

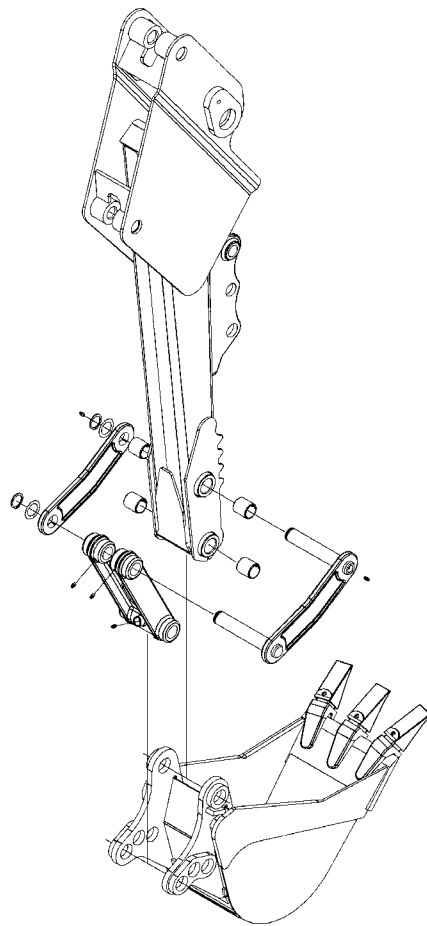


# BRADCO

BY PALADIN

## PARTS MANUAL

### 509B & 511B BACKHOE



**SERIAL NUMBER:** \_\_\_\_\_

**MODEL NUMBER:** \_\_\_\_\_

**Manual Number: PM853**  
**Part Number: 75753**  
**Rev. 2**



# Limited Warranty

Except for the Excluded Products as described below, all new products are warranted to be free from defects in material and/or workmanship during the Warranty Period, in accordance with and subject to the terms and conditions of this Limited Warranty.

1. Excluded Products. The following products are excluded from this Limited Warranty:

(a) Any cable, part that engages with the ground (i.e. sprockets), digging chain, bearing, teeth, tamping and/or demolition head, blade cutting edge, pilot bit, auger teeth and broom brush that either constitutes or is part of a product.

(b) Any product, merchandise or component that, in the opinion of Paladin Light Construction<sup>1</sup>, has been (i) misused; (ii) modified in any unauthorized manner; (iii) altered; (iv) damaged; (v) involved in an accident; or (vi) repaired using parts not obtained through Paladin Light Construction.

2. Warranty Period. The Limited Warranty is provided only to those defects that occur during the Warranty Period, which is the period that begins on the first to occur of: (i) the date of initial purchase by an end-user, (ii) the date the product is first leased or rented, or (iii) the date that is six (6) months after the date of shipment by Paladin Light Construction as evidenced by the invoiced shipment date (the "Commencement Date") and ends on the date that is twenty-four (24) months after the Commencement Date.

3. Terms and Conditions of Limited Warranty. The following terms and conditions apply to the Limited Warranty hereby provided:

(a) Option to Repair or Replace. Paladin Light Construction shall have the option to repair or replace the product.

(b) Timely Repair and Notice. In order to obtain the Limited Warranty, (i) the product must be repaired within thirty (30) days from the date of failure, and (ii) a claim under the warranty must be submitted to Paladin Light Construction in writing within thirty (30) days from the date of repair.

(c) Return of Defective Part or Product. If requested by Paladin Light Construction, the alleged defective part or product shall be shipped to Paladin Light Construction at its manufacturing facility or other location specified by Paladin Light Construction, with freight PRE-PAID by the claimant, to allow Paladin Light Construction to inspect the part or product.

Claims that fail to comply with any of the above terms and conditions shall be denied.

## **LIMITATIONS AND EXCLUSIONS.**

**THIS LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND ANY WARRANTY BASED ON A COURSE OF DEALING OR USAGE OF TRADE.**

**IN NO EVENT SHALL PALADIN LIGHT CONSTRUCTION BE LIABLE FOR CONSEQUENTIAL OR SPECIAL DAMAGES.**

**IN NO EVENT SHALL PALADIN LIGHT CONSTRUCTION BE LIABLE FOR ANY LOSS OR CLAIM IN AN AMOUNT IN EXCESS OF THE PURCHASE PRICE, OR, AT THE OPTION OF PALADIN LIGHT CONSTRUCTION, THE REPAIR OR REPLACEMENT, OF THE PARTICULAR PRODUCT ON WHICH ANY CLAIM OF LOSS OR DAMAGE IS BASED. THIS LIMITATION OF LIABILITY APPLIES IRRESPECTIVE OF WHETHER THE CLAIM IS BASED ON BREACH OF CONTRACT, BREACH OF WARRANTY, NEGLIGENCE OR OTHER CAUSE AND WHETHER THE ALLEGED DEFECT IS DISCOVERABLE OR LATENT.**

<sup>1</sup>Attachment Technologies Inc., a subsidiary of Paladin Brands Holding, Inc. (PBHI) is referred to herein as Paladin Light Construction.

**THIS PAGE  
IS INTENTIONALLY  
BLANK**

# TABLE OF CONTENTS

## SERVICE PARTS

### MAINFRAME ASSEMBLY #116121

Mainframe.....	4-5
Swing Post.....	6-7
Swing Cylinder.....	8-9
Stabilizers.....	10-11
Hose Bundle Clamps.....	12-13

<b>509B BOOM &amp; DIPPER ASSEMBLY #117946.....</b>	<b>14-17</b>
---	--------------

<b>511B BOOM &amp; DIPPER ASSEMBLY #118176.....</b>	<b>18-21</b>
---	--------------

<b>CONSOLE ASSEMBLY #104161.....</b>	<b>22-23</b>
--------------------------------------	--------------

<b>VALVE ASSEMBLY #2261 .....</b>	<b>24-25</b>
-----------------------------------	--------------

Valve #103546 and Service Parts .....	26-29
---------------------------------------	-------

### CYLINDERS

SWING CYLINDER #81827 .....	30-31
STABILIZER CYLINDER #86605 .....	32-33
509 BOOM CYLINDER #86231 .....	34-35
511 BOOM CYLINDER #82625.....	36-37
509 DIPPER CYLINDER #86236 .....	38-39
511 DIPPER CYLINDER #87029 .....	40-41
BUCKET CYLINDER #117548.....	42-43

### HOSE SETS

MAINFRAME HOSE SET #103646.....	44-45
509 BOOM & DIPPER HOSE SET #85448.....	46-47
511 BOOM & DIPPER HOSE SET #86982.....	48-49

### STABILIZER PAD OPTIONS

FLAT STABILIZER PAD ASSEMBLY #81861.....	50-51
GROUSER STABILIZER PAD ASSEMBLY #81860 .....	50-51
RUBBER STABILIZER PAD ASSEMBLY #81862 .....	50-51
FLIP-OVER STABILIZER PAD ASSEMBLY #83058 .....	52-53

<b>OPTIONAL STABILIZER CYLINDER COVER #86706.....</b>	<b>54-55</b>
---	--------------

<b>SEVERE DUTY BUCKETS .....</b>	<b>56-57</b>
----------------------------------	--------------

<b>509B FIRST LINE REPAIR KIT #86320.....</b>	<b>58-59</b>
---	--------------

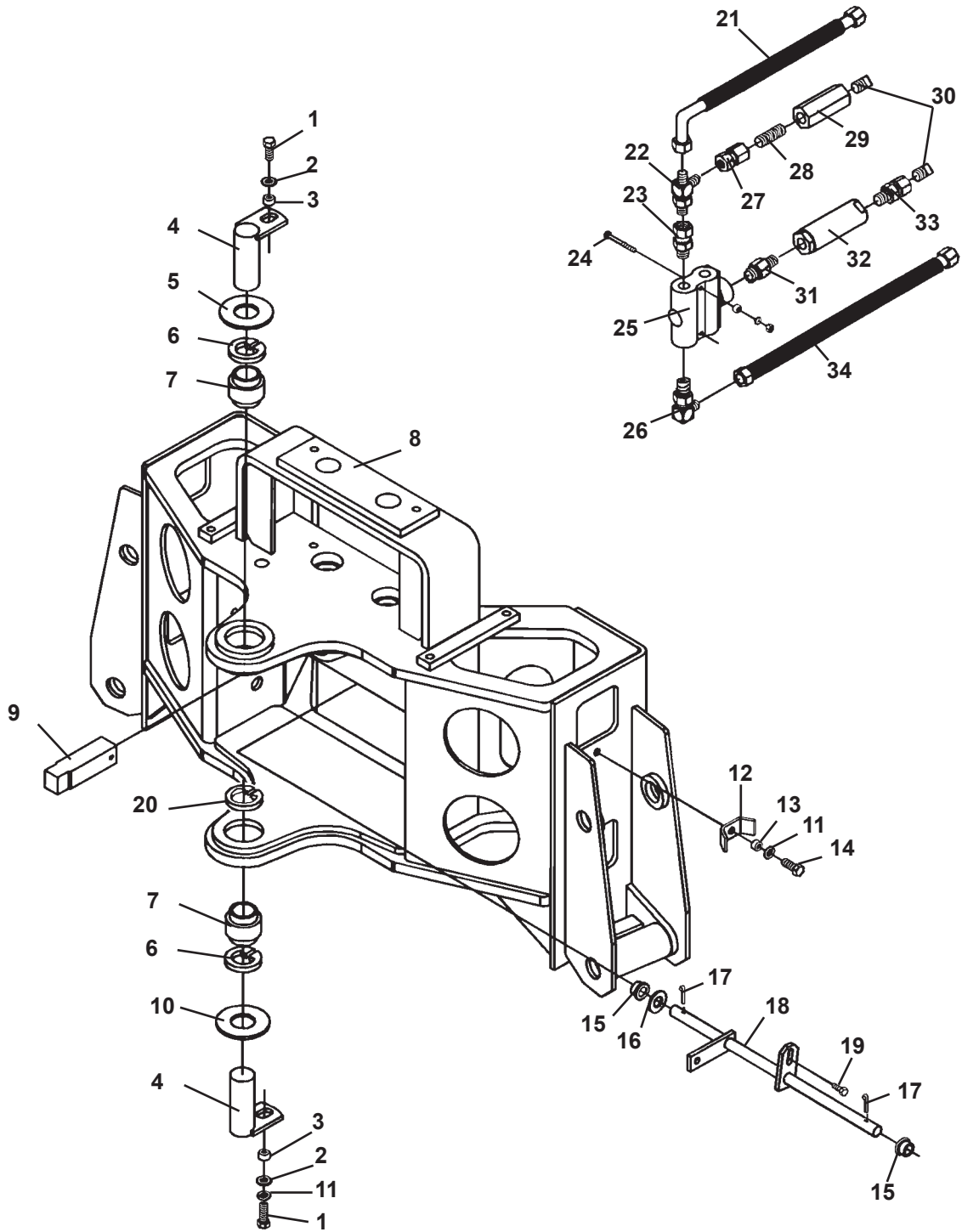
<b>511B FIRST LINE REPAIR KIT #87500.....</b>	<b>60-61</b>
---	--------------

<b>DECALS.....</b>	<b>62-65</b>
--------------------	--------------

# MAINFRAME ASSEMBLY

ASSEMBLY #116121

MAINFRAME



# MAINFRAME ASSEMBLY

ASSEMBLY #116121

MAINFRAME

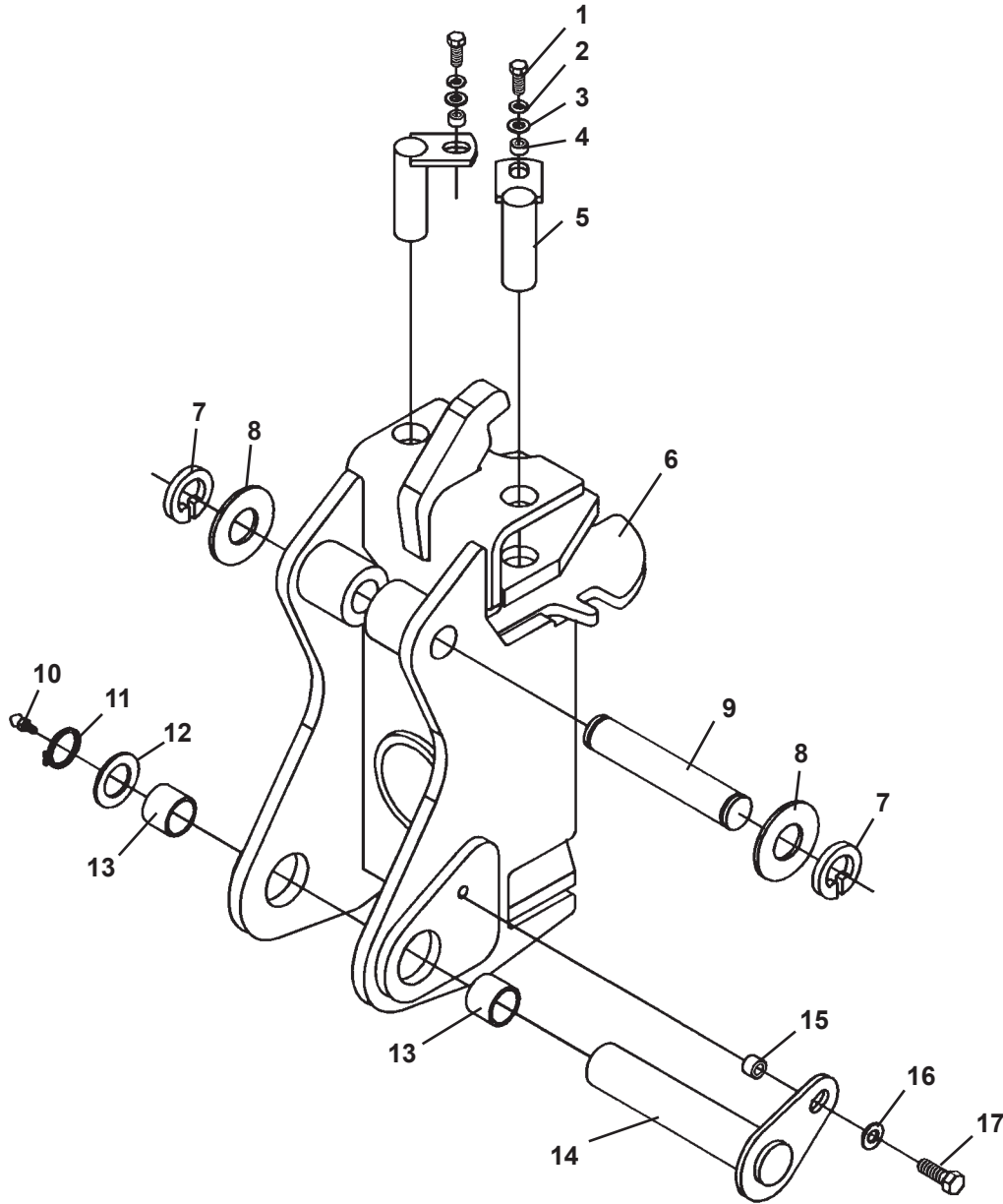
<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	2	1043	.38" UNC X 1.00" Hex Capscrew
2	2	1514	.38" Flat Washer
3	2	81807	Spacer Tube
4	2	81592	Pin
	2	6616	Grease Zerk
5	1	83977	Thrust Washer 1.38" X .125"
6	2	1929	Snap Ring
7	2	6615	Bearing
8	1	86195	Mainframe (Includes (4) 83815 Bushings - Installed with Locktite Grade 680)
9	1	82090	Swing Lock Pin
10	As Req'd	83975	Thrust Washer 1.38" X .031"
	As Req'd	83976	Thrust Washer 1.38" X .093"
	As Req'd	83977	Thrust Washer 1.38" X .125"
11	3	1503	.38" Lock Washer
12	2	6186	Hose Clamp
13	2	6799	Spacer Tube
14	2	1044	.38" UNC X 1.25" Hex Capscrew
15	2	82794	Bushing
16	As Req'd	1528	.62" SAE Flat Washer
17	2	1611	Cotter Pin
18	1	82796	Linkage
19	1	1982	Shoulder Screw
20	1	1650	Snap Ring
21	1	38341	Hose .50" X 23" 8FJX-8JFX 90°
22	1	30409	Tee 8MJ-8MBo-8MJ
23	1	30377	Straight Connector 12MBo-8FBo
24	2	1010	.25" UNC X 2.75" Hex Capscrew
	2	81595	Spacer Tube
	2	1512	.25" Flat Washer
	2	1501	.25" Lock Washer
	2	1224	.25" UNC Hex Nut
25	1	82609	Priority Flow Divider
26	1	3316	90° Elbow 12MBo-8MJ
27	1	3273	Coupling 8FP-8FJX
28	1	3309	Heavy Close Nipple .50" NPT X 4"
29	1	45691	Check Valve (Hex)
30	1	3189	Square Head Plug
31	1	30245	Straight Connector 12MBo - 8MBo
32	1	107635	Inline Filter (Round)
33	1	30469	Straight Connector 8MBo-8FP
34	1	38342	Hose .50" X 40" 8FJX - 8FJX

12565 11-19-13

# MAINFRAME ASSEMBLY

ASSEMBLY #116121

SWINGPOST





# MAINFRAME ASSEMBLY

ASSEMBLY #116121

SWINGPOST

<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	2	1043	.38" UNC X 1.00" Hex Capscrew
2	2	1503	.38" Lock Washer
3	2	1514	.38" Flat Washer
4	2	81807	Spacer Tube
5	2	81847	Pin
6	1	86201	Swing Post (Includes (2) 82402 Bushings - Installed with Locktite Grade 680)
7	2	1650	Snap Ring
8	As Req'd	83975	Thrust Washer 1.38" X
	As Req'd	83976	Thrust Washer 1.38" X
	As Req'd	83977	Thrust Washer 1.38" X
9	1	86220	Pivot Pin
10	1	6616	Grease Zerk
11	1	1651	Snap Ring
12	2	6622	Thrust Washer
13	-	82402	Bushing (Included in Swing Post Assembly) (Installed with Locktite Grade 680)
14	1	86227	Pivot Pin
15	1	86149	Spacer Tube
16	1	1516	.50" Flat Washer
17	1	1088	.50" UNC X 1.00" Capscrew (Installed with Locktite Grade 680)

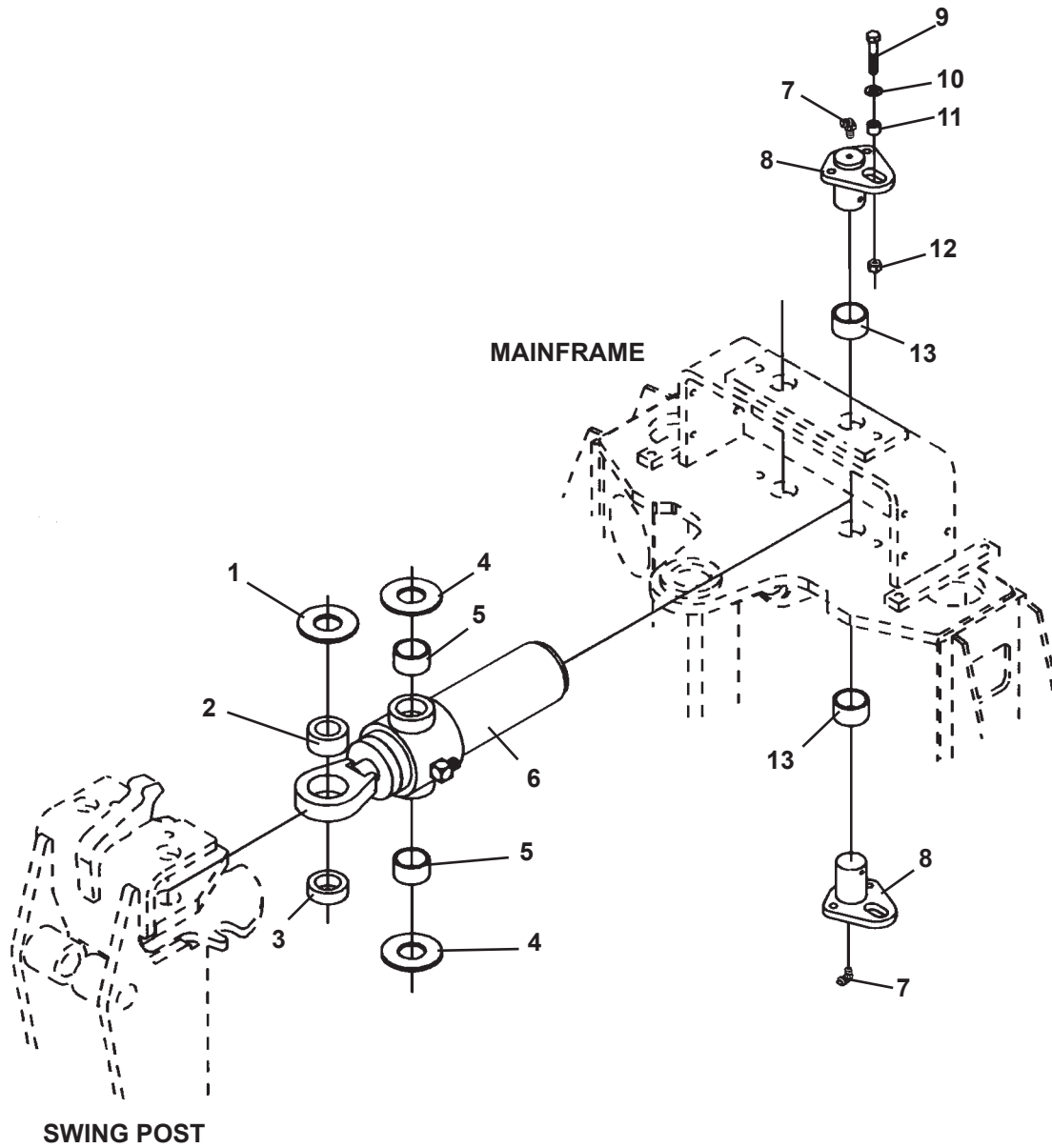
## NOTE:

- (1) Pivot Pin #86220 is sold only in Pin Kit #86317. Kit includes one pin #86220, two thrust washers #6623 and two snap rings #1650.

# MAINFRAME ASSEMBLY

ASSEMBLY #116121

SWING CYLINDER



# MAINFRAME ASSEMBLY

ASSEMBLY #116121

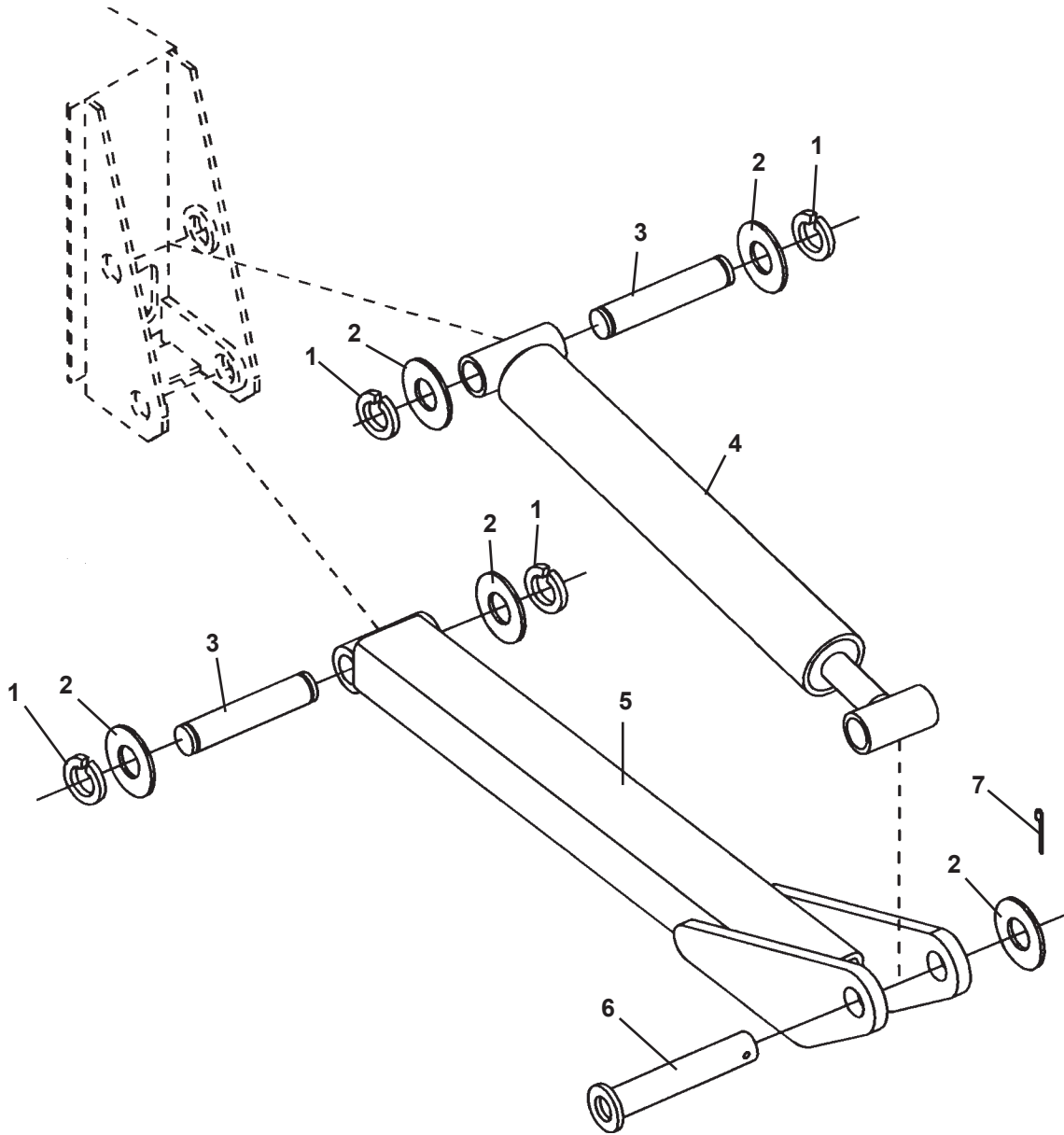
SWING CYLINDER

<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	As Req'd	57693	Thrust Washer 1.25" X .078"
	As Req'd	64727	Thrust Washer 1.25" X .145"
	As Req'd	64728	Thrust Washer 1.25" X .031"
2	-	62523	Self-Aligning Bushing (Included in Swing Cylinder Assembly)
3	2	82827	Spacer
4	4	68057	Thrust Washer
5	-	82441	Needle Bearing (Included in Swing Cylinder Assembly)
6	2	81827	Swing Cylinder Assembly (Includes (2) 82441 Needle Bearings and (1) 62523 Bushings)
	2	6616	Grease Zerk
	2	30164	Tee - Special Lateral Tee
7	4	53031	90° Grease Zerk
8	4	82420	Pin
9	4	1047	.38" UNC X 2.00" Hex Capscrew
10	4	1514	.38" Flat Washer
11	4	81595	Spacer Tube
12	4	1837	.38" UNC Deformed Lock Nut
13	-	83815	Bushing (Included in Mainframe - Installed with Loctite Grade 680)

# MAINFRAME ASSEMBLY

ASSEMBLY #116121

STABILIZERS



# MAINFRAME ASSEMBLY

ASSEMBLY #116121

STABILIZERS

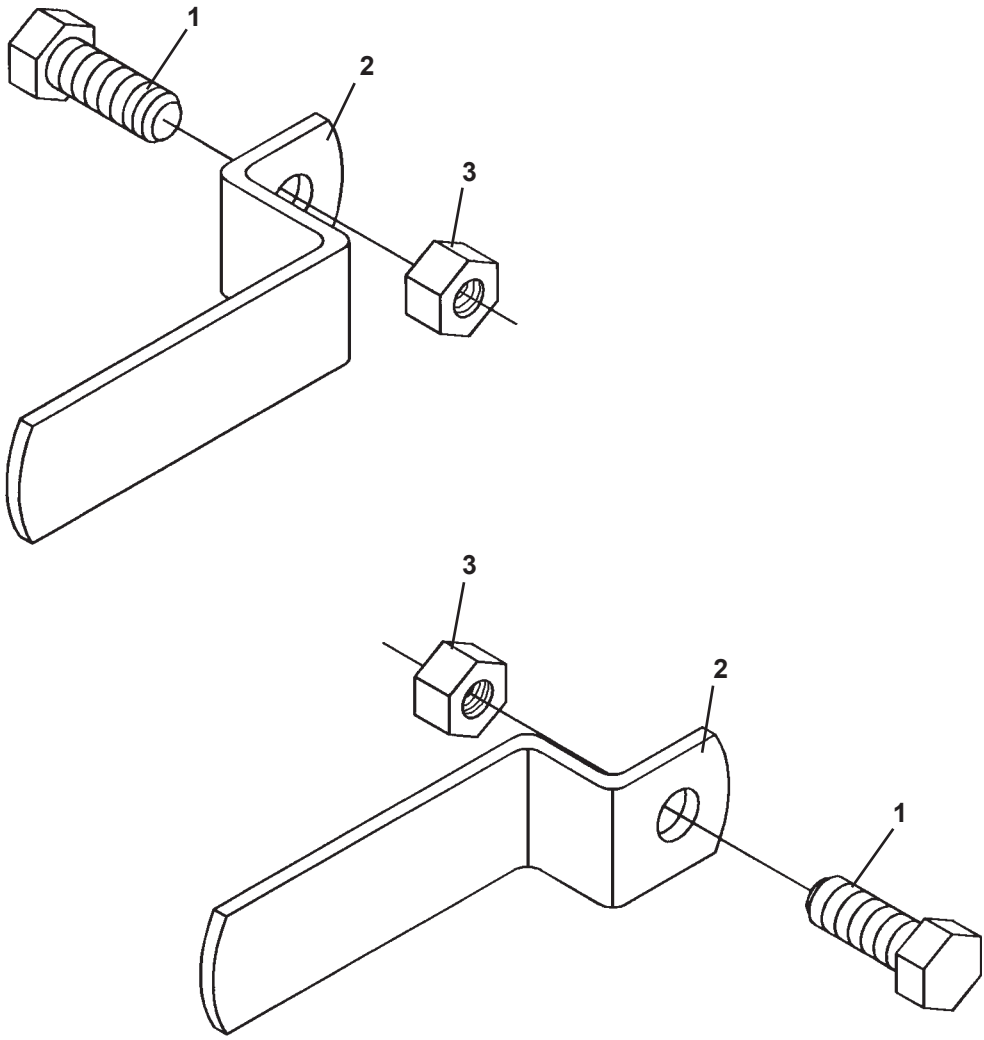
<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	8	1652	Snap Ring
2	As Req'd	57693	Thrust Washer 1.25" X .078"
	As Req'd	64727	Thrust Washer 1.25" X .145"
	As Req'd	64728	Thrust Washer 1.25" X .031"
3	4	81846	Pin
4	2	86605	Stabilizer Cylinder Assembly (1.50" Rod)
	4	6616	Grease Zerk
5	2	83393	Stabilzer Arm
6	2	83257	Pin
7	2	1613	Cotter Pin

**NOTE:**

- (1) Pivot Pin #81846 is sold only in Pin Kit #86314. Kit includes one pin #81846, two thrust washers #64727 and two snap rings #1652.

12571 11-19-13

# HOSE BUNDLE CLAMPS

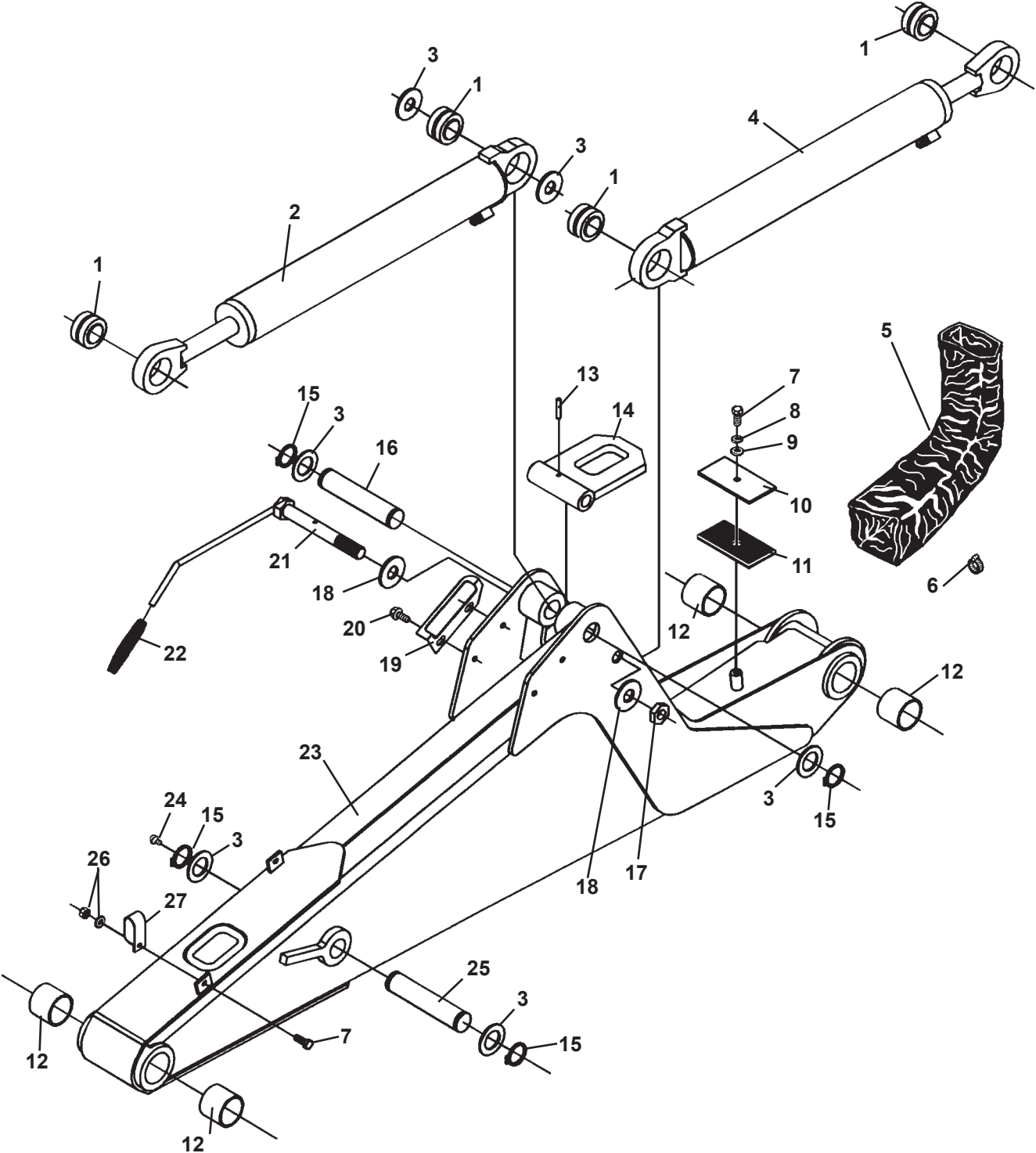


## HOSE BUNDLE CLAMPS

<u>NO</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	2	1043	.38" UNC X 1.00" Hex Capscrew
2	1	84718	Right Hose Bundle Clamp
3	2	1837	.38" UNC Deformed Lock Nut
4	1	84718	Left Hose Bundle Clamp

# 509B BOOM & DIPPER ASSEMBLY

ASSEMBLY #117946





# 509B BOOM & DIPPER ASSEMBLY

ASSEMBLY #117946

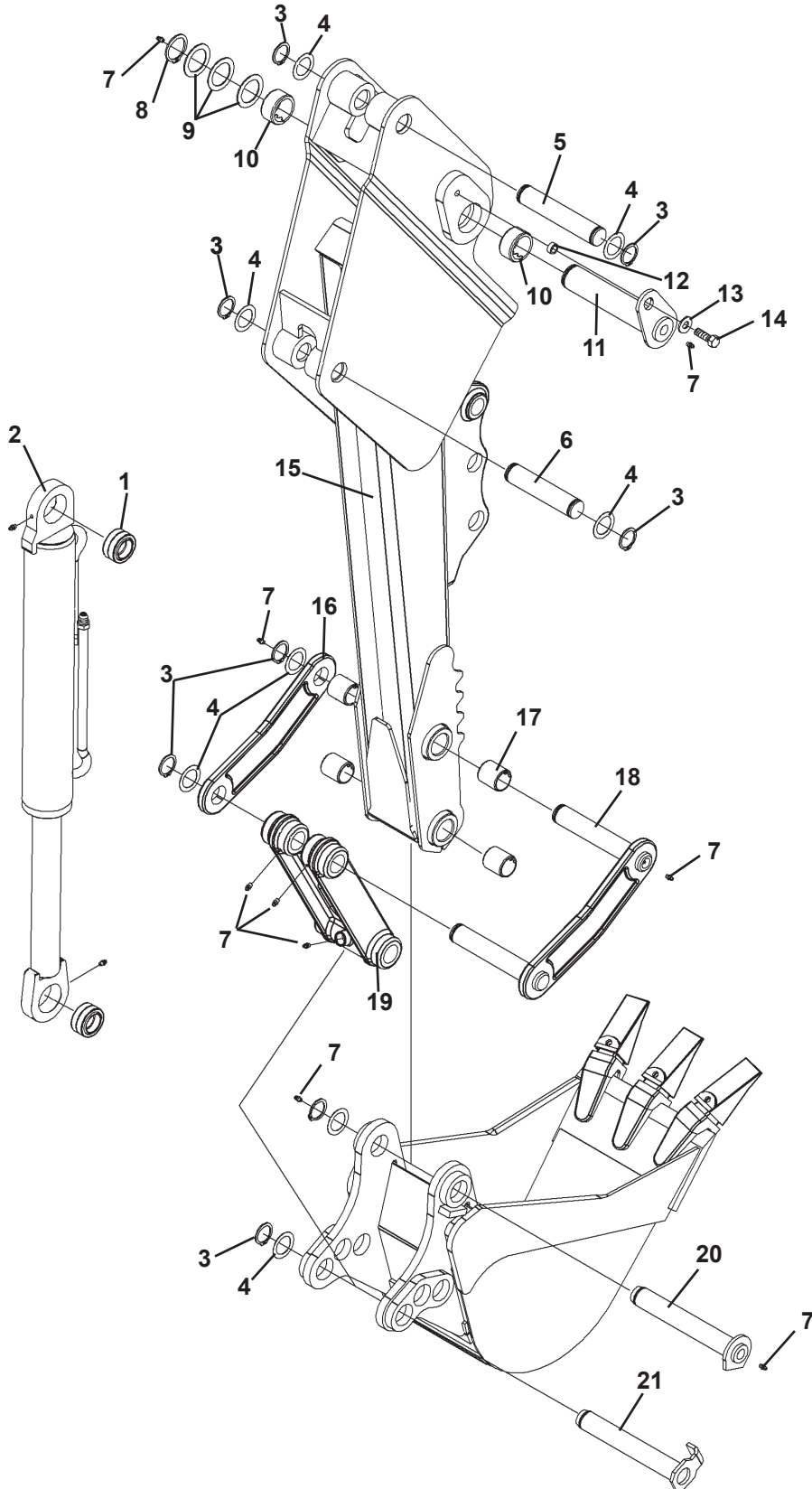
<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	-	6615	Self Aligning Bushing (Included in Cylinder Assemblies)
2	1	86236	Dipper Cylinder Assembly
	2	6616	Grease Zerk
3	As Req'd	6623	Thrust Washer 1.38" x .031
	As Req'd	64724	Thrust Washer 1.38" x .090
	As Req'd	64725	Thrust Washer 1.38" x .125
4	1	86231	Boom Cylinder Assembly
	2	6616	Grease Zerk
5	1	34120	Hose Sock
6	1	53167	Hose Clamp (Included in Console Assembly)
7	3	1043	.38" UNC X 1.00" Hex Capscrew
8	1	1503	.38" Lock Washer
9	1	1514	.38" Flat Washer
10	1	86221	Hose Clamp Plate
11	1	86222	Rubber Spacer
12	-	86673	Bushing (Included in Boom Assembly) (Installed with Loctite Grade 680)
13	1	1972	Spring Pin
14	1	86366	Boom Lock
15	4	1650	Snap Ring
16	1	86242	Pivot Pin
17	1	1959 <sup>(1)</sup>	.88" UNC Jam Nut
18	2	6562	Spring Washer
19	1	84137	Guide Plate
20	2	1961	.38" UNC X .50" Hex FlangeHead Capscrew
21	1	86230	Handle
22	1	83656	Handle Grip
23	1	86151	Boom Assembly (Includes (4) 86673 Bushings) (Installed with Loctite Grade 680)
24	1	6616	Grease Zerk
25	1	86224	Pivot Pin
26	2	1525 <sup>(2)</sup>	.38" Flat Washer
	2	1837	.38" UNC Deformed Lock Nut
27	2	82859	Double Hose Clamp

**NOTE:**

- (1) Pivot Pin #86242 is sold only in Pin Kit #86315. Kit includes one pin #86242, two thrust washers #6623 and two snap rings #1650.**
- (2) Pivot Pin #86224 is sold only in Pin Kit #86319. Kit includes one pin #86224, two thrust washers #6623, two snap rings #1650 and one grease zerk #6616.**

# 509B BOOM & DIPPER ASSEMBLY

ASSEMBLY #117946



# 509B BOOM & DIPPER ASSEMBLY

ASSEMBLY #117946

<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	-	6615	Self-Aligning Bushing (Included in Cylinder Assembly)
2	1	117548	Bucket Cylinder Assembly
	2	6616	Grease Zerk
3	8	1650	Snap Ring
4	As Req'd	6623	Thrust Washer 1.38" X .031
	As Req'd	64724	Thrust Washer 1.38" X .090
	As Req'd	64725	Thrust Washer 1.38" X .125
5	1	86226 (1)	Pivot Pin
6	1	86225(2)	Pivot Pin
7	6	6616	Grease Zerk
8	1	1651	Snap Ring
9	As Req'd	6622	Thrust Washer 1.75 X .082
10	-	82402	Bushing (Included in Dipper Assembly) (Install with Loctite Grade 680)
11	1	86227	Pivot Pin
12	1	86149	Spacer Tube
13	1	1516	.50" Flat Washer
14	1	1090	.50" UNC X 1.50" Hex Capscrew
15	1	117947	Dipper Assembly (Includes (2) 82402 and (2) 81610 Bushings) (Installed with Loctite Grade 680)
16	1	84914	Dipper Link Plate
17	-	81610	Bushing (Included in Dipper Assembly) (Install with Loctite Grade 680)
18	1	109353	Dipper Link
19	1	109326	Bucket Link
20	1	109410	Pivot Pin
21	1	109413	Pivot Pin

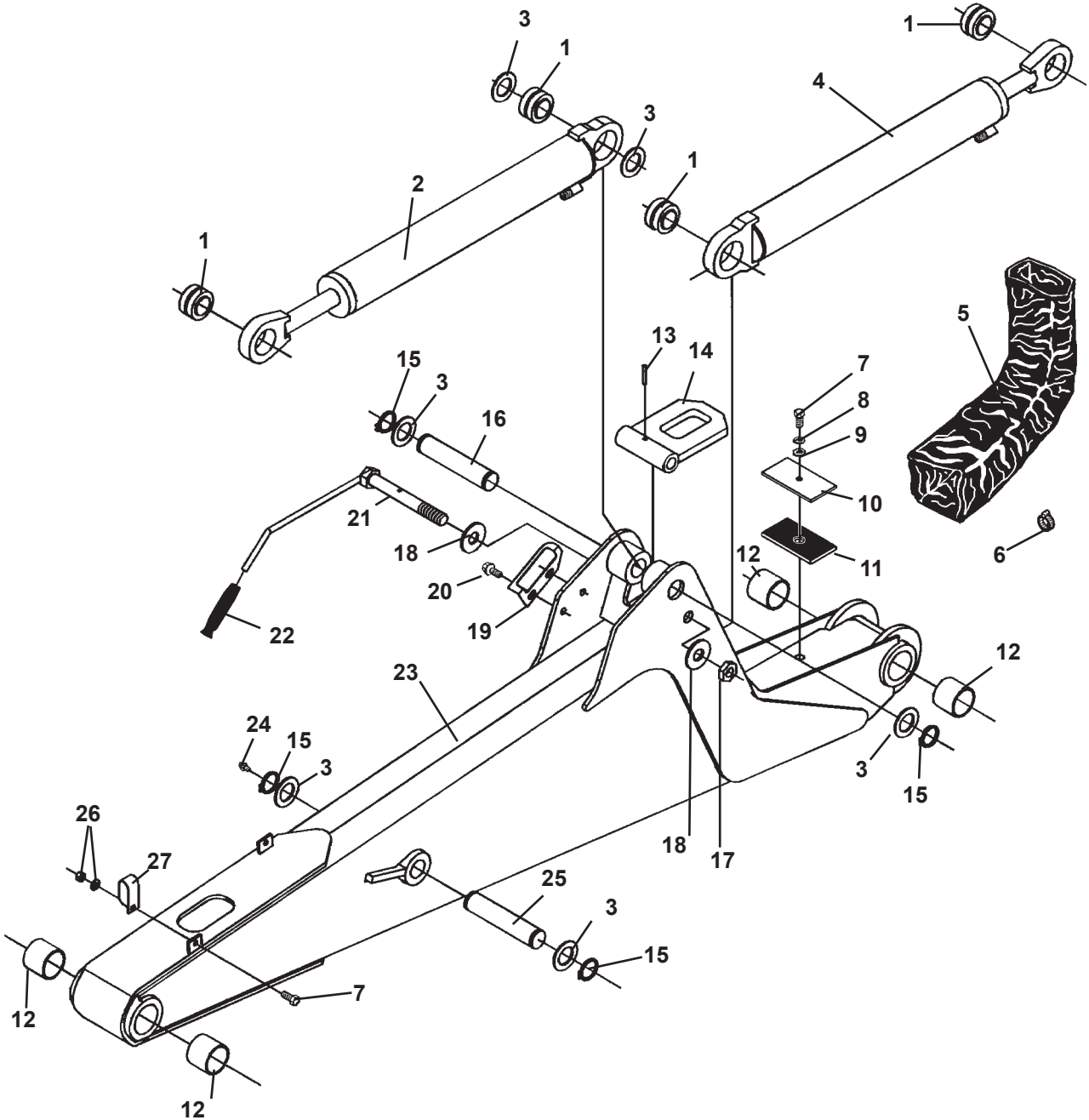
## NOTE:

- (1) Pivot Pin #86226 is sold only in Pin Kit #86318. Kit Includes one pin #86226, two thrust washers #6623 and two snap rings #1650.
- (2) Pivot Pin #86225 is sold only in Pin Kit #86316. Kit Includes one pin #86226, two thrust washers #6623 and two snap rings #1650.

12575 11-19-13

# 511B BOOM & DIPPER ASSEMBLY

ASSEMBLY #118176



# 511B BOOM & DIPPER ASSEMBLY

ASSEMBLY #118176

<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	-	6615	Self Aligning Bushing (Included in Cylinder Assemblies)
2	1	87029	Dipper Cylinder Assembly
	2	6616	Grease Zerk
3	As Req'd	6623	Thrust Washer 1.38" x .031
	As Req'd	64724	Thrust Washer 1.38" x .090
	As Req'd	64725	Thrust Washer 1.38" x .125
4	1	82625	Boom Cylinder Assembly
	2	6616	Grease Zerk
	2	3269	Straight Connector 6MJ-8MBo
5	1	34120	Hose Sock
6	1	53167	Hose Clamp (Included in Console Assembly)
7	3	1043	.38" UNC X 1.00" Hex Capscrew
8	1	1503	.38" Lock Washer
9	1	1514	.38" Flat Washer
10	1	86221	Hose Clamp Plate
11	1	86222	Rubber Spacer
12	-	86673	Bushing (Included in Boom Assembly) (Installed with Locktite Grade 680)
13	1	1972	Spring Pin
14	1	86366	Boom Lock
15	4	1650	Snap Ring
16	1	86242 (1)	Pivot Pin
17	1	1959	.88" UNC Jam Nut
18	2	6562	Spring Washer
19	1	84137	Guide Plate
20	2	1961	.38" UNC X .50" Hex FlangeHead Capscrew
21	1	86230	Handle
22	1	83656	Handle Grip
23	1	86955	Boom Assembly (Includes (4) 86673 Bushings) (Installed with Locktite Grade 680)
24	1	6616	Grease Zerk
25	1	86224 (2)	Pivot Pin
26	2	1525	.38" Flat Washer
	2	1837	.38" UNC Deformed Lock Nut
27	2	82859	Double Hose Clamp

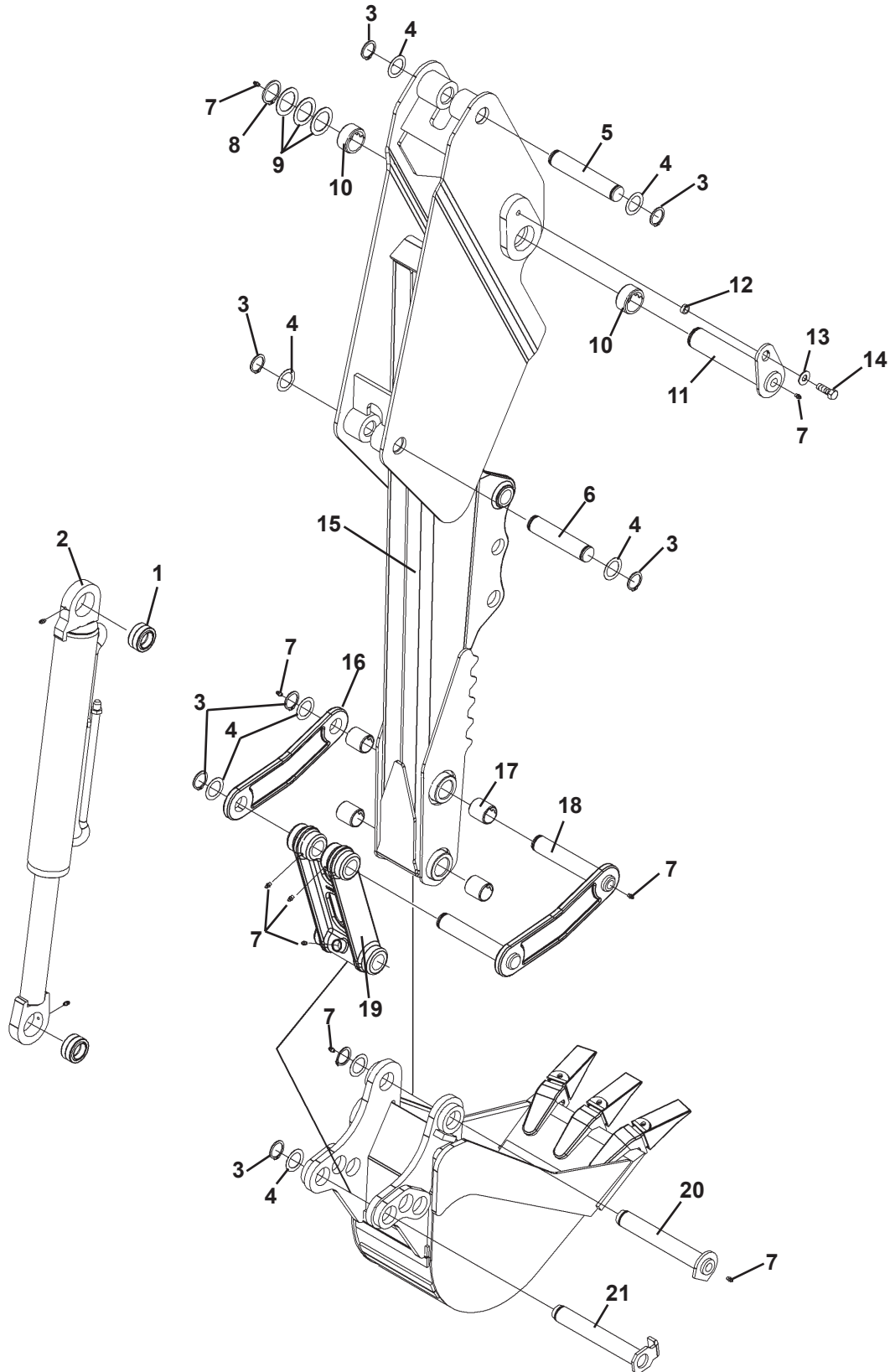
**NOTE:**

- (1) **Pivot Pin #86242 is sold only in Pin Kit #86315. Kit includes one pin #86242, two thrust washers #6623 and two snap rings #1650.**
- (2) **Pivot Pin #86224 is sold only in Pin Kit #86319. Kit includes one pin #86224, two thrust washers #6623, two snap rings #1650 and one grease zerk #6616.**

12577 11-19-13

# 511B BOOM & DIPPER ASSEMBLY

ASSEMBLY #118176



# 511B BOOM & DIPPER ASSEMBLY

ASSEMBLY #118176

<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	-	6615	Self-Aligning Bushing (Included in Cylinder Assembly)
2	1	117548	Bucket Cylinder Assembly
	2	6616	Grease Zerk
3	8	1650	Snap Ring
4	As Req'd	6623	Thrust Washer 1.38" X .031
	As Req'd	64724	Thrust Washer 1.38" X .090
	As Req'd	64725	Thrust Washer 1.38" X .125
5	1	86226 (1)	Pivot Pin
6	1	86225 (2)	Pivot Pin
7	6	6616	Grease Zerk
8	1	1651	Snap Ring
9	As Req'd	6622	Thrust Washer 1.75 X .082
10	-	82402	Bushing (Included in Dipper Assembly) (Install with Loctite Grade 680)
11	1	86227	Pivot Pin
12	1	86149	Spacer Tube
13	1	1516	.50" Flat Washer
14	1	1090	.50" UNC X 1.50" Hex Capscrew
15	1	118177	Dipper Assembly (Includes (2) 82402 and (2) 81610 Bushings) (Installed with Loctite Grade 680)
16	1	84914	Dipper Link Plate
17	-	81610	Bushing (Included in Dipper Assembly) (Install with Loctite Grade 680)
18	1	109353	Dipper Link
19	1	109326	Bucket Link
20	1	109410	Pivot Pin
21	1	109413	Pivot Pin

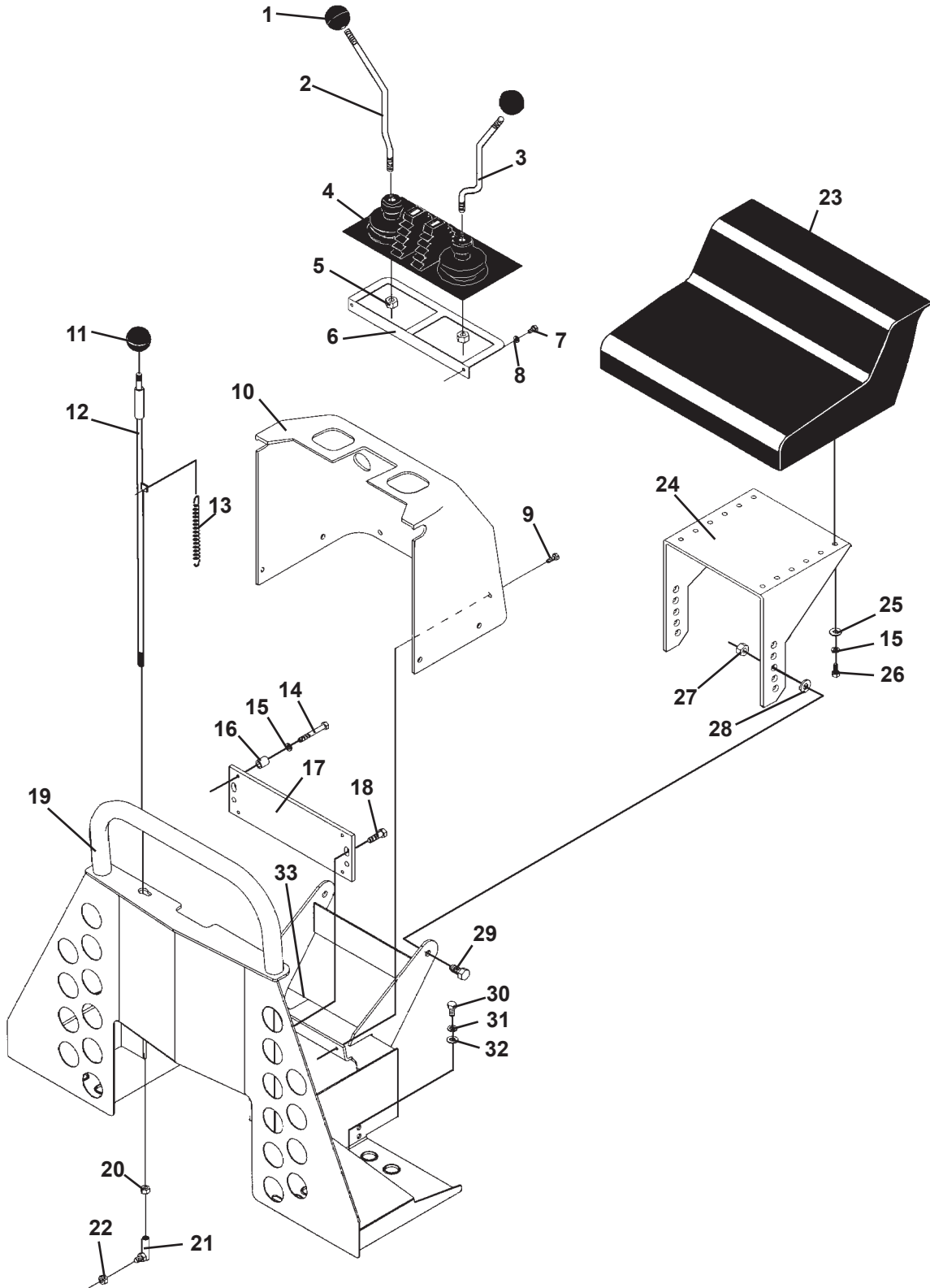
## NOTE:

- (1) Pivot Pin #86226 is sold only in Pin Kit #86318. Kit Includes one pin #86226, two thrust washers #6623 and two snap rings #1650.
- (2) Pivot Pin #86225 is sold only in Pin Kit #86316. Kit Includes one pin #86226, two thrust washers #6623 and two snap rings #1650.

12579 11-19-13

# CONSOLE ASSEMBLY

ASSEMBLY #104161





# CONSOLE ASSEMBLY

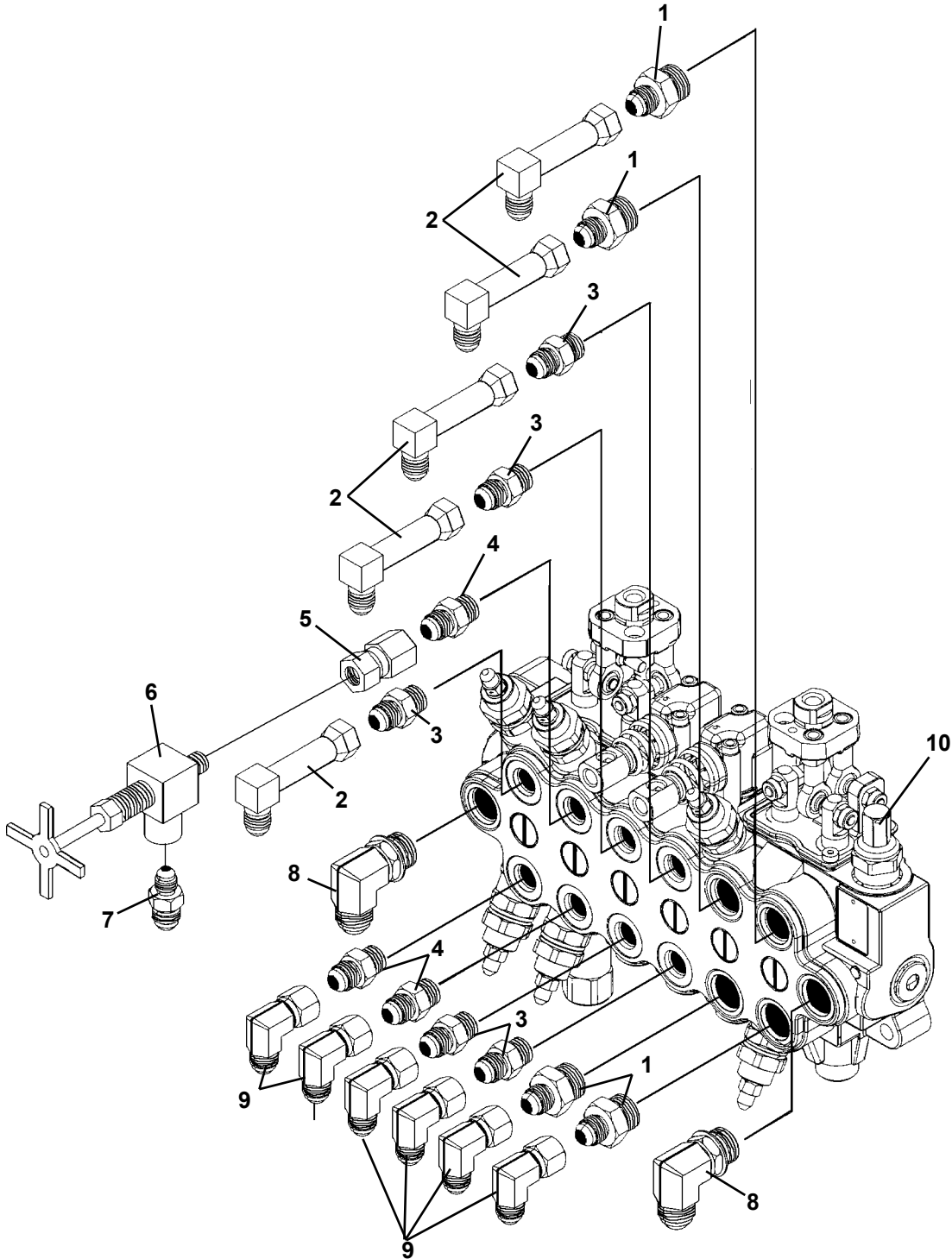
ASSEMBLY #104161

<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	2	85838	Ball Handle
2	1	87952	Right Control Handle
3	1	87951	Left Control Handle
4	1	83235	Rubber Boot
5	2	2558	M10 Hex Nut
6	1	85826	Boot Support
7	2	1001	.25" UNC X .50" Hex Capscrew
8	2	1501	.25" Lock Washer
9	6	1958	.25" UNC X .75" Hex Capscrew
10	1	106360	Console Cover with Decals
11	1	83406	Ball Handle - RED
12	1	83273	Rod
13	1	82795	Spring
14	3	1026	.31" UNC X 2.00" Hex Capscrew
15	7	1502	.31" Lock Washer
16	3	19471	Spacer Tube
17	1	101660	Valve Mounting Plate
18	2	1044	.38" UNC X 1.25" Hex Capscrew
19	1	87288	Console
20	1	1476	.38" UNF Jam Nut
21	1	5545	Balljoint
22	1	1592	.38" UNF Lock Nut
23	1	6980	Seat
24	1	87142	Seat Mounting
25	4	1513	.31" Flat Washer
26	4	1021	.31" UNC X .75" Hex Capscrew
27	2	1542	.50" UNC Nylock Nut
28	2	1516	.50" Flat Washer
29	2	1089	.50" UNC X 1.25" Hex Capscrew
30	4	1042	.38" UNC X .75" Hex Capscrew
31	4	1503	.38" Lock Washer
32	4	1514	.38" Flat Washer
33	1	87147	Cover Plate
	2	1958	.25" UNC X .75" Hex Capscrew

12473 9-24-13

# VALVE ASSEMBLY

ASSEMBLY #2261



# VALVE ASSEMBLY

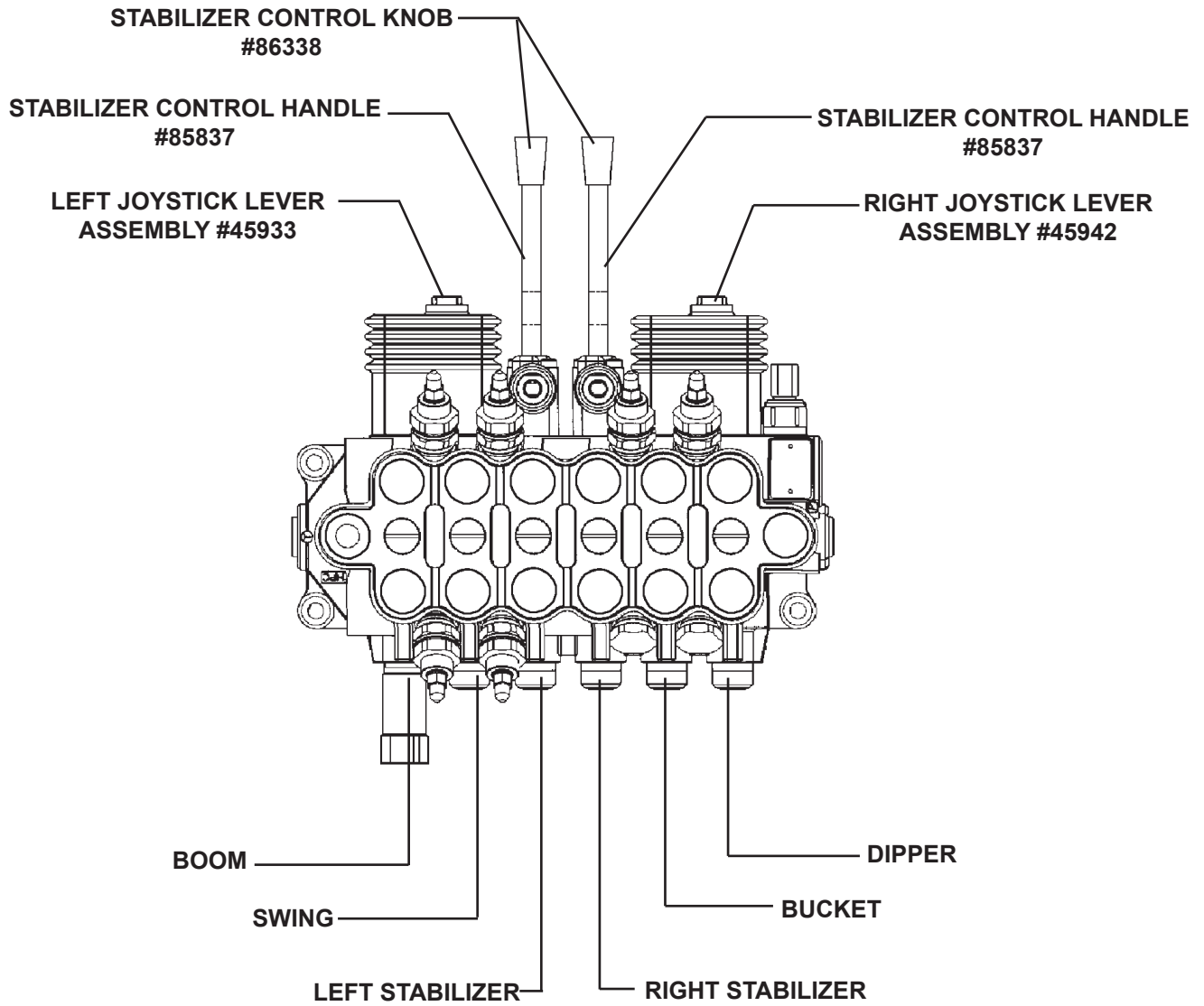
ASSEMBLY #2261

<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	4	3269	Straight Connector 8MBo-6MJ
2	5	30363	90° Elbow - Long 6MJ-6FJX
3	5	3457	Straight Connector 6MBo-6MJ
4	3	30184	Straight Connector 6MBo-6MJ with .109 Restrictor
5	1	30187	Straight Connector 4FP-6FJX
6	1	3185	Needle Valve (Swing Speed Control)
7	1	3137	Straight Connector 4MP-6MJ
8	2	3104	90° Elbow 8MBo-8MJ
9	6	3430	90° Elbow 6MJ-6FJX
10	1	103546	6-Spool Monoblock Valve (Valve includes (2) 85837 stabilizer control levers and (2) 86338 control knobs)

**THIS PAGE  
IS INTENTIONALLY  
BLANK**

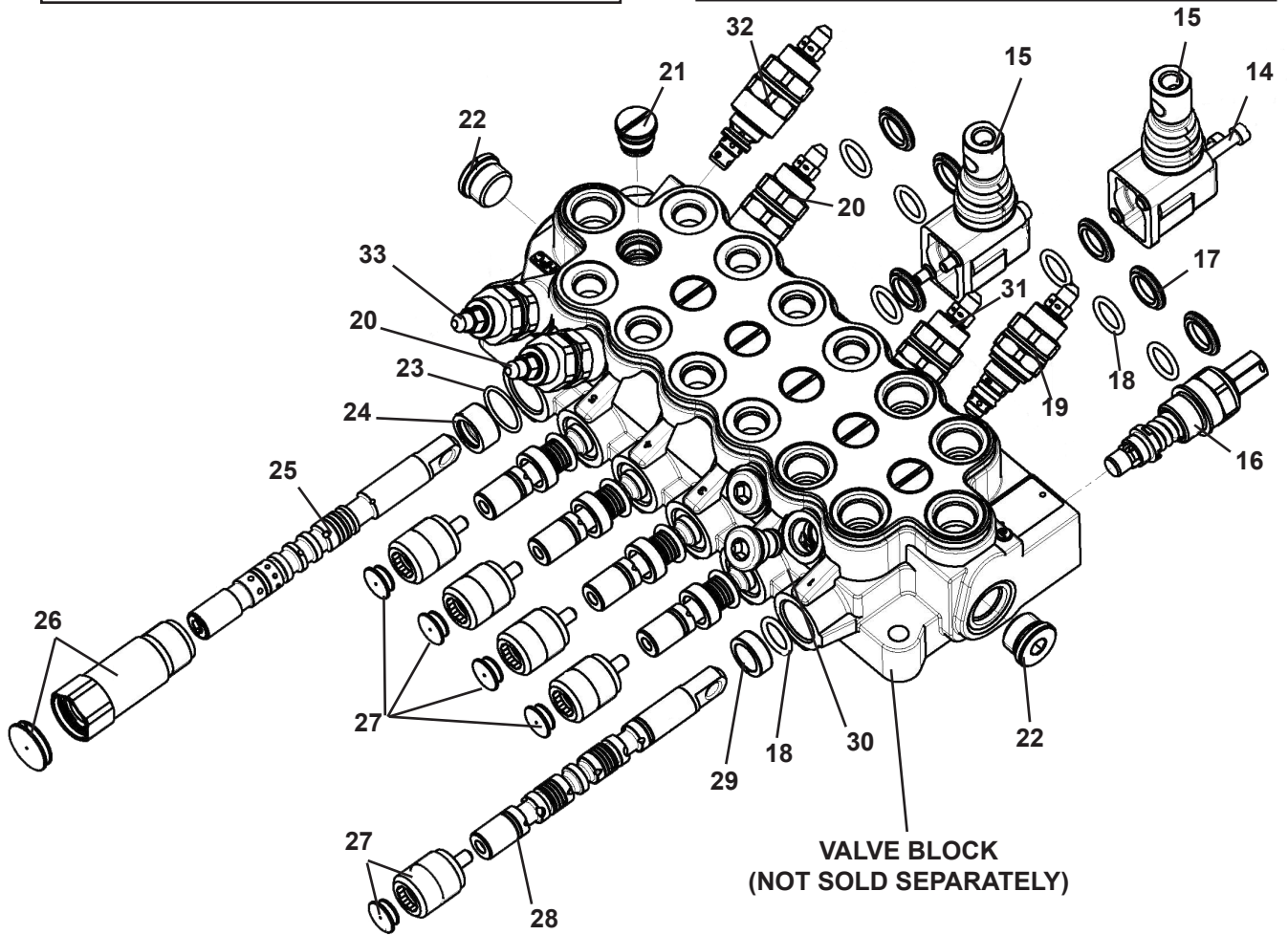
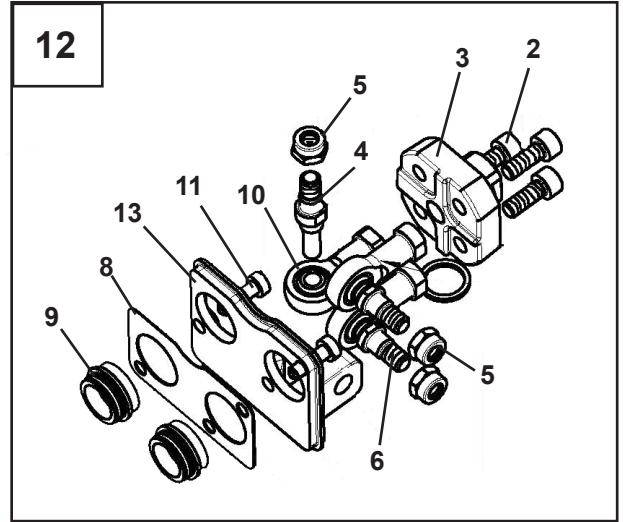
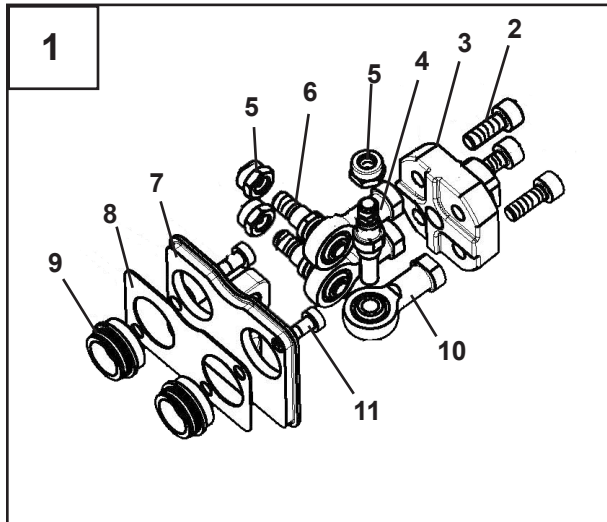
# VALVE ASSEMBLY

ASSEMBLY #103546



# VALVE ASSEMBLY

## VALVE ASSEMBLY #103546 SERVICE PARTS



# VALVE ASSEMBLY

## VALVE ASSEMBLY #103546 SERVICE PARTS

<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	-	45933	Joystick Lever Assembly (Left)
2	-	45932	Screw
3	-	45931	Support
4	-	45929	Pin
5	-	45927	Nut
6	-	45928	Ball Joint
7	-	45925	Support
8	-	45924	Seal
9	-	45923	Spacer
10	-	45930	Ball Joint
11	-	45926	Screw
12	-	45942	Joystick Lever Assembly (Right)
13	-	45941	Support
14	-	45935	Screw
15	-	45934	Lever Cap
16	-	45719	Main Relief (2600 PSI)
17	-	45916	Spacer
18	-	45914	O'Ring
19	-	45716	Circuit Relief Valve (2600 PSI)
20	-	45714	Anti-Cav. Circuit Relief Valve (2600 PSI)
21	-	45922	Check Valve
22	-	45921	O'Ring Plug
23	-	45918	O'Ring
24	-	45919	Spacer
25	-	45920	Spool (Float)
26	-	45730	Float Assembly
27	-	45729	Positioner Assembly
28	-	45917	Valve Spool
29	-	45915	Spacer
30	-	45935	Circuit Relief Plug
31	-	45936	Circuit Relief Valve (2900 PSI)
32	-	45937	Anti-Cav. Circuit Relief Valve (2600 PSI)
33	-	45714	Anti-Cav. Circuit Relief Valve (2900 PSI)

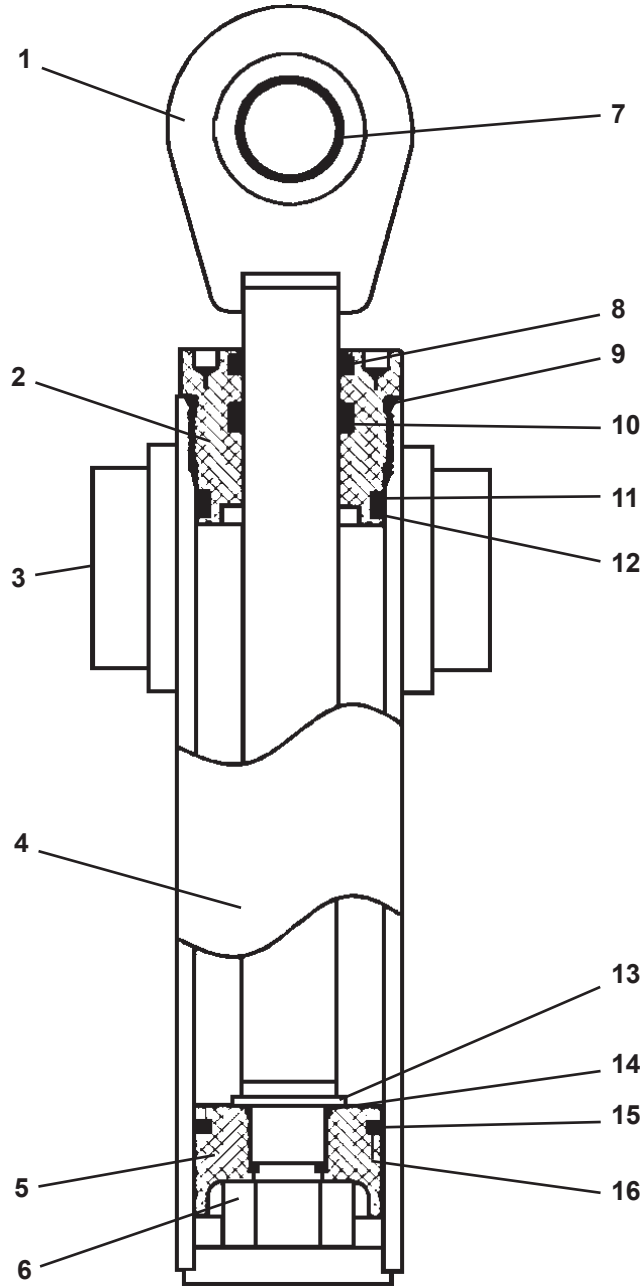
### NOT SHOWN - OPTIONAL CLOSED CENTER OR POWER BEYOND

**45938 #4 BSPP Plug (Functions as Closed Center Conversion or Power Beyond. See Maintenance and Service instructions in the Operator's manual for installation.)**

11822 4-4-13-2

# CYLINDER ASSEMBLY

SWING CYLINDER ASSEMBLY #81827



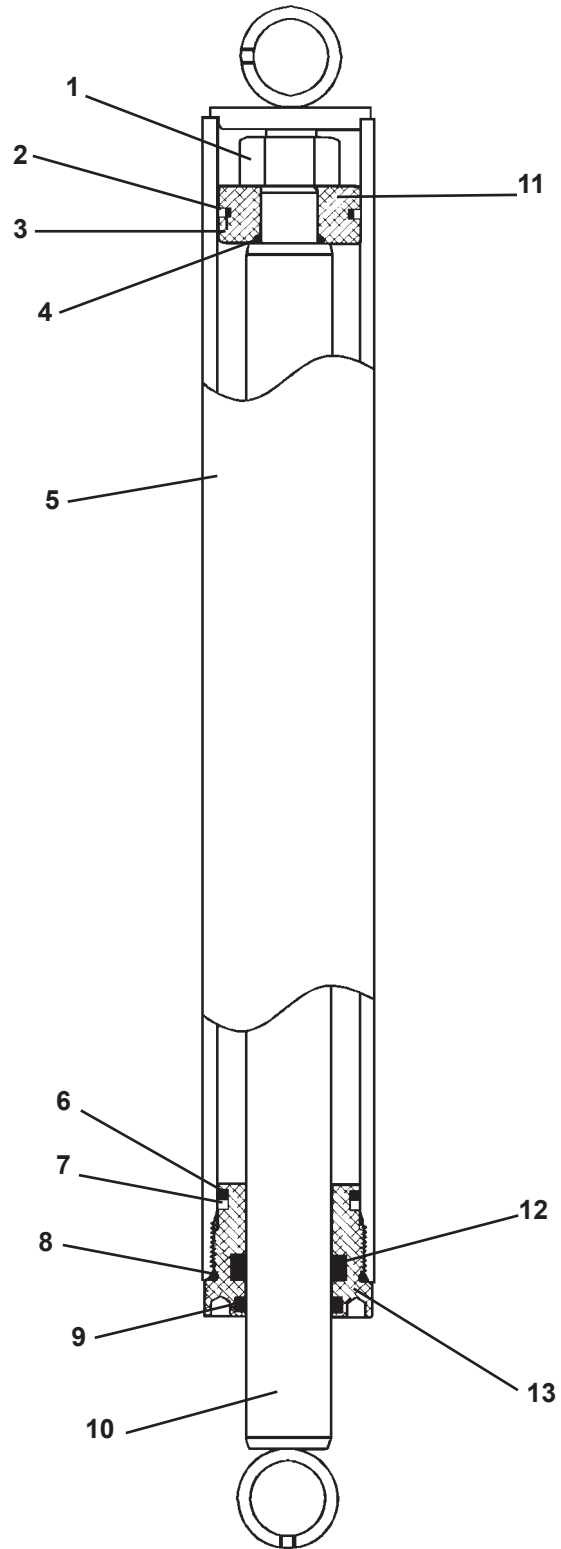


**CYLINDER ASSEMBLY**  
 SWING CYLINDER ASSEMBLY #81827

<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	81024	Cylinder Rod
2	1	77458	Cylinder Gland
3	2	82441	Needle Bearing
4	1	81960	Cylinder Tube
5	1	81963	Piston
6	1	1483	Hex Nut
7	1	62523	Self Aligning Bushing
8	1	45389*	Rod Wiper
9	1	45250*	O'Ring
10	1	45219*	Poly Pak Seal
11	1	4510*	Back-Up Ring
12	1	4509*	O'Ring
13	1	5421	Washer
14	1	4641*	O'Ring
15	1	4644*	Piston Ring
16	1	4645*	O'Ring

NOTE: Seal Kit #45617 Includes all parts marked with an asterisk (\*). Parts are not sold separately.

**CYLINDER ASSEMBLY**  
STABILIZER CYLINDER ASSEMBLY #86605  
(1.50" DIAMETER CYLINDER ROD)



# CYLINDER ASSEMBLY

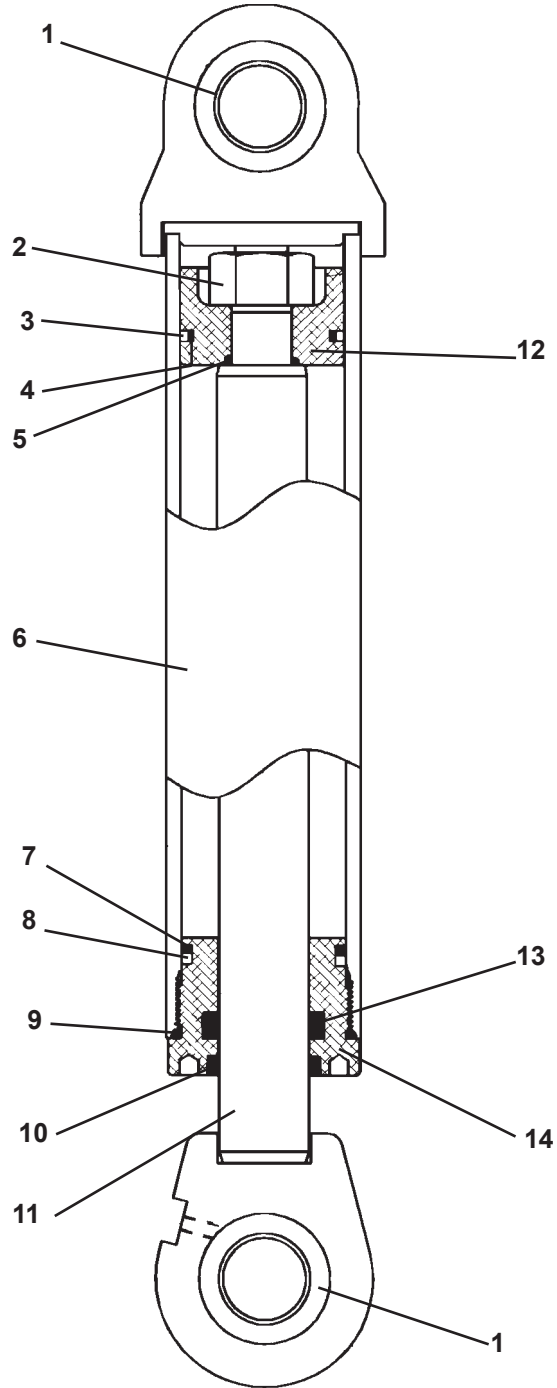
STABILIZER CYLINDER ASSEMBLY #86605  
(1.50" DIAMETER CYLINDER ROD)

<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	1483	Hex Nut
2	1	4644*	Teflon Piston Ring
3	1	4645*	O'Ring
4	1	4641*	O'Ring
5	1	83398	Cylinder Tube
6	1	4509*	O'Ring
7	1	4510*	Back-Up Ring
8	1	45250*	O'Ring
9	1	45372*	Rod Wiper
10	1	86606	Cylinder Rod
11	1	50252	Piston
12	1	45225*	Poly-Pak Seal
13	1	86609	Cylinder Gland

NOTE: Seal Kit #45738 includes all parts marked with an asterisk (\*). Parts are not sold separately.

# CYLINDER ASSEMBLY

## BOOM CYLINDER ASSEMBLY #86231



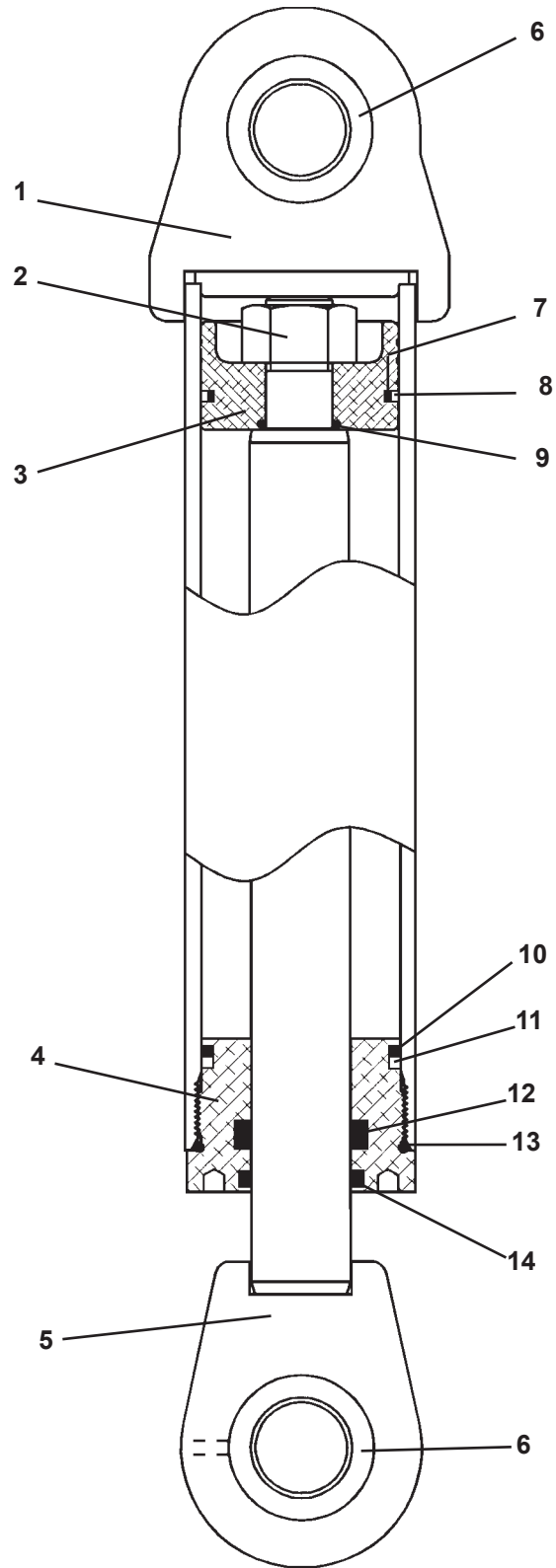
**CYLINDER ASSEMBLY**  
BOOM CYLINDER ASSEMBLY #86231

<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	2	6615	Self-Aligning Bushing
2	1	1483	Hex Nut
3	1	45251*	Teflon Piston Ring
4	1	45250*	O'Ring
5	1	4641*	O'Ring
6	1	86232	Cylinder Tube
7	1	45557*	O'Ring
8	1	45249*	Back-Up Ring
9	1	4570*	O'Ring
10	1	45372*	Rod Wiper
11	1	86234	Cylinder Rod
12	1	82857	Piston
13	1	45225*	Poly-Pak Seal
14	1	82449	Cylinder Gland

NOTE: Seal Kit #45618 includes all parts marked with an asterisk (\*). Parts are not sold separately.

# CYLINDER ASSEMBLY

## BOOM CYLINDER ASSEMBLY #82625



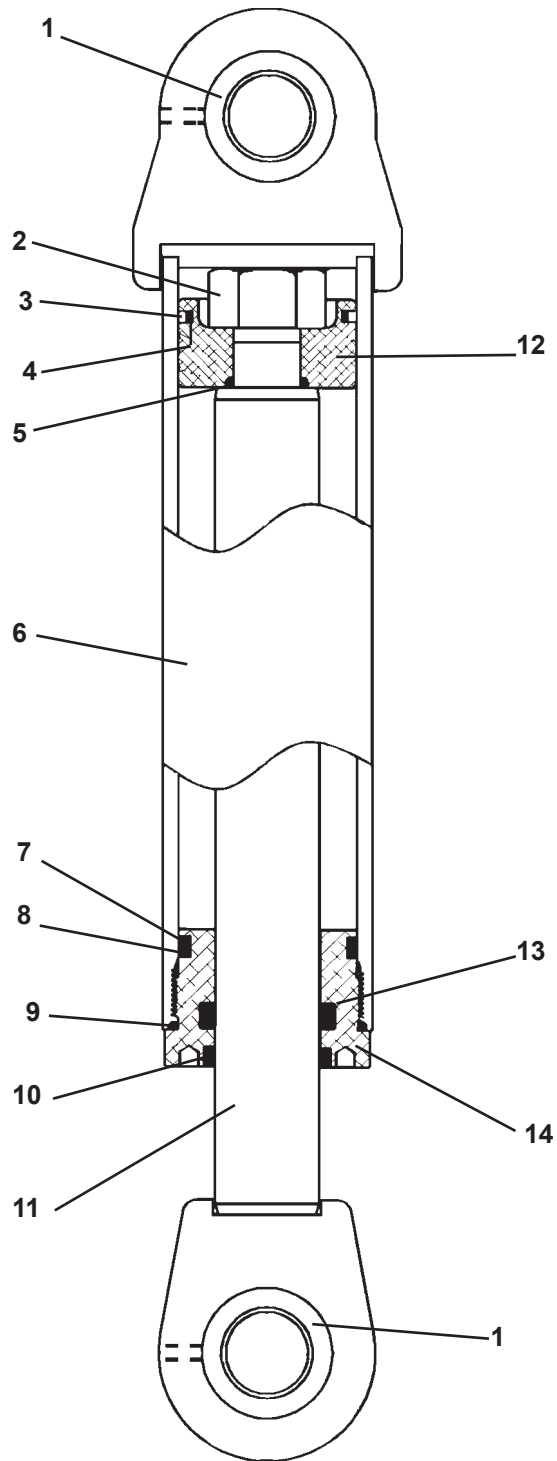
**CYLINDER ASSEMBLY**  
BOOM CYLINDER ASSEMBLY #82625

<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	82635	Cylinder Tube
2	1	1483	Hex Nut
3	1	82793	Piston
4	1	77445	Cylinder Gland
5	1	82636	Cylinder Rod
6	2	6615	Self Aligning Bushing
7	1	4570*	O'Ring
8	1	4569*	Piston Ring
9	1	4641*	O'Ring
10	1	45555*	O'Ring
11	1	4631*	Back-Up Ring
12	1	45225*	Poly Pak Seal
13	1	4908*	O'Ring
14	1	45372*	Rod Wiper

NOTE: Seal Kit #45550 includes all parts marked with an asterisk (\*). Parts are not sold separately.

# CYLINDER ASSEMBLY

## DIPPER CYLINDER ASSEMBLY #86236





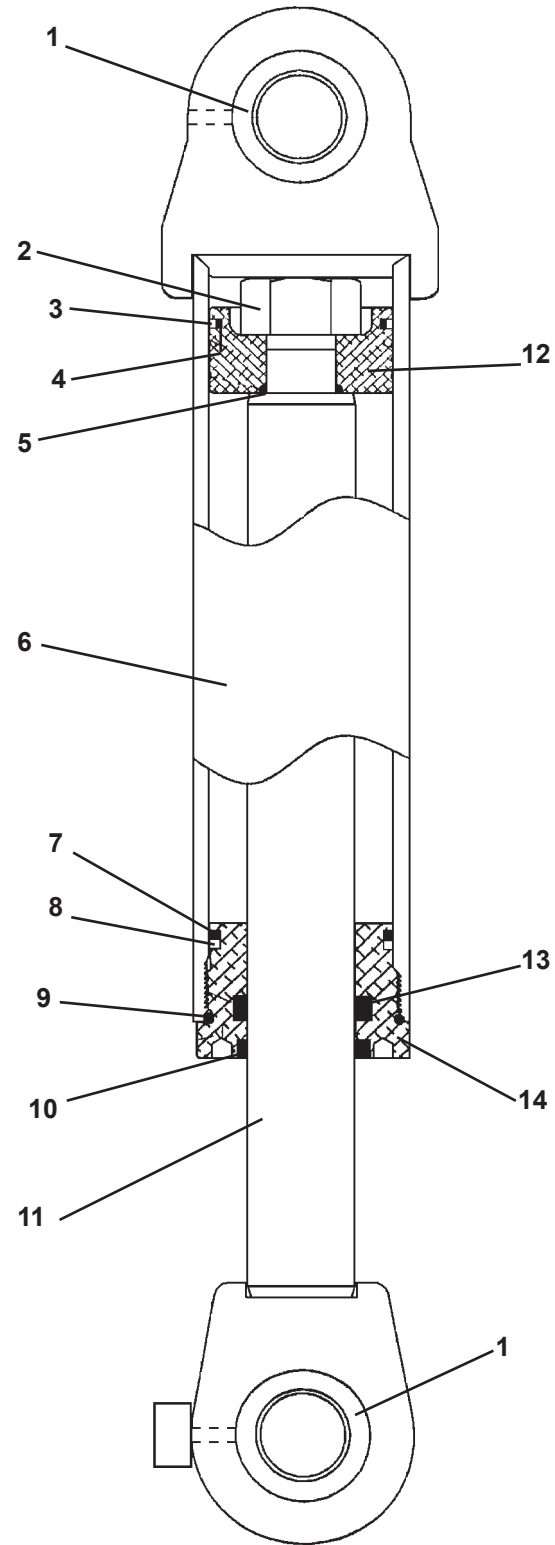
**CYLINDER ASSEMBLY**  
**DIPPER CYLINDER ASSEMBLY #86236**

<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	6615	Self-Aligning Bushing
2	1	1484	Hex Nut
3	1	4569*	Teflon Piston Ring
4	1	4570*	O'Ring
5	1	4865*	O'Ring
6	1	86237	Cylinder Tube
7	1	45555*	O'Ring
8	1	4631*	Back-Up Ring
9	1	4908*	O'Ring
10	1	45370*	Rod Wiper
11	1	82626	Cylinder Rod
12	1	86241	Piston
13	1	45119*	Poly-Pak Seal
14	1	77443	Cylinder Gland

NOTE: Seal Kit #45684 includes all parts marked with an asterisk (\*). Parts are not sold separately.

# CYLINDER ASSEMBLY

## DIPPER CYLINDER ASSEMBLY #87029



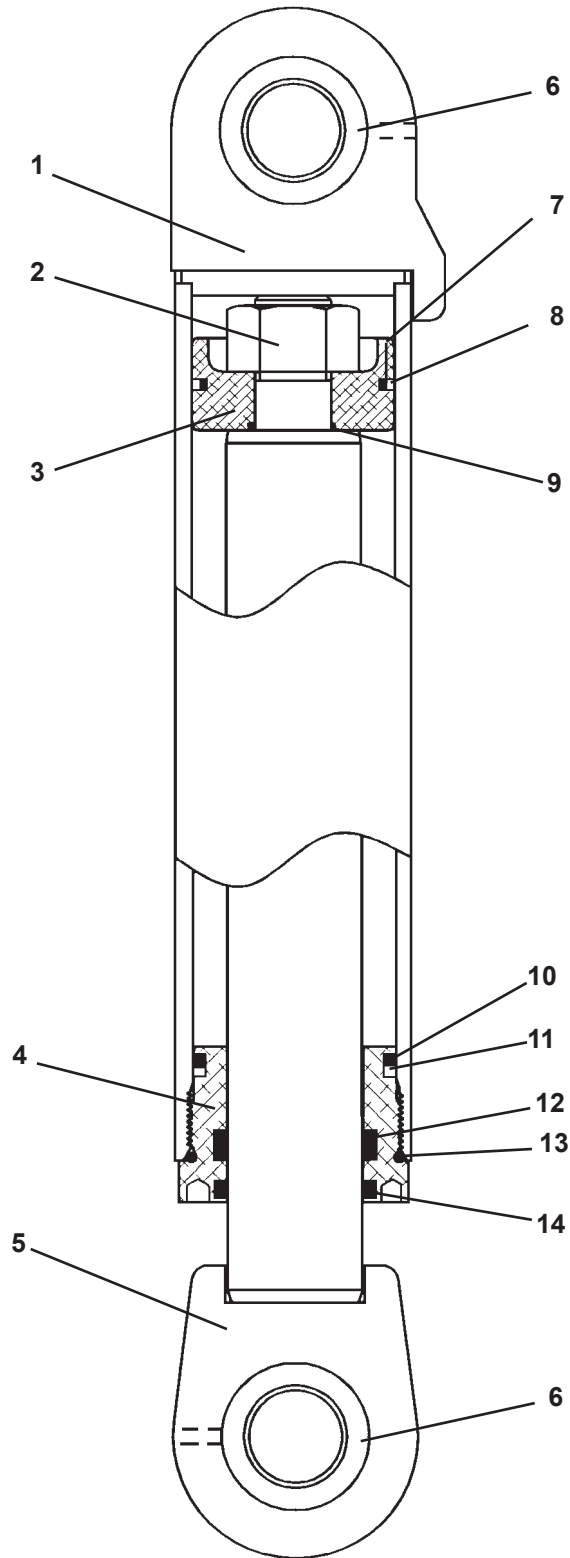
**CYLINDER ASSEMBLY**  
DIPPER CYLINDER ASSEMBLY #87029

<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	6615	Self-Aligning Bushing
2	1	1484	Hex Nut
3	1	4569*	Teflon Piston Ring
4	1	4570*	O'Ring
5	1	4865*	O'Ring
6	1	87036	Cylinder Tube
7	1	45555*	O'Ring
8	1	4631*	Back-Up Ring
9	1	4908*	O'Ring
10	1	45370*	Rod Wiper
11	1	87039	Cylinder Rod
12	1	86241	Piston
13	1	45119*	Poly-Pak Seal
14	1	77443	Cylinder Gland

NOTE: Seal Kit #45684 includes all parts marked with an asterisk (\*). Parts are not sold separately.

# CYLINDER ASSEMBLY

BUCKET CYLINDER ASSEMBLY #117548



**CYLINDER ASSEMBLY**  
**BUCKET CYLINDER ASSEMBLY #117548**

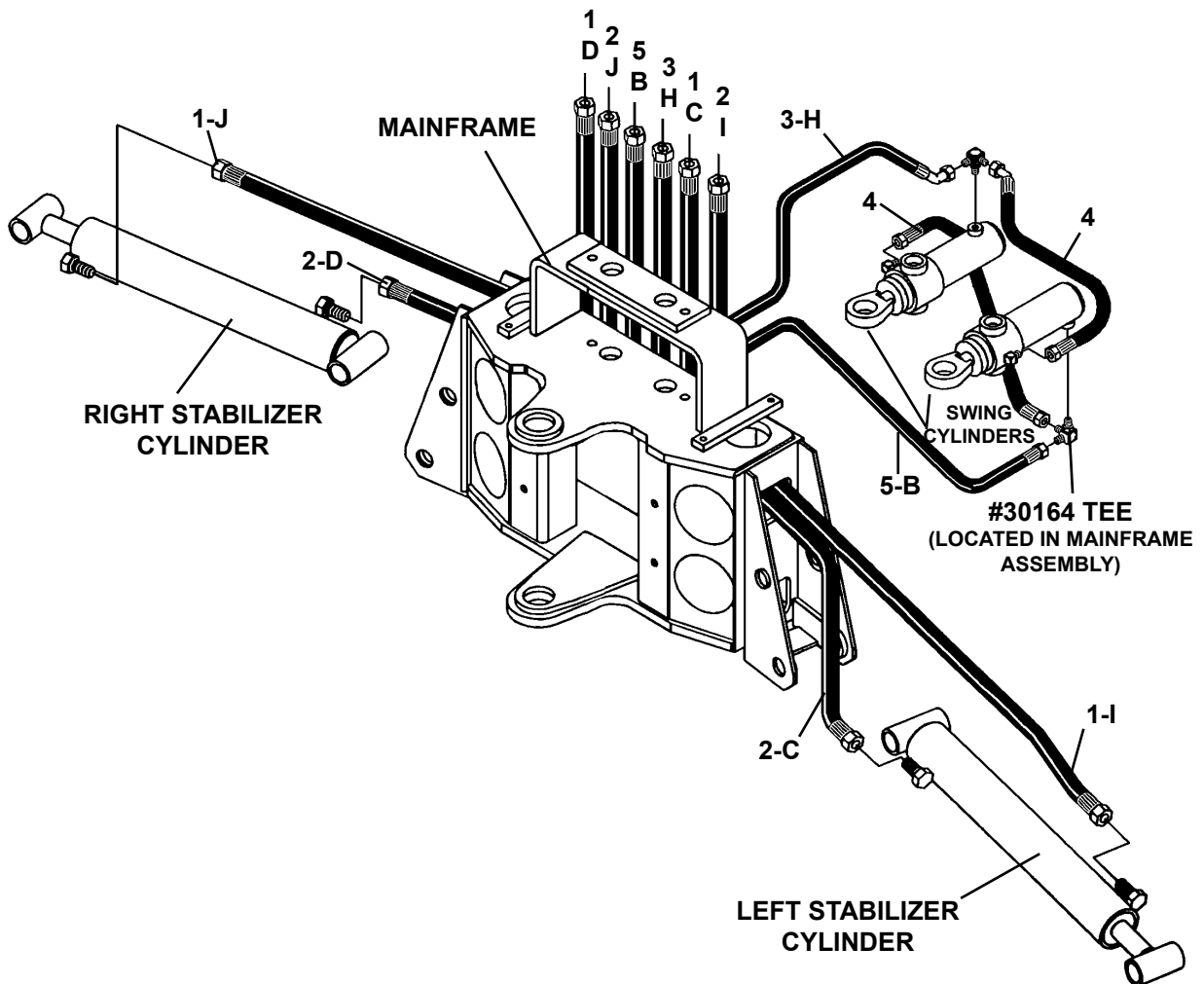
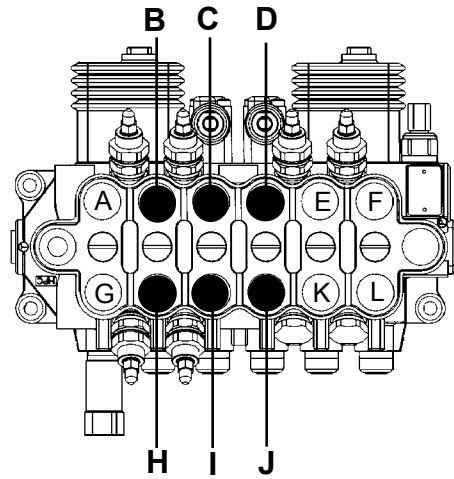
<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	117549	Cylinder Tube (See Note)
2	1	1484	Hex Nut
3	1	55904	Piston
4	1	77444	Cylinder Gland
5	1	82506	Cylinder Rod
6	2	6615	Self Aligning Bushing
7	1	4570*	O'Ring
8	1	4569*	Piston Ring
9	1	4865*	O'Ring
10	1	45555*	O'Ring
11	1	4631*	Back-Up Ring
12	1	45117*	Poly Pak Seal
13	1	4908*	O'Ring
14	1	45364*	Rod Wiper

**NOTE: Seal Kit #45547 includes all parts marked with an asterisk (\*). Parts are not sold separately.**

# MAINFRAME HOSE SET

ASSEMBLY #103646

## HYDRAULIC CONTROL VALVE



12487 2-12-15-2

# MAINFRAME HOSE SET

ASSEMBLY #103646

<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	2	37579	Hose Assembly .25" X 51" 6FJX-6FJX
2	2	37580	Hose Assembly .25" X 54" 6FJX-6FJX
3	1	37700	Hose Assembly .25" X 13.50" 6FJX-6FJX 90° Gooseneck
4	2	37552	Hose Assembly .25" X 14.50" 6FJX-6FJX
5	1	37699	Hose Assembly .25" X 17" 6FJX-6FJX

NOTE: Refer to the mainframe assembly for the priority valve hoses which are included in this assembly but have been shown in the mainframe assembly for clarity.

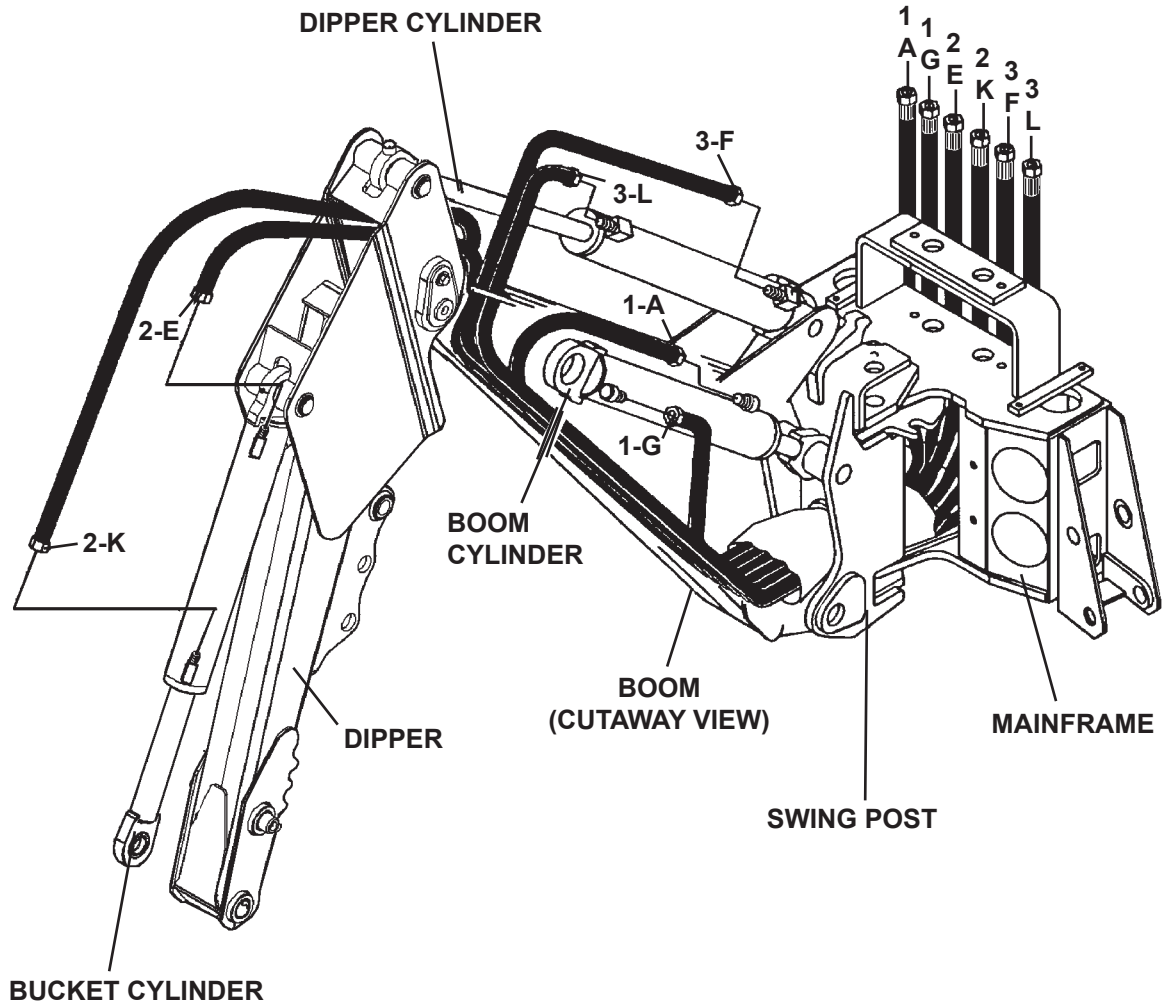
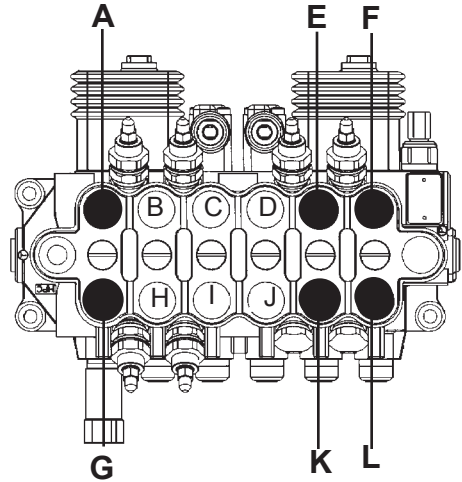
NOTE: Letters on the hose set diagram show the hydraulic hose routing between the backhoe control valve and the various hydraulic cylinders. Simply match the letter on the control valve port to the same letter on the hydraulic hose ends. Example: Hose Assembly labeled "C" runs from the upper Left Stabilizer port on the hydraulic control valve - through the mainframe and to the barrel end fitting on the left stabilizer cylinder.

NOTE: The fittings on the hydraulic cylinders have been altered for clarity purposes. This will assist you in distinguishing between the rod end and the barrel end of the various hydraulic cylinders.

# 509B BOOM & DIPPER HOSE SET

ASSEMBLY #85448

## HYDRAULIC CONTROL VALVE



12581 11-20-13



# 509B BOOM & DIPPER HOSE SET

ASSEMBLY #85448

<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	2	37671	Hose Assembly .38" X 93" 6FJX - 6FJX
2	2	38761	Hose Assembly .38" X 146.00" 6FJX - 8FJX
3	2	37672	Hose Assembly .38" X 135" 6FJX - 6FJX

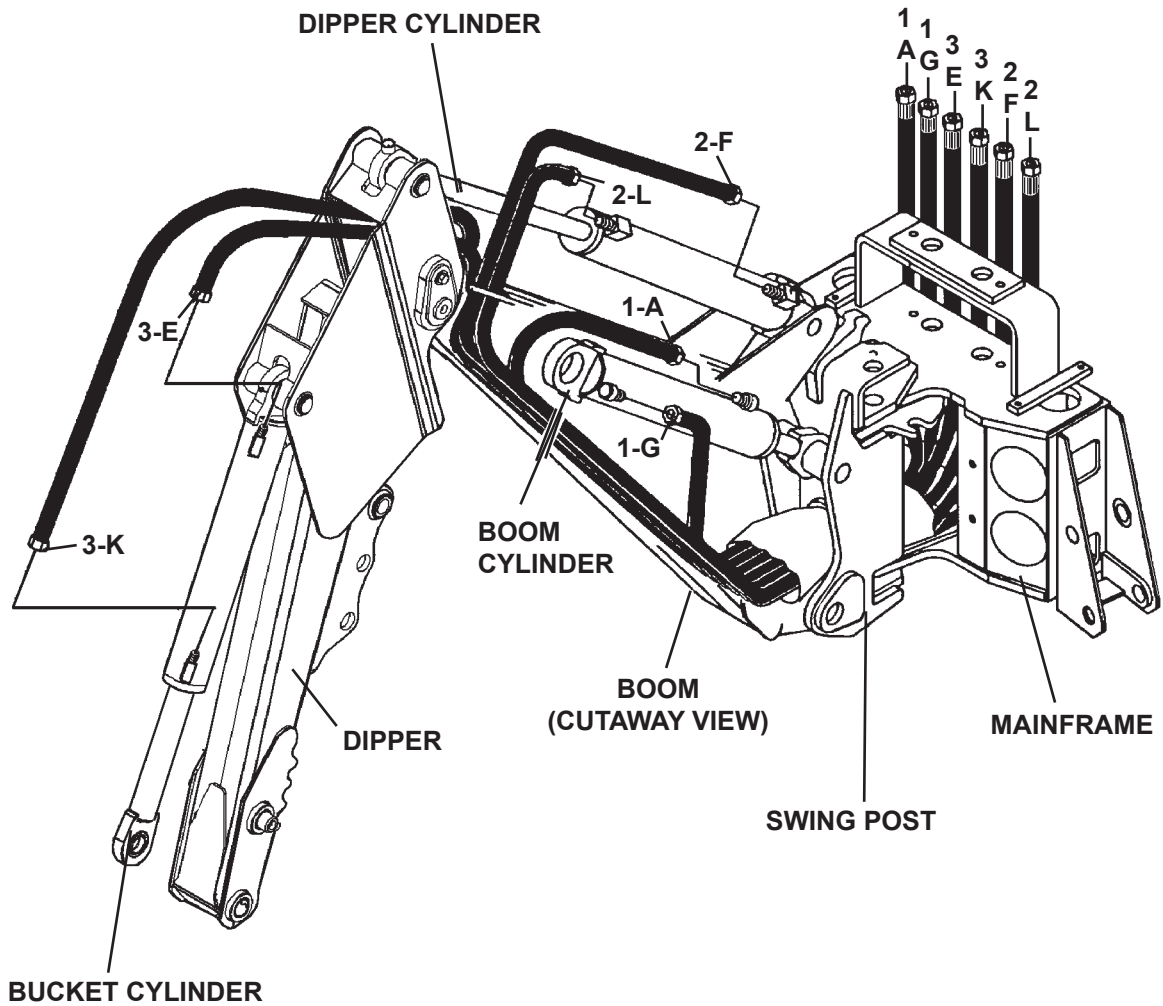
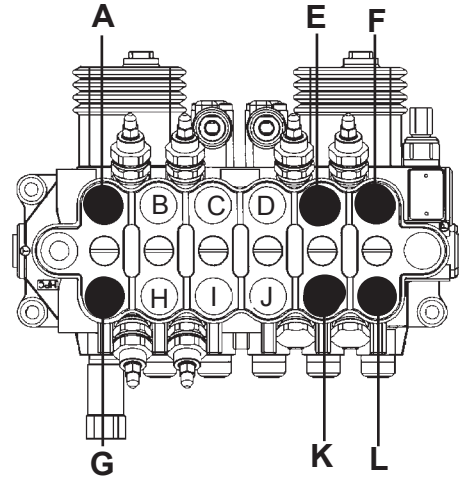
NOTE: Letters on the hose set diagram show the hydraulic hose routing between the backhoe control valve and the various hydraulic cylinders. Simply match the letter on the control valve port to the same letter on the hydraulic hose ends. EXAMPLE: Hose Assembly labeled "G" runs from the lower Boom port of the hydraulic control valve - through the mainframe and swing post and to the barrel end of the boom cylinder.

NOTE: The fittings on the hydraulic cylinders have been altered for clarity purposes. This will assist you in distinguishing between the rod end and the barrel end of the various hydraulic cylinders.

# 511B BOOM & DIPPER HOSE SET

ASSEMBLY #86982

HYDRAULIC CONTROL VALVE



12582 11-20-13

# 511B BOOM & DIPPER HOSE SET

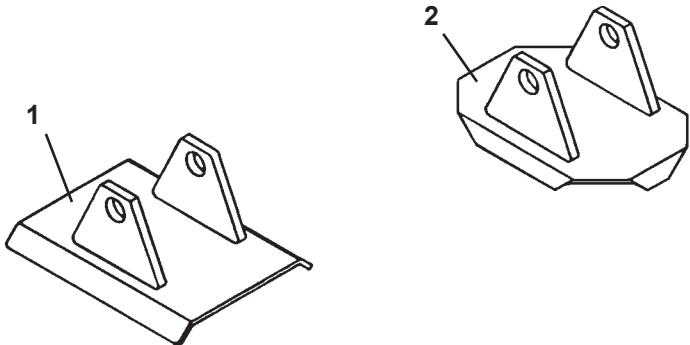
ASSEMBLY #86982

<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	2	37671	Hose Assembly .38" X 93" 6FJX - 6FJX
2	2	37701	Hose Assembly .38" X 157.50" 6FJX - 6FJX
3	2	38762	Hose Assembly .38" X 165.00" 6FJX - 8FJX

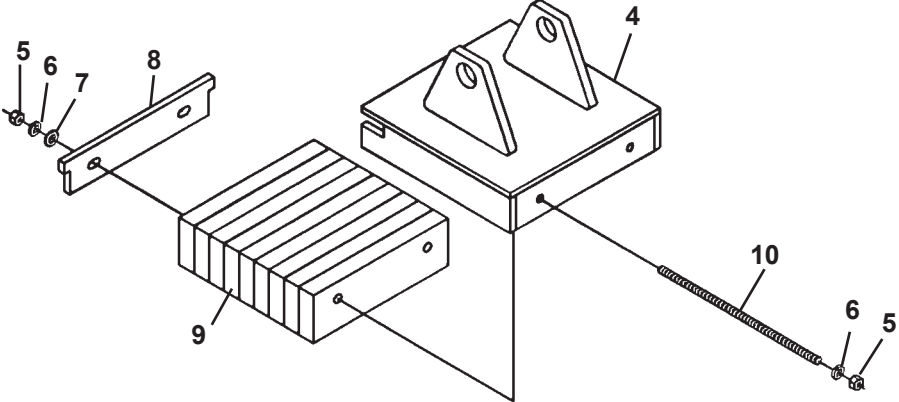
NOTE: Letters on the hose set diagram show the hydraulic hose routing between the backhoe control valve and the various hydraulic cylinders. Simply match the letter on the control valve port to the same letter on the hydraulic hose ends. EXAMPLE: Hose Assembly labeled "G" runs from the lower Boom port of the hydraulic control valve - through the mainframe and swing post and to the barrel end of the boom cylinder.

NOTE: The fittings on the hydraulic cylinders have been altered for clarity purposes. This will assist you in distinguishing between the rod end and the barrel end of the various hydraulic cylinders.

# STABILIZER PADS



3

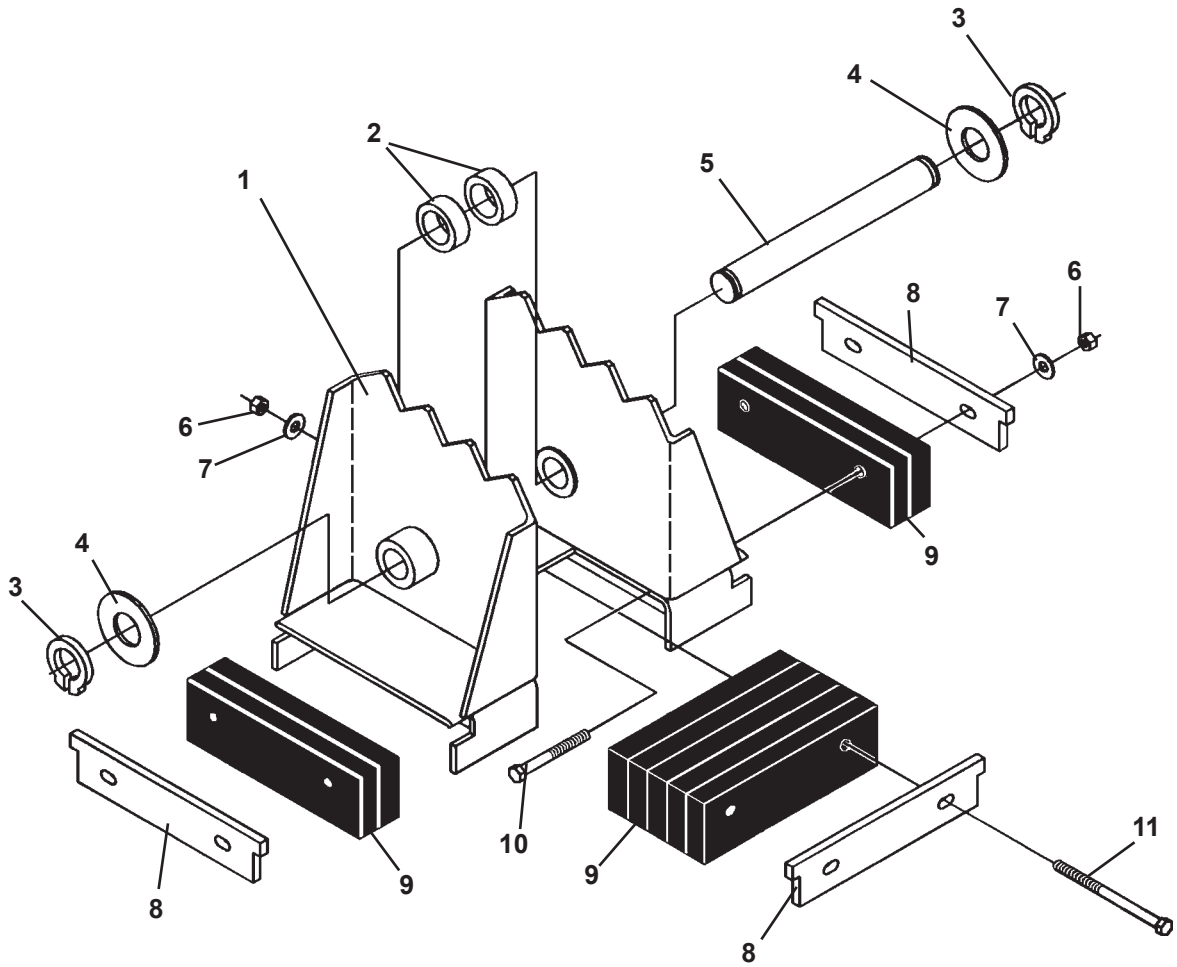


# STABILIZER PADS

<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
<b>FLAT STABILIZER PAD ASSEMBLY - #81861</b>			
1	2	81865	Flat Stabilizer Pad
<b>GROUSER STABILIZER PAD ASSEMBLY - #81860</b>			
2	2	83421	Grouser Stabilizer Pad
<b>RUBBER STABILIZER PAD ASSEMBLY - #81862</b>			
3	2	83418	Rubber Stabilizer Pad Assembly (Includes Items 4 through 10)
4	1	83419	Stabilizer Pad
5	4	1226	.38" UNC Hex Nut
6	4	1503	.38" Lock Washer
7	2	1514	.38" Flat Washer
8	1	51190	Slide Plate
9	1	64412	Rubber Strip Bundle
10	2	1661	.38" UNC X 11.50" Read Bolt

# STABILIZER PADS

FLIP-OVER STABILIZER PAD ASSEMBLY #83091  
(COMPLETE SET OF (2) FLIP-OVER PADS - ASSEMBLY #83058)



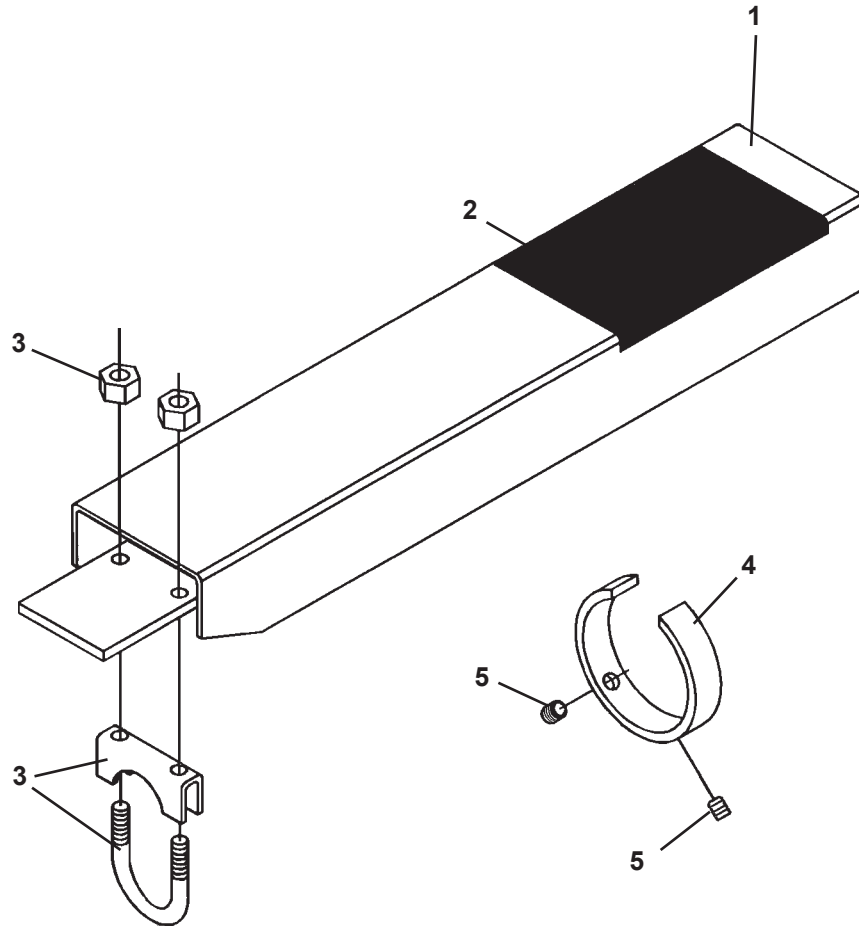
## STABILIZER PADS

FLIP-OVER STABILIZER PAD ASSEMBLY #83091  
(COMPLETE SET OF (2) FLIP-OVER PADS - ASSEMBLY #83058)

<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	84496	Flip-Over Pad
2	2	84495	Spacer
3	2	1652	1.25" Snap Ring
4	VARIABLES	57693	Thrust Washer 1.25" X .078"
	VARIABLES	64727	Thrust Washer 1.25" X .125"
5	1	83096	Pin
6	6	1837	.38" UNC Hex Deformed Lock Nut
7	6	1514	.38" Flat Washer
8	3	51190	Slide Plate
9	1	64412	Rubber Strip Bundle
10	4	1053	.38" UNC X 3.50" Hex Capscrew
11	2	1057	.38" UNC X 5.00" Hex Capscrew

# OPTIONAL STABILIZER CYLINDER COVER

ASSEMBLY #86706



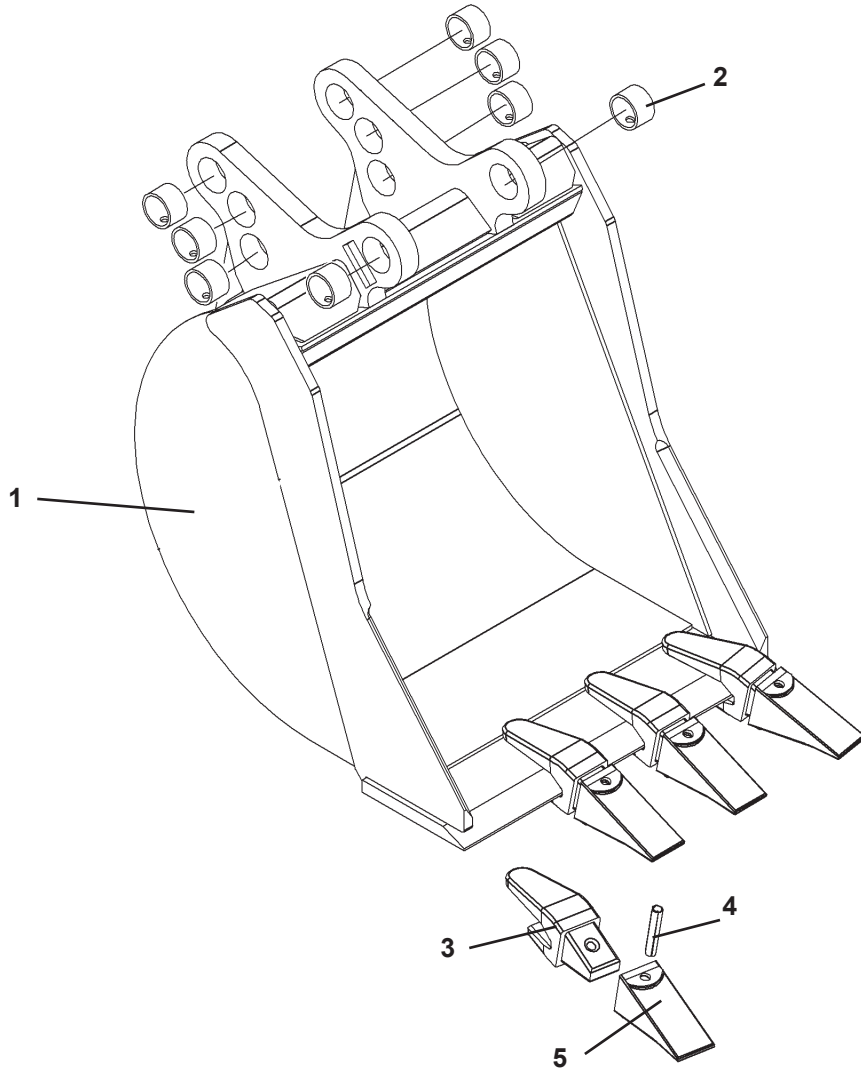


# OPTIONAL STABILIZER CYLINDER COVER

ASSEMBLY #86706

<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	2	83915	Stabilizer Cylinder Cover with Decal
2	2	4167	No Step Decal
3	2	83906	1.50" Clamp Assembly
4	2	83911	Guide Ring
5	4	1575	.38" UNC X .50" Set Screw

# BUCKET ASSEMBLIES



## BUCKET ASSEMBLIES

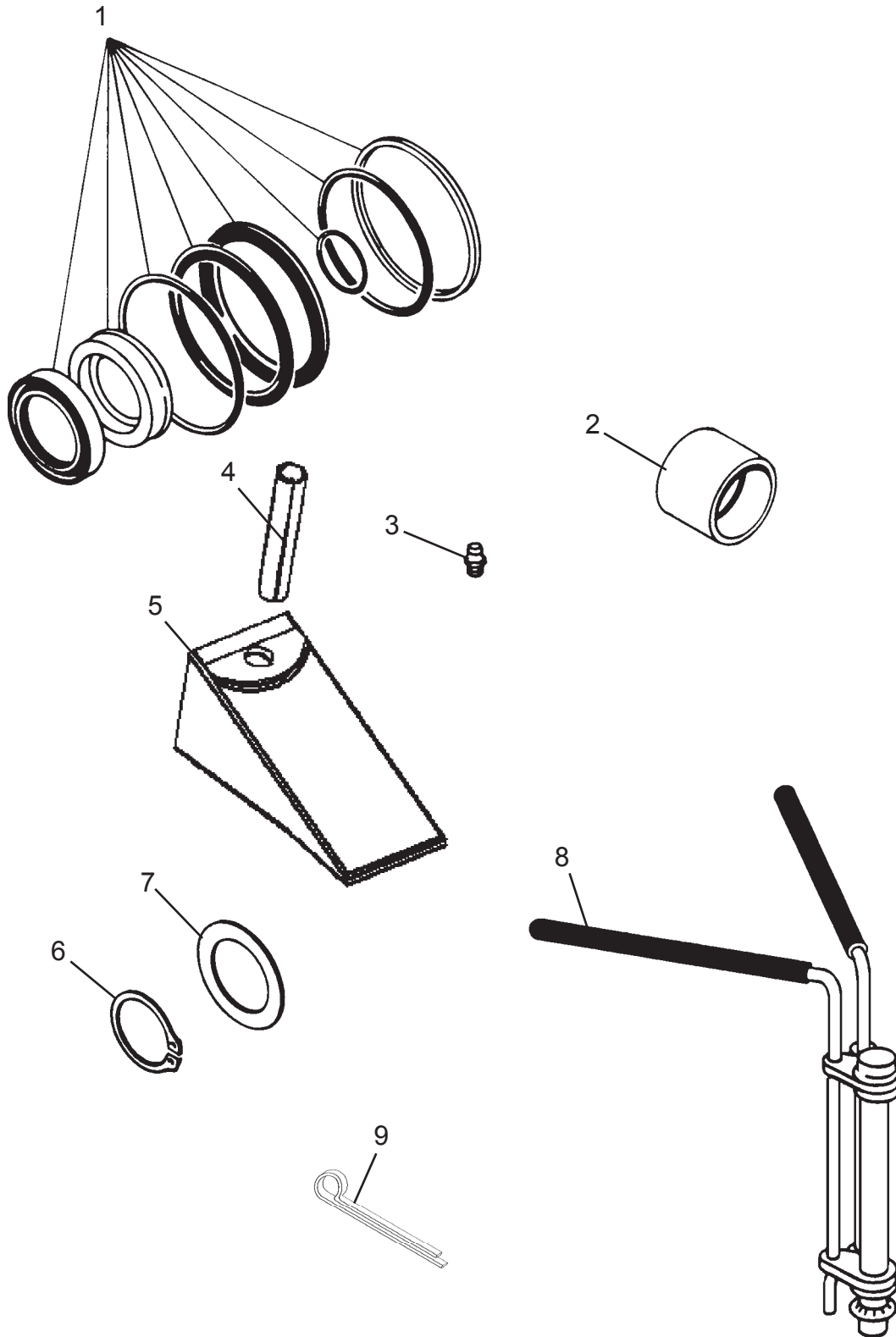
<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	-	110012	12" Bucket (Includes Teeth and Bushings)
		110016	16" Bucket (Includes Teeth and Bushings)
		110018	18" Bucket (Includes Teeth and Bushings)
		110020	20" Bucket (Includes Teeth and Bushings)
		110024	24" Bucket (Includes Teeth and Bushings)
		110034	34" Bucket (Includes Teeth and Bushings)
		110036	36" Bucket (Includes Teeth and Bushings)
		110038	38" Bucket (Includes Teeth and Bushings)
2	8	6355	Replacement Bushing
3	Varies	74228*	Replacement Tooth Shank (Weld On)
4	Varies	74227*	Replacement Spiral Roll Pin
5	Varies	84863*	Replacement Tooth (Bolt On)

BUCKET SPECIFICATIONS				
BUCKET SIZE	TOOTH QTY	WEIGHT	STRUCK CAPACITY	RATED CAPACITY
12	3	125 LBS.	1.25 CU. FT.	1.53 CU. FT.
16	4	148 LBS.	1.72 CU. FT.	2.20 CU. FT.
18	4	156 LBS.	1.95 CU. FT.	2.54 CU. FT.
20	4	165 LBS.	2.16 CU. FT.	2.81 CU. FT.
24	4	180 LBS.	2.65 CU. FT.	3.57 CU. FT.
34	7	238 LBS.	3.82 CU. FT.	5.31 CU. FT.
36	7	246 LBS.	4.05 CU. FT.	5.56 CU. FT.
38	7	255 LBS.	1.28 CU. FT.	5.99 CU. FT.

**NOTE: Tooth and Shank Assembly #85003 includes one each of all parts marked with an asterisk (\*).**

# FIRST LINE REPAIR KIT

ASSEMBLY #86320



7368 10-23-13-4

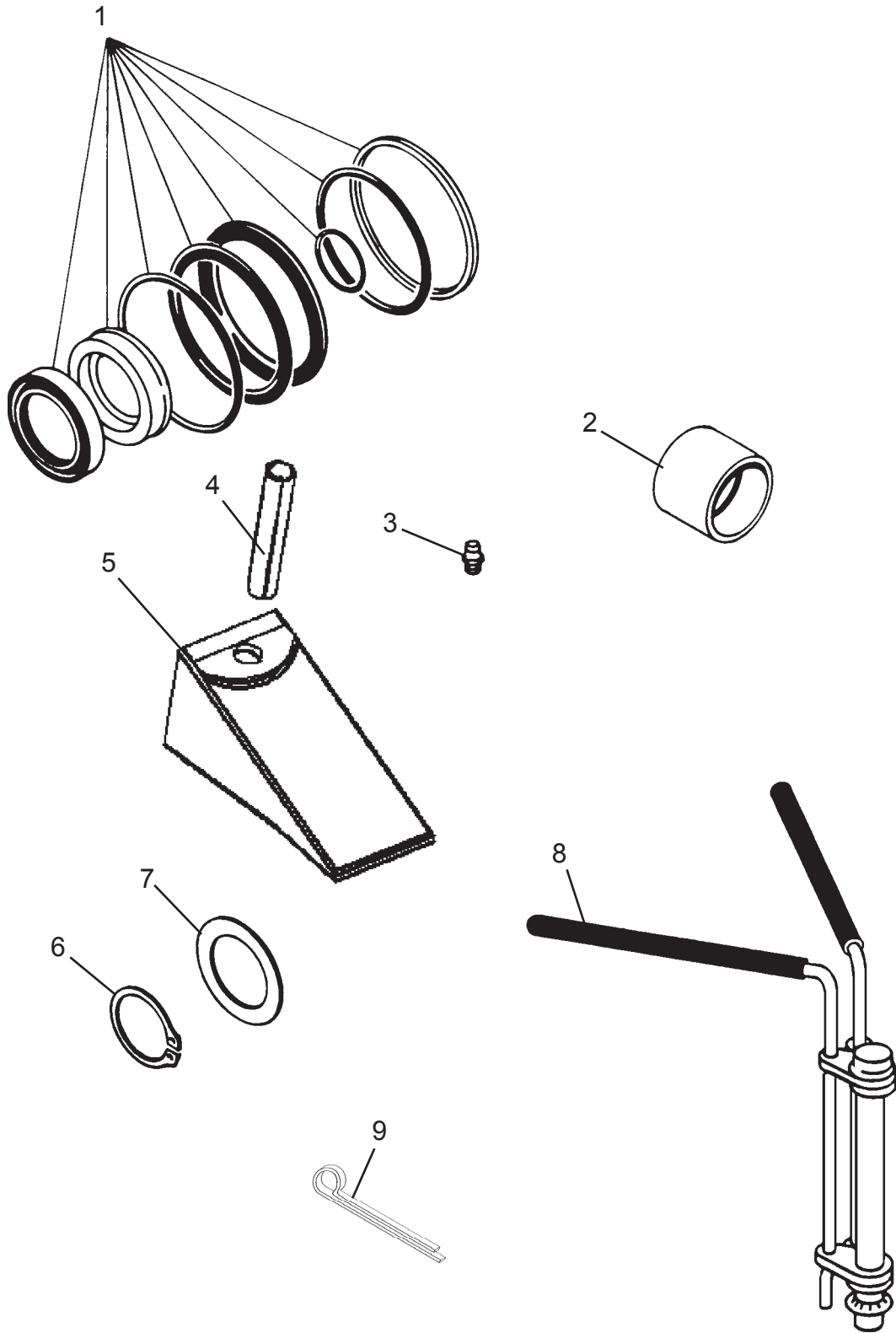
# FIRST LINE REPAIR KIT

ASSEMBLY #86320

<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	45618	Seal Kit (Boom Cylinder)
	1	45547	Seal Kit (Bucket Cylinder)
	1	45684	Seal Kit (Dipper Cylinder)
	1	45738	Seal Kit (Stabilizer Cylinders)
	1	45617	Seal Kit (Swing Cylinder)
2	2	81610	Bushing
	2	6355	Bushing
3	4	6616	Grease Zerk
5	4	74227	Spiral Roll Pin
	4	84863	Bucket Tooth Point
6	4	1650	Snap Ring 1.38"
	2	1652	Snap Ring 1.25"
7	4	6623	Thrust Washer 1.38" X .031"
	4	64728	Thrust Washer 1.25" X .031"
8	1	65349	Cylinder Seal Install Tool
9	2	1613	Cotter Pin

# FIRST LINE REPAIR KIT

ASSEMBLY #87500



# FIRST LINE REPAIR KIT

ASSEMBLY #87500

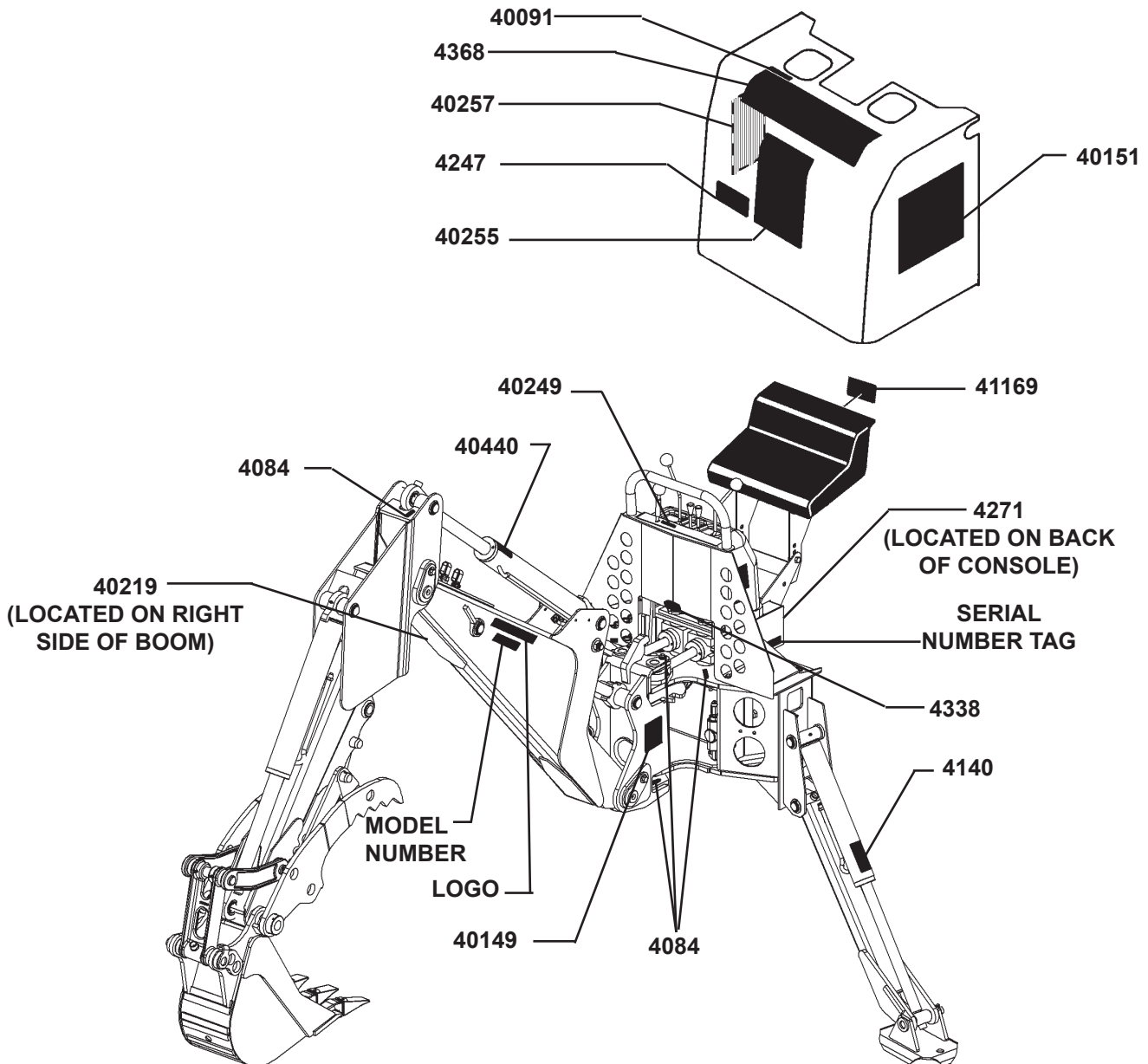
<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	45550	Seal Kit (Boom Cylinder)
	1	45547	Seal Kit (Bucket Cylinder)
	1	45684	Seal Kit (Dipper Cylinder)
	1	45738	Seal Kit (Stabilizer Cylinders)
	1	45617	Seal Kit (Swing Cylinder)
2	2	81610	Bushing
	2	6355	Bushing
3	4	6616	Grease Zerk
4	4	74227	Spiral Roll Pin
5	4	84863	Bucket Tooth Point
6	4	1650	Snap Ring 1.38"
	2	1652	Snap Ring 1.25"
7	4	6623	Thrust Washer 1.38" X .031"
	4	64728	Thrust Washer 1.25" X .031"
8	1	65349	Cylinder Seal Install Tool
9	2	1613	Cotter Pin

# DECALS

## DECAL PLACEMENT

### GENERAL INFORMATION

The diagrams on this page shows the location of all the decals used on the backhoes. The decals are identified by their part numbers, with reductions of the actual decals located on the following pages. Use this information to order replacements for lost or damaged decals. Be sure to read all decals before operating the backhoe. They contain information you need to know for both safety and backhoe longevity.



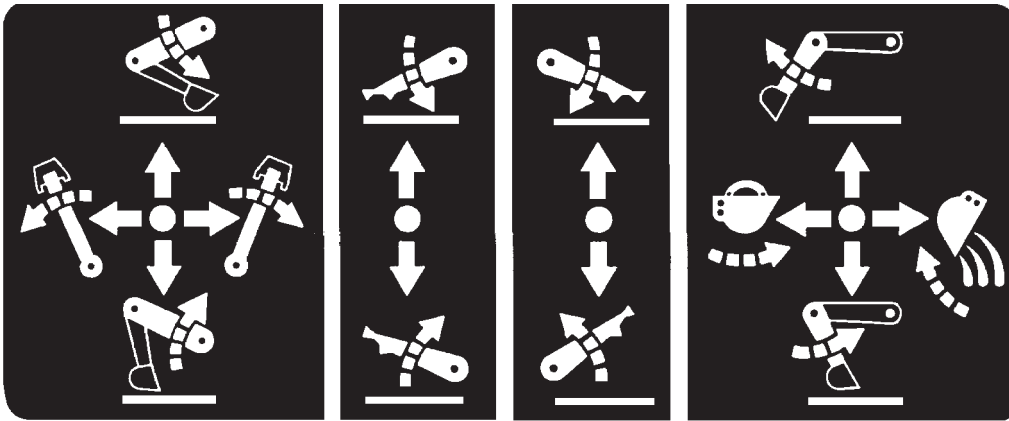
**IMPORTANT:** Keep all safety decals clean and legible. Replace all missing, illegible or damaged safety decals. When replacing parts with safety decals attached, the safety decals must also be replaced.

**REPLACING SAFETY DECALS:** Clean the area of application with a nonflammable solvent, then wash the same area with soap and water. Allow the surface to dry. Remove the backing from the safety decal, exposing the adhesive surface. Apply the safety decal to the position shown in the diagram, and smooth out any bubbles.

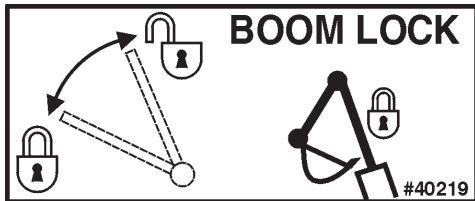
12493 9-26-13



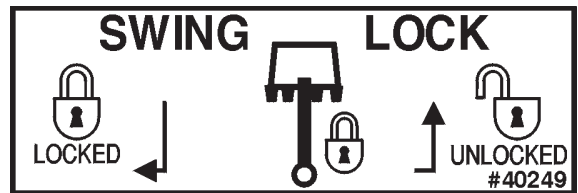
## DECALS



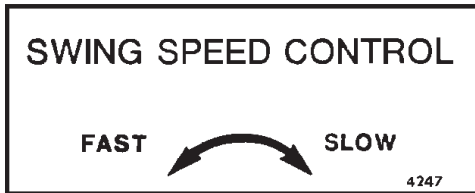
**PART #4368  
OPERATING CONTROLS DECAL**



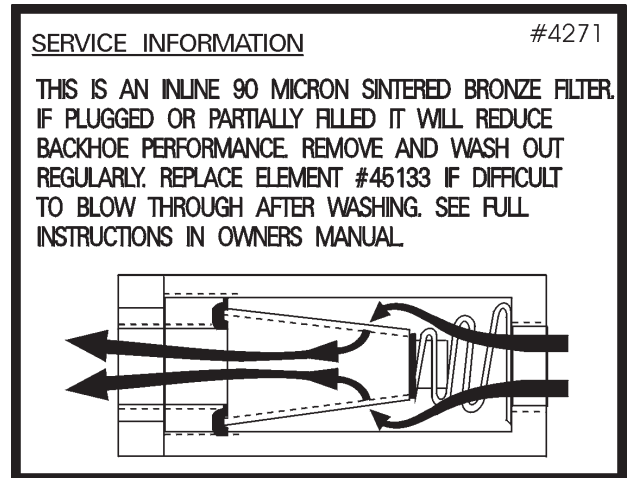
**PART #40219  
BOOM LOCK DECAL**



**PART #40249  
SWING LOCK DECAL**



**PART #4247  
SWING SPEED CONTROL DECAL**



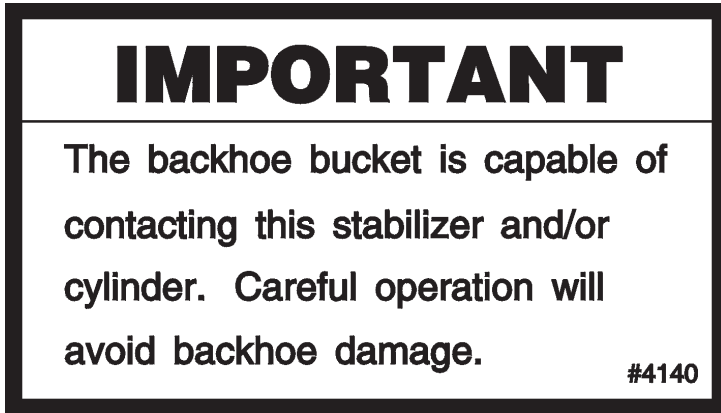
**PART #4271  
INLINE FILTER DECAL**



**PART #40091  
FLOAT DECAL**

**NOTE: CONTACT PALADIN OR YOUR LOCAL DEALER FOR MODEL NUMBER AND LOGO DECALS.**

# DECALS



PART #4140  
BUCKET CONTACT WARNING DECAL



PART #4338  
MADE IN U.S.A. DECAL



PART #40440  
CALL BEFORE YOU DIG



PART #4084  
GREASE 8 HOURS

## DECALS

 <b>WARNING</b>		
		
<b>HIGH-PRESSURE FLUID HAZARD</b>		
To prevent serious injury or death:		
<ul style="list-style-type: none"> <li>• Relieve pressure on system before repairing or adjusting or disconnecting.</li> <li>• Wear proper hand and eye protection when searching for leaks. Use wood or cardboard instead of hands.</li> <li>• Keep all components in good repair.</li> </ul>		


**PART #40151**  
HIGH PRESSURE FLUID DECAL

 <b>DANGER</b>	
	<p>To Prevent Serious Injury or Death from Crushing:</p> <p>Verify the backhoe is securely attached to the prime mover.</p> <ul style="list-style-type: none"> <li>• Check mounting bolts for tightness.</li> <li>• Visually check for proper pin engagement before operating.</li> </ul> <p>#41169</p>

**PART #41169**  
DANGER! BACKHOE SECURE

<b>IMPORTANT</b>
<p><b>TO PREVENT BACKHOE DAMAGE:</b></p> <ul style="list-style-type: none"> <li>• DO NOT ATTACH TOW CHAIN TO DIPPER OR BUCKET.</li> <li>• DO NOT REPEATEDLY SLAM SWING POST INTO SWING STOPS.</li> </ul> <p><b>PREPARATION FOR STORAGE</b></p> <p>LUBRICATE ALL GREASE POINTS. LEAVE AS MANY CYLINDERS IN CLOSED POSITION AS POSSIBLE. COVER ALL EXPOSED CYLINDER RODS WITH A LIGHT COAT OF GREASE.</p> <p>#40257</p>

**PART #40257**  
IMPORTANT! DECAL

 <b>WARNING</b>	
<b>TO PREVENT SERIOUS INJURY OR DEATH:</b>	
<ul style="list-style-type: none"> <li>• Do not operate or work on this machine without reading and understanding Operator's Manual.</li> <li>• Avoid unsafe operation or maintenance.</li> <li>• Do not operate machine with guards and covers removed.</li> <li>• This machine was designed to be operated by one operator. Do not carry passengers on unit.</li> <li>• Before installing backhoe on your unit extend boom and dipperstick and lower bucket to ground.</li> <li>• Never use backhoe as manlift.</li> <li>• Operate backhoe control levers from operator's seat only. Lower stabilizers and bucket to ground before leaving operator's seat.</li> <li>• Engage boom lock and swing lock before transporting backhoe.</li> </ul>	
<b>#40255</b>	

**PART #40255**  
OPERATIONAL WARNING DECAL

 <b>DANGER</b>		
		
<p>To prevent serious injury or death from pinching:</p> <ul style="list-style-type: none"> <li>• Keep all persons and objects clear while any part of this machine is in motion.</li> </ul>		

**PART #40149**  
DANGER! PINCH POINTS