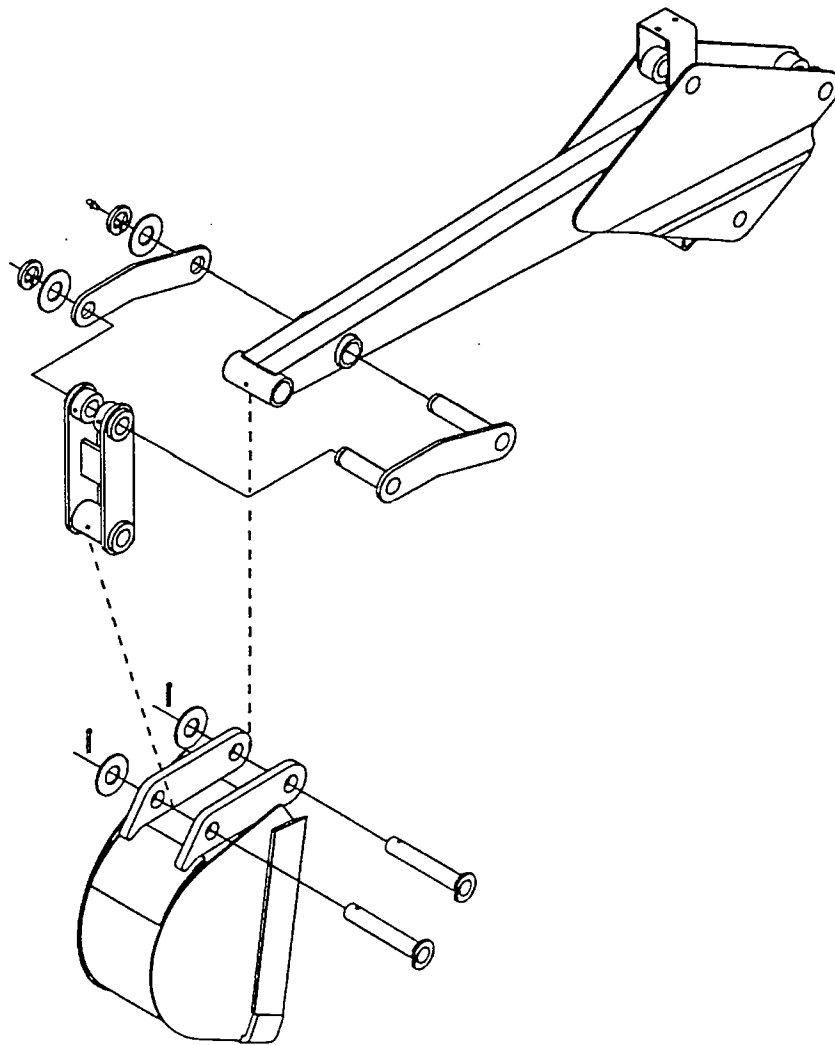


# BRADCO®

## 408W

# POWER BACKHOE

## EXCAVATOR STYLE CONTROL PATTERN



# PARTS MANUAL

BRADCO®

P.O. Box 266 · Delhi, Iowa 52223 USA

(319) 922-2981 · (800) 922-2981

Fax 319-922-2130

A Division of Attachment Technologies Incorporated

PM592

8276 10-30-00

75492



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**LIMITED WARRANTY**

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EFFECTIVE MARCH 1, 1986

All new Bradco products are warranted to be free from defects in materials or workmanship which may cause failure under normal usage and service when used for the purpose intended.

In the event of failure within twelve (12) months from initial retail sale, lease or rental date (excluding cable, ground engaging parts such as sprockets, digging chain, bearings, teeth, tamping and demolition heads, and blade cutting edges), if after examination, Bradco determines failure was due to defective material and/or workmanship, parts will be repaired or replaced. Bradco may request defective part or parts be returned prepaid to them for inspection at their place of business at Delhi, Iowa, or to a location specified by Bradco.

Any claims under this warranty must be made within fifteen (15) days after the Buyer learns of the facts upon which such claim is based. All claims not made in writing and received by Bradco within the time period specified above shall be deemed waived.

**THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED AND THERE ARE NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL BRADCO BE LIABLE FOR CONSEQUENTIAL OR SPECIAL DAMAGE.**

**BRADCO'S LIABILITY FOR ANY AND ALL LOSSES AND DAMAGES TO BUYER, RESULTING FROM ANY CAUSE WHATSOEVER, INCLUDING BRADCO'S NEGLIGENCE, IRRESPECTIVE OF WHETHER SUCH DEFECTS ARE DISCOVERABLE OR LATENT, SHALL IN NO EVENT EXCEED THE PURCHASE PRICE OF THE PARTICULAR PRODUCTS WITH RESPECT TO WHICH LOSSES OR DAMAGES ARE CLAIMED, OR, AT THE ELECTION OF BRADCO, THE REPAIR OR REPLACEMENT OF DEFECTIVE OR DAMAGED PRODUCTS.**



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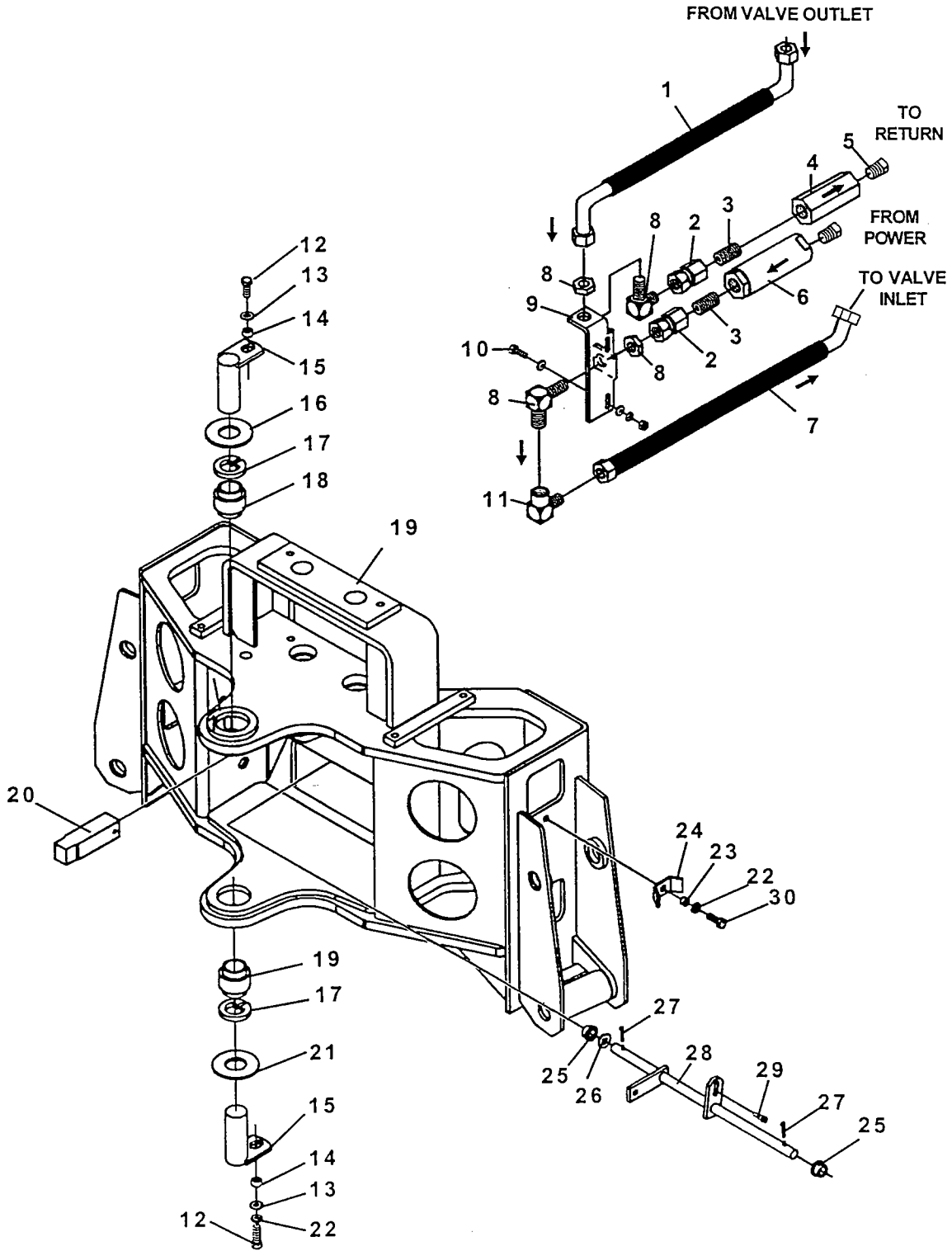
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# MAINFRAME ASSEMBLY

ASSEMBLY #87445

MAINFRAME



# MAINFRAME ASSEMBLY

ASSEMBLY #87445

MAINFRAME

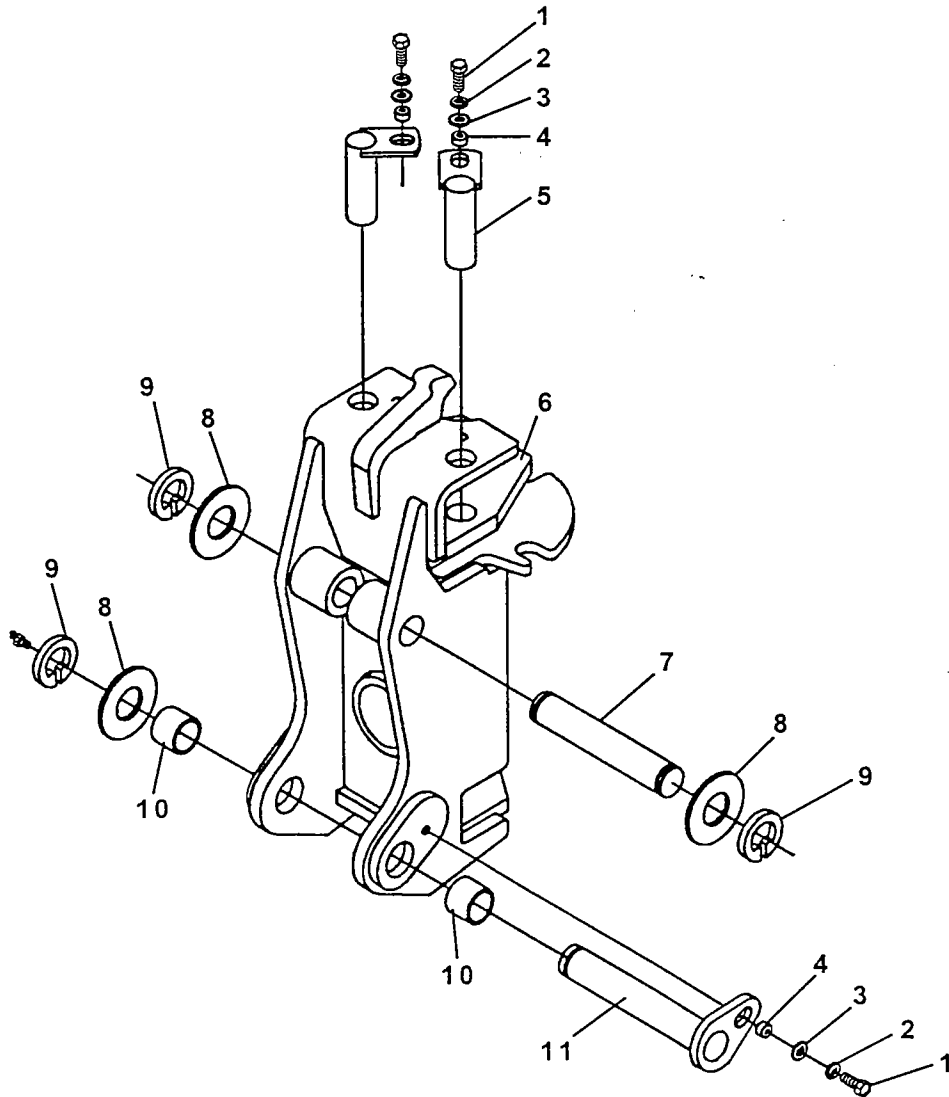
<u>NO</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	37554	Hose .50" X 36" 8FJX 90° Short Gooseneck (Both Ends)
2	1	3273	Coupling 8FP-8FJX (With Priority Valve)
	2	3273	Coupling 8FP-8FJX (Without Priority Valve)
3	2	3211	Close Nipple .50" NPT
4	1	45691	Check Valve
5	2	3189	Square Head Plug
6	1	45132	Inline Filter
7	1	37690	Hose .50" X 41" 8FJX-8FJX 45° Gooseneck
8	2	3382	90° Bulkhead Elbow (Includes Nut)
9	1	85540	Hose Mounting Bracket
10	2	1004	.25" UNC X 1.25" Hex Capscrew
	4	1512	.25" Flat Washer
	2	1501	.25" Lock Washer
	2	1224	.25" UNC Hex Nut
11	1	3149	90° Elbow 8FJX-8MJ
12	2	1043	.38" UNC X 1.00" Hex Capscrew (Two pin retaining capscrews installed with Loctite Grade 242)
13	2	1514	.38" Flat Washer
14	2	81807	Spacer Tube
15	2	81592	Pin
	2	6616	Grease Zerk
16	1	83977	Thrust Washer 1.38" x .125
17	2	1929	Snap Ring
18	2	6615	Bearing
19	1	83433	Mainframe (Includes (4) #83815 Bushings - Installed with Loctite Grade 680)
20	1	82090	Swing Lock Pin
21	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
22	3	1503	.38" Lock Washer
23	2	6799	Spacer
24	2	6186	Hose Clamp
25	2	82794	Bushing
26	2	1528	.62" SAE Flat Washer
27	2	1611	Cotter Pin
28	1	82796	Linkage
29	1	1982	Shoulder Screw
30	2	1044	.38" UNC X 1.25" Hex Capscrew

NOTE: Use thrust washers (Item #21) to adjust mainframe/swing post to minimum free play.

8264  
10-30-00

# MAINFRAME ASSEMBLY

ASSEMBLY #87445  
SWING POST





# MAINFRAME ASSEMBLY

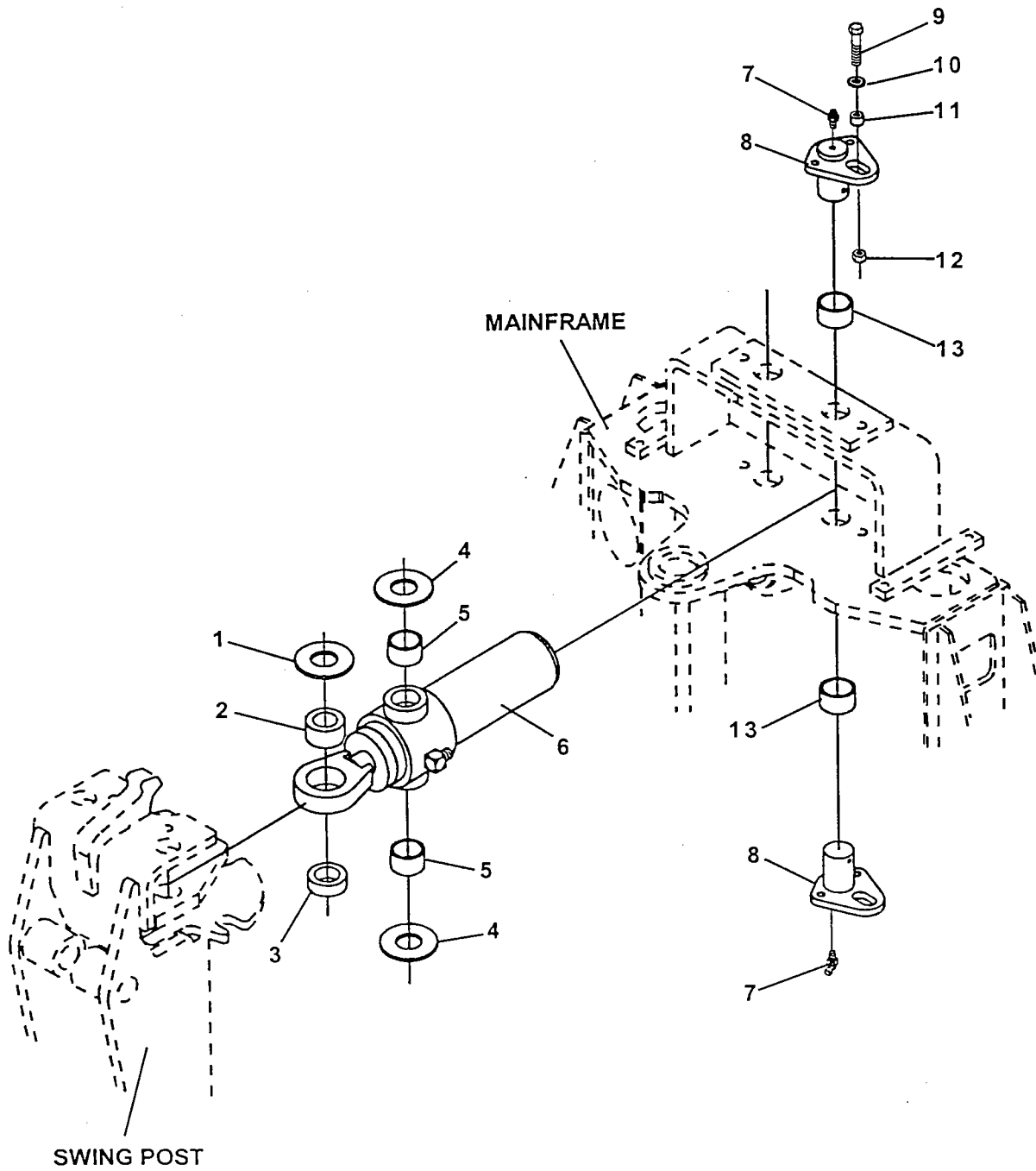
ASSEMBLY #87445

SWING POST

<u>NO</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	3	1043	.38" UNC X 1.00" Hex Capscrew (Installed with Locktite Grade 242)
2	3	1503	.38" Lock Washer
3	3	1514	.38" Flat Washer
4	3	81807	Spacer Tube
5	2	81847	Pin
6	1	82745	Swing Post (Includes (2) 81828 Bushings Installed with Locktite Grade 680)
7	1	82534	Pin
8	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"
9	3	1650	Snap Ring
10	-	81828	Bushing (Included in Swing Post) (Installed with Locktite Grade 680)
11	1	84753	Pin
	2	6616	Grease Zerk

# MAINFRAME ASSEMBLY

ASSEMBLY #87445  
SWING CYLINDER



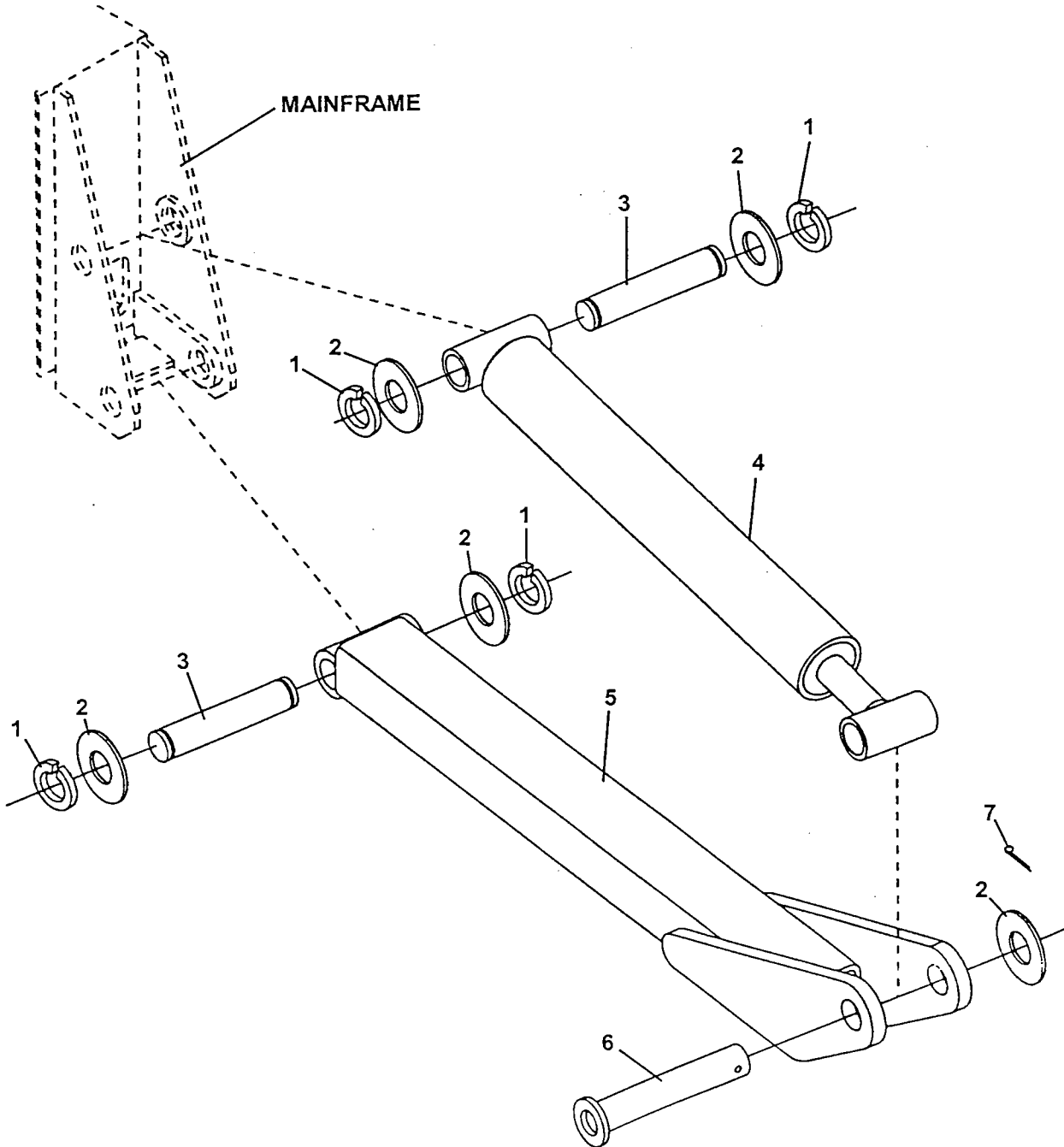
# MAINFRAME ASSEMBLY

ASSEMBLY #87445  
SWING CYLINDER

<u>NO</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	81585	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 (2) #62523 Bushings)
	2	6616	Grease Zerk
	2	30164	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 Hex Lock Nut
13	-	83815	Bushing (Included in Mainframe - Installed with Loctite Grade 680)

# MAINFRAME ASSEMBLY

ASSEMBLY #87445  
STABILIZERS



# MAINFRAME ASSEMBLY

ASSEMBLY #87445  
STABILIZERS

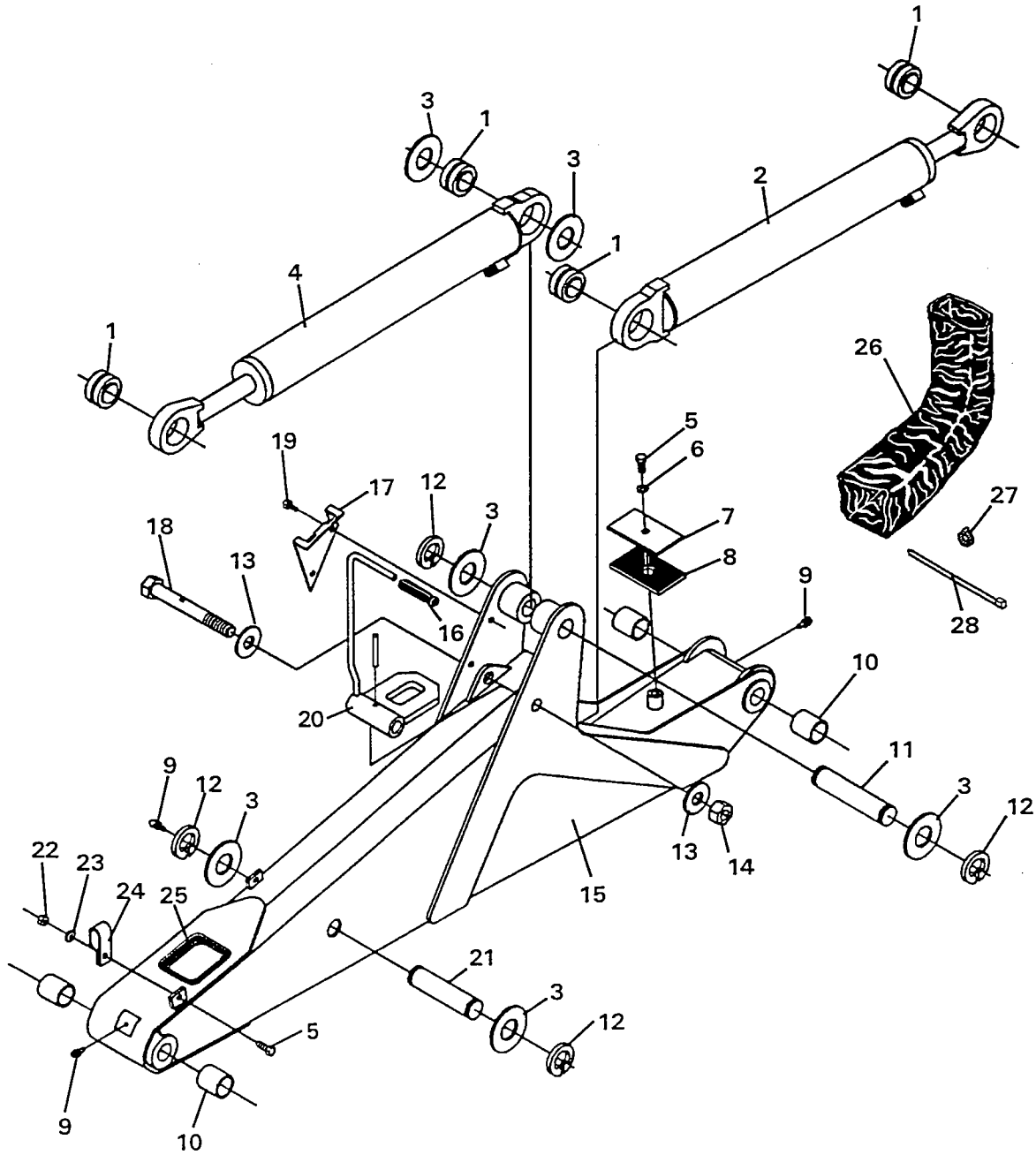
<u>NO</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	8	1652	Snap Ring
2	As Req'd	57693	Thrust Washer 1.25" X .078"
	As Req'd	64727	Thrust Washer 1.25" X .145"
	As Req'd	64728	Thrust Washer 1.25" X .031"
3	4	81846 (1)	Pin
4	2	83397	Stabilizer Cylinder Assembly
	4	6616	Grease Zerk
5	2	83393	Stabilizer Arm
6	2	83257	Pin
7	2	1613	Cotter Pin .25" X 2.00"

NOTE:

- (1) Pivot Pin #81646 is sold only in Pin Kit #86314. Kit includes one pin #81646, two thrust washers #64727 and two snap rings #1653.

# BOOM & DIPPER ASSEMBLY

ASSEMBLY #81813



# BOOM & DIPPER ASSEMBLY

ASSEMBLY #81813

<u>NO</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	-	6615	Self Aligning Bushing (Included in Cylinder Assemblies)
2	1	81611	Boom Cylinder Assembly
	1	53031	90° 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	81641	Dipper Cylinder Assembly
	2	6616	Grease Zerk
5	3	1043	.38" UNC X 1.00" Hex Capscrew
6	1	1503	.38" Lock Washer
7	1	81881	Clamp Plate
8	1	81882	Rubber Spacer
9	3	6616	Grease Zerk
10	-	81610	Bushing (Included in Boom)
11	1	81678 (1)	Pin
12	4	1650	Snap Ring
13	2	6562	Spring Washer
14	1	1959	.88" UNC Jam Lock Nut
15	1	82223	Boom (Includes (4) 81610 Bushings)
16	1	83656	Handle Grip
17	1	83606	Boom Lock Guide Plate
18	1	86897 (3)	.88" UNC X 7.00" Capscrew (Spring Pin Style)
19	2	1961	.38" UNC X .50" Flange Head Hex Capscrew
20	1	86639 (3)	Boom Lock (Spring Pin Style)
	1	1972 (3)	Spring Pin
21	1	86880 (4)	Pin 1.38" X 6.66" (Serial #---11168 and UP)
		81677 (2)	Pin 1.38" X 5.78" (UP to Serial #---11168)
22	2	1837	.38" UNC Lock Nut
23	2	1514	.38" Flat Washer
24	2	82859	Double Hose Clamp
25	1	34128	12" Rubber Edging
26	1	34125	Hose Sock
27	1	53167	Hose Clamp
28	1	84770	Hose Tie

## NOTES:

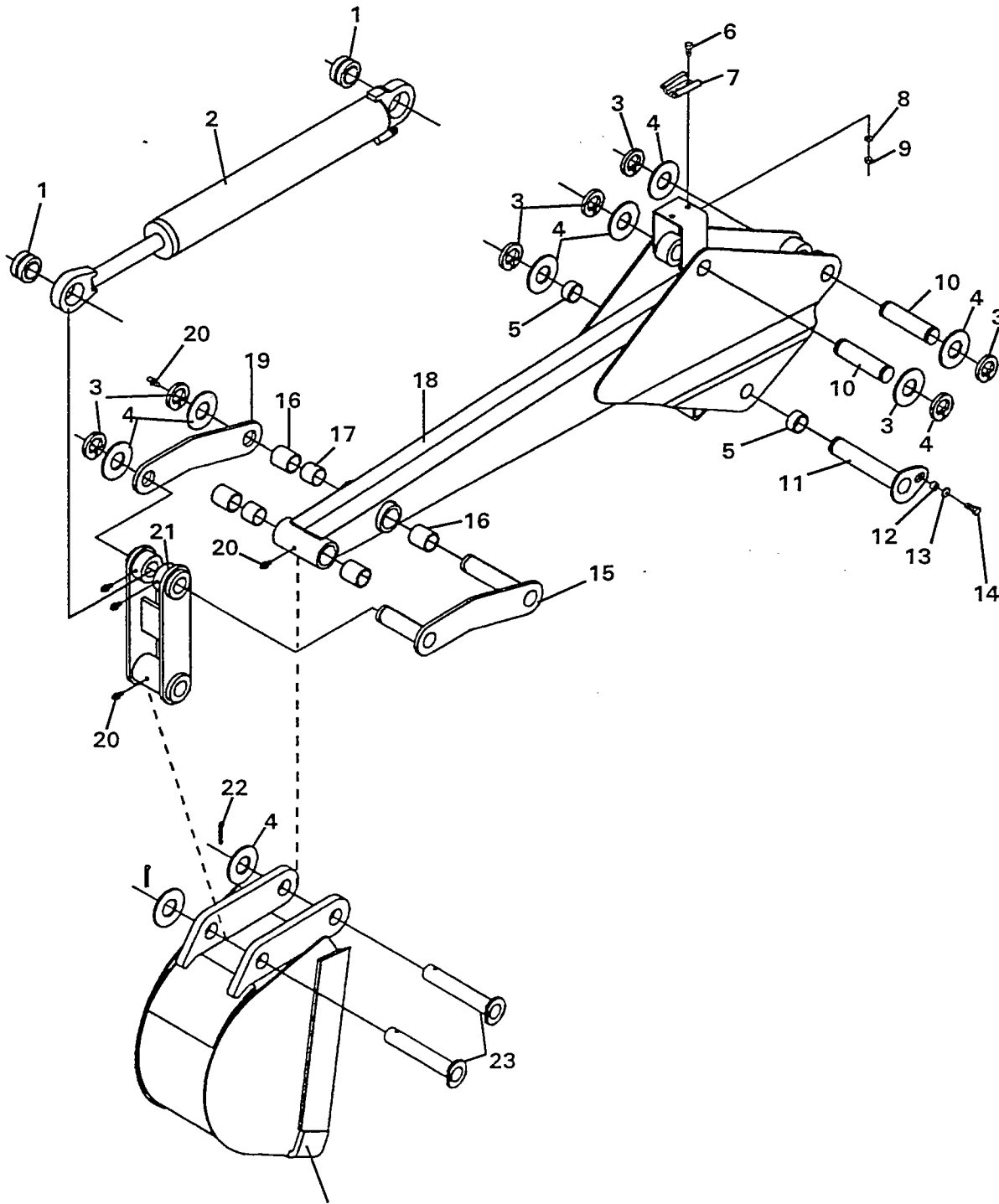
- (1) Pivot Pin #81678 is sold only in Pin Kit #86312. Kit includes one pin #81678, two thrust washers #6623 and two snap rings #1650.
- (2) Pivot Pin #81677 is sold only in Pin Kit #86313. Kit includes one pin #81677, two thrust washers #6623 and two snap rings #1650.
- (3) If replacing set screw style boom lock or boom lock handle you must order #86639, #86897 AND #1972
- (4) Pivot Pin #86880 is sold only in Pin Kit #86881. Kit includes one pin #86880, two thrust washers #6623 and two snap rings #1650.

6713

2-8-99-4

# BOOM & DIPPER ASSEMBLY

ASSEMBLY #81813



BUCKET  
(NOT INCLUDED IN BOOM & DIPPER ASSEMBLY)



# BOOM & DIPPER ASSEMBLY

ASSEMBLY #81813

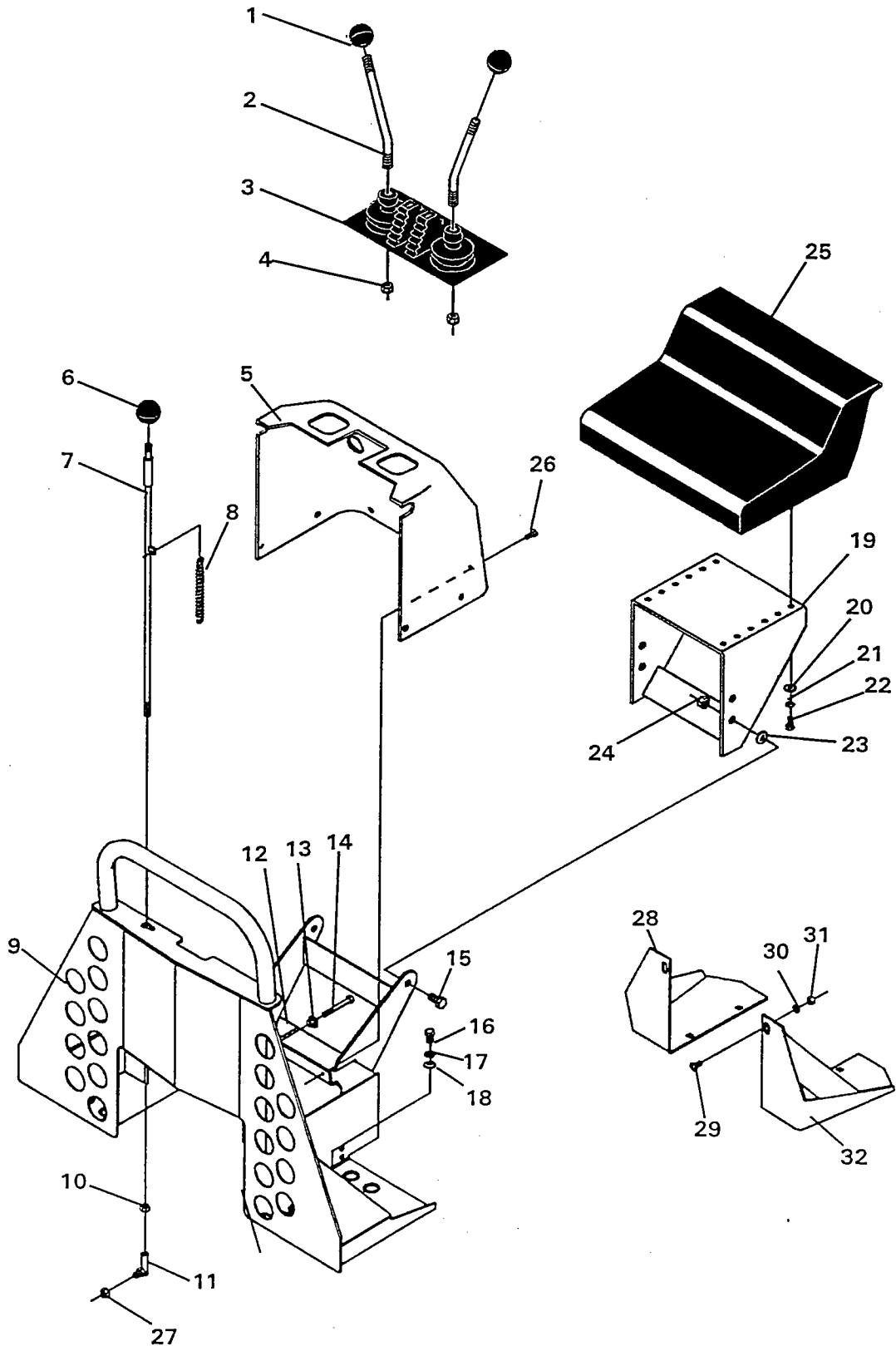
<u>NO</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	-	6615	Self Aligning Bushing (Included in Cylinder Assembly)
2	1	81634	Bucket Cylinder Assembly
	1	53031	90° Grease Zerk
	1	6616	Grease Zerk
3	7	1650	Snap Ring
4	As Req'd	6623	Thrust Washer 1.38" X .031"
	As Req'd	64724	Thrust Washer 1.38" X .090"
	As Req'd	64725	Thrust Washer 1.38" X .125"
5	-	82443	Bushing (2) Included in Dipper (Installed with Locktite Grade 680)
6	2	1021	.31" UNC X .75" Hex Capscrew
7	1	7448	SMV Clip (Used on Tractor Mounted Backhoes ONLY)
8	2	1502	.31" Lock Washer
9	2	1225	.31" UNC Hex Nut
10	2	81679 (1)	Pin
11	1	84754	Pin
12	1	81807	Spacer Tube
13	1	1514	.38" Flat Washer
14	1	1043	.38" UNC X 1.00" Hex Capscrew (Installed with Locktite Grade 242)
15	1	83411	Dipper Link
16	-	81610	Bushing (4) Included in Dipper (Installed with Locktite Grade 680)
17	-	83368	Spacer (2) Included in Dipper
18	1	81825	Dipper (Includes (4) 81610 Bushings, (2) 82443 Bushings and (2) 83368 Spacers (Bushings installed with Locktite Grade 680)
19	1	84913	Dipper Link
20	5	6616	Grease Zerk
21	1	81824	Bucket Link (Bucket Link UP TO SN #---448 Included (4) 81610 Bushings and (1) 83368 Spacer)
22	2	1613	Cotter Pin
23	2	81672	Bucket Pin

**NOTE:**

- (1) Pivot Pin #81679 is sold only in Pin Kit #86311. Kit includes one pin #81679, two thrust washers #6623 and two snap rings #1650.

# CONSOLE ASSEMBLY

ASSEMBLY #87442



# CONSOLE ASSEMBLY

ASSEMBLY #87442

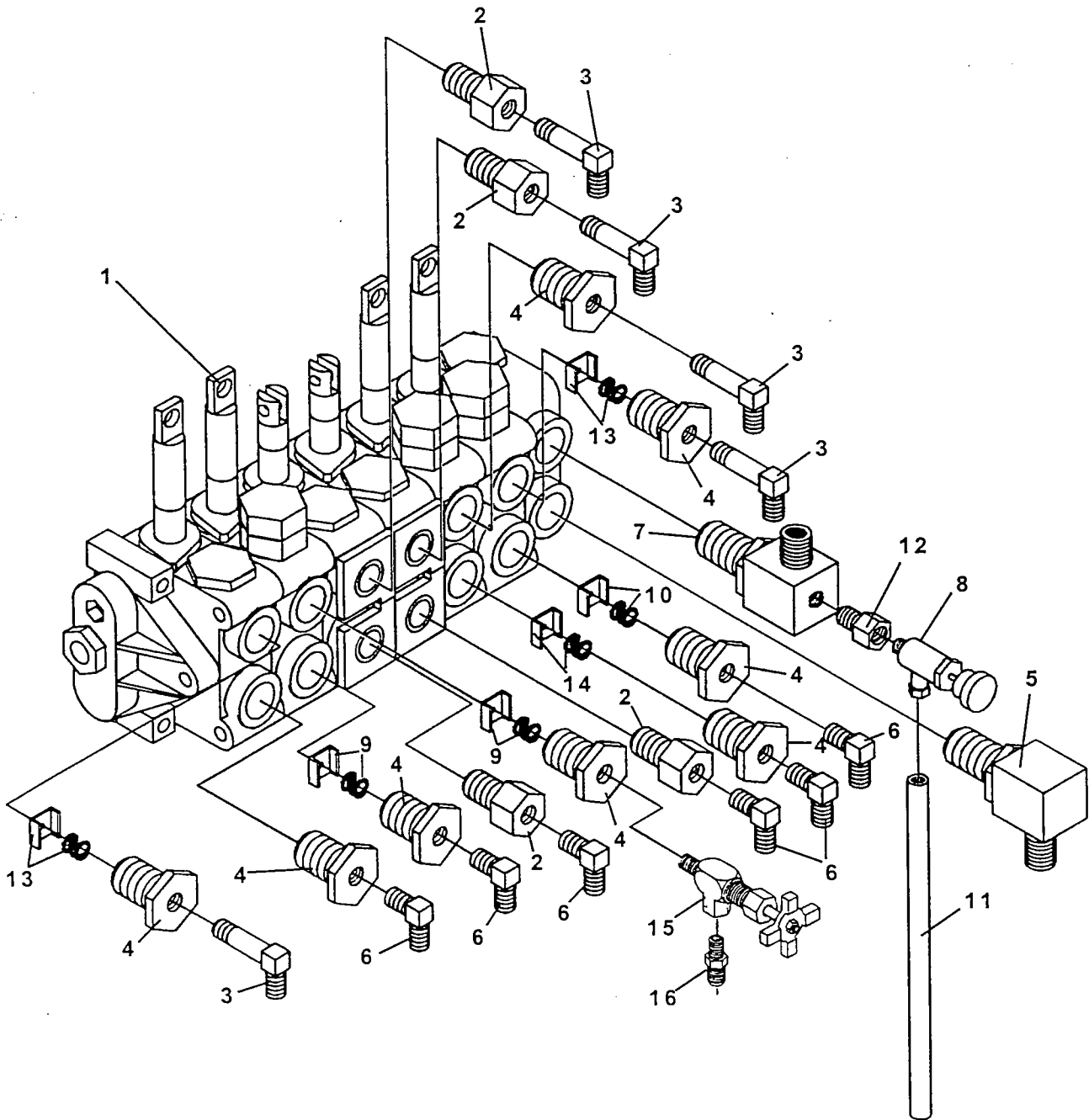
<u>NO</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	2	83063	Ball Handle
2	2	81871	Control Handle
3	1	83235	Control Lever Boot
4	2	1242	.50" UNC Jam Nut
5	1	83409	Console Cover with Decals
6	1	83406	Ball Handle - RED
7	1	83273	Rod
8	1	82795	Spring
9	1	87288	Console
10	1	1476	.38-24" UNF Jam Nut
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	10	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

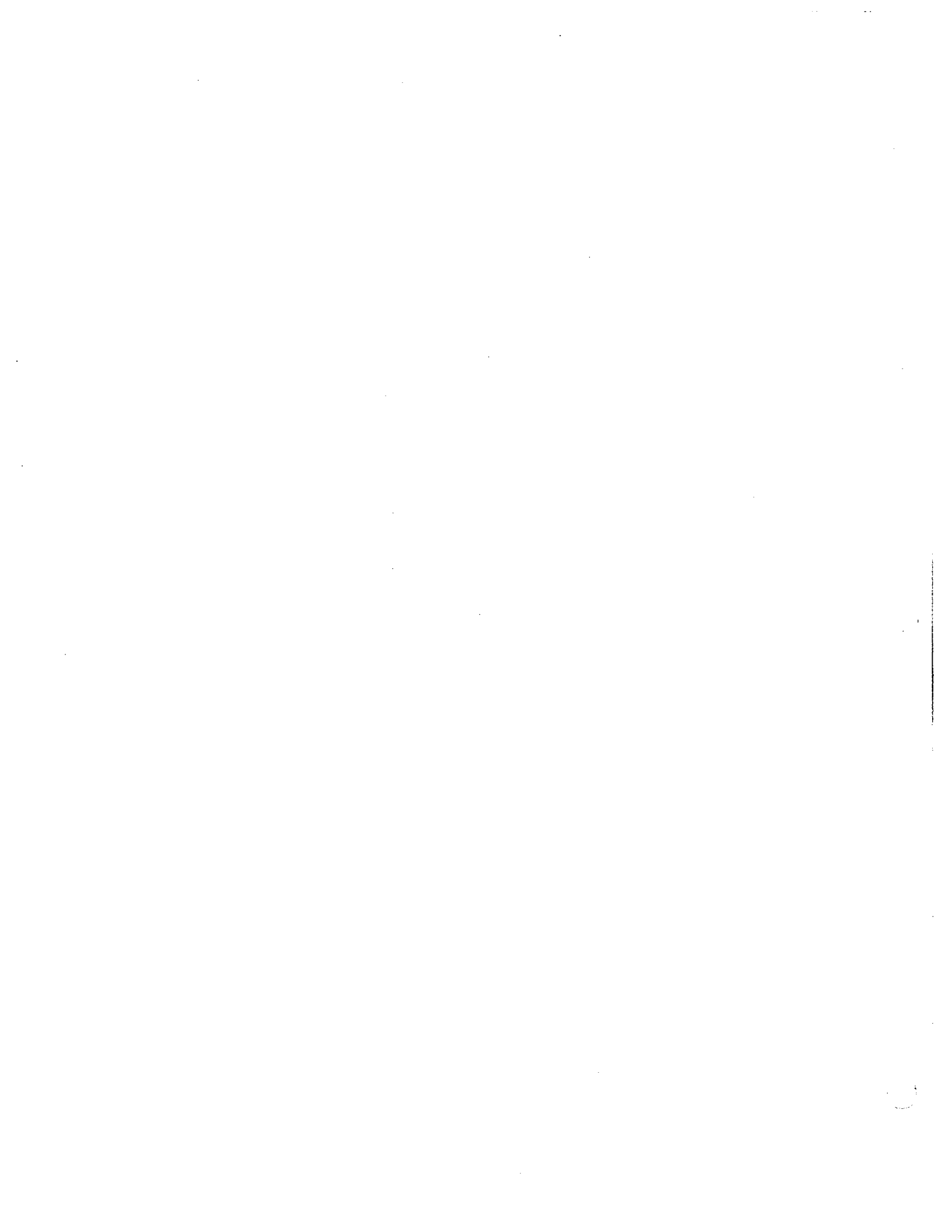
ASSEMBLY #2240



# VALVE ASSEMBLY

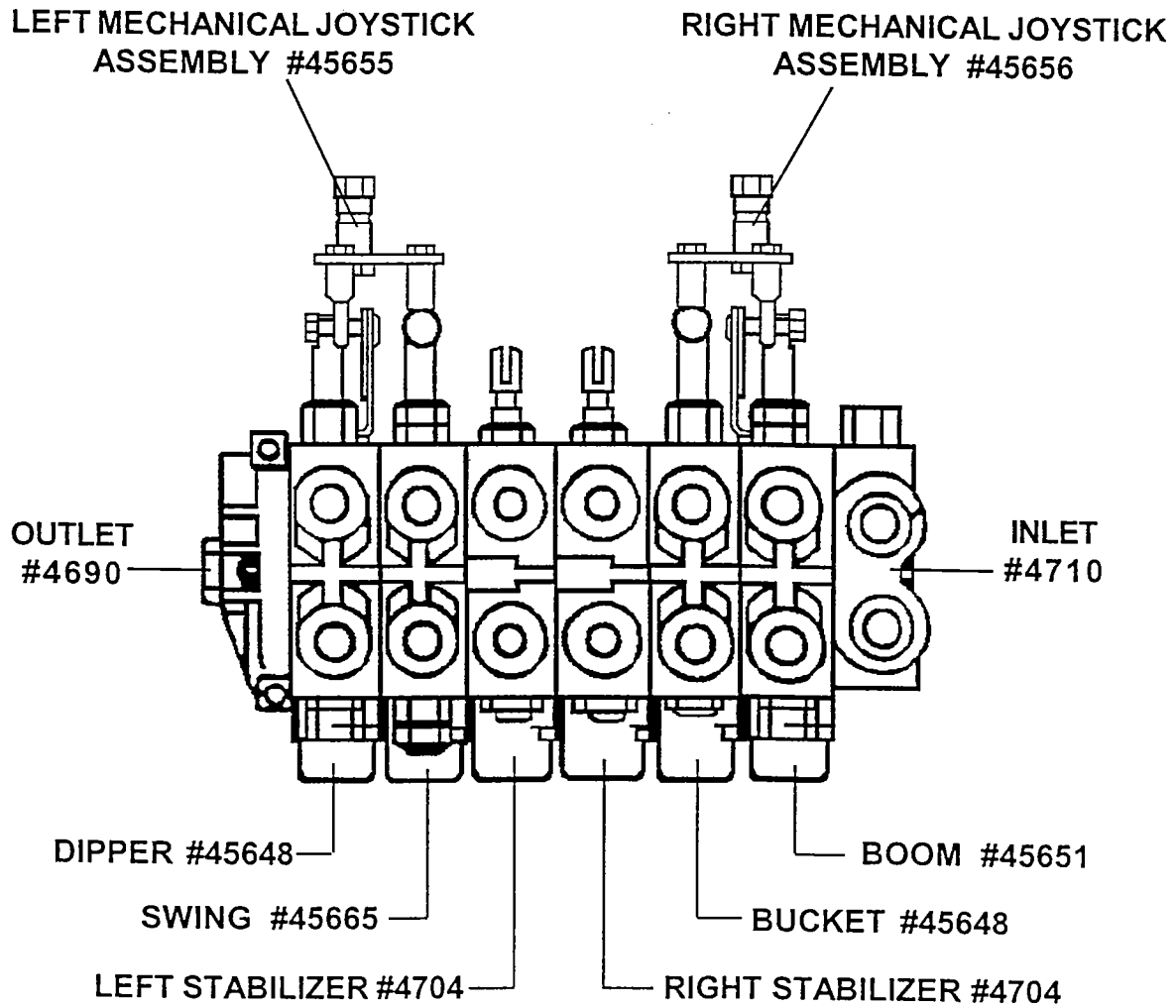
ASSEMBLY #2240

<u>NO</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	87772	Valve - 6 Spool - Gresen
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	-	45633	Restrictor with Spring - .076 Dia. Orifice (Included in Valve)
10	-	45643	Restrictor with Spring - .109 Dia. Orifice (Included in Valve)
11	1	37578	Plastic Tube .25" X 30" (Located in Console Assembly)
12	1	30151	Straight Adapter
13	-	45546*	Restrictor with Spring - .095 Dia. Orifice (Included in Valve)
14	-	45633*	Restrictor with Spring - .076 Dia. Orifice (Included in Valve)
15	1	3185	Needle Valve
16	1	3137	Male Connector 4MP-6MJ



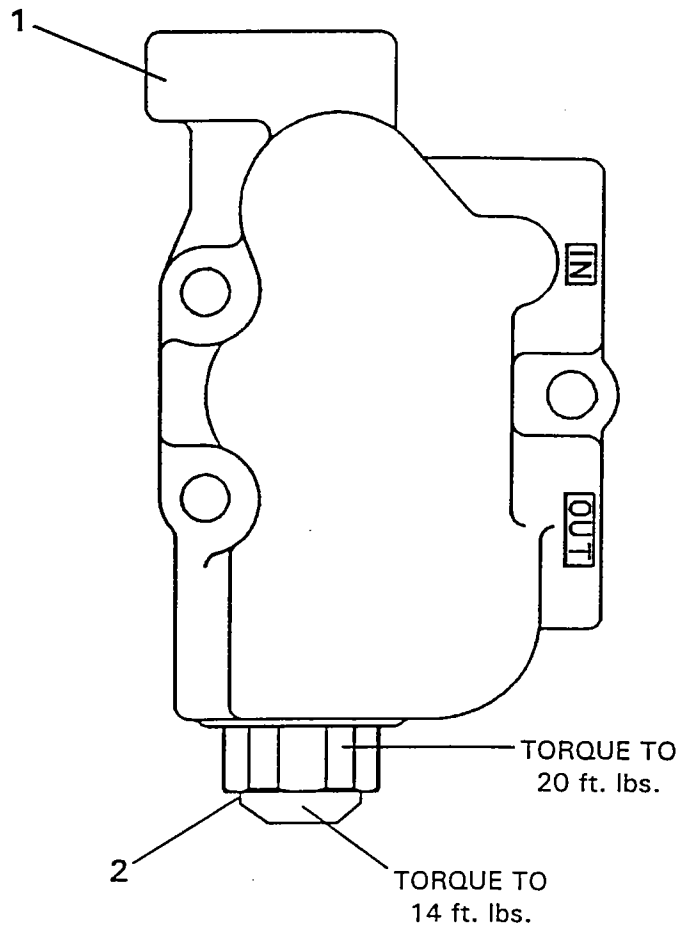
# VALVE ASSEMBLY

408 BACKHOE VALVE ASSEMBLY  
EXCAVATOR CONTROL LEVER PATTERN



# VALVE ASSEMBLY

GRESEN INLET COVER





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# VALVE ASSEMBLY

## GRESEN INLET COVER

<u>NO</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	4710	Inlet Cover #10 Ports
2	1	45148	WH Main Relief Valve Assembly @ 2250 PSI

### NOTES:

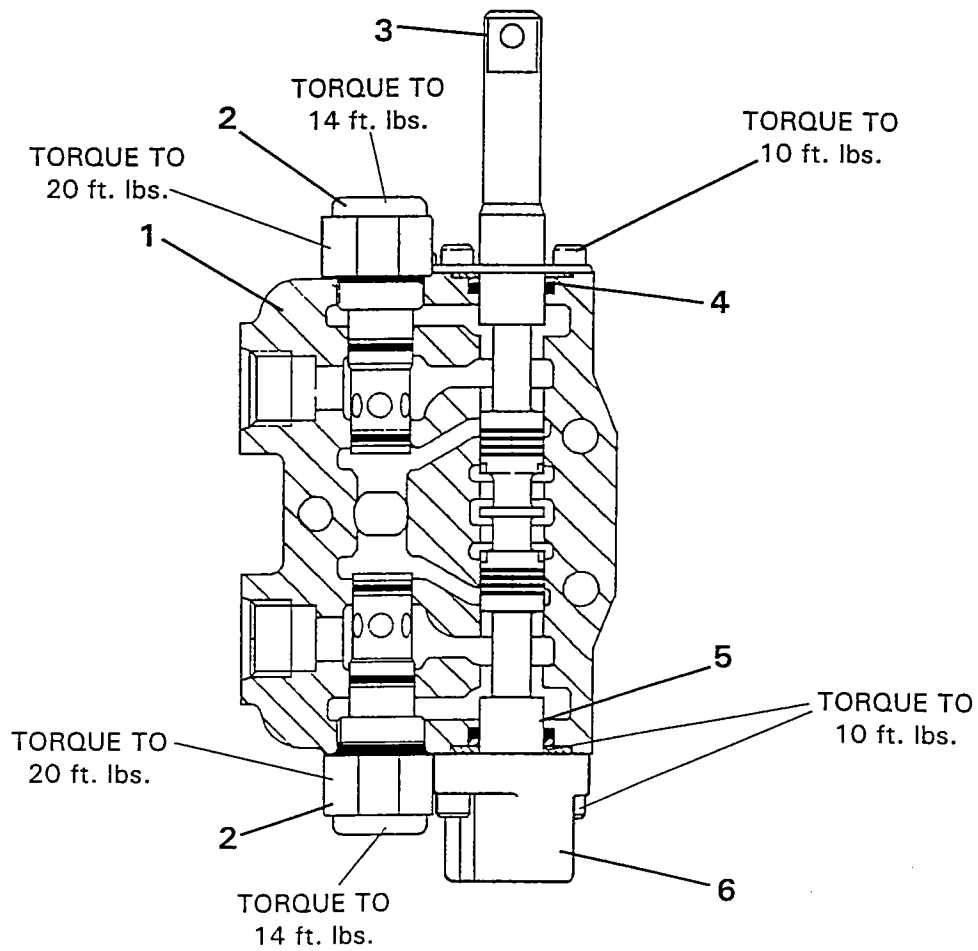
Valve Section Seal Kit #4653 contains (3) Exhaust Passage O-Ring Seals and (2) Pressure Passage O-Ring Seals

# 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>NO</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.

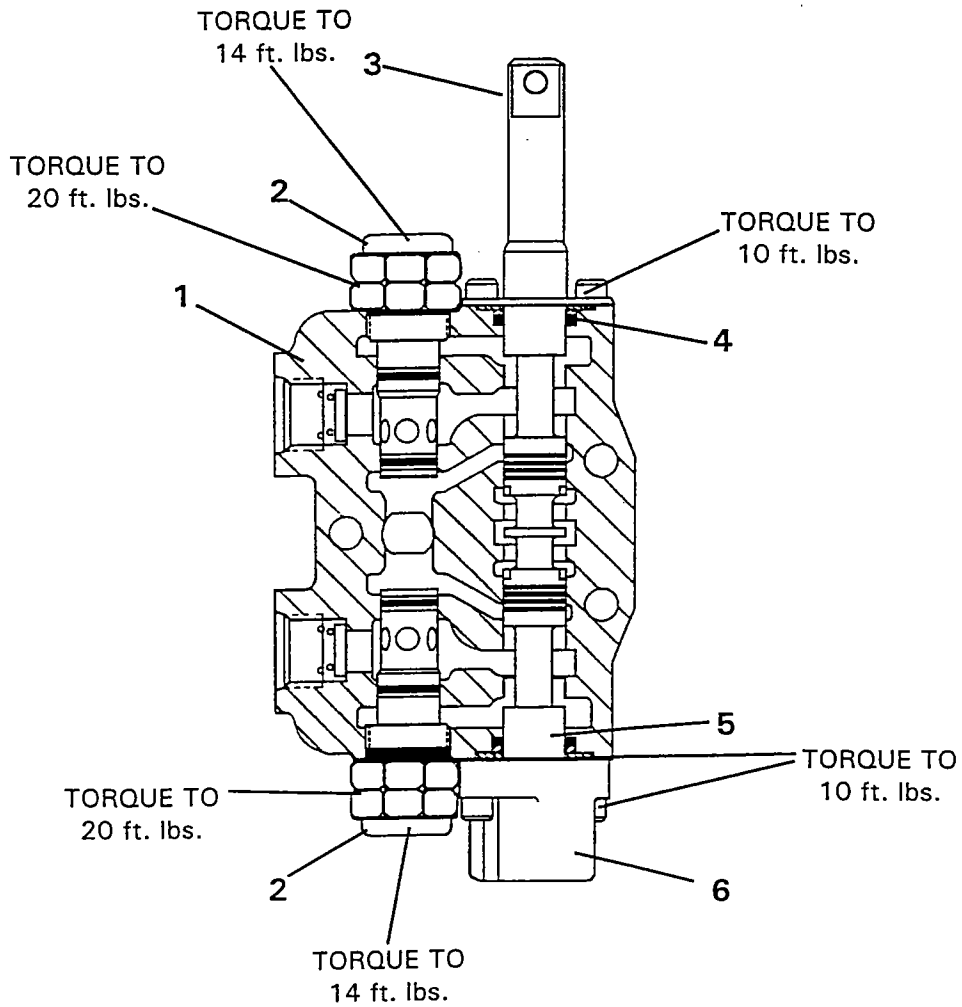
Valve Section Seal Kit #4653 contains (3) Exhaust Passage O-Ring Seals and (2) Pressure Passage O-Ring Seals.

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

6944  
5-25-99-3

# VALVE ASSEMBLY

GRESEN VALVE SECTION ASSEMBLY #45665  
408 Swing Section



# VALVE ASSEMBLY

GRESEN VALVE SECTION ASSEMBLY #45665  
408 Swing Section

<u>NO</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1		Valve Section Housing
2	2	45139	Cylinder Port Relief / Anti-Cav. Check Assembly @ 2250 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

2	45633	Restrictor with Spring - .076 Dia. Orifice
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### NOTES:

Items without part numbers are not sold separately.

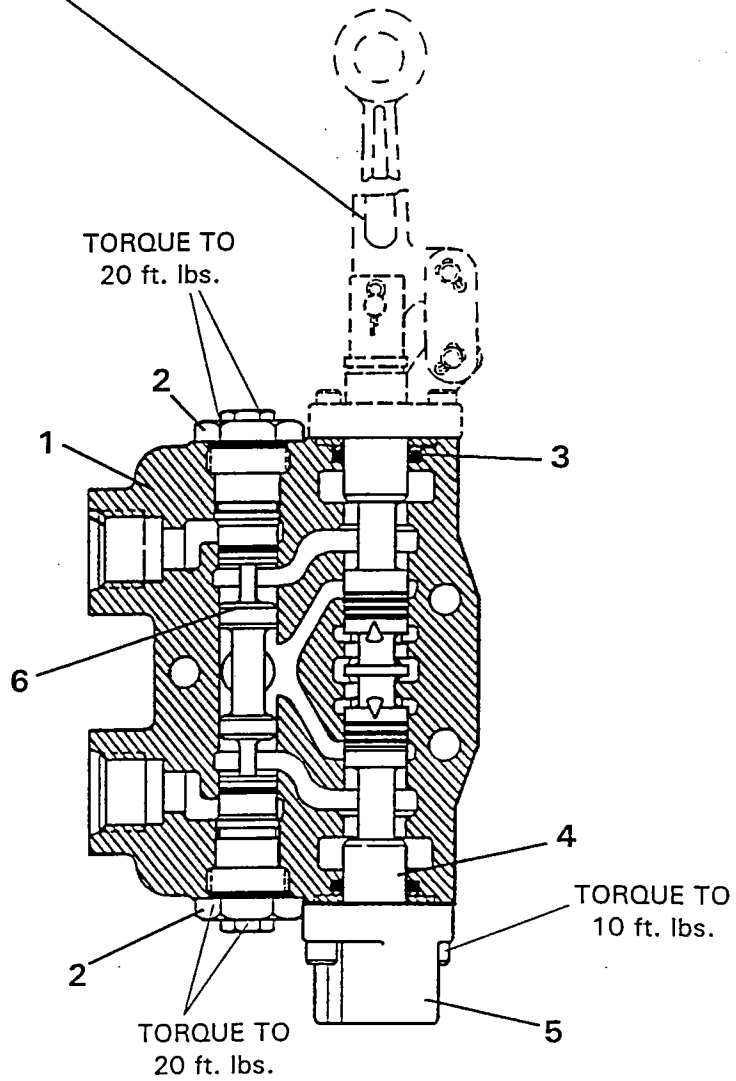
Valve Section Seal Kit #4653 contains (3) Exhaust Passage O-Ring Seals and (2) Pressure Passage O-Ring Seals.

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>NO</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.

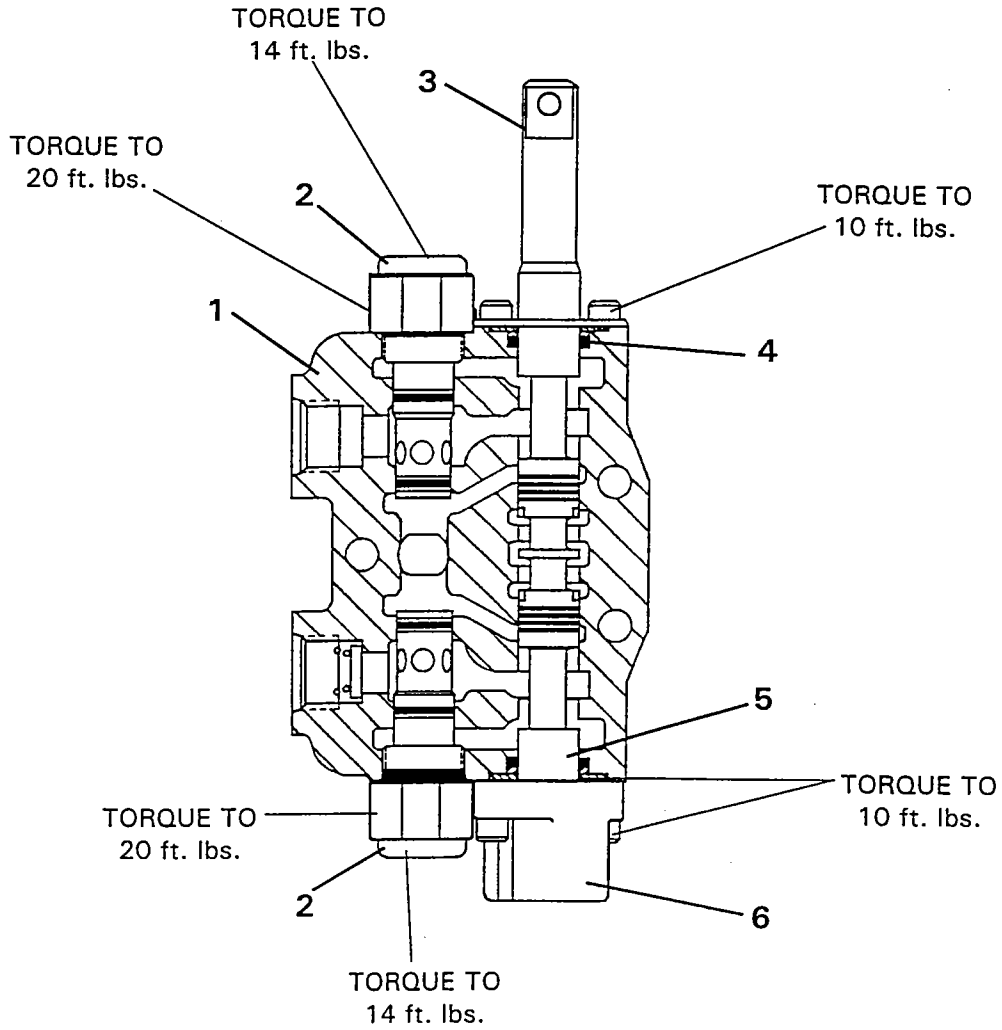
Valve Section Seal Kit #4653 contains (3) Exhaust Passage O-Ring Seals and (2) Pressure Passage O-Ring Seals.

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

6948  
5-20-96

# VALVE ASSEMBLY

GRESEN VALVE SECTION ASSEMBLY #45651  
408 Boom Section





# VALVE ASSEMBLY

GRESEN VALVE SECTION ASSEMBLY #45651  
408 Boom Section

<u>NO</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 Boom Section - Top Port)
1		45643	Restrictor with Spring - .109 Dia. Orifice (Used in 408 Boom Section - Bottom Port)

### NOTES:

Items without part numbers are not sold separately.

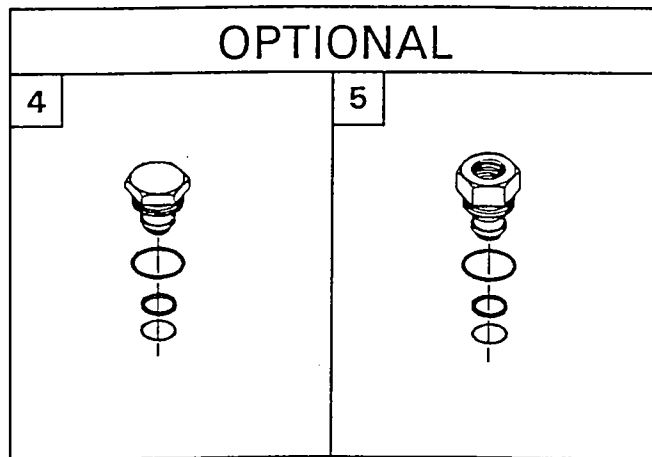
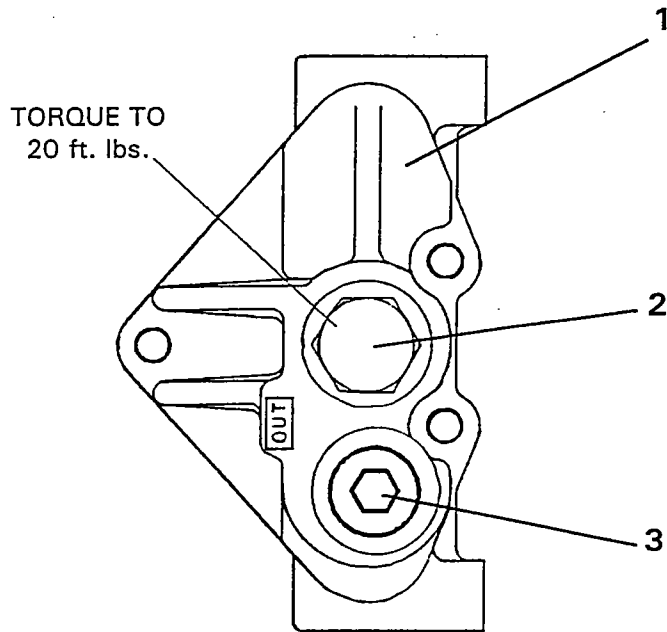
Valve Section Seal Kit #4653 contains (3) Exhaust Passage O-Ring Seals and (2) Pressure Passage O-Ring Seals.

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

6972  
9-21-98-2

# VALVE ASSEMBLY

## GRESEN OUTLET COVER



TORQUE TO 20 ft. lbs.

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# VALVE ASSEMBLY

---

## GRESEN OUTLET COVER

<u>NO</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

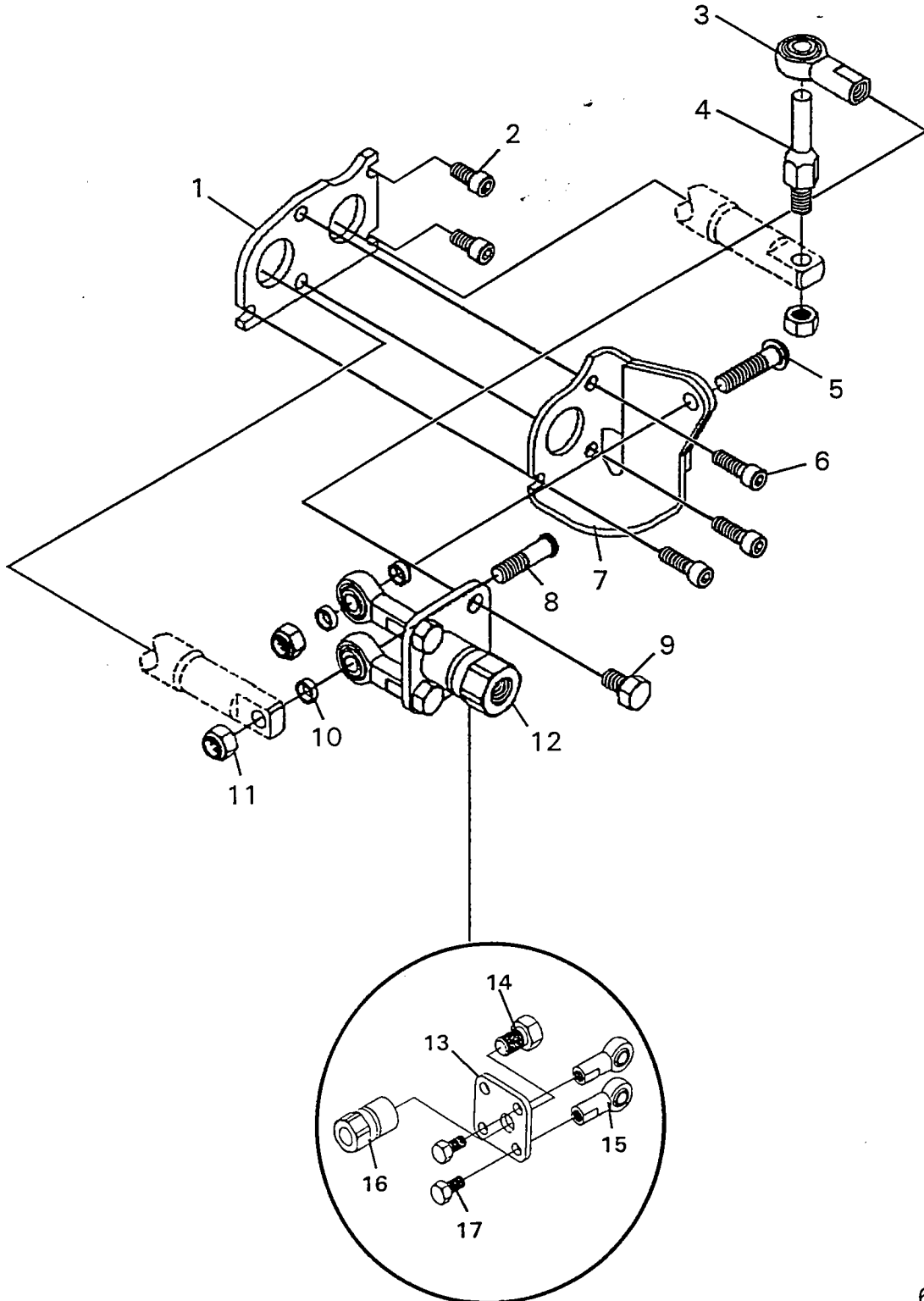
4	-	6977	Closed Center Plug Assembly (Includes Main O-Ring Seal #4693)
5	-	4698	Power Beyond Sleeve Assembly (Includes Main O-Ring Seal #4693)

#### 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



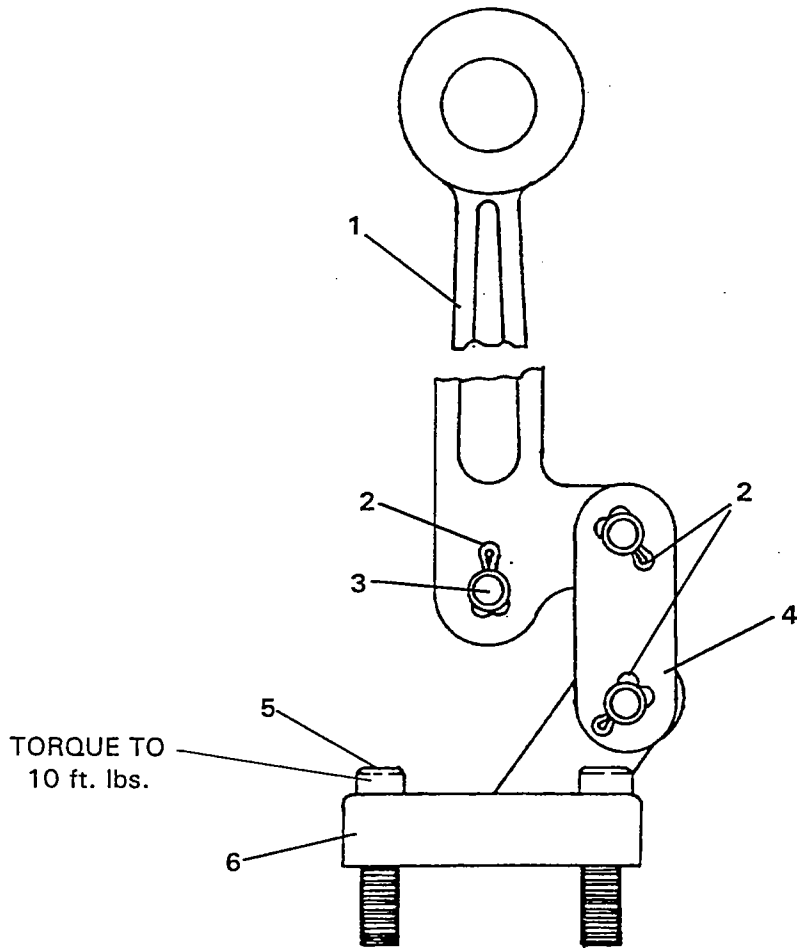
# VALVE ASSEMBLY

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

<u>NO</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



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# VALVE ASSEMBLY

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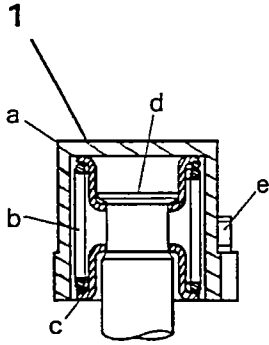
Horizontal Handle and Bracket  
Assembly #45586

<u>NO</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

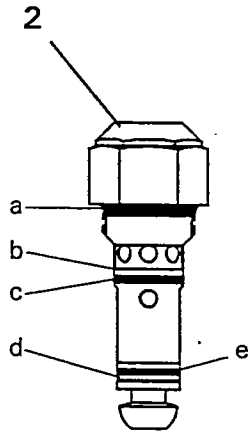
\* NOTE: All parts marked with an asterisk (\*) are included in Horizontal Handle and Bracket Assembly #45586. Parts are not sold separately.

# VALVE ASSEMBLY

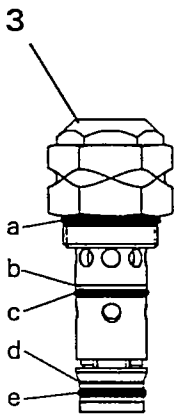
GRESSEN VALVE SERVICE PARTS



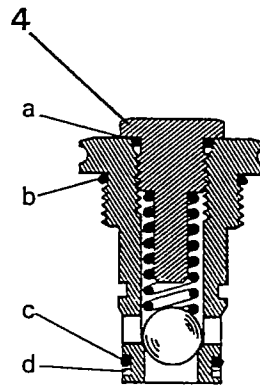
**Spool Positioner Assembly**



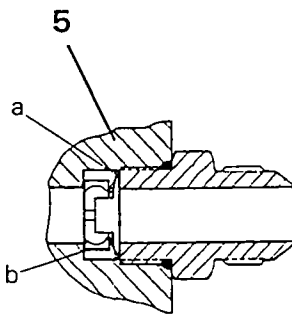
**Cylinder Port Relief Assembly**



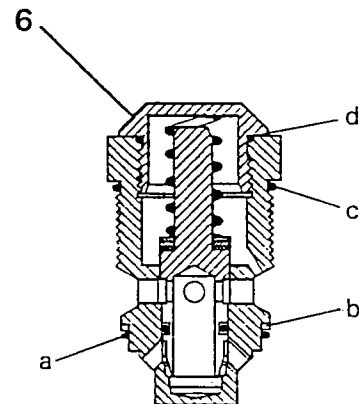
**Cylinder Port Relief/Anti Cav. Check Assembly**



**Lockout Check Assembly**



**Port Restrictor and Spring Assembly**



**WH Main Relief Valve Assembly**



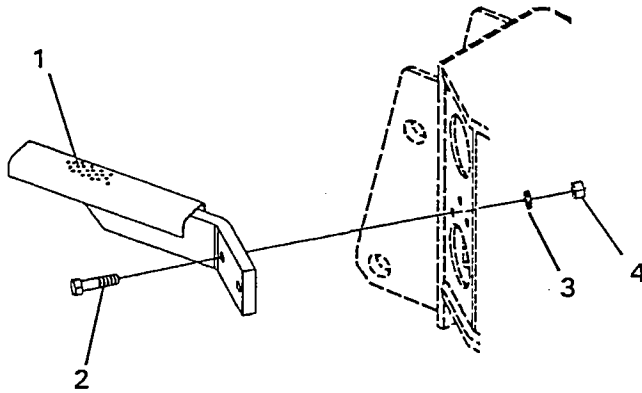
# VALVE ASSEMBLY

## 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	45667 4822	Cylinder Port Relief Assembly @ 2500 PSI (Due to close tolerances only the seals may be serviced in the field.) Seal Kit a O-Ring Seal b Backup Ring c O-Ring Seal d Backup Ring e O-Ring Seal
3	45139 4822	Relief/Anti-Cav. Check Assembly @ 2250 PSI (Due to close tolerances only the seals may be serviced in the field.) Seal Kit a O-Ring Seal b Backup Ring c O-Ring Seal d Backup Ring e O-Ring Seal
4	4819 4829	Lockout Check Assembly (Due to close tolerances only the seals may be serviced in the field.) Seal Kit a O-Ring Seal b Backup Ring c O-Ring Seal d Backup Ring
5	45633 45643	Port Restrictor Assembly .076 Dia. Orifice Port Restrictor Assembly .109 Dia. Orifice a Spring b Orifice Plate
6	45148 45142	WH Main Relief Valve Assembly @ 2250 PSI (Due to close tolerances only the seals may be serviced in the field.) Seal Kit a O-Ring Seal b Backup Ring c O-Ring Seal d O-Ring Seal

# OPTIONAL STEP ASSEMBLY

ASSEMBLY #83650



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# OPTIONAL STEP ASSEMBLY

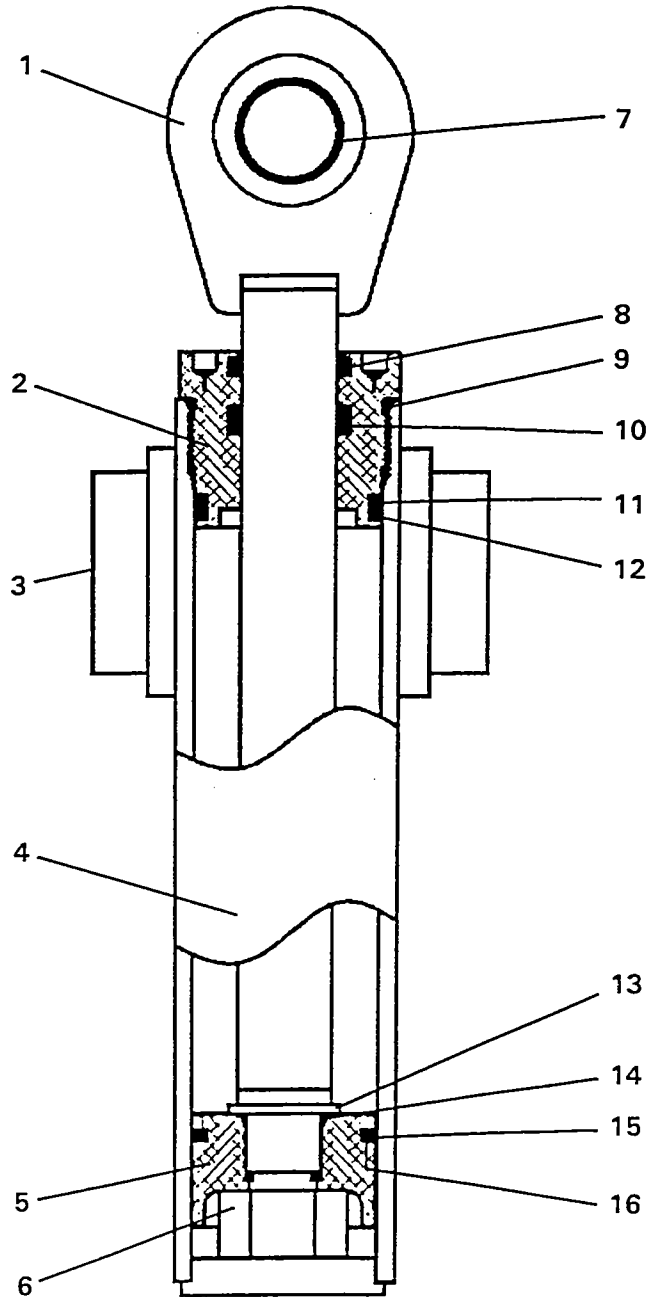
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ASSEMBLY #83650

<u>NO</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	83651	Step
2	2	1045	.38" UNC X 1.50" Hex Capscrew
3	2	1503	.38" Lock Washer
4	2	1226	.38" UNC Hex Nut

# CYLINDER ASSEMBLY

SWING CYLINDER ASSEMBLY #81827



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# CYLINDER ASSEMBLY

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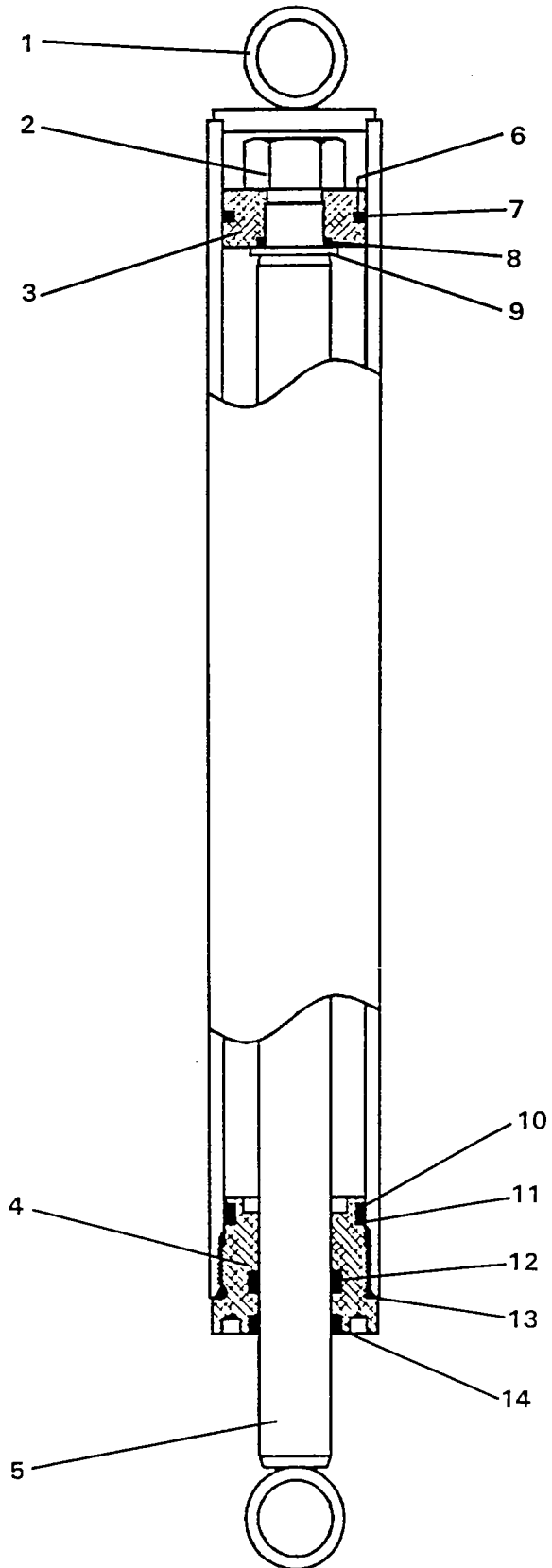
## SWING CYLINDER ASSEMBLY #81827

<u>NO</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 #83397  
(1.25" DIAMETER CYLINDER ROD)



# CYLINDER ASSEMBLY

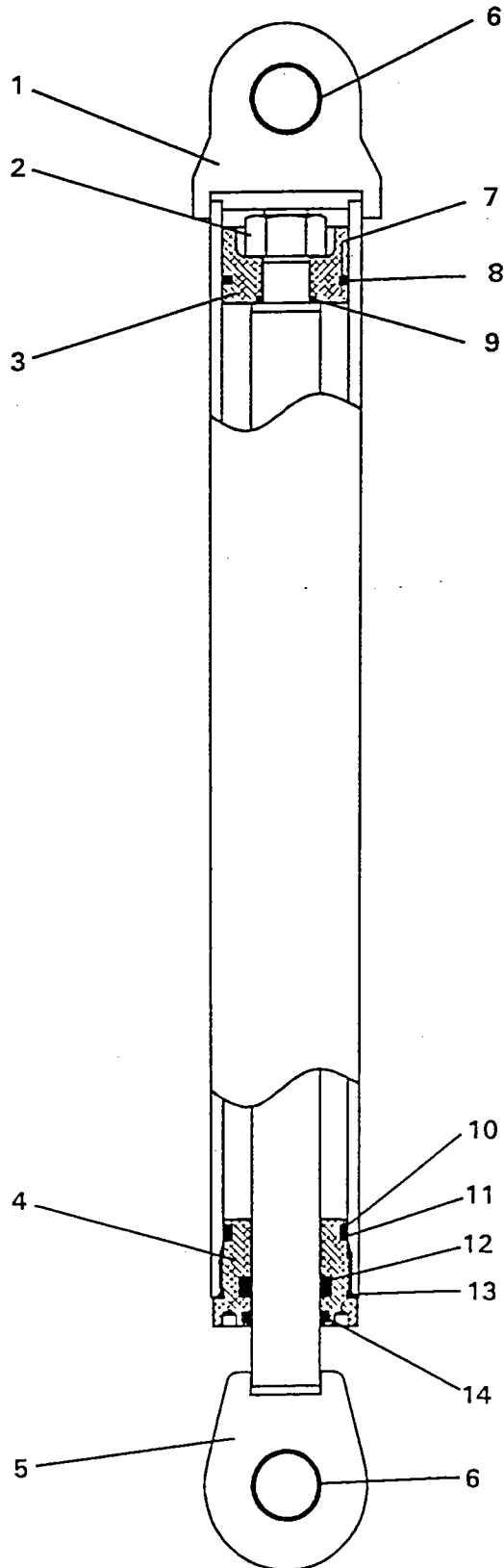
STABILIZER CYLINDER ASSEMBLY #83397  
(1.25" DIAMETER CYLINDER ROD)

<u>NO</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

BOOM CYLINDER ASSEMBLY #81611





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# CYLINDER ASSEMBLY

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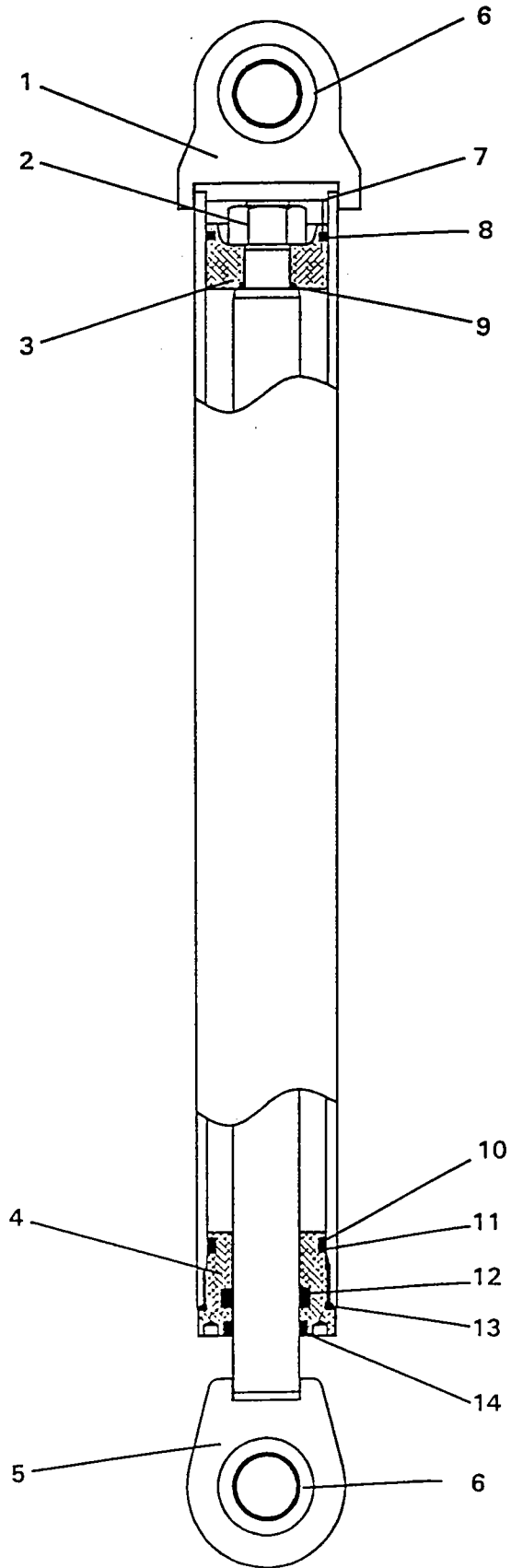
## BOOM CYLINDER ASSEMBLY #81611

<u>NO</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	81612	Cylinder Tube
2	1	1483	Hex Nut
3	1	82857	Piston
4	1	82449	Cylinder Gland
5	1	82450	Cylinder Rod
6	2	6615	Self Aligning Bushing
7	1	45250*	O'Ring
8	1	45251*	Piston Ring
9	1	4641*	O'Ring
10	1	45557*	O'Ring
11	1	45249*	Back-Up Ring
12	1	45225*	Poly Pak Seal
13	1	4570*	O'Ring
14	1	45372*	Rod Wiper

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

# CYLINDER ASSEMBLY

DIPPER CYLINDER ASSEMBLY #81641



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## CYLINDER ASSEMBLY

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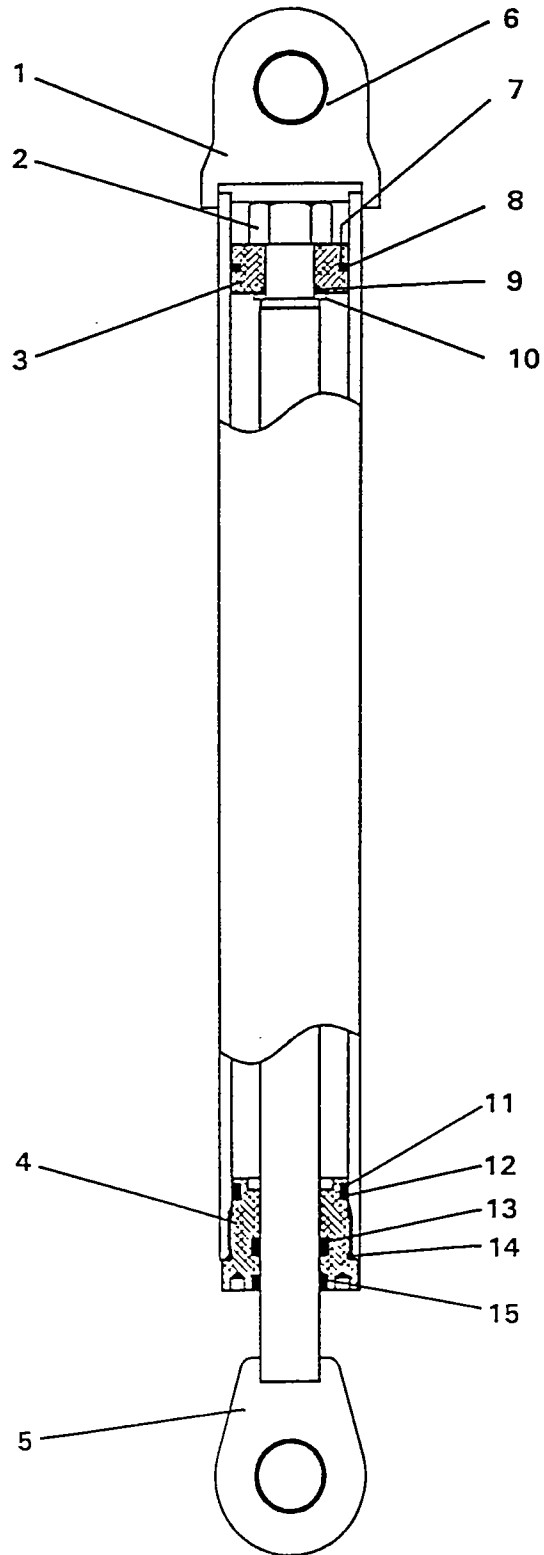
### DIPPER CYLINDER ASSEMBLY #81641

<u>NO</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	81642	Cylinder Tube
2	1	1483	Hex Nut
3	1	83113	Piston
4	1	82449	Cylinder Gland
5	1	81643	Cylinder Rod
6	2	6615	Self Aligning Bushing
7	1	45250*	O'Ring
8	1	45251*	Piston Ring
9	1	4641*	O'Ring
10	1	45557*	O'Ring
11	1	45249*	Back-Up Ring
12	1	45225*	Poly Pak Seal
13	1	4570*	O'Ring
14	1	45372*	Rod Wiper

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

# CYLINDER ASSEMBLY

BUCKET CYLINDER ASSEMBLY #81634



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# CYLINDER ASSEMBLY

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BUCKET CYLINDER ASSEMBLY #81634

<u>NO</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	81635	Cylinder Tube
2	1	1483	Hex Nut
3	1	50252	Piston
4	1	77458	Cylinder Gland
5	1	81636	Cylinder Rod
6	2	6615	Self Aligning Bushing
7	1	4645*	O'Ring
8	1	4644*	Piston Ring
9	1	4641*	O'Ring
10	1	5421	Washer
11	1	4509*	O'Ring
12	1	4510*	Back-Up Ring
13	1	45219*	Poly Pak Seal
14	1	45250*	O'Ring
15	1	45389*	Rod Wiper

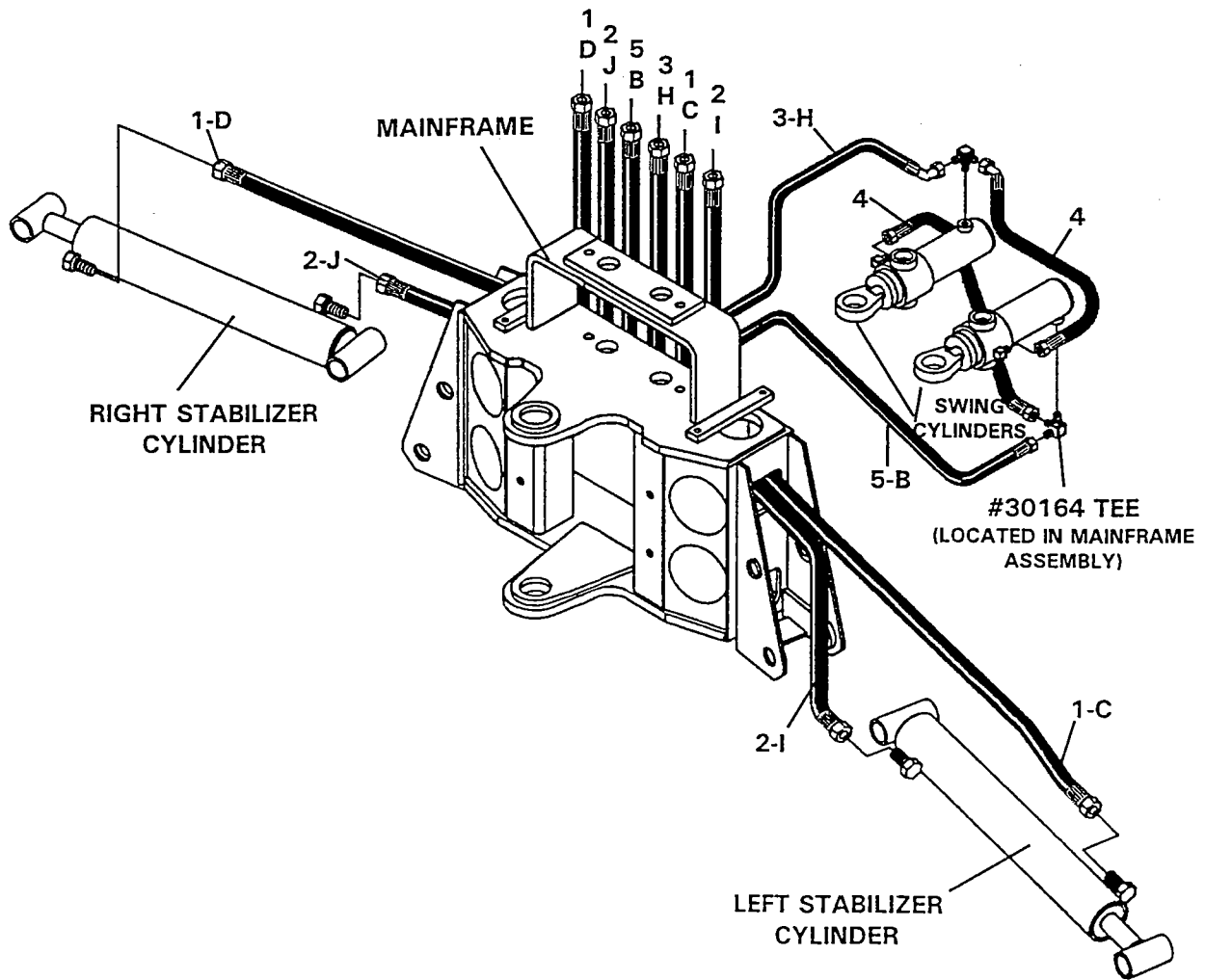
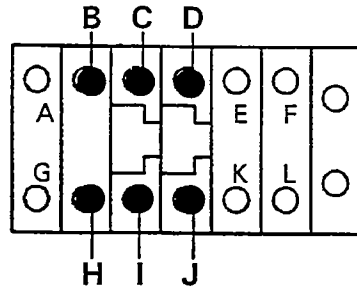
NOTE: Seal Kit #45617 includes all parts marked with an asterisk (\*).  
Parts are not sold separately.

# MAINFRAME HOSE SET

ASSEMBLY #83434

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

## HYDRAULIC CONTROL VALVE



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## MAINFRAME HOSE SET

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ASSEMBLY #83434

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

<u>NO</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.

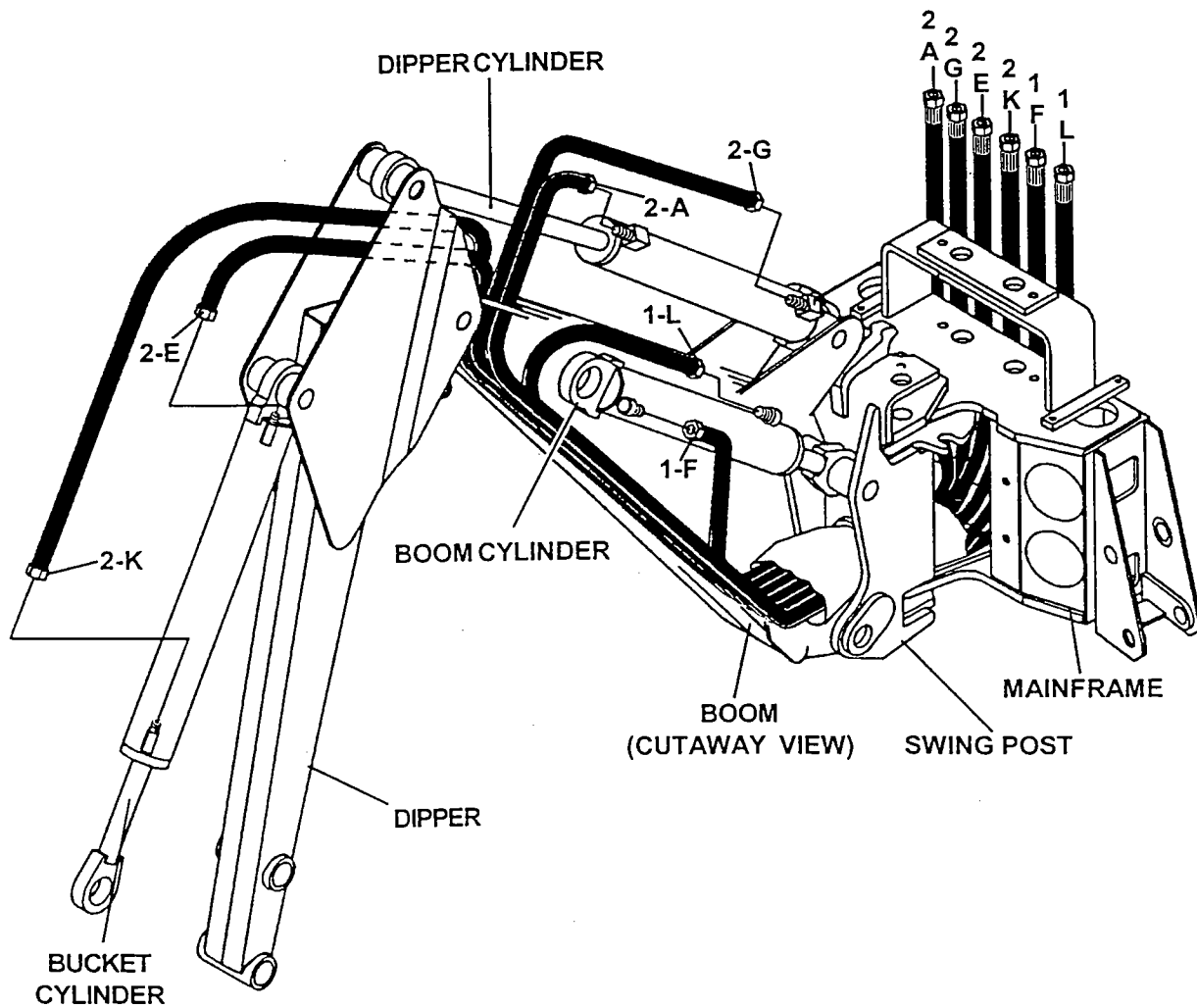
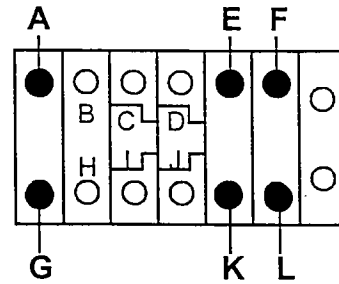
NOTE: Letters on the hose set diagram show the hydraulic hose routing between the backhoe control valve and the various hydraulic cylinders. Simply match the letter on the control valve port to the same letter on the hydraulic hose ends. Example: Hose Assembly labeled "C" runs from the upper Left Stabilizer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

# BOOM & DIPPER HOSE SET

EXCAVATOR CONTROL LEVER PATTERN  
ASSEMBLY #81877

HYDRAULIC CONTROL VALVE





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# BOOM & DIPPER HOSE SET

EXCAVATOR CONTROL LEVER PATTERN

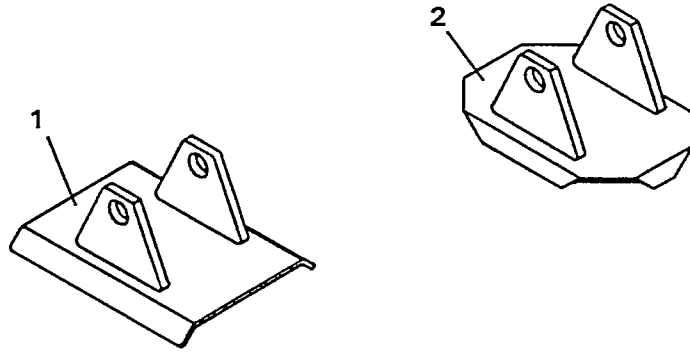
ASSEMBLY #81877

<u>NO</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	2	37523	Hose Assembly .38" X 80" 6FJX-6FJX
2	4	37524	Hose Assembly .38" X 129" 6FJX-6FJX

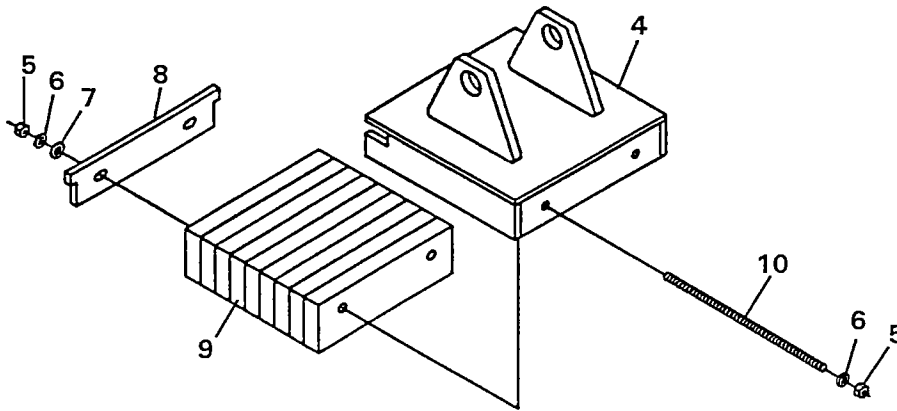
NOTE: Letters on the hose set diagram show the hydraulic hose routing between the backhoe control valve and the various hydraulic cylinders. Simply match the letter on the control valve port to the same letter on the hydraulic hose ends. Example: Hose Assembly labeled "G" runs from the lower Dipper port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



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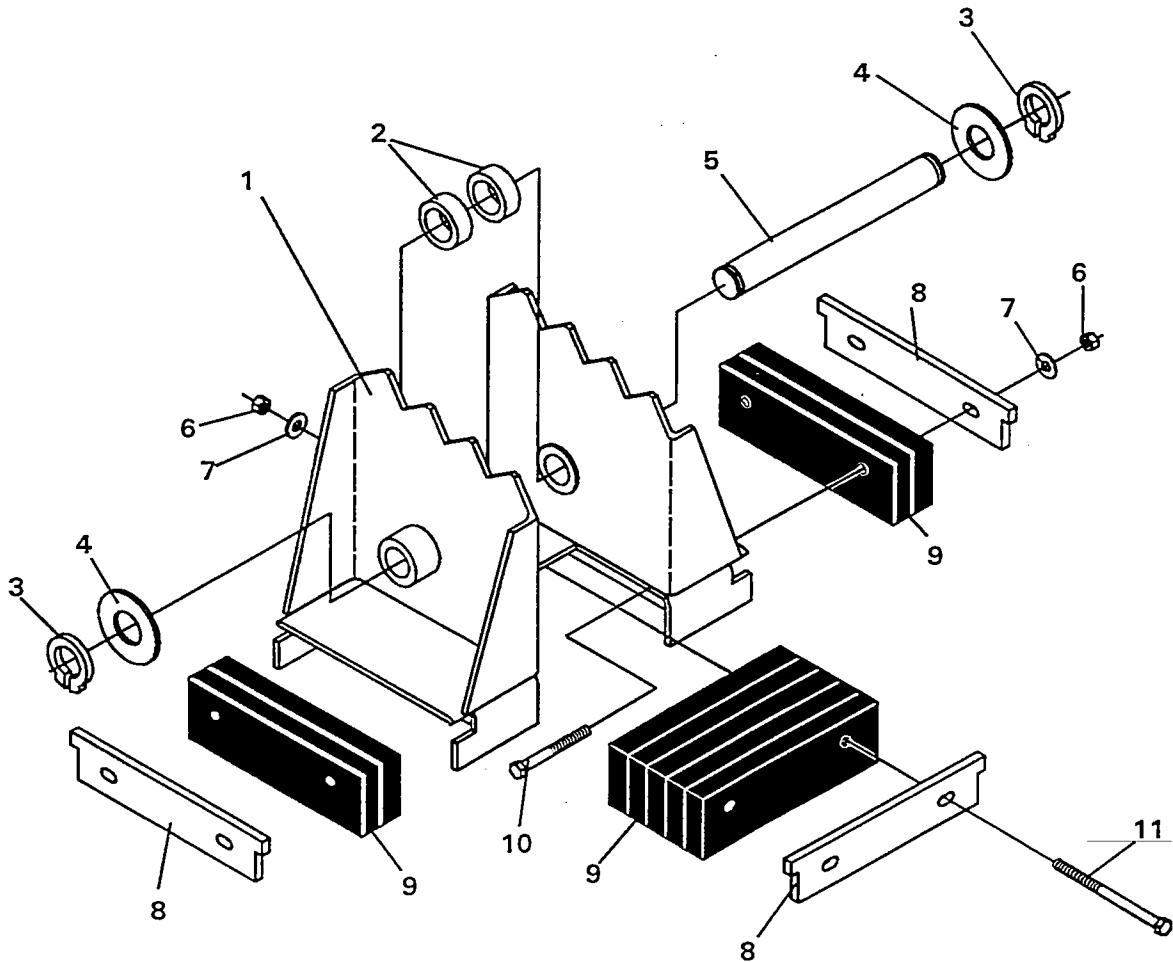
## STABILIZER PADS

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<u>NO</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)



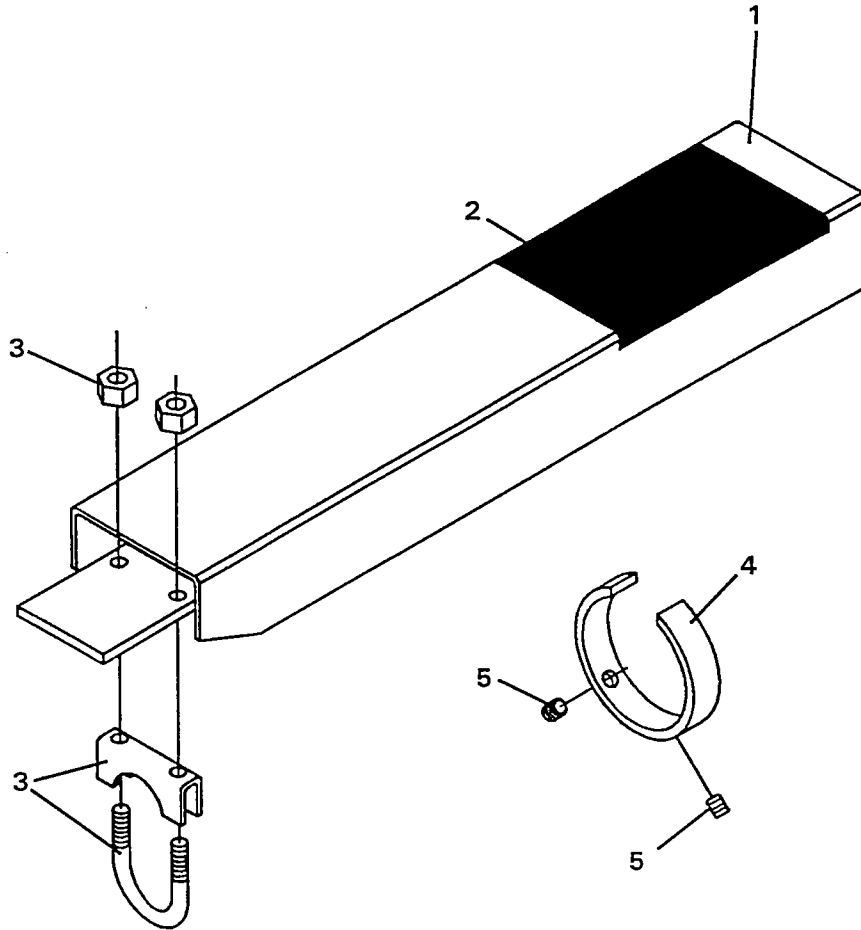
# STABILIZER PADS

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

<u>NO</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	VARIES	57693	Thrust Washer 1.25" X .078"
	VARIES	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

STABILIZER CYLINDER COVER ASSEMBLY #83850

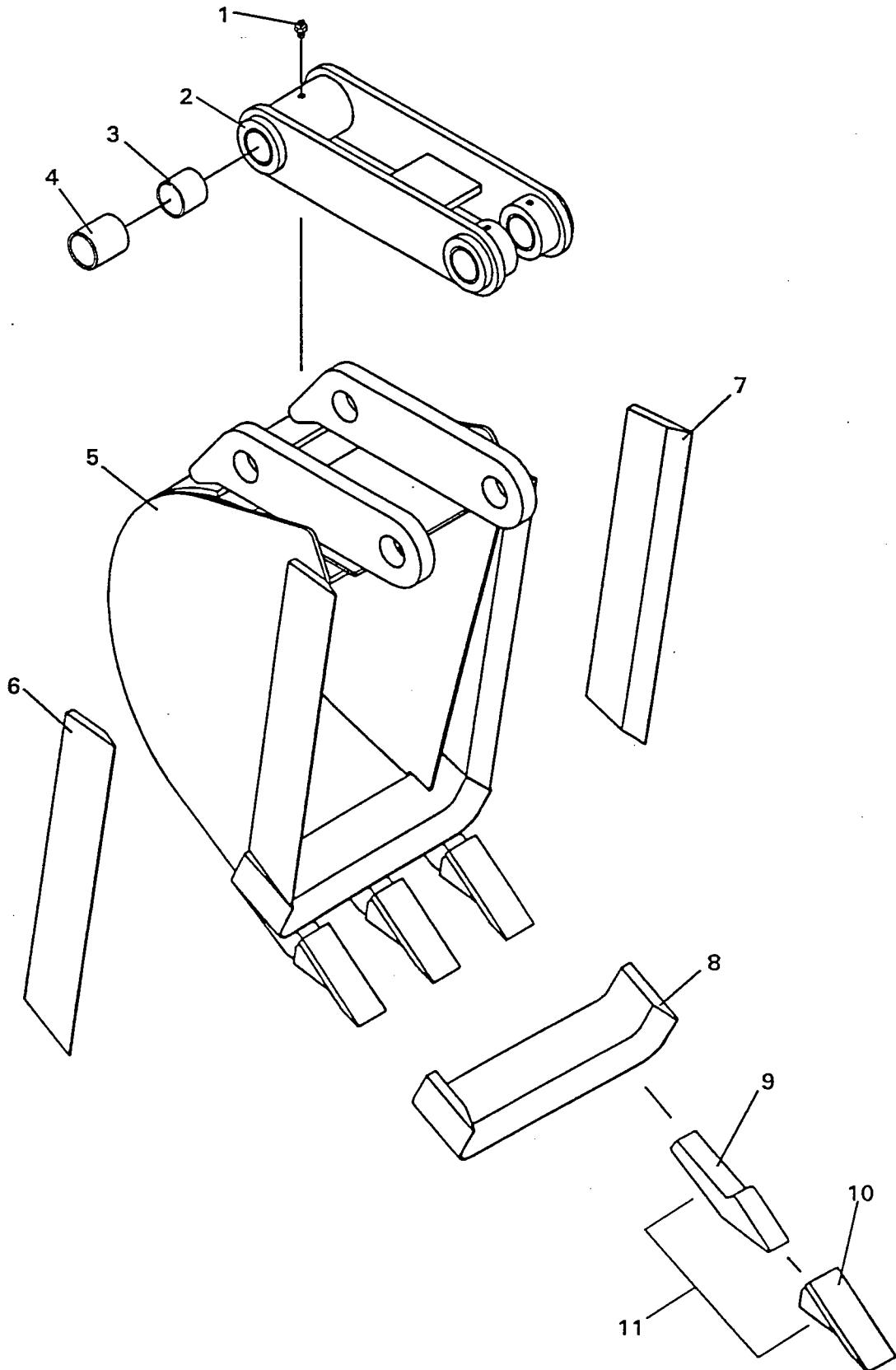


# OPTIONAL STABILIZER CYLINDER COVER

STABILIZER CYLINDER COVER ASSEMBLY #83850

<u>NO</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	83910	1.25" Clamp Assembly
4	2	83911	Guide Ring
5	4	1575	.38" UNC X .50" Set Screw

# BUCKET ASSEMBLIES



6735  
12-12-95



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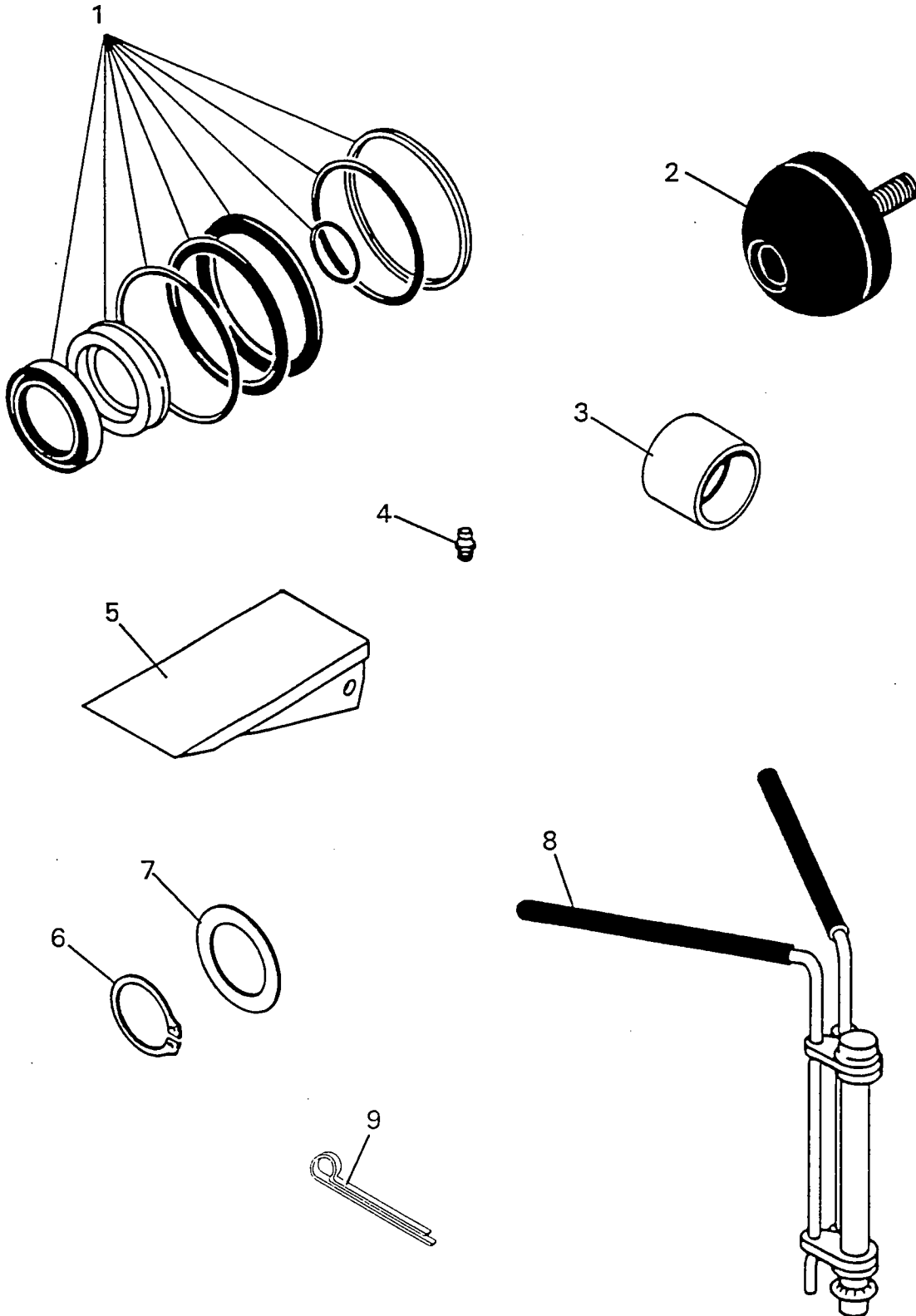
## BUCKET ASSEMBLIES

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<u>NO</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	6616	Replacement Grease Zerk
2	81824	Replacement Bucket Link (Requires (3) #6616 Grease Zerks, (4) #81610 Bushings, (1) #83368 Spacer)
3	83368	Replacement Spacer
4	81610	Replacement Bushing
5	81710	10" Bucket Weldment
	81712	12" Bucket Weldment
	81716	16" Bucket Weldment
	81718	18" Bucket Weldment
	81724	24" Bucket Weldment
6	81667	Replacement Right Side Cutter
7	81668	Replacement Left Side Cutter
8	81906	10" Replacement Front Cutter Edge
	81902	12" Replacement Front Cutter Edge
	81898	16" Replacement Front Cutter Edge
	81894	18" Replacement Front Cutter Edge
	81666	24" Replacement Front Cutter Edge
9	6398	Replacement Tooth Shank
10	6397	Replace Tooth Point
11	8274	Replacement Tooth Point & Shank

# FIRST LINE REPAIR KIT

ASSEMBLY #83649



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# FIRST LINE REPAIR KIT

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ASSEMBLY #83649

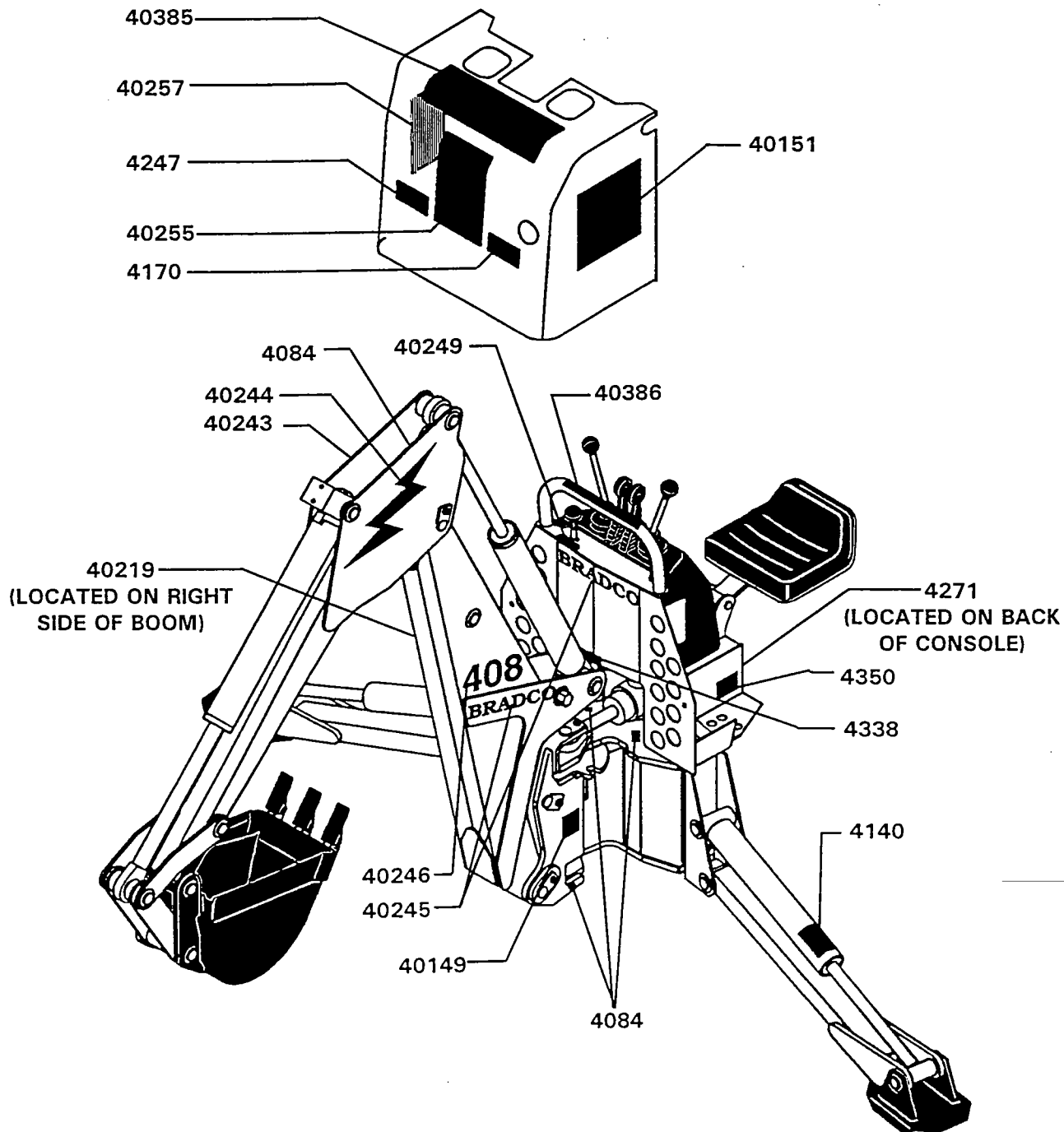
<u>NO</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	2	45617	Seal Kit (Swing/Stabilizer/Bucket Cylinders)
	2	45618	Seal Kit (Boom/Dipper Cylinders)
2	1	6886	Rubber Bumper
3	4	81610	Bushing
4	4	6616	Grease Zerk
5	4	6397	Bucket Tooth
6	4	1650	Snap Ring 1.38"
7	4	6623	Thrust Washer 1.38" X .031"
8	1	65349	Cylinder Seal Install Tool
9	2	1613	Cotter Pin

## DECALS

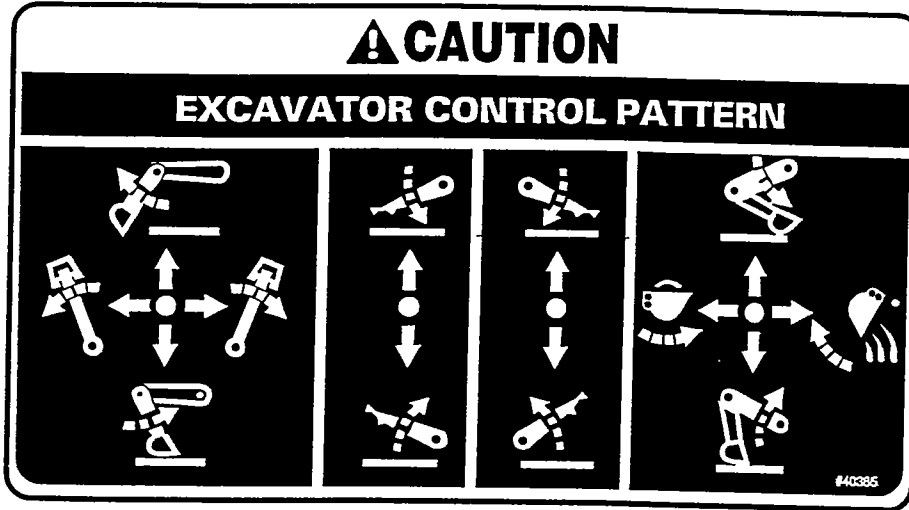
### DECAL PLACEMENT - EXCAVATOR CONTROL LEVER PATTERN

#### GENERAL INFORMATION

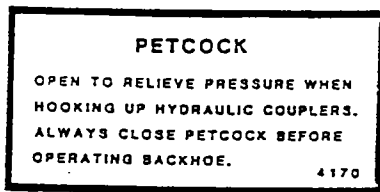
The diagram on this page shows the location of all the decals used on the 408 backhoe with the excavator lever pattern. The decals are identified by their part numbers, with reductions of the actual decals located on the following pages. Use this information to order replacements for lost or damaged decals. Be sure to read all decals before operating the backhoe. They contain information you need to know for both safety and backhoe longevity.



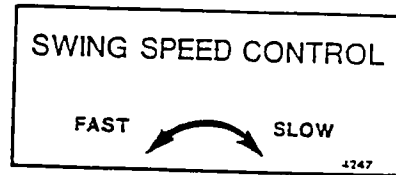
DECALS



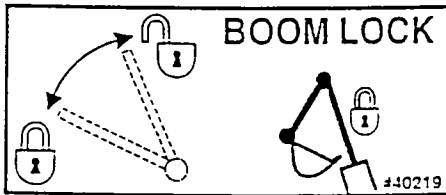
PART #40385  
EXCAVATOR CONTROL PATTERN OPERATING DECAL



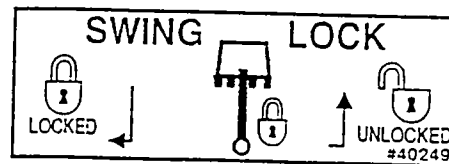
PART #4170  
PETCOCK OPERATION DECAL



PART #4247  
SWING SPEED CONTROL DECAL



PART #40219  
BOOM LOCK DECAL



PART #40249  
SWING LOCK DECAL



PART #40386  
CAUTION! EXCAVATOR CONTROL PATTERN

DECALS

# IMPORTANT

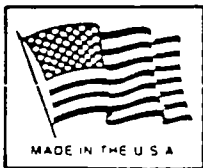
The backhoe bucket is capable of contacting this stabilizer and/or cylinder. Carefull operation will avoid backhoe damage.

4140

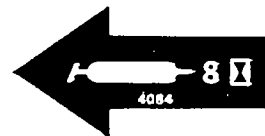
PART #4140  
BUCKET CONTACT WARNING DECAL



PART #40440  
CALL BEFORE YOU DIG



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



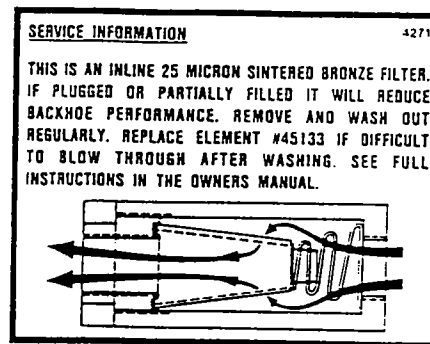
PART #4084  
GREASE 8 HOURS

# BRADCO

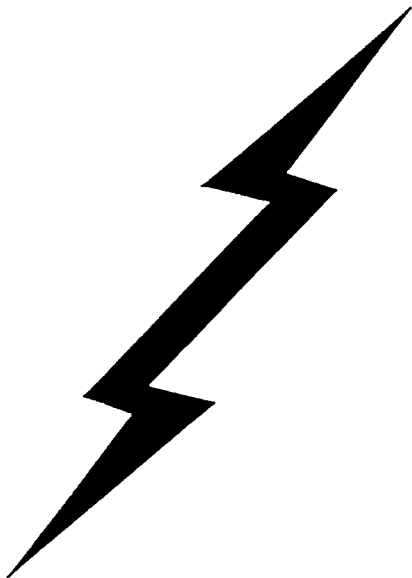
PART #40245 (3 REQ'D)  
BRADCO LOGO - SILVER

# 408

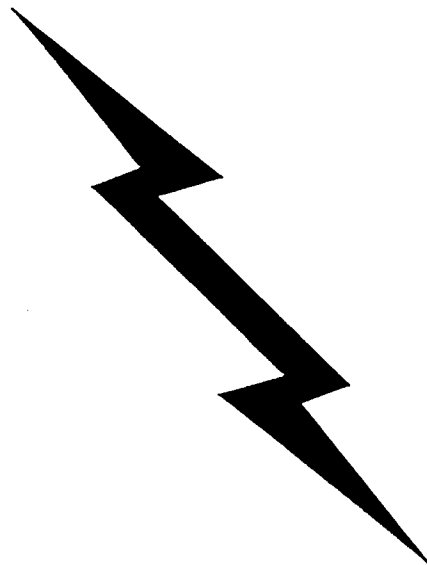
PART #40246 (2 REQ'D)  
408 MODEL NUMBER



PART #4271  
INLINE FILTER DECAL



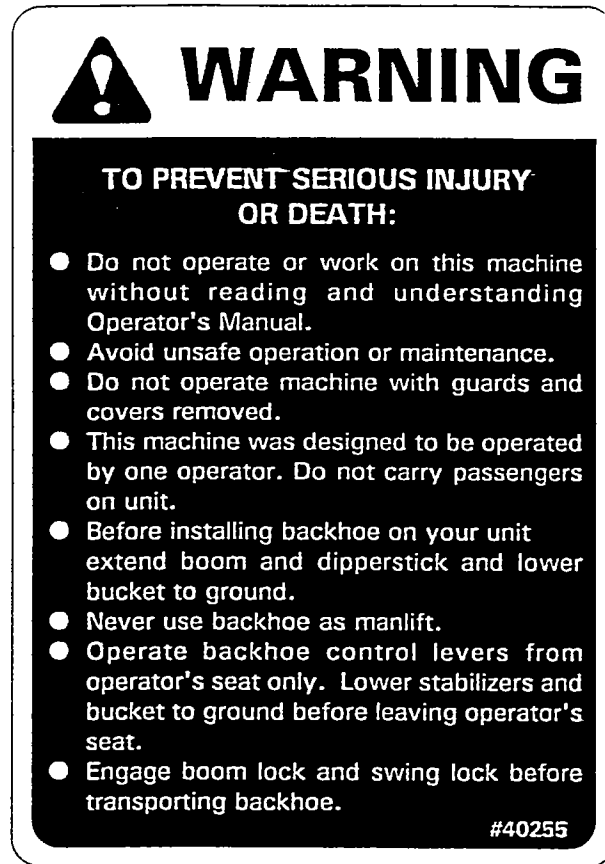
PART #40244  
LIGHTNING BOLT - LEFT



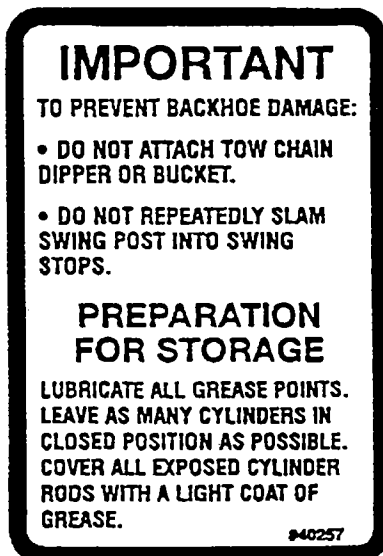
PART #40243  
LIGHTNING BOLT - RIGHT



PART #40151  
HIGH PRESSURE FLUID DECAL



PART #40255  
OPERATIONAL WARNING DECAL



PART #40257  
IMPORTANT! DECAL



PART #40149  
DANGER! PINCH POINTS