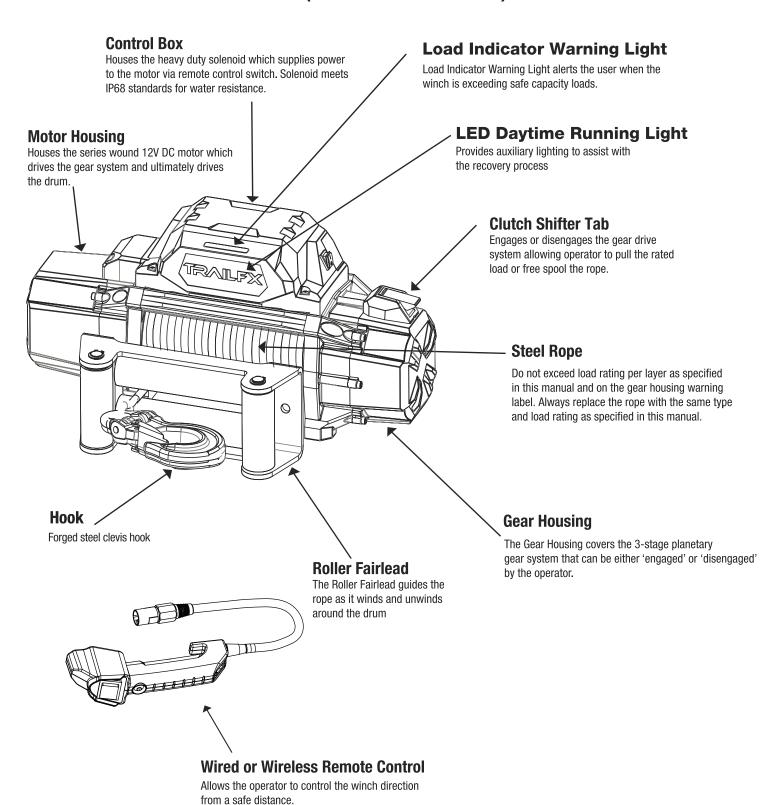


REFLEXEDVINCHES



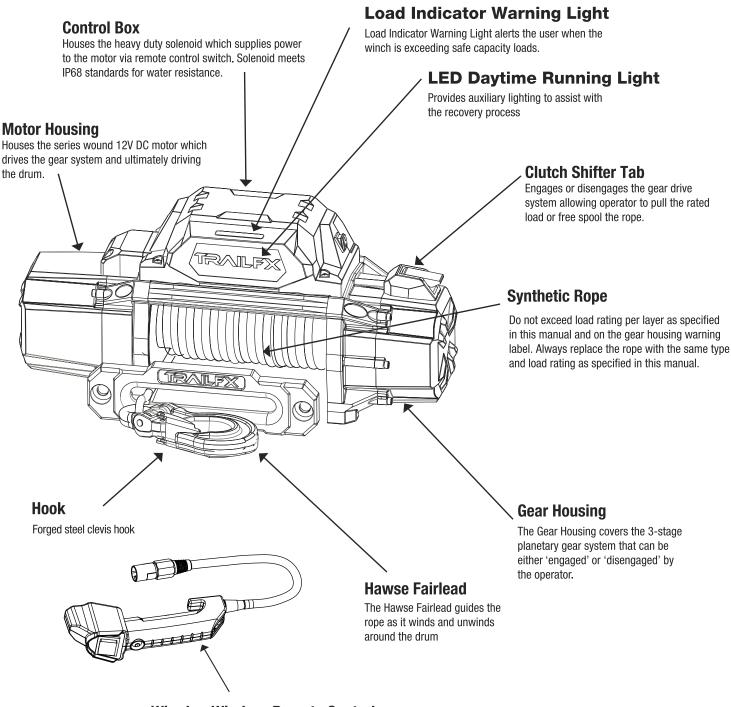
Key Winch Components

(WR295B & WR212B)



Key Winch Components

(WRS295B & WRS212B)



Wired or Wireless Remote Control

Allows the operator to control the winch direction from a safe distance.

Safety Precautions

Follow safety precautions for your personal safety and the safety of others. Improper equipment operation may cause personal injury and equipment damage.



DO NOT operate this winch if you are under 16 years of age.

DO NOT operate this winch when under the influence of drugs, alcohol or medication.

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 proper winching gloves when handling winch rope. Do not handle rope with bare hands as broken strands can cause injuries.
- Non-skid footwear is recommended.

2. Keep a safe distance:

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

3. Don't abuse the electrical cables:

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

4. Don't overwork the winch:

- If the motor becomes uncomfortably hot to the touch, stop and let it cool for a few minutes.
- Shut off 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. Technical support and replacement parts may be obtained by
contacting customer service as specified on the back cover of the manual or on the warranty card.

7. Repair your winch:

 When repairing, use only TrailFX replacement parts or the winch may fail causing harm to the the user. Replacement parts may be obtained from customer service as specified on the back cover of the manual or on the warranty card.

8. Re-spool the rope:

- Winching gloves must be worn while re-spooling. It is necessary to maintain slight load on the rope. Hold the rope with one hand and the remote control switch with the other. Start as far back and in the center as you can. Walk towards the winch keeping load on the rope as the winch is powered in.
- Do not allow the rope to slip through your hand and do not approach the winch too closely.
- Turn off the winch and repeat the procedure until all the rope is Spooled within 3 feet of the drum.
- Disconnect the remote control switch and finish spooling the rope by rotating the drum by hand with clutch disengaged.
- On hidden winches, spool in rope under power but keep hands clear.

Winch Operation Warnings

Read the following carefully before attempting to operate your winch and keep the instructions for future reference.

- 1. Uneven spooling of the rope, while pulling a load is not a problem inless there is rope piling 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 center of the vehicle. Once complete, you can unspool and rewind for a more balanced lay of the rope.
- 2. Store the remote control switch inside your vehicle where it will not get damaged. Inspect it before you plug 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 rope as this causes rope 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 rope is not piling up in one corner. Jamming the rope can break your winch.
- 6. Do not attach the tow hook to a winch mounting plate. it must be attached to the vehicle frame.
- 7. The use of a snatch block will aid recovery operations by doubling the winch capacity, halving the winching speed and helping to maintain direct line pull to the centre of the rollers. While double loading, the winch hook should be attached to the chassis of the vehicle.
- 8. Ensure properly rated D-shackles or bow-shackles are used in conjuction with an approved tree trunk protector to provide a safe anchor point.
- 9. When extending the winch rope, ensure that at least eight wraps of rope remain on the drum at all times. Failure to do this could result in the rope disconnecting from the drum under load. Serious personal injury or property damage may result.



10. All TrailFX winches are made with a red marking on the rope which identifies where (8) rope wraps remain on the winch drum. No recovery should be attempted beyond this marking or serious injury may occur.

- 11. Since the maximum line pull is achieved on the first layer of rope on the drum, it is desirable to pull off as much line as you can for heavy pulls. Doubling or tripling using snatch blocks can help. You must leave at least eight wraps minimum on the drum or see no red rope exposed!
- 12. Draping a heavy blanket or similar object over the extended winch rope is recommended as it will dampen any back lash should a failure occur.
- 13. Neat, tight spooling avoids rope binding, which is caused when a load is applied and the rope is pinched between coils. If this happens, alternatively power the winch in and out. Do not attempt to work a bound rope under load, free by hand.
- 14. Apply chocks to wheels when vehicles are on an incline.
- 15. Battery:
 - Be sure that the vehicle is charged and 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 rapid draining of the battery.

Winch Operation Warnings Continued

16. Winch rope:

- Be sure that the rope is in good condition and is attached properly.
- Do not use the winch if the rope is frayed.
- Do not move the vehicle to pull a load.
- Do not replace the rope with a rope of lesser load rating or a different material.
- The life of the rope is directly related to the use and care it receives. Following its first and subsequent uses, the rope must be wound onto the drum under a load of at least 500lbs (230kgs) or the outer wraps will draw into the inner wraps and severely damage the rope during the winching. The first winch use should be a familiarization run while in a relaxed, non-recovery situation. Spool out the rope until the red rope mark appears (about 8 wraps remaining on the drum), and then rewind the rope on the drum under a load of 500lbs (230kgs) or more.
- When the rope is replaced, be sure to apply a thread locking compound to the rope clamp thread. Tighten the clamp screw properly but do not over tighten. The thread locking compound will prevent loosening of the screw in arduous conditions.



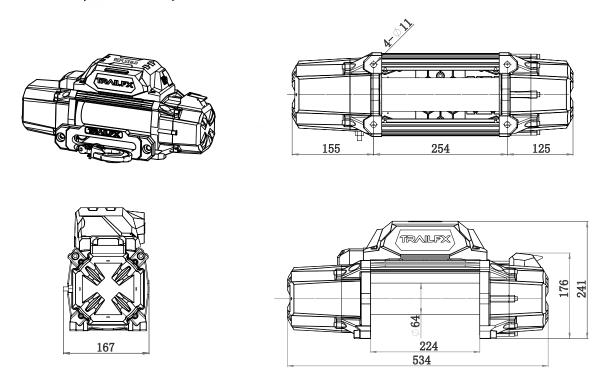
- 17. Do not exceed the pulling limits of the winch.
- 18. Do not move your vehicle to assist the winch in any way. Vehicle movement in combination with winch operation may overload the rope, the winch itself or cause damaging shock loads.
- 19. Shock loads when winching are dangerous. A shock load occurs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

Installation

Mounting your Winch

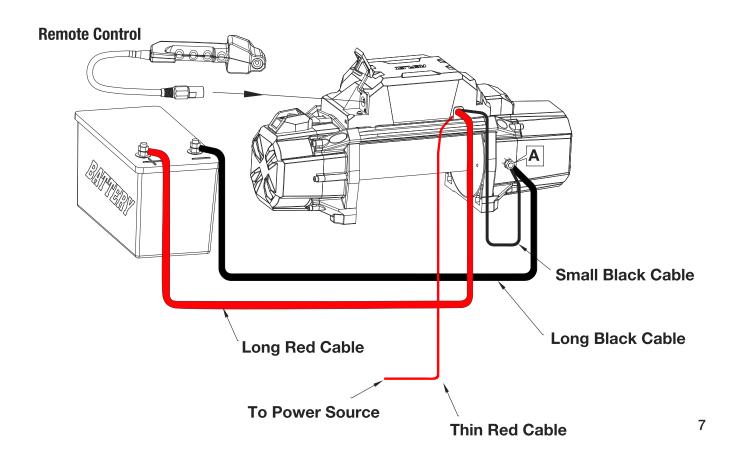
- 1. The winch must be mounted into a suitable sized mounting frame using the 4 point foot mounting system in either a horizontal or vertical plane.
 - It's very important that the winch be mounted on a flat surface so that the three sections (motor, rope drum and gear housing) are properly aligned.
 - Winch mounting system may affect the operation of SRS air bags. Check that the mounting system has been tested and approved for winch fitment on an air bag equipped vehicle.
 - Always verify the mounting area is clear of fuel lines, fuel tank, brake lines, electrical wires, etc. when drilling.
- 2. Winch mounting systems are suggested to suit most popular vehicles. Winch mounting systems are packaged with detailed installation instructions.
- 3. The winch should be secured to the mounting with the hardware included with your winch.
- 4. The fairlead is to be mounted so as to guide the rope onto the drum evenly.

WR295B, WR212B, WRS295B and WRS212B



All dimensions are in mm.

Electrical Connection WR295B, WR212B, WRS295B and WRS212B



Electrical connection

For normal recovery work, your existing electrical system is adequate. A fully charged battery and proper connections are essential. Run the vehicle engine during winching operation to keep battery charged. Pay close attention to proper electrical cable connection as follows:

WR295B, WR212B, WRS295B and WRS212B

- 1. Long Black Cable (Supplied Separately with Winch) one end connecting to the winch. Terminal 'A' and the other to the negative (-) terminal of the battery.
- 2. Long Red Cable from winch connecting to the positive (+) terminal of the battery.
- 3. Daytime Running Light TrailFX Logo
 - (a) Locate the Thin Red Cable coming from the control box.
 - (b) Depending on winch mount location, you will need to determine a power source (auxiliary switch, fog light, daytime running light (vehicle), fuse panel tap, headlight circuit, etc.)
 - (c) Once a power source is chosen, route the wire to the desired source keeping free from any moving components or edges that may damage the wire. Once connected, be sure to zip tie any loose wiring and protect it from moving components or edges to prevent future wear.



If wired directly to the battery the Daytime Running Light will remain on full time and may cause the battery life to shorten.

Remote Control operation.

- 1. Plug the control cable (with the remote hand controller attached) into the socket on the control box and turn slightly counter-clockwise to lock into position.
- 2. 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.
- 3. Once the winch has been set-up then the remote control can be operated either in the Wired or Wireless mode.
- 4. To use the remote controller in the Wireless mode, remove the wireless fob from the wired remote.
- 5. The remote control is not waterproof and care must be taken not to get it wet.

Remote control battery changing instructions:

- 1. Remove the screws & take off the remote cover.
- 2. Remove the CR2032 3V lithium cell battery and replace with a new one.
- 3. Slightly bend the small PCBA located above CR2032 3V lithium cell battery for easy access and replace with a new one.
- 4. Place the remote cover back in to its original position and reattach with the screws.
- 5. Please use only the designated size batteries mentioned above.

Note

- 1. Your battery must be kept in good condition for the winch to operate properly.
- 2. Be sure battery cables are not drawn tight 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 the remote control switch and receptacle.
- 5. In salty environments use a silicone sealer to protect from corrosion.
- 6. Index the heads of the plate studs into the keyhole slots on the back of the winch.



If electrical cables are close to a surface, use the included protective heat sleeve as required to prevent damage.

Winch Operation

Test Your Winch

The best way to get comfortable 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 see it operate. Learn to recognize the sound of a light steady pull, a heavy pull, and sounds caused by load jerking or shifting, become second nature to you.

Operating

- 1. Ensure the vehicle is secure by applying the parking brake or chocking the wheels.
- 2. Pull out the rope to the desired length and connect to an anchor point.

 The winch clutch allows rapid uncoiling of the rope for hooking onto the load or anchor point. The lever located on the gear housing of the winch operates the clutch as follows:
 - a) To disengage the clutch, lift the clutch lever, Rope may now be free spooled off the drum.
 - b) To engage the clutch, Lower the clutch lever, The winch is now ready for pulling.
- 3. Recheck all rope rigging before proceeding.
- 4. Plug in the winch remote control. It is recommended that the winching operation takes place from the driver's position to ensure safe operation.
- 5. To begin the winching operation, start the vehicle, shift into neutral and allow the engine to idle.
- 6. Switch the remote control toggle to IN or OUT until the vehicle has been recovered. Regularly check the winch to ensure that the is winding onto the drum evenly.

Load Warning Indicator Light

The load warning indicator light is a feature to warn the user that the winch is reaching max load capacity and continued use may damage the winch. Once the winch is properly wired to your battery and your remote is connected to the control housing or wireless remote is synced, the load indicator light will flash while the winch is in use. Once the load capacity has reached the max weight, the light will stop flashing. At this point the user should opt to use

a snatch block or another recovery support method to prevent damage and wear to the winch.



MUST READ THIS



- 1. Never winch with your vehicle in gear to avoid damaging your vehicle's transmission.
- 2. Never wrap the rope around the object and hook onto the rope itself. This can cause damage to the object being pulled, and kink or fray the rope.
- 3. Keep hands, clothing, hair and jewelry clear of the drum area and rope when winching.
- 4. Never use the winch if the rope is frayed, kinked or damaged.
- 5. Never allow anyone to stand near the rope or in line with the rope behind the winch while it is under power. If the rope should slip or break, it can suddenly whip back towards the winch, causing a hazard for anyone in the area. Always stand safely to the side while winding.
- 6. Do not leave the remote control plugged in when not in use.



CHECK THE WINCH CAREFULLY AND THOROUGHLY BEFORE OPERATING!

Maintenance

It is highly recommended that the winch be used regularly (once a month). Simply power the rope out 50 ft., free spool 15 ft. 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.

Trouble Shooting					
Symptom	Possible Cause	Suggested Remedy			
Motor does not turn on.	Switch assembly not connected properly. Drained remote battery (in case of wireless remote).	Insert switch assembly firmly to the connector. Replace batteries as per the instructions in page no. 9.			
	Loose battery cable.	Tighten nuts on cable connectors.			
	Solenoid malfunctioning.	Tap solenoid to free contact, applying 12 volts to coil terminal directly. Makes an audible clicking wher activating.			
	Defective switch assembly.	Replace switch assembly.			
	Defective motor.	Check for voltage at armature port with switch pressed. If voltage is present, replace motor.			
	Water has entered motor.	Drain and dry, r un 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	Battery runs down.	Recharge battery by running vehicle.			
without normal power.	Insufficient current or voltage.	Clean, tighten or replace the connector.			
Motor runs but rope drum does not turn.	Clutch not engaged.	Lower the clutch shifter tab, 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.			
	Defective switch assembly.	Replace switch assembly.			

Lubrication

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

Rope Installation

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



Replace rope with the exact diameter, length and load rating and material as that of the existing rope.

Reflex 2.0 Winch Specifications

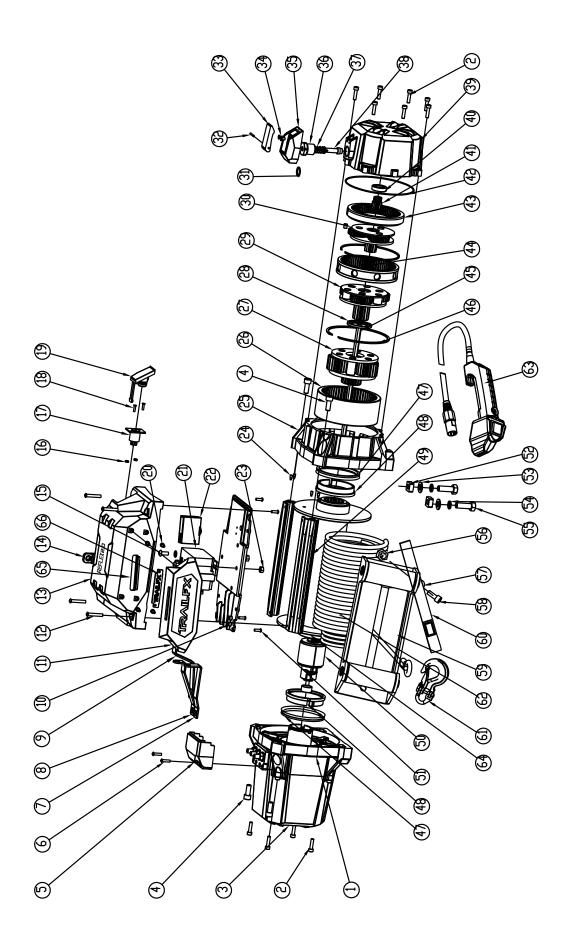
Part No.	WR295B	WRS295B	WR212B	WRS212B
Winch Capacity	9500 lb	9500 lb	12000 lb	12000 lb
Rated Line Pull	9500 lb (4305 kgs.) single-line	9500 lb (4305 kgs.) single-line	12,000 lb (5440 kgs.) single-line	12,000 lb (5440 kgs.) single-line
Motor	7.0 HP series wound, DC 12V	7.0 HP series wound, DC 12V	6.6 HP series wound, DC 12V	6.6 HP series wound, DC 12V
Remote Control	Wired/ Wireless Remote Switch with LED light, 12' (3.7m) lead, Soft Feel Finish	Wired/ Wireless Remote Switch with LED light, 12' (3.7m) lead, Soft Feel Finish	Wired/ Wireless Remote Switch with LED light, 12' (3.7m) lead, Soft Feel Finish	Wired/ Wireless Remote Switch with LED light, 12' (3.7m) lead, Soft Feel Finish
Electrical Control	450 A Heavy Duty solenoid			
Gear Train	3 Stage Planetary	3 Stage Planetary	3 Stage Planetary	3 Stage Planetary
Gear Ratio	180:1	180:1	218:1	218:1
Clutch Type	Lift / Down Style			
Braking Action	Automatic Full Load Brake			
Drum Size	2.5" Diameter / 8.82" Length			
Cable	"8.3 mm Dia / 94' Length Steel Rope"	"8.5 mm Dia / 94' Length Grey Dyneema SK75, with metal loop"	"9.5 mm Dia / 94' Length Steel Rope"	"9.5 mm Dia / 94' Length Grey Dyneema SK75, with metal loop"
Fair Lead	4 Way Roller	Aluminum Hawse	4 Way Roller	Aluminum Hawse
Recommended Battery	650 CCA minimum for Winching			
Battery Lead	25 mm2 , 72" (1.8 m)			
Weight	86lb	62lb	88 lb	64 lb
Mounting Pattern	10" x 4.5"	10" x 4.5"	10" x 4.5"	10" x 4.5"
IP Rating	IP 68	IP 68	IP68	IP68

Winch Perfo	Winch Performance (12V DC)				Performance specs are based on first layer of drum.			
Line Pull (lb)	Line Speed Ft / min	Motor Current Amps	Line Speed Ft / min	Motor Current Amps	Line Speed Ft / min	Motor Current Amps	Line Speed Ft / min	Motor Current Amps
No Load (0)	41	63	41	63	31	68	31	68
2000	15	146	15	146	14	127	14	127
4000	11	210	11	210	10	185	10	185
6000	9	271	9	271	8	236	8	236
8000	7	324	7	324	6	291	6	291
10000					5	336	5	336
Max Load	6	380	6	380	4	405	4	405

"Line Pull (Layer)"	Line Pull by Layer (lb)	Cable Capacity (Ft)						
1	9500	16	9500	16	12000	16	12000	16
2	7305	42	7305	42	9800	42	9800	42
3	6147	72	6147	72	8300	72	8300	72
4	5306	94	5306	94	7200	92	7200	92

Motor rating based on input power. Winch meets IP68 Sepecification for water resistance. Synthetic rope made of Dyneema SK75 fibre.

Wire Rope Winch Parts List WR295B, WR212B

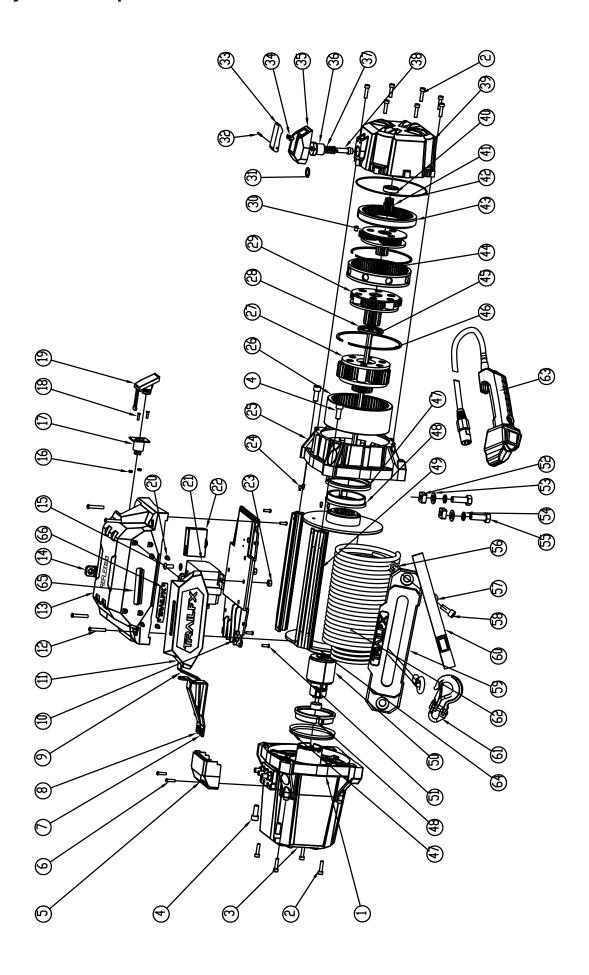


Part List - WR295B and WR212B

No.	Description	Qty
1	Motor base	1
2	Hexagon socket head cap screw M5X20	11
3	Motor	1
4	Hexagon socket head cap screw M8X20	4
5	Box for wiring	1
6	Cross recessed countersunk head screw M4X16	2
7	Plate 1 for wiring	1
8	Plate 2 for wiring	1
9	Plate 3 for wiring	1
10	Control box bottom plate	1
11	Control box front plate	1
12	Cross recessed countersunk head screw M5X30	4
13	Control box	1
14	Sheath	1
15	Cross recessed countersunk head screw M6X15	2
16	Hex nut M3	2
17	Socket	1
18	Sunk screw M3X12	2
19	Water proof cover	1
20	Hexagon socket head cap screw M4X8	4
21	Solenoid	1
22	Receiver	1
23	Nut M6	2
24	Pins for tie bar	4
25	Gearbox base	1
26	Inner gear	1
27	Stage-3 of planetary wheel	1
28	Washer	1
29	Stage-2 of planetary wheel	1
30	Stage-1 of planetary wheel	1
31	0-ring 14X2	1
32	Straight pin	1
33	Clutch	1

No.	Description	Qty			
34	Cross recessed countersunk head screw M4X8	2			
35	Clutch knob	1			
36	Clutch knob housing				
37	Clutch knob spring	1			
38	Clutch knob pin	1			
39	Gearbox	1			
40	Bearing	1			
41	Allen center wheel	1			
42	0-ring 130X1.8	1			
43	Inner gear	1			
44	Cutive gear	1			
45	Drive shaft	1			
46	Washer	1			
47	Seal	2			
48	Sliding bearing	2			
49	Tie bar	2			
50	Brake assembly	1			
51	Cross recessed countersunk head screw M4X12	4			
52	Nut M10	4			
53	Washer	4			
54	Spring washer	4			
55	Hexagon socket head cap screw M10X30	4			
56	Nut M12	2			
57	Spring washer	2			
58	Screw M12	2			
59	Roller fairlead	1			
60	Hand saver strap	1			
61	Hook	1			
62	Rope assembly	1			
63	Remote control	1			
64	Drum	1			
65	Warning light	1			
66	Daytime running light	1			

Synthetic Rope Winch Parts List WRS295B and WRS212B



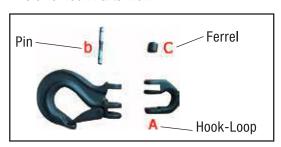
Part List - WRS295B and WRS212B

No.	Description	Qty
1	Motor base	1
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7	Plate 1 for wiring	1
8	Plate 2 for wiring	1
9	Plate 3 for wiring	1
10	Control box bottom plate	1
11	Control box front plate	1
12	Cross recessed countersunk head screw M5X30	4
13	Control box	1
14	Sheath	1
15	Cross recessed countersunk head screw M6X15	2
16	Hex nut M3	2
17	Socket	1
18	Sunk screw M3X12	2
19	Water proof cover	1
20	Hexagon socket head cap screw M4X8	4
21	Solenoid	1
22	Receiver	1
23	Nut M6	2
24	Pins for tie bar	4
25	Gearbox base	1
26	Inner gear	1
27	Stage-3 of planetary wheel	1
28	Washer	1
29	Stage-2 of planetary wheel	1
30	Stage-1 of planetary wheel	1
31	O-ring 14X2	1
32	Straight pin	1
33	Clutch	1

No.	Description	Qty
34	Cross recessed countersunk head screw M4X8	2
35	Clutch knob	1
36	Clutch knob housing	1
37	Clutch knob spring	1
38	Clutch knob pin	1
39	Gearbox	1
40	Bearing	1
41	Allen center wheel	1
42	0-ring 130X1.8	1
43	Inner gear	1
44	Cutive gear	1
45	Drive shaft	1
46	Washer	1
47	Seal	2
48	Sliding bearing	2
49	Tie bar	2
50	Brake assembly	1
51	Cross recessed countersunk head screw M4X12	4
52	Nut M10	4
53	Washer	4
54	Spring washer	4
55	Hexagon socket head cap screw M10X30	4
56	Nut M12	2
57	Spring washer	2
58	Screw M12	2
59	Aluminium hawse fairlead	1
60	Hand saver strap	1
61	Hook	1
62	Rope assembly	1
63	Remote control	1
64	Drum	1
65	Warning light	1
66	Daytime running light	1

Clevis Hook Instructions

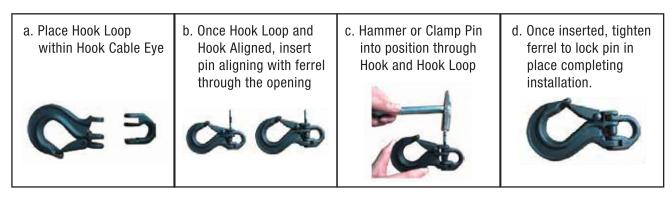
1. Clevis Hook Parts View:



2. Clevis Hook Disassembly:



3. Clevis Hook Assembly:



Replacement Parts list

Description	WR295B	WR212B	WRS295B	WRS212B
Motor Assembly	WRA201	WRA08	WRA201	WRA08
Control Box	WRA205	WRA205	WRA205	WRA0205
Rope	WA006	WA007	WRA03	WRA05
Fairlead	WA008	WA008	WRA204	WRA204
Hook	WRA023	WRA023	WRA023	WRA023
Hook Strap	WA010	WA010	WA010	WA010
Battery Cable	WA011	WA011	WA011	WA011
Mounting Hardware	WA012	WA012	WA012	WA012
Remote Control (wired and wireless)	WRA202	WRA202	WRA202	WRA202
Wireless Remote	WRA207	WRA207	WRA207	WRA207
Solenoid	WRA206	WRA206	WRA206	WRA206

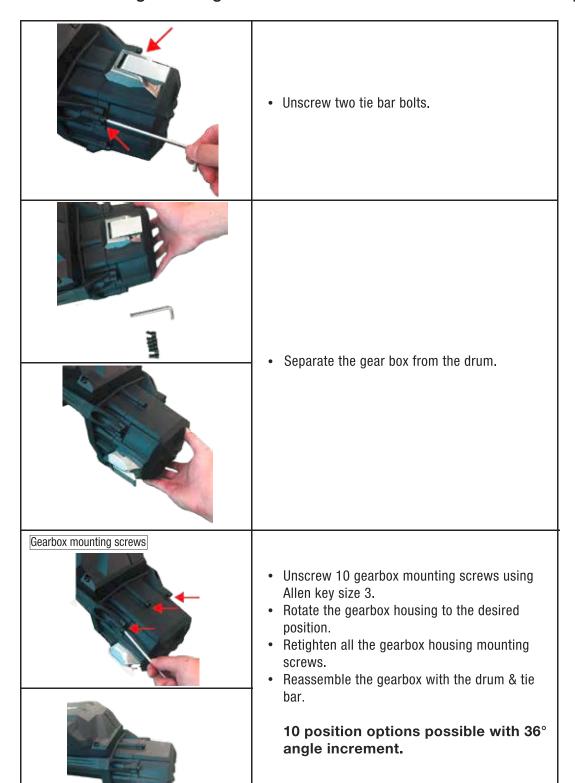
Gear Box Clocking Instructions for Reflex 2.0 Winches

WR295B, WR212B, WRS295B and WRS212B



Modification of original design is not recommended and will void warranty





Winch Accessories List

Product No / Description	Product	Images	Product Features
WA014 TrailFX Accessory Kit-Medium		TRAILEX	Winch Rigging Kit with 2 X 8 Inch, 17,600 lbs Breaking Strength Tree Trunk Protector Trunk Pr
WA015 TrailFX Winch Gloves	TRAILEX TRAILEX		Winch Gloves Extra Large Orange/Black with White TrailFX logo
WA016 TrailFX Winch Cover	TRAILFX	RACHER	Winch Cover For TrailFX Winches WR08B/ WR95B/ WR12B/WRS95B/WRS12B Black with TrailFX Logo
WA017 TrailFX Winch Mounting Plate - Universal		1	Winch Mount Winches with Load Rating between 8000lb to 12000lb. Flat Fixed Mount Textured Black Powder Coat Finish
WA018 TrailFX Winch Mounting Plate - Cradle			Winch Mount Winches with Load Rating between 8000lb to 12000lb. 2" Receiver Mount Textured Black Powder Coat Finish