

Service Manual for:

NL Millennium **Series**

Public Use Wheelchair Lifts

Series A3

DOT — Public Use Lift

"DOT — Public Use Lift" verifies that this platform lift meets the "public use lift" requirements of FMVSS No. 403. This lift may be installed on all vehicles appropriate for the size and weight of the lift, but must be installed on buses, school buses, and multi-purpose passenger vehicles other than motor homes with a gross vehicle weight rating (GVWR) that exceeds 4,536 kg (10,000 lb).

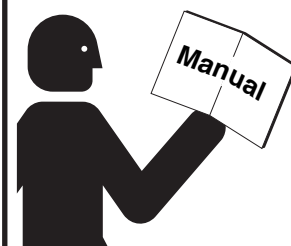


"Providing Access to the World"®

International Corporate Hdqrs: P.O. Box 310 Winamac, IN 46996 USA
1-800-THE LIFT® (574) 946-6153 FAX: (574) 946-4670



! WARNING



**Read manual
before installing
or servicing lift.
Failure to do so
may result in
serious bodily
injury and/or
property damage.**

Braun NL Series

32742 Rev. A
January
2008

Patent #5,261,779 Patent #6,599,079
Patent #6,065,924 Patent #6,692,217
Patent #6,238,169 Patent #6,739,824
Patent #6,464,447 Patents Pending

Congratulations

We at The Braun Corporation wish to express our fullest appreciation on your new purchase. With you in mind, our skilled craftsmen have designed and assembled the finest lift available.

This manual provides service-related material. Refer to the FMVSS No. 403 Quick Reference Installation Sheet for installation instructions, operating instructions and maintenance procedures.

Braun Millennium Series™ lifts are built for dependability and will provide years of pleasure and independence as long as the lift is installed and serviced as specified by a Braun certified technician, and the lift is operated by an instructed person.

Sincerely,
THE BRAUN CORPORATION

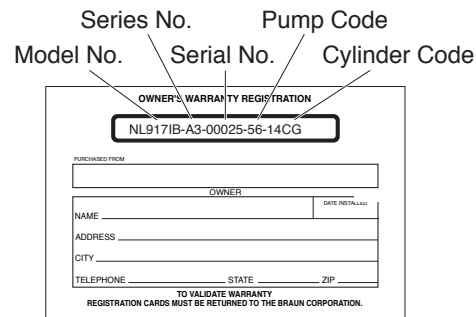


Ralph W. Braun
Chief Executive Officer

Warranty and Registration Instructions

Immediately upon receiving the lift, examine the unit for any damage. Notify the carrier at once with any claims.

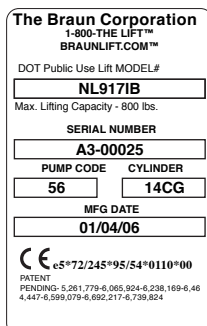
Two warranty/registration cards (shown right) are located in the lift-mounted manual storage pouch. The sales representative must process one of the cards. The consumer must fill out the other card and mail it to The Braun Corporation. The warranty is provided on the back cover of this manual. The **warranty cards must be processed to activate the warranty.**



The card is titled 'OWNER'S WARRANTY REGISTRATION'. It contains a box for the registration number 'NL9171B-A3-00025-56-14CG'. Below this, there are fields for 'PURCHASED FROM', 'OWNER', 'NAME', 'ADDRESS', 'CITY', 'TELEPHONE', 'STATE', and 'ZIP'. A 'DATE INSTALLED' field is also present. At the bottom, it states 'TO VALIDATE WARRANTY REGISTRATION CARDS MUST BE RETURNED TO THE BRAUN CORPORATION.'

Sample Warranty/Registration Card

Two Braun Serial No./Series No. identification tags (shown below) are posted on the lift. One I.D. tag is posted on the opposite pump side vertical arm. A second I.D. tag is located on the opposite pump side tower. Both I.D. tags provide the product identification information provided on the warranty/registration card. Record the information in the space provided (or document on a copy). **This information must be provided when filing a warranty claim or ordering parts.**



The tag is from 'The Braun Corporation' with contact info '1-800-THE LIFT™' and 'BRAUNLIFT.COM™'. It identifies the 'DOT Public Use Lift MODEL# NL9171B' with a 'Max. Lifting Capacity - 800 lbs.'. It lists the 'SERIAL NUMBER A3-00025', 'PUMP CODE 56', and 'CYLINDER 14CG'. The 'MFG DATE' is '01/04/06'. It also includes a CE mark and patent information: 'eS*72/245*95/54*0110*00', 'PATENT PENDING- 5,261,779-6,065,924-6,238,169-6,46 4,447-6,599,079-6,692,217-6,739,824'.

Sample Serial No./Series No. Identification Tag

Model No. _____

Series No. _____

Serial No. _____

Pump Code _____

Cylinder Code _____

Date of Manufacture _____

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42" Floor-to-Ground Lift Models

(NL915IB, NL915FIB, NL918IB, and NL918FIB)

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48" Floor-to-Ground Lift Models

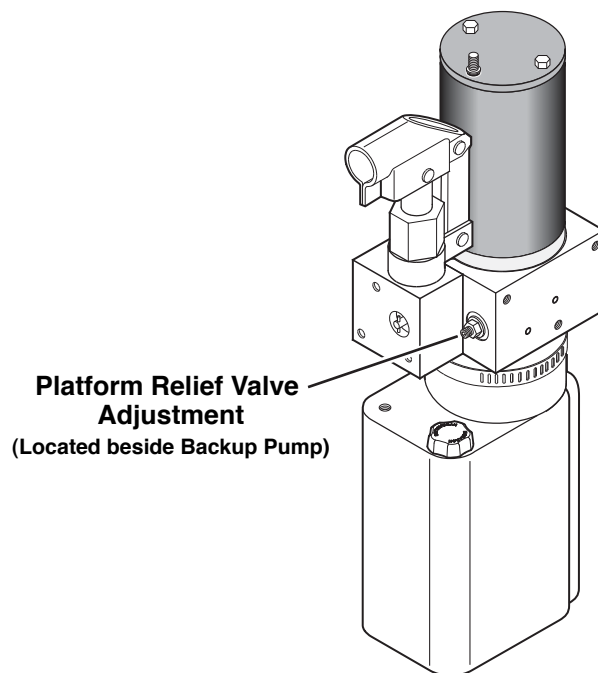
(NL916IB, NL916FIB, NL917IB, NL917FIB,
NL919IB and NL919FIB)

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Certification Checklist Diagnostic Procedures

Use the following adjustment procedures should the lift not function as described in the certification checklist. These procedures must be followed in order for the lift to be FMVSS 403/404 compliant.

- Vehicle movement is prevented unless the platform is fully stowed.
 1. Verify lift stowed signal - pin 7 on the pump module has a +12 volt signal OR pin 9 has a ground signal (depends on interlock used).
 2. Refer to the interlock installation instructions.
- Lift operation shall be inhibited unless the vehicle is stopped and vehicle movement is prevented.
 1. Verify vehicle secure signal (pin 6) has a +12 volt signal.
 2. Refer to the interlock installation instructions.
- The platform will not fold/stow when occupied.
 1. Position the platform at the floor level loading position.
 2. Loosen the locknut on the dual relief valve adjustment (do not remove locknut). See illustration below.
 3. Turn the adjustment screw counter clockwise until the platform does not fold when the Fold button is pressed.
 4. Turn the adjustment screw clockwise in 1/4 turn increments and press the Fold button until the platform folds completely (Note: return the platform to floor level position after each attempt to fold the platform).
 5. Turn the adjustment screw an additional 1/8 turn after the platform folds successfully.
 6. Tighten the locknut without moving the adjustment screw.
 7. Verify the platform will not stow while occupied.

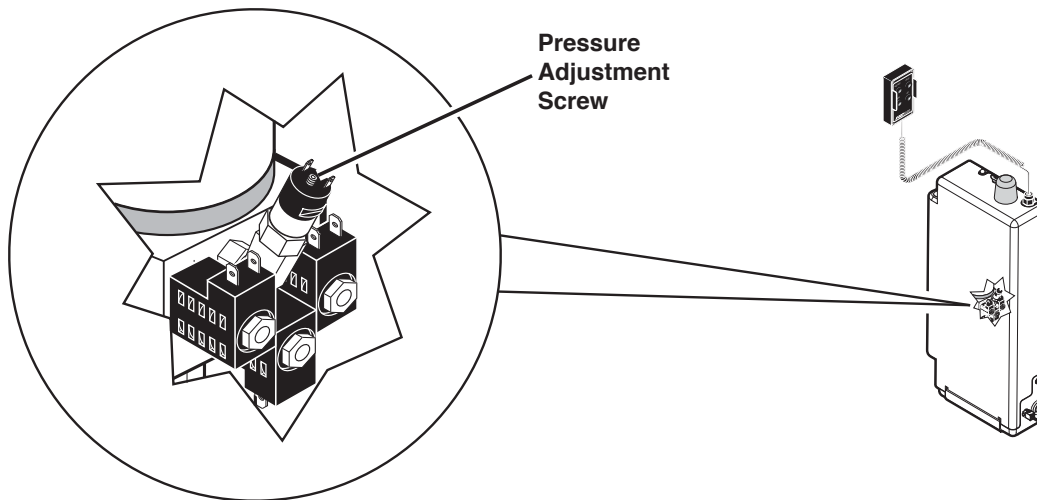


- The inner rollstop will not raise if occupied.
 - Call Product Support

Certification Checklist Diagnostic Procedures

- The outer barrier will not raise if occupied.

1. Lower the platform to the ground level loading position.
2. Remove the pump cover.
3. Turn the pressure adjustment screw (shown below) counter clockwise until the outer barrier does not raise when the Up button is pressed.
4. Turn the pressure adjustment screw clockwise in 1/4 turn increments until the outer barrier raises and fully locks in position when the Up button is pressed. DO NOT turn the pressure adjustment screw beyond this position.
5. Verify the outer barrier will not raise when occupied.
6. Reattach the pump cover.



- Verify platform lighting when lift is deployed.

1. Replace bulb(s) in the light housing.
2. Check fuse (5 amp fuse on circuit board; F13)

- An audio warning (and visual warning for public lifts) will activate if the threshold area is occupied when the platform is at least 1" below floor level.

1. Remove the threshold warning plate
2. Verify the threshold strip switch connectors are connected (see illustration on Page 6)
3. Replace the threshold strip switch
4. Reinstall the threshold warning plate

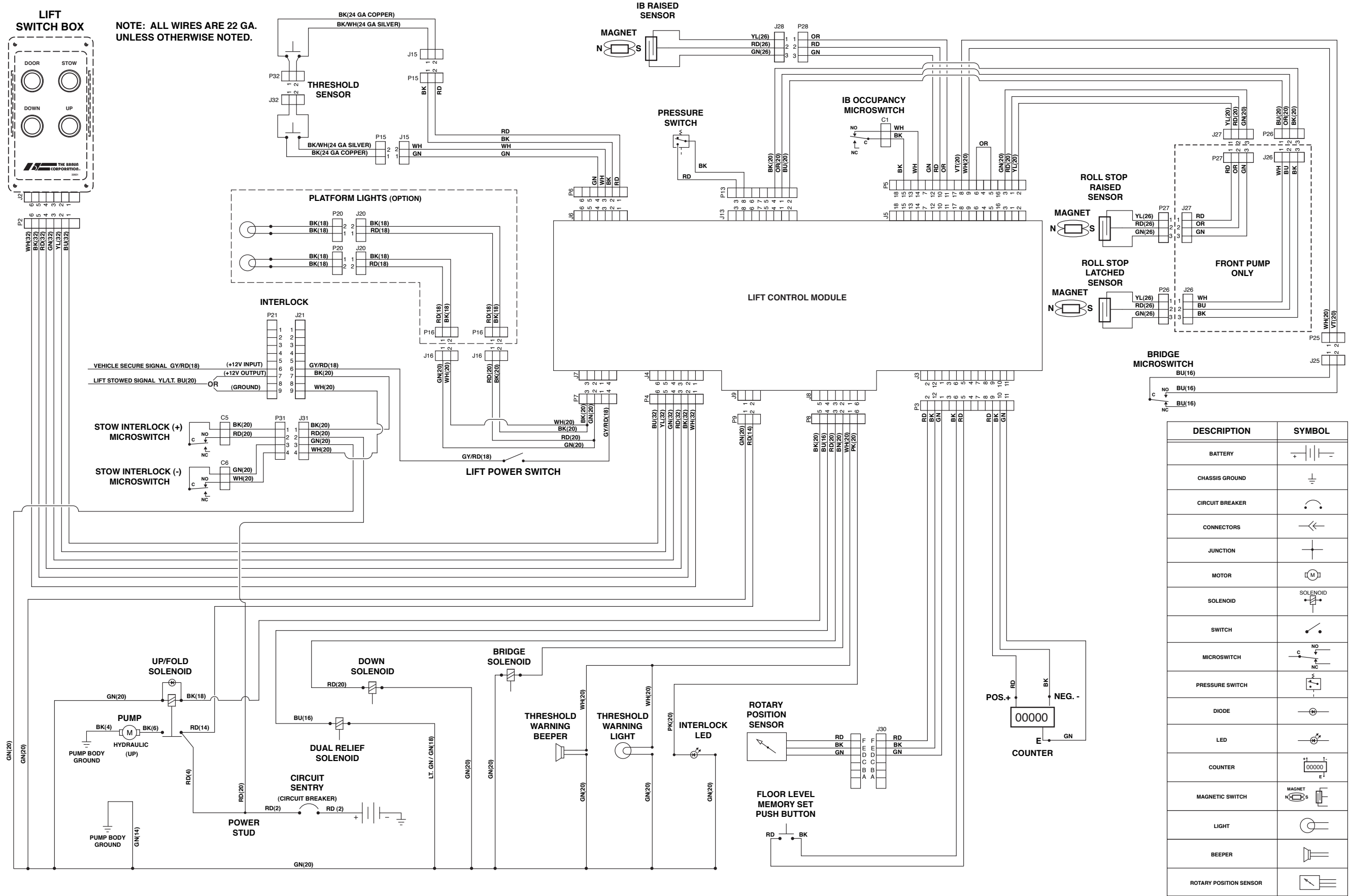
- Lowering the platform beyond the inner rollstop locking position is allowed only when the inner rollstop is locked in position.

- Call Product Support.

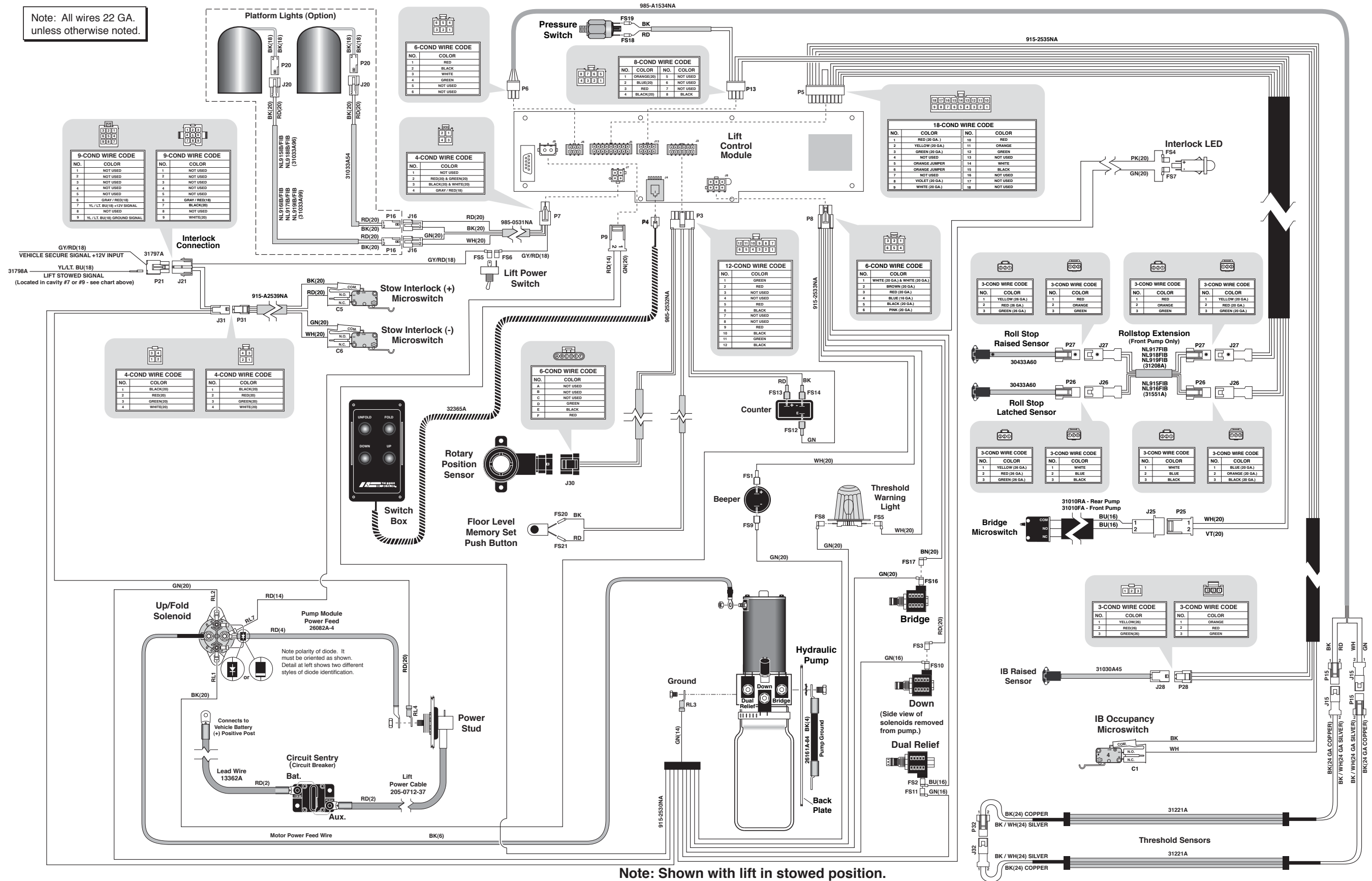
- Lift platform movement shall be interrupted unless the outer barrier is raised and the outer barrier latch is positively engaged.

- Call Product Support.

Lift Electrical Schematic

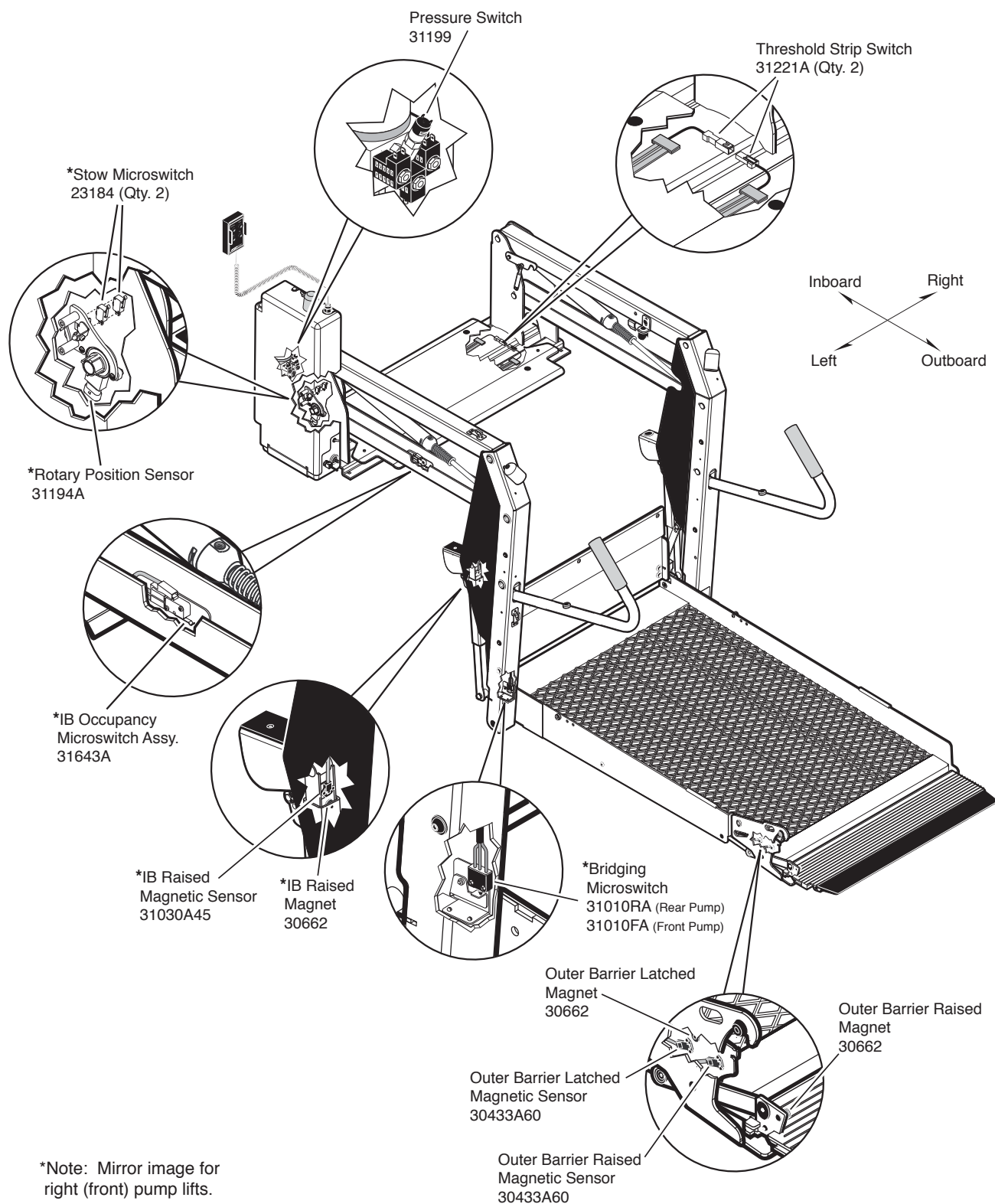


Lift Wiring Diagram



Note: Shown with lift in stowed position.

Switch and Sensor Locations



LCD Lift Codes

Listed below are codes that the lift controller outputs during lift operation. The codes will be displayed on an LCD screen located on the lift control board inside the pump module. See the Manual Operating Instructions in the operator's manual for pump cover removal instructions.

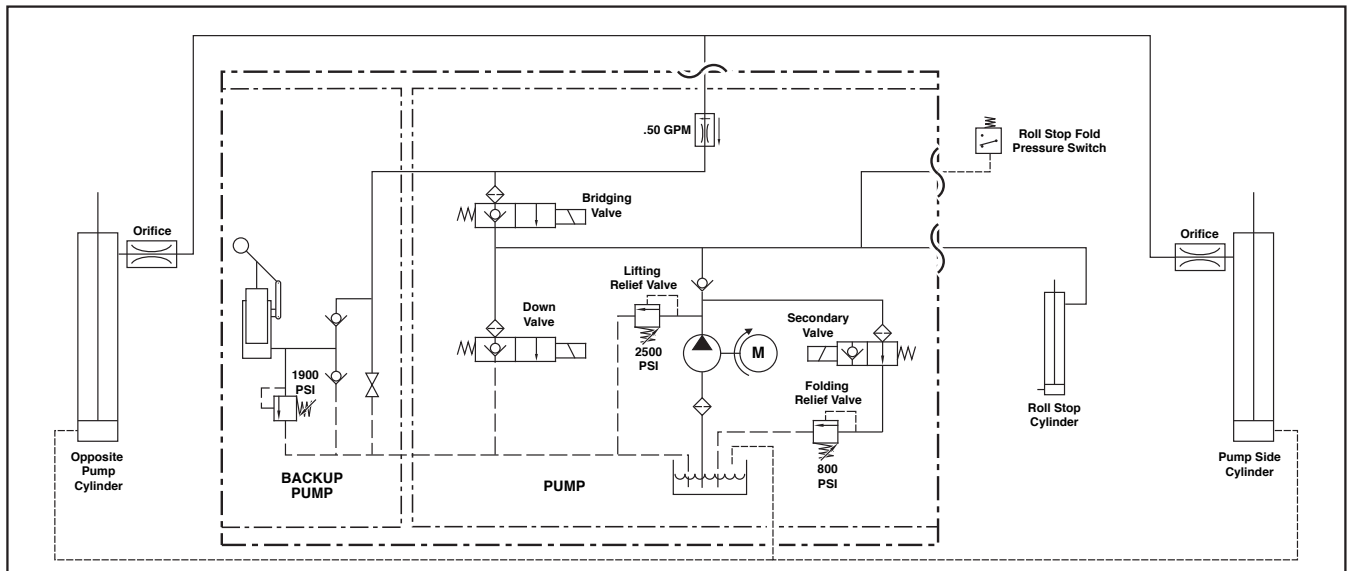
Non-Flashing Numbers

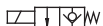
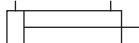
- | | |
|---|---|
| 01 – Platform stowed | 57 – Outer barrier is not up and latched and ground detect switch did not deactivate (Century and Vista only) |
| 02 – Platform unfolding | 58 – Outer barrier is not up and latched and the platform is 3" above the ground |
| 03 – Platform unfolding paused | 59 – Outer barrier is not up after pausing platform travel |
| 04 – Platform at floor level | 60 – The kickout gas springs are worn, replace before using |
| 05 – Platform beginning to lower | 75 – Low voltage detected; must turn off power switch to reset LCD |
| 06 – Platform lowering (threshold cannot be occupied from this point down) | 77 – Vehicle secure interlock has not been activated |
| 07 – Outer barrier moving to horizontal position | 90 – Position will be set if you keep holding the button until it beeps |
| 08 – Platform at ground level | 91 – Position is out of a predetermined acceptable range of floor position |
| 09 – Outer barrier moving to vertical position | 92 – Bridge switch is not made, needs adjusting |
| 10 – Platform raising | 93 – Inner rollstop occupied switch is not made, position needs to be moved or switch should be adjusted |
| 11 – Platform raising paused at floor | 94 – Outer barrier is not made, fix and try again |
| 12 – Platform folding (limited pressure) | 95 – Outer barrier latch is not made (check for jumper on Century and Vista lifts, check latch on Millennium lifts) |
| 13 – Platform folding (full pressure) | 99 – Controller program is not valid; replace controller |
| 14 – Timed fold (cinching lift title) or (anti-rattle state) | |
| 15 – Platform folding stopped | |
| 16 – Paused fold | |
| 17 – Platform between ground and 3" above ground | |
| 18 – Platform above 3" | |
| 19 – Outer barrier moving to horizontal position | |
| 28 – Illegal function/not defined | |
| 29 – Interlock fault not recognized (or has been cleared but a motion button is still pressed) | |
| 30 – Platform location unknown | |
| 31 – Platform location transition state; attempting to locate position | |
| 35 – Two or more motion buttons are being pressed | |
| 36 – The retention belt cannot be buckled while trying to fold or unfold | |
| 37 – Motion button being pressed is not a valid motion | |
| 50 – Outer barrier is not up above inboard barrier locked position | |
| 51 – Threshold is occupied when platform is 1" or more below floor level | |
| 52 – Inner rollstop is not up and locked below inner rollstop locked position | |
| 53 – Inner rollstop occupied sensor is not activated between floor and inner rollstop up position | |
| 54 – Outer barrier is occupied before it is up | |
| 55 – Outer barrier is not latched when above the inner rollstop locked position (Millennium only) | |
| 56 – Outer barrier is not up and latched and bridge switch did not deactivate | |

Flashing Numbers

- | |
|---|
| Flashing 65 – Unfold button is pressed |
| Flashing 66 – Fold button is pressed |
| Flashing 67 – Down button is pressed |
| Flashing 68 – Up button is pressed |
| Flashing 69 – Bridge switch is activated |
| Flashing 70 – Outer barrier latch switch is activated |
| Flashing 71 – Ground detect switch is activated |
| Flashing 72 – Outer barrier up switch is activated |
| Flashing 73 – Inner rollstop up switch is activated |
| Flashing 74 – Inner rollstop occupied switch is activated |
| Flashing 76 – Outboard barrier occupied switch is activated |
| Flashing 78 – Threshold tape switch "A" is activated |
| Flashing 79 – Threshold tape switch "B" is activated |
| Flashing 80 – Position set button is pressed |

Hydraulic Schematic



Description	Symbol	Description	Symbol
Fixed Displacement Pump		Hydraulic Port	
Pump Motor		2 Way 2 Position Solenoid Valve	
Backup Pump		Pressure Compensated Flow Control	
Single Acting Cylinder		Relief Valve	
Check Valve		Filter Screen	
Unfold Orifice		Vented Reservoir	
Manual Shutoff Valve		Orifice	
Pressure Switch			

NOTES

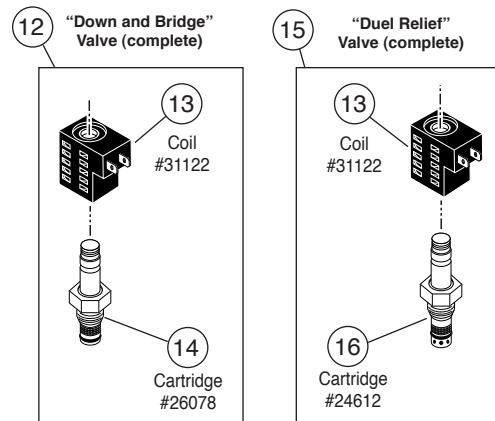
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Hydraulics Parts List

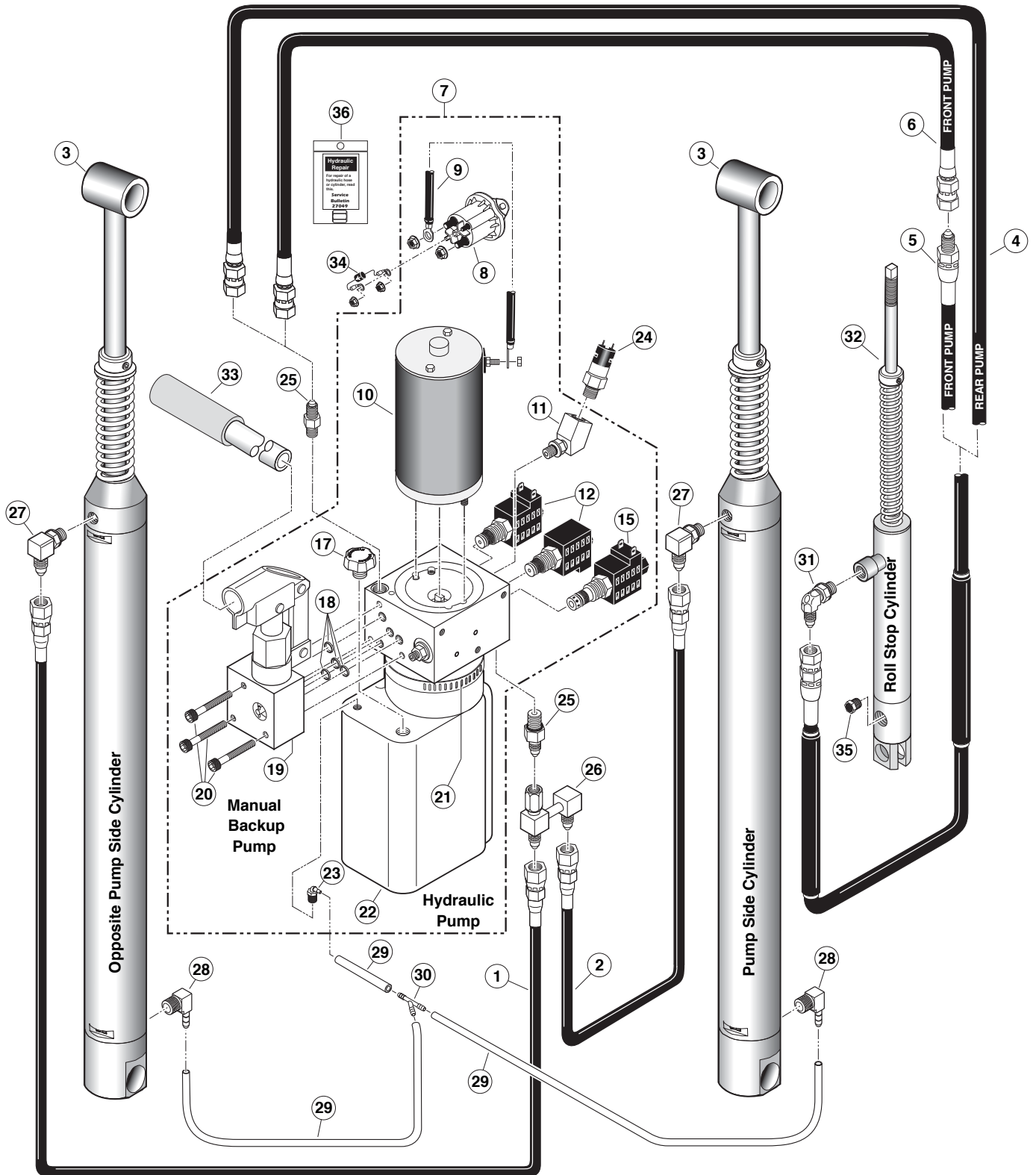
Part Numbers of Items Dedicated per Lift Model (Front and Rear Pump Models)							
Item	Qty.	Description	NL915	NL916	NL917	NL918	NL919
1	1	Hose Assembly, 1/8" (Opposite Pump Side)	16004A-081	16004A-079	16004A-086	16004A-084	16004A-087
2	1	Hose Assembly, 1/8" (Pump Side)	16004A-046	16004A-046	16004A-046	16004A-046	16004A-046
3	2	Cylinder ✓	C1514.3-9407	C1514.3-9408	C1514.3-9408	C1514.3-9407	C1514.3-9408
4	1	(Rear Pump) Hose Assembly, 3/16" w/Two Guards	915-2601-123	915-2601-139	915-2601-139	915-2601-123	915-2601-139
5	1	(Front Pump) Hose Assembly, 3/16" w/Two Guards	915-5602-82	915-5602-92.5	915-5602-92.5	915-5602-82	915-5602-92.5
6	1	(Front Pump) Hose Assembly, 3/16"	915-5603-80.5	915-5603-83.5	915-5603-86.5	915-5603-83.5	915-5603-86.5
Part Numbers of Items Identical on all Lift Models (Front and Rear Pump Models)							
Item	Qty.	Description	Part No.				
7	1	Pump Assembly (M268-0113)12V - with Reservoir/with Backup Pump)	31038-12V				
8	1	Solenoid, 4-Post (See Pump Module Exploded View for Solenoid Selection)					
9	1	Power Cable, Up Solenoid to Motor	29049				
10	1	Motor, Pump - 12 Volt - Low RPM	31350				
11	1	Elbow, 65° - Male 7/16-20 SAE O-Ring to 7/16-20 SAE O-Ring Boss	26578				
12	2	Valve Assembly, "Down / Bridge" (complete)	31348K				
13	3	Coil (only), "Down / Bridge" Valve - (shown below)	31122				
14	2	Cartridge (only), "Down / Bridge" Valve - (shown below)	26078				
15	1	Valve Assembly, "Duel Relief" (complete)	31120K				
16	1	Cartridge (only), "Duel Relief" Valve - (shown below)	31121				
17	1	Cap, Reservoir Filler	16935				
18	4	O-Ring (only), Hand Pump Mounting	17351				
19	1	Hand Pump (Backup) with O-Rings (Item 18)	26074				
20	3	Screw, 1/4-20 x 2-1/4", Allen Head	26080				
21	1	Clamp, Reservoir - H-48 (M259)	17069				
22	1	Reservoir, Hydraulic Fluid	16934				
23	1	Fitting, 90° - 1/8" NPT x 1/8" Barb - Plastic	87563				
24	1	Switch, Pressure, 7/16-20 SAE O-Ring Male	31199				
25	2	Fitting, Male 7-16-20 SAE O-Ring to Male 7/16-20 JIC 37°	24504				
26	1	Elbow, (1) Female 7/16-20 JIC 37 Swivel - (2) Male 7/16-20 JIC 37°	26579				
27	2	Elbow, 90°, 7/16-20 SAE O-Ring Male - 7/16-20 JIC 37° Male, Orifice	26667				
28	2	Elbow, 90°, 1/4" NPT Male to 1/4" Barbed	15150				
29	1	Hose, Thermal Plastic - Black, 1/8" I.D.	23742R*				
30	1	Connector, Plastic "Y", 1/8" O.D.	18877				
31	1	Fitting, 90° - Male 9/16-18 SAE O-Ring to Male 7/16-20 JIC 37°	87622				
32	1	Cylinder, Roll Stop (complete 915-3318NA contains items 31, 32, & 35)	25309NA				
33	1	Handle with Grip	17206A				
34	1	Diode Assembly, Up Solenoid	73906A				
35	1	Breather Vent, 1/4" NPT	26200-2				
36	1	Kit, Hydraulic Port Service Cap	27049K				

✓ **Seal Kits:** If repairing a cylinder, order Seal Kit #1500-0500P.

* Raw material items ordered and priced per inch (order specified length).



Hydraulics Diagram



Pump Module Parts List

[illegible]

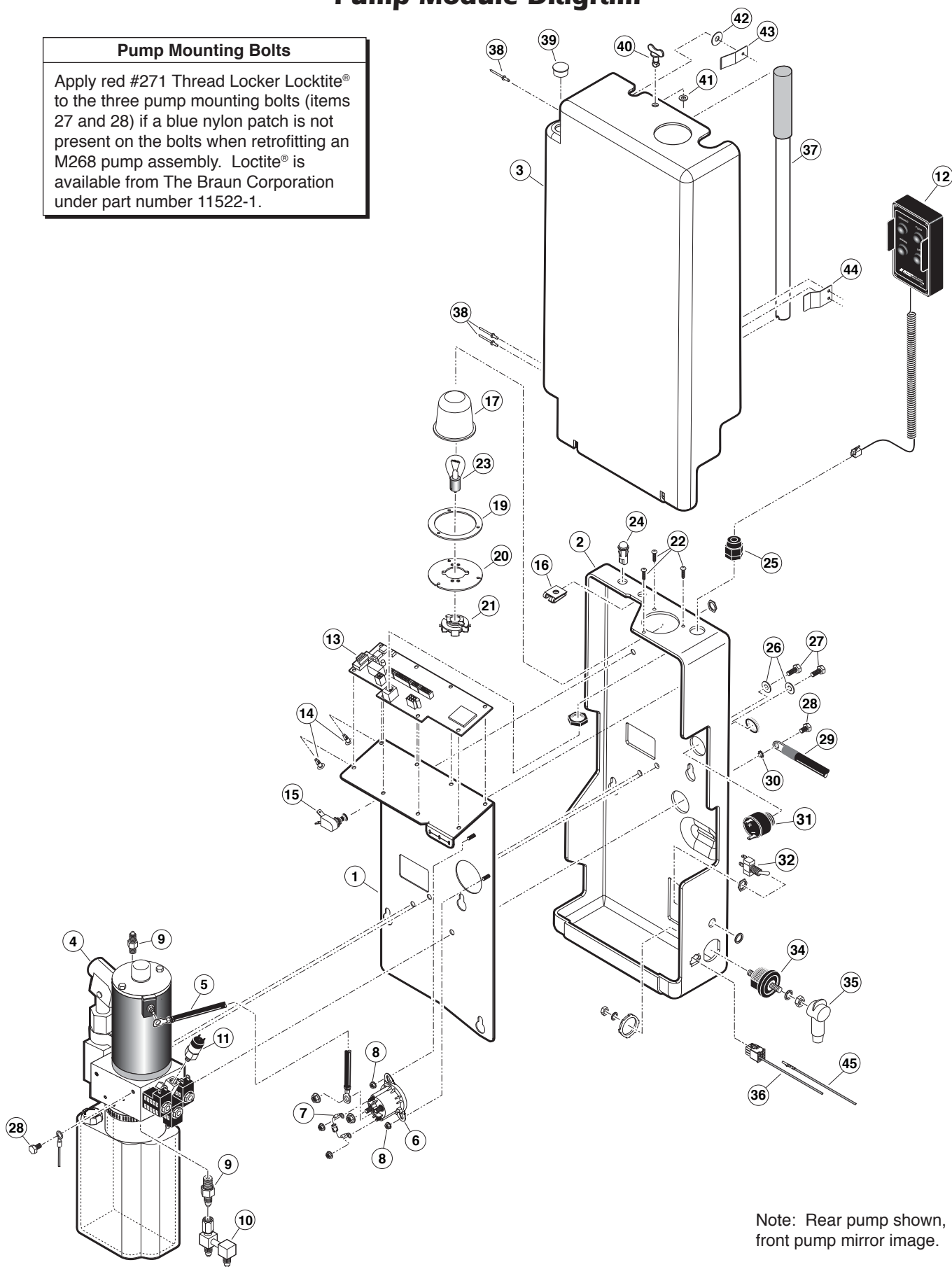
* Apply red #271 Thread Locker Loctite® to the four hex bolts (items 27 and 28) if a blue nylon patch is not present on the bolts when retrofitting an M268-0113 pump assembly. Loctite® is available from The Braun Corporation under part number 11522.

◆ Indicates items available for replacement part purposes **only**. These items **are not** included with replacement pump modules.

Pump Module Diagram

Pump Mounting Bolts

Apply red #271 Thread Locker Locktite® to the three pump mounting bolts (items 27 and 28) if a blue nylon patch is not present on the bolts when retrofitting an M268 pump assembly. Loctite® is available from The Braun Corporation under part number 11522-1.

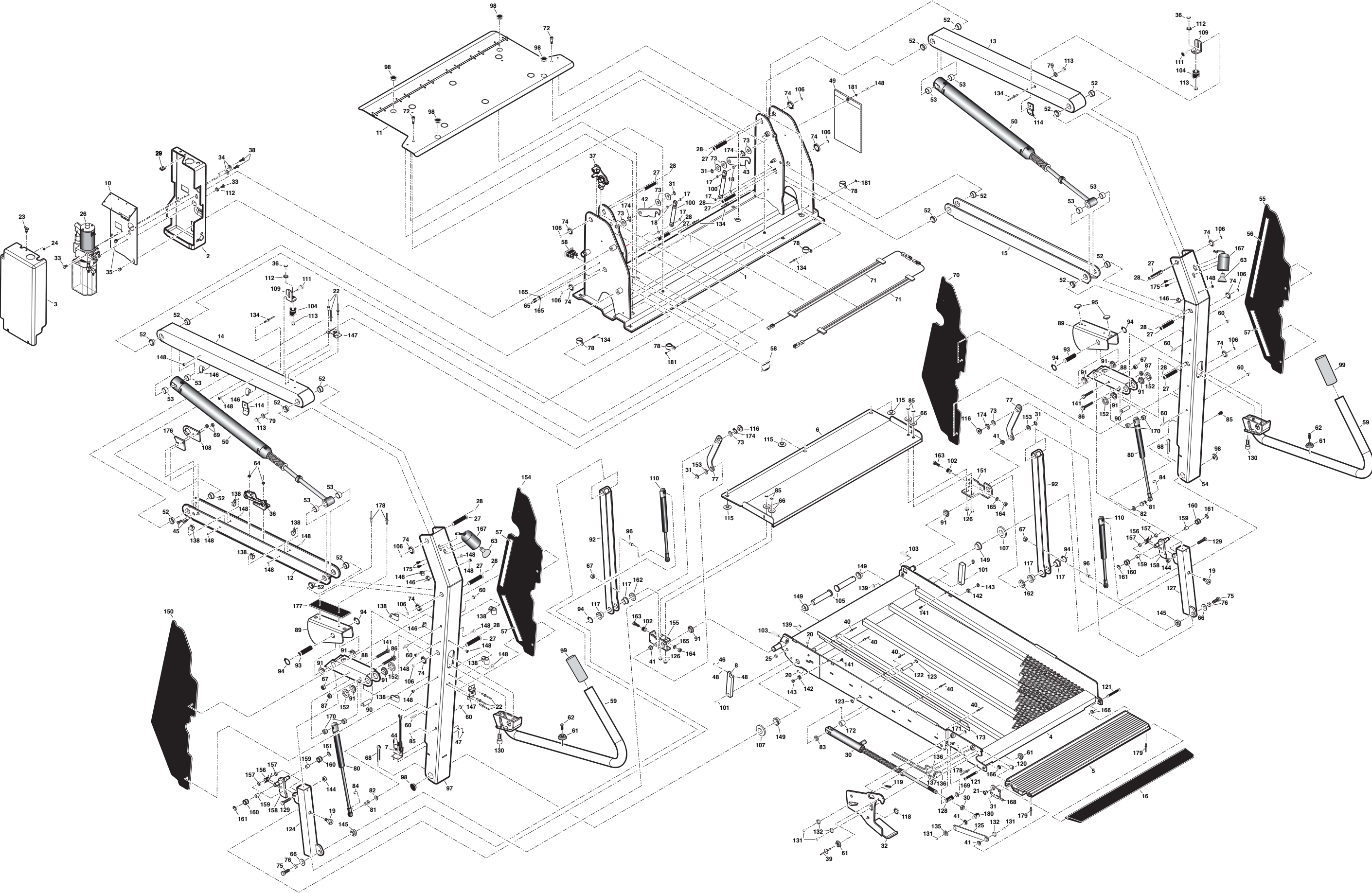


Note: Rear pump shown, front pump mirror image.

42" Floor-to-Ground Lift Repair Parts List

Part Numbers of Items Dedicated per Lift Model							
Item	Qty.	Description	NL915IB	NL915FIB	NL918IB	NL918FIB	
1	1	Base Weldment	915R3142NW30	915F3142NW30	918R3142NW33	918F3142NW33	
2	1	Cover, Pump, 2-Piece, Back-Bottom	915-0513RN	915-0513FN	915-0513RN	915-0513FN	
3	1	Cover, Pump, 2-Piece, Top-Front Assy.	915-0519RN	915-0519FN	915-0519RN	915-0519FN	
4	1	Platform Weldment	917-03050NW	917-03050NW	917-03350NW	917-03350NW	
5	1	Outer Barrier Assembly (inc. 5,16,31,168,179)	915-0312NA30Y	915-0312NA30Y	915-0312NA33Y	915-0312NA33Y	
6	1	Inner Rollstop	918-0147NWY-30	918-0147NWY-30	918-0147NWY	918-0147NWY	
7	1	Bridge Switch Assembly	31010RA	31010FA	31010RA	31010FA	
8	1	Block, Platform Stop	25778	900-0311	25778	900-0311	
9	1	Block, Platform Stop	900-0311	25778	900-0311	25778	
10	1	Plate, Backing/Mounting	985-2501RN	985-2501FN	985-2501RN	985-2501FN	
11	1	Base Cover Assy., (Traction Tape Not Shown)	915-5142CNA30Y	915-5142CNA30Y	915-5142CNA33Y	915-5142CNA33Y	
12	1	Parallel Arm Assy., Bottom, w/Bearings - Rear	915-0457RNA	915-0457FNA	915-0457RNA	915-0457FNA	
13	1	Parallel Arm Assy., Top, w/Bearings - Front	915-0422FA	915-0422FNA	915-0422FA	915-0422FNA	
14	1	Parallel Arm Assy., Top, w/Bearings - Rear	915-0422RNA	915-0422RNA	915-0422RNA	915-0422RNA	
15	1	Parallel Arm Assy., Bottom, w/Bearings - Front	915-0457FNA	915-0457RNA	915-0457FNA	915-0457RNA	
16	1	Rubber Nose	24603-30	24603-30	24603-33	24603-33	
Part Numbers of Items Identical on All Lift Models							
Item	Qty.	Description	Part No.	Item	Qty.	Description	Part No.
17	4	Snap-Ring 5/16"	24570	106	10	Screw, 5/16-18 x 3/4", SHFS	25527
18	4	O-Ring, 5/16" I.D. x 1/16" O.D.	26614	107	2	Spacer, UHMW, Vertical Channel	995-0320
19	2	Screw, Socket Head, 3/8-16 x 1/2" with 1/2" Shoulder	25929	108	1	Position Sensor Collet	31093
20	2	Grommet, I.D. .281"/FR.125" x GD.625"/T.375"	27725	109	2	Bracket, Mounting, Quiet Ride	915-0392
21	1	Pivot, Outer Barrier Lever	24550	110	2	Gas Spring, 12.2" Extended/8.3" Compressed	30550A
22	6	Rivet, Pop, 1/8", .13"/.19"	12954	111	2	Bolt, 5/16-18 x 3/4", Carriage, Black	15858BK
23	1	Stud, Wing Head	28804	112	3	Washer, 5/16", External Tooth	16368
24	1	Retainer, Push-On	28805	113	4	Nut, 5/16-18 Hex	10058
25	1	Grommet, ID .312", FR .250", GD .813" T500"	27726	114	2	Bracket, Inner Side Panel Guide	915-0703
26	1	Pump Assembly	31038-12V	115	3	Bearing, UHMW, Flat, Thin, Black	916-5406
27	10	Pin, Pivot, Parallel Arm	917-0403	116	2	Pivot, Inner Rollstop Lever, Upper, Inside	916-5433
28	10	Screw Drive #8 x 3/16" Long Black	31086BK	117	4	Bearing, Flange - 3/4" x 1/2"	24027
29	1	Receptacle, Clip-On	28803	118	1	Spacer, UHMW, Latch	950-7760
30	1	Cylinder Assy., Outer Barrier	915-3318NA	119	1	Spring, 1/4" x 1" Extension w/Hooks	10774
31	4	Snap-Ring 1/2"	13273	120	1	Tubing, Polyurethane - 1/4" I.D. x 1/2" O.D. x .81"	28630R000.81
32	1	Latch Assy., Outer Barrier	915-4343NA	121	2	Pin, Clevis, 3/8" x 3", Black	24932BK
33	2	Bolt, 5/16-18 x 1/2" Nylock, Hex	10012	122	1	Pin, Platform Cylinder	915-0414
34	2	Washer, 5/16" Flat	10063	123	2	Ring, Snap, 1/2", External, .035" Thick	20946
35	2	Bolt, 3/8-16 x 1/2" Nylock, Hex	29729	124	1	Weldment, Tube-IB Fold Arm-Rear	985-0625RNW
36	1	Assembly, IB Occupied	31643A	125	1	Lever, Outer Barrier Latch (Assembly #915-0345A)	915-0435
37	1	Assembly, Rotary Position Sensor	31094A	126	4	Nut, 3/8-16, Hex, Lock, Jamb	20926
38	2	Bolt, 5/16-18 x 3/4" Nylock, Hex	29608	127	1	Weldment, Tube-IB Fold Arm-Front	985-0625FNW
39	1	Rivet, Pop, SD68 BSLF-3/16" - .38"/.50"	15244	128	1	Pivot, Outer Barrier Cylinder, Front	990-0352
40	5	Rivet, Pop, 1/8", .25"/.31"	13906	129	2	Bolt, 5/16-18 x 1 1/2" Hex Head, Cap	10014
41	4	Bearing, Flange, 1/2" x 1/4"	24442	130	2	Bolt, 7/16-20 x 1", SHCS, w/Nylock Patch	28474
42	1	Weldment, Latch, Lift/Tite, Rear	27013RW	131	4	Screw, #10-32 x 3/8", Flat Head, Hex	24537
43	1	Weldment, Latch, Lift/Tite, Front	27013FW	132	3	Adapter, Cylinder/Outer Barrier Lever-Out	990-0341
44	2	Screw, #4-40 x 5/8", Round Head	14810	133	2	Bolt, 5/16-18 x 3/4", Button Head, Soc Cap Hd	24440
45	2	Screw, 1/4-20 x 3/4", Flat Head, Countersink	28986	134	6	Rivet, Pop, 3/16", .25"/.38", Black	14993
46	1	Screw, #8-32 x 1", Mach. Truss Head	19812BK	135	1	Adapter, Cylinder/Outer Barrier Lever	915-0341N
47	2	Nut, #4-40 w/Lockwasher	19537	136	2	Harness, Sensor - Cherry w/Plug	30433A60
48	2	Nut, #8-32, Hex	10777	137	4	Rivet, Snap, Black, .158/ .197 Thick	25759
49	1	Bag, Vinyl - 7" x 10"	31174	138	8	Clip, Cable, 1/2", Plastic	10092
50	2	Cylinder, 14.625"/29.146" Retracted	C1514.3-9408	139	2	Nut, 5/16-18, Top Lock, Black	28324BK
51	1	Screw, 10-32 x 5/8" Pan Head Phillips, Thd. Cut	26714	140	2	Bolt, 1/4-20 x 1/2", Button Head Socket	15733
52	16	Bearing, Flange, 3/4" x 3/8"	24011	141	2	Bolt, 3/8-16 x 2", Hex Head, Cap	10027
53	8	Bushing, 3/4" I.D. x 1/2"	900-0456	142	2	Roller Assembly	1000-2395A
54	1	Vertical Channel Weldment, Front, 48"	955-0448FNW	143	2	Roller Retainer	915-5353
55	1	Cover, Plastic, Parallel Arm, O/S Front-w/Tape	915-0704NA	144	2	Nut, 5/16-18 Hex, Lock	11387BK
56	2	Tape, 1" Wide S-Face Foam, x 14" (1 Shown)	82015R014	145	2	Pivot, Inner Rollstop Lever, Upper-Outer	916-5434
57	6	Tape, 1" Wide S-Face Foam, x 10" (3 Shown)	82015R010	146	6	Clamp, 1/4" I.D. - Nylon Loop	84396
58	1	Cycle Counter-LCD Without Reset	30547	147	2	Clip, Hand Control Hanger	84389
59	2	Handrail Weldment	985-0618NW	148	11	Rivet, Snap, .201" x .256"/.295"	26362
60	8	Rivet, Push In - 8MM	30063	149	4	Bearing, Flange, 1" x 1/2-16 FDU08	28031
61	4	Bumper, Rubber, 31/32" O.D.	10950	150	1	Cover, Plastic, Parallel Arm, O/S Rear-w/Tape	915-0702NA
62	2	Screw, #8-18 x 1/2", Self-Tap, Phillips	13583	151	1	Weldment, Inner Rollstop Bracket, Front	985-0431FNW
63	2	Bulb, Light 20-W, Halogen Reflector	31060	152	4	Spacer, Handrail, .375" Thk. UHMW	995-0301
64	2	Nut, #10-32 w/Lockwasher	18349	153	2	Washer, .516" I.D. x .75" O.D. x .250", Black	25336
65	2	Screw, 1/4-20 x 3/4", Button Head, Socket Cap	81068-000	154	1	Cover, Plastic, Parallel Arm, I/S Rear-w/Tape	915-0703NA
66	6	Washer, 3/8" Flat, Black	10064	155	1	Weldment, Inner Rollstop Bracket, Rear	985-0431RNW
67	4	Nut, 3/8-16, Hex Lock	13617	156	2	Spring, Torsion - .366 I.D. x .05"	30386
68	2	Cotter Pin, 1/4" x 2", Black	15886BK	157	4	Spacer, IB Lock	30394
69	2	Nut, 1/4-20 Hex Lock	10775	158	2	Weldment, IB Lock	985-0630NW
70	1	Cover, Plastic, Parallel Arm, I/S Front-w/Tape	915-0701NA	159	4	Bearing, 3/8" I.D. x 1/2" Long	30405
71	2	Threshold Strip Switch	31221A	160	4	Roller, .65" O.D. x 1/2" Long	985-0631N
72	2	Bolt, Shoulder, 5/16" x 5/8"-1/4-20	31816	161	4	E-Clip, 3/8" Shaft	84383
73	8	Washer, .516" I.D. x 1" O.D. x .0269", Auto BK	15328	162	2	Spacer, Handrail, .230" Thk. UHMW	911-5301
74	10	Washer, 1/2" Flat Black Zinc	25346	163	2	Bolt, 1/4-20 x 1", Hex	10001
75	2	Bolt, 3/8-16 x 1", Hex	10025	164	2	Nut, 1/4-20, Hex	10057
76	2	Washer, 3/8", Lock, Black	10069BK	165	4	Washer, 1/4", External Tooth	83588
77	2	Lever, Inner Rollstop	985-0404N	166	2	Bearing, Flange, 3/8" x 1/4" - Plastic	24028
78	4	Clamp, Insulate, 1 3/8" I.D.	29765	167	2	Light Assy, Vertical Channel	31062A
79	2	Washer, 5/16" Lock, Black	10068	168	1	Tab, Outer Barrier - Assembly	915-6367NA
80	2	Gas Spring, Fold Arm	29186	169	1	Washer, .4" I.D. x .810" O.D. x 12"	24536
81	2	Ball Stud, Gas Spring, 13MM x 3/8-16 F. Thread	29185	170	4	Spacer, UHMW-.75" O.D. x .39" I.D. x .25"	30227
82	2	Washer, 3/8", Lock	10069	171	1	Bolt, 3/8-16 x 3/4" Soc. Hd. Cap Screw Bk.	26259
83	1	Spacer, Flap Cylinder, .184" Thick	915-0416	172	1	Spacer, Flap Cylinder, .700" Thick	915-0415
84	2	Clip, Safety, 3/8-16 x 3/4", Flange	12608	173	1	Guard, Outer Barrier Sensor Wires	915-0368N50Y
85	6	Bolt, 3/8-16 X 3/4" Flange Button Head, Socket Cap	25171	174	3	Washer, Finger, Disc Spring	27276
86	2	Bolt, 5/16-18 x 2", Flange, Hex	25130	175	4	Screw, #10-32 x 1/2" Button Head, Socket, Cap	30375WP
87	2	Nut, 5/16-18, Serrated Flange	25131	176	1	Position Sensor Spacer	31092
88	2	Arm, Slide Support (Replace In Pairs)	985-6612N	177	1	Slide, UHMW, Platform Rotate	31677
89	2	Slide, Platform, Rotate, Weldment	915-0606N	178	3	Rivet, Pop, 3/16" - .13/25" - SD64BS	11513
90	2	Spacer, 5" O.D. x .334" I.D. x 1.515" LG	25132	179	2	Rivet, Pop, 3/16" x .06"/.13"	11512
91	10	Bearing, Flange, 3/4" x 1/4"	24012	180	1	Adapter, Cylinder/Outer Barrier Lever	915-0344
92	2	Weldment, Platform Pivot Arm - 42" (Replace In Pairs)	918-2640NW-BKN	181	3	Washer, #10, Flat, Auto BK	11541
93	2	Pin, Pivot, Lower Arm	900-0413N				
94	6	Ring, Snap, 3/4", External	18657				
95	2	Bearing, UHMW, Flat, 1.226"	205-1760				
96	2	Ball Stud, 10MM	21301				
97	1	Vertical Channel Weldment, Rear	955-0448RNW				
98	6	Plastic End Cap, 1" I.D. x 1 1/4" O.D.	20474				
99	2	Grip, Handle, Yellow	19074				
100	2	Spring, Dampener, Retract	26963				
101	2	Bolt, 5/16-18 x 1 1/4" Low Socket Hd., Cap, Bk.	26327				
102	2	Bumper, 1" x 1/2" Long	33654				
103	2	Screw, 1/2-20 x 1 1/2" Set Lock, Black	18663				
104	2	Block, Guide-Platform Stow	28593				
105	2	Pin, Platform	975-2325				

42" Floor-to-Ground Lift Exploded View

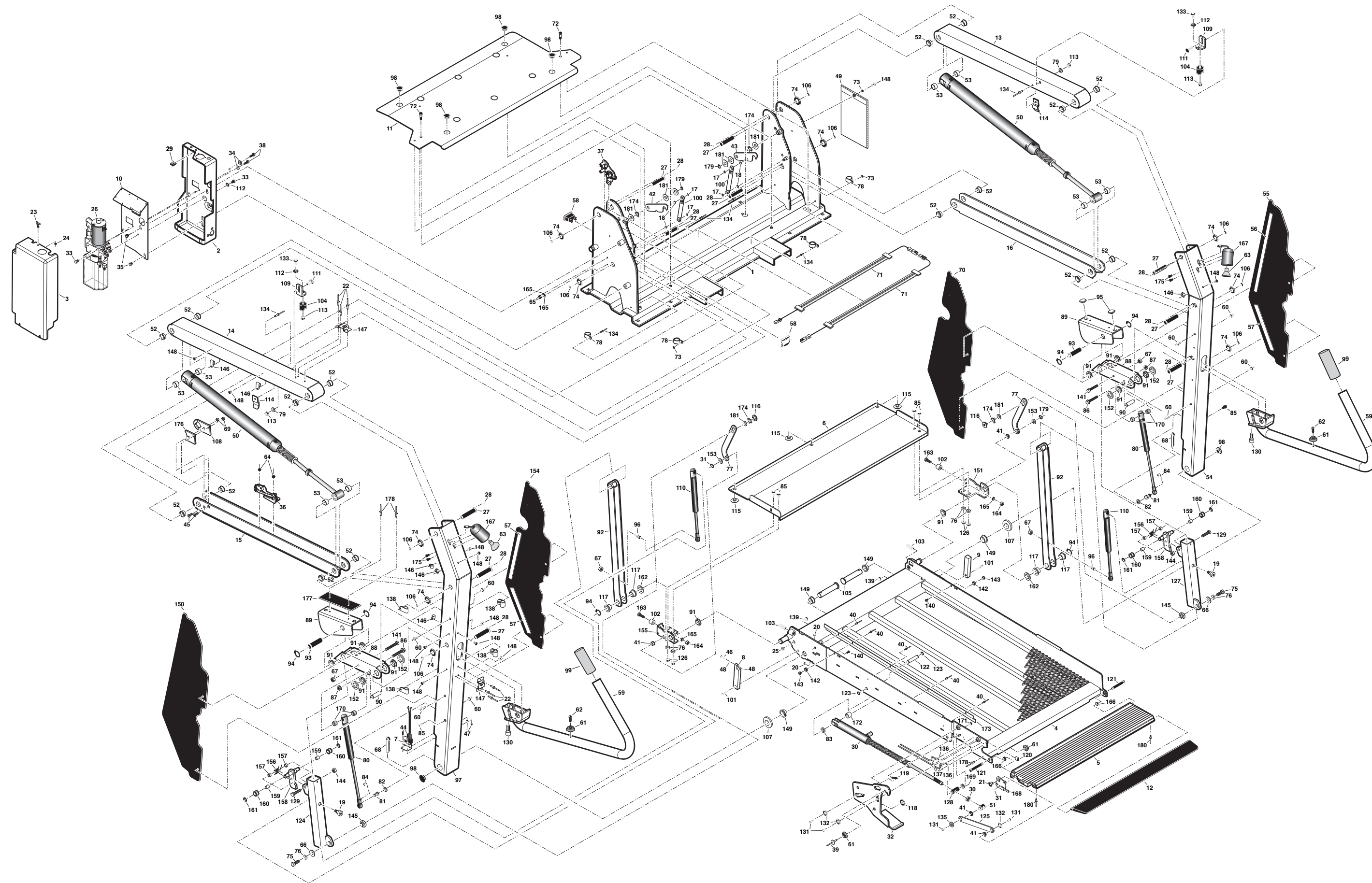


48" Floor-to-Ground Lift Repair Parts List

Part Numbers of Items Dedicated per Lift Model								
Item	Qty.	Description	NL916IB	NL916FIB	NL917IB	NL917FIB	NL919IB	NL919FIB
1	1	Base Weldment	985R3148NW30	985F3148NW30	985R3148NW33	985F3148NW33	985R3148NW34	985F3148NW34
2	1	Cover, Pump, 2-Piece, Back-Bottom	915-0513RN	915-0513FN	915-0513RN	915-0513FN	915-0513RN	915-0513FN
3	1	Cover, Pump, 2-Piece, Top-Front	915-0519RN	915-0519FN	915-0519RN	915-0519FN	915-0519RN	915-0519FN
4	1	Platform Weldment	917-03050NW	917-03050NW	917-03350NW	917-03350NW	919-03450NW	919-03450NW
5	1	Outer Barrier Assembly (inc. 5,12,31,168,180)	915-0312NA30Y	915-0312NA30Y	915-0312NA33Y	915-0312NA33Y	915-0312NA34Y	915-0312NA34Y
6	1	Inner Rollstop	915-0147NW30Y	915-0147NW30Y	915-0147NWY	915-0147NWY	915-0147NW34Y	915-0147NW34Y
7	1	Bridge Switch Assembly	31010RA	31010FA	31010RA	31010FA	31010RA	31010FA
8	1	Block, Platform Stop - Bridging - Rear	25778	900-0311	25778	900-0311	25778	900-0311
9	1	Block, Platform Stop - Bridging - Front	900-0311	25778	900-0311	25778	900-0311	25778
10	1	Plate, Backing/Mounting	985-2501RN	985-2501FN	985-2501RN	985-2501FN	985-2501RN	985-2501FN
11	1	Base Cover Assy., (Traction Tape Not Shown)	975-5148CNA30Y	975-5148CNA30Y	975-5148CNA33Y	975-5148CNA33Y	975-5148CNA34Y	975-5148CNA34Y
12	1	Rubber Nose	24603-30	24603-30	24603-33	24603-33	24603-34	24603-34
13	1	Parallel Arm Assy., Top-Front w/Bearings	915-0437FA	985-0437FNA	915-0437FA	985-0437FNA	915-0437FA	985-0437FNA
14	1	Parallel Arm Assy., Top Rear	917-0437RNA	917-0436RNA	917-0437RNA	917-0436RNA	917-0437RNA	917-0436RNA
15	1	Parallel Arm Assy., Bottom Rear	975-0458NA	917-0457NA	975-0458NA	917-0457NA	975-0458NA	917-0457NA
16	1	Parallel Arm Assy., Bottom w/Bearings-Front	917-0457NA	975-0458NA	917-0457NA	975-0458NA	917-0457NA	975-0457NA

Part Numbers of Items Identical on All Lift Models							
Item	Qty.	Description	Part No.	Item	Qty.	Description	Part No.
17	4	Snap-Ring 5/16"	24570	106	10	Screw, 5/16-18 x 3/4", SHFS	25527
18	4	O-Ring, 5/16" I.D. x 1/16" O.D.	26614	107	2	Spacer, UHMW, Vertical Channel	995-0320
19	2	Screw, Socket Head, 3/8-16 x 1/2" with 1/2" Shoulder	25929	108	1	Position Sensor Collet	31093
20	2	Grommet, I.D. .281" / FR.125" x GD.625" / T.375"	27725	109	2	Bracket, Mounting, Quiet Ride	915-0392
21	1	Pivot, Outer Barrier Lever	24550	110	2	Gas Spring, 12.2" Extended/8.3" Compressed	30550A
22	6	Rivet, Pop, 1/8" - .137/.19"	12954	111	2	Bolt, 5/16-18 x 3/4", Carriage, Black	15858BK
23	1	Stud, Wing Head	28804	112	3	Washer, 5/16", External Tooth	16368
24	1	Retainer, Push-On	28805	113	4	Nut, 5/16-18 Hex	10058
25	1	Grommet, ID .312", FR. 250", GD. 813" T500"	27726	114	2	Bracket, Inner Side Panel Guide	915-0703
26	1	Pump Assembly	31038-12V	115	3	Bearing, UHMW, Flat, Thin, Black	916-5406
27	10	Pin, Pivot, Parallel Arm	917-0403	116	2	Pivot, Inner Rollstop Lever, Upper, Inside	916-5433
28	10	Screw Drive #8 x 3/16" Long Black	31086BK	117	4	Bearing, Flange - 3/4" x 1/2"	24027
29	1	Receptacle, Clip-On	28803	118	1	Spacer, UHMW, Latch	950-7760
30	1	Cylinder Assembly, Outer Barrier	915-3318NA	119	1	Spring, 1/4" x 1" Extension w/Hooks	10774
31	1	Screw, 10-32 x 5/8" Pan Head Phillips, Thd. Cut	26714	120	1	Tubing, Polyurethane - 1/4" I.D. x 1/2" O.D. x .81"	28630R000.81
32	1	Latch Assembly, Outer Barrier	915-4343NA	121	2	Pin, Clevis, 3/8" x 3", Black	24932BK
33	2	Bolt, 5/16-18 x 1/2" Nylock, Hex	10012	122	1	Pin, Platform Cylinder	915-0414
34	2	Washer, 5/16" Flat	10063	123	2	Ring, Snap, 1/2", External, .035" Thick	20946
35	2	Bolt, 3/8-16 x 1/2" Nylock, Hex	29729	124	1	Weldment, Tube-IB Fold Arm-Rear	985-0625RNW
36	1	Assembly, IB Occupied	31643A	125	1	Lever, Outer Barrier Latch (Assembly #915-0345A)	915-0435
37	1	Assembly, Rotary Position Sensor	31094A	126	4	Nut, 3/8-16, Hex	10059BK
38	2	Bolt, 5/16-18 x 3/4" Nylock, Hex	29608	127	1	Weldment, Tube-IB Fold Arm-Front	985-0625FNW
39	1	Rivet, Pop, SD68 BSLF-3/16" - .38"/.50"	15244	128	1	Pivot, Outer Barrier Cylinder, Front	990-0352
40	5	Rivet, Pop, 1/8" - .257/.31"	13906	129	2	Bolt, 5/16-18 x 1 1/2" Hex Head, Cap	10014
41	4	Bearing, Flange, 1/2" x 1/4"	24442	130	2	Bolt, 7/16-20 x 1", SHCS, w/Nylock Patch	28474
42	1	Weldment, Latch, Lift/Tite, Rear	27013RW	131	4	Screw, #10-32 x 3/8", Flat Head, Hex	24537
43	1	Weldment, Latch, Lift/Tite, Front	27013FW	132	3	Adapter, Cylinder/Outer Barrier Lever-Out	990-0341
44	2	Screw, #4-40 x 5/8", Round Head	14810	133	2	Bolt, 5/16-18 x 3/4", Button Head, Soc Cap Hd	24440
45	2	Screw, 1/4-20 x 3/4", Flat Head, Countersink	28986	134	6	Rivet, Pop, 3/16" - .257/.38", Black	14993
46	1	Screw, #8-32 x 1", Mach. Truss Head	19912BK	135	1	Adapter, Cylinder/Outer Barrier Lever	915-0341N
47	2	Nut, #4-40 w/Lockwasher	19537	136	2	Harness, Sensor - Cherry w/Plug	30433A60
48	2	Nut, #8-32, Hex	10777	137	4	Rivet, Snap, Black, .158/ .197 Thick	25759
49	1	Bag, Vinyl - 7" x 10"	31174	138	4	Clamp, Cable, 1/2", Plastic	10092
50	2	Cylinder, 14.625"/29.146" Retracted	C15143-9408	139	2	Nut, 5/16-18, Top Lock, Black	28324BK
51	1	Adapter, Cylinder/Outer Barrier Lever	915-0344	140	2	Bolt, 1/4-20 x 1/2", Button Head Socket	15733
52	16	Bearing, Flange, 3/4" x 3/8"	24011	141	2	Bolt, 3/8-16 x 2", Hex Head, Cap	10027
53	8	Bushing, 3/4" I.D. x 1/2"	900-0456	142	2	Roller Assembly	1000-2395A
54	1	Vertical Channel Weldment, Front, 48"	955-0448FNW	143	2	Roller Retainer	915-5353
55	1	Cover, Plastic, Parallel Arm, O/S Front-w/Tape	915-0704NA	144	2	Nut, 5/16-18 Hex, Lock	11387BK
56	2	Tape, 1" Wide S-Face Foam, x 14" (1 Shown)	82015R014	145	2	Pivot, Inner Rollstop Lever, Upper-Outer	916-5434
57	6	Tape, 1" Wide S-Face Foam, x 10" (3 Shown)	82015R010	146	6	Clamp, 1/4" I.D. - Nylon Loop	84396
58	1	Cycle Counter-LCD Without Reset	30547	147	2	Clip, Hand Control Hanger	84389
59	2	Handrail Weldment	985-0618NW	148	11	Rivet, Snap, .201" x .256"/.295"	26362
60	8	Rivet, Push In - 8MM	30063	149	4	Bearing, Flange, 1" x 1/2-16FDOU8	28031
61	4	Bumper, Rubber, 31/32" O.D.	10950	150	1	Cover, Plastic, Parallel Arm, O/S Rear-w/Tape	915-0702NA
62	2	Screw, #8-18 x 1/2", Self-Tap, Phillips	13583	151	1	Weldment, Inner Rollstop Bracket, Front	985-0431FNW
63	2	Bulb, Light 20-W, Halogen Reflector	31060	152	4	Spacer, Handrail, .375" Thk. UHMW	995-0301
64	2	Nut, #10-32 w/Lockwasher	18349	153	2	Washer, .516" I.D. x .75" O.D. x .250", Black	25336
65	2	Screw, 1/4-20 x 3/4", Button Head, Socket Cap	81068-000	154	1	Cover, Plastic, Parallel Arm, I/S Rear-w/Tape	915-0703NA
66	2	Washer, 3/8" Flat, Black	10064	155	1	Weldment, Inner Rollstop Bracket, Rear	985-0431RNW
67	4	Nut, 3/8-16, Hex Lock	13617	156	2	Spring, Torsion - .366 I.D. x .05"	30386
68	2	Cotter Pin, 1/4" x 2", Black	15886BK	157	4	Spacer, IB Lock	30394
69	2	Nut, 1/4-20 Hex Lock	10775	158	2	Weldment, IB Lock	985-0630NW
70	1	Cover, Plastic, Parallel Arm, I/S Front-w/Tape	915-0701NA	159	4	Bearing, 3/8" I.D. x 1/2" Long	30405
71	2	Threshold Strip Switch	31221A	160	4	Roller, .65" O.D. x 1/2" Long	985-0631N
72	2	Bolt, Shoulder, 5/16 x 5/8-1/4"-20	31816	161	4	E-Clip, 3/8" Shaft	84383
73	3	Washer, #10, Flat, Auto BK	11541	162	2	Spacer, Handrail, .230" Thk. UHMW	911-5301
74	10	Washer, 1/2" Flat Black Zinc	25346	163	2	Bolt, 1/4-20 x 1", Hex	10001
75	2	Bolt, 3/8-16 x 1"	10025	164	2	Nut, 1/4-20 Hex	10057
76	6	Washer, 3/8", Lock, Black	10069BK	165	4	Washer, 1/4", External Tooth	83588
77	2	Lever, Inner Rollstop	985-0404N	166	2	Bearing, Flange, 3/8" x 1/4" - Plastic	24028
78	4	Clamp, Insulate, 1 3/8" I.D.	29765	167	2	Light Assy, Vertical Channel	31062A
79	2	Washer, 5/16" Lock, Black	10068	168	1	Tab, Outer Barrier - Assembly	915-6367NA
80	2	Gas Spring, Fold Arm	29186	169	1	Washer, 4" I.D. x .810" O.D. x .12"	24536
81	2	Ball Stud, Gas Spring, 13MM x 3/8-16 F. Thread	29185	170	4	Spacer, UHMW-.75" O.D. x .39" I.D. x .25"	30227
82	2	Washer, 3/8", Lock	10069	171	1	Bolt, 3/8-16 x 3/4" Soc. Hd. Cap Screw Bk.	28259
83	1	Spacer, Flap Cylinder .184" Thick	915-0416	172	1	Spacer, Flap Cylinder .700" Thick	915-0415
84	2	Clip, Safety, 3/8-16 x 3/4", Flange	12608	173	1	Guard, Outer Barrier Sensor Wires	915-0368N50Y
85	6	Bolt, 3/8-16 X 3/4", Flange Button Head, Socket Cap	25171	174	4	Washer, Finger, Disc Spring	27276
86	2	Bolt, 5/16-18 x 2", Flange, Hex	25130	175	4	Screw, #10-32 x 1/2" Button Head, Socket, Cap	30375WP
87	2	Nut, 5/16-18, Serrated Flange	25131	176	1	Position Sensor Spacer	31092
88	2	Arm, Slide Support (Replace in Pairs)	985-6612N	177	1	Slide, UHMW, Platform Rotate	31677
89	2	Slide, Platform, Rotate	985-0606N	178	3	Rivet, Pop, 3/16" - .13/.25" - SD64BS	11513
90	2	Spacer, .5" O.D. x .334" I.D. x 1.515" LG	25132	179	4	Snap-Ring 1/2"	13273
91	10	Bearing, Flange, 3/4" x 1/4"	24012	180	2	Rivet, Pop, 3/16" x .067/.13	11512
92	2	Weldment, Platform Pivot Arm - 48"	985-0640NW-BKN	181	8	Washer, .516" I.D. x 1" O.D. x .269", Auto BK	15328
93	2	Pin, Pivot, Lower Arm	900-0413N				
94	6	Ring, Snap, 3/4", External	18657				
95	2	Bearing, UHMW, Flat, 1.226"	205-1760				
96	2	Ball Stud, 10MM	21301				
97	1	Vertical Channel Weldment, Rear	955-0448RNW				
98	6	Plastic End Cap, 1" I.D. x 1 1/4" O.D.	20474				
99	2	Grip, Handle, Yellow	19074				
100	2	Spring, Dampener, Retract	26963				
101	2	Bolt, 5/16-18 x 1 1/4" Low Socket Hd., Cap, Bk.	26327				
102	2	Bumper, 1"x 5/8" Long	33603				
103	2	Screw, 1/2-20 x 1 1/2" Set Lock, Black	18663				
104	2	Block, Guide-Platform Stow	28593				
105	2	Pin, Platform	975-2325				

48" Floor-to-Ground Lift Exploded View



NOTES

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"Providing Access to the World"®



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1-800-THE LIFT® (574) 946-6153 FAX: (574) 946-4670

NL Millennium Series

Public Use Wheelchair Lifts

Braun™ Five-Year Limited Warranty

The Braun Corporation of Winamac, Indiana, warrants that it will repair (or replace at Braun's sole option) any defect in material or workmanship in its wheelchair lift for five years*, providing the lift is installed, operated and maintained properly. This warranty is limited to the original purchaser and does not cover defects in the motor vehicle on which it is installed, or defects in the lift caused by a defect in any part of the motor vehicle.

This warranty commences on the date the lift is put in service, providing the warranty registration card is completed and received by The Braun Corporation within 20 days of purchase. If no warranty card is received, the warranty will expire three years from the date of manufacture as identified on the lift serial number tag.

This warranty also covers the cost of labor for the repair (or replacement at Braun's sole option) of parts for three years when performed by an authorized Braun representative. (A labor schedule determines cost allowance for repairs and is available upon request).

This warranty does not cover normal maintenance, service, or periodic adjustments necessitated by use or wear. The Braun Corporation will not, under any circumstances, pay for loss of use, incidental, or consequential damages related to the lift or vehicle in which it is installed.

This warranty will become null and void if the lift has been damaged through accident, misuse, or neglect, or if the lift has been altered in any respect.

* The five-year portion of this warranty covers the following lift's power train parts:

- Cable ▪ Cylinder ▪ Flow Control ▪ Gear Box ▪ Motor ▪ Pump ▪ Hydraulic Hose & Fittings
- Solid State Controller

All remaining lift components are covered by a three-year warranty.

Return Authorization Procedure

When processing any warranty claims (parts, repairs, etc.), all requests must be processed through The Braun Corporation Product Support Department. Call 1-800-THE LIFT® (extension 3009) during normal working hours. Product Support will issue a Return Material Authorization (RMA) number and detail the procedures required for processing returns and/or authorizing credit.

The lift identification information is provided on the Braun Serial No./Series No. identification tag and the two warranty cards (shown on inside front cover). The lift identification information must be provided when filing a warranty claim or ordering parts.



"Providing Access to the World"®

International Corporate Hdqrs: P.O. Box 310 Winamac, IN 46996 USA
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BRAUN
MILLENNIUM
SERIES

Braun NL Series

All illustrations, descriptions and specifications in this manual are based on the latest product information available at the time of publication. The Braun Corporation reserves the right to make changes at any time without notice.

Patent #5,261,779

Patent #6,065,924

Patent #6,238,169

Patent #6,464,447

Patent #6,599,079

Patent #6,692,217

Patent #6,739,824

Patents Pending

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