

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.

22k

BADLAND[®] APEX[™]

TRUCK / SUV WINCH 12000 LB.



WIRE ROPE

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

57918

When unpacking, make sure that the product is intact and undamaged. If any parts are missing or broken, please call 1-888-866-5797 as soon as possible.

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⚠ WARNING





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

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Specifications


Rated Single Line Pull	12,000 lb (5443 kg)	Fairlead	Steel Roller Fairlead
Application	Vehicle Recovery / For Trucks and SUV's	Sound Rating	85 dB
Motor	12VDC Series Wound	Wire Rope Size / Type	Ø0.375" x 80' (Ø9.5mm x 24.4m)
Power IN & Power OUT	Yes	Battery	12VDC Minimum 650 CCA
Duty Cycle Rating	5% (45 sec at Max Rated Load; 14 min, 15 sec Rest)	Battery Cables	Minimum 2 AWG x 6'
Remote Control	Wireless/Wired, 12 ft (3.7m) long	Mounting Bolt Pattern	10" x 4.5" (254 mm x 114.3mm)
Gear Train	3-Stage Planetary	Mounting Hardware	Winch: 8x Gr8.8, M10 x 30mm Fairlead: 2x Gr8.8, M12-1.75 x 25mm
Gear Ratio	210:1	Overall Dimensions (L x D x H)	23.2" x 6.67" x 9.96" (590mm x 169.5mm x 253mm)
Freespool	Rotating Ring Gear	Shipping Weight	103.95 lb (47.15 kg)
Brake	Automatic Load Holding	IP Rating	IP68 / IP69K
Drum (Dia. x L)	2.5" x 8.8" (64mm x 224mm)		
Clevis Hook	3/8", Replaceable with Spring-loaded Safety Latch		












Layer	Rated Line Pull	Wire Rope Capacity
 1	12000 lb (5443 kg)	16.3' (5m)
 2	9517 lb (4317 kg)	37' (11m)
 3	7885 lb (3577 kg)	60' (18.3m)
 4	6732 lb (3054 kg)	80' (24.4m)



First Layer of Wire Rope Performance

	Line Pull lb (kg)	Line Speed fpm (mpm)	Amp Draw (@ 12V)
 1	0 (0)	32.6 (9.9)	51
	3000 (1361)	12.1 (3.7)	157
	6000 (2722)	8.9 (2.7)	238
	9000 (4082)	6.7 (2.0)	318
	12000 (5443)	4.1 (1.25)	429

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.
⚠ DANGER	Indicates a hazardous situation which, if not avoided, will result in death or serious injury.
⚠ WARNING	Indicates a hazardous situation which, if not avoided, could result in death or serious injury.
⚠ CAUTION	Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
NOTICE CAUTION	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.
	Do not place finger(s) through hook. Fingers may be caught and get pulled into fairlead or drum.
	Pull hook using strap only.

Symbol	Property or Statement
	Do not use winch in overwind orientation. (Wire rope enters/exits at the top.)
	Use winch only in underwind orientation. (Wire rope enters/exits at the bottom.)
VDC	Volts Direct Current
A	Amperes
CCA	Cold Cranking Amperes
HP	Horsepower
fpm	Feet Per Minute
mpm	Meters Per Minute
RPM	Revolutions Per Minute
IP	International Protection rating Classifies the degrees of protection provided against the intrusion of solid objects, dust, accidental contact, and water.
G8	Grade 8 A fastener strength rating.

IMPORTANT SAFETY INFORMATION



WARNING! Read all instructions. Failure to follow all instructions listed on page 4 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 Precautions



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. Use supplied power cords and wire rope listed in manual only. Do not use thinner/longer cables or link multiple cables together.
6. 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 the red cable to the Disconnect Switch, then connect the 12" 2AWG cable to the Disconnect Switch and the positive battery terminal. Connect the black cable to the negative battery terminal.
12. Insulate all exposed wiring and terminals after installation.
13. Install Winch and Fairlead in underwind orientation, so that the Wire Rope enters and exits the Winch at the bottom of the drum.

Service Precautions



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 cords, wire rope or 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.



SAVE THESE INSTRUCTIONS.

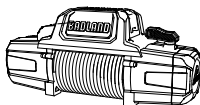
Installation and Setup



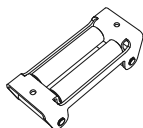
Read the **ENTIRE IMPORTANT SAFETY INFORMATION** section at the beginning of this manual including all text under subheadings therein before set up or use of this product.

What's in the Box

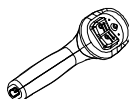
Winch x 1



Roller Fairlead x 1



Remote Control x 1



Remote Control Cable x 1



Hook x 1



Ground Cable x 1



Disconnect Switch Cable x 1



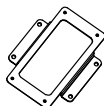
Disconnect Switch x 1



Red Hook Strap x 1



Control Box Baseplate x 1



Sheath (red, black, yellow) x 3



Extended Copper Screw x 3



Small Black Wire Extension x 1



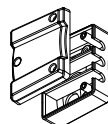
Small Black Wire Connector x 1



Power Cables (relocation kit) x 3



Terminal Box x 1
Terminal Box Cover x 1



Instruction Books



- Manual (this document)
- Guide to Winching

Mounting the Winch

- 1. Make sure the Winch will fit the chosen mounting area. If relocating the Control Box is necessary or desired, perform the removal and installation of cables to the Winch before mounting. Refer to *Relocating the Control Box* on page 8.
- 2. The mounting plate must be rated to at least the Winch's capacity.
- 3. Align the Winch perpendicular to center line of the vehicle at the desired location, and mark the locations of the winch base holes. Compare the dimensions of the marked holes to Figure A.
- 4. Before drilling, verify that the installation surface has no hidden components or structural pieces that will be damaged.

NOTE: This Winch can generate extreme forces. Select a location that can withstand the rated capacity without damage or weakening. Steel reinforcement plates may be needed or a certified welder may need to weld on additional bracing depending on the mounting location.

- 5. Drill holes appropriate for the hardware at the marked locations.

Note: Depending on the vehicle application, it may be beneficial to install the wiring before mounting the Winch. Check all terminal access and plan wiring routes before mounting the Winch.

- 6. Install the Winch using hardware specified on the specification chart. Tighten fasteners to the following torque values:

Winch mounting fasteners	30–33 ft-lb
--------------------------	-------------

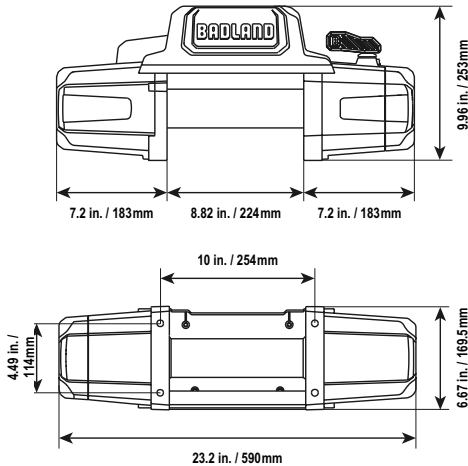


Figure A: Winch Dimensions

- 7. Mount the Fairlead centered on the Winch to guide the Rope onto the Winch drum.
- 8. Install the Fairlead using hardware specified on the specification chart. Tighten fasteners to the following torque values:

Fairlead mounting fasteners	53–57 ft-lb
-----------------------------	-------------

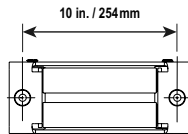


Figure B: Fairlead Mounting Dimensions

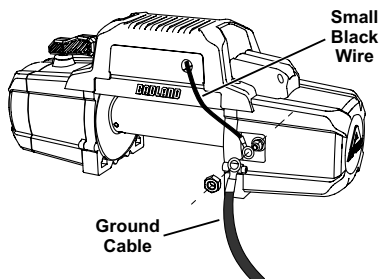
Relocating the Control Box (optional)



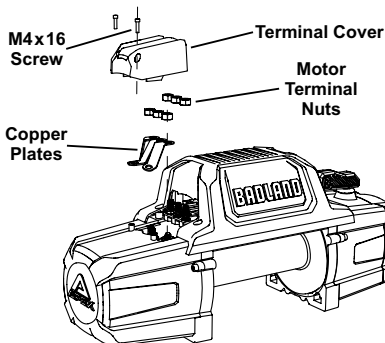
**TO PREVENT SERIOUS INJURY FROM EXPLOSION
DUE TO SPARKING AT THE BATTERY CONNECTION:**

**Unplug the Remote Control Cable and disconnect the Battery Cables
before making other wiring connections.**

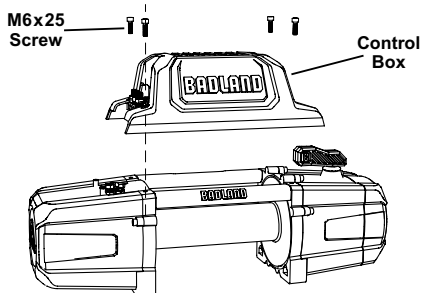
1. Engage the clutch on Winch.
2. Disconnect the vehicle battery cables, negative terminal first.
3. Disconnect the Ground Cable and Small Black Wire from terminal on rear of Winch. Make sure the Small Black Wire that connects to the Control Box is disconnected and hanging freely.



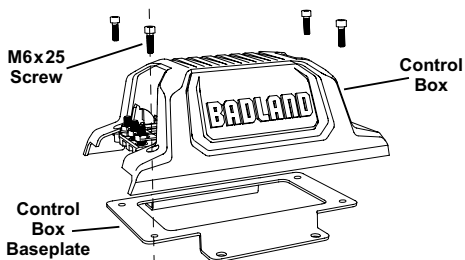
4. Remove the Terminal Cover by unscrewing two M4x16 Screws holding it in place. Remove the six Motor Terminal Nuts and three Copper Plates. Retain all the hardware.



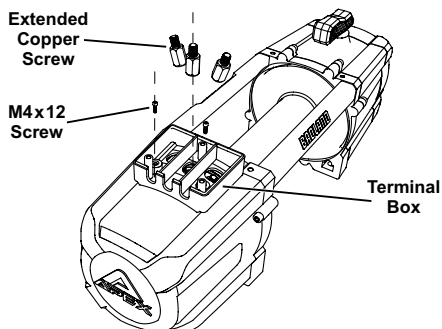
5. Remove four M6x25 Screws holding the Control Box in place and gently lift it off of the Winch.



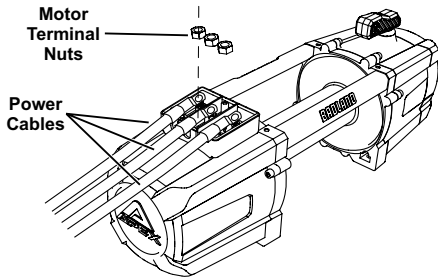
6. Attach the Control Box Baseplate to the Control Box using the four M6x25 Screws removed in step 5.



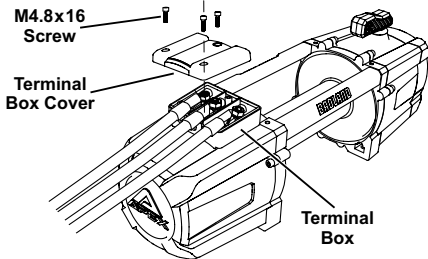
7. Install the three Extended Copper Screws to the terminal on the motor. Mount the Terminal Box on the Winch using two M4x12 screws. Do not overtighten screws.



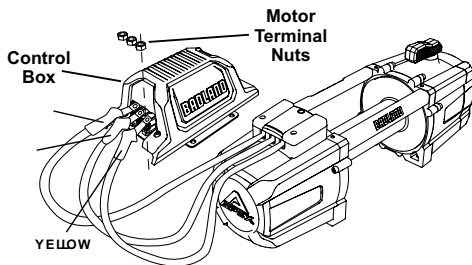
8. Connect three Power Cables (Control Box Relocation Kit) to the Extended Copper Screws on motor terminal using three of the Motor Terminal Nuts removed in step 4.



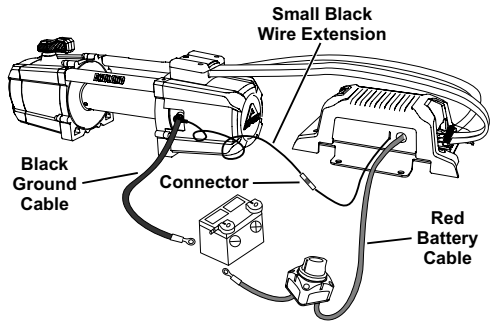
9. Install the Terminal Box Cover on the Terminal Box using three M4.8x16 Self-Tapping Screws. Do not overtighten screws.



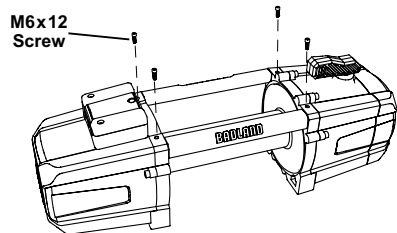
10. Connect three Power Cables (control box relocation kit) to the Control Box using remaining three Motor Terminal Nuts removed in step 4.



11. Use the Small Black Wire Connector and Small Black Wire Extension to lengthen the Small Black Wire from the Control Box. Reconnect the Ground Cable and Small Black Wire to the backside of the Winch motor.



12. Install the four decorative M6x12 Screws onto the Winch.



13. Place the Control Box on a solid mounting surface in a suitable place near enough to the Winch to allow the cables to be routed properly.

14. Verify that the installation surface has no hidden components or structural pieces that will be damaged before drilling.

15. Secure the Control Box assembly in place with Baseplate mounting hardware.

Wiring

⚠ WARNING



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

Unplug the Remote Control Cable and disconnect the Battery Cables 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.

1. Plan a route for the wiring from the point of the vehicle where the Winch will be mounted, or used, to the battery. This route must be secure, out of the way of moving parts, road debris, or any possibility of being damaged by operation or maintenance of the vehicle. For example, you may wish to route the wires under the vehicle, attaching it to the frame using suitable fasteners.

WARNING! TO PREVENT SERIOUS INJURY: Do not attach the 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 you drill through the bumper or any part of the body to route the wires, be sure to install a rubber grommet in the hole to prevent fraying of the wires at that point.
3. Route the Cables from the Winch to the battery, following the precautions discussed above. Refer to Figure C.

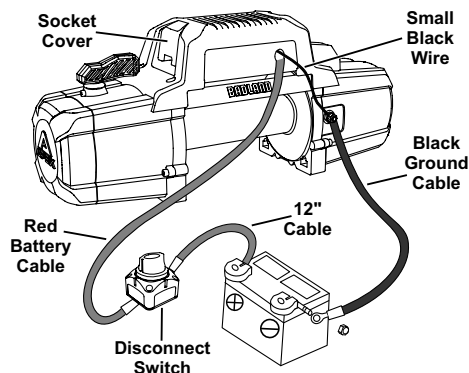


Figure C: Wiring Connections

4. Attach the 12" 2AWG Disconnect Switch Cable to the positive terminal on the battery.
5. Attach the 12" 2AWG Cable from the battery to either terminal on the Disconnect Switch.

6. Attach the red Battery Cable from the Winch to the remaining terminal on the Disconnect Switch.
7. Attach the black Ground Cable and the Small Black Wire to the terminal at the rear of the Winch.
8. Attach the black Ground Cable from the Winch directly to the negative terminal of the battery.
9. Lift the Socket Cover exposing the Remote Control socket and Wireless Receiver Switch. Connect the Remote Control Cable to the socket and the Remote for wired remote control. For wireless control do not use the Remote Control Cable and turn on the Wireless Receiver Switch. Refer to *Remote Control Instructions* on page 12.
10. Turn on the Disconnect Switch and operate the remote controls briefly to test Winch function and drum rotation direction. If operation is reversed, the Battery Cables may be connected backwards. Correct any such issue before use.

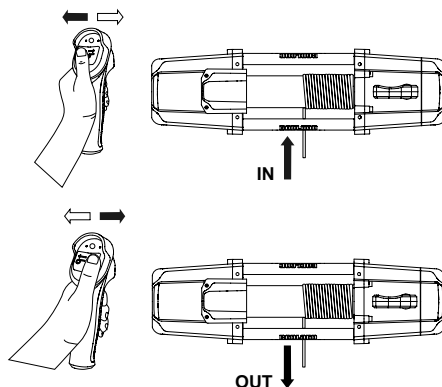


Figure D: Remote Controls

11. Disconnect and turn off the Remote Control when not in use.
12. Turn off the Disconnect Switch when the Winch is not in use or when the vehicle has returned to on-highway operation.

Disconnect Switch

WARNING! TO PREVENT SERIOUS INJURY: Off-highway driving subjects the vehicle and wiring to much higher vibrations than on-highway driving which can cause a breakdown of wiring insulation over time. Use the high current Disconnect Switch included with this Winch to turn OFF the power to the Winch when it is not in use to help reduce the risk of a short circuit.

1.

To use the Winch, use the Disconnect Switch to turn the power to the Winch ON.
2.

When the Winch is not in use, turn the Disconnect Switch OFF to reduce the risk of a short on the main power to the Winch.

Preparing the Wire Rope

The Wire Rope must be properly coiled under tension to be able to support a load without damage.

1.

Find a suitable location where the Rope can be spooled onto the Winch while anchored to a solid object. Approximately 70 feet will be required. Alternately, a snatch block (sold separately) may be used to reduce the distance to 35 feet.
2.

Move the Clutch Handle to the Freespool position and uncoil the Wire Rope until 5 wraps remain on the drum. Move the Clutch Handle back wto the Engaged position.
3.

Slowly and carefully move the vehicle in reverse to remove slack from the line.
4.

Place the vehicle in neutral. Spool the Wire Rope back into the Winch while gently applying the brakes. If the ground is flat, shallow mud or dirt, the brakes can be fully applied. Pavement can generate much higher loads, in which case only light braking is needed.
5.

Use a second person to monitor the rope spooling evenly onto the drum.
6.

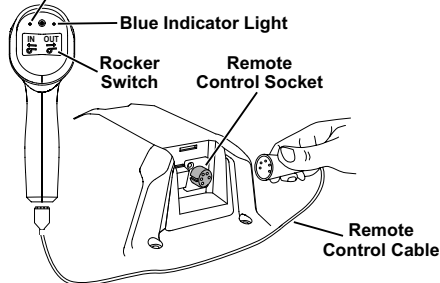
The last layer of Rope can be put on without tension.

Remote Control Instructions

Wired Operation

1. To use the Remote Control in a wired configuration, connect the Remote Control Cable to the bottom of the Remote Control and to the Remote Control Socket on the Control Box.

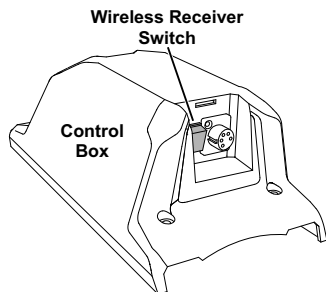
Red Indicator Light



2. The blue indicator light will come on indicating the Remote Control is ready for use.

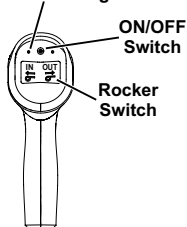
Wireless Operation

1. For wireless Remote Control operation, turn on the Wireless Receiver Switch on the Control Box.

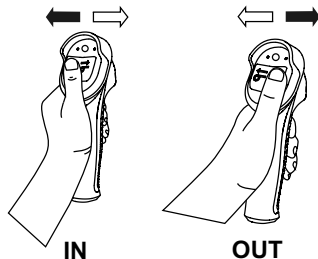


2. Press and hold the ON/OFF Switch on the Remote for approximately 2 seconds until the red indicator light comes on, indicating the Remote Control is ready for use.

Red Indicator Light



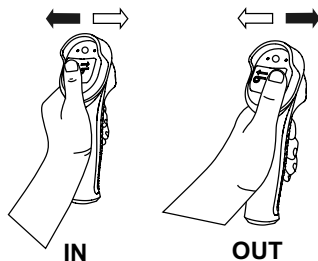
3. With the Clutch Handle in the Engaged position, press IN on the Rocker Switch to retract the Wire Rope— the red indicator light will flash during winding.



4. Press OUT on the Rocker Switch to extend the Wire Rope out.

3. With the Clutch Handle in the Engaged position, press IN on the Rocker Switch to retract the Wire Rope— the red indicator light will flash during winding.

4. Press OUT on the Rocker Switch to extend the Wire Rope out.



5. To turn off the Remote Control, press and hold the ON/OFF Switch until the red indicator light goes out, approximately 2 seconds. Turn off the Wireless Receiver Switch.

Note: The Remote Control will automatically shut itself off after 2 minutes of inactivity to save the battery.

Operation

Before operating this Winch, refer to the Harbor Freight Tools publication *Guide to Winching* included with the Winch for important operational safety information, winch basics, winching tips, and general winch operating procedures. If this guide is unreadable or missing, contact Harbor Freight Tools for a replacement.



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

BADLAND®

SAFETY

SETUP

OPERATION

MAINTENANCE

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:

Unplug the Remote Control Cable and disconnect the Battery Cables 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
 - any other condition that may affect its safe operation.
- AFTER USE**, wipe external surfaces of the Winch with clean cloth. If the Winch is submerged during use, rinse thoroughly with fresh, clean water when finished.
- The Winch's internal mechanism is permanently lubricated. Do not open the housing.


Examine the Wire Rope. Do not use the Winch if the Rope is frayed, kinked or damaged.

Wire Rope Replacement

- Move Clutch Handle to the Freespool position.
- Extend the Wire Rope to its full length, noting how the existing Rope is connected to the inside of the drum.
- Remove old Wire Rope and attach new assembly.
- Retract Wire Rope onto Rope drum being careful not to allow kinking. Refer to instructions for tensioning the Wire Rope under *Preparing the Wire Rope* on page 11.
- Test Winch for proper operation.

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.

Troubleshooting

Problem	Possible Causes	Likely Solutions
Motor overheats.	<ol style="list-style-type: none"> 1. Incorrect power cords. 2. Winch running time too long. 3. Insufficient current or voltage. 4. Loose motor connections. 	<ol style="list-style-type: none"> 1. Use only supplied power cords. 2. Allow Winch to cool down periodically. 3. Fully charge battery. Run Winch with vehicle motor running. 4. Check and tighten motor connections to Control Box.
Motor does not turn on.	<ol style="list-style-type: none"> 1. Remote Socket not connected properly. 2. Loose battery cable connections. 3. Insufficient current or voltage. 4. Defective contactor. 5. Wireless Receiver Switch turned OFF. 6. Wireless Remote turned OFF. 7. Winch Disconnect Switch turned OFF. 8. Low batteries in Wireless Remote. 9. Defective motor. 10. Loose Control Box ground cable. 11. Internal wear or damage. 	<ol style="list-style-type: none"> 1. Insert Remote Socket all the way into connector. 2. Tighten nuts on all cable connections. 3. Fully charge battery. Run Winch with vehicle motor running. 4. Replace Control Box. 5. Turn ON Wireless Receiver Switch. 6. Turn ON Wireless Remote. 7. Turn ON Winch Disconnect Switch. 8. Replace Remote batteries—CR2032, quantity two. 9. Check for voltage at armature port with Switch pressed. If voltage is present, replace motor. 10. Check and tighten ground cable to Control Box. 11. Replace motor.
Motor runs but drum does not turn.	Clutch not engaged.	Move the Clutch Handle to the Engaged position. If problem persists, a qualified technician needs to check and repair.
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.
Motor runs in one direction only.	<ol style="list-style-type: none"> 1. Defective contactor. 2. Defective Wireless Remote. 3. Loose motor connections. 	<ol style="list-style-type: none"> 1. Replace Control Box. 2. Replace Wireless Remote. 3. Check and tighten motor connections to Control Box.
 Follow all safety precautions whenever diagnosing or servicing the tool. Disconnect power supply before service.		

FCC STATEMENT

Caution: The user is cautioned that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

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.

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Record Product’s Serial Number Here: _____

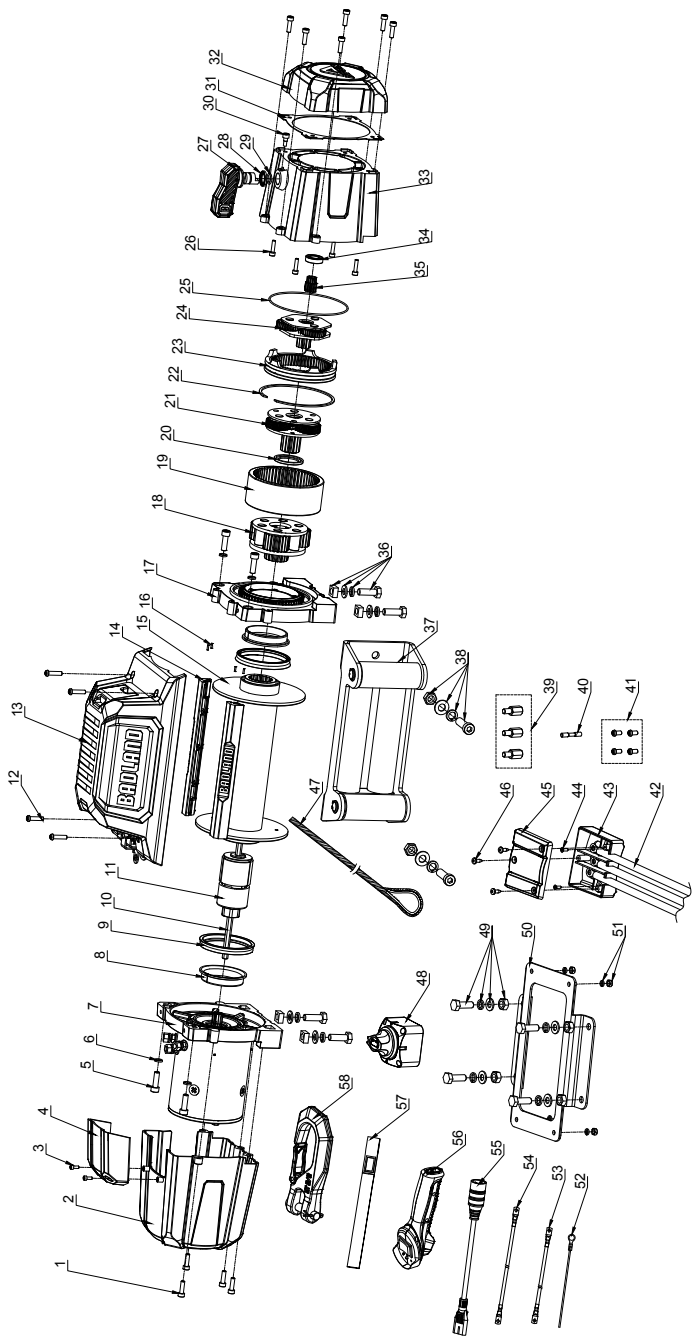
Note: If product has no serial number, record month and year of purchase instead.

Note: Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts. Specify UPC 193175497871 when ordering parts.

Parts List

Part	Description	Qty	Part	Description	Qty
1	Hex Socket Screw M6x20	10	30	Screw	1
2	Motor Cover	1	31	Seal	1
3	Hex Socket Screw M4 X 10	2	32	Gear Box End Cap	1
4	Motor Terminal Cover	1	33	Gear Box Housing	1
5	Hex Socket Screw M8 X 25	4	34	Bearing	1
6	Washer	4	35	Sun Gear	1
7	Motor	1	36	Winch Mounting Hardware Kit	4
8	Sliding Bearing	2	37	Roller Fairlead	1
9	Seal	2	38	Roller Fairlead Mounting Hardware Kit	2
10	Drive Shaft	1	39	Extended Terminal	3
11	Brake	1	40	Sheath	1
12	Hex Socket Pan Head Screw M6 X 20	4	41	Hex Socket Pan Head Screw M6 X 12	4
13	Control Box Kit	1	42	Power Cable (Relocation Kit)	3
14	Tie Bar	2	43	Terminal Box	1
15	Drum	1	44	Screw M4 X 12	2
16	Lock Pin	4	45	Terminal Box Cover	1
17	Gear Box Base	1	46	Hex Socket Pan Head Self Tapping Screw M5 X 16	3
18	Planetary Gear 3	1	47	Wire Rope	1
19	Ring Gear	1	48	Power Switch	1
20	Washer	1	49	Control Box Mounting Hardware	4
21	Planetary Gear 2	1	50	Control Box Base Plate	1
22	Circlip Washer	1	51	Base Plate Mounting Hardware	4
23	Clutch Gear	1	52	Ground Cable	1
24	Planetary Gear 1	1	53	Power Cable (0.35m)	1
25	O-ring	1	54	Power Cable (1.8m)	1
26	Hex Socket Screw M5 X 20	4	55	Remote Switch Cable	1
27	Clutch Handle	1	56	Remote Switch	1
28	Clutch Handle Washer	1	57	Hand Strap	1
29	O-ring	1	58	Hook	1

Assembly Diagram



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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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