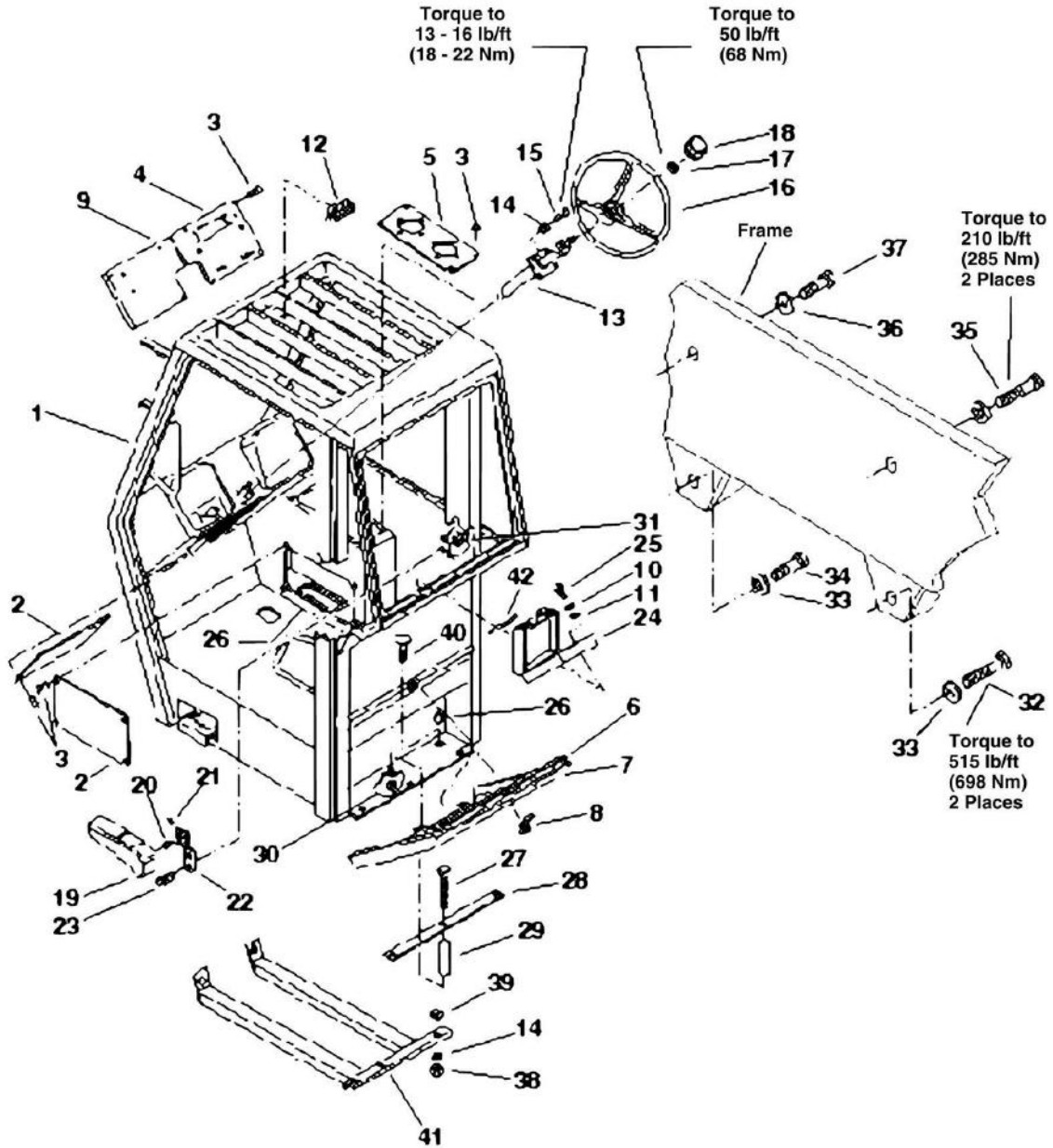


## **SECTION 2 - OPERATOR'S CAB AND CONTROLS**

## **SECTION 2 - OPERATOR'S CAB AND CONTROLS**

# SECTION 2 - OPERATOR'S CAB AND CONTROLS

## FIGURE 2-1. OPERATOR'S CAB - OPEN



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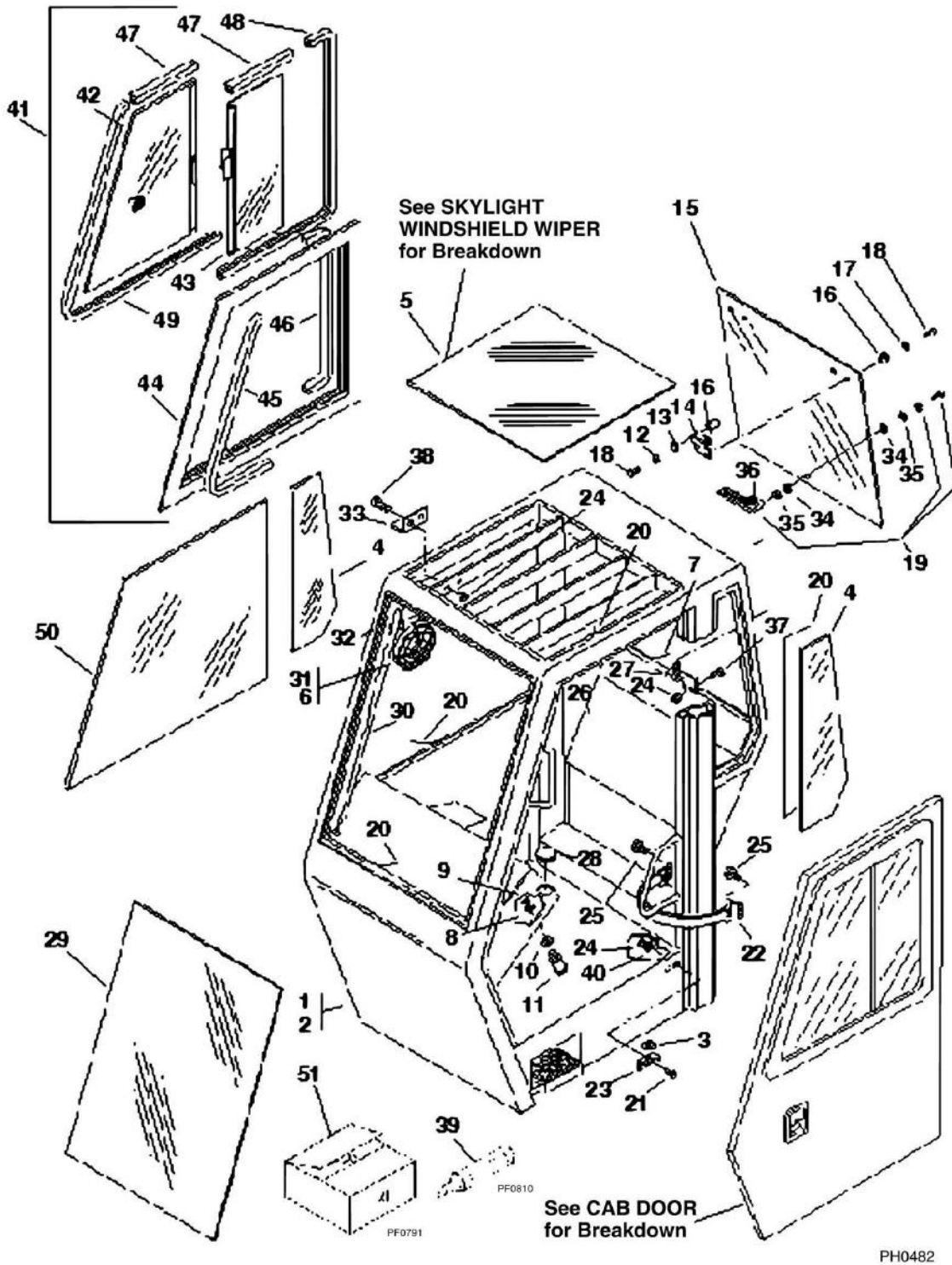
## SECTION 2 - OPERATOR'S CAB AND CONTROLS

**FIGURE 2-1. OPERATOR'S CAB - OPEN**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7099742	1	Cab Assembly, Operator's Protective Structure Orange, Open - 10042/10054 (Right Rear Corner Post Reinforced)	
1	7112102	1	Cab Assembly, Operator's Protective Structure Orange, Open - 8042	
2	8033050	2	Panel, Lower	
3	8303034	20	THMS, Torx, 1/4-20 x 3/4in	
4	7302077	1	PANEL, SIDE CONSOLE	
5	8033053	1	Panel, Side Console	
6	8033031	1	Gasketing, Sponge Rubber, 25-1/4in	
7	8033022	1	Cover, Battery	
8	8342807	1	Lock, Cam	
9	8033051	1	Panel, Left Front Console <b>(Prior to SN 9909)</b>	
9	7150361	1	Panel, Left Front Console <b>(SN 9909 to Present)</b>	
10	8307002	3	Washer, Lock 1/4in	
11	8307109	3	Washer, Flat 1/4in	
12	8466306	1	Gauge, Tilt Angle	
13	8721023	1	Column, Steering <b>(Prior to SN 9909)</b>	
13	7150382	1	Column, Steering <b>(SN 9909 to Present)</b>	
14	8307005	8	Washer, Lock 3/8in	
15	8303534	4	FHCS, 3/8-16 x 1-1/4in	
16	8720014	1	Wheel, Steering	
17	8305916	1	Nut, Steering Column	
18	8720015	1	Cap, Steering Wheel	
19	8864038	1	Arm Rest	
20	8065639	1	Bushing, Sleeve	
21	8302147	1	Pin, Roll	
22	7098342	1	Bracket, Arm Rest	
23	8303705	2	Scr FLHDC 1/4-20 x 3/4in	
24	8990147	1	Holder, Manual	
25	8303729	2	HHCS, 1/4-20 x 5/8in	
26	7124331	1	Conduit, 1/2 I.D. x 5ft - Cut to Fit	
27	8310344	AR	Bolt, Carriage 3/8-16 x 10in	
28	7129261	1	Bar, Single Battery Hold Down (Current Production)	
28	7082971	1	Bar, Double Battery Hold Down (Early Production)	
29	7125521	AR	Hose, 3/8 x 8.0in	
30	8305645	2	Nut, Lock 3/8-16	
31	8305624	2	Nut, Lock 1/4-20	
32	8310050	1	HHCS, 1-8 x 6in	
33	8307012	2	Washer, Lock 1in	
34	8310049	1	HHCS, 1-8 x 2-3/4in	
35	8310112	1	HHCS, 3/4-10 x 6in	
36	8307010	2	Washer, Lock 3/4in	
37	8303638	1	HHCS, 3/4-10 x 2-3/4in	
38	8305008	4	Nut, Hex 3/8-16	
39	8310070	4	Retainer - 3/8in	
40	8310036	4	Bolt, Carriage 3/8-16 x 1-1/4in	
41	7097233	1	Guard, Bottom	
42	7125691	2	Rope Caulk, 0.2 Dia x 3.0in	

# SECTION 2 - OPERATOR'S CAB AND CONTROLS

## FIGURE 2-2. OPERATOR'S CAB - CLOSED (OPTIONAL)





## SECTION 2 - OPERATOR'S CAB AND CONTROLS

**FIGURE 2-2. OPERATOR'S CAB - CLOSED (OPTIONAL)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7112092	1	Cab, Enclosed - Complete (Includes Cab Door; 10042 & 10054 Reinforced, Orange)	
1	7099324	1	Cab, Enclosure Kit minus Cab Door (Includes Items 3 thru 49 on this page and all parts on FRONT WINDSHIELD WIPER AND CAB HEATER (Optional) for Breakdown)	
1	7127282	1	Cab Assembly, Operator's Protective Structure Enclosed Orange - Optional (Includes: 7099324 - Cab Enclosure Kit, 8346008 - Door Assembly, 7112102 - Cab Assembly, Operator's Protective Structure Orange, Open)	
2		Ref	Cab Assembly:See Operators Cab-Open	
3	8307207	1	Washer, Flat 5/8in	
4	8033079	2	Window, Wing	
5	8033081	1	Window, Skylight w/o Wiper Assembly	
6	8033092	4	HHCS, #10-24 x 3/4in	
7	8033072	1	Seal, Rubber, 120in	
8	8307113	1	Washer, Flat 7/16in	
9	8305647	1	Nut, Hex Lock 7/16-14	
10	8307206	AR	Washer, Flat 1/2in	
11	8346010	1	Bolt, Striker	
12	8307003	4	Washer, Lock #10	
13	8307201	4	Washer, Flat 3/16in	
14	8033085	2	Hinge, Spring	
15	8033084	1	Window, Rear	
16	8033086	8	Nut, Well	
17	8033087	4	Washer, Nylon	
18	8033088	8	Screw, Phil Hd, #10-32 x 3/4in	
19	8033044	1	Window Hold Slide Assembly, w/Hardware	
20	8585135	3	Tape, Butyl, 1/4in sq x 15ft Roll	
21	8303540	2	HHCS, 1/4-20 x 1in	
22	8342413	1	Strap	
23	8033090	1	Bracket, Door Mounting	
24	8305601	6	Nut, Hex Lock 1/4-20	
25	8303982	4	Screw, Self Tap 1/4-20 x 3/4in	
26	8346011	1	Panel, Rear Foam	
27	8585138	1	Weldment, Latch Bracket	
28	8580315	1	Plug, Hole	
29	8033479	1	Window, Front	
30	8033076	1	Wire Assembly, Fan	
31	8033078	1	Fan, Defroster	
32	8033077	2	Connector, Wire	
33	8033094	1	Bracket, Circulation Fan	
34	8585139	2	Washer, Flat Plastic 3/8in	
35	8307204	2	Washer, Flat 3/8in	
36	8580115	1	Knob	
37	8303776	2	HHCS, 1/4-20 x 1/2in	
38	8303540	2	HHCS, 1/4-20 x 1in	
39	8585134	AR	Sealant, Urethane, 10 oz Cartridge	
40	8307002	2	Washer, Lock 1/4in	
41	8346009	1	Window, Right Side Sliding (Includes Items 42 thru 49)	
42	8033833	1	Glass Assembly - Front	
43	8033834	1	Glass Assembly - Rear	

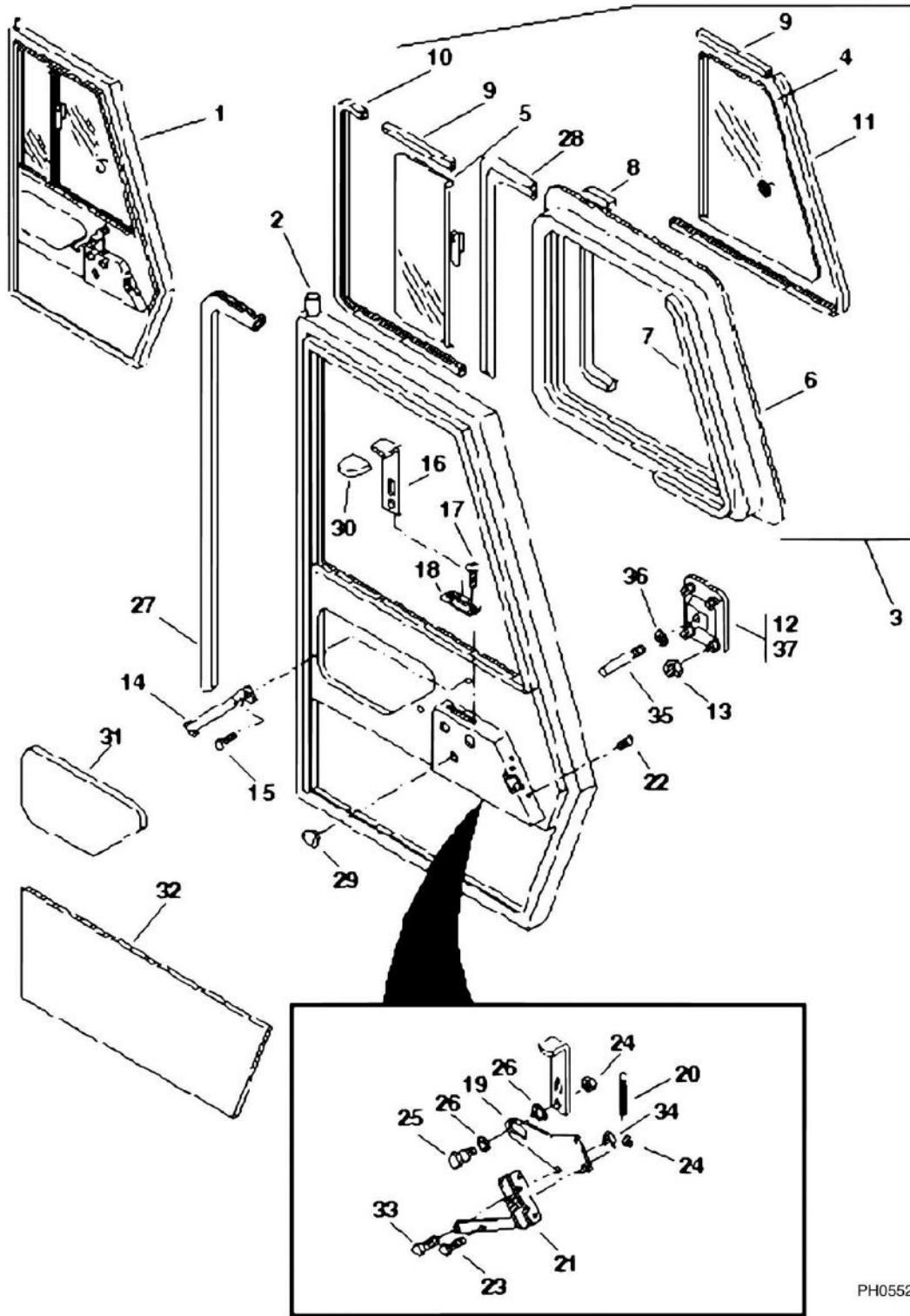
## SECTION 2 - OPERATOR'S CAB AND CONTROLS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
44	8033835	1	Frame Assembly	
47	8034546	1	Rubber, Flkd	
46	8033837	1	Trim, Stop - Rear	
47	8033838	2	Rubber, Flkd	
48	8033839	1	Rubber, Flkd	
49	8033840	1	Rubber, Flkd	
50	8033082	1	Window, Right Side (Optional)	
51	8585133	1	Window Glue Kit (Includes Items 20, 39, four setting blocks and installation instructions)	



# SECTION 2 - OPERATOR'S CAB AND CONTROLS

## FIGURE 2-3. CAB DOOR



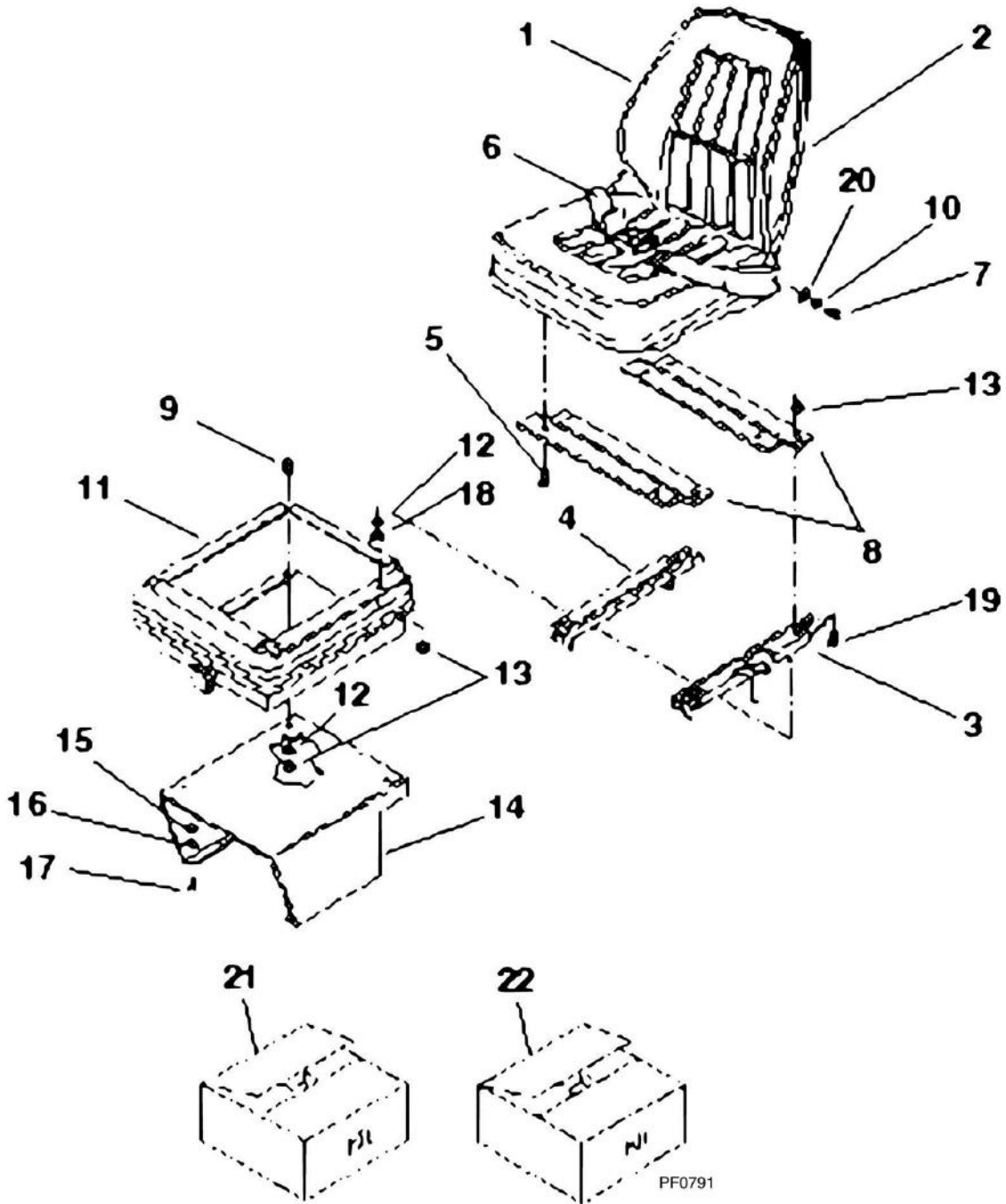
## SECTION 2 - OPERATOR'S CAB AND CONTROLS

### FIGURE 2-3. CAB DOOR

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	8346008	1	Door Assembly (Includes Items 2 thru 36)	
2	8033844	1	Door Weldment	
3	8033845	1	Sliding Window Assembly (Includes Items 4 thru 11)	
4	8033843	1	Glass Assembly - Front	
5	8033842	1	Glass Assembly - Rear	
6	8033841	1	Frame Assembly	
7	8034544	1	Trim, Stop - Front	
8	8034545	1	Trim, Stop - Rear	
9	8034546	2	Rubber, Flkd	
10	8034547	1	Rubber, Flkd	
11	8034548	1	Rubber, Flkd	
12	8033846	1	Paddle Latch	
13	8033847	4	Nut, Hex Locking 1/4-20	
14	8033848	1	Grab Handle	
15	8033849	2	Screw, Self Tapping 1/4 x 3/4in	
16	8033850	1	Door Release	
17	8033851	2	Screw, Self Tapping #10-24 x 1/2in	
18	8033852	1	Bezel	
19	8033853	1	Latch Trip	
20	8033854	1	Spring	
21	8033855	1	Cam Latch - Right Side	
22	8033856	4	Bolt, 1/4-20 x 3/4in	
23	8033857	1	Bolt, Hex Hd 5/16 x 3/4in	
24	8033858	2	Nut, Hex Locking 5/16in	
25	8033859	1	Shoulder Bolt	
26	8033860	2	Washer, Nylon	
27	8033861	1	Seal, Rubber (17ft)	
28	8037206	1	Seal, Bulb "D" .216 x .354 (9.5ft)	
29	8033862	3	Hole Plug	
30	8033863	1	Rubber Grip	
31	8033864	1	Soundproofing - Upper Door	
32	8033865	1	Soundproofing - Lower Door	
33	8033866	1	Bolt, Hex Hd 3/8 x 3/4in	
34	8033867	1	Nut, Hex Locking 3/8in	
35	8033868	1	Striker Bolt	
36	80364021	1	Washer, Lock 3/8	
37	8342808	1	Key Set (Not Shown)	

# SECTION 2 - OPERATOR'S CAB AND CONTROLS

## FIGURE 2-4. OPERATOR'S SEAT



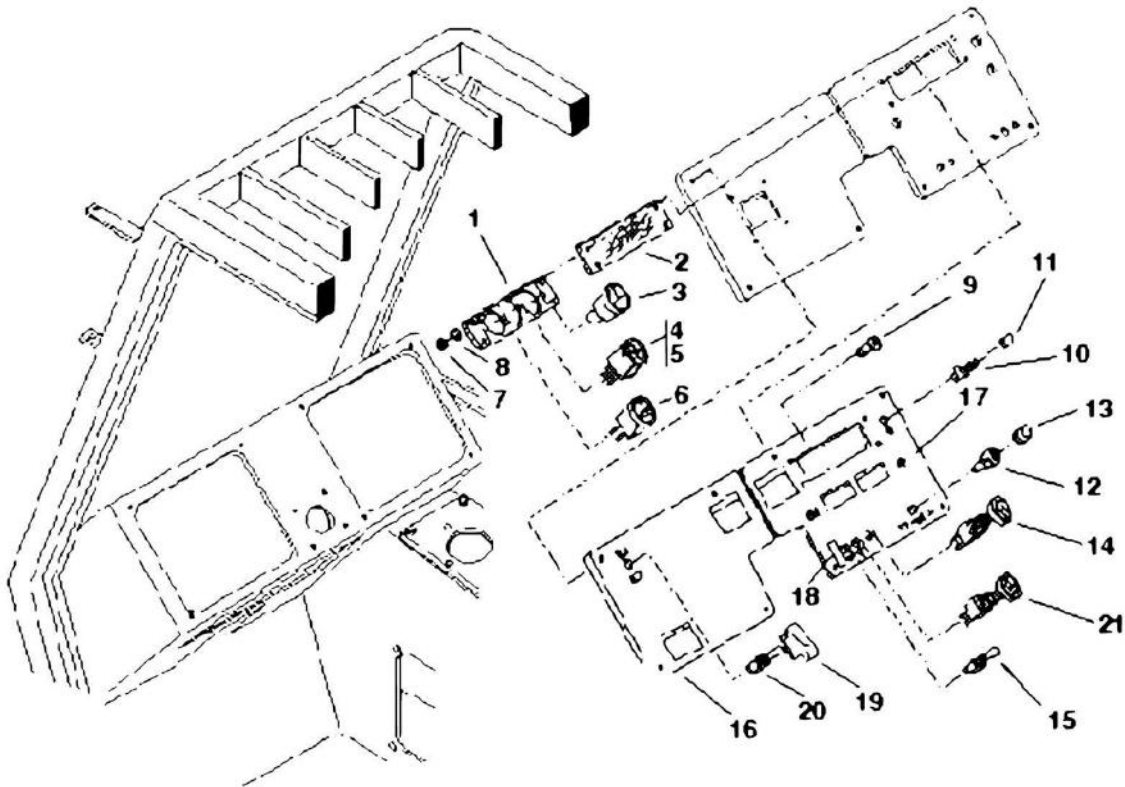
## SECTION 2 - OPERATOR'S CAB AND CONTROLS

### FIGURE 2-4. OPERATOR'S SEAT

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	8864037	1	Seat Assembly - Vinyl (Includes Items 2 thru 5)	
1	8864044	1	Seat Assembly - Cloth 2 Piece (Includes Items 2 thru 5)	
2	8864041	1	Cushion, Seat - Vinyl (one piece)	
2	8864045	1	Cushion, Seat - Cloth	
2	8864046	1	Seat Back - Cloth	
3	8864039	1	Slide, w/Handle	
4	8864040	1	Slide, w/o Handle	
5	N.S.S.	4	Screw	
6	8864043	1	Belt, Seat	
7	8303604	2	HHCS, 7/16-20 x 1-1/4in	
8	7090751	2	Mount, Seat	
9	8303697	4	HHCS, 5/16-18 x 3/4in	
10	8307006	2	Washer, Lock 7/16in	
11	8864036	1	Suspension	
12	8307106	8	Washer, Flat 5/16in	
13	8305626	12	Nut, Hex Lock Elastic 5/16-18	
14	7083963	1	Support, Suspension	
15	8305008	4	Nut, Hex 3/8-16	
16	8307005	4	Washer, Lock 3/8in	
17	8303534	4	FLHDCS 3/8-16 x 1-1/4in	
18	8305006	4	Nut, Hex 5/16-18	
19	8303745	4	HHCS, 5/16-18 x 5/8in	
20	8307113	2	Washer, Flat 7/16in	
		Ref	<b>KITS</b>	
21	7143900	1	Kit, Seat Belt non-retractable 3in	
22	7144000	1	Kit, Seat Belt retractable 3in	

# SECTION 2 - OPERATOR'S CAB AND CONTROLS

## FIGURE 2-5. CONTROL CONSOLE



PH0543



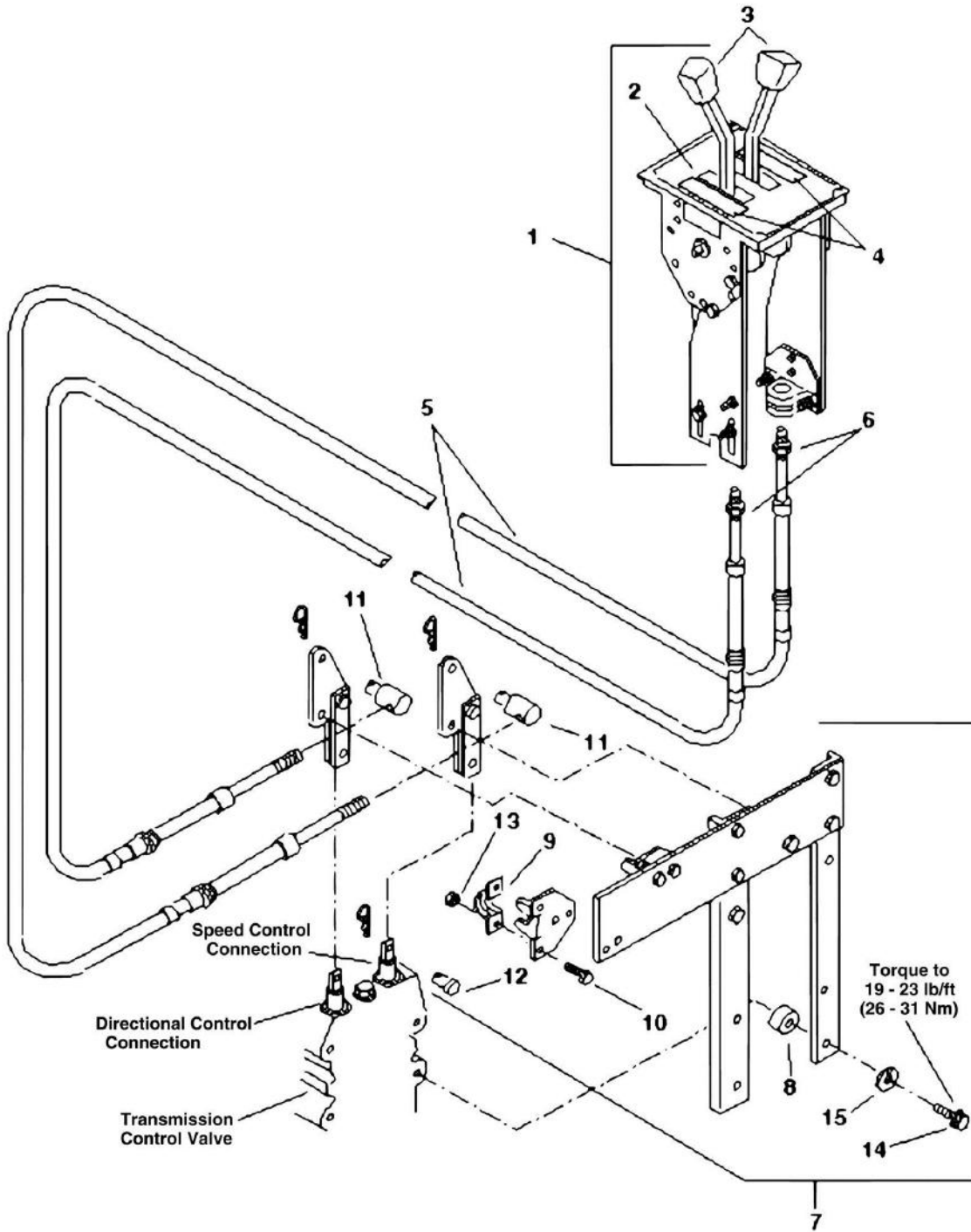
## SECTION 2 - OPERATOR'S CAB AND CONTROLS

### FIGURE 2-5. CONTROL CONSOLE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7084902	1	Plate, Gauge Mounting	
2	7082292	1	Cover	
3	8464212	1	Gauge, Fuel	
4	8466305	1	Gauge, Warning Lights (Includes Item 5)	
5	8469030	4	Bulb (Not Shown)	
6	8467014	1	Hourmeter	
7	8305004	4	Nut, Hex, 1/4-20	
8	8307002	4	Washer, Lock 1/4in	
9	8303034	4	TRHCS, Torx 1/4-20 x 3/4in	
10	8223442	1	Switch Test	
11	8580312	1	Cap, Seal	
12	8223405	1	Button, Horn	
13	8580311	1	Cap, Seal	
14	8033201	1	Switch, Washer/Wiper Front (Optional)	
15	8223220	1	Switch, Steer Select	
16	7099352	1	Overlay, Left Console - Domestic <b>(Prior to SN 9909)</b>	
16	7150371	1	Overlay, Left Console - Domestic <b>(SN 9909 to Present)</b>	
16	7111842	1	Overlay, Left Console - Export <b>(Prior to SN 9909)</b>	
16	7150472	1	Overlay, Left Console - Export <b>(SN 9909 to Present)</b>	
17	7099332	1	Overlay, Right Console - Domestic	
17	7111832	1	Overlay, Right Console - Export	
18	4107971	1	Decal, Outrigger Contact - Domestic (10054 Only)	
18	4107981	1	Decal, Outrigger Contact - Export (10054 Only)	
19	8223445	1	Guard, Switch	
20	8223444	1	Emergency Brake Switch	
21	7135942	1	Switch, Skylight Wiper (Optional)	

# SECTION 2 - OPERATOR'S CAB AND CONTROLS

## FIGURE 2-6. TRANSMISSION SHIFT CONTROLS (Prior to SN 9909)



PA0085

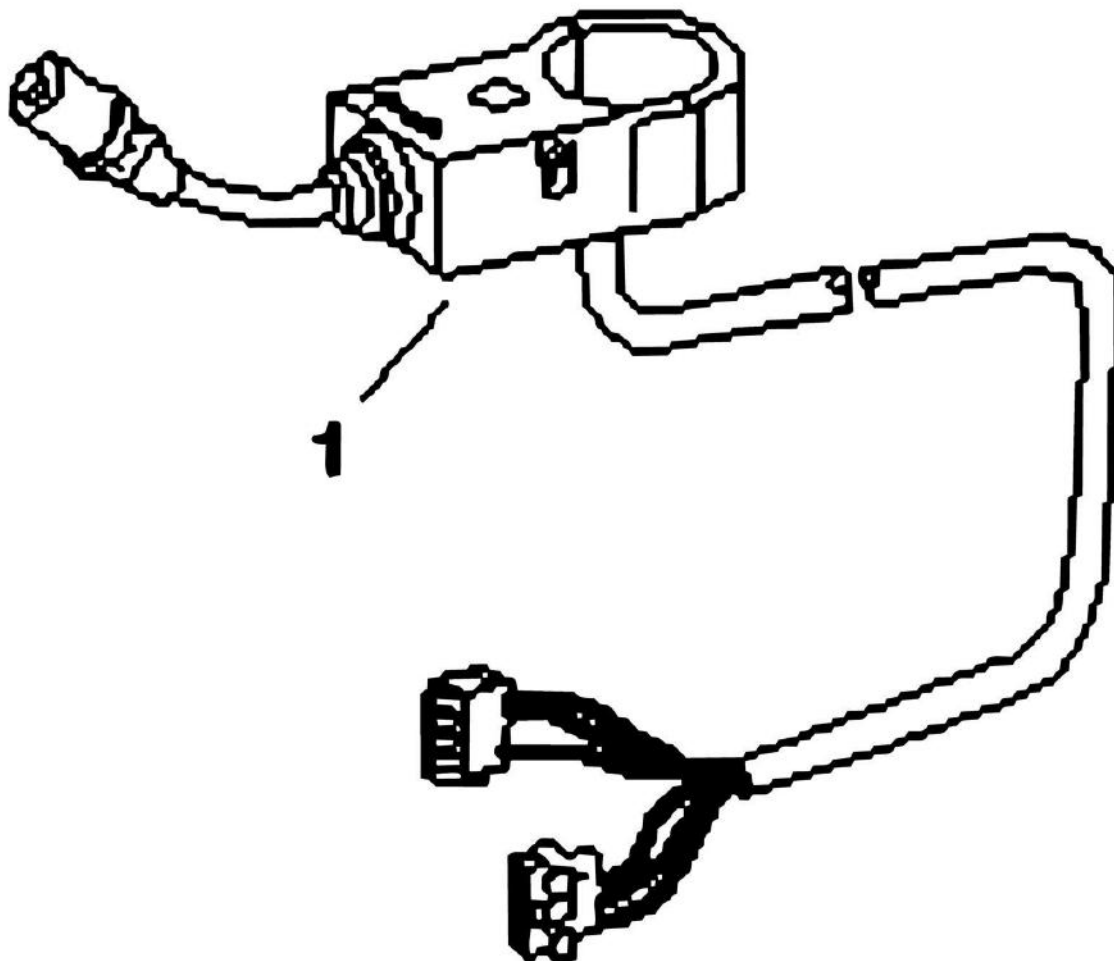
## SECTION 2 - OPERATOR'S CAB AND CONTROLS

**FIGURE 2-6. TRANSMISSION SHIFT CONTROLS (Prior to SN 9909)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	8160205	1	Shifter, Transmission (Includes Items 2 thru 4)	
2	8034694	1	Gate Plate	
3	8580111	2	Knob	
4	8032753	1	Decal Kit (Contains F-N-R & 3-2-1 Decals)	
5	8160042	2	Cable, Control	
6	8305402	2	Nut, Hex Jam 1/4-28	
7	8160417	1	Transmission Connector Kit (Includes Items 8 thru 15 plus all other parts not identified with an Item number)	
8	8033240	4	Spacer	
9	8033241	2	Clamp	
10	8303540	4	HHCS, 1/4-20 x 1in	
11	8033242	2	Swivel	
12	8033243	2	Pin, Clevis	
13	8305601	4	Nut, Lock	
14	8303106	4	HHCS, 3/8-16 x 2-1/2in	
15	8307005	4	Washer, Lock 3/8in	

## SECTION 2 - OPERATOR'S CAB AND CONTROLS

FIGURE 2-7. TRANSMISSION SHIFT CONTROLS (SN 9909 through 13197)



PH1201

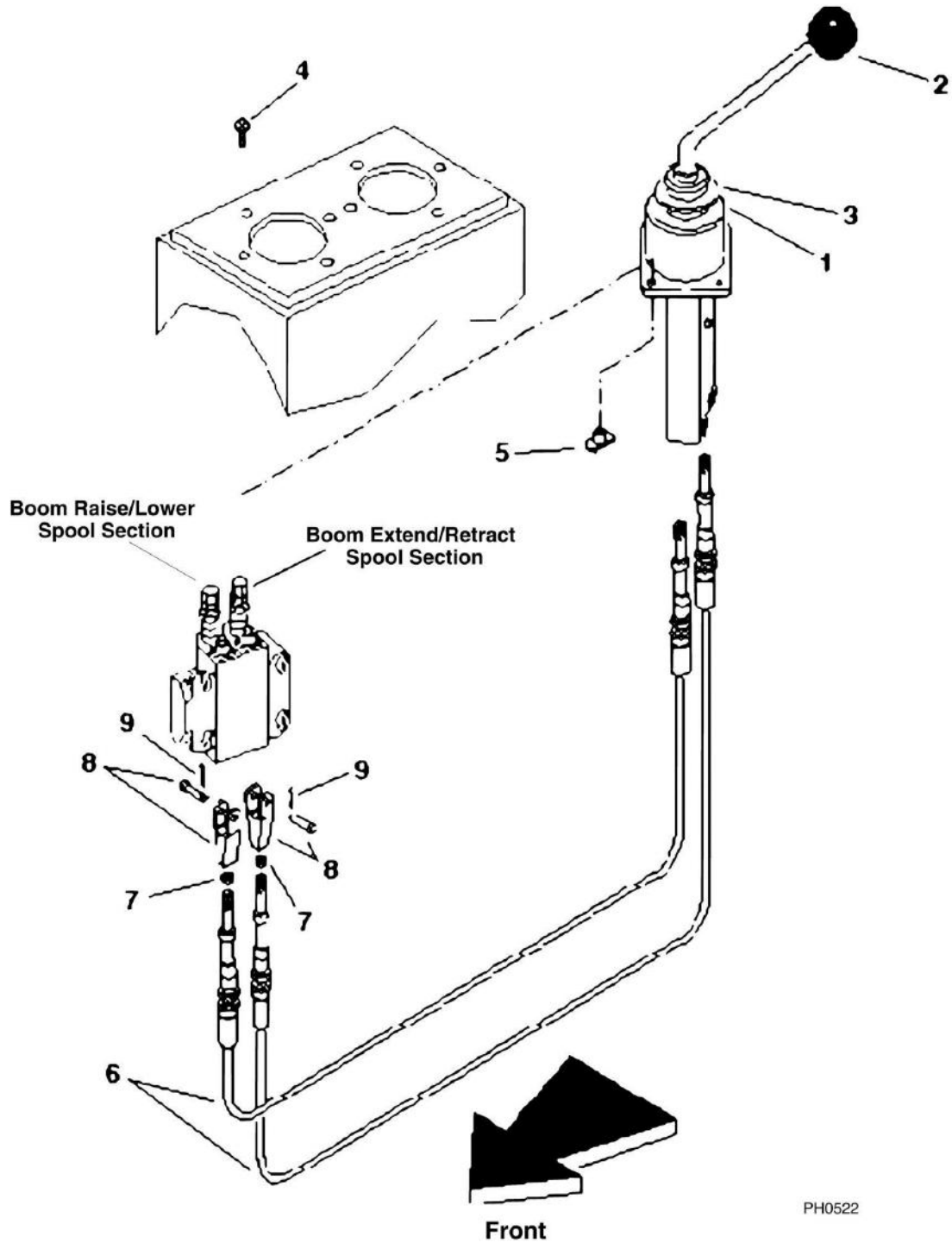
## SECTION 2 - OPERATOR'S CAB AND CONTROLS

FIGURE 2-7. TRANSMISSION SHIFT CONTROLS (SN 9909 through 13197)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	1319283	1	Shifter, Transmission Range Selector	

# SECTION 2 - OPERATOR'S CAB AND CONTROLS

## FIGURE 2-8. BOOM RAISE/LOWER AND EXTEND/RETRACT CONTROL



PH0522

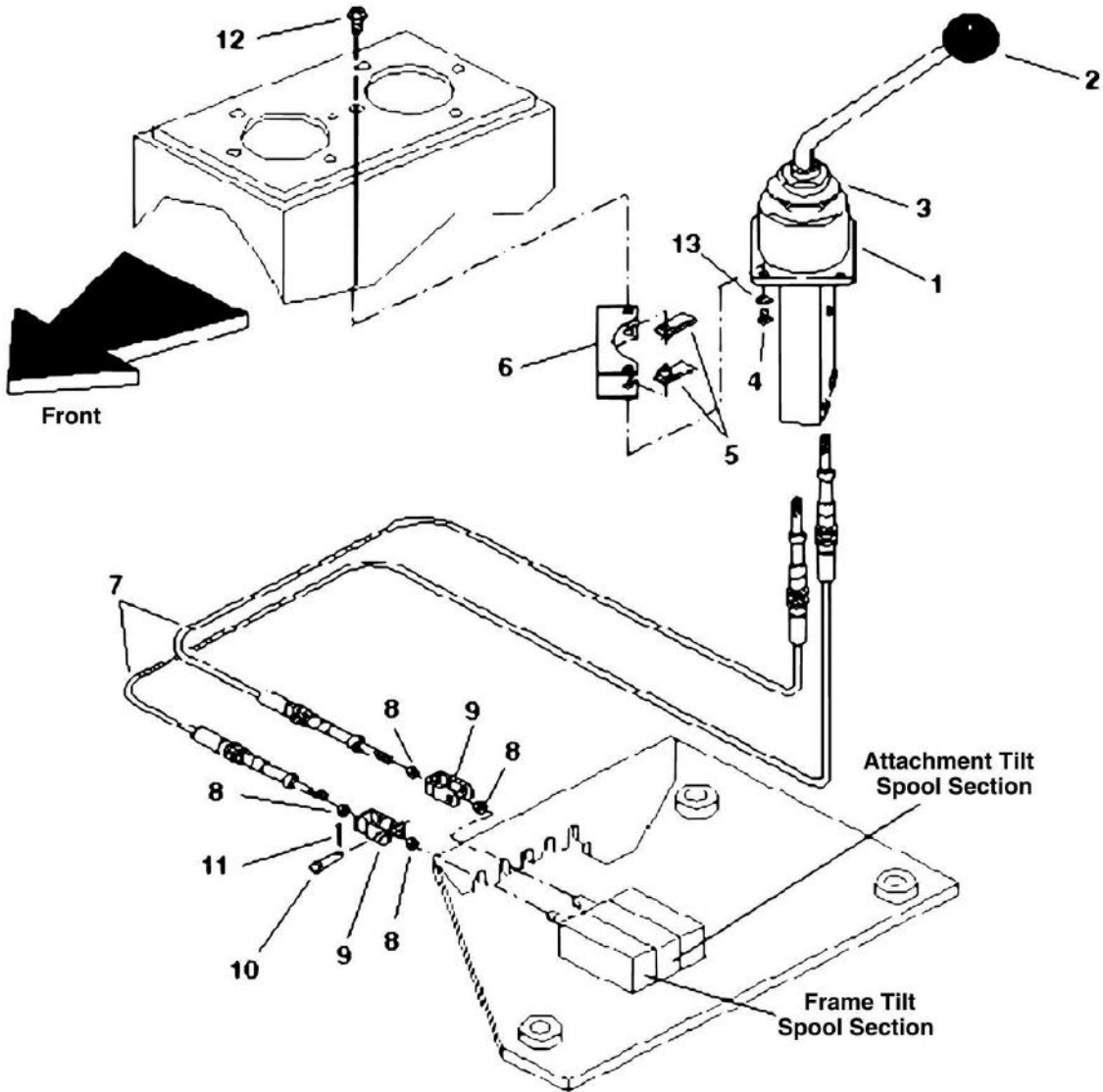
## SECTION 2 - OPERATOR'S CAB AND CONTROLS

FIGURE 2-8. BOOM RAISE/LOWER AND EXTEND/RETRACT CONTROL

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	8224027	1	Joystick (Includes Items 2 & 3)	
2	8580110	1	Knob	
3	8160419	1	Boot	
4	8310143	4	TRHCS #10-24	
5	8310144	4	Nut, Prop Tee #10-24	
6	8160062	2	Cable, Control	
7	8305402	4	Nut, Hex Jam 1/4-28	
8	8301439	2	Clevis, with Pin and Cotter	
9	8302470	2	Pin, Hair 1/16in	

# SECTION 2 - OPERATOR'S CAB AND CONTROLS

## FIGURE 2-9. FRAME LEVEL AND ATTACHMENT TILT CONTROL



PH0512



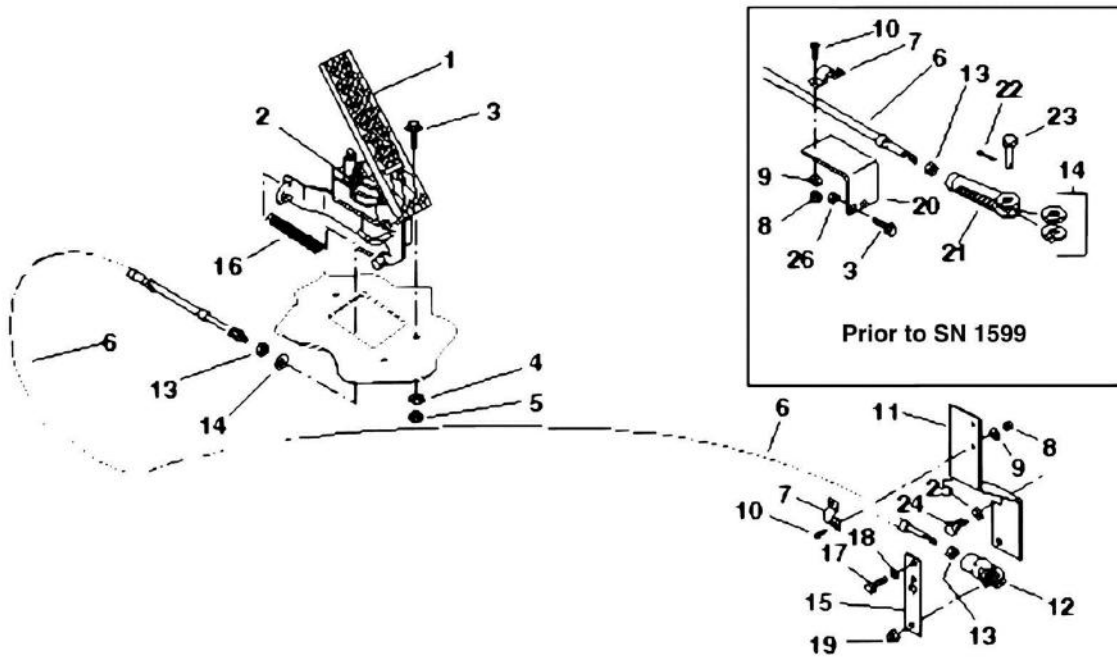
## SECTION 2 - OPERATOR'S CAB AND CONTROLS

FIGURE 2-9. FRAME LEVEL AND ATTACHMENT TILT CONTROL

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	8224026	1	Joystick, With Gate (Includes Items 2 & 3)	
2	8580110	1	Knob	
3	8160419	1	Boot	
4	8303540	4	HHCS, 1/4-20 x 1in	
5	8310001	8	Nut, Retainer 1/4-20	
6	7098142	2	Spacer	
7	8160060	2	Cable, Control	
8	8305005	4	Nut, Hex 1/4-28	
9	8160617	2	Clevis, Cable	
10	8301443	2	Pin, Clevis 3/16 x 1in	
11	8302470	2	Pin, Hair 1/16in	
12	8303034	4	TRHCS, Torx 1/4-20 x 3/4in	
13	8307109	4	Washer, Flat 1/4in	

# SECTION 2 - OPERATOR'S CAB AND CONTROLS

## FIGURE 2-10. THROTTLE PEDAL CONTROL



PH0592

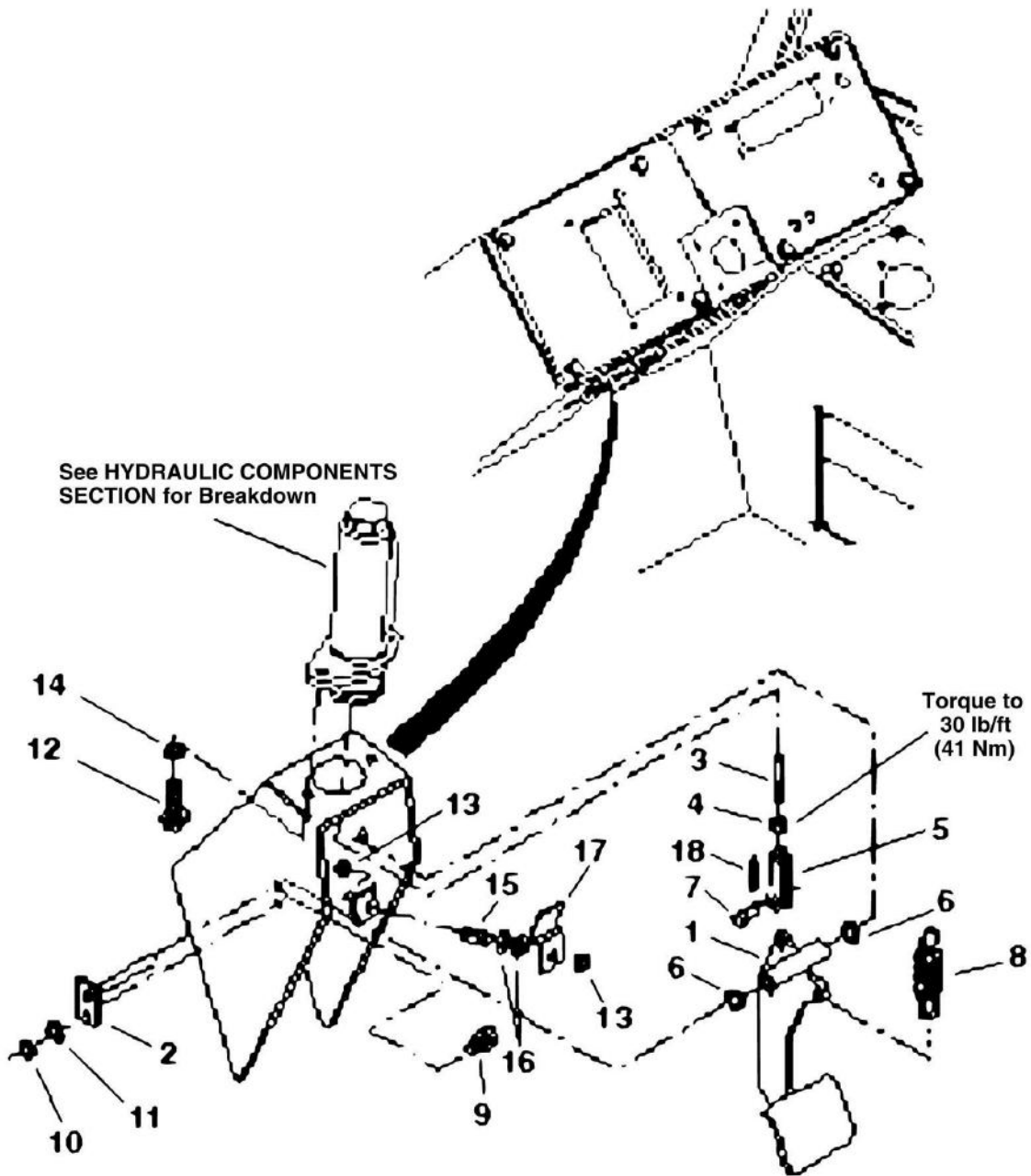
## SECTION 2 - OPERATOR'S CAB AND CONTROLS

**FIGURE 2-10. THROTTLE PEDAL CONTROL**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	8162003	1	Pedal, Throttle (Includes Item 2)	
2	8033178	1	Bellows, Throttle Pedal	
3	8303742	3	FLHDCS 1/4-20 x 1in (Qty 3 for EPA Engines, Qty 5 for Pre-EPA Engines)	
4	8307002	3	Washer, Lock 1/4in	
5	8305004	3	Nut, Hex 1/4-20	
6	8160046	1	Cable, Throttle	
7	8160610	1	Clamp, Cable	
8	8305002	2	Nut, Hex #10-24	
9	8307003	2	Washer, Lock #10	
10	8303837	2	Screw, Round Hd #10-24 x 3/4in	
11	7127102	1	Bracket, Throttle Cable (EPA Engines)	
12	8340034	1	Rod End	
13	8305402	2	Nut, Jam .25 NF	
14	8307109	AR	Washer, Flat SAE 1/4in	
15	7127091	1	Extension, Throttle Lever	
16	8700116	1	Spring	
17	8303799	2	HHCS, M6 x 14mm	
18	8307024	2	Washer, Lock M6	
19	8305650	1	Nut, Lock .25 NF	
20	7088522	1	Bracket, Throttle Cable (Pre-EPA Engines)	
21	8301002	1	Clevis	
22	8302449	1	Pin, Cotter	
23	8301402	1	Pin, Yoke	
24	8303790	2	HHCS, M12 x 30mm	
25	8307025	2	Washer, Lock M12	
26	8305624	2	Nut, Hex Lock Elastic	

## SECTION 2 - OPERATOR'S CAB AND CONTROLS

FIGURE 2-11. SERVICE BRAKE PEDAL CONTROL



PG0531

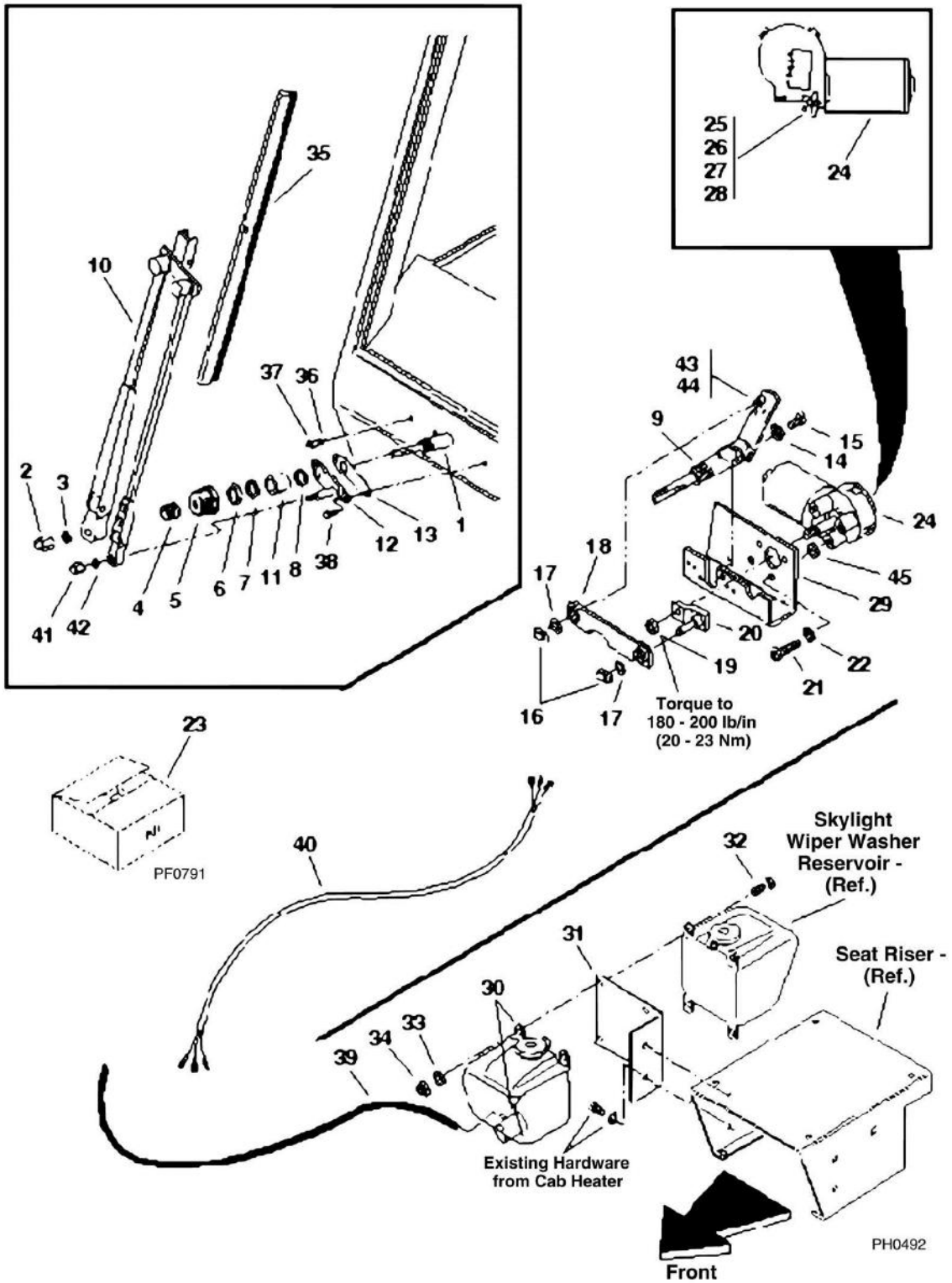
## SECTION 2 - OPERATOR'S CAB AND CONTROLS

**FIGURE 2-11. SERVICE BRAKE PEDAL CONTROL**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7111203	1	Pedal, Brake	
2	7081031	1	Shaft	
3	7080891	1	Rod, Push	
4	8305410	1	Nut, Jam 1/2-20	
5	8310257	1	Yoke	
6	8307104	2	Washer, Flat 3/4in	
7	8310258	1	Pin, Clevis	
8	8700120	1	Spring	
9	8303742	1	FLHDCS, 1/4-20 x 1-1/4in	
10	8305004	1	Nut, Hex 1/4-20	
11	8307002	1	Washer, Lock 1/4in	
12	8303534	2	FLHDCS, 3/8-16 x 1-1/4in	
13	8305405	2	Nut, Jam 3/8-16	
14	8307005	2	Washer, Lock 3/8in	
15	8310170	1	Screw, Set 3/8-16 x 1-3/4in	
16	8307110	2	Washer, Flat 3/8in	
17	7111191	1	Plate, Actuator	
18	8302406	1	Cotter Pin, 1/8in x 1in	

# SECTION 2 - OPERATOR'S CAB AND CONTROLS

FIGURE 2-12. FRONT WINDSHIELD WIPER



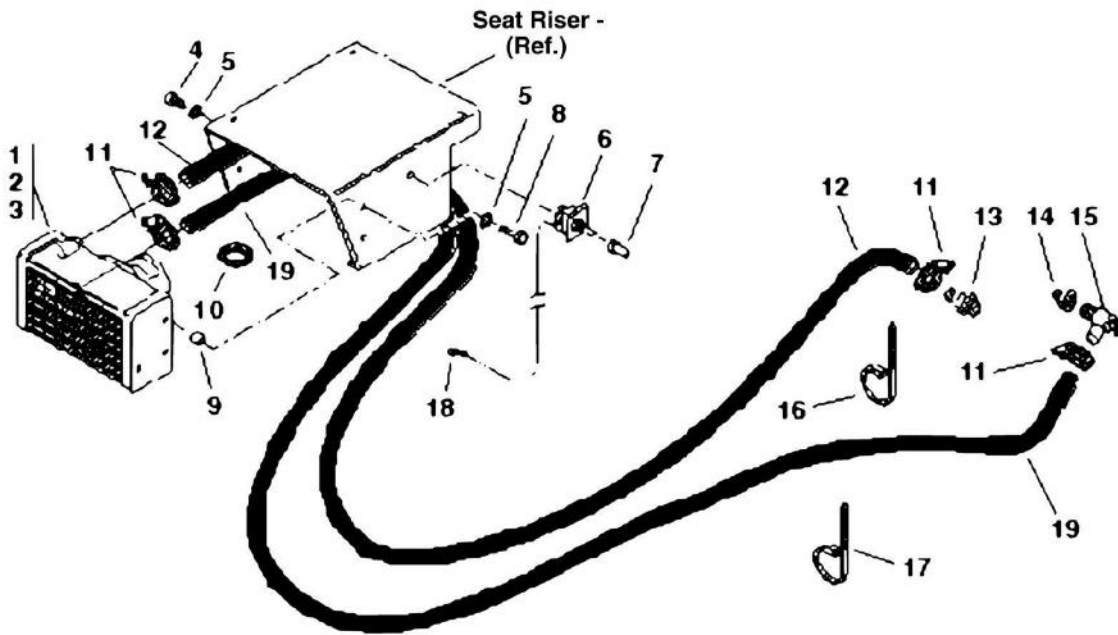
## SECTION 2 - OPERATOR'S CAB AND CONTROLS

### FIGURE 2-12. FRONT WINDSHIELD WIPER

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	8866492	1	Pivot Arm and Shaft Assembly (Includes Items 2 thru 9)	
2	N.S.S.	1	Nut, Acorn 3/8-24	
3	N.S.S.	1	Washer, Internal Tooth Lock 3/8in	
4	N.S.S.	1	Driver, Knurled	
5	N.S.S.	1	Cap, Rubber	
6	N.S.S.	1	Nut, Hex Jam 11/16-24	
7	N.S.S.	1	Washer, Metal	
8	N.S.S.	1	Washer, Cardboard	
9	N.S.S.	1	Shaft Assembly	
10	8866382	1	Wiper Arm - 22in	
11	91334035	1	Spacer	
12	8034815	1	Panto Adapter Kit (Includes Items 13, 38, 41 & 42)	
13	N.S.S.	1	Gasket, Panto (Order P/N 8034815)	
14	8307052	2	Washer, External Tooth Lock #10	
15	8303839	2	Screw, Slotted Pan Head #10-32 x 1/2in	
16	N.S.S.	2	Clip, Spring (Order Item 24)	
17	N.S.S.	2	Washer, Special Flat .5600 x .2510 x .015 (Order Item 24)	
18	8033104	1	Link, Connecting	
19	8305006	1	Nut, Hex Flanged 5/16-18	
20	8866437	1	Drive Arm	
21	N.S.S.	3	Screw, Slotted Hex Head Cap 1/4-28 x 3/4in (Order Item 24)	
22	8310002	3	Washer, External Tooth Lock 1/4in	
23	7112511	1	Wiper Motor Kit (Includes Items 20, 24 thru 29)	
24	8033102	1	Wiper Motor Assembly (Includes mounting bracket, motor, link and hardware)	
24	7029860	1	Wiper Motor Assembly (includes mounting bracket, motor, link and hardware)	
25	8220073	1	Adapter, 1/4in Male Blade	
26	8303835	1	Screw, Pan Head #10-24 x 1/2in	
27	8305002	1	Nut, Hex #10-24	
28	8307046	1	Washer, Internal Tooth Lock #10	
29	N.S.S.	1	Bracket, Wiper Motor (Order Item 24)	
30	8033065	1	Washer Reservoir Assembly w/washer pump	
31	7118941	1	Bracket, Washer Bottle Mounting	
32	8303540	3	HHCS, 1/4-20 x 1in	
33	8307109	3	Washer, Flat 1/4in	
34	8305624	3	Nut, Lock 1/4-20	
35	8866381	1	Wiper Blade - 22in	
36	8034801	1	Spray Nozzle	
37	8554008	1	Nozzle Tip	
38	80384207	2	SCREW, 1/4-28X3/4, (enclosed cab)	
39	8033075	1	Hose, Washer 120in	
40	8033103	1	Cable, Wiper	
41	N.S.S.	1	Nut, Acorn 1/4-28 (Order Item 12)	
42	8310029	1	Washer, Internal Tooth Lock 1/4in	
43	N.S.S.	1	Pin, Shoulder (Order Item 1)	
44	8305005	1	Nut, Hex 1/4-28	
45	8307203	3	Washer, Flat 5/16in	

# SECTION 2 - OPERATOR'S CAB AND CONTROLS

## FIGURE 2-13. CAB HEATER (OPTIONAL)



PG0561



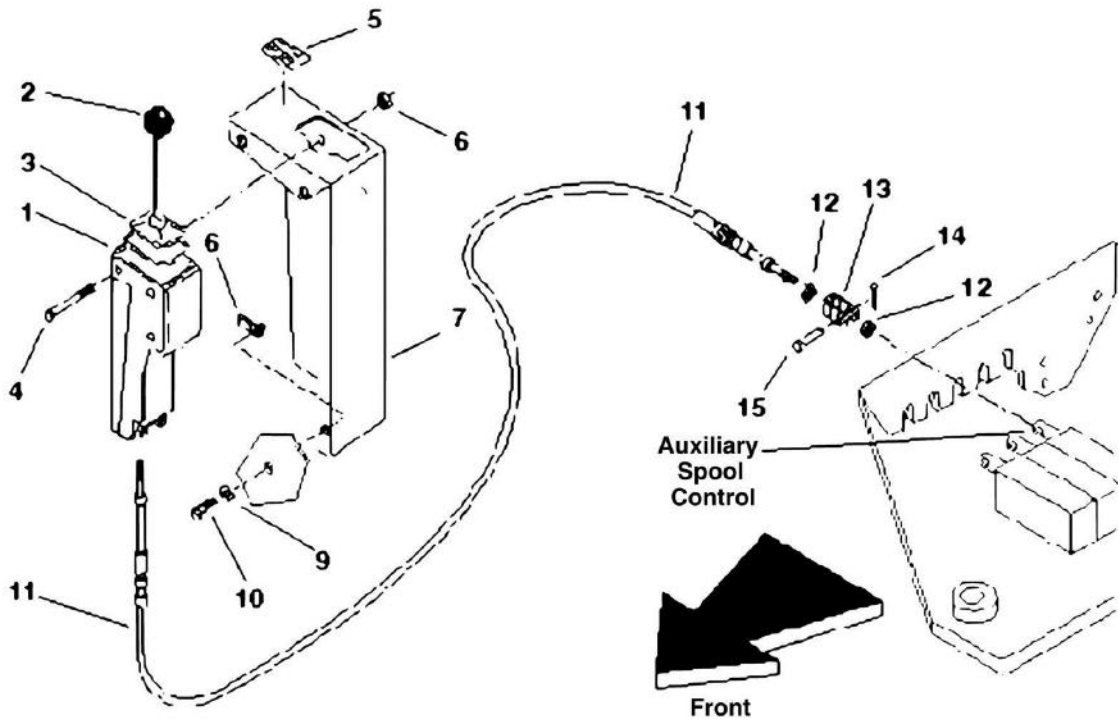
## SECTION 2 - OPERATOR'S CAB AND CONTROLS

**FIGURE 2-13. CAB HEATER (OPTIONAL)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	8360008	1	Heater (Includes Items 2 & 3)	
2	8032793	1	Motor, Heater - 12 VDC	
3	8032794	1	Fan, Heater	
4	8303776	2	HHCS, 1/4-20 x 1/2in	
5	8307002	4	Washer, Lock 1/4in	
6	8223024	1	Switch Kit	
7	8580309	1	Cap	
8	8303995	2	HHCS, #10-24 x 1-1/4in	
9	7075191	2	Spacer, 3/4in	
10	7124531	2	Conduit, 1/4 I.D. x 5in	
11	8405007	4	Clamp	
12	7125251	2	Hose, 5/8 I.D. x 120in	
13	8430048	1	Hose Fitting, Beaded, SAE 10-8P - hose I.D. x male NPT	
14	8540023	1	Reducer, 3/8in NPT x 1/2in NPT	
15	8360005	1	Valve, Shut-off	
16	8584001	1	Tie Wrap, .2 wide x 6.7in	
17	8584003	6	Tie Wrap, .3 wide x 14.8in	
18	8220008	1	Terminal, #10	
19	7125271	1	Hose, 5/8 I.D. x 156in	

# SECTION 2 - OPERATOR'S CAB AND CONTROLS

## FIGURE 2-14. AUX. HYDRAULIC CONTROL (OPTIONAL)



PH0501

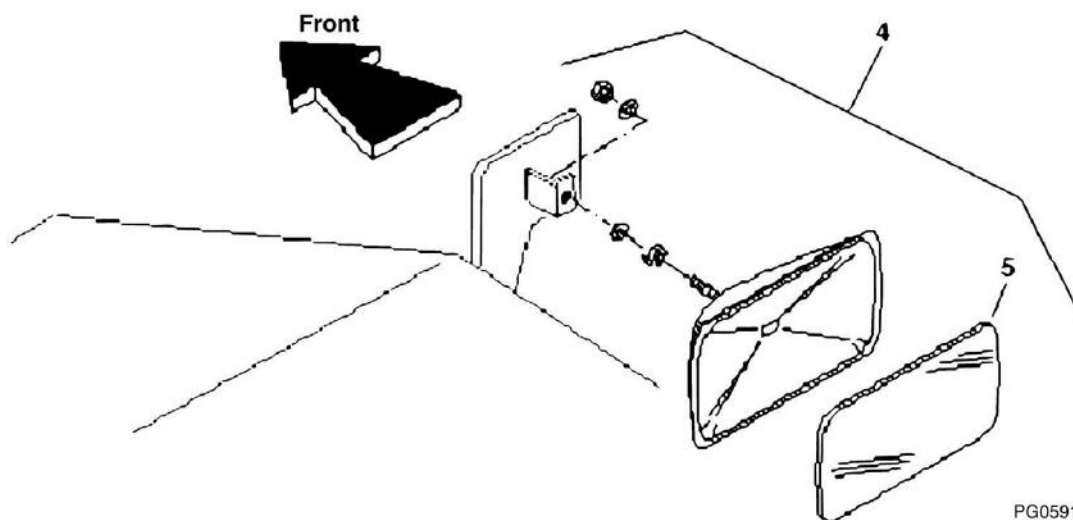
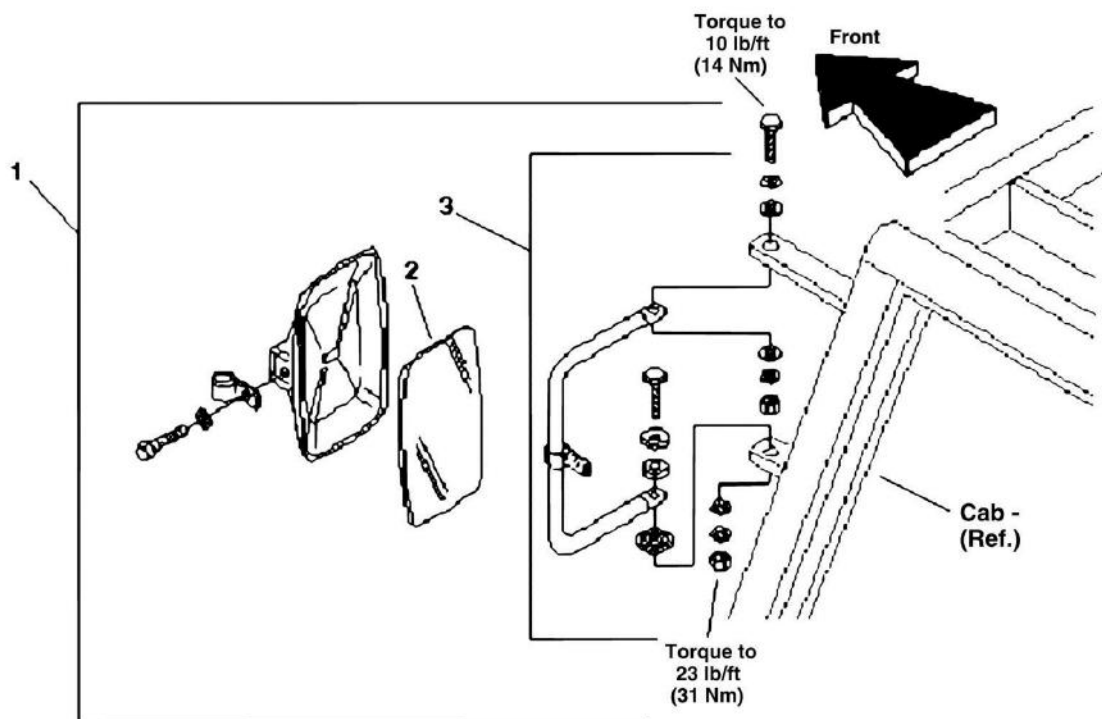
## SECTION 2 - OPERATOR'S CAB AND CONTROLS

**FIGURE 2-14. AUX. HYDRAULIC CONTROL (OPTIONAL)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	8160406	1	Controller (Includes Items 2 & 3)	
2	8580110	1	Knob	
3	8160418	1	Boot	
4	8303758	2	HHCS, 1/4-20 x 2in	
5	4105621	1	Decal, Auxiliary Control	
6	8305004	2	Nut, Hex 1/4-20	
7	7091323	1	Support, Controller	
8	8305906	3	Nut, Retaining 5/16-18	
9	8307004	3	Washer, Lock 5/16in	
10	8303697	3	HHCS, 5/16-18 x 3/4in	
11	8160059	1	Cable, Control	
12	8305402	2	Nut, Jam 1/4-28	
13	8160617	1	Clevis	
14	8302470	1	Pin, Cotter	
15	8301443	1	Pin, Clevis	

# SECTION 2 - OPERATOR'S CAB AND CONTROLS

## FIGURE 2-15. MIRRORS



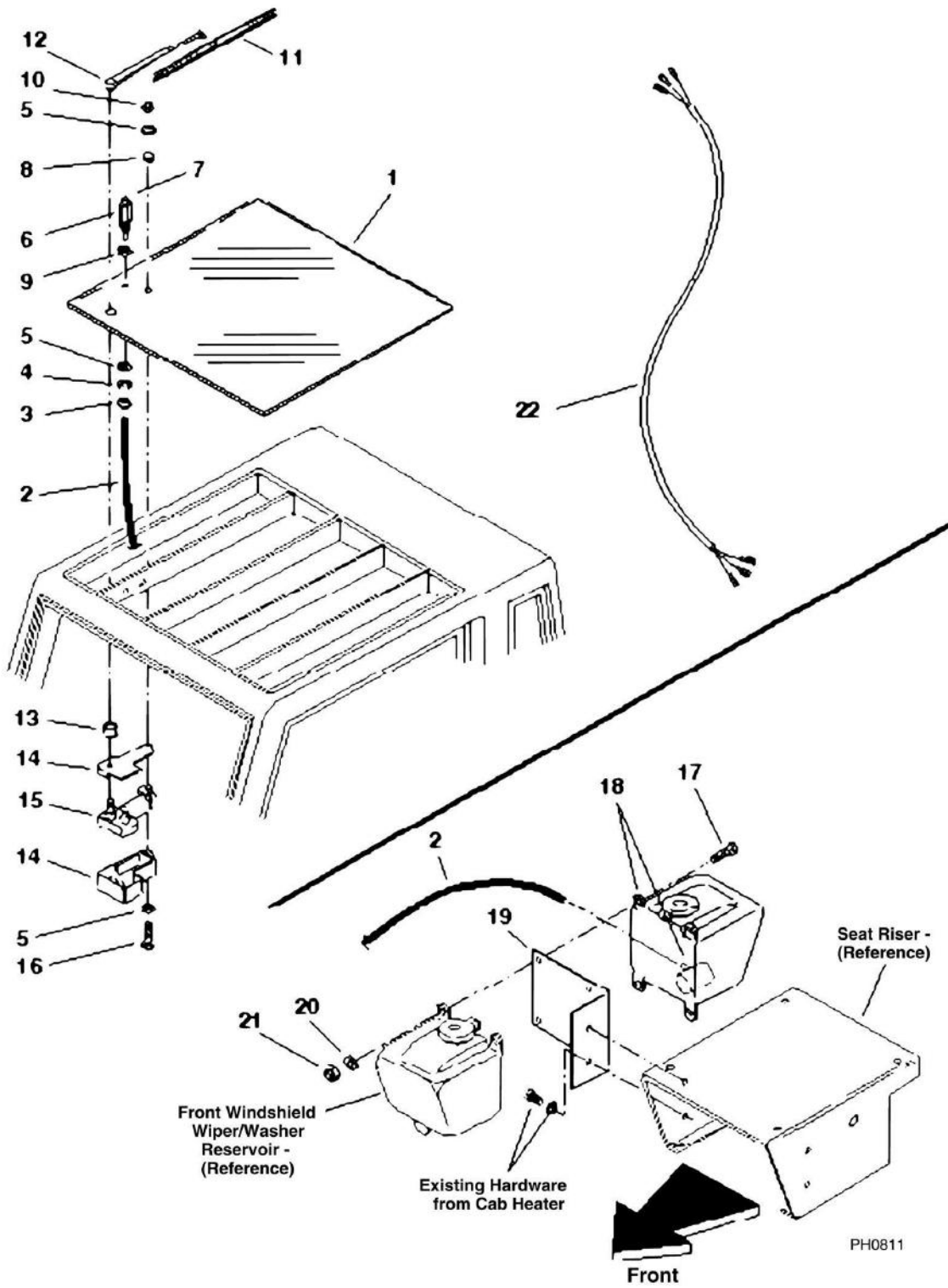
## SECTION 2 - OPERATOR'S CAB AND CONTROLS

### FIGURE 2-15. MIRRORS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	8866347	1	Mirror Assembly, 6.5in x 10in, Left Side Cab - Flat Glass (Includes Items 2 & 3)	
2	8866350	1	Lens, 6.5in x 10in Flat Glass Replacement	
3	8866364	1	Loop Assembly	
4	8866348	1	Mirror Assembly, 6.5in x 10in Right Side - Convex Glass (Includes Item 5 and mounting hardware)	
5	8866351	1	Lens, 6.5in x 10in Convex Glass Replacement	

# SECTION 2 - OPERATOR'S CAB AND CONTROLS

## FIGURE 2-16. SKYLIGHT WINDSHIELD WIPER (OPTIONAL)



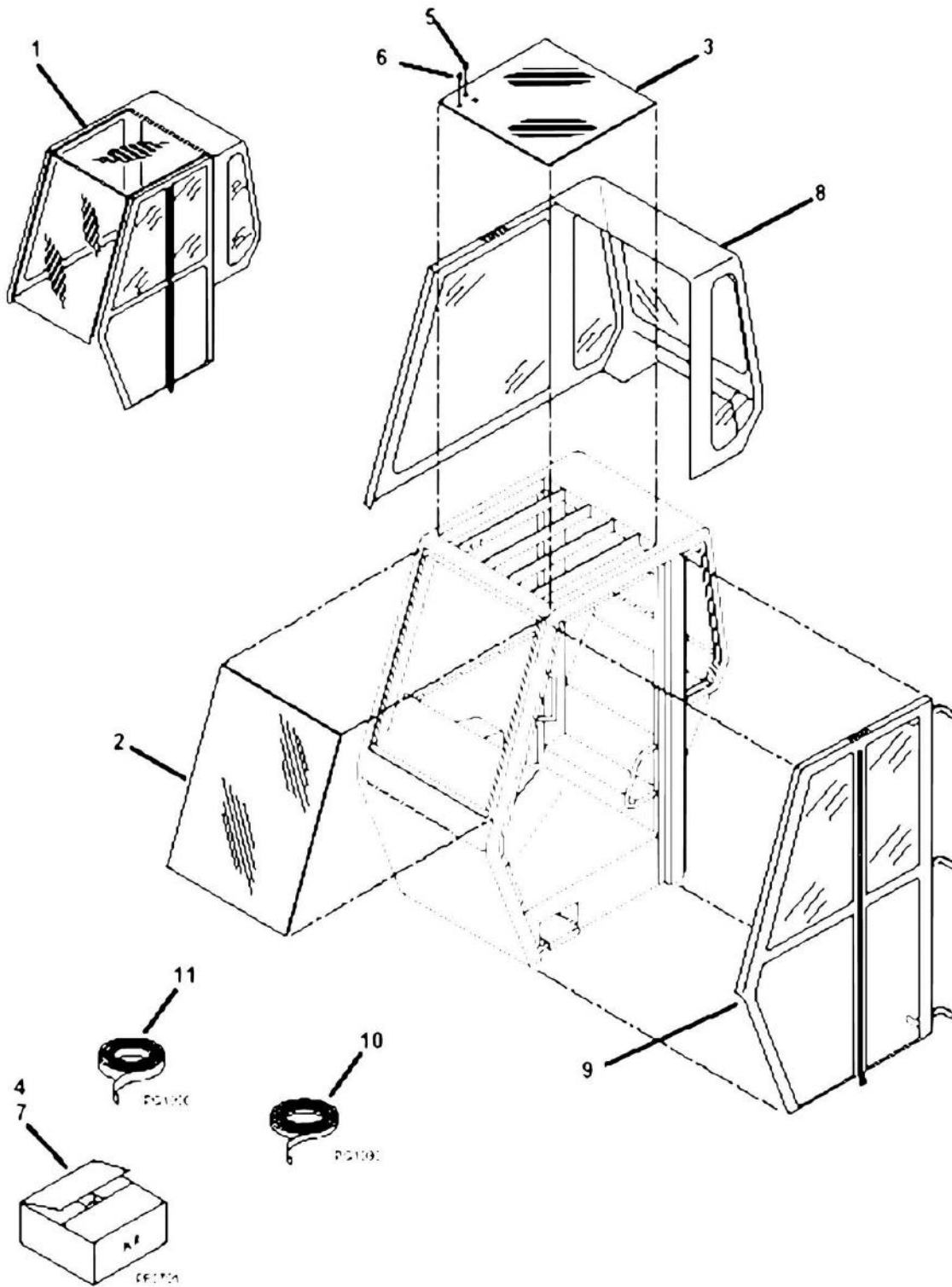
## SECTION 2 - OPERATOR'S CAB AND CONTROLS

**FIGURE 2-16. SKYLIGHT WINDSHIELD WIPER (OPTIONAL)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	8034797	1	Window, Skylight	
2	8033075	1	Hose, Washer 120in (cut to length)	
3	8034798	2	Nut, Hex 5/16-18	
4	8034799	2	Washer, Lock 5/16in	
5	8034800	3	Washer, Black Nylon 5/16in	
6	8034801	1	Spray Nozzle	
7	8554008	1	Nozzle Tip	
8	8034803	1	Grommet, T-Style	
9	8034804	1	Washer, Weather Tight	
10	8034805	1	Nut, Acorn #10-24	
11	8034806	1	Wiper Blade - 20in	
12	8034807	1	Wiper Arm, 15-19in Adjustable	
13	8034808	1	Spacer, Nylon	
14	8034809	1	Wiper Cover Assembly	
15	7137132	1	Kit, Wiper Motor and Switch w/Breaker <b>(SN P6931A through P8239B)</b>	
15	8034810	1	Skylight Wiper Motor Kit, WWF Auto-SP <b>(SN P8239C to Present)</b>	
16	8034811	1	Screw, #10-24 x 7/8in	
17	8303540	3	HHCS, 1/4-20 x 1in	
18	8033065	1	Washer Reservoir Assembly (Includes washer pump)	
19	7118941	1	Bracket, Washer Bottle Mounting	
20	8307109	3	Washer, Flat 1/4in	
21	8305624	3	Nut, Lock 1/4-20	
22	8034817	1	Wire Harness, Skylight Wiper	

# SECTION 2 - OPERATOR'S CAB AND CONTROLS

FIGURE 2-17. SOFT CAB ENCLOSURE (OPTIONAL)





## SECTION 2 - OPERATOR'S CAB AND CONTROLS

FIGURE 2-17. SOFT CAB ENCLOSURE (OPTIONAL)

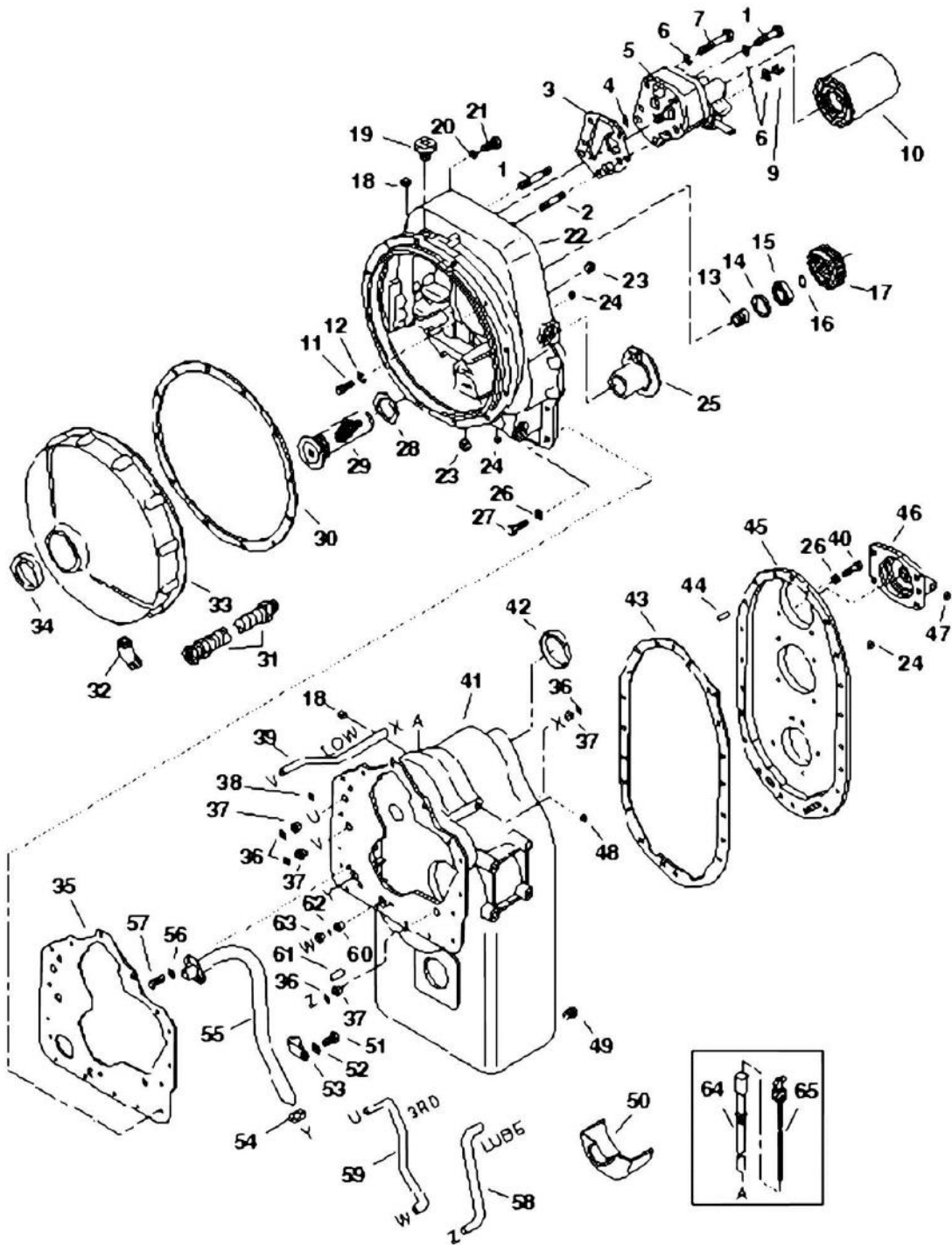
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
7	8866525	1	Soft Cab Enclosure Kit - Complete (Includes Items 2 thru 7 plus Installation Instructions)	
8	8866526	1	Rear Window Enclosure - Soft	
9	8866527	1	Door Section - Soft	
5	8033081	1	Glass - Top	
2	8033479	1	Glass - Front	
10	8585155	1	1in Hook Strip Material - 10 ft	
11	8585156	1	2in Hook Strip Material - 10 ft	
4	8585133	1	Window Glue Kit	



**SECTION 3 - DRIVE TRAIN**

# SECTION 3 - DRIVE TRAIN

## FIGURE 3-1. CONVERTER AND TRANSMISSION HOUSINGS (Prior to SN 9909)



PB0183

## SECTION 3 - DRIVE TRAIN

**FIGURE 3-1. CONVERTER AND TRANSMISSION HOUSINGS (Prior to SN 9909)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	8032510	1	Pump Mounting Stud	
2	8032511	1	Pump Mounting Stud	
3	8032500	1	Gasket, Pump To Converter Housing	
4	8032501	1	O-Ring	
5	8032502	1	Charging Pump Kit (Contains replacement pump & mounting hardware)	
6	8032503	5	Washer, Lock	
7	8032504	1	Screw	
8	8032505	2	Screw	
9	8032506	2	Nut, Stud	
10	8320254	1	Filter Assembly	
11	8032541	2	Screw	
12	8307005	2	Washer, Lock	
13	8032542	1	Support, Bearing	
14	8032543	1	Retaining Ring	
15	90204788	1	Bearing, Pump Drive Gear	
16	8032545	1	Ring, Locating	
17	8032546	1	Gear, Drive	
18	8033886	2	Pipe Plug	
19	8032509	1	Air Breather	
20	8307005	11	Washer, Lock	
21	8032547	11	Screw	
22	N.S.S.	1	Housing, Converter	
23	8032515	2	Pipe Plug	
24	77104116	3	PIPE PLUG	
25	8032517	1	Sleeve, Converter Housing	
26	8033887	36	Washer, Lock	
27	8033888	16	Screw	
28	90204799	1	Gasket, Screen Assy	
29	8032518	1	Screen Assembly	
30	8032549	1	Gasket, Front Cover	
31	8033188	1	Drain Hose Assembly	
32	8033189	1	Hose Adaptor	
33	8033193	1	Cover, Converter Housing Front	
34	8033198	1	Oil Seal, Front Cover	
35	8032537	1	Gasket, Housing To Case	
36	8032523	4	O-Ring	
37	8032522	4	Tube Sleeve	
38	8032501	1	O-Ring	
39	8032538	1	Tube, Low Speed Clutch Pressure	
40	8033889	20	Screw	
41	8033314	1	Transmission Case Assembly (Includes Items 37, 39, 54 thru 59, 60, 62 & 63)	
42	8033303	1	Bore Plug	
43	8033302	1	Gasket, Rear Cover To Case	
44	8032521	2	Dowel Pin	
45	8033349	1	Rear Cover and Plug Assembly (Includes one of Item 24)	
46	8033299	1	Low Shaft Rear Bearing Cap Assembly (Includes Item 47)	
47	8032526	1	Plug	
48	8032539	1	Pipe Plug	

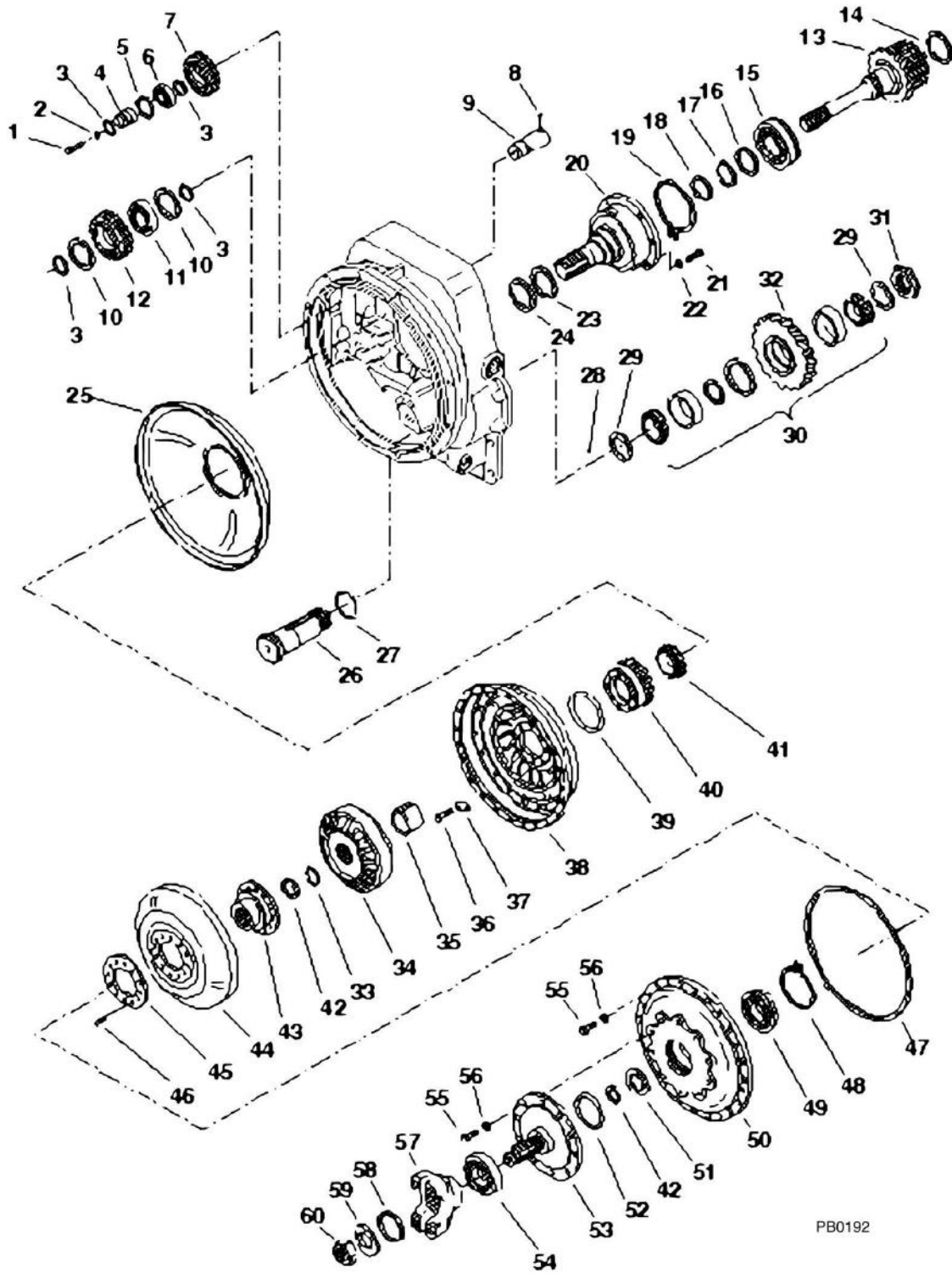
## SECTION 3 - DRIVE TRAIN

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
49	8032528	2	Magnetic Drain Plug	
50	8033311	1	Oil Baffle	
51	8033312	1	Screw	
52	8032503	1	Washer, Lock	
53	8033313	1	Clip, Suction Tube	
54	8032532	1	O-Ring	
55	8033304	1	Suction Tube Assembly	
56	8032535	2	Washer, Lock	
57	8032536	2	Screw	
58	8033305	1	Clutch Lube Tube	
59	8033306	1	3rd Speed Tube	
60	8033307	1	Tube Sleeve	
61	8032521	1	Dowel Pin	
62	8032532	1	O-Ring	
63	8033308	1	Plug	
64	8033309	1	Dipstick Tube Assembly	
65	8033310	1	Dipstick	



# SECTION 3 - DRIVE TRAIN

## FIGURE 3-2. CONVERTER GROUP (Prior to SN 9909)



PB0192



## SECTION 3 - DRIVE TRAIN

**FIGURE 3-2. CONVERTER GROUP (Prior to SN 9909)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	8032541	2	Screw	
2	8307005	2	Washer, Lock	
3	8032545	4	Ring, Locating	
4	8032542	1	Support, Pump Drive Bearing	
5	8032550	1	Ring, Retaining	
6	90204793	1	Bearing, Gear	
7	8032552	1	Pump Drive Gear	
8	8032554	1	Lockball, Stub Shaft	
9	8032555	1	Shaft, Stub	
10	8032543	2	Ring, Retaining	
11	90204788	1	Bearing, Shaft	
12	8032553	1	Pump Drive Idler Gear	
13	8032568	1	Turbine Shaft Assembly (Includes Item 14)	
14	8032620	1	Ring, Retaining	
15	8032567	1	Bearing, Turbine Shaft	
16	8032566	1	Washer, Locating	
17	77104164	1	Ring, Retainer	
18	90204748	1	Ring, Piston	
19	8032563	1	Ring, Snap	
20	8032560	1	Support, Stator	
21	8303620	6	Screw	
22	8307005	6	Washer, Lock	
23	8032559	1	Spring, Expander	
24	8032558	1	Ring, Piston	
25	8032556	1	Oil Baffle Assembly	
26	8033190	1	Shaft, Reverse Idler	
27	8033191	1	O-Ring	
28	8033192	1	Lockball	
29	8033194	2	Plate, Thrust	
30	8032574	1	Reverse Idler Gear Bearing Assembly	
31	8033195	1	Nut, Bearing Retaining Plate	
32	8032573	1	Gear, Reverse Idler	
33	77104031	1	Ring, Retaining	
34	8032579	1	Member, Reaction	
35	8032580	1	Spacer	
36	8032581	8	Screw	
37	77104027	4	LOCK TAB	
38	90204767	1	IMPELLER	
39	8032584	1	O-Ring	
40	8032585	1	Gear, Impeller Hub	
41	8032586	1	Bearing, Impeller Hub Gear	
42	8032587	2	Ring, Retaining	
43	8032588	1	Hub, Turbine	
44	8032589	1	Turbine	
45	8033196	1	Screw Ring, Turbine To Hub	
46	8033197	12	Screw	
47	8032595	1	O-Ring	
48	8032592	1	Locating Ring, Turbine Hub Bearing	
49	8032593	1	Bearing, Turbine Hub	
50	8033384	1	Impeller Cover	

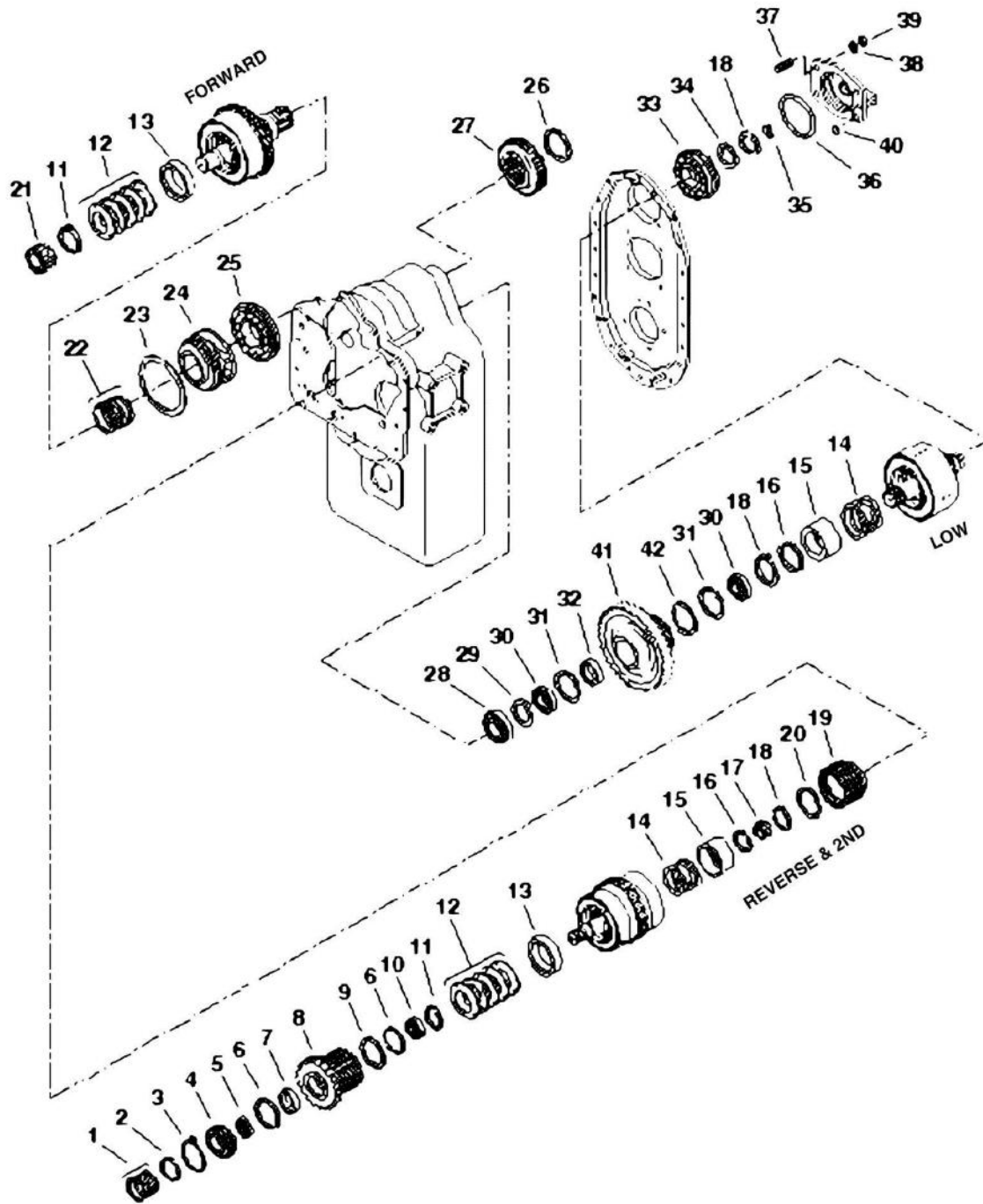
## SECTION 3 - DRIVE TRAIN

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
51	8032594	1	Retaining Washer, Bearing	
52	8033385	1	O-Ring	
53	8033386	1	Input Shaft	
54	8033373	1	Bearing, Input Shaft	
55	8303620	34	Screw	
56	8307005	34	Washer	
57	8033885	1	Flange	
58	8033318	1	O-Ring	
59	8032612	1	Washer	
60	8032613	1	Nut	



# SECTION 3 - DRIVE TRAIN

FIGURE 3-3. FORWARD, REVERSE, LOW AND 2ND (Prior to SN 9909)



PB0201

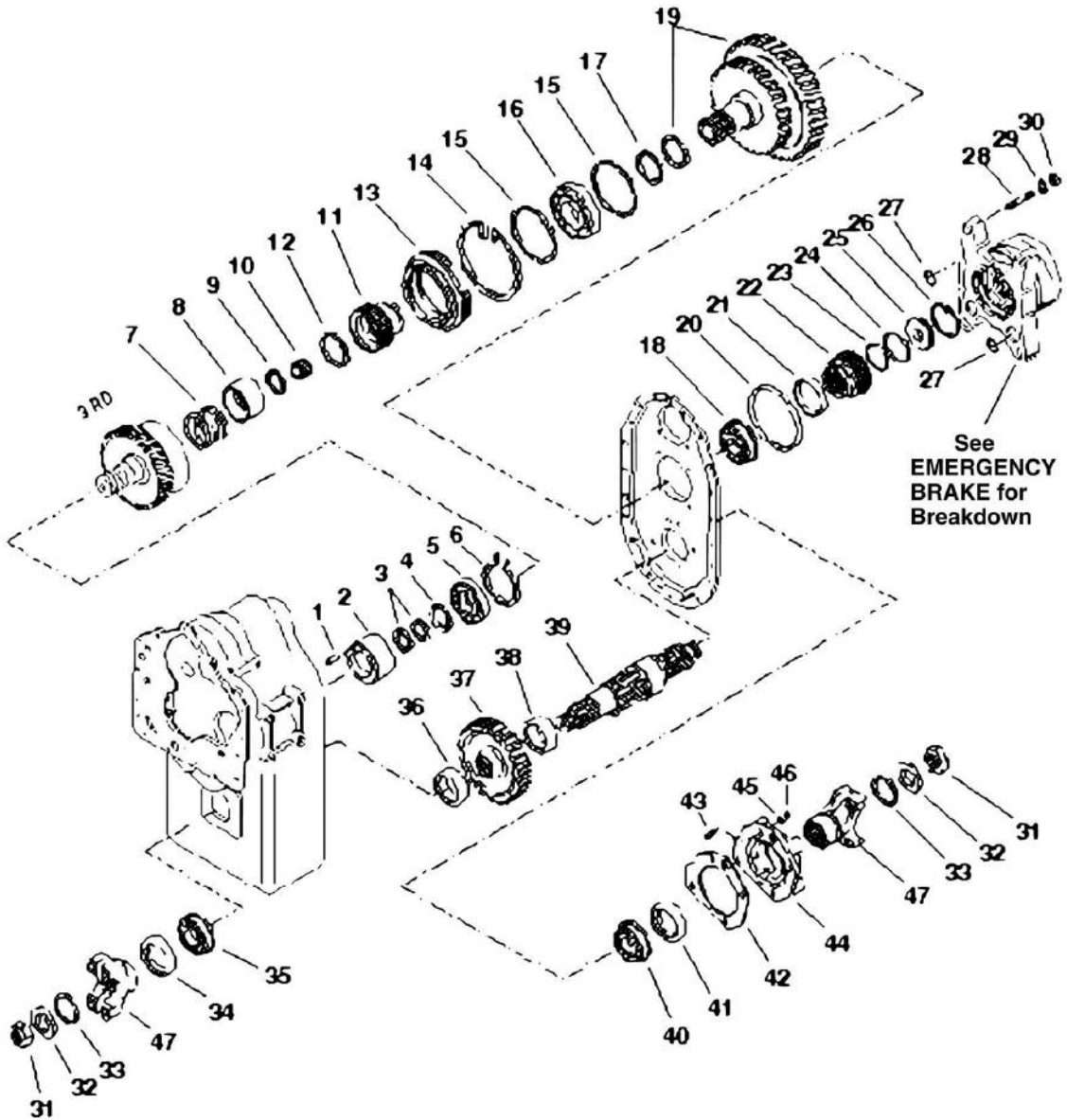
## SECTION 3 - DRIVE TRAIN

**FIGURE 3-3. FORWARD, REVERSE, LOW AND 2ND (Prior to SN 9909)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	8032652	3	Ring, Piston	
2	8032651	1	Ring, Retaining	
3	8032650	1	Snap Ring	
4	8032649	1	Bearing, Front	
5	8032648	1	Bearing, Gear	
6	8032645	2	Ring, Retaining	
7	8032647	1	Spacer, Bearing	
8	8032646	1	Reverse Clutch Gear and Retaining Ring Assembly (Includes Item 9)	
9	8032620	1	Ring, Retaining	
10	8032644	1	Bearing, Gear	
11	8032640	2	Snap Ring	
12	8033348	2	Disc Spring Assembly (Contains 5 Pcs)	
13	8032638	2	Spacer, Piston Return Spring	
14	8032615	2	Piston Return Spring	
15	77104186	2	SPRING RETAINER	
16	10720643	2	Ring, Snap	
17	8032643	1	Bearing, Reverse and 2nd Shaft	
18	8032623	3	Snap Ring	
19	8032642	1	2nd Clutch Disc Hub and Retaining Ring Assembly (Includes Item 20)	
20	8032620	1	Ring, Retaining	
21	8032641	1	Pilot Bearing	
22	8032637	3	Ring, Piston	
23	8033355	1	Ring, Retaining	
24	8032635	1	Sleeve, Piston Ring	
25	77104215	1	Bearing, Forward Shaft	
26	8033356	1	Ring, Retaining	
27	8033357	1	Gear, Forward Shaft	
28	8032633	1	Bearing, Low Speed Clutch	
29	8032632	1	Spacer, Bearing	
30	8032628	2	Bearing, Gear	
31	8032629	2	Locating Ring	
32	8032631	1	Spacer, Gear	
33	8032622	1	Bearing, Low Speed Shaft	
34	8032566	1	Washer, Rear Bearing Support	
35	77104198	1	PISTON RING	
36	8032624	1	O-Ring	
37	8032626	4	Stud, Cap	
38	8032503	4	Washer, Lock	
39	8032506	4	Nut, Stud	
40	8032625	1	O-Ring	
41	8033358	1	Low Shaft Gear, Hub and Retaining Ring Assembly (Includes Item 42)	
42	8032620	1	Ring, Retaining	

# SECTION 3 - DRIVE TRAIN

## FIGURE 3-4. OUTPUT, IDLER AND THIRD (Prior to SN 9909)



PH0250

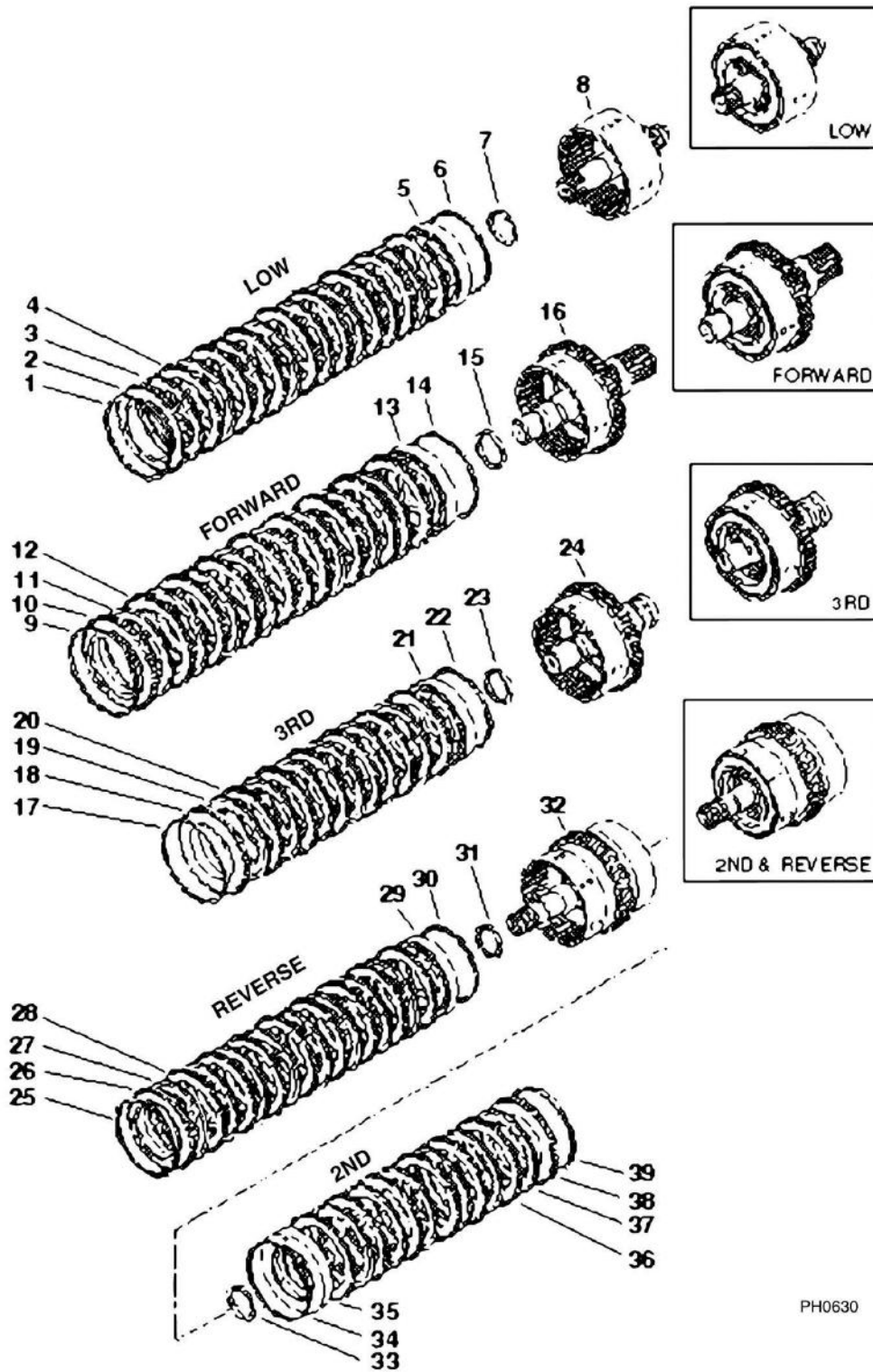
## SECTION 3 - DRIVE TRAIN

**FIGURE 3-4. OUTPUT, IDLER AND THIRD (Prior to SN 9909)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	8033870	1	Roll Pin, Outer Race	
2	8033871	1	Piston Ring Outer Race	
3	8032652	2	Ring, Piston	
4	8033872	1	Ring, Retaining	
5	8032628	1	Bearing	
6	8033351	1	Ring, Locating	
7	8032615	1	Spring, Return	
8	77104186	1	Retainer, Spring	
9	10720643	1	Ring, Snap	
10	8032643	1	Bearing, Pilot	
11	8033359	1	3rd Clutch Disc Hub and Retaining Ring Assembly (Includes Item 12)	
12	8032620	1	Ring, Retaining	
13	8033360	1	Carrier, Bearing	
14	8033361	1	Ring, Locating	
15	8033362	2	Ring, Locating	
16	8033363	1	Bearing, 3rd Clutch Disc Hub	
17	8033364	1	Ring, Retaining	
18	8033365	1	Bearing	
19	8033873	1	Idler Shaft and Gear Assembly (46T)	
20	8033368	1	O-Ring	
21	8033874	1	Seal, Brake Housing To Brake Disc Hub	
22	N.S.S.	1	Hub, Brake Disc	
23	8033876	1	Ring, Snap	
24	8033877	1	O-Ring	
25	8033878	1	Plug, Brake Disc Hub	
26	8033879	1	Ring, Snap	
27	8033880	2	O-Ring	
28	8033881	4	Stud, Brake Housing To Rear Cover	
29	8033882	4	Washer, Lock	
30	8033883	4	Nut, Stud	
31	8033372	2	Nut, Flange	
32	8033371	2	Washer, Flange	
33	8032611	2	O-Ring	
34	8033198	1	Oil Seal, Output Shaft	
35	8033373	1	Bearing	
36	8033376	1	Spacer, Output Gear	
37	8033375	1	Gear, Output Shaft (46T)	
38	8033374	1	Spacer, Output Gear	
39	8033884	1	Shaft, Output	
40	8032604	1	Bearing	
41	8032605	1	Oil Seal, Rear Bearing Cap	
42	8032606	1	Gasket, Rear Bearing Cap	
43	8032627	4	Stud, Bearing Cap	
44	8032607	1	Bearing Cap	
45	8032608	4	Washer, Lock	
46	8032609	4	Nut, Stud	
47	8033885	2	Flange, Output	

# SECTION 3 - DRIVE TRAIN

## FIGURE 3-5. TRANSMISSION CLUTCH GROUPS (Prior to SN 9909)



PH0630



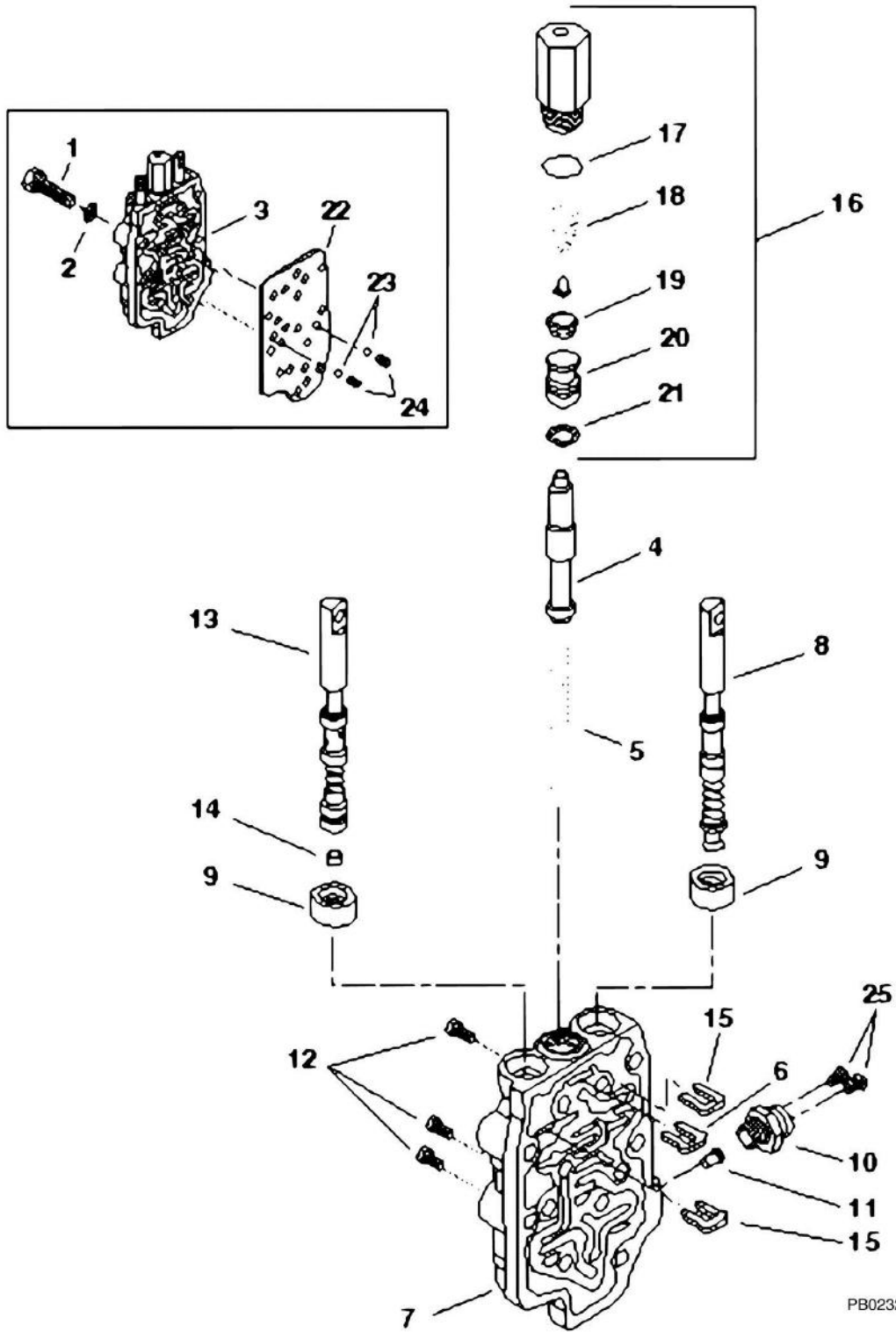
## SECTION 3 - DRIVE TRAIN

**FIGURE 3-5. TRANSMISSION CLUTCH GROUPS (Prior to SN 9909)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	8032653	1	Ring, Snap	
2	8032654	1	Backing Plate	
3	8032655	8	Disc, Clutch Inner	
4	8032656	8	Disc, Clutch Outer	
5	8032657	1	Piston, Clutch	
6	8032658	1	Ring, Outer Piston	
7	8032659	1	Seal, Inner Piston	
8	8033387	1	Low Clutch Shaft Drum and Bleed Valve Assembly	
9	8032653	1	Ring, Snap	
10	8032654	1	Backing Plate	
11	8032661	8	Disc, Clutch Inner	
12	8032656	8	Disc, Clutch Outer	
13	8032657	1	Piston, Clutch	
14	8032658	1	Ring, Outer Piston	
15	8032659	1	Seal, Inner Piston	
16	8033347	1	Forward Shaft, Drum and Plug Assembly	
17	8032653	1	Ring, Snap	
18	8032654	1	Backing Plate	
19	8032661	6	Disc, Clutch Inner	
20	8032656	6	Disc, Clutch Outer	
21	8032663	1	Clutch Piston Assembly	
22	8032658	1	Ring, Outer Piston	
23	8032659	1	Seal, Inner Piston	
24	8033344	1	3rd Clutch Shaft, Drum and Plug Assembly	
25	8032653	1	Ring, Snap	
26	8032654	1	Backing Plate	
27	8032661	8	Disc, Clutch Inner	
28	8032656	8	Disc, Clutch Outer	
29	8032657	1	Piston, Clutch	
30	8032658	1	Ring, Outer Piston	
31	8032659	1	Seal, Inner Piston	
32	8032665	1	Rev and 2nd Shaft, Drum and Plug Assembly	
33	8032659	1	Seal, Inner Piston	
34	8032658	1	Ring, Outer Piston	
35	8032663	1	Piston, Clutch	
36	8032656	6	Disc, Clutch Outer	
37	8032661	6	Disc, Clutch Inner	
38	8032654	1	Backing Plate	
39	8032653	1	Ring, Snap	

# SECTION 3 - DRIVE TRAIN

## FIGURE 3-6. CONTROL VALVE ASSEMBLY (Prior to SN 9909)



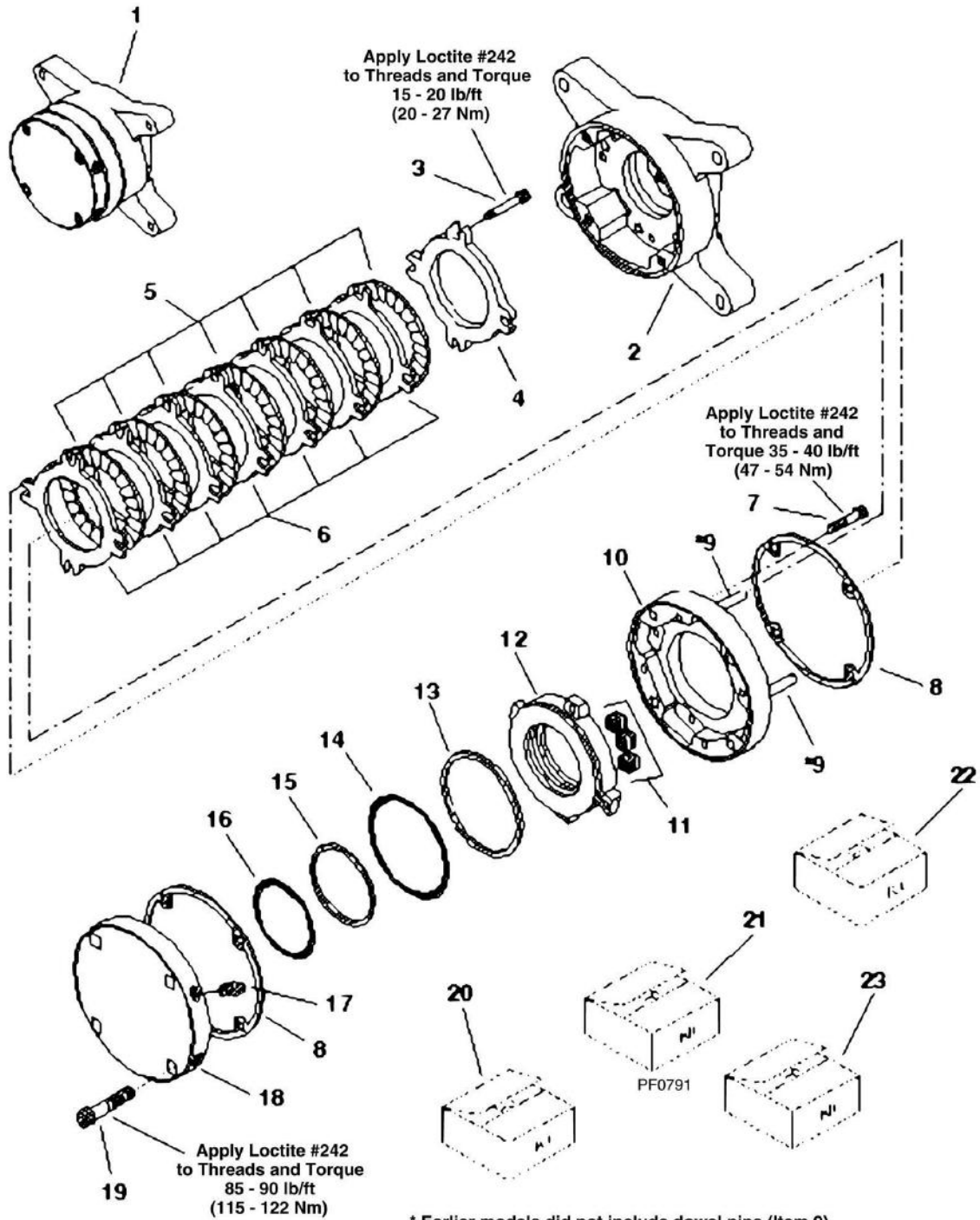
## SECTION 3 - DRIVE TRAIN

**FIGURE 3-6. CONTROL VALVE ASSEMBLY (Prior to SN 9909)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	8032666	9	Screw	
2	8307005	9	Washer, Lock	
3	8033239	1	Control Valve Assembly (Includes Items 4 thru 7 and Item 16)	
4	8032672	1	Valve Spool	
5	8032673	1	Spring, Control Valve	
6	8032676	1	Stop, Valve Spool	
7	8032679	1	Control Valve Housing Assembly (Includes Items 8 thru 15)	
8	8032674	1	Valve Spool, Forward and Reverse	
9	8032675	2	Oil Seal	
10	8825174	1	Switch, Neutral	
11	8032678	1	Switch Actuating Pin	
12	8032680	3	Pipe Plug	
13	8032682	1	Speed Selector Spool and Plug Assembly (Includes Item 14)	
14	8032681	1	Plug	
15	8032676	2	Stop, Valve Spool	
16	8841314	1	Hydraulic Actuator Assembly (Includes Items 17 thru 21)	
17	8033202	1	O-Ring	
18	8033203	1	Balance Spring and Pin Kit	
19	8033204	1	Piston Seal	
20	8033205	1	Piston	
21	8033238	1	Glyd Ring Assembly	
22	8033890	1	Gasket, Control Valve	
23	77104284	2	DETENT BALL	
24	8032670	2	Detent Spring	
25	8303987	2	Screw, #8-32 x 1/4in Slotted Pan Hd	

# SECTION 3 - DRIVE TRAIN

## FIGURE 3-7. EMERGENCY BRAKE (Prior to SN 9909)



\* Earlier models did not include dowel pins (Item 9). For earlier models, all tabs on stator discs (Item 6) must line up over shoulder bolts (Item 3).

PH0131

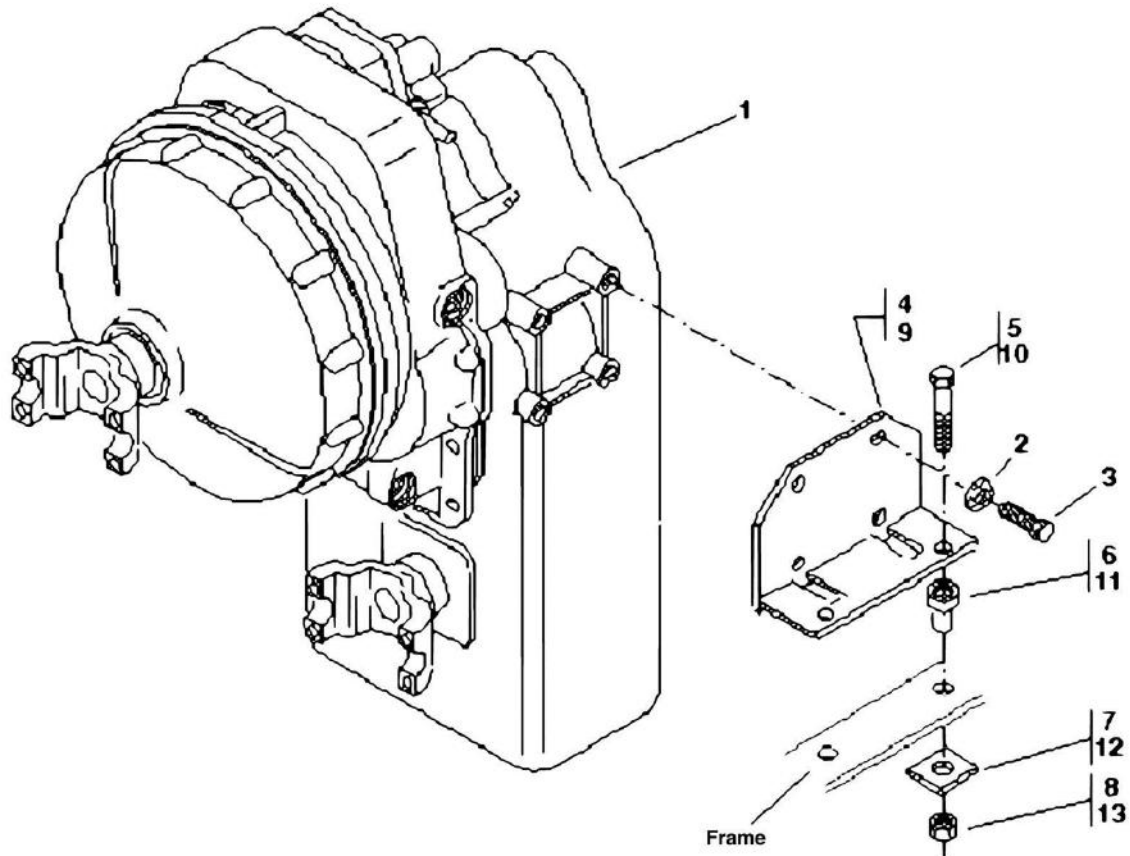
## SECTION 3 - DRIVE TRAIN

**FIGURE 3-7. EMERGENCY BRAKE (Prior to SN 9909)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	8033791	1	Emergency Brake Assembly (Includes Items 2 thru 19)	
2	8033774	1	Cover	
3	8033775	4	Shoulder Bolt	
4	See Kits	1	Disc, Primary	
5	See Kits	7	Disc, Rotor	
6	See Kits	7	Disc, Stator	
7	8033776	4	HHCS, Socket Head	
8	See Kits	2	Case Gasket	
9	8033777	4	Dowel Pin	
10	8033778	1	Spring Plate	
11	See Kits	12	Spring, Red	
12	8033779	1	Piston	
13	See Kits	1	Back-up Ring	
14	See Kits	1	O-Ring	
15	See Kits	1	Back-up Ring	
16	See Kits	1	O-Ring	
17	8033780	1	Bleeder Screw	
18	8033781	1	Pressure Plate	
19	8033782	4	HHCS, Socket Head	
		Ref	<b>KITS</b>	
20	7131852	1	Kit, Repair Park Brake (Includes Items 3, 21, 22 & 23)	
21	8033771	1	Rotor and Stator Disc Kit (Includes Items 4 thru 6 & 8)	
22	8033772	1	O-Ring and Back-up Ring Kit (Includes Items 8 & 13 thru 16)	
23	8033773	1	Spring Kit (Includes Items 8 & 11)	

# SECTION 3 - DRIVE TRAIN

## FIGURE 3-8. TRANSMISSION MOUNTING (Prior to SN 9909)



PH0241

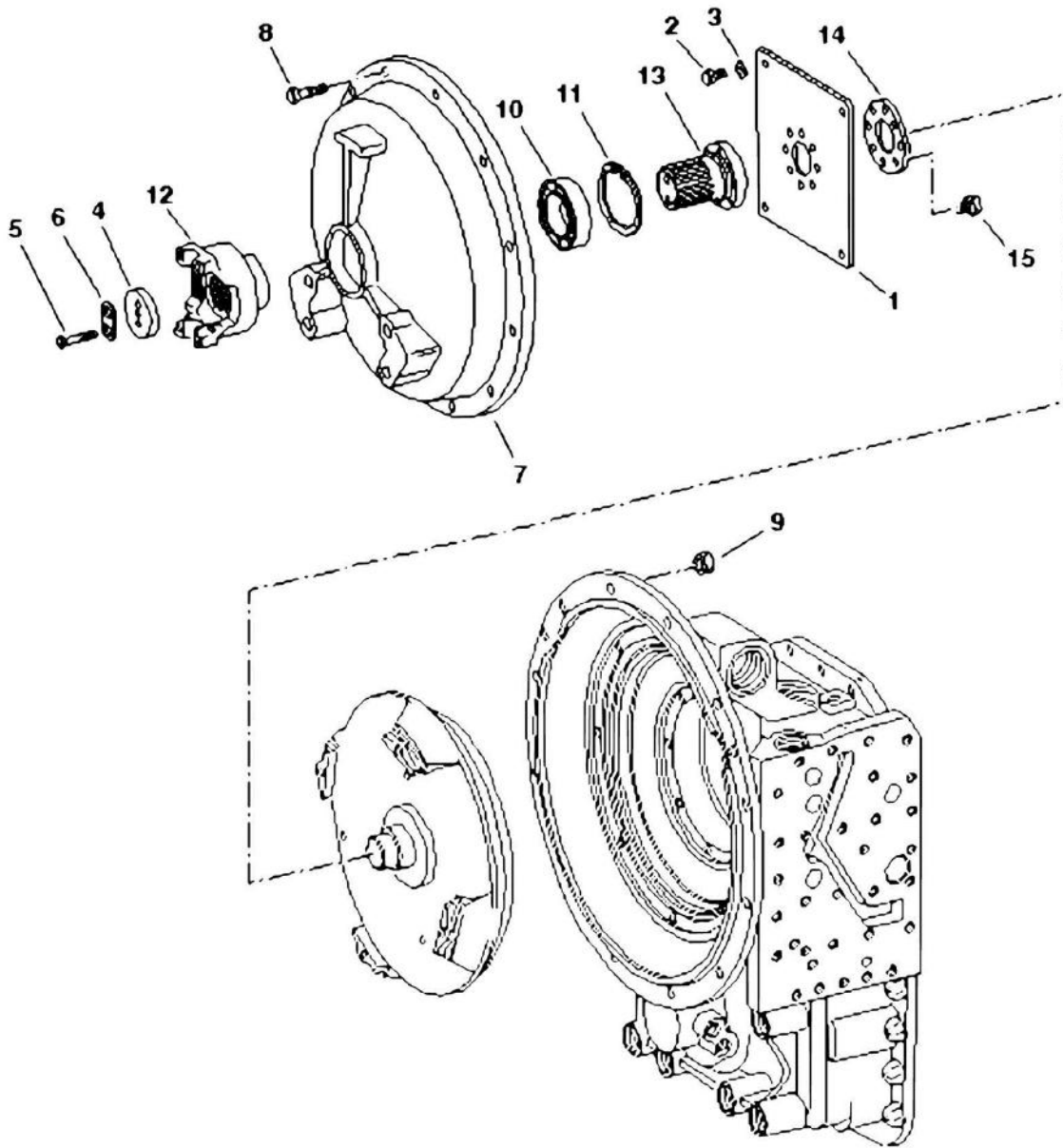
## SECTION 3 - DRIVE TRAIN

**FIGURE 3-8. TRANSMISSION MOUNTING (Prior to SN 9909)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	8841025	1	Transmission	
2	8307010	8	Washer, Lock 3/4in	
3	8303664	8	HHCS, 3/4-10 x 1-1/2in	
4	7095342	2	Mount, Transmission (Machines Model 8042 Prior to SN 0059) (Machines Model 10042 Prior to SN 0058)	
5	8310051	4	HHCS, 1-8 x 4in (Machines Model 8042 Prior to SN 0059) (Machines Model 10042 Prior to SN 0058)	
6	8278017	4	Isolator (Machines Model 8042 Prior to SN 8042-0059) (Machines Model 10042 Prior to SN 10042-0058)	
7	7096471	4	Washer, Rebound (Machines Model 8042 Prior to SN 0059) (Machines Model 10042 Prior to SN 0058)	
8	8310116	4	Nut, Hex Lock Elastic 1-8 (Machines Model 8042 Prior to SN 0059) (Machines Model 10042 Prior to SN 0058)	
9	7111952	2	Mount, Transmission (For Machines Model 8042 SN 0059 thru 9908) (For Machines Model 10042 SN 0058 thru 9908) (For Machines Model 10054)	
10	8303724	4	HHCS, 3/4-10 x 3-1/2in (For Machines Model 8042 SN 0059 thru 9908) (For Machines Model 10042 SN 0058 thru 9908) (For Machines Model 10054)	
11	8278007	4	Isolator (For Machines Model 8042 SN 0059 thru 9908) (For Machines Model 10042 SN 0058 thru 9908) (For Machines Model 10054)	
12	7054351	4	Washer, Rebound (For Machines Model 8042 SN 0059 thru 9908) (For Machines Model 10042 SN 0058 thru 9908) (For Machines Model 10054)	
13	8310067	4	Nut, Hex Lock Elastic 3/4in (For Machines Model 8042 SN 0059 thru 9908) (For Machines Model 10042 SN 0058 thru 9908) (For Machines Model 10054)	

# SECTION 3 - DRIVE TRAIN

FIGURE 3-9. ENGINE CONNECT (SN 9909 through 13197)



PH1040



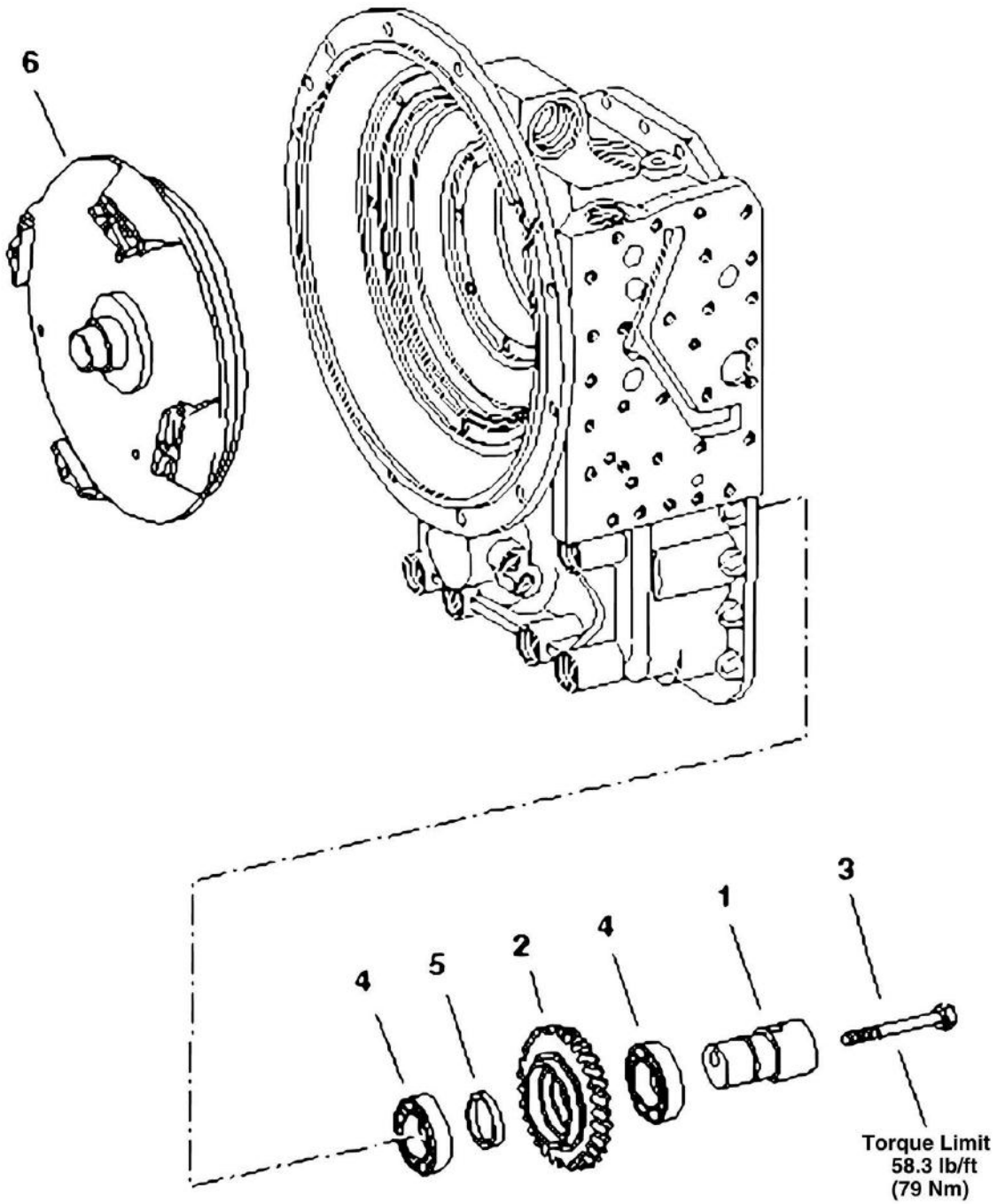
## SECTION 3 - DRIVE TRAIN

**FIGURE 3-9. ENGINE CONNECT (SN 9909 through 13197)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	1319203	1	Diaphragm	
2	1319204	4	HHCS, M10 x 18mm	
3	10732095	4	Washer, 10,5	
4	1319205	1	Washer	
5	1319206	2	HHCS, M8 x 50mm	
6	1319207	1	Washer	
7	1319208	1	Cover	
8	10731748	12	HHCS, M10 x 45mm	
9	10731751	12	Nut, Hex M10	
10	1319209	1	Bearing	
11	1319210	1	Ring, Retaining 90 x 3	
12	1319211	1	Flange, Input	
13	1319212	1	Shaft, Input	
14	1319213	1	Washer	
15	10731702	8	HHCS, M10 x 16mm	

# SECTION 3 - DRIVE TRAIN

FIGURE 3-10. CONVERTER AND LAYSHAFT (SN 9909 through 13197)



PH1050

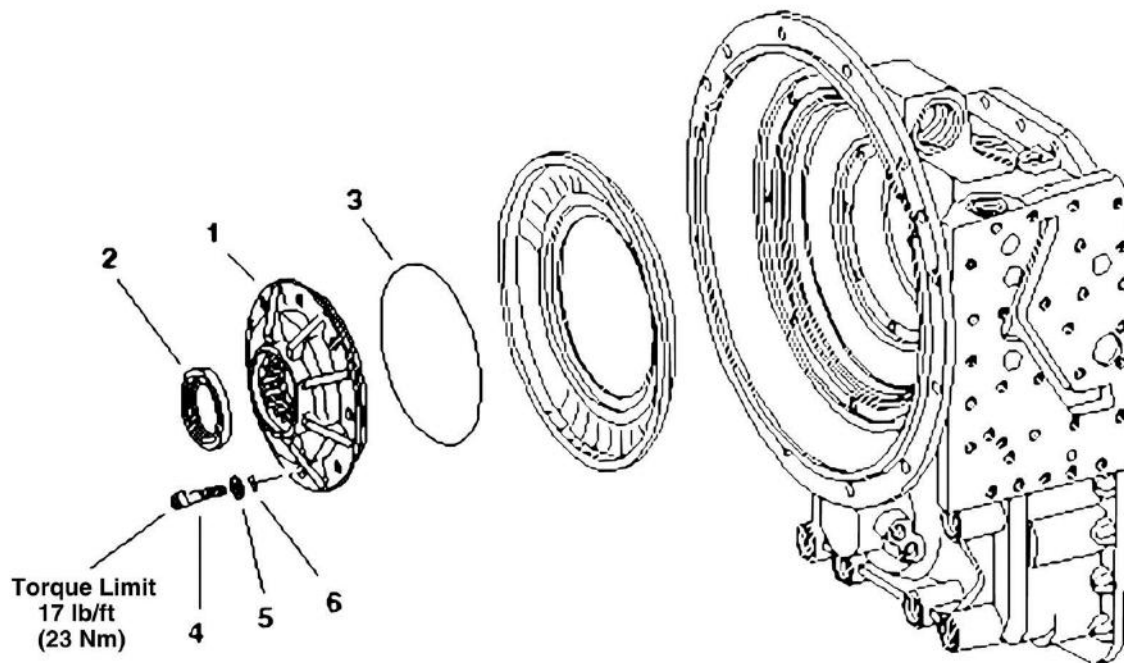
## SECTION 3 - DRIVE TRAIN

**FIGURE 3-10. CONVERTER AND LAYSHAFT (SN 9909 through 13197)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	10732110	1	Axle	
2	10732111	1	Gear, Idler	
3	10732112	1	HHCS, M12 x 115mm	
4	10732113	2	Bearing, Roller	
5	10732114	1	Bushing, 7,20mm	
5	10732115	1	Bushing, 7,25mm	
5	10732116	1	Bushing, 7,30mm	
5	10732117	1	Bushing, 7,35mm	
5	10732118	1	Bushing, 7,40mm	
5	10732119	1	Bushing, 7,45mm	
5	10732120	1	Bushing, 7,50mm	
5	10732121	1	Bushing, 7,55mm	
5	10732122	1	Bushing, 7,60mm	
6	10731704	1	Converter	

# SECTION 3 - DRIVE TRAIN

FIGURE 3-11. OIL PRESSURE PUMP (SN 9909 through 13197)



PH1060

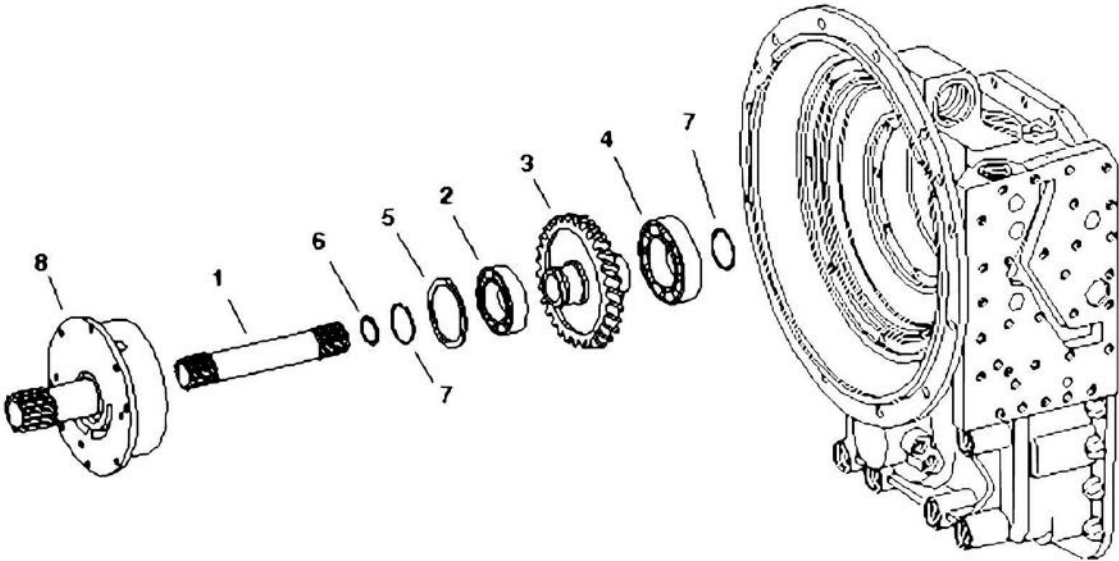
## SECTION 3 - DRIVE TRAIN

FIGURE 3-11. OIL PRESSURE PUMP (SN 9909 through 13197)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	10731705	1	Pump	
2	10731706	1	Seal, Shaft	
3	10731707	1	O-Ring, 192 x 3	
4	1319214	8	SHCS, M8 x 40mm	
5	10731710	8	Washer, 8,4	
6	10731709	8	O-Ring, 8 x 1,5	

**SECTION 3 - DRIVE TRAIN**

**FIGURE 3-12. INPUT SHAFT (SN 9909 through 13197)**



PH1070

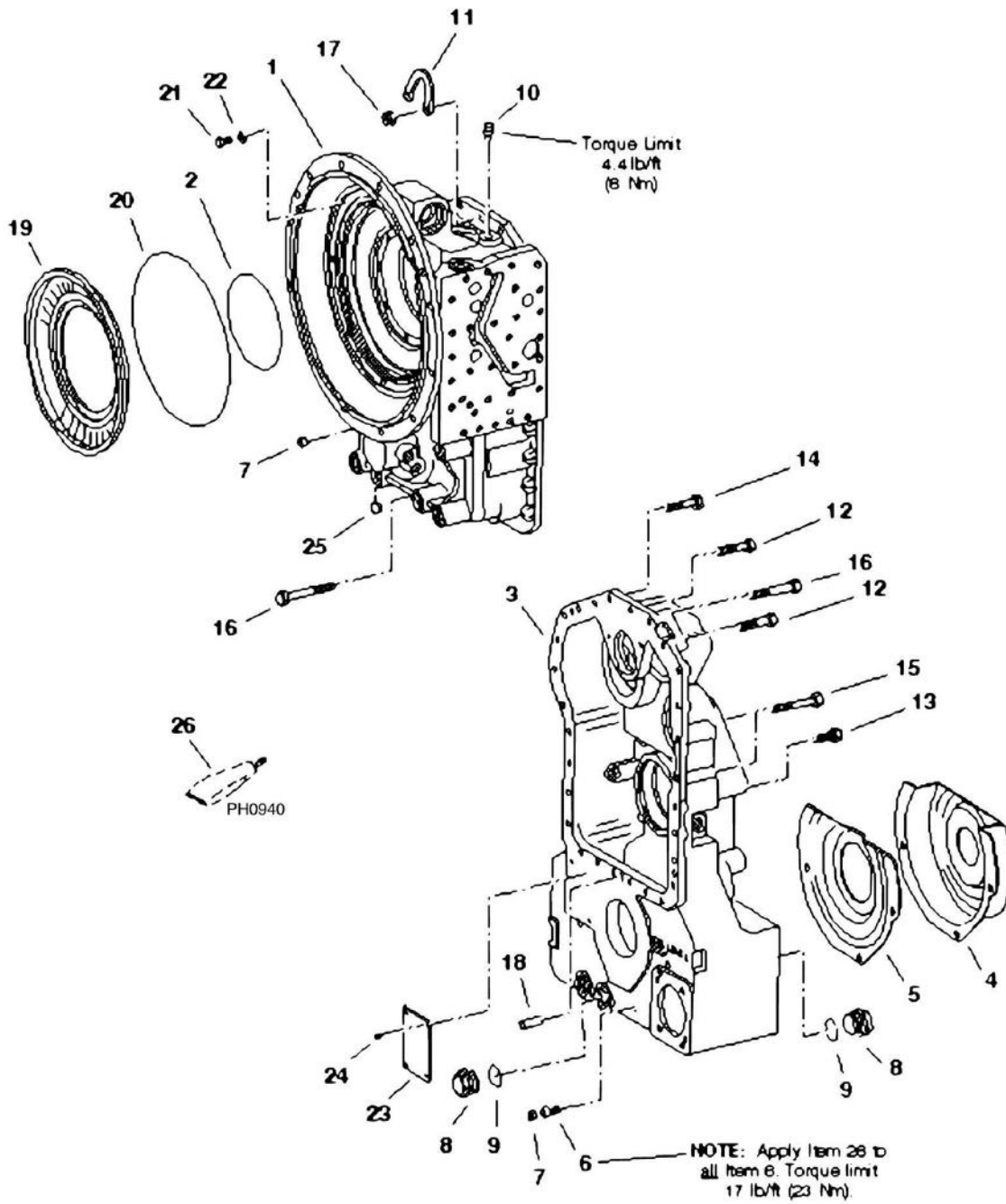
## SECTION 3 - DRIVE TRAIN

**FIGURE 3-12. INPUT SHAFT (SN 9909 through 13197)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	10731711	1	Shaft, Turbine	
2	10731712	1	Bearing, Roller	
3	10731713	1	Gear, Input	
4	1319215	1	Bearing, Roller	
5	10731715	1	Washer, 1,2mm	
5	1319216	1	Washer, 1,25mm	
5	1319217	1	Washer, 1,35mm	
5	10731716	1	Washer, 0,5mm	
5	10731717	1	Washer, 0,6mm	
5	10731718	1	Washer, 0,7mm	
5	10731719	1	Washer, 0,8mm	
5	10731720	1	Washer, 0,9mm	
5	10731721	1	Washer, 1,0mm	
5	10731722	1	Washer, 1,1mm	
5	10731723	1	Washer, 1,3mm	
5	10731724	1	Washer, 1,4mm	
5	10731725	1	Washer, 1,5mm	
5	10731726	1	Washer, 0,65mm	
5	10731727	1	Washer, 0,75mm	
5	10731728	1	Washer, 0,85mm	
5	10731729	1	Washer, 0,95mm	
5	10731730	1	Washer, 1,05mm	
5	10731731	1	Washer, 1,15mm	
6	10731732	1	Ring, Snap	
7	1319218	2	Ring, Piston	
8	10731734	1	Flange, Oil Feed	

# SECTION 3 - DRIVE TRAIN

## FIGURE 3-13. GEARBOX HOUSING (SN 9909 through 13197)



PH1080



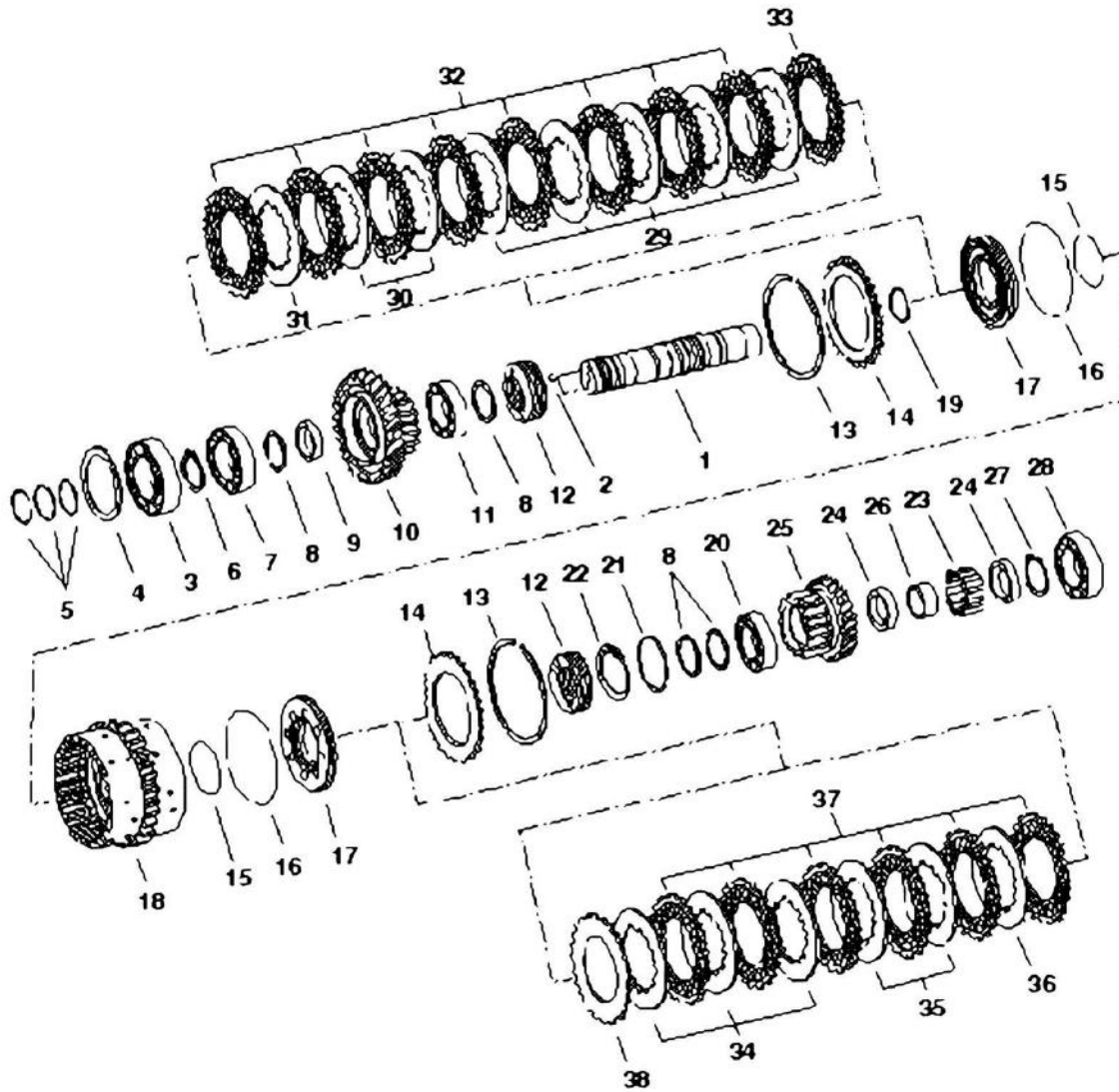
## SECTION 3 - DRIVE TRAIN

**FIGURE 3-13. GEARBOX HOUSING (SN 9909 through 13197)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	1319219	1	Housing	
2	10731736	1	O-Ring, 150 x 3	
3	10731737	1	Housing, Gearbox	
4	10731738	1	Sheet, Screen	
5	10731739	1	Sheet, Screen	
6	1319220	3	SHCS, M8 x 35mm	
7	10731741	5	Cap, Sealing	
8	10731742	2	Plug, M33 x 2	
9	10731743	2	O-Ring, 30 x 2,5	
10	10731744	1	Breather	
11	10731745	1	Bracket	
12	10731746	3	HHCS, M10 x 55mm	
13	10731747	17	HHCS, M10 x 32mm	
14	10731748	3	HHCS, M10 x 45mm	
15	10731749	2	HHCS, M10 x 85mm	
16	10731750	3	HHCS, M10 x 70mm	
17	10731751	6	Nut, Hex M10	
18	10731752	1	Pin, M6 x 35mm	
19	10731753	1	Sheet, Cover	
20	10731754	1	O-Ring, 294 x 3	
21	1319221	8	HHCS, M8 x 20mm	
22	10731756	8	Washer, M8	
23	1319222	1	Plate, Type	
24	1319573	4	GROOVED STUD, 3X5	
25	10731759	1	Ball	
26	8526052	AR	Threadlocker, High Strength	

# SECTION 3 - DRIVE TRAIN

FIGURE 3-14. CLUTCH PACK 1ST GEAR - 1 OF 2 (SN 9909 through 13197)



PH1100

## SECTION 3 - DRIVE TRAIN

**FIGURE 3-14. CLUTCH PACK 1ST GEAR - 1 OF 2 (SN 9909 through 13197)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	1319223	1	Shaft	
2	10731761	2	Ball	
3	10731762	1	Bearing, Ball	
4	10731763	1	Shim, 0,9mm	
4	10731764	1	Shim, 0,95mm	
4	10731765	1	Shim, 1,00mm	
4	10731766	1	Shim, 1,05mm	
4	10731767	1	Shim, 1,1mm	
4	10731768	1	Shim, 1,15mm	
4	10731769	1	Shim, 1,2mm	
4	10731770	1	Shim, 1,25mm	
4	10731771	1	Shim, 1,3mm	
4	10731772	1	Shim, 1,35mm	
4	10731773	1	Shim, 1,4mm	
4	10731774	1	Shim, 1,45mm	
4	10731775	1	Shim, 1,5mm	
4	10731776	1	Shim, 1,55mm	
4	10731777	1	Shim, 1,6mm	
4	10731778	1	Shim, 1,65mm	
4	10731779	1	Shim, 1,7mm	
4	10731780	1	Shim, 1,75mm	
4	10731781	1	Shim, 1,8mm	
4	10731782	1	Shim, 1,85mm	
4	10731783	1	Shim, 1,9mm	
4	10731784	1	Shim, 1,95mm	
4	10731785	1	Shim, 2,0mm	
4	10731786	1	Shim, 2,05mm	
4	10731787	1	Shim, 2,1mm	
4	1319285	1	Shim, 2,15mm	
4	1319286	1	Shim, 2,2mm	
4	1319287	1	Shim, 2,25mm	
4	1319288	1	Shim, 2,3mm	
5	1319224	3	Ring, Piston 45 x 2,5	
6	10731789	1	Ring, Retaining 45 x 1,75	
7	10731790	1	Bearing, Ball	
8	10731791	4	Shim, 1,3mm	
8	10731792	4	Shim, 1,35mm	
8	10731793	4	Shim, 1,4mm	
8	10731794	4	Shim, 1,45mm	
8	10731795	4	Shim, 1,5mm	
8	10731796	4	Shim, 1,55mm	
8	10731797	4	Shim, 1,6mm	
8	10731798	4	Shim, 1,65mm	
8	10731799	4	Shim, 1,7mm	
8	10731800	4	Shim, 1,75mm	
8	10731801	4	Shim, 1,8mm	
8	10731802	4	Shim, 1,85mm	
8	10731803	4	Shim, 1,9mm	
8	10731804	4	Shim, 1,95mm	
8	10731805	4	Shim, 2,0mm	

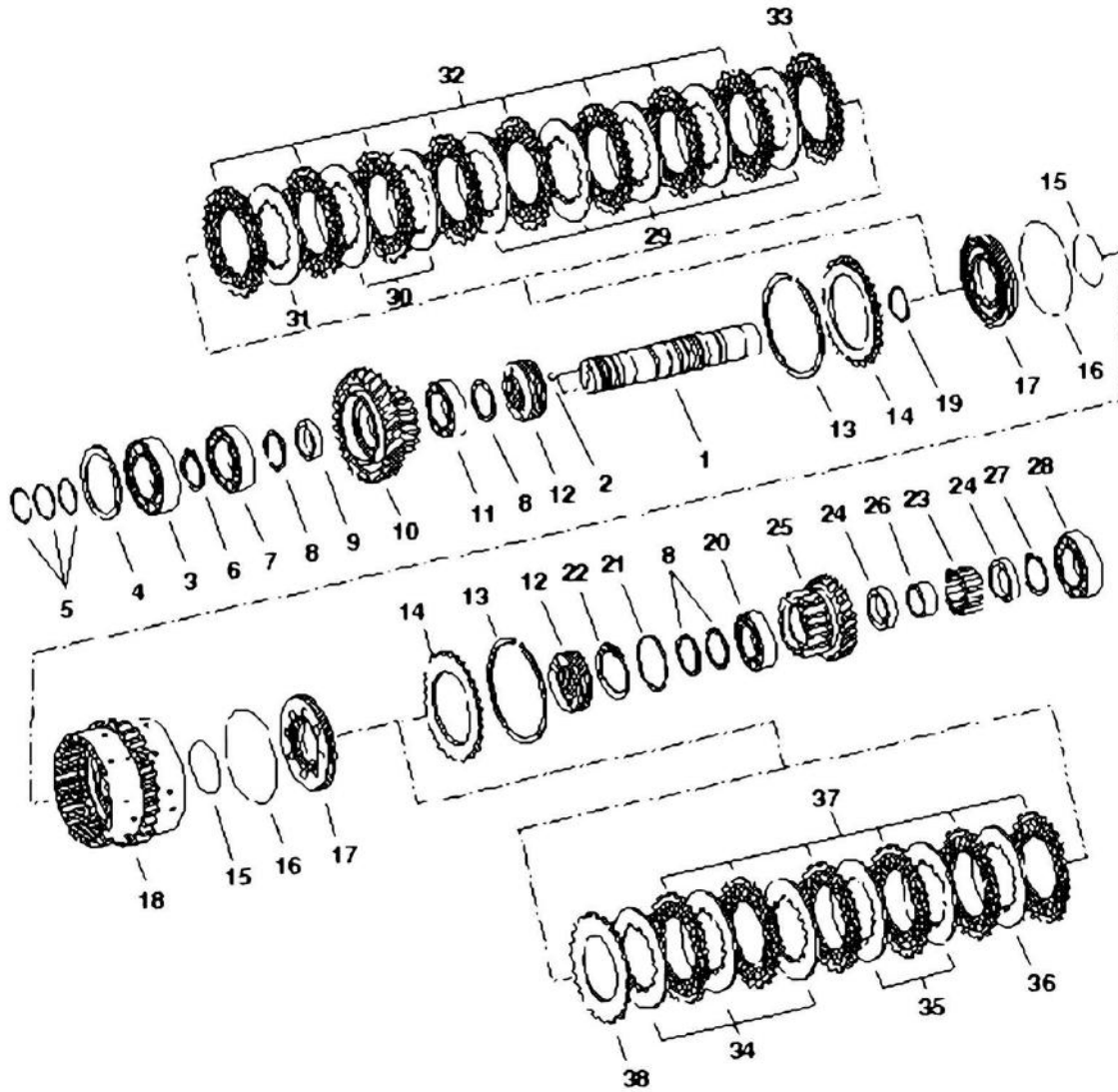
### SECTION 3 - DRIVE TRAIN

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
8	10731806	4	Shim, 2,05mm	
8	10731807	4	Shim, 2,1mm	
8	10731808	4	Shim, 2,15mm	
8	10731809	4	Shim, 2,2mm	
8	10731810	4	Shim, 2,25mm	



# SECTION 3 - DRIVE TRAIN

FIGURE 3-15. CLUTCH PACK 1ST GEAR - 2 OF 2 (SN 9909 through 13197)



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## SECTION 3 - DRIVE TRAIN

**FIGURE 3-15. CLUTCH PACK 1ST GEAR - 2 OF 2 (SN 9909 through 13197)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
8	10731811	4	Shim, 2,3mm	
8	10731812		Shim, 2,35mm	
8	10731813	4	Shim, 2,4mm	
8	10731814	4	Shim, 2,45mm	
8	10731815	4	Shim, 2,5mm	
8	10731816	4	Shim, 2,55mm	
8	10731817	4	Shim, 2,6mm	
8	10731818	4	Shim, 2,65mm	
8	10731819	4	Shim, 2,7mm	
8	10731820	4	Shim, 2,75mm	
8	10731821	4	Shim, 2,8mm	
9	10731822	1	Bush	
10	10731823	1	Gear, Spur Z=44	
11	10731824	1	Bearing, Ball	
12	10731825	10	Spring, Cup	
13	10731826	2	Ring, Snap	
14	10731827	2	Shim, End	
15	10731828	2	O-Ring, 60 x 3	
16	10731829	2	O-Ring, 120 x 3	
17	10731830	2	Piston	
18	10731831	1	Carrier, Disc	
19	10731832	1	Ring, Snap	
20	10731833	1	Bearing, Snap	
21	10731834	1	Shim, 0,8mm	
21	10731835	1	Shim, 0,9mm	
21	1319225	1	Shim, 0,95mm	
21	10731836	1	Shim, 1,0mm	
21	10731837	1	Shim, 1,1mm	
21	10731838	1	Shim, 1,2mm	
21	10731839	1	Shim, 1,3mm	
22	10732107	1	Ring, Retaining 77 x 2,5	
23	10731841	1	Cage, Needle	
24	10731842	2	Bush	
25	10731843	1	Gear, Spur Z=27	
26	10731844	1	Ring, Internal	
27	10731845	1	Ring, Retaining 40 x 1,75	
28	10731846	1	Bearing, Ball	
29	10731847	5	Disc, Inner Clutch	
30	10731848	2	Disc, Inner Clutch	
31	10731847	1	Disc, Inner Clutch 2,0mm	
31	10731848	1	Disc, Inner Clutch 1,5mm	
31	10731849	1	Disc, Inner Clutch 2,5mm	
32	10731850	8	Disc, Outer Clutch	
33	10731851	1	Disc, Outer Clutch	
34	10731847	3	Disc, Inner Clutch	
35	10731848	2	Disc, Inner Clutch	
36	10731847	1	Disc, Inner Clutch, 2.0mm	
36	10731848	1	Disc, Inner Clutch, 1.5mm	
36	10731849	1	Disc, Inner Clutch 2,5mm	
37	10731850	6	Disc, Outer Clutch	

## SECTION 3 - DRIVE TRAIN

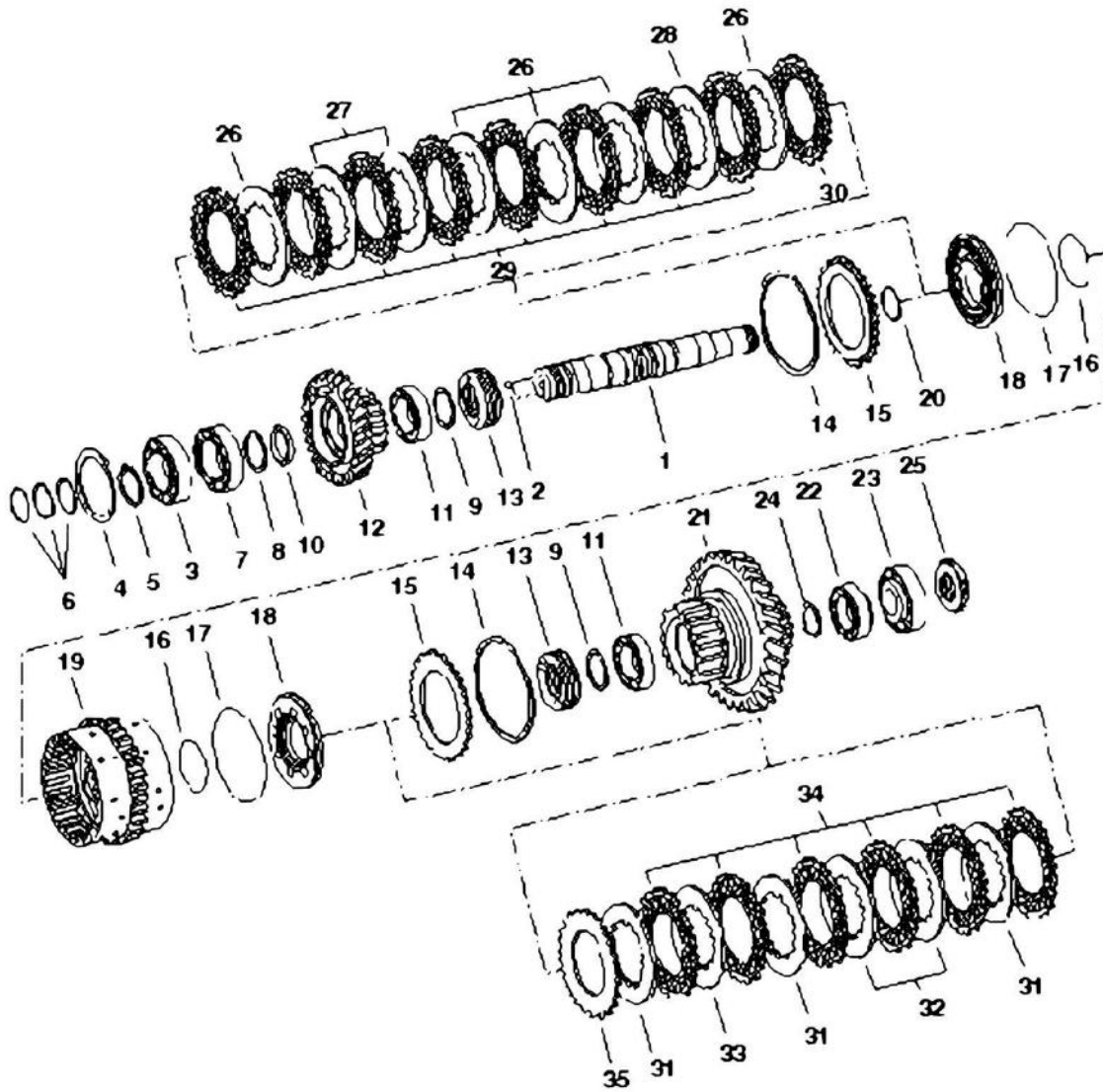
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
38	10731851	1	Disc, Outer Clutch	





# SECTION 3 - DRIVE TRAIN

FIGURE 3-16. CLUTCH PACK 2ND GEAR - 1 OF 2 (SN 9909 through 13197)



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## SECTION 3 - DRIVE TRAIN

**FIGURE 3-16. CLUTCH PACK 2ND GEAR - 1 OF 2 (SN 9909 through 13197)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	1319226	1	Shaft	
2	10731761	2	Ball	
3	1319227	1	Bearing, Roller	
4	10731854	1	Washer, 0,8mm	
4	10731855	1	Washer, 0,85mm	
4	10731856	1	Washer, 0,9mm	
4	10731857	1	Washer, 0,95mm	
4	10731858	1	Washer, 1,0mm	
4	10731859	1	Washer, 1,05mm	
4	10731860	1	Washer, 1,1mm	
4	10731861	1	Washer, 1,15mm	
4	10731862	1	Washer, 1,2mm	
4	10731863	1	Washer, 1,25mm	
4	10731864	1	Washer, 1,3mm	
4	10731865	1	Washer, 1,35mm	
4	10731866	1	Washer, 1,4mm	
4	10731867	1	Washer, 1,45mm	
4	10731868	1	Washer, 1,5mm	
4	10731869	1	Washer, 1,55mm	
4	10731870	1	Washer, 1,6mm	
4	10731871	1	Washer, 1,65mm	
4	10731872	1	Washer, 1,7mm	
4	10731873	1	Washer, 1,75mm	
4	10731874	1	Washer, 1,8mm	
4	10731875	1	Washer, 1,85mm	
4	10731876	1	Washer, 1,9mm	
4	10731877	1	Washer, 1,95mm	
4	10731878	1	Washer, 2,0mm	
4	10731879	1	Washer, 2,05mm	
4	10731880	1	Washer, 2,1mm	
4	10731881	1	Washer, 2,15mm	
4	10731882	1	Washer, 2,2mm	
4	10731883	1	Washer, 2,25mm	
4	10731884	1	Washer, 2,3mm	
4	10731885	1	Washer, 2,35mm	
4	10731886	1	Washer, 2,4mm	
5	10731789	1	Ring, Retaining 45 x 1,75	
6	1319224	3	Ring, Piston 45 x 2,5	
7	1319215	1	Bearing, Roller	
8	10731791	1	Shim, 1,3mm	
8	10731792	1	Shim, 1,35mm	
8	10731793	1	Shim, 1,4mm	
8	10731794	1	Shim, 1,45mm	
8	10731795	1	Shim, 1,5mm	
8	10731796	1	Shim, 1,55mm	
8	10731797	1	Shim, 1,6mm	
8	10731798	1	Shim, 1,65mm	
8	10731799	1	Shim, 1,7mm	
8	10731800	1	Shim, 1,75mm	
8	10731801	1	Shim, 1,8mm	

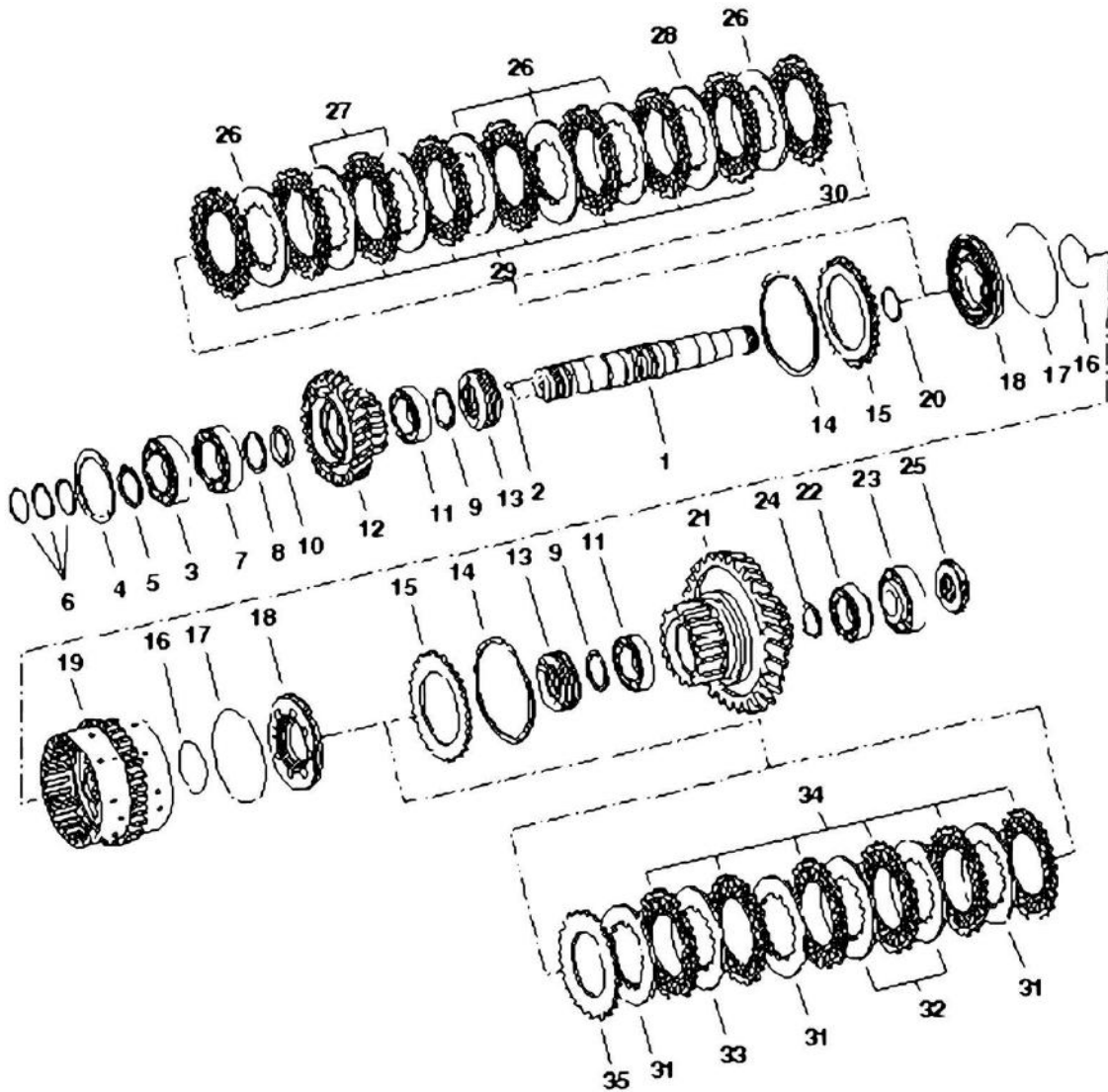
## SECTION 3 - DRIVE TRAIN

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
8	10731802	1	Shim, 1,85mm	
8	10731803	1	Shim, 1,9mm	
8	10731804	1	Shim, 1,95mm	
8	10731805	1	Shim, 2,0mm	
8	10731806	1	Shim, 2,05mm	
8	10731807	1	Shim, 2,1mm	
8	10731808	1	Shim, 2,15mm	
8	10731809	1	Shim, 2,2mm	
8	10731810	1	Shim, 2,25mm	
8	10731811	1	Shim, 2,3mm	
8	10731812	1	Shim, 2,35mm	
8	10731813	1	Shim, 2,4mm	
8	10731814	1	Shim, 2,45mm	
8	10731815	1	Shim, 2,5mm	
8	10731816	1	Shim, 2,55mm	
8	10731817	1	Shim, 2,6mm	
8	10731818	1	Shim, 2,65mm	
8	10731819	1	Shim, 2,7mm	
8	10731820	1	Shim, 2,75mm	
8	10731821	1	Shim, 2,8mm	
9	10731805	2	Shim	
10	10731887	1	Bush	
11	10731888	2	Bearing, Roller	



# SECTION 3 - DRIVE TRAIN

FIGURE 3-17. CLUTCH PACK 2ND GEAR - 2 OF 2 (SN 9909 through 13197)



PH1110

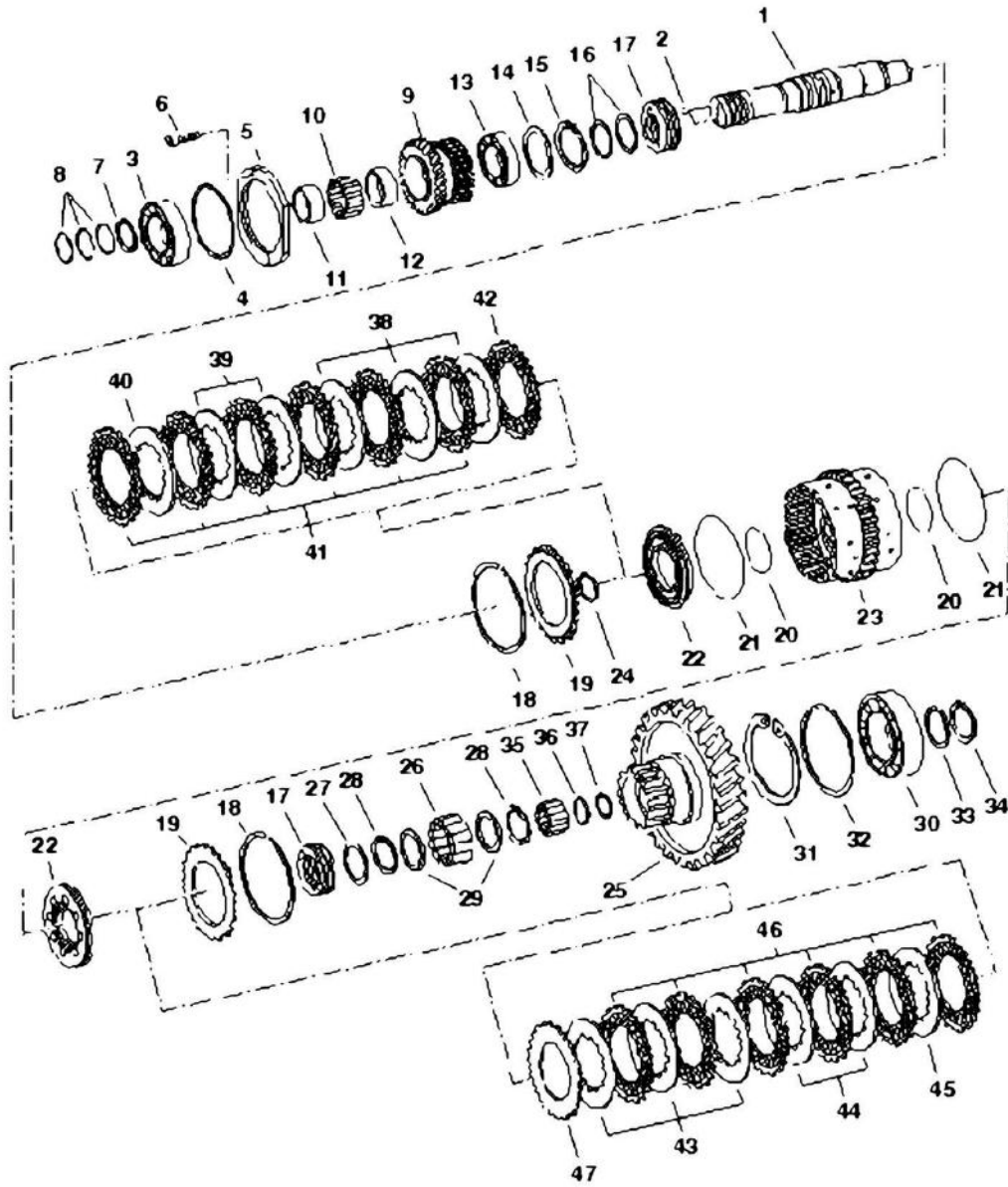
## SECTION 3 - DRIVE TRAIN

**FIGURE 3-17. CLUTCH PACK 2ND GEAR - 2 OF 2 (SN 9909 through 13197)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
12	10731889	1	Gear, Spur Z=44	
13	10731825	10	Spring, Cup	
14	10731826	2	Ring, Snap	
15	10731827	2	Shim, End	
16	10731828	2	O-Ring, 60 x 3	
17	10731829	2	O-Ring, 120 x 3	
18	10731830	2	Piston	
19	10731831	1	Carrier, Disc	
20	10731832	1	Ring, Snap 48	
21	10731890	1	Gear, Spur	
22	10731891	1	Bearing, Roller	
23	10731892	1	Bearing, Roller	
24	10731893	1	Shim, 1,0mm	
24	10731894	1	Shim, 1,05mm	
24	10731895	1	Shim, 1,1mm	
24	10731896	1	Shim, 1,15mm	
24	10731897	1	Shim, 1,2mm	
24	10731898	1	Shim, 1,25mm	
24	10731899	1	Shim, 1,3mm	
24	10731900	1	Shim, 1,35mm	
24	10731901	1	Shim, 1,4mm	
24	10731902	1	Shim, 1,45mm	
24	10731903	1	Shim, 1,5mm	
24	10731904	1	Shim, 1,55mm	
24	10731905	1	Shim, 1,6mm	
24	10731906	1	Shim, 1,65mm	
24	10731907	1	Shim, 1,7mm	
24	10731908	1	Shim, 1,75mm	
24	10731909	1	Shim, 1,8mm	
25	10731910	1	Nut, Slotted	
26	10731847	5	Disc, Inner Clutch	
27	10731848	2	Disc, Inner Clutch	
28	10731847	1	Disc, Inner Clutch 2,0mm	
28	10731848	1	Disc, Inner Clutch 1,5mm	
28	10731849	1	Disc, Inner Clutch 2,5mm	
29	10731850	8	Disc, Outer Clutch	
30	10731851	1	Disc, Outer Clutch	
31	10731847	3	Disc, Inner Clutch	
32	10731848	2	Disc, Inner Clutch	
33	10731847	1	Disc, Inner Clutch 2,0mm	
33	10731848	1	Disc, Inner Clutch 1,5mm	
33	10731849	1	Disc, Inner Clutch 2,5mm	
34	10731850	6	Disc, Outer Clutch	
35	10731851	1	Disc, Outer Clutch	

# SECTION 3 - DRIVE TRAIN

FIGURE 3-18. CLUTCH PACK 3RD GEAR - 1 OF 2 (SN 9909 through 13197)



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## SECTION 3 - DRIVE TRAIN

**FIGURE 3-18. CLUTCH PACK 3RD GEAR - 1 OF 2 (SN 9909 through 13197)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	10731911	1	Shaft	
2	10731761	2	Ball	
3	10731912	1	Bearing, Ball	
4	10731913	1	Ring, Snap 100	
5	1319230	1	Washer	
6	1319220	2	HHCS, M8 x 35mm	
7	10731789	1	Ring, Retaining 45 x 1,75	
8	1319224	3	Ring, Piston 45 x 2,5	
9	10732103	1	Gear, Spur Z=29	
10	10732104	1	Cage, Needle	
11	10732105	1	Ring, Internal	
12	10732106	1	Bush	
13	10731824	1	Bearing, Ball	
14	10731834	1	Shim, 0,8mm	
14	10731835	1	Shim, 0,9mm	
14	1319225	1	Shim, 0,95mm	
14	10731836	1	Shim, 1,0mm	
14	10731837	1	Shim, 1,1mm	
14	10731838	1	Shim, 1,2mm	
14	10731839	1	Shim, 1,3mm	
15	10732107	1	Ring, Retaining 77 x 2,5	
16	10731791	2	Shim, 1,3mm	
16	10731792	2	Shim, 1,35mm	
16	10731793	2	Shim, 1,4mm	
16	10731794	2	Shim, 1,45mm	
16	10731795	2	Shim, 1,5mm	
16	10731796	2	Shim, 1,55mm	
16	10731797	2	Shim, 1,6mm	
16	10731798	2	Shim, 1,65mm	
16	10731799	2	Shim, 1,7mm	
16	10731800	2	Shim, 1,75mm	
16	10731801	2	Shim, 1,8mm	
16	10731802	2	Shim, 1,85mm	
16	10731803	2	Shim, 1,9mm	
16	10731804	2	Shim, 1,95mm	
16	10731805	2	Shim, 2,0mm	
16	10731806	2	Shim, 2,05mm	
16	10731807	2	Shim, 2,1mm	
16	10731808	2	Shim, 2,15mm	
16	10731809	2	Shim, 2,2mm	
16	10731810	2	Shim, 2,25mm	
16	10731811	2	Shim, 2,3mm	
16	10731812	2	Shim, 2,35mm	
16	10731813	2	Shim, 2,4mm	
16	10731814	2	Shim, 2,45mm	
16	10731815	2	Shim, 2,5mm	
16	10731816	2	Shim, 2,55mm	
16	10731817	2	Shim, 2,6mm	
16	10731818	2	Shim, 2,65mm	
16	10731819	2	Shim, 2,7mm	

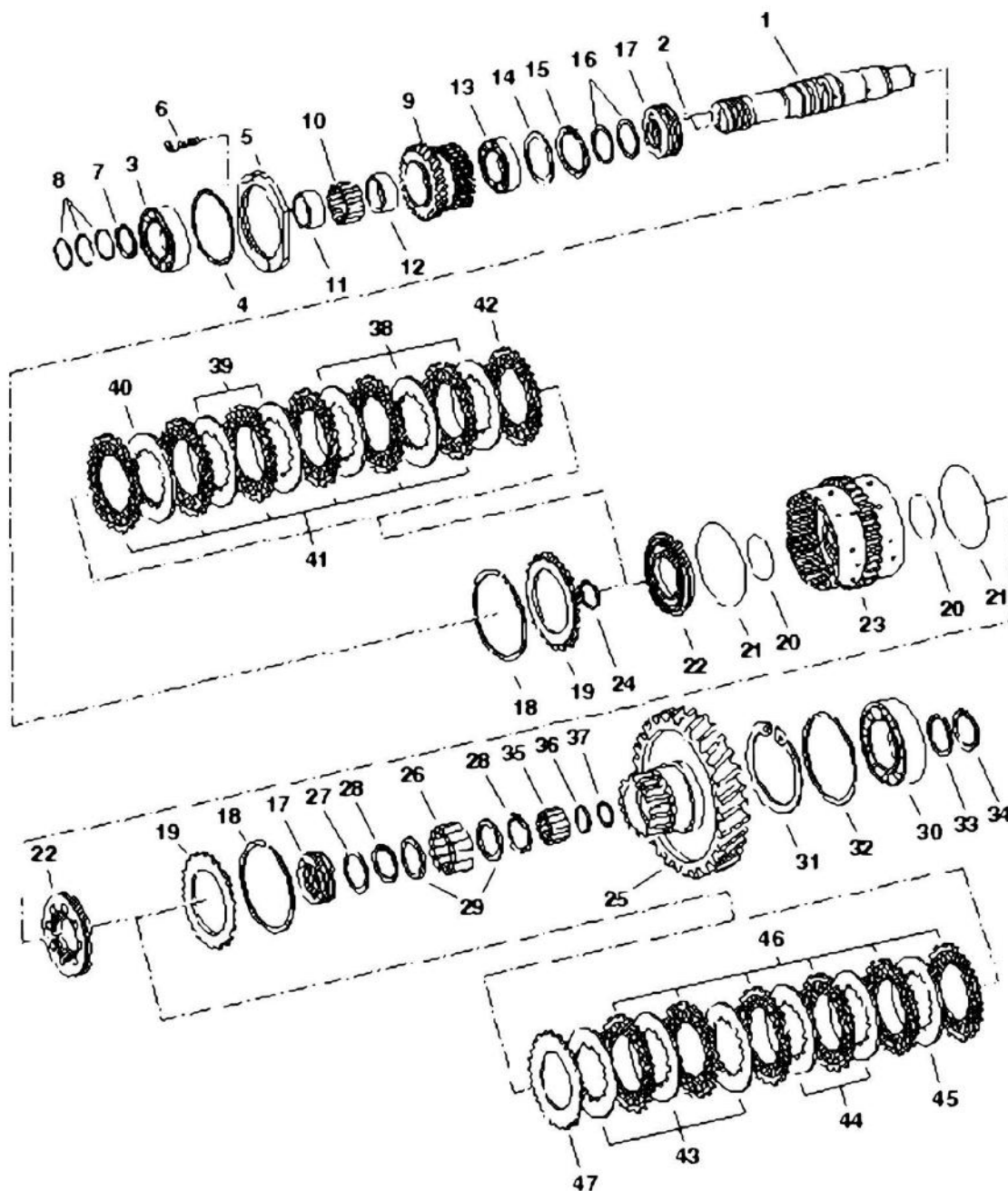
### SECTION 3 - DRIVE TRAIN

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
16	10731820	2	Shim, 2,75mm	
16	10731821	2	Shim, 2,8mm	
17	10731825	10	Spring, Cup	
18	10731826	2	Ring, Snap	
19	10731827	2	Shim, End	



# SECTION 3 - DRIVE TRAIN

FIGURE 3-19. CLUTCH PACK 3RD GEAR - 2 OF 2 (SN 9909 through 13197)



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## SECTION 3 - DRIVE TRAIN

**FIGURE 3-19. CLUTCH PACK 3RD GEAR - 2 OF 2 (SN 9909 through 13197)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
20	10731828	2	O-Ring, 60 x 3	
21	10731829	2	O-Ring, 120 x 3	
22	10731830	2	Piston	
23	10731916	1	Carrier, Disc	
24	10731832	1	Ring, Snap 48	
25	10731917	1	Gear, Spur Z=56	
26	10731918	1	Cage, Roller	
27	10731919	1	Shim, 3,4mm	
27	10731920	1	Shim, 1,6mm	
28	10731921	2	Ring, Retaining 48 x 1,75	
29	1319234	2	Washer, Thrust	
30	1319235	1	Bearing, Roller	
31	10731928	1	Ring, Retaining 120 x 4	
32	10731929	1	Washer, 1,0mm	
32	10731930	1	Washer, 1,05mm	
32	10731931	1	Washer, 1,1mm	
32	10731932	1	Washer, 1,15mm	
32	10731933	1	Washer, 1,2mm	
32	10731934	1	Washer, 1,25mm	
32	10731935	1	Washer, 1,3mm	
32	10731936	1	Washer, 1,35mm	
32	10731937	1	Washer, 1,4mm	
33	10731938	1	Shim, 0,8mm	
33	10731839	1	Shim, 0,85mm	
33	10731840	1	Shim, 0,9mm	
33	10731841	1	Shim, 0,95mm	
33	10731842	1	Shim, 1,0mm	
33	10731843	1	Shim, 1,05mm	
33	10731844	1	Shim, 1,1mm	
33	10731845	1	Shim, 1,15mm	
33	10731846	1	Shim, 1,2mm	
33	10731847	1	Shim, 1,25mm	
33	10731848	1	Shim, 1,3mm	
34	10731849	1	Ring, Retaining 65 x 2,5	
35	10731850	1	Cage, Needle	
36	10731851	1	Shim	
37	10731852	1	Ring, Retaining 30 x 1,5	
38	10731847	3	Disc, Inner Clutch	
39	10731848	2	Disc, Inner Clutch	
40	10731847	1	Disc, Inner Clutch 2,0mm	
40	10731848	1	Disc, Inner Clutch 1,5mm	
40	10731849	1	Disc, Inner Clutch 2,5mm	
41	10731850	6	Disc, Outer Clutch	
42	10731851	1	Disc, Outer Clutch	
43	10731847	3	Disc, Inner Clutch	
44	10731848	2	Disc, Inner Clutch	
45	10731847	1	Disc, Inner Clutch 2,0mm	
45	10731848	1	Disc, Inner Clutch 1,5mm	
45	10731849	1	Disc, Inner Clutch 2,5mm	
46	10731850	6	Disc, Outer Clutch	

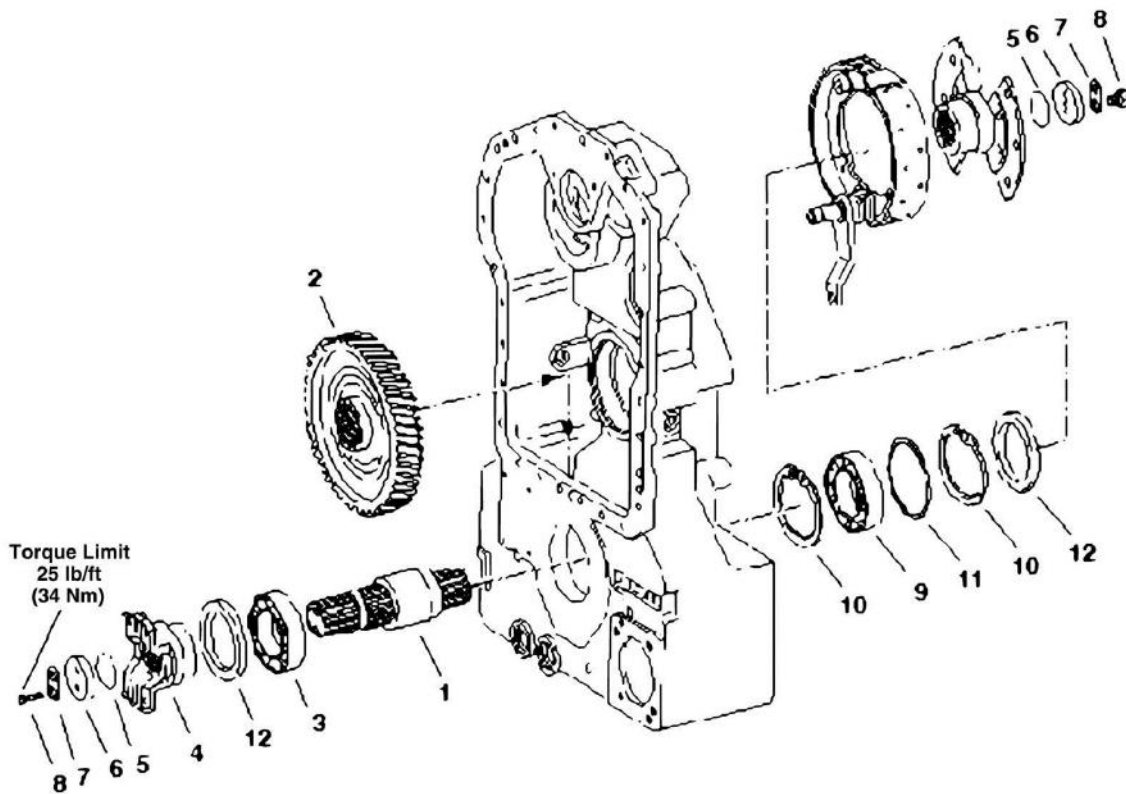
## SECTION 3 - DRIVE TRAIN

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
47	10731851	1	Disc, Outer Clutch	



# SECTION 3 - DRIVE TRAIN

## FIGURE 3-20. OUTPUT SHAFT (SN 9909 through 13197)



PH1130



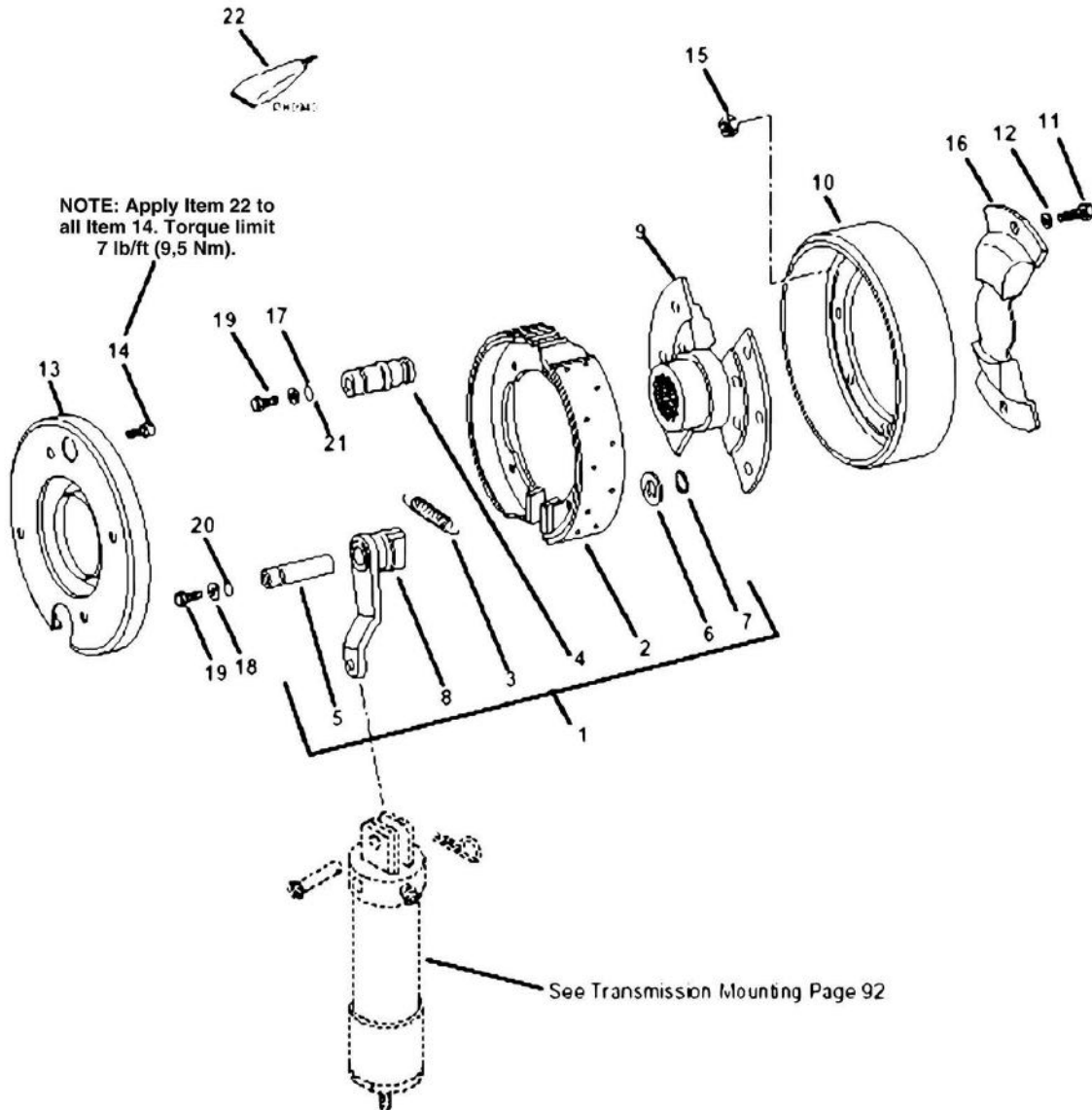
## SECTION 3 - DRIVE TRAIN

**FIGURE 3-20. OUTPUT SHAFT (SN 9909 through 13197)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	10731953	1	Shaft, Output	
2	10731954	1	Gear, Output	
3	10731955	1	Bearing, Ball	
4	10731956	1	Flange, Input	
5	10839156	2	O-Ring, 38 x 4	
6	10731957	2	Washer	
7	10731958	2	Washer, Tab	
8	10731959	4	HHCS, M8 x 25mm	
9	10731960	1	Bearing, Ball	
10	10731961	2	Ring, Retaining 100 x 3	
11	10731962	1	Shim, 1,0mm	
11	10731963	1	Shim, 1,05mm	
11	10731964	1	Shim, 1,1mm	
11	10731965	1	Shim, 1,15mm	
11	10731966	1	Shim, 1,2mm	
11	10731967	1	Shim, 1,25mm	
11	10731968	1	Shim, 1,3mm	
11	10731969	1	Shim, 1,35mm	
11	10731970	1	Shim, 1,4mm	
11	10731971	1	Shim, 1,45mm	
11	10731972	1	Shim, 1,5mm	
11	10731973	1	Shim, 1,55mm	
11	10731974	1	Shim, 1,6mm	
11	10731975	1	Shim, 1,65mm	
11	10731976	1	Shim, 1,7mm	
12	10731977	2	Seal, Shaft 70 x 100 x 10	

# SECTION 3 - DRIVE TRAIN

## FIGURE 3-21. PARKING BRAKE (SN 9909 through 13197)



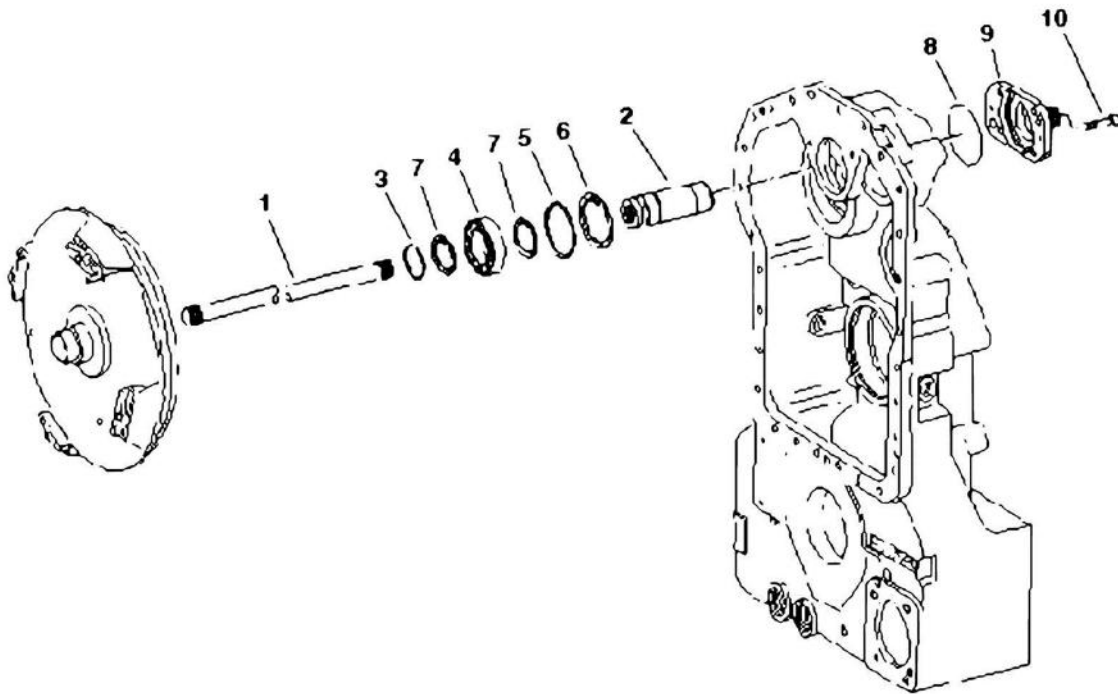
## SECTION 3 - DRIVE TRAIN

**FIGURE 3-21. PARKING BRAKE (SN 9909 through 13197)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	10731981	1	Shoe, Brake (Includes Items 2 thru 8)	
2	10731982	2	Shoe, Brake Without Asbestos	
3	10731983	2	Spring, Tension	
4	10731984	1	Bolt, Anchor	
5	10731985	1	Pin	
6	10731986	1	Washer	
7	10731987	1	Ring, Retaining 22 x 1,2	
8	10731988	1	Cam, Brake	
9	10732097	1	Flange, Output	
10	10732093	1	Drum, Brake	
11	10732094	8	HHCS, M10 x 25mm	
12	10732095	8	Washer, 10,5	
13	1319237	1	Plate, Cover	
14	10731980	4	SHCS, M6 x 10mm	
15	10731751	2	Nut, Hex M10	
16	10732098	1	Plate, Cover	
17	10732099	1	Washer	
18	10732099	1	Washer	
19	10732101	2	HHCS, M10 x 22mm	
20	10731978	1	O-Ring, 17,3 x 2,4	
21	10731979	1	O-Ring, 25,3 x 2,4	
22	8526052	AR	Threadlocker, High Strength	

# SECTION 3 - DRIVE TRAIN

FIGURE 3-22. POWER TAKE-OFF SHAFT (SN 9909 through 13197)



PH1150

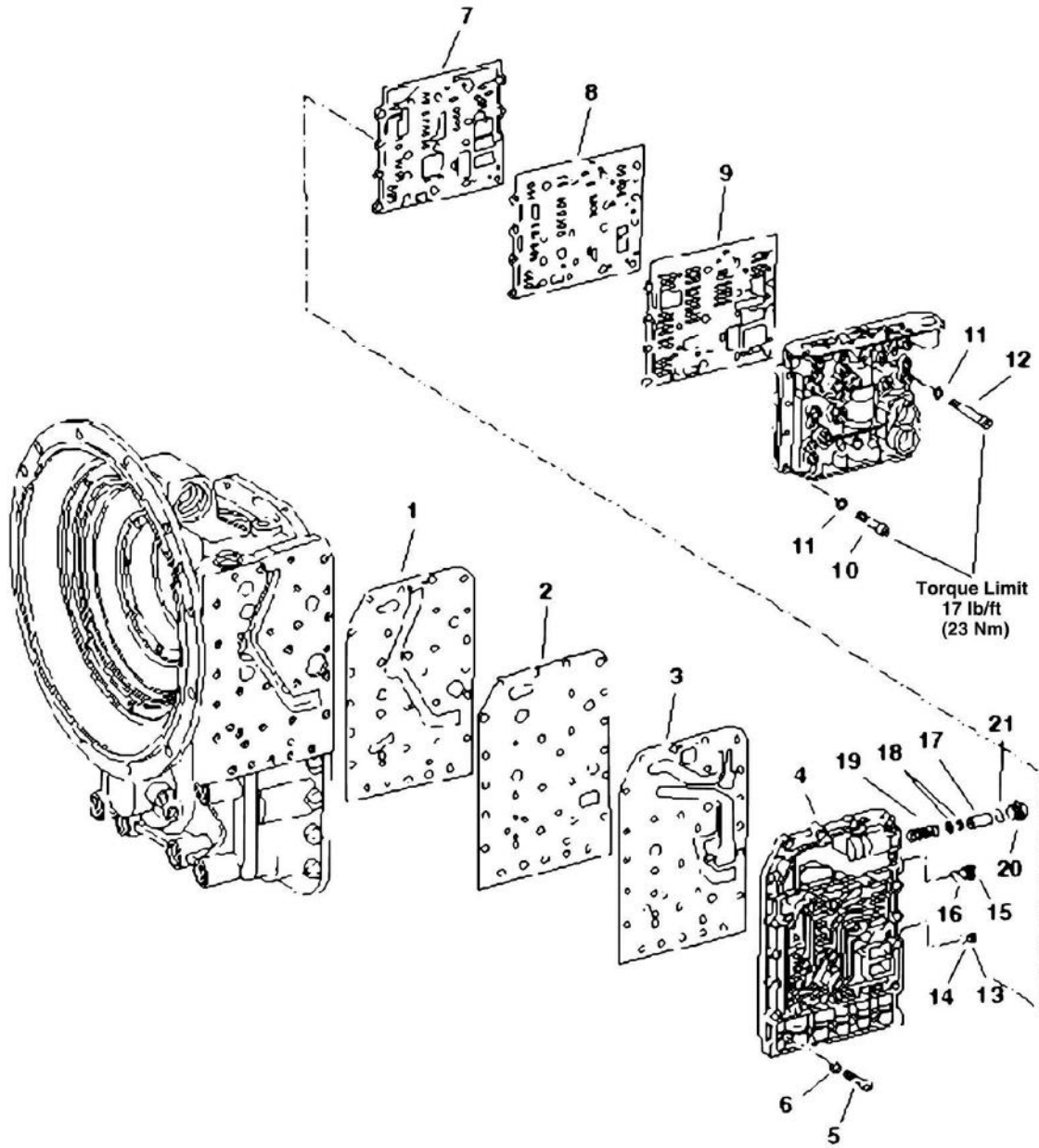
## SECTION 3 - DRIVE TRAIN

**FIGURE 3-22. POWER TAKE-OFF SHAFT (SN 9909 through 13197)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	10731989	1	Shaft, Central	
2	1319238	1	Bush	
3	1319218	1	Ring, Piston	
4	1319240	1	Bearing, Ball	
5	10731992	1	Shim, 1,0mm	
5	10731993	1	Shim, 1,05mm	
5	10731994	1	Shim, 1,1mm	
5	10731995	1	Shim, 1,15mm	
5	10731996	1	Shim, 1,2mm	
5	10731997	1	Shim, 1,25mm	
5	10731998	1	Shim, 1,3mm	
5	10731999	1	Shim, 1,35mm	
5	10732000	1	Shim, 1,40mm	
5	10732001	1	Shim, 1,45mm	
5	10732002	1	Shim, 1,5mm	
5	10732003	1	Shim, 1,55mm	
5	10732004	1	Shim, 1,6mm	
5	1319241	1	Shim, 1,65mm	
5	1319242	1	Shim, 1,70mm	
5	1319243	1	Shim, 1,75mm	
5	1319244	1	Shim, 1,80mm	
5	1319245	1	Shim, 1,85mm	
5	1319246	1	Shim, 1,90mm	
5	1319247	1	Shim, 1,95mm	
5	1319248	1	Shim, 2,00mm	
5	1319249	Ref	Shim, 2,05mm (No Longer Available; Use 1 Each Of 10731992 & 10731993)	
5	1319250	1	Shim, 2,10mm	
5	1319251	1	Shim, 2,15mm	
5	1319252	1	Shim, 2,20mm	
6	10732005	1	Ring, Retaining 68 x 2,5	
7	10731845	2	Ring, Retaining 40 x 1,75	
8	1319253	1	O-Ring, 104 x 3	
9	1319254	1	Flange, Pump	
10	1319255	2	SHCS, M14 x 35mm	

# SECTION 3 - DRIVE TRAIN

## FIGURE 3-23. GEARSHIFT SYSTEM (SN 9909 through 13197)



PH1160

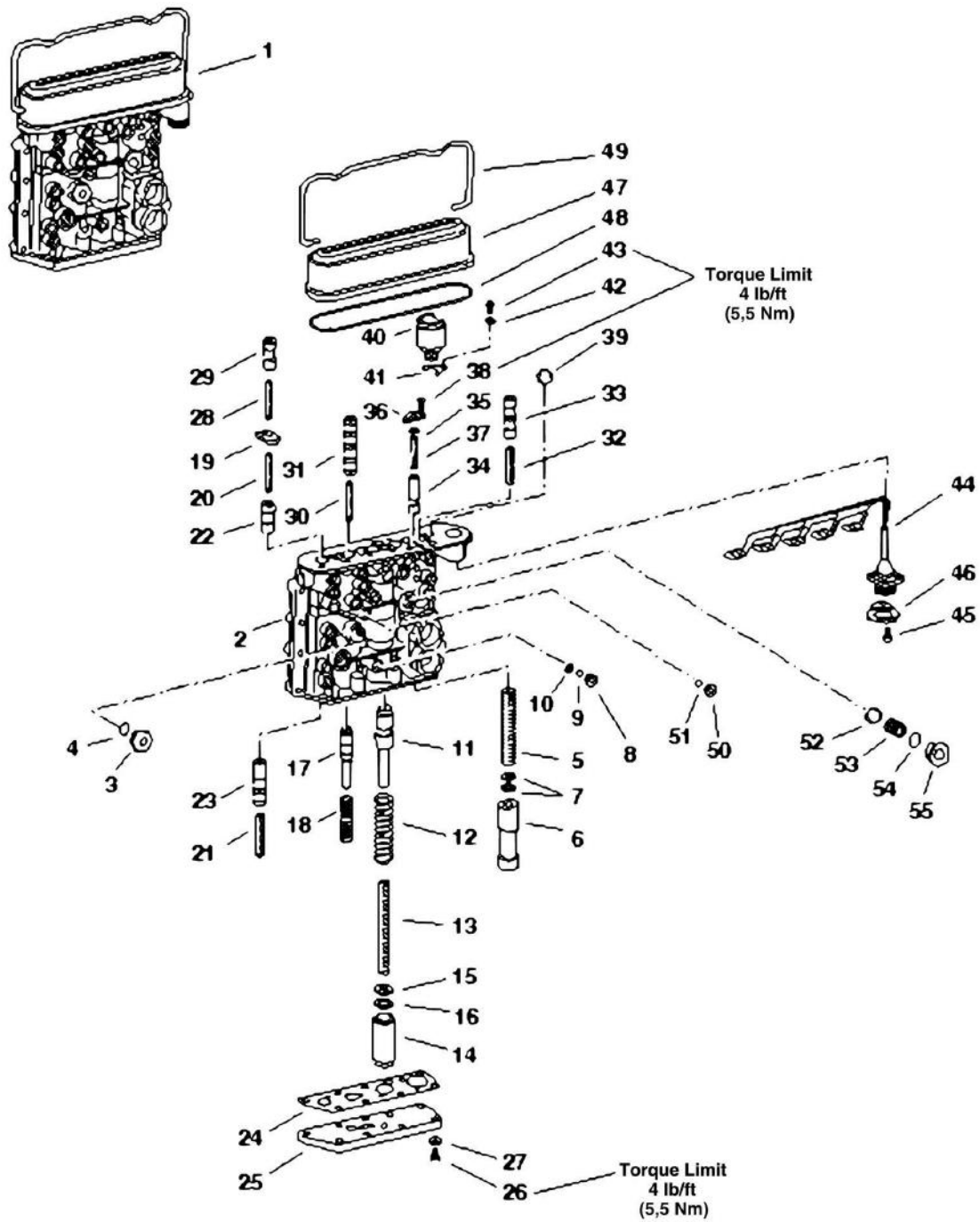
## SECTION 3 - DRIVE TRAIN

**FIGURE 3-23. GEARSHIFT SYSTEM (SN 9909 through 13197)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	1319256	1	Gasket	
2	10732007	1	Plate, Cover	
3	1319257	1	Gasket	
4	10732009	1	Plate, Duct	
5	1319220	11	SHCS, M8 x 35mm	
6	10731710	11	Washer, 8,4	
7	10732011	1	Gasket	
8	10732012	1	Plate, Cover	
9	10732013	1	Gasket	
10	1319259	16	SHCS, M8 x 65mm	
11	10731710	17	Washer, 8,4	
12	1319260	1	SHCS, M8 x 85mm	
13	10732017	1	Plug, M10 x 1	
14	10731709	1	O-Ring, 8 x 1,5	
15	1319261	1	Plug, M14 x 1,5	
16	10837660	1	O-Ring, 11 x 2	
17	10732021	1	Spool, Valve	
18	10732022	2	Washer, 6,4	
19	10732023	1	Spring, Compression	
20	10732024	1	Plug, M20 x 1,5	
21	10732025	1	O-Ring, 17 x 2	

# SECTION 3 - DRIVE TRAIN

## FIGURE 3-24. CONTROL VALVE (SN 9909 through 13197)



PH1170



## SECTION 3 - DRIVE TRAIN

**FIGURE 3-24. CONTROL VALVE (SN 9909 through 13197)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	10837728	1	Valve Assembly, Control (Includes Items 2 thru 55)	
2	1319262	1	Housing, Valve	
3	1319263	1	Sleeve, Screw-In	
4	10732018	1	O-Ring, 15 x 2	
5	10732027	1	Spring, Compression	
6	10732028	1	Piston	
7	10732029	2	Ring, Shim 10 x 16 x 1	
8	10732030	1	Orifice, 0,6mm	
8	10732031	1	Orifice, 0,7mm	
8	10732032	1	Orifice, 0,8mm	
8	10732033	1	Orifice, 0,65mm	
8	10732034	1	Orifice, 0,75mm	
8	10732035	1	Orifice, 0,85mm	
8	10732036	1	Orifice, 0,90mm	
8	1319264	1	Orifice, 0,95mm	
9	10731709	1	O-Ring, 8 x 1,5	
10	10732037	1	O-Ring, 6 x 1,5	
11	10732038	1	Piston	
12	10732039	1	Spring, Compression	
13	10732040	1	Spring, Compression	
14	10732041	1	Piston	
15	10732042	1	Washer	
16	10732043	1	Ring, Shim 15 x 21 x 2	
16	10732044	1	Ring, Shim 15 x 21 x 1	
16	10732045	1	Ring, Shim 15 x 21 x 0,5	
17	10732046	1	Piston	
18	10732047	1	Spring, Compression	
19	10732048	1	Plate, Stop	
20	10732049	1	Spring, Compression	
21	10732049	1	Spring, Compression	
22	10732050	1	Piston	
23	10732051	1	Piston	
24	1319265	1	Gasket	
25	10732053	1	Cover	
26	10732054	9	SHCS, M6 x 20mm	
27	10732015	9	Washer, M6	
28	10732049	1	Spring, Compression	
29	10732050	1	Piston	
30	10732049	1	Spring, Compression	
31	10732055	1	Piston	
32	10732049	1	Spring, Compression	
33	10732056	1	Piston	
34	1319266	1	Valve, Reduction	
35	1319267	1	Ring	
36	1319268	1	Plate, Fixing	
37	10732058	1	Spring, Compression	
38	10732060	2	SHCS, M5 x 12mm	
39	10732061	10	Ball	
40	1319269	5	Valve, Solenoid	
41	10732063	5	Plate, Fixing	

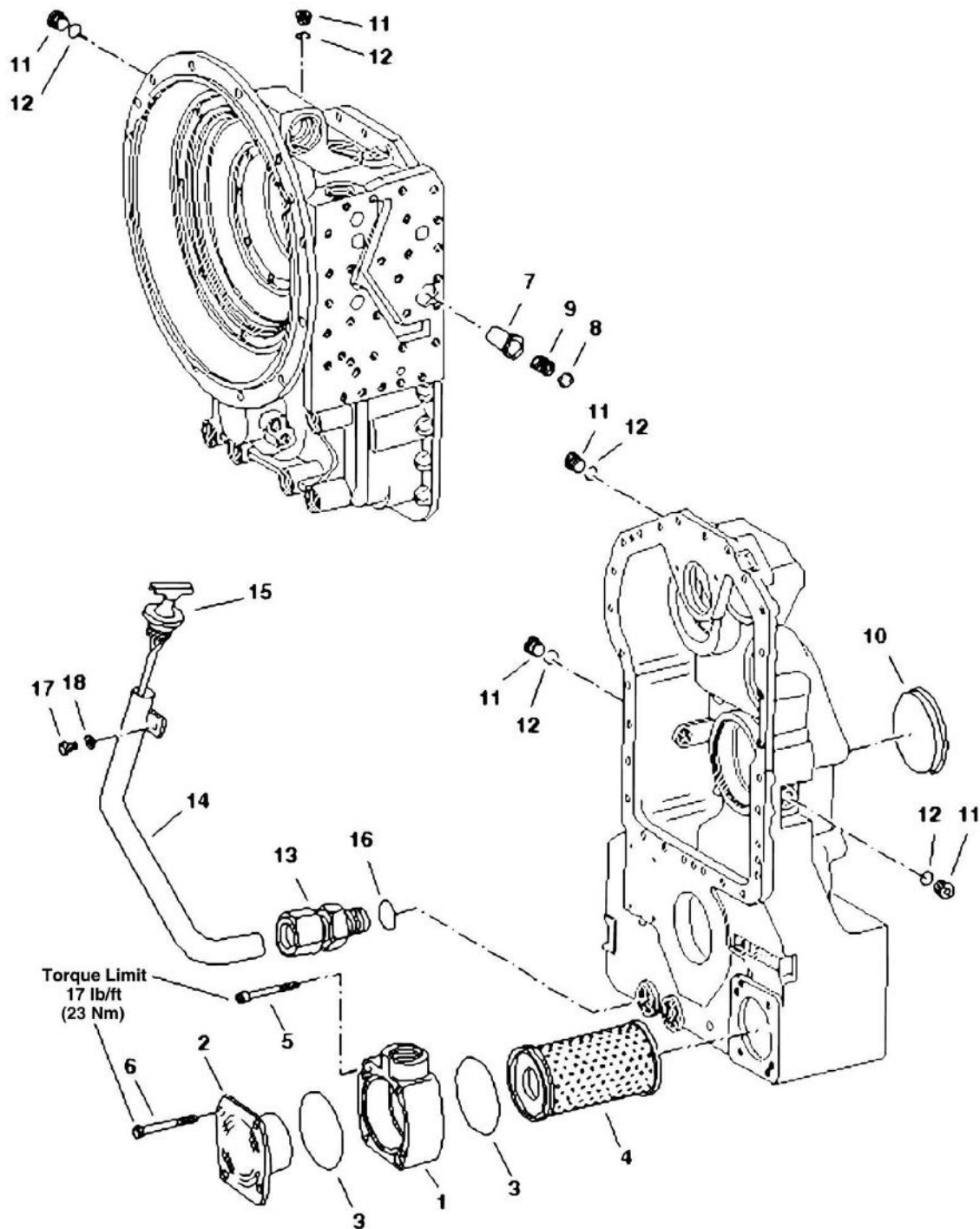
## SECTION 3 - DRIVE TRAIN

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
42	10732064	5	Washer	
43	10732060	5	SHCS, M5 x 12mm	
44	10732065	1	Harness, Wiring	
45	1319270	2	SHCS, M6 x 14mm	
46	10732067	1	Plate, Fixing	
47	10732068	1	Cover	
48	10732069	1	O-Ring, 159,2 x 5,7	
49	10732070	1	Bracket, Clamp	
50	10732017	8	Plug, M10 x 1	
51	10731709	8	O-Ring, 8 x 1,5	
52	10732071	2	Ball	
53	10732072	2	Spring, Compression	
54	10732018	2	O-Ring, 15 x 2	
55	10732076	2	Plug, M18 x 1,5	



# SECTION 3 - DRIVE TRAIN

FIGURE 3-25. TRANSMISSION FILTER AND DIPSTICK (SN 9909 through 13197)



PH1180

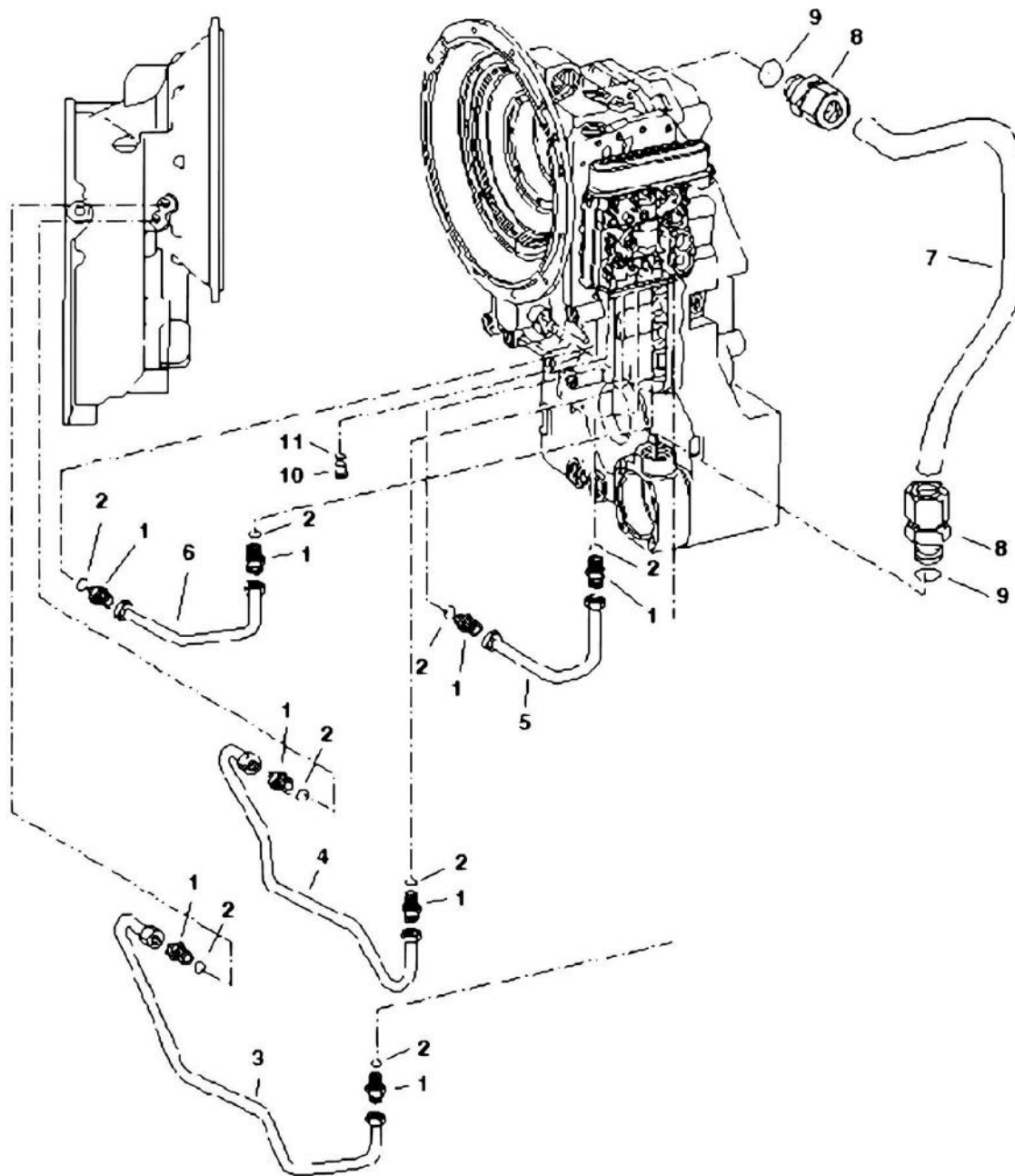
## SECTION 3 - DRIVE TRAIN

**FIGURE 3-25. TRANSMISSION FILTER AND DIPSTICK (SN 9909 through 13197)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	10731923	1	Fixture, Holding	
2	10731924	1	Cover	
3	10731925	2	O-Ring, 98 x 4	
4	10731926	1	Filter	
5	1319271	2	SHCS, M8 x 60mm	
6	1319272	4	HHCS, M8 x 75mm	
7	1319273	1	Insert, Valve	
8	10732071	1	Ball	
9	1319274	1	Spring, Compression	
10	10732083	1	Cap, Sealing	
11	10732076	5	Plug, M18 x 1,5	
12	10732018	5	O-Ring, 15 x 2	
13	10732078	1	Union, Pipe	
14	8035733	1	Tube, Oil Level	
15	8035734	1	Dipstick, Oil	
16	10731743	1	O-Ring, 30 x 2,5	
17	10732081	1	HHCS, M20 x 20mm	
18	10732082	1	Washer, M20	

# SECTION 3 - DRIVE TRAIN

FIGURE 3-26. OIL TUBES (SN 9909 through 13197)



PH1210

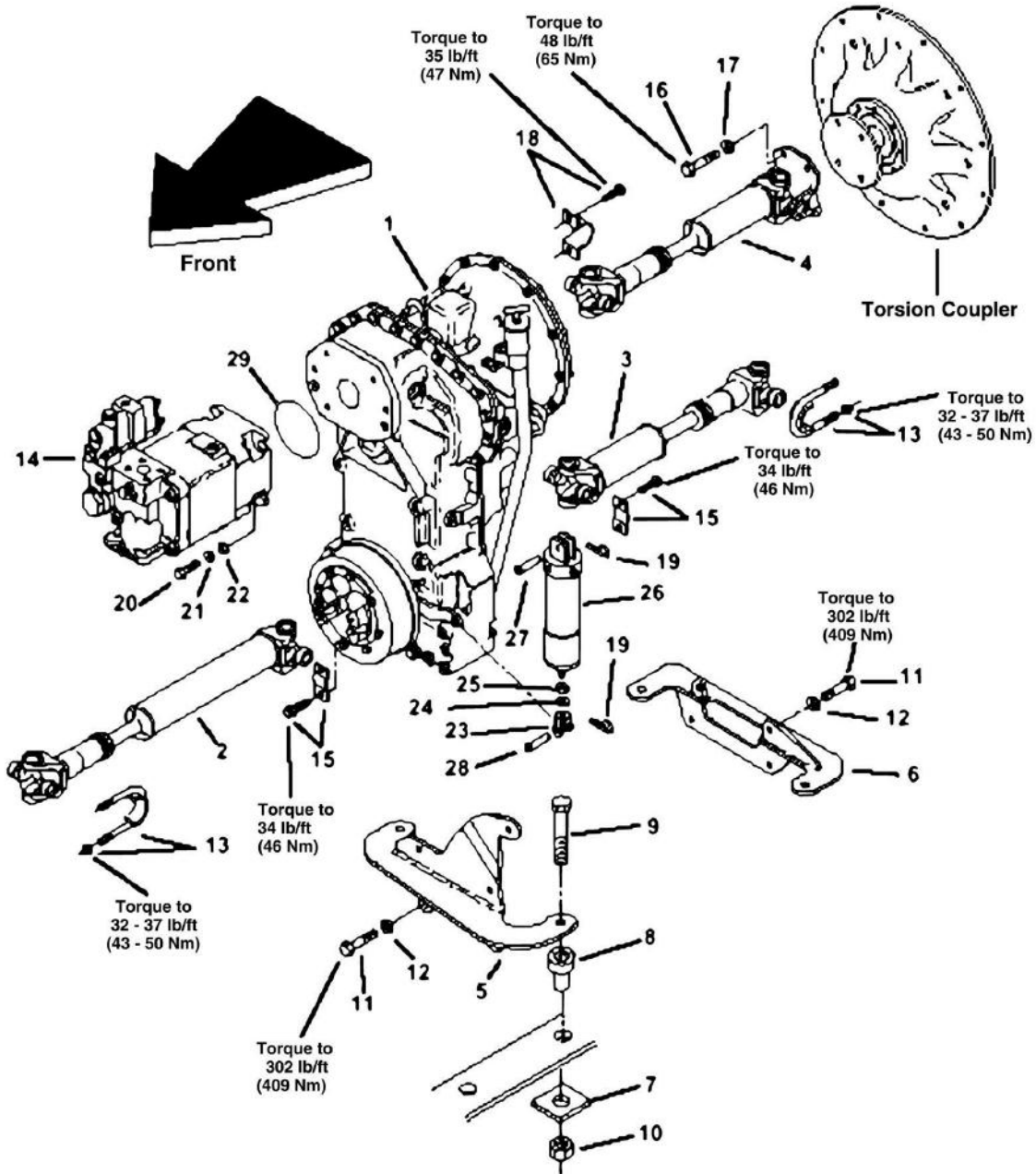
## SECTION 3 - DRIVE TRAIN

**FIGURE 3-26. OIL TUBES (SN 9909 through 13197)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	1319275	8	Sleeve, Screw-In	
2	10732085	8	O-Ring, 13 x 2	
3	1319276	1	Pipe	
4	1319277	1	Pipe	
5	1319278	1	Pipe	
6	1319279	1	Pipe	
7	10732089	1	Tube, Suction	
8	10732090	2	Union, Pipe	
9	10732091	2	O-Ring, 38 x 2,5	
10	10732092	2	Plug, M16 x 1,5	
11	10732085	2	O-Ring, 13 x 2	

# SECTION 3 - DRIVE TRAIN

## FIGURE 3-27. TRANSMISSION MOUNTING (SN 9909 through 13197)



PH1240



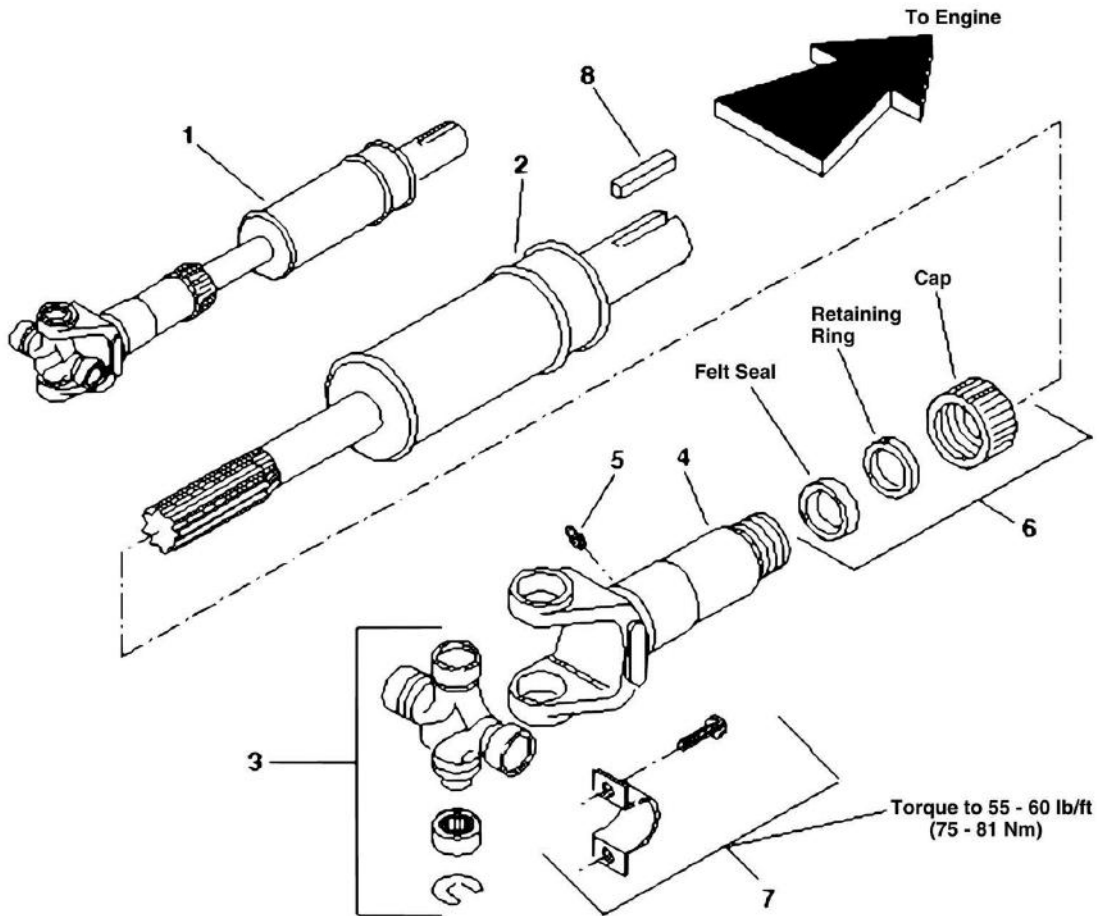
## SECTION 3 - DRIVE TRAIN

**FIGURE 3-27. TRANSMISSION MOUNTING (SN 9909 through 13197)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	8841040	1	Transmission, ZF 4 WG100	
2	7150192	1	Shaft, Drive (Front Axle)	
3	7150182	1	Shaft, Drive (Rear Axle)	
4	7150202	1	Shaft, Drive (Engine Input)	
5	7138186	1	Front Mount, Transmission	
6	7150082	1	Rear Mount, Transmission	
7	7054351	4	Washer, Rebound	
8	8278007	4	Mount, Isolation	
9	8303724	4	HHCS, .75NC x 3.5	
10	8310067	4	Nut, Lock .75NC ESNA	
11	8310427	8	HHCS, M20 x 40mm Long (8.8)	
12	8307047	8	Washer, Lock M20	
13	8882009	4	Assembly, U-Bolt	
14	7138208	1	Pump Assembly	
15	8880218-OM	2	Kit, Strap	
16	8310425	4	HHCS, .438 - 20UNF x 1.25 GR8	
17	8307006	4	Washer, Lock .438	
18	8880219-OM	2	Kit, Fixing 1410	
19	8302470	2	Hair Pin	
20	8303519	4	HHCS, M12 x 40mm Lg 8.8	
21	8307025	4	Washer, Lock M12	
22	8307220	4	Washer, Flat M12	
23	10136599	1	Clevis	
24	10701363	1	Washer, Star	
25	10701562	1	Nut, Lock	
26	7139688	1	Kit, Park Brake Cylinder	
27	10138907	1	Pin, Clevis	
28	10715335	1	Pin, Clevis	
29	8630016	1	O-Ring	

# SECTION 3 - DRIVE TRAIN

FIGURE 3-28. DRIVE SHAFT - ENGINE TO TRANSMISSION (Prior to SN 9909)



PH0452

## SECTION 3 - DRIVE TRAIN

**FIGURE 3-28. DRIVE SHAFT - ENGINE TO TRANSMISSION (Prior to SN 9909)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7096592	1	Drive Shaft - Engine to Transmission (Includes Items 2 thru 6)	
2	8033798	1	Shaft Assembly	
3	8033009	1	Cross and Bearing Assembly	
4	8033797	1	Sleeve Assembly	
5	8033007	1	Fitting, Grease	
6	8033796	1	Package, Seal	
7	8880218-OM	2	Kit, Strap (Each Kit Includes 1 Strap & 2 Screws)	
8	6619261	1	Key, Shaft to Engine	



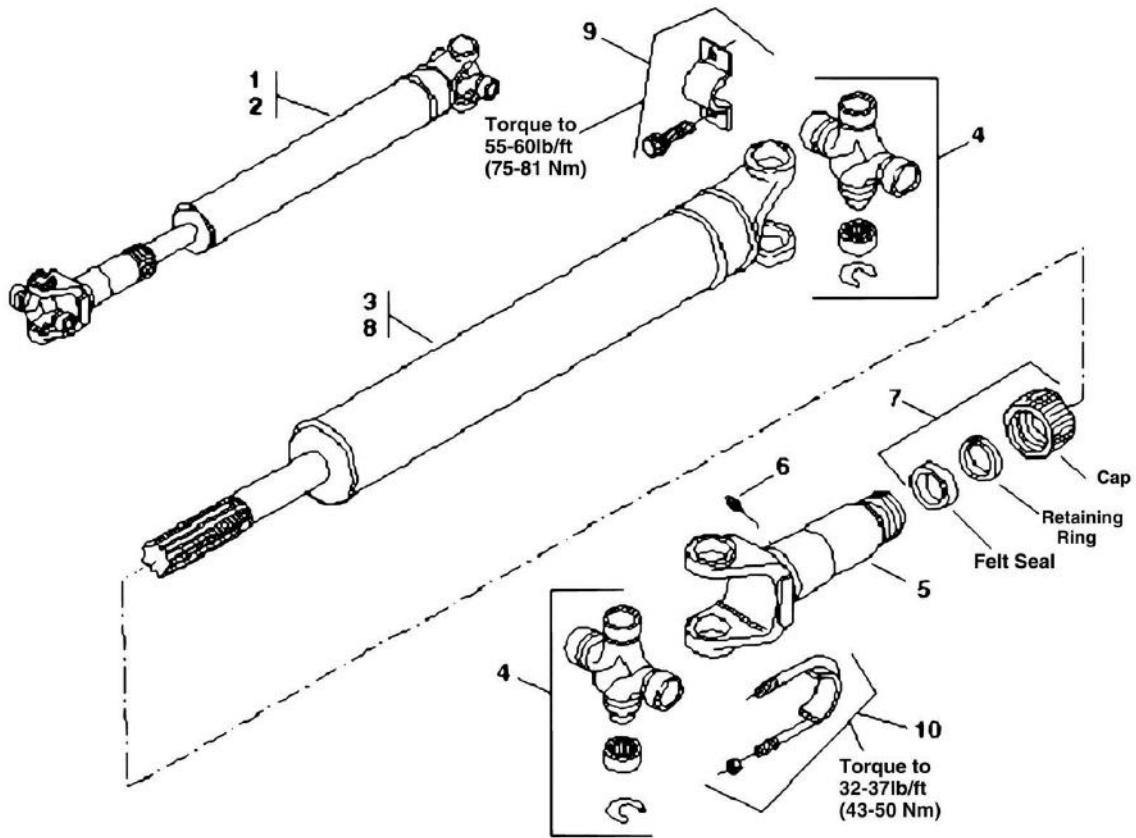
## SECTION 3 - DRIVE TRAIN

**FIGURE 3-29. DRIVE SHAFT - ENGINE TO TRANSMISSION (SN 9909 through 13197)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7150202	1	Drive Shaft - Engine to Transmission (Includes Items 2 thru 13)	
2	8035618	1	Tight Joint Assembly (Includes Items 3 thru 7)	
3	8034593	1	Shaft Assembly	
4	8035620	2	Cross	
5	8035621	8	Bearing	
6	8035622	8	Snap Ring	
7	8033652	1	Flange Yoke	
8	8035617	1	Slip Joint Assembly (Includes Items 4 thru 6 & 9 thru 13)	
9	8033003	1	Slip Yoke	
10	8033004	1	Fitting, Grease	
11	8035623	1	Cap, Dust	
12	8035624	1	Seal	
13	8035625	1	Washer	
14	8880219-OM	2	Kit, Strap (Each Kit Includes 1 Strap & 2 Screws)	
15	8310425	4	HHCS, 7/16-20UNF x 1.25 Gr.8	
16	8307006	4	Washer, Lock 7/16	

# SECTION 3 - DRIVE TRAIN

FIGURE 3-30. DRIVE SHAFT - FRONT AND REAR (Prior to SN 9909)



PH0421

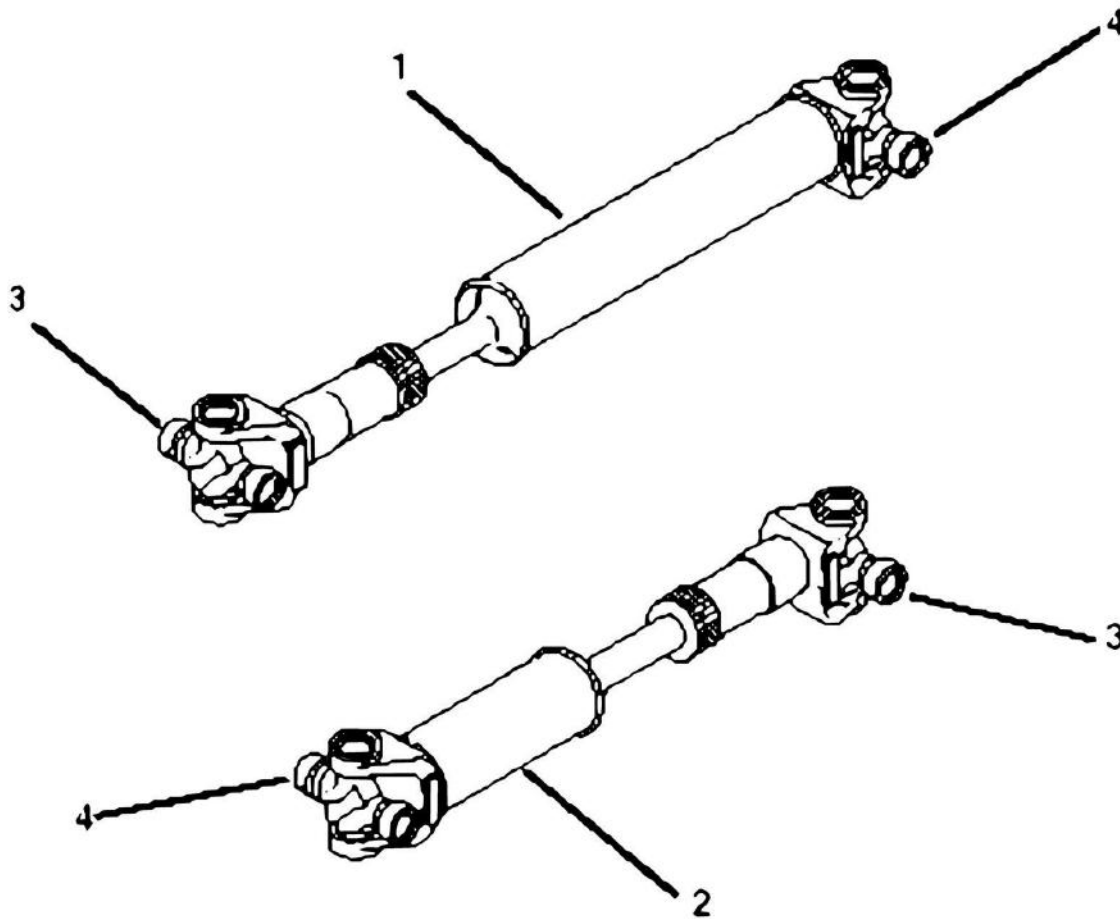
## SECTION 3 - DRIVE TRAIN

**FIGURE 3-30. DRIVE SHAFT - FRONT AND REAR (Prior to SN 9909)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7096632	1	Drive Shaft - Front Axle (Includes Items 3 thru 7)	
2	7099832	1	Drive Shaft - Rear Axle (Includes Items 4 thru 8)	
		Ref	NOTE: Quantities Listed Below Are For One Drive Shaft Assembly	
3	8033097	1	Shaft Assembly - Front Axle	
4	8033009	2	Cross and Bearing Assembly	
5	8033006	1	Sleeve Assembly	
6	8033007	1	Fitting, Grease	
7	8033008	1	Seal Package	
8	8033098	1	Shaft Assembly - Rear Axle	
9	8880218-OM	2	KIT, STRAP, DANA,1480	
10	8882009	2	U-Bolt Assembly	

## SECTION 3 - DRIVE TRAIN

FIGURE 3-31. DRIVE SHAFT - FRONT AND REAR (SN 9909 through 13197)





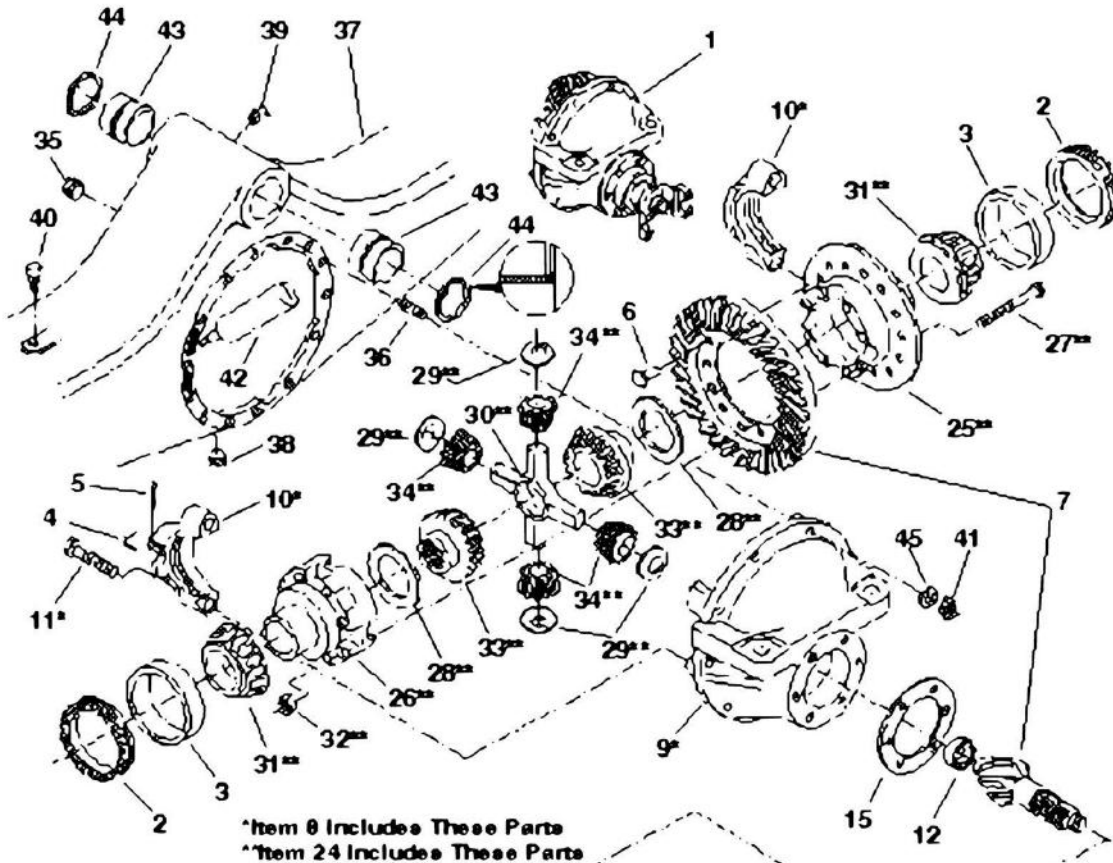
## SECTION 3 - DRIVE TRAIN

**FIGURE 3-31. DRIVE SHAFT - FRONT AND REAR (SN 9909 through 13197)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7150192	1	Drive Shaft - Front (Includes Items 3 & 4)	
2	7150182	1	Drive Shaft - Rear (Includes Items 3 & 4)	
3	8035773	2	Cross and Bearing Kit	
4	N.S.S.	2	Cross and Bearing Kit, (no longer available, order complete drive shaft)	

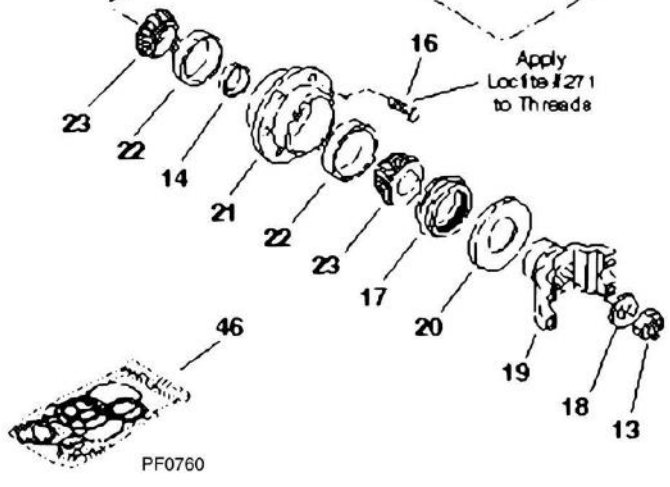
# SECTION 3 - DRIVE TRAIN

## FIGURE 3-32. DIFFERENTIAL CARRIER ASSEMBLY



\*Item 8 Includes These Parts  
 \*Item 24 Includes These Parts

ITEM 14 SPACER, PINION BEARING CHART	
PART NO.	THICKNESS
8004506	S135
8004507	S165
8004508	S195
8004509	S225
8004510	S245
8004511	S255
8004512	S285
8004513	S275
8004514	S285
8004515	S295
8004516	S305
8004517	S315
8004518	S325
8004519	S335
8004520	S345
8004521	S355
8004522	S375
8004523	S395
8004524	S405
8004525	S435
8004526	S485



PH0261

## SECTION 3 - DRIVE TRAIN

### FIGURE 3-32. DIFFERENTIAL CARRIER ASSEMBLY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	NLA	1	Differential Carrier Assembly (Includes Items 2 thru 34)	
2	8033967	2	Ring, Adjusting	
3	8033968	2	Cup, Roller Bearing	
4	8033969	2	Lock, Bearing Adjusting Ring	
5	8033970	2	Pin, Cotter	
6	10724869	14	Rivet (Solid)	
7	NLA	1	Gear and Pinion Assembly (Matched Set)	
8	8033973	1	Carrier Assembly (Includes Items 9 thru 11)	
9	N.S.S.	1	Carrier	
10	N.S.S.	2	Cap, Differential Bearing	
11	8033974	4	Bolt, Hex	
12	8033975	1	Bearing Assembly	
13	8033810	1	Nut, Pinion (See Kits)	
14	See Chart	1	Spacer, Pinion Bearing	
15	8033976	AR	Shim, .010in	
15	8033977	AR	Shim, .030in	
15	8033978	AR	Shim, .005in	
16	8033979	6	Bolt, Hex	
17	8033806	1	Seal, Oil (See Kits)	
18	8033980	1	Washer	
19	8033981	1	End Yoke Assembly (Includes Item 20)	
20	10836774	1	Slinger, Dust	
21	8033983	1	Cap Assembly, Bearing Retainer (Includes Item 22)	
22	8033984	2	Cup, Roller Bearing	
23	8033985	2	Cone, Roller Bearing	
24	8033986	1	Differential Case Assembly (Includes Items 25 thru 34)	
25	8033987	1	Flange Half, Differential Case	
26	8033988	1	Cap Half, Differential Case	
27	8033989	8	Bolt	
28	8033990	2	Washer, Thrust (Differential Gear)	
29	8033991	4	Washer, Thrust (Differential Pinion)	
30	NLA	1	Shaft, Differential Cross	
31	10724832	2	Cone, Roller Bearing	
32	8033994	8	Nut, Lock	
33	8033995	2	Gear, Differential	
34	8033996	4	Pinion, Differential	
35	8033997	1	Plug, Pipe	
36	10713833	6	Stud, Dowel (2in O.A.L.)	
36	8033999	2	Stud, Dowel (2.38in O.A.L.)	
36	8034500	2	Stud, Dowel (2.81in O.A.L.)	
37	8034501	1	Housing, Axle	
38	8032895	1	Plug, Magnetic Pipe	
39	8034502	1	Grease Fitting	
40	8033228	1	Breather	
41	8034503	10	Nut, Flange Lock	
42	8526044	1	Cartridge, Gasket Eliminator 10.15 fl oz	
43	8034504	2	Bushing, Axle Pivot	
44	8033809	2	Seal, Oil - Pivot Pin (See Kits)	
45	8034505	10	Washer, Flat	
		Ref	<b>KITS</b>	

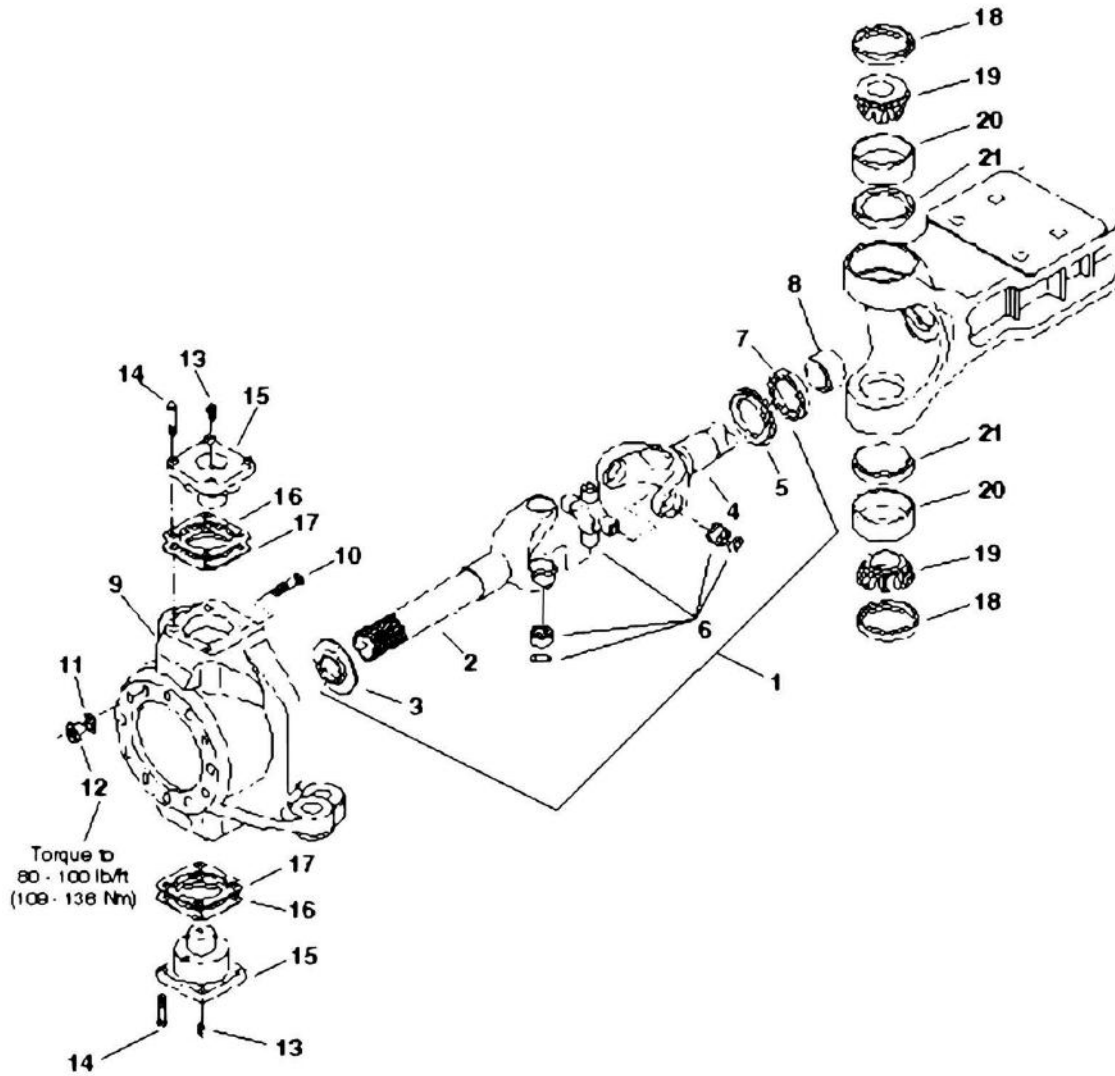
### SECTION 3 - DRIVE TRAIN

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
46	8033802	1	Seal Kit, Axle (Includes the following Items which contains enough seals to service one complete axle)	
46		Ref	Oil Seal - Pinion (Item 17)	
46		Ref	Oil Seal - Pivot Pin (Item 44)	
46		Ref	Nut, Pinion (Item 13)	
46		Ref	Oil Seal - Axle Shaft (Item 7, AXLE STEERING JOINTS)	
46		Ref	Oil Seal - King Pin (Item 18, AXLE STEERING JOINTS)	
46		Ref	Oil Seal - Wheel Hub (Item 44, AXLE WHEEL ENDS)	
46		Ref	Oil Seal - Spindle (Item 31, AXLE WHEEL ENDS)	
46		Ref	Seal Kit - Wet Brake (See Kits, AXLE WHEEL ENDS)	



# SECTION 3 - DRIVE TRAIN

## FIGURE 3-33. AXLE STEERING JOINTS



PH0270

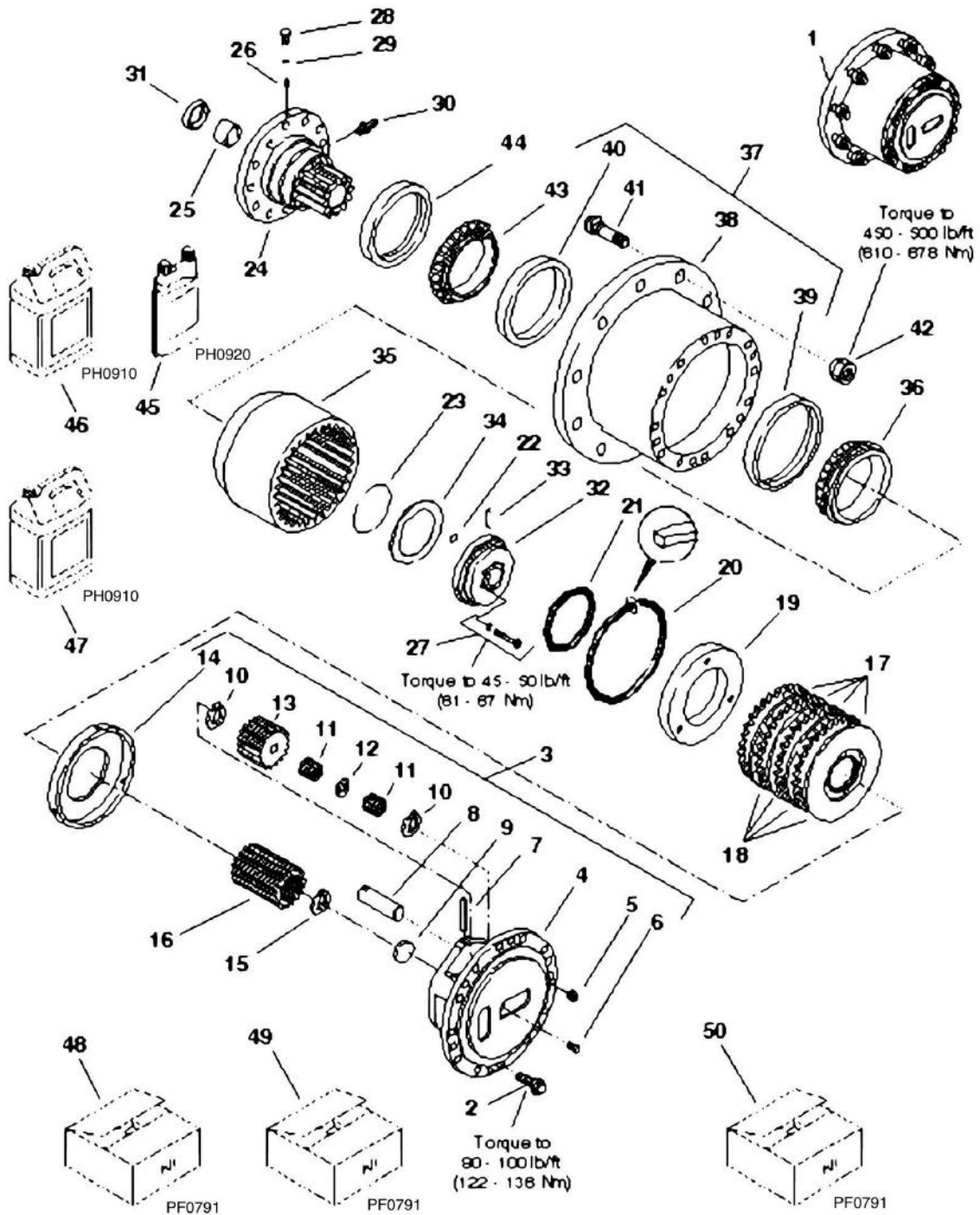
## SECTION 3 - DRIVE TRAIN

### FIGURE 3-33. AXLE STEERING JOINTS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	NOTE: Quantities are for one axle.	
1	8033815	2	Shaft and Joint Assembly, Front and Rear Axles (Includes Items 2 thru 6)	
2	8033816	1	Shaft, Outer	
3	8033817	1	Slinger, Dust (Outer)	
4	8033818	1	Shaft, Inner	
5	8033805	1	Slinger, Dust (Inner)	
6	8033009	1	Cross and Bearing Kit	
7	8033804	2	Seal, Oil - Axle Shaft (See Kits DIFFERENTIAL CARRIER ASSEMBLY for Breakdown)	
8	8033820	2	Bushing	
9	8033821	1	Knuckle Assembly, Left Front, Right Rear (Includes Item 10)	
9	8033822	1	Knuckle Assembly, Not Shown, Right Front, Left Rear (Includes Item 10)	
10	8033823	24	Stud, Dowell	
11	8032876	24	Washer, Flat	
12	8032875	24	Nut, Lock	
13	8032877	4	Grease Fitting	
14	8033824	16	HHCS, Hex Head	
15	8032880	4	Cap, King Pin	
16	8032881	AR	Shim, Formed	
17	8032882	AR	Shim, Formed	
18	8032979	4	Seal, Oil - King Pin (See Kits DIFFERENTIAL CARRIER ASSEMBLY for Breakdown)	
19	10725149	4	Cone, Roller Bearing	
20	8032885	4	Cup, Roller Bearing	
21	8032886	4	Retainer, Grease	

# SECTION 3 - DRIVE TRAIN

## FIGURE 3-34. AXLE WHEEL ENDS (Prior to SN 0461)



PH0642



## SECTION 3 - DRIVE TRAIN

**FIGURE 3-34. AXLE WHEEL ENDS (Prior to SN 0461)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	NOTE: Quantities are for one wheel end assembly unless otherwise specified.	
1	8034814	1	Wheel End Assembly, Front and Rear (Includes Items 2 thru 44)	
2	8032906	18	Screw, Hex Hd, Self Locking	
3	8033012	1	Planetary Gear Assembly (Includes Items 4 thru 14)	
4	8032903	1	Flange, Planetary Drive	
5	8032895	1	Plug, Pipe	
6	8032894	1	Plug, Hex Hd	
7	8032900	3	Pin, Roll	
8	8032899	3	Shaft, Planet Gear	
9	8032896	1	Washer, Drive Flange	
10	8032901	6	Washer, Keyed	
11	8032898	150	Bearing, Single Roller	
12	8032897	3	Washer, Planet Gear	
13	8032902	3	Gear, Spur	
14	8032904	1	Plate, Lining Stop	
15	8033826	1	Ring, Snap	
16	8033827	1	Gear, Spur	
17	N.S.S.	4	Plate, Lining Stop (See Kits)	
18	N.S.S.	4	Disc Assembly (See Kits)	
19	8032912	1	Piston	
20	8034692	1	O-Ring (See Kits)	
21	8034693	1	O-Ring (See Kits)	
22	8032922	2	O-Ring (See Kits)	
23	8032923	1	O-Ring (See Kits)	
24	See Kits	1	Spindle Assembly (Includes Items 25 & 26), Note: Identify bolt size before ordering. (If 3/8in order similar parts on this page.) (If 1/2in order similar parts on AXLE WHEEL ENDS)	
25	8033828	1	Bushing, Spindle	
26	8032826	2	Seat, Insert	
27	8034581	1	Screw and Washer Kit (Includes six screws and six washers), Note: Identify bolt size before ordering. (If 3/8in order similar parts on this page.) (If 1/2in order similar parts on AXLE WHEEL ENDS)	
28	8032984	1	Plug, Bleeder	
29	8032985	1	O-Ring, Bleeder Plug	
30	8033829	1	Fitting, Brake	
31	8033803	1	Seal, Oil - Spindle (See Kits DIFFERENTIAL CARRIER ASSEMBLY for Breakdown)	
32	8032920	1	Retainer, Bearing Adjusting Ring (Includes Item 33), Note: Identify bolt size before ordering. (If 3/8in order similar parts on this page.) (If 1/2in order similar parts on AXLE WHEEL ENDS)	
33	8032949	1	Tubing, Brake	
34	8032972	AR	Shim, Adjusting (.010in)	
34	8035268	AR	Shim, Adjusting (.011in)	
34	8035269	AR	Shim, Adjusting (.012in)	
34	8035270	AR	Shim, Adjusting (.013in)	
34	8035271	AR	Shim, Adjusting (.014in)	
34	8035272	AR	Shim, Adjusting (.015in)	
34	8032973	AR	Shim, Adjusting (.020in)	
34	8032974	AR	Shim, Adjusting (.030in)	
35	8032910	1	Gear, Planetary Ring	

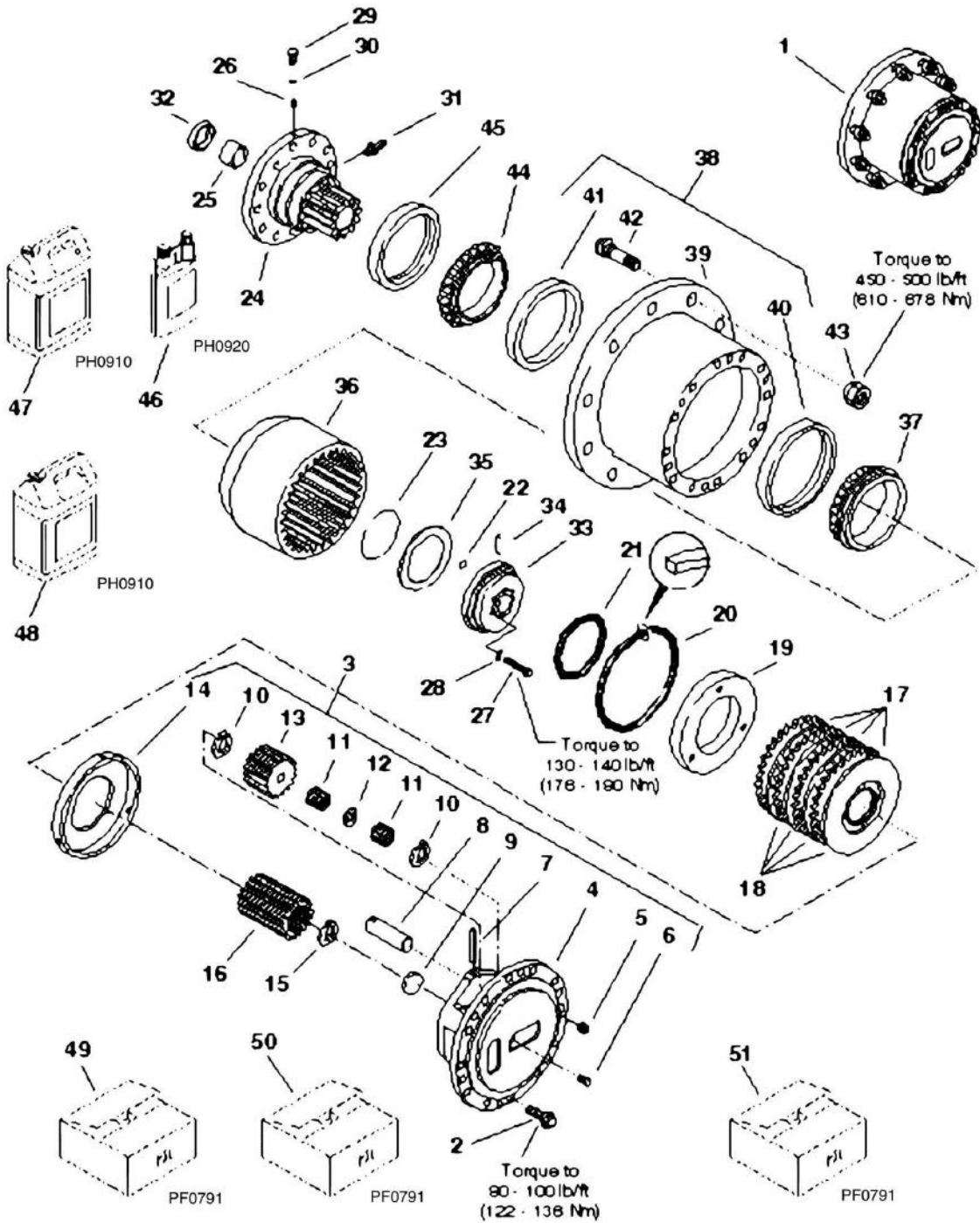
## SECTION 3 - DRIVE TRAIN

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
36	8032913	1	Cone, Roller	
37	8033831	1	Hub Assembly (Includes Items 38 thru 41)	
38	8033832	1	Hub, Planetary	
39	8032891	1	Cup, Roller Bearing	
40	8032892	1	Cup, Roller Bearing	
41	8032893	10	Bolt, Wheel, Right Side	
42	8786516	10	Nut, Wheel	
43	8032914	1	Cone, Roller Bearing	
44	8032983	1	Seal, Oil - Wheel Hub (See Kits DIFFERENTIAL CARRIER ASSEMBLY for Breakdown)	
45	8522043	1	Friction Modifier Fluid (Low Odor) - 32 Oz (enough to service 4 wheel ends)	
46	8522045	1	Wheel End Oil 2-1/2 Gal (enough to service 4 wheel ends)	
47	8522048	1	Wheel End Oil 1 Gal	
		Ref	<b>KITS</b>	
48	8034688	1	Brake Kit (Includes Items 17 thru 18) (this kit services one wheel end)	
49	8034819	1	Wet Brake Seal Kit (Includes Items 20 thru 23)	
50	8033799	1	Spindle Kit (Includes Items 24 thru 27), Note: Identify bolt size before ordering. (If 3/8in order similar parts on this page.) (If 1/2in order similar parts on AXLE WHEEL ENDS)	



# SECTION 3 - DRIVE TRAIN

## FIGURE 3-35. AXLE WHEEL ENDS (SN 0461 through 13197)



PH0643

## SECTION 3 - DRIVE TRAIN

**FIGURE 3-35. AXLE WHEEL ENDS (SN 0461 through 13197)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	NOTE: Quantities are for one wheel end assembly unless otherwise specified.	
1	8034814	1	Wheel End Assembly, Front and Rear (Includes Items 2 thru 45)	
2	8032906	18	Screw, Hex Hd, Self Locking	
3	8033012	1	Planetary Gear Assembly (Includes Items 4 thru 14)	
4	8032903	1	Flange, Planetary Drive	
5	8032895	1	Plug, Pipe	
6	8032894	1	Plug, Hex Hd	
7	8032900	3	Pin, Roll	
8	8032899	3	Shaft, Planet Gear	
9	8032896	1	Washer, Drive Flange	
10	8032901	6	Washer, Keyed	
11	8032898	150	Bearing, Single Roller	
12	8032897	3	Washer, Planet Gear	
13	8032902	3	Gear, Spur	
14	8032904	1	Plate, Lining Stop	
15	8033826	1	Ring, Snap	
16	8033827	1	Gear, Spur	
17	N.S.S.	4	Plate, Lining Stop (See Kits)	
18	N.S.S.	4	Disc Assembly (See Kits)	
19	8032912	1	Piston	
20	8034692	1	O-Ring (See Kits)	
21	8034693	1	O-Ring (See Kits)	
22	8032922	2	O-Ring (See Kits)	
23	8032923	1	O-Ring (See Kits)	
24	See Kits	1	Spindle Assembly (Includes Items 25 & 26)	
25	8033828	1	Bushing, Spindle	
26	8032826	2	Seat, Insert	
27	8034584	6	Screw, 12 Point Cap - 1/2in	
28	8034585	6	Washer, Flat Hardened 1/2in	
29	8032984	1	Plug, Bleeder	
30	8032985	1	O-Ring, Bleeder Plug	
31	8033829	1	Fitting, Brake	
32	8033803	1	Seal, Oil - Spindle (See Kits DIFFERENTIAL CARRIER ASSEMBLY for Breakdown)	
33	8034586	1	Retainer, Bearing Adjusting Ring (Includes Item 34)	
34	8032949	1	Tubing, Brake	
35	8032972	AR	Shim, Adjusting (.010in)	
35	8035268	AR	Shim, Adjusting (.011in)	
35	8035269	AR	Shim, Adjusting (.012in)	
35	8035270	AR	Shim, Adjusting (.013in)	
35	8035271	AR	Shim, Adjusting (.014in)	
35	8035272	AR	Shim, Adjusting (.015in)	
35	8032973	AR	Shim, Adjusting (.020in)	
35	8032974	AR	Shim, Adjusting (.030in)	
36	8032910	1	Gear, Planetary Ring	
37	8032913	1	Cone, Roller	
38	8033831	1	Hub Assembly (Includes Items 39 thru 42)	
39	8033832	1	Hub, Planetary	
40	8032891	1	Cup, Roller Bearing	

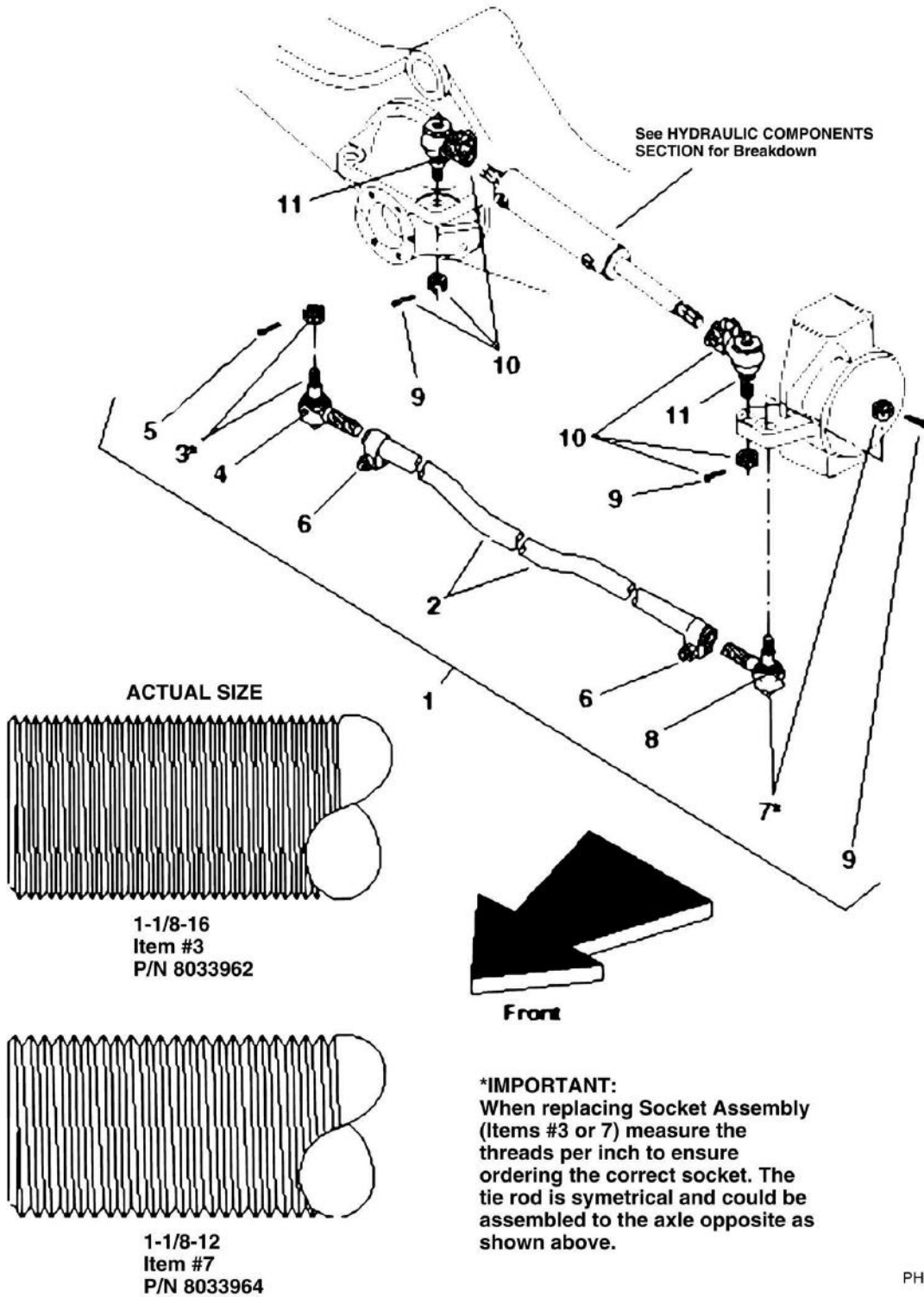
## SECTION 3 - DRIVE TRAIN

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
41	8032892	1	Cup, Roller Bearing	
42	8032893	10	Bolt, Wheel, Right Side	
43	8786516	10	Nut, Wheel	
44	8032914	1	Cone, Roller Bearing	
45	8032983	1	Seal, Oil - Wheel Hub (See Kits DIFFERENTIAL CARRIER ASSEMBLY for Breakdown)	
46	8522043	1	Friction Modifier Fluid (Low Odor) 32 Oz (enough to service 4 wheel ends)	
47	8522045	1	Wheel End Oil 2-1/2 Gal (enough to service 4 wheel ends)	
48	8522048	1	Wheel End Oil 1 Gal	
		Ref	<b>KITS</b>	
49	8034688	1	Brake Kit (Includes Items 17 & 18) (this kit services one wheel end)	
50	8034819	1	Wet Brake Seal Kit (Includes Items 20 thru 23)	
51	8034590	1	Service Kit, Spindle (Includes Items 24 thru 27)	



# SECTION 3 - DRIVE TRAIN

FIGURE 3-36. TIE ROD AND STEERING CYLINDER MOUNTING





## SECTION 3 - DRIVE TRAIN

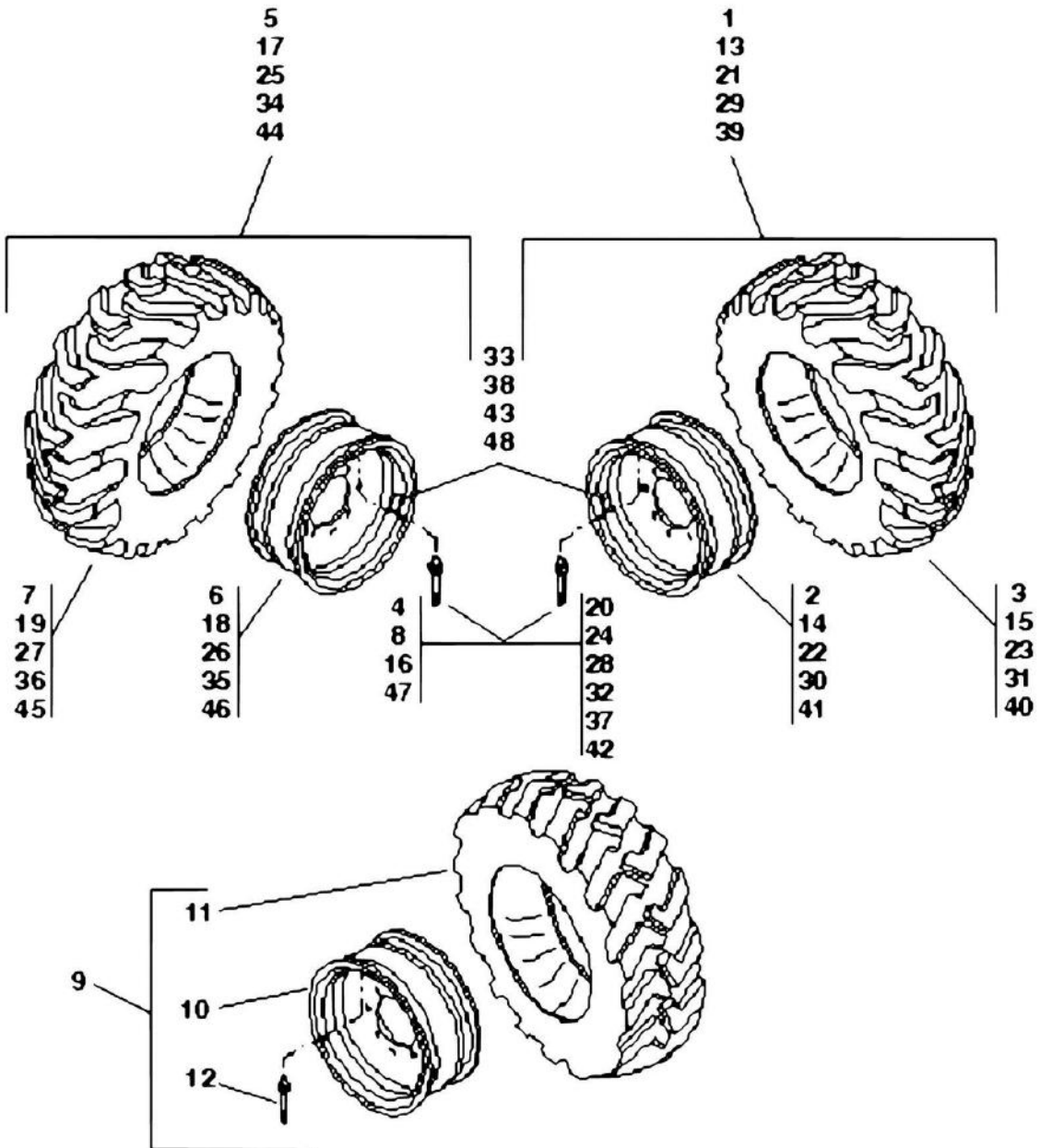
### FIGURE 3-36. TIE ROD AND STEERING CYLINDER MOUNTING

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	NOTE: Quantities listed are for one axle.	
1	8033960	1	Tie Rod Assembly (Includes Items 2 thru 9)	
2	8033961	1	Tube, Tie Rod	
3	8033962	1	Socket Assembly, 1-1/8 - 16 RH Thread (Includes nut, cotter pin and boot) See "IMPORTANT" Note	
4	8033963	1	Boot	
5	8033965	1	Cotter Pin	
6	8032930	2	Clamp Assembly	
7	8033964	1	Socket Assembly, 1-1/8 - 12 RH Thread (Includes nut, cotter pin and boot) See "IMPORTANT" Note	
8	8033963	1	Boot	
9	8033965	3	Cotter Pin	
10	8340025	2	Socket Assembly, Steer Cylinder (Includes nut, cotter pin and boot)	
11	8032816	AR	Boot	

# SECTION 3 - DRIVE TRAIN

FIGURE 3-37. WHEELS AND TIRES - 8042

**Warning**  
Mismatched tire sizes or mixing of tire types (Radial and Bias ply) may compromise vehicle stability and may result in vehicle tipover.



PH0461

## SECTION 3 - DRIVE TRAIN

### FIGURE 3-37. WHEELS AND TIRES - 8042

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7119642	2	Tire and Wheel Ass'y, Right Side - 13.00 x 24, 12 Ply (Includes Items 2 thru 4)	
2	7092533	1	Wheel, 9024 GR	
3	8780031	1	Tire, 13.00 x 24, 12 Ply	
4	8786514	1	Stem, Valve	
5	7119632	2	Tire and Wheel Ass'y, Left Side - 13.00 x 24, 12 Ply (Includes Items 6 thru 8)	
6	7092533	1	Wheel, 9024 GR	
7	8780031	1	Tire, 13.00 x 24, 12 Ply	
8	8786514	1	Stem, Valve	
9	7092612	4	Tire and Wheel Ass'y, Left or Right Side - 13.00 R24, 14 Ply (Includes Items 10 thru 12)	
10	7092533	1	Wheel, 9024 GR	
11	8780264	1	Tire, 13.00 R24 Radial	
12	8786514	1	Stem, Valve	
13	7110772	2	Tire and Wheel Ass'y, Right Side - 15.5 x 25, 12 Ply (Includes Items 14 thru 16)	
14	7098733	1	Wheel, 1325LR x 1.5 Offset	
15	8780036	1	Tire, 15.5 x 25, 12 Ply	
16	8786514	1	Stem, Valve	
17	7110762	2	Tire and Wheel Ass'y, Left Side - 15.5 x 25, 12 Ply (Includes Items 18 thru 20)	
18	7098733	1	Wheel, 1325LR x 1.5 Offset	
19	8780036	1	Tire, 15.5 x 25, 12 Ply	
20	8786514	1	Stem, Valve	
21	7099532	2	Tire and Wheel Ass'y, Right Side - 17.5 x 25, 12 Ply (Includes Items 22 thru 24)	
22	7098733	1	Wheel, 1325LR x 1.5 Offset	
23	8780037	1	Tire, 17.5 x 25, 12 Ply	
24	8786514	1	Stem, Valve	
25	7099522	2	Tire and Wheel Ass'y, Left Side - 17.5 x 25, 12 Ply (Includes Items 26 thru 28)	
26	7098733	1	Wheel, 1325LR x 1.5 Offset	
27	8780037	1	Tire, 17.5 x 25, 12 Ply	
28	8786514	1	Stem, Valve	
29	7119662	2	Tire and Wheel Ass'y, Right Side - 13.00 x 24, 12 Ply with Trak Seal (Includes Items 30 thru 32)	
30	7092533	1	Wheel, 9024 GR	
31	8780031	1	Tire, 13.00 x 24, 12 Ply	
32	8786514	1	Stem, Valve	
33	4108161	1	Label, Hydrofill	
34	7119652	2	Tire and Wheel Ass'y, Left Side - 13.00 x 24, 12 Ply with Trak Sea (Includes Items 35 thru 38)	
35	7092533	1	Wheel, 9024 GR	
36	8780031	1	Tire, 13.00 x 24, 12 Ply	
37	8786514	1	Stem, Valve	
38	4108161	1	Label, Hydrofill	
39	7138240	2	Tire and Wheel Ass'y, Right Side - 13.00 x 24, 12 Ply "Yokohama" (Includes Items 40 thru 43)	
40	8780045	1	Tire, 13.00 x 24, 12 Ply	
41	7092533	1	Wheel, 9024 GR	
42	8786514	1	Stem, Valve	

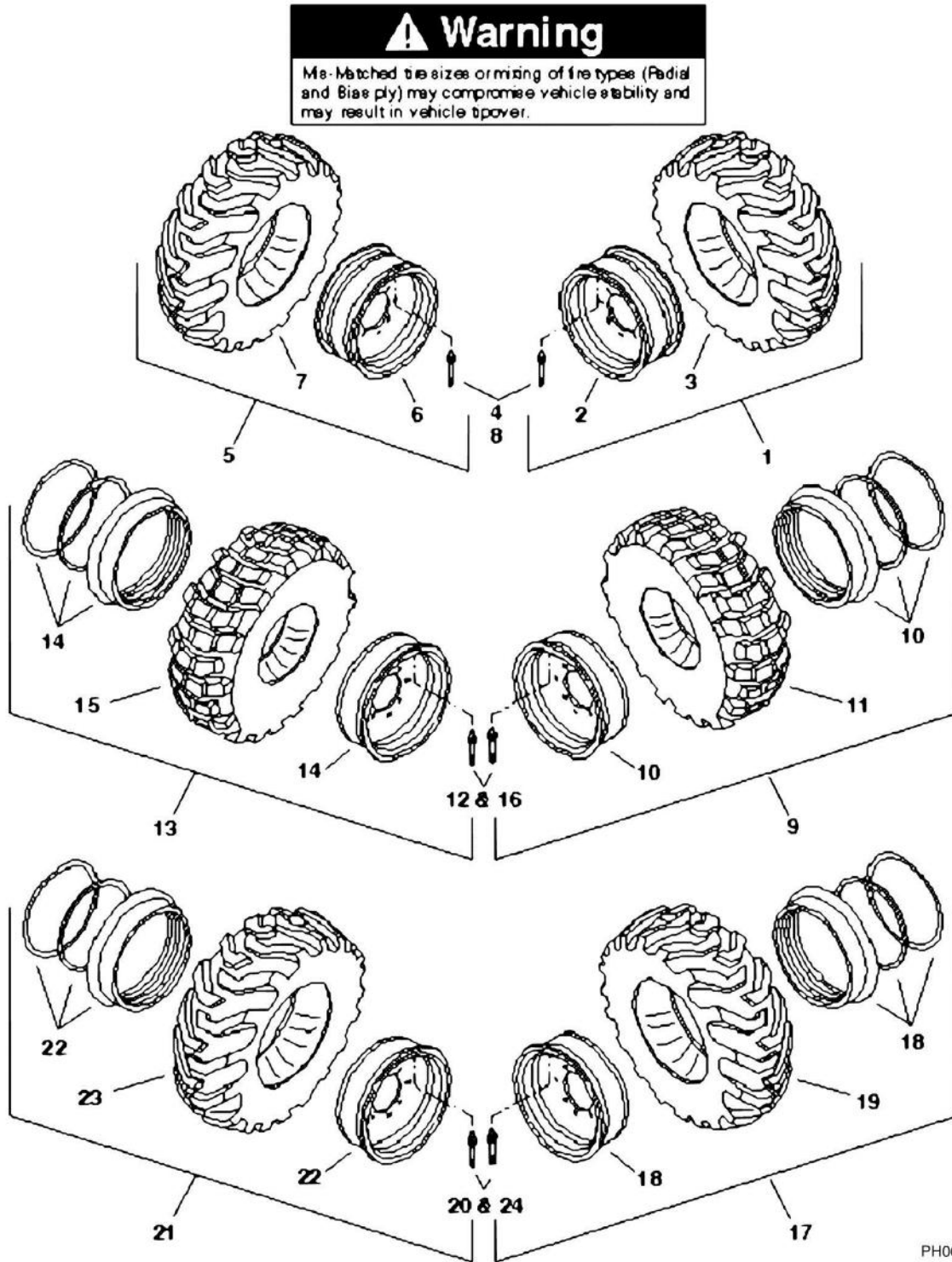
### SECTION 3 - DRIVE TRAIN

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
43	4108161	1	Label, Hydrofill	
44	7138241	2	Tire and Wheel Ass'y, Left Side - 13.00 x 24, 12 Ply "Yokohama" (Includes Items 45 thru 48)	
45	8780045	1	Tire, 13.00 x 24, 12 Ply	
46	7092533	1	Wheel, 9024 GR	
47	8786514	1	Stem, Valve	
48	4108161	1	Label, Hydrofill	



# SECTION 3 - DRIVE TRAIN

## FIGURE 3-38. WHEELS AND TIRES - 10042/10054



PH0651

## SECTION 3 - DRIVE TRAIN

**FIGURE 3-38. WHEELS AND TIRES - 10042/10054**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7099532	2	Tire and Wheel Ass'y, Right Side - 17.5 x 25, 12 Ply (Includes Items 2 thru 4)	
2	7098733	1	Wheel, 1325LR x 1.5 Offset	
3	8780037	1	Tire, 17.5 x 25, 12 Ply	
4	8786514	1	Stem, Valve	
5	7099522	2	Tire and Wheel Ass'y, Left Side - 17.5 x 25, 12 Ply (Includes Items 6 thru 8)	
6	7098733	1	Wheel, 1325LR x 1.5 Offset	
7	8780037	1	Tire, 17.5 x 25, 12 Ply	
8	8786514	1	Stem, Valve	
9	7099702	2	Tire and Wheel Ass'y, Right Side - 17.5 R25, 2 Star (Includes Items 10 thru 12)	
10	7110333	1	Wheel, 14.00 - 25	
11	8780035	1	Tire, 17.5 R25, 2 Star, Radial	
12	8786559	1	Stem, Valve	
13	7099692	2	Tire and Wheel Ass'y, Left Side - 17.5 R25, 2 Star (Includes Items 14 thru 16)	
14	7110333	1	Wheel, 14.00 - 25	
15	8780035	1	Tire, 17.5 R25, 2 Star, Radial	
16	8786559	1	Stem, Valve	
17	7110352	2	Tire and Wheel Ass'y, Right Side - 17.5 x 25, 12 Ply (Includes Items 18 thru 20)	
18	7110333	1	Wheel, 14.00 - 25	
19	8780037	1	Tire, 17.5 x 25, 12 Ply	
20	8786559	1	Stem, Valve	
21	7110342	2	Tire and Wheel Ass'y, Left Side - 17.5 x 25, 12 Ply (Includes Items 22 thru 24)	
22	7110333	1	Wheel, 14.00 - 25	
23	8780037	1	Tire, 17.5 x 25, 12 Ply	
24	8786559	1	Stem, Valve	

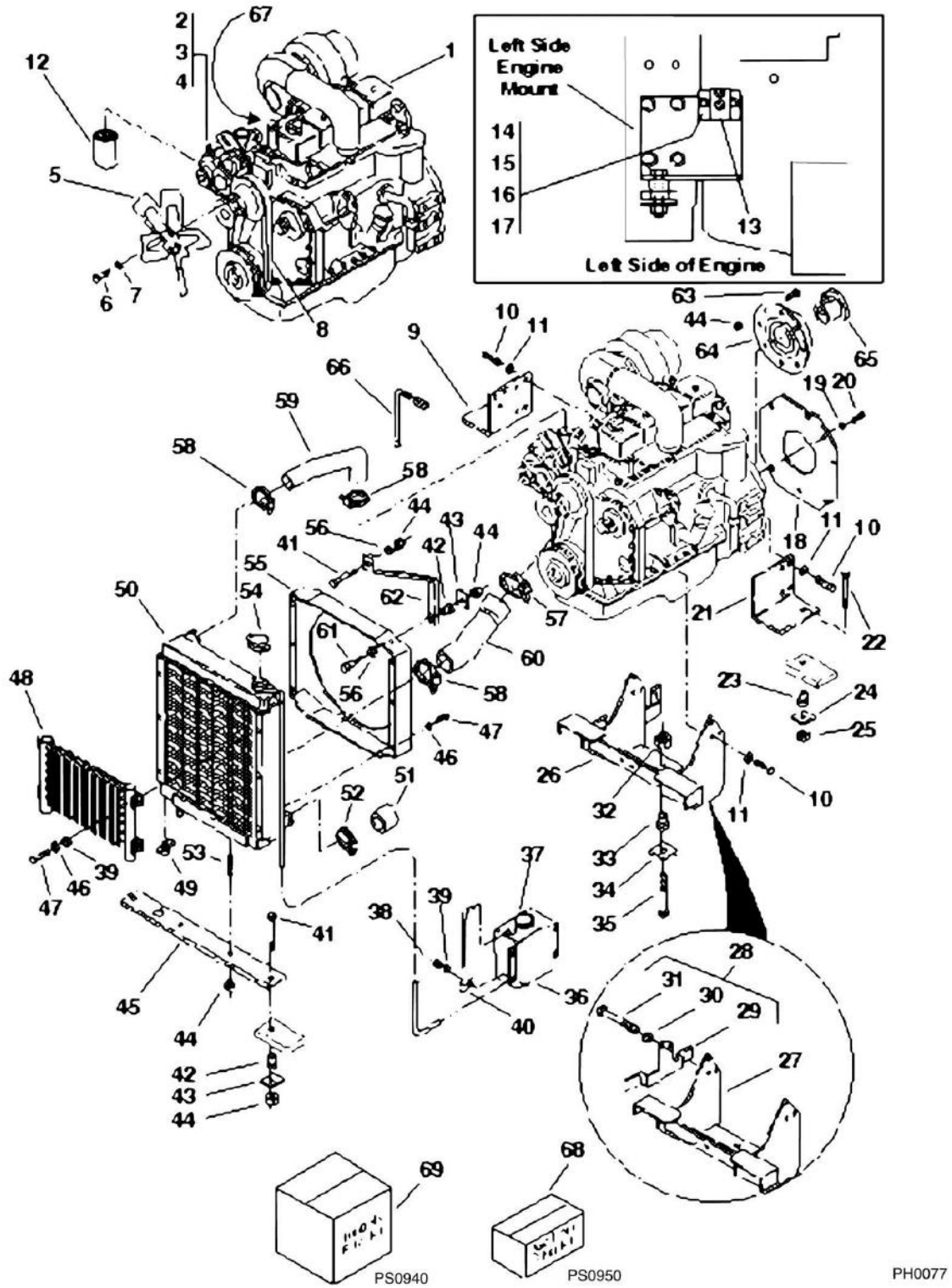




**SECTION 4 - POWER PLANT**

# SECTION 4 - POWER PLANT

FIGURE 4-1. ENGINE, RADIATOR AND OIL COOLER MOUNTING (Prior to SN 0119)



## SECTION 4 - POWER PLANT

**FIGURE 4-1. ENGINE, RADIATOR AND OIL COOLER MOUNTING (Prior to SN 0119)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7096692	1	Engine, Cummins 4BT 3.9 Turbo	
1	8262131	1	Engine, Cummins 4BTA 3.9 After Cooled Turbo	
2	8270221	1	Alternator, Bosch	
3	8270220	1	Fan, Alternator	
4	8033342	1	Pulley, Alternator	
5	8272009	1	Fan, Puller 17in	
6	8310028	4	HHCS, M8 x 70mm	
7	8307222	4	Washer, Flat M8	
8	8080613	1	Belt, Engine Fan	
9	7095272	1	Mount, Engine Left Side	
10	8303790	14	HHCS, M12 x 30mm	
11	8307025	14	Washer, Lock M12	
12	8320262	1	Element, Engine Oil Filter (Also included in Filter Kits 68 & 69)	
13	8277162	1	Solenoid, Relay for Starter, Sealed	
14	8303742	2	FLHDCS, 1/4-20 x 1in	
15	8310002	2	Washer, Lock 1/4in External Teeth	
16	8307109	2	Washer, Flat 1/4in	
17	8305624	2	Nut, Hex Lock Elastic 1/4-20	
18	7054632	1	Cover, Flywheel	
19	8307023	4	Washer, Lock M10	
20	8303784	4	HHCS, M10 x 20mm	
21	7095282	1	Mount, Engine Right Side	
22	8303702	2	HHCS, 1/2-13 x 3in	
23	8278012	2	Mount, Vibration	
24	7095831	2	Washer, Rebound	
25	8305644	2	Nut, Hex Lock Elastic 1/2-13	
26	7133022	1	Kit, Engine Mount (Includes Items 27 & 28)	
27	7127003	1	Mount, Engine	
28	7132912	1	Kit, Muffler Strap (Includes Items 29 thru 31)	
29	7127013	1	Bracket, Muffler	
30	8307025	2	Washer, Lock M12	
31	8303519	2	HHCS, M12 x 35mm	
32	8310067	1	Nut, Hex Lock Elastic 3/4-10	
33	8278007	1	Mount, Vibration	
34	7054351	1	Washer, Rebound	
35	8303724	1	HHCS, 3/4-10 x 3-1/2in	
36	7085422	1	Tank, Radiator Overflow (Includes Item 37)	
37	8866341	1	Cap w/ Tether	
38	8305626	4	Nut, Hex Lock Elastic 5/16-18	
39	8307106	8	Washer, Flat 5/16in	
40	8406101	1	Support, Hose 5/8in	
41	8303106	3	HHCS, 3/8-16 x 2-1/2in	
42	8278008	3	Mount, Vibration	
43	7057141	3	Washer, Rebound	
44	8305645	14	Nut, Hex Lock Elastic 3/8-16	
45	7094592	1	Bar, Radiator Mount	
46	8307004	10	Washer, Lock 5/16in	
47	8303744	10	HHCS, 5/16-18 x 1/2in	
48	2712993	1	Oil Cooler	
49	8904001	1	Cock, Drain 1/4in	

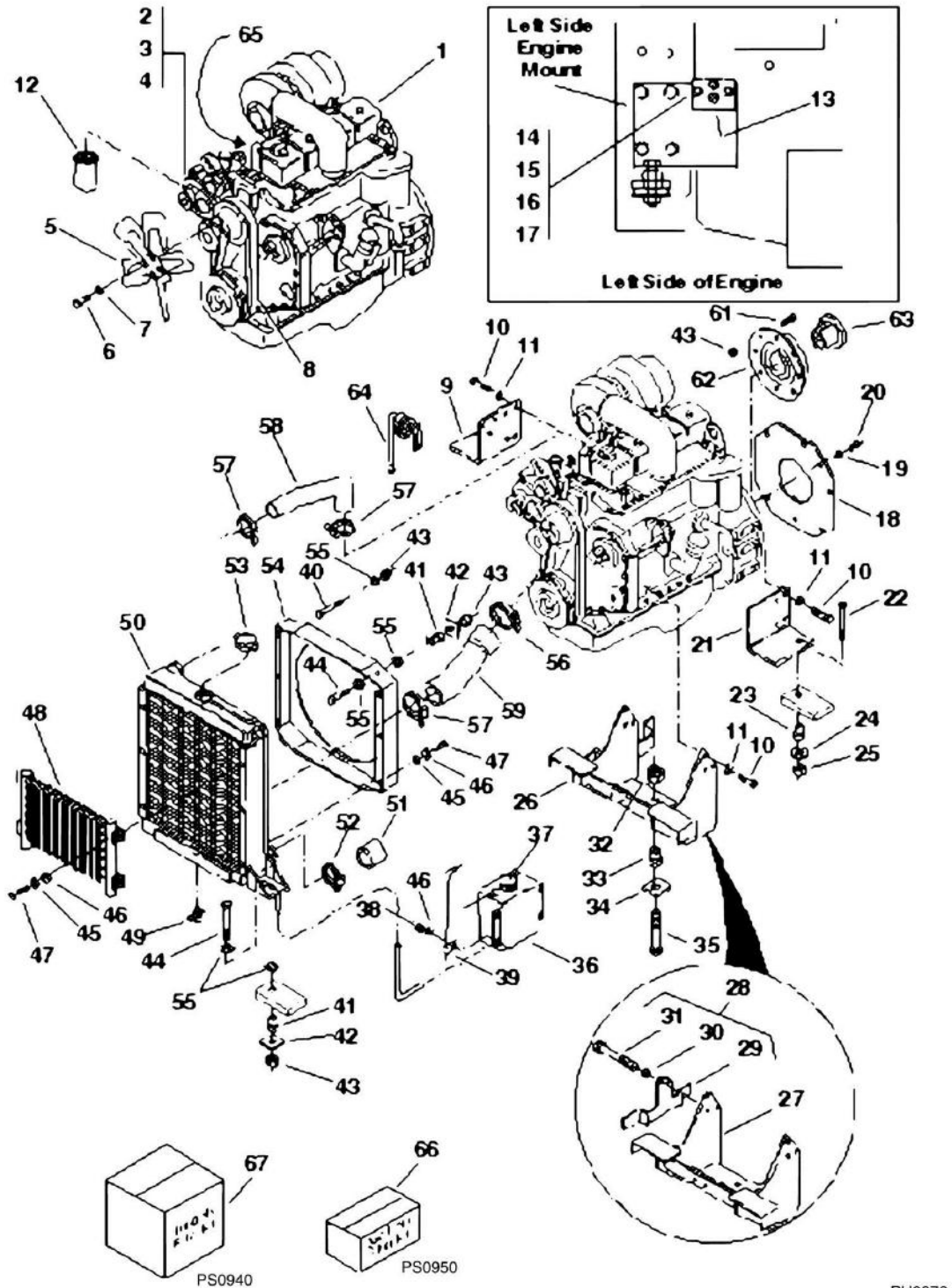
## SECTION 4 - POWER PLANT

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
50	5724284	1	Radiator (Includes Items 51 thru 54)	
51	8403224	1	Cap, Connection	
52	8405104	1	Clamp, Hose 2-1/4in	
53	8180308	2	Stud, Radiator Mount	
54	8180307	1	Cap, Radiator	
55	7099943	1	Shroud, Radiator	
56	8307110	2	Washer, Flat 3/8in	
57	8405203	1	Clamp, Hose 3in	
58	8405104	3	Clamp, Hose 2-1/4in	
59	7093783	1	Hose, Upper Radiator	
60	7093772	1	Hose, Lower Radiator	
61	8303622	1	HHCS, 3/8-16 x 2in	
62	7099912	1	Support, Upper Radiator	
63	8303679	8	HHCS, 3/8-16 x 1-3/4in	
64	7150523	1	Kit, Torsion Dampener Coupling (Includes Coupler, Shaft, Hardware and Instructions)	
65	8140309	1	Bushing, Split Tapered	
66	8277161	1	Heater, Coolant	
66	7088352	1	Freeze Plug	
67	8033340	1	Starter, 12V (Includes Solenoid)	
68	7138291	1	Kit, 250 Hour Filter (Includes 4 Filters; Engine Oil Filter & 3 Fuel Filters)	
69	7138301	1	Kit, 1000 Hour Filter (Includes 7 Filters; Engine Oil Filter, 3 Fuel Filters, Primary Air Filter, Transmission Oil Filter and Hydraulic Oil Filter)	



# SECTION 4 - POWER PLANT

FIGURE 4-2. ENGINE, RADIATOR AND OIL COOLER MOUNTING (SN 0119 through 1598)



PH0076

## SECTION 4 - POWER PLANT

**FIGURE 4-2. ENGINE, RADIATOR AND OIL COOLER MOUNTING (SN 0119 through 1598)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	8262137	1	Engine, Cummins 4BT 3.9 Turbo	
1	8262138	1	Engine, Cummins 4BTA 3.9 After Cooled Turbo	
2	8270221	1	Alternator, Bosch	
3	8270220	1	Fan, Alternator	
4	8033342	1	Pulley, Alternator	
5	8272009	1	Fan, Puller 17in	
6	8310028	4	HHCS, M8 x 70mm	
7	8307222	4	Washer, Flat M8	
8	8080613	1	Belt, Engine Fan	
9	7095272	1	Mount, Engine Left Side	
10	8303790	14	HHCS, M12 x 30mm	
11	8307025	14	Washer, Lock M12	
12	8320262	1	Element, Engine Oil Filter (Also included in Filter Kits 66 & 67)	
13	8277162	1	Solenoid, Relay for Starter	
14	8303742	2	FLHDCS, 1/4-20 x 1in	
15	8310002	2	Washer, Lock 1/4in External Teeth	
16	8307109	5	Washer, Flat 1/4in	
17	8305624	2	Nut, Hex Lock Elastic 1/4-20	
18	7054632	1	Cover, Flywheel	
19	8307023	4	Washer, Lock M10	
20	8303784	4	HHCS, M10 x 20mm	
21	7095282	1	Mount, Engine Right Side	
22	8303702	2	HHCS, 1/2-13 x 3in	
23	8278012	2	Mount, Vibration	
24	7095831	2	Washer, Rebound	
25	8305644	2	Nut, Hex Lock Elastic 1/2-13	
26	7133022	1	Kit, Engine Mount (Includes Items 27 & 28)	
27	7127003	1	Mount, Engine	
28	7132912	1	Kit, Muffler Strap (Includes Items 29 thru 31)	
29	7127013	1	Bracket, Muffler	
30	8307025	2	Washer, Lock M12	
31	8303519	2	HHCS, M12 x 35mm	
32	8310067	1	Nut, Hex Lock Elastic 3/4-10	
33	8278007	1	Mount, Vibration	
34	7054351	1	Washer, Rebound	
35	8303724	1	HHCS, 3/4-10 x 3-1/2in	
36	7085422	1	Tank, Radiator Overflow (Includes Item 37)	
37	8866341	1	Cap w/Tether	
38	8305626	4	Nut, Hex Lock Elastic 5/16-18	
39	8406101	1	Support, Hose 5/8in	
40	8303106	1	HHCS, 3/8-16 x 2-1/2in	
41	8278008	3	Mount, Vibration	
42	7057141	3	Washer, Rebound	
43	8305645	12	Nut, Hex Lock Elastic 3/8-16	
44	8303622	3	HHCS, 3/8-16 x 2in	
45	8307004	10	Washer, Lock 5/16in	
46	8307203	10	Washer, Flat 0.31	
47	8303697	10	HHCS, 0.31 x 0.75in	
48	2712993	1	Oil Cooler	
49	8904001	1	Cock, Drain 1/4in	

## SECTION 4 - POWER PLANT

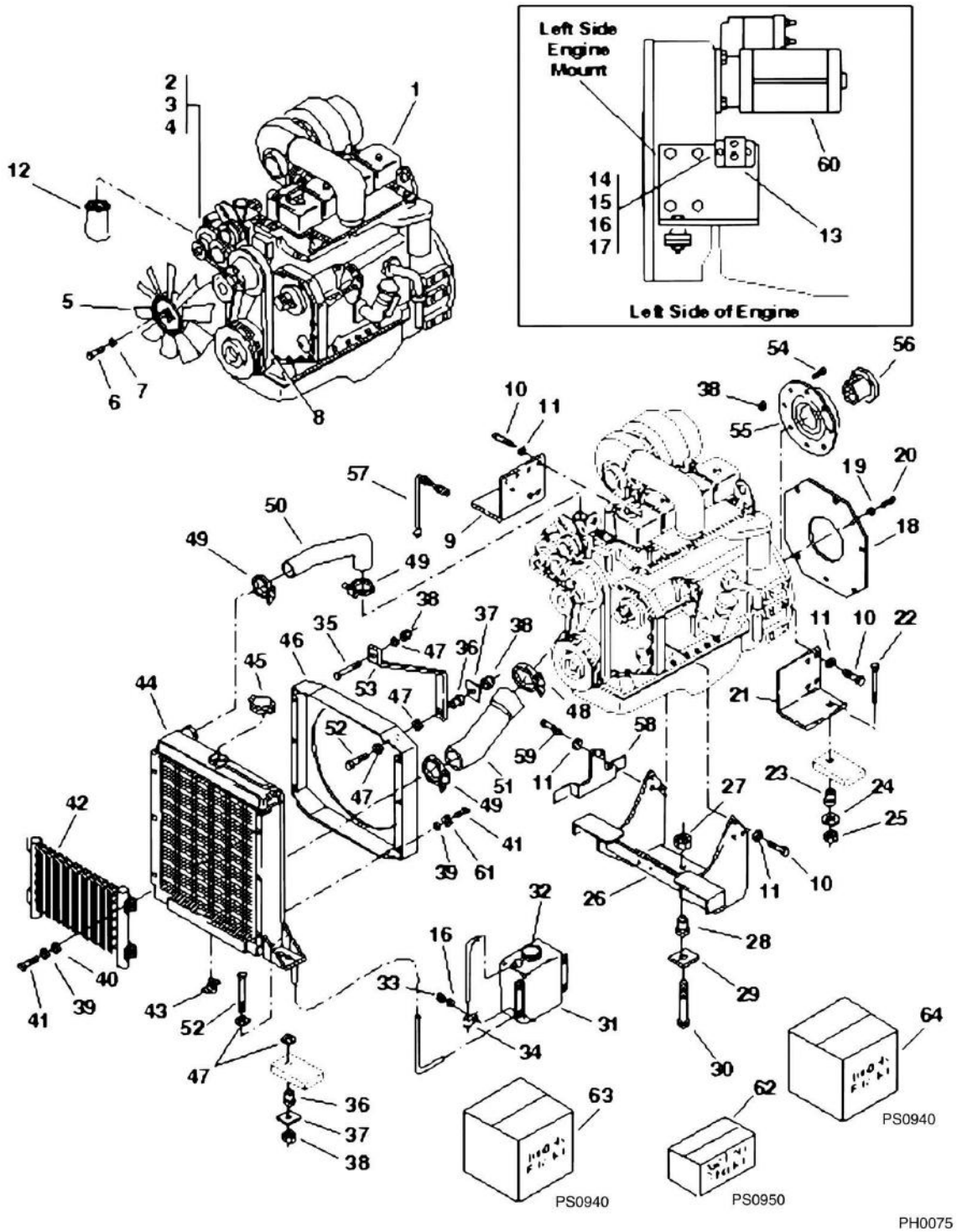
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
50	7127034	1	Radiator (Includes Items 51 thru 53)	
51	8403224	1	Cap, Connection	
52	8405104	1	Clamp, Hose 2-1/4in	
53	8180307	1	Cap, Radiator	
54	7127043	1	Shroud, Radiator	
55	8307204	7	Washer, Flat 3/8in Heavy	
56	8405203	1	Clamp, Hose 3in	
57	8405104	3	Clamp, Hose 2-1/4in	
58	7093783	1	Hose, Upper Radiator	
59	7093772	1	Hose, Lower Radiator	
60	7099912	1	Support, Upper Radiator	
61	8303679	8	HHCS, 3/8-16 x 1-3/4in	
62	7150523	1	Kit, Torsion Dampener Coupling (Includes Coupler, Shaft, Hardware and Instructions)	
63	8140309	1	Bushing, Split Tapered	
64	8277161	1	Heater, Coolant	
64	7088352	1	Freeze Plug	
65	8033340	1	Starter, 12V (Includes Solenoid)	
66	7138291	1	Kit, 250 Hour Filter (Includes 4 Filters; Engine Oil Filter & 3 Fuel Filters)	
67	7138301	1	Kit, 1000 Hour Filter (Includes 7 Filters; Engine Oil Filter, 3 Fuel Filters, Primary Air Filter, Transmission Oil Filter and Hydraulic Oil Filter)	





# SECTION 4 - POWER PLANT

FIGURE 4-3. ENGINE, RADIATOR AND OIL COOLER MOUNTING (EPA) (SN 1599 through 13197)



## SECTION 4 - POWER PLANT

**FIGURE 4-3. ENGINE, RADIATOR AND OIL COOLER MOUNTING (EPA) (SN 1599 through 13197)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	8262142	1	Engine, Cummins 4BT 3.9 Turbo (8042)	
1	8262143	1	Engine, Cummins 4BTA 3.9 After Cooled Turbo (10042 & 10054)	
2	8270221	1	Alternator, Bosch	
3	8270220	1	Fan, Alternator	
4	8033342	1	Pulley, Alternator	
5	8272017	1	Fan	
6	8303550	4	HHCS, M8 x 60mm	
7	8307222	4	Washer, Flat M8	
8	8080613	1	Belt, Engine Fan	
9	7095272	1	Mount, Engine Left Side	
10	8303790	14	HHCS, M12 x 30mm	
11	8307025	14	Washer, Lock M12	
12	8320262	1	Element, Engine Oil Filter (Also included in Filter Kits 62, 63 & 64)	
13	8277162	1	Solenoid, Relay for Starter	
14	8303742	2	FLHDCS, 1/4-20 x 1in	
15	8310002	2	Washer, Lock 1/4in External Teeth	
16	8307109	4	Washer, Flat 1/4in	
17	8305624	2	Nut, Hex Lock Elastic 1/4-20	
18	7054632	1	Cover, Flywheel	
19	8307023	4	Washer, Lock M10	
20	8303784	4	HHCS, M10 x 20mm	
21	7095282	1	Mount, Engine Right Side	
22	8303702	2	HHCS, 1/2-13 x 3in	
23	8278012	2	Mount, Vibration	
24	7095831	2	Washer, Rebound	
25	8305644	2	Nut, Hex Lock Elastic 1/2-13	
26	7127003	1	Mount, Engine	
27	8310067	1	Nut, Hex Lock Elastic 3/4-10	
28	8278007	1	Mount, Vibration	
29	7054351	1	Washer, Rebound	
30	8303724	1	HHCS, 3/4-10 x 3-1/2in	
31	7085422	1	Tank, Radiator Overflow (Includes Item 32)	
32	8866341	1	Cap w/Tether	
33	8305626	4	Nut, Hex Lock Elastic 5/16-18	
34	8406101	1	Support, Hose 5/8in	
35	8303106	3	HHCS, 3/8-16 x 2-1/2in	
36	8278008	3	Mount, Vibration	
37	7057141	3	Washer, Rebound	
38	8305645	14	Nut, Hex Lock Elastic 3/8-16	
39	8307004	10	Washer, Lock 0.31	
40	8307106	6	Washer, Flat 0.31	
41	8303697	10	HHCS, 0.31 x 0.75in	
42	2712993	1	Oil Cooler <b>(SN 1599 through 9908)</b>	
42	2713054	1	Oil Cooler <b>(SN 9909 to Present)</b>	
43	8904001	1	Cock, Drain 1/4in	
44	7127034	1	Radiator (Includes Item 45)	
45	8180307	1	Cap, Radiator	
46	7127043	1	Shroud, Radiator	
47	8307110	5	Washer, Flat 3/8in	
48	8405203	1	Clamp, Hose 3in	

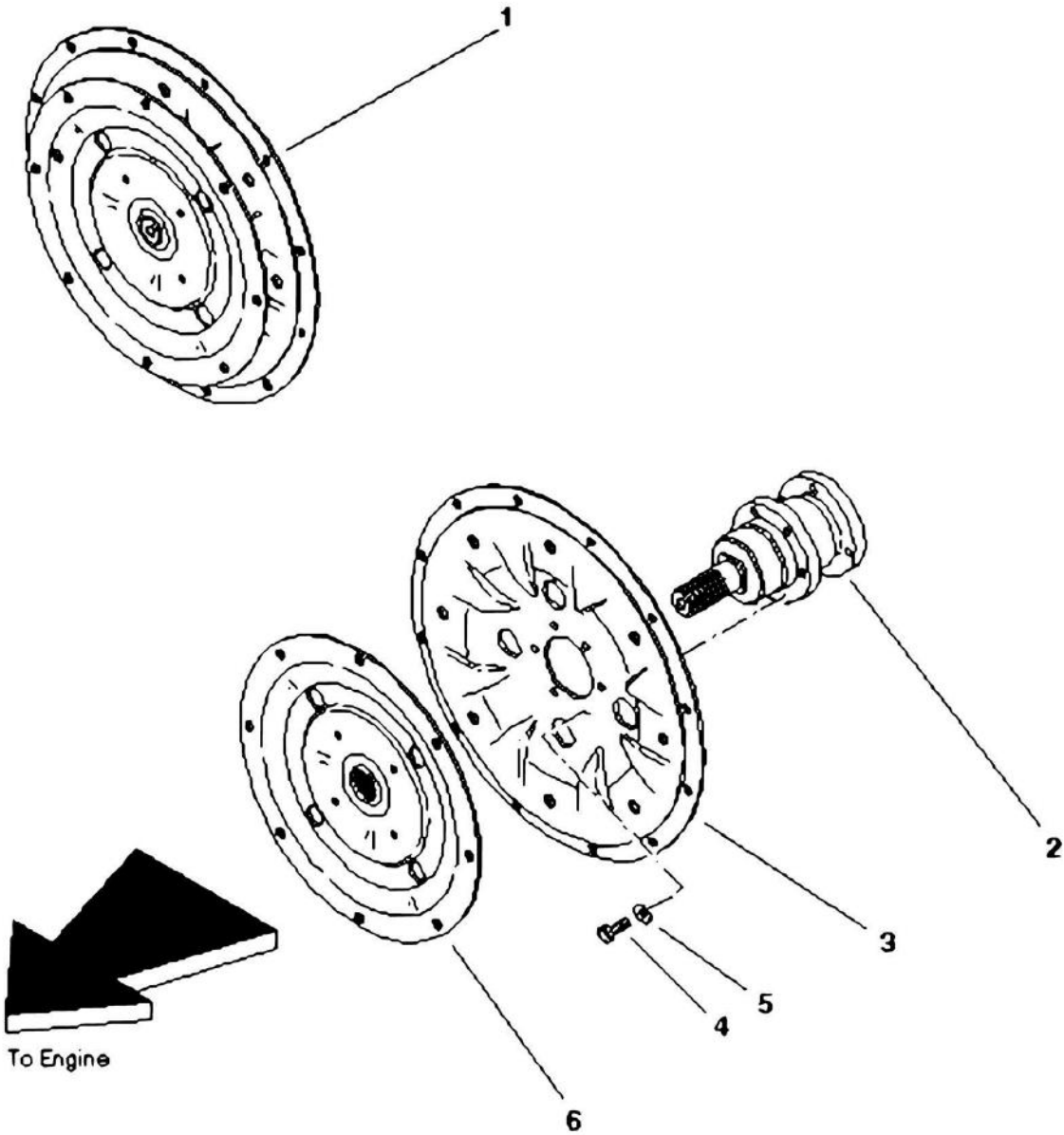
## SECTION 4 - POWER PLANT

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
49	8405104	3	Clamp, Hose 2-1/4in	
50	7093783	1	Hose, Upper Radiator	
51	7093772	1	Hose, Lower Radiator	
52	8303622	3	HHCS, 3/8-16 x 2in	
53	7099912	1	Support, Upper Radiator	
54	8303679	8	HHCS, 3/8-16 x 1-3/4in	
55	7150523	1	Kit, Torsion Dampener Coupling (Includes Coupler, Shaft, Hardware and Instructions) <b>(SN 1599 through 9908)</b>	
55	7137643	1	Torsion Dampener Coupling <b>(SN 9909 to Present)</b>	
56	8140309	1	Bushing, Split Tapered	
57	8277161	1	Heater, Coolant	
58	7127013	1	Bracket, Muffler	
59	8303519	2	HHCS, M12 x 35mm	
60	8033340	1	Starter, 12V (Includes Solenoid)	
61	8307203	6	Washer, Flat	
62	7138290	1	Kit, 250 Hour Filter (Includes 3 Filters; Engine Oil Filter and Both Fuel Filters)	
63	7138297	1	Kit, 1000 Hour Filter (Includes 6 Filters; Engine Oil Filter, Both Fuel Filters, Primary Air Filter, Transmission Oil Filter and Hydraulic Oil Filter) <b>(SN 1599 through 9908)</b>	
64	7138848	1	Kit, 1000 Hour Filter (Includes 6 Filters; Engine Oil Filter, Both Fuel Filters, Primary Air Filter, Transmission Oil Filter and Hydraulic Oil Filter) <b>(SN 9909 to Present)</b>	



# SECTION 4 - POWER PLANT

FIGURE 4-4. TORSION COUPLER (SN 9909 through 13197)



PH1230

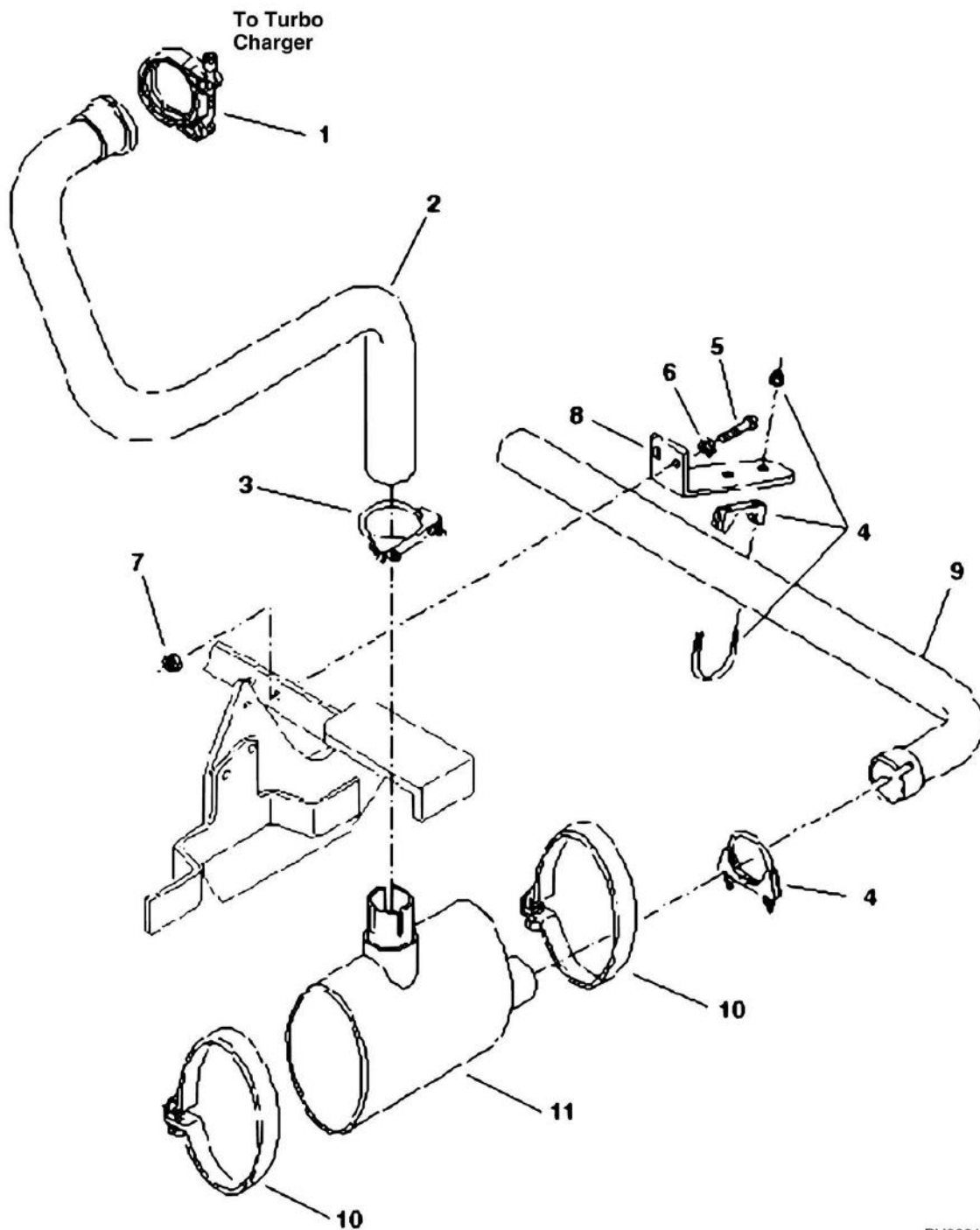
## SECTION 4 - POWER PLANT

**FIGURE 4-4. TORSION COUPLER (SN 9909 through 13197)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7137643	1	Coupling Assembly, Torsion (Includes Items 2 thru 6)	
2	8035555	1	Assembly, Shaft and Bearing	
3	8035556	1	Housing, Protective	
4	8035557	6	Bolt, Hex Hd M10 x 25mm	
5	8035558	6	Washer, Flat M10	
6	8035559	1	Element, Torsion Coupling	

# SECTION 4 - POWER PLANT

## FIGURE 4-5. EXHAUST SYSTEM



PH0091



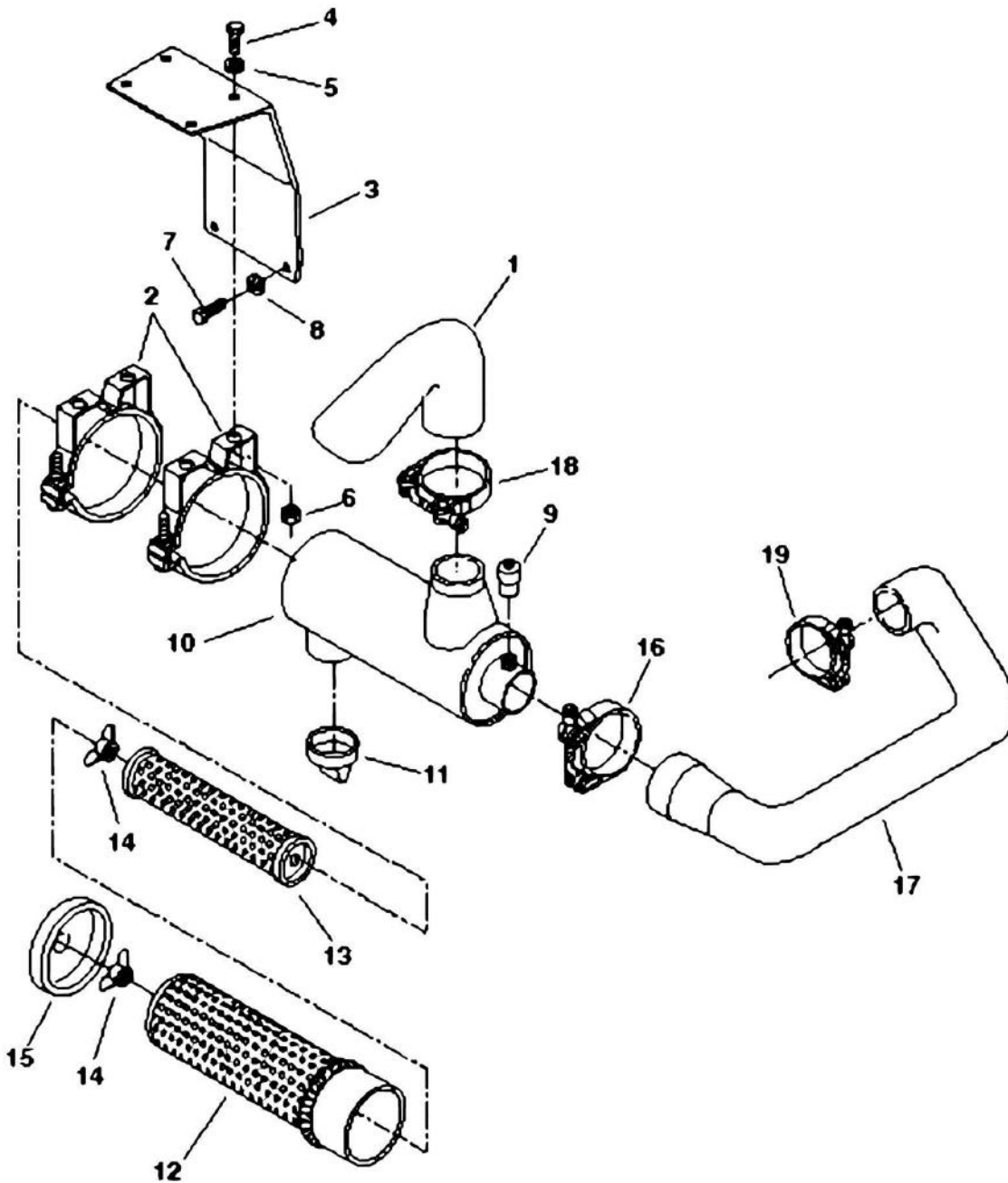
## SECTION 4 - POWER PLANT

### FIGURE 4-5. EXHAUST SYSTEM

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	8275240	1	Clamp, V-Band	
2	7126953	1	Pipe, Exhaust <b>(SN 1599 to Present)</b>	
2	7088283	1	Pipe, Exhaust <b>(Prior to SN 1599)</b>	
3	8275247	1	Clamp, Muffler 3.00 <b>(SN 1599 to Present)</b>	
3	8275212	1	Clamp, Muffler 2.50in <b>(Prior to SN 1599)</b>	
4	8275248	2	Clamp, Muffler 2.75 <b>(SN 1599 to Present)</b>	
4	8275212	2	Clamp, Muffler 2.50in <b>(Prior to SN 1599)</b>	
5	8303621	2	HHCS, 3/8-16 x 1-1/2in	
6	8307204	2	Washer, Flat 3/8in Heavy	
7	8305645	2	Nut, Hex Lock Elastic 3/8-16	
8	7127022	1	Support, Exhaust Pipe <b>(SN 1599 to Present)</b>	
8	7110022	1	Support, Exhaust Pipe <b>(Prior to SN 1599)</b>	
9	7126962	1	Pipe, Tail <b>(SN 1599 to Present)</b>	
9	7086742	1	Pipe, Tail <b>(Prior to SN 1599)</b>	
10	7126992	2	Clamp, Band <b>(SN 1599 to Present)</b>	
10	7097452	2	Clamp, Band <b>(Prior to SN 1599)</b>	
11	7126922	1	Muffler <b>(SN 1599 to Present)</b>	
11	7079162	1	Muffler <b>(Prior to SN 1599)</b>	

# SECTION 4 - POWER PLANT

## FIGURE 4-6. AIR CLEANER



PH0081

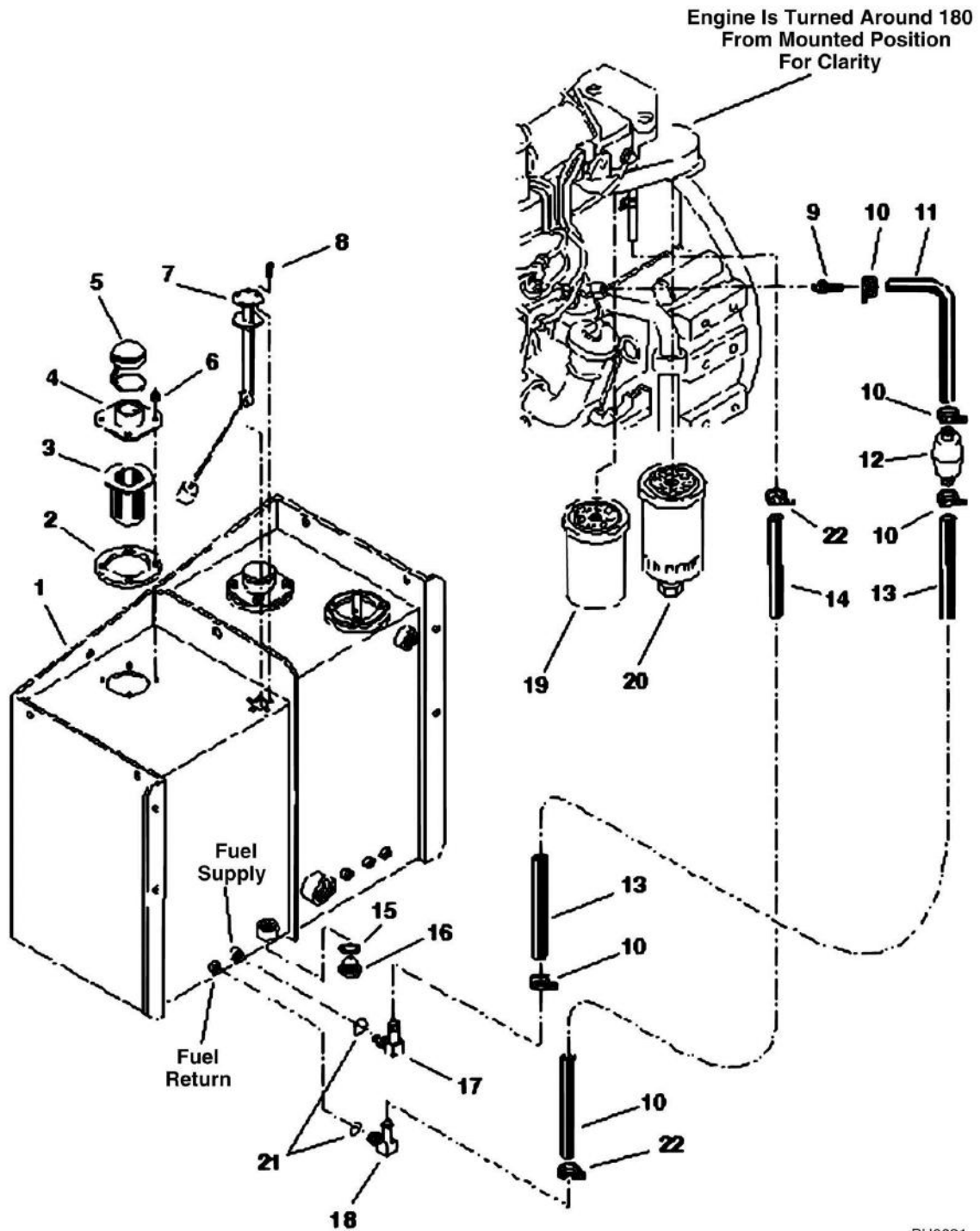
## SECTION 4 - POWER PLANT

### FIGURE 4-6. AIR CLEANER

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7097323	1	Scoop, Air Intake	
2	8273240	2	Band, Air Cleaner Mounting	
3	7095302	1	Bracket, Air Cleaner Mounting	
4	8303697	4	HHCS, 0.31 x 0.75in	
5	8307203	4	Washer, Flat 5/16in	
6	8305626	4	Nut, Hex Lock Elastic 5/16in	
7	8303618	2	HHCS, M12 x 25mm	
8	8307025	2	Washer, Lock M12	
9	8273241	1	Indicator, 25in Service	
10	8273013	1	Air Cleaner Assembly (Includes Items 11 thru 15)	
11	8032764	1	Valve, Vacuator	
12	8273237	1	Element, Primary	
13	8273238	1	Element, Safety	
14	8273272	2	Nut, Assembly	
15	8032762	1	Cover, End	
16	8405307	1	Clamp, T-Bolt 3-13/16in I.D.	
17	7095393	1	Hose, Air Intake	
18	8405404	1	Clamp, T-Bolt Band 4.38in I.D.	
19	8405305	1	Clamp, T-Bolt Band 3.38in I.D.	

# SECTION 4 - POWER PLANT

## FIGURE 4-7. FUEL SYSTEM (Prior to SN 1599)



PH0031

## SECTION 4 - POWER PLANT

**FIGURE 4-7. FUEL SYSTEM (Prior to SN 1599)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7136034	1	Tank, Fuel and Hydraulic	
2	7138209	1	Gasket	
3	NLA	1	Screen, Fillneck (For Service, Order P/N 8322022 & 7139076)	
4	7138714	1	Neck, Filler/Breather	
5	NLA	1	Cap, Fill w/Chain (For Service, Order P/N 8322022 & 7139076)	
6	8305626	4	Nut, Hex Lock Elastic 5/16-18	
7	7118222	1	Sender, Fuel Level	
8	8310163	5	THCS, #10 x 5/8in	
9	8430007	1	Hose Fitting, Long, Barbed, SAE 6-4P - hose I.D. x male NPT, Fits 3/8in Hose	
10	8410009	4	Clamp, Hose 1.06 Dia	
11	7127881	1	Hose, Fuel Supply .38 x 4in	
12	8274022	1	Strainer, Fuel	
13	7127871	1	Hose, Fuel Supply .38 x 100in	
14	7125421	1	Hose, Fuel Return .25 x 105in	
15	8640903	1	O-Ring	
16	8541435	1	Plug, Magnetic, Hex Hd, 1in str thd	
17	8430034	1	Hose Fitting, Elbow, 90, Beaded, SAE 6-6 - hose I.D. x male str thd o-ring	
18	8430035	1	Hose Fitting, Elbow, 90, Beaded, SAE 4-4 - hose I.D. x male str thd o-ring, Fits 1/4in Hose	
19	8320250	1	Element, Fuel Filter - Secondary	
20	8320253	1	Element, Fuel Filter - Primary	
21	8630012	2	O-Ring	
22	8405009	2	Clamp, Hose .62	



## SECTION 4 - POWER PLANT

**FIGURE 4-8. FUEL SYSTEM (EPA) (SN 1599 through 13197)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7136034	1	Tank, Fuel and Hydraulic	
2	7138209	1	Gasket	
3	NLA	1	Screen, Fillneck (For Service, Order P/N 8322022 & 7139076)	
4	7138714	1	Neck, Filler/Breather	
5	NLA	1	Cap, Fill w/Chain (For Service, Order P/N 8322022 & 7139076) <b>(Prior to SN 9500)</b>	
5	8322029	1	Cap, Fill w/Chain <b>(SN 9500 to Present)</b>	
6	8305626	4	Nut, Hex Lock Elastic 5/16-18	
7	7118222	1	Sender, Fuel Level	
8	8310163	5	THCS, #10 x 5/8in	
9	8430007	1	Hose Fitting, Long, Barbed, SAE 6-4P - hose I.D. x male NPT, Fits 3/8in Hose	
10	8410009	4	Clamp, Hose 1.06 Dia	
11	7127881	1	Hose, Fuel Supply .38 x 4in	
12	8274022	1	Strainer, Fuel	
13	7127871	1	Hose, Fuel Supply .38 x 100in	
14	7127081	1	Hose, Fuel Return .31 x 123in	
15	8640903	1	O-Ring	
16	8541435	1	Plug, Magnetic, Hex Hd, 1in str thd	
17	8430034	1	Hose Fitting, Elbow, 90, Beaded, SAE 6-6 - hose I.D. x male str thd o-ring	
18	8430064	1	Hose Fitting, Elbow, 90, Beaded, SAE 5-6 - hose I.D. x male str thd o-ring, Fits 5/16in Hose	
19	8630012	2	O-Ring	
20	8405009	2	Clamp, Hose .62	
21	8320270	1	Element, Fuel Filter	

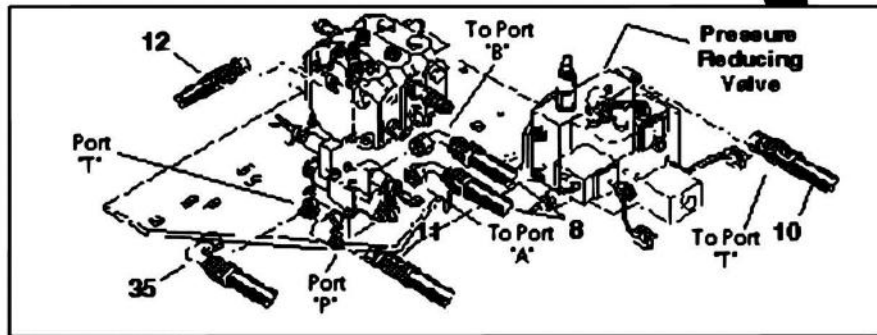
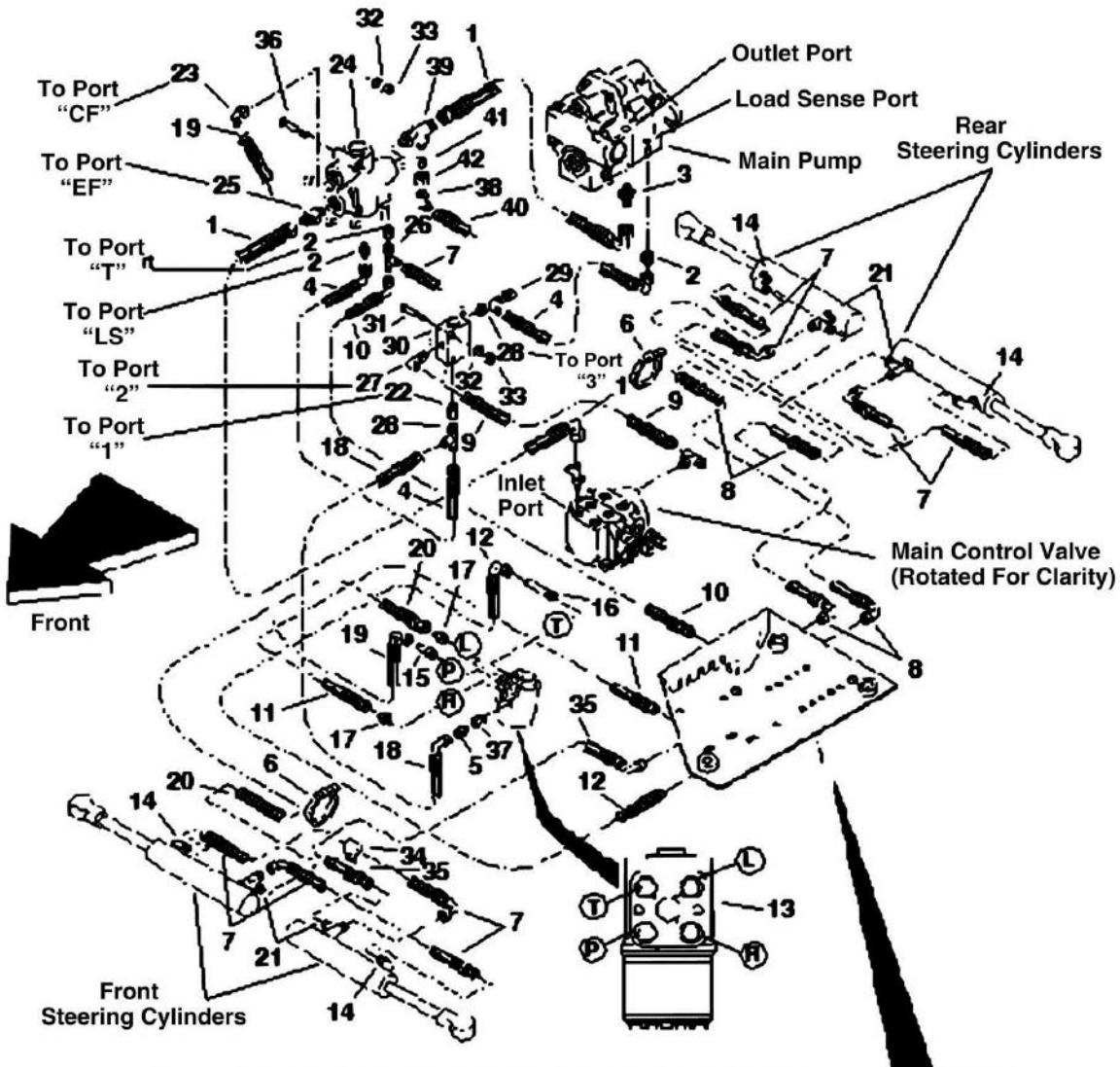




**SECTION 5 - HYDRAULIC CIRCUITS**

# SECTION 5 - HYDRAULIC CIRCUITS

FIGURE 5-1. POWER STEERING CIRCUIT (Prior to SN 9909)



Underneath View of Valve Plate  
See VALVE PLATE ASSEMBLY  
for Breakdown

PH0142

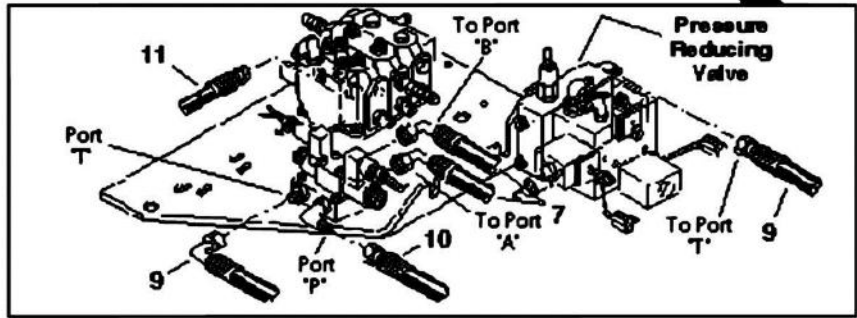
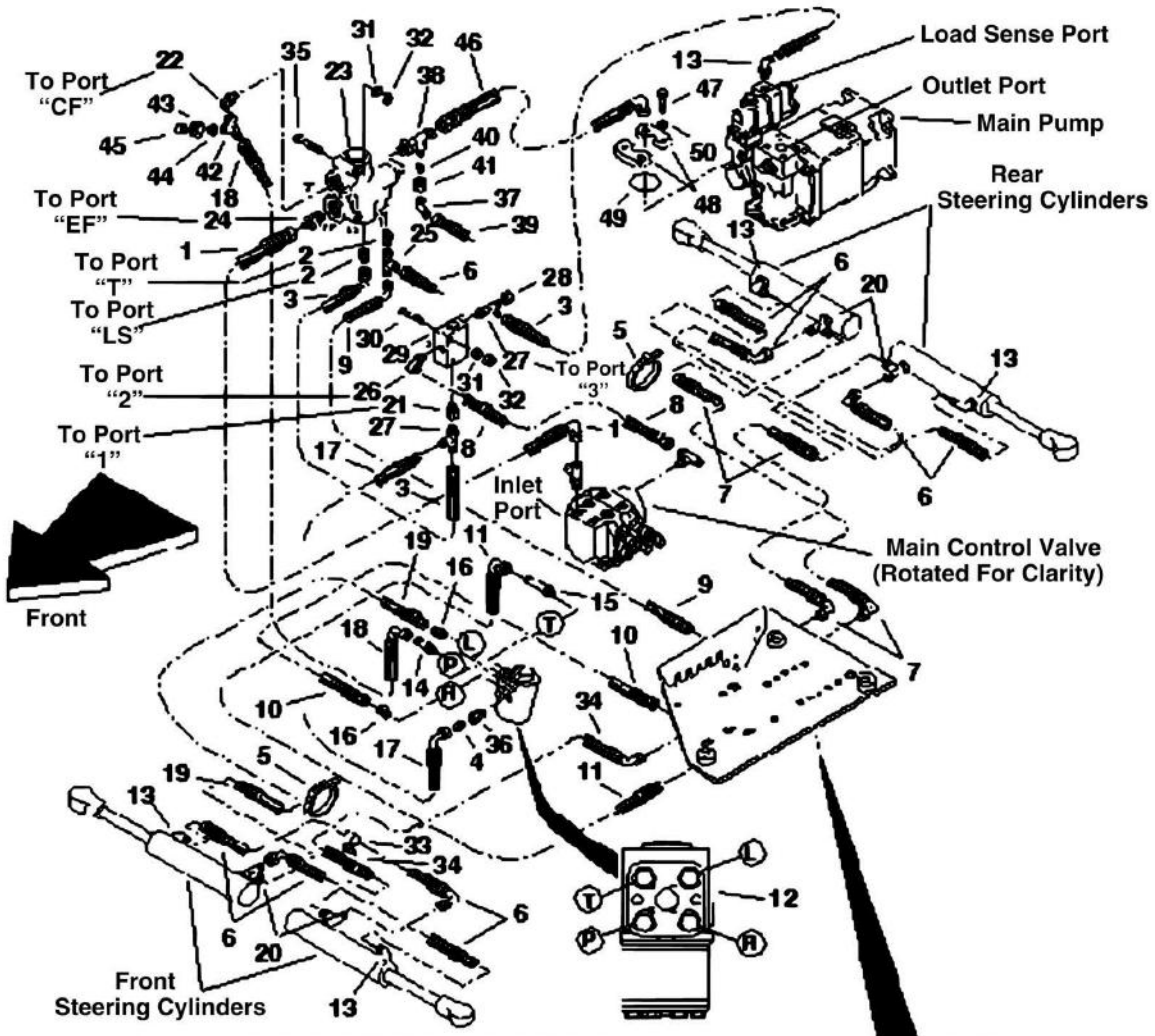
## SECTION 5 - HYDRAULIC CIRCUITS

**FIGURE 5-1. POWER STEERING CIRCUIT (Prior to SN 9909)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7150412	2	Hose, .75 I.D. x 18in Long	
2	8760134	3	Connector, Straight, SAE 6-4 - male JIC 37 x male str thd o-ring	
3	8760118	1	Connector, Straight, SAE 12-16 - male JIC 37 x male str thd o-ring	
4	2713432	2	Hose, .38 I.D. x 18in Long	
5	8760141	1	Connector, Male Tube End w/Outlet Check, 6-6	
6	8584007	2	Tie Wrap 5in	
7	2713242	5	Hose, .38 I.D. x 33in Long	
8	2713332	2	Hose, .38 I.D. x 96in Long	
9	2711992	1	Hose, .38 I.D. x 31in Long	
10	2712942	1	Hose, .38 I.D. x 50in Long	
11	2711972	1	Hose, .38 I.D. x 53in Long	
12	2712122	1	Hose, .50 I.D. x 62in Long	
13	8721029	1	Steering Unit	
14	8760311	4	Elbow, 90, SAE 6 - male JIC 37 x male str thd o-ring	
15	8760140	1	Connector, Male Tube End w/Inlet Check, 8-8	
16	8760143	1	Connector, Long, SAE 8 - male JIC 37 x male str thd o-ring	
17	8760110	2	Connector, Straight, SAE 6-8 - male JIC 37 x male str thd o-ring	
18	2712142	1	Hose, .38 I.D. x 89in Long	
19	2712112	1	Hose, .50 I.D. x 87in Long	
20	2710802	1	Hose, .38 I.D. x 105in Long	
21	8760449	4	Tee, Male Run, SAE 6 - male JIC 37 x male str thd o-ring	
22	8760460	1	Reducer, SAE 8-6 - male str thd o-ring x female internal o-ring boss	
23	8760303	1	Elbow, 90, SAE 8 - male JIC 37 x male str thd o-ring	
24	8904047	1	Priority Valve	
25	8760109	1	Connector, Straight, SAE 12 - male JIC 37 x male str thd o-ring	
26	8760501	1	Tee, Female Run, SAE 6 - male JIC 37 x female JIC 37, swivel	
27	8760313	1	Elbow, 90, SAE 6-8 - male JIC 37 x male str thd o-ring	
28	8760449	2	Tee, Male Run, SAE 6 - male JIC 37 x male str thd o-ring	
29	8760488	1	Cap, SAE 6 - JIC 37	
30	8902838	1	Valve, Shuttle	
31	8310158	2	Bolt, Carriage 5/16-18 x 2-1/4in	
32	8307004	4	Washer, Lock 5/16	
33	8305006	4	Nut, Hex 5/16-18	
34	8406105	1	Clamp	
35	2712012	1	Hose, .38 I.D. x 75in Long	
36	8310159	2	Bolt, Carriage 5/16-18 x 3-1/2in	
37	8770016	1	Reducer, SAE 4-6 - male str thd o-ring x female internal o-ring boss	
38	8765204	1	Elbow, 90, SAE 8 - male JIC 37 x female JIC 37, swivel	
39	8760474	1	Tee, Male Run, SAE 12 - male JIC 37 x male str thd o-ring	
40	6604882	1	Hose, .50 I.D. x 62in Long	
41	8760504	1	Reducer, Tube End, SAE 12-8 - JIC 37	
42	8760401	1	Nut, SAE 12 - JIC 37	

# SECTION 5 - HYDRAULIC CIRCUITS

FIGURE 5-2. POWER STEERING CIRCUIT (SN 9909 through 13197)



Underneath View of Valve Plate  
See VALVE PLATE ASSEMBLY  
for Breakdown

PH1360

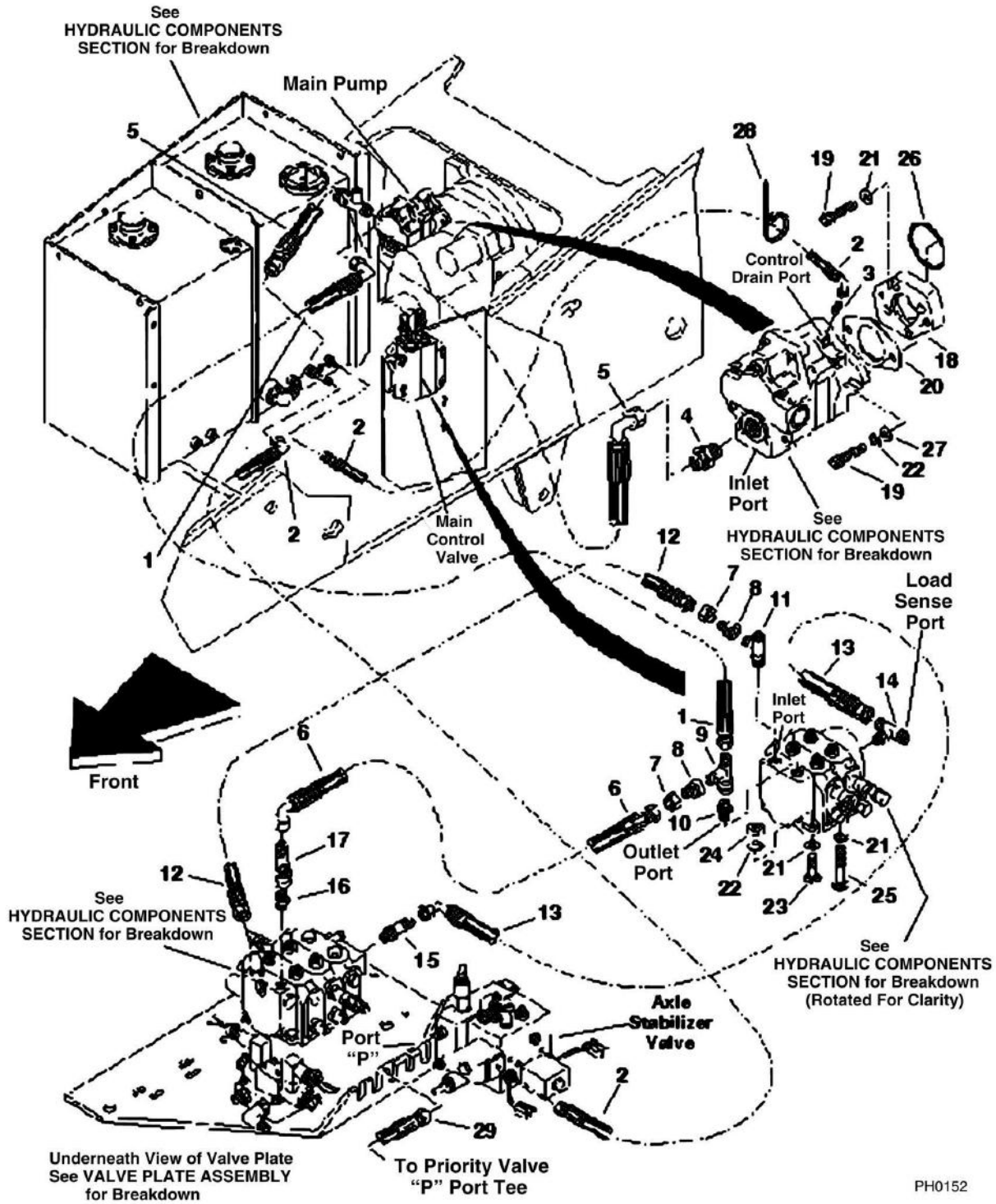
## SECTION 5 - HYDRAULIC CIRCUITS

**FIGURE 5-2. POWER STEERING CIRCUIT (SN 9909 through 13197)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7150412	1	Hose, .75 I.D. x 18in Long	
2	8760134	2	Connector, Straight, SAE 6-4 - male JIC 37 x male str thd o-ring	
3	2713432	2	Hose, .38 I.D. x 18in Long	
4	8760141	1	Connector, Male Tube End w/Outlet Check, 6-6	
5	8584007	2	Tie Wrap 5in	
6	2713242	5	Hose, .38 I.D. x 33in Long	
7	2713332	2	Hose, .38 I.D. x 96in Long	
8	2711992	1	Hose, .38 I.D. x 31in Long	
9	2712942	1	Hose, .38 I.D. x 50in Long	
10	2711972	1	Hose, .38 I.D. x 53in Long	
11	2712122	1	Hose, .50 I.D. x 62in Long	
12	8721029	1	Steering Unit	
13	8760311	5	Elbow, 90, SAE 6 - male JIC 37 x male str thd o-ring	
14	8760140	1	Connector, Male Tube End w/Inlet Check, 8-8	
15	8760143	1	Connector, Long, SAE 8 - male JIC 37 x male str thd o-ring	
16	8760110	2	Connector, Straight, SAE 6-8 - male JIC 37 x male str thd o-ring	
17	2712142	1	Hose, .38 I.D. x 89in Long	
18	2712112	1	Hose, .50 I.D. x 87in Long	
19	2710802	1	Hose, .38 I.D. x 105in Long	
20	8760449	4	Tee, Male Run, SAE 6 - male JIC 37 x male str thd o-ring	
21	8760460	1	Reducer, SAE 8-6 - male str thd o-ring x female internal o-ring boss	
22	8760307	1	Elbow, 45, SAE 8 - male JIC 37 x male str thd o-ring	
23	8904047	1	Priority Valve	
24	8760109	1	Connector, Straight, SAE 12 - male JIC 37 x male str thd o-ring	
25	8760501	1	Tee, Female Run, SAE 6 - male JIC 37 x female JIC 37, swivel	
26	8760313	1	Elbow, 90, SAE 6-8 - male JIC 37 x male str thd o-ring	
27	8760449	2	Tee, Male Run, SAE 6 - male JIC 37 x male str thd o-ring	
28	8760488	1	Cap, SAE 6 - JIC 37	
29	8902838	1	Valve, Shuttle	
30	8310158	2	Bolt, Carriage 5/16-18 x 2-1/4in	
31	8307004	4	Washer, Lock 5/16	
32	8305006	4	Nut, Hex 5/16-18	
33	8406105	1	Clamp	
34	2712012	1	Hose, .38 I.D. x 75in Long	
35	8310159	2	Bolt, Carriage 5/16-18 x 3-1/2in	
36	8770016	1	Reducer, SAE 4-6 - male str thd o-ring x female internal o-ring boss	
37	8765204	1	Elbow, 90, SAE 8 - male JIC 37 x female JIC 37, swivel	
38	8760474	1	Tee, Male Run, SAE 12 - male JIC 37 x male str thd o-ring	
39	6604882	1	Hose, .50 I.D. x 62in Long	
40	8760504	1	Reducer, Tube End, SAE 12-8 - JIC 37	
41	8760401	1	Nut, SAE 12 - JIC 37	
42	8760493	1	Tee, Female Run, SAE 8 - male JIC 37 x female JIC 37, swivel	
43	8760407	1	Nut, SAE 8 - JIC 37	
44	8430037	1	Nipple, Diagnostic	
45	8430032	1	Plug, Dust	
46	7150312	1	Hose, .75 I.D. x 25in Long	
47	8303675	4	Capscrew	
48	8530030	2	Flange Half, SAE 16	
49	8640123	1	O-Ring	
50	8307005	4	Washer, Lock 3/8	

# SECTION 5 - HYDRAULIC CIRCUITS

FIGURE 5-3. CONTROL VALVES CIRCUIT (Prior to SN 9909)



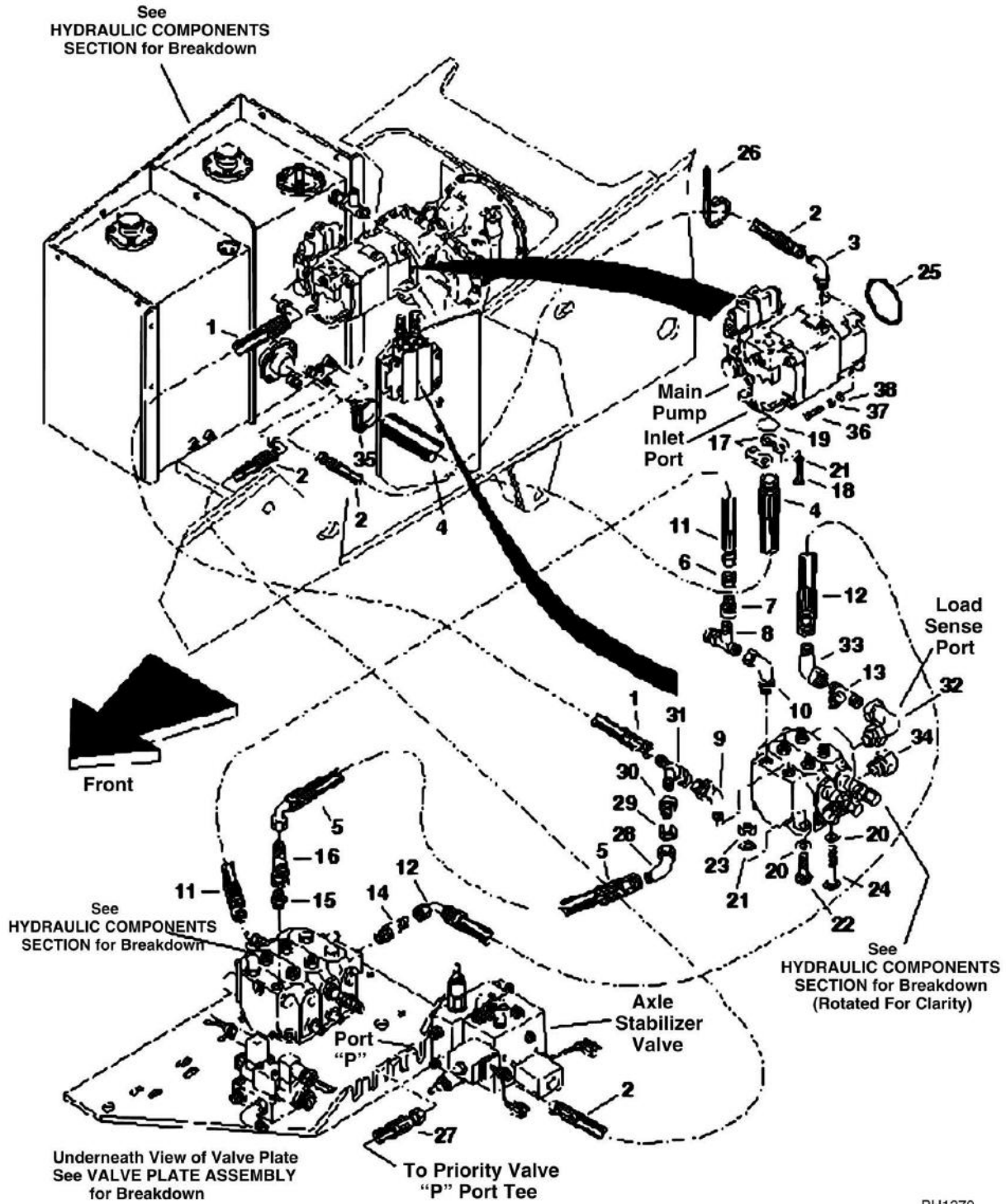
## SECTION 5 - HYDRAULIC CIRCUITS

**FIGURE 5-3. CONTROL VALVES CIRCUIT (Prior to SN 9909)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	2713292	1	Hose, .75 I.D. x 31in Long	
2	2712942	2	Hose, .38 I.D. x 50in Long	
3	8760117	1	Connector, Straight, SAE 6 - male JIC 37 x male str thd o-ring	
4	2220765	1	ADPT,ST S JIC/ORB 24 FG	
5	2713442	1	Hose, 1.50 I.D. x 29-1/2in Long	
6	2711872	1	Hose, .50 I.D. x 71in Long	
7	8760401	2	Nut, SAE 12 - JIC 37	
8	8760504	2	Reducer, Tube End, SAE 12-8 - JIC 37	
9	8760482	1	Tee, Female Run, SAE 12 - male JIC 37 x female JIC 37, swivel	
10	8760118	1	Connector, Straight, SAE 12-16 - male JIC 37 x male str thd o-ring	
11	8760474	1	Tee, Male Run, SAE 12 - male JIC 37 x male str thd o-ring	
12	6605202	1	Hose, .50 I.D. x 44-1/2in Long	
13	2711972	1	Hose, .38 I.D. x 53in Long	
14	8760457	1	Tee, Male Branch, SAE 6 - male JIC 37 x male str thd o-ring	
15	8760141	1	Connector, Male Tube End w/Outlet Check, 6-6	
16	8760107	1	Connector, Straight, SAE 8 - male JIC 37 x male str thd o-ring	
17	8760493	1	Tee, Female Run, SAE 8 - male JIC 37 x female JIC 37, swivel	
18	7121013	1	Spacer, Pump	
19	8304624	6	HHCS, 1/2-13 x 2in	
20	7099072	1	Gasket	
21	8307206	7	Washer, Flat 1/2in	
22	8307007	5	Washer, Lock 1/2in	
23	8310337	1	Bolt, Carriage 1/2-13 x 2-1/2in	
24	8305012	3	Nut, Hex 1/2-13	
25	8310178	2	Bolt, Carriage 1/2-13 x 4in	
26	8640405	1	O-Ring	
27	8307206	AR	Washer, Flat 1/2in	
28	8584007	1	Tie Wrap, 5in - Oil Cooler Hose Support	
29	6604882	1	Hose, .50 I.D. x 62in Long	

# SECTION 5 - HYDRAULIC CIRCUITS

## FIGURE 5-4. CONTROL VALVES CIRCUIT (SN 9909 through 13197)





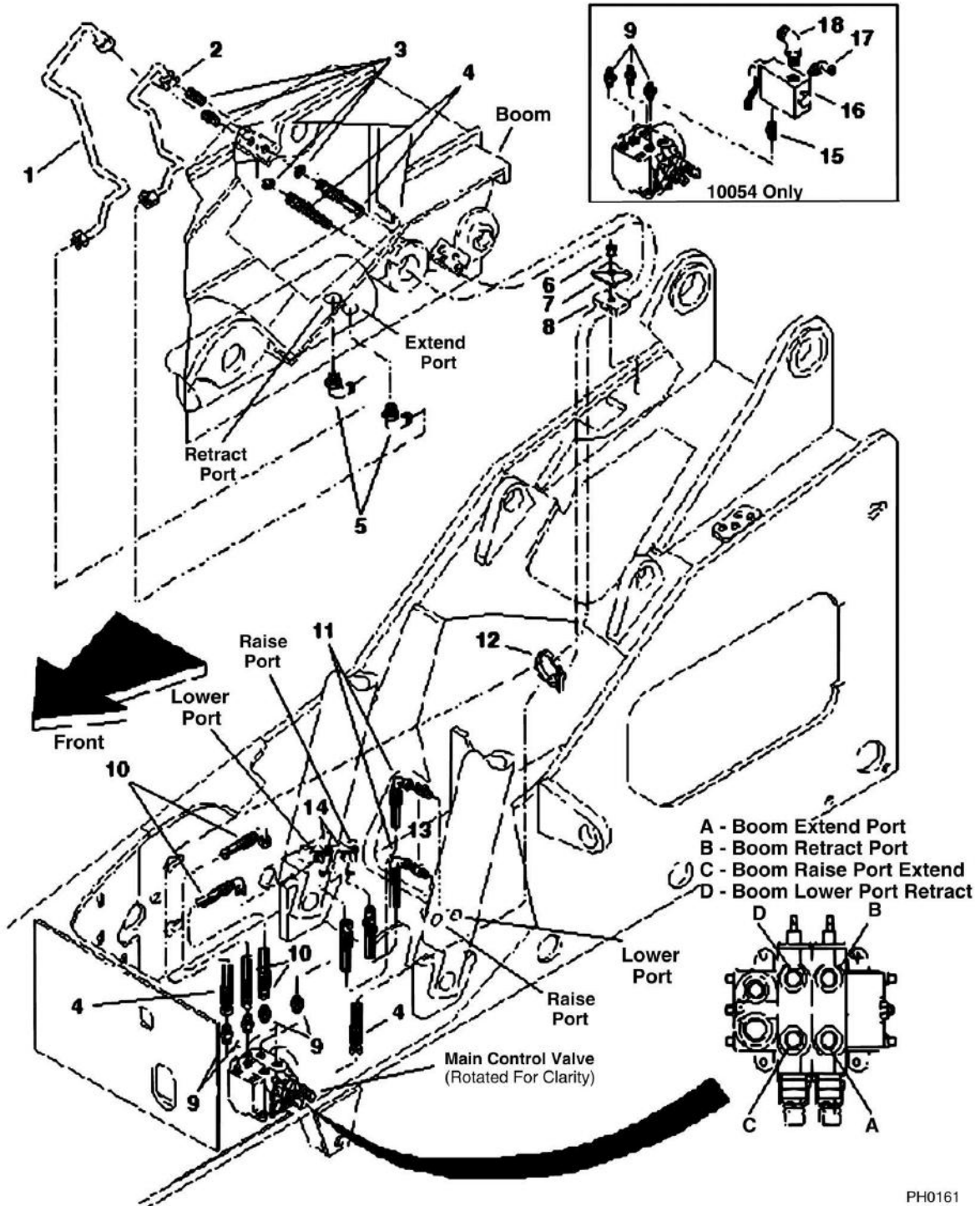
## SECTION 5 - HYDRAULIC CIRCUITS

**FIGURE 5-4. CONTROL VALVES CIRCUIT (SN 9909 through 13197)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7150492	1	Hose, 1 I.D. x 29in Long	
2	7150502	2	Hose, .50 I.D. x 40in Long	
3	8760308	1	Elbow, 90, SAE 8-10 - male JIC 37 x male str thd o-ring	
4	7150302	1	Hose, 2in I.D. x 29in Long	
5	2711872	1	Hose, .50 I.D. x 71in Long	
6	8760401	1	Nut, SAE 12 - JIC 37	
7	8760504	1	Reducer, Tube End, SAE 12-8 - JIC 37	
8	8760482	1	Tee, Female Run, SAE 12 - male JIC 37 x female JIC 37, swivel	
9	8760302	1	Elbow, 45, SAE 16 - male JIC 37 x male str thd o-ring	
10	8760317	1	Elbow, 45, SAE 12 - male JIC 37 x male str thd o-ring	
11	6604882	1	Hose, .50 I.D. x 62in Long	
12	2711972	1	Hose, .38 I.D. x 53in Long	
13	8760501	1	Tee, Female Run, SAE 6 - male JIC 37 x female JIC 37, swivel	
14	8760141	1	Connector, Male Tube End w/Outlet Check, 6-6	
15	8760107	1	Connector, Straight, SAE 8 - male JIC 37 x male str thd o-ring	
16	8760493	1	Tee, Female Run, SAE 8 - male JIC 37 x female JIC 37, swivel	
17	8546407	2	Flange	
18	8303626	4	Capscrew	
19	8640208	1	O-Ring	
20	8307206	4	Washer, Flat 1/2in	
21	8307007	7	Washer, Lock 1/2in	
22	8310337	1	Bolt, Carriage 1/2-13 x 2-1/2in	
23	8305012	3	Nut, Hex 1/2-13	
24	8310178	2	Bolt, Carriage 1/2-13 x 4in	
25	8630016	1	O-Ring	
26	8584007	1	Tie Wrap, 5in - Oil Cooler Hose Support	
27	6604882	1	Hose, .50 I.D. x 62in Long	
28	8765204	1	Elbow, 90, SAE 8 - male JIC 37 x female JIC 37, swivel (8042 & 10042)	
28	8760495	1	Tee, Female Branch, SAE 8 - male JIC 37 x female JIC 37, swivel (10054 Only)	
29	8760415	1	Nut, SAE 16 - JIC 37	
30	8770159	1	Reducer, Tube End, SAE 16-8 - JIC 37	
31	8760529	1	Tee, Female Run, SAE 16 - male JIC 37 x female JIC 37, swivel	
32	8760311	1	Elbow, 90, SAE 6 - male JIC 37 x male str thd o-ring	
33	8760276	1	Elbow, 45, SAE 6 - male JIC 37 x female JIC 37, swivel	
34	8760451	1	Plug, Hex Hd, SAE 6 - male str thd o-ring	
35	8405209	1	Clamp, T-Bolt Band	
36	8303519	4	HHCS M12 x 40mm	
37	8307025	4	Washer, Lock M12	
38	8307220	4	Washer, Flat M12	

# SECTION 5 - HYDRAULIC CIRCUITS

FIGURE 5-5. BOOM RAISE/LOWER AND EXTEND/RETRACT CIRCUIT (Prior to SN 9909)



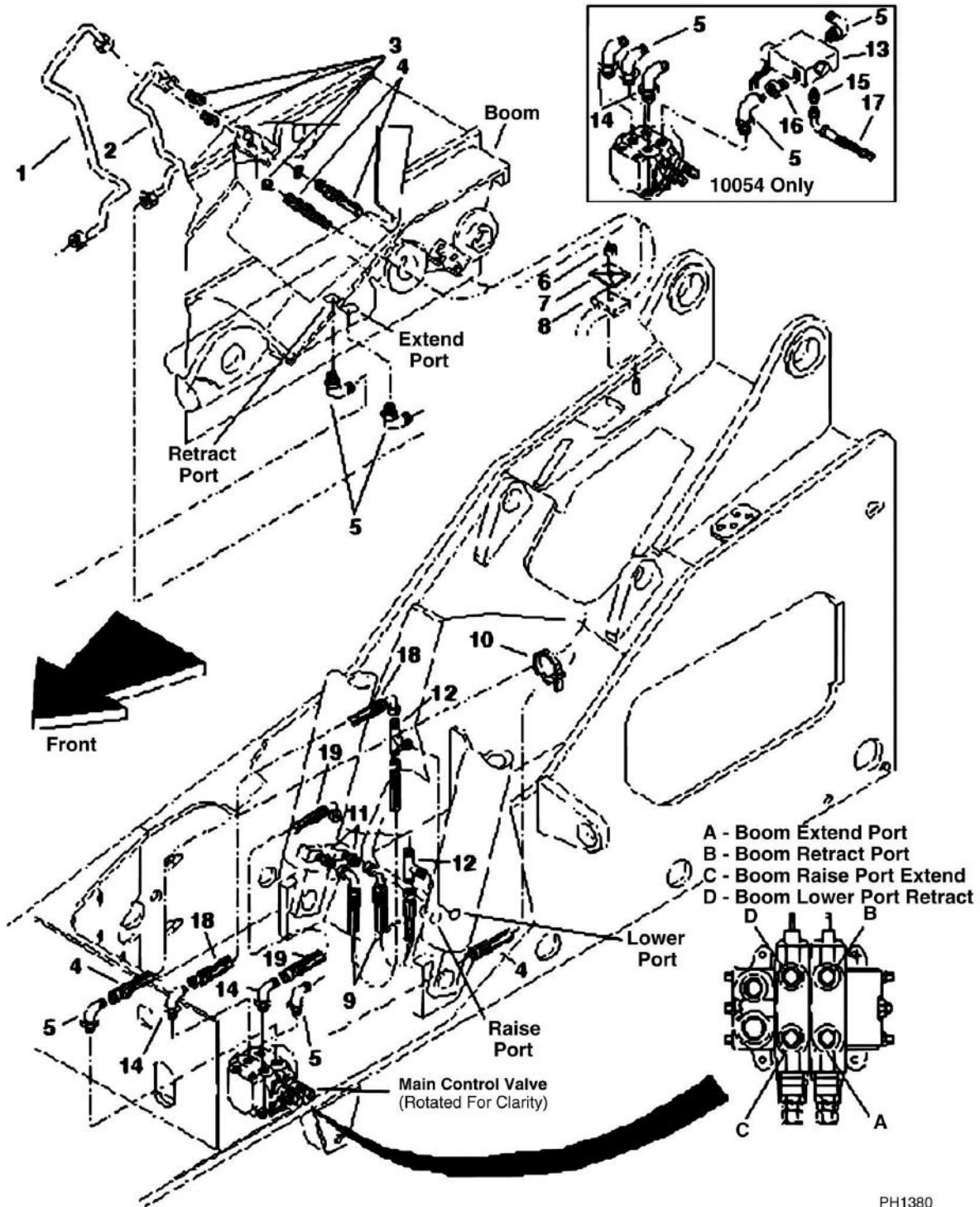
## SECTION 5 - HYDRAULIC CIRCUITS

**FIGURE 5-5. BOOM RAISE/LOWER AND EXTEND/RETRACT CIRCUIT (Prior to SN 9909)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7133802	1	Tube, Boom Ext Cyl	
2	7133812	1	Tube, Boom Ext Cyl	
3	8760039	2	Union, Bulkhead, Straight, SAE 12 - male JIC 37	
4	2713262	2	Hose, .62 I.D. x 148in Long	
5	8760305	2	Elbow, 90, SAE 12 - male JIC 37 x male str thd o-ring	
6	8305626	1	Nut, Hex Lock Elastic 5/16-18	
7	8769128	1	Cover, Clamp	
8	8769127	1	Clamp, Twin (Only half used)	
9	8760109	4	Connector, Straight, SAE 12 - male JIC 37 x male str thd o-ring (8042/10042 Only)	
9	8760109	3	Connector, Straight, SAE 12 - male JIC 37 x male str thd o-ring (10054 Only)	
10	2713282	2	Hose, .62 I.D. x 52in Long	
11	2711852	2	Hose, .50 I.D. x 21in Long	
12	8584007	1	Tie Wrap, Heavy Duty 5in	
13	8760111	2	Connector, Straight, SAE 8-12 - male JIC 37 x male str thd o-ring	
14	8760483	2	Tee, Male Branch, SAE 12 - male JIC 37 x male str thd o-ring	
15	8770030	1	Union, SAE 12 - male str thd o-ring	
16	8902251	1	Valve, Boom Extend Lockout	
17	8770012	1	Elbow, 90, SAE 6-4 - male JIC 37 x male str thd o-ring	
18	8760317	1	Elbow, 45, SAE 12 - male JIC 37 x male str thd o-ring	

# SECTION 5 - HYDRAULIC CIRCUITS

FIGURE 5-6. BOOM RAISE/LOWER AND EXTEND/RETRACT CIRCUIT (SN 9909 through 13197)



## SECTION 5 - HYDRAULIC CIRCUITS

**FIGURE 5-6. BOOM RAISE/LOWER AND EXTEND/RETRACT CIRCUIT (SN 9909 through 13197)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7133802	1	Tube, Boom Ext Cyl	
2	7133812	1	Tube, Boom Ext Cyl	
3	8760039	2	Union, Bulkhead, Straight, SAE 12 - male JIC 37	
4	7150452	2	Hose, .62 I.D. x 148in Long	
5	8760305	5	Elbow, 90, SAE 12 - male JIC 37 x male str thd o-ring	
6	8305626	1	Nut, Hex Lock Elastic 5/16-18	
7	8769128	1	Cover, Clamp	
8	8769127	1	Clamp, Twin (Only half used)	
9	2711852	2	Hose, .50 I.D. x 21in Long	
10	8584007	1	Tie Wrap, Heavy Duty 5in	
11	8760111	2	Connector, Straight, SAE 8-12 - male JIC 37 x male str thd o-ring	
12	8760483	2	Tee, Male Branch, SAE 12 - male JIC 37 x male str thd o-ring	
13	8902251	1	Valve, Boom Extend Lockout	
14	8770157	2	Elbow, Long, 90, SAE 12-12 - male JIC 37 x male str thd o-ring	
15	8760134	1	Connector, Straight, SAE 6-4 - male JIC 37 x male str thd o-ring	
16	8760138	1	Connector, Straight, SAE 12-12 - male str thd o-ring x female JIC 37, swivel	
17	2716516	1	Hose, .38 I.D. x 16in Long	
18	7150442	1	Hose, .625 I.D. x 38in Long	
19	7150432	1	Hose, .625 I.D. x 34.5in Long	



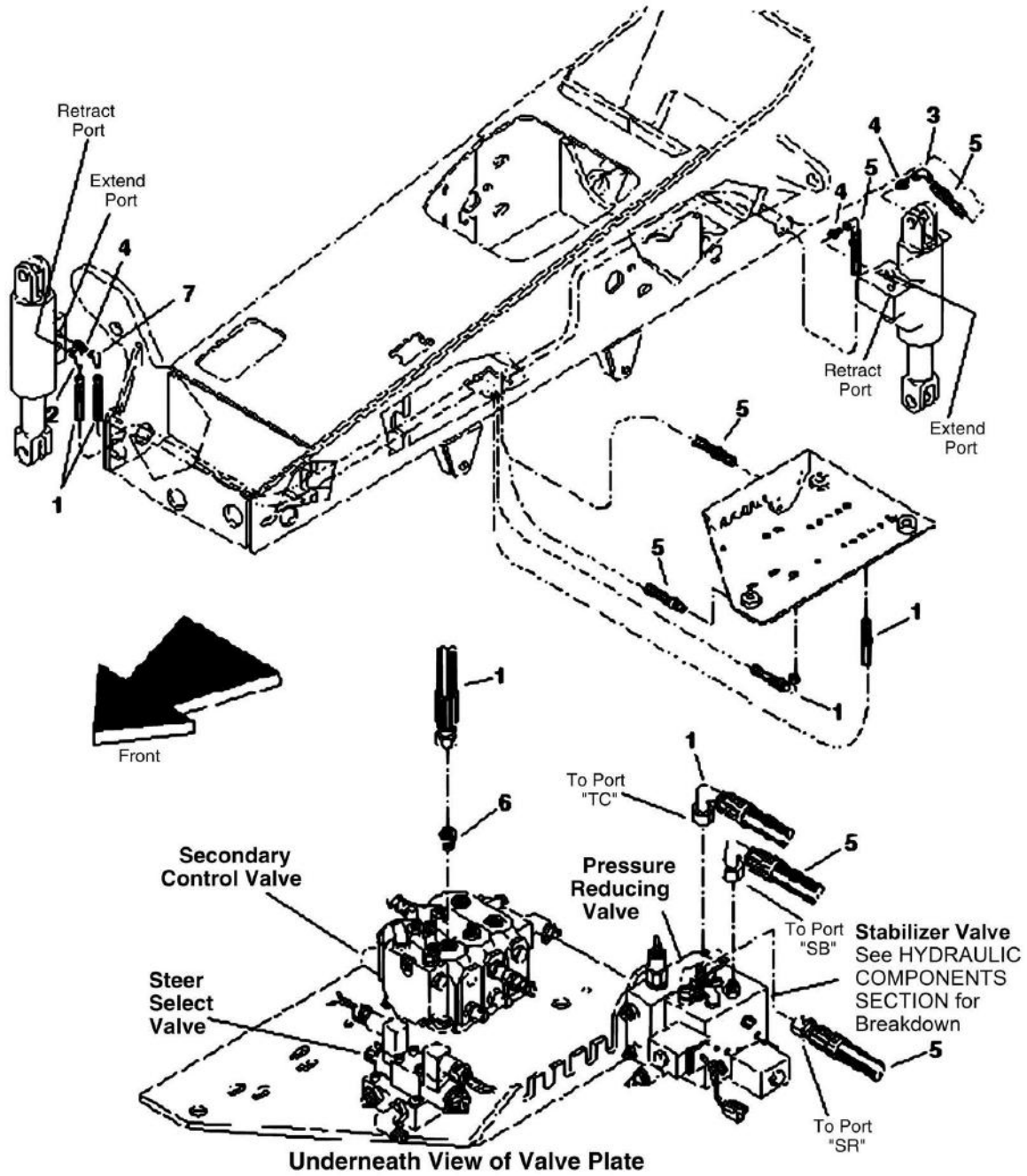
## SECTION 5 - HYDRAULIC CIRCUITS

### FIGURE 5-7. ATTACHMENT TILT AND SLAVE CIRCUIT

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	8303752	2	HHCS, 5/16-18 x 3-1/2in	
2	8307004	2	Washer, Lock 5/16in	
3	8769149	1	Cover Plate, Single Clamp	
4	8750003	4	Clamp, .62 Dia Single (8042/10042 Only)	
4	8750003	6	Clamp, .62 Dia Single (10054 Only)	
5	8769161	2	Clamp, .75 Dia Single (8042/10042 Only)	
6	2713452	2	Hose Assembly, Boom (8042/10042 Only)	
7	8303739	3	HHCS, 5/16-18 x 1-1/4in	
8	8769123	5	Cover Plate, Twin	
9	8769122	3	Clamp, .62 Dia Twin	
10	7133823	1	Tube, Boom Attachment Tilt - Retract	
11	7133833	1	Tube, Boom Attachment Tilt - Extend	
12	8760037	2	Union, Bulkhead, Straight, SAE 10 - male JIC 37	
13	2713222	2	Hose, .50 I.D. x 34in Long	
14	6605202	2	Hose, .50 I.D. x 44-1/2in Long	
15	8760477	2	Tee, Bulkhead, Male Run, SAE 8 - male JIC 37	
16	6604982	2	Hose, .50 I.D. x 22in Long	
17	8760493	2	Tee, Female Run, SAE 8 - male JIC 37 x female JIC 37, swivel	
18	2712872	2	Hose, .50 I.D. x 153in Long	
19	8760143	1	Connector, Long, SAE 8 - male JIC 37 x male str thd o-ring	
20	8760107	7	Connector, Straight, SAE 8 - male JIC 37 x male str thd o-ring (8042/10042 Only)	
20	8760107	5	Connector, Straight, SAE 8 - male JIC 37 x male str thd o-ring (10054 Only)	
21	8760307	2	Elbow, 45, SAE 8 - male JIC 37 x male str thd o-ring (10054 Only)	
22	7112452	1	Hose and Carrier Assembly (Includes Items 23 thru 25) (10054 Only)	
23	2713642	4	Hose Assembly	
24	N.S.S.	1	Carrier, Hose (For Service, Order Item 22)	
25	8584001	2	Tie Wrap	
26	8769140	1	Clamp Set, .675 twin	
27	8305626	1	Nut, Hex Lock 5/16-18	
28	8526048	AR	Sealant	
		Ref	<b>KITS</b>	
29	7117812	1	Kit, Hose Carrier Update	
		Ref	NOTE: Kit Purpose: To bring Early Production Hose Carrier (Item 24) up-to-date with solid bars in every other link instead of in every link, with poly rollers added to bars, and with adhesive patch coated screws instead of liquid sealant application.	

# SECTION 5 - HYDRAULIC CIRCUITS

## FIGURE 5-8. FRAME TILT AND STABILIZER CIRCUIT



PH0181



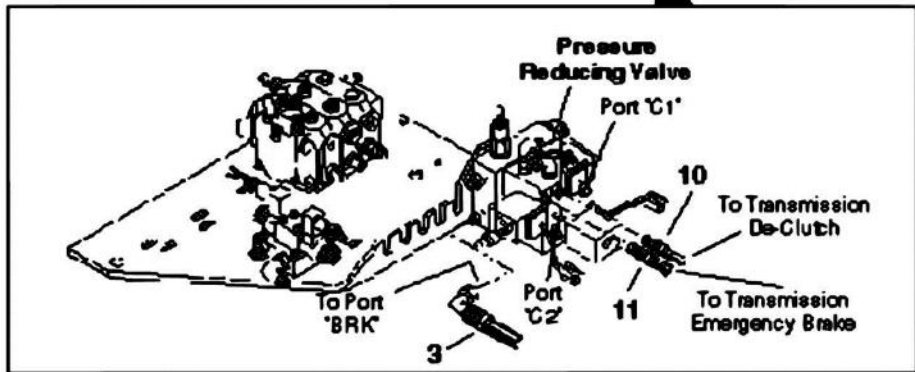
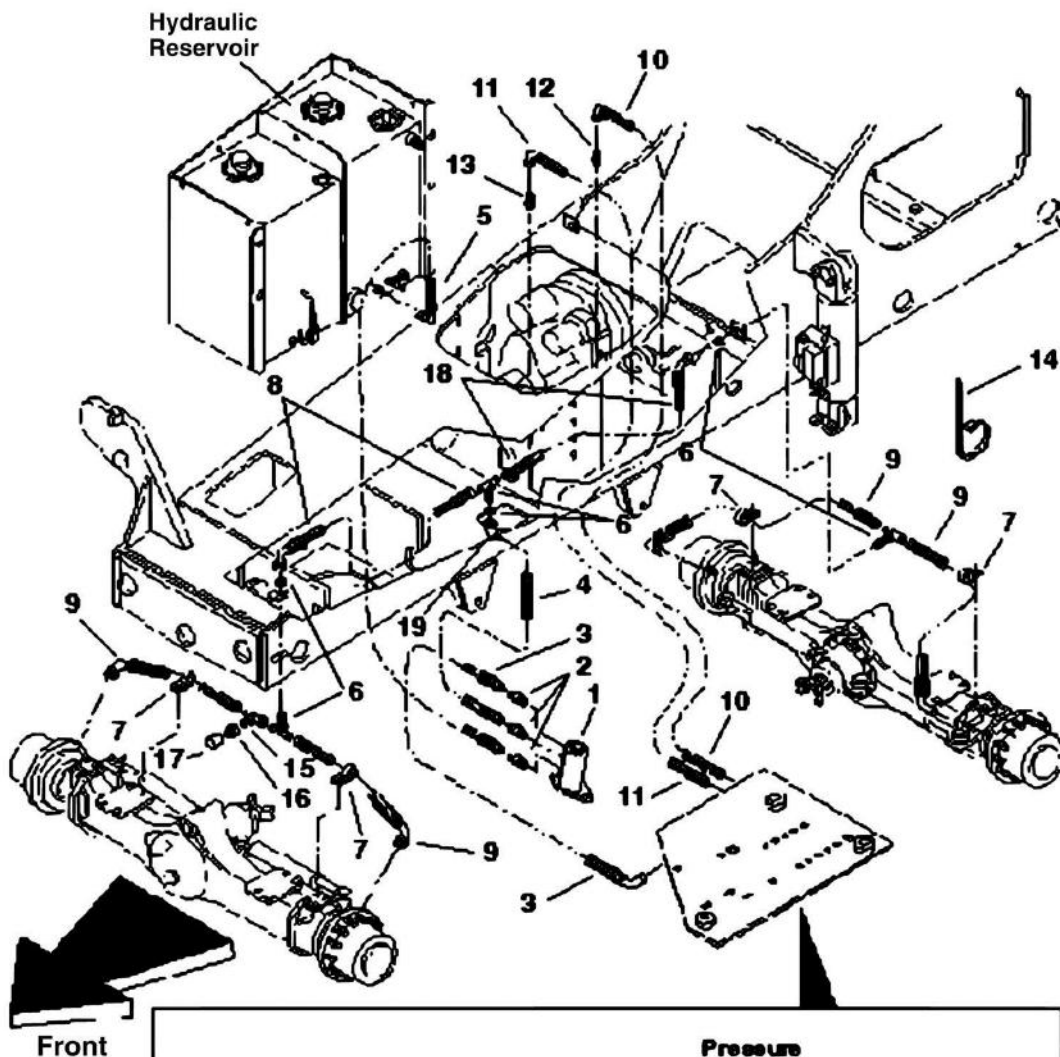
## SECTION 5 - HYDRAULIC CIRCUITS

### FIGURE 5-8. FRAME TILT AND STABILIZER CIRCUIT

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	2711892	2	Hose, .38 I.D. x 130in Long	
2	8770012	1	Elbow, 90, SAE 6-4 - male JIC 37 x male str thd o-ring	
3	8760276	1	Elbow, 45, SAE 6 - male JIC 37 x female JIC 37, swivel	
4	8760134	3	Connector, Straight, SAE 6-4 - male JIC 37 x male str thd o-ring	
5	2713332	2	Hose, .38 I.D. x 96in Long	
6	8760110	1	Connector, Straight, SAE 6-8 - male JIC 37 x male str thd o-ring	
7	8760268	1	Elbow, 90, SAE 6 - male JIC 37 x female JIC 37, swivel	

# SECTION 5 - HYDRAULIC CIRCUITS

## FIGURE 5-9. SERVICE BRAKE AND DE-CLUTCH CIRCUIT



Underneath View of Valve Plate - See VALVE PLATE ASSEMBLY for Breakdown

PH0193

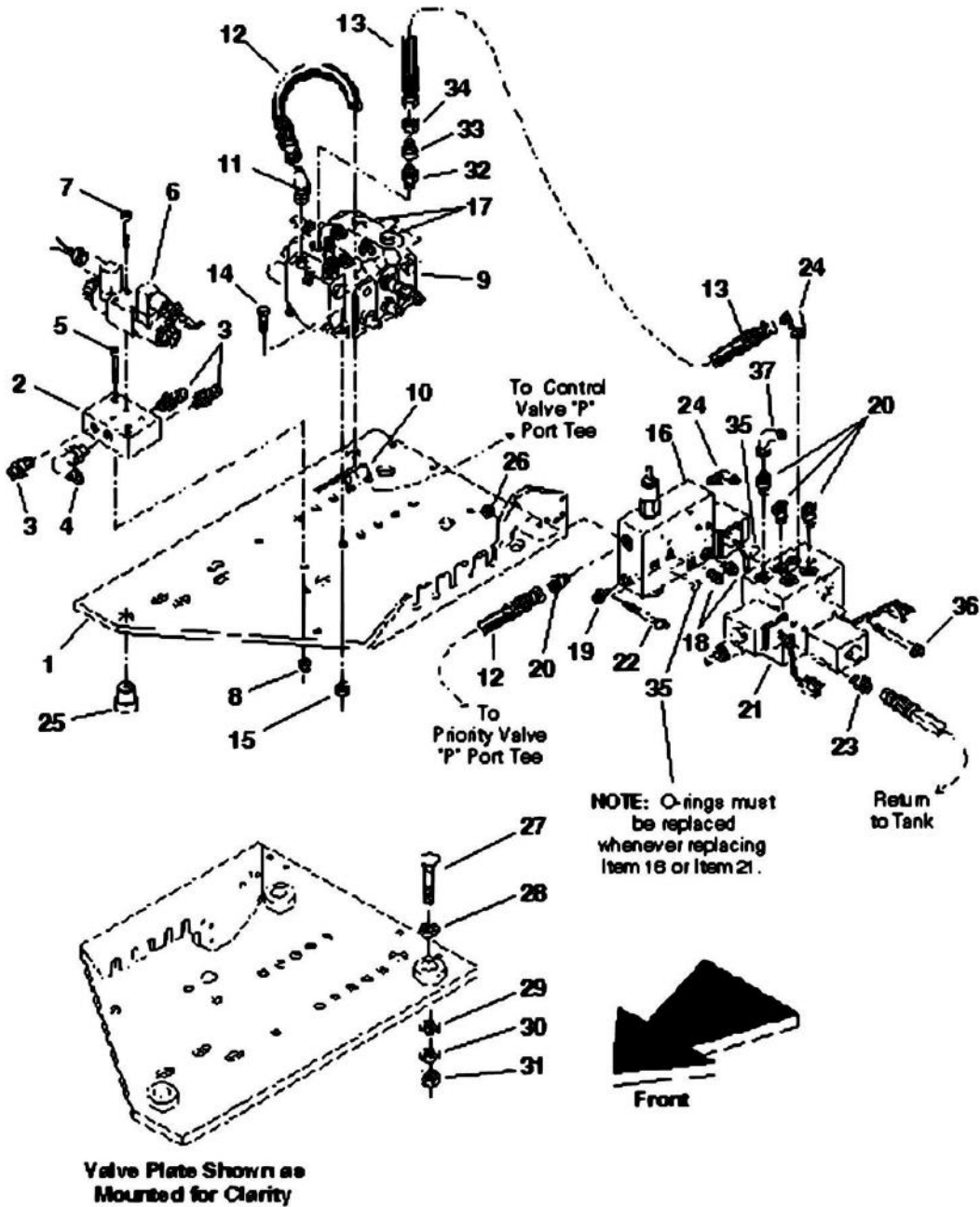
## SECTION 5 - HYDRAULIC CIRCUITS

**FIGURE 5-9. SERVICE BRAKE AND DE-CLUTCH CIRCUIT**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	NLA	1	Valve, Brake, For Service, Order P/N 8902222 <b>(Prior to SN 0654)</b>	
1	7119813	1	Kit, Brake Valve <b>(SN 0654 through 1167)</b>	
1	8902222	1	Valve, Brake <b>(SN 1168 to Present)</b>	
2	8760110	3	Connector, Straight, SAE 6-8 - male JIC 37 x male str thd o-ring	
3	2712332	1	Hose, .38 I.D. x 50in Long	
4	2705122	1	Hose, .38 I.D. x 50in Long	
5	6604972	1	Hose, .38 I.D. x 90in Long	
6	8760455	3	Tee, Bulkhead, Male Branch, SAE 6 - male JIC 37	
7	8406105	4	Clamp	
8	6605772	1	Hose, .38 I.D. x 66in Long	
9	2712092	4	Hose, .25 I.D. x 49in Long	
10	6611752	1	Hose, .25 I.D. x 52in Long	
11	6604712	1	Hose, .25 I.D. x 28in Long	
12	8760011	1	Connector, Straight, SAE 4-2P - male JIC 37 x male NPT	
13	8760113	1	Connector, Straight, SAE 4 - male JIC 37 x male str thd o-ring	
14	8584007	1	Tie Wrap, 5in (Hose Support)	
15	8760501	1	Tee, Female Run, SAE 6 - male JIC 37 x female JIC 37, swivel <b>(SN 9909 to Present)</b>	
16	8430046	1	Nipple, Diagnostic <b>(SN 9909 to Present)</b>	
17	8430032	1	Plug, Dust <b>(SN 9909 to Present)</b>	
18	2712012	1	Hose, .38 I.D. x 75in Long <b>(Prior to SN 9909)</b>	
18	6605772	1	Hose, .38 I.D. x 66in Long <b>(SN 9909 to Present)</b>	
19	8760276	1	Elbow, 45, SAE 6 - male JIC 37 x female JIC 37, swivel <b>(SN 9909 to Present)</b>	

# SECTION 5 - HYDRAULIC CIRCUITS

FIGURE 5-10. VALVE PLATE ASSEMBLY (WITHOUT OUTRIGGERS 8042 ONLY)



PH0122

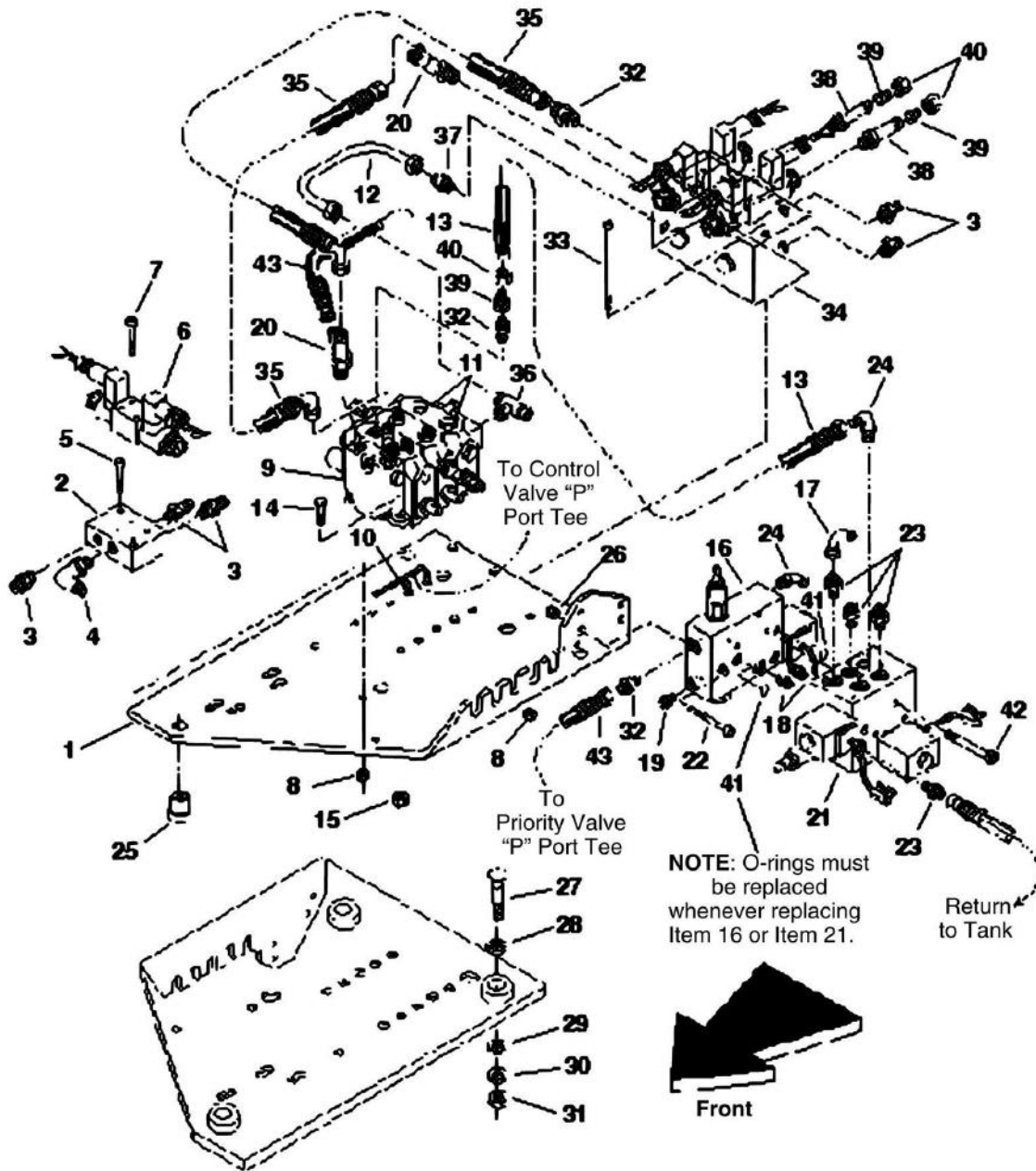
## SECTION 5 - HYDRAULIC CIRCUITS

**FIGURE 5-10. VALVE PLATE ASSEMBLY (WITHOUT OUTRIGGERS 8042 ONLY)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7098293	1	Plate, Valve Mounting	
2	8902111	1	Body, Steer Select Valve	
3	8760110	3	Connector, Straight, SAE 6-8 - male JIC 37 x male str thd o-ring	
4	8760313	1	Elbow, 90, SAE 6-8 - male JIC 37 x male str thd o-ring	
5	8304608	2	SHCS, 5/16-18 x 1-1/2in	
6	8902137	1	Valve, Steer Select (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
7	8304631	4	SCHS, #10-24 x 2in	
8	8305626	2	Nut, Lock 5/16-18	
9	7115712	1	Kit, Secondary Control Valve (Does Not Include Fittings) (See HYDRAULIC COMPONENTS SECTION for Breakdown) <b>(8042 Prior to SN 0267)</b>	
9	8902152	1	Secondary Control Valve (Does Not Include Fittings) (See HYDRAULIC COMPONENTS SECTION for Breakdown) <b>(8042 SN 0267 to Present)</b>	
10	8584001	1	Tie Wrap, 3/16in Wide x 6-11/16in Long	
11	8760303	1	Elbow, 90, SAE 8 - male JIC 37 x male str thd o-ring	
12	6604882	2	Hose, 1/2in I.D. x 62in Long	
13	6605652	1	Hose, 3/8in I.D. x 19in Long	
14	8303675	3	HHCS, 3/8-16 x 1-1/4in	
15	8305645	3	Nut, Lock 3/8-16	
16	8902255	1	Valve, Pressure Reducing (See HYDRAULIC COMPONENTS SECTION for Breakdown) <b>(Prior to SN 0654)</b>	
16	8902266	1	Valve, Pressure Reducing (See HYDRAULIC COMPONENTS SECTION for Breakdown) <b>(SN 0654 to Present)</b>	
17	8760419	2	Plug, Hex Hd, SAE 8 - male str thd o-ring	
18	8760113	2	Connector, Straight, SAE 4 - male JIC 37 x male str thd o-ring	
19	8760136	1	Connector, Straight, SAE 4-6 - male JIC 37 x male str thd o-ring	
20	8760107	1	Connector, Straight, SAE 8 - male JIC 37 x male str thd o-ring	
21	8902267	1	Valve, Axle Stabilizer (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
22	8310137	2	SHCS, 1/4-20 x 2-1/2in	
23	8760117	4	Connector, Straight, SAE 6 - male JIC 37 x male str thd o-ring	
24	8760311	2	Elbow, 90, SAE 6 - male JIC 37 x male str thd o-ring	
25	8278008	4	Isolator	
26	8305624	2	Nut, Lock 1/4-20	
27	8304042	4	Bolt, Carriage 3/8-16 x 2in	
28	8310070	4	Bolt, Retainer 3/8in	
29	7057141	4	Washer, Rebound	
30	8307005	4	Washer, Lock 3/8in	
31	8305008	4	Nut, Hex 3/8-16	
32	8760107	1	Connector, Straight, SAE 8 - male JIC 37 x male str thd o-ring	
33	8760458	1	Reducer, Tube End, SAE 8-6 - JIC 37	
34	8760407	1	Nut, SAE 8 - JIC 37	
35	8630000	2	O-Ring	
36	8310153	4	SHCS, 1/4-20 x 3in	
37	8760268	1	Elbow, 90, SAE 6 - male JIC 37 x female JIC 37, swivel	

# SECTION 5 - HYDRAULIC CIRCUITS

FIGURE 5-11. VALVE PLATE ASSEMBLY (WITH OUTRIGGERS 10042/10054 ONLY)



Valve Plate Shown as Mounted for Clarity

PH0112

## SECTION 5 - HYDRAULIC CIRCUITS

**FIGURE 5-11. VALVE PLATE ASSEMBLY (WITH OUTRIGGERS 10042/10054 ONLY)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7098293	1	Plate, Valve Mounting	
2	8902111	1	Body, Steer Select Valve	
3	8760110	5	Connector, Straight, SAE 6-8 - male JIC 37 x male str thd o-ring	
4	8760313	1	Elbow, 90, SAE 6-8 - male JIC 37 x male str thd o-ring	
5	8304608	2	SHCS, 5/16-18 x 1-1/2in	
6	8902137	1	Valve, Steer Select (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
7	8304631	4	SCHS, #10-24 x 2in	
8	8305626	4	Nut, Lock 5/16-18	
9	7115712	1	Kit, Secondary Control Valve (Does Not Include Fittings) (See HYDRAULIC COMPONENTS SECTION for Breakdown) <b>(Prior to SN 0267)</b>	
9	8902152	1	Secondary Control Valve (Does Not Include Fittings (See HYDRAULIC COMPONENTS SECTION for Breakdown) <b>(SN 0267 to Present)</b>	
10	8584001	1	Tie Wrap, 3/16in Wide x 6-11/16in Long	
11	8760419	2	Plug, Hex Hd, SAE 8 - male str thd o-ring	
12	7111122	1	Tube Assembly <b>(Prior to SN 10882)</b>	
12	2716545	1	Hose, .38 x 17 <b>(SN 10882 to Present)</b>	
13	6605652	1	Hose, 3/8in I.D. x 19in Long	
14	8303675	3	HHCS, 3/8-16 x 1-1/4in	
15	8305645	3	Nut, Lock 3/8-16	
16	8902266	1	Valve, Pressure Reducing (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
17	8760268	1	Elbow, 90, SAE 6 - male JIC 37 x female JIC 37, swivel	
18	8760113	2	Connector, Straight, SAE 4 - male JIC 37 x male str thd o-ring	
19	8760136	1	Connector, Straight, SAE 4-6 - male JIC 37 x male str thd o-ring	
20	8760510	2	Tee, Male Run, SAE 8 - male JIC 37 x male str thd o-ring	
21	8902267	1	Valve, Stabilizer (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
22	8310137	2	SHCS, 1/4-20 x 2-1/2in	
23	8760117	4	Connector, Straight, SAE 6 - male JIC 37 x male str thd o-ring	
24	8760311	2	Elbow, 90, SAE 6 - male JIC 37 x male str thd o-ring	
25	8278008	4	Isolator	
26	8305624	2	Nut, Lock 1/4-20	
27	8304042	4	Bolt, Carriage 3/8-16 x 2in	
28	8310070	4	Bolt, Retainer 3/8in	
29	8307204	4	Washer, Flat 3/8in	
30	8307005	4	Washer, Lock 3/8in	
31	8305008	4	Nut, Hex 3/8-16	
32	8760107	3	Connector, Straight, SAE 8 - male JIC 37 x male str thd o-ring	
33	8310138	2	SHCS, 5/16-18 x 4in <b>(Prior to SN 10882)</b>	
33	8310081	2	SHCS, 5/16-18 x 4 <b>(SN 10882 to Present)</b>	
34	8902141	1	Valve, Outrigger (See HYDRAULIC COMPONENTS SECTION for Breakdown) <b>(Prior to SN 10882)</b>	
34	8902193	1	Valve, Outrigger (See HYDRAULIC COMPONENTS SECTION for Breakdown) <b>(SN 10882 to Present)</b>	
35	2713322	2	Hose, 1/2in I.D. x 35in Long	
36	8760459	1	Tee, Female Branch, SAE 6-6 - male JIC 37 x female JIC 37, swivel	
37	8760117	1	Connector, Straight, SAE 6 - male JIC 37 x male str thd o-ring <b>(Prior to SN 10882)</b>	
37	8760141	1	Connector, Male Tube End w/Outlet Check, 6-6 <b>(SN 10882 to</b>	

## SECTION 5 - HYDRAULIC CIRCUITS

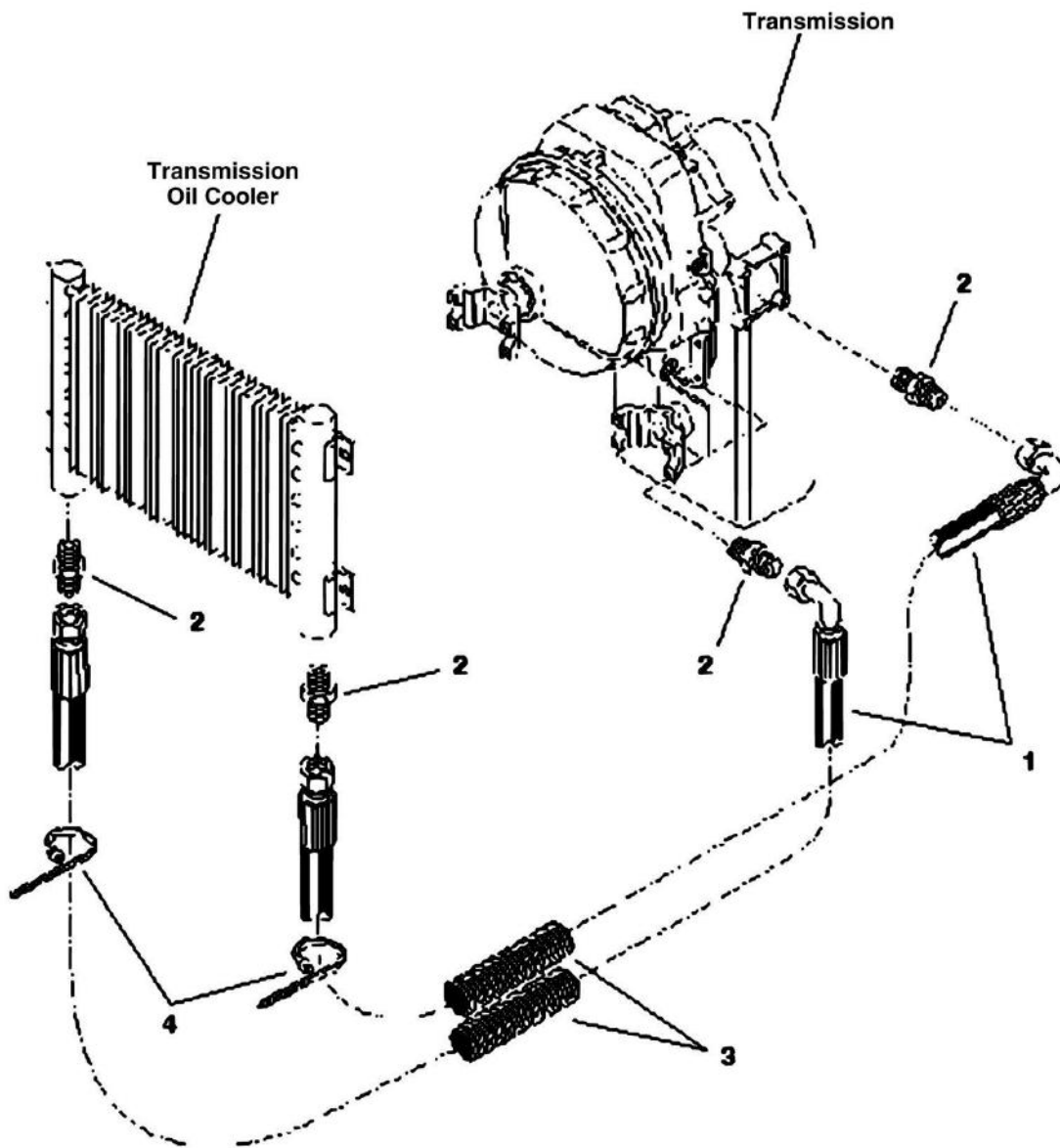
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
38	8760143	2	<b>Present)</b> Connector, Long, SAE 8 - male JIC 37 x male str thd o-ring <b>(Prior to SN 10882)</b>	
38	8760117	2	Connector, Straight, SAE 6 - male JIC 37 x male str thd o-ring <b>(SN 10882 to Present)</b>	
39	8760458	3	Reducer, Tube End, SAE 8-6 - JIC 37, <b>(Prior to SN 10882)</b>	
39	8760460	2	Reducer, SAE 8-6 - male str thd o-ring x female internal o-ring boss <b>(SN 10882 to Present)</b>	
40	8760407	3	Nut, SAE 8 - JIC 37, <b>(Prior to SN 10882)</b>	
41	8630000	2	O-Ring	
42	8310153	4	SHCS, 1/4-20 x 3in	
43	6604882	2	Hose, 1/2in I.D. x 62in Long	





# SECTION 5 - HYDRAULIC CIRCUITS

FIGURE 5-12. TRANSMISSION COOLING CIRCUIT (Prior to SN 9909)



PH0202

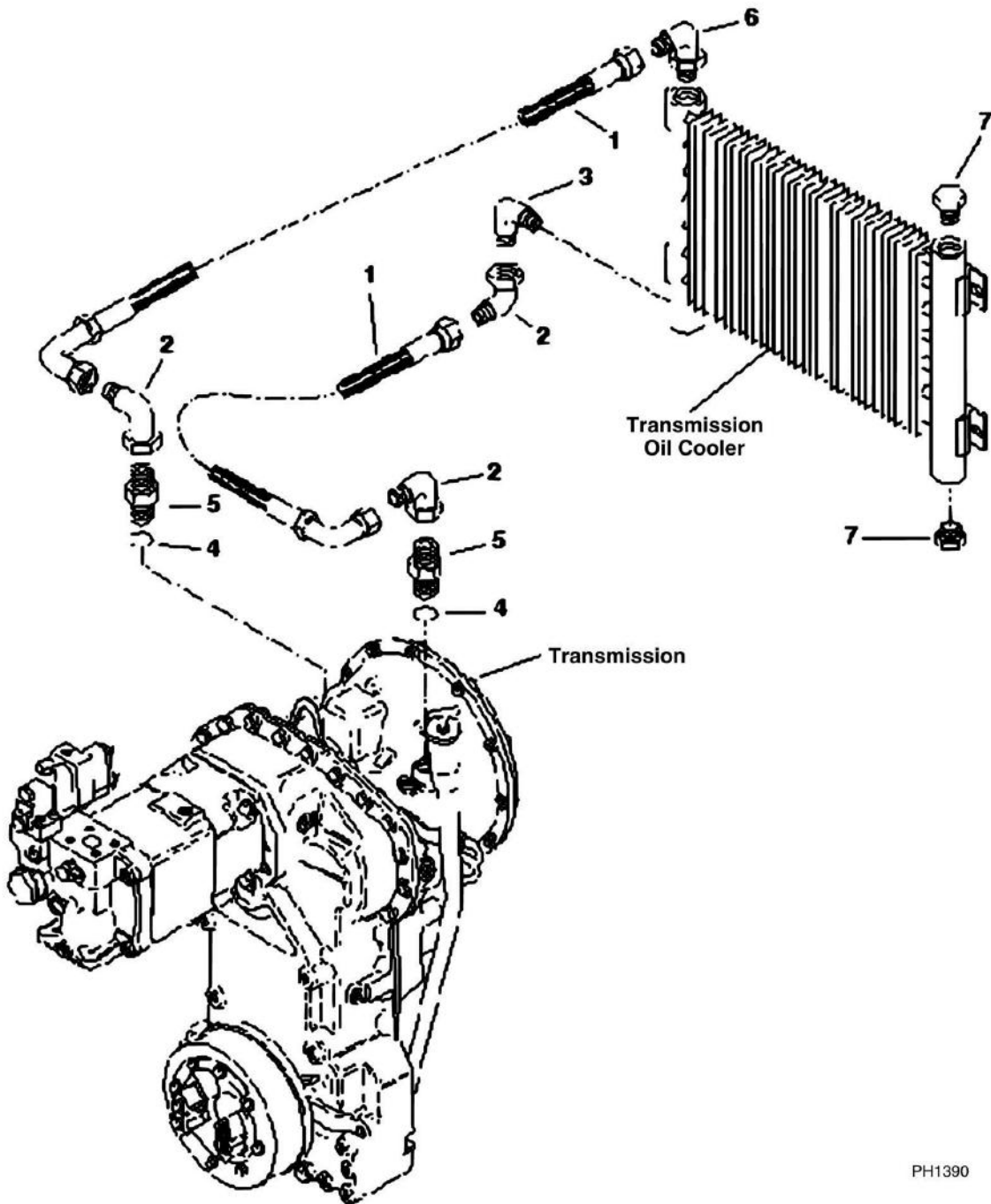
## SECTION 5 - HYDRAULIC CIRCUITS

**FIGURE 5-12. TRANSMISSION COOLING CIRCUIT (Prior to SN 9909)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	6604912	2	Hose, .75 I.D. x 113in Long	
2	8760109	4	Connector, Straight, SAE 12 - male JIC 37 x male str thd o-ring	
3	7124471	2	Conduit, 1 I.D. x 12.5in	
4	8584007	2	Tie, plastic, .5 x 20.1in	

# SECTION 5 - HYDRAULIC CIRCUITS

FIGURE 5-13. TRANSMISSION COOLING CIRCUIT (SN 9909 through 13197)



PH1390

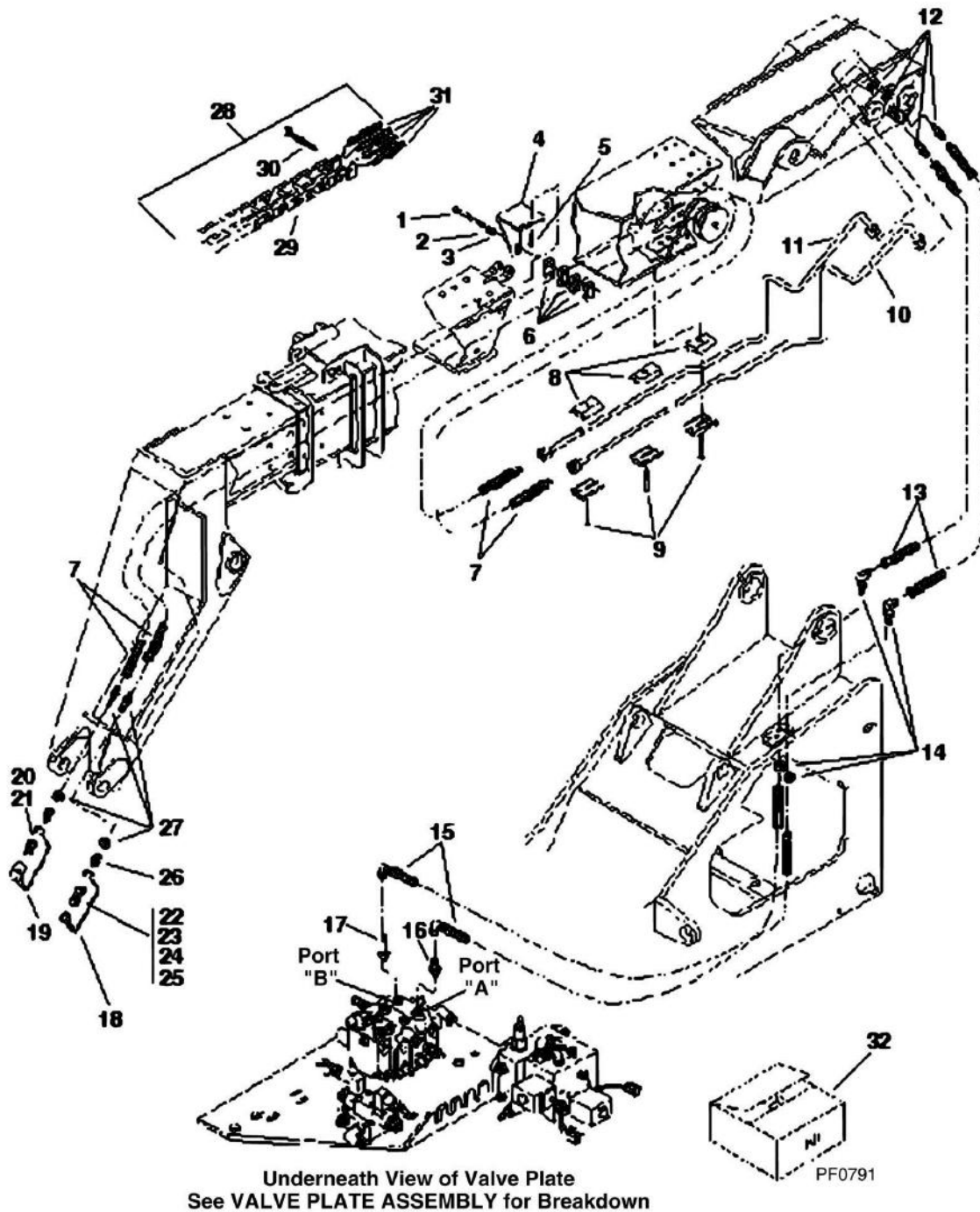
## SECTION 5 - HYDRAULIC CIRCUITS

FIGURE 5-13. TRANSMISSION COOLING CIRCUIT (SN 9909 through 13197)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7150282	2	Hose, .75 I.D. x 105in Long	
2	8760254	3	Elbow, 90, SAE 12 - male JIC 37 x female JIC 37, swivel	
3	8760305	1	Elbow, 90, SAE 12 - male JIC 37 x male str thd o-ring	
4	8630017	2	O-Ring, 23mm x 2mm	
5	8770158	2	Connector, M26 x 12 - 37, Flare	
6	8770157	1	Elbow, Long, 90, SAE 12-12 - male JIC 37 x male str thd o-ring	
7	8760431	2	Plug, Hex Hd, SAE 12 - male str thd o-ring	

# SECTION 5 - HYDRAULIC CIRCUITS

## FIGURE 5-14. AUXILIARY HYDRAULIC CIRCUIT (OPTIONAL)



PH0212

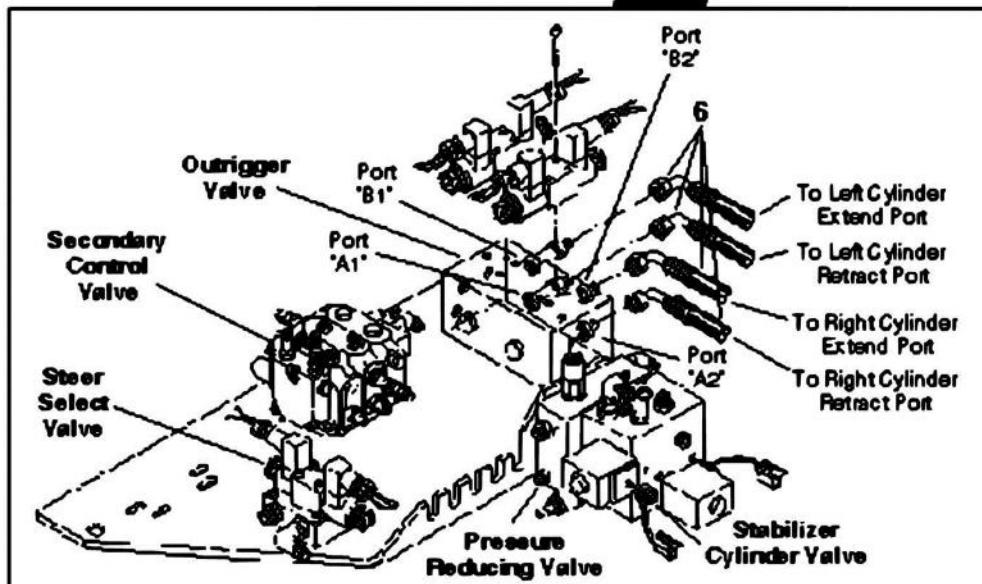
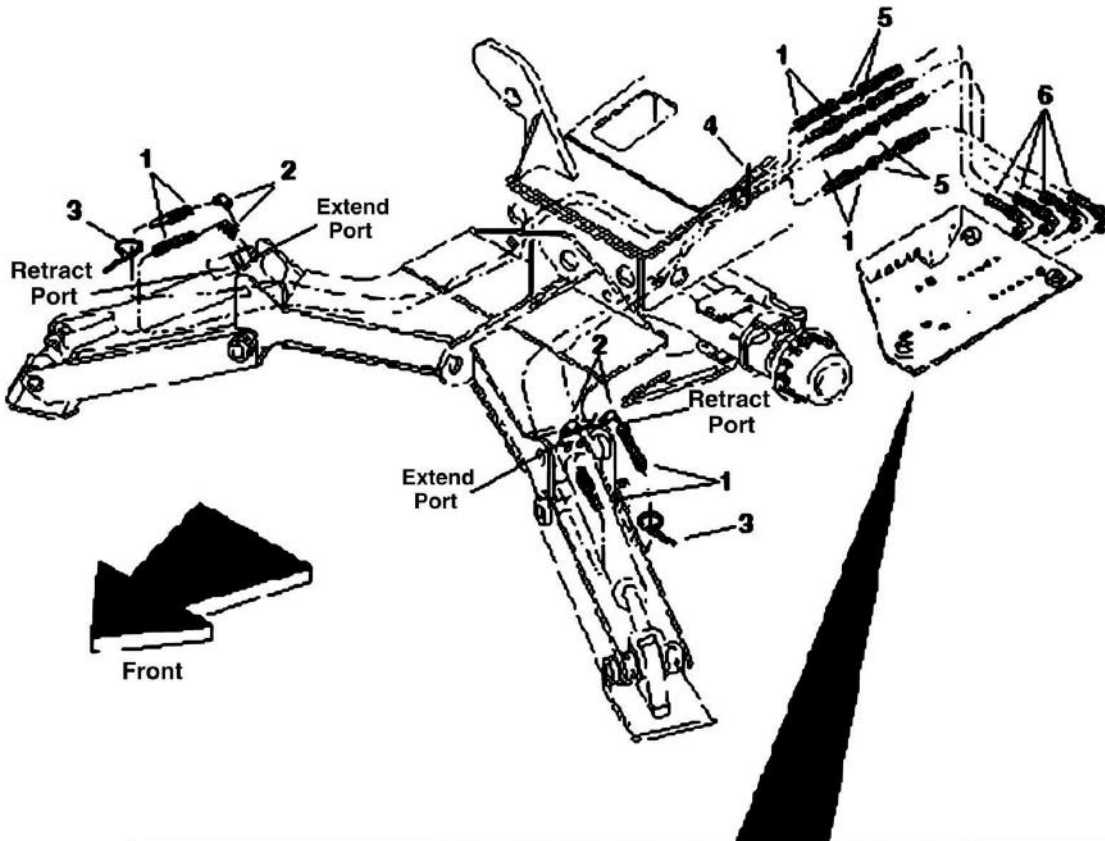
## SECTION 5 - HYDRAULIC CIRCUITS

### FIGURE 5-14. AUXILIARY HYDRAULIC CIRCUIT (OPTIONAL)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	8310081	2	HHCS, 5/16-18 x 5in	
2	8307004	2	Washer, Lock .31in	
3	8307203	2	Washer, Flat 5/16in Heavy	
4	7111402	1	Support, Clamp	
5	8303679	2	HHCS, 3/8-16 x 1-3/4in (8042/10042 Only)	
5	8303622	2	HHCS, 3/8-16 x 2in (10054 Only)	
6	8769161	2	Clamp, Single .75 I.D. (8042/10042 Only)	
6	8750003	2	Clamp, Single .62 I.D. (10054 Only)	
7	2713082	2	Hose, .50 I.D. x 426in Long (8042/10042 Only)	
8	8769122	3	Clamp, Twin .62 I.D. (Two Halves)	
9	8303757	3	HHCS, 5/16-18 x 2-1/2in	
10	7133843	1	Tube Assembly	
11	7133853	1	Tube Assembly	
12	8760037	2	Union, Bulkhead, Straight, SAE 10 - male JIC 37	
13	2713212	2	Hose, .50 I.D. x 30in Long	
14	8760264	2	Elbow, 90, Bulkhead, SAE 8 - male JIC 37	
15	2712872	2	Hose, .50 I.D. x 153in Long	
16	8760107	1	Connector, Straight, SAE 8 - male JIC 37 x male str thd o-ring	
17	8760143	1	Connector, Long, SAE 8 - male JIC 37 x male str thd o-ring	
18	8420055	1	Plug, Dust #8	
19	8420053	1	Cap, Dust #8	
20	8430006	1	Quick Disconnect, Male, SAE 8-8ORB - female internal (Includes Item 21)	
21	8640029	1	Seal, Nose (Not Shown)	
22	8430005	1	Quick Disconnect, Female, SAE 8-8ORB - female internal (Includes Items 23 thru 25)	
23	8640029	1	Seal, Nose (Not Shown)	
24	8640028	1	Seal, Coupler Body (Not Shown)	
25	8640032	1	Back-Up Ring, Coupler Body Seal (Not Shown)	
26	8760142	2	Connector, Straight, SAE 8-8 - male str thd o-ring x female JIC 37, swivel	
27	8760045	2	Union, Bulkhead, Straight, SAE 8 - male JIC 37	
28	7112452	1	Hose and Carrier Assembly (Includes Items 29 thru 31) (10054 Only)	
29	N.S.S.	1	Carrier, Hose (For Service, Order Item 28)	
30	8584001	2	Tie Wrap	
31	2713642	4	Hose Assembly	
32	7117812	1	Kit, Hose Carrier Update	
Ref		Ref	<p><b>KITS</b></p> <p>NOTE: Kit Purpose: To bring Early Production Hose Carrier (Item 29) up-to-date with solid bars in every other link instead of in every link, with poly rollers added to bars, and with adhesive patch coated screws instead of liquid sealant application.</p>	

# SECTION 5 - HYDRAULIC CIRCUITS

FIGURE 5-15. OUTRIGGER HYDRAULIC CIRCUIT (10042/10054 ONLY)



Underneath View of Valve Plate  
See VALVE PLATE ASSEMBLY for Breakdown

PH0412



## SECTION 5 - HYDRAULIC CIRCUITS

**FIGURE 5-15. OUTRIGGER HYDRAULIC CIRCUIT (10042/10054 ONLY)**

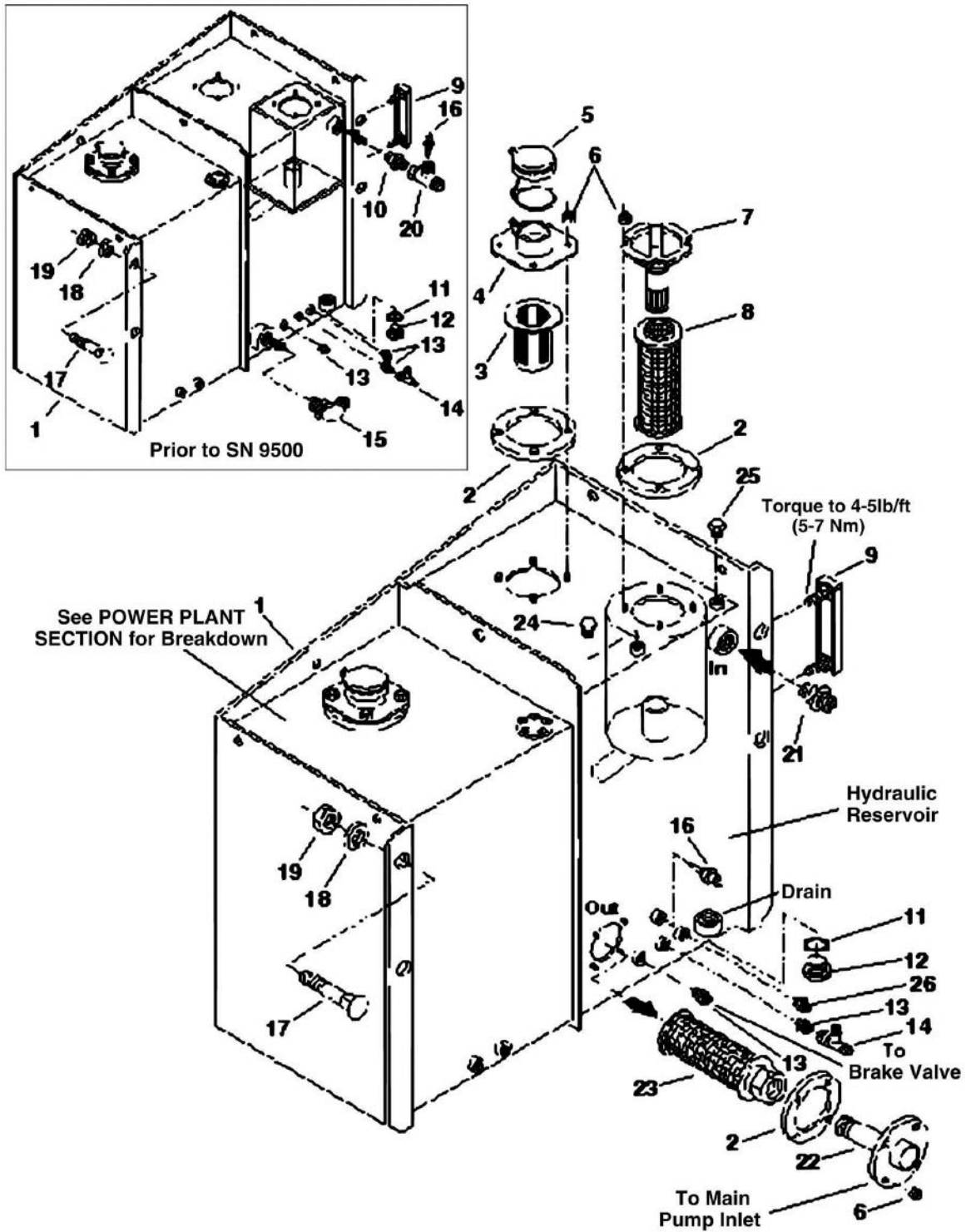
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	2711982	4	Hose Assembly, 3/8in I.D.	
2	8760311	4	Elbow, 90, SAE 6 - male JIC 37 x male str thd o-ring	
3	8584001	2	Tie Wrap (10054 Only)	
4	8584003	1	Tie Wrap	
5	8760029	4	Union, SAE 6 - male JIC 37	
6	2712952	4	Hose Assembly, 3/8in I.D.	



**SECTION 6 - HYDRAULIC COMPONENTS**

# SECTION 6 - HYDRAULIC COMPONENTS

## FIGURE 6-1. HYDRAULIC RESERVOIR



PH0103

## SECTION 6 - HYDRAULIC COMPONENTS

**FIGURE 6-1. HYDRAULIC RESERVOIR**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	NLA	1	Tank, Fuel and Hydraulic (For Service, Order P/N 7136034) <b>(Prior to SN 9500)</b>	
1	7136034	1	Tank, Fuel and Hydraulic <b>(SN 9500 to Present)</b>	
2	NLA	2	Gasket (For Service, Order P/N 7138209) <b>(Prior to SN 9500)</b>	
2	7138209	3	Gasket <b>(SN 9500 to Present)</b>	
3	NLA	1	Screen, Fill Neck (For Service, Order P/N 8322022)	
4	NLA	1	Neck, Filler/Breather (For Service, Order P/N 8322022 & 7138714) <b>(Prior to SN 9500)</b>	
4	7138714	1	Neck, Filler/Breather <b>(SN 9500 to Present)</b>	
5	NLA	1	Cap, Filler (For Service, Order P/N 8322022) <b>(Prior to SN 9500)</b>	
5	8322029	1	Cap, Filler <b>(SN 9500 to Present)</b>	
6	8305626	8	Nut, Hex Lock Elastic 5/16-18 <b>(Prior to SN 9500)</b>	
6	8305626	12	Nut, Hex Lock Elastic 5/16-18 <b>(SN 9500 to Present)</b>	
7	7094562	1	Head, Filter (with by-pass)	
8	8320265	1	Element, Hydraulic Oil Filter	
9	8464012	1	Gauge, Sight	
10	8760118	1	Connector, Straight, SAE 12-16 - male JIC 37 x male str thd o-ring <b>(Prior to SN 9500)</b>	
11	8640903	1	O-Ring	
12	8541435	1	Plug, Magnetic, Hex Hd, 1in str thd	
13	8760110	2	Connector, Straight, SAE 6-8 - male JIC 37 x male str thd o-ring <b>(SN 9500 to Present)</b>	
13	8760110	3	Connector, Straight, SAE 6-8 - male JIC 37 x male str thd o-ring <b>(Prior to SN 9500)</b>	
14	8760501	1	Tee, Female Run, SAE 6 - male JIC 37 x female JIC 37, swivel	
15	8760351	1	Elbow, 45, SAE 24 - male JIC 37 x male str thd o-ring <b>(Prior to SN 9500)</b>	
16	8223217	1	Switch, Hydraulic Temperature - 210F <b>(Prior to SN 9500)</b>	
16	8223226	1	Switch, Hydraulic Temperature - 195F <b>(SN 9500 to Present)</b>	
17	8310129	4	Bolt, Carriage 5/8-11 x 2-1/2in	
18	8307009	4	Washer, Lock 5/8in	
19	8305014	4	Nut, Hex 5/8-11	
20	7098271	1	Tee, Swivel #12 Ported <b>(Prior to SN 9500)</b>	
21	8760102	1	Connector, Straight, SAE 16 - male JIC 37 x male str thd o-ring <b>(SN 9500 to Present)</b>	
22	7138164	1	Tube Assembly <b>(SN 9500 to Present)</b>	
23	8324029	1	Strainer <b>(SN 9500 to Present)</b>	
24	8760419	1	Plug, Hex Hd, SAE 8 - male str thd o-ring <b>(SN 9500 to Present)</b>	
25	8760451	1	Plug, Hex Hd, SAE 6 - male str thd o-ring <b>(SN 9500 to Present)</b>	
26	8760107	1	Connector, Straight, SAE 8 - male JIC 37 x male str thd o-ring <b>(SN 9500 to Present)</b>	



## SECTION 6 - HYDRAULIC COMPONENTS

**FIGURE 6-2. MAIN PUMP (Prior to SN 9909)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	8444223	1	Pump, Complete (Includes Items 2 thru 54) (Also must order 7135391 Kit, Relief Valve Hoist/Extend)	
2	8033896	1	Snap Ring	
3	8033897	1	Ball Bearing	
4	8033898	1	Snap Ring	
5	8033899	1	Snap Ring	
6	8033900	1	Shaft Seal	
7	8033901	1	Shaft, Spline	
8	8033902	2	Plug	
9	8033903	3	Plug	
10	8033904	1	Housing, Right Side	
11	8033905	1	O-Ring	
12	8033906	1	Back-up Ring	
13	8033907	1	Back-up Ring	
14	8033908	1	O-Ring	
15	8033909	1	Back-up Ring	
16	8033910	1	O-Ring	
17	8033911	1	Spool	
18	8033912	1	Sleeve	
19	8034818	1	Cap and Plug Assembly	
20	8033914	1	Ball	
21	8033959	1	O-Ring	
22	8033916	1	Cap Assembly, Airbleed	
23	8033917	2	Roll Pin	
24	8033918	1	O-Ring	
25	8033919	1	Port Plate, CW	
26	8033920	1	Barrel	
27	8033921	2	Retainer	
28	8033922	1	Spring, Barrel	
29	8033923	1	Ball Seat	
30	8033924	1	Retainer, Slipper	
31	8033925	7	Piston Assembly	
32	8033926	1	Piston, Servo	
33	8033927	1	O-Ring	
34	8033928	1	Swash Plate	
35	8033929	1	Housing, Trunion	
36	8033930	2	Thrust Washer	
37	8033931	2	Trunion Cap	
38	8033932	2	Needle Bearing	
39	8033933	2	O-Ring	
40	8033934	2	Snap Ring	
41	8033935	4	HHCS	
42	8033936	2	HHCS	
43	8033937	1	Plug	
44	8033938	1	Pin, Trunion	
45	8033939	1	Plug, Servo	
46	8034812	1	Screw Assembly, Adjusting	
47	8033952	1	Cap, Differential	
48	8033953	AR	Shim, Differential	
49	8033954	AR	Shim, Differential	

## SECTION 6 - HYDRAULIC COMPONENTS

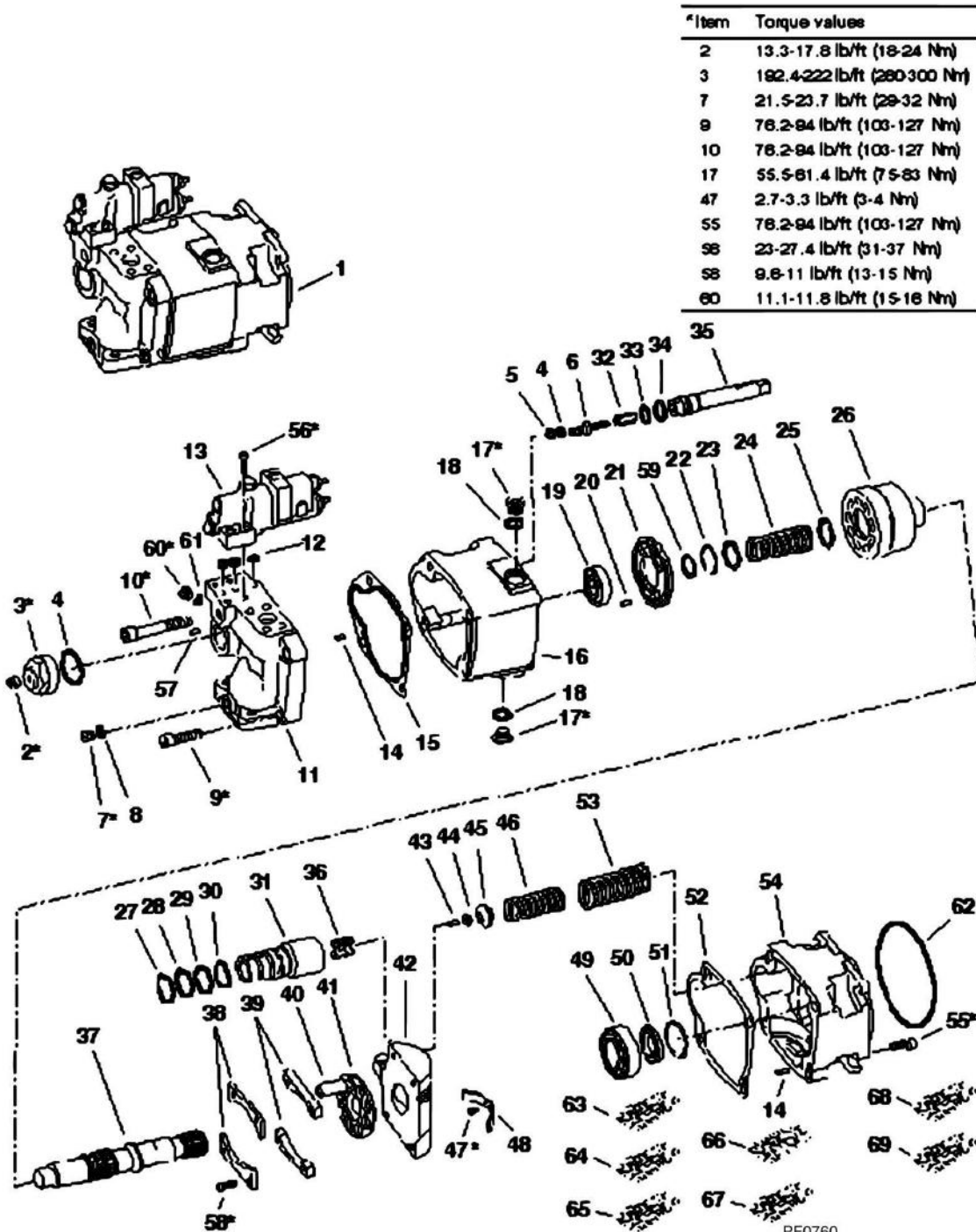
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
50	8033955	1	Piston	
51	8033956	1	Spring, Modulator	
52	8033957	1	Spring, Retaining	
53	8033958	1	Spring, Servo	
54	8033913	1	O-Ring	
55	7099072	1	Gasket, Mounting	
		Ref	<b>KITS</b>	
56	8032752	1	Kit, Seal	
57	7136374	1	Kit, Retrofits to a Current Production Pump (Includes Pump, Hoses, Hardware and Instructions) <b>(Prior to SN 9500)</b>	
58	7138340	1	Kit, Retrofits to a Current Production Pump (Includes Pump, Hoses, Hardware and Instructions) <b>(SN 9500 through 9908)</b>	





# SECTION 6 - HYDRAULIC COMPONENTS

FIGURE 6-3. MAIN PUMP (SN 9909 through 13197)



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PH1221

## SECTION 6 - HYDRAULIC COMPONENTS

**FIGURE 6-3. MAIN PUMP (SN 9909 through 13197)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	8444227		Pump, Piston, Complete (Includes Items 2 thru 61)	
2	8035567	1	Nut, Jam	
3	8035568		Cap (S Stop)	
3	8035569		Cap (F Stop)	
4	N.S.S.	1	O-Ring (Order Item 64)	
5	N.S.S.	1	Ring, Backup (Order Item 64)	
6	8035570	1	Screw, Adjustment	
7	8035571	2	Plug, SAE Gage Port	
7	8035572	2	Plug, ISO Gage Port	
8	N.S.S.	2	O-Ring (Order Item 64)	
9	8035573	3	Screw	
10	8035574	1	Screw	
11	8035575	1	Block, Valve	
12	N.S.S.	3	O-Ring (Order Item 64)	
13	N.S.S.	1	Subassembly, Control (Order Item 63)	
14	8035577	4	Pin	
15	N.S.S.	1	Gasket (Order Item 64)	
16	8035578	1	Housing	
17	8035579	2	Plug, Drain	
18	8035580	2	O-Ring	
19	N.S.S.	1	Bearing (Order Item 67)	
20	8035581	1	Pin	
21	8035582	1	Plate, Valve	
22	N.S.S.	1	Ring, Retaining (Order Item 65)	
23	N.S.S.	1	Guide, Spring (Order Item 65)	
24	N.S.S.	1	Spring (Order Item 65)	
25	N.S.S.	1	Guide, Spring (Order Item 65)	
26	N.S.S.	1	Block, Cylinder (Order Item 65)	
27	N.S.S.	1	Ring, Backup (Order Item 64)	
28	N.S.S.	1	O-Ring (Order Item 64)	
29	N.S.S.	1	O-Ring (Order Item 64)	
30	N.S.S.	1	Ring, Backup (Order Item 64)	
31	8035583	1	Sleeve, Control	
32	8035584	1	Nut, Hex	
33	N.S.S.	1	O-Ring (Order Item 64)	
34	N.S.S.	1	Ring, Glide (Order Item 64)	
35	8035585	1	Piston, Control	
36	8035586	1	Link, Chain	
37	8035587	1	Shaft	
38	N.S.S.	2	Plate, Limiter (Order Item 65)	
39	N.S.S.	2	Spacer (Order Item 65)	
40	N.S.S.	9	Subassembly, Piston and Shoes (Order Item 65)	
41	N.S.S.	1	Cage, Shoe (Order Item 65)	
42	N.S.S.	1	Yoke (Order Item 66)	
43	N.S.S.	1	Pin (Order Item 66)	
44	8035588	1	Button	
45	N.S.S.	1	Seat (Order Item 66)	
46	8035589	1	Spring	
47	N.S.S.	2	Screw (Order Item 66)	
48	N.S.S.	2	Bearing, Saddle (Order Item 66)	

## SECTION 6 - HYDRAULIC COMPONENTS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
49	N.S.S.	1	Bearing (Order Item 67)	
50	N.S.S.	1	Seal, Shaft (Order Item 68)	
51	N.S.S.	1	Ring, Retaining (Order Item 68)	
52	N.S.S.	1	Gasket (Order Item 64)	
53	8035590	1	Spring	
54	8035591	1	Flange	
55	8035592	4	Screw	
56	8035593	4	Screw	
57	8035595	1	Pin	
58	8035596	4	Screw	
59	N.S.S.	1	Spacer, Shaft (Order Item 69)	
60	8035597	2	Plug	
61	8035598	2	O-Ring	
62	8630016	1	O-Ring, 130mm x 3mm	
		Ref	<b>KITS</b>	
63	8035560	1	Kit, Control	
64	8035561	1	Kit, Seal	
65	8035562	1	Kit, Rotating Group	
66	8035563	1	Kit, Yoke and Saddle Bearing	
67	8035564	1	Kit, Shaft Bearing	
68	8035565	1	Kit, Shaft Seal	
69	8035566	1	Kit, Shaft Spacer	

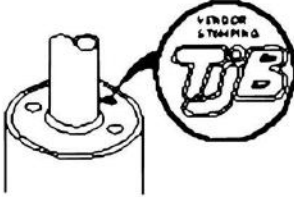


# SECTION 6 - HYDRAULIC COMPONENTS

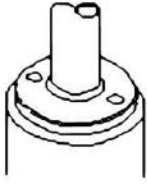
FIGURE 6-4. BOOM EXTEND CYLINDER (EARLY PRODUCTION)

IMPORTANT:

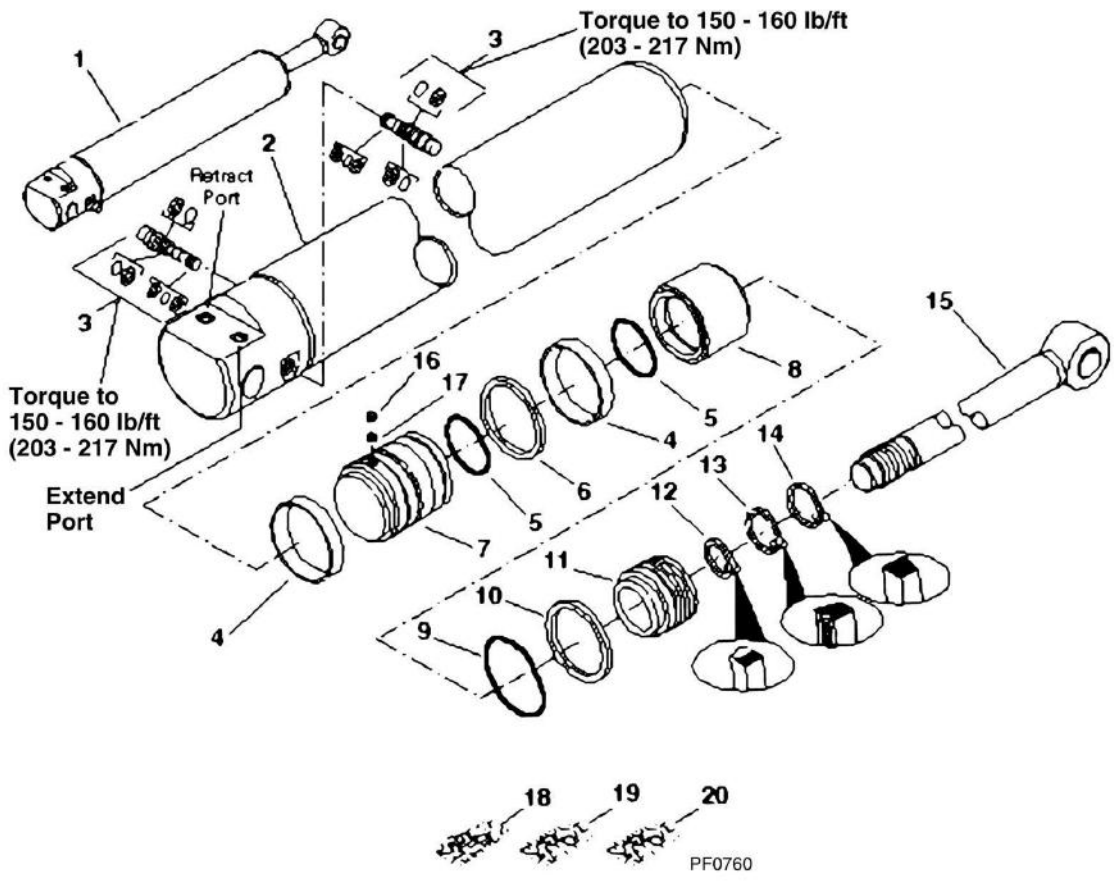
There are two similar but distinctly different Boom Extend Cylinders. Make sure you know which version you have before ordering replacement parts. On 'Early Production' cylinders, the gland is installed flush with the cylinder tube and has "TJB" stamped on the gland. On the 'Current Production' cylinders, the gland has a lip that bottoms out against the cylinder tube.



EARLY PRODUCTION



CURRENT PRODUCTION



PF0760

PH0342

## SECTION 6 - HYDRAULIC COMPONENTS

**FIGURE 6-4. BOOM EXTEND CYLINDER (EARLY PRODUCTION)**

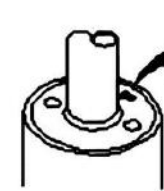
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	NLA	1	Cylinder, Boom Extend (Includes Items 2 thru 17) (For Service, Order P/N 2716173)	
2	N.S.S.	1	Tube, Cylinder (Serviced Only in Boom Extend Cylinder Item 1)	
3	8902261	2	Valve, Counterbalance - preset to 3500 psi (See Kits)	
4	See Kits	2	Wear Ring	
5	See Kits	2	O-Ring	
6	See Kits	1	Seal, Piston	
7	8033734	1	Piston	
8	8033735	1	Tube, Stop	
9	See Kits	1	O-Ring	
10	See Kits	1	Ring, Backup	
11	8033732	1	Gland	
12	See Kits	1	Seal, Rod	
13	See Kits	1	Seal, Rod	
14	See Kits	1	Wiper	
15	8033733	1	Rod	
16	8033737	1	Screw, Set	
17	8033738	1	Screw, Cone Point Set	
		Ref	<b>KITS</b>	
18	8035513	1	Seal Kit, Services Both Early and Current Production Cylinders	
19	8205657	1	Seal Kit, Counterbalance Valve (Includes 3 O-Rings & 4 Backup Rings)	
20	8035247	1	Seal Kit, Gland Static Seal (Includes Items 5, 9 & 10)	

# SECTION 6 - HYDRAULIC COMPONENTS

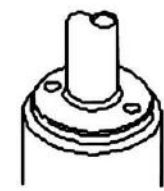
FIGURE 6-5. BOOM EXTEND CYLINDER (CURRENT PRODUCTION)

IMPORTANT:

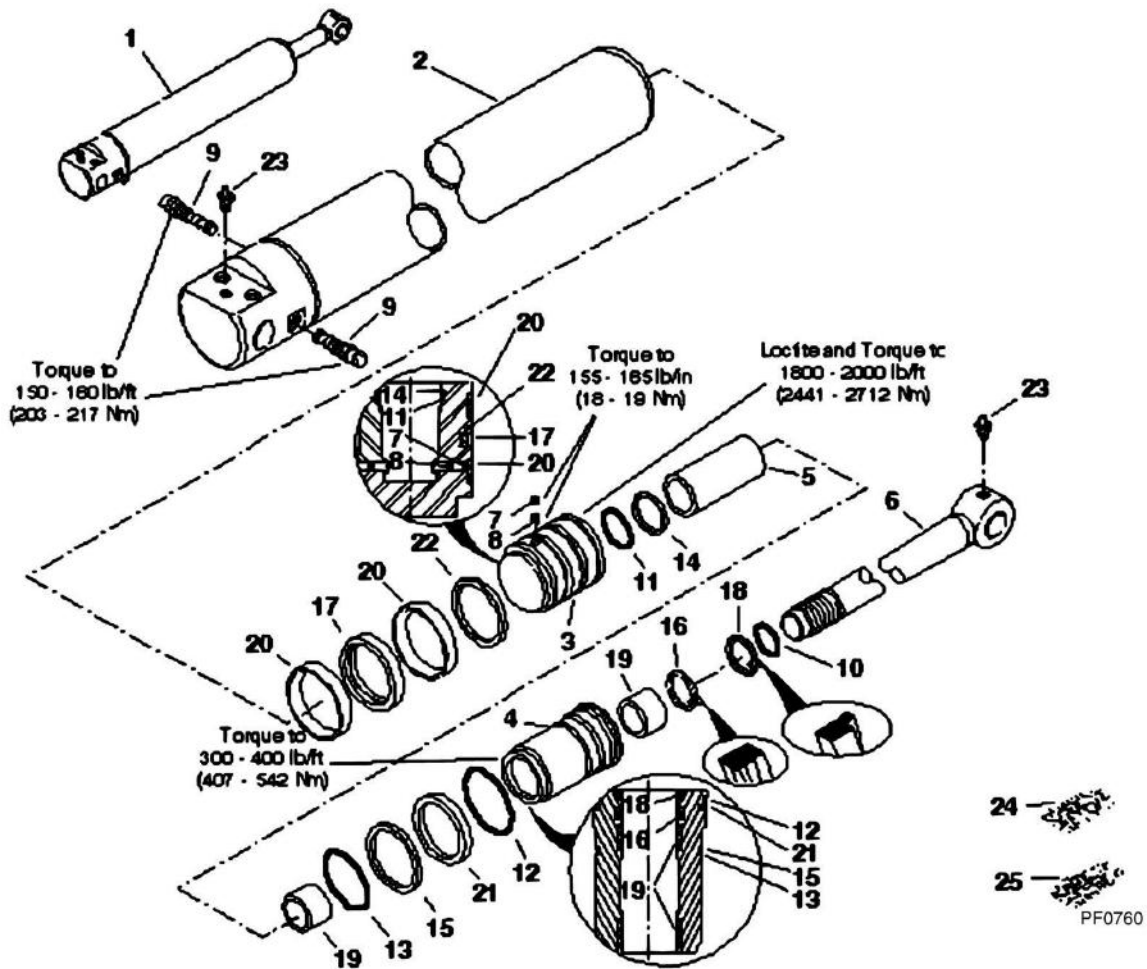
There are two similar but distinctly different Boom Extend Cylinders. Make sure you know which version you have before ordering replacement parts. On "Early Production" cylinders, the gland is installed flush with the cylinder tube and has "TJB" stamped on the gland. On the "Current Production" cylinders, the gland has a lip that bottoms out against the cylinder tube.



EARLY PRODUCTION



CURRENT PRODUCTION



PH0342



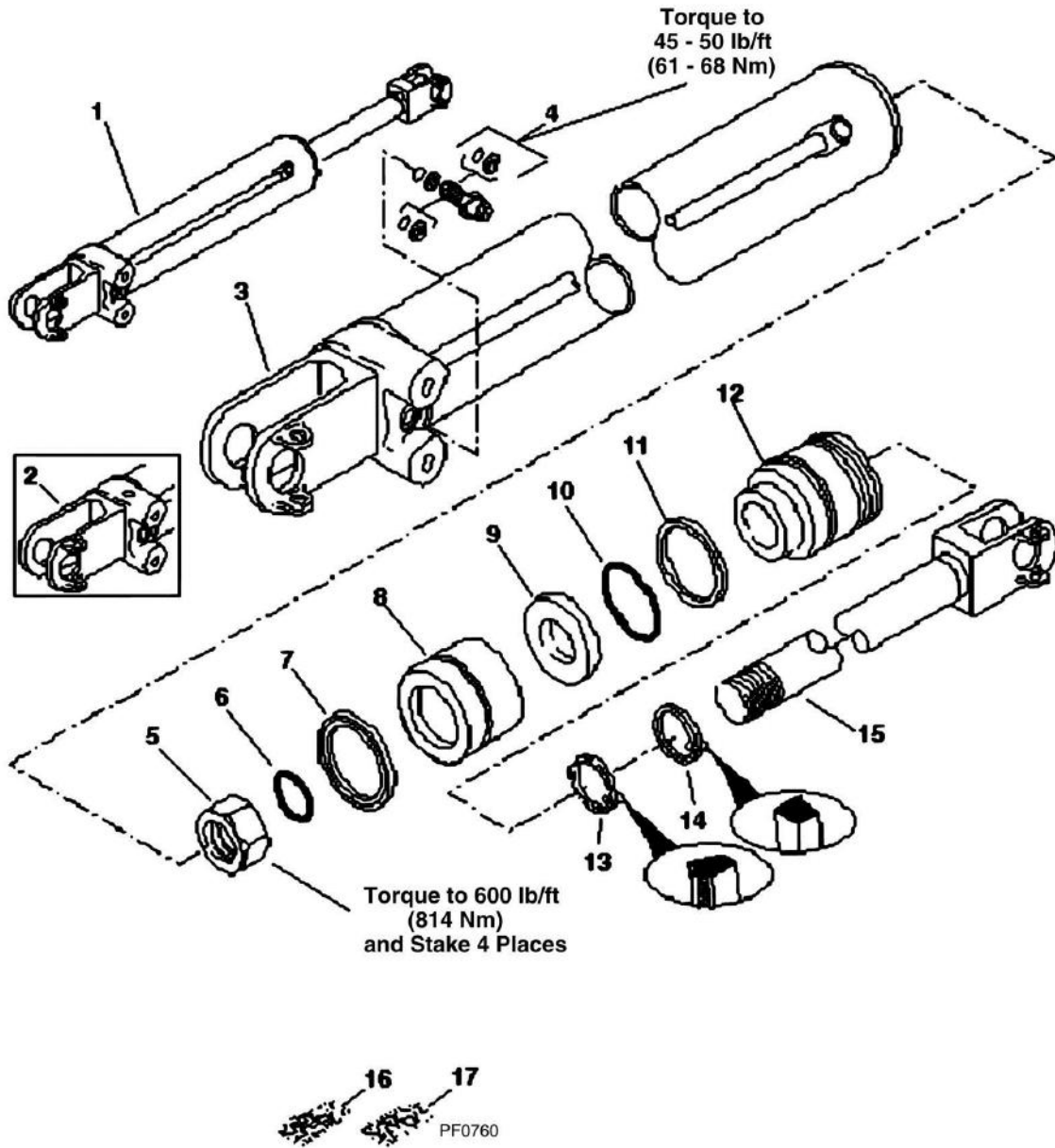
## SECTION 6 - HYDRAULIC COMPONENTS

**FIGURE 6-5. BOOM EXTEND CYLINDER (CURRENT PRODUCTION)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	2716173	1	Cylinder, Boom Extend (Includes Items 2 thru 23)	
2	N.S.S.	1	Tube, Cylinder (Serviced Only in Boom Extend Cylinder Item 1)	
3	8035800	1	Piston	
4	8035539	1	Gland, Head	
5	8035616	1	Spacer, Rod	
6	8035615	1	Rod, Weldment	
7	8035536	1	Screw, Set 5/16-18 UNC x .50 Lg	
8	8035315	1	Screw, Set 5/16-18 UNC x .63 Lg	
9	8035514	2	Valve, Counterbalance - preset to 3500 psi	
10	See Kits	1	O-Ring	
11	See Kits	1	O-Ring	
12	See Kits	1	O-Ring	
13	See Kits	1	O-Ring	
14	See Kits	1	Ring, Backup	
15	See Kits	1	Ring, Backup	
16	See Kits	1	Seal, Rod	
17	See Kits	1	Seal, Piston	
18	See Kits	1	Wiper, HD Rod Sealed O.D.	
19	See Kits	2	Wearband	
20	See Kits	2	Wearband	
21	See Kits	2	Insert, Locking	
22	See Kits	1	Square Ring	
23	8520013	2	Grease Fitting	
		Ref	<b>KITS</b>	
24	8035513	1	Seal Kit, Services Both Early and Current Production Cylinders	
25	8205657	1	Seal Kit, Counterbalance Valve	

# SECTION 6 - HYDRAULIC COMPONENTS

FIGURE 6-6. BOOM HOIST CYLINDER (Prior to SN 5819)



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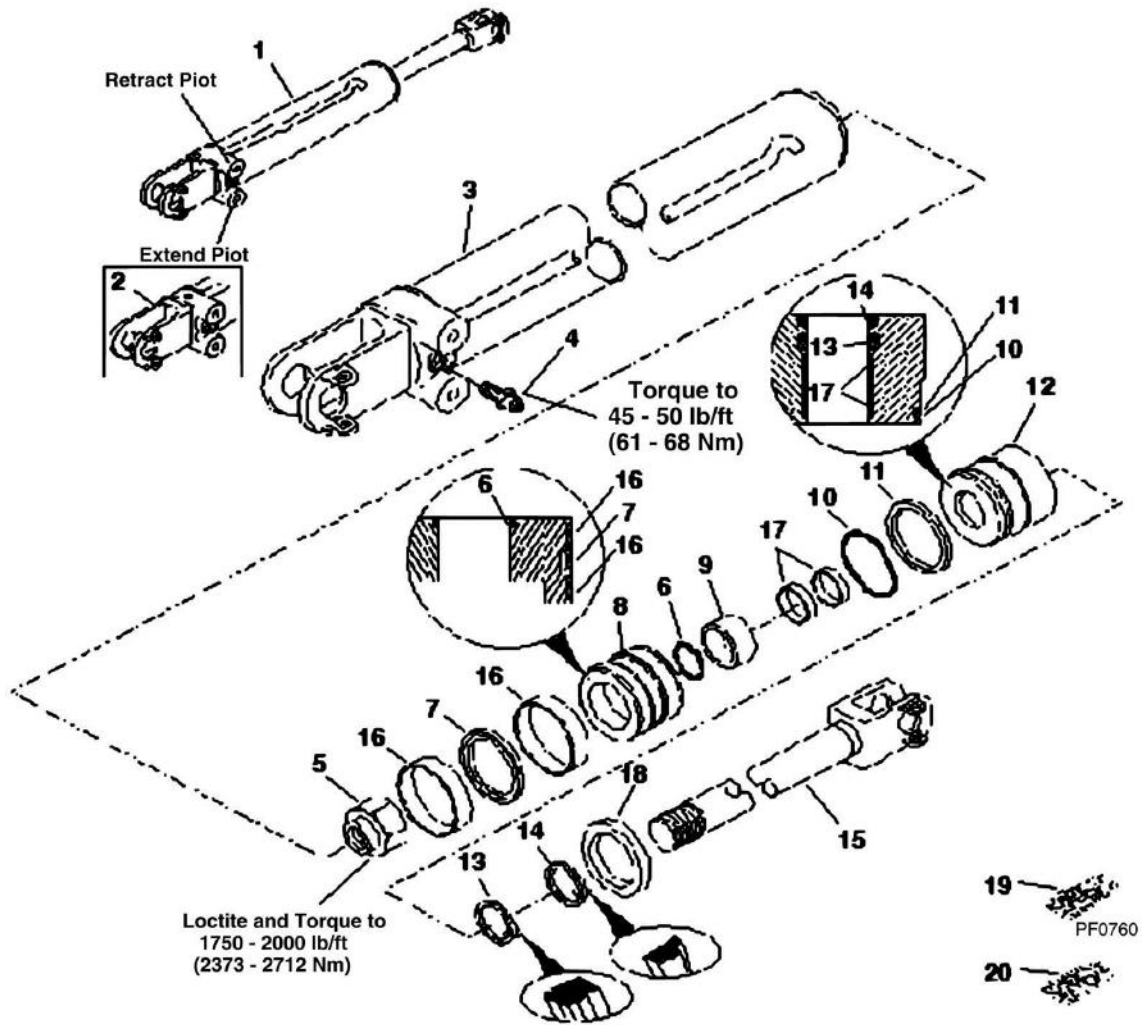
## SECTION 6 - HYDRAULIC COMPONENTS

**FIGURE 6-6. BOOM HOIST CYLINDER (Prior to SN 5819)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	NLA	2	Cylinder, Boom Hoist (Includes Items 3 thru 15) (For Service, Order P/N 2714993)	
2	2713803	2	Cylinder, Boom Hoist w/Load Indicator Port (Includes Items 3 thru 15)	
		Ref	NOTE: Quantities Listed Below Are For 1 Cylinder Only	
3	N.S.S.	1	Tube, Cylinder (Serviced Only in Item 1)	
3	N.S.S.	1	Tube, Cylinder w/Load Indicator Port (Serviced Only in Item 2)	
4	8205726	1	Valve, Counterbalance - preset to 4000 psi (See Kits)	
5	8032714	1	Nut	
6	See Kits	1	O-Ring	
7	See Kits	1	Seal, Piston	
8	8033729	1	Piston	
9	8033730	1	Tube, Stop	
10	See Kits	1	O-Ring	
11	See Kits	1	Ring, Backup	
12	8033727	1	Gland	
13	See Kits	1	Seal, Rod	
14	See Kits	1	Wiper	
15	8033728	1	Rod	
		Ref	<b>KITS</b>	
16	8033731	1	Seal Kit, Boom Hoist Cylinder (Includes Items 6, 7, 10, 11, 13 & 14)	
17	8205656	1	Seal Kit, Counterbalance Valve (Includes 3 O-Rings & 3 Backup Rings)	

# SECTION 6 - HYDRAULIC COMPONENTS

## FIGURE 6-7. BOOM HOIST CYLINDER (SN 5819 through 13197)



PH2010

## SECTION 6 - HYDRAULIC COMPONENTS

**FIGURE 6-7. BOOM HOIST CYLINDER (SN 5819 through 13197)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	2714993	2	Cylinder, Boom Hoist (Includes Items 3 thru 18)	
2	2713803	2	Cylinder, Boom Hoist w/Load Indicator Port (Includes Items 3 thru 18)	
		Ref	NOTE: Quantities Listed Below Are For 1 Cylinder Only	
3	N.S.S.	1	Tube, Cylinder (Serviced Only in Item 1)	
3	N.S.S.	1	Tube, Cylinder w/Load Indicator Port (Serviced Only in Item 2)	
4	8035542	1	Valve, Counterbalance - present 4000 psi (See Kits)	
5	8035308	1	Nut, Lock	
6	See Kits	1	O-Ring	
7	See Kits	1	Seal, Piston	
8	8035545	1	Piston	
9	8035608	1	Spacer, Rod	
10	See Kits	1	O-Ring	
11	See Kits	1	Ring, Backup	
12	8035609	1	Gland	
13	See Kits	1	Seal, Rod	
14	See Kits	1	Wiper	
15	8035607	1	Rod	
16	See Kits	2	Wearband	
17	See Kits	2	Wearband	
18	8035610	1	Collar, Locking	
		Ref	<b>KITS</b>	
19	8035386	1	Seal Kit, Boom Hoist Cylinder (Includes Items 6, 7, 10, 11, 13, 14, 16 & 17)	
20	8205656	1	Seal Kit, Counterbalance Valve (Includes 3 O-Rings & 3 Back-Up Rings)	



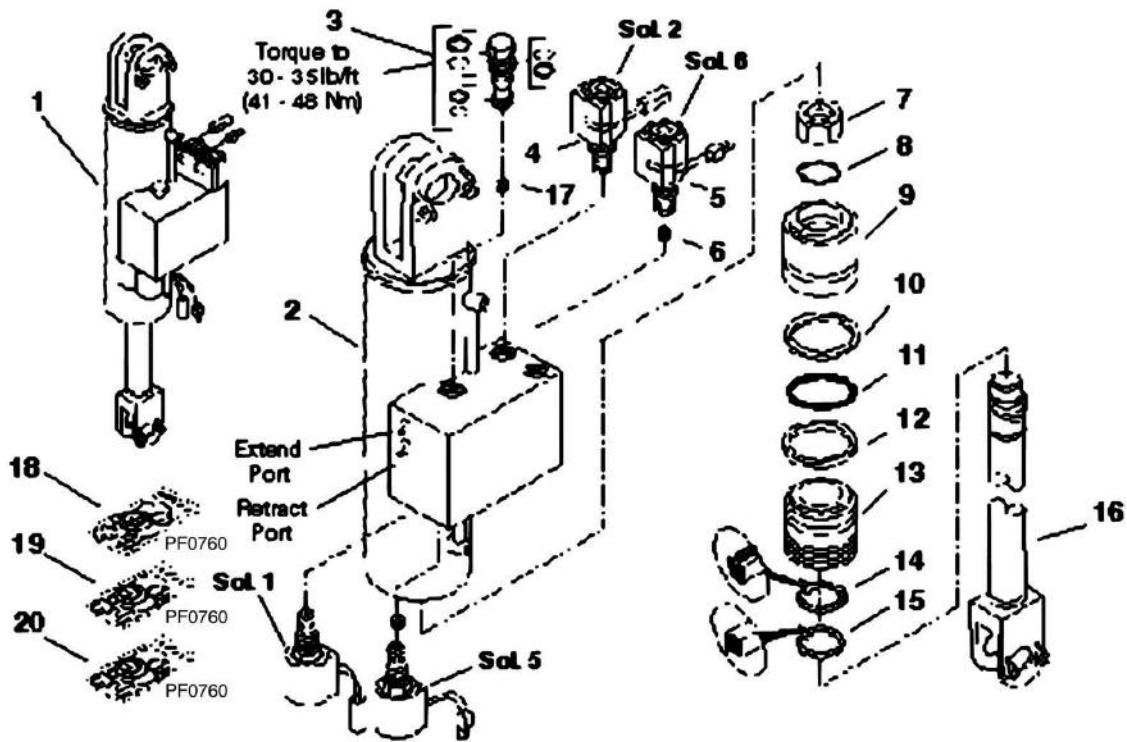
## SECTION 6 - HYDRAULIC COMPONENTS

### FIGURE 6-8. FRAME TILT CYLINDER

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7115662	1	Cylinder, Frame Tilt (Includes Items 2 thru 14) <b>(Prior to SN 0267)</b>	
1	2713853	1	Cylinder, Frame Tilt (Includes Items 2 thru 13) <b>(SN 0267 to Present)</b>	
2	N.S.S.	1	Tube, Cylinder (Serviced Only in Item 1)	
3	8902511	2	Valve, Pilot Check (See Kits)	
4	8032726	1	Nut	
5	See Kits	1	O-Ring	
6	See Kits	1	Seal, Piston	
7	8033745	1	Piston	
8	8033744	1	Rod	
9	See Kits	1	O-Ring	
10	See Kits	1	Back-up Ring	
11	8032728	1	Gland	
12	See Kits	1	Seal, Rod	
13	See Kits	1	Wiper	
14	8033746	2	Orifice, .070 Dia <b>(Prior to SN 0267)</b>	
		Ref	<b>KITS</b>	
15	8033747	1	Seal Kit, Frame Tilt Cylinder (Includes Items 5, 6, 9, 10, 12 & 13)	
16	8205655	1	Seal Kit, Pilot Check Valve (Includes 3 O-Rings & 3 Back-Up Rings)	

# SECTION 6 - HYDRAULIC COMPONENTS

## FIGURE 6-9. STABILIZER CYLINDER



PH0351



## SECTION 6 - HYDRAULIC COMPONENTS

### FIGURE 6-9. STABILIZER CYLINDER

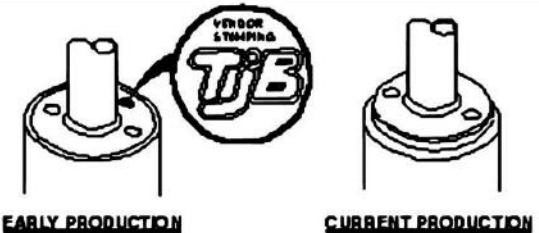
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	2713333	1	Cylinder, Stabilizer (Includes Items 2 thru 17)	
2	N.S.S.	1	Tube, Cylinder (Serviced Only in Item 1)	
3	8902511	2	Valve, Pilot Check (See Kits)	
4	8033704	2	Solenoid Valve (See Kits)	
4	70023112	2	COIL	
4	80963058	2	Female Connector	
5	8033704	2	Solenoid Valve (See Kits)	
5	70023112	2	COIL	
6	8033715	2	Orifice, .060 Dia	
7	8032726	1	Nut	
8	See Kits	1	O-Ring	
9	8033745	1	Piston	
10	See Kits	1	Seal, Piston	
11	See Kits	1	O-Ring	
12	See Kits	1	Back-up Ring	
13	8032728	1	Gland	
14	See Kits	1	Seal, Rod	
15	See Kits	1	Wiper	
16	8033744	1	Rod	
17	8033721	2	Orifice, .029 Dia	
		Ref	<b>KITS</b>	
18	8033747	1	Seal Kit, Stabilizer Cylinder (Includes Items 8, 10 thru 12, 14 & 15)	
19	8205655	1	Seal Kit, Pilot Check Valve (Includes 3 O-Rings & 3 Back-Up Rings)	
20	8033756	1	Seal Kit, Solenoid Valve	

# SECTION 6 - HYDRAULIC COMPONENTS

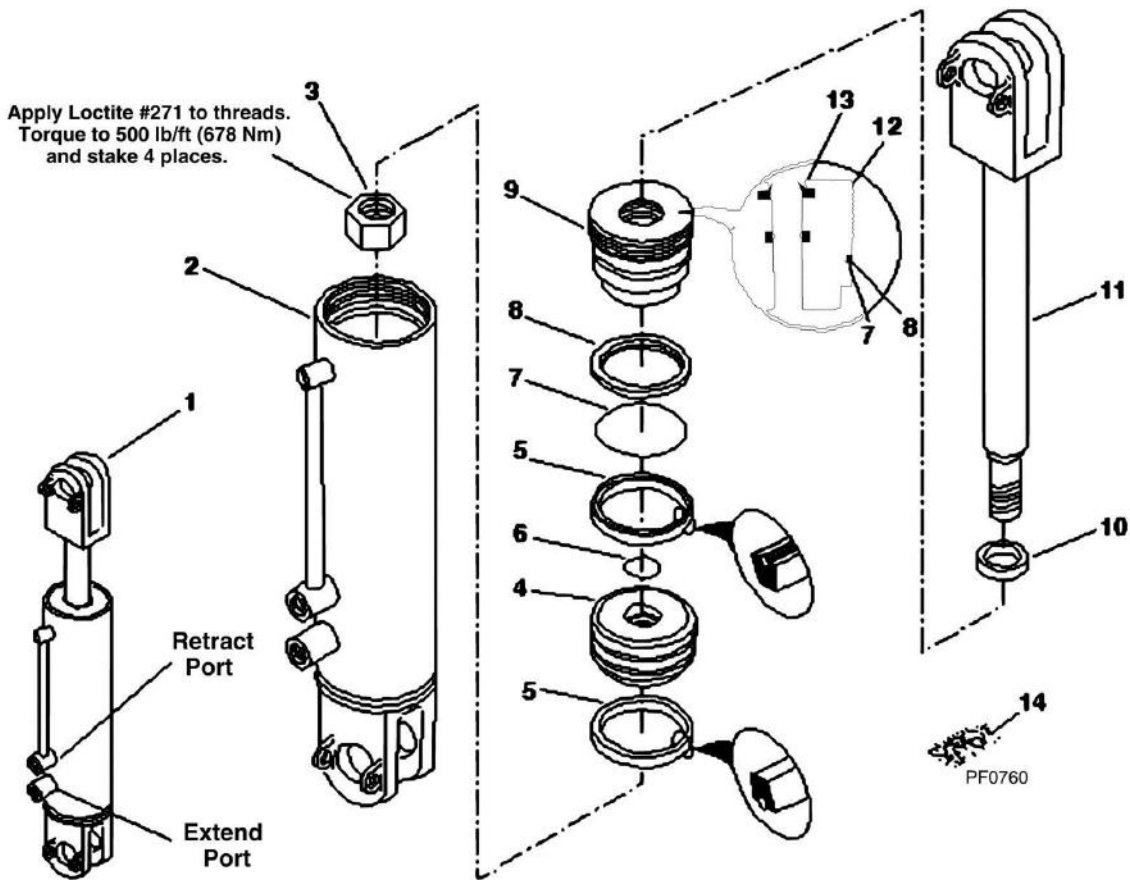
## FIGURE 6-10. SLAVE CYLINDER (EARLY PRODUCTION)

**IMPORTANT:**

There are two similar but distinctly different Slave Cylinders. Make sure you know which version you have before ordering replacement parts. On 'Early Production' cylinders, the gland is installed flush with the cylinder tube and has "TJB" stamped on the gland. On the 'Current Production' cylinders, the gland has a tip that bottoms out against the cylinder tube.



**EARLY PRODUCTION**      **CURRENT PRODUCTION**



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## SECTION 6 - HYDRAULIC COMPONENTS

**FIGURE 6-10. SLAVE CYLINDER (EARLY PRODUCTION)**

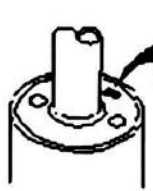

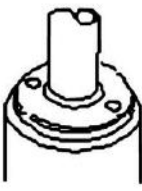
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	2712983	NLA	Cylinder, Slave (includes Items 2 thru 13) (For Service, Order P/N 2714973)	
		Ref	NOTE: Quantities Listed Below Are For 1 Cylinder Only	
2	N.S.S.	1	Tube, Cylinder (Serviced Only in Item 1)	
3	8032726	1	Nut	
4	8033741	1	Piston	
5	See Kits	2	Seal, Piston	
6	See Kits	1	O-Ring	
7	See Kits	1	O-Ring	
8	See Kits	1	Ring, Backup	
9	8205506	1	Gland	
10	8033742	1	Washer, Thrust	
11	8033740	1	Rod	
12	See Kits	1	Seal, Rod	
13	See Kits	1	Wiper	
14	8205640	1	Seal Kit, Slave Cylinder (Includes Items 5 thru 8, 12 and 13)	

# SECTION 6 - HYDRAULIC COMPONENTS

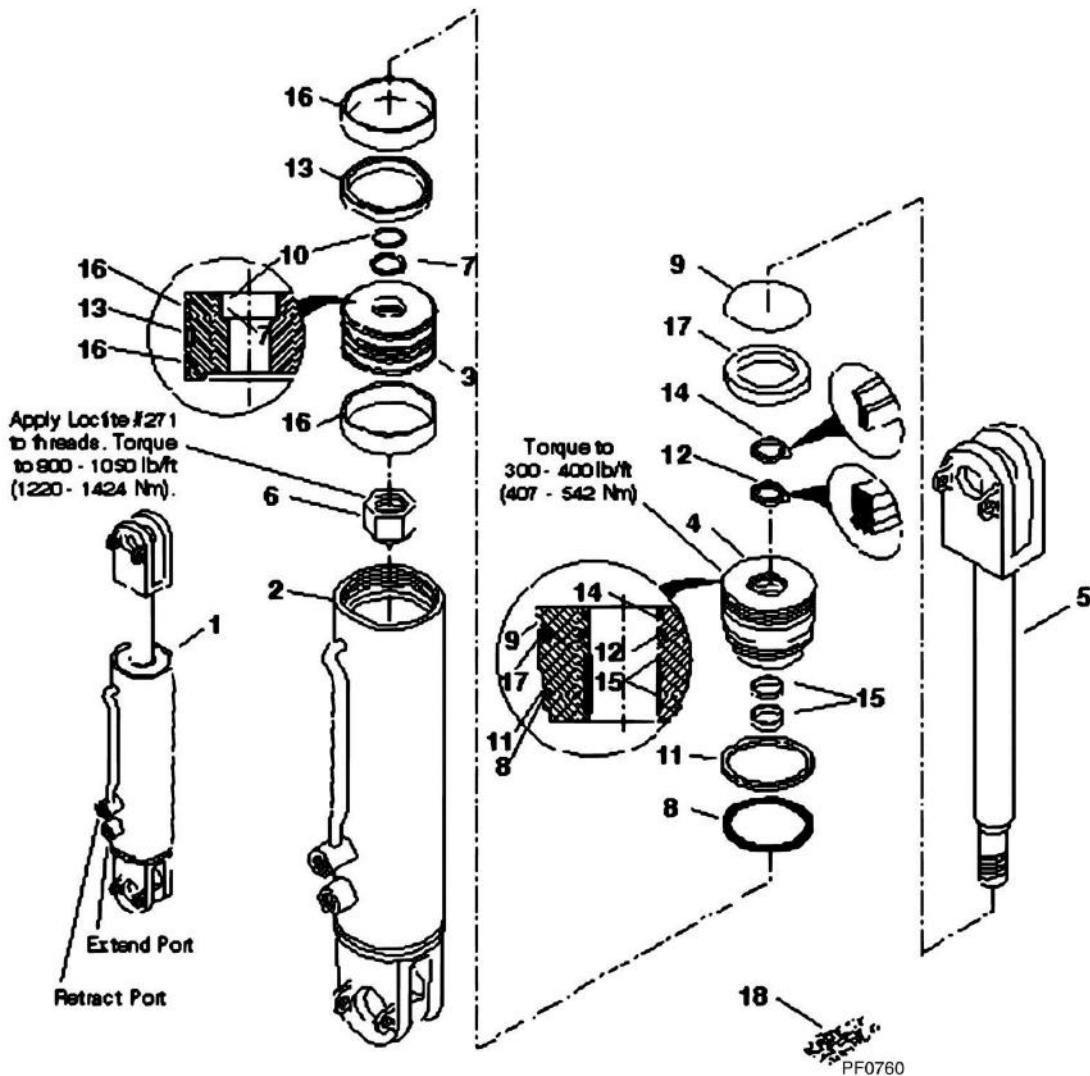
FIGURE 6-11. SLAVE CYLINDER (CURRENT PRODUCTION)

## IMPORTANT:

There are two similar but distinctly different Slave Cylinders. Make sure you know which version you have before ordering replacement parts. On "Early Production" cylinders, the gland is installed flush with the cylinder tube and has "TJB" stamped on the gland. On the "Current Production" cylinders, the gland has a lip that bottoms out against the cylinder tube.

EARLY PRODUCTION
CURRENT PRODUCTION



## SECTION 6 - HYDRAULIC COMPONENTS

**FIGURE 6-11. SLAVE CYLINDER (CURRENT PRODUCTION)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	2714973	2	Cylinder, Slave (Includes Items 2 thru 17)	
		Ref	NOTE: Quantities Listed Below Are For 1 Cylinder Only	
2	8036001	1	CYLINDER TUBE	
3	8035613	1	Piston	
4	8035612	1	Gland, Head	
5	8035611	1	Rod	
6	8035547	1	Nut, Lock 1.375-12 UNF	
7	See Kits	1	O-Ring	
8	See Kits	1	O-Ring	
9	See Kits	1	O-Ring	
10	See Kits	2	Ring, Backup	
11	See Kits	1	Ring, Backup	
12	See Kits	1	Z-Seal, Deep	
13	See Kits	1	T-Seal, Capped	
14	See Kits	1	Wiper, HD Rod Sealed O.D.	
15	See Kits	2	Wearband	
16	See Kits	2	Wearband	
17	See Kits	2	Insert, Locking	
		Ref	<b>KITS</b>	
18	8034695	1	Seal Kit, Slave Cylinder (Includes Items 7 thru 17)	



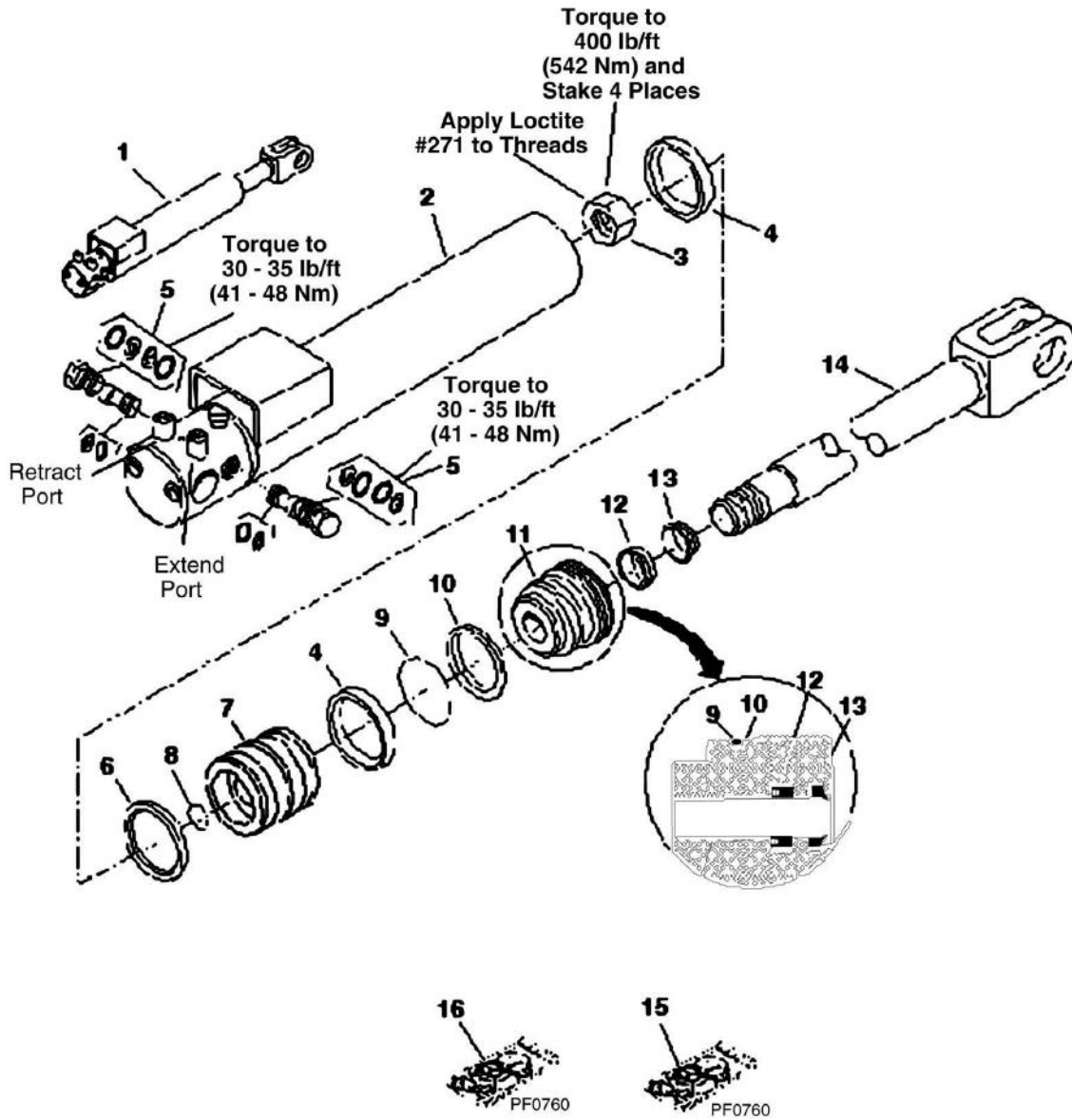
## SECTION 6 - HYDRAULIC COMPONENTS

**FIGURE 6-12. ATTACHMENT TILT CYLINDER**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	2712973	1	Cylinder, Attachment Tilt (Includes Items 2 thru 15)	
2	N.S.S.	1	Tube, Cylinder (Serviced Only in Item 1)	
3	8032714	1	Nut	
4	8902260	1	Valve, Counterbalance - preset to 4000 psi (See Kits)	
5	See Kits	1	Seal, Piston	
6	8033724	1	Piston	
7	See Kits	1	O-Ring	
8	8033725	1	Washer, Thrust	
9	See Kits	1	O-Ring	
10	See Kits	1	Back-up Ring	
11	8033722	1	Gland	
12	See Kits	1	Seal, Rod	
13	See Kits	1	Wiper	
14	8033723	1	Rod	
15	7089722	2	Bushing	
		Ref	<b>KITS</b>	
16	8035780	1	Seal Kit, Attachment Tilt Cylinder (Includes Items 5, 7, 9, 10, 12 & 13)	
17	8205656	1	Seal Kit, Counterbalance Valve (Includes 3 O-Rings & 4 Back-Up Rings)	

# SECTION 6 - HYDRAULIC COMPONENTS

## FIGURE 6-13. OUTRIGGER CYLINDER (Prior to SN 10882)



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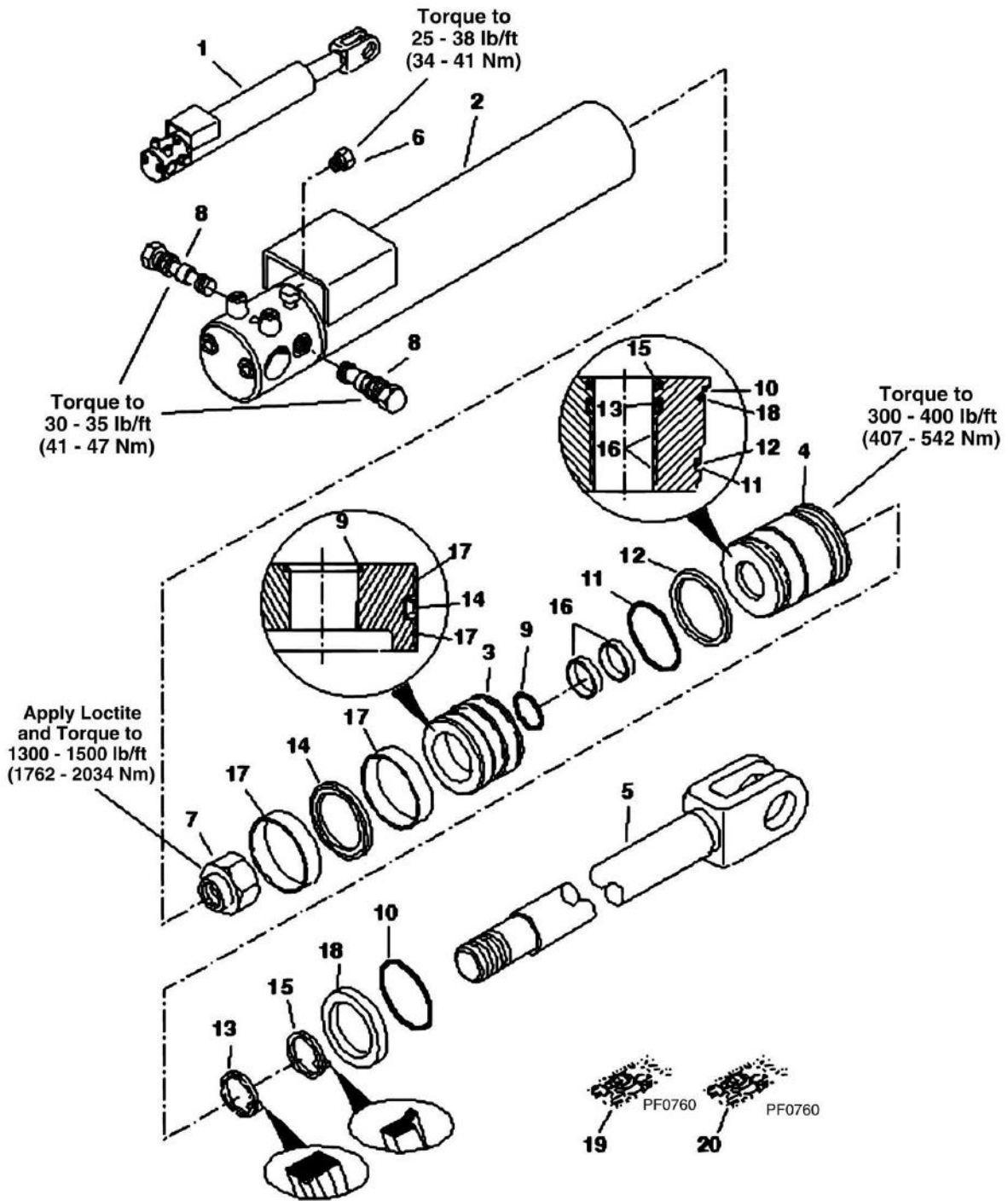
## SECTION 6 - HYDRAULIC COMPONENTS

**FIGURE 6-13. OUTRIGGER CYLINDER (Prior to SN 10882)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	NLA	1	Cylinder, Outrigger (Includes Items 2 thru 14) (For Service, Order P/N 2716163)	
2	N.S.S.	1	Tube, Cylinder (Serviced Only in Item 1)	
3	8032702	1	Nut	
4	See Kits	2	Wear Ring	
5	8902511	2	Valve, Pilot Check (See Kits)	
6	See Kits	1	Seal, Piston	
7	8033750	1	Piston	
8	See Kits	1	O-Ring	
9	See Kits	1	O-Ring	
10	See Kits	1	Back-up Ring	
11	8033748	1	Gland	
12	See Kits	1	Seal, Rod	
13	See Kits	1	Wiper	
14	8033749	1	Rod	
		Ref	<b>KITS</b>	
15	8033751	1	Seal Kit, Outrigger Cylinder (Includes Items 4, 6, 8 thru 10, 12 & 13)	
16	8205655	1	Seal Kit, Pilot Check Valve (Includes 3 O-Rings & 3 Back-Up Rings)	

# SECTION 6 - HYDRAULIC COMPONENTS

## FIGURE 6-14. OUTRIGGER CYLINDER (SN 10882 through 13197)



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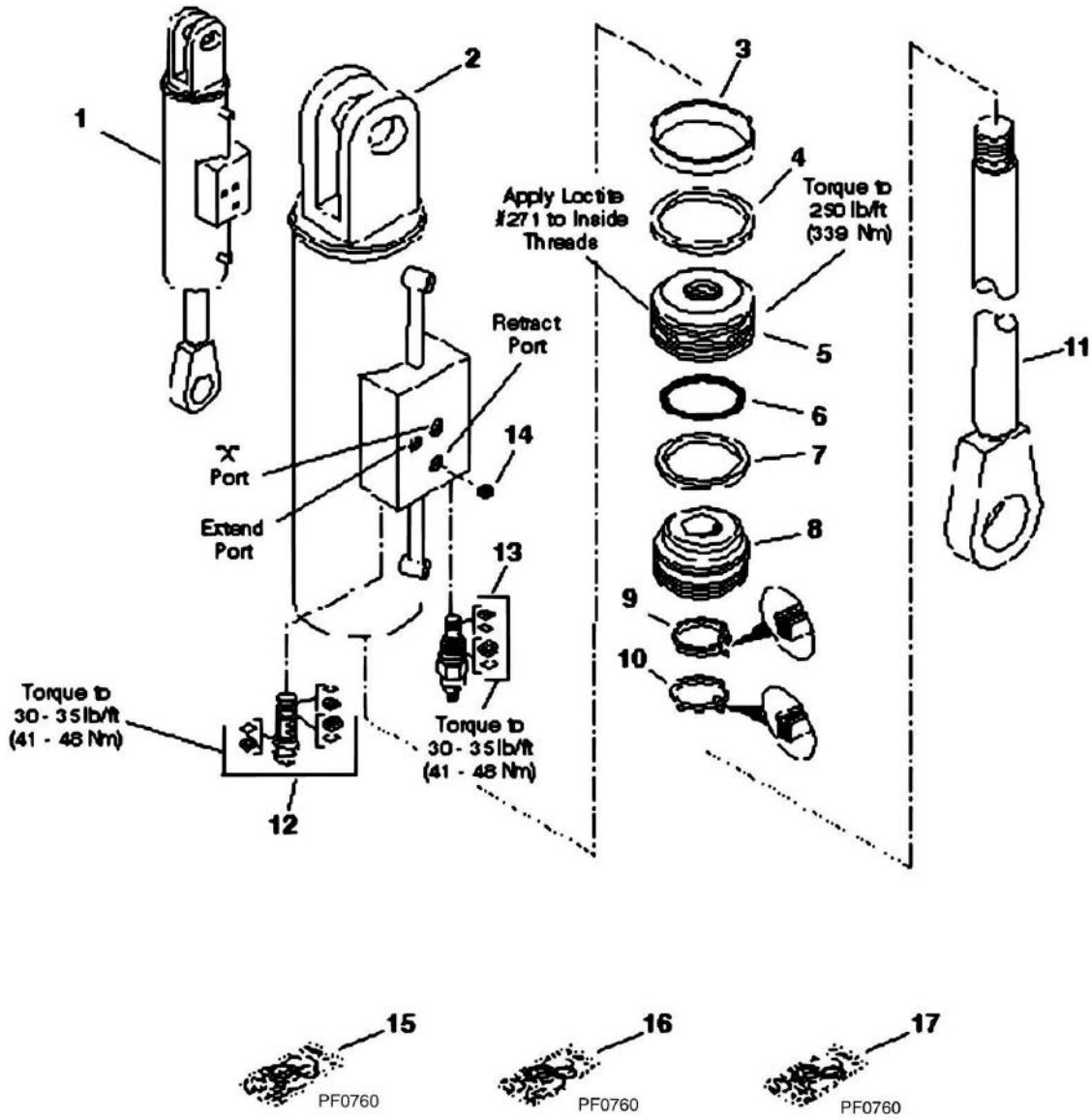
## SECTION 6 - HYDRAULIC COMPONENTS

**FIGURE 6-14. OUTRIGGER CYLINDER (SN 10882 through 13197)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	2716163	1	Cylinder, Outrigger (Includes Items 2 thru 18)	
2	N.S.S.	1	Tube, Weldment (Serviced Only in Item 1)	
3	8035727	1	Piston	
4	8035728	1	Gland, Head	
5	8035729	1	Rod, Weldment	
6	8035730	1	Plug, SAE No. 4 Steel Hex Head	
7	8035322	1	Nut, Lock UNF 1.5-12	
8	8035731	2	Valve, PO Check, CKCB-XCN	
9	See Kits	1	O-Ring	
10	See Kits	1	O-Ring	
11	See Kits	1	O-Ring	
12	See Kits	1	Ring, Back-Up	
13	See Kits	1	Z-Seal, Deep w/Rod Back-Up	
14	See Kits	1	T-Seal, Capped	
15	See Kits	1	Wiper, Hd Rod - Sealed O.D.	
16	See Kits	2	Wearband, Precision	
17	See Kits	2	Wearband, Precision	
18	See Kits	2	Insert, Locking	
		Ref	<b>KITS</b>	
19	8035732	1	Seal Kit (Includes Items 9 thru 18)	
20	8035519	1	Seal Kit (Includes P/N 8035732 & P/N 8033751)	

# SECTION 6 - HYDRAULIC COMPONENTS

## FIGURE 6-15. SWING CARRIAGE CYLINDER



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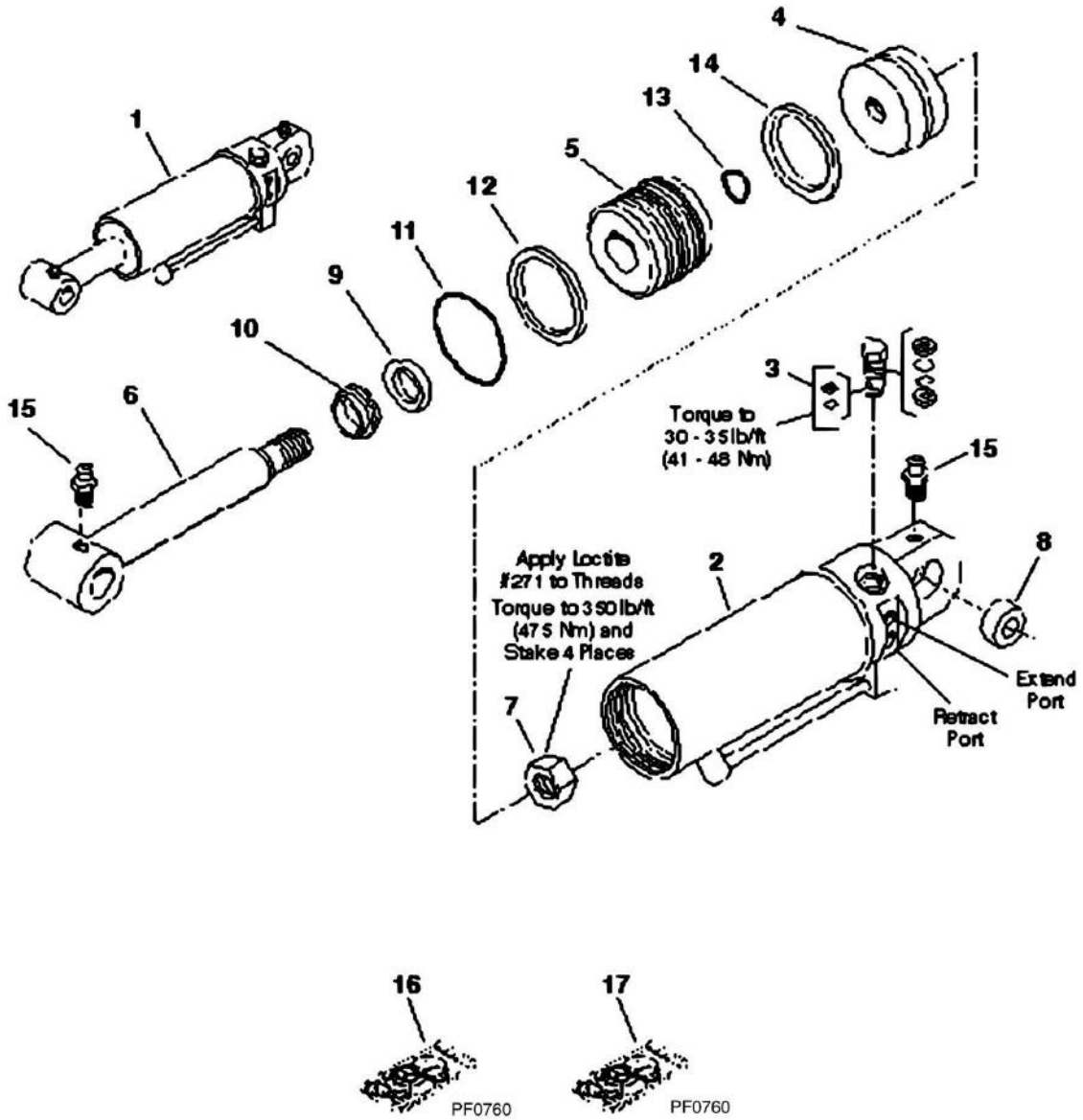
## SECTION 6 - HYDRAULIC COMPONENTS

### FIGURE 6-15. SWING CARRIAGE CYLINDER

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	2713363	1	Cylinder, Swing Carriage (Includes Items 2 thru 14)	
2	N.S.S.	1	Tube, Cylinder (Serviced Only in Item 1)	
3	See Kits	1	Wear Ring	
4	See Kits	1	Seal, Piston	
5	8033783	1	Piston	
6	See Kits	1	O-Ring	
7	See Kits	1	Back-up Ring	
8	8033784	1	Gland	
9	See Kits	1	Seal, Rod	
10	See Kits	1	Wiper	
11	8033785	1	Rod	
12	8033786	1	Valve, Counterbalance Cartridge - preset to 3000 psi (See Kits)	
13	70020428	1	RELIEF VALVE, (preset to 2000 psi)	
14	8033788	1	Orifice, .038 Dia	
		Ref	<b>KITS</b>	
15	8033789	1	Seal Kit, Swing Carriage Cylinder (Includes Items 3, 4, 6, 7, 9, & 10)	
16	8205655	1	Seal Kit, Valve Item 12 (Includes 3 O-Rings & 3 Back-Up Rings)	
17	7024574	1	Seal Kit, Valve Item 13	

# SECTION 6 - HYDRAULIC COMPONENTS

## FIGURE 6-16. SIDE TILT CARRIAGE CYLINDER



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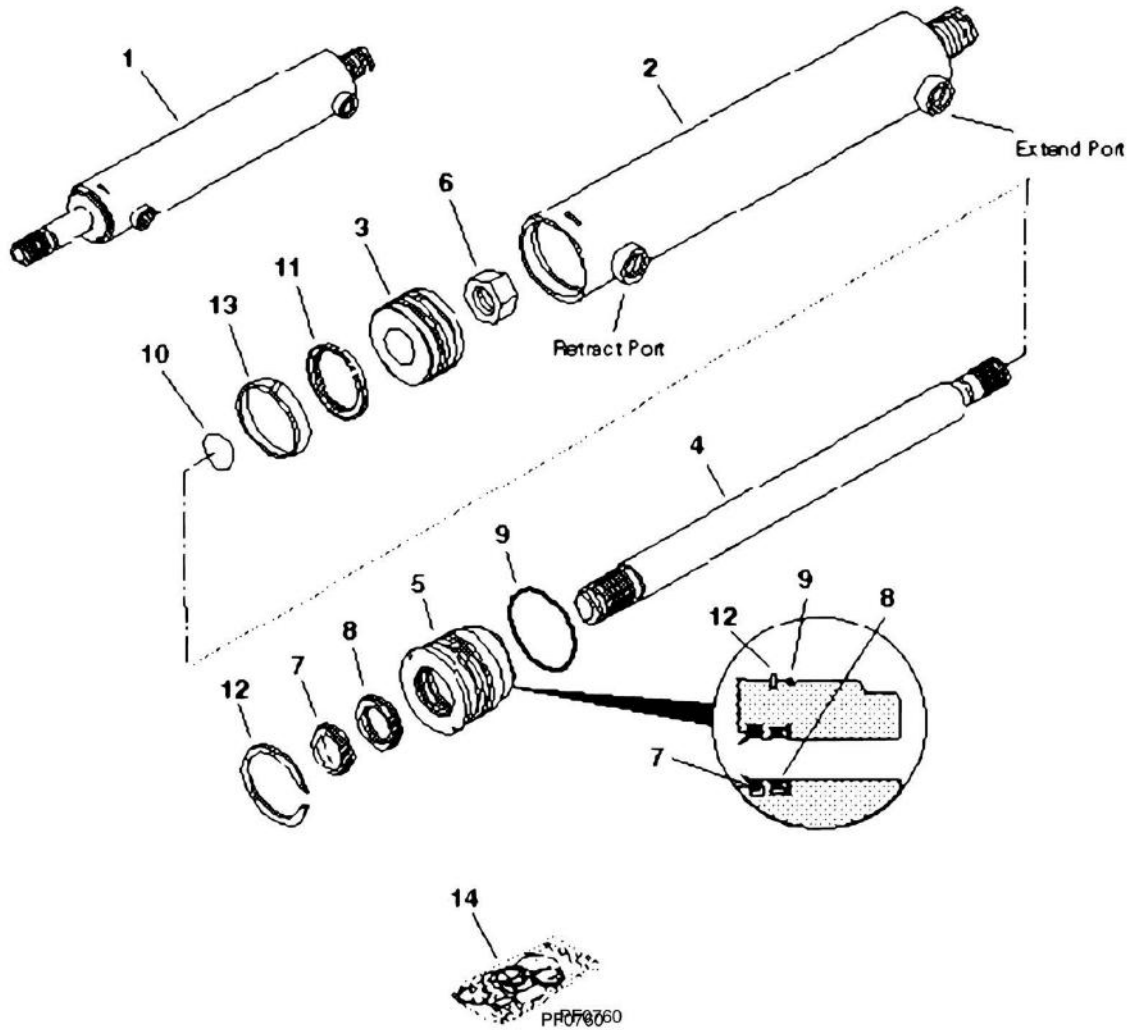
## SECTION 6 - HYDRAULIC COMPONENTS

**FIGURE 6-16. SIDE TILT CARRIAGE CYLINDER**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	2711613	1	Side Tilt Carriage Cylinder (Includes Items 2 thru 14)	
2	N.S.S.	1	Tube, Cylinder (Serviced Only in Item 1)	
3	8902511	2	Valve, Pilot Check (See Kits)	
4	8205545	1	Piston	
5	8205546	1	Gland	
6	8205547	1	Rod	
7	8205548	1	Nut, Piston	
8	8205514	1	Bearing, Self-Aligning	
9	See Kits	1	Seal, Rod	
10	See Kits	1	Wiper	
11	See Kits	1	O-Ring	
12	See Kits	1	Ring, Back-Up	
13	See Kits	1	O-Ring	
14	See Kits	1	Seal, Piston	
15	8520013	2	Fitting, Grease	
		Ref	<b>KITS</b>	
16	8205661	1	Seal Kit, Side Tilt Carriage Cylinder (Includes Items 9 thru 14)	
17	8205655	1	Seal Kit, Pilot Check Valve	

# SECTION 6 - HYDRAULIC COMPONENTS

FIGURE 6-17. STEERING CYLINDER (Prior to SN 1168)



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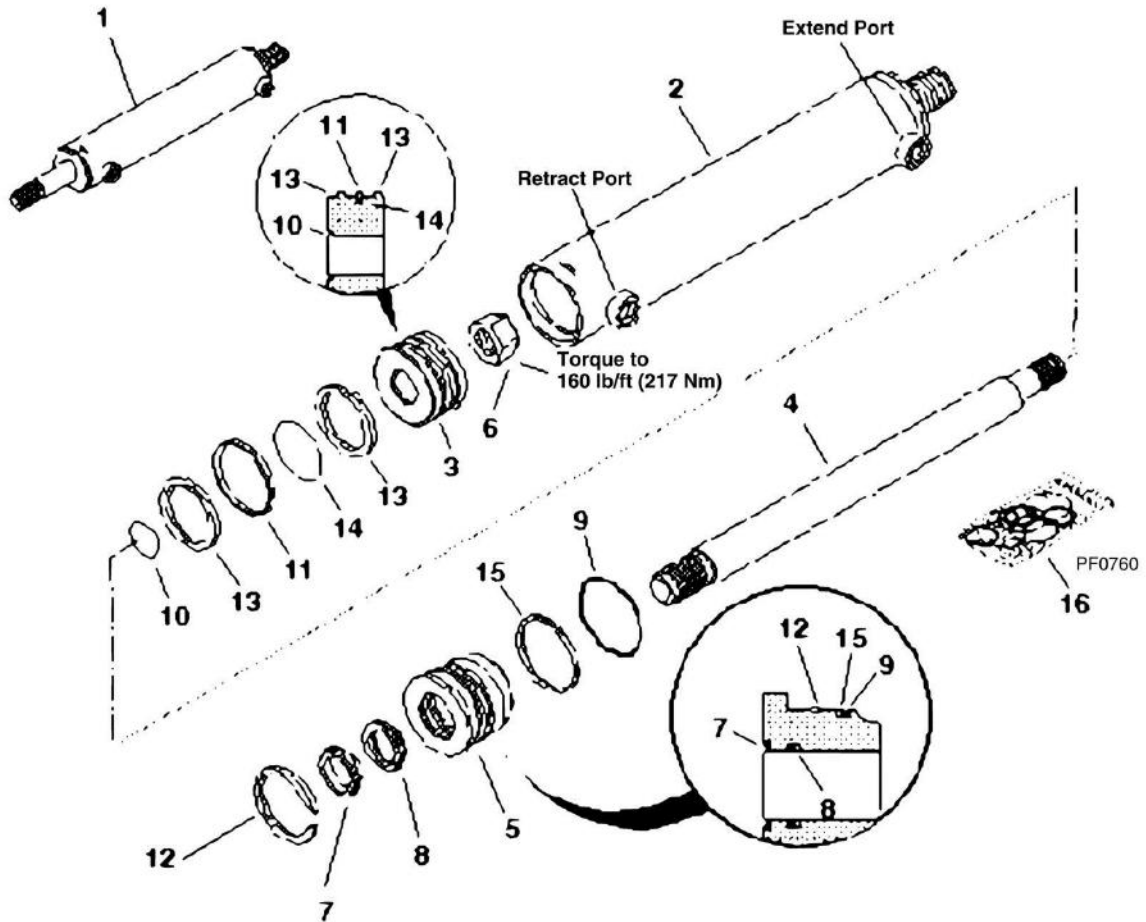
## SECTION 6 - HYDRAULIC COMPONENTS

**FIGURE 6-17. STEERING CYLINDER (Prior to SN 1168)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	NLA	4	Steering Cylinder (Includes Items 2 thru 13) (For Service, Order P/N 8034684)	
		Ref	NOTE: Quantities Listed Below Are For 1 Cylinder Only	
	N.S.S.	1	Barrel Assembly (Serviced Only in Item 1)	
3	8033811	1	Piston	
4	8033812	1	Rod	
5	8033813	1	Gland	
6	8033814	1	Nut, Hex Lock	
7	See Kits	1	Wiper, Rod	
8	See Kits	1	Seal, Rod	
9	See Kits	1	O-Ring	
10	See Kits	1	O-Ring	
11	See Kits	1	Seal, Piston	
12	See Kits	1	Lock Ring	
13	See Kits	1	Wear Ring	
		Ref	<b>KITS</b>	
14	8033801	1	Seal Kit, Steering Cylinder (Includes Items 7 thru 13)	

# SECTION 6 - HYDRAULIC COMPONENTS

FIGURE 6-18. STEERING CYLINDER (SN 1168 through 13197)



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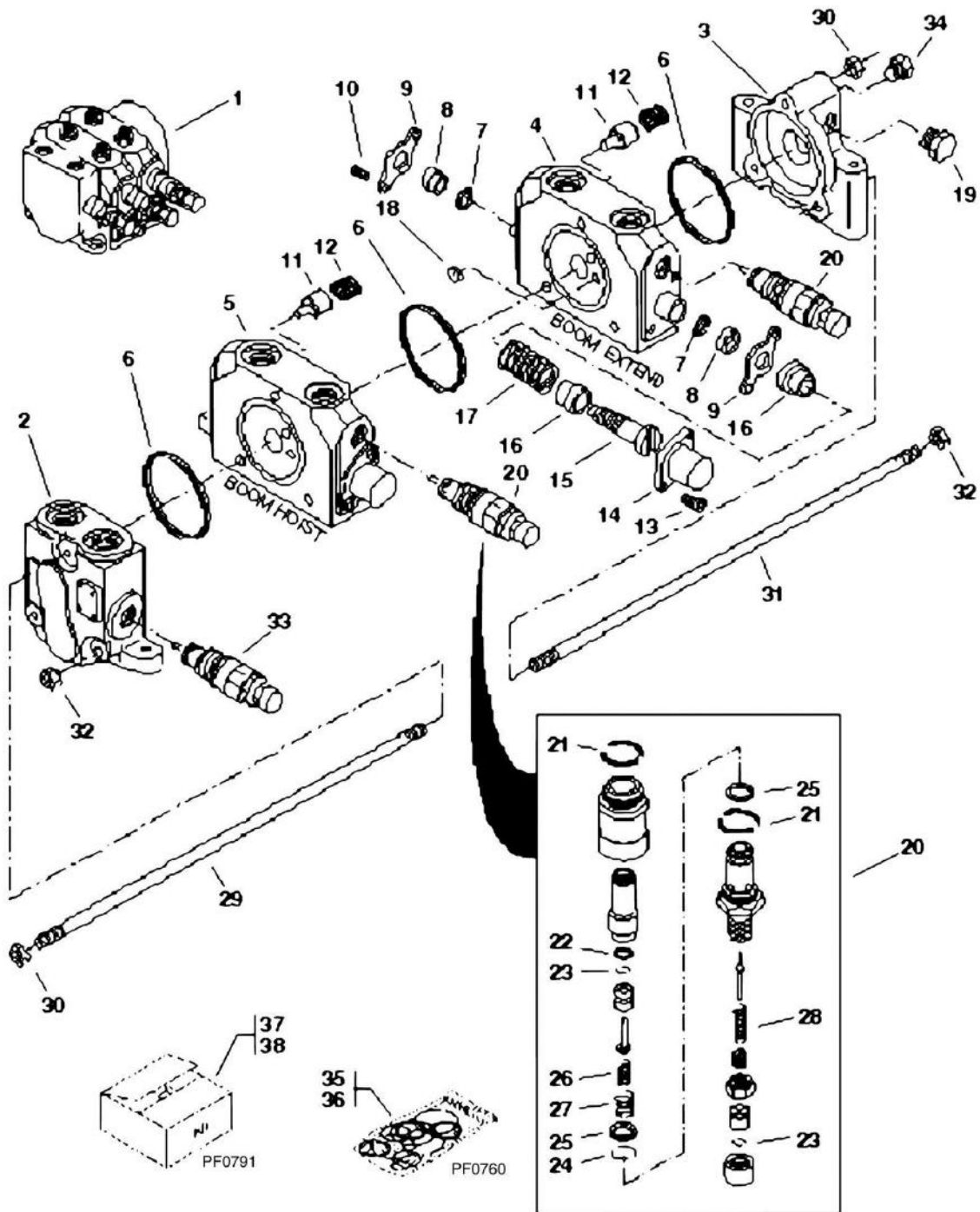
## SECTION 6 - HYDRAULIC COMPONENTS

**FIGURE 6-18. STEERING CYLINDER (SN 1168 through 13197)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	8034684	4	Steering Cylinder (Includes Items 2 thru 15)	
		Ref	NOTE: Quantities Listed Below Are For 1 Cylinder Only	
	N.S.S.	1	Barrel Assembly (Serviced Only in Item 1)	
3	8034821	1	Piston	
4	8034822	1	Rod - 17.06in Long	
5	8034823	1	Gland	
6	8034824	1	Nut, Hex Lock	
7	See Kit	1	Wiper, Rod	
8	See Kit	1	Seal, U-Cup	
9	See Kit	1	O-Ring	
10	See Kit	1	O-Ring	
11	See Kit	1	Seal, Piston	
12	See Kit	1	Wire Retainer	
13	See Kit	2	Wear Ring	
14	See Kit	1	Expander	
15	See Kit	1	Back-up Ring	
		Ref	<b>KITS</b>	
16	8034691	1	Seal Kit, Steering Cylinder (Includes Items 7 thru 15)	

# SECTION 6 - HYDRAULIC COMPONENTS

## FIGURE 6-19. MAIN CONTROL VALVE



PH1250

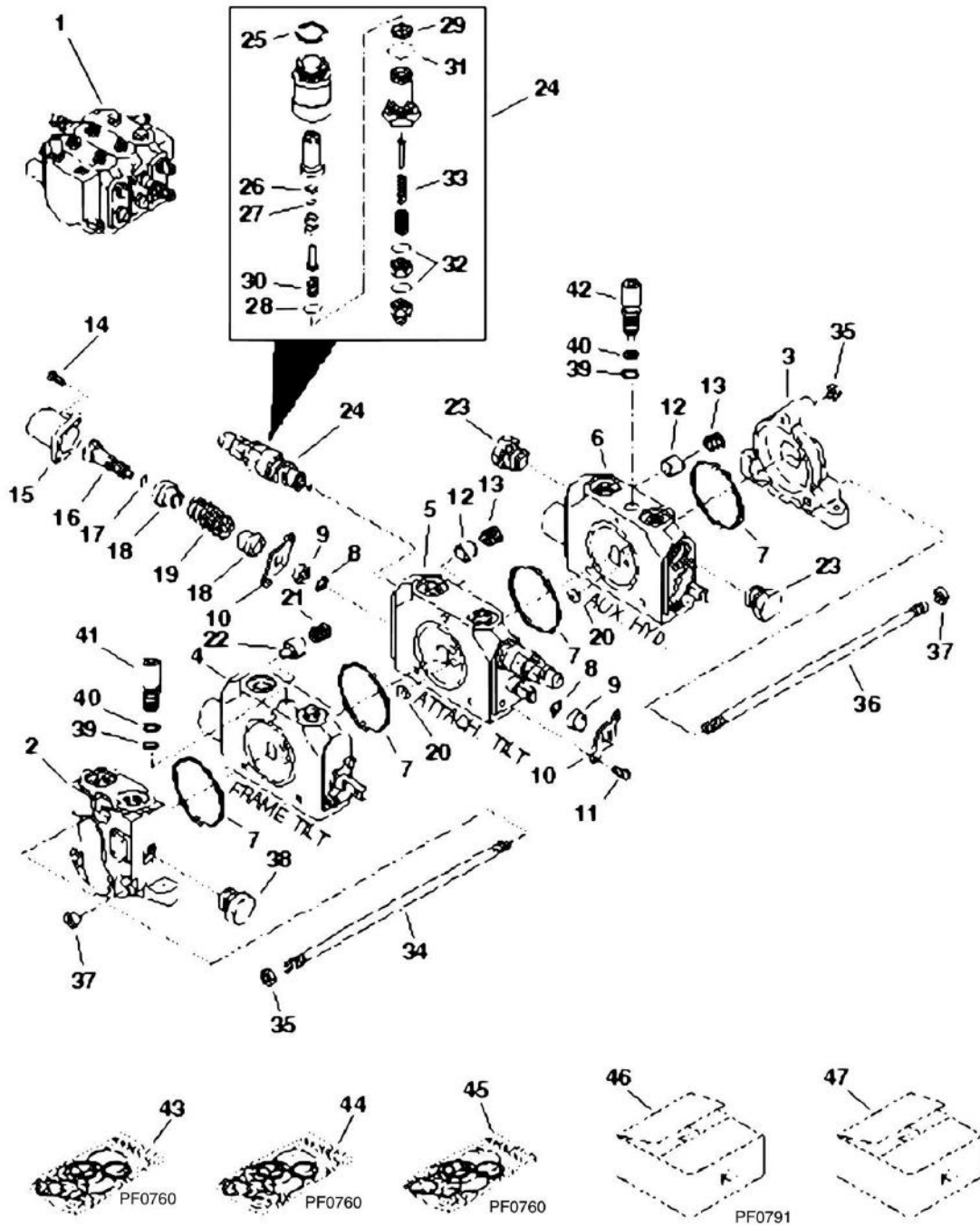
## SECTION 6 - HYDRAULIC COMPONENTS

**FIGURE 6-19. MAIN CONTROL VALVE**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	NLA	1	Main Control Valve, For Service, Order Kit P/N 7115652 ( <b>Prior to SN 0225</b> )	
1	NLA	1	Main Control Valve, For Service, Order P/N 8902186 ( <b>SN 0225 through 8540</b> )	
1	8902186	1	Main Control Valve (Includes Items 2 thru 34 ( <b>SN 8541 to Present</b> ))	
2	8034534	1	Section, Inlet (Includes 1 of Item 6)	
3	7130912	1	Kit, Outlet Section (Includes Inlet and Outlet Sections and Mounting Hardware) ( <b>Prior to SN 2200</b> )	
3	8035267	1	Section - Outlet ( <b>SN 2200 to Present</b> )	
4	8034552	1	Section, Boom Extend (Includes Items 6 thru 18)	
5	8034551	1	Section, Boom Hoist (Includes Items 6 thru 18)	
6	8034697	1	O-Ring (See Kits)	
7	See Kits	2	O-Ring	
8	See Kits	2	Wiper	
9	See Kits	2	Plate, Seal	
10	See Kits	2	Screw, Rd Hd Mach	
11	See Kits	1	Poppet, C.V.	
12	See Kits	1	Spring	
13	See Kits	2	HHCS	
14	See Kits	1	Cap, Spool	
15	See Kits	1	End, Spool	
16	See Kits	2	Seat, Spring	
17	See Kits	1	Spring	
18	See Kits	1	Shuttle	
19	8034539	1	Plug, Shut-off	
20	8034538	2	Relief Valve Assembly - Preset at 3200 50 psi (Includes Items 21 thru 28)	
21	See Kits	2	O-Ring	
22	See Kits	1	Ring, Back-Up	
23	See Kits	2	O-Ring	
24	See Kits	1	O-Ring	
25	See Kits	2	Ring, Back-Up	
26	See Kits	1	Spring	
27	See Kits	1	Spring	
28	See Kits	1	Spring	
29	See Kits	1	Tie Rod	
30	See Kits	2	Nut, Special	
31	See Kits	2	Tie Rod	
32	See Kits	4	Nut, Special	
33	8035387	1	Valve, Main Relief (Preset at 3500 50 psi)	
34	8760451	1	Plug, Hex Hd, SAE 6 - male str thd o-ring	
		Ref	<b>KITS</b>	
35	8034541	AR	Rebuild Kit for Items 4 & 5 (Includes 3 of Item 6 and listed quantities of Items 7 thru 18)	
36	8034540	1	Seal and Spring Kit for Relief Valve - Item 20	
37	8903011	1	Tie Rod Kit - 2 Section Valve (Includes Items 29 thru 32)	
38	7115652	1	Kit, Main Control Valve (Includes Valve and Instructions)	

# SECTION 6 - HYDRAULIC COMPONENTS

## FIGURE 6-20. SECONDARY CONTROL VALVE



PH0472

## SECTION 6 - HYDRAULIC COMPONENTS

### FIGURE 6-20. SECONDARY CONTROL VALVE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	NLA	1	Secondary Control Valve, Frame Tilt, Attachment Tilt and Auxiliary Hydraulics, For Service, Order Kit P/N 7115712 <b>(Prior to SN 0267)</b>	
1	8902152	1	Secondary Control Valve, Frame Tilt, Attachment Tilt and Auxiliary Hydraulics (Includes Items 2 thru 42) <b>(SN 0267 to Present)</b>	
2	8034527	1	Section, Inlet (Includes 1 of Item 7)	
3	8034528	1	Section, Outlet	
4	8034549	1	Section, Frame Tilt (Includes Items 7 thru 11 & 14 thru 22)	
5	8034530	1	Section, Attachment Tilt (Includes Items 7 thru 20)	
6	8034531	1	Section, Auxiliary Hydraulics (Includes Items 7 thru 20)	
7	See Kits	1	O-Ring	
8	See Kits	2	O-Ring	
9	See Kits	2	Wiper	
10	See Kits	2	Plate, Seal	
11	See Kits	2	Screw, Rd Hd Mach	
12	See Kits	1	Poppet, C.V.	
13	See Kits	1	Spring	
14	See Kits	2	HHCS	
15	See Kits	1	Cap, Spool	
16	See Kits	1	End, Spool	
17	See Kits	1	O-Ring	
18	See Kits	2	Seat, Spring	
19	See Kits	1	Spring	
20	See Kits	2	Shuttle	
21	See Kits	1	Spring	
22	See Kits	1	Piston - Compensator, C.V.	
23	8902512	2	Plug, Shut-off	
24	8034532	2	Relief Valve Assembly - Preset at 3200 50 psi (Includes Items 25 thru 33)	
25	See Kits	1	O-Ring	
26	See Kits	1	Ring, Back-Up	
27	See Kits	1	O-Ring	
28	See Kits	1	O-Ring	
29	See Kits	1	Ring, Back-Up	
30	See Kits	1	Spring	
31	See Kits	1	O-Ring	
32	See Kits	2	O-Ring	
33	See Kits	1	Spring	
34	See Kits	1	Tie Rod	
35	See Kits	2	Nut, Special	
36	See Kits	2	Tie Rod	
37	See Kits	4	Nut, Special	
38	8760420	1	Plug, Hex Hd, SAE 10 - male str thd o-ring	
39	8034557	2	O-Ring	
40	8034556	2	Ring, Back-Up	
41	8034554	1	Screw, Flow Control	
42	8034555	1	Screw, Flow Control	
		Ref	<b>KITS</b>	
43	8034542	AR	Rebuild Kit for Items 5 & 6 (Includes 4 of Item 7 and listed quantities of Items 8 thru 20)	
44	8034550	1	Rebuild Kit for Item 4 (Includes 4 of Item 7 and listed quantities of Items 8 thru 11 & 14 thru 22)	

## SECTION 6 - HYDRAULIC COMPONENTS

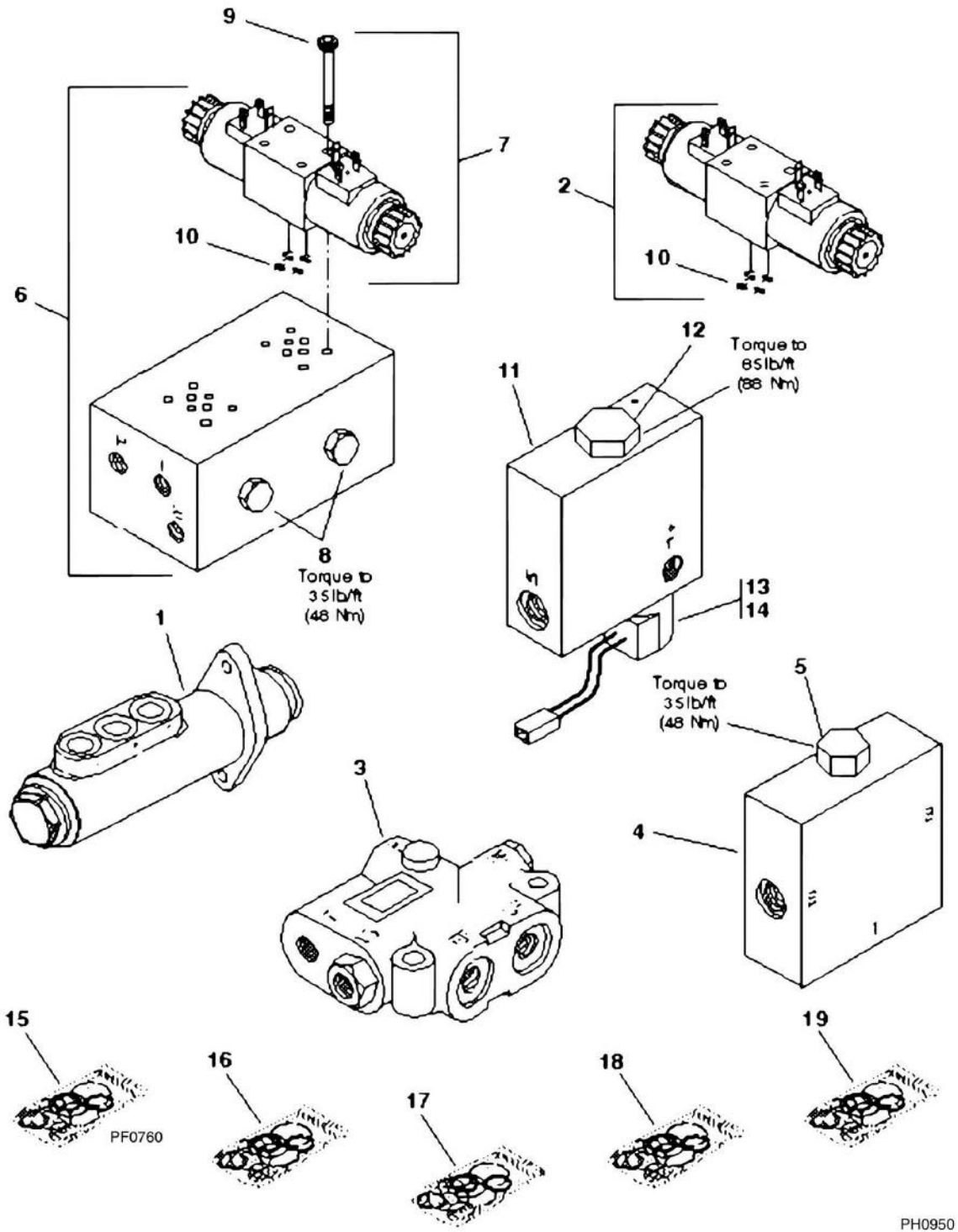
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
45	10837948	1	Seal & Spring Kit for Relief Valve, Item 24	
46	8902095	1	Tie Rod Kit - 3 Section Valve (Includes Items 34 thru 37)	
47	7115712	1	Kit, Secondary Control Valve, Frame Tilt, Attachment Tilt and Auxiliary Hydraulics (Includes Valve and Instructions)	





# SECTION 6 - HYDRAULIC COMPONENTS

## FIGURE 6-21. DIRECTIONAL CONTROL VALVES 1 OF 2



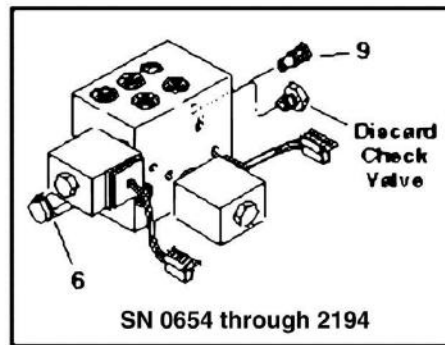
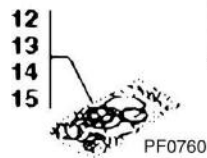
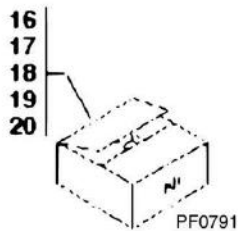
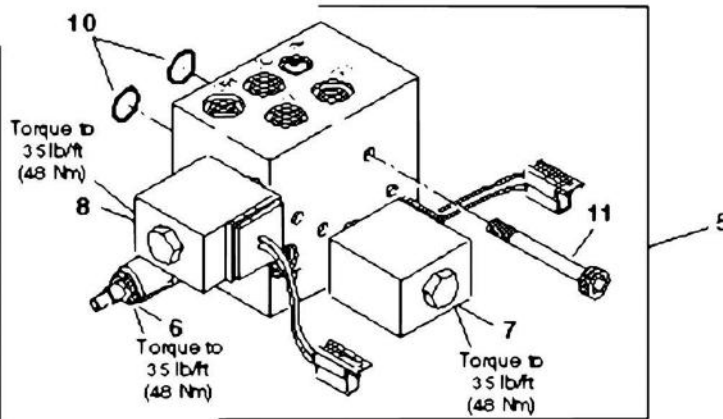
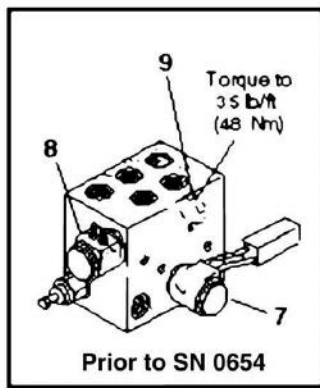
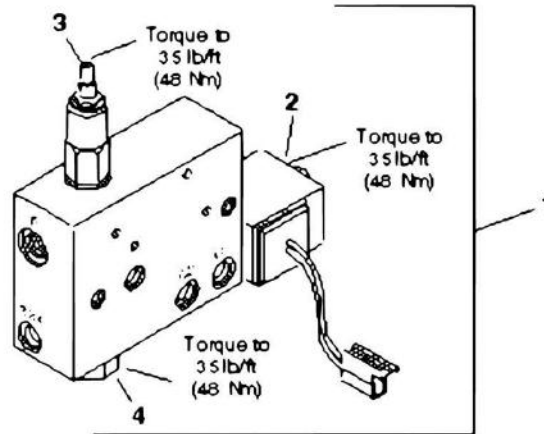
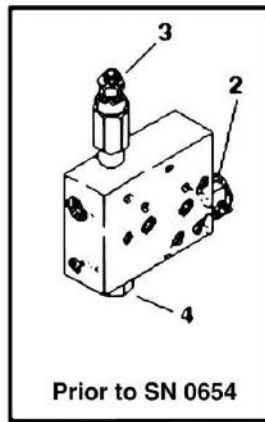
## SECTION 6 - HYDRAULIC COMPONENTS

**FIGURE 6-21. DIRECTIONAL CONTROL VALVES 1 OF 2**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	NLA	1	Brake Valve, For Service, Order P/N 8902222 <b>(Prior to SN 0654)</b>	
1	7119813	1	Brake Valve Kit <b>(SN 0654 through 1167)</b>	
1	8902222	1	Brake Valve <b>(SN 1168 to Present)</b>	
2	8902137	1	Valve, Steer Select	
3	8904047	1	Valve, Priority	
4	8902838	1	Valve, Shuttle (Includes Item 5)	
5	8902846	1	Cartridge, Shuttle Valve (See Kits)	
6	8902141	1	Valve, Outrigger (Includes Items 7 & 8) <b>(Prior to SN 10882)</b>	
6	8902193	1	Valve, Outrigger (Includes Items 7 & 8) <b>(SN 10882 to Present)</b>	
7	8902140	2	Solenoid Valve Assembly	
8	8904049	2	Check Valve, Back to Back (See Kits)	
9	8304631	8	SHCS, #10-24 x 2in	
10	8640017	AR	O-Ring	
11	8902251	1	Valve, Boom Extend Lockout (Includes Items 12 thru 14)	
12	8034558	1	Cartridge, Poppet Type (See Kits)	
13	8034559	1	Stem, Coil (See Kits)	
14	8034560	1	Coil Assembly	
		Ref	<b>KITS</b>	
15	8033254	1	Repair Kit, Brake Valve (For Item 1)	
16	8205655	1	Seal Kit, Pressure Reducing Valve (For Item 5)	
17	8205655	1	Seal Kit, Check Valve, Back to Back (For Item 8)	
18	8034561	1	Seal Kit, Stem, Coil (For Item 13)	
19	8034562	1	Seal Kit, Cartridge, Poppet Type (For Item 12)	

# SECTION 6 - HYDRAULIC COMPONENTS

FIGURE 6-22. DIRECTIONAL CONTROL VALVES 2 OF 2



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## SECTION 6 - HYDRAULIC COMPONENTS

**FIGURE 6-22. DIRECTIONAL CONTROL VALVES 2 OF 2**

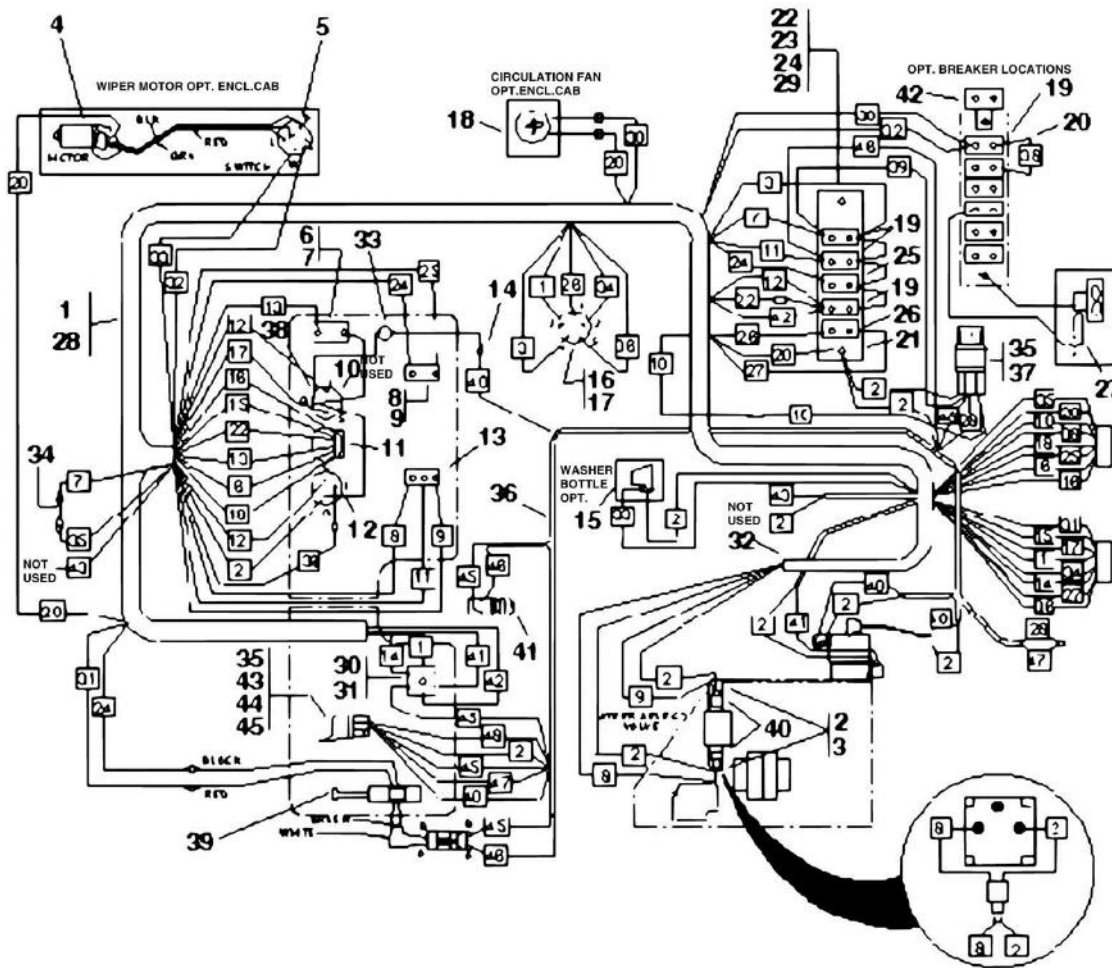
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	NLA	1	Valve, Pressure Reducing (Includes Items 2 thru 4)(See Kits Item 16 or 17) <b>(Prior to SN 0654)</b>	
1	8902266	1	Valve, Pressure Reducing (Includes Items 2 thru 4) <b>(SN 0654 through 13199)</b>	
2	8033760	1	Solenoid Valve (See Kits Item 12) <b>(Prior to SN 0654)</b>	
2	8036243	1	Solenoid Valve (See Kits Item 12) <b>(SN 0654 through 13199)</b>	
3	NLA	1	Cartridge, Pressure Reducing (See Kits Item 13) <b>(Prior to SN 0654)</b>	
3	8032993	1	Cartridge, Pressure Reducing (See Kits Item 13) <b>(SN 0654 through 13199)</b>	
4	8033769	1	Cartridge, Check Valve (See Kits Item 15) <b>(Prior to SN 0654)</b>	
4	8034577	1	Cartridge, Check Valve (See Kits Item 15) <b>(SN 0654 through 13199)</b>	
5	NLA	1	Valve, Axle Stabilizer (Includes Items 6 thru 11)(See Kits Item 18) <b>(Prior to SN 0654)</b>	
5	NLA	1	Valve, Axle Stabilizer (Includes Items 6 thru 11)(See Kits Item 19) <b>(SN 0654 through 2194)</b>	
5	8902267	1	Valve, Axle Stabilizer (Includes Items 6 thru 11) <b>(SN 2195 through 13199)</b>	
6	NLA	1	Pressure Reducing Valve - 60 psi (See Kits Item 20) <b>(Prior to SN 0654)</b>	
6	NLA	1	Pressure Reducing Valve - 60 psi (See Kits Item 19) <b>(SN 0654 through 2194)</b>	
6	8902688	1	Pressure Reducing Valve - 200 psi (See Kits Item 13) <b>(SN 2195 through 13199)</b>	
7	8033770	1	Solenoid Valve (See Kits Item 15) <b>(Prior to SN 0654)</b>	
7	8034578	1	Solenoid Valve (See Kits Item 15) <b>(SN 0654 through 13199)</b>	
8	8033760	1	Solenoid Valve (See Kits Item 12) <b>(Prior to SN 0654)</b>	
8	8034575	1	Solenoid Valve (See Kits Item 12) <b>(SN 0654 through 13199)</b>	
9	8033753	1	Check Valve (See Kits Item 15) <b>(Prior to SN 0654)</b>	
9	8902690	1	Plug (See Kits Item 15) <b>(SN 0654 through 2194)</b>	
10	8640019	2	O-Ring	
11	8310153	4	SHCS, 1/4-20 x 3in	
		Ref	<b>KITS</b>	
12	8033761	1	Seal Kit, Solenoid Valve <b>(Prior to SN 0654)</b>	
12	8034571	1	Seal Kit, Solenoid Valve <b>(SN 0654 through 13199)</b>	
13	8033768	1	Seal Kit, Pressure Reducing Cartridge <b>(Prior to SN 0654)</b>	
13	8034570	1	Seal Kit, Pressure Reducing Cartridge <b>(SN 0654 through 13199)</b>	
14	8205655	1	Seal Kit, Pressure Reducing Valve <b>(Prior to SN 0654)</b>	
14	8034570	1	Seal Kit, Pressure Reducing Valve <b>(SN 0654 through 13199)</b>	
15	8033763	1	Seal Kit, Check Valve <b>(Prior to SN 0654)</b>	
15	8034569	1	Seal Kit, Check Valve <b>(SN 0654 through 13199)</b>	
16	7117692	1	Rework Kit, Press Red Valve Models 8042 & 10042 <b>(Prior to SN 0654)</b>	
17	7117292	1	Rework Kit, Press Red Valve Model 10054 Only <b>(Prior to SN 0654)</b>	
18	7117282	1	Rework Kit, Stabilizer Valve <b>(Prior to SN 0654)</b>	
19	7130564	1	Rework Kit, Park Brake Valves <b>(SN 0654 through 2194)</b>	
20	7131274	1	Rework Kit, Park Brake Valves <b>(Prior to SN 0654)</b>	



**SECTION 7 - ELECTRICAL**

# SECTION 7 - ELECTRICAL

## FIGURE 7-1. ELECTRICAL SYSTEM - CAB HARNESS (Prior to SN 0292)



PH0601



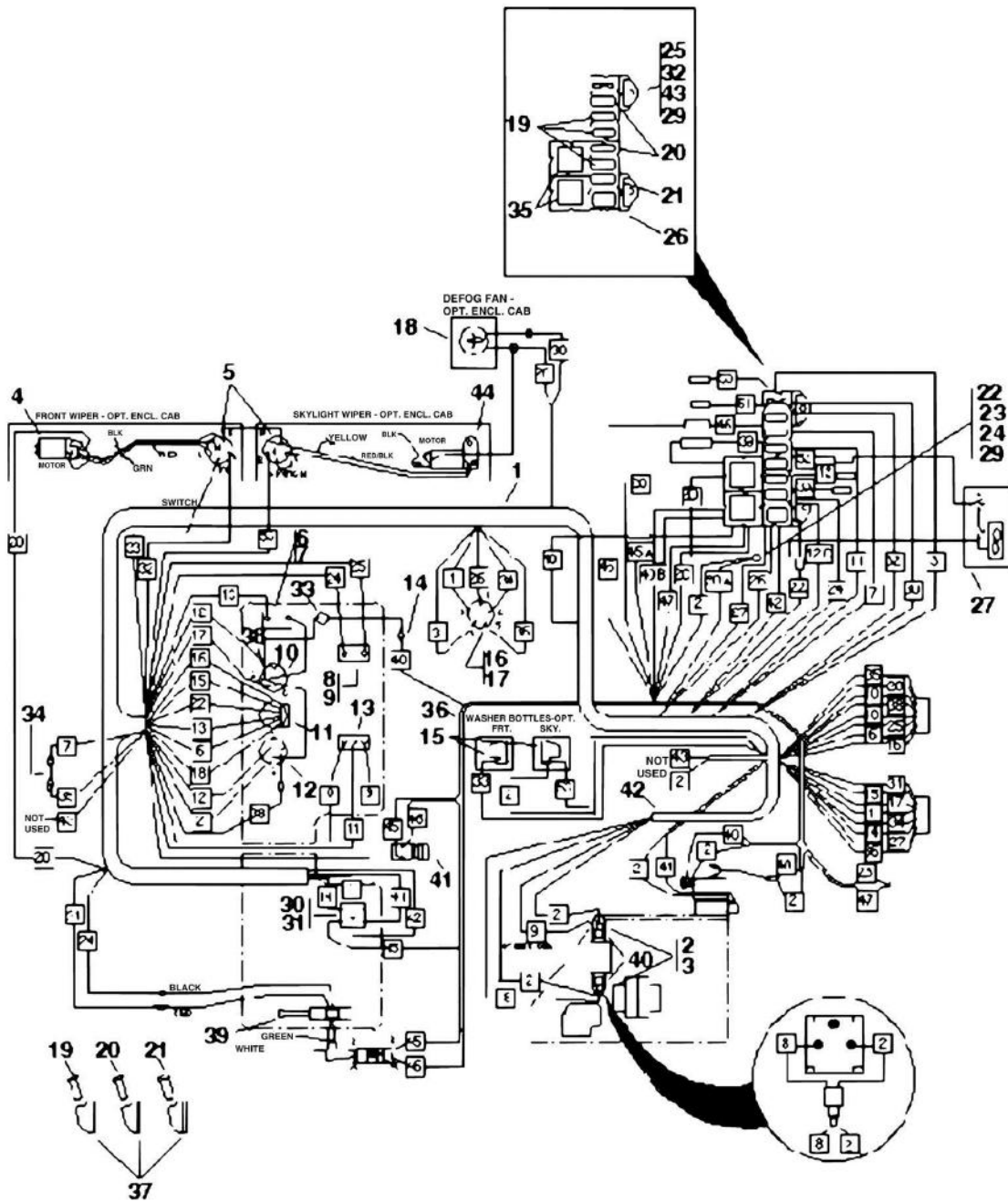
## SECTION 7 - ELECTRICAL

**FIGURE 7-1. ELECTRICAL SYSTEM - CAB HARNESS (Prior to SN 0292)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7114763	1	Harness, Cab (Includes Items 2 & 3)	
2	8220882	2	Connector, Solenoid (Includes Item 3)	
3	8688026	1	Seal, Connector (Not Shown)	
4	7112511	1	Motor Kit, Windshield Wiper	
5	8033201	1	Switch, Windshield Washer/ Wiper	
6	8223442	1	Switch, Test	
7	8580312	1	Boot, Test Switch	
8	8223405	1	Button, Horn	
9	8580311	1	Boot, Horn Button	
10	8464212	1	Gauge, Fuel	
11	8466305	1	Gauge, Warning Lights	
12	8467014	1	Hourmeter	
13	8223220	1	Switch, Steer Select	
14	8220050	1	Terminal - Male	
15	8033065	1	Washer Reservoir Assembly	
16	8223436	1	Switch, Ignition (w/Keys)	
17	8223438	1	Key, Ignition (Not Shown)	
18	8033078	1	Fan, Circulation	
19	8229215	3	Circuit Breaker, 6 amp (4 req'd on Closed Cab)	
20	7047041	1	Wire Assembly (Enclosed Cab Only)	
21	8229218	1	Bracket, Cricuit Breaker	
22	8305004	2	Nut, Hex, 1/4-20	
23	8307109	3	Washer, Flat 1/4in	
24	8307026	2	Washer, Lock, Int Tooth 3/8in	
25	8229216	1	Circuit Breaker, 10 amp	
26	8229226	1	Circuit Breaker, 40 amp	
27	8223024	1	Switch Kit, Heater	
28	8584001	AR	Wrap, Tie (Not Shown)	
29	8307002	2	Washer, Lock 1/4in	
30	8223444	1	Switch, Emergency Brake	
31	8223445	1	Guard, Switch	
32	8584003	1	Wrap, Tie	
33	8469028	1	Warning Light	
34	7112422	1	Wire Assembly	
35	8223517	2	Relay	
36	7115163	1	Harness, Stabilizer	
37	8305003	1	Nut, Hex #10-32	
38	8220008	1	Terminal, Ring #10	
39	8160621	1	Switch, Reverse	
40	8032756	2	Solenoid, Steer Select	
41	8223025	1	Switch, Brake	
42	8229232	1	Circuit Breaker 20 amp (optional)	
43	8303835	1	SHCS #10 x 1/2in	
44	8305002	1	Nut, Hex #10	
45	8307003	1	Washer, Lock #10	

# SECTION 7 - ELECTRICAL

## FIGURE 7-2. ELECTRICAL SYSTEM - CAB HARNESS (SN 0292 through 9908)



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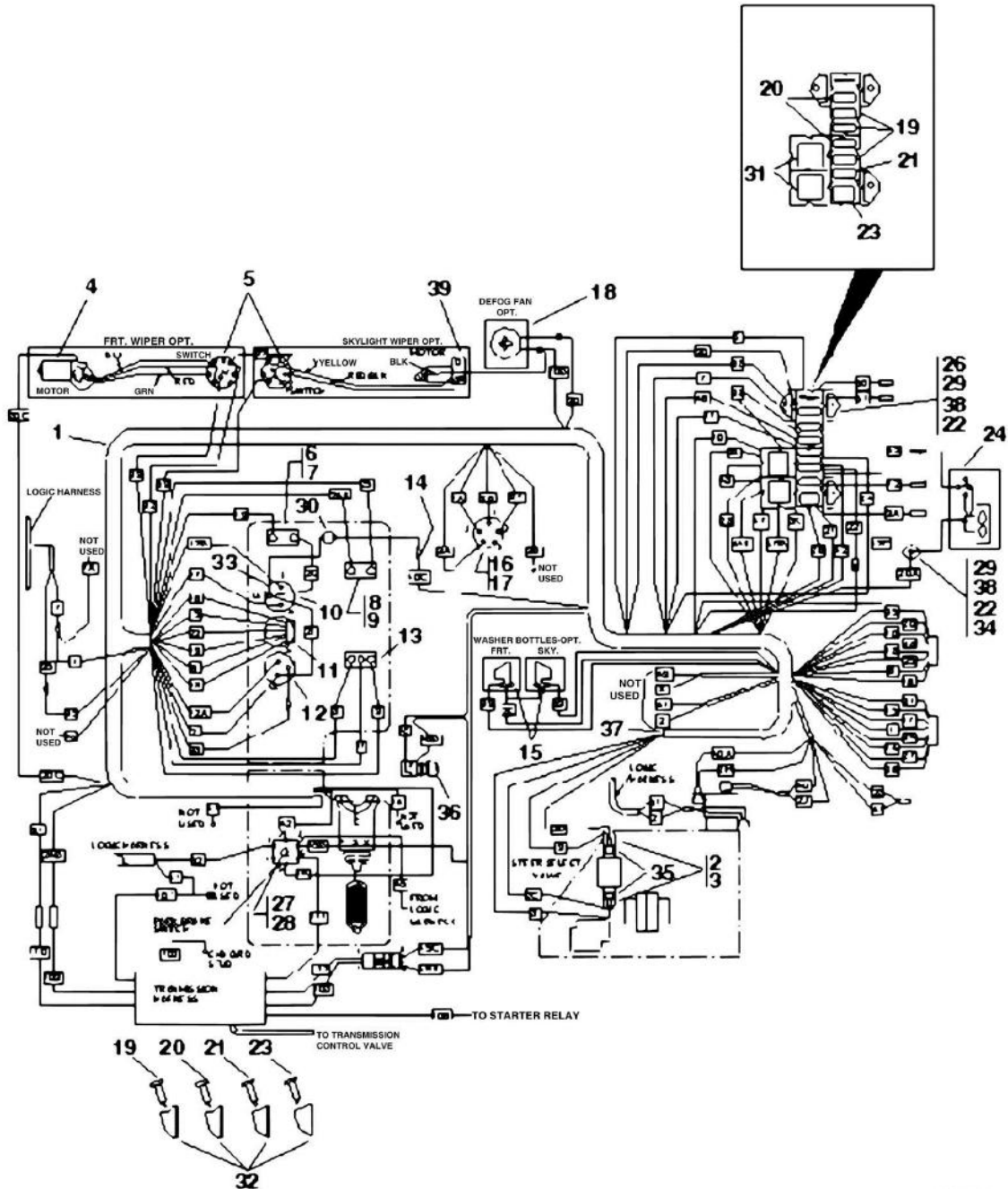
## SECTION 7 - ELECTRICAL

**FIGURE 7-2. ELECTRICAL SYSTEM - CAB HARNESS (SN 0292 through 9908)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7114754	1	Harness, Cab (Includes Items 2 & 3)	
2	8220882	2	Connector, Solenoid (Includes Item 3)	
3	8688026	1	Seal, Connector - Not Shown	
4	7112511	1	Motor Kit, Windshield Wiper	
5	8033201	2	Switch, Windshield Washer/Wiper	
6	8223442	1	Switch, Test	
7	8580312	1	Boot, Test Switch	
8	8223405	1	Button, Horn	
9	8580311	1	Boot, Horn Button	
10	8464212	1	Gauge, Fuel	
11	8466305	1	Gauge, Warning Lights	
12	8467014	1	Hourmeter	
13	8223220	1	Switch, Steer Select	
14	8220050	1	Terminal - Male	
15	8033065	1	Washer Reservoir Assembly	
16	8223436	1	Switch, Ignition (w/Keys)	
17	8223438	1	Key, Ignition (Not Shown)	
18	8033078	1	Fan, Defrost	
19	8229233	2	Fuse, 7.5 amp (3 required on Closed Cab)	
20	8229234	2	Fuse, 10 amp (3 required on Closed Cab)	
21	8229235	1	Fuse, 20 amp (Opt. Light Package)	
22	8305004	1	Nut, Hex, 1/4-20	
23	8307109	2	Washer, Flat 1/4in	
24	8307026	2	Washer, Lock, Int Tooth 3/8in	
25	8305002	4	Nut, Hex #10	
26	8229238	2	Fuse, 40 Amps	
27	8223024	1	Switch Kit, Heater	
28	8584001	AR	Wrap, Tie (Not Shown)	
29	8307106	3	Washer, Flat 5/16in LT	
30	8223444	1	Switch, Emergency Brake	
31	8223445	1	Guard, Switch	
32	8307003	4	Washer, Lock #10	
33	8469028	1	Warning Light	
34	7112422	1	Wire Assembly	
35	8225117	2	Relay	
36	7114604	1	Harness, Stabilizer	
37	8582007	3	Clip, Spare Fuse	
38	8220008	1	Terminal, Ring #10	
39	8160621	1	Switch, Reverse	
40	8032756	2	Solenoid, Steer Select	
41	8223025	1	Switch, Brake	
42	8584003	1	Wrap, Tie (Not Shown)	
43	8307111	4	Washer, Flat #10	
44	8034810	1	Skylight Wiper Motor	

# SECTION 7 - ELECTRICAL

FIGURE 7-3. ELECTRICAL SYSTEM - CAB HARNESS (SN 9909 through 13197)



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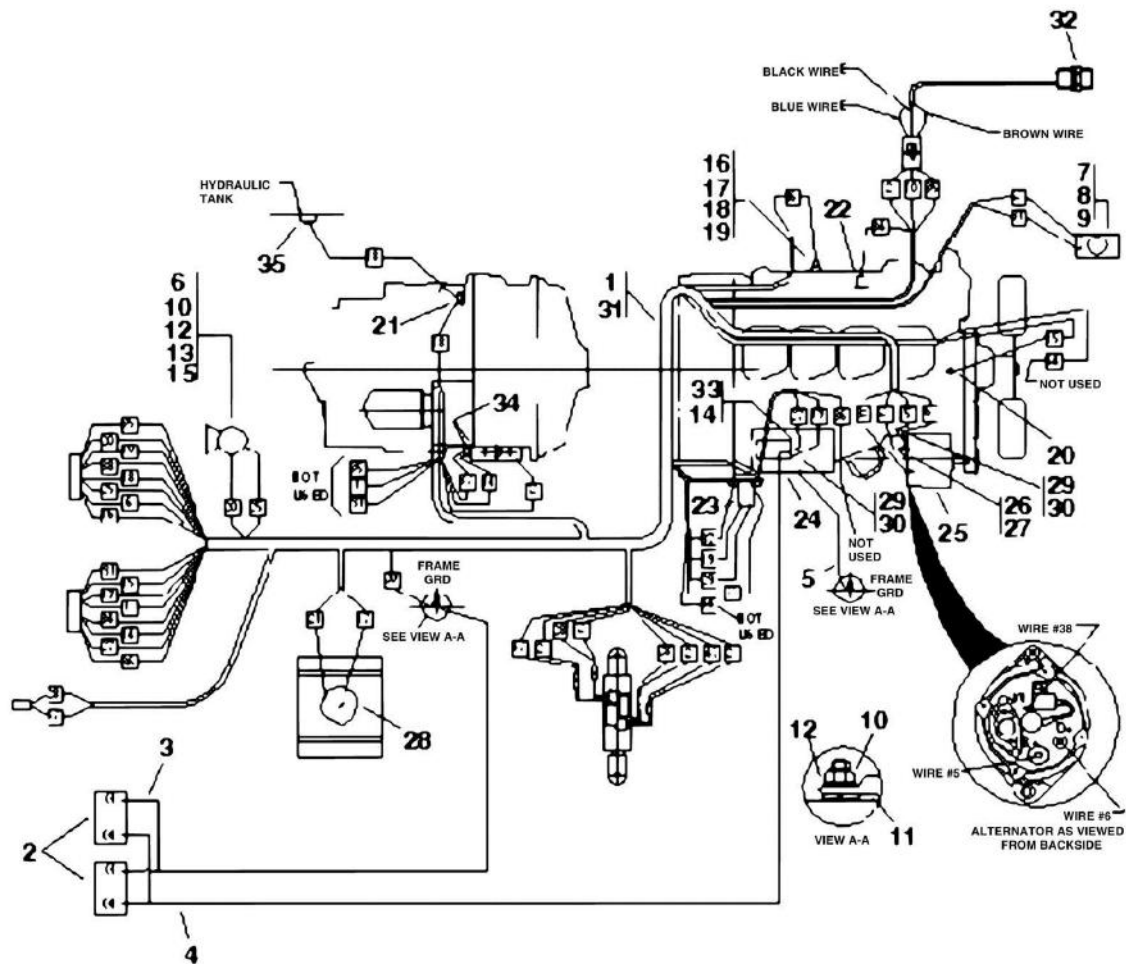
## SECTION 7 - ELECTRICAL

**FIGURE 7-3. ELECTRICAL SYSTEM - CAB HARNESS (SN 9909 through 13197)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7117704	1	Harness, Cab (Includes Item 2)	
2	8220882	2	Connector, Solenoid	
3	8526035	AR	Sealant	
4	7112511	1	Motor Kit, Windshield Wiper	
5	8033201	2	Switch, Windshield Washer/Wiper	
6	8223442	1	Switch, Test	
7	8580312	1	Boot, Test Switch	
8	8223405	1	Button, Horn	
9	8580311	1	Boot, Horn Button	
10	8464212	1	Gauge, Fuel	
11	8466305	1	Gauge, Warning Lights	
12	8467014	1	Hourmeter	
13	8223220	1	Switch, Steer Select	
14	8220050	1	Terminal - Male	
15	8033065	1	Washer Reservoir Assembly	
16	8223436	1	Switch, Ignition (w/Keys)	
17	8223438	1	Key, Ignition (Not Shown)	
18	8033078	1	Fan, Defrost	
19	8229233	2	Fuse, 7.5 amp (3 required on Closed Cab)	
20	8229234	3	Fuse, 10 amp	
21	8229235	1	Fuse, 20 amp (Opt Light Package)	
22	8305002	4	Nut, Hex #10	
23	8229238	2	Fuse, 40 Amps	
24	8223024	1	Switch Kit, Heater	
25	8584001	AR	Wrap, Tie (Not Shown)	
26	8307106	3	Washer, Flat 5/16in LT	
27	8223444	1	Switch, Emergency Brake	
28	8223445	1	Guard, Switch	
29	8307003	4	Washer, Lock #10	
30	8469028	1	Warning Light	
31	8225117	2	Relay	
32	8582007	4	Clip, Spare Fuse	
33	8220008	1	Terminal, Ring #10	
34	8307027	1	Washer, Lock Ext Tooth 5/16in	
35	8032756	2	Solenoid, Steer Select	
36	8223025	1	Switch, Brake	
37	8584003	1	Wrap, Tie (Not Shown)	
38	8307111	4	Washer, Flat #10	
39	8034810	1	Skylight Wiper Motor	

# SECTION 7 - ELECTRICAL

FIGURE 7-4. ELECTRICAL SYSTEM - ENGINE HARNESS (8042 Prior to SN 0207; 10042 Prior to SN 0212)



PH0610

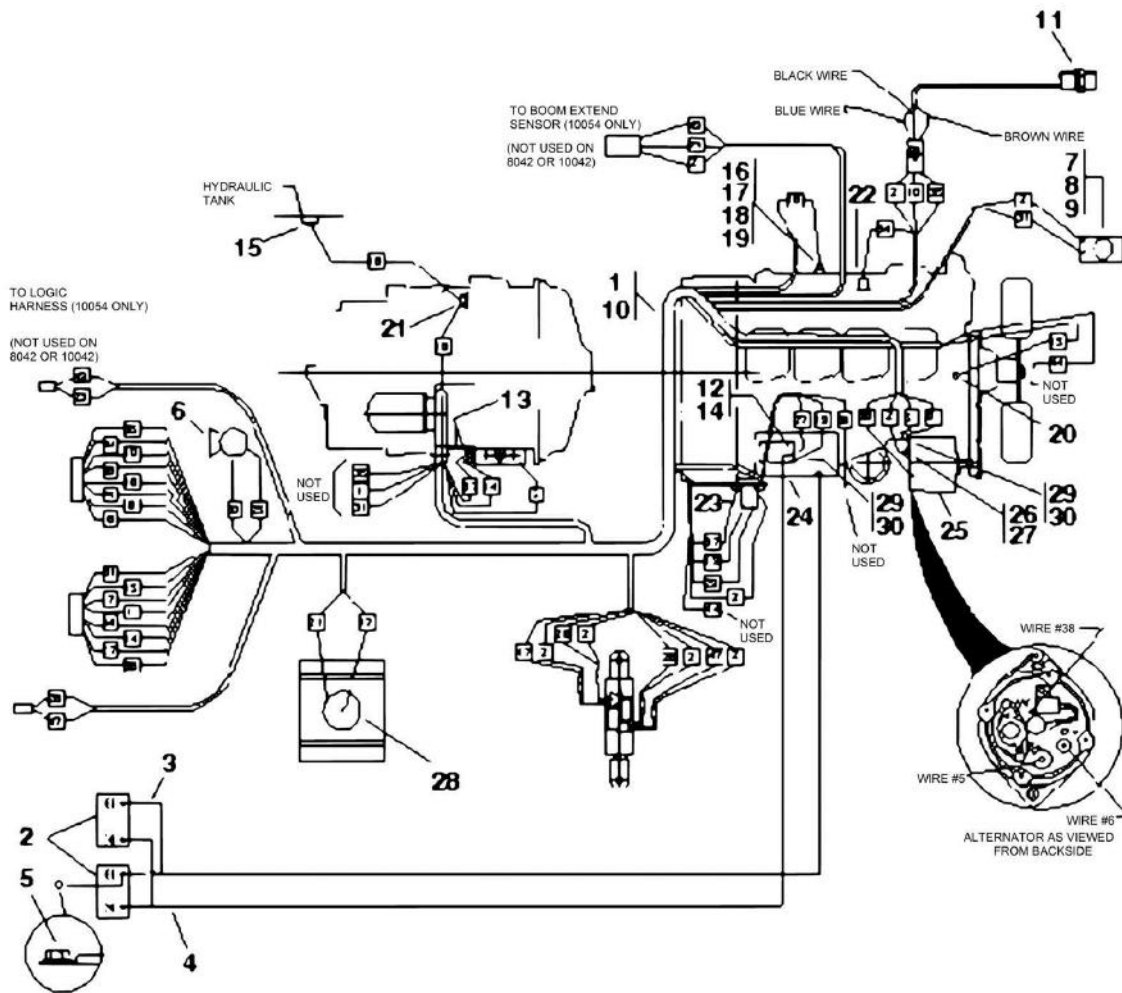
## SECTION 7 - ELECTRICAL

**FIGURE 7-4. ELECTRICAL SYSTEM - ENGINE HARNESS (8042 Prior to SN 0207; 10042 Prior to SN 0212)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7098864	1	Harness, Engine	
2	8270014	2	Battery, 12 Volt	
3	7114612	1	Cable, Battery - Negative	
4	7098762	1	Cable, Battery - Positive	
5	7068651	1	Cable, Battery Ground	
6	8270602	1	Horn	
7	8270617	1	Alarm, Backup	
8	8305004	2	Nut, Hex, 1/4-20	
9	8307002	2	Washer, Lock 1/4in	
10	8305006	4	Nut, Hex, 5/16-18	
11	8307006	2	Washer, Lock 7/16in	
12	8307106	4	Washer, Flat 5/16in	
13	8307004	1	Washer, Lock 5/16in	
14	8305438	1	Nut, Hex Jam M10	
15	8303697	2	HHCS, 5/16-18 x 3/4in	
16	8310041	1	Washer, Lock, Ext. Tooth #8	
17	8305201	1	Nut, Hex, Brass #8-32	
18	8220073	1	Terminal, Slip-On Male #10 SCR	
19	8223510	1	Sender, Low Oil Pressure 1/8-27	
20	8223217	1	Sender, Water Temperature	
21	8223216	1	Switch, Transmission Temperature	
22	8033406	1	Solenoid, Fuel Run (Used on CAV Injection Pumps)	
22	8034813	1	Solenoid, Fuel Run (Used on Bosch Injection Pumps)	
23	8277162	1	Relay, Starter	
24	8033340	1	Starter (Includes Starter Solenoid)	
25	8270221	1	Alternator	
26	8307022	1	Washer, Lock M8	
27	8305043	1	Nut, Hex M8-1.25	
28	7118222	1	Sender, Fuel Level	
29	8310077	3	Nut, Hex Jam M5-0.8	
30	8310078	3	Washer, Lock M5	
31	8584001	AR	Tie Wrap (Not Shown)	
32	7099882	1	Boom Sensor - Angle	
33	8307023	1	Washer, Lock M10	
34	8303987	2	Screw, Slotted #8	
35	8223217	1	Switch, Hydraulic Oil Temperature	

# SECTION 7 - ELECTRICAL

**FIGURE 7-5. ELECTRICAL SYSTEM - ENGINE HARNESS (8042 SN 0207 through 1598; 10042 SN 0212 through 1598; 10054 Prior to SN 1599)**



PH0611



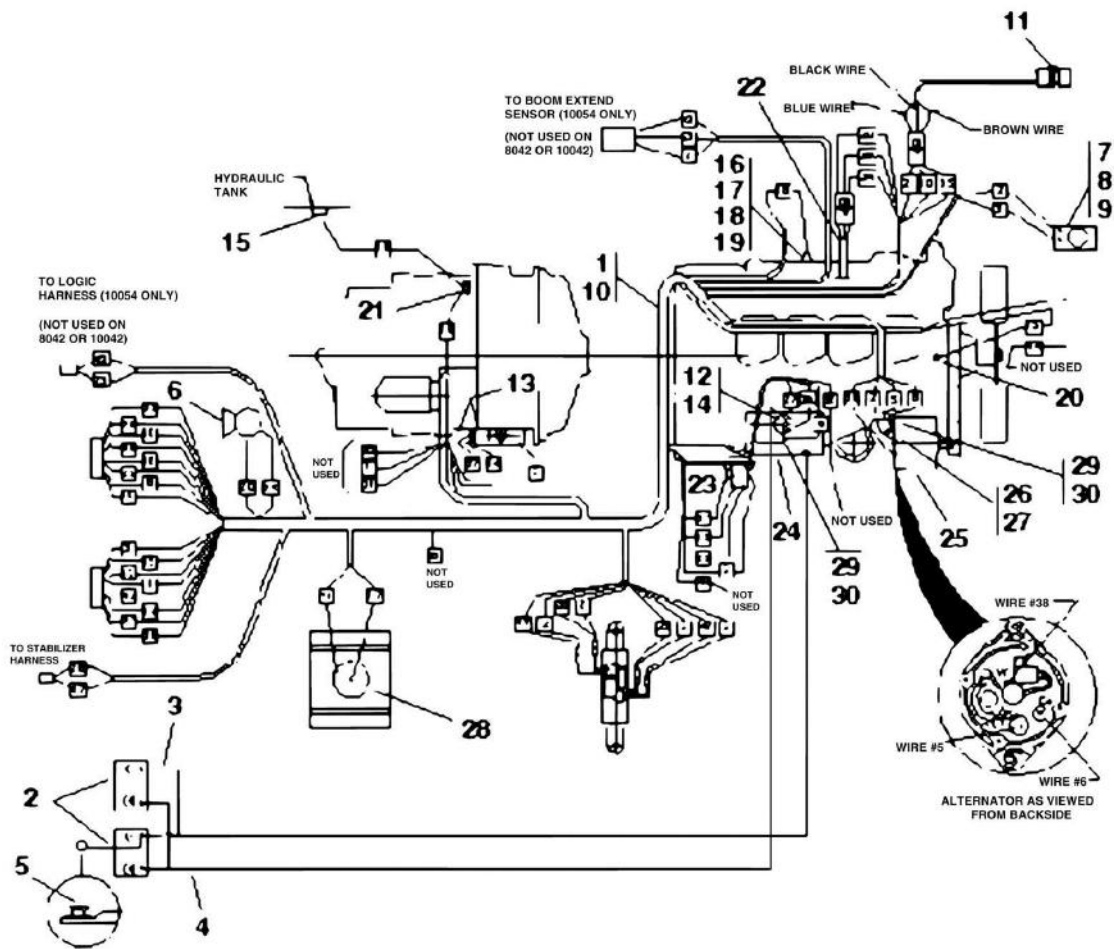
## SECTION 7 - ELECTRICAL

**FIGURE 7-5. ELECTRICAL SYSTEM - ENGINE HARNESS (8042 SN 0207 through 1598; 10042 SN 0212 through 1598; 10054 Prior to SN 1599)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7126684	1	Harness, Engine	
2	8270014	2	Battery, 12 Volt	
3	7114542	1	Cable, Dual Battery - Negative	
4	7098762	1	Cable, Dual Battery - Positive	
5	8310202	1	HHCS, 3/8 x 3/4in	
6	8270602	1	Horn (Includes Mounting Hardware)	
7	8270617	1	Alarm, Backup	
8	8305004	2	Nut, Hex, 1/4-20	
9	8307002	2	Washer, Lock 1/4in	
10	8584001	AR	Tie Wrap (Not Shown)	
11	7099882	1	Boom Sensor - Angle	
12	8307023	1	Washer, Lock M10	
13	8303987	2	Screw, Slotted #8	
14	8305438	1	Nut, Hex Jam M10	
15	8223217	1	Switch, Hydraulic Oil Temperature	
16	8310041	1	Washer, Lock, Ext Tooth #8	
17	8305201	1	Nut, Hex, Brass #8-32	
18	8220073	1	Terminal, Slip-On Male #10 SCR	
19	8223510	1	Sender, Low Oil Pressure 1/8-27	
20	8223217	1	Sender, Water Temperature	
21	8223216	1	Switch, Transmission Temperature	
22	8033406	1	Solenoid, Fuel Run (Used on CAV Injection Pumps)	
22	8034813	1	Solenoid, Fuel Run (Used on Bosch Injection Pumps)	
23	8277162	1	Relay, Starter	
24	8033340	1	Starter (Includes Starter Solenoid)	
25	8270221	1	Alternator	
26	8307022	1	Washer, Lock M8	
27	8305043	1	Nut, Hex M8-1.25	
28	7118222	1	Sender, Fuel Level	
29	8310077	3	Nut, Hex Jam M5-0.8	
30	8310078	3	Washer, Lock M5	

# SECTION 7 - ELECTRICAL

FIGURE 7-6. ELECTRICAL SYSTEM - ENGINE HARNESS (8042 SN 1599 through 5234; 10042 SN 1599 through 5250; 10054 SN 1599 through 5274)



PH0613

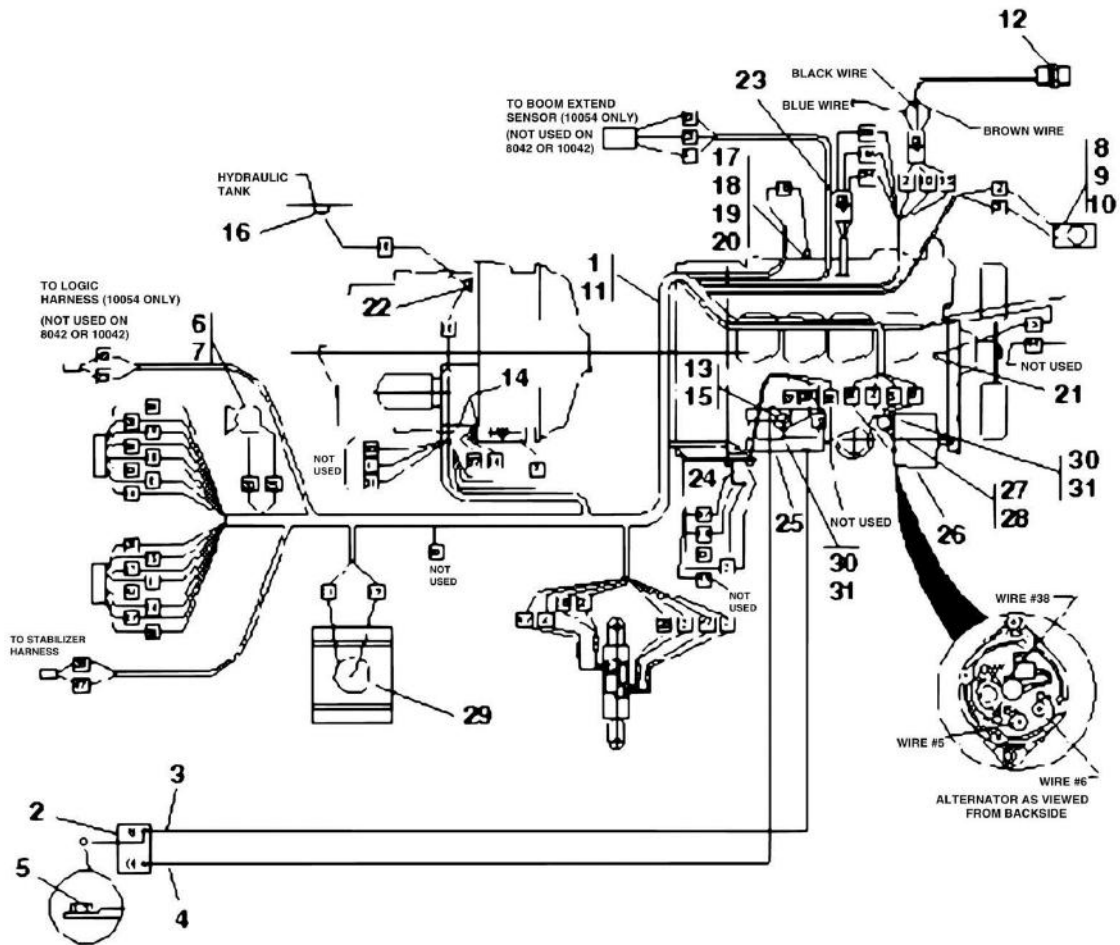
## SECTION 7 - ELECTRICAL

**FIGURE 7-6. ELECTRICAL SYSTEM - ENGINE HARNESS (8042 SN 1599 through 5234; 10042 SN 1599 through 5250; 10054 SN 1599 through 5274)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7126684	1	Harness, Engine	
2	8270014	2	Battery, 12 Volt	
3	7114542	1	Cable, Dual Battery - Negative	
4	7098762	1	Cable, Dual Battery - Positive	
5	8310202	1	HHCS, 3/8 x 3/4in	
6	8270602	1	Horn (Includes Mounting Hardware)	
7	8270617	1	Alarm, Backup	
8	8305004	2	Nut, Hex, 1/4-20	
9	8307002	2	Washer, Lock 1/4in	
10	8584001	AR	Tie Wrap (Not Shown)	
11	7099882	1	Boom Sensor - Angle	
12	8307023	1	Washer, Lock M10	
13	8303987	2	Screw, Slotted #8	
14	8305438	1	Nut, Hex Jam M10	
15	8223217	1	Switch, Hydraulic Oil Temperature	
16	8310041	1	Washer, Lock, Ext Tooth #8	
17	8305201	1	Nut, Hex, Brass #8-32	
18	8220073	1	Terminal, Slip-On Male #10 SCR	
19	8223532	1	Sender, Low Oil Pressure M10	
20	8223217	1	Sender, Water Temperature	
21	8223216	1	Switch, Transmission Temperature	
22	8033406	1	Solenoid, Fuel Run (Used on CAV Injection Pumps)	
22	8034813	1	Solenoid, Fuel Run (Used on Bosch Injection Pumps)	
23	8277162	1	Relay, Starter	
24	8033340	1	Starter (Includes Starter Solenoid)	
25	8270221	1	Alternator	
26	8307022	1	Washer, Lock M8	
27	8305043	1	Nut, Hex M8-1.25	
28	7118222	1	Sender, Fuel Level	
29	8310077	3	Nut, Hex Jam M5-0.8	
30	8310078	3	Washer, Lock M5	

# SECTION 7 - ELECTRICAL

FIGURE 7-7. ELECTRICAL SYSTEM - ENGINE HARNESS (EPA) (8042 Prior to SN 5236; 10042 Prior to SN 5252; 10054 SN 5275 through 9908)



PH0612

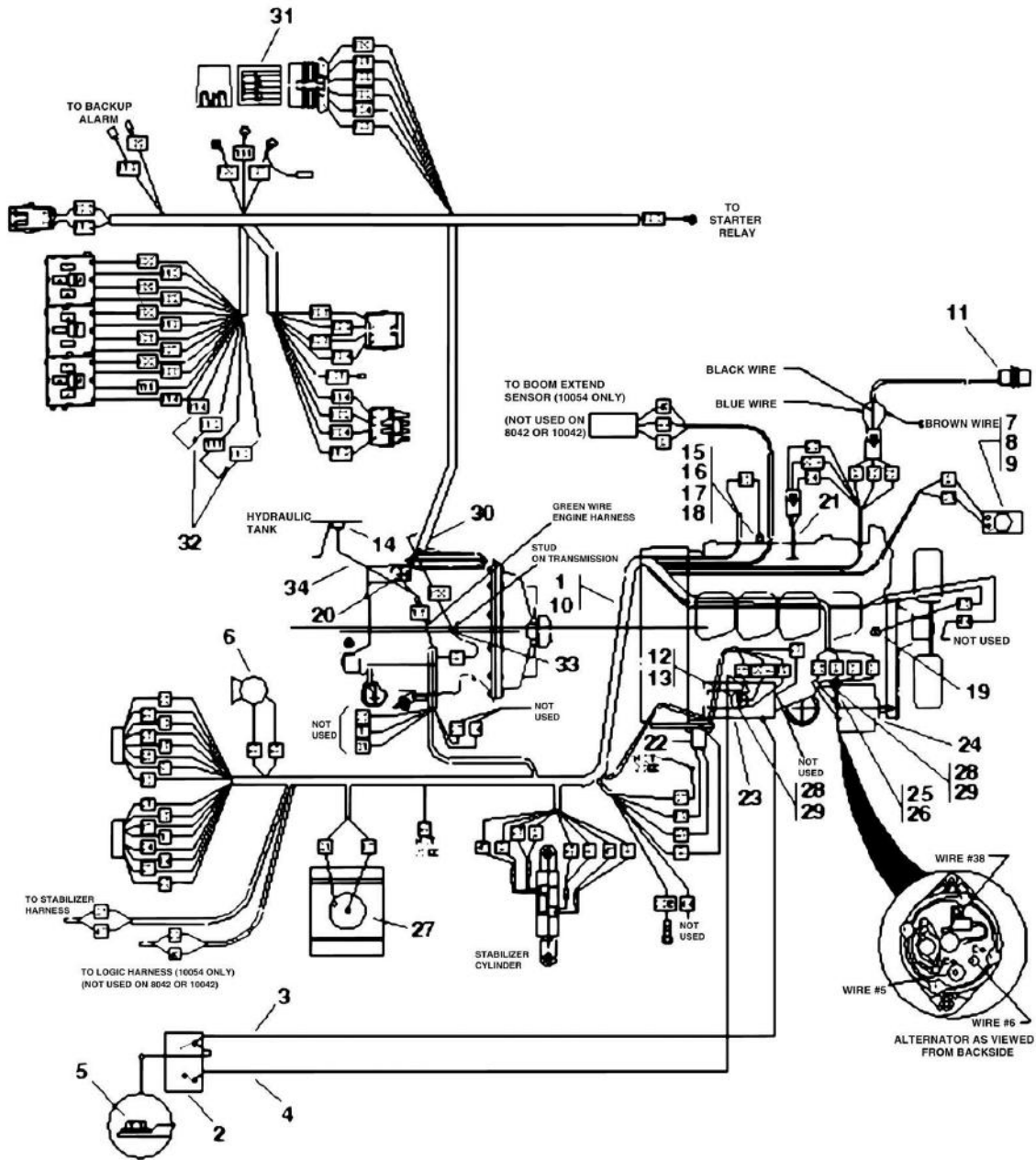
## SECTION 7 - ELECTRICAL

**FIGURE 7-7. ELECTRICAL SYSTEM - ENGINE HARNESS (EPA) (8042 Prior to SN 5236; 10042 Prior to SN 5252; 10054 SN 5275 through 9908)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7126684	1	Harness, Engine	
2	8270134	1	Battery, 12 Volt	
3	7129392	1	Cable, Single Battery - Negative	
4	7129382	1	Cable, Single Battery - Positive	
5	8310202	1	HHCS, 3/8 x 3/4in	
6	7134832	1	Kit, Horn (Includes Item 7 and female terminal to replace ring terminal on early production units)	
7	8270625	1	Horn (Includes Mounting Hardware)	
8	8270617	1	Alarm, Backup	
9	8305004	2	Nut, Hex, 1/4-20	
10	8307002	2	Washer, Lock 1/4in	
11	8584001	AR	Tie Wrap (Not Shown)	
12	7099882	1	Boom Sensor - Angle	
13	8307023	1	Washer, Lock M10	
14	8303987	2	Screw, Slotted #8	
15	8305438	1	Nut, Hex Jam M10	
16	8223217	1	Switch, Hydraulic Oil Temperature	
17	8310041	1	Washer, Lock, Ext Tooth #8	
18	8305201	1	Nut, Hex, Brass #8-32	
19	8220073	1	Terminal, Slip-On Male #10 SCR	
20	8223532	1	Sender, Low Oil Pressure M10	
21	8223217	1	Sender, Water Temperature	
22	8223216	1	Switch, Transmission Temperature	
23	8035276	1	Solenoid, Fuel Run	
24	8277162	1	Relay, Starter	
25	8033340	1	Starter (Includes Starter Solenoid)	
26	8270221	1	Alternator	
27	8307022	1	Washer, Lock M8	
28	8305043	1	Nut, Hex M8-1.25	
29	7118222	1	Sender, Fuel Level	
30	8310077	3	Nut, Hex Jam M5-0.8	
31	8310078	3	Washer, Lock M5	

# SECTION 7 - ELECTRICAL

FIGURE 7-8. ELECTRICAL SYSTEM - ENGINE HARNESS (EPA) (SN 9909 through 13197)



PH1280

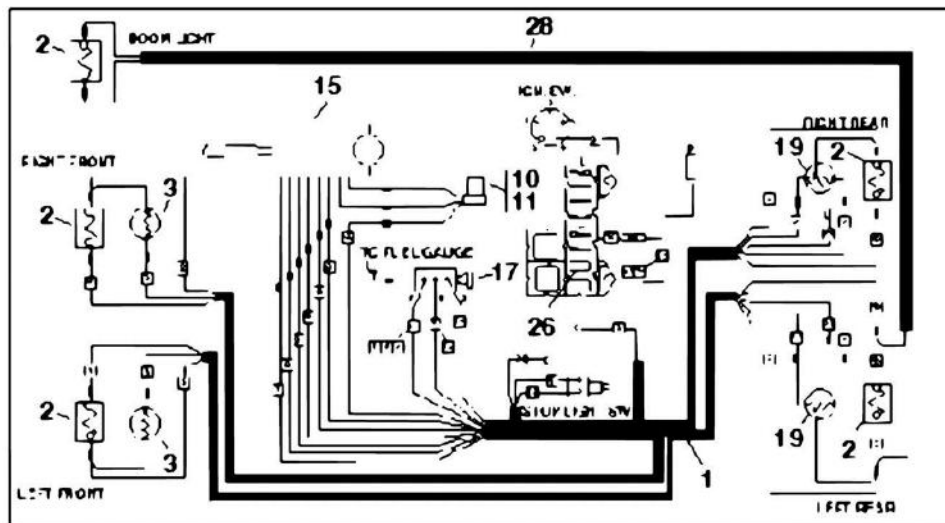
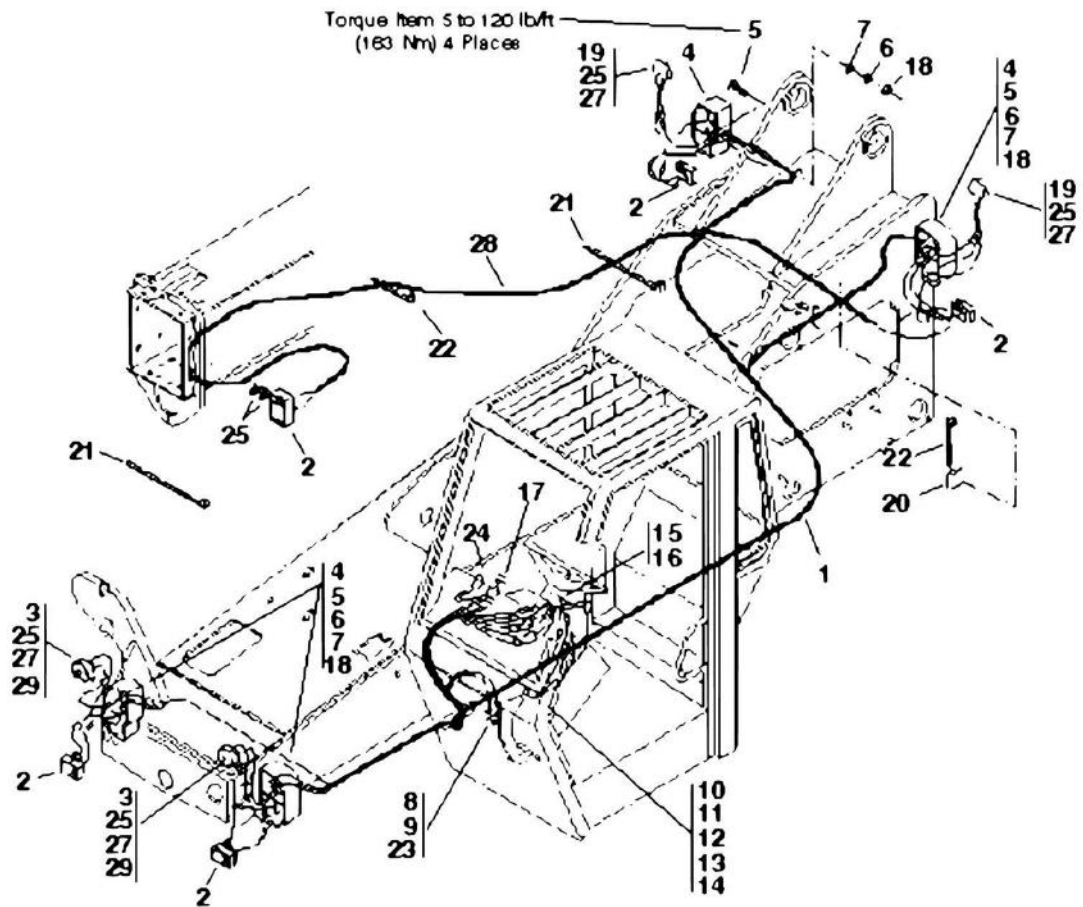
## SECTION 7 - ELECTRICAL

**FIGURE 7-8. ELECTRICAL SYSTEM - ENGINE HARNESS (EPA) (SN 9909 through 13197)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7134894	1	Harness, Engine	
2	8270134	1	Battery, 12 Volt	
3	7129392	1	Cable, Single Battery - Negative	
4	7129382	1	Cable, Single Battery - Positive	
5	8310202	1	HHCS, 3/8 x 3/4in	
6	8270625	1	Horn (Includes Mounting Hardware)	
7	8270617	1	Alarm, Backup	
8	8305004	2	Nut, Hex, 1/4-20	
9	8307002	2	Washer, Lock 1/4in	
10	8584001	AR	Tie Wrap (Not Shown)	
11	7099882	1	Boom Sensor - Angle	
12	8307023	1	Washer, Lock M10	
13	8305438	1	Nut, Hex Jam M10	
14	8223217	1	Switch, Hydraulic Oil Temperature	
15	8310041	1	Washer, Lock, Ext Tooth #8	
16	8305201	1	Nut, Hex, Brass #8-32	
17	8220073	1	Terminal, Slip-On Male #10 SCR	
18	8223532	1	Sender, Low Oil Pressure M10	
19	8223217	1	Sender, Water Temperature	
20	8223216	1	Switch, Transmission Temperature	
21	8035276	1	Solenoid, Fuel Run	
22	8277162	1	Relay, Starter	
23	8033340	1	Starter (Includes Starter Solenoid)	
24	8270221	1	Alternator	
25	8307022	1	Washer, Lock M8	
26	8305043	1	Nut, Hex M8-1.25	
27	7118222	1	Sender, Fuel Level	
28	8310077	3	Nut, Hex Jam M5-0.8	
29	8310078	3	Washer, Lock M5	
30	7150402	1	Transmission Harness	
31	8035805	1	Diode Pac	
32	8035806	2	Diode - 3 amp 1000 volt	
33	8305038	2	Nut M10	
34	7150521	1	Wire Assembly	

# SECTION 7 - ELECTRICAL

## FIGURE 7-9. LIGHTING SYSTEM



PH0432



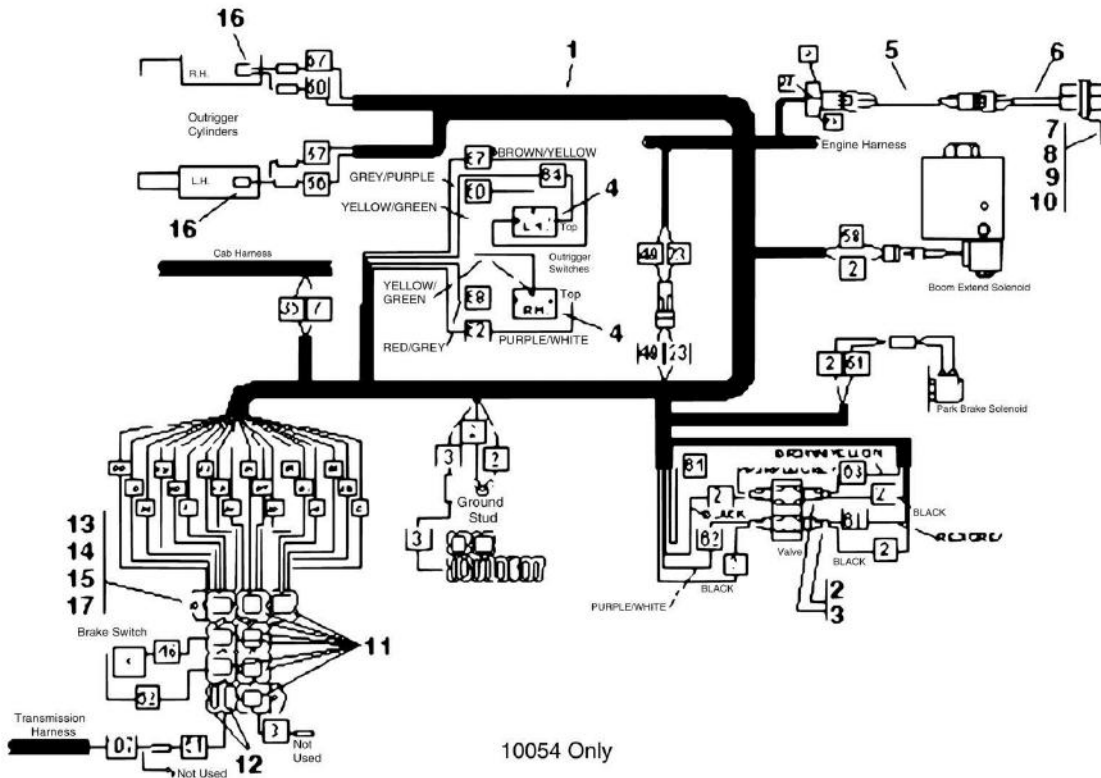
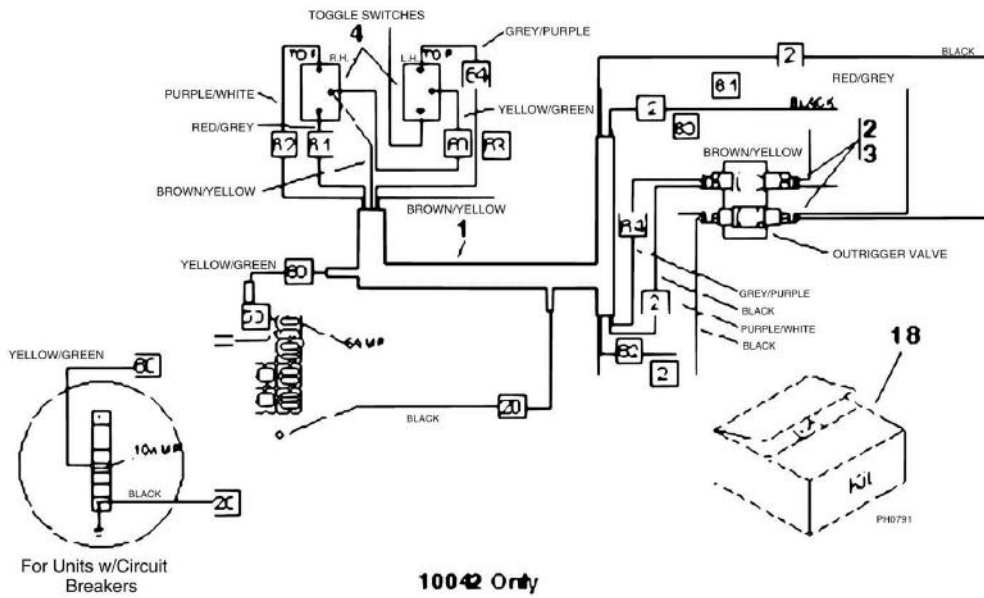
## SECTION 7 - ELECTRICAL

### FIGURE 7-9. LIGHTING SYSTEM

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7098973	1	Harness, Wiring	
2	5721202	5	Light, Head and Work	
3	8500036	2	Light, Turn Signal	
4	7112302	4	Bracket, Mounting	
5	8303632	8	HHCS, 5/8-11 x 2-1/2in	
6	8307009	8	Washer, Lock 5/8in	
7	8307207	8	Washer, Flat 5/8in Heavy	
8	8223025	1	Switch, Momentary Brake Light	
9	7111191	1	Plate, Actuator	
10	8223424	1	Mount, Flasher	
11	8500201	1	Flasher	
12	8303837	2	Screw, Rd. Hd Mach., #10-24 x 3/4in	
13	8305627	2	Nut, Hex Lock #10-24	
14	8307111	2	Washer, Flat #10	
15	8223419	1	Switch, Turn Signal	
16	7124331	1	Conduit, 1/2 I.D. x 5ft - Cut to Fit	
17	8223016	1	Switch, Head and Tail Lights	
18	8305014	8	Nut, Hex 5/8-11	
19	8500009	2	Stop/Turn Signal Light	
20	8584018	6	Mount, Tie	
21	8584003	6	Tie, Plastic, 14.8in	
22	8584001	27	Tie, Plastic, 6.7in	
23	8305405	1	Nut, Hex Jam 3/8in	
24	7058372	1	Fuel Gauge Light Assembly	
25	8307206	AR	Washer, Flat 1/2in Heavy	
26	8229235	1	Fuse, 20 amp	
27	8220050	6	Terminal, Blade Male 1/4in	
28	7110782	1	Cord, Boom Work Light	
29	8310058	4	Washer, Flat 5/8 Hardened	
26	8229235	1	Fuse, 20 amp	
27	8220050	6	Terminal, Blade Male 1/4in	
28	7110782	1	Cord, Boom Work Light	
29	8310058	4	Washer, Flat 5/8 Hardened	

# SECTION 7 - ELECTRICAL

## FIGURE 7-10. OUTRIGGER ELECTRICAL HARNESS (10042/10054 ONLY)



PH0691

## SECTION 7 - ELECTRICAL

**FIGURE 7-10. OUTRIGGER ELECTRICAL HARNESS (10042/10054 ONLY)**

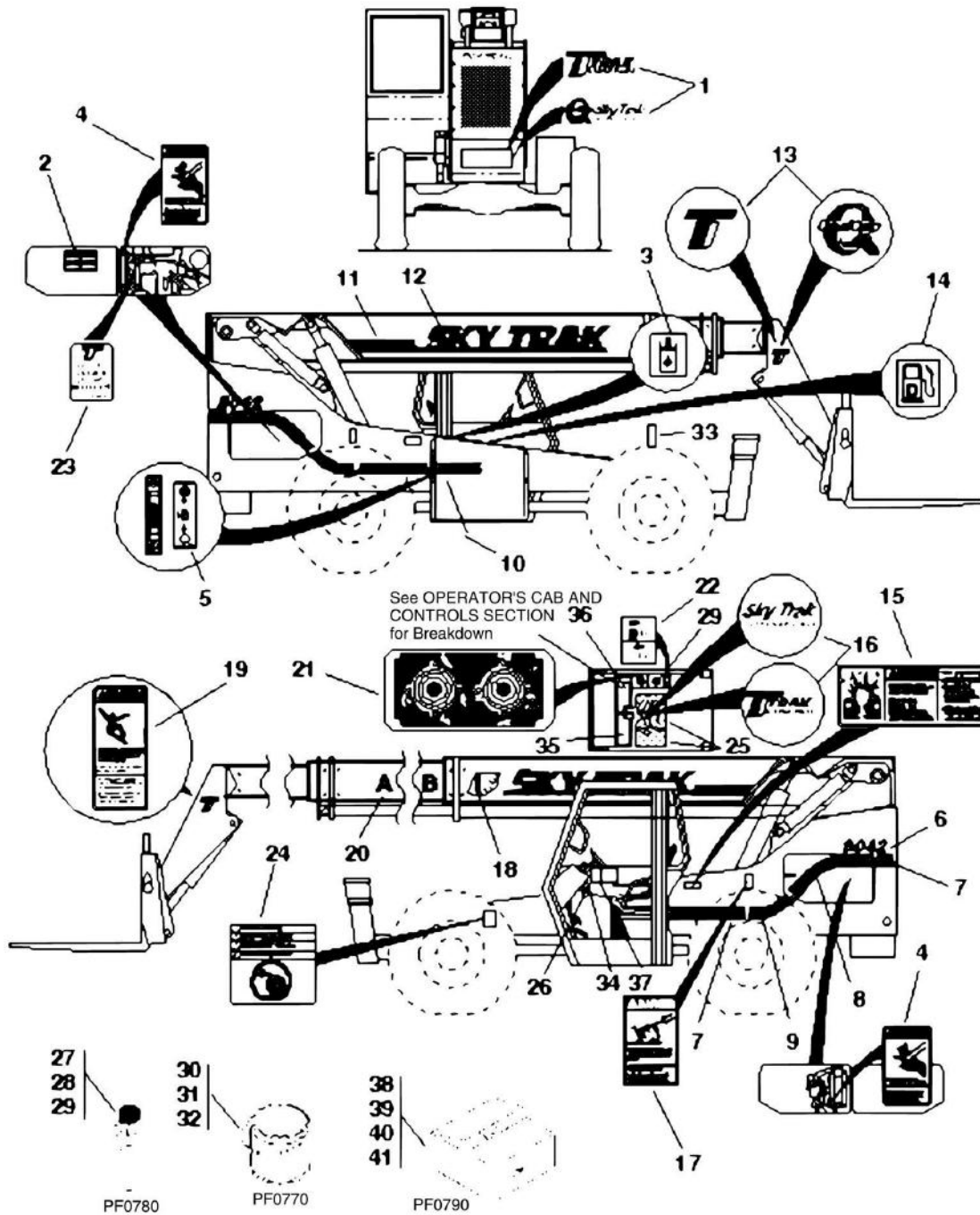
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7099923	1	Harness, Wiring (Includes Items 2 & 3) - (10042 Only)	
1	7115114	1	Harness, Logic (Includes Items 2 & 3) - (10054 Only)	
2	8220882	4	Connector, Solenoid (Includes Item 3)	
3	8688026	4	Seal, Connector (Not Shown)	
4	8223221	2	Switch, Toggle	
5	7112592	1	Wire Assembly	
6	7138469	1	Kit, Boom Sensor <b>(Prior to SN 9916)</b>	
6	7099882	1	Sensor, Boom <b>(SN 9916 to Present)</b>	
7	7112582	1	Clip <b>(Prior to SN 9916)</b>	
7	7138468	1	Clip <b>(SN 9916 to Present)</b>	
8	8303738	2	HHCS, 3/8-16 x 7/8in	
9	8307005	2	Washer, Lock 3/8in	
10	8310113	2	Nut, Cage 3/8-16	
11	8225117	8	Relay	
12	8229233	2	Fuse, 7.5 amp	
13	8307111	2	Washer, Flat #10	
14	8305002	2	Nut, Hex #10	
15	8307003	2	Washer, Lock #10	
16	8223525	2	Switch, Pressure	
17	8307106	2	Washer, Flat 5/16 LT	
		Ref	<b>KITS</b>	
18	7116632	1	Kit, Outrigger, Wire Harness (This kit is available to convert 10042 wire harness for use with circuit breakers)	



**SECTION 8 - DECALS AND PAINT**

# SECTION 8 - DECALS AND PAINT

## FIGURE 8-1. DECALS AND PAINT



PH0323

## SECTION 8 - DECALS AND PAINT

### FIGURE 8-1. DECALS AND PAINT

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	4106872	1	Decal, TRAK INTERNATIONAL (Earlier Models)	
1	4110113	1	Decal, Omni Quip (Later Models)	
2	4107352	1	Decal, Lubrication and Maintenance Chart	
3	4100181	1	Decal, Hydraulic Oil	
4	4107412	2	Decal, Moving Parts Warning - Domestic Only	
4	4108081	2	Decal, Moving Parts Warning - Export Only	
5	4108302	1	Decal, Hydraulic Oil Level	
6	4110123	2	Decal, 8042	
6	4110124	2	Decal, 10042	
6	4110125	2	Decal, 10054	
7	4107232	2	Decal, Rear Stripe	
8	4107243	2	Decal, Upper Curve Stripe	
9	4107252	2	Decal, Lower Curve Stripe	
10	4110119	1	Decal, Stripe	
11	4107272	2	Decal, Boom Stripe	
12	4107283	2	Decal, SKYTRAK	
13	4106781	2	Decal, TI Logo (Earlier Models)	
13	4108441	2	Decal, OmniQuip (Later Models)	
14	4105171	1	Decal, Diesel Fuel	
15	4107402	1	Decal, Explosion Warning	
15	4108041	1	Decal, Explosion Warning - Export Only	
16	4106681	1	Decal, TRAK INTERNATIONAL (Steering Wheel Center) (Earlier Models)	
16	4110120	1	Decal, SkyTrak International (Steering Wheel Center) (Later Models)	
17	4107601	1	Decal, Stabilizer	
18	4105262	1	Decal, Boom Angle	
19	4107452	1	Decal, Carrying Personnel Warning - Domestic Only	
19	4106991	1	Decal, Carrying Personnel Warning - Export Only	
20	4107442	1	Decal, Boom Extend Letters (Off White)	
20	4107482	1	Decal, Boom Extend Letters (Black)	
21	4107462	1	Decal, Side Console	
22	4105621	1	Decal, Optional Hydraulics	
23	4107901	1	Decal, Low Engine Idle	
24	4107001	1	Decal, Hydrofill - Export Only	
25	7010491-OM	1	Safety Walk, 6in x 12in	
26	4108201	1	Ring, Key	
27	8528074	1 gal	Paint, Orange, Acrylic Enamel (Service Repaint)	
28	8528100	1 gal	Paint, Black, Acrylic Enamel (Service Repaint)	
29	8528085	1 gal	Paint, Off White, Acrylic Enamel (Service Repaint)	
30	8528071	1 can	Paint, Orange, Acrylic Enamel (16 oz. spray - touch-up)	
31	8528101	1 can	Paint, Black, Acrylic Enamel (16 oz. spray - touch-up)	
32	8528086	1 can	Paint, Off White, Acrylic Enamel (16 oz. spray - touch-up)	
33	4108181	1	Decal, Made in USA	
34	4106761	1	Decal, TI Logo - Closed Cab/Export Only	
35	7111842	1	Decal, Overlay, Left Hand - Export Only <b>(Prior to SN 9909)</b>	
35	7150472	1	Decal, Overlay, Left Hand - Export Only <b>(SN 9909 to Present)</b>	
35	7099352	1	Decal, Overlay, Left Hand - Domestic Only <b>(Prior to SN 9909)</b>	
35	7150371	1	Decal, Overlay, Left Hand - Domestic Only <b>(SN 9909 to Present)</b>	
36	7111832	1	Decal, Overlay, Right Hand - Export Only	

## SECTION 8 - DECALS AND PAINT

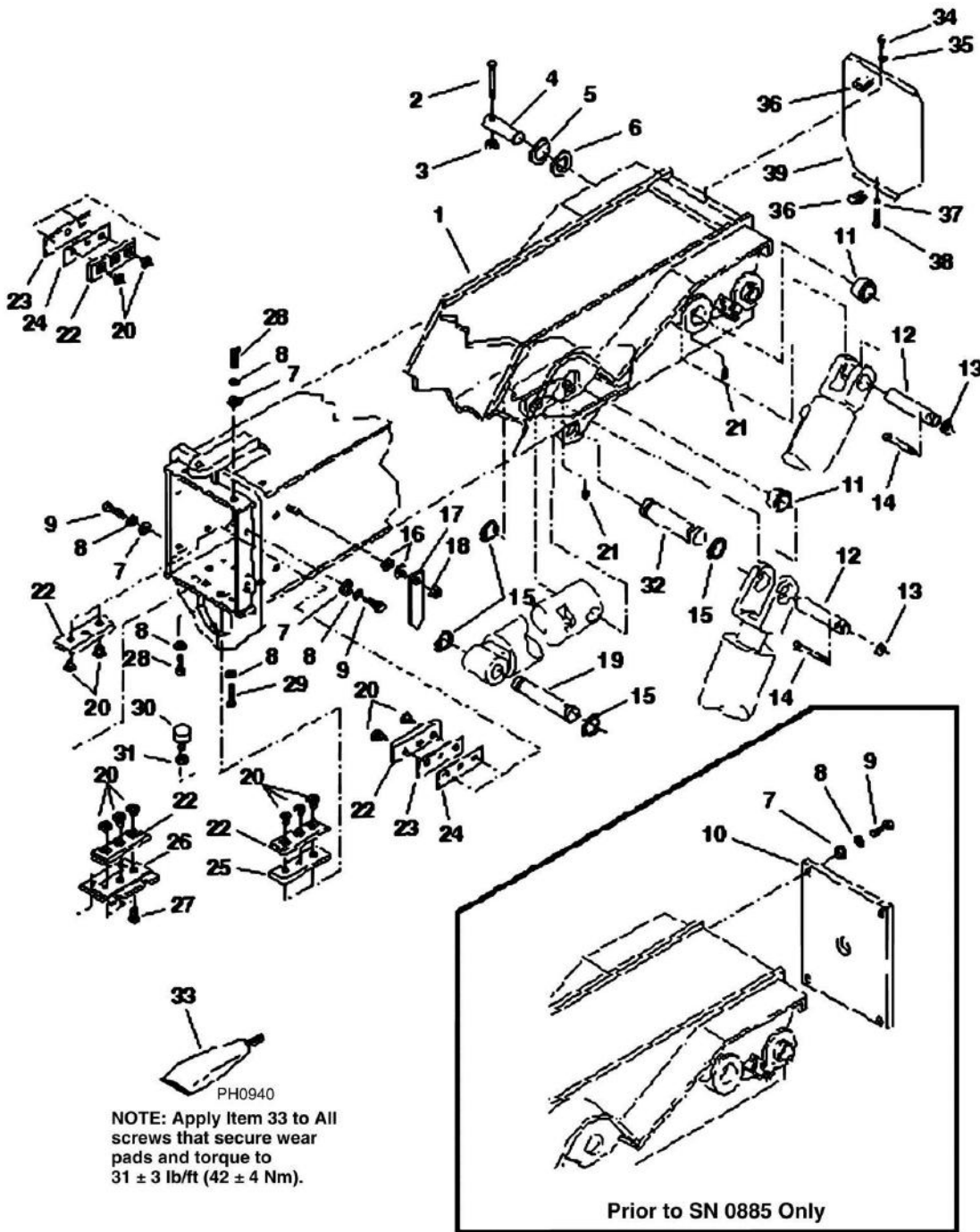
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
36	7099332	1	Decal, Overlay, Right Hand - Domestic Only	
37	4107342	1	Capacity Charts, 8042 - Domestic Only	
37	4107632	1	Capacity Charts, 8042 - Export Only	
37	4107572	1	Capacity Charts, 10042 - Domestic Only	
37	4107992	1	Capacity Charts, 10042 - Export Only	
37	4107922	1	Capacity Charts, 10054 - Domestic Only	
37	4108002	1	Capacity Charts, 10054 - Export Only	
		Ref	<b>KITS</b>	
38	7099362	1	Kit, Decal Set, 8042/10042 - Domestic Only	
39	7112391	1	Kit, Decal Set, 8042/10042 - Export Only	
40	7116152	1	Kit, Decal Set, 10054 - Domestic Only	
41	7116162	1	Kit, Decal Set, 10054 - Export Only	



**SECTION 9 - BOOM AND ATTACHMENTS**

# SECTION 9 - BOOM AND ATTACHMENTS

## FIGURE 9-1. OUTER BOOM



PH0053

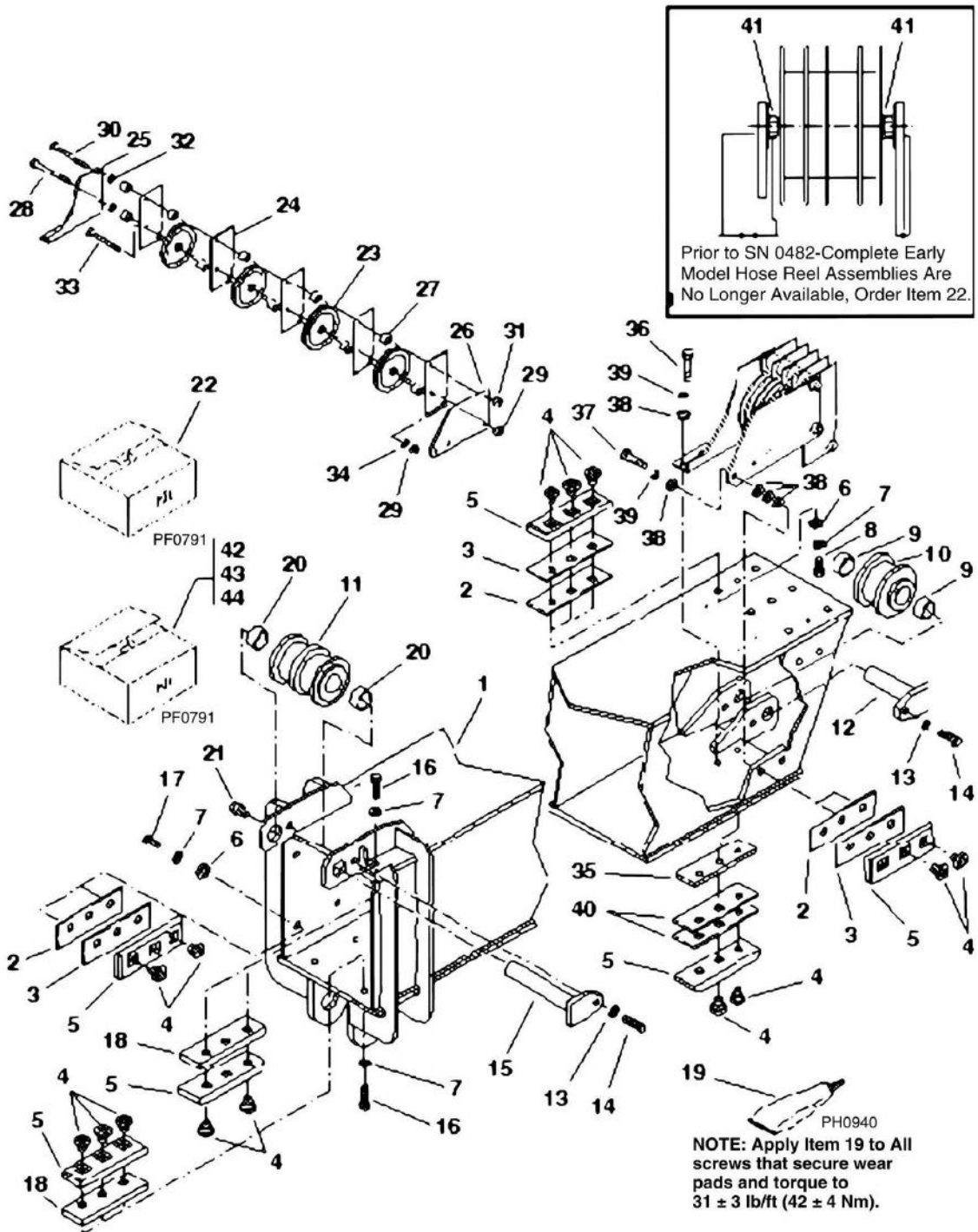
## SECTION 9 - BOOM AND ATTACHMENTS

### FIGURE 9-1. OUTER BOOM

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7116854	1	Outer Boom <b>(SN 0885 to Present)</b>	
1	NLA	1	Outer Boom, For Service, Order Kit 7116871 which includes Items 1, 34 thru 39 <b>(Prior to SN 0885)</b>	
2	8303655	2	HHCS, 5/8-11 x 4.50in	
3	8305643	2	Nut, Hex Lock Elastic 5/8-11	
4	7097682	2	Pin, Boom Pivot	
5	8307910	AR	Washer, Shim 2.75 Dia x .075in	
6	8307911	AR	Washer, Shim 2.75 Dia x .135in	
7	8307204	12	Washer, Flat 3/8in	
8	8307005	22	Washer, Lock 3/8in	
9	8303681	8	HHCS, 3/8-16 x 3/4in	
10	7097382	1	Cover, Rear Boom <b>(Prior to SN 0885)</b>	
11	8065640	4	Bearing, Self-Aligning 2in Dia	
12	7092292	4	Pin, Hoist and Slave Cylinders	
13	8305644	4	Nut, Hex Lock Elastic 1/2-13	
14	8303782	4	HHCS, 1/2-13 x 4in	
15	8642224	4	Ring, Retaining 2in Dia	
16	8307113	2	Washer, Flat 7/16in	
17	7075611	1	Pointer	
18	8305647	1	Nut, Hex Lock 7/16-14	
19	7096562	1	Pin, Extend Cylinder (rod end)	
20	7082311	21	Insert, Wear Pad	
21	8520013	4	Fitting, Lube 1/8in Straight	
22	7111572	9	Wear Pad	
23	7082342	AR	Shim, Wear Pad (.07in)	
24	7082362	AR	Shim, Wear Pad (.13in)	
25	7096882	2	Spacer, Wear Pad (.62in)	
26	7096772	1	Spacer, Wear Pad (special)	
27	8303041	3	HHCS, 3/8-16 x 1/2in	
28	8303620	8	HHCS, 3/8-16 x 1in	
29	8303621	6	HHCS, 3/8-16 x 1-1/2in	
30	5724622	1	Bumper, Rubber	
31	8305645	1	Nut, Hex Lock Elastic 3/8-16	
32	7096552	1	Pin, Extend Cylinder (base end)	
33	8526036	AR	Tube, Thread Locking Compound .5cc	
34	8303697	1	HHCS, 5/16-18 x 3/4in	
35	8307106	1	Washer, Flat 5/16in	
36	8305906	2	Nut, Retainer 5/16-18	
37	8307004	1	Washer, Lock 5/16in	
38	8303715	1	HHCS, 5/16-18 x 1-1/2in	
39	7116792	1	Cover, Rear Boom <b>(SN 0885 to Present)</b>	

# SECTION 9 - BOOM AND ATTACHMENTS

FIGURE 9-2. INTERMEDIATE BOOM - 8042 & 10042



PH0042

## SECTION 9 - BOOM AND ATTACHMENTS

### FIGURE 9-2. INTERMEDIATE BOOM - 8042 & 10042

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	NLA	1	Intermediate Boom, For Service, Order P/N 7116784, <b>(Prior to SN 0219)</b>	
1	NLA	1	Intermediate Boom, For Service, Order P/N 7116784, <b>(SN 0219 through 0453)</b>	
1	NLA	1	Intermediate Boom, For Service, Order P/N 7116784 and Kit P/N 7117072 <b>(SN 0454 through 0481)</b>	
1	7116784	1	Intermediate Boom <b>(SN 0482 to Present)</b>	
2	7082362	AR	Shim, Wear Pad (.13in thick)	
3	7082342	AR	Shim, Wear Pad (.07in thick)	
4	7082311	37	Insert, Wear Pad	
5	7111572	16	Wear Pad	
6	8307204	25	Washer, Flat 3/8in	
7	8307005	37	Washer, Lock 3/8in	
8	8303620	9	HHCS, 3/8-16 x 1in	
9	NLA	2	Bushing, Chain Sheave, For Service, Order Kit P/N 7138980	
10	NLA	1	Sheave, Retract Chain, For Service, Order Kit P/N 7138980	
11	NLA	1	Sheave, Extend Chain, For Service, Order Kit P/N 7117513 <b>(Prior to SN 0219)</b>	
11	NLA	1	Sheave, Extend Chain, For Service, Order Kit P/N 7117523 <b>(SN 0219 through 0453)</b>	
11	7114112	1	Sheave, Extend Chain <b>(SN 0454 to Present)</b>	
12	NLA	1	Pin, Retract Chain Sheave, For Service, Order Kit P/N 7138980	
13	8307007	2	Washer, Lock 1/2in	
14	8303735	2	HHCS, 1/2-13 x 3/4in	
15	NLA	1	Pin, Extend Chain Sheave, For Service, Order Kit P/N 7117513 <b>(Prior to SN 0219)</b>	
15	NLA	1	Pin, Extend Chain Sheave, For Service, Order Kit P/N 7117523 <b>(SN 0219 through 0453)</b>	
15	7117572	1	Pin, Extend Chain Sheave <b>(SN 0454 to Present)</b>	
16	8303621	10	HHCS, 3/8-16 x 1-1/2in	
17	8303681	16	HHCS, 3/8-16 x 3/4in	
18	7096882	4	Spacer, Wear Pad (0.62 thick)	
19	8526036	AR	Tube, Thread Locking Compound .5cc	
20	NLA	2	Bushing, Chain Sheave, For Service, Order Kit P/N 7117513 <b>(Prior to SN 0219)</b>	
20	NLA	2	Bushing, Chain Sheave, For Service, Order Kit <b>(SN 0219 through 0453)</b>	
20	7117502	2	Bushing, Chain Sheave <b>(SN 0454 to Present)</b>	
21	8520001	1	Fitting, Lube 1/8in Straight	
22	7117072	1	Kit, Hose Pulley (Includes Items 23 thru 39)	
23	7116812	4	Pulley, Roller	
24	7116642	5	Divider	
25	7116652	1	Bracket, Right Side	
26	7116662	1	Bracket, Left Side	
27	7116691	10	Spacer	
28	8310235	1	Screw, Shoulder 1/2 x 5in	
29	8305645	2	Nut, Lock 3/8-16 Elastic	
30	8310209	1	HHCS, 1/2-13 x 6in	
31	8305644	1	Nut, Lock 1/2-13 Elastic	
32	8307206	2	Washer, Flat 1/2in Heavy (.109 thick)	
33	8310245	1	Screw, Shoulder 1/2 x 4in	
34	8307204	1	Washer, Flat 3/8in Heavy (.083 thick)	

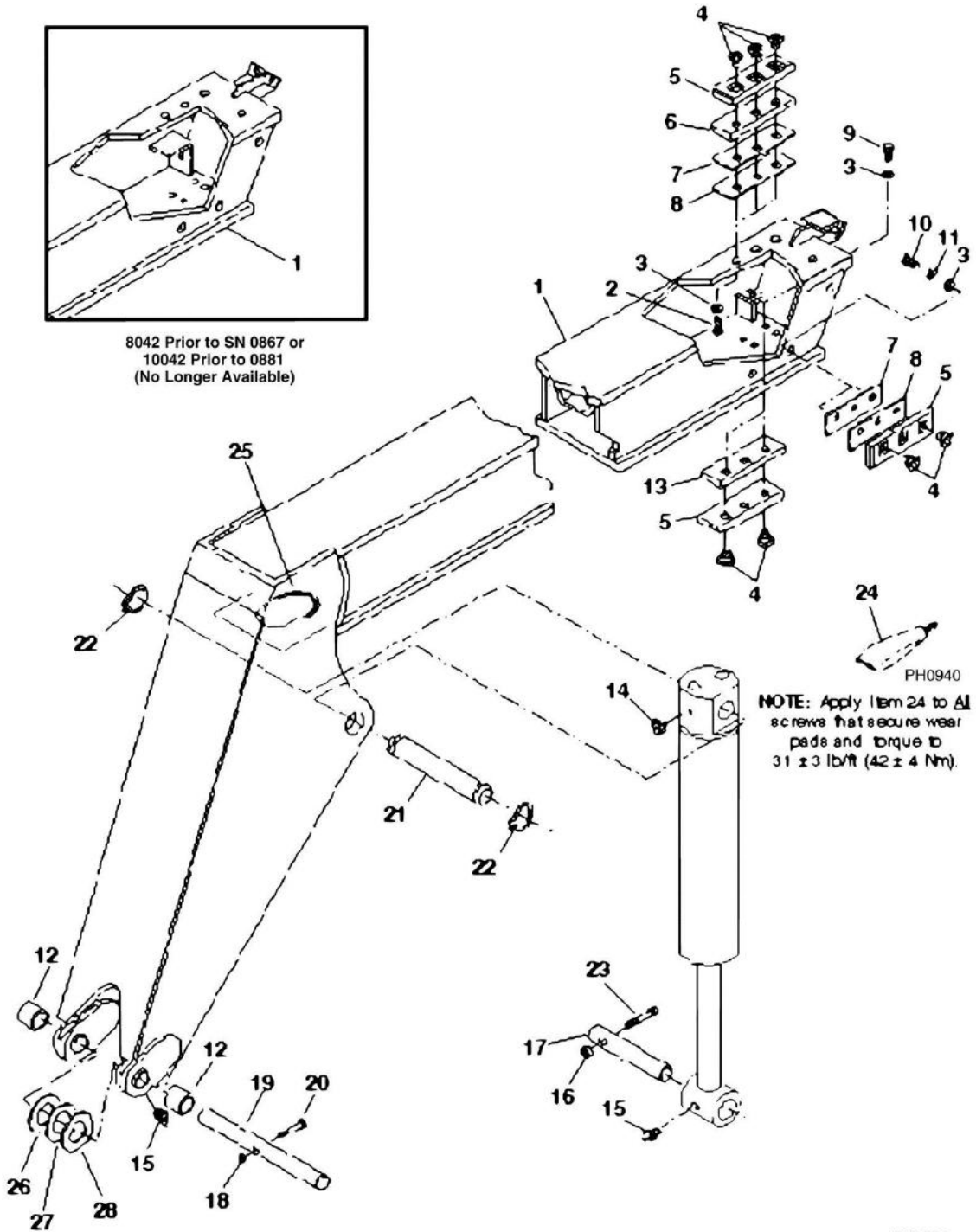
## SECTION 9 - BOOM AND ATTACHMENTS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
35	7096702	1	Spacer, Wear Pad (0.5in thick)	
36	8303679	2	HHCS, 3/8-16 x 1-3/4in	
37	8303675	2	HHCS, 3/8-16 x 1-1/4in	
38	8307204	10	Washer, Flat 3/8in	
39	8307005	4	Washer, Lock 3/8in	
40	7082342	2	Shim, Wear Pad (.075 thick)	
41	8065214	2	Bearing, Hose Pulley <b>(Prior to SN 0481)</b>	
		Ref	<b>KITS</b>	
42	7117513	1	Kit, Extend Chain Sheave (Includes Items 11, 15, 20 & 21) <b>(Prior to SN 0219)</b>	
43	7117523	1	Kit, Extend Chain Sheave Pin (Includes Items 15, 20 & 21) <b>(SN 0219 through 0453)</b>	
44	7138980	1	Kit, Retract Chain Sheave (Includes Items 9, 10, 12 and New Hardware for Rear Boom Cover and Instructions)	



# SECTION 9 - BOOM AND ATTACHMENTS

FIGURE 9-3. INNER BOOM - 8042 & 10042



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## SECTION 9 - BOOM AND ATTACHMENTS

**FIGURE 9-3. INNER BOOM - 8042 & 10042**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7118662	1	Kit, Inner Boom, Includes bushings, chain links, hardware and chain clevis <b>(8042 Prior to SN 0867; 10042 Prior to SN 0881)</b>	
1	7117113	1	Inner Boom <b>(8042 Prior to SN 0868; 10042 SN 0881 to Present)</b>	
2	8303679	6	HHCS, 3/8-16 x 1-1/2in	
3	8307005	16	Washer, Lock 3/8in	
4	7082311	16	Insert, Wear Pad	
5	7111572	7	Wear Pad	
6	7096882	2	Spacer, Wear Pad, .62in	
7	7082362	AR	Shim, Wear Pad, .13in	
8	7082342	AR	Shim, Wear Pad, .07in	
9	8303675	2	HHCS, 3/8-16 x 1-1/4in	
10	8303681	8	HHCS, 3/8-16 x 3/4in	
11	8307204	8	Washer, Flat 3/8in	
12	7095312	2	Bushing, Quick Attach Pivot	
13	7096702	1	Spacer, Wear Pad, .50in	
14	8520021	1	Fitting, Lube, 1/8in 90	
15	8520013	3	Fitting, Lube, 1/8in Straight	
16	8305644	1	Nut, Hex Lock Elastic 1/2-13	
17	7083992	1	Pin, Attachment Tilt Cylinder (rod end)	
18	8305643	1	Nut, Hex Lock Elastic 5/8-11	
19	7095352	1	Pin, Pivot, Quick Attach	
20	8303666	1	HHCS, 5/8-11 x 5in	
21	7095522	1	Pin, Attachment Tilt Cylinder (base end)	
22	8642224	2	Ring, Retaining. 2in Dia	
23	8303772	1	HHCS, 1/2-13 x 5in	
24	8526036	AR	Tube, Thread Locking Compound .5cc	
25	7125811	1	Conduit, Plastic 3/4 x 8.00	
26	8307918	2	Washer, Shim 2.00 x 3.50 x 0.134	
27	8310093	AR	Washer, Shim 2.00 x 3.50 x 0.75	
28	8307904	AR	Washer, Shim 2.00 x 3.50 x 0.048	
1	7083054	1	Carriage, 48in	
2	8303634	2	HHCS, 5/8-11 x 4in	
3	7086471	2	Collar	
4	8305643	2	Nut, Hex Lock 5/8-11	
5	7118892	1	Pin, Lock (Includes Items 6 thru 8)	
6	7118882	1	Pin	
7	8310276	1	Washer, .51 x 1.88 x 1.25in	
8	8310266	1	Bolt, Eye 1/2 x 13 x 2in Length Shank	
9	7128772	1	Shaft, 48in	
10	7097523	2	Fork, Pallet 48in x 4in x 2in (4,000 lb Rating) - 8042 Only	
10	7097543	2	Fork, Pallet 48in x 4in x 2.25in (5,000 lb Rating) - 10042/10054 Only	
10	7097533	2	Fork, Lumber (Not Shown)	
10	7085073	6	Fork, Block (Not Shown)	
1	7086304	1	Carriage, 60in	
9	7128792	1	Shaft, 60in	
10	7097533	2	Fork, Lumber (Not Shown)	
10	7085073	6	Fork, Block (Not Shown)	
10	7097543	2	Fork, Pallet 48in x 4in x 2.25in (5,000 lb Rating) - 10042/10054 Only	
1	7089054	1	Carriage, Side Tilt - 60in	
1	7098354	1	Carriage, Side Tilt - 72in	

## SECTION 9 - BOOM AND ATTACHMENTS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7089044	1	Carriage, Side Tilt - 48in	
2	7065482	2	Pad, Wear	
3	8303739	2	HHCS, 5/16-18 x 1-1/4in	
4	8305626	2	Nut, Hex Lock 5/16-18	
5	Consult Factory	1	Base, Pivot	
6	7077501	1	Pin, Cyl Base	
7	7077511	1	Pin, Cyl Rod	
8	7077481	2	Spacer	
9	8065634	1	Bushing, Self Align	
10	8642001	1	Ring, Snap	
11	8642235	4	Ring, Snap	
12	8760117	2	Connector, Straight, SAE 6 - male JIC 37 x male str thd o-ring	
13	8584001	1	Tie Wrap	
14	2711992	2	Hose Assembly	
15	8760110	2	Connector, Straight, SAE 6-8 - male JIC 37 x male str thd o-ring	
16	8430006	1	Quick Disconnect, Male, SAE 8-8ORB - female internal (Includes Item 17)	
17	8640029	1	Seal, Nose (Not Shown)	
18	8430005	1	Quick Disconnect, Female, SAE 8-8ORB - female internal (Includes Items 19, 20 & 21)	
19	8640029	1	Seal, Nose (Not Shown)	
20	8640028	1	Seal, Coupler Body (Not Shown)	
21	8640032	1	Back-Up Ring, Coupler Body Seal (Not Shown)	
22	8541433	1	Plug, Pipe, Skt Hd - 1/8in NPTF	
23	8420053	1	Cap, Dust #8	
24	8420055	1	Plug, Dust #8	
25	7125741	1	Molding	
26	7085411	1	Pin, Pivot	
27	7085501	1	Collar, Pin Locking	
28	8303770	1	HHCS, 3/8-16 x 2-3/4in	
29	8305645	1	Nut, Hex Lock 3/8-16 ESNA	
30	7128772	1	Shaft, Fork Pivot 48in	
30	7128792	1	Shaft, Fork Pivot 60in	
30	7128802	1	Shaft, Fork Pivot 72in	
31	7086471	2	Hub, Lock	
32	8303634	2	HHCS, 5/8-11 x 4in	
33	8305643	2	Nut, Hex Lock 5/8-11	
34	7097523	2	Fork, Pallet 48in x 4in x 2in (4,000 lb Rating) - 8042 Only	
34	7097543	2	Fork, Pallet 48in x 4in x 2.25in (5,000 lb Rating) - 10042/10054 Only	
34	7097533	2	Fork, Lumber (Not Shown)	
34	7085073	6	Fork, Blocking (Not Shown)	
1	7117254	1	Carriage, Side Tilt - 60in	
1	7117264	1	Carriage, Side Tilt - 72in	
1	7117244	1	Carriage, Side Tilt - 48in	
5	7117204	1	Base, Pivot	
35	8307203	2	Washer, Flat Heavy	
36	7070191	AR	Shim	
37	4108232	1	Decal, Capacity Chart	
38	7119341	1	Plate, Capacity	
1	7111994	1	Carriage - 52in	
1	7110694	1	Carriage - 72in	
2	6608621	1	Cover - Clamp	

## SECTION 9 - BOOM AND ATTACHMENTS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
3	8303715	3	HHCS, 5/16-18 x 1-1/2in	
4	7110702	2	Pin, Carriage Pivot	
5	7110494	1	Base, Pivot	
6	7110712	1	Pin, Cylinder Pivot (Rod End)	
7	7110722	2	Pin, Cylinder Pivot (Base End)	
8	8307918	AR	Shim, 2in I.D. x 10 Ga	
9	8065062	4	Bearing, Self Lube	
10	8307904	AR	Shim, 2in I.D. x 18 Ga	
11	8310161	AR	Shim, 1-1/2in I.D. x 10 Ga	
12	8760113	4	Connector, Straight, SAE 4 - male JIC 37 x male str thd o-ring	
13	8584001	4	Tie Wrap	
14	6604662	2	Hose Assembly	
15	8310160	AR	Shim, 1-1/2in I.D. x 18 Ga	
16	8430006	1	Quick Disconnect, Male, SAE 8-8ORB - female internal (Includes Item 17)	
17	8640029	1	Seal, Nose (Not Shown)	
18	8430005	1	Quick Disconnect, Female, SAE 8-8ORB - female internal (Includes Items 19, 20 & 21)	
19	8640029	1	Seal, Nose (Not Shown)	
20	8640028	1	Seal, Coupler Body (Not Shown)	
21	8640032	1	Back-Up Ring, Coupler Body Seal (Not Shown)	
22	7062922	1	Bearing, Thrust	
23	8420053	1	Cap, Dust #8	
24	8420055	1	Plug, Dust #8	
25	8642207	4	Ring, Retaining	
26	6611752	2	Hose Assembly	
27	8760313	2	Elbow, 90 SAE 6-8 - male JIC 37 x male str thd o-ring	
28	8760311	1	Elbow, 90 SAE 6 - male JIC 37 x male str thd o-ring	
29	8769132	2	Clamp, Half	
30	7128782	1	Shaft, Fork Pivot 52in	
30	7128802	1	Shaft, Fork Pivot 72in	
31	7086471	2	Hub, Lock	
32	8303634	5	HHCS, 5/8-11 x 4in	
33	8305643	5	Nut, Hex Lock 5/8-11	
34	7097523	2	Fork, Pallet 48in x 4in x 2in (4,000 lb Rating) - 8042 Only	
34	7097543	2	Fork, Pallet 48in x 4in x 2.25in (5,000 lb Rating) - 10042/10054 Only	
34	7097533	2	Fork, Lumber (Not Shown)	
34	7085073	6	Fork, Blocking (Not Shown)	
35	4107692	2	Chart, Capacity	
36	4107702	1	Decal, Danger - Tip Over Hazard	
37	8760409	2	Nut, SAE 6 - JIC 37	
38	8760475	2	Reducer, Tube End, SAE 6-4 - JIC 37	
39	8770012	1	Elbow, 90 SAE 6-4 - male JIC 37 x male str thd o-ring	
40	8770016	1	Reducer, SAE 4-6 - male str thd o-ring x female internal o-ring boss	
41	4107712	1	Decal, Danger - No Truss Boom	
42	8580315	2	Plug, Trim 2-1/2in Dia	
1	7112533	1	Fork Support, Right Side	
2	7112523	1	Fork Support, Left Side	
3	7112642	2	Backrest Extension, Top	
4	8303626	6	HHCS, 1/2-13 x 1-1/2in	
5	8307007	6	Washer, Lock 1/2in	
6	8305012	4	Nut, Hex 1/2-13	

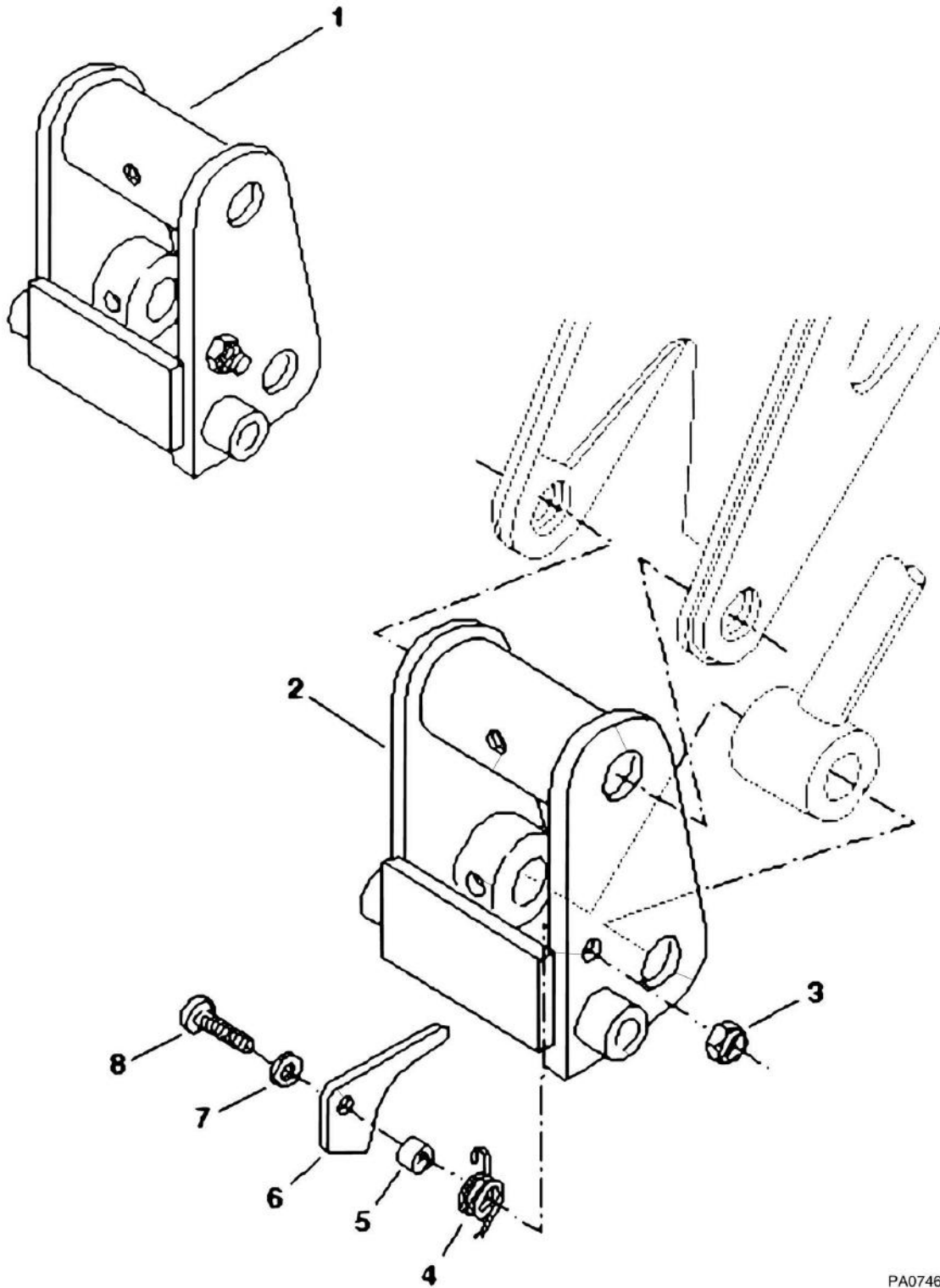
## SECTION 9 - BOOM AND ATTACHMENTS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
7	8301456	2	Hitch Pin	
8	7114941	2	Lock Bar	
9	8305644	2	Nut, Hex Lock Elastic 1/2-13	
10	8307112	2	Washer, Flat 1/2in LT	



# SECTION 9 - BOOM AND ATTACHMENTS

FIGURE 9-4. QUICK ATTACH



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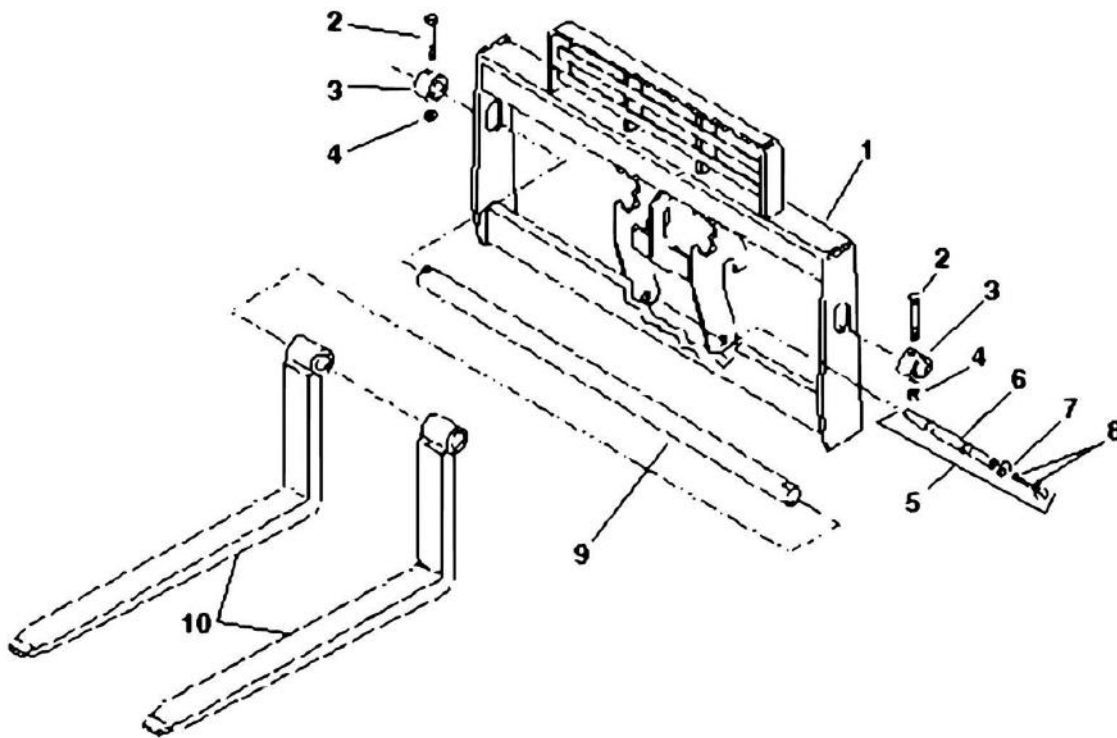
## SECTION 9 - BOOM AND ATTACHMENTS

FIGURE 9-4. QUICK ATTACH

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7085102	1	Quick Attach Assembly (Includes Items 2 thru 8)	
2	7120742	1	Quick Attach	
3	8305619	1	Nut, Hex Lock 3/4-10	
4	7085552	1	Spring, Torsion	
5	7085571	1	Spacer	
6	7085562	1	Latch	
7	8307104	1	Washer, Flat 3/4in	
8	8303638	1	HHCS, 3/4-10 x 2-3/4in	

# SECTION 9 - BOOM AND ATTACHMENTS

## FIGURE 9-5. CARRIAGE 48IN



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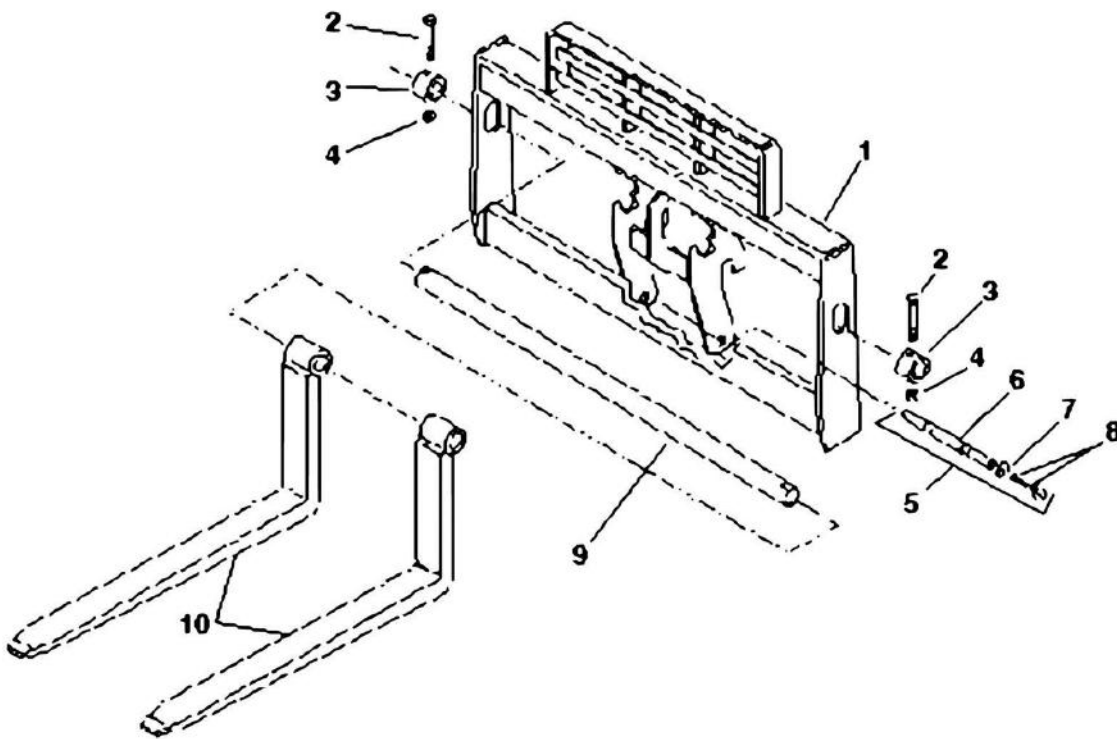
## SECTION 9 - BOOM AND ATTACHMENTS

### FIGURE 9-5. CARRIAGE 48IN

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7083054	1	Carriage, 48in	
2	8303634	2	HHCS, 5/8-11 x 4in	
3	7086471	2	Collar	
4	8305643	2	Nut, Hex Lock 5/8-11	
5	7118892	1	Pin, Lock (Includes Items 6 thru 8)	
6	7118882	1	Pin	
7	8310276	1	Washer, .51 x 1.88 x 1.25in	
8	8310266	1	Bolt, Eye 1/2 x 13 x 2in Length Shank	
9	7128772	1	Shaft, 48in	
10	7097523	2	Fork, Pallet 48in x 4in x 2in (4,000 lb Rating) - 8042 Only	
10	7097543	2	Fork, Pallet 48in x 4in x 2.25in (5,000 lb Rating) - 10042/10054 Only	
10	7097533	2	Fork, Lumber (Not Shown)	
10	7085073	6	Fork, Block (Not Shown)	

# SECTION 9 - BOOM AND ATTACHMENTS

## FIGURE 9-6. CARRIAGE 60IN



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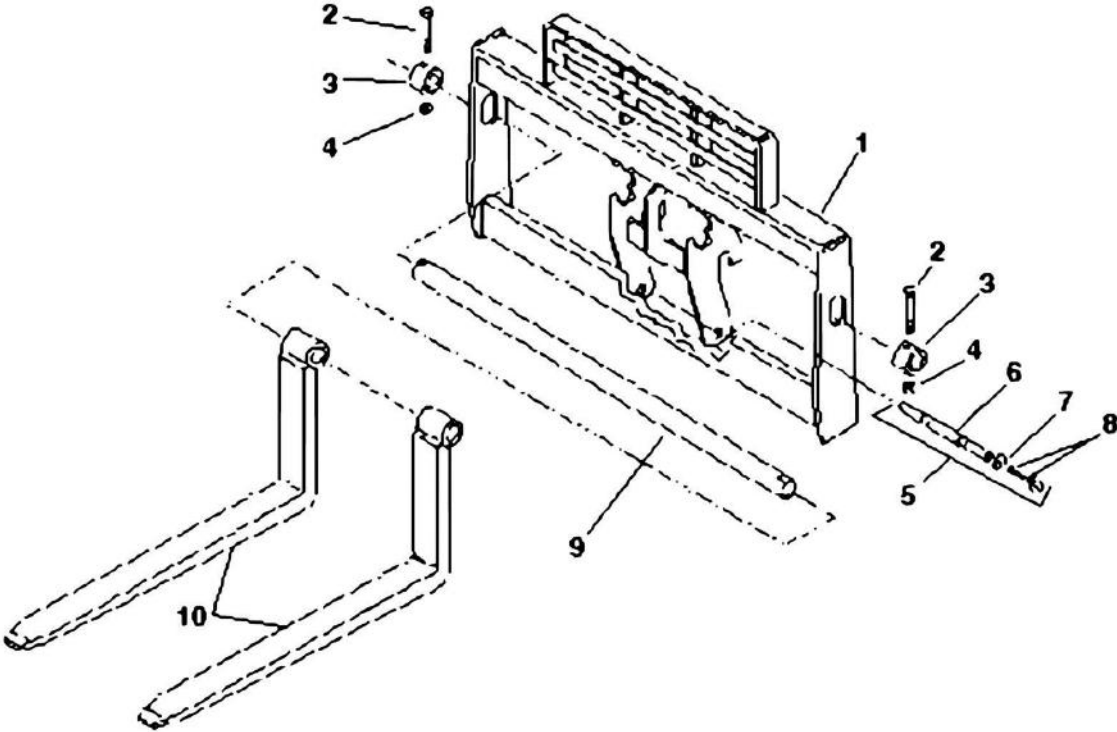
## SECTION 9 - BOOM AND ATTACHMENTS

**FIGURE 9-6. CARRIAGE 60IN**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7086304	1	Carriage, 60in	
2	8303634	2	HHCS, 5/8-11 x 4in	
3	7086471	2	Collar	
4	8305643	2	Nut, Hex Lock 5/8-11	
5	7118892	1	Pin, Lock (Includes Items 6 thru 8)	
6	7118882	1	Pin	
7	8310276	1	Washer, .51 x 1.88 x 1.25in	
8	8310266	1	Bolt, Eye 1/2 x 13 x 2in Length Shank	
9	7128792	1	Shaft, 60in	
10	7097523	2	Fork, Pallet 48in x 4in x 2in (4,000 lb Rating) - 8042 Only	
10	7097543	2	Fork, Pallet 48in x 4in x 2.25in (5,000 lb Rating) - 10042/10054 Only	
10	7097533	2	Fork, Lumber (Not Shown)	
10	7085073	6	Fork, Block (Not Shown)	

SECTION 9 - BOOM AND ATTACHMENTS

FIGURE 9-7. CARRIAGE 72IN



PA0744

## SECTION 9 - BOOM AND ATTACHMENTS

**FIGURE 9-7. CARRIAGE 72IN**


ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7090814	1	Carriage, 72in	
2	8303634	2	HHCS, 5/8-11 x 4in	
3	7086471	2	Collar	
4	8305643	2	Nut, Hex Lock 5/8-11	
5	7118892	1	Pin, Lock (Includes Items 6 thru 8)	
6	7118882	1	Pin	
7	8310276	1	Washer, .51 x 1.88 x 1.25in	
8	8310266	1	Bolt, Eye 1/2 x 13 x 2in Length Shank	
9	7128802	1	Shaft, 72in	
10	7097523	2	Fork, Pallet 48in x 4in x 2in (4,000 lb Rating) - 8042 Only	
10	7097543	2	Fork, Pallet 48in x 4in x 2.25in (5,000 lb Rating) - 10042/10054 Only	
10	7097533	2	Fork, Lumber (Not Shown)	
10	7085073	6	Fork, Block (Not Shown)	

# SECTION 9 - BOOM AND ATTACHMENTS


FIGURE 9-8. SIDE TILT CARRIAGE - EARLY PRODUCTION (OPTIONAL)

**IMPORTANT:**

There are two similar but distinctly different Side Tilt Carriages. Make sure you know which version you have before ordering replacement parts. All reference to the right or left side are given from the operator's seat looking forward. An "Early Production" Carriage has its hydraulic cylinder attached on the operator's left side. The "Current Production" Carriage has its hydraulic cylinder attached on the right side, out of the operator's line of sight.

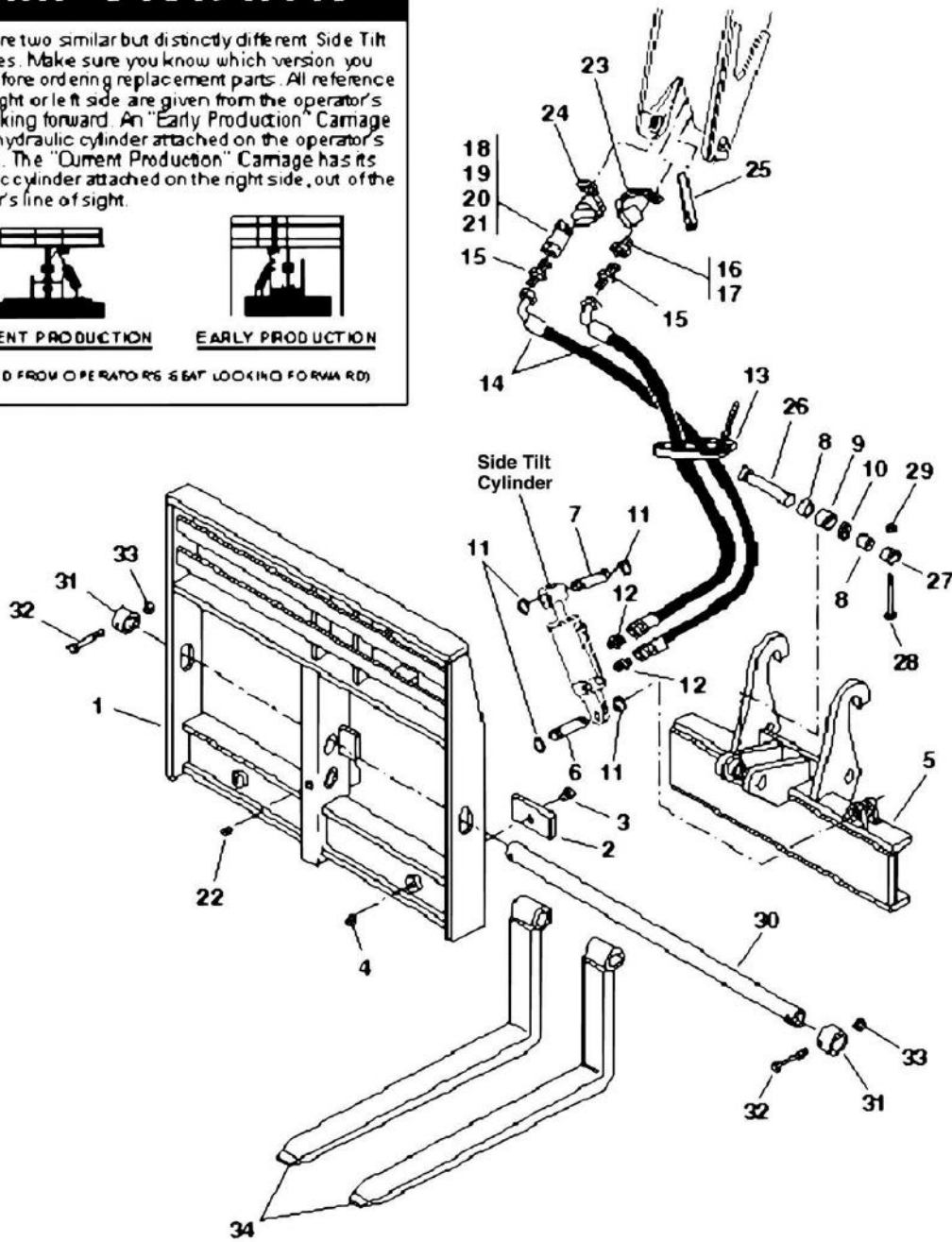


**CURRENT PRODUCTION**



**EARLY PRODUCTION**

(VIEWED FROM OPERATOR'S SEAT LOOKING FORWARD)



PA1153

## SECTION 9 - BOOM AND ATTACHMENTS

**FIGURE 9-8. SIDE TILT CARRIAGE - EARLY PRODUCTION (OPTIONAL)**


ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7089044	1	Carriage, Side Tilt - 48in	
1	7089054	1	Carriage, Side Tilt - 60in	
1	7098354	1	Carriage, Side Tilt - 72in	
2	7065482	2	Pad, Wear	
3	8303739	2	HHCS, 5/16-18 x 1-1/4in	
4	8305626	2	Nut, Hex Lock 5/16-18	
5	Consult Factory	1	Base, Pivot	
6	7077501	1	Pin, Cyl. Base	
7	7077511	1	Pin, Cyl. Rod	
8	7077481	2	Spacer	
9	8065634	1	Bushing, Self Align	
10	8642001	1	Ring, Snap	
11	8642235	4	Ring, Snap	
12	8760117	2	Connector, Straight, SAE 6 - male JIC 37 x male str thd o-ring	
13	8584001	1	Tie Wrap	
14	2711992	2	Hose Assembly	
15	8760110	2	Connector, Straight, SAE 6-8 - male JIC 37 x male str thd o-ring	
16	8430006	1	Quick Disconnect, Male, SAE 8-8ORB - female internal (Includes Item 17)	
17	8640029	1	Seal, Nose (Not Shown)	
18	8430005	1	Quick Disconnect, Female, SAE 8-8ORB - female internal (Includes Items 19, 20 & 21)	
19	8640029	1	Seal, Nose (Not Shown)	
20	8640028	1	Seal, Coupler Body (Not Shown)	
21	8640032	1	Back-Up Ring, Coupler Body Seal (Not Shown)	
22	8541433	1	Plug, Pipe, Skt. Hd - 1/8in NPTF	
23	8420053	1	Cap, Dust #8	
24	8420055	1	Plug, Dust #8	
25	7125741	1	Molding	
26	7085411	1	Pin, Pivot	
27	7085501	1	Collar, Pin Locking	
28	8303770	1	HHCS, 3/8-16 x 2-3/4in	
29	8305645	1	Nut, Hex Lock 3/8-16 ESNA	
30	7128772	1	Shaft, Fork Pivot 48in	
30	7128792	1	Shaft, Fork Pivot 60in	
30	7128802	1	Shaft, Fork Pivot 72in	
31	7086471	2	Hub, Lock	
32	8303634	2	HHCS, 5/8-11 x 4in	
33	8305643	2	Nut, Hex Lock 5/8-11	
34	7097523	2	Fork, Pallet 48in x 4in x 2in (4,000 lb Rating) - 8042 Only	
34	7097543	2	Fork, Pallet 48in x 4in x 2.25in (5,000 lb Rating) - 10042/10054 Only	
34	7097533	2	Fork, Lumber (Not Shown)	
34	7085073	6	Fork, Blocking (Not Shown)	

# SECTION 9 - BOOM AND ATTACHMENTS

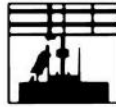
FIGURE 9-9. SIDE TILT CARRIAGE - CURRENT PRODUCTION (OPTIONAL)

**IMPORTANT:**

There are two similar but distinctly different Side Tilt Carriages. Make sure you know which version you have before ordering replacement parts. All reference to the right or left side are given from the operator's seat looking forward. An "Early Production" Carriage has its hydraulic cylinder attached on the operator's left side. The "Current Production" Carriage has its hydraulic cylinder attached on the right side, out of the operator's line of sight.

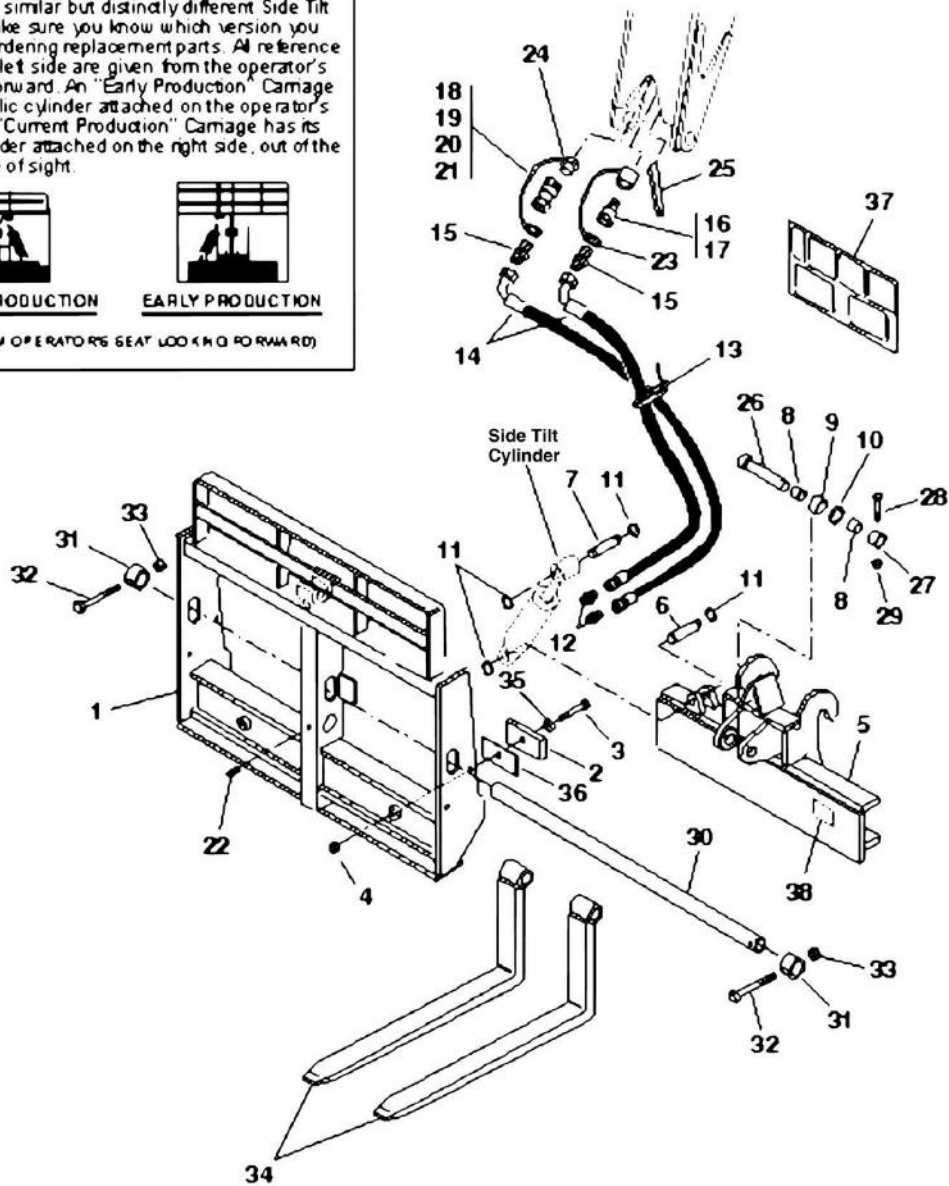


**CURRENT PRODUCTION**



**EARLY PRODUCTION**

(VIEWED FROM OPERATOR'S SEAT LOOKING FORWARD)



PA1591



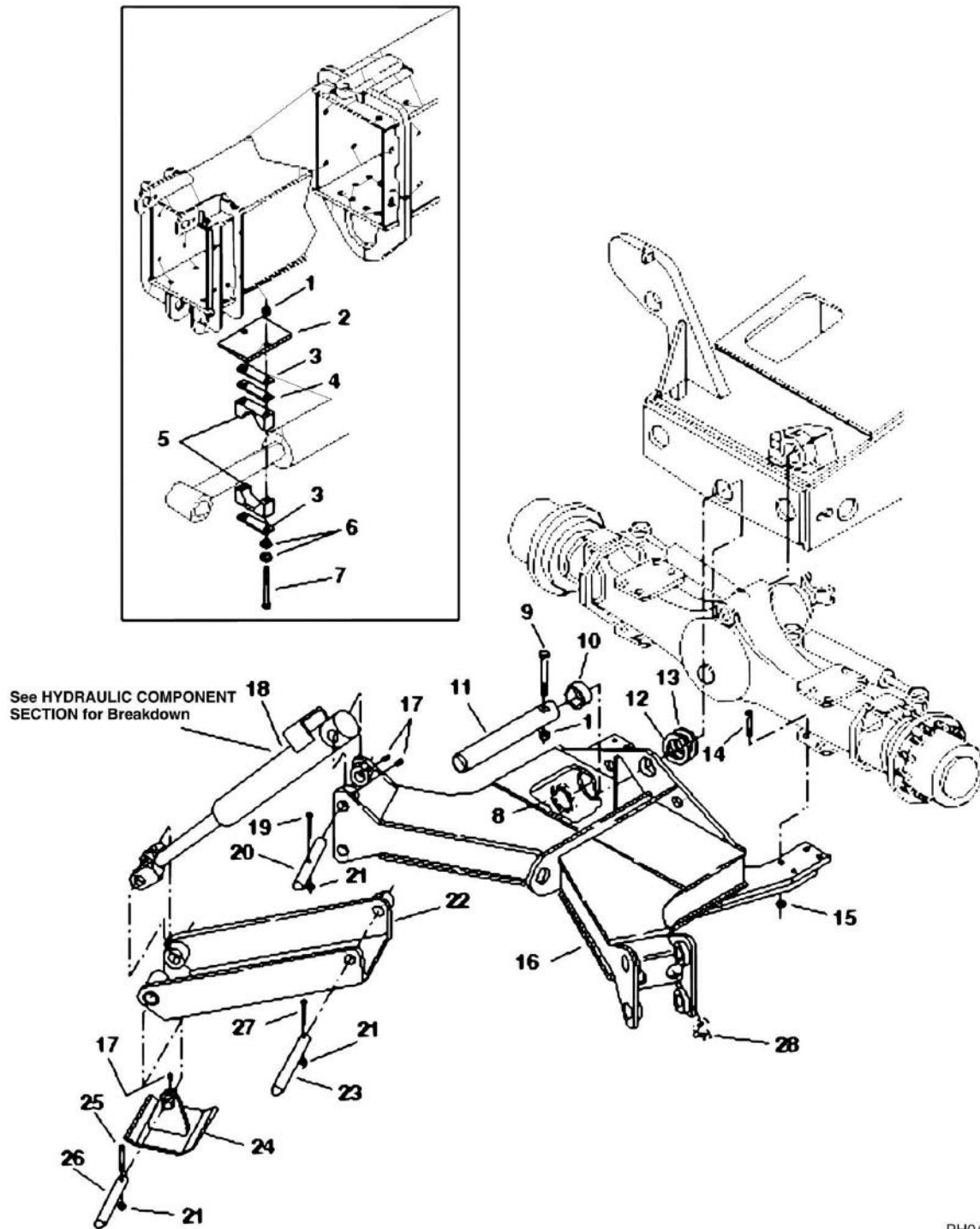
## SECTION 9 - BOOM AND ATTACHMENTS

**FIGURE 9-9. SIDE TILT CARRIAGE - CURRENT PRODUCTION (OPTIONAL)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7117244	1	Carriage, Side Tilt - 48in	
1	7117254	1	Carriage, Side Tilt - 60in	
1	7117264	1	Carriage, Side Tilt - 72in	
2	7065482	2	Pad, Wear	
3	8303739	2	HHCS, 5/16-18 x 1-1/4in	
4	8305626	2	Nut, Hex Lock 5/16-18	
5	7117204	1	Base, Pivot	
6	7077501	1	Pin, Cyl. Base	
7	7077511	1	Pin, Cyl. Rod	
8	7077481	2	Spacer	
9	8065634	1	Bushing, Self Align	
10	8642001	1	Ring, Snap	
11	8642235	4	Ring, Snap	
12	8760117	2	Connector, Straight, SAE 6 - male JIC 37 x male str thd o-ring	
13	8584001	1	Tie Wrap	
14	2711992	2	Hose Assembly	
15	8760110	2	Connector, Straight, SAE 6-8 - male JIC 37 x male str thd o-ring	
16	8430006	1	Quick Disconnect, Male, SAE 8-8ORB - female internal (Includes Item 17)	
17	8640029	1	Seal, Nose (Not Shown)	
18	8430005	1	Quick Disconnect, Female, SAE 8-8ORB - female internal (Includes Items 19, 20 & 21)	
19	8640029	1	Seal, Nose (Not Shown)	
20	8640028	1	Seal, Coupler Body (Not Shown)	
21	8640032	1	Back-Up Ring, Coupler Body Seal (Not Shown)	
22	8541433	1	Plug, Pipe, Skt. Hd - 1/8in NPTF	
23	8420053	1	Cap, Dust #8	
24	8420055	1	Plug, Dust #8	
25	7125741	1	Molding	
26	7085411	1	Pin, Pivot	
27	7085501	1	Collar, Pin Locking	
28	8303770	1	HHCS, 3/8-16 x 2-3/4in	
29	8305645	1	Nut, Hex Lock 3/8-16 ESNA	
30	7128772	1	Shaft, Fork Pivot 48in	
30	7128792	1	Shaft, Fork Pivot 60in	
30	7128802	1	Shaft, Fork Pivot 72in	
31	7086471	2	Hub, Lock	
32	8303634	2	HHCS, 5/8-11 x 4in	
33	8305643	2	Nut, Hex Lock 5/8-11	
34	7097523	2	Fork, Pallet 48in x 4in x 2in (4,000 lb Rating) - 8042 Only	
34	7097543	2	Fork, Pallet 48in x 4in x 2.25in (5,000 lb Rating) - 10042/10054 Only	
34	7097533	2	Fork, Lumber (Not Shown)	
34	7085073	6	Fork, Blocking (Not Shown)	
35	8307203	2	Washer, Flat Heavy	
36	7070191	AR	Shim	
37	4108232	1	Decal, Capacity Chart	
38	7119341	1	Plate, Capacity	

# SECTION 9 - BOOM AND ATTACHMENTS

## FIGURE 9-10. OUTRIGGERS (10042/10054 ONLY)



PH0402

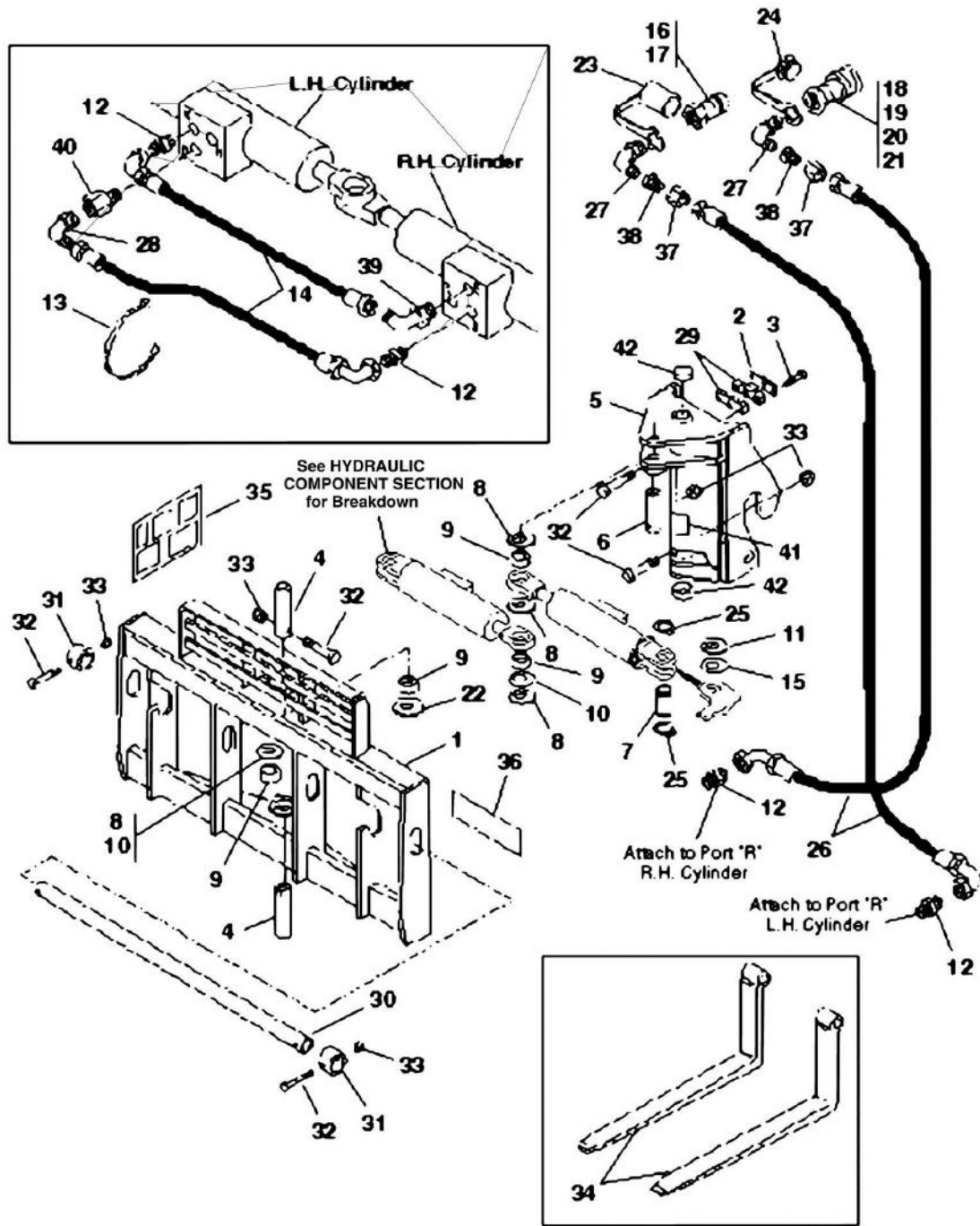
## SECTION 9 - BOOM AND ATTACHMENTS

**FIGURE 9-10. OUTRIGGERS (10042/10054 ONLY)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	8305643	3	Nut, Hex Lock Elastic 5/8-11	
2	7115432	1	Plate, Boom Stop 5-1/4in Long <b>(Prior to SN 0808)</b>	
2	7110002	1	Plate, Boom Stop 12-1/4in Long <b>(SN 0808 to Present)</b>	
3	8769159	2	Cover Plate	
4	8769160	1	Safety Plate	
5	8769158	1	Clamp, Single 3in (2 Halves)	
6	8307107	AR	Washer, Flat 5/8in	
7	8303717	2	HHCS, 5/8-11 x 7-1/2in Grade 5	
8	7124491	2	Conduit, 1.0 I.D. x 15.5in	
9	8303655	1	HHCS, 5/8-11 x 4-1/2in Grade 5	
10	8065063	1	Bushing, 3in I.D. x 2in Long	
11	7090832	1	Pin, Axle Pivot	
12	8307912	1	Shim, 3.06 I.D. x .06in	
13	8307913	1	Shim, 3.06 I.D. x .12in	
14	8303794	8	HHCS, 3/4-10 x 3-1/2in Grade 8	
15	8310067	8	Nut, Hex Lock Elastic 3/4-10	
16	7090634	1	Frame, Outrigger	
17	8520013	10	Grease Fitting	
18	2716163	2	Cylinder, Outrigger	
19	8310151	2	HHCS, 1/2-13 x 7in Grade 5	
20	7090871	2	Pin, Cylinder Pivot	
21	8305644	6	Nut, Hex Lock Elastic 1/2-13	
22	7091373	2	Leg, Outrigger	
23	7090891	2	Pin, Leg Pivot	
24	7090822	2	Pad, Outrigger	
25	8303629	2	HHCS, 1/2-13 x 4-1/2in Grade 5	
26	7090951	2	Pin, Pad Pivot	
27	8303628	2	HHCS, 1/2-13 x 3-3/4in Grade 5	
28	7125801	4	Conduit, .75 I.D. x 4.0in	

# SECTION 9 - BOOM AND ATTACHMENTS

## FIGURE 9-11. SWING CARRIAGE (OPTIONAL)



PH0560

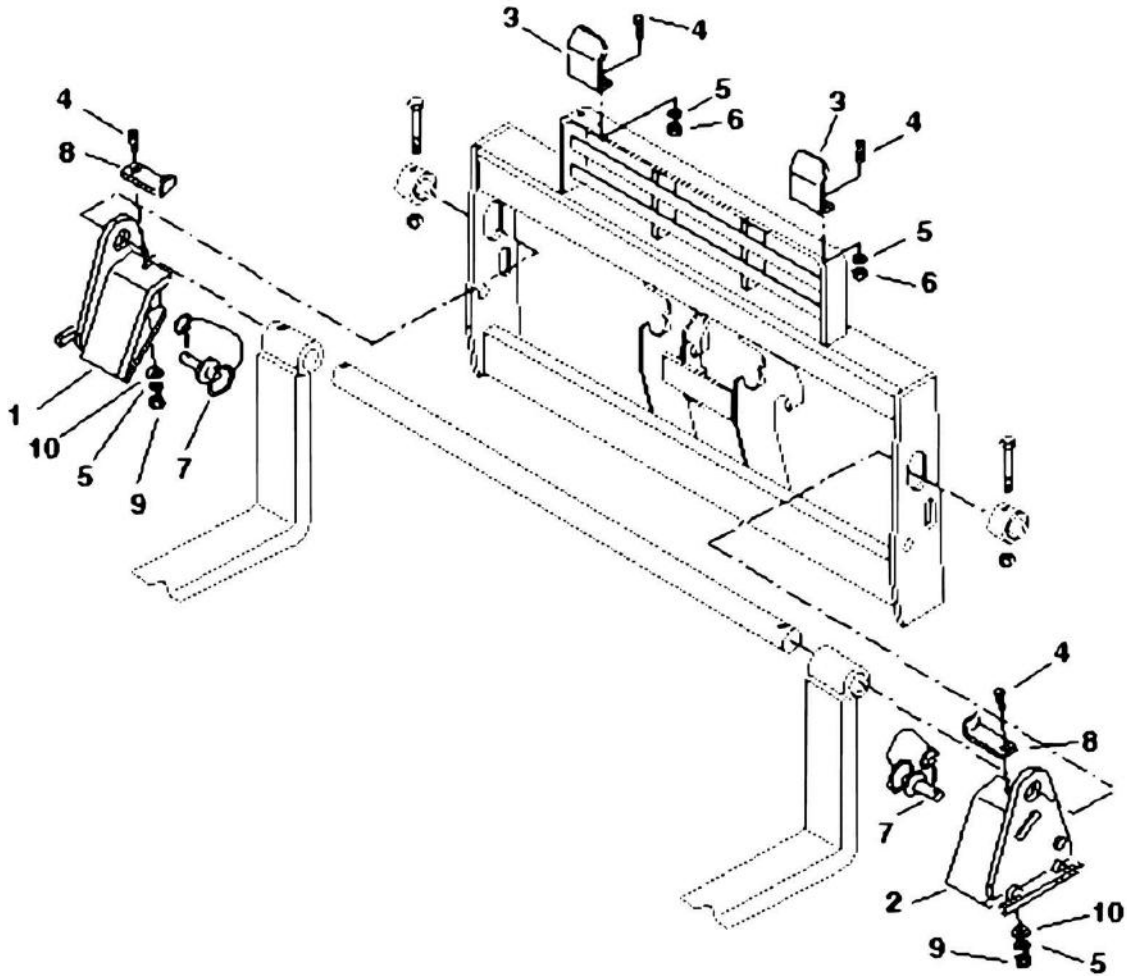
## SECTION 9 - BOOM AND ATTACHMENTS

### FIGURE 9-11. SWING CARRIAGE (OPTIONAL)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7111994	1	Carriage - 52in	
1	7110694	1	Carriage - 72in	
2	6608621	1	Cover - Clamp	
3	8303715	3	HHCS, 5/16-18 x 1-1/2in	
4	7110702	2	Pin, Carriage Pivot	
5	7110494	1	Base, Pivot	
6	7110712	1	Pin, Cylinder Pivot (Rod End)	
7	7110722	2	Pin, Cylinder Pivot (Base End)	
8	8307918	AR	Shim, 2in I.D. x 10 Ga	
9	8065062	4	Bearing, Self Lube	
10	8307904	AR	Shim, 2in I.D. x 18 Ga	
11	8310161	AR	Shim, 1-1/2in I.D. x 10 Ga	
12	8760113	4	Connector, Straight, SAE 4 - male JIC 37 x male str thd o-ring	
13	8584001	4	Tie Wrap	
14	6604662	2	Hose Assembly	
15	8310160	AR	Shim, 1-1/2in I.D. x 18 Ga	
16	8430006	1	Quick Disconnect, Male, SAE 8-8ORB - female internal (Includes Item 17)	
17	8640029	1	Seal, Nose (Not Shown)	
18	8430005	1	Quick Disconnect, Female, SAE 8-8ORB - female internal (Includes Items 19, 20 & 21)	
19	8640029	1	Seal, Nose (Not Shown)	
20	8640028	1	Seal, Coupler Body (Not Shown)	
21	8640032	1	Back-Up Ring, Coupler Body Seal (Not Shown)	
22	7062922	1	Bearing, Thrust	
23	8420053	1	Cap, Dust #8	
24	8420055	1	Plug, Dust #8	
25	8642207	4	Ring, Retaining	
26	6611752	2	Hose Assembly	
27	8760313	2	Elbow, 90, SAE 6-8 - male JIC 37 x male str thd o-ring	
28	8760311	1	Elbow, 90, SAE 6 - male JIC 37 x male str thd o-ring	
29	8769132	2	Clamp, Half	
30	7128782	1	Shaft, Fork Pivot 52in	
30	7128802	1	Shaft, Fork Pivot 72in	
31	7086471	2	Hub, Lock	
32	8303634	5	HHCS, 5/8-11 x 4in	
33	8305643	5	Nut, Hex Lock 5/8-11	
34	7097523	2	Fork, Pallet 48in x 4in x 2in (4,000 lb Rating) - 8042 Only	
34	7097543	2	Fork, Pallet 48in x 4in x 2.25in (5,000 lb Rating) - 10042/10054 Only	
34	7097533	2	Fork, Lumber (Not Shown)	
34	7085073	6	Fork, Blocking (Not Shown)	
35	4107692	2	Chart, Capacity	
36	4107702	1	Decal, Danger - Tip Over Hazard	
37	8760409	2	Nut, SAE 6 - JIC 37	
38	8760475	2	Reducer, Tube End, SAE 6-4 - JIC 37	
39	8770012	1	Elbow, 90, SAE 6-4 - male JIC 37 x male str thd o-ring	
40	8770016	1	Reducer, SAE 4-6 - male str thd o-ring x female internal o-ring boss	
41	4107712	1	Decal, Danger - No Truss Boom	
42	8580315	2	Plug, Trim 2-1/2in Dia	

# SECTION 9 - BOOM AND ATTACHMENTS

## FIGURE 9-12. SHEET MATERIAL HANDLER (OPTIONAL)



PK0042

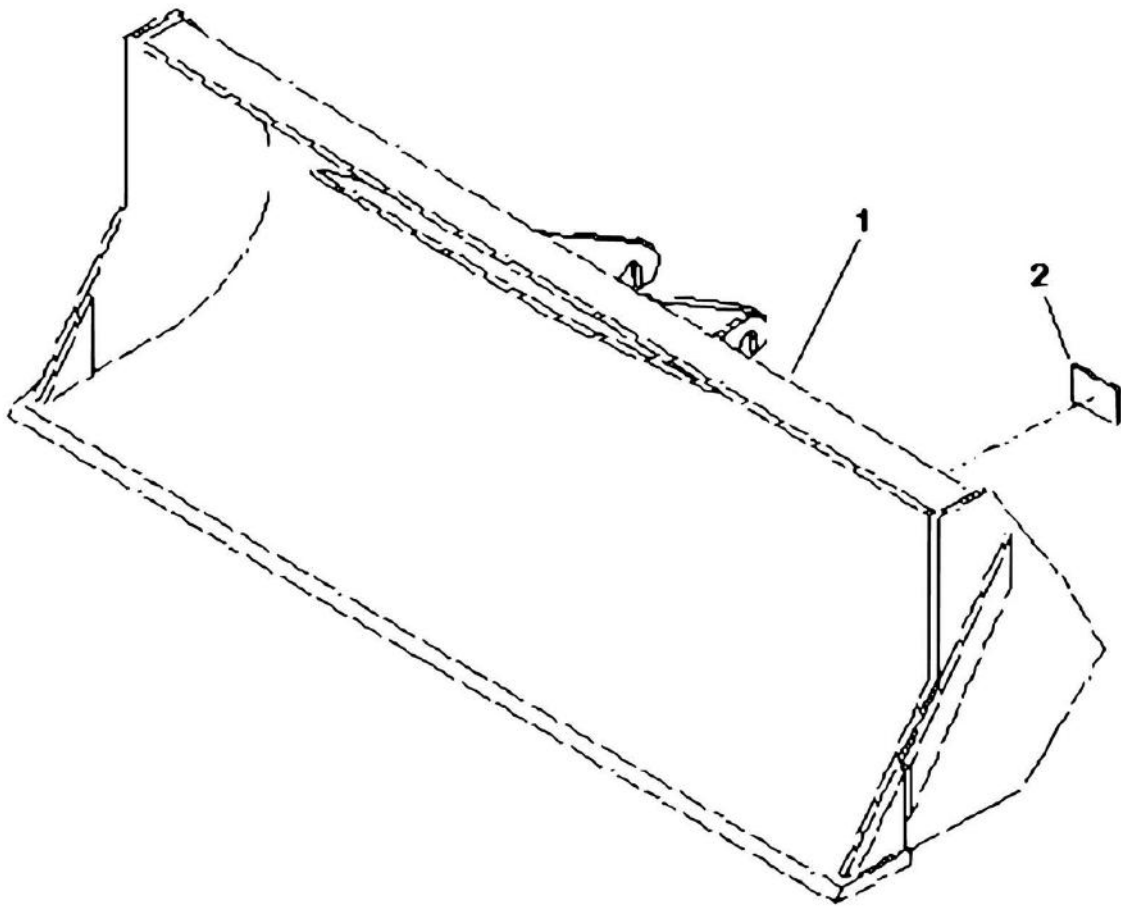
## SECTION 9 - BOOM AND ATTACHMENTS

FIGURE 9-12. SHEET MATERIAL HANDLER (OPTIONAL)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7112533	1	Fork Support, Right Side	
2	7112523	1	Fork Support, Left Side	
3	7112642	2	Backrest Extension, Top	
4	8303626	6	HHCS, 1/2-13 x 1-1/2in	
5	8307007	6	Washer, Lock 1/2in	
6	8305012	4	Nut, Hex 1/2-13	
7	8301456	2	Hitch Pin	
8	7114941	2	Lock Bar	
9	8305644	2	Nut, Hex Lock Elastic 1/2-13	
10	8307112	2	Washer, Flat 1/2in LT	

# SECTION 9 - BOOM AND ATTACHMENTS

FIGURE 9-13. UTILITY BUCKET (OPTIONAL)



PA0782



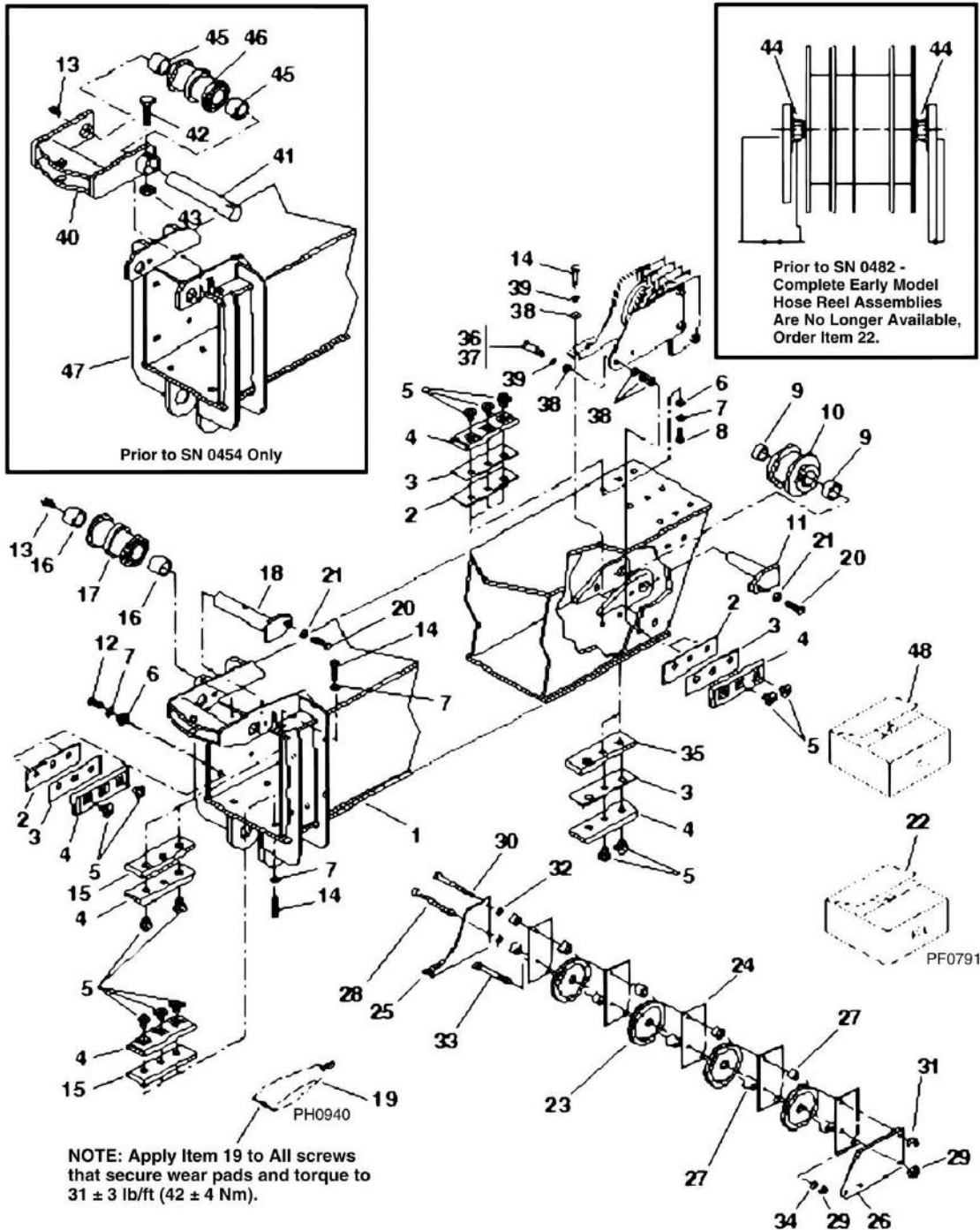
## SECTION 9 - BOOM AND ATTACHMENTS

FIGURE 9-13. UTILITY BUCKET (OPTIONAL)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7110744	1	Bucket, Utility, 1-1/4 cu yd (Includes Item 2)	
2	4106561	1	Plate, Capacity	

# SECTION 9 - BOOM AND ATTACHMENTS

## FIGURE 9-14. PRIMARY INTERMEDIATE BOOM - 10054



PH0673

## SECTION 9 - BOOM AND ATTACHMENTS

**FIGURE 9-14. PRIMARY INTERMEDIATE BOOM - 10054**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7118854	1	Primary Intermediate Boom <b>(SN 0454 to Present)</b>	
2	7082362	AR	Shim, Wear Pad, (.13in thick)	
3	7082342	AR	Shim, Wear Pad (.075in thick)	
4	7111572	16	Wear Pad	
5	7082311	37	Insert, Wear Pad	
6	8307204	22	Washer, Flat 3/8in	
7	8307005	37	Washer, Lock 3/8in	
8	8303620	9	HHCS, 3/8-16 x 1in	
9	NLA	2	Bushing, Chain Sheave, For Service, Order Kit P/N 7138980	
10	NLA	1	Sheave, Retract Chain, For Service, Order Kit P/N 7138980	
11	NLA	1	Pin, Retract Chain Sheave, For Service, Order Kit P/N 7138980	
12	8303681	11	HHCS, 3/8-16 x 3/4in	
13	8520001	1	Fitting, Lube 1/8in Straight	
14	8303621	12	HHCS, 3/8-16 x 1-1/2in	
15	7096882	2	Spacer, Wear Pad .62in	
16	7126662	2	Bushing, Chain Sheave <b>(SN 0454 to Present)</b>	
17	7114112	1	Sheave, Extend Chain <b>(SN 0454 to Present)</b>	
18	7117572	1	Pin, Extend Chain Sheave <b>(SN 0454 to Present)</b>	
19	8526036	AR	Tube, Thread Locking Compound .5cc	
20	8303624	3	HHCS, 1/2-13 x 1in	
21	8307007	2	Washer, Lock 1/2in	
22	7117072	1	Kit, Hose Pulley (Includes Items 23 thru 39)	
23	7116812	4	Roller Pulley	
24	7116642	5	Divider	
25	7116652	1	Bracket, Right Side	
26	7116662	1	Bracket, Left Side	
27	7116691	10	Spacer	
28	8310235	1	Screw, Shoulder 1/2 x 5.00in	
29	8305645	2	Nut, Lock 3/8-16 Elastic	
30	8310209	1	HHCS, 1/2-13 x 6.00in	
31	8305644	1	Nut, Lock 1/2-13 Elastic	
32	8307206	2	Washer, Flat 1/2in Heavy (.109 thick)	
33	8310245	1	Screw, Shoulder 1/2 x 4.00in	
34	8307204	1	Washer, Flat 3/8in Heavy (.083 thick)	
35	7096702	2	Spacer, Wear Pad (1/2in thick)	
36	8303679	2	HHCS, 3/8 x 1.75in	
37	8303675	2	HHCS, 3/8 x 1.25in	
38	8307204	10	Washer, Flat 3/8in	
39	8307005	4	Washer, Lock 3/8in	
40	7110042	1	Yoke, Extend Chain <b>(Prior to SN 0454)</b>	
41	7117542	1	Pin, Extend Chain Sheave (Or: Order Kit 7117534 which includes greaseable sheave pins and bushings for both primary and secondary intermediate booms) <b>(Prior to SN 0454)</b>	
42	8303634	1	HHCS, 5/8-11 x 4in <b>(Prior to SN 0454)</b>	
43	8305643	1	Nut, Hex Lock ESNA 5/8-11 <b>(Prior to SN 0454)</b>	
44	8065214	2	Bearing, Mini Side Flange Mount <b>(Prior to SN 0454)</b>	
45	7117502	2	Bushing, Extend Chain Sheave <b>(Prior to SN 0454)</b>	
46	7114112	1	Sheave, Extend Chain <b>(Prior to SN 0454)</b>	
47	NLA	1	Primary Intermediate Boom (Order Items 1, 16 thru 22) <b>(Prior to SN 0454)</b>	

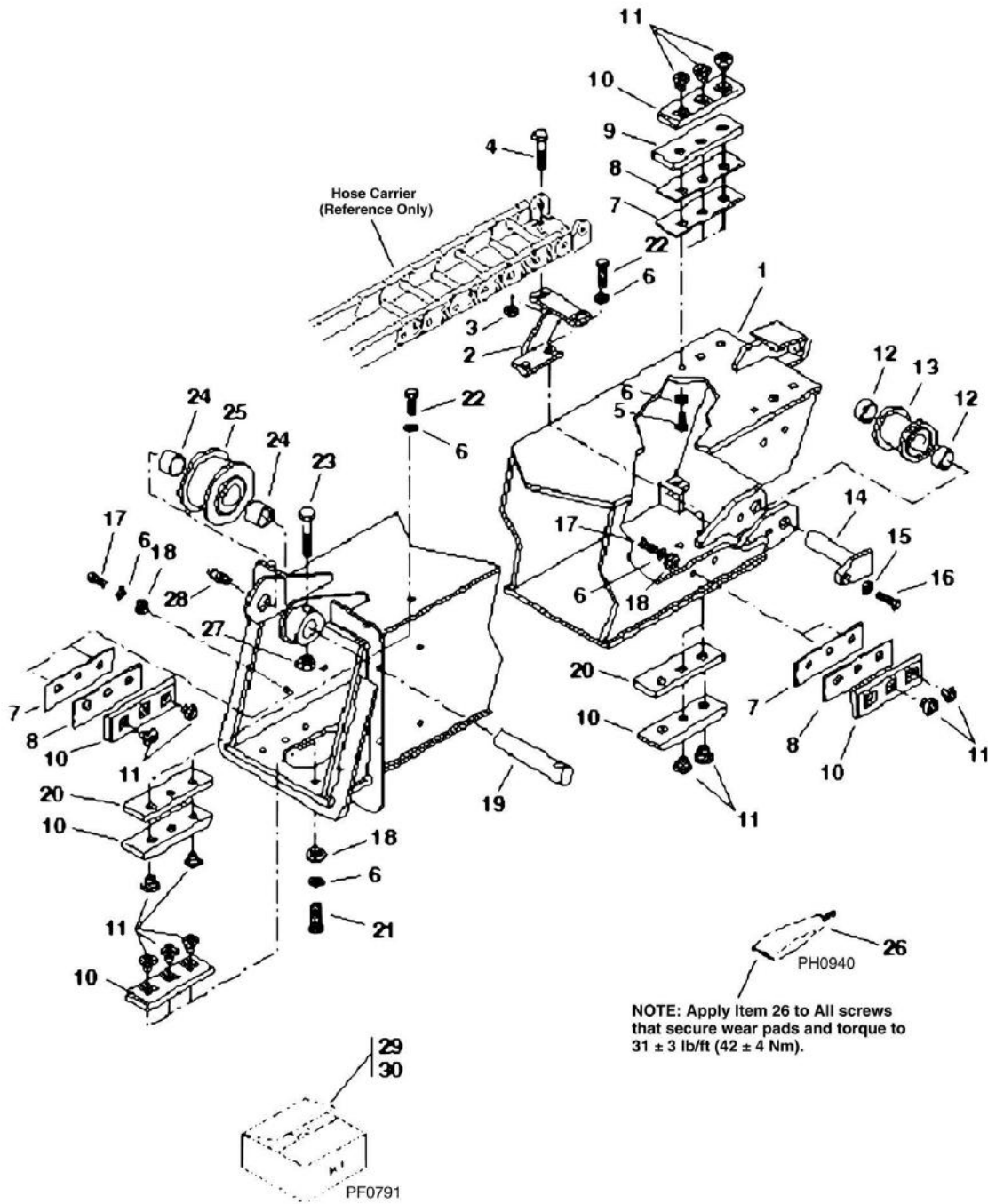
## SECTION 9 - BOOM AND ATTACHMENTS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
48	7138980	Ref 1	<b>KITS</b> Kit, Retract Chain Sheave (Includes Items 9 thru 11, New Hardware for Rear Boom Cover and Instructions)	



# SECTION 9 - BOOM AND ATTACHMENTS

FIGURE 9-15. SECONDARY INTERMEDIATE BOOM - 10054



PH0683

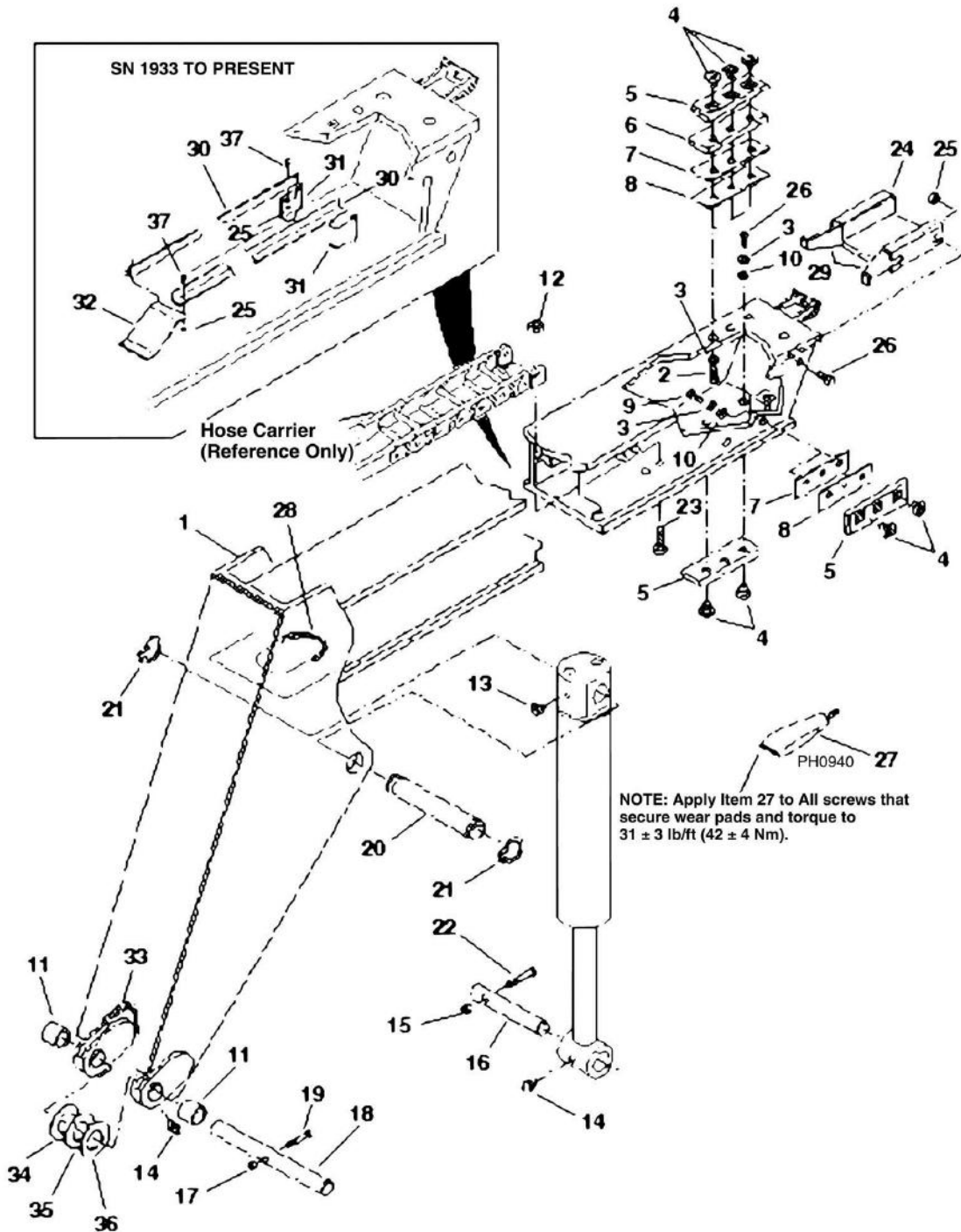
## SECTION 9 - BOOM AND ATTACHMENTS

**FIGURE 9-15. SECONDARY INTERMEDIATE BOOM - 10054**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7117414	1	Secondary Intermediate Boom <b>(Prior to SN 0885)</b>	
1	7118692	1	Kit, Secondary Intermediate Boom includes clevis, link and hardware <b>(SN 0885 to Present)</b>	
2	7112732	1	Support, Hose Clamp	
3	8305624	4	Nut, Hex Lock ESNA 1/4-20	
4	8310026	4	HHCS, 1/4-20 x 3/4in	
5	8303679	6	HHCS, 3/8-16 x 1-3/4in	
6	8307005	34	Washer, Lock 3/8in	
7	7082362	AR	Shim, Wear Pad, (.13in thick)	
8	7082342	AR	Shim, Wear Pad, (.07in thick)	
9	7096882	2	Spacer, Wear Pad, .62in	
10	7111572	15	Wear Pad	
11	7082311	34	Insert, Wear Pad	
12	NLA	2	Bushing, Chain Sheave, For Service, Order Kit P/N 7138980	
13	NLA	1	Sheave, Retract Chain, For Service, Order Kit P/N 7138980	
14	NLA	1	Pin, Retract Chain Sheave, For Service, Order Kit P/N 7138980	
15	8307007	1	Washer, Lock 1/2in	
16	8303624	2	HHCS, 1/2-13 x 1in	
17	8303681	11	HHCS, 3/8-16 x 3/4in	
18	8307204	18	Washer, Flat 3/8in	
19	NLA	1	Pin, Extend Chain Sheave, For Service, Order Kit P/N 7117534 <b>(Prior to SN 0454)</b>	
19	7117582	1	Pin, Extend Chain Sheave <b>(SN 0454 to Present)</b>	
20	7096702	3	Spacer, Wear Pad .50in	
21	8303620	6	HHCS, 3/8-16 x 1in	
22	8303621	6	HHCS, 3/8-16 x 1-1/2in	
23	8303634	1	HHCS, 5/8-11 x 4in	
24	NLA	2	Bushing, Chain Sheave, For Service, Order Kit P/N 7117534 <b>(Prior to SN 0454)</b>	
24	7117502	2	Bushing, Chain Sheave <b>(SN 0454 to Present)</b>	
25	7114032	1	Sheave, Extend Chain	
26	8526036	AR	Tube, Thread Locking Compound .5cc	
27	8305643	1	Nut, Hex Lock ESNA 5/8-11	
28	8520001	1	Fitting, Lube 1/8in Straight	
		Ref	<b>KITS</b>	
29	7138980	1	Kit, Retract Chain Sheave (Includes Items 12 thru 14, New Hardware for Rear Boom Cover and Instructions)	
30	7117534	1	Kit, Extend Chain Sheave (includes greaseable sheave pins and bushings for both primary and secondary intermediate booms) <b>(Prior to SN 0454)</b>	

# SECTION 9 - BOOM AND ATTACHMENTS

FIGURE 9-16. INNER BOOM - 10054



PH0662



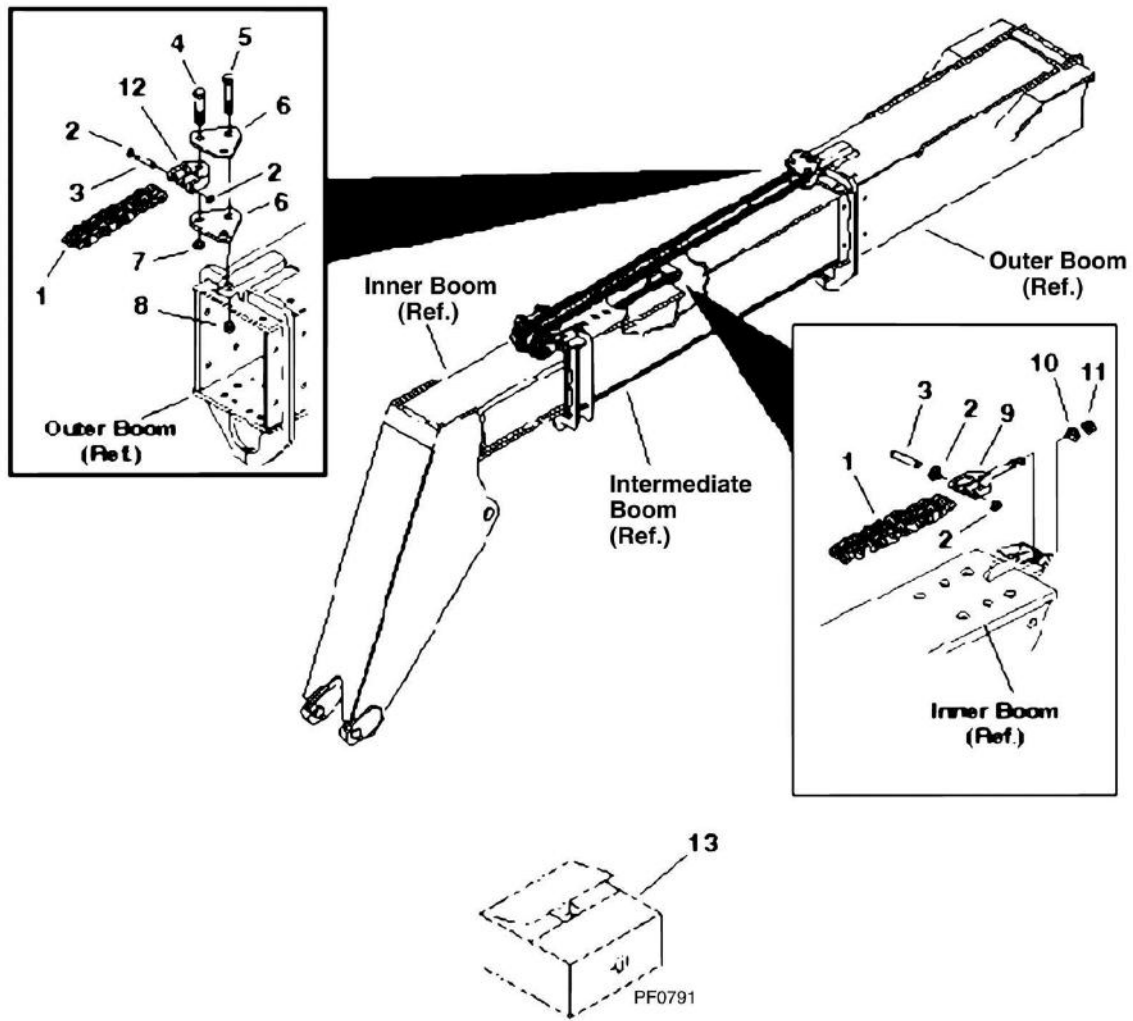
## SECTION 9 - BOOM AND ATTACHMENTS

**FIGURE 9-16. INNER BOOM - 10054**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7118682	1	Kit, Inner Boom (includes bushings, chain links, hardware and chain clevis) <b>(Prior to SN 0885)</b>	
1	7117133	1	Inner Boom <b>(SN 0885 to Present)</b>	
2	8303621	6	HHCS, 3/8-16 x 1-1/2in	
3	8307005	16	Washer, Lock 3/8in	
4	7082311	16	Insert, Wear Pad	
5	7111572	7	Wear Pad	
6	7096702	2	Spacer, Wear Pad, .50in	
7	7082362	AR	Shim, Wear Pad, (.13in thick)	
8	7082342	AR	Shim, Wear Pad, (.07in thick)	
9	8303681	10	HHCS, 3/8-16 x 3/4in	
10	8307204	10	Washer, Flat 3/8in	
11	7095312	2	Bushing, Quick Attach Pivot	
12	8305624	4	Nut, Hex Lock ESNA 1/4-20	
13	8520021	1	Fitting, Lube, 1/8in 90	
14	8520013	3	Fitting, Lube, 1/8in Straight	
15	8305644	1	Nut, Hex Lock Elastic 1/2-13	
16	7083992	1	Pin, Attachment Tilt Cylinder (rod end)	
17	8305643	1	Nut, Hex Lock Elastic 5/8-11	
18	7095352	1	Pin, Pivot, Quick Attach	
19	8303666	1	HHCS, 5/8-11 x 5in	
20	7095522	1	Pin, Attachment Tilt Cylinder (base end)	
21	8642224	2	Ring, Retaining. 2in Dia	
22	8303772	1	HHCS, 1/2-13 x 5in	
23	8303540	4	HHCS, 1/4-20 x 1in	
24	7114922	1	Guide	
25	8305645	6	Nut, Hex Lock ESNA 3/8-16	
26	8303620	5	HHCS, 3/8-16 x 1in	
27	8526036	AR	Tube, Thread Locking Compound .5cc	
28	7125811	1	Conduit, Plastic 3/4 x 8.00	
29	5746411	2	Molding, 3.0in	
30	7110172	2	Hose Carrier, Guide <b>(SN 1933 to Present)</b>	
31	7127862	2	Guide Support, Rear <b>(SN 1933 to Present)</b>	
32	7127852	1	Guide Support, Front <b>(SN 1933 to Present)</b>	
33	7125741	1	Molding, Edge Protector	
34	8307918	2	Washer, Shim 2.00 x 3.50 x 0.134	
35	8310093	AR	Washer, Shim 2.00 x 3.50 x 0.075	
36	8307904	AR	Washer, Shim 2.00 x 3.50 x 0.048	
37	8303679	4	HHCS, 3/8-16 x 1.75	

# SECTION 9 - BOOM AND ATTACHMENTS

FIGURE 9-17. BOOM EXTEND CHAINS - 8042 & 10042



PH0821

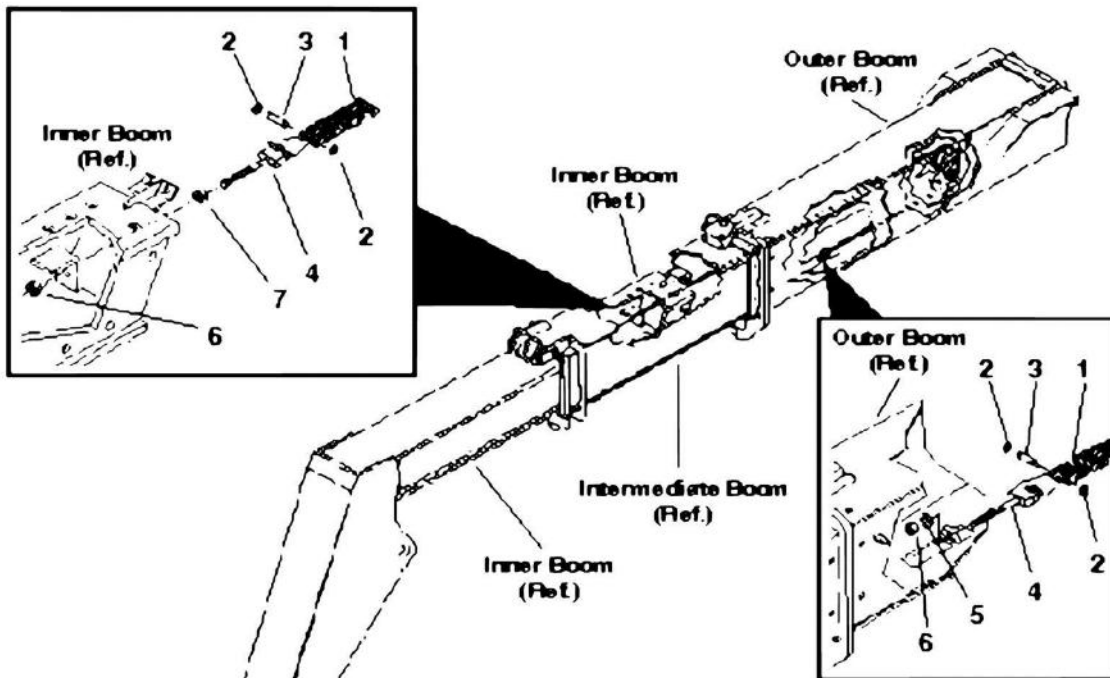
## SECTION 9 - BOOM AND ATTACHMENTS

### FIGURE 9-17. BOOM EXTEND CHAINS - 8042 & 10042

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	NLA	2	Chain, 4 x 6 Link - 194.25in Long (For Service, Order Kit P/N 7138738) <b>(Prior to SN 11145)</b>	
1	8127014	2	Chain, 6 x 6 Link <b>(SN 11145 to Present)</b>	
2	8642237	8	Retaining Ring, 1/4in Dia	
3	8124126	4	Pin, Chain Clevis	
4	8310019	2	Bolt, Shoulder 3/8-16 x 1-1/2in	
5	8310020	1	Bolt, Shoulder 1/2-13 x 1-1/2in	
6	7089781	2	Yoke, Extend Chain	
7	8305645	2	Nut, Hex Lock Elastic 3/8-16	
8	8305644	1	Nut, Hex Lock Elastic 1/2-13	
9	NLA	2	Clevis, 4 x 6 Chain (For Service, Order Kit P/N 7138738) <b>(Prior to SN 11145)</b>	
9	7119362	2	Clevis, 6 x 6 Chain <b>(SN 11145 to Present)</b>	
10	8307104	2	Washer, Flat 3/4in	
11	8305646	2	Nut, Hex Lock Elastic 3/4-16	
12	NLA	2	Clevis, 4 x 6 Chain (For Service, Order Kit P/N 7138738) <b>(Prior to SN 11145)</b>	
12	7119372	2	Clevis, 6 x 6 Chain <b>(SN 11145 to Present)</b>	
		Ref	<b>KITS</b>	
13	7138738	1	Kit, Extend Chain (Replaces 4 x 6 Link Chain with 6 x 6 Link Chain)	

# SECTION 9 - BOOM AND ATTACHMENTS

FIGURE 9-18. BOOM RETRACT CHAIN - 8042 & 10042 (Prior to SN 1085)



PH0851

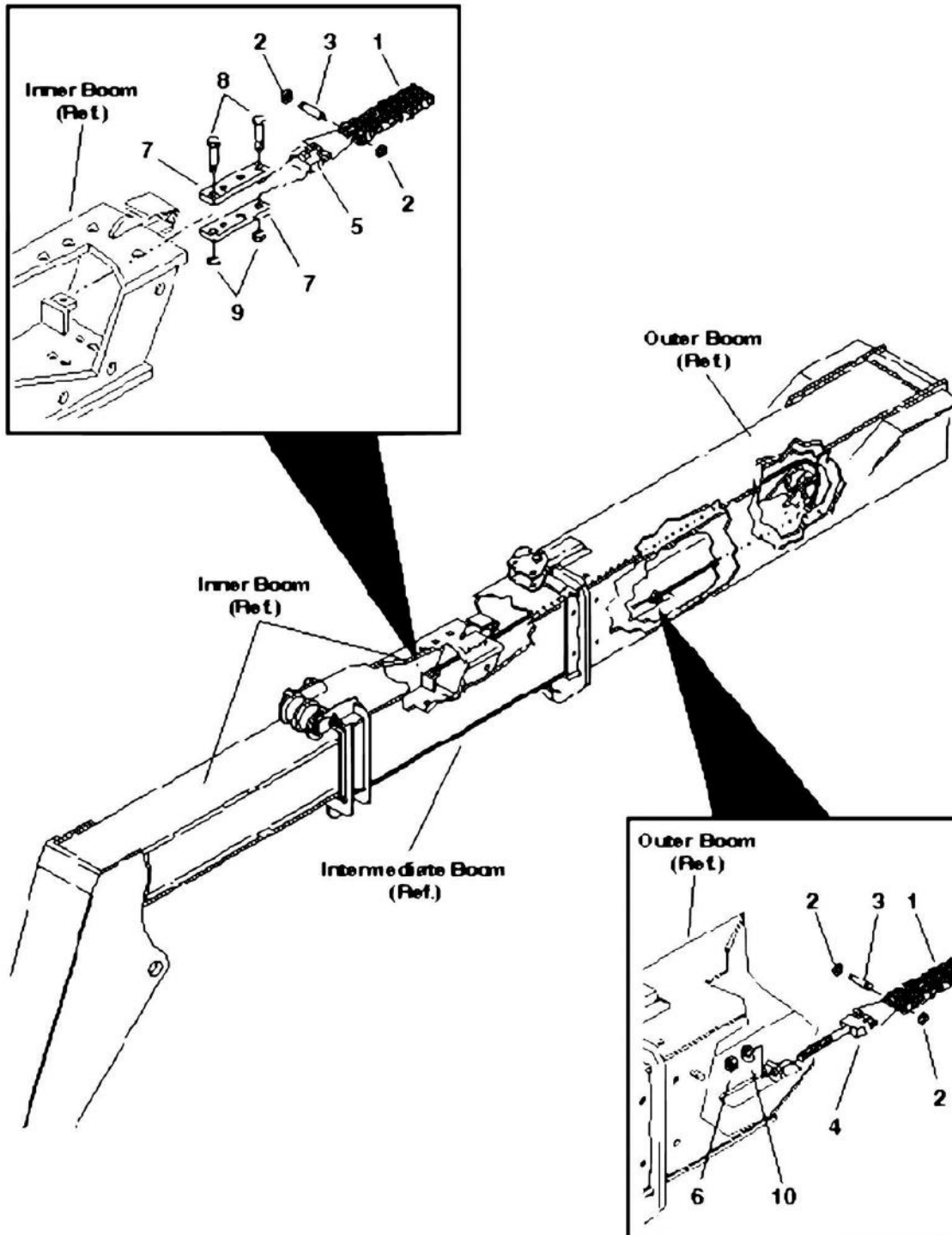
## SECTION 9 - BOOM AND ATTACHMENTS

**FIGURE 9-18. BOOM RETRACT CHAIN - 8042 & 10042 (Prior to SN 1085)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7120191	1	Kit, 6 x 6 Retract Chain (Includes 6 x 6 chain, 4 of Item 2, 2 of Item 3 & 2 of Item 4)	
2	8642237	4	Retaining Ring, 1/4in Dia	
3	8124126	2	Pin, Chain Clevis	
4	7119362	2	Clevis, 6 x 6 Chain	
5	8307104	1	Washer, Flat 3/4in	
6	8305646	2	Nut, Hex Lock Elastic 3/4-16	
7	8305018	1	Nut, Hex 3/4-16	

# SECTION 9 - BOOM AND ATTACHMENTS

FIGURE 9-19. BOOM RETRACT CHAIN - 8042 & 10042 (SN 1085 through 13197)



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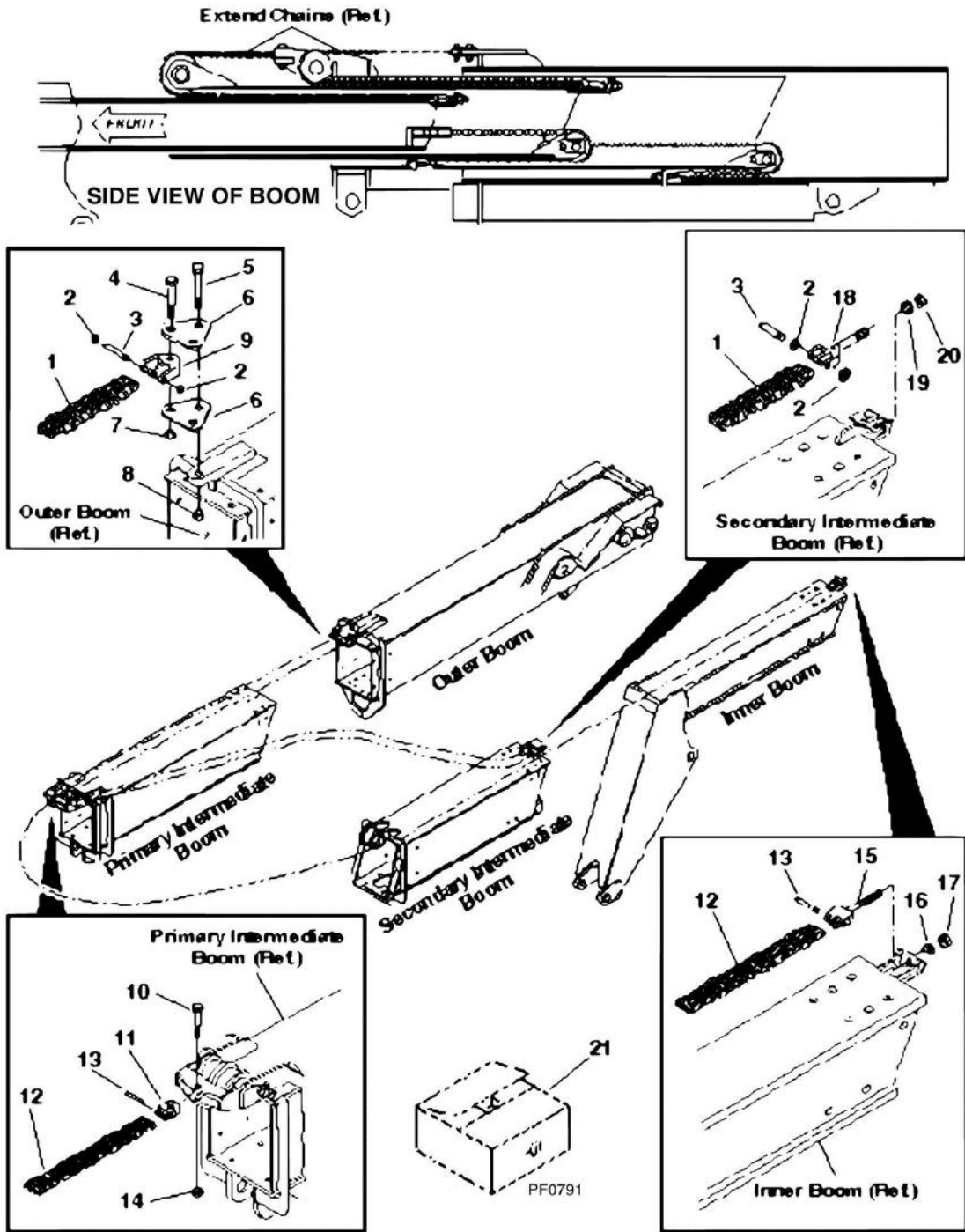
## SECTION 9 - BOOM AND ATTACHMENTS

**FIGURE 9-19. BOOM RETRACT CHAIN - 8042 & 10042 (SN 1085 through 13197)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7119351	1	Kit, 6 x 6 Retract Chain (Includes 6 x 6 chain, 4 of Item 2, 2 of Item 3, 1 Item 4 & 1 Item 5)	
2	8642237	4	Retaining Ring, 1/4in Dia	
3	8124126	2	Pin, Chain Clevis	
4	7119362	1	Clevis, 6 x 6 Chain	
5	7119372	1	Clevis, 6 x 6 Chain	
6	8305646	1	Nut, Hex Lock Elastic 3/4-16	
7	7117031	2	Link, Chain Anchor	
8	8310019	2	Bolt, Shoulder 1/2 x 1-1/2in	
9	8305645	2	Nut, Lock Elastic 3/8-16	
10	8307104	1	Washer, Flat 3/4in	
1	7112804	1	15ft Truss Boom - 10042 & 10054 (Includes Items 2 thru 9)	
1	7113024	1	12ft Truss Boom - 8042 (Includes Items 2 thru 9)	
2	8382017	1	Pintle Hook	
3	8310195	4	HHCS, 1/2-13 x 1.75in	
4	8307112	4	Washer, Plain 1/2 SAE	
5	8305644	4	Nut, Hex Lock Elastic 1/2-13	
6	4107182	2	Decal, Name	
7	4107822	2	Decal, Swinging Load	
8	4107832	2	Decal, Length/Capacity	
9	4107812	2	Chart, Capacity	

# SECTION 9 - BOOM AND ATTACHMENTS

FIGURE 9-20. BOOM EXTEND CHAINS - 10054



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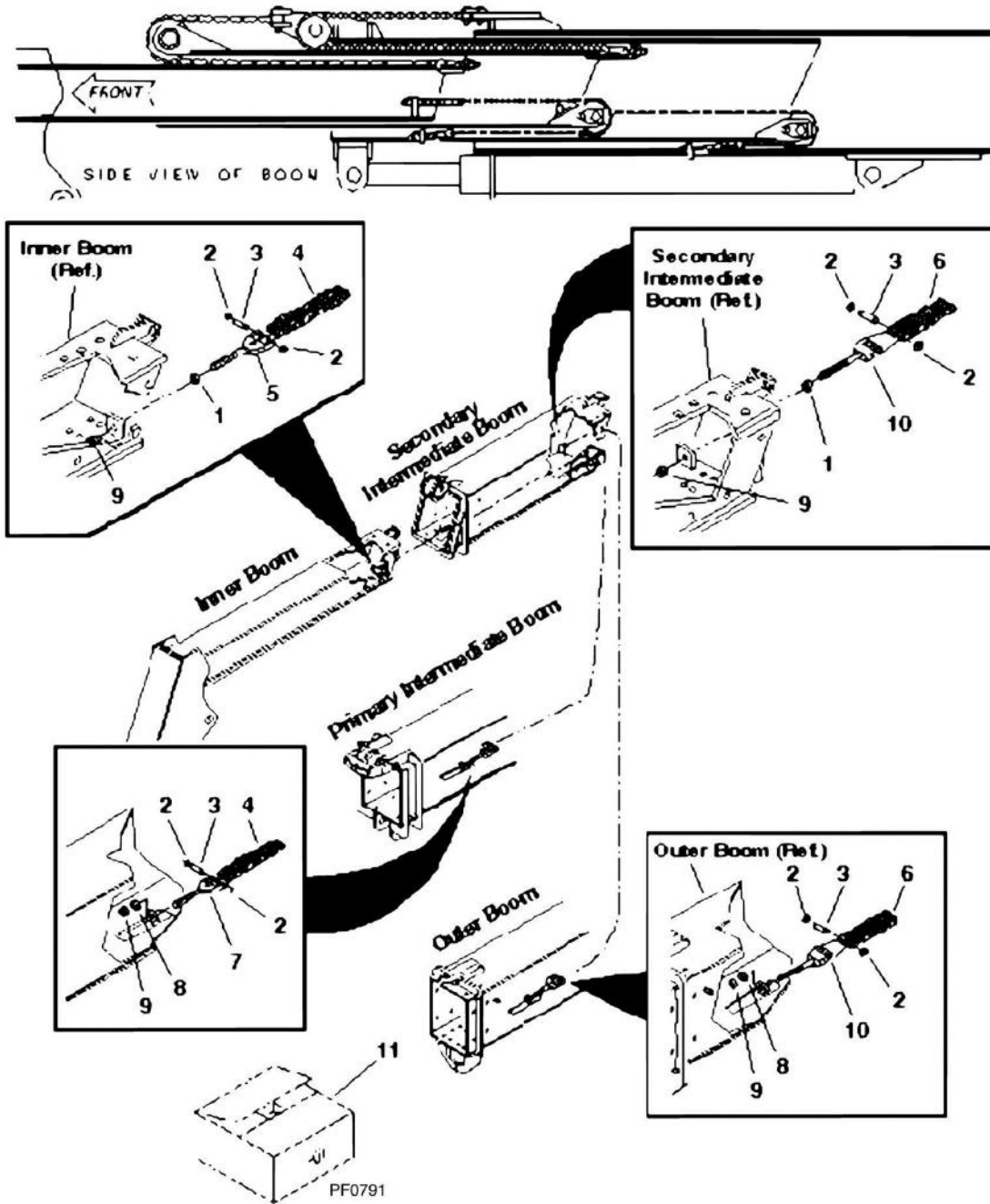
## SECTION 9 - BOOM AND ATTACHMENTS

### FIGURE 9-20. BOOM EXTEND CHAINS - 10054

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	NLA	2	Chain, 4 x 6 Link - 194.25in Long (For Service, Order Kit 7138738) <b>(Prior to SN 11145)</b>	
1	8127014	2	Chain, 6 x 6 Link - 194.25in Long <b>(SN 11145 to Present)</b>	
2	8642237	8	Retaining Ring, 1/4in Dia	
3	8124126	4	Pin, Chain Clevis	
4	8310019	2	Bolt, Shoulder 3/8-16 x 1-1/2in	
5	8310020	1	Bolt, Shoulder 1/2-13 x 1-1/2in	
6	7089781	2	Yoke, Extend Chain	
7	8305645	2	Nut, Hex Lock Elastic 3/8-16	
8	8305644	1	Nut, Hex Lock Elastic 1/2-13	
9	NLA	2	Clevis, 4 x 6 Chain (For Service, Order Kit P/N 7138738) <b>(Prior to SN 11145)</b>	
9	7119372	2	Clevis, 6 x 6 Chain <b>(SN 11145 to Present)</b>	
10	8310205	1	Bolt, Shoulder 5/8-11 x 2-1/2in	
11	7113982	1	Clevis, 6 x 6 Chain	
12	8127009	1	Chain, 6 x 6 Link - 193in Long	
13	8124131	2	Pin, Chain Clevis (Includes two cotter pins)	
14	8305643	1	Nut, Lock Elastic 5/8-11	
15	7113952	1	Clevis, 6 x 6 Chain	
16	8310066	1	Washer, Flat 1in	
17	8310210	1	Nut, Lock Elastic 1in - 14	
18	NLA	2	Clevis, 4 x 6 Chain (For Service, Order Kit P/N 7138738) <b>(Prior to SN 11145)</b>	
18	7119362	2	Clevis, 6 x 6 Chain <b>(SN 11145 to Present)</b>	
19	8307104	2	Washer, Flat 3/4in	
20	8305646	2	Nut, Lock Elastic 3/4-16	
21	7138738	2	Kit, Extend Chain (Replaces one 4 x 6 Link Chain and Clevis assembly with one 6 x 6 Link Chain and Clevis Assembly. Replace as a pair)	

# SECTION 9 - BOOM AND ATTACHMENTS

FIGURE 9-21. BOOM RETRACT CHAINS - 10054 (Prior to SN 0885)



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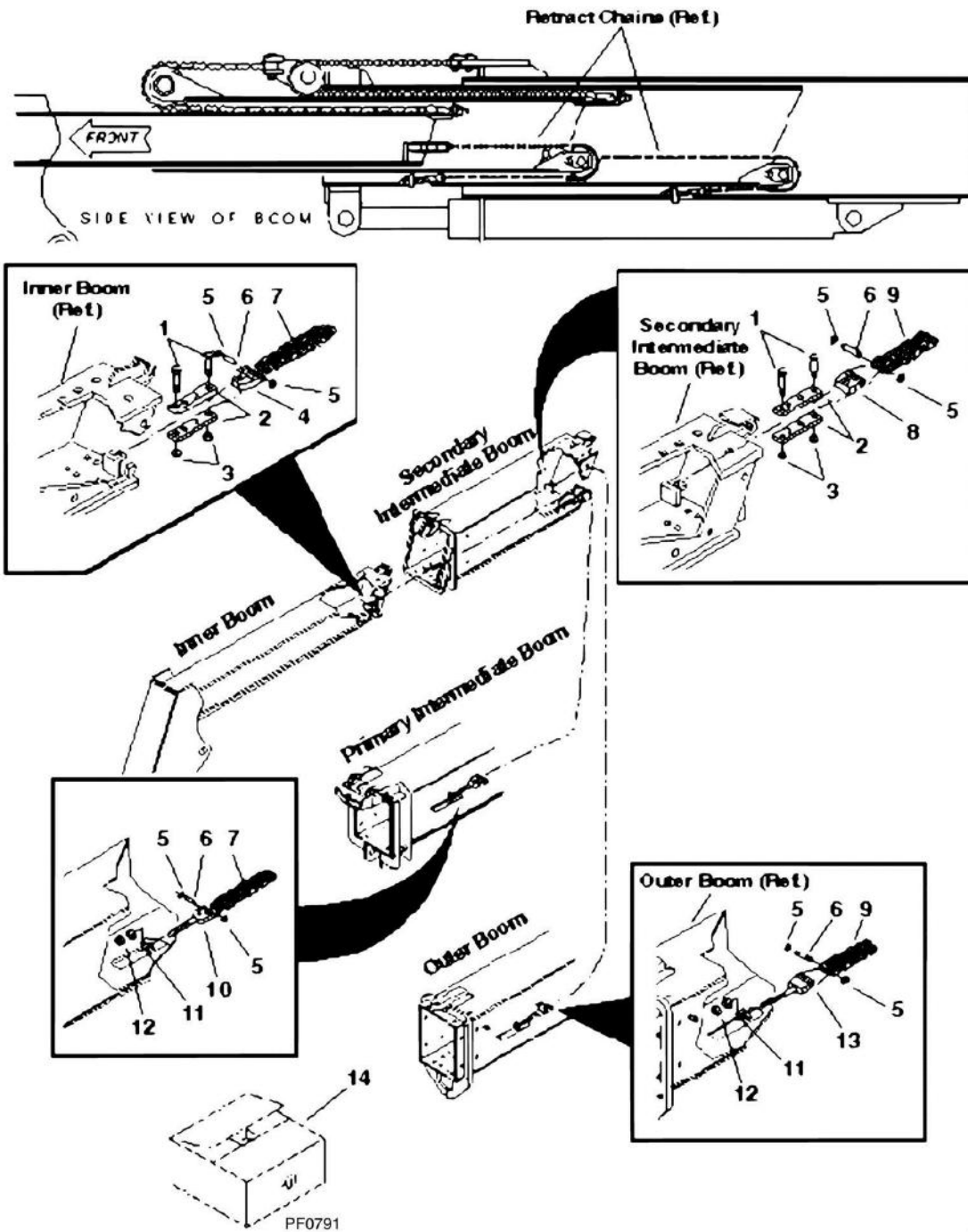
## SECTION 9 - BOOM AND ATTACHMENTS

**FIGURE 9-21. BOOM RETRACT CHAINS - 10054 (Prior to SN 0885)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	8305018	1	Nut, Hex Jam 3/4-16	
2	8642237	8	Retaining Ring, 1/4in	
3	8124126	4	Pin, Chain Clevis	
4	NLA	1	Chain, 4 x 6 - 164.25in Long (For Service, Order Kit P/N 7120191)	
5	NLA	2	Clevis, 4 x 6 Chain (For Service, Order Kit P/N 7120191)	
6	8127008	1	Chain, 6 x 6 - 164.25in Long	
7	NLA	NLA	Clevis, 4 x 6 Chain (For Service, Order Kit P/N 7120191)	
8	8307104	2	Washer, Flat 3/4in	
9	8305646	4	Nut, Hex Lock Elastic 3/4-16	
10	7119362	2	Clevis, 6 x 6 Chain	
		Ref	<b>KITS</b>	
11	7120191	1	Kit, Retract Chain (Replaces 4 x 6 Link Chain with 6 x 6 Link Chain)	

# SECTION 9 - BOOM AND ATTACHMENTS

FIGURE 9-22. BOOM RETRACT CHAINS - 10054 (SN 0885 through 1084)



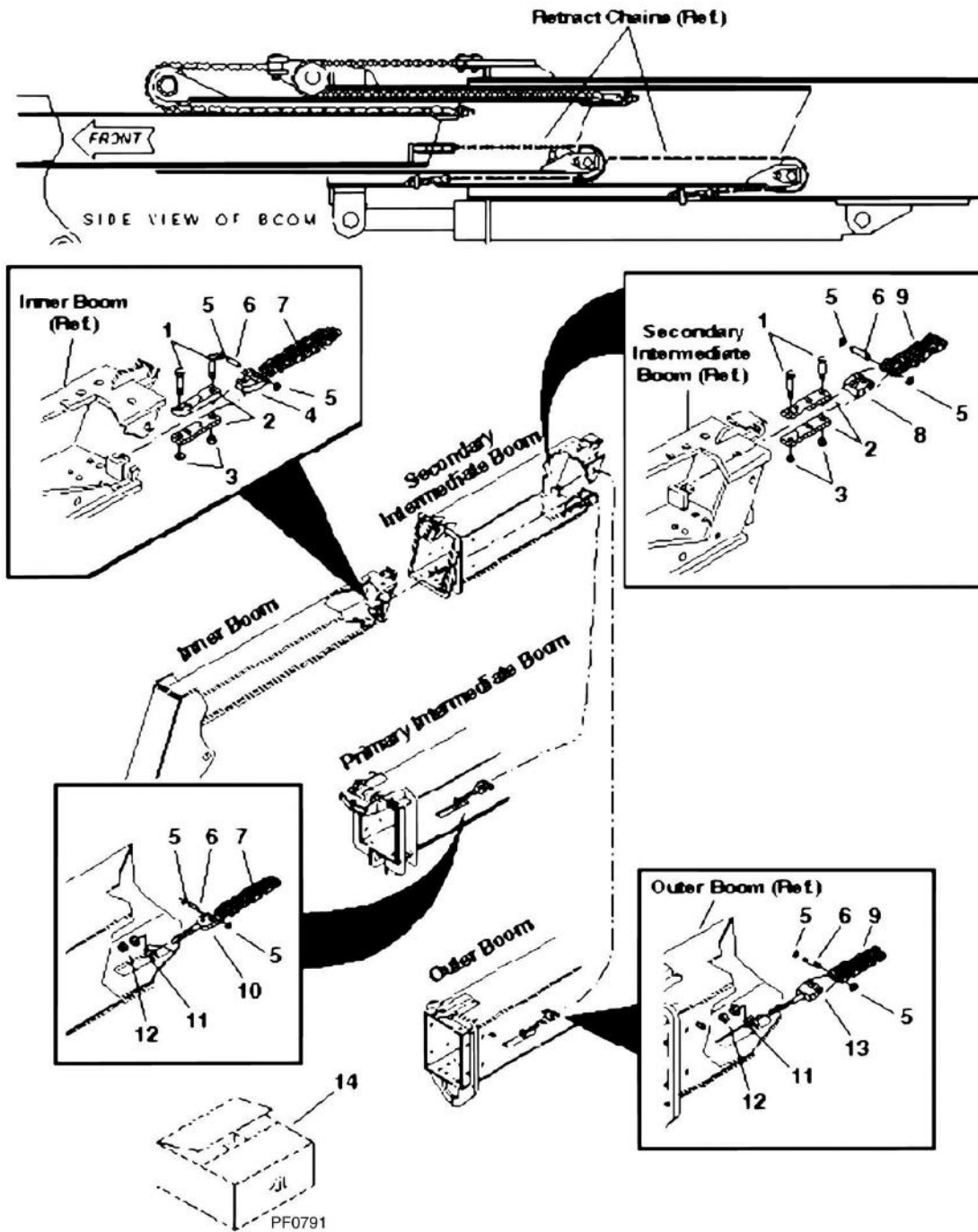
## SECTION 9 - BOOM AND ATTACHMENTS

**FIGURE 9-22. BOOM RETRACT CHAINS - 10054 (SN 0885 through 1084)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	8310019	4	Bolt, Shoulder 3/8-16 x 1-1/2	
2	7117031	4	Link	
3	8305645	4	Nut, Hex Lock Elastic 3/8-16	
4	NLA	1	Clevis, 4 x 6 Chain (For Service, Order Kit P/N 7119351)	
5	8642237	8	Retaining Ring, 1/4in	
6	8124126	4	Pin, Chain Clevis	
7	NLA	1	Chain, 4 x 6 - 164.25in Long (For Service, Order Kit P/N 7119351)	
8	7119372	1	Clevis, 6 x 6 Chain	
9	8127008	1	Chain, 6 x 6 Link - 164.25in Long	
10	NLA	1	Clevis, 4 x 6 Chain (For Service, Order Kit P/N 7119351)	
11	8307104	2	Washer, Flat 3/4in	
12	8305646	2	Nut, Hex Lock Elastic 3/4-16	
13	7119362	1	Clevis, 6 x 6 Chain	
		Ref	<b>KITS</b>	
14	7119351	1	Kit, Retract Chain (Replaces 4 x 6 Link Chain with 6 x 6 Link Chain)	

# SECTION 9 - BOOM AND ATTACHMENTS

FIGURE 9-23. BOOM RETRACT CHAINS - 10054 (SN 1085 through 13197)



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## SECTION 9 - BOOM AND ATTACHMENTS

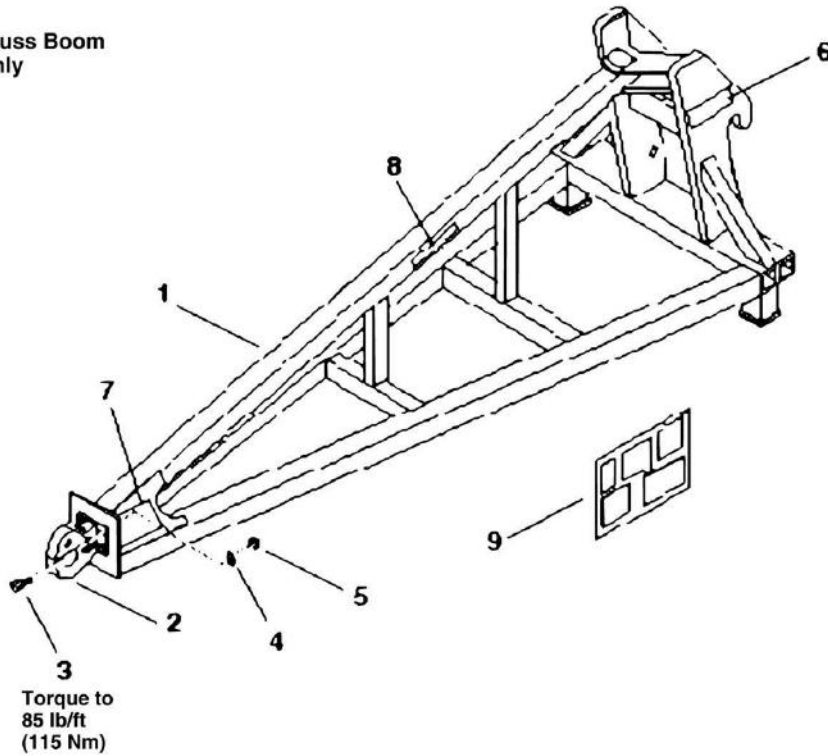
**FIGURE 9-23. BOOM RETRACT CHAINS - 10054 (SN 1085 through 13197)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	8310019	4	Bolt, Shoulder 3/8-16 x 1-1/2in	
2	7117031	4	Link	
3	8305645	4	Nut, Hex Lock Elastic 3/8-16	
4	NLA	1	Clevis, 4 x 6 Chain (For Service, Order Kit P/N 7119351) <b>(Prior to SN 11569)</b>	
4	7119372	1	Clevis, 6 x 6 Chain <b>(SN 11569 to Present)</b>	
5	8642237	8	Retaining Ring 1/4in	
6	8124126	4	Pin, Chain Clevis	
7	NLA	1	Chain, 4 x 6 Link - 164.25in Long (For Service, Order Kit P/N 7119351) <b>(Prior to SN 11569)</b>	
7	8127008	1	Chain, 6 x 6 Link - 164.25in Long <b>(SN 11569 to Present)</b>	
8	7119372	1	Clevis, 6 x 6 Chain	
9	8127008	1	Chain, 6 x 6 Link - 164.25in Long	
10	NLA	1	Clevis, 4 x 6 Chain (For Service, Order Kit P/N 7119351) <b>(Prior to SN 11569)</b>	
10	7119362	1	Clevis, 6 x 6 Chain <b>(SN 11569 to Present)</b>	
11	8307104	2	Washer, Flat 3/4in	
12	8305646	2	Nut, Hex Lock Elastic 3/4-16	
13	7119362	1	Clevis, 6 x 6 Chain	
		Ref	<b>KITS</b>	
14	7119351	1	Kit, Retract Chain (Replaces 4 x 6 Link Chain with 6 x 6 Link Chain)	

# SECTION 9 - BOOM AND ATTACHMENTS

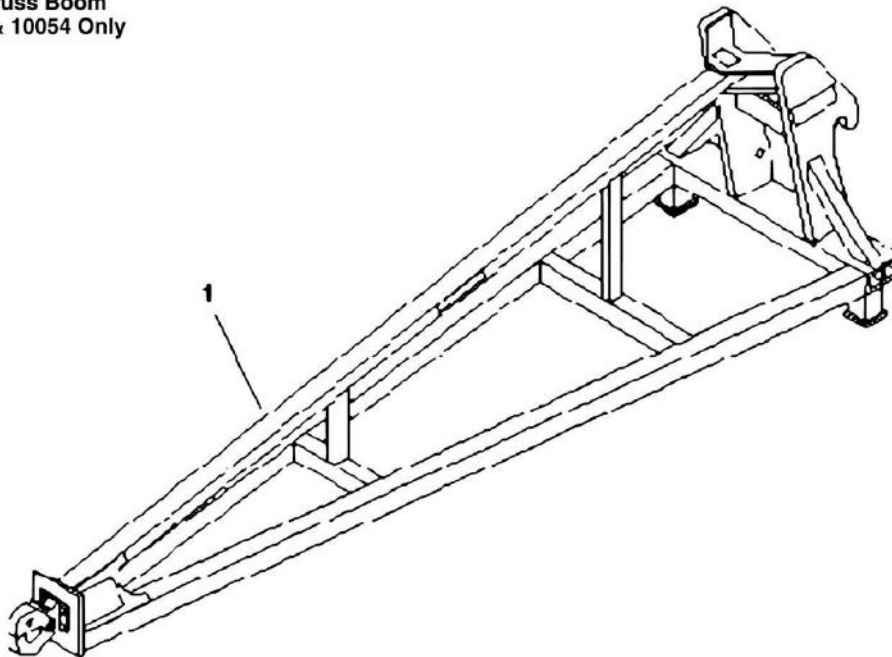
## FIGURE 9-24. TRUSS BOOM 12 & 15 FT (OPTIONAL)

12 ft. Truss Boom  
8042 Only



---

15 ft. Truss Boom  
10042 & 10054 Only



PH0970



## SECTION 9 - BOOM AND ATTACHMENTS

FIGURE 9-24. TRUSS BOOM 12 & 15 FT (OPTIONAL)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	7113024	1	12ft Truss Boom - 8042 (Includes Items 2 thru 9)	
1	7112804	1	15ft Truss Boom - 10042 & 10054 (Includes Items 2 thru 9)	
2	8382017	1	Pintle Hook	
3	8310195	4	HHCS, 1/2-13 x 1.75in	
4	8307112	4	Washer, Plain 1/2 SAE	
5	8305644	4	Nut, Hex Lock Elastic 1/2-13	
6	4107182	2	Decal, Name	
7	4107822	2	Decal, Swinging Load	
8	4107832	2	Decal, Length/Capacity	
9	4107812	2	Chart, Capacity	



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## **STABIL-TRAK SYSTEM**

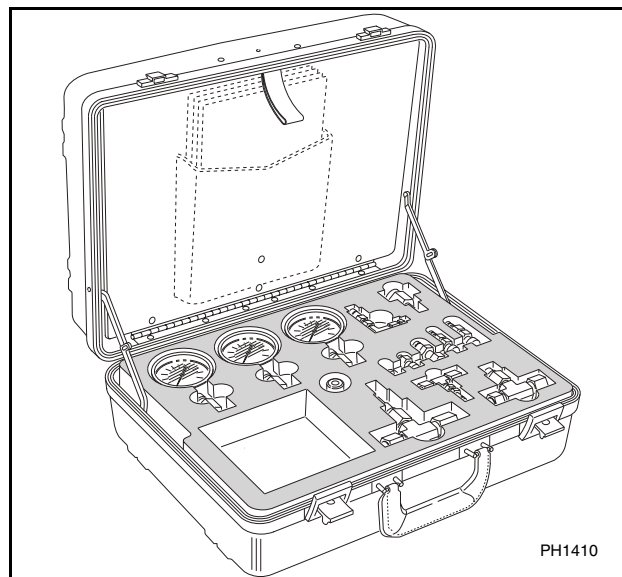
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# Hydraulic Diagnostic Test Equipment

OmniQuip Parts Worldwide is pleased to announce the availability of two valuable diagnostic tools. The **Sky Trak** Pressure Test Kit and Flowmeter Kit. Both kits feature a durable polyethylene carrying case for demanding field service conditions. For price and availability, call OmniQuip Parts Worldwide at (888) 872-5123.

## Pressure Test Kit

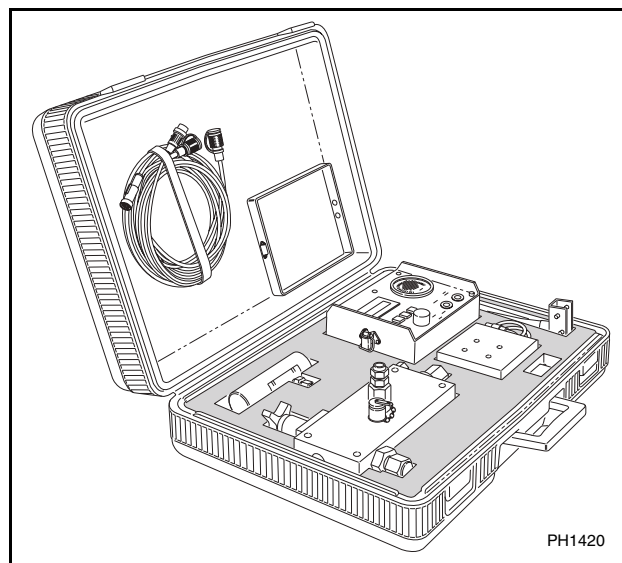
- Contains all the fittings and hoses required to test **Sky Trak** Telescopic Material Handlers
- 300, 1000 and 4000 psi gauges for accurate testing of high and low pressure circuits
- Includes laminated Test Diagrams and Testing Procedures for troubleshooting **Sky Trak** Telescopic Material Handlers
- 13" x 18" x 7" durable carrying case



PH1410

## Flowmeter Kit

- Use Flowmeter Kit to pinpoint hydraulic system faults.
- Includes flowmeter with load valve, magnetic base, photo tachometer head and flex arm
- Measures up to 60 GPM and 6000 psi
- Bi-directional for unrestricted connection and simplified testing
- Internal by-pass protects system and tester from over-pressure
- 16" x 22" x 7" durable carrying case

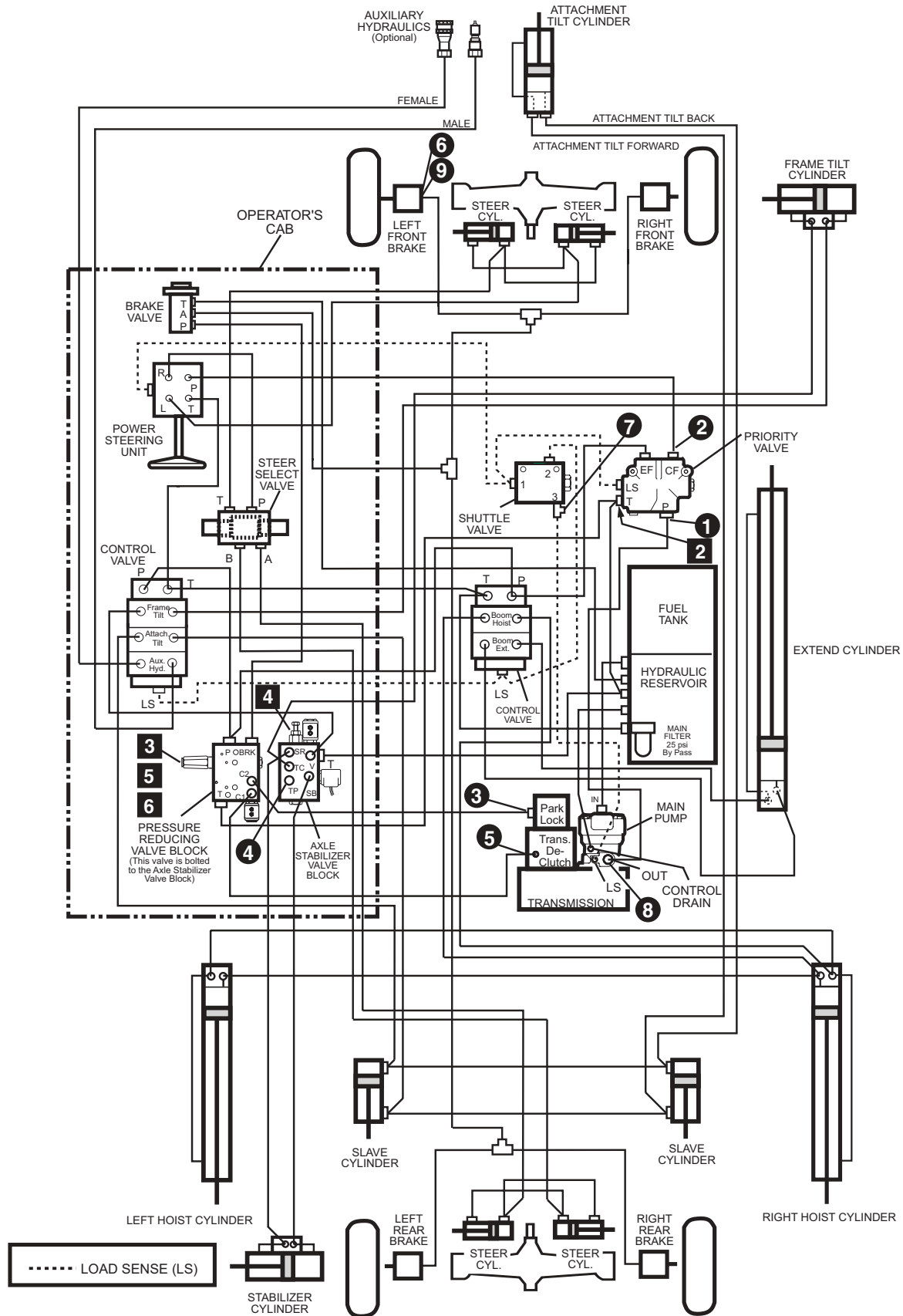


PH1420

## Ordering & Price Information

Part Number	Description	Approximate Weight	Price and Availability
7133413	Hydraulic Pressure Test Kit	16 lbs.	Consult Factory
1321107	Hydraulic Flowmeter Kit	28 lbs.	Consult Factory

# 8042 Hydraulic Diagram (S/N 1167 & Before)



# 8042 Hydraulic Testing (S/N 1167 & Before)

## Engine Information

Idle . . . . . 1,050 ± 50 rpm  
Full Speed . . . . . 2,730 ± 130 rpm

## Hydraulic Oil Information

Oil Type - 10W, meets MIL-L-2104C or ISO Grade 46  
Capacity - Reservoir . . . . . 30.3 gal. (114,7 liter)  
Capacity - System . . . . . 47.3 gal. (179 liter)

**Note 1:** To adjust relief settings or pressure reducing settings, turn the adjustment screw clockwise to increase pressure or counterclockwise to decrease pressure.

**\*Note 2:** On units with S/N 0654 & Before. If the low brake pressure kit has been installed, as offered in Service Bulletin STB-2076, issued 5-29-95, refer to test location 9.

The hydraulic oil temperature for the pump flow test should be between 100° F (38° C) and 120° F (49° C) (tank hot to the touch) during testing.

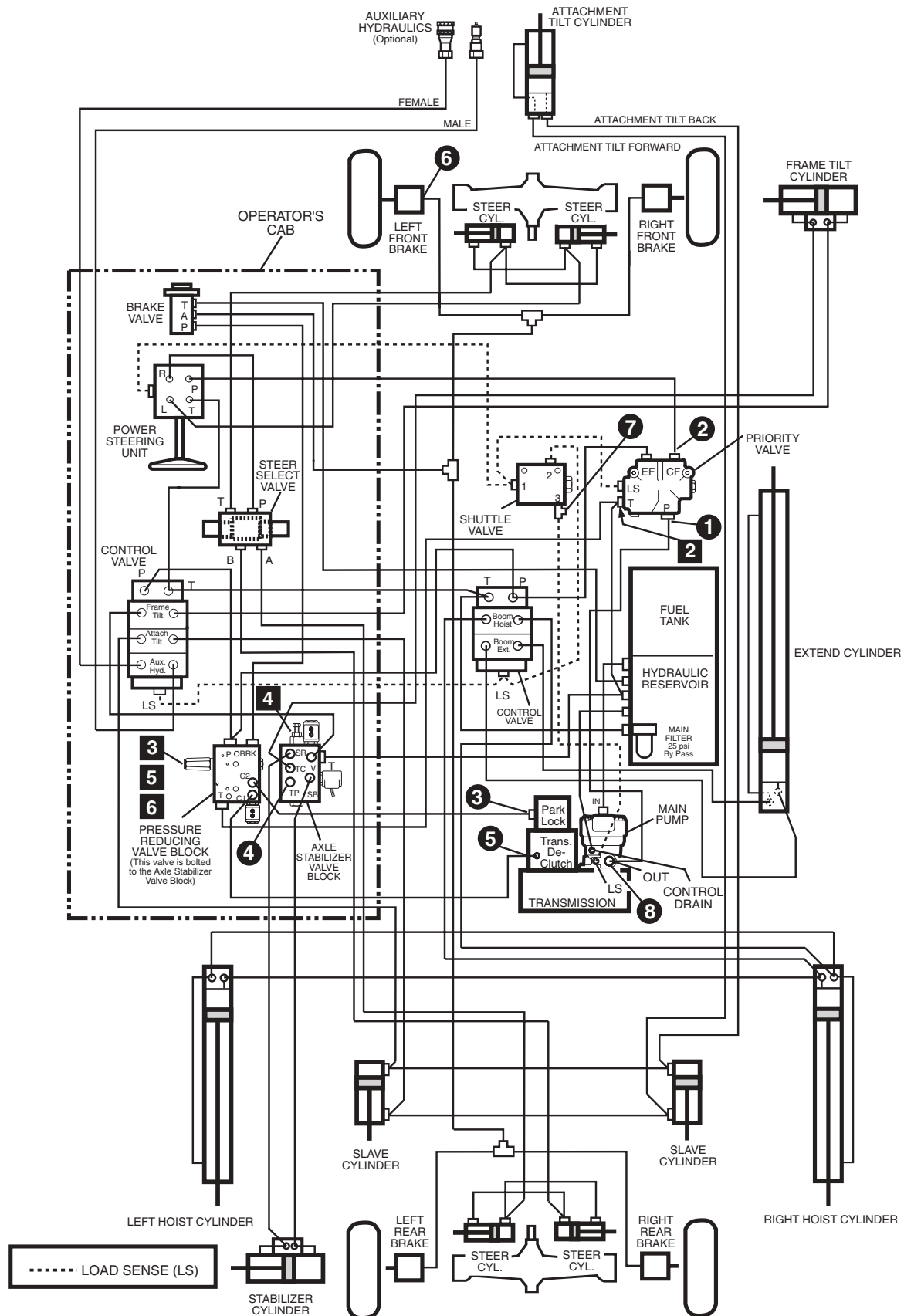
## Equipment Needed To Perform Tests From Kit P/N 7118782

Circuit	Gauge	Fittings
1	4,000 PSI Gauge (275,6 bar)	#12 Run Tee Swivel Nut End Reducer #12-8 PD38TX Test Nipple
2	4,000 PSI Gauge (275,6 bar)	#8 Run Tee Swivel Nut PD38TX Test Nipple
3 5	1,000 PSI Gauge (68,9 bar)	#4 Union PD34BTX Test Nipple
4	300 PSI Gauge (20,7 bar)	Connector STR. THD. #4 PD34BTX Test Nipple
6 9	1,000 PSI Gauge (68,9 bar)	#4 Run Tee Swivel Nut PD34BTX Test Nipple
7	4,000 PSI Gauge (275,6 bar)	#6 Elbow 90° Swivel Nut PD36BTX Test Nipple

TEST LOCATION	Hydraulic Pump Flow Test
8	To check flow readings a flow meter capable of measuring 60 GPM (3,8 ltr/sec) and a load valve capable of 6,000 psi (413,4 bar) will be required (not included with kit P/N 7118782). 2,000 psi (137,8 bar) load @ Engine Speed of 2,500 ± 25 rpm — Flow rate should be 39 to 43 GPM (2,5 to 2,7 ltr/sec)

TEST LOCATION	ADJUST. LOCATION	COMPONENT DESCRIPTION	PRESSURE READINGS	PRESSURE TEST PROCEDURES
1	N/A	Pump Standby Pressure	550 ± 50 psi (37,9 ± 3,4 bar)	Loosen load sense line at location 7 to bleed off pressure and then retighten line. With engine at idle and all hydraulic functions in neutral position, check pump standby pressure.
	N/A	Pump Pressure Compensator	2,950 ± 50 psi (203,3 ± 3,4 bar)	With engine at idle fully retract boom extend cylinder and hold. Check pump maximum pressure.
2	2	Priority Valve Steering Relief	2,500 ± 50 psi (172,3 ± 3,4 bar)	With engine at idle turn the steering wheel all the way to the left or right and hold while checking pressure. If pressure is not correct, adjust or replace the relief valve cartridge in the priority valve ( <b>See Note 1</b> ).
N/A	N/A	Attachment Tilt Port Relief	3,150 ± 50 psi (217 ± 3,4 bar)	CONSULT FACTORY
3	3	Pressure Reducing Valve In Pressure Reducing Valve Block And Park Brake Release	425 ± 25 psi (29,3 ± 1,7 bar)	With engine at idle and park brake released check pressure. If pressure is not correct, adjust or replace the cartridge in the pressure reducing valve ( <b>See Note 1</b> ).
4	4	Pressure Reducing Valve In Axle Stabilizer Valve Block	60 ± 10 psi (4,1 ± 0,7 bar)	With engine at idle and boom in the down position check pressure. If pressure is not correct, adjust or replace the cartridge in the axle stabilizer valve ( <b>See Note 1</b> ).
	N/A	Relief Check Valve In Axle Stabilizer Valve Block	100 psi Minimum (6,9 bar)	With engine at idle and boom down, while frame tilting to the left check pressure.
5	5	Transmission De-Clutch	425 ± 25 psi (29,3 ± 1,7 bar)	With engine at idle and park brake engaged check pressure. If pressure is not correct, adjust or replace the cartridge in the pressure reducing valve ( <b>See Note 1</b> ).
6	6	Service Brakes ( <b>*See Note 2</b> ) (S/N 0654 & Before)	425 ± 25 psi (29,3 ± 1,7 bar)	With engine at idle depress the service brakes and check pressure. If pressure is not correct, adjust or replace the cartridge in the pressure reducing valve ( <b>See Note 1</b> ).
7	N/A	Load Sense	Variable 0 to 2,950 psi (0 to 203,3 bar)	With engine at idle operate a specific function (Boom, Frame Tilt, Attachment Tilt, Auxiliary or Steering) and check pressure.
9	N/A	Service Brakes (S/N 0655 thru 1167)	350 ± 25 psi (24,1 ± 1,7 bar)	With engine at idle depress the service brakes and check pressure. If pressure is not correct, recheck pressure reducing valve pressure.

# 8042 Hydraulic Diagram (S/N 1188 thru 2194)



8990272-001  
(PH0980)



# 8042 Hydraulic Testing (S/N 1168 thru 2194)

## Engine Information

Idle ..... 1,050 ± 50 rpm  
Full Speed ..... 2,730 ± 130 rpm

## Hydraulic Oil Information

Oil Type - 10W, meets MIL-L-2104C or ISO Grade 46  
Capacity - Reservoir ..... 30.3 gal. (114,7 liter)  
Capacity - System ..... 47.3 gal. (179 liter)

**Note:** To adjust relief settings or pressure reducing settings, turn the adjustment screw clockwise to increase pressure or counterclockwise to decrease pressure.

The hydraulic oil temperature for the pump flow test should be between 100° F (38° C) and 120° F (49° C) (tank hot to the touch) during testing.

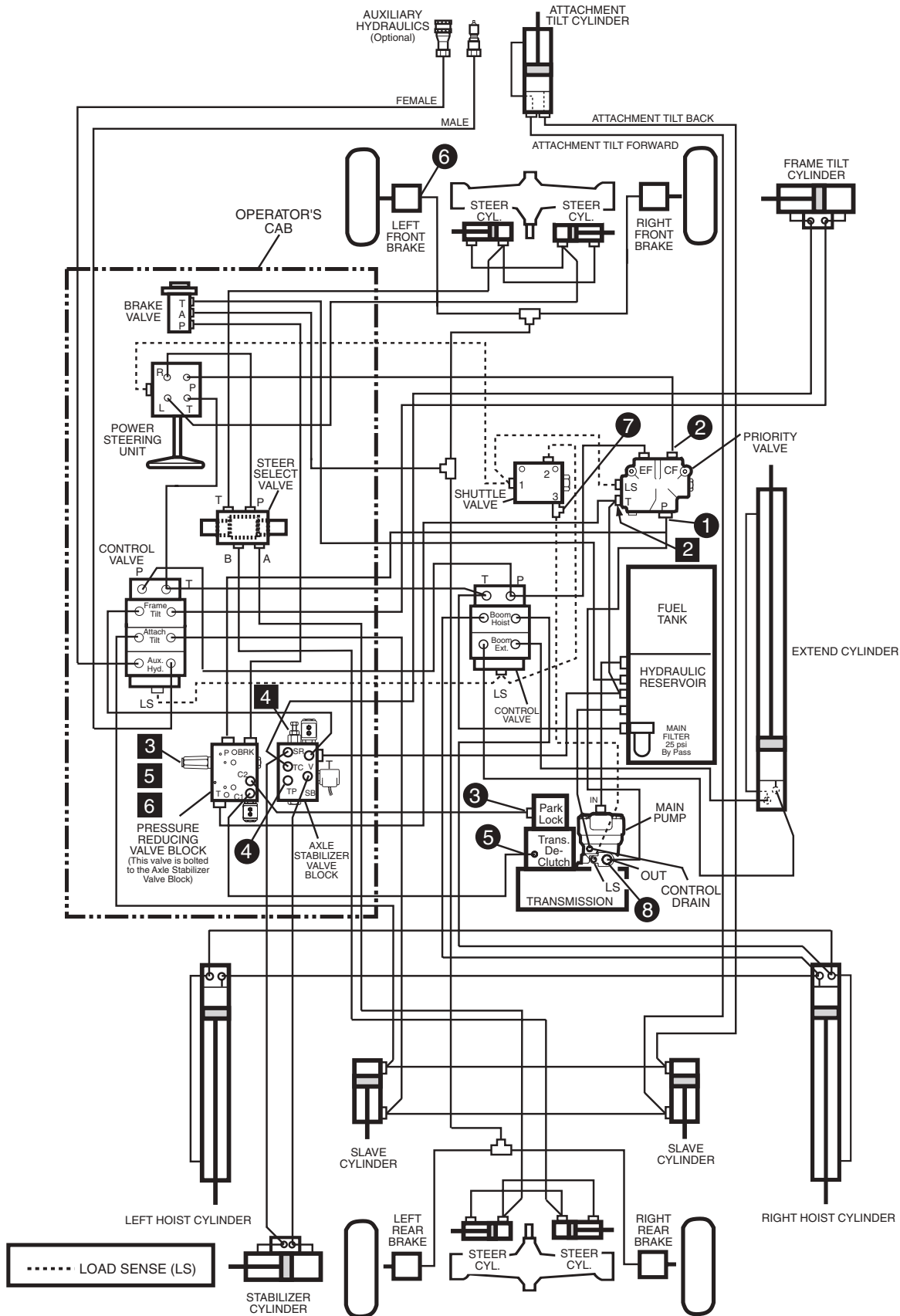
## Equipment Needed To Perform Tests From Kit P/N 7118782

Circuit	Gauge	Fittings
1	4,000 PSI Gauge (275,6 bar)	#12 Run Tee Swivel Nut End Reducer #12-8 PD38TX Test Nipple
2	4,000 PSI Gauge (275,6 bar)	#8 Run Tee Swivel Nut PD38TX Test Nipple
3 5	1,000 PSI Gauge (68,9 bar)	#4 Union PD34BTX Test Nipple
4	300 PSI Gauge (20,7 bar)	Connector STR. THD. #4 PD34BTX Test Nipple
6	1,000 PSI Gauge (68,9 bar)	#4 Run Tee Swivel Nut PD34BTX Test Nipple
7	4,000 PSI Gauge (275,6 bar)	#6 Elbow 90° Swivel Nut PD36BTX Test Nipple

TEST LOCATION	Hydraulic Pump Flow Test
8	To check flow readings a flow meter capable of measuring 60 GPM (3,8 ltr/sec) and a load valve capable of 6,000 psi (413,4 bar) will be required (not included with kit P/N 7118782). 2,000 psi (137,8 bar) load @ Engine Speed of 2,500 ± 25 rpm — Flow rate should be 39 to 43 GPM (2,5 to 2,7 ltr/sec)

TEST LOCATION	ADJUST. LOCATION	COMPONENT DESCRIPTION	PRESSURE READINGS	PRESSURE TEST PROCEDURES
1	N/A	Pump Standby Pressure	550 ± 50 psi (37,9 ± 3,4 bar)	Loosen load sense line at location 7 to bleed off pressure and then retighten line. With engine at idle and all hydraulic functions in neutral position, check pump standby pressure.
	N/A	Pump Pressure Compensator	2,950 ± 50 psi (203,3 ± 3,4 bar)	With engine at idle fully retract boom extend cylinder and hold. Check pump maximum pressure.
2	2	Priority Valve Steering Relief	2,500 ± 50 psi (172,3 ± 3,4 bar)	With engine at idle turn the steering wheel all the way to the left or right and hold while checking pressure. If pressure is not correct, adjust (inside of "T" port) or replace the relief valve cartridge in the priority valve ( <b>See Note</b> ).
N/A	N/A	Attachment Tilt Port Relief	3,150 ± 50 psi (217 ± 3,4 bar)	CONSULT FACTORY
3	3	Pressure Reducing Valve In Pressure Reducing Valve Block And Park Brake Release	500 +25/-0 psi (34,5 +1,7/-0 bar)	With engine at idle and park brake released check pressure. If pressure is not correct, adjust or replace the cartridge in the pressure reducing valve ( <b>See Note</b> ).
4	4	Pressure Reducing Valve In Axle Stabilizer Valve Block	60 ± 10 psi (4,1 ± 0,7 bar)	With engine at idle and boom in the down position check pressure. If pressure is not correct, adjust or replace the cartridge in the axle stabilizer valve ( <b>See Note</b> ).
	N/A	Relief Check Valve In Axle Stabilizer Valve Block	100 psi Minimum (6,9 bar)	With engine at idle and boom down, while frame tilting to the left check pressure.
5	5	Transmission De-Clutch	500 +25/-0 psi (34,5 +1,7/-0 bar)	With engine at idle and park brake engaged check pressure. If pressure is not correct, adjust or replace the cartridge in the pressure reducing valve ( <b>See Note</b> ).
6	6	Service Brakes	500 +25/-0 psi (34,5 +1,7/-0 bar)	With engine at idle depress the service brakes and check pressure. If pressure is not correct, adjust or replace the cartridge in the pressure reducing valve ( <b>See Note</b> ).
7	N/A	Load Sense	Variable 0 to 2,950 psi (0 to 203,3 bar)	With engine at idle operate a specific function (Boom, Frame Tilt, Attachment Tilt, Auxiliary or Steering) and check pressure.

# 8042 Hydraulic Diagram (S/N 2195 thru 9908)



8990309  
(PH0981)

# 8042 Hydraulic Testing (S/N 2195 thru 9908)

## Engine Information

Idle . . . . . 1,050 ± 50 rpm  
Full Speed . . . . . 2,730 ± 130 rpm

## Hydraulic Oil Information

Oil Type - 10W, meets MIL-L-2104C or ISO Grade 46  
Capacity - Reservoir . . . . . 30.3 gal. (114,7 liter)  
Capacity - System . . . . . 47.3 gal. (179 liter)

**Note:** To adjust relief settings or pressure reducing settings, turn the adjustment screw clockwise to increase pressure or counterclockwise to decrease pressure.

The hydraulic oil temperature for the pump flow test should be between 100° F (38° C) and 120° F (49° C) (tank hot to the touch) during testing.

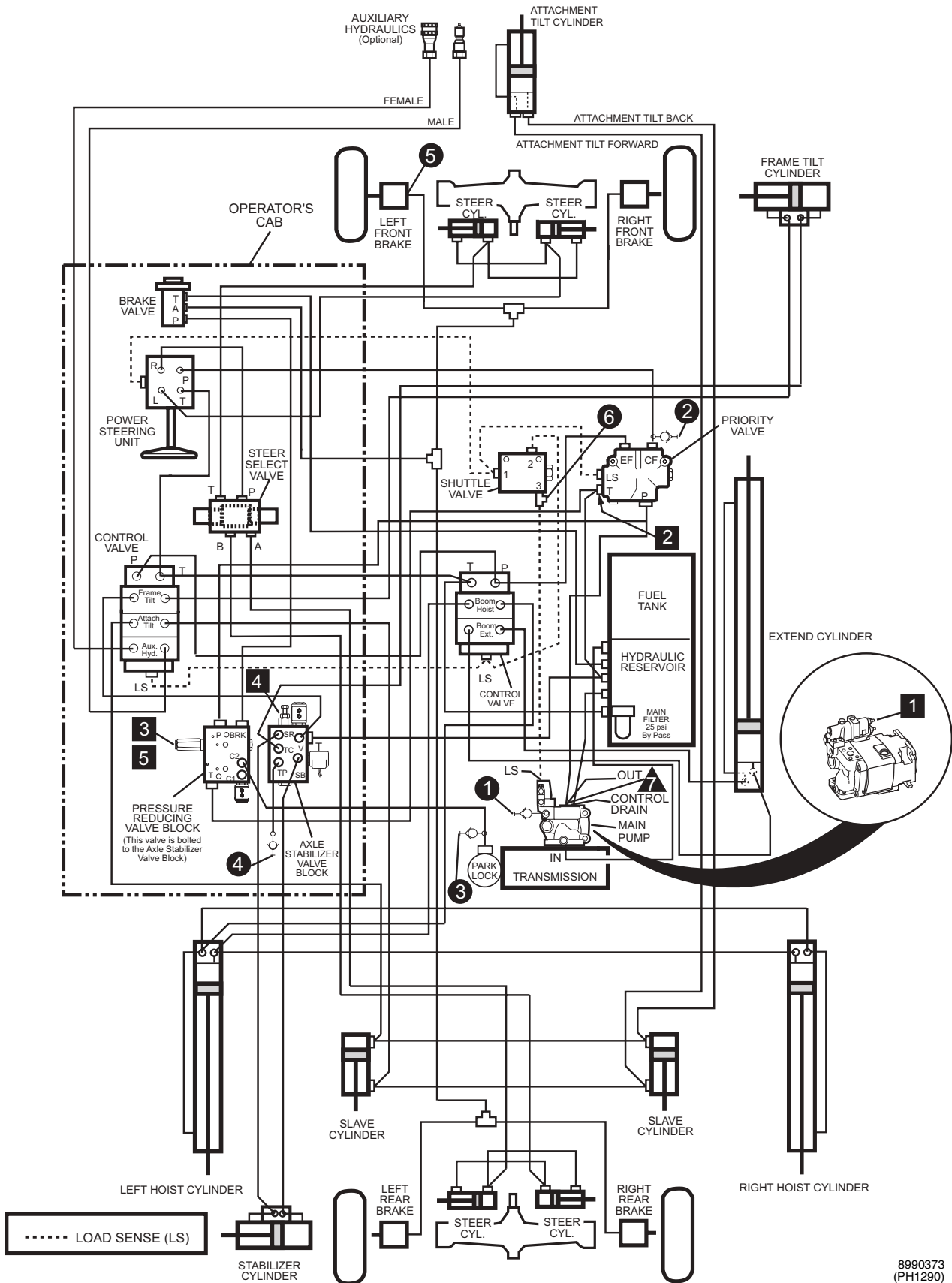
## Equipment Needed To Perform Tests From Kit P/N 7118782

Circuit	Gauge	Fittings
1	4,000 PSI Gauge (275,6 bar)	#12 Run Tee Swivel Nut End Reducer #12-8 PD38TX Test Nipple
2	4,000 PSI Gauge (275,6 bar)	#8 Run Tee Swivel Nut PD38TX Test Nipple
3 5	1,000 PSI Gauge (68,9 bar)	#4 Union PD34BTX Test Nipple
4	1,000 PSI Gauge (68,9 bar)	Connector STR. THD. #4 PD34BTX Test Nipple
6	1,000 PSI Gauge (68,9 bar)	#4 Run Tee Swivel Nut PD34BTX Test Nipple
7	4,000 PSI Gauge (275,6 bar)	#6 Elbow 90° Swivel Nut PD36BTX Test Nipple

TEST LOCATION	Hydraulic Pump Flow Test
8	<b>To check flow readings a flow meter capable of measuring 60 GPM (3,8 ltr/sec) and a load valve capable of 6,000 psi (413,4 bar) will be required (not included with kit P/N 7118782).</b> 2,000 psi (137,8 bar) load @ Engine Speed of 2,500 ± 25 rpm — Flow rate should be 39 to 43 GPM (2,5 to 2,7 ltr/sec)

TEST LOCATION	ADJUST. LOCATION	COMPONENT DESCRIPTION	PRESSURE READINGS	PRESSURE TEST PROCEDURES
1	N/A	Pump Standby Pressure	550 ± 50 psi (37,9 ± 3,4 bar)	Loosen load sense line at location 7 to bleed off pressure and then retighten line. With engine at idle and all hydraulic functions in neutral position, check pump standby pressure.
	N/A	Pump Pressure Compensator	2,950 ± 50 psi (203,3 ± 3,4 bar)	With engine at idle fully retract boom extend cylinder and hold. Check pump maximum pressure.
2	2	Priority Valve Steering Relief	2,500 ± 50 psi (172,3 ± 3,4 bar)	With engine at idle turn the steering wheel all the way to the left or right and hold while checking pressure. If pressure is not correct, adjust (inside of "T" port) or replace the relief valve cartridge in the priority valve ( <b>See Note</b> ).
N/A	N/A	Attachment Tilt Port Relief	3,150 ± 50 psi (217 ± 3,4 bar)	CONSULT FACTORY
3	3	Pressure Reducing Valve In Pressure Reducing Valve Block And Park Brake Release	500 +25/-0 psi (34,5 +1,7/-0 bar)	With engine at idle and park brake released check pressure. If pressure is not correct, adjust or replace the cartridge in the pressure reducing valve ( <b>See Note</b> ).
4	4	Pressure Reducing Valve In Axle Stabilizer Valve Block	200 ± 25 psi (13,8 ± 1,7 bar)	With engine at idle and boom in the down position check pressure. If pressure is not correct, adjust or replace the cartridge in the axle stabilizer valve ( <b>See Note</b> ).
	N/A	Pressure Reducing Valve In Axle Stabilizer Valve Block	275 psi Maximum (18,9 bar)	With engine at idle and boom down, while frame tilting to the left check pressure. If pressure is not correct, recheck adjustment location 4. If that pressure is correct, replace the cartridge in the axle stabilizer valve.
5	5	Transmission De-Clutch	500 +25/-0 psi (34,5 +1,7/-0 bar)	With engine at idle and park brake engaged check pressure. If pressure is not correct, adjust or replace the cartridge in the pressure reducing valve ( <b>See Note</b> ).
6	6	Service Brakes	500 +25/-0 psi (34,5 +1,7/-0 bar)	With engine at idle depress the service brakes and check pressure. If pressure is not correct, adjust or replace the cartridge in the pressure reducing valve ( <b>See Note</b> ).
7	N/A	Load Sense	Variable 0 to 2,950 psi (0 to 203,3 bar)	With engine at idle operate a specific function (Boom, Frame Tilt, Attachment Tilt, Auxiliary or Steering) and check pressure.

# 8042 Hydraulic Diagram (S/N 9909 & After)



8990373  
(PH1290)

# 8042 Hydraulic Testing (S/N 9909 & After)

## Engine Information

Idle . . . . . 1,050 ± 50 rpm  
Full Speed . . . . . 2,730 ± 130 rpm

## Hydraulic Oil Information

Oil Type - 10W, meets MIL-L-2104C or ISO Grade 46  
Capacity - Reservoir . . . . . 30.3 gal. (114,7 liter)  
Capacity - System . . . . . 47.3 gal. (179 liter)

**Note:** To adjust relief settings, pressure reducing settings or standby pressure, turn the adjustment screw clockwise to increase pressure or counterclockwise to decrease pressure.

The hydraulic oil temperature for the pump flow test should be between 100° F (38° C) and 120° F (49° C) (tank hot to the touch) during testing.

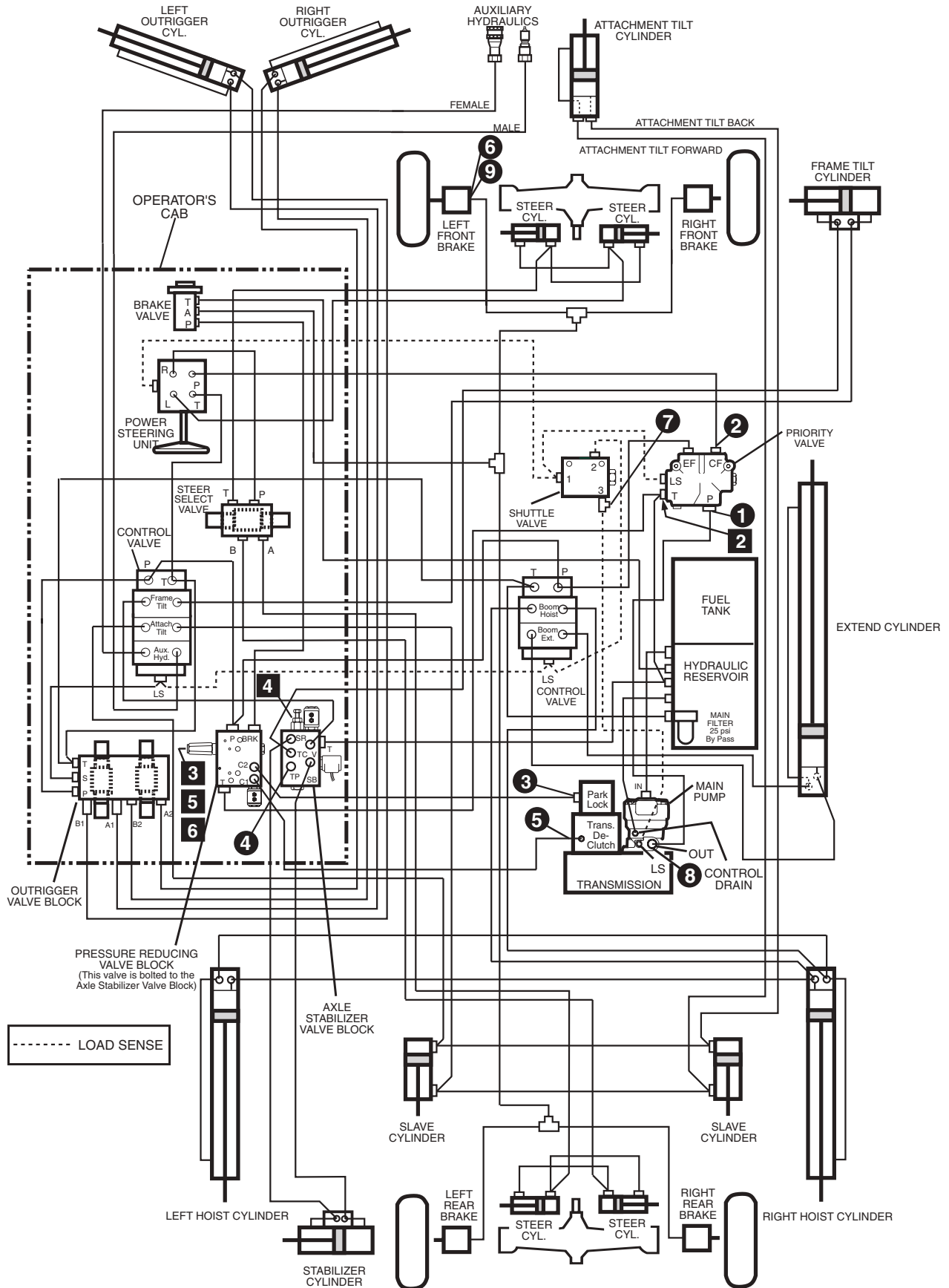
## Equipment Needed To Perform Tests From Kit P/N 7133413

Circuit	Gauge	Fittings
<b>1</b>	4,000 PSI Gauge (275,6 bar)	PD38TX Test Nipple
<b>2</b>	4,000 PSI Gauge (275,6 bar)	#8 Run Tee Swivel Nut PD38TX Test Nipple
<b>3</b>	1,000 PSI Gauge (68,9 bar)	#4 Union PD34BTX Test Nipple
<b>4</b>	1,000 PSI Gauge (68,9 bar)	Connector STR. THD. #4 PD34BTX Test Nipple
<b>5</b>	1,000 PSI Gauge (68,9 bar)	#4 Run Tee Swivel Nut PD34BTX Test Nipple
<b>6</b>	4,000 PSI Gauge (275,6 bar)	#6 Elbow 90° Swivel Nut PD36BTX Test Nipple

TEST LOCATION	Hydraulic Pump Flow Test
<b>7</b>	To check flow readings a flow meter capable of measuring 60 GPM (3,8 ltr/sec) and a load valve capable of 6,000 psi (413,4 bar) will be required (not included with kit P/N 7133413). A test nipple is supplied at location 7. 2,000 psi (137,8 bar) load @ Engine Speed of 2,500 ± 25 rpm — Flow rate should be 39 to 43 GPM (2,5 to 2,7 ltr/sec)

TEST LOCATION	ADJUST. LOCATION	COMPONENT DESCRIPTION	PRESSURE READINGS	PRESSURE TEST PROCEDURES
<b>1</b>	<b>1</b>	Pump Standby Pressure	550 ± 50 psi (37,9 ± 3,4 bar)	Loosen load sense line at location <b>6</b> to bleed off pressure and then retighten line. With engine at idle and all hydraulic functions in neutral position, check pump standby pressure ( <b>See Note</b> ).
	N/A	Pump Pressure Compensator	2,950 ± 50 psi (203,3 ± 3,4 bar)	With engine at idle fully retract boom extend cylinder and hold. Check pump maximum pressure.
<b>2</b>	<b>2</b>	Priority Valve Steering Relief	2,500 ± 50 psi (172,3 ± 3,4 bar)	With engine at idle turn the steering wheel all the way to the left or right and hold while checking pressure. If pressure is not correct, adjust (inside of "T" port) or replace the relief valve cartridge in the priority valve.
N/A	N/A	Attachment Tilt Port Relief	3,150 ± 50 psi (217 ± 3,4 bar)	CONSULT FACTORY
<b>3</b>	<b>3</b>	Pressure Reducing Valve In Pressure Reducing Valve Block And Park Brake Release	500 +25/-0 psi (34,5 +1,7/-0 bar)	With engine at idle and park brake released check pressure. If pressure is not correct, adjust or replace the cartridge in the pressure reducing valve ( <b>See Note</b> ).
<b>4</b>	<b>4</b>	Pressure Reducing Valve In Axle Stabilizer Valve Block	200 ± 25 psi (13,8 ± 1,7 bar)	With engine at idle and boom in the down position check pressure. If pressure is not correct, adjust or replace the cartridge in the axle stabilizer valve ( <b>See Note</b> ).
	N/A	Pressure Reducing Valve In Axle Stabilizer Valve Block	275 psi Maximum (18,9 bar)	With engine at idle and boom down, while frame tilting to the left check pressure. If pressure is not correct, recheck adjustment location <b>4</b> . If that pressure is correct, replace the cartridge in the axle stabilizer valve.
<b>5</b>	<b>5</b>	Service Brakes	500 +25/-0 psi (34,5 +1,7/-0 bar)	With engine at idle depress the service brakes and check pressure. If pressure is not correct, adjust or replace the cartridge in the pressure reducing valve ( <b>See Note</b> ).
<b>6</b>	N/A	Load Sense	Variable 0 to 2,950 psi (0 to 203,3 bar)	With engine at idle operate a specific function (Boom, Frame Tilt, Attachment Tilt, Auxiliary or Steering) and check pressure.

# 10042 Hydraulic Diagram (S/N 1167 & Before)



# 10042 Hydraulic Testing (S/N 1167 & Before)

## Engine Information

Idle . . . . . 1,050 ± 50 rpm  
Full Speed . . . . . 2,730 ± 130 rpm

## Hydraulic Oil Information

Oil Type - 10W, meets MIL-L-2104C or ISO Grade 46  
Capacity - Reservoir . . . . . 30.3 gal. (114,7 liter)  
Capacity - System . . . . . 47.3 gal. (179 liter)

**Note 1:** To adjust relief settings or pressure reducing settings, turn the adjustment screw clockwise to increase pressure or counterclockwise to decrease pressure.

**\*Note 2:** On units with S/N 0654 & Before. If the low brake pressure kit has been installed, as offered in Service Bulletin STB-2076, issued 5-29-95, refer to test location 9 .

The hydraulic oil temperature for the pump flow test should be between 100° F (38° C) and 120° F (49° C) (tank hot to the touch) during testing.

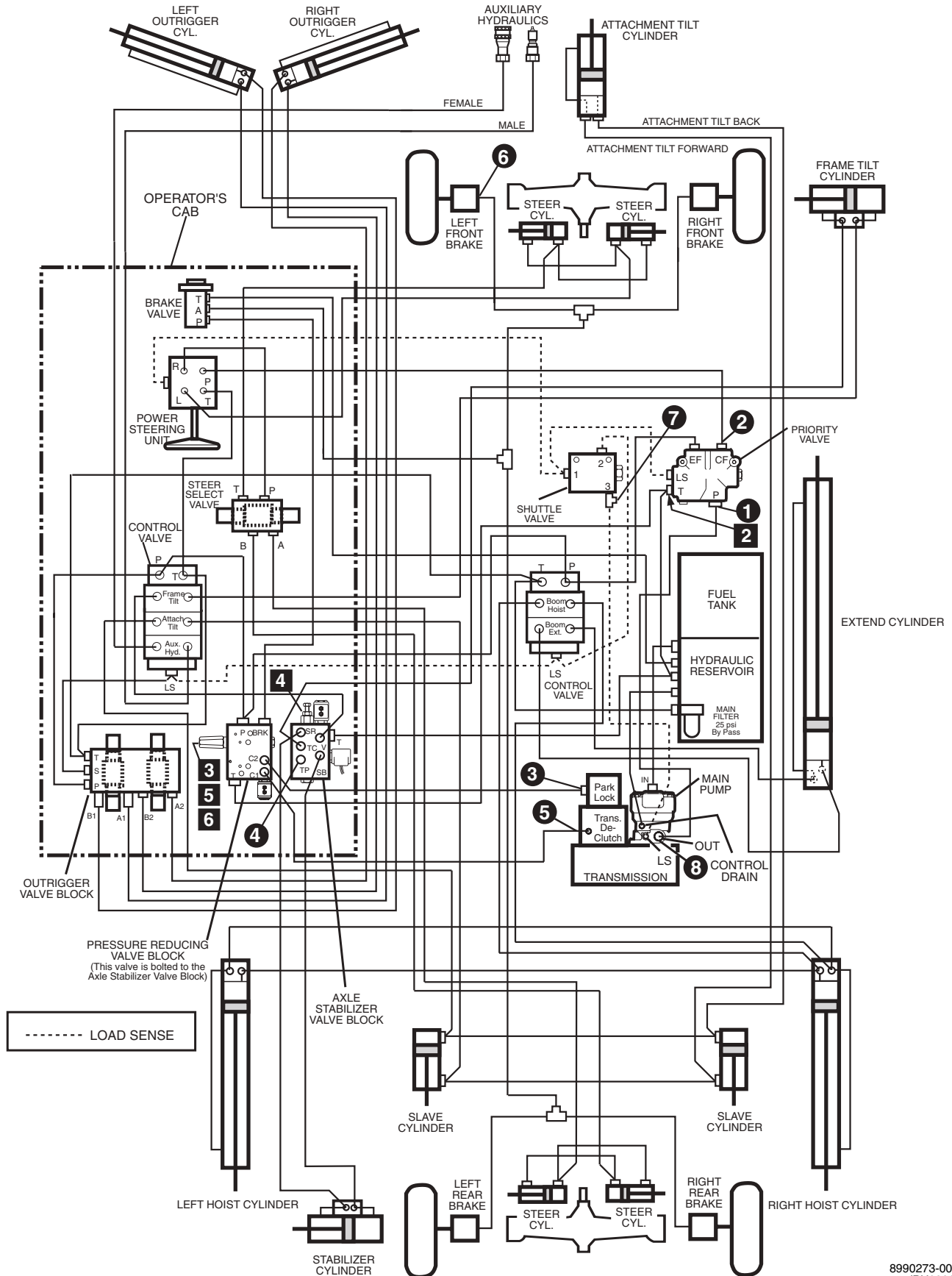
## Equipment Needed To Perform Tests From Kit P/N 7118782

Circuit	Gauge	Fittings
1	4,000 PSI Gauge (275,6 bar)	#12 Run Tee Swivel Nut End Reducer #12-8 PD38TX Test Nipple
2	4,000 PSI Gauge (275,6 bar)	#8 Run Tee Swivel Nut PD38TX Test Nipple
3 5	1,000 PSI Gauge (68,9 bar)	#4 Union PD34BTX Test Nipple
4	300 PSI Gauge (20,7 bar)	Connector STR. THD. #4 PD34BTX Test Nipple
6 9	1,000 PSI Gauge (68,9 bar)	#4 Run Tee Swivel Nut PD34BTX Test Nipple
7	4,000 PSI Gauge (275,6 bar)	#6 Elbow 90° Swivel Nut PD36BTX Test Nipple

TEST LOCATION	Hydraulic Pump Flow Test
8	To check flow readings a flow meter capable of measuring 60 GPM (3,8 ltr/sec) and a load valve capable of 6,000 psi (413,4 bar) will be required (not included with kit P/N 7118782). 2,000 psi (137,8 bar) load @ Engine Speed of 2,500 ± 25 rpm — Flow rate should be 39 to 43 GPM (2,5 to 2,7 ltr/sec)

TEST LOCATION	ADJUST. LOCATION	COMPONENT DESCRIPTION	PRESSURE READINGS	PRESSURE TEST PROCEDURES
1	N/A	Pump Standby Pressure	550 ± 50 psi (37,9 ± 3,4 bar)	Loosen load sense line at location 7 to bleed off pressure and then retighten line. With engine at idle and all hydraulic functions in neutral position, check pump standby pressure.
	N/A	Pump Pressure Compensator	2,950 ± 50 psi (203,3 ± 3,4 bar)	With engine at idle fully retract boom extend cylinder and hold. Check pump maximum pressure.
2	2	Priority Valve Steering Relief	2,500 ± 50 psi (172,3 ± 3,4 bar)	With engine at idle turn the steering wheel all the way to the left or right and hold while checking pressure. If pressure is not correct, adjust or replace the relief valve cartridge in the priority valve ( <b>See Note 1</b> ).
N/A	N/A	Attachment Tilt Port Relief	3,150 ± 50 psi (217 ± 3,4 bar)	CONSULT FACTORY
3	3	Pressure Reducing Valve In Pressure Reducing Valve Block And Park Brake Release	425 ± 25 psi (29,3 ± 1,7 bar)	With engine at idle and park brake released check pressure. If pressure is not correct, adjust or replace the cartridge in the pressure reducing valve ( <b>See Note 1</b> ).
4	4	Pressure Reducing Valve In Axle Stabilizer Valve Block	60 ± 10 psi (4,1 ± 0,7 bar)	With engine at idle and boom in the down position check pressure. If pressure is not correct, adjust or replace the cartridge in the axle stabilizer valve ( <b>See Note 1</b> ).
	N/A	Relief Check Valve In Axle Stabilizer Valve Block	100 psi Minimum (6,9 bar)	With engine at idle and boom down, while frame tilting to the left check pressure.
5	5	Transmission De-Clutch	425 ± 25 psi (29,3 ± 1,7 bar)	With engine at idle and park brake engaged check pressure. If pressure is not correct, adjust or replace the cartridge in the pressure reducing valve ( <b>See Note 1</b> ).
6	6	Service Brakes ( <b>*See Note 2</b> ) (S/N 0654 & Before)	425 ± 25 psi (29,3 ± 1,7 bar)	With engine at idle depress the service brakes and check pressure. If pressure is not correct, adjust or replace the cartridge in the pressure reducing valve ( <b>See Note 1</b> ).
7	N/A	Load Sense	Variable 0 to 2,950 psi (0 to 203,3 bar)	With engine at idle operate a specific function (Boom, Frame Tilt, Attachment Tilt, Auxiliary or Steering) and check pressure.
9	N/A	Service Brakes (S/N 0655 thru 1167)	350 ± 25 psi (24,1 ± 1,7 bar)	With engine at idle depress the service brakes and check pressure. If pressure is not correct, recheck pressure reducing valve pressure.

# 10042 Hydraulic Diagram (S/N 1168 thru 2194)





# 10042 Hydraulic Testing (S/N 1168 thru 2194)

## Engine Information

Idle ..... 1,050 ± 50 rpm  
Full Speed ..... 2,730 ± 130 rpm

## Hydraulic Oil Information

Oil Type - 10W, meets MIL-L-2104C or ISO Grade 46  
Capacity - Reservoir ..... 30.3 gal. (114,7 liter)  
Capacity - System ..... 47.3 gal. (179 liter)

**Note:** To adjust relief settings or pressure reducing settings, turn the adjustment screw clockwise to increase pressure or counterclockwise to decrease pressure.

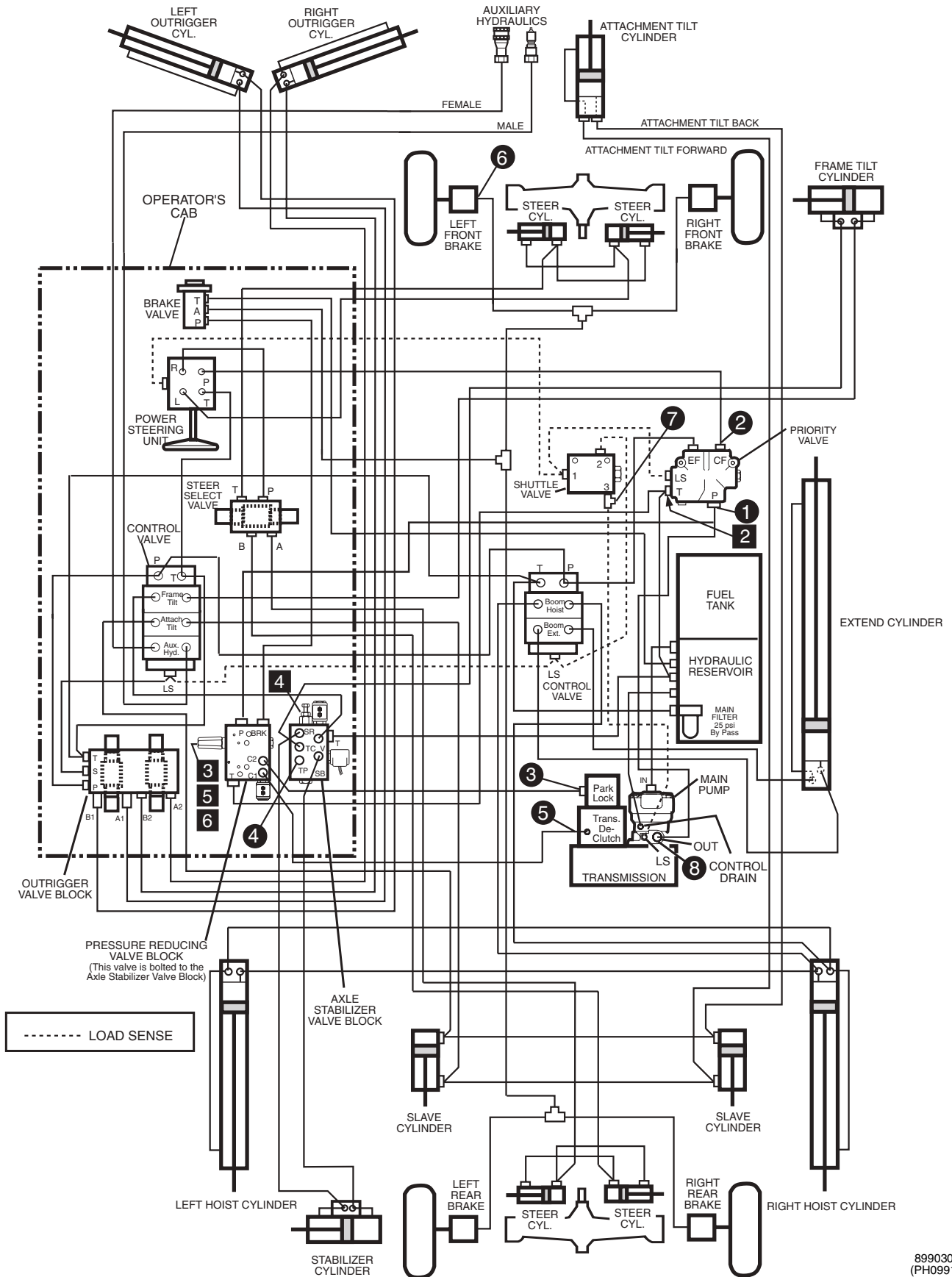
## Equipment Needed To Perform Tests From Kit P/N 7118782

Circuit	Gauge	Fittings
1	4,000 PSI Gauge (275,6 bar)	#12 Run Tee Swivel Nut End Reducer #12-8 PD38TX Test Nipple
2	4,000 PSI Gauge (275,6 bar)	#8 Run Tee Swivel Nut PD38TX Test Nipple
3 5	1,000 PSI Gauge (68,9 bar)	#4 Union PD34BTX Test Nipple
4	300 PSI Gauge (20,7 bar)	Connector STR. THD. #4 PD34BTX Test Nipple
6	1,000 PSI Gauge (68,9 bar)	#4 Run Tee Swivel Nut PD34BTX Test Nipple
7	4,000 PSI Gauge (275,6 bar)	#6 Elbow 90° Swivel Nut PD36BTX Test Nipple

TEST LOCATION	Hydraulic Pump Flow Test
8	To check flow readings a flow meter capable of measuring 60 GPM (3,8 ltr/sec) and a load valve capable of 6,000 psi (413,4 bar) will be required (not included with kit P/N 7118782). 2,000 psi (137,8 bar) load @ Engine Speed of 2,500 ± 25 rpm — Flow rate should be 39 to 43 GPM (2,5 to 2,7 ltr/sec)

TEST LOCATION	ADJUST. LOCATION	COMPONENT DESCRIPTION	PRESSURE READINGS	PRESSURE TEST PROCEDURES
1	N/A	Pump Standby Pressure	550 ± 50 psi (37,9 ± 3,4 bar)	Loosen load sense line at location 7 to bleed off pressure and then retighten line. With engine at idle and all hydraulic functions in neutral position, check pump standby pressure.
	N/A	Pump Pressure Compensator	2,950 ± 50 psi (203,3 ± 3,4 bar)	With engine at idle fully retract boom extend cylinder and hold. Check pump maximum pressure.
2	2	Priority Valve Steering Relief	2,500 ± 50 psi (172,3 ± 3,4 bar)	With engine at idle turn the steering wheel all the way to the left or right and hold while checking pressure. If pressure is not correct, adjust (inside of "T" port) or replace the relief valve cartridge in the priority valve ( <b>See Note</b> ).
N/A	N/A	Attachment Tilt Port Relief	3,150 ± 50 psi (217 ± 3,4 bar)	CONSULT FACTORY
3	3	Pressure Reducing Valve In Pressure Reducing Valve Block And Park Brake Release	500 +25/-0 psi (34,5 +1,7/-0 bar)	With engine at idle and park brake released check pressure. If pressure is not correct, adjust or replace the cartridge in the pressure reducing valve ( <b>See Note</b> ).
4	4	Pressure Reducing Valve In Axle Stabilizer Valve Block	60 ± 10 psi (4,1 ± 0,7 bar)	With engine at idle and boom in the down position check pressure. If pressure is not correct, adjust or replace the cartridge in the axle stabilizer valve ( <b>See Note</b> ).
	N/A	Relief Check Valve In Axle Stabilizer Valve Block	100 psi Minimum (6,9 bar)	With engine at idle and boom down, while frame tilting to the left check pressure.
5	5	Transmission De-Clutch	500 +25/-0 psi (34,5 +1,7/-0 bar)	With engine at idle and park brake engaged check pressure. If pressure is not correct, adjust or replace the cartridge in the pressure reducing valve ( <b>See Note</b> ).
6	6	Service Brakes	500 +25/-0 psi (34,5 +1,7/-0 bar)	With engine at idle depress the service brakes and check pressure. If pressure is not correct, adjust or replace the cartridge in the pressure reducing valve ( <b>See Note</b> ).
7	N/A	Load Sense	Variable 0 to 2,950 psi (0 to 203,3 bar)	With engine at idle operate a specific function (Boom, Frame Tilt, Attachment Tilt, Auxiliary or Steering) and check pressure.

# 10042 Hydraulic Diagram (S/N 2195 thru 9908)



8990308  
(PH0991)

# 10042 Hydraulic Testing (S/N 2195 thru 9908)

## Engine Information

Idle . . . . . 1,050 ± 50 rpm  
Full Speed . . . . . 2,730 ± 130 rpm

## Hydraulic Oil Information

Oil Type - 10W, meets MIL-L-2104C or ISO Grade 46  
Capacity - Reservoir . . . . . 30.3 gal. (114,7 liter)  
Capacity - System . . . . . 47.3 gal. (179 liter)

**Note:** To adjust relief settings or pressure reducing settings, turn the adjustment screw clockwise to increase pressure or counterclockwise to decrease pressure.

The hydraulic oil temperature for the pump flow test should be between 100° F (38° C) and 120° F (49° C) (tank hot to the touch) during testing.

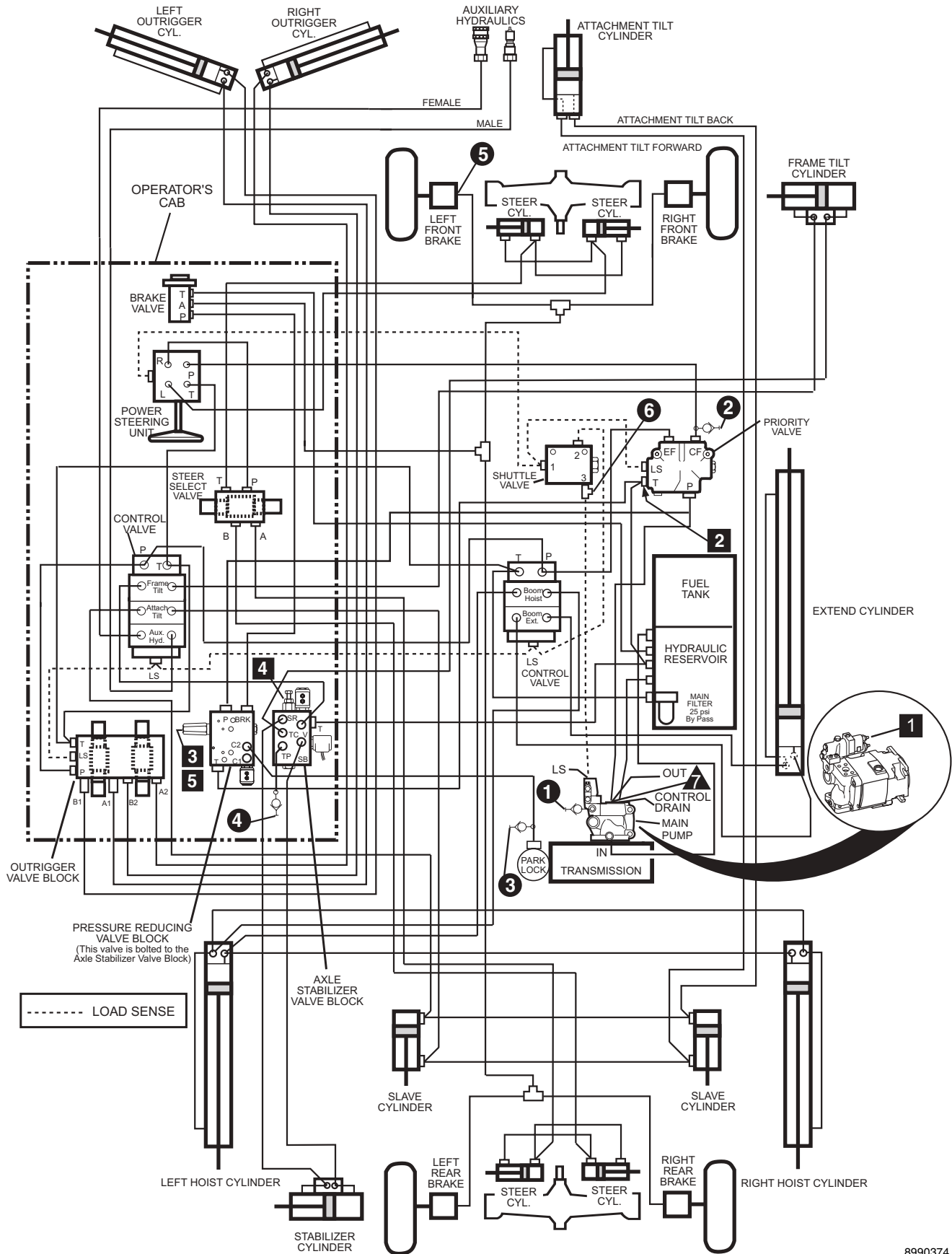
## Equipment Needed To Perform Tests From Kit P/N 7118782

Circuit	Gauge	Fittings
1	4,000 PSI Gauge (275,6 bar)	#12 Run Tee Swivel Nut End Reducer #12-8 PD38TX Test Nipple
2	4,000 PSI Gauge (275,6 bar)	#8 Run Tee Swivel Nut PD38TX Test Nipple
3 5	1,000 PSI Gauge (68,9 bar)	#4 Union PD34BTX Test Nipple
4	1,000 PSI Gauge (68,9 bar)	Connector STR. THD. #4 PD34BTX Test Nipple
6	1,000 PSI Gauge (68,9 bar)	#4 Run Tee Swivel Nut PD34BTX Test Nipple
7	4,000 PSI Gauge (275,6 bar)	#6 Elbow 90° Swivel Nut PD36BTX Test Nipple

TEST LOCATION	Hydraulic Pump Flow Test
8	To check flow readings a flow meter capable of measuring 60 GPM (3,8 ltr/sec) and a load valve capable of 6,000 psi (413,4 bar) will be required (not included with kit P/N 7118782). 2,000 psi (137,8 bar) load @ Engine Speed of 2,500 ± 25 rpm — Flow rate should be 39 to 43 GPM (2,5 to 2,7 ltr/sec)

TEST LOCATION	ADJUST. LOCATION	COMPONENT DESCRIPTION	PRESSURE READINGS	PRESSURE TEST PROCEDURES
1	N/A	Pump Standby Pressure	550 ± 50 psi (37,9 ± 3,4 bar)	Loosen load sense line at location 7 to bleed off pressure and then retighten line. With engine at idle and all hydraulic functions in neutral position, check pump standby pressure.
	N/A	Pump Pressure Compensator	2,950 ± 50 psi (203,3 ± 3,4 bar)	With engine at idle fully retract boom extend cylinder and hold. Check pump maximum pressure.
2	2	Priority Valve Steering Relief	2,500 ± 50 psi (172,3 ± 3,4 bar)	With engine at idle turn the steering wheel all the way to the left or right and hold while checking pressure. If pressure is not correct, adjust (inside of "T" port) or replace the relief valve cartridge in the priority valve ( <b>See Note</b> ).
N/A	N/A	Attachment Tilt Port Relief	3,150 ± 50 psi (217 ± 3,4 bar)	CONSULT FACTORY
3	3	Pressure Reducing Valve In Pressure Reducing Valve Block And Park Brake Release	500 +25/-0 psi (34,5 +1,7/-0 bar)	With engine at idle and park brake released check pressure. If pressure is not correct, adjust or replace the cartridge in the pressure reducing valve ( <b>See Note</b> ).
4	4	Pressure Reducing Valve In Axle Stabilizer Valve Block	200 ± 25 psi (13,8 ± 1,7 bar)	With engine at idle and boom in the down position check pressure. If pressure is not correct, adjust or replace the cartridge in the axle stabilizer valve ( <b>See Note</b> ).
	N/A	Pressure Reducing Valve In Axle Stabilizer Valve Block	275 psi Maximum (18,9 bar)	With engine at idle and boom down, while frame tilting to the left check pressure. If pressure is not correct, recheck adjustment location 4. If that pressure is correct, replace the cartridge in the axle stabilizer valve.
5	5	Transmission De-Clutch	500 +25/-0 psi (34,5 +1,7/-0 bar)	With engine at idle and park brake engaged check pressure. If pressure is not correct, adjust or replace the cartridge in the pressure reducing valve ( <b>See Note</b> ).
6	6	Service Brakes	500 +25/-0 psi (34,5 +1,7/-0 bar)	With engine at idle depress the service brakes and check pressure. If pressure is not correct, adjust or replace the cartridge in the pressure reducing valve ( <b>See Note</b> ).
7	N/A	Load Sense	Variable 0 to 2,950 psi (0 to 203,3 bar)	With engine at idle operate a specific function (Boom, Frame Tilt, Attachment Tilt, Auxiliary or Steering) and check pressure.

# 10042 Hydraulic Diagram (S/N 9909 & After)



8990374  
(PH1300)

# 10042 Hydraulic Testing (S/N 9909 & After)

## Engine Information

Idle . . . . . 1,050 ± 50 rpm  
Full Speed . . . . . 2,730 ± 130 rpm

## Hydraulic Oil Information

Oil Type - 10W, meets MIL-L-2104C or ISO Grade 46  
Capacity - Reservoir . . . . . 30.3 gal. (114,7 liter)  
Capacity - System . . . . . 47.3 gal. (179 liter)

**Note:** To adjust relief settings, pressure reducing settings or standby pressure, turn the adjustment screw clockwise to increase pressure or counterclockwise to decrease pressure.

The hydraulic oil temperature for the pump flow test should be between 100° F (38° C) and 120° F (49° C) (tank hot to the touch) during testing.

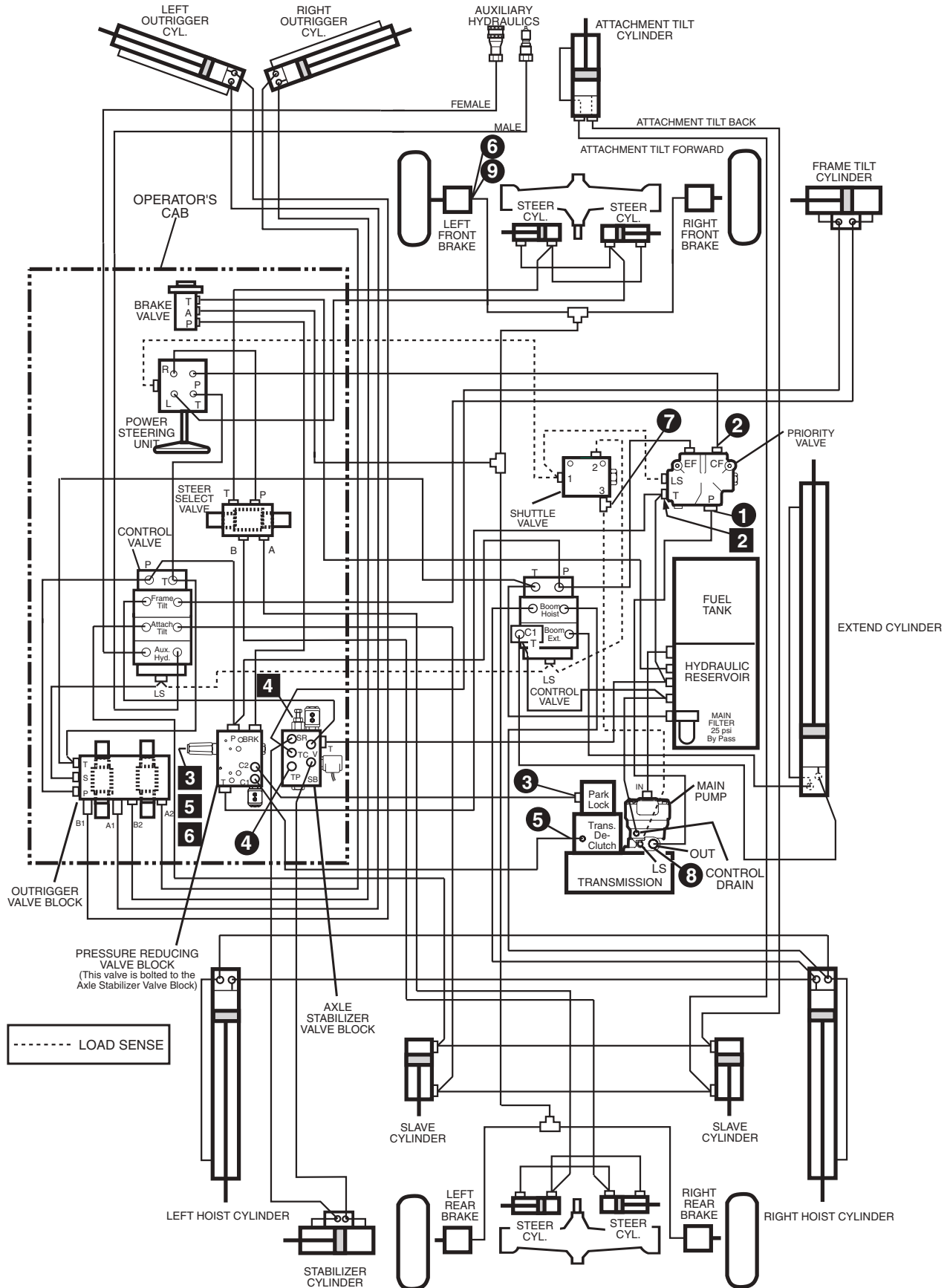
## Equipment Needed To Perform Tests From Kit P/N 7133413

Circuit	Gauge	Fittings
<b>1</b>	4,000 PSI Gauge (275,6 bar)	PD38TX Test Nipple
<b>2</b>	4,000 PSI Gauge (275,6 bar)	#8 Run Tee Swivel Nut PD38TX Test Nipple
<b>3</b>	1,000 PSI Gauge (68,9 bar)	#4 Union PD34BTX Test Nipple
<b>4</b>	1,000 PSI Gauge (68,9 bar)	Connector STR. THD. #4 PD34BTX Test Nipple
<b>5</b>	1,000 PSI Gauge (68,9 bar)	#4 Run Tee Swivel Nut PD34BTX Test Nipple
<b>6</b>	4,000 PSI Gauge (275,6 bar)	#6 Elbow 90° Swivel Nut PD36BTX Test Nipple

TEST LOCATION	Hydraulic Pump Flow Test
<b>7</b>	To check flow readings a flow meter capable of measuring 60 GPM (3,8 ltr/sec) and a load valve capable of 6,000 psi (413,4 bar) will be required (not included with kit P/N 7133413). A test nipple is supplied at location 7. 2,000 psi (137,8 bar) load @ Engine Speed of 2,500 ± 25 rpm — Flow rate should be 39 to 43 GPM (2,5 to 2,7 ltr/sec)

TEST LOCATION	ADJUST. LOCATION	COMPONENT DESCRIPTION	PRESSURE READINGS	PRESSURE TEST PROCEDURES
<b>1</b>	<b>1</b>	Pump Standby Pressure	550 ± 50 psi (37,9 ± 3,4 bar)	Loosen load sense line at location <b>6</b> to bleed off pressure and then retighten line. With engine at idle and all hydraulic functions in neutral position, check pump standby pressure ( <b>See Note</b> ).
	N/A	Pump Pressure Compensator	2,950 ± 50 psi (203,3 ± 3,4 bar)	With engine at idle fully retract boom extend cylinder and hold. Check pump maximum pressure.
<b>2</b>	<b>2</b>	Priority Valve Steering Relief	2,500 ± 50 psi (172,3 ± 3,4 bar)	With engine at idle turn the steering wheel all the way to the left or right and hold while checking pressure. If pressure is not correct, adjust (inside of "T" port) or replace the relief valve cartridge in the priority valve ( <b>See Note</b> ).
N/A	N/A	Attachment Tilt Port Relief	3,150 ± 50 psi (217 ± 3,4 bar)	CONSULT FACTORY
<b>3</b>	<b>3</b>	Pressure Reducing Valve In Pressure Reducing Valve Block And Park Brake Release	500 +25/-0 psi (34,5 +1,7/-0 bar)	With engine at idle and park brake released check pressure. If pressure is not correct, adjust or replace the cartridge in the pressure reducing valve ( <b>See Note</b> ).
<b>4</b>	<b>4</b>	Pressure Reducing Valve In Axle Stabilizer Valve Block	200 ± 25 psi (13,8 ± 1,7 bar)	With engine at idle and boom in the down position check pressure. If pressure is not correct, adjust or replace the cartridge in the axle stabilizer valve ( <b>See Note</b> ).
	N/A	Pressure Reducing Valve In Axle Stabilizer Valve Block	275 psi Maximum (18,9 bar)	With engine at idle and boom down, while frame tilting to the left check pressure. If pressure is not correct, recheck adjustment location <b>4</b> . If that pressure is correct, replace the cartridge in the axle stabilizer valve.
<b>5</b>	<b>5</b>	Service Brakes	500 +25/-0 psi (34,5 +1,7/-0 bar)	With engine at idle depress the service brakes and check pressure. If pressure is not correct, adjust or replace the cartridge in the pressure reducing valve ( <b>See Note</b> ).
<b>6</b>	N/A	Load Sense	Variable 0 to 2,950 psi (0 to 203,3 bar)	With engine at idle operate a specific function (Boom, Frame Tilt, Attachment Tilt, Auxiliary or Steering) and check pressure.

# 10054 Hydraulic Diagram (S/N 1167 & Before)



8990234-001 (MH0300)

# 10054 Hydraulic Testing (S/N 1167 & Before)

## Engine Information

Idle . . . . . 1,050 ± 50 rpm  
Full Speed . . . . . 2,730 ± 130 rpm

## Hydraulic Oil Information

Oil Type - 10W, meets MIL-L-2104C or ISO Grade 46  
Capacity - Reservoir . . . . . 30.3 gal. (114,7 liter)  
Capacity - System . . . . . 59.5 gal. (225,2 liter)

**Note 1:** To adjust relief settings or pressure reducing settings, turn the adjustment screw clockwise to increase pressure or counterclockwise to decrease pressure.

**\*Note 2:** On units with S/N 0654 & Before. If the low brake pressure kit has been installed, as offered in Service Bulletin STB-2076, issued 5-29-95, refer to test location 9.

The hydraulic oil temperature for the pump flow test should be between 100° F (38° C) and 120° F (49° C) (tank hot to the touch) during testing.

## Equipment Needed To Perform Tests From Kit P/N 7118782

Circuit	Gauge	Fittings
1	4,000 PSI Gauge (275,6 bar)	#12 Run Tee Swivel Nut End Reducer #12-8 PD38TX Test Nipple
2	4,000 PSI Gauge (275,6 bar)	#8 Run Tee Swivel Nut PD38TX Test Nipple
3 5	1,000 PSI Gauge (68,9 bar)	#4 Union PD34BTX Test Nipple
4	300 PSI Gauge (20,7 bar)	Connector STR. THD. #4 PD34BTX Test Nipple
6 9	1,000 PSI Gauge (68,9 bar)	#4 Run Tee Swivel Nut PD34BTX Test Nipple
7	4,000 PSI Gauge (275,6 bar)	#6 Elbow 90° Swivel Nut PD36BTX Test Nipple

TEST LOCATION	Hydraulic Pump Flow Test
8	To check flow readings a flow meter capable of measuring 60 GPM (3,8 ltr/sec) and a load valve capable of 6,000 psi (413,4 bar) will be required (not included with kit P/N 7118782). 2,000 psi (137,8 bar) load @ Engine Speed of 2,500 ± 25 rpm — Flow rate should be 39 to 43 GPM (2,5 to 2,7 ltr/sec)

TEST LOCATION	ADJUST. LOCATION	COMPONENT DESCRIPTION	PRESSURE READINGS	PRESSURE TEST PROCEDURES
1	N/A	Pump Standby Pressure	550 ± 50 psi (37,9 ± 3,4 bar)	Loosen load sense line at location 7 to bleed off pressure and then retighten line. With engine at idle and all hydraulic functions in neutral position, check pump standby pressure.
	N/A	Pump Pressure Compensator	2,950 ± 50 psi (203,3 ± 3,4 bar)	With engine at idle fully retract boom extend cylinder and hold. Check pump maximum pressure.
2	2	Priority Valve Steering Relief	2,500 ± 50 psi (172,3 ± 3,4 bar)	With engine at idle turn the steering wheel all the way to the left or right and hold while checking pressure. If pressure is not correct, adjust or replace the relief valve cartridge in the priority valve ( <b>See Note 1</b> ).
N/A	N/A	Attachment Tilt Port Relief	3,150 ± 50 psi (217 ± 3,4 bar)	CONSULT FACTORY
3	3	Pressure Reducing Valve In Pressure Reducing Valve Block And Park Brake Release	425 ± 25 psi (29,3 ± 1,7 bar)	With engine at idle and park brake released check pressure. If pressure is not correct, adjust or replace the cartridge in the pressure reducing valve ( <b>See Note 1</b> ).
4	4	Pressure Reducing Valve In Axle Stabilizer Valve Block	60 ± 10 psi (4,1 ± 0,7 bar)	With engine at idle and boom in the down position check pressure. If pressure is not correct, adjust or replace the cartridge in the axle stabilizer valve ( <b>See Note 1</b> ).
	N/A	Relief Check Valve In Axle Stabilizer Valve Block	100 psi Minimum (6,9 bar)	With engine at idle and boom down, while frame tilting to the left check pressure.
5	5	Transmission De-Clutch	425 ± 25 psi (29,3 ± 1,7 bar)	With engine at idle and park brake engaged check pressure. If pressure is not correct, adjust or replace the cartridge in the pressure reducing valve ( <b>See Note 1</b> ).
6	6	Service Brakes ( <b>*See Note 2</b> ) (S/N 0654 & Before)	425 ± 25 psi (29,3 ± 1,7 bar)	With engine at idle depress the service brakes and check pressure. If pressure is not correct, adjust or replace the cartridge in the pressure reducing valve ( <b>See Note 1</b> ).
7	N/A	Load Sense	Variable 0 to 2,950 psi (0 to 203,3 bar)	With engine at idle operate a specific function (Boom, Frame Tilt, Attachment Tilt, Auxiliary or Steering) and check pressure.
9	N/A	Service Brakes (S/N 0655 thru 1167)	350 ± 25 psi (24,1 ± 1,7 bar)	With engine at idle depress the service brakes and check pressure. If pressure is not correct, recheck pressure reducing valve pressure.





# 10054 Hydraulic Testing (S/N 1168 thru 2194)

## Engine Information

Idle . . . . . 1,050 ± 50 rpm  
Full Speed . . . . . 2,730 ± 130 rpm

## Hydraulic Oil Information

Oil Type - 10W, meets MIL-L-2104C or ISO Grade 46  
Capacity - Reservoir . . . . . 30.3 gal. (114,7 liter)  
Capacity - System . . . . . 59.5 gal. (225,2 liter)

**Note:** To adjust relief settings or pressure reducing settings, turn the adjustment screw clockwise to increase pressure or counterclockwise to decrease pressure.

The hydraulic oil temperature for the pump flow test should be between 100° F (38° C) and 120° F (49° C) (tank hot to the touch) during testing.

## Equipment Needed To Perform Tests From Kit P/N 7118782

Circuit	Gauge	Fittings
1	4,000 PSI Gauge (275,6 bar)	#12 Run Tee Swivel Nut End Reducer #12-8 PD38TX Test Nipple
2	4,000 PSI Gauge (275,6 bar)	#8 Run Tee Swivel Nut PD38TX Test Nipple
3 5	1,000 PSI Gauge (68,9 bar)	#4 Union PD34BTX Test Nipple
4	300 PSI Gauge (20,7 bar)	Connector STR. THD. #4 PD34BTX Test Nipple
6	1,000 PSI Gauge (68,9 bar)	#4 Run Tee Swivel Nut PD34BTX Test Nipple
7	4,000 PSI Gauge (275,6 bar)	#6 Elbow 90° Swivel Nut PD36BTX Test Nipple

TEST LOCATION	Hydraulic Pump Flow Test
8	To check flow readings a flow meter capable of measuring 60 GPM (3,8 ltr/sec) and a load valve capable of 6,000 psi (413,4 bar) will be required (not included with kit P/N 7118782). 2,000 psi (137,8 bar) load @ Engine Speed of 2,500 ± 25 rpm — Flow rate should be 39 to 43 GPM (2,5 to 2,7 ltr/sec)

TEST LOCATION	ADJUST. LOCATION	COMPONENT DESCRIPTION	PRESSURE READINGS	PRESSURE TEST PROCEDURES
1	N/A	Pump Standby Pressure	550 ± 50 psi (37,9 ± 3,4 bar)	Loosen load sense line at location 7 to bleed off pressure and then retighten line. With engine at idle and all hydraulic functions in neutral position, check pump standby pressure.
	N/A	Pump Pressure Compensator	2,950 ± 50 psi (203,3 ± 3,4 bar)	With engine at idle fully retract boom extend cylinder and hold. Check pump maximum pressure.
2	2	Priority Valve Steering Relief	2,500 ± 50 psi (172,3 ± 3,4 bar)	With engine at idle turn the steering wheel all the way to the left or right and hold while checking pressure. If pressure is not correct, adjust (inside of "T" port) or replace the relief valve cartridge in the priority valve ( <b>See Note</b> ).
N/A	N/A	Attachment Tilt Port Relief	3,150 ± 50 psi (217 ± 3,4 bar)	CONSULT FACTORY
3	3	Pressure Reducing Valve In Pressure Reducing Valve Block And Park Brake Release	500 +25/-0 psi (34,5 +1,7/-0 bar)	With engine at idle and park brake released check pressure. If pressure is not correct, adjust or replace the cartridge in the pressure reducing valve ( <b>See Note</b> ).
4	4	Pressure Reducing Valve In Axle Stabilizer Valve Block	60 ± 10 psi (4,1 ± 0,7 bar)	With engine at idle and boom in the down position check pressure. If pressure is not correct, adjust or replace the cartridge in the axle stabilizer valve ( <b>See Note</b> ).
	N/A	Relief Check Valve In Axle Stabilizer Valve Block	100 psi Minimum (6,9 bar)	With engine at idle and boom down, while frame tilting to the left check pressure.
5	5	Transmission De-Clutch	500 +25/-0 psi (34,5 +1,7/-0 bar)	With engine at idle and park brake engaged check pressure. If pressure is not correct, adjust or replace the cartridge in the pressure reducing valve ( <b>See Note</b> ).
6	6	Service Brakes	500 +25/-0 psi (34,5 +1,7/-0 bar)	With engine at idle depress the service brakes and check pressure. If pressure is not correct, adjust or replace the cartridge in the pressure reducing valve ( <b>See Note</b> ).
7	N/A	Load Sense	Variable 0 to 2,950 psi (0 to 203,3 bar)	With engine at idle operate a specific function (Boom, Frame Tilt, Attachment Tilt, Auxiliary or Steering) and check pressure.



# 10054 Hydraulic Testing (S/N 2195 thru 9908)

## Engine Information

Idle . . . . . 1,050 ± 50 rpm  
Full Speed . . . . . 2,730 ± 130 rpm

## Hydraulic Oil Information

Oil Type - 10W, meets MIL-L-2104C or ISO Grade 46  
Capacity - Reservoir . . . . . 30.3 gal. (114,7 liter)  
Capacity - System . . . . . 59.5 gal. (225,2 liter)

**Note:** To adjust relief settings or pressure reducing settings, turn the adjustment screw clockwise to increase pressure or counterclockwise to decrease pressure.

The hydraulic oil temperature for the pump flow test should be between 100° F (38° C) and 120° F (49° C) (tank hot to the touch) during testing.

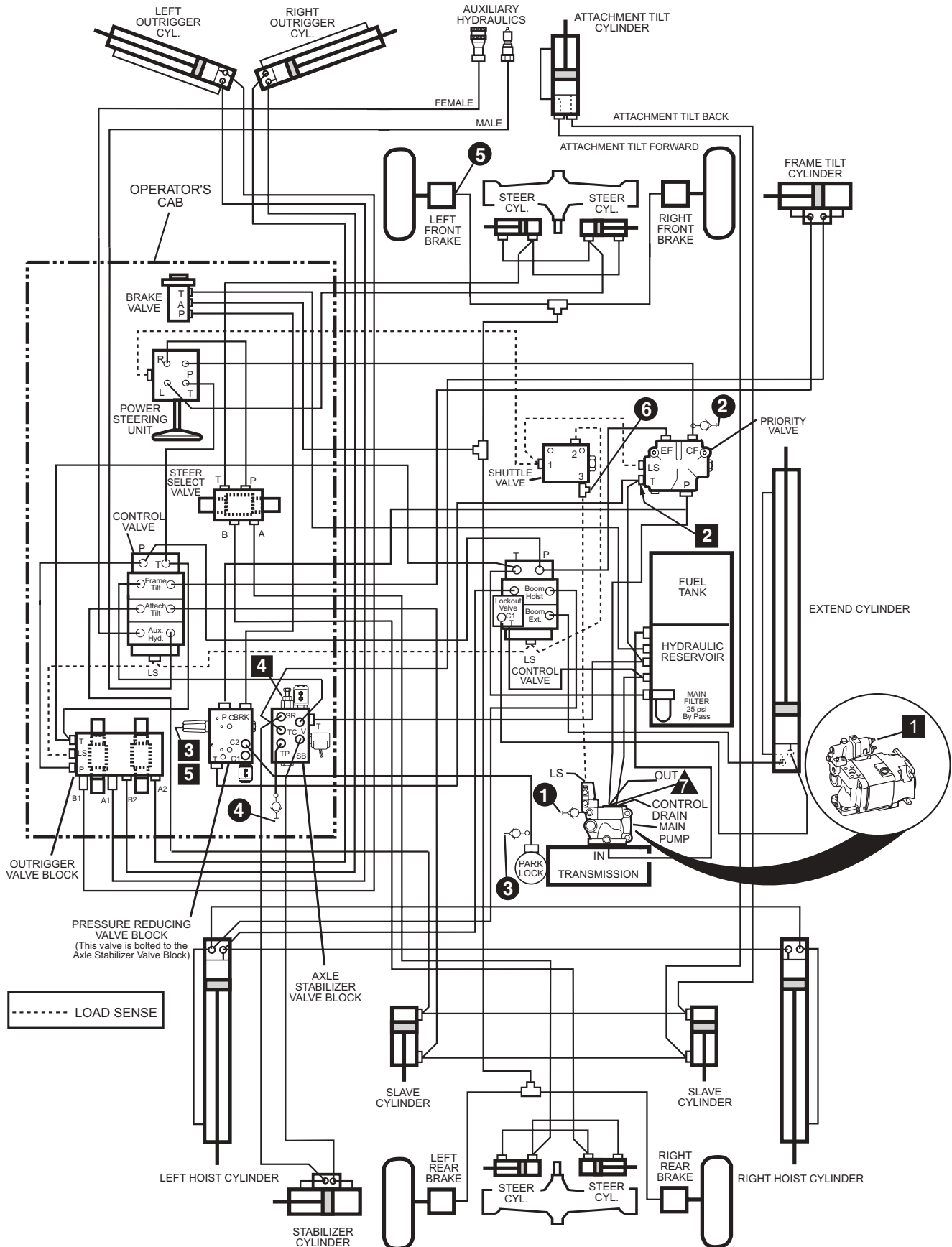
## Equipment Needed To Perform Tests From Kit P/N 7118782

Circuit	Gauge	Fittings
<b>1</b>	4,000 PSI Gauge (275,6 bar)	#12 Run Tee Swivel Nut End Reducer #12-8 PD38TX Test Nipple
<b>2</b>	4,000 PSI Gauge (275,6 bar)	#8 Run Tee Swivel Nut PD38TX Test Nipple
<b>3 5</b>	1,000 PSI Gauge (68,9 bar)	#4 Union PD34BTX Test Nipple
<b>4</b>	1,000 PSI Gauge (68,9 bar)	Connector STR. THD. #4 PD34BTX Test Nipple
<b>6</b>	1,000 PSI Gauge (68,9 bar)	#4 Run Tee Swivel Nut PD34BTX Test Nipple
<b>7</b>	4,000 PSI Gauge (275,6 bar)	#6 Elbow 90° Swivel Nut PD36BTX Test Nipple

TEST LOCATION	Hydraulic Pump Flow Test
<b>8</b>	<b>To check flow readings a flow meter capable of measuring 60 GPM (3,8 ltr/sec) and a load valve capable of 6,000 psi (413,4 bar) will be required (not included with kit P/N 7118782).</b> 2,000 psi (137,8 bar) load @ Engine Speed of 2,500 ± 25 rpm — Flow rate should be 39 to 43 GPM (2,5 to 2,7 ltr/sec)

TEST LOCATION	ADJUST. LOCATION	COMPONENT DESCRIPTION	PRESSURE READINGS	PRESSURE TEST PROCEDURES
<b>1</b>	N/A	Pump Standby Pressure	550 ± 50 psi (37,9 ± 3,4 bar)	Loosen load sense line at location <b>7</b> to bleed off pressure and then retighten line. With engine at idle and all hydraulic functions in neutral position, check pump standby pressure.
	N/A	Pump Pressure Compensator	2,950 ± 50 psi (203,3 ± 3,4 bar)	With engine at idle fully retract boom extend cylinder and hold. Check pump maximum pressure.
<b>2</b>	<b>2</b>	Priority Valve Steering Relief	2,500 ± 50 psi (172,3 ± 3,4 bar)	With engine at idle turn the steering wheel all the way to the left or right and hold while checking pressure. If pressure is not correct, adjust (inside of "T" port) or replace the relief valve cartridge in the priority valve ( <b>See Note</b> ).
N/A	N/A	Attachment Tilt Port Relief	3,150 ± 50 psi (217 ± 3,4 bar)	CONSULT FACTORY
<b>3</b>	<b>3</b>	Pressure Reducing Valve In Pressure Reducing Valve Block And Park Brake Release	500 +25/-0 psi (34,5 +1,7/-0 bar)	With engine at idle and park brake released check pressure. If pressure is not correct, adjust or replace the cartridge in the pressure reducing valve ( <b>See Note</b> ).
<b>4</b>	<b>4</b>	Pressure Reducing Valve In Axle Stabilizer Valve Block	200 ± 25 psi (13,8 ± 1,7 bar)	With engine at idle and boom in the down position check pressure. If pressure is not correct, adjust or replace the cartridge in the axle stabilizer valve ( <b>See Note</b> ).
	N/A	Pressure Reducing Valve In Axle Stabilizer Valve Block	275 psi Maximum (18,9 bar)	With engine at idle and boom down, while frame tilting to the left check pressure. If pressure is not correct, recheck adjustment location <b>4</b> . If that pressure is correct, replace the cartridge in the axle stabilizer valve.
<b>5</b>	<b>5</b>	Transmission De-Clutch	500 +25/-0 psi (34,5 +1,7/-0 bar)	With engine at idle and park brake engaged check pressure. If pressure is not correct, adjust or replace the cartridge in the pressure reducing valve ( <b>See Note</b> ).
<b>6</b>	<b>6</b>	Service Brakes	500 +25/-0 psi (34,5 +1,7/-0 bar)	With engine at idle depress the service brakes and check pressure. If pressure is not correct, adjust or replace the cartridge in the pressure reducing valve ( <b>See Note</b> ).
<b>7</b>	N/A	Load Sense	Variable 0 to 2,950 psi (0 to 203,3 bar)	With engine at idle operate a specific function (Boom, Frame Tilt, Attachment Tilt, Auxiliary or Steering) and check pressure.

# 10054 Hydraulic Diagram (S/N 9909 & After)



# 10054 Hydraulic Testing (S/N 9909 & After)

## Engine Information

Idle . . . . . 1,050 ± 50 rpm  
Full Speed . . . . . 2,730 ± 130 rpm

## Hydraulic Oil Information

Oil Type - 10W, meets MIL-L-2104C or ISO Grade 46  
Capacity - Reservoir . . . . . 30.3 gal. (114,7 liter)  
Capacity - System . . . . . 59.5 gal. (225,2 liter)

**Note:** To adjust relief settings, pressure reducing settings or standby pressure, turn the adjustment screw clockwise to increase pressure or counterclockwise to decrease pressure.

The hydraulic oil temperature for the pump flow test should be between 100° F (38° C) and 120° F (49° C) (tank hot to the touch) during testing.

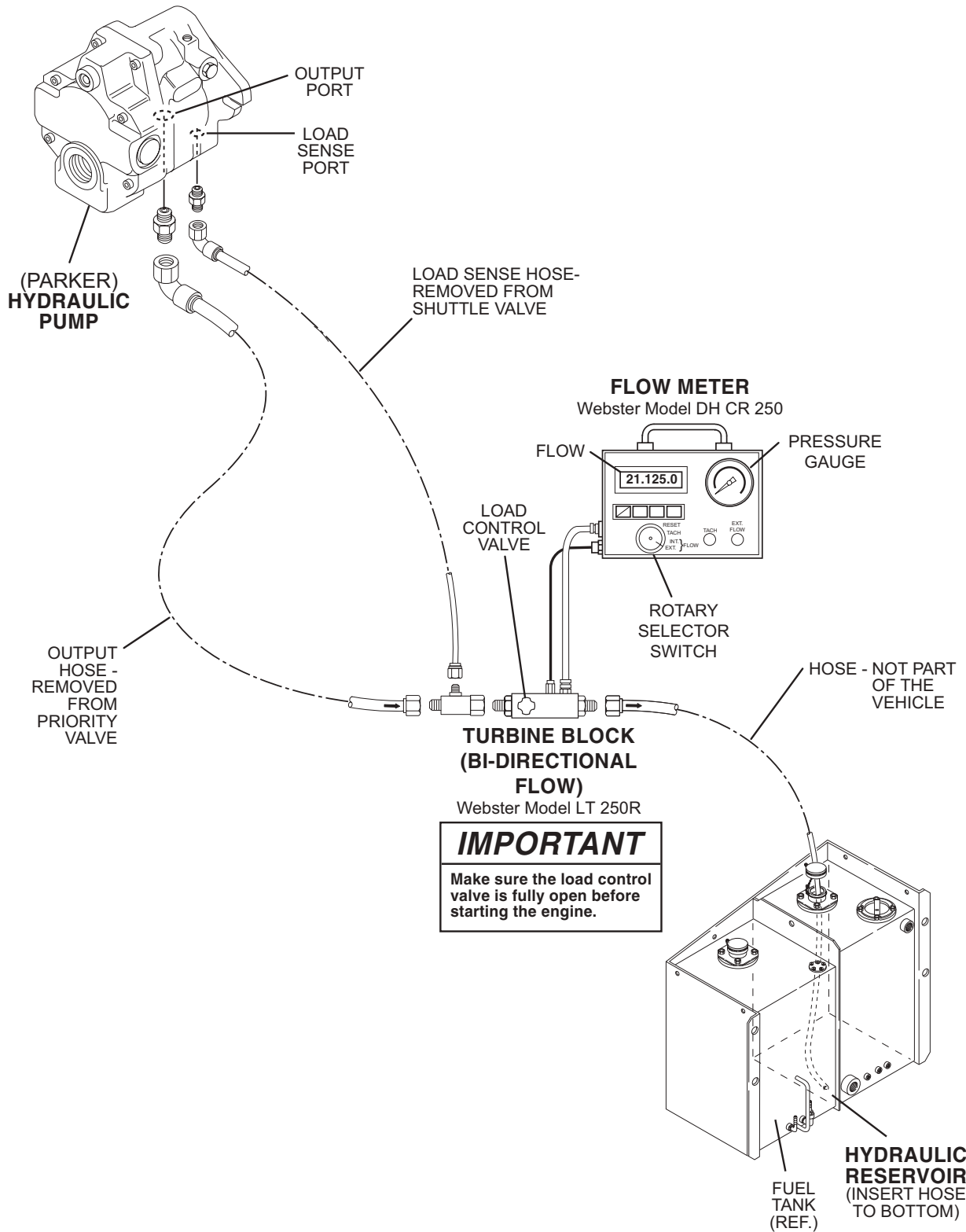
## Equipment Needed To Perform Tests From Kit P/N 7133413

Circuit	Gauge	Fittings
<b>1</b>	4,000 PSI Gauge (275,6 bar)	PD38TX Test Nipple
<b>2</b>	4,000 PSI Gauge (275,6 bar)	#8 Run Tee Swivel Nut PD38TX Test Nipple
<b>3</b>	1,000 PSI Gauge (68,9 bar)	#4 Union PD34BTX Test Nipple
<b>4</b>	1,000 PSI Gauge (68,9 bar)	Connector STR. THD. #4 PD34BTX Test Nipple
<b>5</b>	1,000 PSI Gauge (68,9 bar)	#4 Run Tee Swivel Nut PD34BTX Test Nipple
<b>6</b>	4,000 PSI Gauge (275,6 bar)	#6 Elbow 90° Swivel Nut PD36BTX Test Nipple

TEST LOCATION	Hydraulic Pump Flow Test
<b>7</b>	<p>To check flow readings a flow meter capable of measuring 60 GPM (3,8 ltr/sec) and a load valve capable of 6,000 psi (413,4 bar) will be required (not included with kit P/N 7133413). A test nipple is supplied at location 7.</p> <p>2,000 psi (137,8 bar) load @ Engine Speed of 2,500 ± 25 rpm — Flow rate should be 39 to 43 GPM (2,5 to 2,7 ltr/sec)</p>

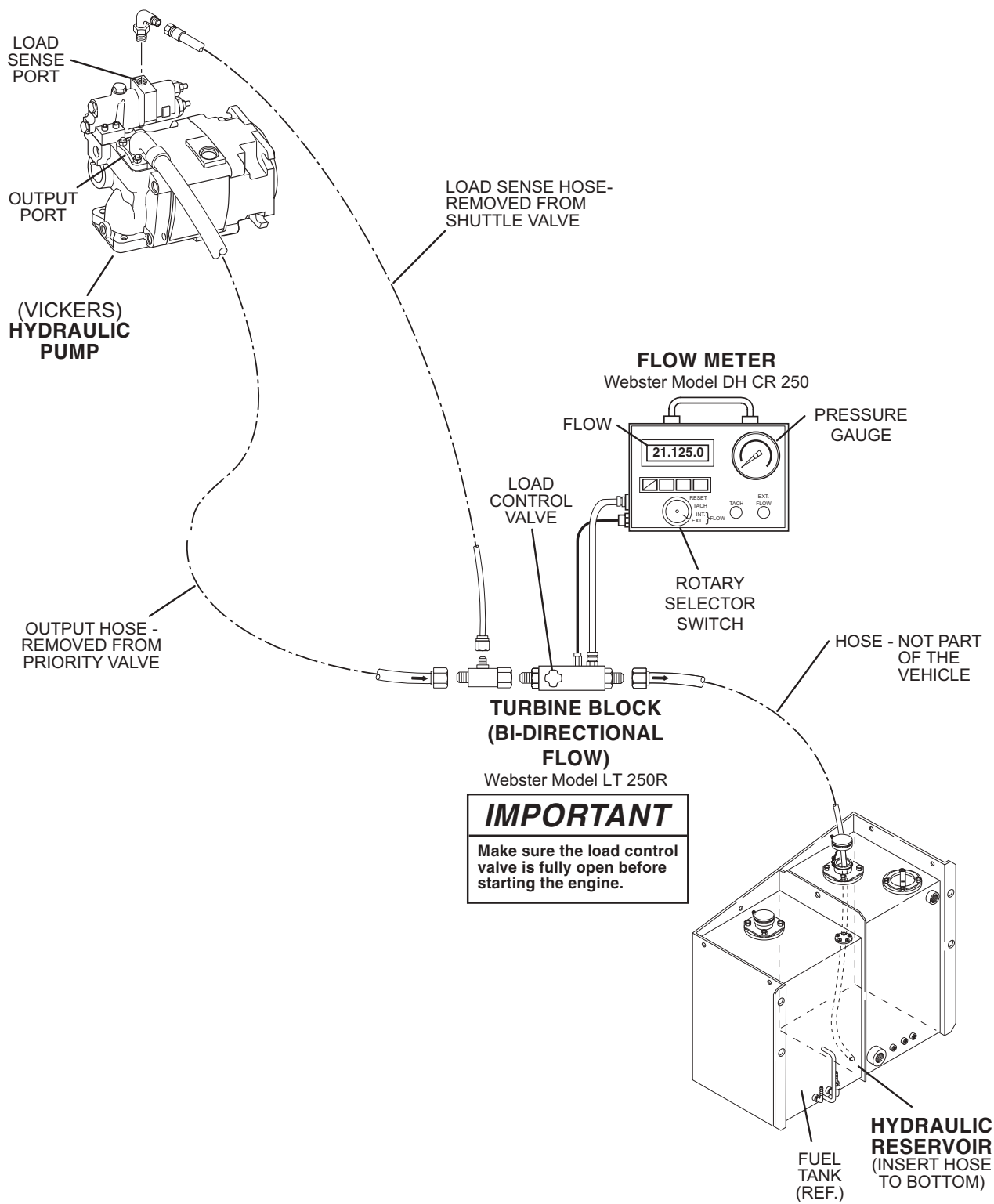
TEST LOCATION	ADJUST. LOCATION	COMPONENT DESCRIPTION	PRESSURE READINGS	PRESSURE TEST PROCEDURES
<b>1</b>	<b>1</b>	Pump Standby Pressure	550 ± 50 psi (37,9 ± 3,4 bar)	Loosen load sense line at location <b>6</b> to bleed off pressure and then retighten line. With engine at idle and all hydraulic functions in neutral position, check pump standby pressure ( <b>See Note</b> ).
	N/A	Pump Pressure Compensator	2,950 ± 50 psi (203,3 ± 3,4 bar)	With engine at idle fully retract boom extend cylinder and hold. Check pump maximum pressure.
<b>2</b>	<b>2</b>	Priority Valve Steering Relief	2,500 ± 50 psi (172,3 ± 3,4 bar)	With engine at idle turn the steering wheel all the way to the left or right and hold while checking pressure. If pressure is not correct, adjust (inside of "T" port) or replace the relief valve cartridge in the priority valve ( <b>See Note</b> ).
N/A	N/A	Attachment Tilt Port Relief	3,150 ± 50 psi (217 ± 3,4 bar)	CONSULT FACTORY
<b>3</b>	<b>3</b>	Pressure Reducing Valve In Pressure Reducing Valve Block And Park Brake Release	500 +25/-0 psi (34,5 +1,7/-0 bar)	With engine at idle and park brake released check pressure. If pressure is not correct, adjust or replace the cartridge in the pressure reducing valve ( <b>See Note</b> ).
<b>4</b>	<b>4</b>	Pressure Reducing Valve In Axle Stabilizer Valve Block	200 ± 25 psi (13,8 ± 1,7 bar)	With engine at idle and boom in the down position check pressure. If pressure is not correct, adjust or replace the cartridge in the axle stabilizer valve ( <b>See Note</b> ).
	N/A	Pressure Reducing Valve In Axle Stabilizer Valve Block	275 psi Maximum (18,9 bar)	With engine at idle and boom down, while frame tilting to the left check pressure. If pressure is not correct, recheck adjustment location <b>4</b> . If that pressure is correct, replace the cartridge in the axle stabilizer valve.
<b>5</b>	<b>5</b>	Service Brakes	500 +25/-0 psi (34,5 +1,7/-0 bar)	With engine at idle depress the service brakes and check pressure. If pressure is not correct, adjust or replace the cartridge in the pressure reducing valve ( <b>See Note</b> ).
<b>6</b>	N/A	Load Sense	Variable 0 to 2,950 psi (0 to 203,3 bar)	With engine at idle operate a specific function (Boom, Frame Tilt, Attachment Tilt, Auxiliary or Steering) and check pressure.

# 8042/10042/10054 Variable Volume Load Sensing Pump Flow Meter Diagram (S/N 9908 & Before)



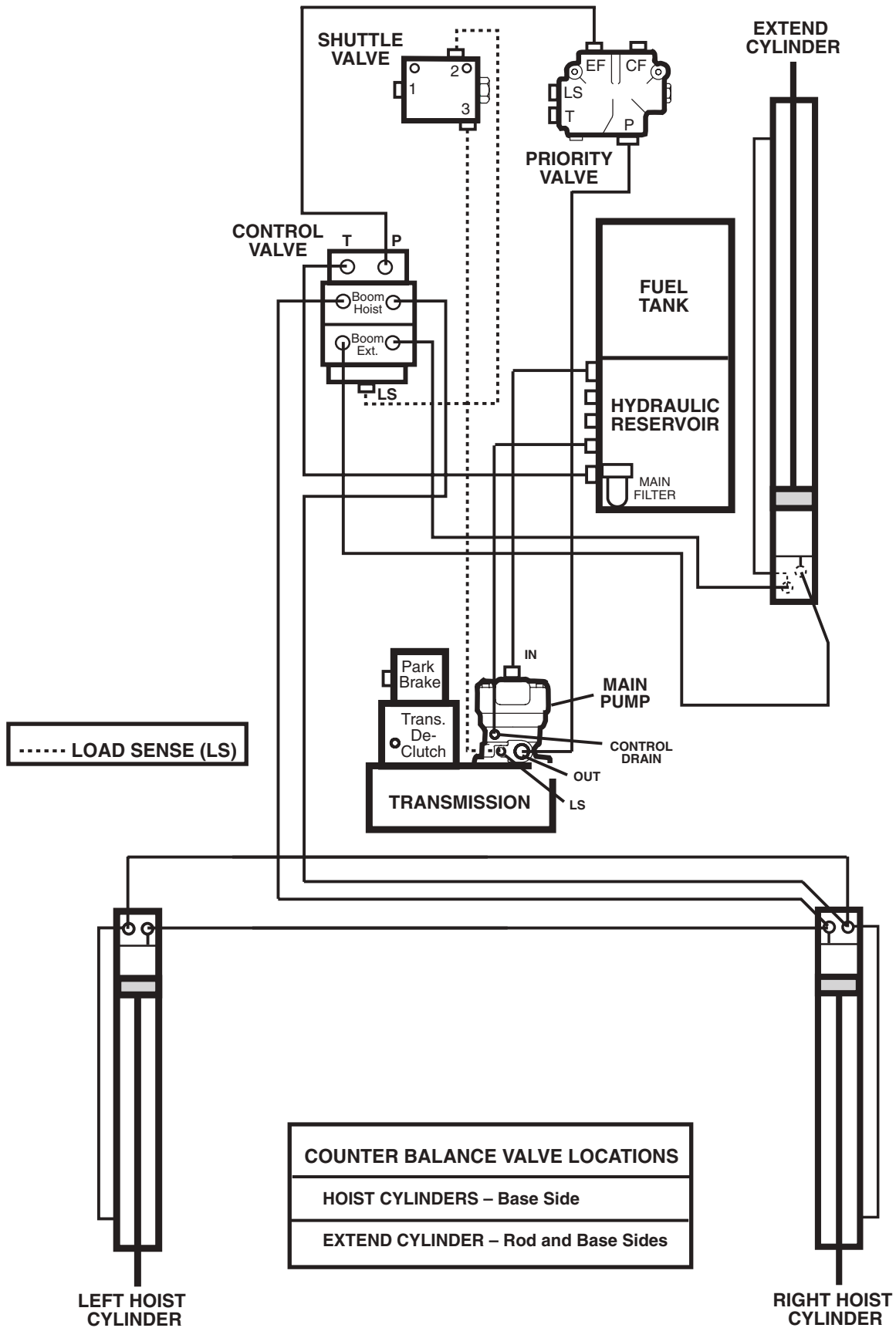
PH1320

# 8042/10042/10054 Variable Volume Load Sensing Pump Flow Meter Diagram (S/N 9909 & After)



PH1321

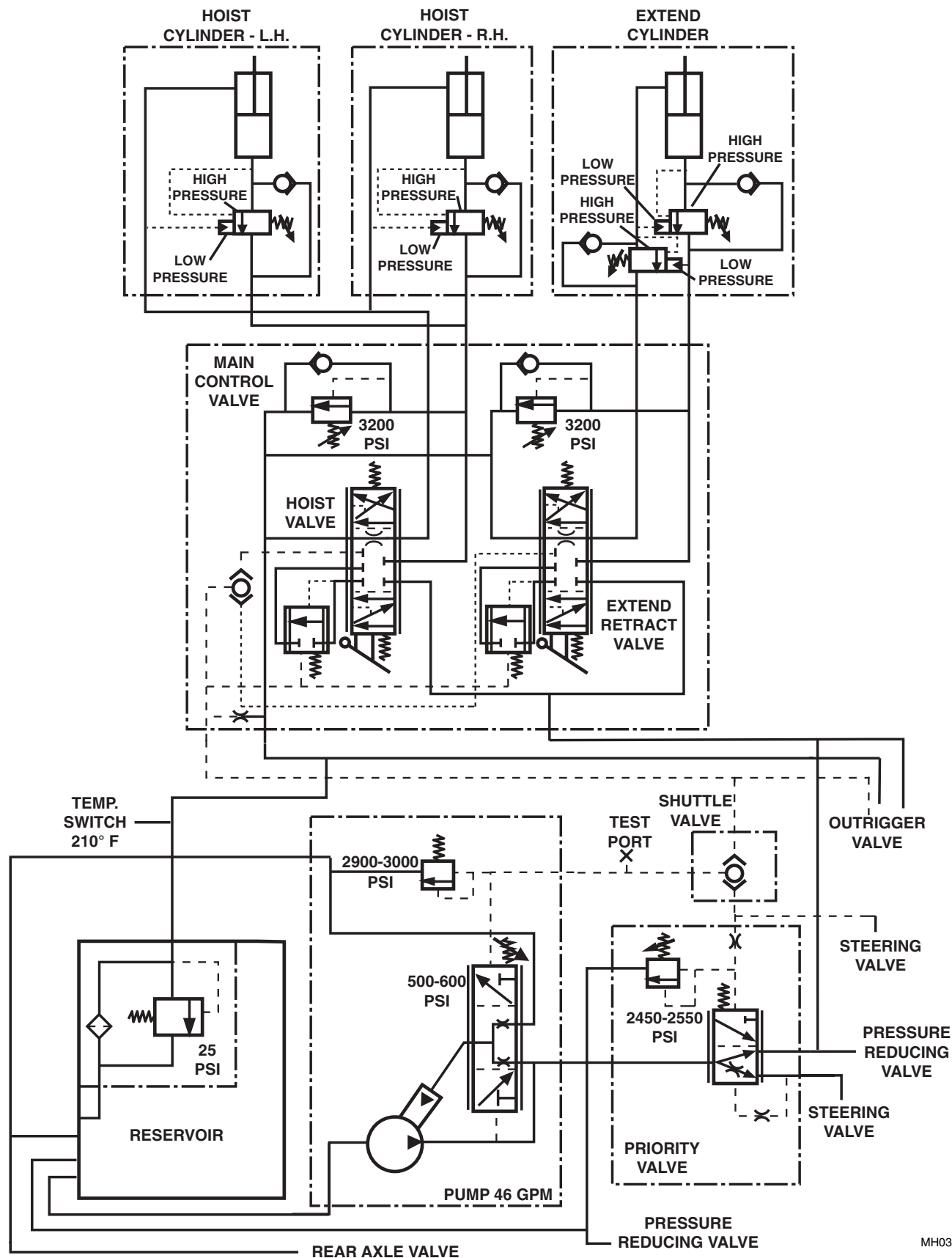
# 8042/10042 Hoist and Extend Circuits (S/N 8540 & Before)



MH0091

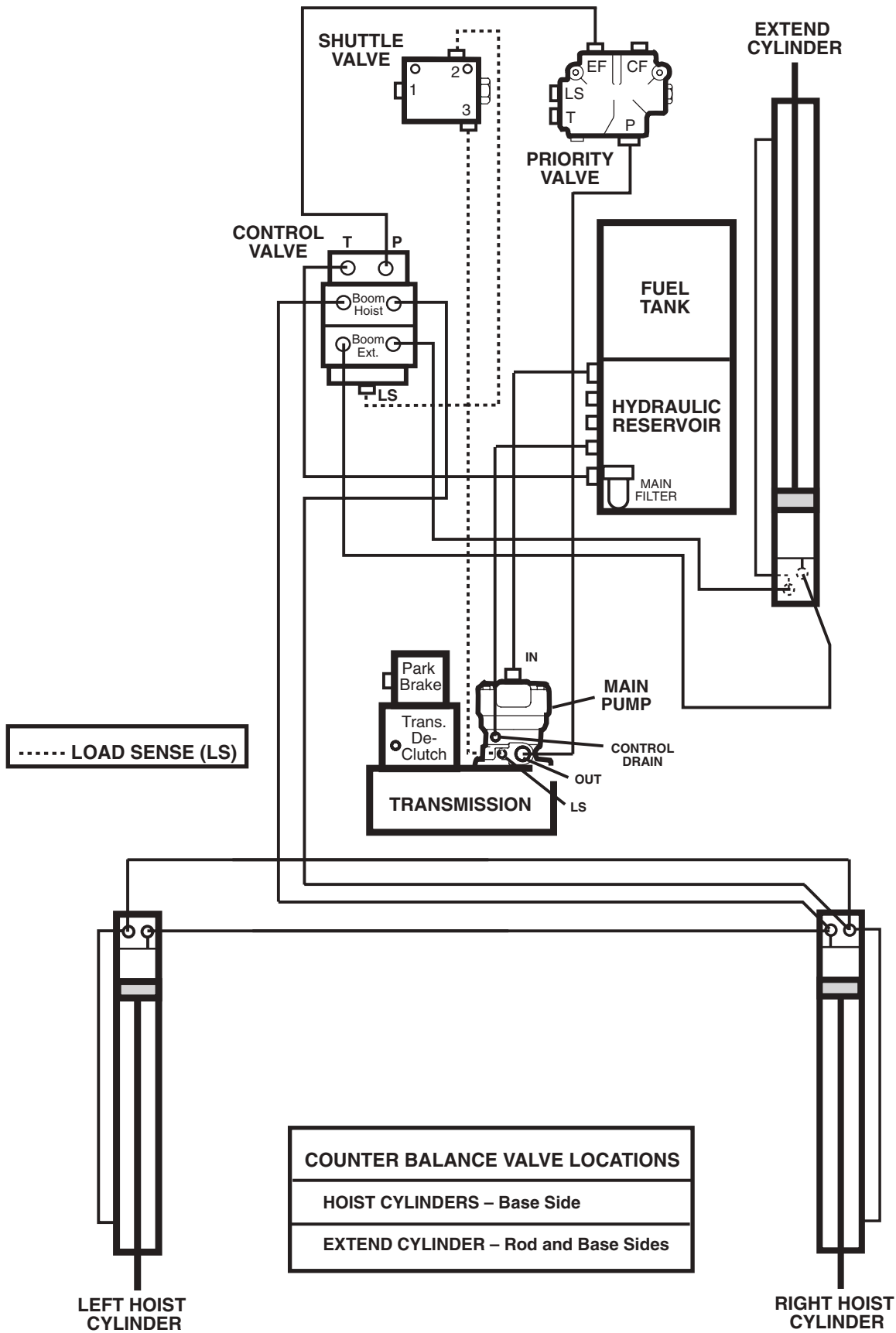


# 8042/10042 Hoist and Extend Schematic (S/N 8540 & Before)



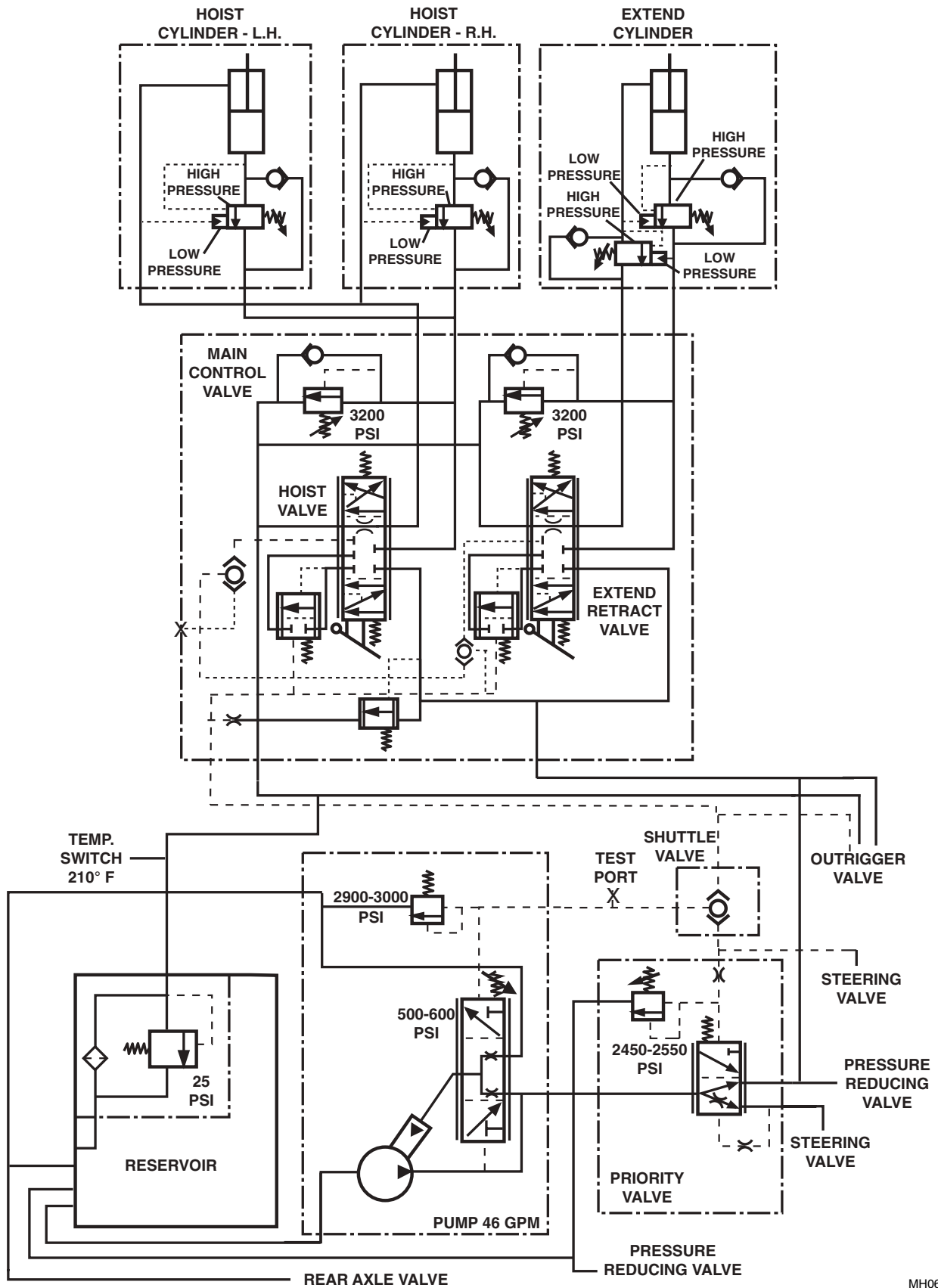
MH0312

# 8042/10042 Hoist and Extend Circuits (S/N 8541 thru 9908)



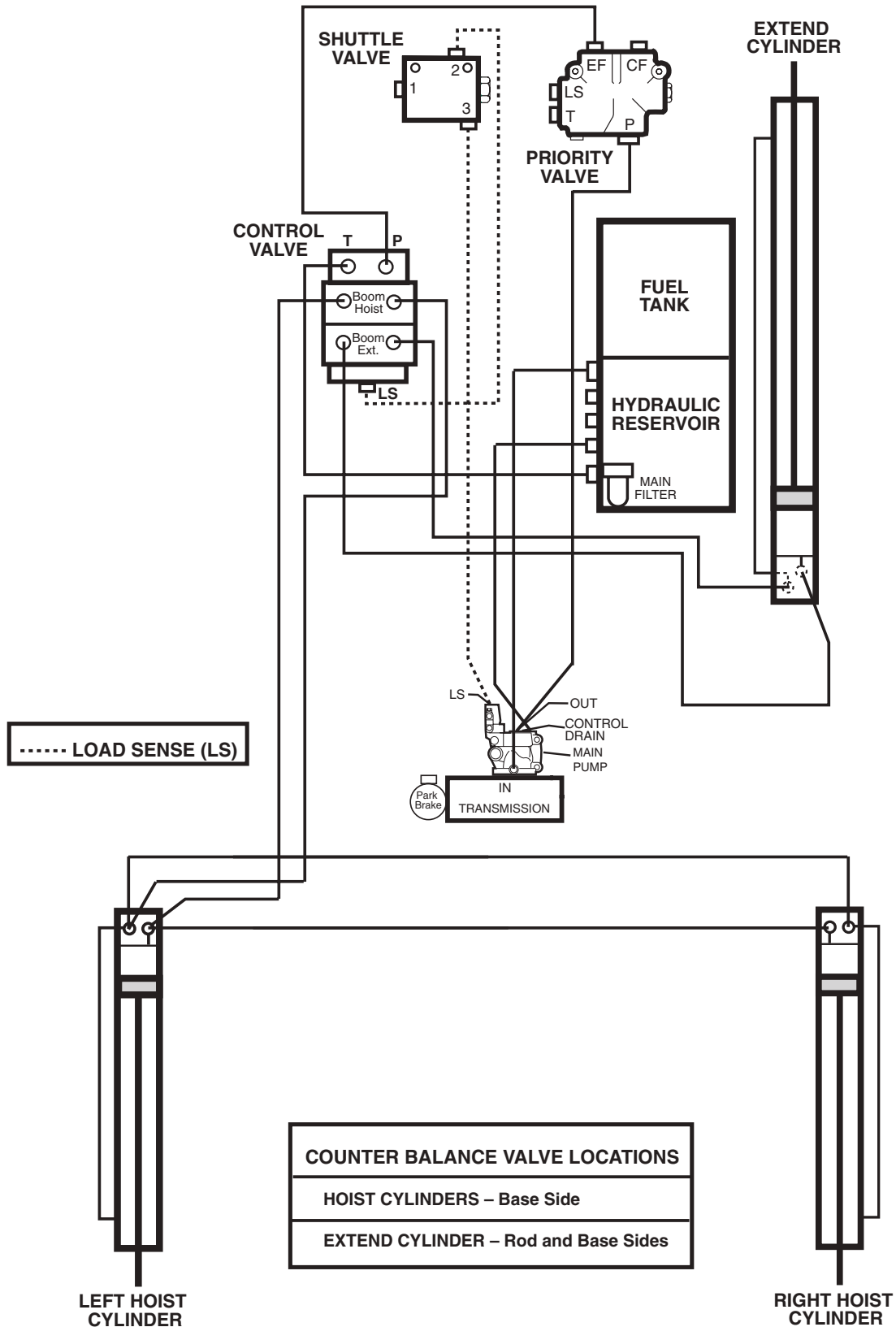
MH0091

# 8042/10042 Hoist and Extend Schematic (S/N 8541 thru 9908)

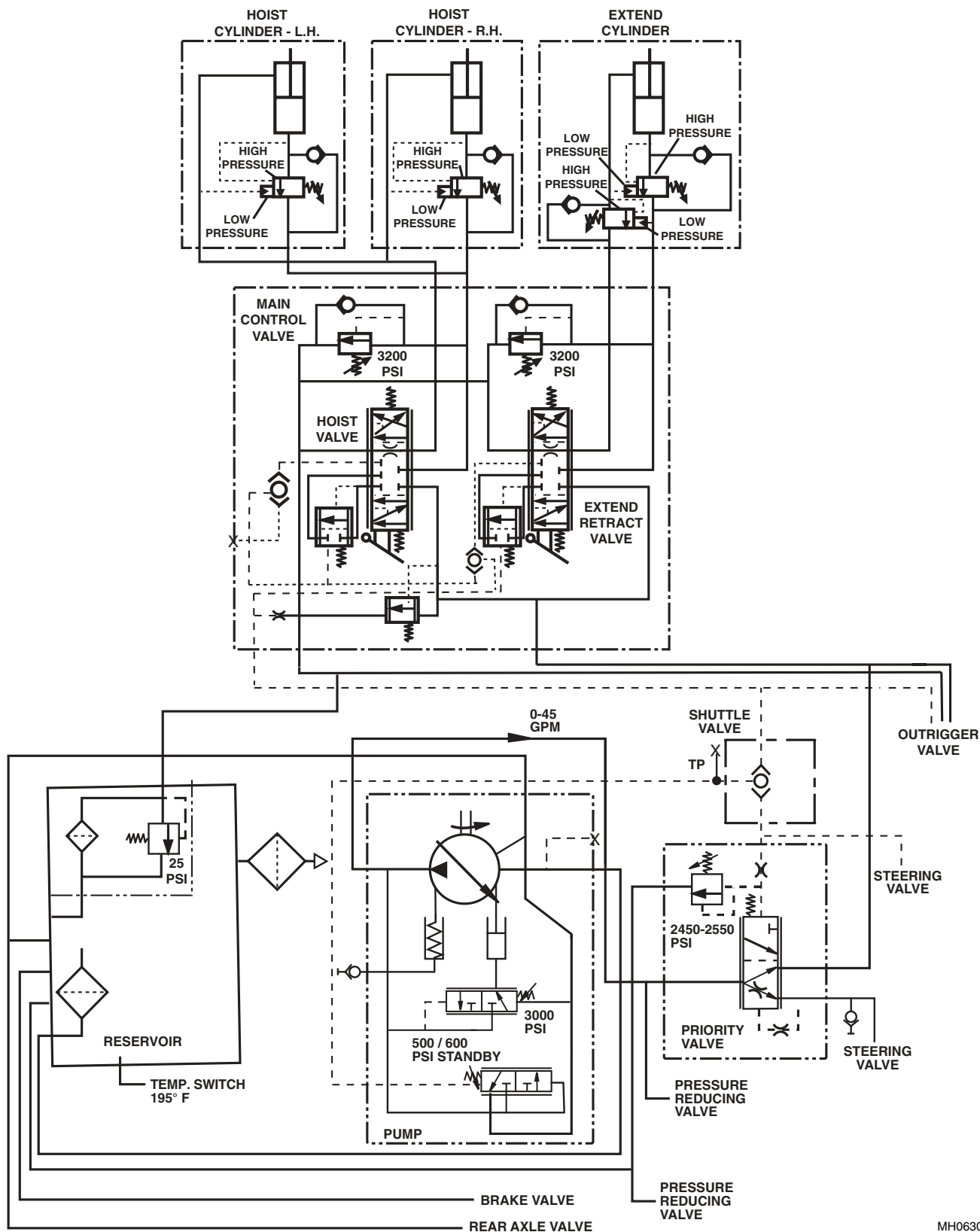


MH0620

# 8042/10042 Hoist and Extend Circuits (S/N 9909 & After)

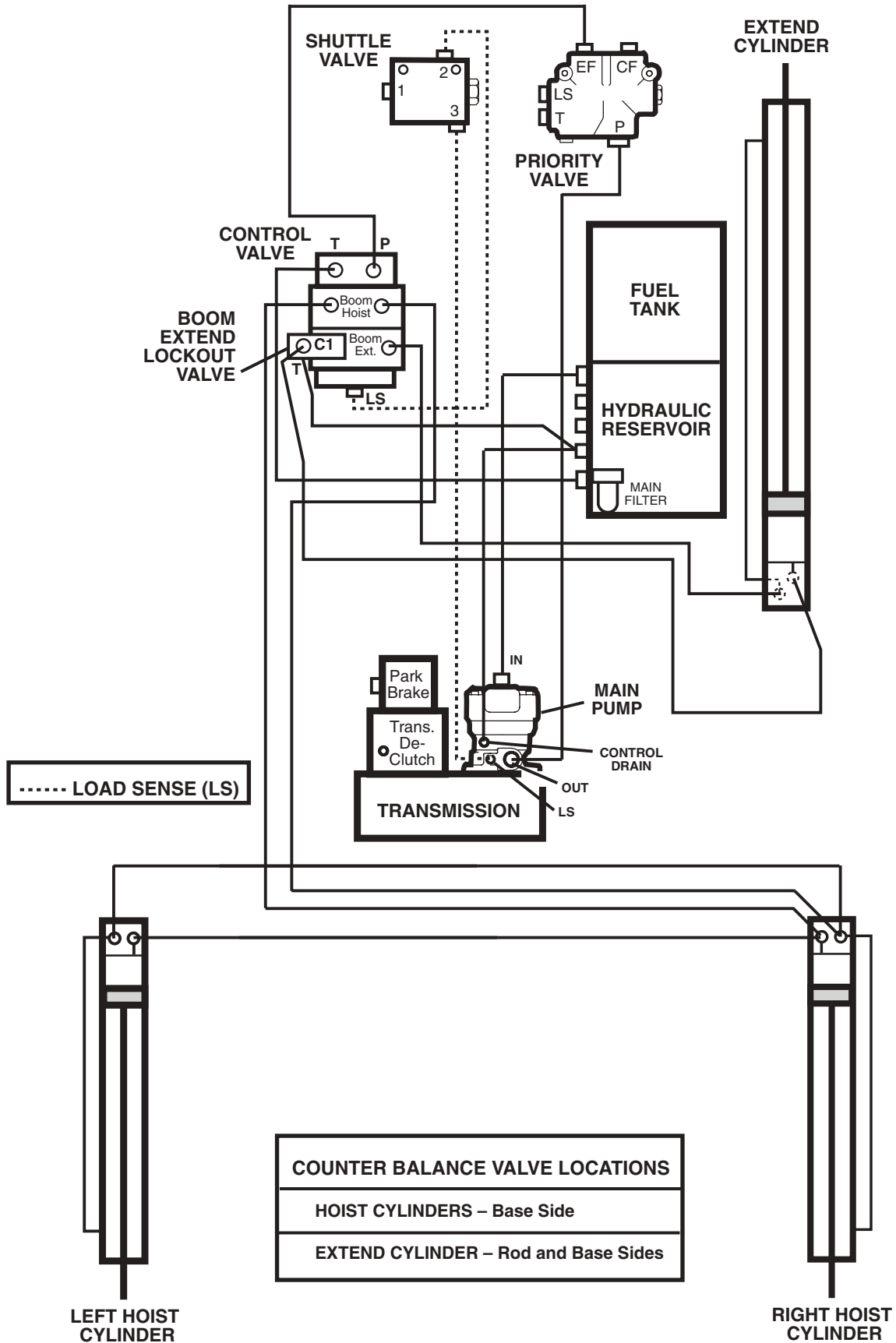


# 8042/10042 Hoist and Extend Schematic (S/N 9909 & After)



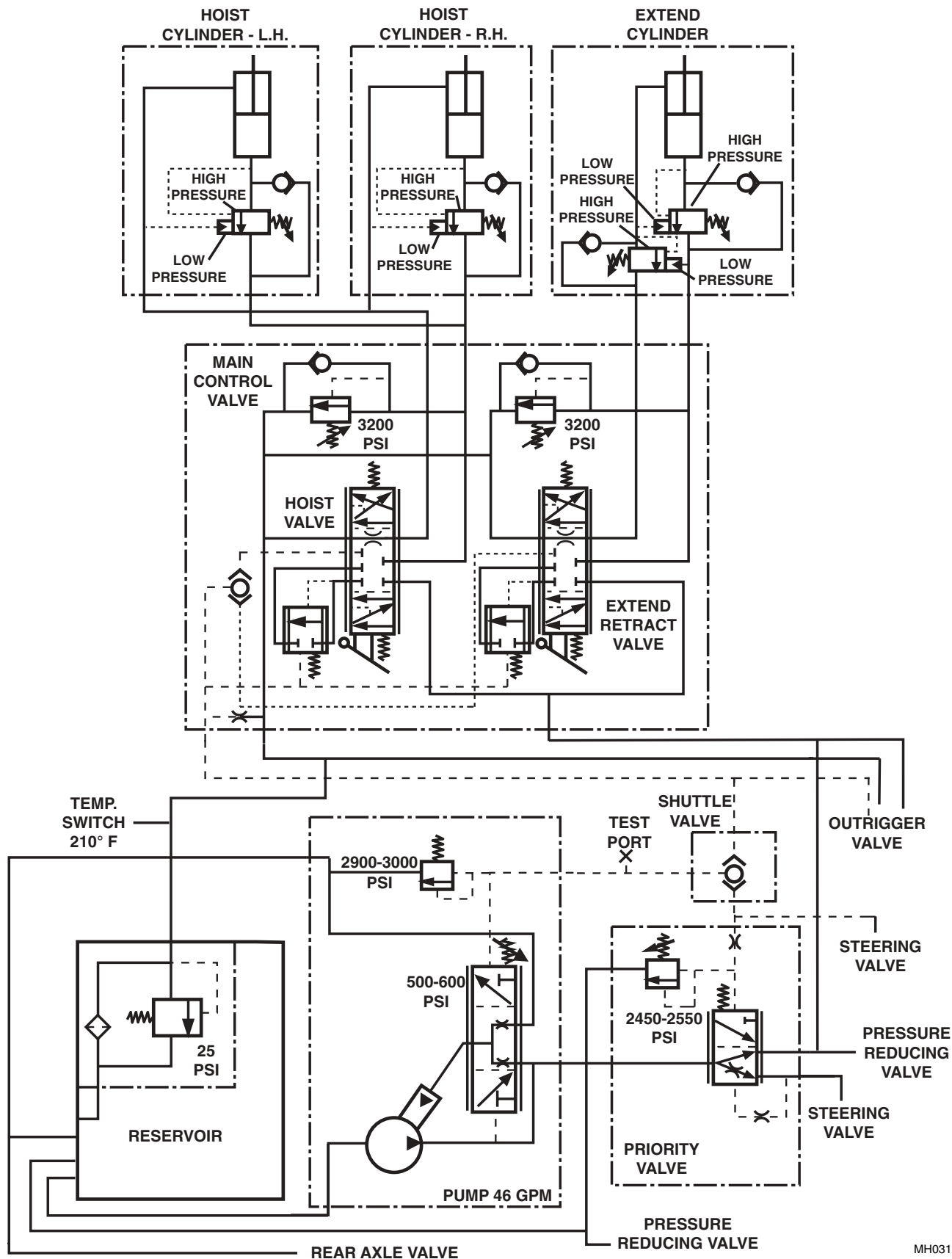
MH0630

# 10054 Hoist and Extend Circuits (S/N 8540 & Before)



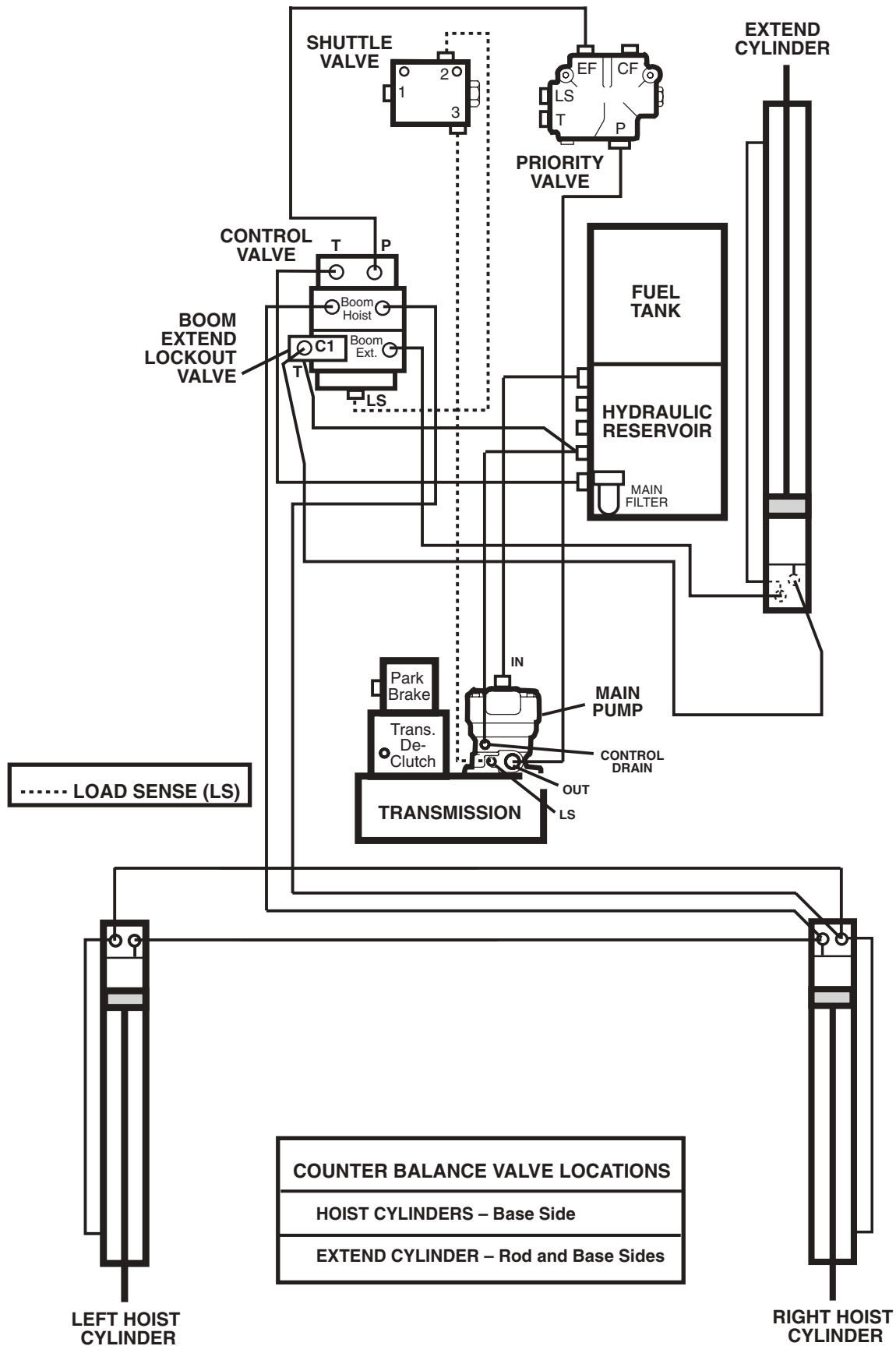
MH0101

# 10054 Hoist and Extend Schematic (S/N 8540 & Before)



MH0312

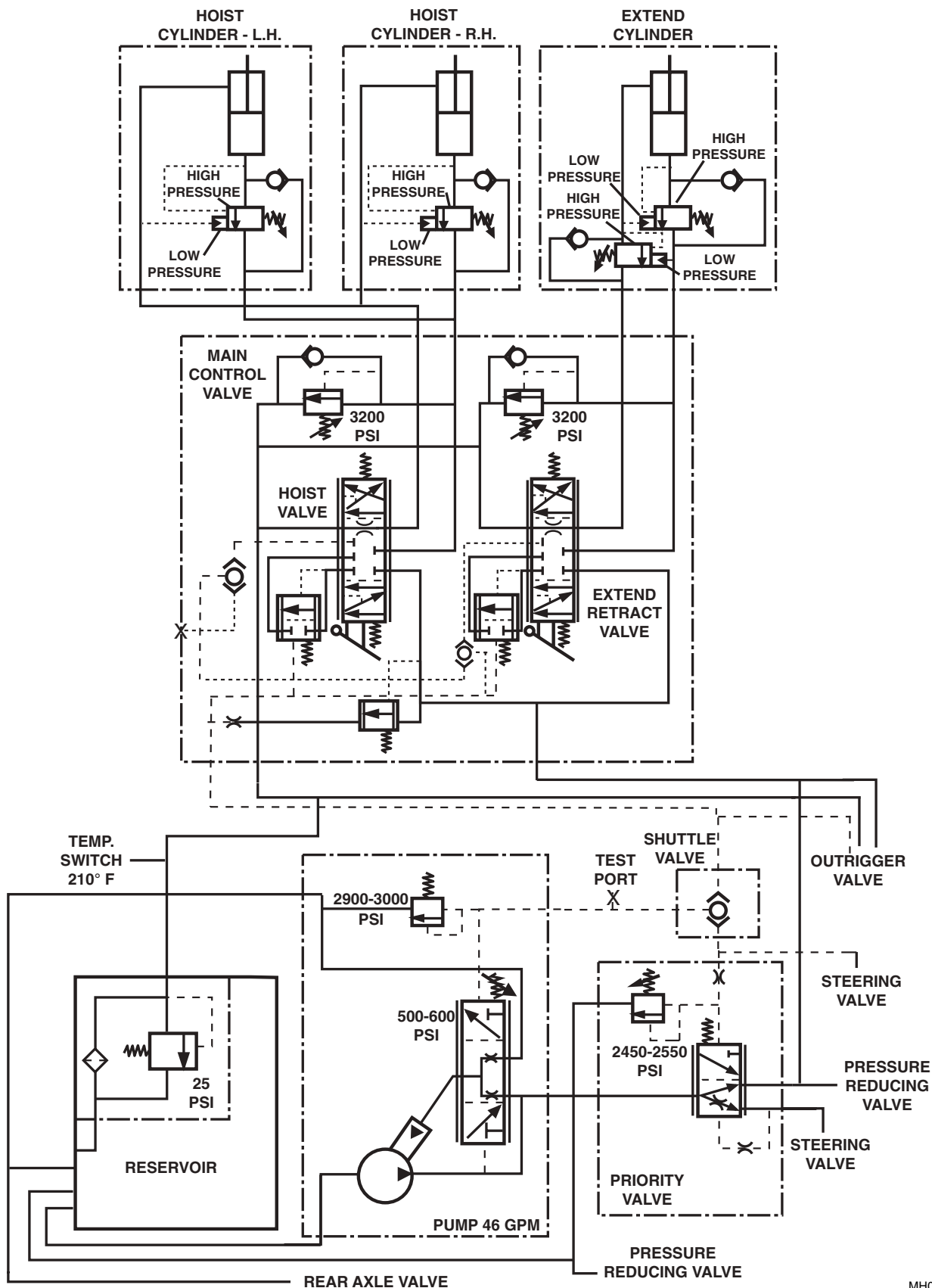
# 10054 Hoist and Extend Circuits (S/N 8541 thru 9908)



MH0101

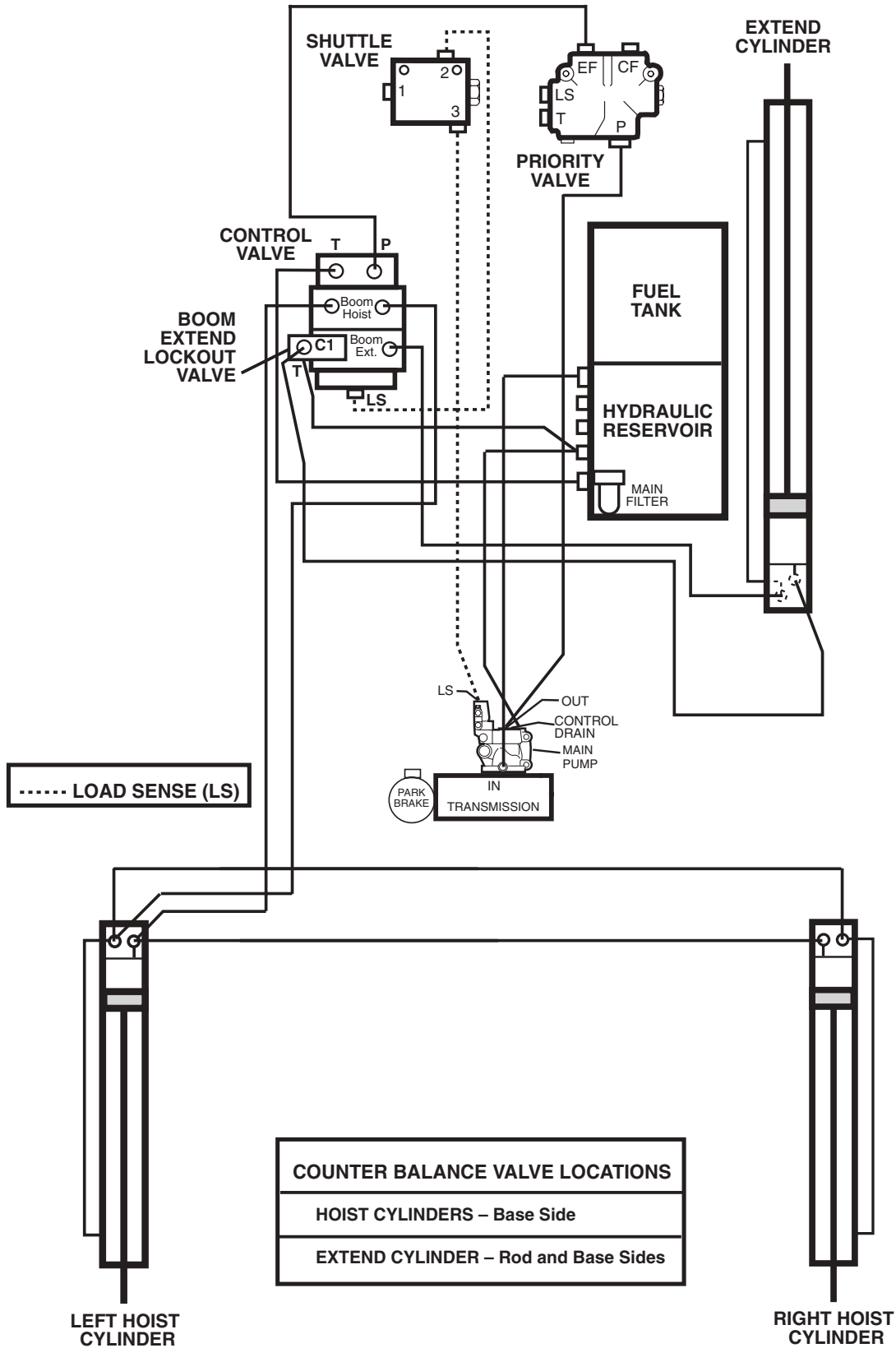


# 10054 Hoist and Extend Schematic (S/N 8541 thru 9908)



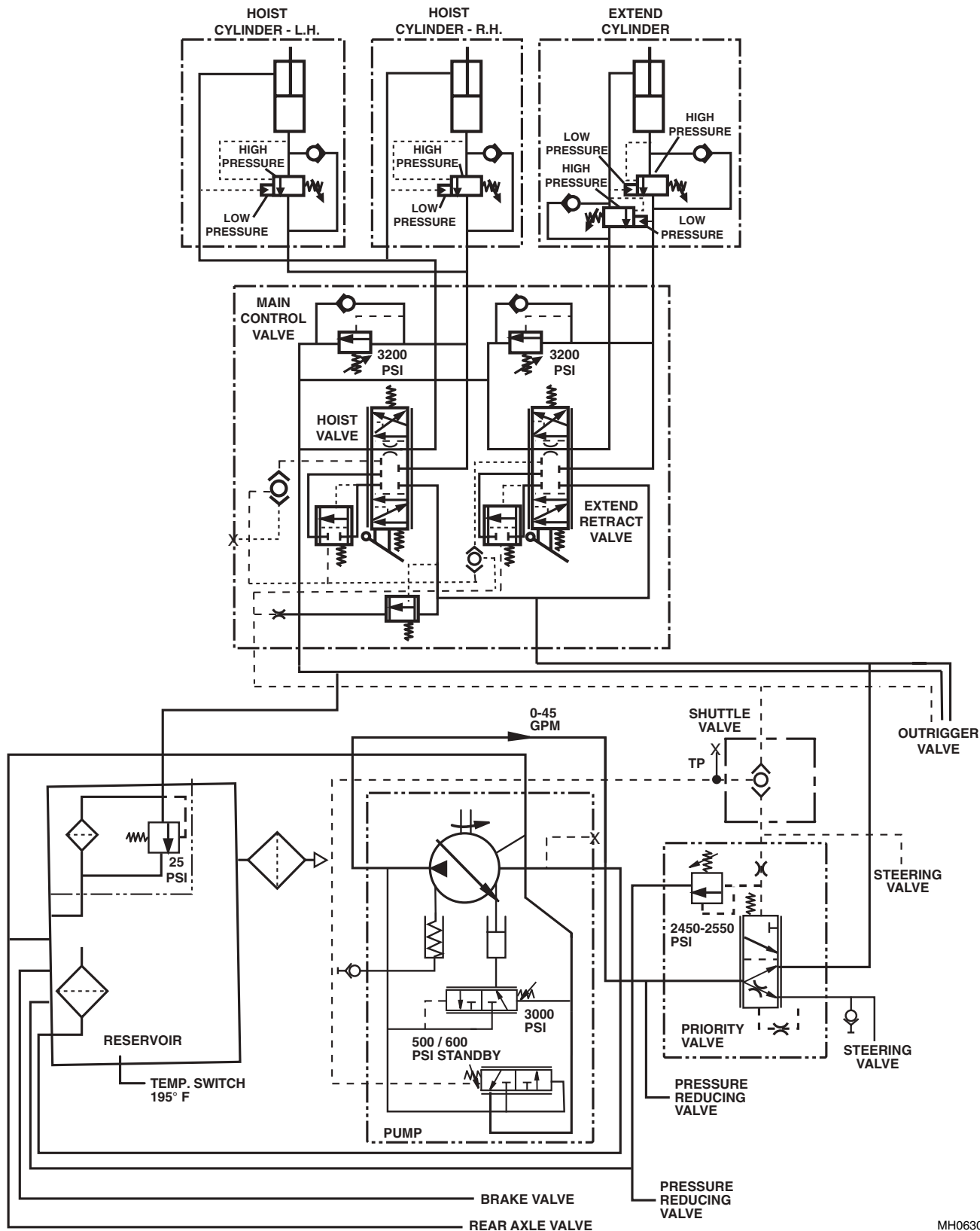
MH0620

# 10054 Hoist and Extend Circuits (S/N 9909 & After)



MH0570

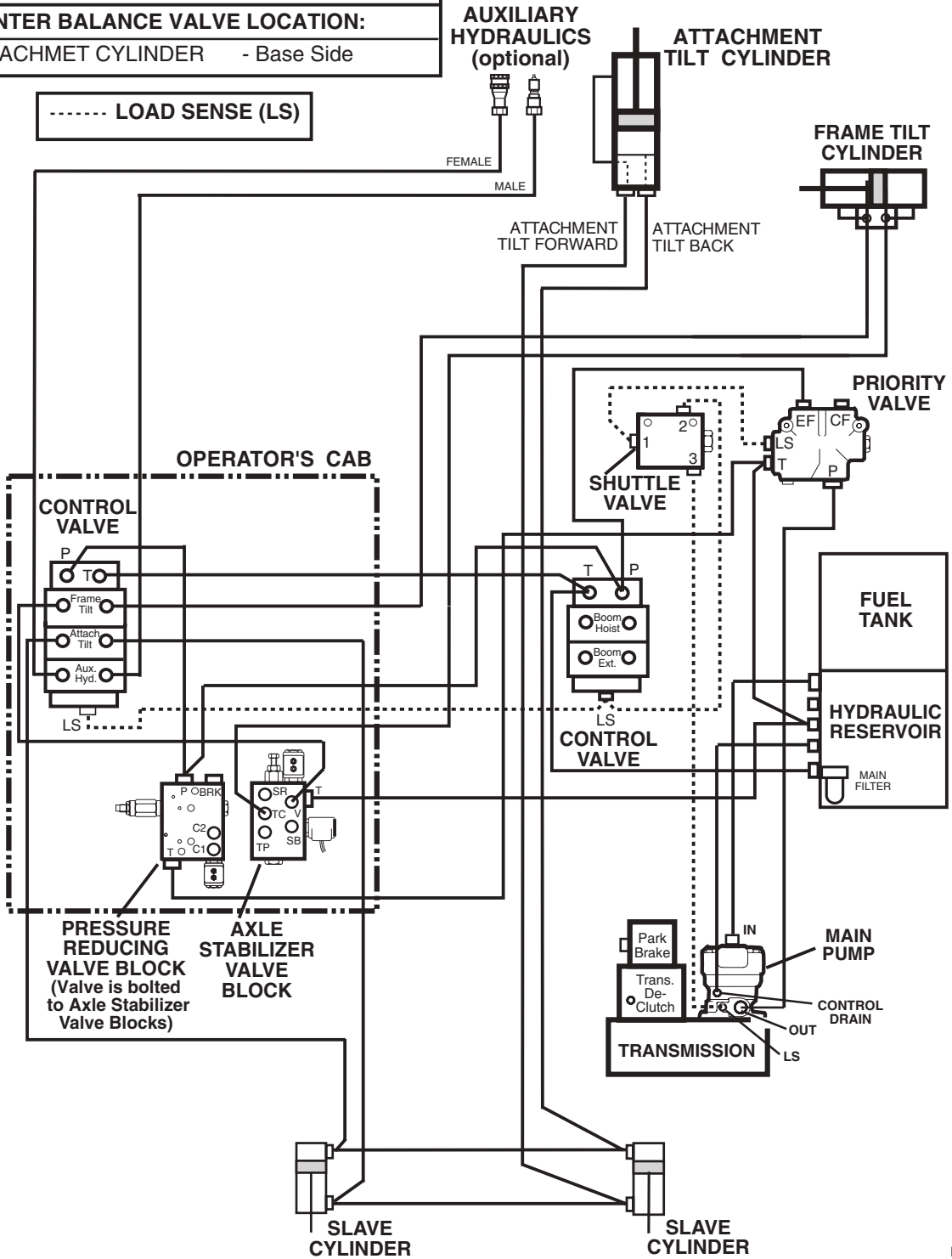
# 10054 Hoist and Extend Schematic (S/N 9909 & After)



MH0630

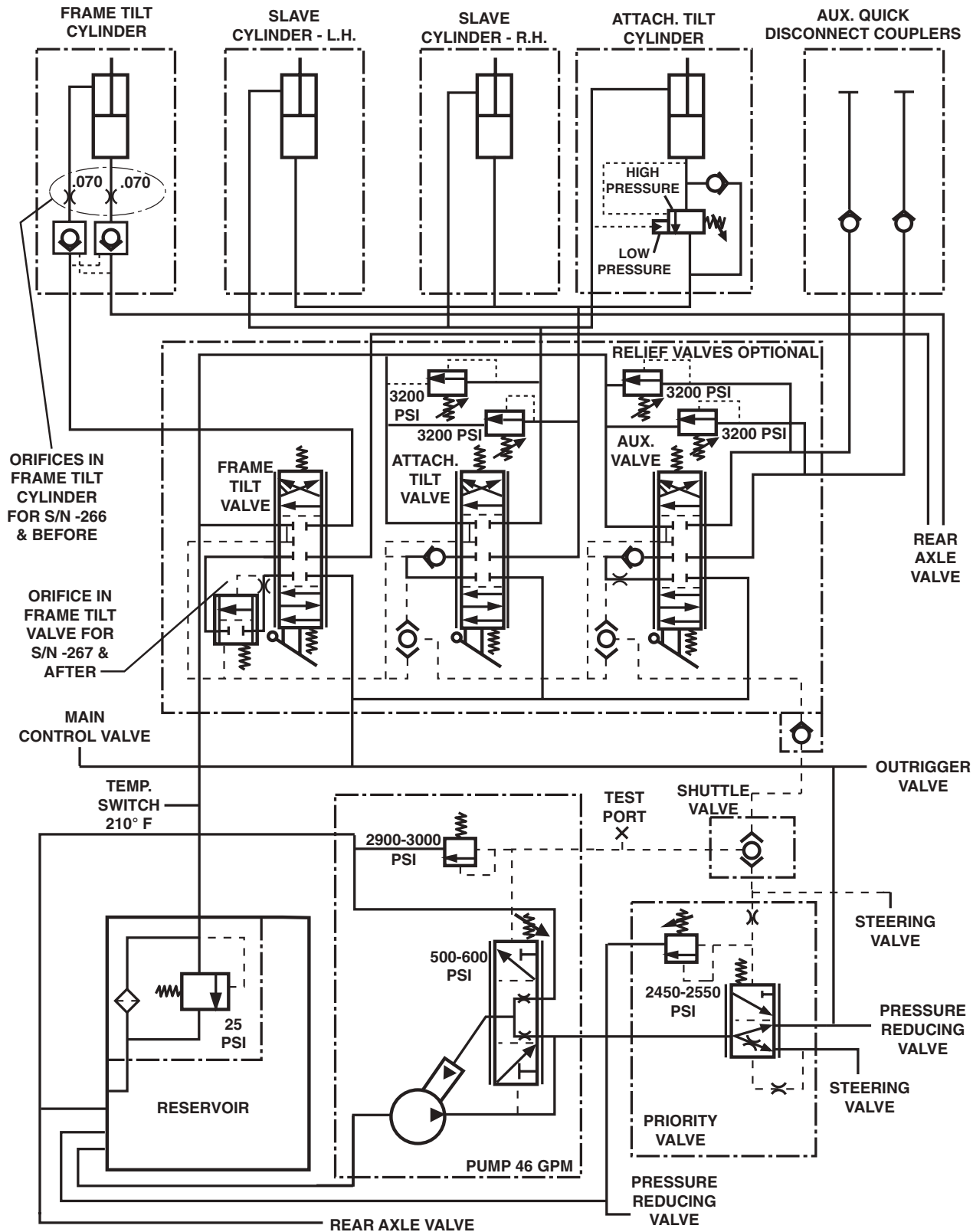
# 8042/10042/10054 Frame Tilt, Attachment Tilt, Slave & Auxiliary Circuits (S/N 2194 & Before)

PILOT OPERATED CHECK VALVE LOCATIONS:	
FRAME TILT CYLINDER	- Rod & Base Sides
ATTACHMENT CYLINDER	- Base Side
COUNTER BALANCE VALVE LOCATION:	
ATTACHMET CYLINDER	- Base Side



MH0750

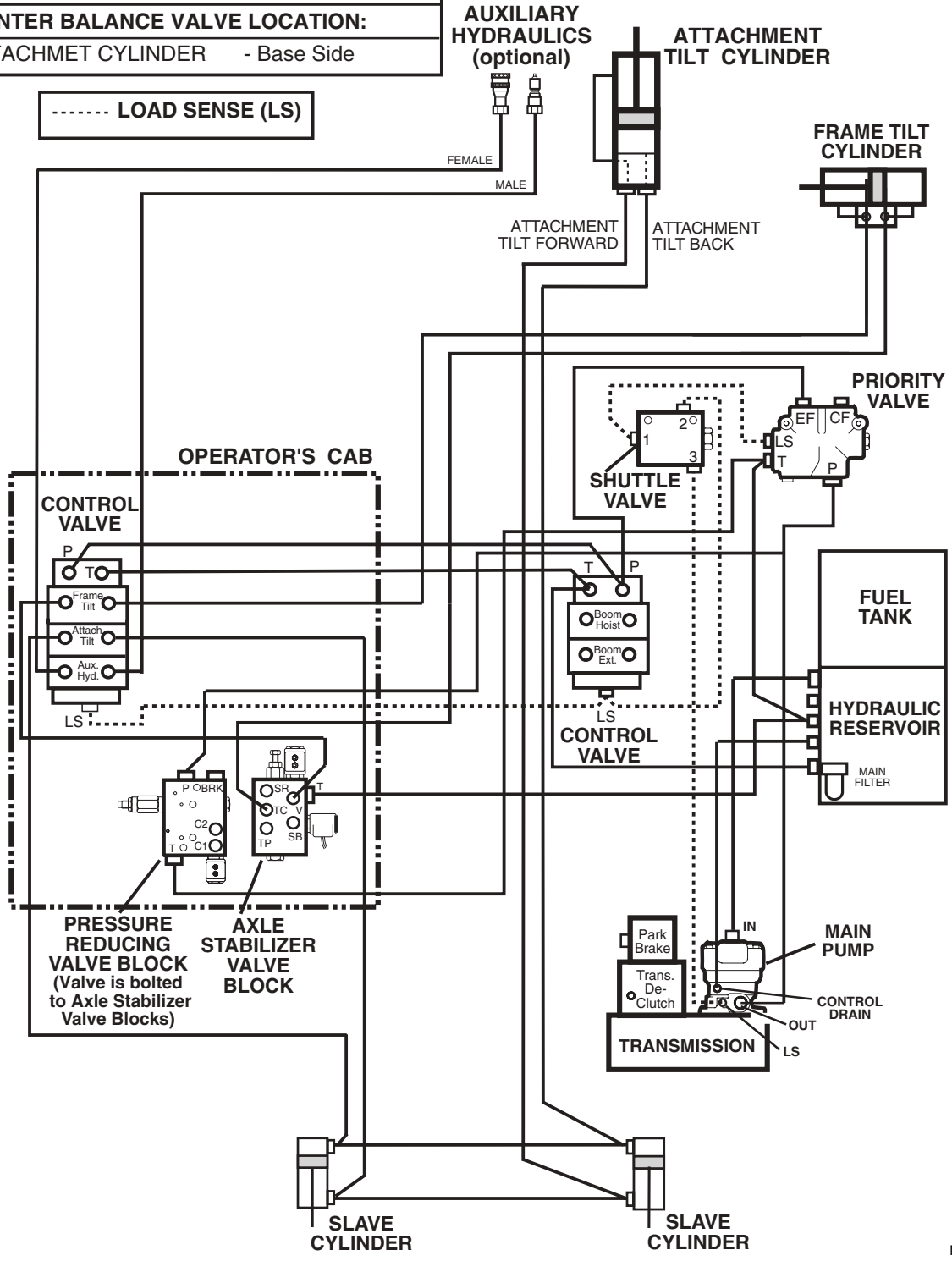
# 8042/10042/10054 Frame Tilt, Attachment Tilt, Slave & Auxiliary Schematic (S/N 2194 & Before)



MH0321

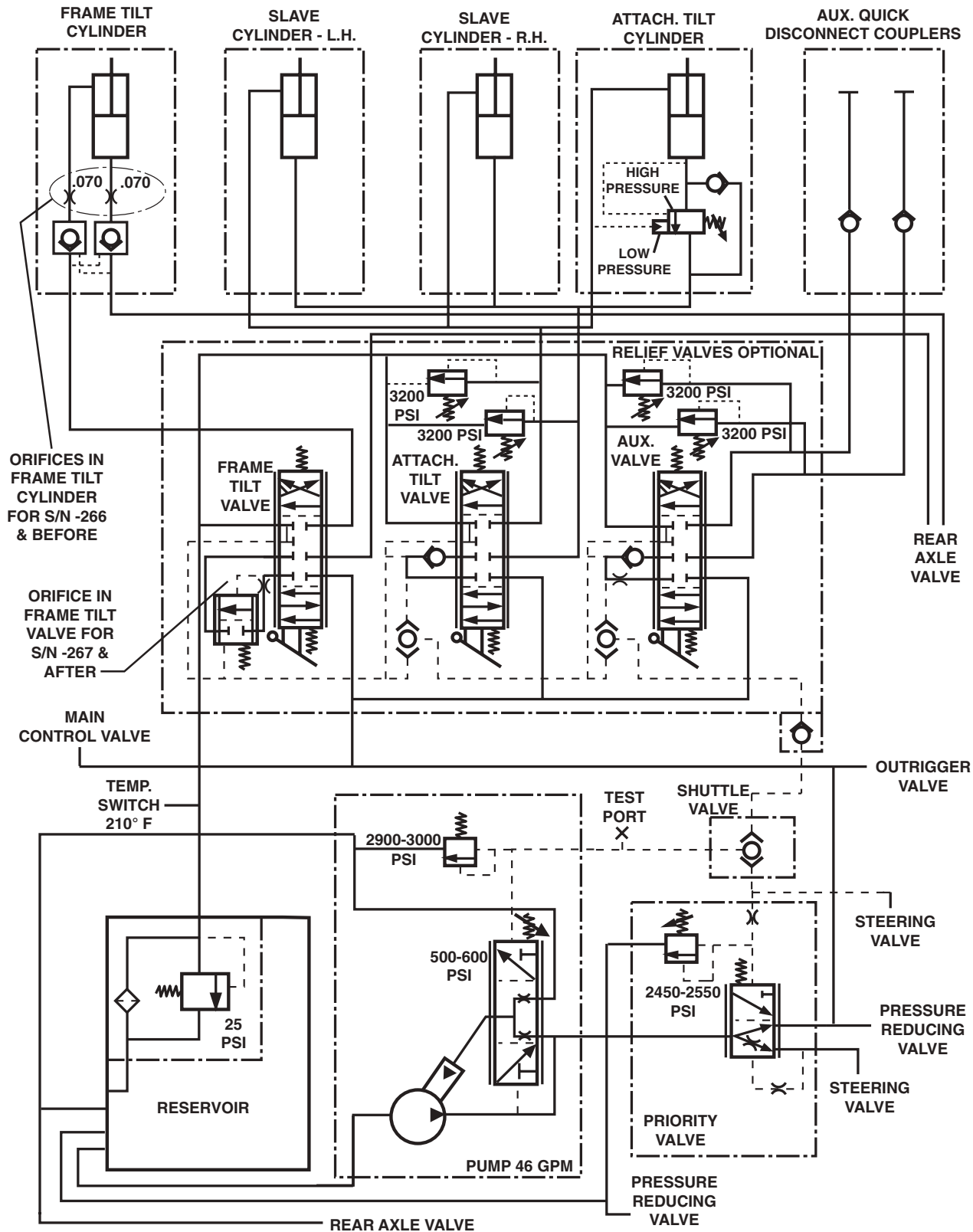
# 8042/10042/10054 Frame Tilt, Attachment Tilt, Slave & Auxiliary Circuits (S/N 2195 thru 9908)

<b>PILOT OPERATED CHECK VALVE LOCATIONS:</b>	
FRAME TILT CYLINDER	- Rod & Base Sides
ATTACHMENT CYLINDER	- Base Side
<b>COUNTER BALANCE VALVE LOCATION:</b>	
ATTACHMET CYLINDER	- Base Side



MH0760

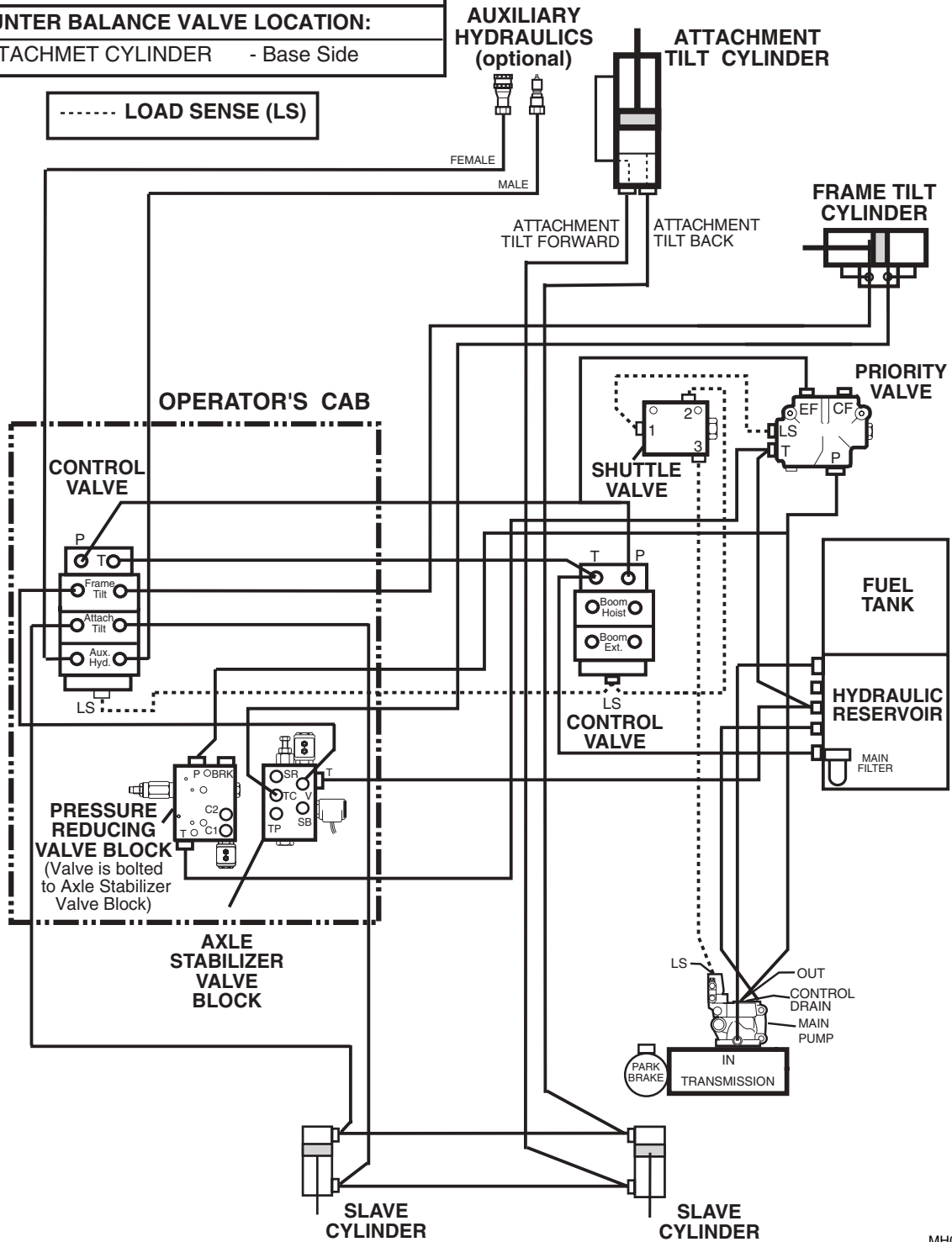
# 8042/10042/10054 Frame Tilt, Attachment Tilt, Slave & Auxiliary Schematic (S/N 2195 thru 9908)



MH0321

# 8042/10042/10054 Frame Tilt, Attachment Tilt, Slave & Auxiliary Circuits (S/N 9909 & After)

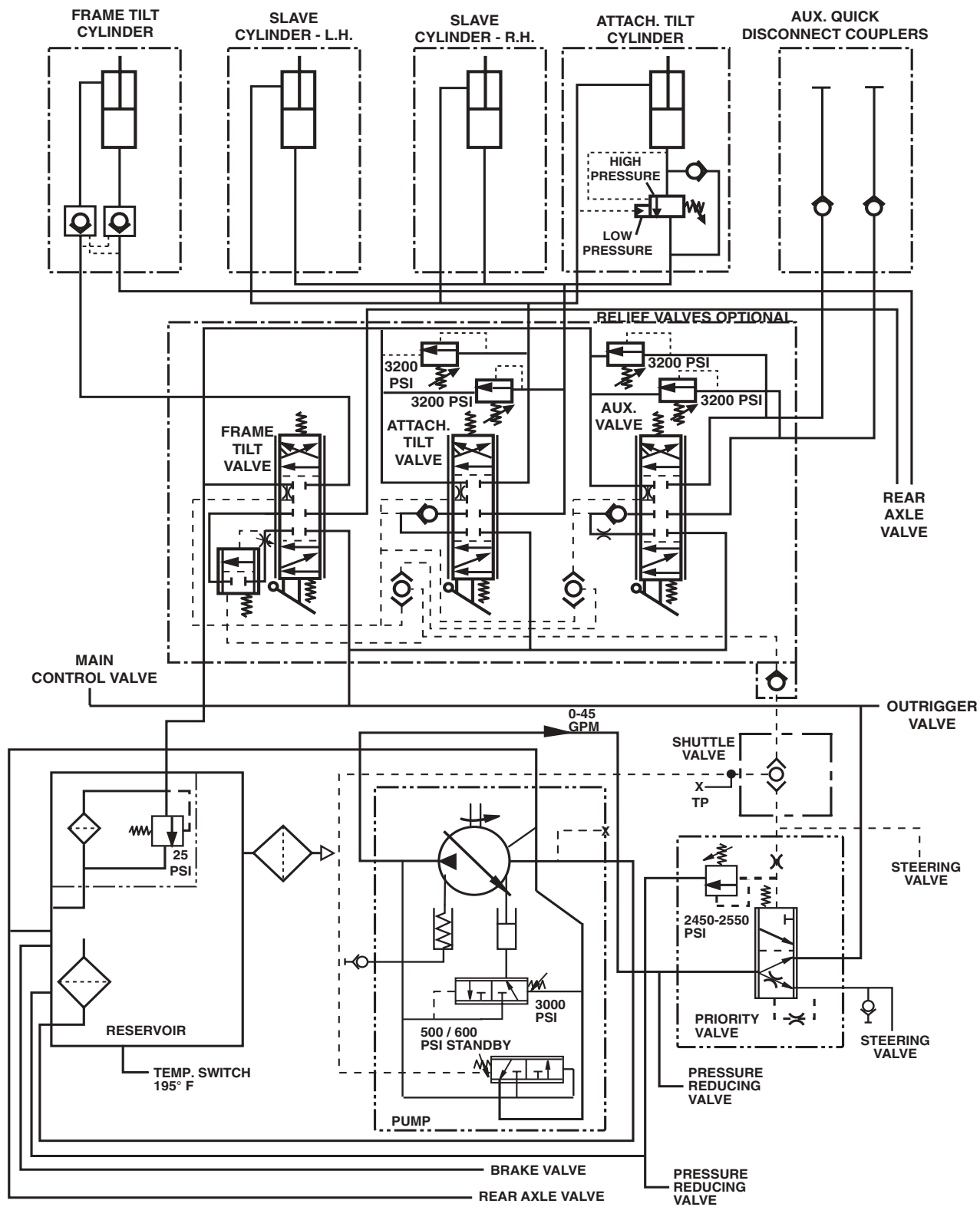
PILOT OPERATED CHECK VALVE LOCATIONS:	
FRAME TILT CYLINDER	- Rod & Base Sides
ATTACHMENT CYLINDER	- Base Side
COUNTER BALANCE VALVE LOCATION:	
ATTACHMET CYLINDER	- Base Side



MH0740

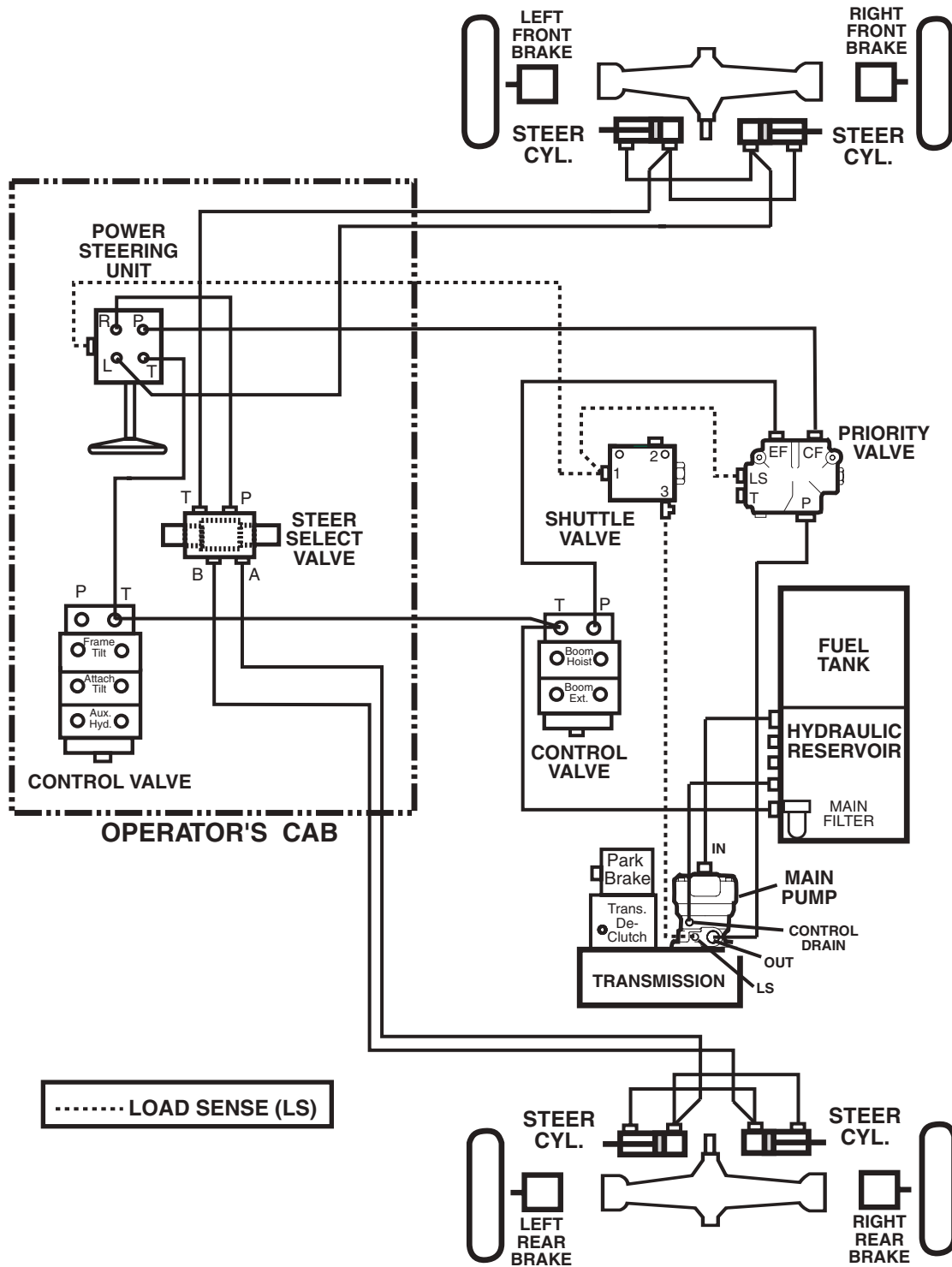


# 8042/10042/10054 Frame Tilt, Attachment Tilt, Slave & Auxiliary Schematic (S/N 9909 & After)



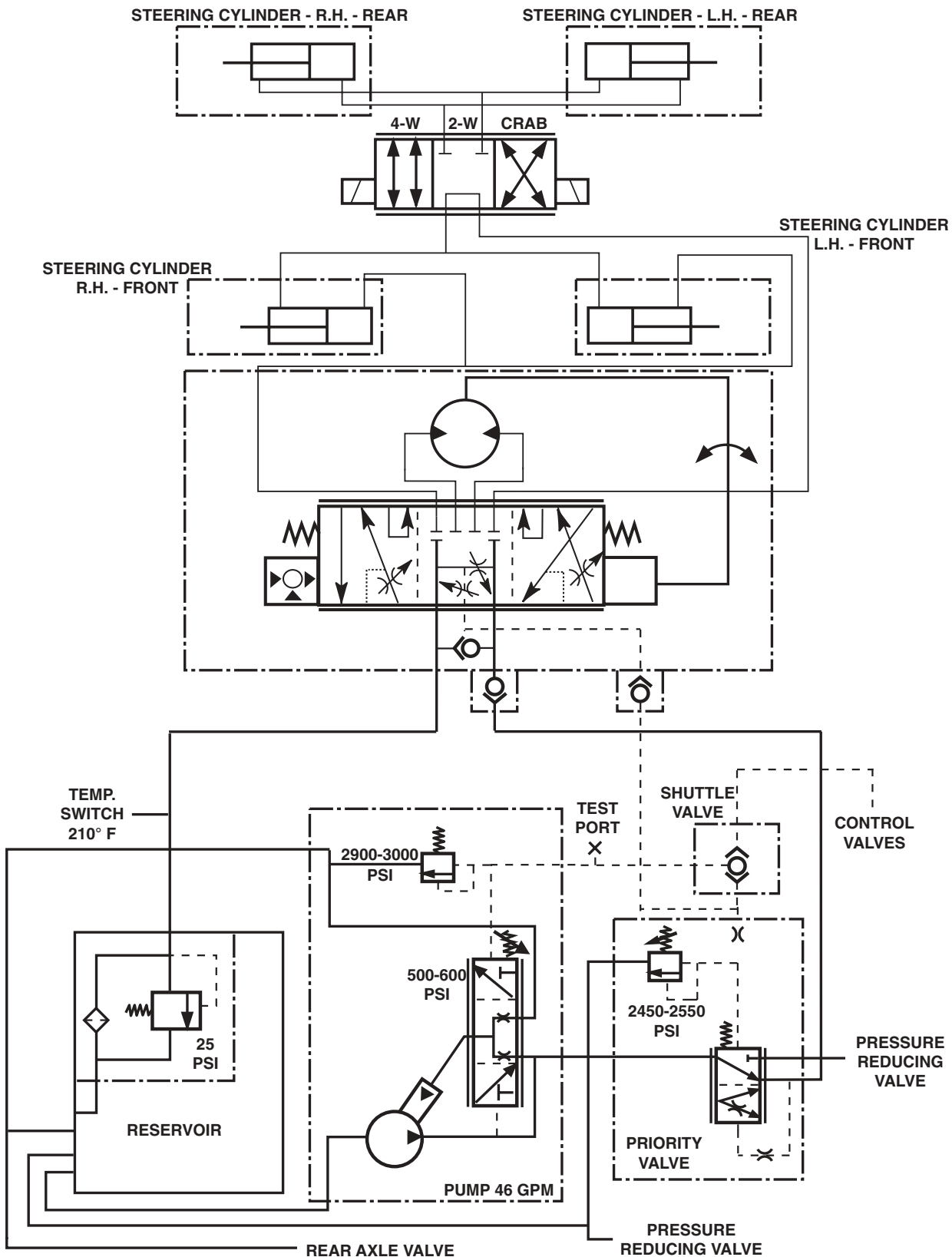
MH0640

# 8042/10042/10054 Steering Circuit (S/N 9908 & Before)



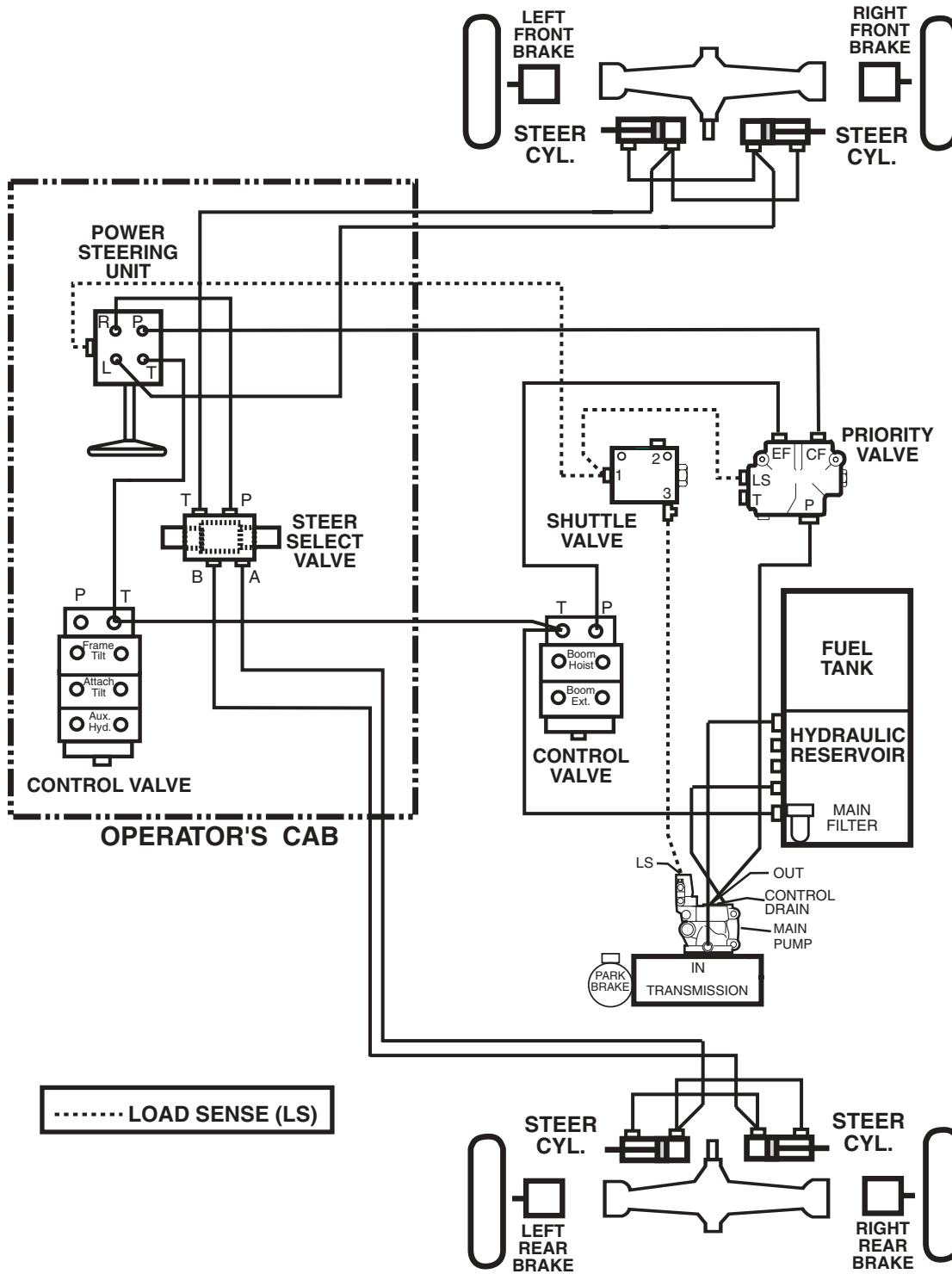
MH0132

# 8042/10042/10054 Steering Schematic (S/N 9908 & Before)



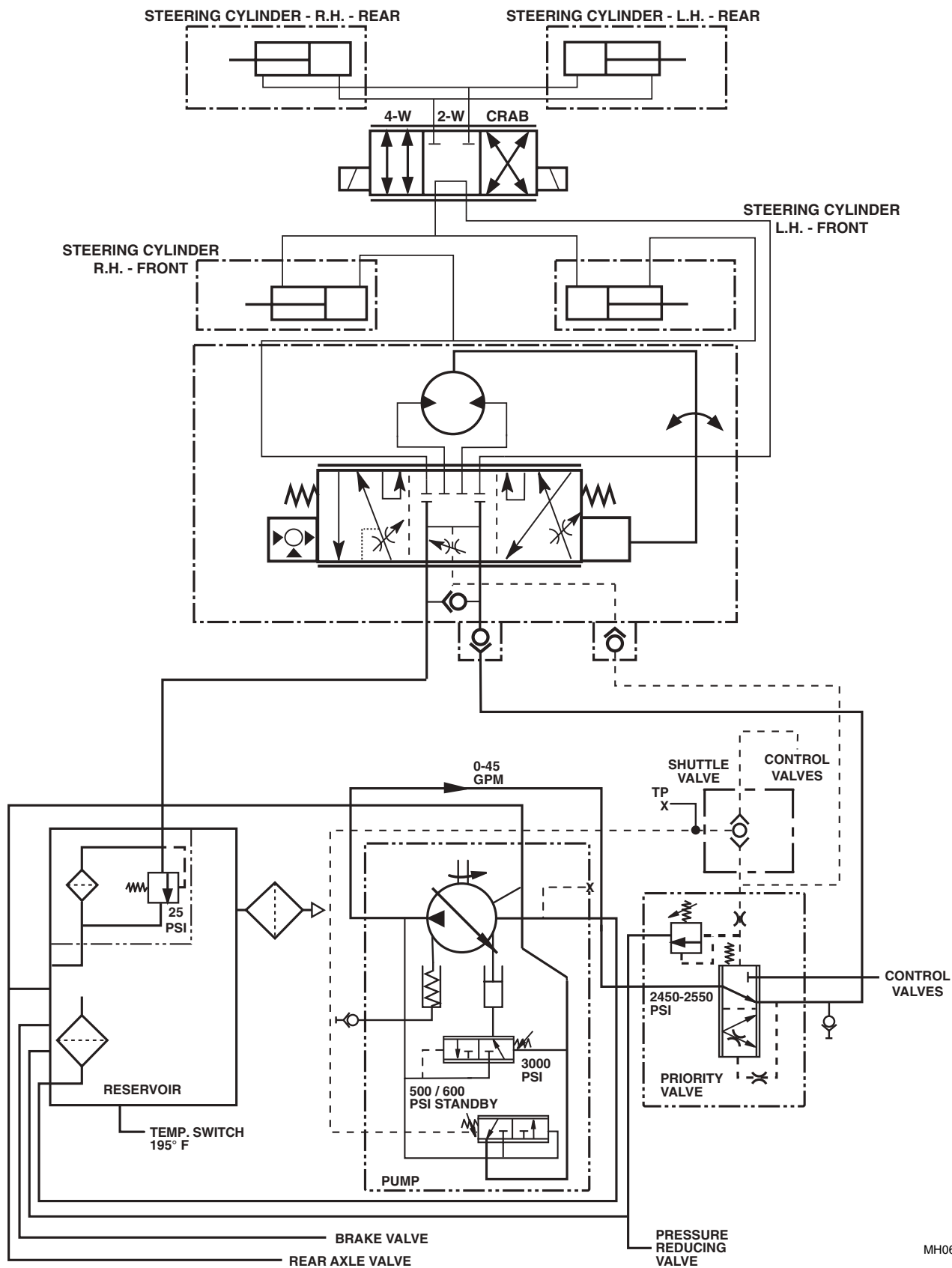
MH0331

# 8042/10042/10054 Steering Circuit (S/N 9909 & After)



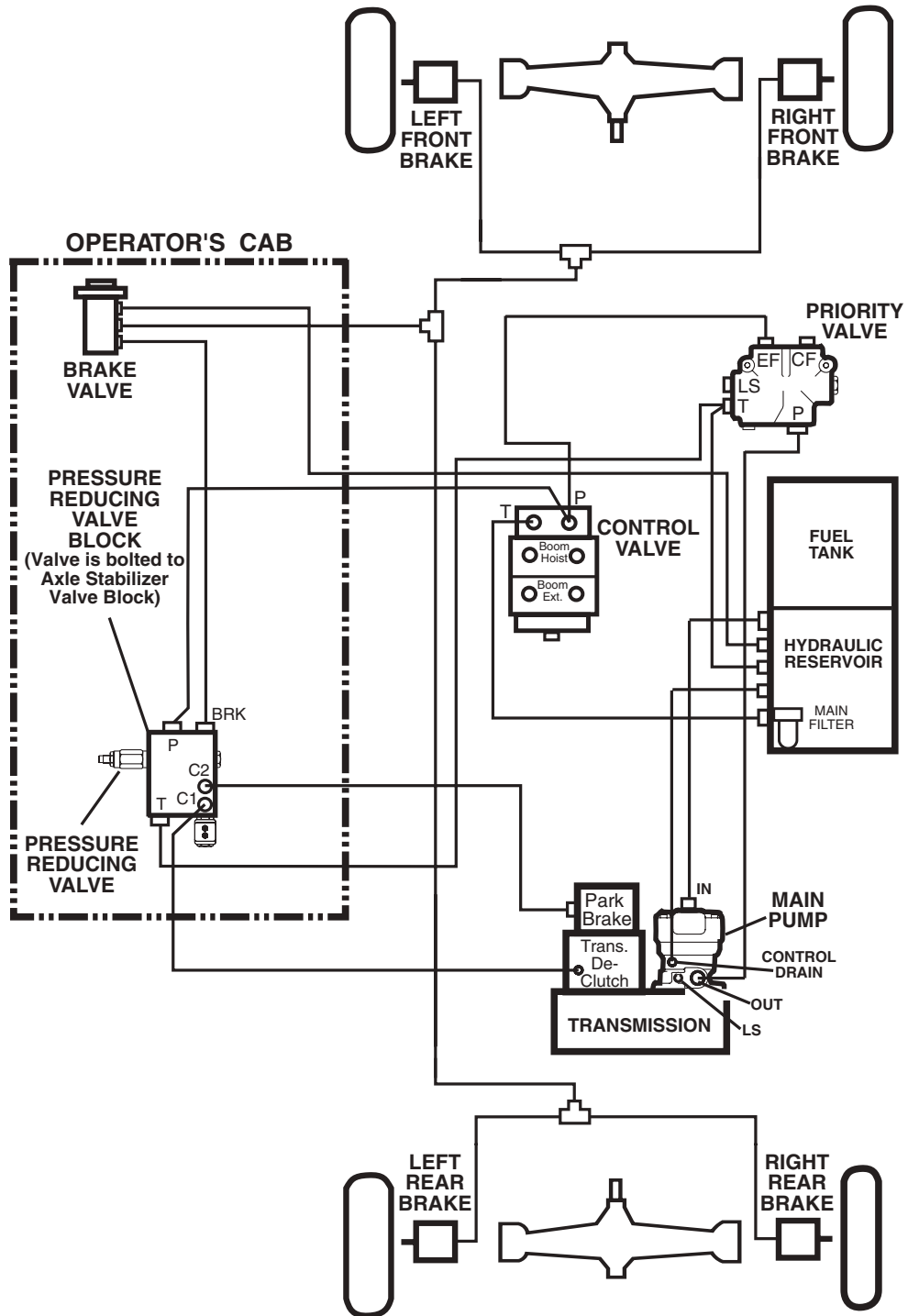
MH0600

# 8042/10042/10054 Steering Schematic (S/N 9909 & After)



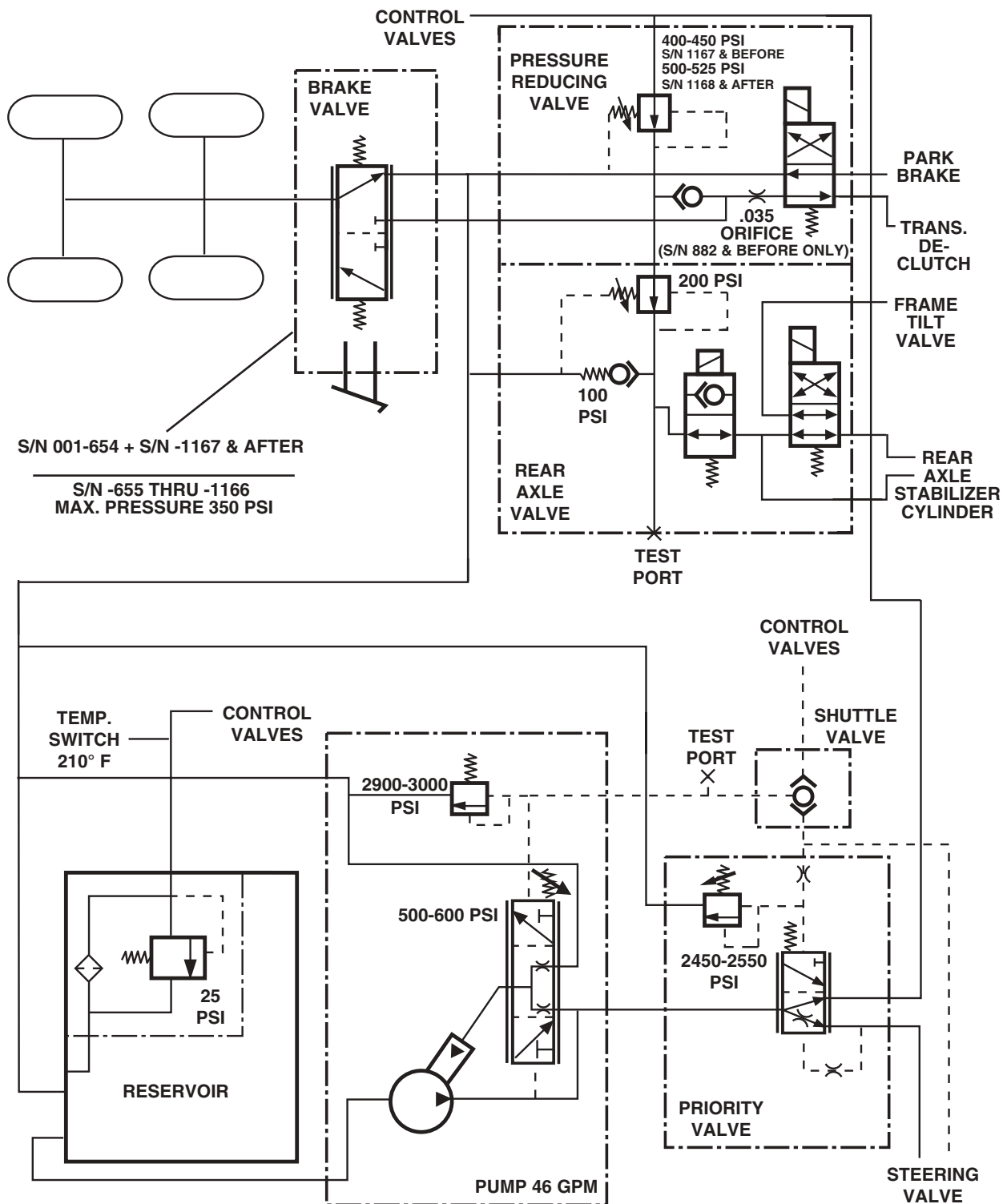
MH0650

# 8042/10042/10054 Service Brake & De-Clutch Circuits (S/N 9908 & Before)



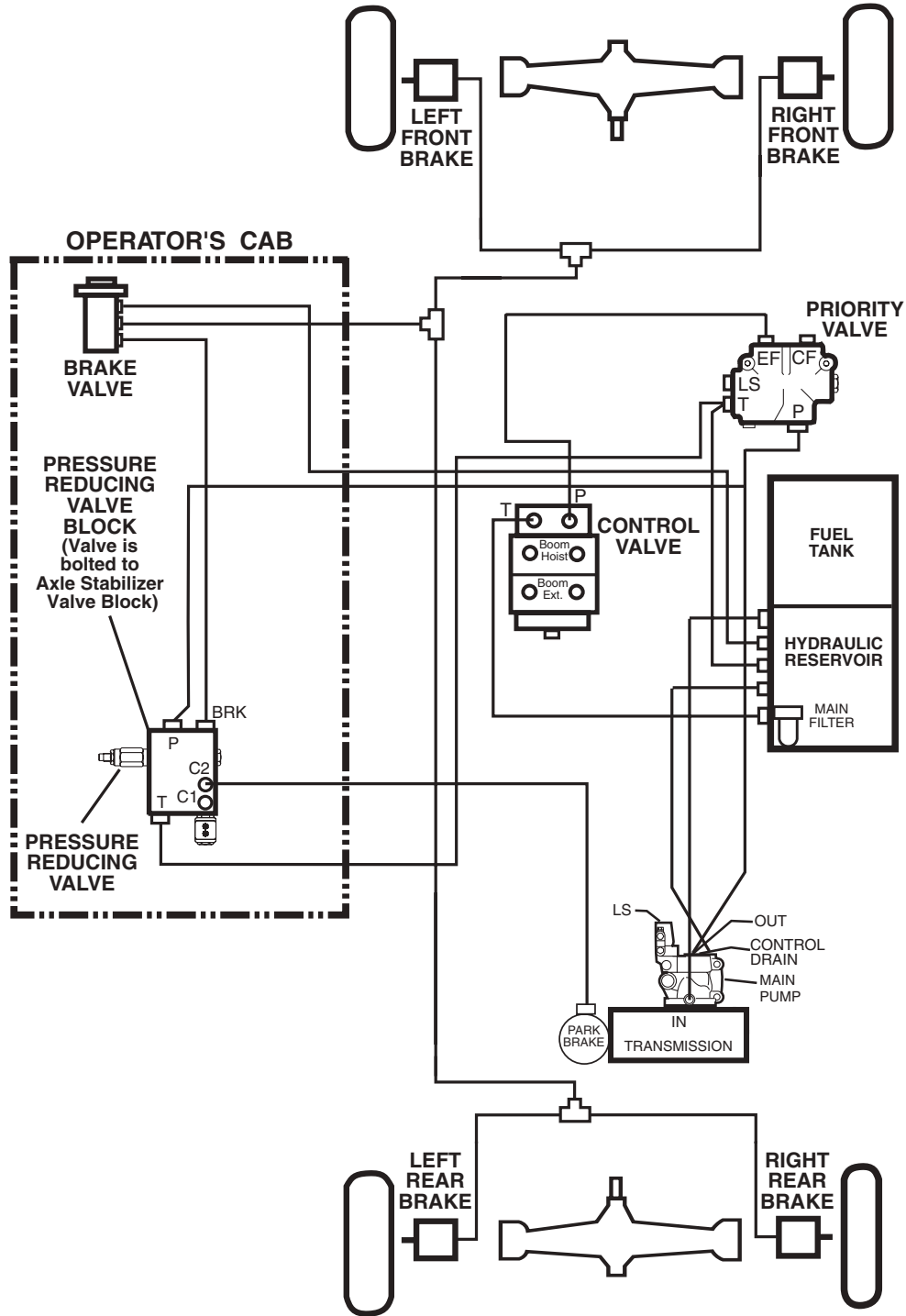
MH0141

# 8042/10042/10054 Service Brake & De-Clutch Schematic (S/N 9908 & Before)



MH0341

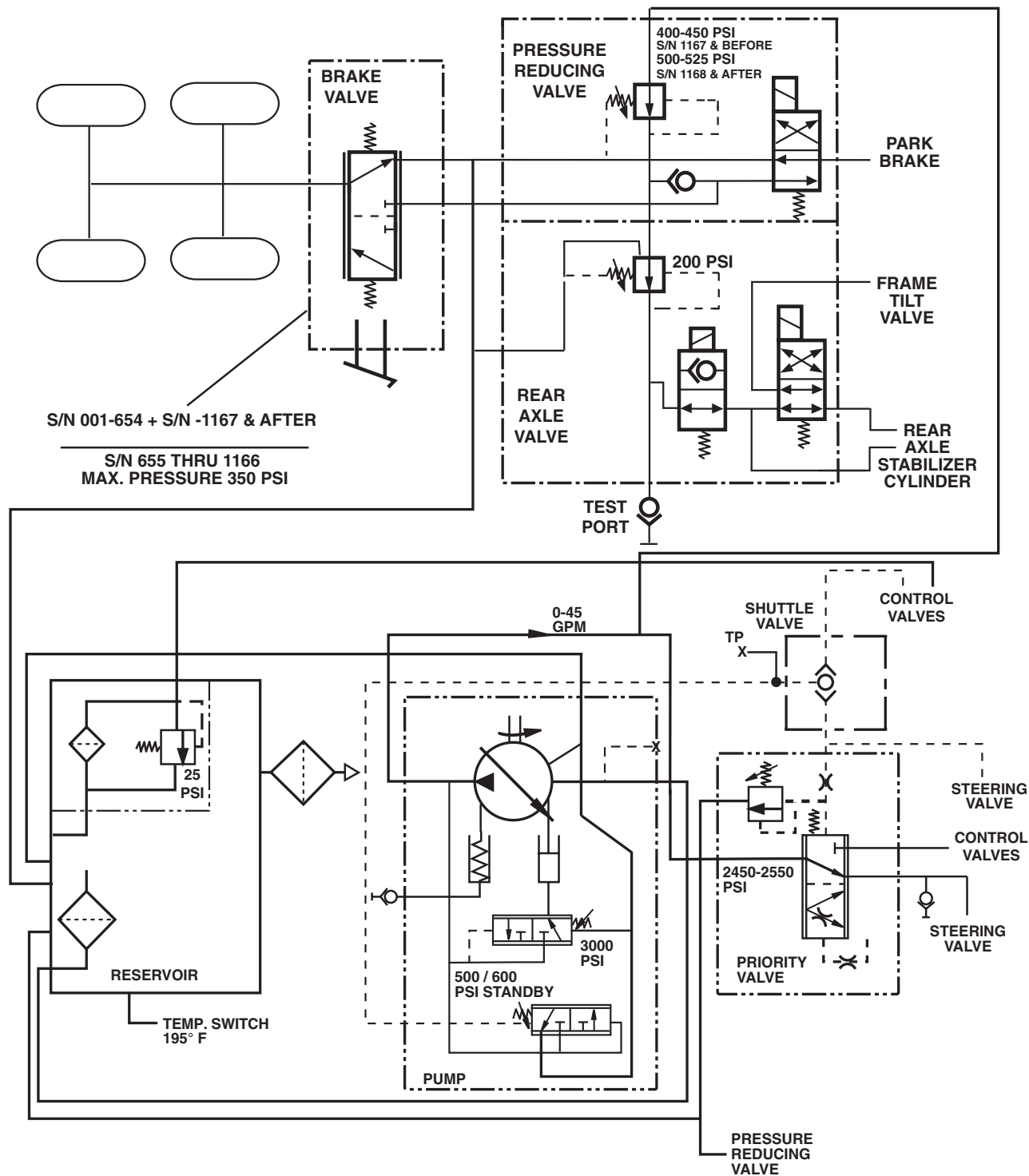
# 8042/10042/10054 Service Brake Circuit (S/N 9909 & After)



MH0610

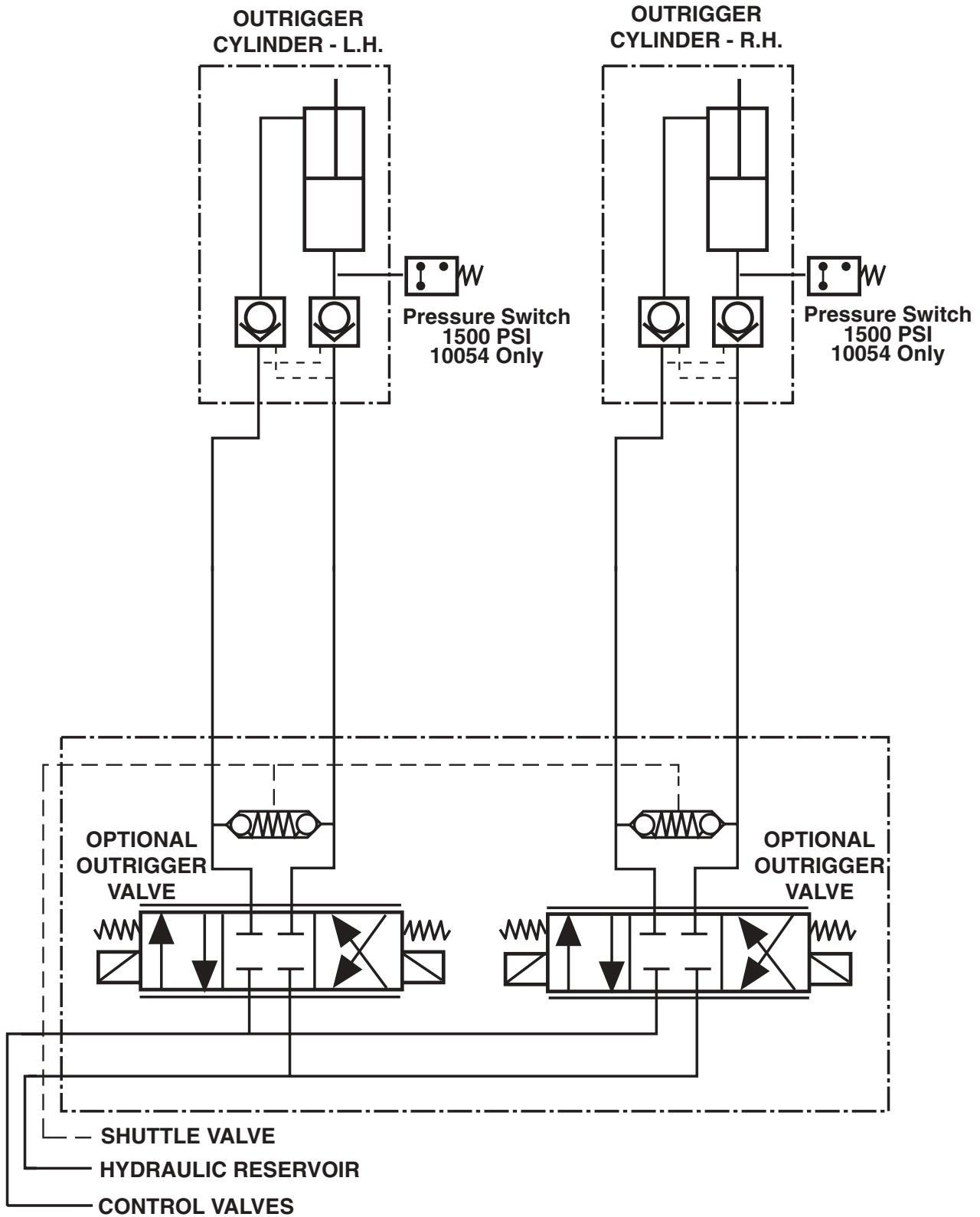


# 8042/10042/10054 Service Brake Schematic (S/N 9909 & After)



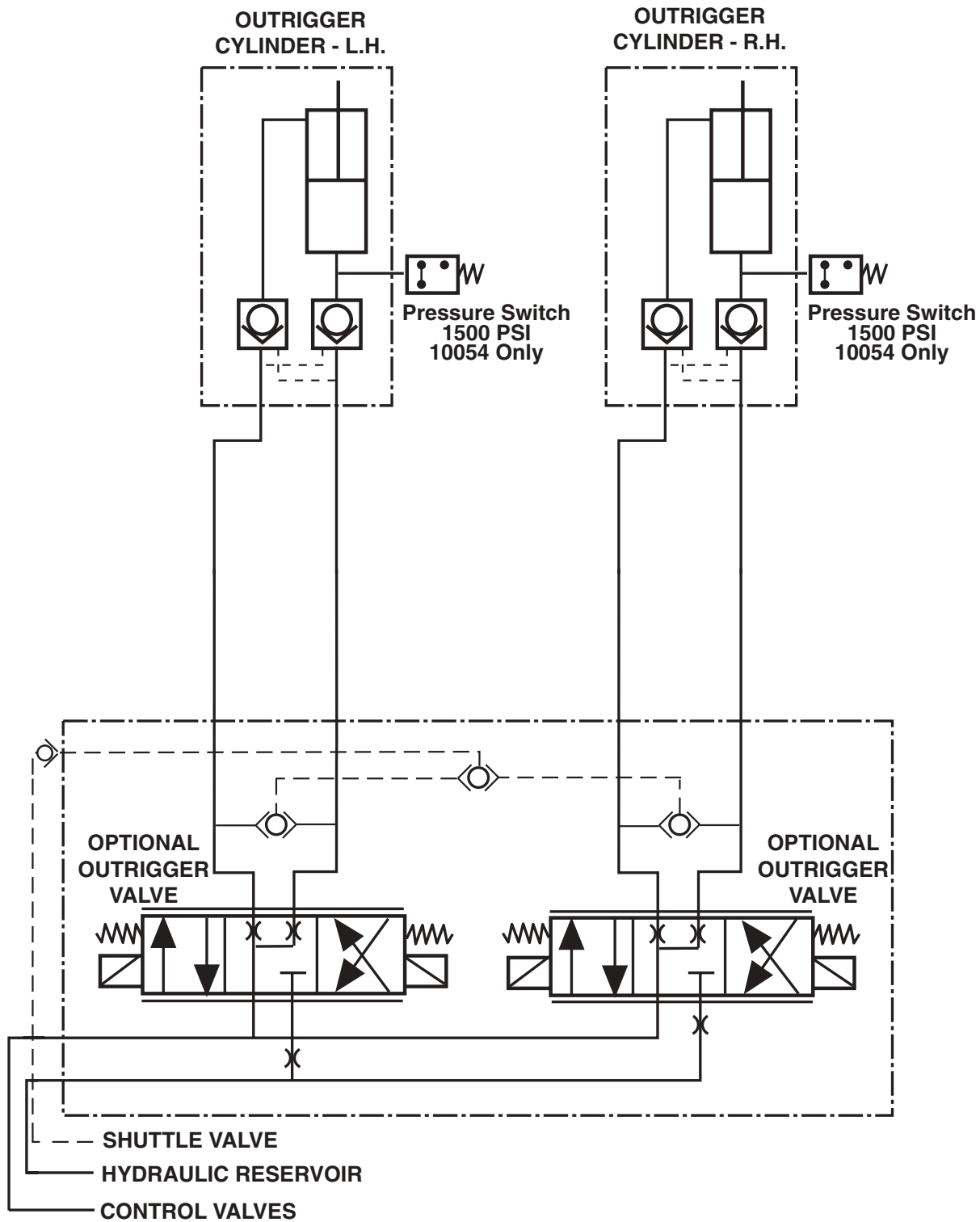
MH0660

# 10042/10054 Outrigger Schematic (S/N 10881 & Before)



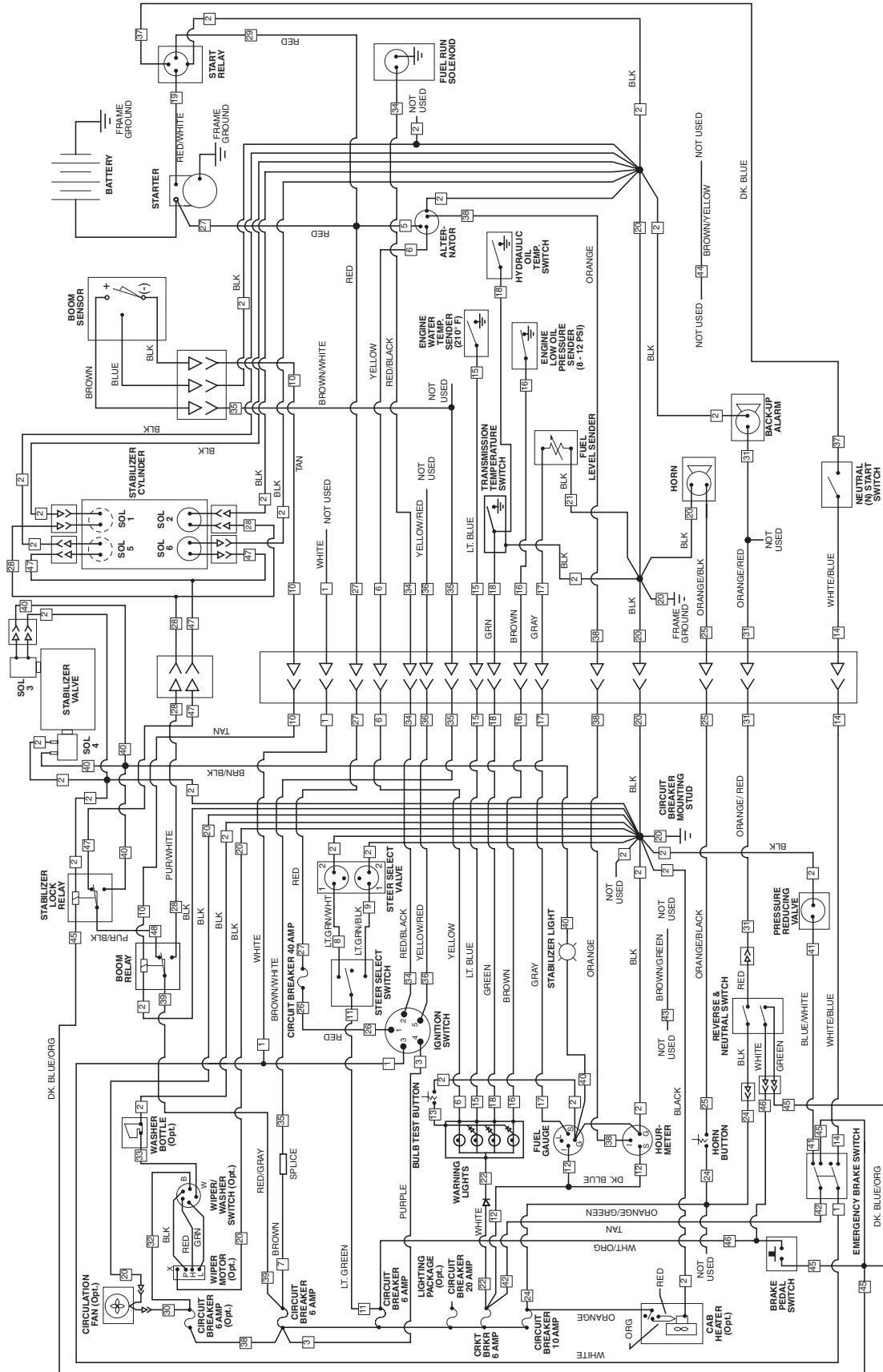
MH0351

# 10042/10054 Outrigger Schematic (S/N 10882 & After)



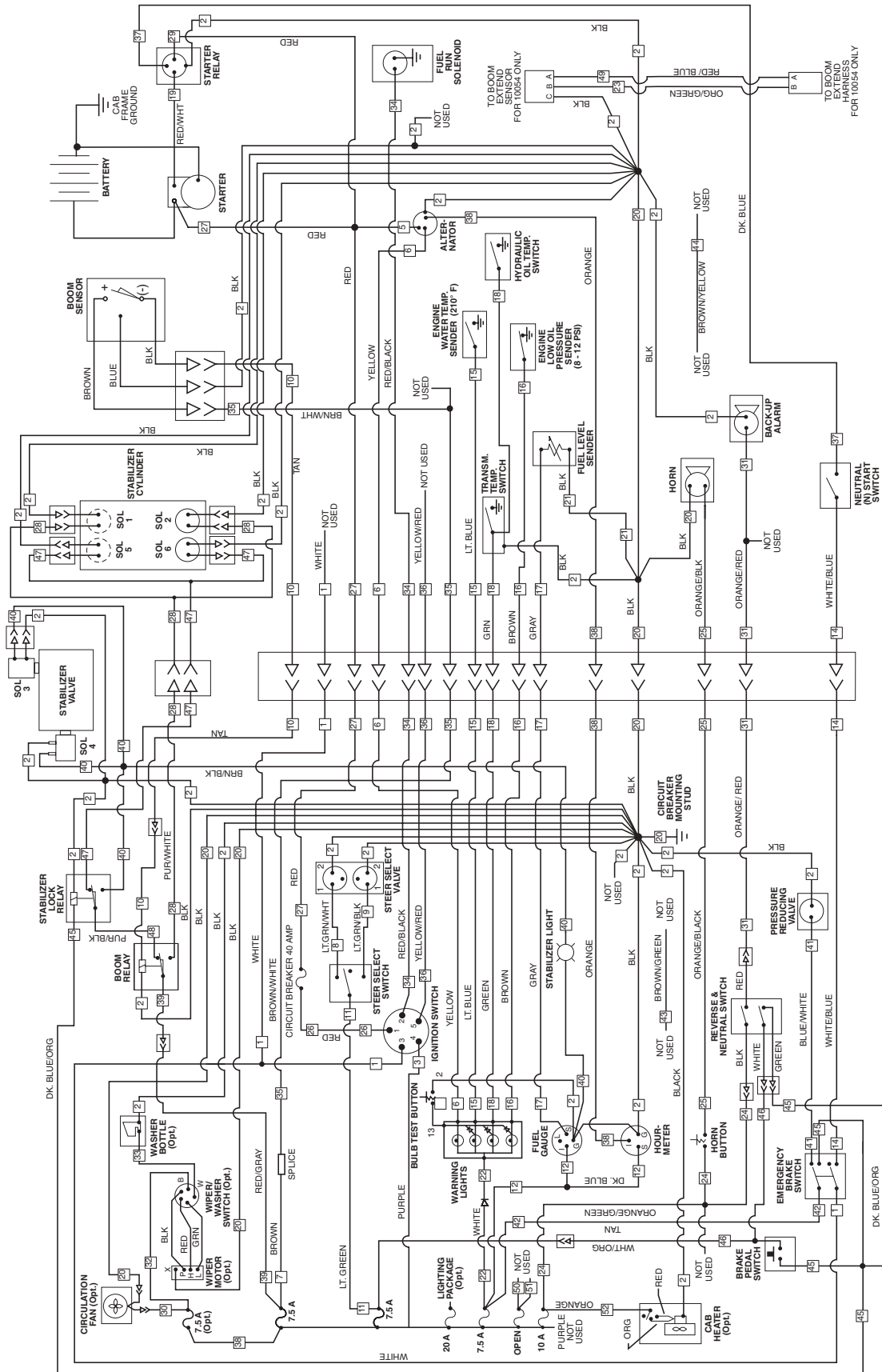
MH0670

# 8042/10042 Electrical Schematic (S/N 0291 & Before)

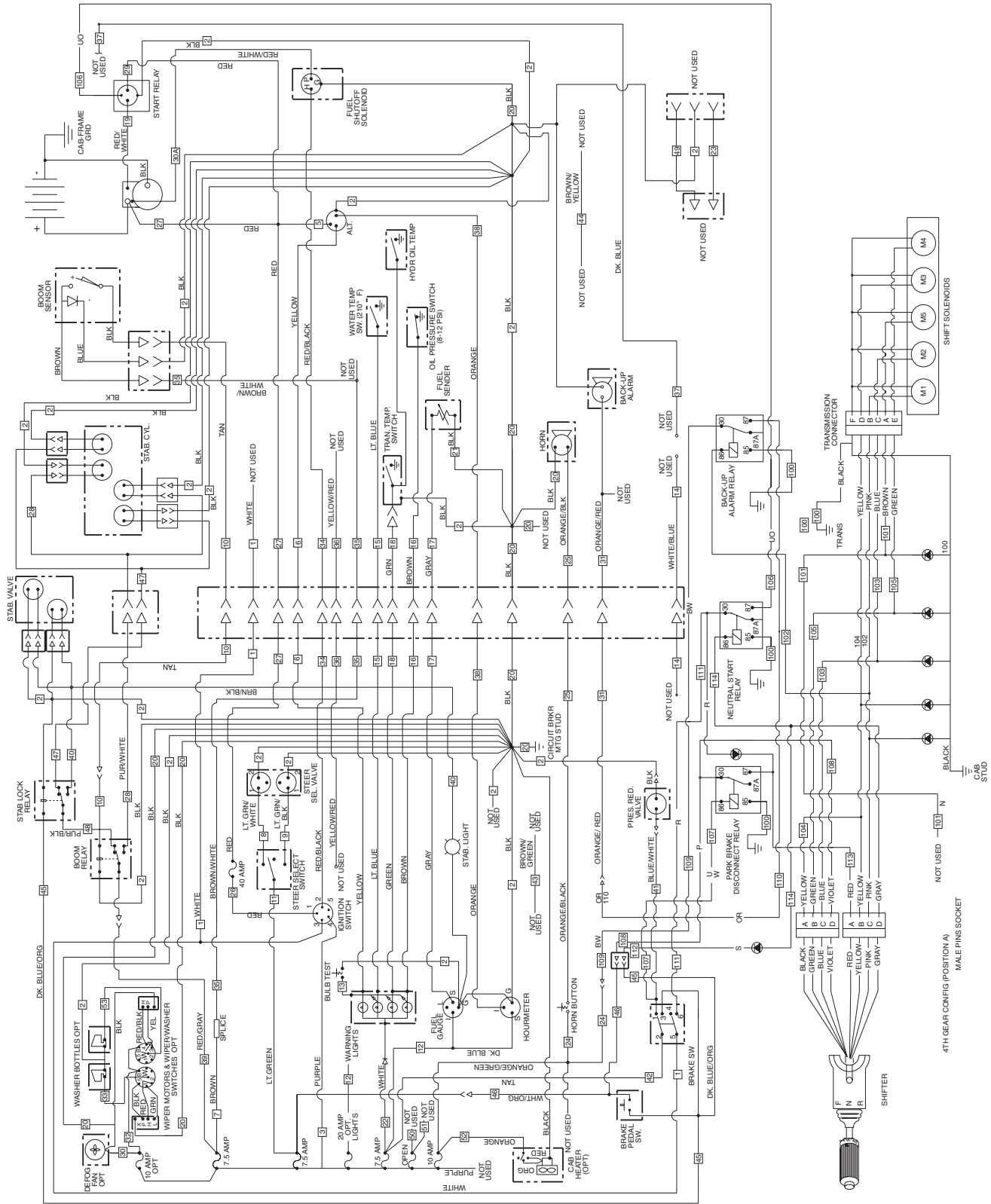


MH0150

# 8042/10042 Electrical Schematic (S/N 0292 thru 9908)

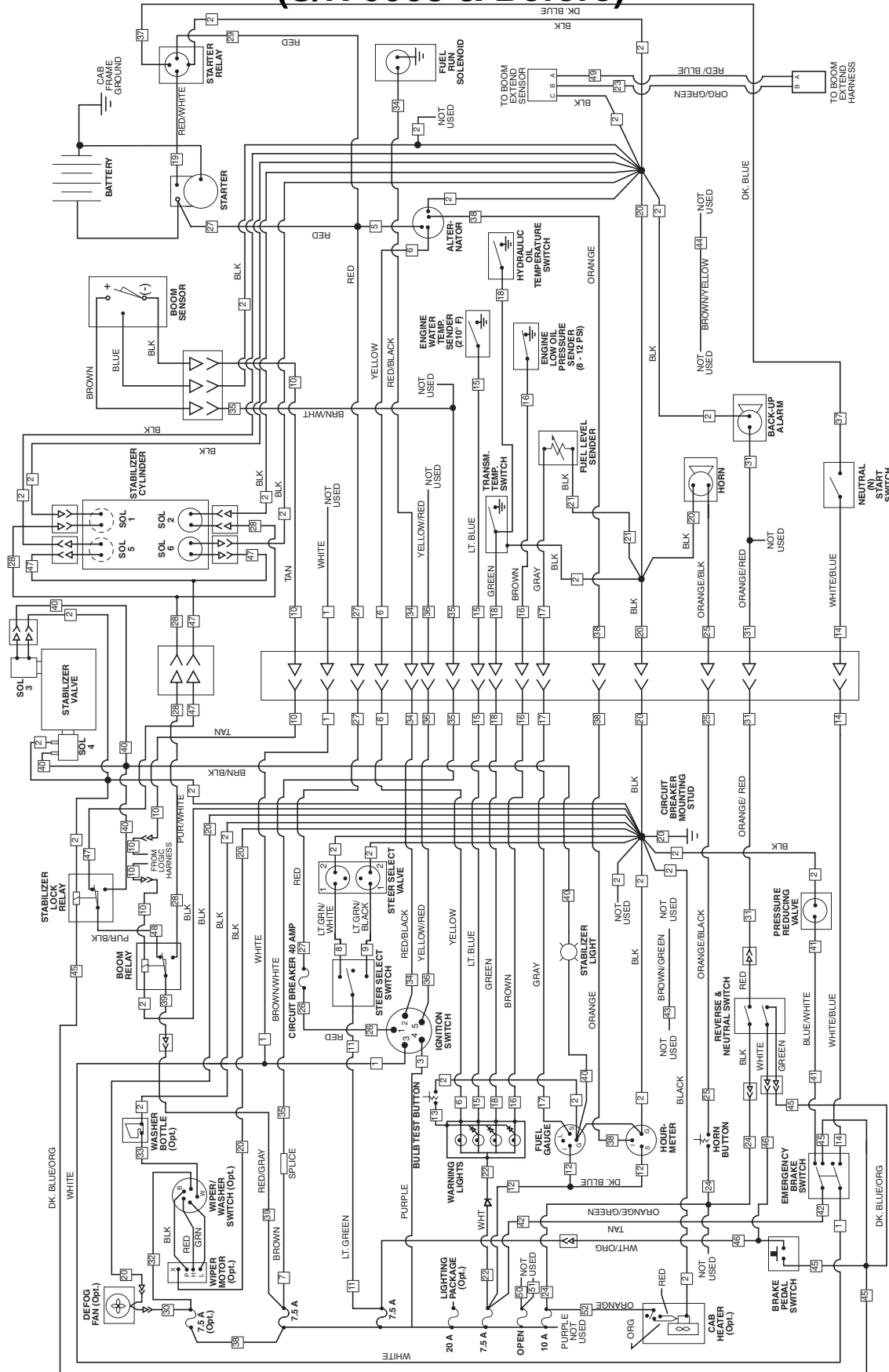


# 8042/10042 Electrical Schematic (S/N 9909 & After)

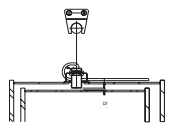
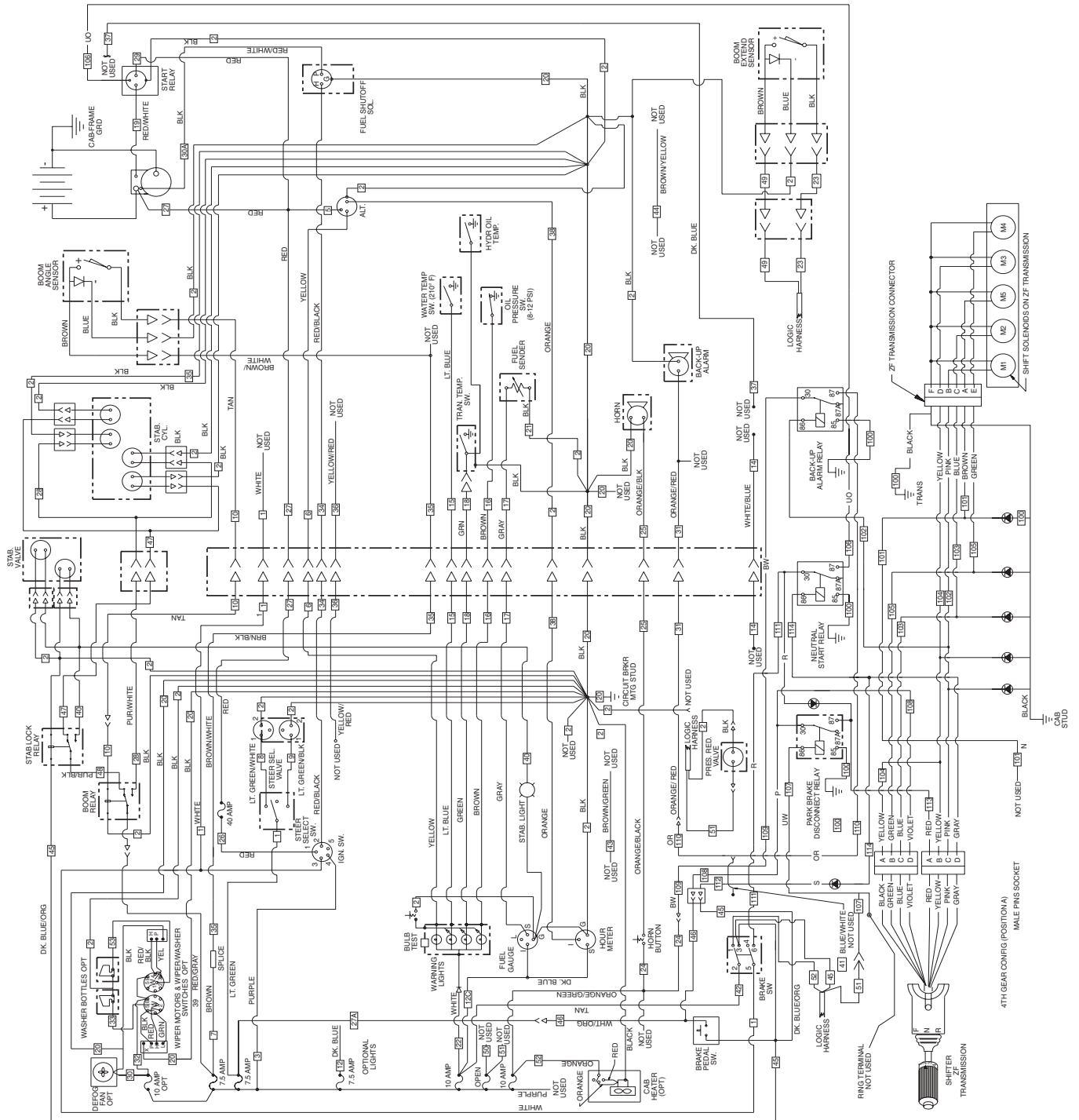


MH0680

# 10054 Electrical Schematic (S/N 9908 & Before)



# 10054 Electrical Schematic (S/N 9909 & After)

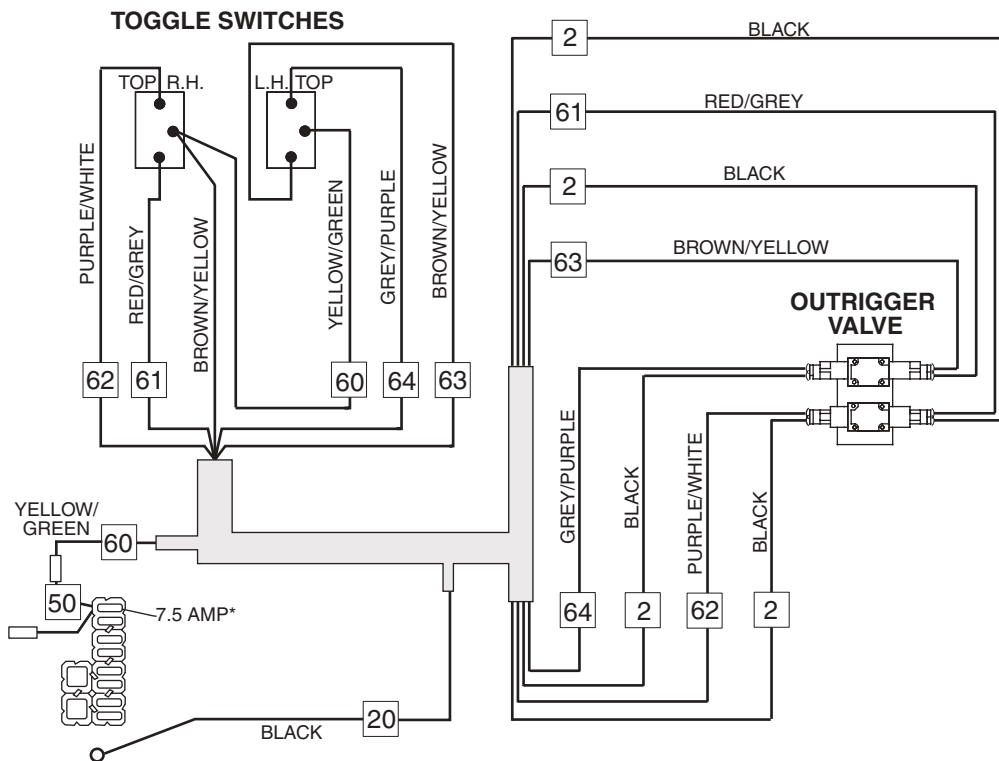


BOOM EXTEND SENSOR

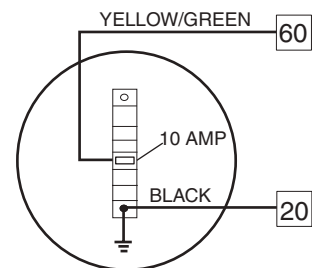
LETTER	COLOR	NUMBER
N	BROWN	101
G	GREEN	105
U	BLUE	103
R	RED	116
Y	YELLOW	104
K	PINK	102
S	BLACK	112
BW	BLACK/WHITE	109
OR	ORANGE/RED	110
JO	BLUE/ORANGE	106
UO	BLUE/WHITE	113
RED	RED	113
GRAY	GRAY	114



# 10042 Outrigger Logic Circuit

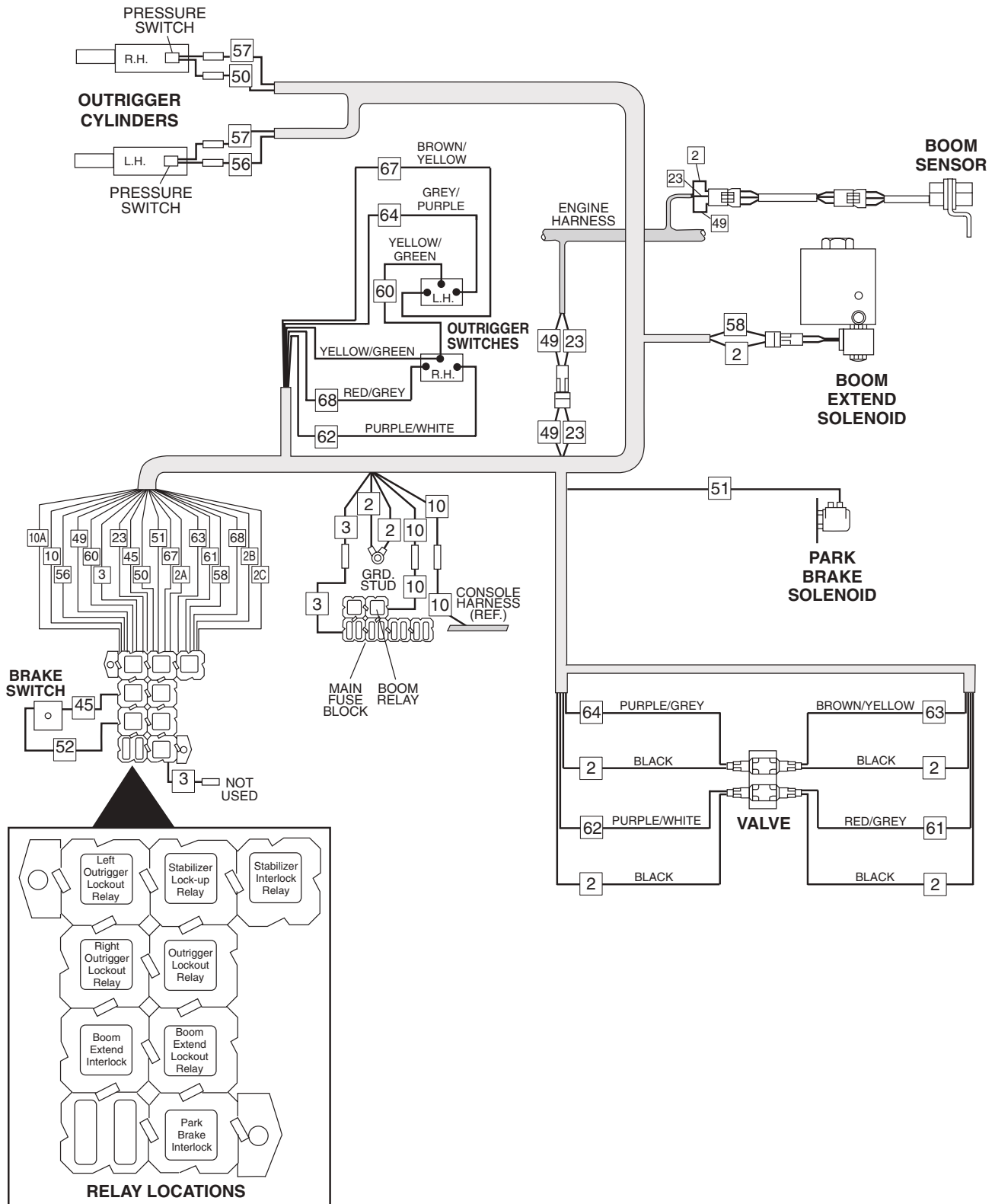


\*7.5 AMP - S/N 0292 & After  
 6.0 AMP - S/N 0291 & Before

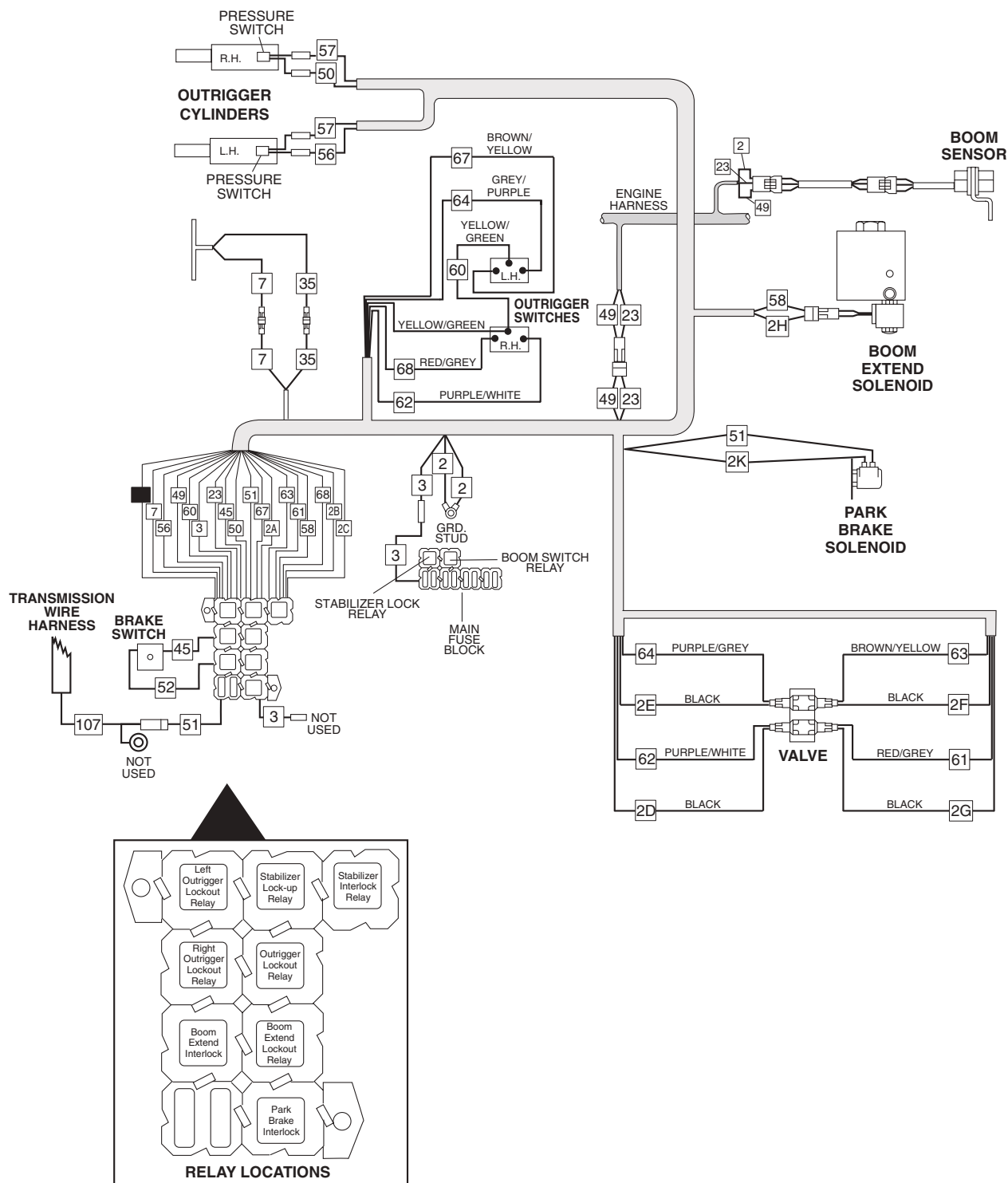


**FOR UNITS WITH  
 CIRCUIT BREAKERS**

# 10054 Outrigger Logic Circuit (S/N 9908 & Before)

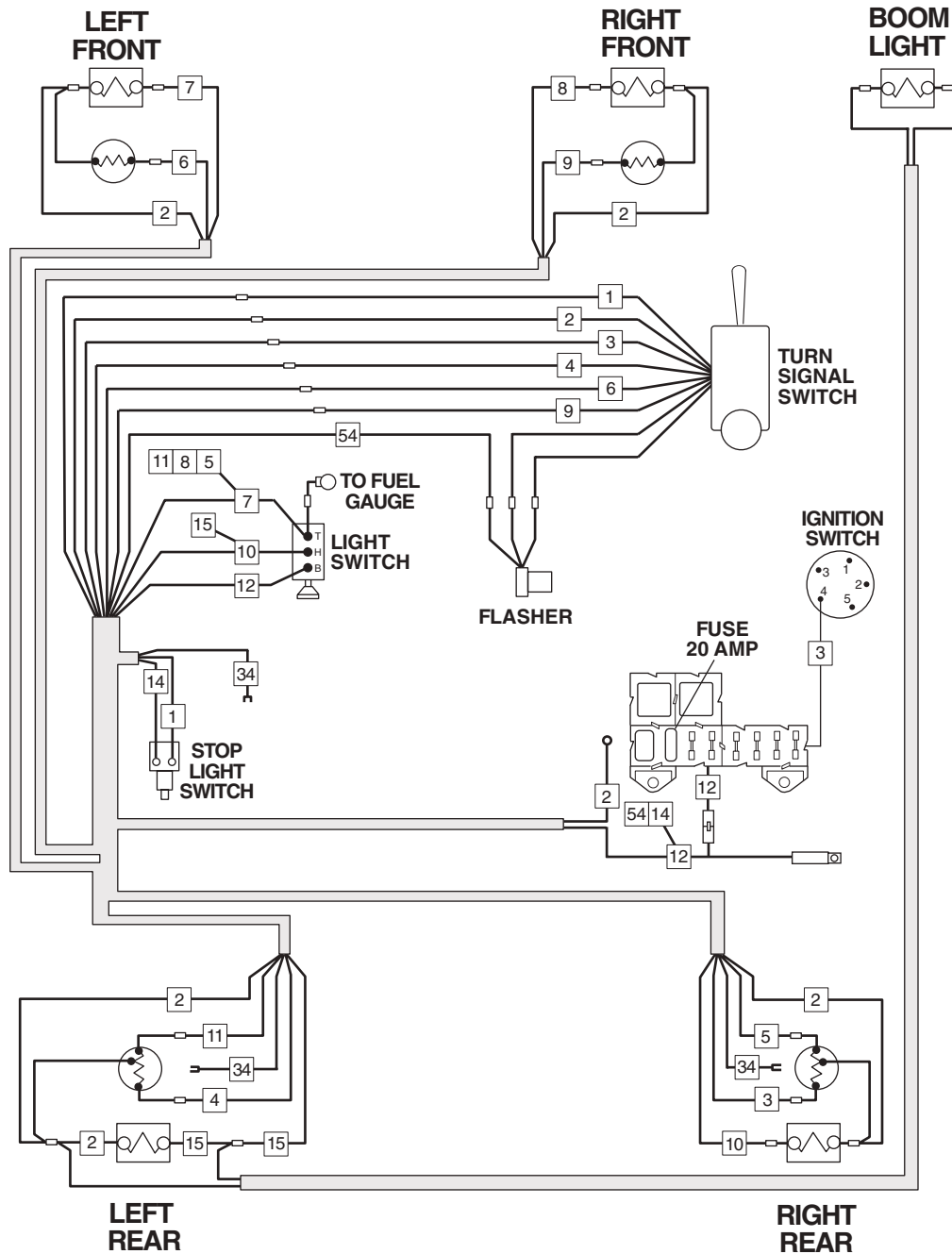


# 10054 Outrigger Logic Circuit (S/N 9909 & After)

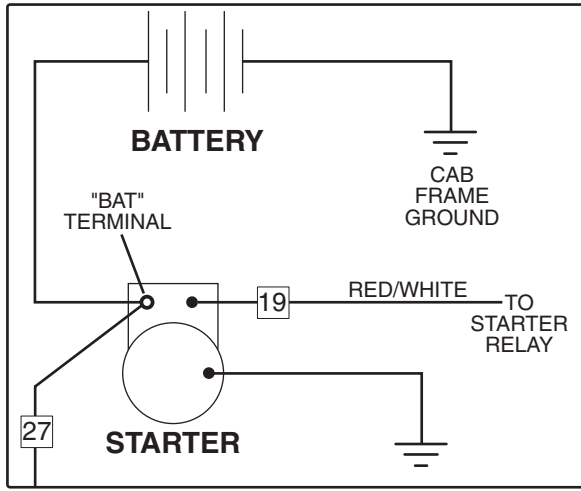


MH0710

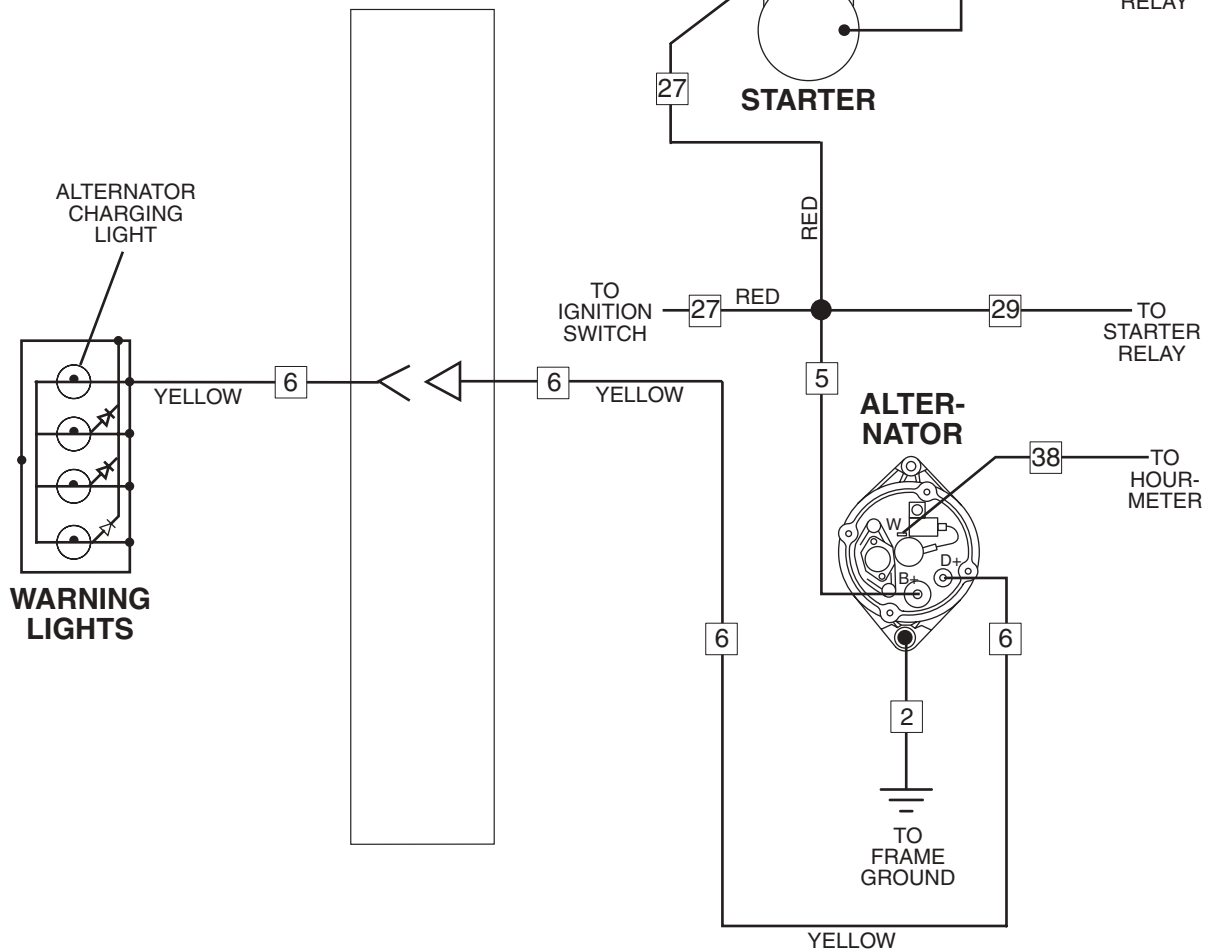
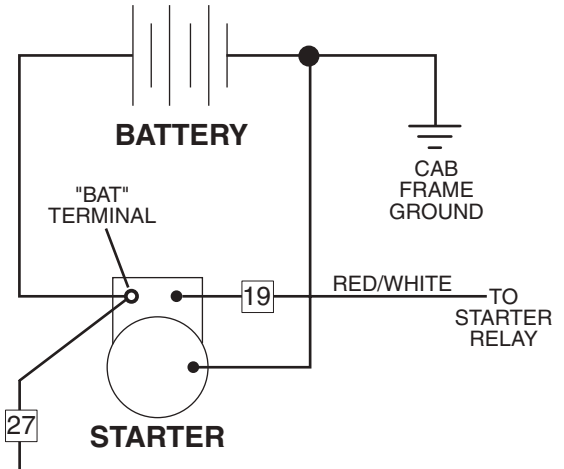
# 8042/10042/10054 Lighting System Circuit (Optional)



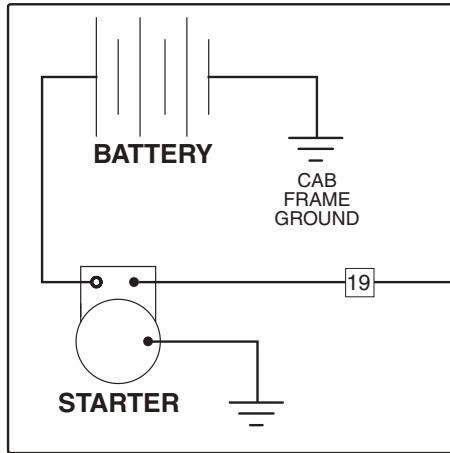
# 8042/10042/10054 Charging Circuit



S/N 0292 & Before

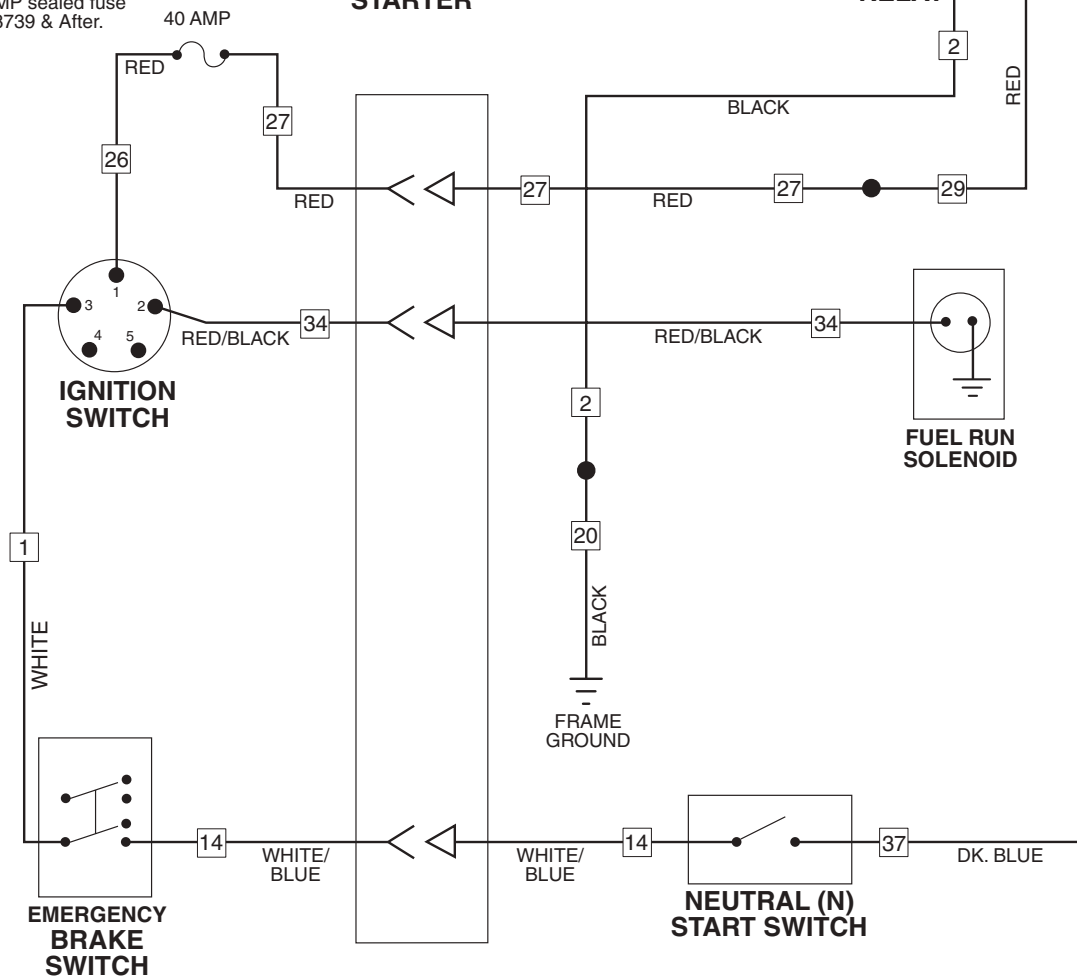


# 8042/10042/10054 Cranking Circuit (S/N 9908 & Before)



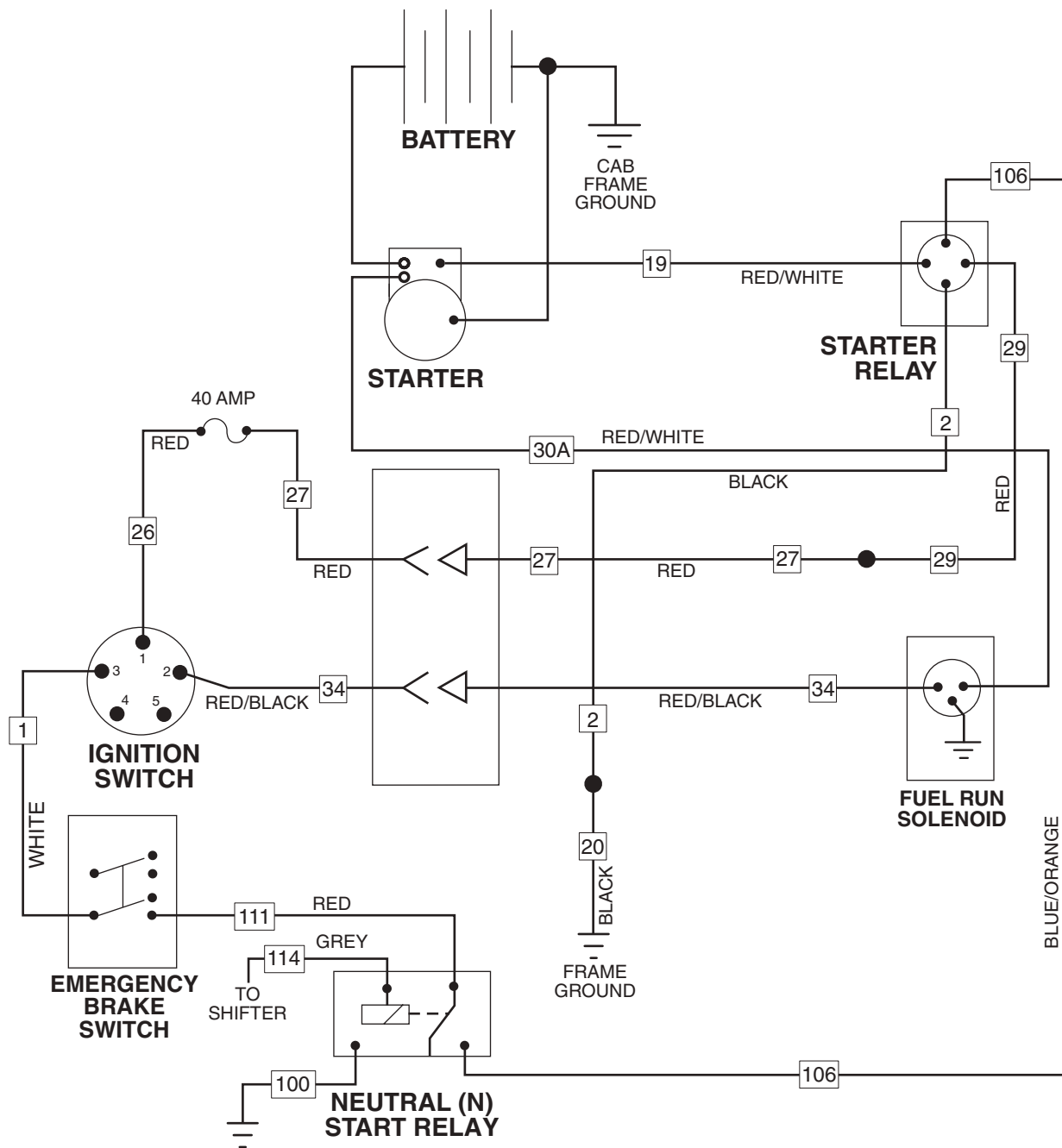
S/N 0292 & Before

NOTE: 40 AMP Circuit Breaker replaced with 40 AMP sealed fuse S/N 8739 & After.



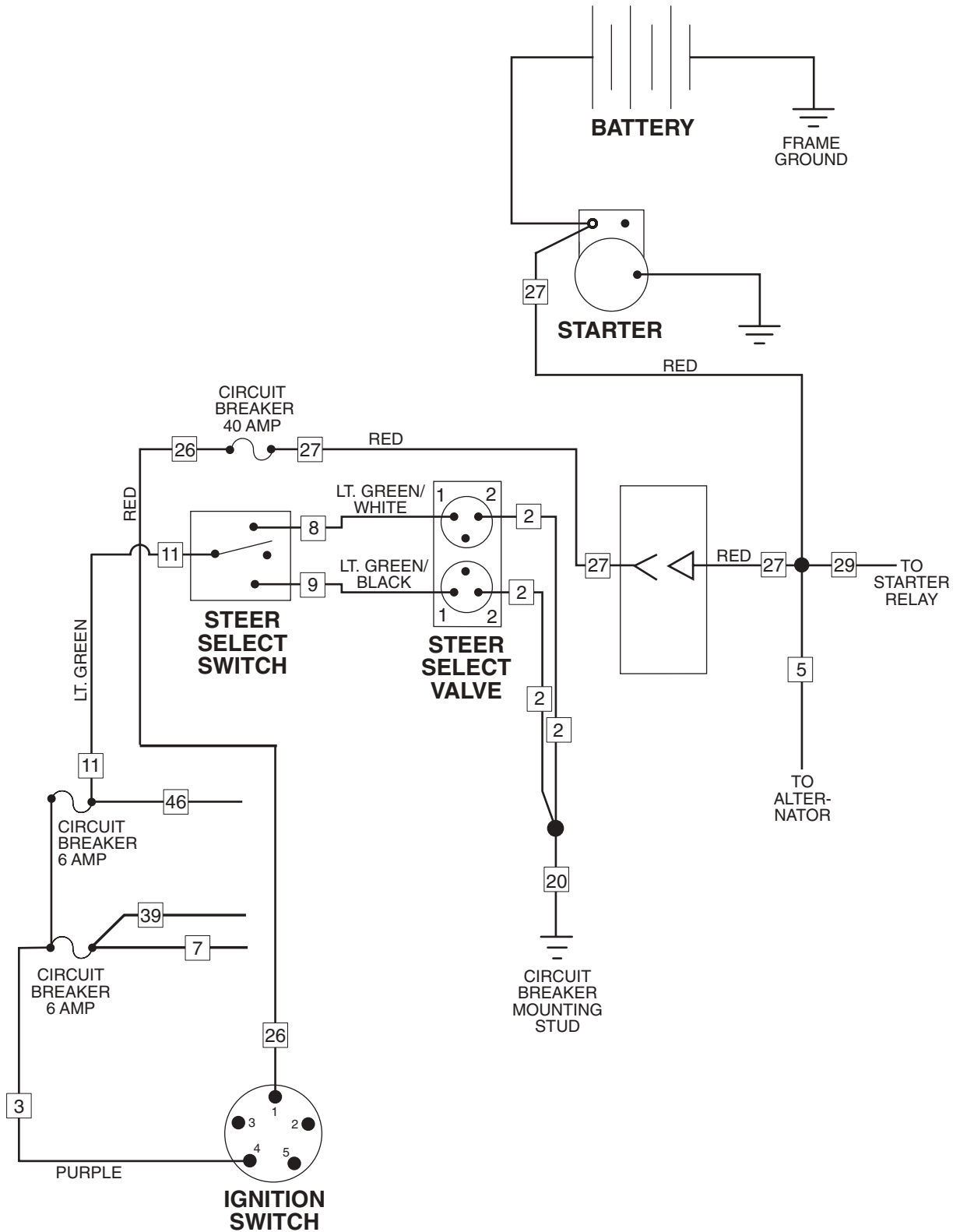
MH0221

# 8042/10042/10054 Cranking Circuit (S/N 9909 & After)



MH0700

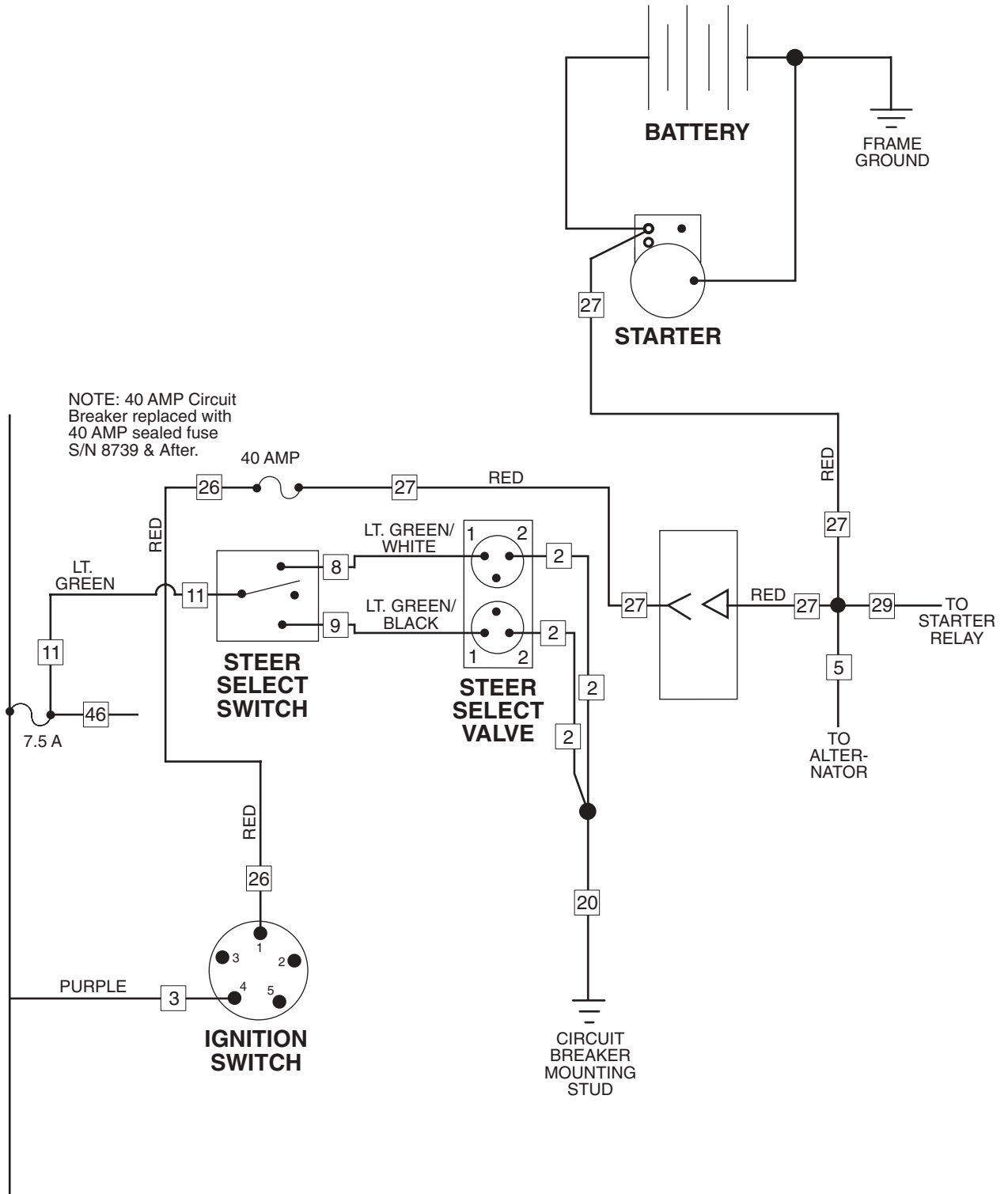
# 8042/10042 Steer Select Circuit (S/N 0291 & Before)



MH0231

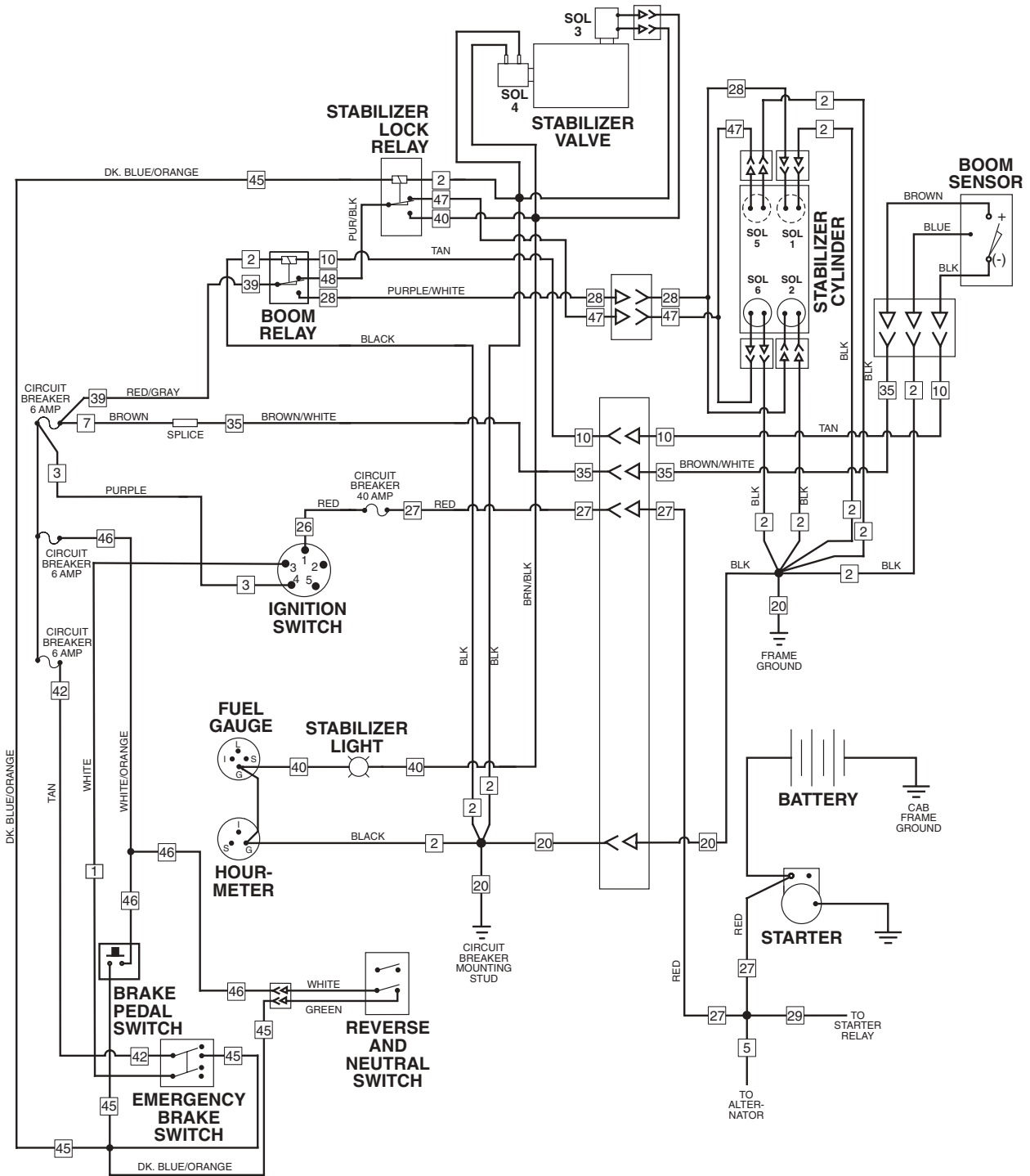


# 8042/10042/10054 Steer Select Circuit (S/N 0292 & After)



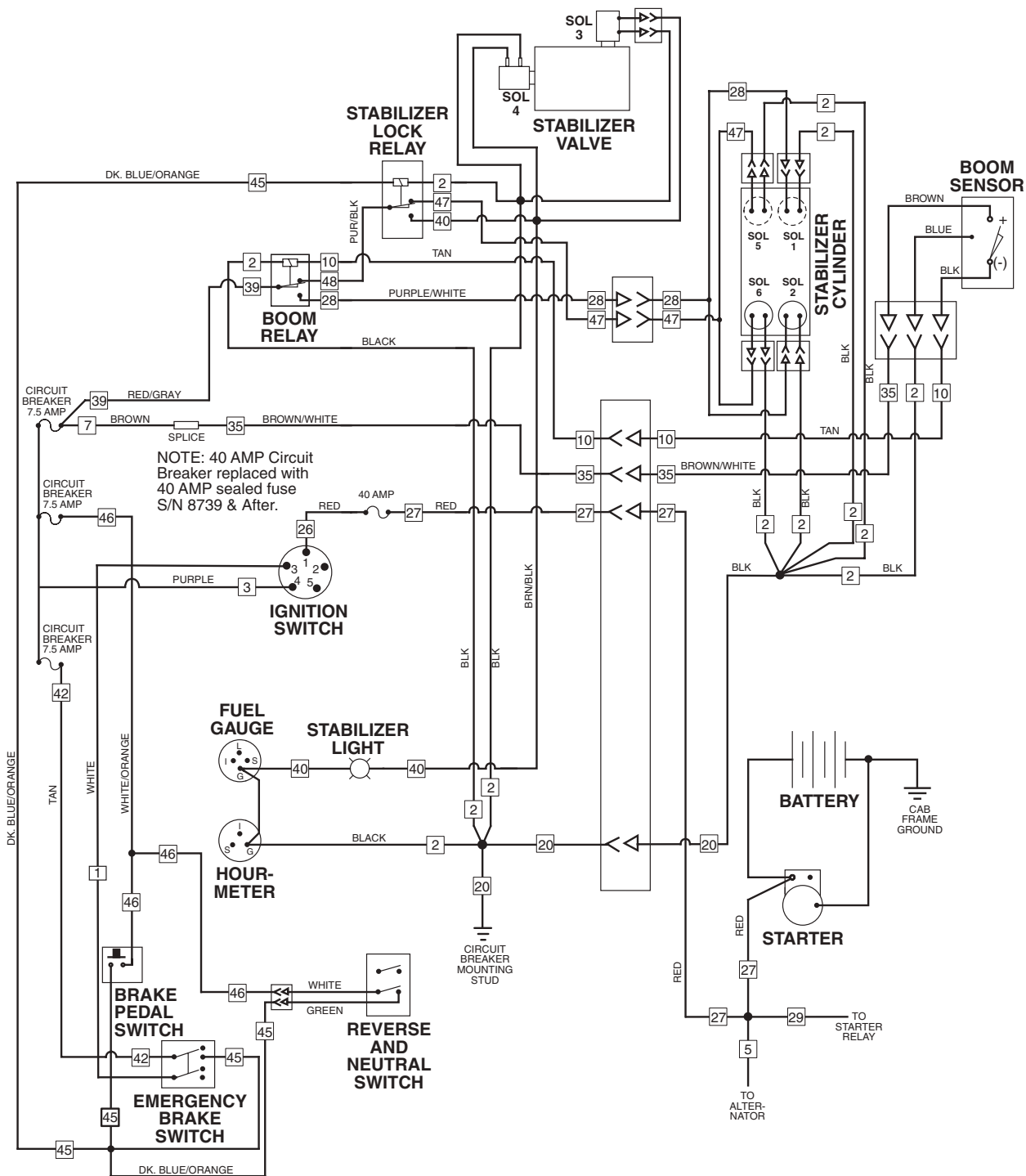
MH0241

# 8042/10042 Stabilizer Circuit (S/N 0291 & Before)

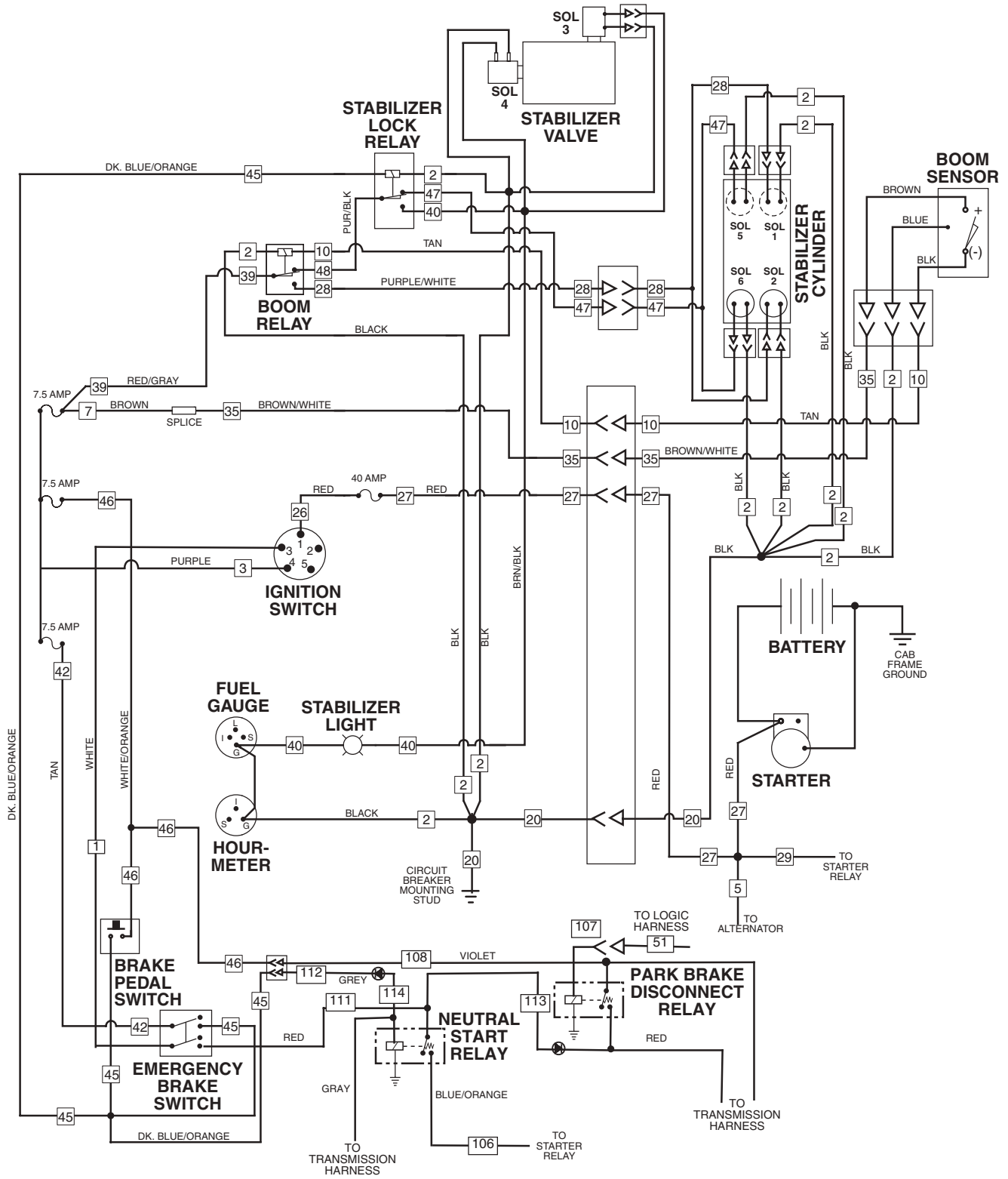


MH0251

# 8042/10042 Stabilizer Circuit (S/N 0292 thru S/N 9908)

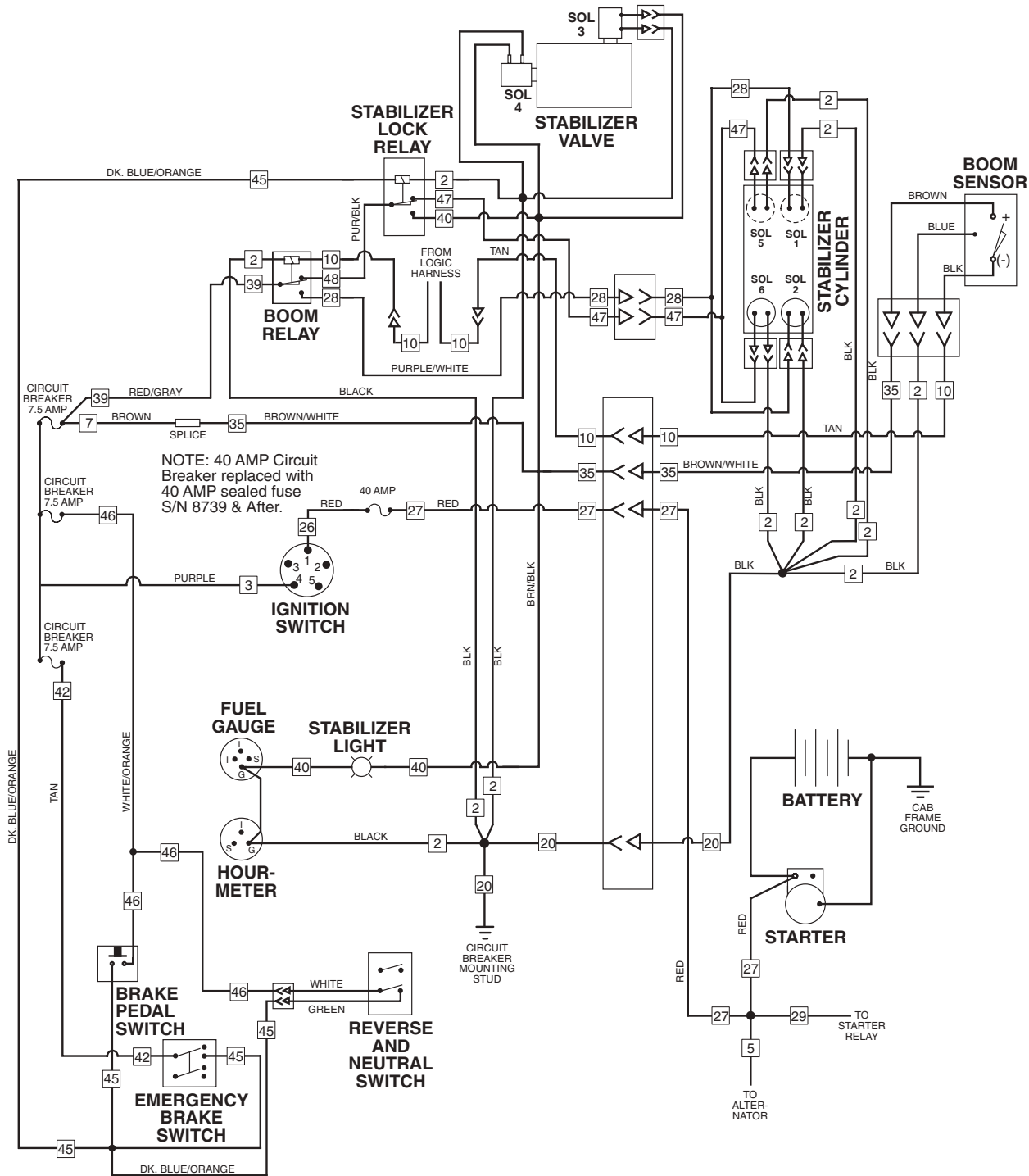


# 8042/10042 Stabilizer Circuit (S/N 9909 & After)



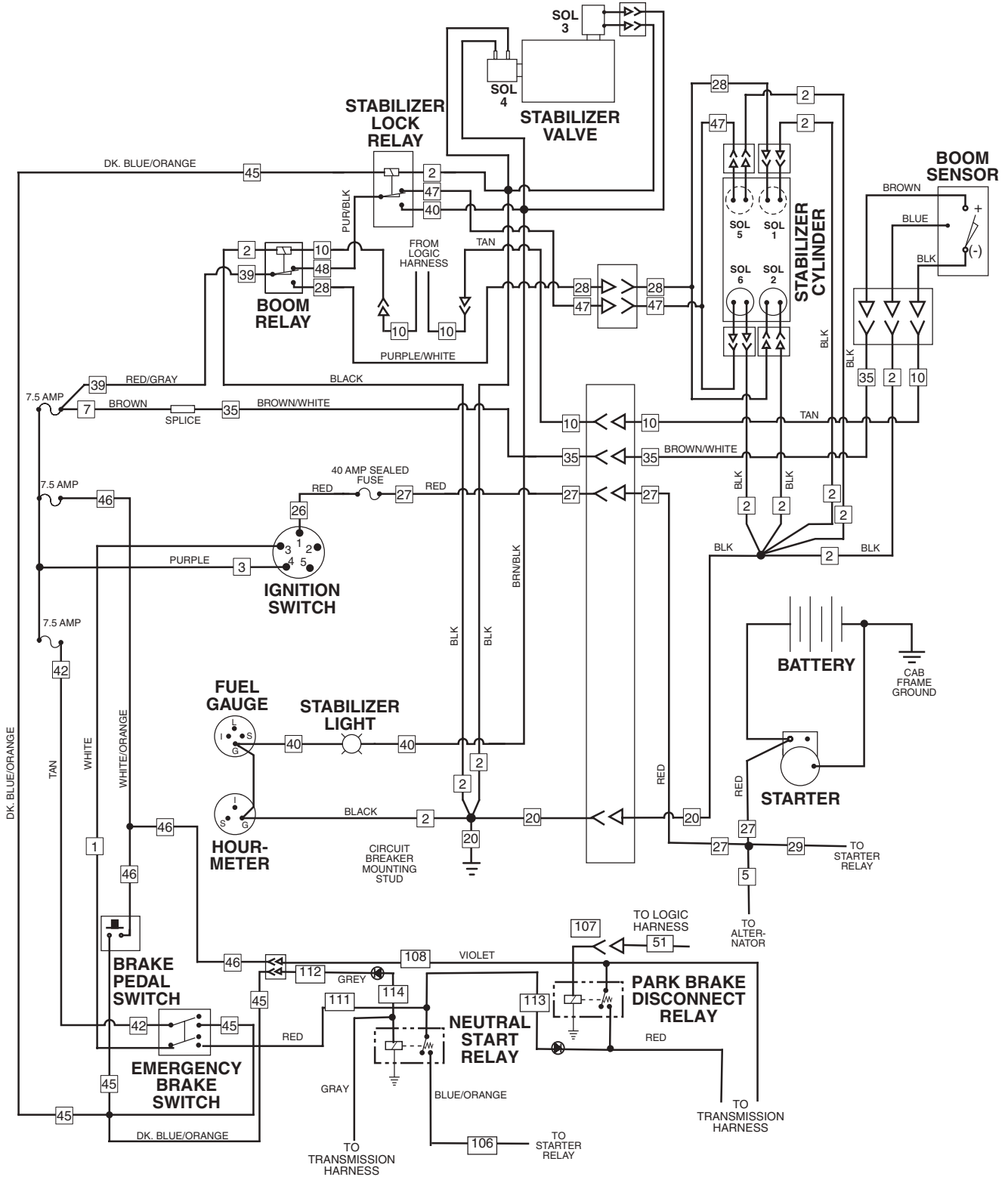
MH0720

# 10054 Stabilizer Circuit (S/N 9908 & Before)



MH0271

# 10054 Stabilizer Circuit (S/N 9909 & After)



MH0730

NOTES

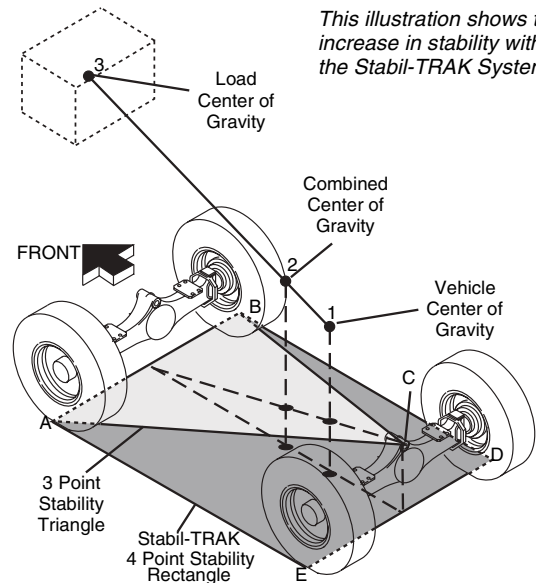
# Stabil-TRAK System

The following information explains the difference between a typical telescopic handler and the benefits that the Stabil-TRAK System provides.

Most telescopic handlers operate within a 3 point stability triangle, as defined by points A, B, and C in the illustration to the right. Point 1 in the illustration represents the center of gravity of an unloaded vehicle. The load has its own center of gravity indicated by Point 3. When the vehicle is loaded, the vehicle and the load become one mass having a combined center of gravity represented by Point 2.

As the boom is lowered or extended, Point 2 will move forward in the 3 point stability triangle, or backward in the stability triangle as the boom is raised. Point 2 can also move left or right toward the edges of the stability triangle if the frame is tilted. As long as Point 2 remains within the boundaries of the 3 point stability triangle, the vehicle will remain stable. If Point 2 ever goes beyond the boundaries of the stability triangle, the vehicle can tip over.

In the locked mode, the exclusive Stabil-TRAK System provides a 4 point stability rectangle by positively locking the frame to the rear axle through the stabilizer cylinder. The vehicle is then supported at four points, A, B, D, and E. While in the locked mode, it is clear that Point 2 will remain within the entire boundary of the 4 point Stabil-TRAK stability rectangle, giving the operator more flexibility in positioning a load.



This illustration shows the increase in stability with the Stabil-TRAK System.

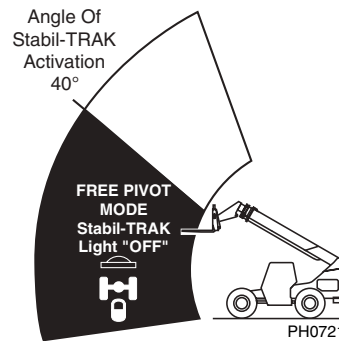
PH0712

The Stabil-TRAK System functions in the following three modes:

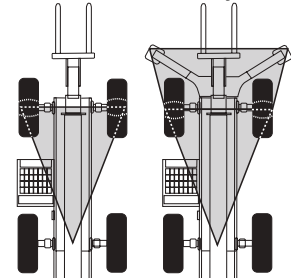
### Free Pivot Mode

With the boom below 40°, the Stabil-TRAK System is in the free pivot mode and the rear axle is allowed to pivot freely.

The frame tilt functions normally, with or without the outriggers down.



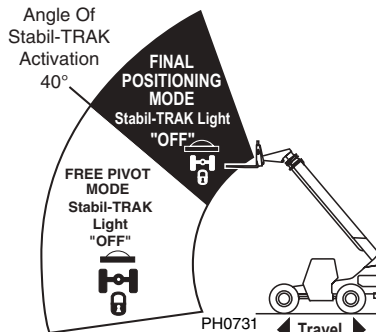
### 3 Point Stability



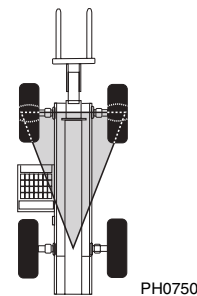
Outriggers Down

### Final Positioning Mode

With the boom above 40°, and the vehicle traveling, the Stabil-TRAK System is in the final positioning mode. In this mode the rear axle is unlocked and is allowed to pivot, but will respond SLOWLY to changes in terrain. The frame tilt functions normally in this mode.



### 3 Point Stability



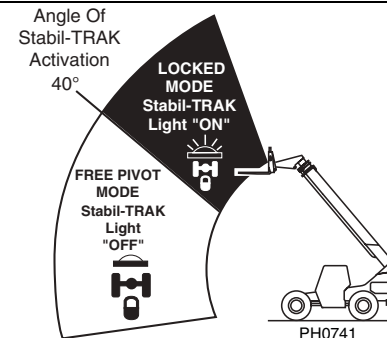
PH0750

### Locked Mode

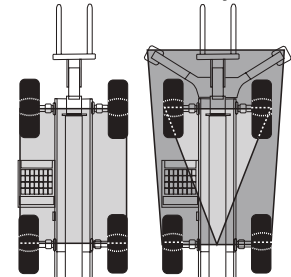
With the boom above 40°, and one or more of the following functions activated, the Stabil-TRAK System is in the locked mode and the rear axle is locked so it is rigid with the frame.

- Engaging the Emergency Brake Switch
- Placing the Travel Select Lever in NEUTRAL
- Depressing and holding the Service Brake Pedal

The frame tilt functions slower than normal in this mode, with or without the outriggers down.



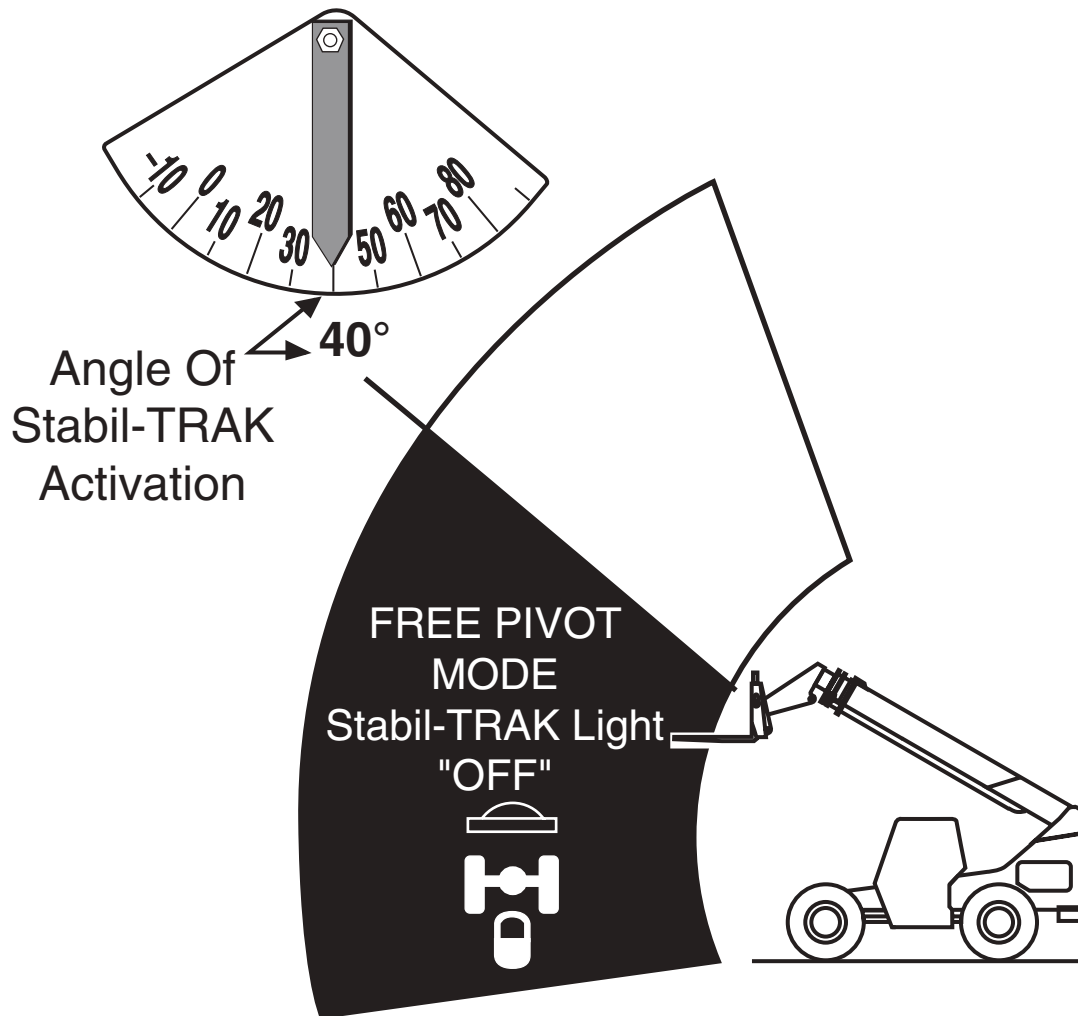
### 4 Point Stability



Outriggers Down



# Stabil-TRAK System

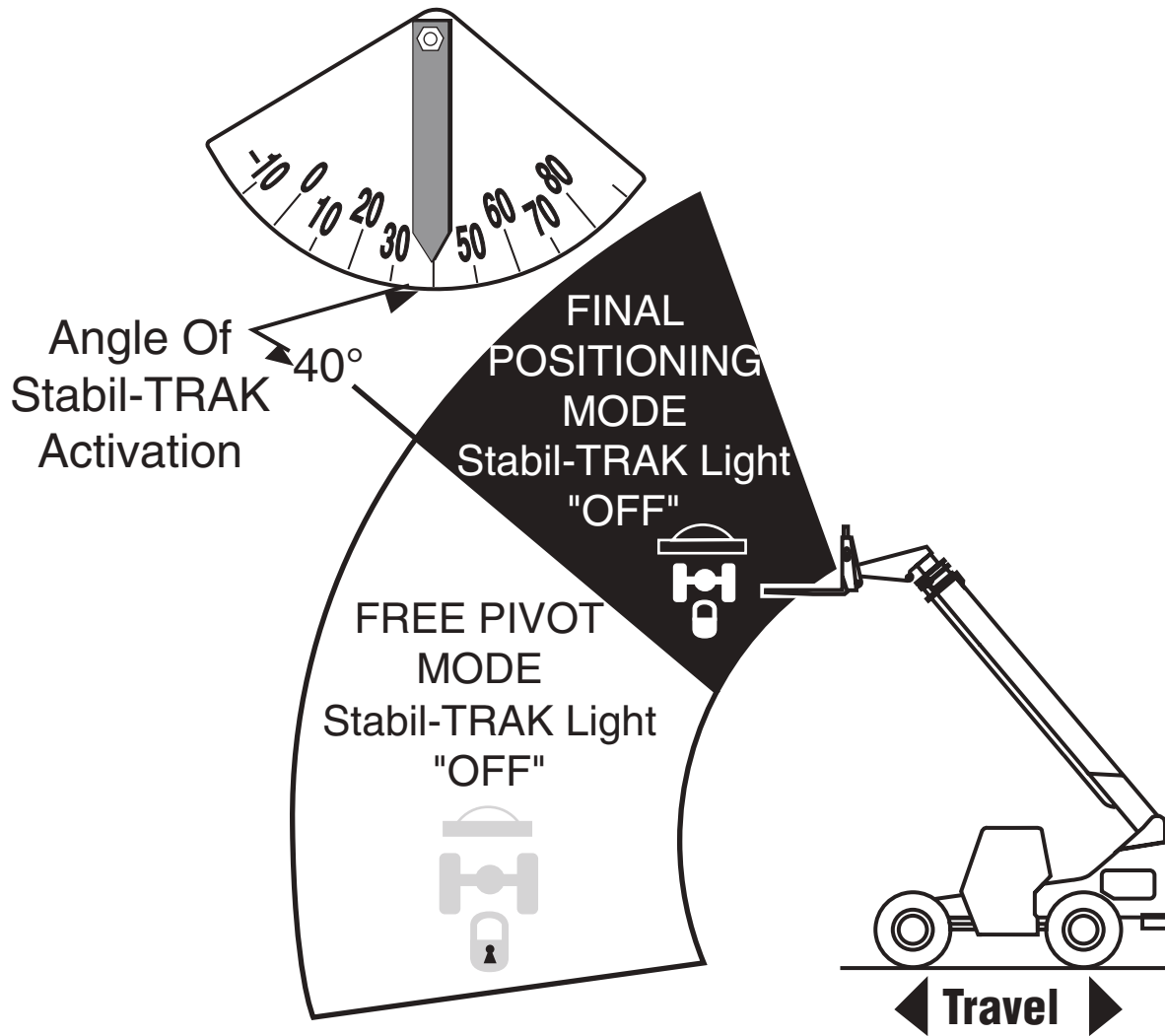


MH0362

## Free Pivot Mode

Boom Angles are below 40°.  
Rear Axle is allowed to pivot freely.

# Stabil-TRAK System

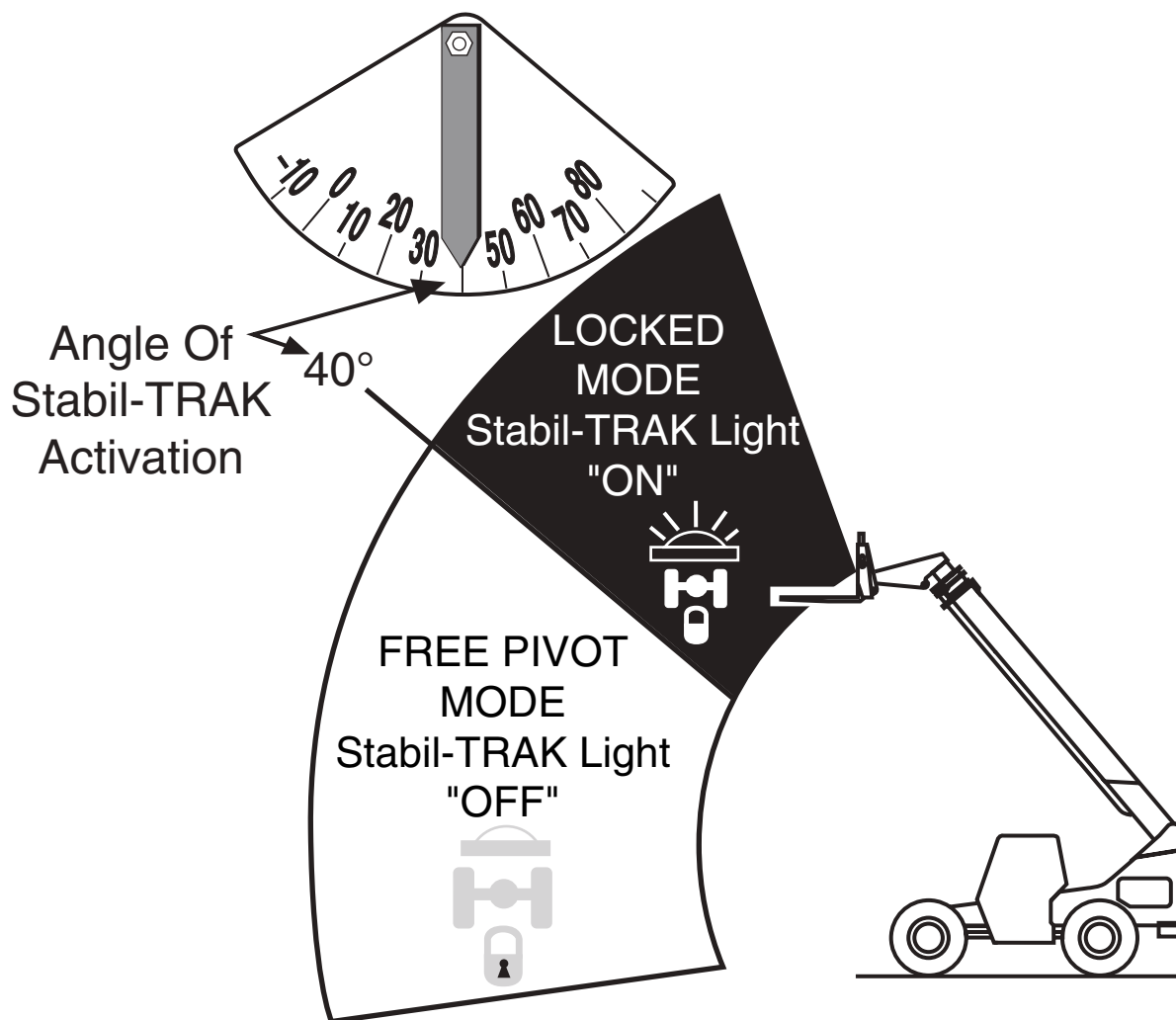


## Final Positioning Mode

Boom Angles are above 40° with vehicle traveling.

Rear axle is unlocked and is allowed to pivot, but will respond SLOWLY to changes in terrain.

# Stabil-TRAK System



MH0382

## Locked Mode

Boom Angles are above 40°.

Rear axle is locked so it is rigid with the frame.

Activated by one or more of these functions:

- Engaging the Emergency Brake Switch
- Placing Travel Select Lever in NEUTRAL
- Depressing and holding the Service Brake Pedal

# 8042/10042

## Stabil-TRAK System Troubleshooting (S/N 9908 & Before)

	FREE PIVOT MODE	FINAL POSITIONING MODE	LOCKED MODE
	Reference page 370 & 371	Reference page 372 & 373	Reference page 374 & 375
Machine Conditions	Ignition On Boom Below 40° Trans. Fwd. or Rev.	Ignition On Boom Above 40° SB Released Trans. Fwd. or Rev.	Ignition On Boom Above 40° PB & SB Applied Trans. Neutral
Switch/ Relay Solenoid			
Solenoid 1	E	DE	DE
Solenoid 2	E	DE	DE
Solenoid 3	DE	DE	E
Solenoid 4	DE	DE	E
Solenoid 5	DE	E	DE
Solenoid 6	DE	E	DE
Boom Angle Sensor	C	O	O
Boom Switch Relay	E	DE	DE
Stabilizer Lock Relay	DE	DE	E
Stabilizer Light	Off	Off	On

**Definitions:**

PB = Park Brake

SB = Service Brake

DE = De-energized

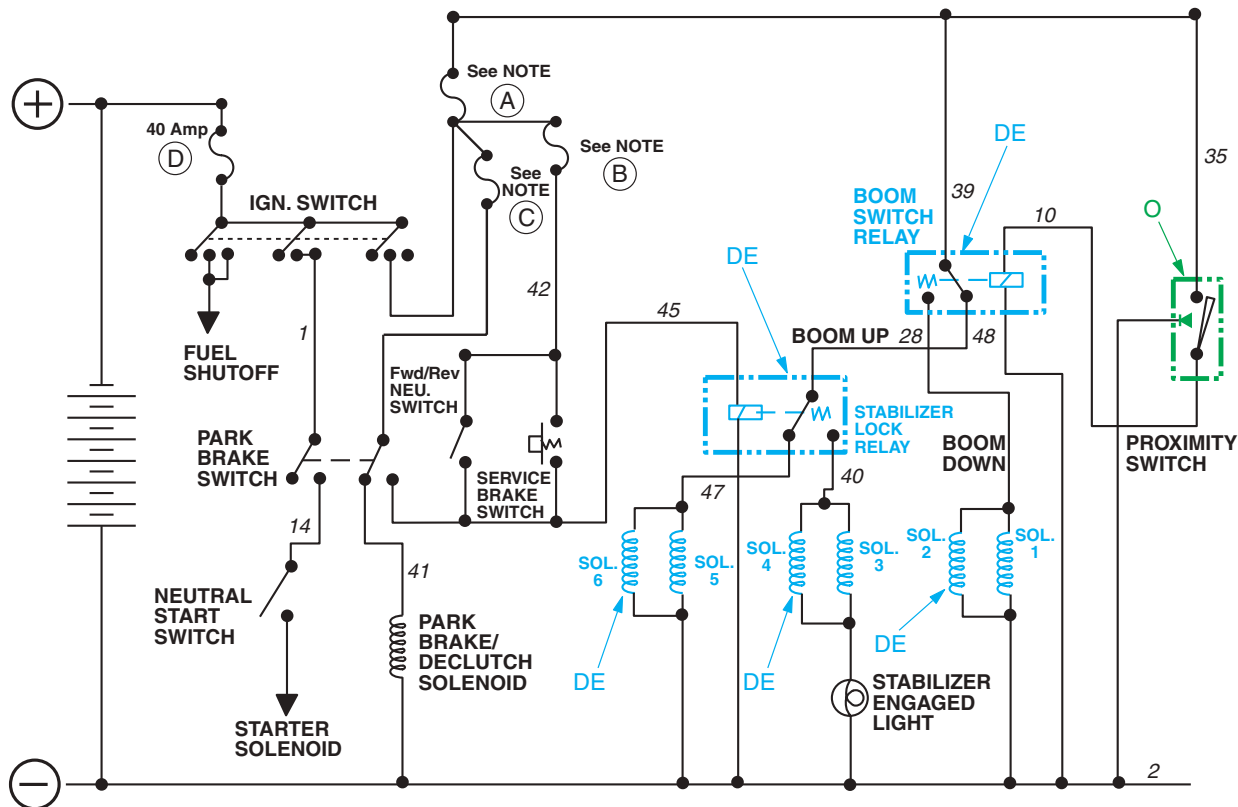
E = Energized

C = Closed

O = Open

8042/10042  
Stabil-TRAK Electrical Circuit  
Ignition "OFF"  
(S/N 9908 & Before)

<b>Ignition "OFF"</b>		



**LEGEND**

- DE = De-energized
- E = Energized
- O = Open
- PB = Park Brake
- SB = Service Brake

**NOTE:**

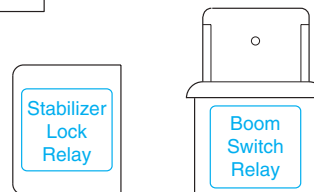
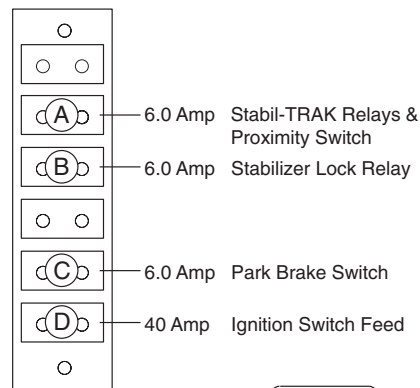
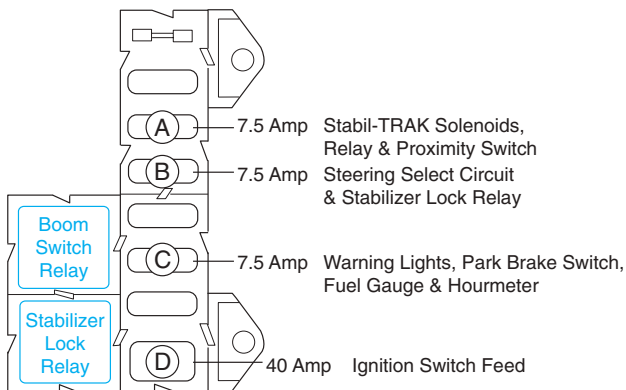
- 7.5 Amp - S/N 292 & After
- 6.0 Amp - S/N 291 & Before

**S/N 8042/10042-0291 & Before**

Boom Switch Relay located in Kick Panel.  
Stabilizer Lock Relay located under Dash to the left side of the Steering Wheel

**S/N 8042/10042-0292 & After**

Boom Switch and Stabilizer Lock Relays located in Kick Panel

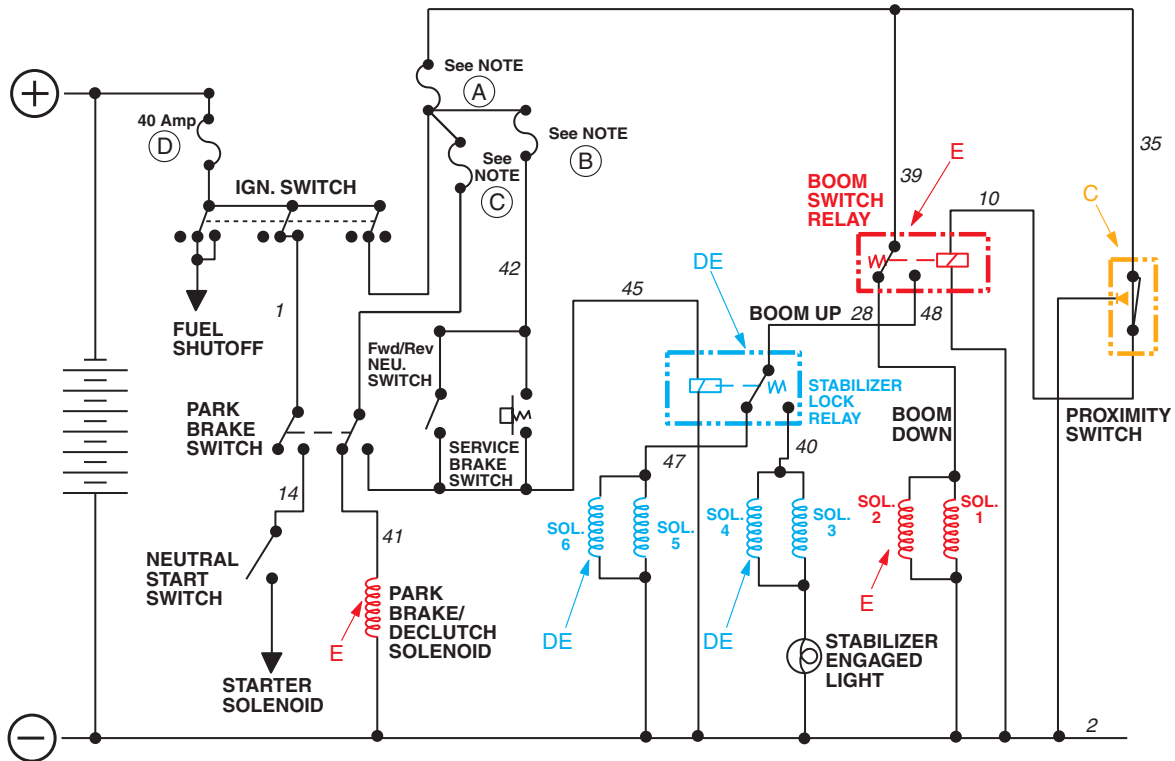


SH0402

**SECTION 10**

**8042/10042**  
**Stabil-TRAK Electrical Circuit**  
**Free Pivot Mode**  
**(S/N 9908 & Before)**

<b>Free Pivot Mode</b>	1.	Ignition "ON"	4.	SB & PB Released
	2.	Transmission in Fwd. or Rev.	5.	
	3.	Boom Below 40°	6.	



**LEGEND**

- DE = De-energized
- E = Energized
- C = Closed
- PB = Park Brake
- SB = Service Brake

**NOTE:**

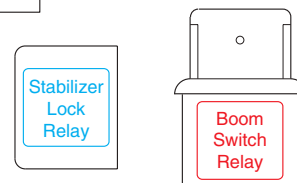
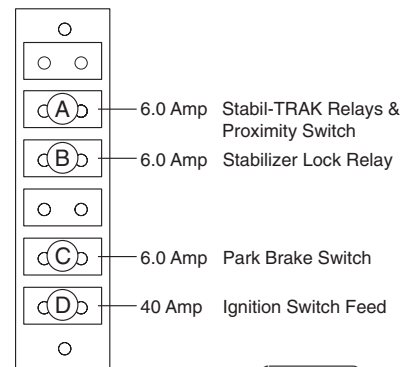
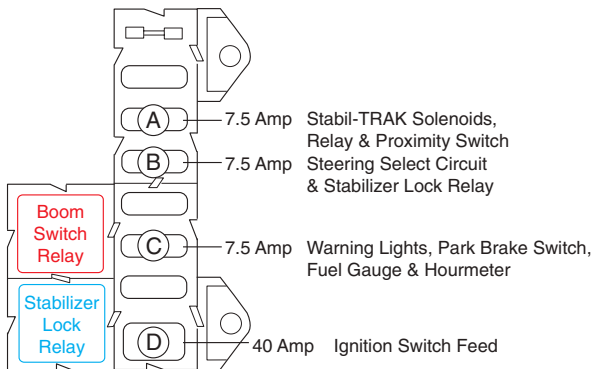
7.5 Amp - S/N 292 & After  
 6.0 Amp - S/N 291 & Before

**S/N 8042/10042-0291 & Before**

Boom Switch Relay located in Kick Panel.  
 Stabilizer Lock Relay located under Dash to the left side of the Steering Wheel

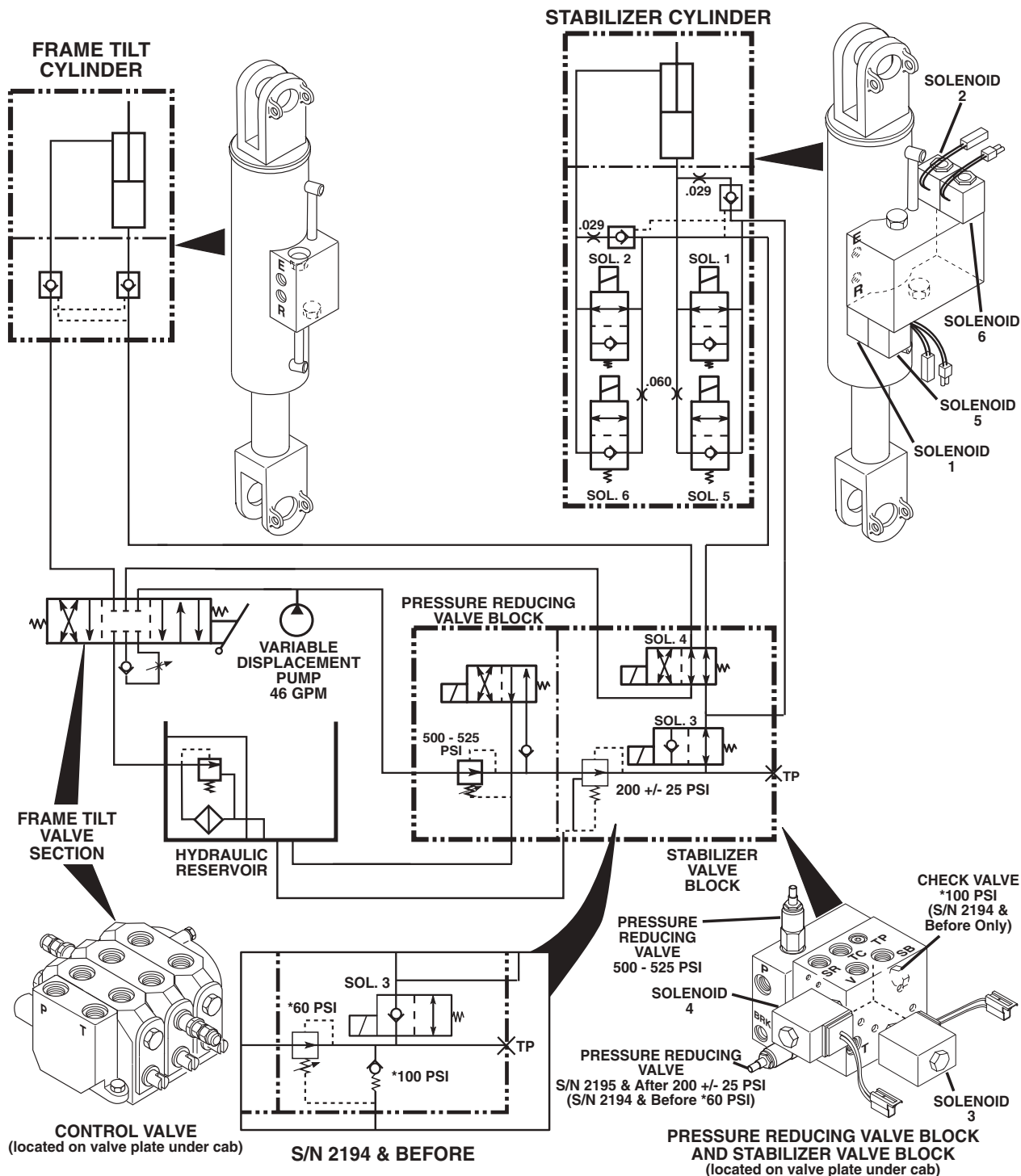
**S/N 8042/10042-0292 & After**

Boom Switch and Stabilizer Lock Relays located in Kick Panel



SH0581

# 8042/10042 Stabil-TRAK Hydraulic Circuit Free Pivot Mode (S/N 9908 & Before)



## CONDITIONS:

Boom below 40°, vehicle stopped, and transmission in forward or reverse.

Solenoids 1 and 2 are energized to permit flow of rear axle stabilizer cylinder oil to hydraulic reservoir and normal frame tilt.

Solenoids 3, 4, 5, and 6 are de-energized.

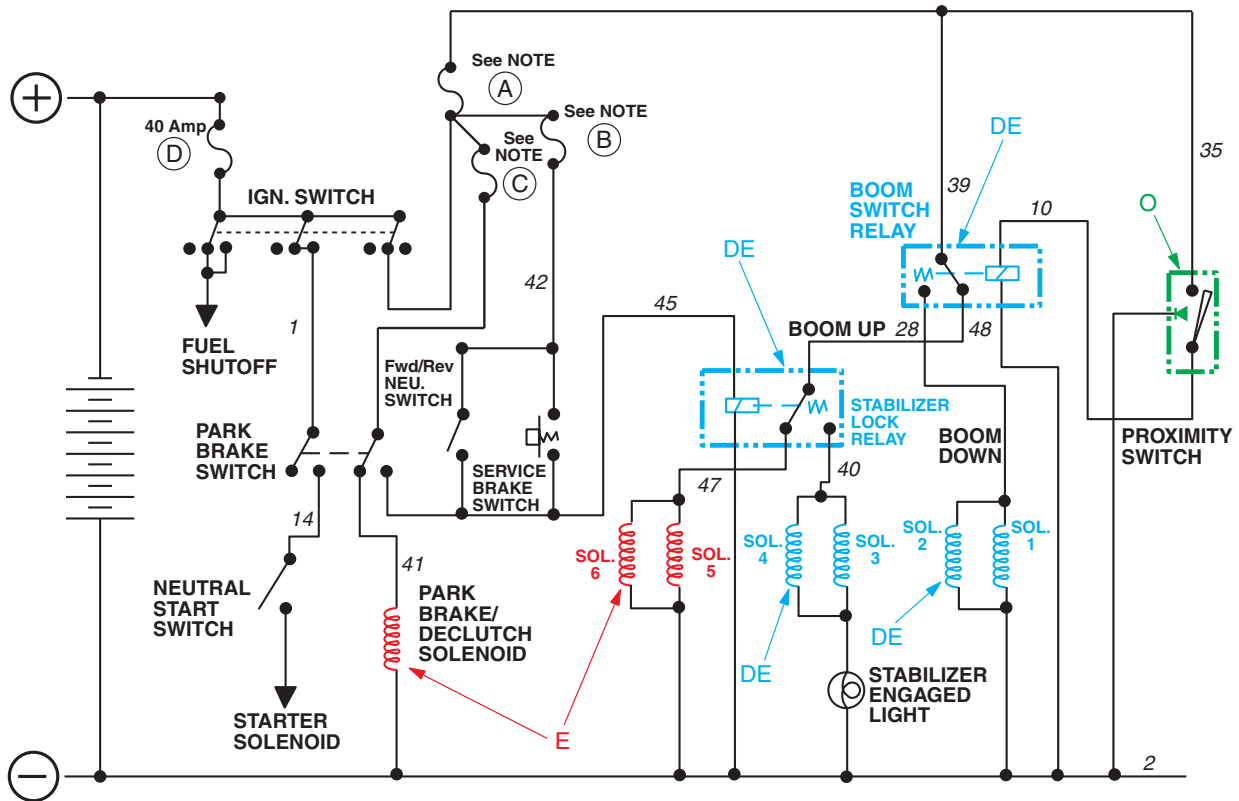
If vehicle is stopped by service brakes, or park brake switch, or transmission in neutral; the same conditions apply.

SH0570

**SECTION 10**

**8042/10042  
Stabil-TRAK Electrical Circuit  
Final Positioning Mode  
(S/N 9908 & Before)**

Final Positioning Mode	1.	Ignition "ON"	4.	SB Released
<b>Conditions</b>	2.	Transmission in Fwd. or Rev.	5.	
	3.	Boom Above 40°	6.	



**LEGEND**

- DE = De-energized
- E = Energized
- O = Open
- PB = Park Brake
- SB = Service Brake

**NOTE:**

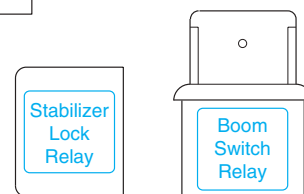
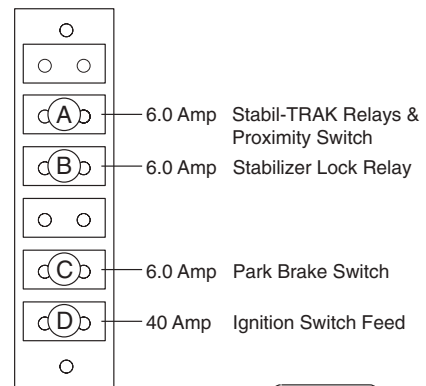
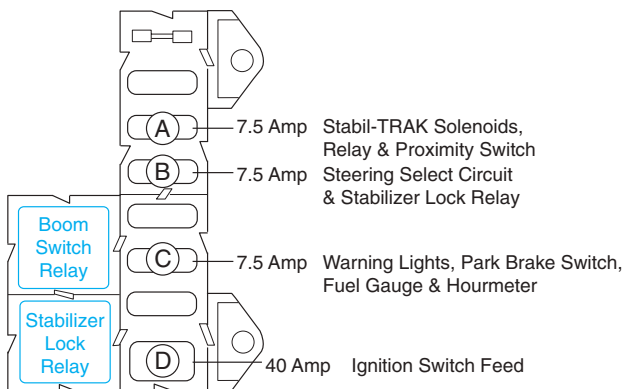
- 7.5 Amp - S/N 292 & After
- 6.0 Amp - S/N 291 & Before

**S/N 8042/10042-0291 & Before**

Boom Switch Relay located in Kick Panel.  
Stabilizer Lock Relay located under Dash to the left side of the Steering Wheel

**S/N 8042/10042-0292 & After**

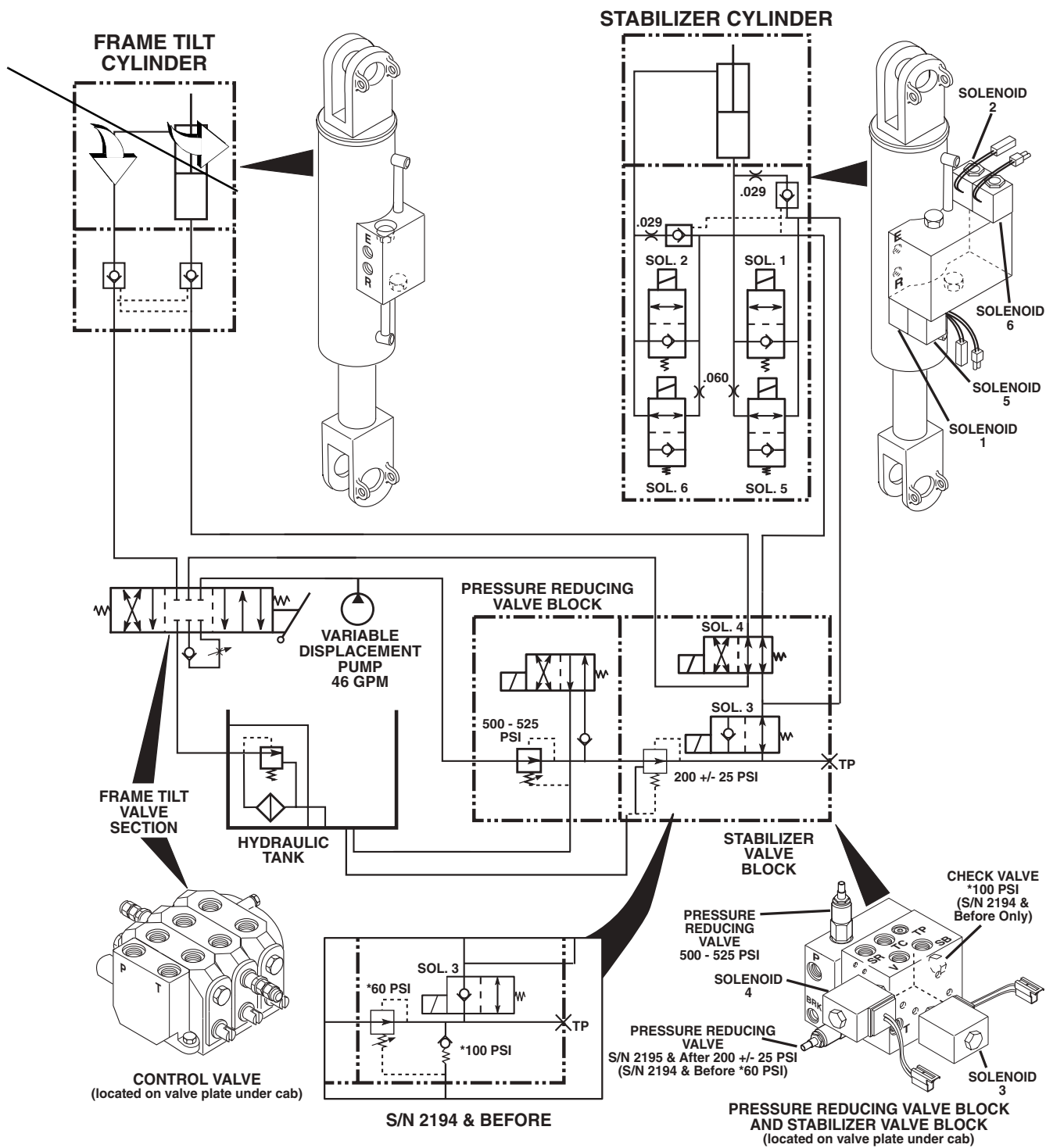
Boom Switch and Stabilizer Lock Relays located in Kick Panel



SH0561



# 8042/10042 Stabil-TRAK Hydraulic Circuit Final Positioning Mode (S/N 9908 & Before)



SH0550

## CONDITIONS:

Boom raised above 40°, vehicle in forward or reverse; proximity switch relay energizes solenoids 5 and 6; solenoids 1, 2, 3, and 4 are de-energized.

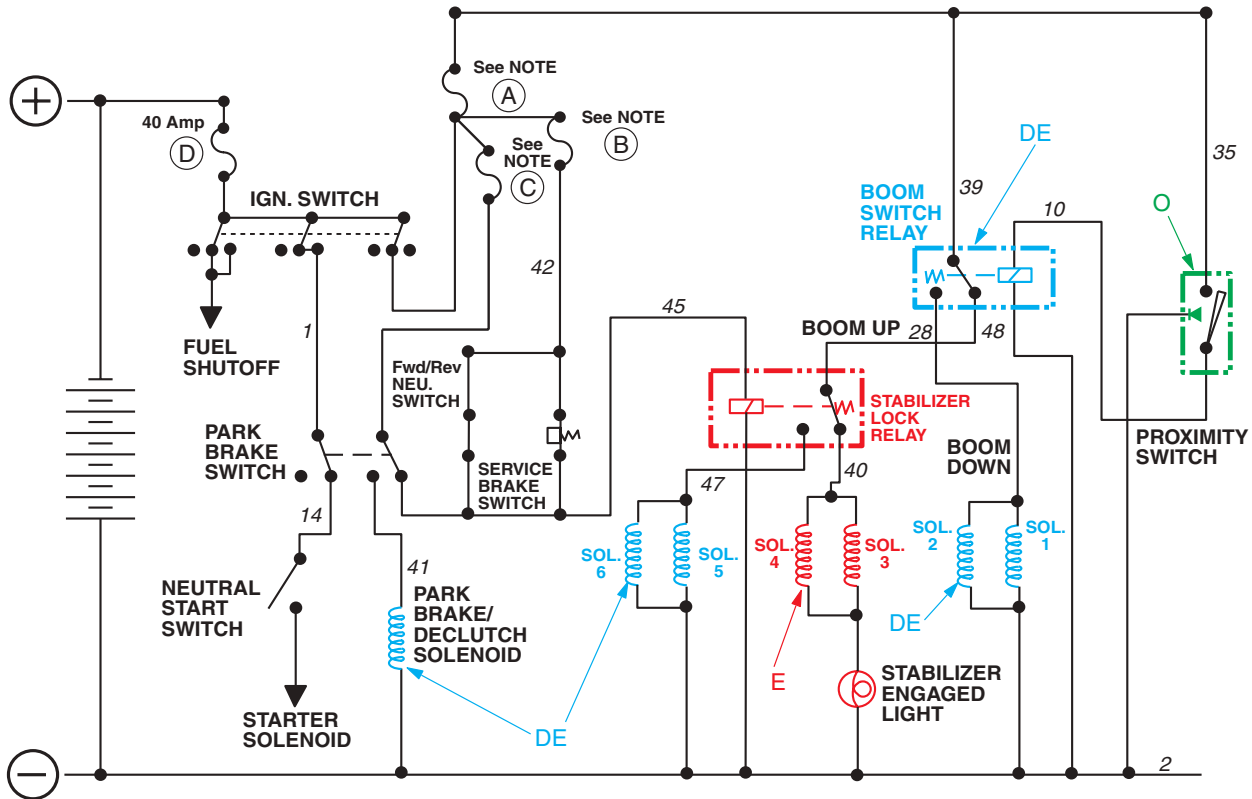
Rear axle stabilizer cylinder oil flow is damped to the hydraulic reservoir through the .060 orifices. The rear axle will react to terrain changes, however the reaction will be damped by the orifices.

The operator controls speed of frame tilt of the front axle in response to the orifices rear axle.

**SECTION 10**

**8042/10042  
Stabil-TRAK Electrical Circuit  
Locked Mode  
(S/N 9908 & Before)**

Locked Mode	1. Ignition "ON"	4. SB & PB Applied
<b>Conditions</b>	2. Transmission in Neutral	5.
	3. Boom Above 40°	6.



**LEGEND**

- DE = De-energized
- E = Energized
- O = Open
- PB = Park Brake
- SB = Service Brake

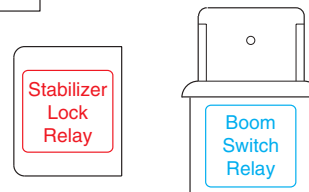
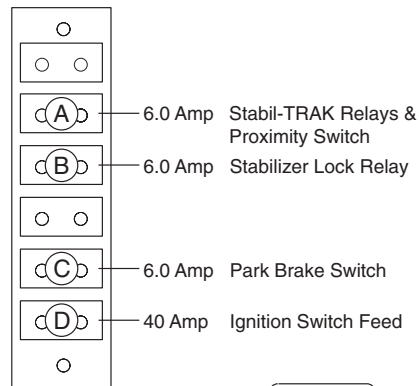
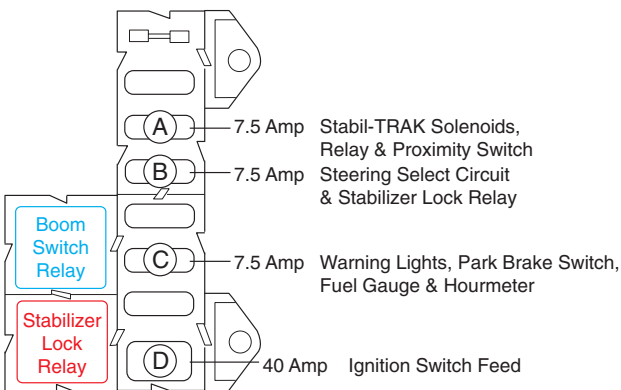
**NOTE:**

- 7.5 Amp - S/N 292 & After
- 6.0 Amp - S/N 291 & Before

**S/N 8042/10042-0291 & Before**

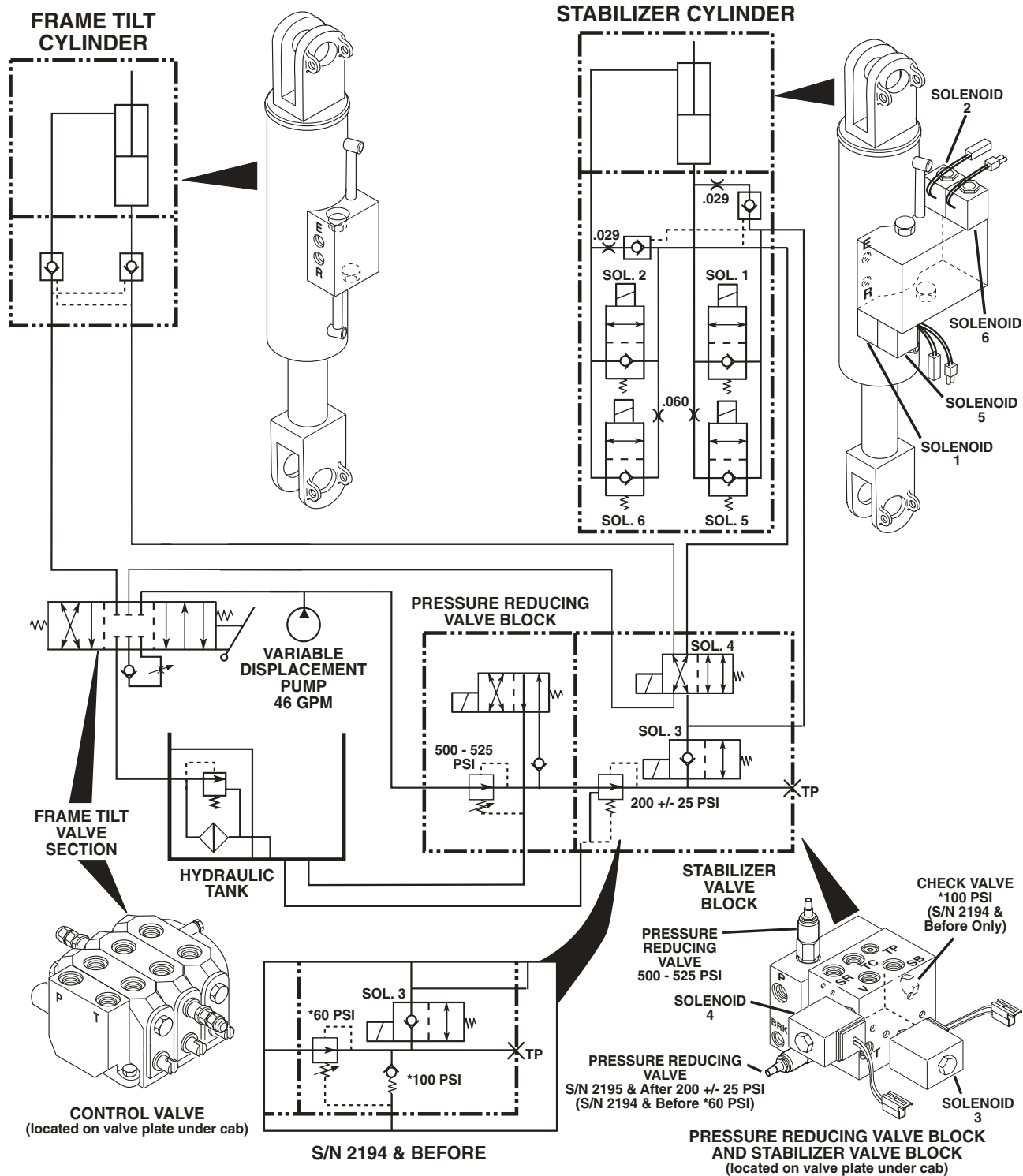
Boom Switch and Stabilizer Lock Relays located in Kick Panel.  
Stabilizer Lock Relay located under Dash to the left side of the Steering Wheel

**S/N 8042/10042-0292 & After**  
Boom Switch and Stabilizer Lock Relays located in Kick Panel



SH0541

# 8042/10042 Stabil-TRAK Hydraulic Circuit Locked Mode (S/N 9908 & Before)



SH0530

## CONDITIONS:

Boom raised above 40° and vehicle stopped with service brake on, or park brake switch engaged, or transmission in neutral.

Solenoids 1, 2, 5, and 6 de-energized and solenoids 3 and 4 energized.

Rear axle is locked. If the frame is tilted, the cylinders are slaved and tilt speed is slowed by .029 orifices.

# 8042/10042

## Stabil-TRAK System Troubleshooting (S/N 9909 & After)

	FREE PIVOT MODE	FINAL POSITIONING MODE	LOCKED MODE
	Reference page 378 & 379	Reference page 380 & 381	Reference page 382 & 383
Machine Conditions	Ignition On Boom Below 40° Trans. Fwd. or Rev.	Ignition On Boom Above 40° SB Released Trans. Fwd. or Rev.	Ignition On Boom Above 40° PB & SB Applied Trans. Neutral
Switch/ Relay Solenoid			
Solenoid 1	E	DE	DE
Solenoid 2	E	DE	DE
Solenoid 3	DE	DE	E
Solenoid 4	DE	DE	E
Solenoid 5	DE	E	DE
Solenoid 6	DE	E	DE
Boom Angle Sensor	C	O	O
Boom Switch Relay	E	DE	DE
Stabilizer Lock Relay	DE	DE	E
Stabilizer Light	Off	Off	On
Park Brake Disconnect Relay	E	E	DE
Neutral Start Relay	DE	DE	E

**Definitions:**

PB = Park Brake

SB = Service Brake

DE = De-energized

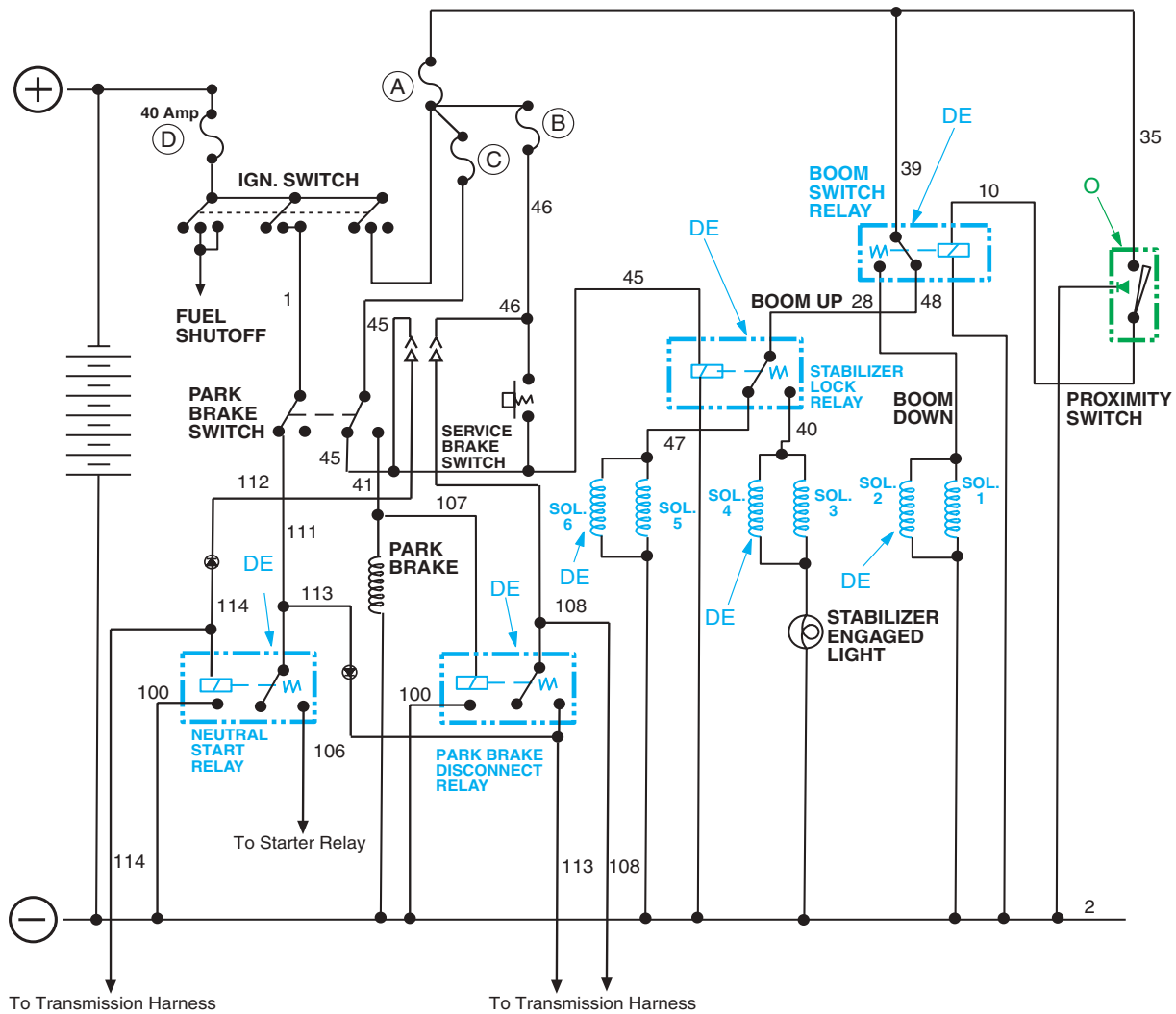
E = Energized

C = Closed

O = Open

8042/10042  
 Stabil-TRAK Electrical Circuit  
 Ignition "OFF"  
 (S/N 9909 & After)

<b>Ignition "OFF"</b>		



**RELAY LOCATIONS**

Relay Block located under Dash attached to Back of Bulkhead with Velcro

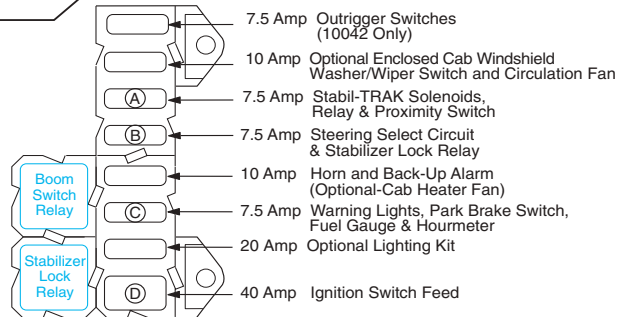
**LEGEND**

- DE = De-energized
- E = Energized
- O = Open
- PB = Park Brake
- SB = Service Brake



**Boom Switch and Stabilizer Lock**

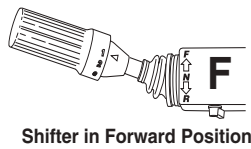
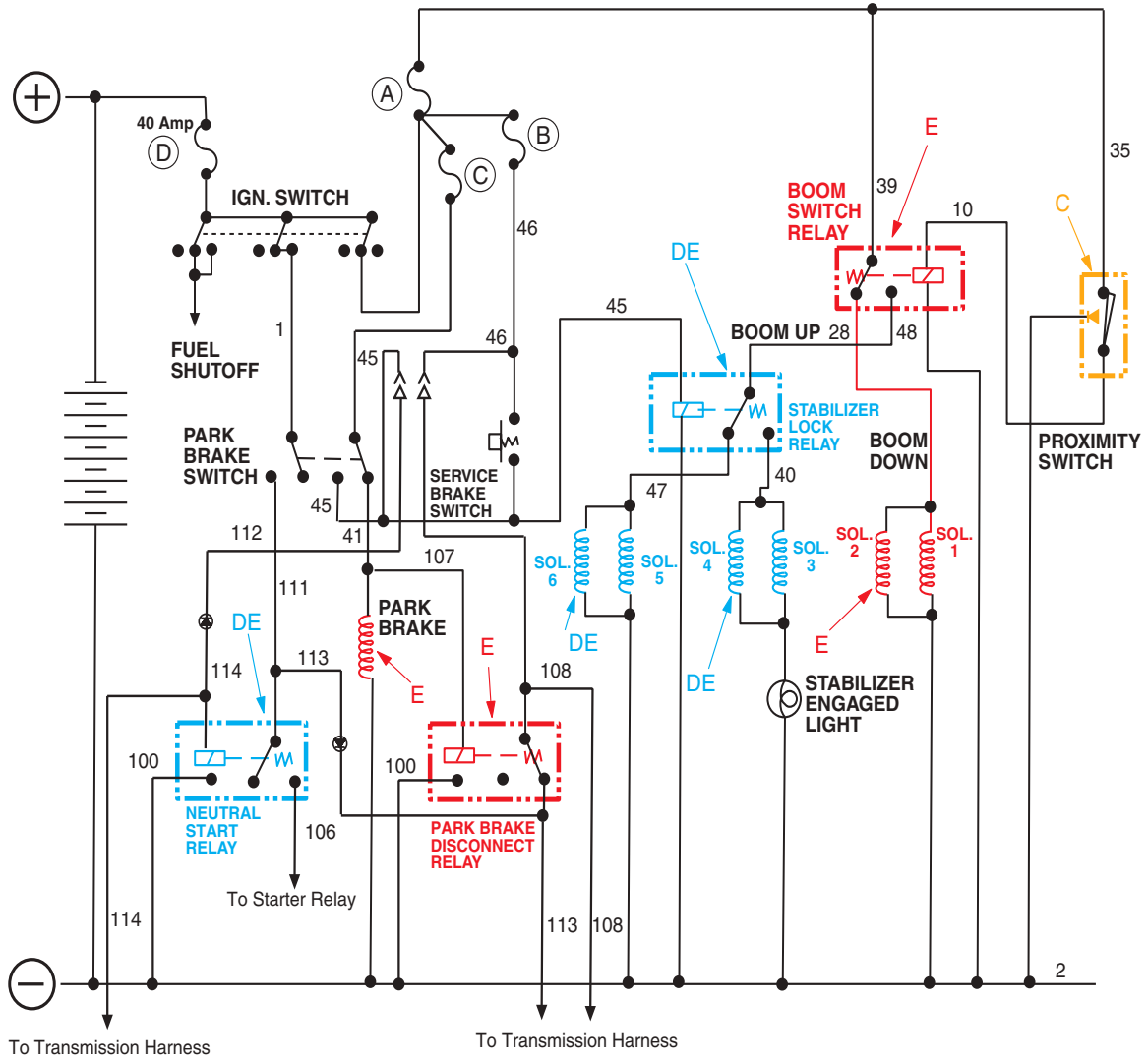
Relays located in Kick Panel



SECTION 10

8042/10042  
 Stabil-TRAK Electrical Circuit  
 Free Pivot Mode  
 (S/N 9909 & After)

<b>Free Pivot Mode</b>	1.	Ignition "ON"	4.	SB & PB Released
	2.	Transmission in Fwd. or Rev.	5.	
	3.	Boom Below 40°	6.	



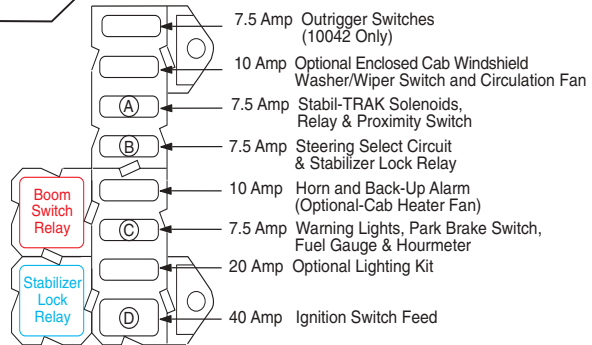
**LEGEND**  
 DE = De-energized  
 E = Energized  
 O = Open  
 C = Closed  
 PB = Park Brake  
 SB = Service Brake

**RELAY LOCATIONS**

Relay Block located under Dash and attached to Back of Bulkhead with Velcro



Boom Switch and Stabilizer Lock Relays located in Kick Panel

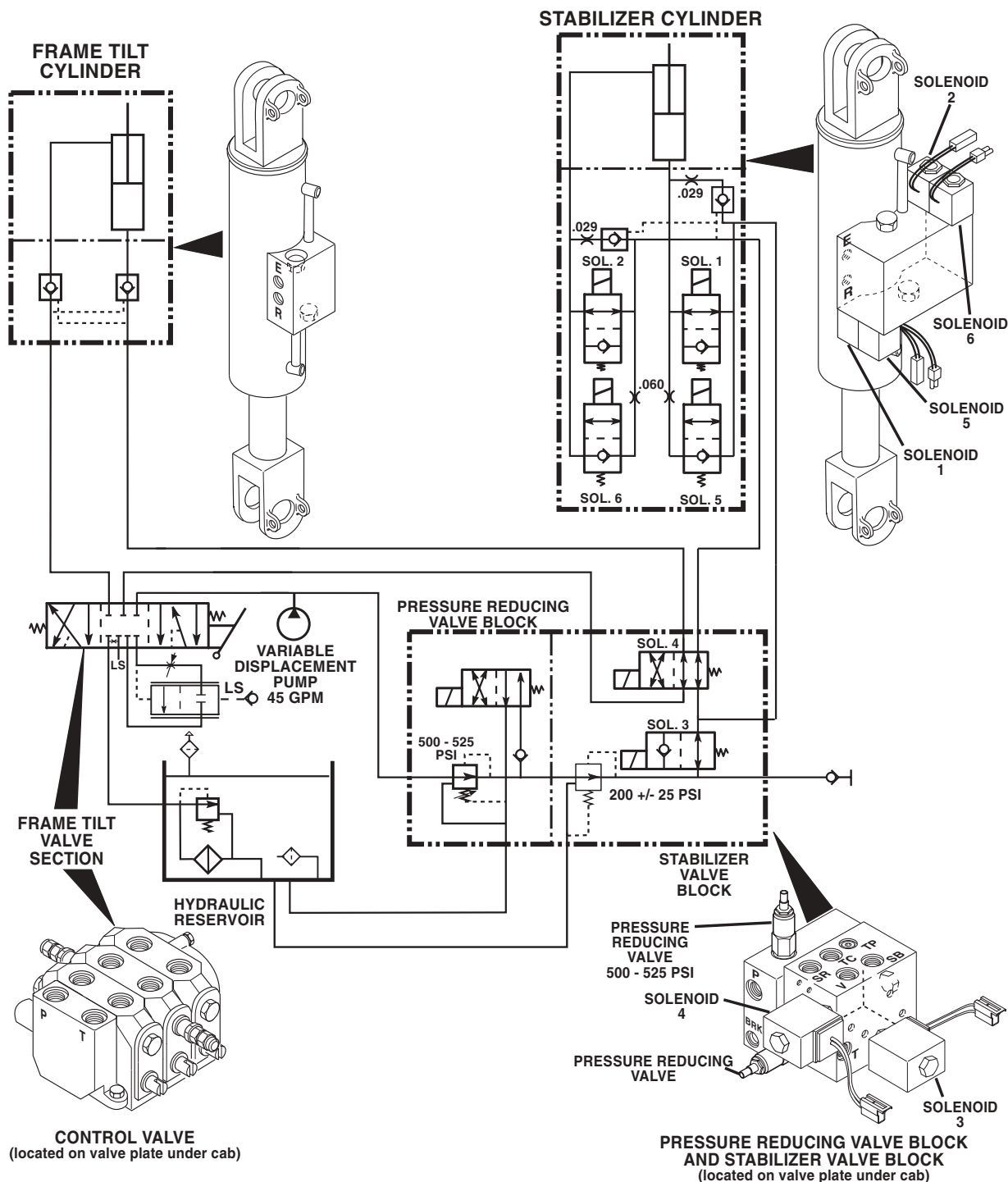


SH1300

# 8042/10042 Stabil-TRAK Hydraulic Circuit

## Free Pivot Mode

### (S/N 9909 & After)



SH1170

### CONDITIONS:

Boom below 40°, vehicle stopped, and transmission in forward or reverse.

Solenoids 1 and 2 are energized to permit flow of rear axle stabilizer cylinder oil to hydraulic reservoir and normal frame tilt.

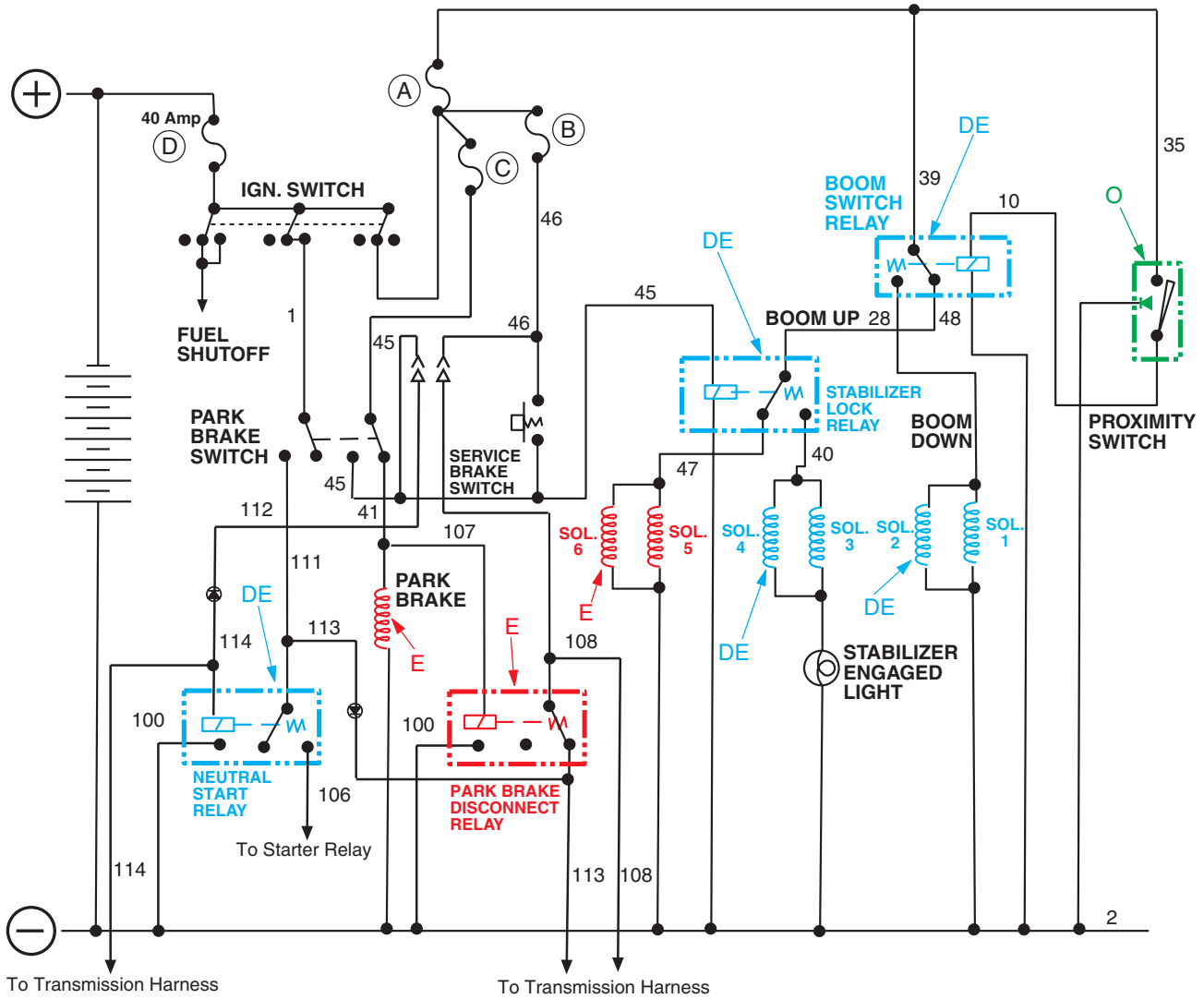
Solenoids 3, 4, 5, and 6 are de-energized.

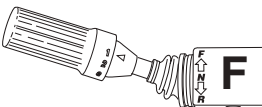
If vehicle is stopped by service brakes, or park brake switch, or transmission in neutral; the same conditions apply.

**SECTION 10**

**8042/10042  
Stabil-TRAK Electrical Circuit  
Final Positioning Mode  
(S/N 9909 & After)**

Final Positioning Mode	1. Ignition "ON"	4. SB & PB Released
<b>Conditions</b>	2. Transmission in Fwd. or Rev.	5.
	3. Boom Above 40°	6.





**Shifter in Forward Position**

**RELAY LOCATIONS**

Relay Block located under Dash attached to Back of Bulkhead with Velcro

- Back-Up Alarm Relay
- Neutral Start Relay
- Park Brake Disconnect Relay

Boom Switch and Stabilizer Lock Relays located in Kick Panel

- 7.5 Amp Outtrigger Switches (10042 Only)
- 10 Amp Optional Enclosed Cab Windshield Washer/Wiper Switch and Circulation Fan
- (A) 7.5 Amp Stabil-TRAK Solenoids, Relay & Proximity Switch
- (B) 7.5 Amp Steering Select Circuit & Stabilizer Lock Relay
- 10 Amp Horn and Back-Up Alarm (Optional-Cab Heater Fan)
- (C) 7.5 Amp Warning Lights, Park Brake Switch, Fuel Gauge & Hourmeter
- 20 Amp Optional Lighting Kit
- (D) 40 Amp Ignition Switch Feed

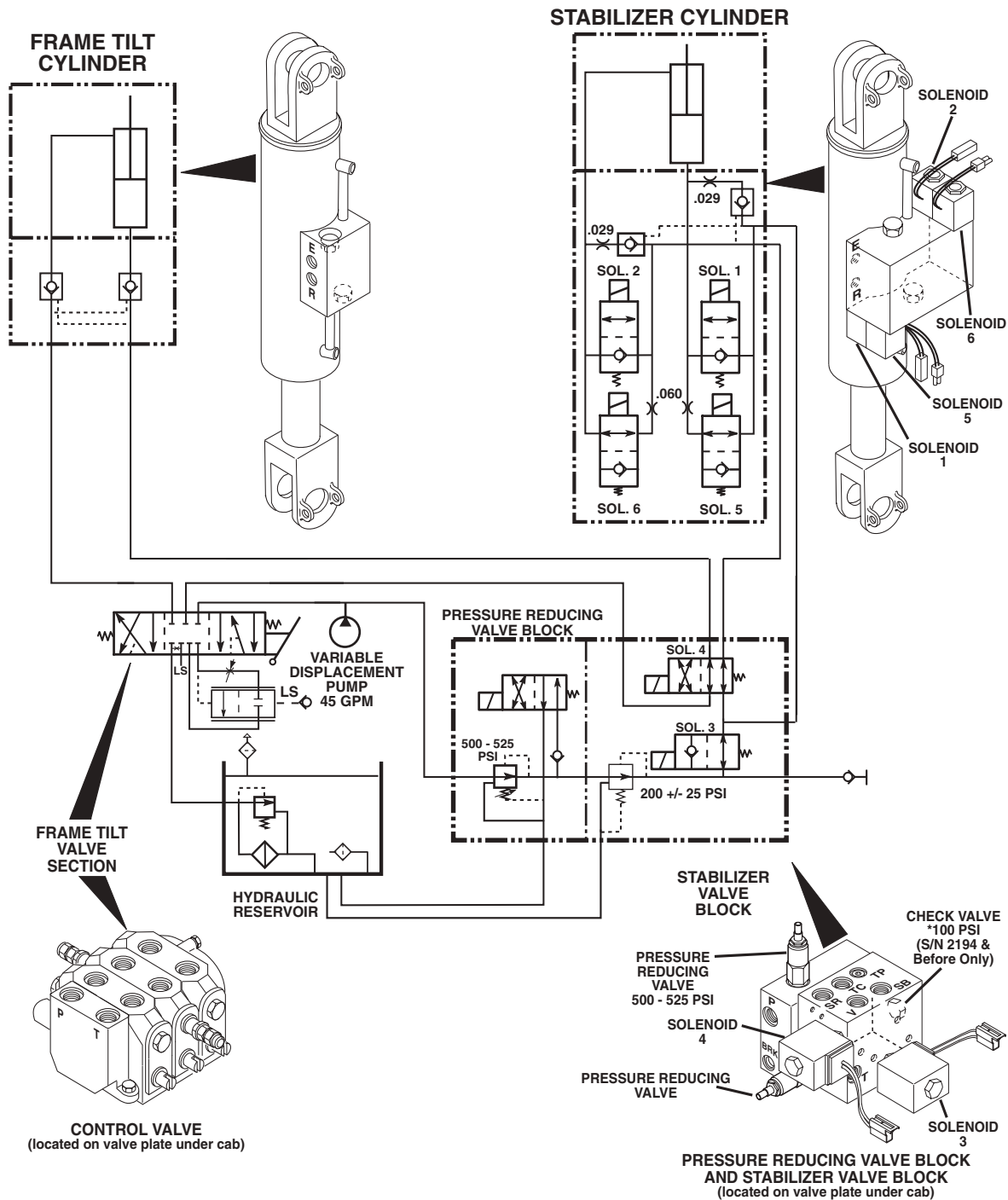
**LEGEND**

DE = De-energized  
E = Energized  
O = Open  
PB = Park Brake  
SB = Service Brake

SH1310



# 8042/10042 Stabil-TRAK Hydraulic Circuit Final Positioning Mode (S/N 9909 & After)



SH1180

## CONDITIONS:

Boom raised above 40°, vehicle in forward or reverse; proximity switch relay energizes solenoids 5 and 6; solenoids 1, 2, 3, and 4 are de-energized.

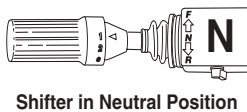
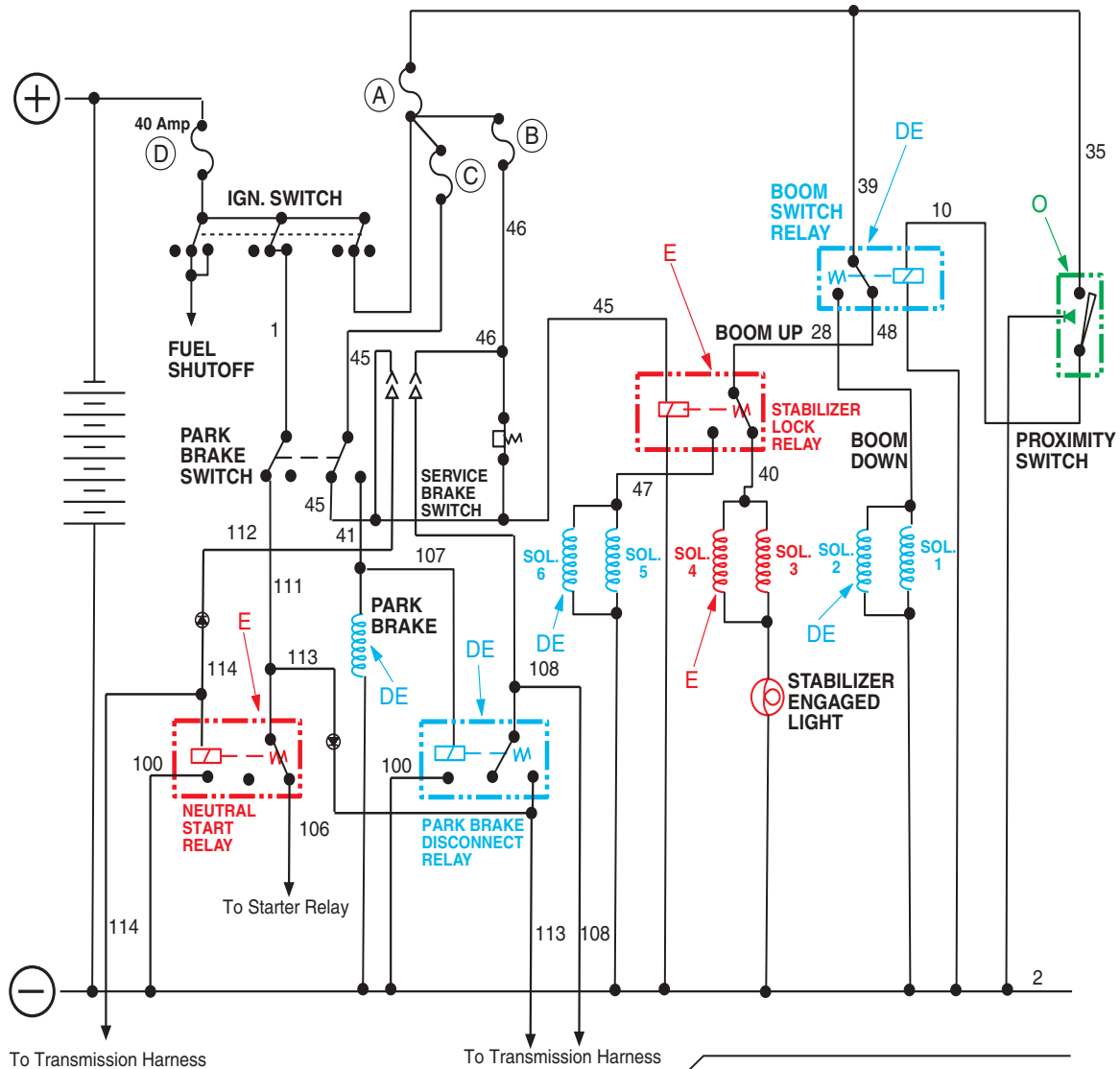
Rear axle stabilizer cylinder oil flow is dampened to the hydraulic reservoir through the .060 orifices. The rear axle will react to terrain changes, however the reaction will be dampened by the orifices.

The operator controls speed of frame tilt of the front axle in response to the orifices rear axle.

**SECTION 10**

**8042/10042  
Stabil-TRAK Electrical Circuit  
Locked Mode  
(S/N 9909 & After)**

<b>Locked Mode</b>	1.	Ignition "ON"	4.	SB & PB Applied	
	<b>Conditions</b>	2.	Transmission in Neutral	5.	
		3.	Boom Above 40°	6.	



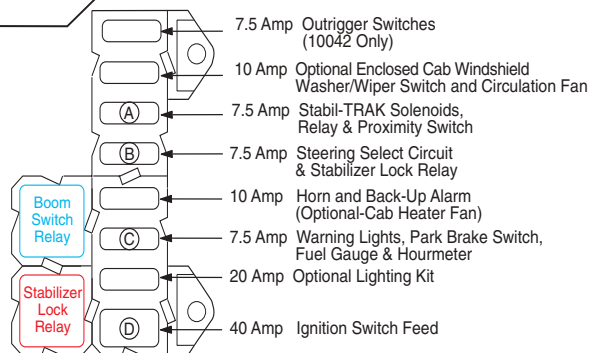
- LEGEND**
- DE = De-energized
  - E = Energized
  - O = Open
  - PB = Park Brake
  - SB = Service Brake

**RELAY LOCATIONS**

Relay Block located under Dash and attached to Back of Bulkhead with Velcro



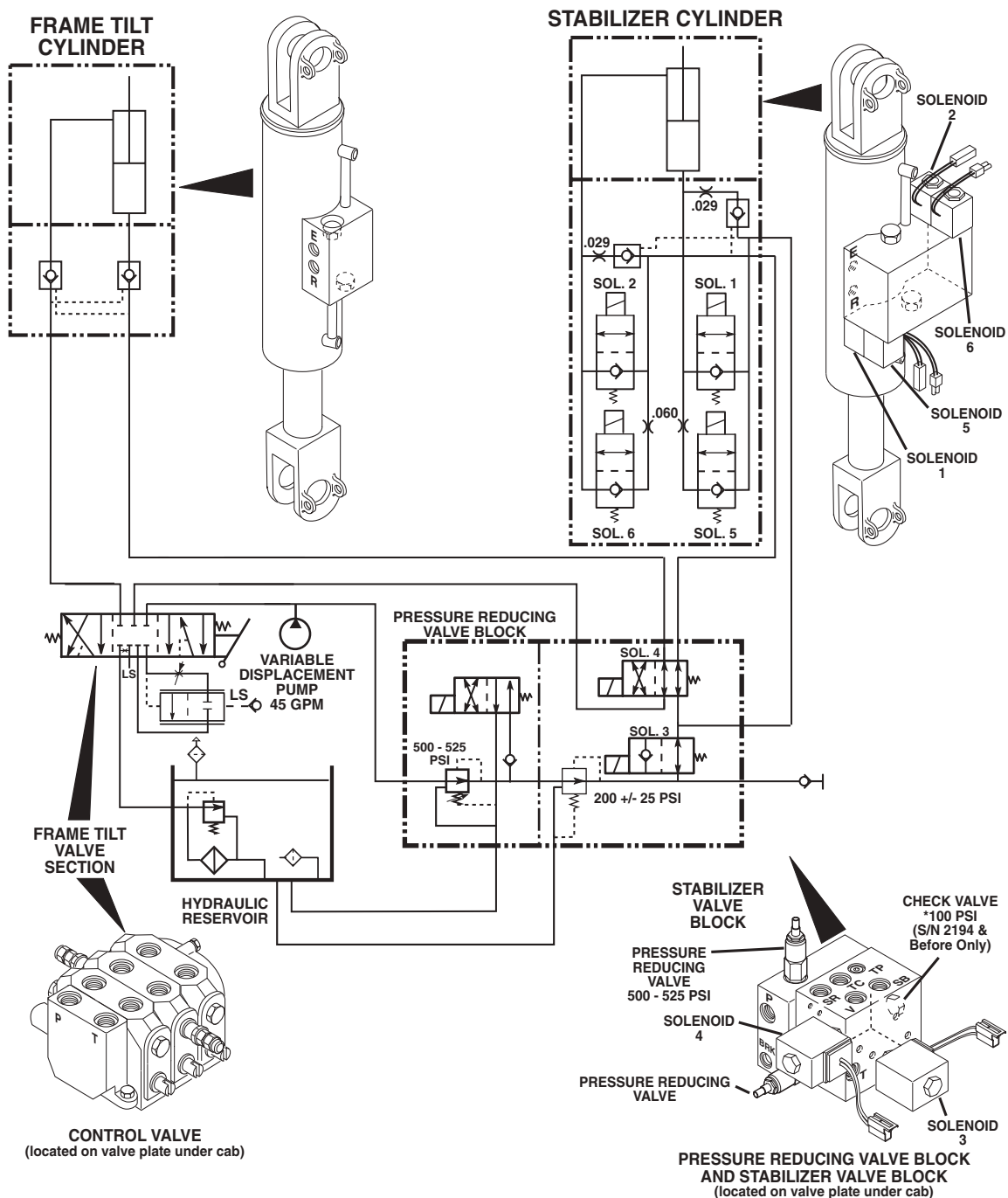
Boom Switch and Stabilizer Lock Relays located in Kick Panel



# 8042/10042 Stabil-TRAK Hydraulic Circuit

## Locked Mode

### (S/N 9909 & After)



SH1190

### CONDITIONS:

Boom raised above 40° and vehicle stopped with service brake on, or park brake switch engaged, or transmission in neutral.

Solenoids 1, 2, 5, and 6 de-energized and solenoids 3 and 4 energized.

Rear axle is locked. If the frame is tilted, the cylinders are slaved and tilt speed is slowed by .029 orifices.

SECTION 10

**10054 Stabil-TRAK System Troubleshooting (S/N 9908 & Before)**

	<b>BOOM EXTEND MODE 1</b>	<b>BOOM EXTEND MODE 2</b>	<b>BOOM EXTEND MODE 3</b>	<b>BOOM EXTEND MODE 4</b>	<b>BOOM EXTEND MODE 5</b>
	Reference page 386	Reference page 387	Reference page 388	Reference page 389	Reference page 390
<p><b>Machine Conditions</b></p> <p><b>Switch/Relay/Solenoid</b></p>	Ignition On Boom Below 40° Boom Retracted PB & SB Released Trans. Fwd. or Rev. Outriggers Up	Ignition On Boom Below 40° Boom Extended PB & SB Released Trans. Fwd. or Rev. Outriggers Up	Ignition On Boom Below 40° Boom Extended PB & SB Applied Trans. Neutral Outriggers Down	Ignition On Boom Above 40° Boom Retracted PB & SB Released Trans. Fwd. or Rev. Outriggers Up	Ignition On Boom Above 40° Boom Retracted PB & SB Released Trans. Fwd. or Rev. Outriggers Down
Solenoid 1	E	E	E	DE	DE
Solenoid 2	E	E	E	DE	DE
Solenoid 3	DE	DE	DE	DE	DE
Solenoid 4	DE	DE	DE	DE	DE
Solenoid 5	DE	DE	DE	E	E
Solenoid 6	DE	DE	DE	E	E
Boom Angle Sensor	C	C	O	O	O
Boom Relay	E	E	E	DE	DE
Stabilizer Lock Relay	DE	DE	E	DE	DE
Stabilizer Light	Off	Off	On	Off	On

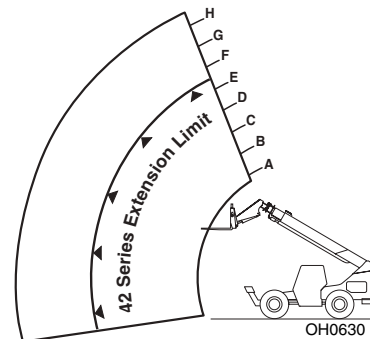
**BOOM EXTEND INTERLOCK SYSTEM TROUBLESHOOTING**

Boom Extend Proximity Switch	C	O	O	C	C
Boom Extend Interlock Relay	E	DE	DE	E	E
Boom Extend Lockout Relay	E	DE	DE	E	E
Outrigger Lockout Relay	E	DE	DE	E	E
Outrigger Pressure Switches	O	O	C	O	C
Left Outrigger Lockout Relay	DE	DE	E	DE	DE
Right Outrigger Lockout Relay	DE	DE	E	DE	DE
Stabilizer Interlock Relay	DE	DE	E	DE	E
Stabilizer Lock-Up Relay	DE	DE	E	DE	DE
Extend Circuit Solenoid Valve	E	DE	E	E	E
Park Brake Solenoid Valve	E	E	DE	E	E
Park Brake Interlock Relay	DE	DE	E	DE	DE

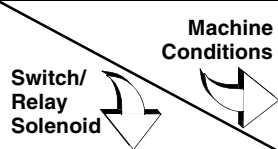
NOTE: If an outrigger is up or a pressure switch is defective, boom on 10054 will not extend beyond 42 series extension limit.

**Definitions:**

- Boom Retracted = Less than 42 series extension limit
- Boom Extended = Boom at 42 series extension limit or greater (See Figure)
- PB = Park Brake
- SB = Service Brake
- DE = De-energized
- E = Energized
- C = Closed
- O = Open



## 10054 Stabil-TRAK System Troubleshooting (S/N 9908 &amp; Before)

	BOOM EXTEND MODE 6	BOOM EXTEND MODE 7	BOOM EXTEND MODE 8	BOOM EXTEND MODE 9	
	Reference page 391	Reference page 392	Reference page 393	Reference page 394	
	Ignition On Boom Above 40° Boom Retracted PB & SB Applied Trans. Neutral Outriggers Up	Ignition On Boom Above 40° Boom Retracted PB & SB Applied Trans. Neutral Outriggers Down	Ignition On Boom Above 40° Boom Extended PB & SB Applied Trans. Neutral Outriggers Up	Ignition On Boom Above 40° Boom Extended PB & SB Applied Trans. Neutral Outriggers Down	
Solenoid 1	DE	DE	DE	DE	
Solenoid 2	DE	DE	DE	DE	
Solenoid 3	E	E	E	E	
Solenoid 4	E	E	E	E	
Solenoid 5	DE	DE	DE	DE	
Solenoid 6	DE	DE	DE	DE	
Boom Angle Sensor	O	O	O	O	
Boom Relay	DE	DE	DE	DE	
Stabilizer Lock Relay	E	E	E	E	
Stabilizer Light	On	On	On	On	
BOOM EXTEND INTERLOCK SYSTEM TROUBLESHOOTING					
Boom Extend Proximity Switch	C	C	O	O	
Boom Extend Interlock Relay	E	E	DE	DE	
Boom Extend Lockout Relay	E	E	DE	DE	
Outrigger Lockout Relay	E	E	DE	DE	
Outrigger Pressure Switches	O	C	O	C	
Left Outrigger Lockout Relay	DE	DE	DE	E	
Right Outrigger Lockout Relay	DE	DE	DE	E	
Stabilizer Interlock Relay	DE	E	DE	E	
Stabilizer Lock-Up Relay	DE	DE	DE	E	
Extend Circuit Solenoid Valve	E	E	DE	E	
Park Brake Solenoid Valve	DE	DE	DE	DE	
Park Brake Interlock Relay	DE	DE	DE	E	

NOTE: If an outrigger is up or a pressure switch is defective, boom on 10054 will not extend beyond 42 series extension limit.

**Definitions:**

Boom Retracted = Less than 42 series extension limit

Boom Extended = Boom at 42 series extension limit or greater (See Figure)

PB = Park Brake

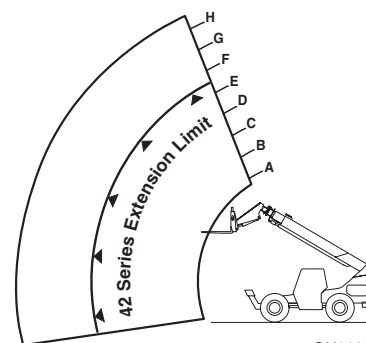
SB = Service Brake

DE = De-energized

E = Energized

C = Closed

O = Open

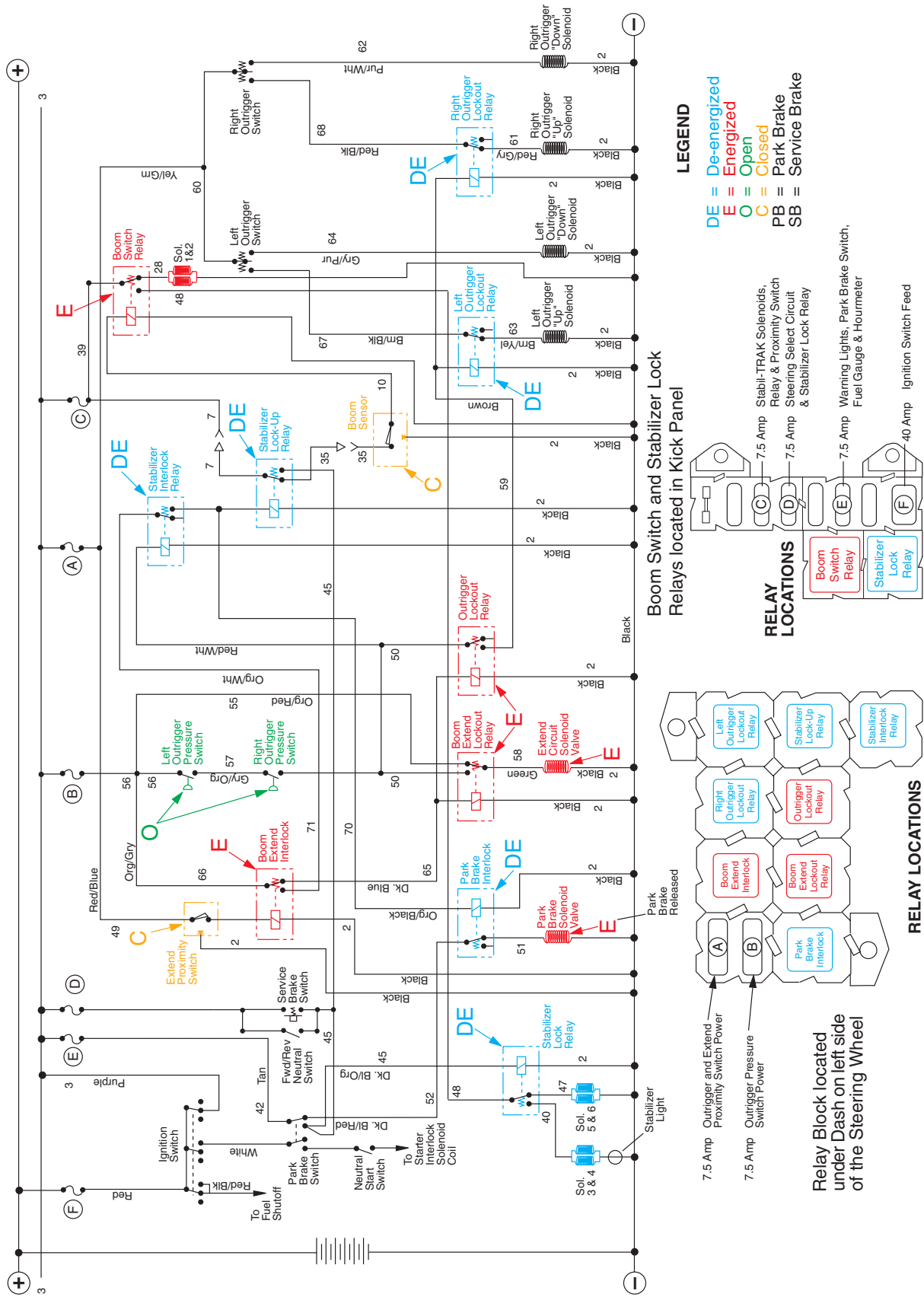


OH0630

# SECTION 10

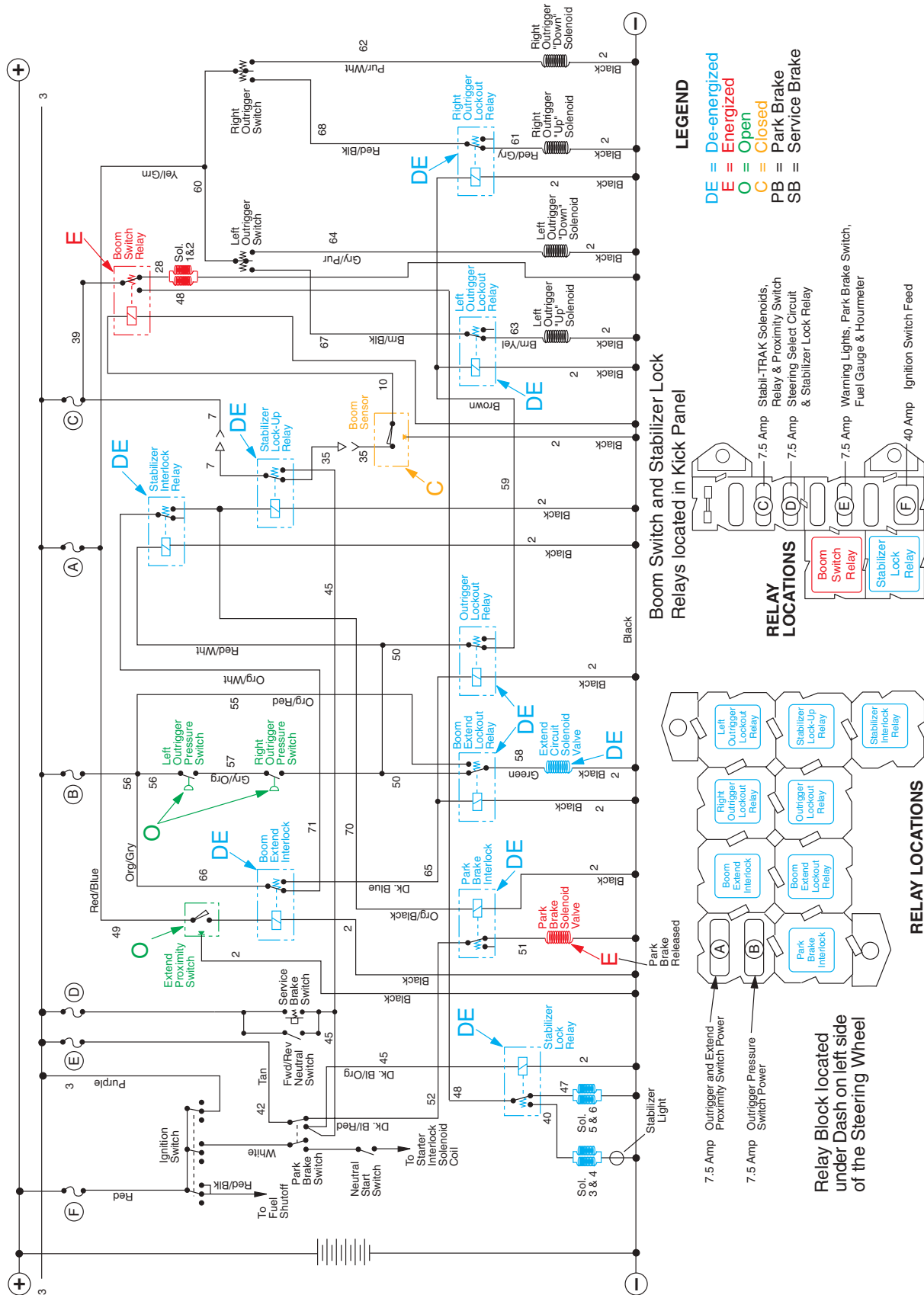
## 10054 Stabil-TRAK Electrical Circuit Boom Extend Mode 1 (S/N 9908 & Before)

MODE 1	1.	4.	
<b>Conditions</b>	2.	5.	6.
	3.	6.	



MODE 2	1. Ignition "ON"	4. Transmission in Fwd. or Rev.
Conditions	2. Boom Below 40°	5. PB & SB Released
	3. Boom Extended	6. Outriggers Up

10054 Stabil-TRAK Electrical Circuit  
 Boom Extend Mode 2  
 (S/N 9908 & Before)



**LEGEND**

- DE = De-energized
- E = Energized
- O = Open
- C = Closed
- PB = Park Brake
- SB = Service Brake

Boom Switch and Stabilizer Lock Relays located in Kick Panel

RELAY LOCATIONS

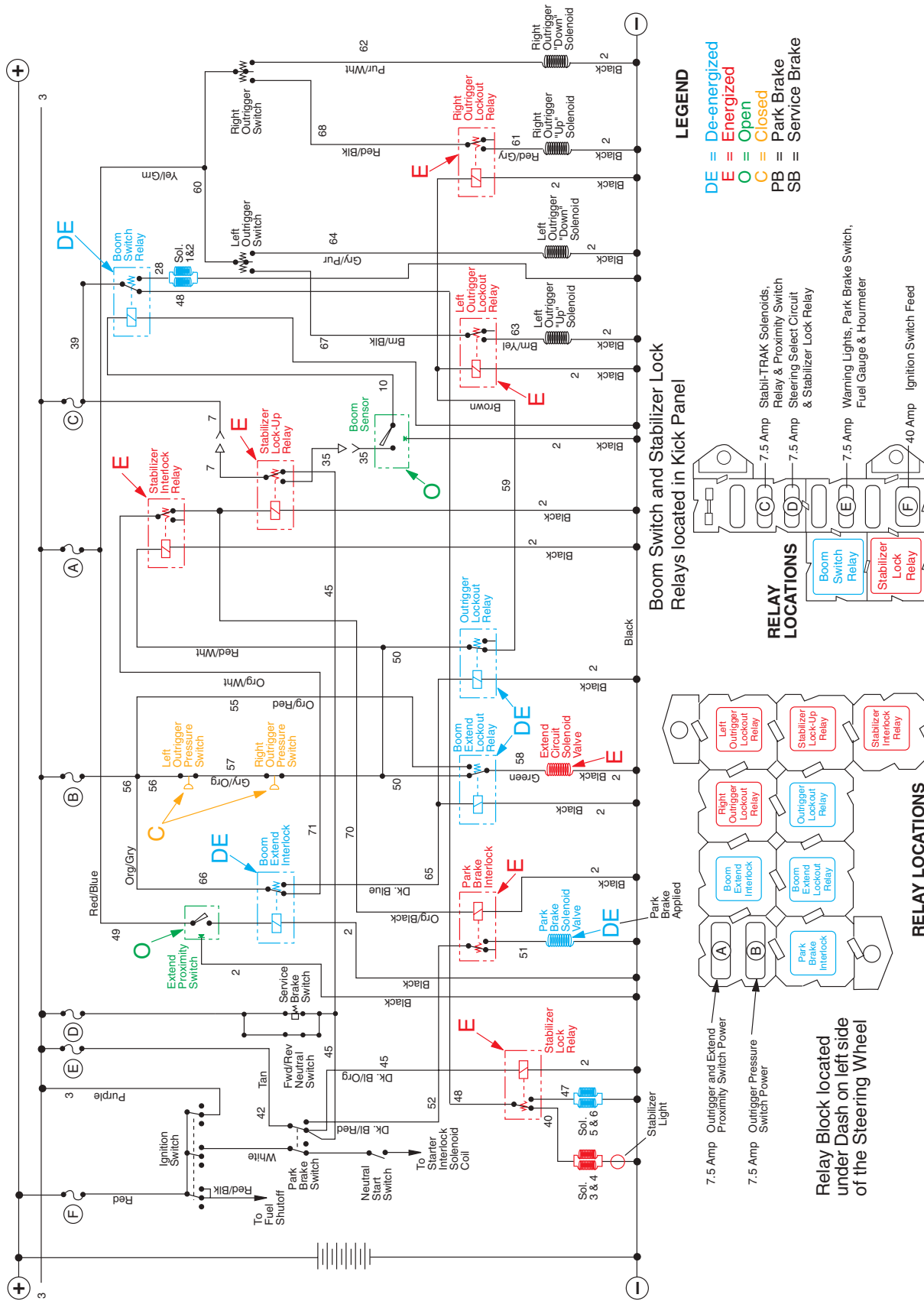
RELAY LOCATIONS

Relay Block located under Dash on left side of the Steering Wheel

**SECTION 10**

**10054 Stabil-TRAK Electrical Circuit  
Boom Extend Mode 3  
(S/N 9908 & Before)**

<b>MODE 3</b>	
<b>Conditions</b>	1. Ignition "ON"
	2. Boom Below 40°
	3. Boom Extended
	4. Transmission in Neutral
	5. PB & SB Applied
	6. Outriggers Down



**LEGEND**

- DE = De-energized
- E = Energized
- O = Open
- C = Closed
- PB = Park Brake
- SB = Service Brake

**RELAY LOCATIONS**

Boom Switch and Stabilizer Lock Relays located in Kick Panel

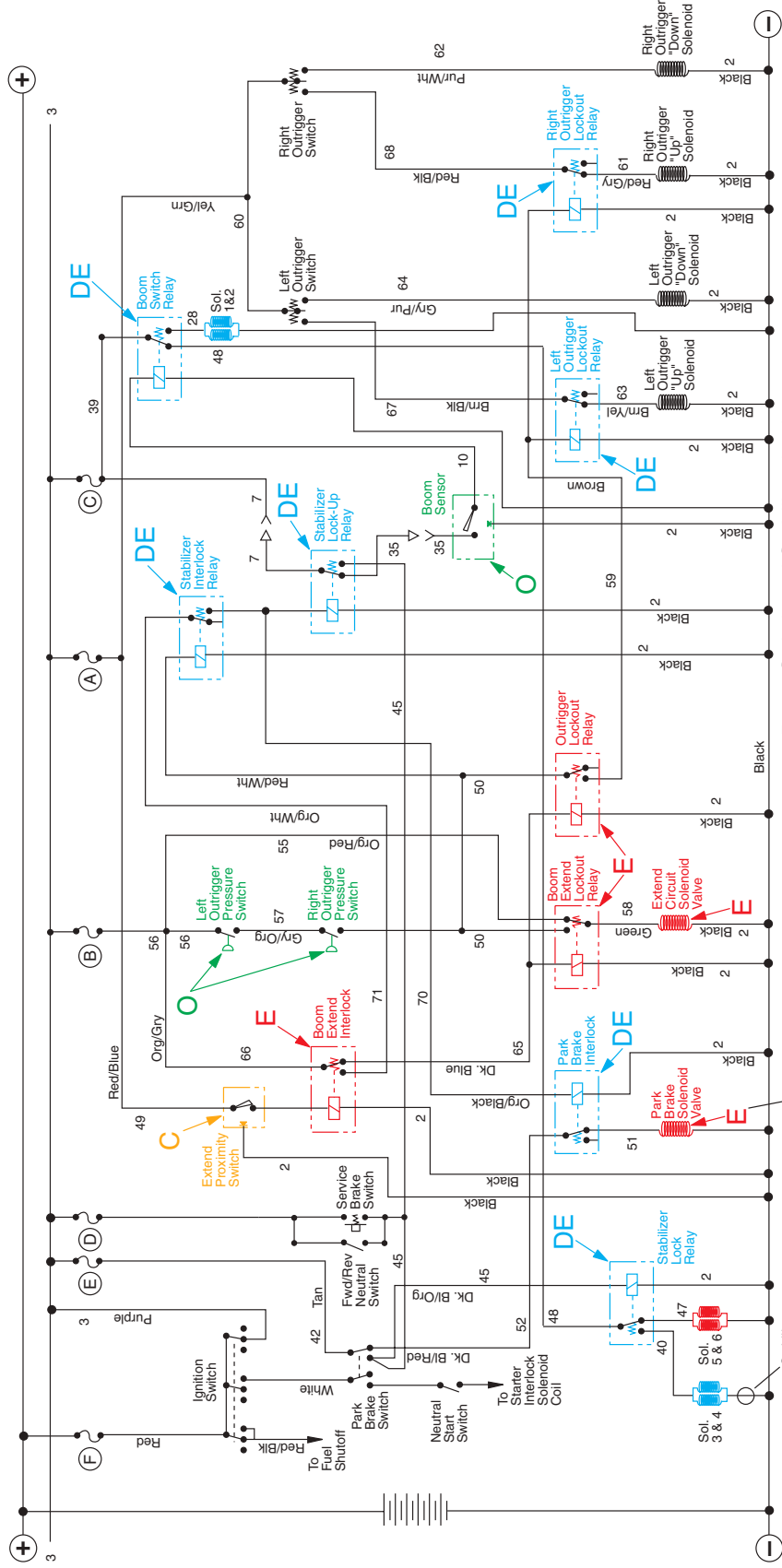
**RELAY LOCATIONS**

Relay Block located under Dash on left side of the Steering Wheel



MODE 4	1.	2.	3.	4.	5.	6.
<b>Conditions</b>	Ignition "ON"	Boom Above 40°	Boom Retracted	Transmission in Fwd. or Rev.	PB & SB Released	Outriggers Up

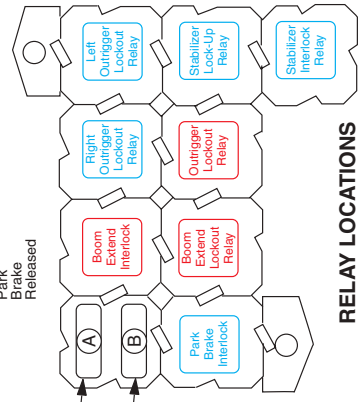
**10054 Stabil-TRAK Electrical Circuit  
Boom Extend Mode 4  
(S/N 9908 & Before)**



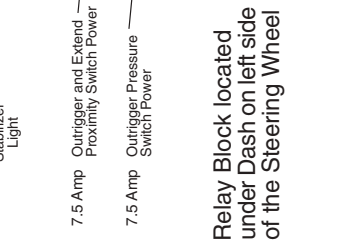
**LEGEND**

- DE = De-energized
- E = Energized
- O = Open
- C = Closed
- PB = Park Brake
- SB = Service Brake

**Boom Switch and Stabilizer Lock  
Relays located in Kick Panel**

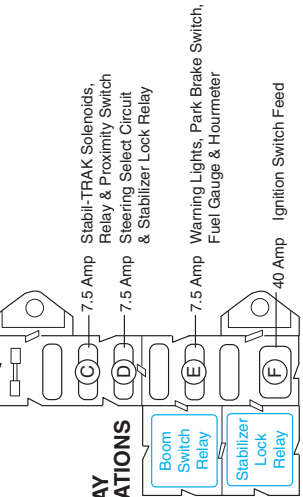


**RELAY  
LOCATIONS**



**Relay Block located  
under Dash on left side  
of the Steering Wheel**

**RELAY LOCATIONS**

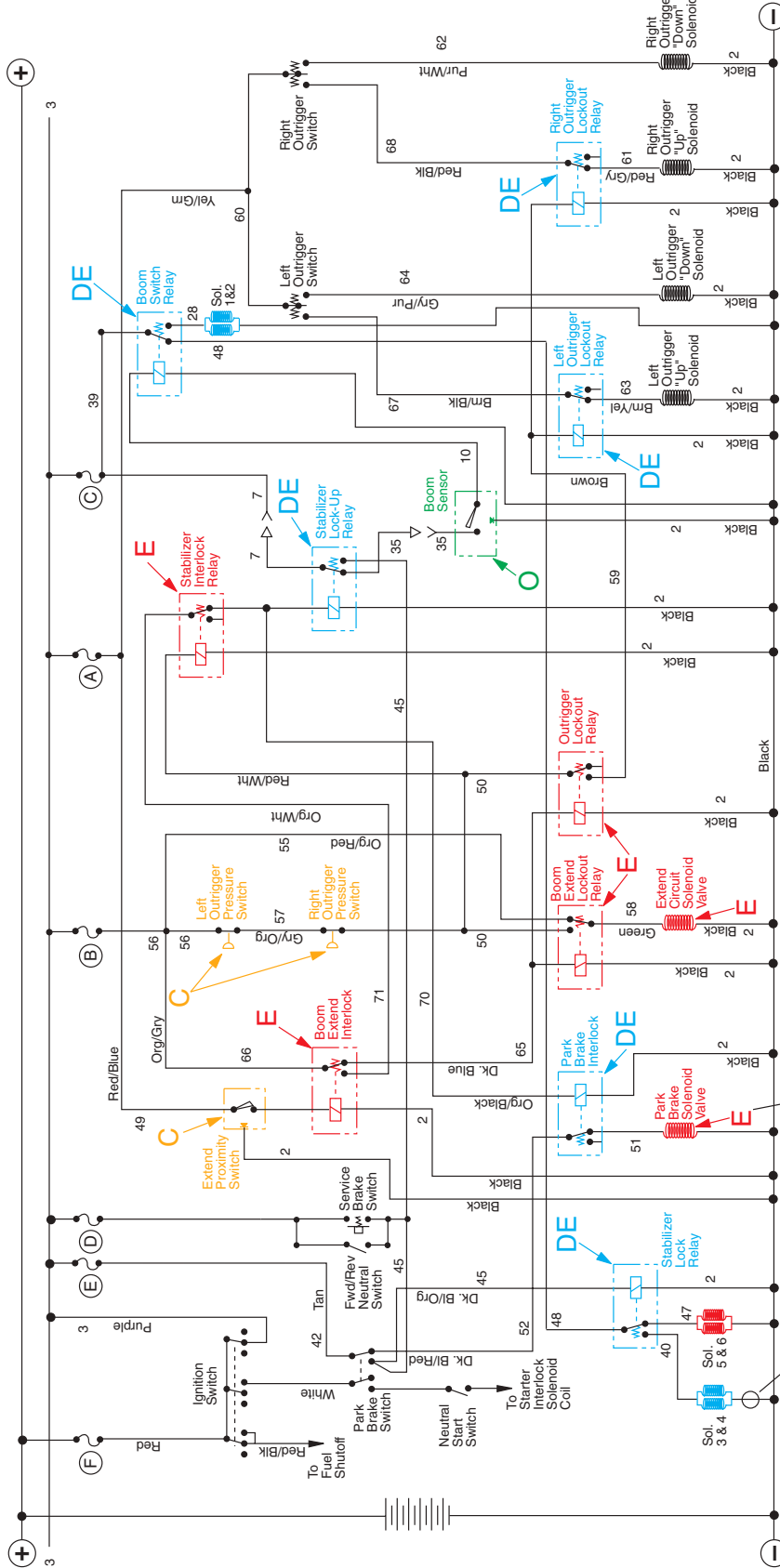


**RELAY  
LOCATIONS**

SECTION 10

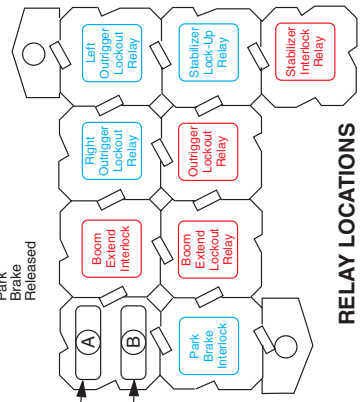
10054 Stabil-TRAK Electrical Circuit  
 Boom Extend Mode 5  
 (S/N 9908 & Before)

MODE 5	1.	4.	
<b>Conditions</b>	2.	5.	6.
	3.		

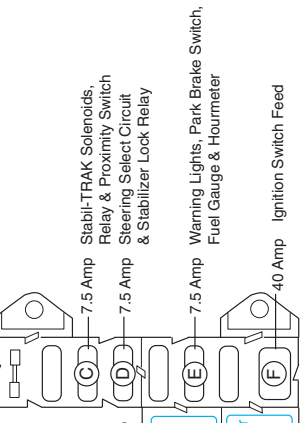


- LEGEND**
- DE = De-energized
  - E = Energized
  - O = Open
  - C = Closed
  - PB = Park Brake
  - SB = Service Brake

Boom Switch and Stabilizer Lock Relays located in Kick Panel



RELAY LOCATIONS

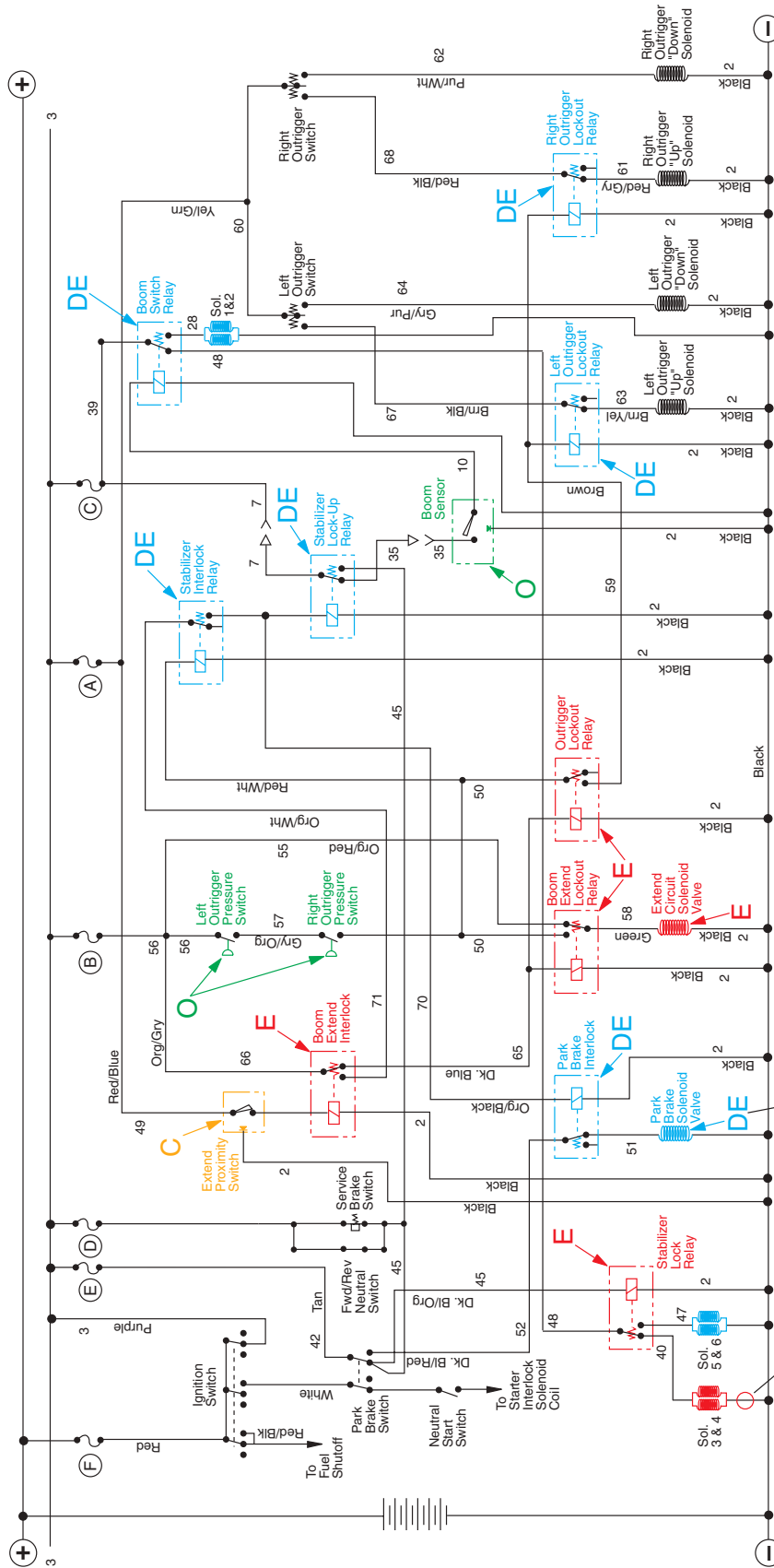


RELAY LOCATIONS

Relay Block located under Dash on left side of the Steering Wheel

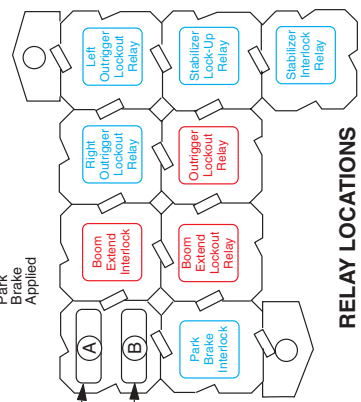
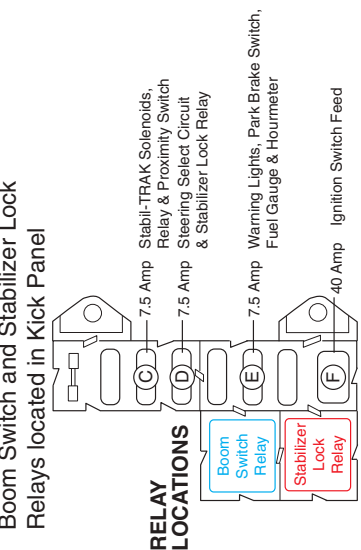
MODE 6	1.	2.	3.	4.	5.	6.
<b>Conditions</b>	1.	Ignition "ON"		4.	Transmission in Neutral	
	2.	Boom Above 40°		5.	PB & SB Applied	
	3.	Boom Retracted		6.	Outriggers Up	

**10054 Stabil-TRAK Electrical Circuit  
Boom Extend Mode 6  
(S/N 9908 & Before)**



- LEGEND**
- DE = De-energized
  - E = Energized
  - O = Open
  - C = Closed
  - PB = Park Brake
  - SB = Service Brake

Boom Switch and Stabilizer Lock Relays located in Kick Panel

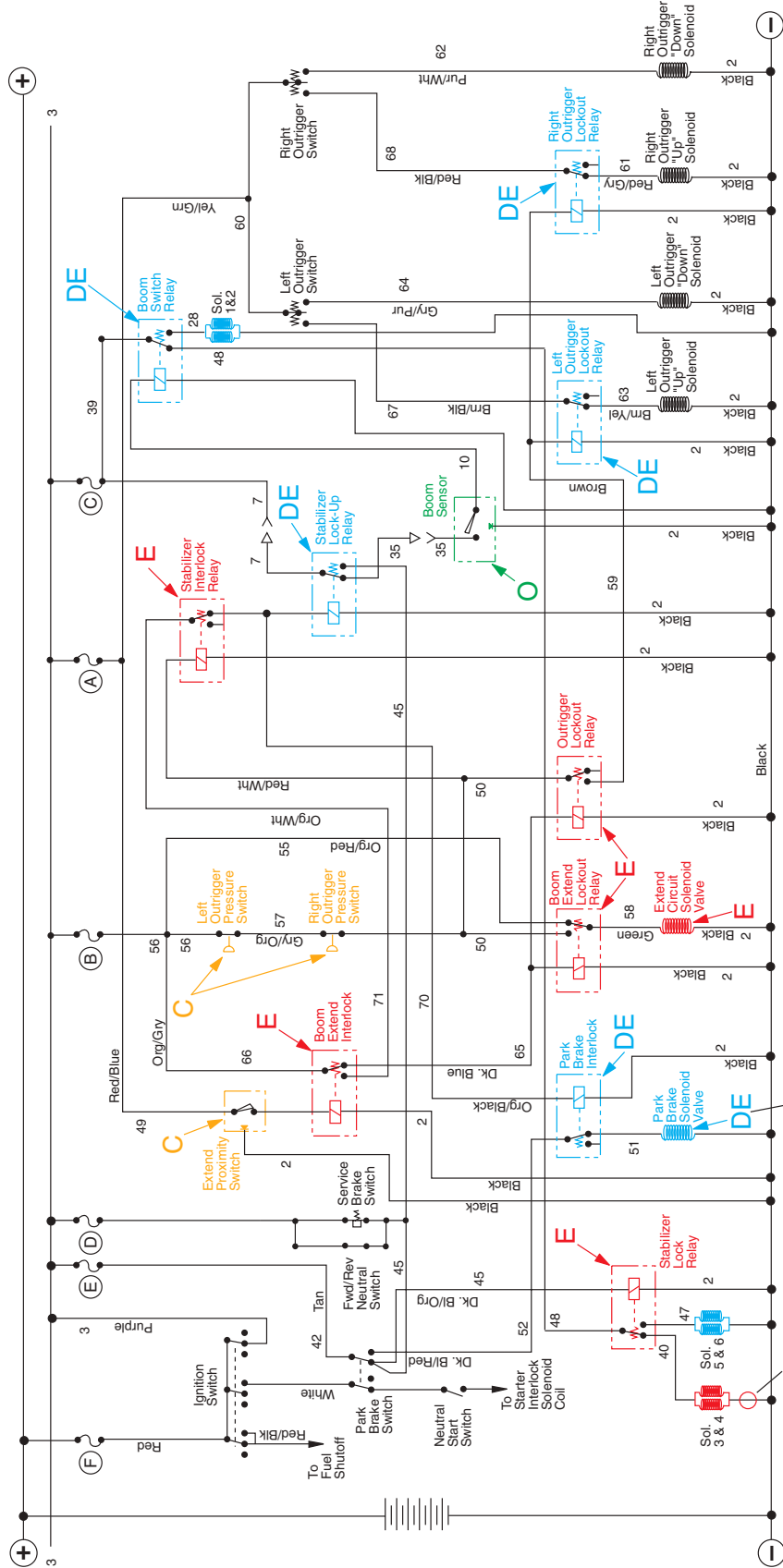


Relay Block located under Dash on left side of the Steering Wheel

SECTION 10

10054 Stabil-TRAK Electrical Circuit  
Boom Extend Mode 7  
(S/N 9908 & Before)

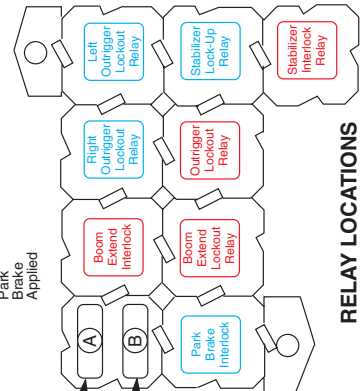
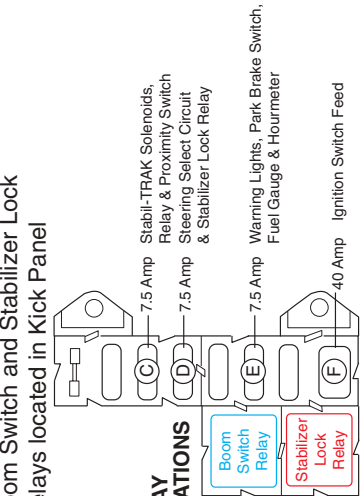
MODE 7	1.	4.
<b>Conditions</b>	2.	5.
	3.	6.
	Ignition "ON"	Transmission in Neutral
	Boom Above 40°	PB & SB Applied
	Boom Retracted	Outriggers Down



**LEGEND**

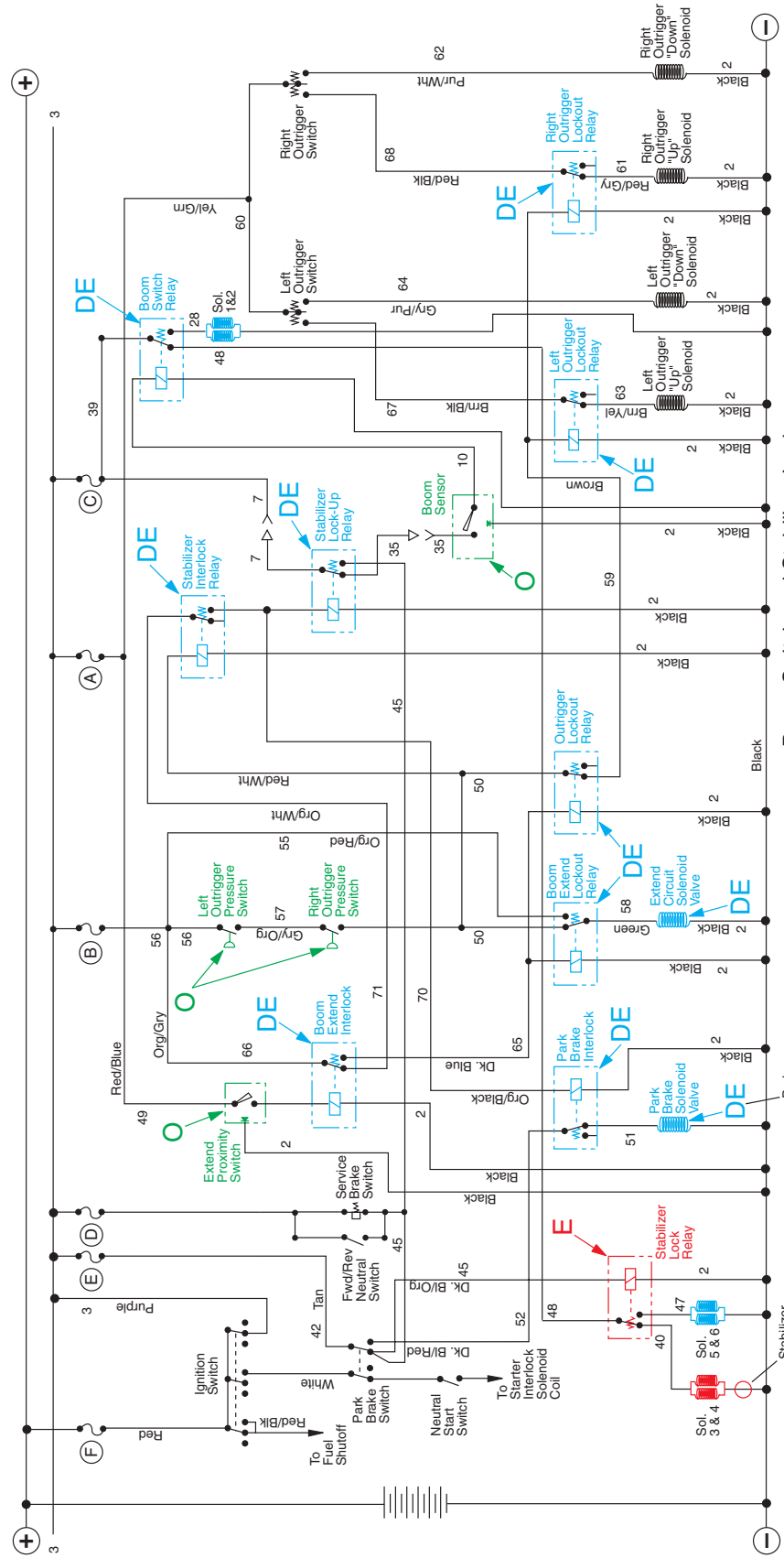
- DE = De-energized
- E = Energized
- O = Open
- C = Closed
- PB = Park Brake
- SB = Service Brake

Boom Switch and Stabilizer Lock Relays located in Kick Panel



<b>MODE 8</b> <b>Conditions</b>	1.	Ignition "ON"	4.	Transmission in Neutral
	2.	Boom Above 40°	5.	PB & SB Applied
	3.	Boom Extended	6.	Outriggers Up

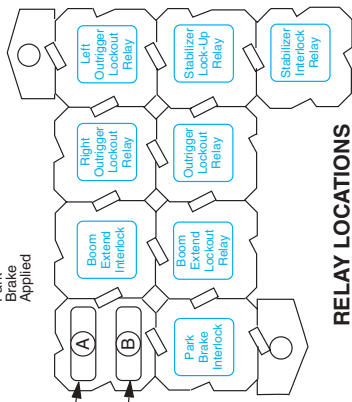
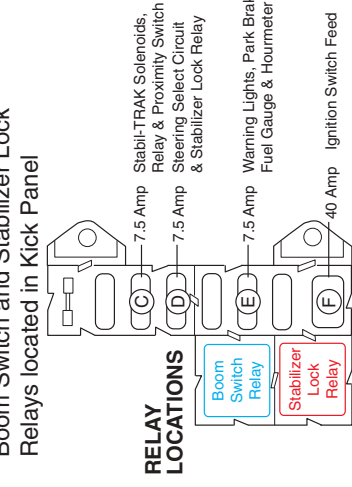
**10054 Stabil-TRAK Electrical Circuit  
Boom Extend Mode 8  
(S/N 9908 & Before)**



**LEGEND**

- DE = De-energized
- E = Energized
- O = Open
- C = Closed
- PB = Park Brake
- SB = Service Brake

Boom Switch and Stabilizer Lock  
Relays located in Kick Panel

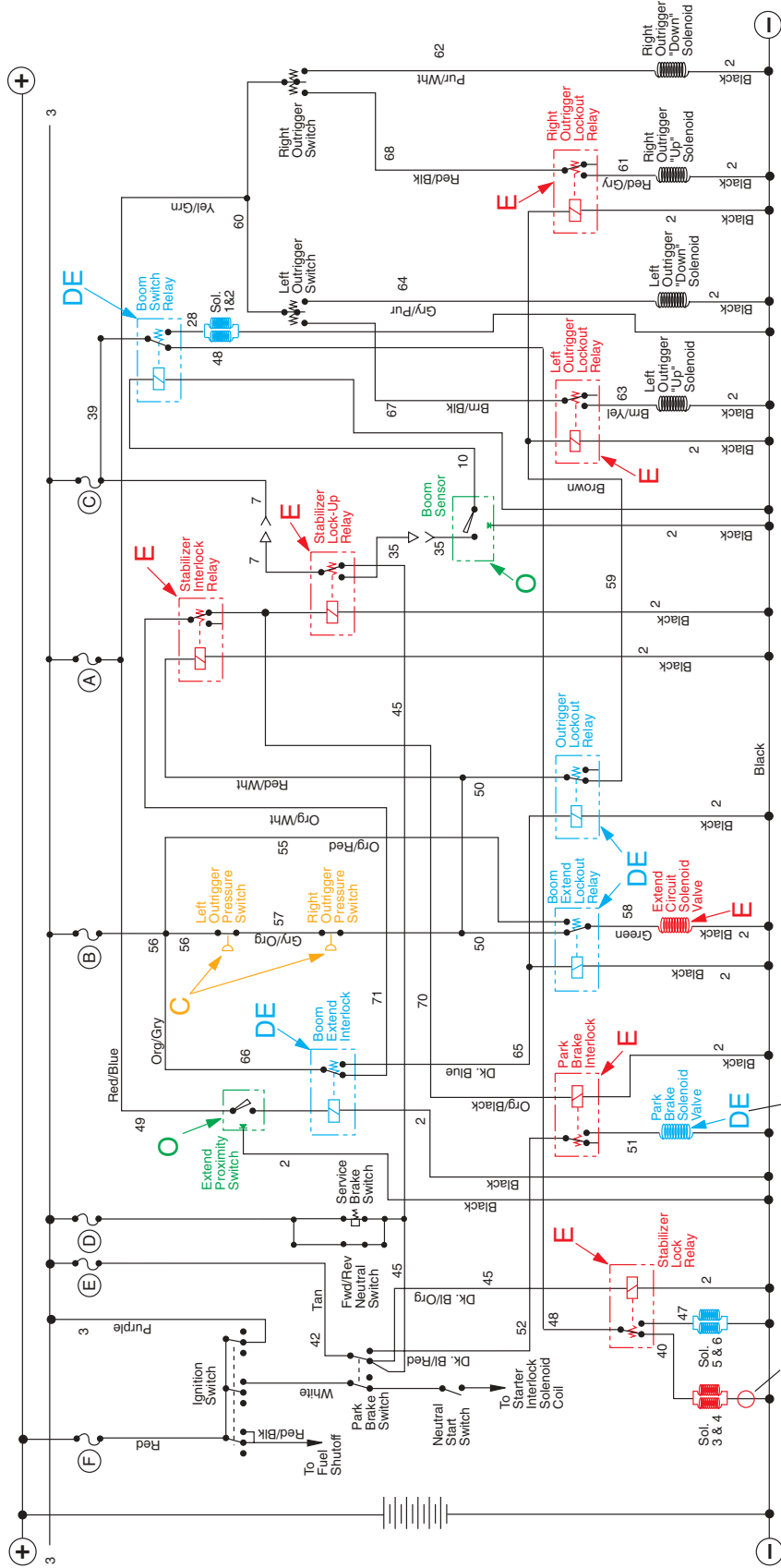


Relay Block located under Dash on left side of the Steering Wheel

SECTION 10

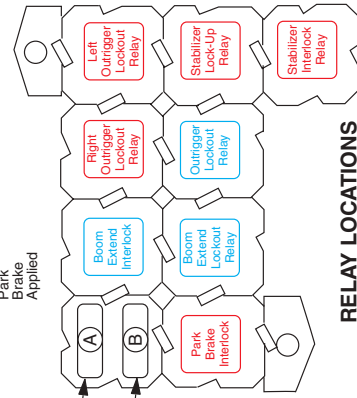
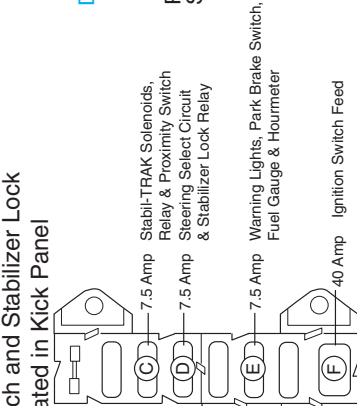
10054 Stabil-TRAK Electrical Circuit  
Boom Extend Mode 9  
(S/N 9908 & Before)

MODE 9	1.	4.
<b>Conditions</b>	2.	5.
	3.	6.
	Ignition "ON"	Transmission in Neutral
	Boom Above 40°	PB & SB Applied
	Boom Extended	Outriggers Down



- LEGEND**
- DE = De-energized
  - E = Energized
  - O = Open
  - C = Closed
  - PB = Park Brake
  - SB = Service Brake

Boom Switch and Stabilizer Lock Relays located in Kick Panel



Relay Block located under Dash on left side of the Steering Wheel

7.5 Amp Outrigger and Extend Proximity Switch Power

7.5 Amp Outrigger Pressure Switch Power

# NOTES

SECTION 10

**10054 Stabil-TRAK System Troubleshooting (S/N 9909 & After)**

	<b>BOOM EXTEND MODE 1</b>	<b>BOOM EXTEND MODE 2</b>	<b>BOOM EXTEND MODE 3</b>	<b>BOOM EXTEND MODE 4</b>	<b>BOOM EXTEND MODE 5</b>
	Reference page 398	Reference page 399	Reference page 400	Reference page 401	Reference page 402
<b>Machine Conditions</b> Switch/Relay Solenoid	Ignition On Boom Below 40° Boom Retracted PB & SB Released Trans. Fwd. or Rev. Outriggers Up	Ignition On Boom Below 40° Boom Extended PB & SB Released Trans. Fwd. or Rev. Outriggers Up	Ignition On Boom Below 40° Boom Extended PB & SB Applied Trans. Neutral Outriggers Down	Ignition On Boom Above 40° Boom Retracted PB & SB Released Trans. Fwd. or Rev. Outriggers Up	Ignition On Boom Above 40° Boom Retracted PB & SB Released Trans. Fwd. or Rev. Outriggers Down
Solenoid 1	E	E	E	DE	DE
Solenoid 2	E	E	E	DE	DE
Solenoid 3	DE	DE	DE	DE	DE
Solenoid 4	DE	DE	DE	DE	DE
Solenoid 5	DE	DE	DE	E	E
Solenoid 6	DE	DE	DE	E	E
Boom Angle Sensor	C	C	O	O	O
Boom Relay	E	E	E	DE	DE
Stabilizer Lock Relay	DE	DE	E	DE	DE
Stabilizer Light	Off	Off	On	Off	On

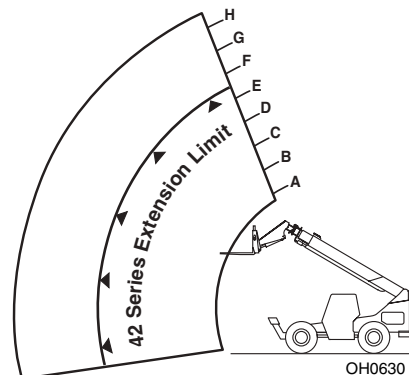
**BOOM EXTEND INTERLOCK SYSTEM TROUBLESHOOTING**

Boom Extend Proximity Switch	C	O	O	C	C
Boom Extend Interlock Relay	E	DE	DE	E	E
Boom Extend Lockout Relay	E	DE	DE	E	E
Outrigger Lockout Relay	E	DE	DE	E	E
Outrigger Pressure Switches	O	O	C	O	C
Left Outrigger Lockout Relay	DE	DE	E	DE	DE
Right Outrigger Lockout Relay	DE	DE	E	DE	DE
Stabilizer Interlock Relay	DE	DE	E	DE	E
Stabilizer Lock-Up Relay	DE	DE	E	DE	DE
Extend Circuit Solenoid Valve	E	DE	E	E	E
Park Brake Solenoid Valve	E	E	DE	E	E
Park Brake Interlock Relay	DE	DE	E	DE	DE
Park Brake Disconnect Relay	E	E	DE	E	E
Neutral Start Relay	DE	DE	E	DE	DE

*NOTE: If an outrigger is up or a pressure switch is defective, boom on 10054 will not extend beyond 42 series extension limit.*

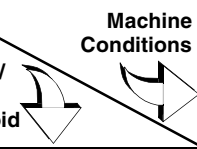

**Definitions:**

- Boom Retracted = Less than 42 series extension limit
- Boom Extended = Boom at 42 series extension limit or greater (See Figure)
- PB = Park Brake
- SB = Service Brake
- DE = De-energized
- E = Energized
- C = Closed
- O = Open





**10054 Stabi-TRAK System Troubleshooting (S/N 9909 & After)**

	<b>BOOM EXTEND MODE 6</b>	<b>BOOM EXTEND MODE 7</b>	<b>BOOM EXTEND MODE 8</b>	<b>BOOM EXTEND MODE 9</b>	
	Reference page 403	Reference page 404	Reference page 405	Reference page 406	
<b>Machine Conditions</b> 	Ignition On Boom Above 40° Boom Retracted PB & SB Applied Trans. Neutral Outriggers Up	Ignition On Boom Above 40° Boom Retracted PB & SB Applied Trans. Neutral Outriggers Down	Ignition On Boom Above 40° Boom Extended PB & SB Applied Trans. Neutral Outriggers Up	Ignition On Boom Above 40° Boom Extended PB & SB Applied Trans. Neutral Outriggers Down	
<b>Switch/ Relay Solenoid</b> 					
Solenoid 1	DE	DE	DE	DE	
Solenoid 2	DE	DE	DE	DE	
Solenoid 3	E	E	E	E	
Solenoid 4	E	E	E	E	
Solenoid 5	DE	DE	DE	DE	
Solenoid 6	DE	DE	DE	DE	
Boom Angle Sensor	O	O	O	O	
Boom Relay	DE	DE	DE	DE	
Stabilizer Lock Relay	E	E	E	E	
Stabilizer Light	On	On	On	On	
<b>BOOM EXTEND INTERLOCK SYSTEM TROUBLESHOOTING</b>					
Boom Extend Proximity Switch	C	C	O	O	
Boom Extend Interlock Relay	E	E	DE	DE	
Boom Extend Lockout Relay	E	E	DE	DE	
Outrigger Lockout Relay	E	E	DE	DE	
Outrigger Pressure Switches	O	C	O	C	
Left Outrigger Lockout Relay	DE	DE	DE	E	
Right Outrigger Lockout Relay	DE	DE	DE	E	
Stabilizer Interlock Relay	DE	E	DE	E	
Stabilizer Lock-Up Relay	DE	DE	DE	E	
Extend Circuit Solenoid Valve	E	E	DE	E	
Park Brake Solenoid Valve	DE	DE	DE	DE	
Park Brake Interlock Relay	DE	DE	DE	E	
Park Brake Disconnect Relay	DE	DE	DE	DE	
Neutral Start Relay	E	E	E	E	

**NOTE:** If an outrigger is up or a pressure switch is defective, boom on 10054 will not extend beyond 42 series extension limit.

**Definitions:**

Boom Retracted = Less than 42 series extension limit

Boom Extended = Boom at 42 series extension limit or greater (See Figure)

PB = Park Brake

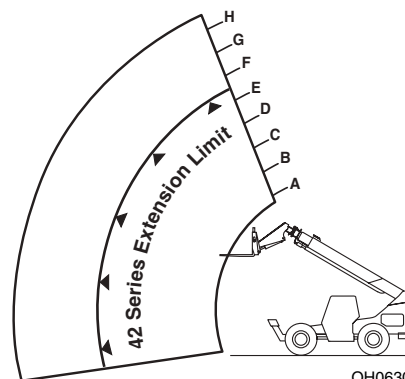
SB = Service Brake

DE = De-energized

E = Energized

C = Closed

O = Open

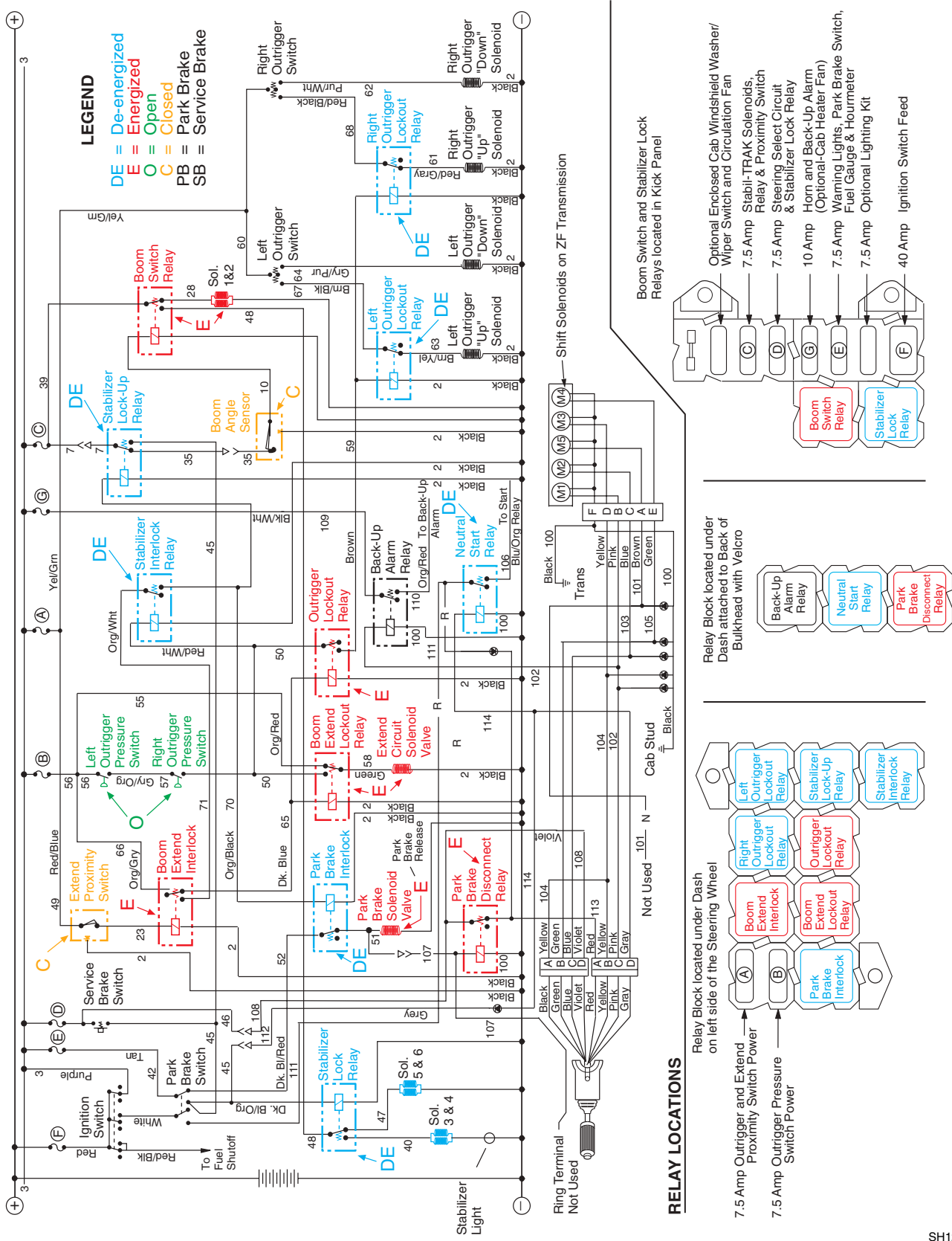


OH0630

**SECTION 10**

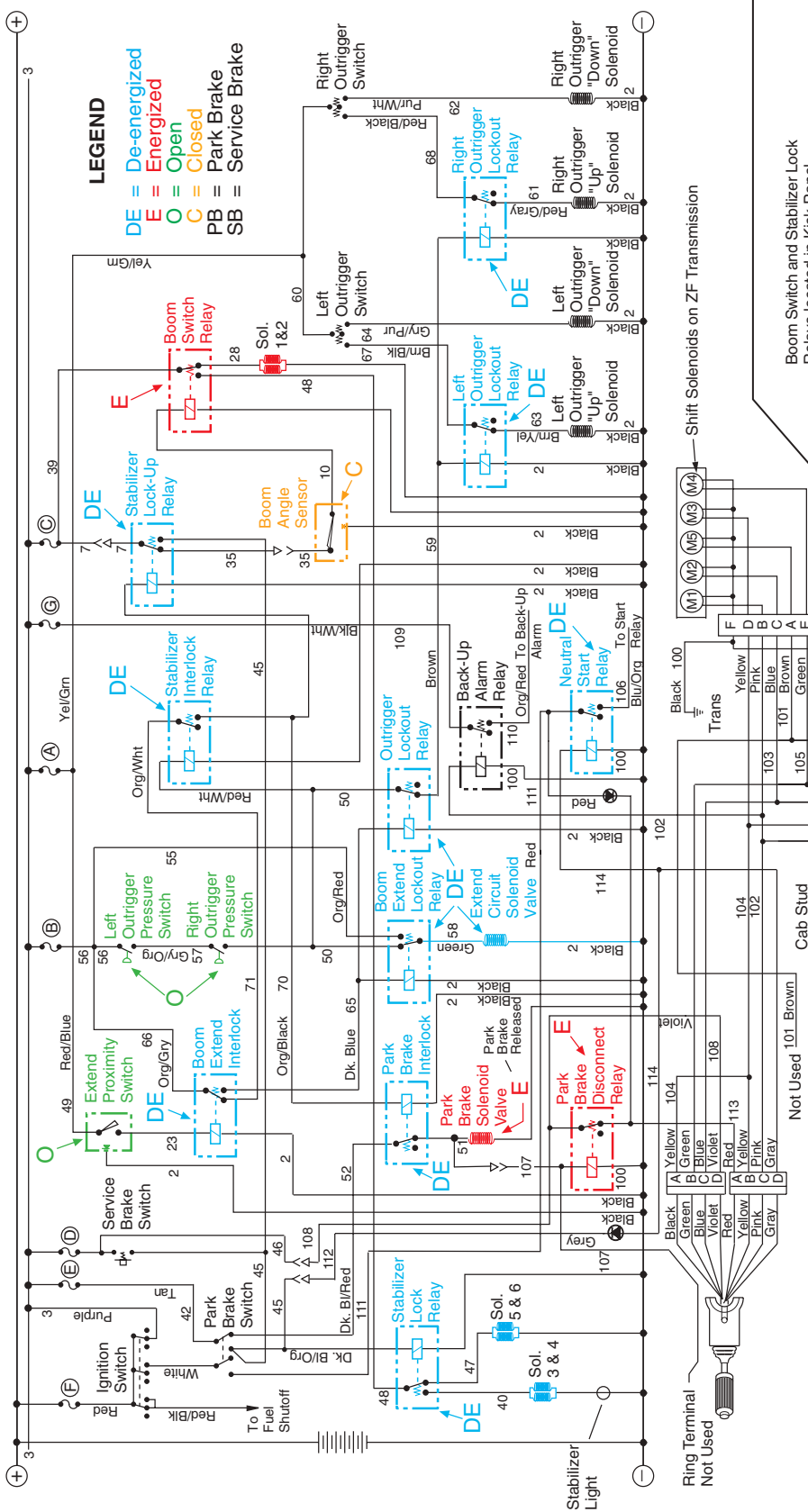
**10054 Stabil-TRAK Electrical Circuit  
Boom Extend Mode 1  
(S/N 9909 & After)**

<b>MODE 1</b>	
<b>Conditions</b>	1. Ignition "ON"
	2. Boom Below 40°
	3. Boom Retracted
	4. Transmission in Fwd. or Rev.
	5. PB & SB Released
	6. Outriggers Up

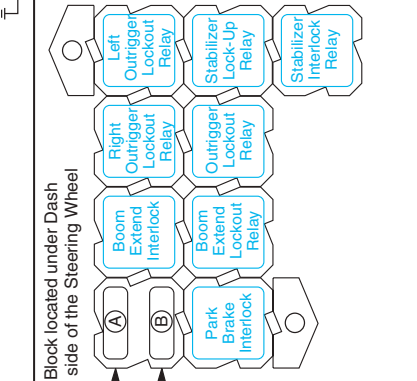
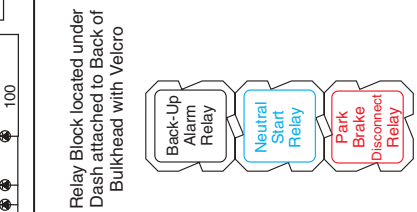
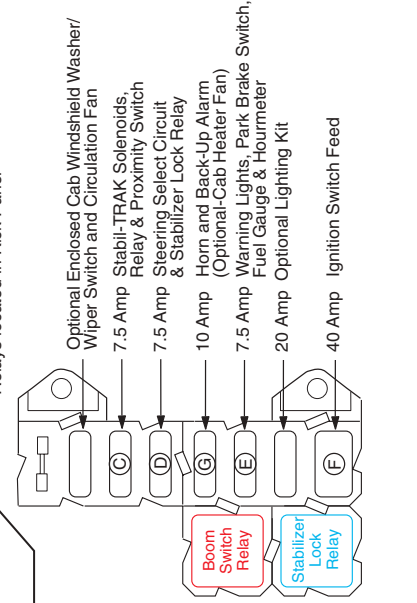


10054 Stabil-TRAK Electrical Circuit  
 Boom Extend Mode 2  
 (S/N 9909 & After)

MODE 2	1.	2.	3.	4.	5.	6.
Conditions	Ignition "ON"	Boom Below 40°	Boom Extended	Transmission in Fwd. or Rev.	PB & SB Released	Outriggers Up



**LEGEND**  
 DE = De-energized  
 E = Energized  
 O = Open  
 C = Closed  
 PB = Park Brake  
 SB = Service Brake



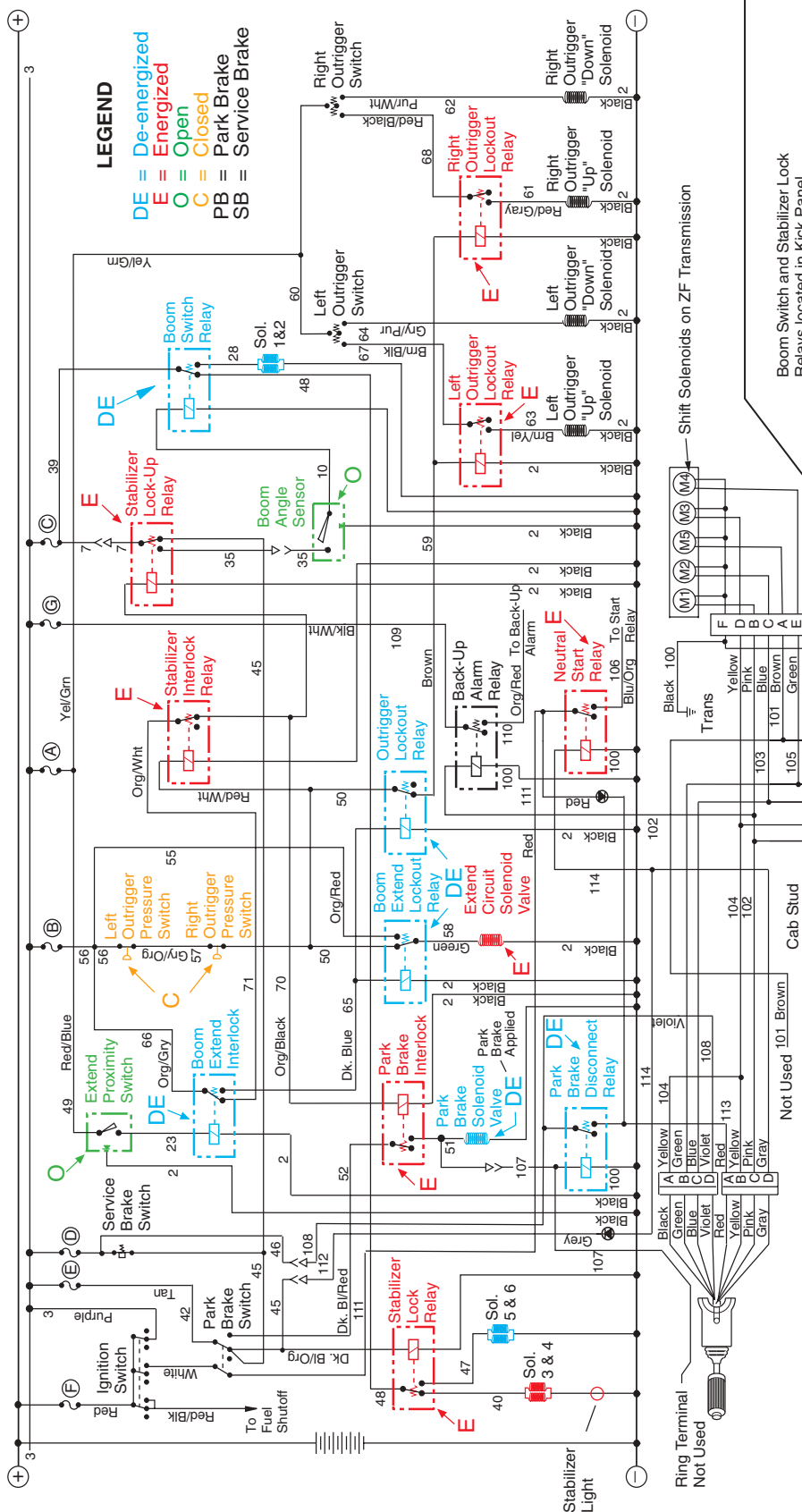
**RELAY LOCATIONS**  
 Relay Block located under Dash on left side of the Steering Wheel  
 Relay Block located under Dash attached to Back of Bulkhead with Velcro  
 Boom Switch and Stabilizer Lock Relays located in Kick Panel

- Optional Enclosed Cab Windshield Washer/Wiper Switch and Circulation Fan
- 7.5 Amp Stabil-TRAK Solenoids, Relay & Proximity Switch
- 7.5 Amp Steering Select Circuit & Stabilizer Lock Relay
- 10 Amp Horn and Back-Up Alarm (Optional-Cab Heater Fan)
- 7.5 Amp Warning Lights, Park Brake Switch, Fuel Gauge & Hourmeter
- 20 Amp Optional Lighting Kit
- 40 Amp Ignition Switch Feed

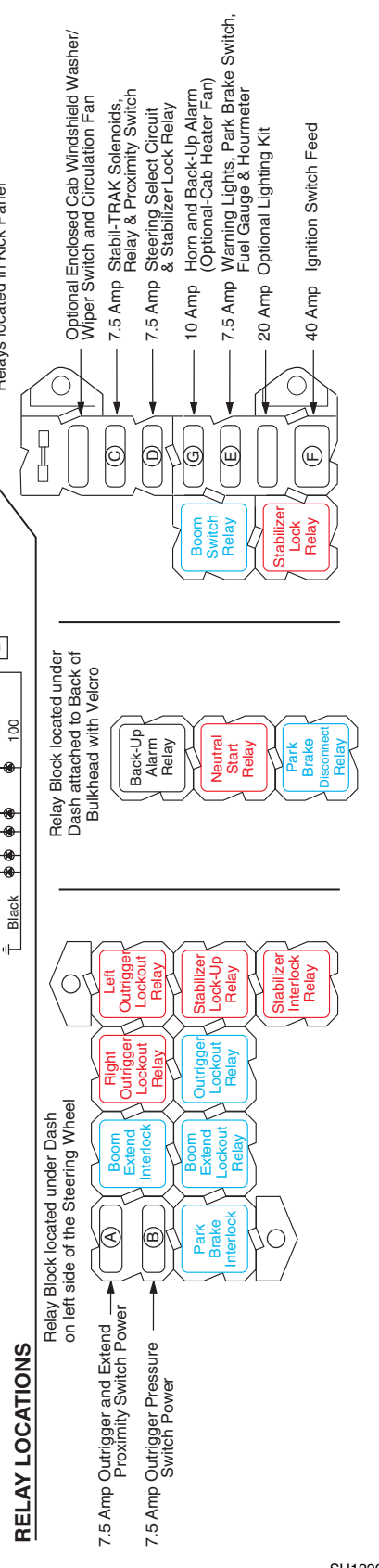
# SECTION 10

## 10054 Stabil-TRAK Electrical Circuit Boom Extend Mode 3 (S/N 9909 & After)

MODE 3	
<b>Conditions</b>	1. Ignition "ON"
	2. Boom Below 40°
	3. Boom Extended
	4. Transmission in Neutral
	5. PB & SB Applied
	6. Outriggers Down

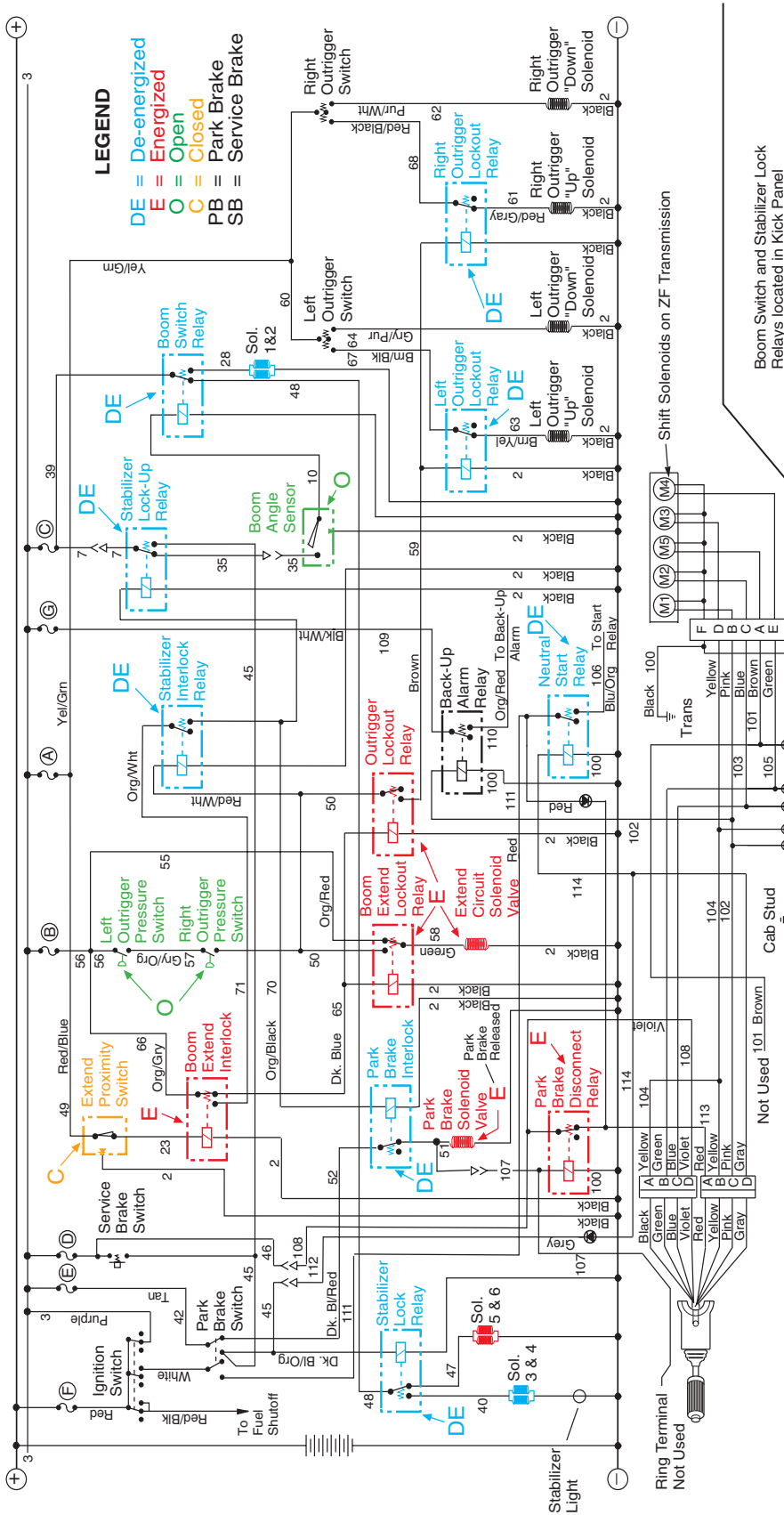


**LEGEND**  
 DE = De-energized  
 E = Energized  
 O = Open  
 C = Closed  
 PB = Park Brake  
 SB = Service Brake

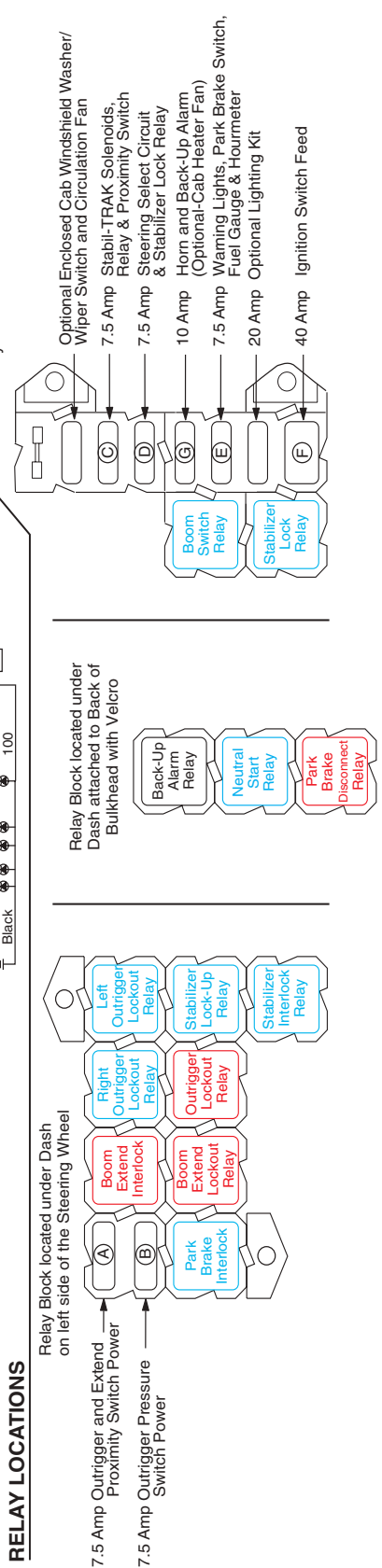


<b>MODE 4</b>	1.	Ignition "ON"	4.	Transmission in Fwd. or Rev.	
	<b>Conditions</b>	2.	Boom Above 40°	5.	PB & SB Released
		3.	Boom Retracted	6.	Outriggers Up

**10054 Stabil-TRAK Electrical Circuit  
Boom Extend Mode 4  
(S/N 9909 & After)**



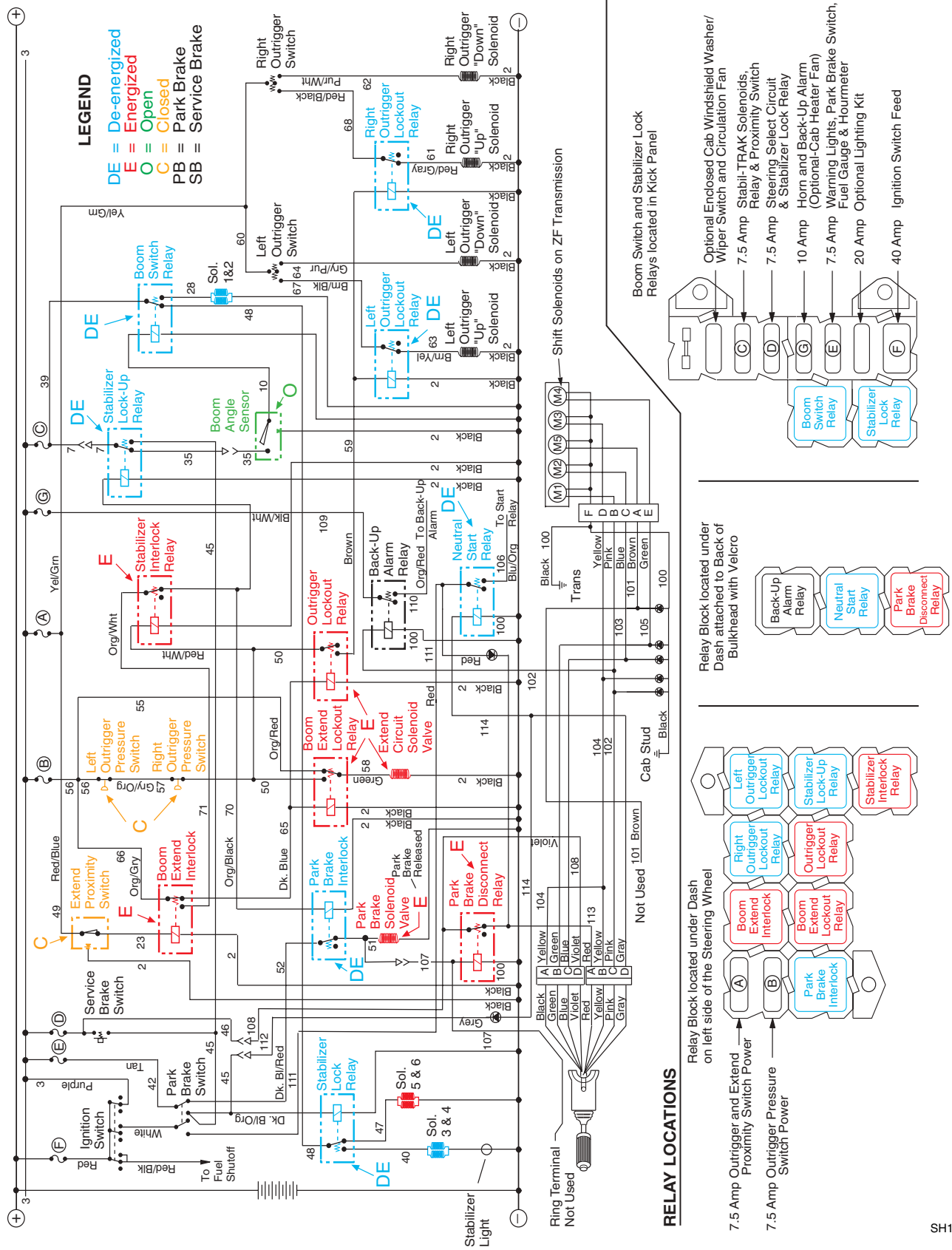
**LEGEND**  
 DE = De-energized  
 E = Energized  
 O = Open  
 C = Closed  
 PB = Park Brake  
 SB = Service Brake



SECTION 10

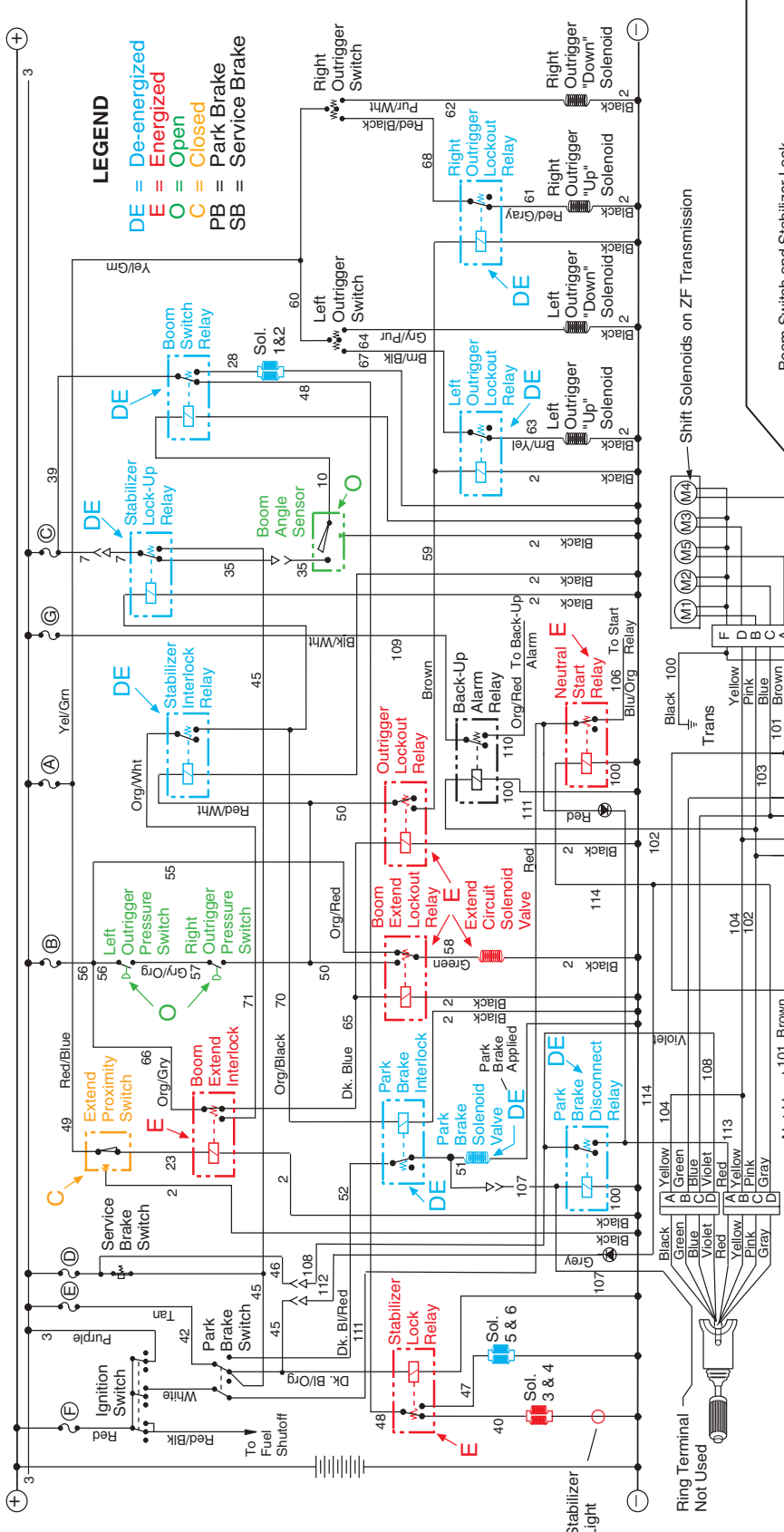
10054 Stabil-TRAK Electrical Circuit  
 Boom Extend Mode 5  
 (S/N 9909 & After)

MODE 5	
<b>Conditions</b>	1. Ignition "ON"
	2. Boom Above 40°
	3. Boom Retracted
	4. Transmission in Fwd. or Rev.
	5. PB & SB Released
	6. Outriggers Down

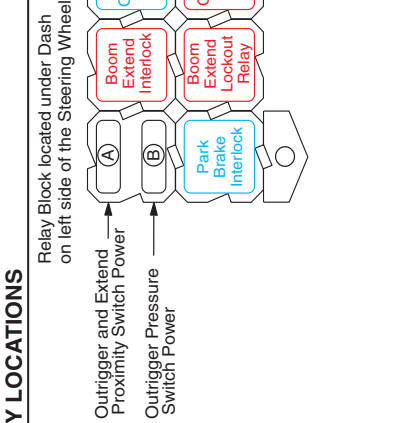
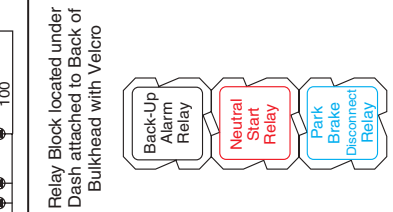
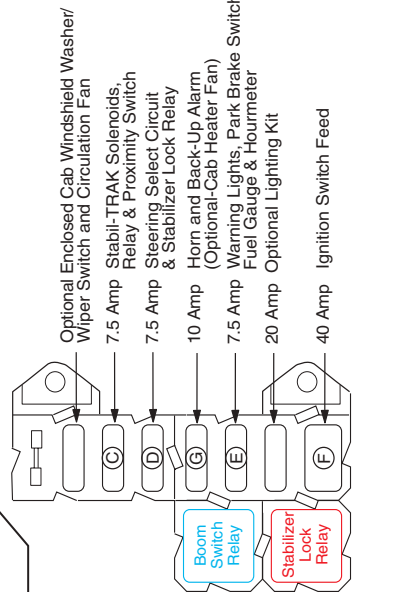


MODE 6	1.	2.	3.	4.	5.	6.		
<b>Conditions</b>	1.	Ignition "ON"	2.	Boom Above 40°	3.	Boom Retracted		
	4.	Transmission in Neutral	5.	PB & SB Applied	6.	Outriggers Up		
	2.	Boom Above 40°	3.	Boom Retracted	4.	Transmission in Neutral	5.	PB & SB Applied
	3.	Boom Retracted	4.	Transmission in Neutral	5.	PB & SB Applied	6.	Outriggers Up
	4.	Transmission in Neutral	5.	PB & SB Applied	6.	Outriggers Up		
	5.	PB & SB Applied	6.	Outriggers Up				

**10054 Stabil-TRAK Electrical Circuit  
Boom Extend Mode 6  
(S/N 9909 & After)**



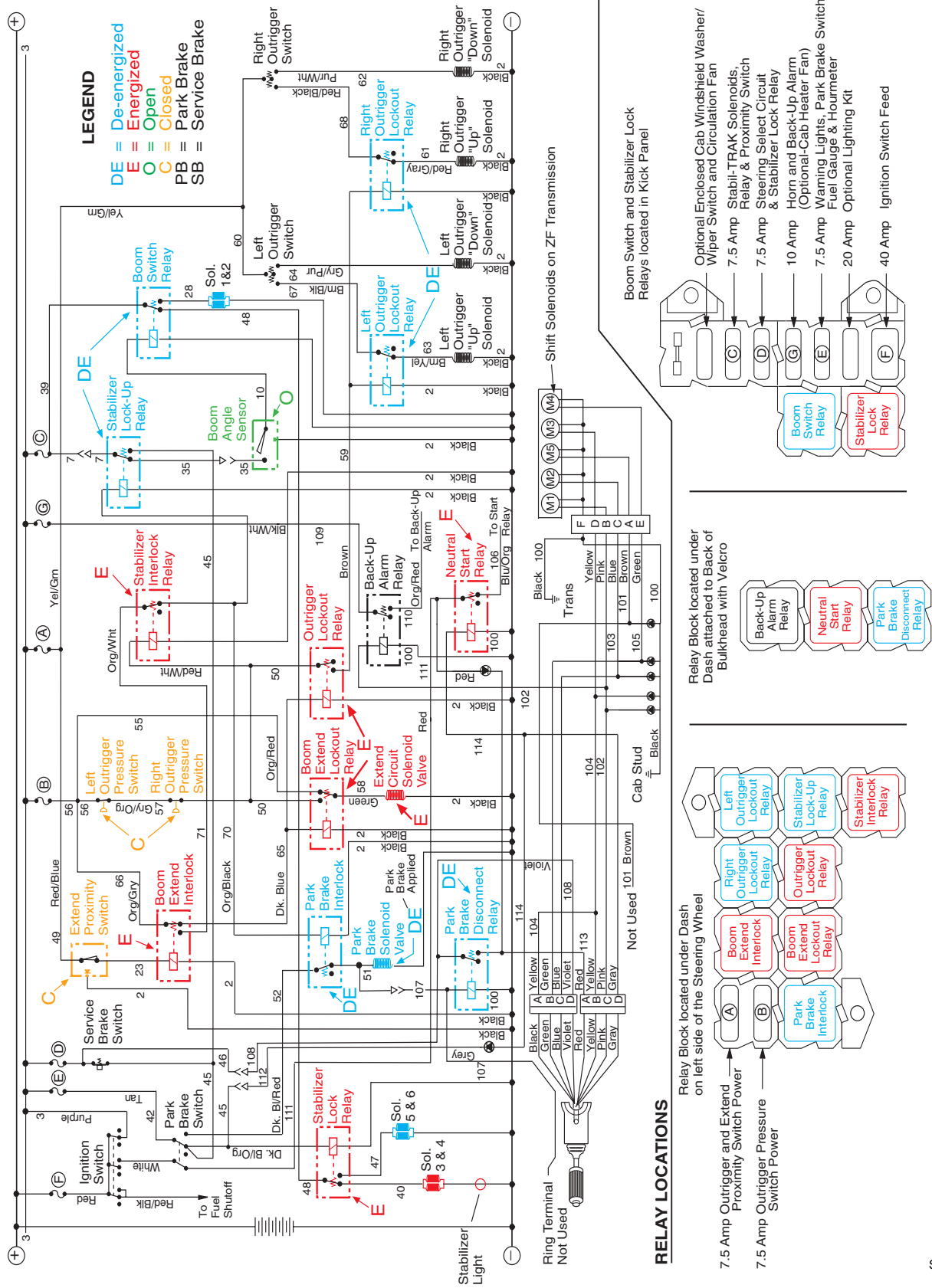
**LEGEND**  
 DE = De-energized  
 E = Energized  
 O = Open  
 C = Closed  
 PB = Park Brake  
 SB = Service Brake



SECTION 10

10054 Stabil-TRAK Electrical Circuit  
Boom Extend Mode 7  
(S/N 9909 & After)

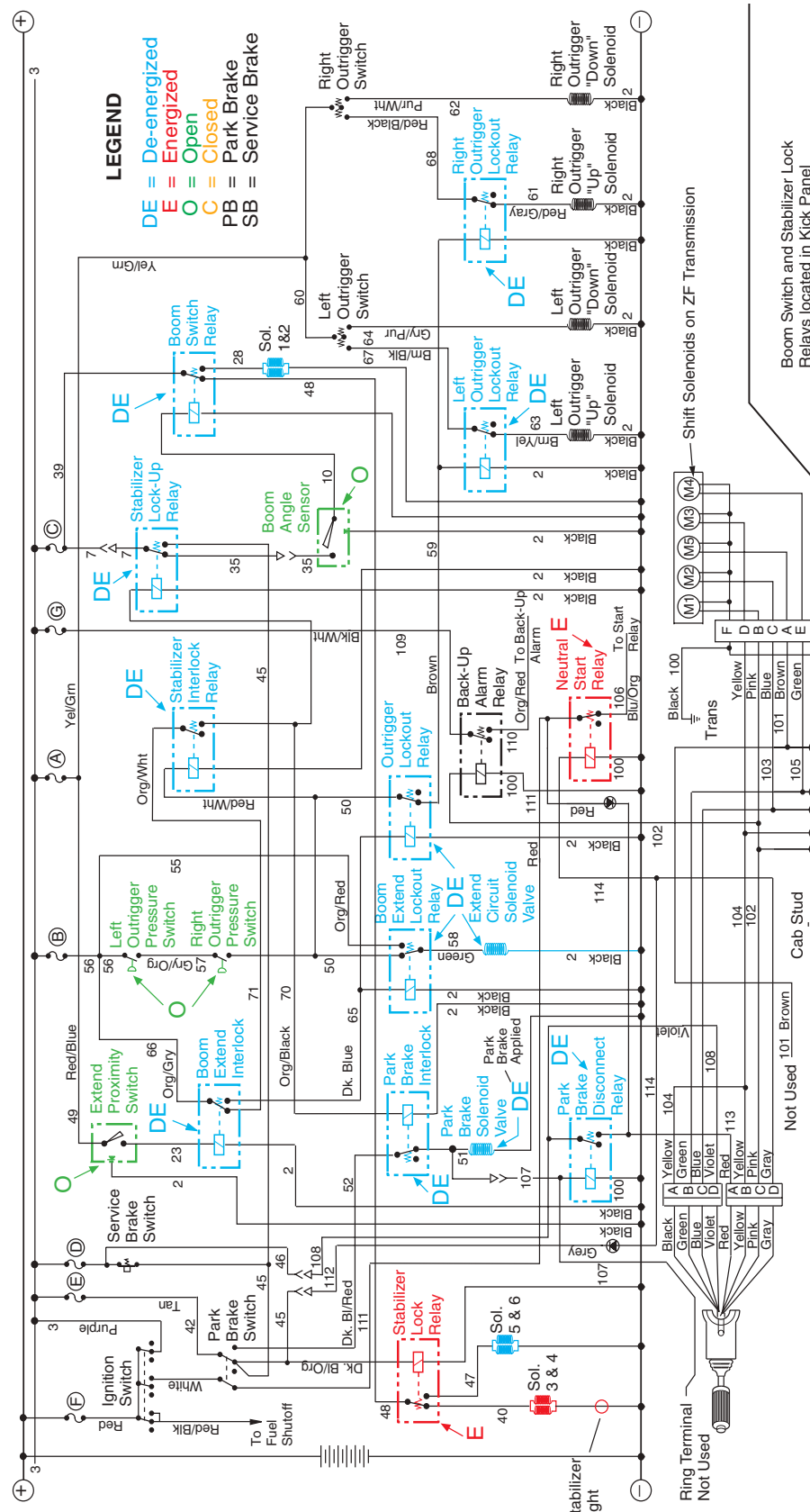
MODE 7	1.	4.
<b>Conditions</b>	2.	5.
	3.	6.
	Ignition "ON"	Transmission in Neutral
	Boom Above 40°	PB & SB Applied
	Boom Retracted	Outriggers Down



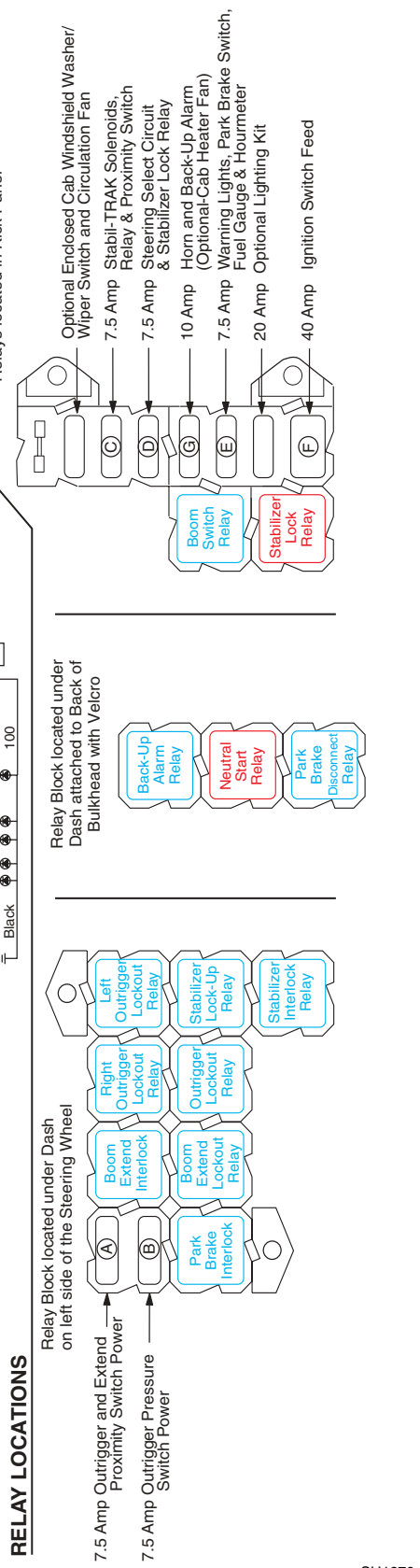


MODE 8	1.	2.	3.	4.	5.	6.
<b>Conditions</b>	Ignition "ON"	Boom Above 40°	Boom Extended	Transmission in Neutral	PB & SB Applied	Outriggers Up

**10054 Stabil-TRAK Electrical Circuit  
Boom Extend Mode 8  
(S/N 9909 & After)**



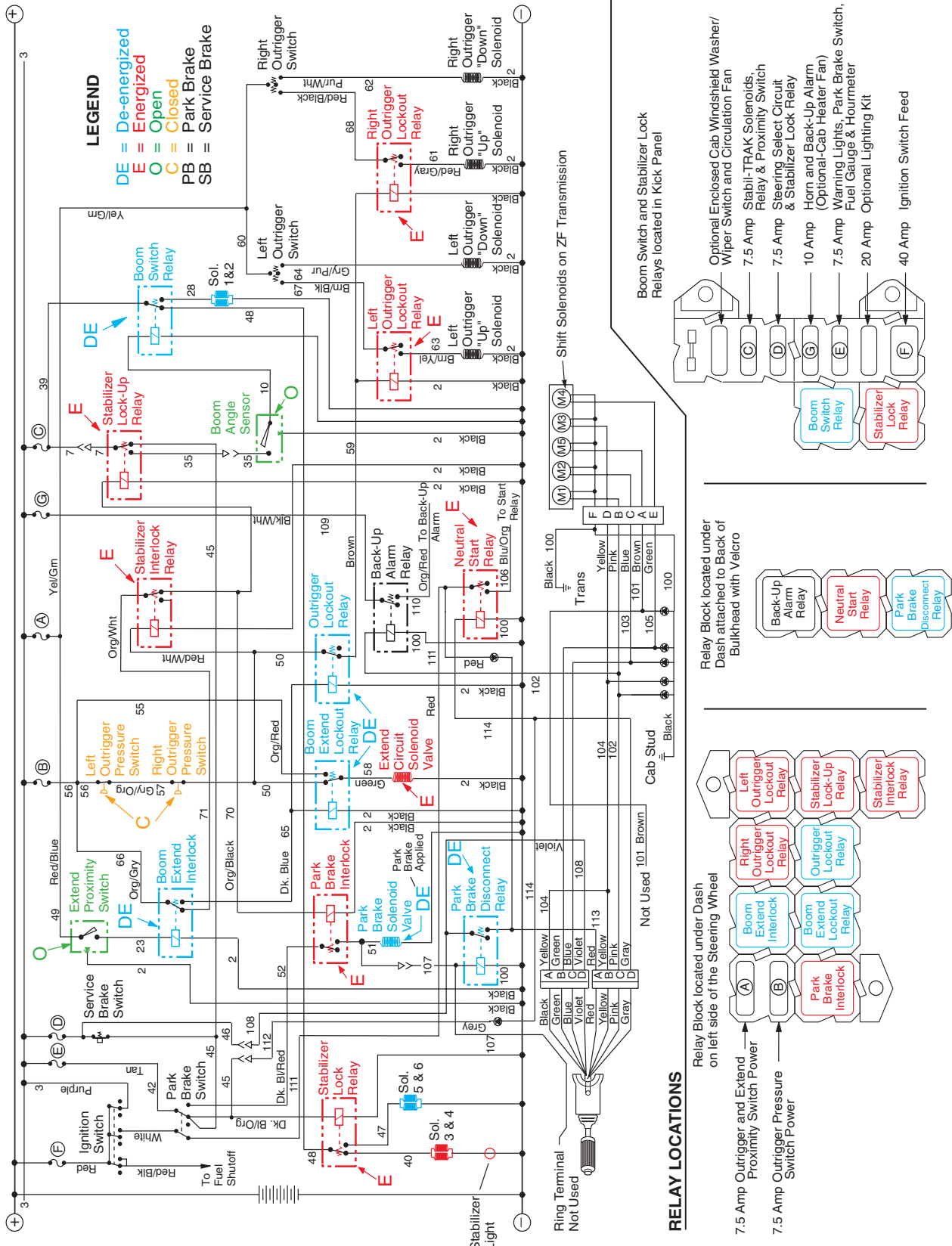
**LEGEND**  
 DE = De-energized  
 E = Energized  
 O = Open  
 C = Closed  
 PB = Park Brake  
 SB = Service Brake



SECTION 10

10054 Stabil-TRAK Electrical Circuit  
Boom Extend Mode 9  
(S/N 9909 & After)

<b>MODE 9</b>	1.	Ignition "ON"	4.	Transmission in Neutral	
	<b>Conditions</b>	2.	Boom Above 40°	5.	PB & SB Applied
		3.	Boom Extended	6.	Outriggers Down



**PART NUMBER INDEX**

# PART NUMBER INDEX

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10138907.....	121	10731768.....	83	10731835.....	87, 97	10731901.....	95
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