

# trail maxx™

WINCH

## User Manual

WF Series - 4WD Electric Winch

12000lb



**TRAILPARTS™**  
Innovative Trailer Solutions



*We do the business.*

# 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 and keep the instructions for future reference.

## ■ **Dress properly:**

- » Do not wear loose clothing or jewellery; they can be caught in moving parts.
- » Wear leather gloves when handling winch rope/cable, as broken ropes/cable can cause injuries.
- » Non-slip footwear is recommended.

## ■ **Keep a safe distance:**

- » Ensure that all persons stand well clear of the winch rope/cable and load during winch operation, 1.5 times the rope/cable length is recommended. If a rope/cable pulls loose under load or breaks it can lash back and cause serious injury.
- » Do not step over the rope/wire.
- » All visitors and onlookers should be kept well clear of the work area.
- » Ensure a secure footing and balance while operating the winch.

## ■ **Do not misuse the control Rope/Wire:**

- » Never carry the winch by the cord, or disconnect it from the receptacle by pulling the rope/cable.
- » Keep rope/cable away from heat, oil and sharp edges.

## ■ **Do not overwork the winch:**

- » If the motor becomes uncomfortably hot to touch, stop and let it cool for a few minutes.
- » Do not maintain power to the winch if the motor stalls.
- » Do not exceed maximum line pull ratings shown in tables, shock loads must not exceed these ratings.
- » Any winch showing signs of misuse and/or excessive heat will not be accepted for warranty.

## ■ **Avoid unintentional starting:**

- » Winch clutch should be disengaged when not in use and fully engaged when in use.
- » Never release the winch clutch while under load.

## ■ **Check for damaged parts:**

- » Before using, you should check your winch carefully. Any part that is damaged should be properly repaired or replaced by a Trailmaxx authorised service centre.

## ■ **Repairing your winch:**

- » When repairing the winch use only genuine Trailmaxx replacement parts, as using any other parts will invalidate the warranty and may result in injury to the user.

## ■ **Re-spooling the Rope/Wire:**

- » Leather gloves must be worn while re-spooling.
- » To re-spool correctly, it is necessary to keep a slight load on the rope/cable. Hold the rope/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 rope/wire as the winch is powered in.
- » Do not allow the rope/wire to run loosely through your hand and do not approach the winch too closely.
- » Turn off the winch and repeat the procedure until all but 1m of rope/cable is in.
- » Disconnect the remote control switch and finish spooling in the rope/wire by rotating the drum by hand with the clutch disengaged.
- » On hidden winches, spool in the rope/cable under power but keep hands clear.

# OPERATION WARNINGS

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

- The uneven spooling of rope/cable while pulling a load is not a problem, unless there is a rope/cable pile up at one end of the drum. If this happens reverse the winch to relieve the load and move your anchor point further to the centre of the vehicle. After the job is done you can unspool and rewind for a neat lay of rope/wire.
- Store the remote control switch inside your vehicle where it will not be damaged, and always inspect it before you plug it in.
- When ready to begin spooling in, plug in the remote control switch with clutch disengaged. Do not engage the clutch with the motor running.
- Never connect the hook back to the rope/cable as this causes rope/wire damage. Always use a sling or chain of suitable length.
- Keep a close watch on your winch from a safe distance while operating; stop the winch periodically to check that the rope/cable is not pulling up in a corner. Jamming the rope/cable can break your winch.
- Do not attach tow hook to winch mounting plate, it must be attached to the vehicle frame.
- The use of a snatch block will aid recovery operations by providing a doubling of the winch capacity and a halving of the winch speed, and the means to maintain a direct line pull to the centre of the rollers. When double loading during stationery winching, the winch tow hook should be attached to the chassis of the vehicle.
- Ensure rated "D" or bow shackles are used in conjunction with an approved tree trunk protector to provide a safe anchor point.
- When extending the winch rope/cable, ensure that the rope/cable is wrapped at least 5 times around the drum at all times. Failure to ensure this could result in the rope/cable parting from the drum under load resulting in severe personal injury and/or damage to property.
- All Trailmaxx winches are provided with a marking on the rope/cable to indicate when the last 5 turns of Rope are left on the drum. No recovery should be attempted with this mark showing beyond the rollers.
- Since the greatest pulling power is achieved on the innermost layer of your winch, it is desirable to pull off as much line as possible for heavy pulls (You must leave at least 5 turns on the drum). If this is not practical use a snatch block and double line arrangement.
- Draping a heavy blanket or similar object over the extended winch rope/cable is recommended as it will dampen any backlash should a failure occur.
- Neat, tight spooling avoids rope/cable binding, which is caused when a load is applied and the rope/cable is pinched between the other coils. If this happens, alternatively power the winch in and out; do not attempt to work a bound rope/cable under load, free by hand.
- Apply blocks to wheels when vehicles are on an incline.
- Battery;
  - » Be sure that the battery is in good condition. Avoid contact with the battery acid and other contaminants.
  - » Always wear eye protection when working around a battery.
  - » Have the engine running when using the winch to avoid draining the battery.



## OPERATION WARNINGS CONT.

- Winch rope/cable;
  - » Be sure that the rope/cable is in good condition and is attached properly.
  - » Do not use the winch if rope/cable is frayed.
  - » Do not move the vehicle to pull a load.
  - » Do not replace the rope/cable with a Rope of lesser strength.
  - » The life of the rope/cable is directly related to the use and care it receives. Following its first and subsequent uses, a rope/cable must be wound on to the drum under a load of at least 500lbs (230kgs) or the outer wraps will draw into the inner wraps and severely damage the rope/cable during winching. The first winch run should be a familiarisation run while in a relaxed, non-recovery situation. Spool out the rope/cable until the rope/cable mark appears, then rewind the rope/cable on the drum under a load of 500lbs (230kgs) or more. This will slightly stretch and tension the new rope/cable and create a tight rope/cable wrap around the drum. Failure to do so may result in Rope damage and reduced rope/cable life.
  - » When the rope/cable is replaced, be sure to apply loctite or an equal compound to the rope/cable clamp thread. Tighten the clamp screw properly but do not over tighten. The loctite will prevent loosening of the screw in arduous conditions. Loctite 7471 primer and 222 threadlocker are recommended..
- Do not attempt to exceed the pulling limits of this winch
- Do not drive your vehicle to assist the winch in any way. Vehicle movement in combination with winch operation may overload the rope/cable, the winch itself or cause damaging shock loads.
- Shock loads when winching are dangerous! A shock load occurs when an increase in force is suddenly applied to the rope/cable. A vehicle rolling back on a slack rope/cable may induce a damaging shock load.
- The winches shown in this manual are solely for vehicle and boat mounted non-industrial applications.
- Do not use the winch in hoisting as these winches do not conform to the required hoist safety factors and features.
- Do not use the winch to lift, support or otherwise transport personnel.

## WINCH INSTALLATION

### MOUNTING YOUR WINCH

Mount the winch on the vehicle using the M8 x 30 bolts and spring washers provided. The winch must be mounted in position with the rope/cable spooling off the bottom of the reel not the top. Improper mounting could damage your winch and void the Trailmaxx warranty.

1. The winch is to be mounted into a suitable steel mounting frame using the 4 point foot mounting system in either a horizontal or vertical plane. It is very important that the winch be mounted on a flat surface so that the three sections (motor, cable drum and gear housing) are properly aligned. The fitment of winches and/or a frontal protection system may affect the triggering of SRS airbags. Check that the mounting system has been tested and approved for winch fitment in the airbag equipped vehicle.
2. Winch mounting frames and/or frontal protection systems are suggested to suit most popular vehicles. Winch frames are packaged with detailed fitting instructions.

## WINCH INSTALLATION CONT.

3. Should you wish to manufacture your own mounting plate, it is recommended to use no less than 6mm thick steel. Fasteners should be high tensile steel, a minimum of grade 5. A poorly designed or underrated mounting plate will void the Trailmaxx warranty.
4. The winch should be secured to the mounting with 3/8" UNC x 1-1/4" stainless steel bolts and spring washers provided.
5. The roller fairhead is to be mounted so as to guide the rope onto the drum evenly.

## LUBRICATION APPLICATION

All moving parts in the winch are permanently lubricated with high temperature lithium grease at time of assembly. Lubricate cable periodically using light penetrating oil. Inspect rope/cable for broken strands regularly and replace if necessary. If the rope/cable becomes worn or damaged it must be replaced. Do not replace rope/cable with a rope/cable which is rated lower than the original.

## ELECTRICAL CONNECTION

For normal self recovery work, your existing electrical system is adequate. A fully charged battery and proper connections are essential. Run the vehicle engine during winching operations to keep the battery fully charged.

1. Short red cable connecting to red terminal on the motor.
2. Short black cable with yellow jacket connecting to the yellow terminal on the motor.
3. Short black cable with black jacket connecting to the black terminal on the motor.
4. Thin black cable connecting to the bottom terminal on the motor.
5. Long black cable (1.8m), one end connecting to the bottom terminal of the motor, and the other end to the negative (-) terminal of the battery.
6. Long red cable connecting to the positive (+) terminal of the battery.

### Note:

- » Your battery must be kept in good condition.
- » Ensure battery cables are not drawn taught across any surfaces, which could possibly damage them.
- » Corrosion on electrical connections will reduce performance and could cause a short, Clean all connections regularly, in salty environments use a silicone sealer to protect from corrosion.

## WIRELESS CONTROL

Your Trailmaxx winch is installed with a wireless control unit housed in the control box. This unit should have an operating range of at least 10 meters. If problems are experienced with the wireless control it may be of benefit to open the control box, locate the wireless control unit attached to the inside of the case, locate the aerial (green wire attached only at one end) and feed it out through the bottom of the control box into a more exposed position. To further extend the performance of the wireless control a Trailmaxx booster aerial can also be fitted.



# ROPE/CABLE INSTALLATION

Unwind the new rope/cable by rolling it along the ground, to prevent kinking. Remove old rope/cable and observe the manner in which it is attached to the drum flange.

## WINCH OPERATION

### 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 recognise the sound of a light steady pull, a heavy pull, and sounds caused by the load jerking or shifting. Soon you will gain confidence in operating your winch and its use will become second nature to you.

### OPERATING WINCH

1. Ensure the vehicle is secure by applying the park brake or chocking the wheels.
2. Pull out the winch rope/cable to the desired length and connect to the anchor point. The winch clutch allows rapid uncoiling of the rope/cable for hooking onto the load or the 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 into the "OUT" position. rope/cable may not 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 rope/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 the vehicle engine, select neutral in the transmission, and maintain engine speed at idle.
6. Operate the remote control switch in or out until the vehicle or load has been retrieved. Regularly check the winch to ensure rope/cable is winding onto the drum evenly.

### NOTES

- » Never winch with your vehicle in gear as this could damage the transmission.
- » Never wrap the rope/cable around the object and hook onto the rope/cable itself. This can cause damage to the object being pulled, and may kink or fray the rope/cable.
- » Keep hands, clothing, hair and jewellery clear of the drum area and rope/cable when winching.
- » Never use the winch if the rope/cable is frayed, kinked or damaged.
- » Never allow anyone to stand near the rope/cable or in line with the rope/cable behind the winch while it is under power. If the rope/cable should slip or brake, it can suddenly whip back towards the winch, causing serious injury to anyone in the area. Always stand well to the side when winching.
- » Do not leave the switch plugged in while not in use.

**CHECK THE WINCH CAREFULLY AND THOROUGHLY BEFORE OPERATING!**

# PERFORMANCE SPECS.

## WF120 - 12v/24v 12,000lb 4WD Winch

### Performance / Specifications

<b>Rated pull (Single)</b>	12000lb / 5455kg	<b>Rope</b>	10mm x 26m
<b>Motor</b>	Series Wound 12v/24v DC, 6hp	<b>Cable</b>	9.5mm x 26m
<b>Reduction Ratio</b>	265:1	<b>Overall Dimensions</b>	530L x 160W x 218H

### Line Speed & Current Drain (First Layer)

Line Pull lb / kg	0	2000lb or 906kg	4000lb or 1818kg	6000lb or 2727kg	8000lb or 3636kg	10000lb or 4545kg	12000lb or 5455kg
<b>Line Speed (mpm)</b>	6.5	3.5	2.85	2.4	2	1.75	1.35
<b>Current Drain 12v</b>	65	126	175	230	280	355	390
<b>Current Drain 24v</b>	35	65	90	115	140	180	195

### Line Pull Capacity - Based on first layer on drum

Rope / Cable Layer	1	2	3	4
<b>Rated Line Pull per Layer</b>	12000lb/5455kg	9210lb/4186kg	8030lb/3650kg	6894lb/3134kg
<b>Total rope on drum</b>	4.8m	12m	21m	26m

# MAINTENANCE

It is highly recommended that the winch be used regularly (at least once a month). Simply power out the rope/cable 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 Trailparts outlet for technical assistance and repairs.

### NOTE:

*The safety precautions and instructions 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 features which cannot be built into this product, and must be supplied by the operator. Trailparts™ accepts no liability for any consequences of using this product if not used in accord with this manual.*



# TROUBLE SHOOTING

Symptom	Possible Cause	Suggested Remedy
Motor does not turn on	Safety switch is off	Turn safety switch to the ON position.
	Switch assembly is not connected correctly	Insert safety switch assembly firmly into the connector.
	Loose battery cable	Tighten nuts on cable connectors.
	Solenoid malfunctioning	Tap solenoid to free contact, applying 12/24 volts to coil terminal directly. Make an audible clicking when activating.
	Defective switch assembly	Replace switch assembly.
	Defective motor	Check for voltage at armature port with switch pressed. If voltage is present, replace motor.
	Water has entered motor	Drain and dry. Run in short bursts without load until completely dry.
Motor runs too hot	Long period of operation	Let winch cool down periodically.
Motor runs slowly or without normal power	Low or flat battery	Recharge battery by running vehicle.
	Insufficient current or voltage	Clean, tighten or replace the connector.
Motor runs but rope/cable drum does not turn	Clutch not engaged	Turn the selector lever to the IN position, if that does not work, take to a qualified Trailmaxx technician to check and repair.
Motor runs in one direction only	Defective or stuck solenoid	Tap solenoid to free contacts. Repair or replace solenoid.
	Defective switch assembly	Replace switch assembly.

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