

## RUGCEL WINCH TK4500

# RUGCEL WINCH TK4500 12V DC Electric Portable Utility Winch

Instruction Manual

## 1. IMPORTANT SAFETY INFORMATION

Read and understand all instructions before operating this winch. Failure to follow these instructions may result in electric shock, fire, and/or serious injury. Keep this manual for future reference.

### General Safety Precautions:

- Always wear appropriate personal protective equipment (PPE), including safety glasses, gloves, and sturdy footwear.
- Ensure the winch is securely anchored before operation.
- Keep hands and clothing clear of the rope, fairlead, and drum during operation.
- Do not exceed the rated line pull capacity of 4500 lbs (2041 kg).
- Avoid operating the winch in extreme temperatures or hazardous environments.
- Never use the winch to lift people or animals.
- Inspect the synthetic rope for damage before each use. Replace if frayed, cut, or otherwise compromised.
- Ensure all electrical connections are clean, tight, and free from corrosion.
- Disconnect power when not in use or during maintenance.

## 2. PRODUCT OVERVIEW AND COMPONENTS

The RUGCEL WINCH TK4500 is a portable 12V DC electric utility winch designed for various pulling tasks. It comes in a durable case that also stores its accessories.



Figure 2.1: RUGCEL WINCH TK4500 Portable Electric Winch with included accessories.

### Key Components:

- **Winch Unit:** 12V DC motor with 4500 lb (2041 kg) rated line pull.
- **Synthetic Rope:** 3/16 inch x 50 feet (4.8 mm x 15 m) synthetic rope.
- **Hawse Fairlead:** Integrated into the mounting plate.
- **Wired Remote Control:** For direct control of winch operations.
- **Wireless Remote Control:** For remote operation up to 100 feet.
- **Power Cables:** Heavy-duty cables for connecting to a 12V DC power source.
- **D-Shackles:** Two 20,000 lb rated D-shackles for secure attachment.
- **Recovery Straps:** Two 8-foot heavy-duty straps rated for 8,000 lbs.
- **Mounting Plate:** Steel, powder-coated for durability.



EFFICIENT | STRONGER | EASIEST TO USE

Figure 2.2: Internal components and accessories of the TK4500 winch.

### 3. SETUP AND INSTALLATION

Proper setup is crucial for safe and effective winch operation.

#### 3.1 Power Connection:

The winch requires a 12V DC power source, typically a vehicle battery. Ensure the battery is fully charged and capable of providing the necessary current.

1. Locate the positive (+) and negative (-) terminals on the winch unit.
2. Connect the red power cable to the positive (+) terminal of the winch and the positive (+) terminal of the 12V battery.
3. Connect the black power cable to the negative (-) terminal of the winch and the negative (-) terminal of the 12V battery.
4. Ensure all connections are secure and free from loose contacts.

# Easy and fast wiring design

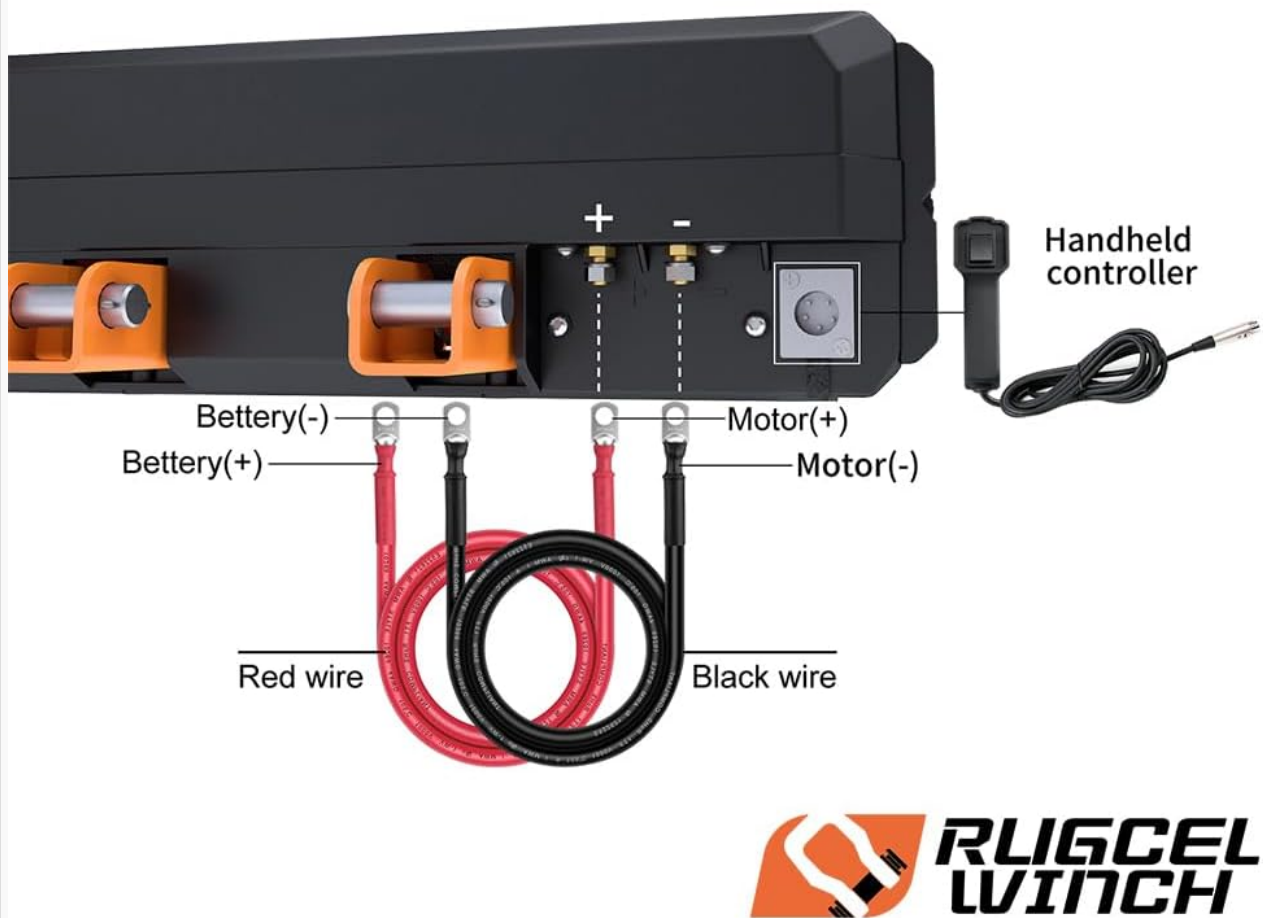


Figure 3.1: Easy and fast wiring design for power connection.

## 3.2 Winch Placement and Anchoring:

The portable design allows for flexible placement. Use the integrated mounting plate and included straps/shackles for secure anchoring.

1. Place the winch on a stable, flat surface.
2. Utilize the rear latches on the mounting plate with the provided D-shackles and tow ropes to secure the winch to a suitable anchor point (e.g., another vehicle, tree, or sturdy structure).
3. Ensure the anchor point is strong enough to withstand the pulling force.



Portable design



Rear latch for shackle



Rated for 8000lbs  
Length: 8ft

Tow rope x2



Breaking strength:  
20000lbs

D-shackle x2

Figure 3.2: Portable design and anchoring points with accessories.

## 4. OPERATING INSTRUCTIONS

Familiarize yourself with the controls before operating the winch under load.

### 4.1 Engaging/Disengaging the Clutch:

The clutch allows for manual free-spooling of the synthetic rope.

- To **engage** the clutch (for winching), turn the clutch knob to the 'Engage' position.
- To **disengage** the clutch (for free-spooling), turn the clutch knob to the 'Disengage' position. This allows you to manually pull out the rope.

### 4.2 Using the Remote Controls:

The winch comes with both wired and wireless remote controls.

### Wired Remote Control:

1. Plug the wired remote control into the designated port on the winch unit.
2. Use the 'IN' button to reel in the rope and the 'OUT' button to pay out the rope.

### Wireless Remote Control:

1. To activate the wireless remote, hold down both the 'IN' and 'OUT' buttons simultaneously for more than 3 seconds until the indicator light illuminates.
2. Use the 'IN' button to reel in the rope and the 'OUT' button to pay out the rope.
3. To turn off the wireless remote, hold down both buttons again for more than 3 seconds until the light turns off.

## Wireless remote control opening method:



Hold down the IN and OUT buttons on the remote control for more than 3 seconds at the same time and wait for the light to come on to use the remote control

When the remote control is not in use, please turn off the remote control handle in time. The method of turning off the remote control is the same as that of turning on the remote control

Figure 4.1: Wireless remote control activation and usage.

### 4.3 Winching Procedure:

1. Ensure the winch is securely anchored and the power is connected.
2. Disengage the clutch and pull out enough synthetic rope to reach the object to be pulled.
3. Attach the hook securely to the object, using a D-shackle and recovery strap if necessary.
4. Engage the clutch.
5. Stand clear of the winch and rope. Use the remote control to slowly begin winching.
6. Monitor the rope and connections for any signs of stress or damage.
7. Once the object is moved, disengage the clutch, disconnect the rope, and carefully rewind the rope onto the drum.

Video 4.1: Official product demonstration of the Electric Portable Utility Winch 4500lb, showcasing its features and operation.

Video 4.2: Official product video demonstrating the Tank 4500 Portable Utility Winch in action.

Video 4.3: Official product video highlighting the features and portability of the 4500lb portable winch.

## 5. MAINTENANCE

Regular maintenance ensures the longevity and safe operation of your winch.

- **Rope Inspection:** Regularly inspect the synthetic rope for any signs of wear, fraying, cuts, or kinks. Replace the rope immediately if any damage is found.
- **Electrical Connections:** Check power cable connections for tightness and corrosion. Clean terminals as needed.
- **Cleaning:** Keep the winch unit and case clean and free of dirt, mud, and debris. Use a damp cloth for cleaning. Do not use high-pressure water directly on electrical components.
- **Storage:** Store the winch in its protective case in a dry, cool place away from direct sunlight and moisture.

## 6. TROUBLESHOOTING

This section addresses common issues you might encounter with your winch.

Problem	Possible Cause	Solution
Winch does not operate	No power; Loose electrical connections; Dead battery; Faulty remote.	Check battery connections and charge level; Ensure remote is activated and functioning; Inspect wiring for damage.
Winch operates slowly or with reduced power	Low battery voltage; Overload; Corroded terminals.	Charge battery; Reduce load; Clean battery and winch terminals.
Rope does not free-spool	Clutch not disengaged; Rope jammed.	Ensure clutch knob is in 'Disengage' position; Inspect rope for jams and clear carefully.
Winch motor overheats	Continuous operation under heavy load.	Allow winch to cool down; Avoid prolonged continuous pulling.

## 7. SPECIFICATIONS

Feature	Detail
Working Load	4,500 lbs (2041 kg)
Motor	1.3 hp (1.0 kW) 12 VOLT DC
Gear Ratio	166:1

Feature	Detail
Freespool Clutch	Cam Action Knob
Drum Barrel Diameter	2.0" (50.8 mm)
Drum Length	3.03" (77.0 mm)
Synthetic Rope	3/16" X 50' (4.8 mm X 15.0 m)
Installed TK4500 Weight with Synthetic Rope	41 lbs (18.6 kg)
Switching Method	Sealed Handheld Rocker Switch
Fairlead	Hawse fairlead in baseplate
Product Dimensions	14 x 10 x 7 inches
Item Weight	33.3 pounds
Manufacturer	RUGCEL WINCH
Model Number	TK4500



**RUGCEL 4500LB Electric Portable Utility Winch**

**MOTOR:** 12V DC Series Wound

**RATED LINE PULL:** 4,500 lbs

**ROPE:** 3/16IN X 50FT Synthetic Rope

**WIRELESS REMOTE:** 100FT wireless range for easy

The image shows a black RUGCEL TK4500 winch with a red synthetic rope attached to a metal hook. The winch is compact and rectangular, with the brand name 'RUGCEL' and model 'TK4500' visible on its side. The background is a blurred outdoor setting with a sign that says 'ROAD'.

Figure 7.1: Winch dimensions and technical specifications.

## 8. WARRANTY AND SUPPORT

For warranty information or technical support, please refer to the contact details provided with your product packaging or visit the official RUGCEL WINCH website. Keep your purchase receipt as proof of purchase.

