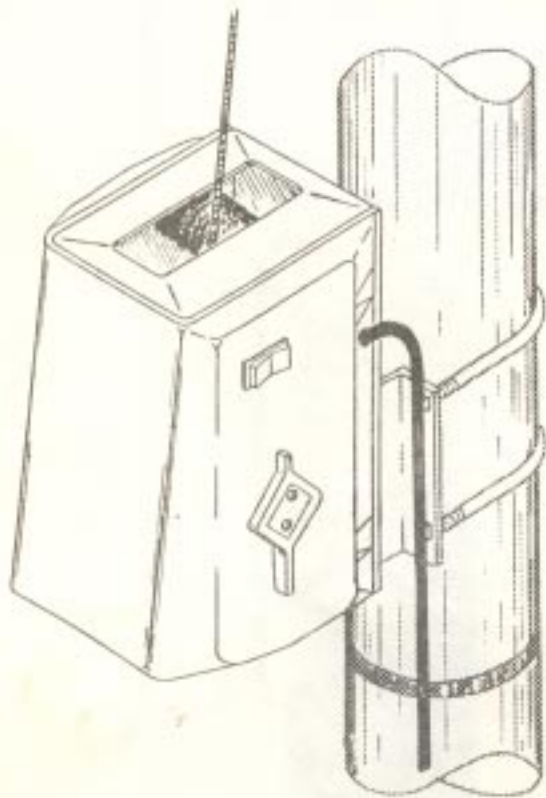


# INSTALLATION INSTRUCTIONS AND OWNER'S MANUAL



## **Wilson Electric Winch**

**Models:**

**EW-45, EW-61, EW-77**

*JERRY*

**"WARNING"**  
IF YOU DO NOT READ THESE  
INSTRUCTIONS FIRST  
ALL WILL GO WRONG!

*1-402-462-4141*

**"WARNING"**  
INSTALLATION OF THIS PRODUCT NEAR POWER  
LINES IS DANGEROUS. FOR YOUR SAFETY, FOLLOW  
THE INSTALLATION DIRECTIONS.

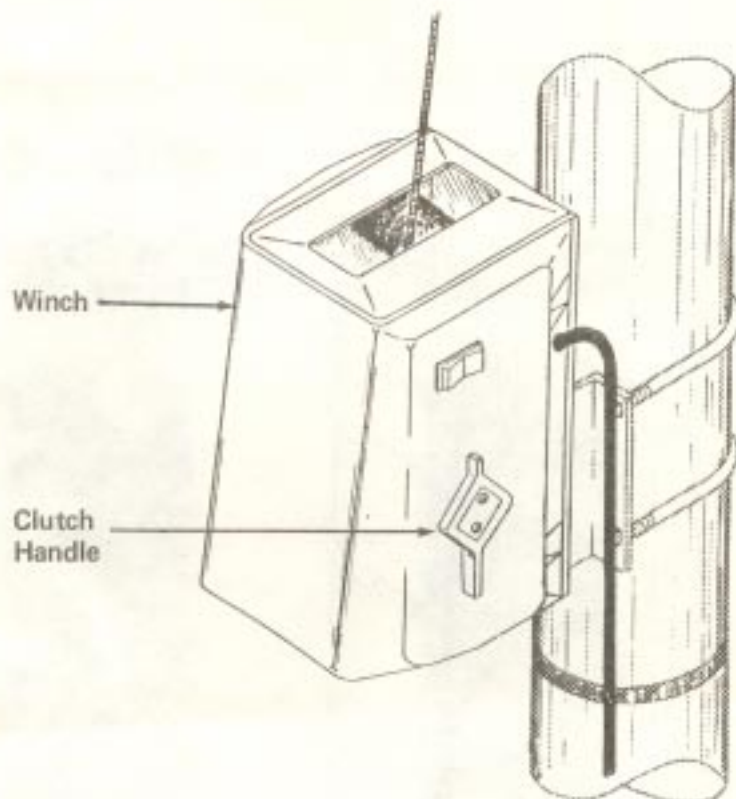
*STRONGARM*

**W S I WILSON  
SYSTEMS, INC.**

4286 S. Polaris Ave., Las Vegas, Nevada 89103  
(702) 738-7401 - Toll-Free Order Number 800-634-6898

## SAFETY BULLETIN

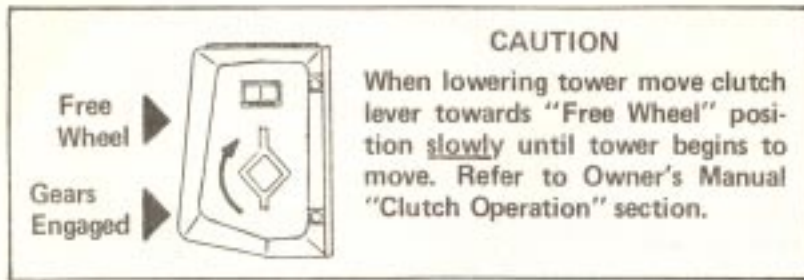
This bulletin is issued to advise you of the potential damage to your antenna and tower through mis-use of the clutch handle.



To prevent this from happening:

1. Read and thoroughly understand the clutch handle operating instructions in your owner's manual.
2. Only use the clutch in an emergency-such as a "Power Off" situation.
3. Practice with the clutch handle until you develop a "Feel" for its operation.
4. The clutch handle **MUST** be turned s-l-o-w-l-y! Turning the handle too rapidly to the free-wheel position will allow the tower to descend too rapidly to be arrested this destroying the antenna and causing damage to the tower as well.

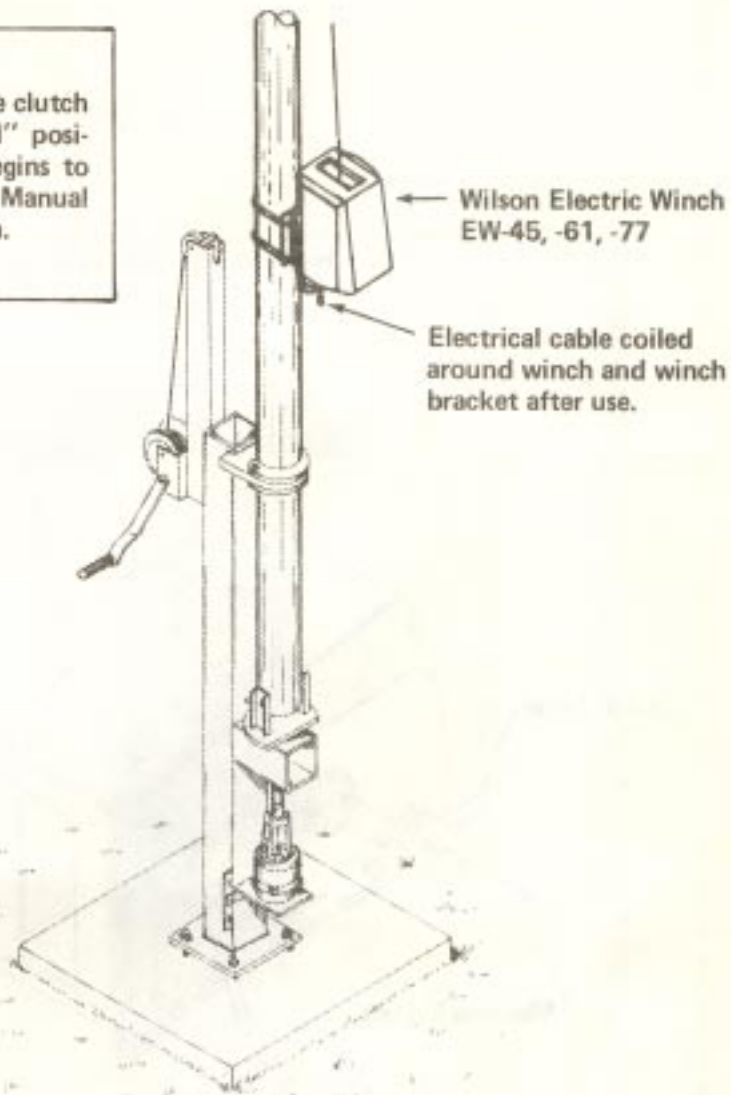
Again, we advise you to remove the handle completely to prevent its use by inexperienced and unauthorized personnel.



**CAUTION**

When lowering tower move clutch lever towards "Free Wheel" position slowly until tower begins to move. Refer to Owner's Manual "Clutch Operation" section.

Note: As an added precautionary measure, the clutch handle should be removed entirely thus preventing its mis-use by unauthorized personnel, children, etc.



**BASIC INSTALLATION PROCEDURE**

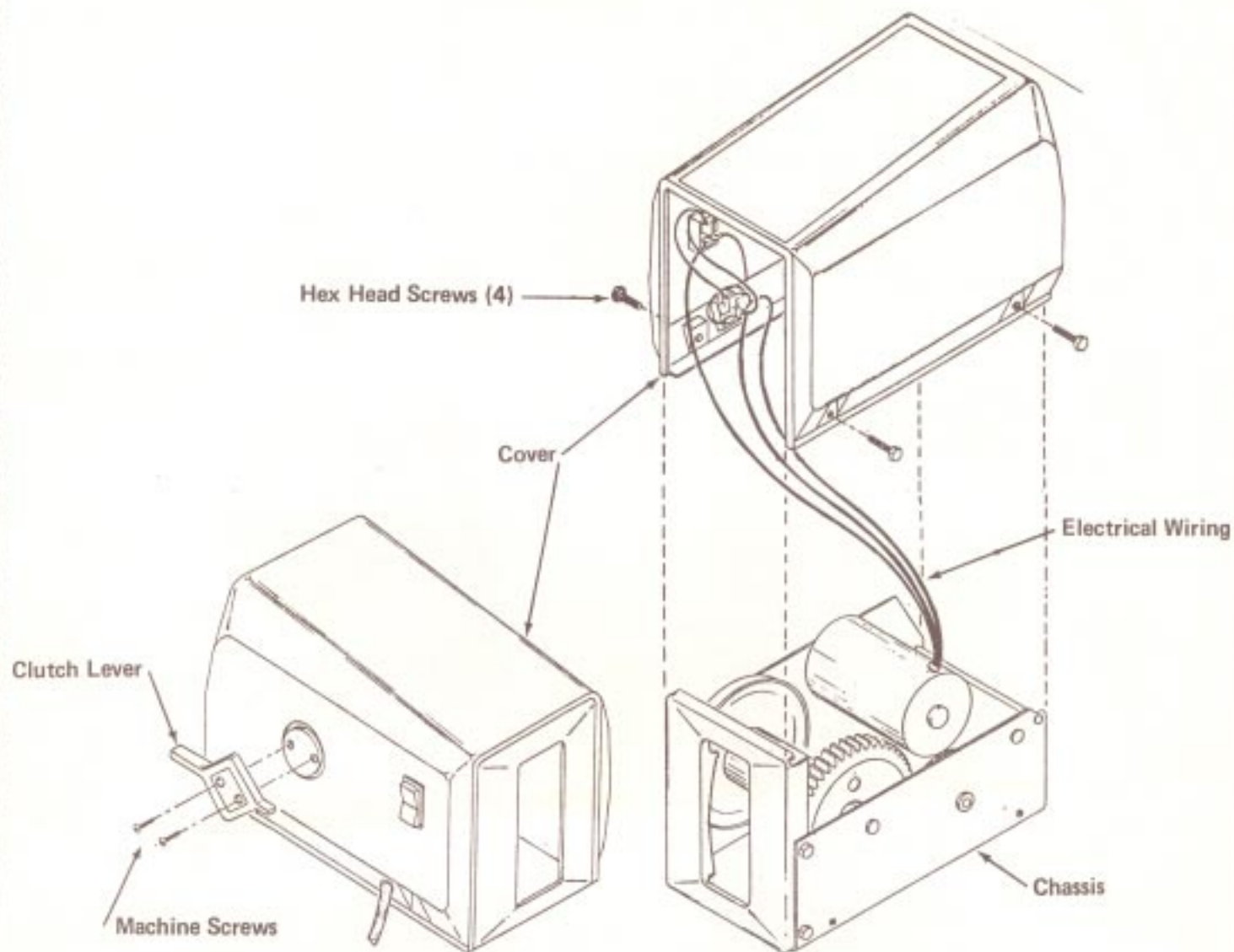
This illustration shows what the Wilson Electric Winch should look like when mounted on your tower. Note that the winch must be located high enough to clear the raising fixture during tower rotation or if preferred, above the top hooks with the raising fixture removed. The basic installation steps should be:

1. Remove the winch case to allow access to the winch chassis for its attachment to the tower winch bracket (Figure 2) and for cable attachment.
2. Attach winch as shown in Figure 3.
3. Attach cable as also shown in Figure 3.

**FIGURE 1**

DRAWN ETW  
 APPROVED AT





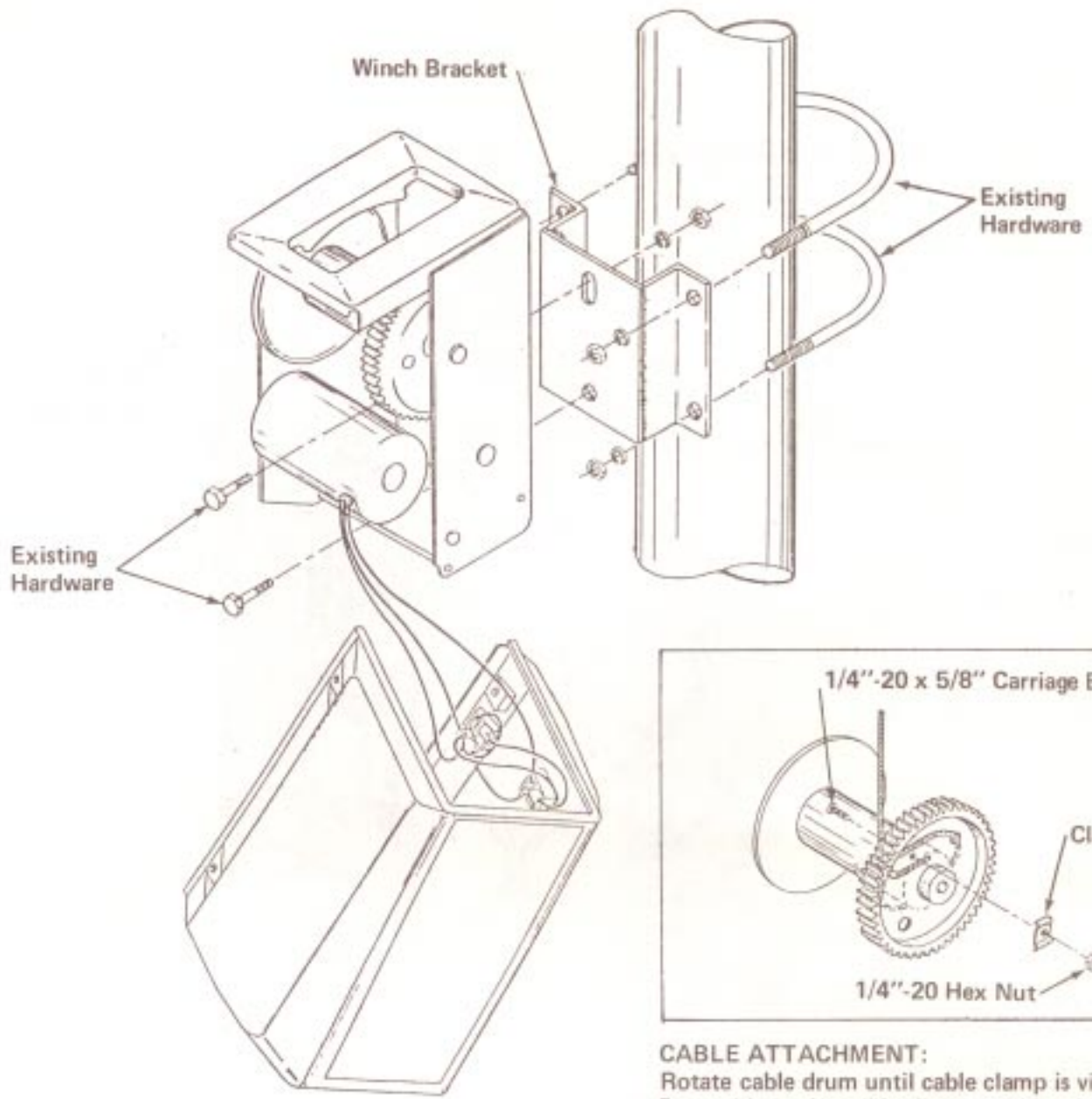
#### COVER REMOVAL

First, move the clutch lever to the 'Free Wheel' position. Then remove the two set screws which attach the lever to the gear train mechanism inside and remove the lever.

Next, remove the four hex head bolts which attach the plastic case to the chassis. By expanding the lower edges of the case slightly, it may now be removed. Be careful at this point not to damage the electrical wiring.

FIGURE 2

DRAWN CTW  
 APPROVED CTW

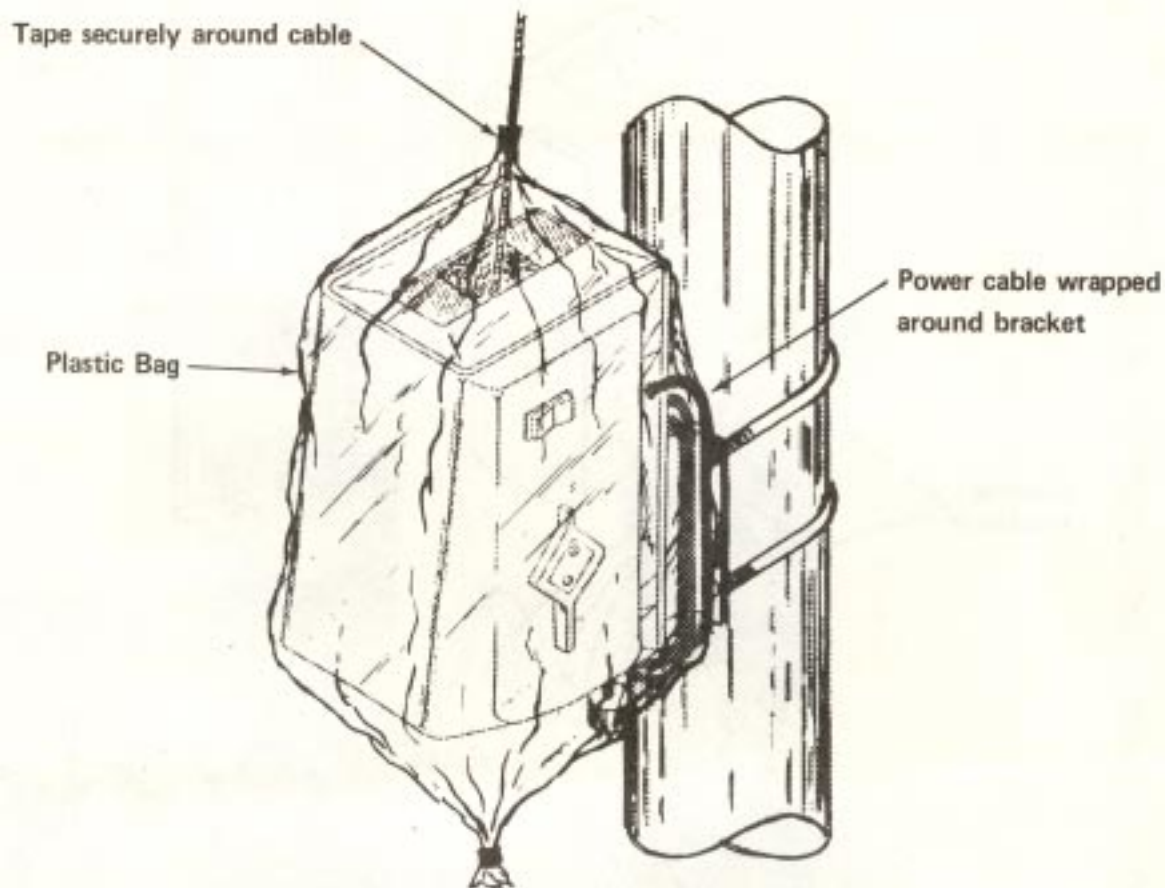


**CABLE ATTACHMENT:**  
 Rotate cable drum until cable clamp is visible. Pass cable under cable drum and thru hole in gear. Form loop in cable and secure with clamp and hardware as shown.

**WINCH ATTACHMENT:**  
 First assemble the winch to the winch bracket with the existing hardware as shown. Then attach the winch/bracket assembly to the tower with the existing U-bolts as illustrated. Be sure the winch will clear the raising fixture (or top hooks if fixture is removed) during tower rotation. Tower raising cable can now be attached. Replace the cover and clutch lever with their respective hardware. Be sure to return the clutch lever to the "Gears Engaged" position.

FIGURE 3

DRAWN SPW  
 APPROVED AT



#### ENVIRONMENTAL PROTECTION

As your electric winch will always be exposed to the elements it is recommended that some sort of protection be provided. Illustrated above is a suggested cheap and simple cover which would protect the winch from rain, snow, dust, etc. When the winch is not in use, coil the power cable around the attaching bracket and enclose the unit, cable and all, in a bag made from a heavy guage (i.e. 4 mil) plastic sheet. Tape both ends securely. Apply a clear silicone cement for added protection.

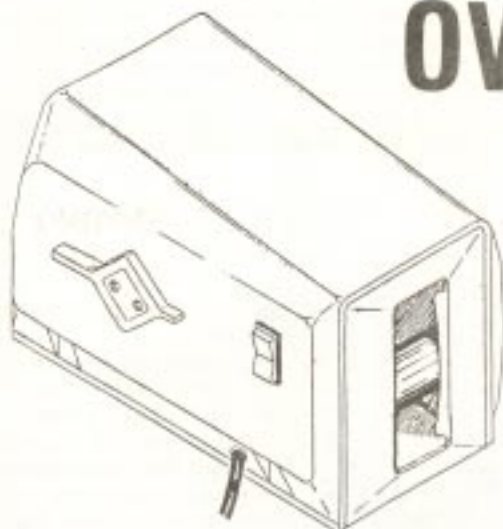
FIGURE 4

DRAWN E. W.  
APPROVED W. T.



# Wilson Electric Winch

# OWNERS MANUAL



Models:

EW-45, EW-61, EW-77

*Plastic* 6363 *14.30*

MANUFACTURED BY  
**DUTTON-LAINSON COMPANY**  
HASTINGS, NEBRASKA 68901  
Founded in 1886 Made in U.S.A.

## GENERAL SAFETY INFORMATION

1. Your winch is **not** designed for movement of human beings. It is not recommended for scaffolding or any other applications in which persons may be positioned on or under the load at any time. Do not use as an overhead hoist!

2. Never exceed rated winch load! Excess load may cause premature failure and could result in serious personal injury. Note that installing longer than normal cable results in increased load on winch.

3. Periodically inspect your winch for any maintenance which might be necessary. Check the cable for individual strand breakage and abnormal stiffness. Never replace the steel cable with rope. Check and tighten all bolts and check all electrical connections and wiring for damage.

4. Your winch should be respected as power equipment. High forces are created when using a winch creating potential safety hazards. It should be operated and maintained in accordance with instructions. Never allow children or any one who is not familiar with the operation of the winch to use it.

## SAFETY RULES

1. Your winch is designed for a high quality aircraft cable capable of handling the rated winch load. Never exceed the rated capacity. When cable breakage occurs under tension the cable tends to whip toward the winch area. It is recommended that a blanket or rug be placed over the cable during winching operations to minimize this whipping action in the event of cable breakage.

2. The cable should be inspected for individual strand breakage and abnormal stiffness each time the winch is used. Replace the cable at the first sign of strand breakage. Never use rope instead of cable and never replace the cable with one of smaller capacity. Periodic oiling of the cable will significantly increase its life.

3. Never apply load to winch with cable fully extended. Keep at least three full turns of cable on the reel.

4. Never use the auxiliary handle as an assist to the motor. Always remove the auxiliary handle when it is not in use. Do not operate the winch motor or allow the winch to free wheel with the handle installed.

## SPECIAL RULES FOR A.C.

5. Special care should be taken with 110 volt AC winches as with any other 110 volt tools. It is recommended that whenever a 110 volt AC winch is out of doors that it be used with a ground fault circuit interrupter.

6. The winch should be used only with a 3 pronged grounded outlet. CAUTION: Do not remove the grounding prong on the power cord for any reason.

7. Do not operate the unit in the rain or when it is wet. Avoid using the winch around water or water pipes and **never** operate the winch while standing in water.

8. Periodically check the power cord for wear or frays which could cause electrical shorts or shocks.

## OPERATING INSTRUCTIONS LOADING AND UNLOADING UNDER POWER

1. With the clutch lever in the engaged gears position, you may power the winch in either the load or unload direction. Allowing the switch to return to the OFF position will automatically stop the winch and lock the load in position. **Caution:** The electric motors are designed for intermittent service only. Extended use without cooling off periods will cause overheating resulting in motor damage.

2. In AC powered models, the electrical switch is built into the winch housing and is not removable. To operate the AC unit, simply press the switch up to raise the load or down to lower the load. Because the AC winches are not equipped with circuit breaker overload protection, particular care should be



taken not to overheat the winch motor by overloading the winch.

## CLUTCH OPERATION

1. The clutch lever provides a means for lowering a load without power while maintaining control of the speed and provides for free wheeling so that cable can be removed from the winch by hand. The clutch lever is spring loaded so that it returns to the engaged position when released. The lever will, however, remain in the free wheeling position if rotated completely forward to free wheel.

2. In order to lower a load without power, rotate the clutch lever slowly and carefully forward toward "Free Wheel". When the load begins to move, it can be controlled by the clutch lever. Careful, slow movement of the lever will provide smooth control of the load.

3. Remember that the gear train and brake mechanism are completely disengaged in the "Free Wheel" position and in order to power the winch or hold a load in position, the lever must be allowed to return to the "Engaged Gears" position.

**Note:** It is not necessary to turn the clutch lever completely to the "Engaged Gears" position manually. The spring tension built into the winch provides adequate force on the clutch lever. **Caution: Never force clutch lever in either direction.**

## AUXILIARY HANDLE

1. An emergency crank handle is provided for use in the event of a power failure. Remove the electrical switch from the winch. **Caution:** Never operate the winch electrically with the emergency handle in position.

2. Remove the plastic plug from the side of the winch housing and insert the handle so that it completely engages with the drive shaft. The handle can be cranked in either direction with the clutch in the engaged position. However, to make cranking easier, the clutch can be placed in the free wheel position while holding onto the emergency handle.

**Caution:** If the clutch is placed in free wheel for hand cranking, be sure to maintain a firm grip on the handle at all times since losing control of the handle will allow it to spin rapidly.

3. Always remove the handle from the winch after use and replace the plastic plug.

## WINCH MAINTENANCE

For long life and trouble-free operation, your winch should periodically be inspected for any required maintenance. This should be done at least once annually and more frequently in adverse conditions such as salt water areas or areas of extreme dust and dirt.

1. Carefully inspect the winch cable for any kinks, frays or abnormal stiffness and replace at the first sign of this kind of damage. Periodic lubrication with a light oil will improve the life of the cable. In order to replace the winch cable, it is necessary to remove the clutch handle (AX), by removing the two clutch handle screws (AY), and the four cover mounting bolts (Y&AN). Be sure that the switch is disengaged from the housing and lift the housing off of the winch by gently stretching it open near the lower front corner. Rotate the winch reel so that you have access to the rope clamp. Remove the old cable and replace it with a new cable of the same size. Be sure that the cable passes under both sides of the rope clamp and that the clamp is tightened securely.

2. With the cover removed as described above, inspect the entire gear train and all drive shafts for any abnormal wear or loose bearing fits. Grease all of the gears on the inside of the winch base and apply a drop of oil on all of the bearings in the



CABLE ATTACHMENT METHOD

base. Also, very sparingly oil all of the bearings in the clutch mechanism and place a drop of oil on the roller clutch (AG). Do not over lubricate these areas and do not use grease in the roller clutch (AG). The clutch mechanism and the brake pad and brake drum must be kept clean and oil free.

3. Carefully lift the brake spring (X) slightly up off the brake pad and check the operation of the roller clutch. The brake drum on the motor shaft must turn freely in the counterclockwise direction and must lock on to the motor shaft when rotated in the clockwise direction. Also, check all nuts, bolts, retaining rings, etc., to be sure that they are tight and secure.

4. Check the switch contact studs (CM & CL) in the winch housing to be sure that they are free from any corrosion or excessive electrical pitting. Make sure that the housing shunt spring (CN) is properly in place and making contact with both contact pins.

## TROUBLE SHOOTING

1. Motor labors and then stops: Load being pulled exceeds winch rating.

2. Motor does not operate: Check for electrical continuity throughout entire wiring system.

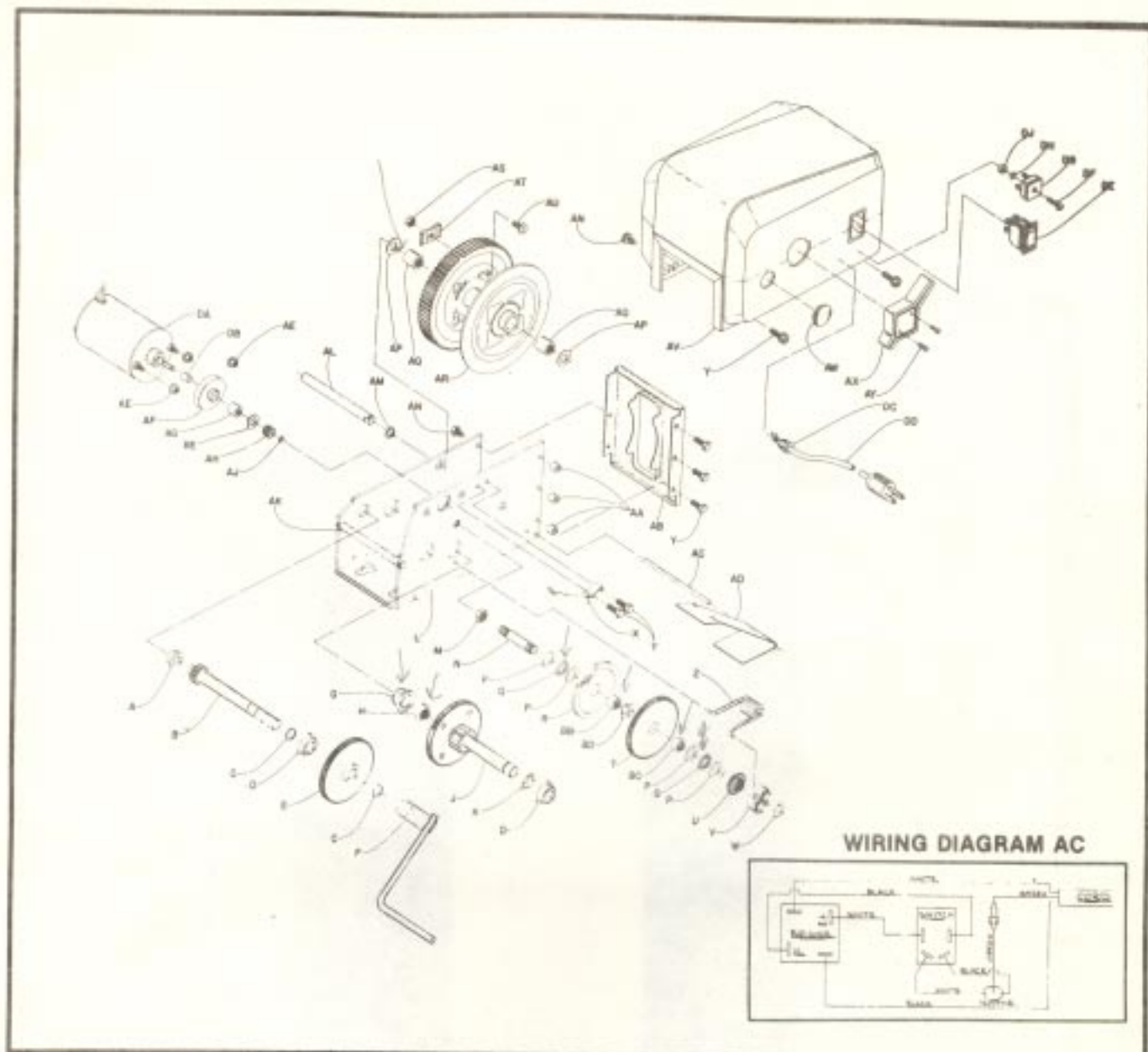
3. Motor runs but winch does not operate or will not pull rated load: a) Clutch lever is in free wheel position. b) Clutch material on clutch gear (R) is dirty, greasy or oily. Clean thoroughly. c) Clutch mechanism is loose and requires adjustment. The clutch is adjustable in ten degree increments. With a screw driver and pliers, remove the end of the clutch spring (Z) from the hole in the winch base. The spring tension is quite high so be careful to maintain a firm grip on the spring. The O-ring (W) should then be removed. The O-ring should be rotated so that the cut out portions align with the lugs on the spring keeper (V). The ring can then be expanded with a pencil or similar object and the spring keeper can be lifted free from the clutch nut (U). Rotate the keeper clockwise 10 degrees and install on the next serration in the clutch nut. Reinstall O-ring and rotate slightly so that the cut outs are not in line with the lugs on the spring keeper and reinstall the clutch spring into the hole in the base. Adjustment of the clutch more than 10 degrees to 20 degrees should normally not be necessary. With only spring pressure (do not forcibly tighten the clutch mechanism) the spring lug on the spring keeper should come to rest at approximately the 2:30 o'clock position. d) Check entire winch gear train for broken gears, shafts or bearings.

4. Winch raises load but in OFF position will not hold load in position: a) Brake drum and brake pad have become dirty, greasy or oily. Clean and dry thoroughly. b) Roller clutch is not locking onto motor shaft properly (see winch maintenance). c) Clutch mechanism is out of adjustment (see item 3c above).

## PARTS AND SERVICE

For parts and service please contact Dutton-Lainson Company, P.O. Box 729, Hastings, Nebraska 68901. Refer to Model SA9000AC.





WIRING DIAGRAM AC

PARTS LIST

| Ref. | Part                        | Number |
|------|-----------------------------|--------|
| A    | Bushing                     | 204006 |
| B    | Primary Drive Shaft Assy    | 304304 |
| C    | Retaining Ring (2)          | 205191 |
| D    | Bushing (2)                 | 204009 |
| E    | 56T Gear                    | 204703 |
| F    | Aux. Handle Assy            | 304307 |
| G    | Drive Shaft Bearing Housing | 404515 |
| H    | Bearing                     | 205183 |
| J    | Interm. Drive Shaft Assy    | 304302 |
| K    | "E" Ring                    | 205116 |
| L    | Base                        | 404500 |
| M    | Nut-7/16-20 Locknut         | 205192 |
| N    | Clutch Stud                 | 404517 |
| O    | Bearing Race (4)            | 205186 |
| P    | Thrust Bearing (2)          | 205185 |
| Q    | Clutch Gear Assy            | 304305 |
| R    | Bearing (2)                 | 205184 |
| S    | BAT Gear                    | 204702 |
| T    | Clutch Handle Insert        | 404518 |
| V    | Clutch Spring Keeper        | 204721 |
| W    | "O" Ring                    | 205188 |
| X    | Brake Spring Assy           | 304308 |
| Y    | Screw-1/4-20x1 (7)          | 205190 |
| Z    | Clutch Spring               | 204711 |

| Ref. | Part                     | Number |
|------|--------------------------|--------|
| AA   | Spacer (3)               | 404513 |
| AB   | Front Plate              | 404511 |
| AC   | Level Wind Pin           | 404516 |
| AD   | Level Wind               | 204709 |
| AE   | Nut-10-32 Locknut (2)    | 205193 |
| AF   | Brake Drum               | 404519 |
| AG   | Roller Clutch            | 205187 |
| AH   | 12T Pinion Gear          | 404522 |
| AJ   | "E" Ring                 | 205135 |
| AK   | Base Spacer              | 404510 |
| AL   | Reel Shaft               | 404514 |
| AM   | Retaining Ring           | 204326 |
| AN   | Screw-1/4-20x3/8 (4)     | 205189 |
| AP   | Washer (2)               | 205109 |
| AQ   | Bearing (2)              | 205182 |
| AR   | Reel Assy                | 304300 |
| AS   | Nut-1/4-20               | 205016 |
| AT   | Rope Clamp               | 404043 |
| AU   | Carriage Bolt-1/4-20x5/8 | 205017 |
| AV   | Cover                    | 204720 |
| AW   | Cover Plug               | 204713 |
| AX   | Clutch Handle            | 204712 |
| AY   | Screw-#4x1/2             | 205196 |
| BB   | Bearing                  | 205202 |
| BC   | Bearing                  | 205201 |
| BD   | Finger Spring Washer     | 205200 |
| BE   | Washer                   | 205024 |

A.C. MOTOR PARTS

|    |                       |        |
|----|-----------------------|--------|
| DA | Motor Assy            | 304309 |
| DB | Motor Shaft Sleeve    | 404521 |
| DC | Strain Relief Bushing | 205037 |
| DD | Electrical Cord       | 205038 |
| DE | Switch                | 204419 |
| DF | Screw-8-32x7/8 Lg     | 205180 |
| DG | Bridge                | 204418 |
| DH | Lock Washer-#8 Inter  | 205194 |
| DJ | Nut-8-32              | 205195 |