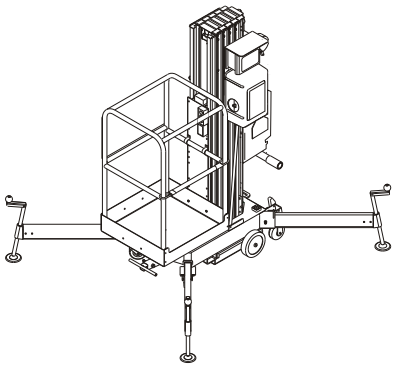
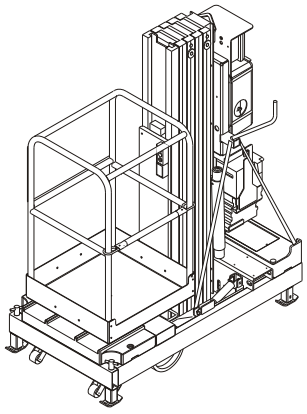
Genie Industries

Technical Publications

Genie® AWP™
Genie® IWP™

Service Manual





First Edition, Second Printing
Part No. 31758

Safety Rules



Danger

Failure to obey the instructions and safety rules in this manual and the *Genie IWP Operator's Manual* and the *Genie AWP 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.



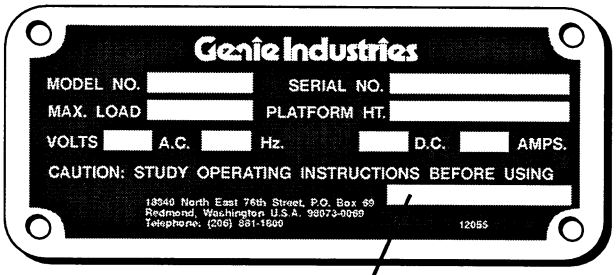
Be sure to properly dispose of old oil or other fluids. Use an approved container. Please be mindful of the environment.

Important

This service manual covers Genie IWP and Genie AWP models with the following five-digit product code:

Product code	Model
27476	AWP-19
27477	AWP-24
27478	AWP-30
27479	AWP-36
29814	IWP-19
29815	IWP-24

The product code is found on the lower right corner of the serial plate.



product code

Machines with a twelve digit product code—for example: 371119-111-19—are not covered in this service manual.

Table of Contents

Introduction

Important Information ii

Section One **Safety Rules**

General Safety Rules iii

Section Two **Specifications**

IWP-19 ..... 2 - 1

IWP-24 ..... 2 - 1

AWP-19 ..... 2 - 2

AWP-24 ..... 2 - 2

AWP-30 ..... 2 - 3

AWP-36 ..... 2 - 3

Bolt Torque Specification ..... 2 - 4

Section Three **Scheduled Maintenance Inspections**

Introduction ..... 3 - 1

Table A ..... 3 - 2

Table B ..... 3 - 2

Table C ..... 3 - 3

Maintenance Inspection Report ..... 3 - 4

Section Four **Scheduled Maintenance Procedures**

Introduction ..... 4 - 1

A-1 Inspect the Operators and Responsibility Manuals - including storage container ..... 4 - 2

A-2 Inspect the Decals and Placards ..... 4 - 2

A-3 Inspect for Damage, Loose or Missing Parts ..... 4 - 3

A-4 Check for Hydraulic Leaks ..... 4 - 3

A-5 Check the Manual Lowering Operation ..... 4 - 4

A-6 Inspect the Battery and Battery Charger - DC Models ..... 4 - 4

A-7 Inspect the Columns for Damage ..... 4 - 4

A-8 Check the Sequencing Cables ..... 4 - 5

TABLE OF CONTENTS

Section Four **Scheduled Maintenance Procedures,** continued

A-9 Check the Interlock System for Proper Operation ..... 4 - 5
A-10 Test the Power and Function Controls ..... 4 - 6
A-11 Inspect the Lifting Chains and Idler Wheels ..... 4 - 7
A-12 Inspect the Breather Cap(s) ..... 4 - 8
A-13 Test the Base Operation - IWP Models ..... 4 - 8
B-1 Inspect the Electrical Wiring ..... 4 - 9
B-2 Inspect All Welds ..... 4 - 9
B-3 Test the Tilt-back Operation - AWP 30 and 36 Models ..... 4 - 10
B-4 Check the Lifting Chain Adjustments ..... 4 - 11
B-5 Check the Battery ..... 4 - 12
B-6 Clean and Lubricate the Columns ..... 4 - 12
B-7 Test the Lifting Capacity ..... 4 - 13
B-8 Test the Power-To-Platform Operation ..... 4 - 13
B-9 Adjust the Sequencing Cables ..... 4 - 14
B-10 Inspect for Proper Outrigger Length - AWP Models ..... 4 - 14
B-11 Test the Level Sensing Operation - IWP Models ..... 4 - 15
C-1 Inspect and Lubricate the Casters and Wheels ..... 4 - 16
C-2 Inspect the Mast Assembly for Wear ..... 4 - 16
C-3 Lubricate the Lifting Chains ..... 4 - 18
C-4 Replace the Hydraulic Oil ..... 4 - 18

Section Five **Troubleshooting Flow Charts**

Introduction 5-1
1 Power Light Will Not Turn On - AC Models 5-3
2 Power Light Will Not Turn On - DC Models 5-4
3 Interlock Lights Will Not Turn On - AWP AC Models 5-6
4 Interlock Lights Will Not Turn On - AWP DC Models 5-8
5 Interlock Lights Will Not Turn On - IWP Models 5-9
6 Machine Will Not Lift - AC Models 5-10
7 Machine Will Not Lift, But Power Unit Will Operate - AC Models 5-11
8 Machine Will Not Lift - DC Models 5-12

TABLE OF CONTENTS

Section Five **Troubleshooting Flow Charts,** continued

9 Machine Will Not Lift, But Power Unit Will Operate - DC Models 5-13
10 Machine Will Not Lower - Up Function Operates 5-14
11 Base Will Not Raise With Foot Pump - IWP Models 5-15
12 Base Will Raise, But Will Not Hold In Up Position - IWP Models 5-16
13 Base Will Not Lower - IWP Models 5-17
14 Platform Will Not Hold In Up Position 5-18
15 Power Unit Will Not Lift Rated Load 5-19

Section Six **Schematics**

Introduction ..... 6 - 1
Symbols Legend ..... 6 - 2
Electrical Schematic - AWP AC Models ..... 6 - 3
Electrical Wiring Diagram - AWP AC Models ..... 6 - 4
Electrical Schematic - AWP DC Models ..... 6 - 6
Electrical Wiring Diagram - AWP DC Models ..... 6 - 8
Electrical Schematic - IWP AC Models ..... 6 - 10
Electrical Wiring Diagram - IWP AC Models ..... 6 - 12
Electrical Schematic - IWP DC Models ..... 6 - 14
Electrical Wiring Diagram - IWP DC Models ..... 6 - 16
Hydraulic Schematic - AWP Models ..... 6 - 18
Hydraulic Schematic - IWP Models ..... 6 - 19

Section Seven **Repair Procedures**

Introduction 7-1

Base Assembly

1-1 Proximity Switches 7-2
1-2 Inner Base Frame - IWP Models 7-4
1-3 Hydraulic Manifold Components - IWP Models 7-5

TABLE OF CONTENTS

Section Seven **Repair Procedures,** continued

Ground Control Box

2-1 How to Test a Relay 7-8
2-2 How to Test the Transformer - AC Models 7-8
2-3 How to Test the AC Contactor - AC Models 7-9
2-4 How to Test the Rectifier - AC Models 7-10

Hydraulic Power Units

3-1 Hydraulic Power Unit Components - AC Models 7-12
3-2 Hydraulic Power Unit Components - DC Models 7-14
3-3 How to Remove the Hydraulic Power Unit 7-16
3-4 How to Remove the Hydraulic Pump 7-16
3-5 How to Adjust the Pressure Relief Valve 7-17
3-6 How to Adjust the Down Solenoid 7-18
3-7 How to Check the Resistance of a Valve Coil 7-18
3-8 How to Test the Motor Start Solenoid 7-19

Power Pack

4-1 How to Change a Power Pack 7-20

Mast Assembly

Mast Illustrations 7-21
5-1 How to Remove the Lift Cylinder 7-22
5-2 How to Remove the Mast Assembly 7-23
5-3 How to Adjust the Lifting Chains 7-29
5-4 How to Inspect the Lifting Chains 7-31

Tilt-back Frame - AWP-30 and 36

6-1 How to Remove the Tilt-back Frame 7-33
6-2 How to Adjust the Pivot Slider or Stop Bracket 7-33
6-3 How to Disassemble the Shock Absorber Assembly 7-34

Platform

7-1 How to Remove an Aluminum Platform 7-35
7-2 How to Install a Fiberglass Platform 7-35
7-3 How to Test the Contactors 7-35

TABLE OF CONTENTS

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Specifications

IWP-19

Height, maximum working	25 ft 4 in	7.7 m
Height, maximum platform	19 ft 4 in	5.8 m
Lift capacity	350 lbs	159 kg
Power sources		12V DC 110V AC or 220V AC
Machine weight DC AC	 1111 lbs 1050 lbs	 505 kg 477 kg
Height, stowed, base lowered Height, stowed, base fully raised	77 in 79 in	195 cm 200 cm
Width	32 in	81 cm
Length	60 in	152 cm
Platform length	26 in	66 cm
Platform width	26 in	66 cm
Platform railing height	43 in	106 cm
Corner access (corner of platform top rail to corner of wall with ability to rotate leveling jack handle)	6 in	15 cm
Platform function speed, maximum	**AC**	**DC**
Platform up	40 sec	27 sec
Platform down	27 sec	27 sec
Maximum hydraulic pressure	1800 psi	124 bar

IWP-24

Height, maximum working	29 ft 10 in	9.1 m
Height, maximum platform	23 ft 10 in	7.2 m
Lift capacity	350 lbs	159 kg
Power sources		12V DC 110V AC or 220V AC
Machine weight DC AC	 1311 lbs 1250 lbs	 596 kg 568 kg
Height, stowed, base lowered Height, stowed, base fully raised	77 in 79 in	195 cm 200 cm
Width	32 in	81 cm
Length	60 in	152 cm
Platform length	26 in	66 cm
Platform width	26 in	66 cm
Platform height	43 in	106 cm
Corner access (corner of platform top rail to corner of wall with ability to rotate leveling jack handle)	6 in	15 cm
Platform function speed, maximum	**AC**	**DC**
Platform up	40 sec	27 sec
Platform down	27 sec	27 sec
Maximum hydraulic pressure	2000 psi	138 bar

SPECIFICATIONS

AWP-19

Height, maximum working	25 ft 6 in	7.8 m
Height, maximum working	19 ft 6 in	5.9 m
Lift capacity	300 lbs	136 kg
Power sources		12V DC 115V AC or 220V AC
Machine weight DC AC	 694 lbs 623 lbs	 315 kg 283 kg
Height, stowed	79 in	200 cm
Width (outriggers stored)	29 in	74 cm
Length	47.5 in	120 cm
Outrigger footprint width	58 in	146 cm
Outrigger footprint length	65 in	164 cm
Platform length	26 in	66 cm
Platform width	26 in	66 cm
Platform railing height	43 in	106 cm
Outrigger length	22 in	56 cm
Corner access (corner of platform top rail to corner of wall with ability to rotate leveling jack handle)	21 in	53 cm
Platform function speed, maximum	**AC**	**DC**
Platform up	40 sec	27 sec
Platform down	27 sec	27 sec
Maximum hydraulic pressure	1600 psi	110 bar

AWP-24

Height, maximum working	30 ft	9.1 m
Height, maximum working	24 ft	7.3 m
Lift capacity	300 lbs	136 kg
Power sources		12V DC 115V AC or 220V AC
Machine weight DC AC	 717 lbs 639 lbs	 325 kg 290 kg
Height, stowed	79 in	200 cm
Width (outriggers stored)	29 in	74 cm
Length	47.5 in	120 cm
Outrigger footprint width	58 in	146 cm
Outrigger footprint length	65 in	164 cm
Platform length	26 in	66 cm
Platform width	26 in	66 cm
Platform railing height	43 in	106 cm
Outrigger length	22 in	56 cm
Corner access (corner of platform top rail to corner of wall with ability to rotate leveling jack handle)	21 in	53 cm
Platform function speed, maximum	**AC**	**DC**
Platform up	40 sec	27 sec
Platform down	27 sec	27 sec
Maximum hydraulic pressure	1800 psi	124 bar

SPECIFICATIONS

AWP-30

Height, maximum working	36 ft	11 m
Height, maximum working	30 ft	9.1 m
Lift capacity	300 lbs	136 kg
Power sources		12V DC 115V AC or 220V AC
Machine weight DC AC	 866 lbs 788 lbs	 393 kg 357 kg
Height, stowed	93 in	236 cm
Height, tilted back	79 in	200 cm
Width (outriggers stored)	29 in	74 cm
Length	51.5 in	131 cm
Outrigger footprint width	75 in	191cm
Outrigger footprint length	73 in	186 cm
Platform length	26 in	66 cm
Platform width	26 in	66 cm
Platform railing height	43 in	106 cm
Outrigger length	31 in	79 cm
Corner access (corner of platform top rail to corner of wall with ability to rotate leveling jack handle)	31.75 in	81 cm
Platform function speed, maximum	**AC**	**DC**
Platform up	50 sec	33 sec
Platform down	32 sec	32 sec
Maximum hydraulic pressure	2050 psi	141 bar

AWP-36

Height, maximum working	42 ft	12.8 m
Height, maximum working	36 ft	11 m
Lift capacity	250 lbs	113 kg
Power sources		12V DC 115V AC or 220V AC
Machine weight DC AC	 940 lbs 868 lbs	 426 kg 394 kg
Height, stowed	112 in	284 cm
Height, tilted back	79 in	200 cm
Width (outriggers stored)	29 in	74 cm
Length	51.5 in	131 cm
Outrigger footprint width	81 in	205 cm
Outrigger footprint length	81 in	205 cm
Platform length	26 in	66 cm
Platform width	26 in	66 cm
Platform railing height	43 in	106 cm
Outrigger length	36 in	92 cm
Corner access (corner of platform top rail to corner of wall with ability to rotate leveling jack handle)	41.5 in	105 cm
Platform function speed, maximum	**AC**	**DC**
Platform up	60 sec	41 sec
Platform down	43 sec	43 sec
Maximum hydraulic pressure	1900 psi	131 bar

SPECIFICATIONS

Bolt Torque Specifications

Size	Threads per inch	SAE Grade 5 Bolts Torque - Dry inch-pounds	Torque - Dry foot-pounds	Torque - Dry Newton meters	SAE Grade 8 Bolts 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 complete the 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 - including storage container			
A-2	Inspect the Decals and Placards			
A-3	Inspect for Damage and Loose or Missing Parts			
A-4	Check for Hydraulic Leaks			
A-5	Check the Manual Lowering Operation			
A-6	Inspect the Battery and Battery Charger - DC Models			
A-7	Inspect the Columns for Damage			
A-8	Check the Sequencing Cables			
A-9	Check the Interlock System for Proper Operation			
A-10	Test the Power and Function Controls			
A-11	Inspect the Lifting Chains and Idler Wheels			
A-12	Inspect the Breather Cap(s)			
A-13	Test the Base Operation - IWP Models			

Table B

—	**Complete all procedures in Table A**			
B-1	Inspect the Electrical Wiring			
B-2	Inspect All Welds			

MAINTENANCE TABLES

Table B, continued		Tools are required	New parts required	Dealer service suggested
B-3	Test the Tilt-back Operation AWP-30 and 36 Models			
B-4	Check the Lifting Chain Adjustments			
B-5	Check the Battery			
B-6	Clean and Lubricate the Columns			
B-7	Test the Lifting Capacity			
B-8	Test the Power To Platform Operation			
B-9	Adjust the Sequencing Cables			
B-10	Inspect for Proper Outrigger Length - AWP Models			
B-11	Test the Level Sensing Operation - IWP Models			

Table C

—	**Complete all procedures in Table A and Table B**			
C-1	Inspect and Lubricate the Casters and Wheels			
C-2	Inspect the Mast Assembly for Wear			
C-3	Lubricate the Lifting Chains			
C-4	Replace the Hydraulic Oil			

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	Manual lowering operation			
A-6	Battery and charger - DC models			
A-7	Columns			
A-8	Sequencing cables			
A-9	Interlock system operation			
A-10	Power and function controls			
A-11	Lifting chains and idler wheels			
A-12	Breather cap(s)			
A-13	Base operation - IWP models			

Checklist B		**Y**	**N**	**R**
Refer to Table B				
B-1	Electrical wiring			
B-2	Welds			
B-3	Tilt-back operation - AWP 30, 36 models			
B-4	Lifting chain adjustments			
B-5	Battery			
B-6	Clean and lubricate columns			
B-7	Lifting capacity			
B-8	Power to platform operation			
B-9	Sequencing cables			
B-10	Proper outrigger length - AWP models			
B-11	Level sensing operation - IWP models			

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			

Scheduled Maintenance Procedures



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

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

3 Always return the manuals to the storage box after use.

4 Be sure the storage container and lid are present and in good condition.

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 IWP Operator's Manual* or the *Genie AWP Operator's Manual* and use the decal list and illustrations to determine that all decals and placards are in place.

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

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

A-3
Inspect for Damage and Loose or Missing Parts

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

1 Inspect the entire machine for damage and improperly installed or missing parts including:

- electrical cables and wiring
- electrical cable anchors and pulleys
- hydraulic power unit, hoses, fittings, cylinder(s)
- sequencing cables and pulleys
- lifting chains and idler wheels
- mast columns and counterweight
- nuts, bolts and other fasteners
- platform entry mid-rail
- breather cap(s)
- hydraulic manifolds and foot pump - IWP models
- contact point wear pads - IWP models
- outriggers, leveling jacks and foot pads - AWP models
- dents or damage to machine
- cracks in welds or structural components

A-4
Check for Hydraulic Leaks

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

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

- hydraulic power unit—tank, valves, fittings
- hydraulic cylinder(s)
- flow control valve
- ground area under the machine
- all hydraulic hoses and fittings
- hydraulic manifolds and foot pump - IWP models

TABLE A PROCEDURES

A-5
Check the Manual Lowering Operation

Detection of 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 power loss.

1 Raise the platform slightly.

2 Pull out the manual lowering lever located on the hydraulic power unit.

⊙ Result: Platform should lower.

A-6
Check 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 water to the bottom of the battery fill tube. Do not overfill.

4 Install the vent caps.

5 Plug charger in and set timer to ON position (if applicable). Confirm the charger is operating.

⊙ Result: The charger ammeter or lights should be ON.

A-7
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 the exterior of each column for the following:

- dents, gouges or abrasions
- bends or warping
- excessive wear

2 Raise and lower the platform through a complete cycle.

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

TABLE A PROCEDURES

A-8
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
- lower cable ends are properly secured
- upper and lower mounting brackets are properly secured

A-9
Check the Interlock System for Proper Operation

AWP Models

1 Select a test area free of obstructions.

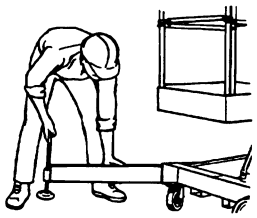
2 Connect the appropriate power source.

3 Turn the key switch to the ON position.

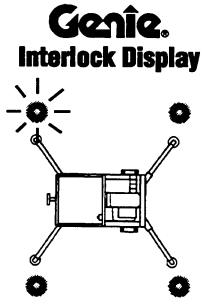
⊙ Result: The power light should come on.

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

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



6 Check the interlock display lights at the ground controls.



⊙ Confirm that the corresponding light is on.

7 Repeat steps 5 and 6 for each of the remaining outriggers.

TABLE A PROCEDURES

IWP Models

1 Connect the appropriate power source.

2 Insert the key and turn to the ON position.

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

⊙ Result: The power light should come on.

4 Use the bubble level and adjust the leveling jacks until the machine is level and all four contact points are in firm contact with the ground.

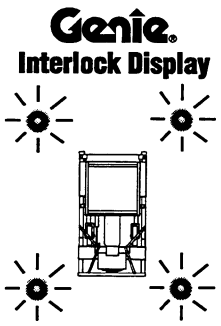
⊙ Result: Within 3 to 6 seconds, all four interlock display lights should turn on and remain on.

5 Pump the foot pedal to raise the base.

6 Turn the right hand leveling jack clockwise 3 full turns.

7 Pull the base lowering handle to lower the base.

⊙ Result: The base will lower and the diagonal pair of lights corresponding to the extended leveling jack will remain on. The opposite pair of lights will turn off.



8 Pump the foot pedal to raise the base.

9 Turn the right hand leveling jack counterclockwise 3 full turns. Then turn the left hand leveling jack clockwise 3 full turns.

10 Pull the base lowering handle to lower the base.

⊙ Result: The base will lower and the diagonal pair of lights corresponding to the extended leveling jack will remain on. The opposite pair of lights will turn off.

11 Pump the foot pedal to raise the base.

12 Turn both the leveling jacks clockwise to the full down position.

13 Pull the base lowering handle to lower the base.

⊙ Result: The base will lower and all four interlock display lights should be off and remain off because the base is not level. The lights may remain on for 2 to 3 seconds after lowering the base, then turn off.

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

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

⊙ Result: Platform up function should not operate.

A-10 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 activate, operate smoothly and be free of hesitation, jerking and unusual noise.

1 Turn the key switch to the ON position and pull out 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 and 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 and down functions should not operate.

A-11
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.

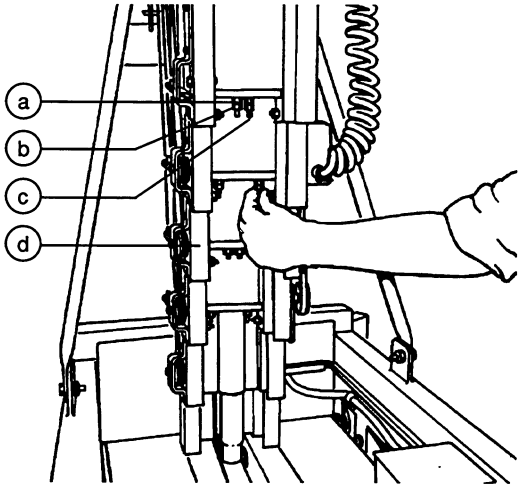
1 Raise the platform approximately 3 feet (1 m) off the base.

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

- excessive corrosion
- broken or missing chain leafs
- tight or kinked joints in the chain
- idler wheel axle plates improperly secured
- idler wheels and related components missing or damaged

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

4 Inspect the chain terminations near the bottom of each to confirm that each pair of termination rods has equal tension.



a adjustment nut
b lock nut
c termination rod
d mast

TABLE A PROCEDURES

A-12
Inspect the Breather Cap(s)

The hydraulic reservoir is a breathing type reservoir. The breather cap has an internal air filter that can clog and allow 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.

2 **IWP models**: Be sure the breather cap is installed on the hydraulic manifold and is not damaged. Do not remove it.

A-13
Test the Base Operation - IWP Models

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 Pump the foot pedal ten complete strokes.

⊙ Result: Base non-adjustable contact points should be 2 inches (5 cm) off the ground.

2 Pull the base lowering handle.

⊙ Result: Base should lower putting all four contact points in firm contact with the ground.

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:

- inside of the base junction box
- inside of the ground control box
- inside of the mast junction box
- hydraulic power unit
- all external machine cables
- inside of the platform control box
- battery pack - DC models
- three-prong 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
- power pack mounting brackets
- mast brace mounting brackets

AWP models only:

- loading pivot bar
- outrigger storage sockets
- mast support angles (30 and 36 models)
- tilt-back frame (30 and 36 models)
- tilt-back frame mounting brackets (30 and 36 models)

IWP models only:

- counterweight
- base contact points

TABLE B PROCEDURES

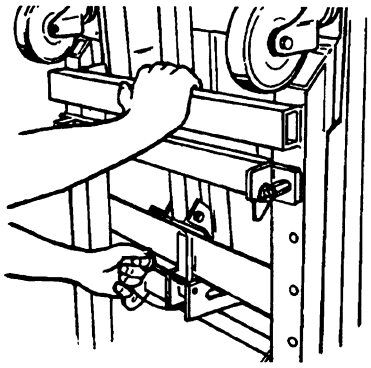
B-3
Test the Tilt-back Operation - AWP-30 and 36 Models

The Genie AWP-30 and 36 models have a tilt-back frame which allows the machine to be rolled through a standard doorway. Failure to detect improper tilt-back operation could result in unsafe operating conditions and may cause injury and component damage.

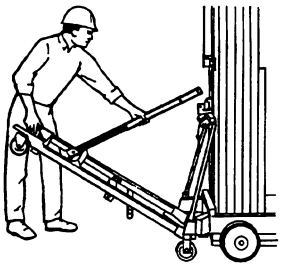
1 Fully lower the platform.

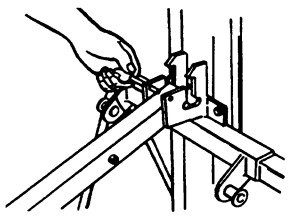
2 Remove the outriggers from the sockets base and place them in the outrigger storage sockets.

3 Maintain a firm grasp on the tilt-back frame and remove the retaining pin.



4 Lower the tilt-back frame and guide the tilt-back strut into the strut socket. Then insert the retainer pin into the strut socket.

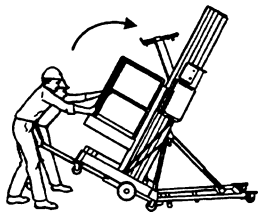




⚠WARNING Crushing hazard. The machine will fall if the retainer pin is not locked into the strut socket.

5 Slide out the base T-handle until the lock pin snaps into the locked position.

6 Using two people, lift the machine with the T-handle to the mid-tilt position (tilt-back frame casters contacting the floor and the machine supported by the extended tilt-back strut).



⚠WARNING Crushing hazard. The machine could fall if the T-handle lock pin is not locked into the base.

7 Continue lifting the T-handle until the tilt-back strut is completely compressed.

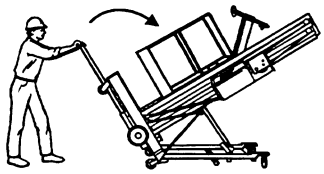


TABLE B PROCEDURES

B-4
Check the Lifting Chain Adjustments

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

1 Fully lower the platform and measure the maximum height of the machine.

IWP models: Turn the screw jacks counterclockwise to the full up position and then pull the base lowering handle to lower the base.

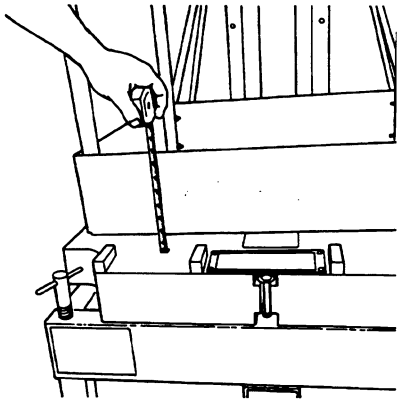
⊙ Result: The machine should be no taller than specification.

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



2 **AWP models:** Measure the distance between the base tube and the bottom of the platform.

IWP models: Measure the distance between the bottom of the platform to the top of the counterweight.



⊙ Result: The measurement should be no less than specification.

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

Specifications

Model	Height	Measurement (step 2)
IWP-19	77 in 195 cm	2.5 in 6.35 cm
IWP-24	77 in 195 cm	2.5 in 6.35 cm
AWP-19	79 in 200 cm	3 in 7.6 cm
AWP-24	79 in 200 cm	3 in 7.6 cm
AWP-30	93 in 236 cm	12 in 30.5 cm
AWP-36	112 in 284 cm	12 in 30.5 cm

TABLE B PROCEDURES

B-5
Check the Battery

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 water to cover the battery plates. Do not overfill.

4 Install the vent caps.

5 Plug charger in and set timer to the ON position (if applicable) and observe charger ammeter after one hour to confirm charging amperage has dropped.

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

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

7 Install the vent caps.

B-6
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 (Genie part no. 90337) or silicone wax.

B-7
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 Load the platform with the maximum rated load. Secure the load to the platform.

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 3-5, *How to Adjust the Pressure Relief Valve.*

Lifting capacity		
AWP-36	250 lbs	113 kg
AWP-30	300 lbs	136 kg
AWP-24	300 lbs	136 kg
AWP-19	300 lbs	136 kg
IWP-19	350 lbs	159 kg
IWP-24	350 lbs	159 kg

B-8
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 a three-prong 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 Models equipped with a GFCI outlet may require that the outlet be reset with the reset button.

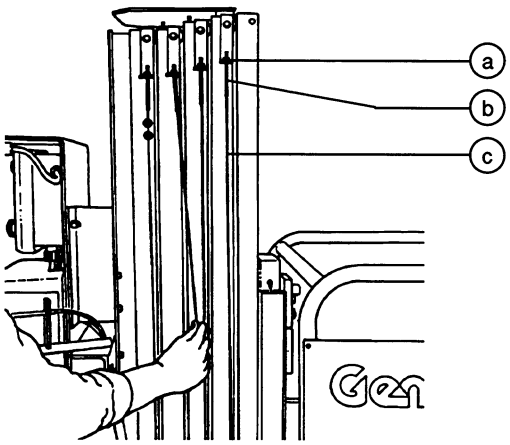
TABLE B PROCEDURES

B-9
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 system allows the inspector to identify changes in the operating condition that might indicate damage.

1 Fully lower the platform.

2 Check the tension on each sequencing cable by grasping the cable half way 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 nut
b threaded swage end
c sequencing cable

3 Hold the threaded swage end of the cable from turning and adjust the tension nut to obtain correct tension. 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.

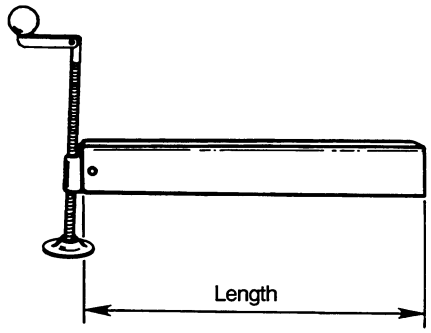
6 Raise and lower the platform through three complete cycles and re-check cable tension.

Specification	
Maximum Deflection	3.5 to 4.5 inches 8.9 to 11.4 cm

B-10
Inspect for Proper Outrigger Length - AWP Models

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

1 Measure each outrigger and verify for proper length.



AWP Models (sold in North America only)		
AWP-19	22 inches	55.9 cm
AWP-24	22 inches	55.9 cm
AWP-30	31 inches	78.7 cm
AWP-36	36 inches	91.4 cm

B-11
Test the Level Sensing Operation - IWP Models

Detection of level sensing malfunctions is essential for safe machine operation. An improperly functioning level sensing system will allow the machine to be operated in an unsafe condition.

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

⊙ Result: Power light should be on.

2 Use the bubble level and adjust the leveling jacks until the machine is level and all four contact points are in firm contact with the ground.

⊙ Result: Within 3 to 5 seconds, all four interlock display lights should turn on and remain on.

3 Pump the foot pedal to raise the base.

4 Place a 1/4 inch (6.35 mm) thick block under one adjustable and one non-adjustable contact point on the same side of the machine.

5 Pull the release handle to fully lower the base.

⊙ Result: Within 3 to 5 seconds, all four interlock display lights should turn on and remain on.

6 Repeat steps 3 and 4 using a 1/2 inch (12.7 mm) spacer.

7 Pull the release handle to fully lower the base.

⊙ Result: After 2 to 3 seconds, all four interlock display lights should turn off and remain off.

8 Repeat steps 3 through 7 to test the opposite side of the machine tested previously.

9 Pump the foot pedal to raise the base.

10 Place a 3/4 inch (19 mm) thick block under both adjustable contact points.

11 Pull the release handle to fully lower the base.

⊙ Result: Within 3 to 5 seconds, all four interlock display lights should turn on and remain on.

12 Repeat steps 9 and 10 using an 1 1/2 inch (38.1 mm) spacer.

13 Pull the release handle to fully lower the base.

⊙ Result: After 2 to 3 seconds, all four interlock display lights should turn off and remain off.

14 Repeat steps 9 through 13 to test the non-adjustable contact points.

Table C Procedures

C-1
Inspect and Lubricate the Casters and Wheels

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

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

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

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

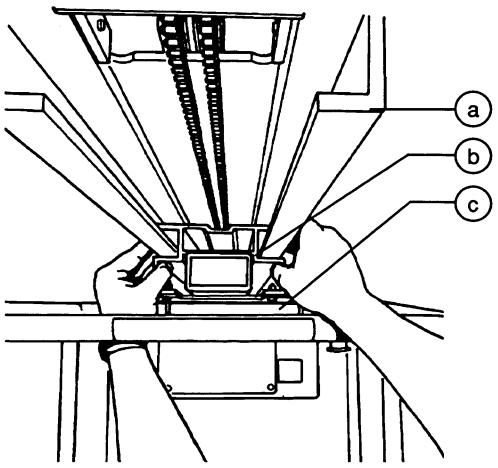
Grease Type	Lithium-based

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 Check the side-to-side movement at the top of the column that the platform is mounted to (referred to as the carriage).

⊙ Result: The carriage should not be able to touch either side of the adjacent column.



a column
b carriage
c platform

2 Remove the mounting fasteners from the mast cover. Then remove the mast cover from the machine.

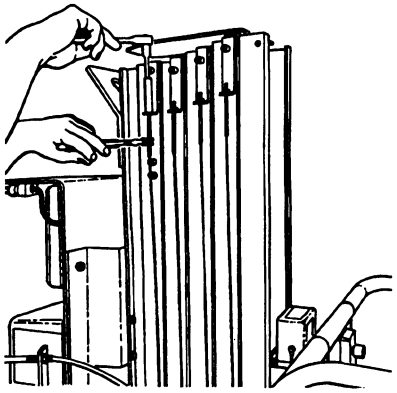
3 Visually inspect the top of each column for clearance between the roller wheels and the adjacent column surface.

⊙ Result: There should be a maximum gap of 0.020 inches (0.5 mm) between the roller wheel and the column.

TABLE C PROCEDURES

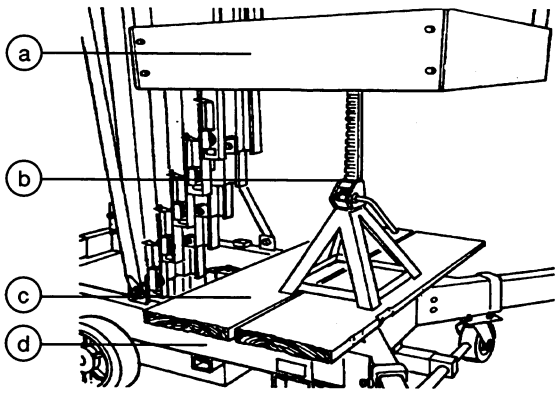
NOTICE If mast inspection results in a measurement that is not within specification, refer to Repair procedure 5-2, *How to Assemble the Mast.*

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



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 support block
d base

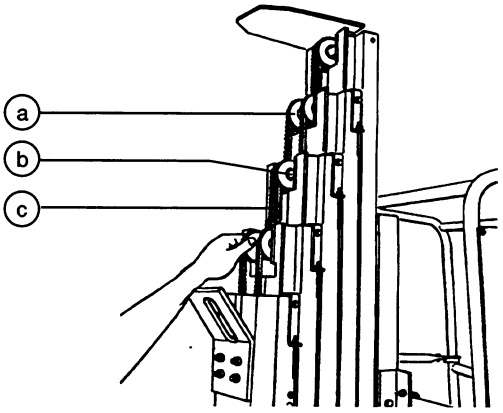
ACAUTION Do not place the jack stand on the ground. AWP models will require blocks on the base to support the jack stand.

7 Lower the platform onto the jack stand.

AWARNING 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 cover and adjust the sequencing cable. See B-9, *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 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 Remove the reservoir from the hydraulic power unit.

5 Remove the suction strainer, the reservoir and the magnet and clean them using a mild solvent.

6 Install the suction strainer, then the reservoir.

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

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

9 Replace the breather cap with a new one.

IWP Models: Replace the breather cap located on the hydraulic manifold.

10 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 II equivalent	
Hydraulic reservoir capacity		
AC models	4.5 quarts	4.2 liters
DC models	3.3 quarts	3.1 liters
Hydraulic System Capacity (includes reservoir)		
AC models		
IWP - 19	5.4 quarts	5.1 liters
IWP - 24	5.4 quarts	5.1 liters
AWP - 19	5.4 quarts	5.1 liters
AWP - 24	5.4 quarts	5.1 liters
AWP - 30	5 quarts	4.7 liters
AWP - 36	5.1 quarts	4.8 liters
DC models		
IWP - 19	4.2 quarts	4 liters
IWP - 24	4.2 quarts	4 liters
AWP - 19	4.2 quarts	4 liters
AWP - 24	4.2 quarts	4 liters
AWP - 30	3.8 quarts	3.6 liters
AWP - 36	3.9 quarts	3.7 liters

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 IWP Operators Manual* and the *Genie AWP Operators 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

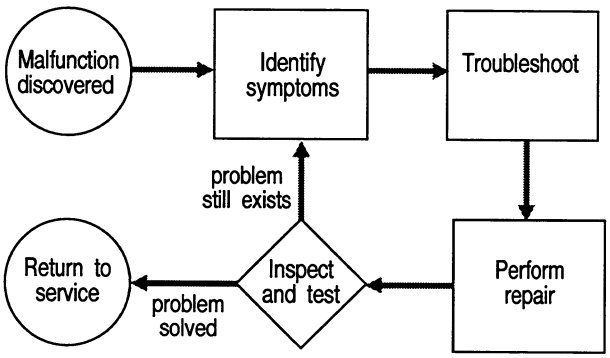


Chart 1

Power Light Will Not Turn On - AC Models

Be sure the key switch is in the appropriate position.

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

Be sure the ground control box fuses are not blown.

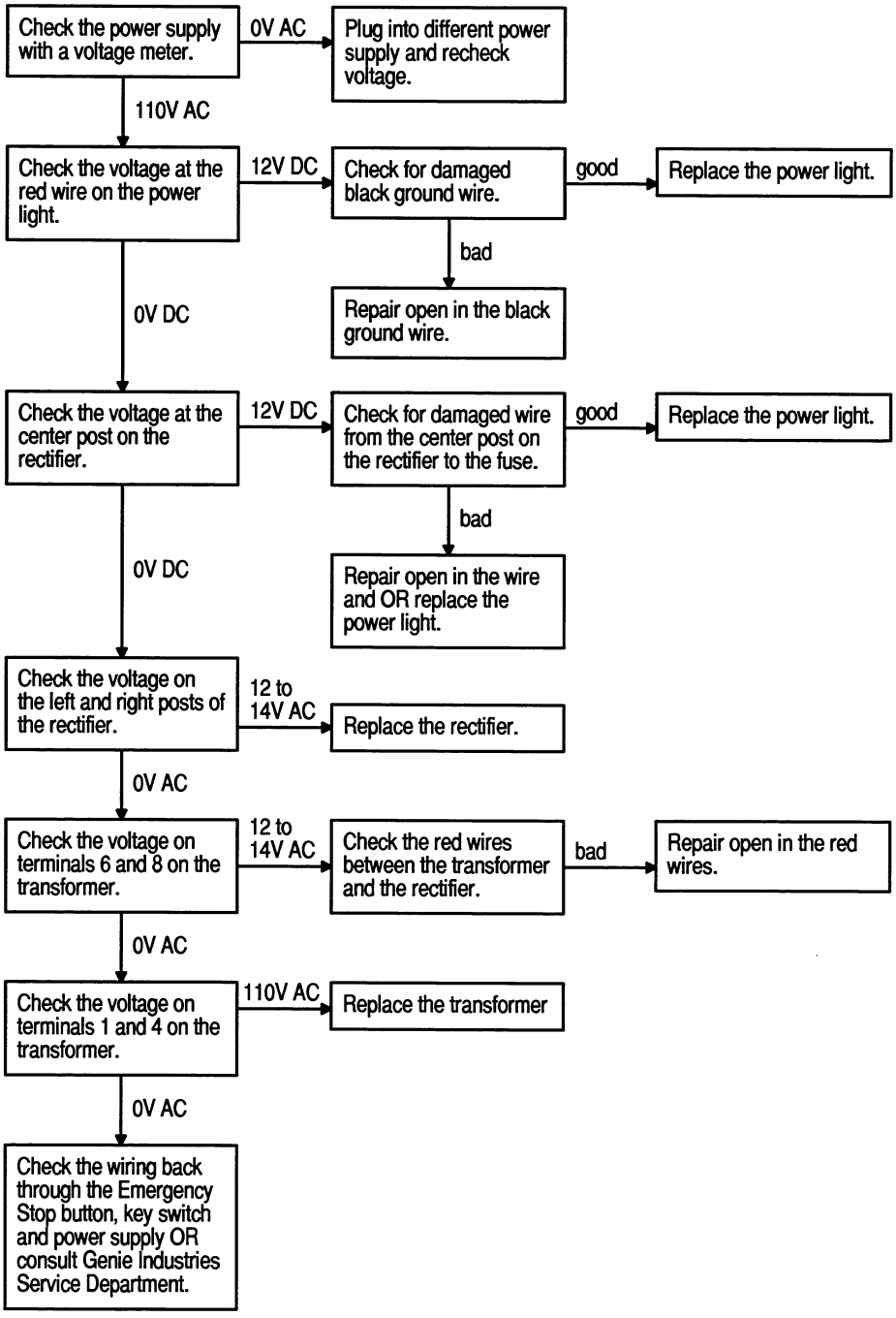


Chart 2

Power Light Will Not Turn On - DC Models

Be sure the key switch 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.

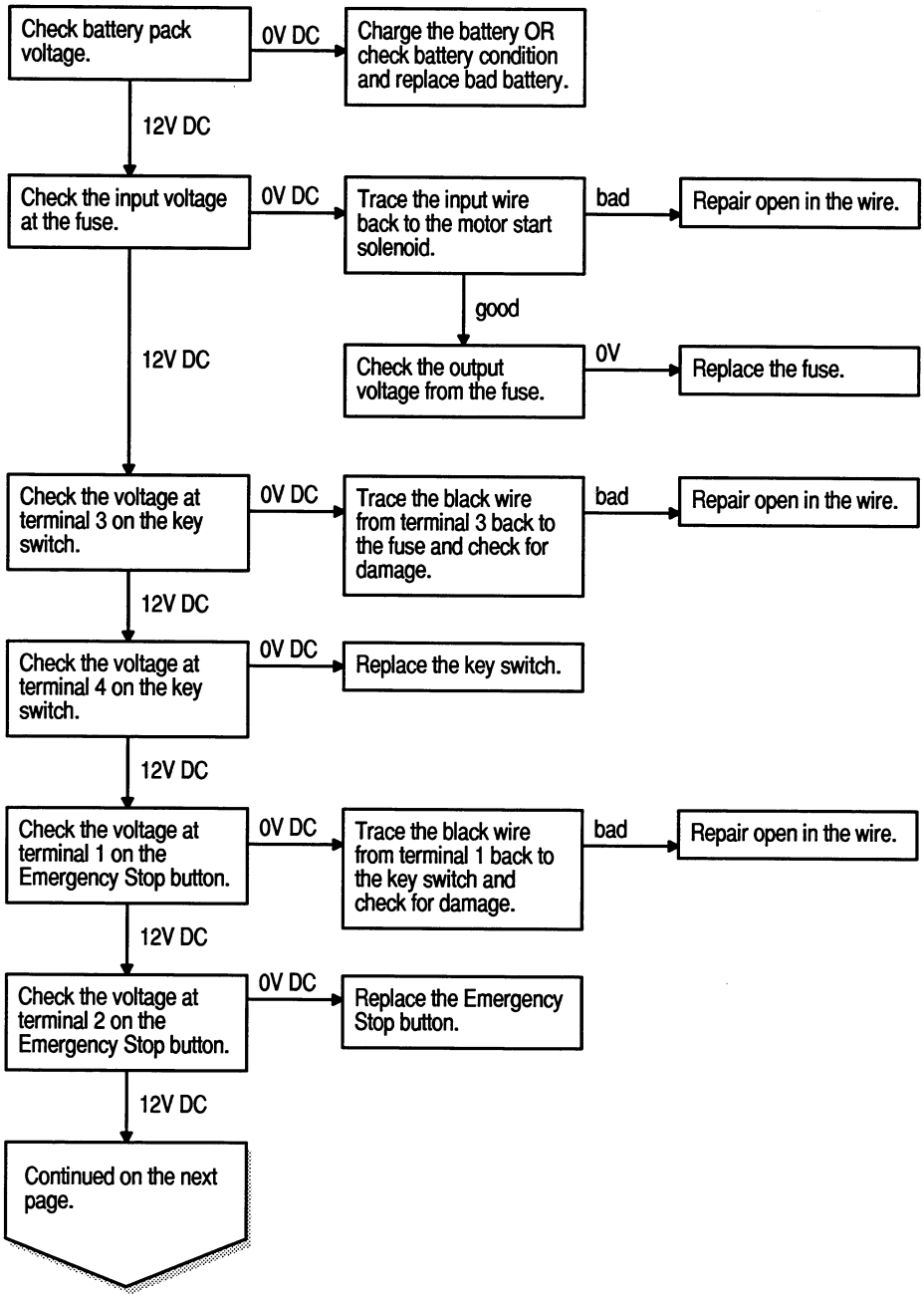


CHART 2

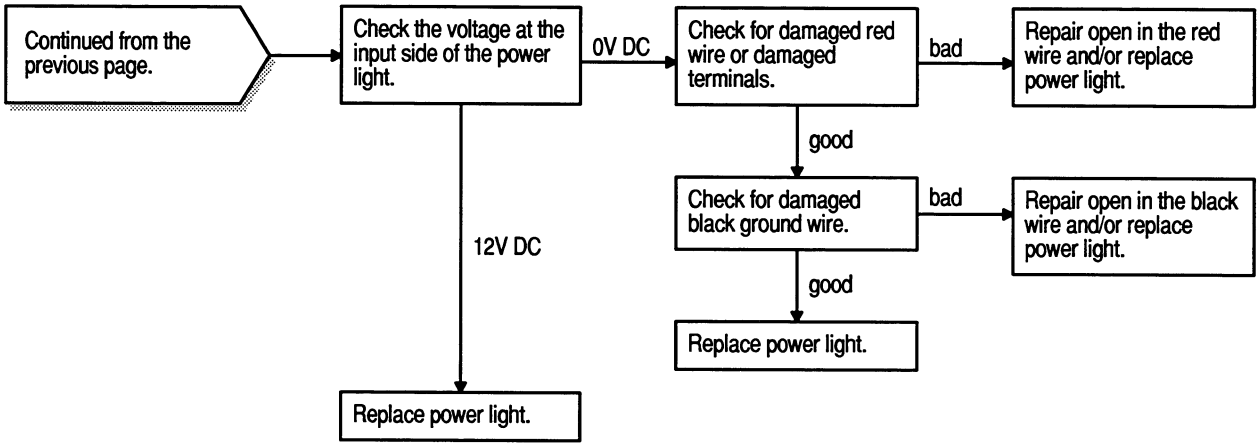

Continued from the previous page.
Check the voltage at the input side of the power light.
0V DC
Check for damaged red wire or damaged terminals.
bad
Repair open in the red wire and/or replace power light.
good
Check for damaged black ground wire.
bad
Repair open in the black wire and/or replace power light.
good
Replace power light.
12V DC
Replace power light.

Chart 3

Interlock Lights Will Not Turn On - AWP AC Models

Be sure the key switch 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 outriggers are the correct length.

Be sure the leveling jacks are in firm contact with the ground.

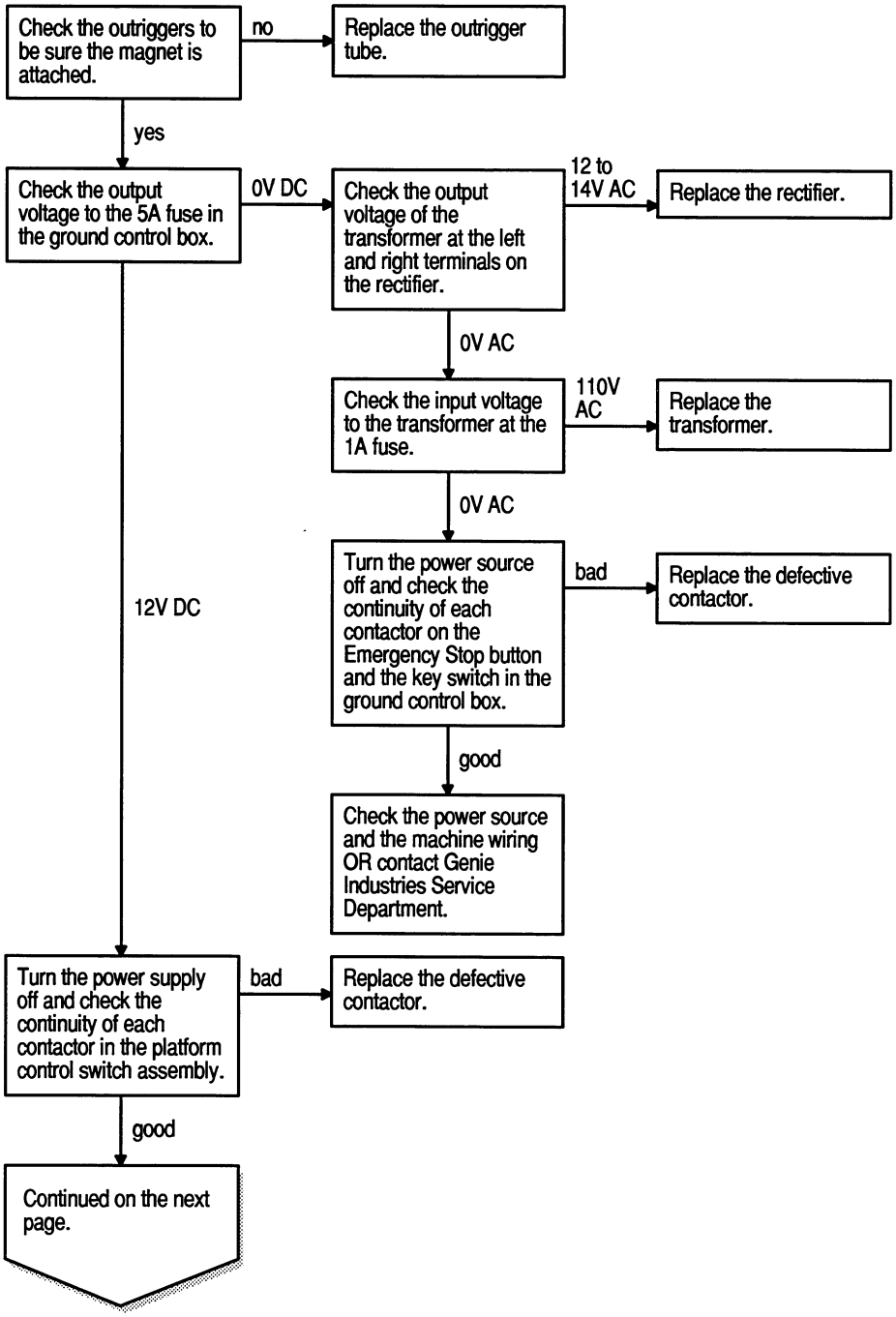


CHART 3

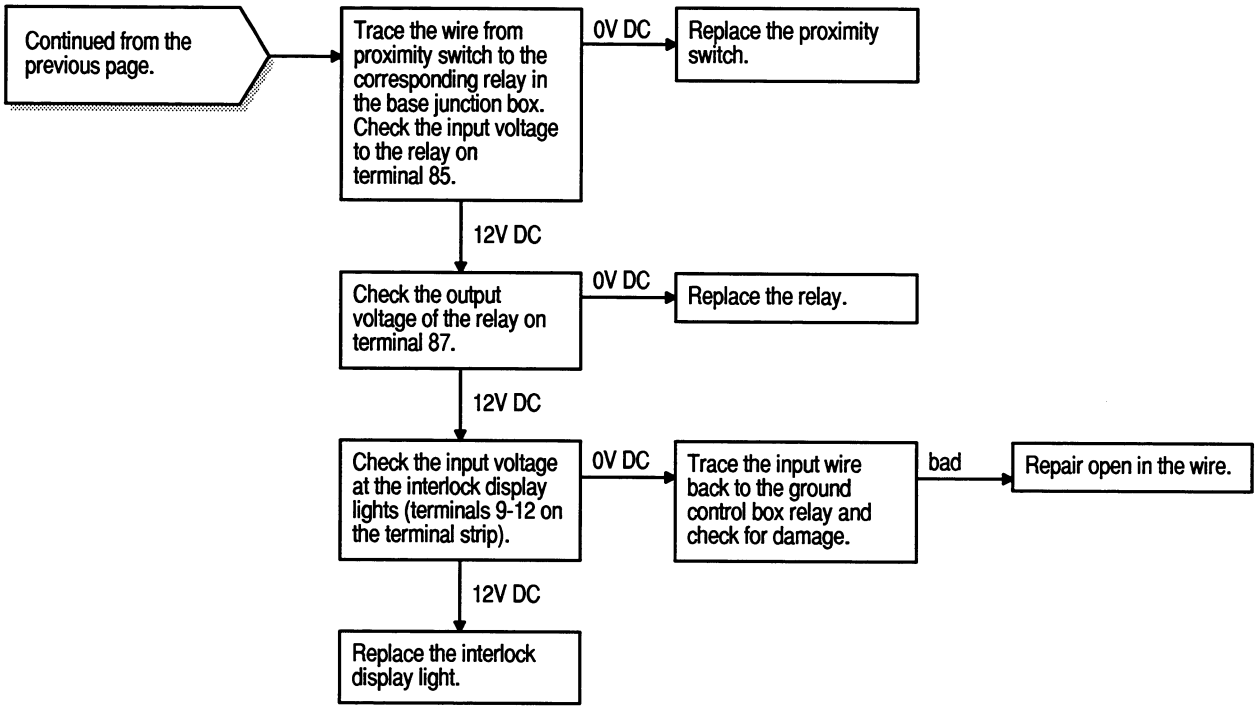

Continued from the previous page.
Trace the wire from proximity switch to the corresponding relay in the base junction box. Check the input voltage to the relay on terminal 85.
0V DC
Replace the proximity switch.
12V DC
Check the output voltage of the relay on terminal 87.
0V DC
Replace the relay.
12V DC
Check the input voltage at the interlock display lights (terminals 9-12 on the terminal strip).
0V DC
Trace the input wire back to the ground control box relay and check for damage.
bad
Repair open in the wire.
12V DC
Replace the interlock display light.

Chart 4

Interlock Lights Will Not Turn On - AWP DC Models

Be sure the key switch 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 outriggers are the correct length.

Be sure the leveling jacks are in firm contact with the ground.

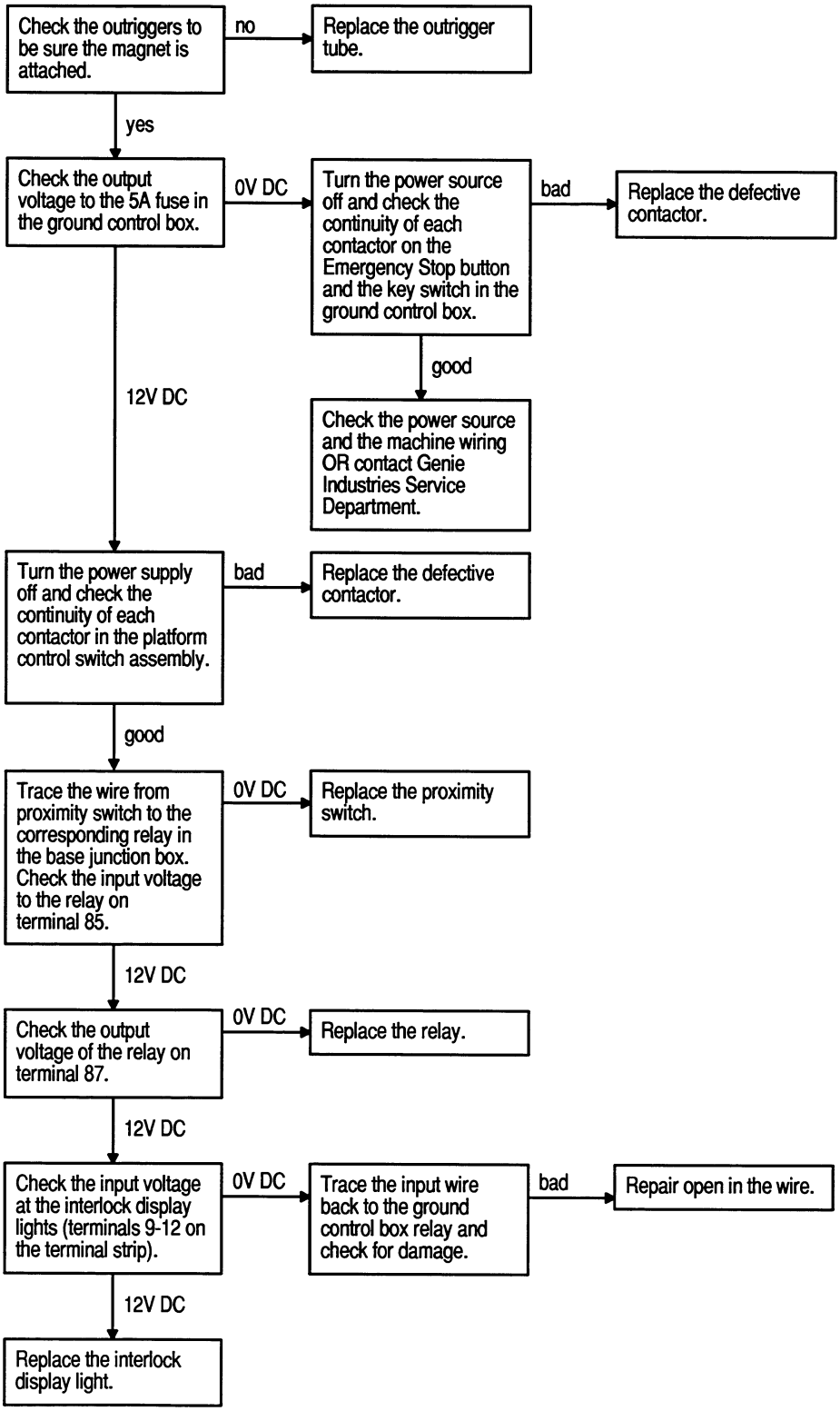


Chart 5

Interlock Lights Will Not Turn On - IWP Models

Be sure the key switch is in the appropriate position.

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

Be sure the power light is on.

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

Be sure the ground control box fuse(s) are not blown.

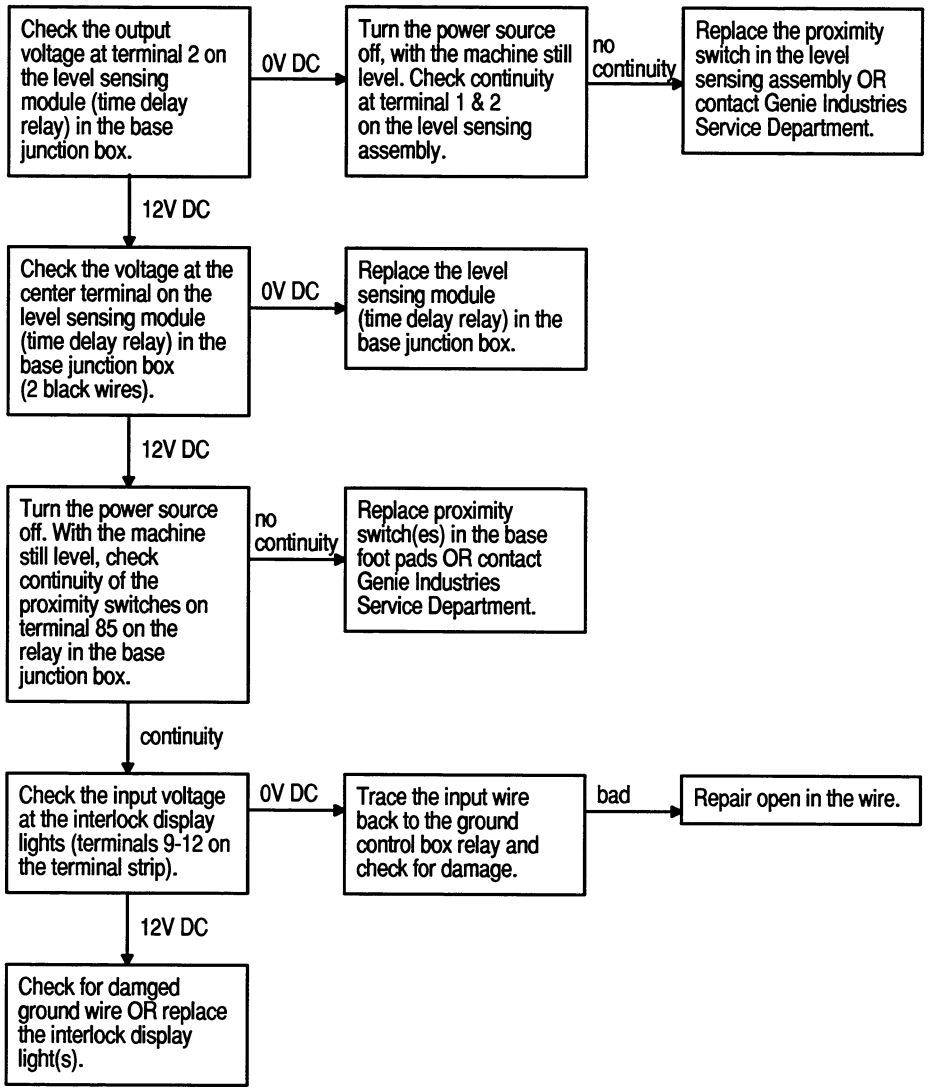


Chart 6

Machine Will Not Lift - AC Models

Be sure the key switch is in the appropriate position.

Be sure the emergency stop buttons are pulled up to the ON position.

Be sure the ground control box fuse(s) are good.

Be sure all display lights are on.

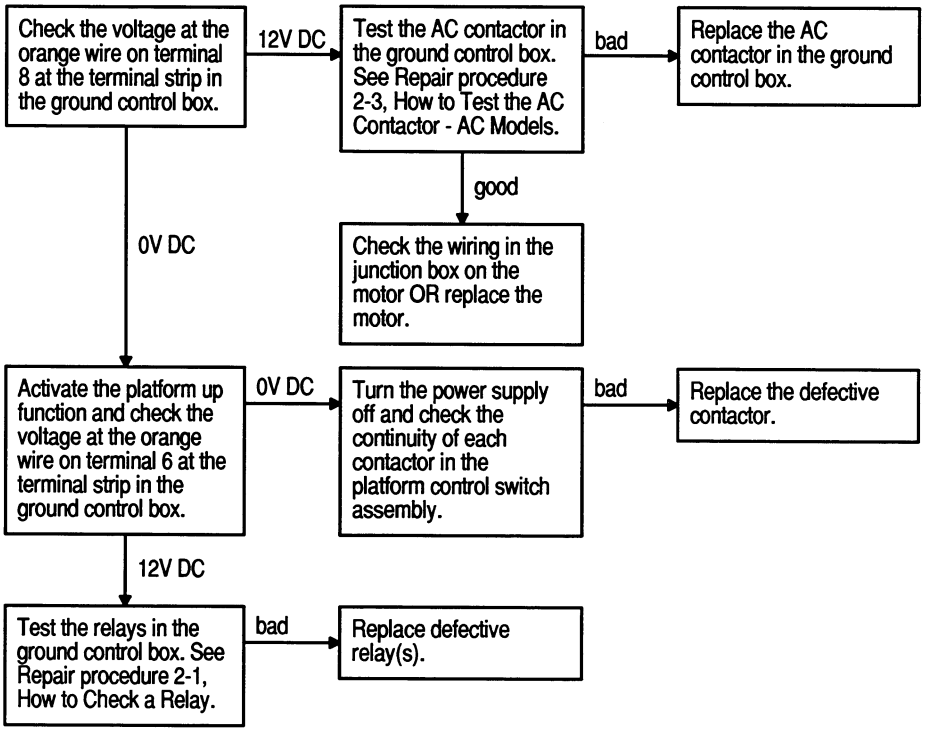


Chart 7

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

Be sure the key switch is in the appropriate position.

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

Be sure the ground control box fuse(s) are not blown.

Be sure the power unit reservoir is full.

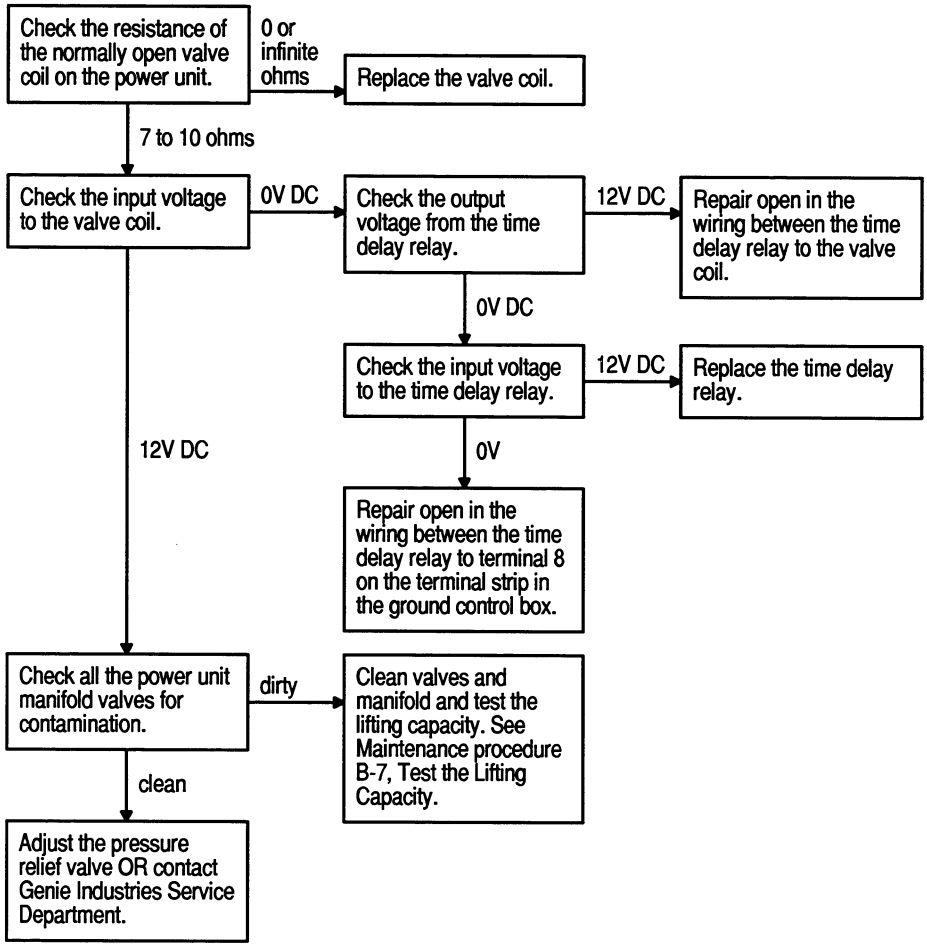


Chart 8

Machine Will Not Lift - DC Models

Be sure the key switch is in the appropriate position.

Be sure the emergency stop buttons are pulled up to the ON position.

Be sure the ground control box fuse is good.

Be sure all display lights are on.

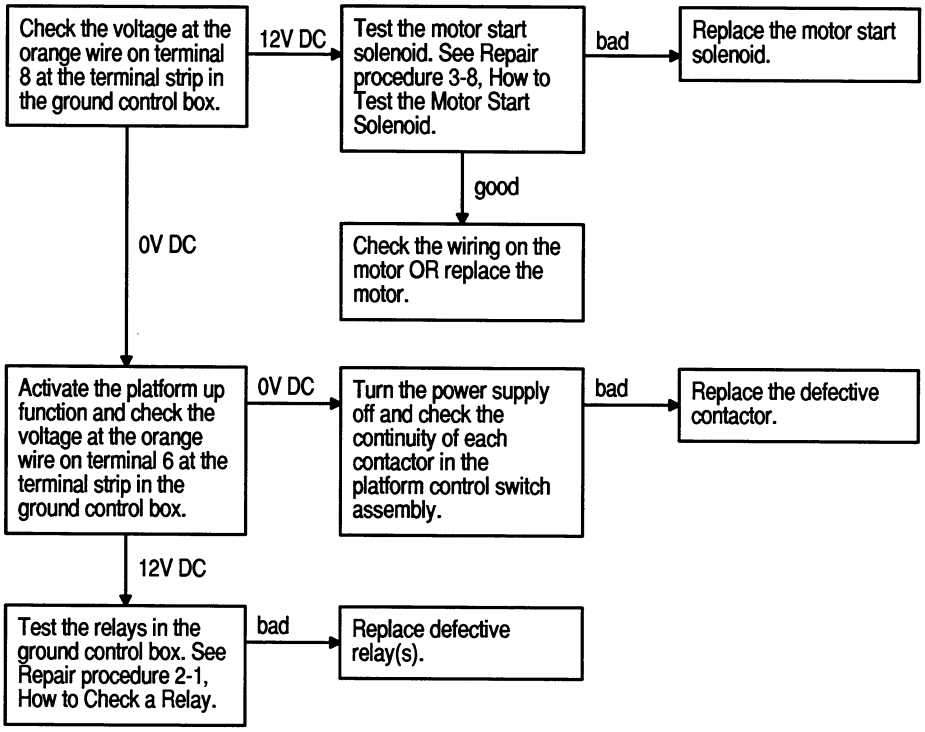


Chart 9

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

Be sure the key switch is in the appropriate position.

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

Be sure the ground control box fuse not blown.

Be sure the power unit reservoir is full.

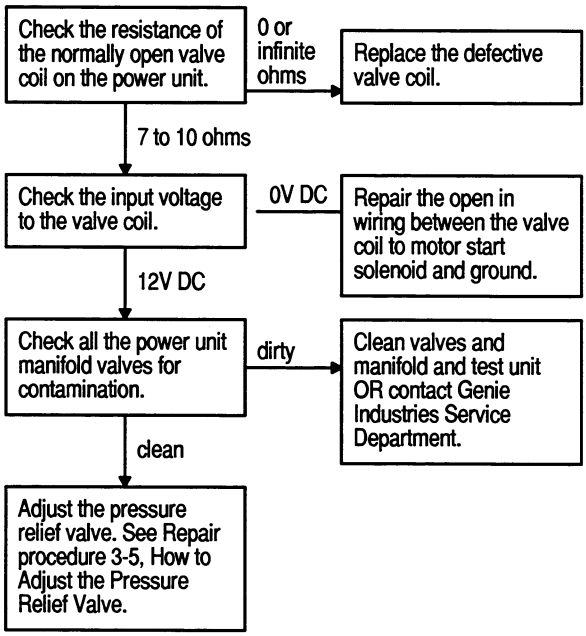


Chart 10

Machine Will Not Lower - Up Function Operates

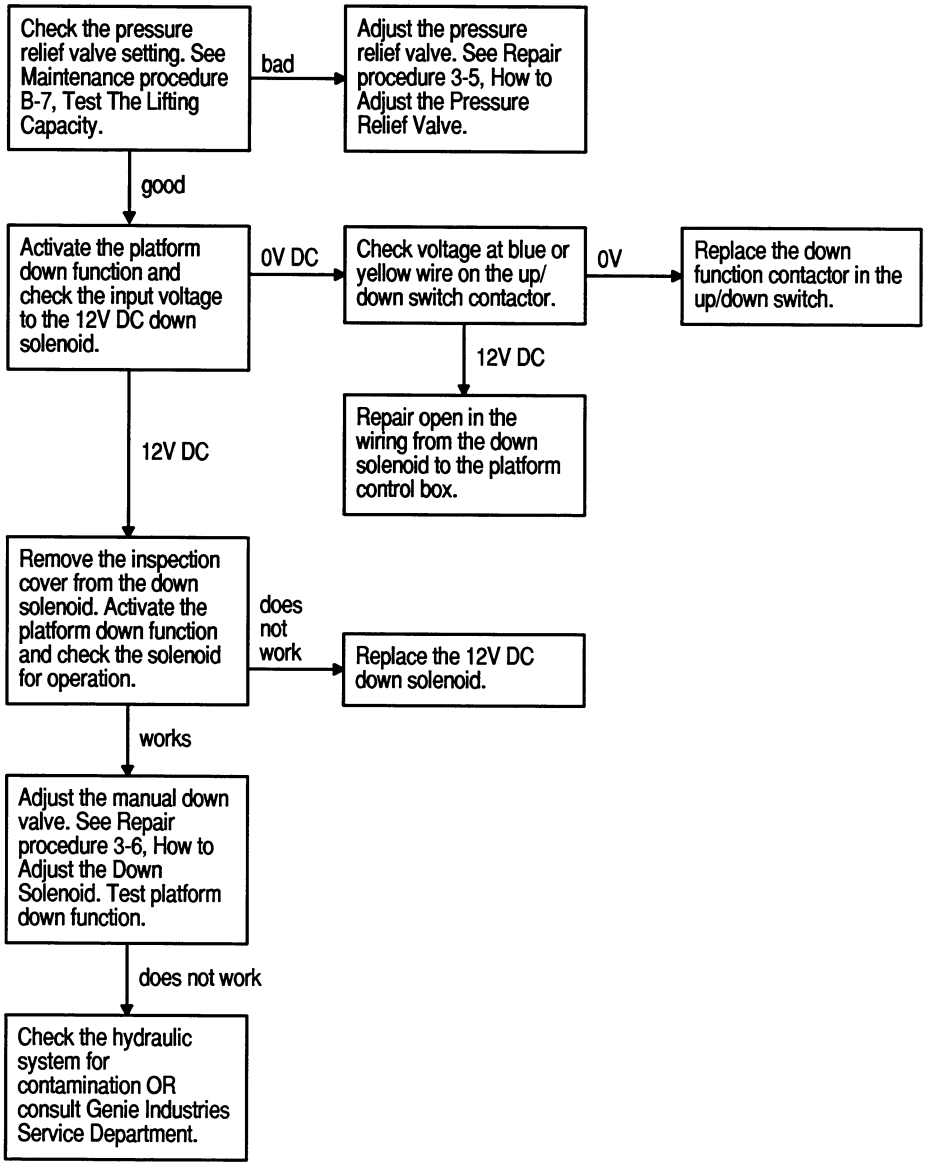


Chart 11

Base Will Not Raise With Foot Pump - IWP Models

Be sure the platform is fully lowered.

Be sure the base manifold is full of hydraulic fluid.

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

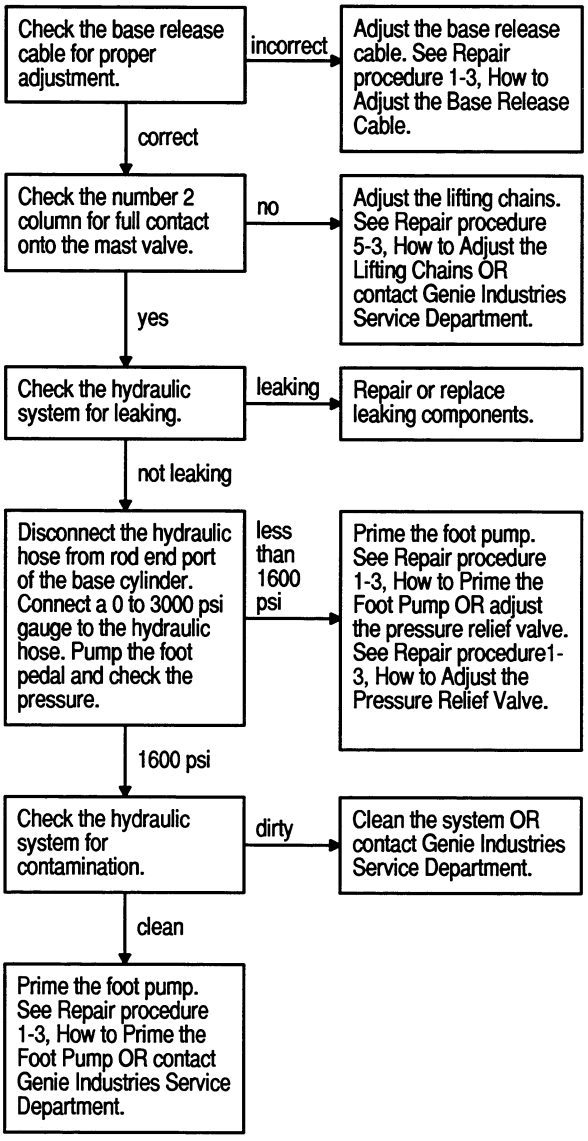


Chart 12

Base Will Raise, But Will Not Hold In Up Position - IWP Models

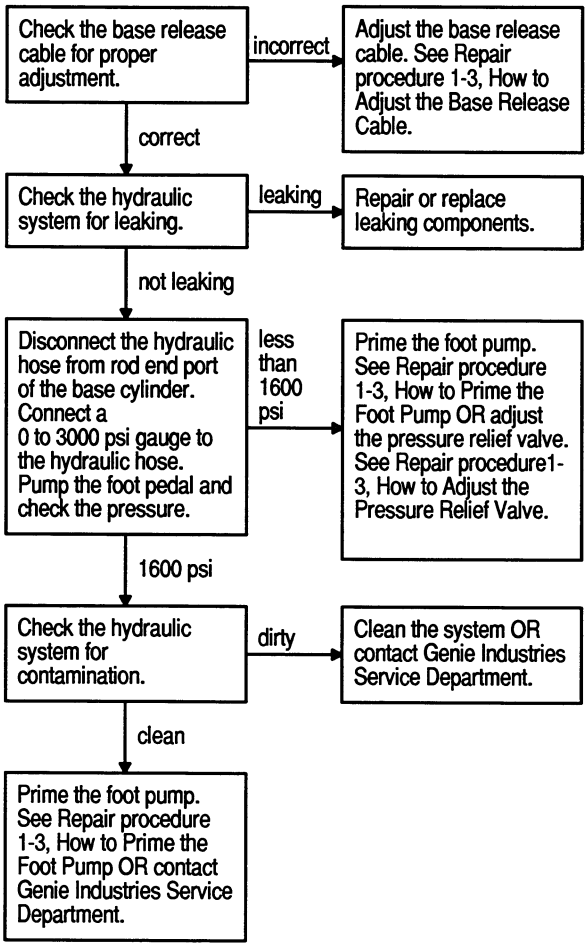


Chart 13

Base Will Not Lower - IWP Models

Be sure there are no obstructions under the base.

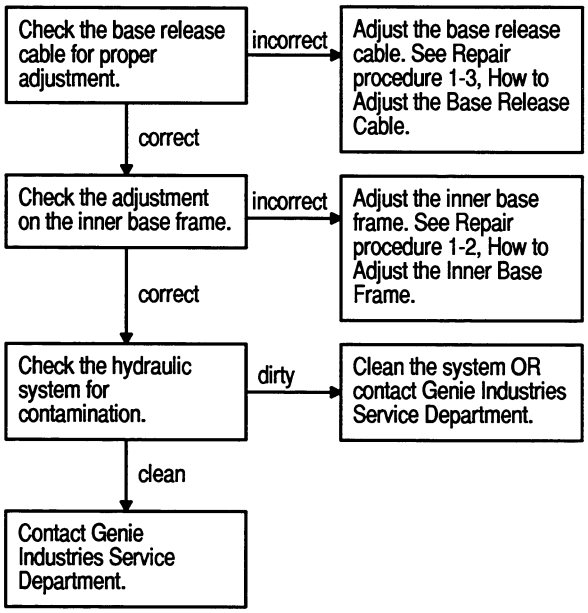


Chart 14

Platform Will Not Hold In Up Position

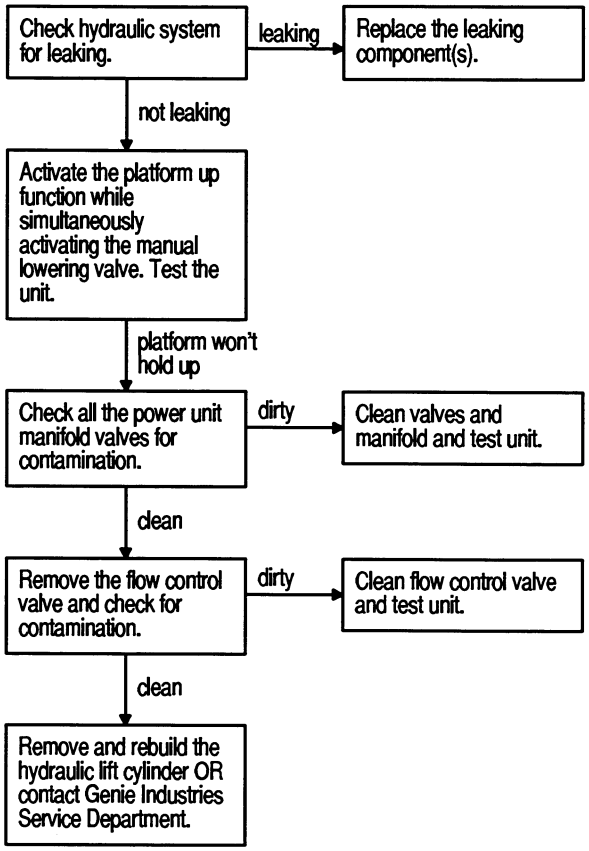
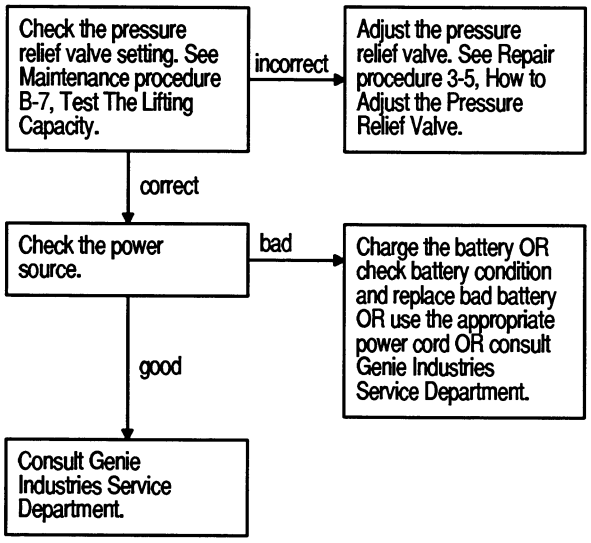


Chart 15

Power Unit Will Not Lift Rated Load



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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 IWP Operators Manual and the Genie AWP Operators 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.

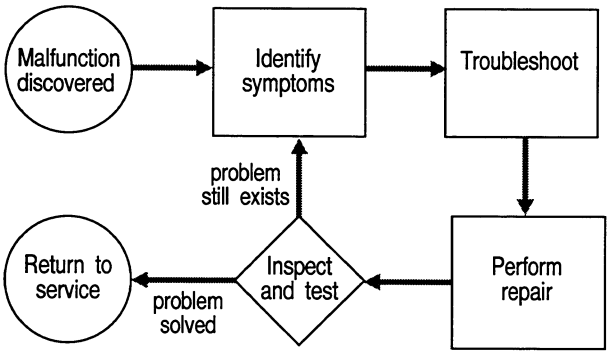
Electrical Schematics

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

Hydraulic Schematics

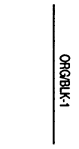
⚠WARNING Bodily injury hazard. Spraying hydraulic oil can penetrate and burn skin. Loosen hydraulic connections very slowly to allow the oil pressure to dissipate gradually. Do not allow oil to squirt or spray.

General Repair Process



Symbols Legend

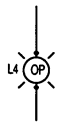
Electrical Symbols



Wire color with cable number



Terminal



Light



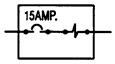
T-circuits connect at terminal



T-circuits connect



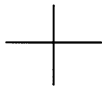
Connection no terminal



Circuit breaker



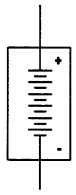
Solenoid or relay coil



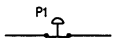
Circuits crossing no connection



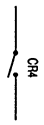
Diode



Battery



Emergency Stop button normally closed



Relay contact normally open



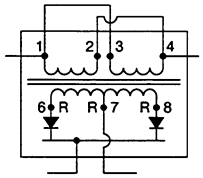
Resistor



Relay Contactor

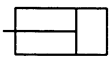


Relay Coil



Transformer

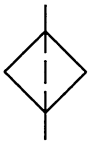
Hydraulic Symbols



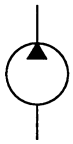
Cylinder



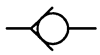
Pressure gauge



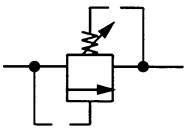
Filter



Fixed displacement pump



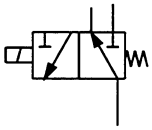
Check valve



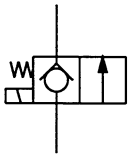
Relief valve



Orifice with size



Solenoid operated 2 pos., 3 way, directional valve

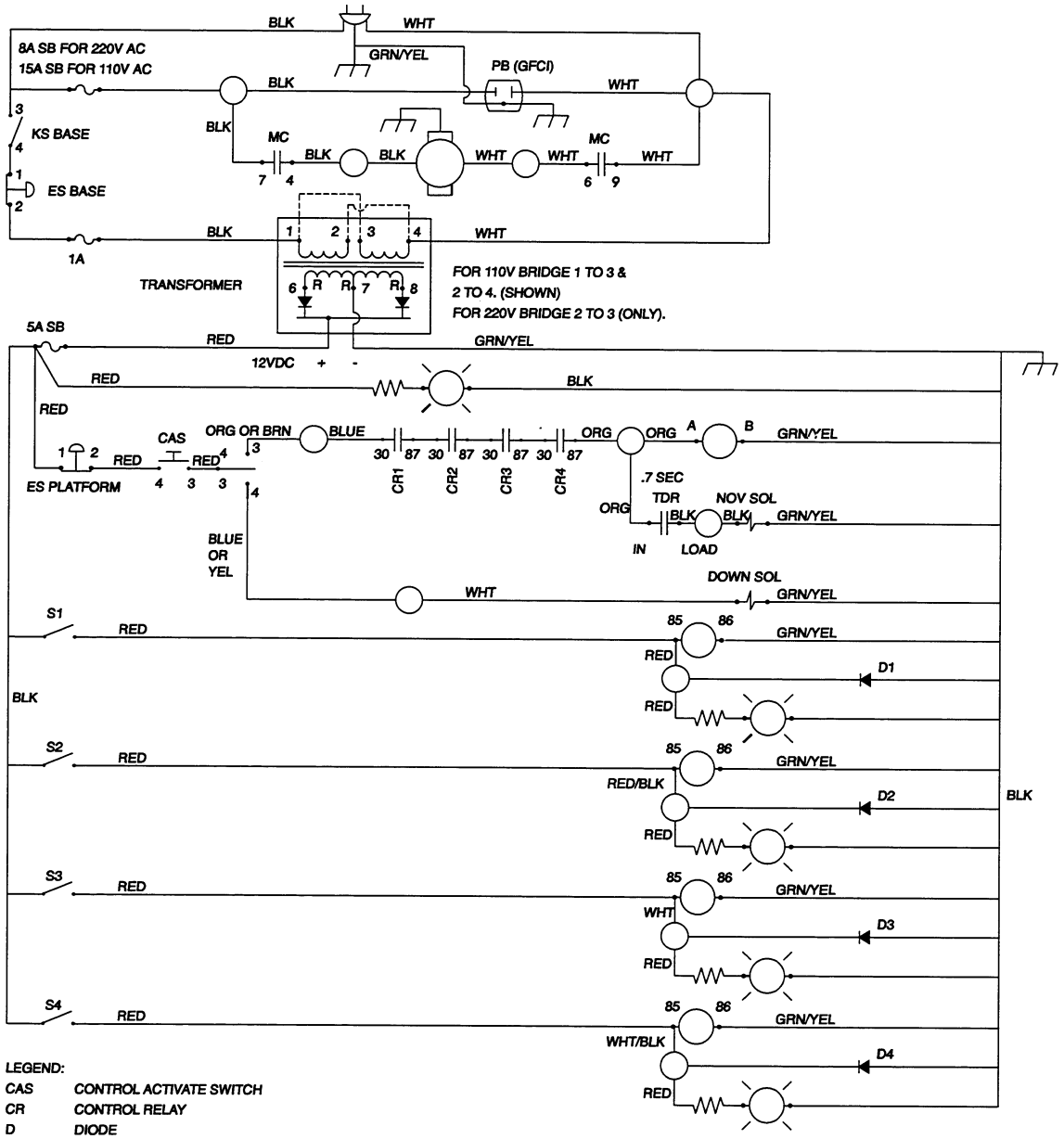


Solenoid operated dump valve



Pump prime mover (engine or motor)

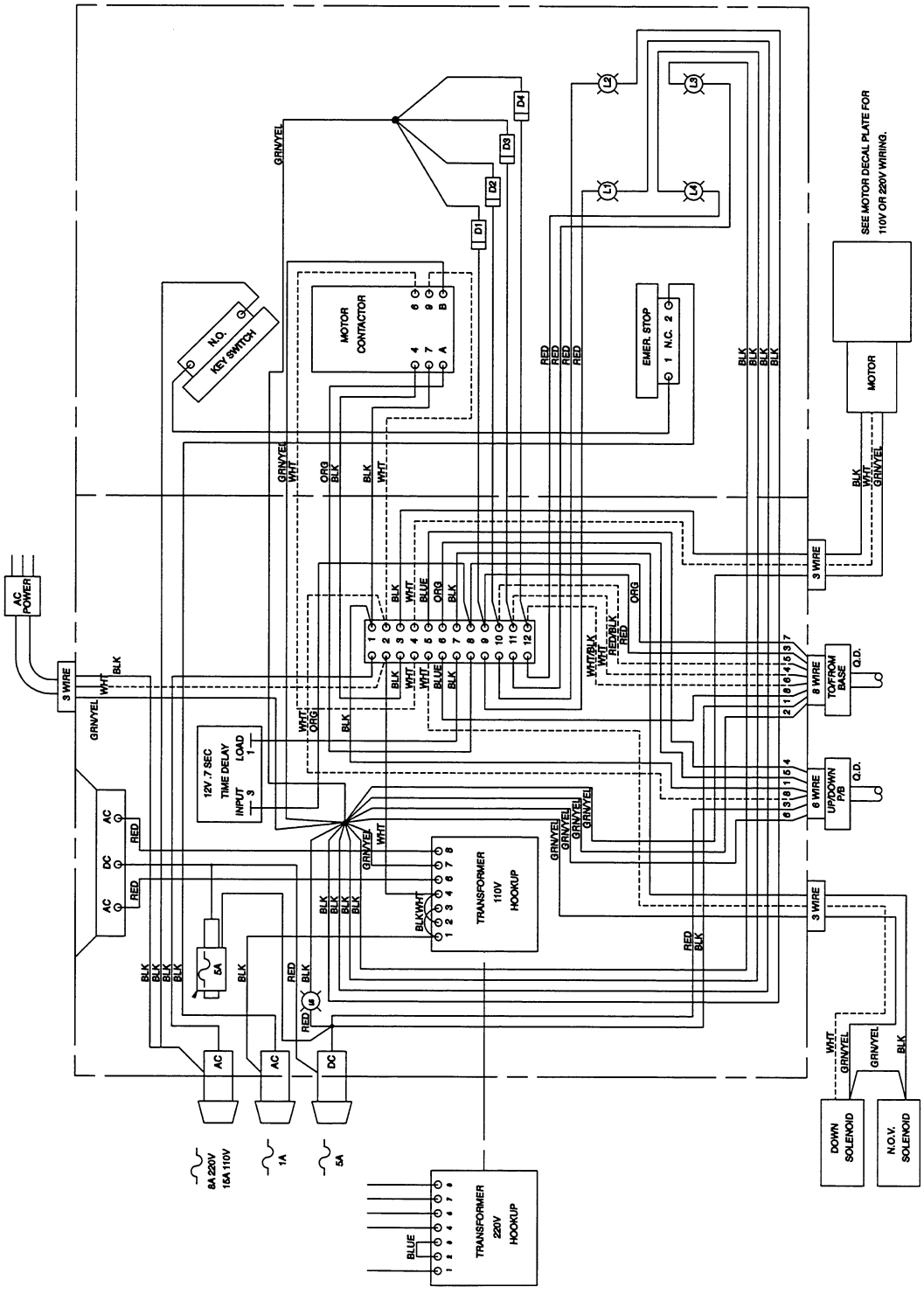
Electrical Schematic - AWP AC Models



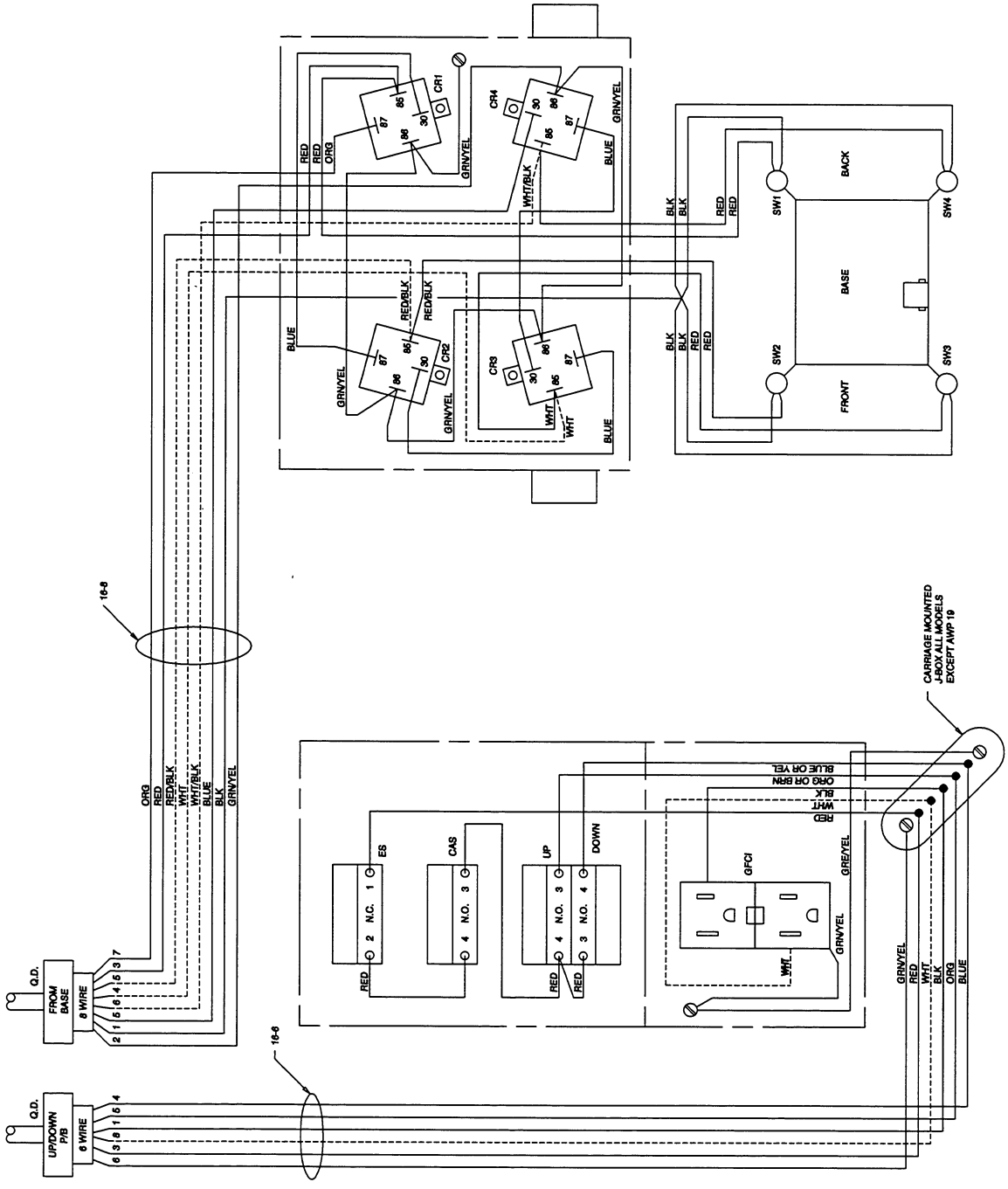
LEGEND:

CAS	CONTROL ACTIVATE SWITCH
CR	CONTROL RELAY
D	DIODE
ES	EMERGENCY STOP SWITCH
KS	KEY SWITCH
L	LIGHT (LED)
MC	MOTOR CONTACTOR
NOV	NORMALLY OPEN VALVE
PB	POWER TO BASKET (GROUND FAULT CIRCUIT INTERRUPT)
S	SWITCH - OUTRIGGER
SB	SLOW BLOW FUSE
SOL	SOLENOID
TDR	TIME DELAY RELAY
○	INDICATES CONTROL BOX CONNECTION

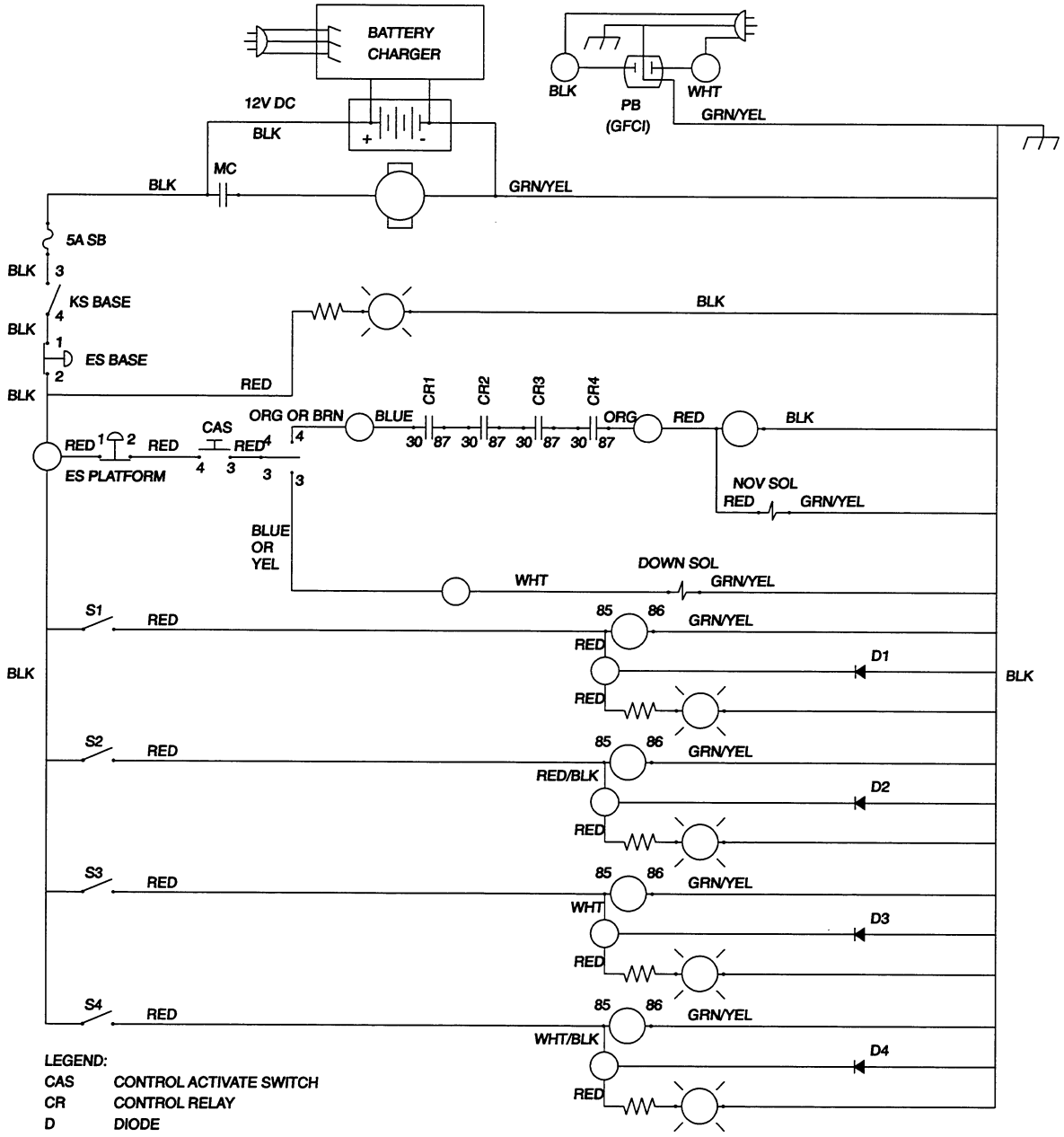
Electrical Wiring Diagram - AWP AC Models



Electrical Wiring Diagram - AWP AC Models

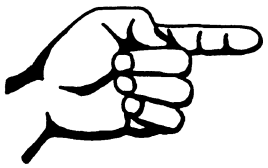


Electrical Schematic - AWP DC Models



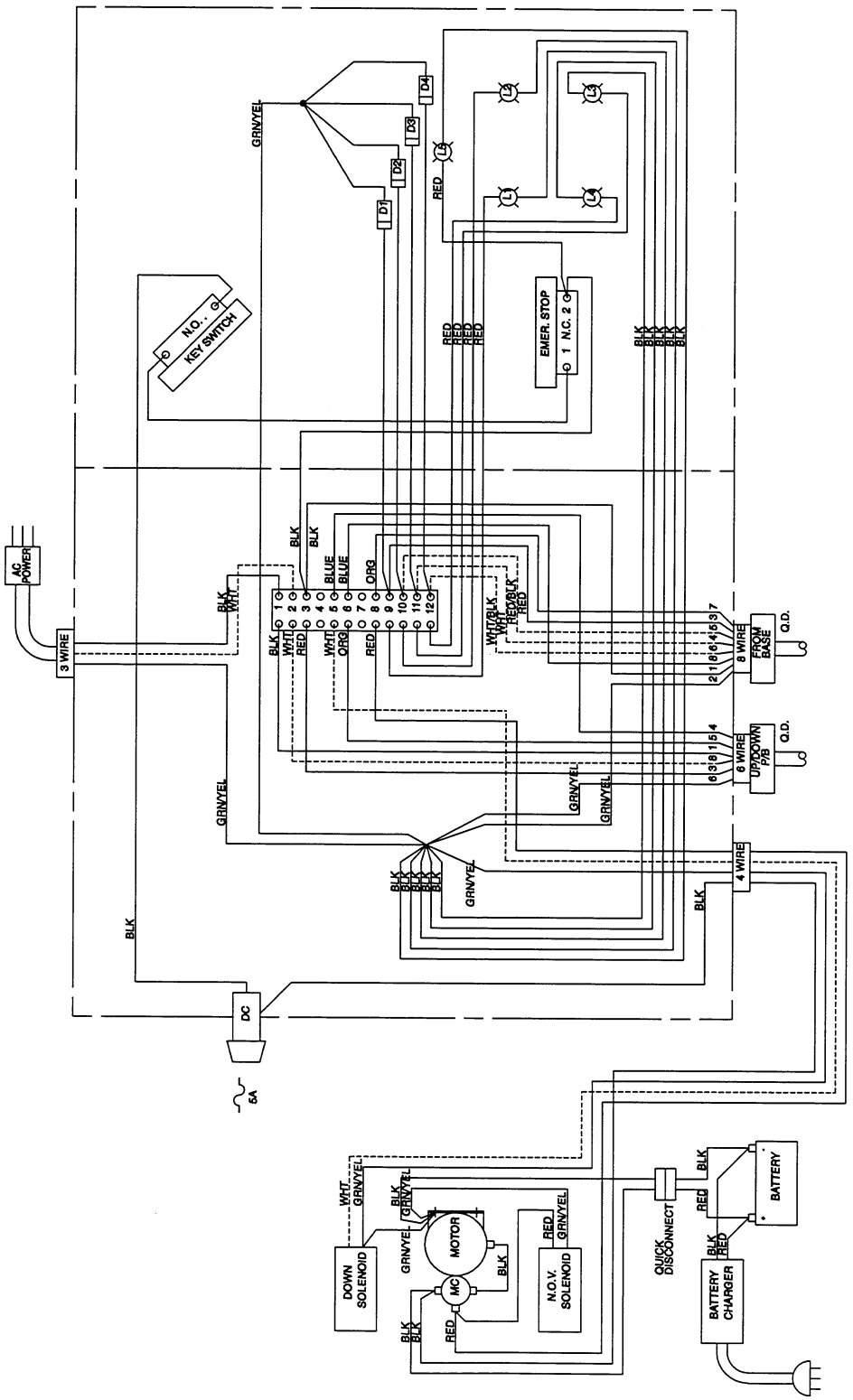
LEGEND:

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

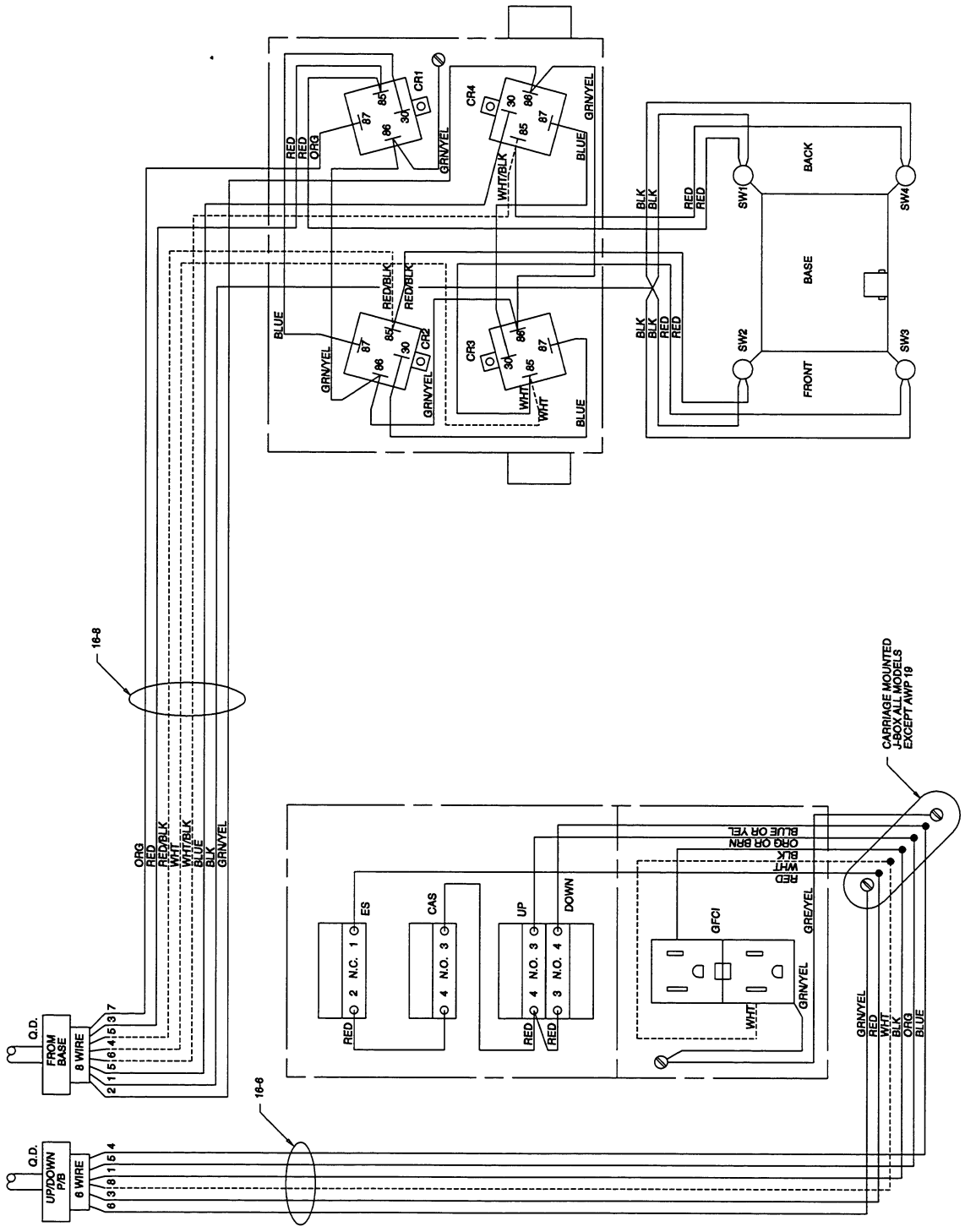


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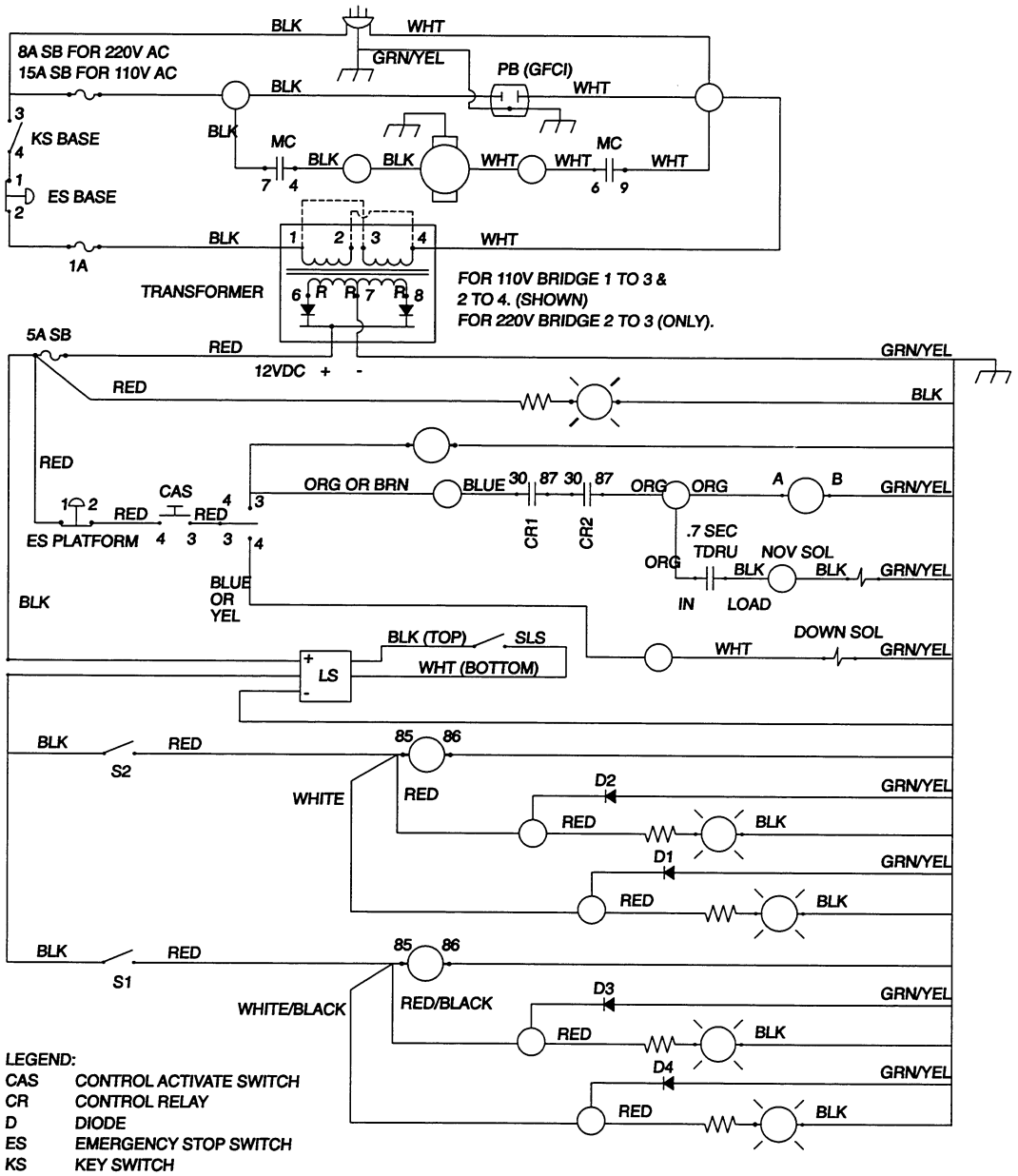
Electrical Wiring Diagram - AWP DC Models

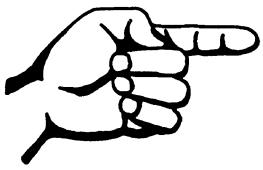


Electrical Wiring Diagram - AWP DC Models



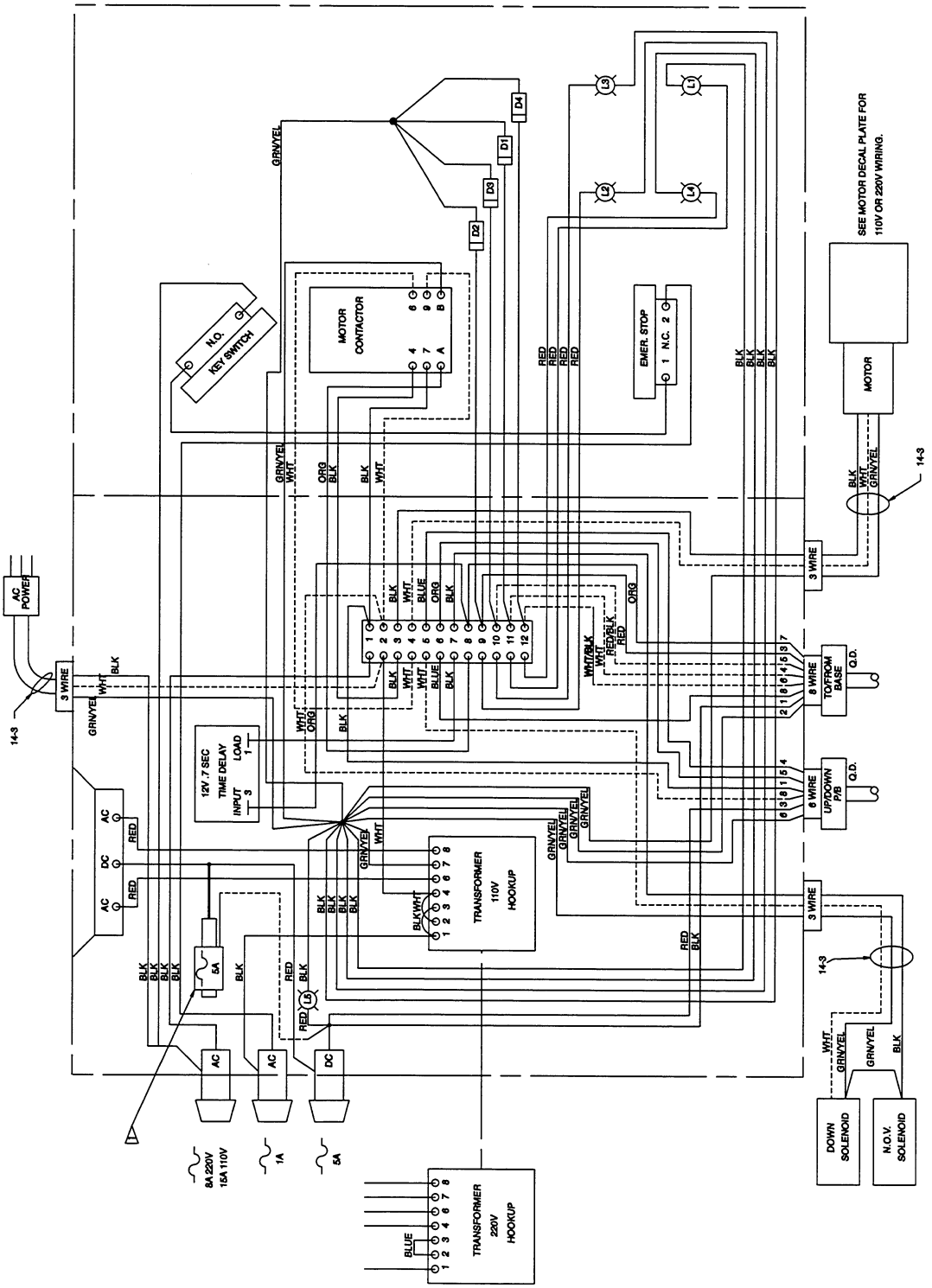
Electrical Schematic - IWP AC Models



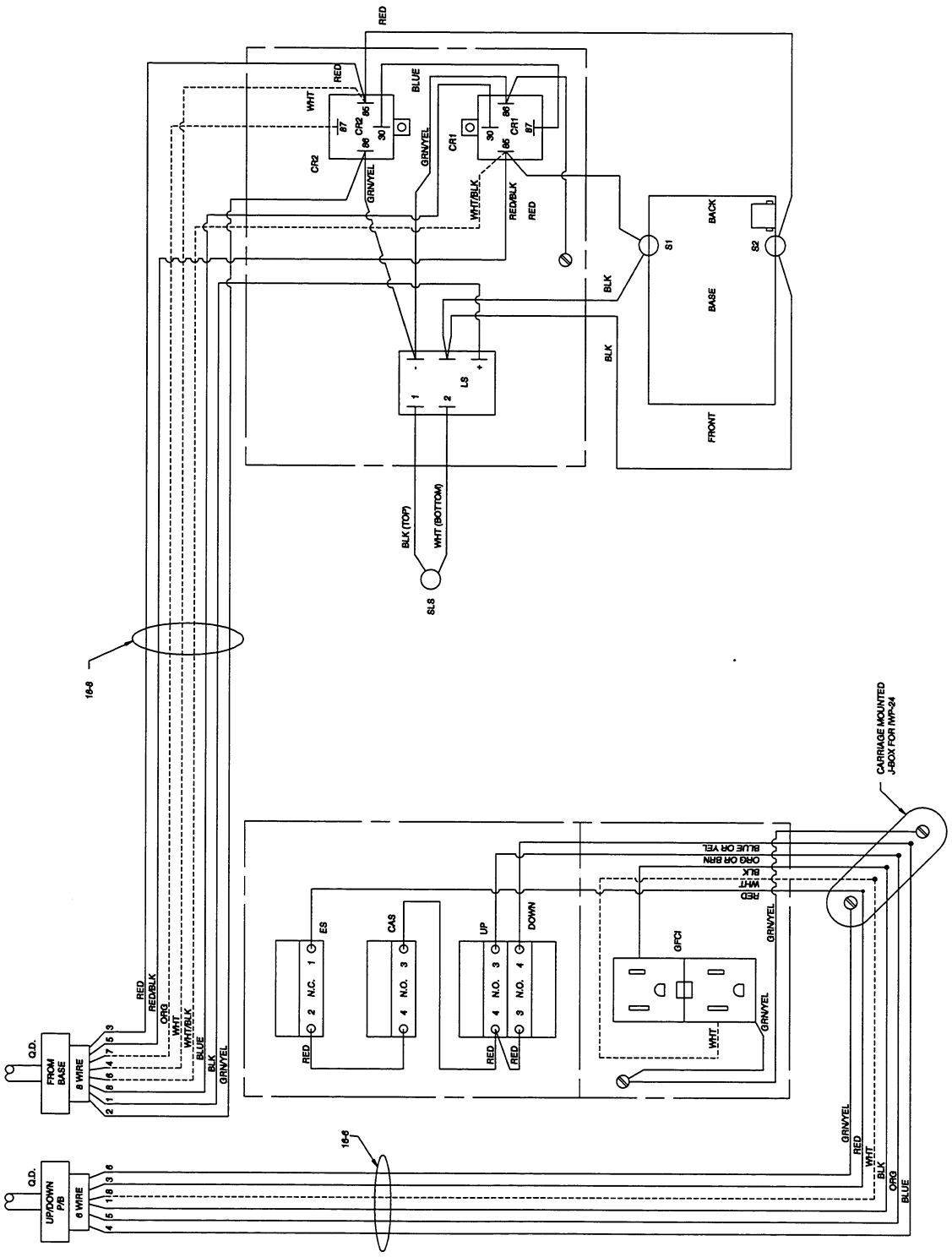


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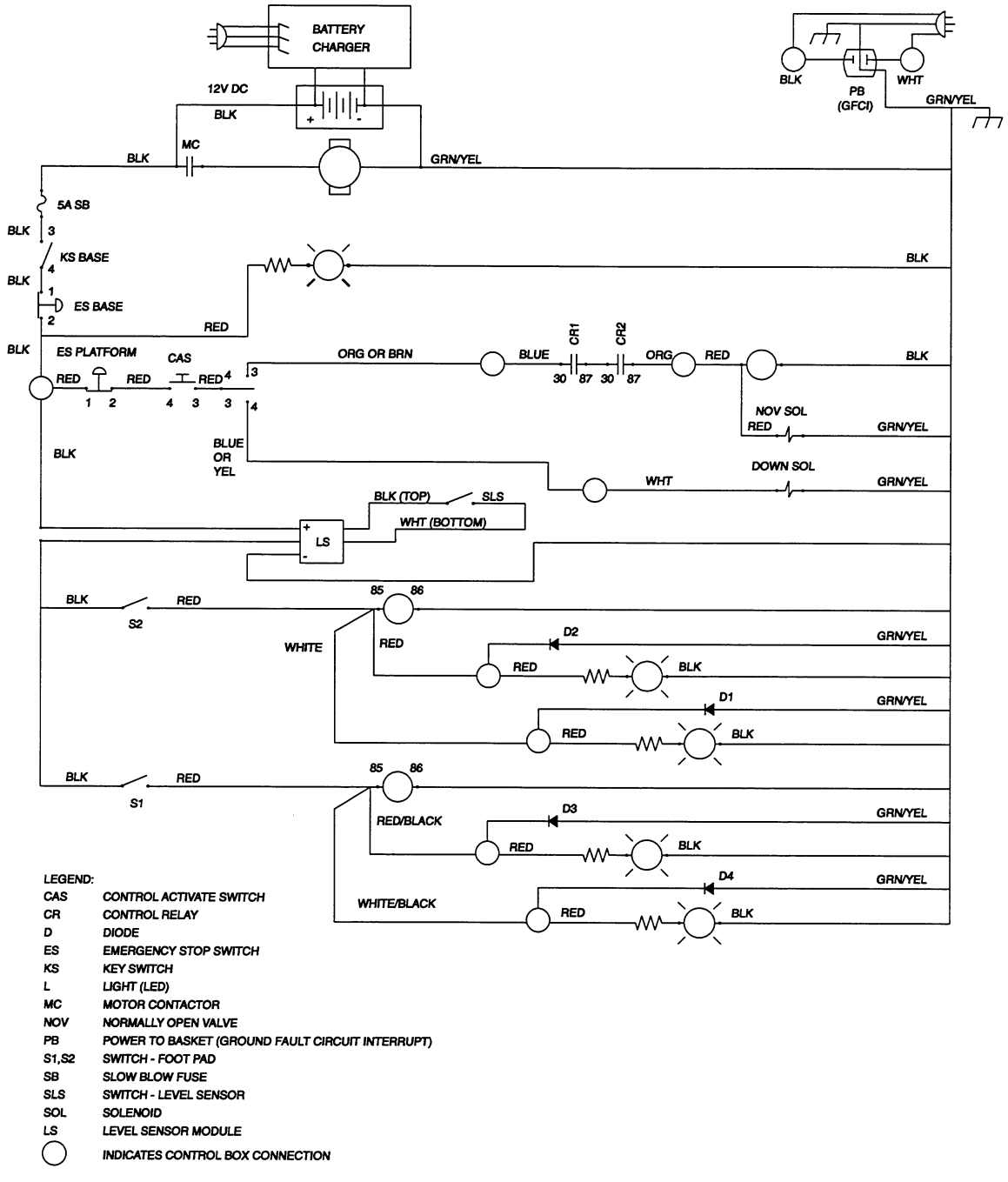
Electrical Wiring Diagram - IWP AC Models



Electrical Wiring Diagram - IWP AC Models

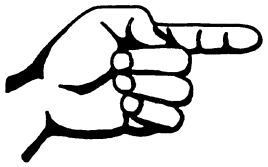


Electrical Schematic - IWP DC Models



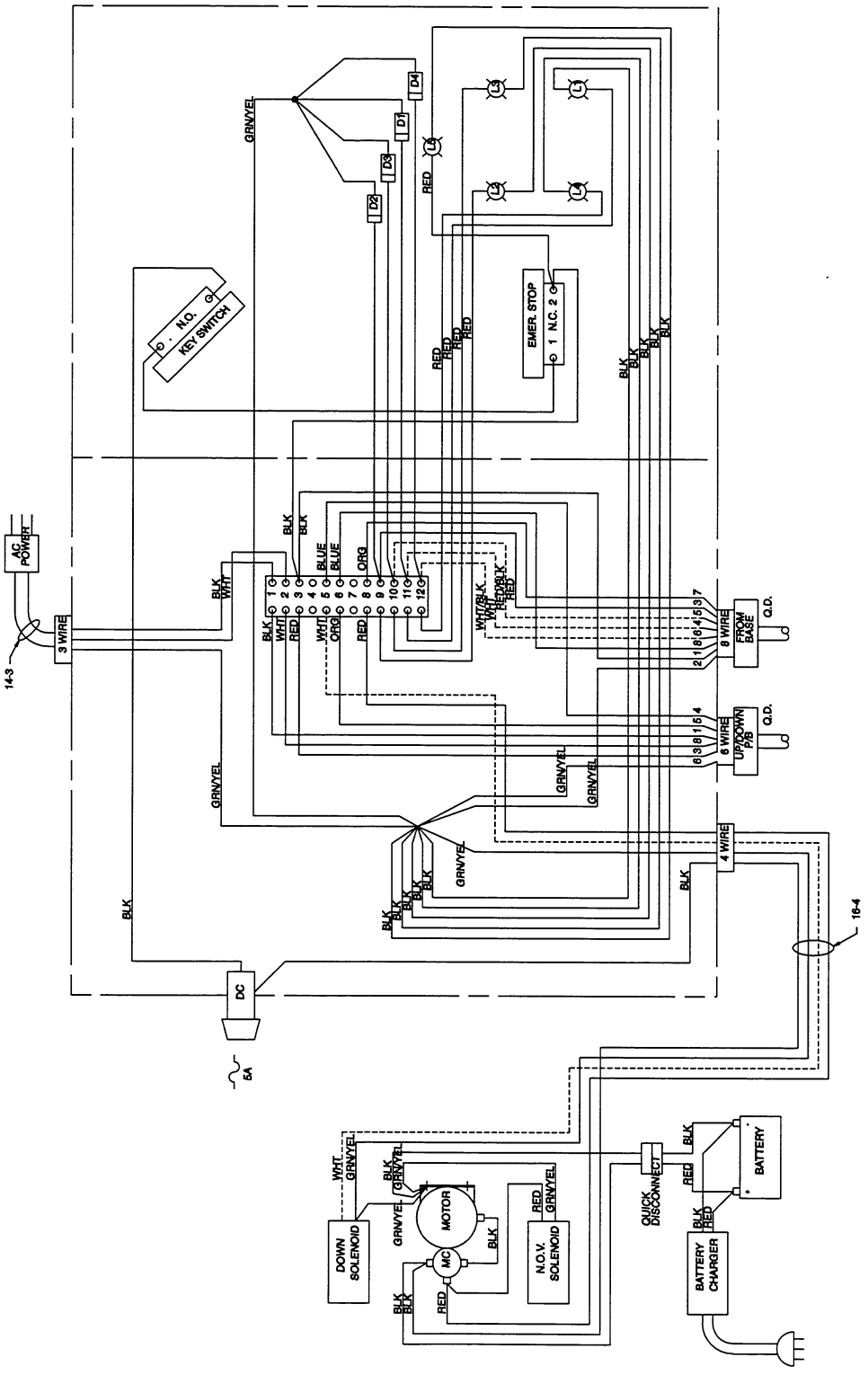
LEGEND:

CAS	CONTROL ACTIVATE SWITCH
CR	CONTROL RELAY
D	DIODE
ES	EMERGENCY STOP SWITCH
KS	KEY SWITCH
L	LIGHT (LED)
MC	MOTOR CONTACTOR
NOV	NORMALLY OPEN VALVE
PB	POWER TO BASKET (GROUND FAULT CIRCUIT INTERRUPT)
S1,S2	SWITCH - FOOT PAD
SB	SLOW BLOW FUSE
SLS	SWITCH - LEVEL SENSOR
SOL	SOLENOID
LS	LEVEL SENSOR MODULE
◯	INDICATES CONTROL BOX CONNECTION

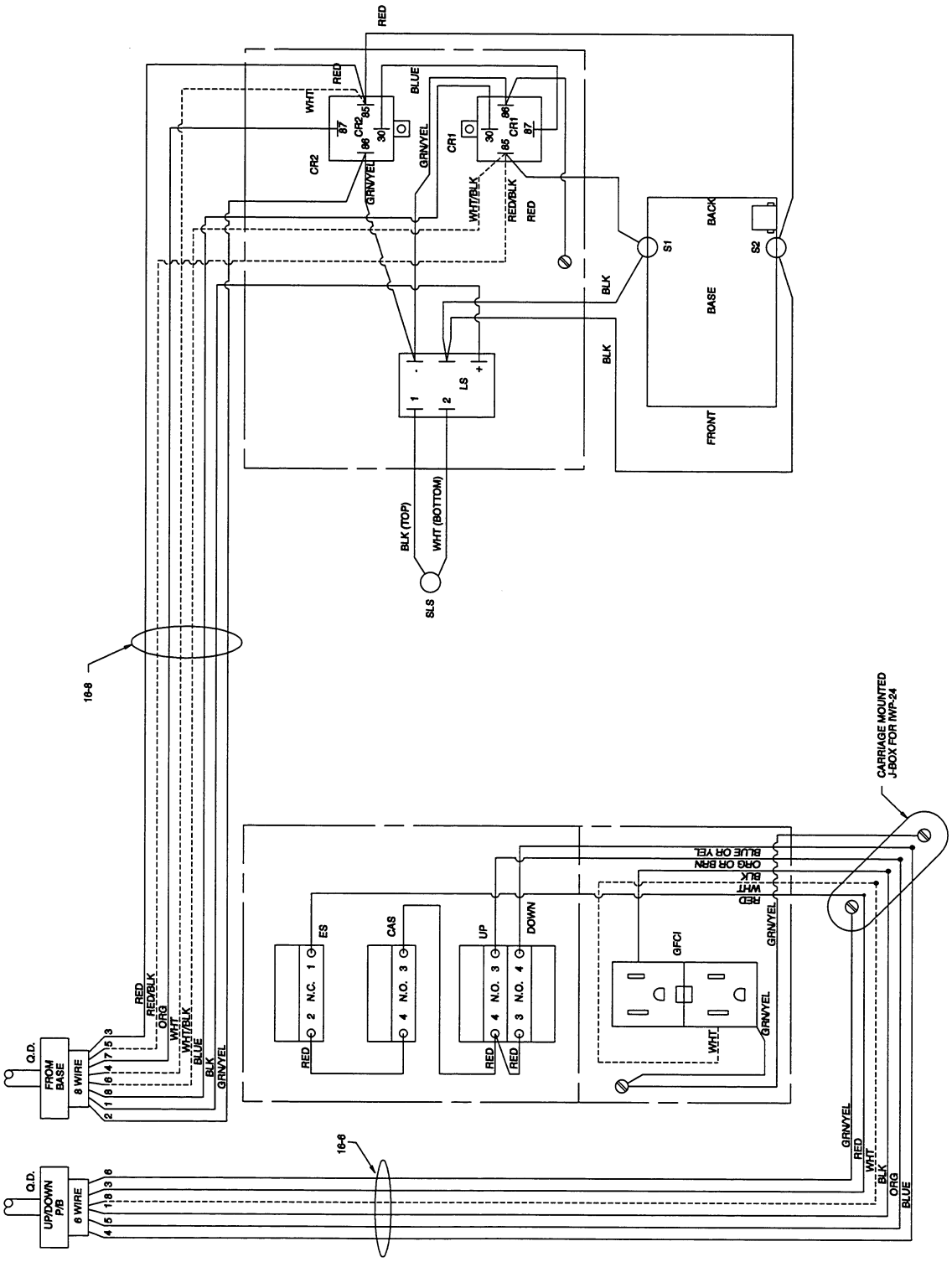


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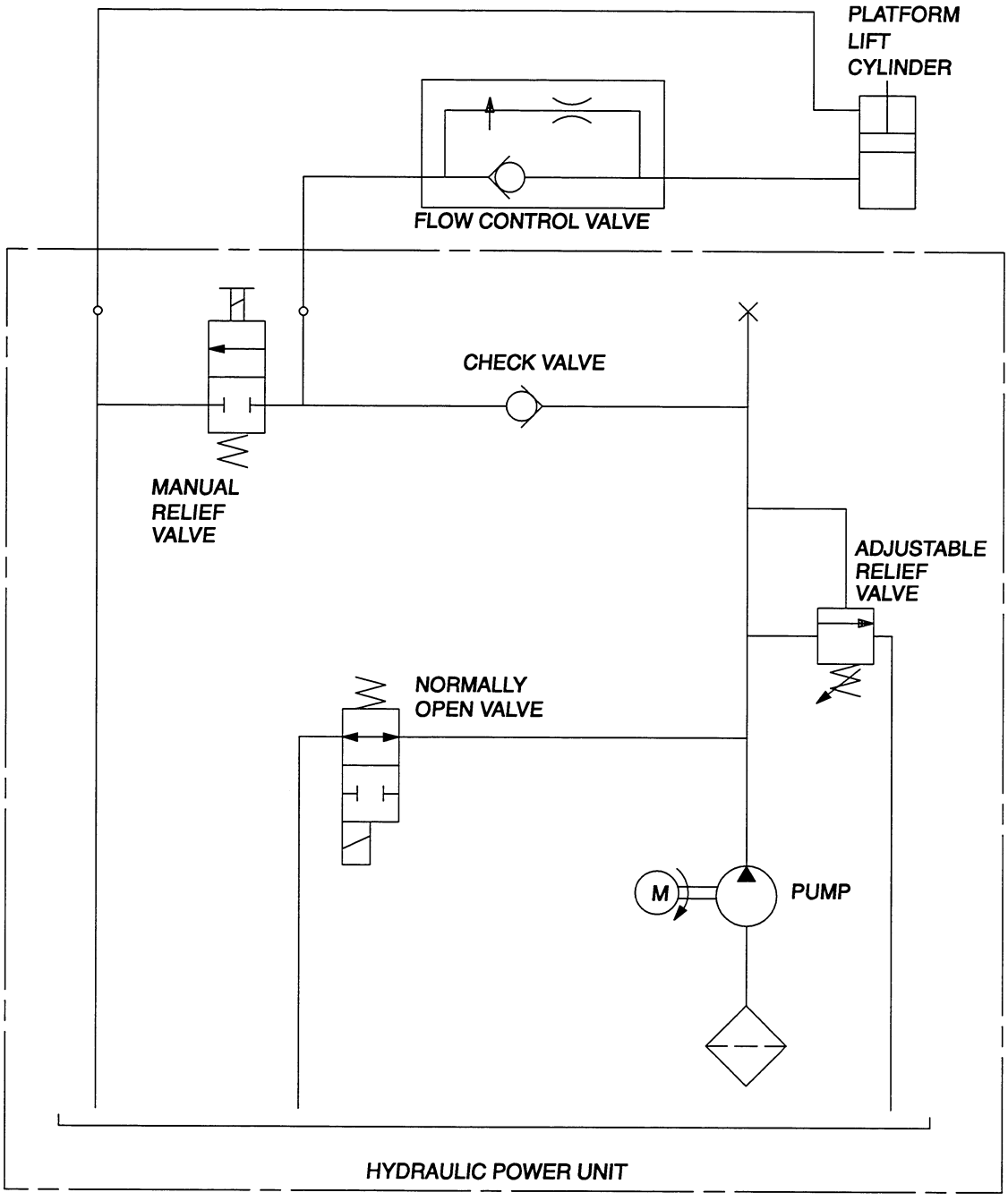
Electrical Wiring Diagram - IWP DC Models



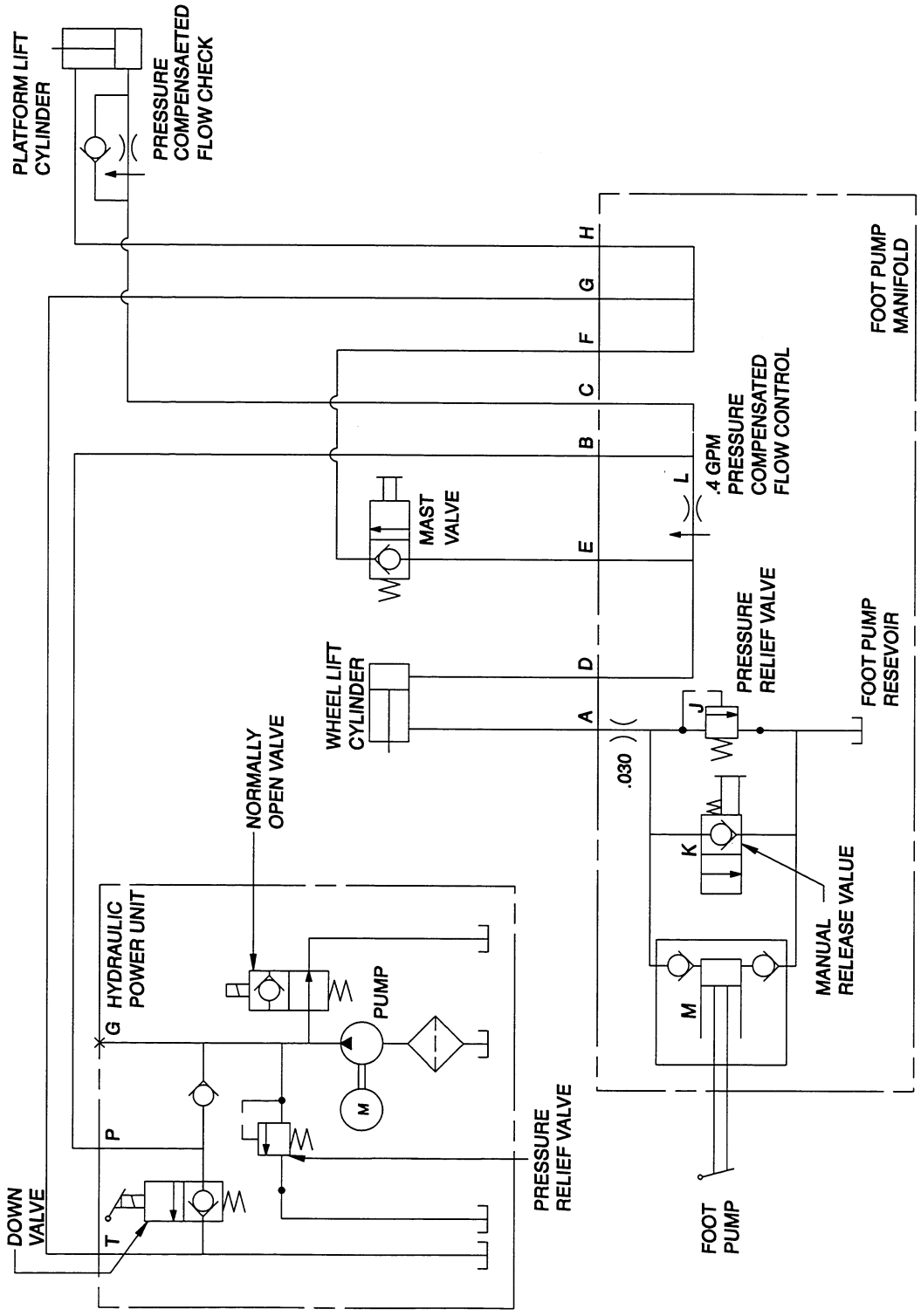
Electrical Wiring Diagram - IWP DC Models



Hydraulic Schematic - AWP Models



Hydraulic Schematic - IWP Models



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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:

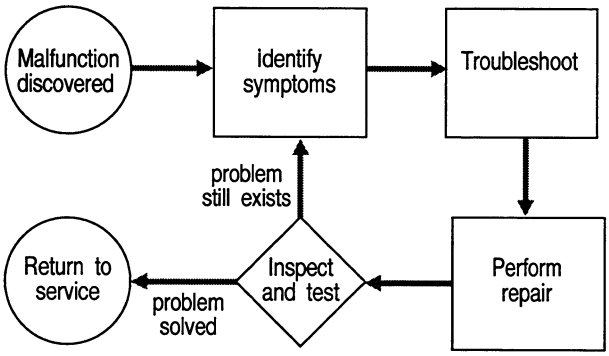
- ☑ Read, understand and obey the safety rules and operating instructions in the *Genie IWP Operator's Manual* and the *Genie AWP Operator's Manual.*
- ☑ Be sure that all necessary tools and parts are available and ready for use.
- ☑ Read each procedure completely and adhere to the instructions. Attempting 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 Proximity Switches

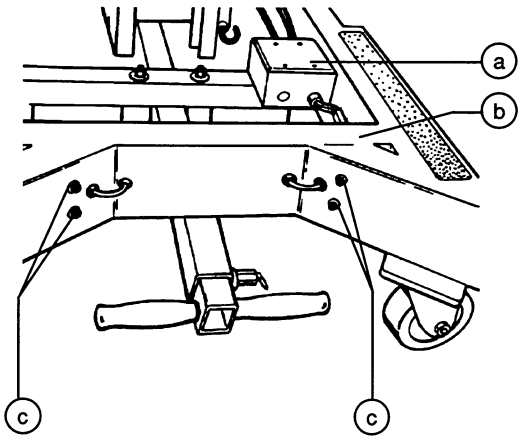
AWP models: The proximity switches indicate proper installation of the outriggers and allow the machine to operate only when the outriggers are installed and adjusted.

IWP models: The proximity switches indicate that all four base contact points are in firm contact with the ground.

How to Remove a Proximity Switch - AWP Models

1 Fully lower the platform, turn the machine off and remove the key. Then store the outriggers in the storage sockets.

2 Remove the proximity switch mounting fasteners from the outrigger base socket.



a junction box cover
b base
c proximity switch mounting fastener

3 Remove the base junction box cover.

4 Trace the proximity switch wires into the junction box and locate the relay that the switch is connected to. Remove the red wire from the relay and cut the corresponding black wire. Then clip the connectors off the wires.

5 Loosen the squeeze connector and pull the wires out of the junction box.

6 Follow the wires to the grommets where the wire enters and exits the base tube. Pull the grommets out of the base tube, then pull the wires through the grommets and base tube.

7 Grasp the proximity switch mounting bracket inside the base outrigger socket and pull it out with the wires.

NOTICE Proximity switches must be adjusted when reassembled to be sure of proper operation.

How to Adjust a Proximity Switch - AWP Models

1 With the proximity switch installed and wired, install the outrigger into the base socket.

2 Turn the machine on and adjust the outrigger screw jack clockwise until the foot pad is in firm contact with the ground.

3 Check the corresponding interlock display light. The light should be on. If the light comes on, proceed to step 5.

4 If the light does not come on, loosen the two mounting fasteners and slide the fasteners with the proximity switch bracket upward until the light comes on. Tighten the mounting fasteners.

5 Adjust the outrigger screw jack counterclockwise until the foot pad is 2 inches (5 cm) off the ground.

6 Check the corresponding interlock display light. The light should be off. If the light is off, the switch is adjusted correctly.

7 If the light does not turn off, loosen the two mounting fasteners and slide the fasteners with the proximity switch bracket downward until the light is off. Tighten the mounting fasteners.

8 Repeat steps 2 through 6.

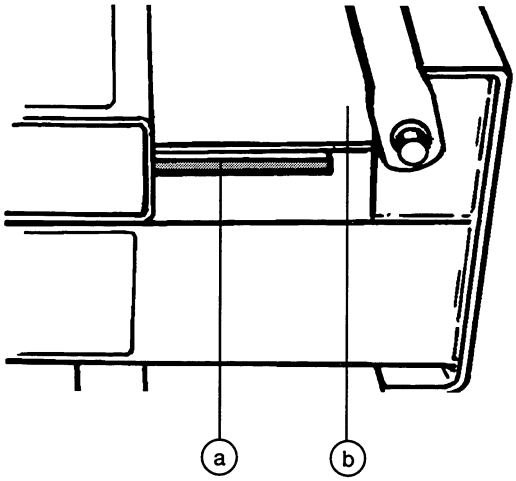
NOTICE If proper adjustment cannot be obtained, contact Genie Industries Service Department.

How to Remove a Proximity Switch - IWP Models

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

2 Pull the base release handle to fully lower the base.

3 Remove the base manifold and base junction box covers.



a junction box cover
b manifold cover

4 Trace the proximity switch wires into the junction box and locate the relay that the switch is connected to. Remove the wires from the relay. Then clip the connectors off the wires.

5 Loosen the squeeze connector and pull the wires out of the junction box.

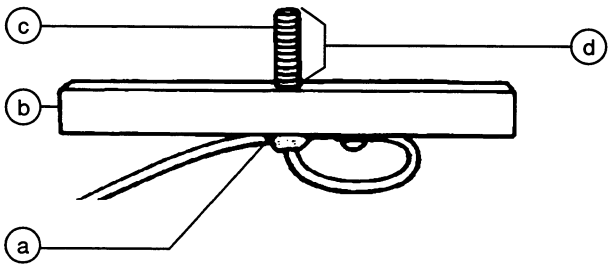
6 Remove the mounting bolts from the proximity switch mounting plate. Then remove the proximity switch assembly from the base tube. Access the switch from the hole located on the inside of the base tube.

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

How to Adjust a Proximity Switch - IWP Models

1 Install the proximity switch into the mounting plate, and adjust to the starting point position noted in the removal procedure.

2 Adjust the proximity switch to obtain a distance of 0.884 inches (22.4 mm) between the top of the switch to the top of the mounting plate.



a silicone adhesive
b proximity switch mounting plate
c proximity switch
d 0.884 inches (22.4 mm) distance

3 Apply silicone adhesive to the wire side of the mounting plate.

BASE ASSEMBLY

4 Install the switch assembly into the base tube. Then route the wires from the switch to the junction box. Remove the excess slack from the wires and tighten the squeeze connector.

NOTICE Do not allow the wires to twist. Proximity switch adjustment may change if the wires are twisted.

5 Connect the wires to the relay and replace the junction box cover.

6 Test the proximity switches. See Maintenance procedure B-11, *Test the Level Sensing Operation - IWP Models.*

1-2 Inner Base Frame - IWP Models

How to Remove the Inner Base Frame

⚠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 Pull the base release handle to fully lower the base.

2 Remove the mounting bolt from the base lift cylinder rod end. Lift the rod end of the cylinder up and tie it to the base.

3 Using a forklift, carefully lift the machine off of the inner base frame. Do not allow the inner base frame to fall when lifting the machine.

⚠WARNING Crushing hazard. The machine may fall, if it is not properly supported by the forklift.

How to Adjust the Inner Base Frame

1 Pull the base release handle to fully lower the base.

2 Turn the machine on and raise the platform slightly. Then fully lower the platform. This will fully raise the inner base frame.

3 Check for side-to-side movement of the inner base frame. The inner base frame should have no side-to-side clearance and not be too tight to cause dragging or binding.

NOTICE When adjusting the inner base frame, it may be necessary to allow minimal side-to-side clearance to obtain no dragging or binding.

4 To adjust, loosen the lock nut on the roller wheel axle and turn the axle clockwise to decrease the clearance, or counterclockwise to increase the clearance. Hold the axle from turning and tighten the lock nut.

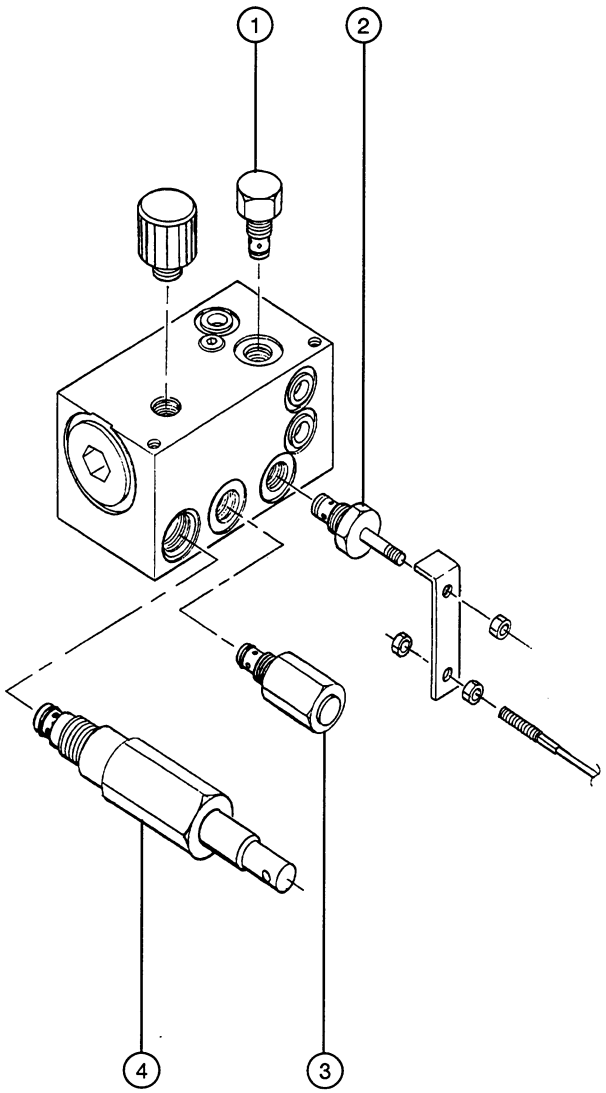
5 Measure the distance between the inner and outer base frames at both the front and back on one side. Make the proper adjustments to obtain equal distances.

NOTICE Maintain squareness between the inner and outer base frames. This will allow the machine to have even clearance on all four base contact points.

6 Raise and lower the inner base frame with the foot pump to check for dragging or binding. Re-adjust if necessary.

1-3
Hydraulic Manifold Components - IWP Models

Index No.	Description	Schematic Item	Function	Torque
1	Flow regulator valve	L	Base lowering	8-10 ft-lbs / 11-14 Nm
2	Manual release valve	K	Lowers base	10-12 ft-lbs / 14-16 Nm
3	Relief valve, 1600 psi (110 bar)	J	Foot pump	25-30 ft-lbs / 34-41 Nm
4	Foot pump	M	Outer base frame	8-10 ft-lbs / 11-14 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
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

BASE ASSEMBLY

How to Adjust the Pressure Relief Valve

⚠CAUTION Component damage hazard. The work area and surfaces where this procedure will be performed must be clean and free of debris that could get into the hydraulic system and cause severe component damage. Dealer service is recommended.

1 Pull the base release handle to fully lower the base.

2 Disconnect the hydraulic hose from the port on the rod end of the base cylinder. Cap the cylinder port.

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

3 Connect a 0 to 3000 psi (0 to 206 bar) pressure gauge to the hydraulic hose.

4 Slowly pump the foot pedal and check the pressure.

⊙ Result: The pressure gauge should read 1600 psi ± 50 psi (110 bar ± 3.4 bar). Adjust if necessary.

5 Hold the relief valve and remove the hex cap (item 3).

6 Adjust the internal hex socket. Turn it clockwise to increase the pressure or counterclockwise to decrease the pressure. Then install the relief valve cap.

⚠WARNING Tip-over hazard. Do not adjust the relief valve higher than recommended. It is set to prevent a tip-over or unsafe operation.

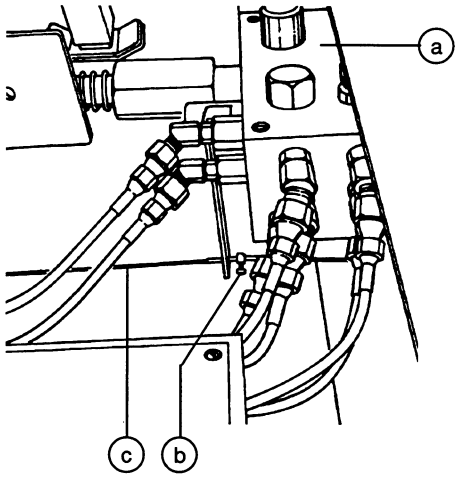
7 Pump the foot pedal and re-check the pressure. Re-adjust if necessary.

How to Adjust the Base Release Cable

1 Pull the base release handle to fully lower the base.

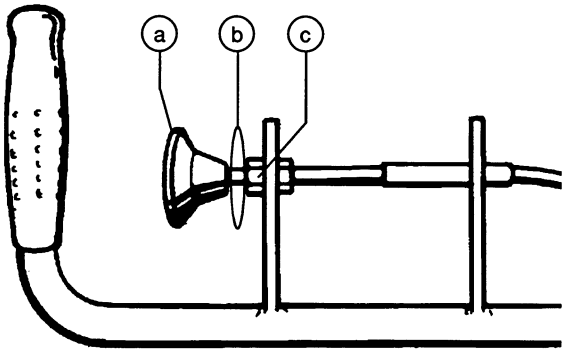
2 Remove the cover from the base manifold.

3 Loosen the set screw or the lock nuts on the base release cable.



a base manifold
b set screw or lock nut
c base release cable

4 Push the base release handle fully in. Position the handle 5/16 inch (7.9 mm) from the cable mounting nut. Then tighten the set screw or lock nuts.



a base release handle
b 5/16 inch (7.9 mm) clearance
c cable mounting nut

5 Pump the foot pedal to raise the base.

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

6 Pull the base release handle to be sure the base lowers. Re-adjust if necessary.

How to Remove the Foot Pump

⚠CAUTION Component damage hazard. The work area and surfaces where this procedure will be performed must be clean and free of debris that could get into the hydraulic system and cause severe component damage. Dealer service is recommended.

1 Pull the base release handle to fully lower the base.

2 Pull and hold the base release handle. Then press and hold the foot pedal down.

3 While holding the foot pedal down, remove the nut from the linkage mounting fastener on the foot pump rod.

4 Release the foot pedal.

5 Hold the spring and remove the mounting bolt. Then release the spring.

6 Remove the foot pump from the manifold. Plug the manifold port.

NOTICE The foot pump must be primed after installation.

How to Prime the Foot Pump

1 Pull the base release handle to fully lower the base.

2 Pull and hold the base release handle. Then press and hold the foot pedal down.

3 While holding the foot pedal down, remove the nut from the linkage mounting fastener on the foot pump rod.

4 Release the foot pedal.

5 Hold the spring and remove the mounting bolt. Then release the spring.

6 Pull and hold the base release handle. Then push the foot pump rod in as far as it will go.

7 Release the base release handle and pull the foot pump rod out 2 inches (5 cm). Do not allow the rod to come completely out of the pump.

8 Repeat steps 6 and 7.

9 Check the hydraulic fluid level. The fluid level should be 3/8 inch (9.5 mm) below the breather cap port.

10 Re-assemble the foot pump linkage and check the foot pump operation. The base should reach full height after 8 to 10 pumps on the foot pedal.

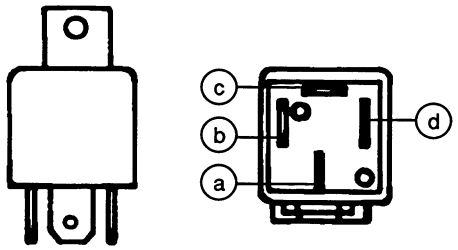
Ground Control Box

2-1 Ground Control Box

How to Test a Relay

1 Label and then disconnect all the wiring from the relay to be tested.

2 Connect the leads from an ohmmeter or continuity tester to each terminal combination and check for continuity. Terminals 85 and 86 represent the coil and should not be tested in any other combination.



a terminal no. 30
b terminal no. 86
c terminal no. 87
d terminal no. 85

Test	Desired result
terminal 85 to 86	85 to 95 Ω
terminal 87 to 30	no continuity (infinite Ω)

3 Connect 12V DC to terminal 85 and a ground wire to terminal 86, then test the following terminal combinations.

Test	Desired result
terminal 87 to 30	continuity (zero Ω)

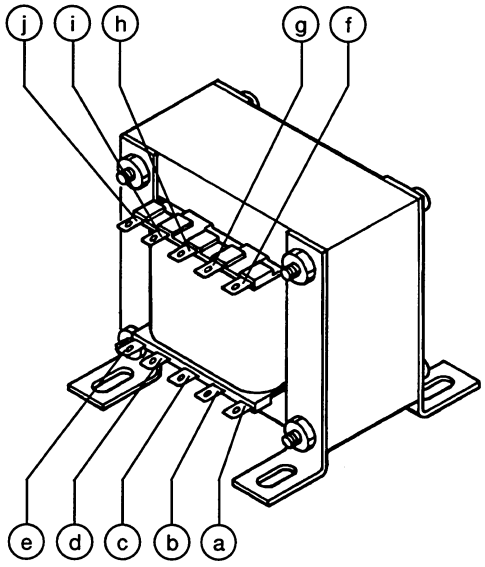
2-2 How to Test the Transformer - AC Models

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 terminal no. 1
b terminal no. 2
c terminal no. 3
d terminal no. 4
e terminal no. 5
f terminal no. 6
g terminal no. 7
h terminal no. 8
i terminal no. 9
j terminal no. 10

Test	Desired result
terminals 1 to 2	12 to 14 Ω
terminals 3 to 4	12 to 14 Ω
terminals 6 to 7	0.4 to 1 Ω
terminals 8 to 7	0.4 to 1 Ω

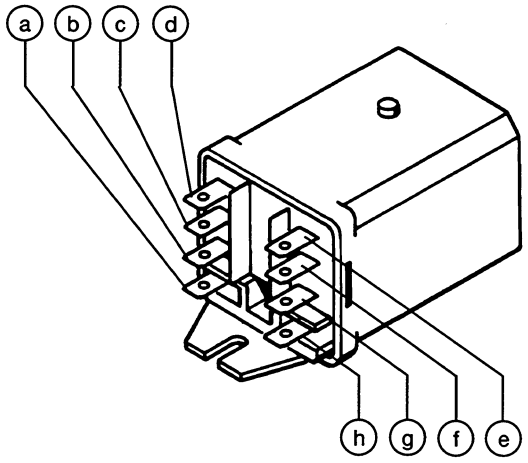
2-3
How to Test the AC Contactor - AC Models

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. a
b terminal no. 7
c terminal no. 4
d terminal no. 1
e terminal no. 3
f terminal no. 6
g terminal no. 9
h terminal no. b

Test	Desired result
terminal a to b	95 to 105 Ω
terminal 7 to 4, 9, 6 and 3	no continuity (infinite Ω)
terminal 5 to 6, 7, 4 and 1	no continuity
terminal 7 to 1	continuity (zero Ω)
terminal 9 to 3	continuity

5 Push and hold the blue button, then test the following terminal combinations.

Test	Desired result
terminal 7 to 1	no continuity (infinite Ω)
terminal 9 to 3	no continuity
terminal 7 to 4	continuity (zero Ω)
terminal 9 to 6	continuity

GROUND CONTROL BOX

2-4
How to Test the Rectifier - AC Models

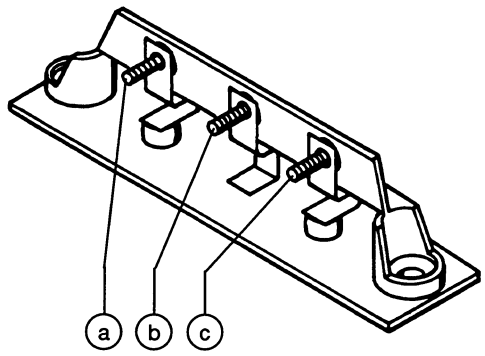
1 Fully lower the platform, turn the key switch off and disconnect the power supply.

2 Open the ground control box and locate the rectifier assembly.

3 Tag and then disconnect all wiring from the rectifier.

4 Connect the black lead (-) from a multi-meter to the center terminal. Then connect the red lead (+) to the left terminal.

⊙ Result: Meter should indicate continuity (100 to 130 kΩ).



a left terminal
b center terminal
c right terminal

5 Connect the black lead (-) to the left terminal. Then connect the red lead (+) to the center terminal.

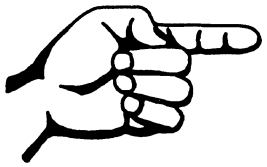
⊙ Result: Meter should indicate no continuity (infinite Ω).

6 Connect the black lead (-) to the center terminal. Then connect the red lead (+) to the right terminal.

⊙ Result: Meter should indicate continuity (100 to 130 kΩ).

7 Connect the black lead (-) to the right terminal. Then connect the red lead (+) to the center terminal.

⊙ Result: Meter should indicate no continuity (infinite Ω).



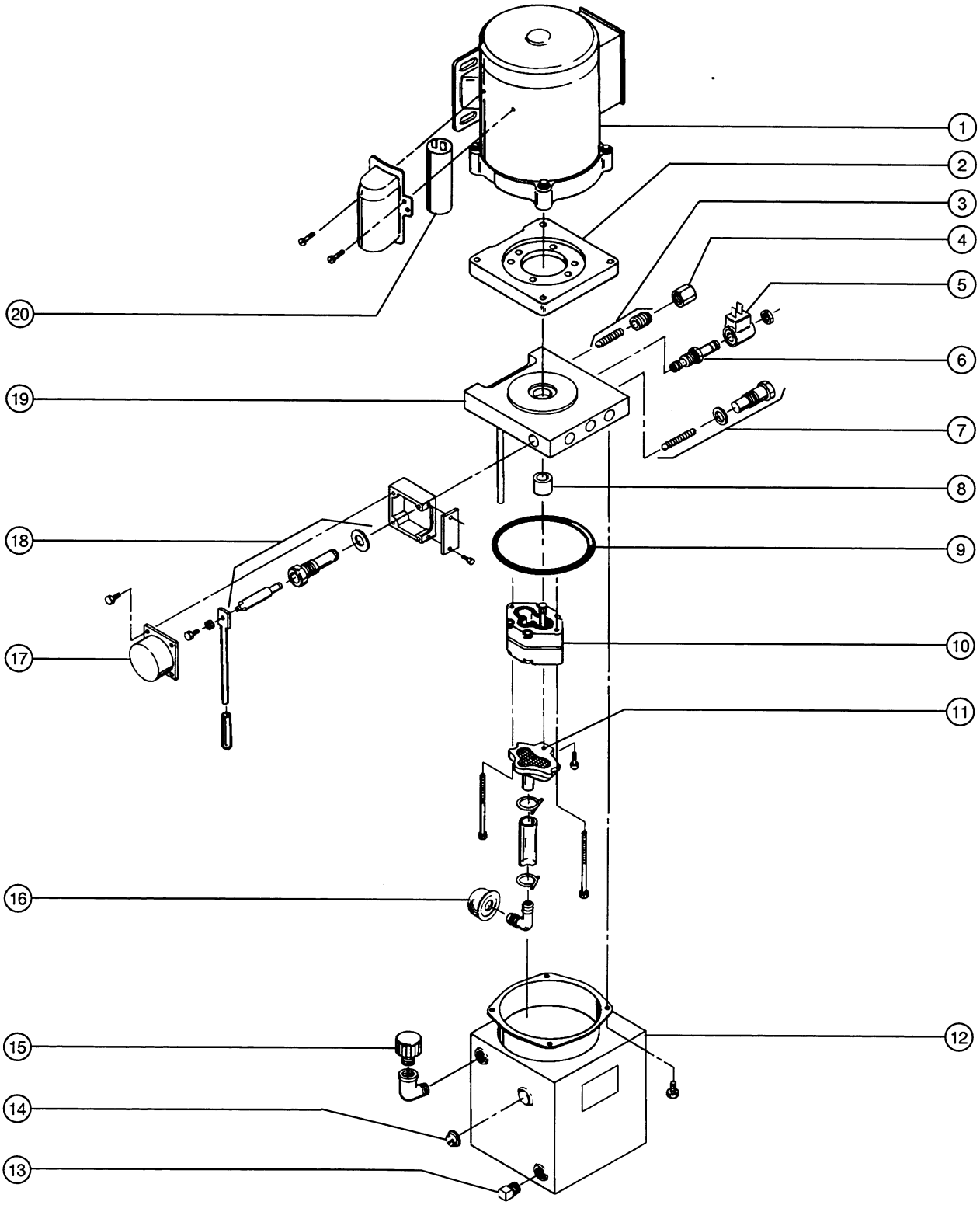
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Hydraulic Power Units

3-1
Hydraulic Power Unit Components - AC Models

Index No.	Description	Function
1	115-230V AC electric motor	2 horse power, single phase - 2850/3450 rpm, 50/60 Hz.
2	Adaptor plate	Connects motor to manifold
3	Relief valve	Hydraulic relief valve adjustment
4	Relief valve cap	Locks and seals relief valve
5	12V DC coil	Activates N.O. dump valve
6	Solenoid operated N.O. dump valve	Diverts pump output back to reservoir during motor start up
7	Check valve	One way valve for pump output
8	Coupler	Connects motor to pump
9	O-ring	Seals reservoir
10	Pump	0.65 gallon per minute at 1600 psi 2.5 liters per minute at 110 bar
11	Suction cover	Connect suction line to pump
12	Reservoir	5.5 quarts / 5.2 liters
13	Plug	Reservoir drain
14	Sight gauge	Hydraulic fluid level
15	Breather cap	Reservoir vent
16	Suction strainer	Filters hydraulic fluid
17	12V DC solenoid	Activates lowering valve
18	Lowering valve	Releases hydraulic fluid from cylinder back to reservoir to lower platform
19	Manifold	Connects pump to motor and controls hydraulic fluid flow
20	Capacitor	Motor start circuit

HYDRAULIC POWER UNITS

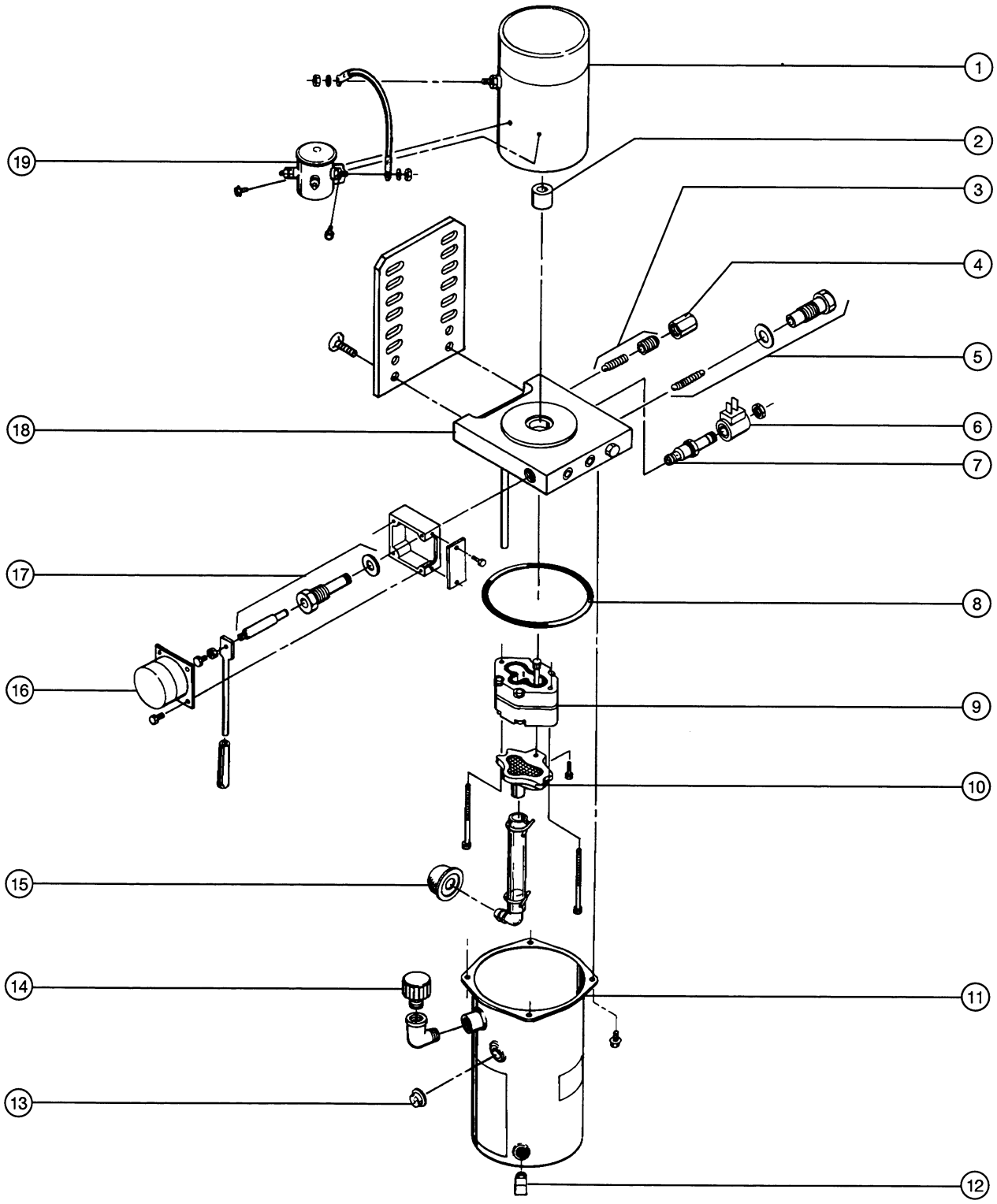


HYDRAULIC POWER UNITS

3-2
Hydraulic Power Unit Components - DC Models

Index No.	Description	Function
1	12V DC electric motor	12V DC 130 amp standard duty 1 terminal permanent magnet
2	Coupler	Connects motor to pump
3	Relief valve	Hydraulic relief valve adjustment
4	Relief valve cap	Locks and seals relief valve
5	Check valve	One way valve for pump output
6	12V DC coil	Activates N.O. dump valve
7	Solenoid operated N.O. dump valve	Diverts pump output back to reservoir during motor start up
8	O-ring	Seals reservoir
9	Pump	1 gallon per minute at 1600 psi 3.8 liters per minute at 110 bar
10	Suction cover	Connect suction line to pump
11	Reservoir	3 quarts / 2.8 liters
12	Plug	Reservoir drain
13	Sight gauge	Hydraulic fluid level
14	Breather cap	Reservoir vent
15	Suction strainer	Filters hydraulic fluid
16	12V DC solenoid	Activates lowering valve
17	Lowering valve	Releases hydraulic fluid from cylinder back to reservoir to lower platform
18	Manifold	Connects pump to motor and controls hydraulic fluid flow
19	Motor start solenoid	Relay connecting power supply to electric motor

HYDRAULIC POWER UNITS



HYDRAULIC POWER UNITS

3-3
How to Remove the Hydraulic Power Unit

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

2 **IWP models**: Pull the base release handle to fully lower the base.

3 Remove the plastic cover from the power unit.

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 down solenoid and valve coil.

6 **DC models**: Tag and disconnect the electrical wiring from the motor start solenoid.

AC models: 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 mounting fasteners from the power unit, 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 3-5, *How to Adjust the Pressure Relief Valve.*

3-4
How to Remove the Hydraulic Pump

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

2 **IWP models**: Pull the base release handle to fully lower the base.

3 Remove the plastic cover from the power unit.

4 Support the hydraulic reservoir with a lifting device.

5 Remove the mounting fasteners from the reservoir. Then carefully remove the reservoir from the power unit. Do not allow the hydraulic oil to spill.

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

6 Remove the mounting fastener from the suction cover assembly on the pump. Then remove the suction cover.

7 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.

3-5
How to Adjust the Pressure Relief Valve

1 Remove the motor cover if applicable.

2 Remove the white tag from the relief valve cap located on the right side of the motor (if applicable).

3 Remove the relief valve cap.

4 Remove the pipe plug from the reservoir.

5 Fill the reservoir up to the sight glass with Dexron II ATF hydraulic oil equivalent.

6 Install the breather cap elbow.

7 Follow the appropriate operator's manual to set up the machine. Be sure to properly install all four outriggers, if applicable.

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

Model	Maximum Load	
AWP-36	250 lbs	113 kg
AWP-30	300 lbs	136 kg
AWP-24	300 lbs	136 kg
AWP-19	300 lbs	136 kg
IWP-19	350 lbs	159 kg
IWP-24	350 lbs	159 kg

9 Raise the platform slightly.

10 Turn the relief valve screw clockwise, just until the machine begins to lift.

11 Fully lower the platform.

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

13 Raise the platform slightly.

14 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.

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

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

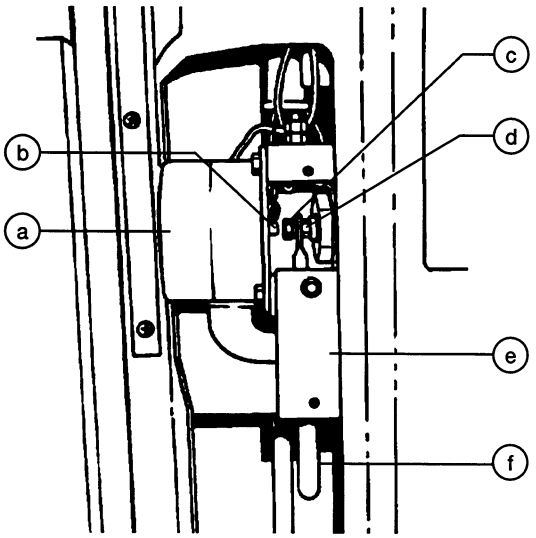
16 Install the relief valve cap, breather cap and the motor cover.

HYDRAULIC POWER UNITS

3-6
How to Adjust the Down Solenoid

1 Fully lower the platform.

2 Remove the inspection cover from the down solenoid.



a down solenoid
b solenoid pin
c valve rod adjustment bolt
d lock nut
e inspection cover
f manual lowering handle

3 Push the manual lowering handle and measure the gap between the solenoid pin and the valve rod adjustment bolt.

⊙ Result: The gap should be 0.060 to 0.070 inches (1.5 to 1.7 mm).

4 To adjust the gap, loosen the lock nut on the valve rod and turn the adjustment bolt clockwise to increase the gap or counterclockwise to decrease the gap.

5 Raise the platform 10 feet (3 m).

6 Activate the down function in the platform and have a second person pull the manual lowering lever.

⊙ Result: The platform down speed should not increase when the manual lowering lever is pulled.

7 Raise the platform to maximum height.

8 Activate the platform down function from the platform controls.

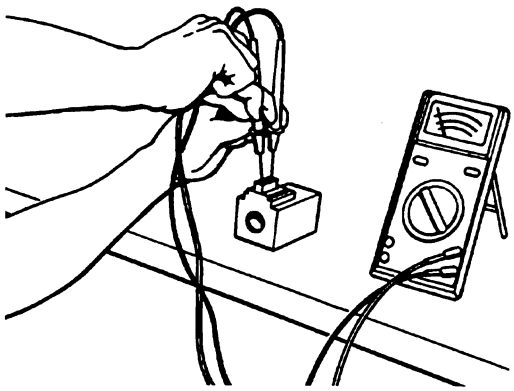
⊙ Result: The platform should lower.

NOTICE If the down solenoid does not operate as described, re-adjust the solenoid gap.

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	7 Ω
Solenoid operated N.O. valve, 12V	10 Ω

3-8
How to Test the Motor Start Solenoid

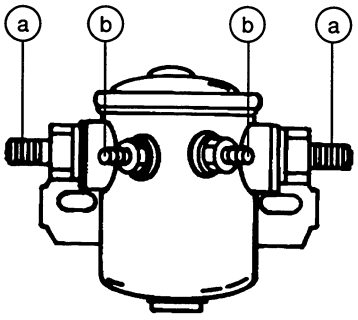
⚠WARNING Electrocution hazard. Contact with electrically charged circuits may result in death or serious injury. Remove all rings, watches and other jewelry.

⚠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
2 small posts	13 to 17 Ω
2 large posts	no continuity (infinite Ω)
Any 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 one of the small posts and a ground wire to the other small post, 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.

IWP models: Pull the base lowering handle to lower the base.

2 Remove the power unit cover.

3 Separate both quick disconnect couplers.

4 Unplug the quick disconnects.

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

6 Disconnect the power cable tension spring. Then remove the spring bolt that attaches to the back of the power pack mounting plate. The spring bolt will be reused on the new power pack. (Note: spring bolt is not used on 19 foot model.)

7 **AWP 19 and 24 models:** Remove the loading wheel on the motor side.

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

9 **AWP 19 models:** Remove the wire clamp on the back of the power pack mounting plate holding the power cable.

10 Label, disconnect and plug the hydraulic hoses from the motor.

⚠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.

11 Support the power pack and remove the power pack mounting bolts.

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

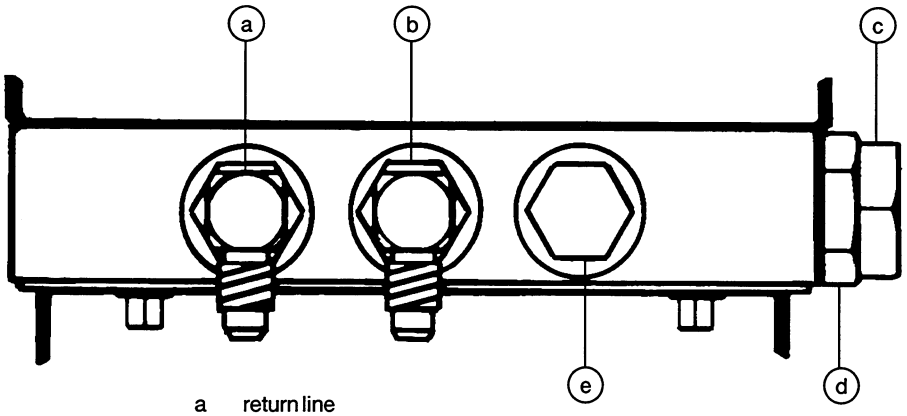
12 Remove the power pack.

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 3-5, *How to Adjust the Pressure Relief Valve.*

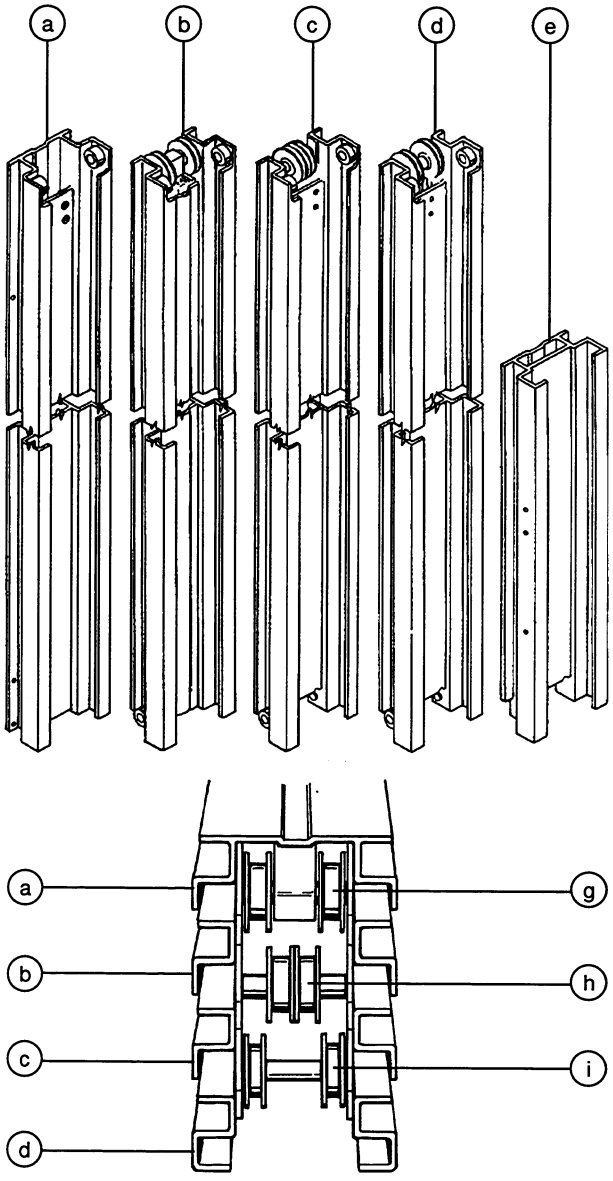
⚠CAUTION Component damage hazard. Do not overtighten the hydraulic fittings.



a return line
b high pressure line
c pressure relief valve
d plug
e not used

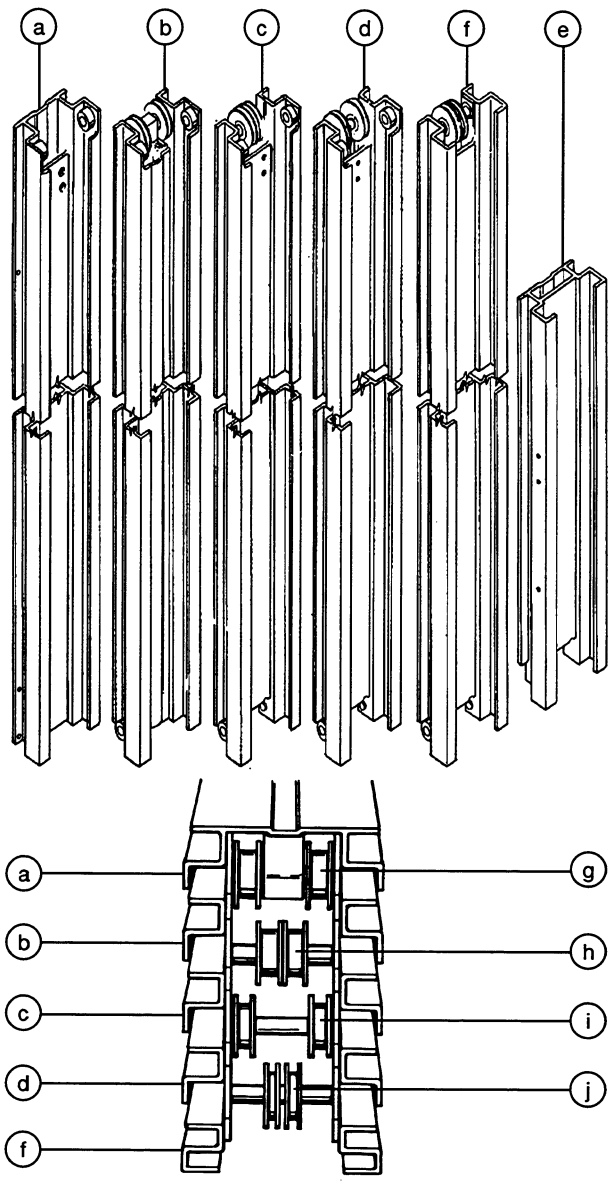
Mast Assembly

MAST - 4 COLUMN



Mast Components - 4 Column
- a number 1 column
- b number 2 column
- c number 3 column
- d number 4 column
- e carriage
- g number 2 column idler wheel assembly
- h number 3 column idler wheel assembly
- i number 4 column idler wheel assembly

MAST - 5 COLUMN



Mast Components - 5 Column
- a number 1 column
- b number 2 column
- c number 3 column
- d number 4 column
- e carriage
- f number 5 column
- g number 2 column idler wheel assembly
- h number 3 column idler wheel assembly
- i number 4 column idler wheel assembly
- j number 5 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.

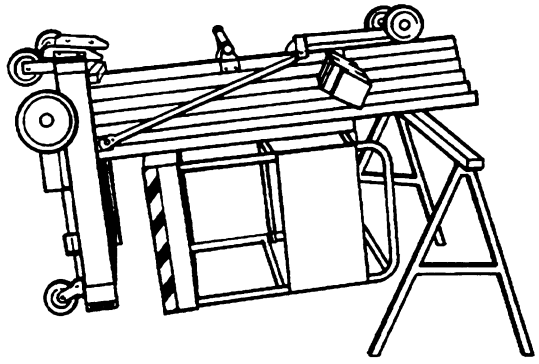
1 Fully lower the platform, turn the machine off and remove the key.

AWP models: Remove the outriggers from the outrigger storage socket.

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

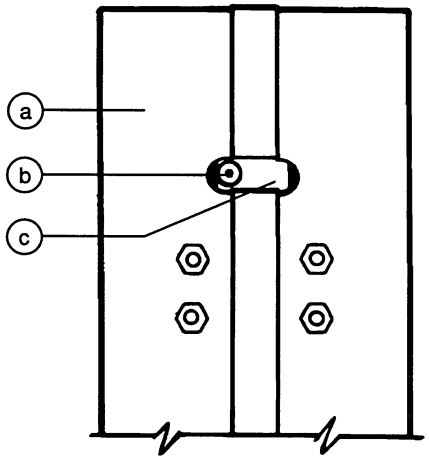
3 Attach an overhead crane to the back of the mast near the top.

4 Lift the machine slightly and then while lowering it, guide it over onto the platform. Before the platform reaches the ground, place a saw horse under the mast just above the platform. Lower the machine onto the saw horse. Be sure the saw horse is of ample capacity.



⚠CAUTION Crushing hazard. The machine will fall unless it is properly supported with the overhead crane.

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

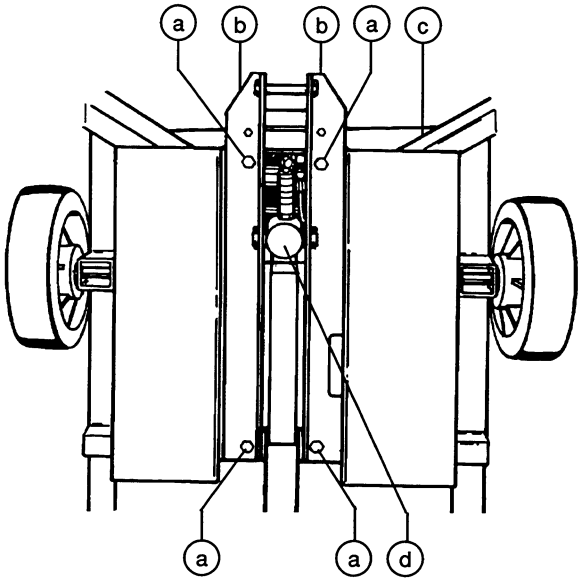


a top of no. 1 column
b retaining bolt
c clevis block

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

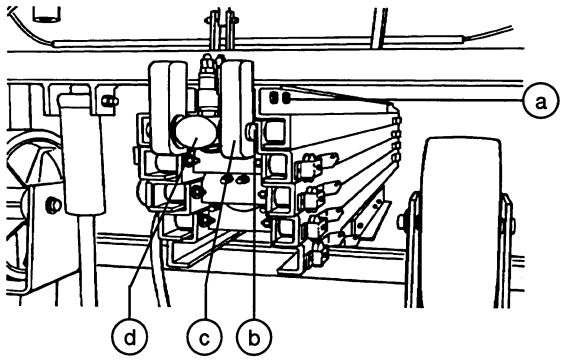
⚠CAUTION Bodily injury hazard. Spraying hydraulic oil can penetrate and burn skin. Loosen hydraulic connections very slowly to allow the oil pressure to dissipate gradually. Do not allow oil to squirt or spray.

7 **AWP models**: Remove the mounting fasteners from the cylinder mounting brackets.



a mounting fastener
b cylinder mounting bracket
c base
d lift cylinder

IWP models: Remove the mounting fasteners from the right side cylinder mounting bracket. Remove the fastener that attaches the valve mounting bracket to the right side cylinder mounting bracket. Remove the cotter pins from the cylinder barrel-end mounting pin and remove the pin.



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

8 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 - AWP Models

⚠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 Remove the platform. See 7-1, *How to Remove an Aluminum Platform.*

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

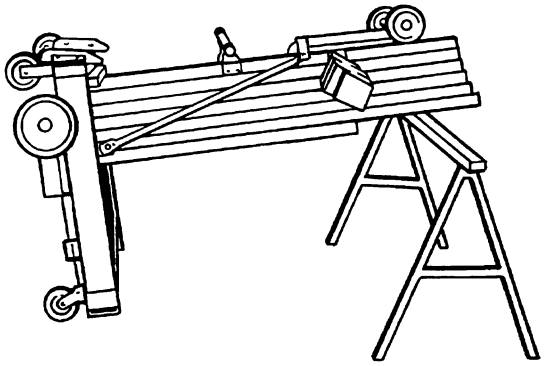
4 **AWP 30 and 36 models:** Remove the tilt-back frame. See 6-1, *How to Remove the Tilt-back Frame.*

5 Attach an overhead crane to the back of the mast near the top.

6 Place a saw horse in front of the machine where the top of the mast will rest.

MAST ASSEMBLY

7 Lift the machine slightly and then while lowering it, guide it over onto the saw horse. Be sure the saw horse is of ample capacity.



⚠CAUTION Crushing hazard. The machine will fall unless it is properly supported with the overhead crane.

8 Attach the overhead crane to the base.

9 Lift the base slightly and place a second saw horse under the mast near the base. Lower the mast onto the saw horse.

10 Disconnect and cap the lift cylinder hydraulic hoses. Remove the flow control valve from the cylinder. Plug the cylinder ports.

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

11 Remove the cotter pins from the lift cylinder barrel end mounting pin. Remove the pin.

12 Remove the fasteners that mount the strut bracket(s) to the mast.

13 Remove the four base mounting fasteners.

14 **AWP 19 and 24 models**: Remove the cable attachment brackets from the side of the mast.

AWP 30 and 36 models: Remove the rubber grommet from the access hole in the mast support angle. Carefully pull the hydraulic hoses down and out through the bottom of the mast. Then pull the electrical cables out.

15 Attach a lifting device to the base.

16 Carefully lift and remove the base from the mast. Do not damage the lift cylinder hydraulic fittings when removing the base.

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

How to Remove the Mast Assembly - IWP Models

⚠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 Pull the base release handle to fully lower the base.

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

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

5 Disconnect and cap the lift cylinder hydraulic hoses. Remove the flow control valve from the cylinder. Plug the cylinder ports.

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

6 Remove the mounting fasteners from the mast valve mounting bracket. Do not remove the valve from the bracket or the hydraulic hoses from the valve.

7 Remove the fasteners that mount the level sensor assembly to the mast.

8 Remove the cable attachment brackets from the side of the mast.

9 Disconnect the control cable tension spring.

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

11 Remove the fasteners that mount the strut bracket to the mast.

12 Remove the four base mounting fasteners.

13 Carefully lift the mast out of the base.

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

14 Place two saw horses under the mast.

15 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 does not maintain an 1.5 degree ± 0.1 degree lean back (away from the platform) in relationship to the base. Consult Genie Industries Service Department.

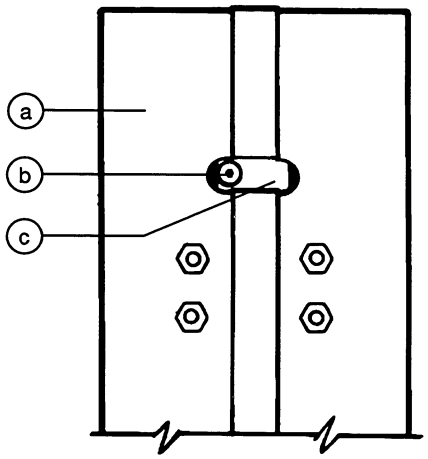
How to Disassemble the Mast

⚠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 the appropriate procedure above, *How to Remove the Mast Assembly.*

2 ***IWP models:*** Remove the mounting fasteners from the cylinder mounting brackets.

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



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

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

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

6 Remove the adjustment nuts from all the sequencing cables. Label and remove all the lower sequencing pulley brackets.

7 Remove the decal plate mounting fasteners and lay the decal plate aside with the platform control box attached.

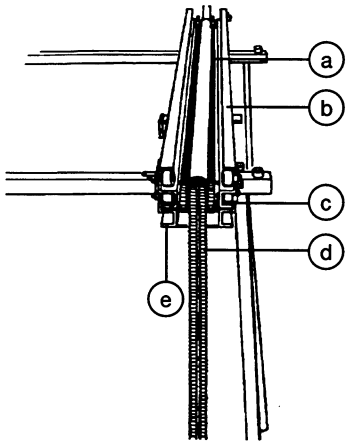
8 Remove the screws that mount the lower junction box to the mast. Remove the control cable from the mast.

9 Remove the lock nuts and adjustment nuts from the chain terminals on the carriage.

10 Remove the carriage by sliding it out the bottom of the mast.

MAST ASSEMBLY

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



a first column chain
b second column
c top of mast
d second column chain
e first column

12 Slide the top column towards the top 1 foot (30 cm) to expose the idler wheel mounting bolts.

13 Remove the fasteners that mount the idler wheel axle plates to the top of the column. Remove the entire idler wheel assembly from the column. Be sure to keep the assembly together.

14 Remove the lock nuts and adjustment nuts from the chain terminals on the top column.

15 Remove the column by sliding it out of the bottom of the mast and set it aside.

16 Lay the chains that are in the column out on the floor at the top of the mast. Pick up the first set of chains and lay them in what is now the top column. Do not allow the chains to become twisted.

17 Repeat steps 12 through 16 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 Remove all the shims from under the roller wheel buttons and clean all of the 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 90338) to the inside and outside channels of each column.

4 Slide the number 2 column into the number 1 column until the top of the number 2 column reaches the top roller wheels on the number 1 column.

5 Apply a dab of grease on the end of the roller bolt to hold the shims and the button in place.

6 Install one medium and one small shim in the top roller wheels. Install the roller wheel buttons. Do not install the lower roller wheel buttons.

7 Slide the number 2 column into the number 1 column and move it through its entire length checking for tight spots or binding.

8 Use shims equally on each side to adjust the column so the tightest spot measures 15 to 20 pounds (6.8 to 9 kg) of resistance.

9 Install shims and buttons in the lower roller wheels to obtain an additional 15 to 20 pounds (6.8 to 9 kg) of resistance.

NOTICE Always install the shims equally on each side of a column to maintain squareness.

10 Repeat steps 3 through 8 to shim each remaining column.

11 After all the columns have been shimmed, remove the columns and lay them out on the saw horses in sequence.

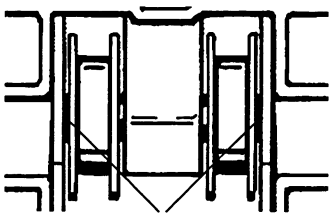
12 Install the chains into the columns and tighten the chain mounting fasteners (if they where removed during disassembly).

13 Lay the chains into each of the columns.

14 Lay the chains from the number 1 column out onto the floor. Do not allow the chains to become twisted or dirty.

15 Slide the number 2 column into the number 1 column until the top of the number 2 column is approximately 12 inches (30 cm) past the top of the number 1 column.

16 Install the idler wheel assembly into the top of the number 2 column. Tighten the mounting fasteners. Be sure the idler wheels rotate with no side to side movement in excess of 0.040 inches (1 mm). Replace worn shims if necessary. Be sure to maintain an equal amount of distance on the outside of the idler wheels.

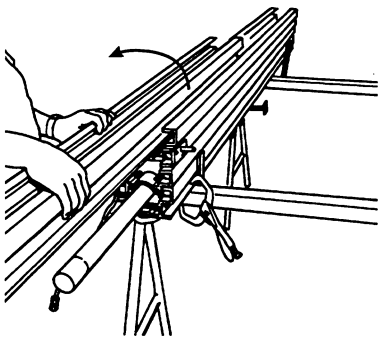


equal distance

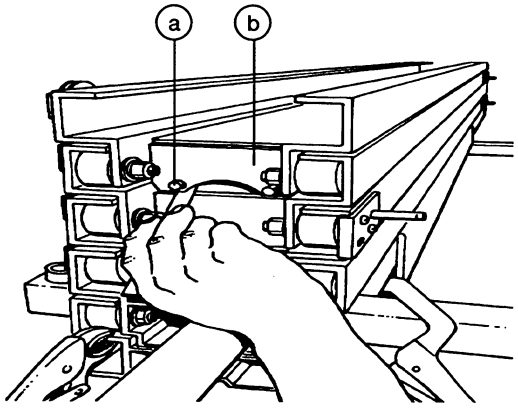
17 Lay the chains from the number 2 column out onto the floor. Do not allow the chains to become twisted or dirty.

18 Take the chains from the number 1 column and place them inside the number 2 column. Route them up and over the idler wheels on the number 2 column. Do not allow the chains to become twisted or dirty.

19 Tip the number 3 column up on one side (this will allow the column to clear the chains in the lower column) and slide it into the number 2 column until the top of the number 3 column is approximately 12 inches (30 cm) before the top of the number 2 column.

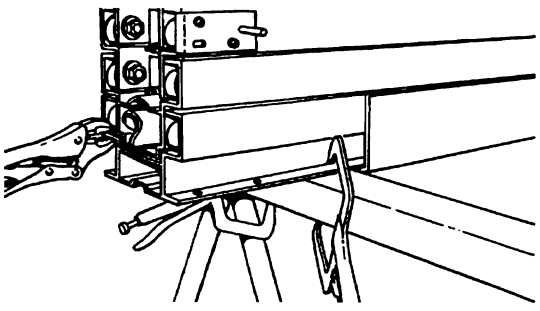


20 Install the chain termination rods from the number 1 column chains into the termination bracket of the number 3 column by guiding the termination rods into the termination bracket while popping the number 3 column into the number 2 column. Tighten the adjustment nuts finger tight.



a chain termination rod
b termination bracket

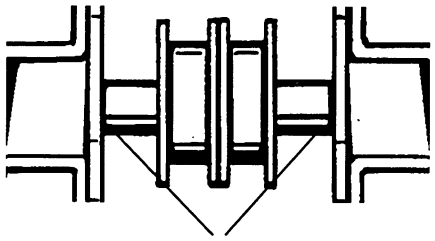
21 Secure the number 2 column to the number 1 column using vise grips.



MAST ASSEMBLY

22 Slide number 3 column approximately 12 inches (30 cm) up past the top of the number 2 column.

23 Install the idler wheel assembly into the top of the number 3 column. Tighten the mounting fasteners. Be sure the idler wheels rotate with no side to side movement in excess of 0.040 inches (1 mm). Replace worn shims if necessary. Be sure to maintain an equal amount of distance on the outside of the idler wheels.



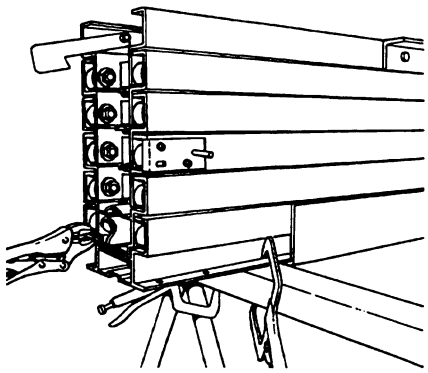
equal distance

24 Lay the chains from the number 3 column out onto the floor. Do not allow the chains to become twisted or dirty.

25 Take the chains from the number 2 column and place them inside the number 3 column. Route them up and over the idler wheels on the number 3 column. Do not allow the chains to become twisted or dirty.

26 Repeat steps 19 through 25 for the remaining column(s) and carriage.

27 With the number 2 column still secured to the number 1 column, pull all the columns toward the bottom until they are all even.



28 Be sure all the termination rod adjustment nuts are finger tight and the chain termination rods have an equal amount of tension.

29 Install the lock nuts on columns 4, 5 and the carriage.

30 Push the number 3 column forward 4 inches (5.08 cm).

31 Mark a reference line on the bottom of the number 2 column to specification. Measure up from the bottom of the column.

Stagger Adjustment		
AWP-19 & 24	5/8 inch	15.9 mm
AWP-30 & 36	3/4 inch	19 mm
IWP-19 & 24	1/2 inch	12.7 mm

32 Pull the carriage towards the bottom of the mast. This will close the mast.

33 Adjust the number 3 column chain termination rods until the bottom of the number 3 column reaches the reference line on the bottom of the number 2 column. Be sure there is equal tension on the chain termination rods.

34 Install the lock nuts on the number 3 column. Be sure that the stagger of the columns does not change.

35 **AWP-19 & IWP-19 models:** Mark a reference line on the bottom of the number 4 column to specification. Measure up from the bottom of the column.

Stagger Adjustment		
AWP-19	1 inch	2.54 cm
IWP-19	1 5/8 inches	4.1 cm

36 Adjust the carriage chain termination rods until the bottom of the carriage reaches the reference line on the bottom of the number 4 column. Be sure there is equal tension on the chain termination rods.

37 Install the lock nuts on the carriage. Be sure that the stagger of the columns does not change.

38 **AWP-24, 30, 36 & IWP-24 models:** Mark a reference line on the bottom of the number 5 column to specification. Measure up from the bottom of the column.

Stagger Adjustment		
AWP-24, 30 & 36	1 inch	2.54 cm
IWP-24	1 5/8 inches	4.1 cm

39 Adjust the carriage chain termination rods until the bottom of the carriage reaches the reference line on the bottom of the number 5 column. Be sure there is equal tension on the chain termination rods.

40 Install the lock nuts on the carriage. Be sure that the stagger of the columns does not change.

41 Push the number 3 column forward 6 inches (15.2 cm). This will open the mast.

42 Be sure all of the idler wheel axle plate mounting bolts are flush with the column.

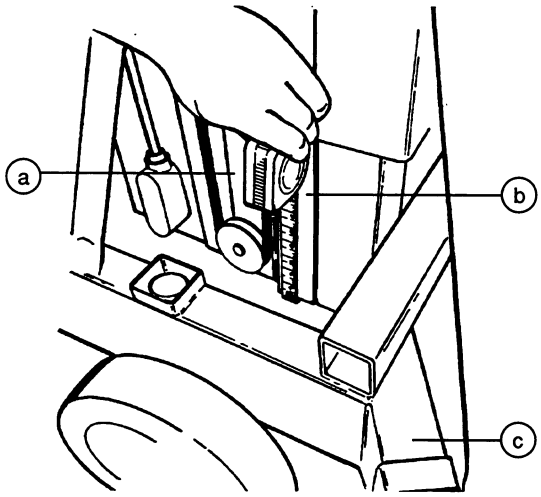
⚠CAUTION Component damage hazard. The roller wheels will become damaged if the idler wheel axle plate mounting bolts are not flush with the column.

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

5-3
How to Adjust the Lifting Chains

1 Fully lower the machine and measure the distance between the bottom of the number 2 column and the bottom of the number 3 column (referred to as the stagger). The chains are adjusted correctly if the measurement meets the specification. If the adjustment is correct proceed to step 5.

Stagger Adjustment		
AWP-19 & 24	5/8 inch	15.9 mm
AWP-30 & 36	3/4 inch	19 mm
IWP-19 & 24	1/2 inch	12.7 mm



a no. 3 column
b no. 2 column
c base

To adjust number 3 column chains:

2 Raise the platform 6 feet (2 m).

3 Loosen the lock nuts on the number 3 column chain termination rods.

4 Turn the adjustment nuts on both chain terminals clockwise to increase the stagger or counterclockwise to decrease the stagger. Then re-tighten the lock nuts.

MAST ASSEMBLY

5 Fully lower the machine and measure the distance between the bottom of the number 3 column and the bottom of the number 4 column. The chains are adjusted correctly if the measurement meets specification. If the adjustment is correct proceed to step 9 or 13.

Stagger Adjustment		
AWP-19 & 24	5/8 inch	15.9 mm
AWP-30 & 36	3/4 inch	19 mm
IWP-19 & 24	1/2 inch	12.7 mm

6 Raise the platform 6 feet (2 m).

7 Loosen the lock nuts on the number 4 column chain termination rods.

8 Turn the adjustment nuts on both chain terminals clockwise to increase the stagger or counterclockwise to decrease the stagger. Then re-tighten the lock nuts.

9 **AWP-24, 30, 36 & IWP-24 models:** Fully lower the machine and measure the distance between the bottom of the number 4 column and the bottom of the number 5 column. The chains are adjusted correctly if the measurement meets specification. If the adjustment is correct proceed to step 18.

Stagger Adjustment		
AWP-24	5/8 inch	15.9 mm
AWP-30 & 36	3/4 inch	19 mm
IWP-24	1/2 inch	12.7 mm.

10 Raise the platform 6 feet (2 m).

11 Loosen the lock nuts on the number 5 column chain termination rods.

12 Turn the adjustment nuts on both chain terminals clockwise to increase the stager or counterclockwise to decrease the stager. Then re-tighten the lock nuts.

13 **AWP-19 & IWP-19 models:** Fully lower the machine and measure the distance between the bottom of the number 4 column and the bottom of the carriage. The chains are adjusted correctly if the measurement meets specification.

Stagger Adjustment		
AWP-19	1 inch	2.54 cm
IWP-19	1 5/8 inches	4.1 cm

14 Raise the platform 6 feet (2 m).

15 Loosen the lock nuts on the carriage chain termination rods.

16 Turn the adjustment nuts on both chain terminals clockwise to increase the stager or counterclockwise to decrease the stager. Then re-tighten the lock nuts.

17 Be sure the chain terminals on each column have equal tension and the lock nuts are tight.

18 **AWP-24, 30, 36 & IWP-24 models:** Fully lower the machine and measure the distance between the bottom of the number 5 column and the bottom of the carriage. The chains are adjusted correctly if the measurement meets specification.

Stagger Adjustment		
AWP-24, 30 & 36	1 inch	2.54 cm
IWP-24	1 5/8 inches	4.1 cm

19 Raise the platform 6 feet (2 m).

20 Loosen the lock nuts on the carriage chain termination rods.
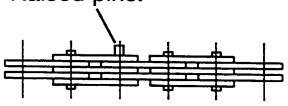
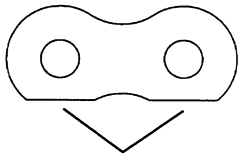
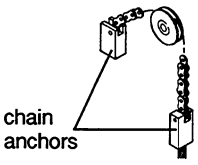
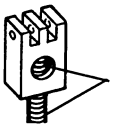
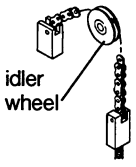
21 Turn the adjustment nuts on both chain terminals clockwise to increase the stager or counterclockwise to decrease the stager. Then re-tighten the lock nuts.

22 Be sure the chain terminals on each column have equal tension and the lock nuts are tight.

5-4
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.

Tilt-back Frame - AWP-30 and 36

6-1 How to Remove the Tilt-back Frame

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

2 Maintain a firm grasp on the tilt-back frame and remove the retaining pin. Then lower the tilt-back frame to the ground.

3 Remove the fasteners that mount the tilt-back frame hinges to the base.

4 Remove the frame from the machine.

NOTICE Note the amount of shims used between the hinges and the base.

6-2 How to Adjust the Pivot Slider or Stop Bracket

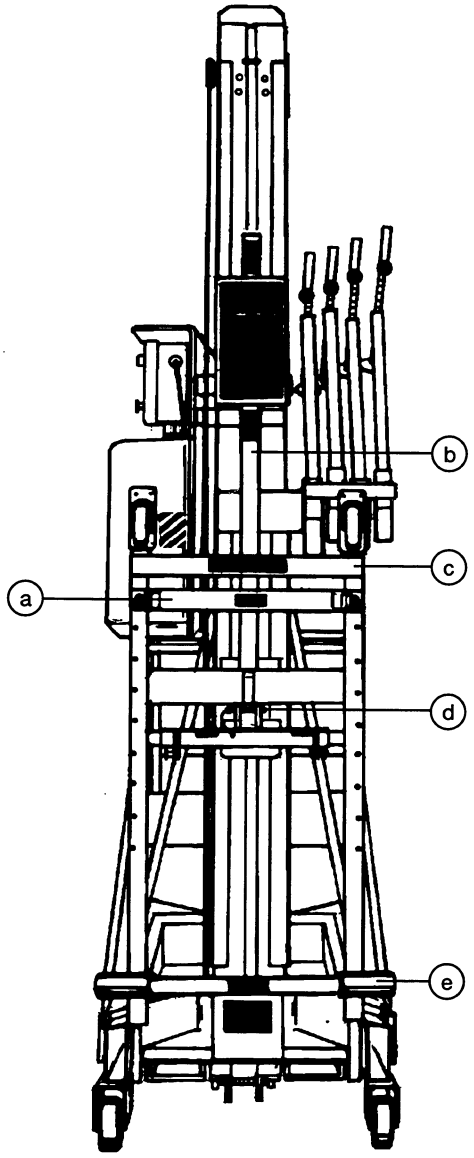
NOTICE Check for side-to-side movement of the pivot slider or stop bracket. They should have no side-to-side clearance and not be too tight to cause dragging or binding. Adjust if necessary.

1 Remove the tilt-back frame. See 6-1, *How to Remove the Tilt-back Frame.*

2 Remove the mounting fasteners and roll pins from the tilt-back frame hinges.

3 Remove the lower stop bolts from the frame.

4 Slide the pivot slider and the stop bracket out of the frame and add shims as necessary to obtain zero clearance and zero drag.



(AWP 36 shown)
a loading stop bracket
b shock absorber assembly
c tilt-back frame
d shock absorber mounting bolt
e loading pivot bar

TILT-BACK FRAME - AWP 30 AND 36

6-3
How to Disassemble the Shock Absorber Assembly

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

2 Maintain a firm grasp on the tilt-back frame and remove the retaining pin. Then lower the tilt-back frame to the ground.

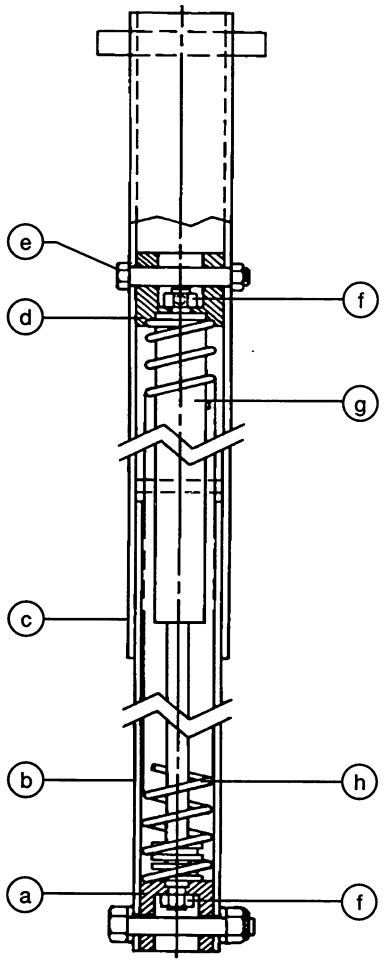
3 Remove the fastener that mounts the shock absorber assembly to the frame.

4 Remove the shock absorber assembly from the frame and separate the lower tube from the assembly.

5 Remove the top decal plate mounting bolt. Then pull the shock absorber out of the upper tube.

6 Remove the metric nut from each end of the shock absorber and remove the mounting blocks.

⚠WARNING Bodily injury hazard. Contents of the shock absorber are under pressure. Use care during removal.



(AWP 36 Shown)
a lower shock mounting block
b lower tube
c upper tube
d upper shock mounting block
e decal plate mounting bolt
f metric nut
g shock absorber
h spring (AWP 36 models only)

Platform

7-1 How to Remove an Aluminum Platform

1 Place support blocks between the platform and base. Then lower the platform onto the blocks.

⚠WARNING Crushing hazard. Keep away from descending platform.

2 Remove the lower mounting fasteners from the platform.

3 Remove the nuts from the U-bolts, then 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.

7-2 How to Install a Fiberglass Platform

1 Remove the aluminum platform. See 7-1, *How to Remove an Aluminum Platform.*

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

3 Install the mounting fasteners.

4 Remove all manuals from the carriage mounted storage container and place them in the storage container in the fiberglass platform.

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

7-3 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 GFI outlet

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

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

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

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

6 Push the red RESET button on the GFI receptacle.

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

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