FITTING INSTRUCTIONS

T-MAX ATV WINCH

EW-2300, 2300lbs, DC, 12V

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M720407A

T-MAX ATV WINCH

SAFETY PRECAUTIONS

Warning! Observe safety precautions for personal safety and the safety of others. Improper equipment operation may cause personal injury and equipment damage.

Read the following carefully before attempting to operate your winch .

1. Dress Properly:

-Don't wear loose clothing or jewellery. They can be caught in moving parts.

-Wear leather gloves when handling winch wire rope. Do not handle cable with bare hands as broken wires can cause injuries.

2.Keep a Safe Distance:

-Ensure that all persons stand well clear of winch cable and load during winch operation, 1.5 times the cable length recommended. If a cable pulls loose or breaks under load it can lash back and cause serious personal injury or death.

-Dont step over the cable.

-All visitors and onlookers should be kept away from the work area.

-Keep proper footing and balance at all times.

3. Don't Abuse the Cord:

-Never carry your winch by the cord or yank it to disconnect it from the receptacle.

-Keep cord from heat, oil and sharp edges.

4. Don't Overwork the winch:

-If the motor becomes uncomfortably hot to touch, stop and let it cool for a few minutes.

-Don't maintain power to the winch if the motor stalls.

-Don't exceed maximum line pull ratings shown in tables. Shock loads must not exceed these ratings.

5.Avoid Unintentional Starting:

-Winch clutch should be disengaged when not in use and fully engaged when in use.

6. Check Damaged Parts:

-Before using, you should check your winch arefully. Any part that is damaged should be properly repaired or Replaced by an authorized service centre.

7. Repair Your Winch:

-When repairing, use only identical replacement parts or it may cause considerable danger for the user.

8. Respool the Cable:

-Leather gloves must be worn while respooling. To respool correctly, it is necessary to keep a slight load on the cable. Hold the cable with one hand and the remote control switch with the other. Start as far back and in the centre as you can. Walk up keeping load on the cable as the winch is powered in.

-Do not allow the cable to slop through your hand and do not approach the winch too closely.

-Turn off the winch and repeat the procedure until all the cable except 1m is in.

-Disconnect the remote control switch and finish spooling in cable by rotating the drum by hand with clutch disengaged.

-On hidden winches, spool in cable under power but keep hands clear.

Warning: The use of any other accessory or attachment other than those recommended in the instruction manual may present a risk of personal. After installing the winch, practice using it when the need arises.

WINCH OPERATION WARNINGS

Read the following carefully before attempting to operate your winch and keep the instructions for future reference.

1. Do not overload. Do not attempt to exceed the pulling limit of your winch.

2. The vehicle engine should be running during winch operation.

3. Learn to use your winch. After installing the winch, practice using it when the need arises.

4. Do not "move"your vehicle to assist the winch in pulling the load. The combination of the winch and vehicle pulling together could overload the wire rope and the winch.

5. Always stand clear of wire rope, hook and winch.

6. Inspect wire rope and equipment frequently. A frayed wire rope with broken stands should be replaced immediately.

7. Use heavy leather gloves when handling wire rope. Do not let wire rope slide through your hands even when wearing gloves.

8. Never winch with less than 4 turns of wire rope which are marked by a red cable around the winch drum since the wire rope end fastener will not withstand a load and should be attempted beyond this marking.

9. Keep clear of winch, taut wire rope and hook when operating winch. Never put your finger through the hook. If your finger should become trapped in the hook, you could lose your finger. Always use the handsaver bar when guiding the wire rope in or out.

10. Never hook the wire rope back onto itself because you could damage the wire rope. Use a nylon sling.

11. Draping a heavy blanket or similar object over the extended winch cable is recommended as it will dampen any back lash should a failure occur.

12. Never use your winch to lift support or otherwise transport persons.

13. Never use your winch in hoisting applications due to required hoist safety factors and features.

14. Avoid continuous pulls from extreme angles as this will cause the wire ripe to pile up at one end of the drum and winch can jam the wire rope in the winch, causing damage to the rope or the winch.

15. Observe your winch while winching, if possible while standing at a safe distance. Stop the winching process every metre or so to assure the cable is not pulling up in one corner. Jamming the cable can break your winch.

16. Equipment such as shackles, hooks, pulley blocks, straps, ect. Should be sized to the winching task and should be periodically inspected for damage that could reduce their strength.

17. Never release freespool clutch when these is a load on the winch.

18. Keep the control system well and away from the use by children or other unauthorized persons.

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

20. Always unplug the remote pendant and disconnect winch power leads to battery before working in or around the fairlead or winch drum, so that the winch cannot be turned on accidentally.

21. When moving a load, slowly take up the wire rope slack until it becomes taut. Stop, recheck all winching connections. Be sure the hook is properly seated. If a nylon sling is used, check the attachment to the load.

22. When using your winch to move a load, place the vehicle transmission in neutral, set vehicle parking brake and chock all wheels.

23. Do not use the winch to hold loads in place. Use other means of securing loads such as tie down straps.

24. When repair, use only factor approved switches, remote controls and accessories. Use of non-factory approved components may cause injury or property damage and could void your warranty.

25. Never allow shock loads to be applied to winch or wire rope.

26. Use caution when pulling or lowering a load up and down a ramp or incline. Keep people, pets and property clear of the path of the load.

27. Do not connect winch to either 110V ac house current or 220V mains as winch burnout or fatal shock may occur.

28. Do not machine or weld any part of the winch. Such alterations may weaken the structural integrity of the winch and could void your warrnty.

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

INSTALLATION

Step (1)

Install mounting kit or prepare a flat, secure mounting location for the winch. Carefully follow the instructions included with the mounting kit.

Note: If you choose not to use a mounting kit, you will need to drill holes in the structural support or your vehicle. Be certain that your structural support will stand up to the rated pulling forces of this winch.

Step (2)

Position the winch over the holes in the mounting kit or structural support.

Step (3)

Secure winch to mounting kit or structural support using bolts,

Washers and nuts supplied.

Note: In order to gain access to the hardware directly underneath the cable drum it may be necessary to un spool the cable from the winch Drum.

INSTALLATION-ROCKER SWITCH

CAUTION!

When attaching wires to the motor or solenoid terminals hold the inner nut with a wrench while tightening the outer nut with a second wrench. Do not allow the terminals to rotate in their housings. Rotation may cause internal wire damage or part Misalignment.

Step (1)

Check to ensure that the vehicle ground and positive leads to the battery are disconnected before performing any electrical work.

DANGER!

DO NOT ATTEMPT TO INSTALL WIRING WHEN THE BATTERY IS CONNECTED! Automotive and powersports batteries contain flammable and explosive gases. Wear eye protection during installation and remove all metal jewelry. Do not lean over battery while making connections.

Step (2)

Route the wiring harness, attaching the harness to hard points on the vehicle with cable ties.

Note: When routing the wires, the appropriate terminals should be located near the battery, switch mounting point and winch. Your installation requirements will vary depending upon your vehicle and winch. Note that if the wires are not long enough to reach the battery, switch mounting point and winch you may need to increase the length and/or wire gauge of the wiring harness.

WARNING!

Ensure that the wiring harness does not interfere or come in contact with any hot or moving engine parts. Suspension, steering, braking or exhaust parts.

Step (3)
Using the rubber-coated clamps, mount the switch box in a convenient location.

Note: Rocker switch can be mounted horizontally or vertically depending upon available space. When mounting vertically, only one mounting vertically, only one mounting clamp is used. Horizontal mounting requires two clamps. When mounting vertically it may be necessary to drill two holes in the switch housing. The holes are pre-marked but be relocated depending on your installation needs.

Step (4)
Feed switch wire terminals through the hole in the switch box rear panel and through the switch box.

Step (5)
Match wire terminals to appropriate spade terminals on the back of the rocker switch and make connections (figure3).

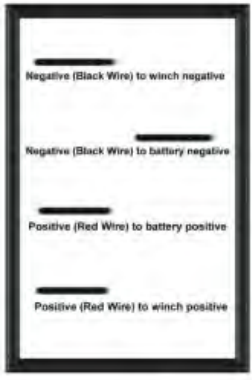


Figure 3 Switch Wiring Diagram

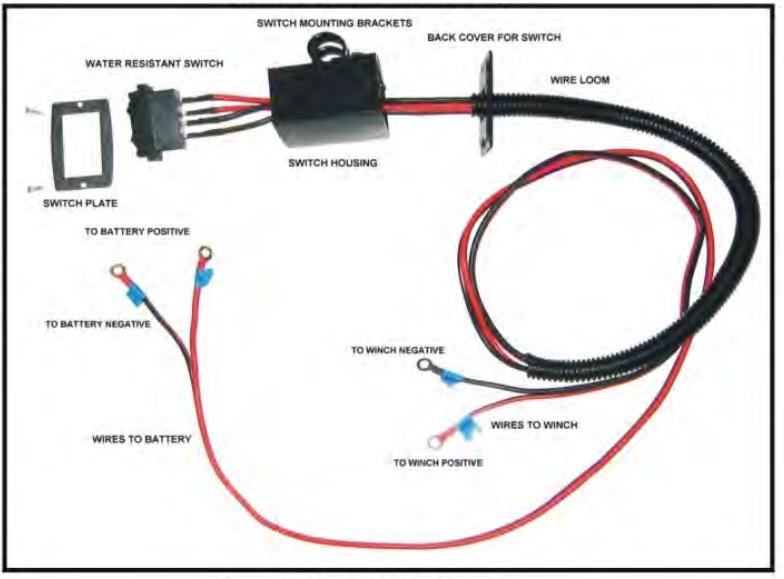


Figure 4 Winch Wiring Diagram

Step (6)

Insert switch into box. Install metal switch plate to front of switch box with the bow of the plate facing toward the switch face using the supplied self-screws (figure 4).

WARNING!

Be sure that switch-mounting position does not impede the operation of the vehicle. Before driving the vehicle, test the vehicle control system range or motion to ensure that switch wiring does not interfere with vehicle operation.

Step (7)

Connect the circuit breaker assembly to the positive (red) battery wire (figure4).

Step (8)

Connect the remaining black wire to the negative battery terminal (figure4).

WINCH OPERATION

WARNING!

Before testing winch operation, be sure to reel Off approximately two feet of wire rope.

Notes: If you choose to locate the winch or switch at a greater distance than the wires permit it may be necessary to purchase a heavier gauge wire to get the best performance from your winch.

If the total length of additional wire to be added exceeds 10 use a heavier wire gauge.

If you vehicle is equipped with side pole terminal, it may be necessary obtain auxiliary side terminal bolts from your local parts store to make these connections.

SUGGESTION:

The best way to get acquainted with how your winch operates is to make a few test runs before you actually need to use it .Plan your test in advance. Remember you can hear your winch as well as you can see it operate. Get to recognize the sound of a light steady pull, a heavy pull, and sounds caused by load jerking or shifting. Soon you will gain confidence in operating your winch and its use will become second nature to you.

OPERATING:

1. Ensure the vehicle is secure by applying the parking brake or chocking the wheels

2. Pull out the winch cable the desired length and connect to an anchor point.

The winch clutch allows rapid uncoiling of the cable for hooking onto the load or anchor point. The shifter tab located on the gear housing of the winch operates the clutch as follows:

a) To disengage the clutch, move the clutch shifter tab to the "OUT" position. Cable may be free spooled off the drum.

b) To engage the clutch, move the clutch shifter tab into the "IN" position. The winch is now ready for pulling.

3. Recheck all cable rigging before proceeding.

4. Plug in the winch hand control. It is recommended that the winching operation takes place from the driver's position to ensure safe operation.

5. To commence winching operation, start vehicle engine, select neutral in transmission, maintain engine speed at idle.

6. Operate the remote control switch to IN or OUT until the vehicle has been retrieved. Regularly check the winch to ensure cable is winding onto the drum evenly.

Note:

1. Never winch with your vehicle in gear or in park, which would damage your vehicle's transmission.

2. Never wrap the cable around the object and hook onto the cable itself. This can cause damage to the object being pulled, and kink or fray the cable.

3. Keep hands, clothing, hair and jewellery clear of the drum area and cable when winching.

4. Never use the winch if the cable is frayed, kinked or damaged.

5. Never allow anyone to stand near the cable, or in line with the cable behind the winch while it is under power. If the cable should slip or brake, it can suddenly whip back towards the winch, causing a hazzard for anyone in the area. Always stand well to the side while winding.

6. Don't leave the switch plugged in and take off power from battery when winch is not in use.

CHECK THE WINCH CAREFULLY AND THOROUGHLY BEFORE OPERATING!

MAINTENANCE

It is highly recommended that the winch be used regularly (once a month). Simply power the cable out 15m, free spool 5m and then power back in. This will keep all components in good working condition so that the winch can be relied on when needed. Contact your authorised outlet for technical assistance and repairs.

SPARE PARTS:

A comprehensive range of spare parts is available.

Please contact the distributor shown on the end cover.

Winching capacity

1. This winch has a capacity of 2300lbs.

2. Pulling capacity is reduced as the incline increases. Recommended safe loads for various inclines are listed in the table below:

Rated Line Pull	10%	20%	40%	60%	80%	100%
1500lb	7538	5102	3233	2496	2134	1500
2000lb	10050	6803	6347	2816	2407	2000
2300lb	11557	7822	4957	3827	3271	2300

Note:

1. This guide is recommended for average vehicle rolling loads. Some applications may require a larger winch than indicated.

2. The weight the winch could pull perpendicular to the ground with a single line on the first layer of cable on the drum.

3. A 10% grade is rise of one metre in ten metre.

4. Winch is not intended as a load securing device.

T-MAX EW-2300 FEATURES AND SPECIFICATIONS

Rated line pull:	2300LB (1040kgs) Single-line
Gear Ratio	153:1
Gear train	NGWN type planetary gear transmission
Clutch	Spline joint clutch
Motor	Permanent magnet DC 12V motor with 0.85hp output
Battery Leads	5/32"x6' (4mm^{2}x1850mm)
Control	5/32"x4.6' (4mm^{2}x1400mm)
Overall Dimension:	11.65"(L)x3.82"(W)x4.1"(H) 296(L)x97(W)x105(H)
Drum size:	⌀1.24"(D)x2.88"(L) (⌀31.5(D)x73(L)mm))
Fairlead	No
Cable length:	49ft of⌀5/32" (15m(L)of⌀4mm)
Weight	11lbs 5kgs (N.W) 12.3lbs 5.6kgs (G.W)
Finish	Black
Mounting Bolt Pattern	10.00+0.015INx4.50+0.010IN(254.0x114.3mm)

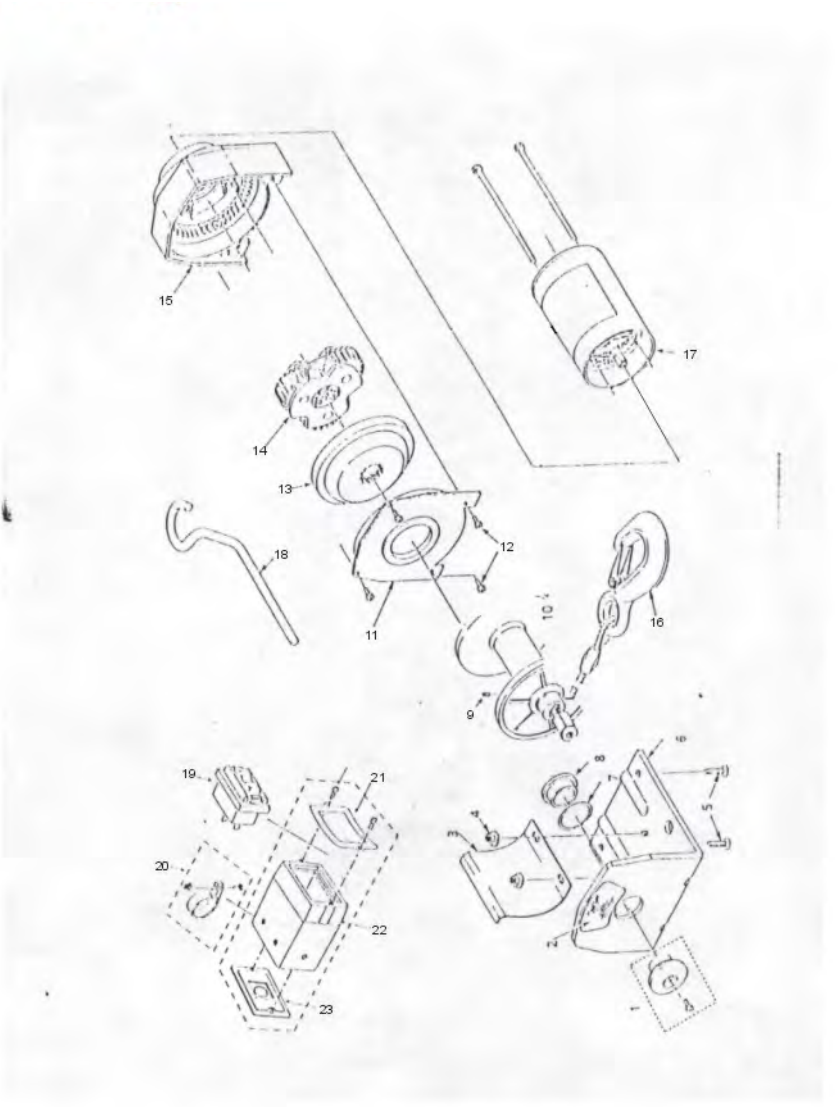
T-MAX EW-2300 LINE SPEED AND AMP DRAW (FIRST LAYER)

Line Pull	Lbs	NO	500	1000	1500	2000	2300
	Kgs	LOAD	227	454	680	906	1042
Line Speed	ft/min	10.5	9.2	7.5	5.9	4.2	2.7
	M/min	3.2	2.8	2.3	1.8	1.3	0.8
Motor Current	amps	8	30	60	90	118	132

T-MAX EW-2300 LINE PULL AND CABLE CAPACITY

Layer of cable		1	2	3	4	5	6
Rated line	Lbs	2300	1630	1380	1190	1050	940
Pullper layer	Kgs	1040	740	620	540	470	420
Cumulative	Ft	2.7	14	22	31	41	49
Cable capacity	m	0.8	4.3	6.8	9.5	12.5	15

PART LIST



SPARE PART LIST

No.	Description	Quantity
1.	Knob	1
2.	Clutch label	1
3.	Laminated spring	1
4.	Screw M5x12	2
5.	Bolt M6x16	2
6.	Right end support	1
7.	Gasket	1
8.	Bearing	1
9.	Fastening	1
10.	Drum	1
11.	left end support	1
12.	Bolt M4x12	1
13..	Inner gear	1
14.	Planetary gear assy	1
15.	Motor end support	1
16.	Wire rope and hook assy	1
17.	Motor	1
18.	Manual handle	1
19.	Rocker switch	1
20.	Switch mounting brackets	1
21.	Switch plate	1
22.	Switch housing	1
23.	Back cover for switch	1

TROUBLESHOOTING CHART

If a problem arises, contact your nearest Supplier or Repair Center.

Symptom	Possible Cause(s)	Corrective Action
Motor will not operate or run in one direction Only	1. Switch inoperative 2. Broken wires or bad connection 3. Damaged motor	1. Replace switch 2. Check for poor connections 3. Replace or repair motor
Motor runs extremely hot	1.Long period of operation 2. Damaged motor	1. Allow to cool 2. Replace or repair motor
Motor runs but with insufficient power or line speed Motor runs but	1. Weak battery 2. Battery to winch wire too Long 3.Poor battery connection 4. Poor ground 5. Damaged motor	1. Recharge or replace battery. 2. Keep winch within distance allowed by lead wires 3.Check battery terminals for corrosion. Clean as required 4. Check and clean connections 5.Repair or replace motor
Drum doesn't turn	1. Clutch not engaged	1.Engage clutch
Winch runs backwards	1. Motor wires reversed 2. Switch wires reversed 3. Switch installed incorrectly	1.Recheck wiring 2.Recheck wiring 3.Check switch installation
Winch will not hold load	1.Excessive load	

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