



ATV WINCH

STEEL CABLE

MODEL #U45-R2
4,500 LB. (2041 KG)



OPERATOR'S MANUAL



READ AND SAVE THIS MANUAL.

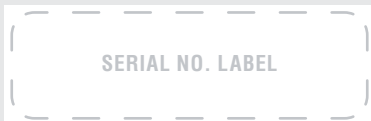
This manual contains important safety precautions which should be read and understood before operating the product.



Failure to do so could result in serious injury. This manual should remain with the product.

Specifications, descriptions, and illustrations in this manual are as accurate as known at the time of publication, but are subject to change without notice.

Place serial label here for reference.



SERIAL NO. LABEL

Support:

1-877-346-2050

or visit www.kfiproducts.com

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INTRODUCTION

Congratulations on your purchase of a KFI winch. KFI researches and develops winches to strict specifications. With proper use and maintenance, this winch will bring years of satisfying service.

Accessories

Kappers Fabricating, Inc. manufactures, purchases, and sells accessories designed to help you get the most from your purchase. To find out more about our products, visit our web site at:

www.kfiproducts.com

This Manual

Every effort has been made to ensure the accuracy and completeness of information in this manual. We reserve the right to change, alter, and or improve the product and this document at any time without prior notice.

Record the model as well as date and place of purchase for future reference. Have this information available when ordering parts and when making technical or warranty inquiries.

KFI TECHNICAL SUPPORT TEAM

1-877-346-2050

MODEL NUMBER

U45-R2

SERIAL NUMBER

DATE OF PURCHASE

PURCHASE LOCATION

SAFETY DEFINITIONS

The purpose of safety symbols is to attract your attention to possible dangers. The safety symbols, and their explanations, deserve your careful attentions and understanding. The safety warnings do not by themselves eliminate any danger. The instructions or warnings they give are not substitutes for proper accident prevention measures.

DANGER

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE

NOTICE indicates information considered important, but not hazard-related (e.g. messages relating to property damage or physical injury).

IMPORTANT SAFETY INSTRUCTIONS

⚠ WARNING Cancer and Reproductive Harm - www.P65Warnings.ca.gov

⚠ WARNING Read this manual thoroughly before operating the winch. Failure to follow instructions could result in serious injury or death.

⚠ WARNING Do not exceed the rated capacity.

⚠ DANGER Do not use this winch for lifting or moving people or animals.

⚠ DANGER Keep yourself and others a safe distance to the side of the cable when under tension.

⚠ DANGER Never step over a cable or near a cable under load.

⚠ WARNING The cable may break before the motor stalls. For heavy loads at or near rated capacity, use a pulley block/snatch block to reduce the load on the cable.

⚠ WARNING Do not move the vehicle to pull a load (towing) on the winch cable. This could result in cable breakage.

⚠ WARNING Pull only on area of the vehicle as specified by the vehicle manufacturer.

⚠ WARNING Do not use the winch to secure or hold a vehicle for a long period of time. Do not use the winch to secure a vehicle for transport.

⚠ WARNING Disconnect the remote control and battery leads when not in use for extended periods.

⚠ WARNING Avoid “shock loads” by using the control switch intermittently to take up slack in the cable. “Shock loads” can far exceed the rated capacity for the winch cable and drum.

Do not accelerate your vehicle while winching. Loss of traction can cause a shock load on the cable. Do not use cable as a pull strap.

⚠ WARNING Batteries contain acid and produce explosive gases. Keep sparks, flames and cigarettes away from batteries at all times. Wear safety glasses and protect the eyes at all times. Do not lean over the batteries during operation.

⚠ WARNING Do not use as a hoist. Do not use for overhead lifting.

⚠ WARNING When re-spooling the cable, ensure that the cable spools in the under-wind position with the cable entering the drum from the bottom, not the top.

To re-spool correctly, and while wearing gloves, keep a slight load on the cable while pushing the remote button to draw in the cable. Walk toward the winch not allowing the cable to slide through your hands. Do not let your hands get within 12 in. of the winch while re-spooling. Turn off the winch and repeat the procedure until a few feet of cable are left. Disconnect the remote control and finish spooling by rotating the drum by hand with the clutch disengaged. Keep hands clear of the fairlead and drum while the winch is under power.

⚠ CAUTION Use gloves to protect hands when handling the cable. Never let the cable slide through your hands.

⚠ CAUTION Do not wrap the cable around any object and hook it back onto itself.

⚠ CAUTION Apply blocks to the wheels of the vehicle when on an incline.

⚠ CAUTION Duration of winching pulls should be kept as short as possible.

If the motor becomes uncomfortably hot to the touch, stop winching immediately and let it cool down for a few minutes. Do not pull for more than one minute at or near the rated load.

⚠ CAUTION If the motor stalls, do not maintain power to the winch.

Electric winches are designed and made for intermittent use and should not be used in constant duty applications.

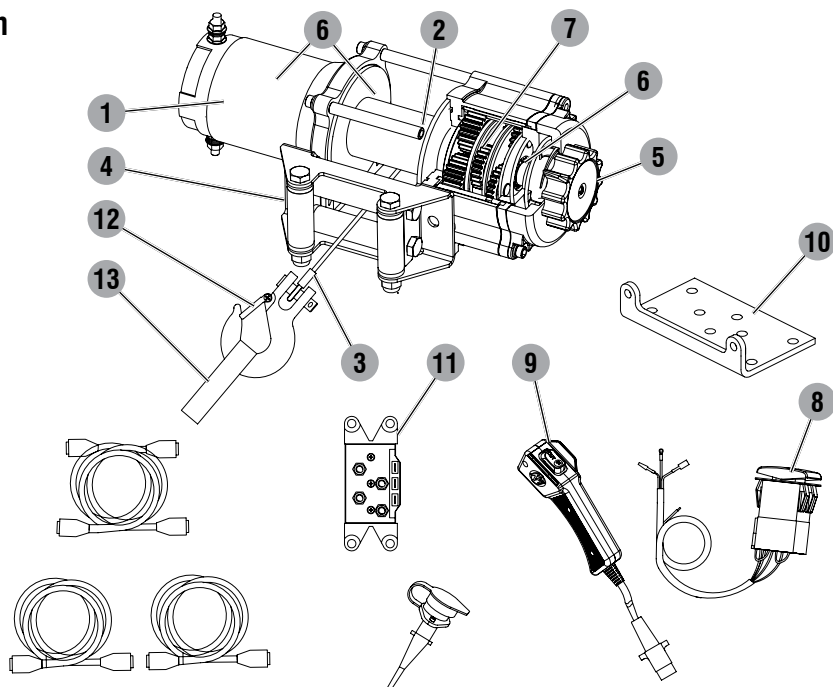
⚠ CAUTION Never release the free spool clutch when there is a load on the winch.

⚠ CAUTION Use the Hand-Saver strap when handling the winch hook for spooling or unspooling the cable.

CONTROLS AND FEATURES

Read this operator's manual before operating your winch. Familiarize yourself with the location and function of the control features. Save this manual for future reference.

Winch



- Motor** – 1.70 HP 12V DC motor provides power to the planetary gear mechanism.
- Winch Drum** – The winch drum is the cylinder on which the cable is stored. It can feed or wind the cable depending on the switch assembly.
- Steel Cable** – 15/64 in. x 38 ft. Galvanized aircraft cable designed specifically for load capacity of 4,500 lbs. (36 usable feet with five wraps on the drum). The cable feeds onto the drum in the “under wind” position through the roller fairlead (4) and is looped at the end to accept the clevis hook pin (12).
- Roller Fairlead** – When using the winch at an angle the roller fairlead acts to guide the steel cable onto the drum and minimize damage to the cable from abrasion on the winch mount or bumper.
- Free Spooling Clutch** – The clutch allows the operator to manually disengage (“Release”) the spooling drum from the gear train. Engaging the clutch (“Engage”) locks the winch into the gear system.
- Braking System** – Braking action is automatically applied to the winch drum when the winch motor is stopped or there is a load on the cable.
- Planetary Gear System** – The reduction gears convert the winch motor power into extreme pulling forces. This system allows high torque while maintaining compact size and light weight.
- UTV Dash Mounted Rocker Switch** – Premium look & quality dash mounted switch for easy access.
- Hand Held Remote** – Hand held switch with a remote socket for powering the cable in or out of your winch drum.

- 10. **Fairlead Mount** – Adapter to mount the winch and fairlead for utility applications.
- 11. **Contact** – Power from the vehicle battery flows through the weather sealed solenoid switch before being directed to the winch motor.
- 12. **Clevis Hook** – Provides a means for connecting the looped ends of cables to an anchor.
- 13. **Hand Saver Strap** – Used to assist cable feed.

INSTALLATION

This KFI 4,500 lb winch is designed with a bolt pattern that is standard for this class of winch. Many winch mounting kits are available that utilize this bolt pattern for the most popular ATVs and UTVs. You can find most of the ATV/UTV winch mounts on our website (www.kfiproductions.com).

Mount the Winch

WARNING Before starting to install this winch, disconnect the vehicle ground and positive leads from the battery.

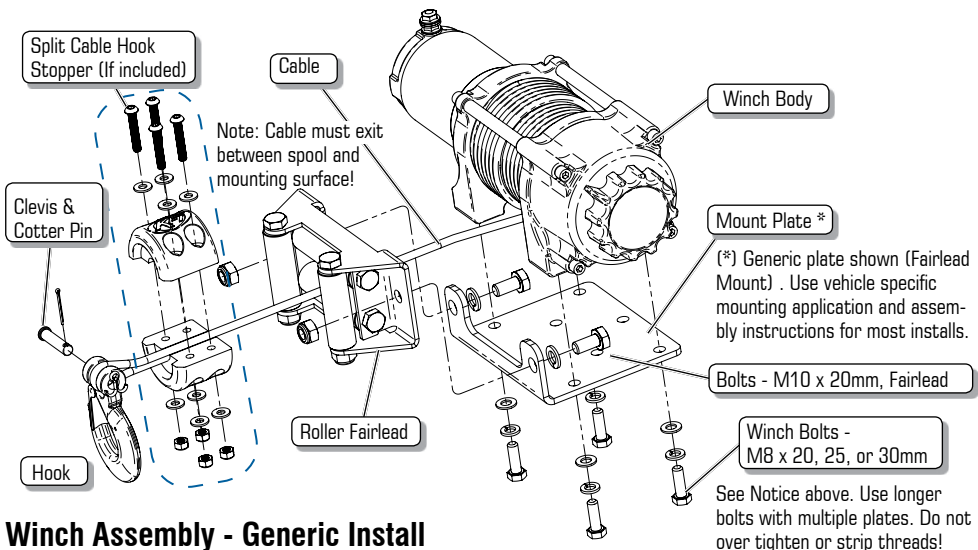
1. Install the winch and fairlead with the supplied hardware per the instructions provided with the model specific winch mounting kit or prepare a flat, secure mounting location for the winch.

CAUTION Mounting bolts must be SAE Grade 5 or better and torqued to 17 ft. lbs.

NOTICE This kit includes mounting bolts with different lengths for fastening the winch (M8 x 20, 25, and 30mm long). Use the length that best fits your mounting application. Refer to vehicle specific mount instructions for more information.

CAUTION If you choose not to use a model specific mounting kit, you will need to drill holes in the structural support of the vehicle. Be certain that your structural support is sufficient for the pulling forces of this winch.

2. Attach the winch using supplied M8 x 25mm or 30mm bolts and washers thru the fairlead bracket or model specific winch mount and into the winch.
3. Disengage the clutch by rotating the clutch cap to the RELEASE position. Release the synthetic cable and pull through the roller fairlead.
4. Attach the clevis hook to the cable and the hand saver strap to the clevis hook.



Winch Assembly - Generic Install

Mount the Contactor

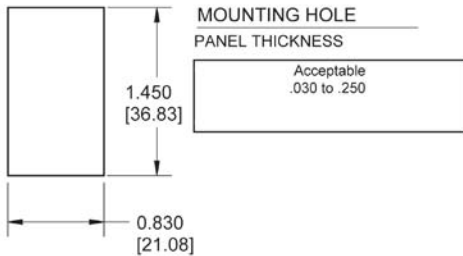
- Find a location for the contactor. If the model specific mounting kit does not indicate a recommended contactor location, then it is recommended that the contactor be mounted close to the battery in a clean dry location. Be certain the location you choose allows for sufficient clearance form all metal components. Drill mounting holes if required. Once a location is found, do not install until all wiring is completed.

Install UTV Dash Mounted Rocker Switch

- Most UTV's & SxS's have a predefined switch location that is scored or marked for mounting and requires finish cutting with a knife.



- Use the cut-out dimensions shown below to cut the switch location pattern if your dash doesn't have a predefined knockout or area.

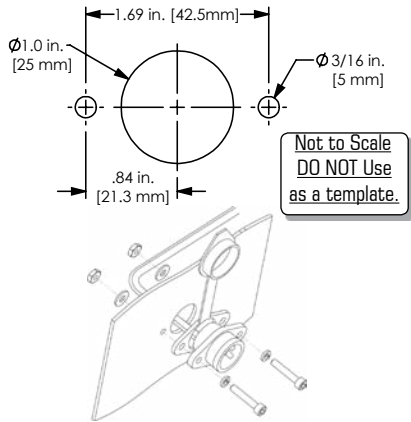


- Once your switch is mounted you can route wires back to the contactor location.

- Splice the end of the red wire to an ignition controlled (keyed) power source using the supplied wire splice. You may need to use a test light or multimeter to locate a suitable wire. The wire should only have power when the key is in the ON position.

Mount the Hand Remote Socket (optional)

- Determine a mounting location for the Hand Remote



socket. Be certain the area behind the selection location is clear.

- Drill three holes as shown in the following figure and install using supplied hardware. You can also use the rubber cap attached to the remote socket as a template.
- Once your remote socket is mounted, you may route wires back to the contactor location.
- Splice the end of the red wire to an ignition controlled (keyed) power source using the supplied wire splice. You may need to use a test light or multimeter to locate a suitable wire. The wire should only have power when the key is in the ON position.
- Secure the wires with supplied cable ties.

Wiring the Winch

CAUTION Never route electrical wires across any sharp edges, through or near moving parts, or near parts that become hot.

15. Connect the yellow and blue wires to the motor terminals on the winch. Torque the nuts on the motor to 5.7 N-m (50 in lbs) Route the opposite ends to the contactor location. (See diagram on page 8).
16. Connect the yellow and blue wires to the contactor block (yellow to yellow, blue to blue). DO NOT tighten nuts. (See diagram page 8).
17. Connect the red and black wires to your contactor block (red to red, black to black). DO NOT tighten nuts. Route the opposite ends to the battery location (See diagram page 8).
18. Connect the mini rocker switch to the contactor block (black to black, green to green). (See diagram on page 9).
19. Once all wiring is connected to the contactor, finish mounting it to the contactor location using supplied M6 hardware (See diagram page 8).

WARNING Failure to follow specific wiring instructions may result in damage to your wiring system or equipment.

NOTICE Depending on the location of the contactor, you may need to use an alternate winch wiring configuration. Please see the “Alternate Winch Wiring Diagram” available on: www.kfiproducts.com

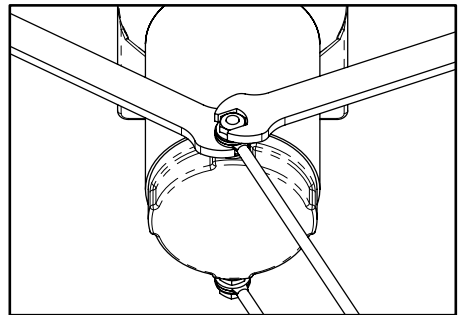
20. Torque the contactor terminal nuts to 4.5 N-m (40 in lbs) Do NOT over tighten.
21. Place all terminal boots over terminals and secure all cables with zip ties or electrical tape.

NOTICE If you are installing the hand remote along with the mini rocker switch, you will need to connect the remote socket to the contactor and then the mini rocker switch to the remote socket (see diagram on page 9).

22. Connect the battery leads from the contactor to the vehicle’s battery (black to black, and red to red, see diagram on page 8).
23. Check for proper drum rotation. Turn the clutch cap to the RELEASE position. Pull out some cable from the drum and then turn the clutch cap to the ENGAGE position to engage the gears. Make sure your vehicle is running and press the cable out button on the switch. If the spool is turning and releasing more cable, then your connections are accurate. If the spool is turning and collecting more cable, then reverse the leads on the motor. Repeat and check rotation.

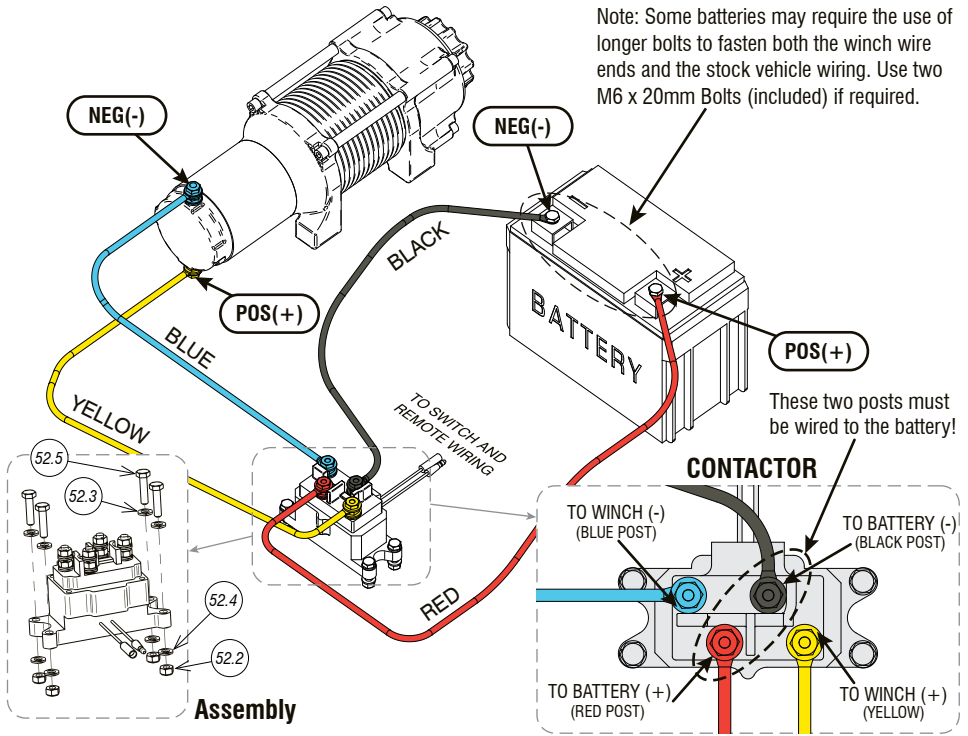
CAUTION Battery cables should not be drawn taut. Leave some slack for cable movement.

NOTICE Always hold the bottom nut with a wrench while tightening motor wire terminals. Do not allow the bottom nut to spin, else you may damage the end cap.



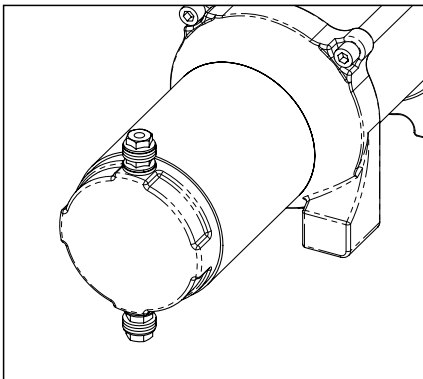
Proper Terminal Tightening

Winch Wiring Diagram

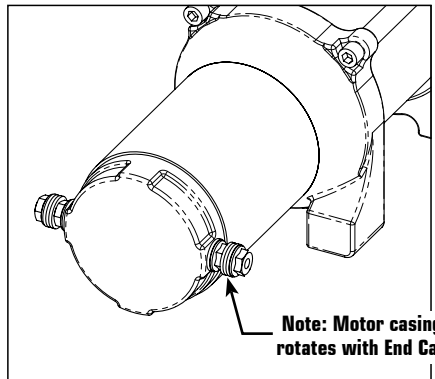


Motor End Terminal Rotation

With some applications, the motor terminals may need to be rotated to avoid interference with other components. If rotation is required please give us a call at 1-877-346-2050 for instructions or visit our website at www.kfiproducts.com and look in the support section.

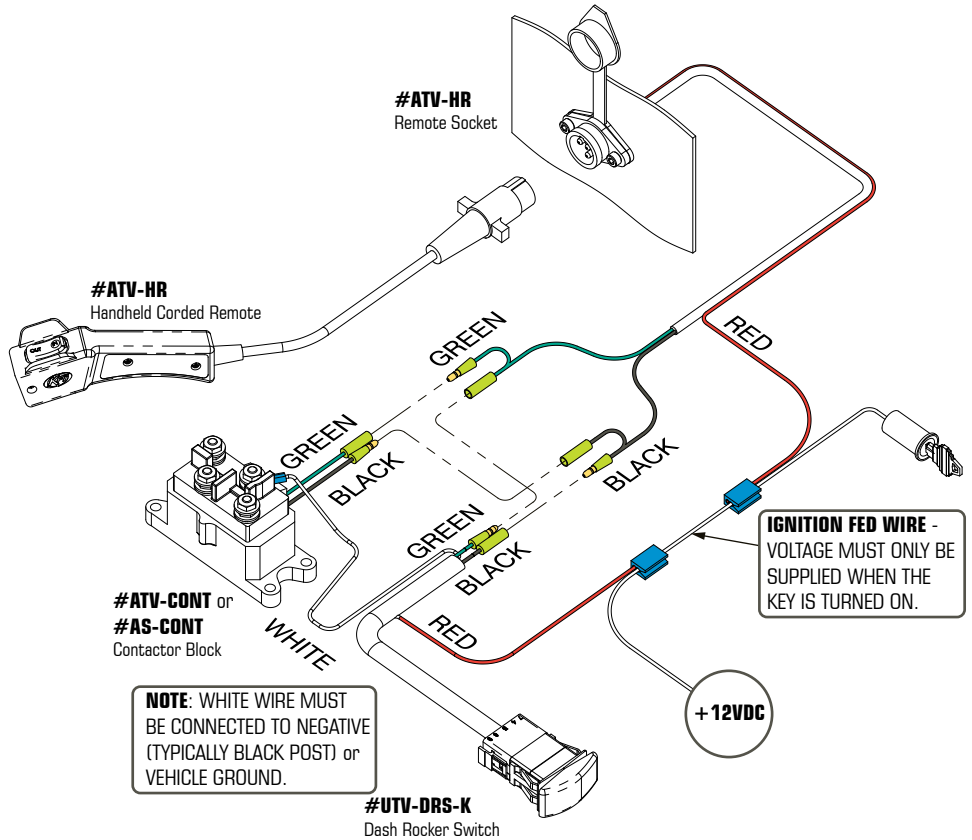


LEADS AT DEFAULT POSITION



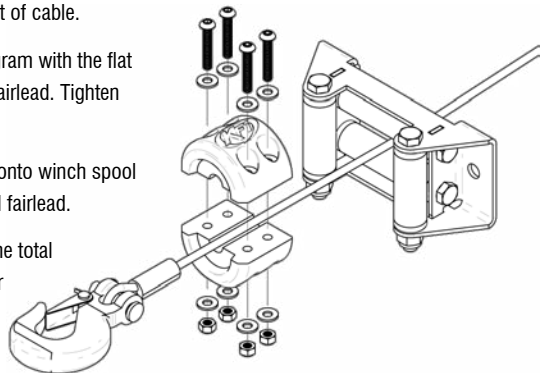
LEADS ROTATED 90°

Controller Wiring Diagram



Cable Hook Stopper Installation and Use (Optional Accessory, Not Included)

1. Release winch and pull out approximately 2 feet of cable.
2. Assemble cable hook stopper as shown in diagram with the flat portion of the two halves resting against your fairlead. Tighten fasteners.
3. To stow hook, engage clutch and retract cable onto winch spool until hook is snug against the hook stopper and fairlead.
4. Position cable hook stopper at approx. 3/4 of the total line distance towards the hook while using your winch to help reduce whip back in the event of cable breakage.



General Tips for Safe Operation

Your U45-R2 winch is rated at 4,500 lbs. capacity in first layer (max) when spooling the first cable layer on the drum. Overloads can damage the winch, motor and/or cable.

The vehicle engine should be kept running during operation of the winch to minimize battery drain and maximize power and speed of the winch. If the winch is used for a considerable time with the engine off the battery may be drained and too weak to restart the engine.

Get to know your winch before you actually need to use it. We recommend that you set up a few test runs to familiarize yourself with rigging techniques, the sounds your winch makes under various loads, the way the cable spools on the drum, etc.

Inspect the cable and equipment before each use. A frayed or damaged cable should be replaced immediately. Use only manufacturer's identical replacement cable with the exact specifications.

Inspect the winch installation and bolts to ensure that all bolts are tight before each operation.

Store the remote control inside your vehicle in a place that it will not be damaged.

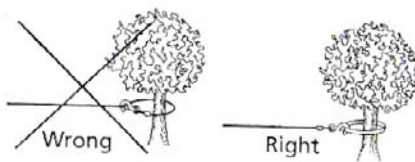
Any winch that appears to be damaged in any way, is found to be worn, or operates abnormally **MUST BE REMOVED FROM SERVICE UNTIL REPAIRED**. It is recommended that the necessary repairs be made by a manufacturer's authorized repair facility.

Pull only on areas of the vehicle as specified by the vehicle manufacturer.

Only attachments and/or adapters supplied by the manufacturer are to be used.

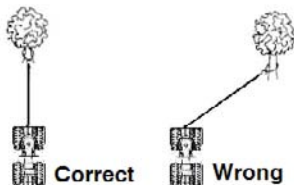
Self Recovery

Locate a suitable anchor such as a strong tree trunk or boulder. Always use a sling as an anchor point.

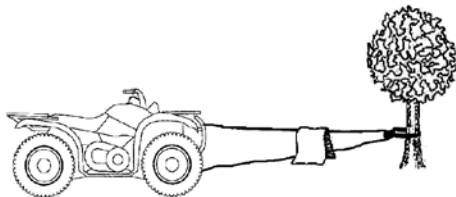


Your winch is equipped with a roller fairlead to help guide the cable and to reduce binding on short side pulls.

Do not winch from an acute angle as the cable will pile up on one side of the drum causing damage to cable and the winch.



Short pulls from an angle can be used to straighten the vehicle. Long pulls should be done with the cable straight out from the winch/vehicle.



When pulling a heavy load, place a cable hook stopper, blanket or jacket over the cable five or six feet from the hook.

In the event of a cable snap it will dampen the snap back. For additional protection open the hood of the vehicle.

Winching Techniques

1. Take time to assess your situation and plan your pull.
2. Put on gloves to protect your hands.
3. Release the clutch and free-spool the winch; it's faster than using the switch and saves battery power.
4. Attach the hook strap to the clevis hook.
5. Pull out the cable to your desired anchor point using the hook strap.
6. Secure the clevis hook to the anchor point: Sling, chain or snatch block. Do not attach the hook back onto the cable.
7. Engage the clutch.
8. Start your engine to ensure power is being replenished to the battery.
9. Power in the cable guiding the cable under tension to draw up the slack in the cable. Once the cable is under tension, stand clear. Never step over the cable.
10. Double check your anchors and make sure all connections are secure.
11. Inspect the cable. Make sure there are at least 5 wraps of cable around the winch drum.
12. Place a Cable Hook Stopper over the cable approximately 5 to 6 feet from the hook.
13. Clear the area. Make sure all spectators stand clear and that no one is directly in front or behind the vehicle or anchor point.
14. Begin winching. Be sure that the cable is winding evenly and tightly around the drum. The vehicle that is being winched can be slowly driven to add assistance to the winching process. Avoid shock loads; keep the cable under tension.
15. The vehicle to be winched should be placed in neutral and the parking brake released. Only release the loads to the winch. This can damage the winch, cable and vehicle.
16. The winch is meant for intermittent use. Under full load with a single line rig do not power in for more than a minute without letting the motor cool down for a few minutes and then resume the winching operation.
17. The winching operation is complete once the vehicle is on stable ground and is able to drive under its own power.
18. Secure the vehicle. Be sure to set the brakes and place the vehicle in park.
19. Release the tension on the cable. The winch is not meant to hold the vehicle for long periods of time.
20. Disconnect the cable from the anchor.
21. Rewind the cable. Make sure that any cable already on the drum has spooled tightly and neatly. If not, draw out the cable and re-spool from the point where the cable is tight.
22. Keep your hands clear of the winch drum and fairlead as the cable is being drawn in.
23. Secure the hook and hook strap.
24. Disconnect the remote control and store in a clean, dry place.
25. Clean and inspect connections and mounting hardware for next winching operation.
26. Never use the winch as a tie down.
27. Use brake pedal when under full tension.

Snow Plow Usage

Winches are commonly used to lift a Snow Plow System, but precautions and correct usage are required to prevent costly damage.

NOTICE Follow these precautions before using your Winch to lift a Plow. Failure to do so may result in damage to your winch or vehicle frame.

1. Stop the plow before full lift height - failure to do so will cause the winch to pull against itself (i.e. “bottom out”) and will cause damage to the winch components, your plow frame and your vehicle frame.

NOTICE Winch damage such as stripped gears, broken housings and bent or damaged parts caused by exceeding your plow’s lift height are not covered under warranty.

2. Do not continue to hold the Spool In button to power the winch while reversing your vehicle or other instances where the operator may become distracted while plowing.

MAINTENANCE

The owner/operator is responsible for all periodic maintenance.

Complete all scheduled maintenance in a timely manner. Correct any issue before operating the winch.

WARNING Never operate a damaged or defective winch.

WARNING Improper maintenance will void your warranty.

NOTICE For service or parts assistance, contact our help line at 1-877-346-2050.

Motor

Periodically when not used very often, or after wet / damp conditions. Be sure to run the motor in free spool until the motor is warm. This helps dry out any moisture and condensation trapped inside the housing.

Lubrication

All moving parts within the Electric Winch have been Lubricated using high temperature lithium grease at the factory. No internal lubrication is required under normal conditions.

If the winch is subjected to extreme conditions lubrication may be required using a high temperature lithium grease. Retract Cable Assembly onto drum being careful not to allow kinking or over heating of the winch.

Cable Assembly Replacement

It is recommended that any modifications be performed by a manufacturer’s authorized repair facility, and that only manufacturer-supplied parts be used

1. Rotate the clutch cap to the “Release” position.
2. Extend Cable Assembly to its full length. Note how the existing cable is connected to the inside of the drum.
3. Remove old Cable Assembly and attach new one.
4. Rotate the clutch cap to the “Engage” position.

NOTICE Inspect cable before and after each use. If cable becomes frayed it must be replaced.

SPECIFICATIONS

Performance:

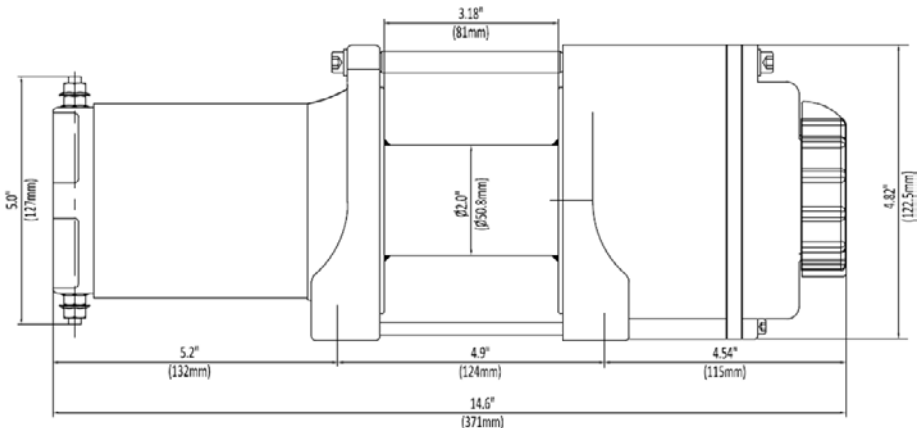
Rated Pull	4,500 lb (2041 kg)	Mounting Bolt Pattern	4.88 in. x 3.00 in. (12.4 cm x 7.6 cm)
Gear Reduction Ratio	166:1	Overall Dimensions	14.6 in. (L) x 4.55 in. (W) x 4.82 in. (H)
Motor.....	Permanent Magnet, 1.70 HP (DC 12V)		(37.1 cm x 11.6 cm x 12.3 cm)
Drum Size.....	2.00 x 3.19 in. (50.8 x 81 mm)		
Cable Dimensions	15/64 in. x 38 ft. (6.0mm x 11.6m)		
Gross Weight	36.4 lb. (16.5 kg)		

Line Speed and Motor Current (First Layer)						
Line Pull	LB	0	1000	2000	3000	4500
	KG	0	454	907	1361	2041
Line Speed (12 VDC)	FPM	12.8	9.8	8.5	6.9	4.6
	MPM	3.9	3.0	2.6	2.1	1.4
Max Current	A	28	80	130	180	280
Run Time *	Minutes	1	1	1	1	1
Cooling Time **	Minutes	5	5	5	5	5

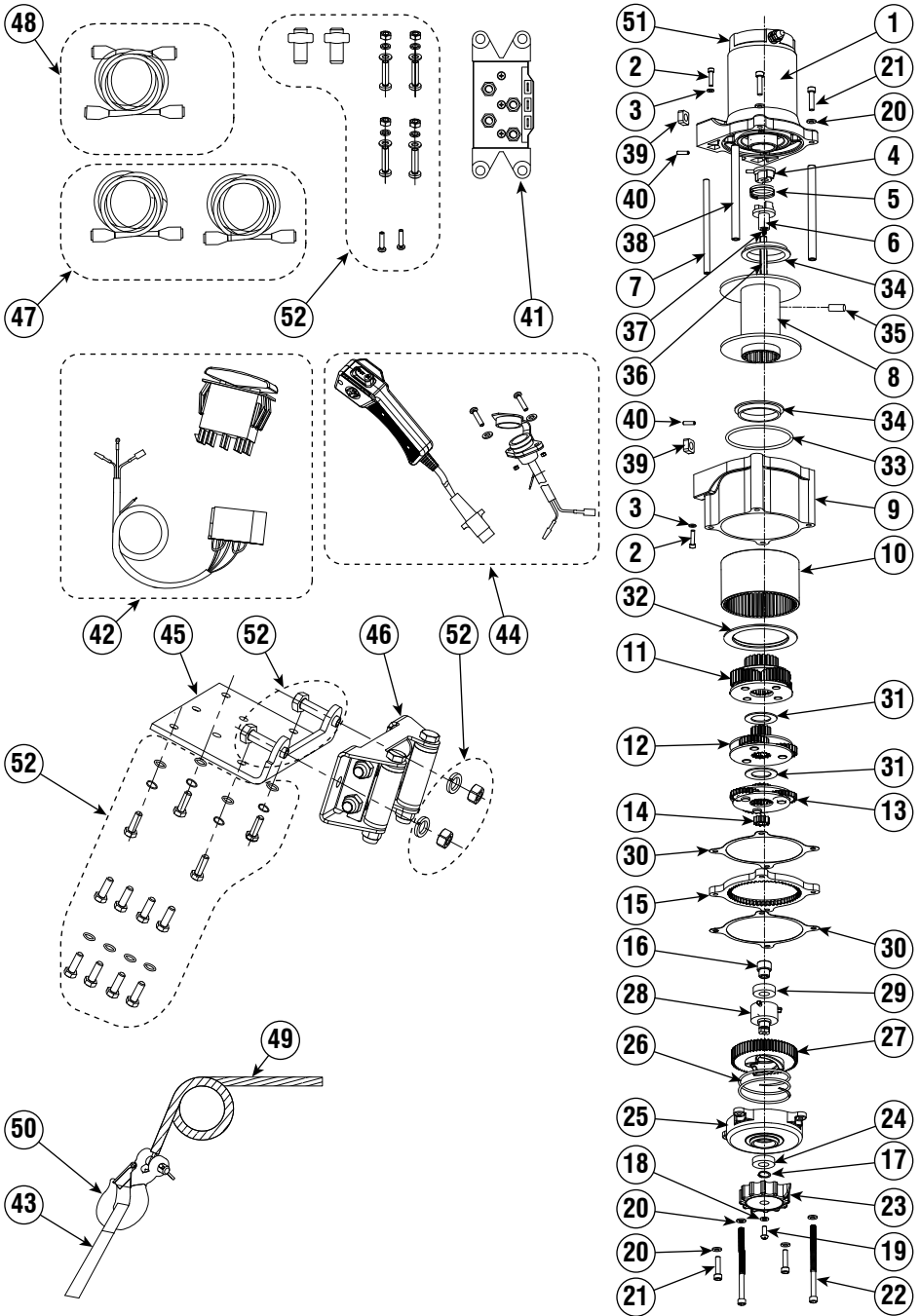
* If the motor becomes uncomfortably hot to the touch, stop winching immediately and let it cool down for 5 minutes. Do not pull for more than one minute at or near the rated load.

** Electric winches are designed and made for intermittent use and should not be used in constant duty applications.

Line Pull and Cable Capacity Per Layer					
Layers of Cable on Drum		1	2	3	4
Rated Line Pull	LB	4500	3715	3163	2754
	KG	2041	1685	1435	1249
Cable Capacity	FT	7.6	16.8	27.6	38
	M	2.3	5.1	8.4	11.6



Parts Diagram



Parts List

#	Part Number	Description	Qty
1	MOTOR-45-BL	Motor Assembly	1
2	HW-0019	Screw M4 x 25 Socket	2
3	HW-0020	Lock Washer Ø4	2
4	WP-0026	Coupling, I	1
5	WP-0027	Spring, Coupling	1
6	WP-0028	Coupling, II	1
7	WP-0029	Tie Bar Ø8 x 86	1
8	WP-0051	Drum, Steel, Standard	1
9	WP-0031	Gear Housing	1
10	WP-0032	Gear Ring	1
11	WP-0033	Gear Carrier Asm, Output	1
12	WP-0034	Gear Carrier Asm, Inter	1
13	WP-0035	Gear Carrier Asm, Input	1
14	WP-0036	Gear, Input, Sun	1
15	WP-0037	Gear, Fixed	1
16	WP-0038	Bushing, Clutch	1
17	HW-0004	Circlip Ø15	1
18	HW-0006	Washer Ø6 Lock	1
19	HW-0007	Screw M6 x 16 Phillips	1
20	HW-0003	Washer Ø6	6
21	HW-0021	Screw M6 x 25 Socket	4
22	HW-0022	Screw M6 x 100 Socket	2
23	WP-0001	Clutch Cap	1
24	WP-0015	Bearing 16002 Sealed	1
25	WP-0039	Clutch Cover	1
26	WP-0013	Spring, Clutch	1
27	WP-0040	Cam, Clutch Gear	1
28	WP-0016	Bushing, Axis Support	1
29	WP-0017	Bearing 6002 Sealed	1
30	WP-0041	Seal	2
31	WP-0042	Washer, Friction	2
32	WP-0043	Retaining Ring	1
33	WP-0044	O-Ring Seal	1
34	WP-0045	Bushing, Drum	2
35	WP-0008	Set Screw M5 x 8	1
36	WP-0046	Shaft, Hexagon, H8 x 150	1
37	WP-0047	Spring, Shaft	1
38	WP-0048	Tie Bar Ø10 x 86	2
39	WP-0049	Square Nut	4
40	WP-0050	Pin, Spring, Ø3 x 14	4
41	ATV-CONT	Contactora	1
42	UTV-DRS-K	UTV Dash Rocker Switch Kit	1

#	Part Number	Description	Qty
43	WP-0030-BLU	Hand Saver Strap, Blue	1
44	ATV-HR	Hand Remote Asm	1
45	100495	Bracket, Fairlead, Standard	1
46	ATV-RF	Roller Fairlead	1
47	SE-WIRES-UTV-WIN	Wiring, Winch, UTV	1
47.1	WP-0092	Terminal Protector	4
48	SE-WIRES-UTV-BAT	Wiring, Battery, UTV	1
48.1	WP-0092	Terminal Protector	4
49	UTV-CBL-4K	Cable, Steel, 15/64" x 38'	1
50	SE-HOOK	Clevis Hook, 1/4"	1
51	SE-U-CAPKIT	Motor End Cap Assembly	1
52	HK-500	Hardware Kit, Black	1
52.01	HW-0001	Wire Tap	2
52.02	HW-0014-B	Nut M6 Nylock	4
52.03	HW-0006-B	Washer Ø6 Lock	4
52.04	HW-0003-B	Washer Ø6	4
52.05	HW-0013-B	Bolt M6 x 25	4
52.06	HW-0015-B	Bolt M6 x 20	2
52.07	HW-0010-B	Bolt M10 x 20	2
52.08	HW-0011-B	Washer Ø10 Lock	2
52.09	HW-0012-B	Nut M10 Nylock	2
52.10	HW-0016-B	Washer Ø8	8
52.11	HW-0009-B	Washer Ø8 Lock	4
52.12	HW-0008-B	Bolt M8 x 25	4
52.13	HW-0018-B	Bolt M8 x 20	4
52.14	HW-0017-B	Bolt M8 x 30	4

TROUBLESHOOTING

Problem	Cause	Solution
Motor does not run, Contactor makes a click sound.	Incorrect Wiring	Check Winch Wiring Diagram, make sure all wires are correctly connected.
	Incorrect Wiring	Hand Remote / Mini Rocker Switch wires must be connected green to green and black to black.
	Loose battery cable connections	Hand tighten nuts on all cable connections.
	Motor Issue	Contact KFI Technical Support
	Water has entered motor	Allow to drain and dry. Run in short burst with load until completely dry.
	Brake Spring installed backwards	Contact KFI Technical Support.
Motor does not run, NO click sound from Contactor.	Incorrect Wiring	Check Winch Wiring Diagram, make sure all wires are correctly connected.
	Switch Ignition Wire	Check connection to an ignition fed source. Must supply 12V with the key on and vehicle running.
	Contactor malfunctioning	Contact KFI Technical Support.
	Switch malfunctioning	Contact KFI Technical Support.
Motor runs, Spool turns in one direction only.	Incorrect Wiring	Check wiring diagram, verify switch wires (black/green) are properly connected and making good contact.
	Defective or stuck Contactor	Tap contactor to loosen plungers.
	Defective Switch assembly	Replace Switch assembly.
	Contactor malfunctioning	Contact KFI Technical Support.
Motor runs, Spool does NOT turn.	Clutch not engaged	Rotate Clutch Cap to Engage.
	Broken Coupler / stripped Shaft	Replace Coupler or Shaft
Spool turns, but no movement from Cable	Cable not attached to Spool	Contact KFI Technical Support.
Motor runs slowly or without normal power.	Insufficient current or voltage.	The battery is weak, recharge. Run winch with vehicle motor running (battery should have a strong charge).
	Loose or corroded battery cable connections	Clean, tighten, or replace.
	Worn Brushes	Replace with End-Cap Kit (#SE-U-CAPKIT) Contact KFI Technical Support.
Motor overheating	Winch running time too long	Allow winch to cool down periodically.

For further support, contact:

KFI Tech Support

Mon-Thr 8:00 AM - 5:00 PM (CST/CDT)

Fri 7:00 AM - 1:00PM (CST/CDT)

Toll Free: 1-877-346-2050

tech@kfiproducts.com

KFI Products Website Support:

Common installation, maintenance, and troubleshooting guides are available on our website.

<https://www.kfiproducts.com/support.html>

WARRANTY

KAPPERS FABRICATING, INC.
1 YEAR LIMITED LIFETIME WARRANTY

Warranty Qualifications

Kappers Fabricating Inc. (KFI) will register this warranty upon receipt of your Warranty Registration Card and a copy of your sales receipt from one of KFI's resale locations as proof of purchase. Please submit your warranty registration and your proof of purchase within Fifteen (15) days of the date of purchase.

Repair/Replacement Warranty

KFI warrants to the original purchaser that mechanical components will be free of defects in material and workmanship for the usable lifetime of the product (90 days for commercial use); and electrical components will be free of defects in material and workmanship for (1) years (90 days for commercial use); from the original date of purchase. Transportation charges on product submitted for repair or replacement under this warranty are the sole responsibility of the purchaser. This warranty only applies to the original purchaser and is not transferable.

Do Not Return The Unit To The Place Of Purchase

Contact KFI's Technical Service and KFI will troubleshoot any issue via phone or e-mail. If the problem is not corrected by this method, KFI will, at its option, authorize evaluation, repair or replacement of the defective part or component at a KFI Service Center. KFI will provide you with a case number for warranty service. Please keep it for future reference. Repairs or replacements without prior authorization, or at an unauthorized repair facility, will not be covered by this warranty.

Warranty Exclusions

This warranty does not cover the following repairs and equipment:

Normal Wear

Winches need periodic parts and service to perform well. This warranty does not cover repair when normal use has exhausted the life of a part or the equipment as a whole.

Installation, Use and Maintenance

This warranty will not apply to parts and/or labor if this winch is deemed to have been misused, neglected, involved in an accident, abused, loaded beyond the winch's limits, modified, installed improperly or wired incorrectly to any electrical component. Normal maintenance is not covered by this warranty.

Other Exclusions

- The winch cable or synthetic cable.
- Cosmetic defects such as paint, decals, etc.
- Accessory parts such as storage covers.
- Misuse, abuse, neglect, acts of God, terrorism and causes beyond the control of KFI.
- Problems caused by parts that are not original Kappers Fabricating Inc. parts.
- Cable Stacking and Water Submersion or Damage Caused by Water.

Warranty Procedure

1. Contact KFI Technical support to acquire a Return Authorization (RA) number.
2. KFI may request additional materials (such as original sales receipt, date of purchase, technical details, or photos of Product condition) prior to issuing an RA number.
3. At the discretion of KFI, Buyer shall mail, ship, or otherwise deliver to KFI the Warranted Product, at the address noted below.

Limits of Implied Warranty and Consequential Damage

Kappers Fabricating Inc. disclaims any obligation to cover any loss of time, use of this product, freight, or any incidental or consequential claim by anyone from using this winch. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE

A unit provided as an exchange will be subject to the warranty of the original unit. The length of the warranty governing the exchanged unit will remain calculated by reference to the purchase date of the original unit.

This warranty gives you certain legal rights which may change from state to state. Your state may also have other rights you may be entitled to that are not listed within this warranty.

Contact Information

Address

KFI Products
Winch Customer Service
P.O. BOX 32
721 SATA DRIVE
SPRING VALLEY, MN 55975

Corporate

KAPPERS FABRICATING, INC.
P.O. BOX 32
1015 INDUSTRIAL DR.
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Fax No: 1-507-346-2010
E-mail: sales@kfiproducs.com

Technical Service

Mon - Thr 8:00 AM - 5:00 PM (CST/CDT)
Thr - 7:00 AM - 1:00 PM (CST/CDT)
Toll Free: 1-877-346-2050 Opt 2
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Website

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