



motoalliance

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Installation and Operation Manual for

**VIPER ATV/UTV
Winches**

Thank you for purchasing a VIPER Winch from MotoAlliance. VIPER winches are sold by dealers around the world and are known for premium performance at prices people can afford. Please take time to thoroughly read through the following instructions. If you have any questions, call our team at 866.527.7637 or visit us at www.motoalliance.com.

I. SAFETY PRECAUTIONS

As operator of this product, the responsibility for safe operation ultimately lies with you. It is important that you read and understand all the safety precautions and operating instructions prior to installing and operating your winch. Failure to understand that proper operation of this product can result in serious injury and/or property damage. Please begin with the following general safety information.

Load Capacities and Instructions

1. Maximum working load capacity is on the first layer closest to the drum. Do not overload. Do not attempt prolonged pulls at heavy loads. Overloads can damage the winch and/or cable and create unsafe operating conditions.
2. Do not move the vehicle to assist the winch in pulling the load. **This is considered towing** which can damage the winch in an obvious way and will void the warranty.
3. Never use the winch for lifting or moving people.
4. **The winch is not designed for hoisting overhead.** Each winch is equipped with a permanent magnet motor and is designed for

intermittent duty winching. Using as a hoist will void the warranty.

5. 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.
6. When using a winch to move a load, place the vehicle transmission in neutral, set the vehicle parking brake and chock the wheels.
7. Do not use the winch to hold loads in place – for example, it should not be used to tie down a winch on a trailer. Please use tie-down straps.

Steel Cable / Synthetic Rope Usage

1. Cables are installed under minimal load at the factory. **It must be respoiled onto the drum under minimum 500lb load** to take the “flex” out of the line so that the outer layers will not draw down onto the inner layers and damage the winch and/or cable. Please see *Cable / Rope and Rubber Line Stopper Installation* under the Installation Instructions section for more information.
2. Cables will unwind quickly the first time the gears are unengaged. Hold the cable with your thumb as you disengage using the freespool knob to prevent tangling the cable on the drum (“bird’s nest”). This condition will disappear as the cable ages and the flex is taken out of the line.
3. Cables must be guided when spooling onto the winch. This may involve stopping the pull and checking the cable periodically, particularly when pulling at severe angles. If it is not winding in evenly (if it is piling upon either end), stop

and tie off the load, re-align the cable, and begin again. Simply winching in the cable without checking can cause serious damage.

4. When using the freespool option, there cannot be any pressure on the cable or the mechanism could ruin. Unwind the cable slightly with the switch and motor to create slack in it before disengaging the gears.
5. Always stand clear of the cable when winching in case of breakage. Inspect the cable frequently. A frayed cable should be replaced immediately to prevent injury to people and damage to vehicles.

For Safety:

- Use leather gloves when handling the cable
 - Put a damper blanket or heavy blanket on steel cables when under load
6. Never put fingers through the clevis hook when winching. Doing so may cause the loss of a finger.
 7. When moving a load, always make sure the cable is taut. If a nylon sling is used, check the attachment to the load.

General Safety Items

1. Never obscure the warning instruction label.
2. *A/ways* operate the winch with an unobstructed view of the winching operation.
3. Never release the freespool knob when there is a load on the winch.
4. Disable the winch when not in use so unauthorized people or children are not able to start the winch. We suggest also removing the key to prevent such use.

5. Do not operate under the influence of drugs, alcohol or medication.
6. Do not connect the winch to either 110V AC house current or 220V, as winch burnout or fatal shock can occur.
7. Always disconnect the battery connections before working with the winch so that it cannot be accidentally turned on.

II. INSTALLATION INSTRUCTIONS

Winch Mounting Information

1. It is recommended to use a mounting kit that has been engineered for specific make/model ATV/UTVs. Mounting kits for most models are available at www.motoalliance.com. Winch mount kits by other manufacturers may be used provided they follow the standard four bolt mounting pattern.
2. VIPER winches come with a universal mount plate that may be used as a fairlead mount. It may also be used to mount the winch on a flat surface. Modifications may need to be made to the plate for use on different ATV/UTVs.
3. Most often, winches are mounted with the cable coming from under the spool. In certain instances (such as the Honda Rancher 420) cable will come from the top of the spool.
4. Detailed mounting instructions are included in VIPER winch mounting kits.

Electrical Information

Additional information is available at www.motoalliance.com under Technical Support. Our MotoAlliance Technician is available at 866.527.7637. Please note your winch model diagram/picture in the following section for further instruction.

DO NOT ATTEMPT TO INSTALL WIRING WHEN THE BATTERY IS CONNECTED!

DISCONNECT VEHICLE GROUND AND POSITIVE BATTERY LEADS FROM THE BATTERY BEFORE BEGINNING.

Severe injury from hazardous and flammable materials may be released or ignited. Wear eye protections and remove all metal jewelry. Do not lean over battery when making connections.

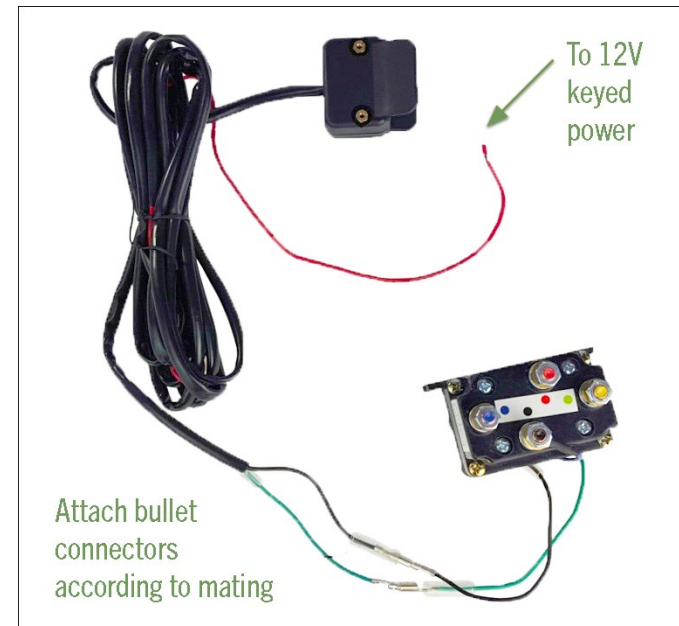
1. When attaching wires to the motor or contactor terminals, hold the inner nut with a wrench while tightening the outer nut with a second wrench. Do not allow the terminals to rotate in their housings. Rotation may cause internal wire damage or part misalignment.

2. CONTACTOR LOCATION:

The contactor separates the winch from its power source when not in use. It is recommended that the contactor be mounted close to the battery in a clean, dry location. Typical locations are in or near the glove compartment or storage box and on some models, under the seat. Make sure the location chosen allows sufficient clearance from

all metal components such as frame tubes. Drill mounting holes once a location is found but do not install as it is easier to wire the contactor prior to mounting.

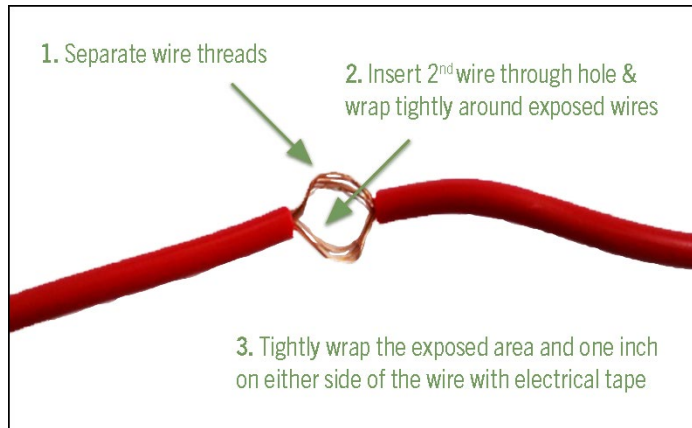
3. SWITCH MOUNTING and INSTALLATION:



- a. Turn off the machine ignition and disconnect the negative battery terminal.
- b. Attach the handle bar switch to the handle bar using the included mount.
Note: Use a piece of electrical tape to prevent rotation on the bar.
- c. Route the wiring harness back to the contactor/solenoid avoiding sharp edges and hot surfaces.

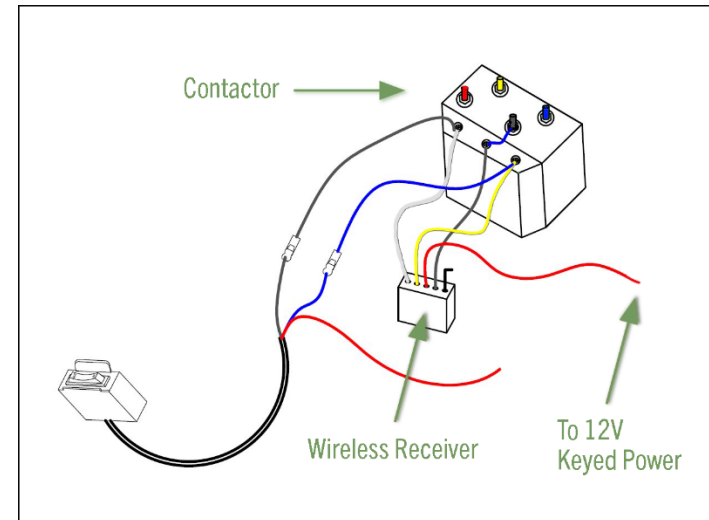
- d. Splice the end of the red wire to a key controlled auxiliary power wire on the ATV/UTV following the instructions shown below.

Note: *The wire should only have power when the ignition key is turned on.*



- e. Attach the two bullet connectors to the corresponding connectors on the winch contactor/solenoid.

- f. If your winch comes with a wireless remote, follow the wiring diagram below to connect the wireless receiver to the contactor.



4. BATTERY CONNECTION:

When routing the wires, the appropriate terminals should be located near the battery, switch, mounting point and winch. Installation requirements will vary depending on the winch and vehicle.

Note: *If the wires are not long enough to reach the battery, switch mounting point, and winch, switch the wires or increase the length of the wiring harness.*

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

Attach the battery wires and the winch wires to the contactor locations as shown below.

Note: Do not connect the battery at this time.



Connect BLUE post to the winch BLUE post
Connect YELLOW post to the winch YELLOW post
Connect RED post to the battery POSITIVE post
Connect BLACK post to the battery NEGATIVE post

For more installation assistance, please call our toll-free line at 866.527.7637 or visit our technical support page at www.motoalliance.com.

Cable / Rope and Rubber Line Stopper Installation

The first layer around the winch drum should be put on close and tight. New cables/ropes must be wound onto the drum of the winch under a load of at least 500lb. Cables/Ropes are not wound on the winch under load at the time of production.

1. Completely unspool the steel cable / synthetic rope on the winch and remove from the winch.

2. Thread the cable/rope through the hole on the rubber line stopper.
3. Attach the cable/rope back to the winch.
4. Attach the clevis hook to a solid anchor point such as a large tree or another vehicle.
5. Put the ATV/UTV in neutral.
6. Using the handle bar switch, a cabled/tether remote switch, or a wireless remote, slowly wind the cable back onto the winch.
7. Ensure that the cable winds tight and even rows onto the drum. If the cable starts to pile up on one side or becomes tangled, stop winching and power out the cable until the tangled rows are off the drum. Respool in tight, even layers.
8. Stop the winch when the vehicle is about 10 feet away from the anchor point.
9. Let the tension out of the rope and disconnect the clevis hook from the anchor.
10. Attach the hand saver strap to the clevis hook.
11. Hold onto the hand saver strap to spool in the rest of the cable. Do not put your fingers through the winch hook.
12. Carefully spool in the remaining cable under light tension by pulling back on the rope while pulsing the switch. If a rubber line stopper is being used, spool the cable in until the hook is snug against the stopper.

III. WINCH OPERATION

Freewheel / Freespool Operation

1. Move the freewheel clutch knob to disengage. If there is load on the drum, the clutch may not move easily. **DO NOT force the clutch knob**. Release the tension on the drum by letting out some of the cable with the “power out” function.
2. Pull out the desired length of cable and secure to the anchor point or load. Check to ensure there are at least five turns of cable remaining on the drum.
3. Re-engage the drum by returning the clutch to the engaged position. **FREEWHEEL MUST BE ENGAGED** before winching. Never attempt to free or engage the knob while the drum is turning.

Submersion, Heavy Use and Winch Care

1. The winch is an electrical device designed to hold up under extreme conditions as long as it is cleaned, inspected and serviced on a regular schedule. The frequency will depend on operating conditions, frequency of use and common sense.
2. For very heavy pulls, operate the winch in 30 second intervals with pauses of at least one minute to avoid overheating the winch.
3. The freespool knob is not fully sealed and is the most susceptible to environmental conditions such as mud, sand and silt. This can be easily removed and cleaned should it begin to stick.

4. The motor and gears are fully sealed and submersible. However, mud, sand, silt and water are **HIGHLY CORROSIVE** and can degrade the seals and lubrication system if the winch is not carefully cleaned and dried after each use. **DO NOT POWER WASH THE WINCH.**
5. To protect the winch from corrosion and the elements, periodically coat exposed metal parts and components with a light oil. When disassembly and cleaning are performed, gearing should be re-lubricated with a quality gear grease and lubricant.

** Failure to perform simple maintenance items can lead to premature failure and/or repairs. Even though the winch is under warranty, this warranty can be voided if proper care and maintenance is not done. For helpful tips, please visit our technical support area at www.motoalliance.com.

Synthetic Cable Care

1. Use the sliding 5' abrasion guard on points of tension during pulls. For example, if the rope needs to go around a tree, put the guard between the rope and the surface of the tree.
2. Use the abrasion guard when running over sharp objects like rocks or trees. Try to avoid these objects as much as possible.
3. Hawse fairleads are required for use with synthetic ropes. If the hawse fairlead gets a ding in it that causes a sharp point, gently sand the hawse smooth again.

IV. WARRANTY INFORMATION

VIPER winches have been carefully designed to provide exceptional performance and durability. If, in the rare event of a failure of any kind, please observe the following guidelines for warranty and replacement.

1. **Please call us first at 866.527.7637.** It is most helpful if you have your invoice/order number as proof of purchase as the warranty may not be honored without it.
2. **CONTACTOR/SOLENOID PROCESS:** If you believe your contactor is defective, we may ask you to send it in for evaluation. This is to protect a strong warranty process as we have discovered many fraudulent claims in the past. The contactor will be quickly evaluated for care and a new one sent back if the original is defective. In addition, we may have you speak to our technician directly as “fixes” can often be made over the phone.
3. **WINCH PROCESS:** If you believe your winch is defective, we may ask you to send it in for evaluation. We may also ask you to send in digital pictures of the area in questions. Your winch will then be quickly evaluated for care and usage. We may ask you talk to our technician directly about how the winch was used as well.
4. **SYNTHETIC ROPE PROCESS:** We will ask you to send the cable in for evaluation. To maintain warranty, you must:
 - a. use the abrasion guard at points of tension like rocks or trees
 - b. avoid running it over sharp objects

- c. use only a hawse fairlead; use of a roller fairlead can significantly damage the rope and WILL void the winch and rope warranty
- d. be careful to not exceed the breaking strength of the rope – snatch blocks will double the pulling power & can potentially cause the rope to break

*if your rope breaks within the first year of use, you may send it in for warranty evaluation, re-splicing and/or replacement.

5. Further guidelines for warranty:

- a. Most powersports companies require you to pay for shipping both ways. We may ask you to send it in at your cost, but we will send it back at our cost if the warranty covers your claim.
- b. In warranty claims, we will most often do one of three things:
 - i. Send you parts for free of charge (Contiguous USA ...other locations must pay shipping),
 - ii. Repair your winch to full working condition after you send it in
 - iii. Or on rare occasions, send out a new replacement. Only one replacement will be given during the lifetime of the winch.
- c. Steel cable and roller fairleads have no warranty associated with them.
- d. Warranty is voided if the winch is used in applications other than self-recovery.
- e. Warranty is voided if general care and maintenance is not performed.

- f. Typical service time is **3-4 weeks** from receipt of returned item by MotoAlliance to receipt of item to owner.
- 6. The obligation under this warranty, statutory, or otherwise, is limited to the replacement or repair of such part as shall appear to the manufacturer, upon inspection of such part, to have been defective in material or workmanship. This warranty does not obligate MotoAlliance to apply it to a product that has been altered from its original state, misused, neglected, or improperly installed.
- 7. To the fullest extent permitted by applicable law, the following are hereby excluded and disclaimed, and there are no warranties extended beyond these descriptions:
 - a. All warranties of fitness for a particular purpose
 - b. All warranties of merchantability
 - c. All claims for consequential or incidental damages
- 8. MotoAlliance reserves the right to improve any product through changes in design or materials as deserved without being obligated to incorporate such changes in products of previous manufacture. We guarantee to keep parts for your winch style for a period of at least 18 months after we stop selling that style. The stated warranty does not cover bills for service, labor or other expenses which have been incurred by the buyer. The warranty gives you specific legal rights and you may also have other legal rights which vary from state to state.
- 9. **All warranty claims are based on initial invoice date** and not from the time the winch is first installed or used.

Some states do not allow the above exclusions or disclaimers in consumer transactions and as such this disclaimer/exclusion may not apply to your particular case. To the extent such warranties of applicability for a particular purpose or merchantability are deemed to apply to this product, they exist for so long as the express limited warranty elsewhere set forth is in existence.

VI. TROUBLESHOOTING

Please observe the following troubleshooting tips for further help in operating your winch:

Symptom	Possible Cause(s)	Corrective Action
Motor will not operate or runs in one direction only	<ol style="list-style-type: none"> 1. Switch inoperative or wired incorrectly. 2. Broken wires or bad connection. 3. Damaged motor. 	<ol style="list-style-type: none"> 1. Replace Switch. 2. Check for poor connections. 3. Replace or repair motor.
Motor runs extremely hot	<ol style="list-style-type: none"> 1. Long period of operation. 2. Damaged motor. 	<ol style="list-style-type: none"> 1. Allow to cool. 2. Replace or repair motor.
Motor runs but with insufficient power or line speed	<ol style="list-style-type: none"> 1. Weak battery. 2. Battery to winch wire too long. 3. Poor battery connection. 4. Poor ground. 5. Damaged motor. 	<ol style="list-style-type: none"> 1. Recharge or replace battery, check charging system. 2. Keep winch within distance allowed by lead wires. 3. Check battery terminals for corrosion. Clean as required. 4. Check and clean connections. 5. Replace or repair motor.
Motor runs but drum doesn't turn	<ol style="list-style-type: none"> 1. Clutch not engaged. 	<ol style="list-style-type: none"> 1. Engage Clutch
Winch runs backward	<ol style="list-style-type: none"> 1. Motor wires are reversed. 2. Switch sires reversed. 3. Switch installed incorrectly. 	<ol style="list-style-type: none"> 1. Recheck wiring. 2. Recheck wiring. 3. Check switch installation.
Winch will not hold load	Excessive load.	Reduce load or double line.
Contactors only runs one way, or hums	Connections "stuck" on inside.	Lightly tap with hammer to break apart connections.

For any other installation assistance, call us toll-free at 866.527.7637, email tech@motoalliance.com, or visit our YouTube channel, **MotoAllianceTech**, for informational videos, troubleshooting videos, and installation walkthroughs.

Thanks for choosing MotoAlliance.



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