



X20 WINCH INSTRUCTION MANUAL

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400 W. ARTESIA BLVD., COMPTON CA 90220
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WINCHES:
X20 10,000LB, X20 12,000LB,
X20 15,500LB, X20 17,500LB



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Installation Instructions

X2O Winches

NOTE: Read entire manual thoroughly before installing and using this product. Keep manual with winch for reference, warranty and future use.

SAFETY PRECAUTIONS

Warning! Observe safety precautions for personal safety and the safety of others. Improper equipment operation may cause personal injury and equipment damage. Read the following carefully before attempting to operate your winch and keep the instructions for future reference.

1. Dress properly:

- Don't wear loose clothing or jewelry. They can be caught in moving parts.
- Wear leather gloves when handling winch cable. Do not handle cable with bare hands as broken wires can cause injuries.
- Non-skid footwear is recommended

2. Keep a safe distance:

- Ensure that all persons stand well clear of winch cable and load during winch operation, 1.5 times the cable length recommended. If a cable pulls loose or breaks under load, it can lash back and cause serious personal injury or death.
- Don't step over the cable.
- All visitors and onlookers should be kept away from the work area.
- Keep proper footing and balance at all times.

3. Don't abuse the cord:

- Never carry your winch by the cord or yank it to disconnect it from the receptacle.
- Keep cord from heat, oil and sharp edges.

4. Don't overwork the winch:

- If the motor becomes uncomfortably hot to touch, stop and let it cool for a few minutes.
- Don't maintain power to the winch if the motor stalls.
- Don't exceed maximum line pull ratings shown in tables. Shock loads must not exceed these ratings.

5. Avoid unintentional starting:

- Winch clutch should be disengaged when not in use and fully engaged when in use.

6. Check damaged parts:

- Before using, you should check your winch carefully. Any part that is damaged should be properly repaired or replaced by an authorized service centre.

7. Repair your winch:

- When repairing, use only identical replacement parts or it may cause considerable danger for the user.

8. Re-spool the cable:

- Leather gloves must be worn while re-spooling. To re-spool correctly, it is necessary to keep a slight load on the cable. Hold the cable with one hand and the remote control switch with the

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other. Start as far back and in the centre as you can. Walk up keeping load on the cable as the winch is powered in.

- Do not allow the cable to slip through your hand and do not approach the winch too closely.
- Turn off the winch and repeat the procedure until all the cable except 1m is in.
- Disconnect the remote control switch and finish spooling in cable by rotating the drum by hand with clutch disengaged.
- On hidden winches, spool in cable under power but keep hands clear.
- NEVER operate winch with less than 10 wraps of rope around the drum. The terminal end is to prevent the rope from unraveling, it is NOT a load bearing attachment point. Improper installation and / or spooling out to last layer will put a load on the terminal end and the rope will release from the terminal. Always re-spool winch rope under a minimum 1000 lb. load before each use.
- Prior to your next pull, re-spool winch line under at least 1000lbs of resistance to prevent damage to winch line during next recovery.

WINCH OPERATION WARNINGS

Read the following carefully before attempting to operate your winch and keep the instructions for future reference. *Smittybilt electric winches are intended for recreational self-recovery usage only.*

1. The uneven spooling of cable, while pulling a load, is not a problem, unless there is a cable pile up on one end of the drum. If this happens reverse the winch to relieve the load and move your anchor point further to the centre of the vehicle. After the job is done, you can unspool and rewind for a neat lay of the cable.
2. Store the remote control switch inside your vehicle where it will not become damaged, inspect it before you plug it in.
3. When ready to begin spooling in, plug in remote control switch with clutch disengaged, do not engage clutch with motor running.
4. Never connect the hook back to the cable, this causes cable damage. Always use a sling or chain of suitable strength.
5. Observe your winch while winching, if possible while standing at a safe distance. Stop the winching process every meter or so to assure the cable is not pulling up in one corner. Jamming the cable can break your winch.
6. Do not attach tow hook to winch mounting plate, they must be attached to vehicle frame.
7. The use of a snatch block will aid recovery operations by providing a doubling of the winch capacity and a halving of the winching speed, and the means to maintain a direct line pull to the centre of the rollers. When double loading during stationary winching, the winch hook should be attached to the chassis of the vehicle.

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8. Ensure rated "D" or bow shackles are used in conjunction with an approved tree trunk protector to provide a safe anchor point.
9. When extending winch cable, ensure that at least five wraps of cable remain on drum at all times. Failure to do this could result in the cable parting from the drum under load. Serious personal injury or property damage may result.
10. All winches are provided with a red cable marking to identify that 6 wraps of steel cable or 10 wraps of synthetic rope remain on the winch drum when this mark appears at the rollers. No recovery should be attempted beyond this marking.
11. Since the greatest pulling power is achieved on the innermost layer of your winch, it is desirable to pull off as much line as you can for heavy pulls (you must leave at least 6 wraps of steel cable or 10 wraps of synthetic rope minimum on the drum. If this is not practical use a snatch block and double line arrangement.
12. Draping a heavy blanket or similar object over the extended winch cable is recommended as it will dampen any back lash should a failure occur.
13. Neat, tight spooling avoids cable binding, which is caused when a load is applied and the cable is pinched between the others. If this happens, alternatively power the winch in and out. Do not attempt to work a bound cable under a load, free by hand.
14. Apply blocks to wheels when vehicles are on an incline.
15. Battery:
 - Be sure that the battery is in good condition. Avoid contact with battery acid or other contaminants.
 - Always wear eye protection when working around a battery.
 - Have the engine running when using the winch, to avoid flattening the battery.
16. Winch cable:
 - Be sure that the cable is in good condition and is attached properly.
 - Do not use the winch if cable is frayed.
 - Do not move the vehicle to pull a load.
 - Do not replace the cable with a cable of lesser strength.
 - The life of the cable is directly related to the use and care it receives. Following its first and subsequent uses, a cable must be wound on to the drum under a load of at least 1000lbs(460kgs) or the outer wraps will draw into the inner wraps and severely damage the cable during winching. The first winch use should be a familiarization run while in a relaxed, non-recovery situation. Spool out the cable until the red cable mark appears (about 5 wraps on the drum), then rewind the cable on the drum under a load of 1000lbs(460kgs) or more. This will slightly tension and stretch the new cable and create a tight cable wrap around the drum. Failure to do so may result in cable damage and reduced cable life.
 - When the cable is replaced, be sure to apply loctite, or an equal compound, to the cable clamp thread. Tighten the clamp screw properly but do not over tighten. The loctite will prevent loosening of the screw in arduous conditions. Loctite 7471 primer and 222 threadlocker are recommended.

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17. Do not attempt to exceed the pulling limits of this winch.
18. Do not drive your vehicle to assist the winch in any way. Vehicle movement in combination with winch operation may overload the cable, the winch itself or cause damaging shock loads.
19. Shock loads when winching are dangerous! A shock load occurs when an increase force is suddenly applied to the cable. A vehicle rolling back on a slack cable may induce a damaging shock load.
20. The winches shown in this manual are solely for vehicle and boat mounted, non-industrial applications.
21. Do not use winch in hoisting applications due to required hoist safety factors and features.
22. Do not use the winch to lift, support or otherwise transport personnel.

INSTALLATION

Mounting your winch

1. The winch is to be mounted into a suitable steel mounting frame using the 4 point foot mounting system in either a horizontal or vertical plane.
It's very important that the winch be mounted on a flat surface so that the three sections (motor, cable drum and gear housing) are properly aligned.
--The fitment of winches and / or a frontal protection system may affect the triggering of SRS air bags. Check that the mounting system has been tested and approved for winch fitment in the airbag equipped vehicle.
2. Winch mounting frames and / or frontal protection systems are suggested to suit most popular vehicles. Winch frames are packaged with detailed fitting instructions.
3. Should you wish to manufacture your own mounting plate the dimensions below will assist. A steel mount plate 6mm thick is recommended. Fasteners should be steel high tensile grade 5 or better. A poorly designed mount may void warranty.
4. The winch should be secured to the mounting with 3/8" UNC x 1-1/4" stainless steel bolts and spring washers provided.
5. The roller fairlead is to be mounted so as to guide the rope onto the drum evenly.

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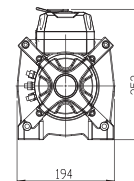
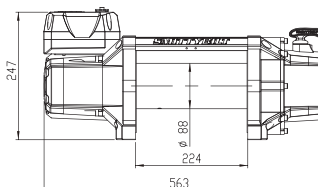
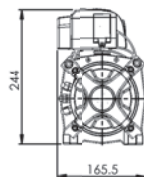
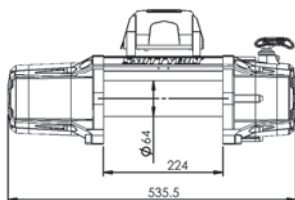
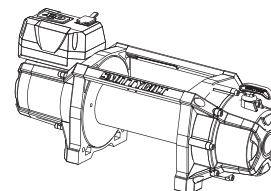
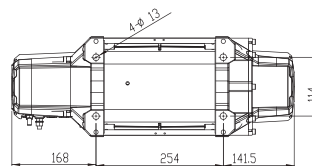
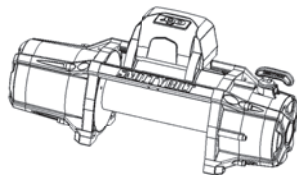
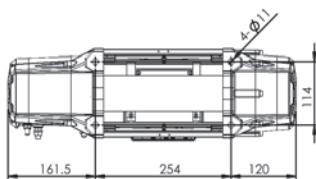
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Lubrication installation

All moving parts in the winch are permanently lubricated with high temperature lithium grease at the time of assembly. Lubricate cable periodically using light penetrating oil. Inspect for broken strands and replace if necessary. If the cable becomes worn or damaged it must be replaced.

Cable installation

Unwind the new cable by rolling it along the ground, to prevent kinking. Remove old cable and observe the manner in which it is attached to the cable drum flange.

Electrical Connection

For normal self-recovery work, your existing electrical system is adequate. A fully charged battery and proper connections are essential. Run the vehicle engine during winching operations to keep battery charged.

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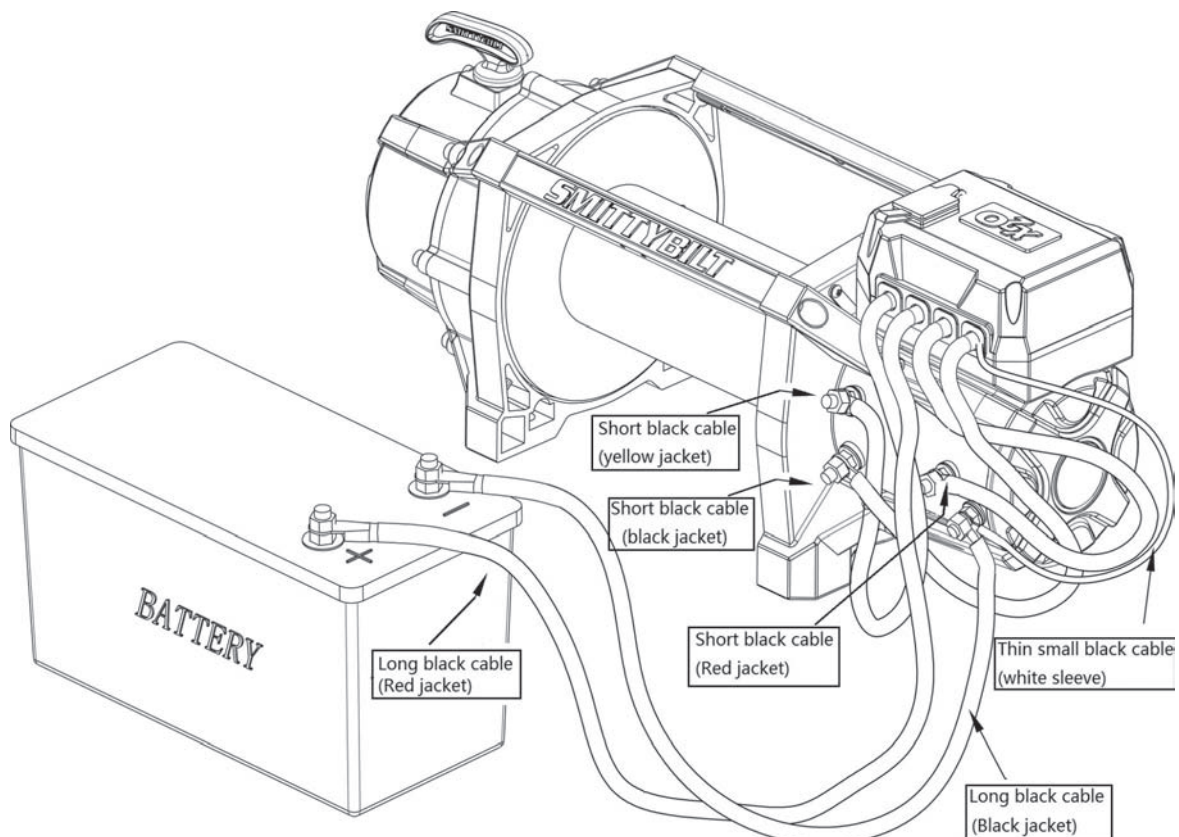
Installation Instructions

X2O Winches

Pay close attention to proper electrical cable connection as follows (Refer to diagram 1)

1. Short black cable with red jacket (B') connecting to the red terminal (B) of the motor.
2. Short black cable with yellow jacket (C') connecting to the yellow terminal (C) of the motor.
3. Short black cable with black jacket (D') connecting to the black terminal (D) of the motor.
The thin black cable with white sleeve (A') connecting to bottom terminal (A) of the motor
4. Long black cable (1.8m), with black jacket one terminal (A') connecting to the bottom terminal (A) of the motor, and the other terminal negative (-) connecting to negative (-) terminal of battery.
5. Long black cable positive (+) with red jacket connecting to positive (+) terminal of battery.

Electrical connection (15,500 17,500)



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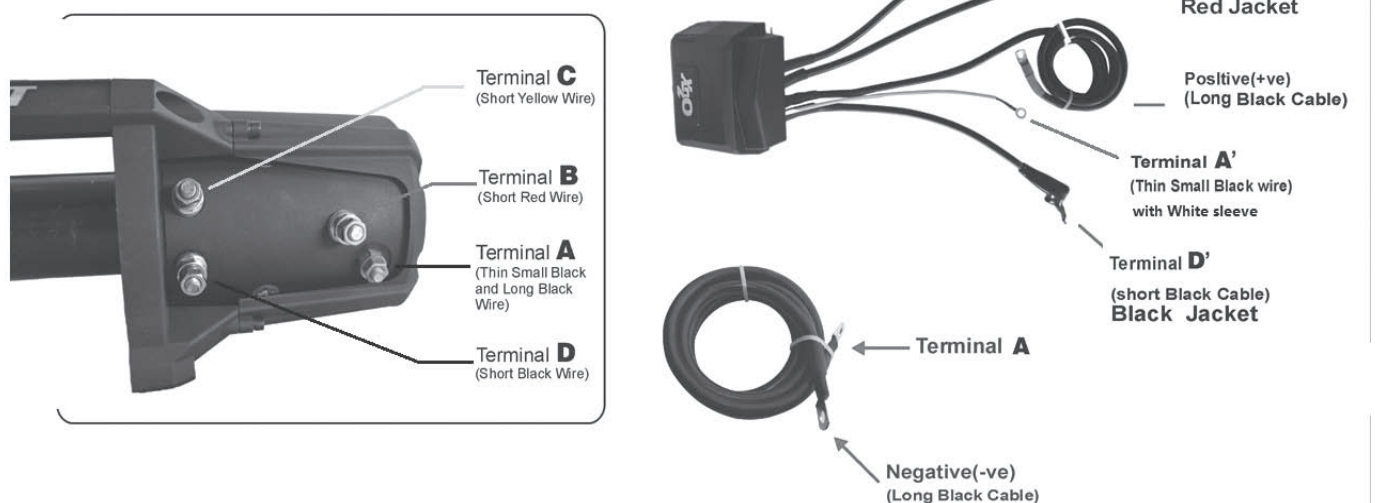
X2O Winches



Wiring Attention

Wiring Instructions (refer to Diagram)

1. A to A' &a
2. B to B'
3. C to C'
4. D to D'



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(Diagram 1)

Note:

1. Your battery must be kept in good condition.
2. Be sure battery cables are not drawn taught across any surfaces, which could possibly damage them.
3. Corrosion on electrical connections will reduce performance or may cause a short.
4. Clean all connections especially in remote control switch and receptacle.
5. In salty environments use a silicone sealer to protect from corrosion.

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Installing the control box

- It is recommended to install you winch control box prior to installing your winch.
- You may install the control box in a separate location using 3-4 AWG marine cable (not included)
- Determine if you want your control box located over the motor (side) or the drum (Center)
- Control box can sit anywhere over the drum, determine best location for you.(left, center, right)

DRUM (Center Mount)

Step 1: Install the two included aluminum brackets on the bottom of the control box by removing the four nuts on the bottom of the box, then placing the brackets over the bolts and then secure brackets by re-installing the nut. (Fig A) (Note: The hooks on the brackets go towards the front of the winch.) Use caution when installing brackets in order not to push the bolts up into the control box. To help prevent this, install brackets with the control box on its side instead of laying it flat on a table.

Secure by tightening the screw on the rear of each bracket and add lock nut

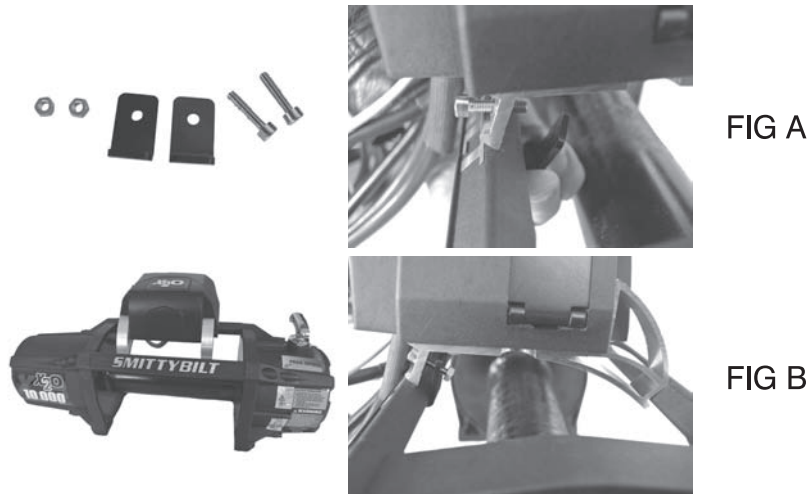


FIG A

FIG B

Step 2: Determine where you want control box over the drum (left, center, right), then secure using the included screw, L bracket, nut on the rear. The screw goes through the aluminum bracket and into the L bracket with the bottom of the L bracket placed into the slot of the rear tie-bar and finally secured more with included lock nut. (Fig A,B)

MOTOR (Side Mount)

Step 1: Install the two black motor mount brackets on the bottom of the control box by removing the four nuts on the bottom of the box, then placing the brackets over the bolts and then secure brackets by re-installing the nut. **Note:** The end of the brackets point outward. (Fig D) Use caution when installing brackets in order not to push the bolts up into the control box. To help prevent this, install brackets with the control box on its side instead of laying it flat on a table.

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Step 2: Install the control box by lining it up with the two holes on the motor side upright, then Secure with the included hardware.

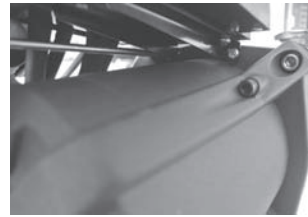


FIG D

Remote Control

Note: Wireless remote will automatically turn "OFF" after two minutes of non-operation.

- Do not force end of remote plug into the plug on the control box.
- Remote cannot be submerged
- Line the tab on the inside of the remote socket end with the groove on the remote plug on the control box. (Fig G,H)
- Push the toggle switch leftward to operate the winch "Outward" .**Note:** You should always "Free Spool" the winch outward.
- Push the toggle switch rightward to operate the winch "Inward"



FIG G



FIG H



- It is recommended that for the initial set-up of the winch (prior to applying any load) that the winch be operated in the WIRED mode.
- Once the winch has been set-up then the remote hand control can be operated either in the WIRED OR WIRELESS mode.
- To use the remote hand controller in the WIRELESS mode remove the control cable from the control box, unplug the remote hand controller from the control cable and press the MODE button on the remote hand controller until the green light marked WIRELESS is illuminated.
- Wireless working distance: MIN 10M, MAX 50M.
- Make sure winch remote indicator light is in correct mode before using.

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Winch Operation

- A. Do not use as a hoist
- B. Power out only to relieve slack on cable or rope. Excessive powering out can cause damage to internal components.
- C. Do not use to hold loads
- D. Do not use to drop loads (example-unloading vehicles)

The best way to get acquainted with how your winch operates is to make a few test runs before you actually need to use it. Plan your test in advance. Remember you can hear your winch as well as you can see it operate. Get to recognize the sound of a light steady pull, a heavy pull, and sounds caused by load jerking or shifting. Soon you will gain confidence in operating your winch and its use will become second nature to you.

Pre/post op check list.

1. Check fasteners for torque before each outing.
2. Inspect wiring and make sure connections are tight before each outing. Verify there is no chafing or cutting of wires.
3. Inspect rope for damage before and after each use.
4. Inspect remote for damage and function. Check range on wireless remote, if applicable, replace battery if necessary.
5. Keep winch clean, remote socket covered and steel cable lightly lubricated. Synthetic rope needs to be kept clean and free from any chemicals or dirt.
6. Refer to owners manual for more information.
7. For assistance, questions or concerns please call Smittybilt @888-717-5797.

Operating

1. Ensure the vehicles is secure by applying the parking brake or chocking the wheels.
2. Pull out the winch cable the desired length and connect to an anchor point. The winch clutch allows rapid uncoiling of the cable for hooking onto the load or anchor point. The shifter tab located on the gear housing of the winch operates the clutch as follows:
 - a) To disengage the clutch , move the clutch shifter tab into the "OUT" position. Cable may not be free spooled off the drum.
 - b) To engage the clutch, move the clutch shifter tab into "IN" position. The winch is now ready for pulling.
3. Recheck all cable rigging before processing.
4. Plug in the winch hand control. It is recommended that the winching operation takes place from the driver's position to ensure safe operation.
5. To commence winching operation, start vehicle engine, select neutral in transmission, maintain engine speed at idle.
6. Operated the remote control switch to IN or OUT until the vehicles has been retrieved. Regularly check the winch to ensure cable is winding onto the drum evenly.

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Installation Instructions

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MAINTENANCE

To keep your winch in working order please:

Once a month cycle the winch by:

1. Power out steel cable/synthetic rope 15ft. Then free spool out another 50+ ft of steel cable/synthetic rope. Always make sure you have at least 6 wraps of steel cable or 10 wraps of synthetic rope around winch drum.

2. Put winch into gear and re-spool the winch line. Inspect winch line as you re-spool winch line. It is recommended that you have at least 1000 lbs. of tension when re-spooling cable. This prevents the rope from pinching itself during recovery.

*Keep tag in glove box for reference.

***Winching is dangerous and potentially fatal. ***

***Use Caution when winching. ***

It is highly recommended that the winch be used regularly (once a month). Simply power the cable out 15ft, free spool 50ft and then power back in. this will keep all components in good working condition so that the winch can be relied on when needed. Contact your authorized outlet for technical assistance and repairs.

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1. Never winch with your vehicle in gear or in part, which would damage your vehicle's transmission.
2. Never wrap the cable around the object and hook onto the cable itself. This can cause damage to the object being pulled, and kink or fray the cable
3. Keep hands, clothing, hair and jewellery clear of the drum area and cable when winching.
4. Never use the winch if the cable is frayed, kinked or damaged.
5. Never allow anyone to stand near the cable or in line with the cable behind the winch while it is under power. If the cable should slip or brake, it can suddenly whip back towards the winch, causing a hazard for anyone in the area. Always stand well to the side while winding
6. Don't leave the switch plugged in when is not in use.

TROUBLE SHOOTING

Symptom	Possible cause	Suggested remedy
Motor does not turn on	Safety switch is off	Turn safety switch to ON position
	Switch Assy not connected properly	Insert switch Assy firmly to the connector
	Loose battery cable	Tighten nuts on cable connectors
	Solenoid malfunctioning	Tap solenoid to free contact, applying 12 volts to coil terminal directly. The solenoid will make an audible clicking sound when activating.
	Defective switch Assy	Replace switch Assy
	Defective motor	Check for voltage at armature port with switch pressed. If voltage is present, replace motor.
	Water has entered motor	Drain and dry. Run in short bursts without load until completely dry.
Motor runs too hot	Long period of operation	Let winch cool down periodically.
Motor runs slowly or without normal power	Battery runs down	Recharge battery by running vehicle
	Insufficient current or voltage	Clean, tighten or replace the connector.
Motor runs but cable drum does not turn	Clutch not engaged	Turn clutch into IN position, if that does not work, ask a qualified technician to check and repair.
Motor runs in one direction only	Defective or stuck solenoid	Tap solenoid to free contacts. Repair or replace solenoid.

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Understanding IP Ratings

- The first digit indicates the level of protection that the enclosure provides against access to hazardous parts (e.g., electrical conductors, moving parts) and the ingress of solid foreign objects.
- The second digit indicates protection of the equipment inside the enclosure against harmful ingress of water.



Level	Object size protected against	Effective against
0	—	No protection against contact and ingress of objects
1	>50 mm	Any large surface of the body, such as the back of a hand, but no protection against deliberate contact with a body part
2	>12.5 mm	Fingers or similar objects
3	>2.5 mm	Tools, thick wires, etc.
4	>1 mm	Most wires, screws, etc.
5	Dust protected	Ingress of dust is not entirely prevented, but it must not enter in sufficient quantity to interfere with the satisfactory operation of the equipment; complete protection against contact
6	Dust tight	No ingress of dust; complete protection against contact

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Level	Protected against	Testing for	Details
0	Not protected	—	—
1	Dripping water	Dripping water (vertically falling drops) shall have no harmful effect.	Test duration: 10 minutes Water equivalent to 1mm rainfall per minute
2	Dripping water when tilted up to 15°	Vertically dripping water shall have no harmful effect when the enclosure is tilted at an angle up to 15° from its normal position.	Test duration: 10 minutes Water equivalent to 3mm rainfall per minute
3	Spraying water	Water falling as a spray at any angle up to 60° from the vertical shall have no harmful effect.	Test duration: 5 minutes Water volume: 0.7 litres per minute Pressure: 80–100 kN/m ²
4	Splashing water	Water splashing against the enclosure from any direction shall have no harmful effect.	Test duration: 5 minutes Water volume: 10 litres per minute Pressure: 80–100 kN/m ²
5	Water jets	Water projected by a nozzle (6.3mm) against enclosure from any direction shall have no harmful effects.	Test duration: at least 3 minutes Water volume: 12.5 litres per minute Pressure: 30 kN/m ² at distance of 3m
6	Powerful water jets	Water projected in powerful jets (12.5mm nozzle) against the enclosure from any direction shall have no harmful effects.	Test duration: at least 3 minutes Water volume: 100 litres per minute Pressure: 100 kN/m ² at distance of 3m
7	Immersion up to 1 m	Ingress of water in harmful quantity shall not be possible when the enclosure is immersed in water under defined conditions of pressure and time (up to 1 m of submersion).	Test duration: 30 minutes Immersion at depth of 1m
8	Immersion beyond 1 m	The equipment is suitable for continuous immersion in water under conditions which shall be specified by the manufacturer. Normally, this will mean that the equipment is hermetically sealed. However, with certain types of equipment, it can mean that water can enter but only in such a manner that it produces no harmful effects.	Test duration: continuous immersion in water

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Gear Housing “Clocking”

In some situations you may need to “Clock” (turn) your Gear Housing in order to gain access to them.

To clock the Gear Box



Step 1: Loosen and remove the two tie rod bolts on the gear box side.



Step 2: Rotate the gear box to the optimal position needed. Then re-install the retaining bolts and re connect gear box to the tie-rod bars.

Note: “Clocking” must be done in 90 degree intervals due to the position of the retaining bolt holes.

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Installation Instructions

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Motor Housing “Clocking”

In some situations you may need to “Clock” (turn) your Gear Housing in order to gain access to them.

To clock the Motor Housing



Step 1: Loosen and remove the 4 motor bracket bolts



Step 4: Rotate the motor to the optimal position needed.



Step 2: Remove the motor cover



Step 5: Re-install the 2 long bolt on the motor end cap



Step 3: Loosen and remove the 2 long bolts on the motor end cap



Step 6: Re-install the 4 motor bracket bolts.

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Installation Instructions

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Remote battery replacement

- It is recommended that for the initial set-up of the winch (prior to applying any load) that the winch be operated in the WIRED mode
- Once the winch has been set-up then the remote hand control can be operated either in the WIRED or WIRELESS mode
- To use the remote hand controller in the WIRELESS mode remove the control cable from the control box, unplug the remote hand controller from the control cable and press the MODE button on the remote hand controller until the LED light marked WIRELESS is illuminated

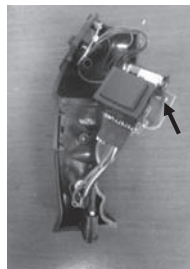
Step 1: Remove 4 small Phillips head screws. (Fig A) Note: their location because of the different lengths.

Step 2: With care, pull out circuit board with battery housing attached (Fig B)
Remove battery and replace with new one (type 23A)

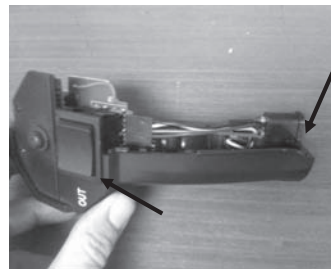
Step 3: Carefully reassemble the remote. Make sure the plug and switch are in the correct placement before tightening screws. (Fig C)



(Fig A)



(Fig B)



(Fig C)

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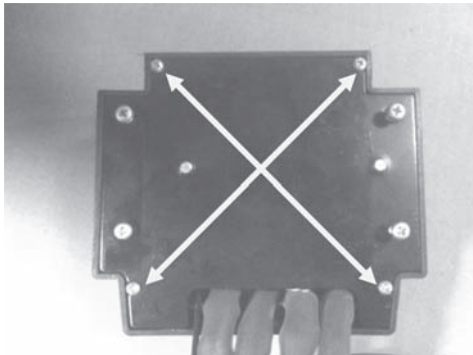
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X20 Wireless Receiver Installation

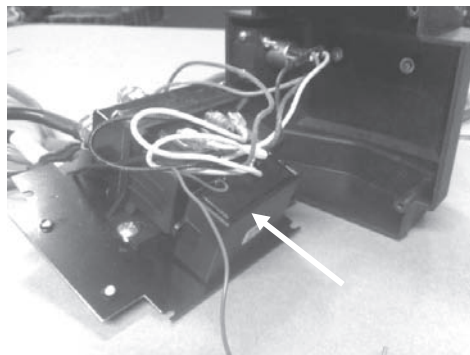
Wireless Receiver Replacement

Step 1: Remove the control box mount brackets (if attached) then remove the four small phillips screws in order to remove the box cover. (Fig A2) remove cover carefully.

Step 2: With care pull receiver off of base. (Fig B2)



(Fig A2)



(Fig B2)

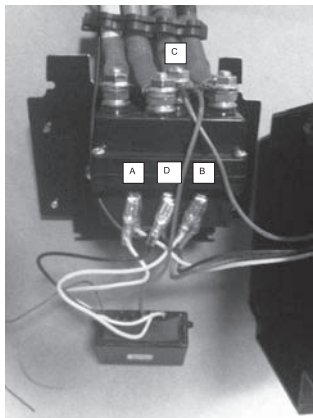
Step 3: It is recommended to make some notes and or take a picture to ensure proper placement of wires.

Step 4: Disconnect wires that come from your current receiver.

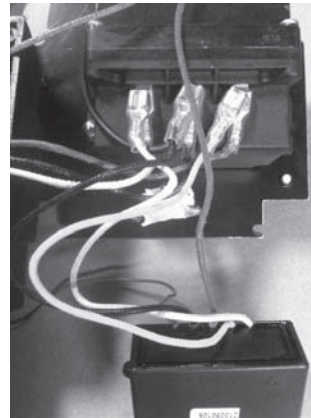
Step 5: Connect the new receiver wires to the same mounting points as the previous. (Fig C2,D2)

- A. White wire goes to the left on the ISM above the other White wire
- B. Yellow wire goes to the right on the ISM above the Blue wire
- C. Red wire goes to the front of the ISM where the long battery Red wire is connected
- D. Black wire goes in the center of the ISM above the other Black wire.
- E. The Green wire is the antenna (leave loose)

Step 6: Re-install the control box cover with previously removed screws.



(Fig C2)



(Fig D2)

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Installation Instructions

X2O Winches

10,000lbs Features and Specifications

Waterproof:	IP68 Rating	Fairlead:	4-Way Roller
Rated Line Pull:	10,000Lbs (4,545kgs) single-line	Remote Control:	Included
Motor:	6.6hp Series Wound	Recommended Battery:	650CCA Minimum for Winching
Control:	Remote Switch, 12' (3.7m) lead	Battery Leads:	25mm2, 72"(1.83m)1
Gear Train:	3-Stage Planetary	Finish:	Textured Black
Gear Ratio:	218:1	Weight:	99.0Lbs (45.0Kgs)
Clutch:	Sliding Ring Gear	Mounting Bolt Pattern:	10.0" x 4.50"
Brake:	Automatic Out-Of-Drum	Overall Dimension	(L x W x H) 22.3" x 5.4" x 9.4"
Drum Size:	Diameter 2.5"		
Length:	10.0" (254mm)		
Cable:	98.5' 3/8" Diameter		

X2O 10,000LBS	
DESCRIPTION	PART#
X2O 10,000 LBS WINCH SYSTEM	97510
X2O 10,000 LBS WINCH COMP	98510

Line Pull	lbs	0	2000	4000	6000	8000	10000
	kg	0	907	1814	2721	3628	4545
Line Speed	ft/min	31.1	14.3	11.7	10.17	8.8	7.38
	m/min	9.5	4.3	3.5	3.2	2.7	2.25
Motor	Amps	76	150	220	270	320	380

Layers Of Cable		1	2	3	4
Rated Line pull per layer	lbs	10000	9100	8570	7950
	kg	4545	3915	3499	3215
Cumulative cable capacity	ft	19.6	44.2	73.8	98.4
	m	6	13	22	30

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Installation Instructions

X2O Winches

12000lbs Features and Specifications

Waterproof:	IP68 Rating	Fairlead:	4-Way Roller
Rated Line Pull:	12,000Lbs (5,454kgs) single-line	Remote Control:	Included
Motor:	6.6hp Series Wound	Recommended Battery:	650CCA Minimum for Winching
Control:	Remote Switch, 12' (3.7m) lead	Battery Leads:	25mm2, 72"(1.83m)1
Gear Train:	3-Stage Planetary	Finish:	Textured Black
Gear Ratio:	265:1	Weight:	99.0Lbs (45.0Kgs)
Clutch:	Sliding Ring Gear	Mounting Bolt Pattern:	10.0" x 4.50"
Brake:	Automatic Out-Of-Drum	Overall Dimension	(L x W x H) 22.3" x 5.4" x 9.4"
Drum Size:	Diameter 2.5"		
Length:	10.0" (254mm)		
Cable:	98.5' 3/8" Diameter		

X2O 12,000LBS	
DESCRIPTION	PART#
X2O 12,000 LBS WINCH SYSTEM	97512
X2O 12,000 LBS WINCH COMP	98512

Line Pull	lbs	0	3000	6000	9000	12000
	kg	0	1363	2727	4090	5454
Line Speed	ft/min	24.60	11.48	8.86	7.22	5.58
	m/min	7.5	3.5	2.7	2.2	1.7
Motor	Amps	70	138	218	260	330

Layers Of Cable		1	2	3	4
Rated Line pull per layer	lbs	12000	9530	7929	6770
	kg	5455	4332	3604	3077
Cumulative cable capacity	ft	18	37	64	98
	m	5.4	11.4	19.4	30

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Installation Instructions

X2O Winches

15500+17500lbs Features and Specifications

Waterproof:	IP68 Rating	Fairlead:	4-Way Roller
Rated Line Pull:	15,500Lbs (7,045kgs) single-line	Remote Control:	Included
Motor:	6.6hp Series Wound	Recommended Battery:	650CCA Minimum for Winching
Control:	Remote Switch, 12' (3.7m) lead	Battery Leads:	25mm2, 72'(1.83m) ¹
Gear Train:	3-Stage Planetary	Finish:	Textured Black
Gear Ratio:	430:1	Weight:	150.0Lbs (68.0Kgs)
Clutch:	Sliding Ring Gear	Mounting Bolt Pattern:	10.0" x 4.50"
Brake:	Automatic Out-Of-Drum	Overall Dimension	(L x W x H) 22.3" x 7.5" x 10.7"
Drum Size:	Diameter 3.45"(88.0mm)		
Length:	10.0" (254mm)		
Cable:	98.5' 7/16" Diameter		

Waterproof:	IP68 Rating	Fairlead:	4-Way Roller
Rated Line Pull:	17,500Lbs (7,954kgs) single-line	Remote Control:	Included
Motor:	6.6hp Series Wound	Recommended Battery:	650CCA Minimum for Winching
Control:	Remote Switch, 12' (3.7m) lead	Battery Leads:	25mm2, 72'(1.83m)
Gear Train:	3-Stage Planetary	Finish:	Textured Black
Gear Ratio:	430:1	Weight:	150.0Lbs (68.0Kgs)
Clutch:	Sliding Ring Gear	Mounting Bolt Pattern:	10.0" x 4.50"
Brake:	Automatic Out-Of-Drum	Overall Dimension	(L x W x H) 22.3" x 7.5" x 10.7"
Drum Size:	Diameter 3.45"(88.0mm)		
Length:	10.0" (254mm)		
Cable:	98.5' 1/2" Diameter		

X2O 15,500LBS	
DESCRIPTION	PART#
X2O 15,500 LBS WINCH SYSTEM	97515

X2O 17,500LBS	
DESCRIPTION	PART#
X2O 17,500 LBS WINCH SYSTEM	97517

Line Pull	lbs	No Load	4000	7500	11250	15500
	kg	No Load	1814	3409	5113	7045
Line Speed	ft/min	23.62	10.50	8.20	5.25	3.94
	m/min	7.2	3.2	2.5	1.6	1.2
Motor	Amps	71	152	239	332	422

Line Pull	lbs	No Load	6000	10000	12000	14000	17500
	kg	No Load	2721	4536	5454	6363	7937
Line Speed	ft/min	23.62	9.18	5.90	4.92	4.26	2.95
	m/min	7.2	2.8	1.8	1.5	1.3	0.9
Motor	Amps	71	200	300	350	395	450

Layers Of Cable		1	2	3	4
Rated Line pull per layer	lbs	15500	12060	10082	8662
	kg	7045	5482	4583	3937
Cumulative cable capacity	ft	19.68	45.92	75.44	85.28
	m	6	14	23	26

Layers Of Cable		1	2	3	4
Rated Line pull per layer	lbs	17500	15225	13246	11524
	kg	7955	6920	6021	5238
Cumulative cable capacity	ft	19.68	45.92	75.44	85.28
	m	6	14	23	26

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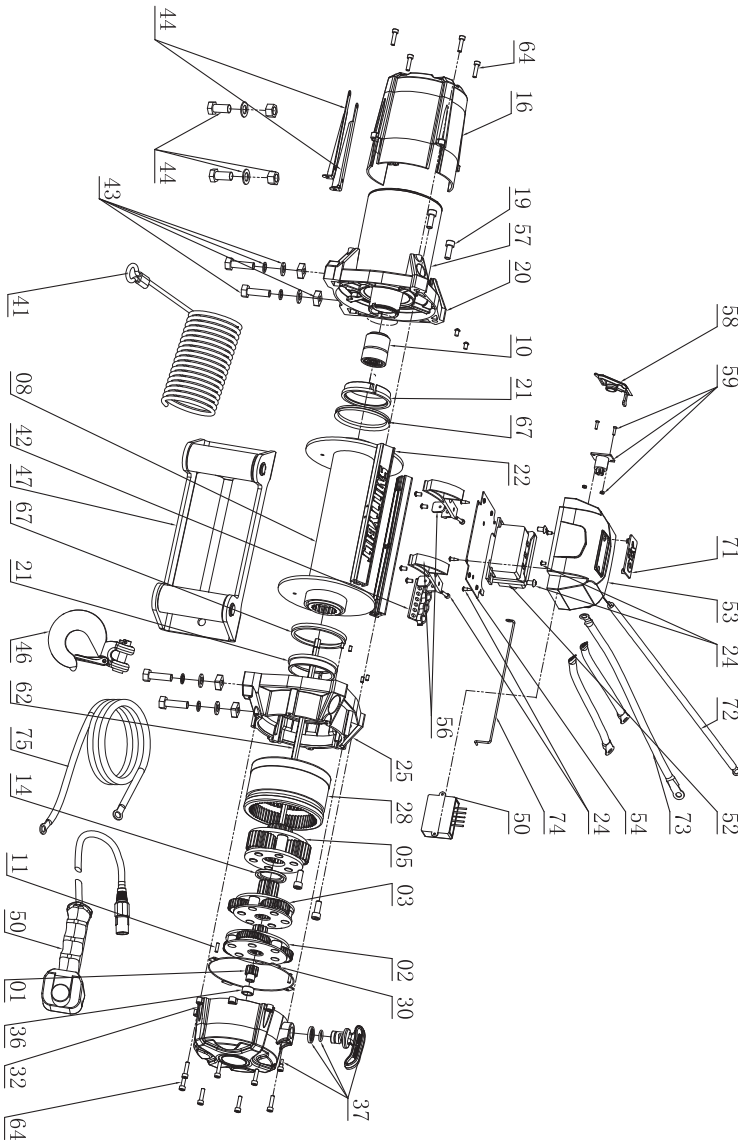
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Installation Instructions

X2O Winches

10-12K Part drawing

10-12K Part list



No	X2o - 10K lbs	X2o - 12K lbs	Desc
01	97510-01	97510-01	Sun Gear
02	97510-02	97512-02	Gear Carrier, Input
03	97510-03	97512-03	Gear Carrier, Intermediate
05	97510-05	97512-05	Gear Carrier, Output
08	97510-08	97510-08	Drum
10	97510-10	97510-10	Brake Assy
11	97510-11	97510-11	Pin M4 X 14
14	97510-14	97510-14	Rubber Washer
16	97510-16	97510-16	Motor Cover
19	97510-19	97510-19	Tie Rod Screw
20	97510-20	97510-20	Motor Base
21	97510-21	97510-21	Sliding Bearing
22	97510-22	97510-22	Tie Bar
24	97510-24	97510-24	Control Box Mounting Brackets And Hardware
25	97510-25	97510-25	Gear Box Base
28	97510-28	97512-28	Clutch Gear
30	97510-30	97510-30	Rubber Seal
32	97510-32	97510-32	Gear Box Cover
36	97510-36	97510-36	Oil Bearing
37	97510-37	97510-37	Clutch Handle Assy
41	97510-41	97510-41	Wire Rope With Fix Bolt
42	97510-42	97510-42	Wire Rope Fix Bolt Only
43	97510-43	97510-43	Winch Mounting Hardware Set
44	97510-44	97510-44	Mounting Hardware
46	97510-46	97510-46	Clevis Hook
47	97510-47	97510-47	Roller Fairlead
49	97510-49	97510-49	Control Box Assy Without Transmitter
50	97510-50	97510-50	Remote Control With Transmitter
52	97510-52	97510-52	Solenoid Assy
53	97510-53	97510-53	Control Box Cover
54	97510-54	97510-54	Control Box Base
55	97510-55	97512-55	Complete Gear Assy
56	97510-56	97510-56	Control Box Mounting Hardware
57	97510-57	97512-57	Complete Motor Assy
58	97510-58	97510-58	Socket Cover
59	97510-59	97510-59	Socket Connector Assy
62	97510-62	97510-62	Drive Shaft
64	97510-64	97510-64	Haxagon Head Bolt M5 X 20
67	97510-67	97510-67	Rubber Seal
68	97510-68	97512-68	Decal Set
71	97510-71	97510-71	Aluminum Smittybilt Badge
72	97510-72	97510-72	Cable Battery (+)
73	97510-73	97510-73	Cable Battery (-)
74	97510-74	97510-74	Ground Cable
75	97510-75	97510-75	Cable Motor

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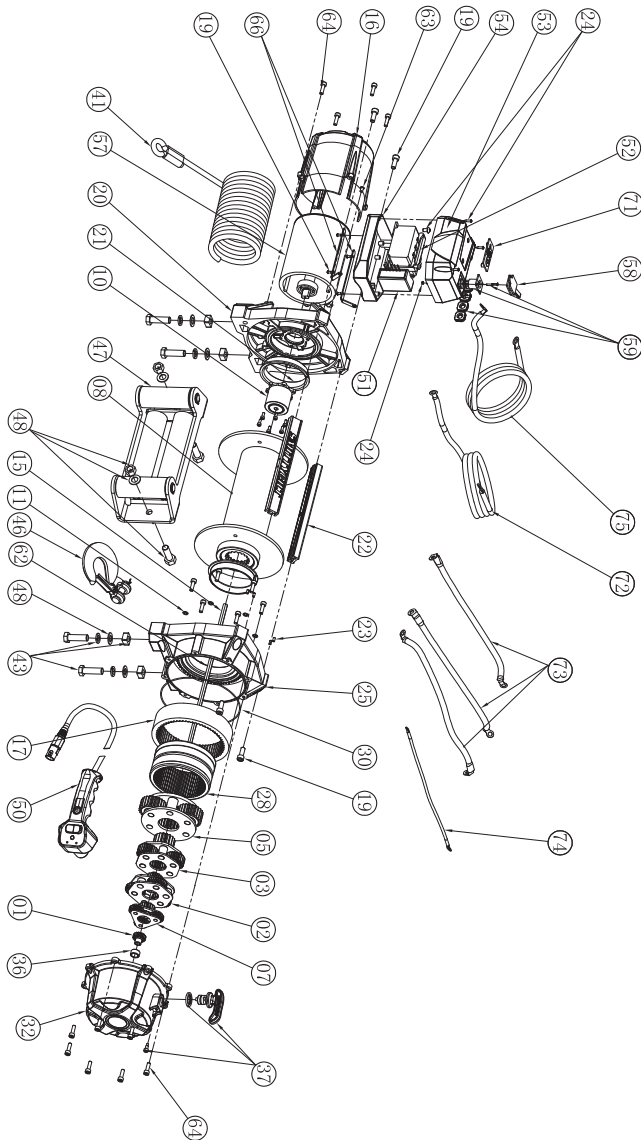
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Installation Instructions

X2O Winches

15-17k part drawing

15-17k part list



No	X2o-15000	X2o-17500	Description
01	97515-01	97515-01	Sun Gear
02	97515-02	97517-02	Gear Carrier, Input
03	97515-03	97517-03	Gear Carrier, Intermediate
05	97515-05	97517-05	Gear Carrier, Output
07	97515-07	97517-07	Gear Carrier
08	97515-08	97515-08	Drum
10	97515-10	97515-10	Brake Assy
11	97515-11	97515-11	Washer
15	97515-15	97515-15	Circlip
16	97515-16	97515-16	Motor Cover
17	97515-17	97515-17	Ring Gear
19	97515-19	97515-19	Tie Rod Screw
20	97515-20	97515-20	Motor Base
21	97515-21	97515-21	Axle Sleeve
22	97515-22	97515-22	Tie Bar
23	97515-23	97515-23	Pin M4 X 8
24	97515-24	97515-24	Control Box Mounting Brackets And Hardware
25	97515-25	97515-25	Gear Box Base
28	97515-28	97515-28	Clutch Gear
30	97515-30	97515-30	Rubber Seal
32	97515-32	97515-32	Gear Box Cover
36	97515-36	97515-36	Oil Bearing
37	97515-37	97515-37	Clutch Handle Assy
41	97515-41	97515-41	Wire Rope With Fix Bolt
43	97515-43	97515-43	Winch Mounting Hardware Set
46	97515-46	97515-46	Clevis Hook
47	97515-47	97515-47	Roller Fairlead
48	97515-48	97515-48	Roller Fairlead Mounting Hardware
49	97515-49	97515-49	Control Box Assy W/O Transmitter
50	97515-50	97515-50	Remote Control W/ Transmitter
52	97515-52	97515-52	Solenoid Assy
53	97515-53	97515-53	Control Box Cover
54	97515-54	97515-54	Control Box Base
55	97515-55	97517-55	Complete Gear Assy
57	97515-57	97515-57	Complete Motor Assy
58	97515-58	97515-58	Socket Cover
59	97515-59	97515-59	Socket Connector Assy
62	97515-62	97515-62	Drive Shaft
63	97515-63	97515-63	Bolt M5 X 8
64	97515-64	97517-64	Hexagon Head Bolt M6 X 20
66	97515-66	97515-66	Motor Gear
68	97515-68	97517-68	Decal Set
71	97515-71	97515-71	Aluminum Smittybilt Badge
72	97515-72	97515-72	Cable Battery (+)
73	97515-73	97515-73	Cable Battery (-)
74	97515-74	97515-74	Ground Cable
75	97515-75	97515-75	Cable Motor

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Installation Instructions

X2O Winches

Compliment your new Winch with a Smittybilt Winch Cover or other Smittybilt products



Winch Access. Bag (#2726)



Black Box (#2805)



Winch Cradle (#2811)



Winch Pull Strap (#769402)



Winch Quick Connect Cables



Winch Plates

Warning

Rollover and other types of vehicle accidents may result in serious injury or death to you, your passengers and others sharing the road. Smittybilt accessories are decorative and are not intended to reduce or avoid injury or damage in the event of an accident. The weight and location of Smittybilt accessories may affect your vehicles' handling, stability and performance, creating an increased risk of accident or rollover. Before installing any accessory, check state laws and assure that the accessory will not obscure any lights or interfere with proper operation on your vehicle's safety equipment. Consult your owner's manual and the Smittybilt instructions, or additional safety information. Smittybilt products, nor the warnings contained herein, are not a substitute for your safe driving. Don't drink and drive, always use seat belts and don't drive faster than conditions permit.

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Installation Instructions

X20 Winches

SMITTYBILT *ADVANTAGE WARRANTY*

LIMITED LIFETIME WARRANTY FOR MECHANICAL COMPONENTS LIMITED (5) YEAR WARRANTY FOR ELECTRICAL COMPONENTS

Smittybilt Automotive Products, LLC (SAP) warrants to the original purchaser that (a) the mechanical components (e.g., gears, clutch, spools, etc.) of any SAP winch will be free of defects in material and workmanship for the lifetime of the winch, and (b) the electrical components (e.g., electric motor, wires, solenoid, etc.) will be free of defects in material and workmanship for a period of (5) years from the original date of purchase. This Warranty applies only to the original purchaser of the winch. To obtain any warranty service, you must provide SAP with proof of purchase and date of purchase acceptable to SAP, such as a copy of your purchase receipt.

This warranty does not cover the removal or reinstallation of the winch. SAP will, at its sole option, repair, replace or refund the purchase price of a defective winch or component, provided you return the defective winch or component during the warranty period, transportation charges prepaid, to SAP. Attach your name, address, telephone number, a brief description of the problem, and a copy of your receipt and original bill of sale bearing the SAP serial number of the defective winch and date of purchase.

This warranty does not apply (i) to finish, paint or the wire rope; (ii) if the winch has been damaged by accident, abuse, misuse, collision, overloading, modification, misapplication, improper installation, or improper service; or (iii) any normally wearable part such as the break mechanism. This Warranty is void if any SAP serial number has been removed or defaced. Commercial or industrial use or application, or any hoisting application

of the winch voids the Warranty. This Warranty is good only for winches bought, sold and used in the United States unless otherwise specifically agreed in writing by SAP.

THE WARRANTY SET FORTH ABOVE IS THE ONLY WARRANTY. THERE ARE NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. ANY IMPLIED WARRANTY WHICH BY LAW MAY NOT BE EXCLUDED IS LIMITED IN DURATION TO ONE (1) YEAR FROM THE DATE OF ORIGINAL RETAIL PURCHASE OF THE PRODUCT. No SAP dealer, agent or employee is authorized to make any modification, extension or addition to this warranty. SAP SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, LOST PROFITS, DOWN TIME OR LOSS OF USE) UNDER ANY LEGAL THEORY, EVEN IF SAP WAS ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. Some states do not allow the exclusion of implied warranties or the exclusion or limitation of liability for incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above limitation or exclusion may not apply to you. This Warranty gives you specific legal rights. You may also have other rights that vary from state to state. SAP reserves the right to change product design without notice. In situations in which SAP has changed a product design, SAP shall have no obligation to upgrade or otherwise modify previously manufactured products. For warranty inquires contact SAP at.

SMITTYBILT AUTOMOTIVE PRODUCTS, LLC

Customer Service Department
400 West Artesia Blvd.
Compton, CA 90220
1-888-717-5797

For Technical Support/Warranty Information please call 310-762-9944

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Installation Instructions

X2O Winches

Please fill out this warranty form and return to Smittybilt at the address below. Note: Keep a copy of this for yourself.

Warranty Information Card

First name:

Last name:

Age:

Sex:

Marital Status:

Level of Education:

City/Province:

Zip/Postal Code:

Country:

Telephone Number:

Email Address:

Which Smittybilt winch did you purchase?

Model Number:

Date of Purchase:

Where did you purchase this product?

Store or catalog name:

Store Location:

How satisfied were you with the dealer and/or sales staff?

Who installed or will install your Smittybilt product?

Is this the first time you have purchase a winch?

If no, what brand have you brought before?

What type of vehicle will this Smittybilt winch be installed on?

Year:

Make:

Model:

2WD:

4WD:

What is the vehicles main use?

What other accessories have you purchased for your vehicle?

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