



# *Service Manual*

## Serial Number Range

### ***Genie Lift***

from 1395 to 1301-23434

from GL02-23435 to  
GL16G-80150

from GL16G-80151 to  
GL16G-83799

from GLG-83800

Part No. 115417GT  
Rev A3  
December 2017

## Introduction

### Important

Read, understand and obey the safety rules and operating instructions in the appropriate Operator's Manual on your machine before attempting any maintenance procedure.

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

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

### Technical Publications

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

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

### Contact Us:

Internet: [www.genielift.com](http://www.genielift.com)

E-mail: [awp.techpub@terex.com](mailto:awp.techpub@terex.com)

### Serial Number Information

Genie Industries offers the following Service Manuals for these models:

Title	Part No.
Genie Lift Parts & Service Manual, First Edition (from serial number 1395-103 to 1301-23434).....	22186
Genie Lift Parts & Service Manual, Second Edition (from serial number GL02-23435).....	*35572

\*Note: Genie Lift Service Manual 115417 and Genie Lift Part's Manual 115418 replaces Genie Lift Parts and Service Manual 35572.

### Find a Manual for this Model

Go to <http://www.genielift.com>

Use the links to locate Service Manuals, Maintenance Manuals, Service and Repair Manuals, Parts Manuals and Operator's Manuals.

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Third Edition, First Printing

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# Introduction

## Revision History

Revision	Date	Section	Procedure / Page / Description
A	4/2009		Initial Release
A1	10/2010	Specifications	Checklist A Procedures
A2	9/2016	Introduction	Serial Number Legend
A3	12/2017	Specifications	Machine Specifications
<b>Reference Examples:</b>			<p style="text-align: center;"><b>Electronic Version</b></p> <p>Click on any content or procedure in the Table of Contents to view the update.</p>
Section – Maintenance, B-3			
Section – Repair Procedure, 4-2			
Section – Fault Codes, All charts			
Section – Schematics, Legends and schematics			



# Introduction

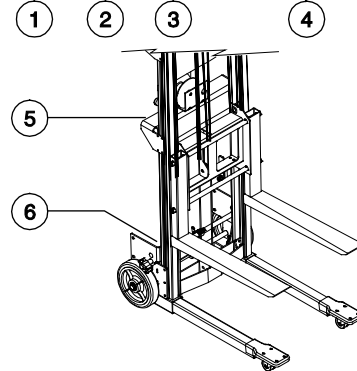
## Serial Number Legend

To August 31, 2016

**Genie**  
A TEREX BRAND

<p><b>Manufacturer:</b> Terex South Dakota 500 Oakwood Road Watertown, SD 57201 USA</p> <p><b>Model:</b></p> <p><b>Manufacture date:</b> 1/2/16</p> <p><b>Electrical schematic number:</b></p> <p><b>Country of manufacture:</b></p>	<p><b>European Representative:</b> Genie UK LTD The Maltings Watrf Road, Grantham, Lin NG31 6BH United Kingdom</p> <p><b>Serial number:</b> GL16G-12345</p> <p><b>Model year:</b> 2016</p>
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**GL 16 G - 12345**



- 1 Model
- 2 Model year
- 3 Facility code

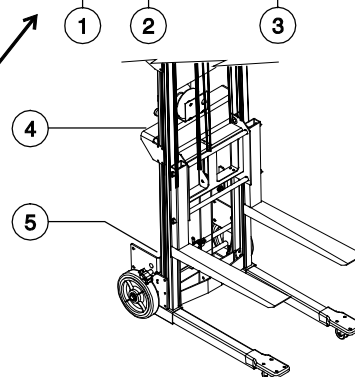
- 4 Sequence number
- 5 Serial label
- 6 Serial number (stamped on base)

From September 1, 2016

**Genie**  
A TEREX BRAND

<p><b>Manufacturer:</b> Terex South Dakota 500 Oakwood Road Watertown, SD 57201 USA</p> <p><b>Model:</b></p> <p><b>Year of Manufacture :</b> 2016</p> <p><b>Electrical schematic number:</b></p> <p><b>Country of manufacture:</b></p>	<p><b>European Representative:</b> Genie UK LTD The Maltings Watrf Road, Grantham, Lin NG31 6BH United Kingdom</p> <p><b>Serial number:</b> GLG-12345</p>
--	---

**GL G - 12345**



- 1 Model
- 2 Facility code
- 3 Sequence number

- 4 Serial label
- 5 Serial number (stamped on base)

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## Safety Rules



### Danger

Failure to obey the instructions and safety rules in this manual and the appropriate Operator's Manual on your machine will result in death or serious injury.

Many of the hazards identified in the operator's manual 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 top priority.



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



Safety alert symbol—used to alert personnel to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.



Indicates a imminently hazardous situation which, if not avoided, will result in death or serious injury.



Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



Indicates a potentially hazardous situation which, if not avoided, may cause minor or moderate injury.



Indicates a potentially hazardous situation which, if not avoided, may result in property damage.



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

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 top priority.



Be sure to keep sparks, flames and lighted tobacco away from flammable and combustible materials like battery gases and engine fuels. 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 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 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 environmentally safe.



Be sure that your workshop or work area is properly ventilated and well lit.

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# Specifications

## Machine Specifications

Model	GL-4	GL-8	GI-10	GL-12
<b>Stowed Height*</b>	5 ft 7.5 in	5 ft 7.5 in	6 ft 6.5 in	7 ft 7 in
	1.7 m	1.7 m	2 m	2.3 m
<b>Ground Clearance*</b>	0.75 in	0.75 in	0.75 in	0.75 in
	1.9 cm	1.9 cm	1.9 cm	1.9 cm
<b>Standard Base</b>	24.75 in	24.75 in	X	X
Width - stowed	63 cm	63 cm	X	X
	34 in	34 in	X	X
Length - stowed	86.4 cm	86.4 cm	X	X
	59 in	63 in	X	X
Length - operating	1.5 m	1.6 m	X	X
<b>Straddle Base</b>	28.75 in	28.75 in	28.75 in	28.75 in
Width - stowed	73 cm	73 cm	73 cm	73 cm
	43.5 in	43.5 in	43.5 in	43.5 in
Width - extended	110.5 cm	110.5 cm	110.5 cm	110.5 cm
	19.25 in	19.25 in	19.25 in	19.25 in
Length - stowed	49 cm	49 cm	49 cm	49 cm
	43 in	43 in	43 in	43 in
Length - Operating	109.2 cm	109.2 cm	109.2 cm	109.2 cm
<b>Counterweight Base</b>	28.75 in	28.75 in	28.75 in	X
Width - stowed	73 cm	73 cm	73 cm	X
	43.5 in	43.5 in	43.5 in	X
Width - extended	110.5 cm	110.5 cm	110.5 cm	X
	28.5 in	28.5 in	28.5 in	X
Length - operating	72.4 cm	72.4 cm	72.4 cm	X

\* The 10 inch pneumatic rear wheel option will add 1 inch / 2.5 cm to these specifications.

\* The 4 point caster option B will add 1 inch / 2.5 cm to these specifications.

\* The counterweight base will add 1 inch / 2.5 cm to these specifications.

## Specifications

### Machine Specifications cont.



Model	GL-4	GL-8	GI-10	GL-12
<b>Machine Weight</b>	113 lbs	132 lbs	NA	NA
Standard base	51kg	60 kg		
	126 lbs	145 lbs	149 lbs	154 lbs
Straddle base	57 kg	66 kg	68 kg	70 kg
	392 lbs	411 lbs	433 lbs	NA
Counterweight base	178 kg	186 kg	196 kg	
Standard base	117 lbs	136 lbs	NA	NA
(pneumatic caster option)	53 kg	60 kg		
Straddle base	130 lbs	149 lbs	153 lbs	158 lbs
(pneumatic caster option)	59 kg	68 kg	69 kg	72 kg
Straddle base	137 lbs	158 lbs	162 lbs	167 lbs
(4 point caster option A)	62 kg	72 kg	74 kg	76 kg
Straddle base	139 lbs	160 lbs	164 lbs	169 lbs
(4 point caster option B)	63 kg	73 kg	75 kg	77 kg
The electric winch option will add an additional 103 lbs / 47 kg to the above machine weights.				
<b>Forks</b>	22.5 in	22.5 in	22.5 in	22.5 in
Length	57.2 cm	57.2 cm	57.2 cm	57.2 cm
	20.5 in	20.5 in	20.5 in	20.5 in
Width	52.1 cm	52.1 cm	52.1 cm	52.1cm
<b>Load Platform</b>	23 in	23 in	23 in	23 in
Length	58.4 cm	58.4 cm	58.4 cm	58.4 cm
	22 in	22 in	22 in	22 in
Width	55.9 cm	55.9 cm	55.9 cm	55.9 cm





# Specifications

## Performance Specifications

Model	GL-4	GL-8	GL-10	GL-12
<b>Standard Forks</b>				
Maximum working height	5 ft 11 in	10 ft 0.5 in	11 ft 8 in	13 ft 9.5 in
Forks up	1.8 m	3.1 m	3.6 m	4.2 m
Maximum working height	4 ft 1.5 in	8 ft 3 in	9 ft 10.5 in	12 ft
Forks down	1.3m	2.5 m	3 m	3.7 m
<b>Boom</b>				
Maximum working height	5 ft 1.5 in	9 ft 3 in	10 ft 10.5 in	13 ft
	1.6 m	2.8 m	3.3 m	4 m
<b>Load Platform</b>				
Maximum working height	5 ft 1.5 in	9 ft 3 in	10 ft 10.5 in	13 ft
	1.6 m	2.8 m	3.3 m	4 m
<b>Standard Base</b>				
Minimum working height	3.5 in	3.5 in	3.5 in	3.5 in
	8.9 cm	8.9 cm	8.9 cm	8.9 cm
<b>Straddle Base</b>				
Minimum working height	3.5 in	3.5 in	3.5 in	3.5 in
	8.9 cm	8.9 cm	8.9 cm	8.9 cm
<b>Load Capacity</b>				
Standard Forks	500 lbs	400 lbs	350 lbs	350 lbs
at 14 in / 36 cm load center	227 kg	182 kg	159 kg	159 kg
Boom	500 lbs	400 lbs	350 lbs	350 lbs
at 12 in / 30.5 cm load center	227 kg	182 kg	159 kg	159 kg
Boom	300 lbs	240 lbs	210 lbs	210 lbs
at 20 in / 51 cm load center	136 cm	109 kg	95 kg	95 kg
<b>Airborne noise emissions by machinery</b>				
Manual winch	90 dB	90 dB	90 dB	90 dB
Electric winch	95 dB	95 dB	90 dB	90 dB
Maximum sound level at normal operating workstations (A-weighted)				

# Specifications

<b>SAE FASTENER TORQUE CHART</b>											
• This chart is to be used as a guide only unless noted elsewhere in this manual •											
SIZE	THREAD	Grade 5 				Grade 8 				A574 High Strength Black Oxide Bolts	
		LUBED		DRY		LUBED		DRY		LUBED	
		in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm
1/4	20	80	9	100	11.3	110	12.4	140	15.8	130	14.7
	28	90	10.1	120	13.5	120	13.5	160	18	140	15.8
		LUBED		DRY		LUBED		DRY		LUBED	
		ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm
5/16	18	13	17.6	17	23	18	24	25	33.9	21	28.4
	24	14	19	19	25.7	20	27.1	27	36.6	24	32.5
3/8	16	23	31.2	31	42	33	44.7	44	59.6	38	51.5
	24	26	35.2	35	47.4	37	50.1	49	66.4	43	58.3
7/16	14	37	50.1	49	66.4	50	67.8	70	94.7	61	82.7
	20	41	55.5	55	74.5	60	81.3	80	108.4	68	92.1
1/2	13	57	77.3	75	101.6	80	108.4	110	149	93	126
	20	64	86.7	85	115	90	122	120	162	105	142
9/16	12	80	108.4	110	149	120	162	150	203	130	176
	18	90	122	120	162	130	176	170	230	140	189
5/8	11	110	149	150	203	160	217	210	284	180	244
	18	130	176	170	230	180	244	240	325	200	271
3/4	10	200	271	270	366	280	379	380	515	320	433
	16	220	298	300	406	310	420	420	569	350	474
7/8	9	320	433	430	583	450	610	610	827	510	691
	14	350	474	470	637	500	678	670	908	560	759
1	8	480	650	640	867	680	922	910	1233	770	1044
	12	530	718	710	962	750	1016	990	1342	840	1139
1 1/8	7	590	800	790	1071	970	1315	1290	1749	1090	1477
	12	670	908	890	1206	1080	1464	1440	1952	1220	1654
1 1/4	7	840	1138	1120	1518	1360	1844	1820	2467	1530	2074
	12	930	1260	1240	1681	1510	2047	2010	2725	1700	2304
1 1/2	6	1460	1979	1950	2643	2370	3213	3160	4284	2670	3620
	12	1640	2223	2190	2969	2670	3620	3560	4826	3000	4067

<b>METRIC FASTENER TORQUE CHART</b>																
• This chart is to be used as a guide only unless noted elsewhere in this manual •																
Size (mm)	Class 4.6 				Class 8.8 				Class 10.9 				Class 12.9 			
	LUBED		DRY		LUBED		DRY		LUBED		DRY		LUBED		DRY	
	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm
5	16	1.8	21	2.4	41	4.63	54	6.18	58	6.63	78	8.84	68	7.75	91	10.3
6	19	3.05	36	4.07	69	7.87	93	10.5	100	11.3	132	15	116	13.2	155	17.6
7	45	5.12	60	6.83	116	13.2	155	17.6	167	18.9	223	25.2	1.95	22.1	260	29.4
	LUBED		DRY		LUBED		DRY		LUBED		DRY		LUBED		DRY	
	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm
8	5.4	7.41	7.2	9.88	14	19.1	18.8	25.5	20.1	27.3	26.9	36.5	23.6	32	31.4	42.6
10	10.8	14.7	14.4	19.6	27.9	37.8	37.2	50.5	39.9	54.1	53.2	72.2	46.7	63.3	62.3	84.4
12	18.9	25.6	25.1	34.1	48.6	66	64.9	88	69.7	94.5	92.2	125	81	110	108	147
14	30.1	40.8	40	54.3	77.4	105	103	140	110	150	147	200	129	175	172	234
16	46.9	63.6	62.5	84.8	125	170	166	226	173	235	230	313	202	274	269	365
18	64.5	87.5	86.2	117	171	233	229	311	238	323	317	430	278	377	371	503
20	91	124	121	165	243	330	325	441	337	458	450	610	394	535	525	713
22	124	169	166	225	331	450	442	600	458	622	612	830	536	727	715	970
24	157	214	210	285	420	570	562	762	583	791	778	1055	682	925	909	1233



## 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, quarterly, and annually as specified on the *Maintenance Inspection Report*. The frequency and extent of periodic examinations and tests may also depend on national regulations.
- ⚠ WARNING** Failure to perform each procedure as presented and scheduled may cause death, serious injury or substantial damage.
- ☑ Immediately tag and remove from service a damaged or malfunctioning machine.
  - ☑ Repair any machine damage or malfunction before operating the machine.
  - ☑ Use only Genie approved replacement parts.
  - ☑ Machines that have been out of service for a period longer than 3 months must complete the quarterly inspection.
  - ☑ Unless otherwise specified, perform each procedure with the machine in the following configuration:
    - Machine parked on a firm, level surface
    - Carriage fully lowered
    - Casters locked
    - Red Emergency Stop button pushed in to the off position (if equipped)
    - Brakes locked (if equipped)

### 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



Safety alert symbol—used to alert personnel to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.



Indicates a imminently hazardous situation which, if not avoided, will result in death or serious injury.



Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



Indicates a potentially hazardous situation which, if not avoided, may cause minor or moderate injury.



Indicates a potentially hazardous situation which, if not avoided, may result in property damage.

- ⦿ Indicates that a specific result is expected after performing a series of steps.
- ⊗ Indicates that an incorrect result has occurred after performing a series of steps.

# Scheduled Maintenance Procedures

## Maintenance Symbols Legend

Note: The following symbols have been used in this manual to help communicate the intent of the instructions. When one or more of the symbols appear at the beginning of a maintenance procedure, it conveys the meaning below.



Indicates that tools will be required to perform this procedure.



Indicates that new parts will be required to perform this procedure.



Indicates that dealer service will be required to perform this procedure.

## Pre-delivery Preparation Report

The pre-delivery preparation report contains checklists for each type of scheduled inspection.

Make copies for each inspection. Store completed forms as required.

## Maintenance Schedule

The *Scheduled Maintenance Procedures* section and the *Maintenance Inspection Report* have been divided into subsections. Use the following chart to determine which group(s) of procedures are required to perform a scheduled inspection.

Inspection	Checklist
Daily or every 8 hours	A
Quarterly or every 250 hours	A + B
Annually or every 1000 hours	A + B + C

## 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. Maintain completed forms for a minimum of 4 years or in compliance with your employer, jobsite and governmental regulations and requirements.

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# Pre-Delivery Preparation Report

## Fundamentals

It is the responsibility of the owner or dealer to perform the Pre-delivery Preparation.

The Pre-delivery Preparation is performed prior to each delivery. The inspection is designed to discover if anything is apparently wrong with a machine before it is put into service.

A damaged or modified machine must never be used. If damage or any variation from factory delivered condition is discovered, the machine must be tagged and removed from service.

Repairs to the machine may only be made by a qualified service technician, according to the manufacturer's specifications.

Scheduled maintenance inspections shall be performed by qualified service technicians, according to the manufacturer's specifications and the requirements listed in the responsibilities manual.

## Instructions

Use the operator's manual on your machine.

The Pre-delivery Preparation consists of completing the Pre-operation Inspection, the Maintenance items and the Function Tests.

Use this form to record the results. Place a check in the appropriate box after each part is completed. Follow the instructions in the operator's manual.

If any inspection receives an N, remove the machine from service, repair and re-inspect it. After repair, place a check in the R box.

### Legend

- Y = yes, acceptable
- N = no, remove from service
- R = repaired

### Comments

Pre-delivery Preparation	Y	N	R
Pre-operation inspection completed			
Maintenance items completed			
Function tests completed			



**Terex South Dakota, Inc USA**  
 500 Oak Wood Road  
 PO Box 1150  
 Watertown, SD 57201-6150  
 (605) 882-4000

**Genie UK**  
 The Maltings, Wharf Road  
 Grantham, Lincolnshire  
 NG31- 6BH England  
 (44) 1476-584333

Model

Serial number

Date

Machine owner

Inspected by (print)

Inspector signature

Inspector title

Inspector company



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# Maintenance Inspection Report

**Model**  


---

**Serial number**  


---

**Date**  


---

**Hour meter**  


---

**Machine owner**  


---

**Inspected by (print)**  


---

**Inspector signature**  


---

**Inspector title**  


---

**Inspector company**  


---

Checklist A		Y	N	R
A-1	Inspect the manuals and decals			
A-2	Pre-operation inspection			
A-3	Function tests			
A-4	Inspect the channels			
A-5	Inspect cable and pulleys			
A-6	Inspect casters and wheels			

Checklist B		Y	N	R
B-1	Battery			
B-2	Electrical wiring			
B-3	Electric winch maintenance			
B-4	Carriage hold-down			
B-5	Inspect welds			
B-6	Clean channels			
B-7	Inspect and lubricate manual winch			

**Comments**

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Checklist C		Y	N	R
C-1	Caster and wheels			
C-2	Winch friction disks			
C-3	Inspect painted surfaces			

## Instructions

- Make copies of this report to use for each inspection.
- Select the appropriate checklist(s) for the type of inspection(s) to perform.

<input type="checkbox"/>	<b>Daily or every 8 hours</b>	<b>A</b>
<input type="checkbox"/>	<b>Quarterly or every 250 hours</b>	<b>A + B</b>
<input type="checkbox"/>	<b>Annually or every 1000 hours</b>	<b>A + B + C</b>

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

## Legend

Y = yes, acceptable  
 N = no, remove from service  
 R = repaired



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## Checklist A Procedures

### A-1 Inspect the Manuals and Decals

Genie specifications require that this procedure be performed every 8 hours or daily, whichever comes first.

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

In addition, maintaining all of the safety and instructional decals in good condition is mandatory for safe machine operation. Decals alert operators and personnel to the many possible hazards associated with using this 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 Check to make sure that the operator's, safety and responsibilities manuals are present and complete in the storage container on the platform.
- 2 Examine the pages of each manual to be sure that they are legible and in good condition.
  - Result: The operator's manual is appropriate for the machine and all manuals are legible and in good condition.
  - ☒ Result: The operator's manual is not appropriate for the machine or all manuals are not in good condition or is illegible. Remove the machine from service until the manual is replaced.

- 3 Open the operator's manual to the decals inspection section. Carefully and thoroughly inspect all decals on the machine for legibility and damage.
  - Result: The machine is equipped with all required decals, and all decals are legible and in good condition.
  - ☒ Result: The machine is not equipped with all required decals, or one or more decals are illegible or in poor condition. Remove the machine from service until the decals are replaced.
- 4 Always return the manuals to the storage container after use.

Note: Contact your authorized Genie distributor or Genie if replacement manuals or decals are needed.

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## Checklist A Procedures

### A-2 Perform Pre-operation Inspection

Genie specifications require that this procedure be performed every 8 hours or daily, whichever comes first.

Completing a Pre-operation Inspection is essential to safe machine operation. The Pre-operation Inspection is a visual inspection performed by the operator prior to each work shift. The inspection is designed to discover if anything is apparently wrong with a machine before the operator performs the function tests. The Pre-operation Inspection also serves to determine if routine maintenance procedures are required.

Complete information to perform this procedure is available in the appropriate operator's manual. Refer to the Operator's Manual on your machine.

### A-3 Perform Function Tests

Genie specifications require that this procedure be performed every 8 hours or daily, whichever comes first.

Completing the function tests is essential to safe machine operation. Function tests are designed to discover any malfunctions before the machine is put into service. A malfunctioning machine must never be used. If malfunctions are discovered, the machine must be tagged and removed from service.

Complete information to perform this procedure is available in the appropriate operator's manual. Refer to the Operator's Manual on your machine.

## Checklist A Procedures

### A-4

#### Inspect the Channels

Genie specifications require that this procedure be performed every 8 hours or daily, whichever comes first.

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

- 1 Visually inspect each channel for the following:
  - Dents, gauges or abrasions
  - Bends or warping
  - Excessive wear
- 2 Raise and lower the carriage through a complete cycle.
- ⊙ Result: The carriage and inner frame (if equipped) should raise and lower smoothly, free of hesitation and binding.

### A-5

#### Inspect the Cable and Cable Pulleys

Genie specifications require that this procedure be performed every 8 hours or daily, whichever comes first.

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

- 1 Visually inspect all cable components for the following:
  - Frayed or broken wire strands
  - Kinks in the cable
  - Corrosion
  - Paint or foreign materials
  - Split or cracked swaged end
  - Cable is properly secured to the winch
  - Cable is properly secured to the upper inner frame casting (GL8, GL10 and GL12)
  - Cable is properly secured to the cable anchor (GL4)
  - Cable is on all pulleys
  - No broken or damaged pulleys
  - No unusual or excessive pulley wear

## Checklist A Procedures

### A-6 Inspect the Casters and Wheels



Genie specifications require that this procedure be performed every 8 hours or daily, whichever comes first.

Maintaining the casters and wheels in good condition is essential to safe operation and good performance. Casters or wheel failure could result in a machine tip-over. Component damage may also result if problems are not discovered and repaired in a timely fashion. Extremely dirty conditions may require that the wheels and casters be inspected more often.

- 1 Unlock the brake (if equipped) and move the machine on a firm smooth surface and check that the casters and wheels roll smoothly, free of hesitation and binding.
- 2 **Models with Pneumatic Wheel:** Check the tire pressure with an air pressure gauge and add air as needed.

---

#### Specification

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Pneumatic tires	50 psi
	3.4 bar

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## Checklist B Procedures

### B-1

### Inspect the Battery -Models with Electric Winch



Genie specifications require that this procedure be performed every 250 hours or quarterly, whichever comes first.

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**

Electrocution/burn hazard. Contact with electrically charged circuits could result in death or serious injury. Remove all rings, watches and other jewelry.

#### **⚠ WARNING**

Bodily injury hazard. 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 free of corrosion.

Note: Adding terminal protectors and a corrosion preventative sealant will help eliminate corrosion on the battery terminals and cables.

- 3 Be sure that the battery retainers and cable connections are tight.
- 4 Fully charge the battery. Allow the battery to rest 24 hours before performing this procedure to allow the battery cells to equalize.
- 5 Remove the battery vent caps and check the specific gravity of each battery cell with a hydrometer. Note the results.
- 6 Check the ambient air temperature and adjust the specific gravity reading for each cell as follows:

- Add 0.004 to the reading of each cell for every 10° / 5.5° C above 80° F / 26.7° C.
- Subtract 0.004 from the reading of each cell for every 10° / 5.5° C below 80° F / 26.7° C.

- ⊙ Result: All battery cells display an adjusted specific gravity of 1.277 or higher. The battery is fully charged. Proceed to step 12.
- ⊗ Result: One or more battery cells display a specific gravity of 1.217 or below. Proceed to step 9.
- 7 Perform an equalizing charge OR fully charge the batteries and allow the battery to rest at least 6 hours.
- 8 Remove the battery vent caps and check the specific gravity of each battery cell with a hydrometer. Note the results.
- 9 Check the ambient air temperature and adjust the specific gravity reading for each cell as follows:
  - Add 0.004 to the reading of each cell for every 10° / 5.5° C above 80° F / 26.7° C.
  - Subtract 0.004 from the reading of each cell for every 10° / 5.5° C below 80° F / 26.7° C.
- ⊙ Result: All battery cells display a specific gravity of 1.277 or greater. The battery is fully charged. Proceed to step 10.
- ⊗ Result: The difference in specific gravity readings between cells is greater than 0.1 OR the specific gravity of one or more cells is less than 1.217. Replace the battery.
- 10 Check the battery acid level. If needed, replenish with distilled water to 1/8 inch / 3 mm below the bottom of the battery fill tube. Do not overfill.
- 11 Install the vent caps and neutralize any electrolyte that may have spilled.



## Checklist B Procedures

### B-2 Inspect the Electrical Wiring - Models with Electric Winch



Genie requires that this procedure be performed every 250 hours or quarterly, whichever comes first.

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/burn hazard. Contact with electrically charged circuits could result in death or serious injury. Remove all rings, watches and other jewelry.

- 1 Inspect the following areas for burnt, chafed, pinched, corroded and loose wires:
  - Control panel
  - Battery pack
  - Remote control
  - Channel frame

### B-3 Perform Electric Winch Maintenance

Genie specifications require that this procedure be performed every 250 hours or quarterly, whichever comes first.

Required maintenance procedures and additional winch information is available in the Owner Manual for Rule Winches (Rule part number W-1013).

#### **Owner Manual for Rule Winches**

Genie part number

85220

## Checklist B Procedures

### B-4 Inspect the Carriage Hold-down Bar

Genie specifications require that this procedure be performed every 250 hours or quarterly, whichever comes first.

Detection of damage to the carriage hold-down bar assembly is essential to safe machine operation. An unsafe working condition exists if the system is damaged and does not operate properly.

- 1 Fully lower the carriage.
- 2 Rotate the carriage hold-down bar over the carriage.
- 3 Raise the carriage
- ⊙ Result: The carriage should not move.

**NOTICE**

Component Damage Hazard. Do not apply too much force on the carriage. Raise it only enough to check the resistance against the hold-down bar.

- 4 Visually inspect the assembly for damage.

### B-5 Inspect All Welds

Genie specifications require that this procedure be performed every 250 hours or quarterly, whichever comes first.

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:
  - Base and base components
  - Legs
  - Carriage
  - Forks
  - Boom (if equipped)

## Checklist B Procedures

### B-6 Clean the Channels



Genie specifications require that this procedure be performed every 250 hours or quarterly, whichever comes first.

Clean inner (if equipped) and outer frame channels are essential to good machine performance and safe operation. Extremely dirty conditions may require that the channels be cleaned more often.

- 1 Raise the carriage to the maximum height.
- 2 Visually inspect the inner (if equipped) and outer frame channels for debris or foreign material. If necessary, use a mild cleaning solvent to clean the channels.
- 3 If needed, lubricate the inner (if equipped) and outer channels with a dry silicone spray or silicone wax

### B-7 Inspect and Lubricate the Manual Winch



Genie specifications require that this procedure be performed every 250 hours or quarterly, whichever comes first.

Maintaining the winch is essential to good machine performance and safe operation. An unsafe working condition exists if the winch has excessive wear and/or does not operate smoothly, free of hesitation and binding.

- 1 Carefully lubricate the pivot point on the ratchet pawl with 30W oil.

#### **CAUTION**

Bodily Injury Hazard.

Over-lubrication of the ratchet pawl may result in oil coming in contact with the surface of the winch brake disk or the winch pressure plate, leading to an unsafe working condition. Do not allow any oil on the brake or pressure plate.

- 2 Inspect the brake disks for excessive wear. Replace if pad is less than 1/16 inch /1.5 mm thick.
- 3 Inspect the pinion shaft bushings for excessive wear. Replace if wall thickness of bushing is less than specified.

#### **Bushing Specification**

Small bushing	0.172 inch 4.34 mm
Large bushing	0.109 inch 2.76 mm

---

## Checklist C Procedures

### C-1

#### Lubricate the Casters and Wheels



Genie specifications require that this procedure be performed every 1000 hours or annually, whichever comes first.

Regular application of lubrication to the Caster or Wheel is essential to good machine performance and service life. 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 to confirm the casters and wheels roll smoothly, free of hesitation and binding.
- 3 Pump grease into the caster or wheel until it can be seen coming out of the bearing gap.

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#### Grease Specification

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Chevron Ultra-duty grease, EP NLGI 1 (lithium based) or equivalent

---

## Checklist C Procedures

### C-2 Inspect the Safety Brake System (if equipped)



Genie specifications require that this procedure be performed every 1000 hours or annually, whichever comes first.

Maintaining the winch is essential to good machine performance and safe operation. An unsafe working condition exists if the winch has excessive wear and/or does not operate smoothly, free of hesitation and binding.

- 1 Replace the winch brake disks and lubricate the winch shaft. Refer to Repair Procedure, *How to Disassemble the Manual Winch*.

### C-3 Inspect the Painted Surfaces

Genie specifications require that this procedure be performed every 1000 hours or annually, whichever comes first.

Inspecting the painted surfaces of your machine is essential to safe operation and long machine life. An unsafe working condition exists if there is damage to painted surfaces that is not corrected.

- 1 Visually inspect all painted surfaces for the following conditions:
  - Blistering
  - Rust
  - Peeling
  - Fading
  - Corrosion

Note: Replace any component that is damaged.

## 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 appropriate operator's manual on your machine.
- Be sure that all necessary tools and parts are available and ready for use.
- Use only Genie approved replacement parts.
- Read each procedure completely and adhere to the instructions. Attempting shortcuts may produce hazardous conditions.

### Machine Configuration:

- Unless otherwise specified, perform each repair procedure with the machine in the following configuration:
  - Machine parked on a firm, level surface
  - Carriage in the stowed position
  - Casters locked
  - Red Emergency Stop button in the off position (if equipped)
  - Brake locked (if equipped)
  - All external AC power supply disconnected from the machine (models with electric winch)

### About This Section

Most of the procedures in this section should only be performed by 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.

### Symbols Legend



Safety alert symbol—used to alert personnel to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.



Indicates a imminently hazardous situation which, if not avoided, will result in death or serious injury.





Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



Indicates a potentially hazardous situation which, if not avoided, may cause minor or moderate injury.



Indicates a potentially hazardous situation which, if not avoided, may result in property damage.

-  Indicates that a specific result is expected after performing a series of steps.
-  Indicates that an incorrect result has occurred after performing a series of steps.

## Base Assembly

### 1-1 How to Disassemble the GL -Models Equipped with a Manual Winch

- 1 Remove the load handling attachment from the carriage.
- 2 Fully lower the carriage.

#### Models with counterweight base:

- 3 Support the base counterweights with a proper lifting device.
- 4 Remove the counterweight retaining fasteners from the base and remove the counterweight from the base.

#### All models:

- 5 Using proper lifting techniques, lay the machine over onto a table or other suitable work surface.



- 6 Remove the legs from the machine.
- 7 Remove the jam nut from the winch drum bolt and remove the winch drum cover.
- 8 Remove the cable retaining fastener from the winch drum and remove the cable from the drum.

**CAUTION** Bodily injury hazard. Cables can fray. Always wear adequate hand protection when handling cable.

- 9 GL-4 models: Remove the cable mounting fastener from the handle bracket.  
**GL-8, GL-10 and GL-12 models:** Remove the cable mounting fastener from the upper inner frame casting.

**CAUTION** Bodily injury hazard. Cables can fray. Always wear adequate hand protection when handling cable.

- 10 Remove the base mounting fasteners from the outer frame channels and remove the base from the machine.
- 11 **GL-4 models:** Remove the carriage from the outer frame.  
**GL-8, GL-10 and GL-12:** Remove the inner frames from the outer frame. Remove the carriage from the outer frame. Proceed to step 14.

Note: After removing the carriage, note the location of the roller wheel buttons, on the carriage roller wheels.

- 12 Remove the mounting fasteners from the lower inner frame casting and remove the lower casting from the inner frame.
- 13 Remove the carriage from the inner frame.

Note: After removing the carriage, note the location of the roller wheel buttons, on the carriage roller wheels.

- 14 If necessary, remove the hold-down bar, winch mounting plate, handle and loading wheel bracket.

Note: When installing the cable, be sure the cable thimble is centered below the upper pulley (GL-8, GL-10 and GL-12 models).

Note: For proper cable routing, see Repair Procedure, *How to Replace the Lifting Cable*.

# Base Assembly

## 1-2 How to Disassemble the Winch

- 1 Remove the load handling attachment from the carriage.
- 2 Fully lower the carriage
- 3 Disconnect the battery from the machine.

**⚠ WARNING** Electrocutation/burn hazard. Contact with electrically charged circuits could result in death or serious injury. Remove all rings, watches and other jewelry.

- 4 Remove the battery and battery charger from the machine.

### Models with counterweight base:

- 5 Support the base counterweights with a proper lifting device.
- 6 Remove the counterweight retaining fasteners from the base and remove the counterweight from the base.

### All models:

- 7 Using proper lifting techniques, lay the machine over onto a table or other suitable work surface.



- 8 Remove the legs from the machine.

- 9 **GL-4 models:** Remove the cable mounting fastener from the handle bracket.  
**GL-8, GL-10 and GL-12 models:** Remove the cable mounting fastener from the upper inner frame casting.
- 10 Remove the mounting fasteners from the electric winch cover.
- 11 Tag and disconnect the wiring from the electric winch cover and remove the electric winch cover from the machine.
- 12 Remove the old cable following instructions in the Owner's Manual for Rule Winches (Rule part number W-1013).

### Owner Manual for Rule Winches

Genie part number	85220
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**⚠ CAUTION** Bodily injury hazard. Cables can fray. Always wear adequate hand protection when handling cable.

Remove the base mounting fasteners from the outer frame channels and remove the base from the machine.

- 13 Remove the limit switch mounting fasteners and remove the limit switch from the machine.
- 14 **GL-4 models:** Remove the carriage from the outer frame. Proceed to step 21.

Note: After removing the carriage, note the location of the roller wheel buttons, on the carriage roller wheels.



## Base Assembly

- 15 **GL-8, GL-10 and GL-12 models:** Remove the mounting fasteners from the lower inner frame casting and remove the lower casting from the inner frame.
  - 16 Remove the carriage from the inner frame.
  - 17 Remove the mounting fasteners from the lower inner frame casting and remove the lower casting from the inner frame.
  - 18 Tag and disconnect the wiring from the electric winch.
  - 19 Remove the electric winch mounting fasteners and remove the electric winch from the machine.
  - 20 Remove the carriage from the inner frame.
- Note: After removing the carriage, note the location of the roller wheel buttons, on the carriage roller wheels.
- 21 If necessary, remove the hold-down bar, winch mounting plate, limit switch mounting bracket, handle and loading wheel bracket.

Note: For proper cable routing, refer to Repair Procedure, *How to Replace the Lifting Cable*.

### 1-3

## How to Disassemble the Manual Winch

Note: Refer to the illustration, *Winch Assembly*, for an exploded view.

- 1 Fully lower the carriage
- 2 Remove the jam nut from the winch drum bolt. Remove the winch drum cover from the machine.
- 3 Remove the cable retaining fastener from the winch drum and remove the cable from the drum.

**CAUTION** Bodily injury hazard. Cables can fray. Always wear adequate hand protection when handling cable.

- 4 Remove the handle adaptor nut and spring. Remove the handle adaptor from the machine.
- 5 Remove the handle from the pinion shaft.
- 6 Remove the drum bolt and remove the drum from winch.
- 7 Remove the retaining ring from the pinion shaft.
- 8 Slide the pinion shaft toward the carriage and remove the pressure plate, ratchet gear and brake face.
- 9 Remove the pinion shaft from the winch housing.
- 10 Remove both pinion bushings. Use a soft metal drift equal to the outside diameter of each bushing and tap with rubber mallet.

**NOTICE** Component damage hazard. Place a block between the walls of the winch housing to prevent the housing from bending while removing the bushings.

- 11 If necessary, remove the winch housing from the machine.

## Base Assembly

### 1-4 How to Assemble the Manual Winch

**CAUTION** Bodily injury hazard. Cables can fray. Always wear adequate hand protection when handling cable.

Note: Refer to the illustration, *Winch Assembly*, for an exploded view.

- 1 Place one side of the winch housing over a vise. Open the vise until it is wider than the outside diameter of the pinion shaft bushing.
- 2 Insert a soft metal drift through the opposite bushing hole. Tap the drift with a rubber mallet to push the bushing into place.

Note: Use a piece of flat bar in between the drift and the bushing to prevent any damage to the bushing.

Note: Repeat steps 1 and 2 to insert the other bushing.

- 3 Carefully lubricate the pivot point on the ratchet pawl with 30W oil.

**CAUTION** Bodily Injury Hazard. Over-lubrication of the ratchet pawl may result in oil coming in contact with the surface of the winch brake disk or the winch pressure plate, leading to an unsafe working condition. Do not allow any oil on the brake or pressure plate.

- 4 Install the winch housing onto the machine. Be sure the winch drum is towards the right.
- 5 Insert the threaded end of the pinion shaft through the large bushing. Then insert the other end of the pinion shaft through the small bushing.
- 6 Push the pinion shaft toward the small bushing. Install the brake disk, ratchet gear and pressure plate.

Note: The teeth on the ratchet gear must curve away from the drum.

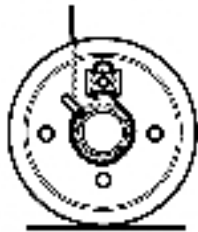
- 7 Push the pinion shaft toward the large bushing. Install the pinion shaft retaining ring.

Note: Push the ratchet pawl outwards while pushing the pinion shaft through the large bushing. Be sure the ratchet pawl is in firm contact with the ratchet gear and all parts move freely.

- 8 Install the handle adaptor, spring and handle adaptor mounting nut. Tighten the mounting nut. Do not over-tighten the nut.
- 9 Lubricate the outside of the drum spacer that goes through the cable drum with automotive grease. Insert the drum spacer into the cable drum.
- 10 Install the cable drum so that the drum gears mesh with the ratchet gears on the pinion shaft.
- 11 Install the drum bolt through the winch housing and drum with the head of the drum bolt on the small bushing side of winch.

## Base Assembly

- 12 From the winch side of the machine, wrap the cable 1 time counterclockwise around the winch drum. Thread the cable through the oblong hole and attach it to the winch drum with the cable retaining fastener.



- 13 While holding the cable tie on the drum, rotate the winch until all the cable is spooled onto the drum neatly and evenly. Be sure there are at least 4 wraps of cable on the winch drum.

**NOTICE**

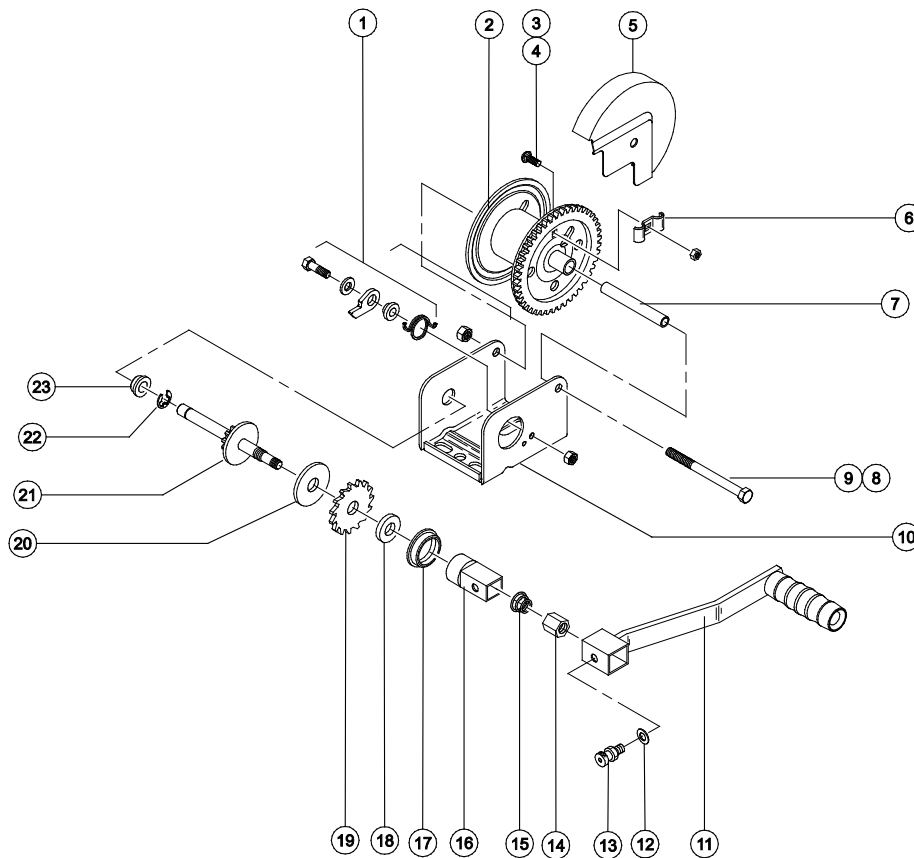
Component damage hazard. Improperly wound cable may result in poor winch performance and accelerate cable wear. Be sure the cable winds onto the winch drum evenly.

# Base Assembly

## Manual Winch Assembly - ANSI

Index	
No.	Description
1	Ratchet Pawl Kit
2	Cable Drum
3	Carriage Bolt
4	Hex Nut
5	Gear Cover
6	Cable Keeper
7	Nylock Nut
8	Screw
9	Lock Nut
10	Winch Frame
11	Winch Handle Assembly
12	Flat Washer

Index	
No.	Description
13	Lock Pin
14	Handle Adapter Nut
15	Winch Handle Spring
16	Handle Adapter
17	Pinion Shaft Bushing
18	Pressure Plate
19	Ratchet Gear
20	Disk Brake
21	Drive Shaft Assembly
22	Retaining Ring
23	Pinion Shaft Bushing



## Base Assembly

### 1-5 How to Replace the Lifting Pulley

- 1 Fully lower the carriage.
- 2 Unwind the cable from the winch drum. Do not remove the cable.

**CAUTION** Bodily injury hazard. Cables can fray. Always wear adequate hand protection when handling cable.

- 3 Remove the pulley mounting fastener and remove the pulley from the machine.
- 4 Wrap the cable around the new pulley and install the pulley on to the machine.

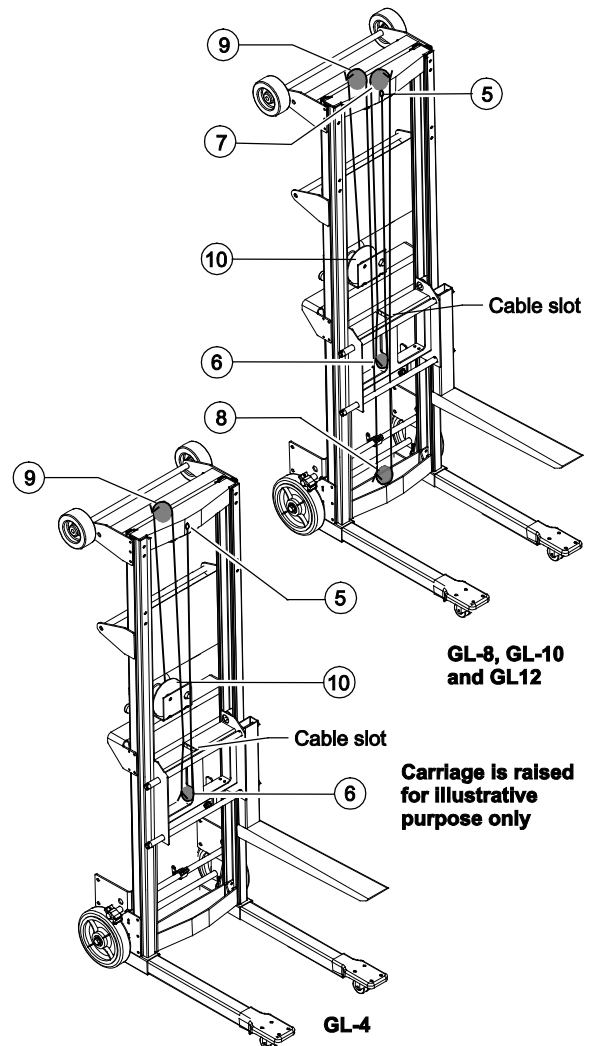
Note: Be sure not to twist the cable when installing the new pulley.

### 1-6 How to Replace the Lifting Cable

#### Models with manual winch:

- 1 Fully lower the carriage.
- 2 Remove the jam nut from the winch drum bolt and remove the winch drum cover.
- 3 Remove the cable retaining fastener from the winch drum and unwind the cable from the winch drum.

The numbers on the illustration correspond to the steps in Repair Procedure, *How to Replace the Lifting Cable*.



## Base Assembly

- 4 **GL-4 models:** Remove the cable mounting fastener from the handle bracket. Pull all the cable out of the machine.  
**GL-8, GL-10 and GL-12 models:** Remove the cable mounting fastener from the upper inner frame casting. Pull all the cable out of the machine.
- 5 **GL-4 models:** Attach the new cable to the handle bracket.

Note: When installing the cable, be sure the cable thimble (swaged end) is centered below the upper pulley.

### Facing the carriage side of the machine:

- 6 Thread the cable through the cable slot and then through the carriage pulley, from front to back. Pull all the cable through the pulley.

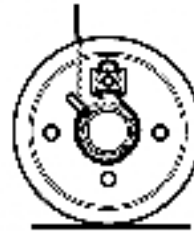
### GL-8, GL-10 and GL-12 models:

- 7 Thread the cable through the upper inner frame pulley, from back to front. Pull all the cable through the pulley.

- 8 From front to back, thread the cable through the cable slot in front of the carriage pulley through the lower inner frame pulley. Pull all the cable through the pulley.

### All models:

- 9 From front to back, thread the cable through the handle weldment pulley. Pull all the cable through the pulley.
- 10 From the winch side of the machine, wrap the cable 1 time counterclockwise around the winch drum. Thread the cable through the oblong hole and attach it to the winch drum with the cable retaining fastener.



- 11 While holding the cable tie on the drum, rotate the winch until all the cable is spooled onto the drum. Be sure there are at least 4 wraps of cable on the winch drum.

## Base Assembly

### Models with electric winch:

- 1 Remove the load handling attachment from the carriage.
- 2 Fully lower the carriage.
- 3 Push in the red Emergency Stop button to the off position.
- 4 Disconnect the battery from the machine.

**▲ WARNING** Electrocutation/burn hazard. Contact with electrically charged circuits could result in death or serious injury. Remove all rings, watches and other jewelry.

- 5 Remove the battery and battery charger from the machine.
- 6 Remove the winch cover fasteners.
- 7 Tag and disconnect the winch wiring and remove the winch cover.
- 8 Remove the old cable following instructions in the Owner's Manual for Rule Winches (Rule part number W-1013).

### Owner Manual for Rule Winches

Genie part number	85220
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**▲ CAUTION** Bodily injury hazard. Cables can fray. Always wear adequate hand protection when handling cable.

Install the new cable following the instructions in the Owner's Manual for Rule Winches.

- 9 Connect the winch wiring and install the winch cover on to the machine.

### 1-7

### How to Replace the Glide Buttons

- 1 Remove the load handling attachment from the carriage.
- 2 Fully lower the carriage.

### Models with counterweight base:

- 3 Support the base counterweights with a proper lifting device.
- 4 Remove the counterweight retaining fasteners from the base and remove the counterweight from the base.

### Models with electric winch:

- 5 Push in the red Emergency Stop button to the off position.
- 6 Disconnect the battery from the machine.

**▲ WARNING** Electrocutation/burn hazard. Contact with electrically charged circuits could result in death or serious injury. Remove all rings, watches and other jewelry.

- 7 Remove the battery and battery charger from the machine.

### All models:

- 8 Using proper lifting techniques, lay the machine over onto a table or other suitable work surface.



## Base Assembly

- 9 Remove the legs from the base.
- 10 Remove the base mounting fasteners from the outer frame channels. Then remove the base from the machine.
- 11 **GL-8, GL-10, GL-12:** Slide the inner frame out the bottom of the outer frame approximately 6 inches / 15 cm.
- 12 Use a soft metal drift to remove the glide button.
- 13 Press the new glide button in place until it is fully seated.

### 1-8

## How to Adjust the Brake (if equipped)

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Note: Refer to the illustration, *Rear Wheel Brake Assembly (option)*, for an exploded view.

- 1 Rotate the brake pedal to the up or unlocked position.
- 2 Loosen the clamping bolts from all three of the brake cams.
- 3 Rotate both of the wheel-brake cams until they contact the tires. Tighten the brake cam clamping bolts.
- 4 With the pedal up, rotate the brake cam rod until there is approximately 1/4 inch of gap between the wheel and the wheel-brake cam. Tighten the center brake cam clamping bolt.
- 5 Check the brake for proper activation.

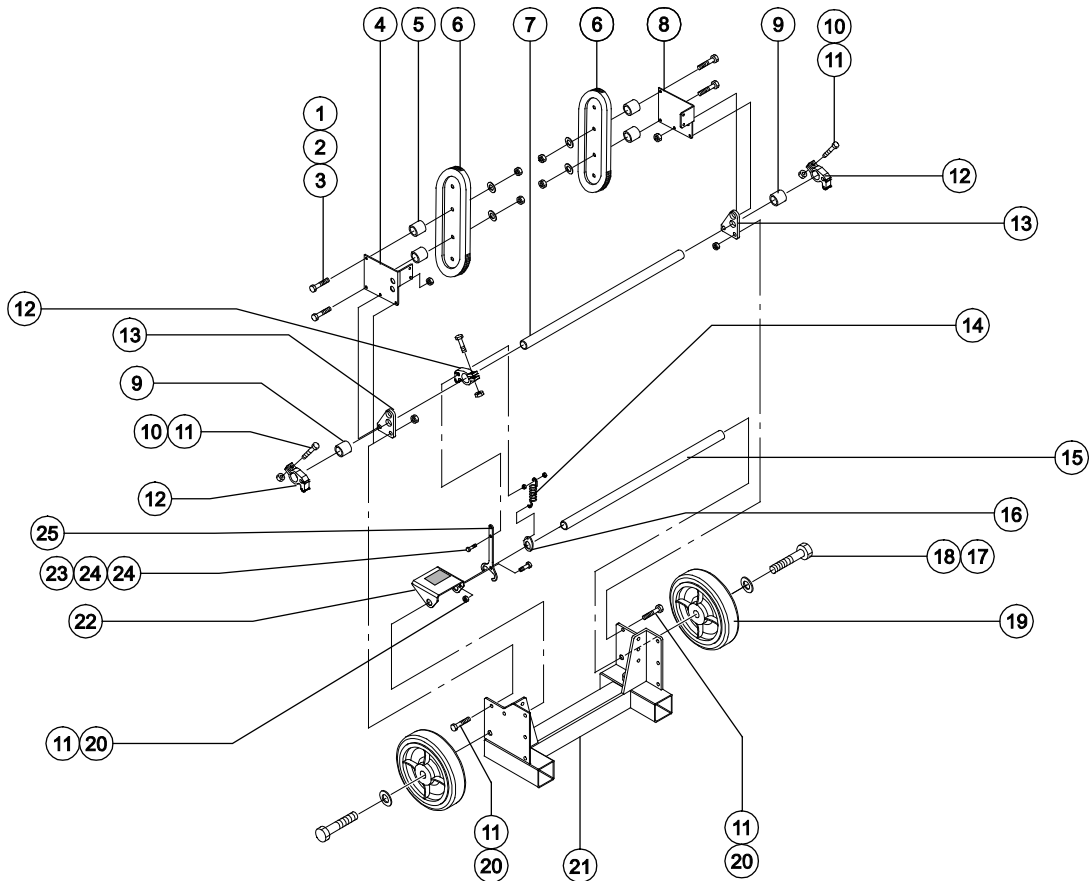
Note: Apply enough force to the brake pedal to lock the brakes in place. After the brakes are engaged, the brakes should hold the wheels in place with enough force to keep the wheels from turning.



# Base Assembly

## Rear Wheel Brake Assembly (option)

Index No.	Description	Index No.	Description
1	Screw	14	Brake Linkage Spring
2	Lock Washer	15	Axle Tube
3	Nut	16	Spring Retaining Washer
4	Stair Roller Mount Bracket, Right Side	17	Screw
5	Stair Roller Spacer	18	Flat Washer
6	Stair Roller	19	Solid Rubber Wheel
7	Brake Cam Rod	20	Screw
8	Stair Roller Mount Bracket, Left Side	21	Base
9	Brake Cam Spacer	22	Brake Pedal
10	Screw	23	Screw
11	Nylock Nut	24	Nylock Nut
12	Brake Cam	25	Brake Linkage Plate
13	Brake Pivot Plate		



## 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 in the appropriate operator's manual on your machine.
- ☑ Be sure that all necessary tools and test equipment are available and ready for use.

### About This Section

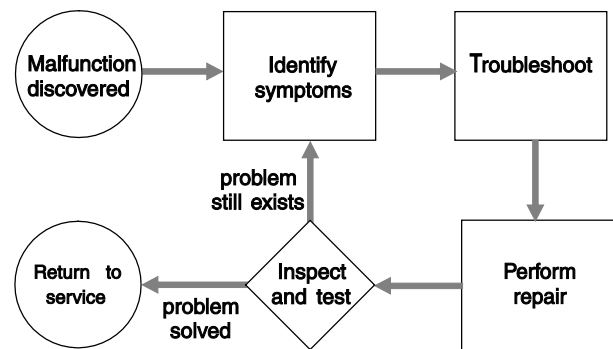
An illustration legend precedes the electrical schematics.

### Electrical Schematics

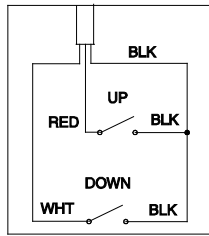
#### **⚠ WARNING**

Electrocution/burn hazard. Contact with electrically charged circuits could result in death or serious injury. Remove all rings, watches and other jewelry.

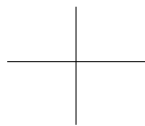
#### General Repair Process



# Electrical Symbols Legend - Models with Electric Winch



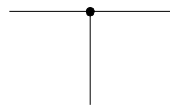
HANDLE ASSEMBLY



CIRCUITS CROSSING  
NO CONNECTION



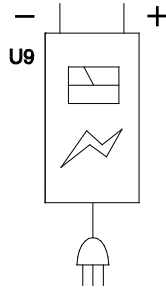
6V DC BATTERY



CONNECTION  
NO TERMINAL



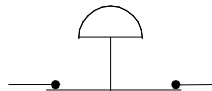
CONNECTOR



BATTERY  
CHARGER



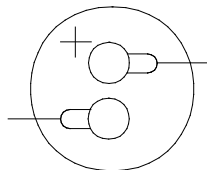
CIRCUIT BREAKER



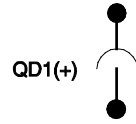
RED EMERGENCY STOP  
BUTTON NORMALLY CLOSED



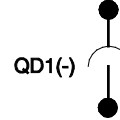
LS20  
LIMIT SWITCH



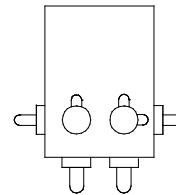
WINCH



QUICK DISCONNECT (+)

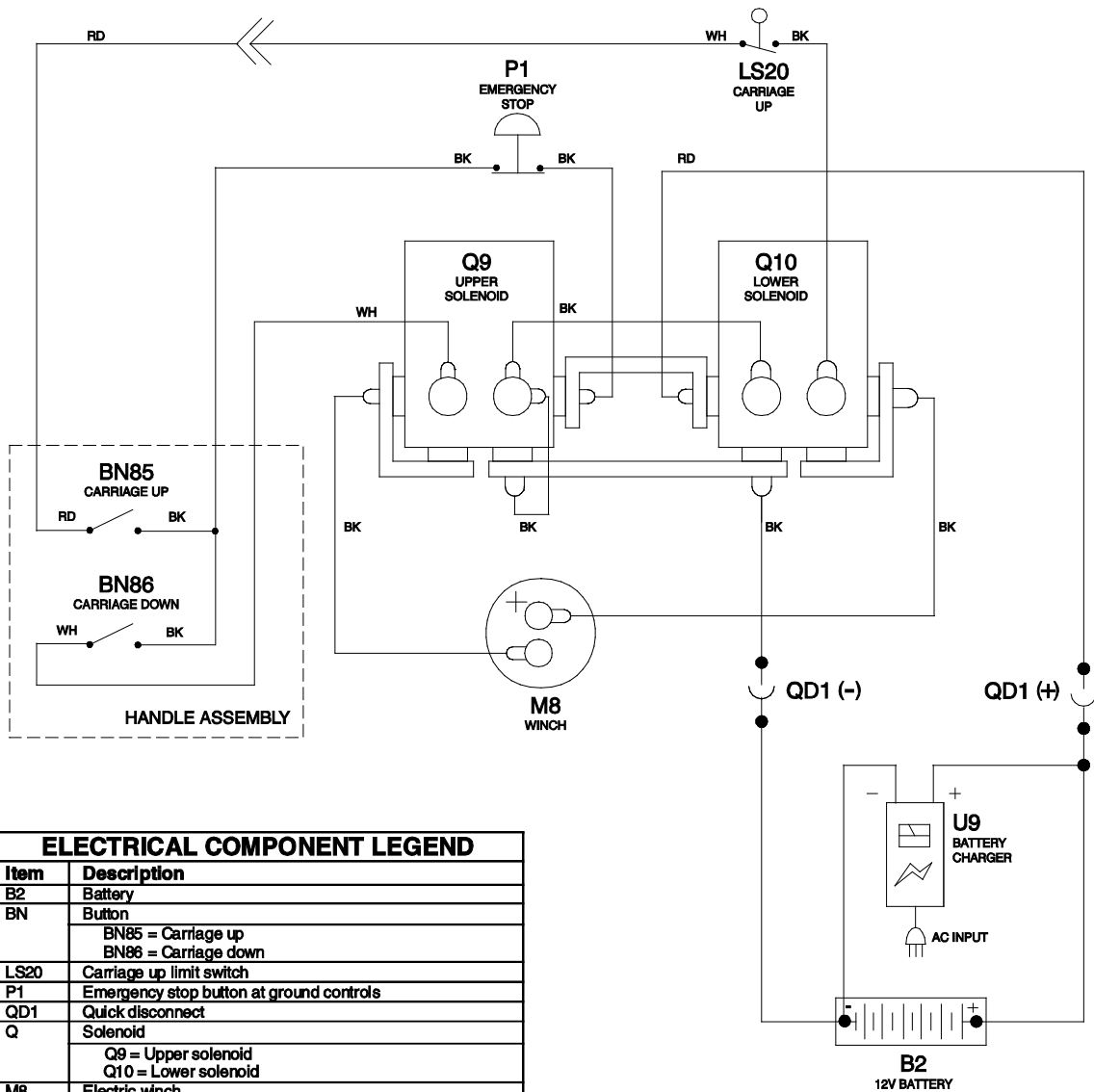


QUICK DISCONNECT (-)



SOLENOID

# Wiring Diagram - Models with Electric Winch



ELECTRICAL COMPONENT LEGEND	
Item	Description
B2	Battery
BN	Button BN85 = Carriage up BN86 = Carriage down
LS20	Carriage up limit switch
P1	Emergency stop button at ground controls
QD1	Quick disconnect
Q	Solenoid Q9 = Upper solenoid Q10 = Lower solenoid
M8	Electric winch
U9	Battery charger

WIRE COLOR LEGEND	
Color	Description
BK	Black
RD	Red
WH	White

California Proposition 65



Operating, servicing and maintaining this equipment can expose you to chemicals including engine exhaust, carbon monoxide, phthalates, and lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. These chemicals can be emitted from or contained in other various parts and systems, fluids and some component wear by-products. To minimize exposure, avoid breathing exhaust, do not idle the engine except as necessary, service your equipment and vehicle in a well-ventilated area and wear gloves or wash your hands frequently when servicing your equipment or vehicle and after operation. For more information go to [www.P65Warnings.ca.gov/passenger-vehicle](http://www.P65Warnings.ca.gov/passenger-vehicle).