

OPERATION MANUAL



V4000S UTV Winch

Table of contents:

Winch Packing List.....	02
Safety Warnings & Precautions.....	02
Installation.....	08
Mount the Winch.....	08
Install the Wiring.....	09
Check the System.....	10
Winch Maintenance.....	10
Troubleshooting.....	11
V4000S.....	12
Winch Assembly Drawing.....	13
Winch Parts List.....	14

Thank you for purchasing our winches . Our winch has been designed and manufactured to provide years of trouble-free operation . We wish you will be satisfied with their performance . If you are not , for any reason , please contact us .

Annotation : This book is only suitable for series X winches.

Winch Packing List

DESCRIPTION	QUANTITY
1. Winch Assembly with Synthefic Rope	1
2. Cap Bolt M8* 30	2
3. Lock Washers	2
4. Flat Washers.....	2
5. M8 Nuts.....	2
6. Clevis Hook w/Pin	1
7. Power Cord/Switch Assembly	1
8. Strap	1

Warnings and Cautions



As you read these instructions, you will see WARNINGS, CAUTIONS, NOTICES and NOTES.

Each message has a specific purpose. WARNINGS are safety messages that indicate a potentially hazardous situation, which, if not avoided could result in serious injury or death. CAUTIONS are safety messages that indicate a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. A CAUTION may also be used to alert against unsafe practice. CAUTIONS and WARNINGS identify the hazard, indicate how to avoid the hazard, and advise of the probable consequence of not avoiding the hazard. NOTICES are messages to avoid property damage. NOTES are additional information to help you complete a procedure. **PLEASE WORK SAFELY!**



MOVING PARTS ENTANGLEMENT HAZARD

Failure to observe these instructions could lead to severe injury or death. To avoid injury to hands or fingers:

- **Always** keep hands clear of rope, hook loop, hook and fairlead opening during installation, operation and when spooling in or out.
- **Always** use extreme caution when handling hook and rope during spooling operations.
- **Always** use supplied hook strap whenever spooling rope in or out, during installation, and during operation.
- **Always** keep vehicle in sight during winching operation.
- **Always** wear heavy leather gloves when handling rope.



CHEMICAL AND FIRE HAZARD

Failure to observe these instructions could lead to severe injury or death.

- **Always** remove jewelry and wear eye protection.
 - **Never** lean over battery while making connections.
 - **Always** verify area is clear of fuel lines, fuel tank, brake lines, electrical wires, etc.
- When drilling.
- **Never** route electrical cables:
 - Across any sharp edges.
 - Through or near moving parts.
 - Near parts that become hot.
 - **Always** insulate and protect all exposed wiring and electrical terminals.
 - **Always** install terminal boots as directed in installation instructions.



MOVING PARTS ENTANGLEMENT HAZARD

Failure to observe these instructions could lead to minor or moderate injury.

- **Always** keep wired remote control lead clear of the drum, rope and rigging. Inspect for cracks, pinches, frayed wires or loose connections. Replace remote control if damaged.
- **Always** pass wired remote control through a window to avoid pinching lead in door, when using remote inside a vehicle.
- **Never** leave remote control where it can be activated during freespooling, rigging, or when the winch is not being used.
- **Always** require operator and bystanders to be aware of vehicle and or load.



MOVING PARTS ENTANGLEMENT HAZARD

Failure to observe these instructions could lead to minor or moderate injury. General Safety:

- **Always** know your winch. Take time to fully read the Installation Guide and the Basic Guide to Winching Techniques in order to understand your winch and its operation.
 - **Never** operate this winch if you are under 16 years of age.
 - **Never** operate this winch when under the influence of drugs, alcohol or medication.
 - **Never** exceed winch or rope capacity listed on product data sheet. Double line using a snatch block to reduce winch load.
- Installation Safety:
- **Always** choose a mounting location that is sufficiently strong to withstand the maximum pulling capacity of your winch.
 - **Always** use factory approved mounting hardware, components, and accessories.
 - **Always** use grade 5 (grade 8.8 metric) or better mounting hardware.
 - **Never** weld mounting bolts.
 - **Always** use care when using longer bolts than those supplied from factory. Bolts that are too long can damage the base and/or prevent the winch from being mounted securely.

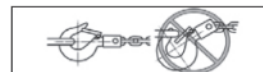
- **Always** mount the winch and attach the hook to the rope's end loop before connecting the electrical wiring.
- **Always** spool the rope onto the drum in the direction specified by the winch warning label on the winch and/or documentation. This is required for the automatic brake (if so equipped) to function properly.
- **Always** prestretch wire rope and respool under load before use. Tightly wound wire rope reduces chances of “binding” , which can damage the rope.



MOVING PARTS ENTANGLEMENT HAZARD

Failure to observe these instructions could lead to minor or moderate injury.

- **Always** inspect, rope, hook, and slings before operating winch. Frayed, or damaged rope must be replaced immediately. Damaged components must be replaced before operation. Protect parts from damage.
- **Never** leave remote control plugged into winch when free spooling, rigging, or when the winch is not being used.
- **Never** hook rope back onto itself. This damages the rope.
- **Always** use a choker chain, choker rope, or tree trunk protector on the anchor.
- **Always** remove any element or obstacle that may interfere with safe operation of the winch.
- **Always** take time to use appropriate rigging techniques for a winch pull.
- **Always** be certain the anchor you select will withstand the load and the strap or chain will not slip.
- **Never** engage or disengage clutch if winch is under load, rope is in tension or drum is moving.
- **Always** select an anchor point as far away as possible. This will provide the winch with its greatest pulling power.
- **Never** winch with less than 5 wraps of rope around the drum. The rope could come loose from the drum.
- **Never** touch rope or hook while in tension or under load.
- **Never** touch rope or hook while someone else is at the control switch or during winching operation.
- **Always** stand clear of rope and load and keep others away while winching.
- **Always** be aware of stability of vehicle and load during winching, keep others away. Alert all bystanders of any unstable condition.
- **Never** use winch to secure a load.



MOVING PARTS ENTANGLEMENT HAZARD

Failure to observe these instructions could lead to minor to moderate injury.

- **Always** use a hook with a latch
- **Always** insure hook latch is closed and not supporting load.
- **Never** apply load to hook tip or latch. Apply load only to the center of hook.
- **Never** use a hook whose throat opening has increased, or whose tip is bent or twisted.



FALLING OR CRUSHING HAZARD

Failure to observe these instructions could lead to severe injury or death.

- **Never** use winch to lift or move persons.
- **Never** use winch as a hoist or to suspend a load.



CUT AND BURN HAZARD

Failure to observe these instructions could lead to minor or moderate injury.

To avoid injury to hands and fingers:

- **Always** wear heavy leather gloves when handling a rope.

- **Never** let rope slip through your hands.
- **Always** be aware of possible hot surface at winch motor, drum or rope during or after winch use.

NOTICE

AVOID WINCH AND EQUIPMENT

DAMAGE

- **Always** avoid side pulls which can pile up rope at one end of the drum. This can damage rope or winch.
- Always ensure the clutch is fully engaged or disengaged.
- Never use winch to tow other vehicles or objects. Shock loads can momentarily exceed capacity of rope and winch.
- Always avoid “powering out” for extended distances. This causes excess heat and wear on the winch motor and brake.
- Always use care to not damage the vehicle frame when anchoring to a vehicle during a winching operation.
- Never “jog” rope under load. Shock loads can momentarily exceed capacity of rope and winch.
- Never use winch to secure a load during transport.
- Never submerge winch in water.
- Always store the remote control in a protected, clean, dry area.
- Always double line or pick distant anchor point when rigging. This maximizes pulling power and avoids overloading the winch.

CAUTION

To prevent accidental activation of the winch and serious injury, complete the winch installation and attach the hook before installing the wiring.

Safety

When installing your winch system, read and follow all mounting and safety instructions. Always use caution when working with electricity and remember to verify that no exposed electrical connections exist before energizing your winch circuit. For specifications and performance data, refer to the specification sheet supplied with your winch.

Step 1 - Mount the Winch

To secure the winch, always use:

A flat, secure mounting location at least 4.8 mm (3/16 in.) Thick.

Lock washers.

Hex head cap screws when using a one-piece winch mount plate.

Note: When using separate winch mount and fairlead plates use hex head capscrews on the motor side of the base as shown in Figure 1.

Torque the mounting bolts to 16 N-m (12 lb-ft)

Remove bottom tie bolt. This bolt should be retained for winch service.

Attach the clevis hook to the wire rope.

Put clutch in freespool position.

Manually feed cable loop through fairlead.

- Attach hook to cable loop and re-engage clutch.

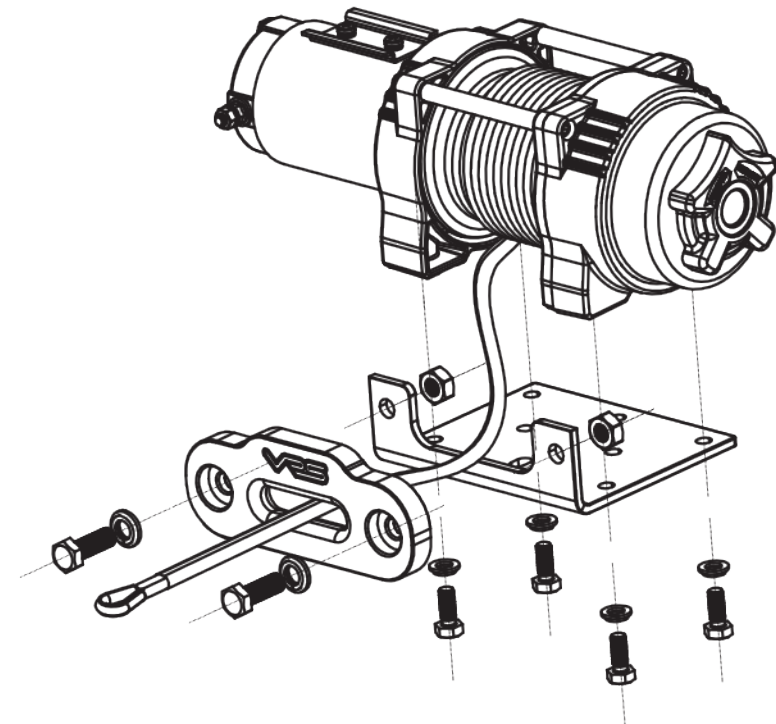


Figure 1: Orientation of winch to mounting plate and bolt lengths.

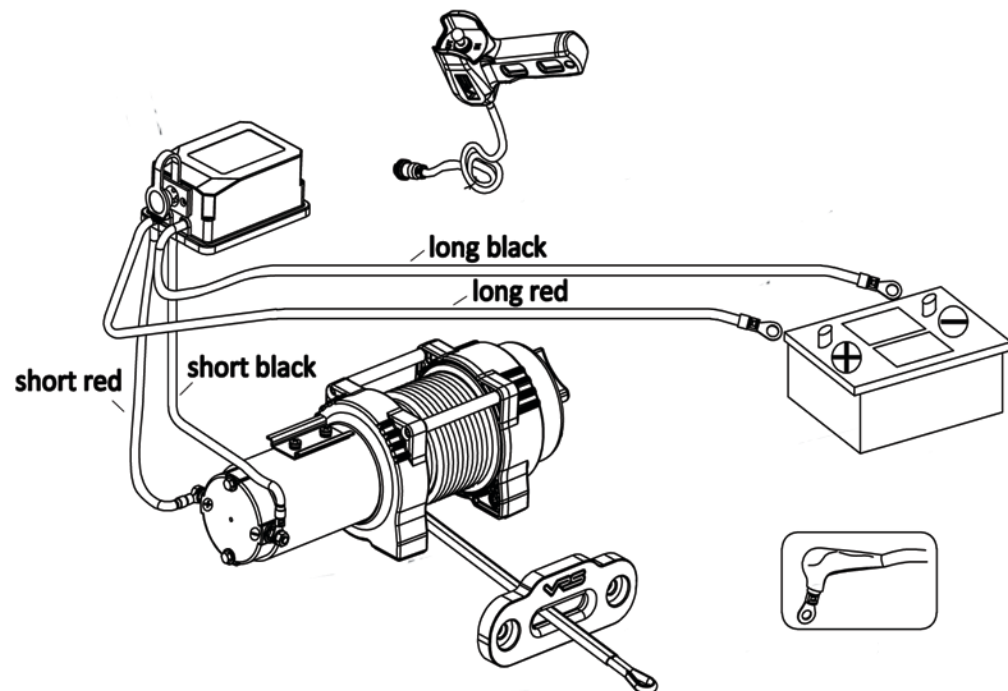


Figure 2

NOTE: Install the control box
Mount the control box on winch.
Connect the short red cable to the “+” terminal of the motor.
Connect the short black cable to the “-” terminal of the motor .
Connect the long red cable to the “+” terminal of the battery .
Connect the long black cable to the “-” terminal of the battery .

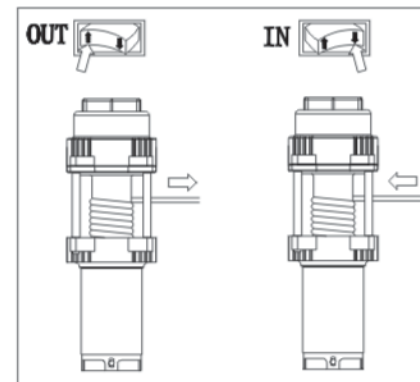
Figure 2. Wiring Installation diagram

- **Always** remove jewelry and wear eye protection.
- **Never** lean over battery while making connections.
- **Always** verify area is clear of fuel lines, fuel tank, brake lines, electrical wires, etc.

When drilling.

- **Never** route electrical cables:
 - Across any sharp edges.
 - Through or near moving parts.
 - Near parts that become hot.
- **Always** insulate and protect all exposed wiring and electrical terminals.
- **Always** install terminal boots as directed in installation instructions.

Step 2 - Check the System



Before using the winch, verify the following:

- Wiring to all components is correct. All loose wires are tie wrapped tight.
- There are no exposed wiring or terminals. Cover any existing terminal exposures with terminal boots, heat shrink tubing or electricians tape.
- Check winch for proper operation. The wire rope should spool in and out in the direction indicated on the switch.

WINCH MAINTENANCE :

- No further internal lubrication is required for the life of the winch . The winch should not immersion in water (waterproof winch should not be soaked in water for a long time) . If the winch immersions in water by accident , you should loose the earth screw , put the net water as soon as possible . And you should use the winch within 3 days , make the motor to work and not stop until hands can feel it hot , as it can rid of water vapor into the motor .
- You should clean and lubricate after using; Also should store the winch in the dry and drain place, disengage the clutch , and avoid children to contact and play .
- Each assembly or connection screw is loosen, or corrosion , please repair and replace timely

Troubleshooting

NO.	SYMPTOM	POSSIBLE	SUGGESTED
1	Motor does not turn on	- Switch Assembly not connected properly - Loose battery cable Connections - Solenoid malfunctioning - Defective Switch Assembly - Defective motor - Water has entered motor	- Insert Switch Assembly all the way into the connector. - Tighten nuts on all cable connections. - Tap solenoid to loosen contacts. Apply 12volts to coil terminals directly A clicking indicates proper activation. - Replace Switch Assembly - Check for voltage at armature port with Switch pressed. If voltage is present replace motor. - Allow to drain and dry. Run in short bursts without load until completely dry.
2	Motor runs but Cable drum does not turn	-Cam Ring (clutch) not engaged	-Move Cam Ring to the “in” position. If problem persists, a qualified technician needs to check and repair.
3	Motor runs slowly or without normal power	- Insufficient current or voltage	- Battery weak, recharge. Run winch with vehicle motor running. - Loose or corroded battery cable connections. Clean ,tighten, or replace
4	Motor runs too hot	- Long period of operation	-Let winch cool down periodically
5	Winch runs in one direction only	- Defective or stuck solenoid - Defective Switch Assembly	- Tap solenoid to loosen contacts. - Repair or replace solenoid. - Replace Switch Assembly

V 4000S

Specifications

Rated line pull	4000lbs (1818kgs) single line
Out put	(1.6hp)/1.2kw DC12V
Gear Train	3 stage planetary
Gear ratio	198:1
Synthetic rope	6mmx10m
Drum size	50mmx76.5mm
Dimensions	334mmX114mmX120mm
Bolt pattern	124mmX76mm
N.W	19LBS(8.6KGS)

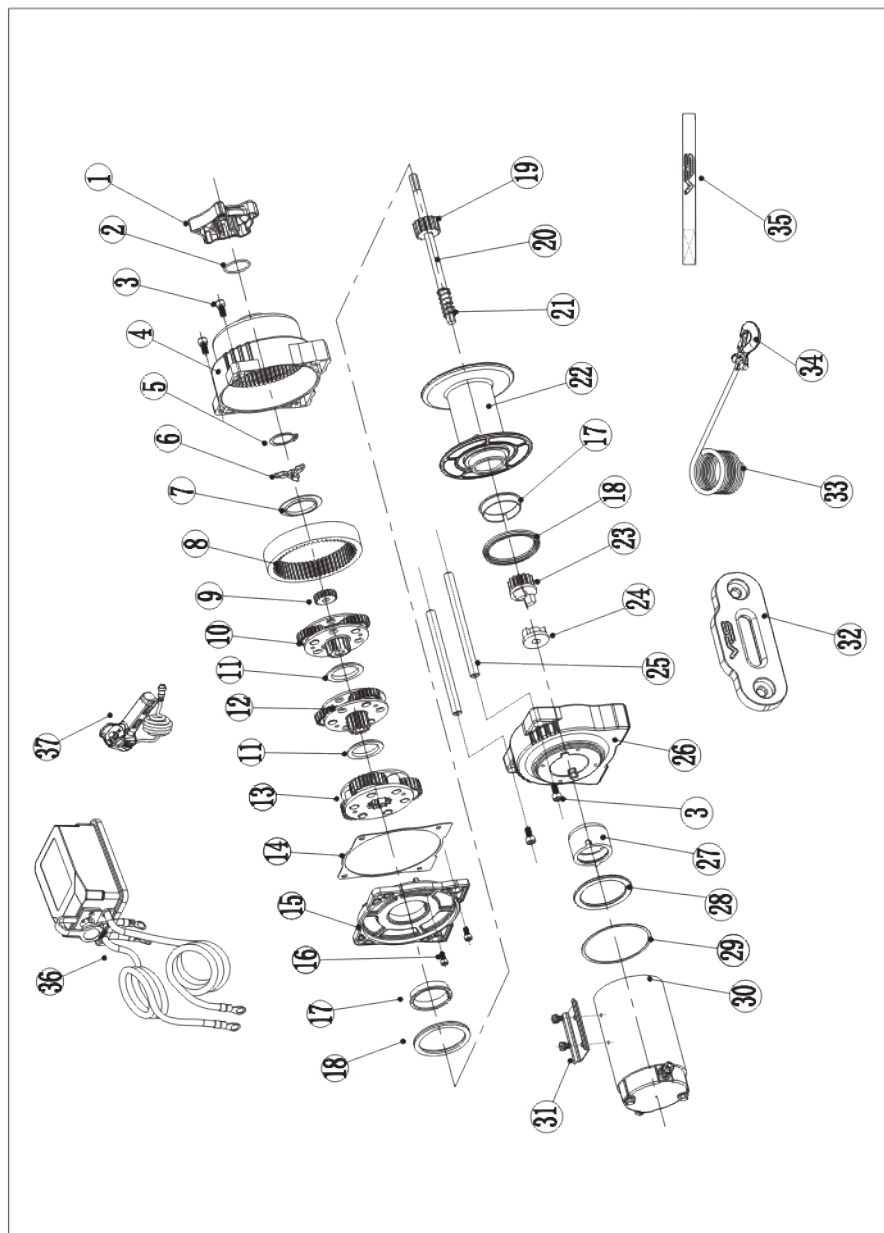
Line speed and motor current(first layer)

Line pull	LBS	0	1000	2000	3000	4000
	KGS	0	454	907	1360	1818
Line speed	FPM	16	10.5	9.2	7.2	4.9
	MPM	4.9	3.2	2.8	2.2	1.5
Motor current	Amps	17	70	105	135	180

Line pull and cable capacity

Layer of cable		1	2	3	4
Rated line pull Per layer	LBS	4000	3225	2700	2325
	KGS	1816	1460	1225	1055
Cable capacity Per layer	Ft.	6.6	14.1	23.6	32
	M	2.0	4.3	7.2	10

Winch Assembly Drawing



V4000S Winch parts' list

NO .	Part#	QTY	Description
1		1	Clutch knob
2		1	O ring seal
3		4	Hex head screw M5*20
4		1	Gear box body
5		1	Washer
6		1	Slide block for clutch
7		1	Bushing
8		1	Gear ring
9		1	Sun gear
10		1	Gear carrier assembly state 1
11		2	Washer
12		1	Gear carrier assembly state 2
13		1	Gear carrier assembly state 3
14		1	Gasket
15		1	Drum support, gear box
16		2	Hex head screw M5*15
17		2	Sliding bushing
18		4	O ring for water proof
19		1	Drive splined gear
20		1	Shaft
21		1	Spring
22		1	Drum
23		1	Brake gear
24		1	Brake base
25		2	Tie rod
26		1	Drum support, motor
27		1	Bearing bushing
28		1	O ring seal
29		1	Gasket
30		1	Motor
31		1	Control box bracket
32		1	Hawse fairlead
33		1	Synthetic rope 6mmX10m
34		1	Hook
35		1	Strap
36		1	Control box assy
37		1	Remote control