



## Winch Cable Replacement

### INTRODUCTION

Over the lifetime of a winch used to raise NRG TallTowers, it may be necessary to replace the cable if it becomes damaged or frayed. The winch cable replacement kits (#3996, #2729, #2728, #4323, #5822, #3968) provide the winch cable and additional hardware necessary to replace the cables on winches sold by NRG Systems.

### CONNECTIONS

Wear heavy gloves while working with winch cables. The tools required (not included with winch) are described in the table below:

Winch Model	Replacement Cable Kit #	Cable Diameter	Cable Length	Tool for Cable Set Screw
Superwinch S9000	3996, 3968	1/4"	300'	5/32" Allen Wrench
Superwinch S6000	2729	1/4"	200'	5/32" Allen Wrench
Superwinch X-1	2728	1/8"	180'	5/32" Allen Wrench
Superwinch Epi - 9	3996, 3968	1/4"	300'	3mm Allen Wrench
Superwinch H9W	3996	1/4"	300'	5/32" Allen Wrench
MileMarker PE4500	4323	1/4"	85'	Phillips Screwdriver
Bloom LS10H-6.2T-XL14	5822	3/8"	750'	1/4" Allen Wrench

#### Wire Rope Users Manual (Fourth Edition)<sup>1</sup> Recommended Installation Back Tension

Cable Diameter	Minimum	Maximum
1/8"	34 lbf (151 N)	85 lbf (378 N)
1/4"	140 lbf (620 N)	350 lbf (1560 N)
3/8"	288 lbf (1281 N)	720 lbf (3203 N)



### INSTALLATION INSTRUCTIONS

- 1) Set up your winch on a suitable surface such as a workbench or flat ground.
- 2) Disengage the winch drum by turning the lever located on the side of the winch (NOTE: the Bloom winch does not have a free spool lever).
- 3) Grasp the thimble and pull to remove the cable from the drum. The drum should turn easily as you pull. For the Bloom winch, you must run the winch to remove the cable.
- 4) You can either stay in one place and pull the cable hand over hand and let it pile up on the ground (if you plan to scrap it), or walk it out to its full length and later re-coil it onto a spool, hank, etc.
- 5) When all the cable is off the drum, the end will still be attached to the drum. Refer to the table above for the proper tool needed to remove the cable. The tool required will vary depending on the winch model.
- 6) Pull the end of the cable out of the drum.
- 7) Take the end of the new cable and insert it into the drum. Be sure the cable enters the drum in the same orientation as the old cable. Tighten the securing fastener.
- 8) Set the new cable spool up in a manner that allows it to unroll as you put it back onto the winch. For example, a short piece of pipe through the spool and supported on blocks works well. A second person is also recommended to grasp the spool as it unwinds to prevent the cable from 'springing' off the spool when it free-wheels.
- 9) Re-engage the drum by turning the lever back to its locked position.



## TallTower | Winch Cable Replacement Instructions

- 10) Attach the winch power leads to a 12 volt deep cycle battery, or attach hydraulic hoses to the hydraulic power unit.
  
- 11) Before powering the winch, grasp the cable (while wearing leather gloves) approximately 1 foot from the fairlead.
  
- 12) Press the “cable in” button, and power up the winch. Let the cable slip through your gloved hand, but maintain a steady grip as you carefully guide the cable back and forth from each end of the drum. For safety, maintain your hand about a foot away from the fairlead at all times. The harder you can grip the cable as it winds, the tighter (better) a wrap will be formed. Avoid overlaps as you wind the cable (see important note below).
  
- 13) When the thimble end is about 2 feet from the winch, turn off the winch, and then carefully “bump” the switch several times to slowly wind in the last 2 feet.
  
- 14) The winch is now ready for use.

### ***IMPORTANT!***

**It is imperative the wire rope be spooled onto the winch drum under tension. The Wire Rope Users Manual<sup>1</sup> recommended back tension values for the various cable sizes is provided above. Spooling the wire rope under tension can be achieved by applying the recommended load to the wire rope while spooling onto the drum. Alternatively, on first use of the winch after replacing the cable, raise a tower. Raising a tower will ensure the replacement cable is properly tensioned on the drum. Failure to follow these steps could potentially damage the cable or cause the wire rope to fail.**

<sup>1</sup> *Wire Rope Technical Board, Wire Rope User's Manual – Fourth Edition (TIRC Training & Inspection Resource Center), 2005.*

