



509 & 511 POWER BACKHOES

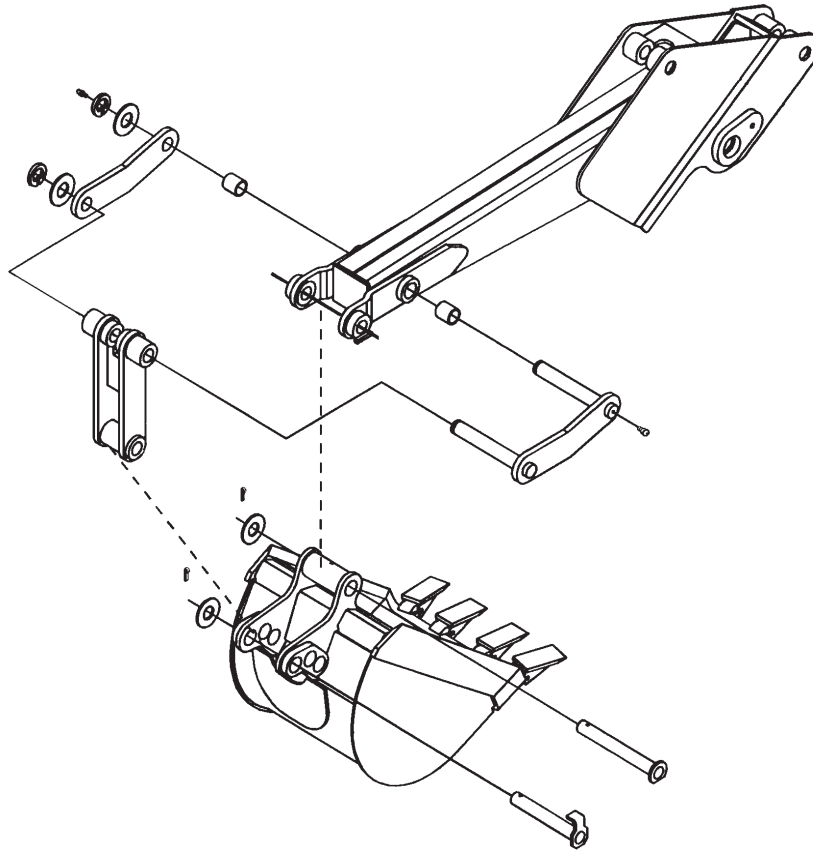
PARTS MANUAL



PALADIN
LIGHT CONSTRUCTION GROUP



The Power of Combined Excellence



SERIAL NUMBER: _____

MODEL NUMBER: _____

Manual Number: OM576
Part Number: 75476
Rev. 5

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 Construction¹, 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.

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

TABLE OF CONTENTS

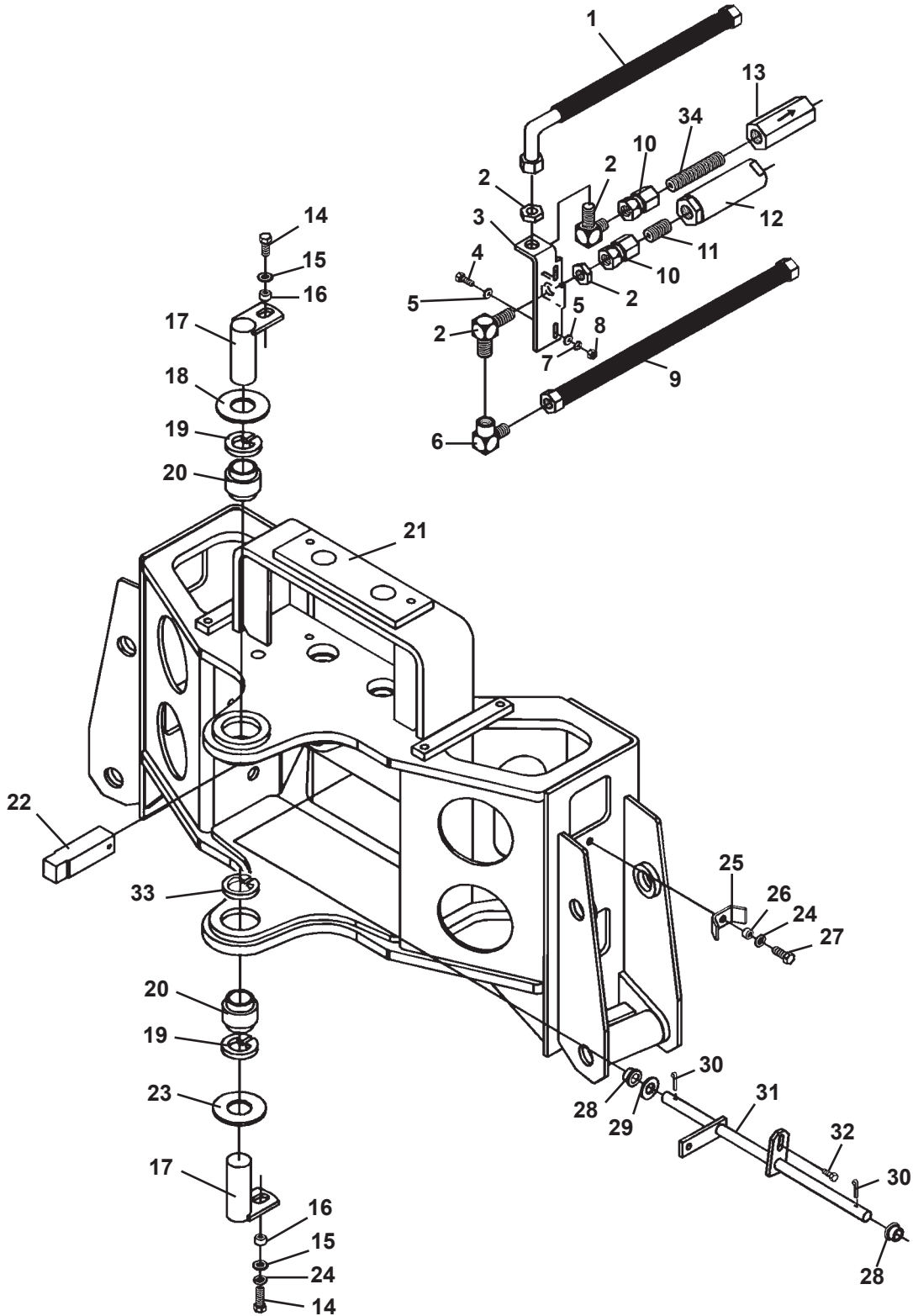
SERVICE PARTS

MAINFRAME ASSEMBLY	#87446
Mainframe	
Swing Post	
Swing Cylinder	
Stabilizers	
Hose Bundle Clamps	
509 BOOM & DIPPER ASSEMBLY	#85440
511 BOOM & DIPPER ASSEMBLY	#86981
CONSOLE ASSEMBLY	#87442
VALVE ASSEMBLY	#2237
CYLINDERS	
SWING CYLINDER	#81827
STABILIZER CYLINDER	#86605 & #83397
509 BOOM CYLINDER	#86231
511 BOOM CYLINDER	#82625
509 DIPPER CYLINDER	#86236
511 DIPPER CYLINDER	#87029
BUCKET CYLINDER	#82477
HOSE SETS	
MAINFRAME HOSE SET	#83434
509 BOOM & DIPPER HOSE SET	#85448
511 BOOM & DIPPER HOSE SET	#86982
STABILIZER PAD OPTIONS	
FLAT STABILIZER PAD ASSEMBLY	#81861
GROUSER STABILIZER PAD ASSEMBLY	#81860
RUBBER STABILIZER PAD ASSEMBLY	#81862
FLIP-OVER STABILIZER PAD ASSEMBLY	#83058
OPTIONAL STABILIZER CYLINDER COVER	#86706
BUCKET OPTIONS	
12" BUCKET	STANDARD #68212 SEVERE DUTY #85012
16" BUCKET	#68216 #85016
18" BUCKET	#68218 #85019
20" BUCKET	#68220 #85020
24" BUCKET	#68224 #85024
509 FIRST LINE REPAIR KIT	#86320
511 FIRST LINE REPAIR KIT	#87500
509 DECAL SET	#40320
511 DECAL SET	#40355

MAINFRAME ASSEMBLY

ASSEMBLY 87446

MAINFRAME



MAINFRAME ASSEMBLY

ASSEMBLY 87446

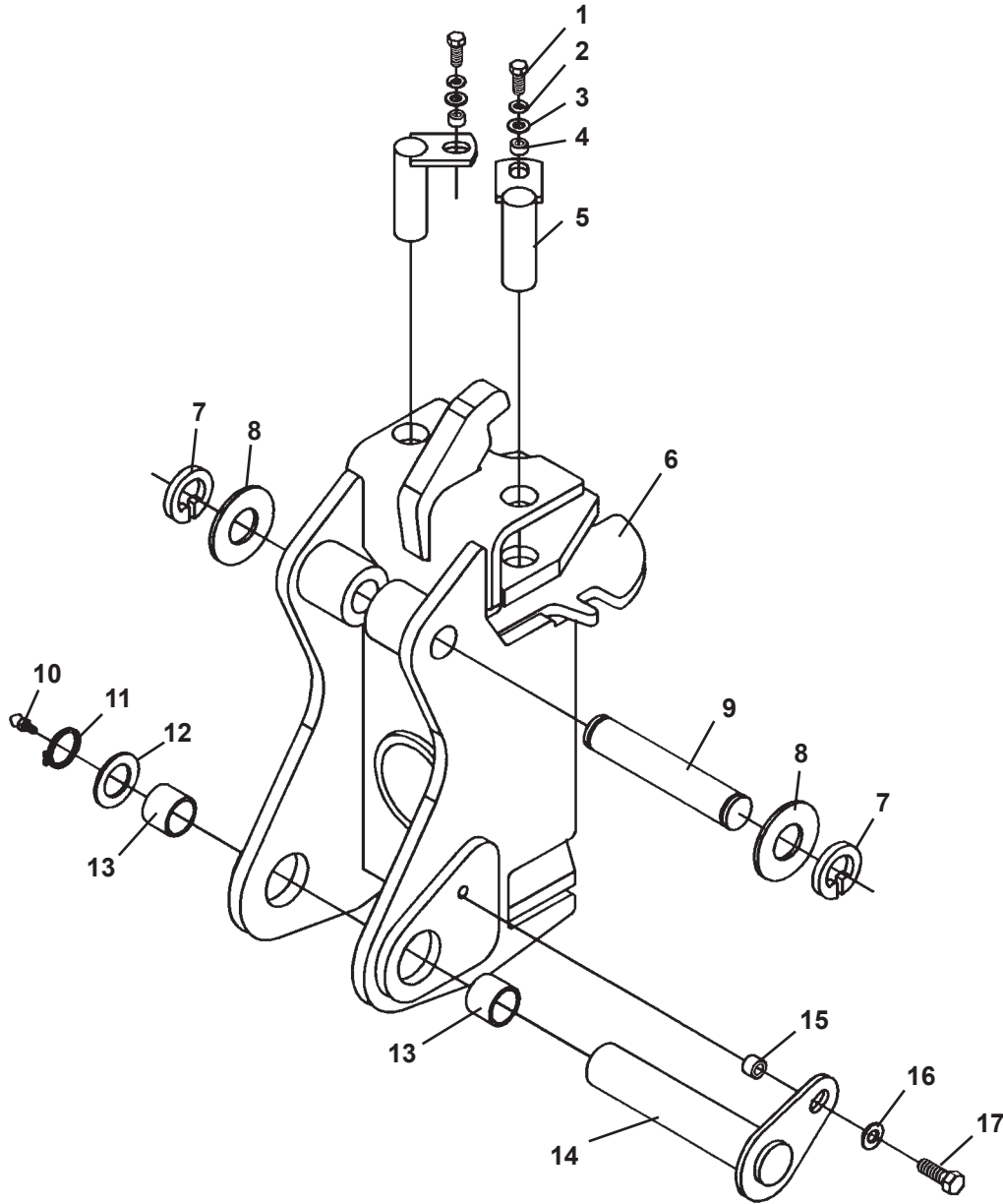
MAINFRAME

<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	38341	Hose .50" X 23" 8FJX - 8FJX 90° Gooseneck
2	2	3382	90° Bulkhead Elbow (Includes Nut)
3	1	85540	Hose Mounting Bracket
4	2	1004	.25" UNC X 1.25" Hex Capscrew
5	4	1512	.25" Flat Washer
6	1	3149	90° Elbow 8FJX-8MJ
7	2	1501	.25" Lock Washer
8	2	1224	.25" UNC Hex Nut
9	1	38342	Hose .50" X 38" 8FJX-8FJX
10	2	3273	Coupling 8FP-8FJX
11	1	3211	Close Nipple .50" NPT (Inline Filter)
12	1	45132	Inline Filter (Round)
13	1	45691	Check Valve (Hex)
14	2	1043	.38" UNC X 1.00" Hex Capscrew
15	2	1514	.38" Flat Washer
16	2	81807	Spacer Tube
17	2	81592	Pin
	2	6616	Grease Zerk
18	1	83977	Thrust Washer 1.38" X .125"
19	2	1929	Snap Ring
20	2	6615	Bearing
21	1	86195	Mainframe (Includes (4) 83815 Bushings - Installed with Loctite Grade 680)
22	1	82090	Swing Lock Pin
23	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"
24	3	1503	.38" Lock Washer
25	2	6186	Hose Clamp
26	2	6799	Spacer Tube
27	2	1044	.38" UNC X 1.25" Hex Capscrew
28	2	82794	Bushing
29	As Req'd	1528	.62" SAE Flat Washer
30	2	1611	Cotter Pin
31	1	82796	Linkage
32	1	1982	Shoulder Screw
33	1	1650	Snap Ring
34	1	3309	Heavy Close Nipple .50 NPT x 4.00" (Check Valve)

MAINFRAME ASSEMBLY

ASSEMBLY #87446

SWINGPOST



MAINFRAME ASSEMBLY

ASSEMBLY #87446

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)

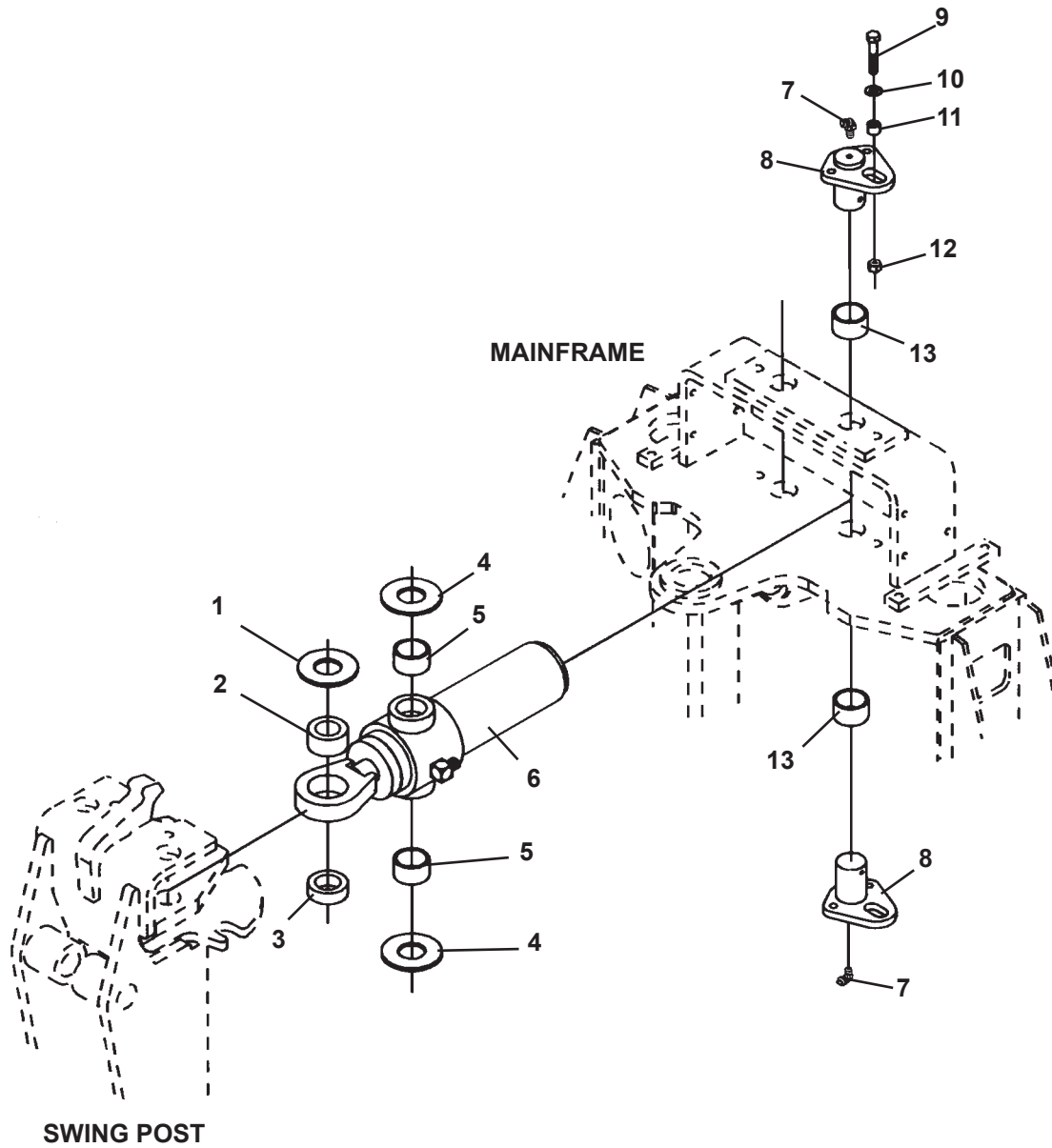
NOTE:

- (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 #87446

SWING CYLINDER



MAINFRAME ASSEMBLY

ASSEMBLY #87446

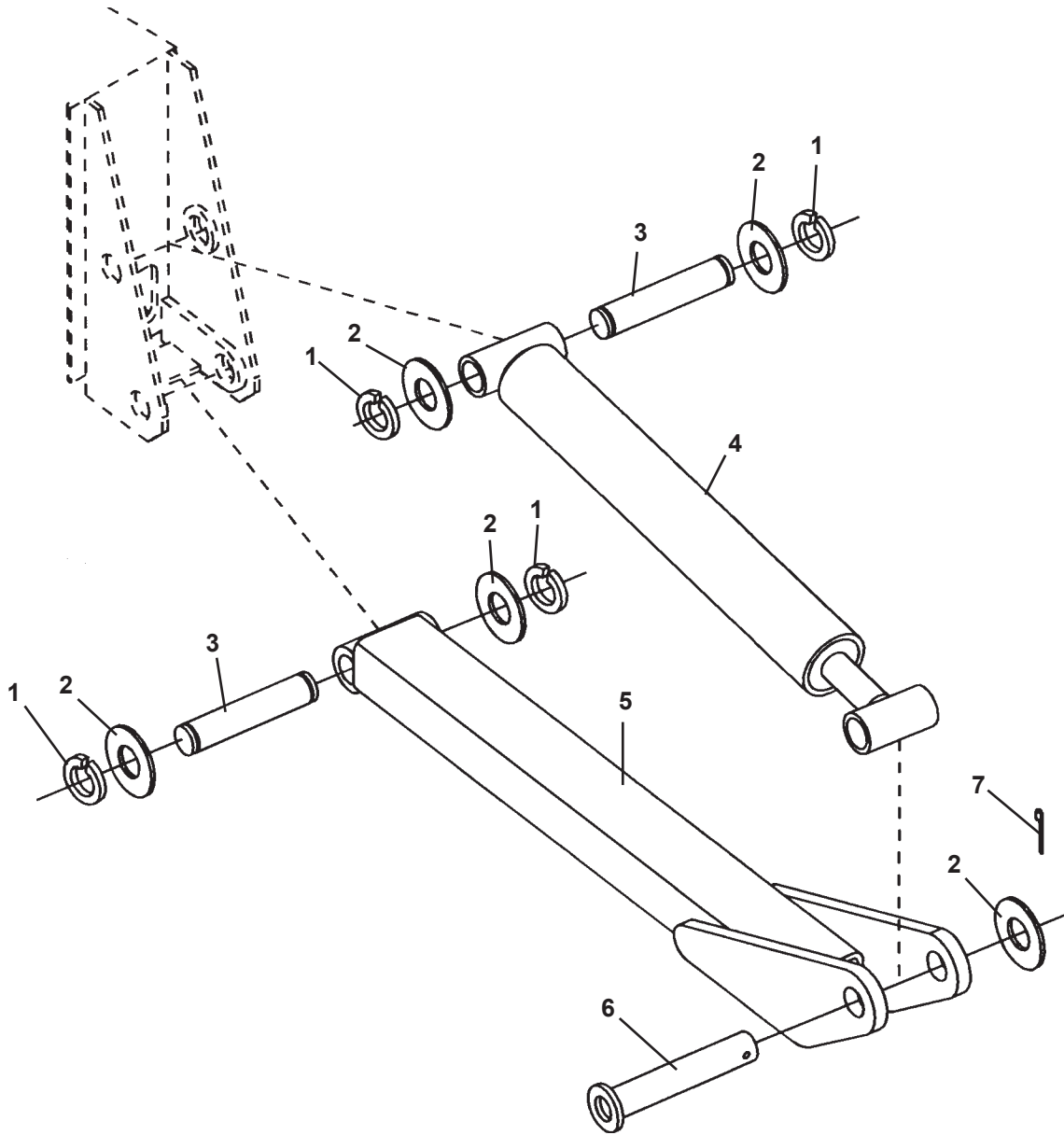
SWING CYLINDER

<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 #87446

STABILIZERS



MAINFRAME ASSEMBLY

ASSEMBLY #87446

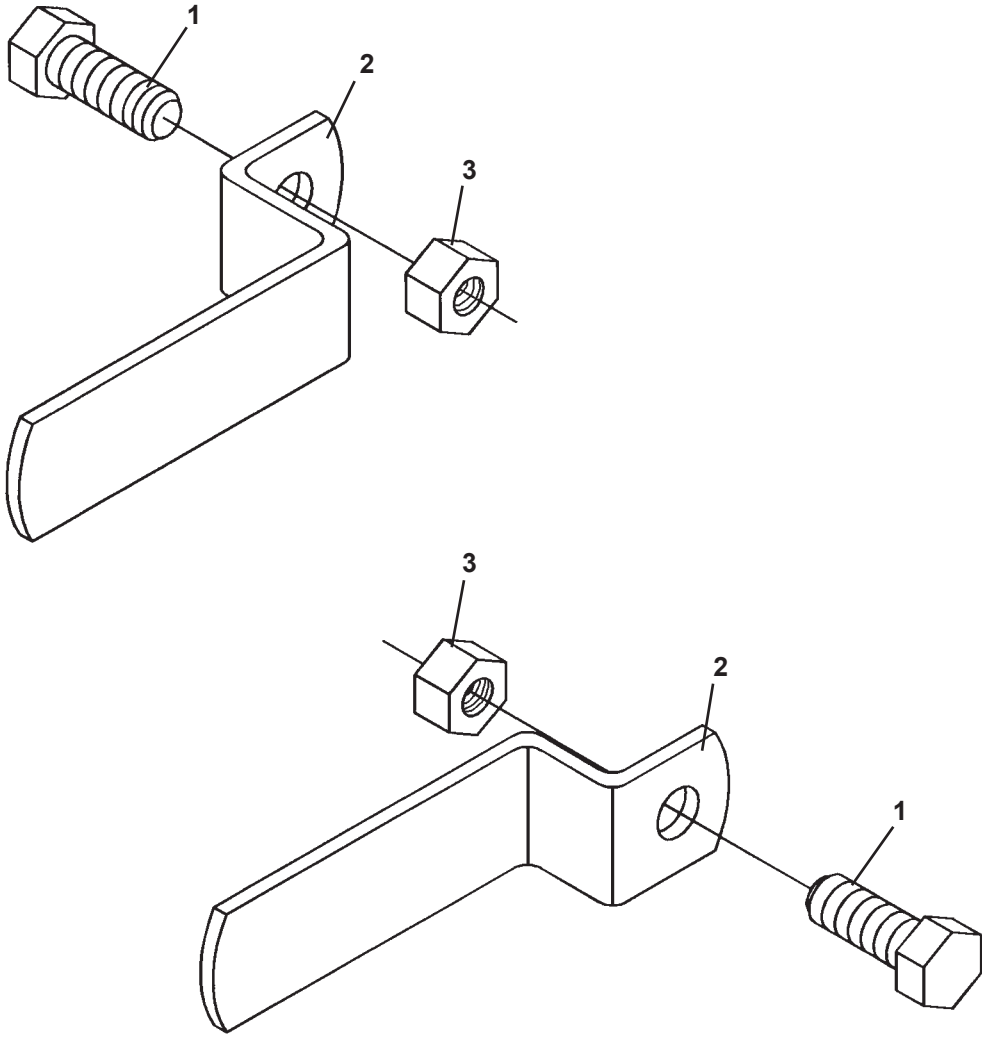
STABILIZERS

<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)
	2	83397	Stabilizer Cylinder Assembly (1.25" Rod)
	4	6616	Grease Zerk
5	2	83393	Stabilizer 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.
- (2) Stabilizer Cylinder Assembly #86605 (1.50" Rod Dia.) replaces Stabilizer Cylinder Assembly #83397 (1.25" Rod Dia.). If ordering replacement parts see Assembly Diagram and Parts list for your existing cylinder. If replacing a complete Stabilizer Cylinder, order Assembly #86605.

HOSE BUNDLE CLAMPS



HOSE BUNDLE CLAMPS

UP TO SERIAL #---10065

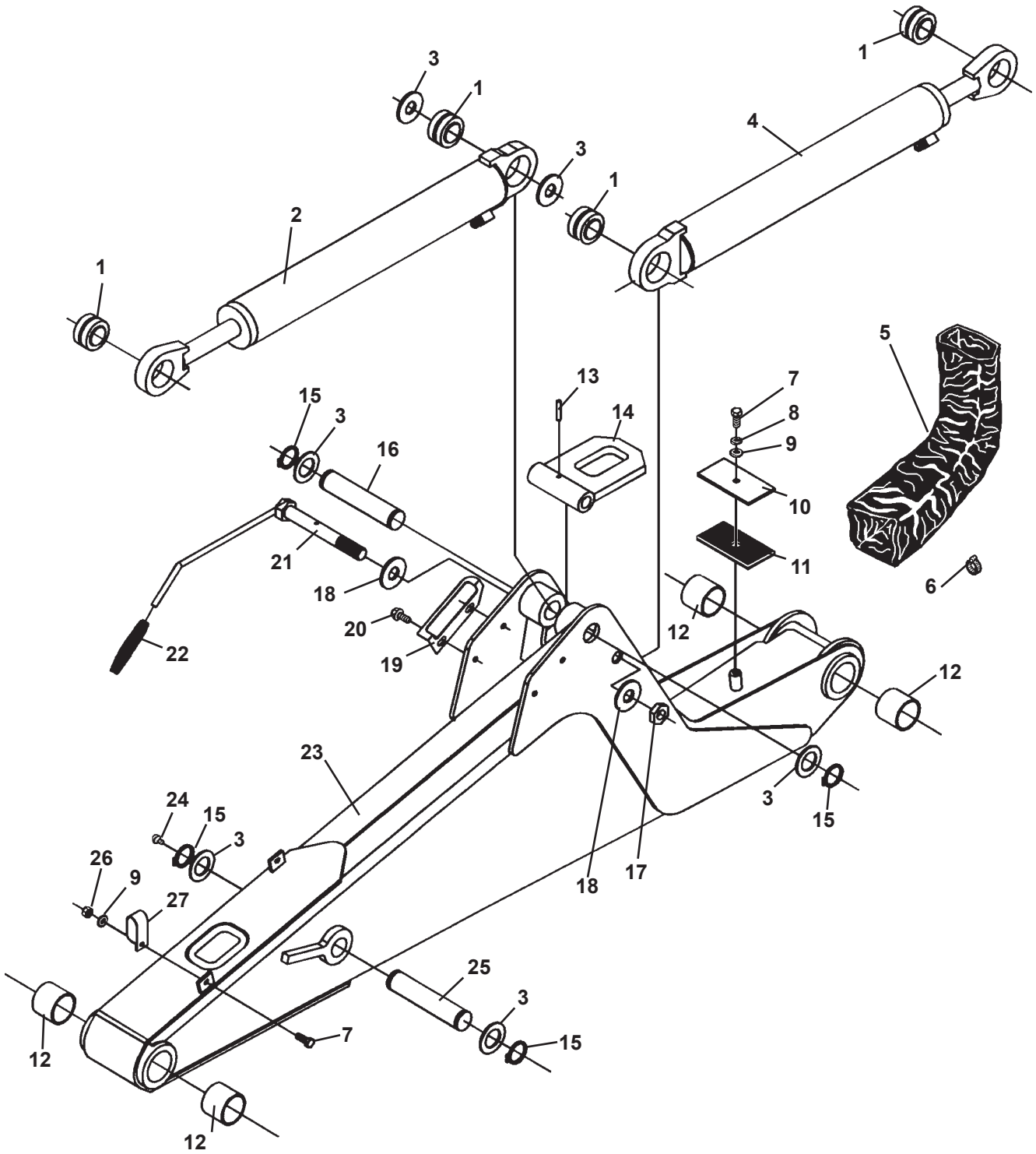
<u>NO</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	2	1043	.38" UNC X 1.00" Hex Capscrew
2	1	84724	Right Hose Bundle Clamp
3	2	1837	.38" UNC Deformed Lock Nut
4	1	84718	Left Hose Bundle Clamp

SERIAL #---10065 AND UP

<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

509 BOOM & DIPPER ASSEMBLY

ASSEMBLY #85440



509 BOOM & DIPPER ASSEMBLY

ASSEMBLY #85440

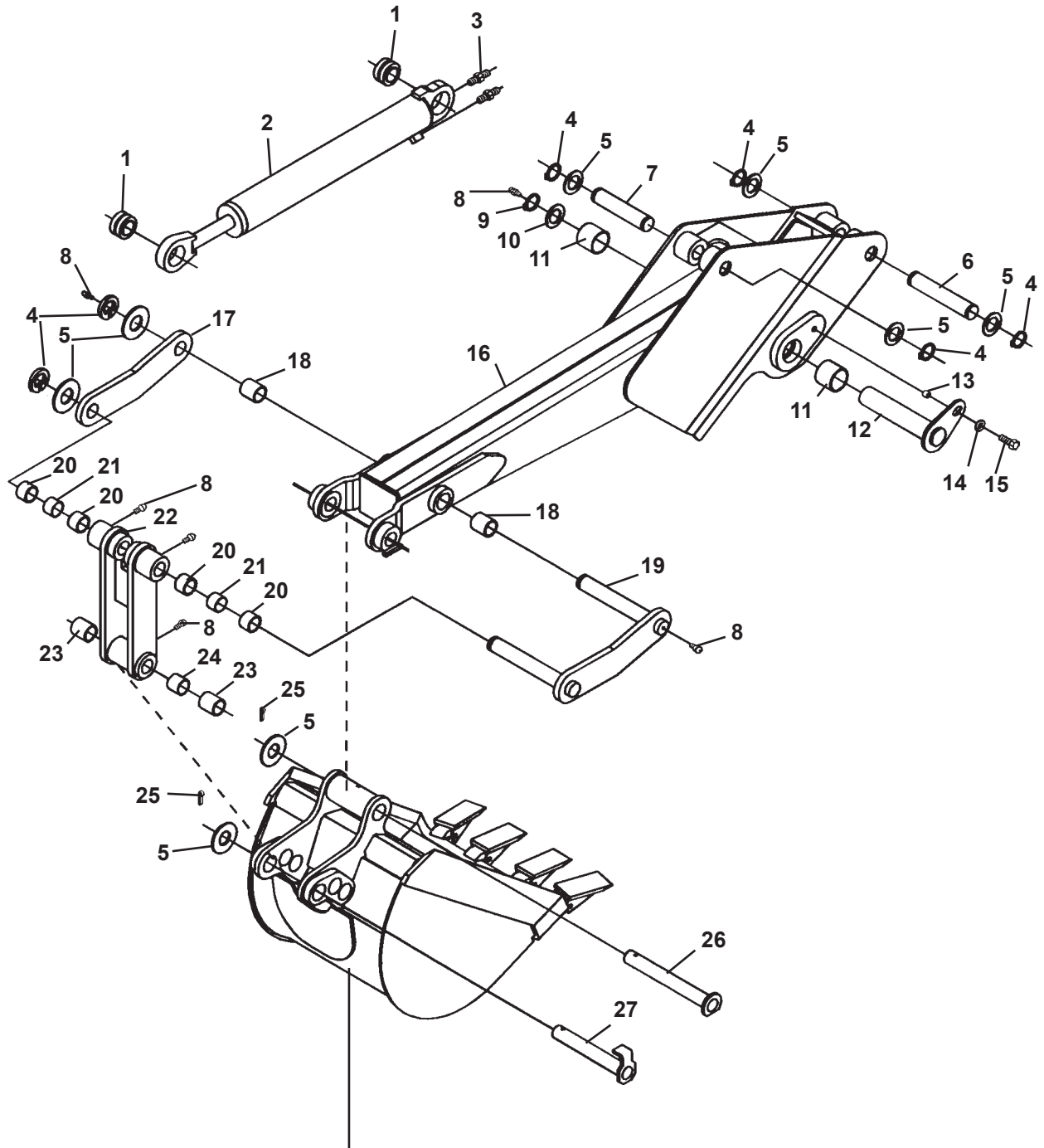
<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	-	6615	Self Aligning Bushing (Included in Cylinder Assemblies)
2	1	86236	Dipper Cylinder Assembly
	2	6616	Grease Zerk
3	As Req'd	6623	Thrust Washer 1.38" x .031
	As Req'd	64724	Thrust Washer 1.38" x .090
	As Req'd	64725	Thrust Washer 1.38" 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	3	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	86151	Boom Assembly (Includes (4) 86673 Bushings) (Installed with Locktite Grade 680)
24	1	6616	Grease Zerk
25	1	86224 (2)	Pivot Pin
26	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.**

509 BOOM & DIPPER ASSEMBLY

ASSEMBLY #85440



BUCKET
(NOT INCLUDED IN BOOM AND DIPPER ASSEMBLY.)

509 BOOM & DIPPER ASSEMBLY

ASSEMBLY #85440

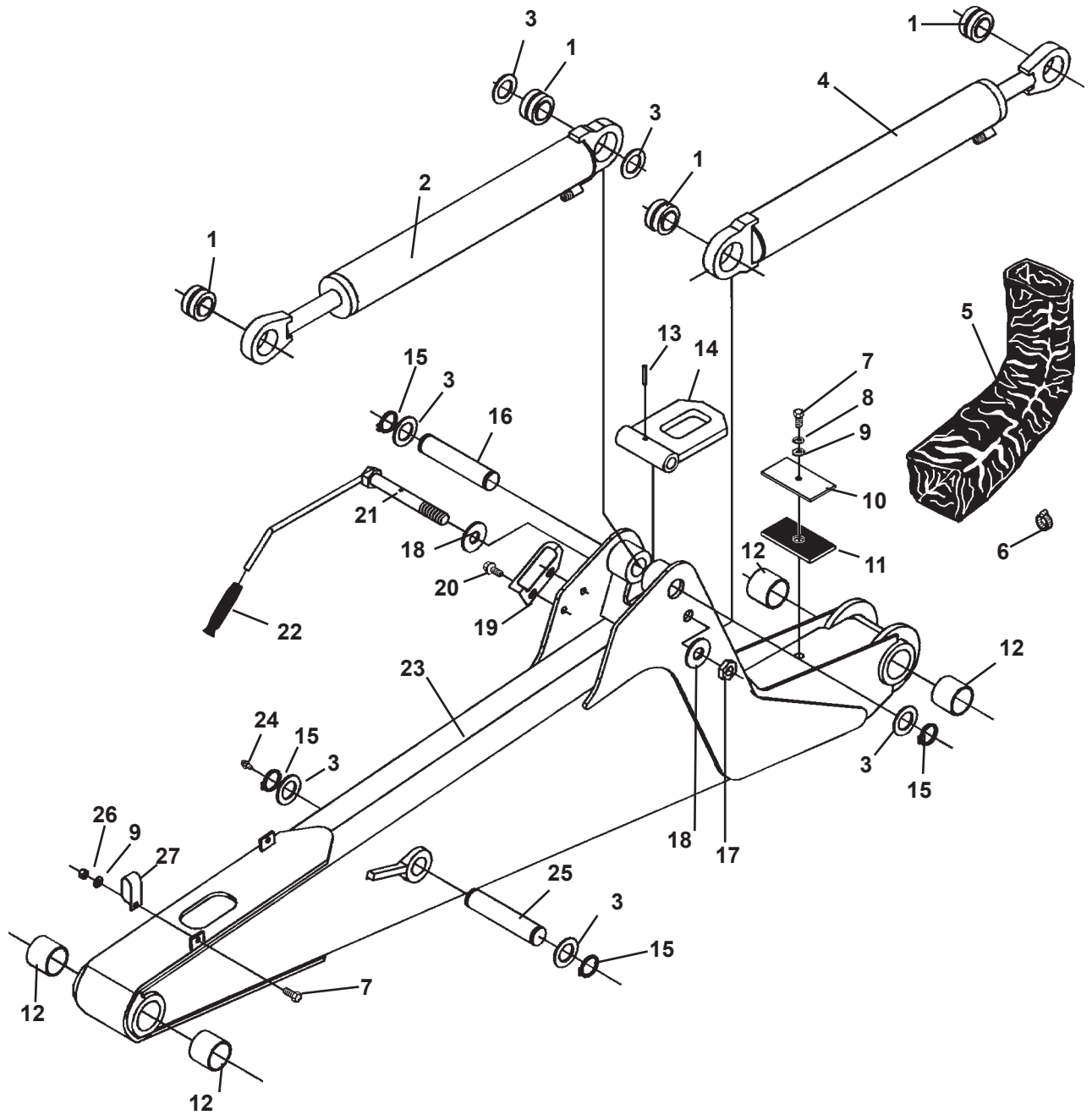
<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	-	6615	Self-Aligning Bushing (Included in Cylinder Assembly)
2	1	82477	Bucket Cylinder Assembly
	2	6616	Grease Zerk
3	2	3269	Straight Adapter
4	6	1650	Snap Ring
5	As Req'd	6623	Thrust Washer 1.38" X .031
	As Req'd	64724	Thrust Washer 1.38" X .090
	As Req'd	64725	Thrust Washer 1.38" X .125
6	1	86226	Pivot Pin
7	1	86225	Pivot Pin
8	6	6616	Grease Zerk
9	1	1651	Snap Ring
10	As Req'd	6622	Thrust Washer 1.75 X .082
11	-	82402	Bushing (Included in Dipper Assembly) (Install with Locktite Grade 680)
12	1	86227	Pivot Pin
13	1	86149	Spacer Tube
14	1	1516	.50" Flat Washer
15	1	1090	.50" UNC X 1.50" Hex Capscrew
16	1	86164	Dipper Assembly (Includes (2) 82402 and (2) 81610 Bushings) (Installed with Locktite Grade 680)
17	1	84914	Dipper Link Plate
18	-	81610	Bushing (Included in Dipper Assembly) (Install with Locktite Grade 680)
19	1	83428	Dipper Link
20	-	81828	Bushing (Included in Bucket Link UP TO SN#292)
21	-	83369	Spacer Tube (Included in Bucket Link UP TO SN#292)
22	1	82523	Bucket Link (UP TO SN#292 Included (2) 81610 Bushings, (4) 81828 Bushings, (1) 83368 Spacer and (2) 83369 Spacers.)
23	-	81610	Bushing (Included in Bucket Link UP TO SN#292)
24	-	83368	Bushing (Included in Bucket Link UP TO SN#292)
25	2	1613	Cotter Pin
26	1	82580	Pivot Pin
27	1	82595	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.**

511 BOOM & DIPPER ASSEMBLY

ASSEMBLY #86981



511 BOOM & DIPPER ASSEMBLY

ASSEMBLY #86981

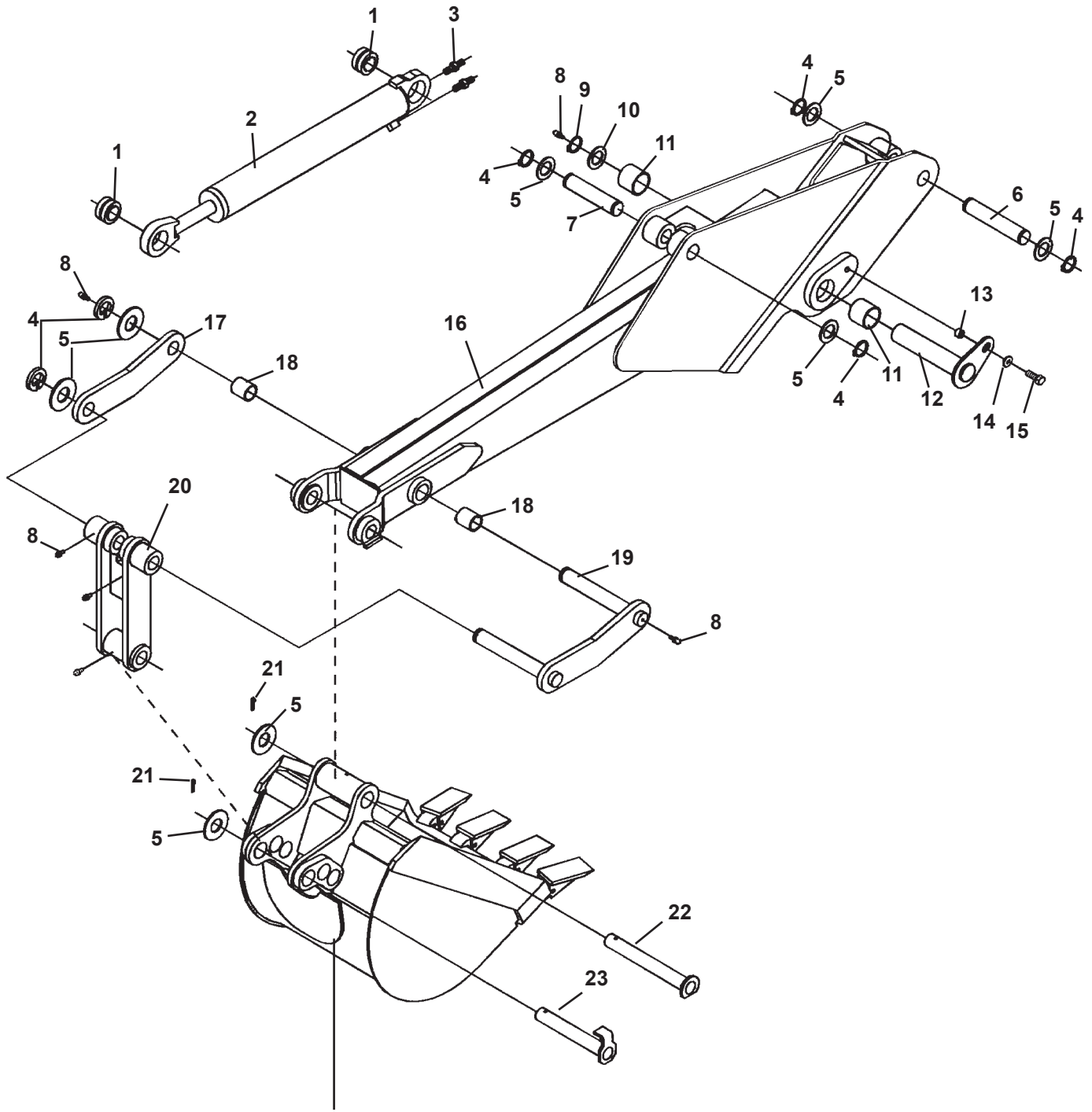
<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	-	6615	Self Aligning Bushing (Included in Cylinder Assemblies)
2	1	87029	Dipper Cylinder Assembly
	2	6616	Grease Zerk
3	As Req'd	6623	Thrust Washer 1.38" x .031
	As Req'd	64724	Thrust Washer 1.38" x .090
	As Req'd	64725	Thrust Washer 1.38" x .125
4	1	82625	Boom Cylinder Assembly
	2	6616	Grease Zerk
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	3	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	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	Pivot Pin
26	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.

511 BOOM & DIPPER ASSEMBLY

ASSEMBLY #86981



BUCKET
(NOT INCLUDED IN BOOM AND DIPPER ASSEMBLY.)

511 BOOM & DIPPER ASSEMBLY

ASSEMBLY #86981

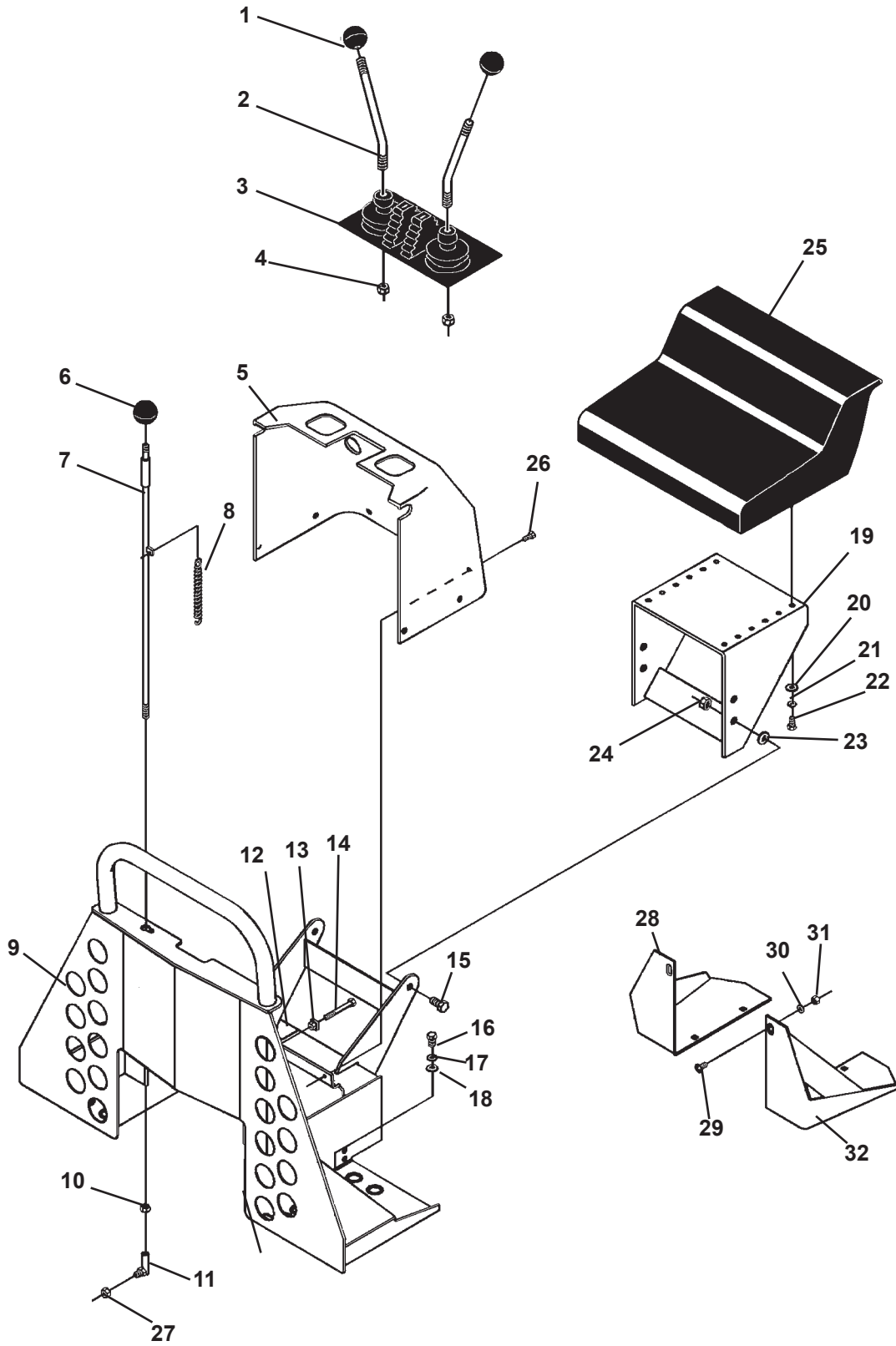
<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	-	6615	Self-Aligning Bushing (Included in Cylinder Assembly)
2	1	82477	Bucket Cylinder Assembly
	2	6616	Grease Zerk
3	2	3269	Straight Adapter
4	6	1650	Snap Ring
5	As Req'd	6623	Thrust Washer 1.38" X .031
	As Req'd	64724	Thrust Washer 1.38" X .090
	As Req'd	64725	Thrust Washer 1.38" X .125
6	1	86226	Pivot Pin
7	1	86225	Pivot Pin
8	6	6616	Grease Zerk
9	1	1651	Snap Ring
10	As Req'd	6622	Thrust Washer 1.75 X .082
11	-	82402	Bushing (Included in Dipper Assembly) (Install with Locktite Grade 680)
12	1	86227	Pivot Pin
13	1	86149	Spacer Tube
14	1	1516	.50" Flat Washer
15	1	1090	.50" UNC X 1.50" Hex Capscrew
16	1	86983	Dipper Assembly (Includes (2) 82402 and (2) 81610 Bushings) (Installed with Locktite Grade 680)
17	1	84914	Dipper Link Plate
18	-	81610	Bushing (Included in Dipper Assembly) (Install with Locktite Grade 680)
19	1	83428	Dipper Link
20	1	82523	Bucket Link
21	2	1613	Cotter Pin
22	1	82580	Pivot Pin
23	1	82595	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.

CONSOLE ASSEMBLY

ASSEMBLY #87442



CONSOLE ASSEMBLY

ASSEMBLY #87442

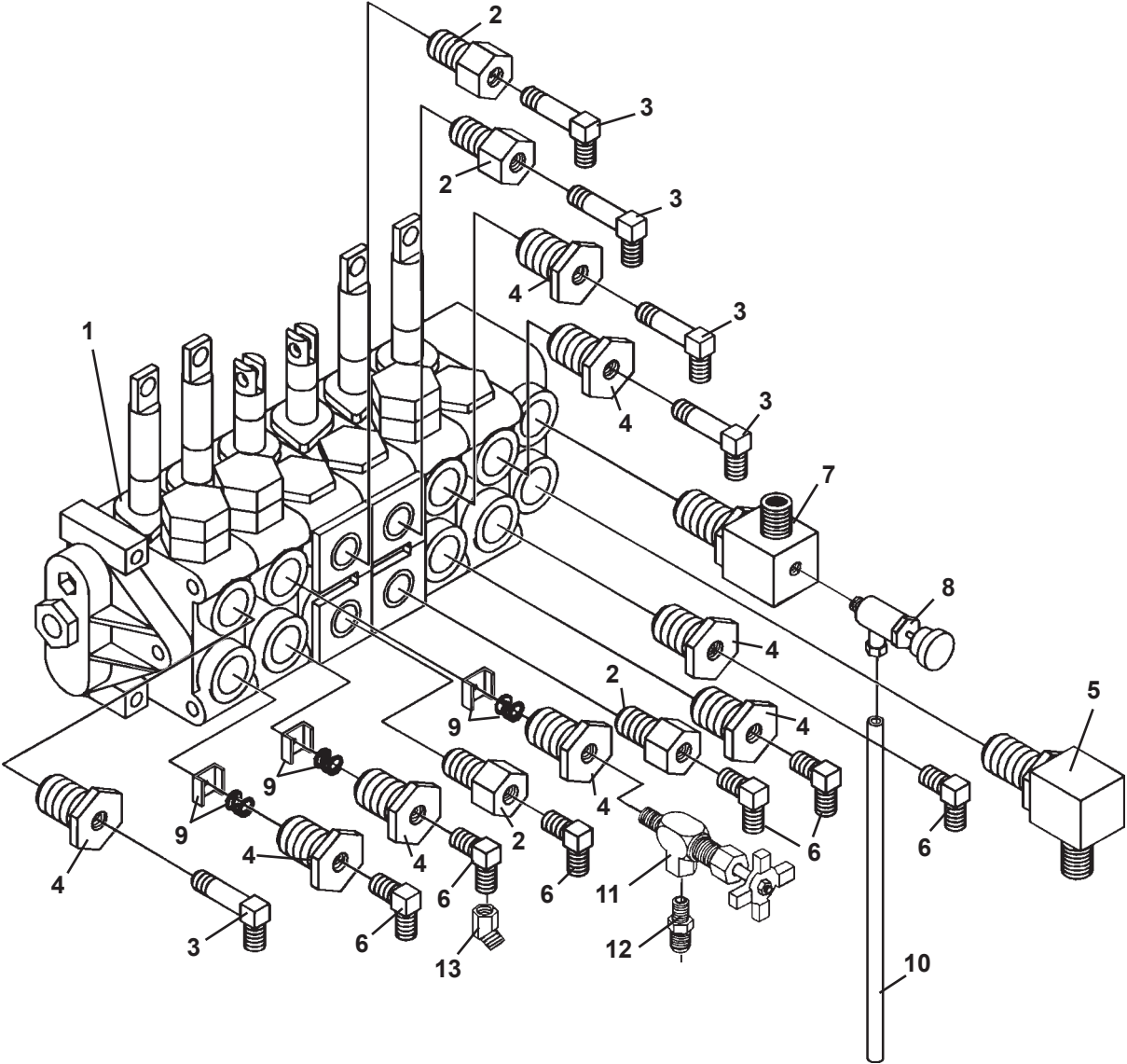
<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	2	83063	Ball Handle
2	2	81871	Control Handle
3	1	83235	Control Lever Boot
4	2	1242	.50" UNC Jam Nut
5	1	83409	Console Cover with Decals
6	1	83406	Ball Handle - RED
7	1	83273	Rod
8	1	82795	Spring
9	1	87288	Console
10	1	1476	.38-24" UNF Jam Nut
11	1	5545	Balljoint
12	1	87147	Cover Plate
	2	1958	.25" UNC X .75" Hex Head Body Bolt
13	3	1926	.31" UNC U-Nut
14	3	1029	.31" UNC X 2.75" Hex Capscrew
15	2	1089	.50" UNC X 1.25" Hex Capscrew
16	4	1042	.38" UNC X .75" Hex Capscrew
17	4	1503	.38" Lock Washer
18	4	1514	.38" Flat Washer
19	1	82999	Seat Mounting
20	4	1513	.31" Flat Washer
21	4	1502	.31" Lock Washer
22	4	1021	.31" UNC X .75" Hex Capscrew
23	2	1516	.50" Flat Washer
24	2	1542	.50" UNC Lock Nut
25	1	6980	Seat
26	6	1958	.25" UNC X .75" Hex Head Body Bolt
27	1	1592	.38" UNF Lock Nut

Replacement Bolt-On Steps for units built before June 1, 1999

28	1	82818	Right Step (Located in Mainframe Assembly)
29	6	1925	.31" UNC X .75" Carriage Bolt
30	6	1502	.31" Lock Washer
31	6	1225	.31" UNC Hex Nut
32	1	82819	Left Step (Located in Mainframe Assembly)

VALVE ASSEMBLY

ASSEMBLY #2237



VALVE ASSEMBLY

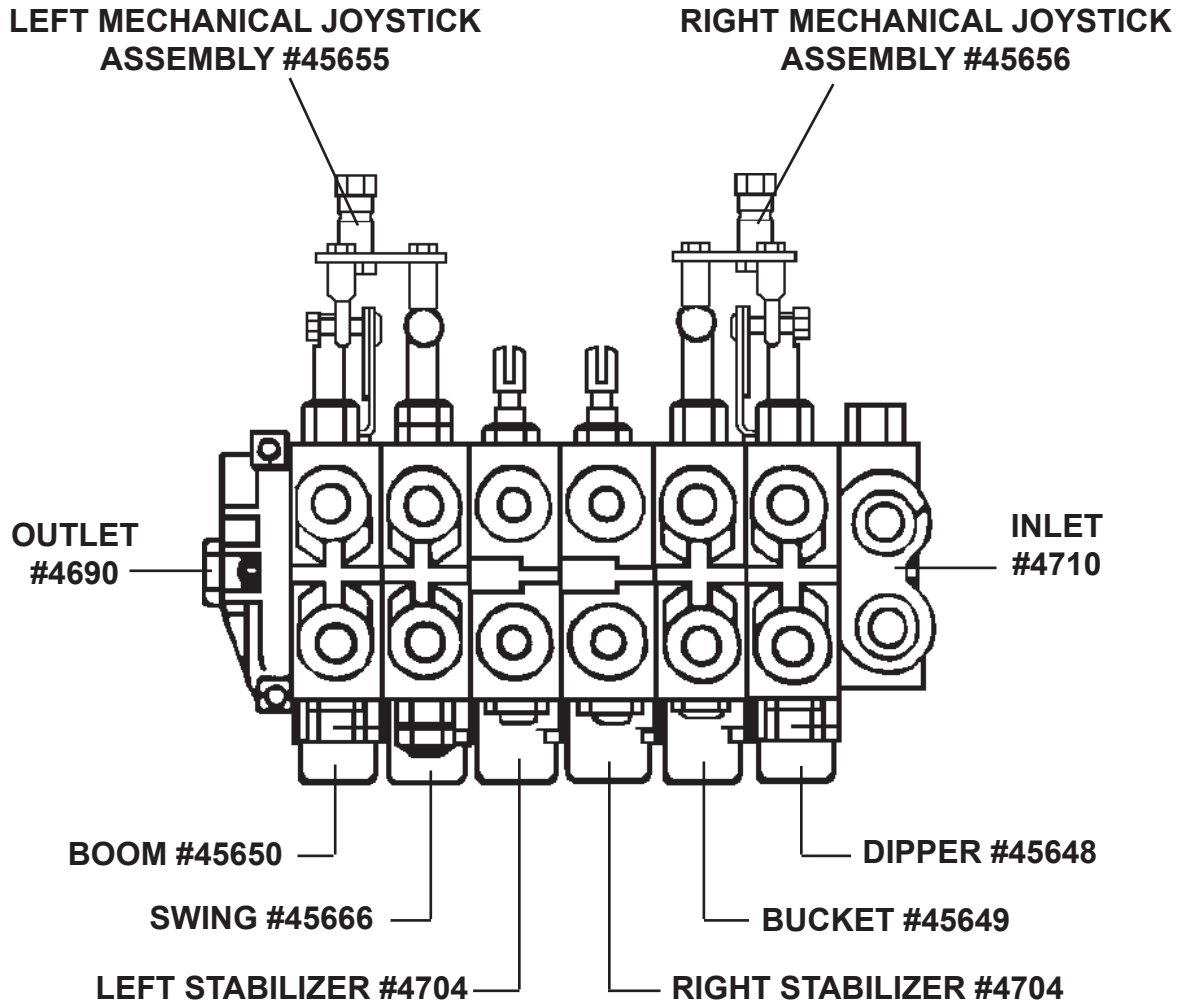
ASSEMBLY #2237

<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	82608	Gresen Valve - 6 Spool
2	4	3368	O'Ring Adapter 8MBo-4FP
3	5	3088	90° Adapter 4MP-6MJ
4	8	3336	O'Ring Adapter 10MBo-4FP
5	1	3283	90° Adapter 10MBo-8MJ
6	6	3001	90° Adapter 4MP-6MJ
7	1	82094	Special Fitting
8	1	3360	Needle Valve
9	-	45643	Restrictor with Spring - .109 Dia. Orifice (Included in Valve)
10	1	37578	Plastic Tube .25" X 30" (Located in Console Assembly)
11	1	3185	Needle Valve
12	1	3137	Male Connector 4MP-6MJ
13	1	3469	45° Elbow 6MP-6FJX (Located in Mainframe Assembly #87446 and used on backhoes with SN #---11640 & UP)

**THIS PAGE
IS INTENTIONALLY
BLANK**

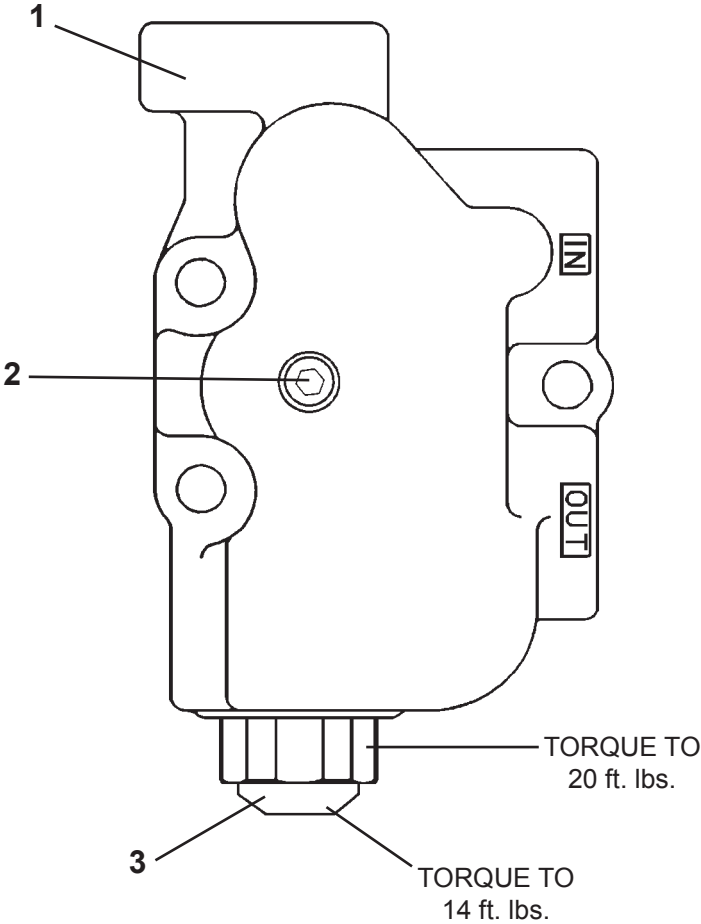
VALVE ASSEMBLY

509, 511, 609 & 611 BACKHOE VALVE ASSEMBLY



VALVE ASSEMBLY

GRESEN INLET COVER



VALVE ASSEMBLY
GRESEN INLET COVER

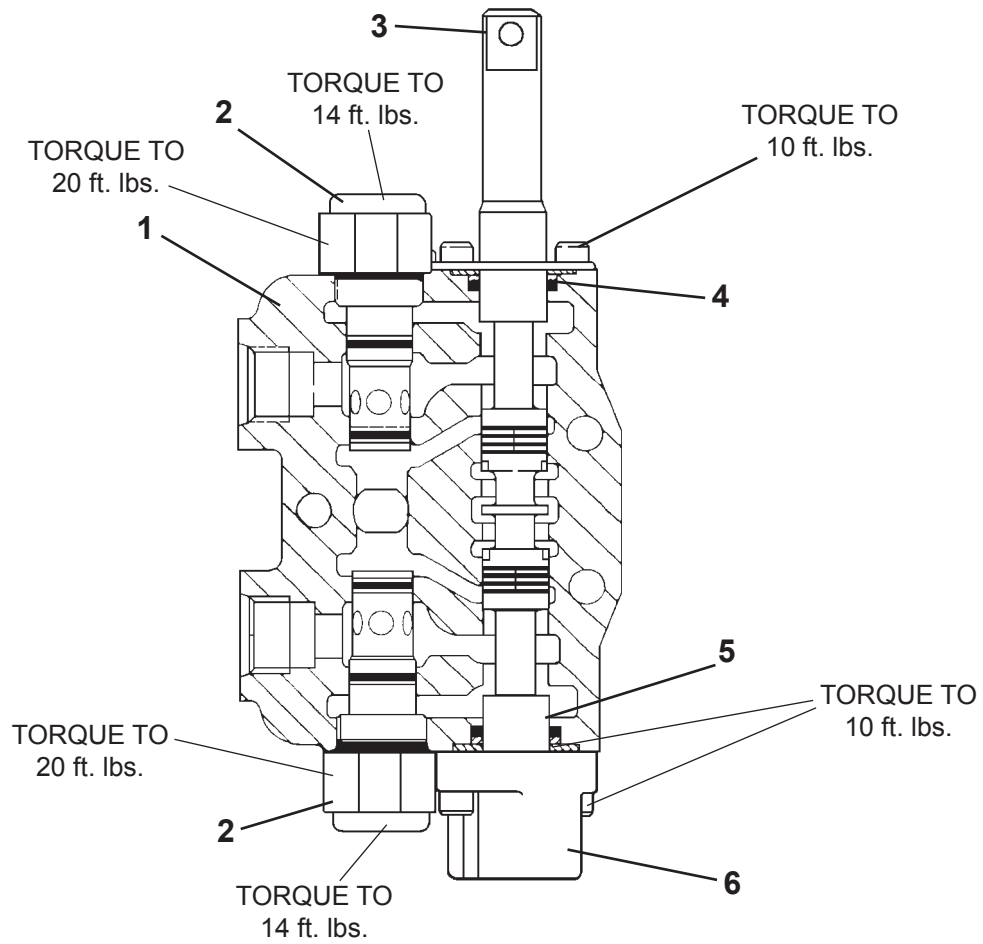
<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	4710	Inlet Cover #10 Ports
2	1	3156	Plug
3	1	45625	WH Main Relief Valve Assembly @ 2500 PSI

VALVE ASSEMBLY

GRESEN VALVE SECTION ASSEMBLY #45648

408 Dipper & Bucket Section

509, 511, 609, & 611 Dipper Section



VALVE ASSEMBLY

GRESEN VALVE SECTION ASSEMBLY #45648

408 Dipper & Bucket Section

509, 511, 609, & 611 Dipper Section

<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1		Valve Section Housing
2	2	45667	Cylinder Port Relief Assembly @ 2500 PSI
3	1	45653	Spool Clevis Adapter
4	2	45652	Spool Seal Kit
5	1		Spool
6	1	45282	Spool Positioner Assembly

INCLUDED IN VALVE ASSEMBLY BUT NOT IN VALVE SECTION

1		45546	Restrictor with Spring - .095 Dia. Orifice (Used in 408 Dipper Section - Top Port)
1		45633	Restrictor with Spring - .076 Dia. Orifice (Used in 408 Bucket Section - Bottom Port)

NOTES:

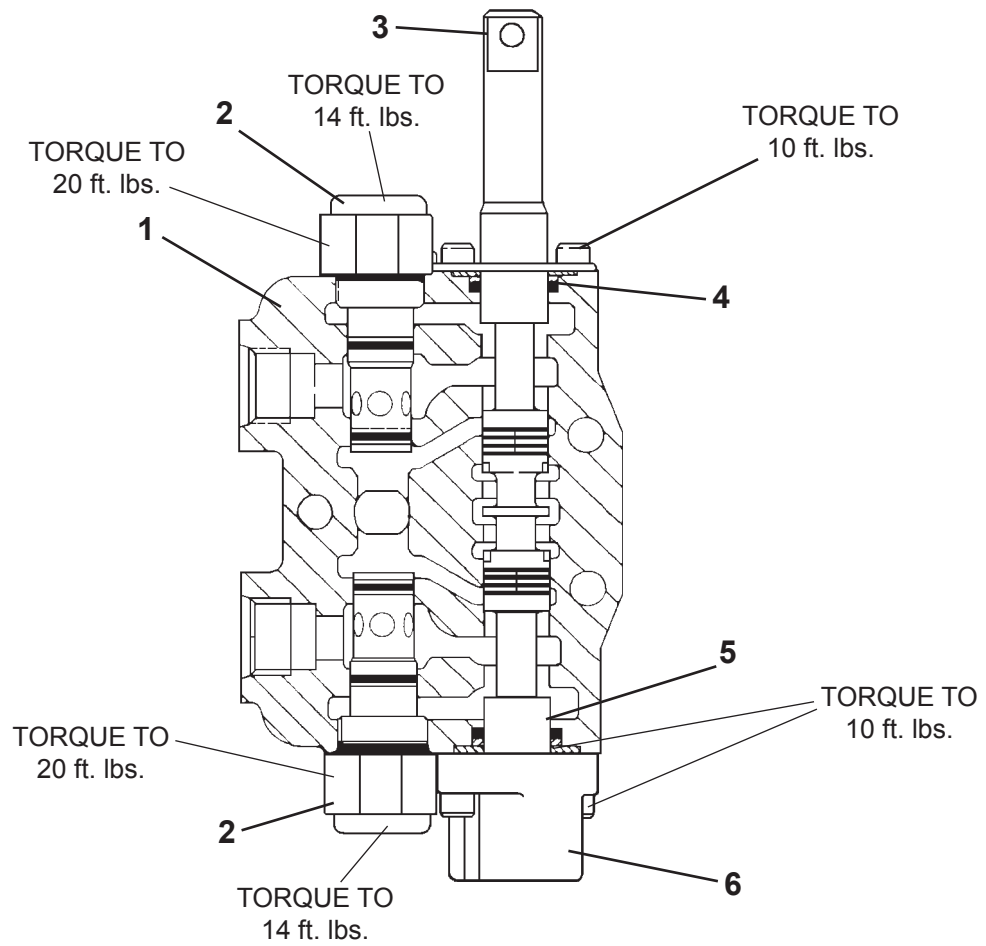
Items without part numbers are not sold separately.

Valve Section Seal Kit #4653 contains (3) Exhaust Passage O-Ring Seals and
2) Pressure Passage O-Ring Seals.

Complete Section Service Seal Kit #4719 includes ALL seals needed to service one
complete valve section.

VALVE ASSEMBLY

GRESEN VALVE SECTION ASSEMBLY #45649
509, 511, 609, & 611 Bucket Section



VALVE ASSEMBLY

GRESEN VALVE SECTION ASSEMBLY #45649

509, 511, 609, & 611 Bucket Section

<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1		Valve Section Housing
2	1	45669	Cylinder Port Relief Assembly @ 3500 PSI
3	1	45653	Spool Clevis Adapter
4	2	45652	Spool Seal Kit
5	1		Spool
6	1	45282	Spool Positioner Assembly
7	1	4673	Load Check Plug Assembly

NOTES:

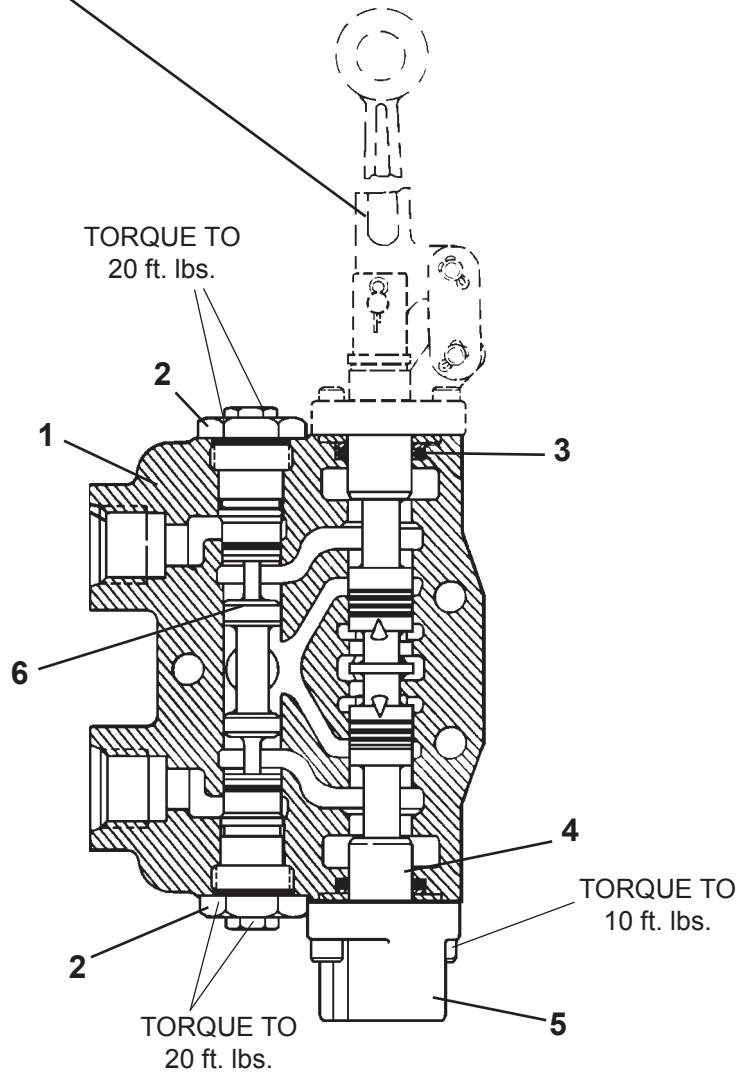
Items without part numbers are not sold separately.

Valve Section Seal Kit #4653 contains (3) Exhaust Passage O-Ring Seals and (2) Pressure Passage O-Ring Seals.

Complete Section Service Seal Kit #4719 includes ALL seals needed to service one complete valve section.

VALVE ASSEMBLY
GRESEN VALVE STABILIZER SECTION
ASSEMBLY #4704

Horizontal Handle Assembly #45586
(Not included in Valve Section Assembly #4704)



VALVE ASSEMBLY
GRESEN VALVE STABILIZER SECTION
ASSEMBLY #4704

<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1		Valve Section Housing
2	2	4819	Lockout Check Assembly
3	2	45652	Spool Seal Kit
4	1		Spool
5	1	45282	Spool Positioner Assembly
6	1	45654	Unlocking Piston

NOTES:

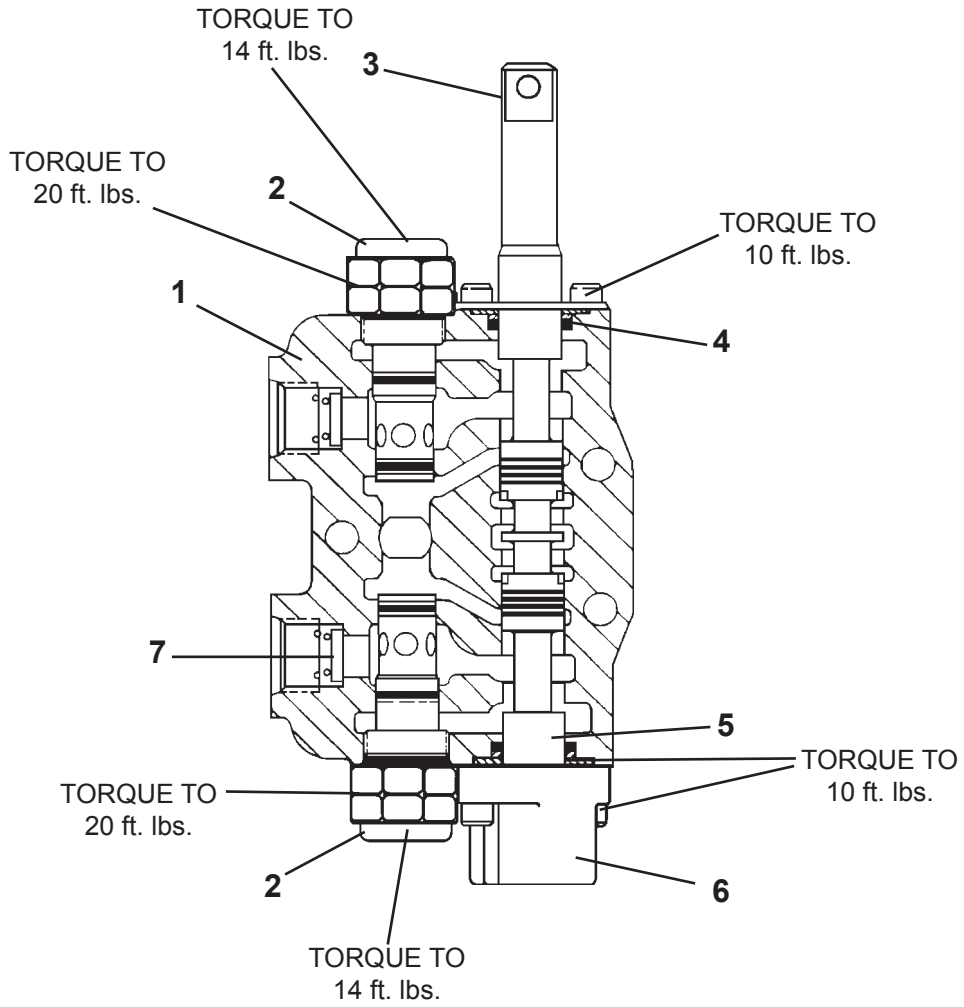
Items without part numbers are not sold separately.

Valve Section Seal Kit #4653 contains (3) Exhaust Passage O-Ring Seals and (2) Pressure Passage O-Ring Seals.

Complete Section Service Seal Kit #4719 includes ALL seals needed to service one complete valve section.

VALVE ASSEMBLY

GRESEN VALVE SECTION ASSEMBLY #45666
509, 511, 609, & 611 Swing Section



VALVE ASSEMBLY

GRESEN VALVE SECTION ASSEMBLY #45666

509, 511, 609, & 611 Swing Section

<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1		Valve Section Housing
2	2	45670	Cylinder Port Relief / Anti-Cav. Check Assembly @ 2500 PSI
3	1	45653	Spool Clevis Adapter
4	2	45652	Spool Seal Kit
5	1		Spool
6	1	45282	Spool Positioner Assembly
7	2	45633	Port Restrictor with Spring .076 Dia. Orifice

NOTES:

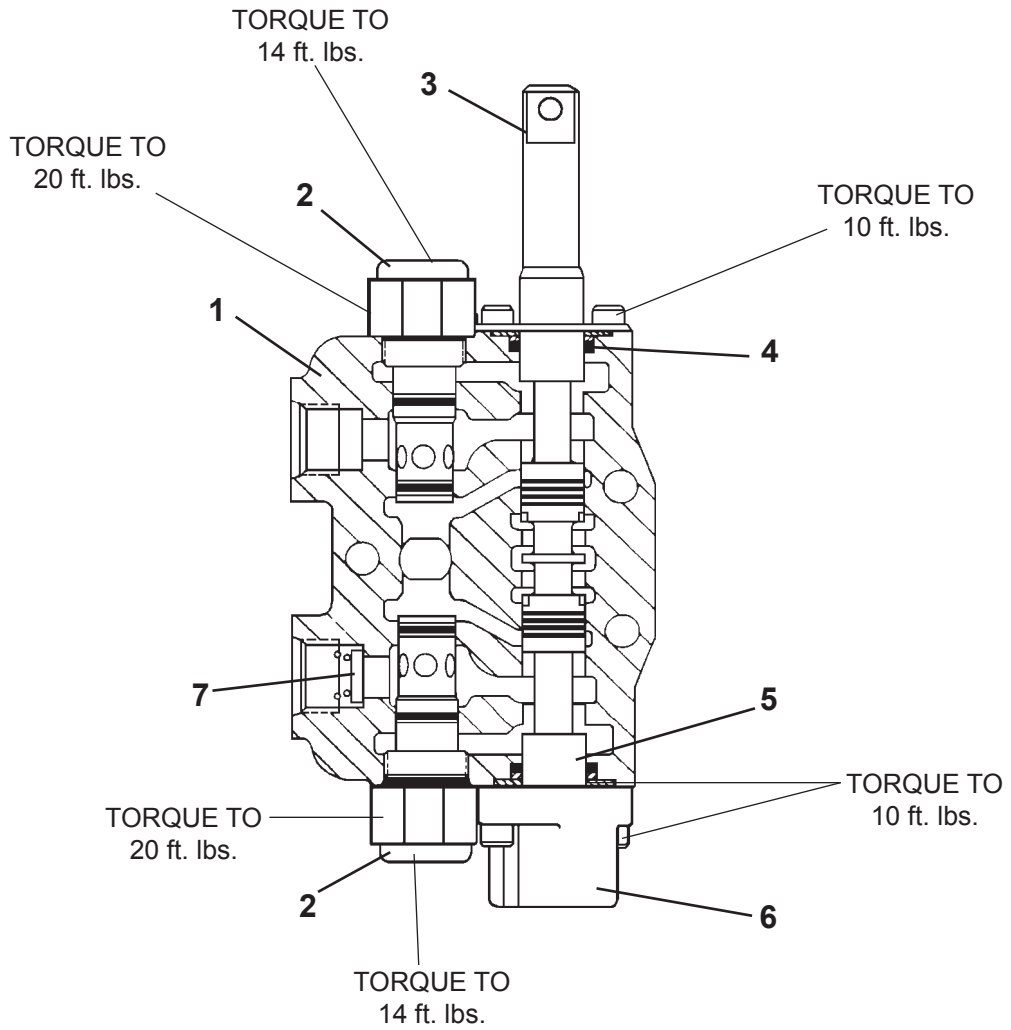
Items without part numbers are not sold separately.

Valve Section Seal Kit #4653 contains (3) Exhaust Passage O-Ring Seals and (2) Pressure Passage O-Ring Seals.

Complete Section Service Seal Kit #4719 includes ALL seals needed to service one complete valve section.

VALVE ASSEMBLY

GRESEN VALVE SECTION ASSEMBLY #45650
509, 511, 609, & 611 Boom Section



VALVE ASSEMBLY

GRESEN VALVE SECTION ASSEMBLY #45650

509, 511, 609, & 611 Boom Section

<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1		Valve Section Housing
2	2	45668	Cylinder Port Relief Assembly @ 3000 PSI
3	1	45653	Spool Clevis Adapter
4	2	45652	Spool Seal Kit
5	1		Spool
6	1	45282	Spool Positioner Assembly
7	2	45643	Port Restrictor with Spring .109 Dia. Orifice

NOTES:

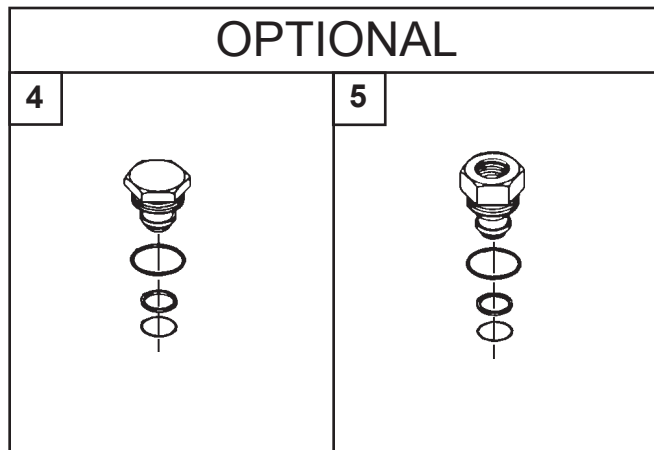
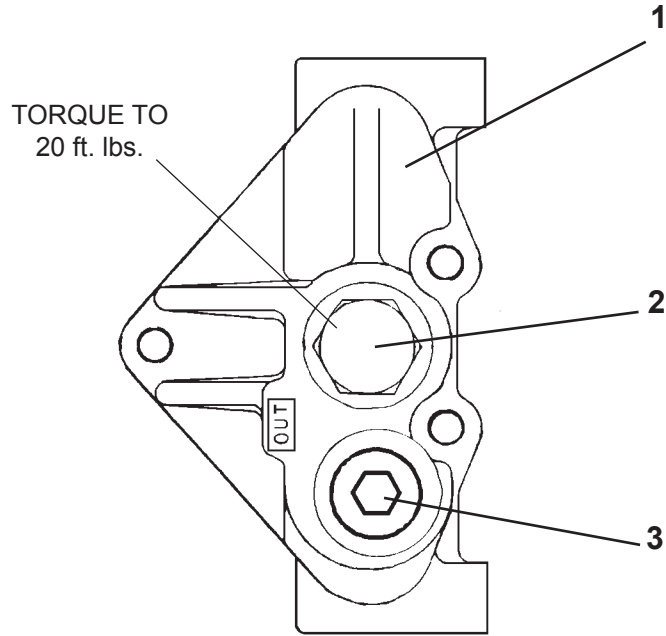
Items without part numbers are not sold separately.

Valve Section Seal Kit #4653 contains (3) Exhaust Passage O-Ring Seals and (2) Pressure Passage O-Ring Seals.

Complete Section Service Seal Kit #4719 includes ALL seals needed to service one complete valve section.

VALVE ASSEMBLY

GRESEN OUTLET COVER



TORQUE TO 20 ft. lbs.

VALVE ASSEMBLY

GRESEN OUTLET COVER

<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	4690	Outlet Cover
2	1	4691	Open Center Plug Assembly (Includes Open Center Plug & Main O-Ring Seal #4693)
3	1	3234	Plug

OPTIONAL

4	-	6977	Closed Center Plug Assembly (Includes Main O-Ring Seal #4693)
5	-	4698	Power Beyond Sleeve Assembly (Includes Main O-Ring Seal #4693)

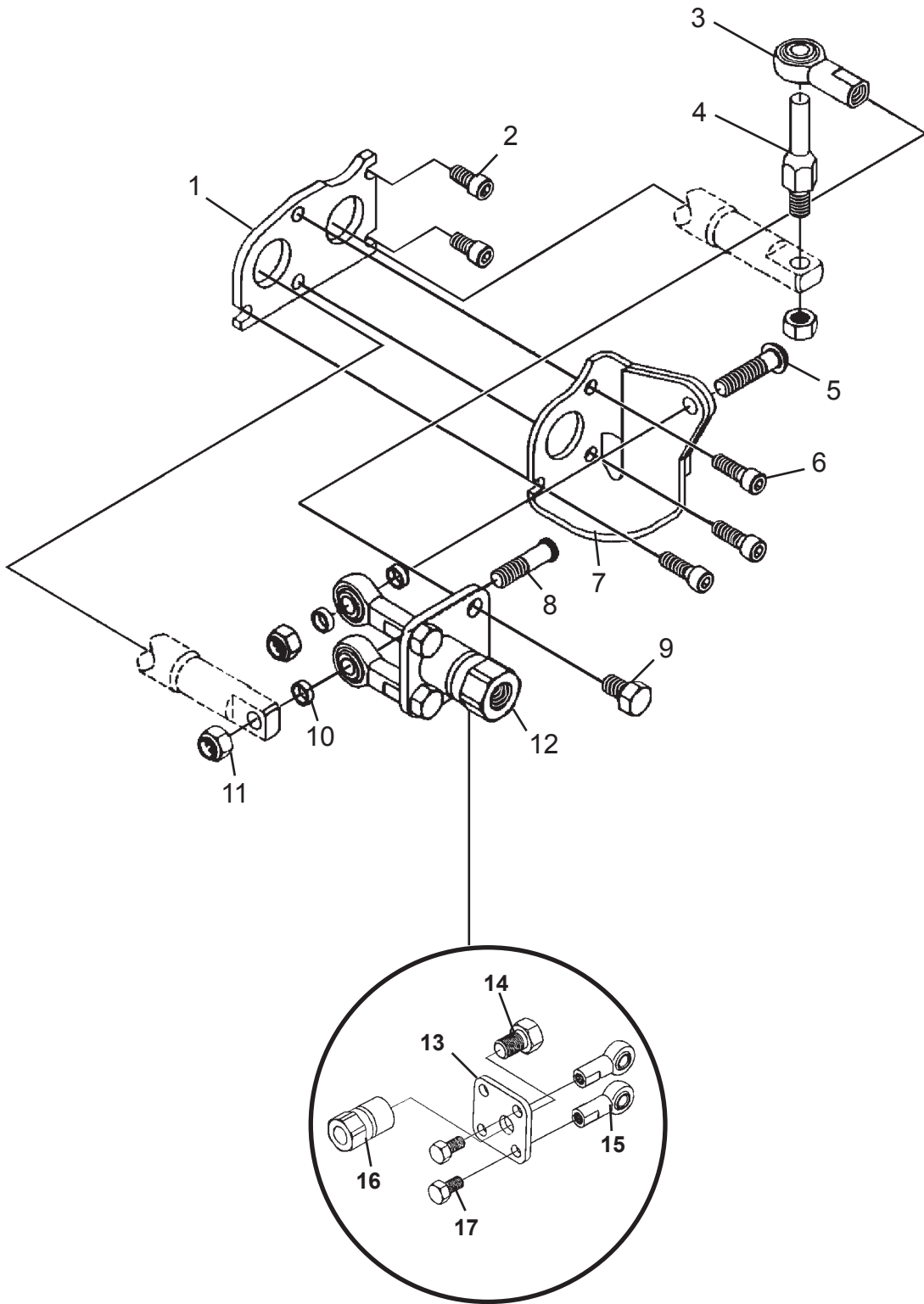
NOTES:

Valve Section Seal Kit #4653 contains (3) Exhaust Passage O-Ring Seals and (2) Pressure Passage O-Ring Seals.

VALVE ASSEMBLY

LEFT MECHANICAL JOYSTICK ASSEMBLY #45655

RIGHT MECHANICAL JOYSTICK ASSEMBLY #45656



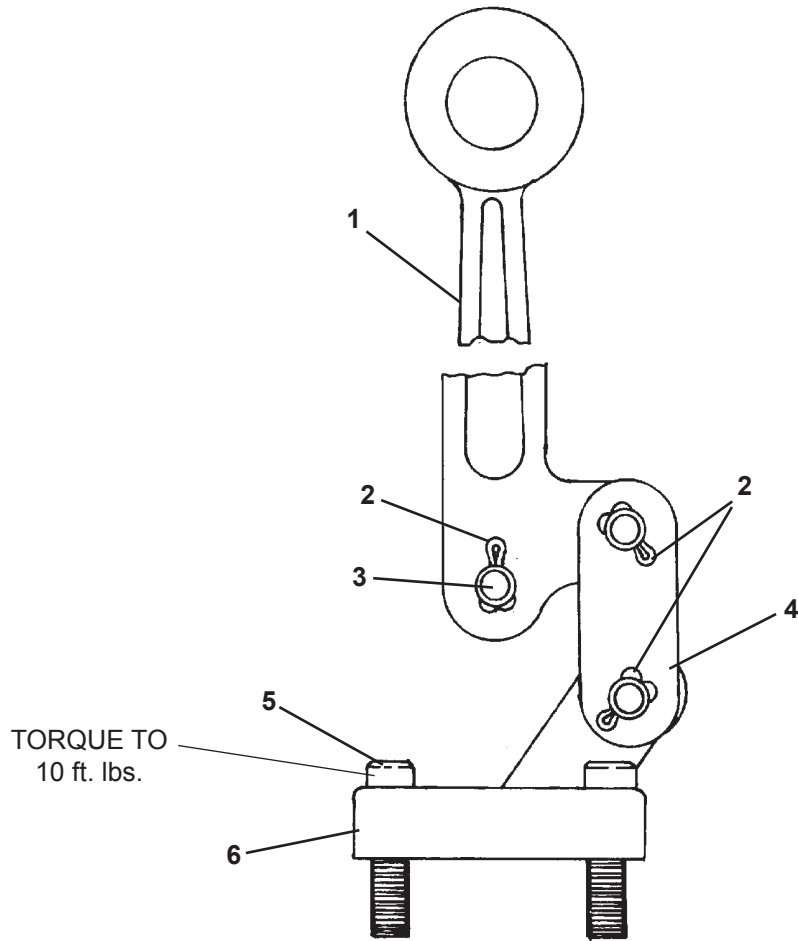
VALVE ASSEMBLY

LEFT MECHANICAL JOYSTICK ASSEMBLY #45655
RIGHT MECHANICAL JOYSTICK ASSEMBLY #45656

<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	45657	Mounting Plate
2	2	1943	Screw
3	1	45664	Rod End
4	1	45662	Mechanical Slide
5	1	1945	Screw
6	3	1944	Screw
7	1	45658	Bracket - Left
	1	45659	Bracket - Right
8	1	45661	Rod End Stud
9	1	1271	Screw
10	3	45660	Spacer
11	3	1942	Lock Nut
12	1	45663	Handle Plate Assembly (Includes Items #13 through #17)
13	1	45671	Mechanical Joystick Plate
14	1	1087	Screw
15	2	45664	Female Rod End
16	1	45672	Handle Adapter
17	2	1271	Screw

VALVE ASSEMBLY

HORIZONTAL HANDLE AND BRACKET ASSEMBLY #45586



VALVE ASSEMBLY

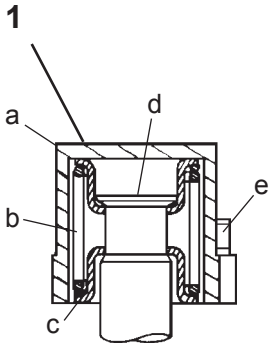
HORIZONTAL HANDLE AND BRACKET ASSEMBLY #45586

<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	*	Handle
2	3	*	Cotter Pin
3	1	*	Pin
4	1	*	Link
	1	*	Link Plate
5	2	*	Screw
6	1	*	Bracket

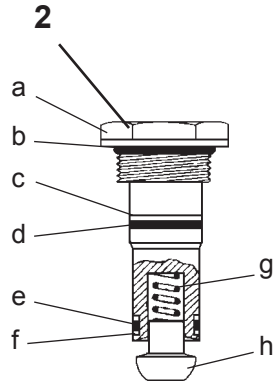
* **NOTE: All parts marked with an asterisk (*) are included in Horizontal Handle and Bracket Assembly #45586. Parts are not sold separately.**

VALVE ASSEMBLY

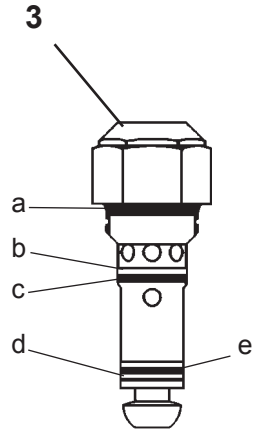
GRESEN VALVE SERVICE PARTS



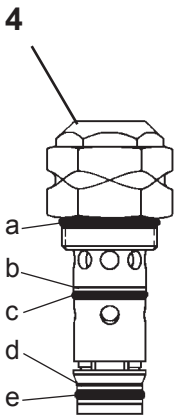
Spool Positioner Assembly



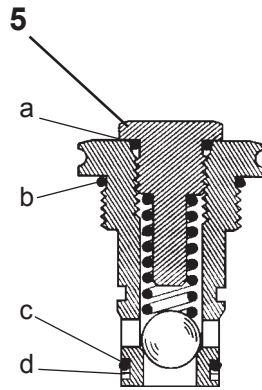
Load Check Plug Assembly



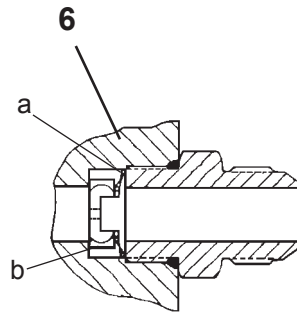
Cylinder Port Relief Assembly



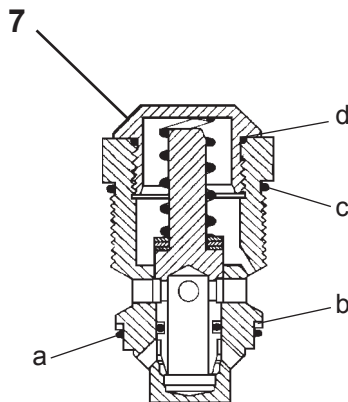
Cylinder Port Relief Assembly



Lockout Check Assembly



Port Restrictor and Spring Assembly



WH Main Relief Valve Assembly

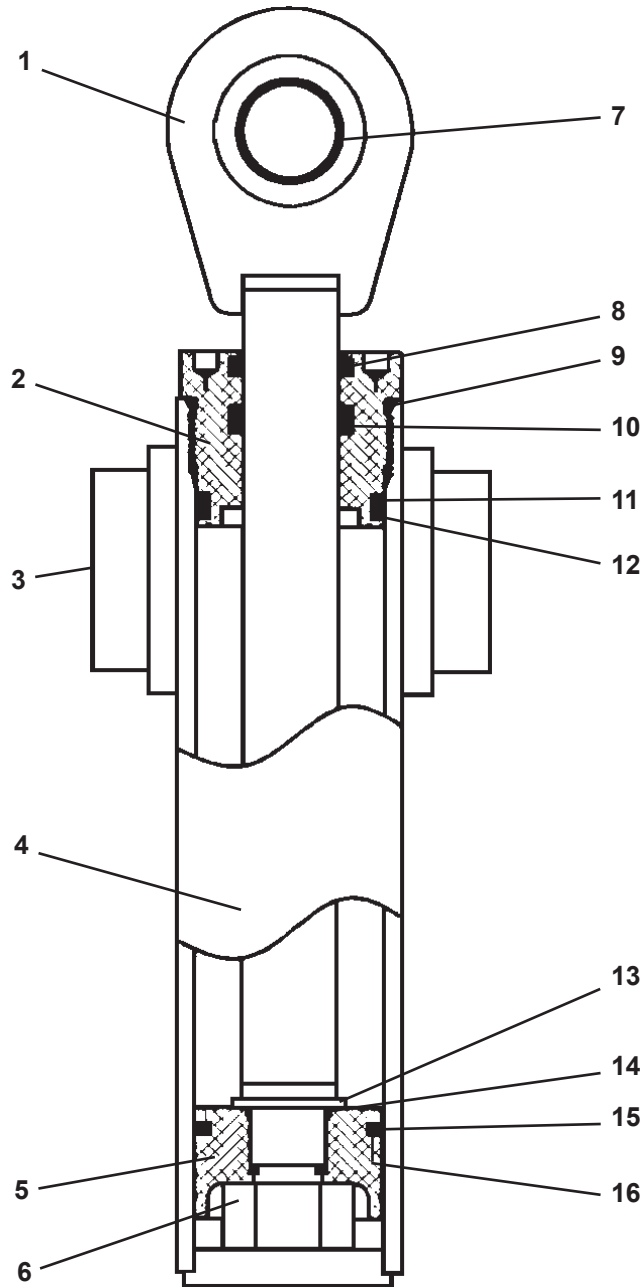
VALVE ASSEMBLY

GRESEN VALVE SERVICE PARTS

<u>NO</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	45282	Spool Positioner Assembly a Bonnet b Spring c Spring Collar d Spool Spud e Screw
2	4673	Load Check Plug Assembly (Seal Kit #4822) a Plug b O-Ring Seal c Backup Ring d O-Ring Seal e Backup Ring f O-Ring Seal g Spring h Poppet
3	45667 45668 45669	Cylinder Port Relief Assembly @ 2500 PSI Cylinder Port Relief Assembly @ 3000 PSI Cylinder Port Relief Assembly @ 3500 PSI (Due to close tolerances only the seals may be serviced in the field.) 4822 Seal Kit a O-Ring Seal b Backup Ring c O-Ring Seal d Backup Ring e O-Ring Seal
4	45670	Relief/Anti-Cav. Check Assembly @ 2500 PSI (Due to close tolerances only the seals may be serviced in the field.) 4822 Seal Kit a O-Ring Seal b Backup Ring c O-Ring Seal d Backup Ring e O-Ring Seal
5	4819	Lockout Check Assembly (Due to close tolerances only the seals may be serviced in the field.) 4829 Seal Kit a O-Ring Seal b Backup Ring c O-Ring Seal d Backup Ring
6	45633 45643	Port Restrictor Assembly .076 Dia. Orifice Port Restrictor Assembly .109 Dia. Orifice a Spring b Orifice Plate
7	45625	WH Main Relief Valve Assembly @ 2500 PSI (Due to close tolerances only the seals may be serviced in the field.) 45142 Seal Kit a O-Ring Seal b Backup Ring c O-Ring Seal d O-Ring Seal

CYLINDER ASSEMBLY

SWING CYLINDER ASSEMBLY #81827

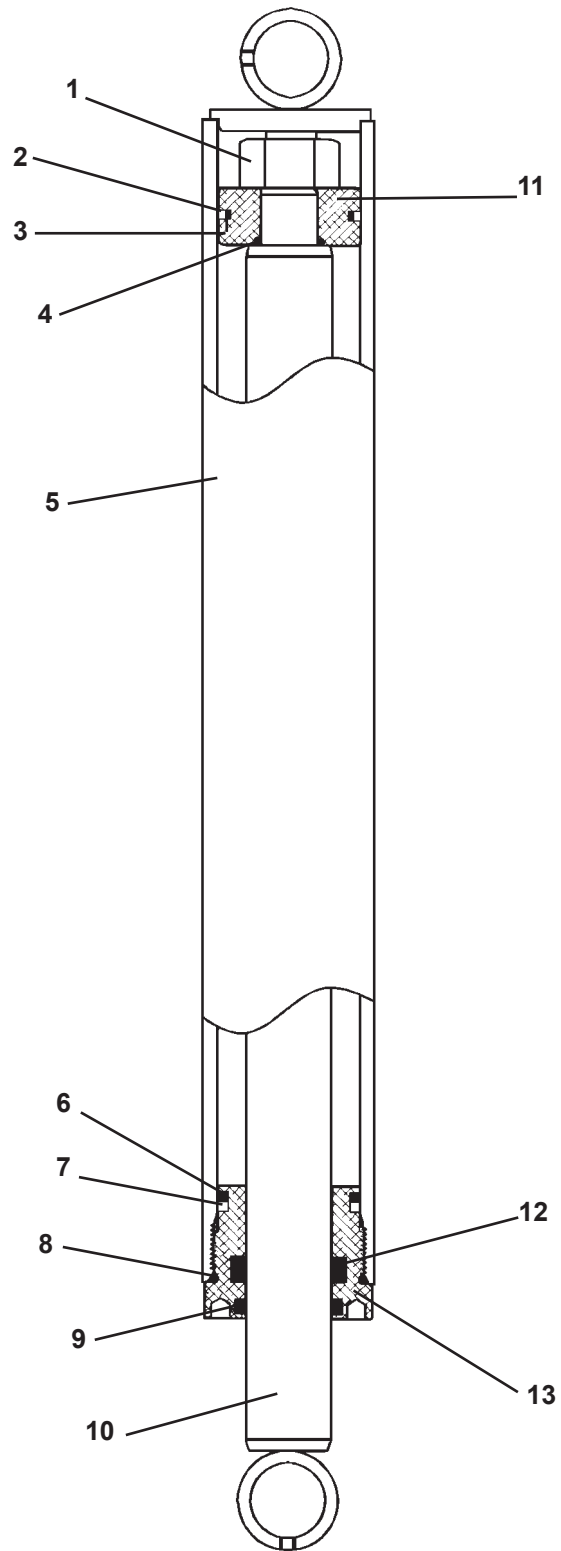


CYLINDER ASSEMBLY
 SWING CYLINDER ASSEMBLY #81827

<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

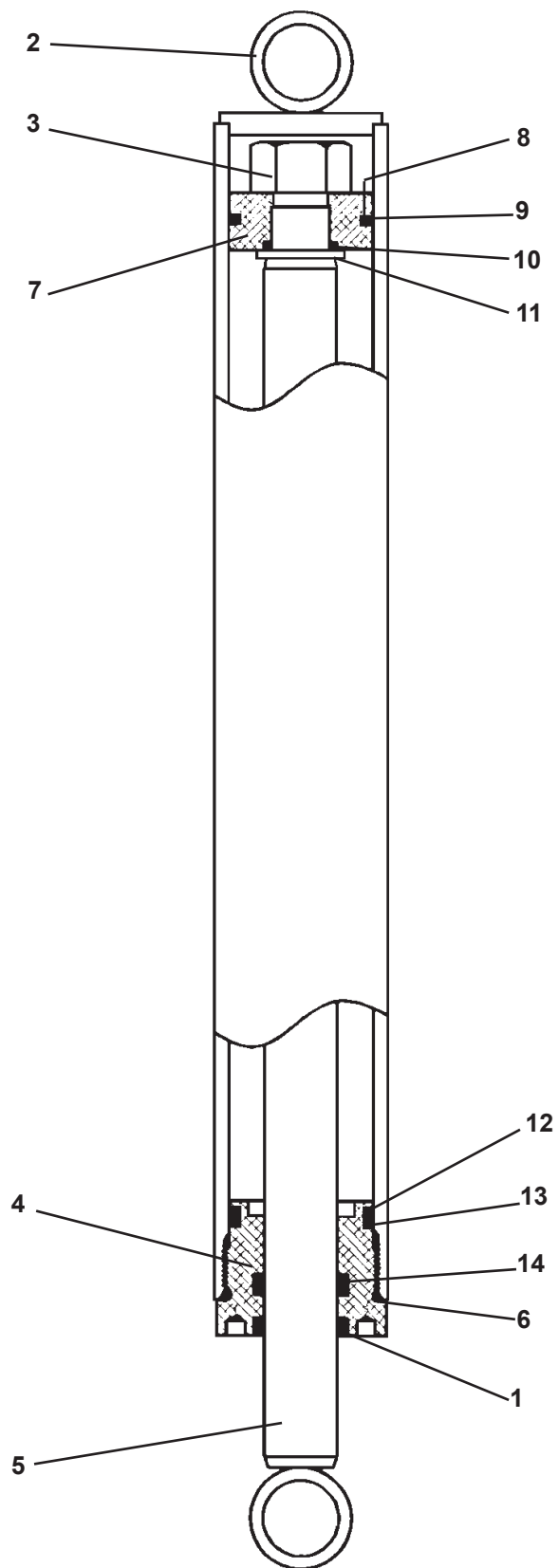
STABILIZER CYLINDER ASSEMBLY #86605
(1.50" DIAMETER CYLINDER ROD)

<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

STABILIZER CYLINDER ASSEMBLY #83397



CYLINDER ASSEMBLY

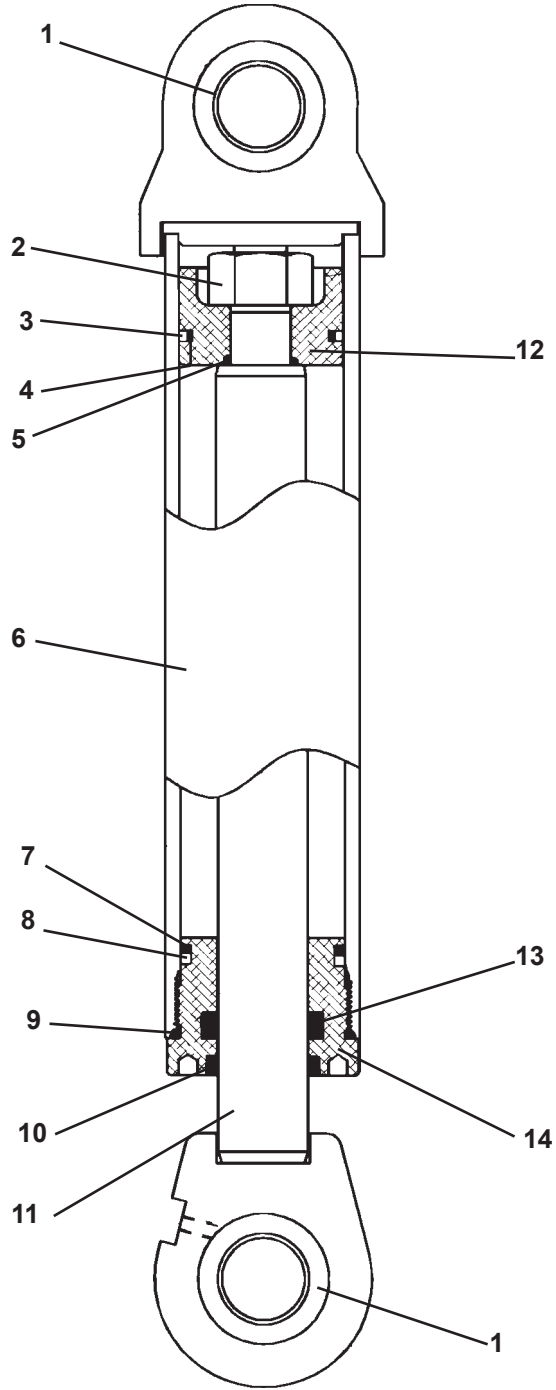
STABILIZER CYLINDER ASSEMBLY #83397
(1.25" DIAMETER CYLINDER ROD)

<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	83398	Cylinder Tube
2	1	1483	Hex Nut
3	1	50252	Piston
4	1	77458	Cylinder Gland
5	1	83399	Cylinder Rod
6	1	4645*	O'Ring
7	1	4644*	Piston Ring
8	1	4641*	O'Ring
9	1	5421	Washer
10	1	4509*	O'Ring
11	1	4510*	Back-Up Ring
12	1	45219*	Poly Pak Seal
13	1	45250*	O'Ring
14	1	45389*	Rod Wiper

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

CYLINDER ASSEMBLY

509 BOOM CYLINDER ASSEMBLY #86231



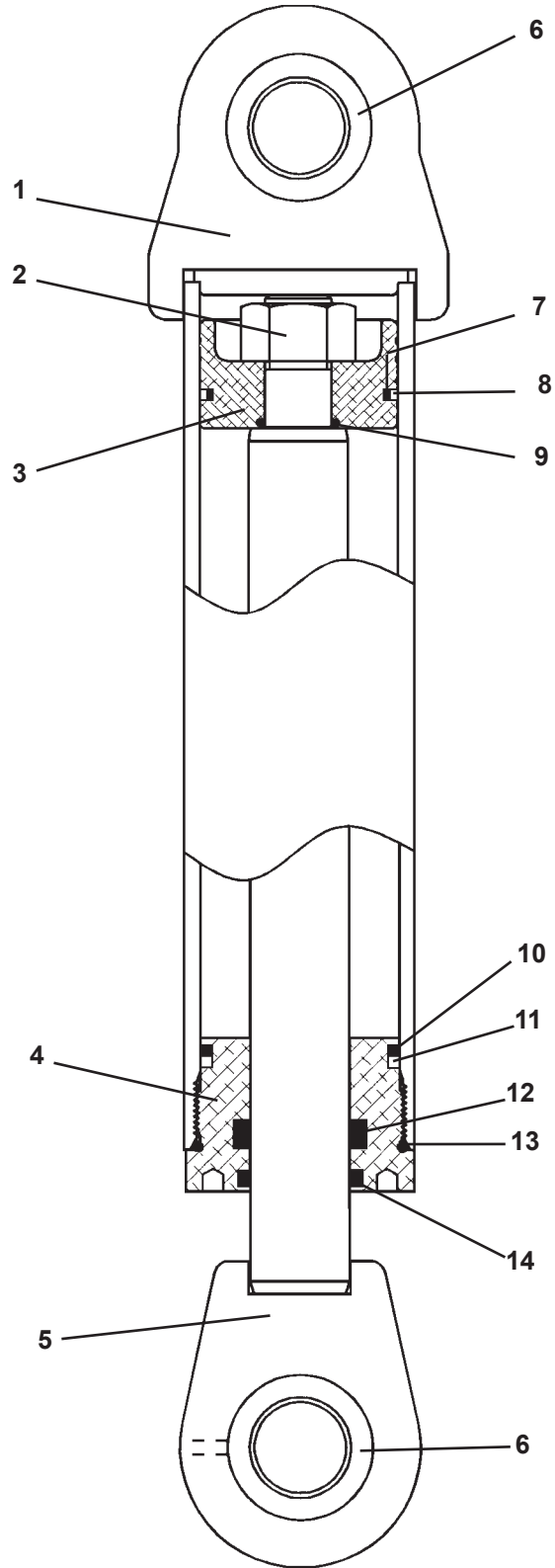
CYLINDER ASSEMBLY
509 BOOM CYLINDER ASSEMBLY #86231

<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

511 & 609 BOOM CYLINDER ASSEMBLY #82625



CYLINDER ASSEMBLY

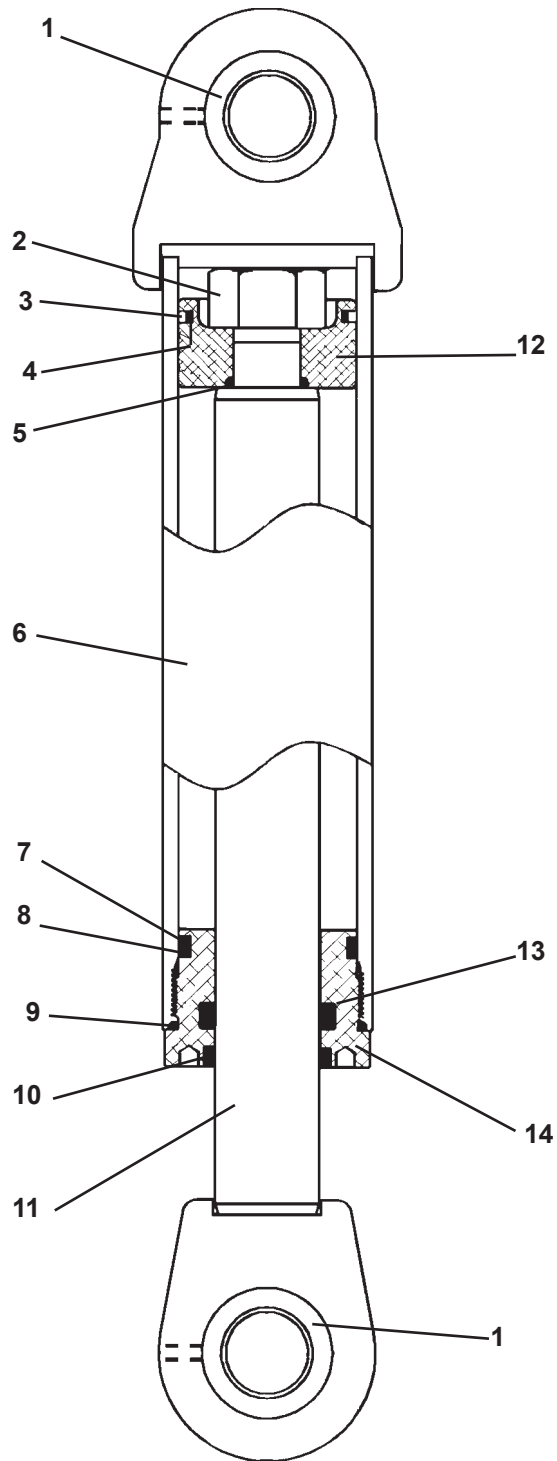
511 & 609 BOOM CYLINDER ASSEMBLY #82625

<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

509 DIPPER CYLINDER ASSEMBLY #86236



CYLINDER ASSEMBLY

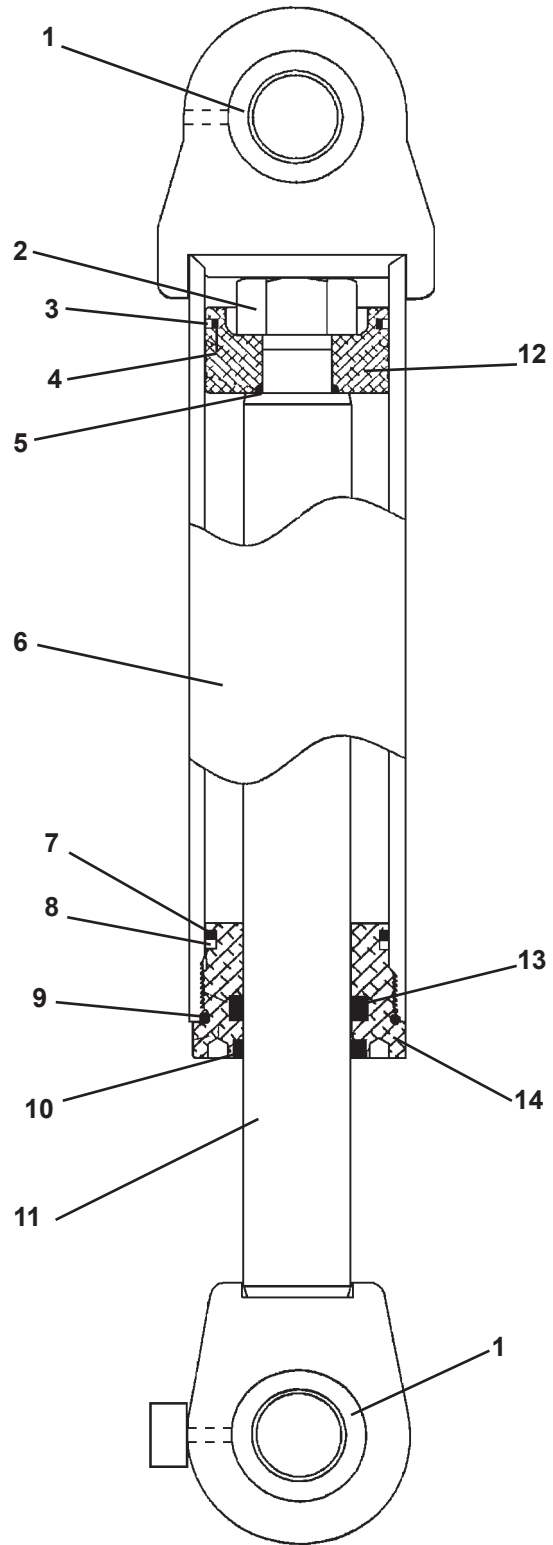
509 DIPPER CYLINDER ASSEMBLY #86236

<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

511 DIPPER CYLINDER ASSEMBLY #87029



CYLINDER ASSEMBLY

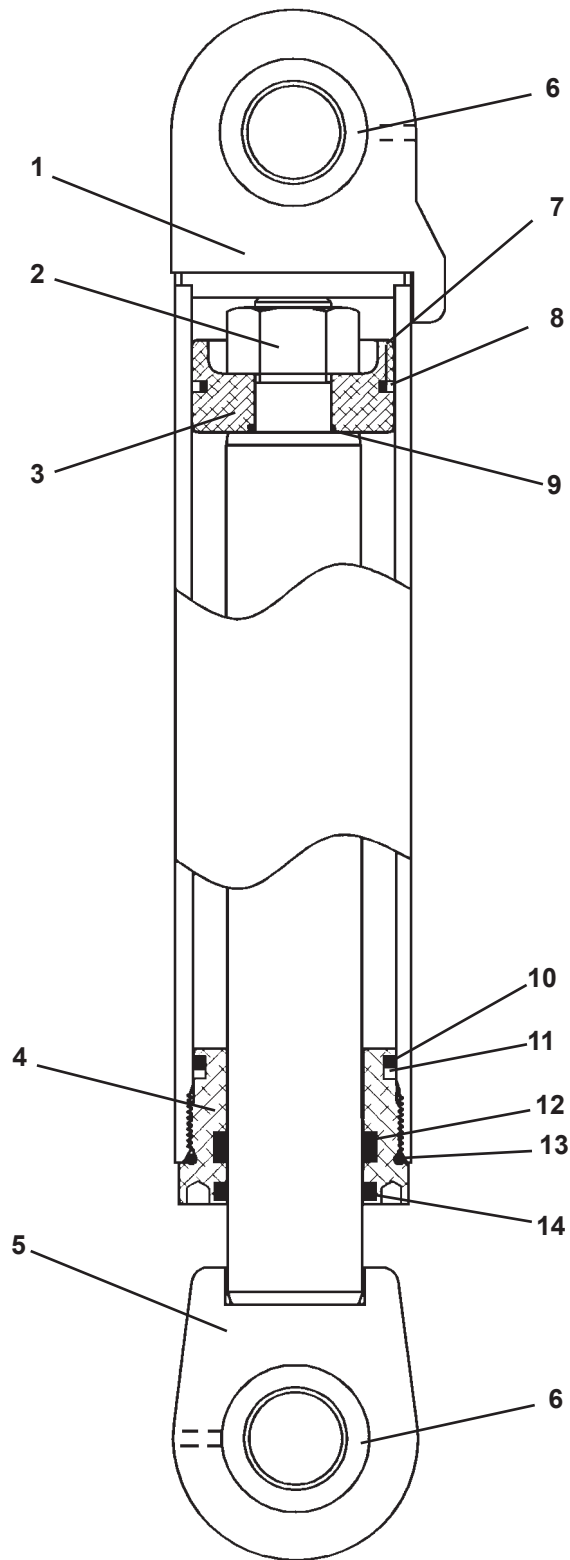
511 DIPPER CYLINDER ASSEMBLY #87029

<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 #82477



CYLINDER ASSEMBLY
BUCKET CYLINDER ASSEMBLY #82477

<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	82505	Cylinder Tube
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

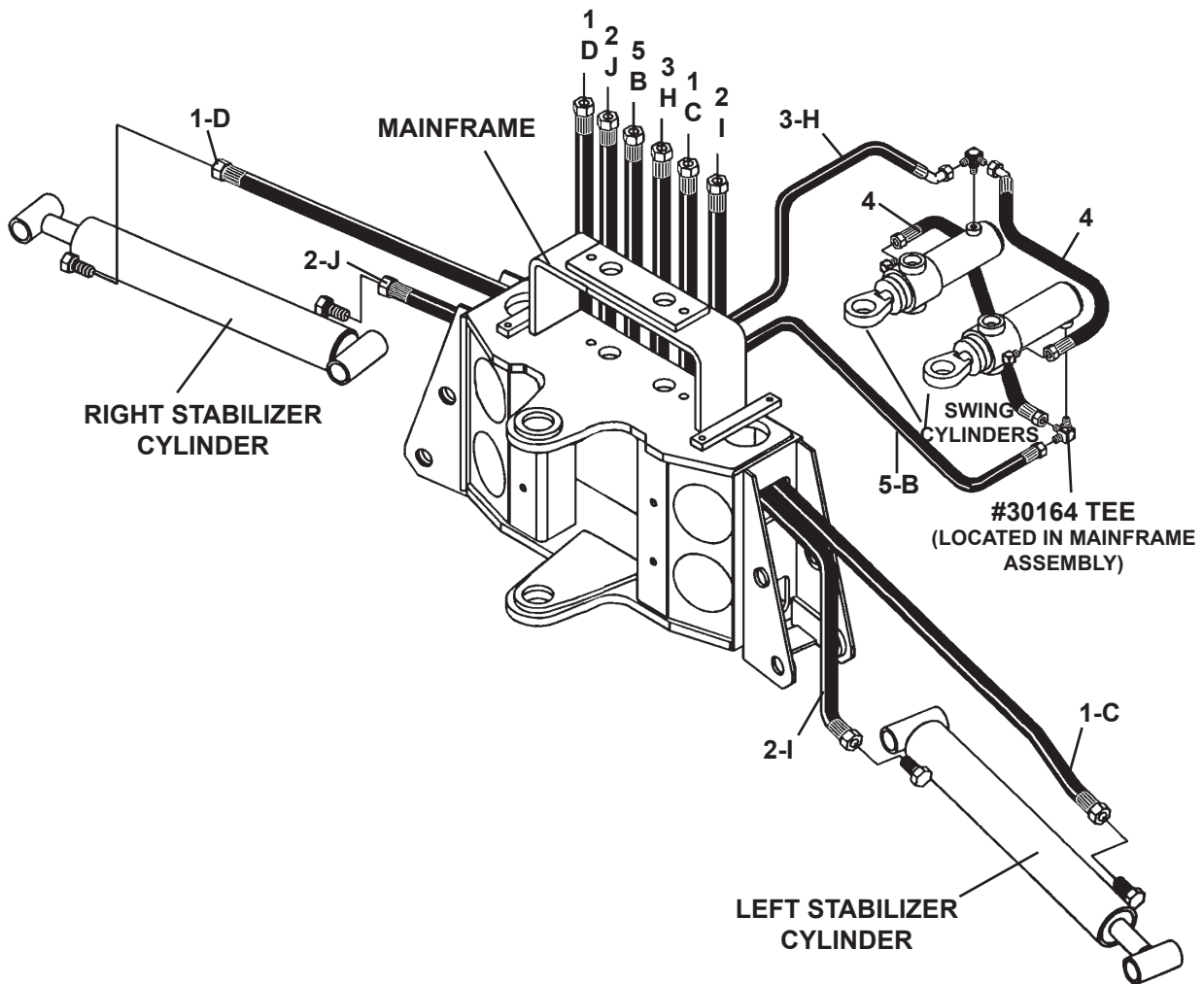
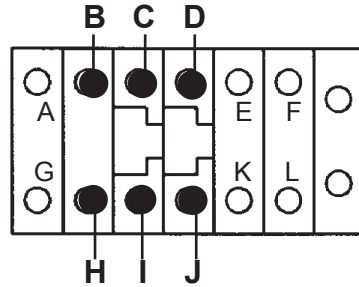
NOTE: Seal Kit #45547 includes all parts marked with an asterisk (*). Parts are not sold separately.

MAINFRAME HOSE SET

ASSEMBLY #83434

408 BACKHOE SN #11870 & UP / 509 BACKHOE SN #11640 & UP
(ALL 511 BACKHOES)

HYDRAULIC CONTROL VALVE



MAINFRAME HOSE SET

ASSEMBLY #83434

408 BACKHOE SN #11870 & UP / 509 BACKHOE SN #11640 & UP
(ALL 511 BACKHOES)

<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	2	37580	Hose Assembly .25" X 54" 6FJX-6FJX
2	2	37579	Hose Assembly .25" X 51" 6FJX-6FJX
3	1	37700	Hose Assembly .25" X 12" 6FJX-6FJX 45° 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 rod end fitting on the left stabilizer cylinder.

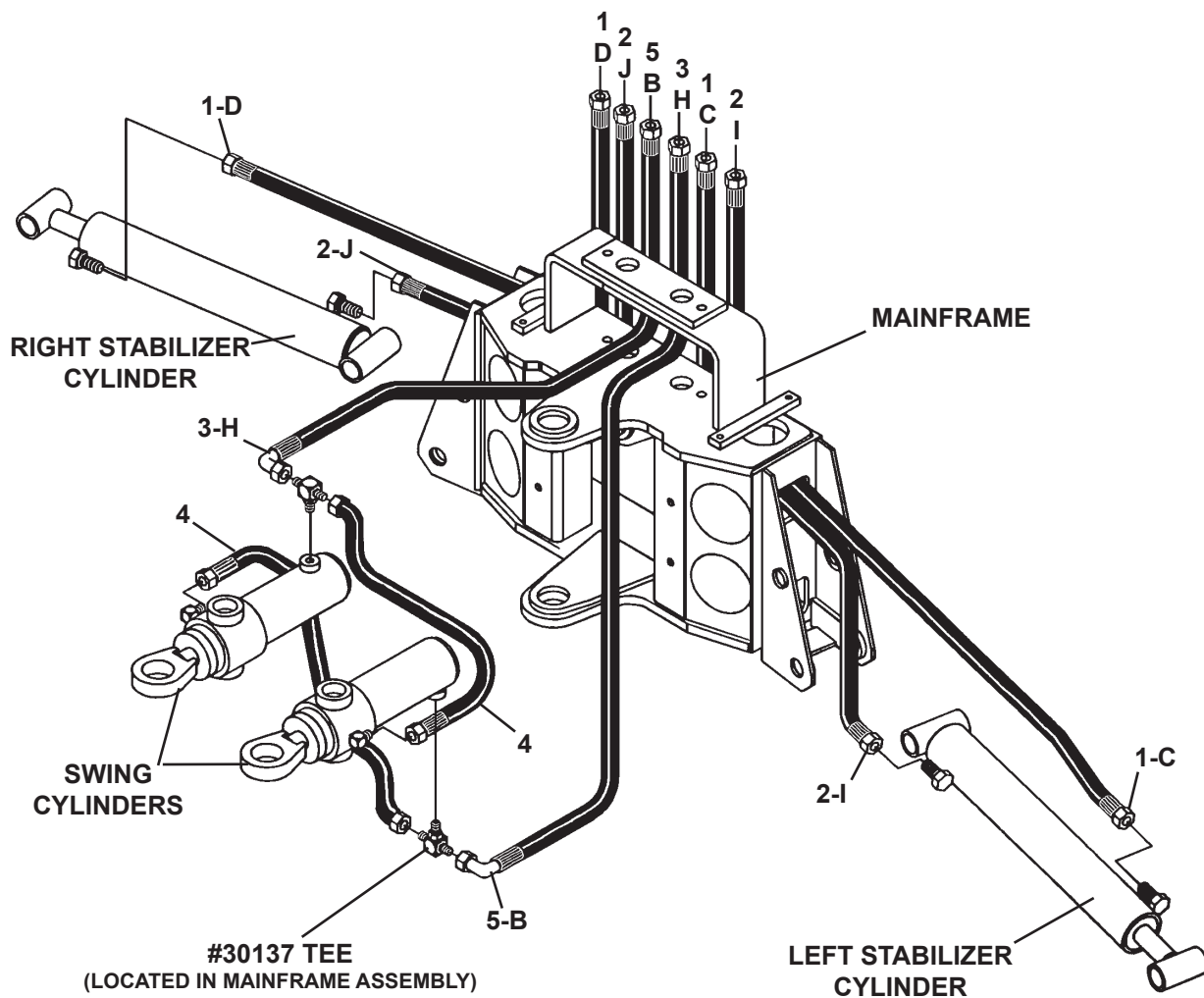
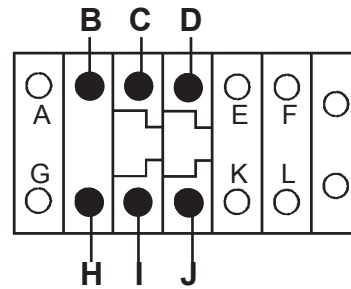
NOTE: The fittings on the hydraulic cylinders have been altered for clarity purposes. This will assist you in distinguishing between the rod end and the barrel end of the various hydraulic cylinders.

MAINFRAME HOSE SET

ASSEMBLY #83434

408 BACKHOE UP TO SN #11870 & 509 BACKHOE UP TO SN #11640

HYDRAULIC CONTROL VALVE



MAINFRAME HOSE SET

ASSEMBLY #83434

408 BACKHOE UP TO SN #11870 & 509 BACKHOE UP TO SN #11640

<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	2	37580	Hose Assembly .25" X 54" 6FJX-6FJX
2	2	37579	Hose Assembly .25" X 51" 6FJX-6FJX
3	1	37522	Hose Assembly .25" X 16.35" 6FJX-6FJX 90° Gooseneck
4	2	37552	Hose Assembly .25" X 14.50" 6FJX-6FJX
5	1	37644	Hose Assembly .25" X 17.50" 6FJX-6FJX 90° Gooseneck

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.

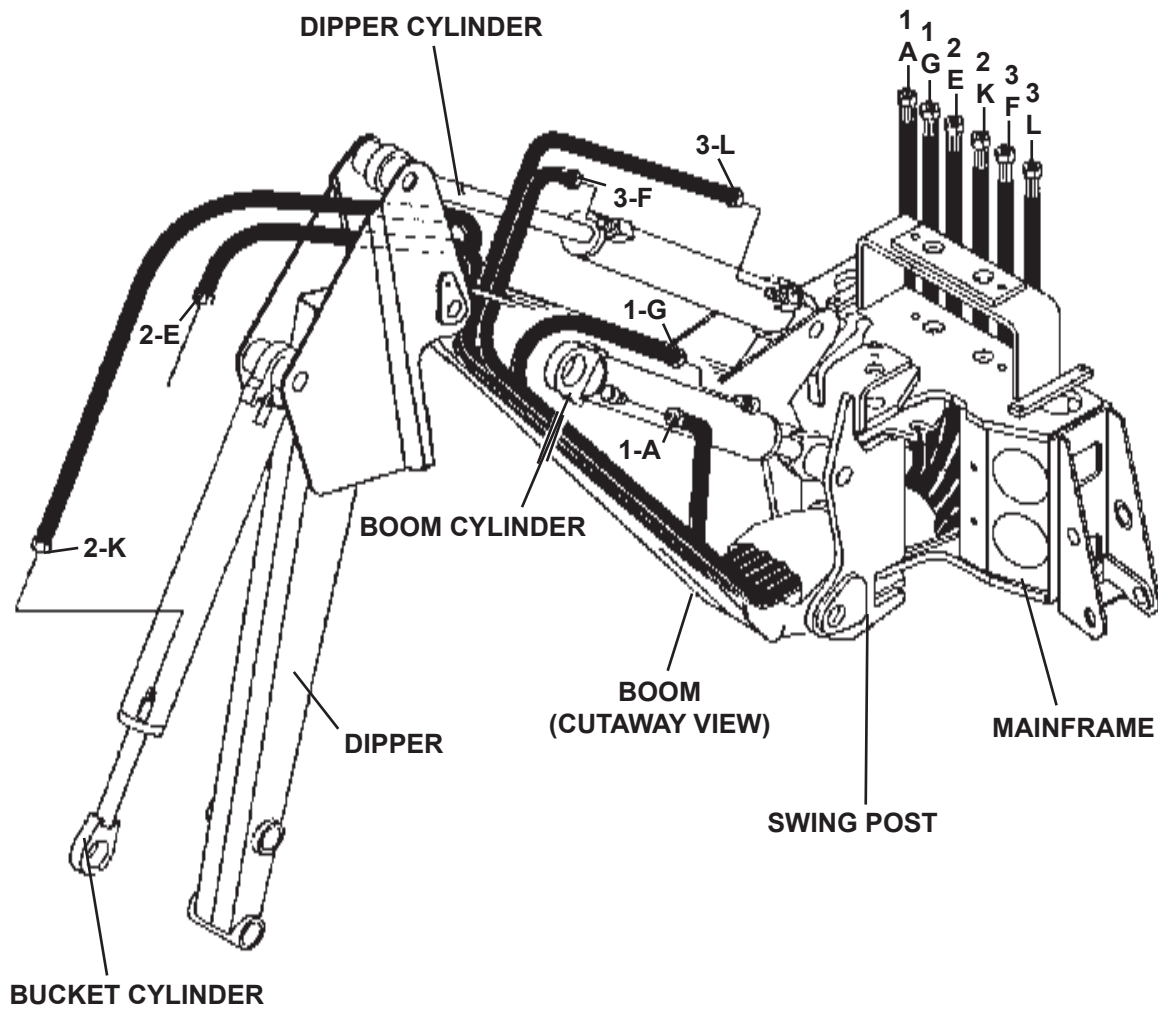
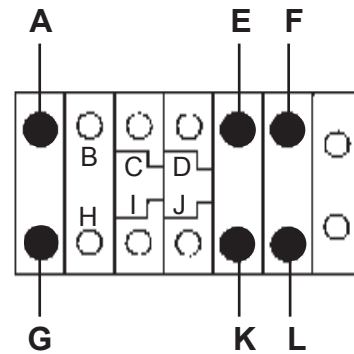
NOTE: Letters on the hose set diagram show the hydraulic hose routing between the backhoe control valve and the various hydraulic cylinders. Simply match the letter on the control valve port to the same letter on the hydraulic hose ends. Example: Hose Assembly labeled "C" runs from the upper Left Stabilizer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

509 BOOM & DIPPER HOSE SET

ASSEMBLY #85448

HYDRAULIC CONTROL VALVE



509 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	37673	Hose Assembly .38" X 137.50" 6FJX - 6FJX
3	2	37672	Hose Assembly .38" X 135" 6FJX - 6FJX

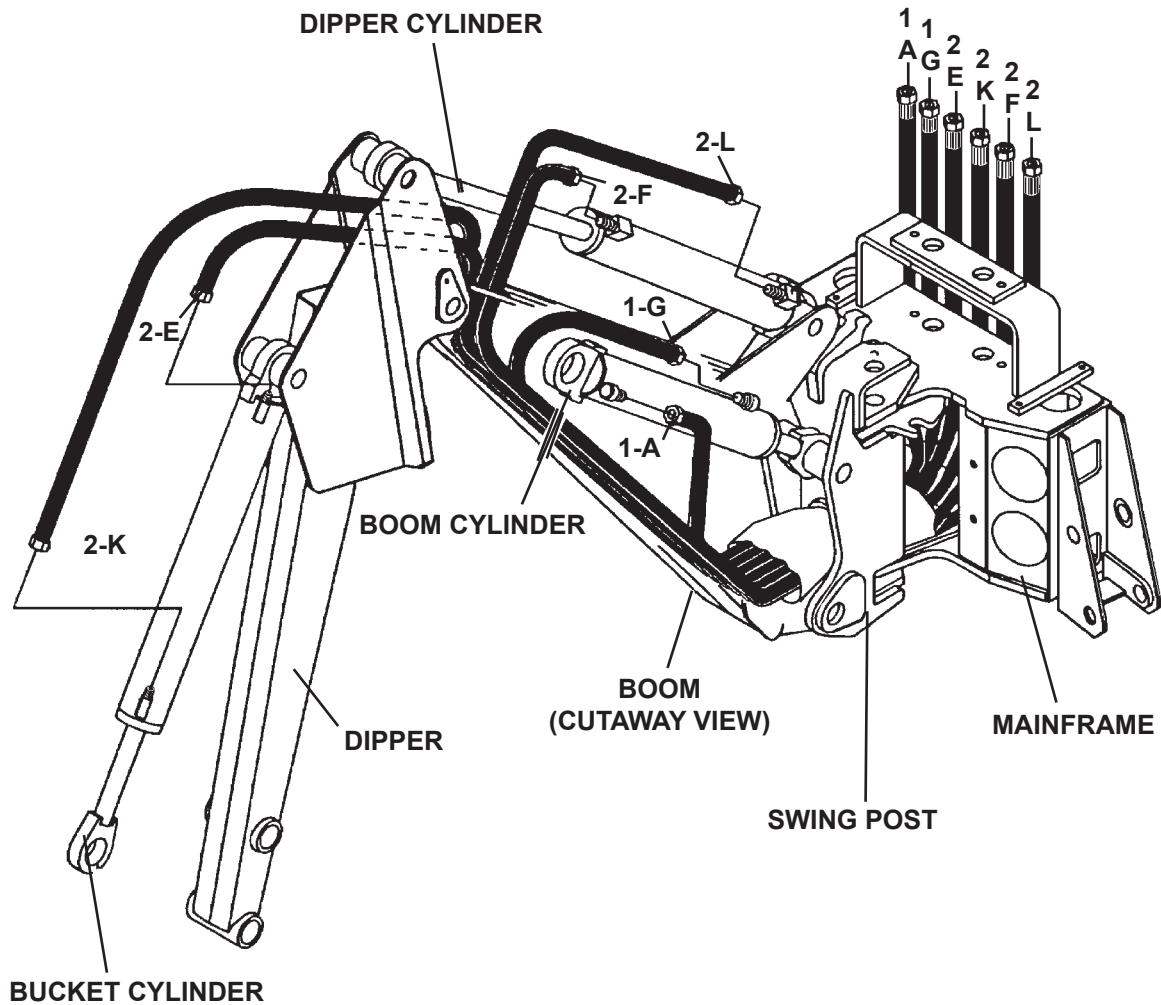
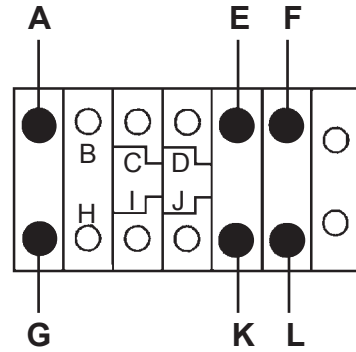
NOTE: Letters on the hose set diagram show the hydraulic hose routing between the backhoe control valve and the various hydraulic cylinders. Simply match the letter on the control valve port to the same letter on the hydraulic hose ends. EXAMPLE: Hose Assembly labeled "G" runs from the lower Boom port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

511 BOOM & DIPPER HOSE SET

ASSEMBLY #86982

HYDRAULIC CONTROL VALVE



511 BOOM & DIPPER HOSE SET

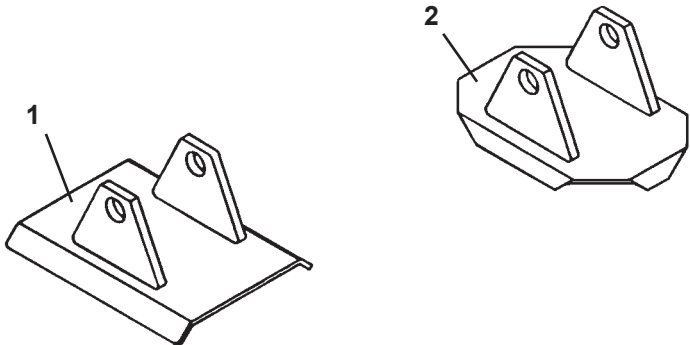
ASSEMBLY #86982

<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	4	37701	Hose Assembly .38" X 157.50" 6FJX - 6FJX

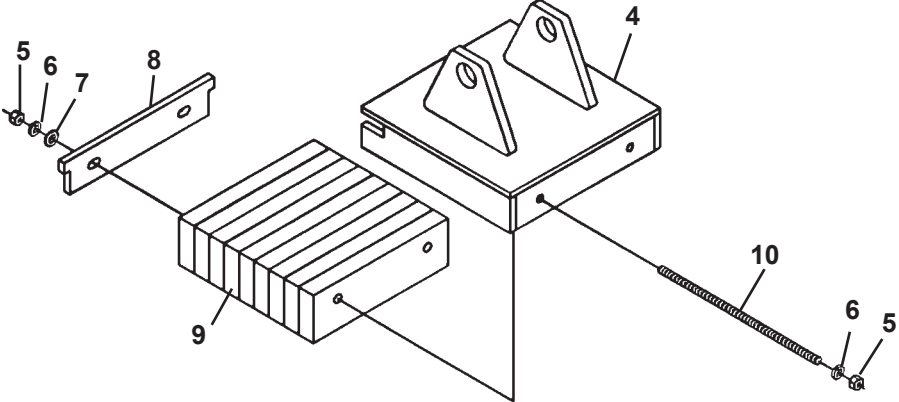
NOTE: Letters on the hose set diagram show the hydraulic hose routing between the back-hoe control valve and the various hydraulic cylinders. Simply match the letter on the control valve port to the same letter on the hydraulic hose ends. EXAMPLE: Hose Assembly labeled "G" runs from the lower Boom port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

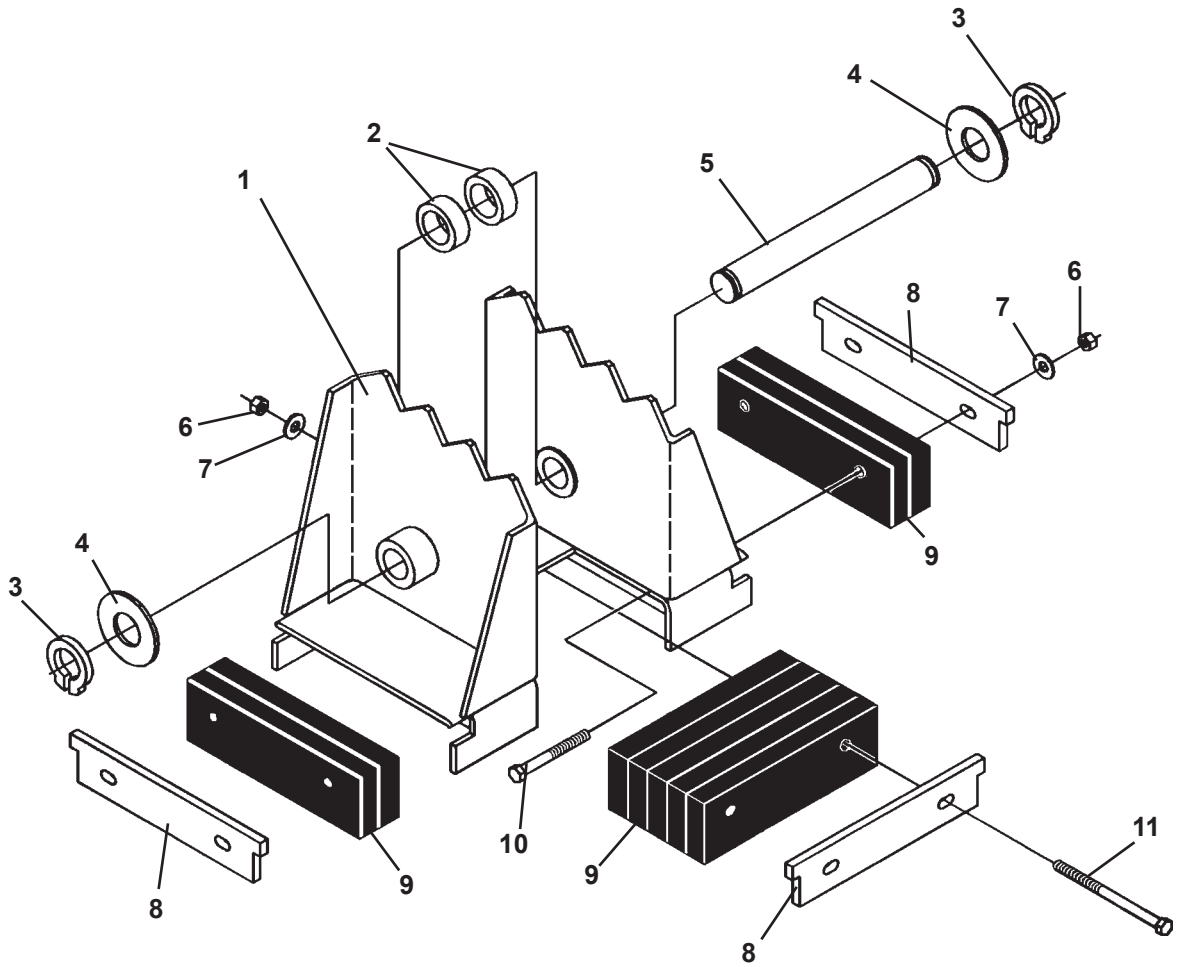


STABILIZER PADS

<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
FLAT STABILIZER PAD ASSEMBLY - #81861			
1	2	81865	Flat Stabilizer Pad
GROUSER STABILIZER PAD ASSEMBLY - #81860			
2	2	83421	Grouser Stabilizer Pad
RUBBER STABILIZER PAD ASSEMBLY - #81862			
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)



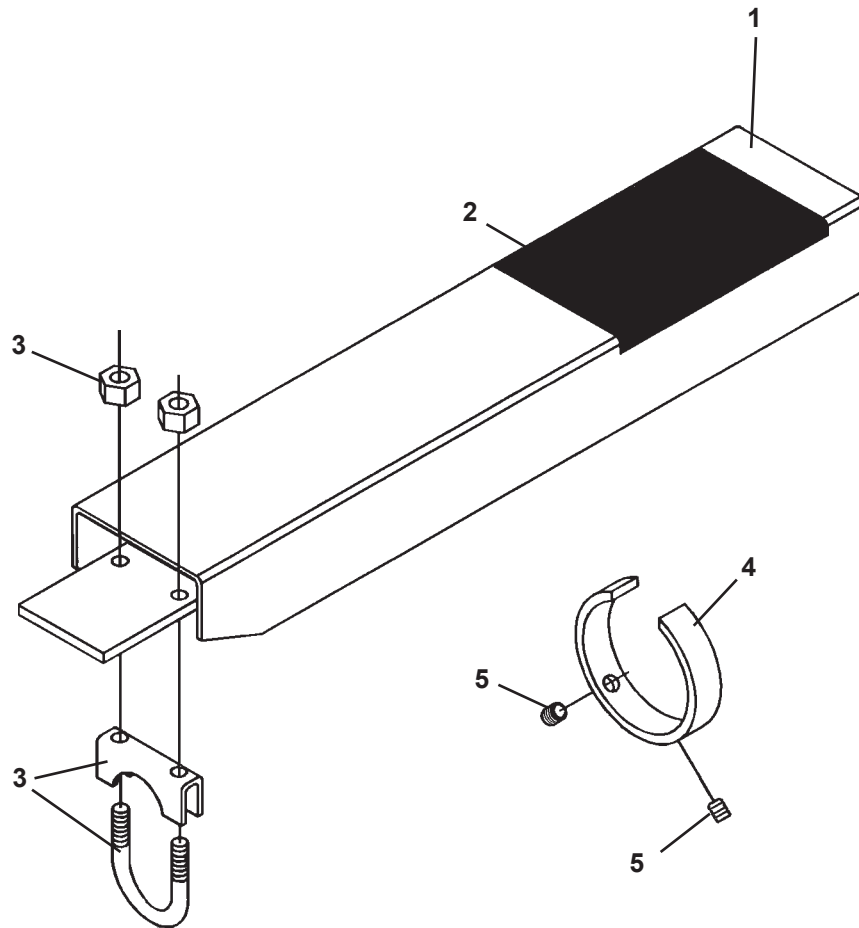
STABILIZER PADS

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



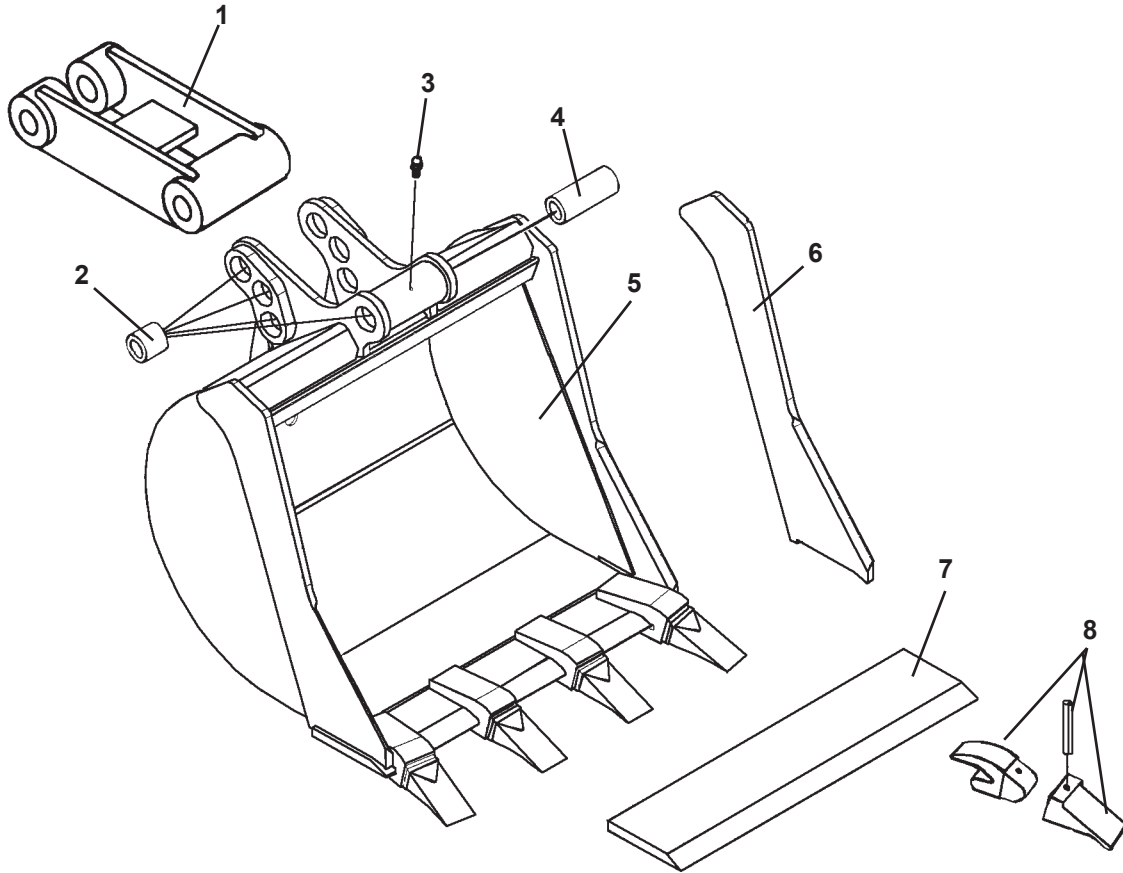
OPTIONAL STABILIZER CYLINDER COVER

ASSEMBLY #86706

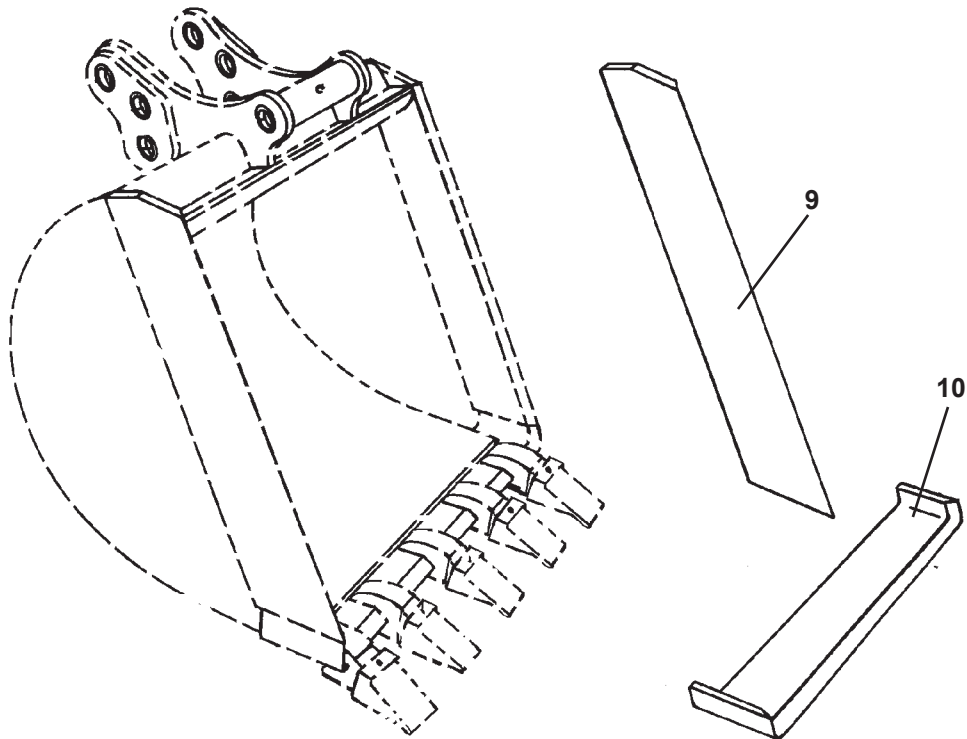
<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	2	83915	Stabilizer Cylinder Cover with Decal
2	2	4167	No Step Decal
3	2	83906	1.50" Clamp Assembly
4	2	83911	Guide Ring
5	4	1575	.38" UNC X .50" Set Screw

BUCKET ASSEMBLIES

SEVERE DUTY BUCKETS



OLD STYLE BUCKET



BUCKET ASSEMBLIES

SEVERE DUTY BUCKETS

NOTE: ALL SEVERE DUTY BUCKETS HAVE BEEN REPLACED WITH A NEW BUCKET WELDMENT WHICH INCLUDES A STRAIGHT FRONT CUTTING EDGE AND MORE AGGRESSIVE SIDE CUTTERS. WHEN ORDERING REPLACEMENT CUTTING EDGES FOR THE OLDER STYLE BUCKETS PLEASE REFER TO ITEMS #9 AND #10.

<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	Optional	82948	Bell Hole Bucket Link (Requires 3 Grease Zerks #6616)
2	8	6355	Bushing (500 & 600 Series Backhoes)
3	1	6616	Grease Zerk
4	1	68482	Spacer
5	1	103312	12" Bucket Weldment
		103316	16" Bucket Weldment
		103318	18" Bucket Weldment
		103320	20" Bucket Weldment
		103324	24" Bucket Weldment
6	1	102875	Left Replacement Side Cutter
	1	102874	Right Replacement Side Cutter
7	1	102866	12" Replacement Front Cutter Edge
		102867	16" Replacement Front Cutter Edge
		102868	18" Replacement Front Cutter Edge
		102869	20" Replacement Front Cutter Edge
		102870	24" Replacement Front Cutter Edge
8	Varies	85003	Replacement Tooth Point and Shank Assembly
		74228	Replacement Tooth Shank (Weld On)
		84863	Replacement Tooth (Bolt On)
		74227	Spiral Roll Pin

OLD STYLE SEVERE DUTY BUCKETS

9	1	67151	Left Replacement Side Cutter
	1	67152	Right Replacement Side Cutter
10	1	85236	12" Replacement Front Cutter Edge
		85241	16" Replacement Front Cutter Edge
		85246	18" Replacement Front Cutter Edge
		85251	20" Replacement Front Cutter Edge
		85256	24" Replacement Front Cutter Edge

NOTE:

Severe duty buckets have three different bucket link positions for different digging needs.

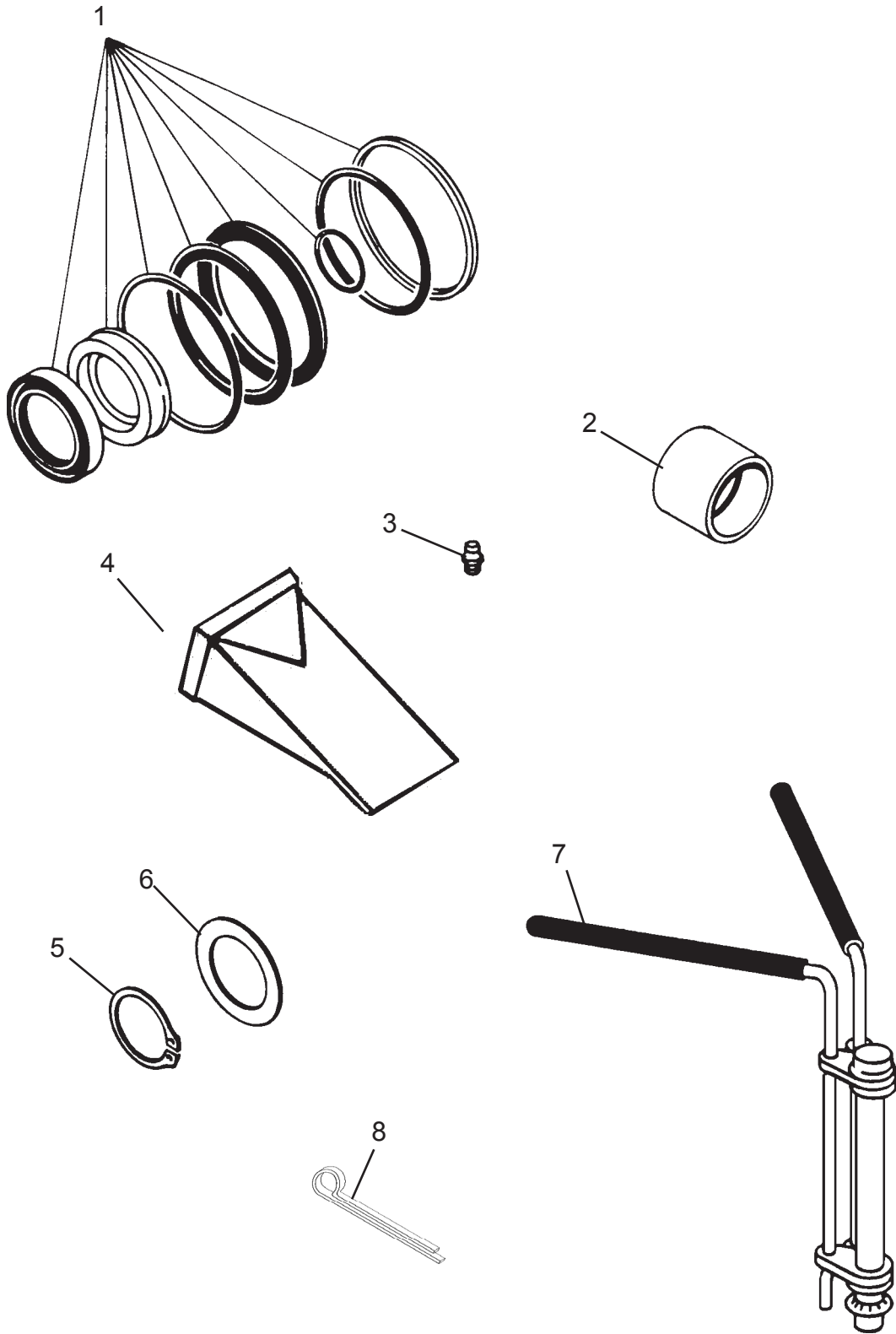
Position "A" digging position for added digging force in hard ground.

Position "B" truck loading position for greater ease of spoil removal and higher dump height.

Position "C" standard digging position with a good balance of digging force and bucket rotation for general digging use.

509 FIRST LINE REPAIR KIT

ASSEMBLY #86320



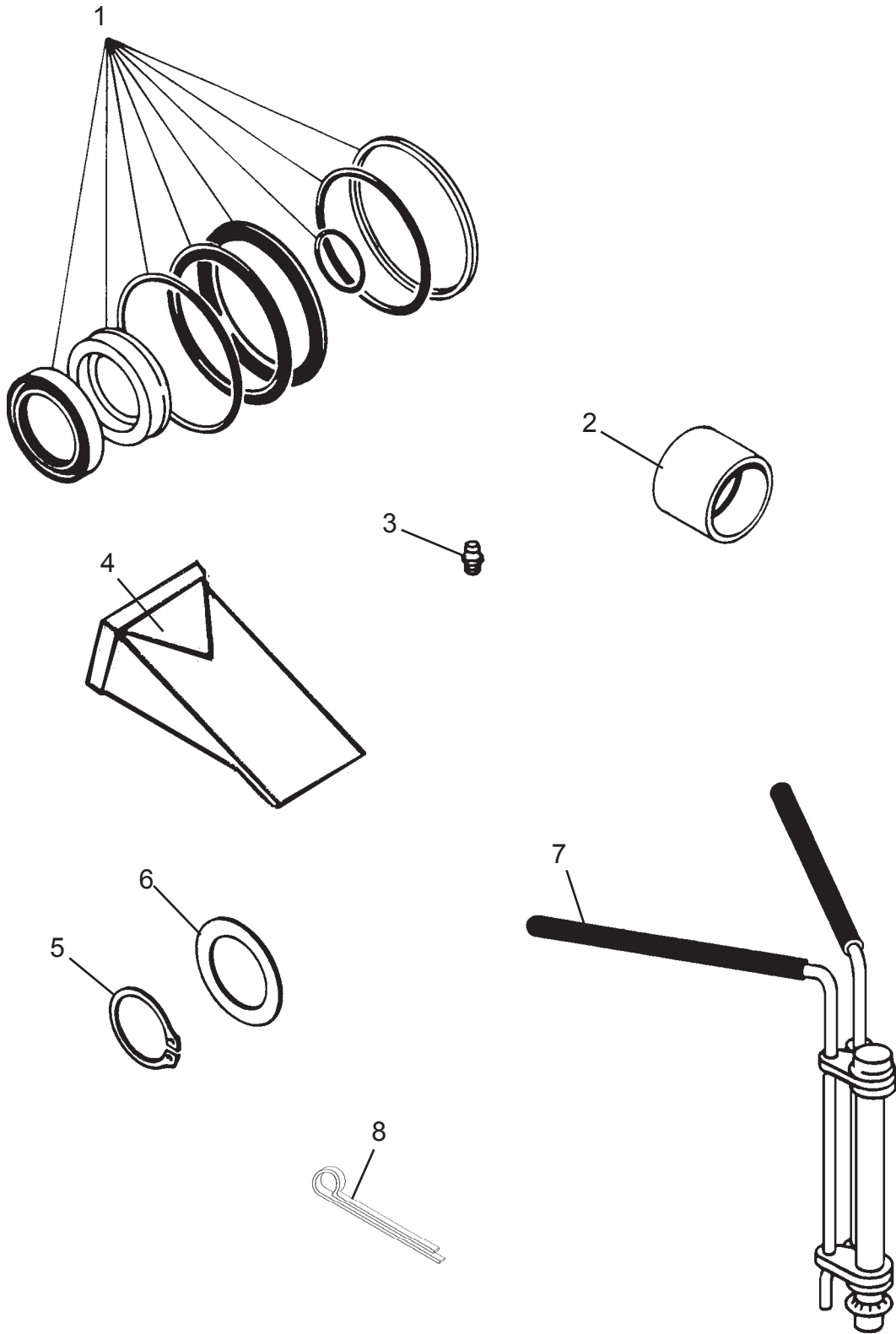
509 FIRST LINE REPAIR KIT

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
4	4	84863	Bucket Tooth Point
5	4	1650	Snap Ring 1.38"
	2	1652	Snap Ring 1.25"
6	4	6623	Thrust Washer 1.38" X .031"
	4	64728	Thrust Washer 1.25" X .031"
7	1	65349	Cylinder Seal Install Tool
8	2	1613	Cotter Pin

511 FIRST LINE REPAIR KIT

ASSEMBLY #87500



511 FIRST LINE REPAIR KIT

ASSEMBLY #87500

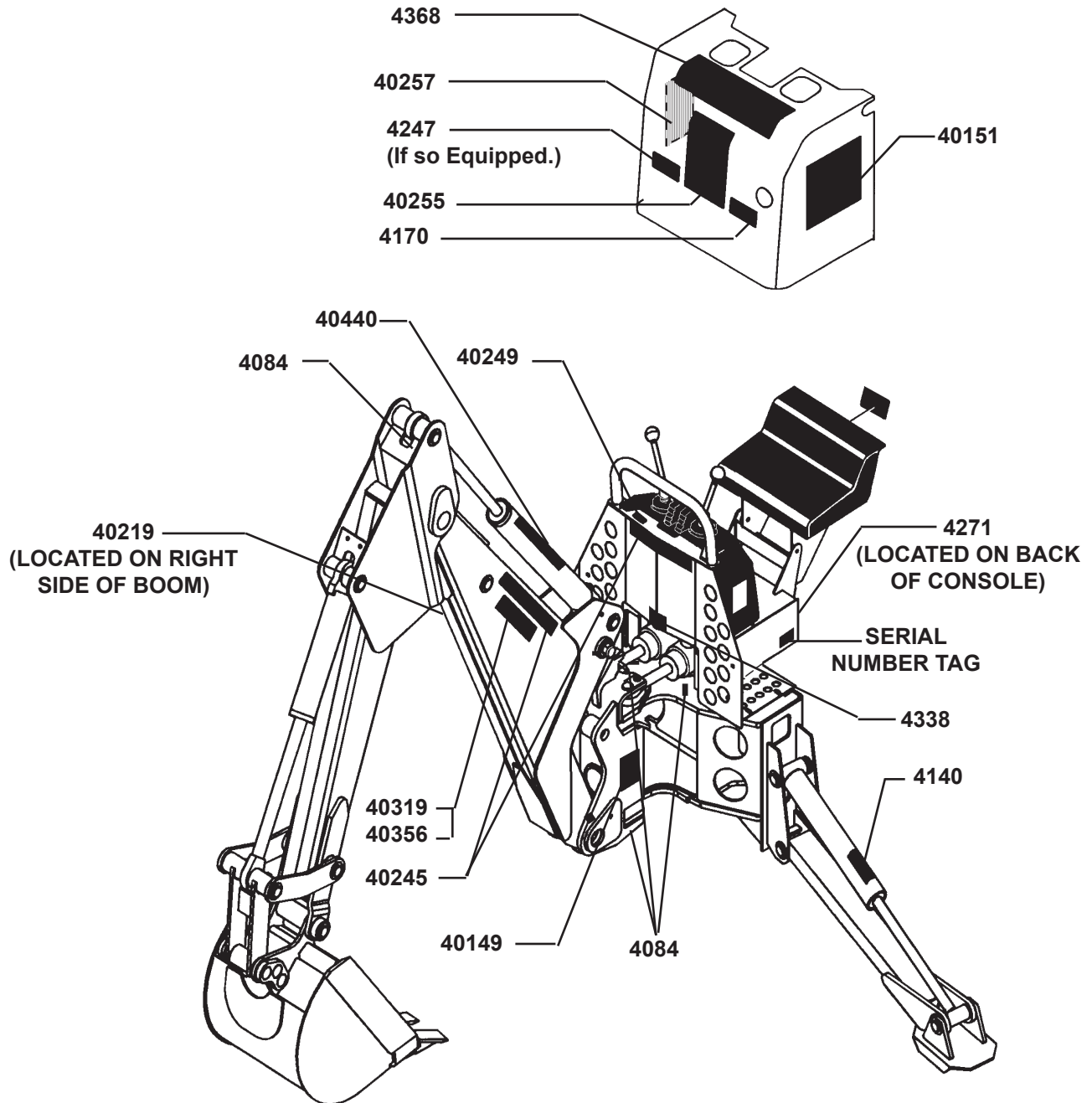
<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	45539	Seal Kit (Boom Cylinder)
	1	45547	Seal Kit (Bucket Cylinder)
	1	45684	Seal Kit (Dipper Cylinder)
	1	45738	Seal Kit (Stabilizer Cylinders)
	1	45617	Seal Kit (Swing Cylinder)
2	2	6355	Bushing
3	4	6616	Grease Zerk
4	4	84863	Bucket Tooth Point
5	4	1650	Snap Ring 1.38"
	2	1652	Snap Ring 1.25"
6	4	6623	Thrust Washer 1.38" X .031"
	4	64728	Thrust Washer 1.25" X .031"
7	1	65349	Cylinder Seal Install Tool
8	2	1613	Cotter Pin

DECALS

DECAL PLACEMENT

GENERAL INFORMATION

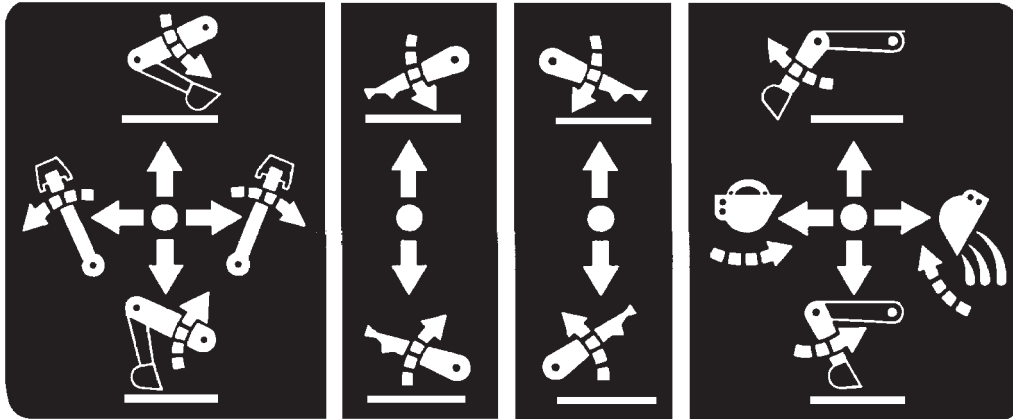
The diagrams on this page shows the location of all the decals used on the 500 series backhoes. The decals are identified by their part numbers, with reductions of the actual decals located on the following pages. Use this information to order replacements for lost or damaged decals. Be sure to read all decals before operating the backhoe. They contain information you need to know for both safety and backhoe longevity.



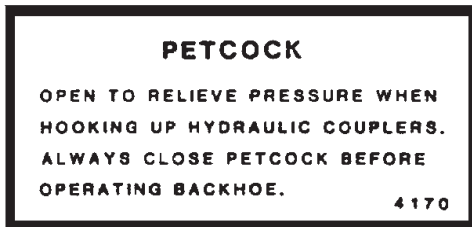
IMPORTANT: Keep all safety signs clean and legible. Replace all missing, illegible, or damaged safety signs. When replacing parts with safety signs attached, the safety signs must also be replaced.

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

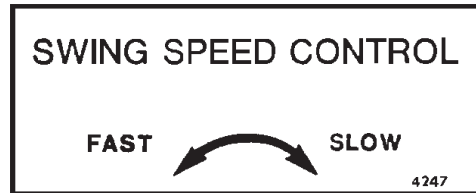
DECALS



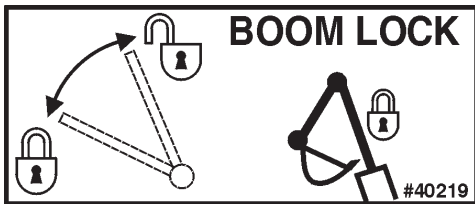
**PART #4368
OPERATING CONTROLS DECAL**



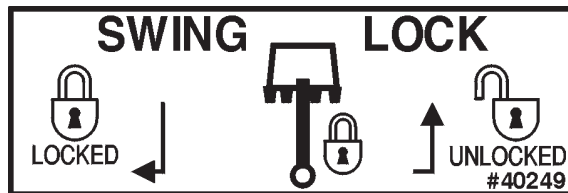
**PART #4170
PETCOCK OPERATION DECAL**



**PART #4247
SWING SPEED CONTROL DECAL**

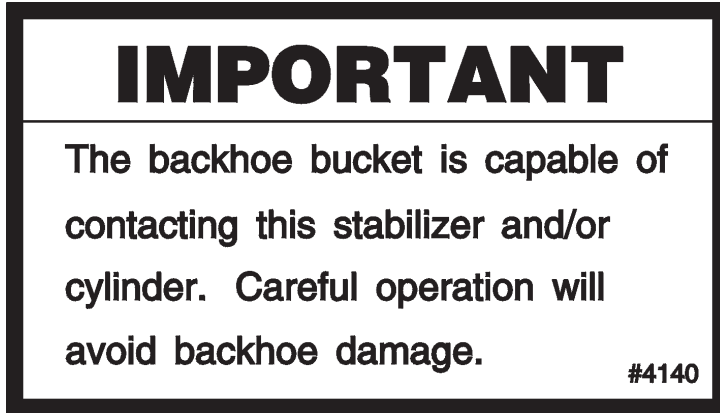


**PART #40219
BOOM LOCK DECAL**



**PART #40249
SWING LOCK DECAL**

DECALS



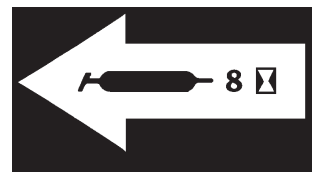
PART #4140
BUCKET CONTACT WARNING DECAL



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



PART #40440
CALL BEFORE YOU DIG



PART #4084
GREASE 8 HOURS

DECALS

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


PART #40151
HIGH PRESSURE FLUID DECAL

 DANGER	
	<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"> • Check mounting bolts for tightness. • Visually check for proper pin engagement before operating. <p style="text-align: right;">#41169</p>

PART #41169
DANGER! BACKHOE SECURE

IMPORTANT
<p>TO PREVENT BACKHOE DAMAGE:</p> <ul style="list-style-type: none"> • DO NOT ATTACH TOW CHAIN TO DIPPER OR BUCKET. • DO NOT REPEATEDLY SLAM SWING POST INTO SWING STOPS. <p style="text-align: center;">PREPARATION FOR STORAGE</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 style="text-align: right;">#40257</p>

PART #40257
IMPORTANT! DECAL

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

PART #40255
OPERATIONAL WARNING DECAL

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

PART #40149
DANGER! PINCH POINTS

DECALS

BRADCO®

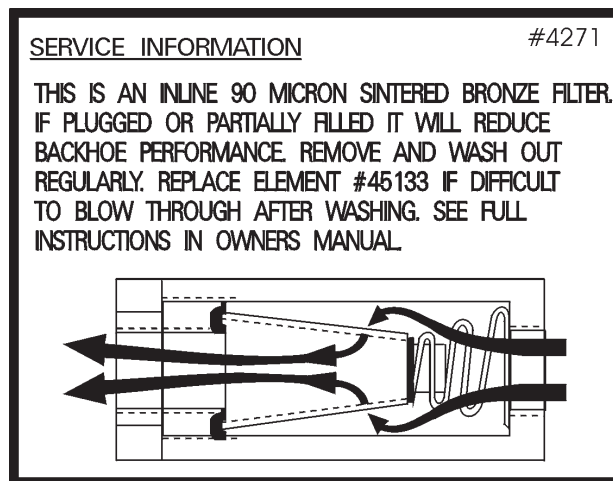
PART #40245 (3 REQ'D)
BRADCO LOGO - SILBER

509

PART #40319 (2 REQ'D)
509 MODEL NUMBER

511

PART #40356 (2 REQ'D)
511 MODEL NUMBER



PART #4271
INLINE FILTER DECAL