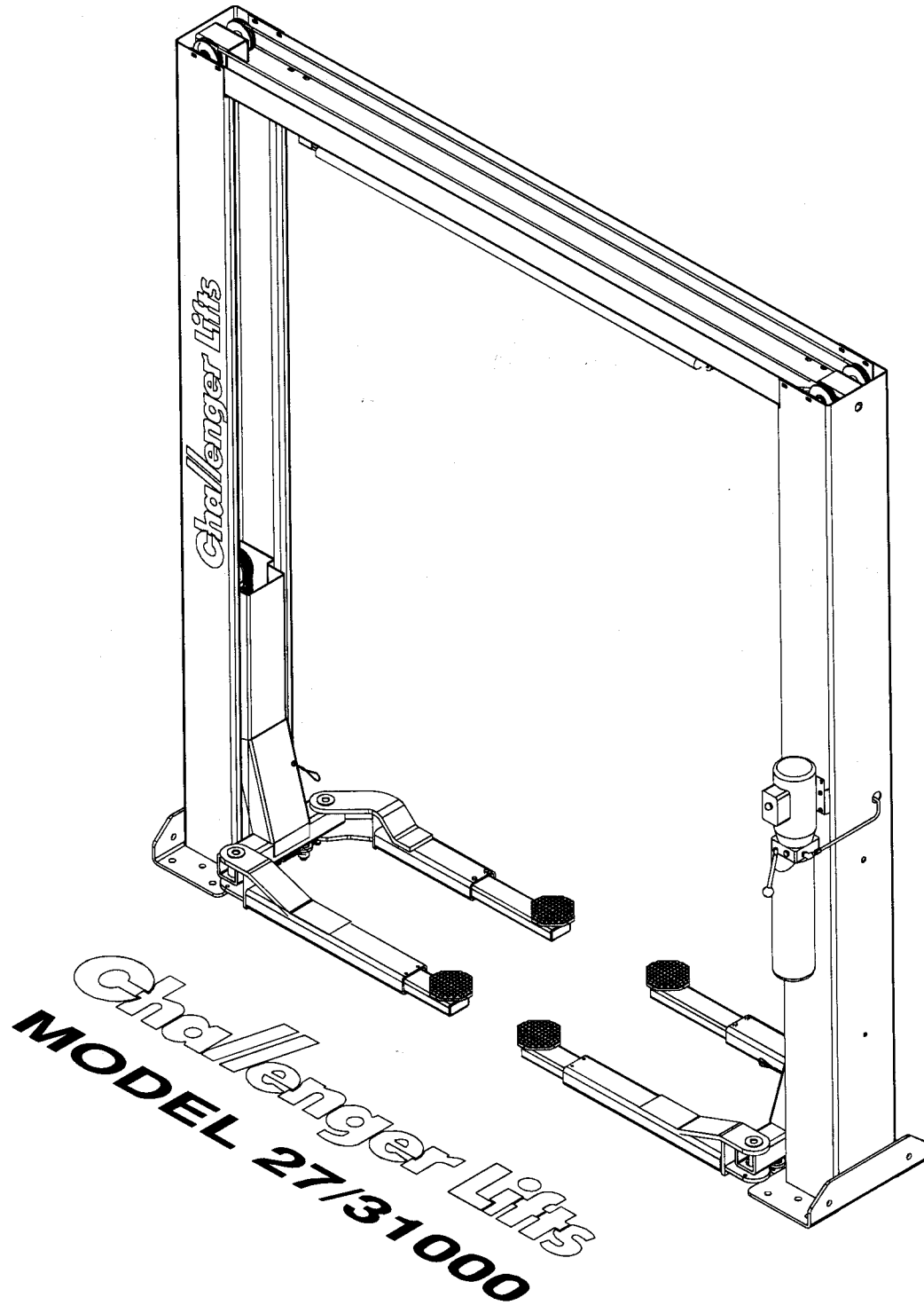


Models 27000 & 31000
Installation, Operation and Maintenance

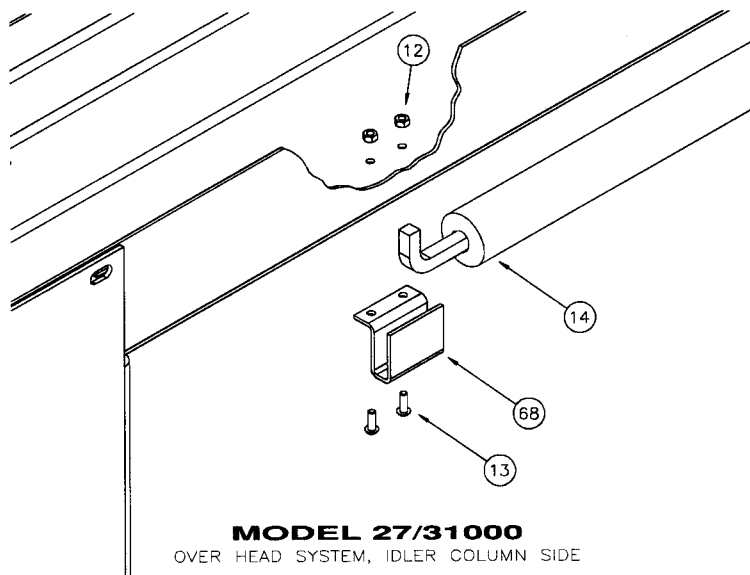


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Installation, Operation and Maintenance

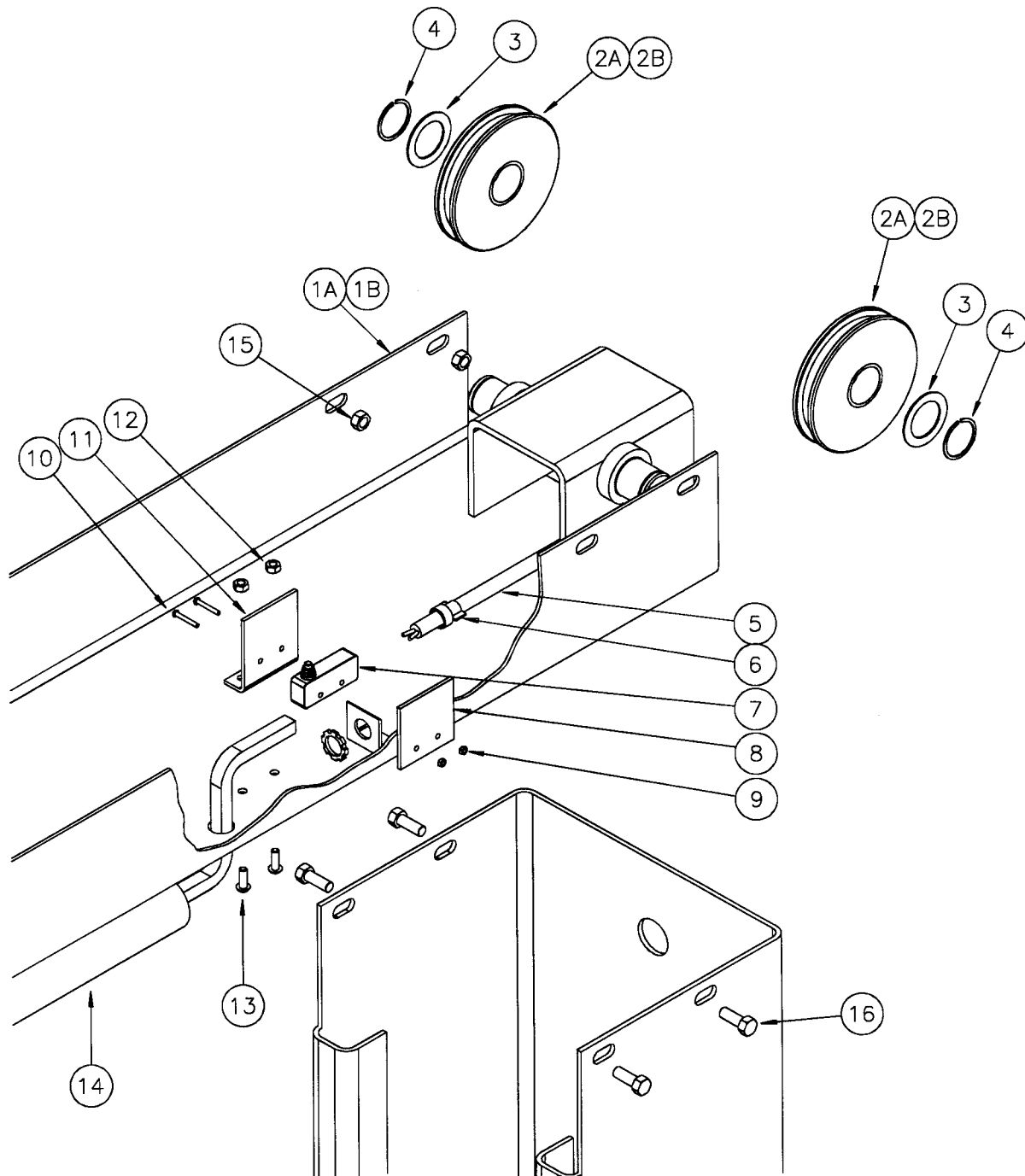
Parts Break Down
Models 27/31000

Overhead Assembly

Item Number	Part Number	Qty/Ass'y	Description
1A	27016	1	Overhead Weldment (27000)
1B	31059	1	Overhead Weldment (31000)
2A	26008	4	Synchronizing Sprocket (27000)
2B	31019	4	Synchronizing Sheave (31000)
3	31020	4	1 3/8 Phoenix Washer
4	31021	4	1 3/8 External Snap Ring
5	31167	1	Limit Switch Cord
6	31060	1	Strain Relief
7	31166	1	Limit Switch
8	31165	1	Capture Plate, Limit Switch
9	31029	2	#6-32 Hex Nut
10	31168	2	#6-32 x 1 3/4" lg Phil. Hd. Screw
11	31164	1	Bracket, Limit Switch
12	31061	4	1/4-20 Keps Nut
13	31062	4	1/4-20 x 3/4" lg Phil. Pan Hd. Screw
14	31038	8	3/8-16 Hex Nut
15	31035	8	3/8-16 x 1" lg Hex Hd. Bolt
16	31129	1	Pad, Shut Off Bar
17	31128	1	Shut Off Bar
18	31063	1	Pivot Bracket, Shut Off Bar
	31121	1	Limit Switch Ass'y, (Items: 5-12)
	31064	1	Shut Off Bar Ass'y (items 16 & 17)



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OVERHEAD SYSTEM, POWER COLUMN SIDE

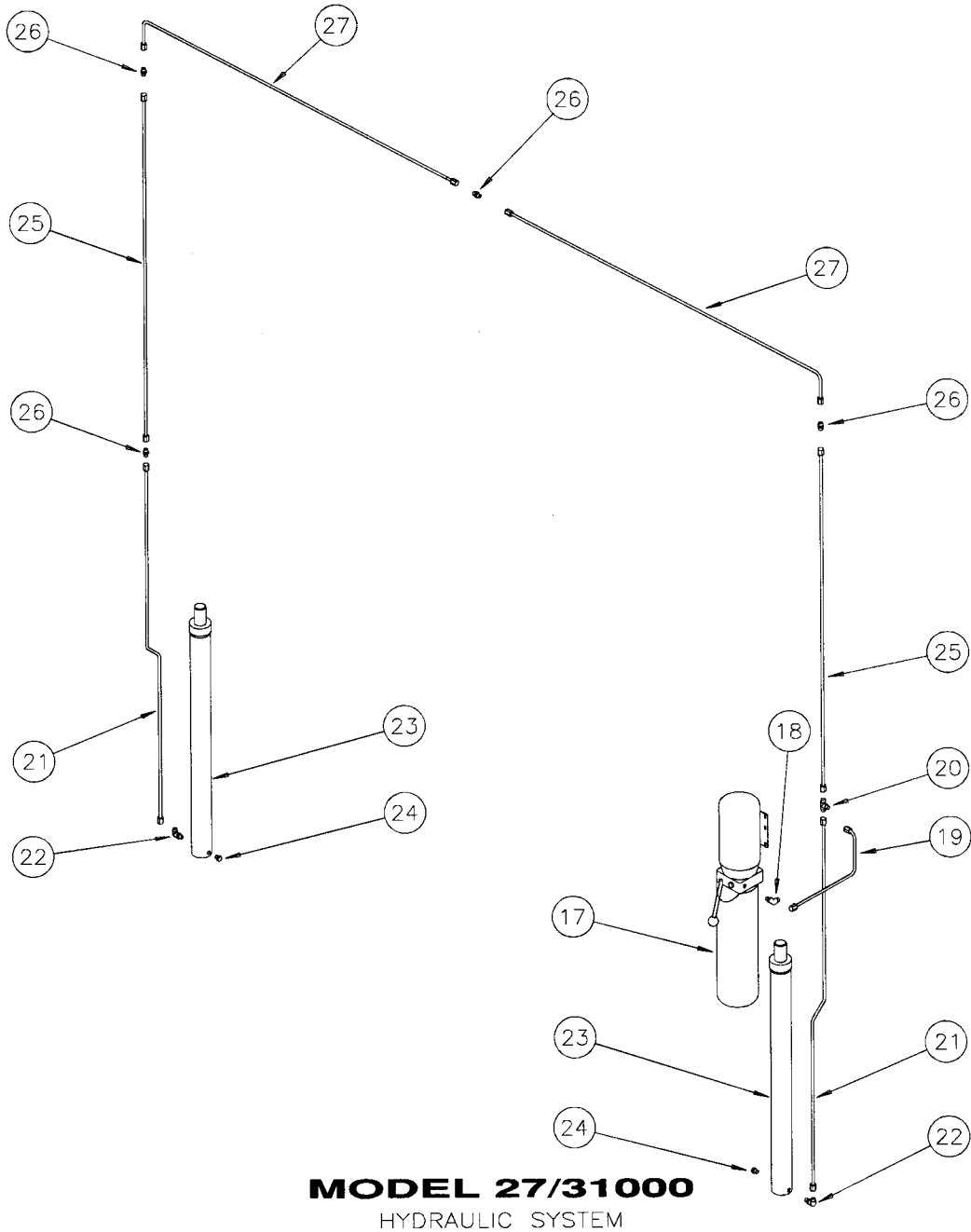
Models 27000 & 31000
Installation, Operation and Maintenance

Parts Break Down
Models 27/31000

Hydraulic System

Item Number	Part Number	Qty/Ass'y	Description
19	(27) 31295-1	1	208/230V, 1 Ph, Power Unit (Fenner)
	(27) 31296-1	1	230/460V, 3 Ph, Power Unit (Fenner)
	(31) 31295-2	1	208/230V, 1 Ph, Power Unit (Fenner)
	(31) 31296-2	1	230/460V, 3 Ph, Power Unit (Fenner)
20	31116	1	9/16-18 O-Ring x 3/8 Tube Fitting
21	31298	1	Hydraulic Line, Power Unit
22	31032	1	3/8 Union Tee Fitting
23	31090	1	Hydraulic Line, Cylinder
24	31089	2	9/16-18 O-Ring Elbow x 3/8 Tube Fitting
25	31265	2	Hydraulic Cylinder, 36 1/2" Short Stroke
26	31088	2	9/16-18 O-Ring Plug
27	31031	1	Hydraulic Line, Power Column
28	31047	4	3/8 Tube x 3/8 Tube Union
29	31066	2	Hydraulic Line, Overhead
30	31031	1	Hydraulic Line, Idler Column
	31299	1	Hydraulic Line Pack (Items 21 & 29)

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Installation, Operation and Maintenance

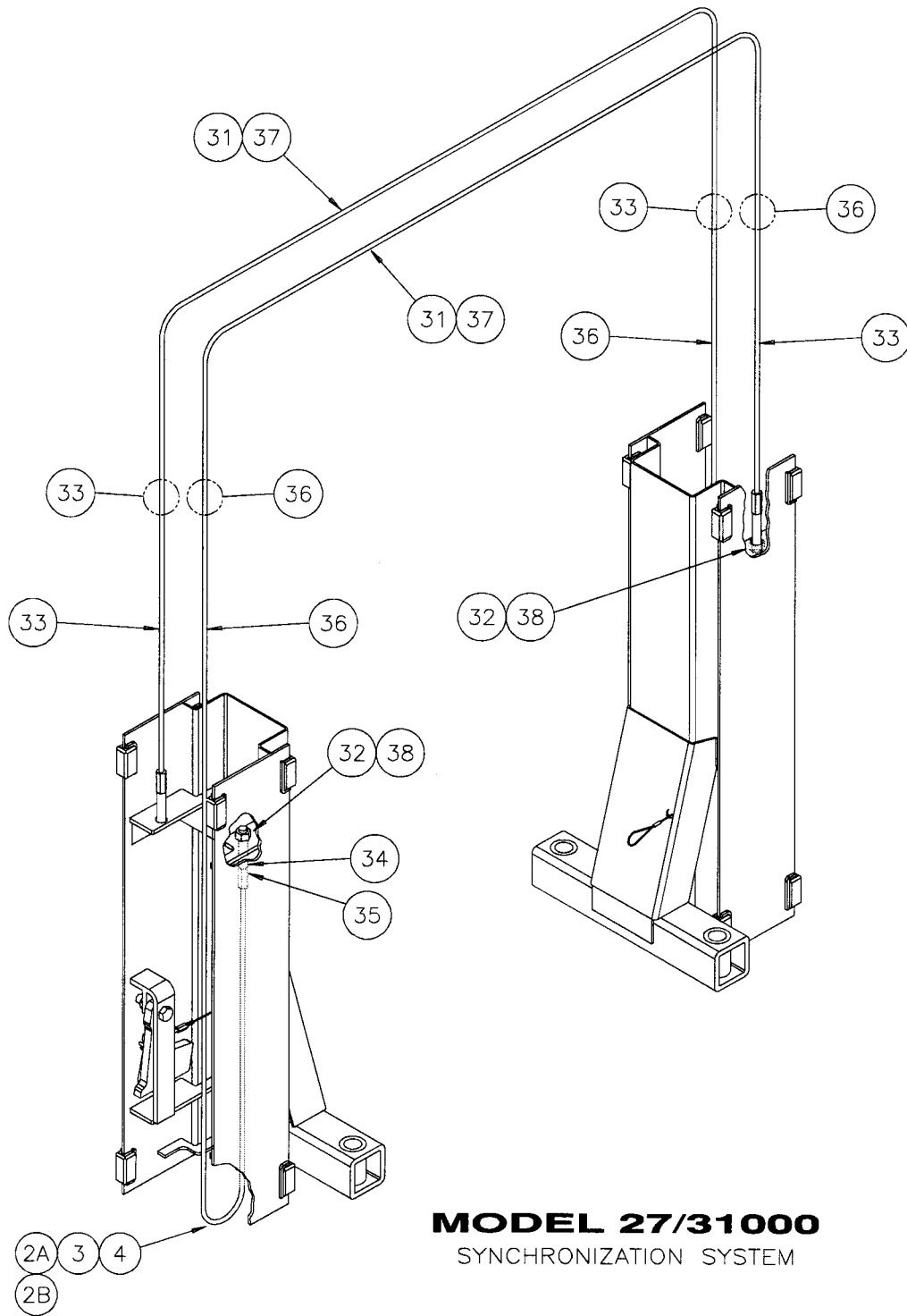


Models 27000 & 31000
Installation, Operation and Maintenance

Parts Break Down			
Models 27000			
<i>Synchronizing System</i>			
Item Number	Part Number	Qty/Ass'y	Description
2A	26008	6	Synchronizing Sprocket
3	31020	6	1 3/8 Phoenix Washer
4	31021	6	1 3/8 external Snap Ring
31	27124	2	261 Pitch Synchronizing Chain
32	11035	8	Master Link
33	26046	2	28 Pitch Synchronizing Chain
34	26054	2	Chain Adjustment Lug
35	26055	2	7/8-14 ESNA Nut-Adjustment Lug
36	27024	2	110 Pitch Synchronizing Chain

Parts Break Down			
Models 31000			
<i>Synchronizing System</i>			
Item Number	Part Number	Qty/Ass'y	Description
2B	31019	6	Synchronizing Sheave
3	31020	6	1 3/8 Phoenix Washer
4	31021	6	1 3/8 external Snap Ring
37	31067	2	Synchronizing Cable (34'-4")
38	31068	4	3/4-10 ESNA Locknut

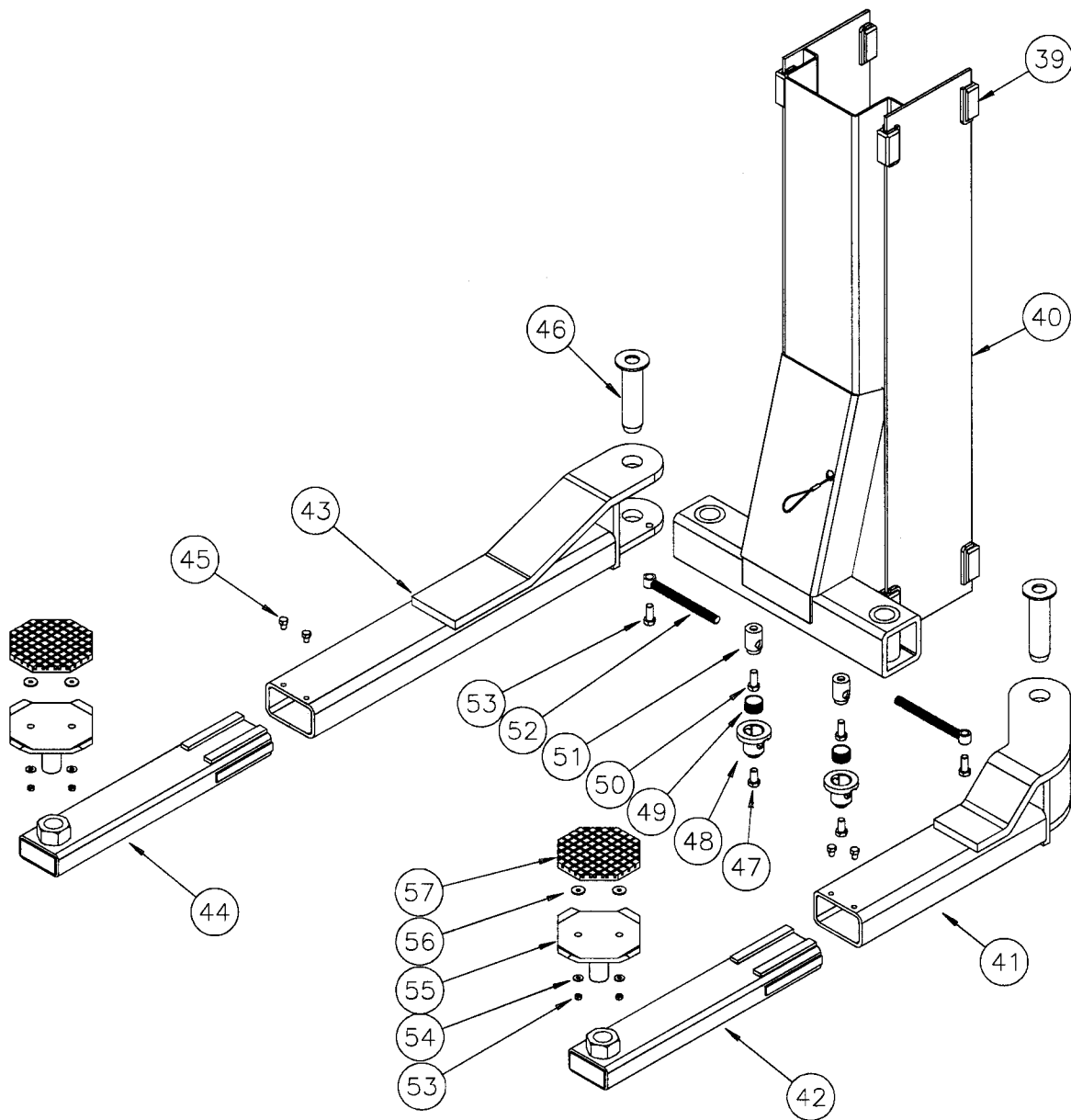
Models 27000 & 31000
Installation, Operation and Maintenance



Models 27000 & 31000
Installation, Operation and Maintenance

Parts Break Down			
Models 27/31000			
<i>Carriage/Arm Assembly</i>			
Item Number	Part Number	Qty/Ass'y	Description
39	31023	16	Slide Block Assembly
40	27007	2	Carriage Weldment
41	39015	1	Female Arm Weld, Left Front
	39016	1	Female Arm Weld, Right Front
42	39019	2	Male Arm Weld, Front
43	39017	2	Female Arm Weld, Rear
44	39018	2	Male Arm weld, Rear
45	31305	8	3/8-16 x 3/4" lg Stop Bolts
46	31134	4	Arm Pin
47	31111	4	1/2-13 x 3/4 " lg Hex Bolt
48	31107	4	Arm Restraint Sleeve Weld
49	31109	4	Arm Restraint Compression Spring
50	31112	8	1/2-13 x 1 1/2" lg Socket Head Cap Screw
51	31108	4	Arm Restraint Insert
52	31110	4	6 1/2" lg Link Weldment
53	31061	8	1/4-20 Keps Nut
54	31115	8	1/4" Flat Washer
55	31133	4	Foot Pad Weldment
56	31114	8	1/4" Fender Washer
57	31057	4	Rubber Insert
	39003	1	Arm Pack Assembly, 9,000 lb
	39037	1	Right Front Arm Assembly, 9,000 lb
	39036	1	Left Front Arm Assembly, 9,000 lb
	39038	2	Rear Arm Assembly, 9,000 lb
	11024	4	Foot Pad Assembly
	11052	4	Rubber Insert Kit

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MODEL 27/31000
CARRIAGE ARM ASSEMBLY

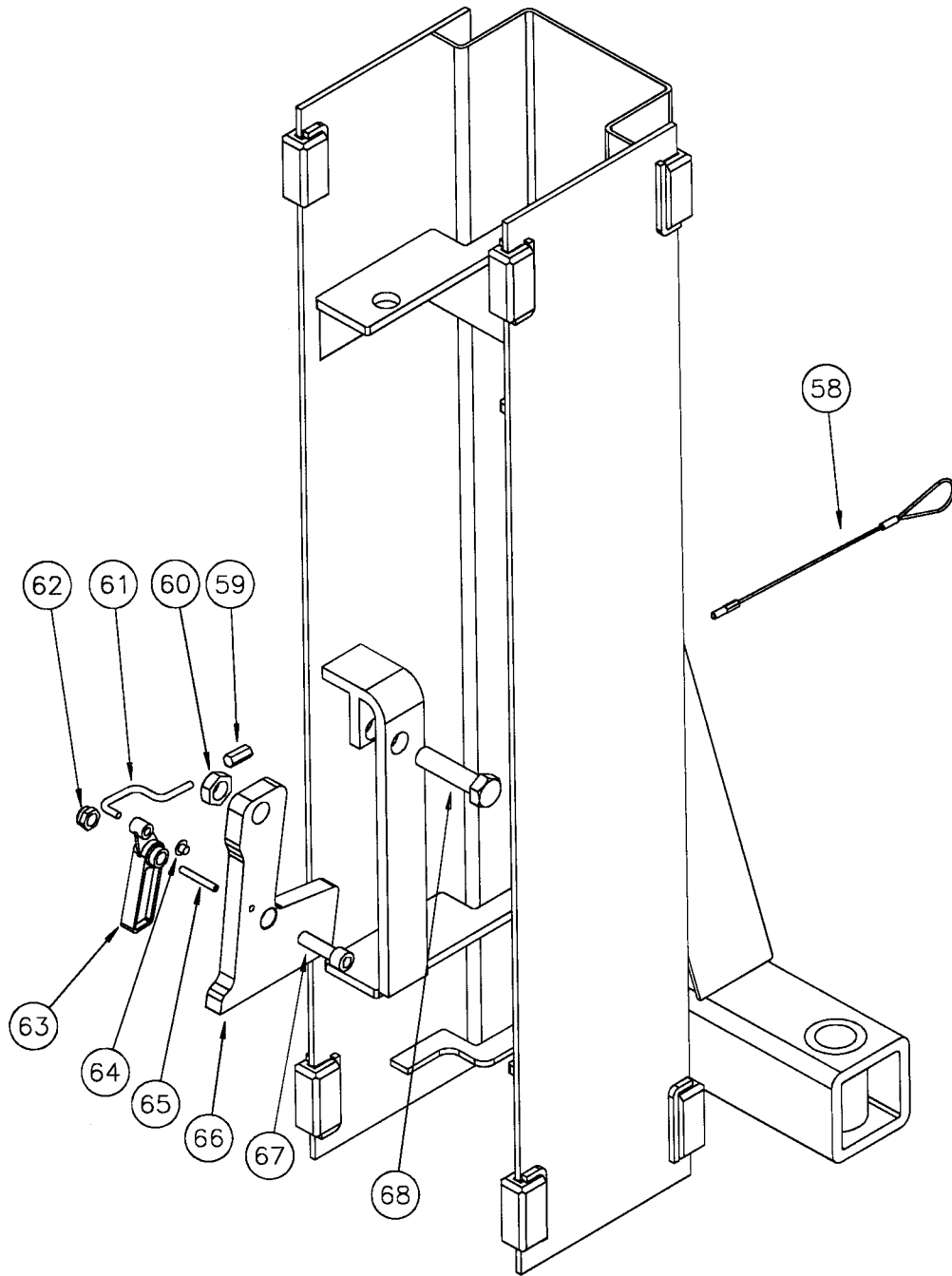
Models 27000 & 31000
Installation, Operation and Maintenance

Parts Break Down
Models 27/31000

Locking System

Item Number	Part Number	Qty/Ass'y	Description
58	31150	2	Soft Latch Cable
59	31149	2	1/4-20 Union Nut
60	31082	2	3/4-16 Thin ESNA Nut
61	31151	2	Attachment, Soft Latch
62	31267	2	1/2-20 Thin ESNA Nut
63	31262	2	Trigger
64	485439	2	1/4" Push Nut
65	31211	2	1/4" Dia. x 1 3/4" lg Roll Pin
66	31261	2	Gravity Latch, Blank
67	31263	2	1/2-20 x 1 3/4" lg. Soc. Hd. Cap Screw
68	31081	2	3/4-16 x 3" lg. Hex Bolt, Grade 8
	31083	2	Latch Release Assembly (items: 58,59,61,64)
	31084	2	Gravity Latch Assembly (items: 62,63,65,66,67)

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MODEL 27/31000
LOCKING SYSTEM

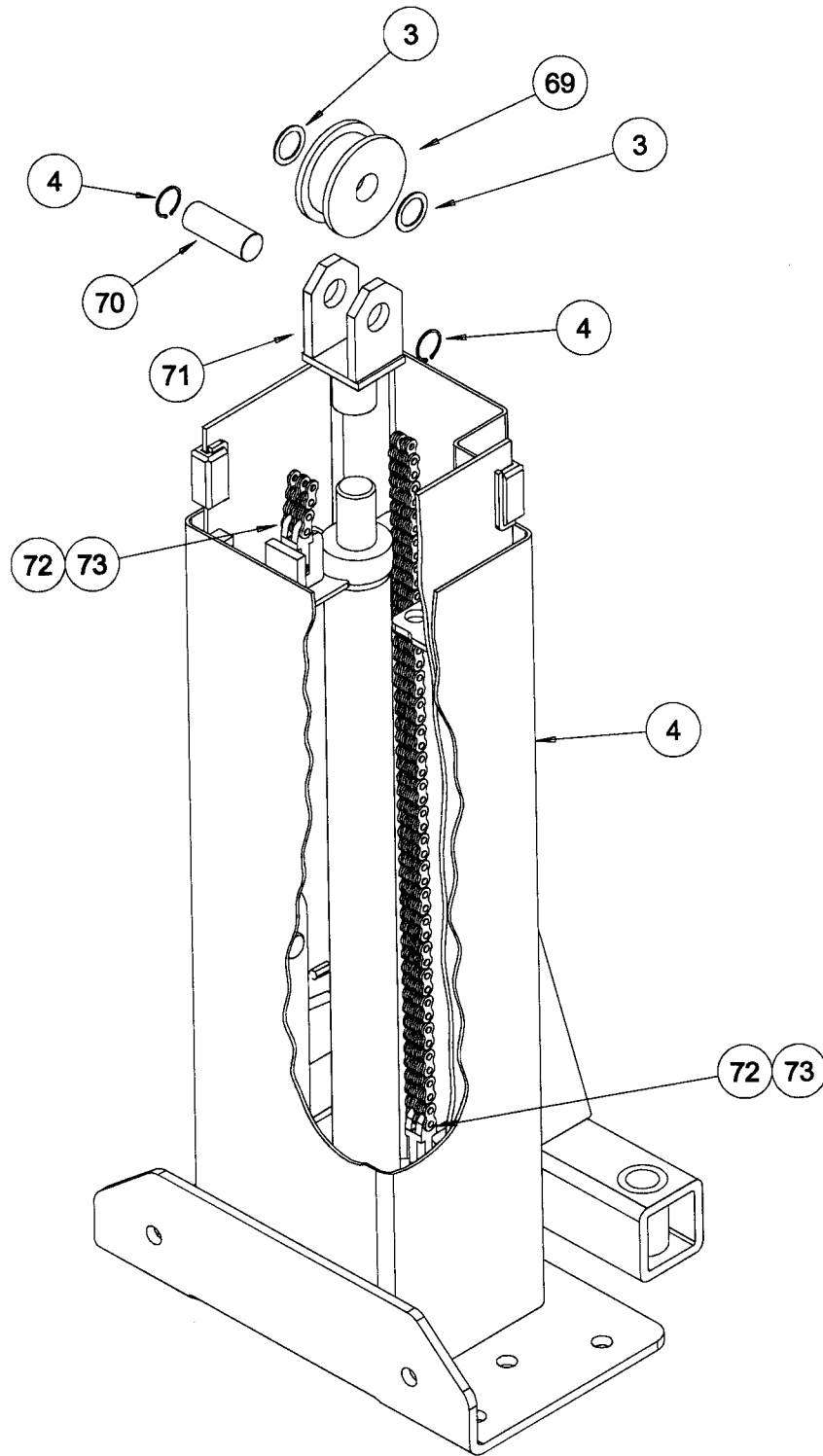
Models 27000 & 31000
 Installation, Operation and Maintenance

Parts Break Down
Models 27/31000

Lifting System

Item Number	Part Number	Qty/Ass'y	Description
3	31020	2	1 3/8 Phoenix Washer
4	31021	2	1 3/8 External Snap Ring
69	31095	1	Roller, Lifting Chain
70	31093	1	Pin, Chain Roller
71	31094	1	Cylinder Rod End Weldment
72	31297	2	Headed Pin
73	31079	1	Lift Chain, BL646 x 73 pitch
74	31303	1	Column Weldment, Power
	31304	1	Column Weldment, Idler
	31033	1	Cylinder Rod End Assembly (items: 3,4,69,70,71)

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MODEL 27/31000
LIFTING SYSTEM