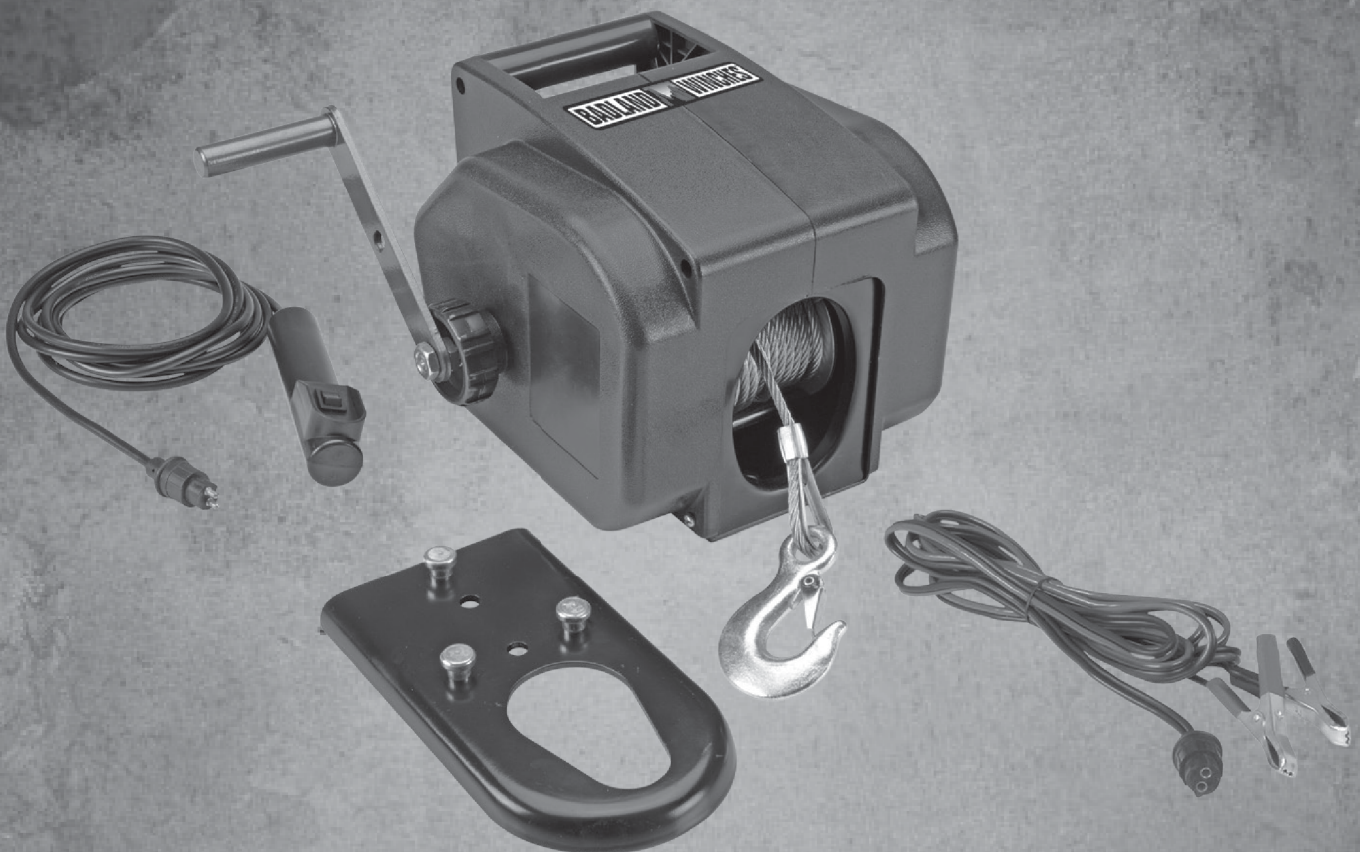


Owner's Manual & Safety Instructions

Save This Manual Keep this manual for the safety warnings and precautions, assembly, operating, inspection, maintenance and cleaning procedures. Write the product's serial number in the back of the manual near the assembly diagram (or month and year of purchase if product has no number). Keep this manual and the receipt in a safe and dry place for future reference.



ITEM 61237



**2000 LB CAPACITY
MARINE WINCH**

Visit our website at: <http://www.harborfreight.com>
Email our technical support at: tech@harborfreight.com

When unpacking, make sure that the product is intact and undamaged. If any parts are missing or broken, please call 1-800-444-3353 as soon as possible.

⚠️ WARNING

Copyright© 2013 by Harbor Freight Tools®. All rights reserved.
No portion of this manual or any artwork contained herein may be reproduced in any shape or form without the express written consent of Harbor Freight Tools. Diagrams within this manual may not be drawn proportionally. Due to continuing improvements, actual product may differ slightly from the product described herein. Tools required for assembly and service may not be included.

**Read this material before using this product.
Failure to do so can result in serious injury.
SAVE THIS MANUAL.**

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SAFETY





SETUP

OPERATION

MAINTENANCE

WARNING SYMBOLS AND DEFINITIONS	
	This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.
	Indicates a hazardous situation which, if not avoided, will result in death or serious injury.
	Indicates a hazardous situation which, if not avoided, could result in death or serious injury.
	Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
	Addresses practices not related to personal injury.

Symbol	Property or Statement
	Wear heavy-duty, cut- and abrasion-resistant leather gloves.
	Wear ANSI-approved safety glasses.
	Cut or sever hazard.
	Roller entanglement hazard.
	Hot surface burn hazard.
	Fire hazard.
	Caustic chemical (acid) hazard.
	Explosion hazard.
	Do not loop the wire rope around object and hook onto itself.

Symbol	Property or Statement
	Do not place finger(s) through hook. Fingers may be caught and get pulled into drum.
	Pull hook using strap only.
	Do not use winch in underwind orientation. (Wire rope enters/exits at the bottom.)
	Use winch only in overwind orientation. (Wire rope enters/exits at the top.)
VDC	Volts Direct Current
A	Amperes
fpm	Feet Per Minute
IP	International Protection rating. Classifies the degrees of protection provided against the intrusion of solid objects, dust, accidental contact, and water.

IMPORTANT SAFETY INFORMATION

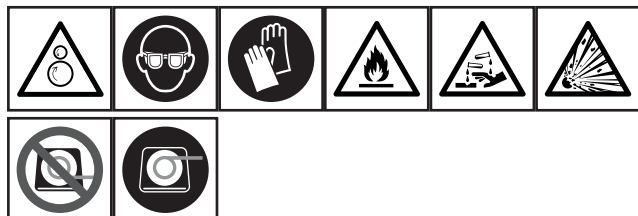


WARNING! Read all instructions.

Failure to follow all instructions listed on page 3 to page 5 may result in fire, serious injury and/or DEATH.

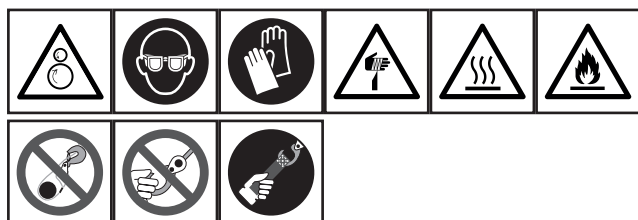
The warnings and precautions discussed in this manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

Installation Specific Safety Information



1. Do not wear loose clothing or jewelry, as they can be caught in moving parts. Non-skid footwear is recommended. Wear restrictive hair covering to contain long hair.
2. Wear ANSI-approved safety goggles and heavy-duty leather work gloves during installation.
3. Before installation confirm that area is clear of fuel lines, brake lines, electrical wires, gas tanks or any other component which could be damaged during drilling.
4. Mounting location and hardware must support Winch and load.
5. Winch is not waterproof and is not intended for use underwater. Do not mount in locations that are subject to submersion in water.
6. Use supplied power cables and wire rope or replacement cables listed in manual only. Do not use thinner/longer cables or link multiple cables together. Do not route electrical cables near sharp edges or parts that will move or become hot.
7. Ventilate area well before and while working on battery. Explosive invisible hydrogen gas can accumulate and then explode when ignited by a spark from the battery connection.
8. Only connect to a clean, corrosion free battery.
9. Do not lean over or come in contact with battery while making connections.
10. Remove all metal jewelry before working near battery.
11. Connect red wire to positive battery terminal and black wire to negative battery terminal.
12. Insulate all exposed wiring and terminals after installation.
13. Install Winch in overwind orientation, so that the Wire Rope enters and exits the Winch at the top of the drum.
14. For temporary Winch mounting, only use the Adapter Plate (56) with a 2" hitch ball. Do not use Adapter Plate to attach Winch to anything other than hitch ball. Bolt Adapter Plate to Winch Frame Assembly (31) before mounting to hitch ball. Do not use a different plate to install on hitch ball. Do not use hitch ball for any other purpose while Winch is mounted.

Operation Specific Safety Information



1. Do not exceed load capacity. **Be aware of dynamic loading!** Sudden load movement may briefly create excess load causing product failure.
2. Wear ANSI-approved safety goggles and heavy-duty leather work gloves during operation.
3. **Do not maintain power to the Winch if the motor stalls.** Verify load is within rated capacity for the Wire Rope layer; see Winch Specifications on page 6. Make sure the battery is fully charged. Use double line rigging whenever possible; see Double Line Rigging on page 11.
4. Do not disengage clutch under load. Engage clutch before starting.
5. Keep clear of Wire Rope intake opening when operating. Do not try to guide Wire Rope.
6. **Do not place finger(s) through Hook.** Fingers may be caught and get pulled into drum. Use a hook strap (not included) to hold hook instead.

Operation Specific Safety Information (continued)

SAFETY

7. Stay out of the direct line that the Wire Rope is pulling. If it slips or breaks, it will “whiplash” along this line.
8. Place a heavy blanket or carpet (not included) over Wire Rope span 6 feet from Hook to help absorb the force released if the Wire Rope breaks.
9. Do not use for lifting or moving people.
10. Use a spotter to assist you in ensuring that it is safe to operate the Winch. Make sure the spotter is out of the way of the vehicle and the Wire Rope before activating the Winch.

SETUP

11. Do not use the Hand Crank, if equipped, to “assist” the Winch.
12. Do not use vehicle to pull on the Wire Rope and “assist” the Winch.
13. Use as intended only. Do not lift items vertically or use for aircraft purposes.
14. At the start of winching when using temporary winch mounting, take up slack slowly and make sure Winch is securely and properly mounted to hitch ball.
15. Prevent entanglement. Do not wear loose clothing or jewelry, as they can be caught in moving parts. Non-skid footwear is recommended. Wear restrictive hair covering to contain long hair.

OPERATION

16. Disconnect Battery Cable before working near the Wire Rope, drum, or load, to prevent accidental starting.
17. Inspect before every use; do not use if damaged or parts loose. Examine the Winch for structural cracks, bends, damage, frayed or kinked Wire Rope, and any other conditions that may affect the safe operation of the Winch. Do not use the Winch even if minor damage appears. A kink permanently weakens the Wire Rope, even after it is straightened out; kinked Wire Rope can fail suddenly and must not be used.
18. Keep wire rope straight to avoid kinking the wire rope. The illustrations below show how a kink forms and how to prevent kinking.

MAINTENANCE

- a. This illustration shows a kink about to form. At this point the Winch should be stopped and the wire rope should be straightened out to prevent kinking.



- b. This wire rope is kinked. It is too late to reverse the damage. At this point, the wire rope must be discarded. It is permanently damaged and must not be used.



- c. This is a kinked wire rope that has been straightened out. Even though it has been pulled straight, some wires in the wire rope are stretched, and others are severely bent, if not broken. The unstretched wires will take more load and can fail suddenly before the rope reaches its capacity. This wire rope must be discarded and not be used.



A kink permanently weakens the wire rope, even after it is straightened out. Kinked wire rope can fail suddenly and must not be used.

19. Keep children and bystanders away while operating. Distractions can cause you to lose control.
20. Stay alert, watch what you are doing and use common sense when operating. Do not use a winch while you are tired or under the influence of drugs, alcohol or medication. A moment of inattention while operating winches may result in serious personal injury.
21. Do not overreach. Keep proper footing and balance at all times. This enables better control of the Winch in unexpected situations.
22. Hook onto the object using a pulling point, tow strap or chain. Do not wrap the Wire Rope around the object and hook onto the Wire Rope itself. This can cause damage to the object being pulled, and kink or fray the Wire Rope.
23. **Do not use a Recovery Strap while winching.** They are designed to stretch and can suddenly whip back towards the operator during a winching operation.
24. Secure load after moving.
NO LOCKING MECHANISM.
25. Keep at least 5 full turns of Wire Rope on drum. The Wire Rope's connection to the drum is not intended to sustain a load without the added support from the friction of at least 5 full turns of Wire Rope.
26. Wrap Wire Rope under 500 lb. tension before use. Otherwise, Wire Rope may bind during operation.

27. Keep clear of Wire Rope, Hook, and load while winching. Do not step over Wire Rope. **Do not push sideways against Wire Rope under tension; Wire Rope might break under this load and recoil back, striking the person pushing against it or a bystander.**
28. If Wire Rope begins to get entangled, stop Winch immediately and release Wire Rope using switch.
29. Only winch with the winching vehicle's transmission in neutral. Winching with a vehicle's transmission in gear or park may damage the transmission. A vehicle's transmission is not designed to handle that type of load.
30. Broken strands of Wire Rope will be sharp. Wear heavy-duty work gloves when handling the Wire Rope. Do not slide Wire Rope through hands, even with gloves on.
31. Do not operate the Winch at extreme angles. Do not exceed the angles shown in Figure A.

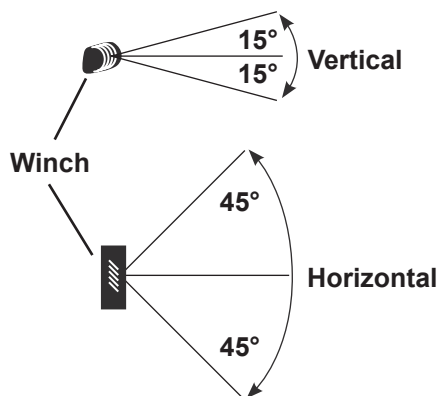


Figure A: Maximum Winching Angles

32. If the object to be pulled must be pulled at an angle in relation to the Winch, use a pulley (sold separately) and an anchor point directly in front of the Winch, as shown in Figure B, to keep the Wire Rope pull straight.

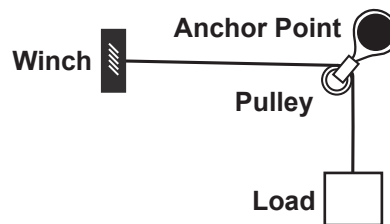


Figure B: Pulley Anchoring

33. Winch motor will be hot during and after use. Keep clear.
34. Do not power the hook all the way into the Winch.
35. People with pacemakers should consult their physician(s) before use. Electromagnetic fields in close proximity to heart pacemaker could cause pacemaker interference or pacemaker failure.

Service Specific Safety Information



1. Wear ANSI-approved safety goggles and heavy-duty leather work gloves during service.
2. Disconnect power to Winch and allow it to cool completely before service.
3. Use supplied power cables and wire rope or replacement cables listed in manual only. Do not use thinner/longer cables or link multiple cables together.
4. Have the Winch serviced by a qualified repair person using only identical replacement parts. This will ensure that the safety of the Winch is maintained.
5. Maintain labels and nameplates on the Winch. These carry important safety information. If unreadable or missing, contact Harbor Freight Tools for a replacement.
6. **WARNING:** Handling the cord on this product will expose you to lead, a chemical known to the State of California to cause cancer, and birth defects or other reproductive harm. Wash hands after handling. (California Health & Safety Code § 25249.5, *et seq.*)



SAVE THESE INSTRUCTIONS.

Specifications

Power Supply	12VDC Battery (not included)
Rated Capacity	Dead Pull: 2000 lb. Marine Pull: 5000 lb. Rolling Stock Pull: 6000 lb.
Maximum Boat Weight	5,000 lb. – (about 18 ft. Boat Length)

Drum (Dia. x L)	1" x 3-1/8"
Overall Dimensions	9-1/2" L x 7-1/2" W x 10" H
Wire Rope	Ø3/16" x 30' Galvanized Steel
Hook Opening	11/16"

Line Pull		Line Speed		Amp Draw
lb.	kg.	fpm	mpm	
0	0	4.5	1.4	3.1
500	227	3.6	1.1	6
1000	454	2.9	2.3	11
1500	680	2.3	0.9	17
2000	907	1.7	0.5	21

Layer	Rated Line Pull		Cable Capacity	
	lb.	kg.	feet	meters
1	2000	907	4.7	1.4
2	1520	689	10.8	3.3
3	1226	556	18.4	5.6
4	1027	466	27.5	8.4
5	884	401	38.0	11.6

Installation and Setup



Read the **ENTIRE IMPORTANT SAFETY INFORMATION** section at the beginning of this manual including all text under subheadings therein before set up or use of this product.

Note: For additional information regarding the parts listed in the following pages, refer to *Parts List and Diagram* on page 14.

Temporary Winch Mounting

- Use the Adapter Plate (56) to temporarily attach the Winch to a 2" hitch ball on a vehicle.
- The Adapter Plate has three pre-mounted Plate Stud Bolt (55) / Nut (61) / Lock Washer (62) sets. Push the Bolt heads into the keyhole slots on the bottom of the Frame Assembly (31) and slide them into the narrow section of the keyholes.
- Bolt Adapter Plate to Winch Frame Assembly using holes provided to lock components together.
- Place teardrop-shaped hole in Adapter Plate over hitch ball.

WARNING! At the start of winching when using temporary winch mounting, take up slack slowly and make sure Winch is securely and properly mounted to hitch ball.

WARNING! Remove Winch after use. Do not drive vehicle with Winch temporarily mounted.

Permanent Winch Mounting

- Select a mounting site on the boat trailer, vehicle bumper, truck bed, or other suitable location.
- If a mounting plate (not included) is used, it must be flat and rated to at least the Winch's capacity.
- Align the Winch perpendicular to the center line of the vehicle at the desired location. Use mounting holes in the Winch Frame Assembly (31) as a template to mark the spots where holes will need to be drilled in the installation surface.
- Before drilling, verify that the installation surface has no hidden components or structural pieces that will be damaged.
- Drill 3/8" holes at the marked locations.
- Bolt the Winch to the installation surface using 3/8" galvanized/zinc plated bolts, nuts and washers (not included) of SAE Grade 5 or higher.

Wiring

⚠ WARNING



TO PREVENT SERIOUS INJURY FROM EXPLOSION DUE TO SPARKING AT THE BATTERY CONNECTION:

Disconnect the Battery Cable before making other wiring connections.



TO PREVENT SERIOUS INJURY FROM LEAKING BATTERY ACID: Do not use a dirty, corroded or leaking battery. Only use a 12V automotive (or equivalent) battery, in good condition.

Depending on your level of electrical wiring knowledge, you may have these procedures performed by a qualified technician.

Note: Use of a circuit breaker is highly recommended to protect the vehicle and battery from damage from winch failure/overload. A 50-amp circuit breaker (not included) should be installed in a safe location as close to the vehicle's battery as possible. The circuit breaker will be installed in line with the Winch's Battery Cable (8) and the vehicle battery. Use two solderless, insulated, 12-10 AWG ring tongue terminals (not included) to install the circuit breaker.

Temporary Wiring

1. Remove the protective cover on the right side of the Winch body and insert the female Battery Cable Plug (7) at the end of the Battery Cable (8) into the male socket on the Winch. The plug fits into the socket only one way for correct polarity.
2. Route the Battery Cable from the Winch to the battery, being careful to avoid tangling it in moving equipment, or causing a tripping hazard.
3. Connect the Black Battery Clamp of the Battery Cable to the frame of the vehicle, establishing a ground connection. Connect the Red Battery Clamp to the Positive (+/Red) terminal of the battery.
4. Insert the male Remote Control Cable Plug (66) at the end of the Remote Control Cable (67) into the female socket on the right side of the Winch body. The plug fits into the socket only one way for correct polarity.

Permanent Wiring

1. Plan a route for the wiring, from the point of the vehicle where the Winch will be mounted, to the battery. This route must be secure, out of the way of moving parts or road debris, and free of any possibility of being damaged by operation or maintenance of the vehicle. For example, route the wires under the vehicle, attaching them to the frame using suitable fasteners. Do not attach wires to the exhaust system, drive shaft, emergency brake cable, fuel line, or any other components which may create damage to the wiring through heat or motion, or create a fire hazard.
2. If holes are drilled through the bumper or any part of the vehicle body to route the wires, install rubber grommets in the holes to prevent fraying of the wires at that point.
3. Following the precautions discussed above, route the Battery Cable (8) from the point where the Winch will be mounted, to the battery.
4. Remove the Red Battery Clamp from the red wire and attach the wire to the Positive (+/Red) terminal of the battery.
5. Remove the Black Battery Clamp from the black wire and attach the wire to the frame of the vehicle, creating a secure electrical ground.
6. Follow the steps in *Temporary Wiring* to attach the Battery Cable Plug and the Remote Control Cable Plug to the Winch.

Preparing the Wire Rope

1. The Wire Rope must be properly coiled under tension to be able to support a load without damage.
2. Uncoil the Wire Rope, except for 5 full wraps.
3. Recoil the Wire Rope back into the Winch under at least 500 lb. of tension.

Attaching the Hand Crank

1. Attach the Hand Crank (21) only when manually rewinding.

CAUTION! Do not operate the Winch electrically when the Hand Crank is installed. Do not use the Hand Crank to assist the Winch when it is electrically powered. This will damage the Winch and may cause personal injury.

2. To attach the Hand Crank, tighten the clutch first by turning the Clutch Knob (22) clockwise until hand tight. Remove the outer Lock Nut and slide the Hand Crank over the threaded shaft up against the inner Lock Nut. Secure Hand Crank in place with the outer Lock Nut. See Figure C.

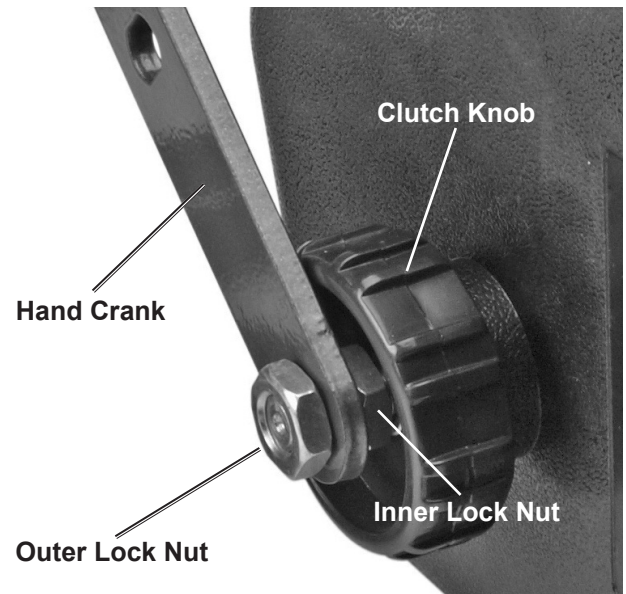


Figure C: Hand Crank Attachment

Operation Instructions



Read the **ENTIRE IMPORTANT SAFETY INFORMATION** section at the beginning of this manual including all text under subheadings therein before set up or use of this product. The instructions that follow are basic guidelines only and cannot cover all situations encountered during use. The operator and assistants must carefully plan usage to prevent accidents.

WARNING

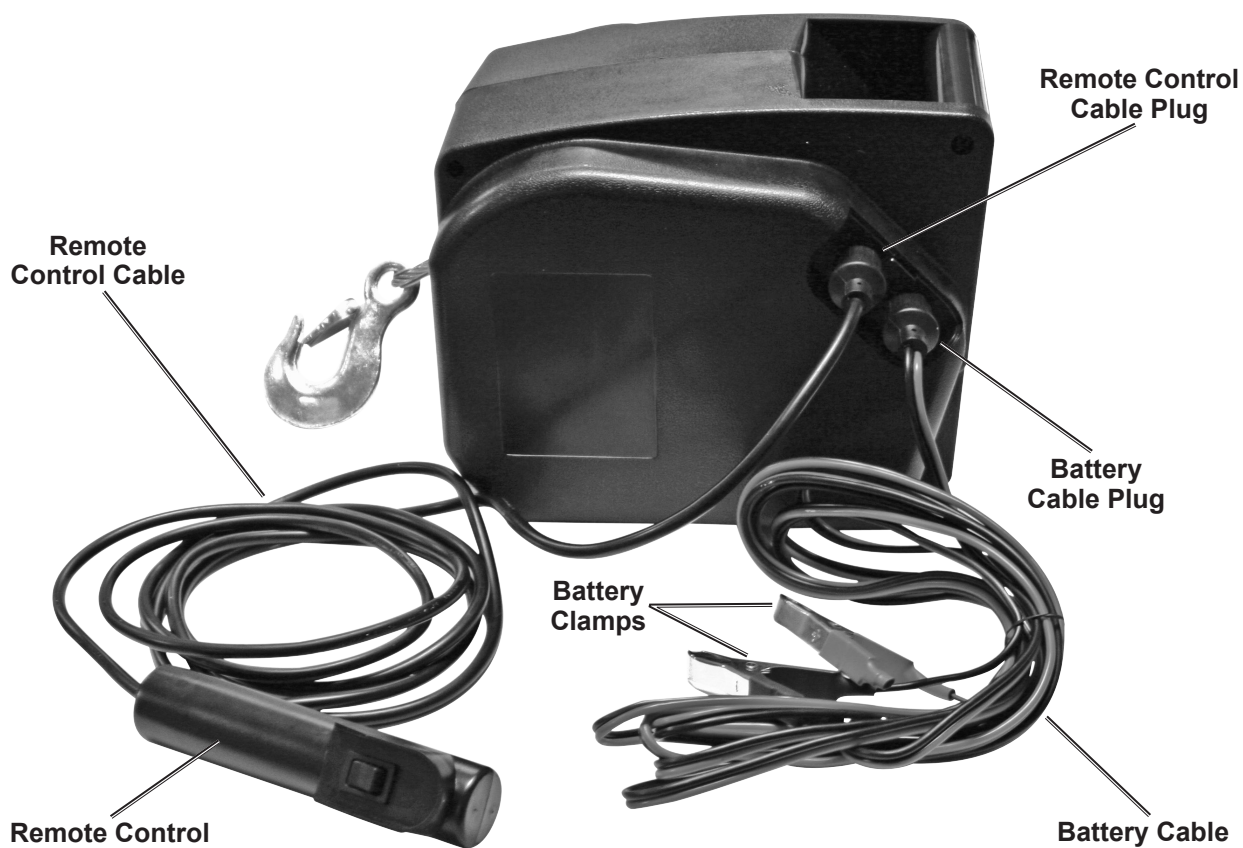
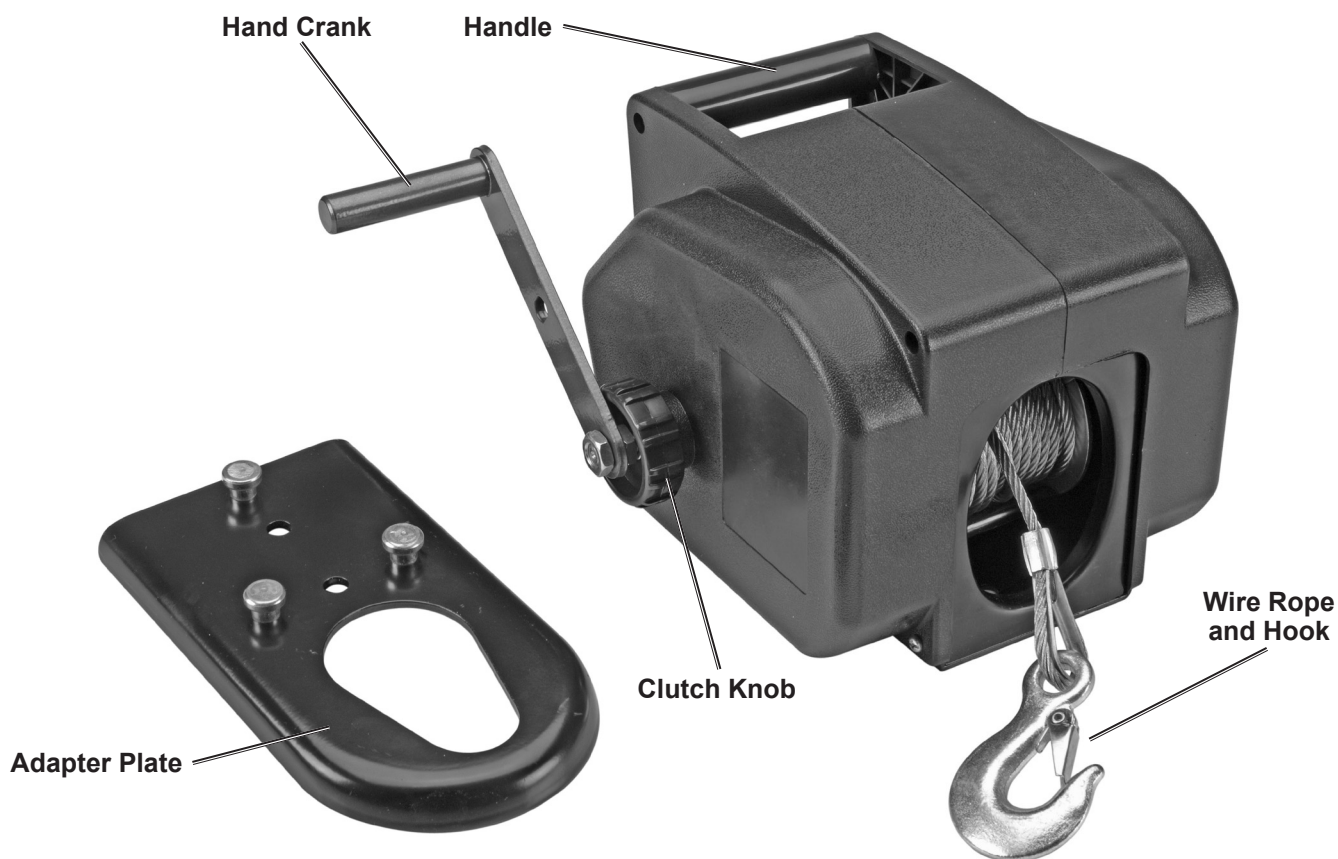
TO PREVENT SERIOUS INJURY: Operation of a winch involves more than depressing the power switch. The use of winches is subject to certain hazards that cannot be met by mechanical means, but only by the exercise of intelligence, care, common sense, and experience in anticipating the motions that will occur as a result of operating the controls.

Do not use this tool for vertical lifting.

Before Operating Winch

1. Familiarize yourself with all operating controls of the Winch and with the operation(s) to be performed. Instructions include the warnings on the Winch and the safety and operating instructions portion of this manual.
2. **WARNING! TO PREVENT SERIOUS INJURY FROM WINCH FAILURE:** Do not use damaged equipment. If adjustments or repairs are necessary, or any defects are known, have the problem corrected before further use.

Components and Controls



SAFETY

SETUP

OPERATION

MAINTENANCE

Basic Operation

SAFETY

1. Examine the Wire Rope. Do not use the Winch if the Wire Rope is frayed, kinked or damaged.
2. Fully charge the vehicle's battery.
3. Check the Winch's electrical connections. All connections must be tight and clean.
4. Put the vehicle's transmission in Neutral.
5. If the vehicle where the Winch is mounted is not supposed to be moved, engage the emergency brake and block the wheels using wheel chocks (sold separately).
6. To pull out the Wire Rope, disengage the clutch by loosening two Lock Nuts and turning the Clutch Knob (22) counterclockwise to loosen it. Slide the loop of a hook strap (not included) over the Hook, then pull on the hook strap to pull out the Wire Rope.

WARNING! Leave at least five turns of the Wire Rope on the drum.

7. Hook onto the object using a pulling point, tow strap, tree strap, or chain. See Figure D.

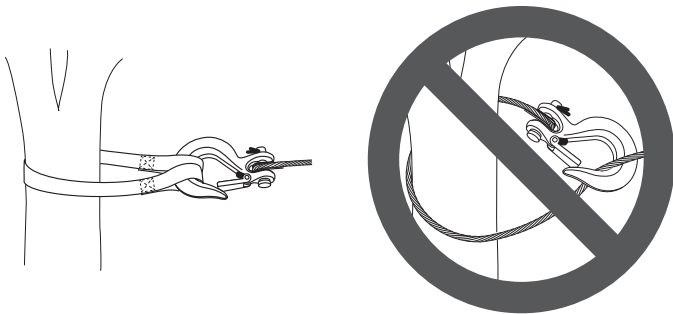


Figure D: Using a Strap Anchor Point



Do not wrap the Wire Rope around the object and hook onto the Wire Rope itself.

This can damage the object being pulled, and kink or fray the Wire Rope.

SETUP

8. Attachment point must be centered in loop of Hook and the Hook's safety clasp must be fully closed. See left side diagram of Figure E.
9. Do not apply the load to the point of the Hook. See right side diagram of Figure E.

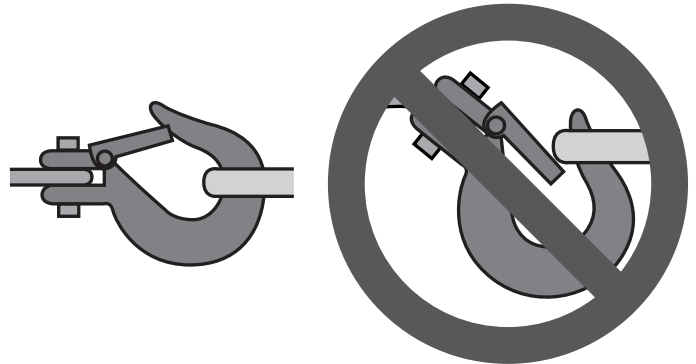


Figure E: Correct and Incorrect Hook Attachment

10. **Do not use a Recovery Strap while winching.** They are designed to stretch and can suddenly whip back towards the operator during a winching operation.
 11. Place a heavy blanket or carpet (not included) over the Wire Rope span 6 feet from hook to help absorb the force released if the Wire Rope breaks.
 12. Re-engage the clutch by turning the Clutch Knob (22) clockwise until hand tight. Do not force it or overtighten.
- WARNING!** Do not allow anyone to stand near the Wire Rope, or in line with the Wire Rope behind the Winch while it is under power. If the Wire Rope should slip or break, it can suddenly whip back towards the Winch, causing a hazard for anyone in the area. Stand well to the side while winching.
13. Operate the Remote Control briefly to ensure it is working properly.

OPERATION

MAINTENANCE

Double Line Rigging

- A double line system should be used whenever possible. It reduces the load on the Winch, allowing it to work longer with less heat buildup. It reduces load on the Winch in two ways:
 - It utilizes the lower layers of Wire Rope that have higher capacity, and
 - It halves the load on the Winch through pulley action.
- Use a pulley block (sold separately) properly rated for the load to be pulled and designed to be operated with this Winch's Wire Rope.
- Loop the Wire Rope around the pulley and connect to another part of the vehicle's chassis or to a separate anchor point. **Do not anchor the Wire Rope back to the Winch or winch mount.**

Note: If anchoring the winching vehicle, only attach the anchor line to the front of the vehicle. If the anchor line is attached to the rear of the vehicle, the vehicle's frame may be damaged by the forces exerted by winching.

- When it is safe to do so, use the power switch on the Remote Control to retract the Wire Rope, and winch the item as desired. **Do not power the hook all the way into the Winch to prevent damage.**
- To rewind the Winch manually, attach the Hand Crank (21) as described in *Attaching the Hand Crank* on page 8. Turn the Hand Crank clockwise to retract the Wire Rope and move the load.

CAUTION! Do not operate the Winch electrically when the Hand Crank is installed. **DO NOT USE** the Hand Crank to assist an operating Winch. This will damage the Winch and may cause personal injury.

- Do not operate the Winch at extreme angles. Do not exceed the angles shown in Figure A.

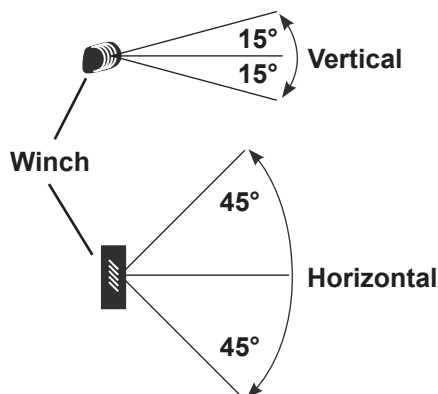


Figure A: Maximum Winching Angles

- If the object to be pulled must be pulled at an angle in relation to the Winch, use a pulley (sold separately) and an anchor point directly in front of the Winch, as shown in Figure B, to keep the Wire Rope pull straight.

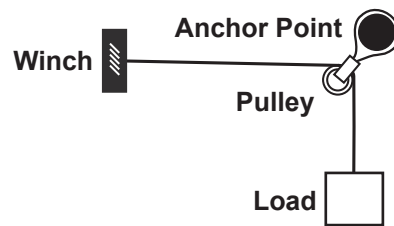


Figure B: Pulley Anchoring

- WARNING!** Stop the Winch and release tension on the Wire Rope before moving the blanket or carpet placed on it.
- Do not continue use of the Winch until the battery is completely run down.
- When possible, keep the engine running while using this Winch, to continually recharge the battery and prevent the battery from being drained so much that the vehicle cannot start. However, exercise extreme caution when working around a running vehicle and **ONLY** operate a vehicle in an outdoor area.

CAUTION! Do not use the Winch in a constant duty application—it is designed for **INTERMITTENT USE ONLY**. Keep the duration of the pulling job as short as possible. If the motor becomes very hot to the touch, stop and let it cool down for several minutes. Do not pull for more than one minute at or near the rated load. Do not maintain power to the Winch if the motor stalls. **Double Line Rigging will help prevent overloading and should be used whenever practical.**

- When finished pulling the load, release tension on the Wire Rope, unfasten the Hook from the load and reel in the Wire Rope.
- To prevent accidents, disconnect the power supply and Remote Control after use. Clean, then secure and cover the Winch when not in use. If the Wire Rope gets wet, dry it and then apply light oil right after use.

Maintenance and Servicing



Procedures not specifically explained in this manual must be performed only by a qualified technician.

WARNING



TO PREVENT SERIOUS INJURY FROM ACCIDENTAL OPERATION:
Remove any load, release the operating controls, disconnect the Battery Cable before performing any inspection, maintenance, or cleaning procedures.

TO PREVENT SERIOUS INJURY FROM WINCH FAILURE:
Do not use damaged equipment. If abnormal noise or vibration occurs, have the problem corrected before further use.


Cleaning, Maintenance, and Lubrication

- BEFORE EACH USE**, inspect the general condition of the Winch. Check for:
 - loose hardware
 - misalignment or binding of moving parts
 - cracked or broken parts
 - damaged electrical wiring
 - corroded or loose terminals
 - frayed, kinked or damaged wire rope
 - any other condition that may affect its safe operation.
- AFTER USE**, wipe external surfaces of the Winch with clean cloth.
- Lubricate the Wire Rope occasionally with a light oil.
- Every six months, remove two Lock Nuts and the Clutch Knob (22) and separate the Left and Right Shells (2, 5) to grease the Gears. Use any good quality, waterproof gear grease.
- If the Winch becomes wet during use, remove the Clutch Knob, separate the Left and Right Shells, dry all parts, then grease and lubricate as in steps 3 and 4 above.
- If the Winch is exposed to salt water, rinse with fresh water and allow to drain thoroughly, then dry completely as in step 5 and grease and lubricate as in steps 3 and 4 above.
- Do not pull battery wires against any surfaces which could damage them.
- If the Winch is permanently mounted, periodically remove and clean wire connections to the battery. Corrosion will reduce performance or may cause a short.
- Secure and cover the Winch when not in use.

Wire Rope Replacement

- Disengage the clutch by turning the Clutch Knob (22) counterclockwise.
- Extend the Wire Rope to its full length, noting how the existing Wire Rope is connected to the inside of the drum.
- Remove old Wire Rope and attach new assembly.
- CAUTION:** Do not replace with inferior wire rope. Only use a wire rope rated to the same rating cited on the specification chart or better.
- Retract Wire Rope onto Wire Rope drum being careful not to allow kinking. Refer to instructions for tensioning the Wire Rope under *Preparing the Wire Rope* on page 7.
- Test Winch for proper operation.

Troubleshooting

Problem	Possible Causes	Likely Solutions
Motor overheats.	<ol style="list-style-type: none"> 1. Incorrect power cords. 2. Winch running time too long. 	<ol style="list-style-type: none"> 1. Use only supplied power cords. 2. Allow Winch to cool down periodically.
Motor does not turn on.	<ol style="list-style-type: none"> 1. Switch not connected properly. 2. Loose battery cable connections. 3. Vehicle battery needs charging. 4. Defective Switch. 5. Defective motor. 6. Water has entered motor. 7. Internal damage or wear. 	<ol style="list-style-type: none"> 1. Connect Switch properly. 2. Tighten nuts on all cable connections. 3. Fully charge battery. 4. Replace Switch. 5. Check for voltage at armature port with Switch pressed. If voltage is present, replace motor. 6. Allow to drain and dry. Run in short bursts without load until completely dry. 7. Have technician service Winch.
Motor runs slowly or without normal power.	<ol style="list-style-type: none"> 1. Insufficient current or voltage. 2. Loose or corroded battery cable connections. 3. Incorrect power cords. 	<ol style="list-style-type: none"> 1. Battery weak, recharge. Run Winch with vehicle motor running. 2. Clean, tighten, or replace. 3. Use only supplied power cords.
 <p>Follow all safety precautions whenever diagnosing or servicing the tool. Disconnect power supply before service.</p>		

SAFETY

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PLEASE READ THE FOLLOWING CAREFULLY

THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS LIST AND ASSEMBLY DIAGRAM IN THIS MANUAL AS A REFERENCE TOOL ONLY. NEITHER THE MANUFACTURER OR DISTRIBUTOR MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND TO THE BUYER THAT HE OR SHE IS QUALIFIED TO MAKE ANY REPAIRS TO THE PRODUCT, OR THAT HE OR SHE IS QUALIFIED TO REPLACE ANY PARTS OF THE PRODUCT. IN FACT, THE MANUFACTURER AND/OR DISTRIBUTOR EXPRESSLY STATES THAT ALL REPAIRS AND PARTS REPLACEMENTS SHOULD BE UNDERTAKEN BY CERTIFIED AND LICENSED TECHNICIANS, AND NOT BY THE BUYER. THE BUYER ASSUMES ALL RISK AND LIABILITY ARISING OUT OF HIS OR HER REPAIRS TO THE ORIGINAL PRODUCT OR REPLACEMENT PARTS THERETO, OR ARISING OUT OF HIS OR HER INSTALLATION OF REPLACEMENT PARTS THERETO.

Parts List

Part	Description
1	Screw
2	Left Shell
3	Handle
4	Nut
5	Right Shell
6	Socket
7	Battery Cable Plug
8	Battery Cable
9	Battery Clamp
10	Remote Control Switch
11	Front Remote Control Housing
12	Rear Remote Control Housing
13	Self-Tapping Screw
14	Spring Lock
15	Hexagon Shaft
16	Lock Washer
17	Large Gear Assembly 1
18	Screw
19	Small Gear Assembly 1
20	Shaft Assembly
21	Hand Crank
22	Clutch Knob
23	Friction Plate
24	Large Gear Assembly 2
25	Plate
26	Lock Washer
27	Bearing
28	Circuit Breaker
29	Lock Washer
30	Nut
31	Frame Assembly
32	Motor
33	Lock Washer
34	Screw

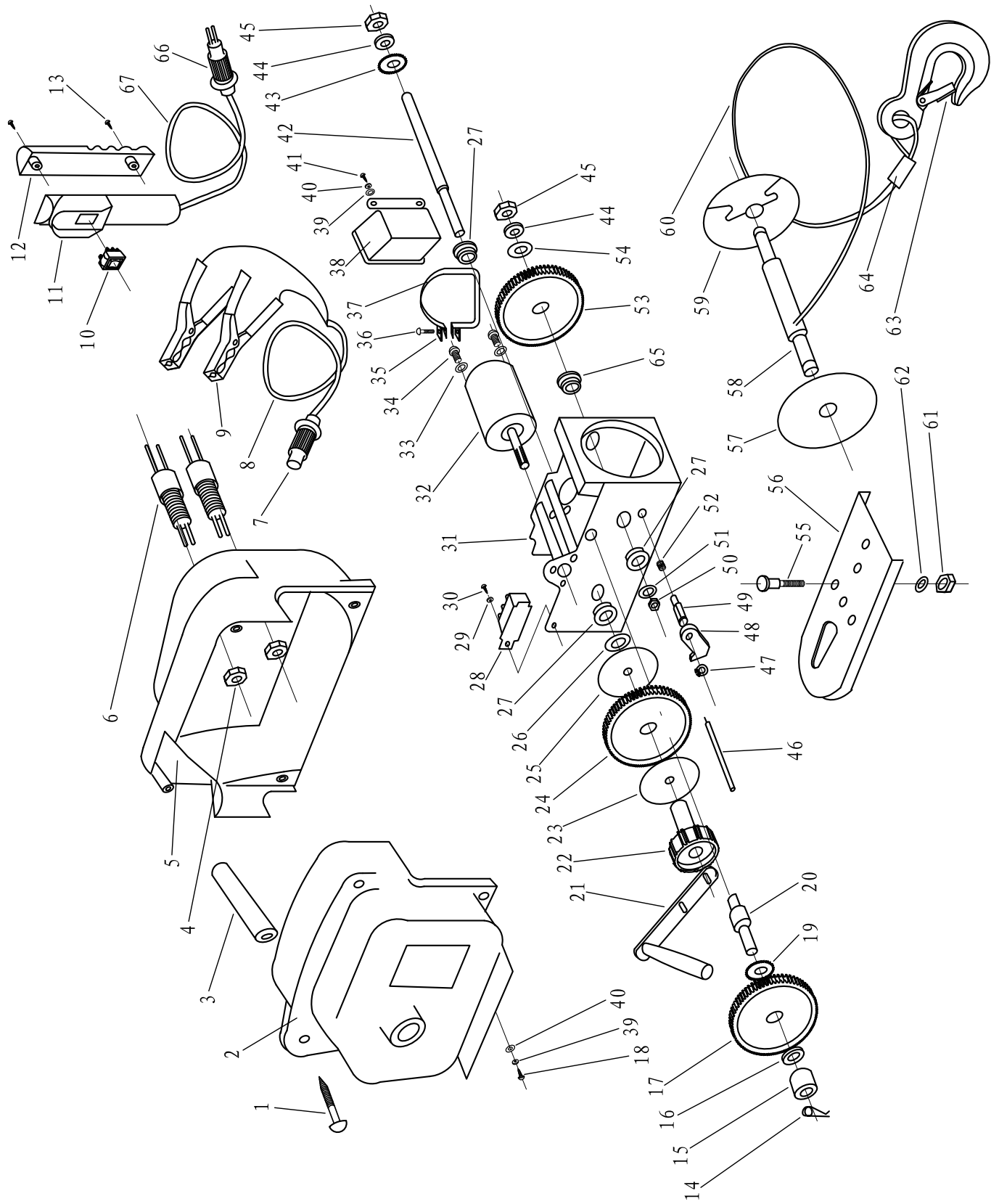
Part	Description
35	Clamp
36	Screw
37	Clamp
38	Relay
39	Lock Washer
40	Lock Spring
41	Screw
42	Shaft
43	Small Gear Assembly 2
44	Lock Washer
45	Nut
46	Shaft
47	Lock Washer
48	Claw Lock
49	Shaft Lock
50	Nut
51	Lock Washer
52	Spring
53	Large Gear Assembly 3
54	Lock Washer
55	Plate Stud Bolt
56	Adapter Plate
57	Plate
58	Shaft
59	Plate
60	Wire Rope
61	Nut
62	Lock Washer
63	Hook
64	Cable Sleeve
65	Bearing
66	Remote Control Cable Plug
67	Remote Control Cable

Record Product's Serial Number Here: _____

Note: If product has no serial number, record month and year of purchase instead.

Note: Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.

Assembly Diagram



SAFETY

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Limited 90 Day Warranty

Harbor Freight Tools Co. makes every effort to assure that its products meet high quality and durability standards, and warrants to the original purchaser that this product is free from defects in materials and workmanship for the period of 90 days from the date of purchase. This warranty does not apply to damage due directly or indirectly, to misuse, abuse, negligence or accidents, repairs or alterations outside our facilities, criminal activity, improper installation, normal wear and tear, or to lack of maintenance. We shall in no event be liable for death, injuries to persons or property, or for incidental, contingent, special or consequential damages arising from the use of our product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation of exclusion may not apply to you. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS.

To take advantage of this warranty, the product or part must be returned to us with transportation charges prepaid. Proof of purchase date and an explanation of the complaint must accompany the merchandise. If our inspection verifies the defect, we will either repair or replace the product at our election or we may elect to refund the purchase price if we cannot readily and quickly provide you with a replacement. We will return repaired products at our expense, but if we determine there is no defect, or that the defect resulted from causes not within the scope of our warranty, then you must bear the cost of returning the product.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.



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