



# Dayton® Electric Winch

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## Dimensions

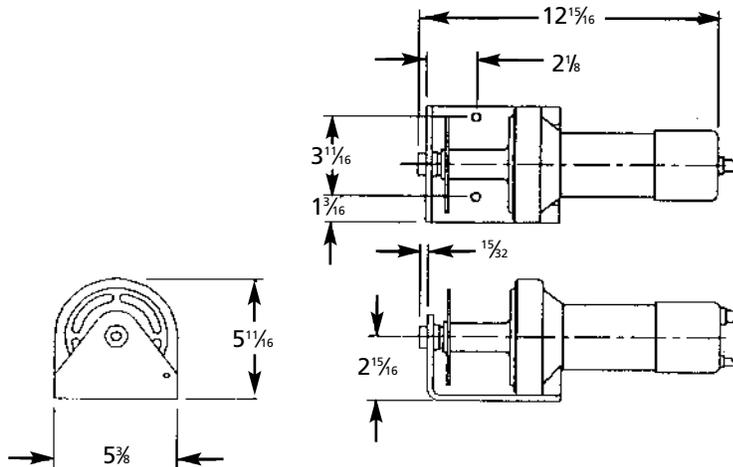
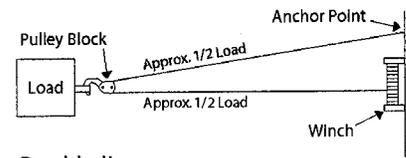


Figure 1

2. FOR LARGER LOADS, THE USE OF A PULLEY BLOCK AND HOOK ASSEMBLY TO DOUBLE LINE WIRE ROPE IS RECOMMENDED (See Figure 4). This reduces load on the winch and strain on the wire rope by approximately 50%. Do not hook back to winch. Always secure hook back to a point that is strong enough to carry the load.

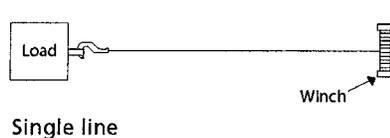


Double line

Figure 4

## General Safety Information

1. Winch is rated at 1,000 lbs., single line capacity (See Figure 3). Maximum load is rated with wire rope being wound around bare winch drum. Each succeeding layer of rope added will reduce the maximum capacity by about 10%



Single line

Figure 3

3. AFTER READING AND UNDERSTANDING THIS MANUAL, LEARN TO USE YOUR WINCH. After installing winch, take time to practice using it so you will be comfortable using it when the need arises. Periodically check winch installation to assure that all the bolts are tight.

4. Avoid excessive inching and quick reversals of load.



**⚠ WARNING** *Keep winching area clear.*

5. Do not allow people to remain in area during winching operations. Do not step over a taut wire rope or allow anyone else to do so. INSPECT WIRE ROPE AND EQUIPMENT FREQUENTLY. A FRAYED WIRE ROPE WITH BROKEN STRANDS SHOULD BE REPLACED IMMEDIATELY. Always replace wire rope with manufacturers' identical replacement part (See Repair Parts List).

**⚠ CAUTION** *Do not overload. Do not attempt prolonged pulls at heavy loads. Do not maintain power to the winch if the motor stalls. Overloads can damage the winch and/or the wire rope and create unsafe operating conditions.*

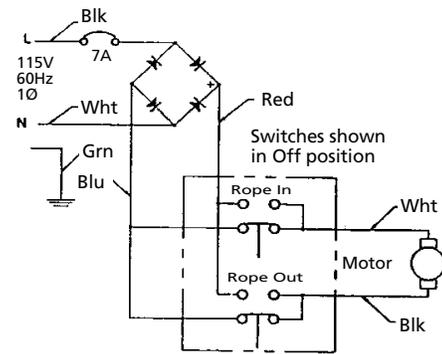


Figure 2 - Wiring Diagram

# Model 5W659A

ENGLISH

## General Safety Information (Continued)

**⚠ WARNING** Use heavy leather gloves when handling wire rope. Do not allow wire rope to slide through hands.

6. NEVER WINCH WITH LESS THAN 5 TURNS OF WIRE ROPE AROUND WINCH DRUM, since wire rope end fastener will not withstand a load. ALWAYS USE HANDSAVER when guiding hook for last few feet of rope (See Figure 5).

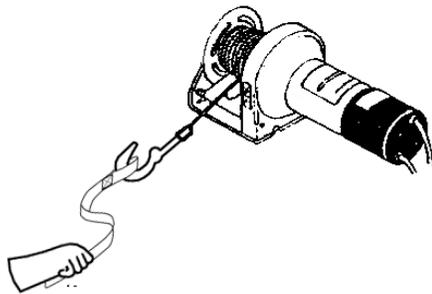


Figure 5

**⚠ WARNING** Keep clear of winch wire rope and hook when operating winch. Never put finger through hook when reeling in last few feet of line. If fingers should become trapped in hook, they will be lost. Use handsaver bar to guide hook within last few feet.



Never guide wire rope onto drum with hands!

7. Never hook wire rope back onto itself. Use a nylon sling (See Figure 6). Hooking wire rope onto itself can damage rope. When using a sling, make sure that sling is properly seated in saddle of hook.

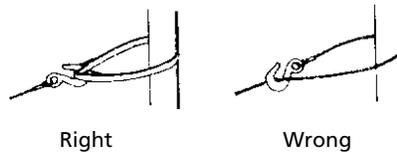
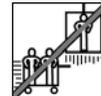


Figure 6

8. When pulling heavy loads, lay a heavy blanket or cloth over wire rope near hook end. If wire rope failure should occur, cloth will act as a damper and help prevent rope from whipping.

**⚠ WARNING** Do not use as a hoist for lifting, supporting or transporting people, or over areas where people are present.



9. Winch is not designed or intended for overhead hoisting application.

**⚠ CAUTION** Avoid continuous pulls from extreme angles as this will cause wire rope to pile up at one end of drum. This can jam wire rope in winch causing damage to rope or winch itself.

**⚠ WARNING** Never obscure warning and instruction labels.

**⚠ CAUTION** To reduce risk of electric shock, do not remove covers. No user serviceable parts inside. Refer servicing to qualified service personnel.

10. Always operate winch with unobstructed view of winching operation

11. Do not use wire rope as a ground for welding.

12. Never touch welding electrode to wire rope.

**⚠ WARNING** Disconnect power before performing any maintenance or repair procedures. Always unplug winch before working around winch drum (danger zone) so winch cannot be turned on accidentally.

Do not operate winch under influence of drugs, alcohol or medication.

Never work on or around winch drum when winch is under load.

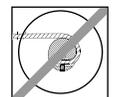
13. Allow winch to cool down frequently. Motor is designed for intermittent duty only. When metal housing is hot to touch, winch must be allowed to cool down.

**⚠ CAUTION** Do not use winch to hold loads in place. Use other means of securing loads such as tie down straps. Use only with factory approved switches, remote controls and accessories. Use of non-factory approved components may cause injury or property damage and could void warranty.



Do not machine or weld any part of winch. Such alterations may weaken structural integrity of winch and could void warranty.

**⚠ WARNING** This winch must be mounted with the wire rope in the underwind direction. Improper mounting could damage your winch and void your warranty.



# Dayton® Electric Winch

ENGLISH

## General Safety Information (Continued)

**⚠ WARNING** *Always plug winch into 115VAC grounded outlet rated at 15 amperes minimum. An improperly grounded winch can cause severe electrical shock or death.*

*Do not operate this winch outdoors or in a corrosive or explosive environment.*

## Assembly

### TOOLS NEEDED FOR MOUNTING

Open end or socket wrenches - 9/16" (2), or adjustable wrenches, torque wrench - 35 Ft. lb. capacity (1).

## Installation

### LOCATION

The mounting support for winch must be capable of handling loads in excess of those that winch is rated for. Suggested locations are on a support beam or wall. Determine proper mounting support based on application. This winch may be mounted in either a horizontal or vertical position (See Figure 7). In all installations, winch must be mounted so that wire rope feeds perpendicular to drum axis and does not rub across drum end plate or gear box.

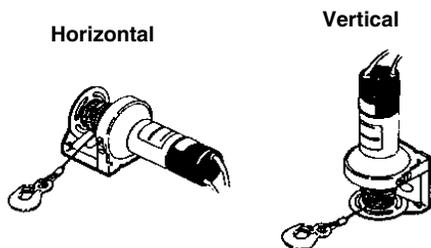


Figure 7

Drill two 7/16" (12mm) diameter holes with centers 3 11/16" (94 mm) apart in support chosen for winch (See Figure 8). Attach winch to support with mounting hardware provided. Recommended tightening is to 35 lb. ft. torque. Do not use hardware other than SAE grade 5.

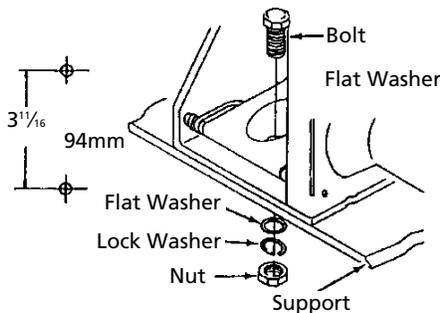


Figure 8

The three prong plug must be plugged into a 115 volt, A.C. grounded outlet only. Outlet should be equipped with a Ground Fault Interrupter (GFI). Do not plug into an ungrounded outlet by using a three prong adapter. Make sure that the power supply cord is positioned so that the moving load will not damage it. Unplug the winch when not in use. Electrical storms or line surges can cause premature failure of the internal bridge rectifier.

**⚠ WARNING** *Failure to ground this winch could result in a fatal electric shock.*

Make sure that both power supply cord and reversing switch cord are positioned so that moving load will not damage cords.

**⚠ CAUTION** *The switch assembly must be kept free of dirt and moisture to ensure safe operation.*

## Operation

Winch is activated via a switch at the end of six-foot cord. To pay out wire rope from winch or to lower a load down an incline, depress the rope out. Load will stop quickly when switch is released due to dynamic braking action of an electrical shunt applied across motor terminals upon power down.

**⚠ WARNING** *The winch is not designed as a load holding device.*

When the winch is "OFF", shunt reduces the action of a load backdriving the winch. However, a load can cause winch to creep. In load-holding applications, tie down ropes or straps must be used to secure loads. To pull a load or spool wire rope onto drum, depress the rope in direction. See Figure 9 for switch markings.

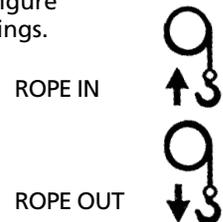


Figure 9

This winch is designed to pull 1,000 lbs., single line. Attempts to pull more than this weight without the pulley block attached will cause the circuit breaker (located on end of motor) to trip. After circuit breaker trips, winch will not operate. To reset the breaker, press center portion back into the breaker. Repeated tripping of breaker indicates an overload condition which should be eliminated immediately to ensure maximum life of winch.

**⚠ WARNING** *Maintain a minimum of five (5) wraps of wire rope around winch drum before attempting any pulls.*

# Model 5W659A

## Operation (Continued)

### OPERATION HINTS

1. Do not put angular loads on winch. Whenever possible, pull should always be perpendicular to winch.
2. Keep wire rope tight and even on spool.
3. Replace wire rope when frayed.
4. Keep wire rope under tension when operation winch. Wire rope will "stack-up" loosely on spool if not kept under tension.

### EXTENDING THE LIFE OF WINCH

1. **KEEP A TIGHTLY WOUND WIRE ROPE DRUM.** Do not allow the wire rope to become loosely wound. A loosely-wound spool allows a wire rope under load to work its way down into layers of wire rope on drum. When this happens, wire rope may become wedged within body of windings, damaging the wire rope. To prevent this problem, keep wire rope wound tightly and evenly on drum at all times. A good practice is to rewind wire rope under tension after each use. One way to do this is to attach hook to a small load and winch that load to rewind rope.
2. **DO NOT ALLOW MOTOR TO OVERHEAT.** Winch is for intermittent use only. During long or heavy pulls, motor will get hot. Internal parts will be hotter than case. To check motor temperature, stop winching and carefully touch metal housing of motor; if housing of motor is uncomfortably warm, allow motor to cool before continuing.

3. **USE A PULLEY BLOCK FOR HEAVY LOADS.** To maximize winch and wire rope life, use pulley block to double line heavier loads.
4. The pull required to start a load moving is often much greater than the pull to keep it moving. **AVOID FREQUENT STOPPING AND STARTING A PULL.**
5. **PREVENT KINKS BEFORE THEY OCCUR** (See Figure 10).
  - a. This is the start of a kink. At this time, wire rope should be straightened.
  - b. Wire rope was pulled and loop has tightened to a kink. Wire rope is now permanently damaged and must be replaced.
  - c. The result of kinking is that each strand pulls a different amount causing strands under greatest tension to brake and reduce load capacity of wire rope. Wire rope must be replaced.

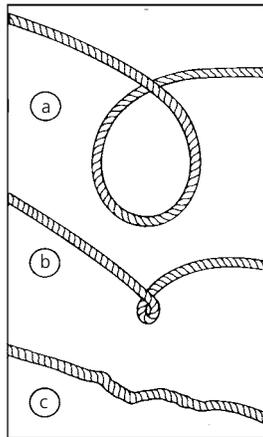


Figure 10

## Maintenance

Periodically check the tightness of all mounting bolts.

### LUBRICATION

The new winch is lubricated for life at factory. There will be grease leakage out of winch, especially during first few operations. This is normal and it is not necessary to grease or oil any part of winch at any time.

### REPLACING WIRE ROPE

A part of the winch that will require attention and eventual replacement is the wire rope. Inspect the wire rope for wear frequently. A frayed rope should be replaced immediately. The winch uses 5/32" dia. x 45' of galvanized aircraft type 7 x 19 wire rope. Always replace damaged wire rope with the manufacturer's identical replacement part (See Repair Parts List). Complete installation instructions are included in the replacement wire rope kit. Never substitute a heavier or lighter weight rope. Never use rope made of any material other than wire. Because all wire ropes are subject to wear, it is excluded from the warranty.

# For Repair Parts, call 1-800-323-0620

24 hours a day – 365 days a year

Please provide following information:

- Model number
- Serial number (if any)
- Part descriptions and number as shown in parts list

Address parts correspondence to:

Grainger Parts  
P.O. Box 3074  
1657 Shermer Road  
Northbrook, IL 60065-3074 U.S.A.

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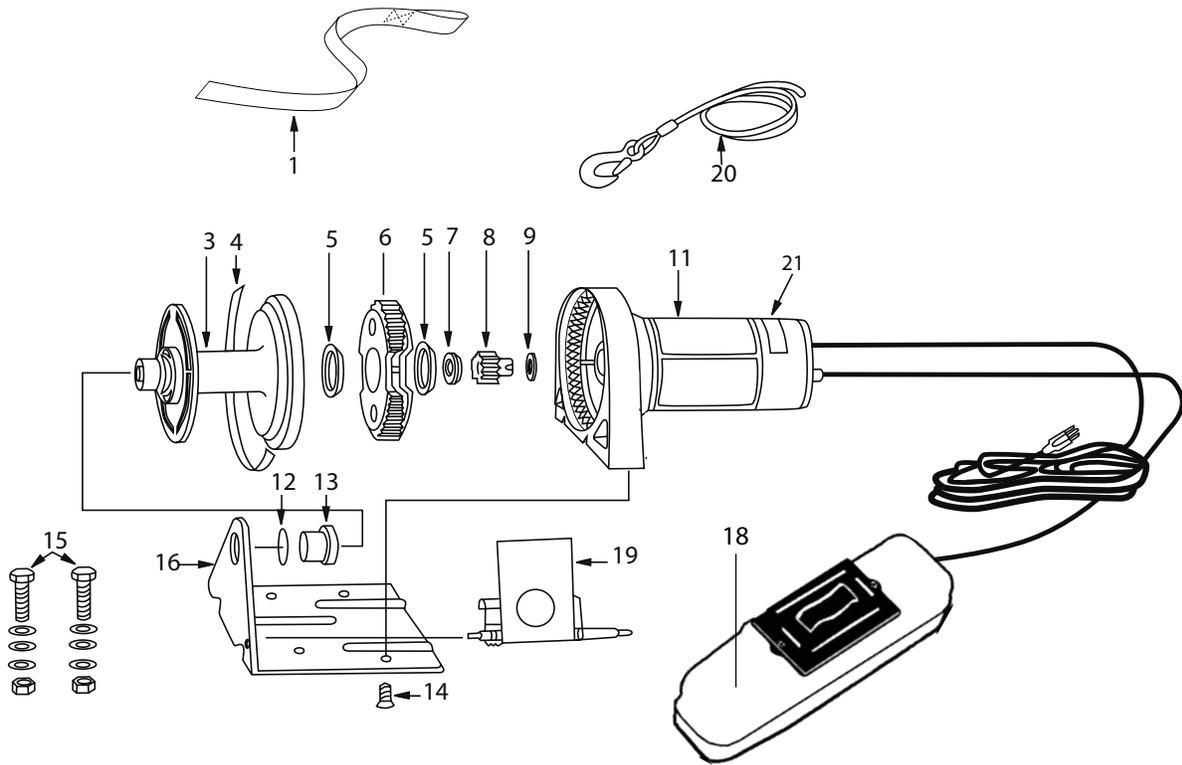


Figure 11 – Repair Parts Illustration

# Model 5W659A

## Repair Parts List

Reference Number	Description	Part Number For Model 5W659A	Quantity
1	Handsaver	87-31120-01	1
3	Drum assembly w/flange	90-32038	1
4	Perimeter bearing	90-23137	1
5	Carrier bearing	90-23140	2
6	Planetary gear assembly	90-23138	1
7	Nylon step washer	90-12418	1
8	10-Tooth sun gear	90-22865	1
9	Flat thrust washer	90-23120-08	1
11	115V AC motor w/ring gear and needle bearing	90-33345-02	1
12	† Flat washer	90-23120-05	1
13	Bushing	90-12174	1
14	5/16" flathead thd rolling screw	90-23127-06	2
15	• Pair of 3/8" bolts & nuts (Grade 5) 4 flat and 2 lock washers	90-22892	1
16	Base plate	90-41019 BLK	1
18	Pendant Station	90-33354	1
19	Wire rope tension plate set	90-12450	1
20	5/32" x 45' Wire rope & hook assembly	1527	1
21	Warning label	90-10516	1
Δ	Pulley Block and hook	2227A	1
Δ	Bridge rectifier	90-10876	1

(•) Hardware Package Components.

(†) Used as Shim, quantity varies.

(Δ) Not Shown.

# Dayton® Electric Winch

## Troubleshooting Chart

Symptom	Possible Cause(s)	Corrective Action
Winch will not operate	<ol style="list-style-type: none"> <li>1. Tripped Circuit Breaker</li> <li>2. Dead outlet</li> <li>3. Damaged motor</li> </ol>	<ol style="list-style-type: none"> <li>1. Reset circuit breaker</li> <li>2. Check outlet</li> <li>3. Repair or replace motor</li> </ol>
Circuit breaker keeps tripping	<ol style="list-style-type: none"> <li>1. Winch is overloaded</li> <li>2. Defective bridge rectifier</li> <li>3. Electrical short</li> <li>4. Damaged motor</li> </ol>	<ol style="list-style-type: none"> <li>1. Use pulley block or reduce load</li> <li>2. Replace bridge</li> <li>3. Check wiring and electrics</li> <li>4. Repair or replace motor</li> </ol>
Motor runs extremely hot	<ol style="list-style-type: none"> <li>1. Long period of operation</li> <li>2. Damaged motor</li> </ol>	<ol style="list-style-type: none"> <li>1. Allow to cool</li> <li>2. Repair or replace motor</li> </ol>

### Limited Warranty

**Dayton One-Year Limited Warranty.** Dayton® Electric Winch, Models covered in this manual, are warranted by Dayton Electric Mfg. Co. (Dayton) to the original user against defects in workmanship or materials under normal use for one year after date of purchase. Any part which is determined to be defective in material or workmanship and returned to an authorized service location, as Dayton designates, shipping costs prepaid, will be, as the exclusive remedy, repaired or replaced at Dayton's option. For limited warranty claim procedures, see PROMPT DISPOSITION below. This limited warranty gives purchasers specific legal rights which vary from jurisdiction to jurisdiction.

**Limitation of Liability.** To the extent allowable under applicable law, Dayton's liability for consequential and incidental damages is expressly disclaimed. Dayton's liability in all events is limited to and shall not exceed the purchase price paid.

**Warranty Disclaimer.** Dayton has made a diligent effort to provide product information and illustrate the products in this literature accurately; however, such information and illustrations are for the sole purpose of identification, and do not express or imply a warranty that the products are merchantable, or fit for a particular purpose, or that the products will necessarily conform to the illustrations or descriptions.

Except as provided below, no warranty or affirmation of fact, expressed or implied, other than as stated in the "LIMITED WARRANTY" above is made or authorized by Dayton.

**Product Suitability.** Many jurisdictions have codes and regulations governing sales, construction, installation, and/or use of products for certain purposes, which may vary from those in neighboring areas. While Dayton attempts to assure that its products comply with such codes, it cannot guarantee compliance, and cannot be responsible for how the product is installed or used. Before purchase and use of a product, review the product applications, and all applicable national and local codes and regulations, and be sure that the product, installation, and use will comply with them.

Certain aspects of disclaimers are not applicable to consumer products; e.g., (a) some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you; (b) also, some jurisdictions do not allow a limitation on how long an implied warranty lasts, consequently the above limitation may not apply to you; and (c) by law, during the period of this limited warranty, any implied warranties of implied merchantability or fitness for a particular purpose applicable to consumer products purchased by consumers, may not be excluded or otherwise disclaimed.

**Prompt Disposition.** Dayton will make a good faith effort for prompt correction or other adjustment with respect to any product which proves to be defective within limited warranty. For any product believed to be defective within limited warranty, first write or call dealer from whom the product was purchased. Dealer will give additional directions. If unable to resolve satisfactorily, write to Dayton at address below, giving dealer's name, address, date, and number of dealer's invoice, and describing the nature of the defect. Title and risk of loss pass to buyer on delivery to common carrier. If product was damaged in transit to you, file claim with carrier.

**Manufactured for Dayton Electric Mfg. Co., 5959 W. Howard St., Niles, Illinois 60714 U.S.A.**