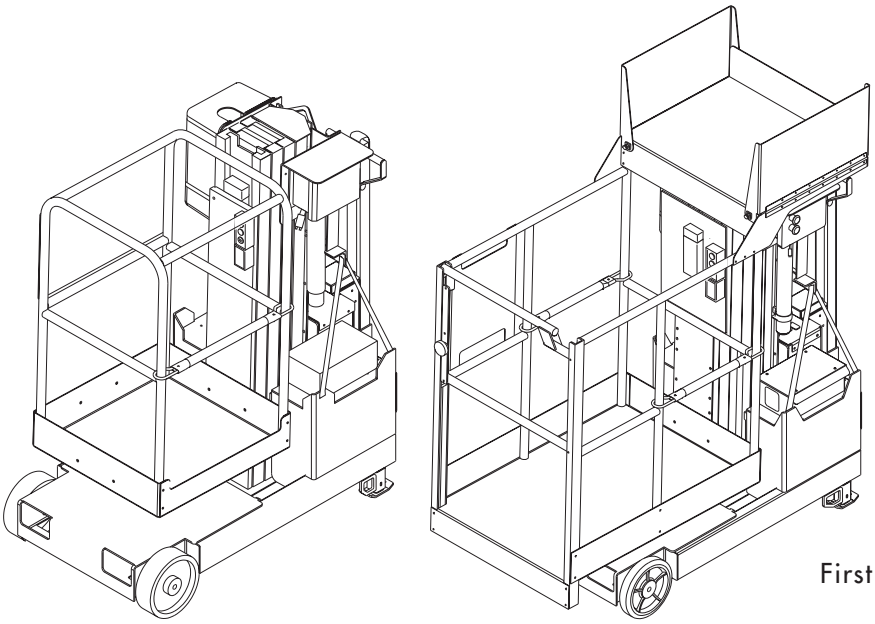
Genie Industries

Technical Publications

Genie® CWP SUPER SERIES

Genie® StockPicker SUPER SERIES

Service Manual



First Edition, First Printing
Part No. 40460

Genie CWP Super Series

Genie StockPicker Super Series

Important

Read, understand and obey the safety rules and operating instructions in the *Genie CWP Super Series Operator's Manual* and the *Genie StockPicker Super Series Operator's Manual* 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.

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 Industries of any errors and send in suggestions for improvement. All communications will be carefully considered for future printings of this and all other manuals. Please write or fax to the Technical Publications Team:

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Genie Industries

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Printed in U.S.A.

This machine complies with ANSI/SIA A92.3-1990.

Safety Rules



Danger

Failure to obey the instructions and safety rules in this manual and the *Genie CWP Super Series Operator's Manual* and the *Genie StockPicker 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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Specifications

Specifications		
Height, working maximum		
CWP-8	13 ft 11 in	4.2 m
CWP-12	17 ft 3 in	5.3 m
CWP-15	20 ft 8 in	6.3 m
Height, platform maximum		
CWP-8	7 ft 11 in	2.4 m
CWP-12	11 ft 3 in	3.4 m
CWP-15	14 ft 8 in	4.5 m
Lift capacity		
All models	350 lbs	159 kg
Lift capacity		
with outreach option	300 lbs	136 kg
Power source		
DC models		12V
AC models		110V or 220V
Machine weight (AC / DC models)		
CWP-8	740 / 830 lbs	336 / 376 kg
CWP-12	800 / 890 lbs	363 / 404 kg
CWP-15	880 / 970 lbs	399 / 440 kg
Height, stowed	63 in	160 cm
Width	29 1/2 in	75 cm
Length	59 in	149.9 cm
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

Platform dimensions	
Standard platform (l x w x h) gated or sliding mid-rail	27 x 26 x 44 3/4 in 69 x 66 x 113.7 cm
Gated ultra-narrow platform (l x w x h)	22 x 18 x 44 3/4 in 56 x 46 x 117 cm
Gated narrow platform (l x w x h)	26 x 20 x 44 3/4 in 66 x 51 x 113.7 cm
Standard fiber platform (l x w x h)	29 x 26 1/2 x 43 1/2 in 74 x 67 x 110 cm
Narrow fiber platform (l x w x h)	26 x 22 x 43 1/2 in 66 x 56 x 110 cm
3-sided entry platform (l x w x h)	30 x 28 x 43 1/2 in 76 x 71 x 110 cm
Extra large platform (l x w x h)	30 x 28 x 43 1/2 in 76 x 71 x 110 cm

SPECIFICATIONS

Specifications		
Height, working maximum		
SP-12	17 ft 3 in	5.3 m
SP-15	20 ft 8 in	6.3 m
Height, platform maximum		
SP-12	11 ft 3 in	3.4 m
SP-15	14 ft 8 in	4.5 m
Machine lift capacity	500 lbs	227 kg
Platform capacity	400 lbs	181 kg
Material storage compartment capacity	150 lbs	68 kg
Power source		
DC models		12V
AC models		110V or 220V
Machine weight (AC / DC models)		
SP-12	850 / 940 lbs	386 / 427 kg
SP-15	930 / 1020 lbs	425 / 463 kg
Height, stowed	75 1/2 in	192 cm
Width	31 in	79 cm
Length		
SP-12	70 in	178 cm
SP-15	70 1/2 in	179 cm

Platform Specifications		
Width	31 in	79 cm
Length	42 in	107 cm
Height	45 in	114 cm
Ambient operating temperature		-20°F to 135°F -29°C to 57°C
Airborne noise emissions		80 dB
Maximum sound level at normal operating workstations (A-weighted)		
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

SPECIFICATIONS

Platform function speed, maximum		
CWP-8S	AC	DC
Platform Up	15 seconds	15 seconds
Platform Down	17 seconds	17seconds
CWP-12S	AC	DC
Platform Up	17 seconds	17 seconds
Platform Down	19 seconds	19 seconds
CWP-15S	AC	DC
Platform Up	21.5 seconds	21.5 seconds
Platform Down	20 seconds	20 seconds
Maximum hydraulic pressure - All Models		
	2700 psi	186 bar

Platform function speed, maximum		
SP-12S	AC	DC
Platform Up	17 seconds	17 seconds
Platform Down	19 seconds	19 seconds
SP-15S	AC	DC
Platform Up	21.5 seconds	21.5 seconds
Platform Down	20 seconds	20 seconds
Maximum hydraulic pressure - All Models		
	2700 psi	186 bar

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	Test the Base Operation			
A-6	Check the Auxiliary Platform Lowering Operation			
A-7	Check the Manual Platform Lowering Operation			
A-8	Inspect the Battery and Battery Charger - DC Models			
A-9	Inspect the Columns for Damage			
A-10	Check the Sequencing Cables			
A-11	Check the Interlock System for Proper Operation			
A-12	Test the Power and Function Controls			
A-13	Inspect the Lifting Chains and Idler Wheels			
A-14	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 Battery - DC Models			
B-4	Clean and Lubricate the Columns			
B-5	Test the Lifting Capacity			
B-6	Test the Power To Platform Operation			
B-7	Adjust the Sequencing Cables			
B-8	Check the Chain Adjustment - CWPS Models Equipped with Platform Outreach Option			

Table C

—	**Complete all procedures in Table A and Table B**			
C-1	Inspect and Lubricate the 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	Test base operation			
A-6	Auxiliary lowering operation			
A-7	Manual lowering operation			
A-8	Battery and charger - DC models			
A-9	Columns			
A-10	Sequencing cables			
A-11	Interlock system operation			
A-12	Power and function controls			
A-13	Lifting chains and idler wheels			
A-14	Breather cap			

Checklist B		Y	N	R
Refer to Table B				
B-1	Electrical wiring			
B-2	Welds			
B-3	Battery			
B-4	Clean and lubricate columns			
B-5	Lifting capacity			
B-6	Power to platform operation			
B-7	Sequencing cables			
B-8	Chain adjustment - CWPS models with outreach			

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			

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 CWP Super Series Operator's Manual* or the *Genie StockPicker 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.

TABLE A PROCEDURES

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 cables and wiring
- electrical cable anchors and pulleys
- hydraulic power unit, cylinder, hoses, fittings
- sequencing cables and pulleys
- lifting chains and idler wheels
- adjustable glide pads
- mast columns and counterweight(s)
- mast covers
- nuts, bolts and other fasteners
- platform entry mid-rail(s) and/ or gate
- breather cap
- foot pads
- dents or damage to machine
- corrosion or oxidation
- cracks in welds or structural components

If equipped: Models with Power Wheel Assist Option
- steer handle
- hydraulic motor and hoses
- hydraulic manifold

If equipped: Models with Outreach Option
- locking bracket
- handle and handle lock
- outreach extension arms
- chain and sprocket

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 cylinder
- flow control valve
- ground area under the machine
- all hydraulic hoses and fittings
- hydraulic manifolds

If equipped: CWPS Models with Power Wheel Assist Option
- hydraulic motor and hoses

TABLE A PROCEDURES

A-5
Test the Base Operation

Testing the base for proper operation is essential for safe machine operation. An unsafe working condition exists if the base fails to operate properly. The base should operate smoothly and be free of hesitation, jerking and binding.

1 Lift the base with the steer handle.

⊙ Result: The foot pads should be 1/2 to 1 inch (1.5 to 2.54 cm) off the ground.

2 Push the base steer handle to the stowed position.

⊙ Result: The base should lower, putting the two foot pads in firm contact with the ground.

3 Raise the platform slightly.

4 Attempt to raise the base with the steer handle.

⊙ Result: The base should **not** raise.

A-6
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 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 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-7
Check the Manual Platform Lowering Operation

Detection of a 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 valve located at the bottom of the hydraulic cylinder.

⊙ Result: Platform should lower.

A-8
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 Be sure that the battery cable connections are tight and free of corrosion.

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

4 Install the vent caps.

5 If equipped: Set the battery charger AC Selector switch to the proper voltage.

6 Set the power switch to the AUTO position.

⊙ Result: The charger ammeter should be ON.

A-9
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 assembly that might indicate damage.

1 Visually inspect each column for the following:
- dents, gouges, cracks 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-10
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 cable
- corrosion
- paint or foreign materials
- broken or damaged pulleys
- unusual or excessive pulley wear
- split or cracked threaded swage ends

2 Check to be sure of the following:
- cables are on the pulleys
- upper and lower cable ends are properly secured
- upper and lower mounting brackets are properly secured

A-11
Check the Interlock System for Proper Operation

1 Lower the platform.

2 Pull the steer handle 5 to 6 inches (13 to 16 cm) away from the machine.

⊙ Result: The steer handle interlock display light should be off.

3 Raise the base with the steer handle.

TABLE A PROCEDURES

- Result: All four interlock display lights should be off.

4 Place a 1/2 inch (1.2 cm) block under one of the foot pads.

5 Lower the base with the steer handle. Be sure the steer handle is in the stowed position.

- Result: The foot pad indicator lights and the steer handle indicator light should be on. The level sensor light should be off because the machine is not level.

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

7 Push in the control activate button and rotate the up/down switch to the up position, then the down position.

- Result: Platform up function should not operate.

8 Raise the base and remove the block. Lower the base.

A-12
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 functions 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 functions should **not** operate.

A-13
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.

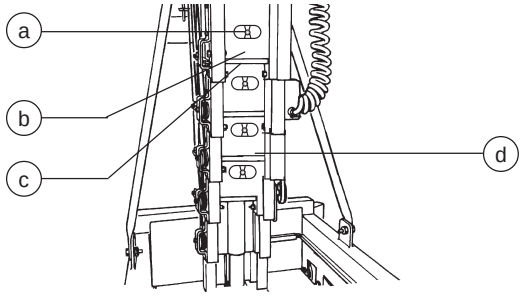
1 Raise the platform approximately 3 feet (1 m).

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

- excessive wear, corrosion or damage
- 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-14
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 box
- hydraulic power unit
- all external machine electrical cables
- inside of the platform control box
- DC models: battery pack
- 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
- base
- mast brace mounting brackets
- foot pads
- power wheel assist (if equipped)

TABLE B PROCEDURES

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

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

4 Install the battery vent caps.

5 If equipped: Set the battery charger AC Selector switch to the proper voltage.

6 Plug charger in and set timer to the AUTO position and observe charger ammeter after one hour to confirm charging amperage has dropped.

NOTICE If the amperage does not drop, test battery condition and confirm charger is operating correctly.

7 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.

8 Install the battery vent caps.

B-4
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).

TABLE B PROCEDURES

B-5
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.*

B-6
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.

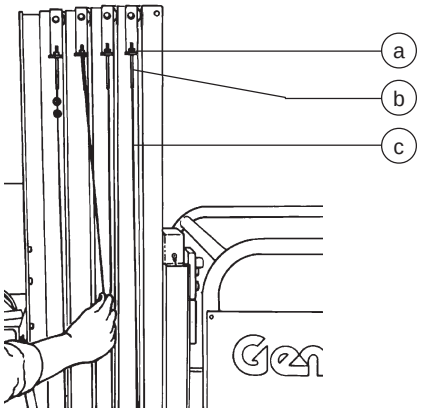
NOTICE GFCI outlet may require that the outlet be reset with the reset button.

B-7
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 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).



a adjustment (tension) nut
b threaded swage end
c sequencing cable

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

3 Hold the threaded swage 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 deflection.

TABLE B PROCEDURES

B-8
Check the Chain Adjustment - CWPS Models Equipped with Platform Outreach

Detection of a improperly adjusted platform outreach chain is essential for safe machine operation. Failure to detect an improperly adjusted platform outreach chain could result in unsafe operating conditions and may cause injury and component damage.

1 Fully lower the platform.

2 Fully extend the outreach and lock the handle.

3 Locate the two chains between the lower sprocket and the lower brace.

4 Grasp the two chains and lightly pinch them together.

⊙ Result: There should be a minimum of a 1/4 inch (6.4 mm) gap between the chains.

NOTICE If the result does not meet this specification, see Repair procedure 7-4, *How to Adjust the Platform Outreach Chain.*

Table C Procedures

C-1
Inspect the Wheels

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

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

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

C-2
Inspect the Mast Assembly 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 Remove the mast covers.

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

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

⊙ Result: There should be an 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 Shim Pads.*

4 Loosen but do not remove the adjustment nut on the sequencing cable located at the top of the first column.

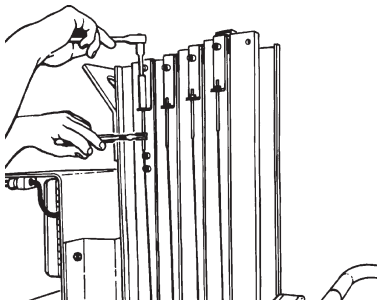
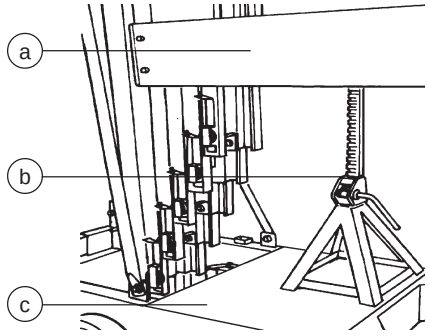


TABLE C PROCEDURES

5 Raise the platform approximately 3 feet (1 m) above the top of the base.

6 Place a jack stand on the top of the base, centered under the platform. Adjust the jack stand to 24 inches (61 cm).



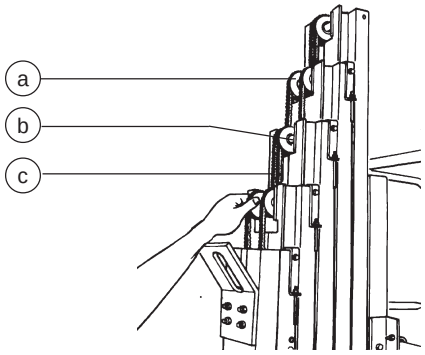
a platform
b jack stand
c base

7 Lower the platform onto the jack stand just enough to take the weight off the lifting chains.

⚠WARNING Crushing hazard. Keep away from lowering platform.

8 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.*

9 Raise the platform and remove the jack stand and the support blocks. Then lower the platform.

10 Install the mast covers and adjust the sequencing cable. See B-7, *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 plastic cover from the power pack.

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

4 **Models with Power Wheel Assist Option:** Remove the hose on the bottom of the reservoir and drain oil into a suitable container.

⚠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.

5 Remove the reservoir from the hydraulic power unit.

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

7 Install the magnet, then the reservoir.

8 Apply pipe thread sealant to the drain plug (or the hose on Power Wheel Assist models) 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 side of the reservoir. Do not overfill.

TABLE C PROCEDURES

10 Replace the breather cap with a new one.

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	3 quarts	2.8 liters
DC models	3 quarts	2.8 liters
Hydraulic System Capacity (includes reservoir)		
AC models		
CWP-8S	3.1 quarts	2.9 liters
CWP-12S	3.1 quarts	2.9 liters
CWP-15S	3.1 quarts	2.9 liters
SP-12S	3.1 quarts	2.9 liters
SP-15S	3.1 quarts	2.9 liters
DC models		
CWP-8S	3.1 quarts	2.9 liters
CWP-12S	3.1 quarts	2.9 liters
CWP-15S	3.1 quarts	2.9 liters
SP-12S	3.1 quarts	2.9 liters
SP-15S	3.1 quarts	2.9 liters

C-5
Replacing the Auxiliary Platform Lowering Batteries

1 Turn the machine off and remove the key.

2 Loosen the two ground control box cover fasteners.

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

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 CWP Super Series Operator's Manual* and the *Genie StockPicker 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

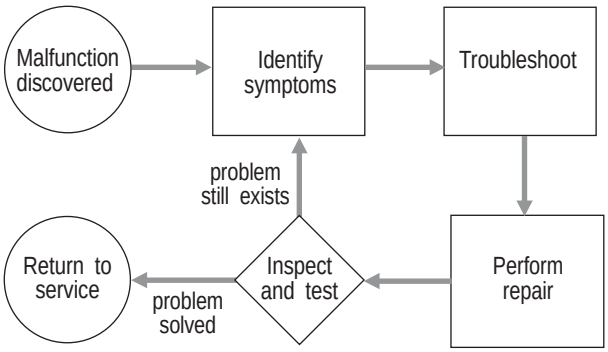


Chart 1

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.

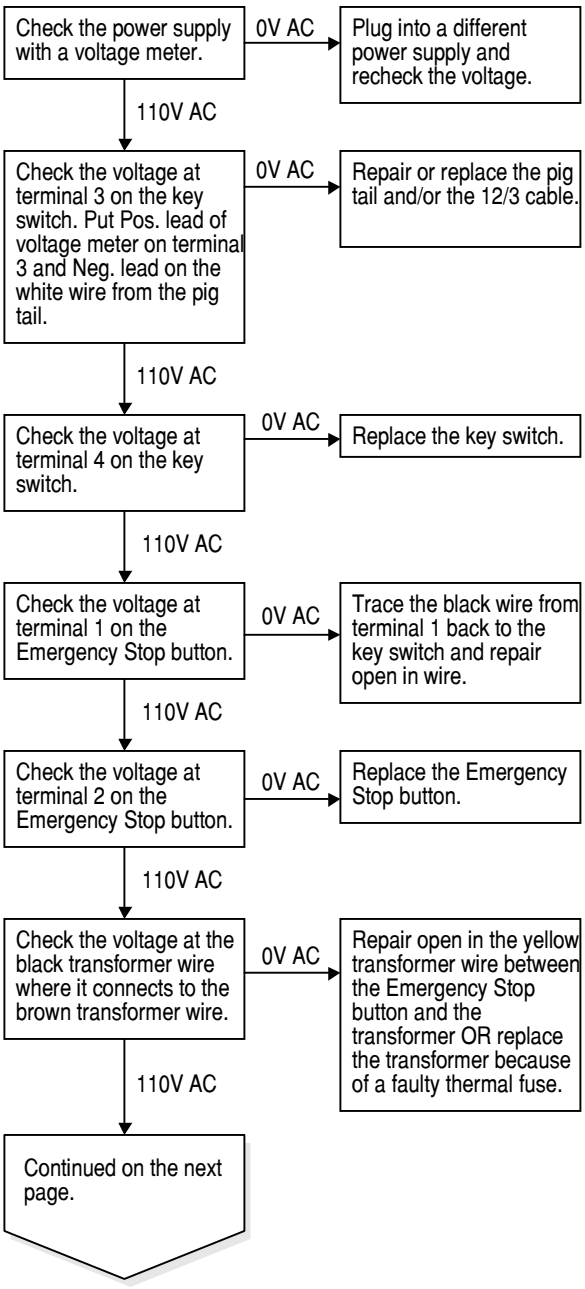


CHART 1

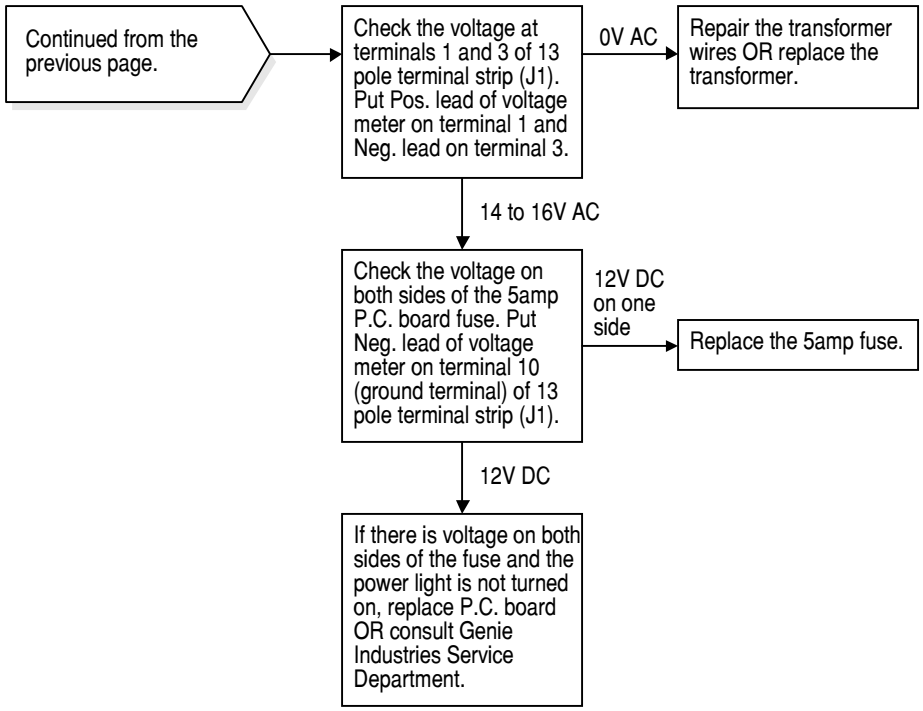

Continued from the previous page.
Check the voltage at terminals 1 and 3 of 13 pole terminal strip (J1). Put Pos. lead of voltage meter on terminal 1 and Neg. lead on terminal 3.
0V AC
Repair the transformer wires OR replace the transformer.
14 to 16V AC
Check the voltage on both sides of the 5amp P.C. board fuse. Put Neg. lead of voltage meter on terminal 10 (ground terminal) of 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.

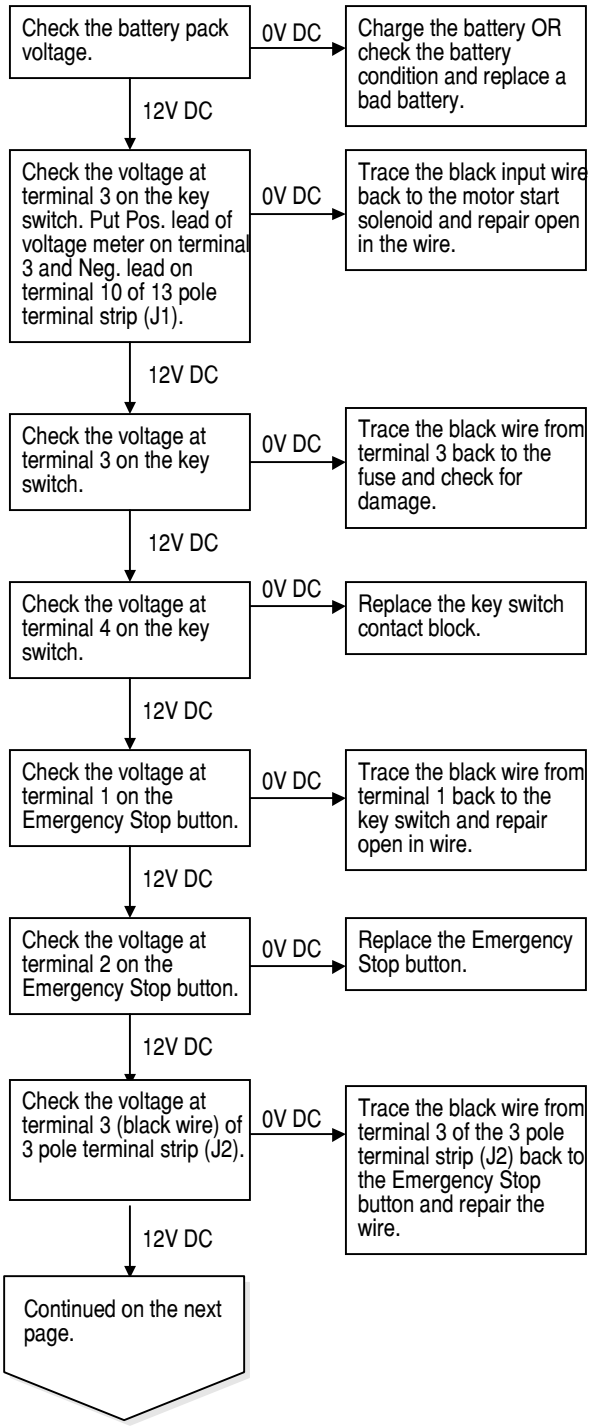


CHART 2

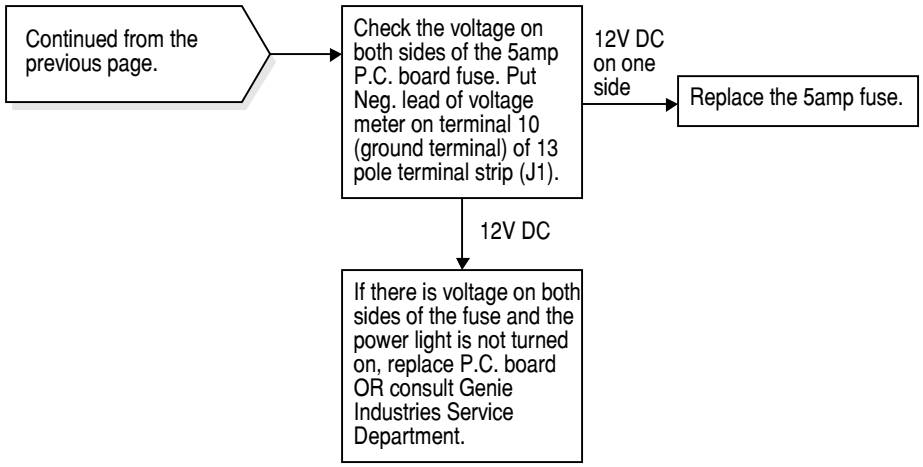

Continued from the previous page.
Check the voltage on both sides of the 5amp P.C. board fuse. Put Neg. lead of voltage meter on terminal 10 (ground terminal) of 13 pole terminal strip (J1).
12V DC on one side
Replace the 5amp fuse.
12V DC
If there is voltage on both sides of the fuse and the power light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

Chart 3

Foot Pad 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 steer handle is locked in the up position.

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

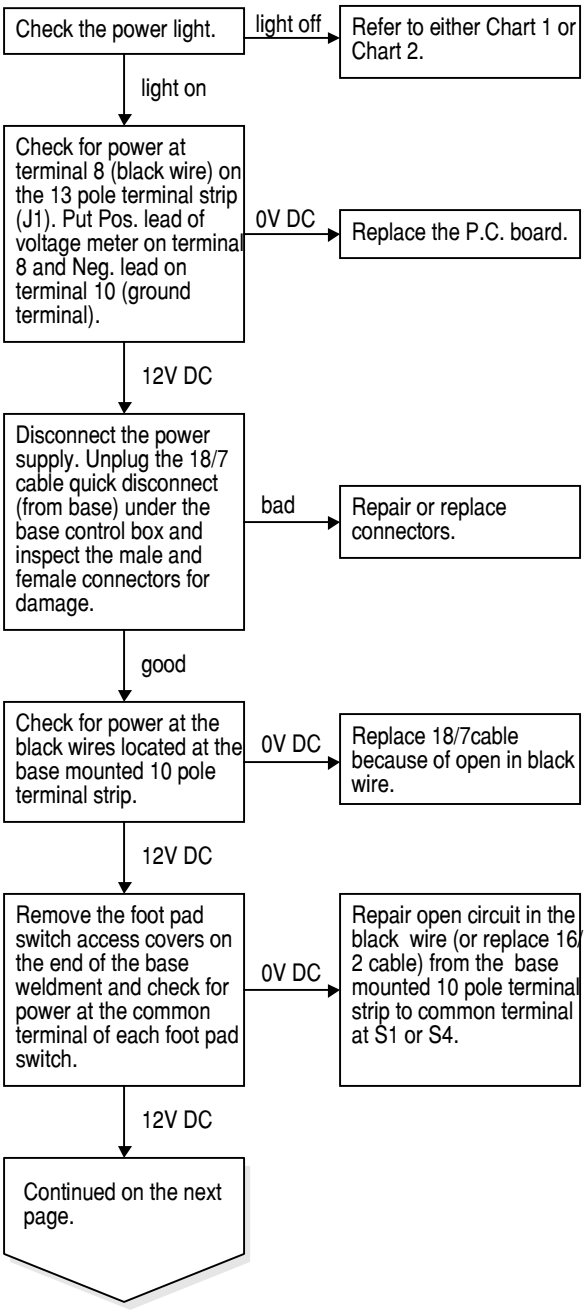


CHART 3

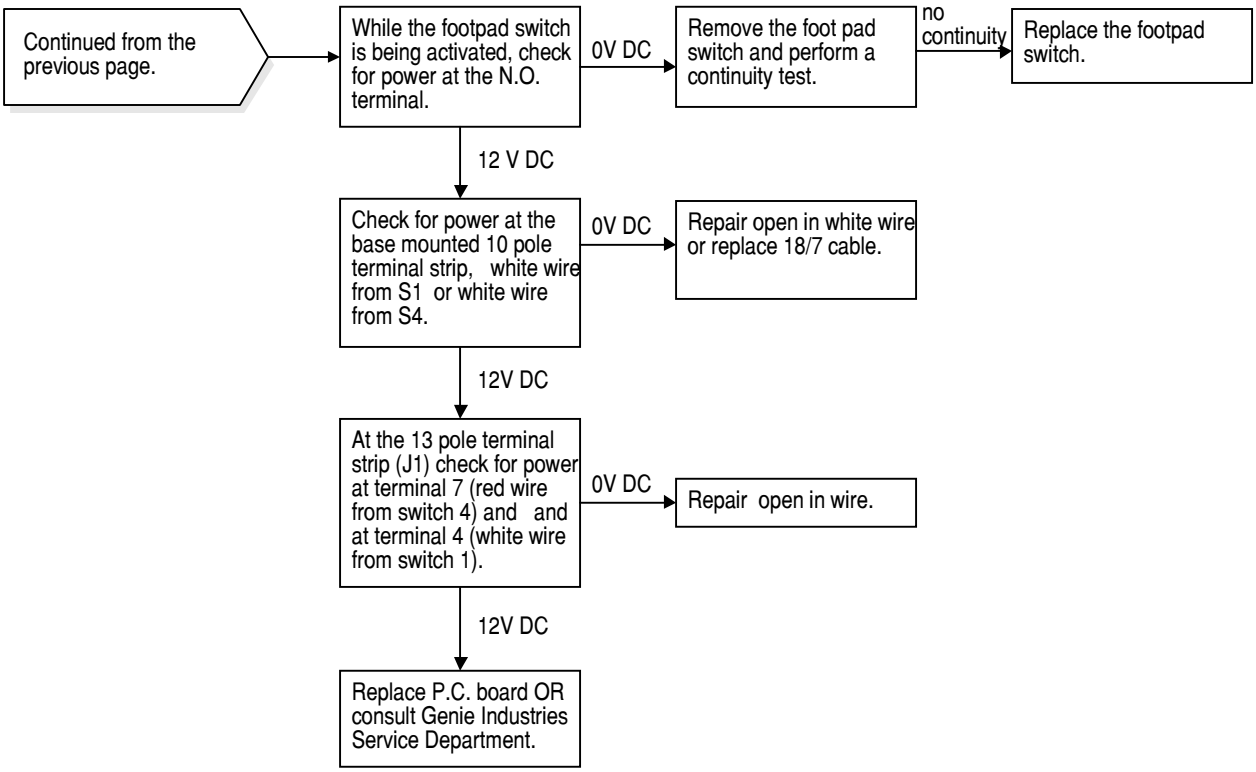

Continued from the previous page.
While the footpad switch is being activated, check for power at the N.O. terminal.
0V DC
Remove the foot pad switch and perform a continuity test.
no continuity
Replace the footpad switch.
12 V DC
Check for power at the base mounted 10 pole terminal strip, white wire from S1 or white wire from S4.
0V DC
Repair open in white wire or replace 18/7 cable.
12V DC
At the 13 pole terminal strip (J1) check for power at terminal 7 (red wire from switch 4) and and at terminal 4 (white wire from switch 1).
0V DC
Repair open in wire.
12V DC
Replace P.C. board OR consult Genie Industries Service Department.

Chart 4

Steer Handle Interlock Light 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.

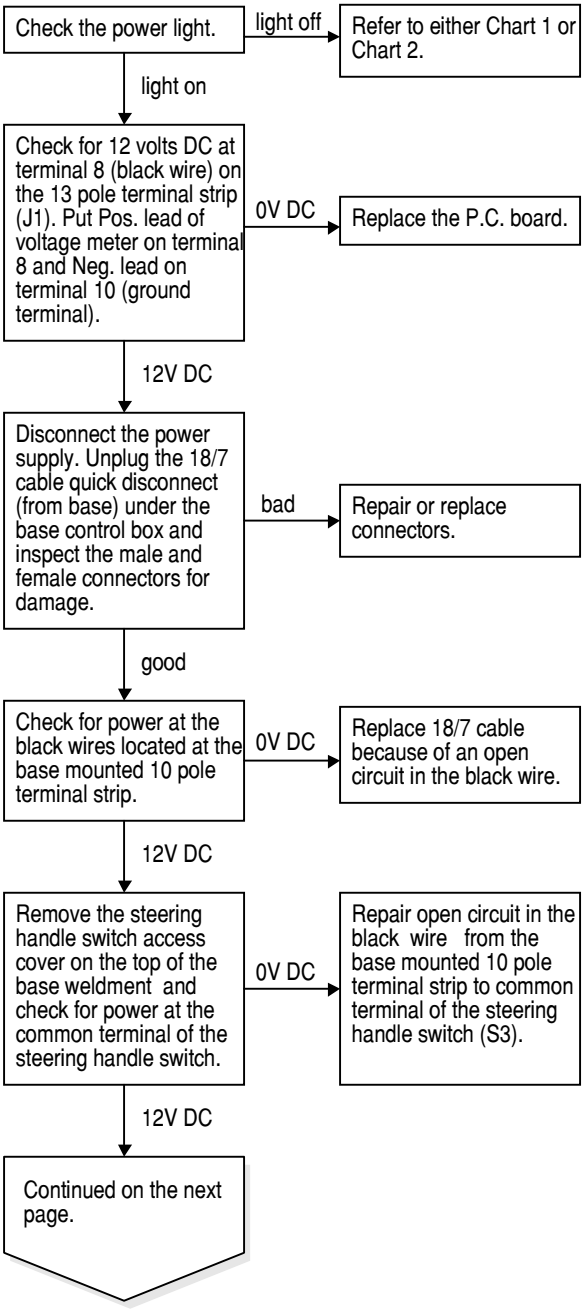


CHART 4

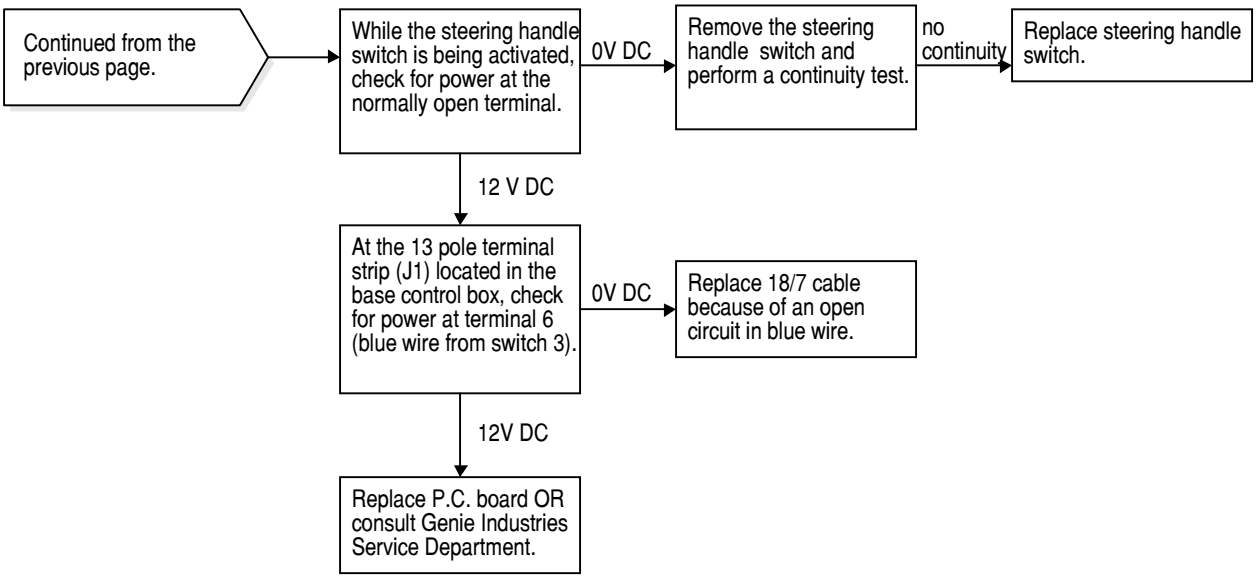

Continued from the previous page.
While the steering handle switch is being activated, check for power at the normally open terminal.
0V DC
Remove the steering handle switch and perform a continuity test.
no continuity
Replace steering handle switch.
12 V DC
At the 13 pole terminal strip (J1) located in the base control box, check for power at terminal 6 (blue wire from switch 3).
0V DC
Replace 18/7 cable because of an open circuit in blue wire.
12V DC
Replace P.C. board OR consult Genie Industries Service Department.

Chart 5

Level Sensor Interlock Light 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.

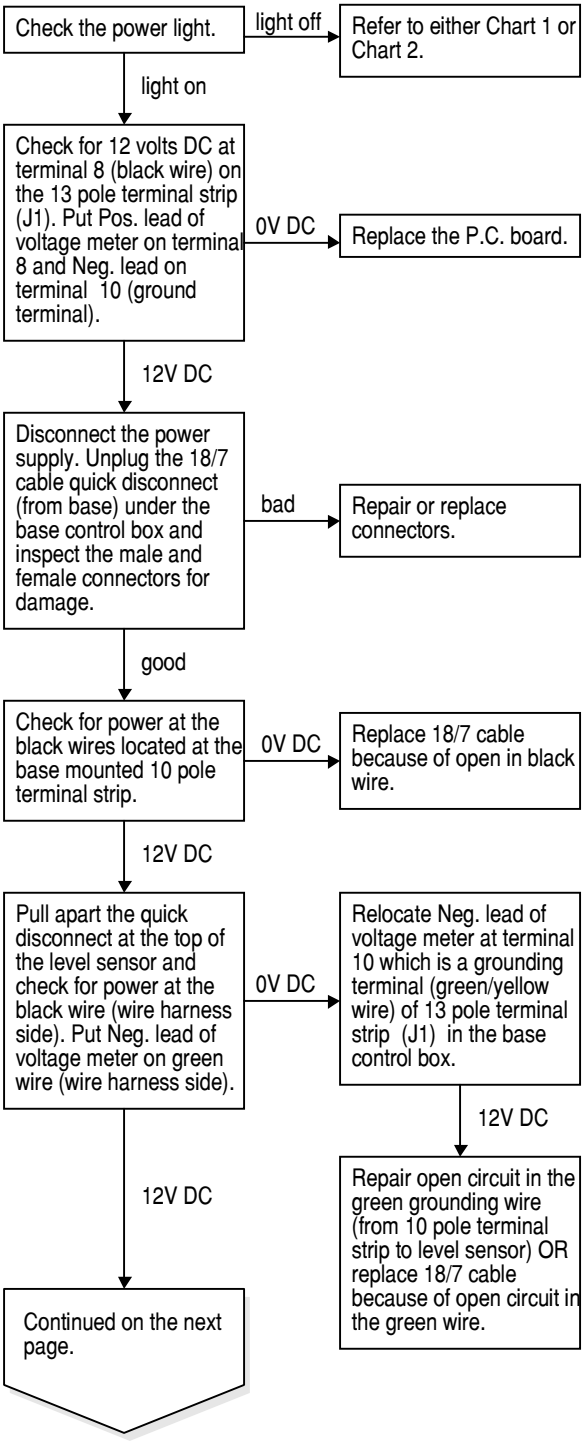


CHART 5

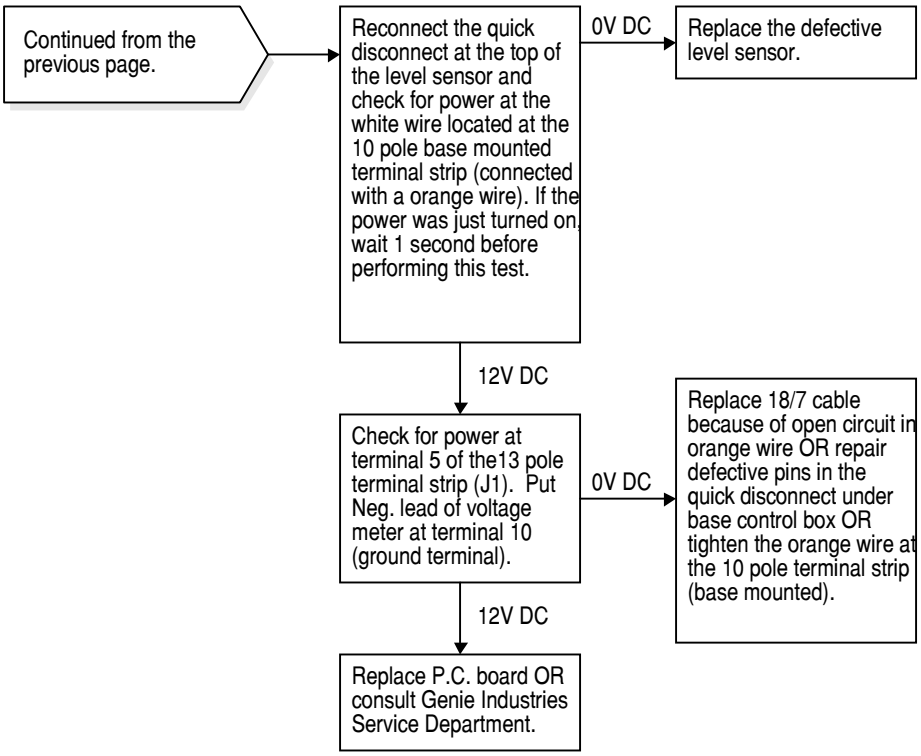

Continued from the previous page.
Reconnect the quick disconnect at the top of the level sensor and check for power at the white wire located at the 10 pole base mounted terminal strip (connected with a orange wire). If the power was just turned on, wait 1 second before performing this test.
0V DC
Replace the defective level sensor.
12V DC
Check for power at terminal 5 of the13 pole terminal strip (J1). Put Neg. lead of voltage meter at terminal 10 (ground terminal).
0V DC
Replace 18/7 cable because of open circuit in orange wire OR repair defective pins in the quick disconnect under base control box OR tighten the orange wire at the 10 pole terminal strip (base mounted).
12V DC
Replace P.C. board OR consult Genie Industries Service Department.

Chart 6

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.

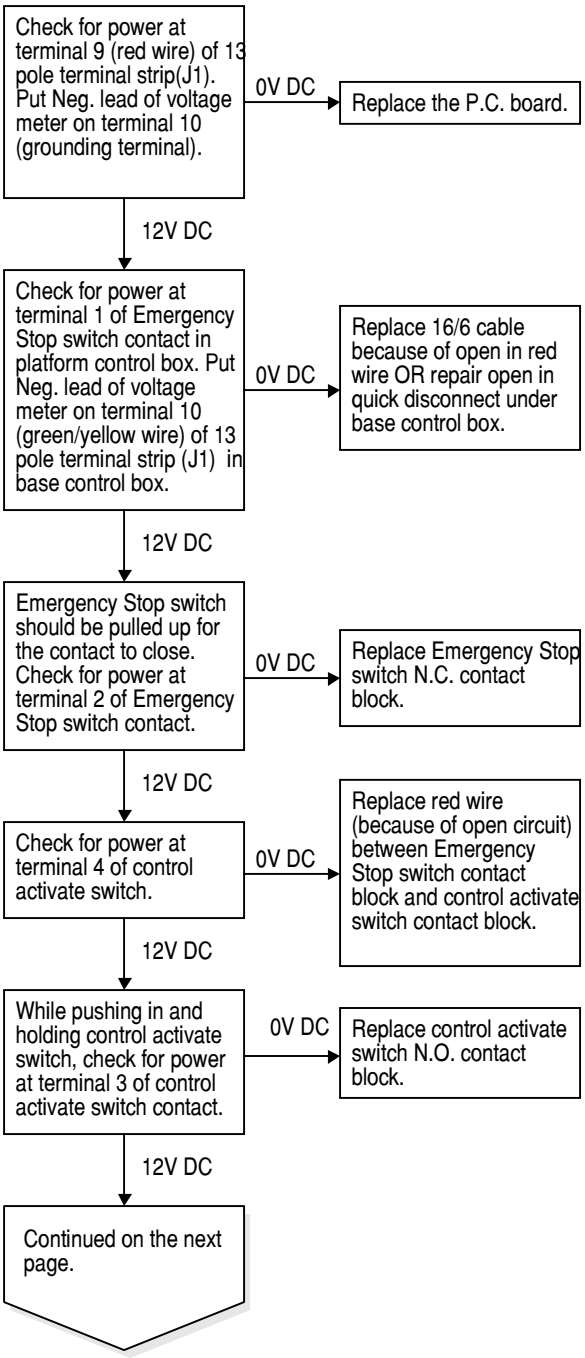


CHART 6

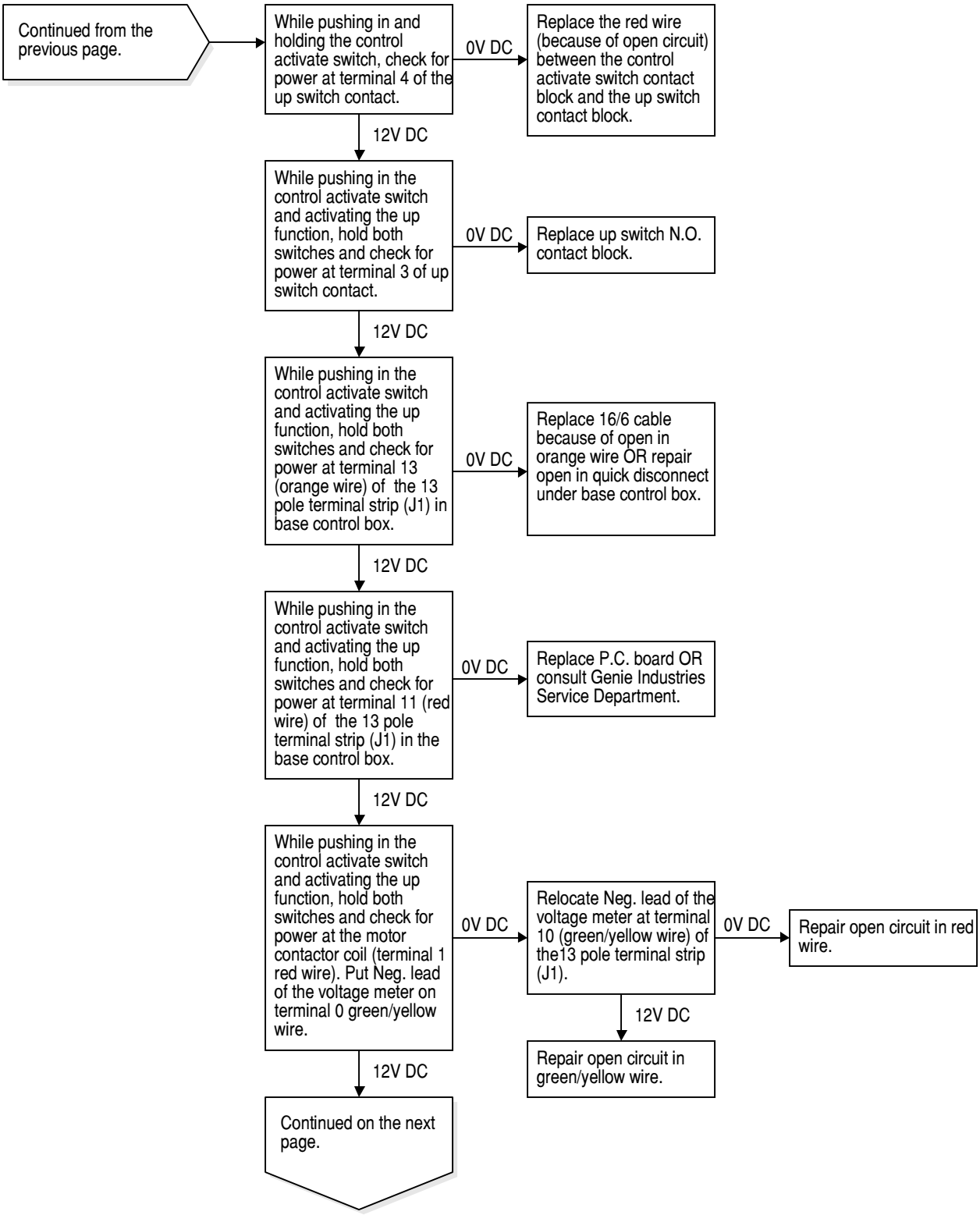

Continued from the previous page.
While pushing in and holding the control activate switch, check for power at terminal 4 of the up switch contact.
0V DC
Replace the red wire (because of open circuit) between the control activate switch contact block and the up switch contact block.
12V DC
While pushing in the control activate switch and activating the up function, hold both switches and check for power at terminal 3 of 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 the 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 base 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 (red wire) of the 13 pole terminal strip (J1) in the base 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 the13 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 6

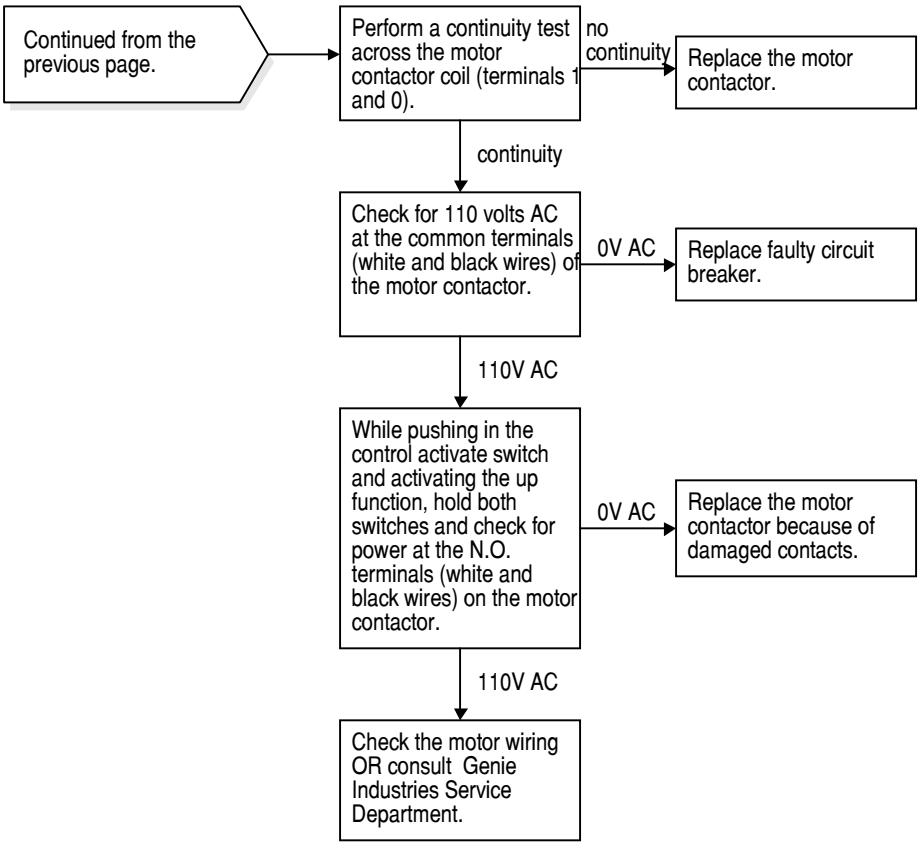

Continued from the previous page.
Perform a continuity test across the motor contactor coil (terminals 1 and 0).
no continuity
Replace the motor contactor.
continuity
Check for 110 volts AC at the common terminals (white and black wires) of the motor contactor.
0V AC
Replace faulty circuit breaker.
110V 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 7

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.

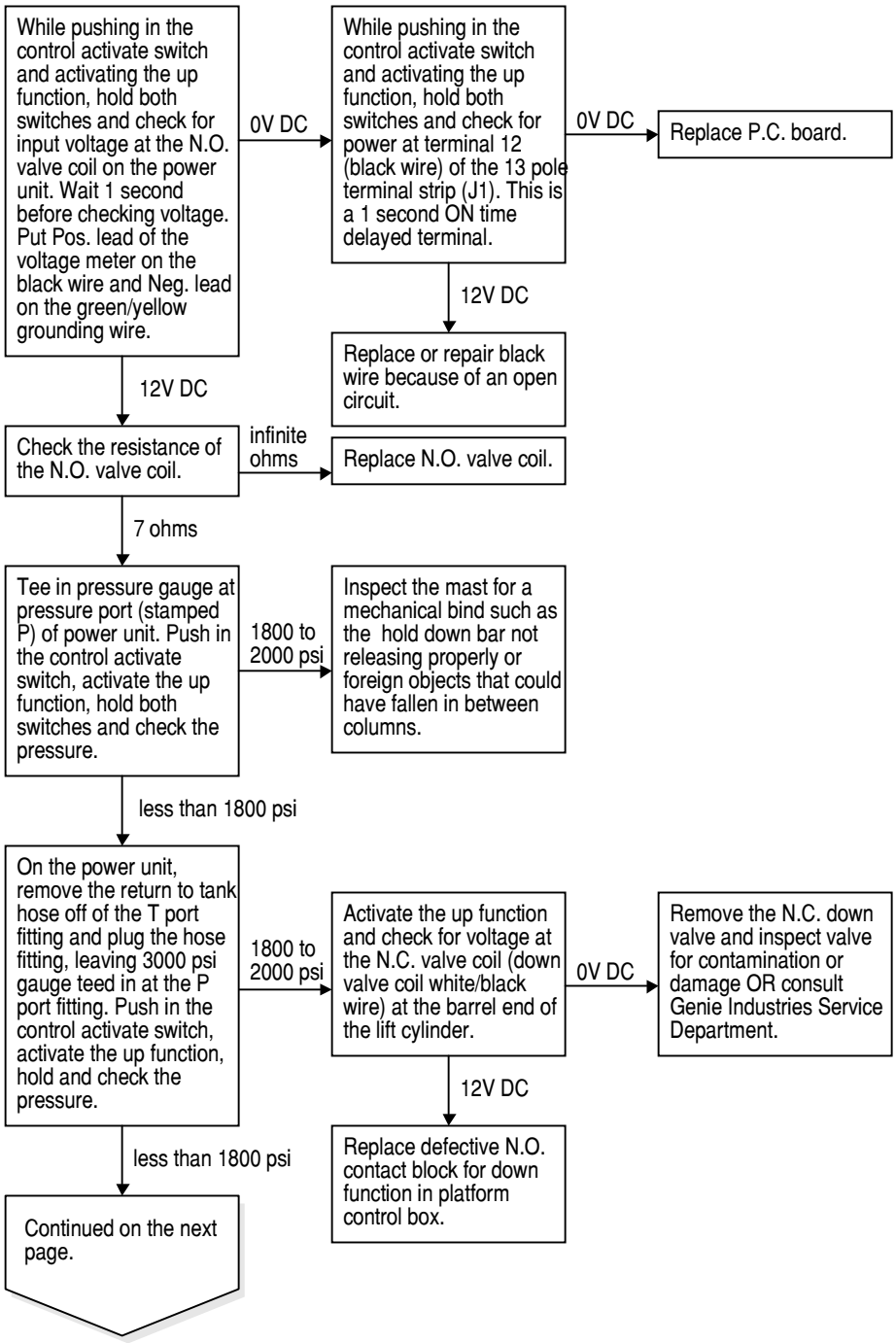


CHART 7

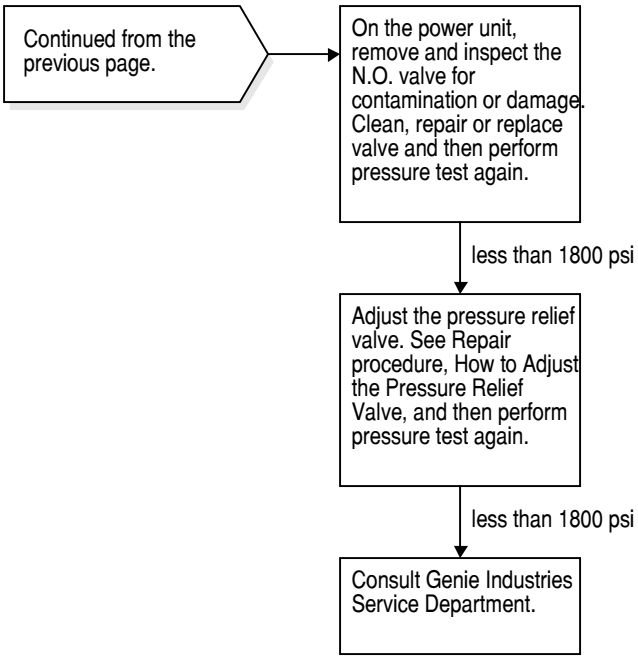

Continued from the previous page.
On the power unit, remove and inspect the N.O. valve for contamination or damage. Clean, repair or replace valve and then perform pressure test again.
less than 1800 psi
Adjust the pressure relief valve. See Repair procedure, How to Adjust the Pressure Relief Valve,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

Chart 8

Machine Will Not 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.

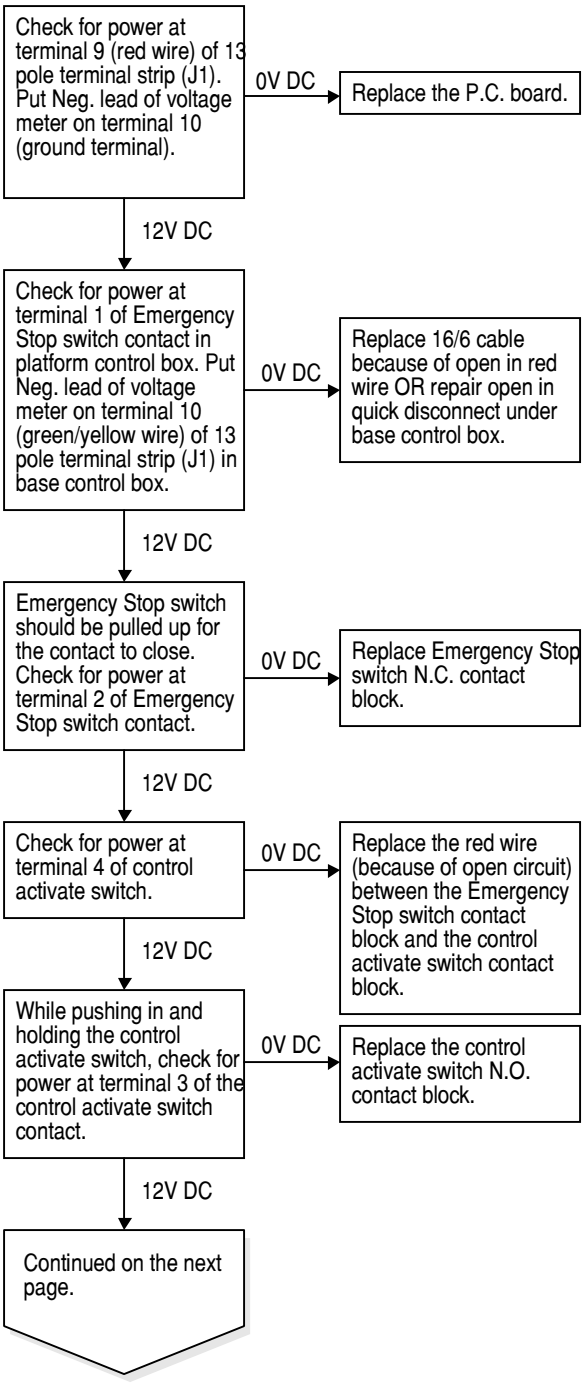


CHART 8

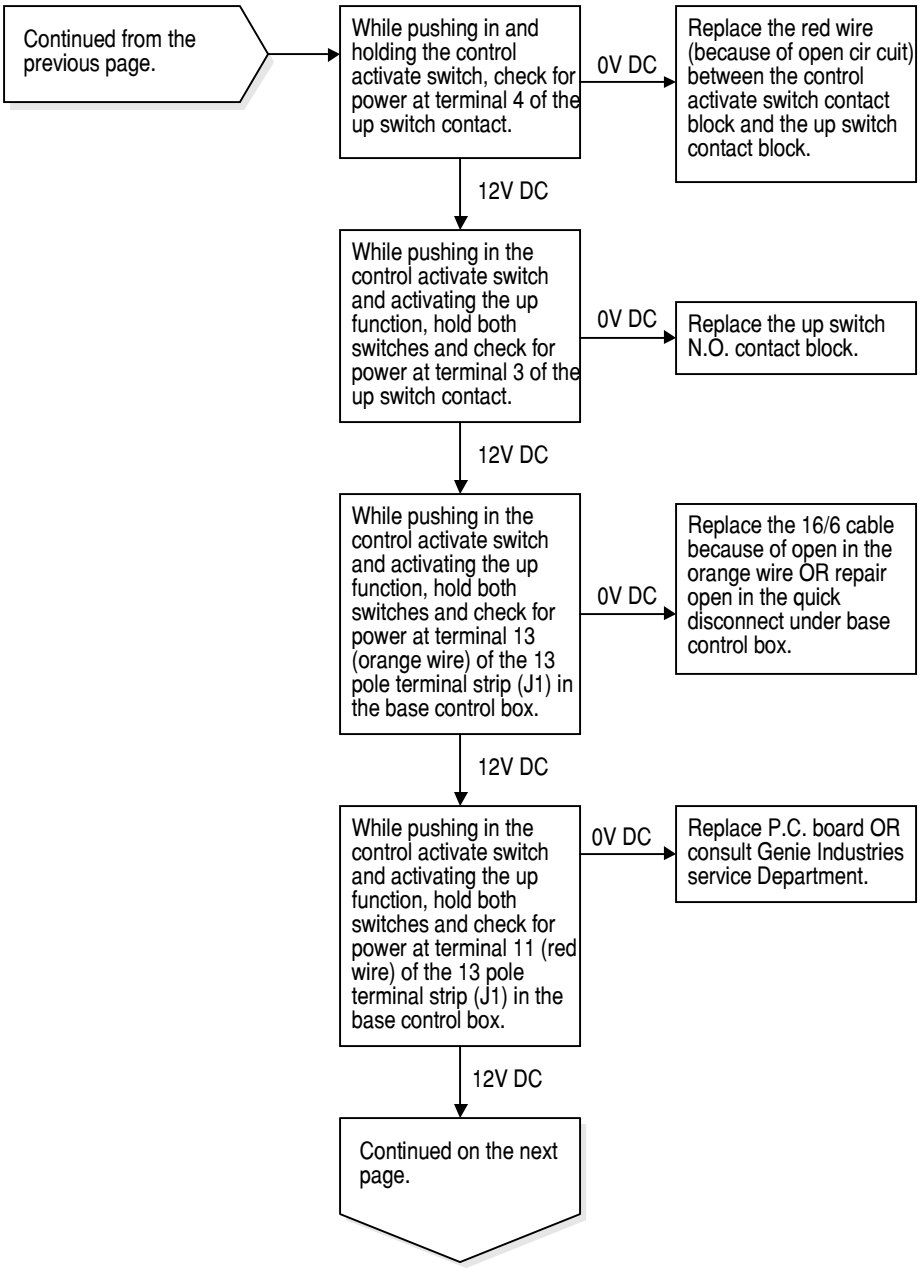

Continued from the previous page.
While pushing in and holding the control activate switch, check for power at terminal 4 of the up switch contact.
0V DC
Replace the red wire (because of open cir cuit) between the control activate switch contact block and the up switch contact block.
12V DC
While pushing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

CHART 8

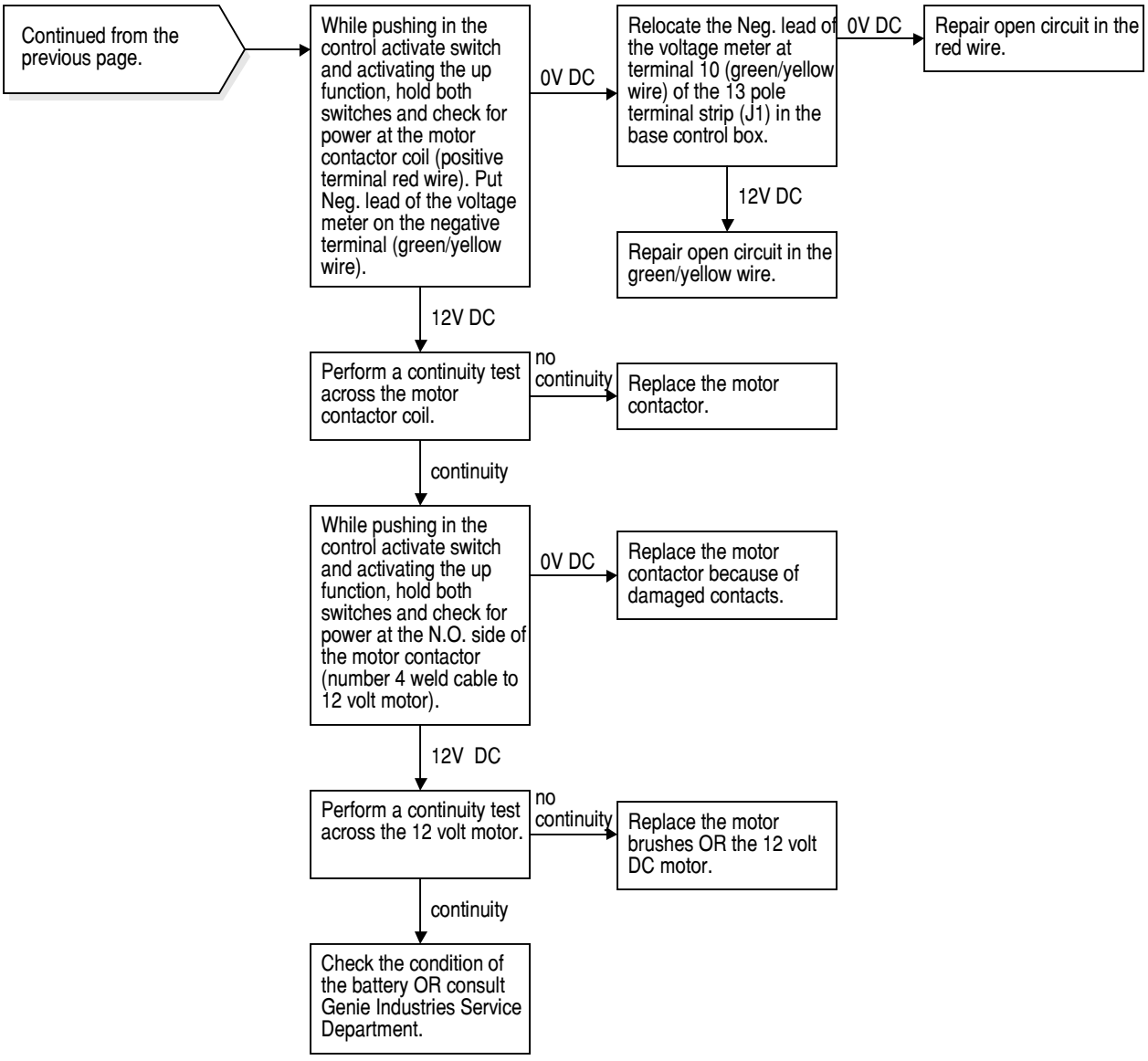

Continued from the previous page.
While pushing in the control activate switch and activating the up function, hold both switches and check for power at the motor contactor coil (positive terminal red wire). Put Neg. lead of the voltage meter on the negative terminal (green/yellow wire).
0V DC
Relocate the Neg. lead of the voltage meter at terminal 10 (green/yellow wire) of the 13 pole terminal strip (J1) in the base 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 9

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.

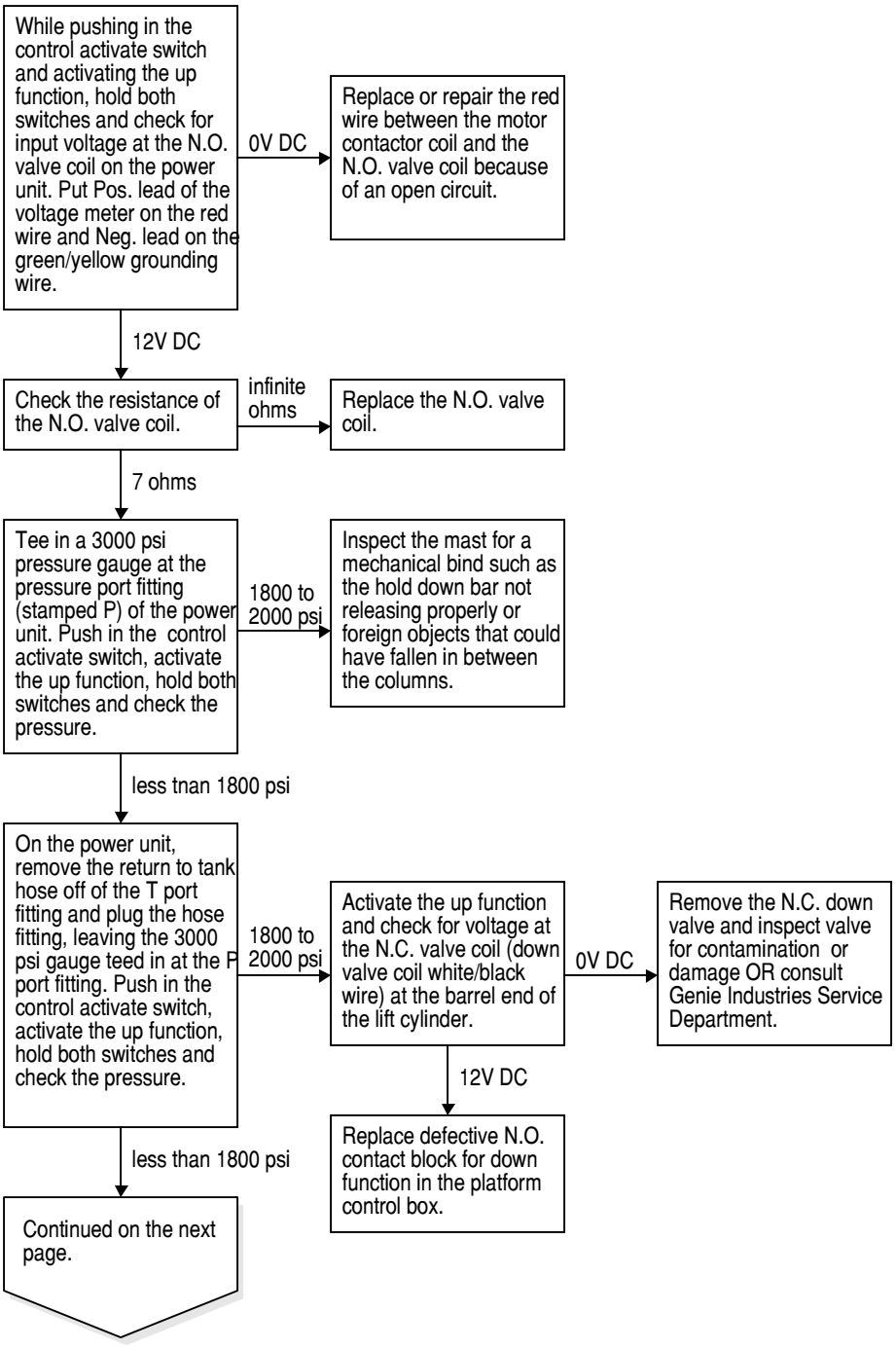


CHART 9

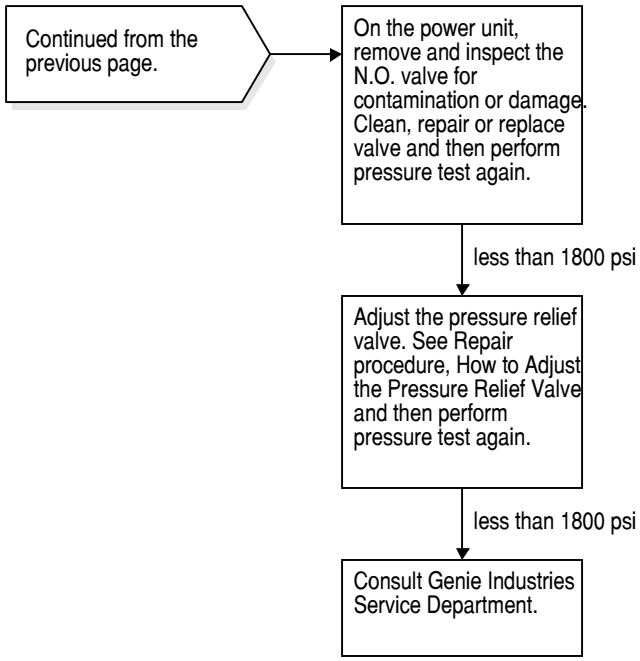

Continued from the previous page.
On the power unit, remove and inspect the N.O. valve for contamination or damage. Clean, repair or replace valve and then perform pressure test again.
less than 1800 psi
Adjust the pressure relief valve. See Repair procedure, How to Adjust the Pressure Relief Valve and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

Chart 10

Machine Will Not Lower - Up Function Operates

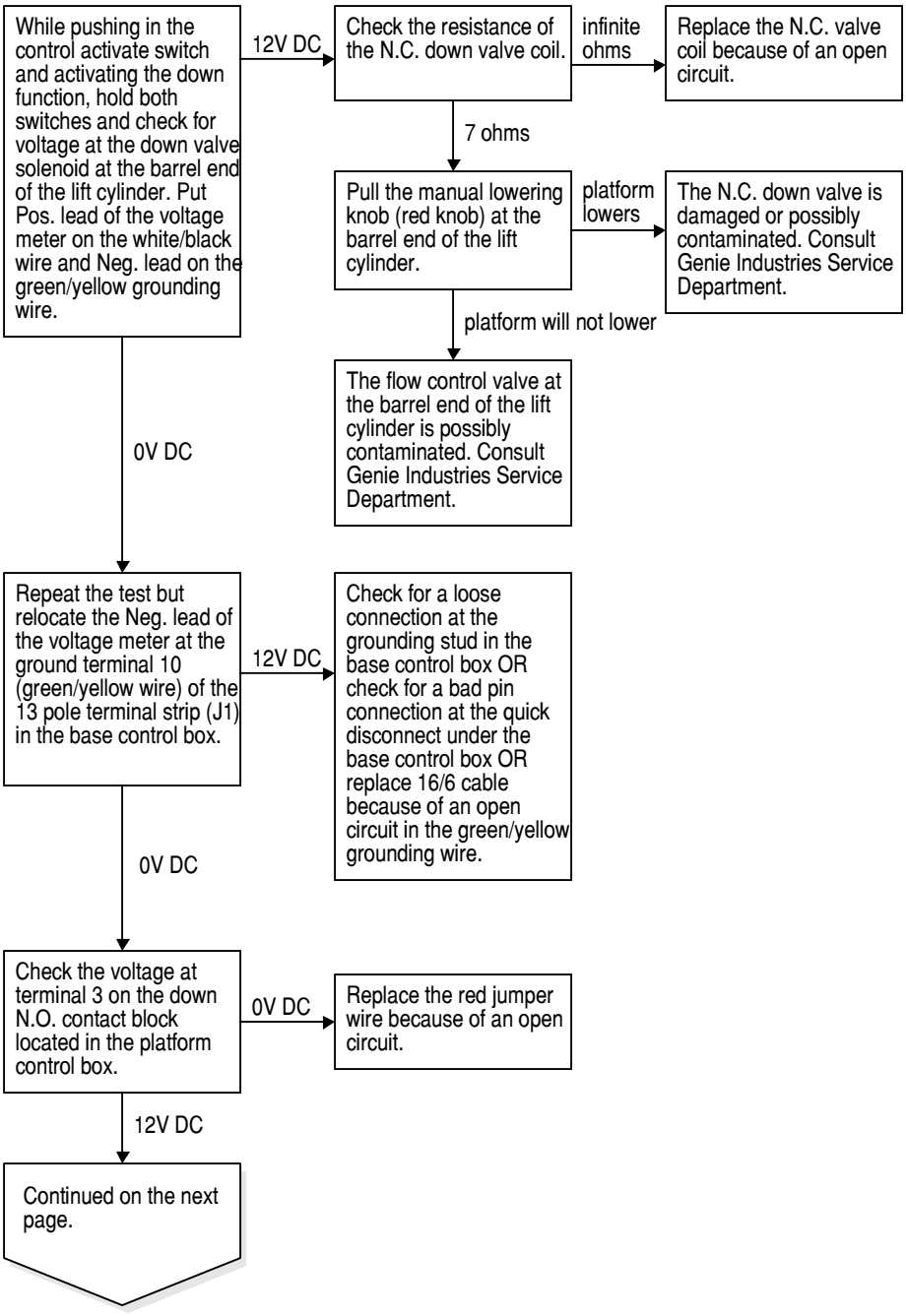


CHART 10

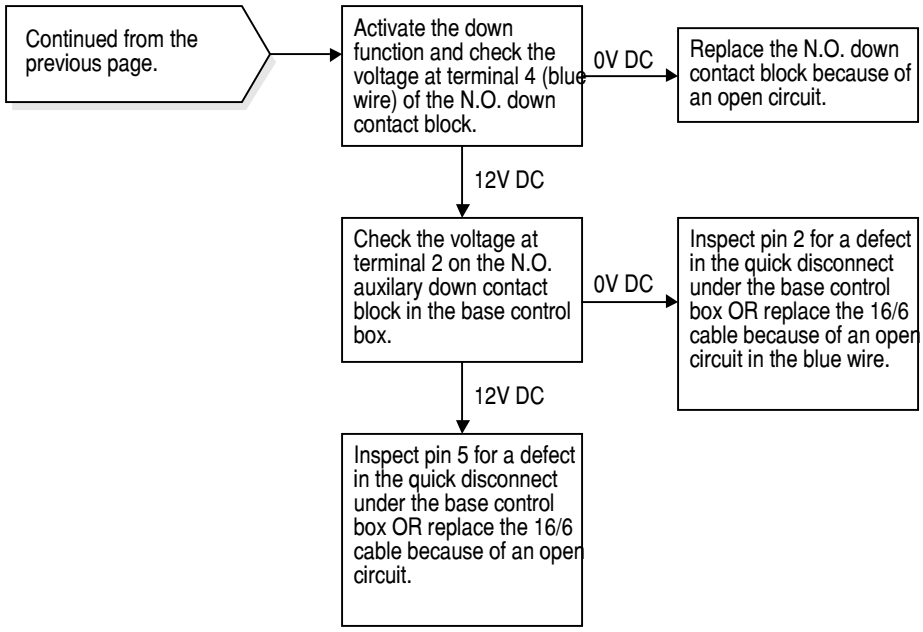

Continued from the previous page.
Activate the down function and check the voltage at terminal 4 (blue wire) of the N.O. down contact block.
0V DC
Replace the N.O. down contact block because of an open circuit.
12V DC
Check the voltage at terminal 2 on the N.O. auxilary down contact block in the base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

Chart 11

Base Will Not Raise With Steer Handle

Be sure the platform is fully lowered.

Be sure to pump the foot pedal with slow, even strokes.

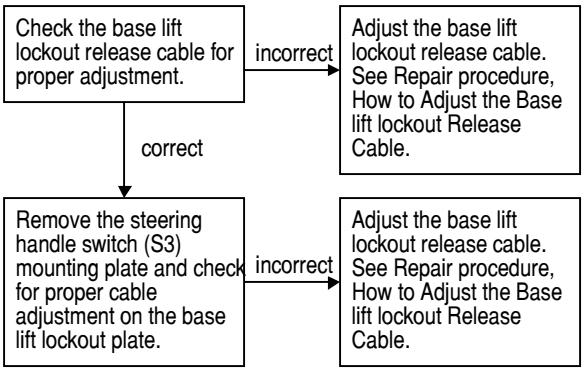


Chart 12

Platform Will Not Hold In Up Position

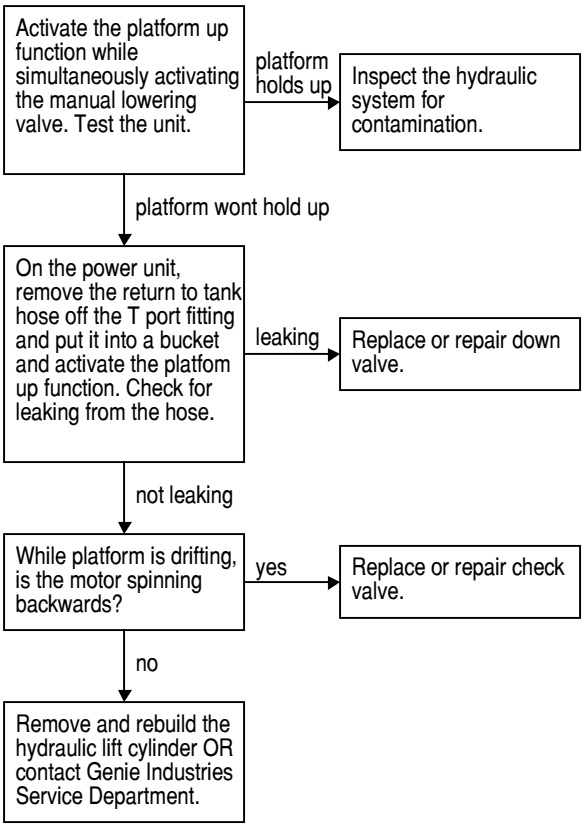


Chart 13

Power Unit Will Not Lift Rated Load

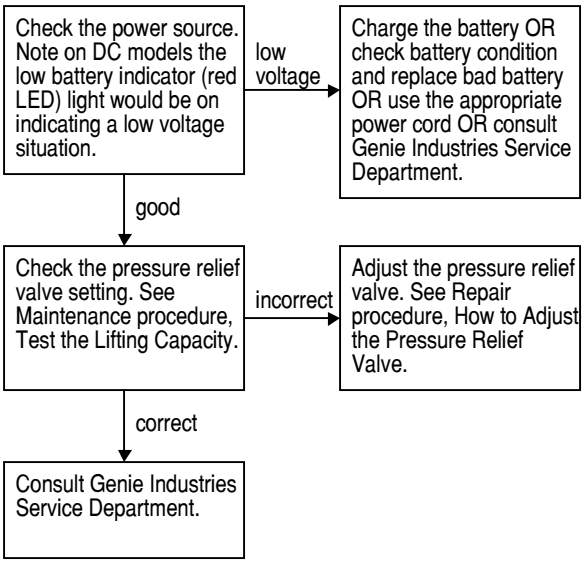


Chart 14

Auxiliary Platform Lowering Will Not Operate

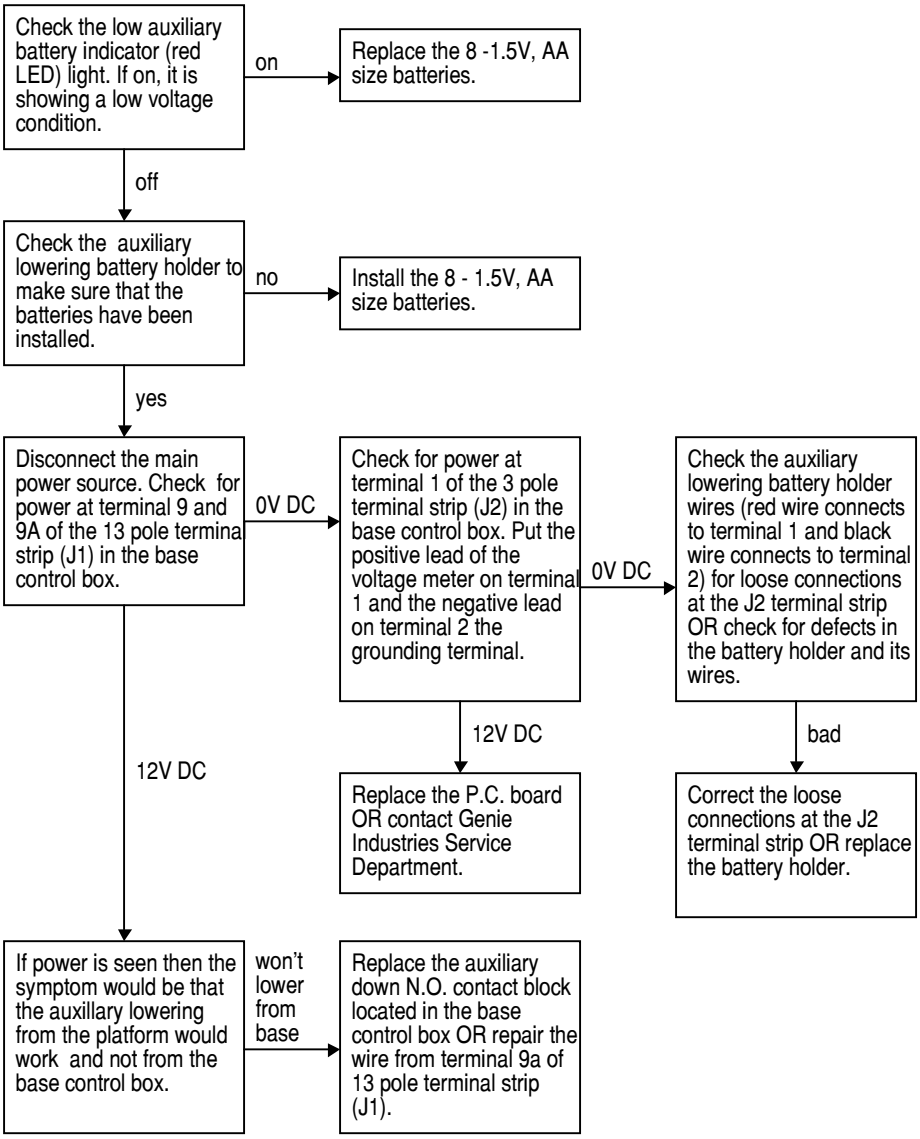


Chart 15

Power Wheel Assist Will Not Operate - Models with Power Wheel Assist

Be sure the base foot pads are not contacting the ground.

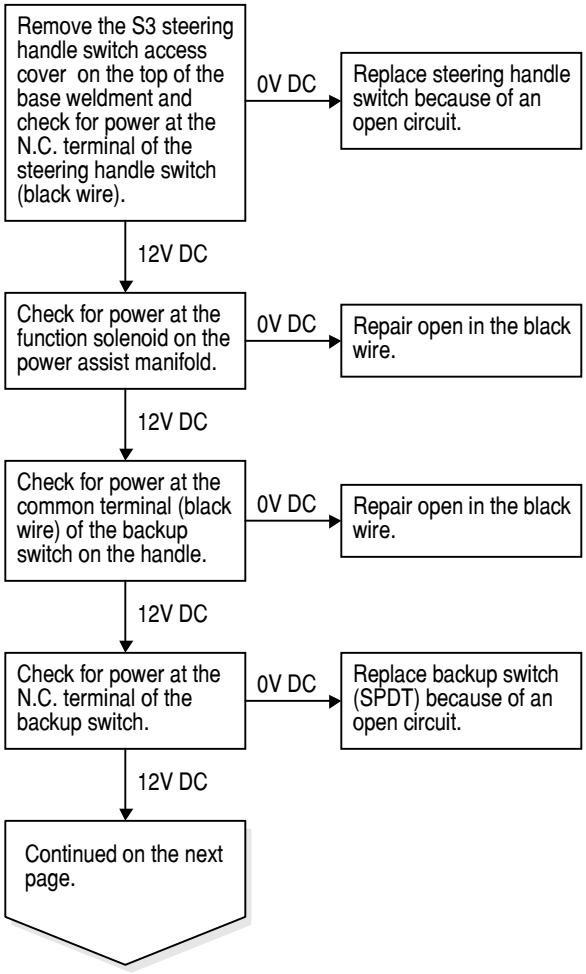
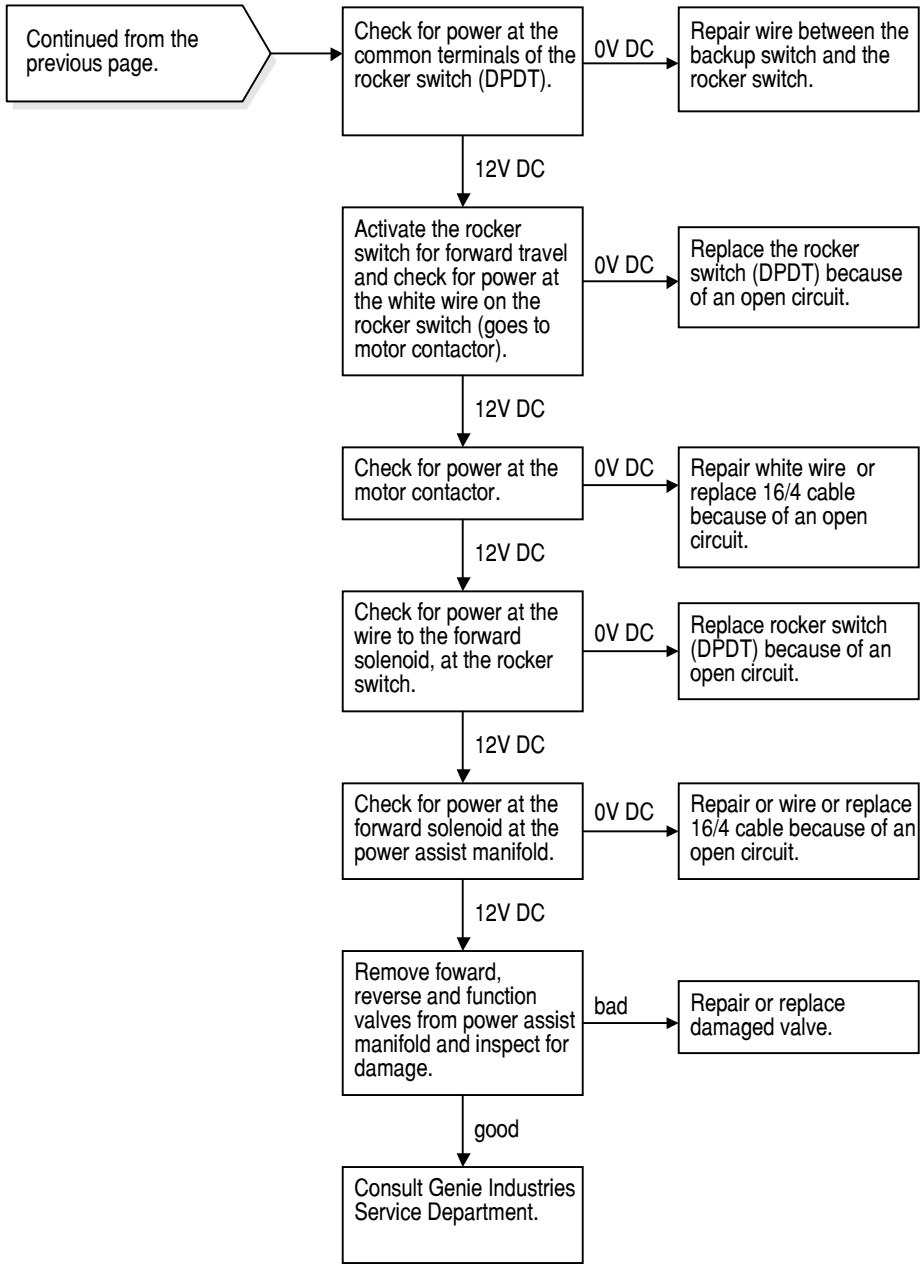


CHART 15


Continued from the previous page.
Check for power at the common terminals of the rocker switch (DPDT).
0V DC
Repair wire between the backup switch and the rocker switch.
12V DC
Activate the rocker switch for forward travel and check for power at the white wire on the rocker switch (goes to motor contactor).
0V DC
Replace the rocker switch (DPDT) because of an open circuit.
12V DC
Check for power at the motor contactor.
0V DC
Repair white wire or replace 16/4 cable because of an open circuit.
12V DC
Check for power at the wire to the forward solenoid, at the rocker switch.
0V DC
Replace rocker switch (DPDT) because of an open circuit.
12V DC
Check for power at the forward solenoid at the power assist manifold.
0V DC
Repair or wire or replace 16/4 cable because of an open circuit.
12V DC
Remove foward, reverse and function valves from power assist manifold and inspect for damage.
bad
Repair or replace damaged valve.
good
Consult Genie Industries Service Department.

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 CWP Super Series Operator's Manual and the Genie StockPicker 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.

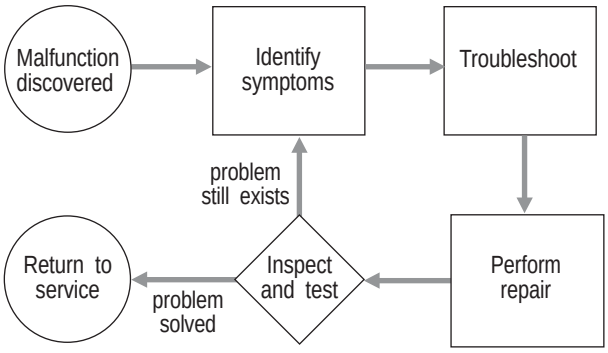
Electrical Schematics

⚠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



Symbols Legend

Electrical Symbols



Wire color with cable number



Terminal



Light



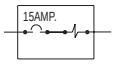
T-circuits connect at terminal



T-circuits connect



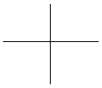
Connection no terminal



Circuit breaker



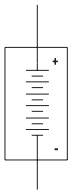
Solenoid or relay coil



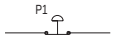
Circuits crossing no connection



Diode



Battery



Emergency Stop button normally closed



Relay contact normally open



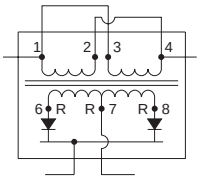
Resistor



Relay Contactor

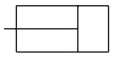


Relay Coil



Transformer

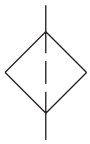
Hydraulic Symbols



Cylinder



Pressure gauge



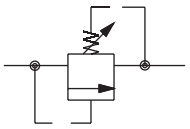
Filter



Fixed displacement pump



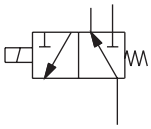
Check valve



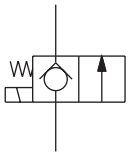
Relief valve



Orifice with size



Solenoid operated 2 pos., 3 way, directional valve

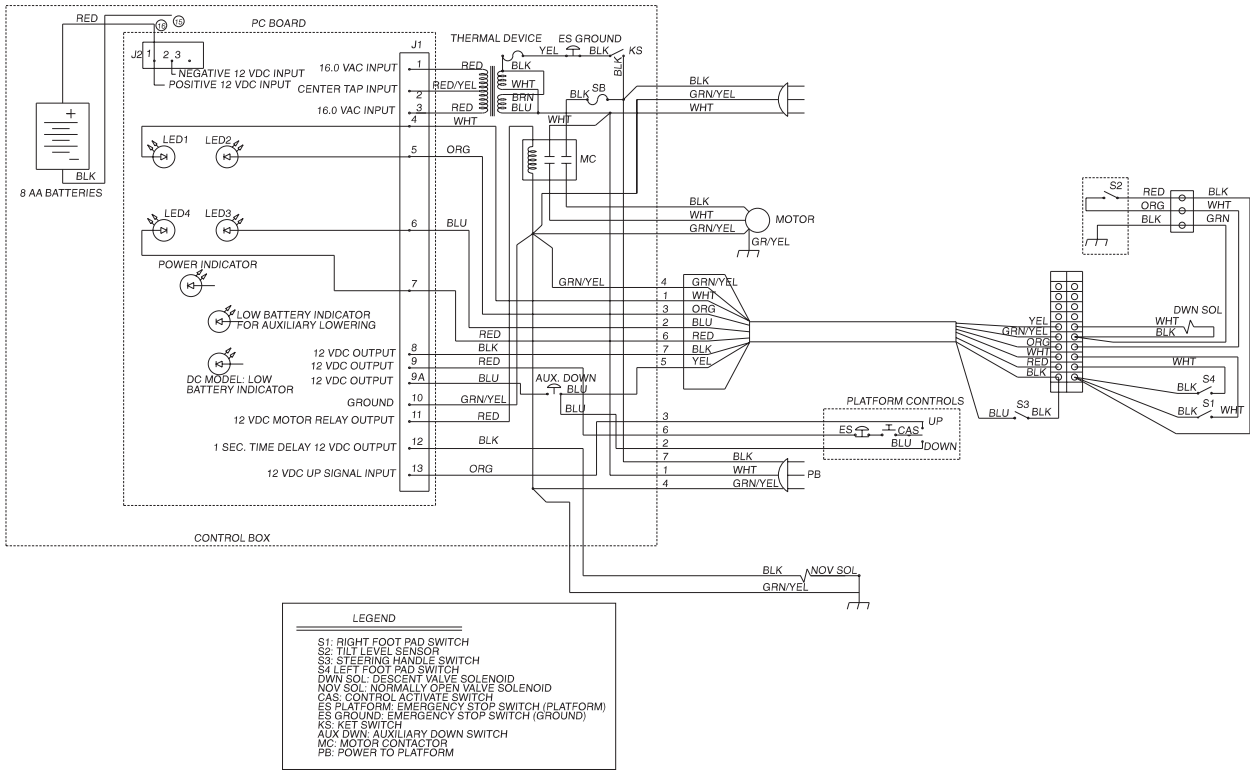


Solenoid operated dump valve



Pump prime mover (engine or motor)

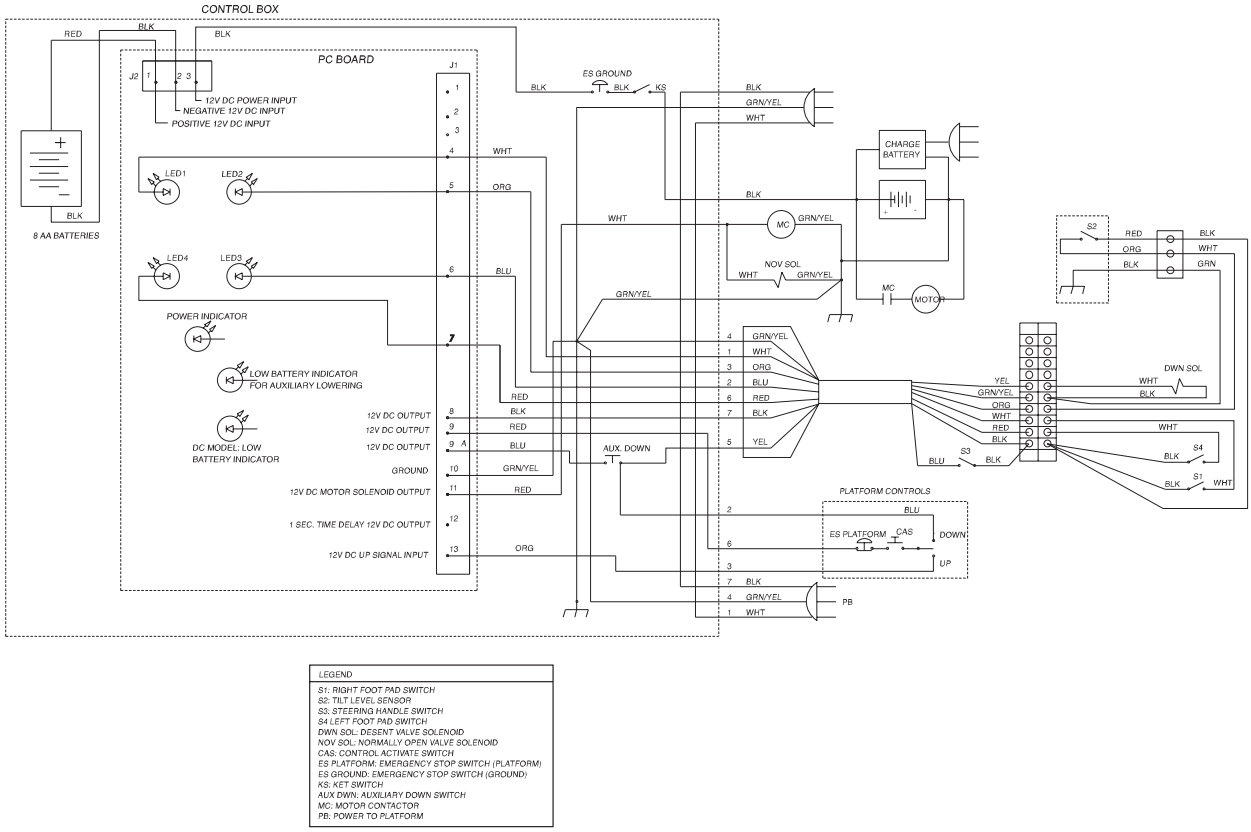
Electrical Schematic - CWP & StockPicker AC Models



LEGEND

S1: RIGHT FOOT PAD SWITCH
S2: TILT LEVEL SENSOR
S3: STEERING HANDLE SWITCH
S4 LEFT FOOT PAD SWITCH
DWN SOL: DESCENT VALVE SOLENOID
NOV SOL: NORMALLY OPEN VALVE SOLENOID
CAS: CONTROL ACTIVATE SWITCH
ES PLATFORM: EMERGENCY STOP SWITCH (PLATFORM)
ES GROUND: EMERGENCY STOP SWITCH (GROUND)
KS: KET SWITCH
AUX DWN: AUXILIARY DOWN SWITCH
MC: MOTOR CONTACTOR
PB: POWER TO PLATFORM

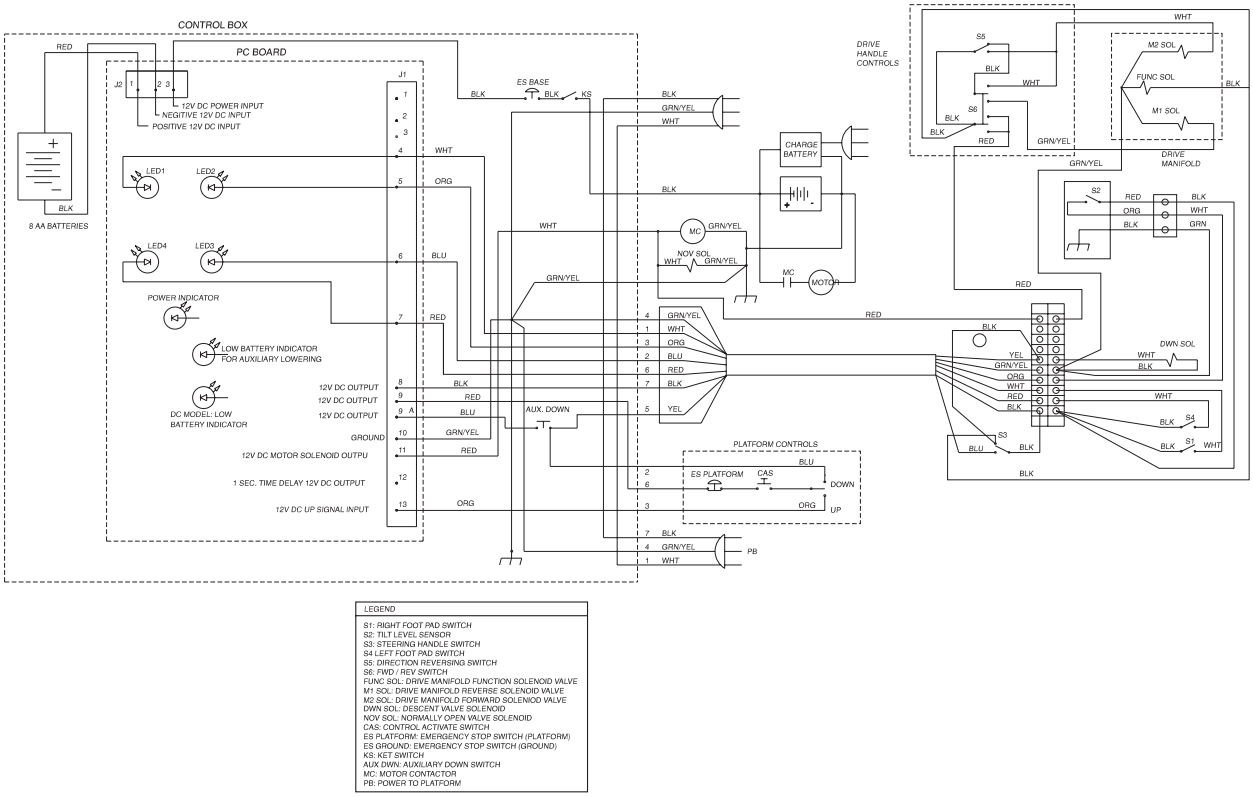
Electrical Schematic - CWP & StockPicker DC Models



LEGEND

S1: RIGHT FOOT PAD SWITCH
S2: TILT LEVEL SENSOR
S3: STEERING HANDLE SWITCH
S4 LEFT FOOT PAD SWITCH
DWN SOL: DESENT VALVE SOLENOID
NOV SOL: NORMALLY OPEN VALVE SOLENOID
CAS: CONTROL ACTIVATE SWITCH
ES PLATFORM: EMERGENCY STOP SWITCH (PLATFORM)
ES GROUND: EMERGENCY STOP SWITCH (GROUND)
KS: KET SWITCH
AUX DWN: AUXILIARY DOWN SWITCH
MC: MOTOR CONTACTOR
PB: POWER TO PLATFORM

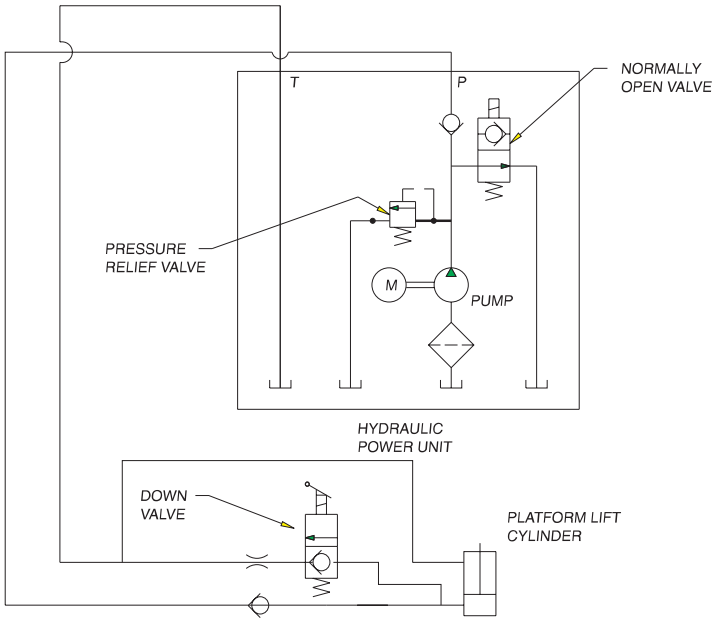
Electrical Schematic - CWP & StockPicker DC Models with Power Wheel Assist



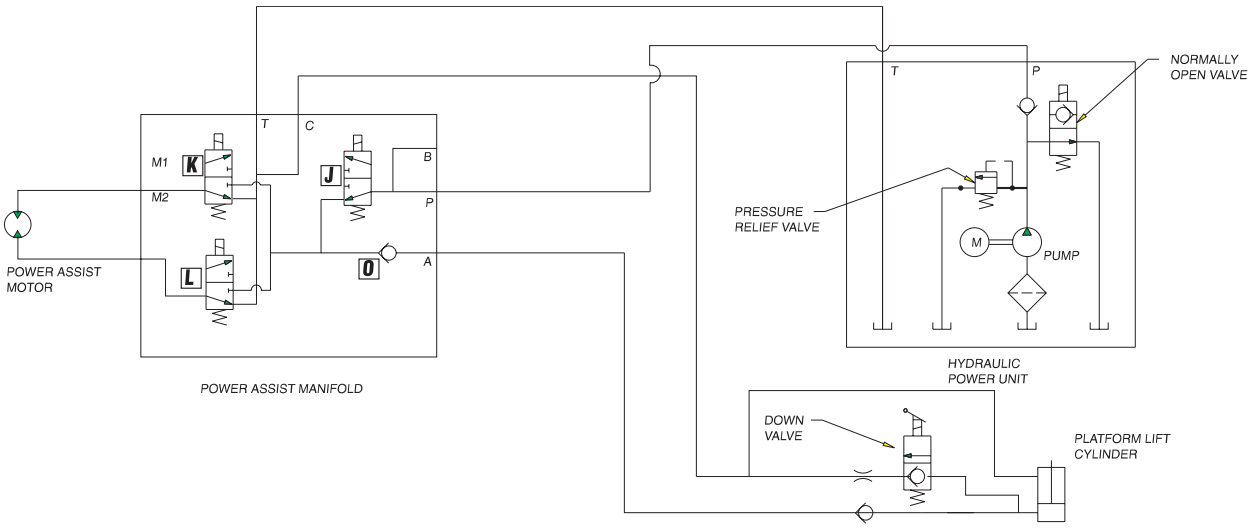
LEGEND

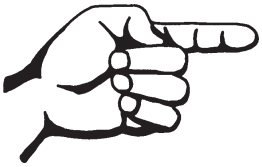
S1: RIGHT FOOT PAD SWITCH
S2: TILT LEVEL SENSOR
S3: STEERING HANDLE SWITCH
S4 LEFT FOOT PAD SWITCH
S5: DIRECTION REVERSING SWITCH
S6: FWD / REV SWITCH
FUNC SOL: DRIVE MANIFOLD FUNCTION SOLENOID VALVE
M1 SOL: DRIVE MANIFOLD REVERSE SOLENOID VALVE
M2 SOL: DRIVE MANIFOLD FORWARD SOLENIOD VALVE
DWN SOL: DESCENT VALVE SOLENOID
NOV SOL: NORMALLY OPEN VALVE SOLENOID
CAS: CONTROL ACTIVATE SWITCH
ES PLATFORM: EMERGENCY STOP SWITCH (PLATFORM)
ES GROUND: EMERGENCY STOP SWITCH (GROUND)
KS: KET SWITCH
AUX DWN: AUXILIARY DOWN SWITCH
MC: MOTOR CONTACTOR
PB: POWER TO PLATFORM

Hydraulic Schematic - CWP & StockPicker Models



Hydraulic Schematic - CWP & StockPicker Models with Power Wheel Assist





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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:

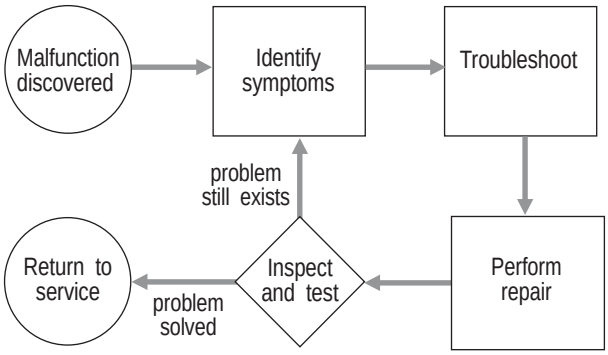
- ☑ Read, understand and obey the safety rules and operating instructions in the *Genie CWP Super Series Operator's Manual* and the *Genie StockPicker Super Series Operator's Manual.*
- ☑ Be sure that all necessary tools and parts are available and ready for use.
- ☑ Read each procedure completely and 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 base interlock switches indicate that the foot pads are in firm contact with the ground.

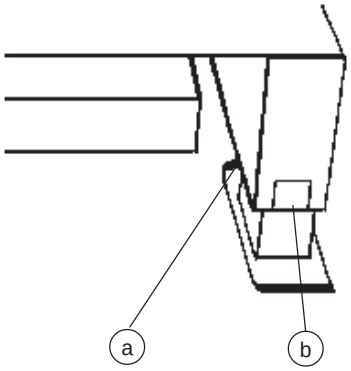
How to Remove a Base Interlock Switch

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

2 Lower the base with the steer handle.

3 Remove the foot pad switch holder fasteners.

4 Pull the foot pad switch holder out of the base tube.



a switch holder fasteners
b switch holder cover

5 Remove the wires from the switch. Take note of the location of the wires.

6 Remove the fasteners that attach the switch to the foot pad switch holder.

NOTICE Note how many threads of the footpad switch are above the switch mounting plate. This will provide a starting point for footpad switch installation.

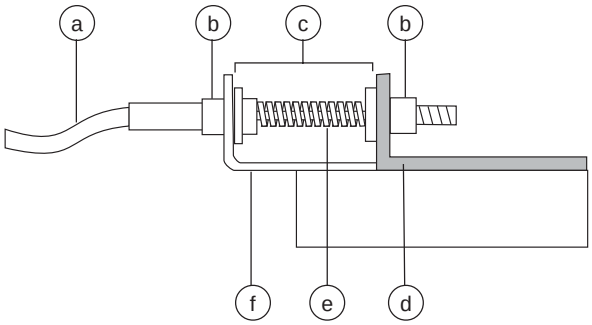
1-2 Base Components

How to Adjust the Steer Handle Interlock Cable

1 Lower the base with the steer handle.

2 Remove the base cover to access the cable.

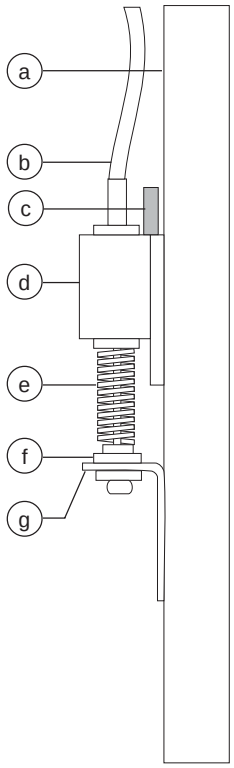
3 Check to be sure the cable is properly connected to the latch plates.



a steer handle cable
b lock nut
c measurement
d latch plate
e spring
f cable mounting plate

4 Check to be sure the cable is attached to the cable mounting bracket with a lock nut on each side. There should be $2^{1}/_{2}$ to $2^{5}/_{8}$ inches (6.6 to 6.8 cm) between the cable mounting plate and the latch plate.

5 Locate the steer handle interlock cable mounting bracket on the bottom side of the number 1 column.



a number 1 column
b steer handle interlock cable
c cable striker bracket
d slider bracket
e spring
f lock nut
g cable mounting bracket

6 Loosen the mounting fasteners on the cable mounting bracket and the cable striker bracket on the number 2 column. Do not remove the fasteners.

7 From the bottom of the number 1 column, make a reference mark 6 inches (15.2 cm) up from the bottom.

8 Slide the cable mounting bracket up, until the top of the bracket is even with the reference mark from step 7. Tighten the mounting fasteners.

9 At the top of the cable mounting bracket, make a reference mark on the number 2 column 4 inches (10 cm) above the top of the cable mounting bracket.

10 Slide the cable striker bracket down, until the top of the bracket is even with the reference mark from step 9. The spring will need to be compressed with the slider bracket, when the cable striker bracket is pulled down. Tighten the mounting fasteners.

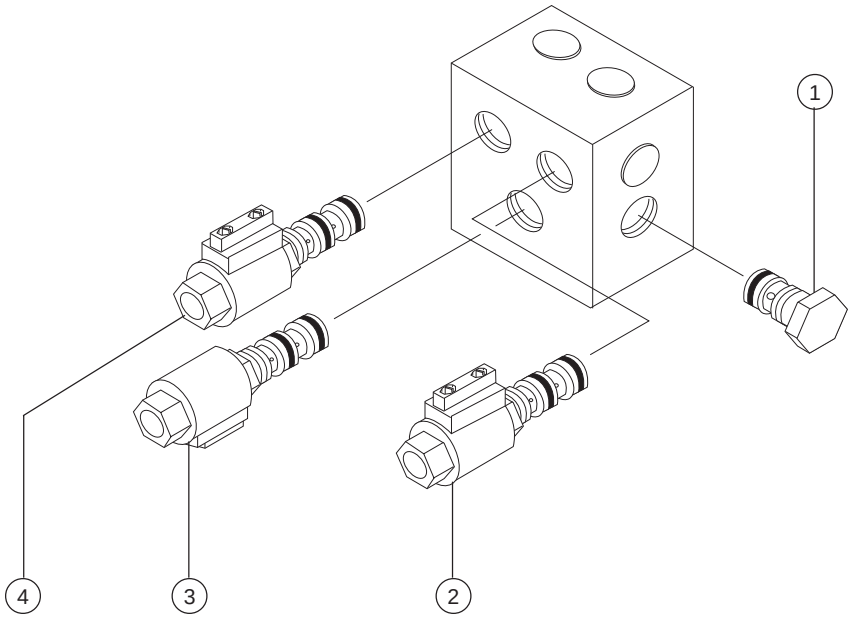
11 Raise the platform.

12 Pull the steer handle away from the machine to be sure the steer handle remains in the locked position. Re-adjust if necessary.

BASE ASSEMBLY

1-3
Hydraulic Manifold Components - CWPS Models with Power Wheel Assist

Index No.	Description	Schematic Item	Function	Torque
1	Check valve	O	System pressure	25-35 ft-lbs / 34-41 Nm
2	2 position 3 way spool valve	L	Reverse	25-35 ft-lbs / 34-41 Nm
3	2 position 3 way spool valve	K	Forward	25-35 ft-lbs / 34-41 Nm
4	2 position 3 way spool valve	J	All functions	25-35 ft-lbs / 34-41 Nm



Plug Torque Specifications

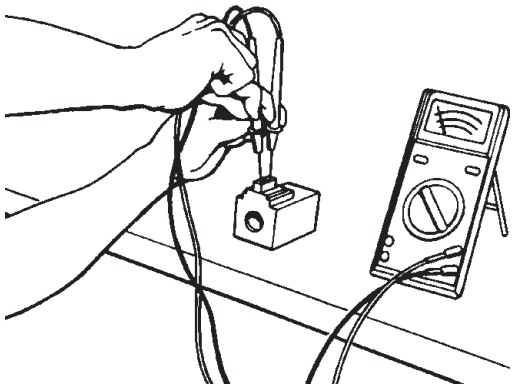
Description	Hex Size	Torque
SAE No. 2	1/8	50 in-lbs / 6 Nm
SAE No. 4	3/16	13 ft-lbs / 18 Nm
SAE No. 6	1/4	18 ft-lbs / 24 Nm

Description	Hex Size	Torque
SAE No. 8	5/16	50 ft-lbs / 68 Nm
SAE No. 10	9/16	55 ft-lbs / 75 Nm
SAE No. 12	5/8	75 ft-lbs / 102 Nm

1-4
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	6.5 to 7.2 Ω
Solenoid operated N.C. valve, 10V	7.8 to 9.5 Ω

Ground Control Box

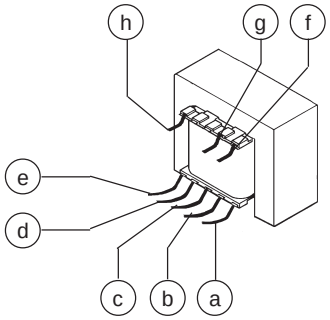
2-1
How to Test the Transformer - AC Models

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 #1	0.5 to 1.5 Ω
red/yellow wire to red wire #2	0.5 to 1.5 Ω
red wire #1 to red wire #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)

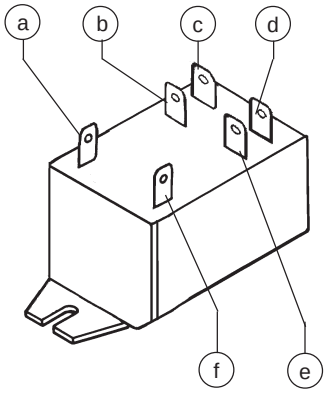
2-2
How to Test the AC Contactor - AC Models

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.



a terminal no. 1
b terminal no. 8
c terminal no. 6
d terminal no. 2
e terminal no. 4
f terminal no. 0

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



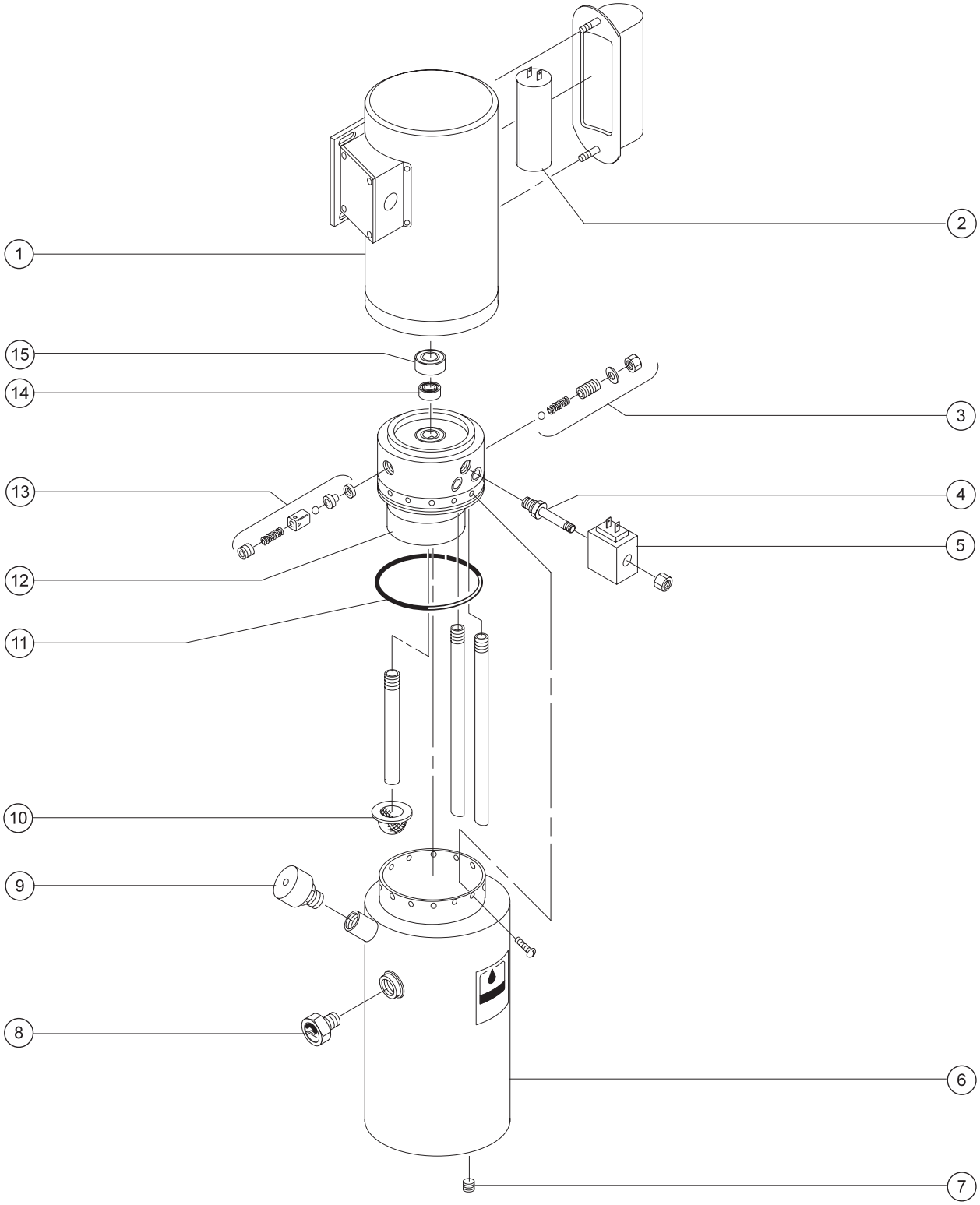
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Hydraulic Power Units

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	Reservoir	3 quarts (2.8 liters)
7	Drain plug	Drains reservoir
8	Sight gauge	Hydraulic fluid level
9	Breather cap	Reservoir vent
10	Pick-up filter	Filters hydraulic fluid
11	O-ring	Seals reservoir
12	Pump	0.5 to 0.6 gallons per minute at 2000 psi 1.89 to 2.27 liters per minute at 138 bar
13	Check valve	One-way valve for pump output
14	Motor seal	Seals motor from contaminants
15	Motor bearing	Aligns motor shaft into pump

HYDRAULIC POWER UNITS

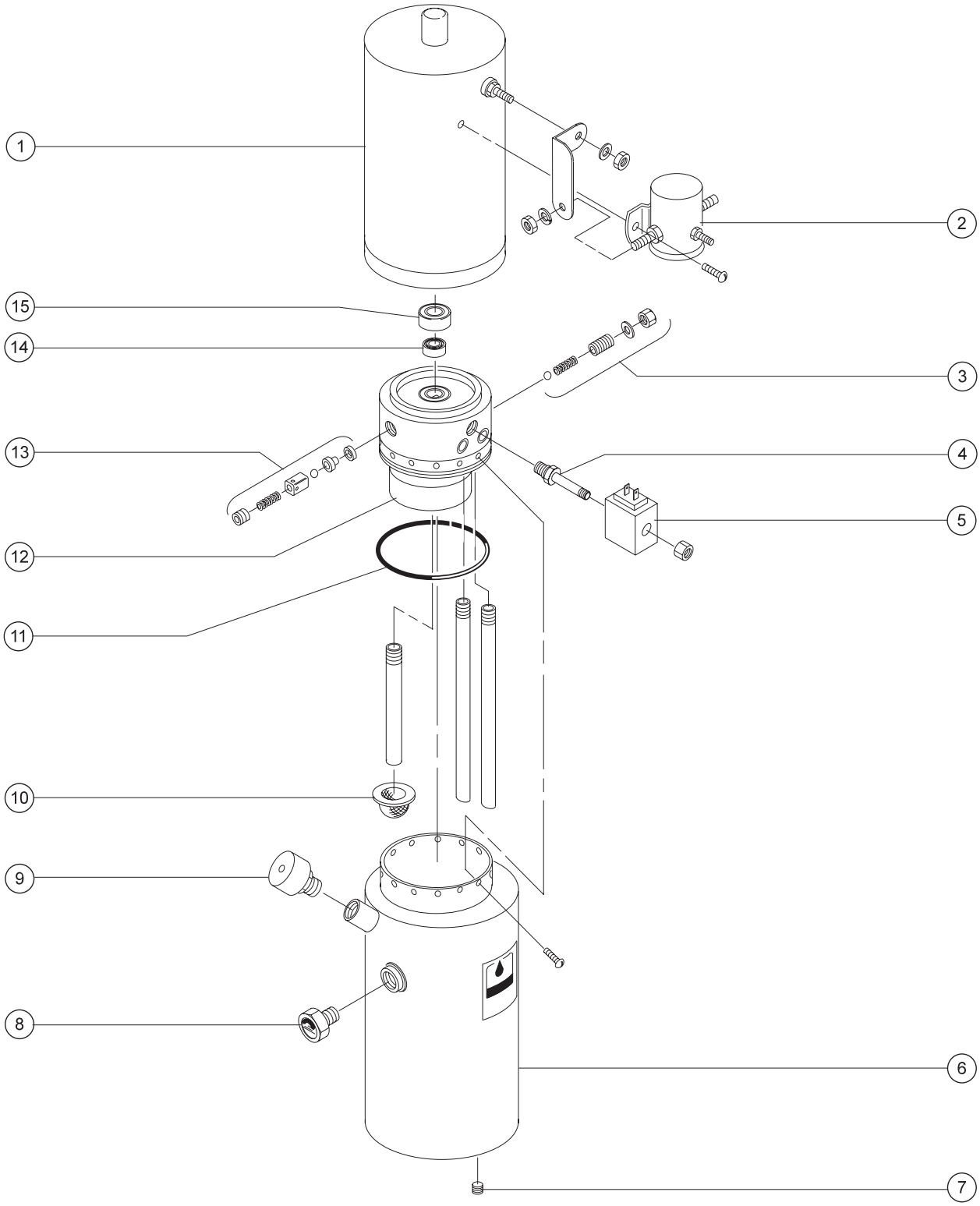


HYDRAULIC POWER UNITS

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	Reservoir	3 quarts (2.8 liters)
7	Drain plug	Drains reservoir
8	Sight gauge	Hydraulic fluid level
9	Breather cap	Reservoir vent
10	Pick-up filter	Filters hydraulic fluid
11	O-ring	Seals reservoir
12	Pump	0.7 to 1 gallons per minute at 2000 psi 2.6 to 3.76 liters per minute at 138 bar
13	Check valve	One way valve for pump output
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 supply.

2 Lower the base with the steer handle.

3 Remove the power unit cover.

4 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.

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

6 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.

7 Support the hydraulic power unit with a lifting device.

8 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.*

3-4
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 supply.

2 Lower the base with the steer handle.

3 Remove the power unit cover.

4 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.

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

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

7 Support the hydraulic power unit with a lifting device.

8 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 Lower the base with the steer handle.

3 Remove the power unit cover.

4 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 power unit cover.

2 Remove the breather cap from the reservoir.

3 Fill the reservoir up to the sight glass 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 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.

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 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.

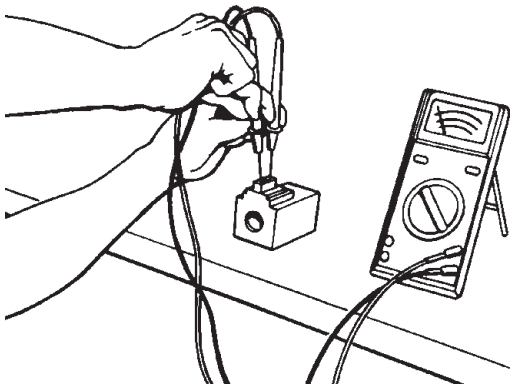
⚠CAUTION Component damage hazard. Do not continue to operate the machine if the hydraulic pump is cavitating.

15 Install the breather cap and the power unit 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

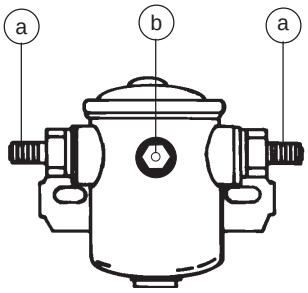
⚠WARNING Electrocution hazard. Contact with electrically charged circuits may result in death or serious injury. Remove all rings, watches and other jewelry.

⚠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)

Power Pack

4-1
How to Change a Power Pack

1 Fully lower the platform and disconnect the machine from the power source.

2 Lower the base with the steer handle.

3 Remove the power unit cover.

4 Separate both quick disconnect couplers from the ground control box.

5 Unplug the quick disconnects.

6 **DC models:** Disconnect the battery cables from the motor.

7 Remove the breather cap from the hydraulic power unit and install a pipe plug into the filler hole.

8 Label, disconnect and plug the hydraulic hoses from 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.

9 Support the power unit assembly and remove the mounting bolts.

⚠CAUTION Crushing hazard. When mounting bolts are removed, power unit assembly will become unbalanced and may fall if not properly supported.

10 Remove the power unit assembly.

11 Remove the ground control box assembly mounting bolts. Remove the control box assembly from the machine.

Installation

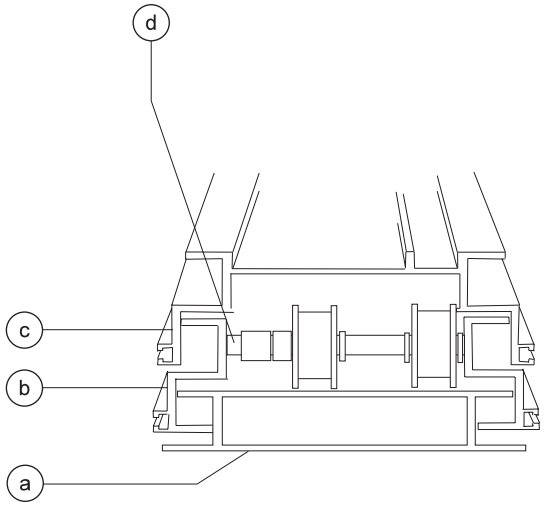
Reassemble in the reverse order of disassemble procedure.

NOTICE Do not install the motor cover until the relief valve adjustment is complete. Refer to 3-6, *How to Adjust the Pressure Relief Valve*.

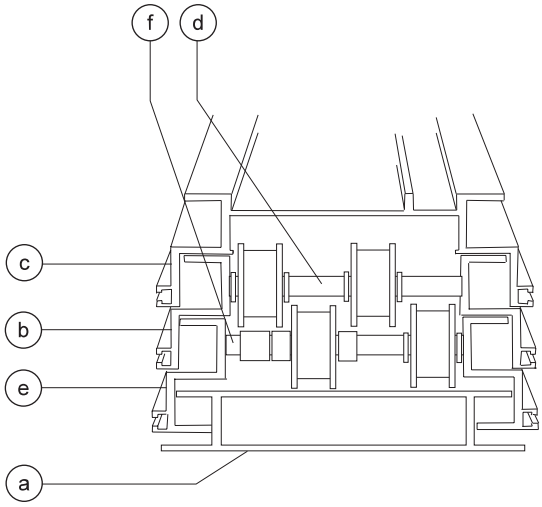
⚠CAUTION Component damage hazard. Do not overtighten the hydraulic fittings.

Mast Assembly

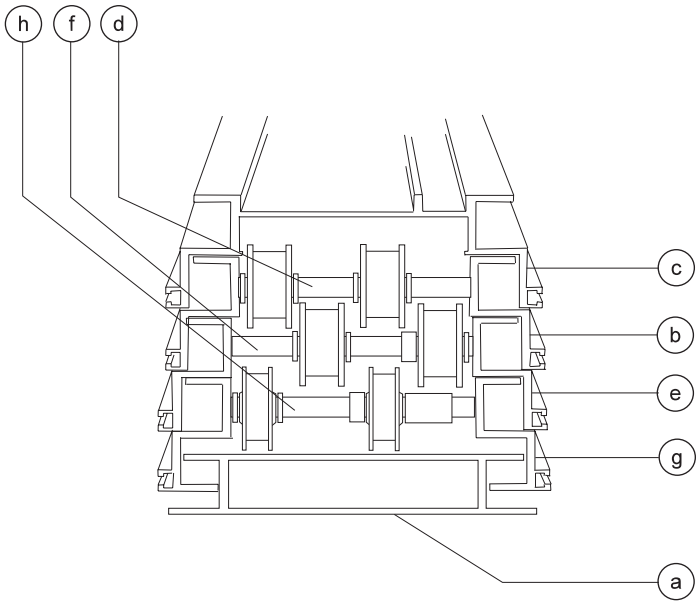
CWP-8



CWP-12S / SP-12S



CWP-15S / SP-15S



Mast Components

a carriage
b number 2 column
c number 1 column
d number 2 column idler wheel assembly
e number 3 column
f number 3 column idler wheel assembly
g number 4 column
h number 4 column idler wheel assembly

MAST ASSEMBLY

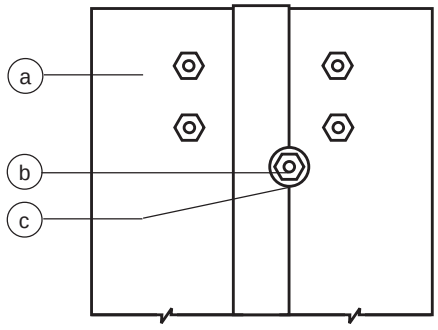
5-1
Lift Cylinder

How to Remove the 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 5-2, *How to Remove the Mast Assembly.*

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



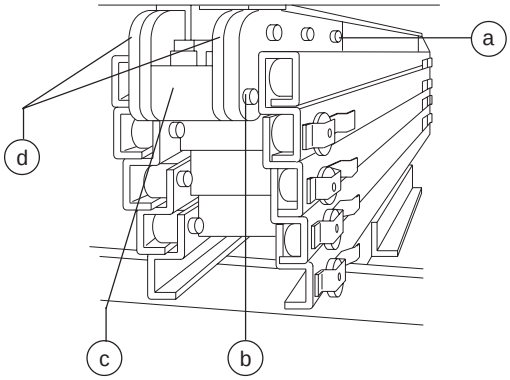
a top of no. 1 column
b retaining bolt
c clevis block

3 Disconnect and plug the lift cylinder hydraulic hoses. Cap the fittings on the lift cylinder.

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

5 Loosen the cylinder bracket mounting fasteners.



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

6 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.

5-2
How to Remove the 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 Fully lower the platform, turn the machine off and remove the key.

2 Lower the base with the steer handle.

3 Remove the platform. See 7-1, *How to Remove the Platform.*

4 Remove the power pack. See 4-1, *How to Change a Power Pack.*

5 Tag, disconnect and cap the lift cylinder hydraulic hoses. 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.

6 Remove the level sensor assembly mounting fasteners.

7 Remove the steer handle interlock cable mounting fasteners from the side of the mast.

8 Attach an overhead crane to the lifting eye located on the back of the mast.

9 Remove the base cover.

10 Remove the four base mounting fasteners.

11 Carefully lift the mast out of the base.

⚠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 platform side.

NOTICE The level sensing system will not operate correctly if the number 1 column is not perpendicular to the base (front to back and side to side). Consult Genie Industries Service Department.

MAST ASSEMBLY

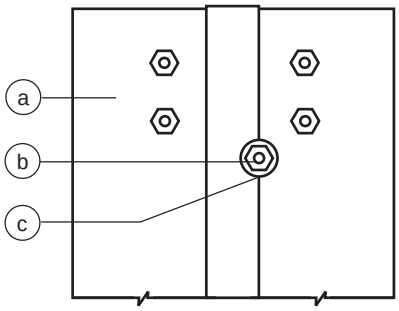
How to Disassemble the Mast

⚠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 the Mast Assembly.*

2 Remove the mounting fasteners from the cylinder mounting plates.

3 Remove the 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 Remove the mast covers.

CWPS Models with Platform Outreach: Remove the outreach assembly from the carriage.

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

8 Remove the control box and AC outlet and set aside.

9 Remove the steer handle interlock cable bracket from the mast.

10 Remove the adjustment nuts from all the sequencing cables.

11 Slide the carriage towards the top enough to remove the tension on the lifting chain.

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

13 Hold the idler wheel axle from turning by placing a small 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.

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

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

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

17 Remove the adjustment nuts from the chain tension rocker on the top column.

18 Slide the column out the bottom of the mast.

19 Push the next column towards the top of the mast to access the idler wheel assembly mounting fasteners.

20 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.

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

22 Slide the column out the bottom of the mast.

23 Follow steps 19 through 22 for each remaining column.

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

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. Be sure not to damage the slide block.

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. Be sure not to twist the chains.

7 Slide the number 3 column into the number 2 column. Be sure not to damage the slide block.

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.

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. Be sure not to twist the chains.

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 Rotate the mast over onto the carriage side.

15 Remove the tension from the lifting chains by pushing the top column toward the bottom of the mast.

16 Install the idler wheel assembly into the top of the number 2 column. Tighten the mounting fasteners. Push or pull the columns to increase the space for mounting the idler wheel assembly.

NOTICE Be sure the removal hole in the idler wheel axle is accessible. 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.

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

18 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.

19 Reassemble the machine. Then adjust the lifting chains. See 5-3, *How to Adjust the Lifting Chains.*

20 Adjust the steer handle interlock cable. See 1-2, *How to Adjust the Steer Handle Interlock Cable.*

MAST ASSEMBLY

5-3
How to Adjust the Lifting Chains

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.

7 Check to be sure the chain tension rockers are centered in the inspection hole of the column.

5-4
How to Adjust the Glide Pads

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.

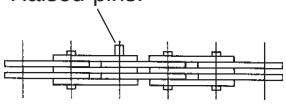
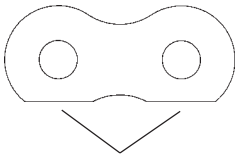
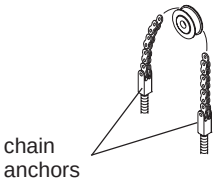
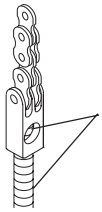
7 Repeat step 5 for all of the upper and lower glide pad bolts on the other side of the mast.

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

5-5
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 Anchors  chain anchors	Visually inspect chain anchors.  threaded rod	Broken chain anchor fingers.	Replace chain anchor.
		Bent or damaged anchor.	Replace chain anchor.
		Twisted or misaligned chain anchor.	Re-align chain anchor to ensure even loading of chain.
		Threaded rod not visible in inspection hole.	Replace chain anchor 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

6-1
How to Remove the Platform

1 **CWP Models:** Place support blocks between the platform and base. Then lower the platform onto the blocks.

⚠WARNING Crushing hazard. Keep away from descending platform.

Stockpicker Super Series Models: Attach an overhead crane or similar lifting device to the platform.

2 Remove the mounting fasteners from the platform.

3 Pull the platform away from the mast and remove it from the machine.

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

6-2
How to Install a Fiberglass Platform - CWPS Models

1 Remove the platform. See 6-1, *How to Remove the Platform.*

2 Support the platform with a lifting device, then place the platform against the mounting angles.

3 Install the mounting fasteners.

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

6-3
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.

PLATFORM

How to Test Power-to-Platform GFCI outlet

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

2 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.

7-4
How to Adjust the Platform Outreach Chain - CWPS Models

1 Fully lower the platform.

2 Turn the power off and remove the key.

3 Fully extend the platform outreach and lock the handle into position. Be sure the handle is locked.

4 Place a block of wood between the carriage and the platform outreach to prevent the outreach from collapsing when the fasteners are loosened.

⚠WARNING Crushing hazard. The platform outreach will collapse if a suitable block or brace is not used.

5 Locate the two fasteners which hold the lower sprocket housing onto the outreach.

6 Loosen but do not remove both sprocket housing fasteners.

7 Push downward on the sprocket housing to remove any excess slack in the chain.

8 Tighten the sprocket housing fasteners.

9 Check the chain adjustment. Refer to maintenance procedure B-8, *Check the Chain Adjustment.*

NOTICE If chain cannot be adjusted to specification, refer to 7-5, *How to Replace the Outreach Chain.*

7-5
How to Replace the Outreach Chain - CWPS Models

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

2 Fully lower the base and disconnect the power supply.

3 Remove the platform. See 7-1, *How to Remove the Platform.*

4 Remove the fasteners on platform control box cover to access the control box mounting fasteners.

5 Remove the platform control box mounting fasteners. Remove the platform control box from the outreach and set it aside.

6 Extend the outreach approximately 14 inches (36 cm) and lock the handle in position. Be sure the handle is locked.

7 Attach a overhead crane to the center brace pivot pin on the outreach.

8 Remove the fasteners that hold the outreach to the carriage.

⚠CAUTION Crushing hazard. When the mounting fasteners are removed, the platform outreach will become unbalanced and may fall if it is not properly supported.

9 Lay the outreach onto a work bench or table with the chain assembly facing up. Be sure the work bench or table is of ample capacity.

10 Place a block of wood under the inner frame assembly to support it while removing the chain.

⚠WARNING Crushing hazard. The platform outreach will collapse if a suitable block or brace is not used.

11 Remove the lower sprocket housing mounting fasteners. Do not allow the chains to become twisted.

12 Remove the upper sprocket housing mounting fasteners. Do not allow the chains to become twisted.

13 Remove the fasteners from the column outreach locking bracket.

14 Slide the platform mounting column off of the inner frame assembly and set it aside.

15 Locate the two allen head screws in the chain slider block.

16 Remove the roller wheel on the same side of the allen head screws.

17 Remove the two allen head screws.

18 Locate the master link in the chain. Use a screwdriver to pry the link apart.

19 Pull the chain out of the slider block and both sprocket housings.

20 Install the new chain through the slider block first.

21 Push the chain through the slider block until approximately 2 inches (5.1 cm) of the chain is extended past the slider block.

22 Install the two allen head screws into the slider block, then install the roller wheel.

23 Thread the chain through the upper sprocket housing, around the sprocket and then back through the housing.

24 Thread the chain through the lower sprocket housing, around the sprocket and back through the housing. Make sure the chain does not become twisted.

25 Connect the two ends of the chain together with a new master link. Do not re-use the old master link.

26 Slide the platform mounting column onto the inner frame assembly.

27 Install the column outreach locking bracket onto the platform mounting column.

28 Install the upper sprocket housing to the column.

NOTICE When fasteners are installed, be sure the center bolt is in between the two chains inside the housing.

29 Pull the slack out of the chain by pulling on the lower sprocket housing.

30 Install the lower sprocket housing.

31 Adjust the chain. See 7-4, *How to Adjust the Outreach Chain.*

32 Install the outreach back onto the machine.

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