



# PART MANUAL



## 544B

9104-4337

August 25, 2006  
Starting Serial No.  
0155299S

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**SECTION 1 - INTRODUCTION**

Table of Contents ..... 1-1 thru 1-4  
Alphabetical Index ..... 1-5 thru 1-10  
Service Kits ..... 1-11  
\* Part Number Index ..... 1-12 thru 1-27

**SECTION 2 - CHASSIS & ATTACHING PARTS**

Frame Shrouding & Trim ..... 2-1  
Cab Enclosure, Wiper & Defroster ..... 2-2  
Heater & Piping ..... 2-3  
Front Axle Cradle & Mounting ..... 2-4  
Rear Steering Axle & Attaching Parts ..... 2-5  
Outrigger & Attaching Parts ..... 2-6  
Cab Glass ..... 2-7

**SECTION 3 - BOOMS**

First Boom Section ..... 3-1  
Second Boom Section ..... 3-2  
Third Boom Section ..... 3-3  
Fourth Boom Section ..... 3-4  
Push Beam & Cables ..... 3-5  
Quick Switch Assembly ..... 3-6

**SECTION 4 - ATTACHMENTS & ACCESSORIES**

Attachments ..... 4-1  
Slope Piler Carriage 66" ..... 4-2

**SECTION 5 - ENGINE & ATTACHING PARTS**

Engine Left Side View ..... 5-1  
Engine Right Side View ..... 5-2, 5-3  
Fuel Tank & Lines ..... 5-4  
Radiator & Hoses ..... 5-5  
Ether Starting Kit ..... 5-6  
Air Cleaner Piping ..... 5-7  
Air Cleaner ..... 5-8  
Exhaust System ..... 5-9

**SECTION 6 - DRIVE TRAIN**

Transmission Mounting & Controls ..... 6-1  
Flex Plate & Torque Converter ..... 6-2  
Case & Converter Housing ..... 6-3, 6-4  
Transmission Drive Gearing ..... 6-5  
Clutch & Gear Group (Reverse, 2nd & Low) ..... 6-6  
Clutch & Gear Group (Forward, Output & 3rd) ..... 6-7  
Clutch Assemblies ..... 6-8  
Modulator Valve ..... 6-9  
Control Valve ..... 6-10

**SECTION 6 - DRIVE TRAIN (Continued)**

Propeller Shaft .....	6-11
Front Axle Assembly .....	6-12
Front Axle Housing .....	6-13
Front Axle Differential Carrier .....	6-14
Front Axle Shaft & Planetary Wheel End .....	6-15
Wheels & Tires .....	6-16
Planetary Hub .....	6-17
Front Axle Service Brakes .....	6-18
Front Axle Parking Brake .....	6-19

**SECTION 7 - CONTROLS**

Forward & Reverse, Speed Selector .....	7-1
Boom Tilt & Sway .....	7-2
Accelerator Linkage .....	7-3
Steering Column .....	7-4

**SECTION 8 - BRAKES**

Hydraulics & Service Brake Lines .....	8-1
Hydraulics & Parking Brake Lines .....	8-2
Brake Pedal & Inching Linkage .....	8-3
Accumulator, Charging Valve & Lines .....	8-4

**SECTION 9 - HYDRAULIC CIRCUITS**

Oil Supply & Pressure Lines .....	9-1, 9-2
Dump Circuit .....	9-3, 9-4
Rear Drive .....	9-5, 9-6
Steering .....	9-7
Lift Cylinder .....	9-8
Crowd Cylinder .....	9-9, 9-10
Tilt Cylinder .....	9-11, 9-12
Sway Cylinder .....	9-13
Joystick Circuit .....	9-14
Outrigger Cylinder .....	9-15
Stabilizer Cylinder .....	9-16

**SECTION 10 - HYDRAULIC COMPONENTS**

Lift Cylinder .....	10-1
Crowd Cylinder .....	10-2
Crowd Extension Cylinder .....	10-3
Tilt Cylinder .....	10-4
Compensating Cylinder .....	10-5
Sway Cylinder .....	10-6
Steering Cylinder .....	10-7
Stabilizer Cylinder .....	10-8

**SECTION 10 - HYDRAULIC COMPONENTS (continued)**

Outrigger Cylinder .....	10-9
Main Control Valve .....	10-10
Priority Flow Control Valve .....	10-11
Forward Reverse Control Valve .....	10-12
Series Parallel Control Valve .....	10-13
Solenoid Valve (Three-Way, Two Position) .....	10-14
Stabilizer Valve .....	10-15
Outrigger Control Valve .....	10-16
Accumulator Charge Valve .....	10-17
Counterbalance Valve .....	10-18
Brake Valve .....	10-19
Parking Brake Valve .....	10-20
Directional Control Valve .....	10-21
Main Hydraulic Pump .....	10-22
Pilot Pump .....	10-23
Rear Drive Motor .....	10-24
Oil Reservoir Filter .....	10-25
Hydraulic Oil Reservoir .....	10-26
Solenoid Valve (Two Way, Normally Open) .....	10-27
Solenoid Valve (Two Way, Normally Closed) .....	10-28
Hydraulic Controller (Joystick) .....	10-29
Dual P.O. Check Valve .....	10-30, 10-31

**SECTION 11 - ELECTRICAL**

Instrument Panel & Wiring Harness .....	11-1
Batteries & Cables .....	11-2
Boom Section Electrical .....	11-3
Miscellaneous Electrical Components .....	11-4

**SECTION 12 - MISCELLANEOUS**

Frame decals .....	12-1
Boom Decals .....	12-2

**SECTION 13 - OPTIONAL EQUIPMENT**

Dual Hose Reel Assembly .....	13-1
Dual Hose Reel & Hydraulic System .....	13-2
Sway, Auxiliary & Tilt Controls .....	13-3
100 Degree Swing Fork Assembly .....	13-4
100 Degree Drywall Swing Fork Assembly .....	13-5
180 Degree Swing Frame Assembly .....	13-6, 13-7
Swing Valve Assembly .....	13-8
Single Hose Reel & Hydraulic System .....	13-9
Winch & Hydraulic System .....	13-10
Single Hose Reel Assembly .....	13-11

**SECTION 13 - OPTIONAL EQUIPMENT (continued)**

Winch Assembly .....	13-12, 13-13
Hydraulic Cylinder (Jarp) .....	13-14
Hydraulic Cylinder (Iowa) .....	13-15
Electrics for Auxiliary Hydraulics .....	13-16
Chassis Auxiliary Electrics .....	13-17
Slope Piler Carriage .....	13-18
Sway Cylinder .....	13-19
Dual P.O. Check Valve .....	13-20
Six Foot Mast .....	13-21
Auxiliary Controls Assembly .....	13-22
Tilt on Joystick .....	13-23
Cab Enclosure .....	13-24
Block Heater .....	13-25
Rear Steering Axle Advantage Kit .....	13-26
Steering Cylinder .....	13-27
* Rear Axle Rework Kit .....	13-28

ACCELERATOR CABLE .....	7-3
ACCELERATOR PEDAL.....	7-3
ACCUMULATOR.....	8-4
ACCUMULATOR CHARGE VALVE .....	8-4, 10-17
AIR CLEANER .....	5-7, 5-8
AIR CLEANER ELEMENT .....	5-8
AIR CLEANER SERVICE INDICATOR .....	5-7
ALTERNATOR .....	5-3
ALTERNATOR FAN.....	5-3
AMMETER .....	11-1
ATTACHMENTS.....	4-1
AUXILIARY CONTROLS ASSEMBLY .....	13-22
BATTERY .....	11-2
BATTERY CABLES .....	11-2
BEARING PADS (Boom sections).....	3-1, 3-2, 3-3, 3-4
BOOM DECALS.....	12-2
BOOM SECTIONS .....	3-1, 3-2, 3-3, 3-4
BOOM SECTIONS ELECTRICAL .....	11-3
BRAKE PEDAL .....	8-3
BRAKE VALVE .....	10-19
BRAKE WARNING LIGHT .....	11-1
BREATHER (Filler cap).....	10-26
CAB.....	2-2
CAB DOOR .....	2-2
CARRIAGE & FORKS .....	4-1
CHARGE VALVE (Accumulator).....	8-4, 10-17
CIRCUIT BREAKERS .....	11-1
COMPENSATING CYLINDER .....	10-5
COMPENSATING CYLINDER HYDRAULIC CIRCUIT .....	9-11, 9-12
CONTROL VALVES .....	10-10, 10-11, 10-12, 10-13, 10-16, 10-18, 10-21
COUNTERBALANCE VALVE .....	10-18
COUNTERWEIGHT .....	2-1
CRADLE .....	2-4
CRADLE MOUNTING PIN .....	2-4
CROWD CYLINDER.....	10-2
CROWD CYLINDER HYUDRAULIC CIRCUIT .....	9-9, 9-10
CROWD EXTENSION CYLINDER.....	10-3
CROWD EXTENSION HYDRAULIC CIRCUIT.....	9-9, 9-10
DECALS .....	12-1, 12-2
DECK.....	2-1
DEFROSTER FAN.....	2-2
DIRECTIONAL CONTROL VALVE .....	10-21

DOOR .....	2-2
DOOR HANDLES .....	2-2
DRIVE BELT .....	5-3
DUAL P.O. CHECK VALVE .....	10-30, 10-31, 13-20
DUMP CIRCUIT .....	9-3, 9-4
ELECTRICAL SYSTEMS .....	11-1, 11-2, 11-4
ELECTRICAL SYSTEMS (boom sections) .....	11-3
ENGINE LEFT SIDE VIEW .....	5-3
ENGINE MOUNT .....	5-2
ENGINE RIGHT SIDE VIEW .....	5-2
ENGINE THROTTLE CONTROL .....	7-3
ETHER STARTING KIT .....	5-6
EXHAUST MANIFOLD .....	5-3
EXHAUST PIPE .....	5-9
EXHAUST STACK .....	5-9
EXHAUST SYSTEM .....	5-9
EXTENSION CABLE .....	3-5
FAN BELT .....	5-3
FAN GUARD .....	5-5
FAN SHROUD .....	5-5
FILTERS .....	5-2, 6-5, 10-25, 10-26
FILTER ELEMENT .....	10-25, 10-26
FIRST BOOM SECTION .....	3-1
FIRST BOOM SECTION MOUNTING PIN .....	3-1
FORWARD REVERSE CONTROL VALVE .....	10-12
FORWARD SHIFT CONTROL ROD .....	7-1
FOURTH BOOM SECTION .....	3-4
FRAME .....	2-1
FRAME SHROUDING & TRIM .....	2-1
FRONT AXLE .....	6-12
FRONT AXLE BRAKE .....	6-18
FRONT AXLE CRADLE .....	2-4
FRONT AXLE DIFFERENTIAL CARRIER .....	6-14
FRONT AXLE HOUSING .....	6-13
FRONT AXLE PARKING BRAKE .....	6-19
FRONT AXLE SHAFT & PLANETARY WHEEL END .....	6-15
FRONT DISC WHEEL & RIM .....	6-16
FUEL GAUGE .....	11-1
FUEL LEVEL SENDER .....	5-4
FUEL LINES .....	5-4
FUEL TANK & CAP .....	5-4
GROUND CABLE .....	5-2, 11-2

HEATER .....	2-3
HEAT SHIELD .....	5-9
HEATER SWITCH .....	2-3
HOOD .....	2-1
HORN .....	11-4
HORN BUTTON .....	11-1
HORN RELAY .....	11-4
HORN WIRING .....	11-4
HOSE CARRIER .....	9-11, 9-12
HOURMETER .....	11-1
HYDRAULIC CIRCUITS .....	9-1 thru 9-16
HYDRAULIC CONTROLLER (Joystick) .....	10-29
IGNITION SWITCH .....	11-1
INCHING VALVE .....	8-2, 8-3
INSTRUMENT PANEL .....	11-1
JOYSTICK (Hydraulic Controller) .....	10-29
JOYSTICK HYDRAULIC CIRCUIT .....	9-14
KITS .....	1-11
LIFT CYLINDER .....	10-9
LIFT CYLINDER HYDRAULIC CURCUIT .....	9-8
MAIN BOOM SECTIONS .....	3-1, 3-2, 3-3, 3-4
MAIN HYDRAULIC PUMP .....	5-1, 10-22
MISCELLANEOUS ELECTRICAL COMPONENTS .....	11-4
MUFFLER .....	5-9
NEGATIVE BATTERY CABLE .....	11-2
OIL COOLER .....	9-3, 9-4
OIL FILTER (Hydraulic) .....	10-25, 10-26
OIL PRESSURE GAUGE .....	11-1
OIL PRESSURE SENDER .....	5-2
OIL RESERVOIR .....	10-26
OIL SUPPLY & PRESSURE LINES .....	9-1, 9-2
OUTRIGGER ARM .....	2-6
OUTRIGGER CONTROL VALVE .....	10-16
OUTRIGGER CYLINDER .....	10-9
OUTRIGGER CYLINDER HYDRAULIC CIRCUIT .....	9-15
OUTRIGGER SHOE .....	2-6



PARKING BRAKE LINES .....	8-2
PARKING BRAKE VALVE .....	10-20
PILOT PUMP .....	10-23
POSITIVE BATTERY CABLE .....	11-2
PRIORITY FLOW CONTROL VALVE .....	10-11
PROPELLER SHAFT .....	6-11
PUSH BEAM & CABLES .....	3-5
QUICK SWITCH ASSEMBLY .....	3-6
RADIATOR & HOSES .....	5-5
REAR AXLE FRAME .....	2-5
REAR AXLE MOUNTING PIN .....	2-5
REAR DRIVE MOTOR .....	10-24
REAR STEERING AXLE .....	2-5
REAR STEERING AXLE PLANETARY HUB .....	6-17
RELIEF VALVE .....	8-4
REPAIR KITS .....	1-11
RESERVOIR .....	10-26
RESERVOIR FILLER-BREATHER .....	10-26
RESERVOIR FILTER .....	10-20
RESERVOIR SUPPLY CIRCUIT .....	9-1, 9-2
RETRACTION CABLES .....	3-5
REVERSE SHIFT CONTROL ROD .....	7-1
SAND BUCKET .....	4-1
SEAT .....	2-1
SEAT BELT .....	2-1
SECOND BOOM SECTION .....	3-2
SERIES PARALLEL VALVE .....	10-13
SERVICE BRAKE LINES .....	8-1
SERVICE KITS .....	1-11
SHUT-OFF VALVES .....	2-3, 5-2
SIX FOOT MAST .....	13-21
SLOPE PILER CARRIAGE .....	13-18
SOLENOID VALVES .....	10-14, 10-27, 10-28
SOLENOID VALVE (Three-Way, Two Position) .....	10-14
SOLENOID VALVE (Two-Way, Normally Closed) .....	10-28
SOLENOID VALVE (Two-Way, Normally Open) .....	10-27
SPINNER KNOB .....	7-4

STABILIZER CYLINDER .....	10-8
STABILIZER CYLINDER HYDRAULIC CIRCUIT .....	9-16
STABILIZER VALVE .....	10-15
STARTER BUTTON .....	11-1
STARTER MOTOR .....	5-3
STARTER SOLENOID .....	5-1
STEERING COLUMN .....	7-4
STEERING CYLINDER .....	10-7
STEERING CYLINDER HYDRAULIC CIRCUIT .....	9-7
STEERING KNUCKLES .....	2-5
STEERING ORBITROL .....	7-4
STEERING WHEEL .....	7-4
SUPPLY HYDRAULIC CIRCUIT .....	9-1, 9-2
SWAY CONTROL HANDLE & LINKAGE .....	7-2
SWAY CYLINDER .....	10-6, 13-19
SWAY CYLINDER HYDRAULIC CIRCUIT .....	9-13
THIRD BOOM SECTION .....	3-3
TIE ROD ARM .....	2-5
TILT CONTROL HANDLE & LINKAGE .....	7-2
TILT CYLINDER .....	10-4
TILT CYLINDER HYDRAULIC CIRCUIT .....	9-11, 9-12
TILT ON JOYSTICK .....	13-23
TORQUE CONVERTER .....	6-2
TRANSMISSION .....	6-1
TRANSMISSION CASE & CONVERTER HOUSING .....	6-3, 6-4
TRANSMISSION CHARGE PUMP .....	6-5
TRANSMISSION CLUTCH ASSEMBLIES .....	6-8
TRANSMISSION CLUTCH & GEARING (Forward, Output & Third) .....	6-7
TRANSMISSION CLUTCH & GEARING (Reverse, Second & Low) .....	6-6
TRANSMISSION CONTROL VALVE .....	6-10
TRANSMISSION DISCONNECT SWITCH .....	8-3
TRANSMISSION DRIVE GEARING .....	6-5
TRANSMISSION FLEX PLATE & TORQUE CONVERTER .....	6-2
TRANSMISSION MODULATOR VALVE .....	6-9
TRANSMISSION TEMPERATURE GAUGE .....	11-1
TRAVEL ALARM .....	11-4
V-BELT .....	5-3
WATER SEPARATOR .....	5-4
WATER TEMPERATURE GAUGE .....	11-1
WATER TEMPERATURE SENDER .....	5-2

**GRADALL®**  
**MATERIAL HANDLER**  
**544B**

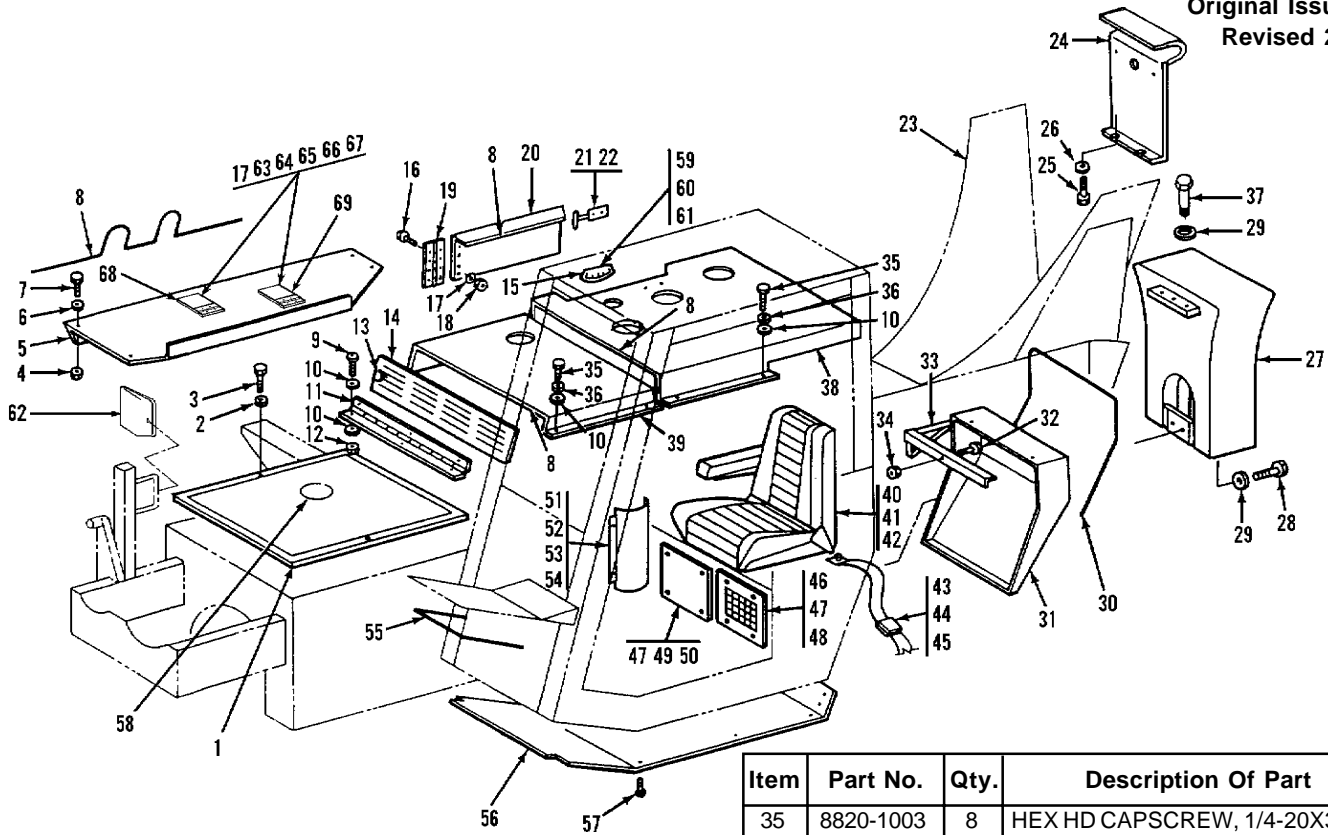
**INTRODUCTION**  
**Alphabetical Index**  
Starting Serial No. 0155299S  
Original Issue 3-90  
Revised 12-19-94

WEATHER STRIP ..... 2-2  
WHEELS & TIRES ..... 6-16  
WINDOWS ..... 2-2  
WINDSHIELD WIPER ARM ..... 2-2  
WINDSHIELD WIPER BLADE ..... 2-2  
WINDSHEILD WIPER MOTOR ..... 2-2  
WIRING HARNESS ..... 5-1, 11-1, 11-3

<u>SECTION</u>	<u>PAGE NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
2	2-5	9103-5240	KING PIN & BUSHING SET
* 2	2-5	9104-5152	STEERING CYLINDER PIN KIT
6	6-2	9103-4238	DRIVE PLATE KIT
7	7-4	9020-6567	STEERING ORBITROL SEAL KIT
8	8-2	9103-4018	INCHING VALVE SEAL KIT
10	10-1	9103-4278	LIFT CYLINDER SEAL KIT
10	10-2	9104-4320	CROWD CYLINDER SEAL KIT
10	10-3	9103-4290	CROWD EXTENSION CYLINDER SEAL KIT
10	10-4	9103-4278	TILT CYLINDER SEAL KIT
10	10-5	9103-4278	COMPENSATING CYLINDER SEAL KIT
10	10-6	9103-4297	SWAY CYLINDER SEAL KIT
10	10-7	9103-4301	STEERING CYLINDER SEAL KIT
10	10-8	9104-4330	STABILIZER CYLINDER SEAL KIT
10	10-9	9103-4278	OUTRIGGER CYLINDER SEAL KIT
10	10-13	7738-4264	FOUR-WAY SOLENOID VALVE SEAL KIT
		9104-4343	DIFFERENTIAL PRESSURE SENSING VALVE SEAL KIT
		9104-4345	DIFFERENTIAL PRESSURE SENSING VALVE SEAL KIT
10	10-15	9104-4002	STABILIZER VALVE SEAL KIT
10	10-23	9104-4354	PILOT PUMP MAJOR KIT
		9103-4019	PILOT PUMP SEAL KIT

**GRADALL®**  
**MATERIAL HANDLER**  
**544B**

**CHASSIS & ATTACHING PARTS**  
**Frame Shrouding & Trim**  
 Starting Serial No. 0155299S  
 Original Issue 3-90  
 Revised 2-12-97

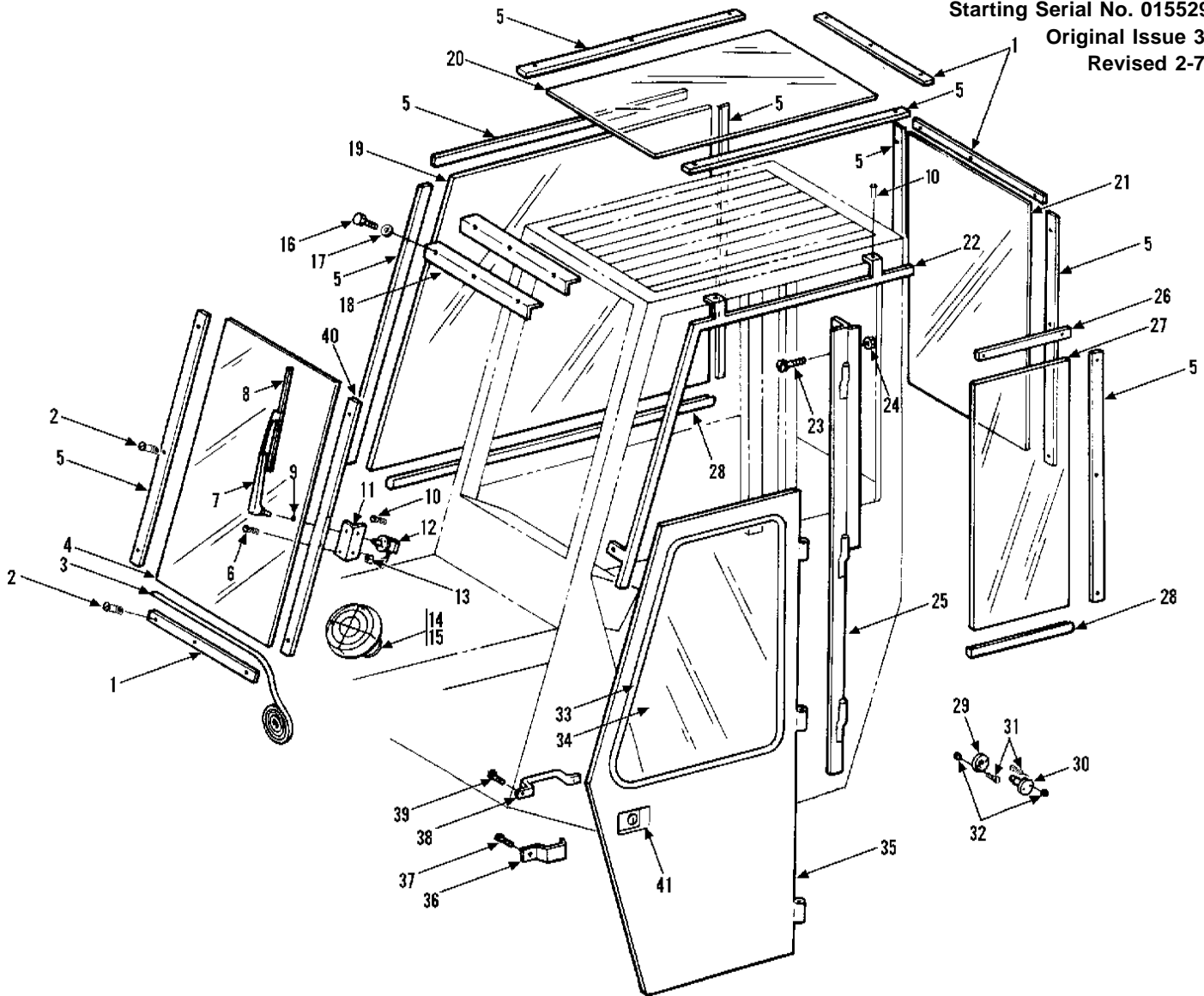


Item	Part No.	Qty.	Description Of Part
1	9103-5096	1	DECK ASSY
2	8855-1010	2	LOCKWASHER, 5/16
3	8820-1021	2	HEX HD CAPSCREW, 5/16-18X1-1/4, GR5
4	8852-1308	4	HEX LOCKNUT, 1/2-13
5	9103-1260	1	TANK COVER
6	8540-1340	4	HARDENED WASHER
7	8820-1066	4	HEX HD CAPSCREW, 1/2-13X1-1/4 GR5
8	9020-6196	AR	TRIM, 11 FT. LONG
9	8826-1017	6	SOCKET BUTTON HD CAPSCREW 1/4-20X7/8
10	8856-1107	16	FLAT WASHER, 1/4
11	9103-1075	1	HINGE
12	8852-1304	6	HEX LOCKNUT, 1/4-20
13	8368-3311	2	PAWL LATCH
14	9103-1074	1	FRONT SERVICE DOOR
15	9103-3320	1	LEVEL GAUGE
16	8826-1009	8	SOCKET BUTTON HD CAPSCREW, #10-24X5/8
*17	8856-1105	16	FLAT WASHER, #10
18	8852-1605	8	HEX LOCKNUT, #10-24
19	9103-3077	1	HINGE
20	9103-1067	1	SIDE SERVICE DOOR
21	9020-7458	2	DRAW LATCH
22	9002-8951	8	POP RIVET
23	9104-6032	1	FRAME WELDMNT
24	9104-1080	1	BOOM COVER
25	8820-1031	4	HEX HD CAPSCREW, 3/8-16X1/2 GR5
26	8856-1109	4	FLAT WASHER, 3/8
27	9104-0002	1	COUNTERWEIGHT
28	8820-1115	3	HEX HD CAPSCREW, 3/4-10X3 GR5
29	8856-1009	3	FLAT WASHER, 3/4
30	9020-6194	AR	TRIM, 8 FT. LONG
31	9103-6079	1	REAR CAB COVER
32	7714-3004	3	LOCK SCREW
33	9060-2885	1	BRACKET
34	7714-3006	3	LOCK NUT

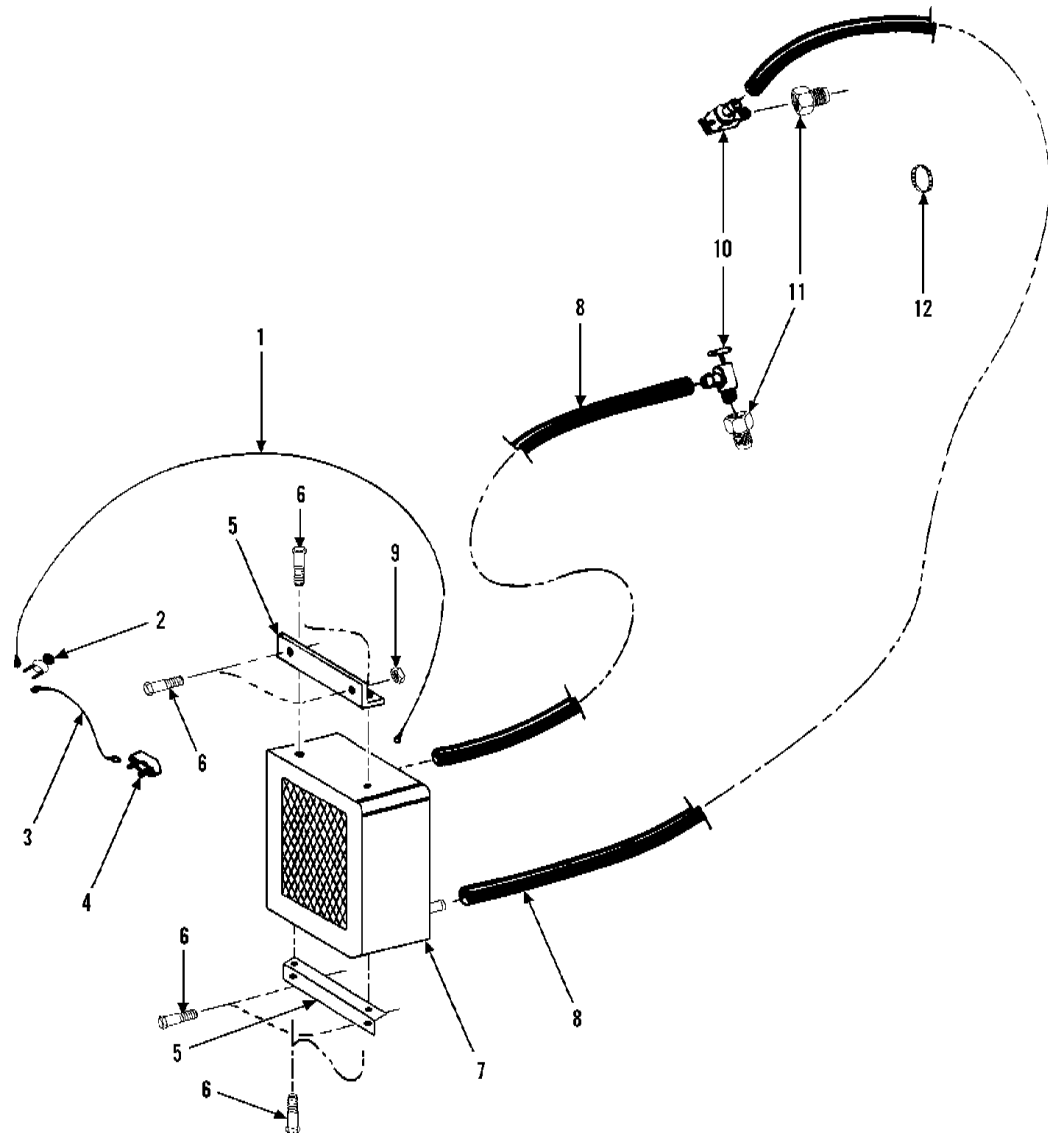
Item	Part No.	Qty.	Description Of Part
35	8820-1003	8	HEX HD CAPSCREW, 1/4-20X3/4 GR5
36	8855-1009	8	LOCKWASHER, 1/4
37	8820-1118	2	HEX HD CAPSCREW, 3/4-10X3-3/4 GR5
38	9104-5027	1	REAR HOOD ASSY (includes items 16 thru 20)
39	9103-6016	1	FRONT HOOD ASSY
40	9103-3485	1	SEAT (standard)
	9112-4107	1	SLIDE ADJ. KIT
	9104-3237	1	SEAT W/BELTS (optional)
41	8667-1164	2	SPACER
42	7714-3006	4	LOCK NUT
43	9103-3029	1	SEAT BELT
44	8820-1050	2	HEX HD CAPSCREW, 7/16-14X1 GR5
45	8850-1007	2	HEX NUT, 7/16-14
46	9020-5746	1	HEATER COVER
47	7714-3003	8	LOCK SCREW
48	7714-3006	4	LOCK NUT
49	7710-3044	4	CLIP NUT
50	9020-5730	1	VALVE COVER
51	9104-6056	1	JOYSTICK COVER
52	8820-1018	2	HEX HD CAPSCREW, 5/16-18X3/4, GR5
53	8855-1010	2	LOCKWASHER, 5/16
54	8850-1005	2	HEX NUT, 5/16-18
55	9020-6196	AR	TRIM, 4 FT. LONG
56	9103-1363	1	CAB BOTTOM COVER
57	7714-3003	1	LOCK SCREW
58	9020-6200	AR	TRIM, 15.7" LONG
59	8820-4912	1	HEX HD CAPSCREW, 1/4-20X1 GR5
60	8856-1107	1	FLAT WASHER, 1/4
61	8852-1204	1	HEX LOCKNUT, 1/4-20
62	8368-3291	1	MIRROR (starting S/N 0155436. For earlier models use service kit 9104-5150)
*63	8507-1132	2	SEMI OFFSET HINGE
*64	8507-1028	2	SPRING & BRACKET
*65	8830-1092	8	RD HD MACH SCREW, 10-24X5/8
*66	8855-1007	8	LOCKWASHER, #10
*67	8850-1612	8	HEX NUT, #10-24
*68	9103-1456	1	SERVICE DOOR
*69	9103-1457	1	SERVICE DOOR

KG

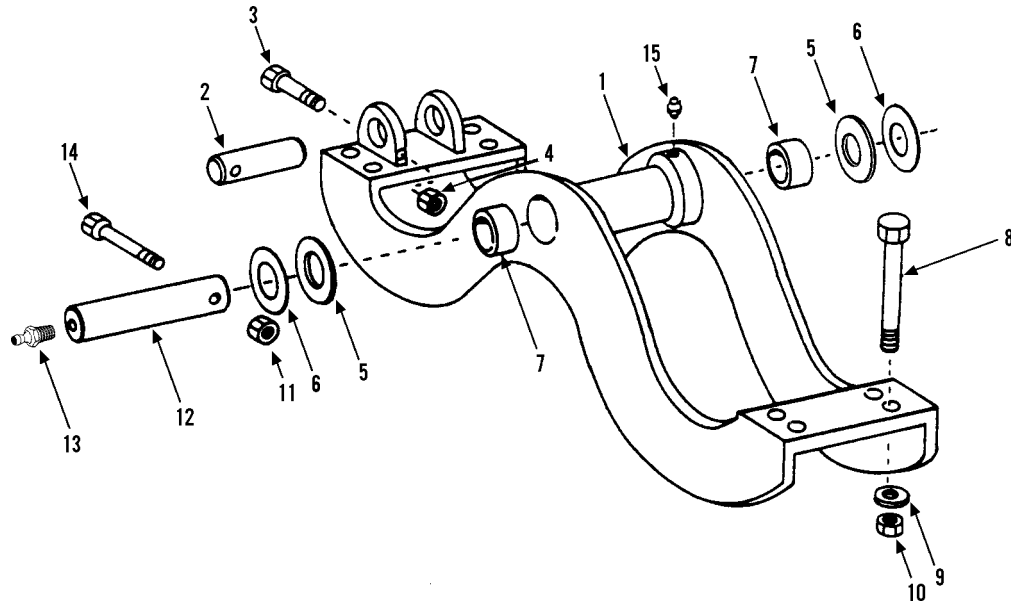
\* Changed quantity on item 17, added items 63 thru 69.



Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
1	9103-1361	2	WINDOW HOLD DOWN BAR	22	9040-3032	1	DOOR TROUGH
2	9002-7319	AR	SELF TAPPING SCREW (window hold down bar)	23	8830-1309	4	FLAT HD MACHINE SCREW, 1/4-20X3/4
3	9020-0755	AR	BULK WEATHERSTRIPPING (50 feet)	24	8850-1004	4	HEX NUT, 1/4-20
4	9040-3036	1	FRONT WINDOW	25	9040-3082	1	DOOR POST
5	9103-1362	4	WINDOW HOLD BAR	26	9103-1360	1	L. WINDOW TOP HOLD DOWN BAR
6	8820-1003	1	HEX HD CPASCREW, 1/4-20X3/4, GR5	27	9040-3033	1	LEFT SIDE WINDOW
7	9103-3464	1	WINDSHIELD WIPER ARM	28	9020-6100	AR	RUBBER GLAZING STRIP
8	9103-3465	1	WIPER BLADE	29	9020-5888	1	PLUNGER SOCKET
9	9002-7214	1	WIPER MOTOR SHAFT GROMMET	30	9020-5886	1	DOOR HOLD PLUNGER
10	9002-7319	5	SELF TAPPING SCREW	31	8820-1309	4	HEX HD CAPSCREW, 3/8-16X2, GR5
11	9020-6025	1	WIPER MOTOR MOUNTING ANGLE	32	8850-1006	4	HEX NUT, 3/8-16
12	9020-6023	1	WIPER MOTOR	33	9041-0229	1	DOOR WINDOW
13	8850-1004	1	HEX NUT, 1/4-20	34	8366-1145	AR	RUBBER GLAZING STRIP (8' long)
14	9020-0680	1	DEFROSTER FAN	35	9080-1238	1	DOOR ASSY
15	8832-1025	4	SELF TAPPING SCREW, #8-32X3/4	36	9020-3627	1	HANDLE
16	8820-1031	2	HEX HD CAPSCREW, 3/8-16X1/2, GR5	37	8820-1031	2	HEX HD CAPSCREW, 3/8-16X1/2, GR5
17	8855-1011	2	LOCKWASHER, 3/8-16X1/2	38	9020-3840	1	DOOR PULL HANDLE
18	9020-6613	1	ANGLE	39	8832-1039	2	SELF TAPPING SCREW, #10-32X1/2
19	9020-5846	1	RIGHT SIDE WINDOW	40	9103-1362	1	WINDOW HOLD DOWN BAR
20	9040-3034	1	TOP WINDOW	41	9103-4033	1	LATCHASSY
21	9040-3035	1	REAR WINDOW				

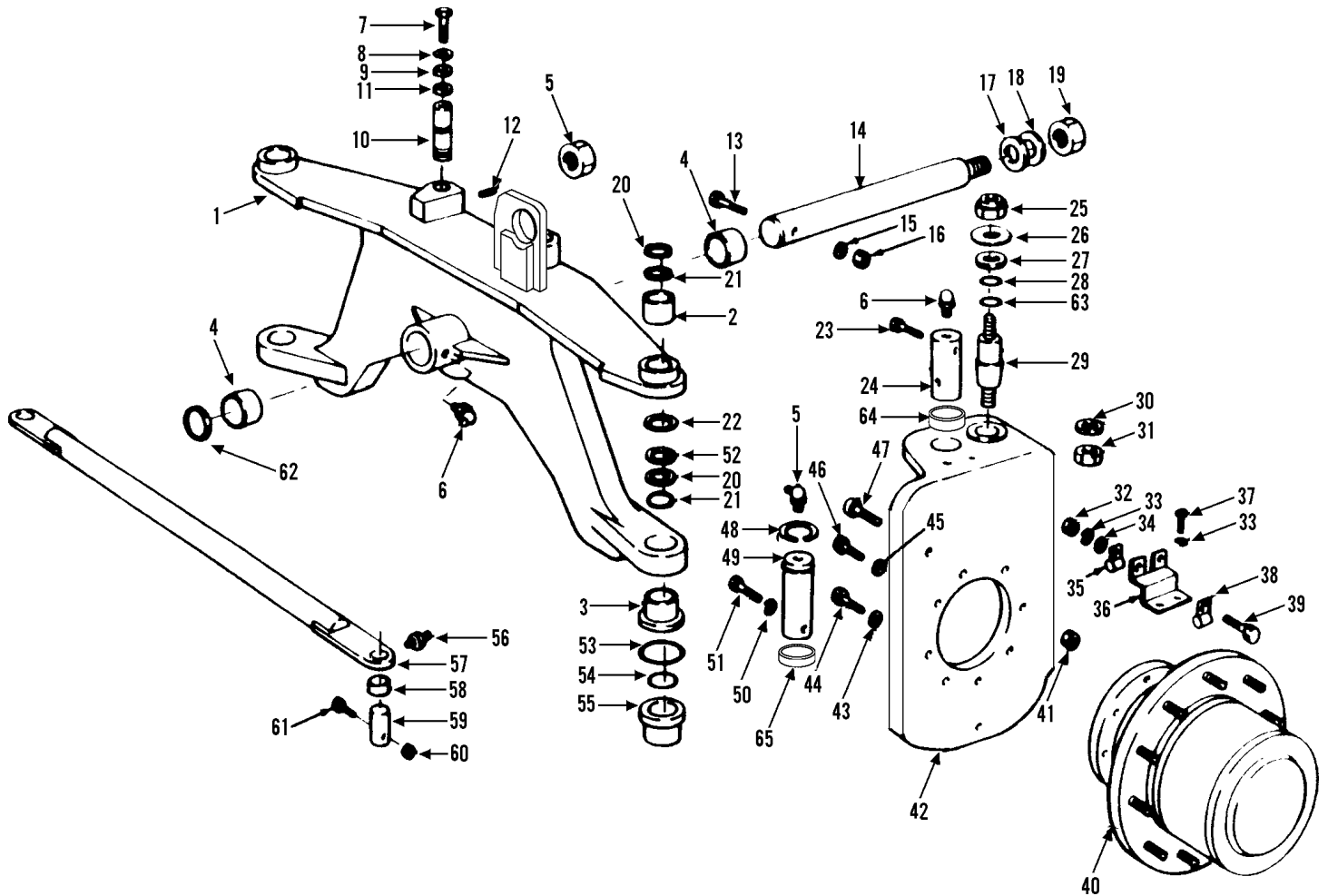


Item	Part No.	Qty.	Description Of Part
1	9020-6134	1	JUMPER WIRE
2	9103-4098	1	HEATER SWITCH (furnished with heater)
3	9020-6133	1	JUMPER WIRE
4	9020-6131	1	CIRCUIT BREAKER
5	9020-5731	2	HEATER MOUNTING BRACKET
6	8820-1005	8	HEX HD CAPSCREW 1/4-20X1, GR5
7	9020-0679	1	HEATER (includes item 2)
8		AR	HOSE, 5/8 I.D.
9	8850-1004	4	HEX NUT, 1/4-20
10	2464-1328	2	SHUT-OFF VALVE
11	8871-1383	2	REDUCING BUSHING, 1/2X3/8
12	8668-3193	4	HOSE CLAMP



Item	Part No.	Qty.	Description Of Part
1	9080-1303	1	FRONT AXLE CRADLE
2	9020-6847	1	SWAY CYLINDER ROD PIN
3	8820-1106	1	HEX HD CAPSCREW, 5/8-11X4-1/2 GR5
4	8850-1010	1	HEX NUT, 5/8-11
5	9020-5891	2	SPACER
6	9103-1014	AR	SHIM
7	9103-1096	2	BUSHING
8	8320-1107	8	HEX HD CAPSCREW (lubricate and torque to 545-595 ft. lbs.)
9	9002-7475	8	WASHER
10	8852-1216	8	HEX LOCKNUT, 1-8
11	8852-1016	1	HEX LOCKNUT, 1-8 (Stover)
12	9103-1243	1	FRAME PIN
13	8867-1001	2	LUBE FITTING, STRAIGHT, 1/8
14	8320-1031	1	HEX HD CAPSCREW
15	8867-1001	2	LUBE FITTING, STRAIGHT, 1/8



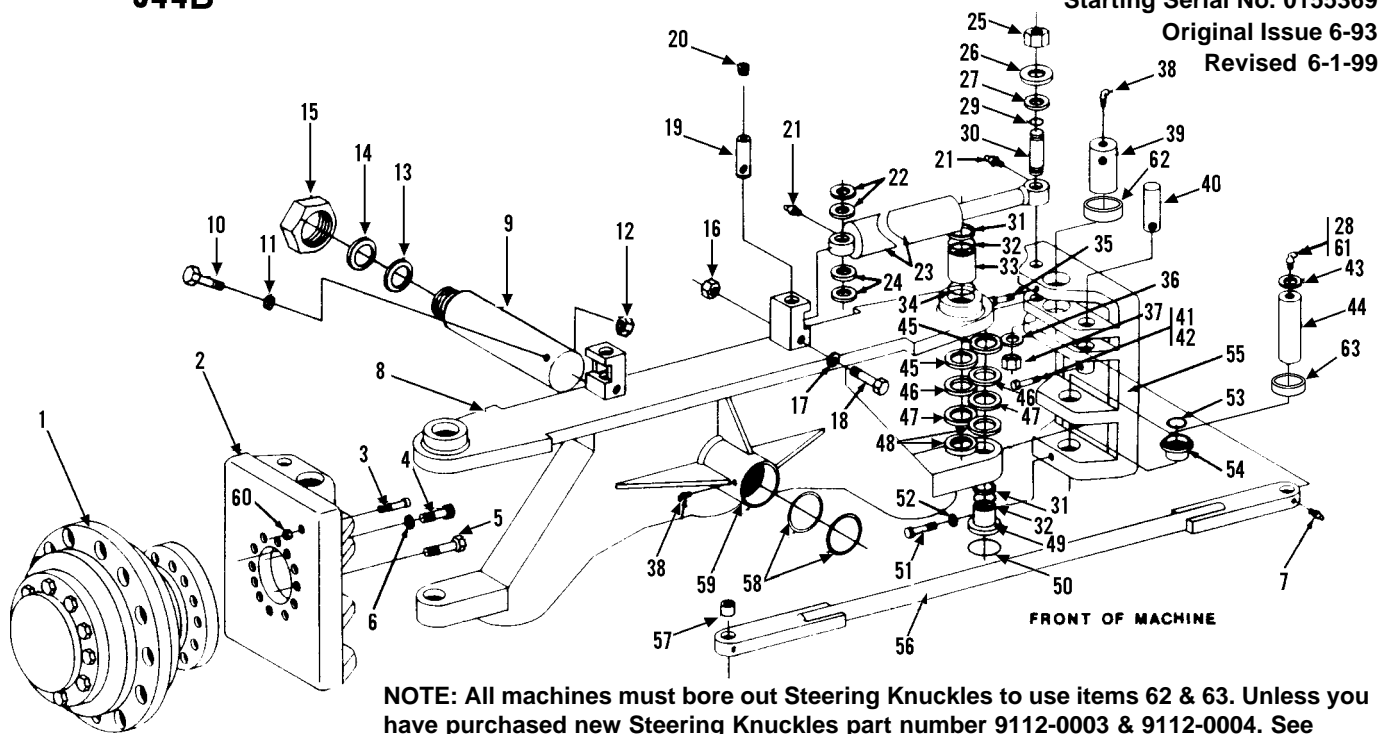


*\* Changed Description on Steering Knuckle Kit; changed Part No. on item 42; added items 64 & 65; added service note and revised illustration.*

**NOTE: All machines must bore out Steering Knuckles to use items 64 & 65. Unless you have purchased new Steering Knuckles part number 9112-0003 & 9112-0004. See engineering print that comes with the Steering Knuckle Kit for details.**

Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
*	9103-5240	AR	STEERING KNUCKLE KIT, (includes items 2, 3, 4 pieces of item 6, items 20 thru 24, 26, 27, 28, 47 thru 55, 63, 64, & 65, one kit will do both sides)	33	8855-1011	8	LOCKWASHER, 3/8
	9104-5152	AR	STEERING CYLINDER PIN KIT, (includes one each of items 25 thru 31, one kit needed for each side)	34	9002-7470	4	HARDENED WASHER
1	9104-6114	1	AXLE FRAME ASSY, (includes items 2 thru 5)	35	8652-1144	2	CLAMP
2	9112-3028	2	FRAME UPPER BUSHING	36	9108-1387	2	TUBE SUPPORT
3	9112-3027	2	FRAME LOWER BUSHING	37	8820-1035	4	HEX HD CAPSCREW, 3/8-16X1, GR5
4	9112-3031	2	FRAME AXLE PIN BUSHING	38	9020-2343	4	TUBE CLAMP
5	9104-1489	1	FRAME AXLE STABILIZER BUSHING	39	8820-1036	4	HEX HD CAPSCREW, 3/8-16X1-1/4, GR5
6	8867-1022	6	LUBE FITTING, 90 DEGREES, 1/8	40		Ref	WHEEL DRIVE ASSY, (see page 6-17 for details)
7	8820-1065	2	HEX HD CAPSCREW, 1/2-13X1, GR5	41	8850-1110	2	HEAVY HEX JAM NUT, 5/8-11
8	8855-1013	2	LOCKWASHER, 1/2	*42	9112-0003	1	STEERING KNUCKLE, LH
9	9108-1461	2	WASHER		9112-0004	1	STEERING KNUCKLE, RH
10	9108-1384	2	STEERING CYLINDER PIVOT PIN	43	9104-1403	4	MODIFIED WASHER
11	9020-1918	2	WASHER	44	9104-3222	4	CAPSCREW, 12PT. HD, 3/4-10X2, (lubricate & torque to 270-290 ft.lbs.)
12	8822-1701	2	SOCKET SET SCREW, 3/8-16X1/2, SELF-LOCKING, (cup point)	45	8668-1572	12	HARDENED WASHER, 3/4
13	9002-0247	2	HEX HD CAPSCREW	46	8320-1006	12	HEX HD CAPSCREW, 3/4-10X2, GR8 (lubricate & torque to 270-290 ft.lbs.)
14	9103-1440	1	AXLE MOUNTING PIN	47	8821-2321	2	SOCKET HD CAPSCREW, 5/8-11X3-3/4, GR8
15	8856-1119	1	FLAT WASHER, 1-1/4	48	8858-1323	2	RETAINING RING
16	8510-1098	1	HEX NUT	49	9114-1424	2	LOWER KING PIN
17	9020-6846	AR	SHIM, (1/8 thick)	50	8855-1153	2	LOCKWASHER, (hi-collar) 5/8
18	9103-1009	AR	SHIM, (1/4 thick)	51	8821-2321	2	SOCKET HD CAPSCREW, 5/8-11X3-3/4, GR8
19	9002-2234	1	HEX LOCKNUT	52	9104-1450	4	SHIM, (.0478 thick, use as required)
20	9112-3030	4	BACK-UP RING		9104-1449	4	SHIM, (.060 thick, use as required)
21	8859-1032	4	O-RING		9104-1451	6	SHIM, (.106 thick, use as required)
22	8692-1268	2	LIP SEAL		9104-1596	4	SHIM, (20 gauge, use as required)
23	8821-1121	2	SOCKET HD CAPSCREW, 1/2-13X6-1/2, GR8	53	9112-3029	2	O-RING
	8852-1208	2	HEX LOCKNUT, 1/2	54	8859-1104	2	O-RING
24	9108-1693	2	UPPER KING PIN	55	9112-1091	2	THRUST BEARING
25	8852-1312	2	HEX LOCKNUT, 3/4-10	56	8867-1001	2	LUBE FITTING, STRAIGHT, 1/8
26	9108-1415	2	DIRT SHIELD	57	9116-6063	1	TIE ROD ASSY, (includes item 58)
27	9104-1732	2	SPACER	58	9104-3247	2	SELF-ALIGNING BUSHING
*28	8859-1104	2	O-RING	59	9104-1439	2	TIE ROD PIN
29	9104-1481	2	STEERING CYLINDER PIN	60	8852-1306	2	HEX LOCKNUT, 3/8-16
30	9104-1459	2	WASHER	61	8624-1716	2	HEX HD CAPSCREW, 3/8-16X3, GR8
31	8850-1416	2	HEX JAM NUT, 1-14, (lubricate & torque to 425-475 ft.lbs.)	62	2460-1570	2	LIP SEAL
32	8850-1006	4	HEX NUT, 3/8-16	63	8859-1019	2	O-RING
				*64	9112-1239	2	BUSHING
				*65	9112-1240	4	BUSHING

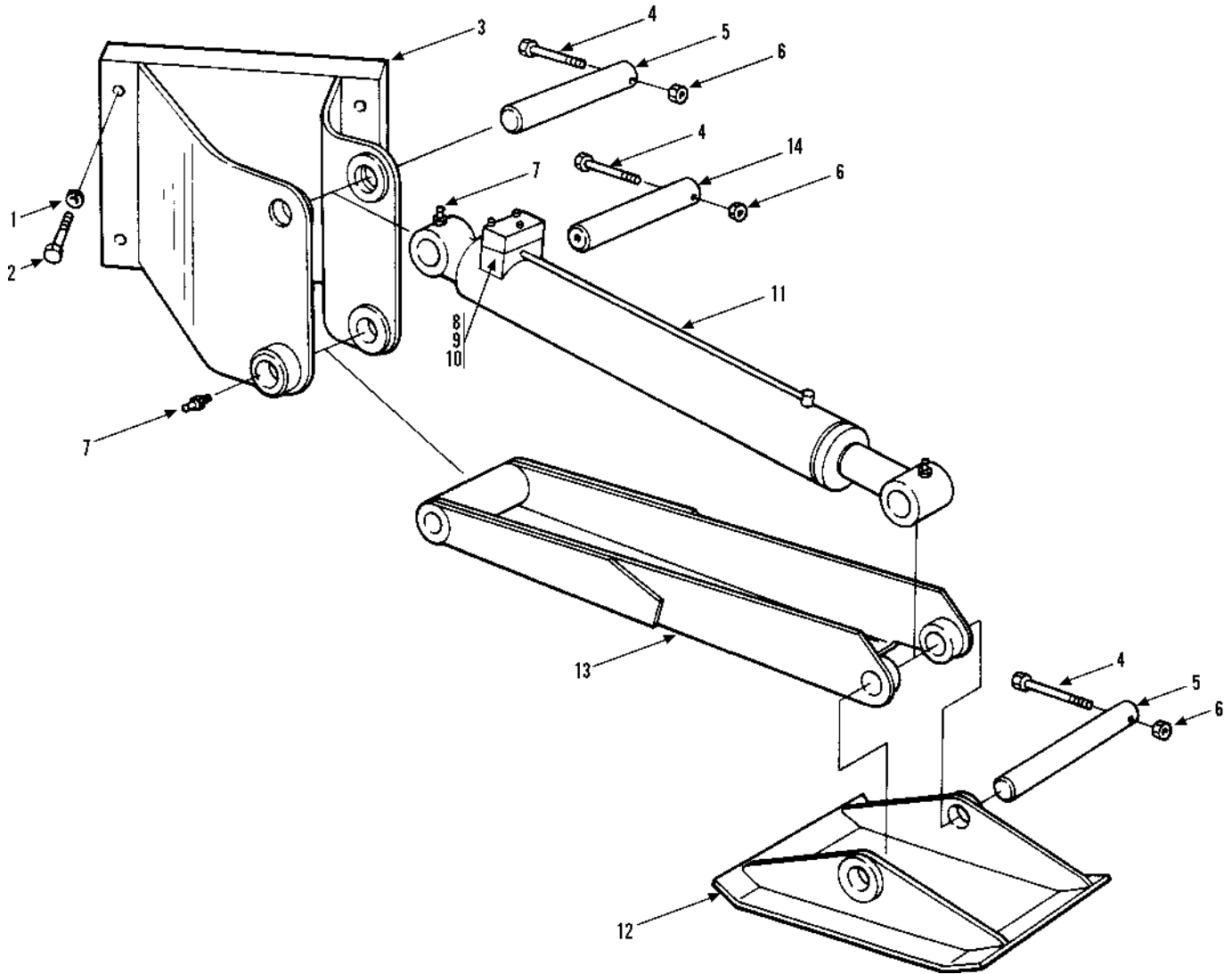
*\* Changed Description on Steering Knuckle Kit; changed Part No. on item 42; added items 64 & 65; added service note and revised illustration.*



**NOTE: All machines must bore out Steering Knuckles to use items 62 & 63. Unless you have purchased new Steering Knuckles part number 9112-0003 & 9112-0004. See engineering print that comes with the Steering Knuckle Kit for details.**

Item	Part No.	Qty.	Description Of Part
*	9103-5240	1	STEERING KNUCKLE KIT, (includes items 26, 27, 29, 31, 32, 33, 34, 35, 38, 39, 43 thru 54, 62, & 63, one kit will do both sides)
	9104-5152	AR	STEERING CYLINDER PIN KIT, (includes one each of items 25, 26, 27, 29, 30, 36, & 37, one kit needed for each side)
1		1	DRIVE HUB, (see page 6-17 for details)
* 2	9112-0004	1	R.H. STEERING KNUCKLE
3	8821-2321	2	SOCKET HD CAPSCREW, 5/8-11X3-3/4, GR8
4	8320-1006	12	HEX HD CAPSCREW, 3/4-10X2, GR8, (lubricate and torque to 270-290 ft. lbs.)
5	9104-3222	4	CAPSCREW, 12 PT. 3/4-10X2, (lubricate and torque to 270-290 ft. lbs.)
6	8668-1572	12	HARDENED WASHER, 3/4
7	8867-1001	2	LUBE FITTING, STRAIGHT, 1/8
8	9104-6114	1	REAR AXLE WELDMENT, (includes items 33, 49, & 59)
9	9103-1440	1	REAR AXLE MOUNTING PIN
10	9002-0247	1	HEX HD CAPSCREW, 1-1/4-7X6
11	8856-1119	1	FLAT WASHER, 1-1/4
12	8510-1098	1	HEX NUT, 1-1/4-7
13	9020-6846	AR	SHIM, (1/8 thick)
14	9103-1009	AR	SHIM, (1/4 thick)
15	9002-2234	1	HEX LOCKNUT
16	8850-1006	2	HEX NUT, 3/8-16
17	8855-1011	2	LOCKWASHER, 3/8
18	8320-1144	2	HEX HD CAPSCREW, 3/8-16X5-3/4, GR5
19	9108-1695	2	STEERING CYLINDER PIVOT PIN
20	8871-1280	2	PIPE PLUG
21	8867-1033	4	LUBE FITTING, STRAIGHT, 1/4-28
22	9104-1598	AR	SHIM
23		2	STEERING CYLINDER ASSY, (see page 10-7 for details)
24	9020-1918	AR	SHIM, (10 gauge thick)
25	8852-1312	2	HEX LOCKNUT, 3/4-10
26	9108-1415	2	DIRT SHIELD
27	9104-1732	2	SPACER

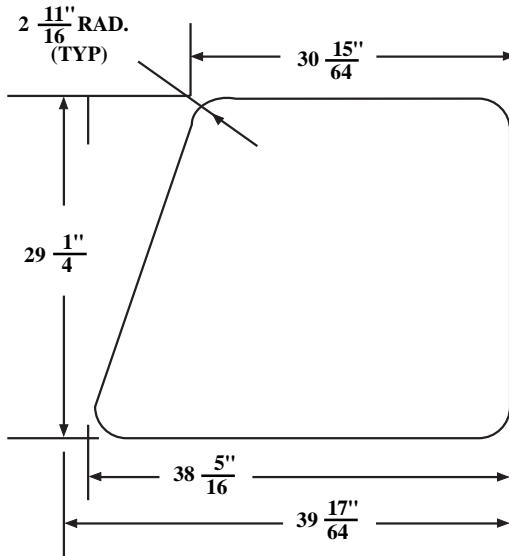
Item	Part No.	Qty.	Description Of Part
28	9103-3445	2	LUBE FITTING
29	8859-1019	2	O-RING
30	9104-1481	2	STEERING CYLINDER PIN
31	9112-3030	4	BACK-UP RING
32	8859-1032	4	O-RING
33	9112-3028	2	BUSHING
34	8692-1268	2	LIP SEAL
35	8821-1121	2	SOCKET HD CAPSCREW, 1/2-13X6-1/2, GR8
	8852-1208	2	HEX LOCKNUT, 1/2
36	9104-1459	2	WASHER
37	8850-1416	2	HEX JAM NUT, 1-14, (lubricate & torque to 425-475 ft. lbs.)
38	8867-1022	4	LUBE FITTING, 30 DEGREES, 1/8
39	9108-1693	2	UPPER KING PIN
40	9104-1439	2	TIE ROD PIN
41	8320-1140	2	HEX HD CAPSCREW, 3/8-16X2-3/4, GR8
42	8852-1306	2	LOCKNUT, 3/8-16
43	8858-1323	2	RETAINING RING
44	9108-1382	2	LOWER KING PIN
45	9104-1596	4	SHIM, (20 gauge, use as required)
46	9104-1449	4	SHIM, (.060 thick, use as required)
47	9104-1450	4	SHIM, (.0478 thick, use as required)
48	9104-1451	6	SHIM, (.106 thick, use as required)
49	9112-3027	2	BUSHING
50	9112-3029	2	O-RING
51	8821-2321	2	SLOT HD CAPSCREW, 5/8-11X3-3/4, GR8
52	8855-1153	2	LOCKWASHER, 5/8
53	8859-1104	2	O-RING
54	9112-1091	2	THRUST BUSHING
* 55	9112-0003	1	L.H. STEERING KNUCKLE
56	9116-6063	1	TIE ROD, (includes item 57)
57	9104-3247	2	SELF-ALIGNING BUSHING
58	2460-1570	2	LIP SEAL
59	9112-3031	2	BUSHING
60	8850-1110	2	HEAVY HEX JAM NUT, 5/8-11
61	9103-3444	2	STREET ELBOW
* 62	9112-1239	2	BUSHING
* 63	9112-1240	4	BUSHING



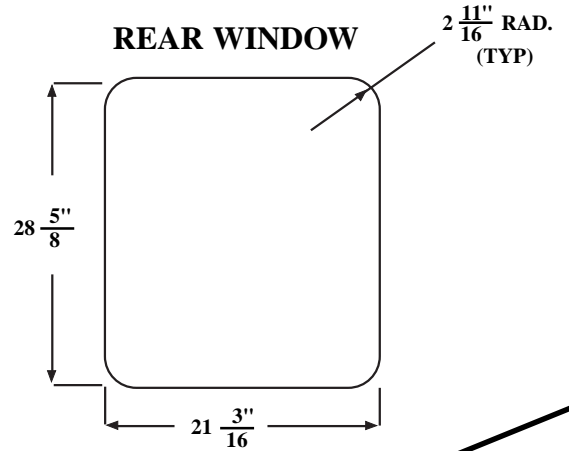
Item	Part No.	Qty.	Description Of Part
1	8643-1005	16	HEX HD CAPSCREW (lubricate and torque to 795-845 ft. lbs.)
2	0510-1441	16	HEAT TREATED WASHER
3	9103-6029	1	OUTRIGGER BRACKET, L.H.
	9103-6030	1	OUTRIGGER BRACKET, R.H.
4	8320-1073	6	HEX HD CAPSCREW
5	9103-1141	4	SHOE PIN
6	8852-1206	6	HEX LOCKNUT, 3/8-16
7	8867-1001	8	LUBE FITTING, STRAIGHT, 1/8
8	9104-3258	2	DUAL P.O. CHECK VALVE
9	8820-1040	6	HEX HD CAPSCREW, 3/8-16X2-1/4, GR5
10	8855-1011	6	LOCK WASHER, 3/8
11		Ref	OUTRIGGER CYLINDER ASSY (see page 10-9 for details)
12	9103-6032	2	OUTRIGGER SHOE
13	9103-6041	2	ARM WELDMENT
14	9103-1140	2	ARM PIN

**STANDARD**

**CHASSIS & ATTACHING PARTS**  
**CAB GLASS**  
 Starting Serial No. 0155390S  
 Original Issue 2-94  
 Revised 6-8-94



**RIGHT SIDE WINDOW**

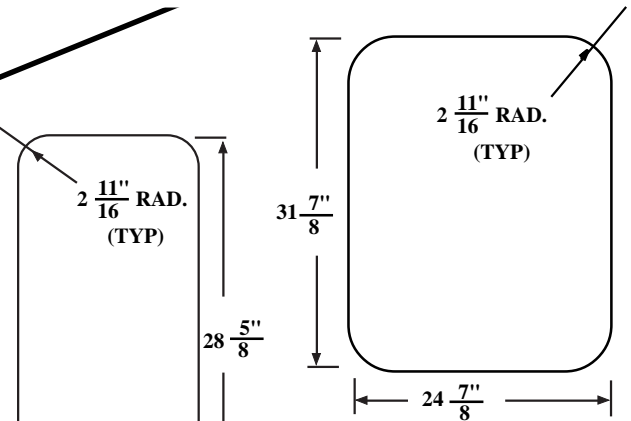


**REAR WINDOW**

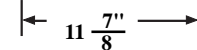
NOTE: ALL LAMINATED SAFETY GLASS,  
 TINTED FOR 73% LIGHT  
 TRANSMISSION SEAMED EDGES,  
 7/32" THICK.

CAB GLASS CAN ONLY BE SHIPPED  
 WITH THE COMPLETE CAB ENCLOSURE  
 OPTION. IF GLASS BREAKAGE OCCURS  
 IN THE FIELD IT MUST BE REPLACED  
 LOCALLY USING THE DIMENSIONS GIVEN.  
 WITH THE EXCEPTION OF THE DOOR SLIDING  
 WINDOW ASSY WHICH MAY BE PURCHASED  
 THROUGH THE PARTS DEPARTMENT.

**OPTIONAL**

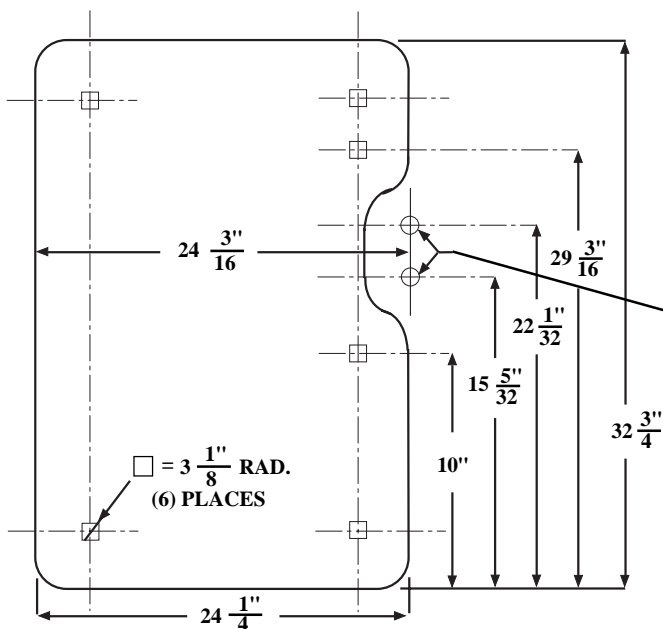


**TOP WINDOW**

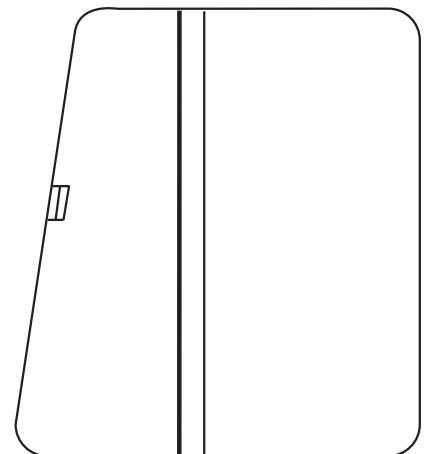


**LEFT SIDE WINDOW**

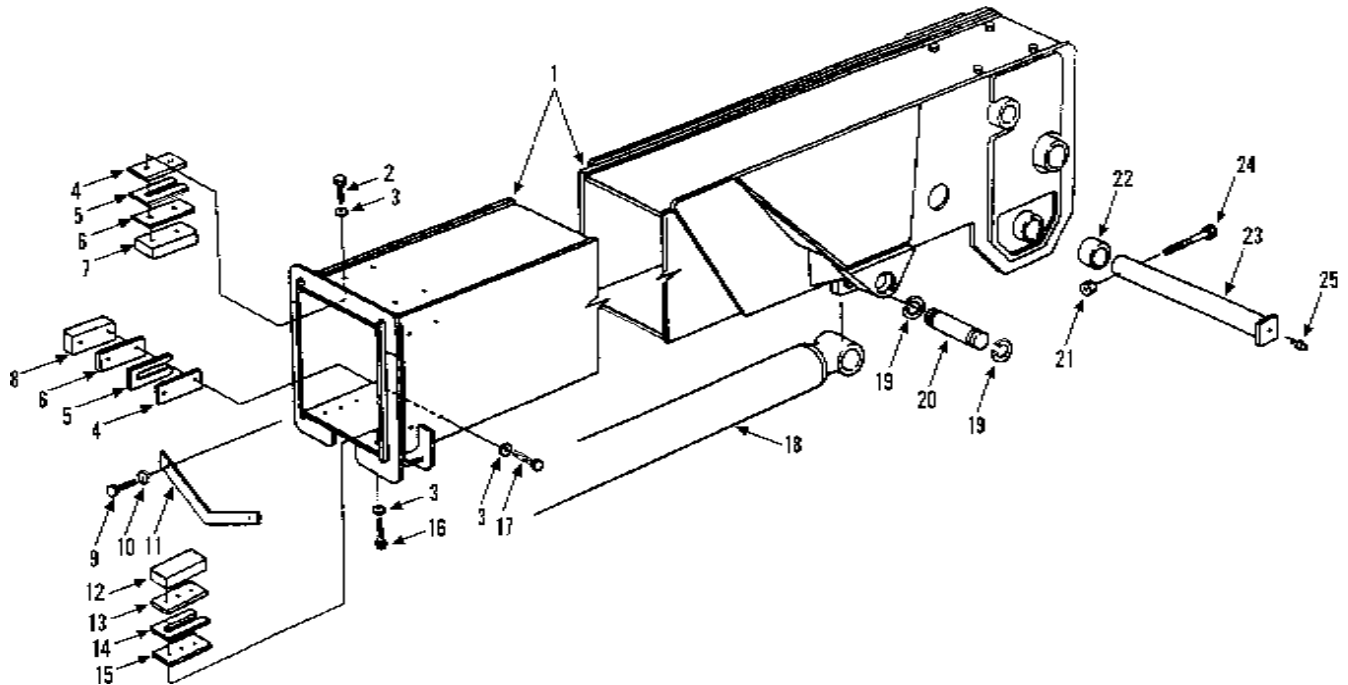
○ = 2 7/8" RAD.  
 (2) PLACES



**FRONT WINDOW**

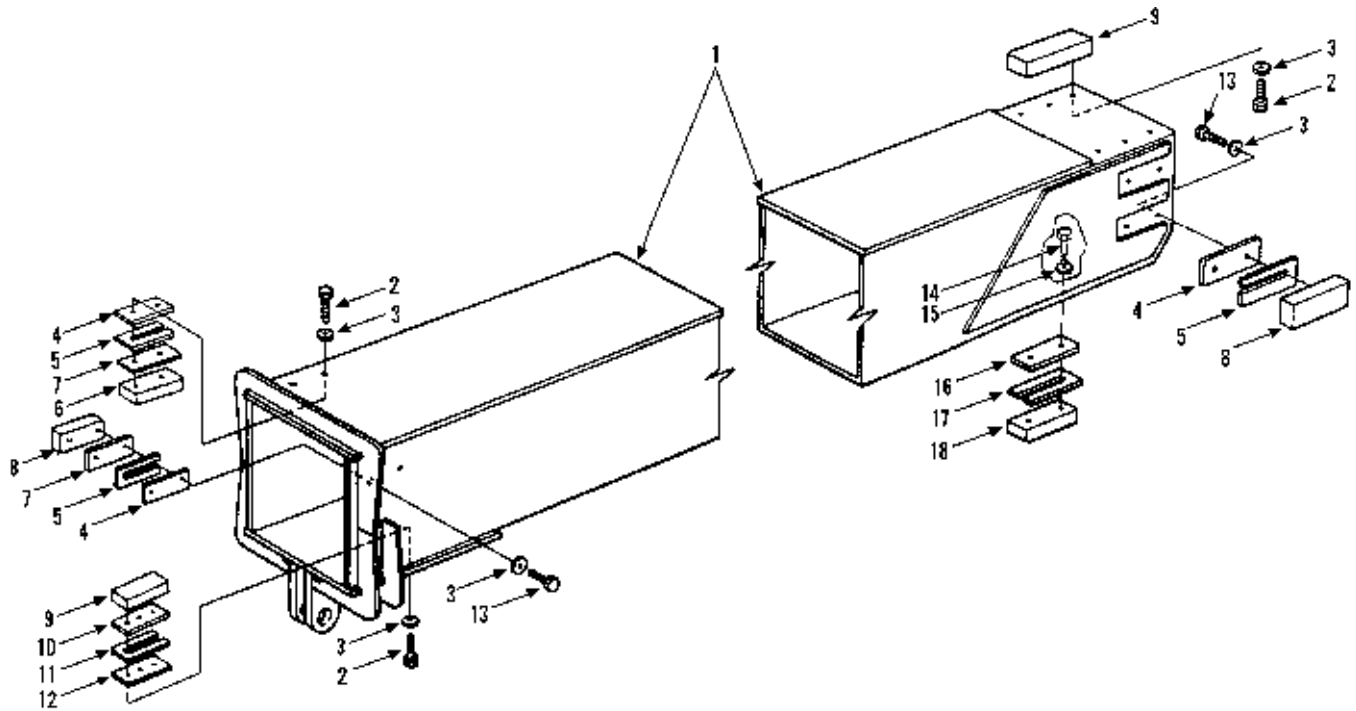


**DOOR SLIDING WINDOW**  
 (9104-3437)



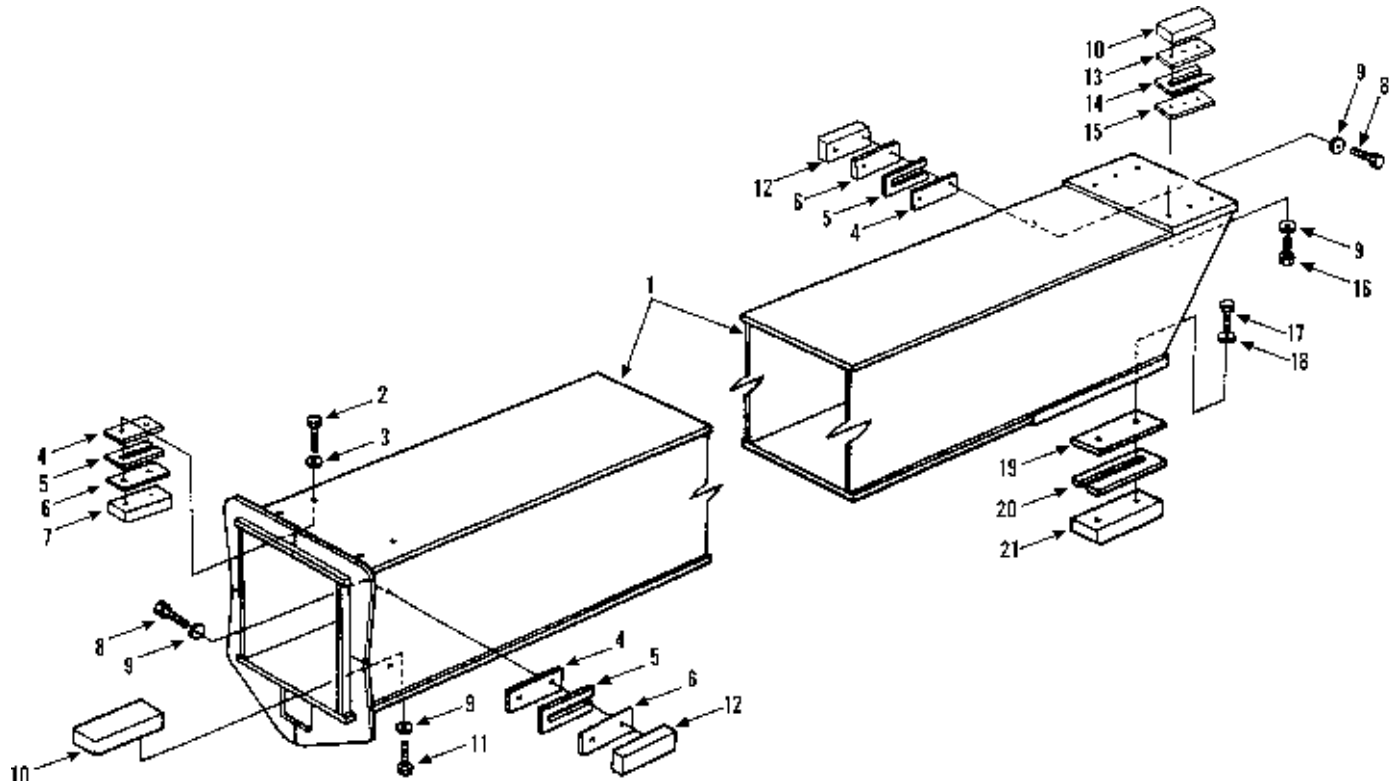
Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
1	9104-6079	1	FIRST BOOM SECTION WELDMENT	15	9104-1007	4	SPACER
2	8820-1564	4	HEX HD CAPSCREW, 1/2-20X1, GR5 (lubricate and torque to 68-78 ft. lbs.)	16	8820-1566	12	HEX HD CAPSCREW, 1/2-20X1-1/12, GR5 (lubricate and torque to 68-78 ft. lbs.)
3	1238-1025	24	HARDENED WASHER	17	8820-1562	8	HEX HD CAPSCREW, 1/2-20X3/4, GR5 (lubricate and torque to 68-78 ft. lbs.)
4	9104-1277	8	SPACER	*18	Ref		CROWD CYLINDER ASSY (see page 10-2 for details)
5	9104-1276	10	SHIM	19	9002-8935	2	RETAINING RING
6	9104-1278	6	SPACER	20	9020-7352	1	PIN
7	9104-3180	2	BEARING PAD	21	8852-1010	1	HEX LOCKNUT, 5/8-11
8	9104-3177	4	BEARING PAD	22	9103-1371	2	BUSHING
9	8820-1069	2	HEX HD CAPSCREW, 1/2-13X2, GR5	23	9103-1389	1	PIN
10	8855-1013	2	LOCKWASHER, 1/2	24	8348-1645	1	HEX HD CAPSCREW
11	9104-1009	1	CYLINDER SUPPORT PLATE	25	8867-1001	2	LUBE FITTING, STRAIGHT, 1/8
12	9104-3164	4	BEARING PAD				
13	9104-1265	4	SPACER				
14	9104-1006	12	SHIM				

\* Removed incorrect part number, and added reference to item 18.



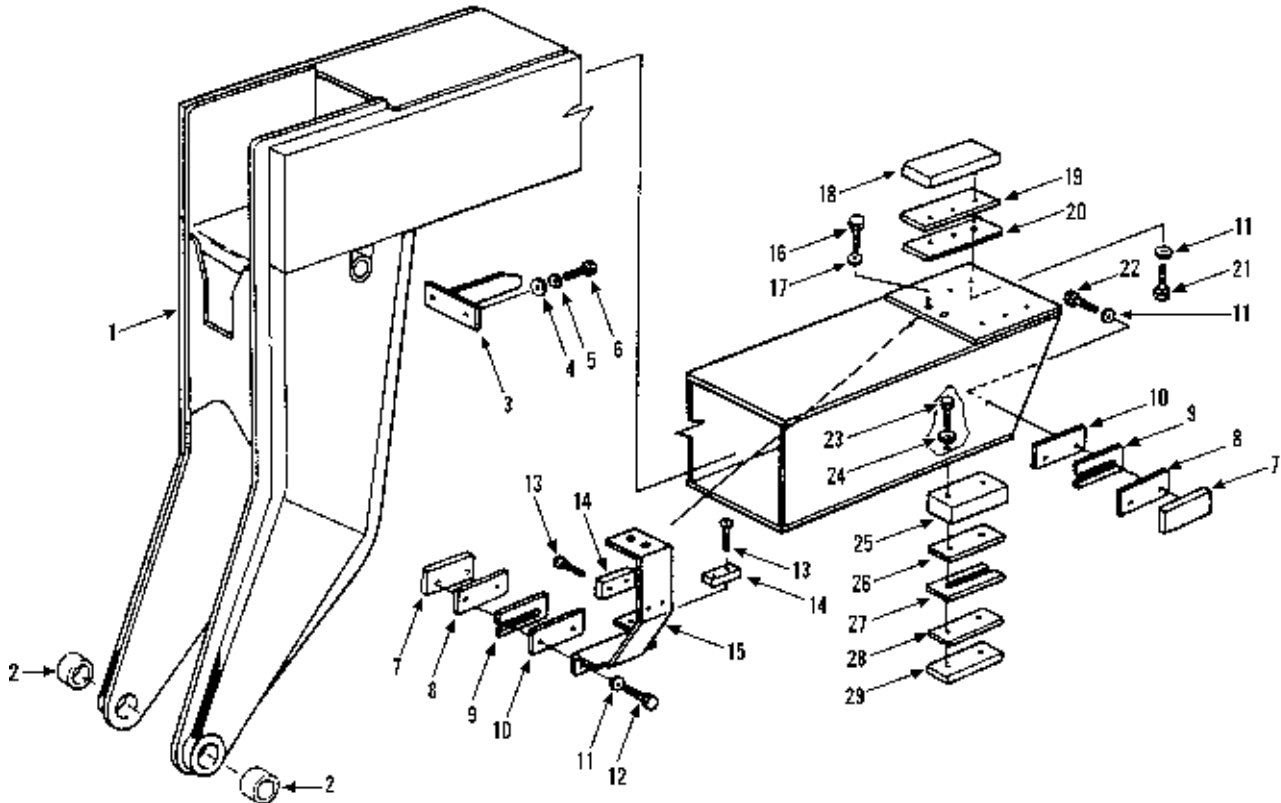
Item	Part No.	Qty.	Description Of Part
1	9104-6018	1	SECOND BOOM SECTION WELDMENT
2	8820-1563	16	HEX HD CAPSCREW, 1/2-20X7/8, GR5 (lubricate and torque to 69-78 ft. lbs.)
3	1238-1025	32	HARDENED WASHER
4	9104-1277	12	SPACER
5	9104-1276	12	SHIM
6	9104-3180	2	BEARING PAD
7	9104-1278	10	SPACER
8	9104-3177	8	BEARING PAD
9	9104-3164	4	BEARING PAD
10	9104-1265	2	SPACER

Item	Part No.	Qty.	Description Of Part
11	9104-1006	6	SHIM
12	9104-1007	2	SPACER
13	8820-1562	16	HEX HD CPASCREW, 1/2-20X3/4, GR5 (lubricate and torque to 68-78 ft. lbs.)
14	8820-1535	4	HEX HD CAPSCREW, 3/8-24X1-1/4, GR5 (lubricate and torque to 30-35 ft. lbs.)
15	1200-1234	4	HARDENED WASHER
16	9103-1234	2	SHIM
17	9020-7029	6	SHIM
18	9103-3188	2	BEARING PAD



Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
1	9104-6019	1	THIRD BOOM SECTION WELDMENT	12	9104-3177	8	BEARING PAD
2	8820-1563	4	HEX HD CAPSCREW, 1/2-20X7/8, GR5 (lubricate and torque to 68-78 ft. lbs.)	13	9104-1265	2	SPACER
3	1238-1025	8	HARDENED WASHER	14	9104-1006	4	SHIM
4	9104-1277	10	SPACER	15	9104-1007	2	SPACER
5	9104-1276	12	SHIM	16	8820-1565	6	HEX HD CPASCREW, 1/2-20X1-1/4, GR5 (lubricate and torque to 68-78 ft. lbs.)
6	9104-1278	10	SPACER	17	8820-1535	4	HEX HD CAPSCREW, 3/8-24X1-1/4, GR5 (lubricate and torque to 30-35 ft. lbs.)
7	9104-3180	2	BEARING PAD	18	1200-1234	4	HARDENED WASHER
8	8820-1562	16	HEX HD CAPSCREW, 1/2-20X3/4, GR5 (lubricate and torque to 68-78 ft. lbs.)	19	9103-1234	2	SHIM
9	1238-1025	24	HARDENED WASHER	20	9020-7029	6	SHIM
10	9104-3164	4	BEARING PAD	21	9103-3188	2	BEARING PAD
11	8820-1567	6	HEX HD CPASCREW, 1/2-20X1-3/4, GR5 (lubricate and torque to 68-78 ft. lbs.)				





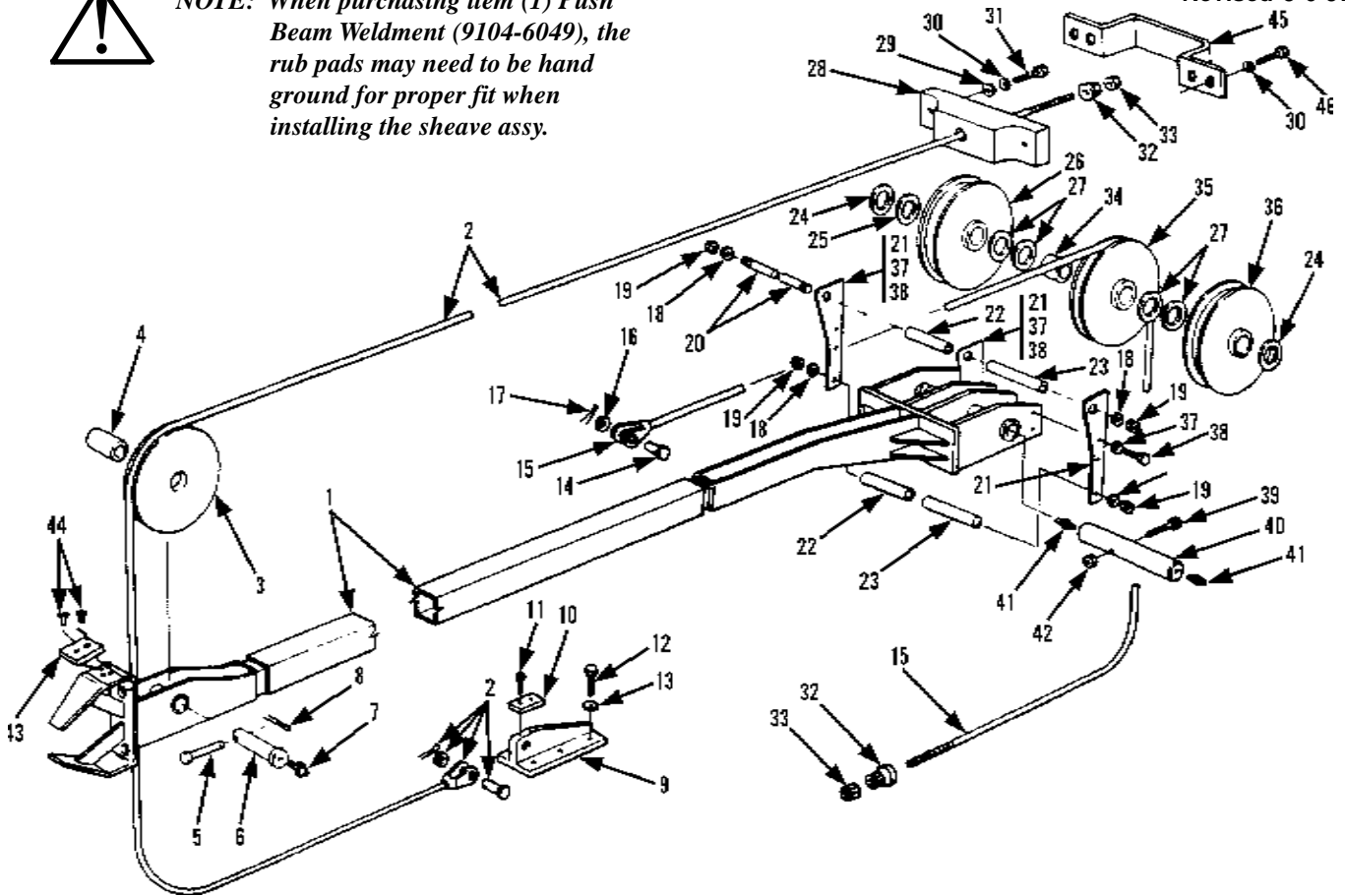
Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
1	9104-6020	1	FOURTH BOOM SECTION WELDMENT (includes item 2)	17	8855-1013	2	LOCK WASHER, 1/2
2	9103-1136	2	BUSHING	18	9104-3164	2	BEARING PAD
3	9104-6008	1	SWITCH ACTUATOR	19	9104-1007	2	SPACER
4	8856-1004	2	FLAT WASHER, 3/8	20	9104-1265	2	SPACER
5	8855-1011	2	LOCK WASHER, 3/8	21	8820-1565	6	HEX HD CAPSCREW, 1/2-20X1-1/4, GR5 (lubricate and torque to 68-78 ft. lbs.)
6	8850-1035	2	HEX HD CAPSCREW, 3/8-16X1, GR5	22	8820-1562	2	HEX HD CAPSCREW, 1/2-20X3/4, GR5 (lubricate and torque to 68-78 ft. lbs.)
7	9104-3177	2	BEARING PAD	23	8820-1538	4	HEX HD CAPSCREW, 3/8-24X2, GR5 (lubricate and torque 30-35 ft. lbs.)
8	9104-1278	2	SPACER	24	1200-1234	4	HARDENED WASHER
9	9104-1276	4	SHIM	25	9104-1134	2	BEARING BLOCK
10	9104-1277	2	SPACER	26	9104-1005	2	SPACER
11	1238-1025	10	HARDENED WASHER	27	9104-1004	6	SHIM
12	8820-1563	2	HEX HD CAPSCREW, 1/2-20X7/8, GR5 (lubricate and torque to 68-78 ft. lbs.)	28	9104-1264	2	SPACER
13	8824-1029	4	SOCKET FLAT HD CAPSCREW 1/4-20X1/2	29	9104-3059	2	BEARING PAD
14	9104-3099	2	BEARING PAD				
15	9104-6006	1	SUPPORT WELDMENT				
16	8820-1065	2	HEX HD CAPSCREW, 1/2-13X1-1/4, GR5				

**GRADALL®**  
**MATERIAL HANDLER**  
**544B**

**BOOMS**  
**Push Beam & Cables**  
 Starting Serial No. 0155299  
 Original Issue 3-90  
 Revised 5-6-97

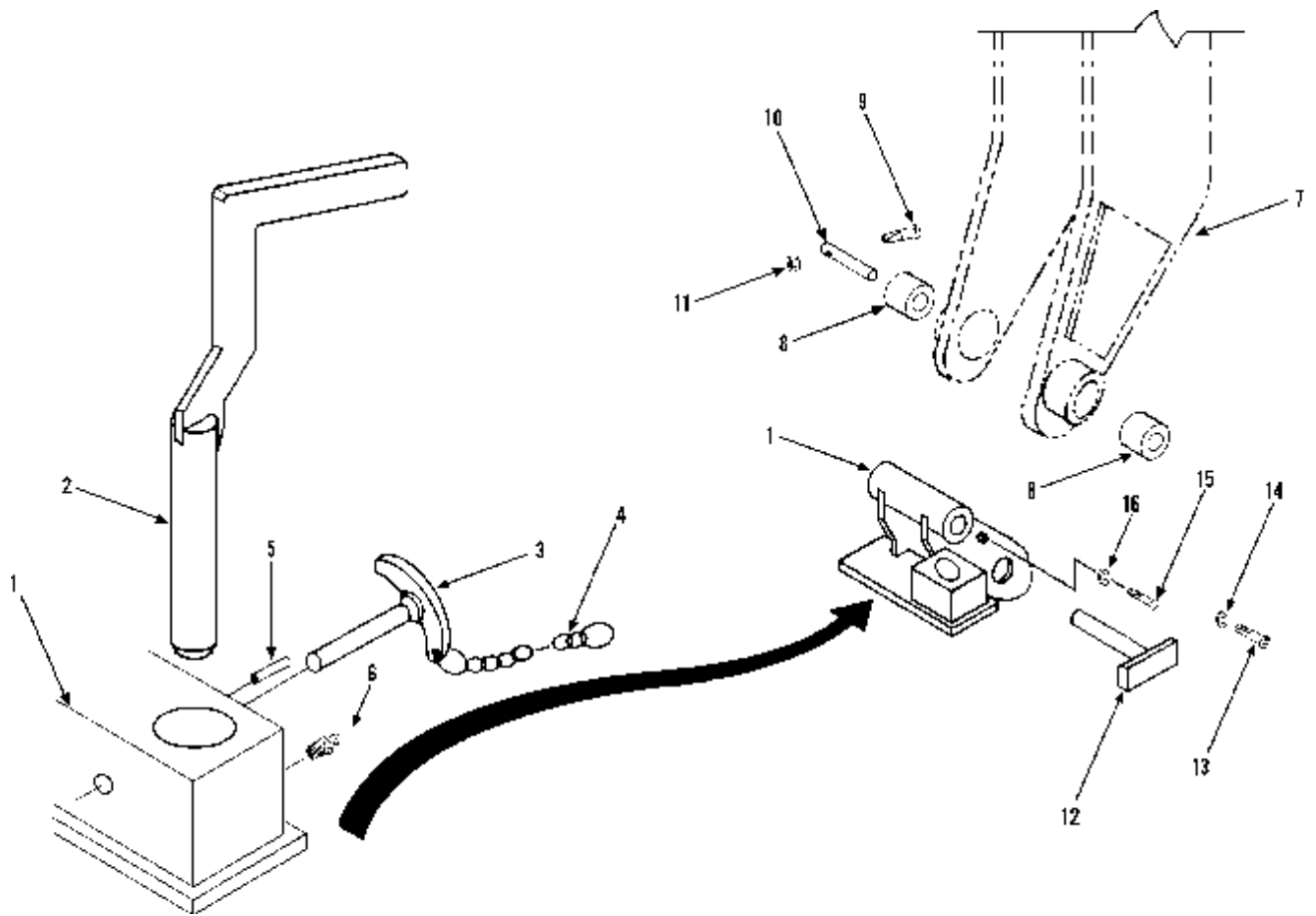


**NOTE:** When purchasing item (1) Push Beam Weldment (9104-6049), the rub pads may need to be hand ground for proper fit when installing the sheave assy.

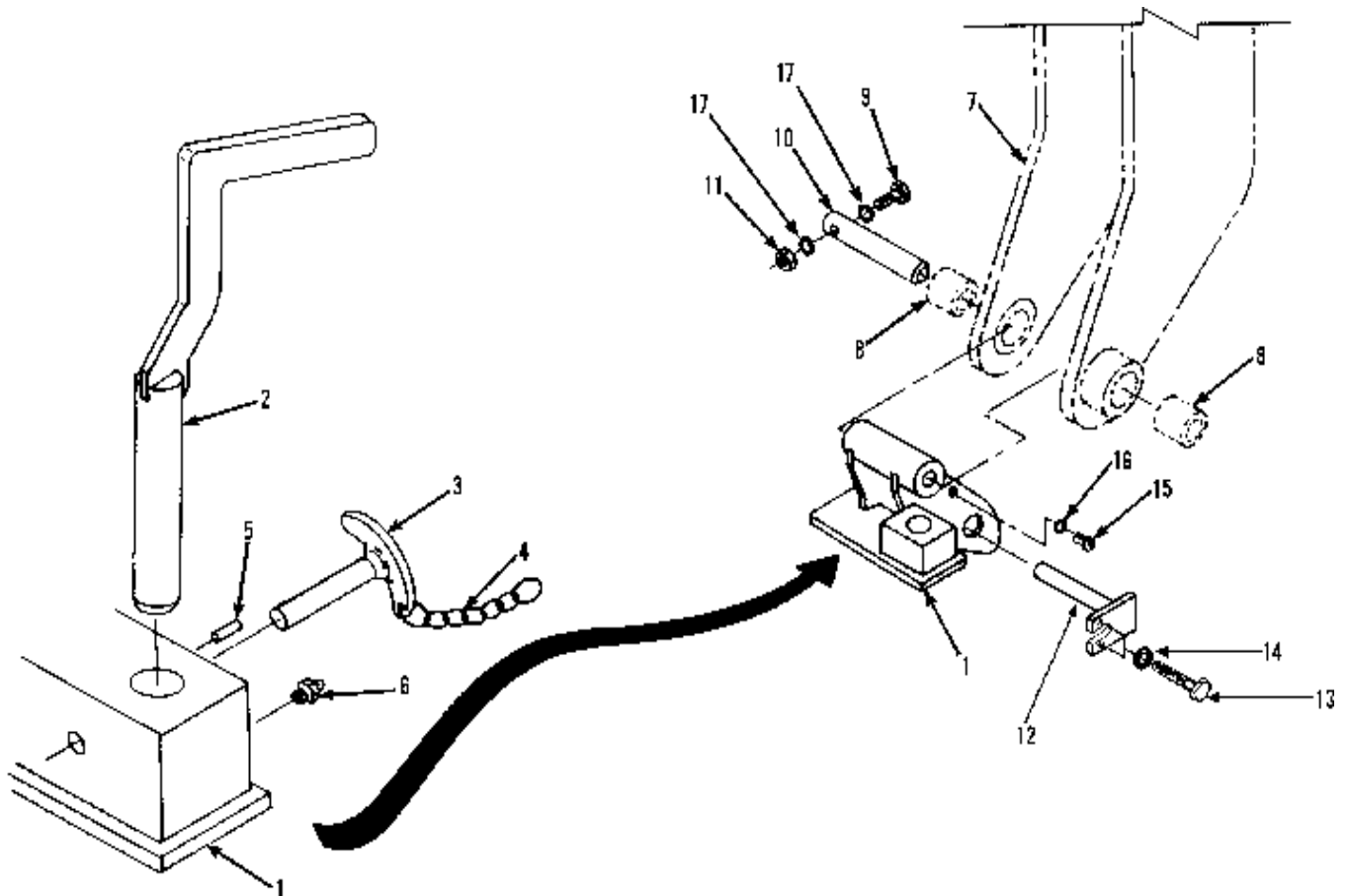


Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
1	9104-6049	1	PUSH BEAM WELDMENT	25	9020-3040	1	THRUST WASHER
* 2	9104-3418	1	EXTENSION CABLE (includes mounting hardware)	26	9104-3101	1	SHEAVE
3	9104-5126	1	SHEAVE ASSY (includes item 4)	27	9020-0253	4	THRUST WASHER
4		1	BUSHING	28	9104-1013	1	STRONGBACK PLATE
5	9002-1608	1	CLEVIS PIN	29	8540-1340	2	HARDENED WASHER
6	9104-1232	1	SHEAVE PIN	30	8855-1013	6	LOCKWASHER, 1/2
7	8867-1002	1	LUBE FITTING, STRAIGHT, 1/8	31	8820-1071	2	HEX HD CAPSCREW, 1/2-13X2-1/2, GR5
8	8863-1310	1	COTTER PIN, 3/32X1	32	9002-8965	2	FLANGE HALF
9	9104-6052	1	CABLE ANCHOR	33	8850-1116	2	HEX JAM NUT, 1"-8
10	9104-3099	1	BEARING PAD	34		1	BUSHING
11	8824-1030	2	SOCKET FLAT HD CAPSCREW, 1/4-20X5/8	35	9103-5147	1	SHEAVE ASSY (includes item 34)
12	8320-1003	6	HEX HD CAPSCREW, 5/8-11X1-3/4 (nylok) GR8	36	9104-3100	1	SHEAVE
13	7714-1077	6	HARDENED WASHER	*37	8856-1109	6	FLAT WASHER, 3/8
14	9104-3062	1	CABLE PIN	38	8820-1033	6	HX HD CAPSCREW, 3/8-16X3/4
15	9104-3047	1	RETRACTION CABLE	39	8820-1044	1	HEX HD CAPSCREW, 3/8-16X3-1/4, GR5
16	8856-1013	1	FLAT WASHER	40	9104-1008	1	PUSH BEAM PIN
17	8863-1339	1	COTTER PIN, 3/16X2	41	8867-1008	2	LUBE FITTING, STRAIGHT, 1/4-28
18	8855-1011	4	LOCKWASHER, 3/8	*42	8852-1006	1	HEAVY HEX JAM LOCKNUT, 3/8-16
19	8850-1006	8	HEX NUT, 3/8-16	*43	9104-3261	1	BEARING PAD
20	9104-1012	2	HOSE RETAINER STUD	*44	8830-1339	2	FLAT HD MACHINE SCREW, 3/8-16X1
21	9104-1404	3	HOSE RETAINER PLATE	45	9104-1510	1	BOOM CABLE GUARD
22	9104-1406	2	RETAINER ROLLER, 5" LONG	46	8820-1067	4	HEX HD CAPSCREW, 1/2-13X1-1/2, GR5
23	9104-1405	2	RETAINER ROLLER, 8-1/2" LONG				NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.
24	9020-3039	2	THRUST WASHER				

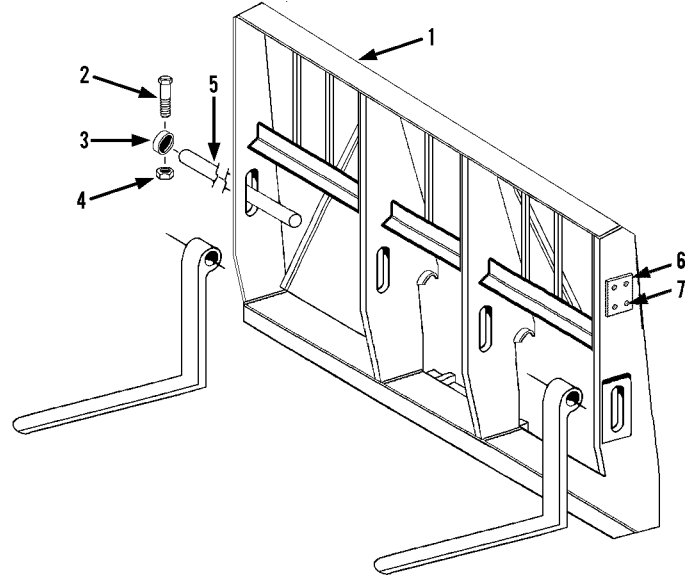
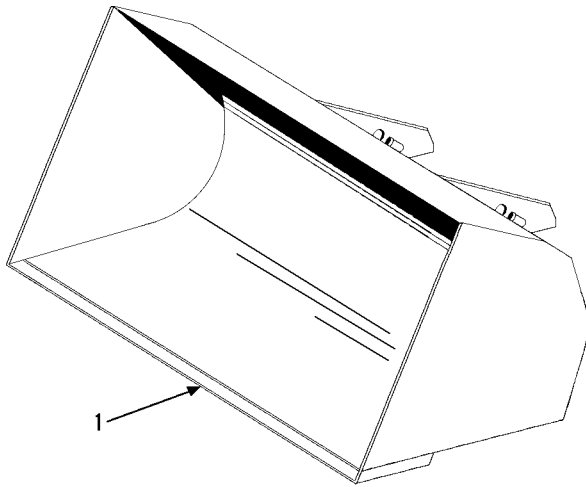
\* Changed part numbers on items 2, 43 & 44, changed quantities on items 37 & 42, and removed items 47 & 48.



Item	Part No.	Qty.	Description Of Part
* 1	9104-5095	1	QUICK SWITCH ASSEMBLY
	9108-6074	1	QUICK SWITCH WELDMENT
2	9108-6073	1	PLUNGER WELDMENT
3	9020-7902	1	QUICK RELEASE PIN
4	9103-3038	1	JACK CHAIN, 8" LONG, SIZE 12
5	8863-1509	1	ROLL PIN, 1/4"X2
6	8867-1008	1	LUBE FITTING, STRAIGHT, 1/4-28
7	9104-6020	REF	FOURTH BOOM SECTION WELDMENT
8	9103-1136	REF	BUSHING
9	8864-1057	1	HEX HD CAPSCREW
10	9104-1365	1	HEAD PIN
11	8852-1010	1	HEX LOCKNUT, 5/8-11
12	9020-7046	1	TILT CYLINDER ROD END PIN
13	8820-1065	2	HEX HD CAPSCREW, 1/2-13X1, GR5
14	8855-1013	2	LOCKWASHER, 1/2
15	8830-1090	1	RD. HD MACH SCREW, #10-24X1/2
16	8856-1105	1	FLAT WASHER #10



Item	Part No.	Qty.	Description Of Part
	9108-5049	Ref	QUICK SWITCH OPTION ( includes 9108-5091 plus items 9,10, 11, &17)
	9108-5091	1	QUICK SWITCH ASSY (includes items 1 thru 6, 15 & 16)
1	9108-6152	1	QUICK SWITCH WELDMENT
2	9108-6151	1	PLUNGER WELDMENT
3	9020-7902	1	QUICK RELEASE PIN
4	9103-3038	1	JACK CHAIN, 5" LONG, SIZE 12
5	8863-1509	1	ROLL PIN, 1/4"X2
6	8867-1008	1	LUBE FITTING, STRAIGHT, 1/4-28
7		Ref	THIRD BOOM SECTION (see page 3-3)
8	9103-1136	2	BUSHING
9	9112-1308	1	HEX HD CAPSCREW, 5/8-11X5, GR5
10	9104-1365	1	PIN
11	9112-1309	1	HEX NUT, 5/8-11 (torque to 185-200 ft. lbs.)
12	9116-6062	1	TILT CYLINDER PIN
13	8320-1123	2	HEX HD CAPSCREW, 1/2-13X1, GR8
14	8856-1111	2	WASHER, 1/2
15	8830-1193	1	ROUND HD MACHINE SCREW, #10-32X1/2
16	8856-1105	1	FLAT WASHER, #10
17	9112-1310	2	WASHER, 5/8



Item	Part No.	Qty.	Description Of Part
1	9080-1332	1	SAND BUCKET

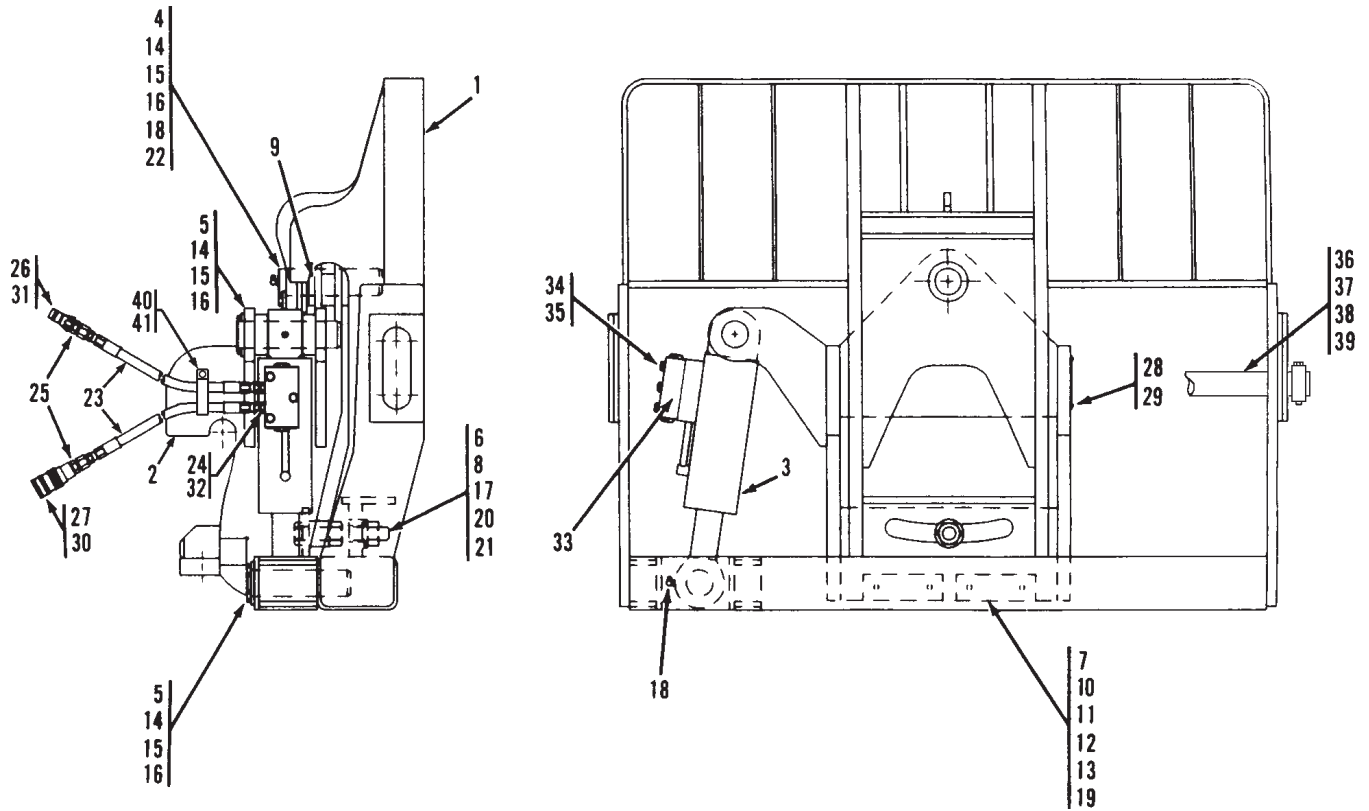
**NOTE: MANY DIFFERENT FORK ASSEMBLIES ARE AVAILABLE FOR THE CARRIAGE ASSEMBLIES ON THE 544B. PLEASE SEE FORK INFORMATION PAGE, (4-3) FOR LIST OF FORKS.**

Item	Part No.	Qty.	Description Of Part
	9045-5007	1	48" CARRIAGE ASSY, (includes all items)
1	9080-1315	1	48" CARRIAGE WELDMENT
2	8820-1105	2	HEX HD CAPSCREW, 5/8-11X4, GR5
3	9020-0003	2	COLLAR
4	8852-1310	2	HEX LOCKNUT, 5/8-11
5	9040-2477	1	FORK PIN
* 6	9015-3001	1	SERIAL NUMBER PLATE
* 7	8834-1022	4	DRIVE SCREW, #10X3/8

Item	Part No.	Qty.	Description Of Part
	9055-5008	1	72" CARRIAGE ASSY, (includes all items)
1	9055-6003	1	72" CARRIAGE WELDMENT
2	8820-1105	2	HEX HD CAPSCREW, 5/8-11X4, GR5
3	9020-0003	2	COLLAR
4	8852-1310	2	HEX LOCKNUT, 5/8-11
5	9055-1013	1	FORK PIN
* 6	9015-3001	1	SERIAL NUMBER PLATE
* 7	8834-1022	4	DRIVE SCREW, #10X3/8

Item	Part No.	Qty.	Description Of Part
	9045-5008	1	66" CARRIAGE ASSY, (includes all items)
1	9080-1314	1	66" CARRIAGE WELDMENT
2	8820-1105	2	HEX HD CAPSCREW, 5/8-11X4, GR5
3	9020-0003	2	COLLAR
4	8852-1310	2	HEX LOCKNUT, 5/8-11
5	9040-2478	1	FORK PIN
* 6	9015-3001	1	SERIAL NUMBER PLATE
* 7	8834-1022	4	DRIVE SCREW, #10X3/8

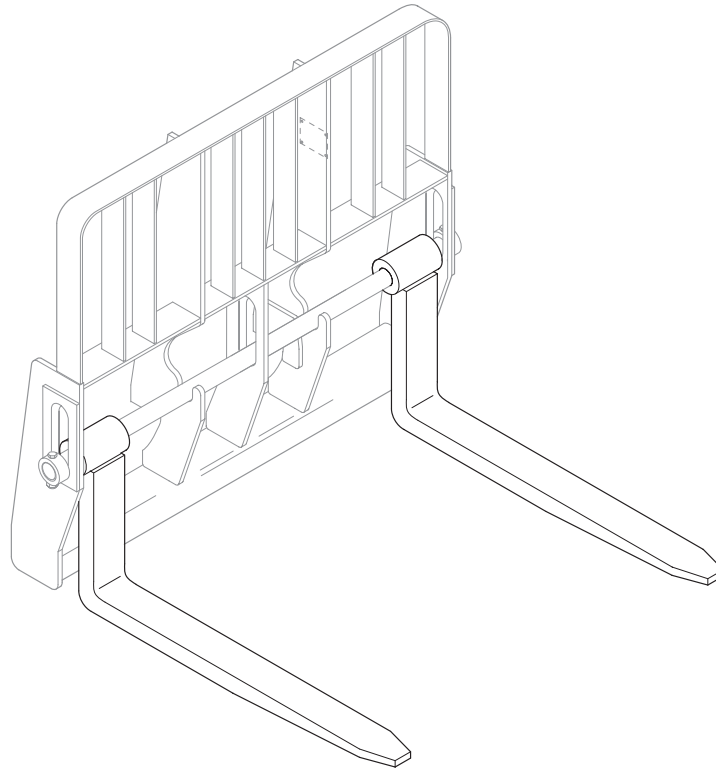
Item	Part No.	Qty.	Description Of Part
	9045-5038	1	80" CARRIAGE ASSY, (includes all items)
1	9045-6003	1	80" CARRIAGE WELDMENT
2	8820-1105	2	HEX HD CAPSCREW, 5/8-11X4, GR5
3	9020-0003	2	COLLAR
4	8852-1310	2	HEX LOCKNUT, 5/8-11
5	9045-1011	1	FORK PIN
* 6	9015-3001	1	SERIAL NUMBER PLATE
* 7	8834-1022	4	DRIVE SCREW, #10X3/8



Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
	9130-5016	Ref	66" SLOPE PILER CARRIAGE, (includes all items)	*25	8866-1010	2	CONNECTOR, (Before S/N 2005283-01)
	9103-3426	1	CAPACITY DECAL		8866-2018	2	CONNECTOR, (S/N 2005283-01 & After)
1	9130-6030	1	CARRIAGE WELDMENT	*26	9116-3138	1	MALE QUICK DISCONNECT, (Before S/N 2005283-01)
*2	9108-6122	1	ADAPTER WELDMENT		9140-3414	1	MALE QUICK DISCONNECT, (S/N 2005283-01 & After)
3		Ref	SWAY CYLINDER, (see page 13-19 for details)	*27	9116-3139	1	FEMALE QUICK DISCONNECT, (Before S/N 2005283-01)
4	9108-3248	1	BUSHING		9140-3413	1	FEMALE QUICK DISCONNECT, (S/N 2005283-01 & After)
*5	3423263	2	PIN	28	8834-1022	4	DRIVE SCREW, #10X3/8
6	9020-4007	1	TUBE	29	9015-3001	1	SERIAL NUMBER PLATE
7	9103-3186	2	BEARING PAD	30	9104-3125	1	DUST PLUG
8	9108-1577	1	TAP BOLT	31	9104-3126	1	DUST CAP
9	9108-1594	1	THRUST WASHER	*32	8866-2105	2	ELBOW, 90 DEGREES, (swivel nut)
*10	9020-5870	AR	SHIM	33		Ref	DUAL P.O. CHECK VALVE, (see page 13-20 for details)
11	9103-1236	2	SPACER	34	8820-1040	3	HEX HD CAPSCREW, 3/8-16X2-1/4, GR5
*12	8820-1535	4	HEX HD CAPSCREW, 3/8-24X1-1/4, GR5	35	8855-1011	3	LOCKWASHER, 3/8
*13	8820-1534	4	HEX HD CAPSCREW, 3/8-24X1, GR5	36	9130-1083	1	FORK PIN
14	9108-1313	3	KEEPER PLATE	37	9020-0003	2	COLLAR
15	8820-1065	6	HEX HD CAPSCREW, 1/2-13X1, GR5	38	8820-1105	2	HEX HD CAPSCREW, 5/8-11X4, GR5
16	8855-1013	6	LOCKWASHER, 1/2	39	8852-1310	2	LOCKNUT, 5/8-11
17	8852-1016	1	HEX LOCKNUT, 1-8	*40	8452-1062	1	SUPPORT CLAMP
*18	8867-1022	2	LUBE FITTING, 90 DEGREES, 1/8	*41	7714-3015	1	WHIZ-LOK NUT, 3/8-16
19	8856-1109	4	FLAT WASHER, 3/8				
20	8850-1016	1	HEX NUT, 1-8				
21	0510-1441	1	WASHER, 1-1/16				
22	9108-1622	1	PIN				
23	8471-6434	2	HOSE ASSY				
24	8366-1316	2	CONNECTOR				

ER 46361, 48269, 49530,  
 49939, 50170 LK

\* Revised illustration & parts list.



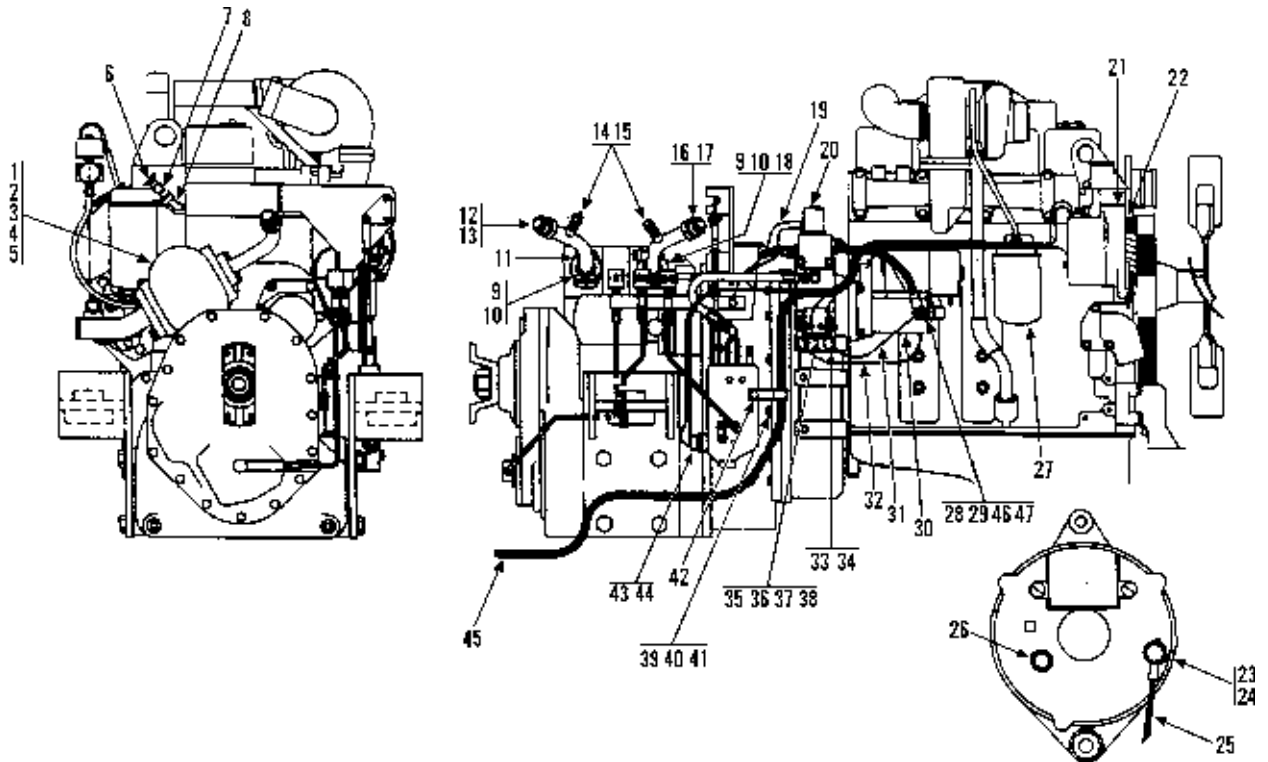
**NOTE: FORKS RATED LESS THAN THE ATTACHMENT OR MACHINE'S CAPACITY DECREASE CAPACITY OF THE ATTACHMENT OR MACHINE TO THAT OF THE FORKS. FORKS RATED MORE THAN THE ATTACHMENT OR MACHINE'S CAPACITY DO NOT INCREASE ATTACHMENT OR MACHINE'S CAPACITY.**

**NOTE: PLEASE CONSULT THE GRADALL PARTS DEPARTMENT TO DETERMINE THE CORRECT FORKS APPLICABLE TO YOUR SPECIFIC CARRIAGE ASSEMBLY AND APPLICATION.**

Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
	9060-0390	2	48" CUBING FORK, 2X2, 3000 lbs., (B, C & D series)		9055-3018	2	72" PALLET FORK, 2X6, 10,000 lbs., (B, C & D series)
	9060-1819	2	48" PALLET FORK, 1-3/4X6, 9000 lbs., (B, C & D series)		9112-3132	2	72" PALLET FORK, 2X6, 10,000 lbs., (B, C & D series)
	9045-3002	2	48" PALLET FORK, 2X4, 8000 lbs., (B, C & D series)		9060-0832	2	48" PALLET FORK, 2-1/4X8, 16,000 lbs., (used on the 542, 552, & 554)
	9055-3005	2	48" PALLET FORK, 2X6, 10,000 lbs., (B, C & D series)		9060-1873	2	48" PALLET FORK, 2-1/4X7, 15,000 lbs., (used on the 542, 552, & 554)
	9055-3008	2	48" PALLET FORK, 1-3/4X4, 5000 lbs., (used on 6' swing mast only, P/N 9045-5047)		9060-0833	2	60" PALLET FORK, 2-1/4X8, 16,000 lbs., (used on the 542, 552 & 554)
	9060-1015	2	60" PALLET FORK, 2X6, 10,000 lbs., (B, C & D series)		9060-1219	2	60" PALLET FORK, 2-1/2X8, 16,000 lbs., (used on the 542, 552 & 554)
	9116-3269	2	60" PALLET FORK, 2X6, 11,300 lbs., (B, C & D series)		9060-1874	2	60" PALLET FORK, 2-1/4X7, 15,000 lbs., (used on the 542, 552 & 554)
	9045-3045	2	60" PALLET FORK, 2X6, 11,300 lbs., (used on 6' swing mast only, P/N 9045-5054)		H045-3002	2	96" PALLET FORK, 2X6, 7500 lbs. loaded center, (B, C & D series)
					9055-3018	2	72" PALLET FORK, 2X6, 10,000 lbs., (B, C & D series)

**GRADALL®**  
**MATERIAL HANDLER**  
**544B**

**ENGINE & ATTACHING PARTS**  
**Engine Left Side View**  
**Starting Serial No. 0155299S**  
**Original Issue 3-90**  
**Revised 12-29-95**

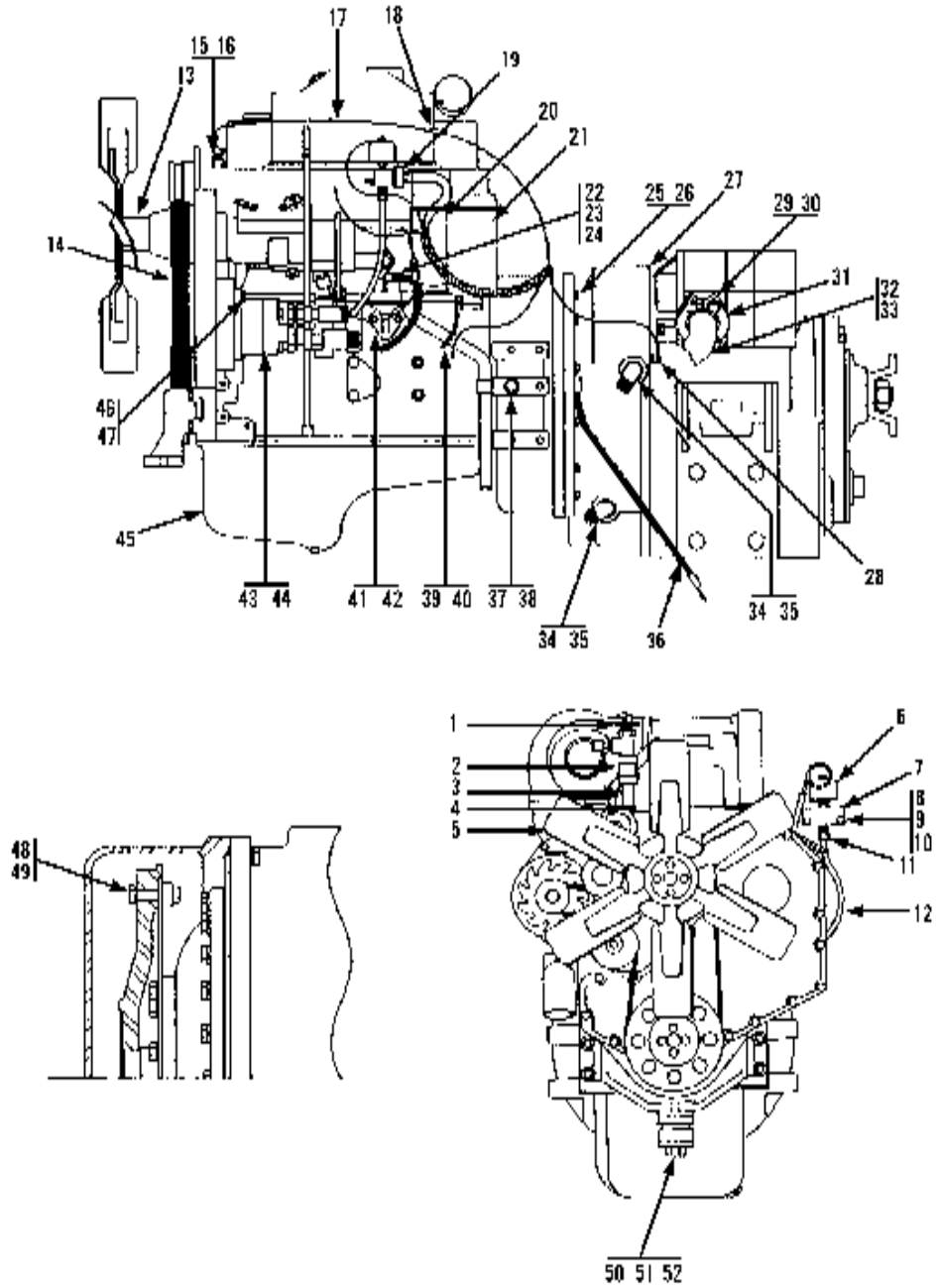


Item	Part No.	Qty.	Description Of Part-	Item	Part No.	Qty.	Description Of Part-
1	9104-3175	Ref	MAIN HYDRAULIC PUMP ASSY (see page 10-22 for details)	24	8319-1011	1	LOCKWASHER, M8
2	7713-4059	1	PUMP GASKET	25	9020-7497	1	JUMPER WIRE
3	8820-1067	2	HEX HD CAPSCREW, 1/2-13X1/2, GR5	26	8319-1019	1	HEX NUT M6x1
4	8540-1340	2	HARDENED WASHER	27	9108-4001	1	OIL FILTER (spin-on type)
5	8855-1013	2	LOCKWASHER, 1/2	28	9103-3086	1	POSITIVE BATTERY CABLE (see page 11-2 for details)
6	2464-1328	1	SHUT-OFF VALVE	29	9103-3134	1	HEX NUT, M10X1.5
7	8871-1383	1	REDUCING BUSHING, 1/2X3/8	30	9104-4350	1	STARTING MOTOR ASSY
8	8871-2034	1	STREET ELBOW, 45 DEGREES, 1/2	31	9020-7497	1	JUMPER WIRE
9	8820-1036	8	HEX HD CAPSCREW, 3/8-16X1-1/4, GR5	32	9020-5205	1	JUMPER WIRE
10	8855-1011	8	LOCKWASHER, 3/8	33	8319-1004	2	HEX HD CAPSCREW, M12x1.75x30
11	8471-1369	2	FLANGE HALF	34	8319-1010	2	LOCKWASHER, M12
12	9105-3345	1	TUBE ASSY	35	9040-2427	1	STARTER SOLENOID
13	8503-1525	1	SQUARE O-RING	36	8820-1001	2	HEX HD CAPSCREW, 1/4-20X1/2, GR5
14	7713-3089	2	MINI CHECK COUPLING	37	8855-1009	2	LOCKWASHER, 1/4
15	8859-1204	2	O-RING	38	8856-1107	2	FLAT WASHER, 1/4
16	9105-3344	1	TUBE ASSY	39	9104-3342	1	STUD, M10X1.5X57MM LONG
17	8366-1304	1	SQUARE O-RING	40	8319-1015	1	HEX NUT, M10X1.5
18	8471-1333	2	FLANGE HALF	41	8319-1013	1	FLAT WASHER, M10
19	9020-7719	1	JUMPER WIRE	42	8594-1017	1	SUPPORT CLAMP
20	9020-6739	Ref	SOLENOID VALVE ASSY (see page 10-14 for details)	43	8998-1036	2	PAN HD MACHINE SCREW, #8-32X3/8
21	8367-4109	1	ALTERNATOR ASSY	44	8855-1006	2	LOCKWASHER, #8
22	8367-4110	1	ALTERNATOR FAN	45	9103-3079	1	WIRING HARNESS
23	8319-1007	1	HEX HD CAPSCREW, M8X1.25X16	46	7149-2134	84"	LOOM
				47	8668-3122	7	TY -WRAP



**GRADALL®**  
**MATERIAL HANDLER**  
**544B**

**ENGINE & ATTACHING PARTS**  
**Engine Right Side View**  
Starting Serial No. 0155299S  
Original Issue 3-90  
Revised 12-29-95



**GRADALL®**  
**MATERIAL HANDLER**  
**544B**

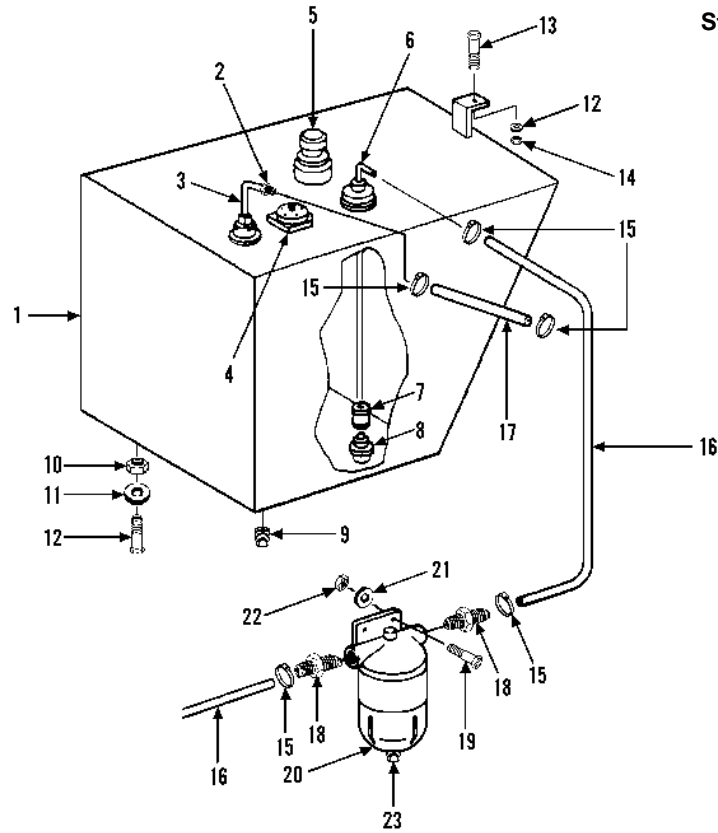
**ENGINE & ATTACHING PARTS**  
**Engine Right Side View**  
**Starting Serial No. 0155299S**  
**Original Issue 3-90**  
**Revised 12-29-95**

Item	Part No.	Qty.	Description Of Part-	Item	Part No.	Qty.	Description Of Part-
1	9108-3155	1	SHUT-OFF VALVE	31	8471-1427	2	FLANGE HALF
2	8871-1213	1	PIPE COUPLING, 1/2	32	9104-3176	1	SUCTION TUBE
3	8870-1070	1	PIPE NIPPLE, 1/2X1-1/2	33	8859-1106	1	O-RING
4	7738-3540	1	COOLANT RESTRICTOR ORIFICE	34	8866-2067	2	ELBOW, 90 DEGREES (includes item 35)
5	9104-3253	1	FAN BLADE	35	8859-1207	2	O-RING
6	9103-3246	1	OIL PRESSURE SENDER	36	9020-0811	1	GROUND CABLE (see page 11-2 for details)
7	9108-1388	1	TAPPED BAR	37	8319-1004	1	HEX HD CAPSCREW, .30M12X1.75
8	8820-1009	2	HEX HD CAPSCREW, 1/4-20X2, GR5	38	8856-1111	1	FLAT WASHER, 1/2
9	8855-1009	2	LOCKWASHER, 1/4	39	9104-3324	1	FUEL LINE HOSE
10	8850-1004	2	HEX NUT, 1/4-20	40	8668-3106	1	HOSE CLAMP
11	8688-3075	2	TUBE FITTING	41	9104-4351	1	FUEL LINE HOSE
12		1	NYLON TUBE, 3/8 O.D. 15" LONG	42	9104-4352	1	PUMP GASKET
13	7738-3259	1	FAN SPACER	43	9104-3259	1	PILOT PUMP ASSY (see page 10-23 for details)
14	7738-3204	1	FAN BELT (v-ribbed)	44	8667-1112	1	PUMP GASKET
15	9020-6124	1	WATER TEMPERATURE SENDER	45	9104-3252	1	CUMMINS DIESEL ENGINE (for parts information see separate engine manual)
16	8871-1384	1	REDUCING BUSHING, 1/2X1/4	46	8319-1021	2	HEX HD CAPSCREW, M10X1.5X30
17	9104-1558	1	JUMPER WIRE	47	8319-1013	2	LOCKWASHER, M10
18	8668-3480	1	CRIMP-ON CONNECTOR	48	8820-1536	8	HEX HD CAPSCREW, 3/8-24X1-1/2, GR5 (lubricate and torque to 25-30 ft. lbs.)
19	2474-1047	1	PRESSURE SWITCH	49	8856-1109	8	FLAT WASHER, 3/8
20	7738-3202	1	FUEL FILTER (spin on, primary)	50	9108-3338	1	HEX HD CPASCREW, M16X2X120
21	7738-3203	1	FUEL FILTER (spin on, secondary)	51	9108-1158	2	REBOUND WASHER
22	8209-2118	1	FUEL LINE HOSE, 36" LONG	52	8668-1227	1	SHOCK MOUNT
23	8874-1800	1	HOSE NIPPLE	53	8319-1039	4	HEX HD CAPSCREW
24	8348-3497	1	HOSE CLAMP	54	8856-1108	4	FLAT WASHER, 5/16
25	8319-1006	11	HEX HD CPASCREW, M10X1.5X40				
26	8319-1013	11	LOCKWASHER				
27	9103-3319	1	TRANSMISSION ASSY (see page 6-1 thru 6-10 for details)				
28	9103-3283	1	OIL TEMPERATURE SENDER				
29	8820-1067	4	HEX HD CAPSCREW, 1/2-13X1-1/2, GR5				
30	8855-1013	4	LOCKWAHSER, 1/2				

**GRADALL®**  
**MATERIAL HANDLER**  
**544B**

**ENGINE & ATTACHING PARTS**

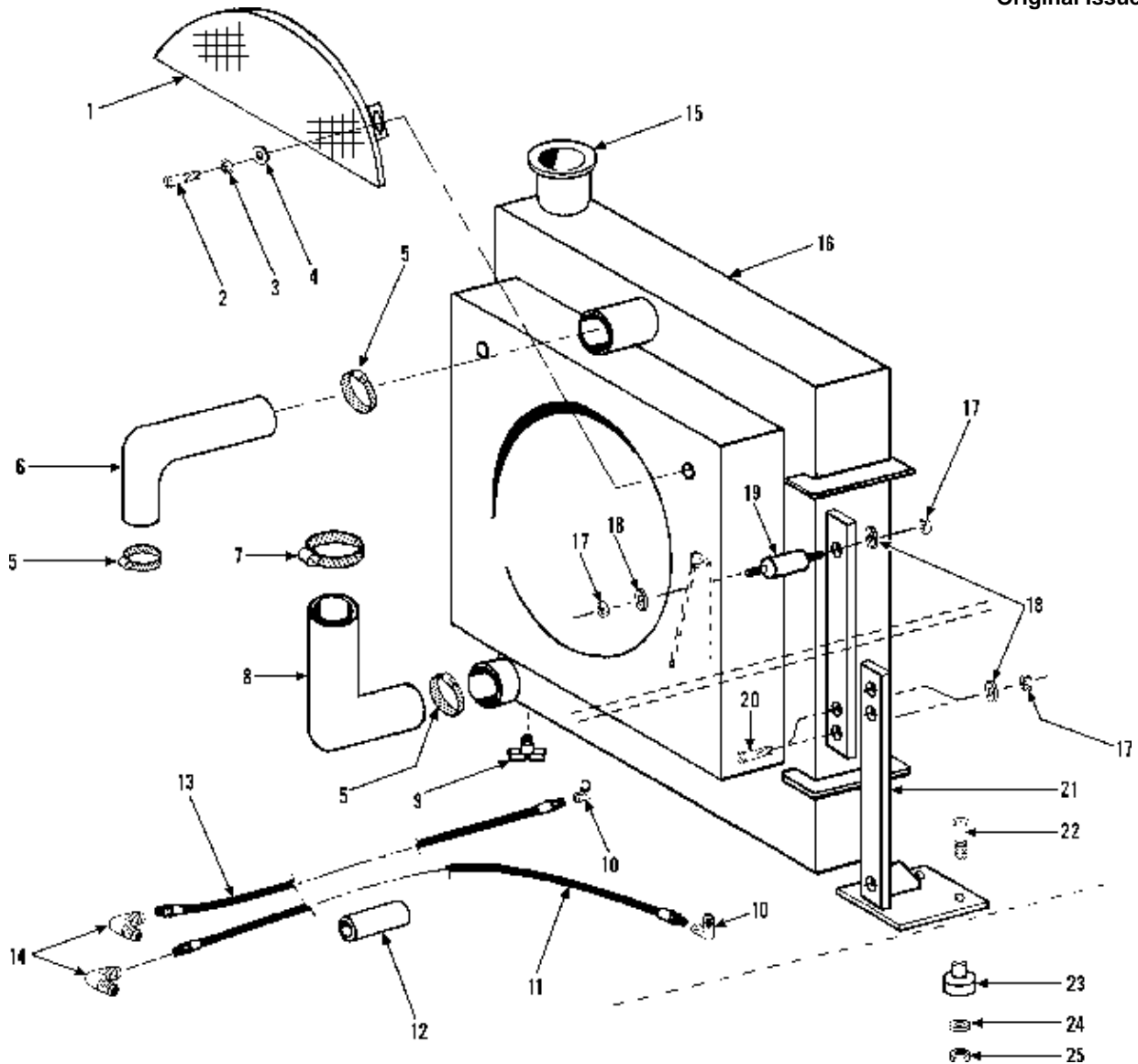
**Fuel Tank & Lines**  
 Starting Serial No. 0155299S  
 Original Issue 3-90  
 Revised 10-16-96



Item	Part No.	Qty.	Description Of Part
	9103-5093	1	FUEL TANK ASSY (includes items 1 thru 9)
1	9103-6047	1	FUEL TANK WELDMENT
2	9002-8674	1	PUSH LOCK FITTING
3	9040-2827	1	STANDPIPE WELDMENT
4	9040-0654	1	FUEL LEVEL SENDER (includes gasket and mounting hardware)
5	9100-3186	1	FILLER - BREATHER (includes gasket and mounting hardware)
*	8654-1381	1	SCREW ON GAS CAP
6	9105-6106	1	STANDPIPE WELDMENT
7	8871-1212	1	PIPE COUPLING, 1/4
8	9020-5223	1	SUCTION SCREEN
9	8871-1255	1	SQUARE HD PIPE PLUG, 1"
10	8820-1066	2	HEX HD CAPSCREW, 1/2-13X1-1/4, GR5
11	8855-1013	2	LOCKWASHER, 1/2
12	8856-1111	4	FLAT WASHER, 1/2
13	8820-1070	1	HEX HD CAPSCREW, 1/2-13X2-1/4, GR5
14	8852-1208	1	HEX LOCKNUT, 1/2-13
15	8668-3106	6	HOSE CLAMP
16		AR	HOSE, 5/16 I.D.
17		AR	HOSE, 1/4 I.D.
18	9103-3131	2	BARB CONNECTOR
19	8820-1021	2	HEX HD CAPSCREW, 5/16-18X1-1/4, GR5
20	9103-3054	1	WATER SEPARATOR
21	8856-1108	2	FLAT WASHER, 5/16
22	8852-1305	2	HEX LOCKNUT, 5/16-18
*23	9103-4396	1	SCREW ASSY (push-on type)
			NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.

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**MATERIAL HANDLER**  
**544B**

**ENGINE & ATTACHING PARTS**  
**Radiator & Hoses**  
 Starting Serial No. 0155299S  
 Original Issue 3-90

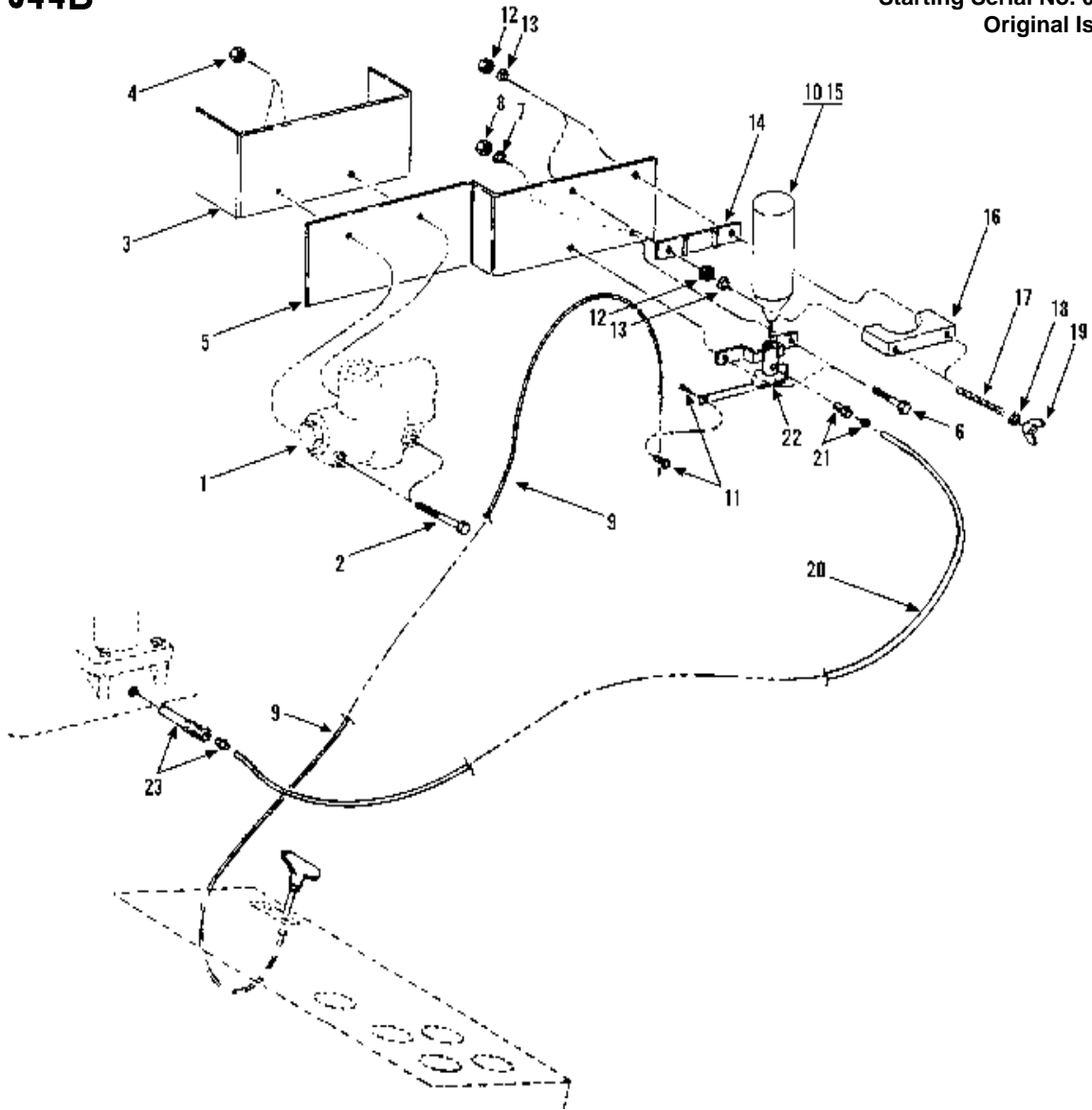


Item	Part No.	Qty.	Description Of Part-
1	9103-6051	1	FAN GUARD
2	8820-1003	2	HEX HD CAPSCREW, 1/4-20x3/4, GR5
3	8855-1009	2	LOCKWASHER, 1/4
4	8856-1107	2	FLAT WASHER, 1/4
5	8507-1128	3	HOSE CLAMP
6	9104-3345	1	UPPER RADIATOR HOSE
7	8688-3327	1	HOSE CLAMP
8	9104-3320	1	LOWER RADIATOR HOSE
9	8452-1056	1	DRAIN VALVE
10	9002-8492	2	ELBOW, 90 DEGREES
11	8471-7570	1	HOSE ASSY
12	9020-7622	1	HOSE GUARD
13	8471-7571	1	HOSE ASSY
14	8866-1118	2	MALE ELBOW, 90 DEGREES 3/4X3/4 TUBE

Item	Part No.	Qty.	Description Of Part-
15	8667-1609	1	RADIATOR CAP (7 PSI)
16	9103-3254	1	RADIATOR
17	8852-1305	8	HEX LOCKNUT, 5/16-18
18	8856-1108	8	FLAT WASHER, 5/16
19	9103-3137	2	SHOCK MOUNT
20	8820-1022	4	HEX HD CAPSCREW, 5/16-18X1-1/2, GR5
21	9100-6016	1	LEFT RADIATOR MOUNT
	9100-6017	1	RIGHT RADIATOR MOUNT
22	8820-1039	4	HEX HD CAPSCREW, 3/8-16X2, GR5
23	8368-3308	4	SHOCK MOUNT
24	9020-5918	8	SPECIAL WASHER
25	8852-1206	4	HEX LOCKNUT, 3/8-16

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**MATERIAL HANDLER**  
**544B**

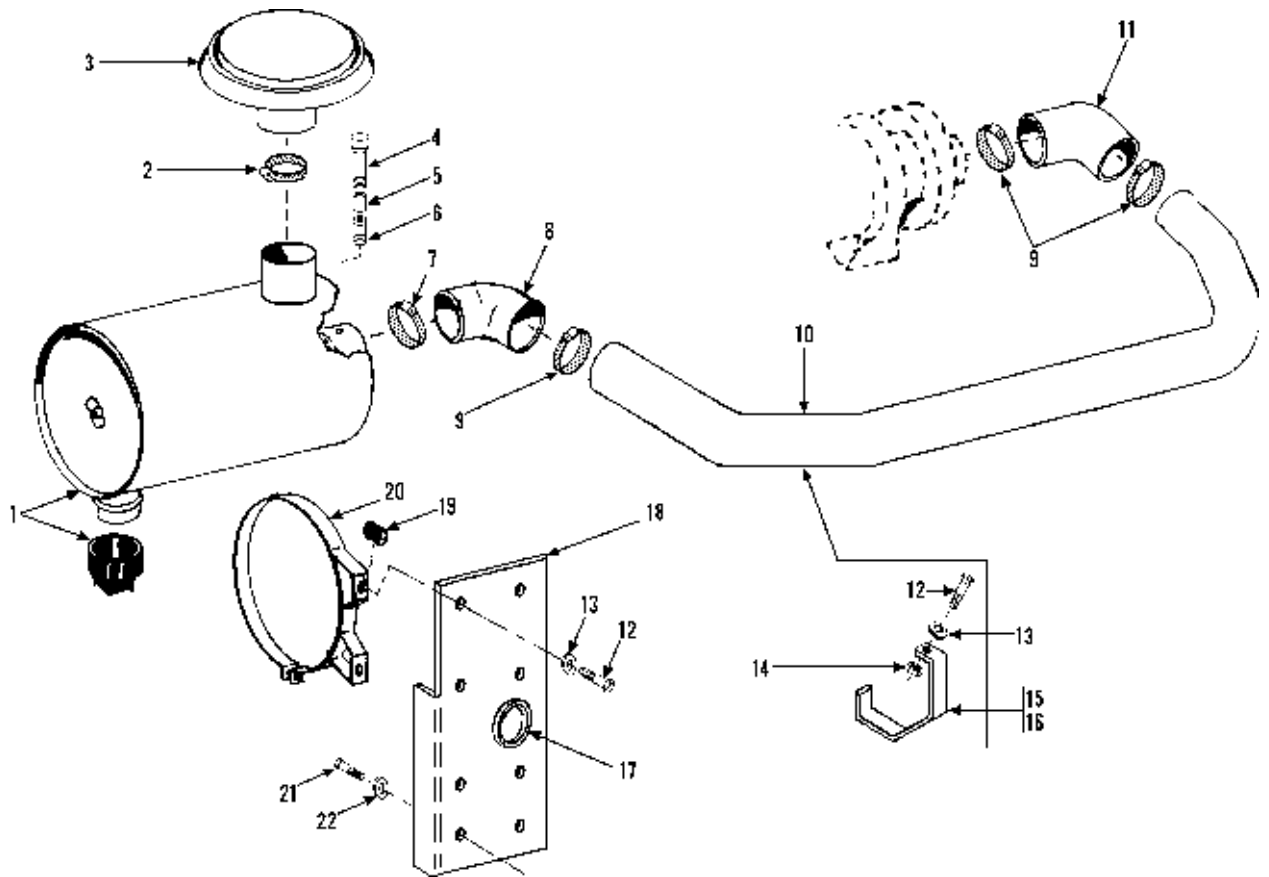
**ENGINE & ATTACHING PARTS**  
**Ether Starting Kit**  
 Starting Serial No. 0155299S  
 Original Issue 3-90



Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
1		Ref	PRIORITY VALVE ASSY (see page 10-11 for details)	14		1	TANK MOUNTING BRACKET
2	9002-5075	2	HEX HD CAPSCREW	15		1	ETHER TANK
3	9020-5767	1	VALVE MOUNTING BRACKET	16		1	CLAMP
4	8850-1005	2	HEX NUT, 5/16-18	17		2	STUD
5	9040-3110	1	MOUNTING BRACKET	18		6	LOCK WASHER
6	8820-1003	2	HEX HD CAPSCREW, 1/4-20X3/4, GR5	19		2	WING NUT
7	9002-1454	2	WASHER	20		1	HOSE
8	9002-1903	2	HEX NUT	21		1	VALVE FITTING
9	9020-0308	1	CABLE	22		1	VALVE
10	9020-6316	1	ETHER START KIT (includes items 11 thru 23)	23		1	ATOMIZER
11		1	CABLE STOP				NOTE: ONLY PART NUMBERED ITEMS ARE AVAILABLE FOR SERVICE REPLACEMENT
12		4	HEX NUT				
13		4	LOCKWASHER				

**GRADALL®**  
**MATERIAL HANDLER**  
**544B**

(9020-5663) ENGINE & ATTACHING PARTS  
 Air Cleaner Piping  
 Starting Serial No. 0155299S  
 Original Issue 3-90

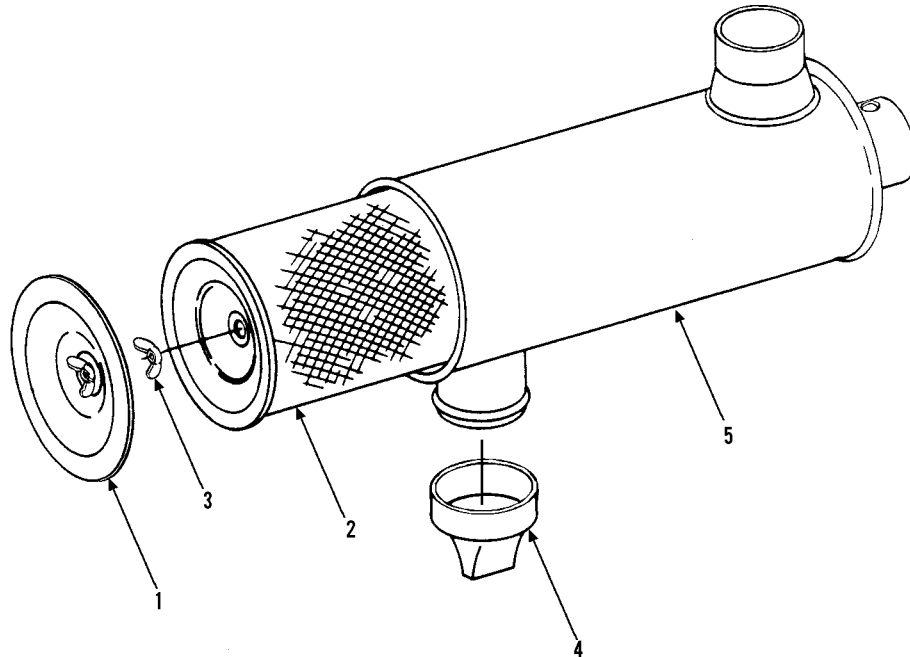


Item	Part No.	Qty.	Description Of Part-
1	9020-5663	1	AIR CLEANER ASSY (see page 5-8 for details)
2	8503-1160	1	CLAMP
3	9103-3028	1	INLET CAP
4	7738-3154	1	SERVICE INDICATOR
5	8871-1210	1	PIPE COUPLING, 1/8
6	8870-1023	1	CLOSE NIPPLE, 1/8X3
7	8687-1176	1	CLAMP
8	9103-3343	1	ELBOW, 90 DEGREES
9	8511-1214	3	CLAMP
10	9104-3344	1	INTAKE TUBE
11	9104-3255	1	ELBOW, 90 DEGREES
12	8820-1021	5	HEX HD CPASCREW, 5/16-18X1, GR5
13	8856-1108	5	FLAT WASHER, 5/16
14	8852-1005	1	HEX LOCKNUT, 5/16-18
15	9103-1154	1	BRACKET
16	9020-6200	1	TRIM LOK, 18" LONG
17	9020-6200	1	TRIM LOK, 15" LONG
18	9103-1042	1	AIR CLEANER BRACKET
19	8852-1305	4	HEX LOCKNUT, 5/16-18
20	7710-3138	2	AIR CLEANER BAND
21	8820-1018	4	HEX HD CAPSCREW, 5/16-18X3/4, GR5
22	8855-1010	4	LOCKWASHER, 5/16

**GRADALL®**  
**MATERIAL HANDLER**  
**544B**

**ENGINE & ATTACHING PARTS**

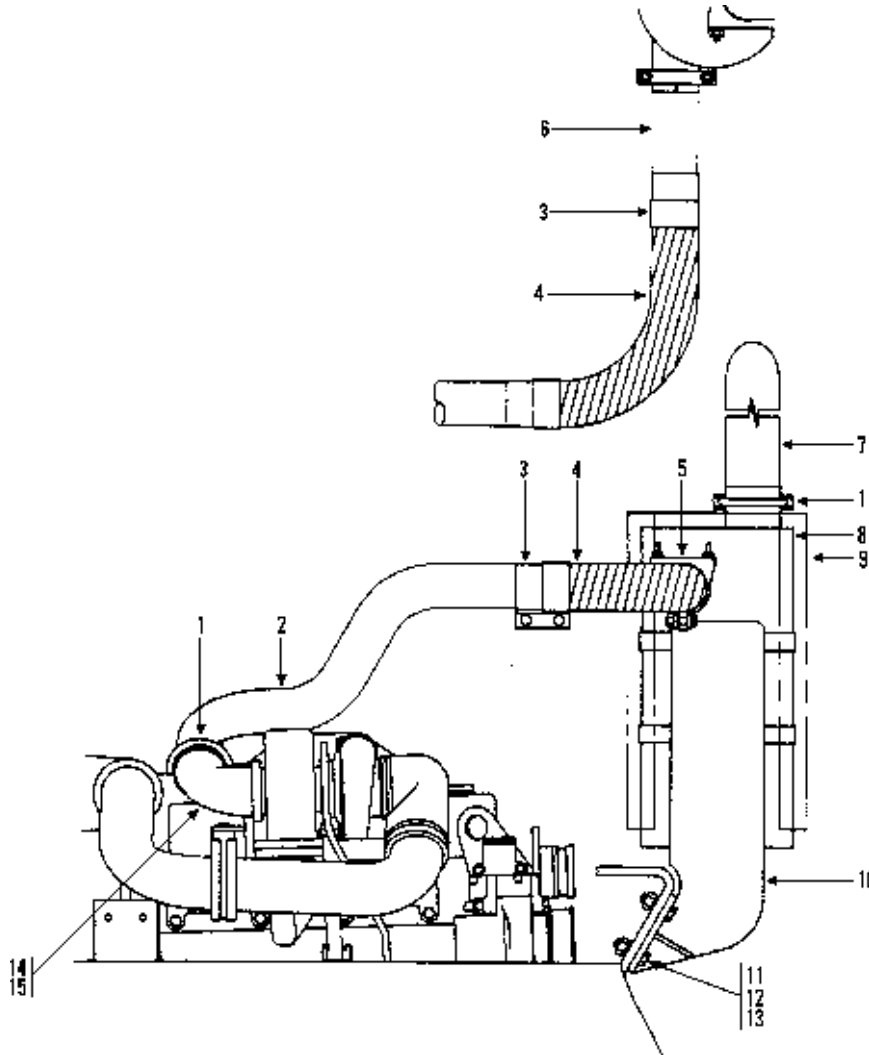
**Air Cleaner**  
 Starting Serial No. 0155299S  
 Original Issue 3-90  
 Revised 10-21-96



Item	Part No.	Qty.	Description Of Part-
	9020-5663	1	AIR CLEANER (includes items 1 thru 5)
1	9020-6606	1	COVER W/NUT
2	9020-6262	1	ELEMENT
3	9020-1414	1	WING NUT W/SEAL
4	9020-0807	1	VACUATOR
5		1	BODY ( not sold separately order P/N 9020-5663)

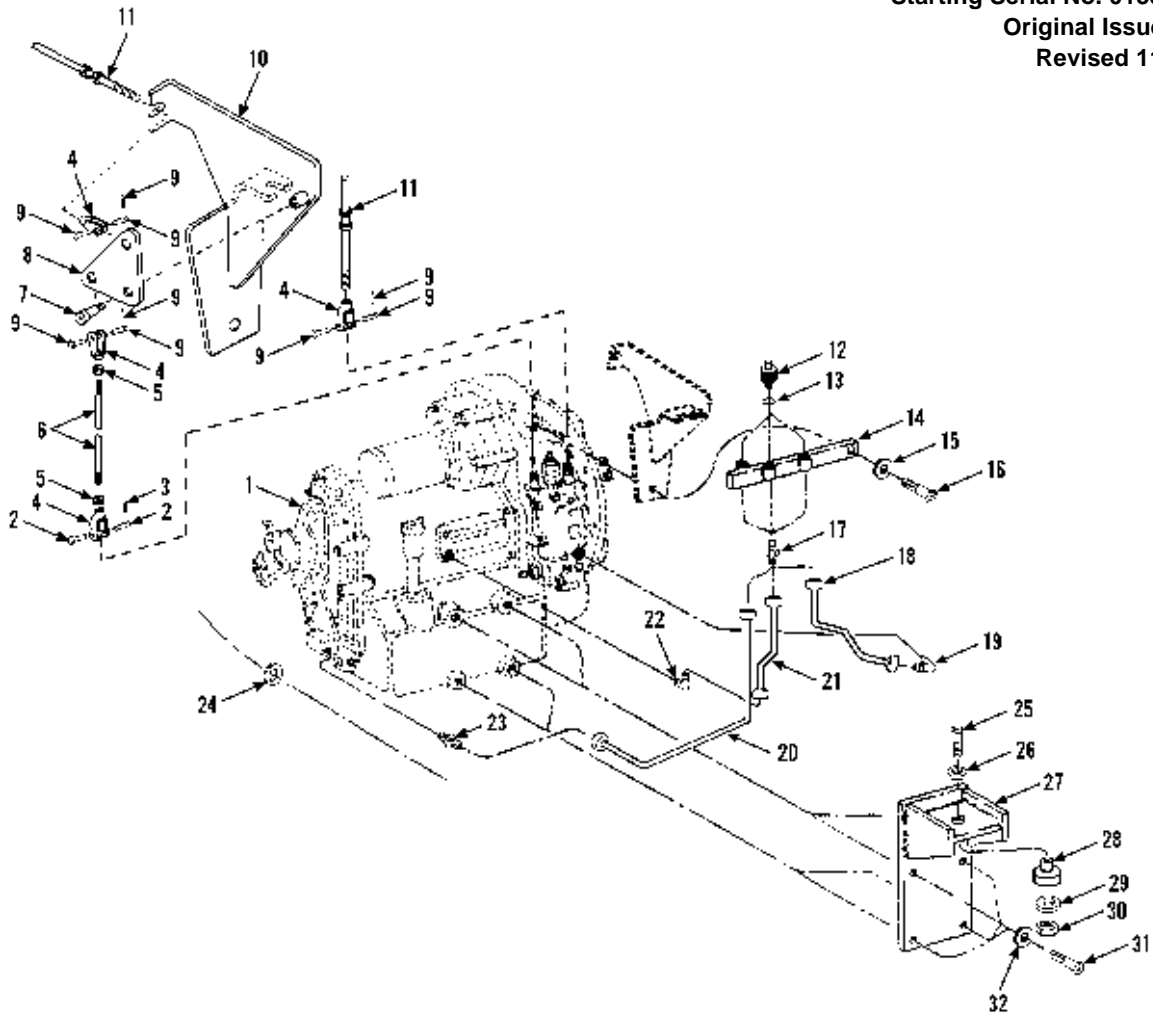
\* Corrected artwork.

**CUMMINS ENGINE**

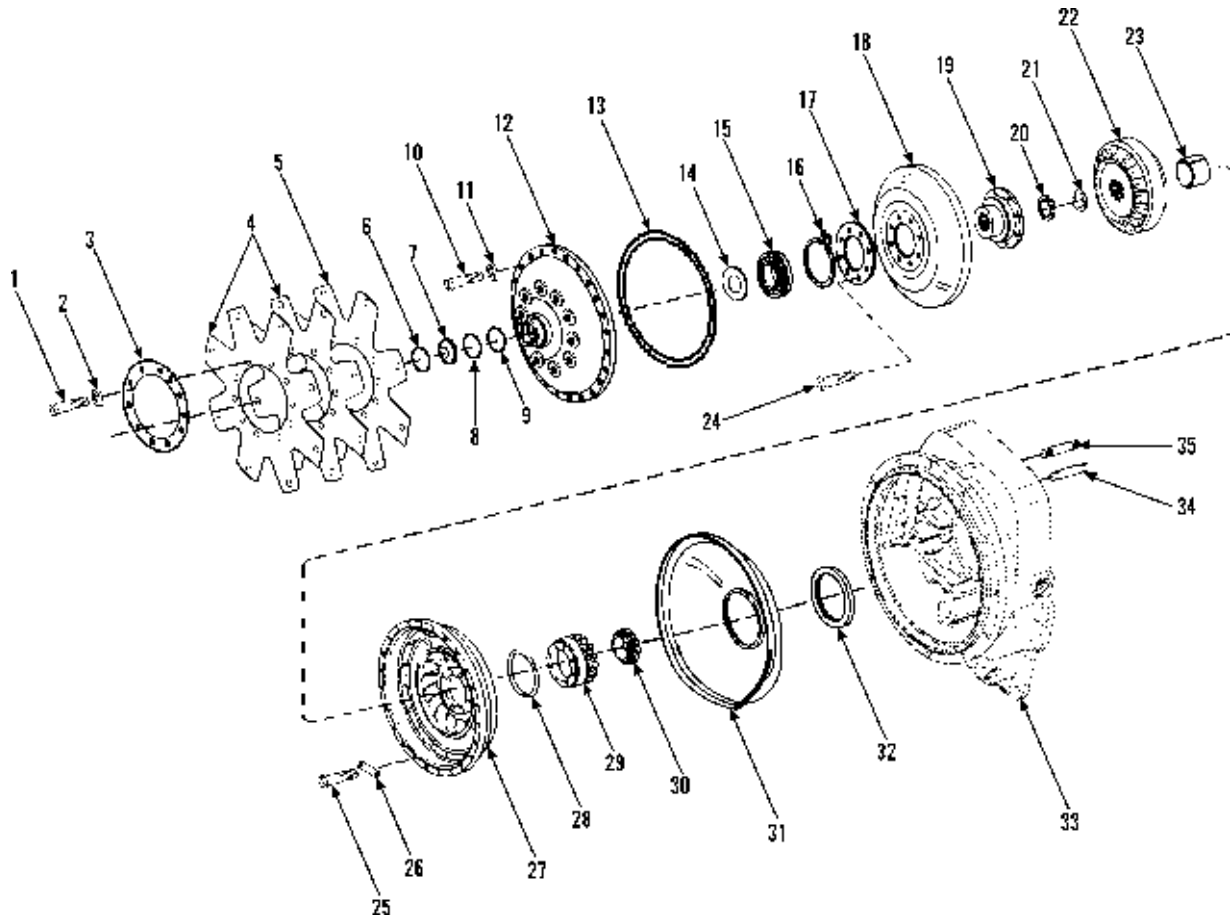


Item	Part No.	Qty.	Description Of Part-
1	2492-1332	2	MUFFLER CLAMP
2	9104-3348	1	EXHAUST PIPE
3	7721-3031	2	SEAL CLAMP
4	9104-3150	1	FLEXIBLE TUBING
5	8368-3175	1	MUFFLER CLAMP
6	9104-1016	1	SLEEVE
7	9104-3198	1	EXHAUST STACK
8	9104-3151	1	MUFFLER
9	9104-3197	1	MUFFLER CAGE (includes mounting bands & hardware)
	9104-4471	1	MUFFLER CAGE BAND KIT
10	9104-6005	1	MUFFLER BRACKET
11	8820-1068	4	HEX HD CAPSCREW, 1/2-13X1-3/4, GR5
12	8855-1013	4	LOCKWAHSER, 1/2
13	8850-1008	4	HEX NUT, 1/2-13
14	9104-4340	1	EXHAUST OUTLET ELBOW
15	7738-3153	1	V-BAND CLAMP

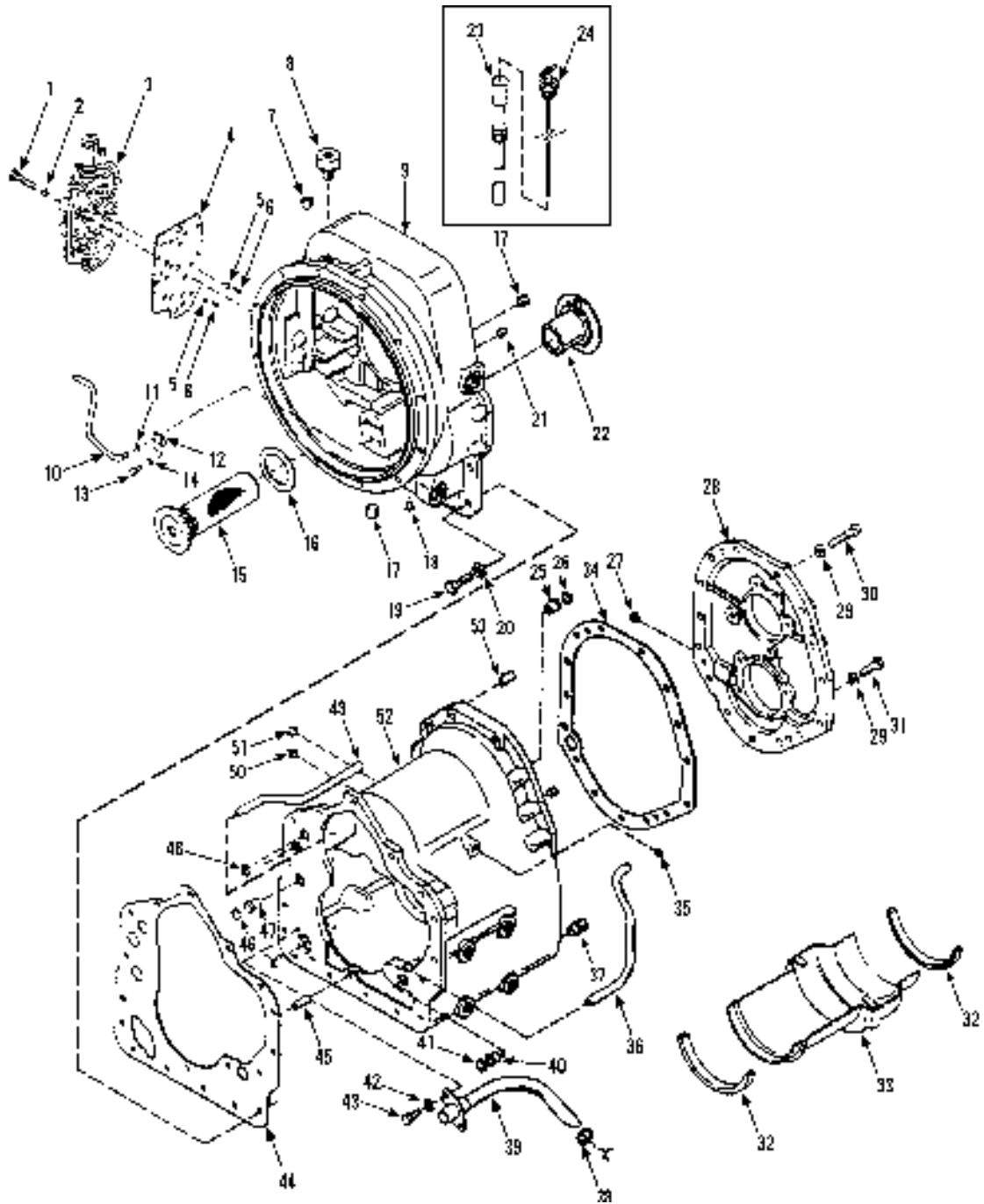




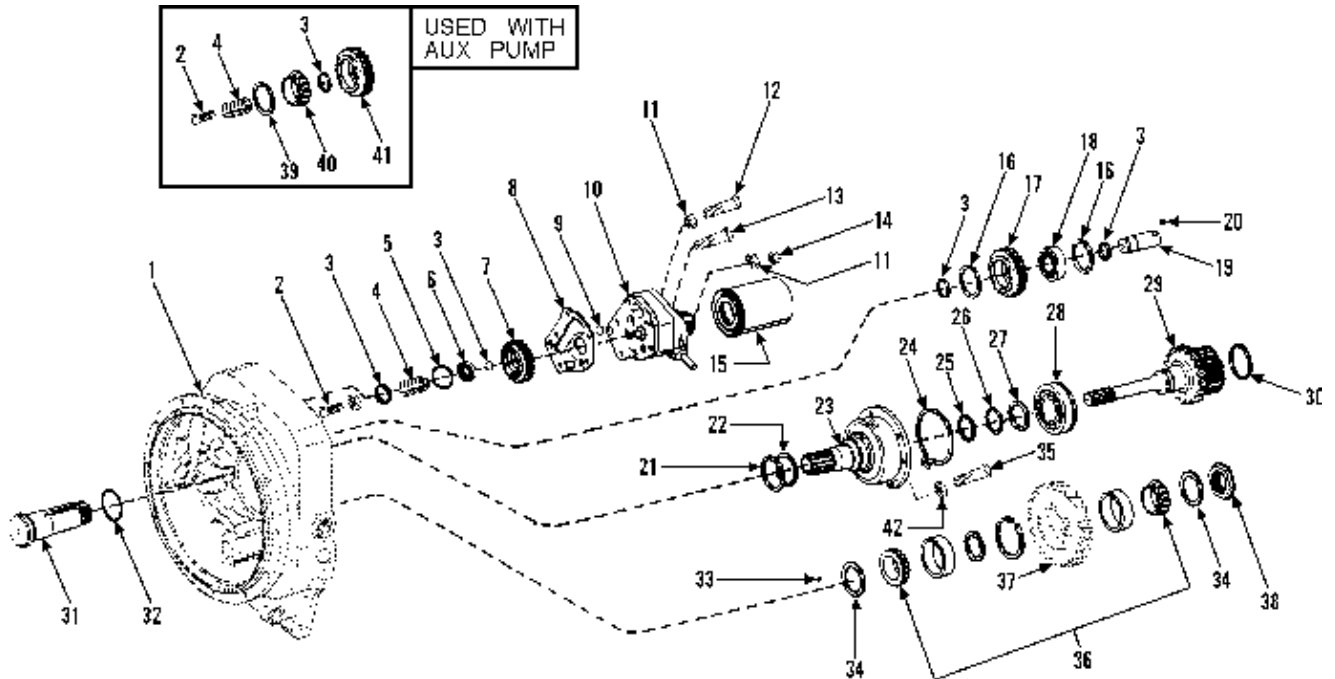
Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
*	9103-4326	1	TRANSMISSION O-RING KIT	18	9020-7258	1	TUBE LINE
*	9103-4327	1	TORQUE CONVERTER O-RING KIT	19	8874-3041	1	MALE ADAPTER, 90 DEGREES, 1/8X1/4
1	9103-3319	1	TRANSMISSION ASSY (includes all items shown on pages 6-2 thru 6-10)	20	9020-7256	1	TUBE LINE
2	8863-3002	2	YOKE PIN, 5/16	21	9020-7257	1	TUBE LINE
3	8863-1308	2	COTTER PIN, 3/32X1/2	22	8874-3055	1	MALE ELBOW, 90 DEGREES, 1/4X1/4 TUBE
4	8882-1003	4	ADJUSTABLE YOKE END, 5/16-24	23	9002-8750	1	ADAPTER
5	8850-1405	2	JAM NUT, 5/16-24	24	9020-2303	2	CABLE GROMMET
6	9106-1094	1	THREADED ROD	25	8820-1105	2	HEX HD CAPSCREW, 5/8-11X4, GR5
7	8825-1017	1	SOCKET HD SHOULDER SCREW, 3/8X3/8 (5/16-18 thread)	26	9108-1158	2	REBOUND WASHER
8	9106-1095	1	BELLCRANK	27	9104-6089	2	MOUNTING BRACKET
9	9002-7720	2	YOKE PIN ASSY	28	8688-1227	2	SHOCK MOUNT
10	9106-6035	1	TRANSMISSION SHIFT BRACKET	29	8856-1113	2	FLAT WASHER, 5/8
11	9020-3374	2	PUSH-PULL CONTROL CABLE	30	8852-1010	2	HEX LOCKNUT, 5/8-11
12	9103-5112	3	PRESSURE SWITCH	31	8820-1110	8	HEX HD CAPSCREW, 3/4-10X1-3/4, GR5
13	8859-1201	3	O-RING	32	8855-1016	8	LOCKWASHER, 3/4
14	9040-3349	1	SWITCH BRACKET	*33	9103-3283	1	TRANS. TEMP. SENDER (not shown, see page 5-3 for details)
15	8820-1066	1	HEX HD CAPSCREW, 1/2-13X1/4, GR5	*34	9103-3282	1	TRANS. TEMP. GAGE (not shown, see page 11-1 for details)
16	8855-1013	1	LOCKWASHER, 1/2				
17	8874-3000	3	MALE ADAPTER, 1/8X1/4 TUBE				



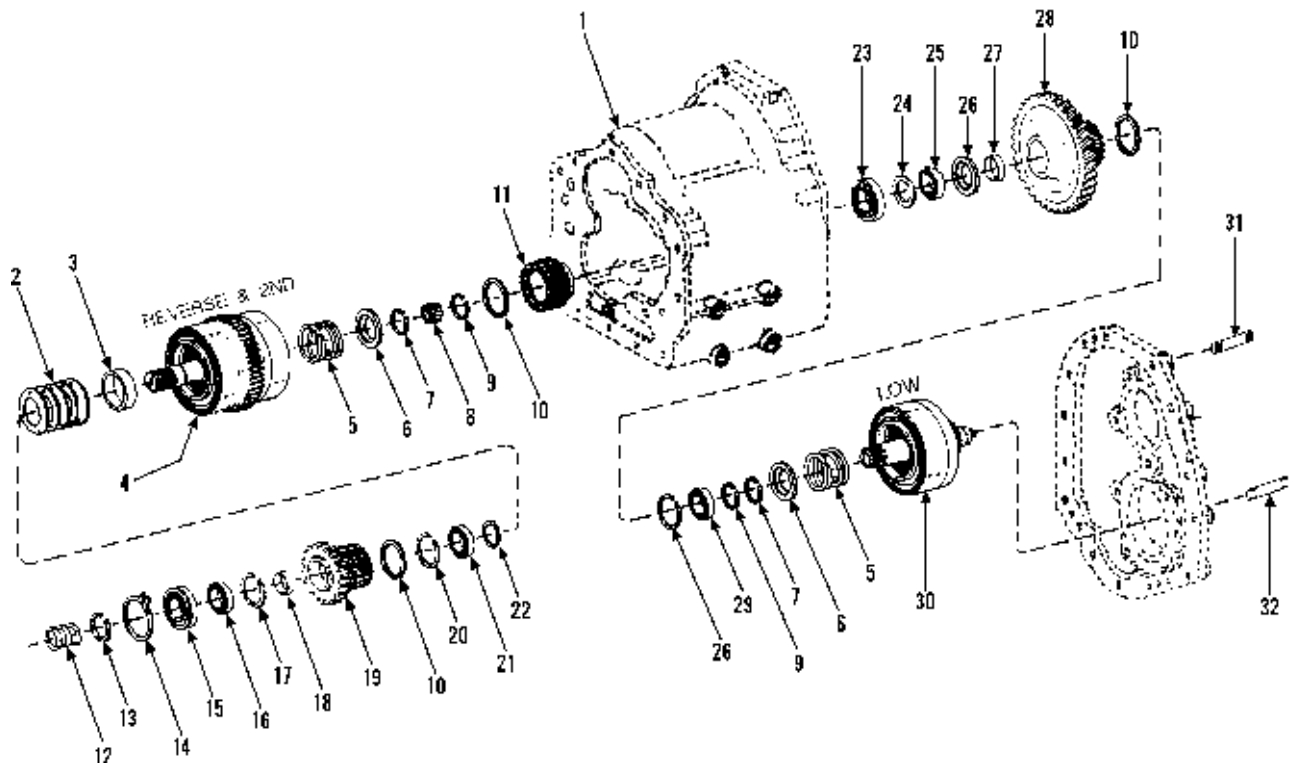
Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
	9103-4238	1	DRIVE PLATE KIT ASSY (includes item 1 thru 5)	17	9103-4239	1	TURBINE RING
1	7710-4045	10	HEX HD CAPSCREW & LOCK WASHER ASSY (includes item 2)	18	9103-4240	1	TURBINE
2		10	LOCKWASHER	19	9103-4241	1	TURBINE HUB
3	7710-4044	1	DRIVE PLATE BACKING RING	20	7710-4032	1	TURBINE RETAINING RING
4	9020-4784	2	DRIVE PLATE	21	7710-4031	1	RETAINING RING
5	7710-4042	1	DRIVE PLATE ASSY	22	7710-4030	1	REACTION MEMBER
6	7710-4041	1	BORE PLUG RETAINING RING	23	9103-4242	1	SPACER
7	7710-4040	1	BORE PLUG	24	9103-4243	12	HEX HD CAPSCREW
8	7710-4039	1	O-RING	25	9103-4244	8	HEX HD CAPSCREW
9	7710-4032	1	TURBINE RETAINING RING	26	7710-4027	4	LOCK TAB
10	7710-4046	24	HEX HD CAPSCREW & LOCK WASHER ASSY (includes item 11)	27	9020-4767	1	IMPELLER
11		24	LOCK WASHER	28	7710-4012	1	O-RING
12	9020-4779	1	IMPELLER COVER ASSY (includes item 6)	29	9020-6386	1	IMPELLER HUB GEAR
13	7710-4037	1	O-RING	30	9020-6385	1	IMPELLER HUB GEAR BEARING
14	7710-4036	1	BEARING RETAINING WASHER	31	9020-4756	1	OIL BAFFLE ASSY
15	7710-4035	1	TURBINE HUB BEARING	32	9020-4755	1	OIL SEAL
16	7710-4034	1	BEARING LOCATING RING	33		Ref	CONVERTER HOUSING (see page 6-4 for details)
				34	9020-6378	1	PUMP MOUNTING STUD
				35	9020-6379	1	PUMP MOUNTING STUD



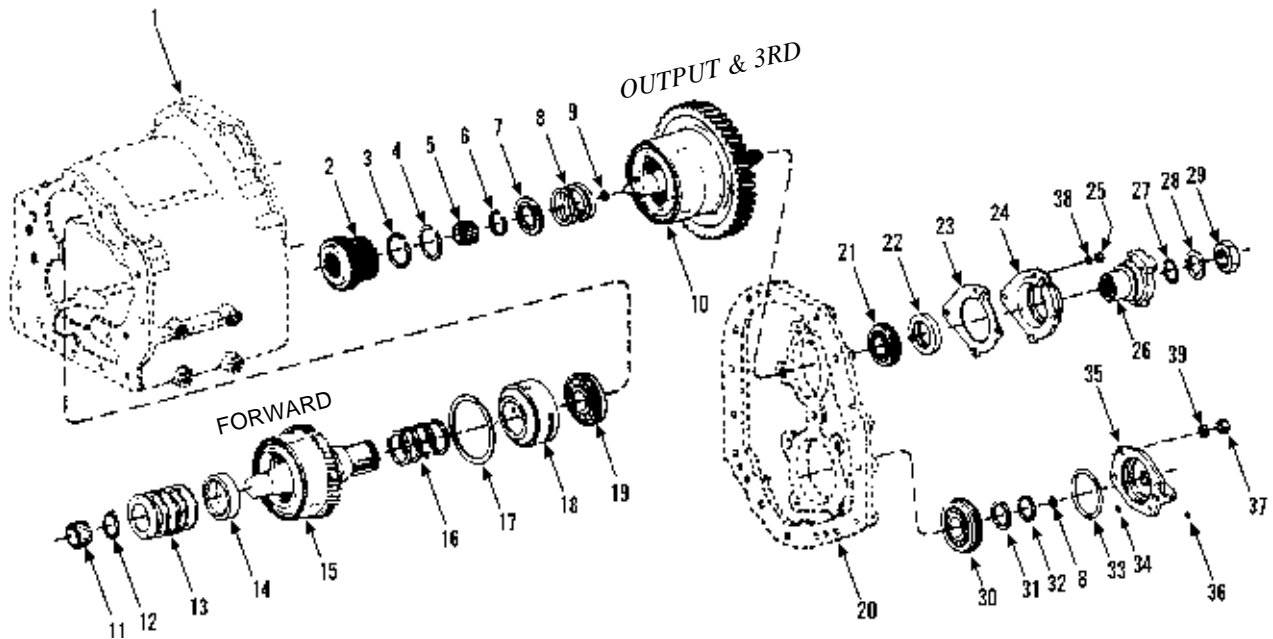
Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
1	8820-1046	9	HEX HD CAPSCREW, 3/8-16X3-3/4, GR5	29	7710-4085	15	LOCKWASHER
2	8855-1011	9	LOCK WASHER, 3/8	30	8820-1053	9	HEX HD CAPSCREW, 7/16-1-3/4, GR5
3		Ref	MODULATOR VALVE ASSY (see page 6-10 for details)	31	7710-4086	6	HEX HD CAPSCREW
4	9103-4245	1	GASKET	32	9020-4806	6	OIL BAFFLE SEAL
5	7710-4284	2	DETENT BALL	33	9020-4807	1	OIL BAFFLE
6	7710-4285	2	DETENT SPRING	34	9020-4802	1	GASKET
7	7710-4112	1	PIPE PLUG	35	7710-4112	2	PIPE PLUG
8	7710-4096	1	AIR BREATHER	36	9020-4804	1	CLUTCH LUBE TUBE
9	9103-4246	1	CONVERTER HOUSING ASSY (includes items 10 thru 13)	37	7710-4119	1	MAGNETIC DRAIN PLUG
10	9104-4050	1	LUBE BYPASS TUBE	38	7710-4057	1	O-RING
11	9104-4051	1	O-RING	39	9020-4809	1	SUCTION TUBE ASSY
12	9104-4052	1	TUBE CLIP	40	7710-4107	1	TUBE SLEEVE
13	7710-4102	1	HEX HD CAPSCREW	41	7710-4111	1	O-RING
14	7710-4103	1	LOCK WASHER	42	8855-1010	2	LOCK WASHER, 5/16
15	9020-4800	1	SCREEN ASSY	43	8820-1017	2	HEX HD CAPSCREW, 5/16-18X5/8, GR5
16	9020-4799	1	SCREEN GASKET	44	7710-4098	1	GASKET
17	9002-7267	2	PIPE PLUG	45	7710-4113	1	DOWEL PIN
18	7710-4116	1	PIPE PLUG	46	7710-4116	1	O-RING
19	7710-4086	16	HEX HD CAPSCREW	47	7710-4109	1	TUBE SLEEVE
20	7710-4085	16	LOCK WASHER	48	7710-4048	2	O-RING
21	7710-4116	1	PIPE PLUG	49	7710-4110	1	LOW SPEED CLUTCH PRESSURE TUBE
22	7710-4097	1	CONVERTER HOUSING SLEEVE	50	7710-4112	1	PIPE PLUG
23	9020-4823	1	DIPSTICK TUBE	51	7710-4118	1	PIPE PLUG
24	9020-4824	1	DIPSTICK	52	9020-4817	1	TRANSMISSION CASE ASSY (includes items 25, 32, 33, 36, 38, 39, 40, 42, 43, 47, 49)
25	7710-4109	1	TUBE SLEEVE	53	7710-4113	2	DOWEL PIN
26	7710-4111	1	O-RING				
27	7710-4116	1	COVER PIPE PLUG				
28	9020-4798	1	COVER & PLUG ASSY (includes item 27)				



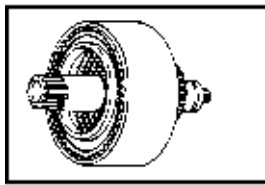
Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
1		Ref	CONVERTER HOUSING (see page 6-4 for details)	21	9020-6377	1	PISTON RING
2	9103-4247	4	BEARING SUPPORT SCREW AND LOCKWASHER	22	7710-4016	1	PISTON RING EXPANDER SPRING
3	9020-4733	AR	BEARING LOCATING RING	23	9103-4248	1	STATOR SUPPORT
4	9020-4734	AR	PUMP DRIVE BEARING SUPPORT	24	9020-4749	1	SNAP RING
5	9020-4735	1	BEARING RETAINING RING	25	9020-4748	1	PISTON RING
6	9020-4793	1	PUMP DRIVE GEAR BEARING	26	7710-4164	1	BEARING RETAINING RING
7	9020-4737	1	PUMP DRIVE GEAR	27	7710-4197	1	BEARING LOCATING WASHER
8	9020-4730	1	GASKET	28	7710-4022	1	TURBINE SHAFT BEARING
9	7710-4048	1	O-RING	29	9020-4744	1	TURBINE SHAFT ASSY (includes item 30)
10	9020-4731	1	CHARGING PUMP ASSY	30	9103-4255	1	RETAINING RING
	9103-4331	1	CHARGE PUMP SEAL KIT	31	9103-4249	1	REVERSE IDLER SHAFT
11	7710-4085	3	LOCKWASHER	32	9103-4250	1	O-RING
12	9002-8641	1	HEX HD CAPSCREW,	33	9103-4251	1	LOCK BALL
13	8820-1062	2	HEX HD CASPCREW, 7/16-14X4, GR5	34	9103-4252	2	THRUST PLATE
14	7710-4204	2	HEX NUT	35	9103-4253	6	HEX HD CAPSCREW
15	9020-4732	1	FILTER	36	7710-4255	1	BEARING ASSY
16	7710-4181	2	BEARING RETAINING RING	37	9020-6382	1	REVERSE IDLER GEAR
17	9020-4740	1	IDLER GEAR	38	9103-4254	1	RETAINING RING
18	9020-4741	1	IDLER STUB SHAFT BEARING	39	9020-4787	1	BEARING RETAINING RING
19	9020-4738	1	IDLER GEAR SHAFT	40	9020-4788	1	AUXILIARY PUMP GEAR BEARING
20	9020-5047	1	LOCK BALL	41	9020-4790	1	AUXILIARY PUMP DRIVE GEAR
				42	7710-4007	6	LOCKWASHER



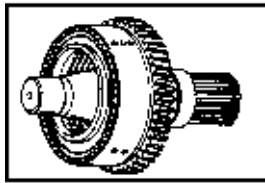
Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
1		Ref	TRANSMISSION CASE ASSY (see page 6-4 for details)	18	7710-4225	1	SPACER
2	7710-4207	5	PISTON RETURN SPRING	19	7710-4226	1	REVERSE CLUTCH GEAR & HUB ASSY (includes item 10)
3	7710-4208	1	RETURN SPRING SPACER	20	7710-4224	1	RETAINING RING
4		Ref	REVERSE & 2ND SHAFT DRUM & PLUG ASSY (see page 6-8 for details)	21	7710-4227	1	CLUTCH DRIVEN GEAR BEARING
5	7710-4187	1	PISTON RETURN SPRING	22	7710-4206	1	SNAP RING
6	7710-4186	2	SPRING RETAINER	23	7710-4158	1	LOW SPEED SHAFT FRONT BEARING
7	7710-4185	2	SNAP RETAINER	24	7710-4179	1	SPACER
8	7710-4231	1	REVERSE & 2ND SHAFT REAR BEARING	25	7710-4180	1	LOW SPEED GEAR BEARING
9	7710-4184	2	RETAINING RING	26	7710-4181	2	LOCATING RING
10	9103-4255	3	RETAINING RING	27	7710-4182	1	SPACER
11	9020-4855	1	CLUTCH DISC HUB (includes item 10)	28	9103-4256	1	LOW GEAR & HUB ASSY (includes item 10)
12	7710-4219	3	PISTON RING	29	7710-4180	1	LOW SPEED GEAR BEARING
13	7710-4220	1	RETAINING RING	30		Ref	LOW CLUTCH DRUM & BLEED VALVE ASSY (see page 6-8 for details)
14	7710-4221	1	SNAP RING	31	7710-4177	4	BEARING CAP STUD
15	7710-4222	1	REVERSE & 2ND SHAFT FRONT BEARING	32	7710-4203	4	BEARING CAP STUD
16	7710-4223	1	CLUTCH DRIVEN GEAR BEARING				
17	7710-4224	1	RETAINING RING				



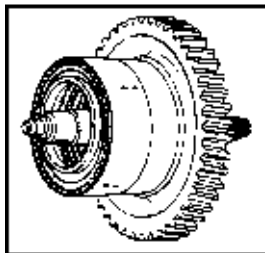
Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
1		Ref	TRANSMISSION CASE ASSY (see page 6-4 for details)	20		Ref	COVER & PLUG ASSY (see page 6 - 4 for details)
2	9103-4257	1	THIRD GEAR & HUB ASSY	21	9020-4829	1	OUTPUT SHAFT BEARING
3	9103-4255	1	RETAINING RING	22	9020-4831	1	OIL SEAL
4	7710-4217	1	RETAINING RING	23	9020-6394	1	GASKET
5	9020-4862	1	PILOT BEARING	24	9020-6395	1	CAP
6	7710-4185	1	SNAP RING	25	7710-4142	4	HEX NUT
7	7710-4186	1	SPRING RETAINER	26	9020-6396	1	OUTPUT FLANGE
8	7710-4187	1	PISTON RETURN SPRING	27	7710-4128	1	O-RING
9	7710-4198	1	PISTON RING	28	7710-4088	1	FLANGE WASHER
10		Ref	OUTPUT SHAFT & 3RD CLUTCH ASSY	29	7710-4087	1	FLANGE NUT
11	7710-4205	1	SHAFT PILOT BEARING	30	9020-4842	1	LOW SPEED SHAFT BEARING
12	7710-4206	1	SNAP RING	31	7710-4197	1	BEARING SUPPORT WASHER
13	7710-4207	5	PISTON RETURN SPRING	32	7710-4184	1	BEARING RING
14	7710-4208	1	SPACER	33	7710-4202	1	O-RING
15		Ref	FORWARD SHAFT DRUM & PLUG ASSY (see page 6-8 for details)	34	7710-4199	1	O-RING
16	7710-4211	4	PISTON RING	35	9103-4259	1	REAR BEARING CAP ASSY (includes item 36)
17	7710-4212	1	RETAINER RING	36	7710-4201	1	PIPE PLUG
18	7710-4213	1	PISTON RING SLEEVE	37	7710-4204	4	HEX NUT
19	9103-4258	1	FORWARD SHAFT BEARING	38	7710-4143	4	LOCK WASHER
				39	7710-4085	4	LOCK WASHER



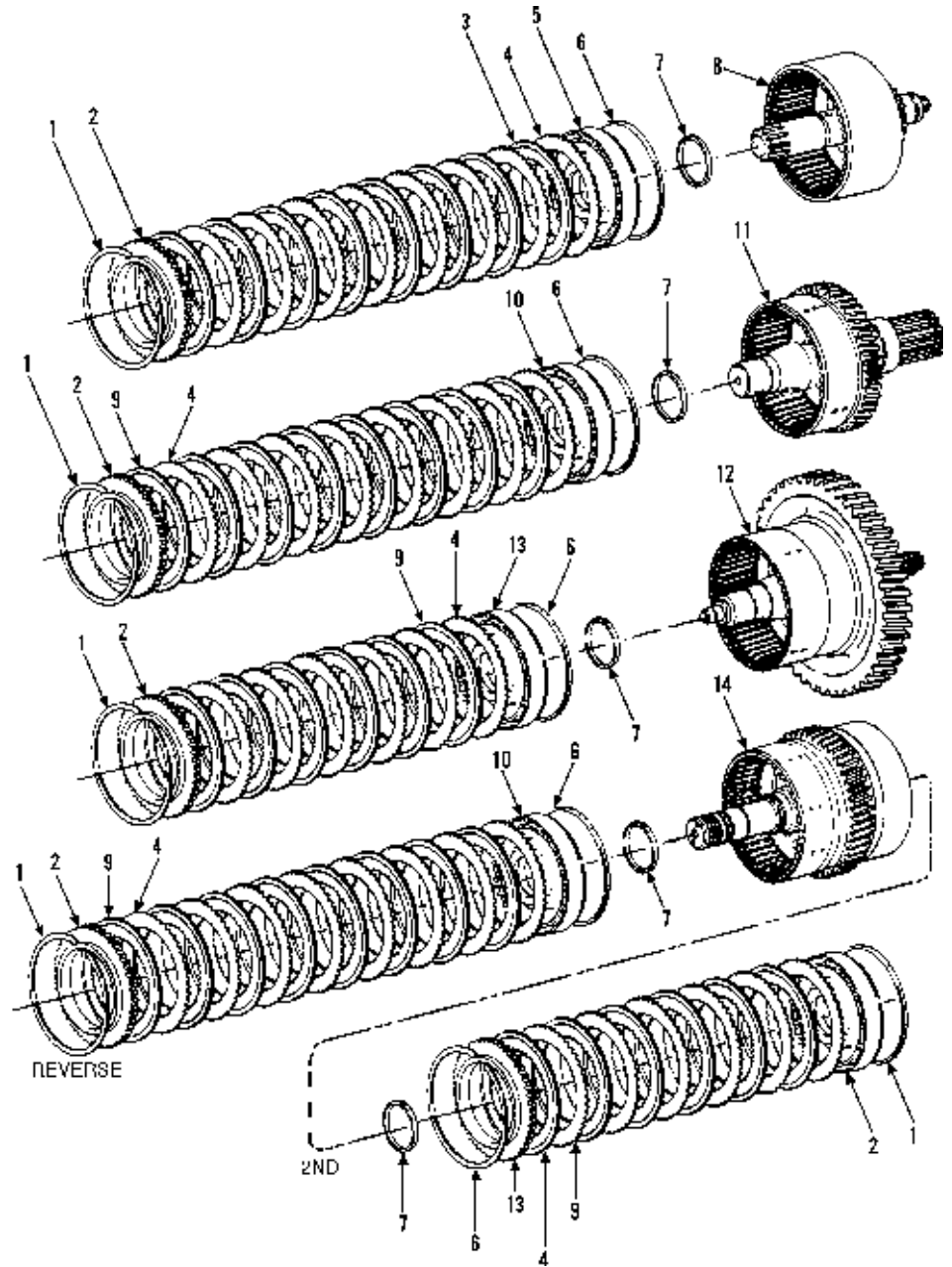
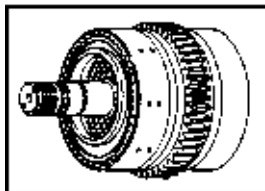
LOW



FORWARD

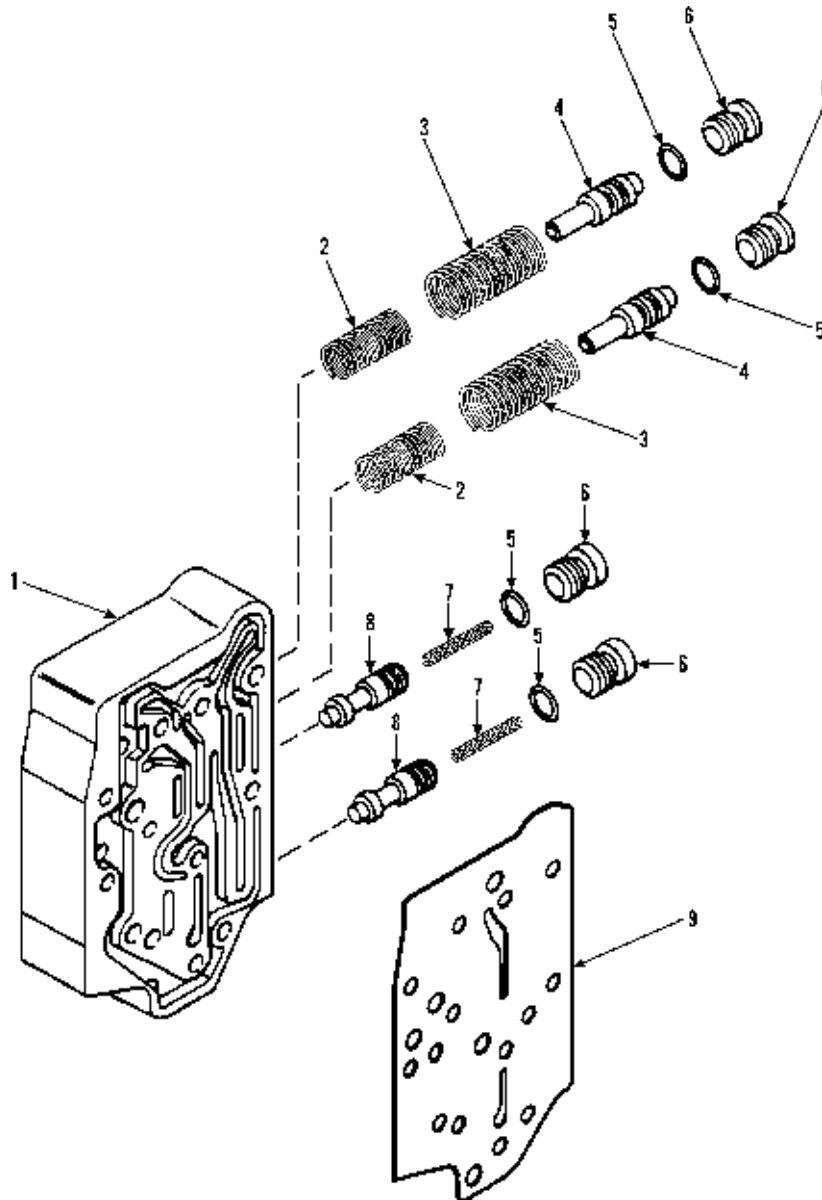


3RD



Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
1	7710-4188	5	SNAP RING	10	9020-4938	2	CLUTCH PISTON (FORWARD, REVERSE & 2ND)
2	7710-4189	5	CLUTCH DISC BACKING PLATE	11	9020-4939	1	FORWARD SHAFT, DRUM & PLUG ASSY
3	7710-4190	8	CLUTCH INNER DISC (LOW)	12	9020-6403	1	THIRD CLUTCH SHAFT, DRUM & PLUG ASSY
4	7710-4191	36	CLUTCH OUTER DISC	13	7710-4230	2	CLUTCH PISTON (3RD & 2ND)
5	7710-4192	1	CLUTCH PISTON (LOW)	14	9020-4944	1	REVERSE & 2ND SHAFT, DRUM, PLUG ASSY
6	7710-4193	5	OUTER CLUTCH PISTON RING				
7	7710-4194	5	INNER CLUTCH PISTON SEAL				
8	9020-4935	1	LOW CLUTCH SHAFT, DRUM & BLEED VALVE ASSY				
9	7710-4209	28	CLUTCH INNER DISC (FORWARD, 3RD, REVERSE & SECOND)				

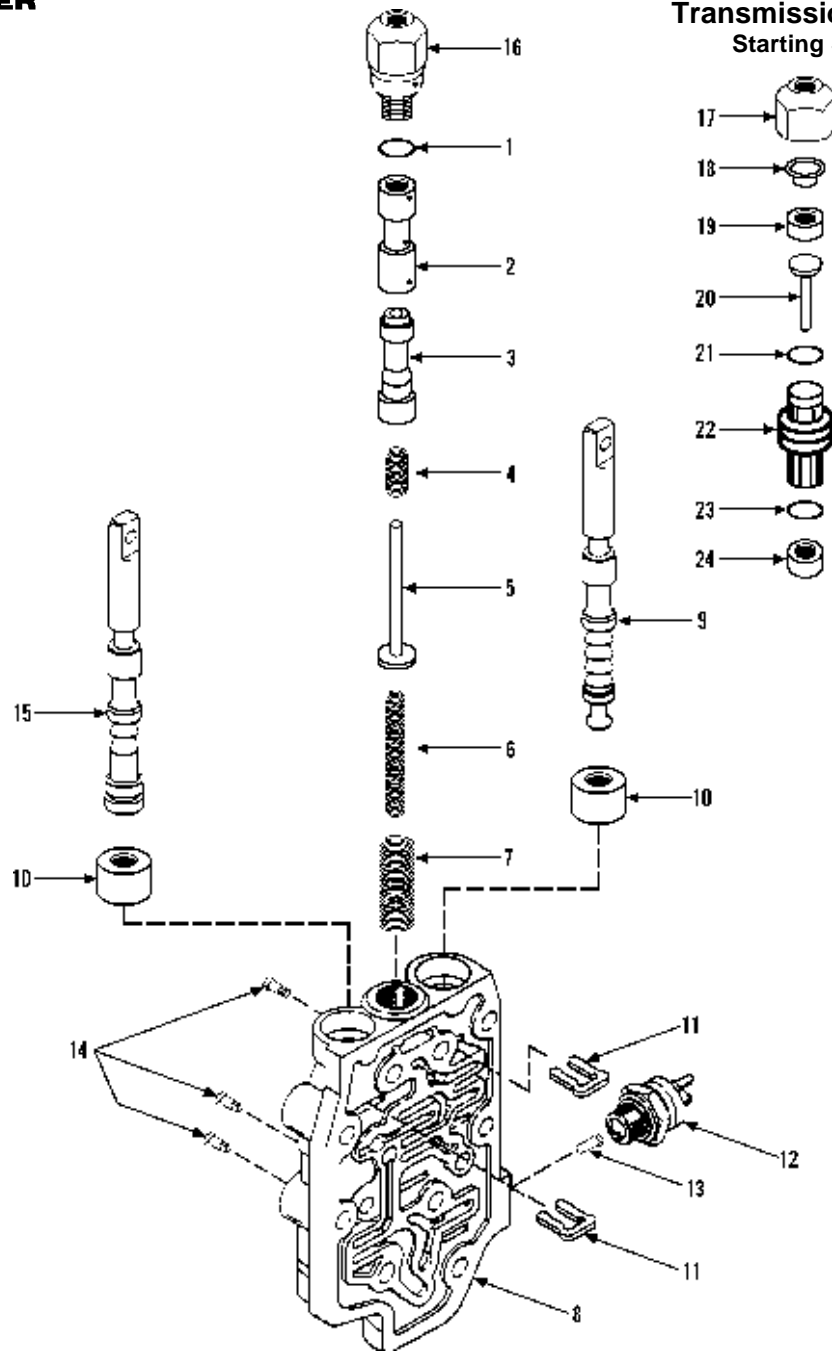




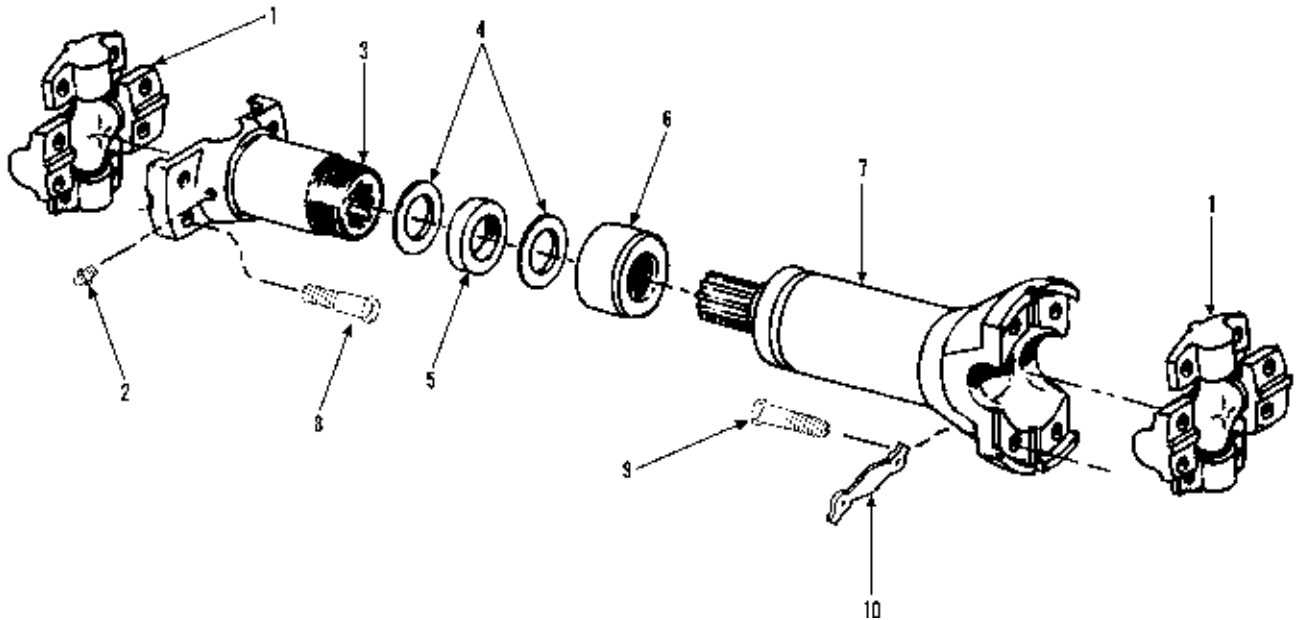
Item	Part No.	Qty.	Description Of Part
	9020-4990	1	MODULATOR VALVE (includes items 1 thru 8)
1		1	VALVE HOUSING
2	9103-4263	1	ACCUMULATOR SPRING (inner)
3	9020-4992	1	ACCUMULATOR SPRING (outer)
4		2	ACCUMULATOR VAVLE (part of valve assy.)
5	9020-5056	4	O-RING
6	9020-5057	4	SPOOL STOP PLUG (includes item 6)
7	9103-4264	2	REGULATOR SPRING
8		2	REGULATOR SPOOL (part of valve assy)
9	9020-4820	1	GASKET (modulator valve to converter housing)

**GRADALL®**  
**MATERIAL HANDLER**  
**544B**

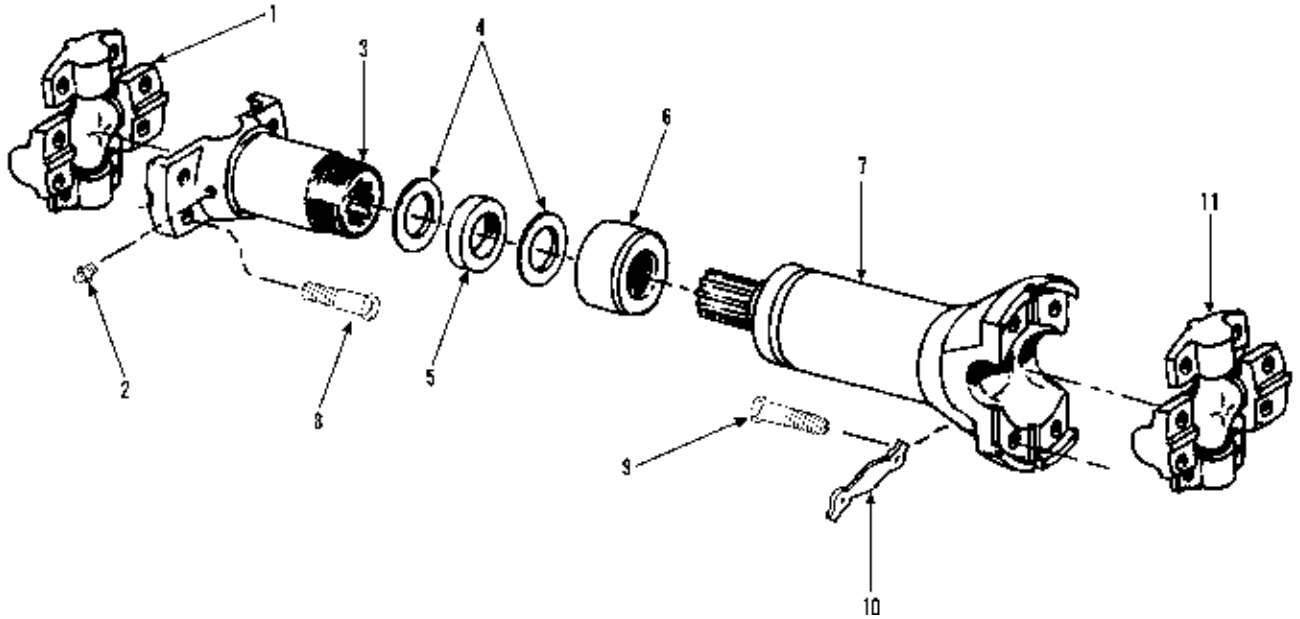
**DRIVE TRAIN**  
**Transmission Control Valve**  
 Starting Serial No. 0155299S  
 Original Issue 3-90



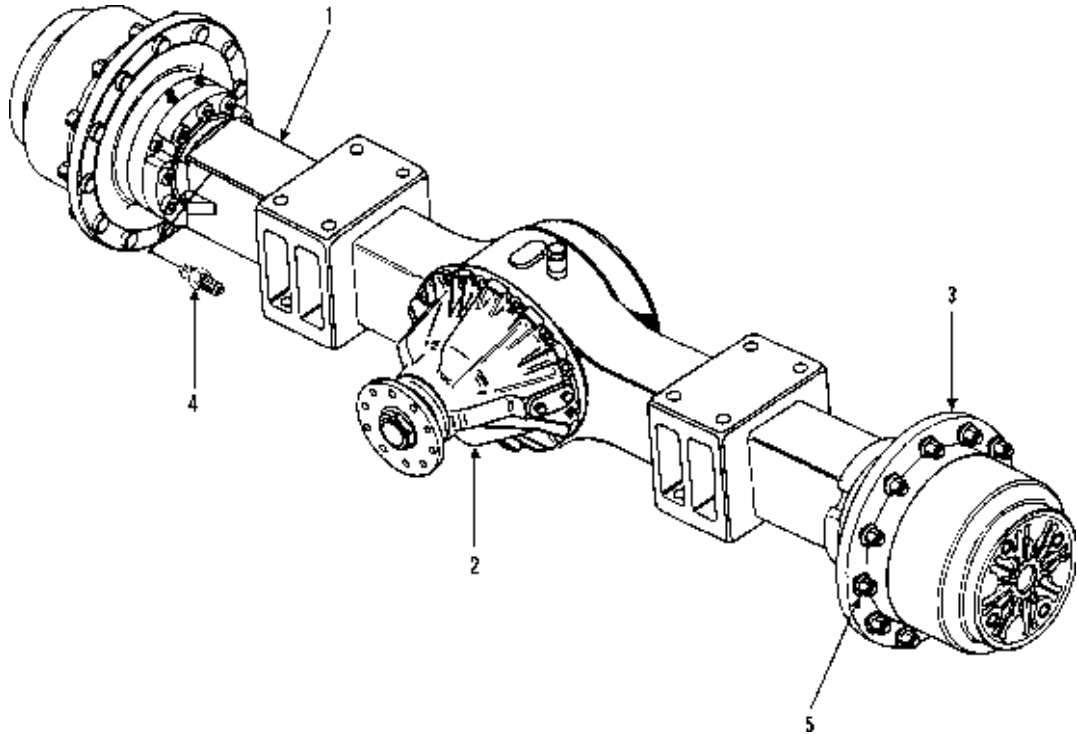
Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
	9103-4260	1	CONTROL VALVE ASSY (includes all items)	15	7710-4273	1	SPEED SELECTOR SPOOL & PLUG ASSY
1	9020-4957	1	RETAINING RING	16	9103-4262	1	INCHING SLAVE CYLINDER ASSY (includes items 17 thru 24)
2	9020-4959	1	INCHING VALVE SLEEVE	17	9020-4980	1	CAP
3	9020-4969	1	VALVE SPOOL	18	9020-4981	1	PISTON CUP STOP
4	9103-4261	1	BALANCING SPRING	19	9020-7872	1	PISTON CUP
5	9020-4964	1	ROD	20	9020-4983	1	PISTON
6	9020-4966	1	INNER SPRING	21	9020-5058	1	O-RING
7	9020-4968	1	OUTER SPRING	22	9020-4984	1	PISTON HOUSING & FILTER DISC ASSY
8		1	VALVE HOUSING	23	9002-3115	1	O-RING
9	7710-4276	1	FORWARD & REVERSE SPOOL	24	9020-4986	1	OIL SEAL
10	7710-4275	2	OIL SEAL				NOTE: ONLY PART NUMBERED PARTS ARE AVAILABLE FOR SERVICE REPLACEMENT
11	7710-4277	2	SPOOL STOP				
12	7710-4278	1	NEUTRAL SWITCH				
13	7710-4279	1	SWITCH ACTUATING PIN				
14	7710-4008	3	PIPE PLUG				



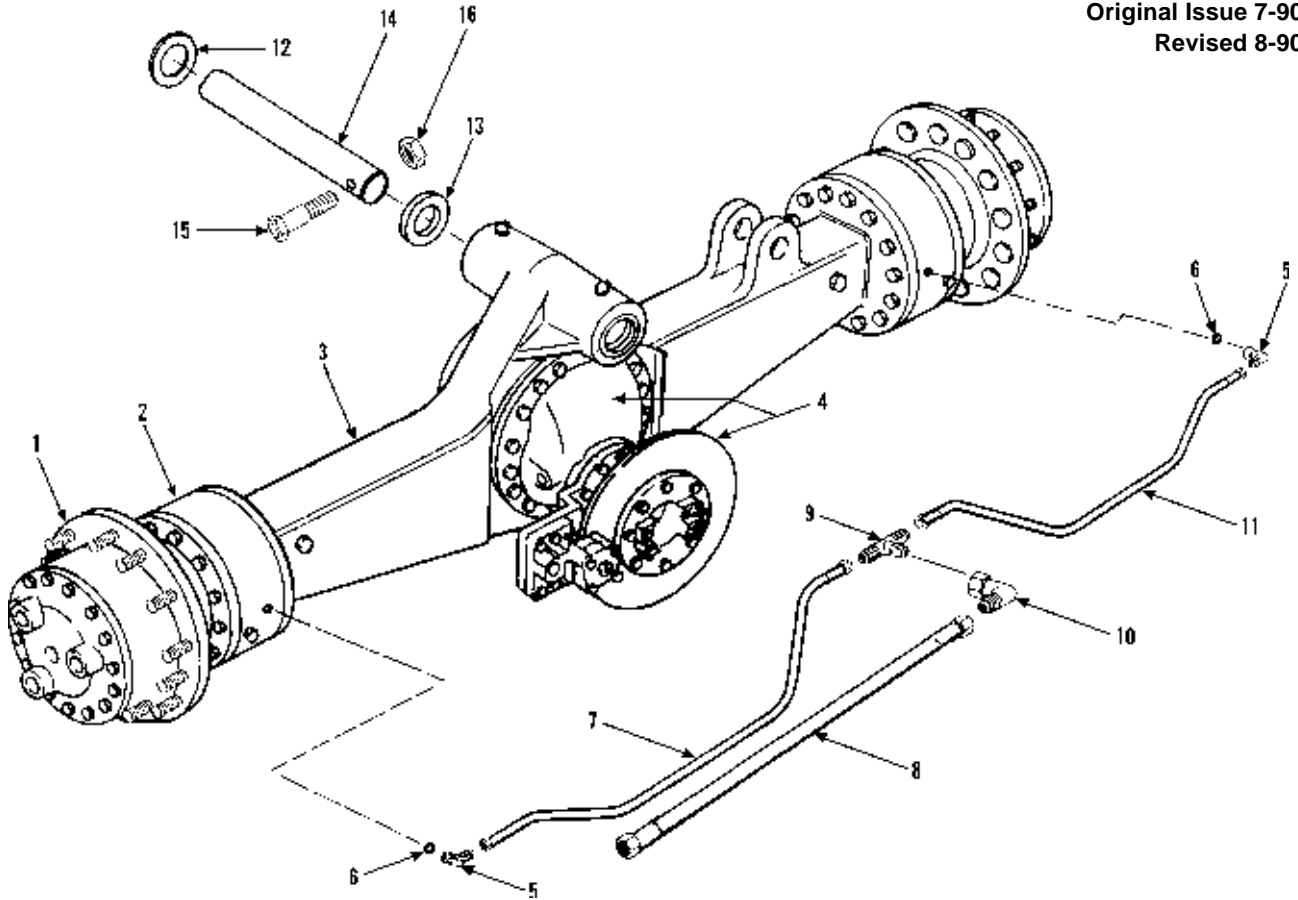
Item	Part No.	Qty.	Description Of Part
	9104-3032	2	DRIVE SHAFT ASSY (includes all items)
1	9020-1058	2	SPIDER & BEARING ASSY
2	9002-2218	1	LUBE FITTING
3	9104-4008	1	SLIP YOKE ASSY (includes items 4, 5, & 6)
4	9020-6545	2	WASHER
5	9020-6546	1	FELT SEAL
6	9020-6544	1	CAP
7		1	TUBE ASSY
8	9104-4009	8	HEX HD CAPSCREW
9	9104-4010	8	HEX HD CAPSCREW
10	9103-1194	8	LOCKSTRAP



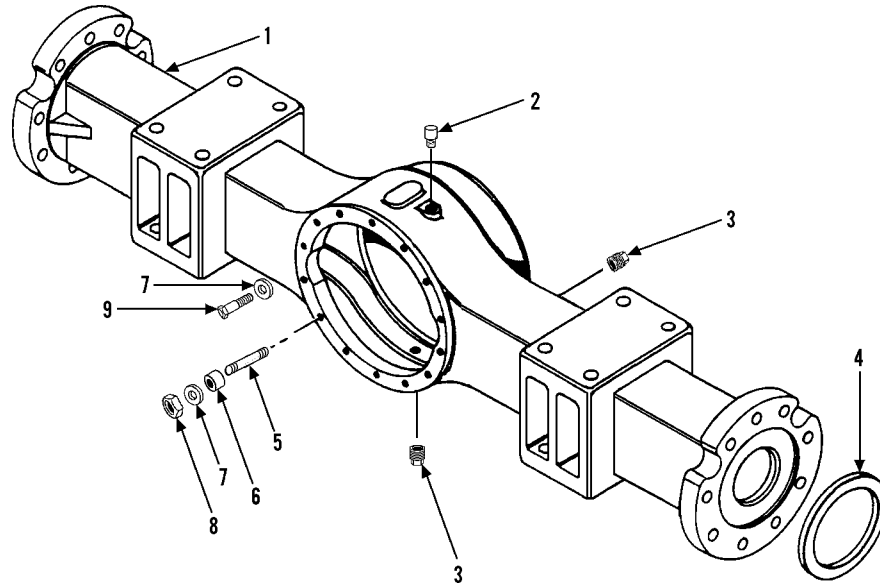
Item	Part No.	Qty.	Description Of Part
	9103-3390	2	DRIVE SHAFT ASSY (includes all items)
1	9020-1058	2	SPIDER & BEARING ASSY
2	9002-2218	1	LUBE FITTING
3	9104-4008	1	SLIP YOKE ASSY (includes items 4, 5, & 6)
4	9020-6545	2	WASHER
5	9020-6546	1	FELT SEAL
6	9020-6544	1	CAP
7		1	TUBE ASSY
8	9104-4009	8	HEX HD CAPSCREW
9	9104-4010	8	HEX HD CAPSCREW
10	9103-1194	8	LOCKWASHER
11	9103-4311	1	SPIDER & BEARING ASSY



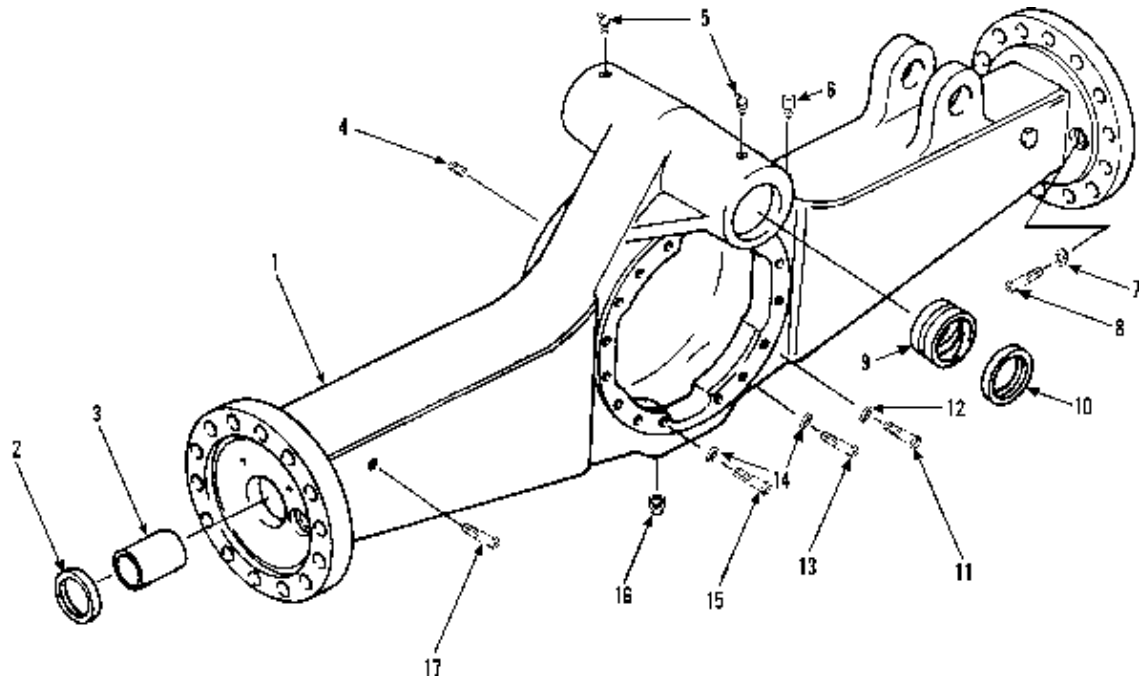
Item	Part No.	Qty.	Description Of Part
	9104-3291	1	FRONT AXLE ASSY (includes items 1 thru 4)
1	9104-4444	1	AXLE HOUSING ASSY (see page 6-13 for details)
2	9104-4448	1	DIFFERENTIAL CARRIER ASSY (see page 6-14 for details)
3		1	AXLE SHAFT & PLANETARY WHEEL END ASSY (see page 6-15 for details)
4	8319-3009	4	FITTING
5	9104-3146	24	LUG NUT (lubricate and torque to 350-400 ft. lbs.)
			NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.



Item	Part No.	Qty.	Description Of Part
	9103-5208	1	FRONT AXLE ASY (includes items 1 thru 11)
	9103-3359	1	FRONT AXLE ASSY (includes items 1 thru 4)
1		Ref	WHEEL END ASSY (see page 6-15 for details)
2		Ref	WET DISC BRAKE ASSY (see page 6-18 for details)
3		Ref	HOUSING ASSY (see page 6-13 for details)
4		Ref	DIFFERENTIAL CARRIER ASSY & PAKING BRAKE (see page 6-14 for details)
5	8866-2064	2	ELBOW, 90 DEGREES (includes item 6)
6	8859-1204	2	O-RING
7	9103-3374	1	BRAKE LINE, L.H.
8	8471-7524	1	HOSE ASSY
9	8866-1305	1	UNION TEE, 3/8 TUBE
10	8866-2105	1	ELBOW, 90 DEGREES (swivel nut)
11	9103-3373	1	BRAKE LINE R.H.
12	9103-1014	1	SHIM WASHER
13	9020-5891	1	SPACER
14	9108-1176	1	FRONT SWAY PIN
15	8320-1031	1	HEX HD CAPSCREW, 1-8X5, GR8
16	8852-1016	1	HEX LOCKNUT, 1-8

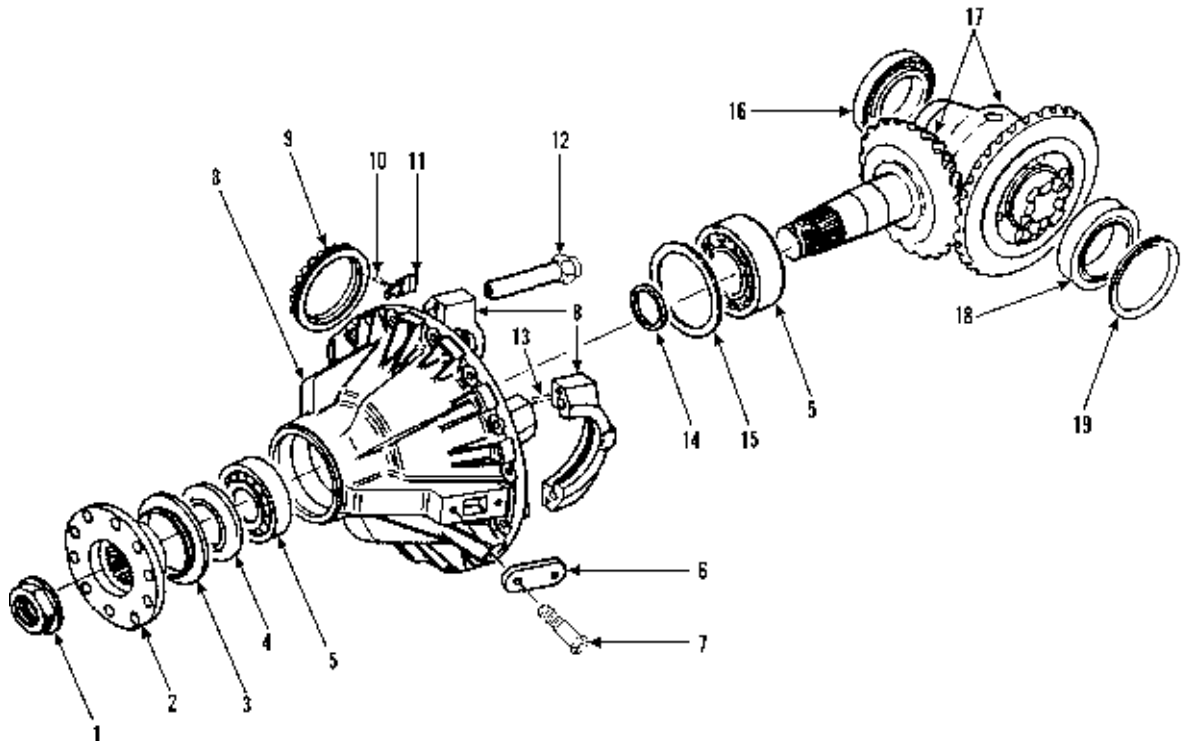


Item	Part No.	Qty.	Description Of Part
	9104-4447	1	DIFFERENTIAL CARRIER FASTENING SET (includes items 5 thru 9)
1	9104-4444	1	AXLE HOUSING
2	9104-4445	1	BREATHER
3	9104-4446	2	FILLER & DRAIN PLUG
4	9104-4138	2	THRUST WASHER
5	9104-4139	3	STUD
6	9104-4140	3	CENTERING CONE
7	9104-4141	14	FLAT WASHER
8	9104-4142	3	HEX NUT
9	9104-4143	11	HEX HD CAPSCREW

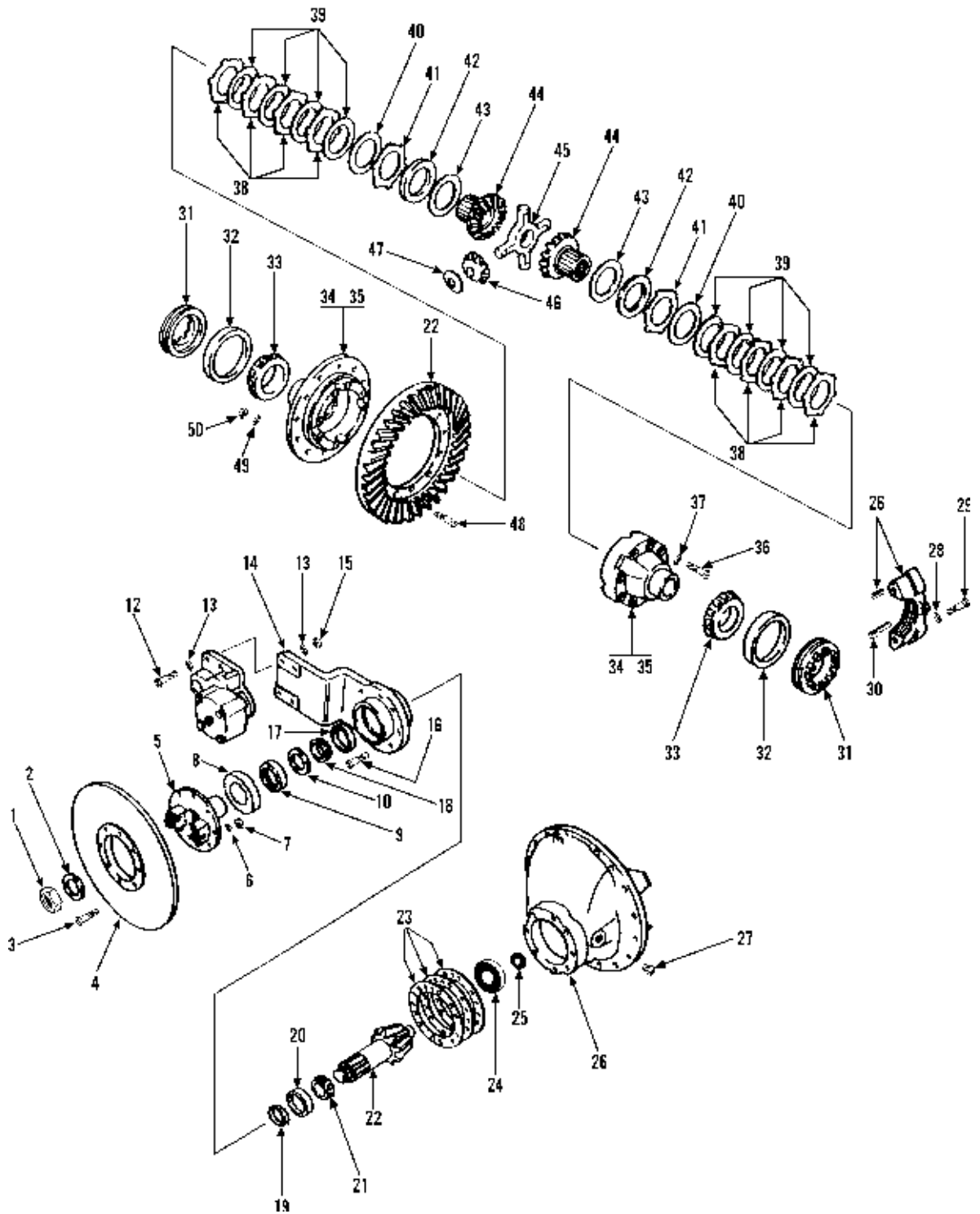


Item	Part No.	Qty.	Description Of Part
1	9104-4422	1	AXLE HOUSING ASSY (includes items 2 thru 5, 7 thru 10, 16, 17)
2	9104-4423	4	AXLE SHAFT OIL SEAL
3	9104-4424	2	AXLE SHAFT BUSHING
4	8307-3699	1	OIL FILLER PLUG
5	9108-4045	2	LUBE FITTING
6	7710-4289	1	HOUSING BREATHER
7	9104-4425	2	WASHER
8	9104-4426	2	HEX HD CAPSCREW
9	9108-4046	2	INNER RACE BEARING
10	9108-4047	2	TRUNNION OIL SEAL
11	9108-4048	12	HEX HD CAPSCREW, SHORT
12	9108-4049	12	WASHER
13	9108-4050	2	HEX HD CAPSCREW, SHORT
14	9108-4051	4	WASHER
15	9108-4052	2	HEX HD CAPSCREW, LONG
16	7710-4343	1	DRAIN PLUG
17	9104-4419	4	COOLING PLUG

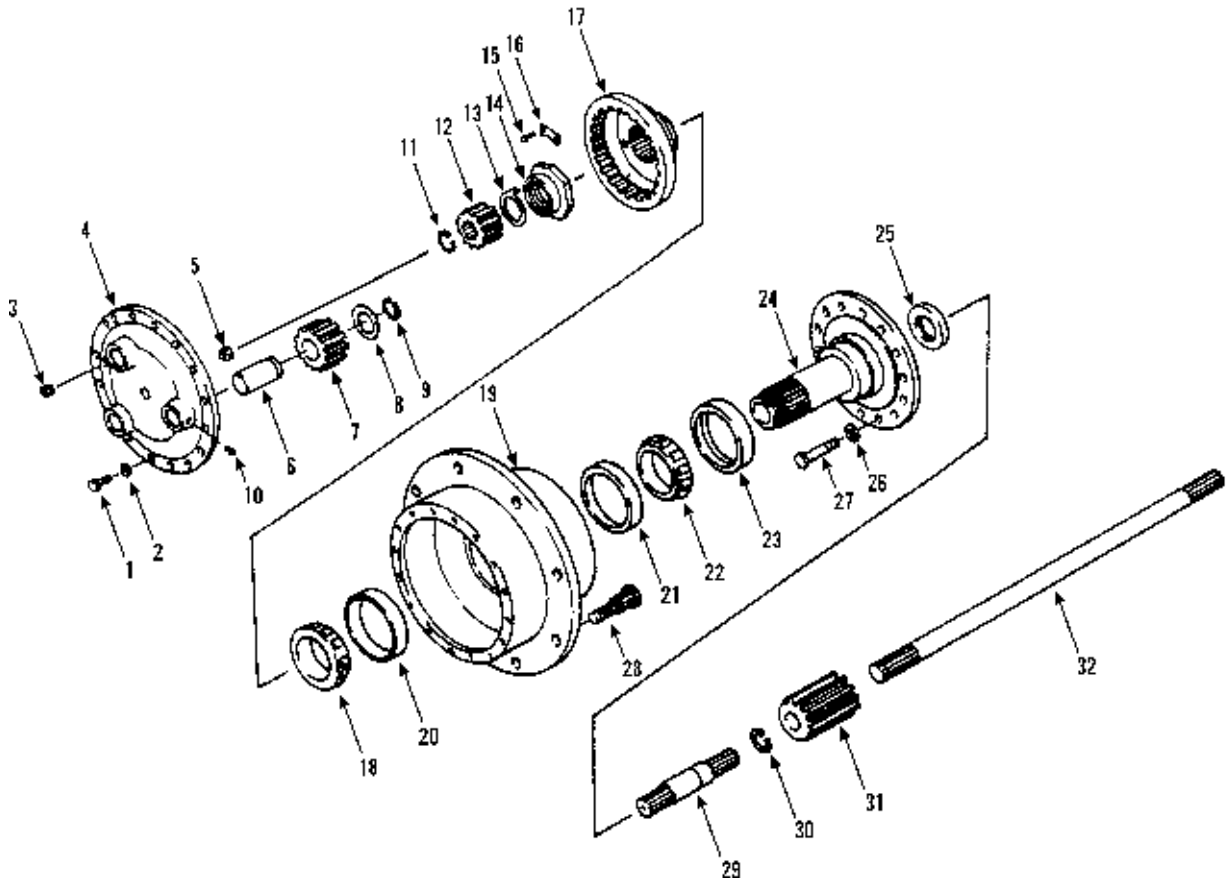




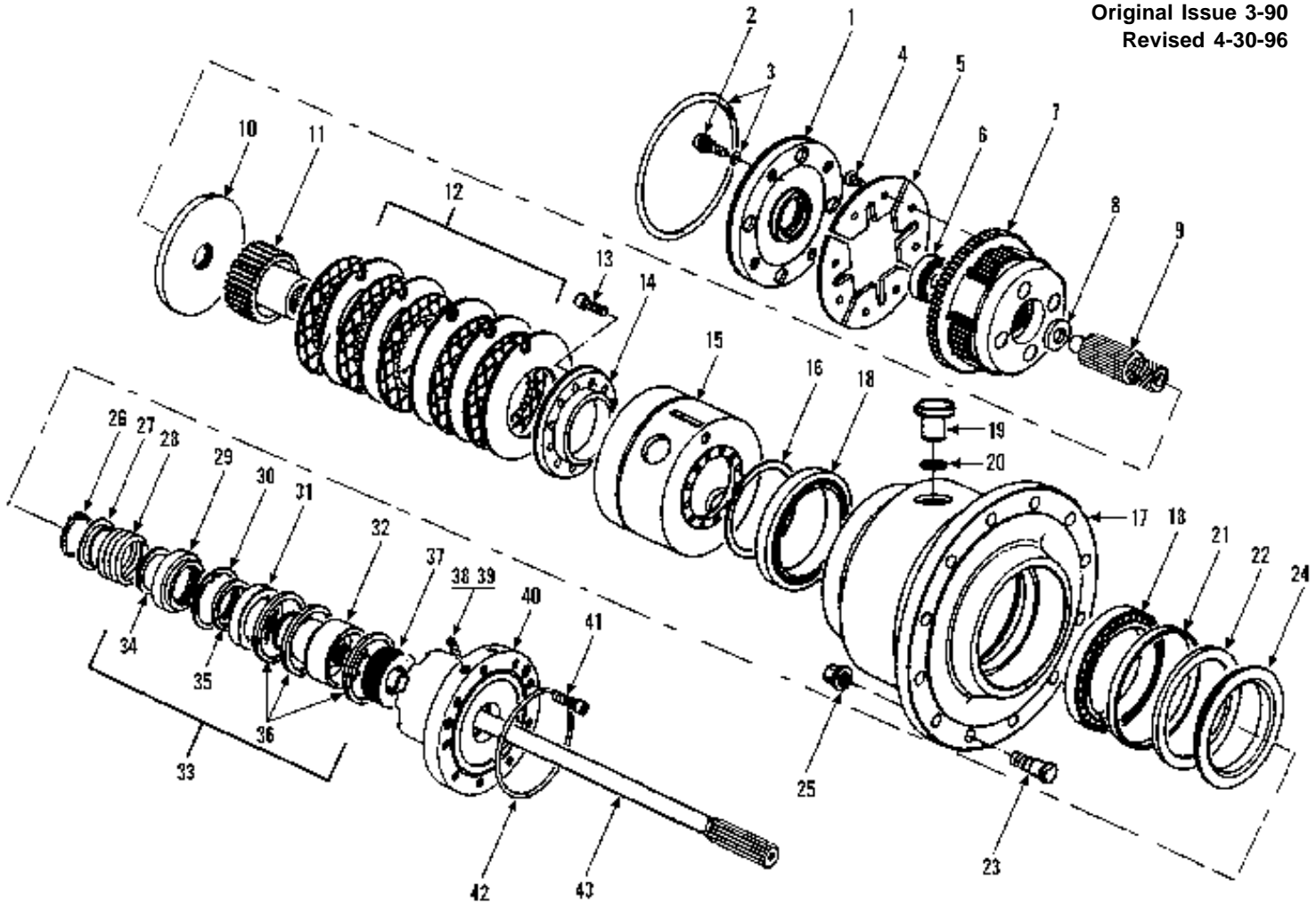
Item	Part No.	Qty.	Description Of Part
	9104-4448	1	DIFFERENTIAL CARRIER ASSY (includes all items)
1	9104-4145	1	PINION NUT
2	9104-4452	1	FLANGE ASSY (includes item 3)
3	9104-4147	1	DUST SHIELD
4	9104-4451	1	OIL SEAL
5	9104-4450	1	TAPER BEARING KIT
6	9104-4150	1	COVER PLATE
7	9104-4151	2	HEX HD CAPSCREW
8	9104-4152	1	DIFFERENTIAL HOUSING ASSY (includes item 9 thru 13)
9	9104-4153	1	ADJUSTING NUT
10	9104-4154	1	ADJUSTING NUT LOCK BOLT
11	9104-4155	1	ADJUSTING NUT LOCK
12	9104-4156	4	DIFFERENTIAL CAP BOLT
13	9104-4157	4	LOCATING PIN
14	9104-4158	1	SHIM KIT
15	9104-4159	1	SHIM KIT
16	9104-4161	1	BEARING ASSY
17	9104-4449	1	DIFFERENTIAL & BEVEL GEAR SET
18	9104-4163	1	BEARING ASSY
19	9104-4164	1	ADJUSTING SHIM KIT



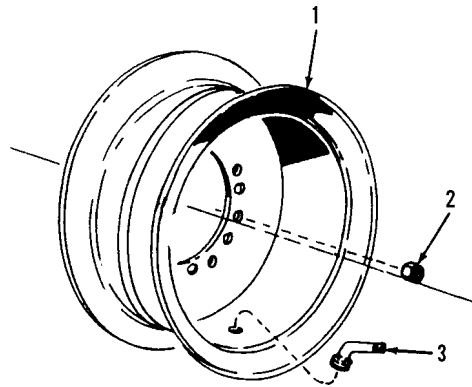
Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
	9103-4328	Ref	DIFFERENTIAL CARRIER ASSY (includes all items)	23	9104-4379	AR	SHIM (.003 thick)
1	9108-4053	1	BEVEL PINION NUT		9108-4076	AR	SHIM (.005 thick)
2	9108-4054	1	WASHER		9108-4077	AR	SHIM (.010 thick)
3	7710-4303	8	HEX HD CAPSCREW	24	9108-4078	1	PINION REAR BEARING
4	9104-4372	1	BRAKE DISC	25	9108-4079	1	PINION BEARING LOCKRING
5	9104-4373	1	FLANGE ASSY (includes item 8)	26	9104-4380	1	DIFFERENTIAL CARRIER ASSY (includes items 28, 29)
6	9108-4051	8	WASHER	27	8307-3699	1	OIL LEVEL & FILLER PLUG
7	7710-4439	8	HEX NUT	28	8308-1182	4	WASHER
8	9104-4374	1	DEFLECTOR	29	9104-4381	4	HEX HD CAPSCREW
9	9108-4056	1	OIL SEAL	30	9108-4100	2	ADJUSTING RING COTTER PIN
10	9104-4375	1	THRUST WASHER	31	9108-4099	2	BEARING ADJUSTING RING
11		Ref	PARKING BRAKE ASSY (see page 6- 19 for details)	32	9108-4098	2	BEARING CUP
12	8688-1704	4	HEX HD CAPSCREW	33	9108-4097	2	BEARING CONE
13	9108-4113	4	WAHSER	34	9108-4094	1	DIFFERENTIAL CASE ASSY (includes items 1, 22, 24, 25, 36 thru 50)
14	9104-4376	1	PINION BEARING CAGE ASSY (includes items 17, 20)	35	9108-4095	1	DIFFERENTIAL CASE ASSY (includes items 36 thru 47)
15	8338-4172	4	HEX NUT	36	9104-4382	12	HEX HD CPASCREW
16	7710-4303	8	HEX HD CAPSCREW	37	9108-4113	12	WASHER
17	9020-0440	1	OUTER BEARING CUP	38	9108-4103	8	CLUTCH DIRVEN DISC
18	9108-4059	1	OUTER BEARING CONE	39	9108-4092	8	CLUTCH DRIVE DISC
19	9104-4377	AR	SHIM (.125 thick)	40	9108-4088	AR	SHIM (.005 thick)
	9108-4065	AR	SHIM (.126 thick)		9108-4089	AR	SHIM (.010 thick)
	9108-4066	AR	SHIM (.127 thick)		9108-4090	AR	SHIM (.013 thick)
	9108-4067	AR	SHIM (.128 thick)		9108-4091	AR	SHIM (.015 thick)
	9108-4068	AR	SHIM (.129 thick)	41	9108-4087	2	CLUTCH DRIVE DISC
	9108-4069	AR	SHIM (.130 thick)	42	9108-4086	2	CLUTCH SPACER
	9108-4070	AR	SHIM (.136 thick)	43	9108-4085	2	SIDE GEAR THRUST WASHER
	9108-4071	AR	SHIM (.142 thick)	44	9108-4084	2	DIFFERENTIAL SIDE GEAR
	9108-4072	AR	SHIM (.148 thick)	45	9108-4083	1	DIFFERENTIAL SPIDER
	9108-4073	AR	SHIM (.154 thick)	46	9108-4082	4	DIFFERENTIAL PINION
	9108-4074	AR	SHIM (.158 thick)	47	9108-4081	4	THRUST WASHER
20	9020-0440	1	INNER BEARING CUP	48	9108-4101	12	HEX HD CAPSCREW
21	9108-4059	1	INNER BEARING CONE	49	9108-4113	12	WASHER
22	9104-4378	1	RING GEAR & PINION SET	50	9108-4102	12	HEX NUT



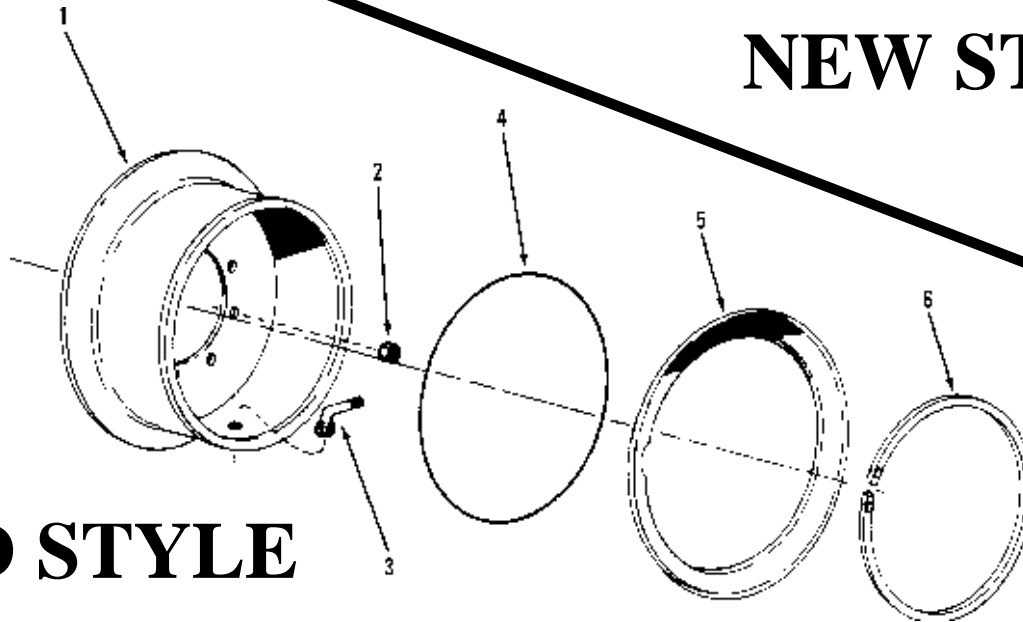
Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
1	9108-4112	48	HEX HD CAPSCREW	18	9104-4392	2	HUB BEARING, OUTER CONE
2	9108-4113	48	WASHER	19	9104-4393	2	WHEEL HUB ASSY (includes items 20, 21)
3	7710-4343	2	OIL LEVEL PLUG	20	9104-4394	1	HUB BEARING, OUTER CUP
4	9104-4383	2	PLANET GEAR SPIDER ASSY (includes items 5 thru 9)	21	7710-4444	1	HUB BEARING, INNER CUP
5	9108-4106	2	THRUST BUTTON	22	7710-4445	2	HUB BEARING, INNER CONE
6	9104-4385	6	PLANET PINION SHAFT	23	9104-4395	2	OIL SEAL
7	9104-4384	6	PLANET PINION	24	9104-4396	2	SPINDLE ASSY (includes item 25)
8	9104-4386	6	THRUST WASHER	25	9104-4397	2	OIL SEAL
9	9108-4107	6	SNAP RING	26	8308-1182	28	WAHSER
10	9108-4114	6	PINION SHAFT SET SCREW	27	9104-4398	28	HEX HD CAPSCREW
11	9108-4107	2	AXLE SHAFT SNAP RING	28	9108-4126	24	WHEEL STUD
12	9104-4387	2	PLANETARY SUN GEAR	29	9104-4399	2	OUTER AXLE SHAFT
13	9108-4109	2	SUN GEAR THRUST WASHER	30	9104-4400	2	COUPLING SNAP RING
14	9104-4388	2	HUB BEARING NUT	31	9104-4401	2	AXLE SHAFT COUPLING ASSY (includes item 30)
15	9104-4389	4	HEX HD CAPSCREW	32	9104-4402	2	INNER AXLE SHAFT
16	9104-4390	2	WHEEL BEARING NUT LOCK				
17	9104-4391	2	PLANET RING GEAR				



Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
	9103-4309	1	BRAKE WHEEL END ASSY (includes all items)	24	9104-4458	1	SEAL RACE
1	9104-4166	1	COVER ASSY (includes items 2 thru 6)	25	9104-3146	12	SWIVEL NUT
2	9104-4167	4	HEX HD CAPSCREW	26	9104-4191	1	SNAP RING
3	9104-4168	1	O-RING KIT	27	9104-4192	1	THRUST WASHER
4	9104-4169	4	HEX HD CAPSCREW	28	9104-4193	1	SPRING
5	9104-4170	4	SECTOR PLATE	29	9104-4194	1	SERVICE BRAKE PISTON
6	9104-4171	1	BEARING ASSY	30	9104-4195	1	SNAP RING
7	9104-4460	1	PLANETARY CARRIER ASSY	31	9104-4196	1	PARK BRAKE SEAL RING
8	9104-4173	4	SPACER	32	9104-4197	1	PARK BRAKE PISTON
9	9104-4174	1	MID-SHAFT	33	9104-4335	1	SEALING KIT (includes items 34,35 & 36)
10	9104-4175	1	ROTATING BRAKE DISC STOP	34		1	OIL SEAL
11	9104-4176	1	DISC HUB	35		1	OIL SEAL
12	9104-4177	1	BRAKE DISC ASSY	36		3	OIL SEAL
13	9104-4178	10	SOCKET HEAD CAPSCREW	37	9104-4453	1	SPRING WASHER KIT
14	9104-4179	1	FIXED BRAKE DISC STOP	38	9104-4200	2	BLEEDER SCREW
15	9104-4180	1	RING GEAR & CARRIER ASSY	39	9104-4298	2	BLEEDER SCREW CAP
16	9104-4181	1	ADJUSTING SHIM KIT	40	9104-4201	1	SPINDLE ASSY
17	9104-4459	1	WHEEL HUB ASSY (includes items 18 thru 23)	41	9104-4461	9	SOCKET HD CAPSCREW
18	9104-4183	2	BEARING ASSY	42	9104-4203	1	O-RING
19	9104-4184	1	PLUG	43	9104-4204	1	AXLE SHAFT
20	9104-4185	1	SEALING WASHER	*44	9103-4397	1	PIN (holds brake discs in place)
21	9104-4186	1	SPACER				NOTE: QUANTITIES SHOWN ARE FOR ONE BRAKE WHEEL END ASSEMBLY ONLY.
22	9104-4187	1	HUB SEAL				
23	9104-4189	12	WHEEL STUD				



**NEW STYLE**



**OLD STYLE**

**FRONT-STANDARD**

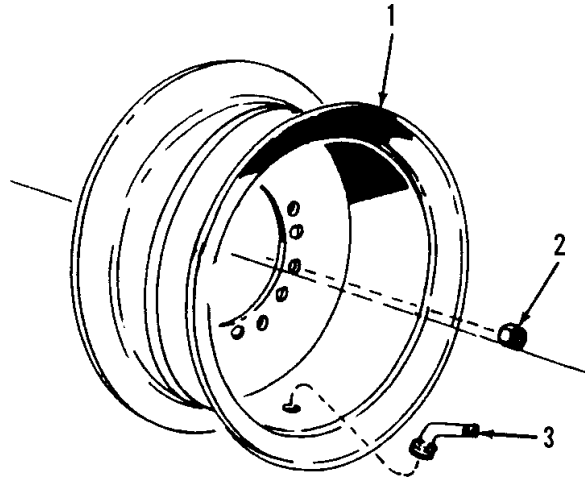
**\* REAR-STANDARD**

Item	Part No.	Qty.	Description Of Part
1	9104-3276	1	RIM, 8.00 TG X 24 <b>** NOTE: (NO LONGER AVAILABLE, REPLACED BY 9104-3430)</b>
* 1	9104-3430	1	RIM, 9.00 X 24 (New One Piece Style)
2	9104-3146	12	LUG NUT (lubricate and torque to 350-400 ft. lbs.)
3	9020-0339	1	VALVE (air / liquid) <b>** NOTE: (USE WITH 9104-3276 ONLY)</b>
* 3	9108-3385	1	VALVE (air/liquid) (Use with 9104-3430)
4	9020-0561	1	O-RING
5	9020-0772	1	GUTTER RING
6	9020-1615	1	LOCK RING
7	9103-3104	1	TIRE, 13.00 X 24-12 PLY (not illustrated)

Item	Part No.	Qty.	Description Of Part
1	9104-3298	1	RIM, 9.00 X 24
2	9104-3146	12	LUG NUT (lubricate & torque to 350-400 ft.lbs.)
3	9108-3385	2	VALVE (air/liquid)
4	9104-3084	1	TIRE, 14.00 X 24, 12 PLY (G-2 Grader tubeless)(not illustrated)

**FRONT-FLOATATION**

Item	Part No.	Qty.	Description Of Part
1	9104-3081	1	RIM, 14.00 X 25
2	9104-3146	10	LUG NUT (lubricate and torque to 350-400 ft. lbs.)
3	9020-1452	1	VALVE (air / liquid)
4	9020-1441	1	O-RING
5	9020-1762	1	GUTTER RING
6	9020-1766	1	LOCK RING
7	9020-1439	1	TIRE, 17.5 X 25, 14 PLY (L-2 TRACTION REGULAR TREAD)(not illustrated)



**FRONT-STANDARD**

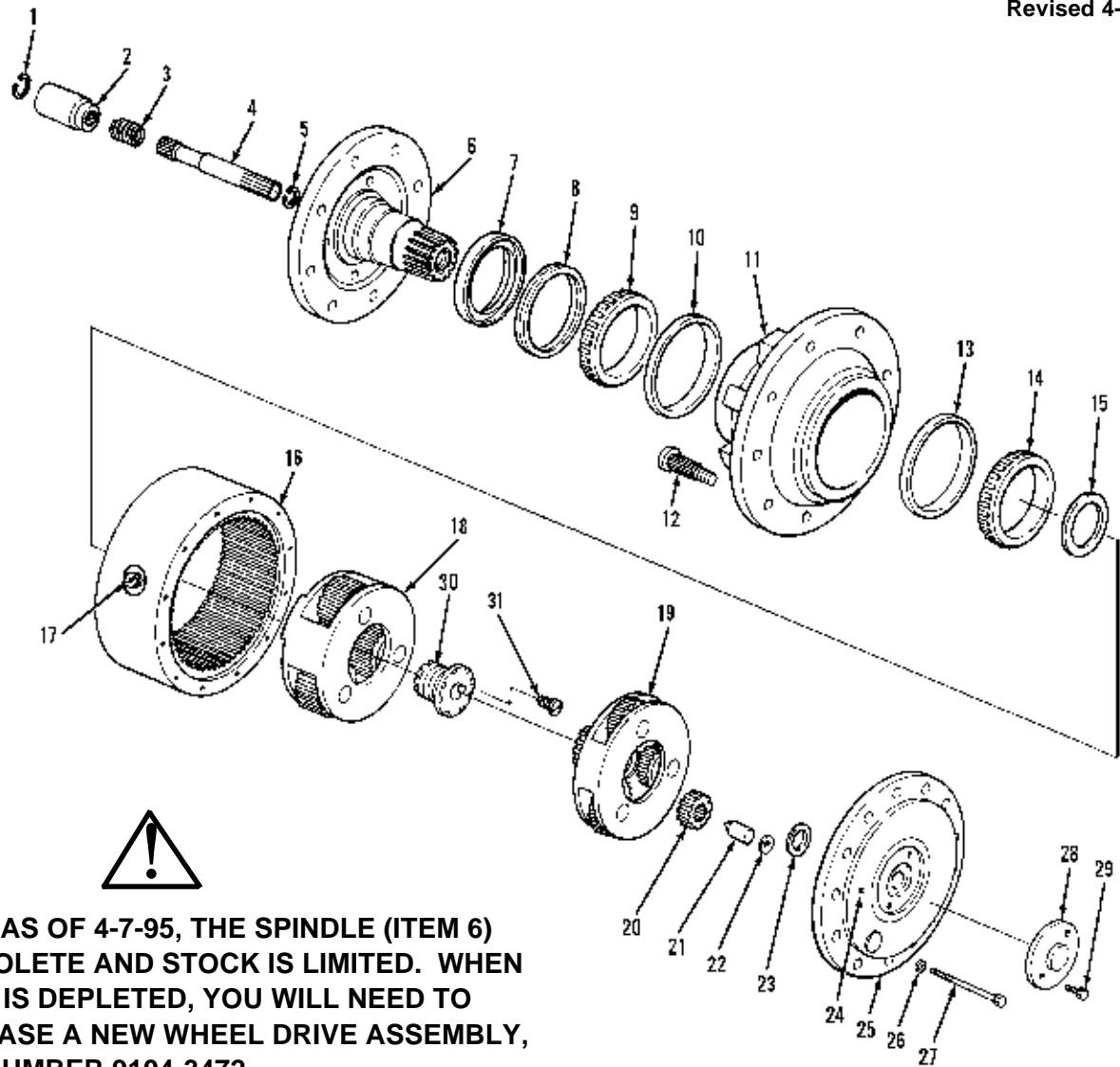
Item	Part No.	Qty.	Description Of Part
1	9104-3298	1	RIM, 9.00 X 24
2	9104-3146	12	LUG NUT (lubricate & torque to 350-400 ft.lbs.)
3	9108-3385	2	VALVE (air/liquid)
* 4	9104-3084	1	TIRE, 14.00 X 24, 12 PLY (G-2 Grader tubeless)(not illustrated)

**REAR-STANDARD**

Item	Part No.	Qty.	Description Of Part
1	9104-3298	1	RIM, 9.00 X 24
2	9104-3146	12	LUG NUT (lubricate & torque to 350-400 ft.lbs.)
3	9108-3385	2	VALVE (air/liquid)
* 4	9104-3084	1	TIRE, 14.00 X 24, 12 PLY (G-2 Grader tubeless)(not illustrated)

**FRONT-FLOATATION**

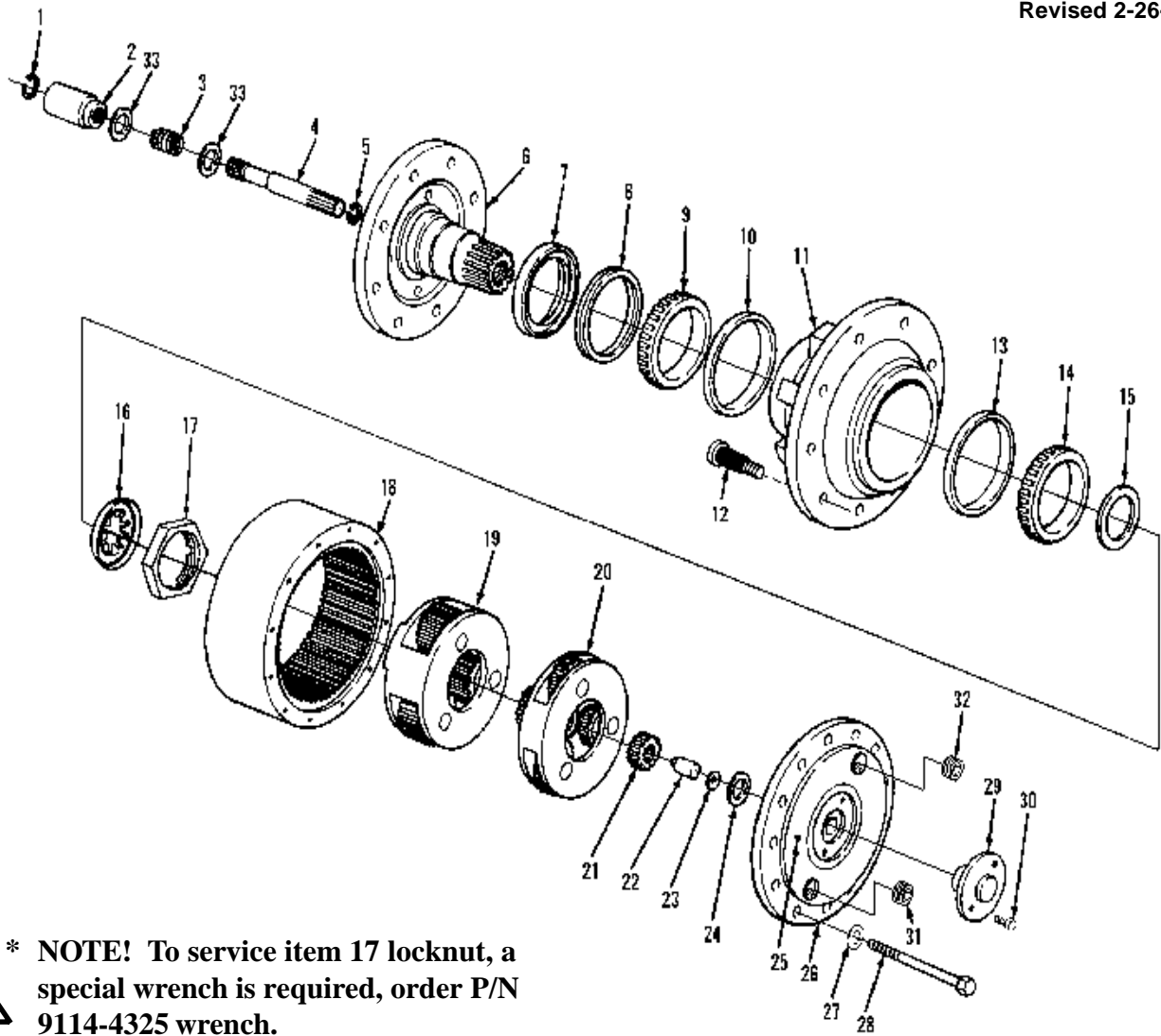
Item	Part No.	Qty.	Description Of Part
1	9104-3292	1	RIM, 14.00 X 25
2	9104-3146	10	LUG NUT (lubricate and torque to 350-400 ft. lbs.)
3	9020-1452	1	VALVE (air / liquid)
* 4	9103-3361	1	TIRE, 17.5 X 25, (L-2 Michelin radial) (not illustrated)



**\* NOTE: AS OF 4-7-95, THE SPINDLE (ITEM 6) IS OBSOLETE AND STOCK IS LIMITED. WHEN STOCK IS DEPLETED, YOU WILL NEED TO PURCHASE A NEW WHEEL DRIVE ASSEMBLY, PART NUMBER 9104-3472.**

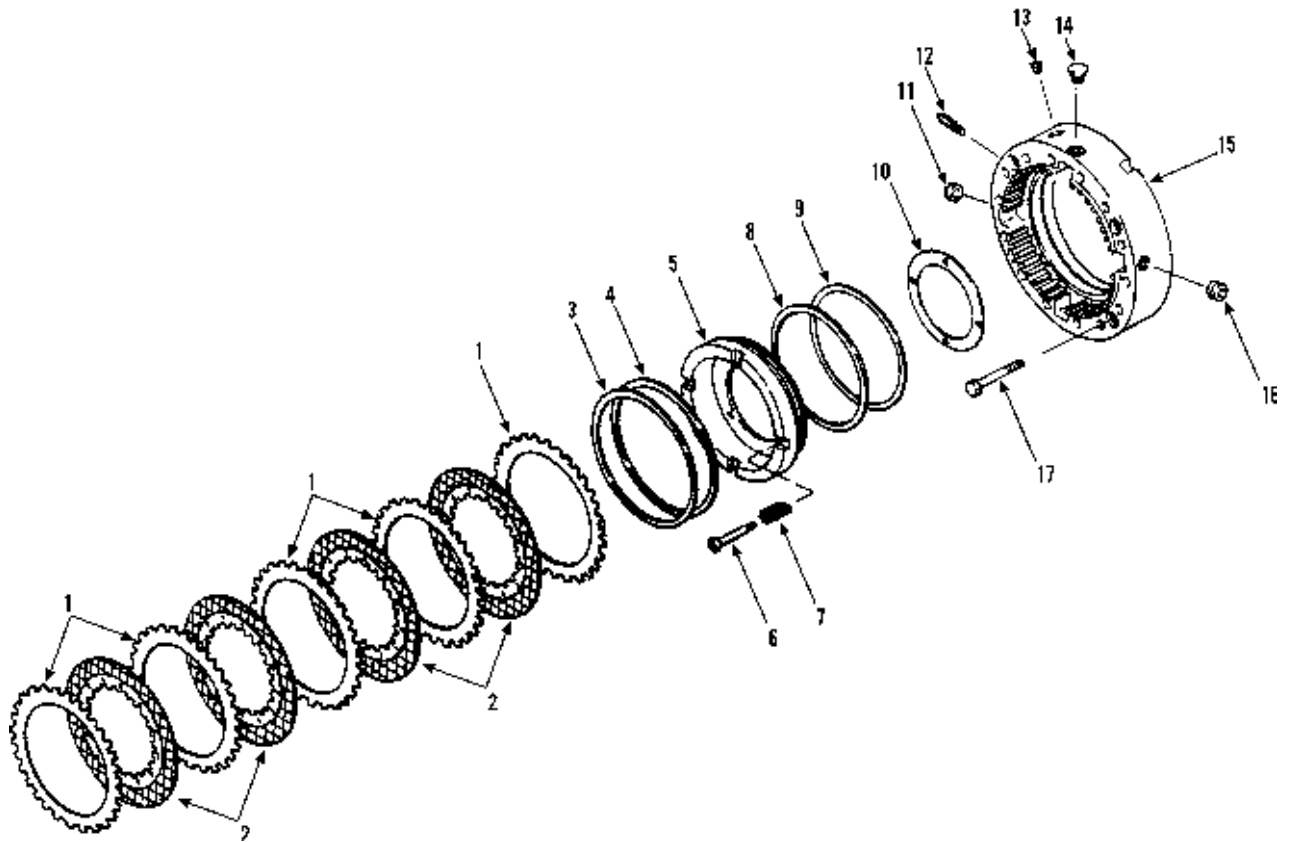
Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
	9104-3328	2	WHEEL DRIVE ASSY (includes all items)	18	9104-4282	1	SECONDARY CARRIER ASSY (includes item 30 & 31)
	9104-4462	Ref	REPAIR KIT (includes item 7, 8, & 31)	19	9104-4103	1	PRIMARY CARRIER ASSY
1	9104-4276	1	RETAINING RING	20	9104-4104	1	PRIMARY SUN GEAR
2	9104-4277	1	COUPLING	21	9104-4106	1	PLUNGER
3	9104-4278	1	SPRING	22	9104-4107	1	O-RING
4	9104-4279	1	INPUT SHAFT	23	9104-4105	1	THRUST WASHER
5	9104-4099	1	RETAINING RING	24	9104-4361	1	PIPE PLUG
* 6	9104-4280	1	SPINDLE	25	9104-4109	1	COVER
7		1	SEAL	26	9104-4110	12	FLAT WASHER
8		1	OIL SEAL	27	9104-4111	12	HEX HD CAPSCREW
9	9104-4090	1	OUTER BEARING CONE	28	9104-4112	1	DISENGAGE COVER
10	9104-4091	1	OUTER BEARING CUP	29	9104-4113	2	HEX HD CAPSCREW
11	9104-4360	1	HUB	30		1	LOCKNUT
12	9104-4311	12	WHEEL BOLT	31		1	LOCK SCREW
13	9106-4005	1	INNER BEARING CUP				NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.
14	9106-4006	1	INNER BEARING CONE				NOTE: QUANTITIES SHOWN ARE FOR ONE WHEEL ASSY ONLY.
15	9106-4007	1	THRUST WASHER				
16	9104-4100	1	RING GEAR				
17	9104-4101	1	MAGNETIC PLUG				



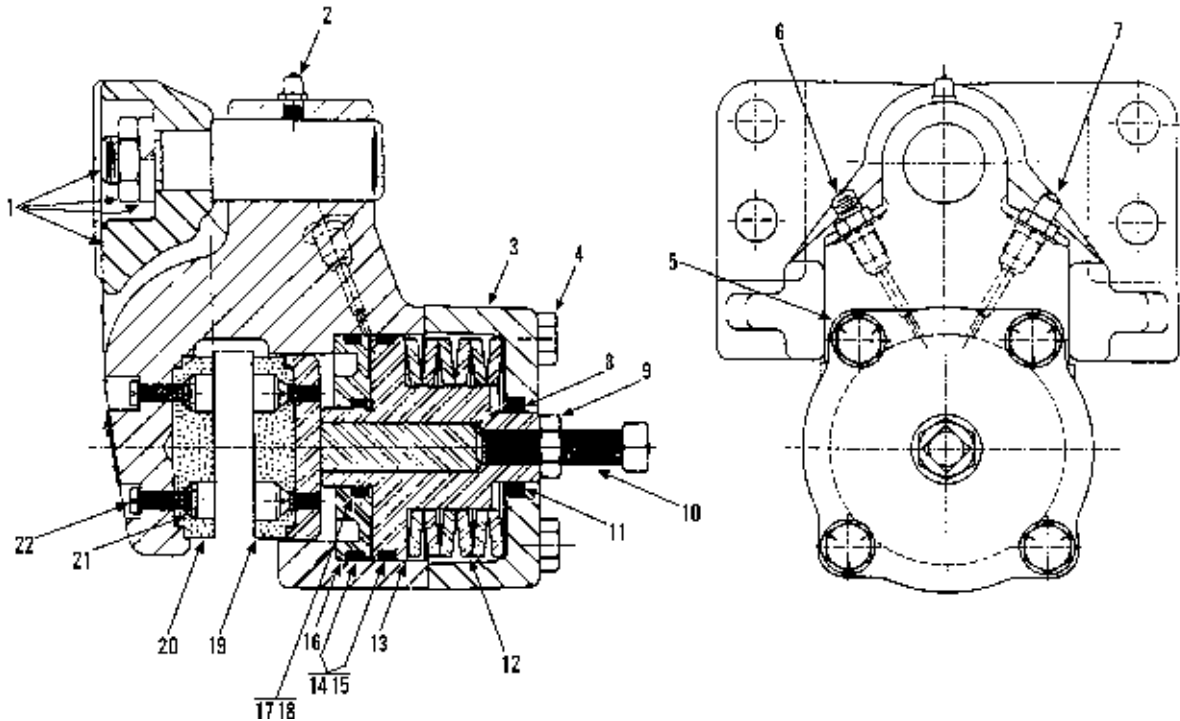


\* **NOTE!** To service item 17 locknut, a special wrench is required, order P/N 9114-4325 wrench.

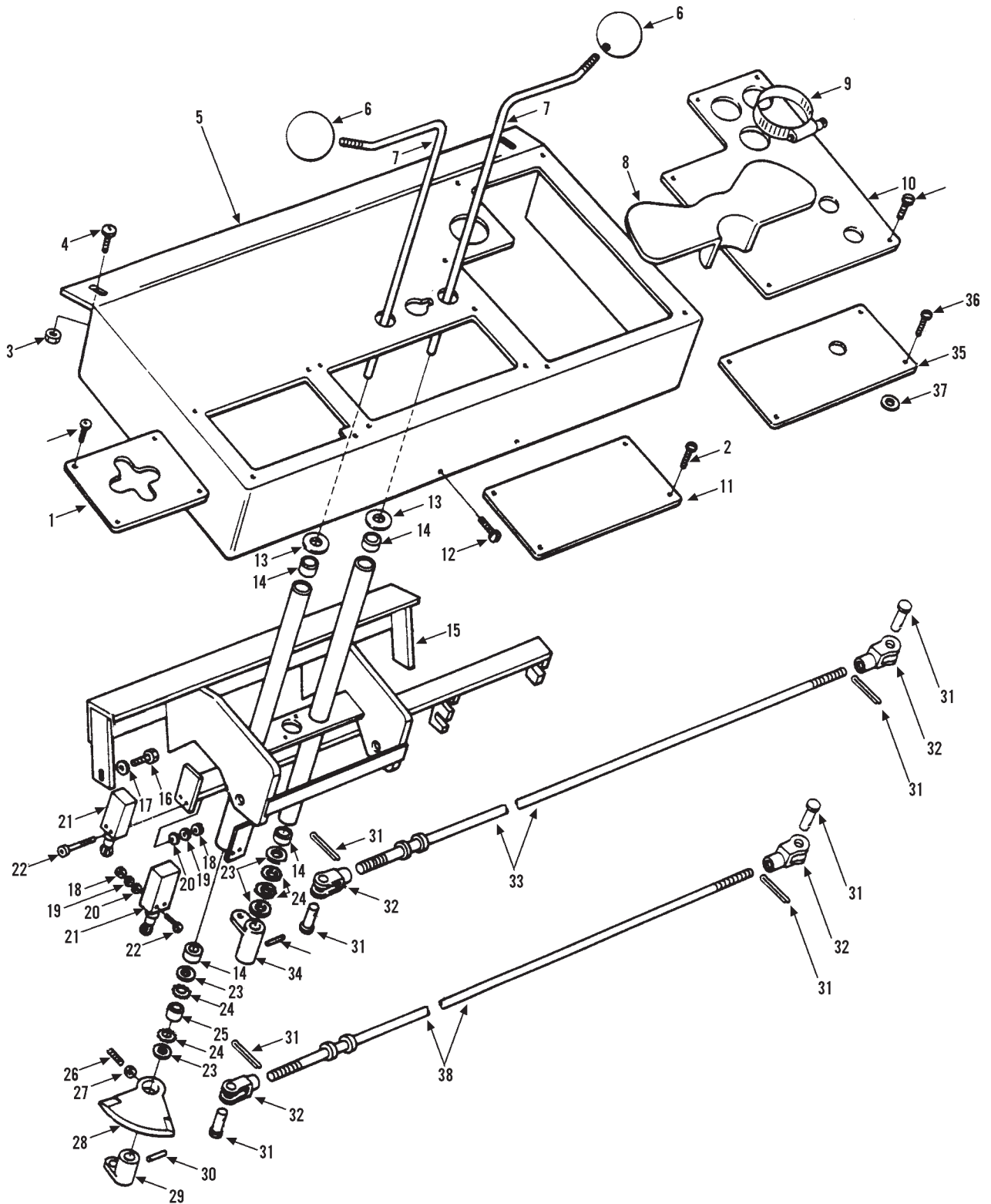
Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
	9104-3472	2	REAR STEERING AXLE DRIVE HUB	19	9114-4185	1	SECONDARY CARRIER ASSY
	9104-4462	Ref	REPAIR KIT (includes items 7, 8 and 30)	20	9114-4186	1	PRIMARY CARRIER ASSY
1	9104-4276	1	RETAINING RING	21	9114-4187	1	PRIMARY SUN GEAR
2	9104-4277	1	COUPLING	22	9104-4106	1	PLUNGER
3	9114-4175	1	SPRING	23	9104-4107	1	O-RING
4	9114-4176	1	INPUT SHAFT	24	9104-4105	1	THRUST WASHER
5	9104-4099	2	RETAINING RING	25	9104-4361	1	PIPE PLUG
6	9114-4177	1	SPINDLE	26	9114-4188	1	COVER
7		1	SEAL	27	9104-4110	12	FLAT WASHER
8		1	OIL SEAL	28	9114-4189	12	HEX HD BOLT
9	9020-2501	1	OUTER BEARING CONE	29	9104-4112	1	DISENGAGE COVER
10	9020-2500	1	OUTER BEARING CUP	30		1	LOCK SCREW
11	9114-4178	1	HUB	31	9104-4101	1	MAGNETIC PLUG
12	9104-4311	12	WHEEL BOLT	32	9103-4389	1	PIPE PLUG
13	9114-4179	1	INNER BEARING CUP	33	9103-4390	2	THRUSTWASHER
14	9114-4180	1	INNER BEARING CONE				NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.
15	9114-4181	1	THRUST WASHER				NOTE: QUANTITIES SHOWN ARE FOR ONE HUB ASSY ONLY.
16	9114-4182	1	LOCKWASHER				
17	9114-4183	1	LOCK NUT				
18	9114-4184	1	RING GEAR				



Item	Part No.	Qty.	Description Of Part
1	9104-4403	10	STATIONARY DISC
2	9104-4404	8	FRICITION DISC
3	9104-4405	2	PISTON OUTER BACK-UP RING
4	9104-4406	2	PISTON OUTER QUAD RING
5	9104-4407	2	BRAKE PISTON
6	9104-4408	8	SHOULDER BOLT
7	9104-4409	8	SHOULDER BOLT SPRING
8	9104-4410	2	PISTON INNER QUAD RING
9	9104-4411	2	PISTON INNER BACK-UP RING
10	9104-4412	AR	SHIM (.003 thick)
	9104-4413	AR	SHIM (.005 thick)
	9104-4414	AR	SHIM (.010 thick)
	9104-4415	AR	SHIM (.020 thick)
11	9104-4416	2	DRAIN PLUG
12	9104-4417	2	BLEEDER SCREW
13	9104-4418	2	INLET PLUG
14	9104-4419	4	COOLING PLUG
15	9104-4420	2	BRAKE HOUSING
16	8307-3699	2	FILLER PLUG
17	9104-4421	8	HEX HD CPASCREW



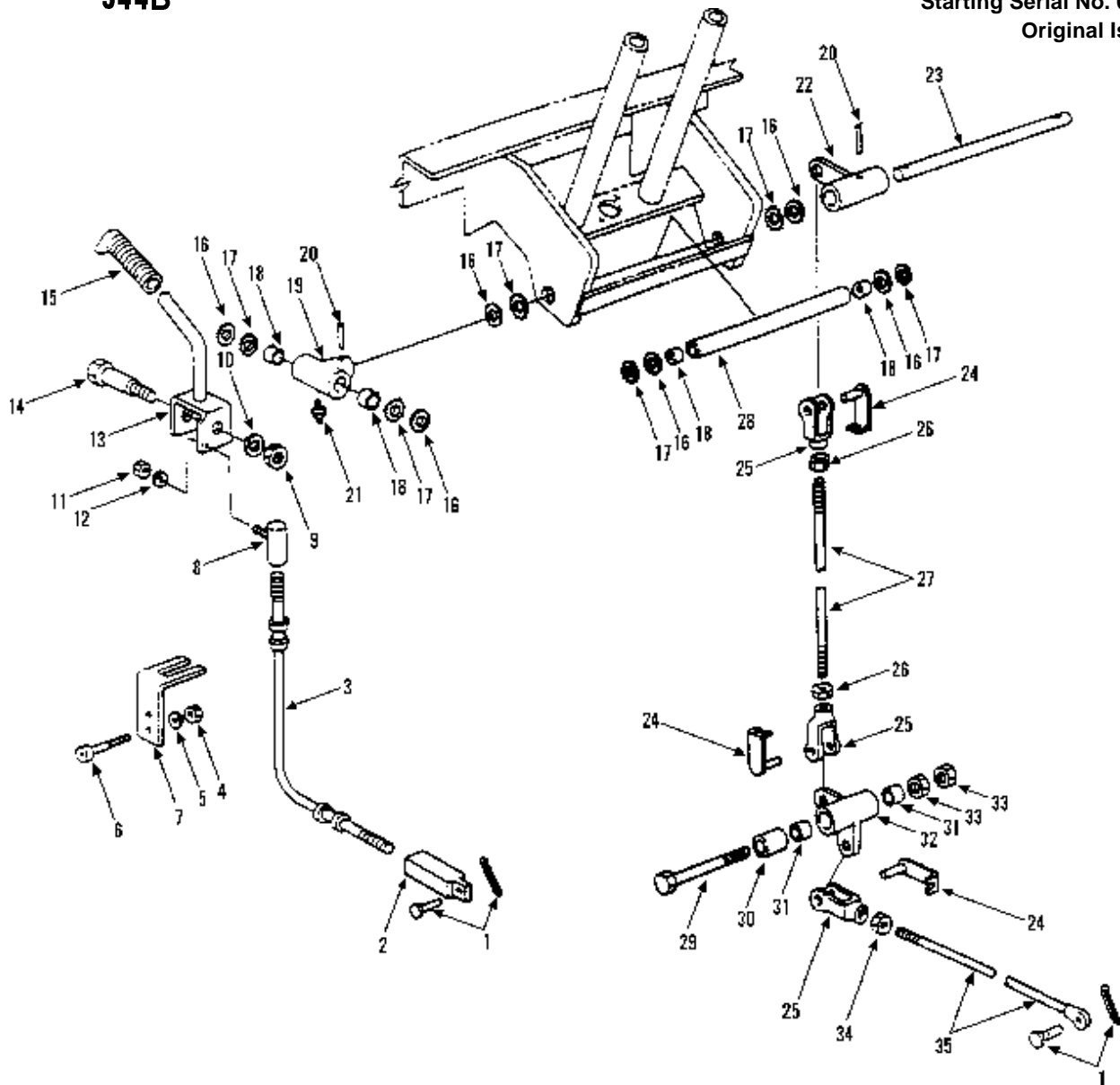
Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
	9105-3540	1	PARKING BRAKE ASSY (includes all items)	12	9104-4438	6	BELLVILLE SPRING
	9104-4427	AR	REPAIR KIT (includes items 11, 14, 15, 17 & 18)	13	9104-4439	1	PISTON
	9104-4428	AR	LINING KIT (includes item 19 thru 22)	14		2	BACK-UP RING
1	9104-4429	1	MOUNTING ASSY	15		2	O-RING
2	9104-4430	1	LUBE FITTING	16	9104-4440	1	PISTON
3	9104-4431	1	COVER	17		1	O-RING
4	9104-4432	4	HEX HD CAPSCREW	18		1	BACK-UP RING
5	9104-4433	4	LOCKWASHER	19		1	LINING ASSY
6	9104-4434	1	CONNECTOR	20		1	LINING
7	9100-4021	1	BLEEDER SCREW	21		2	BUSHING
8	9104-4435	1	PUSH ROD	22		2	SLOTTED SCREW
9	9104-4436	1	HEX JAM NUT				NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE
10	9104-4437	1	SQUARE HD SET SCREW				
11		1	WIPER SEAL				



Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
1	9103-3310	1	TILT-SWAY COVER PLATE	20	8856-1105	4	FLATWASHER, #10
2	8832-1015	4	SELF TAPPING SCREW, #6-32X1/2	* 21	9103-3439	2	FORWARD/REVERSE SWITCH
3	7714-3006	2	LOCKNUT	22	8821-1032	4	SOCKET HDCAPSCREW, #10-24X1, GR8
4	7714-3004	2	LOCK SCREW	23	8856-1113	4	FLATWASHER, 5/8
5	9060-2789	1	CONTROL & INSTRUMENT PANEL	24	9002-8662	4	WAVE BEND WASHER
6	9020-0299	2	KNOB	25	9103-1224	1	SPACER
7	9020-5542	2	CONTROL ROD	26	8822-7929	1	SOCKET SET SCREW 1/4-20X3/4
8	9040-2903	1	CONTROL ROD BRACKET	27	8850-1616	1	HEX NUT, 1/4-20
9	9002-8695	1	CLAMP	28	9103-1226	1	CAM
10		Ref	INSTRUMENT PANEL PLATE (see page 11-1 for details)	29	9103-6042	1	BELLCRANK
11	9020-5574	1	DASH PANEL	30	8863-1479	2	ROLL PIN 3/16X1-1/4
12	9002-7319	2	SELF TAPPING SCREW	31	9002-7720	4	YOKE PIN ASSY
13	9002-7472	2	HARDENED WASHER	32	8882-1003	4	ADJUSTABLE YOKE END, 5/16-24
14	9020-0290	4	NEEDLE BEARING	* 33	9020-3374	1	PUSH PULL CABLE
15	9080-1213	1	CONTROL BRACKET	34	9020-5973	1	BELLCRANK
16	8820-1065	2	HEX HD CAPSCREW, 1/2-13X1, GR5	35	9103-3255	1	GAUGE PROTECTOR
17	8856-1111	2	FLAT WASHER, 1/2	36	8832-1019	4	SELF-TAPPING SCREW, #6-32X1
18	8850-1612	4	HEX NUT, #10-24	37	9103-3277	4	RUBBER SPACER
19	8855-1007	4	LOCKWASHER, #10	* 38	9103-3427	1	PUSH PULL CABLE

**GRADALL®**  
**MATERIAL HANDLER**  
**544B**

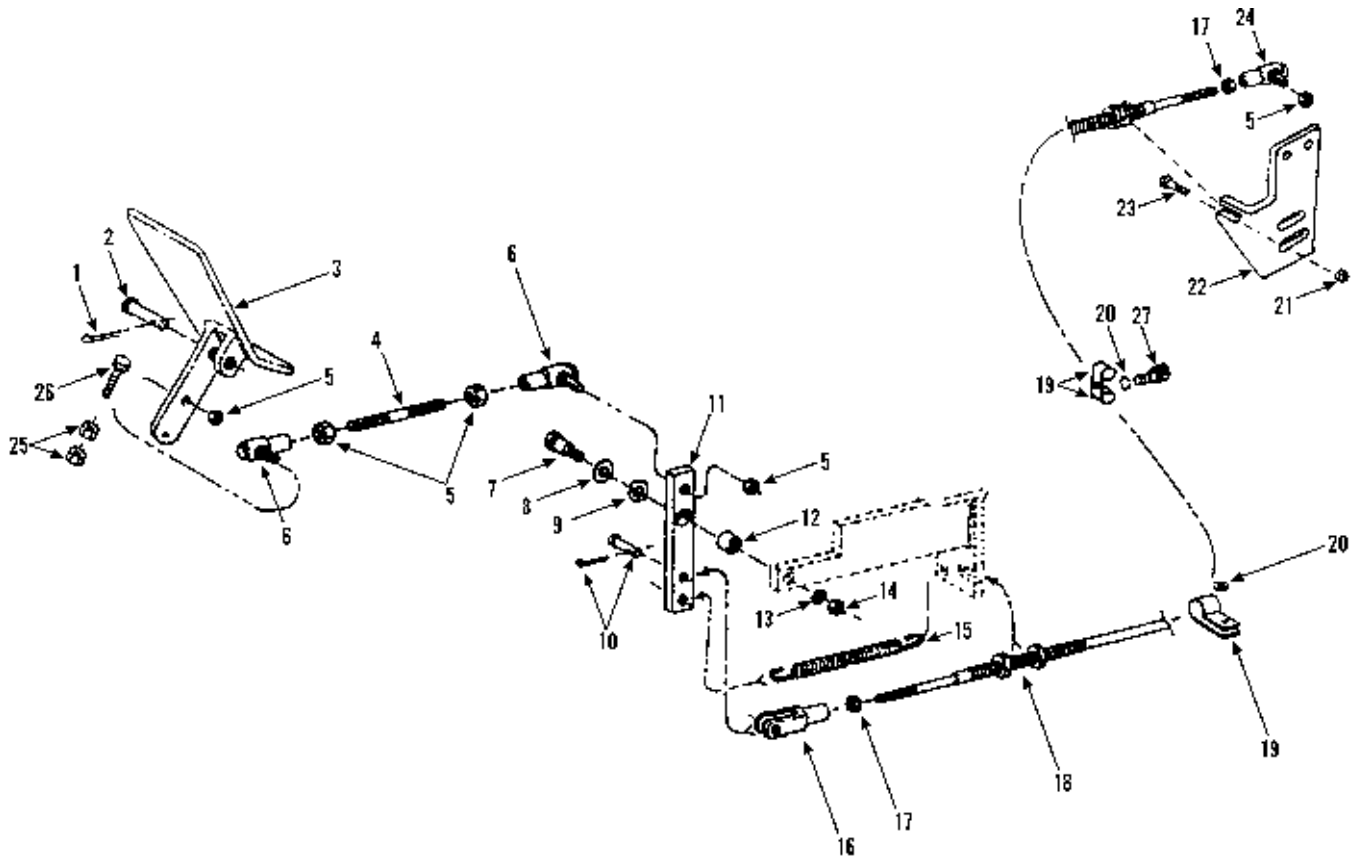
**CONTROLS**  
**Tilt & Sway**  
 Starting Serial No. 0155299S  
 Original Issue 3-90



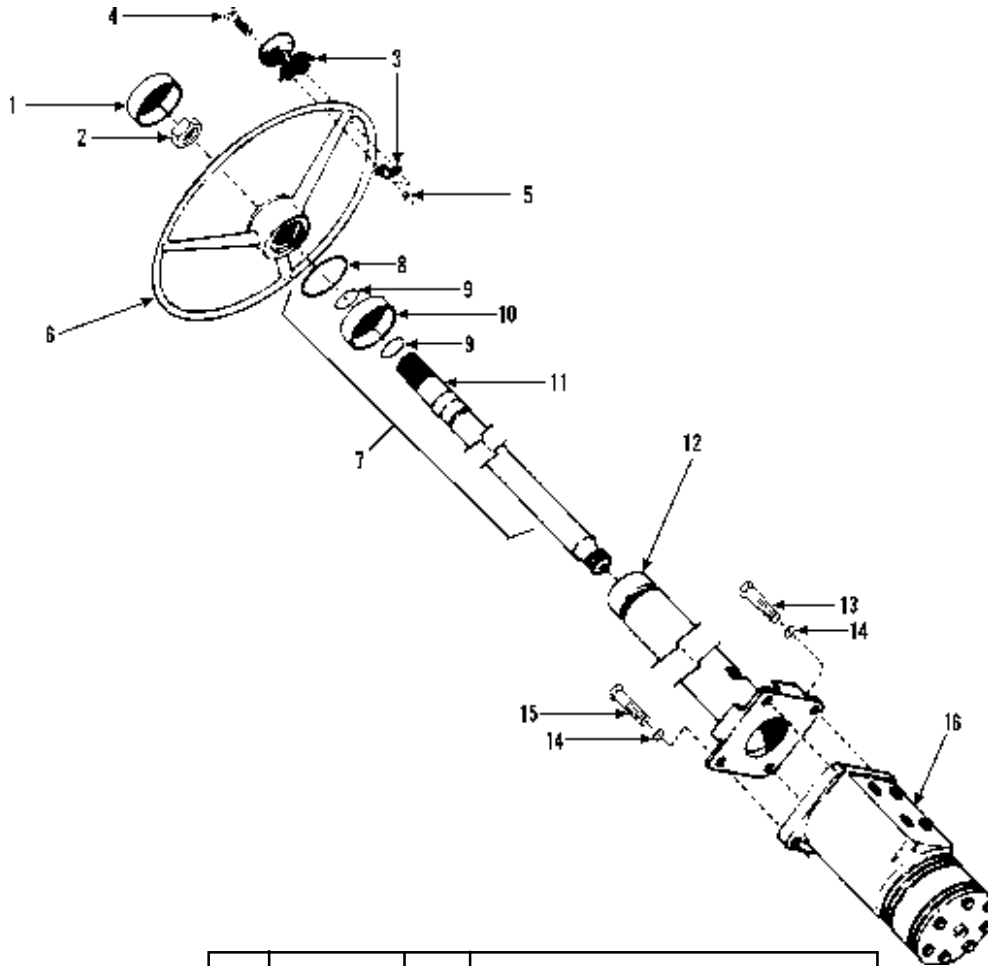
Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
1	9002-1552	2	CLEVIS PIN	19	9020-6859	1	HOUSING WELDMENT
2	9104-1236	1	CABLE END	20	8863-1479	2	ROLL PIN, 3/16X1-1/4
3	9020-6861	1	CABLE ASSY	21	8867-1008	1	LUBE FITTING, STRAIGHT, 1/4-28
4	8855-1011	2	LOCKWASHER, 3/8	22	9020-5541	1	BELLCRANK
5	8850-1006	2	HEX NUT, 3/8-16	23	9020-5571	1	SHAFT
6	8826-1030	2	SOCKET BUTTON HD CPASCREW 3/8-16X1-1/4	24	9002-7987	3	SPRING CLEVIS
7	9103-1013	1	CABLE BRACKET	25	8882-1004	3	ADJUSTABLE YOKE END, 3/8-24
8	8668-3117	1	BALL JOINT	26	8850-1108	2	HEX NUT, 3/8-24
9	8850-1008	1	HEX NUT, 1/2-13	27	9020-2361	1	ROD
10	8855-1013	1	LOCK WASHER, 1/2	28	9020-5579	1	SPACER
11	8855-1010	1	LOCKWASHER, 5/16	29	8820-1328	1	HEX HD CAPSCREW, 5/8-11X6-1/2, GR5
12	8850-1305	1	HEX NUT, 5/16-24	30	9020-5580	1	SPACER
13	9040-3406	1	HANDLE WELDMENT	31	9020-0290	2	NEEDLE BEARING
14	9020-3502	1	SHOULDER BOLT	32	9020-5533	1	BELLCRANK
15	9020-0774	1	HANDLE GRIP	33	8850-1010	2	HEX NUT, 5/8-11
16	8856-1113	6	FLAT WASHER	34	8867-1008	1	LUBE FITTING, STRAIGHT, 1/4-28
17	9002-8662	6	WAVE BEND WASHER	35	8850-1306	1	HEX NUT, 3/8-24
18	9020-0290	4	NEEDLE BEARING	36	9106-6019	1	CONTROL ROD

**GRADALL®**  
**MATERIAL HANDLER**  
**544B**

**CONTROLS**  
**Acceleration Linkage**  
 Starting Serial No. 0155299S  
 Original Issue 3-90  
 Revised 5-5-97

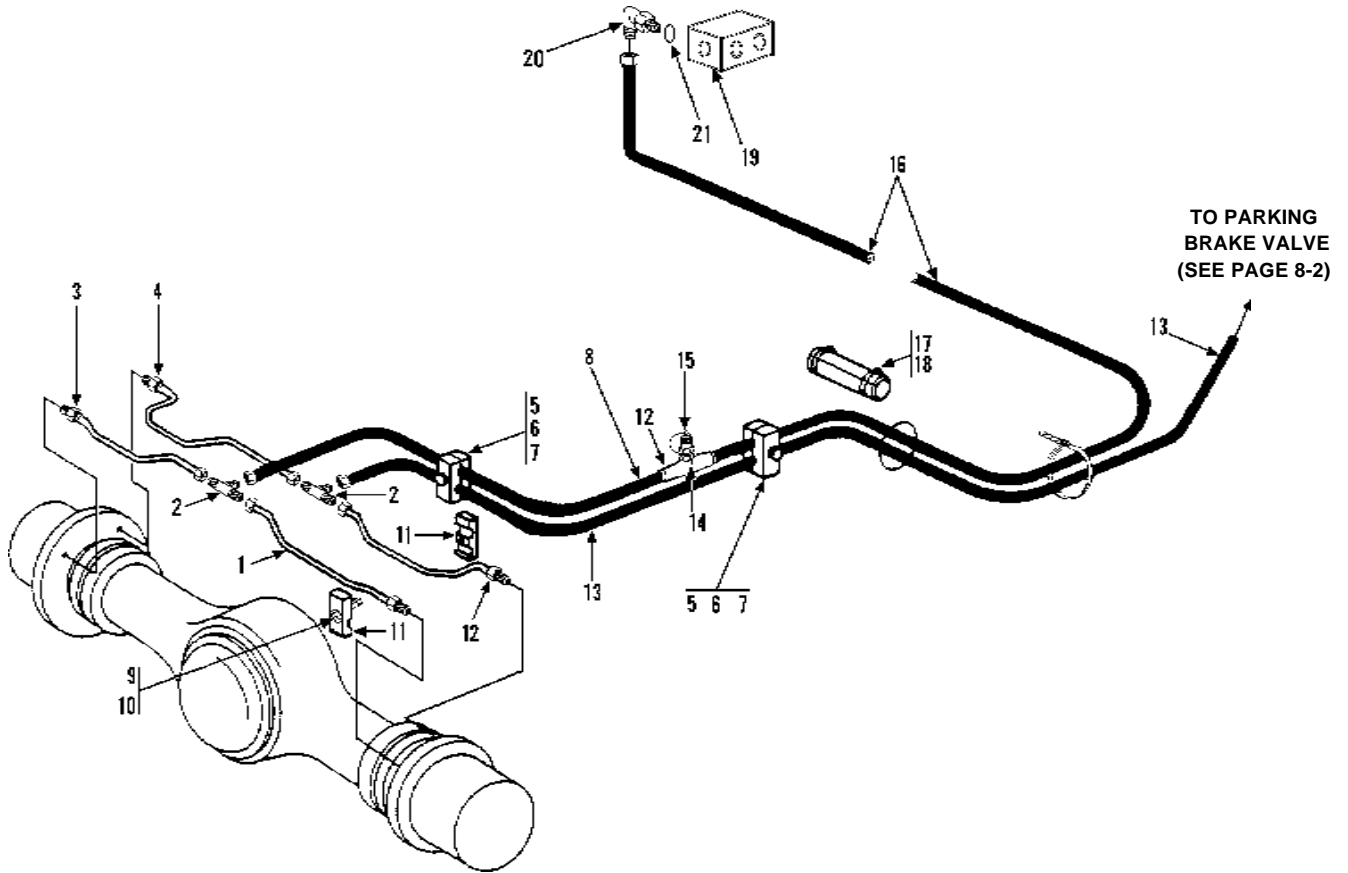


Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
1	8863-1318	1	COTTER PIN, 1/8X1	15	9020-7801	1	SPRING
2	9002-1584	1	CLEVIS PIN	16	9002-8977	1	YOKE
3	9103-6022	1	ACCELERATOR PEDAL	17	8850-1613	2	HEX NUT, #10-32
4	9103-1088	1	LINKAGE ROD	*18	9104-3488	1	ACCELERATOR CABLE
5	8850-1404	5	HEX NUT, 1/4-28	19	9002-8660	3	HOSE CLIP
6	8668-3118	2	BALL JOINT	20	7710-4085	2	LOCKWASHER
7	8825-1018	1	SOCKET HD SHOULDER SCREW, 3/8X1/2 (5/16-18 THREAD)	21	8852-1305	2	HEX LOCKNUT, 5/16-18
8	8856-1109	1	FLAT WASHER, 3/8	22	9104-1560	1	CABLE & SENDER BRACKET
9	9002-8946	AR	WAVY WASHER	23	8820-1021	2	HEX HD CAPSCREW, 5/16-18X1-1/4, GR5
10	9002-7685	1	CLEVIS & COTTER PIN	24	9002-7908	1	BALL JOINT
11	9103-1087	1	BELLCRANK	25	8850-1110	2	HEAVY HEX JAM NUT, 5/8-11
12	9103-3281	1	BEARING	26	8820-1106	1	HEX HD CAPSCREW, 5/8 -11X4,GR5
13	8856-1111	1	FLAT WASHER, 1/2	27	8820-1054	2	HEX HD CAPSCREW,7/16-14X2,GR5
14	8850-1105	1	HEAVY HEX JAM NUT, 5/16-18				

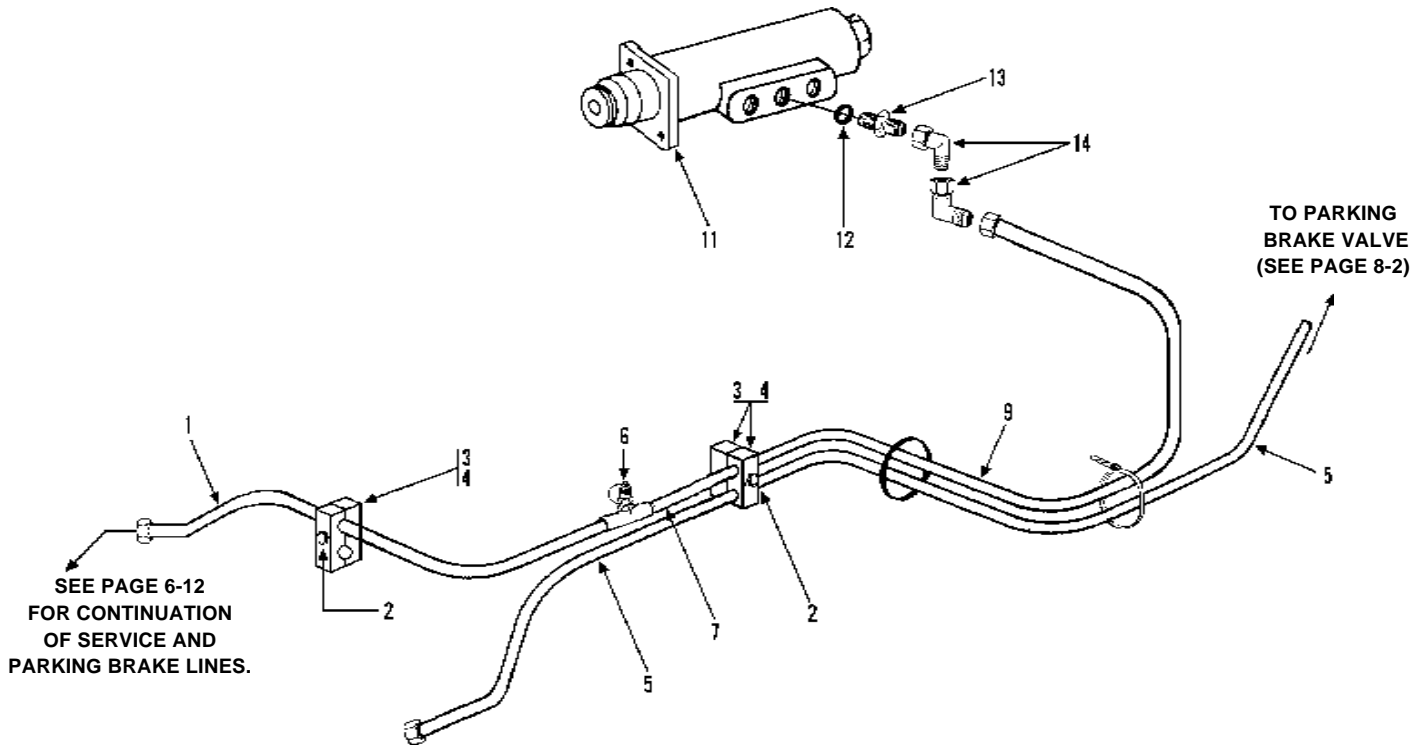


Item	Part No.	Qty.	Description Of Part
1	9060-0274	1	STEERING CAP
2	9020-0266	1	STEERING WHEEL NUT
3	9020-2230	1	SPINNER KNOB (includes items 4 & 5)
4	8830-1311	2	FLAT HD MACHINE SCREW, 1/4-20x1
5	8850-1615	2	HEX NUT, 1/4-20
6	9060-0273	1	STEERING WHEEL
7	9060-0267	1	ORBITROL COLUMN ASSY (includes items 8 thru 12)
8	9060-1347	1	RETAINING RING
9	9020-1346	2	RETAINING RING
10	9020-1348	1	BEARING
11	9020-1349	1	SHAFT
12	9020-1350	1	TUBE & FLANGE
13	8820-1037	2	HEX HD CAPSCREW, 3/8-16X1-1/2, GR5
14	8855-1011	4	LOCKWASHER
15	8820-1033	2	HEX HD CAPSCREW, 3/8-16X3/4, GR5
16	9020-6762	1	ORBITROL
	9020-6567	1	ORBITROL SEAL KIT

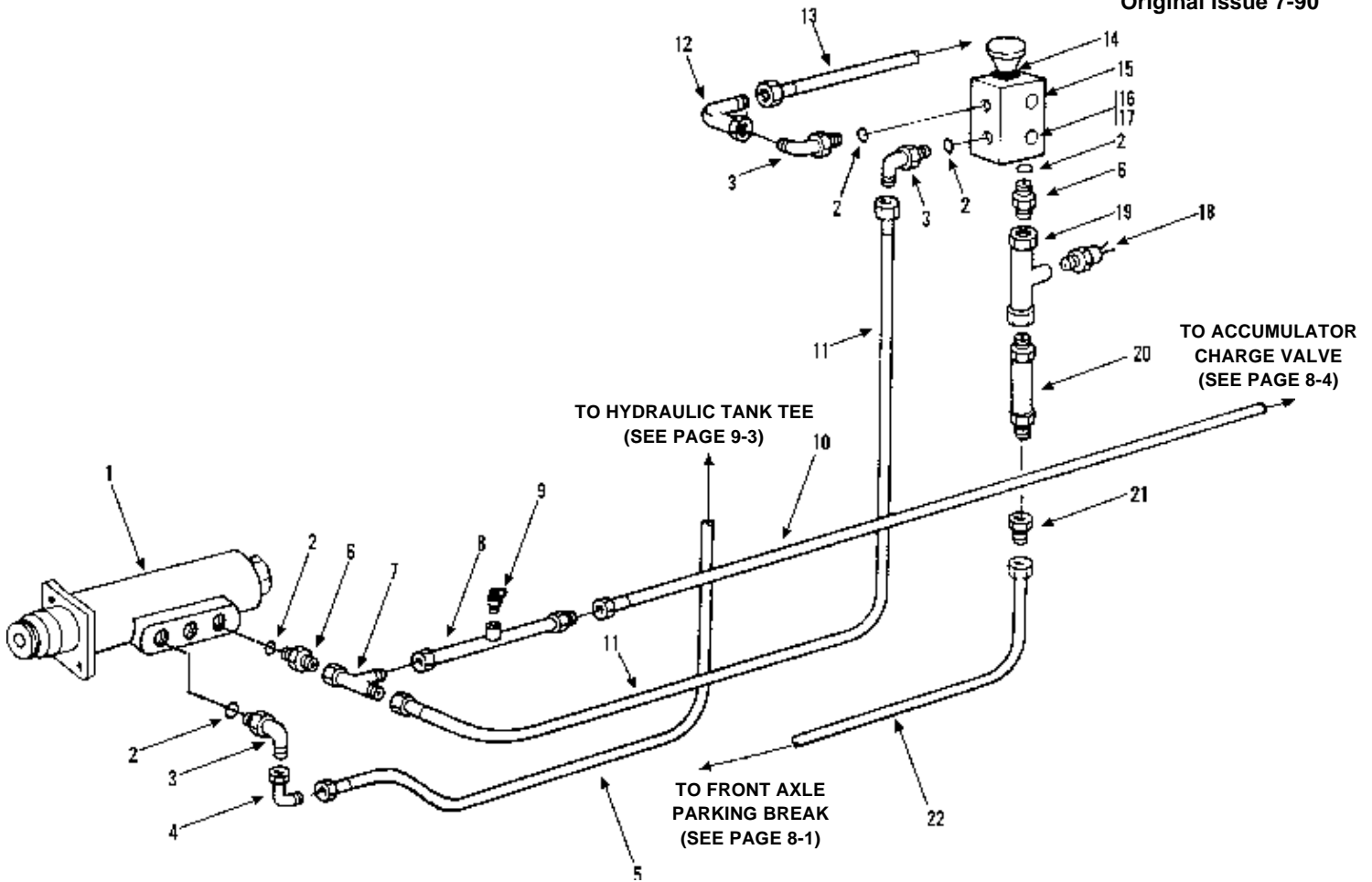




Item	Part No.	Qty.	Description Of Part
1	9104-3293	1	TUBE ASSY
2	8866-1305	2	UNION TEE, 3/8 TUBE
3	9104-3294	1	TUBE ASSY
4	9104-3189	1	TUBE ASSY
5	7713-3177	2	HEX HD CAPSCREW
6	7713-3140	2	COVER PLATE
7	7713-3139	2	CLAMP SET
8	8471-7524	1	HOSE ASSY
9	8820-1005	2	HEX HD CAPSCREW, 1/4-20X1, GR5
10	8856-1002	2	FLAT WASHER, 1/4
11	7713-3270	2	CLAMP SET
12	9104-3190	1	TUBE ASSY
13	8471-7522	1	HOSE ASSY
14	9104-3091	1	FEMALE BRANCH TEE
15	9103-3032	1	MINI CHECK COUPLING
16	8471-7523	1	HOSE ASSY
17	9002-7178	AR	NYLON HOSE TIE
18	9104-1258	1	HOSE
19	9104-3076	Ref	BRAKE VALVE ASSY (see page 10 -19 for details)
20	8866-2064	1	ELBOW, 90 DEGREES (includes item 21)
21	8859-1204	1	O-RING

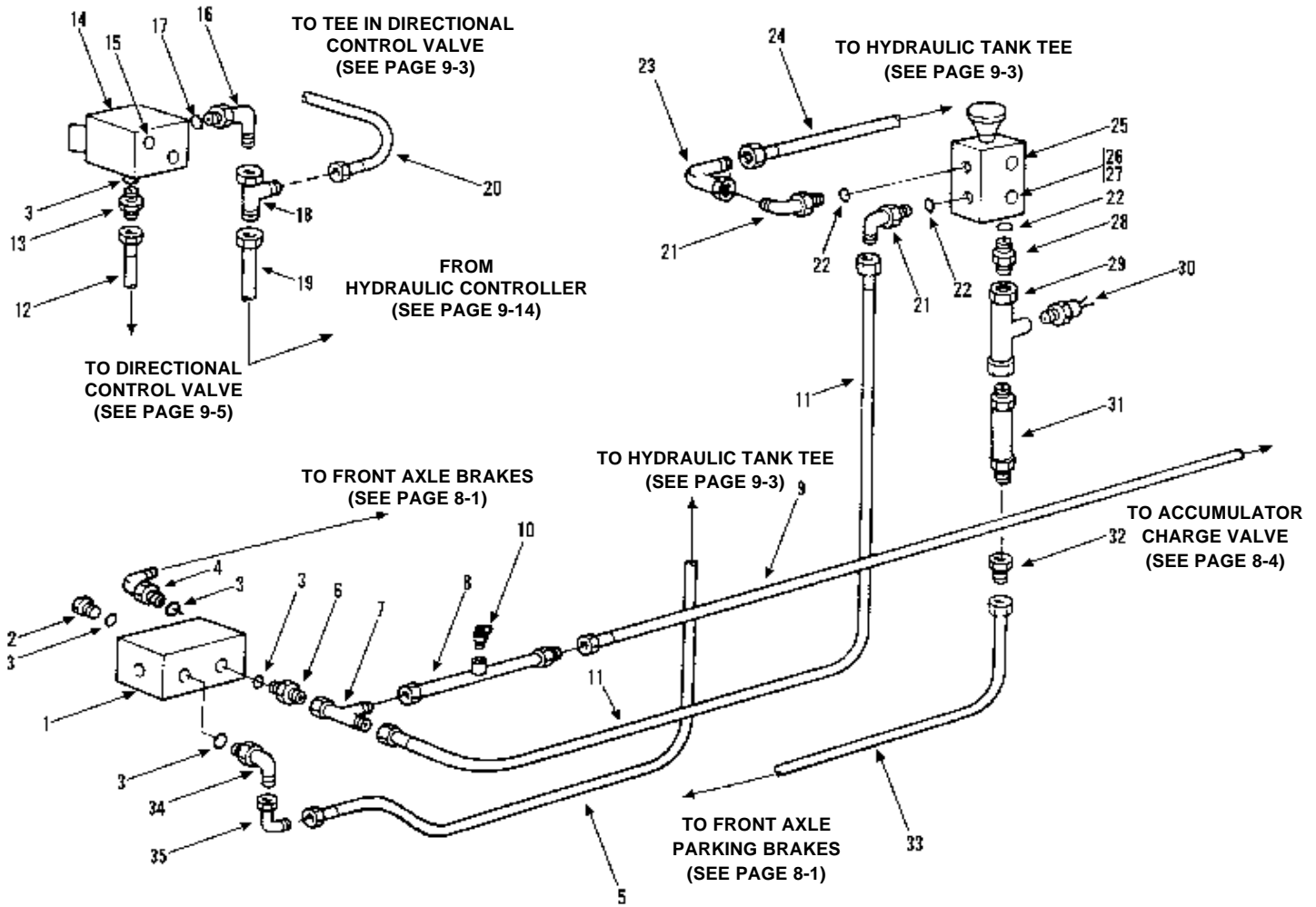


Item	Part No.	Qty.	Description Of Part
1	8471-7524	Ref	HOSE ASSY (see page 6-12 for details)
2	7713-3177	2	HEX HD CAPSCREW
3	7713-3140	2	COVER PLATE
4	7713-3139	2	CLAMP SET
5	8471-7987	1	HOSE ASSY
6	9103-3032	1	MINI-CHECK COUPLING
7	9104-3091	1	FEMALE BRANCH TEE
8	9104-3227	1	NEOPRENE GROMMET
9	8471-7523	1	HOSE ASSY
10	9002-7187	AR	NYLON HOSE TIE
11	9108-3154	Ref	BRAKE VALVE ASSY (see page 10-19 for details)
12	8859-1205	1	O-RING
13	8866-2018	1	CONNECTOR (includes item 12)
14	8866-2105	2	ELBOW, 90 DEGREES (swivel nut)

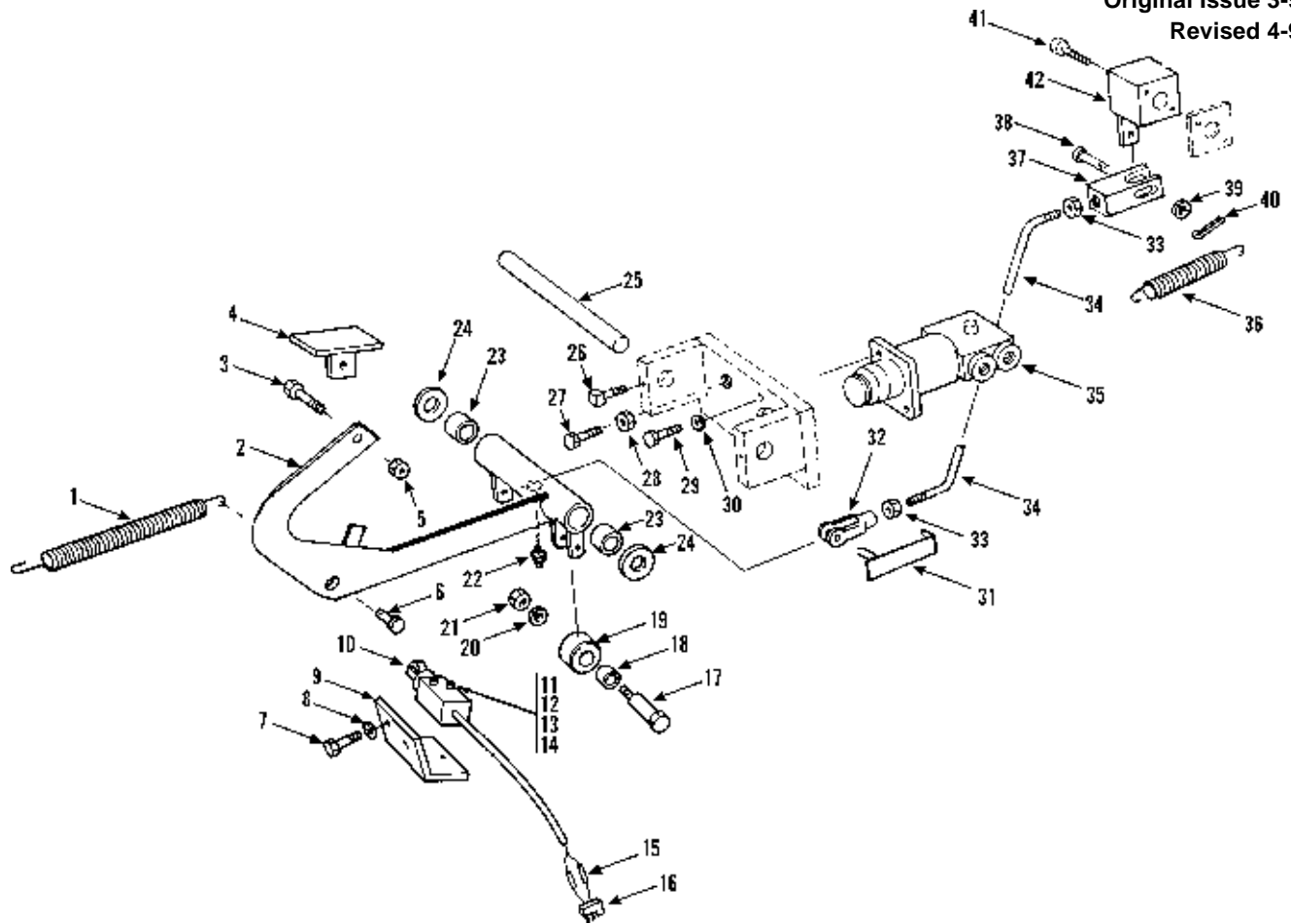


Item	Part No.	Qty.	Description Of Part
1	9108-3154	Ref	BRAKE VALVE ASSY (see page 10-19 for details)
2	8859-1205	5	O-RING
3	8866-2065	3	ELBOW, 90 DEGREES (includes item 2)
4	8866-2106	1	ELBOW, 90 DEGREES (swivel nut)
5	8471-7842	1	HOSE ASSY
6	8866-2018	2	CONNECTOR (includes item 2)
7	8866-2239	1	SWIVEL NUT RUN TEE, 3/8 TUBE
8	9104-3163	1	TUBE ASSY
9	7713-3089	1	MINI-CHECK COUPLING
10	8471-7317	1	HOSE ASSY
11	8471-7508	1	HOSE ASSY

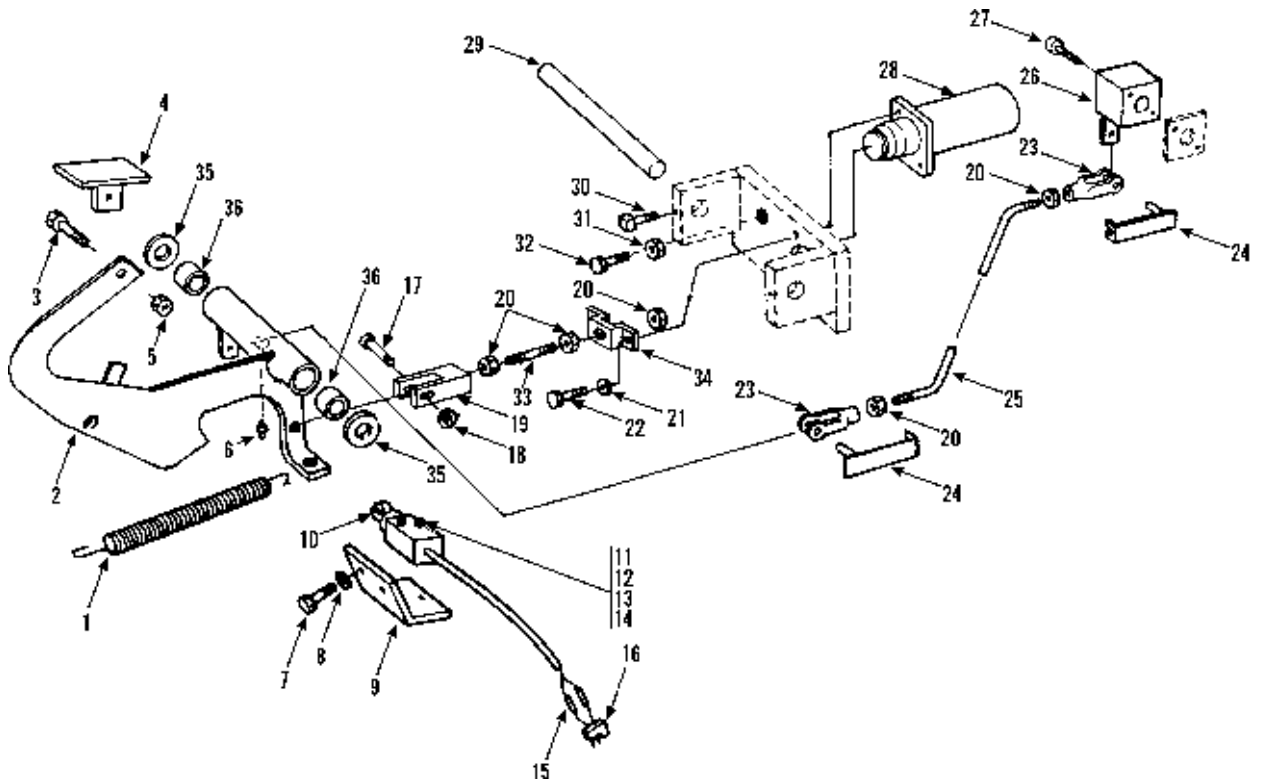
Item	Part No.	Qty.	Description Of Part
12	8866-2105	1	ELBOW, 90 DEGREES (swivel nut)
13	7713-3167	1	HOSE ASSY
14	9103-3378	1	BOOT
15	9104-3090	Ref	PARK BRAKE VALVE (see page 10-12 for details)
16	8826-1021	2	SOCKET BUTTON HD CAPSCREW, 5/16-18X5/8
17	8855-1010	2	LOCKWASHER, 5/16
18	9103-3416	1	PRESSURE SWITCH
19	9104-3131	1	TUBE ASSY
20	9104-3143	1	CHECK VALVE
21	8866-1342	1	TUBE END REDUCER, 1/2X3/8
22	8471-7987	1	HOSE ASSY



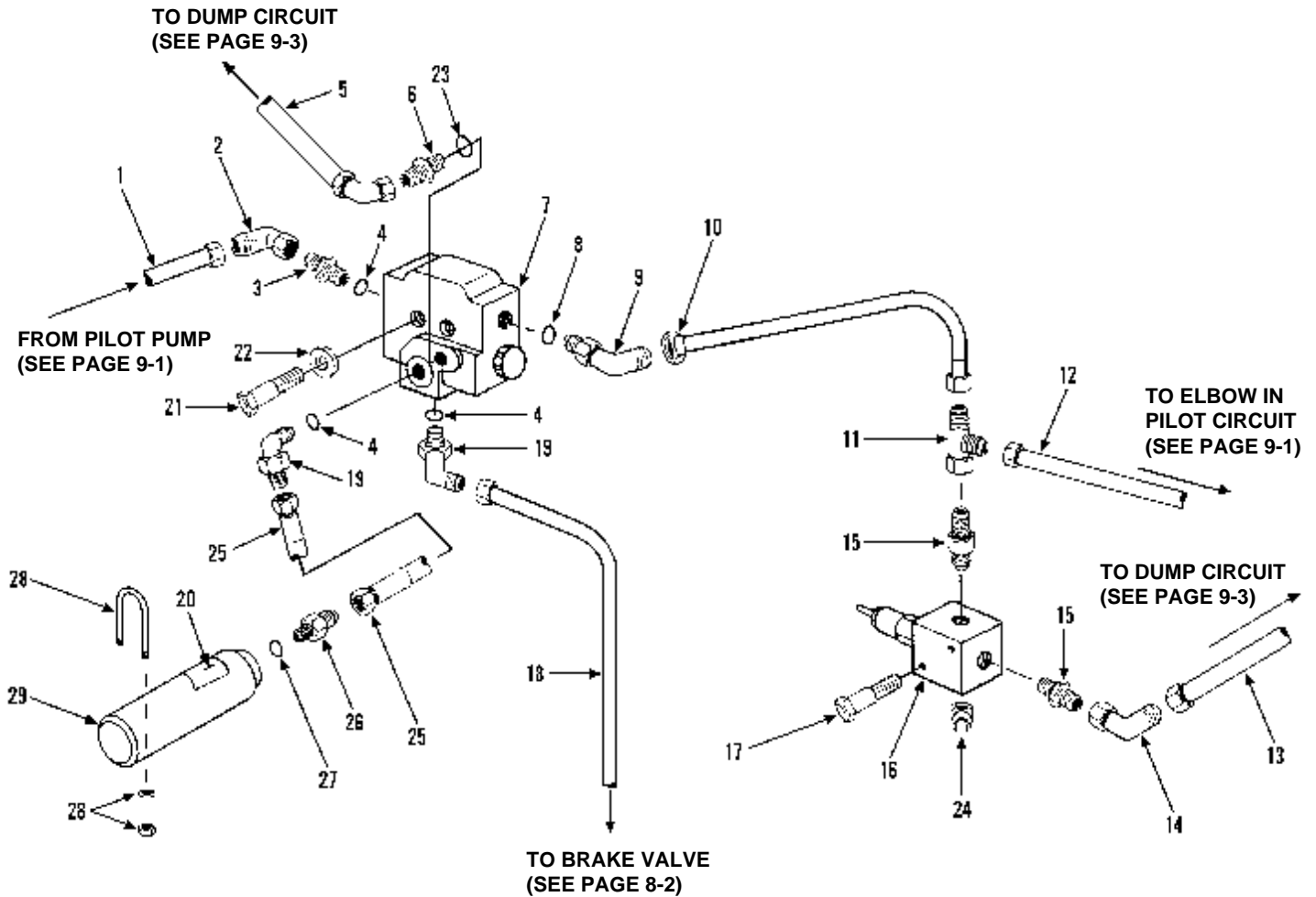
Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
1	9104-3076	Ref	BRAKE VALVE ASSY (see page 10-19 for details)	18	8866-2239	1	SWIVEL NUT RUN TEE, 3/8 TUBE
2	8866-2174	1	HEX HD PLUG (includes item 3)	19	8471-7341	1	HOSE ASSY
3	8859-1204	4	O-RING	20	8471-7466	1	HOSE ASSY
4	8866-2064	1	ELBOW, 90 DEGREES (includes item 3)	21	8866-2065	2	ELBOW, 90 DEGREES (includes item 22)
5	8471-7842	1	HOSE ASSY	22	8859-1205	3	O-RING
6	8866-2005	1	CONNECTOR (includes item 3)	23	8866-2105	1	ELBOW, 90 DEGREES (swivel nut)
7	8866-2239	1	SWIVEL NUT RUN TEE, 3/8 TUBE	24	7713-3198	1	HOSE ASSY
8	9104-3163	1	TUBE ASSY	25	9104-3090	Ref	PARK BRAKE VALVE (see page 10-20 for details)
9	8471-7317	1	HOSE ASSY	26	8826-1021	2	SOCKET BUTTON HD CAPSCREW, 5/16-18X1-1/4, GR8
10	7713-3089	1	MINI-CHECK VALVE	27	8855-1009	2	LOCKWASHER, 5/16
11	8471-7508	1	HOSE ASSY	28	8866-2018	1	CONNECTOR (includes item 22)
12	7713-3342	1	HOSE ASSY	29	9106-3098	1	TUBE ASSY
13	8866-2005	1	CONNECTOR (includes item 3)	30	9104-3077	1	PRESSURE SWITCH
14	8821-2228	2	SOCKET HD CAPSCREW, 5/16-18X1-1/4, GR8	31	9104-3143	1	CHECK VALVE
15	9103-3096	1	INCHING VALVE ASSY	32	8866-1342	1	TUBE END REDUCER, 1/2X3/8
	9103-4018	1	INCHING VALVE SEAL KIT	33	8471-7522	1	HOSE ASSY
16	8866-2064	1	ELBOW, 90 DEGREES (includes item 17)	34	7713-1088	1	ELBOW, 90 DEGREES
17	8859-1204	1	O-RING	35	8866-2106	1	ELBOW, 90 DEGREES (swivel nut)



Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
1	9104-3214	1	RETURN SPRING	23	9020-0290	2	BEARING
2	9104-6083	1	BRAKE LEVER WELDMENT	24	9002-8662	2	WASHER
3	8820-1068	1	HEX HD CAPSCREW, 1/2-13X1-3/4, GR5	25	9020-1562	1	PIN
4	9020-1463	1	PEDAL WELDMENT	26	8844-1001	2	SQUARE HD SET SCREW, 1/4-20X1/2 (cup point)
5	8850-1008	1	HEX NUT, 1/2-13	27	8820-1038	1	HEX HD CAPSCREW, 3/8-16X1-3/4, GR5
6	9104-1402	1	SPECIAL CLEVIS PIN	28	8850-1106	1	HEX JAM NUT, 3/8-16
7	8820-1003	2	HEX HD CAPSCREW, 1/4-20X3/4, GR5	29	8319-1028	2	HEX HD CAPSCREW, M8X1.25
8	8855-1009	2	LOCKWASHER, 1/4	30	8319-1011	2	LOCKWASEHR, M8
9	9104-1431	1	SWITCH MOUNTING BRACKET	31	9002-7987	1	CLEVIS PIN
10	9103-3439	1	TRANSMISSION DISCONNECT SWITCH	32	8882-1004	1	ADJUSTABLE YOKE END, 3/8-24
11	8821-1032	2	SOCKET HD CAPSCREW, #10-24, GR8	33	8850-1406	2	HEX JAM NUT, 5/16-24
12	8856-1105	2	FLAT WASHER, #10	34	9103-1085	1	ROD
13	8855-1007	2	LOCKWASHER, #10	35		Ref	BRAKE VALVE ASSY (see page 10-19 for details)
14	8850-1612	2	HEX NUT, #10-24	36	9020-7801	1	SPRING
15	8668-3480	2	CRIMP-ON CONNECTOR	37	9104-1424	1	SPECIAL YOKE END
16	8348-3114	1	MALE CONNECTOR	38	9104-1425	1	SPECIAL CLEVIS PIN
17	8825-1023	1	SOCKET HD SHOULDER SCREW, 3/81-1/2, 5/16-18 THREAD	39	8856-1004	1	FLAT WASHER, 3/8
18	9104-3086	1	BEARING	40	8863-1303	1	COTTER PIN, 1/16X1
19	9104-1196	1	ROLLER	41	8821-2228	2	SOCKET HD CAPSCREW, 5/16-18X1-1/4, GR8
20	8855-1010	1	LOCKWASHER, 5/16	42	9103-3096	1	INCHING VALVE
21	8850-1005	1	HEX NUT, 5/16-18		9103-4018	1	INCHING VALVE SEAL KIT
22	8867-1008	1	LUBE FITTING, STRAIGHT, 1/4-28				



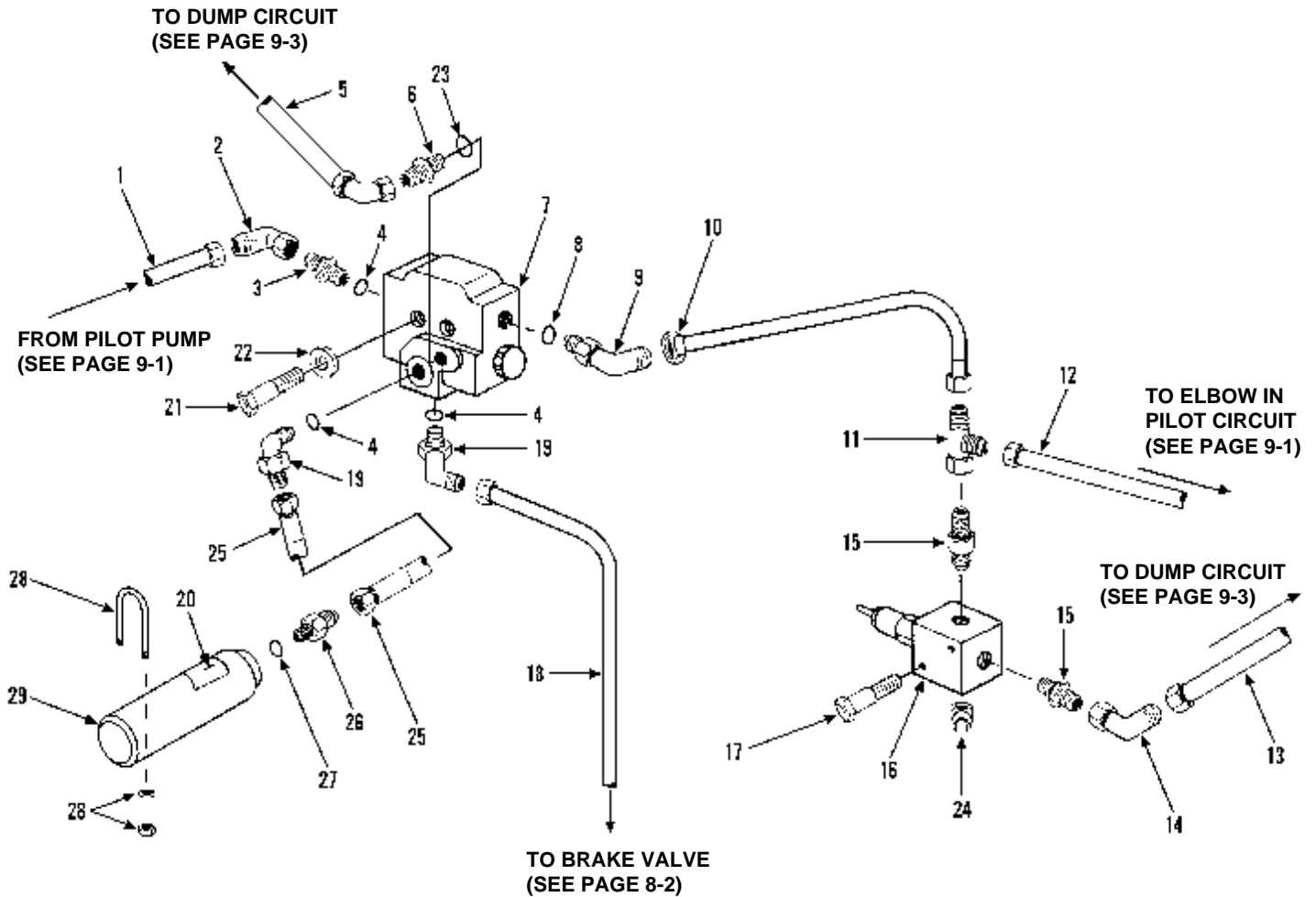
Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
1	9104-3214	1	RETURN SPRING	20	8850-1406	5	HEX JAM NUT, 3/8-24
2	9104-6101	1	BRAKE LEVER WELDMENT	21	8855-1011	2	LOCKWASHER, 3/8
3	8820-1068	1	HEX HD CAPSCREW, 1/2-13X1-3/4, GR5	22	8820-1036	2	HEX HD CAPSCREW, 3/8-16X1-1/4
4	9104-6104	1	PEDAL WELDMENT	23	8882-1004	2	ADJUSTABLE YOKE END, 3/8-24
5	8852-1208	1	HEX NUT, 1/2-13	24	9002-7987	2	SPRING CLEVIS
6	8867-1008	1	LUBE FITTING, STRAIGHT, 1/4-28	25	9104-1522	1	ROD
7	8820-1003	2	HEX HD CPASCREW, 1/4-20X3/4, GR5	26	9103-3096	1	INCHING VALVE
8	8855-1009	2	LOCK WASHER, 1/4		9103-4018	AR	SEAL KIT
9	9104-1431	1	SWITCH MOUNTING BRACKET	27	8821-2228	2	SOCKET HD CAPSCREW, 5/16-18X1-1/4, GR8
10	9103-3439	1	TRANSMISSION DISCONNECT SWITCH	28		Ref	BRAKE VALVE (see page 10-19 for details)
11	8821-1032	2	SOCKET HD CAPSCREW, #10-24, GR8	29	9020-1562	1	PIN
12	8856-1105	2	FLAT WASHER, #10	30	8844-1001	2	SQUARE HD SET SCREW, 1/4-20X1/2 (cup point)
13	8855-1007	2	LOCKWASHER, #10	31	8850-1106	1	HEX JAN MUT, 3/8-16
14	8850-1612	2	HEX NUT, #10-24	32	8320-1073	1	HEX HD CAPSCREW, 3/8-16X4-1/2
15	8668-3480	2	CRIMP-ON CONNECTOR	33	9104-1536	1	PUSH ROD
16	8348-3114	1	MALE CONNECTOR	34	9104-1520	1	BRAKE VALVE RETAINER
17	8825-1021	1	SOCKET HD SHOULDER SCREW, 3/8X1, 5/16-18 THREAD	35	9002-8662	2	WASHER
18	8852-1205	1	HEX LOCKNUT, 5/16-18	36	9020-0290	2	BEARING
19	9104-1521	1	SPECIAL CLEVIS				



Item	Part No.	Qty.	Description Of Part
1	8471-6251	1	HOSE ASSY
2	8866-2108	1	ELBOW, 90 DEGREES (swivel nut)
3	8866-2023	1	CONNECTOR (includes item #4)
4	8859-1205	3	O-RING
5	8471-7489	1	HOSE ASSY
6	8866-2003	1	CONNECTOR (includes item #23)
7	9104-3296	Ref	ACCUMULATOR CHARGE VALVE (see page 10-17 for details)
8	8859-1205	1	O-RING
9	8866-2085	1	ELBOW, 45 DEGREES (includes item #8)
10	9020-7360	1	HOSE ASSY
11	8866-2225	1	SWIVEL NUT RUN TEE, 1/2 TUBE
12	8471-7413	1	HOSE ASSY
13	8471-7418	1	HOSE ASSY
14	8866-2120	1	ELBOW, 45 DEGREES (swivel nut)
15	8874-3003	2	MALE ADAPTER, 3/8 X 1/2 TUBE

Item	Part No.	Qty.	Description Of Part
16	9103-3128	1	RELIEF VALVE ASSY
17	8820-1009	2	HEX HD CAPSCREW 1/4-20 X 2, GR5
18	8471-7317	1	HOSE ASSY
19	8866-2065	2	ELBOW, 90 DEGREES (includes item 4)
20	9103-3312	2	ACCUMULATOR WARNING DECAL
21	8821-1047	2	SOCKET HD CAPSCREW, 1/4-20 X 2-1/4, GR8
22	8855-1105	2	LOCK WASHER, 1/4 (hi-collar)
23	8859-1202	1	O-RING
24	8871-1282	1	SOCKET HD PIPE PLUG, 3/8
25	8471-7610	1	HOSE ASSY
26	8866-2020	1	CONNECTOR (includes item #27)
27	8859-1207	1	O-RING
28	8368-3175	2	CLAMP
29	9105-3380	1	ACCUMULATOR
*	9105-4003	1	ACCUMULATOR (uncharged)

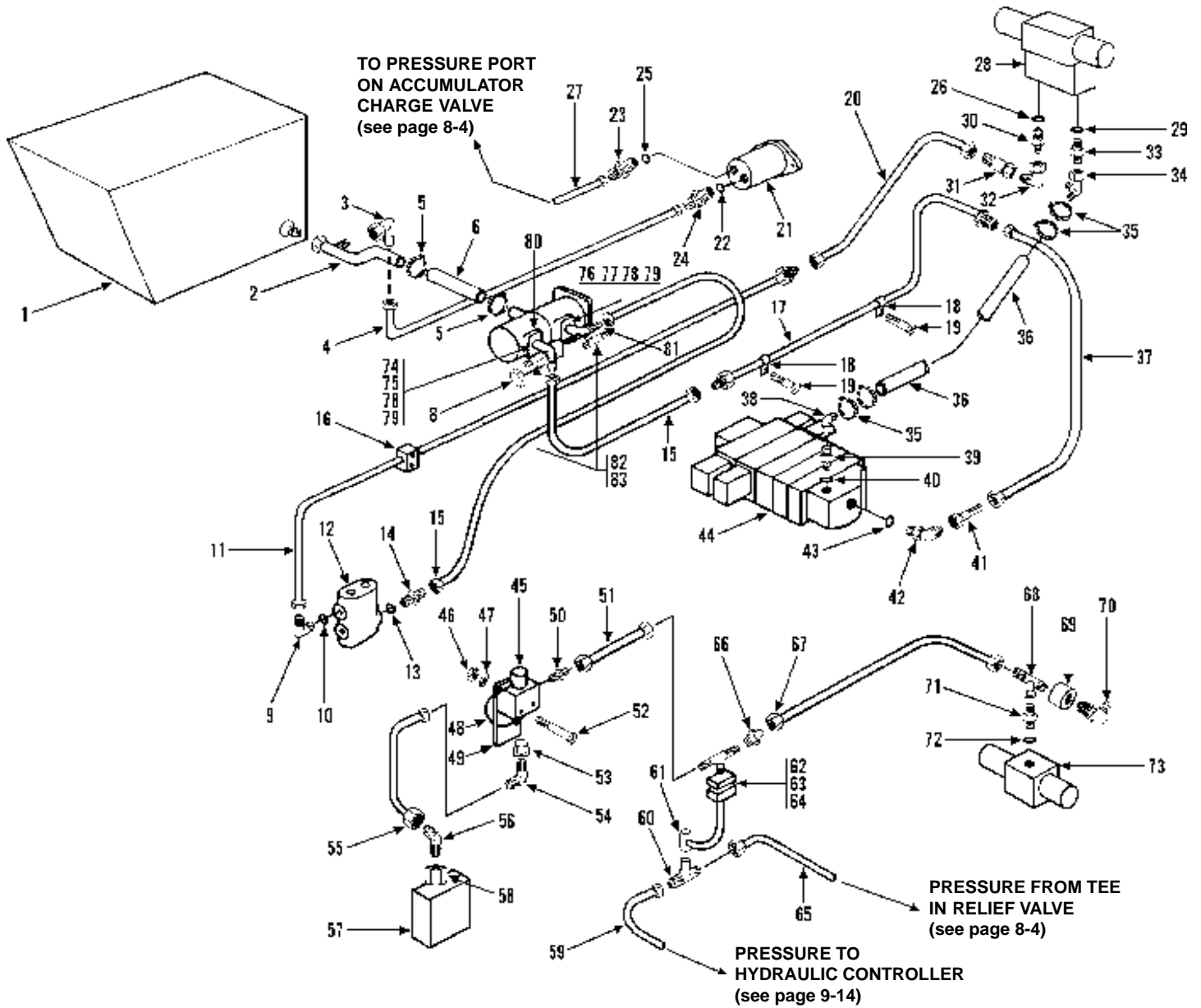
\* Added uncharged accumulator for shipping purposes.



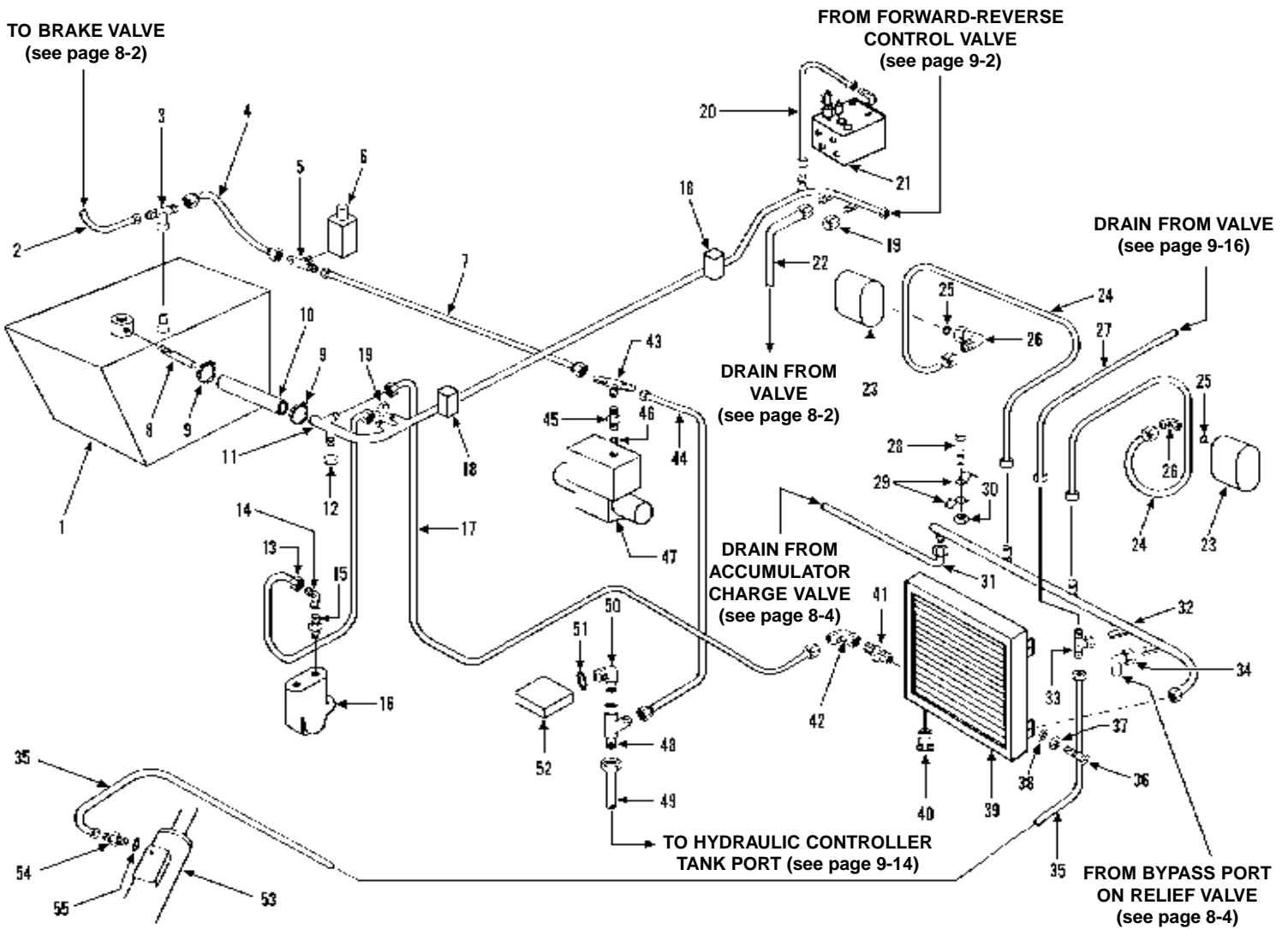
Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
1	8471-6251	1	HOSE ASSY	16	9103-3128	1	RELIEF VALVE ASSY
2	8866-2108	1	ELBOW, 90 DEGREES (swivel nut)	17	8820-1009	2	HEX HD CAPSCREW 1/4-20 X 2, GR5
3	8866-2023	1	CONNECTOR (includes item #4)	18	8471-7317	1	HOSE ASSY
4	8859-1205	3	O-RING	19	8866-2065	2	ELBOW, 90 DEGREES (includes item #4)
5	8471-7489	1	HOSE ASSY	20	9104-3206	1	ACCUMULATOR WARNING DECAL
6	8866-2003	1	CONNECTOR (includes item #23)	21	8821-1047	2	SOCKET HD CAPSCREW, 1/4-20 X 2-1/4, GR8
7	9108-3239	Ref	ACCUMULATOR CHARGE VALVE (see page 10-17 for details)	22	8855-1105	2	LOCK WASHER, 1/4 (hi-collar)
8	8859-1205	1	O-RING	23	8859-1202	1	O-RING
9	8866-2085	1	ELBOW, 45 DEGREES (includes item #8)	24	8871-1282	1	SOCKET HD PIPE PLUG, 3/8
10	9020-7360	1	HOSE ASSY	25	8471-7518	1	HOSE ASSY
11	8866-2240	1	SWIVEL NUT RUN TEE, 1/2 TUBE	26	8866-2020	1	CONNECTOR (includes item #27)
12	8471-7413	1	HOSE ASSY	27	8859-1207	1	O-RING
13	8471-7518	1	HOSE ASSY	28	8368-3175	2	CLAMP
14	8866-2120	1	ELBOW, 45 DEGREES (swivel nut)	29	9105-3380	1	ACCUMULATOR
15	8874-3003	2	MALE ADAPTER, 3/8 X 1/2 TUBE	*	9105-4003	1	ACCUMULATOR (uncharged)

\* Added uncharged accumulator for shipping purposes.

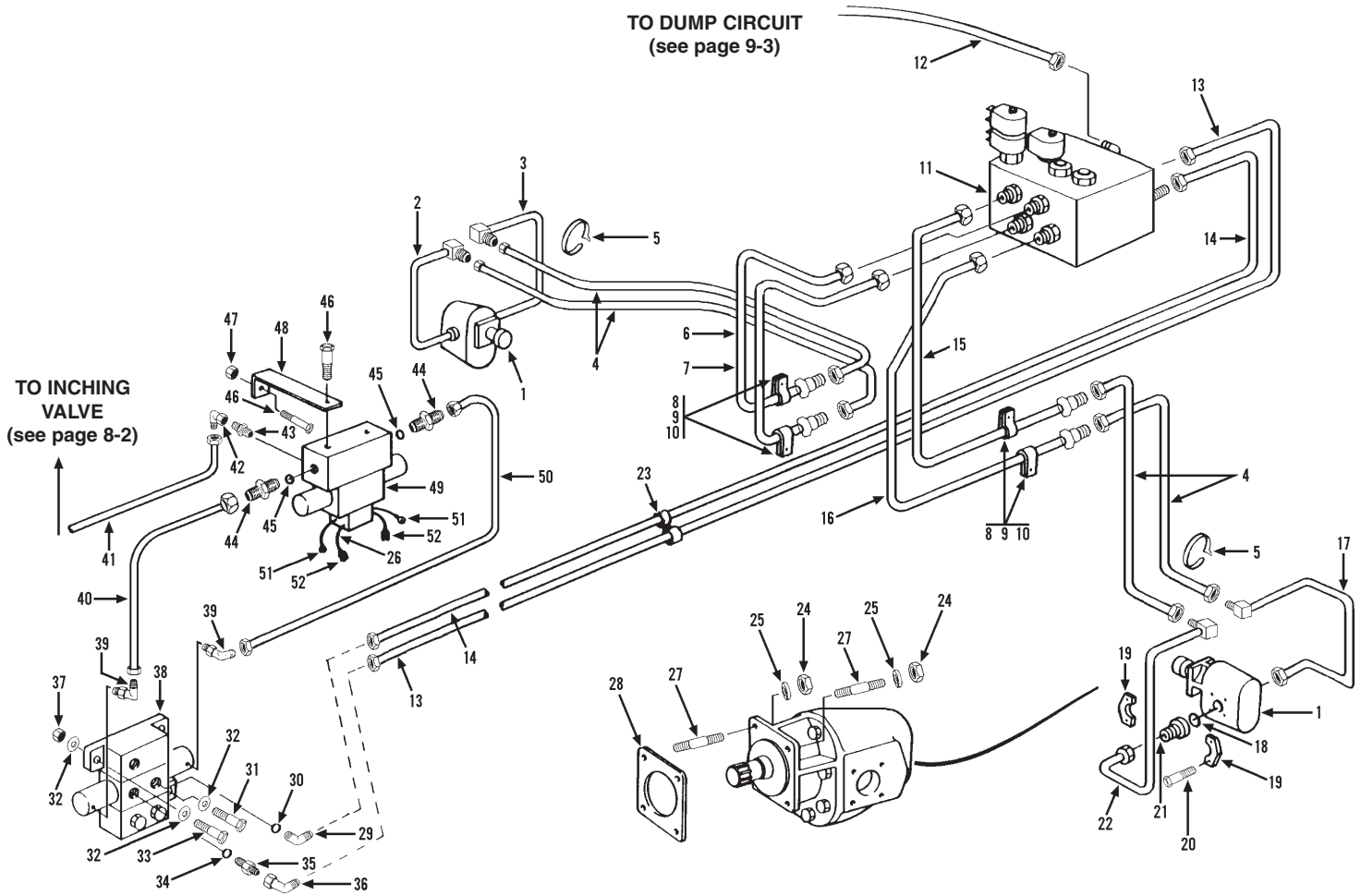




Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
1		Ref	OIL RESERVOIR ASSY (see page 10-26 for details)	41	8325-1262	1	REDUCER
2	9103-3257	1	ELBOW	42	8866-2070	1	ELBOW - 90 DEGREES (includes item 43)
3	8866-2110	1	ELBOW - 90 DEGREES (swivel nut)	43	8859-1210	1	O-RING
4	7713-3875	1	HOSE ASSY	44		Ref	MAIN CONTROL VALVE (see page 10-10 for details)
5	9002-8720	2	HOSE CLAMP	45		Ref	SOLENOID VALVE (see page 10-14 for details)
6	9103-3125	1	SUCTION HOSE	46	8852-1304	2	HEX LOCKNUT, 1/4-20
7		Ref	MAIN HYDRAULIC PUMP (see page 5-1, 5-2 and 10-22 for details)	47	8856-1107	2	FLAT WASHER, 1/4
8	8866-1366	1	HEX CAP, 5/8 TUBE	48	9020-7719	1	JUMPER WIRE
9	8866-2069	1	ELBOW - 90 DEGREES (includes item 10)	49	9104-1557	1	MOUNTING PLATE
10	8859-1209	1	O-RING	50	8874-3003	1	MALE ADAPTER, 3/8X1/2, GR5
11	9020-7690	1	TUBE ASSY	51	8471-7468	1	HOSE ASSY
12		Ref	PRIORITY FLOW CONTROL VALVE (see page 10-11 for details)	52	8820-1009	2	HEX HD CAPSCREW, 1/4-20X2, GR5
13	8859-1209	1	O-RING	53	8871-1381	1	REDUCING BUSHING, 3/8X1/4
14	8866-2010	1	CONNECTOR (includes item 13)	54	8874-3042	1	MALE ELBOW, 90 DEGREES 1/4X5/16 TUBE
15	9002-2045	2	HOSE ASSY	55	8471-6238	1	HOSE ASSY
16	9020-5792	1	CLAMP ASSY	56	8874-3036	1	MALE ELBOW, 45 DEGREES 1/8X5/16 TUBE
17	9103-3069	1	TUBE ASSY	57		Ref	TRANSMISSION CONTROL VALVE (see page 6-10 for details)
18	9020-0481	2	CLAMP	58	9020-7872	1	HYDRAULIC CUP
19	8820-1033	2	HEX HD CAPSCREW, 3/8-16X3/4, GR5	59	8471-7490	1	HOSE ASSY
20	9002-2045	1	HOSE ASSY	60	8866-1306	1	UNION TEE
21		Ref	PILOT PUMP ASSY (see page 10-23 for details)	61	9103-3073	1	TUBE ASSY
22	8859-1206	1	O-RING	62	7713-3499	4	HEX HD CAPSCREW
23	8866-2024	1	CONNECTOR (includes item 22)	63	7713-3498	2	COVER PLATE
24	8866-2027	1	STRAIGHT CONNECTOR (includes item 25)	64	9103-3138	2	CLAMP
25	8859-1207	1	O-RING	65	8471-7413	1	HOSE ASSY
26	8859-1210	1	O-RING	66	9103-3100	1	INLINE STRAINER
27	8471-6251	1	HOSE ASSY	67	7713-3147	1	HOSE ASSY
28		Ref	FORWARD-REVERSE CONTROL VALVE (see page 10-12 for details)	68	8866-2225	1	SWIVEL NUT RUN TEE
29	8859-1210	1	O-RING	69	7724-1003	1	ADAPTER
30	8866-2028	1	CONNECTOR (includes item 26)	70	7713-3089	1	MINI-CHECK COUPLING
31	8866-2124	1	ELBOW - 45 DEGREES (swivel nut)	71	8866-2026	1	CONNECTER (includes item 75)
32	8866-2110	1	ELBOW - 90 DEGREES (swivel nut)	72	8859-1204	1	O-RING
33	8866-2011	1	CONNECTOR (includes item 29)	73		Ref	DIRECTIONAL CONTROL VALVE (see page 10-27 for details)
34	9103-3142	1	ELBOW	74	8471-1369	2	SPLIT FLANGE CLAMP
35	9002-8482	4	HOSE CLAMP	75	8503-1525	1	SQUARE O-RING -12
36	9104-3153	1	HOSE	76	8471-1333	2	SPLIT FLANGE CLAMP
37	9002-2045	1	HOSE ASSY	77	8366-1304	1	SQUARE O-RING - 16
38	9020-5783	1	TUBE ASSY	78	8820-1036	8	HEX HD CAPSCREW, 3/8-16X1-1/4, GR5
39	8866-2011	1	CONNECTOR (includes item 40)	79	8855-1011	8	LOCKWASHER, 3/4X.141X.094
40	8859-1210	1	O-RING	80	9105-3345	1	TUBE ASSY
				81	9105-3344	1	TUBE ASSY
				82	7713-3089	2	MINI-CHECK COUPLING (includes item 83)
				83	8859-1204	2	O-RING



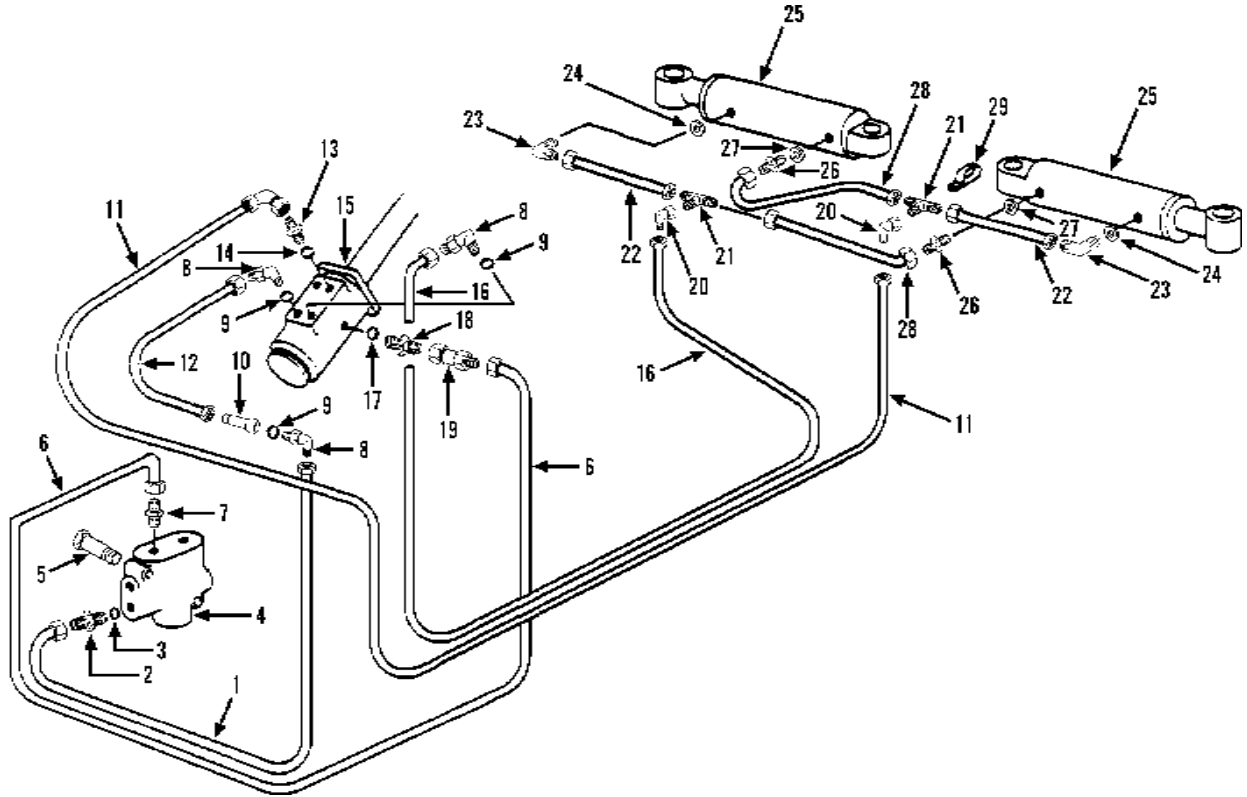
Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
1		Ref	OIL RESEVOIR ASSY (see page 10-26 for details)	27	8471-7923	1	HOSE ASSY
2	8471-7842	1	HOSE ASSY	28	8820-1035	1	HEX HD CAPSCREW, 3/8-16X1, GR5
3	8866-2225	1	SWIVEL NUT BRANCH TEE	29	9104-3147	2	SUPPORT CLAMP
4	9020-7599	1	HOSE ASSY	30	8852-1006	1	HEX LOCKNUT, 3/8-16
5	8866-1245	1	MALE OUTLET TEE, 3/8X1/2 TUBE	31	8471-7489	1	HOSE ASSY
6	9020-6739	1	SOLENOID VALVE ASSY (see page 10-14 for details)	32	9104-3145	1	DRAIN MANIFOLD
7	8471-7520	1	HOSE ASSY	33	8866-2225	1	SWIVEL NUT BRANCH TEE
8	9020-5776	1	ADAPTER	34	8471-7518	1	HOSE ASSY
9	9002-8482	2	HOSE CLAMP	35	8471-7521	1	HOSE ASSY
10	9020-7365	1	HOSE	36	8820-1031	4	HEX HD CAPSCREW, 3/8-16X1/2, GR5
11	9104-3144	1	TUBE ASSY	37	8855-1011	4	LOCKWASHER, 3/8
12	8866-1365	1	HEX CAP, 1/2 TUBE	38	8856-1109	4	FLAT WASHER, 3/8
13	7713-3447	1	HOSE ASSY	39	9103-3050	1	OIL COOLER ASSY
14	8866-2105	1	ELBOW - 90 DEGREES (swivel nut)	40	8452-1056	1	DRAIN VALVE
15	8366-1316	1	CONNECTOR	41	8692-3006	1	ADAPTER
16		Ref	PRIORITY FLOW CONTROL VALVE (see page 10-11 for details)	42	8866-2107	1	ELBOW - 90 DEGREES (swivel nut)
17	8471-7797	1	HOSE ASSY	43	8866-2224	1	SWIVEL NUT RUNTEE
18	9020-5793	2	CLAMP ASSY	44	8471-7466	1	HOSE ASSY
19	8866-1364	2	HEX CAP, 3/8 TUBE	45	8866-2005	1	CONNECTOR (includes item 46)
20	8471-7900	1	HOSE ASSY	46	8859-1204	1	O-RING
21		Ref	SERIES - PARALLEL VALVE (see page 10-13 for details)	47		Ref	DIRECTIONAL CONTROL VALVE (see page 10-21 for details)
22	7713-3167	1	HOSE ASSY	48	8866-2239	1	SWIVEL NUT RUN TEE
23		Ref	REAR DRIVE MOTOR (see page 10-24 for details)	49	8471-7341	1	HOSE ASSY
24	8471-7526	2	HOSE ASSY	50	8866-2064	1	ELBOW - 90 DEGREES (includes item 51)
25	8859-1204	2	O-RING	51	8859-1204	1	O-RING
26	8866-2064	2	ELBOW - 90 DEGREES (includes item 25)	52		Ref	INCHING VALVE (see page 8-2 and 8-3 for details)
				53		Ref	ORBITROL (see page 7-4 for details)
				54	8866-2006	1	CONNECTOR (includes item 55)
				55	8859-1205	1	O-RING



**GRADALL®**  
**MATERIAL HANDLER**  
**544B**

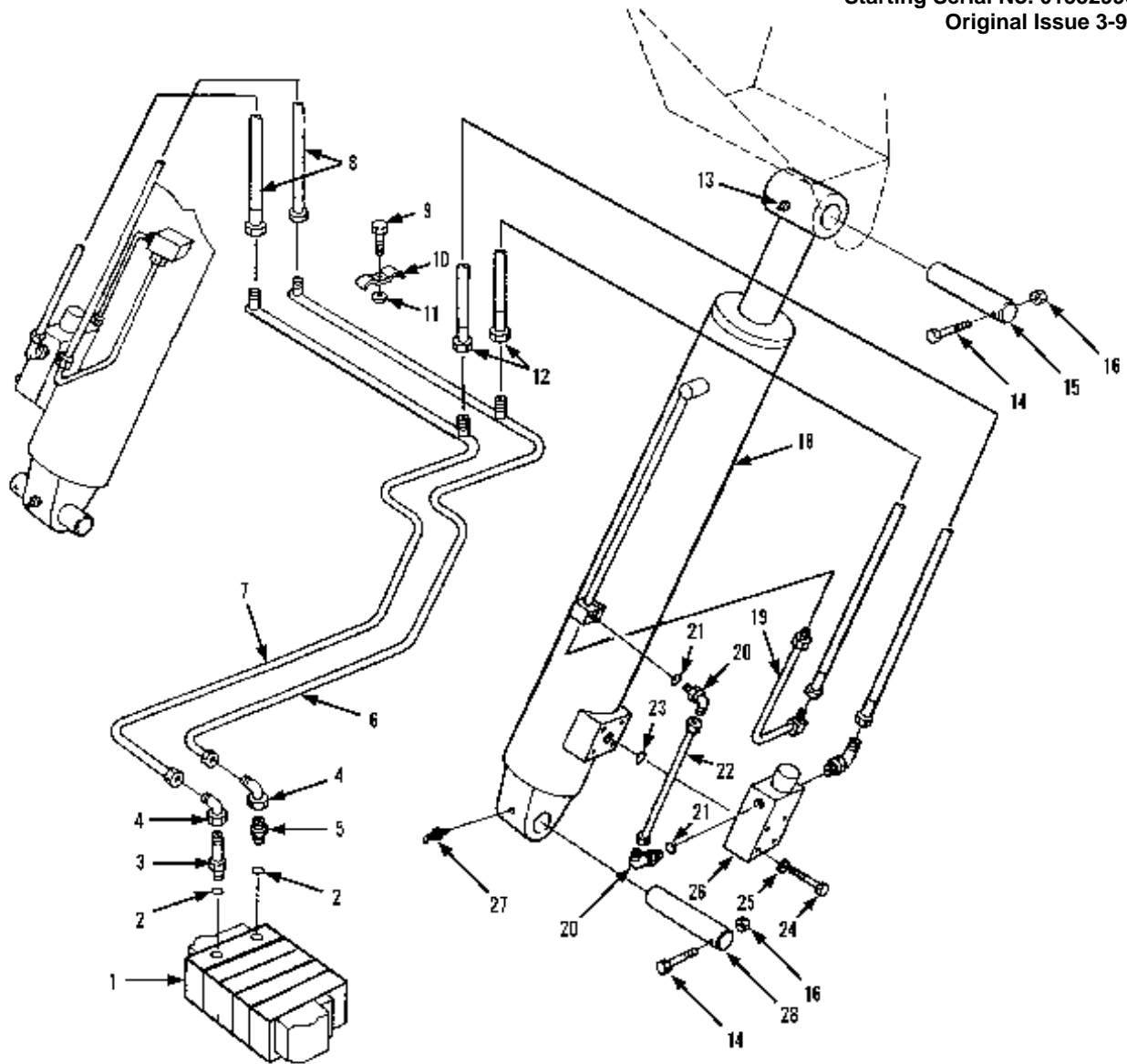
**HYDRAULIC CIRCUITS**  
**Rear Drive**  
**Starting Serial No. 0155299S**  
**Original Issue 3-90**  
**Revised 6-12-06**

Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
1		Ref	REAR DRIVE MOTOR ASSY (see page 10-24 for details)	27	9103-3481	8	STUD
2	9104-3113	1	TUBE ASSY	28	8568-1076	2	GASKET
3	9104-3116	1	TUBE ASSY	29	8866-2069	1	ELBOW - 90 DEGREES (includes item 30 )
4	9020-7290	4	HOSE ASSY	30	8859-1209	1	O-RING
5	9002-7187	AR	NYLON TY-RAP	31	8820-1070	1	HEX HD CAPSCREW, 1/2-13X2-1/4, GR5
6	9104-3308	1	TUBE ASSY	32	8856-1111	6	FLAT WASHER, 1/2
7	9104-3309	1	TUBE ASSY	33	8820-1068	2	HEX HD CAPSCREW, 1/2-13X1-3/4, GR5
8	9020-2343	4	TUBE CLAMP	34	8859-1209	1	O-RING
9	8820-1033	4	HEX HD CAPSCREW, 3/8-16X3/4, GR5	35	8866-2010	1	CONNECTOR (includes item 34)
10	8856-1109	4	FLAT WASHER, 3/8	36	8866-2110	1	ELBOW - 90 DEGREES (swivel nut)
11		Ref	SERIES PARALLEL VALVE (see page 10-3 for details)	37	8850-1008	3	HEX NUT, 1/2-13
12	8471-7900	1	HOSE ASSY	38		Ref	FORWARD-REVERSE VALVE (see page 10-12 for details)
13	9104-3312	1	TUBE ASSY	39	9002-7906	2	ELBOW - 90 DEGREES
14	9104-3311	1	TUBE ASSY	40	8471-7464	1	HOSE ASSY
15	9104-3307	1	TUBE ASSY	41	7713-3342	1	HOSE ASSY
16	9104-3310	1	TUBE ASSY	42	8866-2105	1	ELBOW - 90 DEGREES (swivel nut)
17	9104-3115	1	TUBE ASSY	43	8366-1316	1	CONNECTOR
* 18	9002-8225	4	O-RING	44	8866-2003	2	CONNECTOR (includes item 45)
19	8471-1342	8	FLANGE HALF	45	8859-1202	2	O-RING
20	8820-1067	16	HEX HD CAPSCREW, 1/2-13X1-1/2, GR5	46	8820-1005	4	HEX HD CAPSCREW, 1/4-20X1, GR5
21	9020-7372	4	ADAPTER	47	8850-1004	4	HEX NUT, 1/4-20
22	9104-3114	1	TUBE ASSY	48	9103-1086	2	MOUNTING BRACKET
23	9020-0482	1	TUBE CLAMP	49		Ref	DIRECTIONAL CONTROL VALVE (see page 10-21 for details)
24	8850-1008	8	HEX NUT, 1/2-13	50	9002-7485	1	HOSE ASSY
25	9002-7471	8	HARD WASHER	51	8698-3191	2	TERMINAL, 1/4 SCREW SIZE
26		AR	WIRE, 14 GA. BLACK, 40" LONG	52	9002-8959	2	FEMALE TERMINAL



Item	Part No.	Qty.	Description Of Part
1	8471-7550	1	HOSE ASSY
2	8866-2007	1	CONNECTOR (includes item 3)
3	8859-1206	1	O-RING
4		Ref	PRIORITY FLOW CONTROL VALVE (see page 10-11 for details)
5	8820-1028	2	HEX HD CAPSCREW, 5/16-18X3, GR5
6	8471-7547	1	HOSE ASSY
7	8366-1316	1	CONNECTOR
8	8866-2065	3	ELBOW - 90 DEGREES (includes item 9)
9	8859-1205	3	O-RING
10	9020-2926	1	CHECK VALVE
11	8471-7548	1	HOSE ASSY
12	9020-6003	1	TUBE ASSY
13	8866-2006	1	CONNECTOR (includes item 14)
14	8859-1205	1	O-RING

Item	Part No.	Qty.	Description Of Part
15	9060-1762	Ref	ORBITROL (see page 7-4 for details)
16	8471-7882	1	HOSE ASSY
17	8859-1204	1	O-RING
18	8866-2035	1	CONNECTOR (includes item 17)
19	8656-1131	1	REDUCER
20	8866-2106	2	ELBOW - 90 DEGREES (swivel nut)
21	8866-1306	2	UNION TEE
22	8471-7525	2	HOSE ASSY
23	8866-2064	2	ELBOW - 90 DEGREES (includes item 24)
24	8859-1204	2	O-RING
25		Ref	STEERING CYLINDER (see page 10-7 for details)
26	8866-2005	2	CONNECTOR (includes item 27)
27	8859-1204	2	O-RING
28	8471-7546	2	HOSE ASSY
29	8584-1150	1	HOSE CLAMP

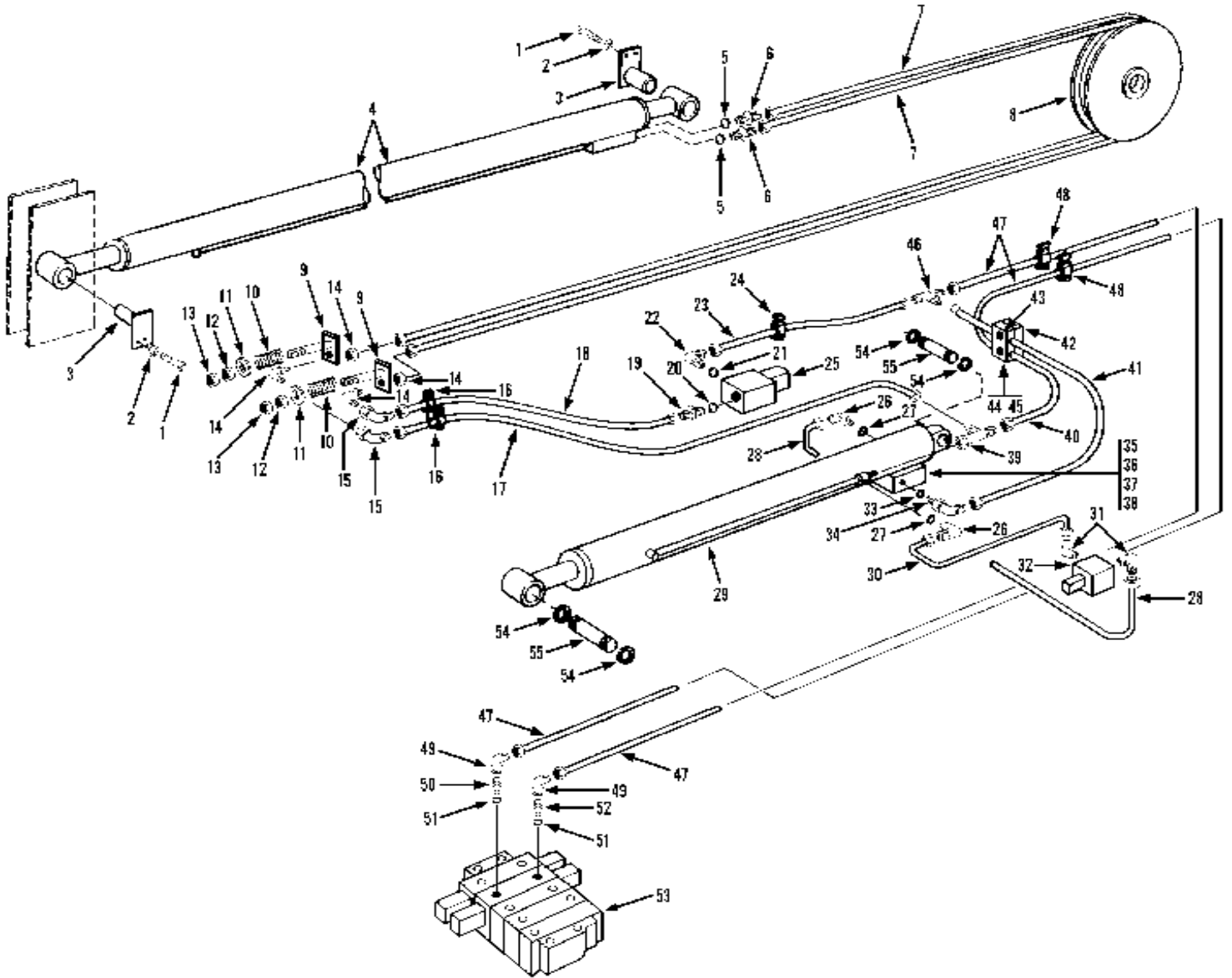


Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
1		Ref	MAIN CONTROL VALVE (see page 10-10 for details)	16	8850-1010	4	HEX NUT, 5/8-11
2	8859-1207	2	O-RING	18		Ref	LIFT CYLINDER ASSY (see page 10-1 for details)
3	8866-2038	1	CONNECTOR (includes item 2)	19	9104-3070	2	TUBE ASSY
4	8866-2108	2	ELBOW - 90 DEGREES (swivel nut)	20	8866-2062	4	ELBOW - 90 DEGREES (includes item 21)
5	8866-2008	1	CONNECTOR (includes item 2)	21	8859-1202	4	O-RING
6	9104-3095	1	TUBE ASSY	22	9104-3069	2	TUBE ASSY
7	9104-3096	1	TUBE ASSY	23	8859-1102	2	O-RING
8	8471-6448	2	HOSE ASSY	24	8820-1071	8	HEX HD CAPSCREW, 1/2-13X2-1/2, GR5
9	8820-1035	2	HEX HD CAPSCREW, 3/8-16X1, GR5	25	8855-1013	8	LOCKWASHER, 1/2
10	9020-0483	2	TUBE CLAMP	26	9104-3232	2	COUNTERBALANCE VALVE ASSY (see page 10-18 for details)
11	8850-1006	2	HEX NUT, 3/8-16	27	8867-1027	2	LUBE FITTING, 90 DEGREES, 1/4-28
12	8471-7799	2	HOSE ASSY	28	9040-2875	2	PIN
13	8867-1008	2	LUBE FITTING, STRAIGHT, 1/4-28				
14	8820-1104	4	HEX HD CAPSCREW, 5/8-11X3-3/4, GR5				
15	9020-6892	2	PIN				



**GRADALL®**  
**MATERIAL HANDLER**  
**544B**

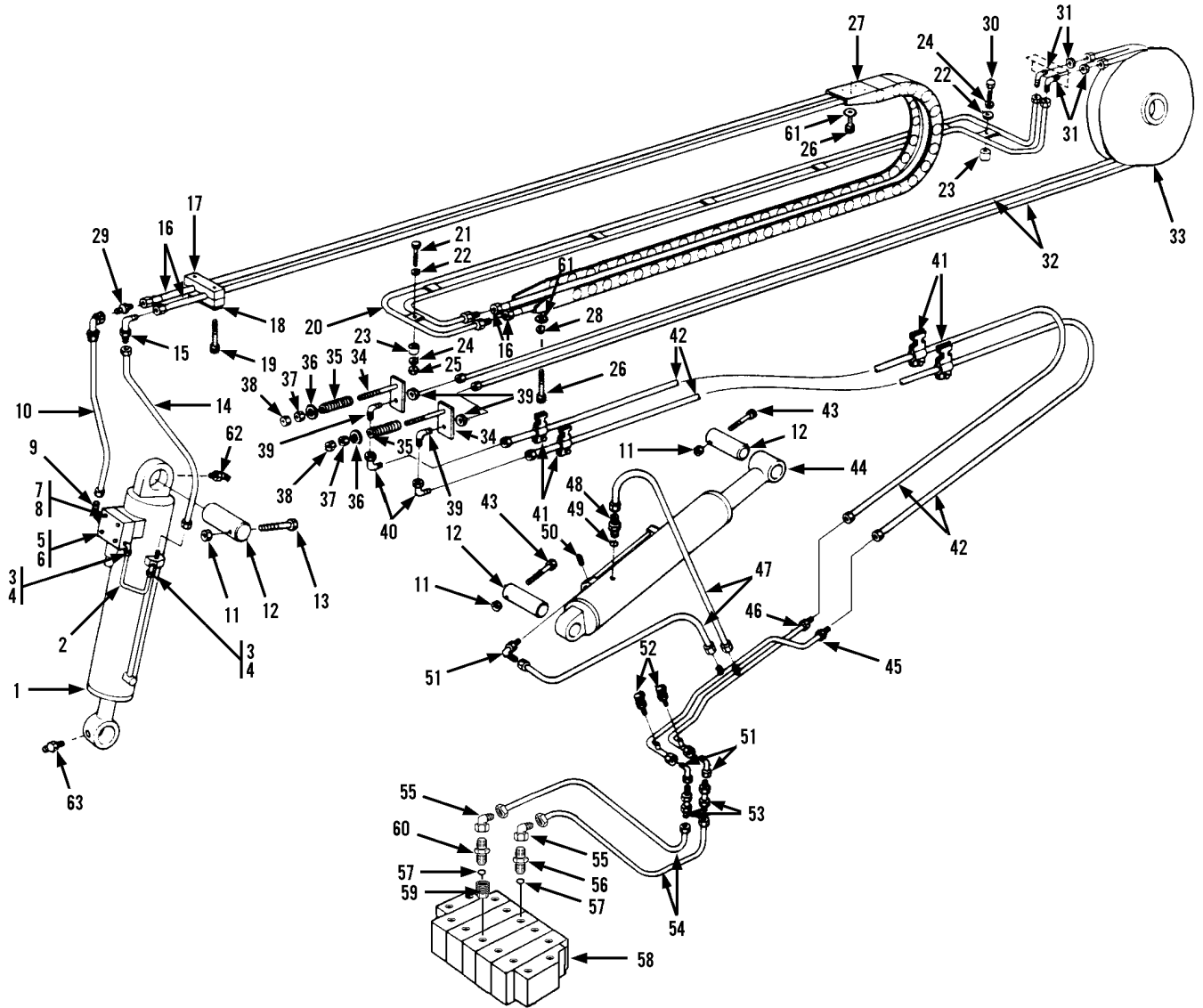
**HYDRAULIC CIRCUITS**  
**Crowd Cylinder**  
Starting Serial No. 0155299S  
Original Issue 3-90  
Revised 1-91



**GRADALL®**  
**MATERIAL HANDLER**  
**544B**

**HYDRAULIC CIRCUITS**  
**Crowd Cylinder**  
**Starting Serial No. 0155299S**  
**Original Issue 3-90**  
**Revised 1-91**

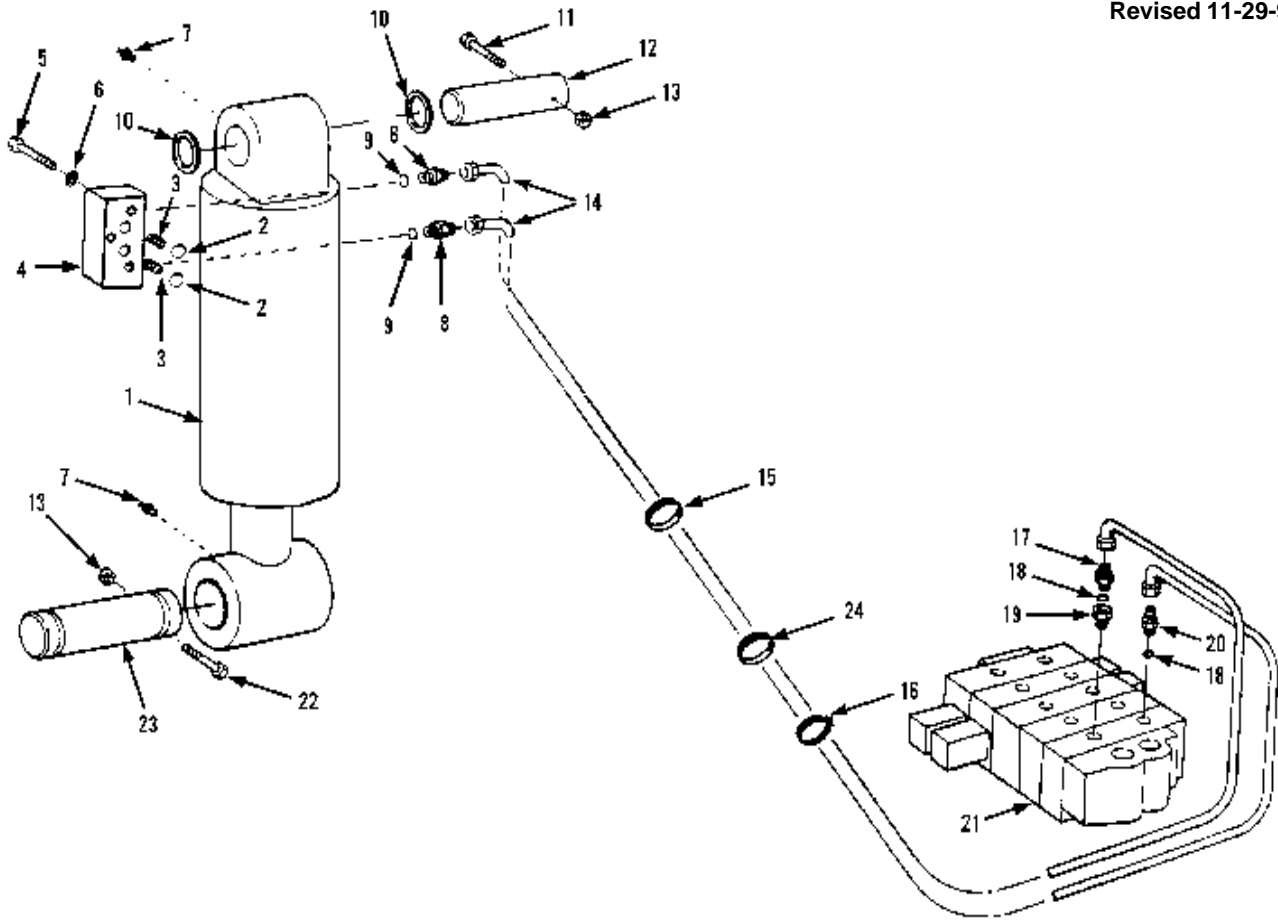
Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
1	8820-1035	4	HEX HD CAPSCREW, 3/8-16X1, GR5	28	9104-3112	1	TUBE ASSY
2	8855-1011	4	LOCKWASHER, 3/8	29		Ref	CROWD CYLINDER ASSY (see page 10-2 for details)
3	9104-6053	2	PIN	30	9104-3110	1	TUBE ASSY
4		Ref	EXTENSION CROWD CYLINDER ASSY (see page 10-3 for details)	31	9002-7906	2	ELBOW - 90 DEGREES
5	8859-1205	2	O-RING	32		Ref	SOLENOID VALVE ASSY (see page 10-27 for details)
6	8866-2006	2	CONNECTOR (includes item 5)	33	8866-2067	1	ELBOW - 9 DEGREES (includes item 34)
7	8471-7495	2	HOSE ASSY	34	8859-1207	1	O-RING
8		Ref	PUSH BEEM & CABLES (see page 3-5 for details)	35	9104-3232	1	COUNTERBALNCE VALVE ASSY
9	9040-3249	2	HOSE TAKE-UP WELDMENT	36	8859-1106	1	O-RING
10	9020-0313	2	SPRING	37	8820-1072	4	HEX HD CAPSCREW, 1/2-13X2-3/4, GR5
11	9020-7041	2	SPRING RETAINER	38	8856-1111	4	FLAT WASHER, 1/2
12	8850-1008	2	HEX NUT, 1/2-13	39	8866-2242	1	SWIVEL NUT RUN TEE
13	8850-1108	2	HEAVY HEX JAM NUT, 1/2-13	40	9104-3160	1	TUBE ASSY
14	9002-7180	2	BULKHEAD FITTING, 90 DEGREES	41	9104-3111	1	TUBE ASSY
15	8866-2106	2	ELBOW - 90 DEGREES (swivel nut)	42	9020-0482	1	TUBE CLAMP
16	9105-3413	2	CUSHION CLAMP	43	9104-1060	1	MOUNTING PLATE
17	8471-7500	1	HOSE ASSY	44	8820-1035	1	HEX HD CAPSCREW, 3/8-16X1, GR5
18	8471-7501	1	HOSE ASSY	45	8855-1011	1	LOCKWASHER, 3/8
19	8866-2020	1	CONNECTOR (includes item 20)	46	8866-1308	1	UNION TEE, 3/4 TUBE
20	8859-1207	1	O-RING	47	8471-7608	2	HOSE ASSY
21	8866-2067	1	ELBOW - 90 DEGREES (includes o-ring)	48	9020-5792	2	CUSHION CLAMP
22	8859-1207	1	O-RING	49	8866-2108	2	ELBOW - 90 DEGREES (swivel nut)
23	7713-3440	1	HOSE ASSY	50	8866-2038	1	CONNECTOR (includes item 51)
24	9020-5792	1	CUSHION CLAMP	51	8859-1207	2	O-RING
25		Ref	SOLENOID VALVE ASSY (see page 10-28 for details)	52	8866-2008	1	CONNECTOR (includes item 51)
26	8866-2062	2	ELBOW - 90 DEGREES (includes item 27)	53		Ref	MAIN CONTROL VALVE (see page 10-10 for details)
27	8859-1202	2	O-RING	54	9002-8935	2	RETAINING RING
				55	9020-7352	1	PIN



Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
1		Ref	TILT CYLINDER ASSY (see page 10-4 for details)	*31	9002-7180	2	BULKHEAD ELBOW, 90 DEGREES, 1/2 TUBE
2	9104-3174	1	TUBE ASSY	32	8471-7494	2	HOSE ASSY
3	8866-2062	2	ELBOW - 90 DEGREES (includes item 4)	33		Ref	PUSH BEAM & CABLES (see page 3-5 for details)
4	8859-1202	2	O-RING	34	9040-3249	2	HOSE TAKE-UP WELDMENT
5	9104-3232	1	COUNTERBALANCE VALVE	35	9020-0313	2	SPRING
6	8859-1106	1	O-RING	36	9020-7041	2	SPRING RETAINER
7	8820-1071	4	HEX HD CAPSCREW, 1/2-13X2-1/2, GR5 (lubricate & torque to 68-78 ft. lbs.)	37	8850-1008	2	HEX NUT, 1/2-13
8	8855-1013	4	LOCKWASHER, 1/2	38	8850-1108	2	HEAVY HEX JAM NUT, 1/2-13
9	9104-3157	1	ELBOW - 90 DEGREES	39	9002-7180	2	BULKHEAD FITTING, 90 DEGREES
10	8471-7588	1	HOSE ASSY	40	8866-2106	2	ELBOW, 90 DEGREES (swivel nut)
11	8852-1010	3	HEX LOCKNUT, 5/8-11	41	9105-3413	12	CUSHION CLAMP
12	9020-6892	3	PIN	42	8471-7503	2	HOSE ASSY
13	8320-1044	1	HEX HD CAPSCREW	43	8820-1104	2	HEX HD CAPSCREW, 5/8-11X3-3/4, GR5
14	8471-7487	1	HOSE ASSY	44		Ref	COMPENSATING CYLINDER ASSY (see page 10-5 for details)
15	8866-1206	1	UNION ELBOW, 90 DEGREES, 1/2 TUBE	45	9020-7387	1	TUBE ASSY
16	8471-7486	2	HOSE ASSY	46	9020-7386	1	TUBE ASSY
17	7713-3136	1	CLAMP SET	47	9002-2043	2	HOSE ASSY
18	7713-3137	1	COVER PLATE	48	8866-2021	1	CONNECTOR (includes item 49)
19	8820-1023	1	HEX HD CAPSCREW, 5/16-18X1-3/4, GR5	49	8859-1205	1	O-RING
20	9104-3098	1	TUBE ASSY	50	8871-1280	1	SOCKET HD PIPE PLUG, 1/8-27
21	8820-1038	2	HEX HD CAPSCREW, 3/8-16X1-3/4, GR5	51	8866-2107	3	ELBOW - 90 DEGREES (swivel nut)
22	8856-1109	4	FLAT WASHER, 3/8	*52	9103-3032	2	MINI-CHECK COUPLING
23	9104-1226	4	SPACER	53	9002-9939	2	BULKHEAD UNION
24	8855-1011	4	LOCKWASHER, 3/8	54	9002-2043	2	HOSE ASSY
25	8850-1006	2	HEX NUT, 3/8-16	55	8866-2107	2	ELBOW - 90 DEGREES (swivel nut)
26	8820-1003	8	HEX HD CAPSCREW, 1/4-20X3/4, GR5 (lubricate & torque to 9-12 ft. lbs.)	56	8866-2022	1	CONNECTOR (includes item 57)
27	9104-3093	1	HOSE CARRIER	57	8859-1207	2	O-RING
28	8855-1009	4	LOCKWASHER, 1/4	58		Ref	MAIN CONTROL VALVE (see page 10-10 for details)
29	8866-1065	4	UNION, 1/2 TUBE	59	8692-3006	1	REDUCER EXPANDER FITTING)
30	8820-1037	2	HEX HD CAPSCREW, 3/8-16X1-1/2, GR5	60	8866-2008	1	CONNECTOR (includes item 57)
				61	8856-1107	8	FLAT WASHER, 1/4
				62	8867-1027	1	LUBE FITTING, 45 DEGREES, 1/4-28
				63	8867-1008	1	LUBE FITTING, STRAIGHT, 1/4-28

**GRADALL®**  
**MATERIAL HANDLER**  
**544B**

**HYDRAULIC CIRCUITS**  
**Sway Cylinder**  
 Starting Serial No. 0155299S  
 Original Issue 3-90  
 Revised 11-29-93

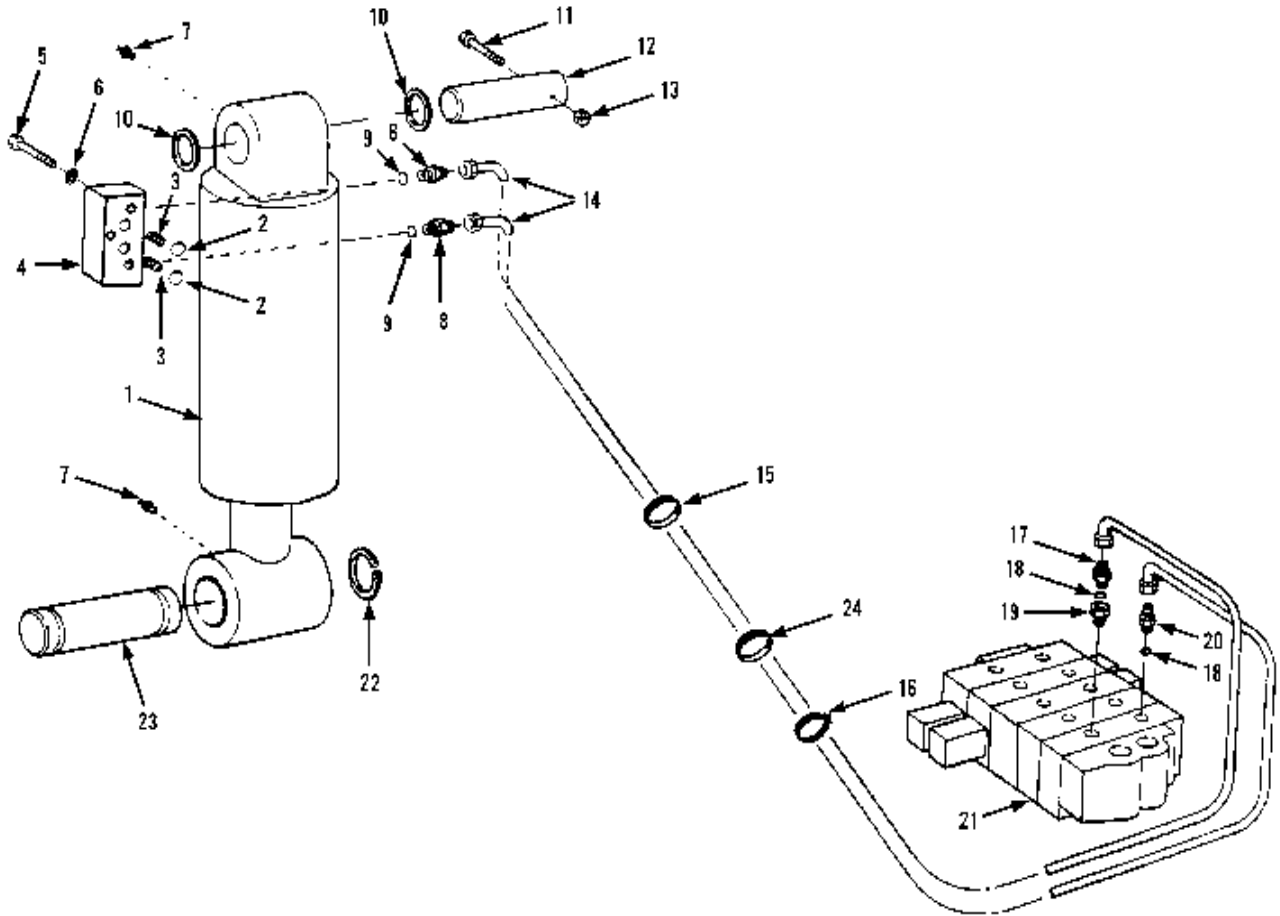


Item	Part No.	Qty.	Description Of Part
1		Ref	SWAY CYLINDER (see page 10-6 for details)
2	8859-1012	2	O-RING
3	9104-1387	2	ORIFICE PLUG
4		1	DUAL P.O. CHECK VALVE (includes item 2)(see 10-31 for details)
5	8820-1041	3	HEX HD CAPSCREW, 3/8-16X2-1/2, GR5
6	8855-1011	3	LOCK WASHER, 3/8
7	8867-1008	2	LUBE FITTING, STRAIGHT, 1/4-28
8	8866-2006	2	CONNECTOR (includes item 9)
9	8859-1205	2	O-RING
10	9020-7727	AR	SHIM (20 gauge)
	9020-7728	AR	SHIM (16 gauge)
	9020-7729	AR	SHIM (10 gauge)
	9020-7730	AR	SHIM (1/4" thick)

Item	Part No.	Qty.	Description Of Part
11	8820-1104	1	HEX HD CAPSCREW, 5/8-11X3-3/4, GR5
12	9040-2876	1	PIN
13	8850-1010	2	HEX NUT, 5/8-11
14	9103-3224	2	HOSE ASSY
15	9104-3227	1	GROMMET
16	9002-7187	AR	NYLON HOSE TIE
17	8866-2008	1	CONNECTOR (includes item 18)
18	8859-1207	2	O-RING
19	8365-1133	1	REDUCER
20	8866-2020	1	CONNECTOR (includes item 18)
21		Ref	MAIN CONTROL VALVE ASSY (see page 10-10 for details)
22	8820-1106	1	HEX HD CAPSCREW, 5/8-11X4-1/2, GR5
23	9020-6847	1	PIN
24	9104-3227	1	GROMMET

**GRADALL®**  
**MATERIAL HANDLER**  
**544B**

**HYDRAULIC CIRCUITS**  
**Sway Cylinder**  
 Starting Serial No. 0155299S  
 Original Issue 7-90  
 Revised 11-29-93

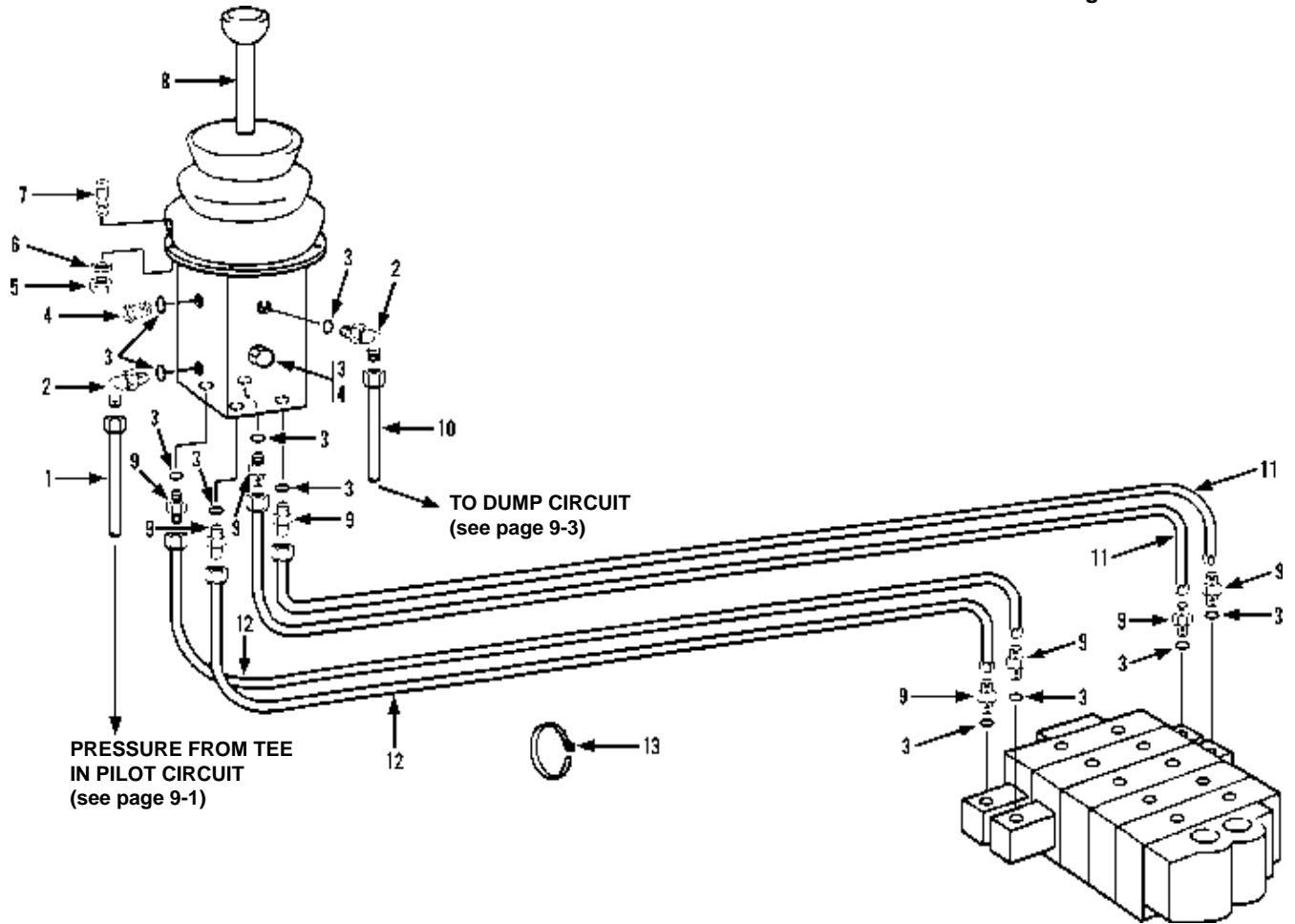


Item	Part No.	Qty.	Description Of Part
1		Ref	SWAY CYLINDER (see page 10-6 for details)
2	8859-1012	2	O-RING
3	9104-1387	2	ORIFICE PLUG
4		1	DUAL P.O. CHECK VALVE (includes item 2)(see 10-31 for details)
5	8820-1041	3	HEX HD CAPSCREW, 3/8-16X2-1/2, GR5
6	8855-1011	3	LOCK WASHER, 3/8
7	8867-1008	2	LUBE FITTING, STRAIGHT, 1/4-28
8	8866-2006	2	CONNECTOR (includes item 9)
9	8859-1205	2	O-RING
10	9020-7727	AR	SHIM (20 gauge)
	9020-7728	AR	SHIM (16 gauge)
	9020-7729	AR	SHIM (10 gauge)
	9020-7730	AR	SHIM (1/4" thick)

Item	Part No.	Qty.	Description Of Part
11	8820-1104	1	HEX HD CAPSCREW, 5/8-11X3-3/4, GR5
12	9040-2876	1	PIN
13	8850-1010	2	HEX NUT, 5/8-11
14	9103-3224	2	HOSE ASSY
15	9104-3227	1	GROMMET
16	9002-7187	AR	NYLON HOSE TIE
17	8866-2008	1	CONNECTOR (includes item 18)
18	8859-1207	2	O-RING
19	8365-1133	1	REDUCER
20	8866-2020	1	CONNECTOR (includes item 18)
21		Ref	MAIN CONTROL VALVE ASSY (see page 10-10 for details)
22	9002-8935	1	RETAINING RING
23	9020-7352	1	PIN
24	9104-3227	1	GROMMET

**GRADALL®**  
**MATERIAL HANDLER**  
**544B**

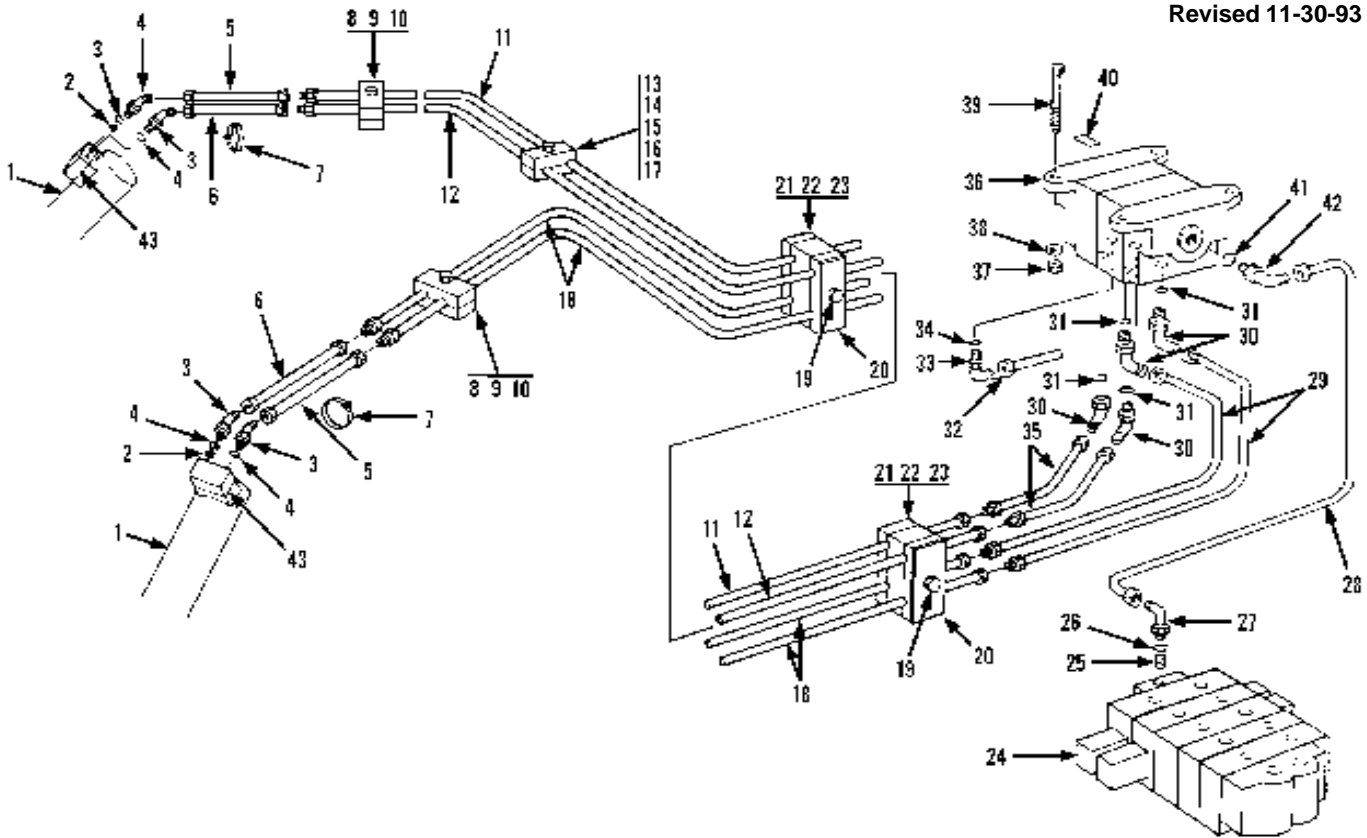
**HYDRAULIC CIRCUITS**  
**Joystick**  
 Starting Serial No. 0155299S  
 Original Issue 3-90



Item	Part No.	Qty.	Description Of Part
1	8471-7490	1	HOSE ASSY
2	8866-2064	2	ELBOW - 90 DEGREES (includes item 3)
3	8859-1204	12	O-RING
4	8866-2174	2	HEX HD PLUG (includes item 3)
5	8850-1004	4	HEX NUT, 1/4-20
6	8855-1009	4	LOCKWASHER, 1/4
7	8820-1006	4	HEX HD CAPSCREW, 1/4-20X1-1/4, GR5
8		Ref	HYDRAULIC CONTROLLER ASSY (see page 10-29 for details)
9	8866-2005	8	CONNECTOR (includes item 3)
10	7713-3167	1	HOSE ASSY
11	8471-7458	2	HOSE ASSY
12	8471-7519	2	HOSE ASSY
13	9002-7187	7	NYLON TY-RAP
14		Ref	MAIN CONTROL VALVE ASSY (see page 10-10 for details)

**GRADALL®**  
**MATERIAL HANDLER**  
**544B**

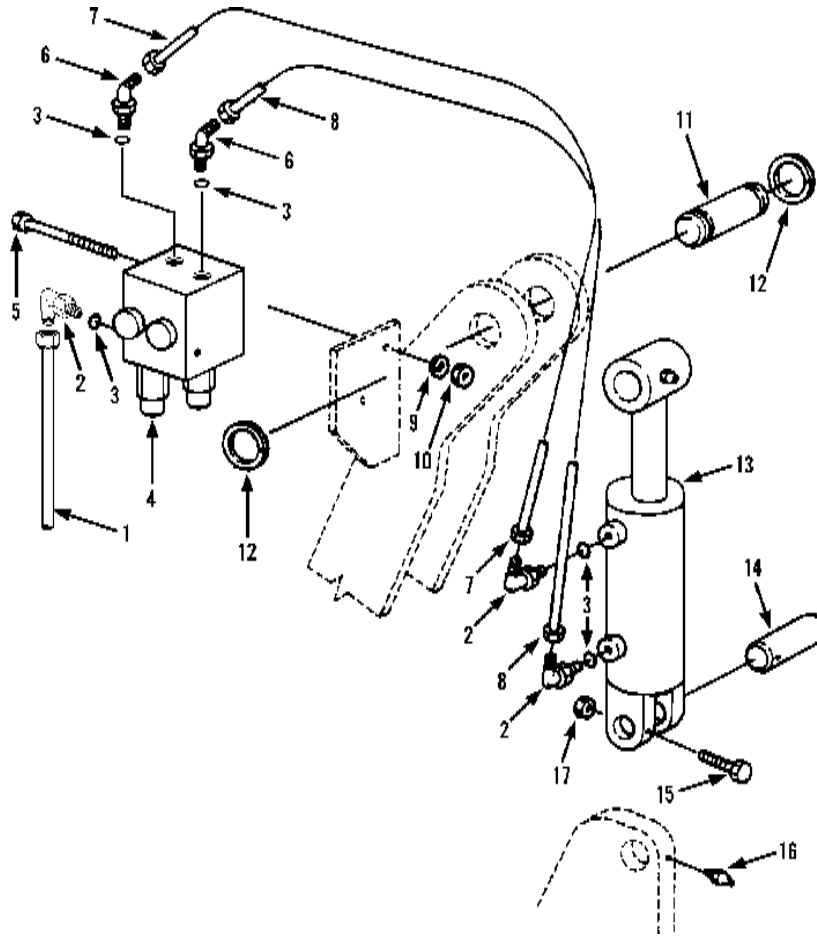
**HYDRAULIC CIRCUITS**  
**Outrigger Cylinder**  
 Starting Serial No. 0155299S  
 Original Issue 3-90  
 Revised 11-30-93



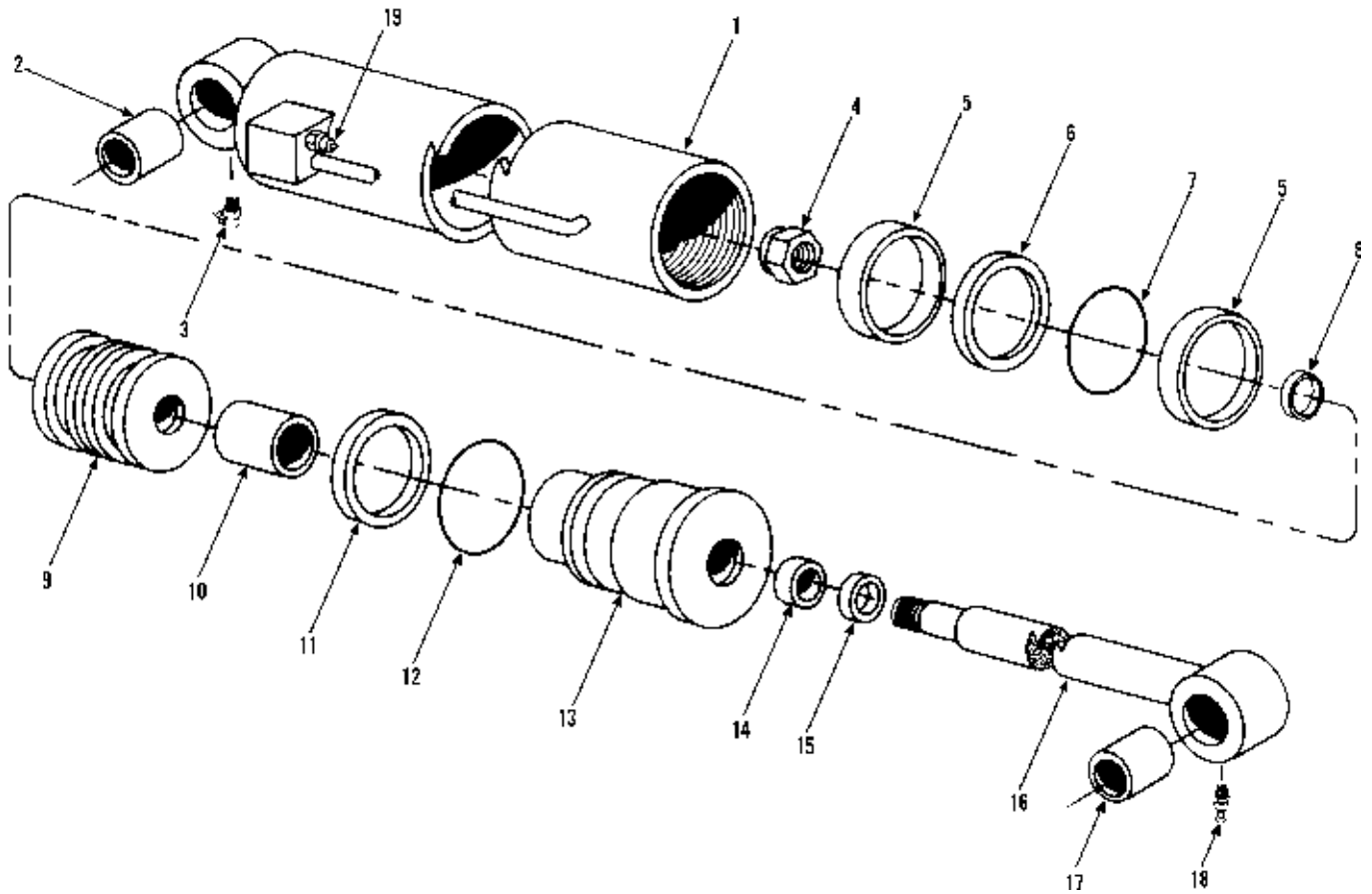
Item	Part No.	Qty.	Description Of Part
1		Ref	OUTRIGGER CYLINDER ASSY (see page 10-9 for details)
2	9103-3201	2	ORIFICE CHECK
3	8866-2085	4	ELBOW - 45 DEGREES (includes item 4)
4	8859-1205	4	O-RING
5	8471-7527	2	HOSE ASSY
6	8471-7528	2	HOSE ASSY
7	9002-7187	4	NYLON CLAMP
8	7713-3168	2	CLAMP SET
9	7713-3140	2	COVER PLATE
10	7713-3177	2	HEX HD CAPSCREW
11	9103-3141	1	TUBE ASSY
12	9103-3198	1	TUBE ASSY
13	7713-3499	2	HEX HD CAPSCREW
14	7713-3498	1	COVER PLATE
15	9103-3138	2	CLAMP
16	9103-3199	1	SAFETY PLATE
17	9103-3200	2	STACKING BOLT
18	9103-3140	2	TUBE ASSY
19	7713-3177	2	HEX HD CAPSCREW
20	7713-3140	2	COVER PLATE
21	7713-3168	4	CLAMP SET
22	7713-3390	2	SAFETY CLIP
23	7713-3389	2	STACK BOLT
24		Ref	MAIN CONTROL VALVE ASSY ( see page 10-10 for details)

Item	Part No.	Qty.	Description Of Part
25	8871-1284	1	SOCKET HD PIPE PLUG, 3/4
26	8859-1209	1	O-RING
27	8866-2061	1	ELBOW - 90 DEGREES (includes item 26)
28	8471-7474	1	HOSE ASSY
29	8471-7479	2	HOSE ASSY
30	8866-2085	4	ELBOW - 45 DEGREES (includes item 31)
31	8859-1205	4	O-RING
32	8471-7473	1	HOSE ASSY
33	8866-2060	1	ELBOW - 90 DEGREES (includes item 34)
34	8859-1207	1	O-RING
35	8471-7477	2	HOSE ASSY
36		Ref	OUTRIGGER VALVE ASSY (see page 10-16 for details)
37	8850-1006	4	HEX NUT, 3/8-16
38	8855-1011	4	LOCKWASHER, 3/8
39	8820-1037	4	LEX HD CAPSCREW, 3/8-16X1-1/2, GR5
40	9102-3006	1	STABILIZER DECAL
41	8859-1207	1	O-RING
42	8866-2067	1	ELBOW - 90 DEGREES (includes item 41)
43		Ref	DUAL P.O. CHECK VALVE (see page 10-30 for details)

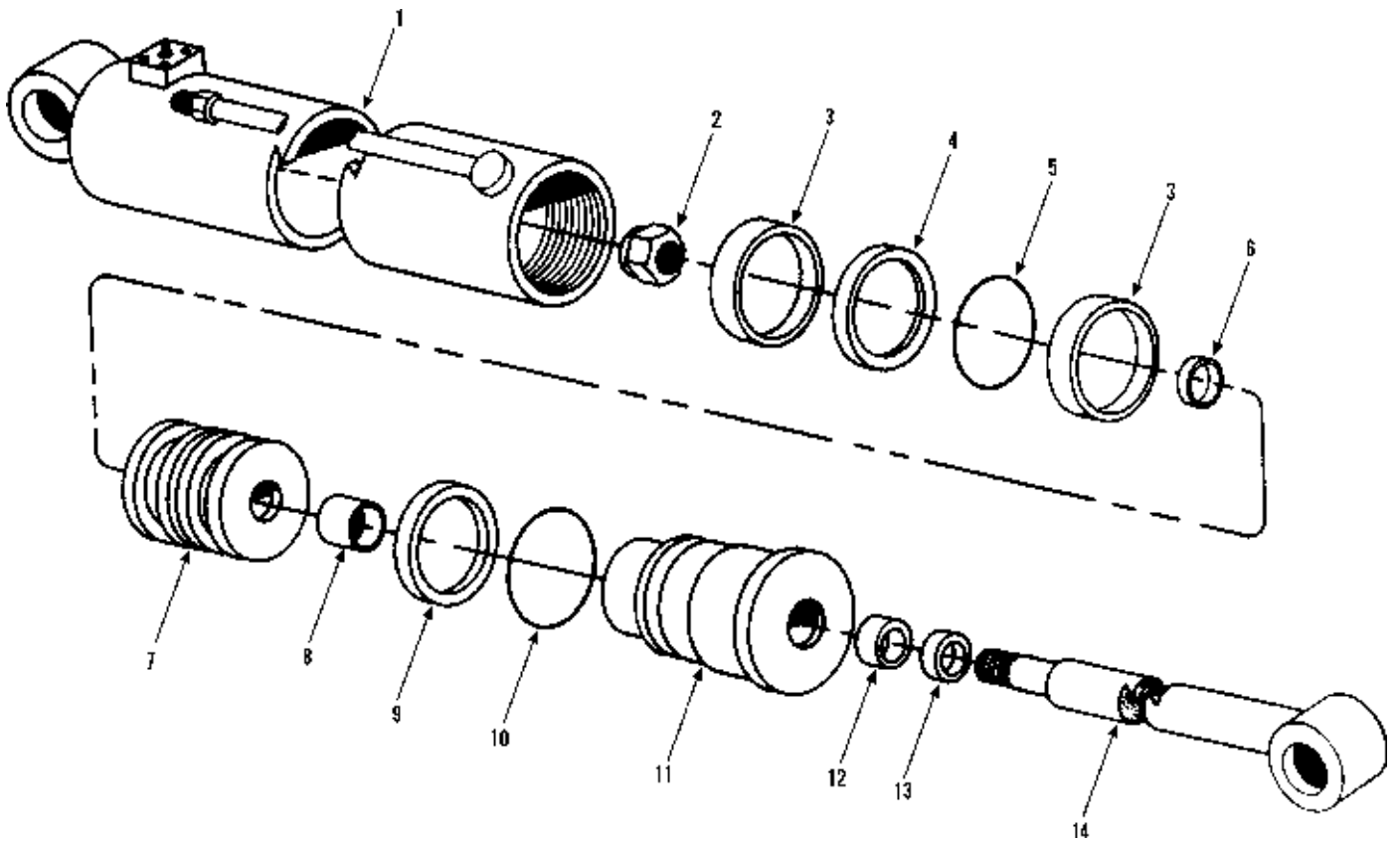




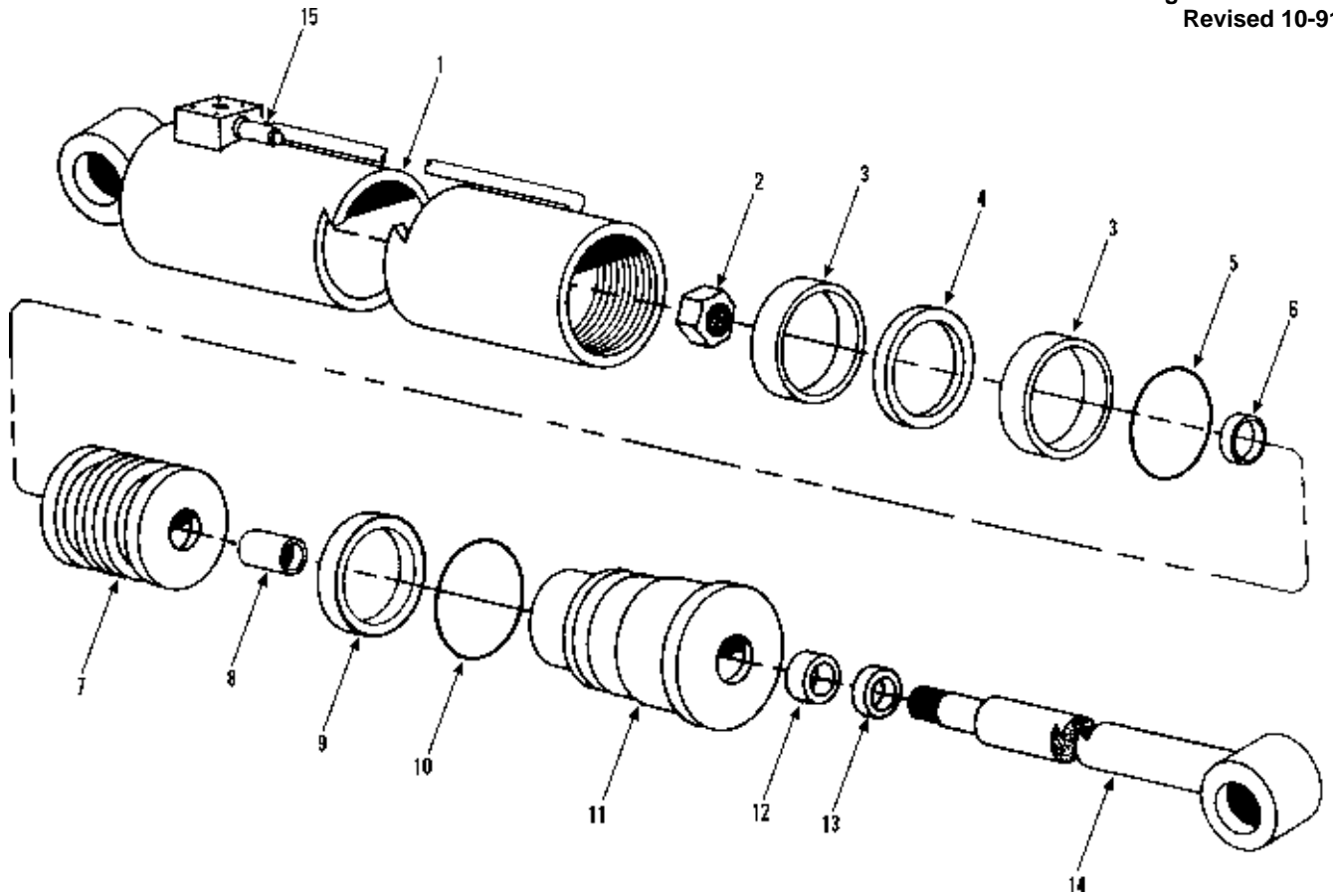
Item	Part No.	Qty.	Description Of Part
1	8471-7923	1	HOSE ASSY
2	8866-2065	3	ELBOW - 90 DEGREES (includes item 3)
3	8859-1205	5	O-RING
4	9111-3003	1	STABILIZER VALVE ASSY (see page 10-15 for details)
5	8320-1073	2	HEX HD CAPSCREWP 1-6Z, 3/8-16X4-1/2, GR5
6	8866-2085	2	ELBOW - 45 DEGREES (includes item 3)
7	8471-7847	1	HOSE ASSY
8	8471-7848	1	HOSE ASSY
9	8855-1011	2	LOCKWASHER, 3/8
10	8850-1006	2	HEX NUT, 3/8-16
11	9104-1227	1	PIN
12	8858-1140	2	RETAINING RING
13	9104-3303	1	STABILIZER CYLINDER ASSY (see page 10-8 for details)
14	9104-1561	1	PIN
15	8320-1134	1	HEX HD CAPSCREW, 3/8-16X3-1/4, GR8
16	8867-1008	1	LUBE FITTING, STRAIGHT, 1/4-28
17	8852-1208	1	HEX LOCKNUT, 3/8-16



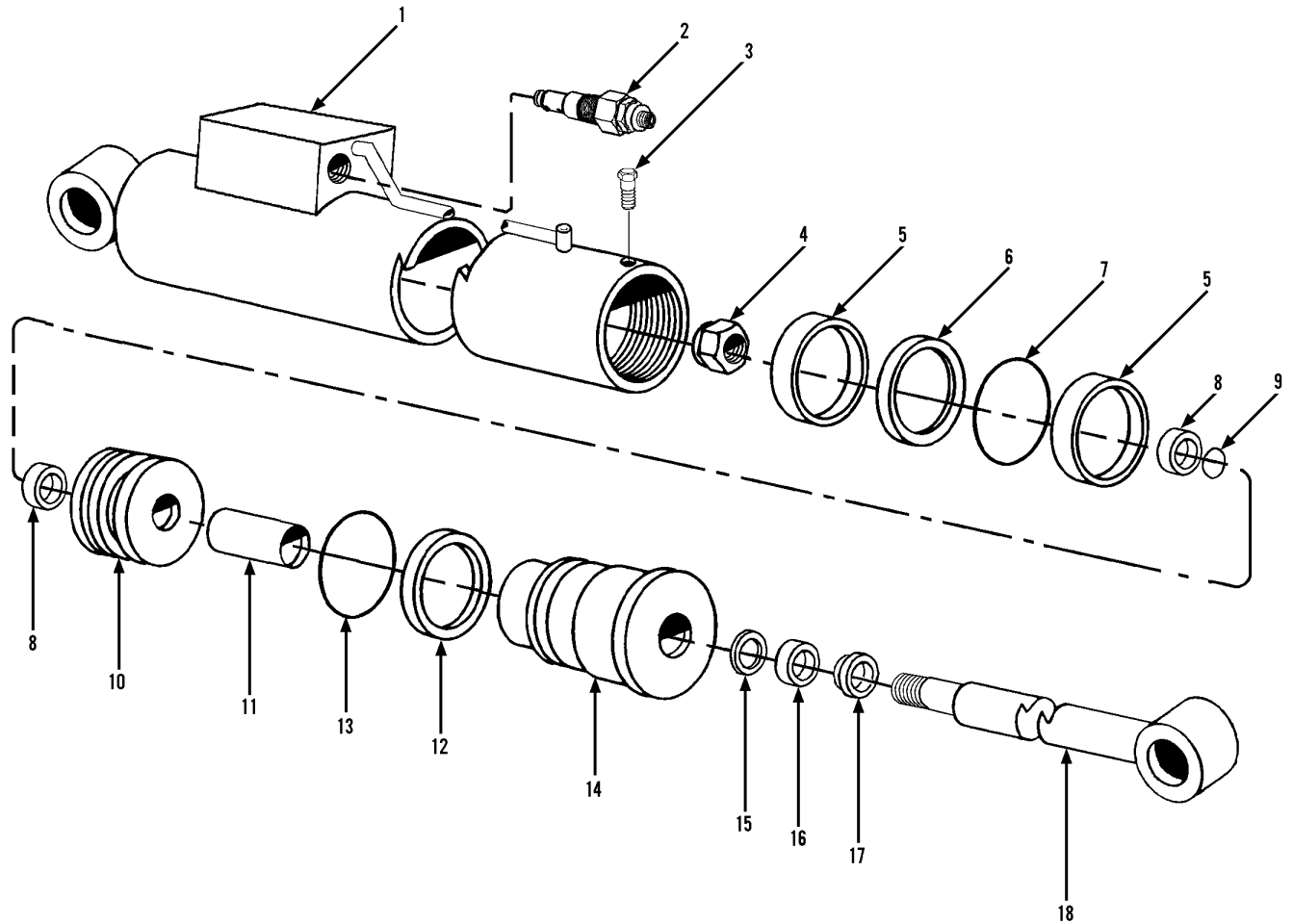
Item	Part No.	Qty.	Description Of Part
	9104-3302	2	LIFT CYLINDER ASSY (includes all items)
	9103-4278	1	SEAL KIT (includes items 5-8, 11, 12, 14 and 15)
1	9104-4318	1	TUBE ASSY
2	9020-5414	1	BUSHING
3	8867-1027	1	LUBE FITTING, 90 DEGREES, 1/4-28
4	9103-4280	1	LOCKNUT (torque to 1100 ft. lbs.)
5		2	WEAR RING
6		1	SEAL
7		1	O-RING
8		1	O-RING
9	9103-4281	1	PISTON
10	9104-4319	1	STOP TUBE
11		1	BACK-UP RING
12		1	O-RING
13	9103-4282	1	GLAND
14		1	SEAL
15		1	WIPER
16	9104-4369	1	ROD ASSY
17	9103-1372	1	BUSHING
18	8867-1033	1	LUBE FITTING, STRAIGHT, 1/4-28
19		Ref	COUNTERBALANCE VALVE (see page 10-18 for details)
			NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE



Item	Part No.	Qty.	Description Of Part
	9104-3300	1	CROWD CYLINDER ASSY (includes all items)
	9103-4290	1	SEAL KIT (includes items 3, 4, 5, 6, 9, 10, 12 & 13)
1	9104-4326	1	TUBE ASSY
2	9103-4286	1	LOCKNUT (torque to 590 ft. lbs.)
3		2	WEAR RING
4		1	SEAL
5		1	O-RING
6		1	O-RING
7	9103-4291	1	PISTON
8	9104-4327	1	STOP TUBE
9		1	BACK-UP RING
10		1	O-RING
11	9103-4293	1	GLAND
12		1	SEAL
13		1	WIPER
14	9104-4328	1	ROD ASSY
			NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE



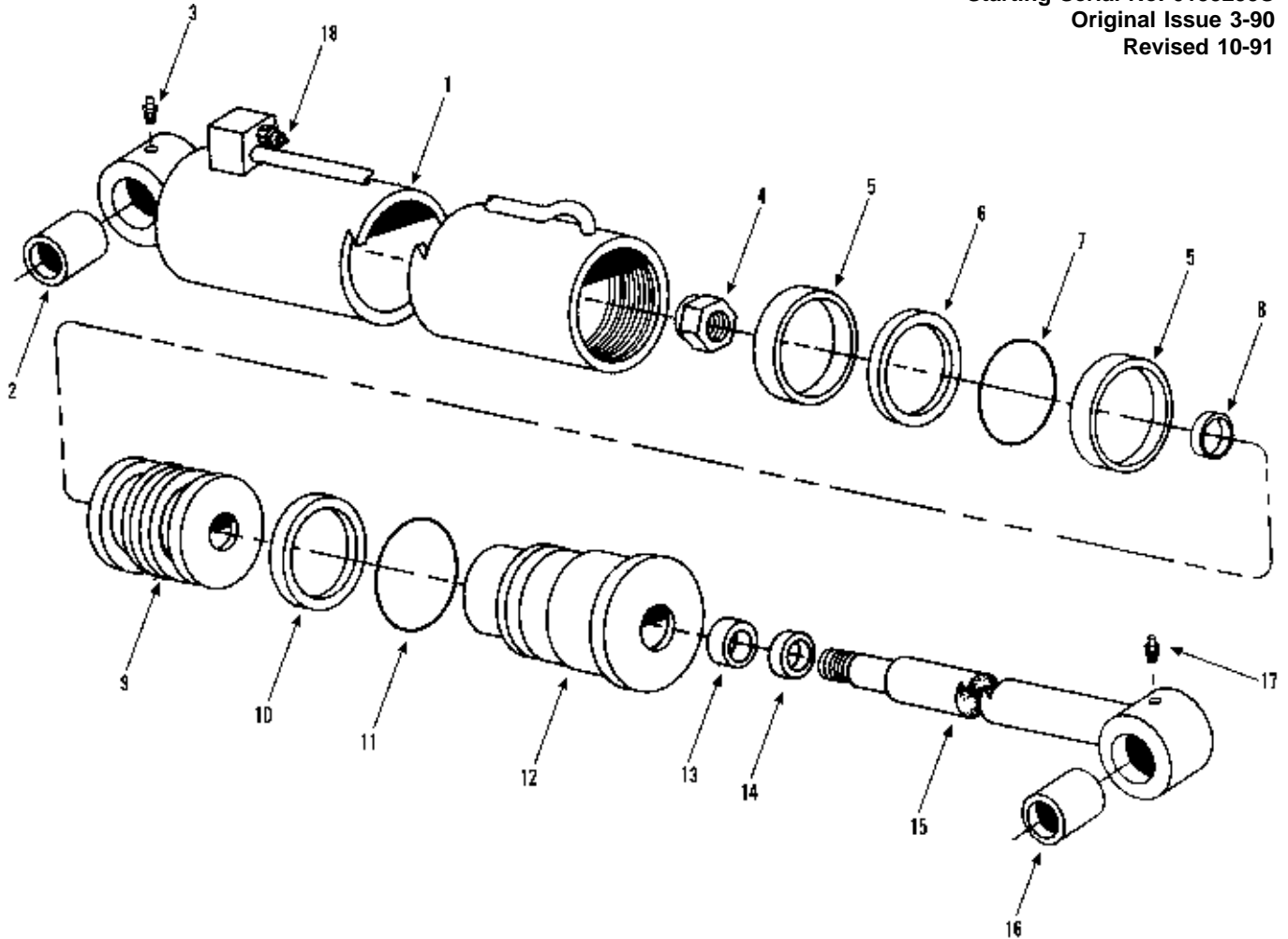
Item	Part No.	Qty.	Description Of Part
	9104-3306	1	CROWD EXTENSION CYLINDER ASSY (includes all items)
	9104-4320	1	SEAL KIT (includes items 3, 4, 5, 6, 8, 9, 11 & 12)
1	9104-4321	1	TUBE ASSY
2	9103-4303	1	LOCK NUT (torque to 235 ft. lbs.)
3		2	WEAR RING
4		1	SEAL
5		1	O-RING
6		1	O-RING
7	9104-4322	1	PISTON
8	9104-4323	1	STOP TUBE
9		1	BACK-UP RING
10		1	O-RING
11	9104-4324	1	GLAND
12		1	SEAL
13		1	WIPER
14	9104-4325	1	ROD ASSY
15	9103-3430	1	COUNTERBALANCE VALVE
			NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.



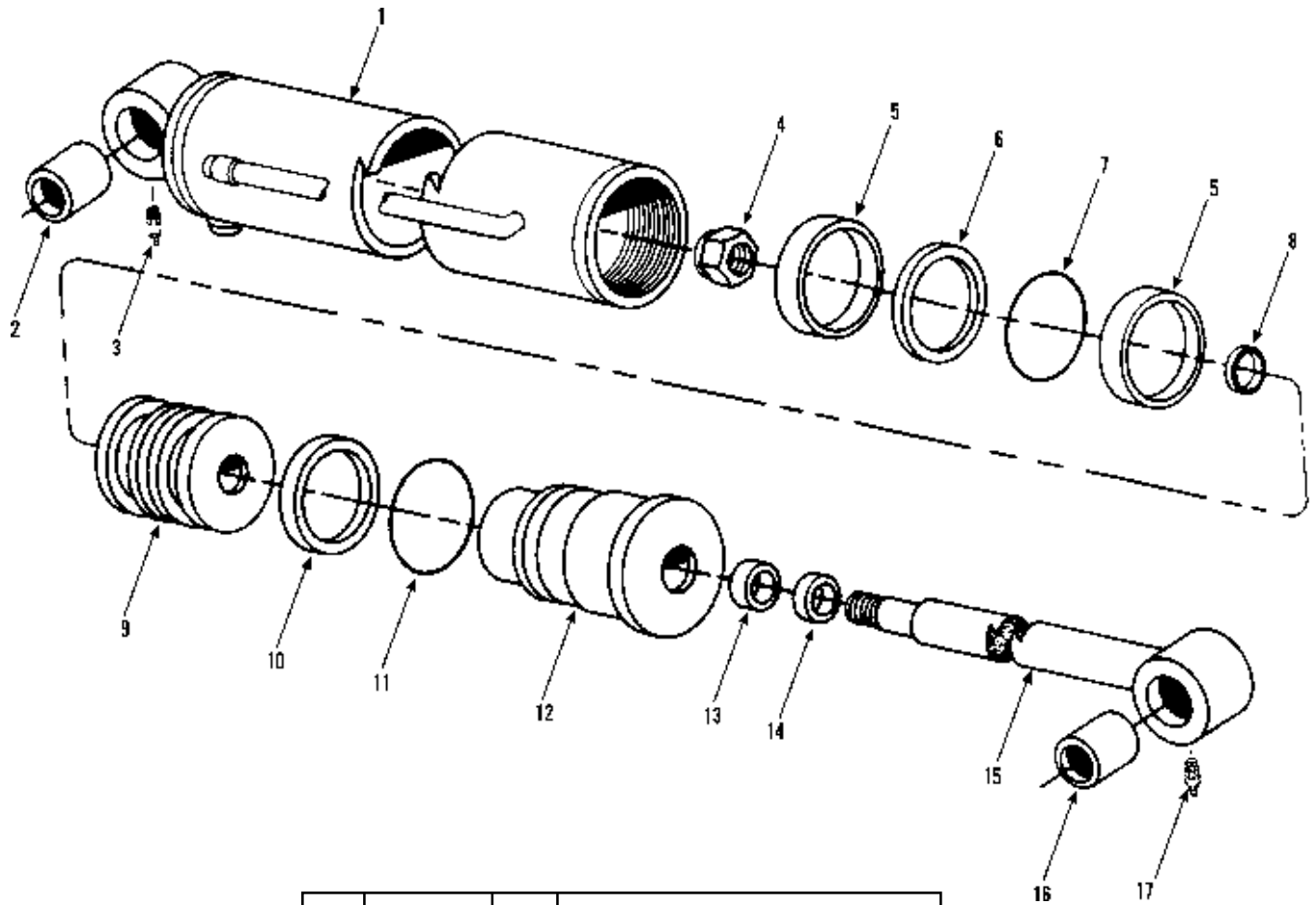
Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
	9104-3482	1	CROWD EXTENSION CYLINDER ASSY (includes all items)	10	9104-4544	1	PISTON
	9104-4508	1	SEAL KIT (includes items 5 thru 9, 11, 12, 13, 15, 16, & 17)	11		1	SPACER
1	9108-4347	1	COUNTERBALANCE VALVE	12		1	BACK-UP RING
2	9104-4543	1	CASE ASSY	13		1	O-RING
3	9114-4017	1	CAPSCREW, 8X32X.375	14	9108-4351	1	CYLINDER HEAD
4	9120-4460	1	LOCKNUT, 7/8-14, GR8	15		1	STEP SEAL
5		2	WEAR RING	16		1	U-CUP
6		1	PISTON SEAL	17		1	CANNED WIPER
7		1	O-RING	18	9104-4545	1	SHAFT ASSY
8		2	BACK-UP RING				NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.
9		1	O-RING				

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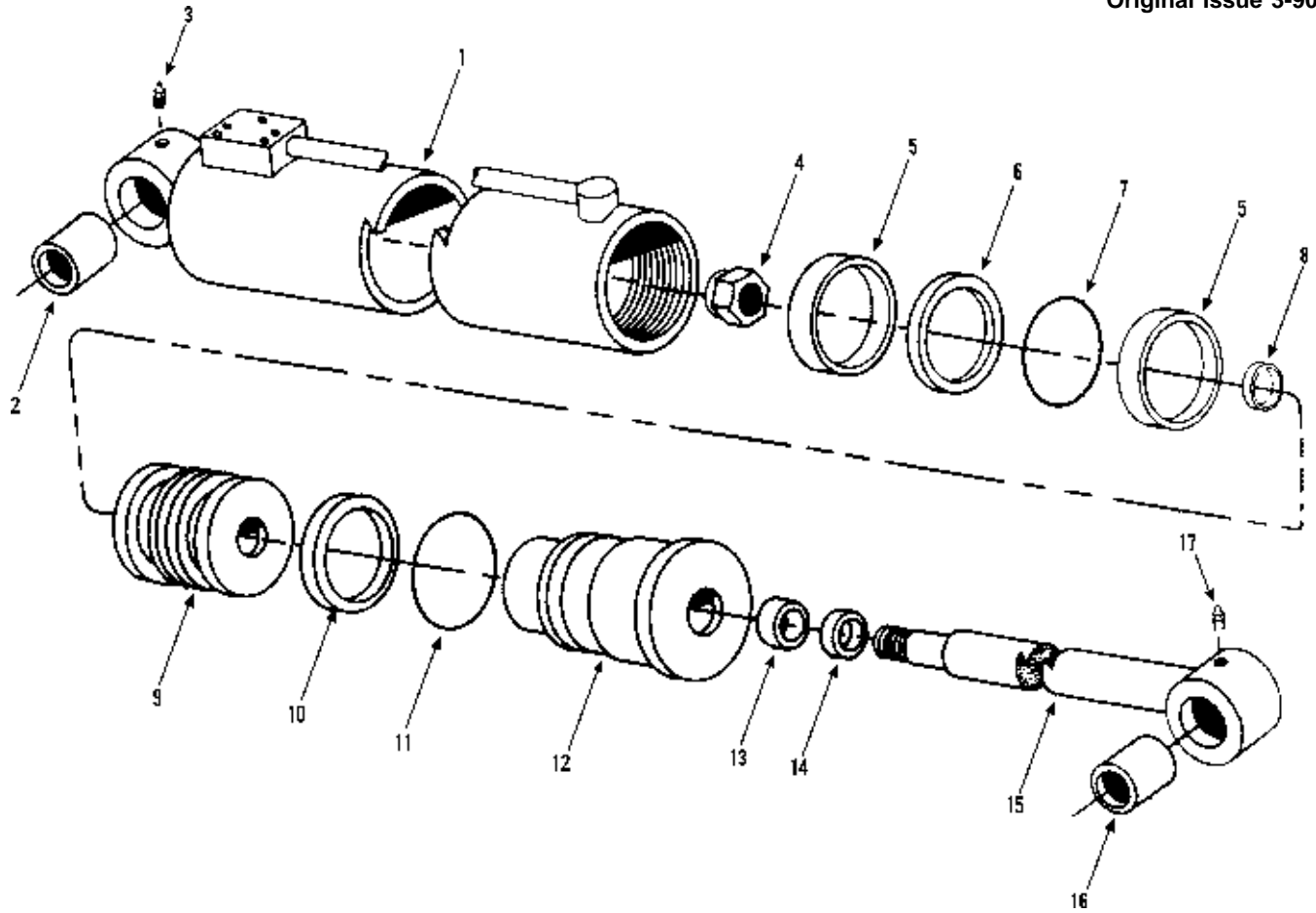
**HYDRAULIC COMPONENTS**  
**(9104-3301) Tilt Cylinder**  
 Starting Serial No. 0155299S  
 Original Issue 3-90  
 Revised 10-91



Item	Part No.	Qty.	Description Of Part
	9104-3301	1	TILT CYLINDER CYLINDER ASSY (includes all items)
	9104-4278	1	SEAL KIT (includes items 5, 6, 7, 8, 10, 11, 13, & 14)
1	9104-4329	1	TUBE ASSY (includes item 2)
2	9108-4176	1	BUSHING
3	8867-1018	1	LUBE FITTING, 45 DEGREES, 1/8
4	9103-4280	1	LOCK NUT (torque to 1100 ft. lbs.)
5		2	WEAR RING
6		1	SEAL
7		1	O-RING
8		1	O-RING
9	9103-4281	1	PISTON
10		1	BACK-UP RING
11		1	O-RING
12	9103-4282	1	GLAND
13		1	SEAL
14		1	WIPER
15	9103-4296	1	ROD ASSY (includes item 16)
16	9108-4176	2	BUSHING
17	8867-1001	1	LUBE FITTING, STRAIGHT 1/8
18	9103-3430	1	COUNTER BALANCE VALVE
			NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.

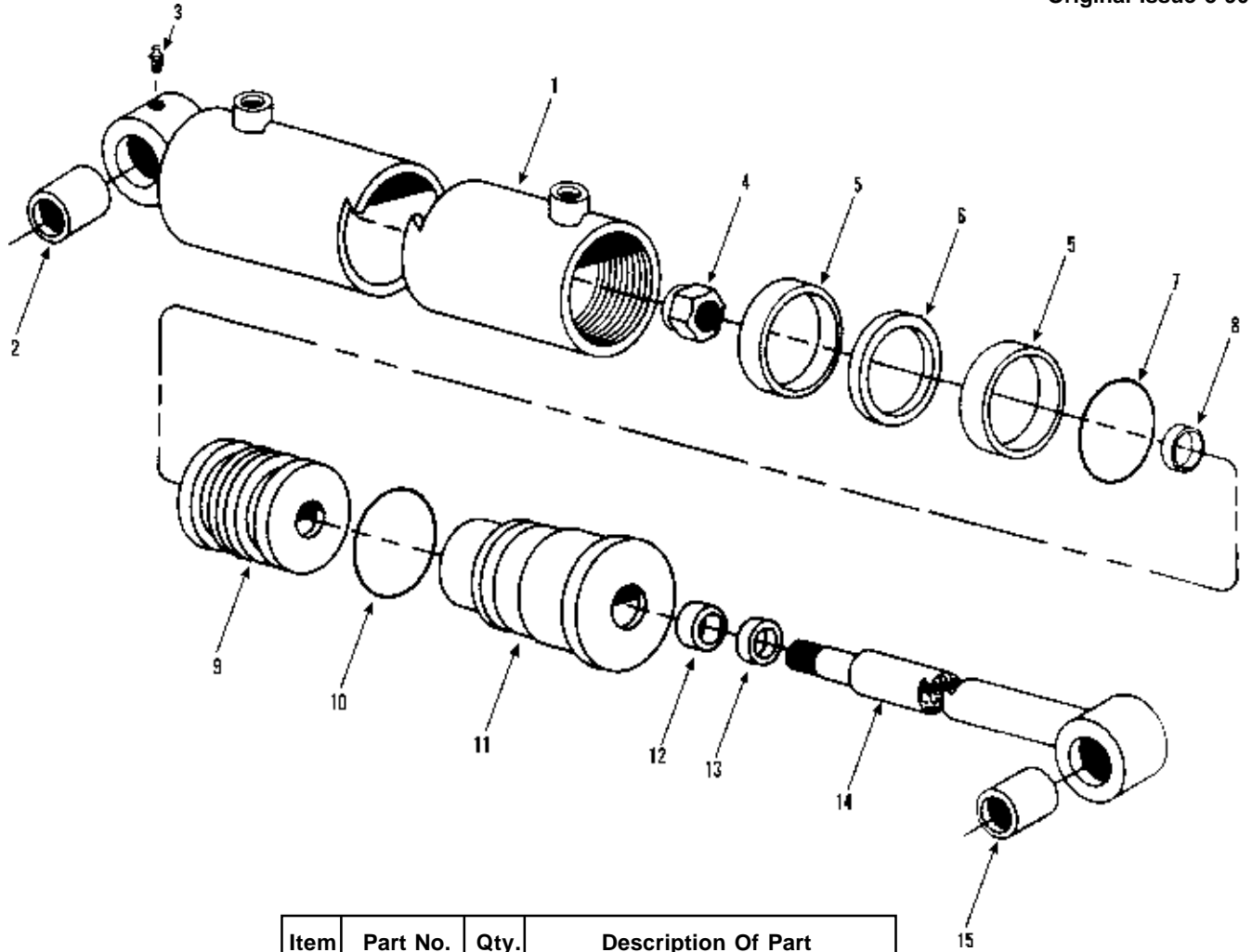


Item	Part No.	Qty.	Description Of Part
	9104-3304	1	COMPENSATING CYLINDER ASSY (includes all items)
	9103-4278	1	SEAL KIT (includes items 5, 6, 7, 8, 10, 11, 13, & 14)
1	9104-4313	1	TUBE ASSY (includes item 2)
2	9108-4176	2	BUSHING
3	8867-1033	1	LUBE FITTING, STRAIGHT 1/4-28
4	9103-4280	1	LOCK NUT (torque to 1100 ft. lbs.)
5		2	WEAR RING
6		1	SEAL
7		1	O-RING
8		1	O-RING
9	9103-4281	1	PISTON
10		1	BACK-UP RING
11		1	O-RING
12	9104-4314	1	GLAND
13		1	SEAL
14		1	WIPER
15	9104-4315	1	ROD ASSY (includes item 16)
16	9108-4176	2	BUSHING
17	8867-1033	1	LUBE FITTING, STRAIGHT 1/4-28
			NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.

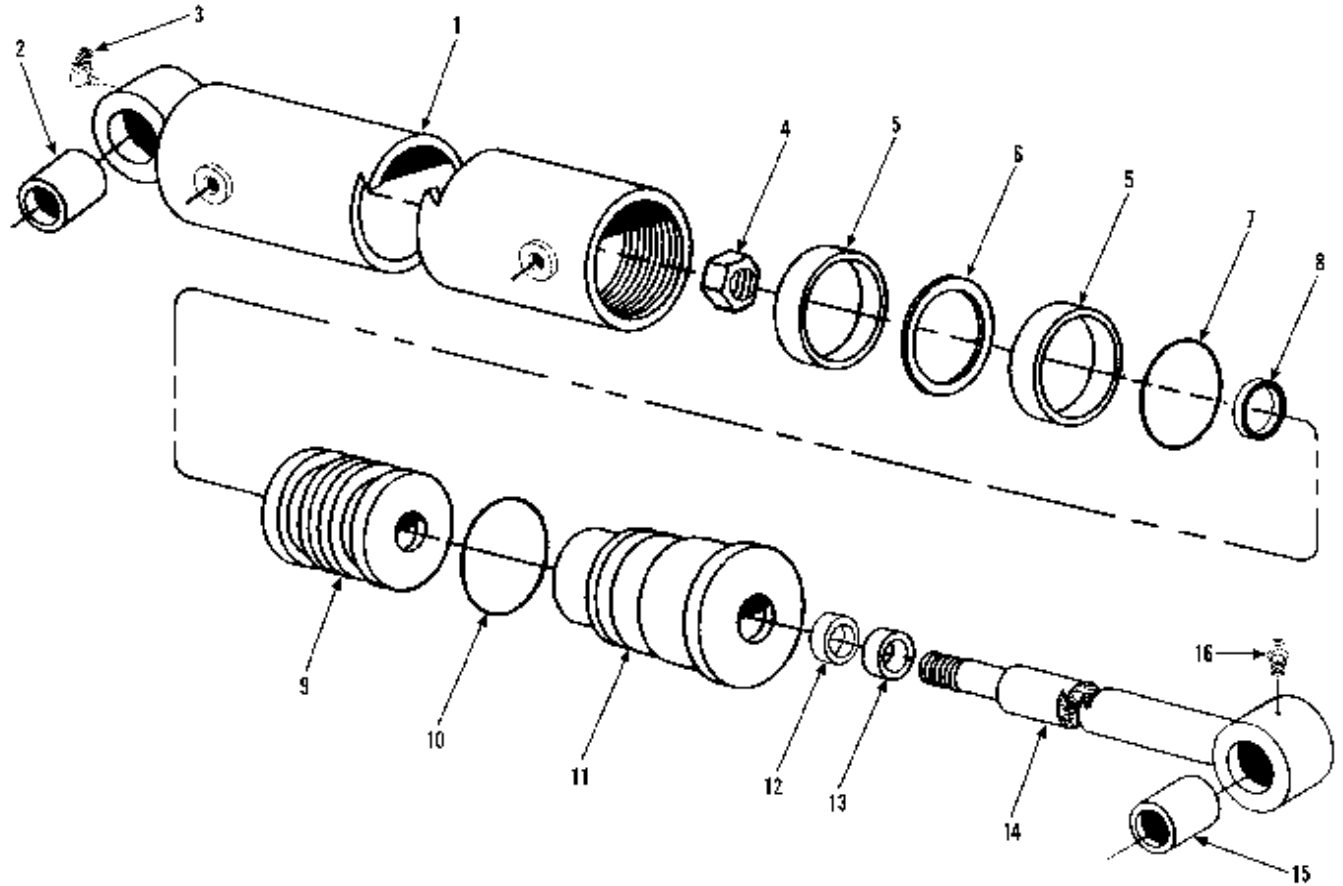


Item	Part No.	Qty.	Description Of Part
	9104-3367	1	SWAY CYLINDER ASSY (includes all items)
	9103-4297	1	SEAL KIT (includes items 5, 6, 7, 8, 10, 11, 13, & 14)
1	9104-4298	1	TUBE ASSY (includes item 2)
2	9108-4176	1	BUSHING
3	8867-1033	1	LUBE FITTING, STRAIGHT 1/4-28
4	9103-4286	1	LOCK NUT (torque to 590 ft. lbs.)
5		2	WEAR RING
6		1	SEAL
7		1	O-RING
8		1	O-RING
9	9103-4291	1	PISTON
10		1	BACK-UP RING
11		1	O-RING
12	9103-4299	1	GLAND
13		1	SEAL
14		1	WIPER
15	9103-4300	1	ROD ASSY (includes item 16)
16	9108-4176	2	BUSHING
17	8867-1033	1	LUBE FITTING, STRAIGHT 1/4-28
			NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.



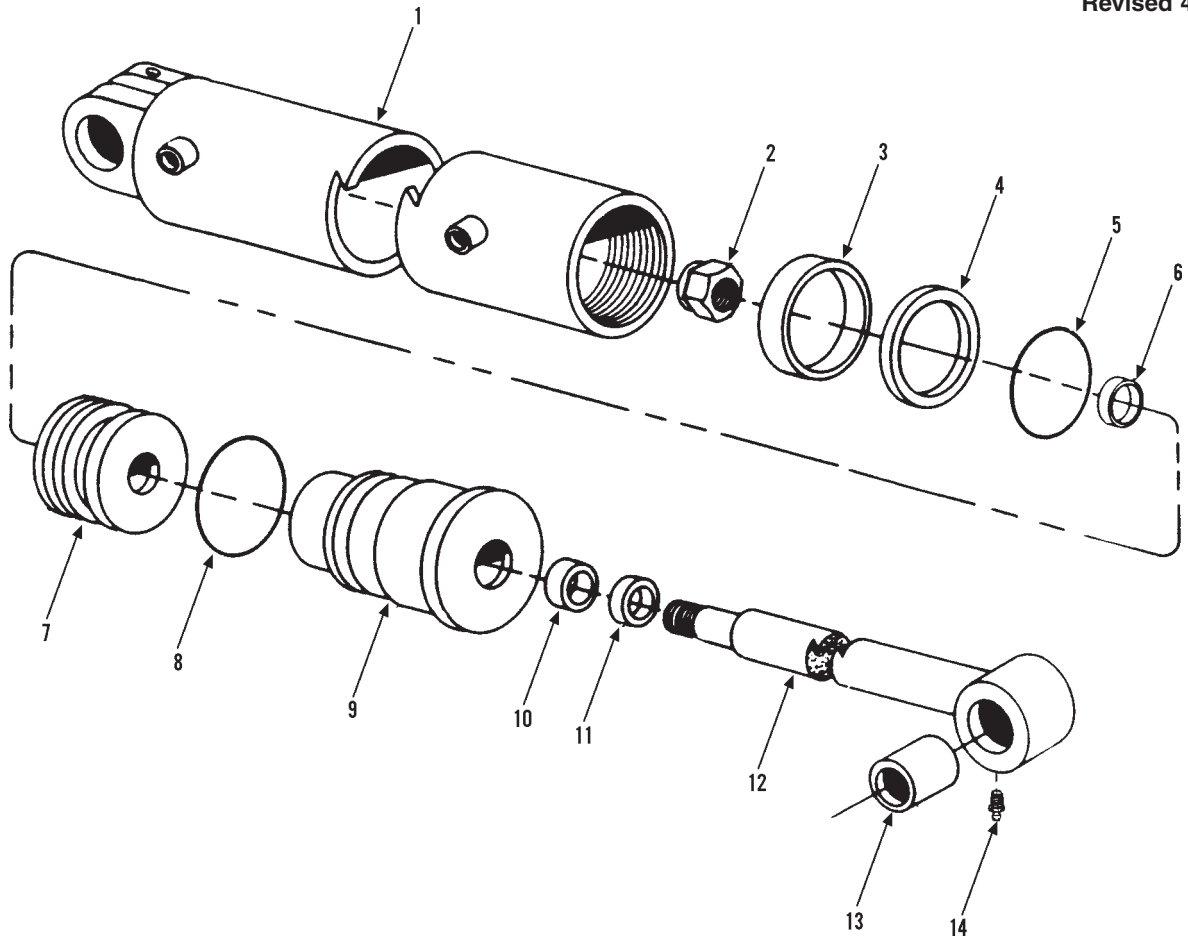


Item	Part No.	Qty.	Description Of Part
	9104-3316	2	STEERING CYLINDER ASSY (includes all items)
	9103-4301	1	SEAL KIT (includes items 5, 6, 7, 8, 10, 12, & 13)
1	9103-4302	1	TUBE ASSY
2	9108-4194	1	BUSHING
3	8867-1033	1	LUBE FITTING, STRAIGHT 1/4-28
4	9103-4303	1	LOCK NUT (torque to 235 ft. lbs.)
5		2	WEAR RING
6		1	SEAL
7		1	O-RING
8		1	O-RING
9	9103-4304	1	PISTON
10		1	O-RING
11	9104-4305	1	GLAND
12		1	SEAL
13		1	WIPER
14	9104-4368	1	ROD ASSY
15	9108-4182	1	BUSHING
			NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.



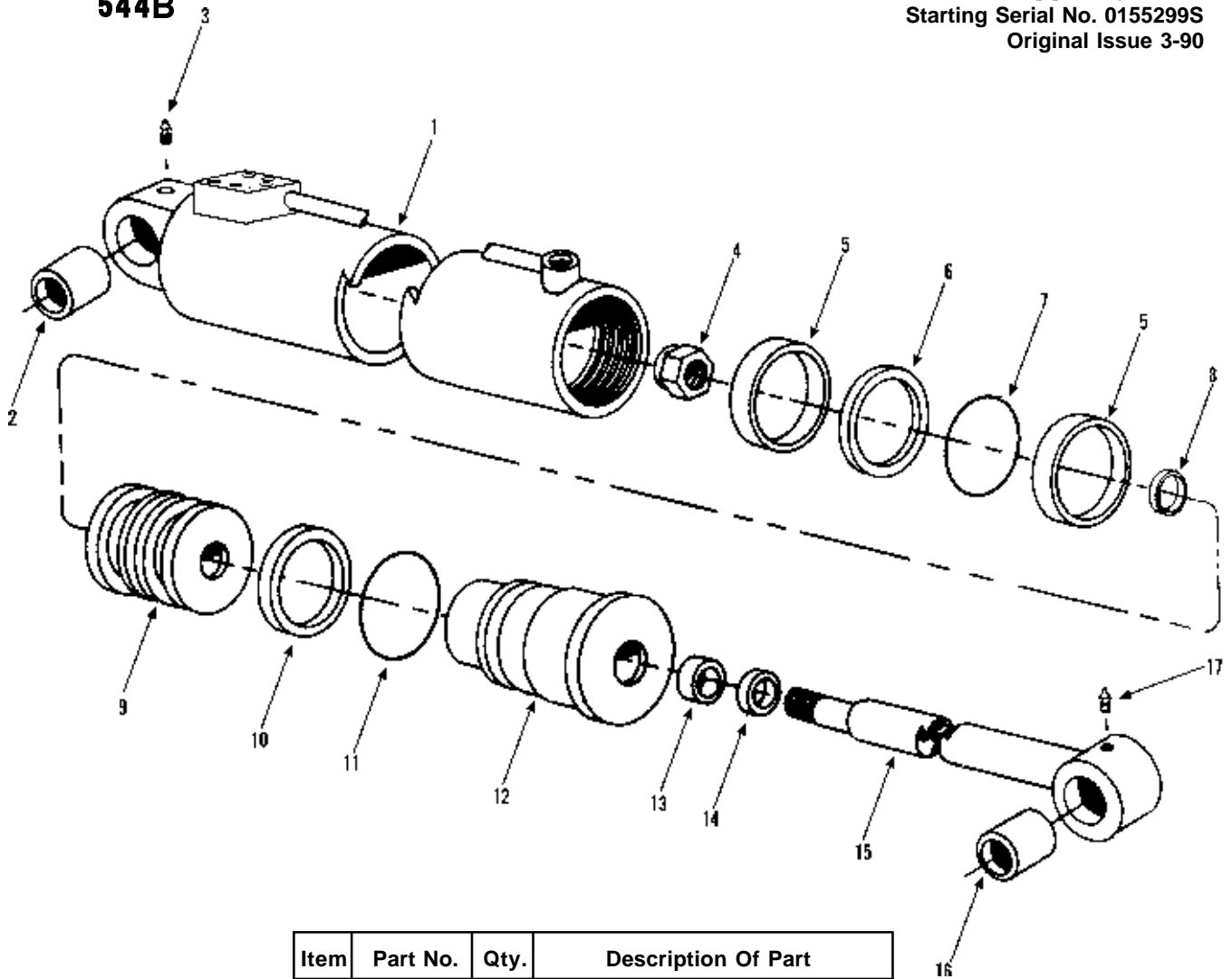
Item	Part No.	Qty.	Description Of Part
*	9103-3478	2	STEERING CYLINDER ASSY (includes all items)
	9103-4301	1	SEAL KIT (includes items 5, 6, 7, 8, 10, 12, & 13)
1		1	TUBE ASSY
2	9108-4194	1	BUSHING
3	8867-1022	1	LUBE FITTING, 90 DEGREE
4	9103-4303	1	LOCK NUT (torque to 235 ft. lbs.)
5		2	WEAR RING
6		1	SEAL
7		1	O-RING
8		1	O-RING
9	9103-4304	1	PISTON
10		1	O-RING
11	9104-4305	1	GLAND
12		1	SEAL
13		1	WIPER
14	9104-4368	1	ROD ASSY
15	9104-3246	1	BUSHING
16	8867-1001	1	LUBE FITTING, STRAIGHT
			NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.

\* Corrected part number on Steering Cylinder Assy.

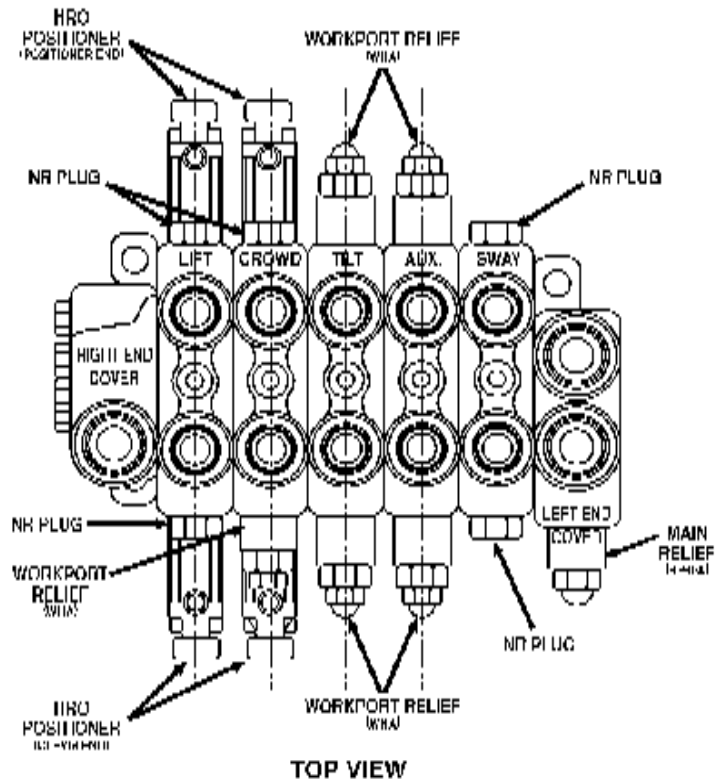
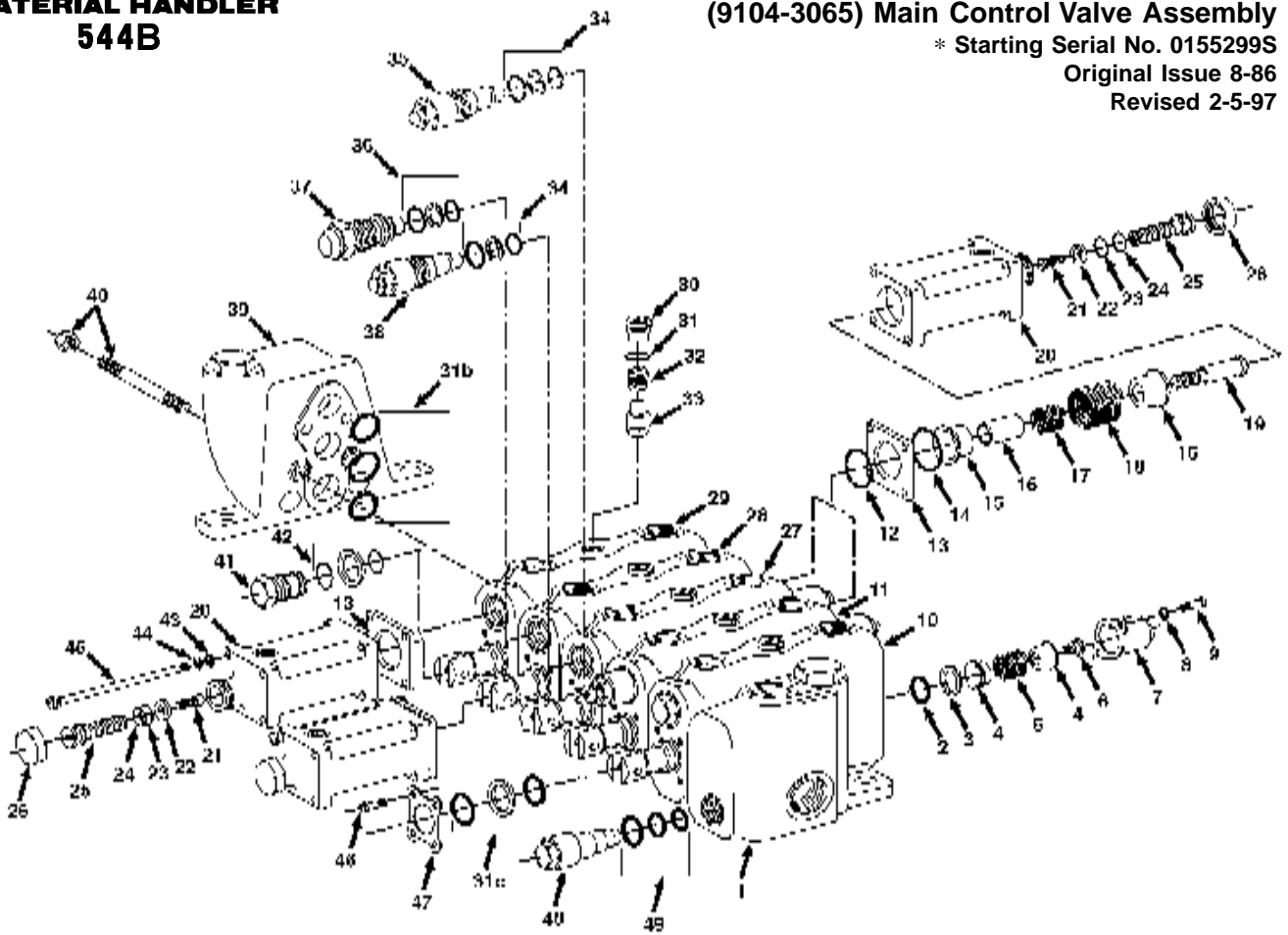


Item	Part No.	Qty.	Description Of Part
	9104-3303	1	STABLIZER CYLINDER ASSY (includes all items)
*	9104-4330	1	SEAL KIT (includes items 3, 4, 5, 6, 8, 10 & 11)
1	9104-4334	1	TUBE ASSY
2	9103-4286	1	LOCK NUT (torque to 590 ft. lbs.)
3		2	WEAR RING
4		1	SEAL
5		1	O-RING
6		1	O-RING
7	9104-4331	1	PISTON
8		1	O-RING
9	9104-4332	1	GLAND
10		1	SEAL
11		1	WIPER
12	9104-4333	1	ROD ASSY
13	9108-4353	1	BUSHING
14	8867-1033	1	LUBE FITTING, STRAIGHT 1/4-28
			NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.

\* Corrected part number on Seal Kit..

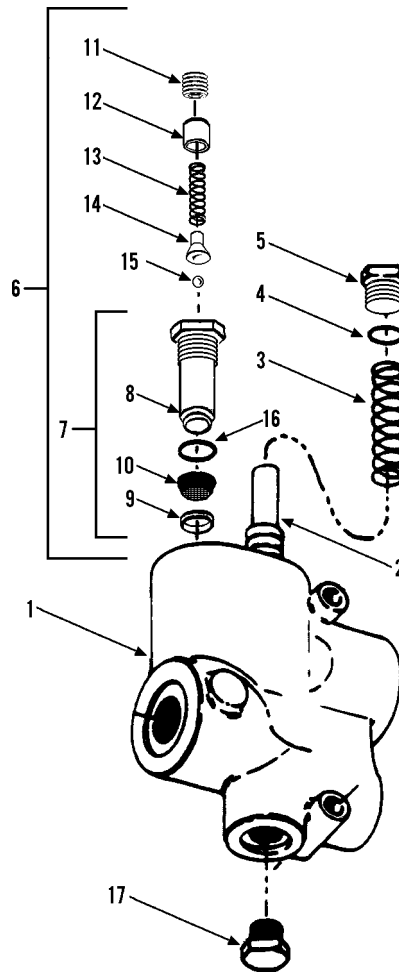


Item	Part No.	Qty.	Description Of Part
	9104-3305	2	OUTRIGGER CYLINDER ASSY (includes all items)
	9103-4278	1	SEAL KIT (includes items 5, 6, 7, 8, 10, 11, 13, & 14)
1	9104-4316	1	TUBE ASSY
2	9104-4371	1	BUSHING
3	8867-1018	1	LUBE FITTING, 45 DEGREES, 1/8
4	9103-4280	1	LOCK NUT (torque to 1100 ft. lbs.)
5		2	WEAR RING
6		1	SEAL
7		1	O-RING
8		1	O-RING
9	9103-4281	1	PISTON
10		1	BACK-UP RING
11		1	O-RING
12	9103-4282	1	GLAND
13		1	SEAL
14		1	WIPER
15	9104-4317	1	ROD ASSY
16	9104-4371	1	BUSHING
17	8867-1033	1	LUBE FITTING, STRAIGHT 1/4-28
			NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.

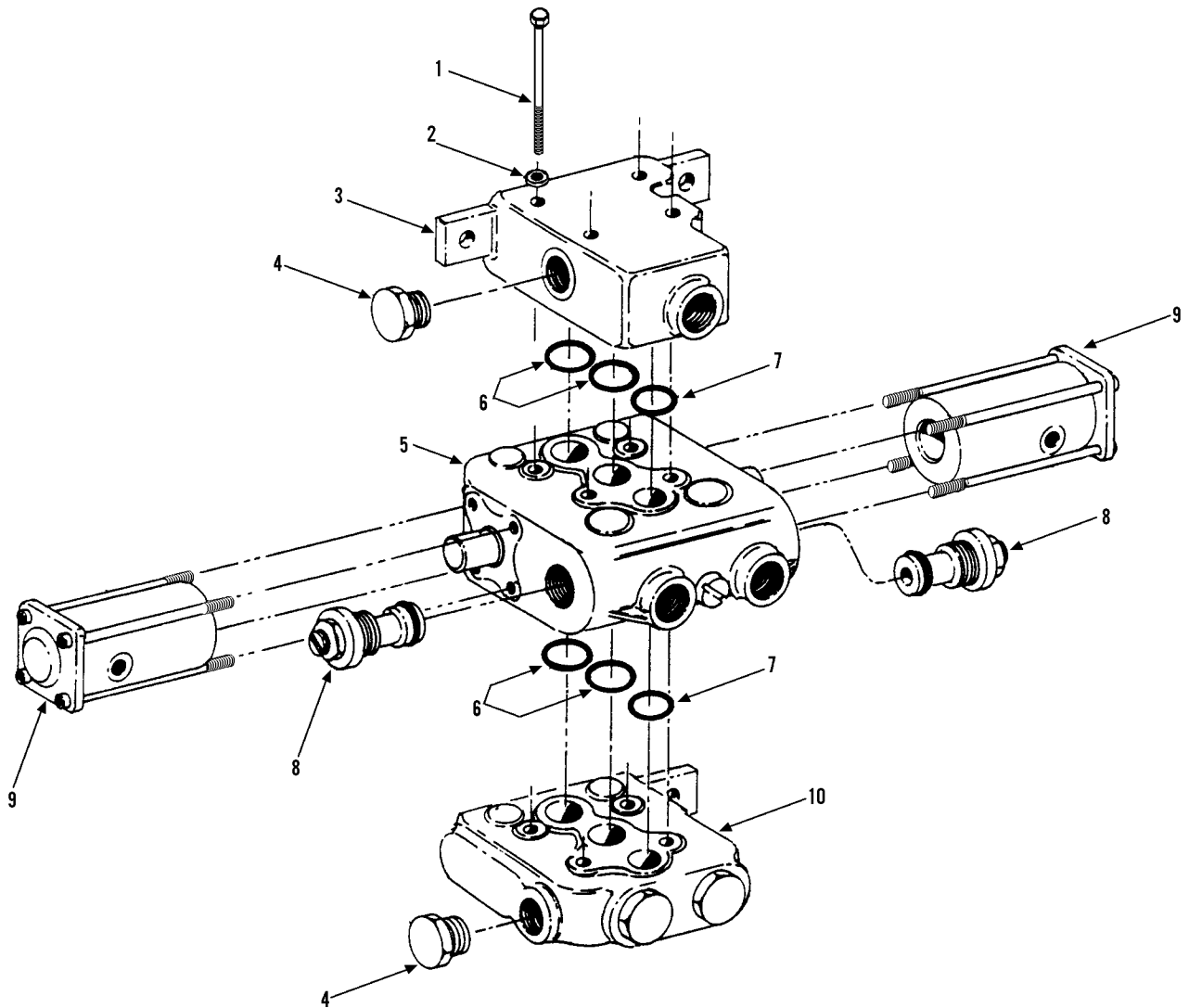


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Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
	9104-3065	1	MAIN CONTROL VALVE ASSY (includes all items)	15	9104-4521	2	STOP COLLAR
	9020-6417	AR	SEAL KIT (includes items 31, 31b & 31c)	16	9104-4520	2	STOP SLEEVE
	9104-4123	AR	SECTION SEAL KIT (includes items 31b)	17	9104-4519	2	SPRING
	9103-4159	AR	SPOOL SEAL KIT (includes items 31c)	18	9104-4518	2	SPRING
*	9020-6419	AR	RETAINER PLATE ASSY (includes items 46 & 47)	19	9104-4517	2	POSITIONER SPUD
*	9104-4509	AR	HRO POSITIONER SEAL KIT (includes items 12, 14, 23 & 24)	20	9104-4515	4	BONNET
	9104-4526	AR	NR PLUG KIT (includes items 41 & 42)	21	9104-4513	4	SCREW, COUNTERSUNK
	9104-4527	AR	NR PLUG SEAL KIT (items 42)	22	9104-4514	4	TRAVEL STOP
	9020-6427	3	NEUTRAL POSITIONER KIT (includes items 2 thru 9)	23		4	O-RING
	9104-4510	2	HRO POSITIONER KIT, SPOOL POSITIONER END (includes items 12 thru 26)	24		4	BACK-UPRING
	9104-4534	2	HRO POSITIONER KIT, CLEVIS END (includes items 13, 20 thru 26, 43, 44 & 45)	25	9104-4512	2	SCREW
	9104-4530	AR	WH TYPE PORT RELIEF VALVE SEAL KIT (includes items 36)	26	9104-4511	4	BOOT
	9104-4533	AR	WHA PORT RELIEF VALVE SEAL KIT (includes items 34)	27	9104-4119	1	TILT SECTION
	9103-4236	AR	MAIN RELIEF VALVE SEAL KIT (includes items 49)	28	9104-4121	1	CROWD SECTION
1	9104-4114	1	COVER PLATE ASSY (left end) (includes item 48 & 49)	29	9104-4122	1	LIFT SECTION
2		3	O-RING	30	9104-4535	5	LOAD CHECK PLUG
3		3	WASHER	31		5	O-RING
4		3	SPRING COLLAR	32		5	SPRING
5		3	SPRING	33		5	POPPET
6		3	SPOOL COLLAR	34		AR	WHA RELIEF SEALS
7		3	BONNET	35	9104-4531	2	WHA RELIEF(1500 p.s.i.)
8		6	LOCKWASHER	36		AR	WH RELIEF SEALS
9		6	SCREW	37	9104-4529	1	WH RELIEF(2650 p.s.i.)
10	9020-6421	1	SWAY SECTION	38	9104-4532	2	WHA RELIEF(3250 p.s.i.)
11	9104-4117	1	AUXILIARY SECTION	39	9104-4124	1	COVER PLATE ASSY (right end)
12		4	O-RING	*40	9104-4125	1	STUD ASSY (includes four studs & four nuts)(lubricate & torque to 23-27 ft.lbs.)
13	9104-4516	4	SEAL PLATE	41	9104-4526	5	NR PLUG
14			O-RING	42		AR	NR PLUG SEALS
				43	9108-4232	16	BEARING PLATE
				44	9108-4231	16	LOCKWASHER
				45	9104-4522	16	HEX HD CAPSCREW, 1/4-20 x 3 1/2
				46		12	CAPSCREW
				47		3	RETAINER PLATE
				48	9020-8136	1	MAIN RELIEF VALVE ASSY
				49	9103-4236	1	MAIN RELIEF SEALS
							NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.

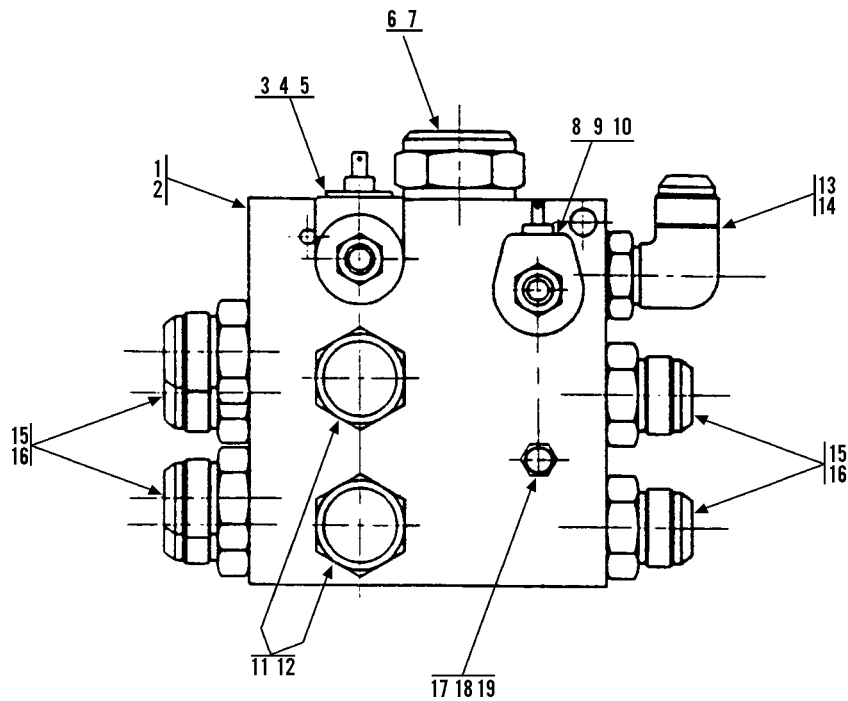


Item	Part No.	Qty.	Description Of Part
	9103-3240	1	PRIORITY FLOW CONTROL VALVE (includes all items; 2500 psi relief valve setting)
1	9020-6548	1	HOUSING ASSY (includes item 2)
2	9020-6549	1	SPOOL
3	9020-6550	1	SPRING
4	8859-1206	1	O-RING
5	9020-6552	1	PLUG
6	9020-6553	1	RELIEF CARTRIDGE (includes items 7 thru 16)
7	9020-6554	1	RELIEF VALVE SUB BODY (includes items 8 thru 10)
8	9020-6555	1	BODY
9	9020-6556	1	RING
10	9020-6557	1	SCREEN
11	9020-6558	1	RELIEF VALVE SUB BODY
12	9020-6559	1	SPRING GUIDE
13	9020-6560	1	SPRING
14	9020-6561	1	BALL HOLDER
15	9020-6562	1	BALL
16	8859-1205	1	O-RING
17	9020-6564	1	PLUG

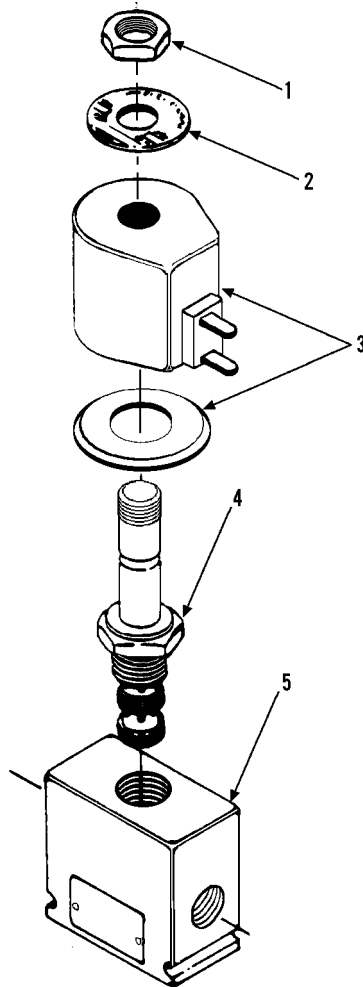


Item	Part No.	Qty.	Description Of Part
	9020-6737	1	FORWARD-REVERSE CONTROL VALVE ASSY (includes all items)
1	9002-6155	4	HEX HD CAPSCREW, 3/8-16X5
2	8855-1011	4	LOCKWASHER, 3/8
3	9020-8137	1	OUTLET SECTION
4	9002-7918	2	PLUG
* 5	9020-8191	1	WORK SECTION
6	9020-6423	4	O-RING
7	9020-6422	2	O-RING
8	9020-6415	2	PORT RELIEF CARTRIDGE (includes two back up rings and one o-ring; 3000 psi)
9	9020-8140	2	REMOTE HYDRAULIC ACTUATOR
10	9020-8141	1	INLET SECTION

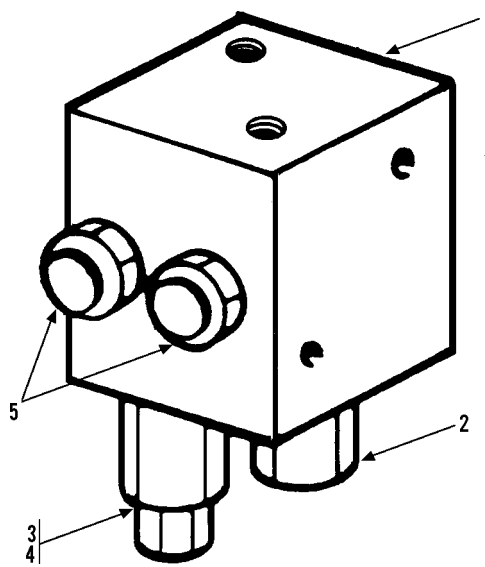




Item	Part No.	Qty.	Description Of Part
	9104-5097	1	SERIES - PARALLEL VALVE ASSY (includes items 1 thru 16)
1	9104-3264	1	SERIES - PARALLEL CONTROL VALVE ASSY (includes items 2 thru 12)
2		1	VALVE BODY
3	9104-4341	1	SOLENOID VALVE ASSY, FOUR-WAY, (includes item 5)
4	7738-4264	AR	SEAL KIT
5	9104-4012	2	SOLENOID COIL
6	9104-4342	1	DIFFERENTIAL PRESSURE SENSING VALVE
7	9104-4343	AR	SEAL KIT
8	7736-3121	1	SOLENOID VALVE ASSY, TWO-WAY (includes item 10)
9	9104-4002	AR	SEAL KIT
10	9104-4012	1	SOLENOID COIL
11	9104-4344	2	DIFFERENTIAL PRESSURE SENSING VALVE
12	9104-4345	AR	SEAL KIT
13	8866-2067	1	ELBOW, 90 DEGREES (includes item 14)
14	8859-1207	1	O-RING
15	8866-2010	6	CONNECTOR (includes item 16)
16	8859-1209	6	O-RING
17	8320-1048	2	HEX HD CAPSCREW, 3/8-16X5-1/4, GR5
18	8856-1109	2	FLAT WASHER, 3/8
19	8850-1006	2	HEX NUT, 3/8-16



Item	Part No.	Qty.	Description Of Part
	9020-6739	1	SOLENOID VALVE ASSY, THREE WAY - TWO POSITION (includes all items)
	9104-4001	1	SEAL KIT
1	9020-8066	1	NUT
2	9020-8067	1	NAME PLATE
3	7738-4267	1	SOLENOID COIL ASSY
4	9020-8071	1	VALVE ASSY
5	9020-8072	1	VALVE BODY



Item	Part No.	Qty.	Description Of Part
	9111-3003	1	STABILIZER VALVE ASSY (includes items 1 thru 5)
1	9104-4002	AR	SEAL KIT
		1	VALVE BODY
2	9104-4346	1	RELIEF VALVE ASSY
3	9104-4347	1	SOLENOID VALVE ASSY (includes item 4)
4	9104-4012	1	SOLENOID COIL
5	9104-4348	4	CHECK VALVE ASSY
			NOTE: SEAL KIT IS APPLICABLE TO ITEMS 2, 3 & 5. USE AS REQUIRED

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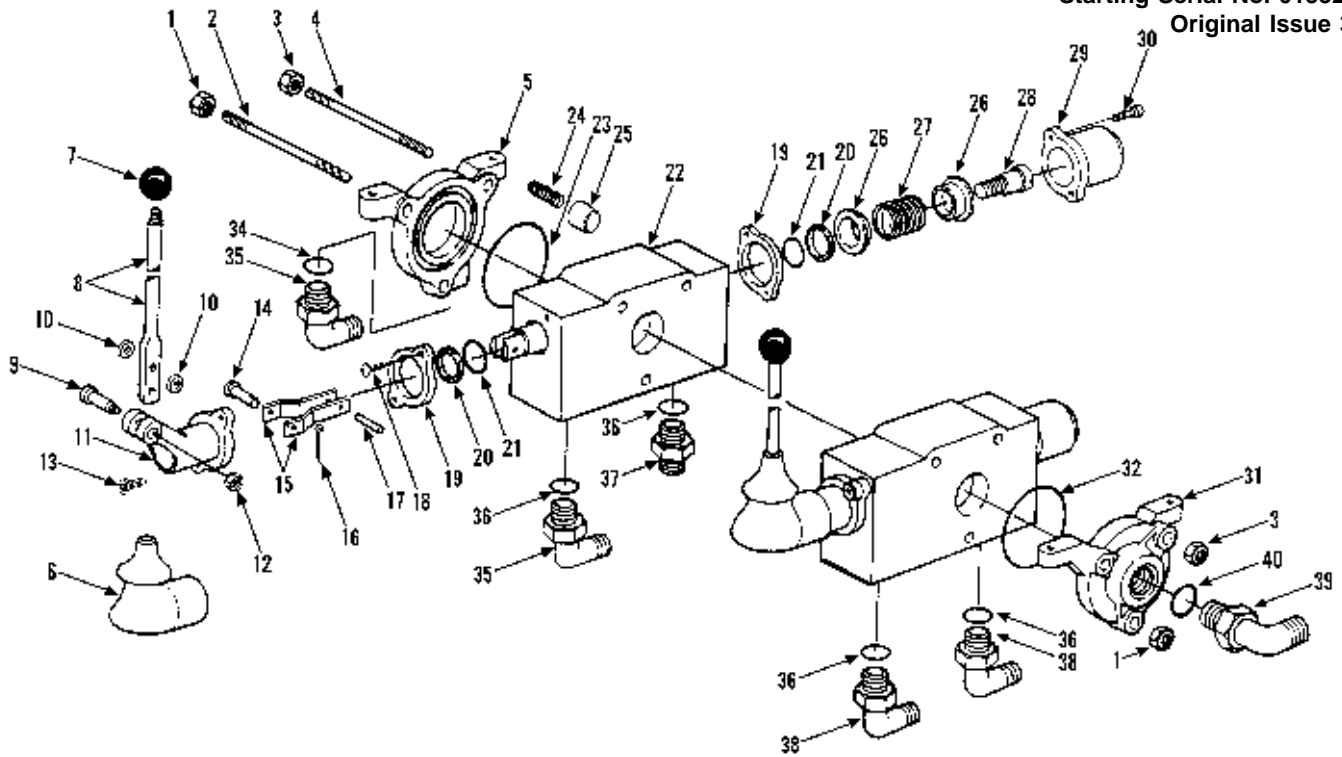
**HYDRAULIC COMPONENTS**

**Outrigger Control Valve**

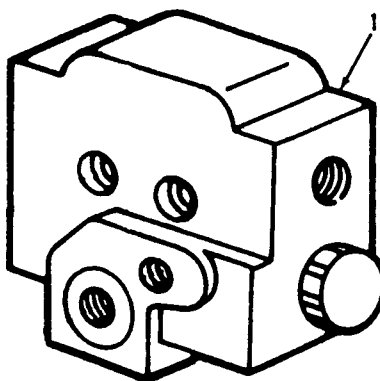
Starting Serial No. 8655105G

Starting Serial No. 0155299S

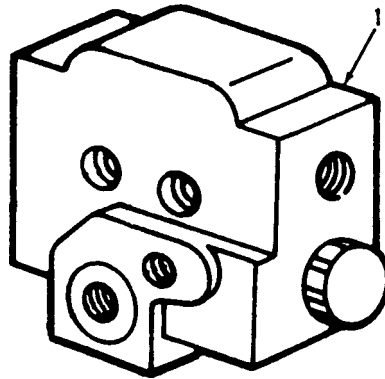
Original Issue 3-90



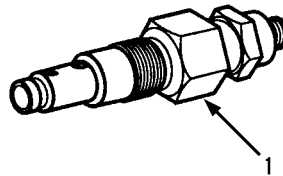
Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
	9103-5090	1	OUTRIGGER CONTROL VALVE ASSY (includes all items)	25	9103-4134	1	O-RING
	9103-3144	1	OUTRIGGER CONTROL VALVE ASSY (includes items 1 thru 32)	26		2	SPRING SEAT
	9103-4124	1	TIE ROD KIT (includes items 1 thru 4)	27	9103-4135	1	SPRING
	9103-4125	2	HANDLE ASSY (includes items 6 thru 17)	28		1	SPOOL END
	9103-4126	2	SPOOL SECTION ASSY (includes items 18 thru 30)	29		1	SPOOL CAP
1		2	SPECIAL NUT	30		2	SOCKET HD CAPSCREW
2	9103-4127	1	TIE ROD	31		1	INLET HOUSING ASSY (includes item 32)
3	9103-4128	1	SPECIAL NUT	32	9103-4132	1	O-RING
4	9103-4129	1	TIE ROD	33	8866-2060	1	ELBOW, 90 DEGREES (includes item 34)
5		1	OUTLET SECTION	34	8859-1206	1	O-RING
6		1	BOOT	35	8866-2085	1	ELBOW, 45 DEGREES (includes item 36)
7		1	KNOB	36	8859-1205	4	O-RING
8		1	HANDLE	37	8866-2036	1	CONNECTOR (includes item 36)
9		1	PIVOT BOLT	38	8866-2065	2	ELBOW, 90 DEGREES (includes item 36)
10		2	FLAT WASHER	39	8866-2067	1	ELBOW, 90 DEGREES ( includes item 40)
11		1	HANDLE BRACKET	40	8859-1207	1	O-RING
12		1	HEX NUT				NOTE: QUANTITIES ARE SHOWN FOR ONE HANDLE ASSY AND ONE SPOOL SECTION ASSY.
13		2	SOCKET HD CAPSCREW				NOTE: WHEN REPLACING A SPOOL SECTION, REMOVE SCREWS (18) AND REPLACE WITH SCREWS (13) TO SECURE THE HANDLE BRACKET
14		1	PIN				NOTE: ONLY PART NUMBERED PARTS ARE AVAILABLE FOR SERVICE REPLACEMENT.
15		2	LINK				
16		1	RETAINER				
17		1	ROLL PIN				
18		2	ROUND HD MACHINE SCREW				
19		2	SEAL PLATE				
20	9103-4130	2	WIPER				
21	9103-4131	2	O-RING				
22		1	HOUSING & SPOOL ASSY (not sold separately, order P/N 9103-4126)				
23	9103-4132	1	O-RING				
24	9103-4133	1	SPRING				



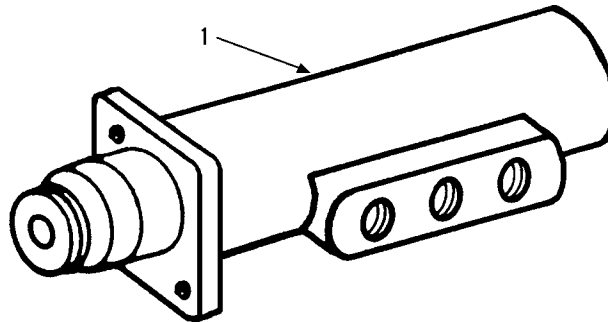
Item	Part No.	Qty.	Description Of Part
1	9104-3296	1	ACCUMULATOR CHARGE VALVE ASSY (no service parts available)



Item	Part No.	Qty.	Description Of Part
1	9108-3239	1	ACCUMULATOR CHARGE VALVE ASSY (no service parts available)

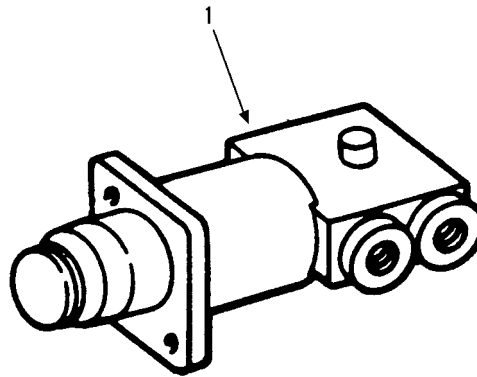


Item	Part No.	Qty.	Description Of Part
1	9103-4308	1	COUNTERBALANCE VALVE
*	9104-4524	1	COUNTERBALANCE VALVE SEAL KIT

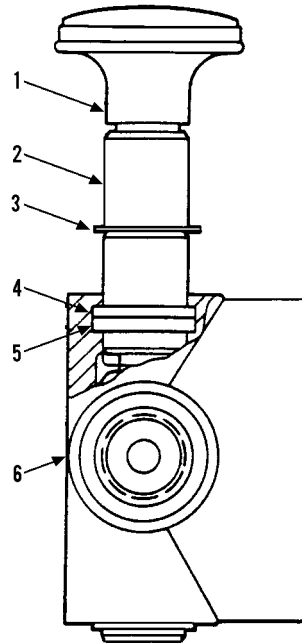


Item	Part No.	Qty.	Description Of Part
1	9108-3154 9106-4057	1 Ref	BRAKE VALVE ASSY REPAIR KIT

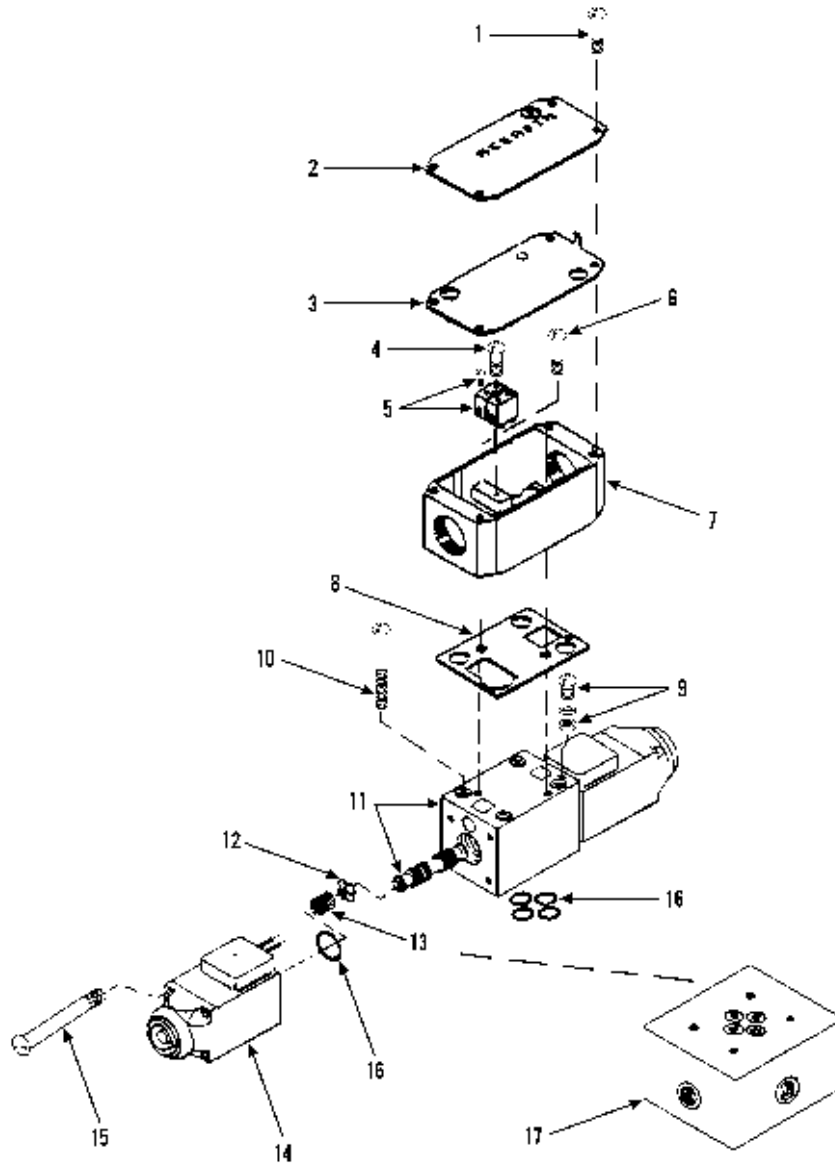




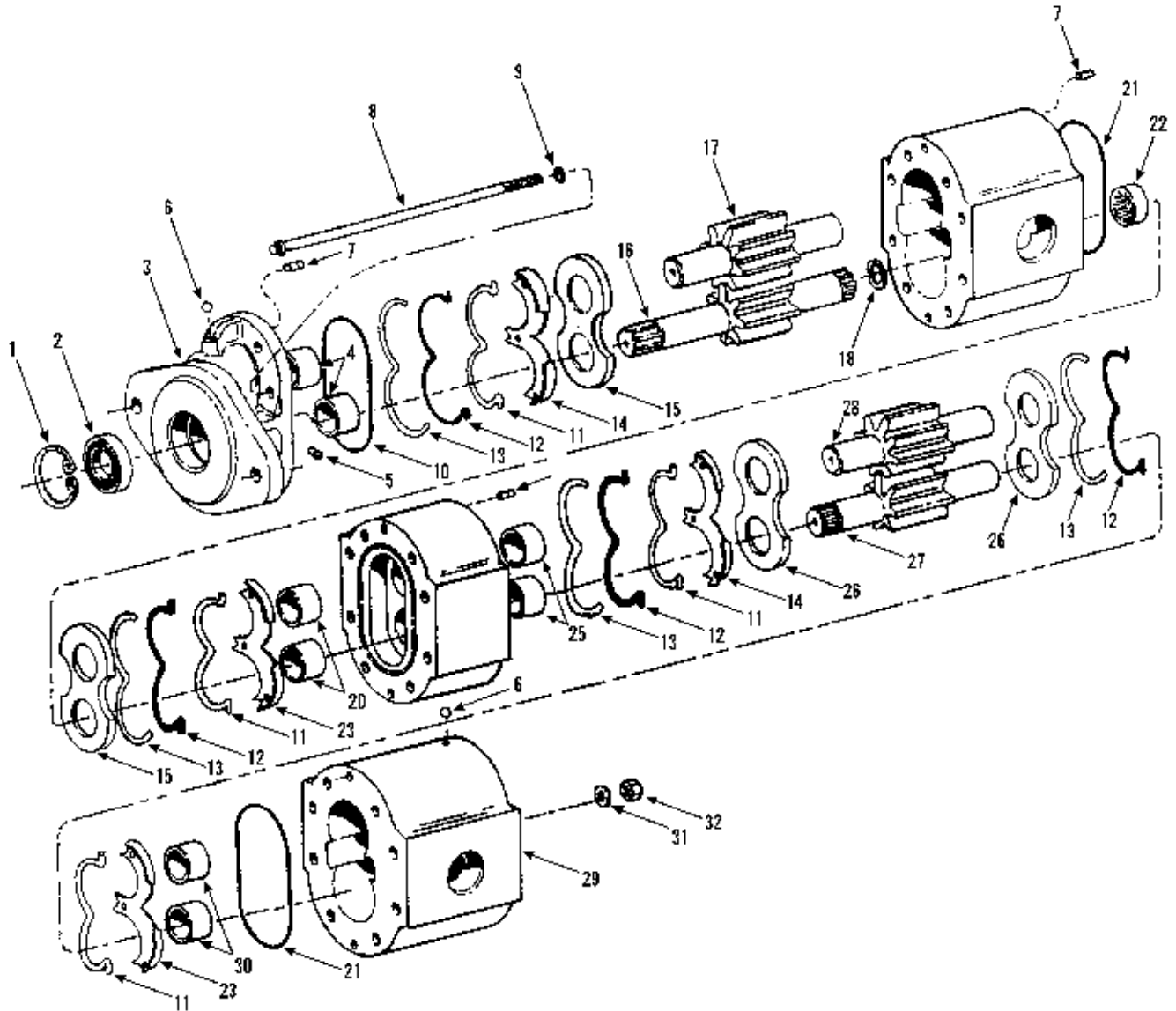
Item	Part No.	Qty.	Description Of Part
1	9108-3076	1	BRAKE VALVE ASSY (no service parts available)



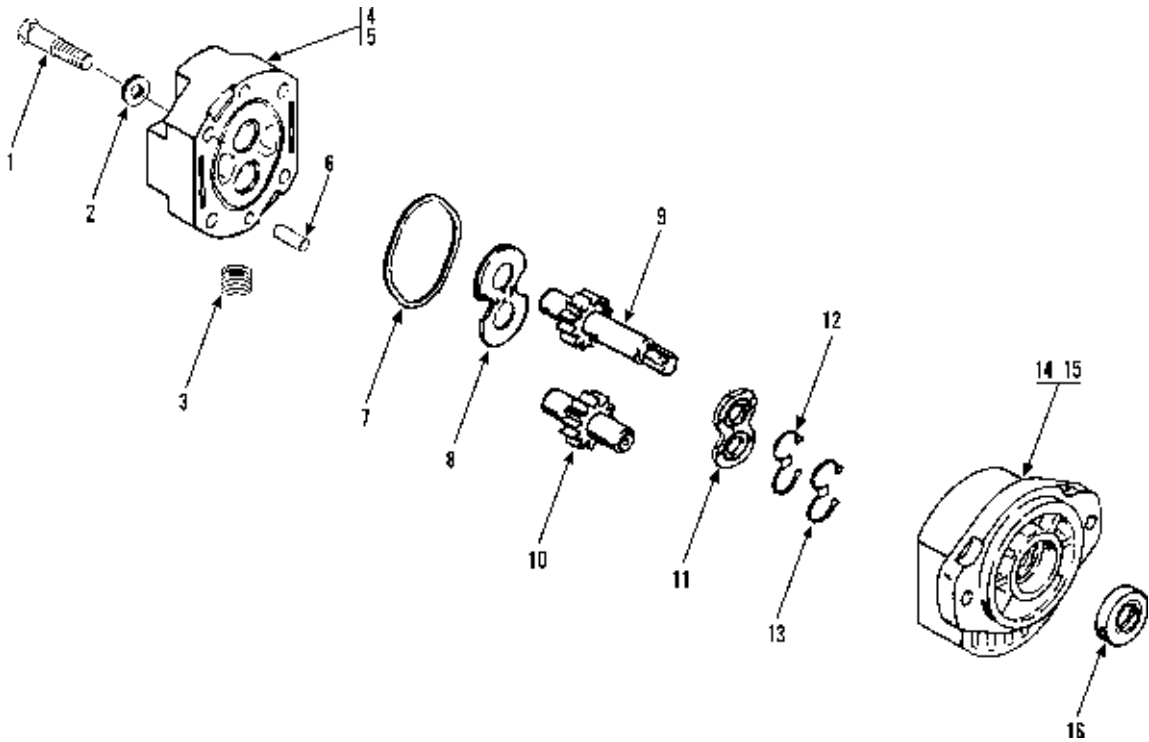
Item	Part No.	Qty.	Description Of Part
	9104-3090	1	PARKING BRAKE VALVE ASSY (includes items 1 thru 6)
1	9104-4297	1	KNOB
2	9104-4126	1	SPOOL
3	9104-4127	1	RETAINING RING
4	9104-4128	1	BACK-UP RING
5	9104-4129	1	O-RING
6	9104-4130	1	HOUSING
7	9103-3378	1	RUBBER BOOT (not shown)



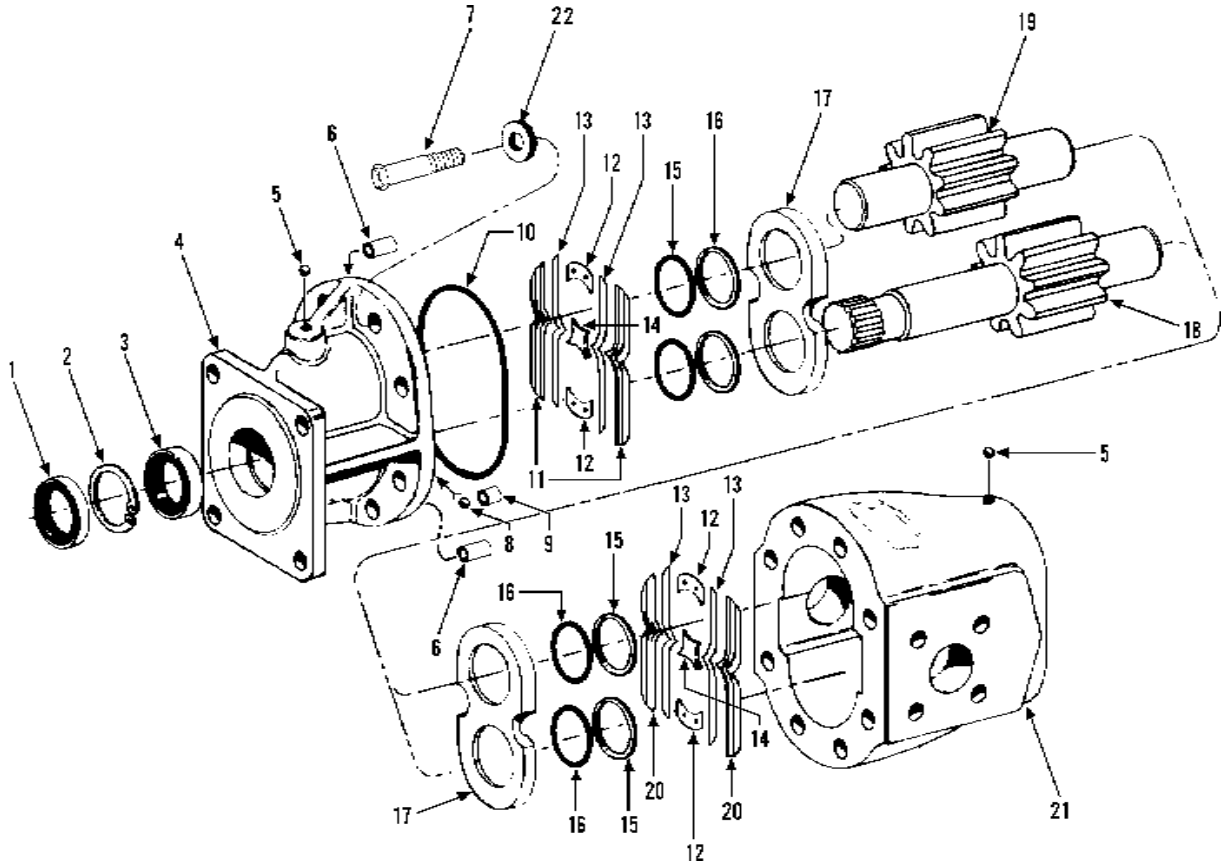
Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
	9103-3097	1	DIRECTIONAL CONTROL VALVE ASSY (includes all items)	11		1	SPOOL & HOUSING
1		4	SCREW	12	9103-4014	2	SPACER
2		1	NAME PLATE	13	9103-4015	2	SPRING
3	9103-4011	1	GASKET	14	9103-4016	2	SOLENOID
4		2	SCREW	15		8	SCREW
5	9103-4012	2	TERMINAL BLOCK	16	9103-4017	1	O-RING KIT
6		2	SCREW	17		1	MANIFOLD
7		1	TERMINAL BOX				NOTE: ONLY PART NUMBERED PARTS ARE AVAILABLE FOR SERVICE REPLACEMENT
8	9103-4013	1	GASKET				
9		1	GROUND				
10		4	MOUNTING BOLT				



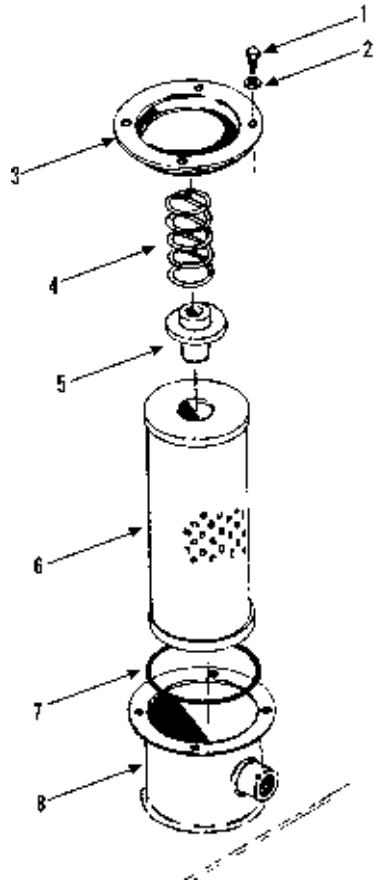
Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
	9104-3175	1	MAIN HYDRAULIC PUMP ASSY (includes all items)	18	9020-2402	1	SNAP RING
1	9020-2372	1	SNAP RING	19	9104-4217	1	FRONT GEAR BODY ASSY (includes item 20)
2	9020-2371	1	SEAL	20	9104-4212	2	BUSHING
3	9104-4211	1	FLANGE ASSY (includes item 4)	21	9020-2396	2	O-RING
4	9104-4212	2	BUSHING	22	9104-4218	1	SPLINE COUPLING
5	9104-4213	1	PLUG	23	9020-2406	2	TOP ISOLATION PLATE
6	9020-2435	2	BALL	24	9020-2419	1	BEARING PLATE ASSY (includes item 25)
7	9102-2376	6	DOWEL	25	9104-4219	1	BEARING P LATE ASSY (includes item 25)
8	9104-4214	8	STUD	26	9104-4220	2	PRESSURE PLATE
9	9020-2383	8	O-RING	27	9020-2416	1	REAR DRIVE GEAR
10	9020-2379	1	O-RING	28	9020-2415	1	REAR IDLER GEAR
11	9020-2404	4	BACK UP RING	29	9104-4221	1	REAR GEAR BODY ASSY (includes item 30)
12	9020-2403	4	O-RING	30	9104-4219	2	BUSHING
13	9020-2405	4	RETAINER RING	31	9104-4222	8	FLAT WASHER
14	9020-2407	2	BOTTOM ISOLATION	32	9104-4223	8	HEX NUT
15	9020-2399	2	PRESSURE PLATE				
16	9104-4215	1	FRONT DRIVE GEAR				
17	9104-4216	1	FRONT IDLER GEAR				



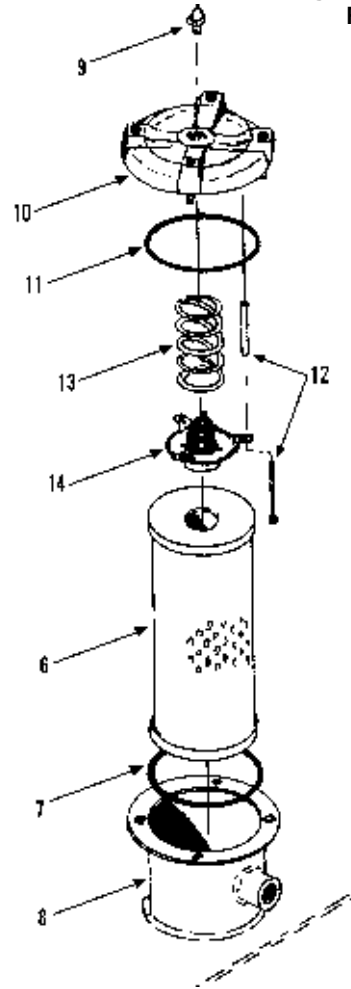
Item	Part No.	Qty.	Description Of Part
	9104-3259	1	PILOT PUMP ASSY (includes all items)
	9104-4354	1	MAJOR KIT (includes items, 7, 8, 11, 12, 13 & 16)
	9103-4019	1	SEAL KIT (includes items 7, 12, 13 & 16)
1	8820-1038	4	HEX HD CAPSCREW, 3/8-16X1-3/4, GR5 (lubricate and torque to 34-38 ft.lbs.)
2	9103-4058	4	WASHER
3	9103-4059	1	PIPE PLUG
4	9104-4355	1	REAR COVER ASSY (includes item 5)
5		2	SLEEVE
6	9103-4062	2	DOWEL PIN
7		1	GASKET
8	9103-4063	1	THRUST PLATE (install with bronze side facing gear)
9	9104-4356	1	DRIVE GEAR
10	9104-4357	1	DRIVEN GEAR
11		1	WEAR PLATE
12		1	SPACER
13		1	LOADING SEAL
14	9104-4358	1	BODY ASSY (includes item 15)
15		2	SLEEVE BUSHING
16	9104-4359	1	SHAFT SEAL
			NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE



Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
	9020-6748	2	REAR DRIVE MOTOR ASSY (includes all items)	11	9020-2390	2	TOP ISOLATION PLATE
1	9020-2371	1	OUTER SHAFT SEAL	12	9020-2391	4	END SEPARATOR
2	9020-2372	1	SNAP RING	13	9020-2393	4	SEALING STRIP
3	9020-5716	1	INNER SHAFT SEAL	14	9020-2392	2	CENTER SEPARATOR
4	9020-8193	1	FLANGE (includes bushings)	15	9020-8194	4	O-RING
5	9020-2435	2	BALL	16	9020-8195	4	BACK-UP RING
6	9020-2376	2	DOWEL	17	9020-2382	2	PRESSURE SWITCH
7	9002-7736	8	HEX HD CAPSCREW	18	9020-8196	1	DRIVE GEAR
8	9020-2377	2	CHECK BALL	19	9020-8197	1	IDLER GEAR
9	9020-2378	2	BALL CHECK RETAINER	20	9020-2389	2	BOTTOM ISOLATION PLATE
10	9020-2379	1	O-RING	21	9020-8198	1	BODY (includes bushings)
				22	9104-4222	8	SPECIAL WASHER

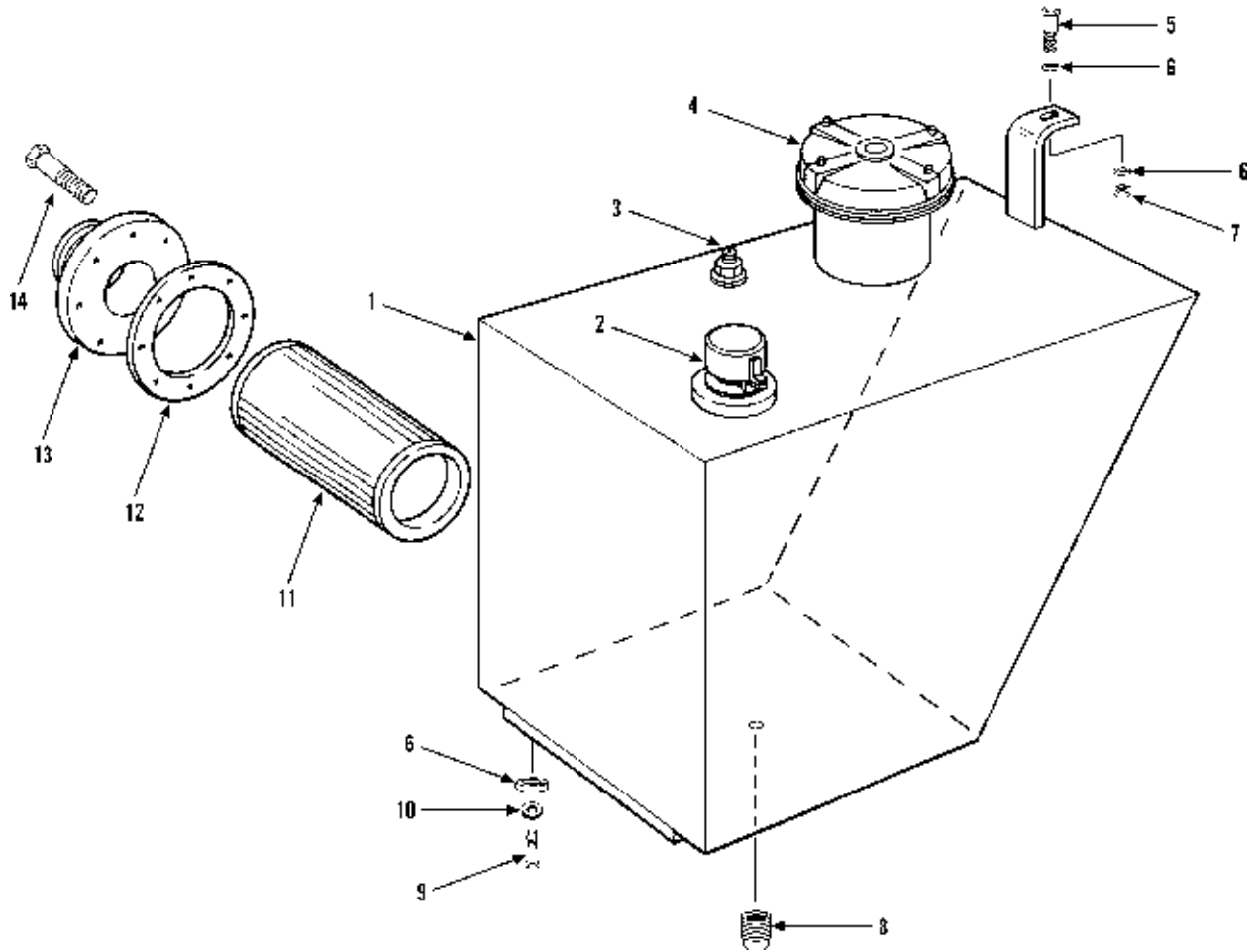


UNIT WITH INDICATOR



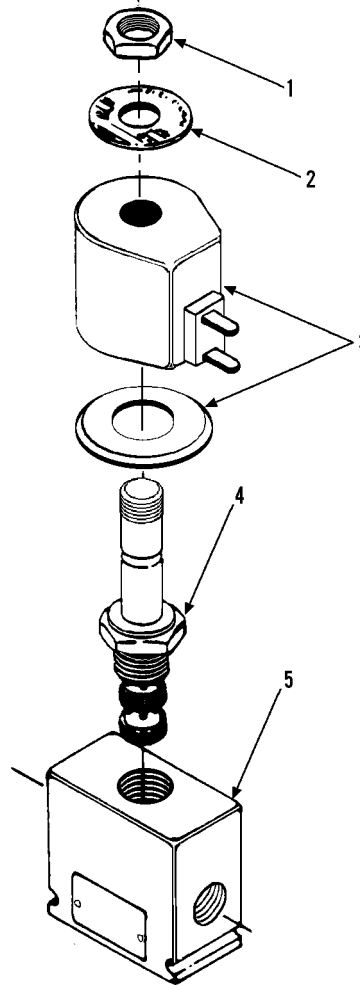
UNIT WITH POP-UP INDICATOR

Item	Part No.	Qty.	Description Of Part
1	8820-1018	4	HEX HD CAPSCREW, 5/16-18X3/4, GR5
2	8855-1010	4	LOCKWASHER, 5/16
3	9020-8200	1	CAP
4	9020-8201	1	SPRING
5	9020-8202	1	BYPASS VALVE
6	9103-3318	1	ELEMENT
7	9002-3246	1	O-RING
8		1	BODY
9	9103-4009	1	POP-UP INDICATOR
10	9103-4007	1	CAP ASSY (includes items 11 & 12)
11	9103-4329	1	O-RING
12	9103-4330	4	BOLT
13	9103-4010	1	SPRING
14	9103-4008	1	BYPASS VALVE
			NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE

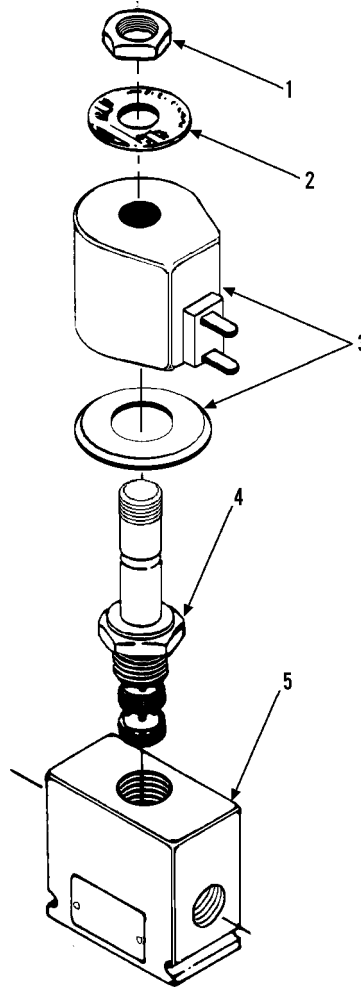


Item	Part No.	Qty.	Description Of Part
1	9103-6002	1	HYDRAULIC OIL TANK
2	9020-5222	1	FILLER-BREATHER ASSY (includes gasket and mounting hardware)
3	9040-3419	1	STANDPIPE WELDMENT
4		Ref	OIL RESERVOIR FILTER (see page 10-25 for details)
5	8820-1070	1	HEX HD CAPSCREW, 1/2-13X2-1/4, GR5
6	8856-1111	4	FLAT WASHER, 1/2
7	8852-1208	1	HEX LOCKNUT, 1/2-13
8	8871-1255	1	SQUARE HD PIPE PLUG, 1"
9	8820-1066	2	HEX HD CAPSCREW, 1/2-13X1-1/4, GR5
10	8855-1013	2	LOCK WASHER, 1/2
11	9041-0295	1	SUCTION FILTER
12	9041-0294	1	GASKET
13	9103-6003	1	FLANGE WELDMENT
14	8820-1035	8	HEX HD CAPSCREW, 3/8-16X1, GR5

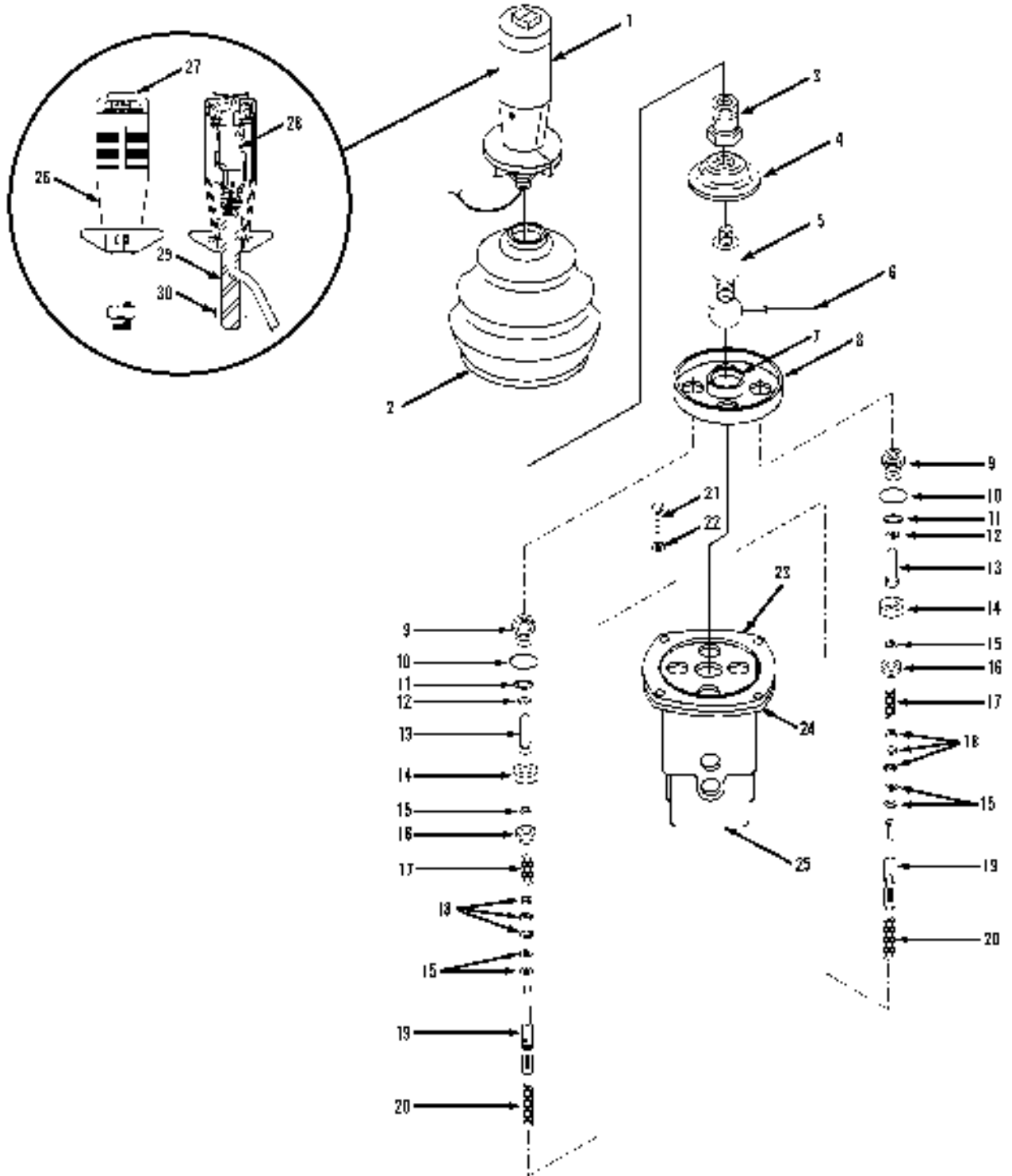




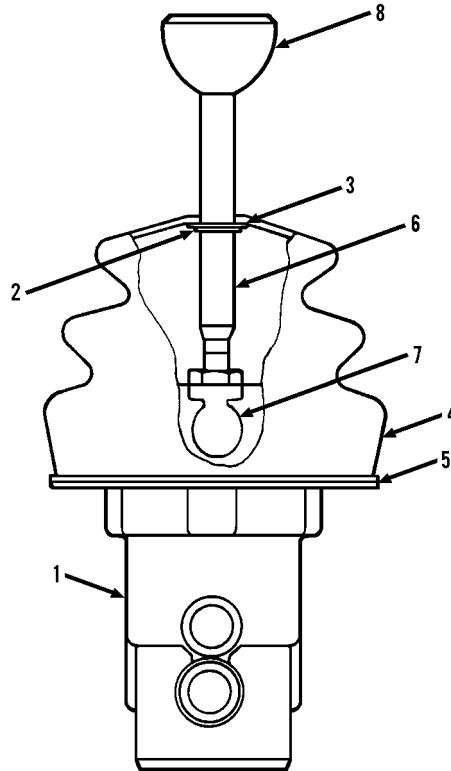
Item	Part No.	Qty.	Description Of Part
	9104-3108	1	SOLENOID VALVE ASSY, TWO WAY, NORMALLY OPEN (includes all items)
	9104-4002	1	SEAL KIT
1	9104-4003	1	NUT
2		1	NAME PLATE
3	7738-4267	1	SOLENOID COIL ASSY
4	9104-4004	1	VALVE ASSY
5	7738-3338	1	VALVE BODY
			NOTE: ONLY PART NUMBERED PARTS ARE AVAILABLE FOR SERVICE REPLACEMENT



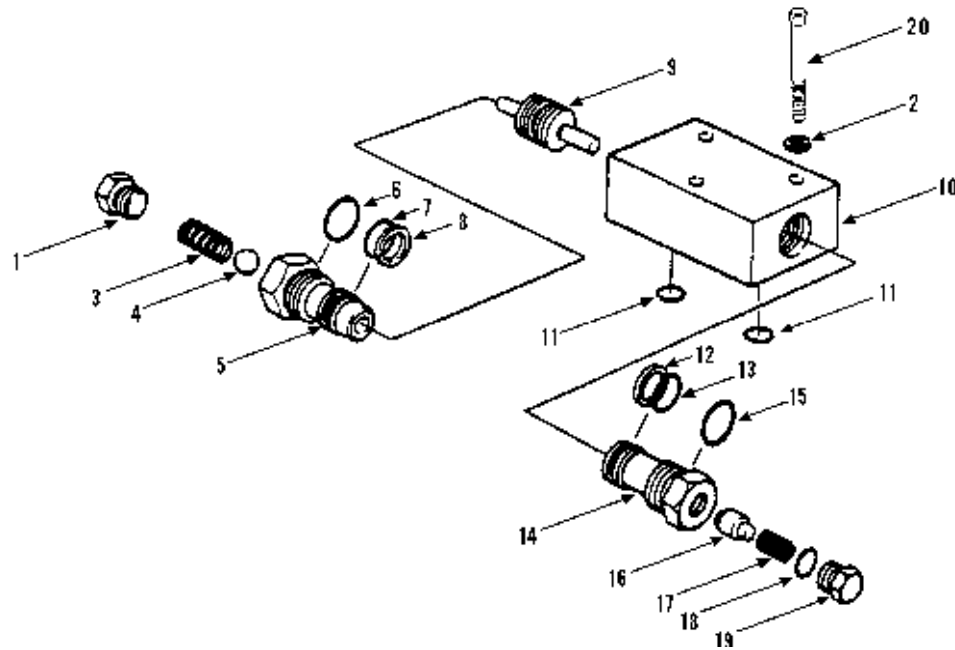
Item	Part No.	Qty.	Description Of Part
	9104-3107	1	SOLENOID VALVE ASSY, TWO - WAY, NORMALLY CLOSED (includes all items)
	9104-4005	1	SEAL KIT
1	9020-8066	1	NUT
2		1	NAME PLATE
3	7738-4267	1	SOLENOID COIL ASSY
4	9104-4006	1	VALVE ASSY
5	9104-4007	1	VALVE BODY
			NOTE: ONLY PART NUMBERED PARTS ARE AVAILABLE FOR SERVICE REPLACEMENT



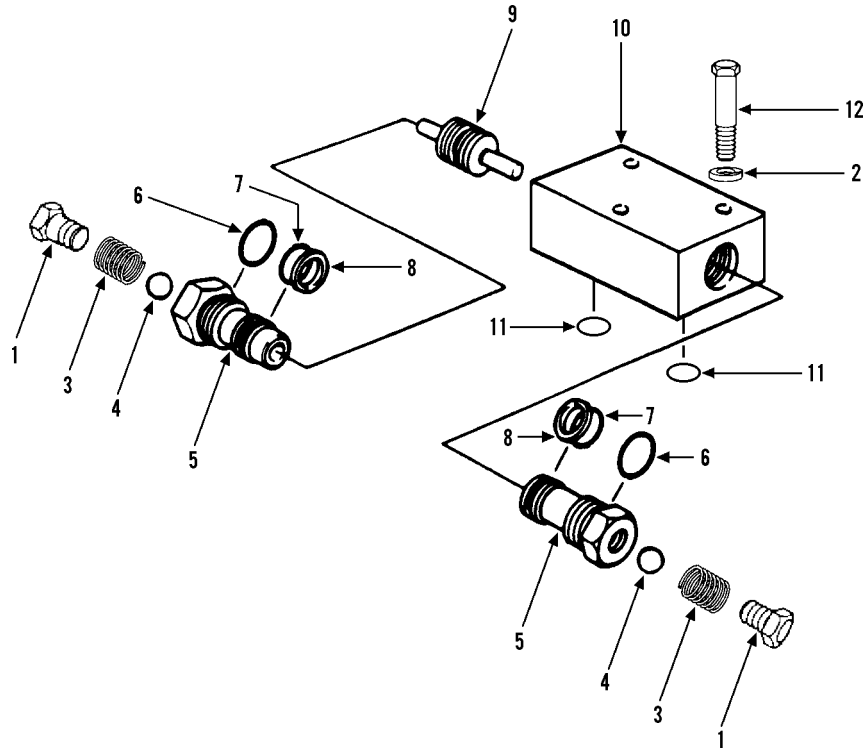
Item	Part No.	Qty.	Description Of Part
	9103-3482	1	JOYSTICK ASSY (includes all items)
*	9103-4344	4	SPOOL ASSY (includes items 15, 16, 17, 18, 19 & 20)
	9900-7524	AR	PLUNGER SEAL KIT (includes items 10 & 11)
1	9103-4343	1	HANDLE ASSY, <b>NO LONGER AVAILABLE (for service order P/N 9103-4378</b> handle assy which has serviceable component parts, items 26 thru 30)
	9103-4378	1	HANDLE ASSY (includes items 26 thru 30)
2	9103-4346	1	BOOT
3	9103-4347	1	HANDLE ADAPTER
4	9103-4348	1	CAM PLATE
5	9103-4349	1	PIVOT BALL
6	9103-4350	1	PIVOT PIN
7	9103-4351	1	PIVOT BALL RACE
8	9103-4352	1	BOOT PLATE
9	9103-4353	4	PLUNGER GUIDE
10	9103-4354	4	O-RING
11	9103-4355	4	U-CUP SEAL
12	9103-4356	4	RETAINING RING
13	9103-4357	4	PLUNGER PIN
14	9103-4358	4	RACE
15	9103-4359	12	RETAINING RING
16	9103-4360	4	SPRING RETAINER
* 17	9103-4361	4	SPRING
18	9103-4362	AR	SHIM (.010 thick)
	9103-4363	AR	SHIM (.020 thick)
	9103-4364	AR	SHIM (.060 thick)
19	9103-4365	4	SPOOL
20	9103-4366	4	SPRING
21	9103-4367	4	HEX HD CAPSCREW, 1/4-20X.75
22	9103-4368	4	LOCKWASHER
23	9103-4369	1	TOP MOUNTING PLATE
24	9103-4370	1	BOTTOM MOUNTING PLATE
25	9103-4371	1	HOUSING
26	9103-4379	1	GRIP ASSY (includes item 27)
27	9103-4380	1	BOOT (rocker assy)
28	9103-4381	2	MICRO SWITCH
29	9103-4382	1	HANDLE ROD
30	9103-4383	1	HEX JAM NUT, 1/2-13



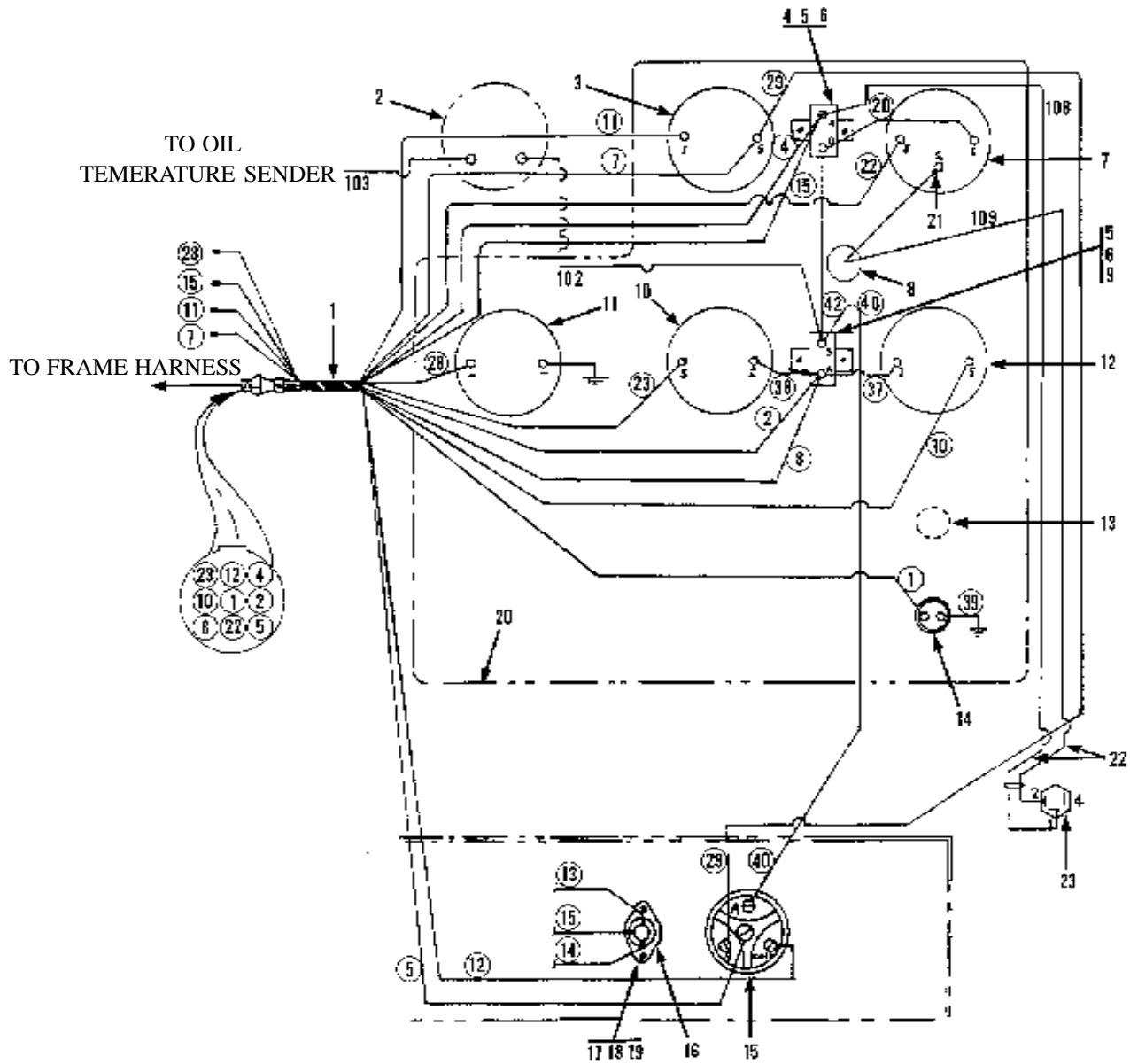
Item	Part No.	Qty.	Description Of Part
	9104-3064	1	HYDRAULIC CONTROLLER ASSY (includes all items)
	9900-7524	4	PLUNGER SEAL KIT (includes one each of the following; u-cup, o-ring seal, retainer & o-ring)
1	9104-4131	1	HYDRAULIC CONTROLLER
2	9104-4132	1	RETAINING RING
3	9104-4133	1	WASHER
4	9104-4134	1	BOOT
5	9104-4135	1	RETAINER
6	9104-4136	1	HANDLE ASSY (includes knob, handle rod & hex jam nut)(lubricate & tighten jam nut to 12-15 ft.lbs.)
7	9104-4474	1	BALL ASSY (includes ball pivot race, ball pivot, cam plate, handle adapter and top mounting plate)
* 8	9104-4525	1	KNOB



Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
	9104-3258		DUAL P.O. CHECK VALVE ASSY (includes all items except 2 & 20)	11	9103-4118	2	O-RING
	9104-4304		CHECK CARTRIDGE ASSY (includes items 1, 3, 4, 5, 6, 7 & 8)	12	9103-4115	1	BACK-UP RING
	9103-4107		CHECK CARTRIDGE ASSY W/ THERMAL RELIEF (includes items 12 thru 19)	13	9103-4114	1	O-RING
1	9104-4308	1	PLUG	14	9103-4112	1	CARTRIDGE BODY
2	8855-1011	3	LOCKWASHER, 3/8	15	9103-4113	1	O-RING
3	9104-4309	1	SPRING	16	9103-4119	1	THERMAL RELIEF ASSY
4	9103-4111	1	BALL	17	9103-4120	1	SPRING
5	9103-4112	1	CARTRIDGE BODY	18	9103-4109	1	O-RING
6	9104-4305	1	O-RING	19	9103-4121	1	PLUG
7	9104-4306	1	O-RING	20	8820-1040	3	HEX HD CAPSCREW, 3/8-16X2-1/4, GR5
8	9104-4307	1	BACK-UP RING	21	8855-1011	3	LOCKWASHER, 3/8
9	9103-4116	1	PISTON				NOTE: ONLY PART NUMBERED ITEMS ARE AVAILABLE FOR SERVICE REPLACEMENT
10	9103-4117	1	BODY				



Item	Part No.	Qty.	Description Of Part
	9105-3354	2	DUAL P.O. CHECK VALVE ASSY (includes all items except items 2 & 12)
1	9103-4272	1	PLUG
2	8855-1011	3	LOCKWASHER, 3/8
3	9103-4110	1	SPRING
4	9103-4111	1	BALL
5	9103-4112	1	CARTRIDGE BODY
6	9103-4113	1	O-RING
7	9103-4114	1	O-RING
8	9103-4115	1	BACK-UP RING
9	9103-4116	1	PISTON
10	9103-4117	1	BODY
11	9103-4273	2	O-RING
12	8820-1041	3	HEX HD CAPSCREW, 3/8-16X2-1/2, GR5
			NOTE: ONLY PART NUMBERED ITEMS ARE AVAILABLE FOR SERVICE REPLACEMENT

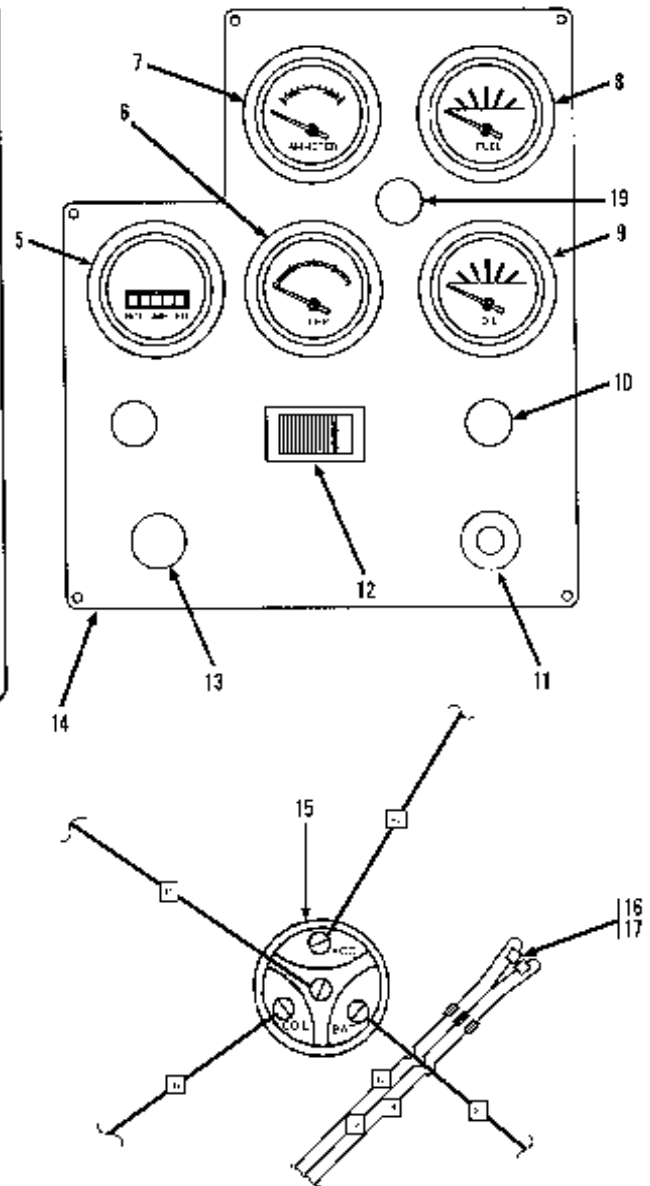
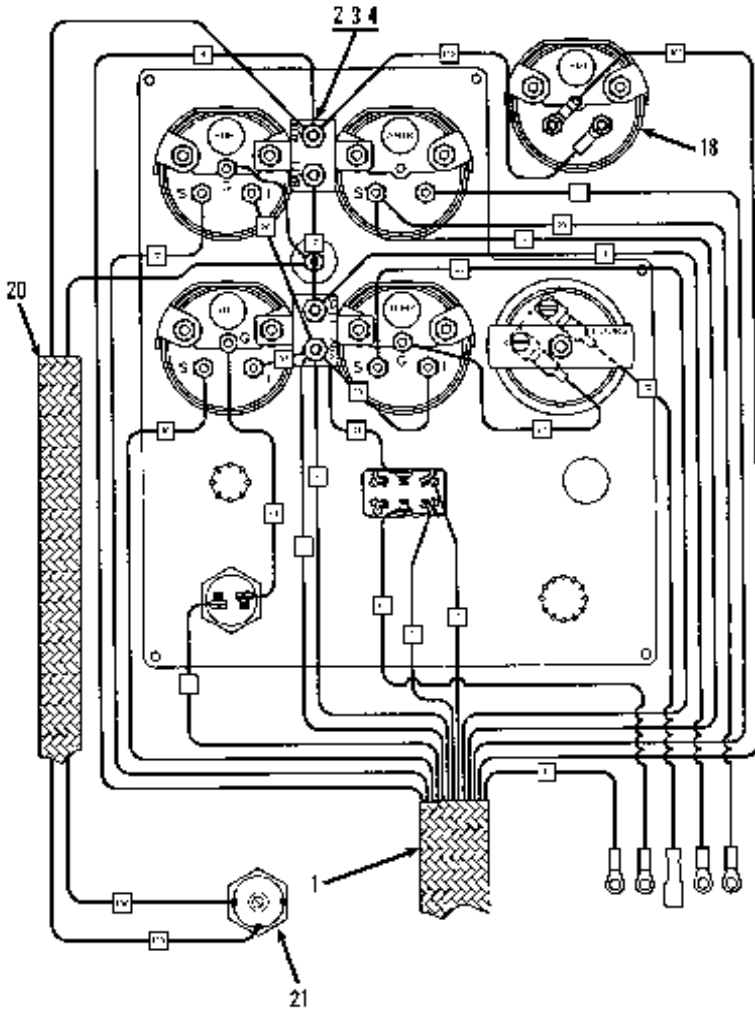


Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
	9103-5068	1	INSTRUMENT PANEL ASSY (includes all items except items 2,8,15 thru 19, 22, 23)	12	9020-5690	1	OIL PRESSURE GAUGE
1	9103-3112	1	DASH WIRING HARNESS	13	8666-1083	1	PLUG BUTTON
2	9103-3282	1	TRANSMISSION TEMPERATURE GAUGE	14	9020-0434	1	HORN BUTTON
3	9020-5685	1	AMMETER	15	9103-3317	1	IGNITION/START SWITCH
4	9103-3111	1	CIRCUIT BREAKER, 10 AMP	16	9105-3378	1	DIODE ASSY
5	8850-1613	4	HEX NUT, #10-32	17	8830-1052	2	ROUND HD MACHINE SCREW, #6-32x 3/8
6	8855-4917	4	LOCK WASHER, #10	18	8855-1005	2	LOCK WASHER, #6
7	9020-5686	1	FUEL GAUGE	19	8850-1608	2	HEX NUT, #6-32
8	9103-3084	1	BRAKE WARNING LIGHT	20	9103-1102	1	INSTRUMENT PANEL
9	9020-0506	1	CIRCUIT BREAKER, 30 AMP	21	8348-3075	1	EYELET TERMINAL
10	9020-5687	1	WATER TEMPERATURE GAUGE	22	9104-5033	1	BRAKE LIGHT HARNESS
11	9020-5688	1	HOURMETER	23	9104-3077	1	PRESSURE SWITCH



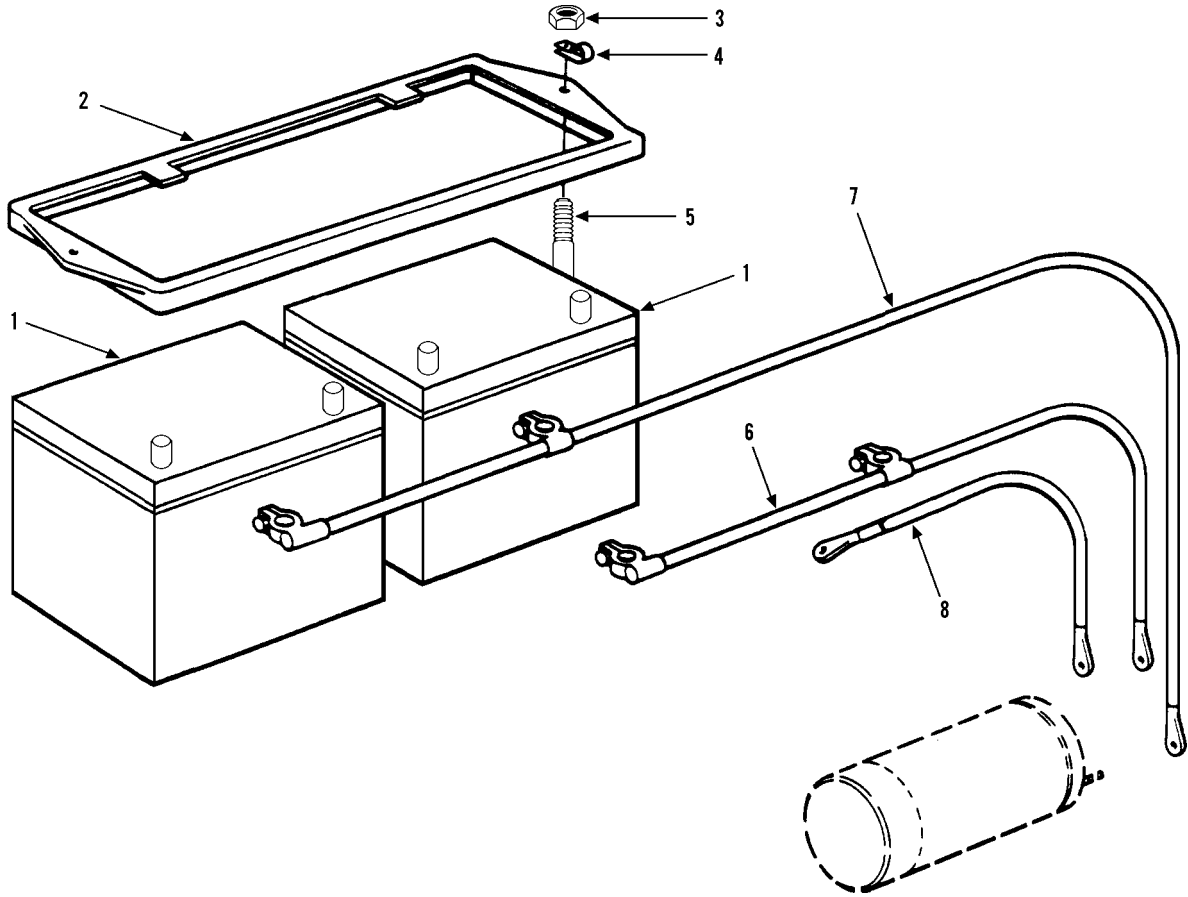
**GRADALL®**  
**MATERIAL HANDLER**  
**544B**

**ELECTRICAL**  
**Instrument Panel & Wiring Harness**  
 Starting Serial No. 0155382S  
 Original Issue 1-96

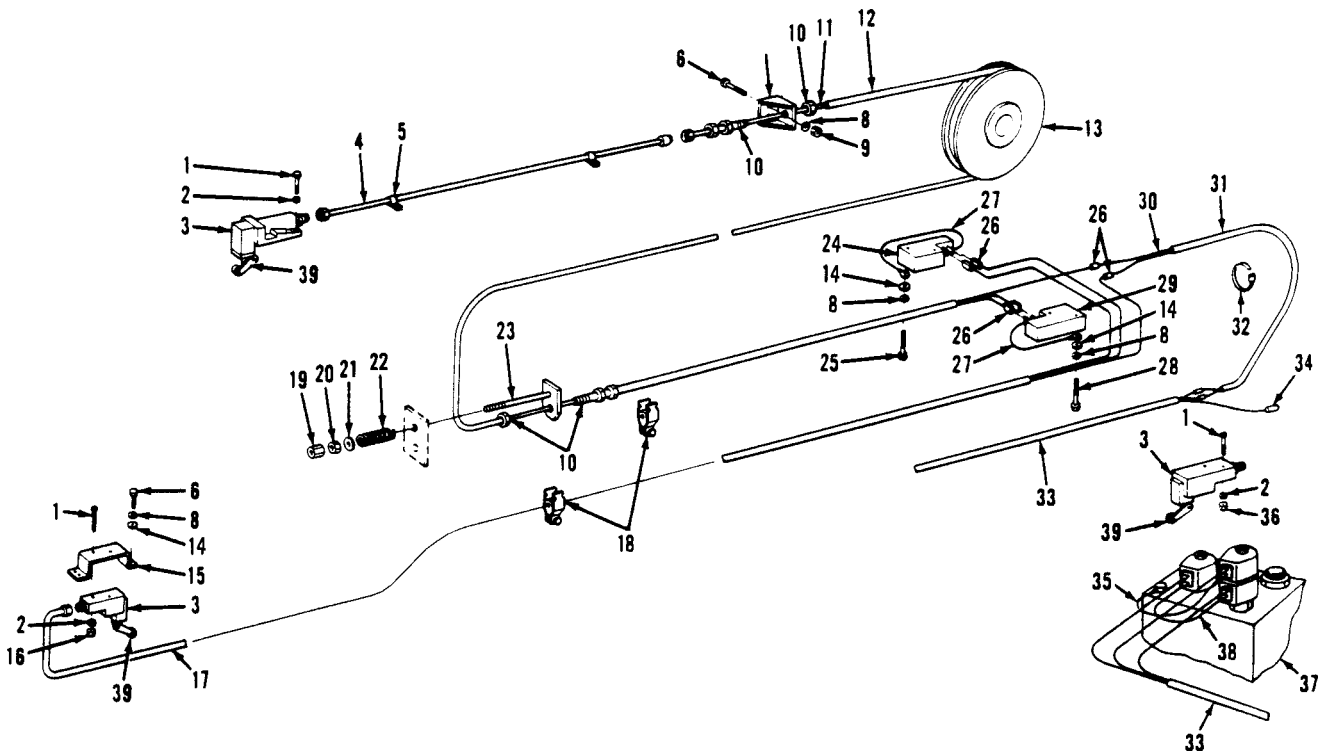


Item	Part No.	Qty.	Description Of Part
	9103-5068	1	INSTRUMENT PANEL ASSY (includes all items except items 15 thru 21)
1	9103-3112	1	INSTRUMENT PANEL HARNESS
2	9103-3111	2	CIRCUIT BREAKER
3	8855-4917	4	LOCKWASHER, #10X.062X.047
4	8850-1613	4	HEX NUT, #10-32
5	9020-5688	1	HOURMETER
6	9020-5687	1	WATER TEMP. GAUGE
7	9020-5685	1	AMMETER
8	9020-5686	1	FUEL GAUGE
9	9103-3247	1	OIL PRESSURE GAUGE

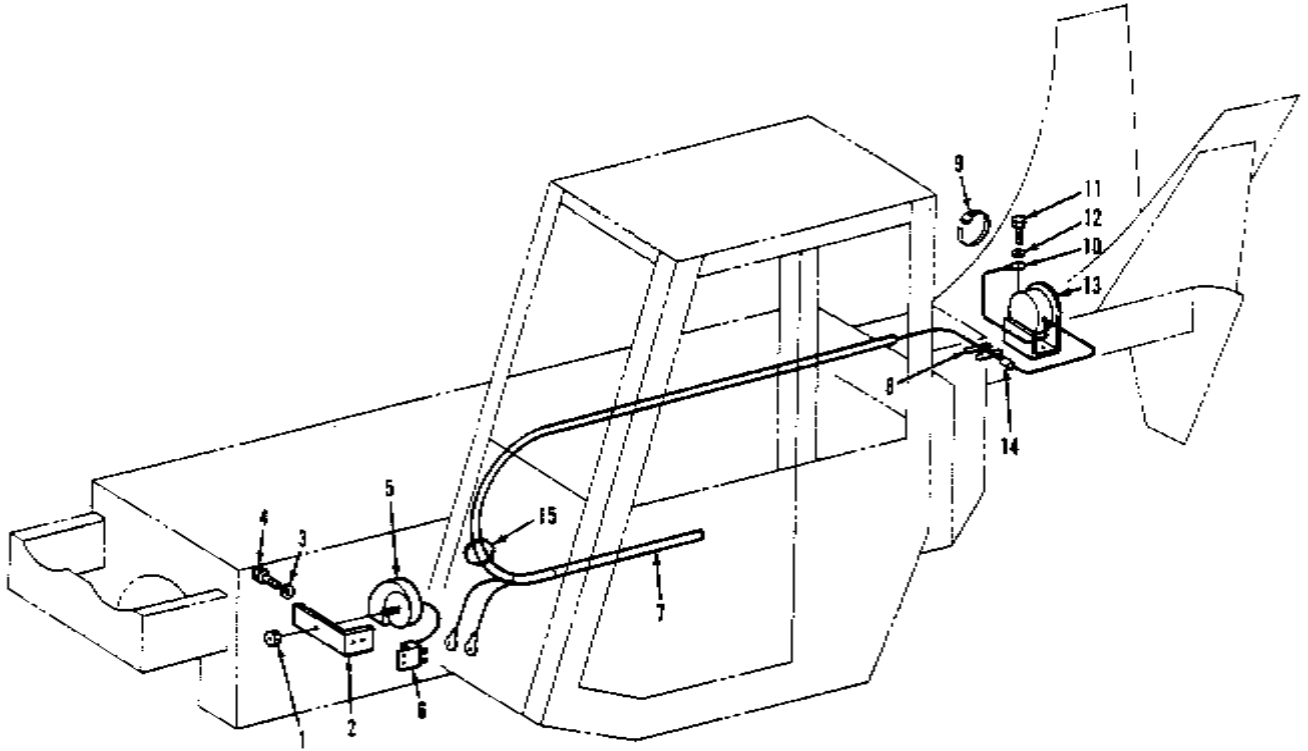
Item	Part No.	Qty.	Description Of Part
10	9108-3221	1	PLUG BUTTON, 5/8 HOLE
11	9020-0434	1	BUTTON SWITCH
12	9108-3259	1	ROCKER SWITCH
13	8521-1041	1	PLUG BUTTON, 3/4 HOLE
14	9104-1632	1	INSTRUMENT PANEL
15	9103-3317	1	IGNITION - START SWITCH
16	9103-3383	1	DIODE ASSY
17	9002-7187	1	TY-RAP
18	9103-3282	1	TRANSMISSION TEMP. GAUGE
19	9103-3084	1	BRAKE WARNING LIGHT
20	9104-5033	1	BRAKE LIGHT HARNESS
21	9103-3416	1	PRESSURE SWITCH



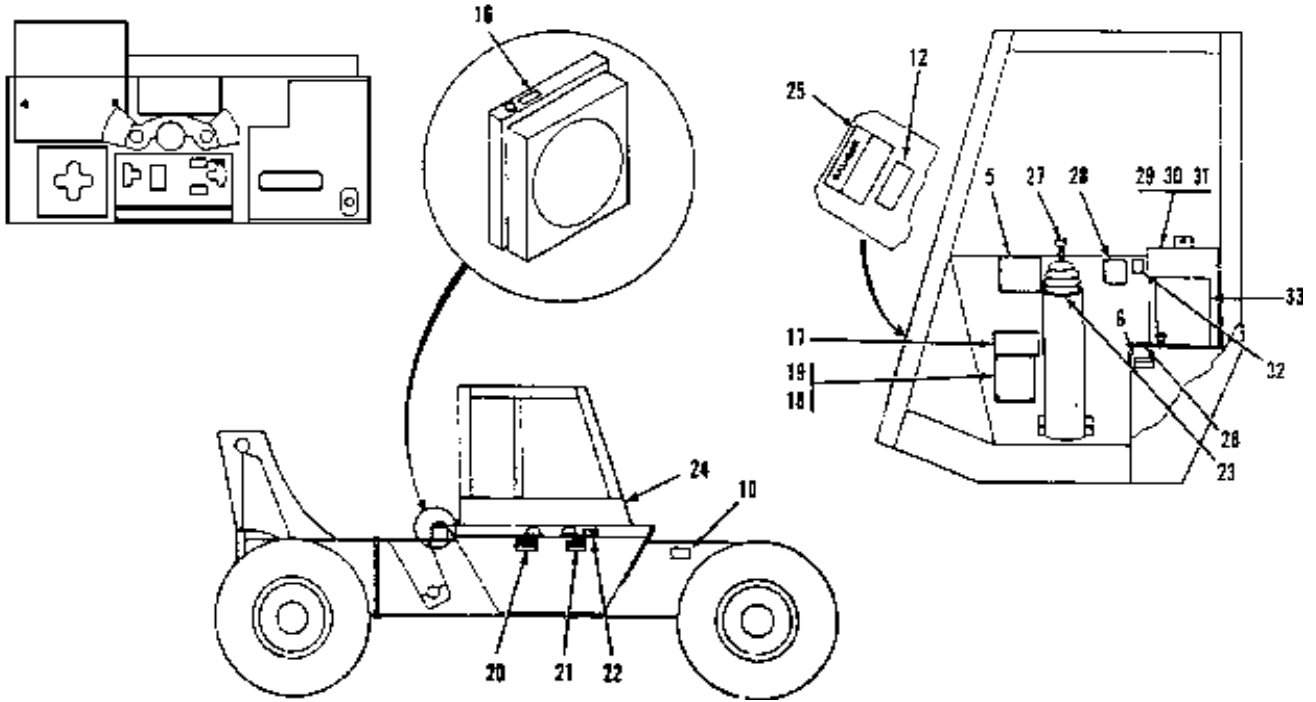
Item	Part No.	Qty.	Description Of Part
* 1	8097-3021	2	BATTERY (12 volt, 1000 amps), TOP STUD, 3/8-16 UNC THREAD, BCI GROUP 31
2	9040-3432	1	BATTERY HOLD DOWN
3	7714-3006	2	LOCK NUT
4	8584-1094	1	SUPPORT CLAMP
5	9020-0382	2	HOLD DOWN STUD
6	9103-3042	1	NEGATIVE BATTERY CABLE
7	9103-3086	1	POSITIVE BATTERY CABLE
8	9020-0811	1	GROUND CABLE



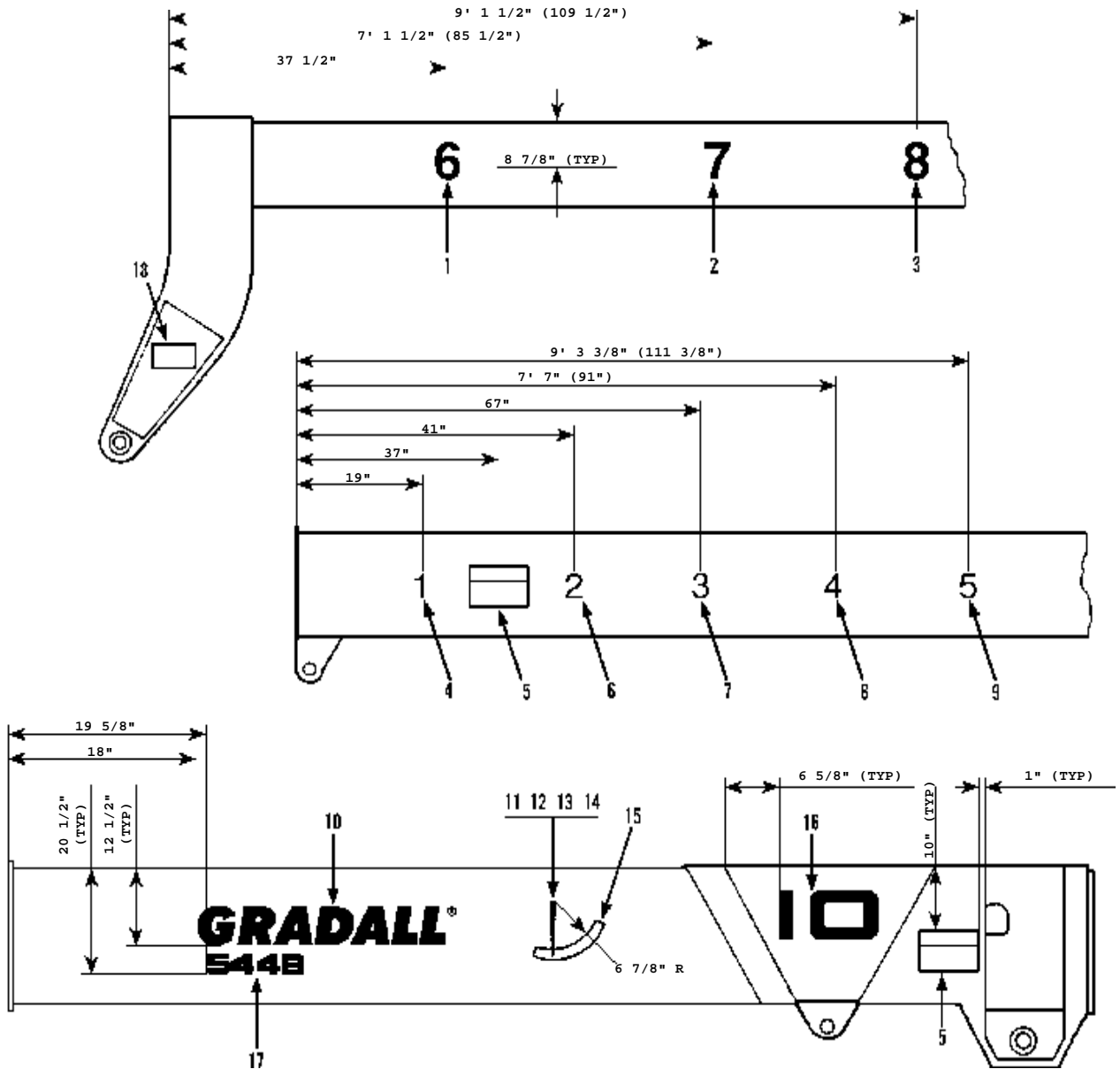
Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
1	8830-1099	6	ROUND HD MACHINE SCREW, #10-24X1-3/4	24		Ref	SOLENOID VALVE ASSEMBLY, (see page 10-28 for details)
2	8855-1007	6	LOCKWASHER, #10	25	8820-1010	2	HEX HD CAPSCREW, 1/4-20X2-1/4, GR5
3	9104-4546	3	SWITCH	26	9002-8959	6	FEMALE TERMINAL
4	9104-3118	1	WIRING HARNESS ASSEMBLY	27	9104-1014	2	JUMPER WIRE
5	8594-1016	2	SUPPORT CLAMP	28	8820-1008	2	HEX HD CAPSCREW, 1/4-20X1-3/4, GR5
6	8820-1004	6	HEX HD CAPSCREW, 1/4-20X7/8, GR5	29		Ref	SOLENOID VALVE ASSEMBLY, (see page 10-27 for details)
7	9104-6001	1	HOSE SUPPORT	30	9104-3122	1	WIRING HARNESS ASSEMBLY
8	8855-1009	10	LOCKWASHER, 1/4	31		A/R	SPLIT WIRE LOOM, 1/2 I.D.
9	8850-1004	2	HEX NUT, 1/4-20	32	8668-3122	1	TY-RAP
10	9104-3161	2	NYLON TUBE FITTING, 3/4X1/2	33	9103-3079	1	WIRING HARNESS ASSEMBLY
11	9104-3119	1	WIRING HARNESS ASSEMBLY	34	9002-8960	1	MALE TERMINAL
12		A/R	NYLON TUBE, 3/4 O.D.	35	9104-1554	1	JUMPER WIRE
13		Ref	PUSH BEAM CABLES, (see page 3-5 for details)	36	9104-3199	2	SQUARE NUT, #10-24
14	8856-1107	8	FLAT WASHER, 1/4	37		Ref	SERIES PARALLEL CONTROL VALVE, (see page 10-13 for details)
15	9104-6002	1	SWITCH COVER	38	9104-5035	1	JUMPER WIRE
16	8850-1612	2	HEX NUT, #10-24	39	9104-4475	3	LEVER/ROLLER ASSEMBLY
17	9104-3117	1	WIRING HARNESS ASSEMBLY				
18	9104-3120	6	CUSHION CLAMP				
19	8850-1008	1	HEAVY HEX JAM NUT, 1/2-13				
20	8850-1008	1	HEX NUT, 1/2-13				
21	9020-7041	1	SPRING RETAINER				
22	9020-0313	1	SPRING				
23	9104-6007	1	HOSE TAKE-UP WELDMENT				
							NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE



Item	Part No.	Qty.	Description Of Part
1	2492-1395	1	HORN NUT
2	2492-1394	1	HORN BRACKET
3	8855-1009	2	LOCKWASHER, 1/4
4	8820-1003	2	HEX HD CAPSCREW, 1/4-20X3/4, GR5
5	2492-1393	1	HORN
6	8666-1084	1	HORN RELAY
7		Ref	WIRE HARNESS ASSY (see pages 5-1 and 11-3 for details )
8	8368-3181	2	TY-RAP BASE
9	9002-7187	2	TY-RAP
10	8688-3260	1	RING TERMINAL
11	8820-1018	2	HEX HD CAPSCREW, 5/16-18X3/4, GR5
12	8855-1010	2	LOCKWASHER, 5/16
13	7722-3003	1	TRAVEL ALARM
14	8668-3480	1	BUTT CONNECTOR
15	9104-3228	1	GROMMET

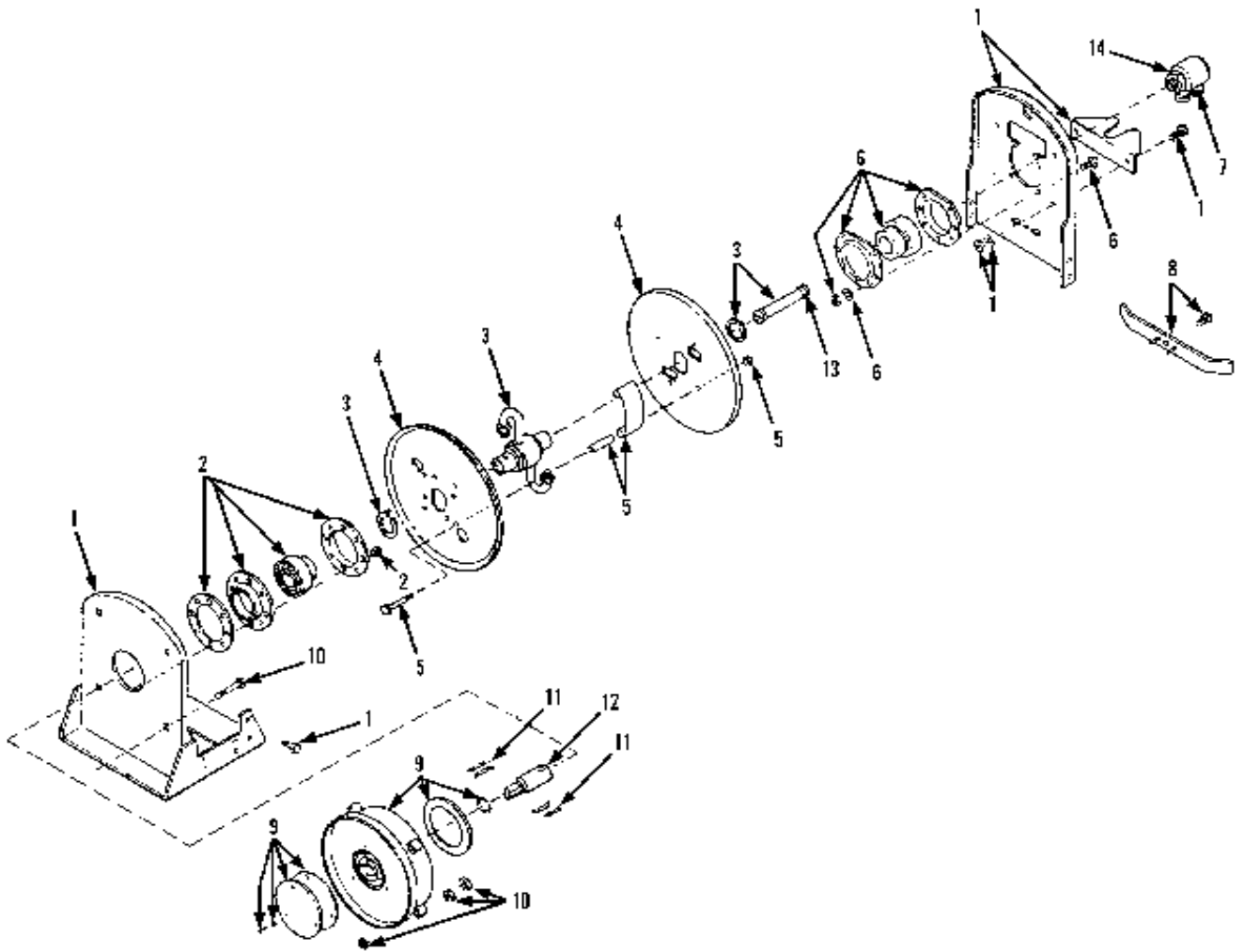


Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
1	9020-7488	1	MOUNTING PLATE	17	9100-3030	1	PATENT DECAL
2	8830-2128	2	ROUND HD MACHINE SCREW, 1/4-20X1	18	9104-3184	1	SERIAL NO. & ATTACHMENT PLATE
3	9104-3033	1	LIFT CAPACITY DECAL	19	8834-3901	4	DRIVE SCREW, #10x1/2
4	9100-3040	1	FORWARD-REVERSE DECAL	20	9100-3052	1	WARNING DECAL
5	9106-3047	1	WARNING DECAL	21	9100-3051	1	WARNING DECAL
6	7733-3027	1	MADE IN U.S.A. DECAL	22	7702-3006	1	HYDRAULIC OIL DECAL
7	9100-3039	1	SHIFT DECAL	23	9020-6194	1	TRIM, 17" LONG
8	9103-3362	1	CAUTION DECAL	24	8364-1675	1	GRADALL DECAL, WHITE
9	9104-3171	1	SWING FORK DECAL, LEFT (used on machines with swing forks)	25	7733-3011	1	GRADALL DECAL, BLACK
10	7702-3007	1	BATTERY INSTRUCTION STICKER	26	8360-1011	1	DANGER DECAL
11	9103-3089	1	HORN DECAL	27	9104-3129	1	PARKING BRAKE DECAL
12	9104-3215	1	WARNING DECAL	28	9100-3044	1	BOOM OPERATING DECAL
13	9104-3172	1	SWING FORK DECAL, RIGHT (used on machines with swing forks)	29	9104-3169	1	SWING FORK LOAD CHART
14	9103-3024	1	HUB LOCKOUT DECAL	30	9103-3102	1	MANUAL HOLDER
15	9103-3090	1	WINCH DECAL (used on machines with winch & truss boom)	31	8830-1193	4	ROUND HD MACHINE SCREW, #10-32X1/2
16	9103-3011	1	HANDS WARNING DECAL	32	8855-4900	4	INTERNAL TOOTH WASHER, #10
				33	9104-3173	1	SWING FORK CAUTION DECAL (used on machines with swing forks)
					9104-3141	1	SERVICE DECAL



Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
1	9104-3331	1	"6" DECAL, WHITE (standard)	9	9112-3044	1	"5" DECAL, WHITE (standard)
	9104-3332	1	"6" DECAL, BLACK (optional)		9112-3045	1	"5" DECAL, BLACK (optional)
2	9104-3333	1	"7" DECAL, WHITE (standard)	10	9112-3037	1	GRADALL DECAL, WHITE (standard)
	9104-3334	1	"7" DECAL, BLACK (optional)		9112-3038	1	GRADALL DECAL, BLACK (optional)
3	9104-3335	1	"8" DECAL, WHITE (standard)	11	9020-0445	1	PENDULUM
	9104-3336	1	"8" DECAL, BLACK (optional)		9020-0688	1	BEARING
4	9100-3016	1	"1" DECAL, WHITE (standard)	13	9020-6491	1	SHOULDER BOLT, 1/4-20
	9104-3134	1	"1" DECAL, BLACK (optional)		14	8856-1108	1
5	7702-3009	2	HOLE WARNING DECAL	15		9100-3031	1
	6	9100-3018	1		"2" DECAL, WHITE (standard)	16	9104-3034
9104-3135		1	"2" DECAL, BLACK (optional)	9104-3035	2		"10" DECAL, BLACK (optional)
7	9112-3042	1	"3" DECAL, WHITE (standard)	17	9104-3329	1	"544B" DECAL, WHITE (standard)
	9112-3043	1	"3" DECAL, BLACK (optional)		9104-3330	1	"544B" DECAL, BLACK (optional)
8	9100-3020	1	"4" DECAL, WHITE (standard)	18	9103-3023	1	QUICK SWITCH WARNING DECAL
	9104-3136	1	"4" DECAL, BLACK (optional)				

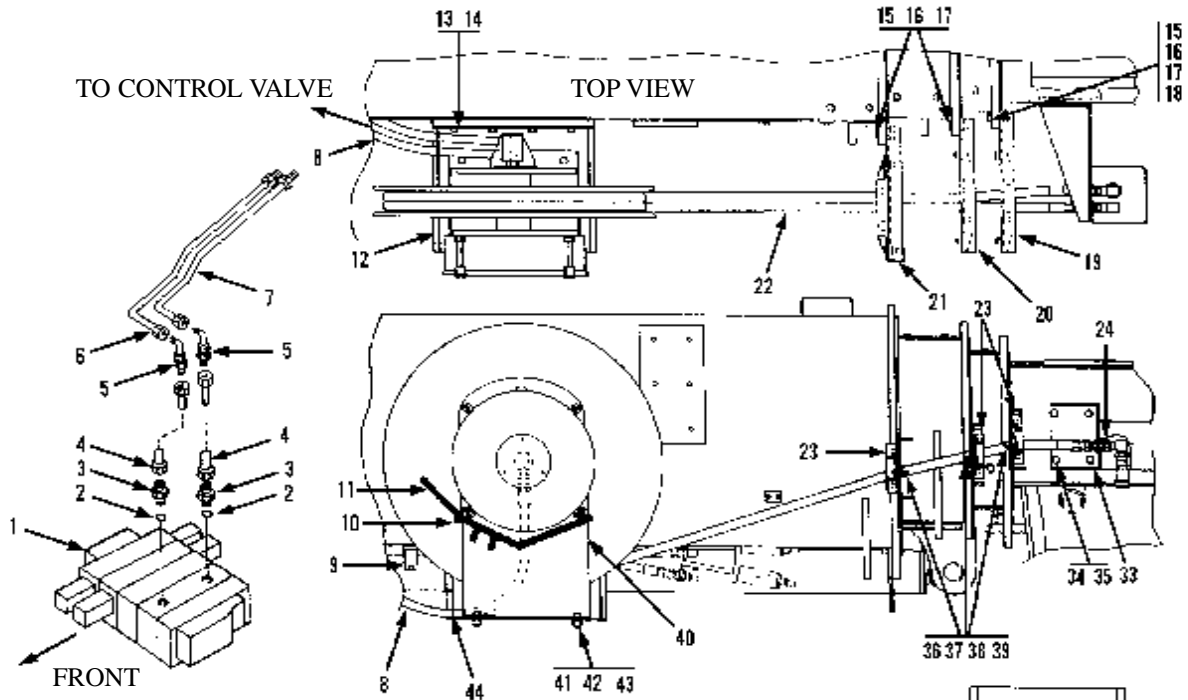
\* Added dimensions to decals.



Item	Part No.	Qty.	Description Of Part
	9104-3106	1	DUAL HOSE REEL ASSY (includes all items)
	9104-4225	1	SEAL KIT (includes items 13, 14)
1	9104-4226	1	FRAME ASSY
2	9104-4227	1	BEARING KIT, SPRING END
3	9104-4228	1	SHAFT KIT
4	9104-4229	1	DISC KIT
5	9104-4230	1	WRAPPER KIT
6	9104-4231	1	BEARING KIT, SWIVEL END
7	9104-4232	1	SWIVEL KIT
8	9104-4233	1	TENSION WRENCH KIT
9	9104-4234	1	SPRING MOTOR KIT
10	9104-4235	1	SPRING MOUNTING KIT
11	9104-4236	1	PAWL KIT
12	9104-4237	1	STUB SHAFT
13		Ref	O-RING (included in seal kit)
14		Ref	SEAL ASSY (included in seal kit)

**GRADALL®**  
**MATERIAL HANDLER**  
**544B**

**OPTIONAL EQUIPMENT**  
**Dual Hose Reel & Hydraulic System**  
**Starting Serial No. 0155299S**  
**Original Issue 3-90**  
**Revised 12-1-93**



Item	Part No.	Qty.	Description Of Part
1		Ref	MAIN CONTROL VALVE ASSY (see page 10-10 for details)
2	8859-1207	2	O-RING
3	8866-2022	2	CONNECTOR (includes item 2)
4	9002-2043	2	HOSE ASSY
S	9002-9938	2	BULKHEAD ELBOW, 90 DEGREES
6	9104-3196	1	TUBE ASSY
7	9020-7393	1	TUBE ASSY
8	8471-7505	2	HOSE ASSY
9	9020-7464	12	CUSHION CLAMP
10	9002-7187	2	NYLON TIE
11		1	SPRING TENSIONING SPANNER WRENCH (supplied with hose reel)
12	9104-6054	1	REEL BRACKET WELDMENT
13	8820-1064	8	HEX HD CAPSCREW, 1/2-13X7/8, GR5
14	8855-1013	8	LOCKWASHER, 1/2
15	8820-1069	6	HEX HD CAPSCREW, 1/2-13X2, GR5
16	8855-1013	6	LOCKWASHER, 1/2
17	8850-1008	6	HEX NUT, 1/2-13
18	8856-1006	1	FLAT WASHER, 1/2
19	9104-1243	1	ROLLER SUPPORT
20	9104-1244	1	ROLLER SUPPORT
21	9104-1245	1	ROLLER SUPPORT
22	9104-3159	1	HOSE ASSY
23	9104-3121	3	ROLLER ASSY
24	9002-9939	2	BULKHEAD UNION
25	8471-7925	2	HOSE ASSY
26	9104-1565	1	GROMMET, 16-1/4" LONG
27	9104-3321	2	BULKHEAD UNION
28	8871-2304	2	REDUCING BUSHING, 1/2X3/8
29	9020-4244	1	HYDRAULIC COUPLER, MALE
30	9104-3126	1	DUST CAP
31	9020-4245	1	HYDRAULIC COUPLER, FEMALE
32	9104-3125	1	DUST CAP
33	9104-6059	1	SUPPORT WELDMENT
34	8820-1033	4	HEX HD CAPSCREW, 3/8-16X3/4, GR5

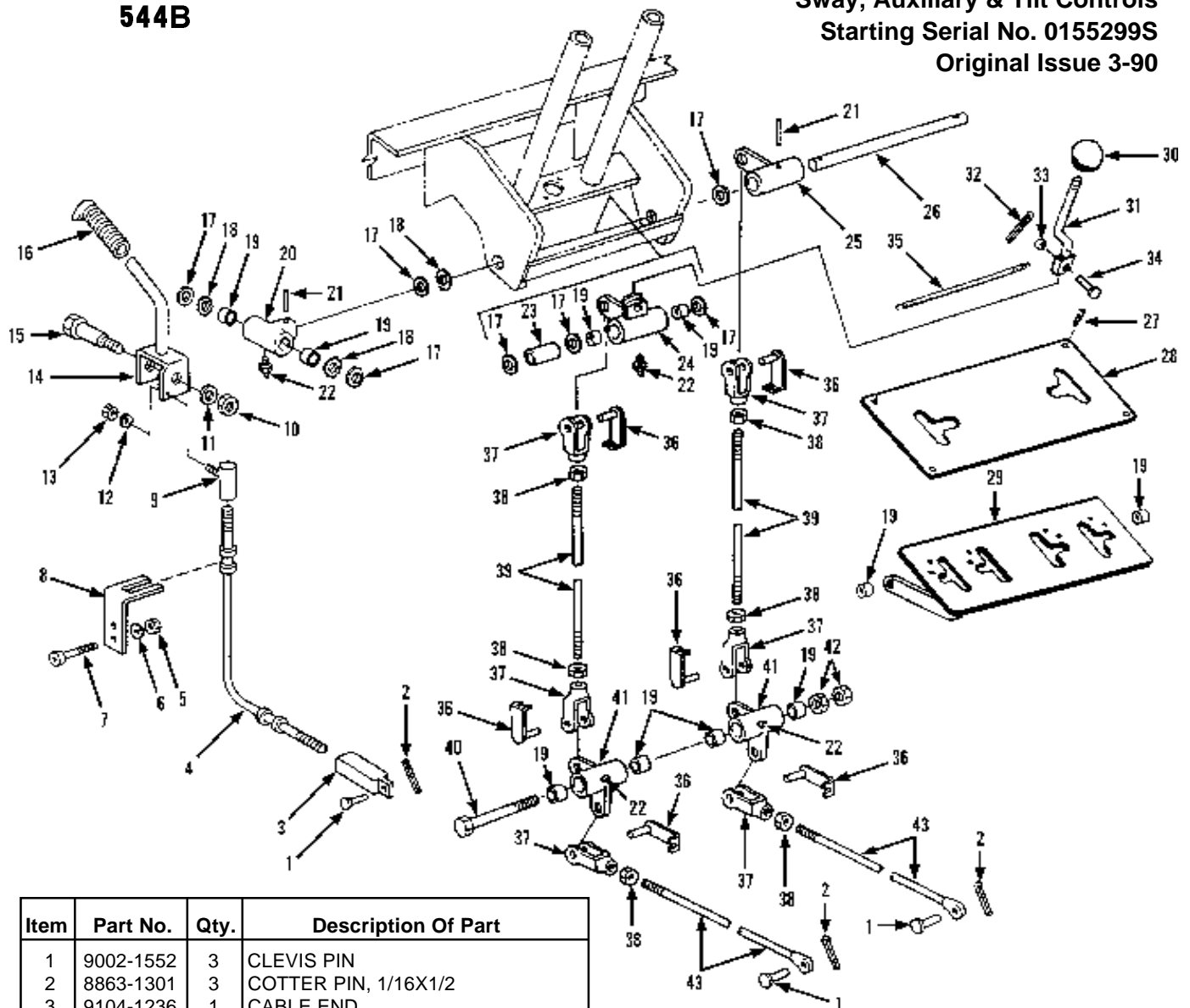
Item	Part No.	Qty.	Description Of Part
35	8855-1011	4	LOCKWASHER, 3/8
36	8820-1036	6	HEX HD CAPSCREW, 3/8-16X1-1/4, GR5
37	8856-1004	6	FLAT WASHER, 3/8
38	8855-1011	6	LOCKWASHER, 3/8
39	8850-1006	6	HEX NUT, 3/8-16
40		Ref	DUAL HOSE REEL ASSY (see page 13-1 for details)
41	8820-1066	4	HEX HD CAPSCREW, 1/2-13X1-1/4, GR5
42	8855-1013	4	LOCKWASHER, 1/2
43	8850-1008	4	HEX NUT, 1/2-13
44		AR	FLEX GUARD, 5"

NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.



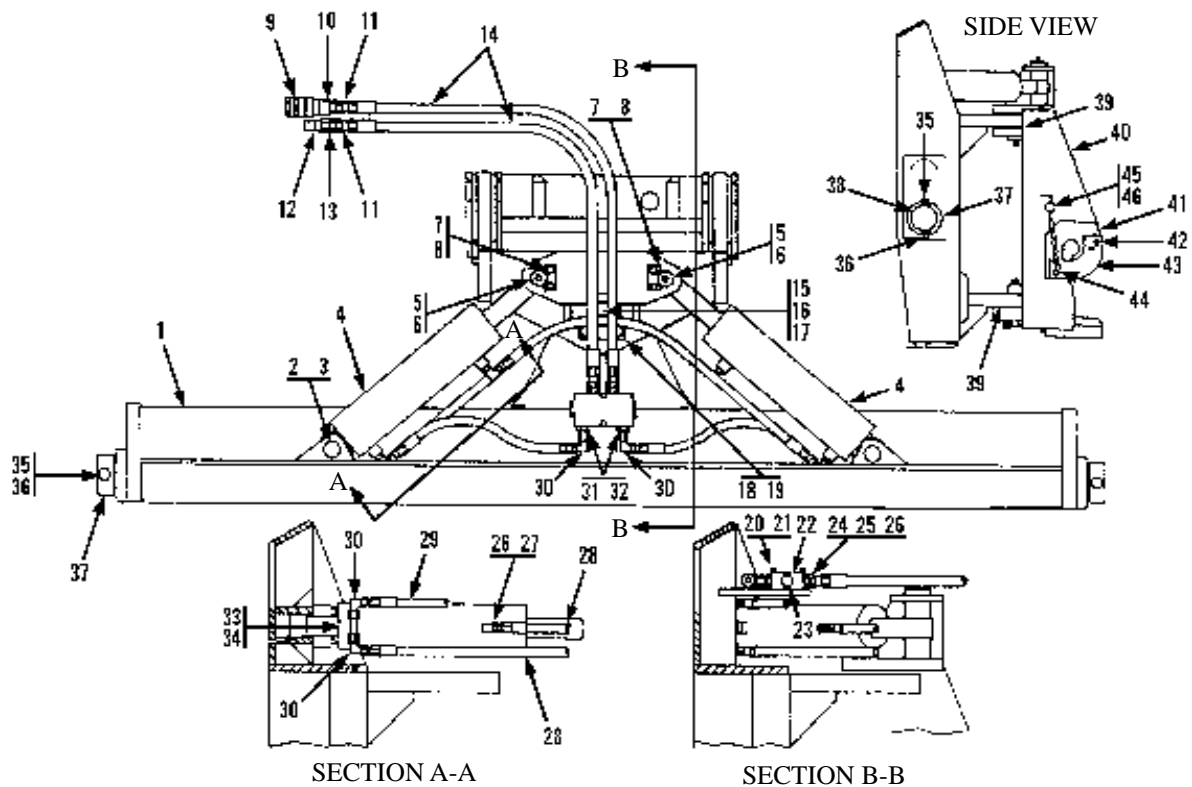
**GRADALL®**  
**MATERIAL HANDLER**  
**544B**

**OPTIONAL EQUIPMENT**  
**Sway, Auxiliary & Tilt Controls**  
**Starting Serial No. 0155299S**  
**Original Issue 3-90**

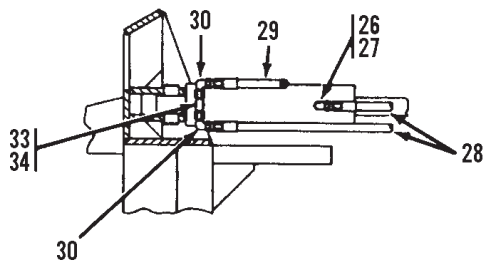
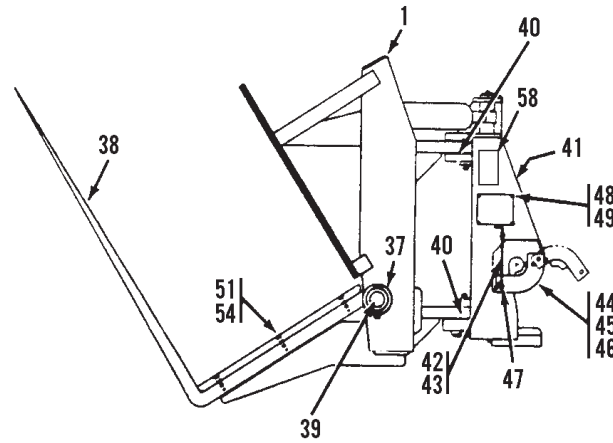
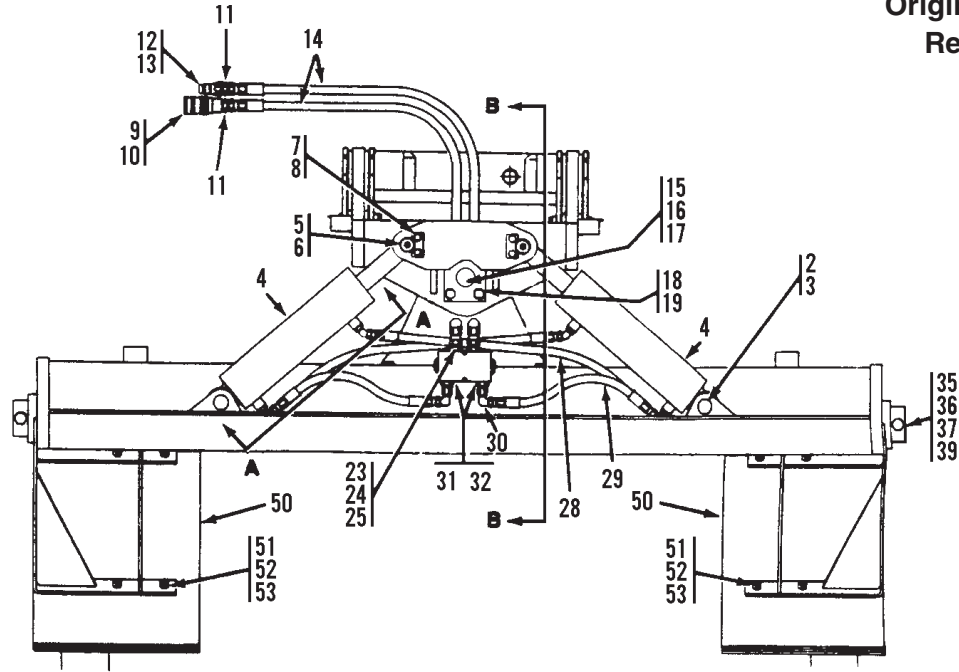


Item	Part No.	Qty.	Description Of Part
1	9002-1552	3	CLEVIS PIN
2	8863-1301	3	COTTER PIN, 1/16X1/2
3	9104-1236	1	CABLE END
4	9020-6861	1	CABLE ASSY
5	8852-1204	2	HEX LOCKNUT, 3/8-16
6	8850-1006	2	HEX NUT, 3/8-16
7	8826-1030	2	SOCKET BUTTON HD CAPSCREW, 3/8-16X1-1/4
8	9103-1013	1	CABLE BRACKET
9	8668-3117	1	BALL JOINT
10	8850-1008	1	HEX NUT, 1/2-13
11	8855-1013	1	LOCKWASHER, 1/2
12	8855-1010	1	LOCKWASHER, 5/16
13	8850-1305	1	HEX NUT, 5/16-24
14	9040-3406	1	HANDLE WELDMENT
15	9020-3502	1	SHOULDER BOLT
16	9020-0774	1	HANDLE GRIP
17	8856-1113	10	FLAT WASHER, 5/8
18	9002-8662	6	WAVE BEND WASHER
19	9020-0290	10	NEEDLE BEARING
20	9020-6859	1	HOUSING WELDMENT
21	8863-1479	2	ROLL PIN, 3/16X1-1/4
22	8867-1008	4	LUBE FITTING, STRAIGHT, 1/4-28
23	9103-1189	1	SPACER
24	9020-5983	1	BELL CRANK
25	9020-5541	1	BELL CRANK
26	9020-5571	1	SHAFT
27	9002-0489	4	PAN HEAD SCREW, #2

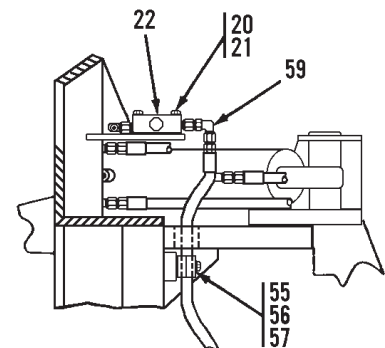
Item	Part No.	Qty.	Description Of Part
28	9020-6045	1	CONTROL PANEL
29	9040-2904	1	CONTROL PANEL
30	9020-0299	1	KNOB
31	9020-5981	1	HANDLE, R.H.
32	8863-1309	1	COTTER PIN, 3/32X3/4
33	9020-0688	1	BEARING
34	9002-1557	1	CLEVIS PIN
35	9020-0559	1	SPRING
36	9002-7987	6	SPRING CLEVIS
37	8882-1004	6	ADJUSTABLE YOKE END, 3/8-24
38	8850-1406	6	HEX JAM NUT, 3/8-24
39	9020-2361	2	ROD
40	8820-1328	1	HEX HD CAPSCREW, 5/8-11X6-1/2, GR5
41	9020-5533	2	BELL CRANK
42	8850-1010	2	HEX NUT, 5/8-11
43	9104-6051	2	CONTROL ROD



Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
1	9104-5030	1	100 DEGREE SWING FORK ASSY (includes all items)	23	9104-1361	2	FITTING
	9104-6061	1	SWING FORK CARRIAGE WELDMENT	24	9104-1362	2	ORIFICE FITTING
2	9104-1326	2	PIVOT PIN	25	8859-1205	2	O-RING
3	8858-1136	4	EXTERNAL RETAINING RING	26	8866-2084	2	ELBOW, 45 DEGREES (includes item 27)
4		Ref	HYDRAULIC CYLINDER ASSY (see page 13-14 or 13-15 for details)	27	8859-1204	2	O-RING
5	9104-1324	2	PIVOT PIN	28	9020-4097	2	HOSE ASSY
6	8867-1008	2	LUBE FITTING, STRAIGHT, 1/4-28	29	7713-3201	2	HOSE ASSY
7	9104-1322	2	LOCKING PLATE	30	8866-2105	6	ELBOW, 90 DEGREES (swivel nut)
8	8320-1024	4	HEX HD CAPSCREW	31	8866-2018	2	CONNECTOR (includes item 32)
9	9104-3125	1	DUST CAP	32	8859-1205	2	O-RING
10	9020-4245	1	HYDRAULIC COUPLER, FEMALE	33	8866-2152	2	BRANCH TEE (includes item 34)
11	8866-1013	2	MALE CONNECTOR, 1/2X1/2 TUBE	34	8859-1204	2	O-RING
12	9104-3126	1	DUST CAP	35	8820-1105	4	HEX HD CAPSCREW, 5/8-11X4, GR5
13	9020-4244	1	HYDRAULIC COUPLER, MALE	36	8852-1310	4	HEX LOCKNUT, 5/8-11
14	8471-6392	2	HOSE ASSY	37	9020-0003	4	COLLAR
15	9104-1325	2	PIVOT PIN	38	9055-1013	1	FORK PIN
16	9104-1327	2	BUSHING	39	9104-1356	6	SPACER
17	8867-1022	2	LUBE FITTING, 90 DEGREES, 1/8	40	9104-6062	1	PIVOT WELDMENT
18	9104-1323	2	LOCKING PLATE	41	8822-1054	4	SOCKET SET SCREW (cup point) 1/4-20
19	8320-1026	4	HEX HD CAPSCREW	42	9104-1355	2	PIN
20	8820-1008	2	HEX HD CAPSCREW, 1/4-20X1-3/4, GR5	43	9104-6069	1	SUPPORT BRACKET, L.H.
21	8856-1002	2	FLAT WASHER, 1/4		9104-6078	1	SUPPORT BRACKET, R.H.
22	9104-3186	1	DOUBLE PILOT CHECK VALVE	44	9104-3221	2	DETENT PIN
				45	9103-3038	1	CHAIN, 24"
				46	9103-3039	2	CHAIN CONNECTION



SECTION A-A

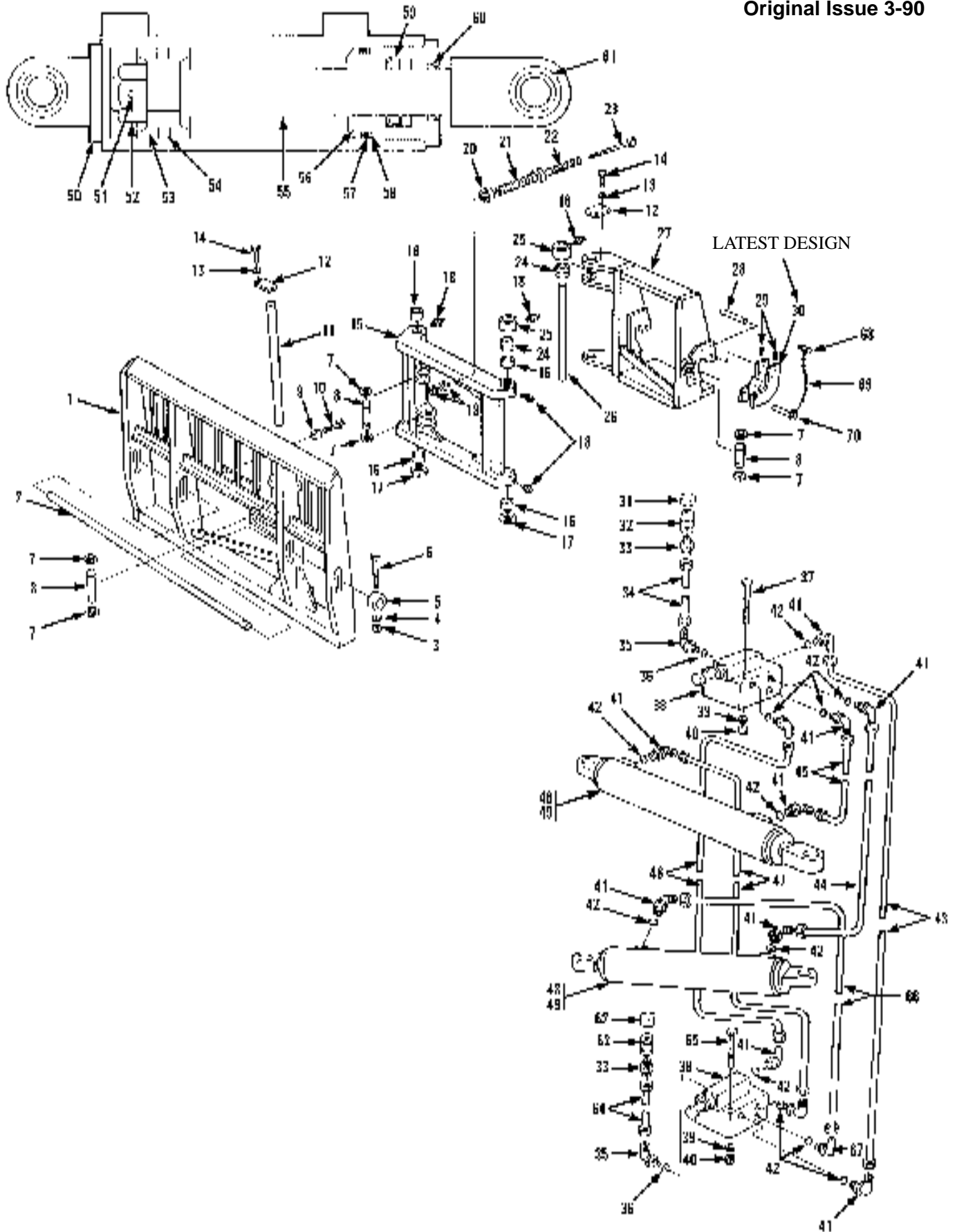


SECTION B-B

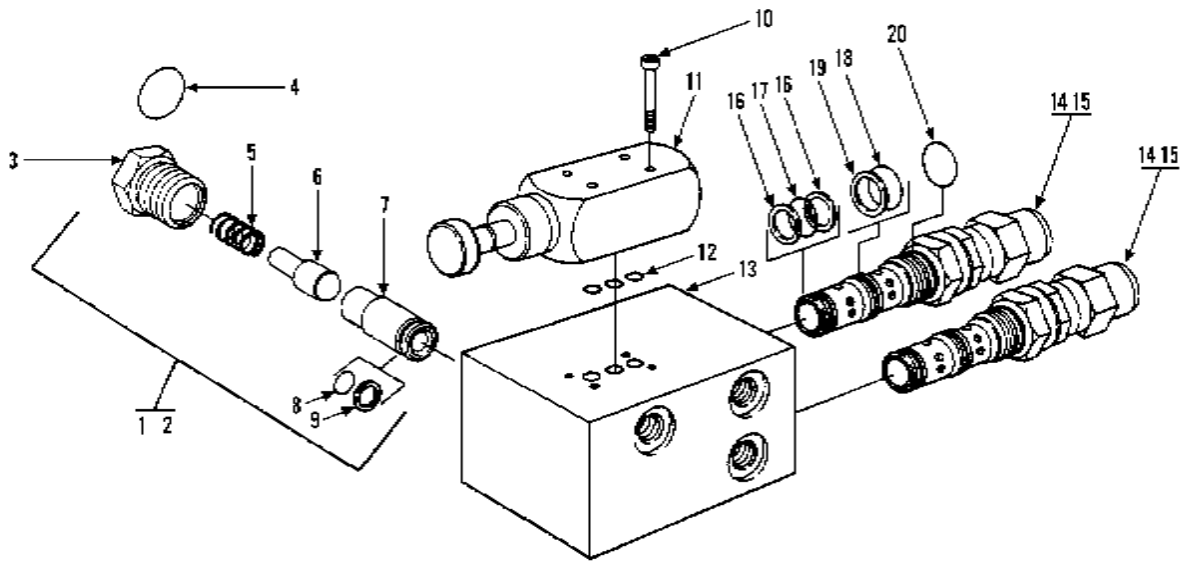
Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
	9055-5013	1	100 DEGREE DRYWALL SWING FORK ASSY, (includes all items)	26	8866-2084	2	ELBOW, 45 DEGREES, (includes item 27)
1	9055-6004	1	DRYWALL CARRIAGE WELDMENT	27	8859-1204	2	O-RING
2	9104-1326	2	PIVOT PIN	28	9020-4097	2	HOSE ASSY
3	8858-1136	4	EXTERNAL RETAINING RING	29	7713-3201	2	HOSE ASSY
4	9045-3034	2	HYDRAULIC CYLINDER ASSY	30	8866-2105	6	ELBOW, 90 DEGREES, (swivel nut)
5	9104-1324	2	PIVOT PIN	31	8866-2018	2	CONNECTOR, (includes item 32)
6	8867-1008	2	LUBE FITTING, STRAIGHT, 1/4-28	32	8859-1205	2	O-RING
7	9141-1073	2	LOCKING PLATE	33	8866-2152	2	BRANCH TEE, (includes item 34)
8	8320-1024	4	HEX HD CAPSCREW, 3/8-16X1, GR8	34	8859-1204	2	O-RING
9	9104-3125	1	DUST CAP	35	8820-1105	4	HEX HD CAPSCREW, 5/8-11X4, GR5
10	9116-3139	1	HYDRAULIC COUPLER, FEMALE, (Before S/N 2005283-01)	36	8852-1310	4	HEX LOCKNUT, 5/8-11
	9140-3413	1	HYDRAULIC COUPLER, FEMALE, (S/N 2005283-01 & After)	37	9020-0003	4	COLLAR
11	8866-1013	2	MALE CONNECTOR, 1/2X1/2 TUBE, (Before S/N 2005283-01)	38	9045-3013	2	DRYWALL FORK
	8866-2006	2	CONNECTOR, (includes 8859-1205 o-ring), (S/N 2005283-01 & After)	39	9045-1020	2	FORK PIN
12	9104-3126	1	DUST CAP	40	9104-1356	6	SPACER
13	9116-3138	1	HYDRAULIC COUPLER, MALE, (Before S/N 2005283-01)	41	9104-6062	1	PIVOT WELDMENT
	9140-3414	1	HYDRAULIC COUPLER, MALE, (S/N 2005283-01 & After)	42	9103-3038	1	CHAIN, 24"
14	8471-8067	2	HOSE ASSY	43	9103-3039	2	CHAIN CONNECTION
15	9104-1325	2	PIVOT PIN	44	8863-1449	2	ROLL PIN, 1/8X1-1/2
16	9104-1327	2	BUSHING	45	9114-1350	2	PIN
17	8867-1022	2	LUBE FITTING, 90 DEGREES, 1/8	46	9114-6053	1	SUPPORT BRACKET, L.H.
18	9104-1322	2	LOCKING PLATE		9114-6054	1	SUPPORT BRACKET, R.H.
19	8320-1026	4	HEX HD CAPSCREW, 1/2-13X1-1/2, GR8	47	9104-3221	2	DETENT PIN
20	8820-1008	2	HEX HD CAPSCREW, 1/4-20X1-3/4, GR5	48	9015-3001	1	SERIAL NO. PLATE
21	8856-1002	2	FLAT WASHER, 1/4	49	8834-1022	4	DRIVE SCREW, #10X3/8
22	9104-3186	1	DOUBLE PILOT CHECK VALVE	50	9055-3012	2	SIDE DRYWALL GUARD
23	9104-1361	2	FITTING	51	8824-1053	14	SOCKET FLAT HD CAPSCREW, 3/8-16X1-1/2
24	9104-1362	2	ORIFICE FITTING	52	8855-1011	8	LOCKWASHER, 3/8
25	8859-1205	2	O-RING	53	8850-1006	8	HEX NUT, 3/8-16
				54	9055-3013	2	BOTTOM DRYWALL GUARD
				55	9108-3249	1	CLAMP SET
				56	7713-3140	1	COVER PLATE
				57	7713-3177	1	HEX HD CAPSCREW, 5/16-18X1-3/8
				58	9114-3282	2	PINCH POINT DECAL
				59	8866-2106	2	ELBOW, 90 DEGREES, (swivel nut)

**GRADALL®**  
**MATERIAL HANDLER**  
**544B**

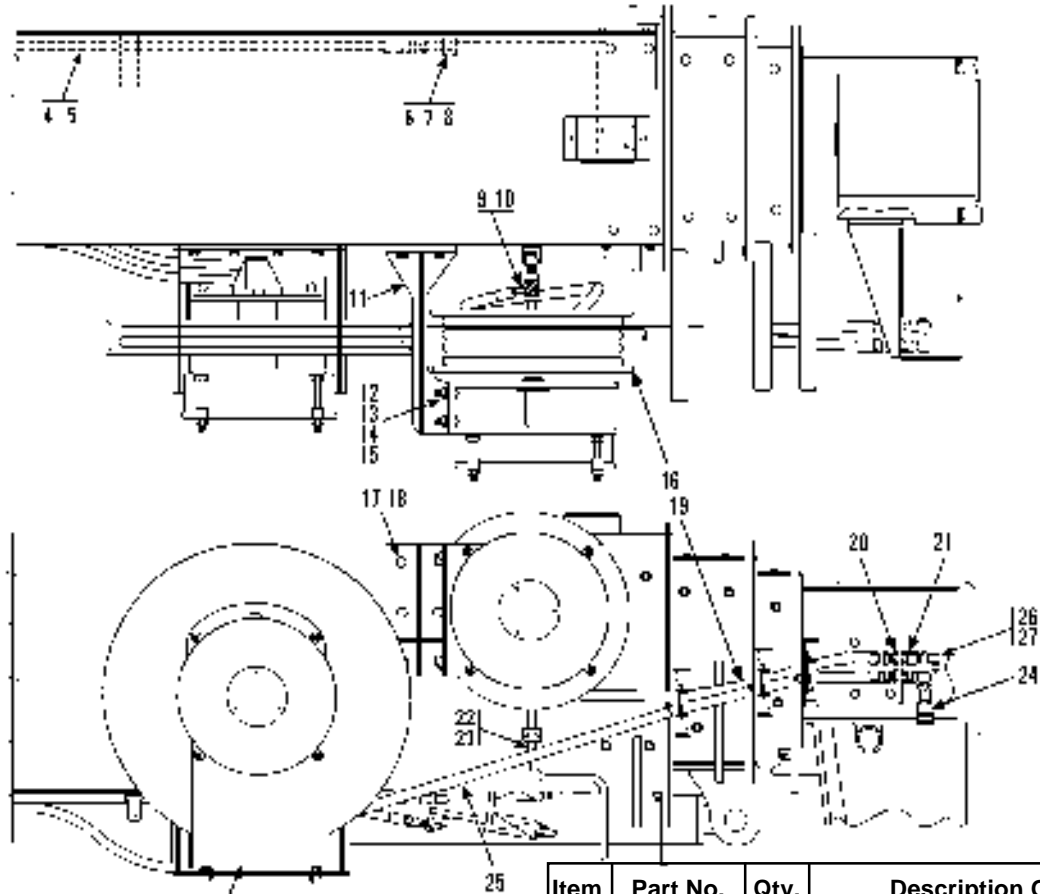
**OPTIONAL EQUIPMENT**  
**180 Degree Swing Frame Assembly**  
**Starting Serial No. 0155299S**  
**Original Issue 3-90**



Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
	9055-3004	1	SWING FRAME ASSY, 180 DEGREE (includes all items)	36	8859-1205	2	O-RING
1	9104-4238	1	FORK BASE WELDMENT	37	9002-0115	2	HEX HD CAPSCREW, 5/16-18X4-1/2
2	9055-1013	1	FORK PIN	38		Ref	SWING VALVE ASSY (see page 13-8 for details)
3	8850-1008	2	HEX NUT, 1/2-13	39	8855-1010	4	LOCKWASHER, 5/16
4	8855-1013	2	LOCKWASHER, 1/2	40	8850-1005	4	HEX NUT, 5/16-18
5	9020-0003	2	COLLAR	41	8866-2064	11	ELBOW, 90 DEGREES (includes item 42)
6	8820-1074	2	HEX HD CAPSCREW, 1/2-13X3-1/4, GR5	42	8859-1204	12	O-RING
7	9104-4239	8	SNAP RING	43	9104-4257	1	HOSE ASSY W/SPRING GUARD
8	9104-4240	4	PIN	44	9104-4258	1	HOSE ASSY W/SPRING GUARD
9	8850-1112	1	HEAVY HEX JAM NUT, 3/4-10	45	9104-4259	1	HOSE ASSY W/SPRING GUARD
10	8820-1111	1	HEX HD CAPSCREW, 3/4-10X2, GR5	46	9104-4260	1	HOSE ASSY W/SPRING GUARD
11	9104-4241	1	SHAFT	47	9104-4261	1	HOSE ASSY W/SPRING GUARD
12	9104-4242	2	PIN RETAINER	48	9104-4262	2	HYDRAULIC CYLINDER ASSY (includes items 49 thru 60)
13	8855-1015	4	LOCKWASHER, 5/8	49	9104-4263	AR	HYDRAULIC REPAIR KIT (includes items 54, 57, 58, 59 & 60)
14	8820-1094	4	HEX HD CAPSCREW, 5/8-11X1-1/4, GR5	50	9104-4264	1	TUBE ASSY
15	9104-4243	1	INTERMEDIATE LINK ASSY (includes item 16)	51	9104-4265	1	ROLL PIN
16	9104-4244	4	BRONZE BUSHING	52	8850-1316	1	HEX NUT, 1-14
17	9104-4245	AR	SHIM	53	9104-4266	1	PISTON
18	8867-1001	6	LUBE FITTING, STRAIGHT, 1/8	54		2	PISTON SEAL
19	8850-1006	2	HEX NUT, 3/8-16	55	9104-4267	1	ROD ASSY
20	8850-1116	1	HEAVY HEX JAM NUT, 1-8	56	9104-4268	1	GLAND
21	9104-4246	1	PLUNGER BODY	57		1	O-RING
22	9104-4247	1	COMPRESSION SPRING	58		1	BACK-UP RING
23	9104-4248	1	PLUNGER WELDMENT	59		1	ROD SEAL
24	9104-4249	2	THRUST BEARING	60		1	ROD WIPER
25	9104-4250	2	LUBRICATION COLLAR	61	9040-0910	4	SPHERICAL BEARING
26	9104-4251	1	SHAFT	62	9104-3125	1	DUST CAP, MALE
27	9104-4252	1	FIXED FRAME	63	9104-4244	1	QUICK DISCONNECT HYDRAULIC FITTING, MALE, 1/2 NPT
28	9104-1355	2	PIN	64	9104-4269	1	HOSE ASSY W/ SPRING GUARD
29	8822-1054	4	SOCKET SET SCREW (cup point) 1/4-20	65	8820-1029	2	HEX HD CAPSCREW, 5/16-18X3-1/4, GR5
30	9104-6069	1	SUPPORT BRACKET, L.H.	66	9104-4270	1	HOSE ASSY W/ SPRING GUARD
	9104-6078	1	SUPPORT BRACKET, R.H.	67	8697-1355	1	ELBOW, 90 DEGREES, LONG (includes item 42)
31	9104-3126	1	DUST CAP, FEMALE	68	9103-3039	2	CHAIN CONNECTION
32	9020-4245	1	QUICK DISCONNECT HYDRAULIC FITTING, FEMALE, 1/2 NPT	69	9103-3038	1	CHAIN, 24"
33	8866-1013	2	STRAIGHT FITTING	70	9104-3221	2	DETENT PIN
34	9104-4256	1	HOSE ASSY W/ SPRING GUARD				NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.
35	8866-2065	2	ELBOW, 90 DEGREES (includes item 36)				

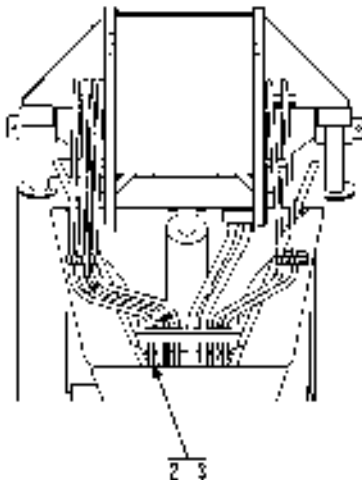


Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
*	9055-3007	2	SWING VALVE ASSY (includes all items except seal kits)	10	8821-1034	4	SOCKET HD CAPSCREW, #10-24X1-1/2, GR8
*	9055-3016	2	SWING VALVE ASSY (includes all items except seal kits)	11	9104-4285	1	GAGE ISOLATOR VALVE (use with 9055-3007 only)
	9104-4303	1	SWING VALVE SEAL KIT (includes quantity of (1) Seal Kit item 2, quantity of (3) O-Rings item 12, quantity of (2) Seal Kits item 15)	*	9055-3014	1	GAGE ISOLATOR VALVE (use with 9055-3016 only)
1	9104-4284	1	CHECK VALVE ASSY (includes items 3 thru 9)	12		3	O-RING
2	9104-4002	AR	CHECK VALVE SEAL KIT (includes items 4, 8 & 9)	13		1	VALVE BODY
3		1	RETAINER	14	9104-4301	2	COUNTERBALANCE VALVE ASSY (includes item 16 thru 20)
4		1	O-RING	15	9104-4302	AR	COUNTERBALANCE VALVE SEAL KIT (includes items 16 thru 20)
5		1	SPRING	16		2	BACK-UP WASHER
6		1	BALL & SPRING GUIDE ASSY	17		1	O-RING
7		1	CAGE	18		1	O-RING
8		1	O-RING	19		1	BACK-UP WASHER
9		1	BACK-UP WASHER	20		1	O-RING
							NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.

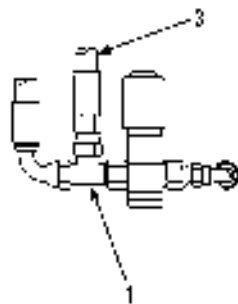


SEE PAGE 13-2 FOR DUAL  
 HOSE REEL & HYDRAULIC SYSTEM

**REAR VIEW OF BOOM**

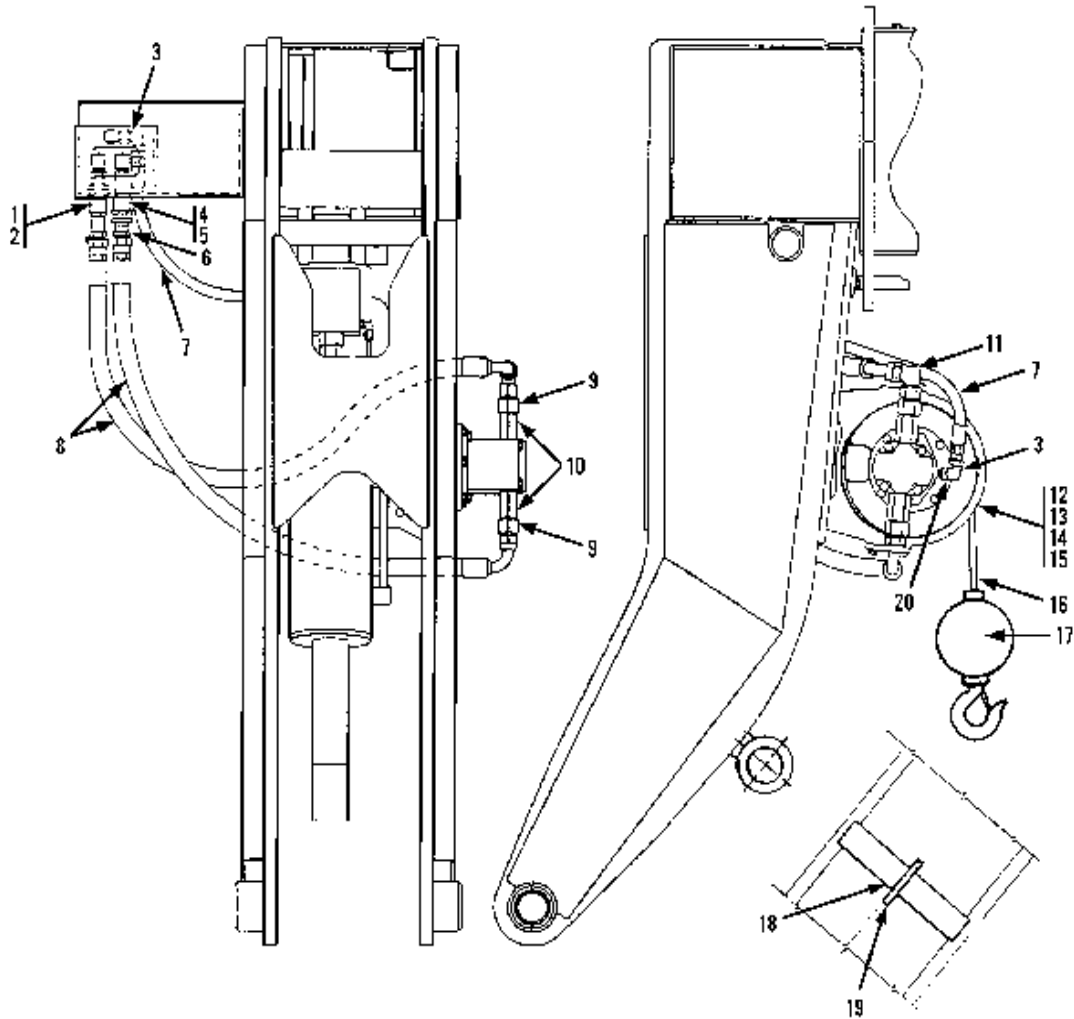


**AUXILIARY VIEW  
 OF SOLENOID VALVE  
 ON ENGINE**

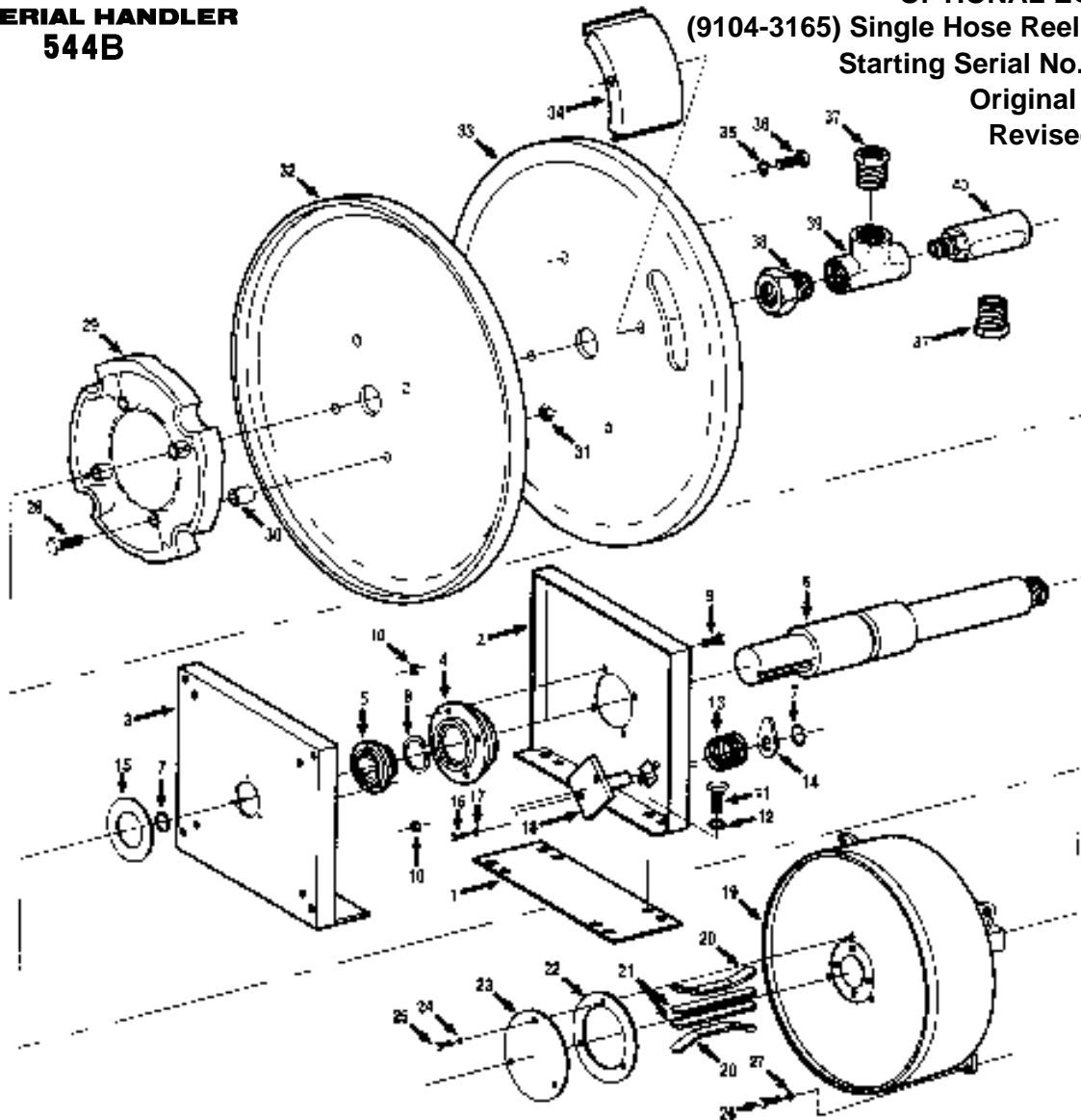


Item	Part No.	Qty.	Description Of Part
1	8866-2240	1	SWIVEL NUT RUN TEE, 1/2 TUBE
2	8866-1065	1	UNION, 1/2 TUBE
3	8471-6377	1	HOSE ASSY
4	8471-7530	1	HOSE ASSY
5	9020-7464	8	HYDRA-ZORB CLAMP
6	7713-3497	2	CLAMP SET
7	7713-3498	2	COVER PLATE
8	7713-3499	4	HEX HD CAPSCREW
9	8866-1013	2	MALE CONNECTOR, 1/2X1/2 TUBE
10	8866-2120	1	ELBOW, 45 DEGREES (swivel nut)
11	9104-6060	1	SINGLE REEL BRACKET
12	8820-1037	4	HEX HD CAPSCREW, 3/8-16X1-1/2, GR5
13	8856-1004	4	FLAT WASHER, 3/8
14	8855-1011	4	LOCKWASHER, 3/8
15	8850-1006	4	HEX NUT, 3/8-16
16		Ref	SINGLE HOSE REEL ASSY (see page 13-11 for details)
17	8820-1064	6	HEX HD CAPSCREW, 1/2-13X7/8, GR5
18	8855-1013	6	LOCKWASHER, 1/2
19	8471-7531	1	HOSE ASSY
20	9002-9939	2	BULKHEAD UNION, 5/8 TUBE
21	9002-9935	1	REDUCER, 5/8 TUBE TO 1/2 TUBE
22	9020-5120	1	HOSE ASSY
*23	9104-3322	1	DRAIN TUBE ASSY
*24	8471-7925	2	HOSE ASSY
*25	9104-3159	1	HOSE ASSY
*26	8866-2106	2	ELBOW, 90 DEGREES (swivel nut)
*27	7713-3256	1	HOSE ASSY





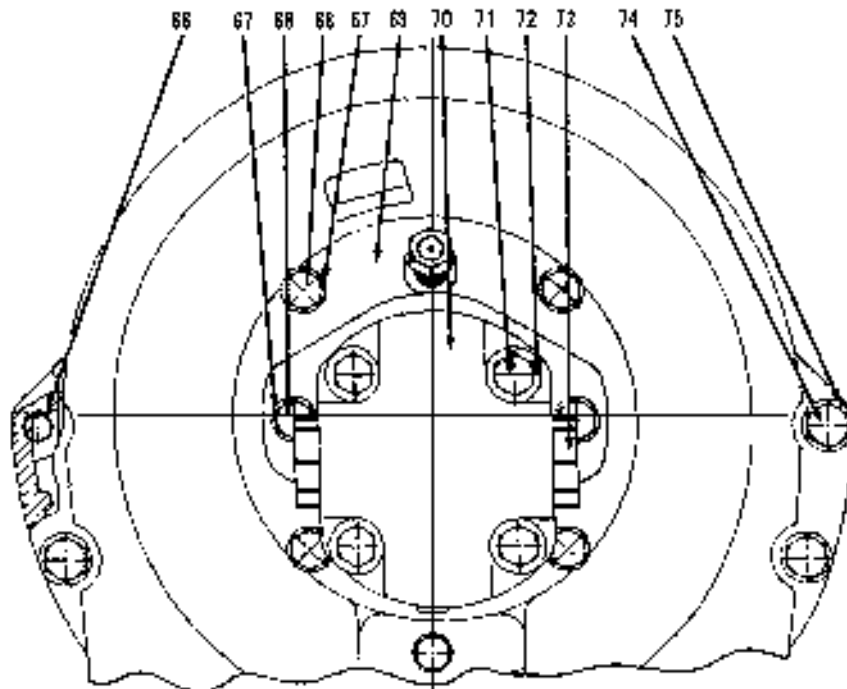
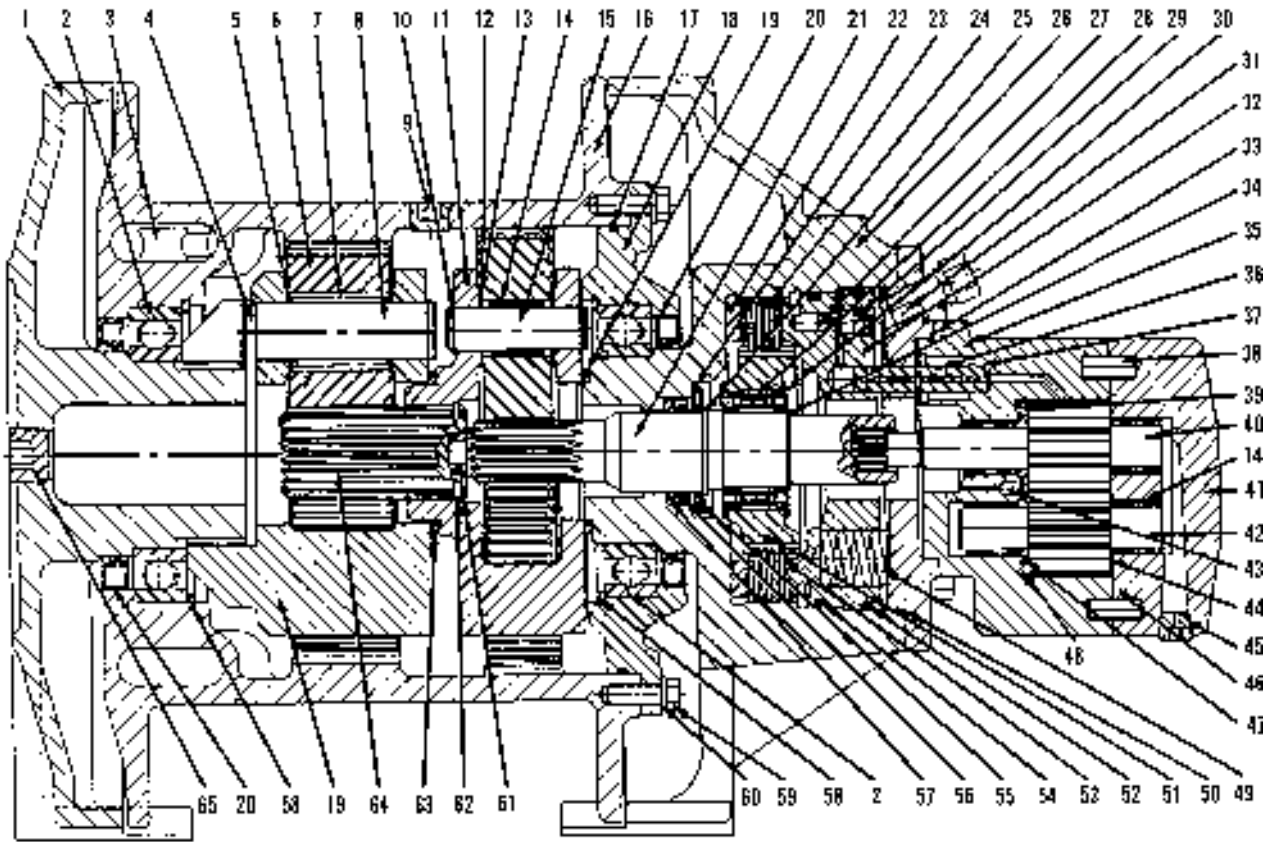
Item	Part No.	Qty.	Description Of Part
1	9020-4244	1	MALE HYDRAULIC COUPLER
2	9104-3126	1	DUST CAP
3	8866-2106	3	ELBOW, 90 DEGREES (swivel nut)
4	9020-4245	1	FEMALE HYDRAULIC COUPLER
5	9104-3125	1	DUST PLUG
6	8866-1017	2	MALE CONNECTOR, 1/2X3/4 TUBE
7	7713-3256	1	HOSE ASSY
8	8471-6404	2	HOSE ASSY
9	9103-3159	2	TUBE END REDUCER, 1 TO 3/4
10	9103-3161	2	FLOW REGULATOR
11	8866-2108	1	ELBOW, 90 DEGREES (swivel nut)
12		Ref	WINCH ASSY (see pages 13-12 & 13-13 for details)
13	8820-1069	4	HEX HD CAPSCREW, 1/2-13X2, GR5
14	8855-1013	4	LOCKWASHER, 1/2
15	8850-1008	4	HEX NUT, 1/2-13
16	9020-7882	1	CABLE
17	9020-1443	1	HOOK & BALL
18	9103-1077	1	BAR
19	9102-1009	1	RING
20	8866-1011	1	MALE CONNECTOR, 1/4X1/2 TUBE



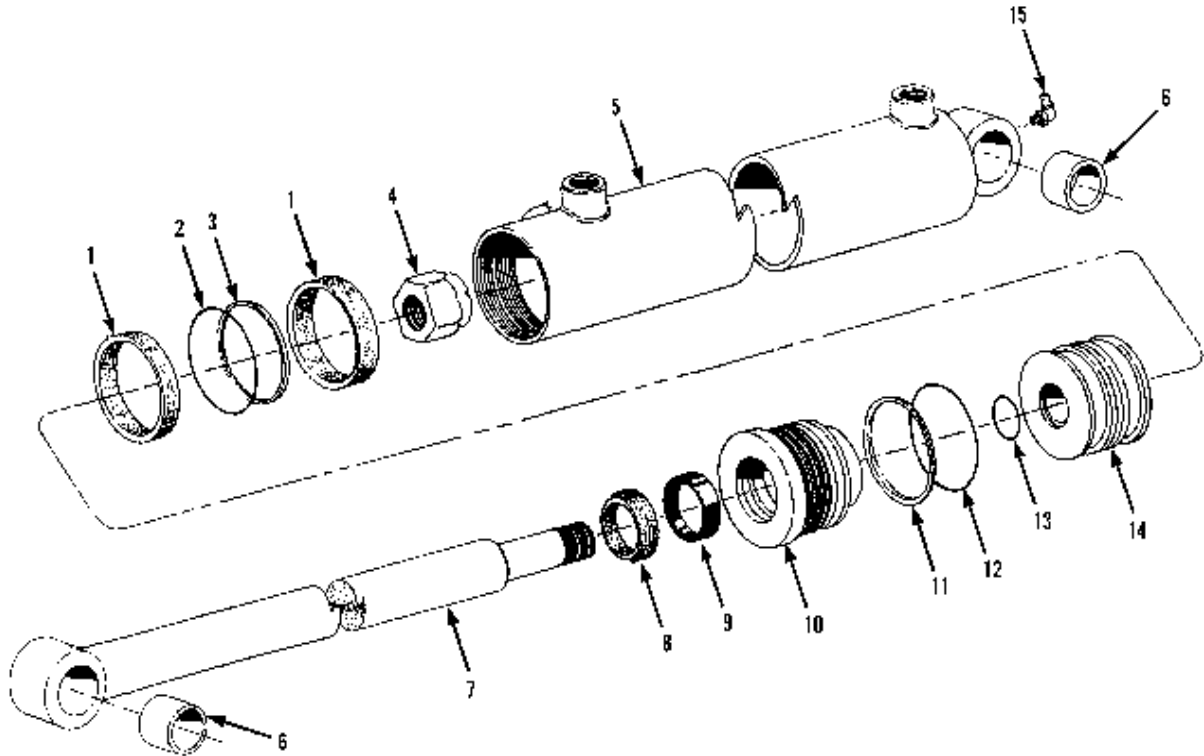
Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
	9104-3165	1	SINGLE HOSE REEL ASSY (includes all items)	19	9104-4291	1	SPRING MOTOR KIT (standard)
	9104-4287	1	FRAME ASSY (includes items 1, 2, 3, 4, 5, 8, 9, 11 & 12)	9104-4492	1	SPRING MOTOR KIT (opt. reverse)	
	9104-4476	1	HOLDING DOG & RACHET KIT (optional) (includes items 13 thru 18)	20	9104-4289	2	PAWL SPRING
1	9104-4477	1	BASE PLATE	21	9104-4290	2	PAWL
2	9104-4478	1	FRAME, DRUM END	22	9104-4288	1	GASKET
3	9104-4479	1	FRAME, SPRING END	23	9104-4493	1	HUB COVER
4	9104-4294	1	BEARING, FLANGETTE	24	8855-1006	3	LOCKWASHER, #8
5	9104-4293	1	BEARING, FLANGETTE	25	9104-4494	3	ROUND HD MACHINE SCREW
6	9104-4480	1	SHAFT	26	8820-1075	4	HEX HD CAPSCREW, 1/2-13X3-1/2, GR5
* 7	9104-4481	2	RETAINING RING	27	9104-4495	8	LOCKWASHER
8	9104-4482	1	RETAINING RING	28	9104-4496	4	BOLT
9	9104-4483	4	BOLT	29	9104-4497	1	RATCHET PLATE
10	9104-4484	7	NUT	30	9104-4498	4	SPACER
11	9104-4485	4	BOLT	31	9104-4499	4	NUT
12	9104-4486	8	LOCKWASHER	32	9104-4500	1	DRUM DISC
13	9104-4487	1	SPRING	33	9104-4501	1	DRUM DISC
14	9104-4488	1	HOLDING DOG	34	9104-4502	4	DRUM CORE SEGMENT
15	9104-4292	1	GASKET	35	8855-1009	4	LOCKWASHER, 1/4
16	9104-4489	2	BOLT	36	8820-1001	4	HEX HD CAPSCREW, 1/4-20X1/2, GR5
17	9104-4490	2	LOCKWASHER	37	9104-4503	2	REDUCER
18	9104-4491	1	SHAFT ASSY	38	9104-4504	1	REDUCER
				39	9104-4505	1	TEE
				40	9104-4296	1	SWIVEL JOINT

**GRADALL®**  
**MATERIAL HANDLER**  
**544B**

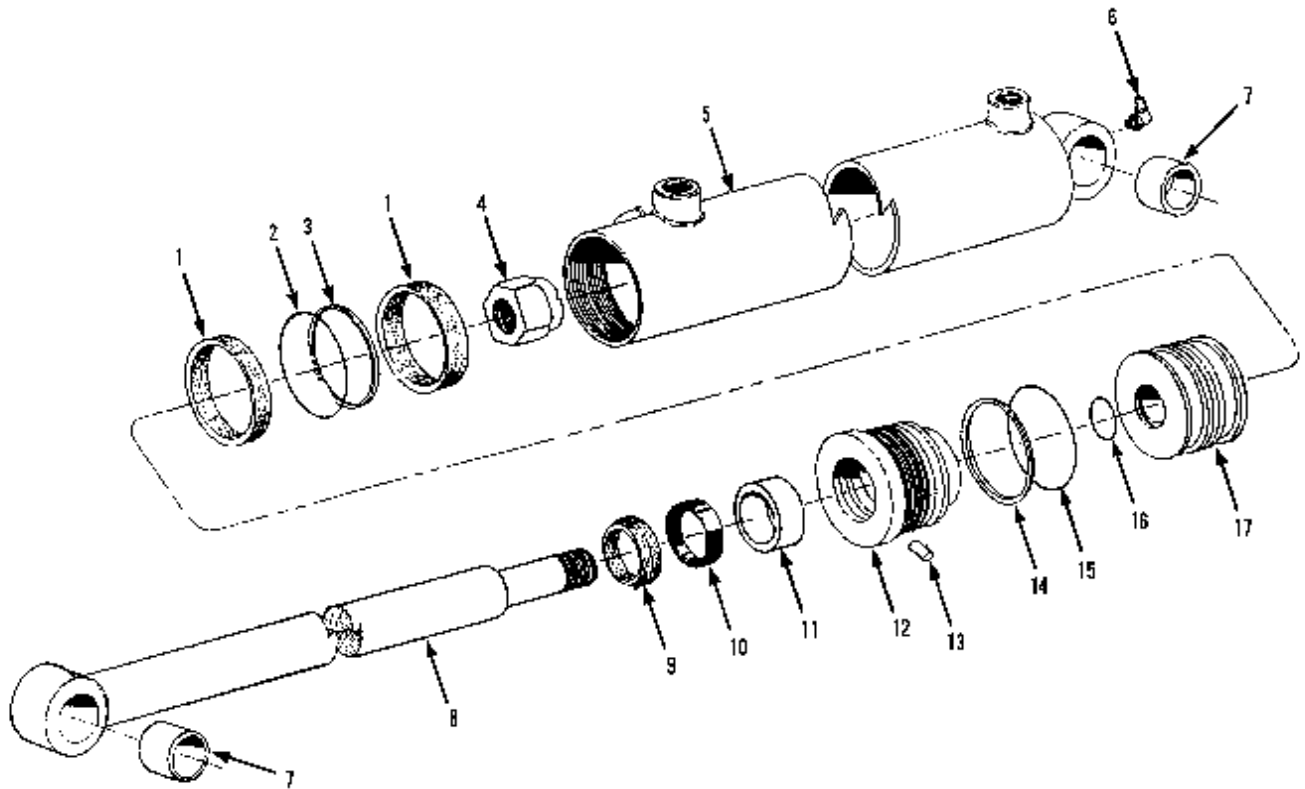
**OPTIONAL EQUIPMENT**  
**(9103-3196) Winch Assy**  
Starting Serial No. 0155299S  
Original Issue 3-90



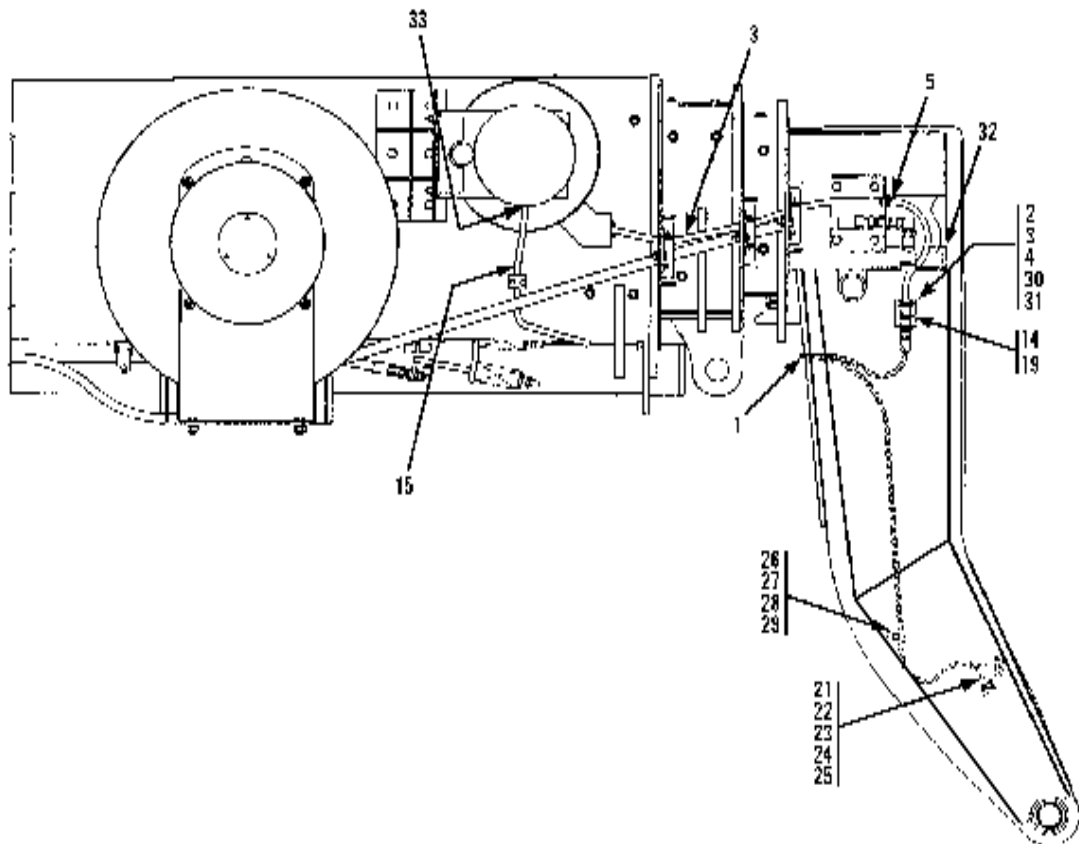
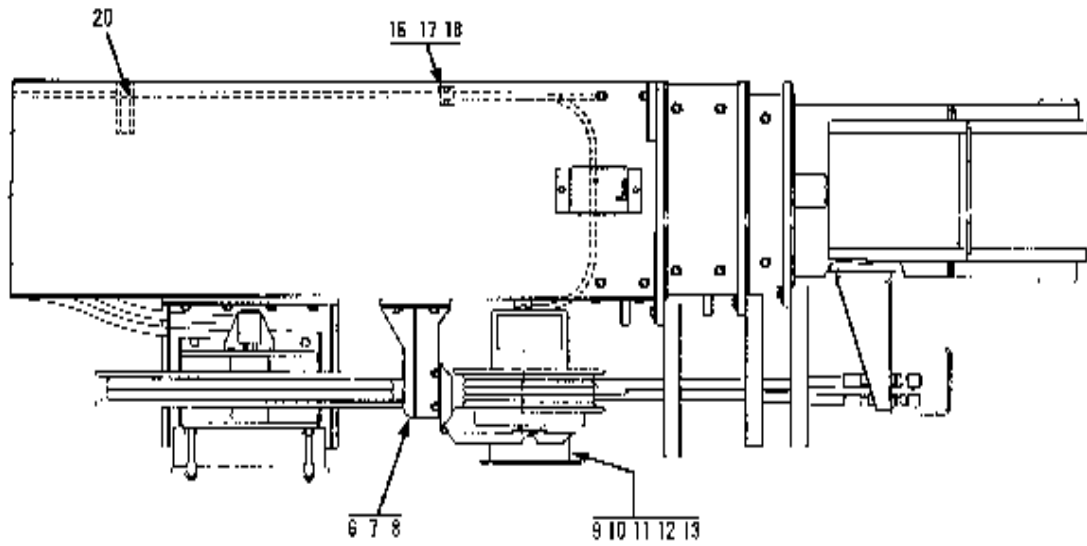
Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
	9103-3196	1	WINCH ASSY (includes all items)	38	9103-4213	2	DOWEL PIN
	9103-4161	1	SEAL KIT (includes items 20, 33, 37, 46, 47, 48, 52, 54 & 57)	39	9103-4211	1	WEAR PLATE
	9103-4162	1	HYDRAULIC MOTOR SEAL KIT (includes items 46, 47 & 48)	40	9103-4216	1	DRIVE GEAR
	9103-4163	1	FINAL PLANET HUB ASSY (includes items 4, 5, 6, 7, 8 & 64)	41	9103-4212	1	COVER
	9103-4164	1	PRIMARY PLANET HUB ASSY (includes items 10 thru 14, 15, 19, 61, 62 & 63)	42	9103-4217	1	DRIVEN GEAR
1	9103-4187	1	END HOUSING	43	9103-4215	2	DOWEL PIN
2	9103-4196	2	BALL BEARING	44	9103-4210	1	THRUST PLATE
3	9103-4193	1	WEDGE	45		1	HEX SOCKET PIPE PLUG
4	9103-4194	6	CIRCLIP	46		1	SQUARE CUT SEAL RING
5	9103-4201	6	THRUSTWASHER	47		1	RUBBER SPACER
6	9103-4177	3	FINAL PLANET GEAR	48		1	NYLATRON
7	9103-4204	60	NEEDLE ROLLER	49	9103-4171	6	BRAKE SPRING
8	9103-4176	3	FINAL PLANET PIN	50		1	O-RING
9		1	HEX SOCKET PIPE PLUG	51	9103-4170	1	BRAKE HUB
10	9103-4198	6	CIRCLIP	52		1	O-RING
11	9103-4180	1	PRIMARY PLANET HUB	53	9103-4165	4	BRAKE PLATE
12	9103-4178	3	PRIMARY PLANET GEAR	54		1	O-RING
13	9103-4200	6	THRUSTWASHER	55	9103-4207	1	THRUST BEARING
14	9103-4199	7	NEEDLE BEARING	56		1	OIL SEAL
15	9103-4166	3	PRIMARY PLANET PIN	57	9103-4182	1	BACKUP WASHER
16	9103-4172	1	CABLE DRUM	58	9103-4195	2	CIRCLIP
17		1	O-RING	59	8820-1019	6	HEX HD CAPSCREW, 5/16-18X7/8, GR5
18	9103-4173	1	BEARING FLANGE	60	8855-1010	6	LOCKWASHER, 5/16
19	9103-4179	2	NYLON SPACER	61	9103-4167	1	PRIMARY SUN GEAR STOPPER
20		2	OIL SEAL	62	9103-4205	1	CIRCLIP
21	9103-4190	1	PRIMARY SUN GEAR	63	9103-4174	1	FINAL SUN GEAR
22	9103-4168	1	BRAKE SPACER	64	9103-4175	1	FINAL PLANET HUB
23	9103-4206	2	THRUSTWASHER	65		1	HEX SOCKET PIPE PLUG
24	9103-4197	5	DIVIDER PLATE	66	9103-4188	2	TIE BAR
25	9103-4208	1	CIRCLIP	67	8855-1011	6	LOCKWASHER, 3/8
26	9103-4186	1	BRAKE HOUSING	68	8820-1035	6	HEX HD CAPSCREW, 3/8-16X1, GR5
27	9103-4185	1	ORIFICE PLUG	69	9103-4183	1	MOTOR ADAPTER
28	9103-4202	1	SPRAG CLUTCH	70	9103-4189	1	HYDRAULIC MOTOR ASSY (includes items 14, 35, 38 thru 47, 71 & 72)
29		1	HEX SOCKET PIPE PLUG	71	9103-4209	4	HEX HD CAPSCREW
30	9103-4169	2	SPRAG CLUTCH ALIGNER	72	9103-4214	4	WASHER
31	9103-4192	1	SAFETY VALVE	73		2	CAPLUG
32	9103-4184	1	PISTON	74	8822-1051	8	HEX HD CAPSCREW, 7/16-14X1-1/4, GR5
33		1	O-RING	75	8855-1012	8	LOCKWASHER, 7/16
34	9103-4203	1	CIRCLIP				NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.
35	9103-4191	1	MOTOR BODY				
36	9103-4181	1	CONNECTING TUBE				
37		2	O-RING				



Item	Part No.	Qty.	Description Of Part
	9080-1313	2	HYDRAULIC CYLINDER ASSY (includes all items)
	9020-2551	1	SEAL KIT (includes items 1, 2, 3, 8, 9, 11, 12 & 13)
1	9002-2257	2	WEAR RING
2	9002-3145	1	O-RING
3	9002-2237	1	PISTON SEAL
4	9002-2230	1	SELF-LOCKING NUT
5	9020-7821	1	BARREL
6	9020-5450	2	BUSHING
7	9020-7822	1	PISTON ROD
8	9002-2277	1	WIPER RING
9	9002-2247	1	ROD SEAL
10	9040-2099	1	ROD BEARING
11	9002-4232	1	BACK-UP RING
12	9002-3232	1	O-RING
13	9002-3117	1	O-RING
14	9040-2098	1	PISTON
15	9002-2218	1	LUBE FITTING

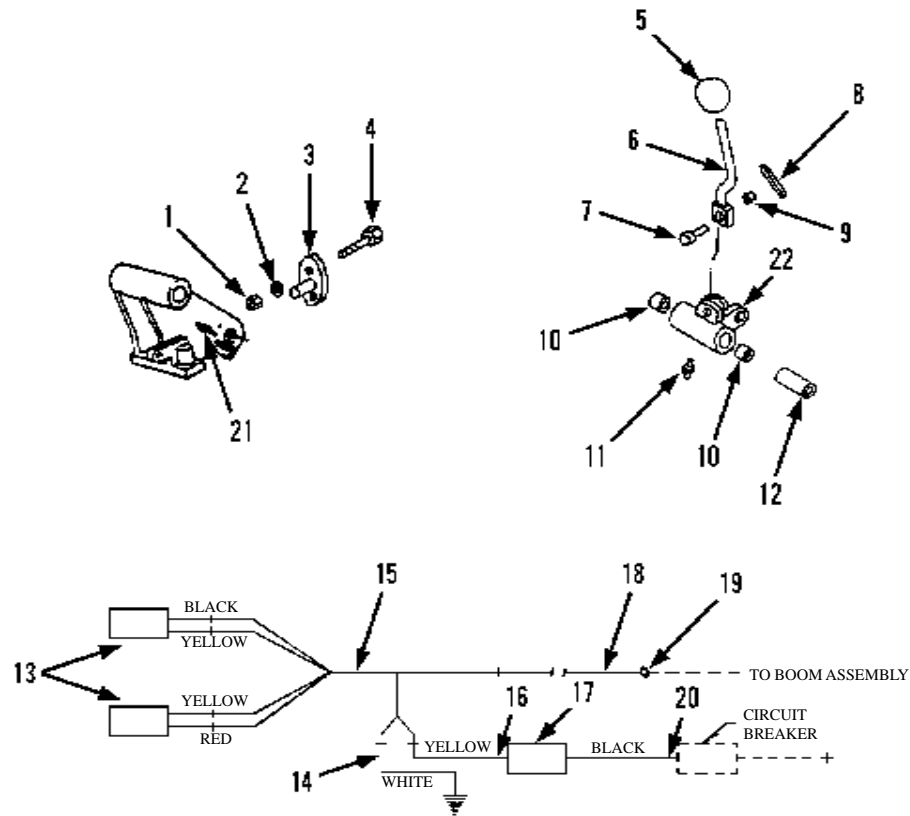


Item	Part No.	Qty.	Description Of Part
	9103-3291	2	HYDRAULIC CYLINDER ASSY (includes all items)
	9103-4145	1	SEAL KIT (includes items 1, 2, 3, 9, 10, 11, 13, 14, 15 & 16)
1		2	WEAR RING
2		1	O-RING
3		1	PISTON SEAL
4	9103-4156	1	HEX LOCKNUT (lubricate & torque to 250 ft.lbs.)
5	9103-4143	1	CASE ASSY (includes item 7)
6	8867-1027	1	LUBE FITTING, 90 DEGREES, 1/4-28
7	9103-4157	2	BUSHING
8	9103-4142	1	SHAFT ASSY (includes item 7)
9		1	WIPER
10		1	U-CUP
11		1	WEAR RING
12	9103-4141	1	HEAD
13		1	NYLON PLUG
14		1	BACK-UP RING
15		1	O-RING
16		1	O-RING
17	9103-4144	1	PISTON
			NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.



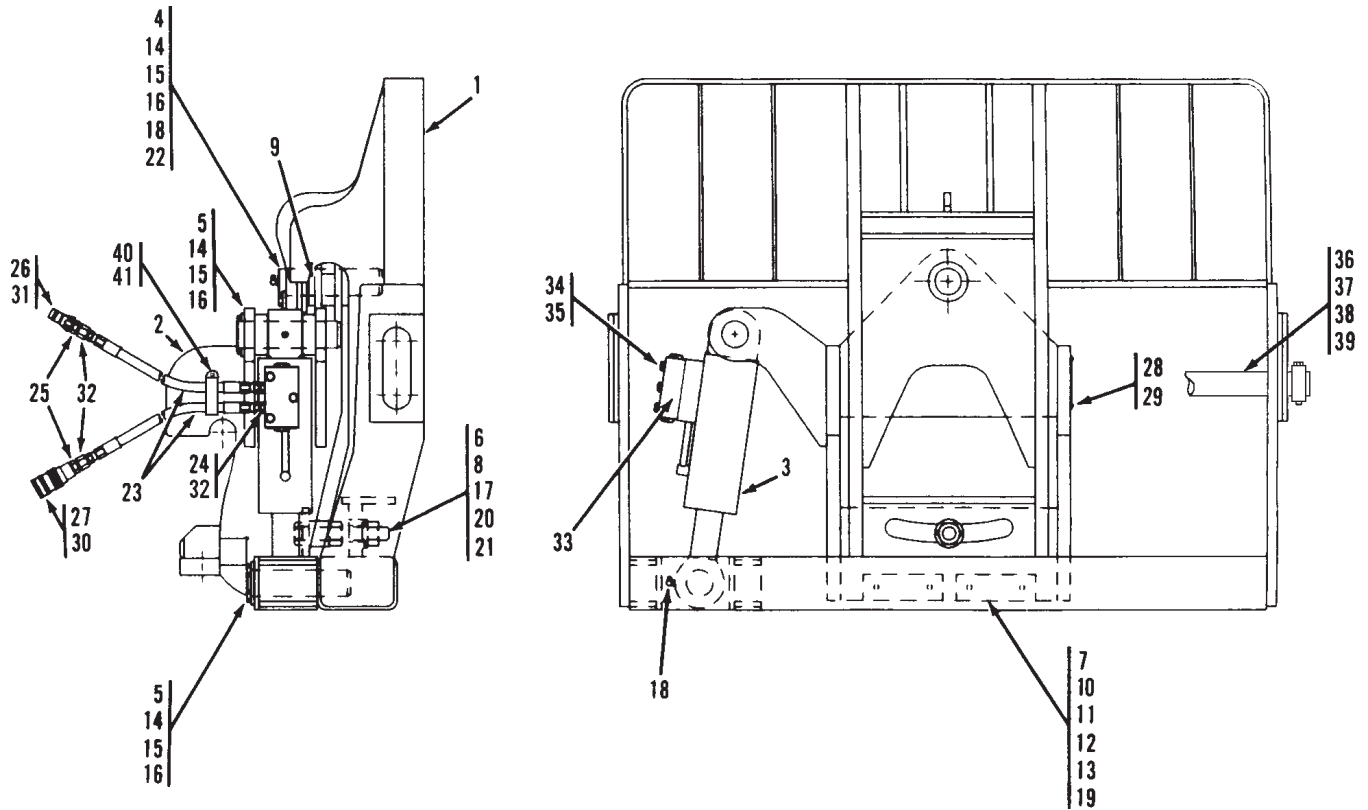
Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
	9104-5067	Ref	ELECTRICS FOR AUXILIARY HYDRAULICS (includes items 1 thru 33)	15	9104-3263	1	BOOM HARNESS
1	9020-7470	1	HEAD WIRING HARNESS	16	9103-3138	2	CLAMP SET
2	9002-8955	1	CONNECTOR BODY	17	7713-3498	2	COVER PLATE
3	9002-8957	6	MALE PIN CONNECTOR	18	7713-3499	4	HEX HD CAPSCREW, 1/4-20X1-5/16
4	9002-8978	1	CABLE CLAMP	19	8832-1048	4	SELF TAPPING SCREW, 1/4-20X5/8
5	9020-4263	1	CABLE CLAMP	20	8668-3122	8	TIE WRAP
6	9104-6093	1	ELECTRIC REEL BRACKET	21	9020-7661	Ref	ELECTRICAL SOCKET
7	8820-1064	6	HEX HD CAPSCREW, 1/2-13X7/8, GR5	22	8820-1003	2	HEX HD CAPSCREW, 1/4-20X3/4, GR5
8	8855-1013	6	LOCKWASHER, 1/2	23	8855-1009	2	LOCKWASHER, 1/4
9	9104-3265	1	ELECTRIC CABLE REEL	24	8850-1004	2	HEX NUT, 1/4-20
10	8820-1037	4	HEX HD CAPSCREW, 3/8-16X1-1/2, GR5	25	9020-7711	2	MOUNTING EAR
11	8856-1004	4	FLAT WASHER, 3/8	26	7713-3271	1	BASE PLATE
12	8855-1011	4	LOCKWASHER, 3/8	27	7713-3270	1	CLAMP SET
13	8850-1006	4	HEX NUT, 3/8-16	28	8820-1005	1	HEX HD CAPSCREW, 1/4-20X1, GR5
14	9106-1115	1	HARNESS HANGER	29	8856-1002	1	FLAT WASHER, 1/4
				30	8832-1008	4	SELF TAPPING SCREW, #4-40X5/16
				31	8856-1102	4	FLAT WASHER, #4
				32	9020-6200	17"	TRIM LOCK
				33	9104-3278	1	CABLE CLAMP



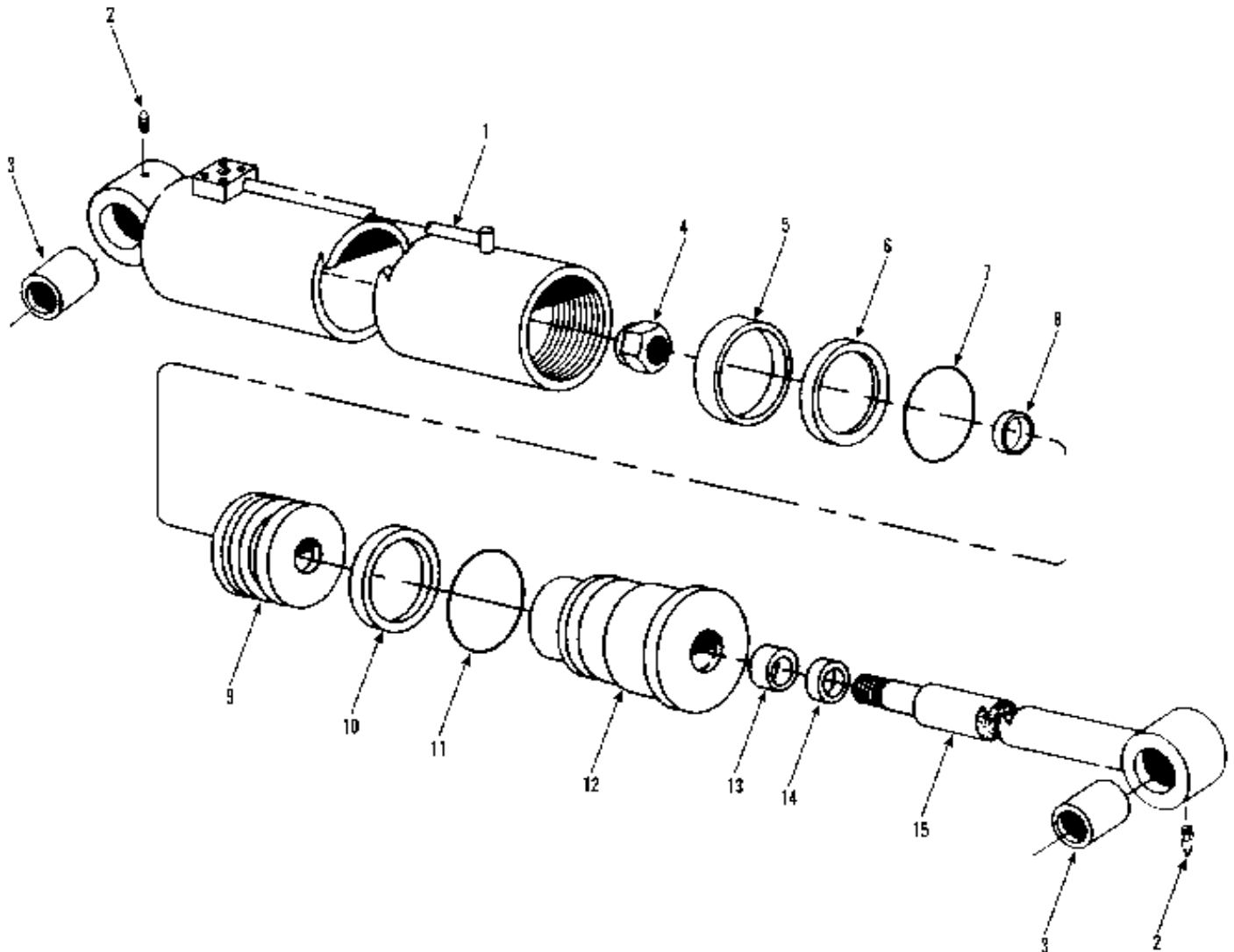


**ELECTRIC SCHEMATIC**

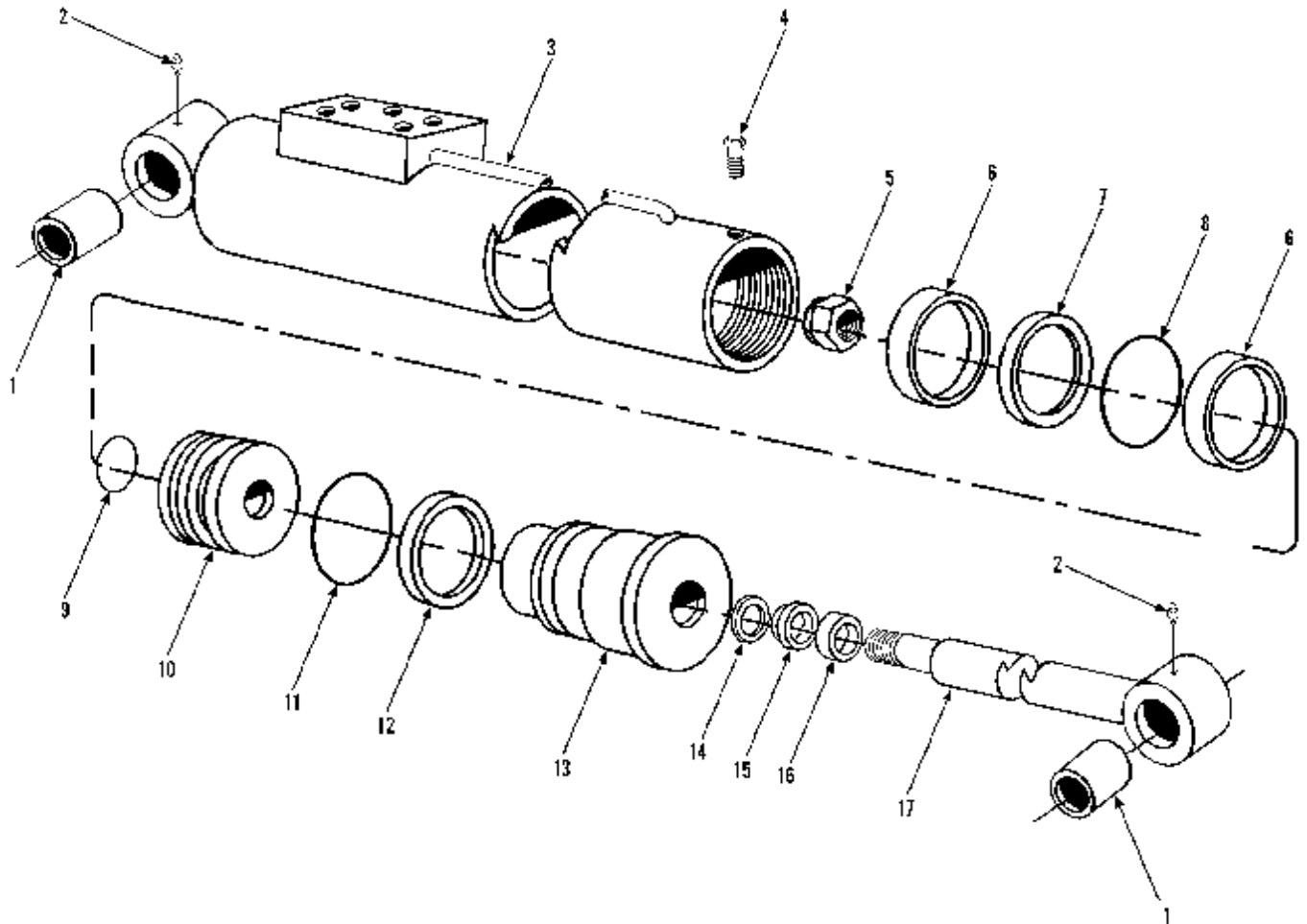
Item	Part No.	Qty.	Description Of Part
	9103-5082	Ref	AUXILIARY ELECTRICS - CHASSIS (includes all items)
1	8850-1004	2	HEX NUT, 1/4-20
2	8855-1009	2	LOCKWASHER, 1/4
3	9020-7661	1	SIX CONTACT SOCKET
4	8820-1003	2	HEX HD CAPSCREW, 1/4-20X3/4, GR5
5	9020-0299	1	KNOB
6	9020-6128	1	HANDLE
7	9002-1557	1	CLEVIS PIN
8	8863-1309	1	COTTER PIN, 3/32X3/4
9	9020-0688	1	BEARING
10	9020-0290	2	BEARING
11	8867-1008	1	LUBE FITTING, STRAIGHT, 1/4-28
12	9020-6222	1	SPACER
13	9020-7634	2	SWITCH ASSY
14	9020-7716	1	JUMPER WIRE
15	9040-3360	1	AUXILIARY DASH HARNESS
16	9020-7645	1	JUMPER WIRE
17	9020-6347	1	CIRCUIT BREAKER
18	9040-3396	1	AUXILIARY WIRE HARNESS
19	9002-7187	4	PLASTIC TIE
20	9020-0351	1	JUMPER WIRE
21	9020-7711	1	MOUNTING EAR
22	9020-5983	1	BELL CRANK



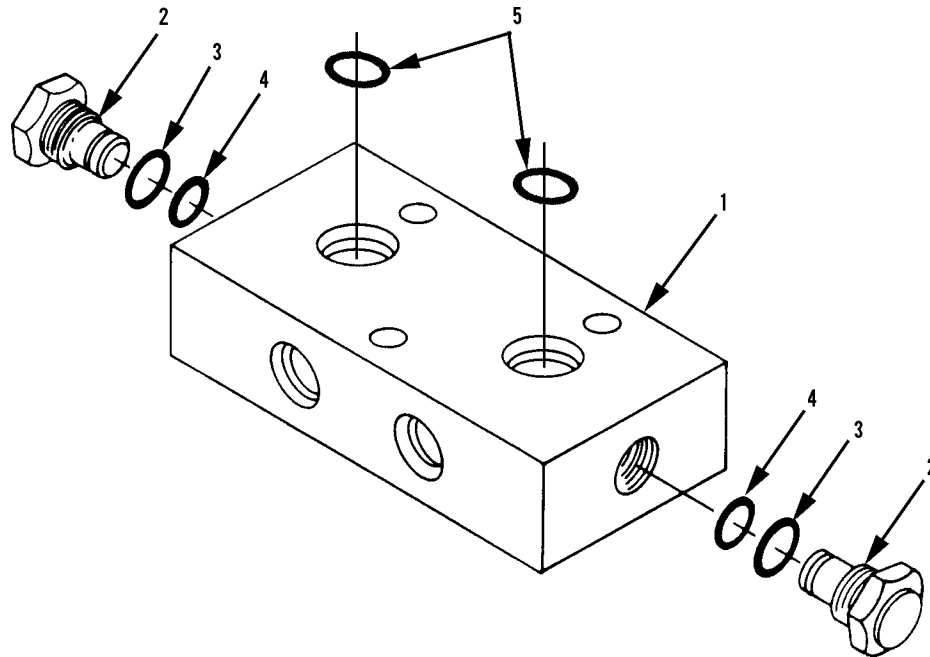
Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
	9108-5058	Ref	48" SLOPE PILER CARRIAGE, (includes all items)	*25	8866-1010	2	CONNECTOR, (Before S/N 2005283-01)
	9104-3426	1	CAPACITY DECAL, (not shown)		8866-2018	2	CONNECTOR, (S/N 2005283-01 & After)
1	9108-6121	1	CARRIAGE WELDMENT	*26	9116-3138	1	MALE QUICK DISCONNECT, (Before S/N 2005283-01)
2	9108-6122	1	ADAPTER WELDMENT		9140-3414	1	MALE QUICK DISCONNECT, (S/N 2005283-01 & After)
3		Ref	SWAY CYLINDER, (see page 13-19 for details)	*27	9116-3139	1	FEMALE QUICK DISCONNECT, (Before S/N 2005283-01)
4	9108-3248	1	BUSHING		9140-3413	1	FEMALE QUICK DISCONNECT, (S/N 2005283-01 & After)
*5	3423263	2	PIN	28	8834-1022	4	DRIVE SCREW, #10X3/8
6	9020-4007	1	TUBE	29	9015-3001	1	SERIAL NUMBER PLATE
7	9103-3186	2	BEARING PAD	30	9104-3125	1	DUST PLUG
8	9108-1577	1	TAP BOLT	31	9104-3126	1	DUST CAP
9	9108-1594	1	THRUST WASHER	*32	8866-2105	2	ELBOW, 90 DEGREES, (swivel nut)
*10	9020-5870	AR	SHIM	33		Ref	DUAL P.O. CHECK VALVE, (see page 13-20 for details)
11	9103-1236	2	SPACER	34	8820-1040	3	HEX HD CAPSCREW, 3/8-16X2-1/4, GR5
*12	8820-1535	4	HEX HD CAPSCREW, 3/8-24X1-1/4, GR5	35	8855-1011	3	LOCKWASHER, 3/8
*13	8820-1534	4	HEX HD CAPSCREW, 3/8-24X1, GR5	*36	9045-1058	1	FORK PIN
14	9108-1313	3	KEEPER PLATE	37	9020-0003	2	COLLAR
15	8820-1065	6	HEX HD CAPSCREW, 1/2-13X1, GR5	38	8820-1105	2	HEX HD CAPSCREW, 5/8-11X4, GR5
16	8855-1013	6	LOCKWASHER, 1/2	39	8852-1310	2	LOCKNUT, 5/8-11
17	8852-1016	1	HEX LOCKNUT, 1-8	*40	8452-1062	1	SUPPORT CLAMP
*18	8867-1022	2	LUBE FITTING, 90 DEGREES, 1/8	*41	7714-3015	1	WHIZ-LOK NUT, 3/8-16
19	8856-1109	4	FLAT WASHER, 3/8				
20	8850-1016	1	HEX NUT, 1-8				
21	0510-1441	1	WASHER, 1-1/16				
22	9108-1622	1	PIN				
23	8471-6434	2	HOSE ASSY				
24	8366-1316	2	CONNECTOR				



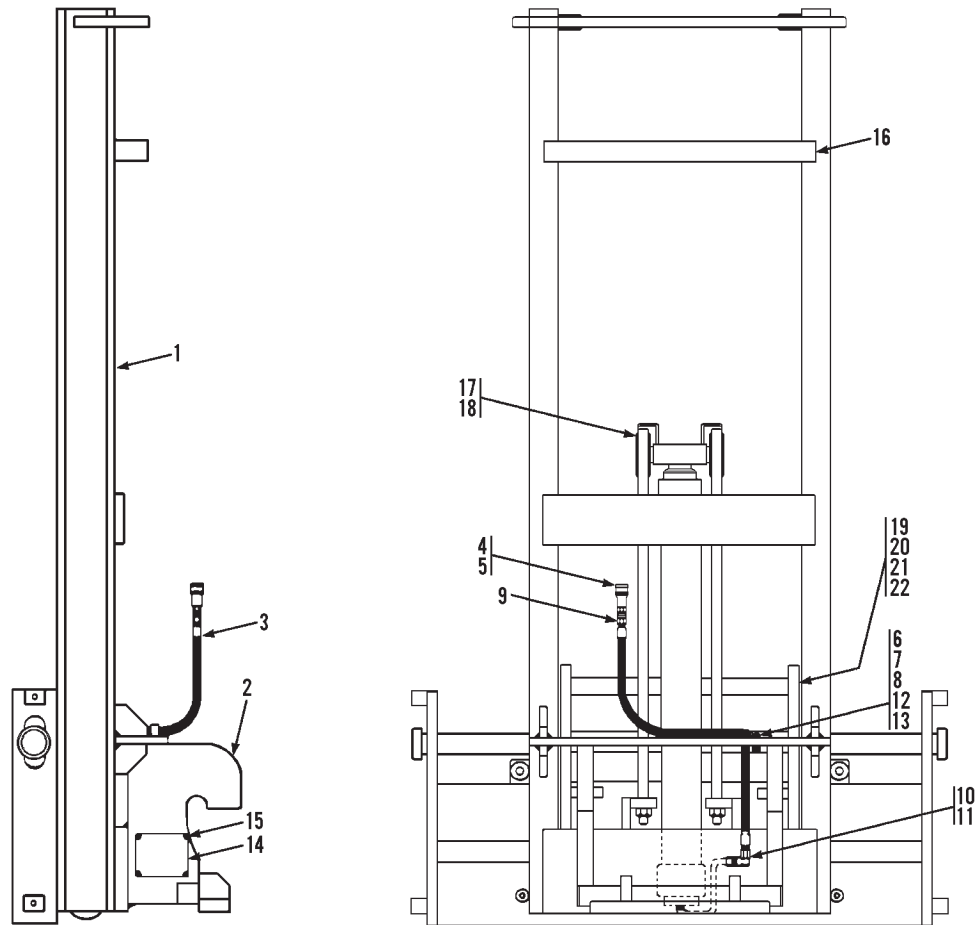
Item	Part No.	Qty.	Description Of Part
	9108-3286	1	SWAY CYLINDER ASSY (includes all items)
	9108-4189	Ref	SEAL KIT (includes items 5, 6, 7, 8, 10, 11, 13 & 14)
1	9108-4185	1	TUBE ASSY
2	8867-1033	2	LUBE FITTING - STRAIGHT, 1/4-28
3	9108-4176	2	BUSHING
4	9108-4184	1	NUT
5	9108-4219	1	WEAR RING
6	9108-4220	1	SEAL
7	9108-4221	1	O-RING
8	9108-4222	1	O-RING
9	9108-4186	1	PISTON
10	9108-4223	1	BACK-UP RING
11	9108-4224	1	O-RING
12	9108-4188	1	GLAND
13	9108-4225	1	SEAL
14	9108-4226	1	WIPER
15	9108-4187	1	ROD ASSY



Item	Part No.	Qty.	Description Of Part
	9108-3471	1	SWAY CYLINDER ASSY (includes all items)
	9108-4308	Ref	SEAL KIT (includes items 6 thru 9, 11, 12 & 14 thru 16))
1	9106-4016	2	BUSHING
2	9114-4128	2	GREASE FITTING
3	9112-4083	1	CASE ASSY
4	9114-4017	1	CAPSCREW, #8X32X.375
5	9103-4156	1	LOCKNUT (lubricate & torque to 350-400 ft.lbs.)
6		2	WEAR RING
7		1	PISTON SEAL
8		1	O-RING
9		1	O-RING
10	9112-4084	1	PISTON
11		1	O-RING
12		1	BACK-UP RING
13	9112-4085	1	CYLINDER HEAD
14		1	STEP SEAL
15		1	U-CUP
16		1	WIPER
17	9112-4086	1	ROD ASSY
			NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE

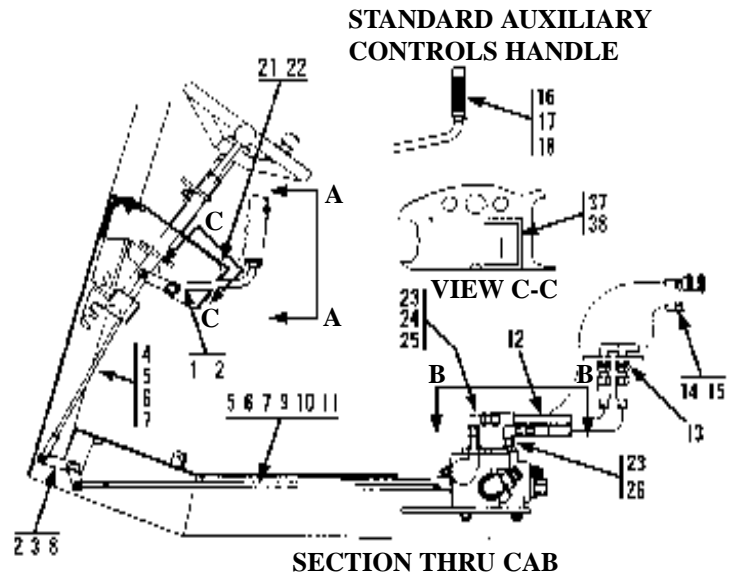
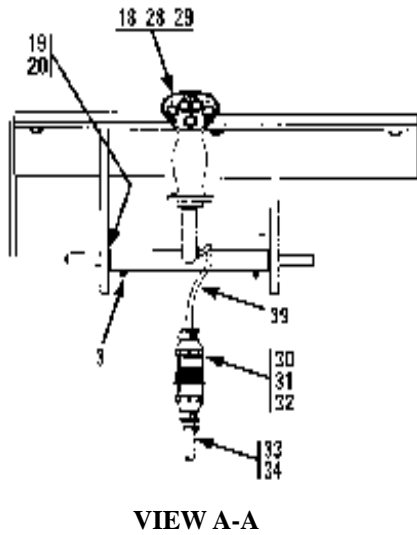


Item	Part No.	Qty.	Description Of Part
	9108-3262	1	DUAL P.O. CHECK VALVE ASSY
1	9104-4002	Ref	SEAL KIT (includes items 3 and 4)
		1	BODY
2	7713-3248	2	CHECK VALVE (includes items 3 and 4)
3	9108-4227	2	O-RING
4	9108-4228	2	O-RING
* 5	8859-1009	2	O-RING
			NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.

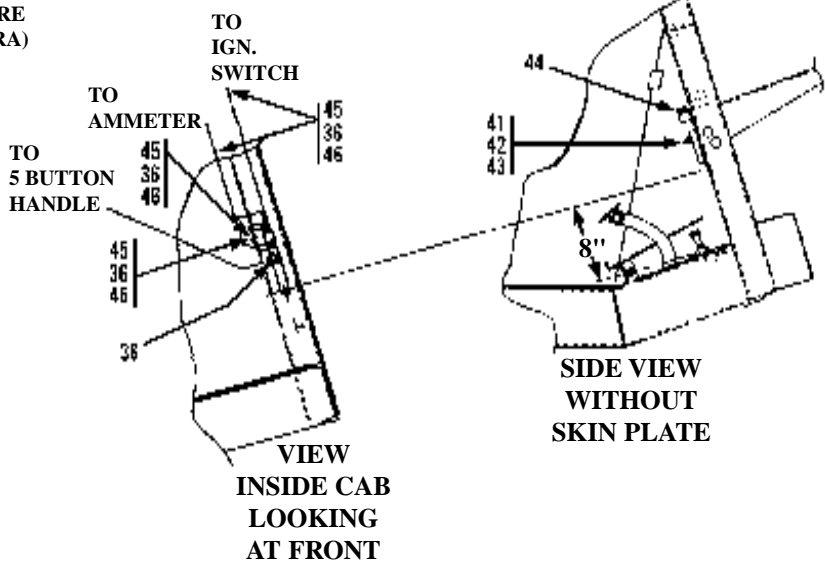
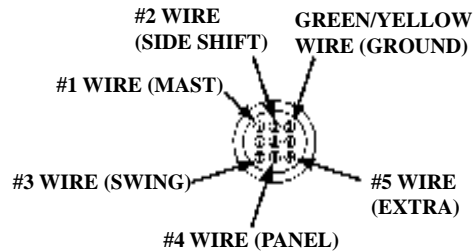
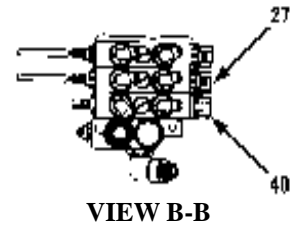


Item	Part No.	Qty.	Description Of Part
	9045-5035	1	6 FT. MAST ASSY, (48" carriage), (includes all items)
	9045-5037	1	6 FT. MAST ASSY, (66" carriage), (includes all items)
	9104-3339	1	544B CAPACITY CHART (located in cab)
1	9045-3031	1	CARRIAGE WELDMENT - 48"
	9045-3032	1	CARRIAGE WELDMENT - 66"
2	9045-6002	1	ADAPTER WELDMENT
3	8471-7640	1	HOSE ASSY
4	9116-3138	1	MALE HYDRAULIC COUPLING, (Before S/N 2005283-01)
	9140-3414	1	MALE HYDRAULIC COUPLING, (S/N 2005283-01 & After)
5	9104-3126	1	DUST CAP
6	2443-1386	2	CLAMP
7	8820-1037	2	HEX HD CAPSCREW, 3/8-16X1-1/2, GR5
8	8856-1004	2	FLAT WASHER, 3/8

Item	Part No.	Qty.	Description Of Part
9	8866-1013	1	MALE CONNECTOR, 1/2X1/2 TUBE, (Before S/N 2005283-01)
	8866-2006	1	CONNECTOR, (includes 8859-1205 o-ring), (S/N 2005283-01 & After)
10	8866-1016	1	MALE CONNECTOR, 5/8X1/2 TUBE
11	8866-1180	1	FEMALE ELBOW, 90 DEGREES, 1/2X1/2 TUBE
12	8850-1006	2	HEX NUT, 3/8-16
13	8855-1011	2	LOCKWASHER, 3/8
14	9015-3001	1	SERIAL NO. PLATE
15	8834-1022	4	DRIVE SCREW, #10X3/8
16	9045-1039	1	STOP TUBE
17	9103-4372	2	RETAINING RING
18	9103-4373	2	CHAIN ROLLER
19	9103-4374	6	LOAD ROLLER, (inside carriage frame)
20	9103-4375	AR	SHIM
21	9103-4376	4	SIDE THRUST ROLLER, (small outside roller)
22	9103-4377	2	SCREW

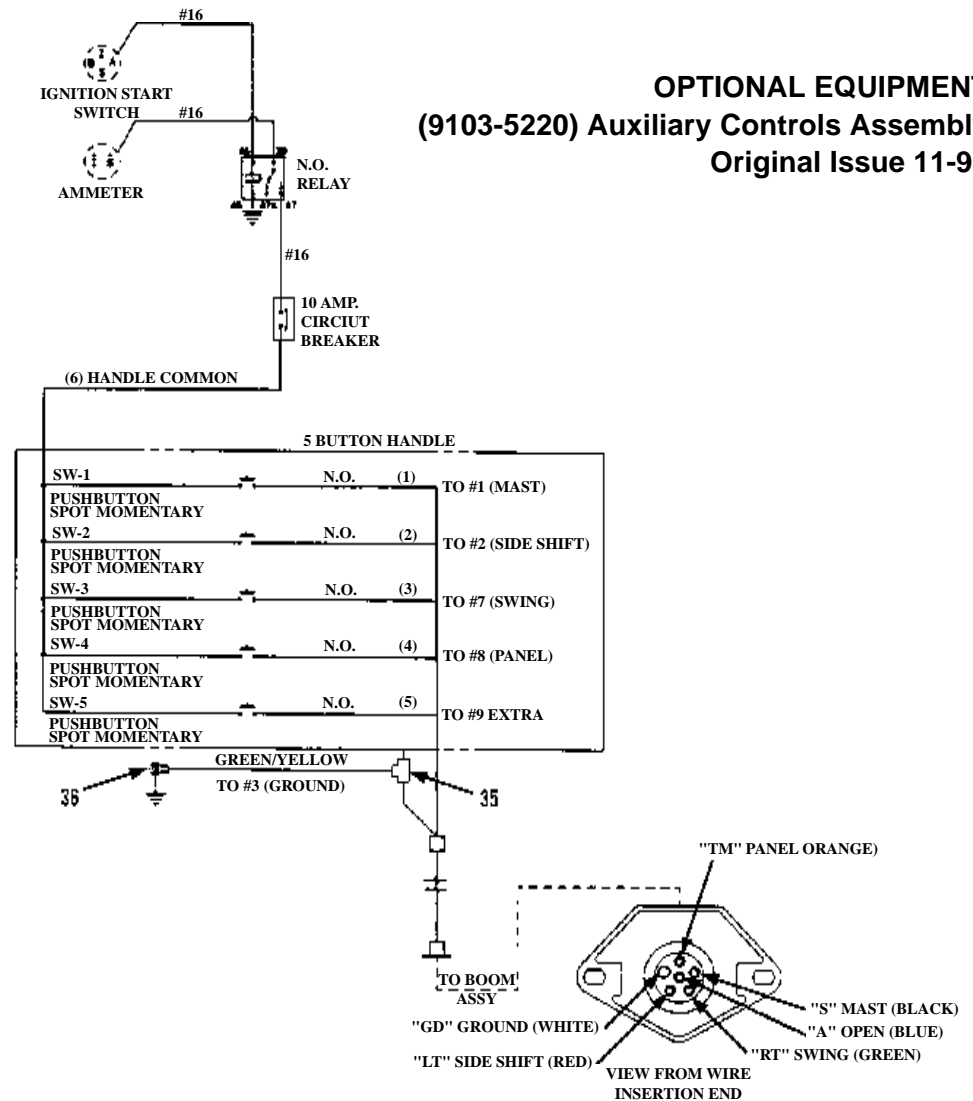


**THIS OPTION DRAWS  
 APPROX. 2 AMPS.  
 TOTAL**



**GRADALL®**  
**MATERIAL HANDLER**  
**544B**

**OPTIONAL EQUIPMENT**  
**(9103-5220) Auxiliary Controls Assembly**  
**Original Issue 11-93**

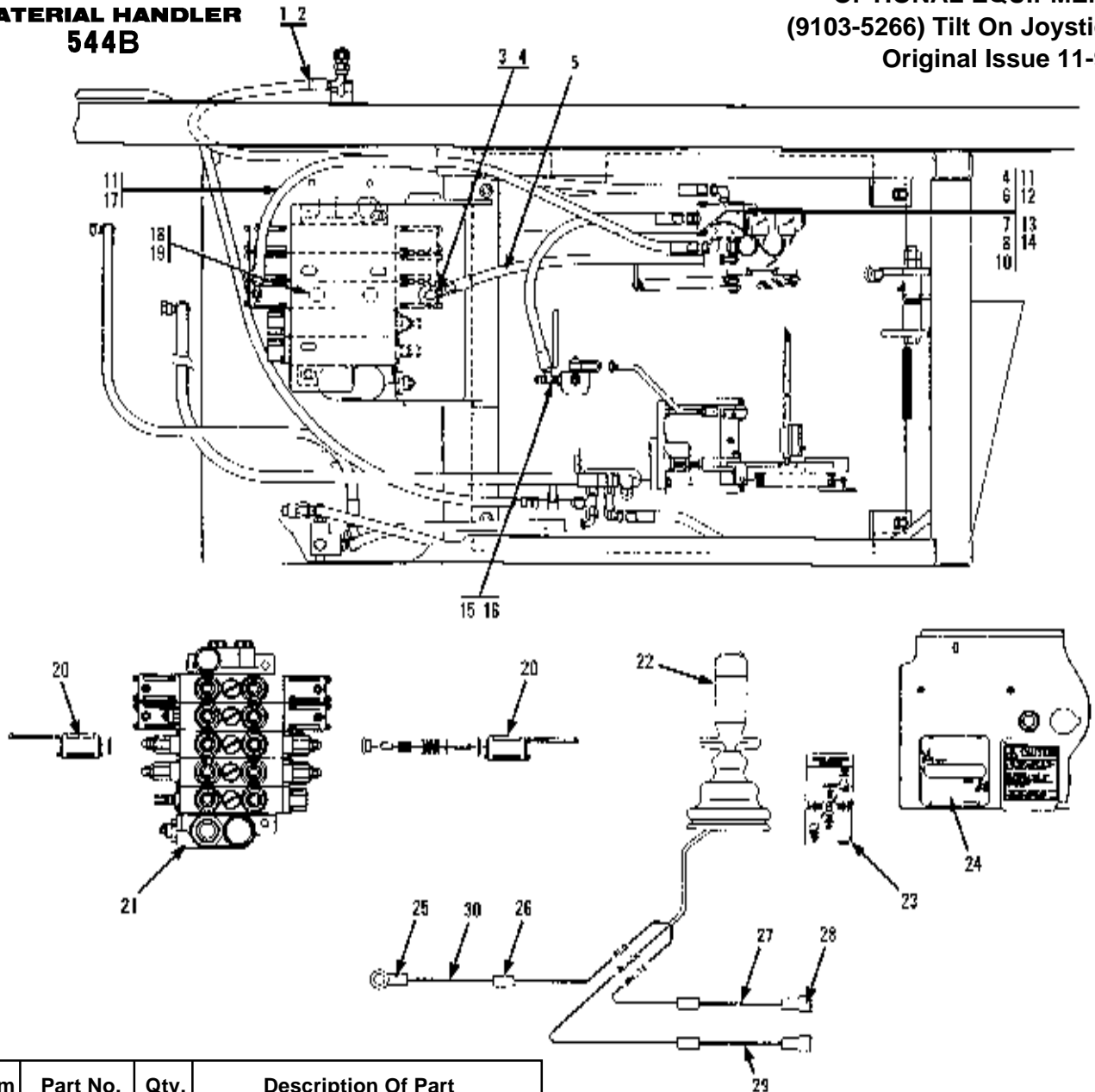


Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
	9103-5220	Ref	AUXILIARY CONTROLS ASSY (includes items 1 thru 21, 23, 24, 25, 26 & 38)	23	8866-2107	2	ELBOW, 90 DEGREES (swivel nut)
	9103-5221	Ref	AUXILIARY FIELD INSTALLATION (includes items 1 thru 27 & item 40)	24	8692-3006	1	ADAPTER, 3/4X5/8
	9103-5222	Ref	AUXILIARY ELECTRIC INST. (includes items 28 thru 37, item 39, & items 41 thru 46)	25	8866-2008	1	CONNECTOR (includes o-ring)
1	9103-6107	1	AUXILIARY HANDLE WELDMENT		8859-1207	1	O-RING
2	9020-0290	4	BEARING	26	8866-2022	1	CONNECTOR (includes o-ring)
3	8867-1008	3	LUBE FITTING, STRAIGHT, 1/4-28		8859-1207	1	O-RING
4	9020-2361	1	LINKAGE ROD	27	9103-3239	1	CONVERSION KIT
5	8882-1004	3	ADJUSTABLE YOKE END	28	9103-3387	1	FIVE BUTTON HANDLE
6	9002-7987	3	SPRING CLEVIS	29	9103-3425	1	GROMMET
7	8850-1406	3	HEX JAM NUT, 3/8-24	30	9002-8956	1	CONNECTOR BODY
8	9020-5533	1	BELLCRANK	31	9002-8958	6	TERMINAL
9	9104-6051	1	LINKAGE ROD	32	9002-8978	1	CABLE CLAMP
10	9002-1552	1	CLEVIS PIN	33	9040-3396	1	AUXILIARY WIRING HARNESS
11	8863-1301	1	COTTER PIN, 1/16X1/2	34	9002-7187	4	TY-RAP
12	9002-2043	2	HOSE ASSY	35	9002-8968	1	CONNECTOR
13	9002-9938	2	90 DEGREE BULKHEAD ELBOW	36	9103-3391	6	INSULATED RING TERMINAL
14	9020-7393	1	TUBE ASSY	37	9103-3394	1	AUXILIARY CONTROL DECAL
15	9104-3196	1	TUBE ASSY	38	9103-3417	1	AUXILIARY CONTROL DECAL
16	9103-1465	1	HANDLE INSERT	39		AR	LOOM, 5/16" I.D.
17	9020-0774	1	HANDLE GRIP	40	9103-3168	1	MAIN CONTROL VALVE
18	8850-1112	1	HEAVY HEX JAM NUT, 3/4-10	41	8688-3071	1	10 AMP CIRCUIT BREAKER
19	8856-1113	4	FLAT WASHER, 3/4	42	7736-3191	1	CIRCUIT BREAKER BRACKET
20	9002-8662	2	WAVE BEND WASHER	43	8832-1039	2	PAN HD SELF TAPPING SCREW, #10-32X1/2
21	9103-1464	1	COVER PANEL	44	7738-3410	1	RELAY
22	8832-1015	Ref	SELF TAPPING SCREW, #6-32X1/2	45		AR	WIRE, BLACK, 16 GAUGE
				46	7716-3102	4	INSULATED FEMALE SPADE
							NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.



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**544B**

**OPTIONAL EQUIPMENT**  
**(9103-5266) Tilt On Joystick**  
**Original Issue 11-93**



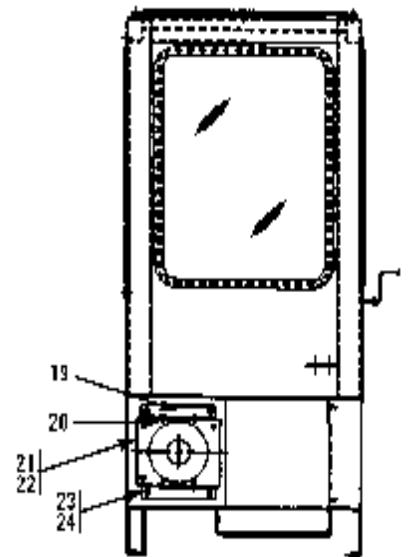
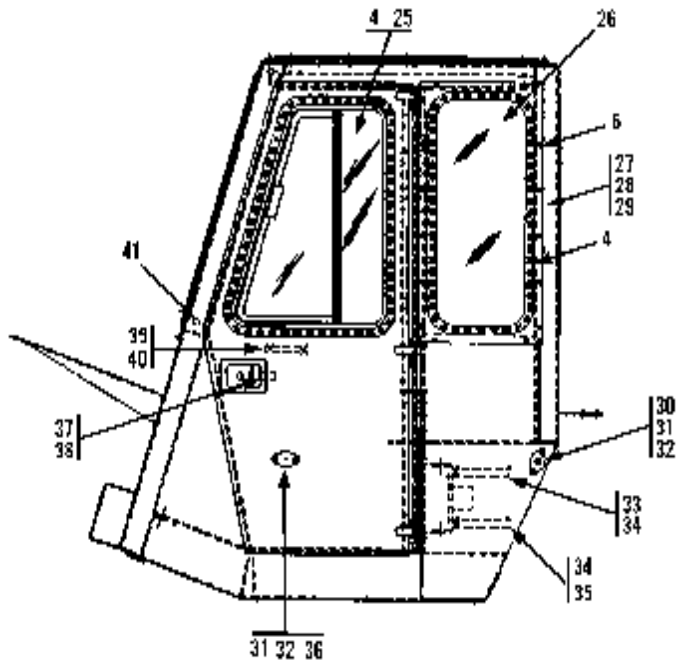
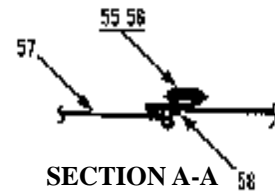
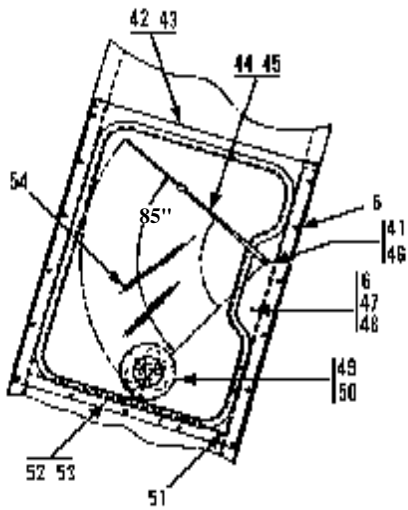
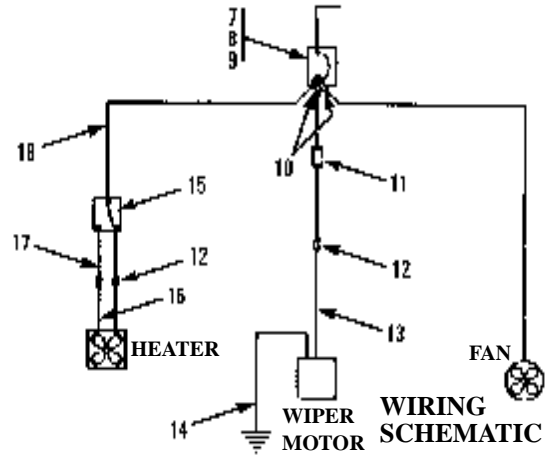
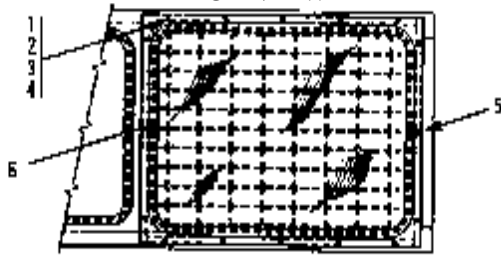
Item	Part No.	Qty.	Description Of Part
	9103-5266	Ref	TILT ON JOYSTICK (includes all items)
1	8866-1306	1	UNION TEE, 1/2 TUBE
2	8471-8323	1	HOSE ASSY
3	8866-2035	1	CONNECTOR (includes o-ring)
	8859-1204	1	O-RING
4	8866-2105	2	ELBOW, 90 DEGREES (swivel nut)
5	7713-3196	1	HOSE ASSY
6	9130-3038	1	FOUR-WAY SOLENOID VALVE
7	8820-1009	2	HEX HD CAPSCREW, 1/4-20X2, GR5
8	8856-1107	2	FLAT WASHER, 1/4
9	8855-1009	2	LOCKWASHER, 1/4
10	8850-1004	2	HEX NUT, 1/2-20
11	8866-2005	2	CONNECTOR (includes o-ring)
	8859-1204	2	O-RING
12	8866-2064	2	ELBOW, 90 DEGREES (includes o-ring)
	8859-1204	2	O-RING
13	9108-5071	1	ORIFICE FITTING
14	9020-7719	2	JUMPER WIRE
15	8866-2239	1	SWIVEL NUT RUN TEE, 3/8 TUBE
16	7713-3447	1	HOSE ASSY
17	8471-7956	1	HOSE ASSY

Item	Part No.	Qty.	Description Of Part
18	9013-3488	2	ORIFICE PLATE
19	9103-3487	2	CHECK VALVE PLATE
20	9103-3483	1	ACTUATOR ASSY KIT
21		Ref	MAIN CONTROL VALVE (see page 10-10 for details)
22		Ref	JOYSTICK ASSY (see page 10-29 for details)
23	9130-3041	1	BOOM CONTROL DECAL
24	9104-3431	1	SWAY COVER PLATE
25	8698-3188	1	EYELET, #10X16-14
26	8668-3480	3	BUTT CONNECTOR, 16-14
27		31"	14 GAUGE WIRE, WHITE
28	7716-3102	2	FEMALE BLADE, 16-14
29		31"	14 GAUGE WIRE, BLACK
30		62"	14 GAUGE WIRE, RED
NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.			

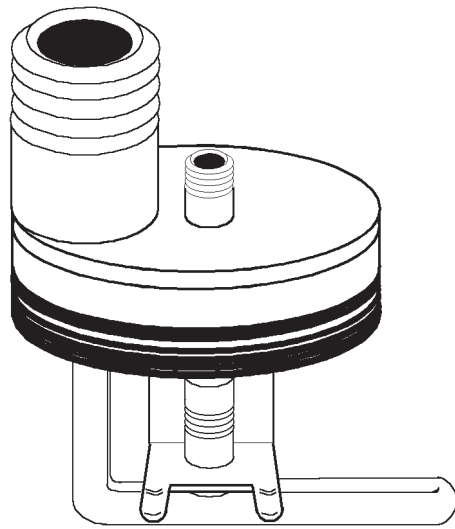
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**MATERIAL HANDLER**  
**544B**

**OPTIONAL EQUIPMENT**  
**(9103-5261) Cab Enclosure**  
**Original Issue 11-93**

TOP VIEW

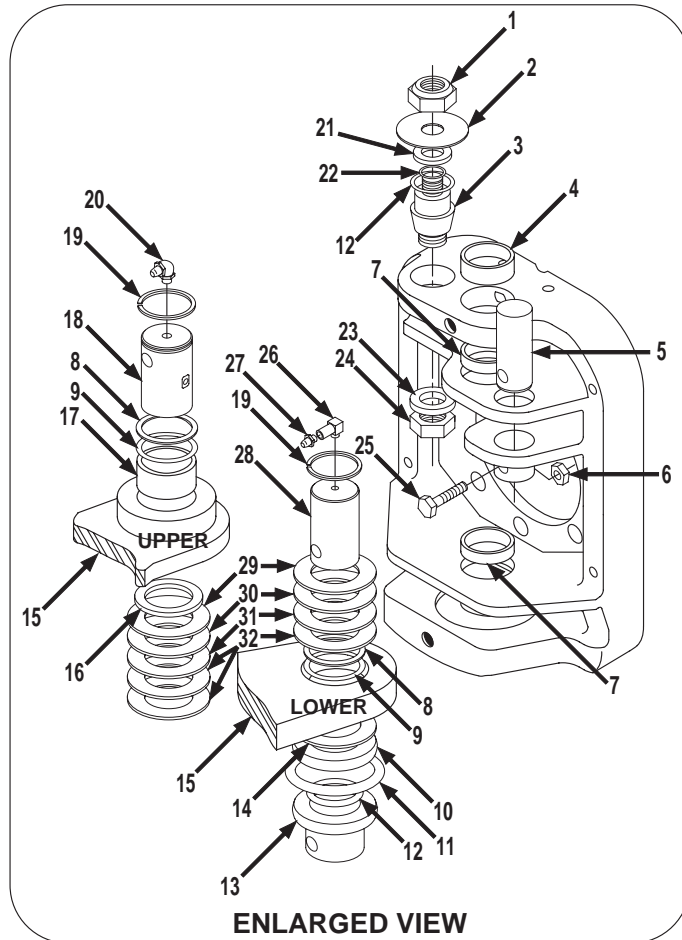


Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
	9103-5261	Ref	CAB ENCLOSURE (includes all items)	32	8852-1304	4	HEX LOCKNUT, 1/4-20
1	9103-6119	1	TOP WINDOW FRAME	33	9020-6169	1	HEATER HOSE
2		11'	WEATHER STRIP	34	8668-3193	4	HOSE CLAMP
3		1	TOP WINDOW, SAFETY GLASS, 7/32" THICK, 24-7/8X31-7/8	35	9020-6170	1	HEATER HOSE
4		24'	WEATHER STRIP	36	9020-5886	1	DOOR HOLD PLUNGER
5	9002-7315	13	SELF-TAPPING SCREW	37	9020-3627	1	HANDLE
6	9002-7319	35	SELF-TAPPING SCREW	38	8820-1031	1	HEX HD CAPSCREW, 3/8-16X1/2, GR5
7	9020-0506	1	CIRCUIT BREAKER, 30 AMP	39	9020-3840	1	PULL HANDLE
8	8850-1613	2	HEX NUT, 10-32	40	8832-1039	2	SELF-TAPPING SCREW
9	8855-4917	2	LOCKWASHER, #10	41	9002-7214	2	BUTTON GROMMET
10	8698-3188	2	TERMINAL	42	9103-1530	1	FRONT WINDOW FRAME
11	9020-3376	1	FUSE HOLDER	43	1440-3190	AR	VULKEM CAULK
12	8668-3480	3	CRIMP ON CONNECTOR	44	9103-3464	1	WIPER ARM
13	9103-1486	1	JUMPER WIRE	45	9103-3465	1	WIPER BLADE
14	9108-1599	1	JUMPER WIRE	46	9020-6023	1	WIPER MOTOR
15	7738-3744	1	HEATER SWITCH	47	8820-1003	1	HEX HD CAPSCREW, 1/4-20X3/4, GR5
16	9020-6134	2	JUMPER WIRE	48	8850-1004	1	HEX NUT, 1/4-20
17	9103-1494	2	JUMPER WIRE	49	9020-0680	1	DEFROSTER FAN
18	9103-1490	1	JUMPER WIRE	50	8832-1015	4	SELF-TAPPING SCREW
19	9103-1521	2	HEATER MOUNTING BRACKET	51	9108-3376	1	EMERGENCY EXIT DECAL (locate on corner post next to emergency release cord)
20	8820-1005	4	HEX HD CAPSCREW, 1/4-20X1, GR5	52		10'	CHANNEL MOULDING
21	9104-3429	1	HEATER	53		10'	RELEASE FILLER STRIP
22	9100-3053	1	HEATER DECAL	54		1	FRONT WINDOW, SAFETY GLASS, 7/32" THICK (contact Gradall Parts)
23	7714-3004	4	WHIZ LOK SCREW, 5/16-18X1-1/4	55	8820-1039	4	HEX HD CAPSCREW, 3/8-16X2, GR5
24	7714-3006	4	WHIZ LOK NUT, 5/16-18	56	8850-1006	4	HEX NUT, 3/8-16
25		1	SLIDING DOOR WINDOW	57	9080-1238	1	DOOR
26		1	LEFT SIDE WINDOW 7/32" THICK (contact Gradall Parts)	58	9040-3082	1	DOOR POST
27	9103-1507	1	LEFT SIDE WINDOW FRAME				NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE
28	1440-3190	AR	VULKEM CAULK				
29		7'	WEATHER STRIP				
30	9020-5888	1	PLUNGER SOCKET				
31	8830-1309	4	FLAT HD MACHINE SCREW, 1/4-20X3/4				



REPLACES FROST PLUG ON RIGHT SIDE OF ENGINE.

Item	Part No.	Qty.	Description Of Part
	9104-3353	1	BLOCK HEATER

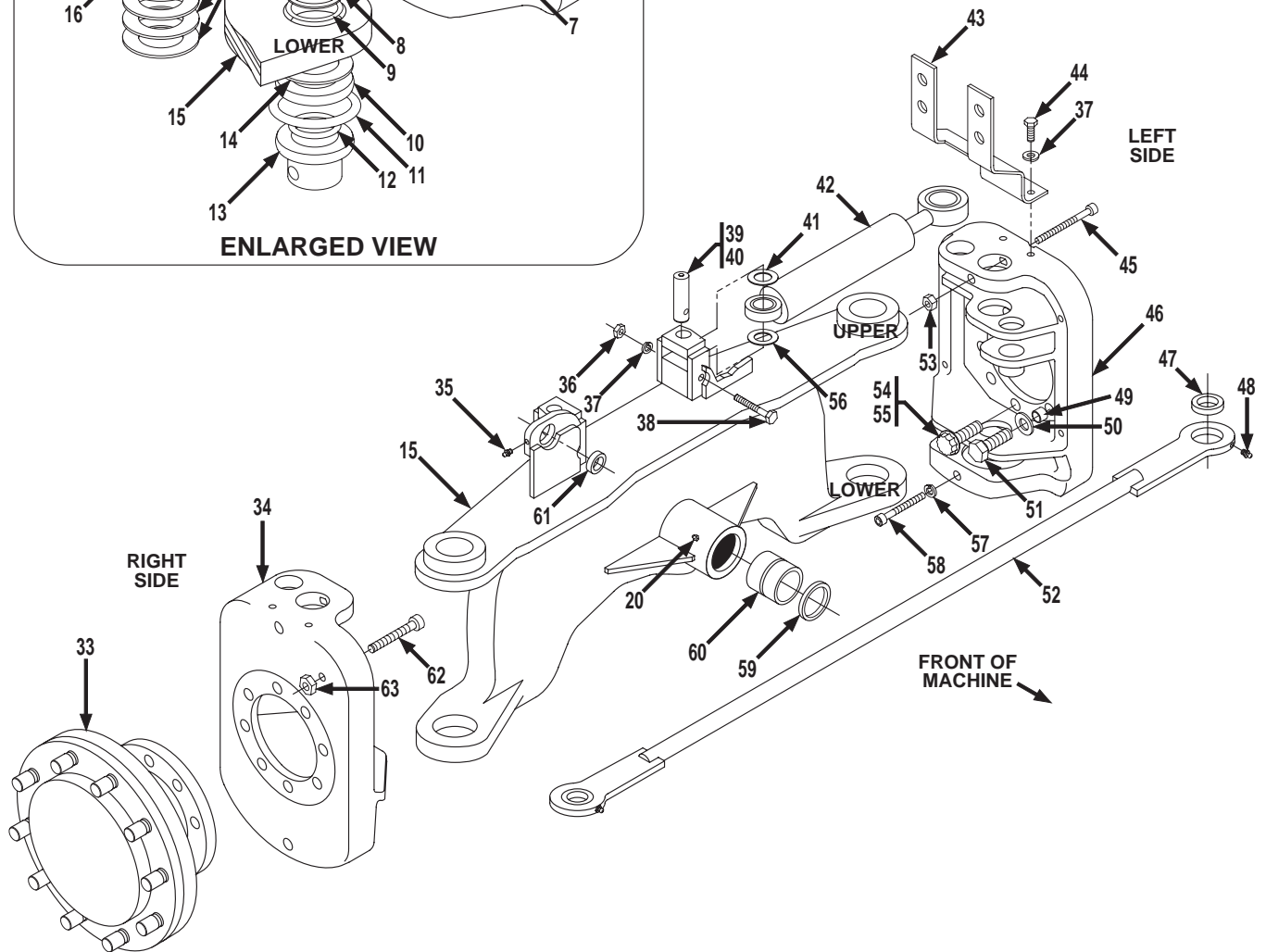


**NOTE #1: CUSTOMER TO USE EXISTING WHEEL HUBS & HARDWARE, DRIVE MOTORS, DRIVE MOTOR TUBE ASSEMBLIES, AND DRAIN LINE HOSES OR ORDER SEPARATELY IF REPLACEMENT IS REQUIRED.**

**NOTE #2: CYLINDER BASE END MUST BE FREE TO ROTATE. SHIM STEER CYLINDER BASE END AS REQUIRED TO MAINTAIN A TOTAL MAX. GAP OF 1/16".**

**NOTE #3: SHIM BOTTOM KNUCKLES AS REQUIRED TO MAINTAIN NO MORE THAN 1/32" MOVEMENT. SHIM TOP KNUCKLES AS REQUIRED TO MAINTAIN NO MORE THAN 1/16" GAP. MUST HAVE A MINIMUM OF ONE SHIM.**

**NOTE #4: ITEM 55 TO BE USED WITH FAIRFIELD HUBS ONLY.**



**NOTE #1: CUSTOMER TO USE EXISTING WHEEL HUBS & HARDWARE, DRIVE MOTORS, DRIVE MOTOR TUBE ASSEMBLIES, AND DRAIN LINE HOSES OR ORDER SEPARATELY IF REPLACEMENT IS REQUIRED.**

**NOTE #2: CYLINDER BASE END MUST BE FREE TO ROTATE. SHIM STEER CYLINDER BASE END AS REQUIRED TO MAINTAIN A TOTAL MAX. GAP OF 1/16".**

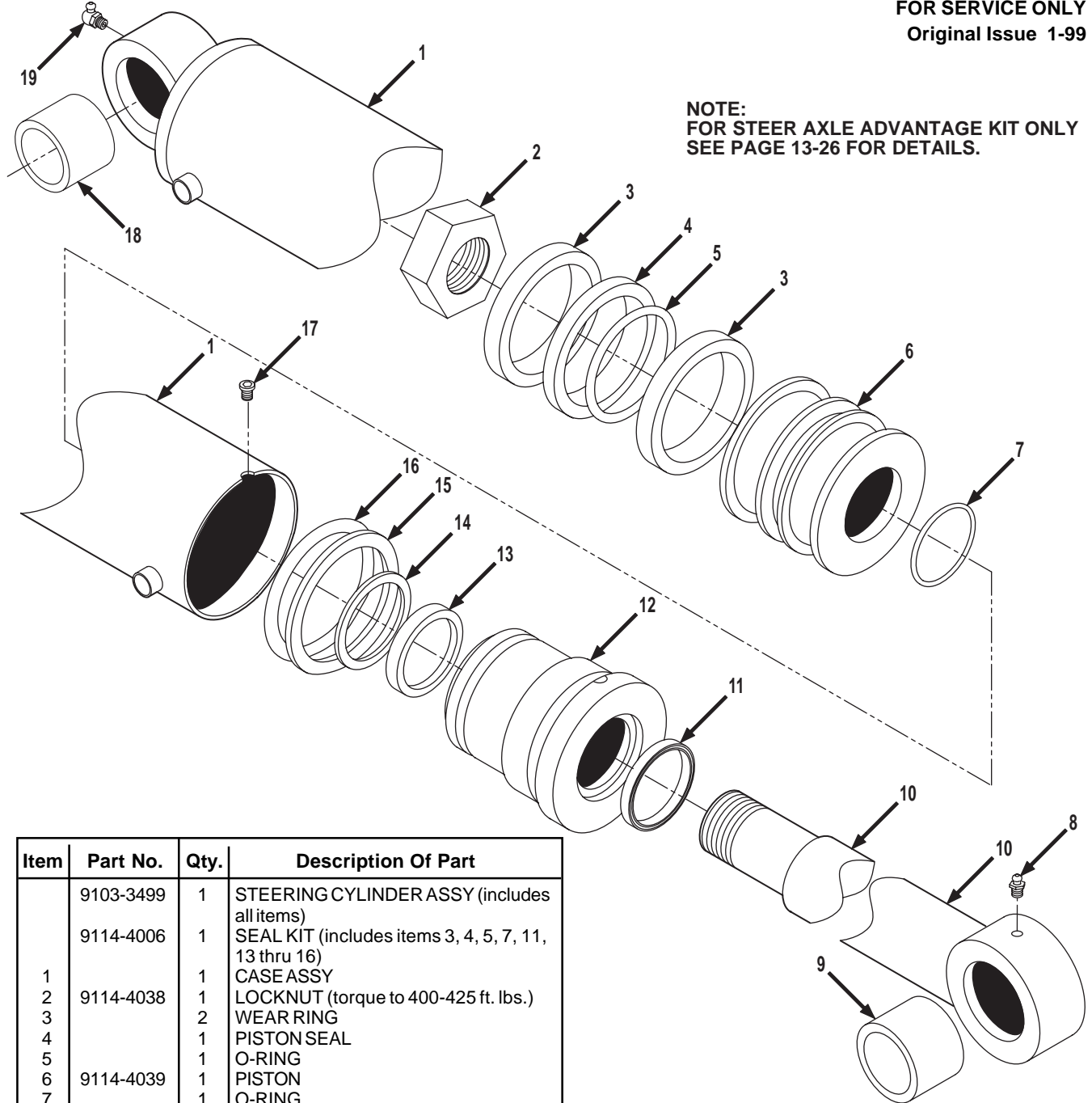
**NOTE #3: SHIM BOTTOM KNUCKLES AS REQUIRED TO MAINTAIN NO MORE THAN 1/32" MOVEMENT. SHIM TOP KNUCKLES AS REQUIRED TO MAINTAIN NO MORE THAN 1/16" GAP. MUST HAVE A MINIMUM OF ONE SHIM.**

**NOTE #4: ITEM 55 TO BE USED WITH FAIRFIELD HUBS ONLY.**

Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
	9104-5129	Ref	STEER AXLE ADVANTAGE KIT (includes all items except 33, 50 & 51)	31	9104-1450	AR	SHIM (.0478 thick, see note #3)
	9103-5240	1	STEERING KNUCKLE KIT (includes items 2,4, 7 thru 14, 16 thru 22, 28 thru 32, 45, 53, 57 & 58 - one kit does both sides)	32	9104-1451	AR	SHIM (.106 thick, see note #3)
	9104-5152	Ref	STEERING CYLINDER PIN KIT (includes one each of items 1, 2, 3, 12 & 21 thru 24 - one kit needed for each side)	33		2	DRIVE HUB (use existing hubs)
1	8852-1312	2	HEX LOCKNUT, 3/4-10 (torque to 160-175 ft.lbs.)	34	9112-0004	1	R.H. STEERING KNUCKLE
2	9108-1415	2	DIRT SHIELD	35	8867-1008	2	LUBE FITTING, STRAIGHT, 1/4-28
3	9104-1481	2	STEERING CYLINDER PIN (knuckle end)	36	8850-1006	2	HEX NUT, 3/8-16
4	9112-1239	2	BUSHING	37	8855-1011	6	LOCKWASHER, 3/8
5	9104-1439	2	TIE ROD PIN	38	8320-1144	2	HEX HD CAPSCREW, 3/8-16X5-3/4, GR5
6	8852-1306	2	LOCKNUT, 3/8-16	39	9108-1695	2	STEERING CYLINDER PIVOT PIN (axle end)
7	9112-1240	4	BUSHING	40	8871-1280	2	HEX SOCKET PIPE PLUG, 1/8
8	9112-3030	4	BACK-UP RING	41	9104-1598	AR	SHIM (see note #2)
9	8859-1032	4	O-RING	42		2	STEERING CYLINDER ASSY (see page 13-27 for details)
10	9112-3027	2	BUSHING (lower)	43	9108-1523	1	L.H. TUBE SUPPORT
11	9112-3029	2	O-RING		9108-1522	1	R.H. TUBE SUPPORT
12	8859-1104	4	O-RING	44	8820-1035	4	HEX HD CAPSCREW, 3/8-16X1, GR5
13	9112-1091	2	THRUST BUSHING	45	8821-1121	2	SOCKET HD CAPSCREW, 1/2-13X6-1/2, GR8
14	9104-1733	AR	SHIM	46	9112-0003	1	L.H. STEERING KNUCKLE
15	9104-6126	1	REAR AXLE WELDMENT (includes items 10, 17, 60 & 61)	47	9104-3247	2	SELF-ALIGNING BUSHING
16	8692-1268	2	LIP SEAL	48	8867-1001	2	LUBE FITTING, STRAIGHT, 1/8
17	9112-3028	2	BUSHING (upper)	49	9104-1731	16	SPACER
18	9108-1693	2	UPPER KING PIN	50		12	HARDENED WASHER, 3/4 (use existing hardware)
19	8858-1323	4	RETAINING RING	51		12	HEX HD CAPSCREW, 3/4-10X2 (use existing hardware)
20	8867-1022	4	LUBE FITTING, 30 DEGREES, 1/8	52	9116-6063	1	TIE ROD (includes item 47)
21	9104-1732	AR	SPACER	53	8852-1208	2	HEX LOCKNUT, 1/2
	9104-1438	AR	SPACER	54	9104-3222	2	12 PT. SCREW, 3/4-10X2, GR8 (lubricate & torque to 270-290 ft. lbs.) (see note #4)
22	8859-1019	2	O-RING	55	9104-3494	2	12PT. SCREW, 5/8-1X2-1/4, GR8 (torque to 200 ft. lbs.) (see note #4)
23	9104-1459	2	WASHER	56	9020-1918	AR	SHIM (10 gauge thick, see note #2)
24	8850-1416	2	HEX JAM NUT, 1-14 (torque to 225-250 ft. lbs.)	57	8855-1153	2	LOCKWASHER, 5/8
25	8320-1140	2	HEX HD CAPSCREW, 3/8-16X2-3/4, GR8	58	8821-2321	2	SLOT HD CAPSCREW, 5/8-11X3-3/4, GR8
26	9103-3444	2	STREET ELBOW	59	2460-1570	2	LIP SEAL
27	9103-3445	2	LUBE FITTING	60	9112-3031	2	BUSHING
28	9114-1424	2	LOWER KING PIN	61	9104-1489	2	BUSHING
29	9104-1596	AR	SHIM (20 gauge thick, see note #3)	62	8821-2321	2	SOCKET HD CAPSCREW, 5/8-11X3-3/4, GR8
30	9104-1449	AR	SHIM (.060 thick, see note #3)	63	8850-1110	2	HEAVY HEX JAM NUT, 5/8-11

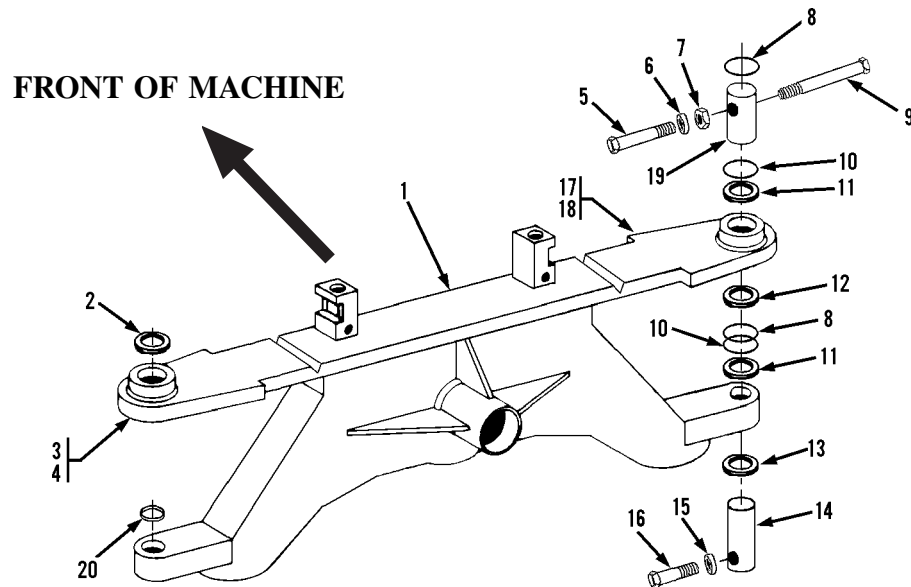
**GRADALL®**  
**MATERIAL HANDLER**  
**544B**

**OPTIONAL EQUIPMENT**  
**(9103-3499) Steering Cylinder**  
**Steer Axle Advantage Kit (Only)**  
**FOR SERVICE ONLY**  
**Original Issue 1-99**



**NOTE:**  
**FOR STEER AXLE ADVANTAGE KIT ONLY**  
**SEE PAGE 13-26 FOR DETAILS.**

Item	Part No.	Qty.	Description Of Part
	9103-3499	1	STEERING CYLINDER ASSY (includes all items)
	9114-4006	1	SEAL KIT (includes items 3, 4, 5, 7, 11, 13 thru 16)
1		1	CASE ASSY
2	9114-4038	1	LOCKNUT (torque to 400-425 ft. lbs.)
3		2	WEAR RING
4		1	PISTON SEAL
5		1	O-RING
6	9114-4039	1	PISTON
7		1	O-RING
8	9114-4128	1	LUBE FITTING
9	9114-4042	1	BUSHING
10	9114-4041	1	ROD ASSY
11		1	WIPER
12	9114-4040	1	CYLINDER HEAD (torque to 100-400 ft. lbs.)
13		1	U-CUP
14		1	STEP SEAL
15		1	BACK-UP RING
16		1	O-RING
17	9112-4096	1	SELF TAPPING SCREW
18	9114-4267	1	BUSHING
19	9114-4125	1	LUBE FITTING
			NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.

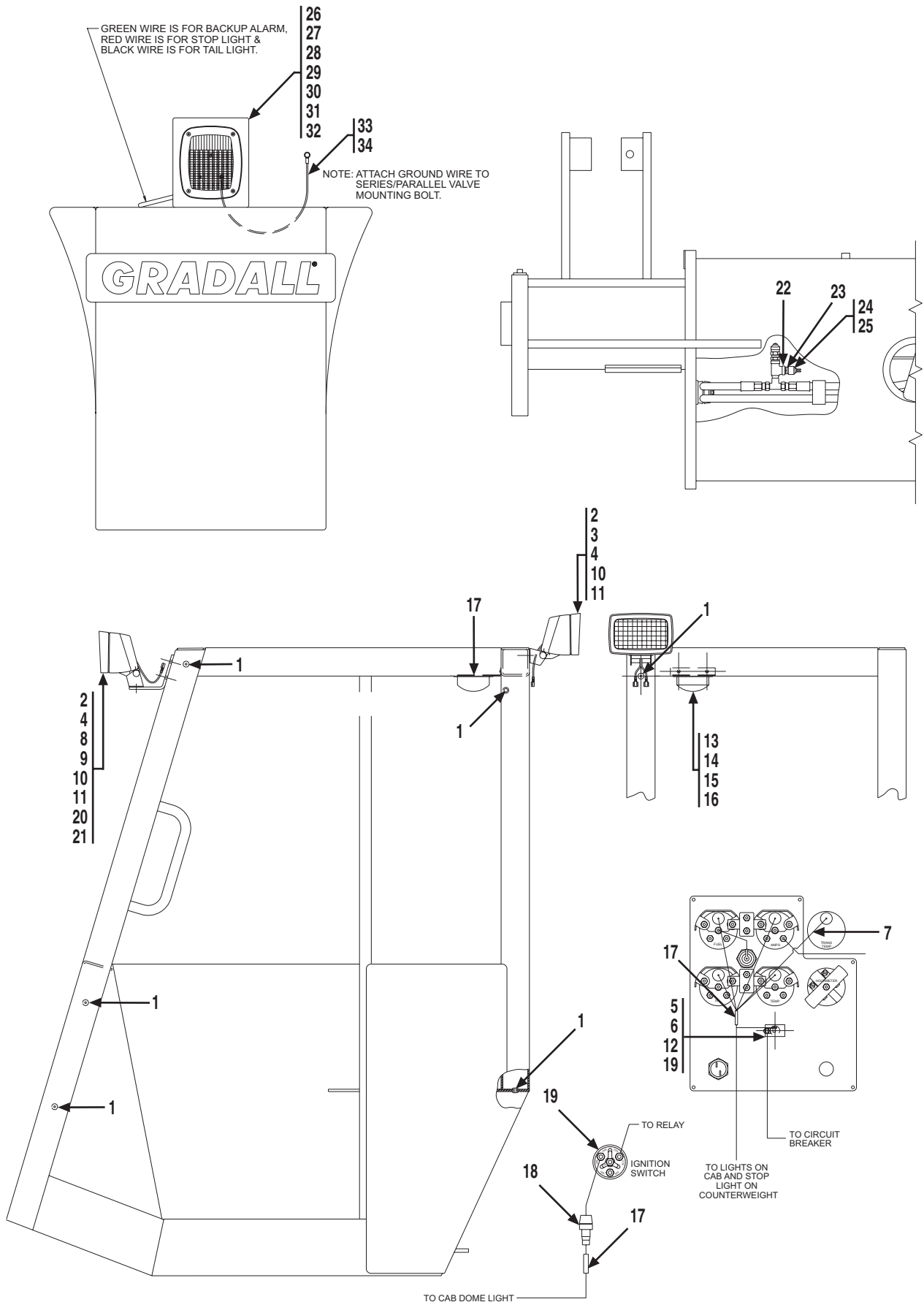


Item	Part No.	Qty.	Description Of Part
	9114-5136	1	REAR AXLE REWORK KIT (includes all items)
1		1	REAR AXLE WELDMENT
2	9112-3028	2	BUSHING
3	9114-5134	1	LUG REWORK ASSY (includes items 2 & 4)
4	9114-6111	1	LUG WELD
5	8821-1117	2	SOCKET HEAD CAPSCREW, 1/2-13x4-1/2, GR8
6	8855-1109	2	LOCKWASHER, 1/2
7	8852-1208	2	HEX LOCKNUT, 1/2
8	8858-1323	4	RETAINING RING
9	8821-1121	2	SOCKET HEAD CAPSCREW, 1/2-13x6-1/2, GR8
10	9112-3030	4	BACK-UP RING
11	8859-1032	2	O-RING
12	8692-1268	2	LIP SEAL
13	9112-3029	2	O-RING
14	9114-1424	2	LOWER KING PIN
15	8855-1153	2	LOCKWASHER, 5/8
16	8821-2321	2	SOCKET HEAD CAPSCREW, 5/8-11x3-3/4, GR8
17	9114-5135	1	LUG REWORK ASSY (includes items 2 & 18)
18	9114-6112	1	LUG WELD
19	9108-1693	2	UPPER KING PIN
20	9112-3027	2	BUSHING



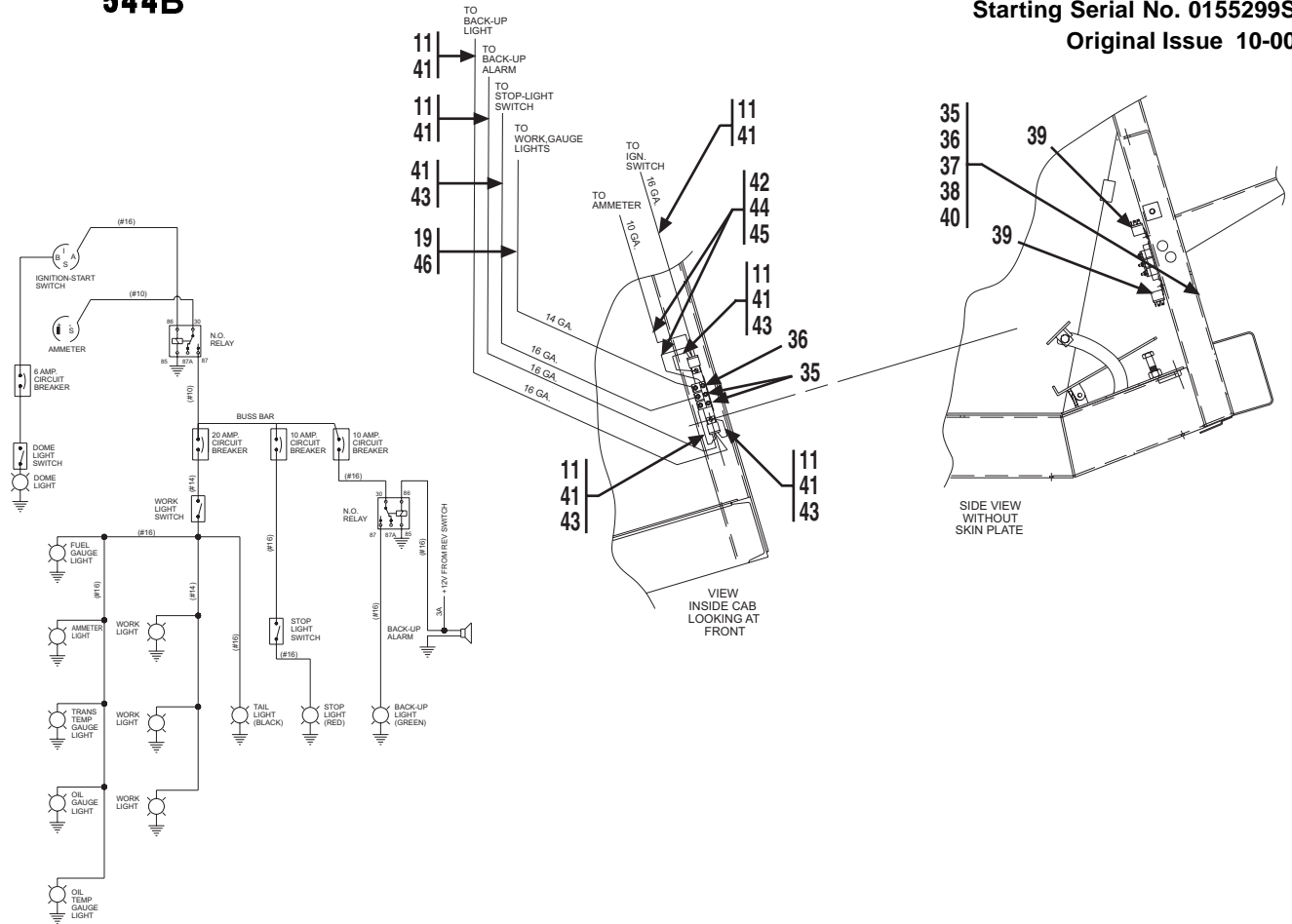
**GRADALL®**  
**MATERIAL HANDLER**  
**544B**

**OPTIONAL EQUIPMENT**  
**(9103-5253) Work Light Package**  
**Starting Serial No. 0155299S**  
**Original Issue 10-00**



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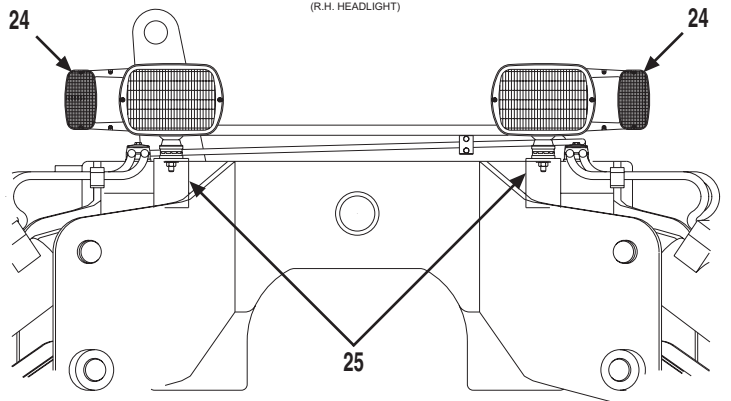
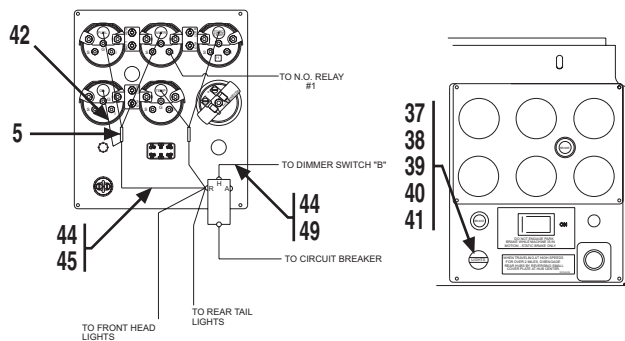
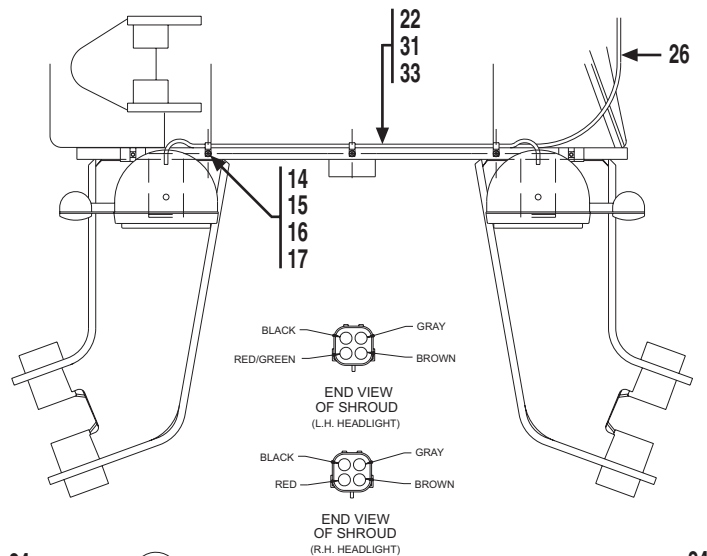
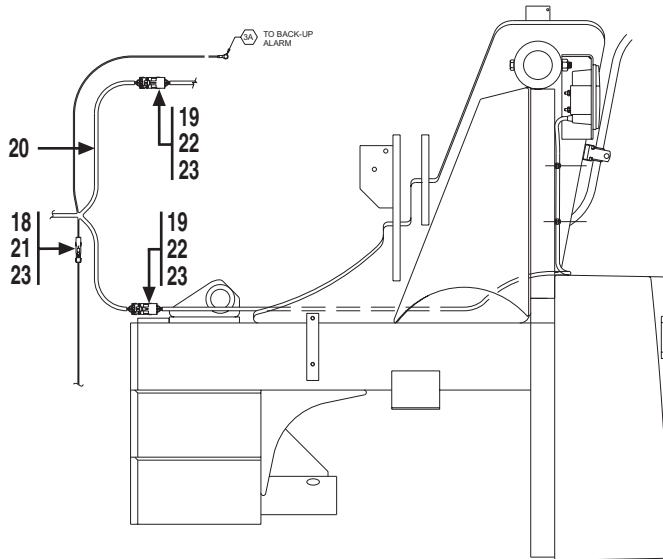
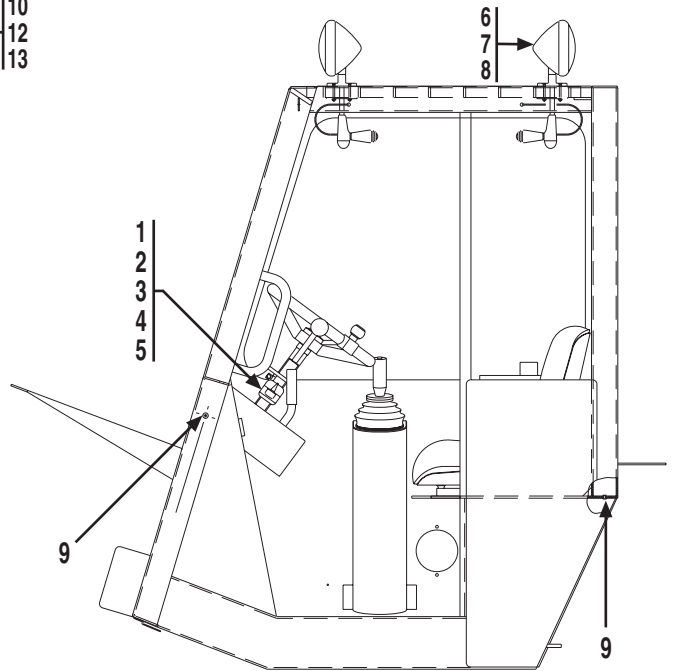
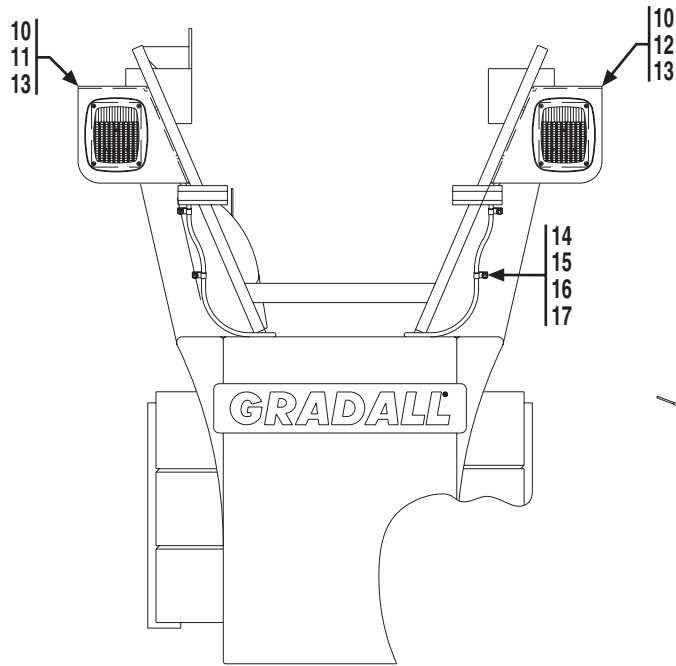
**OPTIONAL EQUIPMENT**  
**(9103-5253) Work Light Package**  
 Starting Serial No. 0155299S  
 Original Issue 10-00



Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
	9103-5253	1	WORK LIGHT PACKAGE, (includes all items)	26	9112-1145	1	TAIL LIGHT HOUSING
1	9002-7214	7	BUTTON GROMMET	27	9112-1146	1	TAIL LIGHT BRACKET
2	9112-5110	3	HALOGEN WORKLIGHT KIT, (includes the following two items)	28	9136-5045	1	TAIL LIGHT ASSEMBLY, (includes the following seven items)
	8096-3050	1	UTILITY FLOOD LIGHT		9112-3065	1	TAIL LIGHT
	9002-8960	2	MALE TERMINAL		8666-1147	38"	WIRE, 16 GAUGE, (black)
3	8820-1031	1	HEX HD CAPSCREW, 3/8-16X1/2, GR5		8666-1149	38"	WIRE, 16 GAUGE, (green)
4	8855-1011	3	LOCKWASHER, 3/8		8666-1152	38"	WIRE, 16 GAUGE, (red)
5	9100-3055	1	LIGHTS DECAL		8668-3480	3	BUTT CONNECTOR
6	7738-3467	1	LIGHT SWITCH		8203-3996	45"	WIRE LOOM
7	9103-3360	5	GAUGE LIGHTING KIT		8668-3122	2	TIE WRAP
8	9103-1528	2	MOUNTING BRACKET	29	8820-1108	1	HEX HD CAPSCREW, 3/4-10X1-1/4, GR5
9	8820-1035	2	HEX HD CAPSCREW, 3/8-16X1, GR5	30	8856-1115	1	FLAT WASHER, 3/4
10	9112-1150	3	JUMPER WIRE	31	8855-1016	1	LOCKWASHER, 3/4
11	7716-3102	9	SLIP-ON ELECTRICAL CONNECTION	32	7716-3105	3	BULLET RECEPTACLE
12	7738-3470	1	BOOT	33	8698-3191	1	EYELET
13	9101-1009	1	MOUNTING BRACKET	34	8688-3260	1	EYELET
14	9002-9955	1	RUBBER GROMMET	35	8688-3071	2	CIRCUIT BREAKER, 10 AMP
15	8832-1022	2	SELF TAPPING SCREW, #8-32X3/8	36	8698-3041	1	CIRCUIT BREAKER, 20 AMP
16	2486-1167	1	INTERIOR LIGHT	37	7736-3191	1	CIRCUIT BREAKER BRACKET
17	8668-3480	3	BUTT CONNECTOR	38	8698-1178	1	BUSSBAR
18	9020-3376	1	IN-LINE FUSE, 6 AMP	39	7738-3410	2	RELAY
19	8698-3188	4	EYELET	40	8832-1039	2	SELF TAPPING SCREW, #10-32X1/2
20	8850-1006	2	HEX NUT, 3/8-16	41	8666-1147	AR	WIRE, 16 GAUGE, (black)
21	9002-7319	4	DR & TAP SCREW, 1/4-20X1	42	8666-1174	AR	WIRE, 10 GAUGE, (black)
22	8871-2232	1	STREET TEE, 1/4	43	9103-3391	5	INSULATED RING TERMINAL
23	8871-1380	1	REDUCING BUSHING, 1/4x1/8	44	9103-3463	2	INSULATED FEMALE SPADE
24	8366-3097	1	STOP LIGHT SWITCH	45	8698-3190	2	INSULATED RING TERMINAL
25	8348-3075	2	EYELET	46	8666-1156	AR	WIRE, 14 GAUGE, (black)

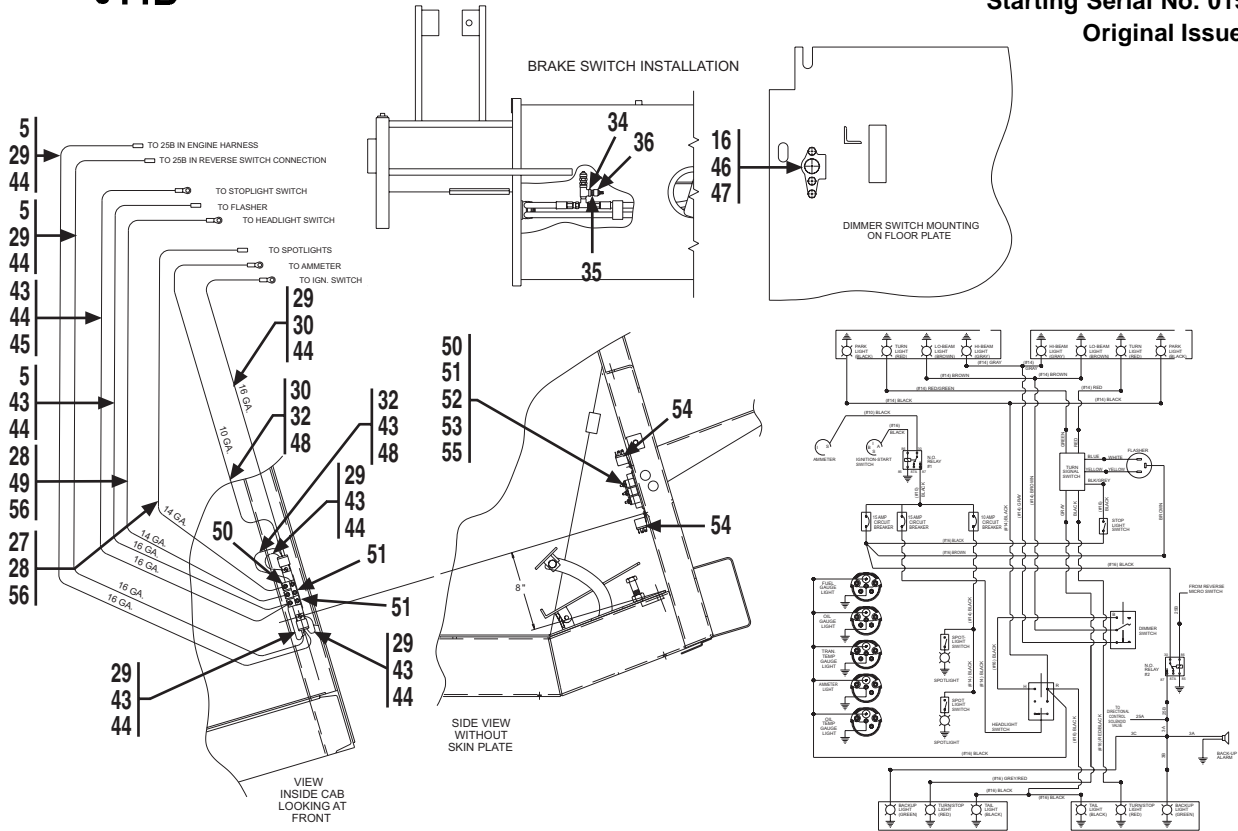
**GRADALL®**  
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**544B**

**OPTIONAL EQUIPMENT**  
**(9104-5154) Deluxe Light Package**  
 Starting Serial No. 0155299S  
 Original Issue 10-00



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**OPTIONAL EQUIPMENT**  
**(9104-5154) Deluxe Light Package**  
 Starting Serial No. 0155299S  
 Original Issue 10-00



Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
	9104-5154	1	DELUXE LIGHT PACKAGE, (includes all items)	24	9108-3398	1	HEAD/TURN/PARK/LAMP KIT
1	9020-0999	1	TURN SIGNAL SWITCH	25	9104-1728	2	HEAD LIGHT MOUNTING BRACKET
2	8098-3168	1	FLASHER SWITCH	26	9108-3399	1	FRONT WIRING HARNESS
3	9101-3026	1	PIG TAIL CONNECTOR	27	8348-3078	1	CRIMP ON CONNECTOR
4	8698-3193	6	BULLET CONNECTOR	28	8698-3188	2	INSULATED RING TERMINAL
5	8668-3480	8	BUTT CONNECTOR	29	7716-3102	6	INSULATED FEMALE SPADE
6	2460-1671	2	SPOTLIGHT	30	8698-3190	2	INSULATED RING TERMINAL
7	9104-1727	2	MOUNTING PLATE	31	8096-3062	2	W. PACK CONNECTOR, (shroud)
8	8830-1380	8	FLAT HD MACHINE SCREW, #10-32 x 2	32	9103-3463	2	INSULATED FEMALE SPADE
	9002-7214	2	BUTTON GROMMET	33	8096-3067	8	W. PACK CONNECTOR, (cable seal)
10	9136-5045	2	TAIL LIGHT ASSEMBLY, (includes the following seven items)	34	8871-2232	1	STREET TEE, 1/4
	9112-3065	1	TAIL LIGHT	35	8871-1380	1	REDUCING BUSHING, 1/4X1/8
	8666-1147	38"	WIRE, 16 GAUGE, (black)	36	8366-3097	1	STOPLIGHT SWITCH
	8666-1149	38"	WIRE, 16 GAUGE, (green)	37	8668-3127	1	HEADLAMP SWITCH
	8666-1152	38"	WIRE, 16 GAUGE, (red)	38	8856-1110	2	FLAT WASHER, 7/16
	8668-3480	3	BUTT CONNECTOR	39	8830-1191	1	ROUND HD MACHINE SCREW, #10-32X3/8
	8203-3996	45"	WIRE LOOM	40	8855-1007	1	LOCKWASHER, #10
	8668-3122	2	TIE WRAP	41	8850-1613	1	HEX NUT, #10-32
11	9104-1729	1	L.H. REAR LIGHT BRACKET	42	9103-3360	5	GAUGE LIGHTING KIT
12	9104-1730	1	R.H. REAR LIGHT BRACKET	43	9103-3391	6	INSULATED RING TERMINAL
13	9112-1146	2	TAIL LIGHT BRACKET	44	8666-1147	AR	WIRE, 16 GAUGE, (black)
14	8366-1336	7	WELD STUD, 1/4-20X5/8	45	8348-3075	3	INSULATED RING TERMINAL
15	8662-1230	7	SUPPORT CLAMP	46	8668-3136	1	DIMMER SWITCH
16	8855-1009	10	LOCKWASHER, 1/4	47	8820-1002	3	HEX HD CAPSCREW, 1/4-20X5/8, GR5
17	8850-1004	7	HEX NUT, 1/4-20	48	8666-1174	AR	WIRE, 10 GAUGE, (black)
18	8096-3055	1	W. PACK CONNECTOR, (tower)	49	8698-3187	3	INSULATED RING TERMINAL
19	8096-3060	2	W. PACK CONNECTOR, (shroud)	50	8688-3071	1	CIRCUIT BREAKER, 10 AMP
20	9108-3400	1	REAR WIRING HARNESS	51	9103-3462	2	CIRCUIT BREAKER, 15 AMP
21	8096-3068	1	W. PACK CONNECTOR, (female pin)	52	7736-3191	1	CIRCUIT BREAKER BRACKET
22	8096-3069	14	W. PACK CONNECTOR, (male pin)	53	8698-1178	1	BUSS BAR
23	8096-3066	7	W. PACK CONNECTOR, (cable seal)	54	7738-3410	2	RELAY
				55	8832-1039	2	SELF TAPPING SCREW, #10-32X1/2
				56	8666-1156	AR	WIRE, 14 GAUGE, (black)