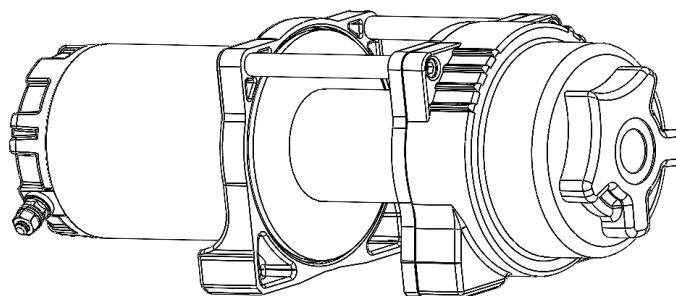




TERRA WINCHES



PART NUMBERS:

1125260 – Terra 2500

1125270 – Terra 2500SR

1135260 – Terra 3500

1135270 – Terra 3500SR

1145260 – Terra 4500

1145270 – Terra 4500SR

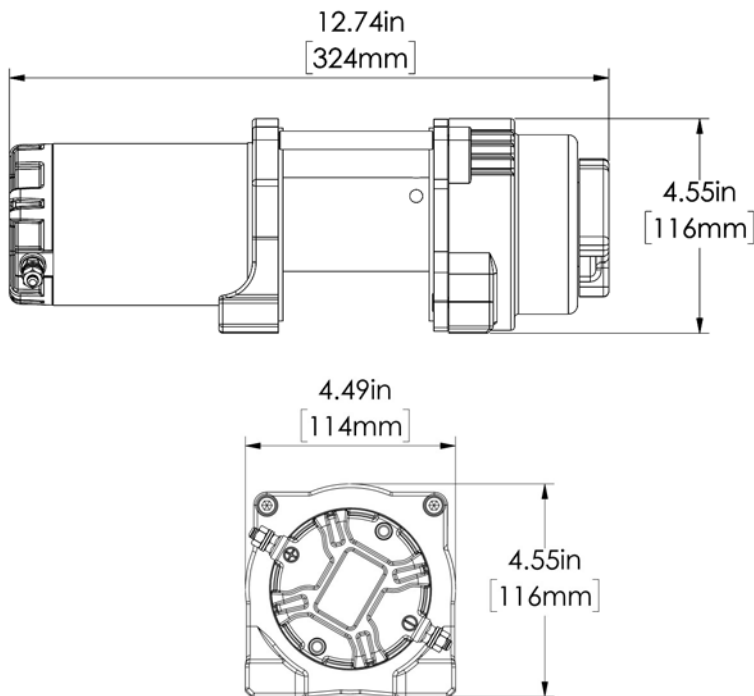


**SAVE THESE
INSTRUCTIONS**

CONTENTS

ITEM	QUANTITY	DESCRIPTION
1	1	WINCH
2	1	HAWSE FAIRLEAD (SYNTHETIC ROPE WINCHES) / ROLLER FAIRLEAD (WIRE ROPE WINCHES)
3	4	SHORT M8 HEX HEAD BOLT
4	2	LONG M8 HEX HEAD BOLT (TERRA 2500SR/3500SR/4500SR ONLY)
5	4 (TERRA 2500/3500/4500) / 6 (TERRA 2500SR/3500SR/4500SR)	M8 SPLIT LOCK WASHER
6	4 (TERRA 2500/3500/4500) / 8 (TERRA 2500SR/3500SR/4500SR)	M8 FLAT WASHER
7	2	M8 HEX NUT (TERRA 2500SR/3500SR/4500SR ONLY)
8	2	M10 HEX HEAD BOLT (TERRA 2500/3500/4500 ONLY)
9	2	M10 FLAT WASHER (TERRA 2500/3500/4500 ONLY)
10	2	M10 SPLIT LOCK WASHER (TERRA 2500/3500/4500 ONLY)
11	2	M10 HEX NUT (TERRA 2500/3500/4500 ONLY)
12	4	M6 HEX HEAD BOLT
13	4	M6 SERRATED FLANGE NUT
14	2	M5 PHILLIPS SCREW
15	2	M5 SERRATED FLANGE NUT
16	1	HANDLEBAR SWITCH
17	1	HAND SAVER
18	1	WIRED REMOTE
19	1	MOUNTING PLATE
20	1	HOOK
21	1	REMOTE CONTROL SOCKET
22	1	CIRCUIT BREAKER
23	1	CIRCUIT BREAKER CABLE
24	1	POWER CABLE
25	1	GROUND CABLE
26	1	TERMINAL BOOT (BLACK)
27	1	TERMINAL BOOT (RED)
28	1	MOTOR CABLE (BLUE)
29	1	MOTOR CABLE (YELLOW)
30	1	CONTACTOR
ANTI-SEIZE LUBRICANT MUST BE USED ON ALL STAINLESS STEEL FASTENERS TO PREVENT THREAD DAMAGE AND GALLING		

PRODUCT SPECIFICATIONS



1125260 - Terra 2500 /

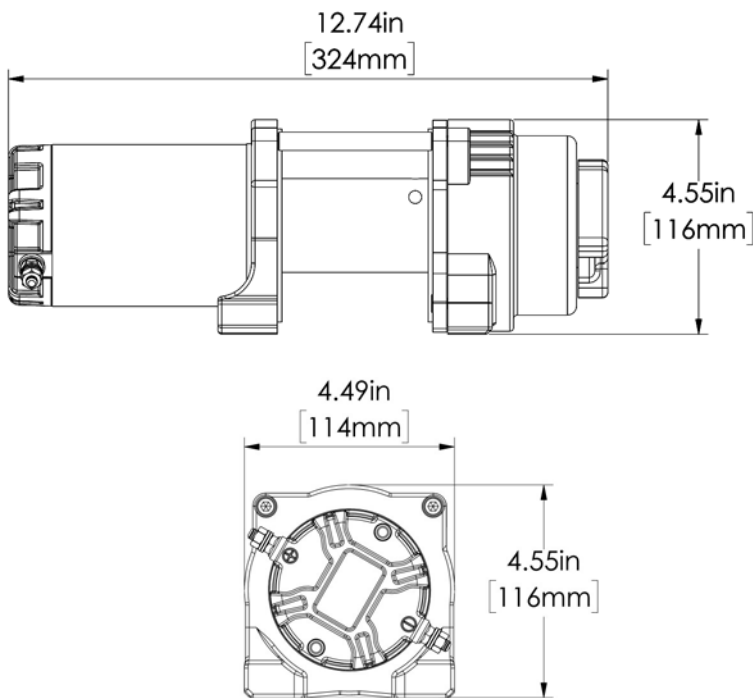
1125270 - Terra 2500SR

Motor: 1.5 HP / 1.1 kW, Permanent Magnet 12 Volt DC

Gear Ratio: 138:1

First Layer Rated Line Pull: 2500 lbs / 1134 kg

Drum Length: 3.11in / 79mm



1135260 - Terra 3500 /

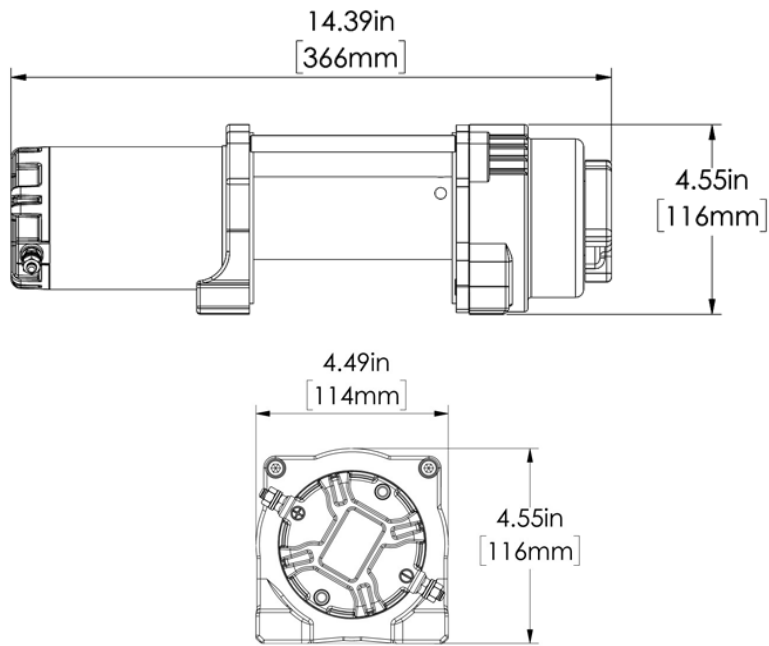
1135270 - Terra 3500SR

Motor: 1.6 HP / 1.2 kW, Permanent Magnet 12 Volt DC

Gear Ratio: 198:1

First Layer Rated Line Pull: 3500 lbs / 1587 kg

Drum Length: 3.11in / 79mm



1145260 - Terra 4500 /
1145270 - Terra 4500SR

Motor: 1.8 HP / 1.3 kW, Permanent Magnet 12 Volt DC

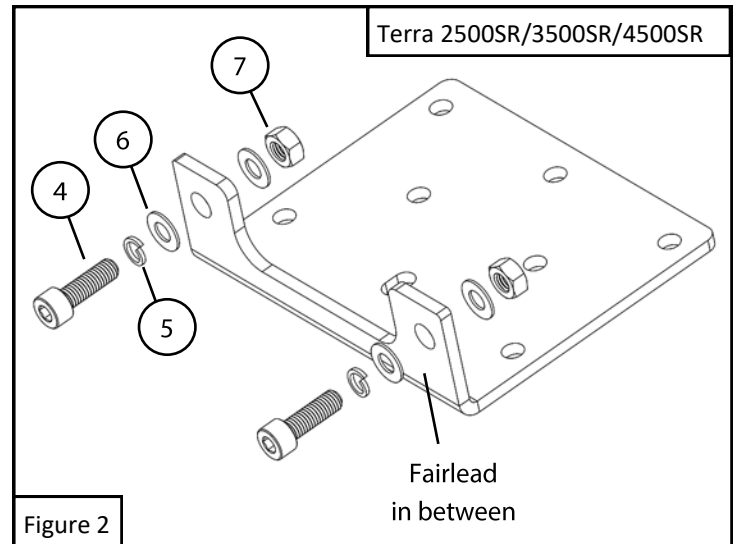
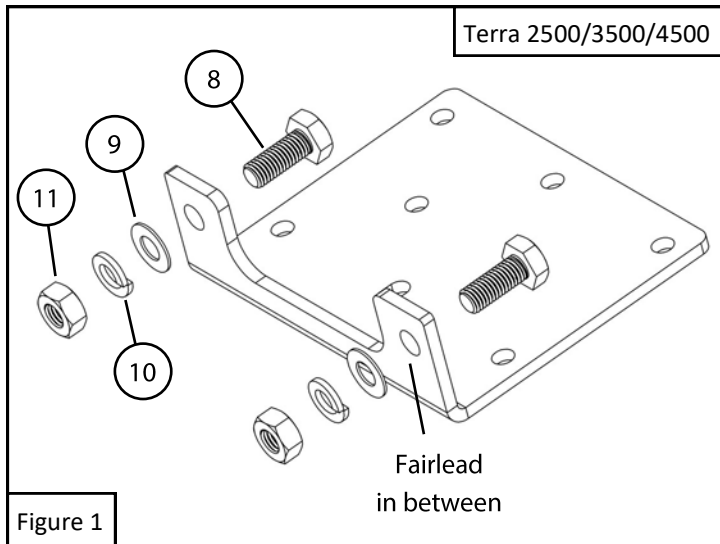
Gear Ratio: 198:1

First Layer Rated Line Pull: 4500 lbs / 2041 kg

Drum Length: 4.76in / 121mm

INSTALLATION INSTRUCTIONS

1. Remove contents from box, verify if all parts listed are present and free from damage. **Failure to identify damage before installation could lead to a rejection of any claim.**
 2. Carefully read and understand all instructions before attempting installation. **Ensure that all mounting hardware is torqued to specifications prior to use.**
-
3. In order to install the Terra Winch, you will need to use a winch mount or winch bumper. **Ensure the winch mount/bumper is rated for your vehicle weight and pulling power of the winch.**
 4. Install the fairlead (item 2) to the mounting plate (item 19). **See Figures 1 and 2.**
Note: Use of the mounting plate is optional. The winch mount/bumper may provide a mounting location for the winch and/or fairlead.



5. Mount the winch using the included M8 hardware (items 3, 5, and 6). **See Figures 3-4.**

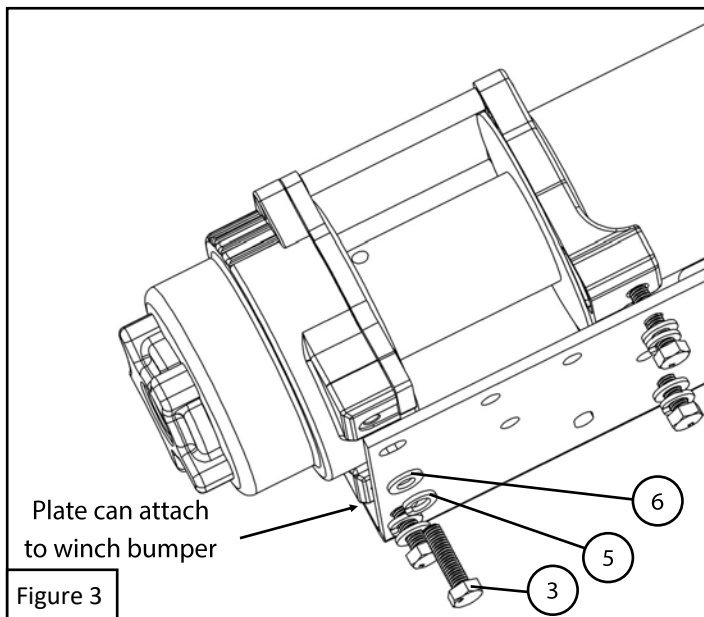
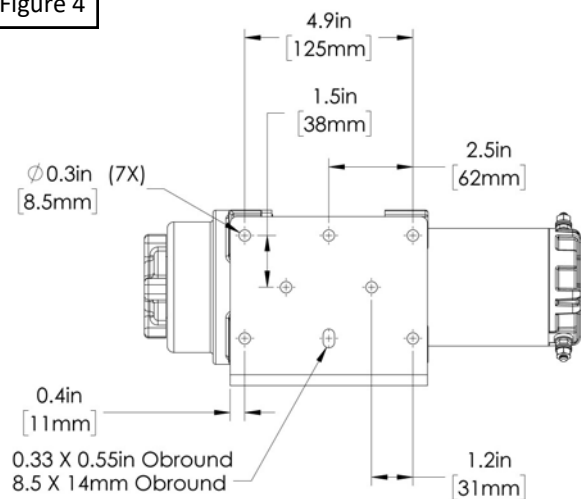
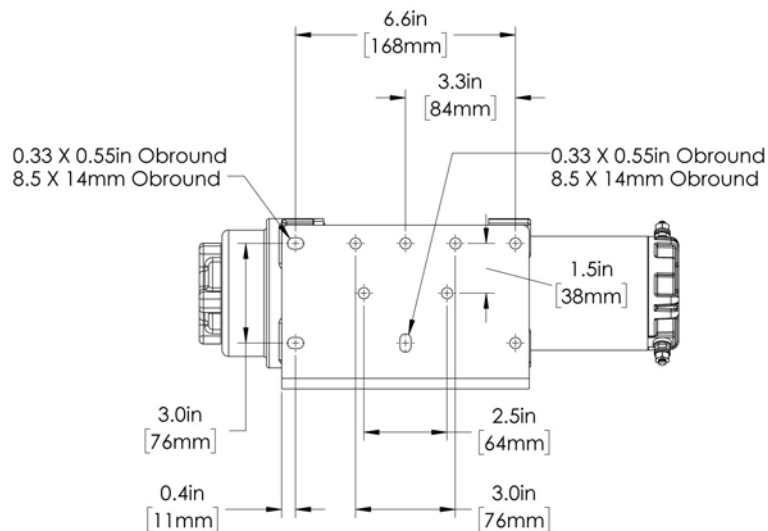


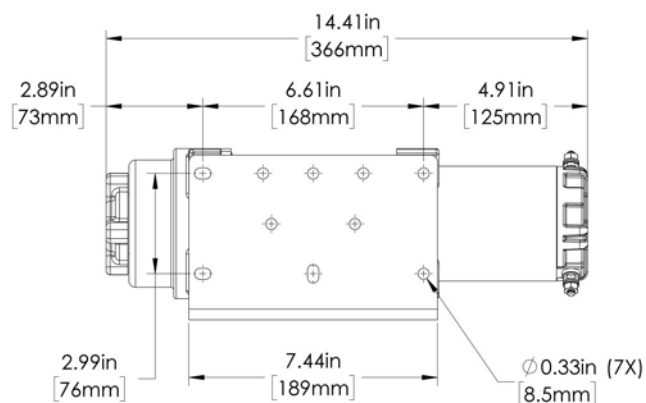
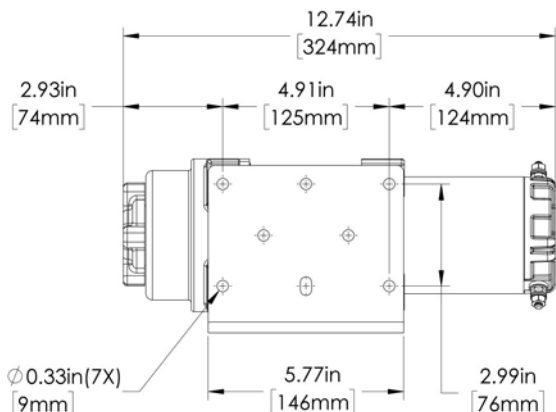
Figure 4



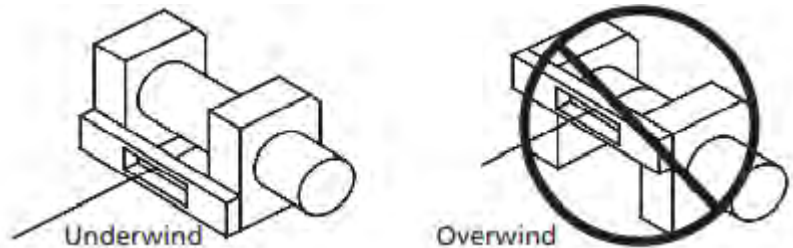
Terra 2500/2500SR/3500/3500SR



Terra 4500/4500SR



6. Free spool the clutch and rotate the drum on the winch outward until the end of the cable is facing the front. **Ensure that the rope is routed under the winch (underwound).** Damage will occur if not underwound. Carefully pull the rope through the fairlead. Connect your hook to the rope with the clevis pin and cotter pin.



WINCH PLATE INSTALLATION COMPLETE



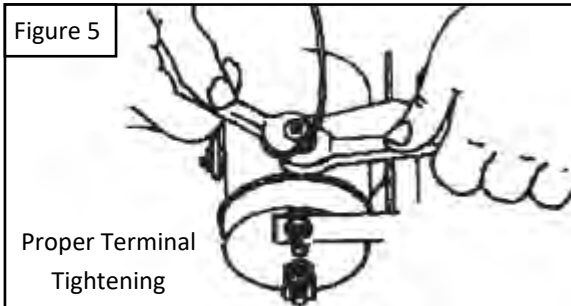
ELECTRICAL INSTALLATION

CAUTION

NOTE: Disconnect the vehicle battery before doing any electrical work.

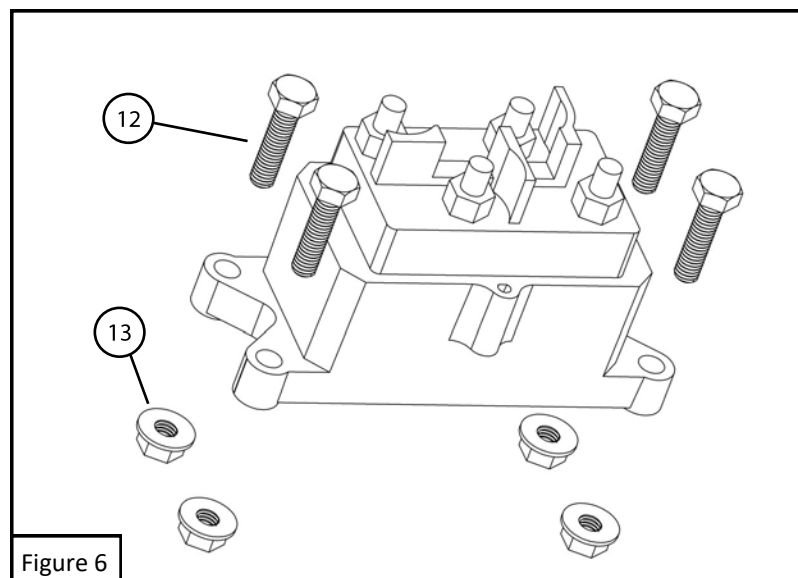
NOTE: The handlebar switch or remote control can operate the winch alone. Installing both is optional.

NOTE: When attaching wires to the motor or solenoid 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 breakage or part misalignment. **See Figure 5.**



CONTACTOR MOUNTING

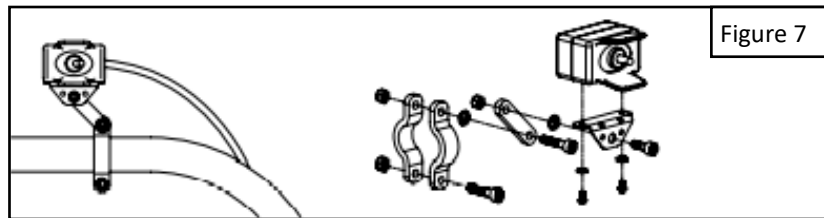
1. The contactor should be mounted close to the battery and in a location that is clean and dry as possible.
Note: The contactor should not be mounted in an orientation in which the contact posts are in a downward position. Ensure the solenoid location selected provides sufficient clearance from all metal structures, such as frame tubes.
2. Using the contactor as a guide, mark 4 mounting holes.
3. Drill four 1/4 inch holes in the locations marked in the previous step.
4. Mount the contactor using the included M6 hardware (items 12-13). **See Figure 6.**



HANDLEBAR SWITCH MOUNTING

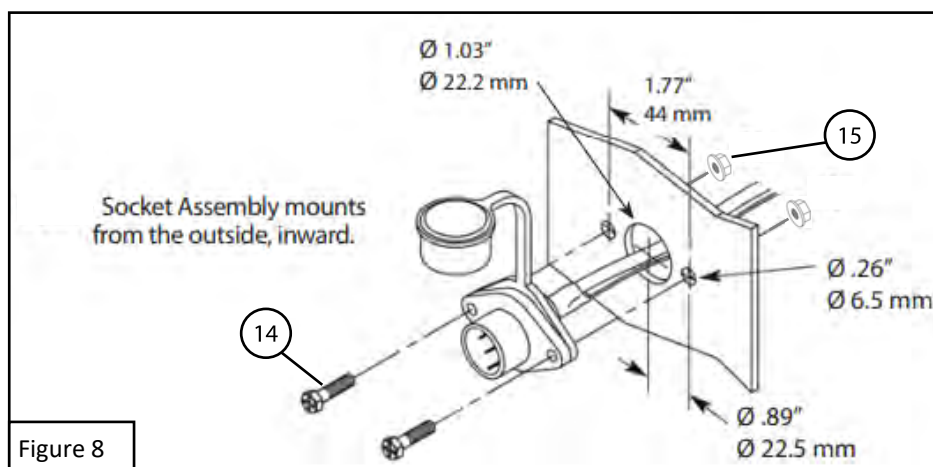
ALWAYS USE THE SWITCH MOUNTING BRACKET, SCREWS, AND LOCK NUTS PROVIDED. Screw lengths are sized for correct penetration into switch box. Excessive tightening may result in short circuits that could lead to wire over heating. The switch should be mounted in a convenient location. It is recommended that the switch be installed on the left handlebar.

1. Route the wiring harness from the contactor to the mounting location, attaching the harness to hard points on the vehicle with cable ties. **Note: Your installation requirements will vary depending upon your vehicle and winch. Make sure the wires are long enough to reach the contactor.**
2. Using the supplied clamps, bracket, and hardware, mount the switch. **See Figure 7.**



REMOTE SOCKET MOUNTING

1. Determine the mounting location for the remote socket. **Note: Your installation requirements will vary depending upon your vehicle and winch. Make sure the wires are long enough to reach the contactor.**
2. Drill three holes using the dimensions below as a guide. **See Figure 8.**
3. Mount the remote socket using the included M5 hardware (items 14-15).



CONTACTOR WIRING

1. **Handlebar Switch:** Connect the black wire to one of the contactor black wires using the green bullet connector. Connect the blue wire to one of the contactor black wires using the green bullet connector. Connect the red wire to the **B+ (red)** terminal on the contactor.
2. **Remote Control Socket:** Connect the black wire to one of the contactor black wires using the green bullet connector. Connect the blue wire to one of the contactor black wires using the green bullet connector. Connect the red wire to the **B+ (red)** contactor stud.
3. **Motor Cables:** Connect one of the blue motor cable to the + (**blue**) terminal on the winch motor. Connect one of the yellow motor cable to the - (**yellow**) terminal on the winch motor. Route the motor cables to the contactor. Connect the free end of the yellow motor cable to the **M- (yellow)** contactor stud. Connect the free end of the blue motor cable to the **M+ (blue)** contactor stud.
4. **Battery Cables/Circuit Breaker:** Connect the ground cable (black) to the **B- (black)** contactor stud. Connect the power cable (red) to the **B+ (red)** contactor stud. Route the ground cable and power cable to the vehicle battery. Connect the ground cable to the - battery post. Connect the power cable to one end of the circuit breaker. Connect the circuit breaker cable (red) to the free end of the circuit breaker. Connect the free end of the circuit breaker cable to the + battery post.

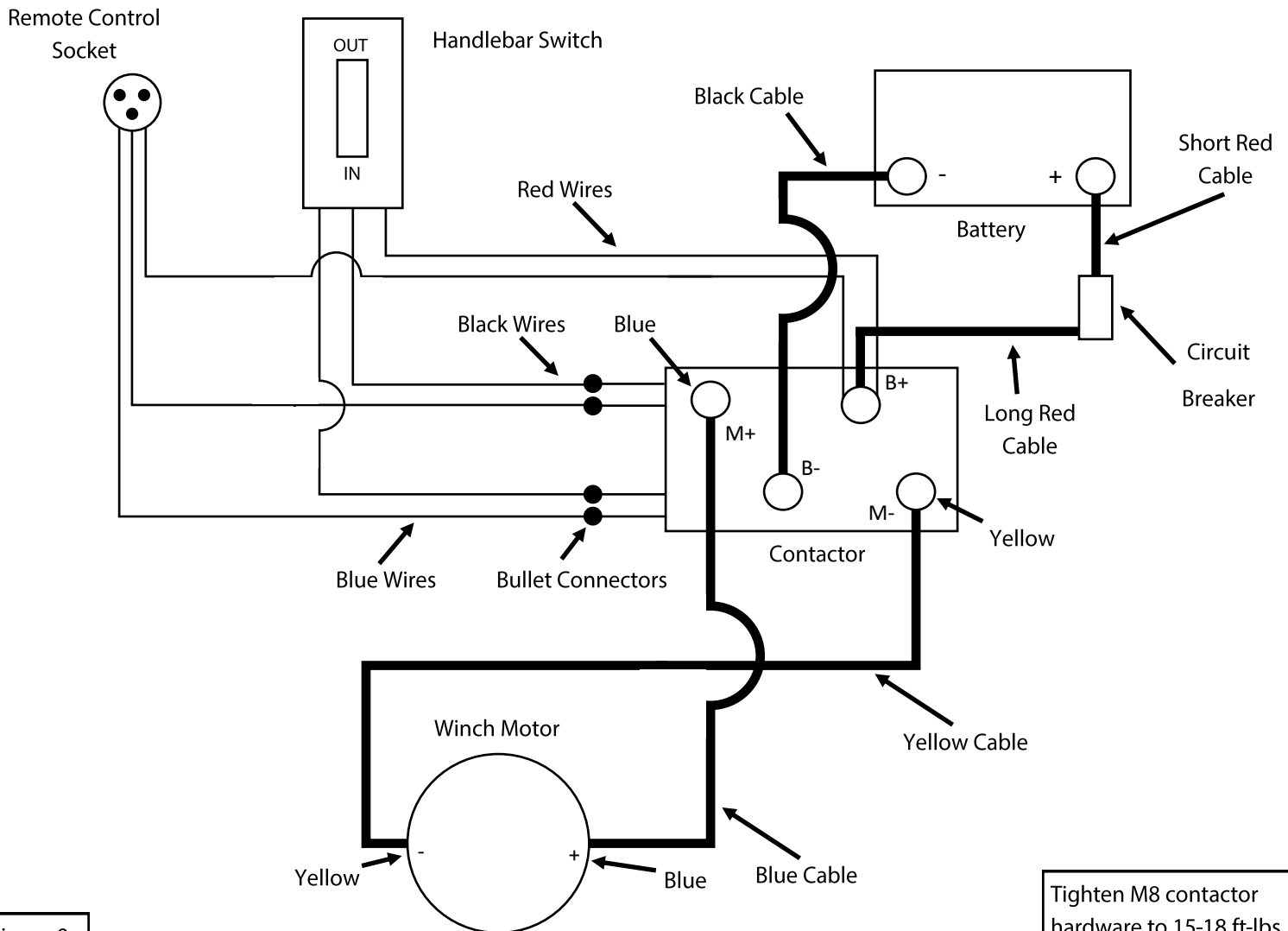


Figure 9

Tighten M8 contactor hardware to 15-18 ft-lbs.

CLOCKING THE MOTOR (OPTIONAL)

The Terra winch motor can be clocked. This can help with some installations. In order to clock the winch:

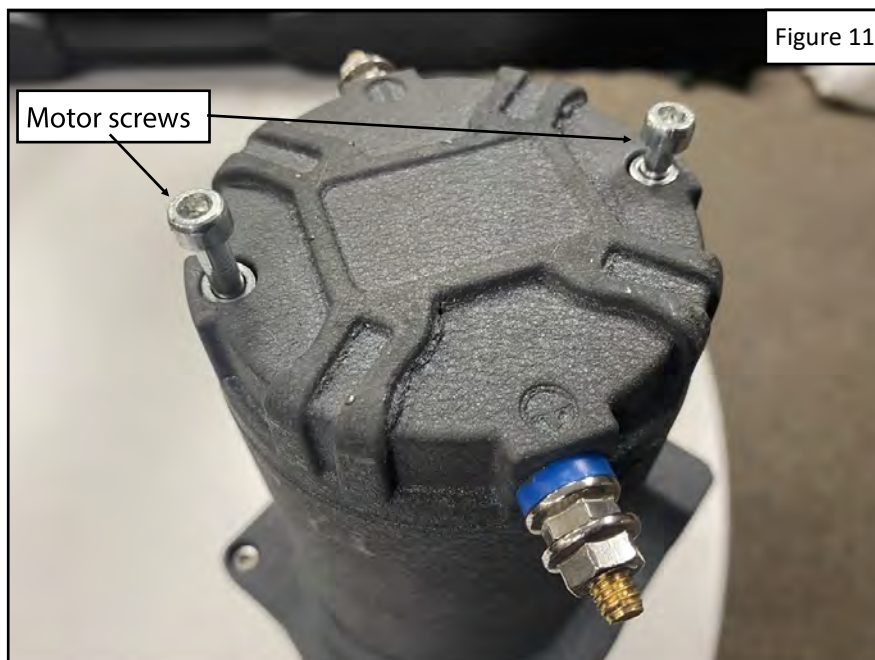
1. Stand the winch up on the gearbox side. **See Figures 10-11.**
2. Loosen the two motor screws until the motor can freely spin. **Note: Do not remove the motor screws.**

Figure 10



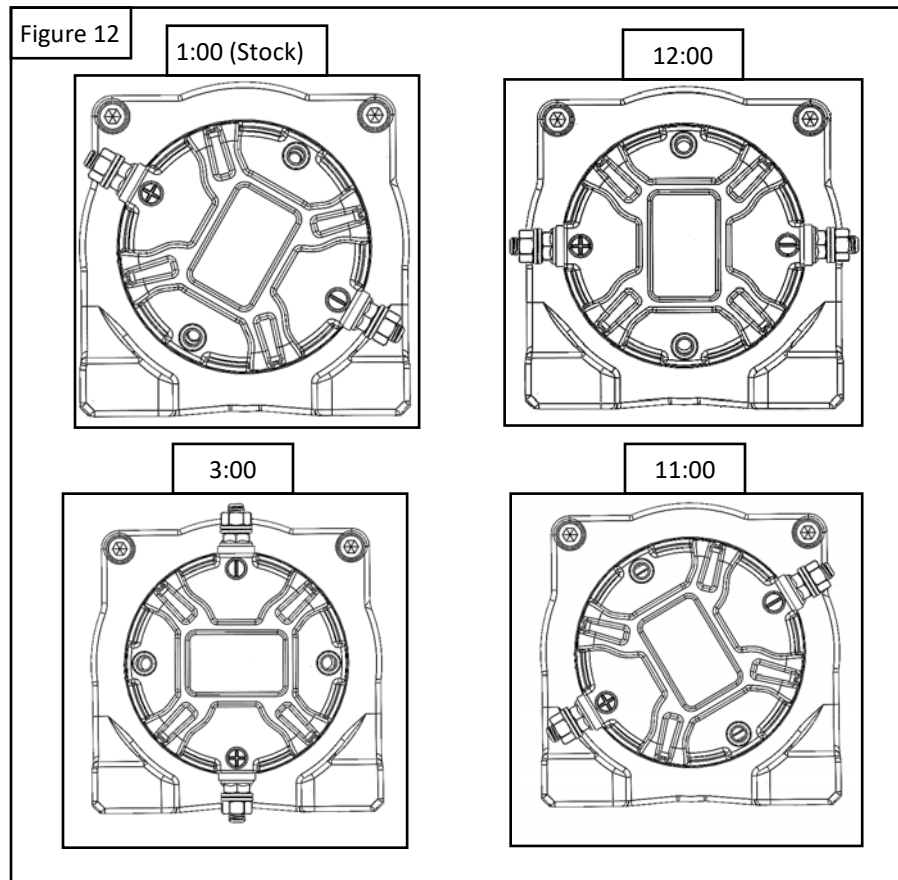
Gearbox side

Figure 11

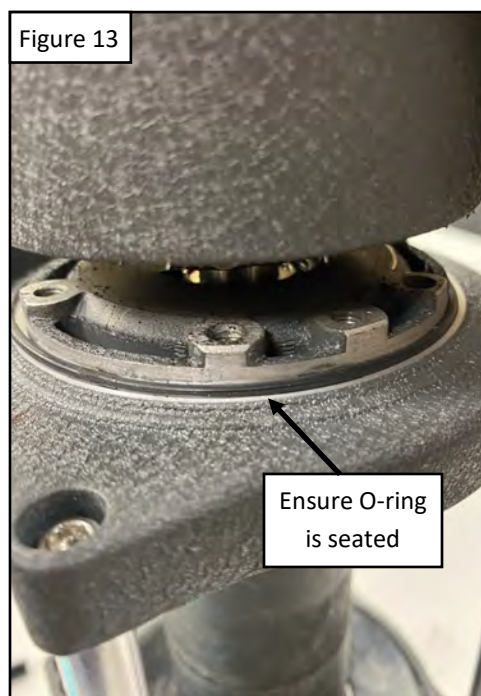


Motor screws

3. While slightly pulling up on the motor body, rotate the motor to the desired clocking position. **Note: There are four positions total to rotate the motor to: 1 o'clock (stock) , 3 o'clock, 11 o'clock, and 12 o'clock position. See Figure 12.**



4. Tighten the motor screws to 50 in-lbs.
5. **Troubleshooting:** If the O-ring falls off when clocking the winch, carefully use a plastic trim tool to pack the O-ring into position. Add a small dab of RTV if necessary to hold the O-ring. **See Figure 13.**



WINCH OPERATING INSTRUCTIONS

Every winching situation has the potential for serious personal injury. To minimize that risk, read this User's Guide carefully. Familiarize yourself with the operation of your winch before using it. Your constant focus on good judgment and winch safety are of great importance. Your winch includes safety icons, warnings and cautions in multiple areas. Please observe carefully and refer to these warnings include below. The winch contains moving parts and sharp edges which can result in cuts, burns, lacerations and/or amputations.



1. Read Owners Manual



2. Electric Shock Hazard



3. Fire and Burn Hazard



4. Hot Surface Hazard



5. Moving Parts Hazard



6. Sharp Edge Hazard



7. Always Use a Handsaver Strap



8. Always Keep Clear of Winch, Rope and Load



9. Always Properly Seat Load in Throat of Hook.



10. Always Use a Shackle or Strap When Attaching the Hook to an Anchor Point



11. Always Wear Personal Protection Gear.



12. Always Wear Heavy Protective Gloves.



13. Never Apply Load to Hook Tip or Latch.



14. Never attach the hook back on to the rope.



15. Never Put your fingers into the hook.



16. Never touch the rope when in tension or under load.



17. Never use winch as a hoist.



18. Never use a winch to secure a load in place.



19. Never use a winch to lift or move people.



20. Never wind rope over top of drum.



21. Risk of explosion.

OPERATION WARNINGS

- Improper use or overloading of the winch can result in a release of load or rope failure.
- Before winching a load, be sure the freespool is fully in the engaged position.
- Always apply load to the throat (center) of the hook.
- Always be certain anchor will withstand load.
- Always ensure hook latch is closed and not supporting load.
- Always operate the winch with an unobstructed view of the winching operation.
- Always seat load in throat of hook. Always take your time when rigging and include a reasonable factor for safety. Never operate a winch with less than 5 turns of wire rope around the winch drum. Never operate a winch with less than 8 turns of synthetic rope around the winch drum.
- Always use a hook with a latch. Never apply load to hook tip or latch.
- Never disengage the freespool while winch is under load.
- Always mount winch so that rope feeds through fairlead on front of winch parallel to the mounting surface and does not rub across housing or base.
- Always use tackle, hooks, pulley blocks, straps, etc. rated in excess of the load capability of the winch. Never exceed the winch rated capacity.
- Never hook the rope back onto itself, use a sling or strap to secure to anchor point.

RIGGING AND WINCHING

Rigging is the act of connecting the pulling mechanism to the anchor point. Rigging often involves materials such as tree saver straps, nylon straps, pulley blocks, and shackles. The use of these materials is discussed later in this section. Regardless of the materials used, selecting the anchor point is vital.

- In some circumstances the vehicle on which the winch is mounted is the anchor point. In these situations the vehicle with the winch is not stuck. It is being used to move another object. When anchoring the pulling vehicle, set the parking brake and block or chock the wheels. Keep the vehicle's foot brake depressed and place the automatic or manual transmission in neutral. Always consult vehicle's owner's manual for load capacity and other specifications of your vehicle.
- In a vehicle recovery situation where a winch equipped vehicle is NOT being used as the anchor point, always select a solid object that is more than adequate to resist the winch loads applied. This could be a tree, rock or other vehicle. If hooking to a tree or rock always use a tree-saver strap. If using a second vehicle as an anchor point, always be sure that the tow point on the vehicle is securely mounted to the vehicle's frame and will fully resist the winch load.
- The anchor point selected should create a straight pull for the winch, as much as possible in the given situation. Long pulls at side angles can damage your winch or rope. In all cases, NEVER wrap the winch rope around a load or anchor point and connect the hook back to the rope. ALWAYS use a strap or tow point to connect the winch hook to the load or anchor point.
- For trailering applications, always be sure that the tow point on the vehicle or item to be winched will resist the winch load applied, and will not damage the vehicle, item, or winch rope. Align an unobstructed path to the car that you are loading. Minimize contact with the wire or synthetic rope and the trailer or other objects.
- Now that you have selected an anchor point you can begin rigging. No two winching situations are the same. Always wear proper safety equipment suitable to your unique situation.
- When winching, use a winch dampener (**See Figure 13**), blanket, or heavy jacket to place over the winch rope, to protect people and property. This is done to direct energy to the ground in case of winch rope breakage. Monitor your rigging during winching to be sure that your dampener is not caught up in fairleads or pulley blocks. Always keep safety your top priority during winching.
- Never allow the winch rope/cable to chafe against sharp edges.
- Wear gloves while handling winch rope/cable.

Once the Rigging is set, you are ready to Winch. Always keep safety in mind during winching. Keep all observers a distance from the winching operation equal to the length of rope that is in use. For recovery applications, understand how the load you're winching will move. If the vehicle is stuck, understand why. Is the vehicle simply in slippery mud? Is an axle or skid plate caught on a rock? Understanding why the vehicle is stuck is a key point. If there is a large rock right in front of your axle, frame, or skid plate, you can winch all day and the only thing you'll accomplish is bending something, or burning out your winch (**See Below**). Check for obstructions. Sometimes no amount of winching forward will pull the vehicle up and over an obstacle. If the winch is struggling, re-evaluate. Remember—



1. Take up slack in the rope and rigging slowly.
2. Once the rope and rigging are taut, carefully review the rigging again to check for binding or obstructions.
3. During winching, apply power to the winch smoothly, and observe all parts of the winching operation while the winch is running. Watch the winch, rigging, rope, and vehicles involved. Listen to the winch for signs that the winch is pulling easily or if it is heavily loaded. Be attentive and observant at all times. If the winch appears to slow considerably or change its sound, stop powering the winch and review the situation.
4. Check the winch motor to be sure that the winch does not overheat. Allow time for the winch to cool or re-evaluate your rigging. With more practice and experience you will learn to recognize the winch's sounds and ability.



Figure 12

De-Rigging

1. When the vehicle has been recovered or the load has been moved to a stable position and winching is complete, secure the vehicle or load and release the tension on the rope by powering cable out just enough to slacken the rope. **DO NOT USE THE WINCH TO SECURE LOADS DURING TRANSPORT.**
2. Disassemble the rigging, and return components to their storage area.
3. Ensure the cable is not kinked, or coiled up as shown in **Figure 13**. Uncoil as necessary or else **damage will occur**.
4. Power the winch IN until the hook is approximately 3 feet (1 meter) from the winch. NEVER hold the hook with your hand—ALWAYS use the handsaver.
5. Secure the hook to its stowed position (a shackle or tow hook) and jog the winch in slowly, approximately 1 second at a time, until the winch cable is snug
6. **DO NOT CONTINUE TO WINCH.** Simply snug up the rope to a secure position. Do not attach the hook to any part of the winch, such as a tie bar, freespool control, etc. Use caution if pulling the thimble or hook all the way to the fairlead, Fairlead damage, leading to rope damage may occur, a better practice is to secure the hook off to a side tow hook or other structure.

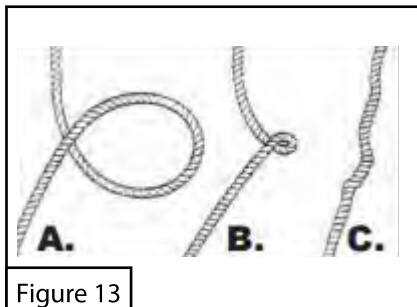


Figure 13

TROUBLESHOOTING GUIDE

Symptoms	Possible Cause(s)	Corrective Actions
Motor will not operate or runs in one direction only	1. Bad connections or broken wires. Most often, winch problems can be traced to loose connections, corrosion, or broken wires. 2. Damaged or stuck solenoid. This is most likely caused by not holding the inner nut to keep the stud from turning when attaching wire to solenoid. 3. Handheld switch inoperative. 4. Damaged motor 5. Solenoid is not grounded. 6. Weak or dead battery.	1. Check all wiring. Look for loose connections, corrosion, and broken or damaged wires. Any wires that appear damaged must be replaced. Check handheld controller for damaged wiring or damaged or corroded plug and socket connections. Caution: Always use two wrenches when loosening or tightening motor and solenoid connections. Otherwise motor or solenoid damage can occur. 2. Caution: <u>Disengage freespool before performing this test to prevent powering the winch drum.</u> If a solenoid sticks once, it is likely to stick again and must be replaced immediately. Tap solenoid to free stuck contacts. For individual single-coil solenoids, check by applying voltage to the small solenoid terminal. Be sure solenoid is grounded back to battery. For multiple-coil block-style solenoids, disconnect existing connections, ground center terminal, and apply voltage to outer terminals one at a time. A solenoid that is not stuck will make an audible "click" when first energized. 3. Replace switch. 4. Replace or repair motor. Review Brushed. Brushes may be sticking or worn. 5. Check ground path between battery negative and solenoid. 6. Recharge or replace battery. Check charging system
Winch will not shut off	1. Solenoid stuck "on"	1. If solenoid sticks on, reverse direction and hold trigger switch on until the power lead can be disconnected.
Motor runs extremely hot	1. Long period of operation. 2. Damaged motor. 3. Damaged brake.	1. Allow to cool. 2. Replace or repair motor. 3. Replace or repair brake.
Motor runs but with insufficient power or line	1. Weak Battery 2. Battery to winch wire too long. 3. Poor battery connection. 4. Poor ground. 5. Damaged Brake.	1. Recharge or replace battery. Check charging system. Ensure you are using a dual battery setup 2. Use larger gauge wire. 3. Check battery terminals for corrosion. Clean as required. 4. Check and clean connections. 5. Repair or replace Brake.
Motor runs but drum does not turn	1. Freespool not engaged	1. Engage Freespool.
Winch runs backwards	1. Motor wires reversed.	1. Recheck wiring.
	2. Solenoid wired incorrectly.	2. Recheck wiring.
	3. Winch rope is overwound instead of under wound.	3. Re-wrap rope around drum so that it is under wound.
Will not hold load	1. Excessive load. 2. Worn or damaged brake.	1. Reduce load or double line. 2. Repair or replace brake.

WARNINGS

Failure to follow these instructions could lead to death, personal injury, and / or property damage.

FASTENERS:

All SUPERWINCH supplied fasteners must be utilized and installed in accordance with the installation instructions and apply torque to the specifications as defined. DOUBLE CHECK ALL FASTENERS BEFORE INITIAL USE, AND PERIODICALLY IN THE FUTURE TO ENSURE PROPER FUNCTION AND SAFETY.

EYE PROTECTION:

ALWAYS WEAR SAFETY GLASSES OR GOGGLES DURING THE INSTALLATION PROCESS TO AVOID PERSONAL INJURY.

FOR CALIFORNIA RESIDENTS ONLY-PROP 65 WARNING:

Some products may contain chemicals such as DEHP, which can cause cancer, birth defects or other reproductive harm. For more info go to www.p65warnings.ca.gov



For more information on this and other products,
or to be put in contact with a Superwinch sales
rep or distributor, call (800) 323- 2031
or email info@superwinch.com

SUPERWINCH
320 W. COVINA BLVD.
SAN DIMAS, CA 91773