



## 500-Lb. Mini Electric Chain Hoist

### Owner's Manual



**! WARNING:** Read carefully and understand all ASSEMBLY AND OPERATION INSTRUCTIONS before operating. Failure to follow the safety rules and other basic safety precautions may result in serious personal injury.

Item #99077

**READ & SAVE THESE INSTRUCTIONS**

Thank you very much for choosing a Strongway® product!

For future reference, please complete the owner's record below:

Serial Number/Lot Date Code: \_\_\_\_\_

Purchase Date: \_\_\_\_\_

Save the receipt, warranty, and this manual. It is important that you read the entire manual to become familiar with this product before you begin using it.

This electric hoist is designed for certain applications only. Northern Tool and Equipment is not responsible for issues arising from modification or improper use of this product such as an application for which it was not designed. We strongly recommend that this product not be modified and/or used for any application other than that for which it was designed.

For technical questions, please call **1-800-222-5381**.

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## Intended Use

The Strongway 500-Lb. Electric Chain Hoist lifts and lowers loads all with the push of a button. This portable hoist has a handheld remote control with an emergency stop switch allowing the hoist to be controlled from up to 16<sup>3/8</sup> feet away. The heat-treated drop-forged hooks swivel 360° for easy rigging.

## Packaging Contents

- Control cable
- Power cable
- Chain bag
- Owner's Manual

## Technical Specifications

Property	Specification
Power	110V-115V, 200 Watts
Load Capacity	500 lb.
Duty Cycle	30%
Chain Length	16 <sup>3/8</sup> ft.
Required Head Room	11.02 in.
Remote Length	16 <sup>3/8</sup> ft.
Motor Output	0.268 HP
Product Weight	17.64 lb.

## Important Safety Information

### **⚠WARNING**

- Read and understand all instructions. Failure to follow all instructions may result in serious injury or property damage.
- The warnings, cautions, and instructions in this manual cannot cover all possible conditions or situations that could occur. Exercise common sense and caution when using this tool. Always be aware of the environment and ensure that the tool is used in a safe and responsible manner.
- Do not allow persons to operate or assemble the product until they have read this manual and have developed a thorough understanding of how it works.
- Do not modify this product in any way. Unauthorized modification may impair the function and/or safety and could affect the life of the product. There are specific applications for which the product was designed.
- Use the right tool for the job. DO NOT attempt to force small equipment to do the work of larger industrial equipment. There are certain applications for which this equipment was designed. This product will be safer and do a better job at the capacity for which it was intended. DO NOT use this equipment for a purpose for which it was not intended.
- Industrial or commercial applications must follow OSHA requirements.

## **⚠️WARNING**

### **PROP 65**

This product can expose you to chemicals including lead, which is known to the State of California to cause cancer or birth defects or other reproduction harm. For more information, visit [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).

## **⚠️WARNING**

### **WORK AREA SAFETY**

- Inspect the work area before each use. Keep work area clean, dry, free of clutter, and well-lit. Cluttered, wet, or dark work areas can result in injury. Using the product in confined work areas may put you dangerously close to cutting tools and rotating parts.
- Do not use the product where there is a risk of causing a fire or an explosion; e.g., in the presence of flammable liquids, gases, or dust. The product can create sparks, which may ignite the flammable liquids, gases, or dust.
- Do not allow the product to come into contact with an electrical source. The tool is not insulated and contact will cause electrical shock.
- Keep children and bystanders away from the work area while operating the tool. Do not allow children to handle the product.
- Be aware of all power lines, electrical circuits, water pipes, and other mechanical hazards in your work area. Some of these hazards may be hidden from your view and may cause personal injury and/or property damage if contacted.

## **⚠️WARNING**

### **PERSONAL SAFETY**

- Stay alert, watch what you are doing, and use common sense when operating the tool. Do not use the tool while you are tired or under the influence of drugs, alcohol, or medication. A moment of inattention while operating the tool may result in serious personal injury.
- Dress properly. Do not wear loose clothing, dangling objects, or jewelry. Keep your hair, clothing and gloves away from moving parts. Loose clothes, jewelry, or long hair can be caught in moving parts. Air vents on the tool often cover moving parts and should be avoided.
- Wear the proper personal protective equipment when necessary. Use ANSI Z87.1 compliant safety goggles (not safety glasses) with side shields, or when needed, a face shield. Use a dust mask in dusty work conditions. Also use non-skid safety shoes, hardhat, gloves, dust collection systems, and hearing protection when appropriate. This applies to all persons in the work area.
- Do not overreach. Keep proper footing and balance at all times.
- Remove keys or wrenches before connecting the tool to an air supply, power supply, or turning on the tool. A wrench or key that is left attached to a rotating part of the tool may cause personal injury.
- Secure the work with clamps or a vise instead of your hand when practical. This safety precaution allows for proper tool operation using both hands.

## **⚠CAUTION**

### **ELECTRIC HOIST USE AND CARE**

- Do not force the hoist. Products are safer and do a better job when used in the manner for which they are designed. Plan your work, and use the correct product for the job.
- Check for damaged parts before each use. Carefully check that the product will operate properly and perform its intended function. Replace damaged or worn parts immediately. Never operate the product with a damaged part.
- Do not use a product with a malfunctioning switch. Any power tool that cannot be controlled with the power switch is dangerous and must be repaired by an authorized service representative before using.
- Disconnect the power/air supply from the product and place the switch in the locked or off position before making any adjustments, changing accessories, or storing the tool. Such preventive safety measures reduce the risk of starting the tool accidentally.
- Store the product when it is not in use. Store it in a dry, secure place out of the reach of children. Inspect the tool for good working condition prior to storage and before re-use.
- Use only accessories that are recommended by the manufacturer for use with your product. Accessories that may be suitable for one product may create a risk of injury when used with another tool. Never use an accessory that has a lower operating speed or operating pressure than the tool itself.

## **Specific Operation Warnings**

### **⚠WARNING**

- To prevent serious injury or property damage, read and understand this owner's manual before operating.
- Do not exceed the rated load capacity of 500 lb.
- To avoid injury, make sure the structure has sufficient strength to withstand several times the hoist and its rated load amount.
- Do not lift people, animals, or loads above people or animals.
- Only operate the hoist when the load is centered under the hoist.
- Inspect the hoist before each use. Do not use if it is damaged or malfunctioning in any way.
- Examine each chain link for damage or weak links before use. Do not operate a hoist with twisted, kinked, or damaged chain.
- Do not use chain hoist as a sling.
- Do not support load on hook tip.
- Do not operate if restricted from forming a straight line from hook to hook in the direction of loading.
- Do not pull chain at an angle.
- Keep bystanders away while hoist is loaded.
- Not for use by or around children.

## Grounding

### ⚠WARNING

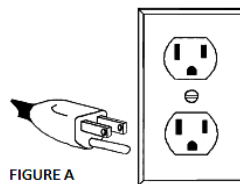
- This machine must be grounded while in use to protect the operator from electrical shock. This unit is equipped with an electrical cord that has an equipment grounding conductor and a grounding plug. The plug **MUST** be plugged into a matching receptacle that is properly installed and grounded in accordance with ALL local codes and ordinances.
- **DO NOT MODIFY THE PROVIDED PLUG.** If it will not fit the receptacle, have the proper receptacle installed by a qualified electrician.
- **CHECK** with a qualified electrician or service person if you do not completely understand the grounding instructions, or if you are not sure the tool is properly grounded.

### Grounded Tools: Tools with 3-Prong Plugs

Tools marked with **Grounding Required** have a 3-wire cord and 3-prong grounding plug. The plug must be connected to a properly grounded outlet. If the tool should electrically malfunction or break down, grounding provides a low resistance path to carry electricity away from the user, reducing the risk of electric shock. (See Figure A.)

The grounding prong in the plug is connected through the green wire inside the cord to the grounding system in the tool. The green wire in the cord must be the only wire connected to the tool's grounding system and must never be attached to an electrically live terminal.

Your tool must be plugged into an appropriate outlet, properly installed and grounded in accordance with all codes and ordinances. The plug and outlet should look like those in the following illustration.



## Assembly Instructions

### ⚠WARNING

- Check and be sure the load chain is in proper working condition.
- Check that all fasteners and joints are tight and secure.
- Check that all external wiring is in proper working condition.

### Connecting to the Electrical Supply

Before connecting the unit, check that the power cable plug corresponds with 110V.

### Power Supply System

To insure proper operation, to avoid damage to the hoist and electrical system, and to reduce the risk of electrical shock or fire, the branch circuit supplying power to the hoist must:

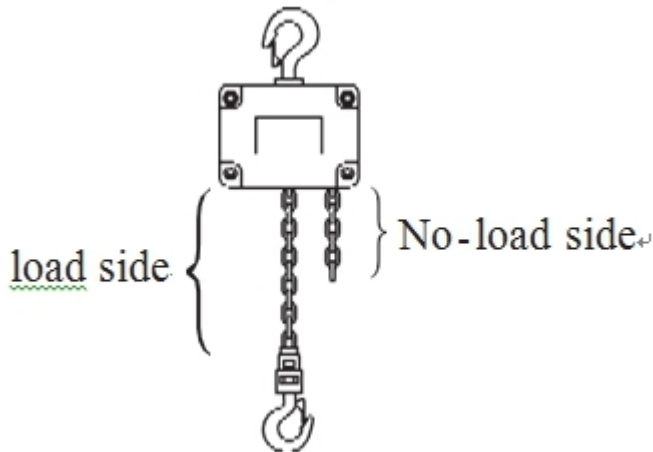
- Proper grounding provides a path with the least resistance for the electrical current to reduce the risk of electrical shock. The standard power cord is equipped with a three-prong plug, used with 110V unit. Make sure that the receptacle opening that receives the longest prong is properly grounded.
- Have ample capacity to prevent excessive voltage drop during starting and operation. When determining the size of branch circuit components and conductors, special consideration should be given to the starting current amps and the length of the conductors. As a minimum, the system should be rated for 4 amps and the system should have

#14 AWG or larger wiring.

- Include slow-blow type fuses or inverse trip time circuit breakers to permit the hoist to start and accelerate the load.

### Chain Container

- For installations where the slack chain hanging from the hoist may be questionable or hazardous, the use of a chain container is recommended.
- Do not attempt to store more chain in the chain container than what is specified for the hoist or serious damage to hoist may result and hazardous conditions may be created.
- When installing the chain container, please lower the chain on the no-load side, while retaining a distance about 10cm. In this way, the chain can put into the chain container in a good condition.



- Please do not put the whole chain into the chain container, which may entangle and bundle the chain.

### Installing a Standard Chain Container

1. Remove both bolts from the chain container mounting bracket.
2. Attach the chain container to the bracket.
3. Reinsert the bolts.

## Before Each Use

### ⚠WARNING

- To avoid injury: Make sure that the structure has sufficient strength to withstand several times the hoist and its rated load amount.
- Inspect the hoist before each use. Do not use if it is damaged or malfunctioning in any way.
- Examine each chain link for damage or weak links before use. Do not operate a hoist with twisted, kinked, or damaged chain.
- Verify and correct all chain irregularities prior to operating the hoist.

### Testing and Operational Checks

After the electric chain hoist is completely installed, implement daily inspection requirements and trial operation. Please implement the inspection according to the following steps.

Inspection before operation → no-load upward and downward operation

inspection → rated load operation inspection.

- Products of some models will be bound with straps to avoid chain tangling and knotting during transport process. Please confirm that the fixture is truly removed truly before use.
- When the chain is entangled and bundled, please do not use the electric chain hoist, to avoid danger.
- After the electric chain hoist is installed, measure and record the lower hook's opening size at any time, and wear conditions of the wearing parts, pay attention to the wear amount at any time, and replace with new parts in case of severe wear.

### Inspection Methods and Criteria

Follow the provisions listed below when using the electric chain hoist

- 1) Please do not press the emergency stop button in normal conditions
- 2) When installing the electric chain hoist for the first time, please confirm that the power line shall be not connected reversely
- 3) In order to avoid the voltage drop of the electric chain hoist, it is recommended to use a larger size cable.
- 4) If the electric chain hoist is not used for a long time, please switch off the power and carry out anti-rusting treatment, and place it in a place free from the influence of rainwater and sea wind.
- 5) If the electric chain hoist and hoisting device are needed in a ship, mine or petrochemical plant, pay extra attention to relevant laws and regulations.
- 6) Please refer to the inspection items marked with "O" in Table 1-1 to carry out regular

inspections

**Table 1-1 Hoist Inspection Methods and List**

Inspection category		Inspection items	Inspection method	Inspection basis
Daily inspection	Regular inspection			
Hoist chain				
○	○	Type	Visual inspection	Confirm the hoist chain type
○	○	Spacing elongation	Measuring the size	Please do not use the hoist chain with the minimum spacing elongation of 3% (please prepare the standard use list before use)
○	○	Wear	Measuring the size	Please do not use the hoist chain with the diameter wear equal to or more than 5%
○	○	Deformation or wear	Visual inspection	No abnormal condition
○	○	Surface condition	Visual inspection	No rust, scratch or crack and other defects
Hook				
○	○	Hook opening	Visual inspection in daily inspection, and measuring in regular inspection	When compared to standard size, there shall be no deformation (prepare the hook size list before use)
○	○	Safety door	Visual inspection	No deformation, and operation is appropriate
○	○	Handle deformation	Visual inspection	There shall be no large clearance between the hook and handle

<input type="radio"/>	<input type="radio"/>	Rotation	Visual inspection	Can rotate 360 degree horizontally and smoothly
<input type="radio"/>	<input type="radio"/>	Enclosure and mechanical components	Visual inspection	No fracture, crack, or significant deformation
Body				
<input type="radio"/>	<input type="radio"/>	Frame and gear box	Visual inspection	There shall be no deformation and severe corrosion
<input type="radio"/>	<input type="radio"/>	Part	Visual inspection	Check if there is any exposed nut, rivet, cotter pin etc., and no parts shall be loosened
	<input type="radio"/>	Gear	Measurement after disassembly	There shall be no abnormal noise, wear and breakage
	<input type="radio"/>	Load sheave and idle sheave	Measurement after disassembly	There shall be no severe wear, deformation and breakage
	<input type="radio"/>	Chain guide pulley	Visual inspection	There shall be no wear, deformation and breakage
	<input type="radio"/>	Limit lever	Visual inspection	There shall be no wear, deformation and breakage, and operation shall be smooth
	<input type="radio"/>	Bearing	Visual inspection	There shall be no wear, breakage or other defects
<input type="radio"/>	<input type="radio"/>	Lubrication and oiling	Visual inspection	Lubricate and oil at designated points (if the oil is contaminated, please change the oil)
Brake				
	<input type="radio"/>	Brake lining, brake disc, brake pad	Visual inspection	There shall be no severe or partial wear
	<input type="radio"/>	Stop screw (in mechanical brake device)	Visual inspection	There shall be no severe wear, deformation and crack
	<input type="radio"/>	Rivet and wheel (in mechanical brake device)	Visual inspection	There shall be no severe wear, deformation and crack
	<input type="radio"/>	Brake spring (in electromagnetic brake device)	Visual inspection	There shall be no severe wear, deformation and crack
	<input type="radio"/>	Brake spring (in electromagnetic brake device)	Visual inspection	There shall be no severe wear, deformation and crack
	<input type="radio"/>	Chain bag	Visual inspection	Shall be installed in the hoist body securely. There shall be no severe wear, deformation and breakage.
Motor				
	<input type="radio"/>	Motor (single-phase carbon brush motor)	Visual inspection and measurement	There shall be no overheating, and there shall be sufficient insulation. (Brush and commutator shall not be severely worn)
	<input type="radio"/>	Electrical instruments (electromagnetic contactor, relay, transformer, wiring, etc.)	Visual inspection and measurement	There shall be no overheating, and there shall be sufficient insulation. In addition, operation shall be smooth. Wiring shall be fixed properly. All contact points of the electrical instruments shall be in good order.

Power supply connection				
	○	Grounding	Measurement	Good grounding
○	○	Reverse	Operation	There shall be no reverse connection
Button switch and wiring				
○	○	Operation function	Visual inspection	Switch and interlocking system shall operate normally
○	○	Control line	Visual inspection	Lead shall be free from any damage
○	○	Appearance	Visual inspection	No breakage and damage
Function and performance				
○	○	Lifting and lowering functions	No-load lifting and lowering (rated voltage and rated frequency)	During lifting and lower operation process, the hoist chain shall be able to wind up or loosen smoothly. For the hoist with the mechanical brake system, at the time of hoist operation, a ratchet wheel sound shall be heard. In a lowering operation, the brake system shall be free from abnormality.
	○	Startup	Visual inspection	The hoist shall be able to ascend, descend smoothly under 90% rated voltage
		Speed	Measurement	Lifting speed of rated load shall be within the designated value scope
○	○	Brake	Measurement	The brake shall operate safely, and motor cut-off fall distance shall be less than 1% of the lifting capacity within 1 minute
○	○	Anti-overload protector (friction clutch)	Carry out no-load operation, to implement out-of-limit ascending or descending	The anti-overload protector shall operate normally. (Ensure startup of the friction clutch at time of motor idling)
Load				
	○	Carry out loading	Implement ascending or descending with rated load	When operating the hoist at rated load, the rated voltage and rated frequency, each part shall be free from abnormality
	○	Load limiter	Carry out lifting under overload condition	The limiter shall be able to function at default values

## Operating Instructions

### ⚠WARNING

- Do not exceed rated load capacity of 500 lb.
- Do not lift people, animals, or loads above people or animals.
- Only operate the hoist when the load is centered under the hoist.
- Do not use chain hoist as a sling.
- Do not support load on hook tip.
- Do not operate if restricted from forming a straight line from hook to hook in the direction of loading.
- Do not pull chain at an angle.
- Please do not exceed the load hour factor or use the product too frequently.

	Single phase
Short time rating (min)	25 min
Percentage duty cycle (%ED)	30%
Start using maximum frequency (times - hour)	180 times

### Lifting and Lowering Loads

- To lift a load, press the U button. To lower a load, press the D button. When the button is released, the drum will stop moving. The emergency button should be used in case of emergencies. Please do not half-press the button to operate the electric chain hoist. Half-pressing the button to continue operating the electric chain hoist may shorten the button's service life.



### Mounting the Hoist

Hang the hoist from its intended support. The structure used to support the hoist must have sufficient strength to withstand several times the load amount. If you are not sure of the weight the structure can hold, consult a registered engineer and the local building codes.

### Load Chain

The chain should feed smoothly into and away from the hoist and hook block (500 LB). If the chain binds, jumps, or is noisy, first, clean and lubricate the chain. If trouble persists, inspect chain and mating parts for wear, distortion, and other damages.

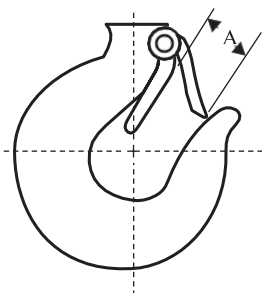
### Hook and Eye Suspension Hoists

The suspension point should be of a correct size to admit the top hook or eye of the hoist and allow it to rest properly on the saddle. It must be adequate to support the hoist while it is being operated at its maximum capacity (safe working load).

### Hook opening measurement

If the load applied to the hook is higher than the rated load or the load weight applied on the hook tip is higher, the hook opening will expand.

The hook with expanded opening will lead to loss of the internal strength and strike-resistance, so replace with a new hook.



Hook Replacement Standard Diagram

Rated load (LB)	Dimension A (mm)	
	Standard value	Limit size
500	24±1	26

If the size A as the above image exceeds the limit value as above table, please replace with a new part. Repairing the wider hook clearance by means of heating is very dangerous. Please do not use such a hook, and replace with a new one.

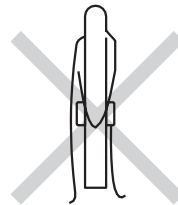
If situations 1-3 as the following images occur, please replace it.



1) Obvious scratch



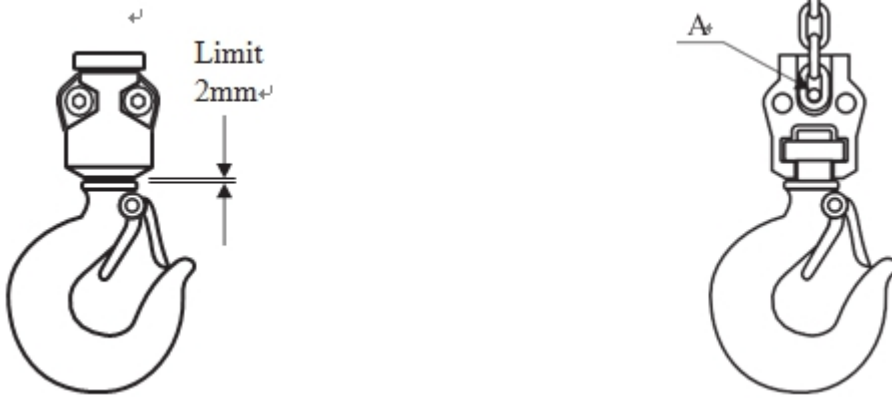
2) Wear: as shown as below table



3) Visible bending

Rated load (LB)	New hook size H	Limit size
~500 LB	16	14.4

## Lower Hook



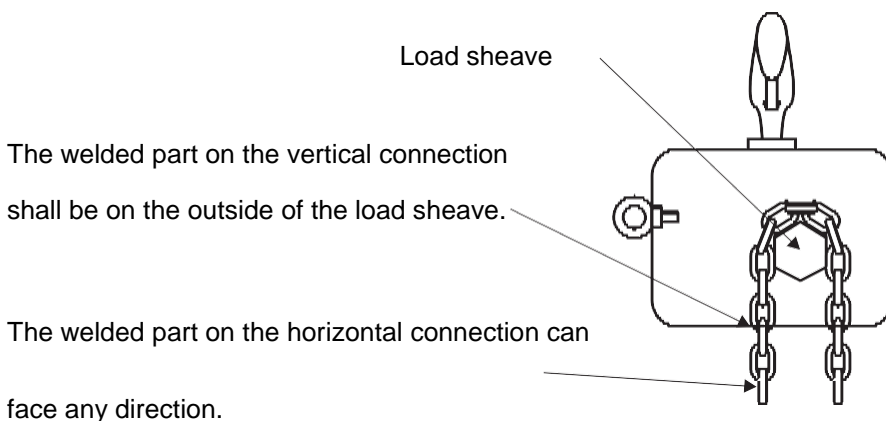
If rotation cannot be made smoothly, or the clearance exceeds 2 mm as shown as right image, please replace the lower hook.

If obvious deformation and other situations of the hook part shown by arrow A as left image occur, please replace the hook.

## Chain Inspection

1. First, clean chain with a non-caustic, non-acid type solvent and make a link by link inspection for nicks, gouges, twisted links, weld splatter, corrosion pits, striations (minute parallel lines), cracks in weld areas, wear, and stretching. A chain with any of these defects must be replaced before use.
2. When checking the chain for wear, check the part of the chain that goes through the lift wheel of the hoist most often. Check the interlink area of the chain links for the point of maximum wear. Measure and record the stock diameter at this point of the link. Be sure to measure the stock diameter in the same area on a link that does not pass through the lift wheel. Compare these two measurements. If the stock diameter of the worn link is 0.010 inches or more than the stock diameter of the unworn link, the chain must be replaced.
3. Check the chain for stretch with a vernier caliper. Select an unused, unstretched section of chain, then measure and record the length. Measure and record the same length on a worn section of the chain. Obtain the amount of stretch and wear by subtracting the measurement of the unworn section from the worn section. If the result is greater than 0.145 inch, the chain must be replaced.
4. Use only a "knife-edge" caliper to eliminate the possibility of false reading by not measuring full pitch length.
5. These chains are heat-treated and hardened and should never be repaired. Do not use replaced chain for other purposes such as lifting or pulling. Load chain may break suddenly without visual deformation. For this reason, cut replaced chain into short lengths to prevent use after disposal.

## Precautions for replacing the hoist chain



Under normal condition, never replace the chain by yourself. If chain replacement is needed, please contact the local dealer or sales department.

When replacing the hoist chain, please pay attention to the following points. Ensure that the welded part on the vertical connection is on the outside of the load sheave.

Please replace the whole chain, please do not try to replace only a portion of parts.

## After Each Use

### ⚠WARNING

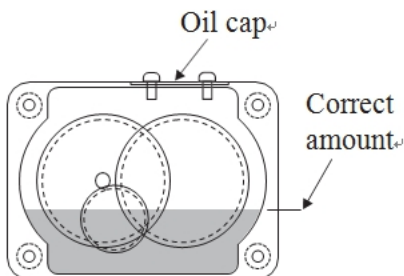
- Do not use motor oils containing unknown carcinogenic materials.
- To avoid health problems, never use used motor oils as a chain lubricant. Only use the clean grease as a lubricant for the load chain.

## Lubrication

### Gear Oil Inspection

(1) Oil change (refer to the following image)

At time of oil change, remove the electric chain hoist body from the sling, and then take down the oil cap, in order to replace the oil from the top of the gear box; place the body upside down to discharge the oil inside. Afterwards, install the chain hoist on the sling, keep the gear box level, and then fill in an appropriate amount of oil. (Refer to the amount as the following oil type).



#### Oil Type

IDEMITSU	Racing Gear 140GL-5
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(2) Designated oil  
Original manufacturer's oil

(3) Oiling Point List

Oil application point	Gearbox	Hoist chain
Various lubricating oil	Lubricating oil for the sliding surface	Oil
Oiling method	Oil bath	Oiling with a brush
Oil name	IDEMITSU	IDEMITSU
	Racing Gear 140 GL-5	Racing Gear 140 GL-5
Reference amount	0.151	10 cc/m
Oil change frequency	1 year	
Oil change amount	0.11	
Oil change period	6 months	Before use
Oil topping-up amount	Appropriate amount	Appropriate amount

## Maintenance

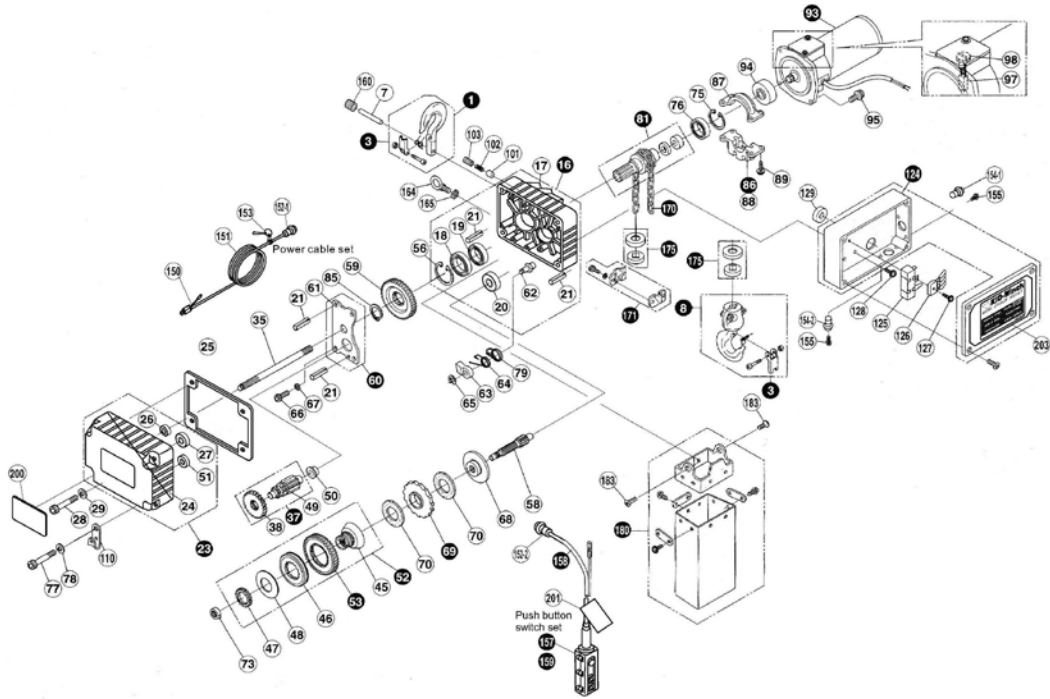
Maintenance Interval	Maintenance Point
Daily before operating	<ul style="list-style-type: none"> <li>Check the control cables, the strain relief elements, the operation of the slipping clutch (if fitted), the control pendant housing for damage, and the electrical switch gear and wiring.</li> <li>Be sure there is a tight fit for the bolts on the load hook assembly.</li> <li>Check the ends of the chain and the chain bag to ensure they are secure.</li> <li>Check the oil level and change the oil before each session (if needed).</li> </ul>
After the first 50-200 operating hours	<ul style="list-style-type: none"> <li>Check the suspension eye and the suspension hook assembly.</li> <li>Check the fittings for the bolts on the load hook assembly.</li> <li>Check the hooks for cracks, deformation, pitting and wear, and secure connections.</li> <li>Check the brakes, brake stroke, brake disc, and adjust them as required.</li> <li>Lubricate chain, under normal and heavy usage and lubricate chain sprocket bearing and check the bolts for secure fits.</li> </ul>

## Troubleshooting

Failure	Possible Cause	Corrective Action
1.Motor cannot run	The switch light on the distribution panel is not on. The blown fuse and circuit breaker tripped.	Check the distribution panel, and take necessary measures to supply power from the panel
	Wrong power supply application	Use correct power supply as labeled
	Massive voltage drop	Obtain the designated supply voltage, and use correct power line * If the wire is too thin, the voltage may drop suddenly at time of motor startup.
	Massive overload	Use the load not exceeding the rated value
	Motor burnout	Replace the motor
	Motor brush is worn	Replace the brush
	Rectifier damage	Replace the rectifier
2.Abnormal motor heating	Equipment overload	Use the load not exceeding the rated value
	Low supply voltage	Obtain the designated voltage If the wire is too thin, please replace with a thicker power line
	Outdoor temperature is very high	Avoid radiation heat, and keep the ambient temperature no more than 40°C
	Exceed short time rating and interval rating	Operate the equipment within the rated value

3.Chain hoist operation direction is opposite to that indicated on the button	Incorrect equipment button wiring	Correct wiring according to the connection diagram
	Wrong motor connection	Switch terminal connection
4.Fail to lift the load	Massive overload	Use the load not exceeding the designated value
	Worn inside of the anti-over winding device	Adjust the anti-over winding device (contact local dealer and sales department)
	Loose wiring inside the button and rectifier	Check the continuity, and replace any damaged part
5.Fail to lower the load	Loose wiring inside the button and rectifier	Check the continuity, and replace any damaged part
6.Brake does not work	Resistor damage	Replace the resistor
7.Fail to perform braking function immediately	Button contact damage	Replace the button switch device
	Inner contact of motor is worn	Replace the motor
8.High inertia in stopping lifting and descending operation	Motor brake lining is worn	Adjust the motor brake (contact local dealer and sales department)
	Equipment overload	Use the load not exceeding the rated value
9.Slow speed	Equipment overload	Use the load not exceeding the rated value
	Low supply voltage	Power line is too thin
10.Chain wear is faster than wear of other parts	Equipment overload	Use the load not exceeding the rated value
	Load sheave or chain guide rail is worn	Replace with new parts
	Insufficient or no lubricating oil	Provide designated oil
11.Poor engagement between the chain and load sheave	Chain, load sheave or chain guide rail is excessively worn	Replace with new parts * If the chain is worn, replace with a new chain. In addition, check the wear condition of the load sheave and chain guide rail.
	Inappropriate chain is used	Replace with an appropriate chain
12.Noise is higher than normal value	Gear is excessively worn	Replace parts
	Chain, load sheave or chain guide rail is excessively worn	Replace parts
	Insufficient lubricating oil	Refer to the designated oil provided in the "Machine Model Manual"
13.Electric shock to user when touching the electric chain hoist	Equipment is not grounded	Connect the grounding wire to the equipment securely
	Button switch device and other electrical parts have insulation problem	Repair or replace the defective parts
14.Oil leakage	Fixed bolt of the gear box is loosened	Fasten the fixed bolt
	Package or oil seal damage	Replace with new parts

# Parts Diagram



## Parts List

Reference	Part Number	Part Description	Quantity
1	99077-01	Top hook ass'y	1
3	99077-03	Safety latch ass'y	1
7	99077-07	Top hook pin	1
8	99077-08	Bottom hook ass'y	1
16	99077-16	Main body case set	1
17	99077-17	Main body case	1
18	99077-18	Ball bearing 6904	1
19	99077-19	Oil seal 22*35*7	1
20	99077-20	Ball bearing 6000	1
21	99077-21	Spring pin	2
23	99077-23	Gear case ass'y	1
24	99077-24	Gear case	1
25	99077-25	Asbestos laminate	1
26	99077-26	Ball bearing 686	1
27	99077-27	Ball bearing 607	1
28	99077-28	Hexagon screw 8*40	3
29	99077-29	Spring washer 8mm	3
35	99077-35	1st gear	1
37	99077-37	2nd & 3rd gear ass'y	1
38	99077-38	2nd gear	1
45	99077-45	Friction clutch hub disc B	1
46	99077-46	Friction clutch hub disc C	1
47	99077-47	Adjusting nut	1
48	99077-48	Disc spring	1
49	99077-49	3rd gear	1
50	99077-50	Ball bearing 688	1
51	99077-51	ball bearing 697	1
52	99077-52	Friction clutch set	1
53	99077-53	4th gear set	1
56	99077-56	C-clip (for hole)	1
58	99077-58	5th gear	1
59	99077-59	6th gear	1
60	99077-60	Middle plate set	1
61	99077-61	Middle plate	1
62	99077-62	Pawl Cover Screw	1
63	99077-63	Pawl	1
64	99077-64	Pawl spring	1
65	99077-65	E ring	1
66	99077-66	Bolt w/hex. Hole 5*12	3
67	99077-67	Spring washer	3
68	99077-68	Friction clutch hub disc A	1
69	99077-69	Ratchet wheel set	1
70	99077-70	Brake lining(2pcs/set)	1
73	99077-73	Check washer	1
75	99077-75	C-clip (for hole)	1
76	99077-76	Ball bearing 6804	1
77	99077-77	Bolt w/hex. Hole 8*45	1
78	99077-78	Spring washer 8mm	1
81	99077-81	Load sheave set	1
85	99077-85	C-clip (for shaft) S20	1
86	99077-86	Chain guide set	1

Reference	Part Number	Part Description	Quantity
87	99077-87	Chain guide (upper side)	1
88	99077-88	Chain guide (down side)	1
89	99077-89	Bolt w/hex. hole & washer 5*20	4
93	99077-93	Single phase motor set	1
94	99077-94	Motor shaft joint	1
95	99077-95	Bolt w/hex. hole & washer 5*16	4
97	99077-97	Carbon brush(2pcs/set)	1
98	99077-98	Brush cap	1
101	99077-101	Lining for motor brake	1
102	99077-102	Spring for motor brake	1
103	99077-103	Hexagon socket screw	1
110	99077-110	Push button hanger fitting	1
124	99077-124	Electric equipment case set	1
125	99077-125	Cement resistor 15W5Ω	1
126	99077-126	Rectifier 5010	1
127	99077-127	Round head screw w/cross hole	1
128	99077-128	Round head screw w/cross hole	1
129	99077-129	Grommet	1
150	99077-150	Power cable set	1
151	99077-151	Power cable	1
152-1	99077-152-1	Power quick connector (female)	1
152-2	99077-152-2	Push button cable quick connector(female)5P	1
153	99077-153	Shackle	1
154-1	99077-154-1	Power quick connector(on body)(male)3P	1
154-2	99077-154-2	Push button cable quick connector(on body)(male) 5P	1
155	99077-155	Hex. bolt w/cross hole 3*16	3
157	99077-157	Push button switch set	1
158	99077-158	Push button cable set	1
159	99077-159	Push button pendent	1
160	99077-160	Hexagon socket screw	1
164	99077-164	Eye bolt	1
165	99077-165	Spring washer	1
170	99077-170	Load chain	1
171	99077-171	Chain stopper ass'y	1
175	99077-175	Buffer ass'y	1
180	99077-180	Chain bag ass'y	1
183	99077-183	Round head screw w/cross hole 6*12	2
200	99077-200	Name plate	1
201	99077-201	Warning tag	1
203	99077-203	Type name label	1

## Replacement Parts

- For replacement parts and technical questions, please call Customer Service at **1-800-222-5381**.
- Not all product components are available for replacement. The illustrations provided are a convenient reference to the location and position of parts in the assembly sequence.
- When ordering parts, the following information will be required: item description, item model number, item serial number/item lot date code, and the replacement part reference number.
- The distributor reserves the rights to make design changes and improvements to product lines and manuals without notice.

## Limited Warranty

Northern Tool and Equipment Company, Inc. ("We" or "Us") warrants to the original purchaser only ("You" or "Your") that the Strongway product purchased will be free from material defects in both materials and workmanship, normal wear and tear excepted, for a period of one year from date of purchase. The foregoing warranty is valid only if the installation and use of the product is strictly in accordance with product instructions. There are no other warranties, express or implied, including the warranty of merchantability or fitness for a particular purpose. If the product does not comply with this limited warranty, Your sole and exclusive remedy is that We will, at our sole option and within a commercially reasonable time, either replace the product or product component without charge to You or refund the purchase price (less shipping). This limited warranty is not transferable.

### Limitations on the Warranty

This limited warranty does not cover: (a) normal wear and tear; (b) damage through abuse, neglect, misuse, or as a result of any accident or in any other manner; (c) damage from misapplication, overloading, or improper installation; (d) improper maintenance and repair; and (e) product alteration in any manner by anyone other than Us, with the sole exception of alterations made pursuant to product instructions and in a workmanlike manner.

### Obligations of Purchaser

You must retain Your product purchase receipt to verify date of purchase and that You are the original purchaser. To make a warranty claim, contact Us at 1-800-222-5381, identify the product by make and model number, and follow the claim instructions that will be provided. The product and the purchase receipt must be provided to Us in order to process Your warranty claim. Any returned product that is replaced or refunded by Us becomes our property. You will be responsible for return shipping costs or costs related to Your return visit to a retail store.

### Remedy Limits

Product replacement or a refund of the purchase price is Your sole remedy under this limited warranty or any other warranty related to the product. We shall not be liable for: service or labor charges or damage to Your property incurred in removing or replacing the product; any damages, including, without limitation, damages to tangible personal property or personal injury, related to Your improper use, installation, or maintenance of the product or product component; or any indirect, incidental or consequential damages of any kind for any reason.

### Assumption of Risk

You acknowledge and agree that any use of the product for any purpose other than the specified use(s) stated in the product instructions is at Your own risk.

### Governing Law

This limited warranty gives You specific legal rights, and You also may have other rights which vary from state to state. Some states do not allow limitations or exclusions on implied warranties or incidental or consequential damages, so the above limitations may not apply to You. This limited warranty is governed by the laws of the State of Minnesota, without regard to rules pertaining to conflicts of law. The state courts located in Dakota County, Minnesota shall have exclusive jurisdiction for any disputes relating to this warranty.



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