



Parts Manual

Model _____ Layer Picker _____

Catalog Number _____ 30A41452 R1 _____

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corporation

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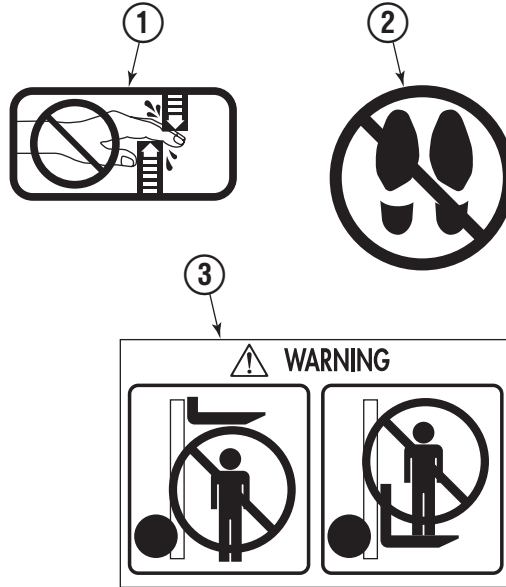
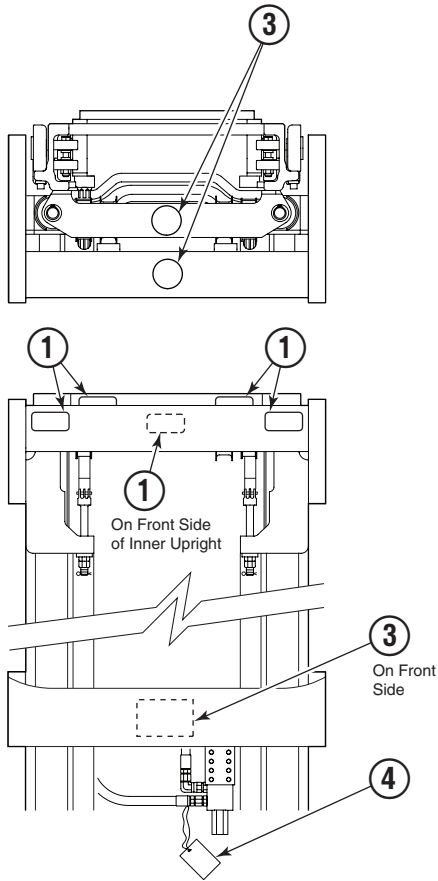
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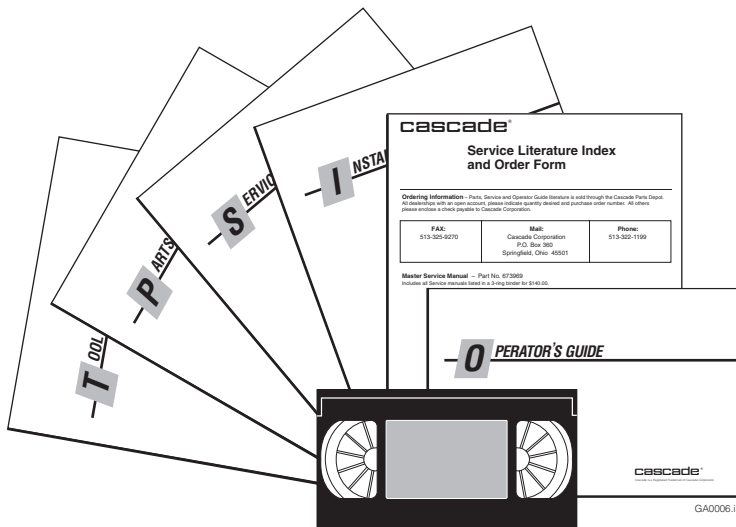
Safety Decals



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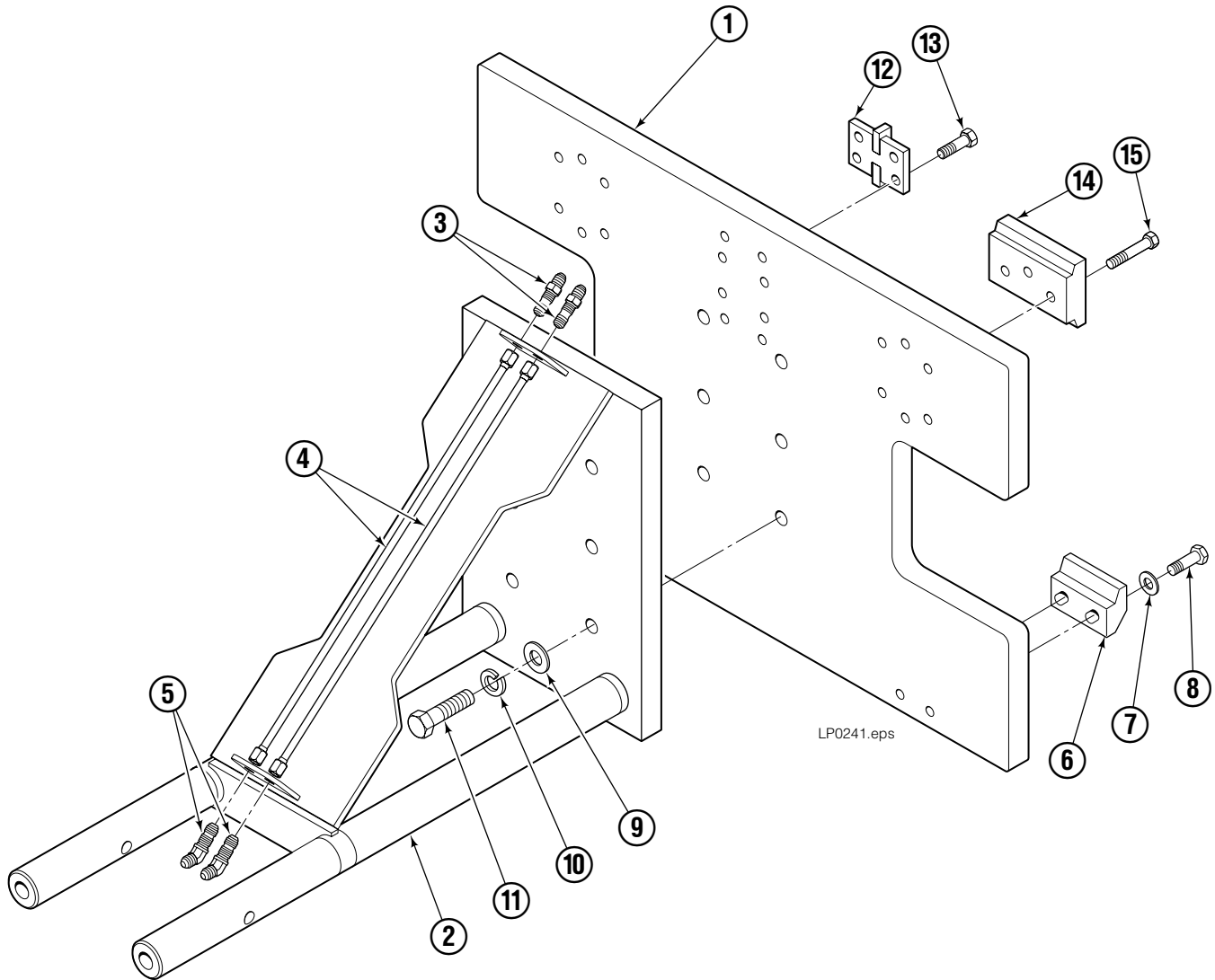
REF	QTY	PART NO.	DESCRIPTION
1	5	665595	No Hand Hold Decal
2	2	679150	No Step
3	1	684166	WARNING
4	1	200798	WARNING-Trapped Air

Publications



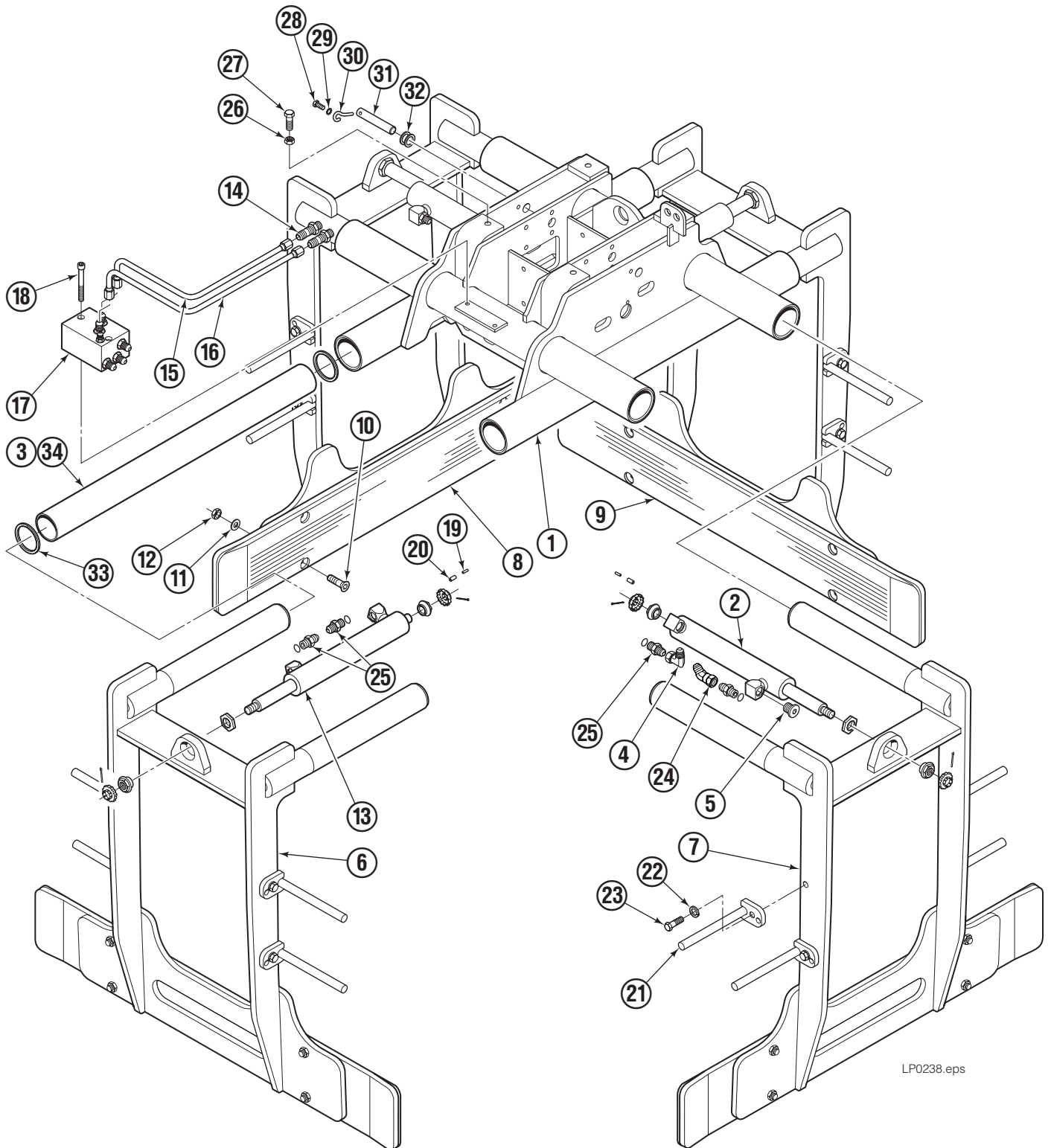
30A	
PART NO.	DESCRIPTION
230444	Service Manual
222225	Operators Guide
222964	Installation Instructions
679929	Tool Catalog
673964	Literature Index Order Form

Mounting/Frame Assembly



REF	QTY	PART NO.	DESCRIPTION
		6115368	Mounting/Frame Assembly
1	1	6115449	Mounting Plate
2	1	3018831	Frame
3	2	2375	Fitting, 6-6
4	2	3018912	Tube
5	2	2492	Fitting, 6-6
6	2	675968	Lower Hook
7	14	684586	Washer, M16
8	4	218117	Capscrew, M16 x 30
9	6	215419	Washer, M20
10	6	681467	Lockwasher, M20
11	6	768582	Capscrew, M20 x 80
12	1	3005793	Key Plate
13	4	684633	Capscrew, M16 x 50
14	2	3005795	Upper Hook
15	6	751511	Capscrew, M16 x 55

Clamp Assembly



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Clamp Assembly

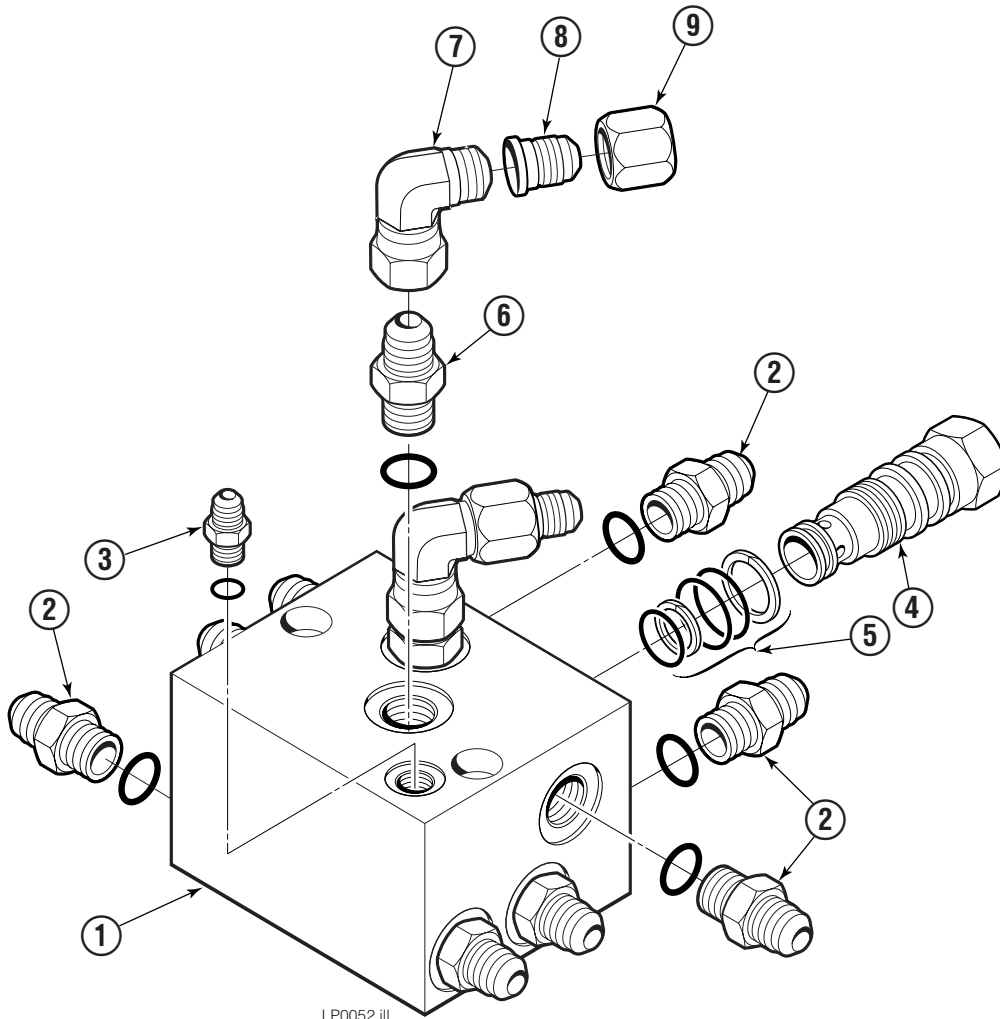
30A			
REF	QTY	PART NO.	DESCRIPTION
		6134753	Clamp Assembly
1	1	6134752	Frame (28321)
2	2	6134717	Cylinder – LA ♦
3	2	21066-0861	Bushing – LA
4	6	2680	Fitting, 6-6
5	8	602580	Plug
6	2	6134723	Arm – Short (21071)
7	2	6134722	Arm – Long (21071)
8	2	6134751	Contact Pad – SA, 46 x 6 (21031)
9	2	6111684	Contact Pad – LA, 37 x 6 (21031)
10	16	755028	Capscrew, M12 x 50
11	16	200456	Washer, M12
12	16	205979	Nut, M12
13	2	6134713	Cylinder – SA ♦
14	2	2375	Fitting, 6-6
15	1	6116409	Tube
16	1	6116410	Tube
17	1	219694	Valve ●
18	2	768802	Capscrew, M8 x 70
19	4	7861	Roll Pin – Inner
20	4	7962	Roll Pin – Outer
21	16	221199	Bracket
22	16	683822	Lockwasher, M12
23	16	763021	Capscrew, M12 x 30
24	2	605230	Fitting, 6-6
25	8	611288	Fitting, 6-6
26	4	688387	Jam Nut, M12
27	4	768555	Capscrew, M12 x 40
28	2	787372	Capscrew, M8 x 20
29	2	787398	Washer, M8
30	2	6020429	Eye Pin
31	2	218169	Pin
32	4	399469	Shim
33	8	222901	Retaining Ring
34	2	21066-1057	Bushing – SA

♦ See Cylinder page(s) for parts breakdown.

● See Valve page for parts breakdown.

Reference: Common Parts 6116436-R1, S-28320, S-21075.

Clamp Valve



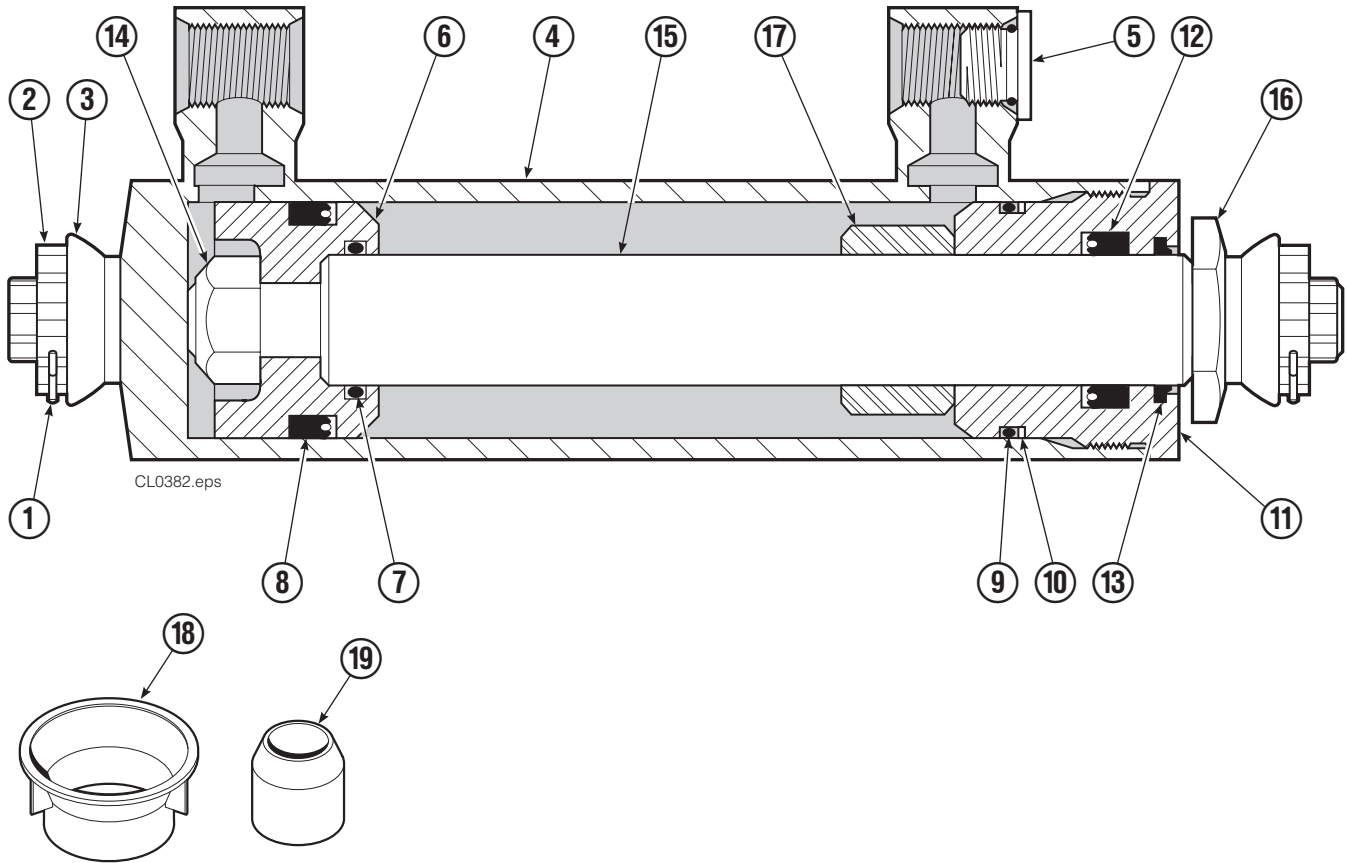
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REF	QTY	PART NO.	DESCRIPTION
		219694	Valve Assembly
1	1	219693	Body
2	8	611288	Fitting, 6-8
3	1	617915	Fitting, 4-4
4	1	659058	Check Valve - PO
5	1	667516	Service Kit
6	2	601377	Fitting, 8-8
7	2	605761	Fitting, 8-8 ▲
8	2	2671	Fitting, 8 ▲
9	2	2618	Nut, 8 ▲

▲ Not included in Valve Assembly.

Reference: Hydraulic Group 222080.

Cylinder Assembly



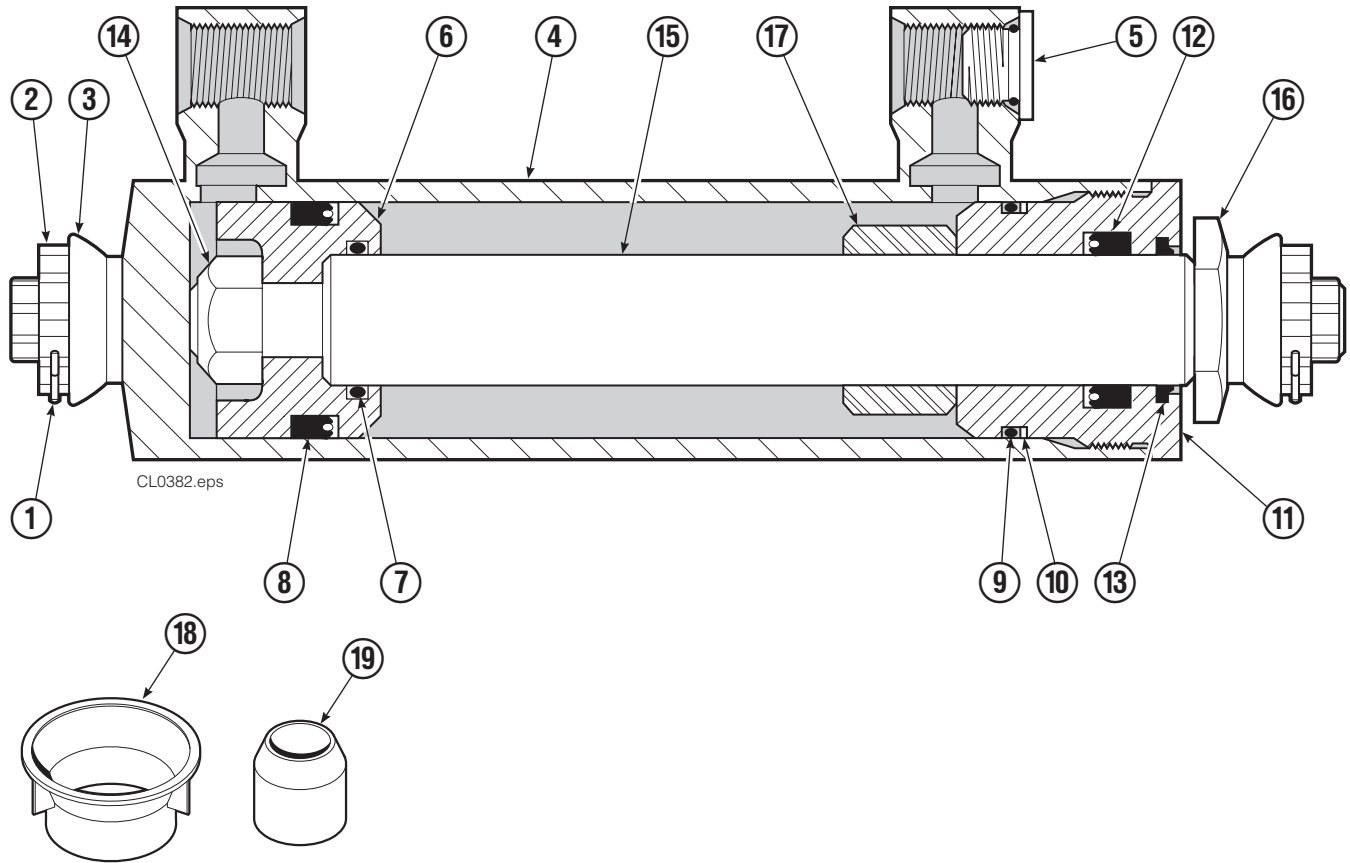
REF	QTY	PART NO.	DESCRIPTION
		6134713	Cylinder Assembly
1	2	6510	■ Cotter Pin
2	2	667624	■ Nut Retainer
3	2	667625	■ Nut
4	1	6134714	Shell
5	1	602580	Fitting
6	1	559702	Piston
7	1	2716	◆ O-Ring
8	1	662450	◆ Seal
9	1	2722	◆ O-Ring
10	1	615126	◆ Back-Up Ring
11	1	413799	Retainer
12	1	662448	◆ Seal
13	1	636853	◆ Wiper
14	1	667623	Nut
15	1	6134715	Rod
16	1	667626	Washer
17	1	6134716	Spacer
18	1	671047	◆ Seal Loader - Piston
19	1	671051	◆ Seal Loader - Retainer
		560729	Service Kit

■ Included in Nut Service Kit 668926.

◆ Included in Service Kit 560729.

Reference: ST-0283, ST-0284.

Cylinder Assembly



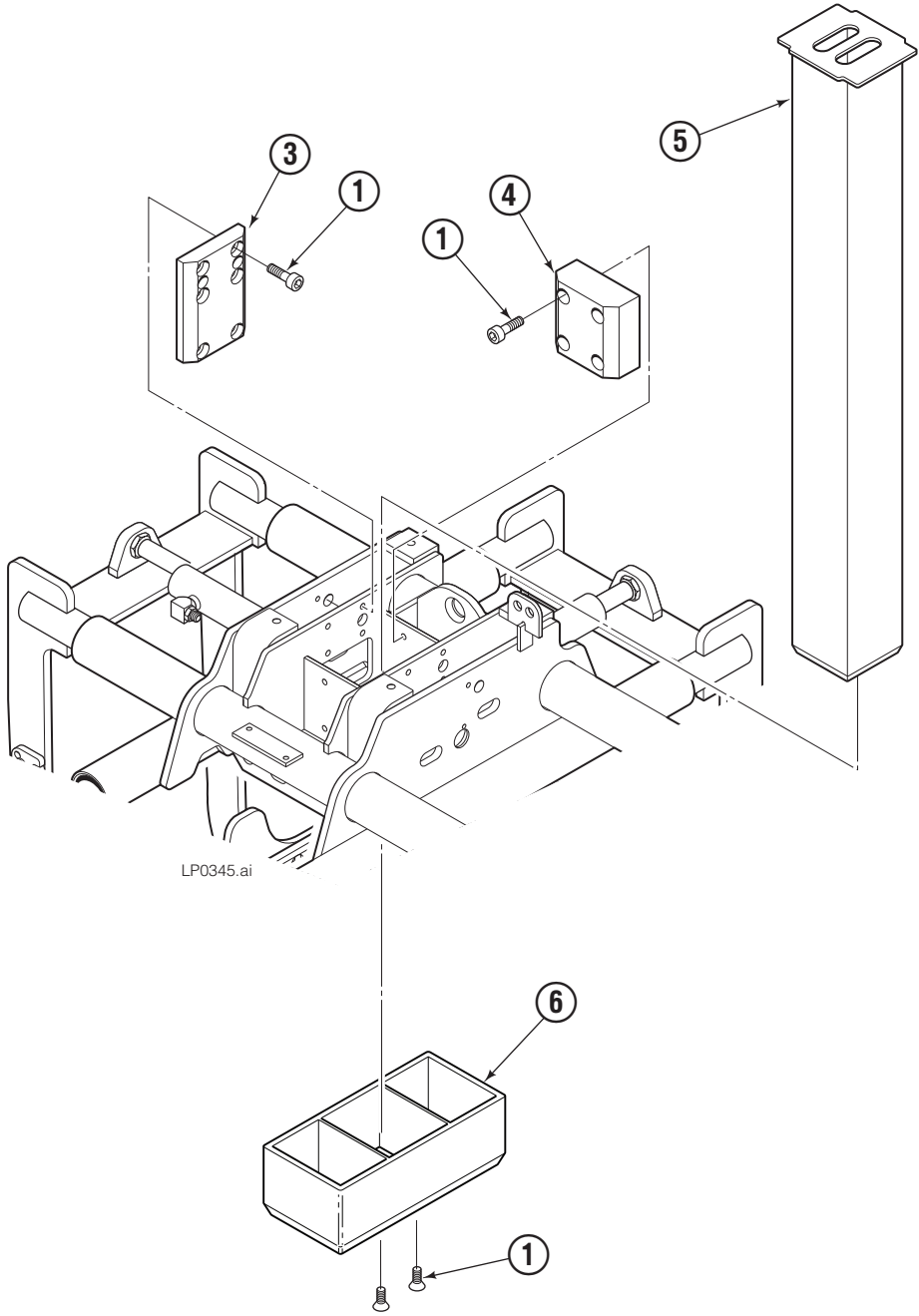
REF	QTY	PART NO.	DESCRIPTION
		6134717	Cylinder Assembly
1	2	6510	■ Cotter Pin
2	2	667624	■ Nut Retainer
3	2	667625	■ Nut
4	1	6134718	Shell
5	1	602580	Fitting
6	1	559702	Piston
7	1	2716	◆ O-Ring
8	1	662450	◆ Seal
9	1	2722	◆ O-Ring
10	1	615126	◆ Back-Up Ring
11	1	413799	Retainer
12	1	662448	◆ Seal
13	1	636853	◆ Wiper
14	1	667623	Nut
15	1	6134719	Rod
16	1	667626	Washer
17	1	6134720	Spacer
18	1	671047	◆ Seal Loader - Piston
19	1	671051	◆ Seal Loader - Retainer
		560729	Service Kit

■ Included in Nut Service Kit 668926.

◆ Included in Service Kit 560729.

Reference: ST-0283, ST-0284.

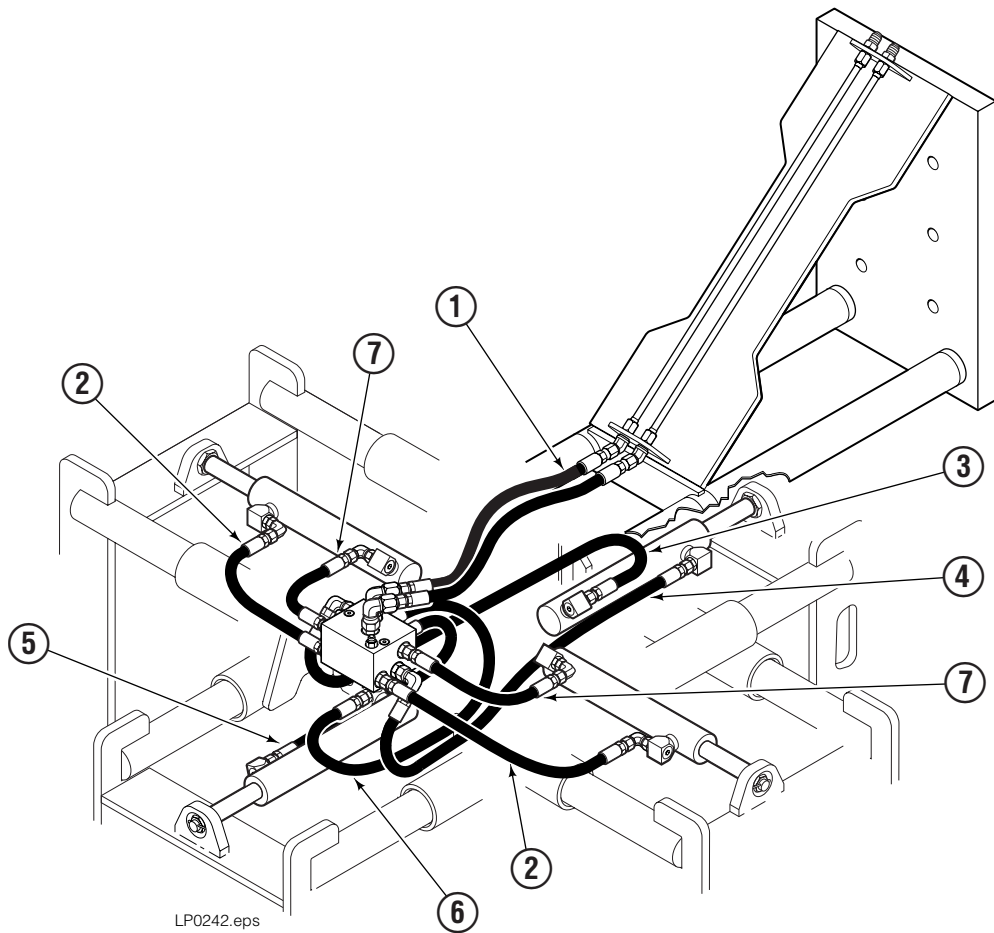
Center Load Support Group



LP0345.ai

30A			
REF	QTY	PART NO.	DESCRIPTION
		6134841	Center Load Support Group
1	16	766646	Capscrew, M10 x 20
2	8	768701	Capscrew, M10 x 50
3	2	6115279	Support Pad
4	2	6130787	Support Pad
5	1	6134770	Center Load Support
6	1	6134800	Load Support Block

Hose Group



30A			
REF	QTY	PART NO.	DESCRIPTION
		6142350	Hose Group ♦
1	1	6011624	Hose, Twinline, 32.00 in.
2	2	6126409	Hose, 20.00 in.
3	1	6126406	Hose, 41.00 in.
4	1	6126406	Hose, 41.00 in.
5	1	6126409	Hose, 20.00 in.
6	1	205246	Hose, 30.00 in.
7	2	383026	Hose, 14.50 in.

♦ Includes items 2 – 7.

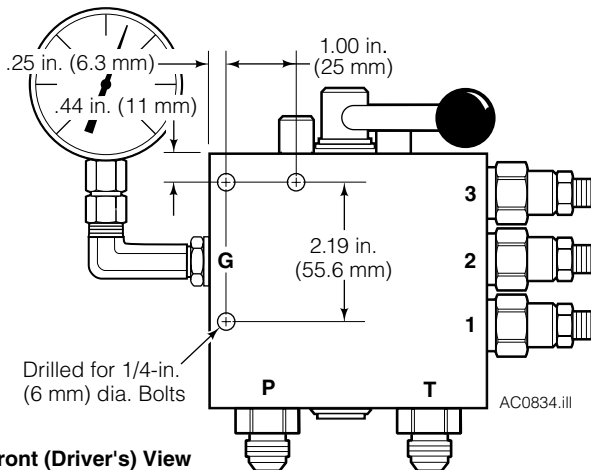


Installation Instructions

Four-Position Pressure Relief Valve 660412

This sheet provides installation instructions for the Four-Position Pressure Relief Valve 660412. The valve enables up to four (4) pressure selections, allowing the clamping force to be varied from load to load. Three pressure relief cartridges can be adjusted to relieve pressure between 100 and 3000 psi, a fourth position blocks flow to all relief cartridges enabling straight-through truck relief pressure. Maximum flow rate through the valve is 20 GPM.

- 1 Determine a convenient location on the truck cowl or safety cage upright, within safe reach and view of the driver (see illustration opposite). Use the mounting hole dimensions shown to mount the valve securely.



Front (Driver's) View

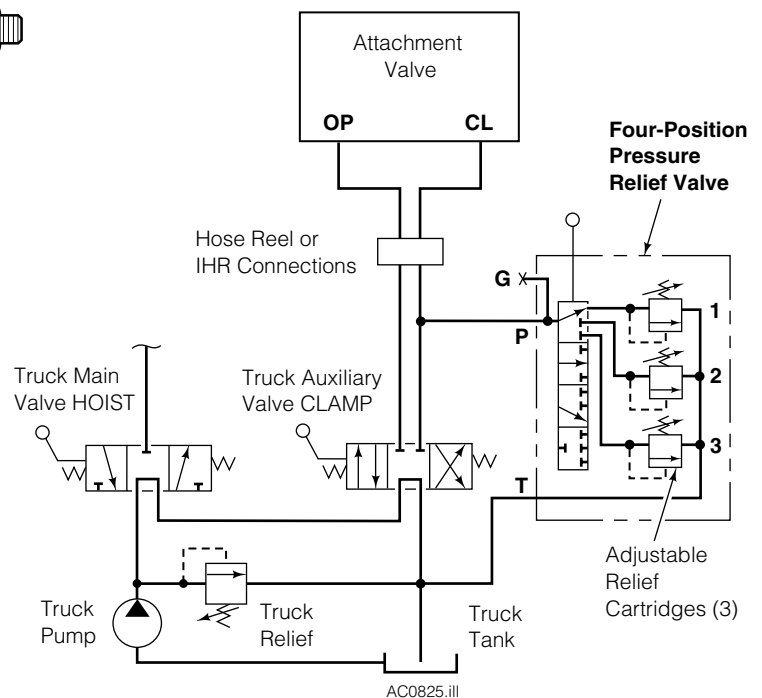
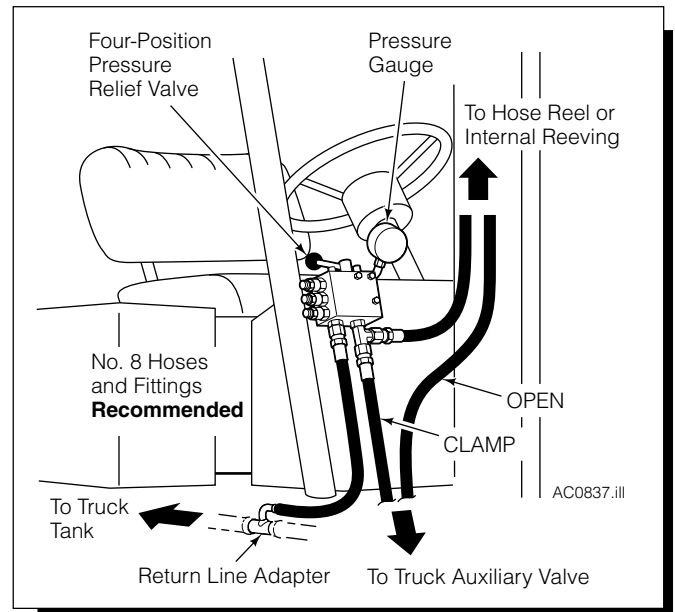


WARNING: Before removing hydraulic hoses, relieve pressure in the Attachment hydraulic system. Turn the truck off and move the auxiliary control lever several times in both directions.

- 2 Attach hoses and fittings between the Pressure Relief Valve, truck auxiliary valve, truck tank, and attachment valve using the diagram and hydraulic schematic. **No. 8 hoses and fittings with 13/32 in. (10 mm) minimum ID. recommended.**

CAUTION: A dedicated return-to-tank line is required from the relief valve 'TANK' port to the truck tank. Return Line Adapter Kits available:

Part No. 214062 (.75 in. dia. line)
Part No. 211745 (1.0 in. dia. line)
Part No. 214066 (1.25 in. dia. line)



Part No. 664827-R4

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- 3** Four basic stop configurations are shown in the illustration opposite (relief valve mounted as shown in this sheet). Many different configurations are possible by rearranging the stops, or by sliding the lever within the valve spool. Position the stops for desired movement of the lever depending on your specific requirements.

IMPORTANT: Numbers stamped around base of lever correspond to relief valve cartridge selected. Positions 1 and 2 are duplicated and can be selected 180 degrees opposite from each other. Position 'X' blocks the flow to all relief valve cartridges so the valve has no effect. Truck relief pressure is then delivered to the attachment.

- 4** To preset the Valve relief cartridges, install a 5000 psi (345 bar) pressure gauge (Cascade Part No. 664158) in the Valve gauge port.

Sample Settings*

3-Position	4-Position
Pos. X – Not Available	Pos. X – 2300 (Truck Pressure)
Pos. 1 – 1400 psi	Pos. 1 – 1800 psi
Pos. 2 – 1600 psi	Pos. 2 – 1600 psi
Pos. 3 – 1800 psi	Pos. 3 – 1400 psi

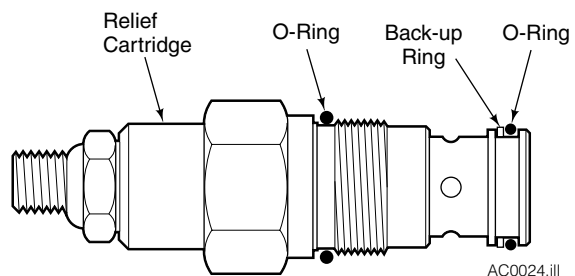
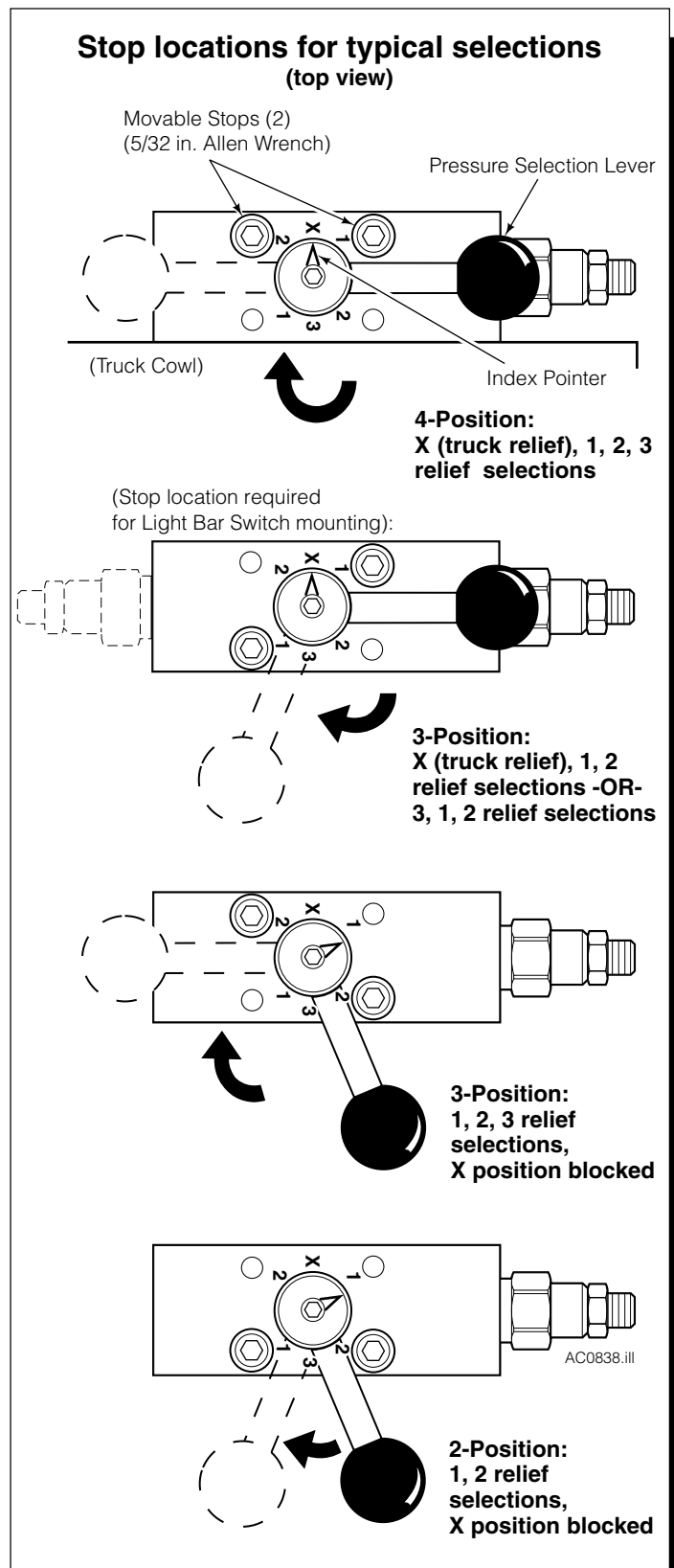
* **IMPORTANT: Cartridges are not factory pre-set.** Pressures must be adjusted for your application. Four (4) positions not available when Light Bar Switch is mounted on valve.

- 5** Shift the valve lever index pointer to position '1' stamped on the valve body.
- 6** Loosen the jam nut on the No. 1 relief cartridge. Adjust the relief cartridge (3/16-in. Allen hex wrench) inward (CW) to raise pressure or outward (CCW) to lower the pressure.
- 7** Clamp up on the load and check the pressure. Readjust as required. Tighten the jam nut.
- 8** Shift the valve lever pointer to position '2' stamped on the valve body. Repeat step 6 and 7 for No. 2 relief cartridge.
- 9** Shift the valve lever pointer to position '3' stamped on the valve body. Repeat step 6 and 7 for No. 3 relief cartridge.
- 10** With the valve lever pointer at position 'X', all ports to the relief valve cartridges are blocked, and the valve has no effect. Pressure to the attachment is determined by truck system relief pressure. The 'X' position selection may be blocked by positioning the stops as shown.

CAUTION: Do not remove the rotating spool from the valve body. Permanent damage will occur due to the spring-loaded detents and will void the warranty. Replace valve as a complete assembly.

Replacement Parts

Qty	Description	Part No.
3	Relief Cartridge with Seals	661676
3	Seal Service Kit	669597





Parts Manual

Model _____ Sideshifter _____

Catalog Number _____ 55D40960 _____

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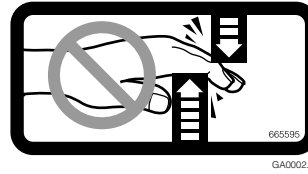
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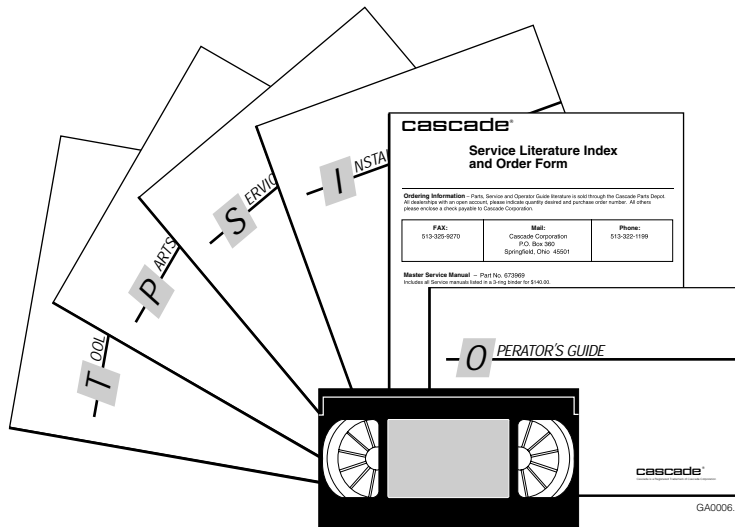
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Safety Decals



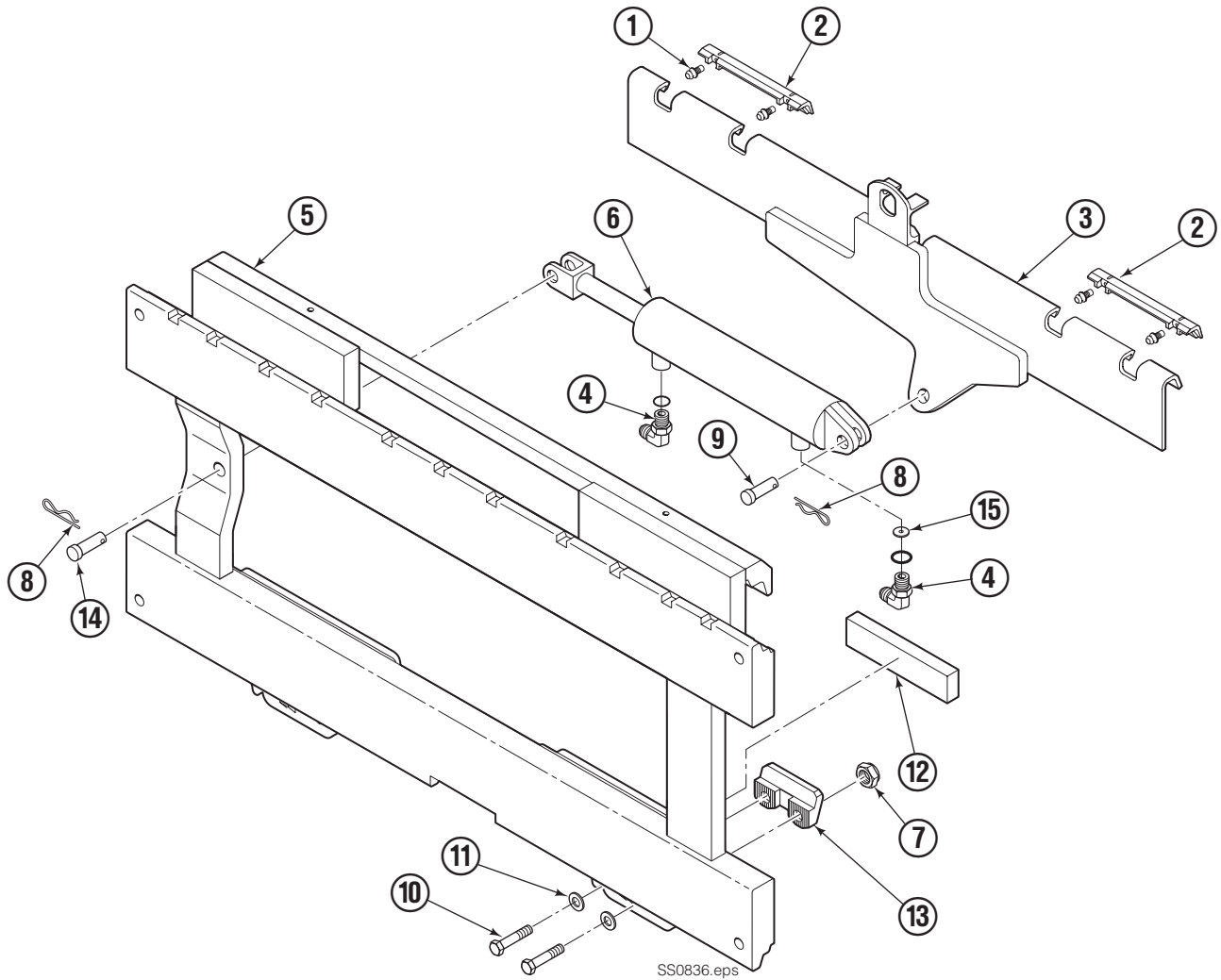
65D	
PART NO.	DESCRIPTION
679150	'No Step' Decal
221906	'Pinch Point' Decal

Publications



65D	
PART NO.	DESCRIPTION
677487	Service Manual
672715	Operator's Guide
672358	Installation Instructions
680664	'Servicing Cascade Cylinders' – VHS
679929	Tool Catalog
673964	Literature Index Order Form

Sideshift Assembly



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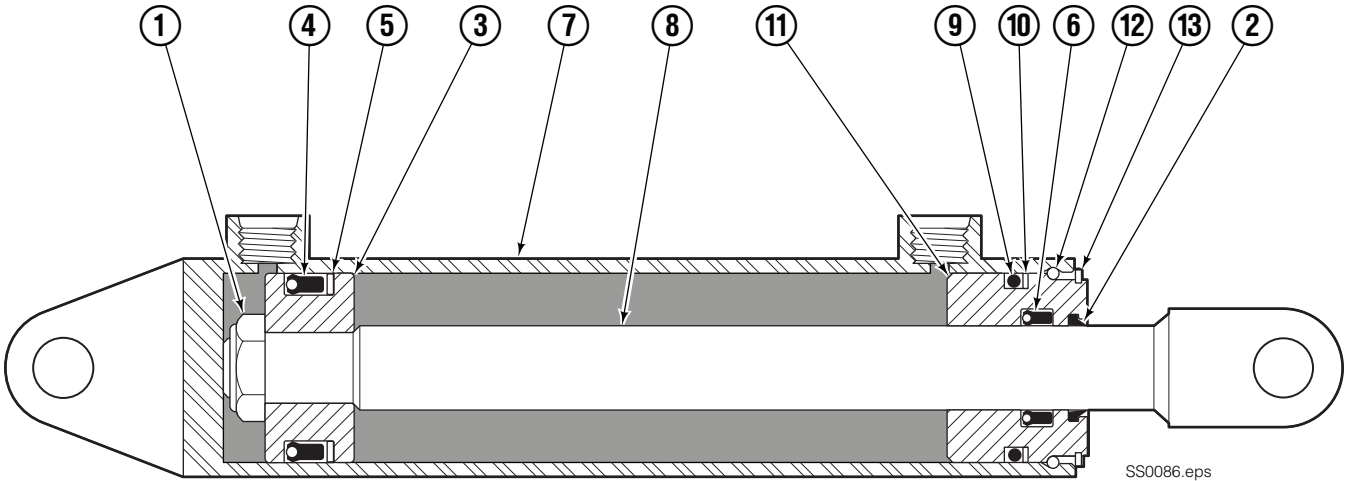
55D							
REF	QTY	PART NO.	DESCRIPTION	REF	QTY	PART NO.	DESCRIPTION
		40960	Sideshift Assembly	9	1	206926	Clevis Pin
1	4	7403	Grease Fitting	10	4	681047	Capscrew, 5/8 x 1.625
2	2	671165	Bearing Segment	11	4	667225	Washer, 5/8
3	1	676160	Anchor Bracket	12	2	208350	Lower Bearing
4	2	601676	Fitting, 6-6	13	2	677160	Lower Hook
5	1	680045	Faceplate ■	14	1	206926	Clevis Pin
6	1	675548	Cylinder ◆	15	1	675550	Restrictor Washer
7	4	553857	Nut			671423	Service Kit – items 1 & 2
8	2	672726	Cotter Pin				

■ If the Faceplate needs replacing your best value is to order the complete Sideshift Assembly.

◆ See Cylinder page for parts breakdown.

Reference: 55D40960, S-3037, S-3036.

Sideshift Cylinder



REF	QTY	PART NO.	DESCRIPTION
		675548	Cylinder Assembly
1	1	553857	Nut
2	1	636851	■ Wiper
3	1	553501	Piston
4	1	662452	■ Seal
5	1	638247	■ Back-up Ring
6	1	641835	■ Seal
7	1	675549	Shell
8	1	553499	Rod
9	1	2785	■ O-Ring
10	1	615128	■ Back-up Ring
11	1	553500	Retainer
12	1	553856	Retaining Ring
13	1	7202	Retaining Ring
		553861	Service Kit

■ Included in Service Kit 553861.

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