Genie®
A TEREX BRAND

Service Manual

Serial Number Range

Super-Straddle™

from SS08-2976

Part No. 115429
Rev A
July 2009

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 or repair procedure.

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

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

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

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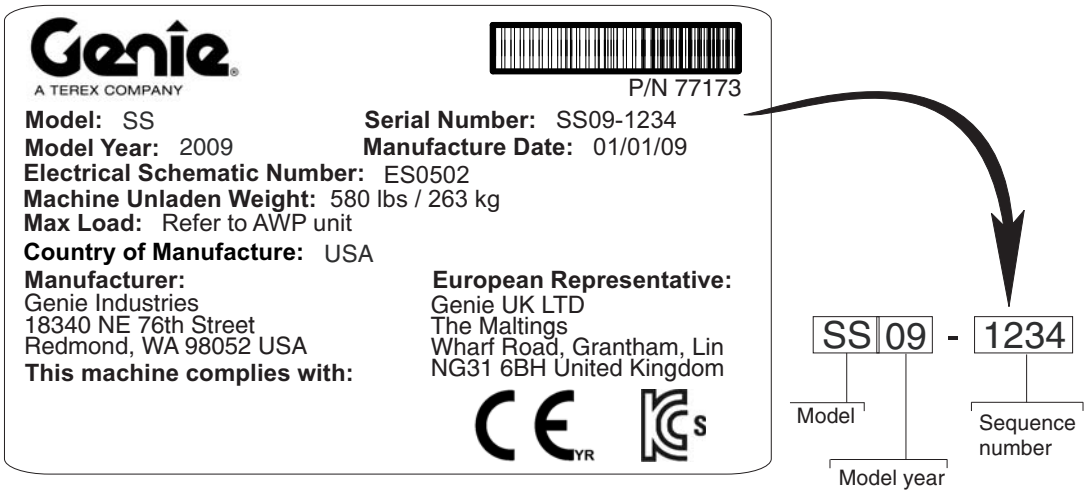
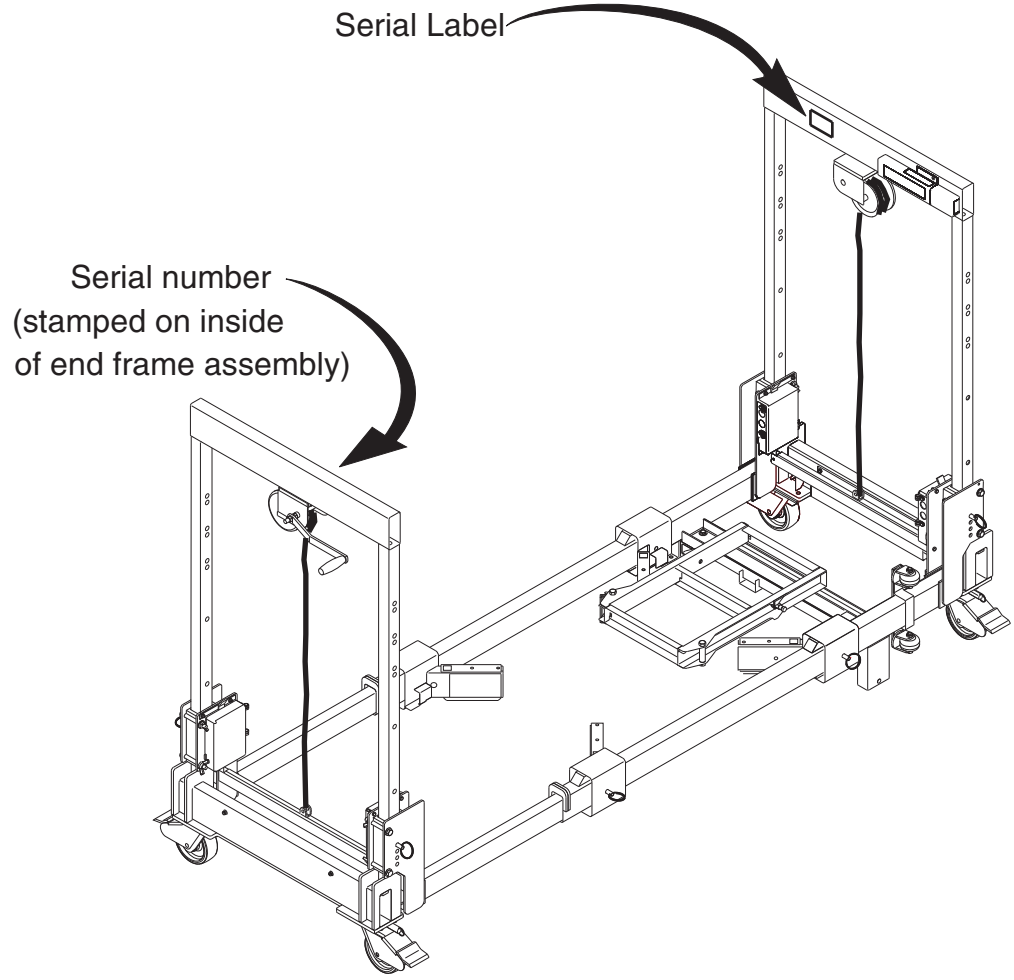
First Edition, First Printing

Serial Number Legend





Safety Rules

Warning

Failure to obey the instructions and safety rules in this manual and the *Genie Super Straddle Operator's Manual* could result in death or serious injury.

Many of the hazards identified in the operating instruction 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.

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

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

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

NOTICE 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

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.

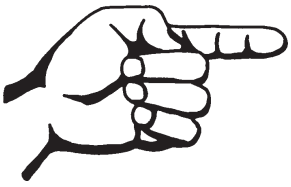
Be sure that all tools and working areas are properly maintained and ready for use. Keep work surfaces clean and free of debris that could get into machine components and cause damage.

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

REV A

Operating Dimensions	
Length	110 in 2.8 m
Width	37 in 94 cm
Height	70 in 1.8 m
Adjustable length	110 to 128 in 2.8 to 3.25 m
Straddle clearance height, maximum	48 in 1.2 m

Stowed Dimensions	
Length	80 in 2.0 m
Width	37 in 94 cm
Height	24 in 61 cm
Lifting system	Dual winch
Caster diameter (four 4-position swivel locks with brake)	6 in 15.2 cm
Adjustable outriggers (required from Genie AWP)	4
Load capacity of Super-Straddle is the same as the load capacity of the Genie AWP being used.	
Weight	580 lbs 263 kg

Outrigger Floor Loading Information		
SS + AWP-20S	525 lbs	239 kg
SS + AWP-25S	507 lbs	230 kg
SS + AWP-30S	554 lbs	252 kg
SS + AWP-36S	601 lbs	273 kg
SS + AWP-40S	602 lbs	274 kg

Note: Floor loading information is approximate and does not incorporate different option configurations. It should be used only with adequate safety factors.

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

SPECIFICATIONS REV A

SAE FASTENER TORQUE CHART

• 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

METRIC FASTENER TORQUE CHART

• 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.*

⚠WARNING Failure to perform each procedure as presented and scheduled could result in 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 positioned on a firm, level surface
  - Straddle frame fully lowered
  - Casters locked

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.

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

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

NOTICE 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 of the *Pre-delivery Preparation Report* to use for each inspection. Store completed forms as required.

Maintenance Schedule

There are three types of maintenance inspections that must be performed according to a schedule—daily, quarterly and annually. The *Scheduled Maintenance Procedures Section* 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	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.

Pre-Delivery Preparation

Fundamentals

It is the responsibility of the 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, completed
N = no, unable to complete
R = repaired

Comments

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

Model

Serial number

Date

Machine owner

Inspected by (print)

Inspector signature

Inspector title

Inspector company

Genie
A TEREX BRAND

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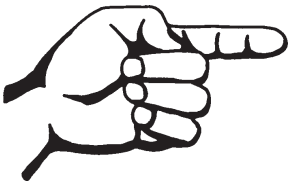

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Maintenance Inspection Report

Model

Serial number

Date

Machine owner

Inspected by (print)

Inspector signature

Inspector title

Inspector company

Checklist A - Rev A		**Y**	**N**	**R**
A-1	Manuals and decals			
A-2	Pre-operation inspection			
A-3	Function tests			

Checklist B - Rev A		**Y**	**N**	**R**
B-1	Welds			
B-2	Winch operation			
B-3	Inspect and lubricate winch			

Checklist C - Rev A		**Y**	**N**	**R**
C-1	Wear pads			
C-2	Replace winch friction disks			
C-3	Inspect cables			
C-4	Lubricate the casters and wheels			
C-5	Painted surfaces			

Instructions

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

☐	**Daily or 8 hour Inspection:**	**A**
☐	**Quarterly or 250 hour Inspection:**	**A+B**
☐	**Annually or 1000 hour Inspection:**	**A+B+C**

- 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

Comments

Checklist A Procedures

REV A

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 and safety manuals are present and complete in the storage container on the machine.

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 Industries if replacement manuals or decals are needed.

REV A 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 B Procedures

REV A

B-1
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:

- Winch mounting plate
- Loading wheels
- Straddle frame/end frames
- Ladder
- Outrigger sockets

B-2
Check the Winch Operation

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

Detection of damage to the winch is essential to safe machine operation. An unsafe working condition exists if the winch is damaged or not operating correctly. A daily check of the winch operation allows the inspector to identify changes in the operating condition of the winch that might indicate damage.

1 Visually inspect all the winch components for damage.

2 Raise the straddle frame through a partial cycle and release the winch handles.

⊙ Result: The winch should operate smoothly, free of hesitation or binding. The load should not lower when the handles are released.

3 Fully lower the straddle frame.

⊙ Result: The winch should operate smoothly, free of hesitation or binding.

B-3
Inspect and Lubricate the 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 following areas with automotive grease:
   - Cable drum gear
   - Teeth on the pinion gear that mesh with the cable drum gear
   - Threads on the pinion shaft, under the pinion gear

Note: Do not apply grease to brake friction disc or rachet gear.

2 Carefully lubricate both pivot points on each ratchet pawl with 30W oil.

⚠CAUTION Bodily Injury Hazard. Overlubrication of the ratchet pawl may result in oil coming in contact with the surface of the winch brake leading to an unsafe working condition. Do not allow any grease /oil on the friction disc, pinion plate, pinion gear or ratchet gear.

3 Measure each friction disk for wear. Replace the friction disk if it measures less than specification.

Friction disk specification	
Thickness, minimum	1/16 inch 1.5 mm

4 Measure both shaft bushings for wear. Replace the bushings if the wall thickness measurements are less than specification.

Pinion shaft bushing specification	
Wall thickness, minimum	1/8 inch 3.1 mm

5 Lubricate the surface of the frame drum spacer with a thin layer of lithium grease. Tighten the drum bolt to 20 ft-lbs / 27 Nm. Do not overtighten.

Checklist C Procedures

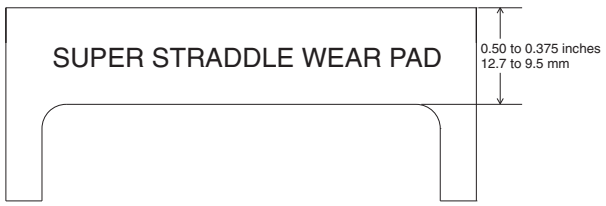
REV A

C-1
Inspect the Wear Pads

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

Maintaining the wear pads in good condition is essential to safe machine operation. Wear pads on the Super Straddle are used to provide a uniform fit between the end frames and straddle frame, as well as a means to prevent wear to the frame assemblies during the extend and retract functions. Over time, it may be necessary to replace the wear pads to ensure good machine performance. Wear pads are placed on the outer ends of the straddle frame assemblies and should be replaced when the surface of the wear pad is reduced by 25% or more. Continued use of worn wear pads may result in component damage and unsafe operating conditions.

1 Measure the wear pads. See Repair procedure 2-1 *How to Access the Wear Pads.*



C-2
Replace the Winch Friction Disks

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 friction disks. See Repair procedure 3-1 *How to Disassemble a One-speed Winch.*

REV A CHECKLIST C PROCEDURES

C-3
Inspect the Cables

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

Detection of damage to cables is essential for safe machine operation. An unsafe working condition exists if this component is damaged and does not operate smoothly. The inspection of this system allows the inspector to identify changes in the operating condition that might indicate damage.

1 Visually inspect the cable for the following:

- Frayed or broken wire strands
- Kinks in the cable
- Corrosion
- Paint or foreign materials
- Split or cracked swagged end(s)

⚠CAUTION Bodily injury hazard. Beware of sharp edges. Wear protective gloves when performing this procedure.

C-4
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 been seen coming out of the bearing gap.

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

CHECKLIST C PROCEDURES REV A

C-5
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 *Genie Super Straddle Operator's Manual*.
- ☑ Be sure that all necessary tools and parts are available and ready for use.
- ☑ Use only Genie approved replacement parts.
- ☑ Be sure the capacities of sawhorses or other supports are sufficient to withstand machine weight. See Specifications section for the machine weight.
- ☑ Be sure overhead cranes or other lifting devices are of ample capacity to handle machine weight. See Specifications section for specific weight.
- ☑ Read each procedure completely and adhere to the instructions. Attempting shortcuts may produce hazardous conditions.
- ☑ Unless otherwise specified, perform each procedure with the machine in the following configuration:
  - Machine positioned on a firm, level surface
  - Straddle frame fully lowered
  - Casters locked

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. 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.

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

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

NOTICE 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.

Wear Pads

REV A

1-1
Wear Pads

How to Access the Wear Pads

1 Position the Super Straddle on a firm, level surface and apply the brakes to swivel casters at the end frames.

2 Fully lower the straddle frame. Attach a lifting strap from an overhead crane to each end frame. Support the end frames. Do not apply any lifting pressure.

⚠WARNING Crushing hazard. The end frames could become unbalanced and fall if not properly supported.

3 At the base of the end frame, tag and disconnect each cable from the limit switch pigtails.

4 Using the illustration as a guide, remove the fasteners securing the lifting bars to the lifting peg, at the base of the straddle frame. Set the fasteners to the side. Place the lifting bars in the stowed position and secure the lifting bars to the end frames.

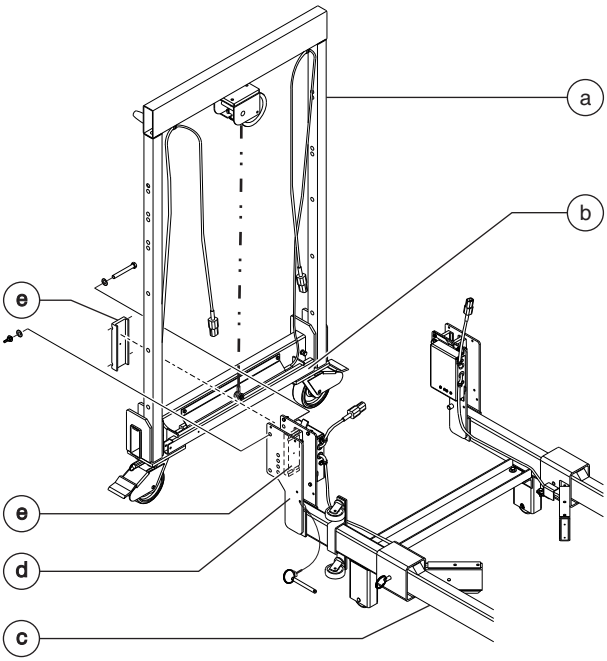
5 Working at an end frame, remove the fasteners securing the outer wear pad to the straddle frame mounting brackets. Set the fasteners to the side and measure the wear pads. Refer to the chart below. Repeat this procedure for the opposite end frame.

⊙ The wear pad measurement is between 0.50 inch / 12.7 mm and 0.375 inch / 9.5 mm. There is no need to replace the wear pads.

⊠ The wear pad measurement is less than 0.375 inch / 9.5 mm. Replace the wear pads.

Note: To maintain proper balance of the end frames while removing the wear pads and fasteners, the lifting straps used to support the end frames will have to be adjusted with the overhead crane.

Wear pad specification	
Measurement, minimum	0.375 inch 9.5 mm



a end frame
b lifting bar
c straddle frame
d straddle frame mounting bracket
e wear pad

6 Working at the straddle frame mounting bracket, locate and remove the wear pad adjustment screws securing the inner wear pads to the adjustment plate. Set the fasteners to the side and measure the wear pads. Refer to the chart at step 5. Repeat this procedure at the opposite end of the straddle frame.

⊙ The wear pad measurement is between 0.50 inch / 12.7 mm and 0.375 inch / 9.5 mm. There is no need to replace the wear pads.

⊠ The wear pad measurement is less than 0.375 inch / 9.5 mm. Replace the wear pads.

7 Install the wear pads and assemble the Super Straddle in reverse order of this procedure.

8 Using the wear pad adjustment screws, adjust the wear pads to maintain a uniform, non-binding fit around the vertical tubes of the end frames.

9 Remove the lifting straps from the end frames.

10 With help from another person, cycle the straddle frame up and down and check for binding or loose operation. Adjust the wear pads as necessary.

Limit Switches

REV A

2-1
Limit Switches

How to Access the Limit Switches

1 Position the Super Straddle on a firm, level surface and apply the brakes to swivel casters at the end frames.

2 Fully lower the straddle frame and remove the retaining pin from the straddle frame.

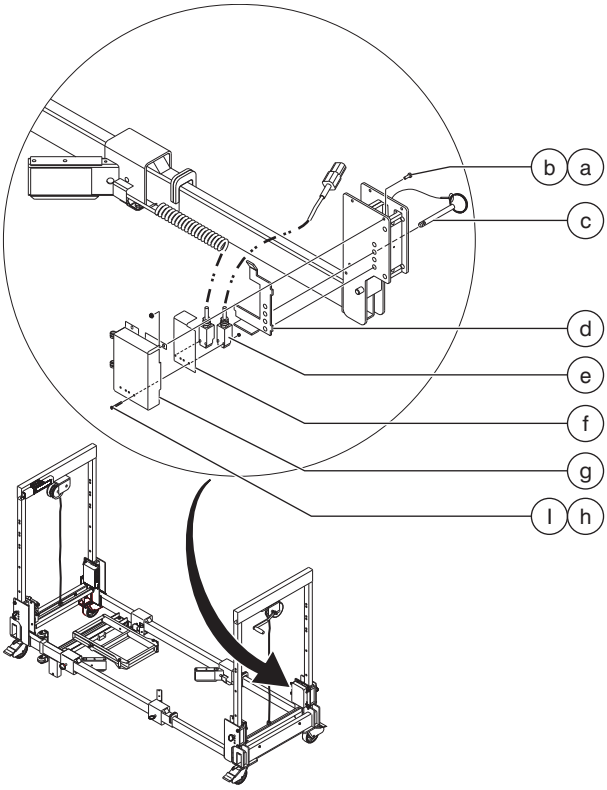
3 At the base of the end frame, tag and disconnect each cable from the limit switch pigtails.

Note: While performing step 4, use caution when removing the limit switch cover from the straddle frame. The retaining pin plate may separate from the assembly.

4 Using the illustration below as a guide, remove the fasteners securing the limit switch cover to the straddle frame assembly. Set the fasteners to the side and carefully remove the limit switch cover from the straddle frame assembly. Set the retaining pin plate to the side.

5 Remove the fasteners securing the limit switch(es), to the switch cover and switch bracket. Set the fasteners, the switch cover and bracket to the side.

6 Replace the limit switch(es) as necessary. Use the wiring schematic on page 5-4 to wire the new switch(es).



Limit Switch Assembly

a screw
b nylock nut
c retaining pin
d retaining pin plate
e limit switch
f limit switch bracket
g limit switch cover
h screw
i nylock nut

Lifting Cable

REV A

3-1
How to Replace the Lifting Cable

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

1 Fully lower the straddle frame.

2 Unwind the cable from the winch drum. Remove the cable retaining fasteners from the winch drum side wall. Set the fasteners to the side.

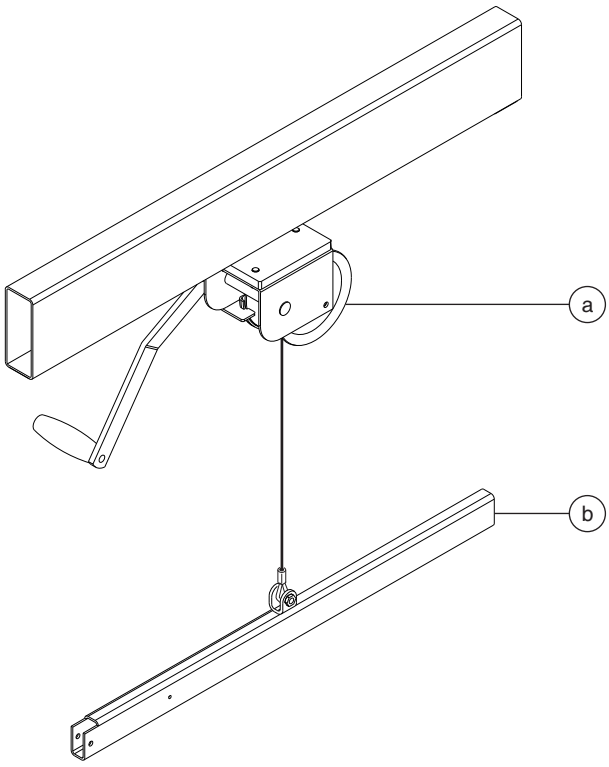
3 Pull all the remaining cable out of the cable mounting hole.

4 Remove the cable mounting fastener from the top of the lifting bar. Set the fasteners to the side.

5 Using the fasteners removed in step 4, attach the new cable to the top of the lifting bar. Do not over tighten the fasteners.

6 At the opposite side of the winch handle, wrap the cable 1 time clockwise around the winch drum. Thread the cable through the cable mounting hole on the drum side wall. Attach the cable to the drum side wall with the cable retaining fasteners removed in step 2. Do not over tighten the fasteners.

7 While holding the cable tightly on the drum, rotate the winch handle counterclockwise until the cable is spooled onto the drum. Be sure there are at least 4 wraps of cable on the winch drum.



a winch drum
b lifting bar

Winch

REV A

4-1
One-speed Winch

How to Disassemble a One-speed Winch

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

Note: Refer to the illustration on page 4-9 for an exploded view of an ANSI winch, and page 4-10 for an exploded view of a CE winch.

1 Fully lower the straddle frame.

2 Remove the cable retaining fastener from the winch drum and set the fasteners to the side. Remove the cable from the winch drum.

3 Remove the handle retaining fasteners. Remove the handle from the pinion shaft. Set the handle and the fasteners to the side.

4 Remove the drum bolt and lock nut. Remove the winch drum, drum cover and drum spacer from the winch. Set all parts to the side.

5 Remove the lock nut from the pinion shaft by holding the shaft at the flattened portion of the threads.

NOTICE Component damage hazard. Be careful not to damage the threads while holding the pinion shaft.

6 Remove the retaining ring from the pinion shaft.

7 Slide the pinion shaft towards the small pinion bushing and remove the pinion plate, thrust washer, ratchet gear, friction disk and pinion gear. Slide the pinion shaft through and out the large pinion bushing.

8 Remove the pinion bushings. Use a soft metal drift equal to the outside diameter of the bushing and tap with a rubber mallet.

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

9 Remove fasteners securing the winch housing to the end frame and remove the winch housing from the end frame. Set housing and fasteners to the side.

How to Assemble a One-speed Winch

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

Note: Refer to the illustration on page 4-9 for an exploded view of an ANSI winch, and page 4-10 for an exploded view of a CE winch.

1 Place one side of the winch housing over the jaws of a vise. Open the vise until the jaws are wider than the outside diameter of the large pinion bushing.

2 Insert a soft metal drift through the opposite bushing hole. Tap the drift with a rubber mallet to push the pinion bushing into place.

3 Repeat steps 1 and 2 to insert the other bushing.

Note: Use a piece of flatbar or wood in between the drift and the bushing to prevent any damage to the bushing.

4 Add two drops of 30W oil to both pivot points on each ratchet pawl.

⚠CAUTION Bodily Injury Hazard. Overlubrication of the ratchet pawl may result in oil coming in contact with the surface of the winch brake leading to an unsafe working condition. Do not allow any grease /oil on the friction disc, pinion plate, pinion gear or ratchet gear.

5 Insert the non-threaded end of the pinion shaft approximately halfway through the small bushing.

6 Apply a small amount of multi-purpose grease to the threaded section of the pinion shaft. Screw the pinion gear onto the pinion shaft with the gears toward the left side of the small bushing.

7 Install in order, the friction disk, ratchet gear and thrust washer onto the pinion shaft.

NOTICE Component damage hazard. Do not allow grease or oil onto the brake disks or the ratchet gear.

8 Push the pinion shaft towards the large bushing and at the non-threaded end of the pinion shaft, install the pinion shaft retaining ring.

Note: Use your fingers to push the ratchet pawls outward while pushing the pinion shaft through the large bushing. Be sure the ratchet pawls are in firm contact with the ratchet gear and that all parts move freely.

9 Install in order, the thrust washer, pinion plate, and two jam nuts onto the threaded end of the pinion shaft. Tighten the jam nuts.

10 Install the handle onto the pinion shaft and secure into place with the nylock nut.

11 Lubricate the outside of the drum spacer with multi-purpose grease. Insert the frame spacer into the drum.

12 Install the cable drum. Be sure the drum gears mesh with the ratchet gears.

13 Install the drum bolt keeper. Push the drum bolt through the winch housing, drum cover and drum. Be sure the head of the drum bolt is on the drum gear side of the winch.

14 Place the drum gear cover in position with the drum bolt slot under the drum bolt keeper.

15 Install the drum bolt jam nut hand tight.

16 Torque the drum bolt nut to 20 to 25 ft-lbs / 27 to 34 Nm.

NOTICE Component damage hazard. Overtightening the drum bolt jam nut may cause damage to the frame spacer and prevent the drum from spinning freely.

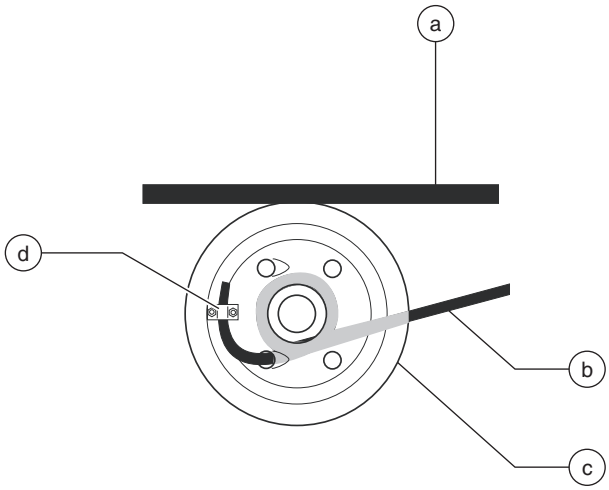
17 Lubricate the teeth of the drum gear and the pinion nut that meshes with the drum gear with multi-purpose grease.

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

18 Install the winch assemble onto the end frame with the handle facing out.

19 Rotate the drum so that the two square cable keeper holes are at the top. Install the cable keeper clip to the outside of the drum with the two carriage bolts coming through from the inside. Install the lock washers and nuts finger tight. Do not tighten.

20 Route the end of the cable around the winch drum and out through the remaining hole on the inner side wall of the drum.



a outer frame winch mount
b cable
c winch drum
d cable keeper clip

21 Insert the end of the cable under the cable keeper clip approximately $^{1}/_{2}$ inch / 13 mm and tighten the cable keeper clip fasteners.

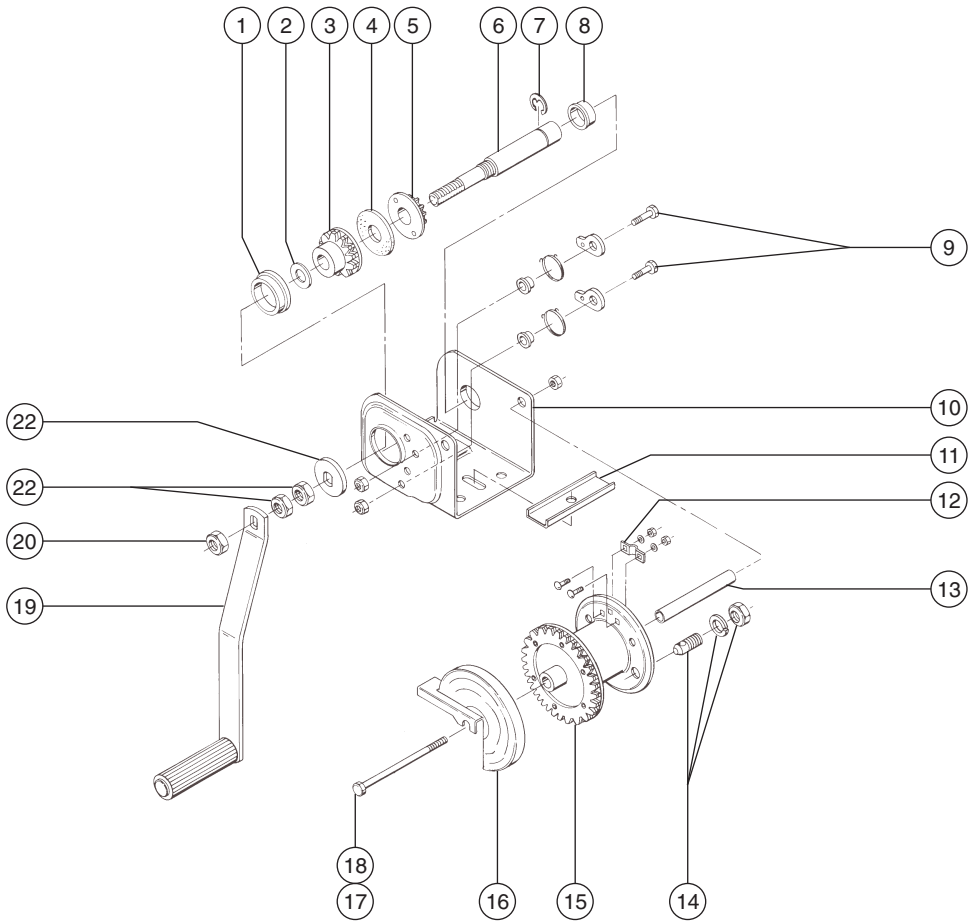
22 While holding the cable tight on the drum, rotate the drum and spool the cable onto the drum evenly.

NOTICE Component damage hazard. Be sure the cable winds onto the winch drum evenly.

REV A WINCH

One-speed Winch Assembly - ANSI

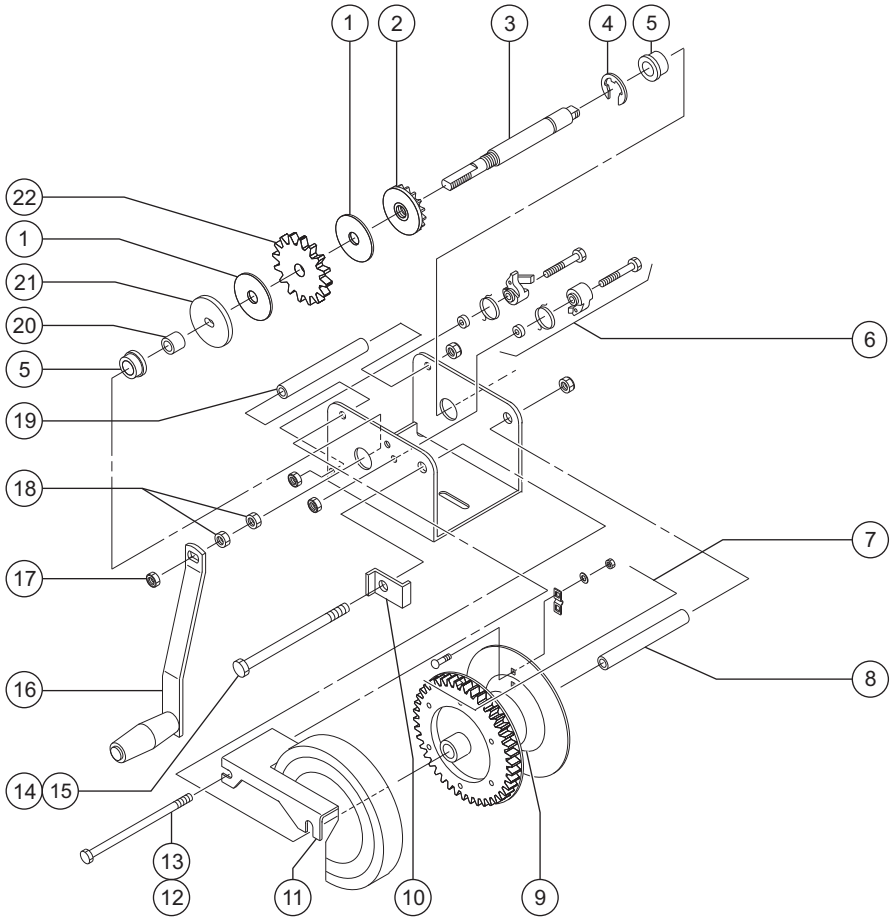
Index No.	Description
1	Pinion Bushing, Large
2	Thrust Washer
3	Ratchet Gear
4	Friction Disc
5	Pinion Gear
6	Pinion Shaft
7	Retaining Ring
8	Pinion Bushing, Small
9	Ratchet pawl Kit
10	Winch Frame
11	Winch Reinforcement Plate
12	Cable Keeper Kit (bracket type)
13	Drum Spacer
14	Cable Keeper Kit (threaded stud)
15	Winch Drum
16	Drum Gear Cover
17	Screw
18	Nylock Nut
19	Winch Handle
20	Nylock Nut
21	Jam Nut
22	Pinion Plate



WINCH REV A

One-speed Winch Assembly - CE

Index No.	Description	Index No.	Description
1	Friction Disc	12	Screw
2	Pinion Gear	13	Nylock Nut
3	Pinion Shaft	14	Drum Bolt
4	Retaining Ring	15	Nylock Nut
5	Pinion Shaft Bushing	16	Winch Handle
6	Ratchet Pawl Kit	17	Nylock Nut
7	Cable Keeper Kit	18	Jam Nut
8	Drum Spacer	19	Frame Spacer
9	Winch Drum	20	Pinion Shaft Spacer
10	Drum Bolt Lock, Winch Bracket	21	Pinion Plate
11	Drum Gear Cover	22	Ratchet Gear



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 Super Straddle Operator's Manual.*
- ☑ Be sure that all necessary tools and test equipment are available and ready for use.

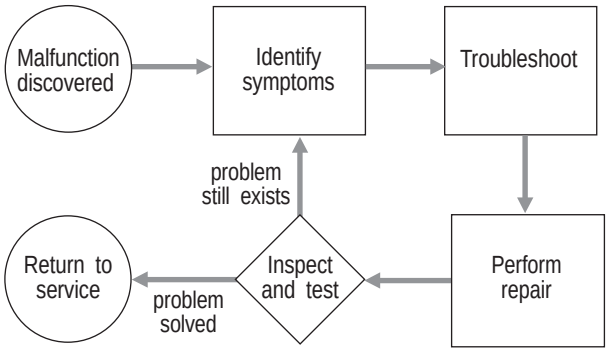
About This Section

An illustration legend precedes the electrical schematics.

Electrical Schematics

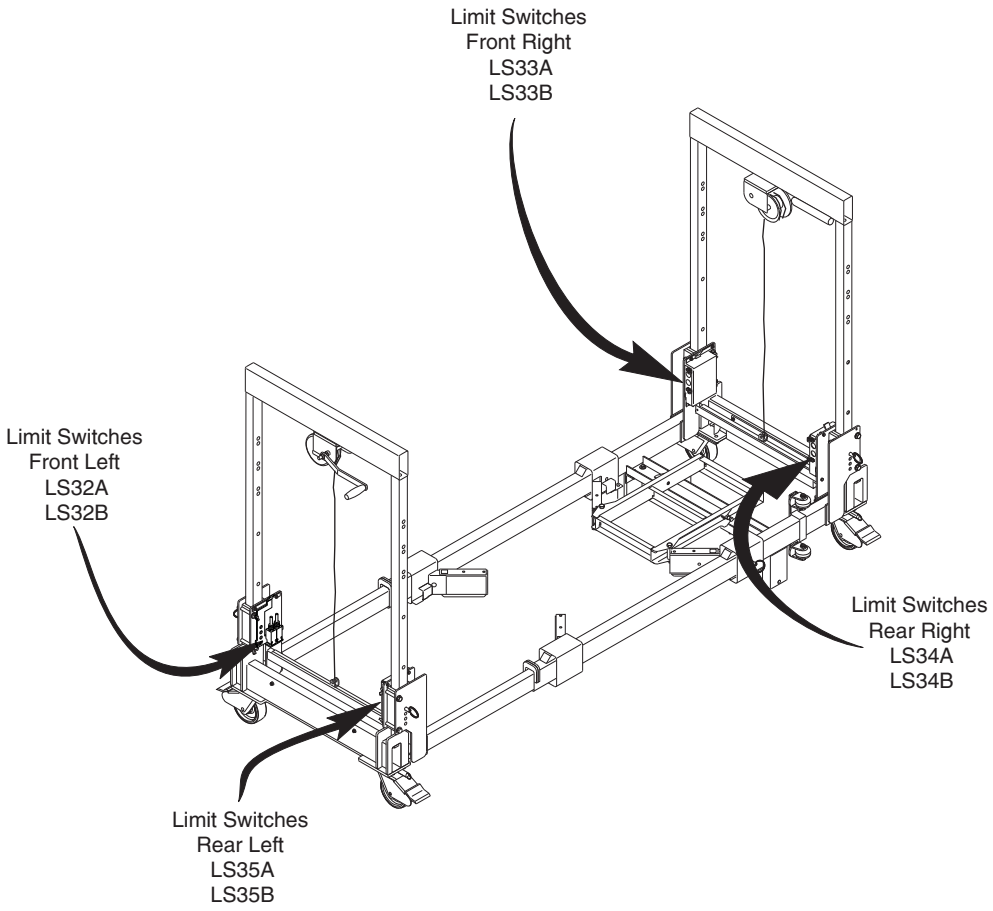
⚠WARNING Electrocution/burn hazard. Contact with electrically charged circuits could result in death or serious injury. Remove all rings, watches and other jewelry.

General Repair Process



Limit Switch Legend

REV A



Electrical Legend

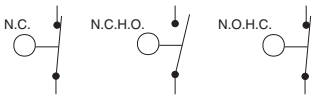
REV A

ELECTRICAL COMPONENT LEGEND	
Item	**Description**
EN	Enclosure
	EN11A = Pin switch box, front left EN11B = Pin switch box, front right EN11C = Pin switch box, rear right EN11D = Pin switch box, rear left
LS	Limit switch
	LS32A = Front left pin interlock LS32B = Front left pin interlock LS33A = Front right pin interlock LS33B = Front right pin interlock LS34A = Rear right pin interlock LS34B = Rear right pin interlock LS35A = Rear left pin interlock LS35B = Rear left pin interlock
QD	Quick Disconnect
	QD22A = Front left stabilizer to platform control box (6 pin) QD22B = Front left stabilizer to platform control box (6 pin) QD22C = Front left stabilizer to platform control box (6 pin) QD23A = Front right stabilizer to platform control box (6 pin) QD23B = Front right stabilizer to platform control box (6 pin) QD23C = Front right stabilizer to platform control box (6 pin) QD24A = Rear right stabilizer to platform control box (6 pin) QD24B = Rear right stabilizer to platform control box (6 pin) QD24C = Rear right stabilizer to platform control box (6 pin) QD25A = Rear left stabilizer to platform control box (6 pin) QD25B = Rear left stabilizer to platform control box (6 pin) QD25C = Rear left stabilizer to platform control box (6 pin) QD26 = Front left interlock connector (3 pin) QD27 = Front right interlock connector (3 pin) QD28 = Rear right interlock connector (3 pin) QD29 = Rear left interlock connector (3 pin)
SC	Socket Contact
	SC1 = SS frame, front left SC2 = SS frame, front right SC3 = SS frame, rear right SC4 = SS frame, rear left SC5 = AWP, front left SC6 = AWP, front right SC7 = AWP, rear right SC8 = AWP, rear left
STC	Stabilizer Contact
	STC1 = Outrigger, front left STC2 = Outrigger, front right STC3 = Outrigger, rear right STC4 = Outrigger, rear left STC5 = SS boot, front left STC6 = SS boot, front right STC7 = SS boot, rear right STC8 = SS boot, rear left

ELECTRICAL SYMBOL LEGEND

Wire with description or color

Circuits crossing no connection



Limit switch

Male contact

Female contact

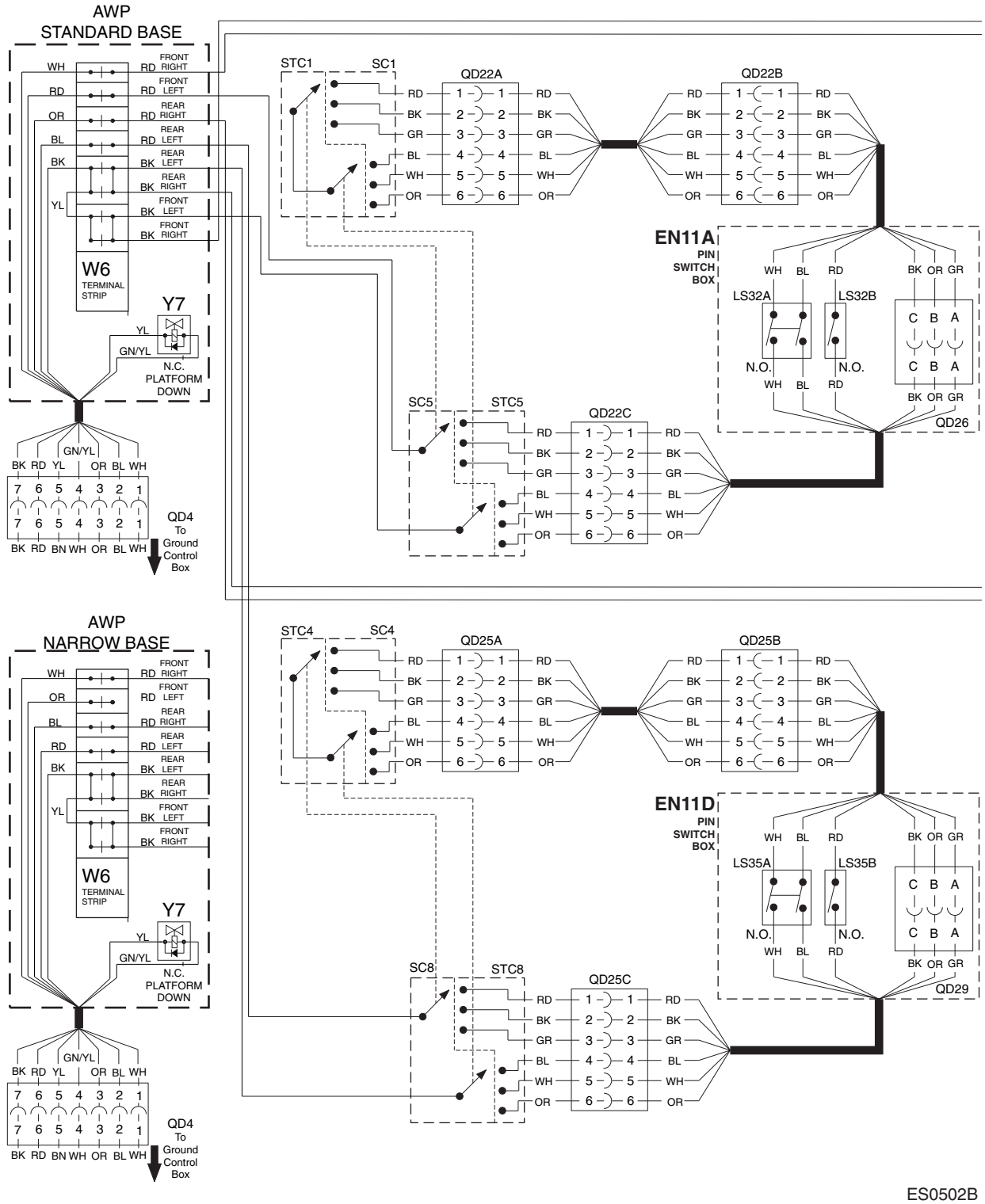
Connector

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

Electrical Schematic

REV A

Part 1 of 2

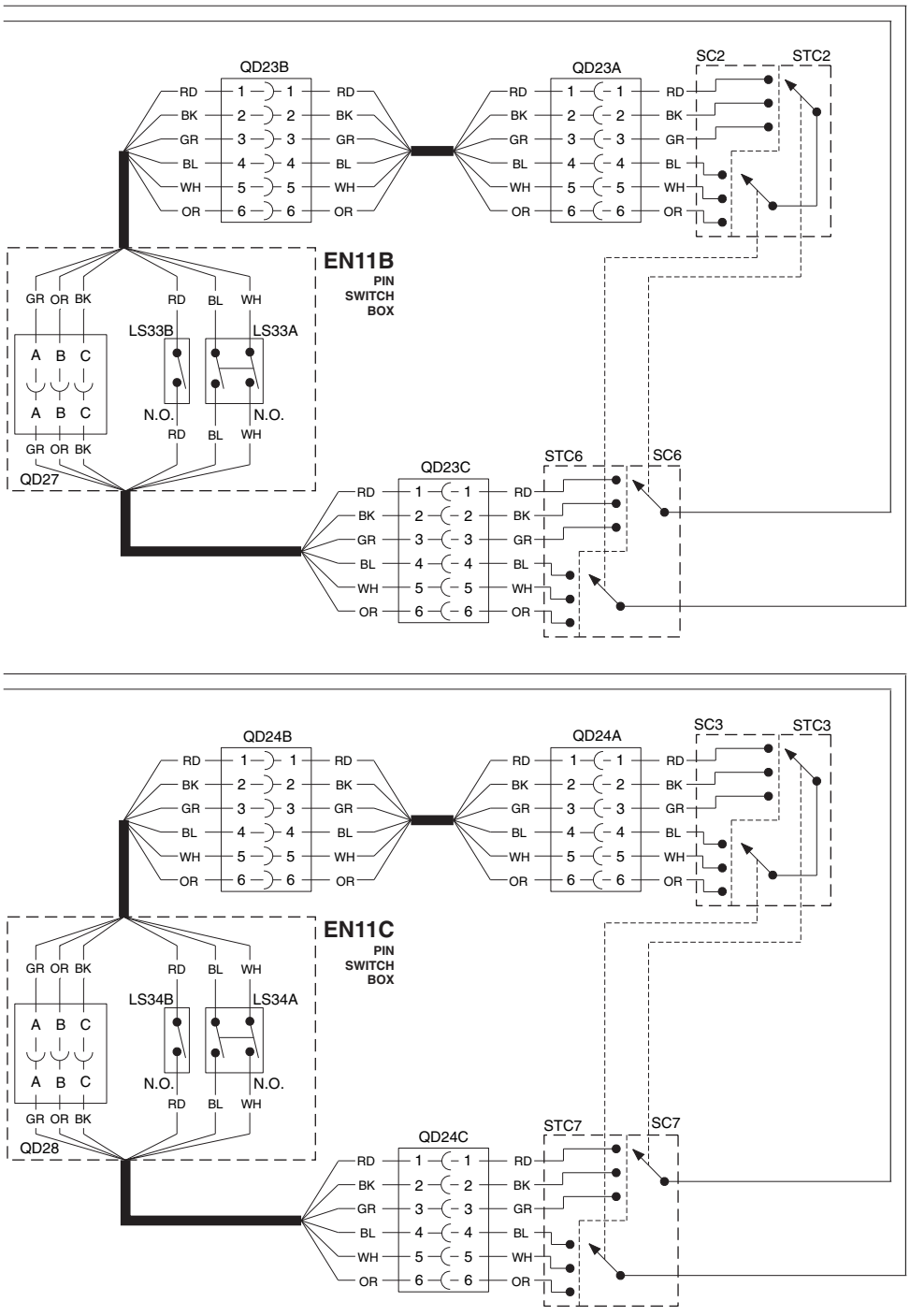


ES0502B

Electrical Schematic

REV A

Part 2 of 2



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