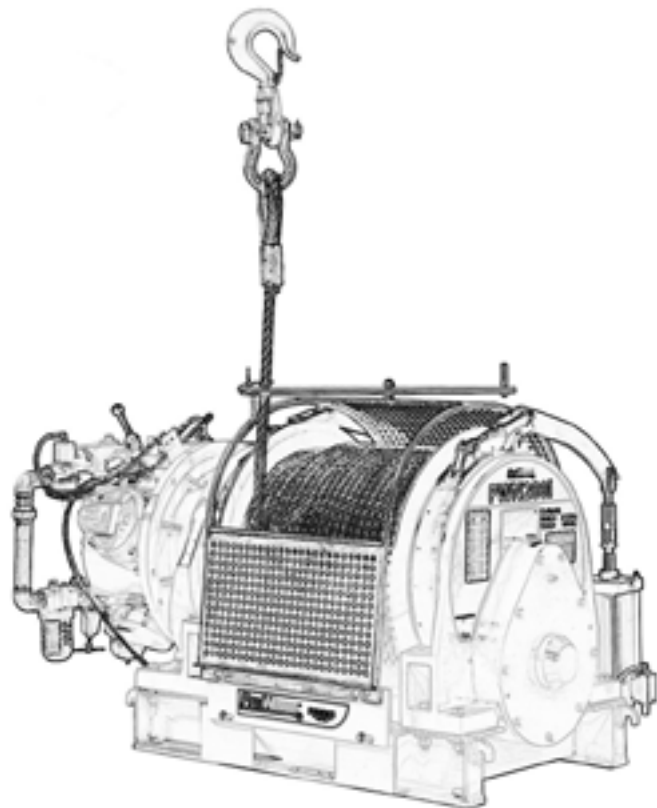




PWN67is Pneumatic Winch

User's Manual / Manual de usuario
Safety Warnings / Advertencias de seguridad



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PROWINCH® DISCLAIMER

Prowinch® LLC declares that it has made available to the Customer each and every one of the security warnings related to the purchased product and that, as a result, it does not assume any responsibility for any damages or losses that may be suffered by the client or third parties. cause or as a direct or indirect consequence of the breach or omission of any of the instructions or safety warnings contained in the User Manual and Security Warnings corresponding to the unit purchased.

In this sense, Prowinch® LLC will not be liable for accidents and / or damages to persons and / or property resulting from the negligent use of the product. In no case does Prowinch® LLC assume any liability arising from the use of these voluntary recommendations, and does not offer any guarantee in relation to them. These recommendations do not take precedence over the current safety regulations of the plant. For purposes of enforcing the Warranty of the product purchased, Prowinch® LLC, will only be liable for any damage when it is possible to prove that the user has followed each and every one of the warnings contained in the User Manual and Safety Warnings.

1. It is the sole responsibility of the Client / User to verify that the acquired equipment, products and accessories comply with the characteristics, capacities, requirements, components, accessories and other conditions for the use that the Client / user intends to give it.

2. It is also the sole responsibility of the Client / User to ensure that the equipment and products purchased are operated and maintained with adequate safety standards and by personnel duly trained in the use thereof. The Client / User is also responsible for implementing all the security measures necessary to prevent accidents or damages to people or property and for following the indications and warnings of the corresponding manual.

3. Any assistance provided by Prowinch® LLC in the selection of the equipment, the capacities and characteristics required by the clients is delivered free of charge and based on the information about the application, use and requirements indicated by the Client itself. It does not correspond to Prowinch® LLC to verify the accuracy of the given information. It is the sole and exclusive responsibility of the Client -or who will use the equipment and products acquired- to ensure that the specifications comply with the capabilities, characteristics, up-to-date maintenance and everything necessary for a correct and safe operation in relation to the intended use.

4. Prowinch® LLC recommends the use of winches with 4 brakes for personnel lifting. The use of winches of 3 brakes or less or safety features lower than the best available for personnel lifting, is the sole responsibility of the customer in order to guarantee the safety of the personnel and users of the equipment it is necessary to carry out the inspections

and maintenance of the equipment according to the recommended frequency in relation to its work cycle. It is mandatory to keep record and evidence the written and photographic reports of: Maintenance, Start-up, Load Tests, Training, Certifications, Inspections and Reports of failures and accidents.

5. The aforementioned reports must be sent by email to registros@prowinch.com within the first 7 calendar days after the occurrence of an event.

6. Compliance with the timely implementation of the mandatory activities described in points 6 and 7 in addition to all the activities mentioned in the corresponding rules applied are the sole responsibility of the user. Failure to comply with the foregoing conditions releases Prowinch® LLC from any type of Liability and Warranty to the team, customer, staff or user, or any other liability that could be attributed to Prowinch® LLC.

7. The information contained in this manual may contain technical errors or inaccuracies. Prowinch® LLC is not responsible for typing errors, omission or incorrect information.

8. This manual is subject to change without prior notice. Download the latest version available at www.prowinch.com.

9. Always check www.prowinch.com for the latest information regarding this product.

**WARNING**

Hoists, Cranes and other Lifting and material-movement related equipment USERS, must be knowledgeable about the safe and proper use of this equipment and be aware of their responsibilities as outlined in all applicable standards and regulations.

The ASME/ANSI B30 Standard contains provisions that apply to the construction, installation, operation, inspection, testing, maintenance, and use of cranes and other lifting and material-movement related equipment.

As OSHA's, ASME and ANSI standards state, the installation, setup and operation of these units and equipment shall be performed by a qualified person.

OSHA requires rated load tests for new and altered cranes, OSHA's standard at 29 CFR 1910.179(k) states:

Operational tests.

Prior to initial use all new and altered cranes shall be tested to insure compliance with this section including the following functions:

Hoisting and lowering.

Trolley travel.

Bridge travel.

Limit switches, locking and safety devices.

The trip setting of hoist limit switches shall be determined by tests with an empty hook traveling in increasing speeds up to the maximum speed. The actuating mechanism of the limit switch shall be located so that it will trip the switch, under all conditions, in sufficient time to prevent contact of the hook or hook block with any part of the trolley.

Rated load test. Test loads shall not be more than 125 percent of the rated load unless otherwise recommended by the manufacturer.

Once a rated load test is performed, paragraph 1910.179(k)(2) requires that "[t]he test reports shall be placed on file where readily available to appointed personnel."

In order to ensure Safety and installation requirements Prowinch requires Load Tests to be performed prior to initial use for all Hoists, Winches and Cranes, as well as other related components. Not fulfilling this requirement is dangerous, could lead to equipment failure and will automatically void the warranty.

The B30 Standard is intended to:

(a) Prevent or minimize injury to workers, and otherwise provide for the protection of life, limb, and property by prescribing safety requirements.

(b) Provide direction to manufacturers, owners, employers, users, and others concerned with, or responsible for, its application.



WARNING

(c) Guide governments and other regulatory bodies in the development, promulgation, and enforcement of appropriate safety directives.

The equipment covered by the B30 Standard is subject to hazards that cannot be abated by mechanical means, but only by the exercise of intelligence, care, and common sense. It is therefore essential to have personnel involved in the use and operation of equipment who are competent, careful, physically and mentally qualified, and trained in the proper operation of the equipment and the handling of loads. Serious hazards include, but are not limited to, improper or inadequate maintenance, overloading, dropping or slipping of the load, obstructing the free passage of the load, and using equipment for a purpose for which it was not intended or designed.

Failure to Read, Understand and Follow the information in the corresponding ASME B30 Standard for your Hoist and Lifting equipment may result in severe INJURY or DEATH. It is YOUR RESPONSIBILITY to consider all risk factors and follow all the equipment related ASME B30 standard, which comprises the following volumes:

- B30.1 Jacks, Industrial Rollers, Air Casters, and Hydraulic Gantries.
- B30.2 Overhead and Gantry Cranes (Top Running Bridge, Single or Multiple Girder, Top Running Trolley Hoist).
- B30.3 Tower Cranes.
- B30.4 Portal and Pedestal Cranes.
- B30.5 Mobile and Locomotive Cranes.
- B30.6 Derricks.
- B30.7 Winches.
- B30.8 Floating Cranes and Floating Derricks.
- B30.9 Slings.
- B30.10 Hooks.
- B30.11 Monorails and Underhung Cranes.
- B30.12 Handling Loads Suspended From Rotorcraft.
- B30.13 Storage/Retrieval (S/R) Machines and Associated Equipment.
- B30.14 Side Boom Tractors.
- B30.15 Mobile Hydraulic Cranes.
- B30.16 Overhead Hoists (Underhung).
- B30.17 Overhead and Gantry Cranes (Top Running Bridge, Single Girder, Underhung Hoist).
- B30.18 Stacker Cranes (Top or Under Running Bridge, Multiple Girder With Top or Under Running Trolley Hoist).
- B30.19 Cableways.
- B30.20 Below-the-Hook Lifting Devices.
- B30.21 Lever Hoists.
- B30.22 Articulating Boom Cranes.
- B30.23 Personnel Lifting Systems.
- B30.24 Container Cranes.
- B30.25 Scrap and Material Handlers.



WARNING

- B30.26 Rigging Hardware.
- B30.27 Material Placement Systems.
- B30.28 Balance Lifting Units.
- B30.29 Self-Erecting Tower Cranes.
- B30.30 Ropes.

DO NOT



WARNING

1. DO NOT Operate, install, or repair the hoist unless trained and authorized.
2. DO NOT Operate the hoist unless you have first read the operator’s manual.
3. DO NOT Operate the hoist without appropriate PPE and without performing a pre-shift inspection.
4. DO NOT Operate the hoist if not complying with all required OSHA regulations.
5. DO NOT Lift more than the rated load.
6. DO NOT Lift people or lift loads over people.
7. DO NOT Wrap the hoisting rope or chain around the load.
8. DO NOT Operate with the chain/rope not properly seated in the sprockets, drum, or sheave.
9. DO NOT Operate unless the direction of the hook travel agrees with the direction shown on the control.
10. DO NOT Operate the hoist unless the hook travel limit devices function properly. (Test without a load PRE-SHIFT)
11. DO NOT Operate the hoist with twisted, kinked, damaged, dirty, or unlubricated chain or rope.
12. DO NOT Operate a damaged or malfunctioning hoist.
13. DO NOT Operate the hoist when the hook is not centered under the hoist
14. DO NOT Remove or obscure this tag or other WARNING & SAFETY LABELS.

DAILY CHECKLIST



WARNING

- TAGGED HOIST: Ensure the crane or hoist is not tagged out of order.
- CONTROL DEVICES: Test Run. Ensure all motions agree with control device marking.
- BRAKES: Check all motions for excessive drift and abnormal stopping distances.
- HOOK: Check for damage, cracks, nicks, gouges, deformations on throat opening, wear on saddle or load-bearing point, and twist.

HOOK LATCH: Check for proper operations.

**WARNING**

WIRE ROPE: Check for broken wires, broken strands, kinks, and deformation or damage to the rope structure.

CHAIN: Check for corrosion, wear, elongation, twist, nicks, or gouges. Keep Chain/Wire Rope Clean and Lubricated.

REEVING: Check the rope for proper reeving and that rope parts are not twisted.

LIMIT SWITCHES: Ensure that all limit devices stop lifting motion before the load block or chain/rope stop strikes the hoist.

OIL LEAKAGE: Check for any signs of oil leakage on the crane/hoist and the floor.

UNUSUAL SOUNDS: Check for unusual sounds from the hoist while operating.

WARNING & SAFETY LABELS: Ensure that labels are not missing and they are legible.

Thank you for purchasing our Prowinch® Recovery Winch. This User Manual provides important information for personnel involved with the installation, operation, and maintenance of this product. Read this User Manual before installing, operating, or maintaining the product.

1. SAFETY PRECAUTIONS

The Prowinch® Winch is designed for a safe and reliable service if operated according to the User Manual. Respect and follow all warnings for personnel and third party safety indications. Inadequate operation may cause serious risks of injuries to personnel or damage to the equipment. Read and understand this User Manual carefully before installing and commissioning the equipment. Always keep this User Manual in an accessible place for future reference. Improperly installed, maintained, or operated winches can be the cause of serious accidents or death. This User Manual highlights symbols and notes for caution, warning and

danger. Following these indications greatly improves the safety of the operator and personnel in the area.

The compact and lightweight structure of the PWXR & PWTR models together with their ease of use makes them a preferred crane for daily use in factories, mines, sea ports and warehouses.

Always use:



Hard Hat



Safety Glasses



Safety Gloves



Safety Shoes

1.1. Winch Safety Precautions



WARNING:

This symbol indicates unsafe practices or situations which may cause damage to the property and even injuries to the personnel.



DANGER:

This symbol indicates a potentially dangerous situation which if not avoided may cause severe injuries or death



DANGER

All operators and other users who are near the wire rope or its load must wear required safety equipment: gloves, safety helmet / hard hat, safety shoes, and eye protection.

1.2. Before using the Equipment:

- Read and understand the instructions in this user manual and all the labels associated with the winch before operating the equipment.
- Wear appropriate clothing: Do not wear jewelry or loose clothes as they can get caught in moving parts.
- Wear sturdy leather gloves.
- Wear non-slip safety shoes, a hard hat, and eye protection.
- Perform a full check of the winch. Check for damaged parts or unusual conditions.
- Secure the winch to a suitable surface that is capable of withstanding the load being pulled with the winch.
- Visually inspect the winch before each use in addition to the regular inspections and maintenance.

1.3. During Operation:

ALWAYS:

- Refer to the maximum load capacity displayed on the ID plate attached to the winch, not the capacity of the hook.
- Stop operation immediately if unauthorized personnel enter the working area.
- Check the working condition of the winch before operation.
- Stop, check, and secure the load if the winch stops or loses movement during operation.
- Focus on the operation. Pay attention at all times and keep the load properly balanced.

NEVER:

- **Never** exceed the maximum load capacity of the winch.
- **Never** operate a damaged or malfunctioning winch.
- **Never** operate the winch if it shows abnormal behavior.
- **Never** lift, support, or transport people or loads over people.
- **Never** walk or step on the wire rope.
- **Never** operate the winch with twisted, kinked, damaged, or worn wire rope.
- **Never** use the wire rope as a sling around load.
- **Never** operate a winch if the ID plate or safety labels are missing or illegible.
- **Never** use if operator is sick or not completely attentive.
- **Never** leave the winch unattended with a suspended load.
- **Never** operate the winch with non-centered load.
- **Never** operate beyond the limits of the wire rope.
- **Never** use the winch or hook as an electrical or welding ground.
- **Never** remove the labels placed on the winch.
- **Never** use the winch to lift load at an angle, nor pull or drag load.

1.4. Inspection, Maintenance and Repairs:

- Only trained and authorized personnel may perform repairs on the equipment.
- Use only original ProWinch® parts. The use of any other part immediately voids the warranty.
- Failure to use only original ProWinch® parts may create dangerous conditions for the operator.

ALWAYS:

- Prevent others from stepping under lifted load.
- Inspect and maintain the winch regularly.
- Verify the correct installation of winch before using.
- Avoid contact with explosive gases or materials.

NEVER:

- **Never** overload the winch.
- **Never** transport people or animals with the winch.
- **Never** stand under suspended load.
- **Never** use the winch if exposed to rain, snow, or lightning
- **Never** leave loads suspended for an extended period of time. This may cause component deformation and accidents.
- **Never** exceed the allowable operating temperatures stated in this User Manual (differs depending on the model).
- **Never** expose the winch to water, sand, corrosive materials or other substances which may damage the equipment.

WARNINGS

1. Operators should first carefully read through the Service Manual, then start the operation after good command of operation regulation.
2. Man should not be loaded. The operator should pay great attention to brake for fear of unexpected accidents.
3. Cable of the inner two rings is used to press one end of the cable, so this part should not be used during operation.
4. Switch valve core and Switch valve sleeve is connected with certain space, so air leakage in this part is normal.
5. Impurities in pipelines should be cleared away before operation.
6. To insure safety, band air brake need to be constantly checked for any slip during operations. If slips caused by worn brake band, please tighten it in time. (loose fixed nuts and put wrench into nuts groove; wrench from left to right, test it till good, tighten the nuts) Please be noted that the braking force should be suitable and not too big for fear of unnecessary weariness on brand band.
7. Never disengage clutch with a load on the wire rope. Winch controls must be in the neutral position before operating the free spool clutch.

2. SPECIFICATIONS

2.1. Load Level and Service Life

Hoist Duty Class	Typical Areas of Application	Operational Time Ratings at K = 0.65			
		Uniformly Distributed Work Periods		Infrequent Work Periods	
		Max. On Time, min/hr	Max. No. Starts/hs	Max. No. Time From Cold Start	Max. No. of Starts
H1	Powerhouse and utilities, infrequent handling. Hoists used primarily to install and service heavy equipment, where loads frequently approach rated load, and where the hoist is idle for 1- to 6-month periods between periods of operation.	7.5 (12.5%)	75	15	100
H2	Light machine shop, fabricating service, and maintenance. Loads and utilization randomly distributed. Rated loads infrequently handled. Total running time not more than 12.5% of the work period.	7.5 (12.5%)	75	15	100
H3	General machine shop, fabricating, assembly, storage, and warehousing. Loads and utilization randomly distributed. Total running time not more than 25% of the work period.	15 (25%)	150	30	200
H4	High-volume handling of heavy loads, frequently near rated load in steel warehousing, machine and fabricating shops, mills, and foundries, with total running time not more than 50% of the work period. Manual or automatic cycling operations of lighter loads with rated loads infrequently handled such as in heat treating and plating operations, with total running time frequently 50% of the work period.	30 (50%)	300	30	300
H5	Bulk handling of material in combination with buckets, magnets, or other heavy attachments. Equipment often cab operated. Duty cycles approaching continuous operation are frequently necessary. User must specify exact details of operation, including weight of attachments.	60 (100%)	600	N/A	N/A

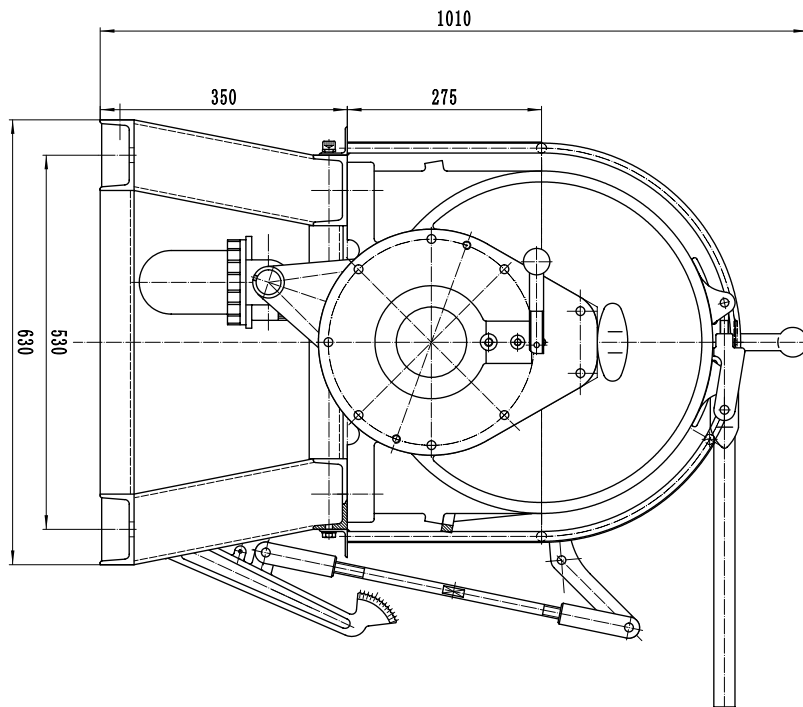
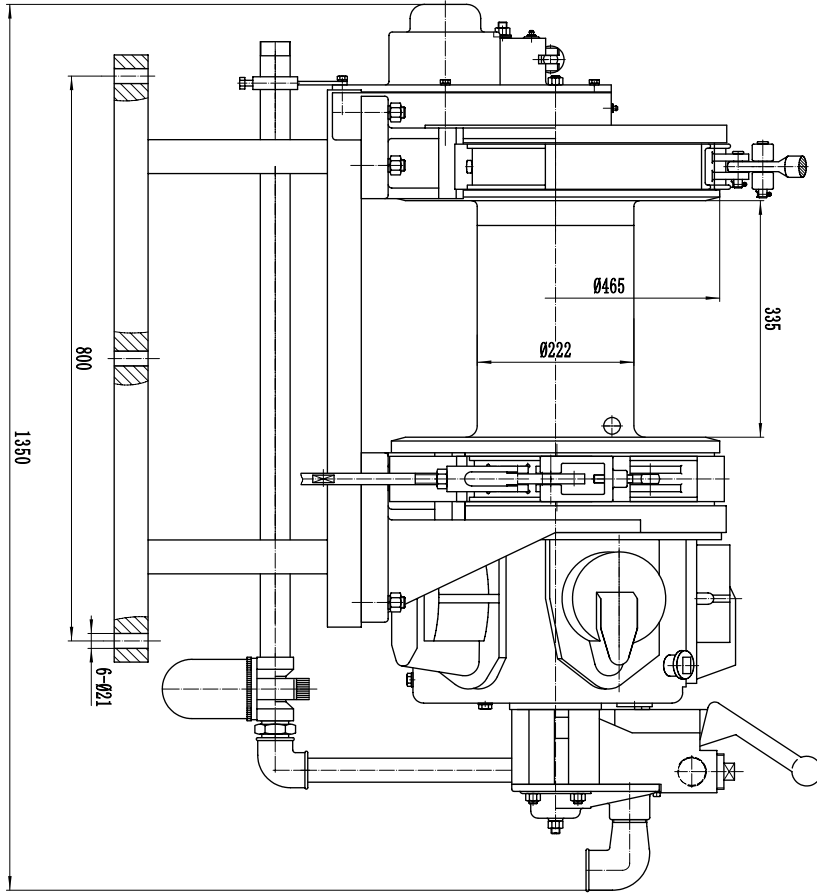
Working Conditions		Load	Time	Maintenance Interval (Months)	Expected Life [Working Hours]				
					800	1600	3200	6300	12500
Light	Light Mechanisms subjected normally to light loads and very rarely to the maximum load.			6 - 12	H1	H2	H3	H4	H5
Normal	Mechanisms subjected normally to moderate loads and frequently to the maximum load.	< 65%	< 25%	6 - 12	H2	H3	H4	H5	
Heavy	Mechanisms subjected normally to loads of heavy magnitude and frequently to the maximum load.	> 65%	> 25%	3 - 6	H3	H4	H5		
Severe	Mechanisms subjected regularly to the maximum load	Abnormal conditions Environmental, Geographical, etc <100% < Duty Cycle Limit		1 - 3	H4	H5			

Specification		
Item	Value	
Working Air pressure	0.7 - 0.9 Mpa	
Rated load (1st layer)	50kN	
Rope Speed	0 - 12 m/min	
Drum Diameter	222 mm	
Wheel Diameter	465 mm	
Drum Length	335 mm	
Rope Diameter	16 mm	
Rope Capacity	120 m	
Motor air inlet size	R1 1/4"	
Exhaust Size	R1 1/2"	
Brake Type	Manual band Brake	
Safety protection	Drum Guard	
Clutch	With Clutch Function	
Air Motor	Cylinder Number	5 PCS
	Cylinder Diameter	30 mm
	Consumption	247 L/S
Dimensions	L x W x H1	250 mm x 950 mm x 1050 mm
Weight		498 kg

Maintenance for use

1. Drain the water of the filter (in the air source system) before everyday use.
2. The tick marked parts should be filled with lubrication oil or Calcium grease twice every week.
3. The lubricator should be filled with N32 lubrication oil regularly, but within the tick mark.
4. Fill air motor with N32 lubrication oil at regular intervals. Steps for filling:

Open the oil hood and oil level plug, fill lubrication oil into the oil way. When lubrication oil spills from the oil level plug, tightly screw the oil level plug and oil hood. If the lubrication oil goes bad, please change with new lubrication oil. Open oil discharge plug, drain the wasted lubrication oil, then tightly screw the oil discharge plug, and fill lubrication oil as per the above-mentioned steps.



No.	Issue	Cuase	Solutions
1	Low power; Lower rotation speed, larger air consumption	<ol style="list-style-type: none"> 1. Leakage in the air pipelines. 2. No lubrication oil in the lubricator or low oil admittance. 3. Piston ring and cylinder sleeve are seriously worn. 4. Bearing is seriously worn, together with mechanical noise. 5. Rotation system is blocked, together with mechanical noise. 6. Air pressure is too low. 	<ol style="list-style-type: none"> 1. Find the leakage, and seal it. 2. Fill lubrication oil in time or enlarge the oil admittance. 3. Replace with new piston ring and cylinder sleeve. 4. Replace with new bearing. 5. Find and solve the reason. 6. Adjust to normal pressure.
2	Switch lever cannot be reset	<ol style="list-style-type: none"> 1. Granular enters into Switch valve. 2. The core of Switch valve is dried or wet to rust. 3. The Engine oil in Switch core is too sticky. 	<ol style="list-style-type: none"> 1. Dismantle the core and clean it. 2. Fill some Engine oil from the inlet (from the plug under the switch valve); move reversing lever from left to right (let Engine oil enters into the connection part of Switch valve core and switch valve sleeve)till the switch could be reset automatically. 3. Change the Engine oil according to different seasons.
3	Hand brake and foot brake out of control	<ol style="list-style-type: none"> 1. Regulation bolts are too loose. 2. The brake slip is seriously worn 	<ol style="list-style-type: none"> 1. Adjust the distance of the bolts, fasten the nut after adjustment. 2. Replace with a new brake slip assembly.
4	Air winch stops working suddenly	<ol style="list-style-type: none"> 1. No lubrication oil in the lubricator or low oil admittance. 2. Granular in the distribution core cause the stop. 3. Connection rod, inner bushing, bushing and bearing are damaged. 4. The bolts on cylinder sleeve are loose. 5. Block in rotation system. 6. The air source is cut off. 	<ol style="list-style-type: none"> 1. Fill lubrication oil in time and enlarge the oil admittance. 2. Repair or replace air distribution core. 3. Replace the damaged parts. 4. Tightly screw the bolts. 5. Find and solve the reason. 6. Find the reason, and restart the air supply.
5	Air brake could not stop the winch	<ol style="list-style-type: none"> 1. Weariness of brake band or looseness of fixed nuts and double-head nuts. 2. Seriously weariness of brake band 	<ol style="list-style-type: none"> 1. Do as per item 5 in WARNINGS. 2. Replace with new brake band.



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