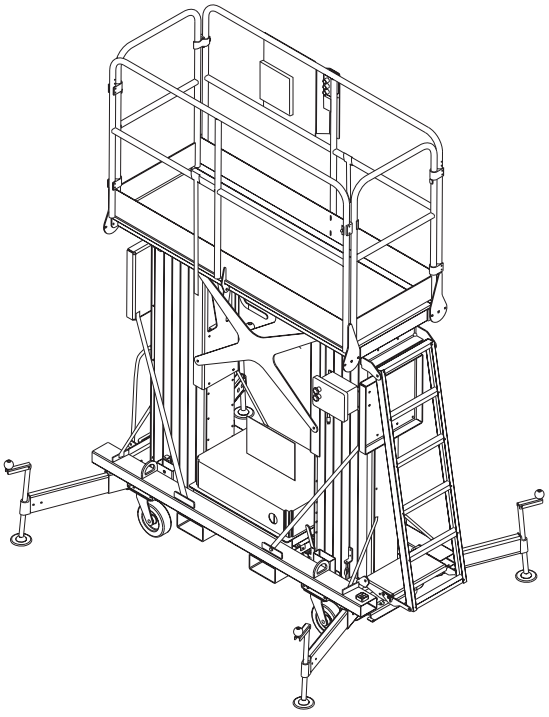
Genie Industries

Technical Publications

Genie® DPL SUPER SERIES

Service Manual



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Genie DPL Super Series

Important

Read, understand and obey the safety rules and operating instructions in the appropriate operator's manual on your machine before attempting any maintenance or repair procedure.

This manual provides detailed scheduled maintenance information for the machine owner and user. It also provides troubleshooting and repair procedures for qualified service professionals.

Basic mechanical, hydraulic and electrical skills are required to perform most procedures. However, several procedures require specialized skills, tools, lifting equipment and a suitable workshop. In these instances, we strongly recommend that maintenance and repair be performed at an authorized Genie dealer service center.

Compliance

Machine Classification
Group A/Type 1 as defined by ISO 16368

Machine Design Life
Unrestricted with proper opeation, inspection and scheduled maintenance.

Technical Publications

Genie Industries has endeavored to deliver the highest degree of accuracy possible. However, continuous improvement of our products is a Genie policy. Therefore, product specifications are subject to change without notice.

Readers are encouraged to notify Genie of errors and send in suggestions for improvement. All communications will be carefully considered for future printings of this and all other manuals.

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Genie Industries

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Safety Rules

Danger

Failure to obey the instructions and safety rules in this manual and the *Genie DPL Super Series Operator's Manual* will cause death or serious injury.

Many of the hazards identified in the operator's manuals are also safety hazards when maintenance and repair procedures are performed.

Do Not Perform Maintenance Unless:

- ☑ You are trained and qualified to perform maintenance on this machine.
- ☑ You read, understand and obey:
  - manufacturer's instructions and safety rules
  - employer's safety rules and worksite regulations
  - applicable governmental regulations
- ☑ You have the appropriate tools, lifting equipment and a suitable workshop.

SAFETY RULES

Personal Safety

Any person working on or around a machine must be aware of all known safety hazards. Personal safety and the continued safe operation of the machine should be your number one priority.

Read each procedure thoroughly. This manual and the decals on the machine use signal words to identify the following:

⚠DANGER Indicates the presence of a hazard that **will** cause death or serious injury.

⚠WARNING Indicates the presence of a hazard that **may** cause death or serious injury.

⚠CAUTION Indicates the presence of a hazard that **will** or **may** cause serious injury or damage to the machine.

NOTICE Indicates special operation or maintenance information.

Be sure to wear protective eye wear and other protective clothing if the situation warrants it.

Be aware of potential crushing hazards such as moving parts, free-swinging or unsecured components when lifting or placing loads. Always wear approved steel-toed shoes.

Workplace Safety

Be sure to keep sparks, flames and lighted tobacco away from flammable and combustible materials like battery gases. Always have an approved fire extinguisher within easy reach.

Be sure that all tools and working areas are properly maintained and ready for use. Keep work surfaces clean and free of debris that could get into machine components and cause damage.

Be sure that your workshop or work area is well ventilated and safely and adequately illuminated.

Be sure any forklift, overhead crane or other lifting or supporting device is fully capable of supporting and stabilizing the weight to be lifted. Use only chains or straps that are in good condition and of ample load capacity.

Be sure that fasteners intended for one-time use (i.e., cotter pins and self-locking nuts) are not reused. These components may fail if they are used a second time.

Be sure to properly dispose of old oil or other fluids. Use an approved container. Please be mindful of the environment.

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Section Seven **Repair Procedures**

Specifications

Model	DPL-25S	DPL-30S	DPL-35S
Height, maximum working	31 ft 4 in 9.5 m	36 ft 11 m	40 ft 9 in 12.4 m
Height, maximum platform	25 ft 4 in 7.7 m	30 ft 9.2 m	34 ft 9 in 10.6 m
Height, guard rails stowed	78 in 197.8 cm	78 in 197.8 cm	78 in 197.8 cm
Length, outriggers stowed	81 3/4 in 207.6 cm	81 3/4 in 207.6 cm	81 3/4 in 207.6 cm
Width, outriggers stowed	31 1/2 in 80 cm	31 1/2 in 80 cm	31 1/2 in 80 cm
Outrigger footprint (l x w)	82 x 56 1/2 in 208.3 x 143.5 cm	86 1/4 x 67 3/4 in 218.7 x 172.1 cm	86 1/4 x 67 3/4 in 218.7 x 172.1 cm
Platform dimensions (l x w)	72 x 27 1/2 in 182.9 x 69.9 cm	72 x 27 1/2 in 182.9 x 69.9 cm	72 x 27 1/2 in 182.9 x 69.9 cm
Lift capacity	750 lbs 340 kg	750 lbs 340 kg	600 lbs 272 kg
Power source	12V DC or 220V or 115V AC	12V DC or 220V or 115V AC	12V DC or 220V or 115V AC
Shipping weight (AC / DC)	1375 / 1450 lbs 624 / 658 kg	1475 / 1550 lbs 669 / 703 kg	1575 / 1650 lbs 714 / 748 kg
Maximum capacity			
ANSI	750 lbs / 340 kg	750 lbs / 340 kg	600 lbs / 272 kg
CE	750 lbs / 340 kg	750 lbs / 340 kg	600 lbs / 272 kg
CSA	600 lbs / 272 kg	600 lbs / 272 kg	500 lbs / 227 kg

Ambient operating temperature	-20°F to 135°F -29°C to 57°C
Airborne noise emissions Maximum sound level at normal operating workstations (A-weighted)	80 dB
Current Protection Rating	
220V AC models	8A fuse, circuit breaker 5A fuse, printed circuit board
110V AC models	15A fuse, circuit breaker 5A fuse, printed circuit board
DC models	175A fuse, power unit 5A fuse, printed circuit board

Continuous improvement of our products is a Genie policy. Product specifications are subject to change without notice or obligation.

SPECIFICATIONS

Bolt Torque Specifications

Size	Threads per inch	SAE Grade 5 Bolts			SAE Grade 8 Bolts		
		Torque - Dry inch-pounds	Torque - Dry foot-pounds	Torque - Dry Newton meters	Torque - Dry inch-pounds	Torque - Dry foot-pounds	Torque - Dry Newton meters
10	24	43		5	60		7
	32	49		6	68		8
1/4	20	96		11	144		16
	28	120		14	168		19
5/16	18		17	23		25	34
	24		19	28		25	34
3/8	16		30	41		45	61
	24		35	48		50	68
7/16	14		50	68		70	95
	20		55	75		80	109
1/2	13		75	102		110	149
	20		90	122		120	163
9/16	12		110	149		150	204
	18		120	163		170	231
5/8	11		150	204		220	298
	18		170	231		240	326
3/4	10		260	353		380	515
	16		300	407		420	570
7/8	9		430	583		600	814
	14		470	637		660	895
1	8		640	868		900	1221
	12		700	949		1000	1356

Torque specifications for lubricated bolts are 25% less than the dry torque specifications for each bolt size.

These bolt torque specifications are for general use only. Specification may vary depending on application of bolt.

Scheduled Maintenance Inspections

Observe and Obey:

- ☑ Maintenance inspections shall be completed by a person trained and qualified on the maintenance of this machine.
- ☑ Scheduled maintenance inspections shall be completed daily, quarterly and annually as specified on the Maintenance Inspection Report.

⚠WARNING Failure to properly complete each inspection when required may result in death, serious injury or substantial machine damage.

- ☑ Immediately tag and remove from service a damaged or malfunctioning machine.
- ☑ Repair any machine damage or malfunction before operating machine.
- ☑ Keep records on all inspections for three years.
- ☑ Machines that have been out of service for a period longer than 3 months must have a quarterly inspection.

About This Section

Schedule

There are three types of maintenance inspections that must be performed according to a schedule—daily, quarterly and annual. To account for repeated procedures, the Maintenance Tables and the Maintenance Inspection Report have been divided into three subsections—A, B and C. Use the following chart to determine which group(s) of procedures are required to perform a scheduled inspection.

Inspection	Table or Checklist
Daily	A
Quarterly (every 150 hours or three months)	A + B
Annual	A + B + C

Maintenance Tables

The maintenance tables contained in this section provide summary information on the specific physical requirements for each inspection.

Complete step-by-step instructions for each scheduled maintenance procedure are provided in section 4, *Scheduled Maintenance Procedures*.

Maintenance Inspection Report

The Maintenance Inspection Report contains checklists for each type of scheduled inspection.

Make copies of the Maintenance Inspection Report to use for each inspection. Store completed forms for three years.

Maintenance Tables

Table A

		Tools are required	New parts required	Dealer service suggested
A-1	Inspect the Operator's and Responsibility Manuals			
A-2	Inspect the Decals and Placards			
A-3	Inspect for Damage and Loose or Missing Parts			
A-4	Check for Hydraulic Leaks			
A-5	Check the Auxiliary Platform Lowering Operation			
A-6	Check the Manual Platform Lowering Operation			
A-7	Inspect the Battery and Battery Charger - DC Models			
A-8	Inspect the Columns for Damage			
A-9	Check the Sequencing Cables			
A-10	Check the Interlock System for Proper Operation			
A-11	Test the Power and Function Controls			
A-12	Inspect the Lifting Chains and Idler Wheels			
A-13	Inspect the Breather Cap			

MAINTENANCE TABLES

Table B

		Tools are required	New parts required	Dealer service suggested
—	**Complete all procedures in Table A**			
B-1	Inspect the Electrical Wiring			
B-2	Inspect All Welds			
B-3	Check the Lifting Chain Adjustments			
B-4	Check the Battery - DC Models			
B-5	Clean and Lubricate the Columns			
B-6	Test the Lifting Capacity			
B-7	Test the Power To Platform Operation			
B-8	Adjust the Sequencing Cables			
B-9	Inspect for Proper Outrigger Length			

MAINTENANCE TABLES

Table C

		Tools are required	New parts required	Dealer service suggested
—	**Complete all procedures in Table A and Table B**			
C-1	Inspect and Lubricate the Casters and Wheels			
C-2	Inspect the Mast Assembly for Wear			
C-3	Lubricate the Lifting Chains			
C-4	Replace the Hydraulic Oil			
C-5	Replace the Auxiliary Platform Lowering Batteries			

Maintenance Inspection Report

Model

Serial number

Date

Machine owner

Inspected by (print)

Inspector signature

Inspector title

Inspector company

Instructions

- Make copies of this page to use for each inspection.
- Select the appropriate checklist(s) for the type of inspection to be performed.

☐ **Daily Inspection: A**

☐ **Quarterly Inspection: A+B**

☐ **Annual Inspection: A+B+C**

- Place a check in the appropriate box after each inspection procedure is completed.
- Use the maintenance tables in this section and the step-by-step procedures in section 4 to learn how to perform these inspections.
- If any inspection receives an “N”, remove the machine from use, repair and re-inspect it. After repair, place a check in the “R” box.

Legend

Y = yes, acceptable

N = no, unacceptable

R = repaired

Comments

Checklist A		**Y**	**N**	**R**
Refer to Table A				
A-1	Operator's and Responsibility manuals			
A-2	Decals and placards			
A-3	Damage, loose or missing parts			
A-4	Hydraulic leaks			
A-5	Auxiliary lowering operation			
A-6	Manual lowering operation			
A-7	Battery and charger - DC models			
A-8	Columns			
A-9	Sequencing cables			
A-10	Interlock system operation			
A-11	Power and function controls			
A-12	Lifting chains and idler wheels			
A-13	Breather cap			

Checklist B		**Y**	**N**	**R**
Refer to Table B				
B-1	Electrical wiring			
B-2	Welds			
B-3	Lifting chain adjustments			
B-4	Battery			
B-5	Clean and lubricate columns			
B-6	Lifting capacity			
B-7	Power to platform operation			
B-8	Sequencing cables			
B-9	Proper outrigger length			

Checklist C		**Y**	**N**	**R**
Refer to Table C				
C-1	Casters and wheels			
C-2	Mast assembly			
C-3	Lifting chains			
C-4	Hydraulic oil			
C-5	Auxiliary platform lowering batteries			

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Scheduled Maintenance Procedures

Observe and Obey:

- ☑ Maintenance inspections shall be completed by a person trained and qualified on the maintenance of these machines.
- ☑ Scheduled maintenance inspections shall be completed daily, frequently (every 3 months), and annually as specified on the maintenance report.

⚠WARNING Failure to properly complete each inspection when required may result in death, serious injury or substantial machine damage.

- ☑ Immediately tag and remove from service a damaged or malfunctioning machine.
- ☑ Repair any machine damage or malfunction before operating machine.
- ☑ Keep records on all inspections for three years.

About This Section

This section contains detailed procedures for each scheduled maintenance inspection.

Each procedure includes a description, safety warnings and step-by-step instructions.

Symbols Legend

⚠DANGER Indicates the presence of a hazard that **will** cause death or serious injury.

⚠WARNING Indicates the presence of a hazard that **may** cause death or serious injury.

⚠CAUTION Indicates the presence of a hazard that **will** or **may** cause serious injury or damage to the machine.

NOTICE Indicates special operation or maintenance information.

⊙ Indicates that a specific result is expected after performing a series of steps.

Table A Procedures

A-1
Inspect the Operator's and Responsibility Manuals

Maintaining the operator's and responsibility manuals in good condition is essential to safe machine operation. Manuals are included with each machine and should be stored in the container provided at the platform. An illegible or missing manual will not provide safety and operational information necessary for a safe operating condition.

1 Check to be sure the storage container and lid are present and in good condition.

2 Check to make sure that the operator's and responsibility manuals are present and complete in the storage container at the platform.

3 Examine the pages of each manual to be sure that they are legible and in good condition.

4 Always return the manuals to the storage container after use.

NOTICE Contact your authorized Genie distributor or Genie Industries if replacement manuals are needed.

A-2
Inspect the Decals and Placards

Maintaining all of the safety and instructional decals and placards in good condition is essential for safe machine operation. Decals alert operators and personnel to the many possible hazards associated with using a machine. They also provide users with operation and maintenance information. An illegible decal will fail to alert personnel of a procedure or hazard and could result in unsafe operating conditions.

1 Refer to the *Decals* section in the *Genie DPL Super Series Operator's Manual* and use the decal list and illustrations to determine that all decals and placards are in place.

2 Inspect all decals for legibility and damage. Replace any damaged or illegible decal immediately.

NOTICE Contact your authorized Genie distributor or Genie Industries if replacement decals are needed.

A-3
Inspect for Damage and Loose or Missing Parts

Daily machine condition inspections are essential to safe machine operation and good machine performance. Failure to locate and repair damage, and discover loose or missing parts may result in an unsafe operating condition.

1 Inspect the entire machine for damage and improperly installed or missing parts including:
- Electrical components and wiring
- Coil cord (if equipped)
- Hydraulic power unit, hoses, fittings and cylinders
- Manual lowering lever and components
- Platform end guard rail, platform side guard rails and platform entry gate
- Guard rail lock handles
- Sequencing cables and pulleys
- Lifting chains and idler wheels
- Nuts, bolts and other fasteners
- Mast and mast braces
- Breather cap
- Outriggers, leveling jacks and footpads
- Guard rail lift arm
- Platform entry ladder
- Dents or damage to machine
- Corrosion or oxidation
- Cracks in welds or structural components

A-4
Check for Hydraulic Leaks

Detecting hydraulic fluid leaks is essential to operational safety and good machine performance. Undiscovered leaks can develop into hazardous conditions, impair machine functions and damage machine components.

1 Inspect for hydraulic oil puddles, dripping or residue on or around the following areas:

- Hydraulic power unit—reservoir, valves, fittings
- Hydraulic cylinders
- Ground area under the machine
- All hydraulic hoses and fittings

A-5
Check the Auxiliary Platform Lowering Operation

The auxiliary platform lowering is powered by a secondary battery pack that is located in the ground control box. The auxiliary platform lowering can be activated from the ground or platform controls. Detection of an auxiliary lowering malfunction is essential for safe machine operation. An unsafe working condition exists if the auxiliary platform lowering function does not operate in the event of a main power failure.

1 Raise the platform slightly.

2 Disconnect the power source from the machine.

3 Activate the auxiliary platform lowering button at the ground controls.

⊙ Result: Platform should lower.

4 Reconnect the power and raise the platform slightly.

5 Disconnect the power source from the machine.

6 Push in the control activate button and rotate the up/down switch in the down direction.

⊙ Result: Platform should lower.

A-6
Check the Platform Manual Lowering Operation

Detection of a platform manual lowering malfunction is essential for safe machine operation. An unsafe working condition exists if the manual lowering function does not operate in the event of a main and auxiliary power failure.

1 Raise the platform slightly.

2 Activate the manual lowering lever.

⊙ Result: Platform should lower.

TABLE A PROCEDURES

A-7
Inspect the Battery and Battery Charger - DC Models

Proper battery and charger condition is essential to good machine performance and operational safety. Improper fluid levels or damaged cables and connections can result in component damage and hazardous conditions.

⚠WARNING Batteries contain acid. Avoid spilling or contacting battery acid. Neutralize battery acid spills with baking soda and water.

1 Put on protective clothing and eye wear.

2 Slide open the battery cover to access the charger and the battery. The cover must remain open for the entire charging cycle.

3 Be sure that the battery cable connections are tight and free of corrosion.

4 Check the battery acid level. If needed, replenish with distilled water to the bottom of the battery fill tube. Do not overfill.

5 Install the vent caps.

6 Connect the battery charger to a grounded outlet of proper voltage and amperage as indicated on battery charger.

7 Set timer based on the amount of use:

Light Use—less than 15 lifting cycles: Set to 7 hours.

Heavy Use—greater than 15 lifting cycles: Set to the ON position.

8 The charger will automatically shut off at the end of the set period.

Note: If ammeter drops to 3A or less within the first 15 minutes, the battery is fully charged.

9 Check the battery acid level when the charge cycle is complete. Replenish with distilled water to the bottom of the fill tube.

A-8
Inspect the Columns for Damage

Detection of damage to columns is essential for safe machine operation. An unsafe working condition exists if the columns are damaged and do not operate smoothly, free of hesitation and binding. A daily check of the columns allows the inspector to identify changes in the operating condition of the column assemblies that might indicate damage.

1 Visually inspect each column on each mast for the following:
- Dents, gouges or abrasions
- Bends or warping
- Excessive wear

2 Raise and lower the platform through a complete cycle.

⊙ Result: Platform should raise and lower smoothly, free of hesitation and binding.

A-9
Check the Sequencing Cables

Detection of damage to sequencing cables or components is essential for safe machine operation. An unsafe working condition exists if the sequencing components are damaged and do not operate smoothly. A daily check of the sequencing system allows the inspector to identify changes in the operating condition that might indicate damage.

1 Visually inspect the cables and components for the following:
- Frayed or broken wire strands
- Kinks in the cables
- Corrosion
- Paint or foreign materials
- Broken or damaged pulleys
- Unusual or excessive pulley wear
- Split or cracked swage ends
- Split or cracked chain adjustment bolts
- Bent or damaged pulley guards

2 Check to be sure of the following:
- Cables are on the pulleys
- Cable ends are properly secured
- Mounting brackets are properly secured

A-10
Check the Interlock System for Proper Operation

1 Turn the key switch to the ON position.

2 Pull out the red Emergency Stop button to the ON position.

⊙ Result: The power light should come on.

3 Select an outrigger and slide it into a base socket until the outrigger lock pin snaps into the locked position. Bring the outrigger leveling jack into firm contact with the ground.

4 Check the interlock display lights at the ground controls.

⊙ Confirm that the corresponding light is on.

5 Repeat steps 3 and 4 for each of the remaining outriggers.

A-11
Test the Power and Function Controls

Testing the machine functions and the Emergency Stop buttons for malfunctions is essential for safe machine operation. An unsafe working condition exists if any function fails to operate properly or either Emergency Stop button fails to stop all the machine functions. Each function should operate smoothly and be free of hesitation, jerking and unusual noise.

1 Turn the key switch to the ON position and pull out the red Emergency Stop button to the ON position.

⊙ Result: The power light should be on.

2 Twist to release the red Emergency Stop button at the platform controls.

3 Push in the control activate button and rotate to the UP position, then the DOWN position.

⊙ Result: Platform up and down functions should operate smoothly.

4 Push in the Emergency Stop button at the platform controls to the OFF position and test up and down functions.

⊙ Result: Up/down function should **not** operate.

5 Twist to release the red Emergency Stop button at the platform controls.

6 Push in the Emergency Stop button at the ground controls to the OFF position. Then test up and down functions.

⊙ Result: Up/down function should **not** operate.

TABLE A PROCEDURES

A-12
Inspect the Lifting Chains and Idler Wheels

Maintaining the lifting chains and idler wheels in good condition is essential to safe machine operation. Failure to find and replace damaged chains or idler wheels could result in unsafe operating conditions and may cause component damage.

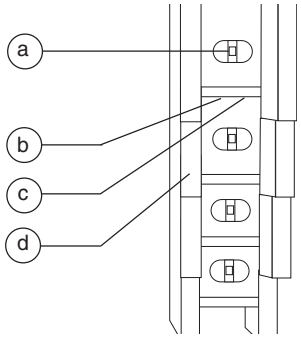
1 Raise the platform approximately 3 feet (1 m).

2 Visually inspect the chains and idler wheels near the top of each column for the following:

- Excessive corrosion or contamination
- Broken or missing chain leafs and pins
- Tight or kinked joints in the chain
- Missing or damaged idler wheels and related components

3 Inspect the chain terminations near the bottom of each column to confirm that each termination has a lock nut.

4 Inspect the chain terminations near the bottom of each column to confirm that the chain tensioner bracket is centered in the inspection hole.



a chain tensioner bracket
b adjustment nut (hidden from view)
c termination rod (hidden from view)
d column

A-13
Inspect the Breather Cap

The hydraulic reservoir is a breathing-type reservoir. The breather cap has an internal air filter that can clog and may cause the power unit to operate improperly. If the breather cap is not properly installed and checked daily, impurities can enter the hydraulic system and cause component damage.

1 Be sure the breather cap is installed on the hydraulic power unit reservoir and is not damaged. Do not remove it.

Table B Procedures

B-1
Inspect the Electrical Wiring

Maintaining electrical wiring in good condition is essential to safe operation and good machine performance. Failure to find and replace burnt, chafed, corroded or pinched wires could result in unsafe operating conditions and may cause component damage.

⚠WARNING Electrocution hazard. Contact with hot or live circuits may cause death or serious injury. Remove all rings, watches and other jewelry.

1 Inspect the following areas for burnt, chafed, corroded and loose wires:
- All base wiring
- Inside of the ground control box
- Inside of the base junction boxes
- Hydraulic power unit
- All external machine electrical cables
- Inside of the platform control box
- DC models: battery and charger
- AC power supply cord

B-2
Inspect All Welds

Weld inspections are essential to safe machine operation and good machine performance. Failure to locate and repair damage may result in an unsafe operating condition.

1 Visually inspect the welds in the following locations:
- Platform and platform components
- Base
- Mast brace mounting brackets
- Ladder mounting bracket

TABLE B PROCEDURES

B-3
Check the Lifting Chain Adjustments

Maintaining proper adjustment of the lifting chains is essential to safe machine operation. Failure to maintain proper chain adjustment could result in unsafe operating conditions and may cause component damage.

1 Lower the platform.

2 Lower the platform side guard rails to the stowed position.

3 Measure the maximum height of the machine.

⊙ Result: The machine should be no taller than specification.

NOTICE If measurement does not meet specification, adjust the chains. See Repair procedure 5-3, *How to Adjust the Lifting Chains.*

Specifications

Model		Height
DPL-25S	78 inches	197.8 cm
DPL-30S	78 inches	197.8 cm
DPL-35S	78 inches	197.8 cm

B-4
Check the Battery - DC Models

Proper battery condition is essential to good machine performance and operational safety. Improper fluid levels or damaged cables and connections can result in component damage and hazardous conditions.

⚠WARNING Batteries contain acid. Avoid spilling or contacting battery acid. Neutralize battery acid spills with baking soda and water.

1 Put on protective clothing and eye wear.

2 Slide open the battery cover to access the charger and the battery. The cover must remain open for the entire charging cycle.

3 Remove the battery vent caps and check the specific gravity with a hydrometer.

4 Check the battery acid level. If needed, replenish with distilled water to cover the battery plates. Do not overfill.

5 Install the battery vent caps.

6 Set timer based on the amount of use:

Light Use—less than 15 lifting cycles: Set to 7 hours.

Heavy Use—greater than 15 lifting cycles: Set to the ON position.

7 The charger will automatically shut off at the end of the set period.

Note: If ammeter drops to 3A or less within the first 15 minutes, the battery is fully charged.

8 Observe charger ammeter after one hour to confirm charging amperage has dropped.

NOTICE If amperage does not drop, the battery is bad and needs to be replaced.

9 Remove the battery vent caps. Check the battery acid level. If needed, replenish with distilled water to the bottom of the battery fill tube. Do not overfill.

10 Install the battery vent caps.

B-5
Clean and Lubricate the Columns

Clean and properly lubricated columns are essential to good machine performance and safe operation. Extremely dirty conditions may require that the columns be cleaned and lubricated more often.

1 Raise the platform to the maximum height.

2 Visually inspect the inner and outer channels of the columns for debris or foreign material. If necessary, use a mild cleaning solvent to clean the columns.

⚠WARNING This procedure will require the use of additional access equipment. Do not place ladders or scaffold on or against any part of the machine. Performing this procedure without the proper skills and tools may result in death or serious injury. Dealer service is strongly recommended.

3 If needed, lubricate the inner and outer channels of the columns with a dry silicone spray or silicone wax (Genie part no. 90337).

B-6
Test the Lifting Capacity

Proper lifting capacity is essential to safe machine operation. Improper lifting capacity adjustment could allow machine to be overloaded and may cause death or serious injury.

⚠WARNING This procedure requires specific repair skills, lifting equipment and a suitable workshop. Attempting this procedure without these skills and tools may result in death or serious injury and significant component damage. Dealer service is strongly recommended.

1 Place the maximum load capacity in the platform. Refer to the operator's manual or the load capacity decal on the machine to determine the maximum load capacity. Be sure the load is secure.

2 Raise the platform slightly.

⊙ Result: The hydraulic power unit should raise the platform.

3 Fully lower the platform.

4 Add an additional 30 pounds (14 kg) to the platform. Secure the additional weight.

5 Raise the platform slightly.

⊙ Result: The hydraulic power unit should not be able to raise the platform.

NOTICE If the hydraulic power unit is unable to lift rated load or lifts more than rated load, see Repair procedure 3-6, *How to Adjust the Pressure Relief Valve.*

TABLE B PROCEDURES

B-7
Test the Power To Platform Operation

AC power to the platform is intended to be an extension cord to the platform for using hand tools.

1 Connect an appropriate extension cord to the AC power supply cord at the base of the machine.

2 In the platform, plug a power drill (or similar tool) into the AC outlet.

⊙ Result: The tool should operate normally.

NOTICE GFCI outlet may require that the outlet be reset with the reset button.

B-8
Adjust the Sequencing Cables

Maintaining proper adjustment of the sequencing cables is essential for safe machine operation. An unsafe working condition exists if the sequencing cables are improperly adjusted. A frequent check of the sequencing cables allows the inspector to identify changes in the operating condition that might indicate damage.

1 Fully lower the platform.

2 Check the tension on each sequencing cable by grasping the cable halfway down the column and pulling the cable from one side then to the other. Measure the total distance between the two points (this is the maximum deflection).

Specification	
Maximum Deflection	1 1/2 to 2 1/2 inches 3.8 to 6.4 cm

3 Hold the end of the cable from turning and adjust the tension nut to obtain correct tension (deflection). Turn the adjustment nut clockwise to increase the tension or counterclockwise to decrease the tension.

⚠CAUTION Component damage hazard. Do not exceed the recommended tension.

4 Re-check the tension on each sequencing cable.

5 Repeat adjustment for each cable as required.

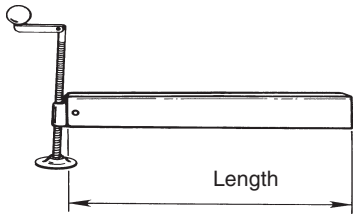
6 Raise and lower the platform through three complete cycles and re-check the deflection.

TABLE B PROCEDURES

B-9
Inspect for Proper Outrigger Length

Proper outrigger length is essential to safe machine operation. Operating a machine with outriggers different from those originally designed for the model will result in death or serious injury.

1 Measure each outrigger and verify for proper length.



DPLS Models (models that meet ANSI and CE indoor)		
DPL-25S	20 inches	51 cm
DPL-30S	26 inches	66 cm
DPL-35S	26 inches	66 cm
DPLS Models (models that meet CSA)		
DPL-25S	30 1/2 inches	77 cm
DPL-30S	36 inches	91 cm
DPL-35S	36 inches	91 cm

Table C Procedures

C-1
Inspect and Lubricate the Casters

Extremely dirty conditions may require that the casters be inspected and lubricated more often.

1 Visually inspect each caster for cuts, cracks or unusual wear.

2 Move the machine on a flat smooth surface and check that the casters roll smoothly.

3 Pump grease into the caster until it can be seen coming out of the bearing seal gap.

Grease Type	Lithium-based

C-2
Inspect the Mast Assemblies for Wear

Detection of excessive or unusual wear in the mast assembly is essential for safe machine operation. An unsafe working condition exists if the mast assembly has excessive wear and/or does not operate smoothly, free of hesitation and binding.

1 Raise the platform until 3 to 5 inches (7.6 to 12.7 cm) of the top of each column is visible.

2 Visually inspect the top of each column for clearance between the roller wheels and the adjacent column surface.

⊙ Result: There should be a equal amount of distance between the roller wheel and the column on each side.

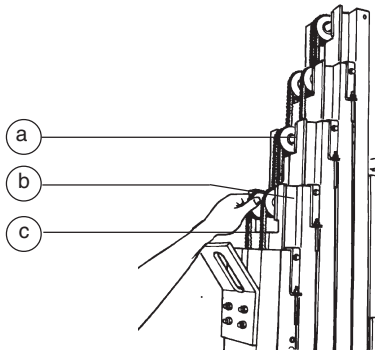
NOTICE If mast inspection results in a measurement that is not within specification, refer to Repair procedure 5-4, *How to Adjust the Glide Pads.*

3 Loosen but do not remove the adjustment nut on the sequencing cable.

4 Raise the platform approximately 3 feet (1 m).

5 Inspect each idler wheel for the following:

- Excessive wear on the side flanges
- Unusual wear
- Movement side to side in excess of 0.040 inches (1 mm)
- Any movement of wheel front to back



a idler wheel
b spacer
c lifting chain

NOTICE If idler wheel inspection results in a measurement that is not within specification, refer to Repair procedure 5-2, *How to Assemble the Mast.*

6 Adjust the sequencing cables. See B-8, *Adjust the Sequencing Cables.*

TABLE C PROCEDURES

C-3
Lubricate the Lifting Chains

Lubricated chains are essential to good machine performance and safe operation. Extremely dirty conditions may require that the chains be cleaned and lubricated more often.

1 Raise the platform to the maximum height.

2 Lubricate each chain with a dry type spray lubricant.

⚠WARNING This procedure will require the use of additional access equipment. Do not place ladders or scaffold on or against any part of the machine. Performing this procedure without the proper skills and tools may result in death or serious injury. Dealer service is strongly recommended.

C-4
Replace the Hydraulic Oil

Replacement of the hydraulic oil is essential for good machine performance and service life. Dirty oil and a dirty suction strainer may cause the machine to perform poorly and continued use may cause component damage. Extremely dirty conditions may require oil changes to be performed more often.

1 Fully lower the platform.

2 Remove the base cover from the power unit.

3 Remove the drain plug from the hydraulic reservoir and completely drain the reservoir into a container. Properly discard the oil.

4 Remove the power unit. See 3-3, How to Remove the Power Unit - AC Models or 3-4, How to Remove the Power Unit - DC Models.

5 Remove the reservoir from the hydraulic power unit.

6 Remove the magnet from the reservoir and clean the magnet and reservoir, using a mild solvent.

7 Install the magnet, then the reservoir.

8 Apply pipe thread sealant to the drain plug and re-install it in the reservoir.

9 Fill the reservoir with hydraulic oil until the level is visible in the sight gauge on the end of the reservoir. Do not overfill.

10 Replace the breather cap with a new one.

TABLE C PROCEDURES

11 Raise and lower the platform through three complete cycles. Add hydraulic oil if needed to allow platform to reach full height.

⚠CAUTION Component Damage Hazard. Do not allow the hydraulic reservoir to completely empty when raising the platform. Pressurized air in the hydraulic system can damage hydraulic components.

Hydraulic System		
Hydraulic fluid		Dexron equivalent
Hydraulic reservoir capacity		
AC models	5 quarts	4.7 liters
DC models	5 quarts	4.7 liters
Hydraulic System Capacity (includes reservoir)		
AC models		
DPL-25S	6 quarts	5.6 liters
DPL-30S	6 quarts	5.6 liters
DPL-35S	6 quarts	5.6 liters
DC models		
DPL-25S	6 quarts	5.6 liters
DPL-30S	6 quarts	5.6 liters
DPL-35S	6 quarts	5.6 liters

C-5
Replacing the Auxiliary Platform Lowering Batteries

1 Turn the machine off and remove the key.

2 Remove the two ground control box cover fasteners.

3 Open the base control box and locate the battery pack inside the base control box.

4 Remove the fasteners that hold the battery pack in place.

5 Carefully slide the battery pack out of the holder.

NOTICE The wires connected to the battery pack are very small. Be careful not to damage the wires.

6 Remove the old batteries from the pack.

7 Insert new batteries into the pack.

NOTICE Make sure the batteries are installed correctly by following the diagram on the inside of the battery pack.

8 Install the battery pack into the ground control box and tighten the fasteners.

9 Close the ground control box cover and tighten the fasteners.

Troubleshooting Flow Charts

Observe and Obey:

- ☑ Troubleshooting and repair procedures shall be completed by a person trained and qualified on the repair of this machine.
- ☑ Immediately tag and remove from service a damaged or malfunctioning machine.
- ☑ Repair any machine damage or malfunction before operating the machine.

Before Troubleshooting:

- ☑ Read, understand and obey the safety rules and operating instructions printed in the *Genie DPL Super Series Operator's Manual*.
- ☑ Be sure that all necessary tools and test equipment are available and ready for use.
- ☑ Read each appropiate flow chart thoroughly. Attempting shortcuts may produce hazardous conditions.
- ☑ Be aware of the following hazards and follow generally accepted safe workshop practices.

⚠DANGER Electrocution hazard. Contact with electrically charged circuits may result in death or serious injury. Remove all rings, watches and other jewelry.

⚠WARNING Bodily injury hazard. Spraying hydraulic oil can penetrate and burn skin. Loosen hydraulic connections very slowly to allow the oil pressure to dissipate gradually. Do not allow oil to squirt or spray.

NOTICE Perform all troubleshooting on a firm level surface.

NOTICE Two persons will be required to safely perform some troubleshooting procedures.

TROUBLESHOOTING FLOW CHARTS

About This Section

When a malfunction is discovered, the flow charts in this section will help a service professional pinpoint the cause of the problem. To use this section, basic hand tools and certain pieces of test equipment are required—voltmeter, ohmmeter, pressure gauges.

The location of terminals mentioned in this section can be found on the appropriate electrical or hydraulic schematics provided in Section 6, *Schematics*.

Since various degrees of a particular function loss may occur, selecting the appropriate flow chart may be troublesome. When a function will not operate with the same speed or power as a machine in good working condition, refer to the flow chart which most closely describes the problem.

General Repair Process

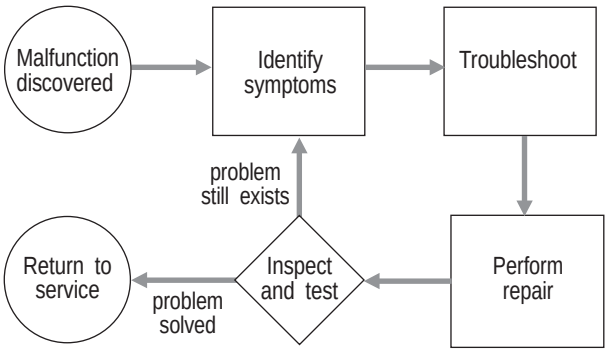


Chart 1

Power Light Will Not Turn On - AC Models

Be sure the keyswitch is in the appropriate position.

Be sure the Emergency Stop buttons are pulled up to the ON position.

Be sure the ground control box PC board fuse is not blown.

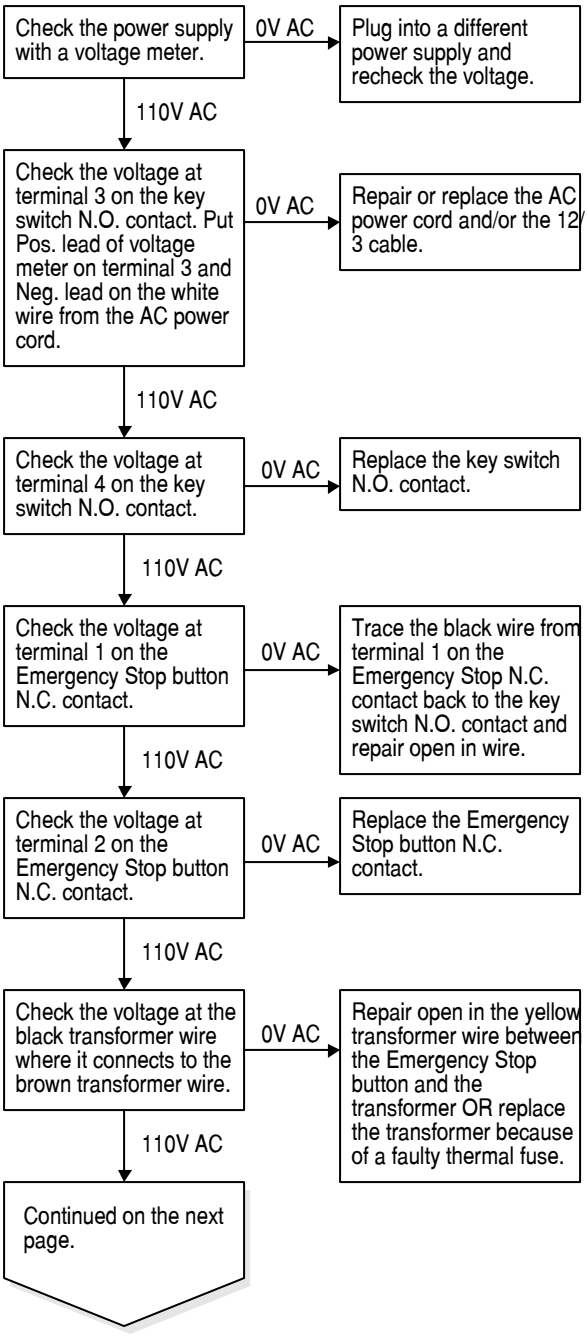


CHART 1

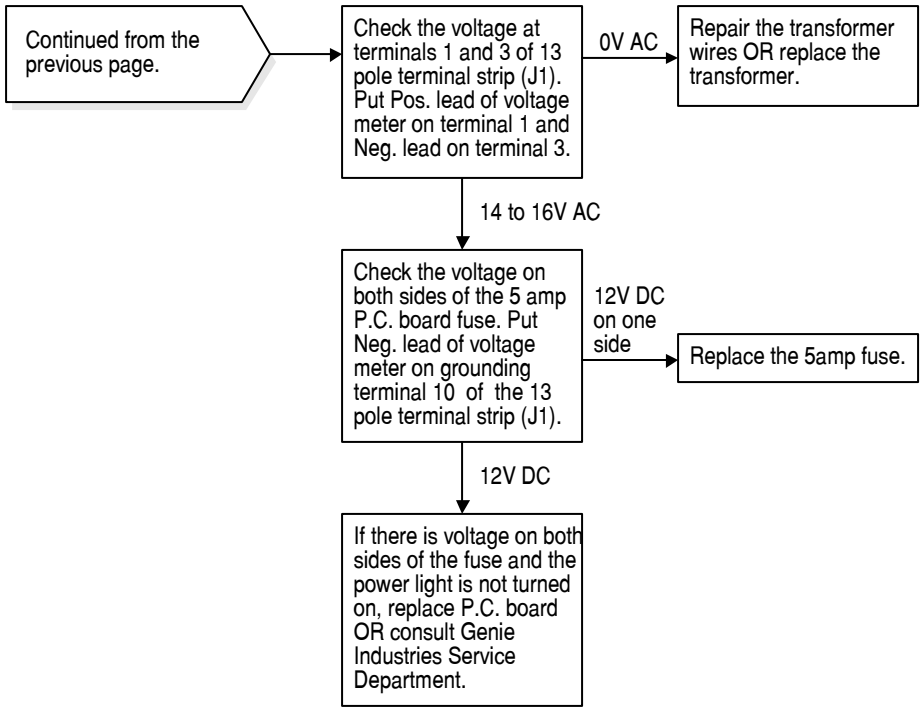

Continued from the previous page.
Check the voltage at terminals 1 and 3 of 13 pole terminal strip (J1). Put Pos. lead of voltage meter on terminal 1 and Neg. lead on terminal 3.
0V AC
Repair the transformer wires OR replace the transformer.
14 to 16V AC
Check the voltage on both sides of the 5 amp P.C. board fuse. Put Neg. lead of voltage meter on grounding terminal 10 of the 13 pole terminal strip (J1).
12V DC on one side
Replace the 5amp fuse.
12V DC
If there is voltage on both sides of the fuse and the power light is not turned on, replace P.C. board OR consult Genie Industries Service Department.

Chart 2

Power Light Will Not Turn On - DC Models

Be sure the keyswitch is in the appropriate position.

Be sure the Emergency Stop buttons are pulled up to the ON position.

Be sure the battery cables are connected.

Be sure the ground control box PC board fuse is not blown.

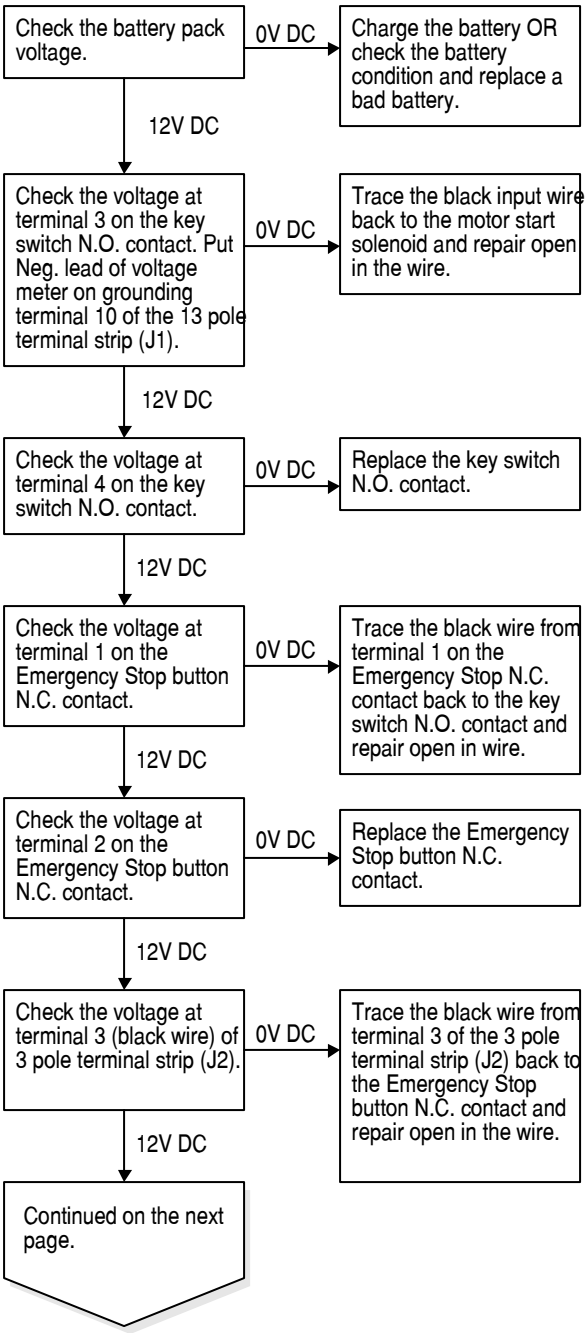


CHART 2

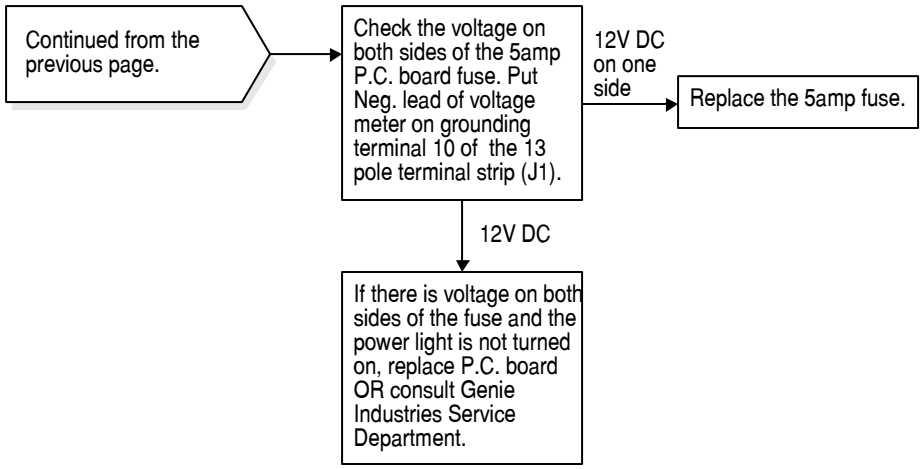

Continued from the previous page.
Check the voltage on both sides of the 5amp P.C. board fuse. Put Neg. lead of voltage meter on grounding terminal 10 of the 13 pole terminal strip (J1).
12V DC on one side
Replace the 5amp fuse.
12V DC
If there is voltage on both sides of the fuse and the power light is not turned on, replace P.C. board OR consult Genie Industries Service Department.

Chart 3

Interlock Lights Will Not Turn On

Be sure the keyswitch is in the appropriate position.

Be sure the Emergency Stop buttons are pulled up to the on position.

Be sure the power light is on.

Be sure the unit is set up according to the operator's manual.

Be sure the outriggers are the correct length.

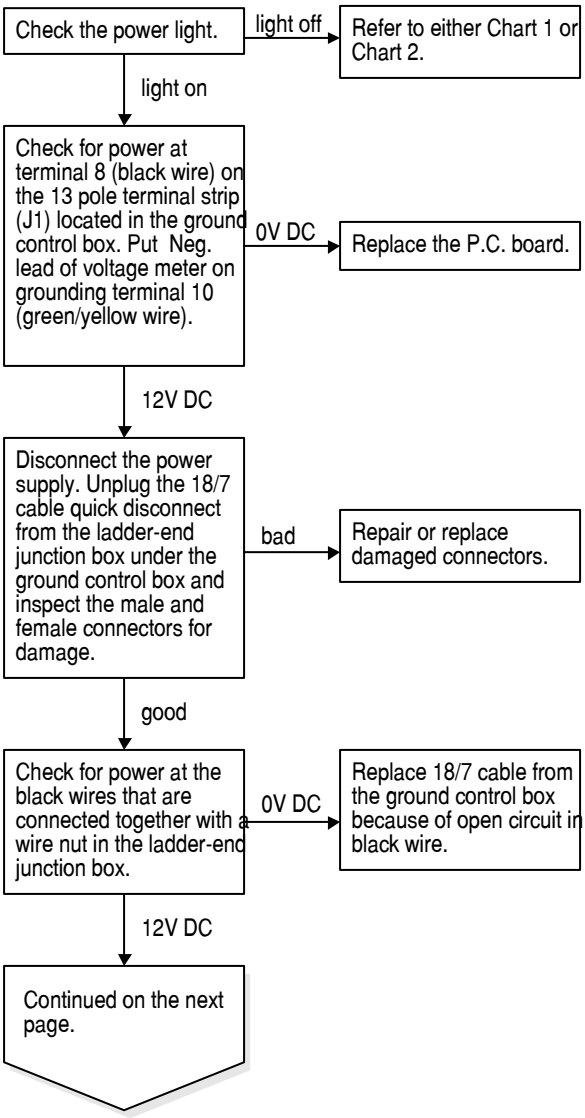


CHART 3

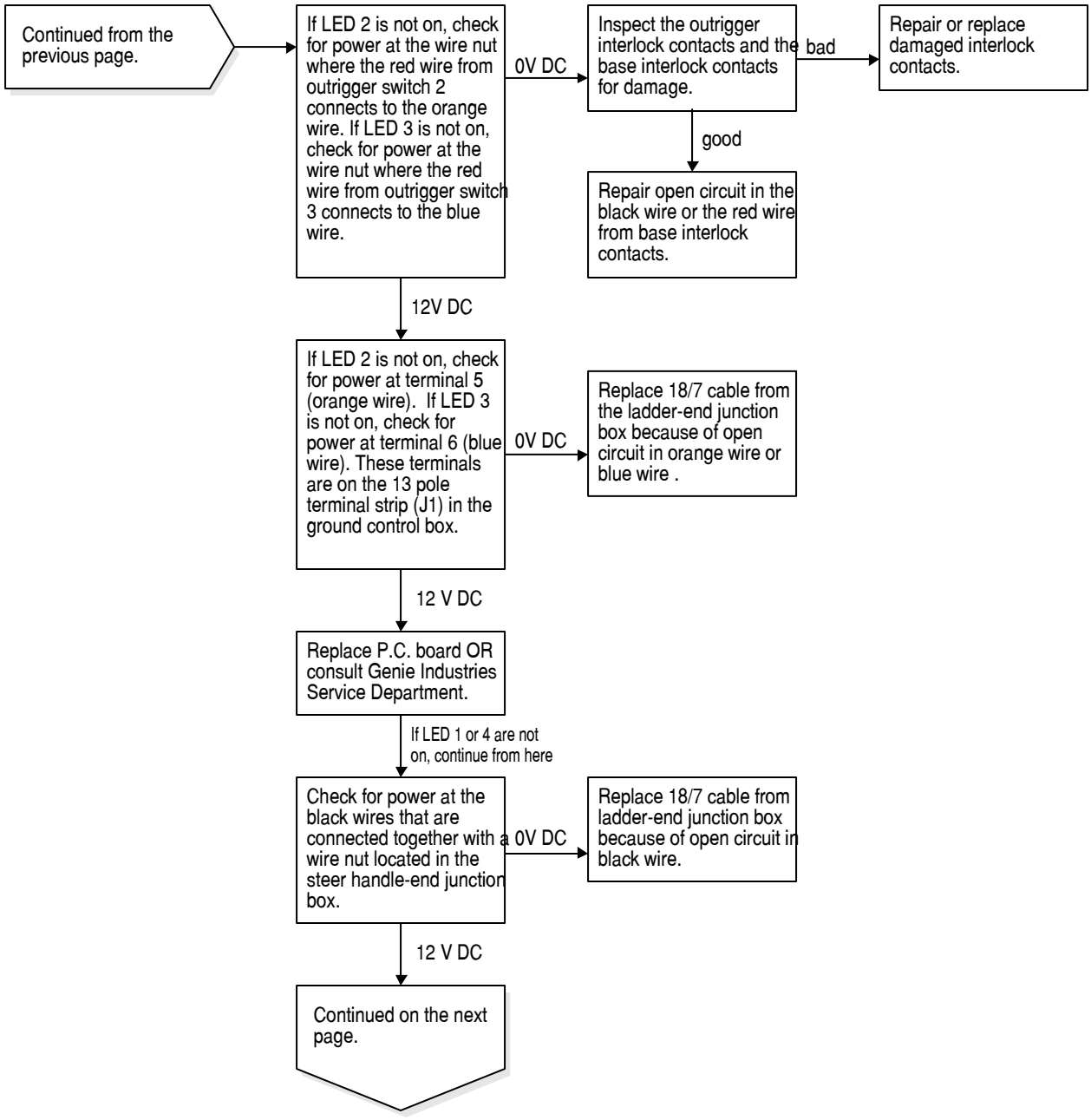

Continued from the previous page.
If LED 2 is not on, check for power at the wire nut where the red wire from outrigger switch 2 connects to the orange wire. If LED 3 is not on, check for power at the wire nut where the red wire from outrigger switch 3 connects to the blue wire.
0V DC
Inspect the outrigger interlock contacts and the base interlock contacts for damage.
bad
Repair or replace damaged interlock contacts.
good
Repair open circuit in the black wire or the red wire from base interlock contacts.
12V DC
If LED 2 is not on, check for power at terminal 5 (orange wire). If LED 3 is not on, check for power at terminal 6 (blue wire). These terminals are on the 13 pole terminal strip (J1) in the ground control box.
0V DC
Replace 18/7 cable from the ladder-end junction box because of open circuit in orange wire or blue wire .
12 V DC
Replace P.C. board OR consult Genie Industries Service Department.
If LED 1 or 4 are not on, continue from here
Check for power at the black wires that are connected together with a wire nut located in the steer handle-end junction box.
0V DC
Replace 18/7 cable from ladder-end junction box because of open circuit in black wire.
12 V DC
Continued on the next page.

CHART 3

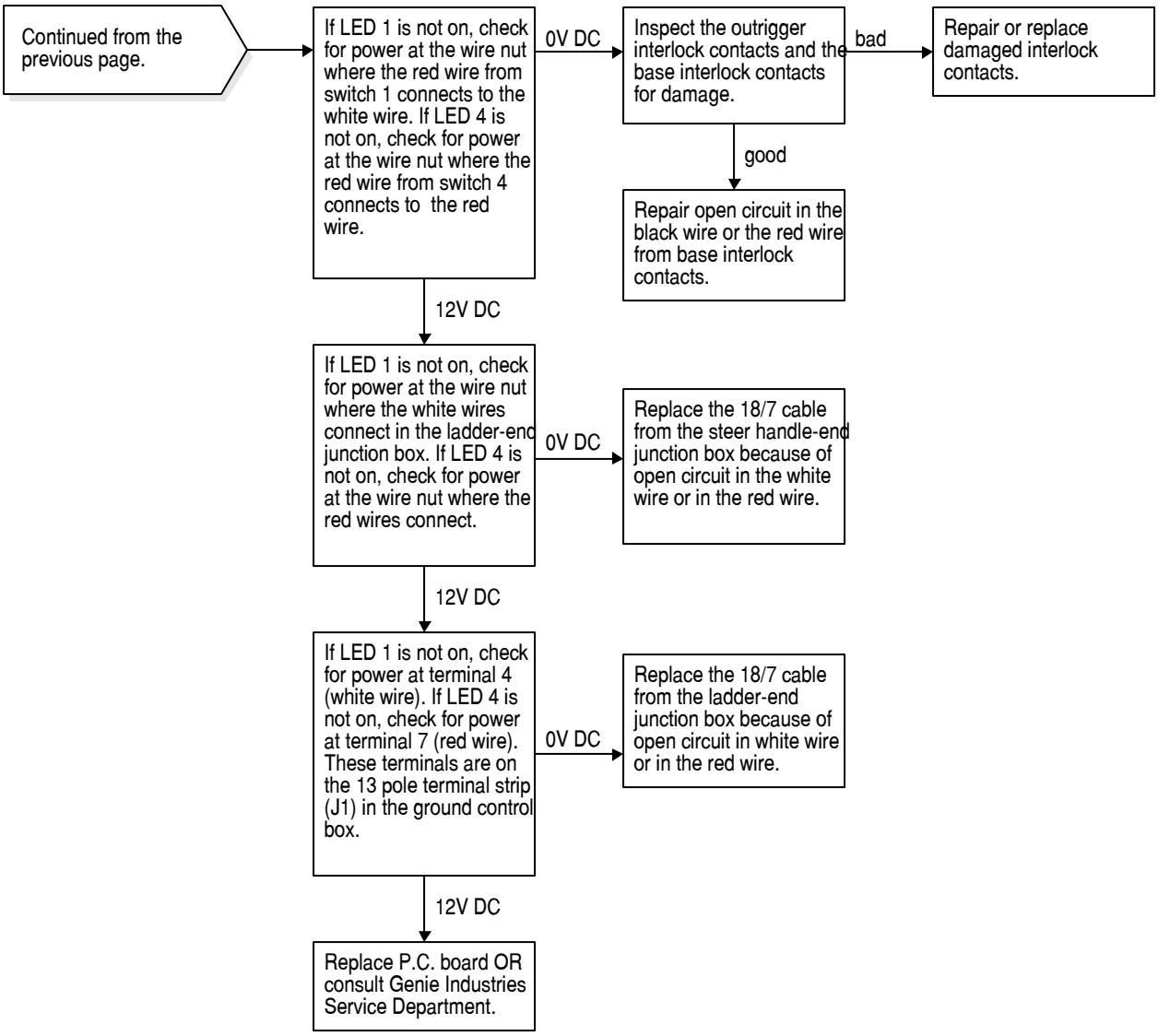

Continued from the previous page.
If LED 1 is not on, check for power at the wire nut where the red wire from switch 1 connects to the white wire. If LED 4 is not on, check for power at the wire nut where the red wire from switch 4 connects to the red wire.
0V DC
Inspect the outrigger interlock contacts and the base interlock contacts for damage.
bad
Repair or replace damaged interlock contacts.
good
Repair open circuit in the black wire or the red wire from base interlock contacts.
12V DC
If LED 1 is not on, check for power at the wire nut where the white wires connect in the ladder-end junction box. If LED 4 is not on, check for power at the wire nut where the red wires connect.
0V DC
Replace the 18/7 cable from the steer handle-end junction box because of open circuit in the white wire or in the red wire.
12V DC
If LED 1 is not on, check for power at terminal 4 (white wire). If LED 4 is not on, check for power at terminal 7 (red wire). These terminals are on the 13 pole terminal strip (J1) in the ground control box.
0V DC
Replace the 18/7 cable from the ladder-end junction box because of open circuit in white wire or in the red wire.
12V DC
Replace P.C. board OR consult Genie Industries Service Department.

Chart 4

Machine Will Not Lift - AC Models

Be sure the keyswitch is in the appropriate position.

Be sure the Emergency Stop buttons are pulled up to the on position.

Be sure the power light and all interlock display lights are on.

Be sure the ground control box circuit breaker has been reset.

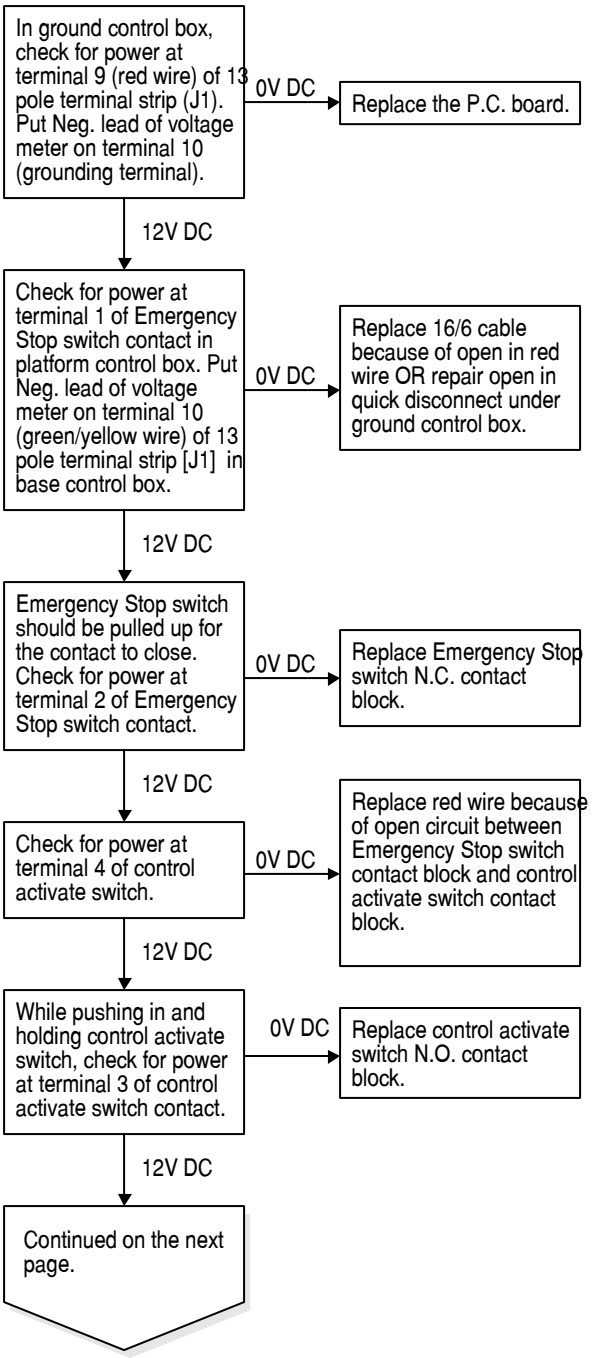


CHART 4

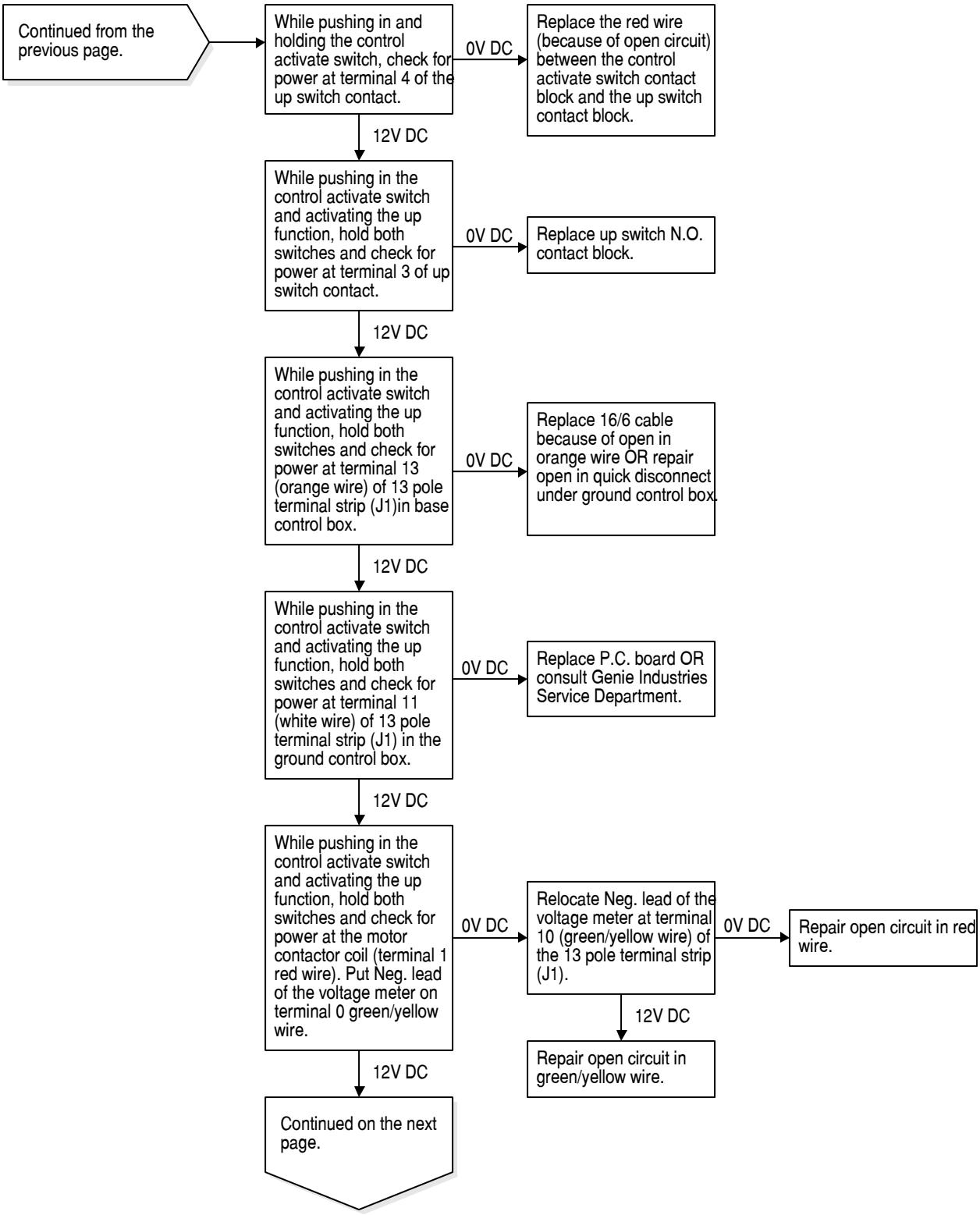

Continued from the previous page.
While pushing in and holding the control activate switch, check for power at terminal 4 of the up switch contact.
0V DC
Replace the red wire (because of open circuit) between the control activate switch contact block and the up switch contact block.
12V DC
While pushing in the control activate switch and activating the up function, hold both switches and check for power at terminal 3 of up switch contact.
0V DC
Replace up switch N.O. contact block.
12V DC
While pushing in the control activate switch and activating the up function, hold both switches and check for power at terminal 13 (orange wire) of 13 pole terminal strip (J1)in base control box.
0V DC
Replace 16/6 cable because of open in orange wire OR repair open in quick disconnect under ground control box.
12V DC
While pushing in the control activate switch and activating the up function, hold both switches and check for power at terminal 11 (white wire) of 13 pole terminal strip (J1) in the ground control box.
0V DC
Replace P.C. board OR consult Genie Industries Service Department.
12V DC
While pushing in the control activate switch and activating the up function, hold both switches and check for power at the motor contactor coil (terminal 1 red wire). Put Neg. lead of the voltage meter on terminal 0 green/yellow wire.
0V DC
Relocate Neg. lead of the voltage meter at terminal 10 (green/yellow wire) of the 13 pole terminal strip (J1).
0V DC
Repair open circuit in red wire.
12V DC
Repair open circuit in green/yellow wire.
12V DC
Continued on the next page.

CHART 4

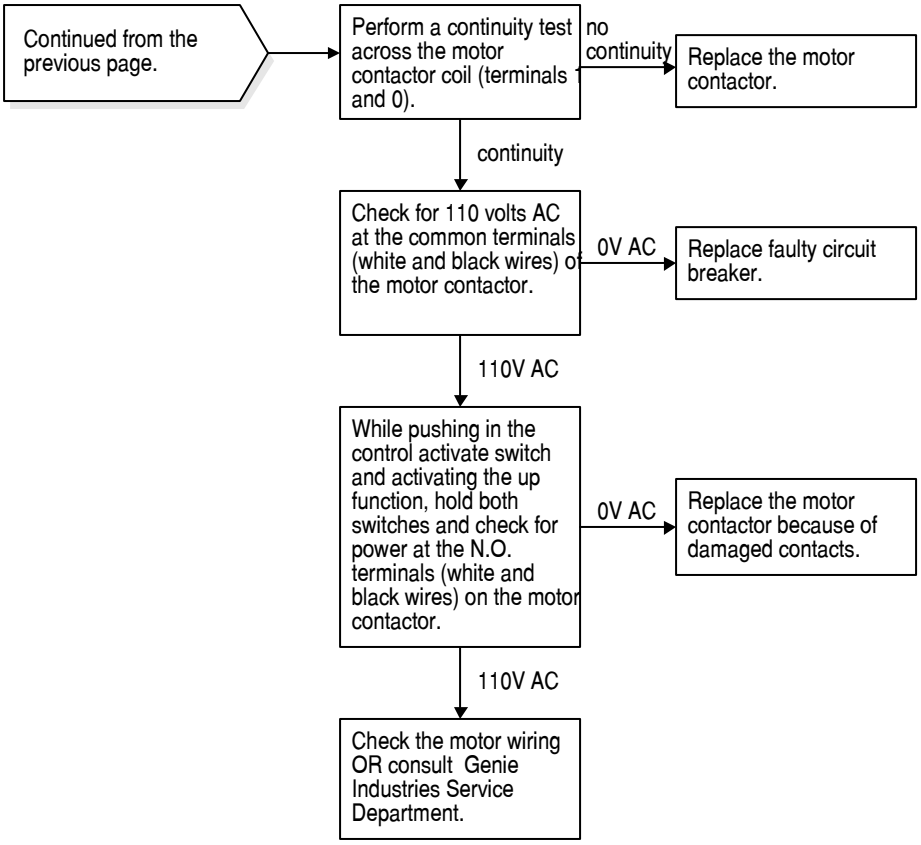

Continued from the previous page.
Perform a continuity test across the motor contactor coil (terminals 1 and 0).
no continuity
Replace the motor contactor.
continuity
Check for 110 volts AC at the common terminals (white and black wires) of the motor contactor.
0V AC
Replace faulty circuit breaker.
110V AC
While pushing in the control activate switch and activating the up function, hold both switches and check for power at the N.O. terminals (white and black wires) on the motor contactor.
0V AC
Replace the motor contactor because of damaged contacts.
110V AC
Check the motor wiring OR consult Genie Industries Service Department.

Chart 5

Machine Will Not Lift, But Power Unit Will Operate - AC Models

Be sure the power unit reservoir is full and the breather cap has been installed.

Be sure the manual lowering cable is properly adjusted.

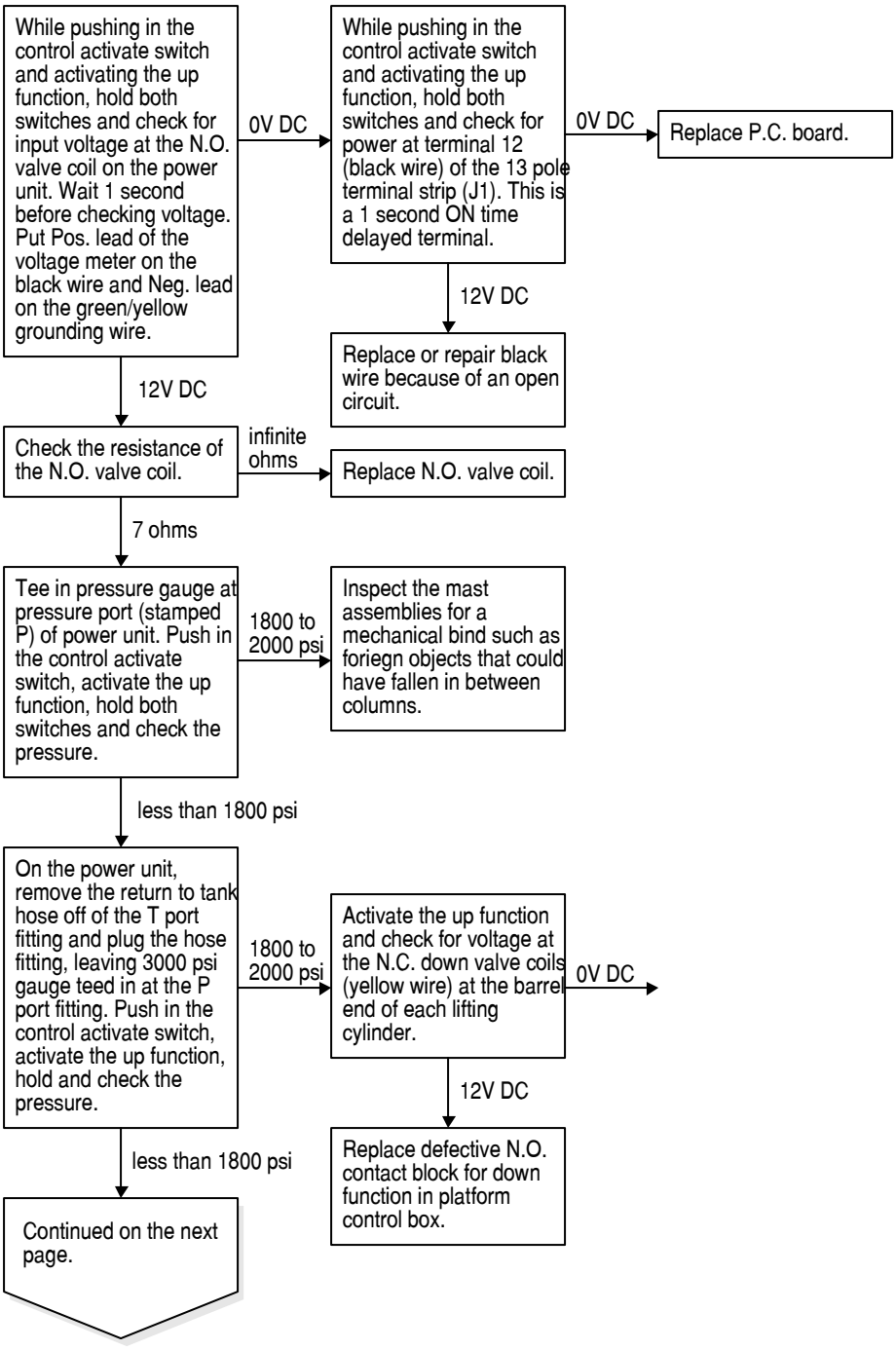


CHART 5

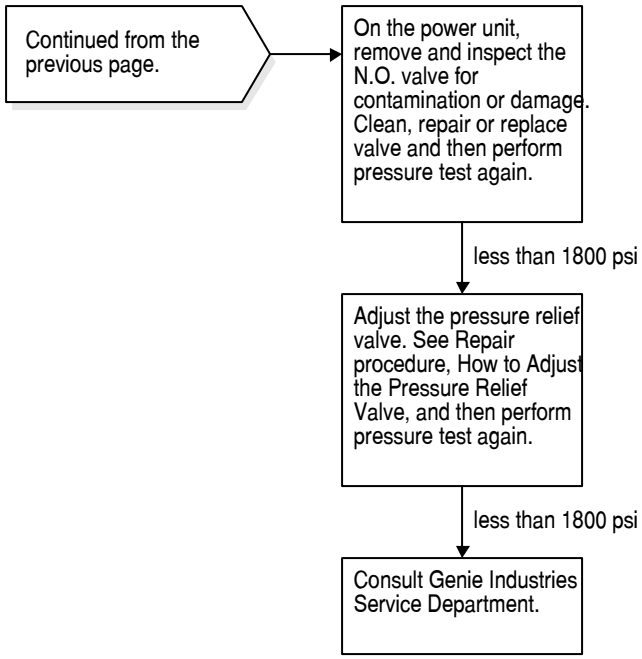

Continued from the previous page.
On the power unit, remove and inspect the N.O. valve for contamination or damage. Clean, repair or replace valve and then perform pressure test again.
less than 1800 psi
Adjust the pressure relief valve. See Repair procedure, How to Adjust the Pressure Relief Valve, and then perform pressure test again.
less than 1800 psi
Consult Genie Industries Service Department.

Chart 6

Machine Will Not Lift - DC Models

Be sure the keyswitch is in the appropriate position.

Be sure the Emergency Stop buttons are pulled up to the on position.

Be sure the power light and all interlock display lights are on.

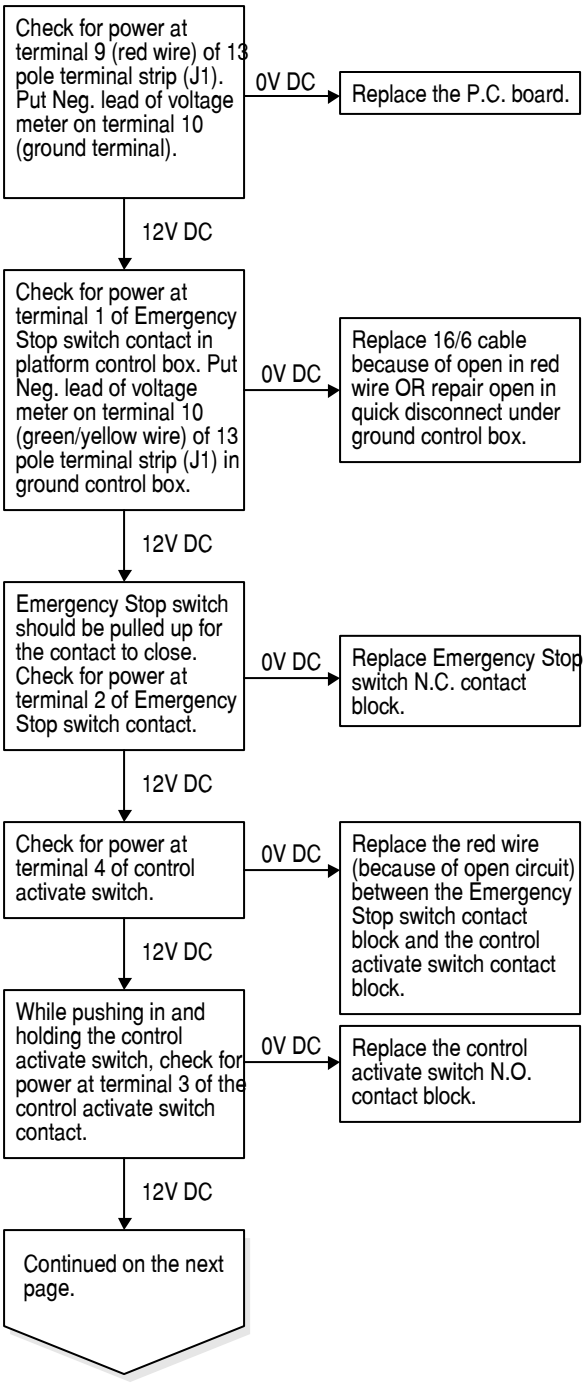


CHART 6

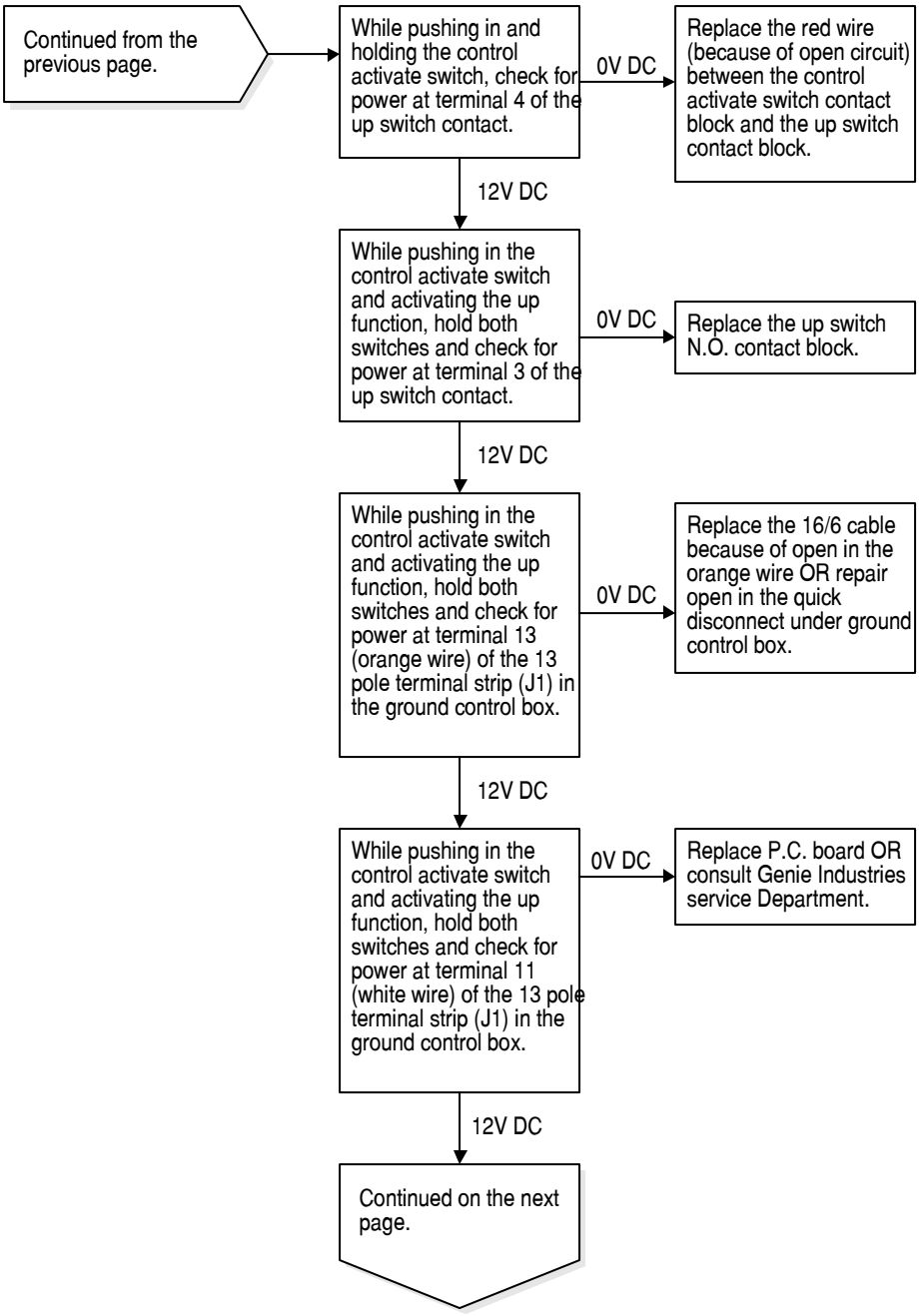

Continued from the previous page.
While pushing in and holding the control activate switch, check for power at terminal 4 of the up switch contact.
0V DC
Replace the red wire (because of open circuit) between the control activate switch contact block and the up switch contact block.
12V DC
While pushing in the control activate switch and activating the up function, hold both switches and check for power at terminal 3 of the up switch contact.
0V DC
Replace the up switch N.O. contact block.
12V DC
While pushing in the control activate switch and activating the up function, hold both switches and check for power at terminal 13 (orange wire) of the 13 pole terminal strip (J1) in the ground control box.
0V DC
Replace the 16/6 cable because of open in the orange wire OR repair open in the quick disconnect under ground control box.
12V DC
While pushing in the control activate switch and activating the up function, hold both switches and check for power at terminal 11 (white wire) of the 13 pole terminal strip (J1) in the ground control box.
0V DC
Replace P.C. board OR consult Genie Industries service Department.
12V DC
Continued on the next page.

CHART 6

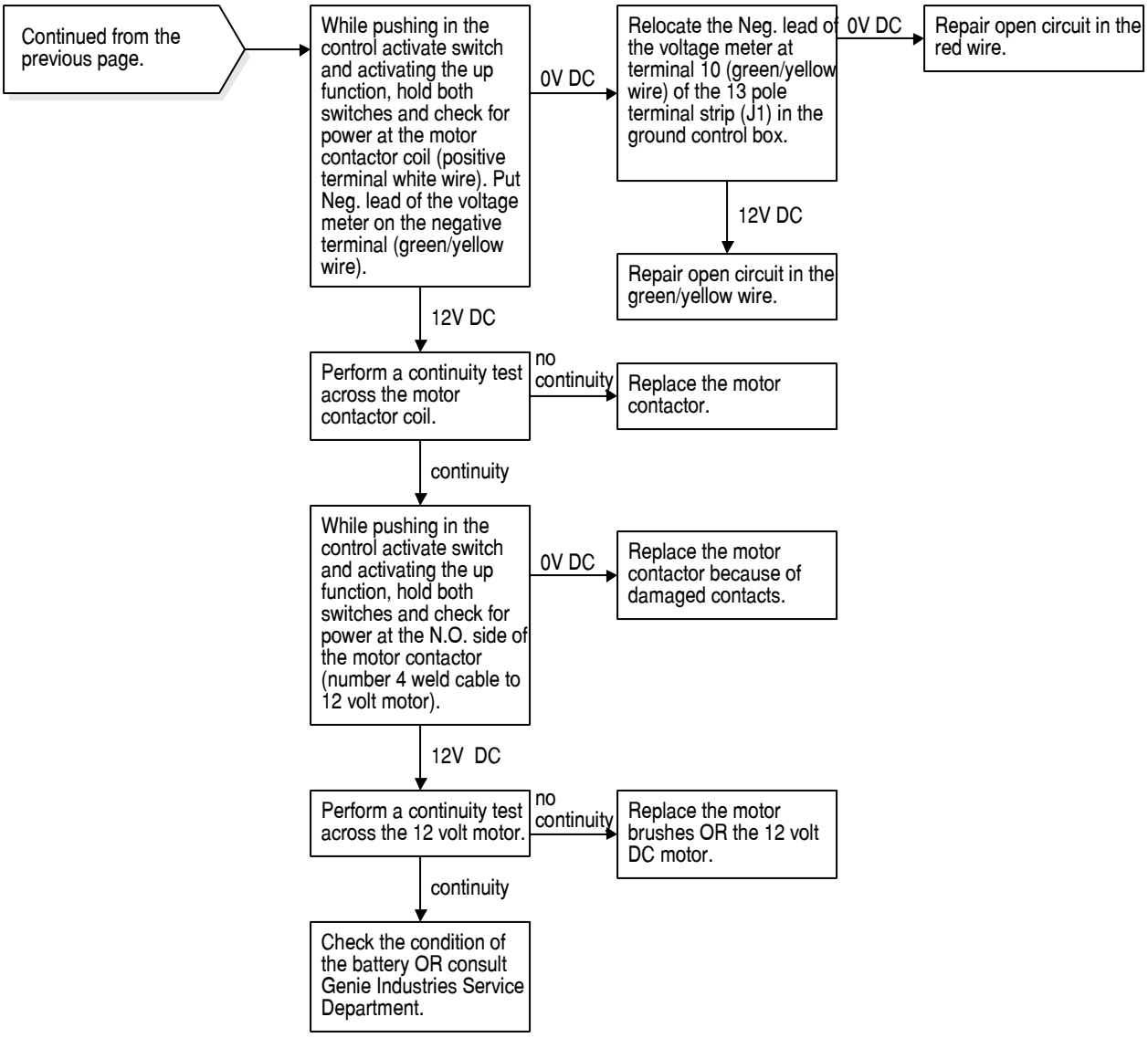

Continued from the previous page.
While pushing in the control activate switch and activating the up function, hold both switches and check for power at the motor contactor coil (positive terminal white wire). Put Neg. lead of the voltage meter on the negative terminal (green/yellow wire).
0V DC
Relocate the Neg. lead of the voltage meter at terminal 10 (green/yellow wire) of the 13 pole terminal strip (J1) in the ground control box.
0V DC
Repair open circuit in the red wire.
12V DC
Repair open circuit in the green/yellow wire.
12V DC
Perform a continuity test across the motor contactor coil.
no continuity
Replace the motor contactor.
continuity
While pushing in the control activate switch and activating the up function, hold both switches and check for power at the N.O. side of the motor contactor (number 4 weld cable to 12 volt motor).
0V DC
Replace the motor contactor because of damaged contacts.
12V DC
Perform a continuity test across the 12 volt motor.
no continuity
Replace the motor brushes OR the 12 volt DC motor.
continuity
Check the condition of the battery OR consult Genie Industries Service Department.

Chart 7

Machine Will Not Lift, But Power Unit Will Operate - DC Models

Be sure the power unit reservoir is full and the breather cap has been installed.

Be sure the manual lowering cable is properly adjusted.

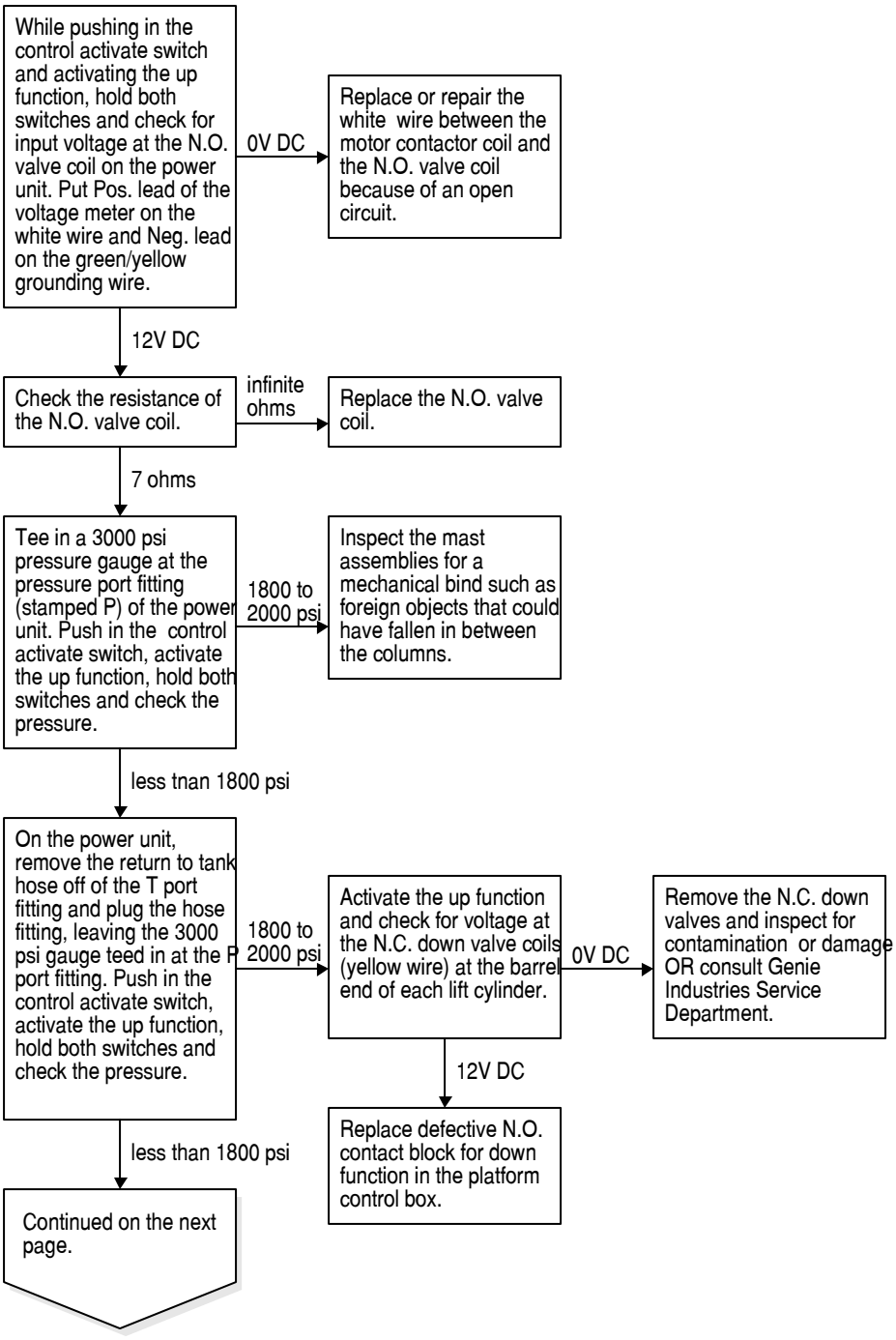


CHART 7

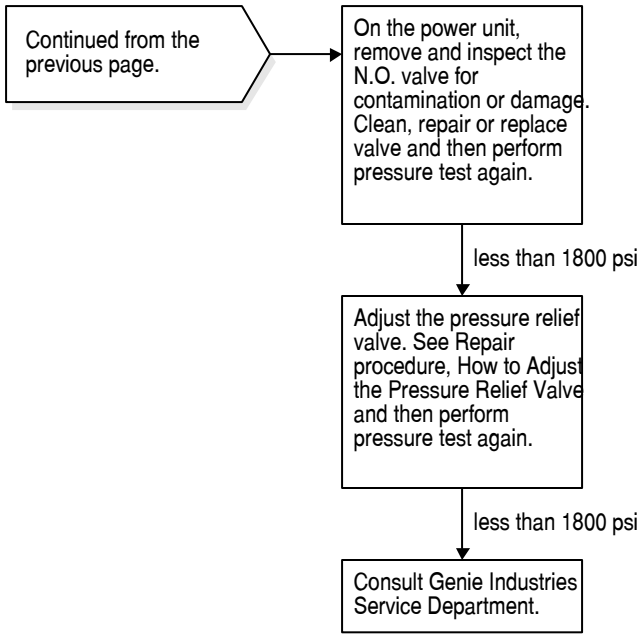

Continued from the previous page.
On the power unit, remove and inspect the N.O. valve for contamination or damage. Clean, repair or replace valve and then perform pressure test again.
less than 1800 psi
Adjust the pressure relief valve. See Repair procedure, How to Adjust the Pressure Relief Valve and then perform pressure test again.
less than 1800 psi
Consult Genie Industries Service Department.

Chart 8

Machine Will Not Lower - Up Function Operates

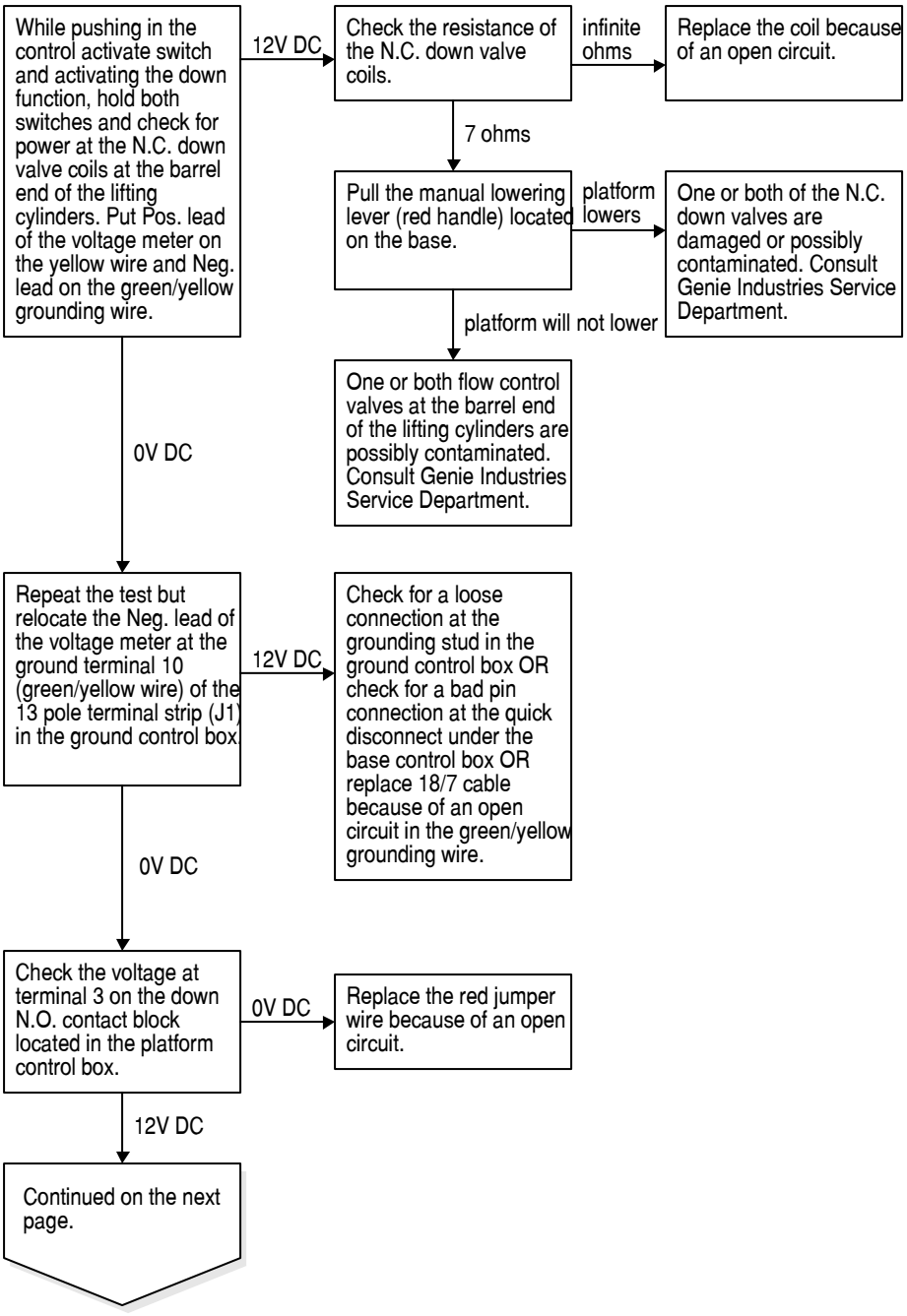


CHART 8

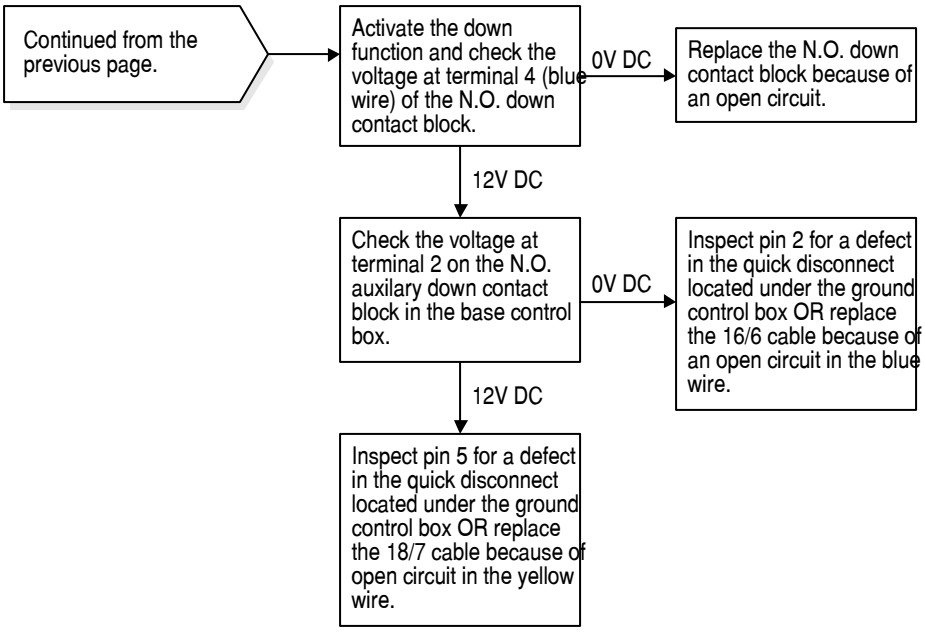

Continued from the previous page.
Activate the down function and check the voltage at terminal 4 (blue wire) of the N.O. down contact block.
0V DC
Replace the N.O. down contact block because of an open circuit.
12V DC
Check the voltage at terminal 2 on the N.O. auxilary down contact block in the base control box.
0V DC
Inspect pin 2 for a defect in the quick disconnect located under the ground control box OR replace the 16/6 cable because of an open circuit in the blue wire.
12V DC
Inspect pin 5 for a defect in the quick disconnect located under the ground control box OR replace the 18/7 cable because of open circuit in the yellow wire.

Chart 9

Platform Will Not Hold In Up Position

Be sure manual lowering cable is properly adjusted.

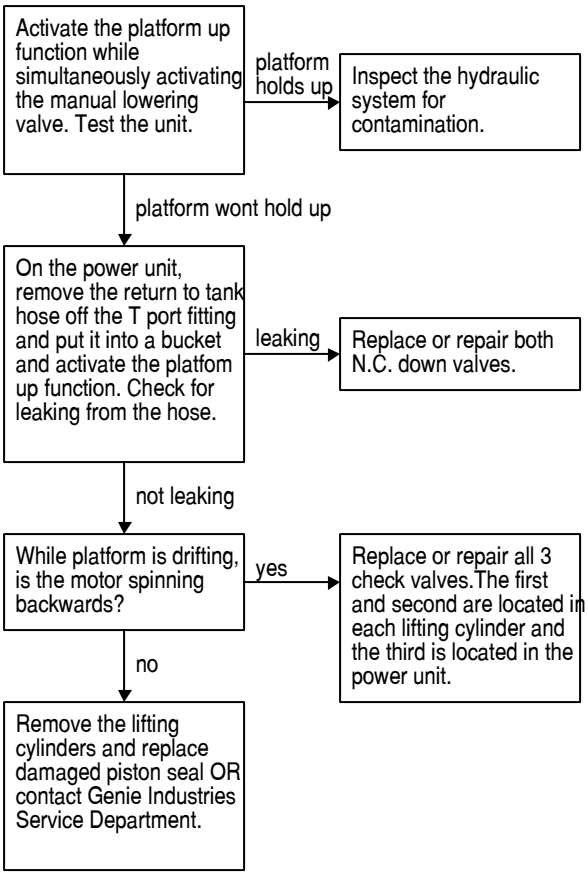


Chart 10

Power Unit Will Not Lift Rated Load

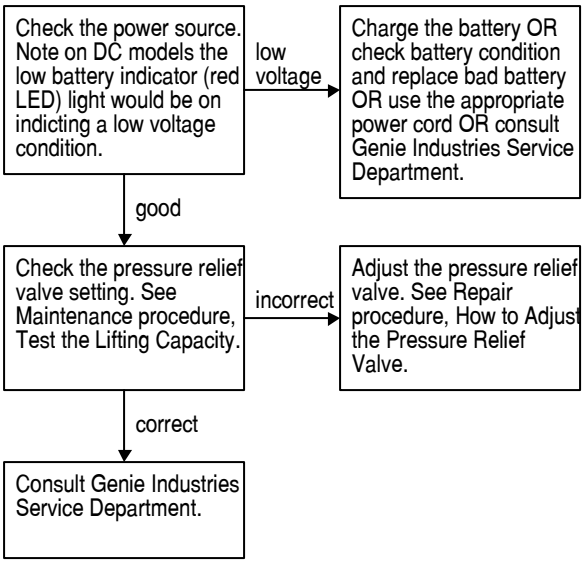
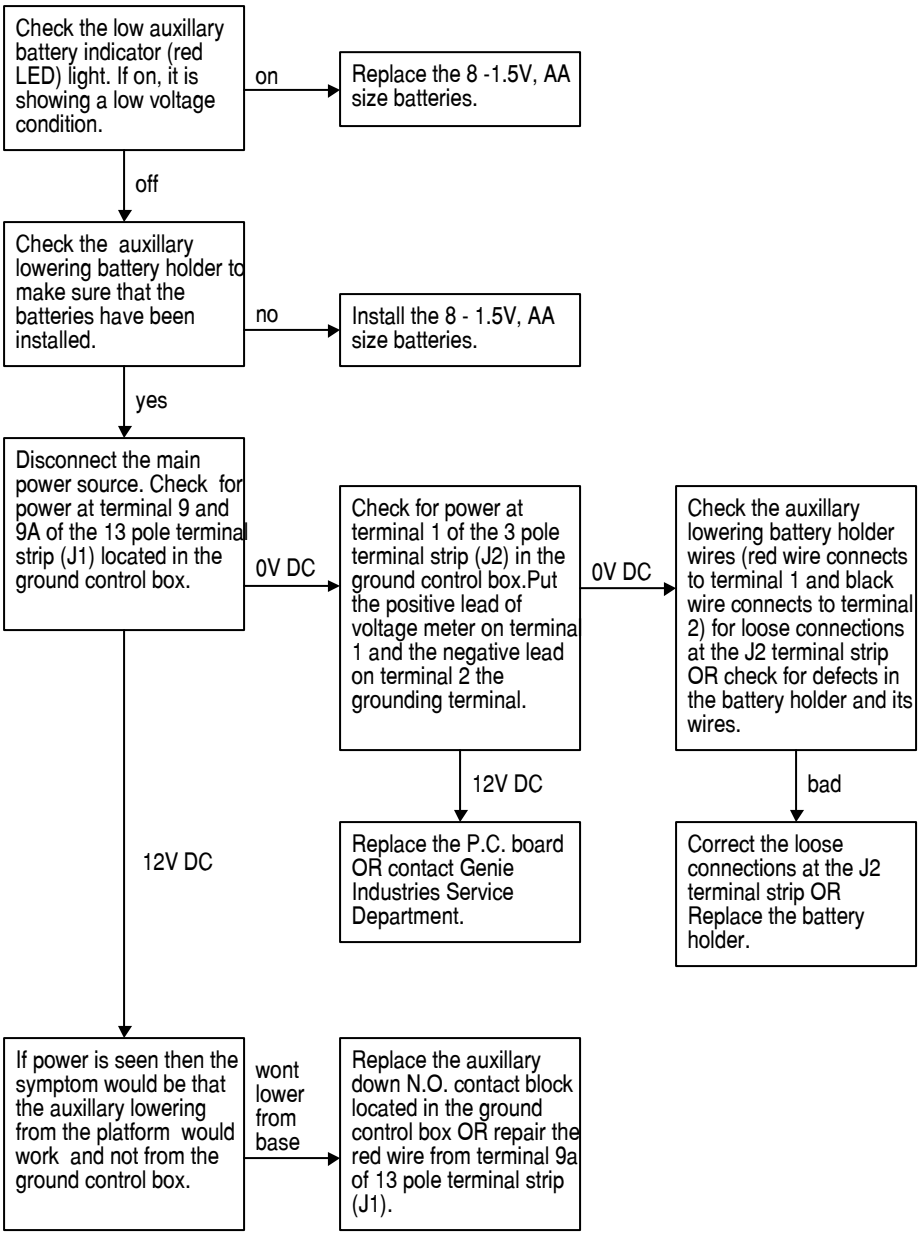


Chart 11

Auxiliary Platform Lowering Will Not Operate



Schematics

Observe and Obey:

- ☑ Troubleshooting and repair procedures shall be completed by a person trained and qualified on the repair of this machine.
- ☑ Immediately tag and remove from service a damaged or malfunctioning machine.
- ☑ Repair any machine damage or malfunction before operating the machine.

Before Troubleshooting:

- ☑ Read, understand and obey the safety rules and operating instructions printed in the *Genie AWP Super Series Operator's Manual and the Genie IWP Super Series Operator's Manual*.
- ☑ Be sure that all necessary tools and test equipment are available and ready for use.

About This Section

There are two groups of schematics in this section. An alpha numeric legend and wire color legend for each schematic is located on the fold of the opposing page.

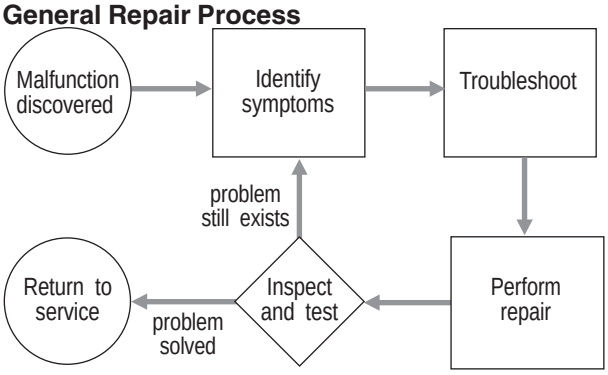
Electrical Schematics

⚠WARNING Electrocution hazard. Contact with electrically charged circuits may result in death or serious injury. Remove all rings, watches and other jewelry.

Hydraulic Schematics

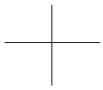
⚠WARNING Bodily injury hazard. Spraying hydraulic oil can penetrate and burn skin. Loosen hydraulic connections very slowly to allow the oil pressure to dissipate gradually. Do not allow oil to squirt or spray.

General Repair Process



Electrical Legend

Wire with description



Circuits crossing no connection

Diode

Connection with no terminal

Connector

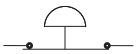
Flashing Beacon

LED

Limit Switch

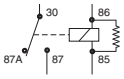
Switch or Button

Toggle Switch



Red Emergency Stop Button

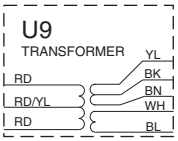
Circuit Breaker



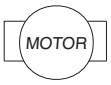
Relay

F11 Fuse

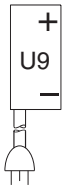
Horn or Alarm



Transformer

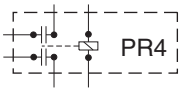


Motor

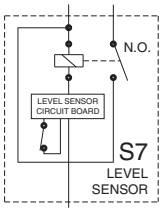


Battery Charger

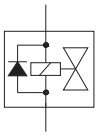
8 AA Batteries



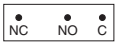
Power Relay (function pump)



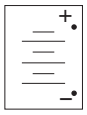
Level Sensor



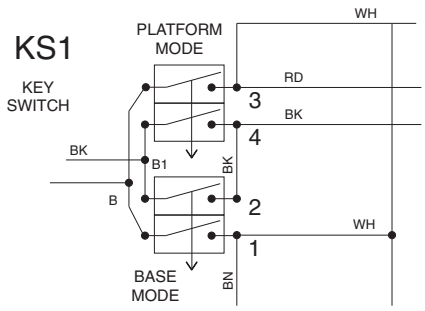
Solenoid Valve with Diode



Pressure Switch

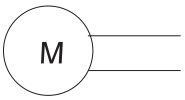


12V Battery(s)



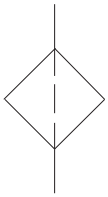
Key Switch

Hydraulic Legend

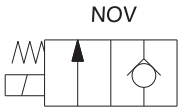


Motor

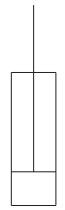
Pump



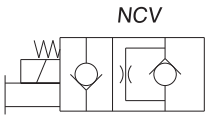
Filter



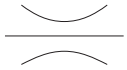
2 position 2 way directional valve



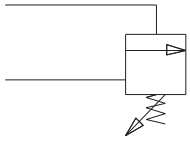
Cylinder



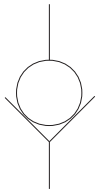
Solenoid operated dump valve



Pressure compensated flow control



Adjustable relief valve



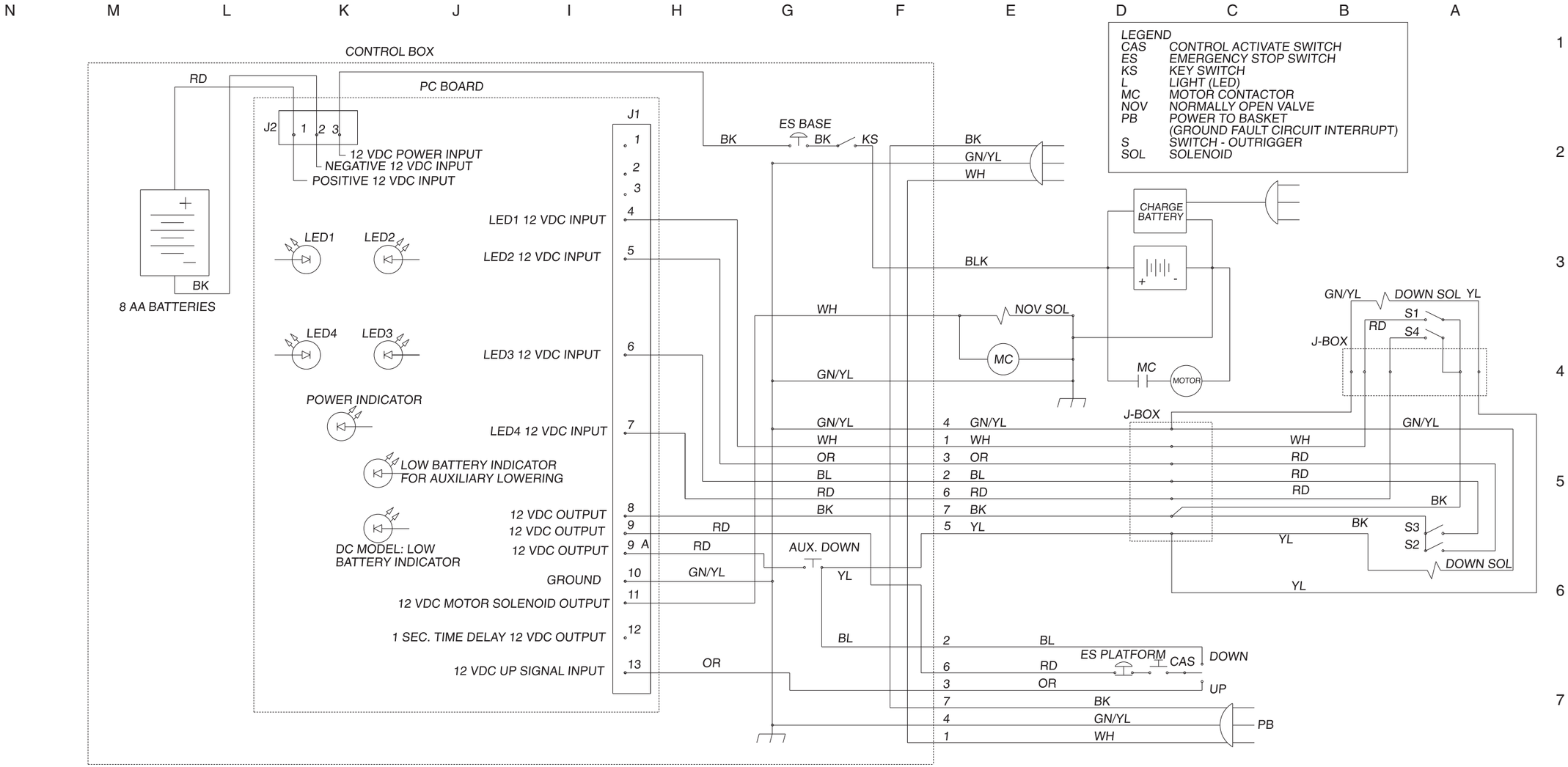
Check Valve

WIRE COLOR LEGEND	
Color	**Description**
BL	Blue
BK	Black
GN/YL	Green/Yellow
OR	Orange
RD	Red
WH	White
YL	Yellow

Note: Use this legend for the schematic on the opposing page.

Electrical Schematic

DPL Super Series DC Models
(before serial number DPL07-1499



Electrical Schematic

DPL Super Series DC Models
(before serial number DPL07-1499)

ABBREVIATION LEGEND	
Item	**Description**
B	Battery
	B2 = 12V Battery B4 = 8 AA Batteries
D5	Power supply AC
EN	Enclosure
	EN1 = Platform control box EN2 = Ground control box EN4 = Power to platform GFCI receptacle
F11	Fuse, 175 AMP
FB2	Warning light
GND	Ground
H4	Descent alarm
KS1	Key switch ground/platform
L	Led or light
	L5 = Power indicator (ground) L6 = Low battery indicator for auxiliary (ground) L7 = Low battery indicator – main (ground) L12 = Outrigger – front left (ground) L13 = Outrigger – front right (ground) L14 = Outrigger – rear left (ground) L15 = Outrigger – rear right (ground)
M5	Hydraulic power unit
N.C.	Normally closed
N.O	Normally open
*N	Note with description *N17 = Narrow platform units: WH and BK wires replace BL and OR wires *N27 = Units with out plug: WH and BK wires replace BL and BN wires
P	Power switch
	P1 = Emergency Stop button at ground controls P2 = Emergency Stop button at platform controls
QD	Quick disconnect
	QD1 = Battery quick disconnect QD3 = Control cable – to platform control box QD4 = Control cable – to base
SW	Switch
	SW 8 = Control activate SW11 = Platform up/down SW12 = Auxiliary down SW13 = Outrigger interlock – front left SW14 = Outrigger interlock – front right SW15 = Outrigger interlock – rear left SW16 = Outrigger interlock – rear right
U	Electronic component
	U9 = Battery Charger U10 = PC board
W	Wiring component
	W3 = Terminal strip – 3 pole 3 pin (U10) W4 = Terminal strip – 14 pole 14 pin (U10) W5 = Terminal strip – 5 pole 10 pin
Y	Valve coil
	Y7 = Platform down Y30 = Normally open dump valve

WIRE COLOR LEGEND	
Color	**Description**
BL	Blue
BK	Black
BN	Brown
GN/YL	Green/Yellow
OR	Orange
RD	Red
RD/BK	Red/Black
WH	White
YL	Yellow

Note: Use these 2 legends for the schematic on the opposing page.

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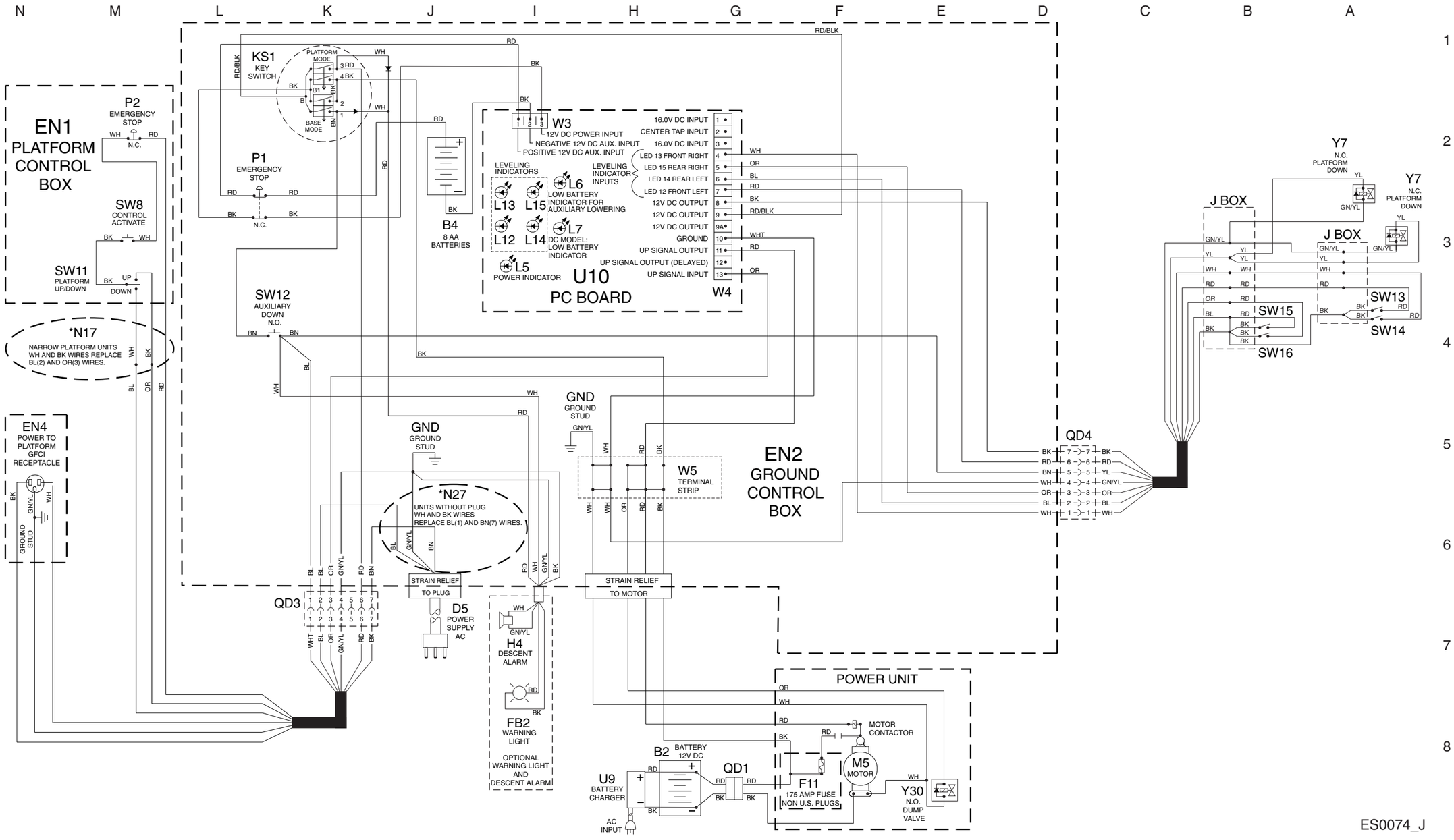
Electrical Schematic

DPL Super Series DC Models
(after serial number DPL07-1498)



ES0074_J

Electrical Schematic

DPL Super Series DC Models
(after serial number DPL07-1498)

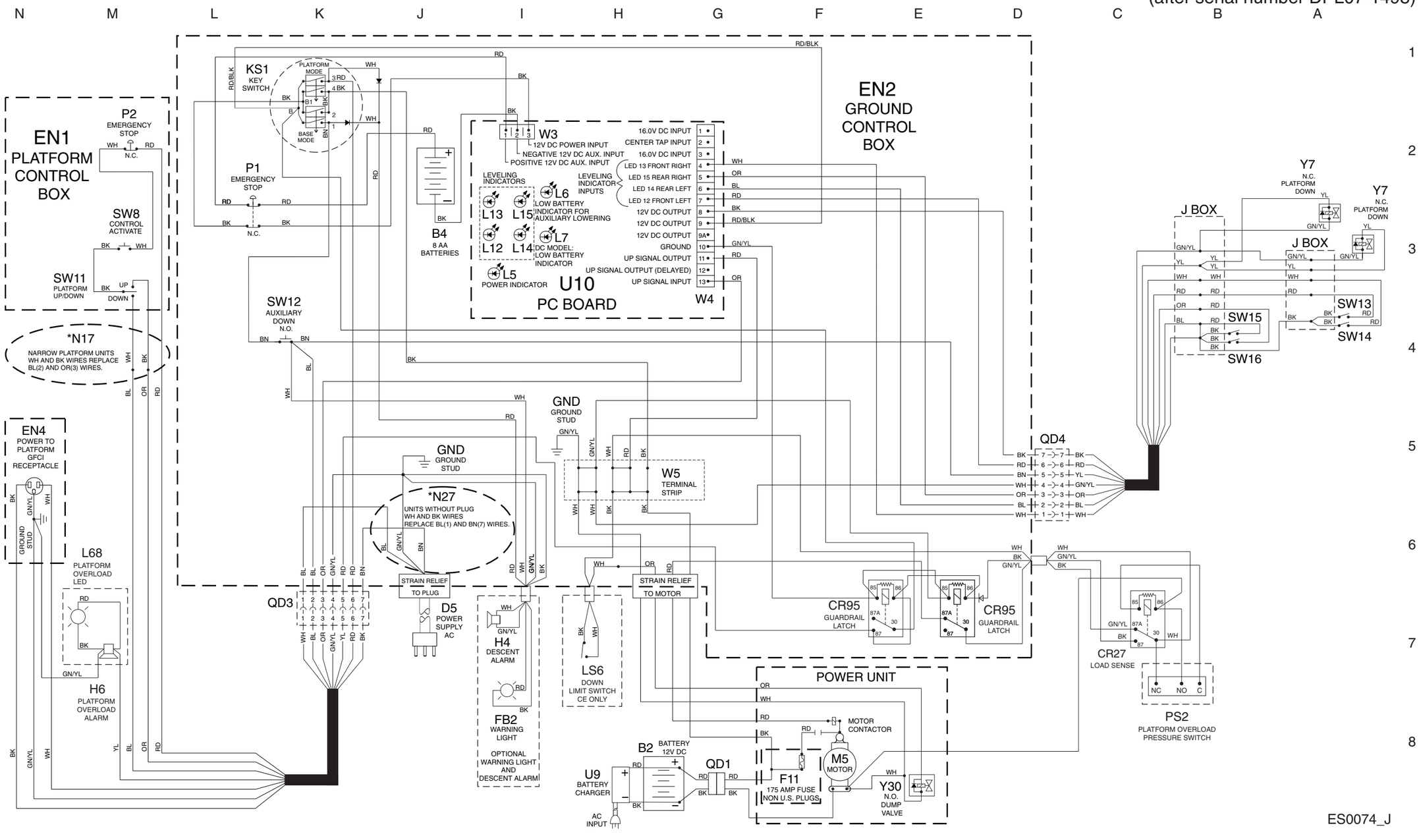
ABBREVIATION LEGEND	
Item	**Description**
B	Battery B2 = 12V Battery B4 = 8 AA Batteries
CR	Control Relay CR27 = Load Sense CR95 = Guardrail latch
D5	Power supply AC
EN	Enclosure EN1 = Platform control box EN2 = Ground control box EN4 = Power to platform GFCI receptacle
F11	Fuse, 175 AMP
FB2	Warning light
GND	Ground
H	Horn or alarm H4 = Descent alarm H6 = Platform overload alarm
KS1	Key switch ground/platform
L	Led or light L5 = Power indicator (ground) L6 = Low battery indicator for auxiliary (ground) L7 = Low battery indicator – main (ground) L12 = Outrigger – front left (ground) L13 = Outrigger – front right (ground) L14 = Outrigger – rear left (ground) L15 = Outrigger – rear right (ground) L68 = Platform overload
LS6	Down limit switch
M5	Hydraulic power unit
N.C.	Normally closed
N.O	Normally open
*N	Note with description *N17 = Narrow platform units: WH and BK wires replace BL and OR wires *N27 = Units with out plug: WH and BK wires replace BL and BN wires
P	Power switch P1 = Emergency Stop button at ground controls P2 = Emergency Stop button at platform controls
PS2	Pressure switch
QD	Quick disconnect QD1 = Battery quick disconnect QD3 = Control cable – to platform control box QD4 = Control cable – to base
SW	Switch SW 8 = Control activate SW11 = Platform up/down SW12 = Auxiliary down SW13 = Outrigger interlock – front left SW14 = Outrigger interlock – front right SW15 = Outrigger interlock – rear left SW16 = Outrigger interlock – rear right
U	Electronic component U9 = Battery Charger U10 = PC board
W	Wiring component W3 = Terminal strip – 3 pole 3 pin (U10) W4 = Terminal strip – 14 pole 14 pin (U10) W5 = Terminal strip – 5 pole 10 pin
Y	Valve coil Y7 = Platform down Y30 = Normally open dump valve

WIRE COLOR LEGEND	
Color	**Description**
BL	Blue
BK	Black
BN	Brown
GN/YL	Green/Yellow
OR	Orange
RD	Red
RD/BK	Red/Black
WH	White
YL	Yellow

Note: Use these 2 legends for the schematic on the opposing page.

Electrical Schematic

DPL Super Series DC CE Models
(after serial number DPL07-1498)



ES0074_J

Electrical Schematic

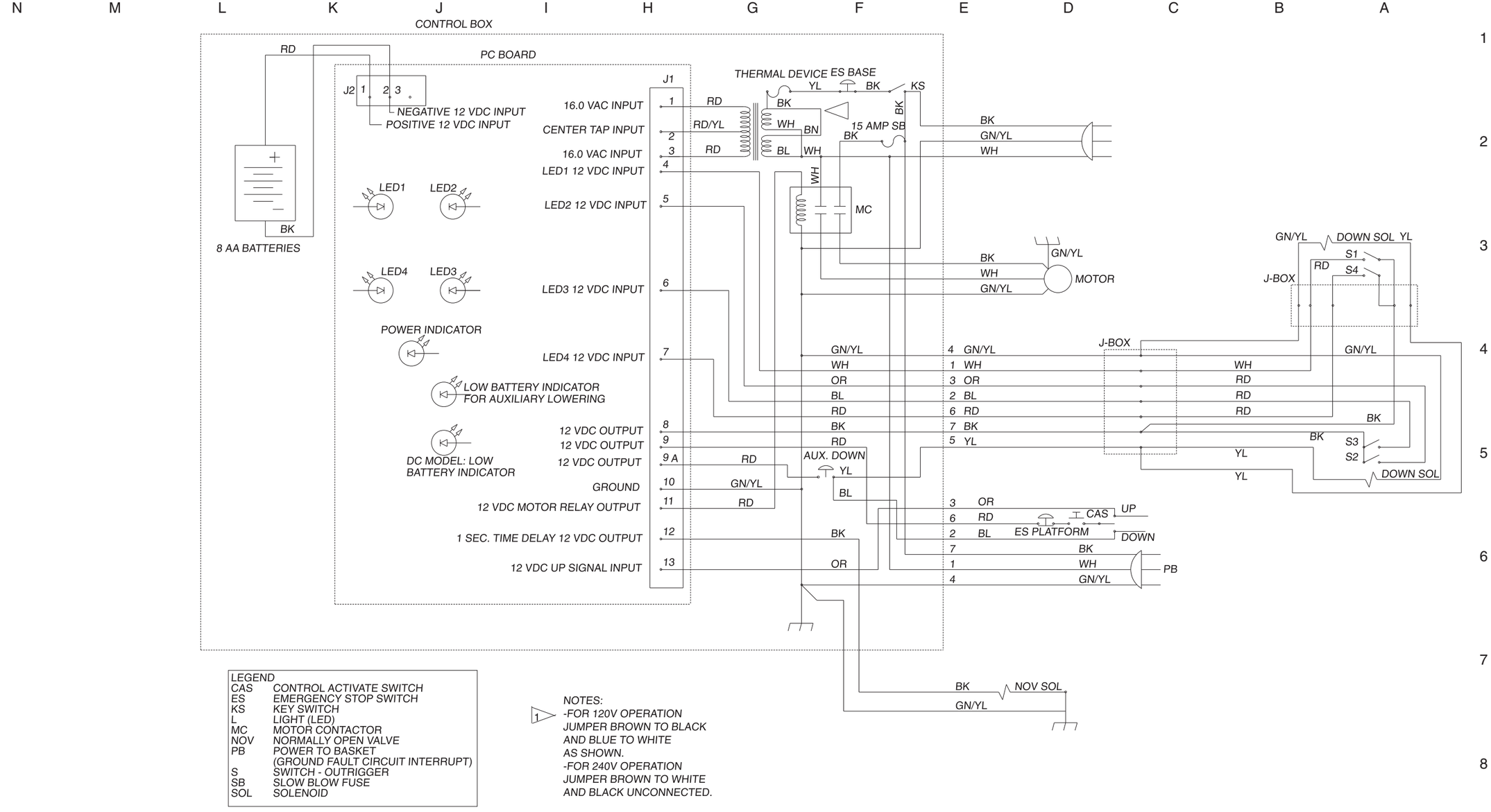
DPL Super Series DC CE Models
(after serial number DPL07-1498)

WIRE COLOR LEGEND	
Color	**Description**
BL	Blue
BK	Black
GN/YL	Green/Yellow
OR	Orange
RD	Red
WH	White
YL	Yellow

Note: Use this legend for the schematic on the opposing page.

Electrical Schematic

DPL Super Series AC Models
(before serial number DPL07-1499)



LEGEND	
CAS	CONTROL ACTIVATE SWITCH
ES	EMERGENCY STOP SWITCH
KS	KEY SWITCH
L	LIGHT (LED)
MC	MOTOR CONTACTOR
NOV	NORMALLY OPEN VALVE
PB	POWER TO BASKET (GROUND FAULT CIRCUIT INTERRUPT)
S	SWITCH - OUTRIGGER
SB	SLOW BLOW FUSE
SOL	SOLENOID

1 NOTES:
-FOR 120V OPERATION
JUMPER BROWN TO BLACK
AND BLUE TO WHITE
AS SHOWN.
-FOR 240V OPERATION
JUMPER BROWN TO WHITE
AND BLACK UNCONNECTED.

Electrical Schematic

DPL Super Series AC Models
(before serial number DPL07-1499)

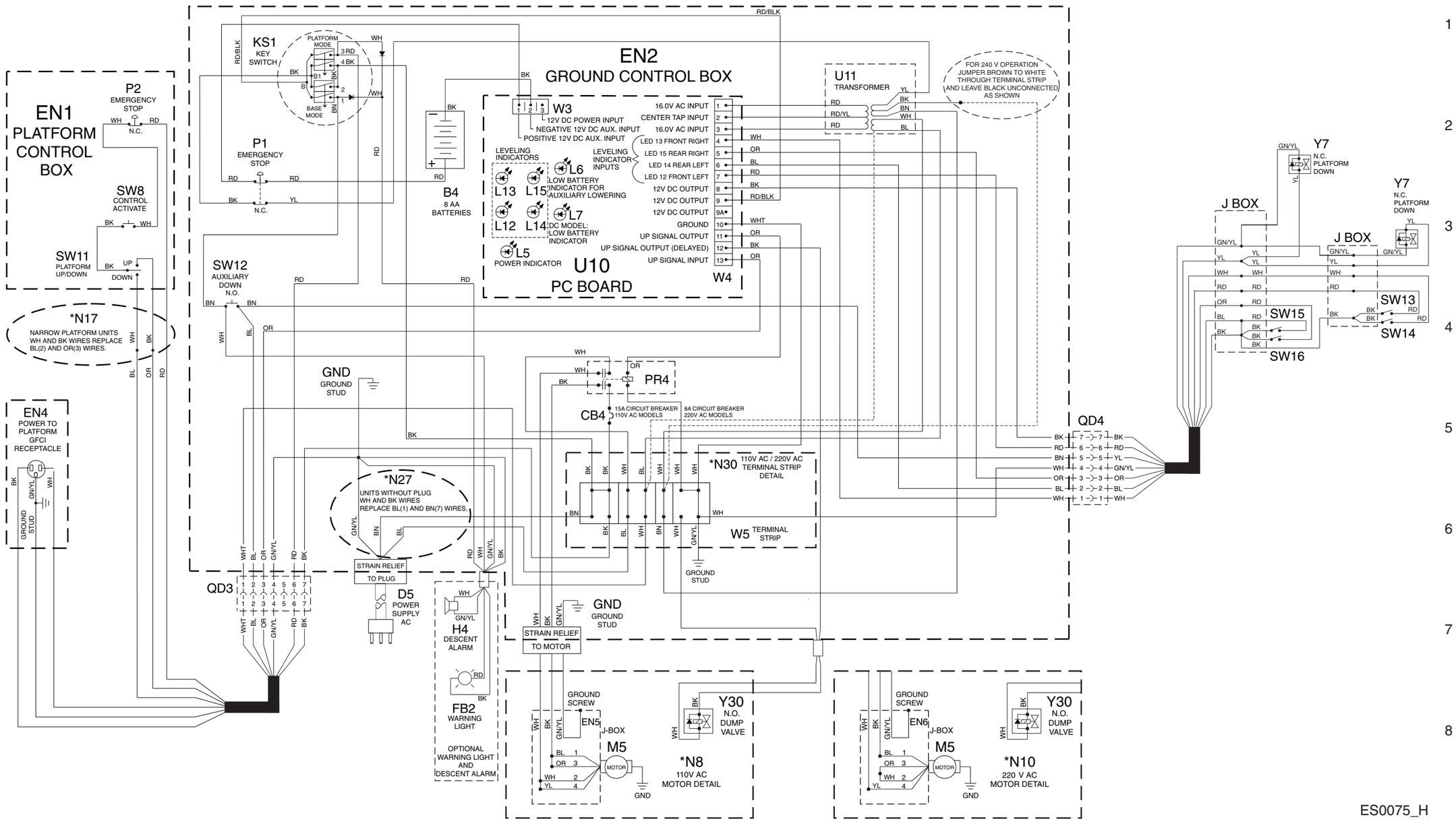
ABBREVIATION LEGEND	
Item	**Description**
B4	8 AA Batteries
CB4	15A (110V AC) / 8AMP (220V AC)
D5	Power supply AC
EN	Enclosure
	EN1 = Platform control box EN2 = Ground control box EN4 = Power to platform GFCI receptacle EN5 = Power unit – 110V AC EN6 = Power unit – 220V AC
FB2	Warning light
GND	Ground
H4	Descent alarm
KS1	Key switch ground/platform
L	Led or light
	L5 = Power indicator (ground) L6 = Low battery indicator for auxiliary (ground) L7 = Low battery indicator – main (ground) L12 = Outrigger – front left (ground) L13 = Outrigger – front right (ground) L14 = Outrigger – rear left (ground) L15 = Outrigger – rear right (ground)
M5	Hydraulic power unit
N.C.	Normally closed
N.O	Normally open
*N	Note with description *N8 = 110V AC motor detail *N10 = 220V AC motor detail *N17 = Narrow platform units: WH and BK wires replace BL and OR wires *N27 = Units with out plug: WH and BK wires replace BL and BN wires *N30 = 110V AC/220V AC terminal strip detail
P	Power switch
	P1 = Emergency Stop button at ground controls P2 = Emergency Stop button at platform controls
PR	Power relay
	PR4 = Function pump (M5)
QD	Quick disconnect
	QD3 = Control cable – to platform control box QD4 = Control cable – to base
SW	Switch
	SW 8 = Control activate SW11 = Platform up/down SW12 = Auxiliary down SW13 = Outrigger interlock – front left SW14 = Outrigger interlock – front right SW15 = Outrigger interlock – rear left SW16 = Outrigger interlock – rear right
U	Electronic component
	U10 = PC board U11 = Transformer
W	Wiring component
	W3 = Terminal strip – 3 pole 3 pin (U10) W4 = Terminal strip – 14 pole 14 pin (U10) W5 = Terminal strip – 7 pole 14 pin (*30)
Y	Valve coil
	Y7 = Platform down Y30 = Normally open dump valve

WIRE COLOR LEGEND	
Color	**Description**
BL	Blue
BK	Black
BN	Brown
GN/YL	Green/Yellow
OR	Orange
RD	Red
RD/BK	Red/Black
RD/YL	Red/Yellow
WH	White
YL	Yellow

Note: Use these 2 legends for the schematic on the opposing page.

Electrical Schematic

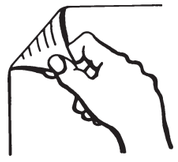
DPL Super Series AC Models
(from serial number DPL07-1499 to DPL07-1562)



ES0075_H

Electrical Schematic

DPL Super Series AC Models
(from serial number DPL07-1499 to DPL07-1562)



ABBREVIATION LEGEND	
Item	**Description**
B4	8 AA Batteries
CB	Circuit breaker
	CB4 = 15A (110V AC) / 8A (220V AC)
	CB9 = 6A (110V AC) / 3A (220V AC)
D5	Power supply AC
EN	Enclosure
	EN1 = Platform control box EN2 = Ground control box EN4 = Power to platform GFCI receptacle EN5 = Power unit – 110V AC EN6 = Power unit – 220V AC
FB2	Warning light
GND	Ground
H4	Descent alarm
KS1	Key switch ground/platform
L	Led or light
	L5 = Power indicator (ground) L6 = Low battery indicator for auxiliary (ground) L7 = Low battery indicator – main (ground) L12 = Outrigger – front left (ground) L13 = Outrigger – front right (ground) L14 = Outrigger – rear left (ground) L15 = Outrigger – rear right (ground)
M5	Hydraulic power unit
N.C.	Normally closed
N.O	Normally open
*N	Note with description
	*N8 = 110V AC motor detail *N10 = 220V AC motor detail *N17 = Narrow platform units: WH and BK wires replace BL and OR wires *N27 = Units without plug: WH and BK wires replace BL and BN wires *N28 = For 240V operation: Jumper brown wire to white wire through terminal strip and leave black wire unconnected as shown (CB4 = 8A, CB9 = 3A) For 120V operation: Jumper brown wire to black wire and blue wire to white wire as shown with dashed lines (CB4 = 15A, CB9 = 6A) *N29 = (N) Denotes a neutral wire to be tagged with an (N) sleeve *N30 = 110V AC/220V AC terminal strip detail
P	Power switch
	P1 = Emergency Stop button at ground controls P2 = Emergency Stop button at platform controls
PR	Power relay
	PR4 = Function pump (M5)
PS2	Pressure switch
QD	Quick disconnect
	QD3 = Control cable – to platform control box QD4 = Control cable – to base
SW	Switch
	SW 8 = Control activate SW11 = Platform up/down SW12 = Auxiliary down SW13 = Outrigger interlock – front left SW14 = Outrigger interlock – front right SW15 = Outrigger interlock – rear left SW16 = Outrigger interlock – rear right
U	Electronic component
	U10 = PC board U11 = Transformer
W	Wiring component
	W3 = Terminal strip – 3 pole 3 pin (U10) W4 = Terminal strip – 14 pole 14 pin (U10) W5 = Terminal strip – 13 pole 26 pin (*30)
Y	Valve coil
	Y7 = Platform down Y30 = Normally open dump valve

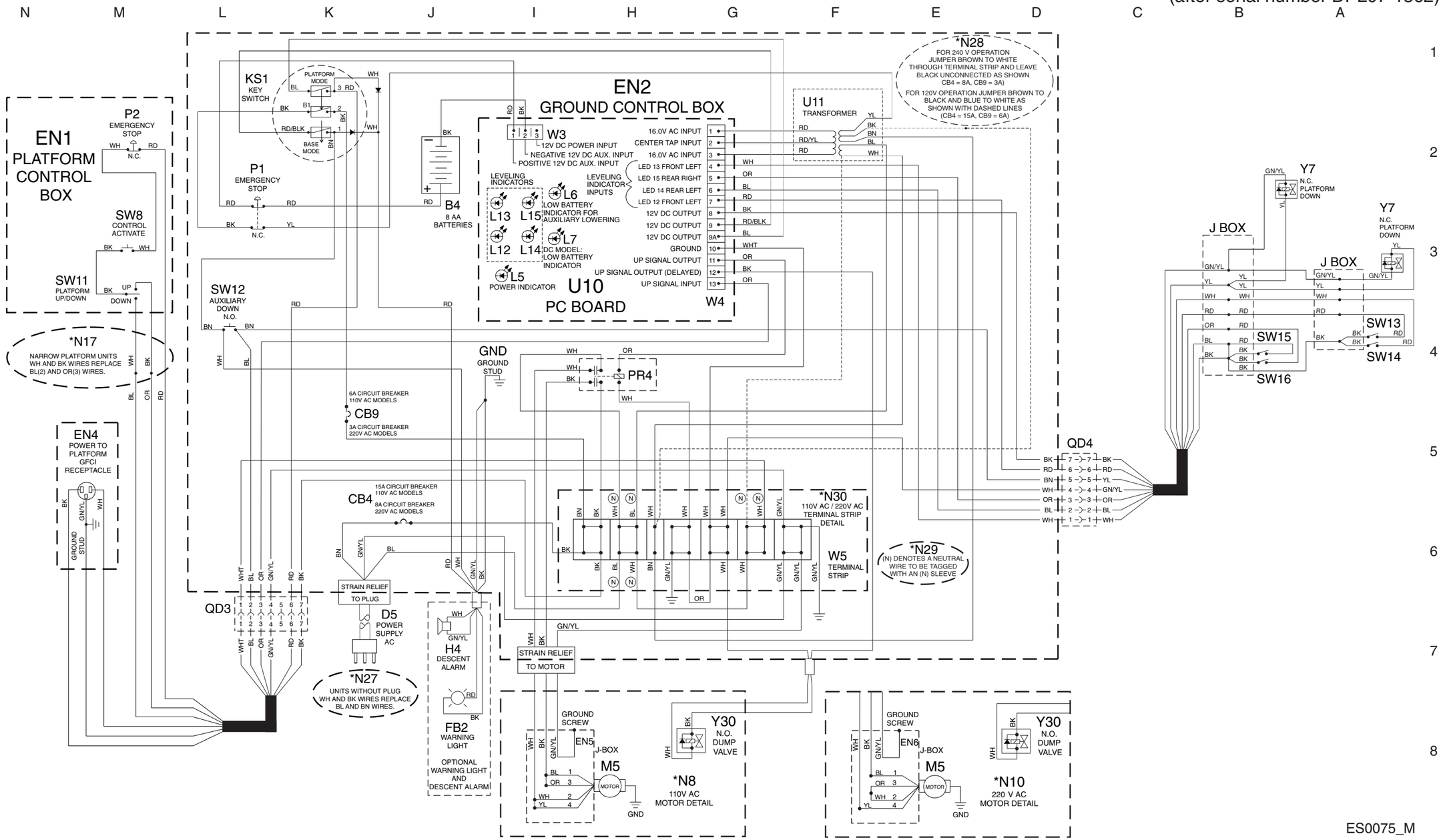
WIRE COLOR LEGEND	
Color	**Description**
BL	Blue
BK	Black
BN	Brown
GN/YL	Green/Yellow
OR	Orange
RD	Red
RD/BK	Red/Black
RD/YL	Red/Yellow
WH	White
YL	Yellow

Note: Use these 2 legends for the schematic on the opposing page.

➔

Electrical Schematic

DPL Super Series AC Models
(after serial number DPL07-1562)



ES0075_M

Electrical Schematic

DPL Super Series AC Models
(after serial number DPL07-1562)

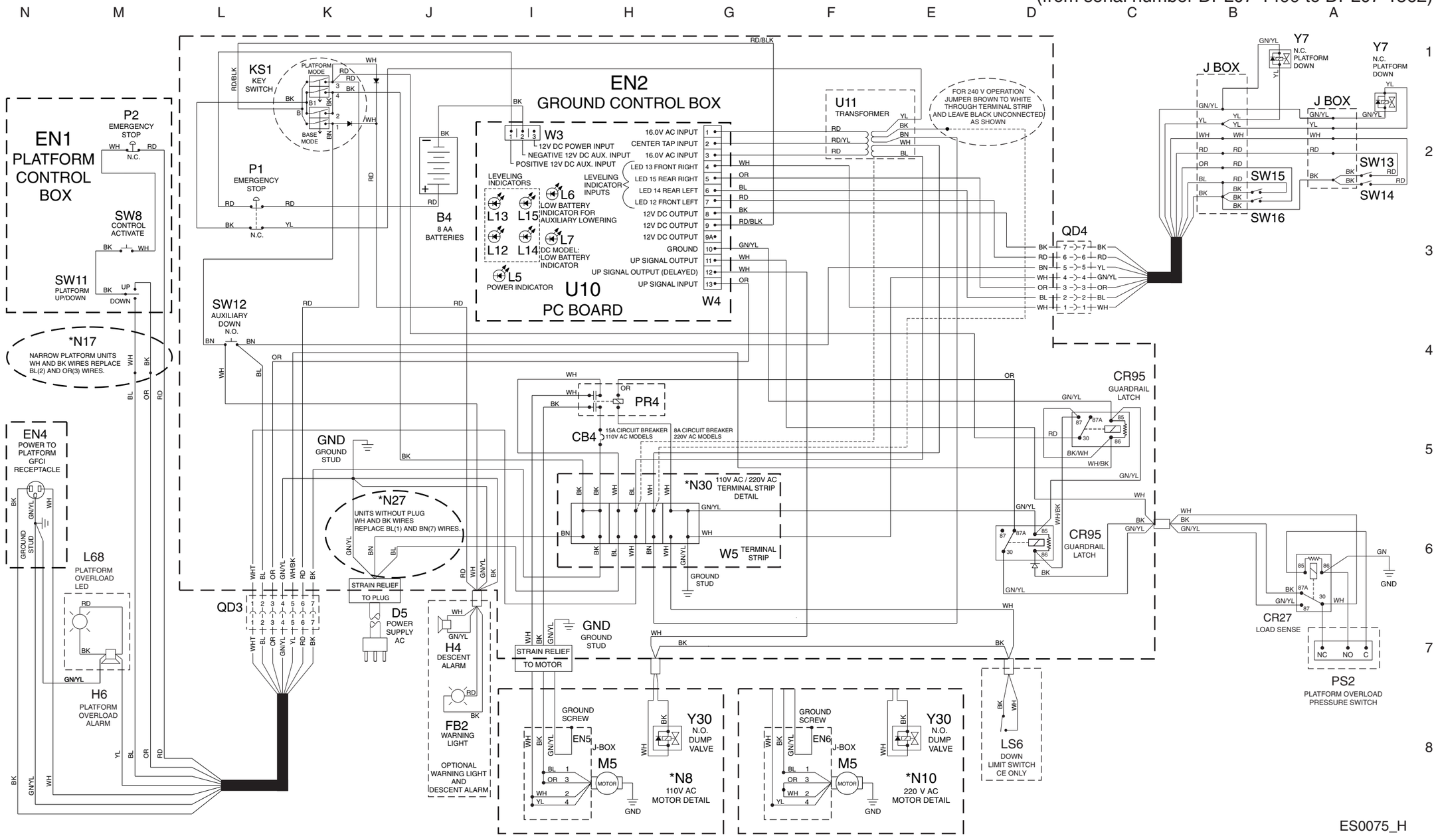
ABBREVIATION LEGEND	
Item	**Description**
B4	8 AA Batteries
CB4	15A (110V AC) / 8AMP (220V AC)
CR	Control Relay CR27 = Load Sense CR95 = Guardrail latch
D5	Power supply AC
EN	Enclosure EN1 = Platform control box EN2 = Ground control box EN4 = Power to platform GFCI receptacle EN5 = Power unit – 110V AC EN6 = Power unit – 220V AC
FB2	Warning light
GND	Ground
H	Horn or alarm H4 = Descent alarm H6 = Platform overload alarm
KS1	Key switch ground/platform
L	Led or light L5 = Power indicator (ground) L6 = Low battery indicator for auxiliary (ground) L7 = Low battery indicator – main (ground) L12 = Outrigger – front left (ground) L13 = Outrigger – front right (ground) L14 = Outrigger – rear left (ground) L15 = Outrigger – rear right (ground) L68 = Platform overload
LS6	Down limit switch
M5	Hydraulic power unit
N.C.	Normally closed
N.O	Normally open
*N	Note with description *N8 = 110V AC motor detail *N10 = 220V AC motor detail *N17 = Narrow platform units: WH and BK wires replace BL and OR wires *N27 = Units with out plug: WH and BK wires replace BL and BN wires *N30 = 110V AC/220V AC terminal strip detail
P	Power switch P1 = Emergency Stop button at ground controls P2 = Emergency Stop button at platform controls
PR	Power relay PR4 = Function pump (M5)
PS2	Pressure switch
QD	Quick disconnect QD3 = Control cable – to platform control box QD4 = Control cable – to base
SW	Switch SW 8 = Control activate SW11 = Platform up/down SW12 = Auxiliary down SW13 = Outrigger interlock – front left SW14 = Outrigger interlock – front right SW15 = Outrigger interlock – rear left SW16 = Outrigger interlock – rear right
U	Electronic component U10 = PC board U11 = Transformer
W	Wiring component W3 = Terminal strip – 3 pole 3 pin (U10) W4 = Terminal strip – 14 pole 14 pin (U10) W5 = Terminal strip – 7 pole 14 pin (*30)
Y	Valve coil Y7 = Platform down Y30 = Normally open dump valve

WIRE COLOR LEGEND	
Color	**Description**
BL	Blue
BK	Black
BK/WH	Black/White
BN	Brown
GN	Green
GN/YL	Green/Yellow
OR	Orange
RD	Red
RD/BK	Red/Black
RD/YL	Red/Yellow
WH	White
WH/BK	White/Black
YL	Yellow

Note: Use these 2 legends for the schematic on the opposing page.

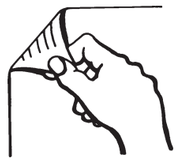
Electrical Schematic

DPL Super Series AC CE Models
(from serial number DPL07-1499 to DPL07-1562)



Electrical Schematic

DPL Super Series AC CE Models
(from serial number DPL07-1499 to DPL07 -1562)



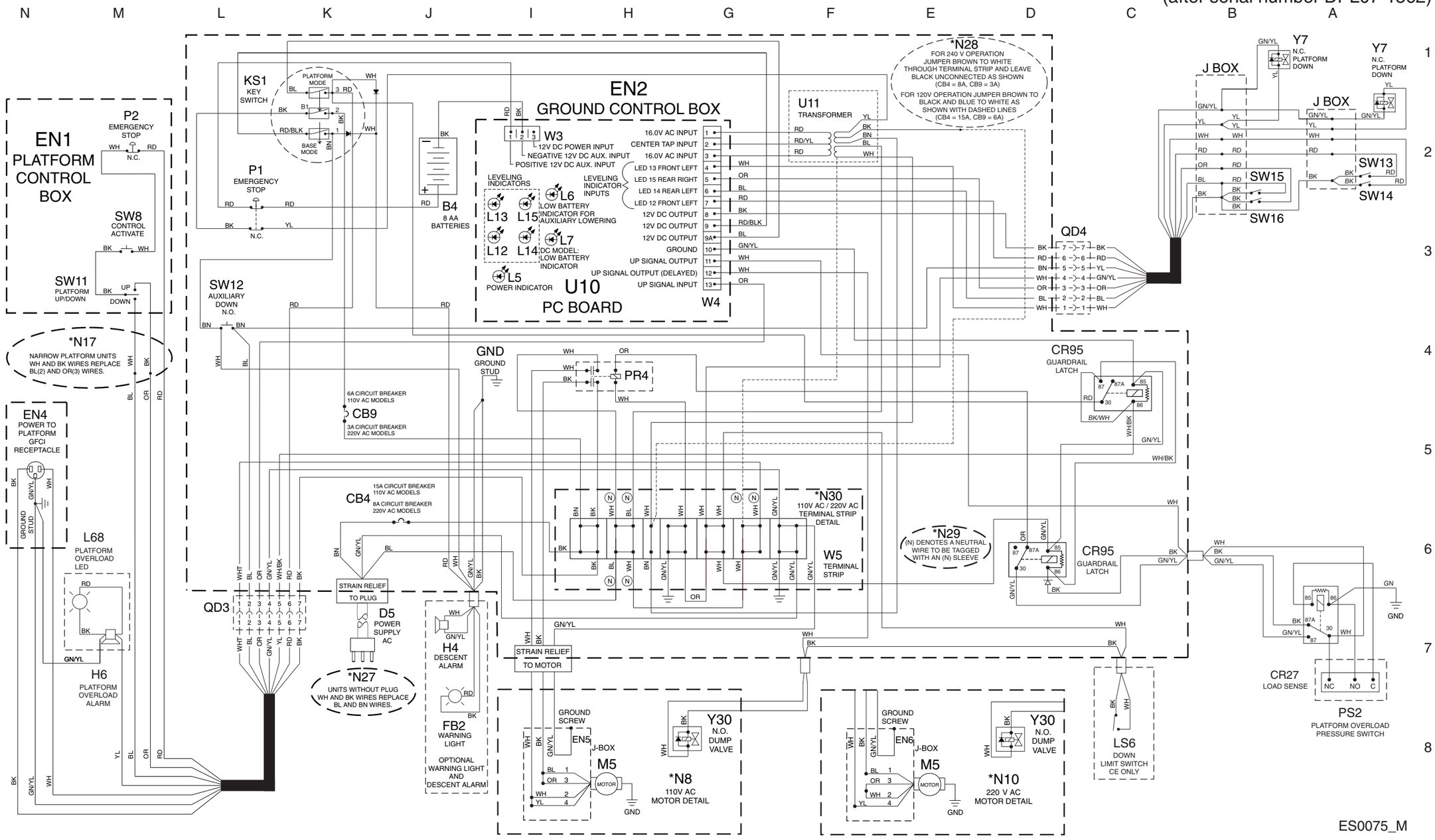
ABBREVIATION LEGEND	
Item	**Description**
B4	8 AA Batteries
CB	Circuit breaker
	CB4 = 15A (110V AC) / 8A (220V AC)
	CB9 = 6A (110V AC) / 3A (220V AC)
D5	Power supply AC
EN	Enclosure
	EN1 = Platform control box EN2 = Ground control box EN4 = Power to platform GFCI receptacle EN5 = Power unit – 110V AC EN6 = Power unit – 220V AC
FB2	Warning light
GND	Ground
H4	Descent alarm
KS1	Key switch ground/platform
L	Led or light
	L5 = Power indicator (ground) L6 = Low battery indicator for auxiliary (ground) L7 = Low battery indicator – main (ground) L12 = Outrigger – front left (ground) L13 = Outrigger – front right (ground) L14 = Outrigger – rear left (ground) L15 = Outrigger – rear right (ground)
M5	Hydraulic power unit
N.C.	Normally closed
N.O	Normally open
*N	Note with description *N8 = 110V AC motor detail *N10 = 220V AC motor detail *N17 = Narrow platform units: WH and BK wires replace BL and OR wires *N27 = Units without plug: WH and BK wires replace BL and BN wires *N28 = For 240V operation: Jumper brown wire to white wire through terminal strip and leave black wire unconnected as shown (CB4 = 8A, CB9 = 3A) For 120V operation: Jumper brown wire to black wire and blue wire to white wire as shown with dashed lines (CB4 = 15A, CB9 = 6A) *N29 = (N) Denotes a neutral wire to be tagged with an (N) sleeve *N30 = 110V AC/220V AC terminal strip detail
P	Power switch
	P1 = Emergency Stop button at ground controls P2 = Emergency Stop button at platform controls
PR	Power relay
	PR4 = Function pump (M5)
PS2	Pressure switch
QD	Quick disconnect
	QD3 = Control cable – to platform control box QD4 = Control cable – to base
SW	Switch
	SW 8 = Control activate SW11 = Platform up/down SW12 = Auxiliary down SW13 = Outrigger interlock – front left SW14 = Outrigger interlock – front right SW15 = Outrigger interlock – rear left SW16 = Outrigger interlock – rear right
U	Electronic component
	U10 = PC board U11 = Transformer
W	Wiring component
	W3 = Terminal strip – 3 pole 3 pin (U10) W4 = Terminal strip – 14 pole 14 pin (U10) W5 = Terminal strip – 13 pole 26 pin (*30)
Y	Valve coil
	Y7 = Platform down Y30 = Normally open dump valve

WIRE COLOR LEGEND	
Color	**Description**
BL	Blue
BK	Black
BK/WH	Black/White
BN	Brown
GN	Green
GN/YL	Green/Yellow
OR	Orange
RD	Red
RD/BK	Red/Black
RD/YL	Red/Yellow
WH	White
WH/BK	White/Black
YL	Yellow

Note: Use these 2 legends for the schematic on the opposing page.

Electrical Schematic

DPL Super Series AC CE Models
(after serial number DPL07-1562)

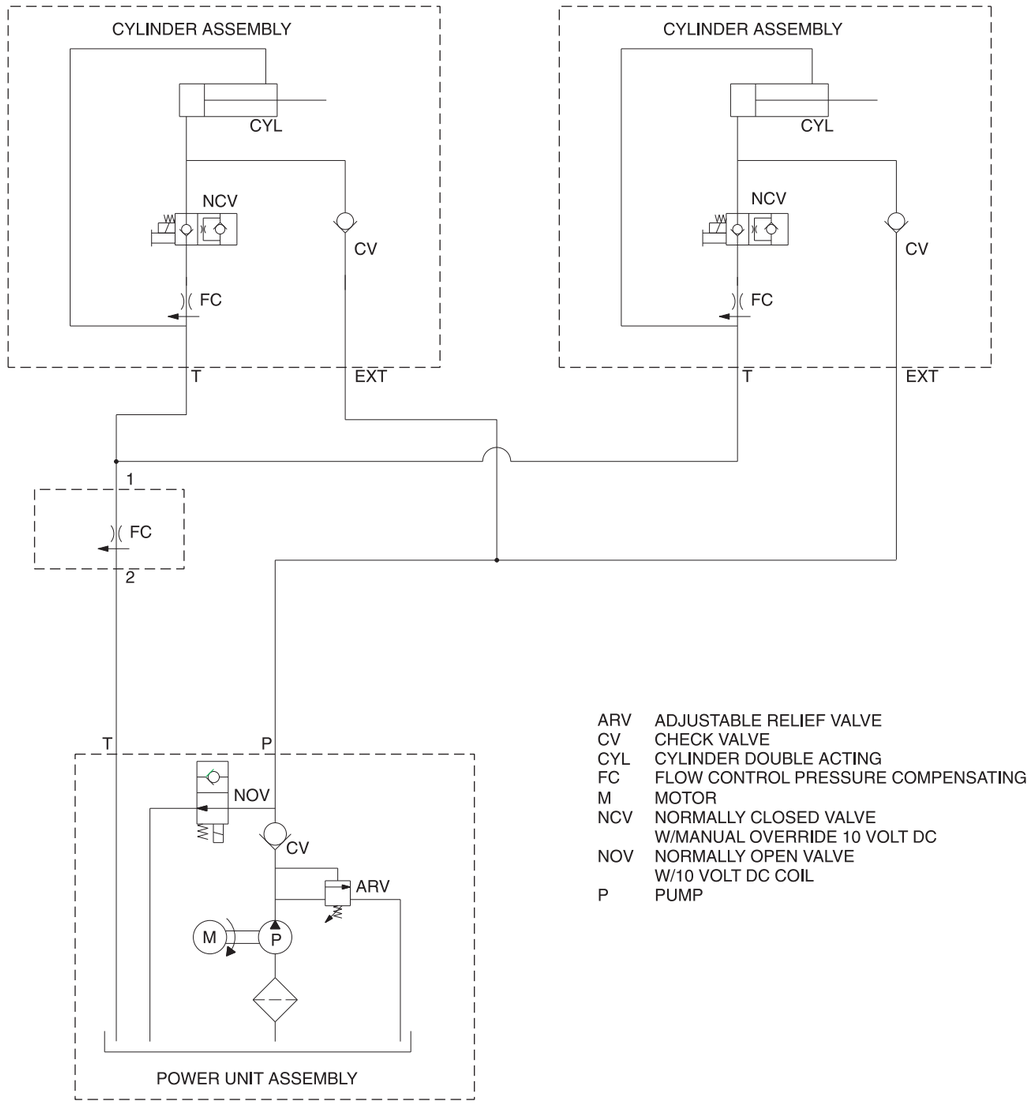


Electrical Schematic
DPL Super Series AC CE Models
(after serial number DPL07-1562)

Hydraulic Schematic
DPL Super Series ANSI Models

N M L K J I H G F E D C B A

1 2 3 4 5 6 7 8



ARV	ADJUSTABLE RELIEF VALVE
CV	CHECK VALVE
CYL	CYLINDER DOUBLE ACTING
FC	FLOW CONTROL PRESSURE COMPENSATING
M	MOTOR
NCV	NORMALLY CLOSED VALVE W/MANUAL OVERRIDE 10 VOLT DC
NOV	NORMALLY OPEN VALVE W/10 VOLT DC COIL
P	PUMP

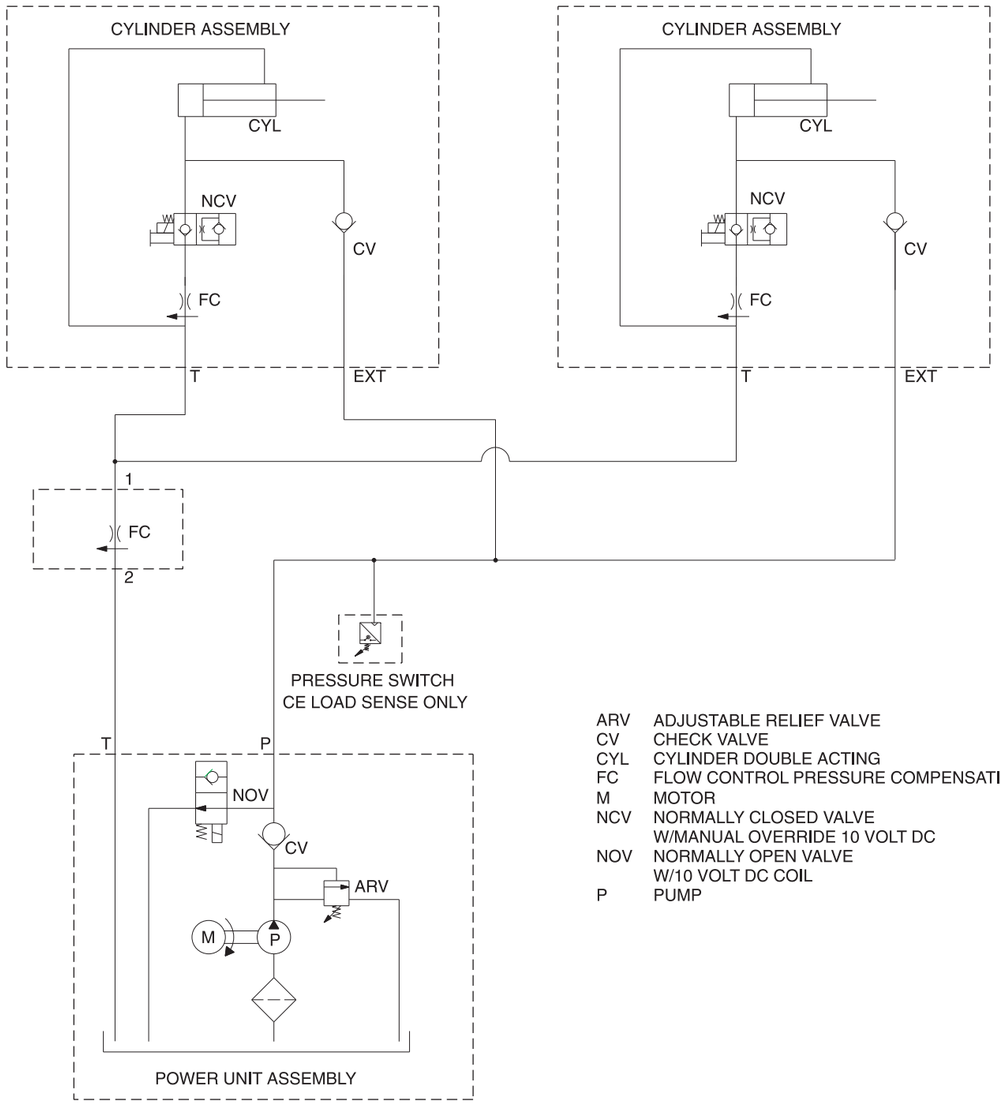
Hydraulic Schematic

DPL Super Series ANSI Models

Hydraulic Schematic
DPL Super Series CE Models

N M L K J I H G F E D C B A

1 2 3 4 5 6 7 8



ARV	ADJUSTABLE RELIEF VALVE
CV	CHECK VALVE
CYL	CYLINDER DOUBLE ACTING
FC	FLOW CONTROL PRESSURE COMPENSATING
M	MOTOR
NCV	NORMALLY CLOSED VALVE W/MANUAL OVERRIDE 10 VOLT DC
NOV	NORMALLY OPEN VALVE W/10 VOLT DC COIL
P	PUMP

Repair Procedures

Observe and Obey:

- ☑ Repair procedures shall be completed by a person trained and qualified on the repair of this machine.
- ☑ Immediately tag and remove from service a damaged or malfunctioning machine.
- ☑ Repair any machine damage or malfunction before operating the machine.

Before Repairs Start:

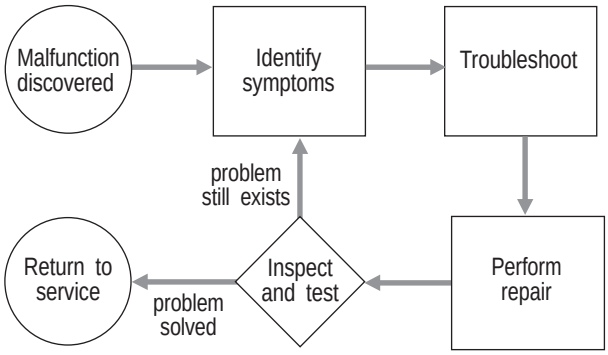
- ☑ Read, understand and obey the safety rules and operating instructions in the *Genie DPL Super Series Operator's Manual.*
- ☑ Be sure that all necessary tools and parts are available and ready for use.
- ☑ Read each procedure completely and adhere to the instructions. Attempting shortcuts may produce hazardous conditions.

About This Section

Most of the procedures in this section should only be performed by a trained service professional in a suitably equipped workshop. Select the appropriate repair procedure after troubleshooting the problem.

Perform disassembly procedures to the point where repairs can be completed. Then to re-assemble, perform the disassembly steps in reverse order.

General Repair Process



Symbols Legend

⚠DANGER Indicates the presence of a hazard that **will** cause death or serious injury.

⚠WARNING Indicates the presence of a hazard that **may** cause death or serious injury.

⚠CAUTION Indicates the presence of a hazard that **will** or **may** cause serious injury or damage to the machine.

NOTICE Indicates special operation or maintenance information.

⊙ Indicates that a specific result is expected after performing a series of steps.

Base Assembly

1-1 Interlocks

The interlock contact brackets indicate proper installation of the outriggers and only allow the machine to operate when the outriggers are properly installed and adjusted.

How to Remove an Interlock Contact Bracket

1 Fully lower the platform, turn the machine off and remove the key.

2 Store the outriggers in the storage sockets.

3 Trace the interlock contact bracket wires into the junction box.

4 Label and disconnect the contact bracket wires.

5 Remove the interlock contact bracket mounting fasteners from the outrigger base socket.

6 Grasp the interlock contact bracket inside the base outrigger socket and pull it out with the wires.

1-2 Base Components

How to Adjust the Platform Manual Lowering Cable

1 Remove the base-end covers to access the platform manual lowering cable.

2 Check to be sure:

Steer handle end:

- Actuator bracket is connected to the base and the manual lowering valve
- Manual lowering cable is connected to the base with two lock nuts
- Manual lowering cable is attached to the actuator bracket

Ladder end:

- Actuator bracket is connected to the base and the manual lowering valve
- Manual lowering threaded rod is attached to the actuator bracket

3 Adjust the manual lowering lever. Adjust the cable and the threaded rod at the lever. Be sure to maintain equal tension on the cable and threaded rod.

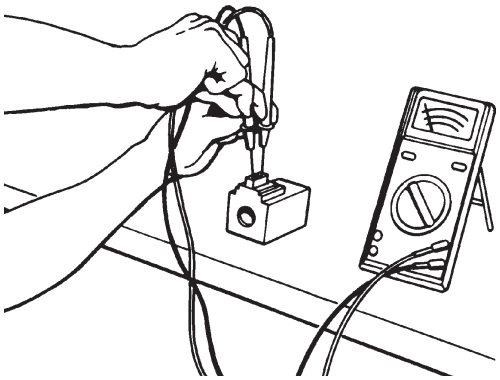
NOTICE Do not over-tighten the platform manual lowering cable. The platform may not raise if there is to much tension on the cable.

1-3
How to Check the Resistance of a Valve Coil

The valve coil is located at the bottom of the hydraulic lift cylinder.

1 Lower the platform, turn the machine off and remove the key.

2 Connect the leads from an ohmmeter to the valve coil terminals.



Valve coil specifications	
Solenoid operated N.C. valve, 10V	7.8 to 9.5 Ω

Ground Control Box

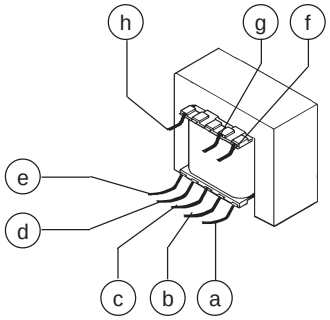
2-1
How to Test the Transformer - AC Models

1 Fully lower the platform, turn the key switch off and disconnect the power supply.

2 Open the ground control box and locate the transformer.

3 Label and then disconnect all wiring from the transformer.

4 Connect the leads from an ohmmeter to the following terminal combinations and check the resistance.



a yellow wire
b black wire
c white wire
d brown wire
e blue wire
f red wire no. 1
g red/yellow wire
h red wire no. 2

Test	Desired result
brown wire to blue wire	20 to 22 Ω
black wire to white wire	16 to 19 Ω
yellow wire to white wire	16 to 19 Ω
red/yellow wire to red wire no. 1	0.5 to 1.5 Ω
red/yellow wire to red wire no. 2	0.5 to 1.5 Ω
red wire no. 1 to red wire no. 2	0.5 to 1.5 Ω
yellow wire to black wire	0.5 to 1.5 Ω
all other wire combinations	no continuity (infinite Ω)

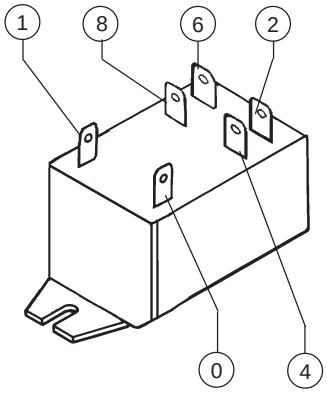
2-2
How to Test the AC Contactor - AC Models

1 Fully lower the platform, turn the key switch off and disconnect the power supply.

2 Open the ground control box and locate the AC contactor.

3 Label and then disconnect all wiring from the contactor.

4 Connect the leads from an ohmmeter to the following terminal combinations and check the continuity/resistance.



Test	Desired result
terminal 0 to 1	80 to 85 Ω
all other terminal combinations	no continuity (infinite Ω)

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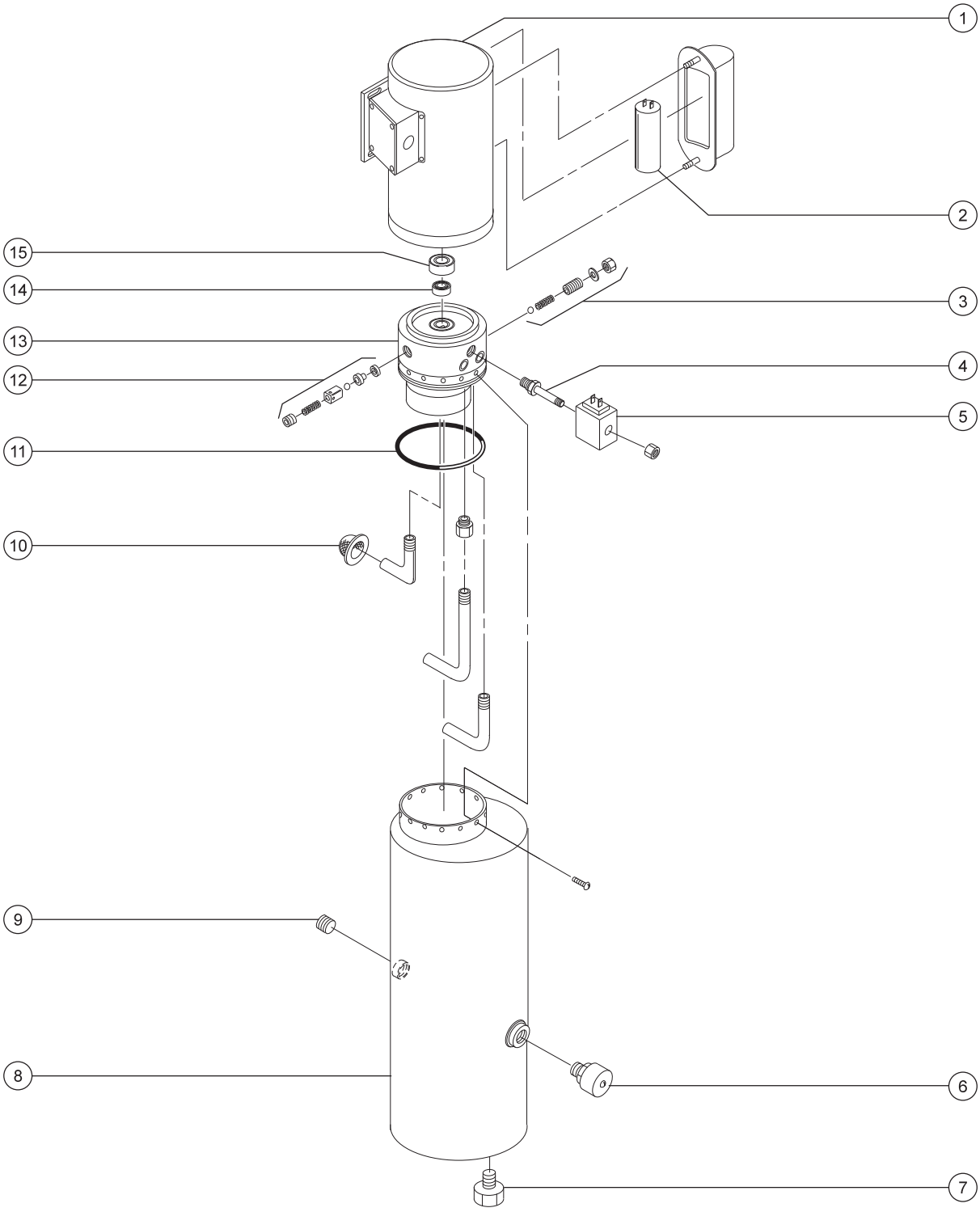
Hydraulic Power Units

3-1
Hydraulic Power Unit Components - AC Models

Index No.	Description	Function
1	115-230V AC electric motor	Single phase - 2850/3450 rpm, 50/60 Hz
2	Capacitor	Motor start circuit
3	Pressure relief valve	Hydraulic relief valve adjustment
4	Solenoid operated N.O. dump valve	Diverts pump output back to reservoir during motor start up
5	10V DC coil	Activates N.O. dump valve
6	Breather cap	Reservoir vent
7	Sight gauge	Hydraulic fluid level
8	Reservoir	1.3 gallons (4.9 liters)
9	Pipe plug	Drains reservoir
10	Pick-up filter	Filters hydraulic fluid
11	O-ring	Seals reservoir
12	Check valve	One-way valve for pump output
13	Pump	0.5 to 0.6 gallons per minute at 2000 psi 1.89 to 2.27 liters per minute at 138 bar
14	Motor seal	Seals motor from contaminants
15	Motor bearing	Aligns motor shaft into pump

HYDRAULIC POWER UNITS

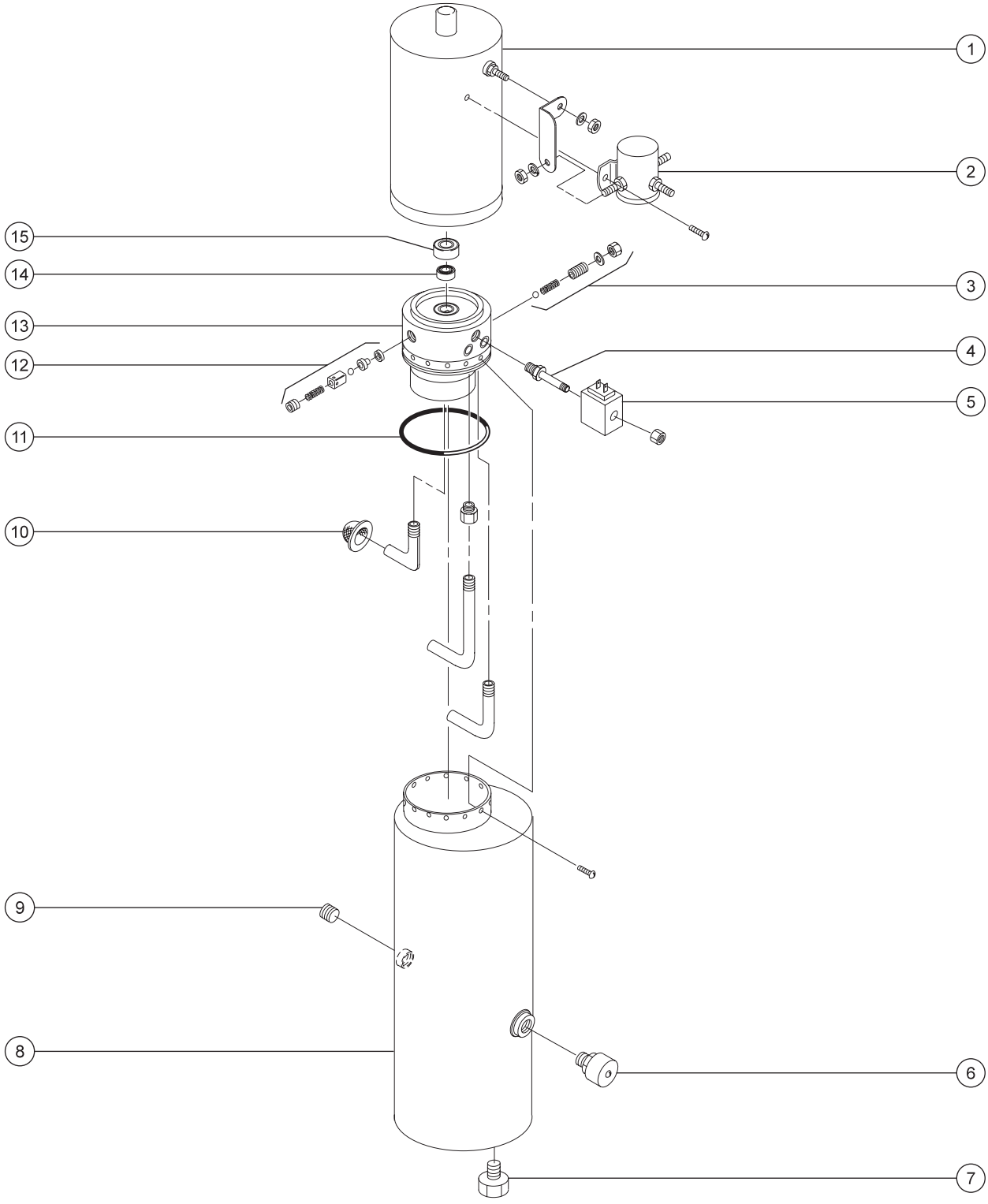


HYDRAULIC POWER UNITS

3-2
Hydraulic Power Unit Components - DC Models

Index No.	Description	Function
1	12V DC electric motor	12V DC standard duty 1 terminal 180 amp at 2650 psi (183 bar)
2	Electric motor starter solenoid	Relay connecting power supply to electric motor
3	Pressure relief valve	Hydraulic relief valve adjustment
4	Solenoid operated N.O. dump valve	Diverts pump output back to reservoir during motor start up
5	10V DC coil	Activates N.O. dump valve
6	Breather cap	Reservoir vent
7	Sight gauge	Hydraulic fluid level
8	Reservoir	1.3 gallons (4.9 liters)
9	Pipe plug	Drains reservoir
10	Pick-up filter	Filters hydraulic fluid
11	O-ring	Seals reservoir
12	Check valve	One way valve for pump output
13	Pump	0.7 to 1 gallons per minute at 2000 psi 2.6 to 3.76 liters per minute at 138 bar
14	Motor seal	Seals motor from contaminants
15	Motor bearing	Aligns motor shaft into pump

HYDRAULIC POWER UNITS



HYDRAULIC POWER UNITS

3-3
How to Remove the Hydraulic Power Unit - AC Models

1 Fully lower the platform, turn the machine off, remove the key and disconnect the power source.

2 Remove the base cover from the power unit.

3 Tag, disconnect and plug the hydraulic hoses. Cap the fittings on the power unit.

⚠CAUTION Bodily injury hazard. Spraying hydraulic oil can penetrate and burn skin. Loosen hydraulic connections very slowly to allow the oil pressure to dissipate gradually. Do not allow oil to squirt or spray.

4 Tag and disconnect the electrical wiring from the valve coil.

⚠WARNING Electrocution hazard. Contact with electrically charged circuits may result in death or serious injury. Remove all rings, watches and other jewelry.

5 Support the hydraulic power unit with a lifting device.

6 Remove the power unit mounting fasteners.

7 Remove the cover from the junction box on the motor. Then tag and disconnect the electrical wiring in the junction box. Loosen the squeeze connector on the junction box and pull the wiring out through the squeeze connector.

8 Remove the power unit from the machine

⚠WARNING Crushing hazard. The power unit will fall unless it is properly supported.

NOTICE If a new power unit is installed, the pressure relief valve must be properly adjusted. See 3-6, *How to Adjust the Pressure Relief Valve.*

3-4
How to Remove the Hydraulic Power Unit - DC Models

1 Fully lower the platform, turn the machine off, remove the key and disconnect the power source.

2 Remove the base cover from the power unit.

3 Tag, disconnect and plug the hydraulic hoses. Cap the fittings on the power unit.

⚠CAUTION Bodily injury hazard. Spraying hydraulic oil can penetrate and burn skin. Loosen hydraulic connections very slowly to allow the oil pressure to dissipate gradually. Do not allow oil to squirt or spray.

4 Tag and disconnect the electrical wiring from the valve coil.

⚠WARNING Electrocution hazard. Contact with electrically charged circuits may result in death or serious injury. Remove all rings, watches and other jewelry.

5 Tag and disconnect the electrical wiring from the motor start solenoid.

6 Support the hydraulic power unit with a lifting device.

7 Remove the power unit mounting fasteners, then remove the power unit from the machine.

⚠WARNING Crushing hazard. The power unit will fall unless it is properly supported.

NOTICE If a new power unit is installed, the pressure relief valve must be properly adjusted. See 3-6, *How to Adjust the Pressure Relief Valve.*

3-5
How to Remove the Hydraulic Pump

1 Fully lower the platform, turn the machine off and remove the key.

2 Remove the base cover from the power unit.

3 Remove the drain plug from the hydraulic reservoir and completely drain the reservoir into a container. Properly discard of oil.

5 Remove the power unit. See 3-3, How to Remove the Power Unit - AC Models or 3-4, How to Remove the Power Unit - DC Models.

6 Support the hydraulic reservoir with a lifting device.

7 Remove the mounting fasteners from the reservoir. Then remove the reservoir from the power unit.

NOTICE It may be necessary to tap the side of the reservoir with a soft rubber mallet to loosen it.

8 Remove the mounting fasteners from the pump. Then remove the pump from the power unit.

NOTICE When installing the reservoir, be sure not to damage the o-ring.

HYDRAULIC POWER UNITS

3-6
How to Adjust the Pressure Relief Valve

1 Remove the base cover.

2 Remove the breather cap from the reservoir.

3 Fill the reservoir up to the sight gauge with Dexron ATF hydraulic oil equivalent.

4 Install the breather cap.

5 Follow the appropriate operator's manual to set up the machine.

6 Place maximum rated load into the platform. Secure the load to the platform.

Maximum capacity	ANSI	CE	CSA
DPL-25S	750 lbs 340 kg	750 lbs 340 kg	600 lbs 272 kg
DPL-30S	750 lbs 340 kg	750 lbs 340 kg	600 lbs 272 kg
DPL-35S	600 lbs 272 kg	600 lbs 272 kg	500 lbs 227 kg

NOTICE Be sure to add the weight of the operator, as part of the maximum load.

7 Hold the relief valve screw and loosen the lock nut.

8 While activating the platform up function, turn the relief valve screw clockwise, just until the platform begins to raise.

9 Fully lower the platform.

10 Add an additional 30 pounds (14 kg) to the platform. Secure the additional weight.

11 Raise the platform slightly.

12 The power unit should **not** be able to lift the platform. If the power unit lifts the platform, turn the relief valve clockwise or counterclockwise until the adjustment is correct.

13 Hold the relief valve screw and tighten the lock nut. Be sure the relief valve screw does not turn.

14 Bleed the hydraulic system by raising the platform to full height. If the pump cavitates or platform fails to reach full height, add hydraulic oil until the pump is functioning correctly. Do not overfill the hydraulic reservoir.

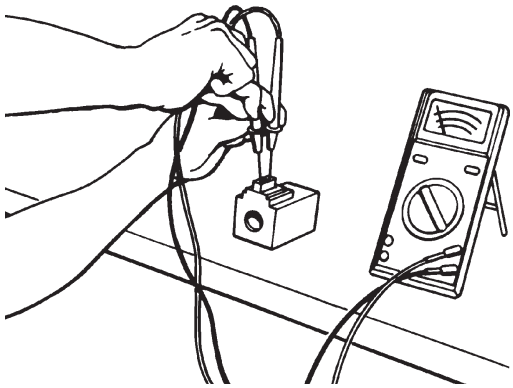
⚠CAUTION Component damage hazard. Do not continue to operate the machine if the hydraulic pump is cavitating.

15 Install the breather cap and the base cover.

3-7
How to Check the Resistance of a Valve Coil

1 Fully lower the platform, turn the machine off and remove the key.

2 Connect the leads from an ohmmeter to the valve coil terminals.



Valve coil specifications	
Solenoid operated N.O. valve, 10V	5.9 to 7.2 Ω
Lowering valve, 10V (located at base of cylinder)	7.8 to 9.5 Ω

3-8
How to Test the Motor Start Solenoid - DC Models

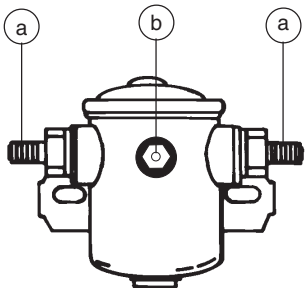
⚠WARNING Electrocution hazard. Contact with electrically charged circuits may result in death or serious injury. Remove all rings, watches and other jewelry.

⚠WARNING Electrocution hazard. Disconnect the ground cable from the battery before performing this procedure.

1 Label and disconnect all the wiring from the motor start solenoid.

2 Connect the leads from an ohmmeter to each terminal combination and check for continuity.

Test	Desired result
Small post to ground	13 to 17 Ω
2 large posts	no continuity (infinite Ω)
Small post to any large post	no continuity (infinite Ω)

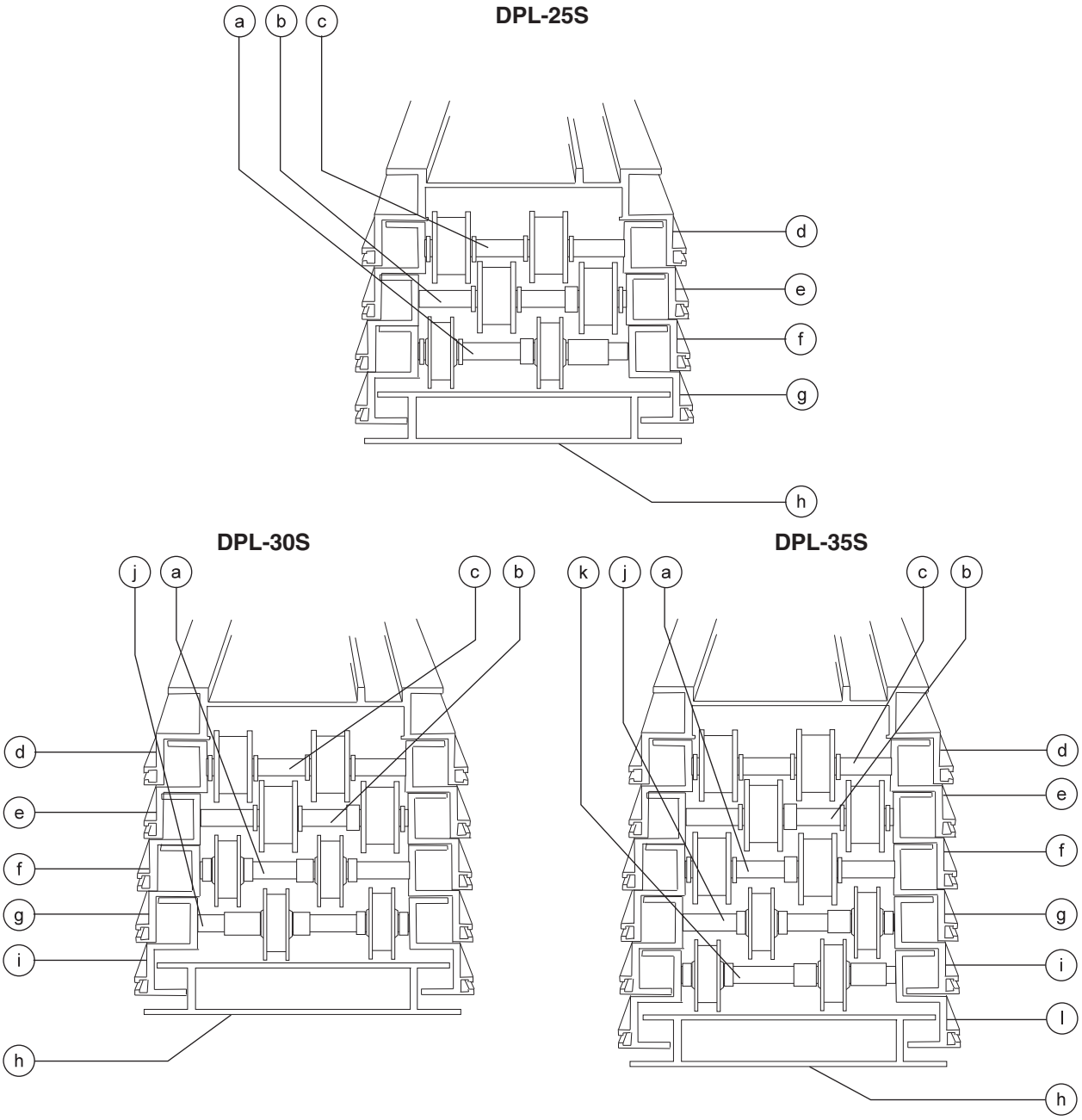


a high amp power contact terminal (large post)
b solenoid activate coil terminal (small post)

3 Connect 12V DC to the small post and a ground wire to the case of the solenoid, then test the following terminal combinations.

Test	Desired result
2 large posts	continuity (zero Ω)

Mast Assembly



Mast Components

a number 4 column idler wheel assembly
b number 3 column idler wheel assembly
c number 2 column idler wheel assembly
d number 1 column
e number 2 column
f number 3 column
g number 4 column
h carriage
i number 5 column
j number 5 column idler wheel assembly
k number 6 column idler wheel assembly
l number 6 column

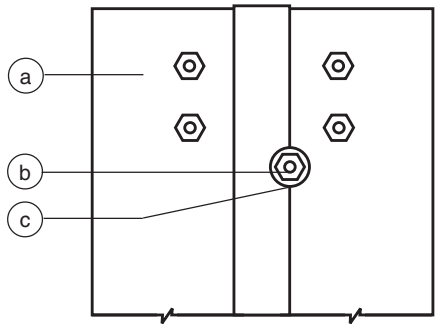
4-1
Lift Cylinder

How to Remove a Lift Cylinder

⚠WARNING This procedure requires specific repair skills, lifting equipment and a suitable workshop. Attempting this procedure without these skills and tools may result in death or serious injury and significant component damage. Dealer service is strongly recommended.

1 Remove the mast. See 4-2, *How to Remove the Mast Assembly.*

2 Remove the socket head retaining bolt from the clevis block on the lift cylinder rod end.

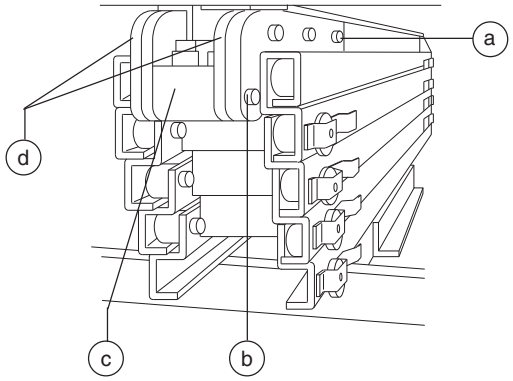


a top of no. 1 column
b retaining bolt
c clevis block

⚠CAUTION Bodily injury hazard. Spraying hydraulic oil can penetrate and burn skin. Loosen hydraulic connections very slowly to allow the oil pressure to dissipate gradually. Do not allow oil to squirt or spray.

3 Remove the cylinder mounting fasteners from the cylinder barrel end.

4 Loosen the cylinder bracket mounting fasteners.



a bracket mounting fasteners
b cylinder mounting fasteners
c hydraulic cylinder
d cylinder mounting plate

5 Support the cylinder and carefully slide it out of the bottom of the mast.

⚠CAUTION Crushing hazard. The lift cylinder will fall unless it is properly supported.

MAST ASSEMBLY

4-2
How to Remove a Mast Assembly

⚠WARNING This procedure requires specific repair skills, lifting equipment and a suitable workshop. Attempting this procedure without these skills and tools may result in death or serious injury and significant component damage. Dealer service is strongly recommended.

1 Remove the platform. See 5-1, *How to Remove the Platform.*

2 Remove the cross braces (X pattern) from the mast assemblies.

3 Remove the sequencing cable adjustment nut from each cable.

4 Loosen the sequencing cable pulley mounting bolts. Do not remove them.

Mast assembly - steer handle end:

5 Remove the junction box from the mast.

Mast assembly - ladder end:

5 Remove the electrical cable mounting clamps from the side of the mast.

Remove the junction box and electrical cable from the side of the mast.

Remove the ladder upper mounting bolts.

Mast assembly - both:

6 Attach an overhead crane to the mast.

7 Remove the base-end cover to access the hydraulic hoses.

8 Tag, disconnect and cap the lift cylinder hydraulic hoses. Remove the flow control valve from the cylinder. Plug the cylinder ports.

⚠CAUTION Bodily injury hazard. Spraying hydraulic oil can penetrate and burn skin. Loosen hydraulic connections very slowly to allow the oil pressure to dissipate gradually. Do not allow oil to squirt or spray.

9 Remove the strut mounting fasteners.

10 Remove the four mast mounting fasteners. Push the fasteners toward the mast for clearance during mast removal.

11 Carefully lift and remove the mast. Do not damage the lift cylinder hydraulic fittings when removing the mast.

⚠CAUTION Crushing hazard. The mast will fall unless it is properly supported.

12 Place two saw horses under the mast.

13 Lower the bottom of the mast onto one saw horse and continue to lower the mast until the top is resting on the second saw horse. The mast should be resting on the carriage side.

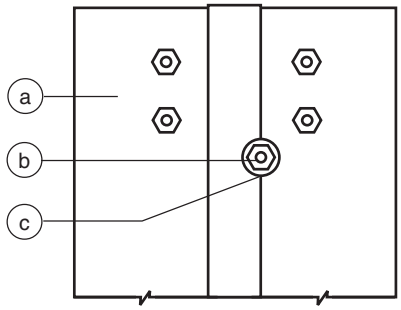
How to Disassemble the Mast

⚠WARNING This procedure requires specific repair skills, lifting equipment and a suitable workshop. Attempting this procedure without these skills and tools may result in death or serious injury and significant component damage. Dealer service is strongly recommended.

1 Remove the mast. See *How to Remove a Mast Assembly.*

2 Remove the mounting fasteners from the cylinder mounting plates.

3 Remove the socket head retaining bolt from the clevis block on the lift cylinder rod end.



a top of no. 1 column
b retaining bolt
c clevis block

4 Support the cylinder and carefully slide it out of the bottom of the mast.

5 Carefully rotate the mast until it is resting on the back of the number 1 column.

6 Slide the carriage toward the top enough to remove the tension on the lifting chain.

7 Slide the column that is under the carriage toward the top about 6 inches (15.2 cm) to access the idler wheel mounting fasteners.

8 Hold the idler wheel axle from turning by placing a screwdriver in the hole of the axle. Remove the axle mounting fasteners, then remove the idler wheel assembly.

NOTICE When the idler wheel assemblies are removed, be sure to label the location of each idler wheel assembly. Be sure the shims and related components remain in the correct location.

9 Remove the adjustment nuts from the chain tension rocker on the carriage.

10 Slide the carriage out the bottom of the mast assembly.

11 Lay the chains out on the floor at the top of the mast. Do not allow the chains to become twisted or dirty.

12 Remove the adjustment nuts from the chain tension rocker on the column.

13 Slide the column out the bottom of the mast.

14 Push the next column toward the top of the mast to access the idler wheel assembly mounting fasteners.

15 Hold the idler wheel axle from turning by placing a screwdriver in the hole of the axle. Remove the axle mounting fasteners, then remove the idler wheel assembly.

16 Remove the adjustment nuts from the chain tension rocker on the column.

17 Slide the column out the bottom of the mast.

18 Follow steps 14 through 17 for each remaining column.

NOTICE If the chains are removed, be sure to mark the location and label each chain before removal.

MAST ASSEMBLY

How to Assemble the Mast

⚠WARNING This procedure requires specific repair skills, lifting equipment and a suitable workshop. Attempting this procedure without these skills and tools may result in death or serious injury and significant component damage. Dealer service is strongly recommended.

1 Thoroughly clean all columns.

2 Secure the number 1 column to the saw horses and lay the chains out on the floor at the top.

3 Apply a generous amount of Boe-lube wax (Genie part number 90337) to the inside and outside channels of each column.

4 Slide the number 2 column into the number 1 column.

5 Lay the number 2 column chains onto the floor. Do not allow the chains to become twisted or dirty.

6 Pick up the number 1 column chains and lay them inside the number 2 column.

7 Slide the number 3 column into the number 2 column.

8 When the column is almost all the way in, guide the number 1 column chains into the chain tension rocker on the number 3 column.

9 Install the adjustment nuts onto the number 1 column chains. Adjust the adjustment nuts so the lifting chains have equal tension and the chain tension rocker is centered in the inspection hole in the column.

10 Lay the number 3 column chains on the floor. Do not allow the chains to become twisted or dirty.

11 Pick up the number 2 column chains and lay them inside the number 3 column.

12 Follow steps 4 through 11 for each remaining column and the carriage.

13 After all the columns are together the idler wheel assemblies need to be installed.

14 Remove the tension from the lifting chains on the number 2 column by pushing the number 3 column toward the top of the mast.

15 Install the idler wheel assembly into the top of the number 2 column. Tighten the mounting fasteners.

NOTICE Be sure all idler wheels rotate with no excessive side to side movement and be sure that they do not rub on the inside of the column. Replace worn shims if necessary.

16 Follow steps 14 and 15 for each remaining idler wheel assembly.

17 Be sure that all of the idler wheel axle mounting fasteners are flush with the column.

⚠CAUTION Component damage hazard. The roller wheels will become damaged if the idler wheel axle mounting fasteners are not flush with the column.

18 Reassemble the machine. Then adjust the lifting chains. See 4-3, *How to Adjust the Lifting Chains.*

4-3
How to Adjust the Lifting Chains

When adjusting the lifting chains, it is very important to maintain equal adjustment for both mast assemblies.

1 Fully lower the machine and check to see if all the columns (except the carriage) are even at the top. The chains are adjusted correctly if all the columns are even at the top.

To adjust column chains:

2 Mark the column to be adjusted.

3 Raise the platform 6 feet (2 m).

4 Turn the adjustment lock nuts evenly on both chain terminals clockwise to raise the column or counterclockwise to lower the column.

5 Fully lower the machine and recheck the alignment of the columns. Re-adjust if necessary.

6 Check to make sure the chain terminals on each column have equal tension and the lock nuts are tight.

4-4
How to Adjust the Glide Pads

When adjusting the glide pads, it is very important to maintain equal adjustment for both mast assemblies.

1 Fully lower the platform, turn off the machine and remove the key.

2 Locate the upper and lower glide pad bolts below each top roller wheel bolt on both sides of the columns.

3 Hold each glide pad bolt and loosen the lock nut on all the glide pads.

4 Turn all the glide pad bolts clockwise until the glide pads make contact with the column. Adjust both sides of the mast. Be sure the sides of the columns are within 1/8 inch (3.175 mm) to even with each other.

5 Starting at the number 1 column, torque the upper and lower glide pad bolts to 12 in-lbs (1.356 Nm). Hold the glide pad bolt and tighten the lock nut. Be sure the glide pad bolt does not turn.

6 Repeat step 5 for each remaining upper and lower glide pad bolt on one side of the mast. Start at the number 1 column and adjust each column, working toward the carriage.

7 Repeat step 5 for all of the upper and lower glide pad bolts on the other side of the mast.

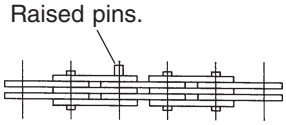
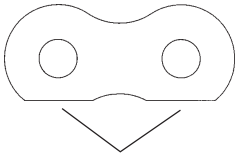
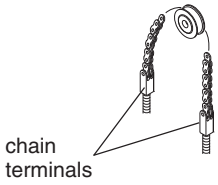
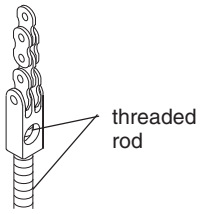
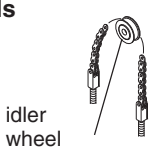
NOTICE Make sure glide pad bolts are adjusted evenly on each side to maintain squareness of the columns.

MAST ASSEMBLY

4-5
How to Inspect the Lifting Chains

Inspection	Procedure	Inspection Failure	Inspection Remedy
Wear	Count out 16 chain links and measure pin to pin centerline dimension with a steel tape. Note: Be sure to measure a section of chain that moves over the idler wheels.	When the length of the 16 links (pin to pin) measure more than 8.25 inches for 1/2 inch chain or 10.31 inches for 5/8 inch chain.	Replace both chains on that column section. Replace entire chain. Do not repair just the affected portion of the chain.
Rust and Corrosion	Visually inspect the chains for rust and corrosion.	Evidence of rust or corrosion.	Remove chain and inspect for cracked plates (see inspection of cracked plates). If no cracks are found, lubricate chain with motor oil (SAE 40) and re-install chain.
	Visually inspect the chains for lubrication.	When external surfaces are not protected with a layer of oil.	Lubricate chain with motor oil (SAE 40).
Tight Joints	Inspect chain link joints for easy movement.	Joints that do not flex freely or are bound up.	If rust and corrosion is found , refer to "Failure Remedy" for rust and corrosion. If link plates or pins are bent or deformed, replace entire chain. Replace both chains on that column. Do not repair just the affected portion of the chain.

MAST ASSEMBLY

Inspection	Procedure	Inspection Failure	Inspection Remedy
Raised or Turned Pins	Visually inspect for raised pins.	Raised pins. 	Replace both chains on that column section. Do not repair just the affected portion of the chain.
	Visually inspect for turned pins by insuring all the flats on the "V" heads are aligned.	Misalignment of flats on all "V" heads.	Replace both chains on that column section. Do not repair just the affected portion of the chain.
Chain Side	Visually inspect for wear patterns on heads of link pins and outside link plates where they contact the idler wheel.	Wear on pin heads or noticeable wear in the profile of the outside link plate.  link plate wear	Replace both chains on that column section. Do not repair just the affected portion of the chain. Check alignment of chain anchors and idler wheels.
Chain Terminals  chain terminals	Visually inspect chain terminals.  threaded rod	Broken chain terminals fingers.	Replace chain terminal.
		Bent or damaged terminal.	Replace chain terminal.
		Twisted or misaligned chain terminal.	Re-align chain terminal to ensure even loading of chain.
		Threaded rod not visible in inspection hole.	Replace chain terminal and threaded rod.
Idler Wheels  idler wheel	Visually inspect chain idler wheels.	Idler wheels have badly worn flanges.	Replace idler wheel and check chain alignment.
		Idler wheels have grooves worn into chain contact surface.	Replace idler wheel.
Cracked Link Plates	Visually inspect chain link plates for cracks.	Cracks in any chain link plate.	Replace both chains on that column section. Replace entire chain. Do not repair just the affected portion of the chain.

Platform

5-1
How to Remove the Platform

1 Remove the cover from the platform control box and the AC outlet to access the mounting screws.

2 Remove the control box and AC outlet.

3 Remove the platform control cable clamps from the platform.

4 Rotate the platform guard rails to the upright position. Close and latch the platform entry gate and the platform end guard rail.

5 Attach an overhead crane or similar lifting device to the platform.

6 Remove the platform mounting fasteners.

7 Remove the platform from the machine.

⚠WARNING Crushing Hazard. The platform will fall if it is not properly supported with the overhead crane.

⚠WARNING If a platform is being replaced, be sure that all appropriate safety and instructional decals are applied to the new platform.

5-2
Platform Control Box

How to Test the Contactors

1 Fully lower the platform, turn the key switch off and disconnect the power supply.

2 Loosen the platform control box lid fasteners and open the control box.

3 Observe the markings on the contactor to be checked. The N.O. marking designates the switch as normally open and N.C. designates the switch as normally closed.

4 Connect a continuity tester to the exposed screw terminals.

⊙ Result: Normally open contactors should have no continuity. Normally closed contactors should have full continuity.

5 Push the small triangular button on the top of the contactor and check the continuity.

⊙ Result: Normally open contactors should have full continuity. Normally closed contactors should have no continuity.

How to Test Power-to-Platform GFCI outlet

1 Fully lower the platform, turn the key switch off.

2 **AC and DC models**: Be sure the AC power supply is properly connected.

3 Connect an AC voltage tester or a small hand tool to the platform GFCI receptacle.

4 Test the voltage or test the hand tool operation.

⊙ Result: The voltage should be 115V AC nominal or the hand tool should operate normally.

5 Push the black TEST button on the GFCI receptacle.

⊙ Result: The voltage should be 0V or the hand tool should not operate.

6 Push the red RESET button on the GFCI receptacle.

⊙ Result: The voltage should be 115V AC nominal or the hand tool should operate normally.

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