I c i

The bale clamp is a special attachment to the forklift for handling bales. It is specially designed to carry materials in the paper making, chemical fiber and cotton bale businesses and is widely accepted for its ability to handle nearly any type of baled supplies like paper pulp, waste paper, cotton bales, wool, hay or industrial scrap. The bale clamps designed and produced by us, testified by the market for many years, have matured and series products are being made now.

This operating manual is designed to familiarize operators with the equipment and its intended application.

The manual contains important notes concerning safe, proper and economic working with the equipment. Strict observation of these notes will help to avoid risks, reduce repair costs and down time, and increase the reliability and useful life of the equipment.

In addition to the instructions contained in this manual, all pertinent national and local codes and regulations relating to safety and environmental protection must be observed in full. This operating manual must be kept available for ready reference at the equipmentôs place of use.

The manual must be read and followed by all persons involved in work with or on the equipment. This work includes:

ð ð Operating the equipment, including setting up for use, correcting trouble in use, collection and disposal of production scrap, cleaning and routine servicing, disposal of spent lubricants and other wastes.

ð ð Inspection, maintenance and repair

ð ð Handling

In addition to this operating manual and the safety codes and regulations in force at the place of use, standard practice relating to safe and proper working tools and machines must be observed at all times.

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The following marks and symbols are used in this operating manual to highlight details holding special importance:

DANGER indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.

1.2 O a i a i al

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cylinder below 80 , or failures may occur to the cylinder.

ð ð When working with the machine and equipment, make sure that risk of injury to all persons due to the machine and equipment is satisfactory ruled out.

ð ð The forklift operator must watch out for persons within his range of work and travel.

ð ð All activities detrimental to the stability of the machine and equipment must be avoided.

ð ð Maximum capacity always denotes lifting with two or more forks or load handling arms.

ð ð Attention is required to the rated load capacity, maximum working pressure and load center stated on the nameplate.

ð ð Moving, reciprocating or rotating parts of the attachment entail danger of pinching, crushing, snagging and dragging. Safe distance must be maintained at all times to prevent clothing, body parts or hair from being caught by such parts.

ð ð Loads may only be handled when their pallets, crates, containers and packaging are in satisfactory condition.

1.3.3 Mai a c

ð ð Mandatory regular inspection intervals, including those specified in the operating manual, must be observed. Inspection may only be carried out by authorized and qualified personnel.

ð ð Maintenance and repair work must only be carried out when the machine and equipment is supported on a level and firm surface and is secured from rolling and tipping.

ð ð When replacing components and assemblies, they must be fastened securely to hoisting equipment so as to eliminate all danger. Use exclusively appropriate hoisting equipment and load handling devices in satisfactory condition and of adequate capacity. Keep clear of suspended loads.

ð ð Do not make any alterations, additions or conversions to the machine or equipment that might affect their safety unless duly authorized by the supplier. This includes fitting and

adjusting safety valves and other safety devices and welding work on supporting members.

Ca i !

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ð ð If safety devices need to be dismantled for setting up, maintenance or repair work, they must be re-installed and checked for proper function immediately on completion of the work.

Spare parts must meet the manufacturerôs technical specifications. This is assured by using exclusively original spare parts.

Ca i

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Note the following tightening torques which are valid for screws with connecting surfaces according to ISO4762 ISO4014 ISO4032 etc.

Sc /b l a i	8.8	10.9	12.9
M 10	45N.	66N.	77N.
M12	77N.	115N.	135N.
M16	190N.	280N.	330N.
M20	385N.	550N.	640N.

ð ð Work on hydraulic equipment may only be carried out by personnel specially trained and experienced in hydraulics.

ð ð All hydraulic pipes, hose lines and couplings must be inspected regularly for leaks and visible damage. All damage must be repaired immediately. Leaking oil can cause accidents and is a fire hazard.

1.4 G al ha a

Serious injury to persons or damage to equipment and property may be caused as a result of

ð ð Improper use of the equipment

ð ð Incorrect operation of the equipment

ð ð Inadequate maintenance and servicing

Failure to observe the safety notes contained in the operating manual can lead to injury or even death. This applies particularly to improper use of the equipment.

Persons under the influence of drugs, alcohol or medications affecting normal responses must not be allowed to perform any work with or on the machine or equipment.

The machine and equipment must not be operated in explosion-hazard areas unless expressively designed and authorized for use in such areas.

For preventions of fire, burn, electric shock, chemical hazards (toxic exhaust, etc.), risks of electromagnetic interference, noise and other vibration, please refer to the machine manual.

[redacted]

[redacted] side [redacted] 1/4o) [redacted] raulic

[redacted] ins [redacted] ntrol [redacted] ld [redacted] le from falling out in the event of any emergency like sudden failure of the forklift.

Before mounting the clamp, the user is advise[redacted] clean un[redacted]

[redacted]

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Before installing the hydraulic part, make sure that the hydraulic system of the assembly is the same as shown in the hydraulic diagram of the Userôs Manual, and connect the part as indicated in the diagram. Make sure that the hydraulic tube is compatible with the hydraulic cylinder of the bale clamp in terms of the rated pressure, and that the rated pressure of the flexible/rigid tubes are larger than 28MPa. Make sure that the parameter settings of the safety valve are compatible with the working pressure of the hydraulic cylinder (the recommended pressure to be used is 14MPa). Verify the inlet and outlet of the hydraulic tube and make sure that they are in the same direction as the movement of the control lever. The flow and pressure of the hydraulic system are detailed in the table below:

Model	Pressure (bar)		Flow (L/min)					
			Side shift			Clamping		
	Min	Max	Min	Recommended	Max	Min	Recommended	Max
RJ**ST	35	180	4	23	40	15	38	40

N :

◯ Flows lower than the min can result in malfunction of the clamp.

◯ Flows higher than the max can result in overheating and thereby degrade the system performance and reduce the service life of the hydraulic system.

The dimension of the forklift carriage is shown in figure 1 below (to ISO2328-2007) and detailed in the table below:

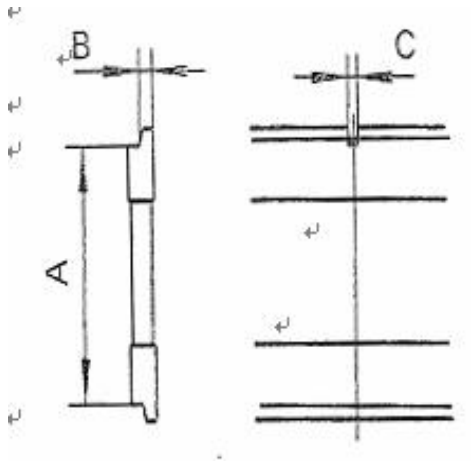


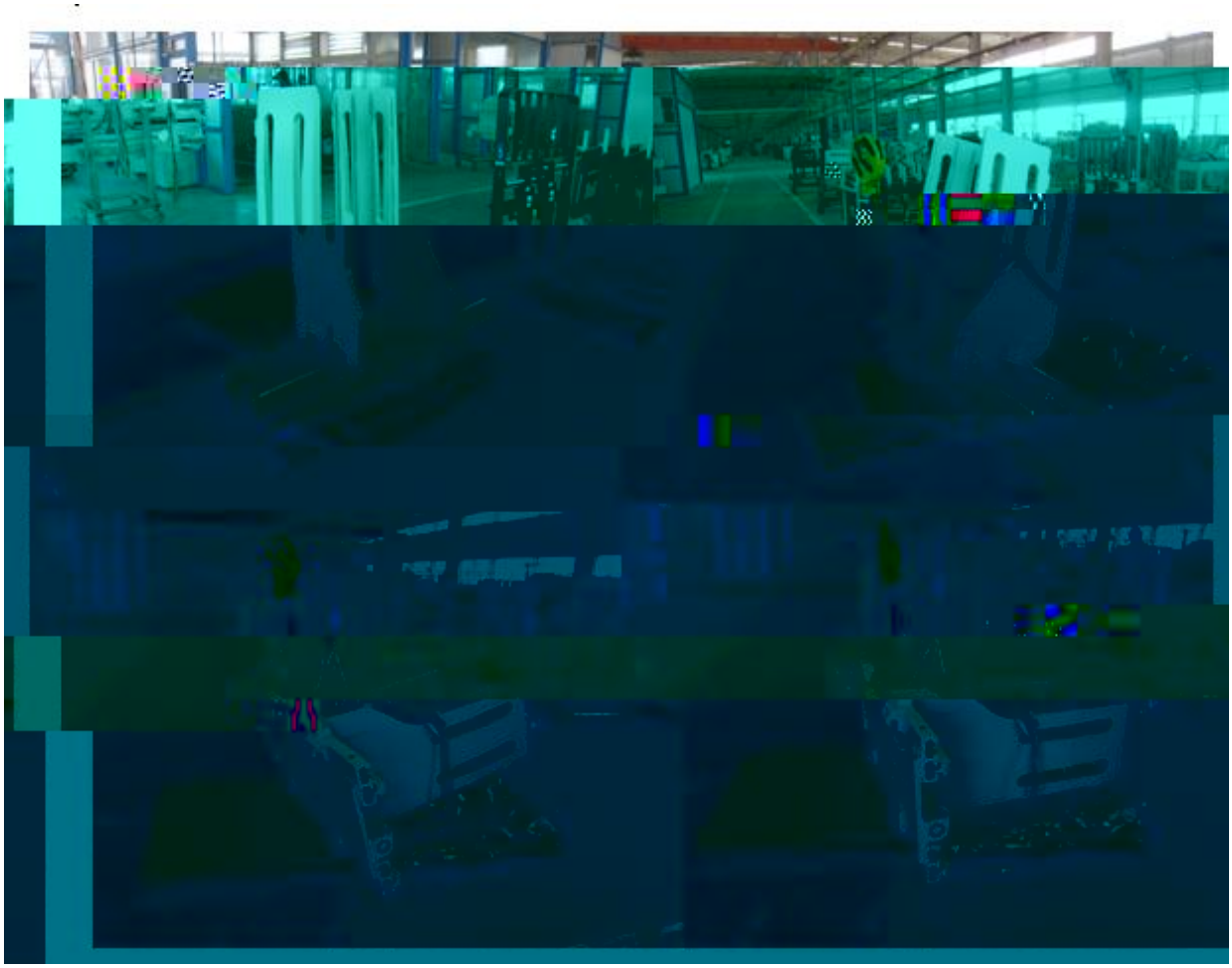
Figure 1

Installation grade	A		B		C	
	Min	Max	Min	Max	Min	Max
	380	381	15	16	15.2	16.8
	474.5	476	20.5	21.5	18.2	19.8
	595.5	597	24.5	25.5	18.2	19.8

3 M i I c i

3.1 Clean up the forklift carriage and make sure it is smooth and flat on the surface and free of any damage on the central notch.

Note: Before installing the clamp on the forklift, first release the lock bolt on the lower hook and remove the lower hook



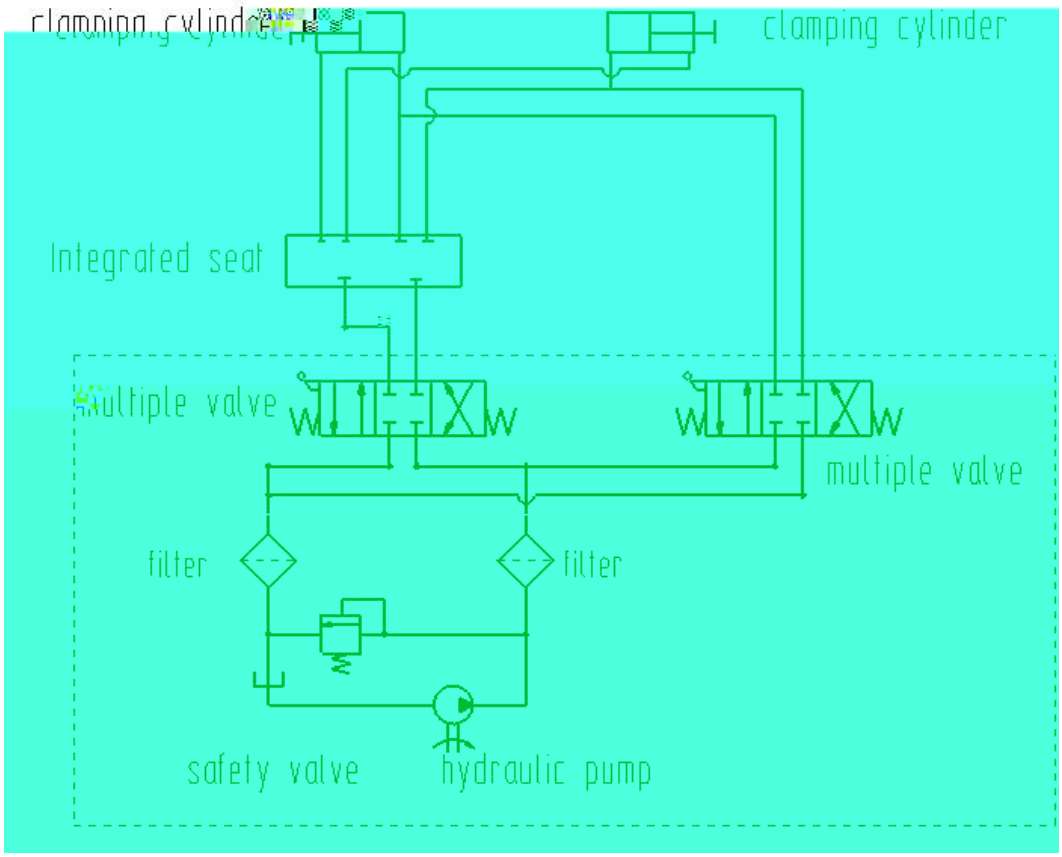
Note: You must be dismantled under the hook, you can install attachments.

3.2 Run the forklift to behind the attachment, align it, lean the gantry forward till the convex block near the upper hook is in the nearest notch between the upper crossbeam of the carriage and the convex block. Lift the carriage till it leans against the underside of the attachment

hanging board and lift the attachment 50mm off the pallet.

Note:

1 It is possible



3.6 Apply a coat of lubrication grease over the surface of the four slide bars (i.e. T-bars).

⚠ Wa i

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h cla a a

Function	Attachment movement	Valve handle movement
Side shift	Right shift	Backward or upward
	Left shift	Forward or downward
Holding	Tighten	Backward or upward
	Release	Forward or downward

Before any normal work is started, the clamp should be preheated and should run from side to side, hold and release a number of times without load before it can start work under normal load.

Note: The direction of the hydraulic movement should be that as observed from the driverôs position.

4 O a i I c i

4.1 P - a i i c i

4.1.1 Before any operation, first operate the multi-way valve handle to make yourself intimate with the control functions of the handle and satisfy yourself that the handle movement complies with the foregoing Control Functions of the Handle.

4.1.2 Check that the attachment moves levelly and does not hit or cut on the rubber hose.

4.1.3 Do not start any operation and report to your upper leader any abnormality of the attachment.

4.1.4 Check the fixing nut of the cylinder and see if the locknut and split pin are securely fixed.

4.1.5 Check if there is any leakage at the joint or at the end of the piston rod.

4.1.6 Check the two arms work synchronously. If not, adjust the throttle valve as described below:

Note: It is crucial to remove the cylinder damper first.

1 Release the locknut on the choke valve, screw the plug to the end and turn back 3 circles.

2 Place the clamping arms to full open.

3 Clamp and hold till one of the arms runs to its full stroke and then measure the remaining stroke of the other arm.

4 For any non-synchronization in excess of 50mm, turn the cylinder that has first reached the bottom half a circle inward.

5 Repeat step (2) to step (5) till the non-synchronization is limited to within 50mm.

4.1.7 Before it holds any load, have the clamping arms work a number of dry cycles and discharge the air in the system to the oil tank.

4.2 O a i

4.2.1 Make sure the load handled is not heavier than the rated carrying capacity labeled on the attachment.

4.2.2 The load should be handled along the middle part.

4.2.3 The clamping pressure is normally shop adjusted. Users of specific requirements should also select the appropriate clamping pressure to avoid damage to the surface of the load clamped.

4.2.4 Any of the following operation is deemed incompliance and should be prohibited:

People on the bale handled by the forklift;

Use of the attachment on any improper occasion;

Load in excess of the rated settings of the attachment;

One bale over the other, with the lower one being held on the clamping board only;

Forward operation of the forklift at the time of any oversize load on it;

External impact on the working attachment;

People standing under the forklift wher rop he

when the load is lifted to a certain height.

4.2.8 The operator should select the right speed of the forklift according to the following conditions: forklift stability, load weight, road condition, slope size, space, presence of any obstacle at the workplace or wind force and the like.

4.2.9 The following operations should be avoided:

The forklift continues to run at high speed when the bale is lifted substantially high;

The bale is not held from the middle part of the bale;

Clamp before the clamping board of the bale clamp touches the bale;

The attachment is hauled before the load placed on the ground is lifted from the ground, which may result in damage to the parts.

5 Mai a c I c i

k 5.1 N al i

5.1.1 Unless with prior written consent, the user should not modify or add any operation that may affect the operation capacity or operation safety.

5.1.2 Any user that tries to mount the attachment to the forklift by himself instead of by the manufacturer will be required to identify the forklift to distinguish it from the attachment and to indicate the correct combined forklift/attachment carrying capacity when the load is handled at its load center and lifted to the max height.

5.1.3 All nameplates and labels should be clearly identifiable during maintenance by the user.

5.1.4 The attachment should be checked for any leakage in the cylinder or oil tube, and the normal fitment of the lower hook before any work is started with the attachment every day.

5.1.5 The attachment should be checked for any flexibility in the rubber hose joint, cylinder joint and the lower hook bolt, as well as the clearance between the lower hook and the lower crossbeam per 100 service hours. Any excessive clearance should be readjusted.

5.2 T ai i f h a

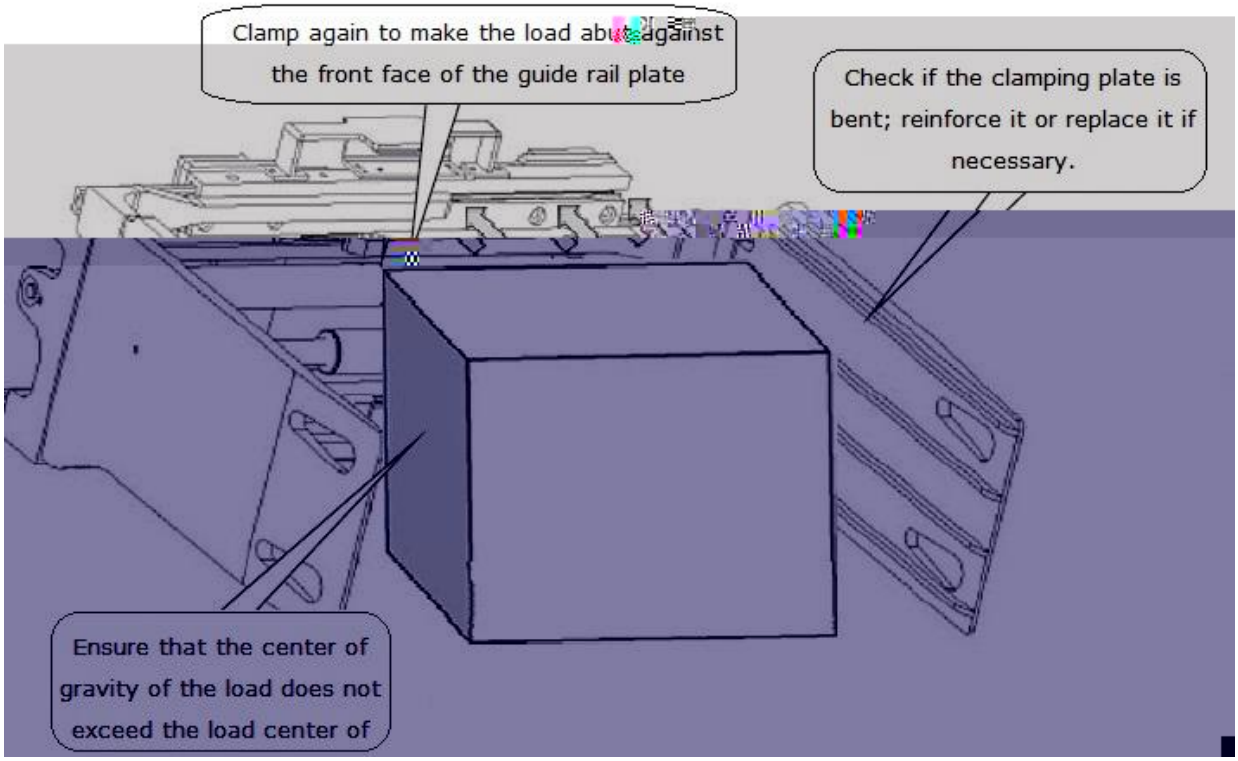
No operator is permitted to operate the forklift unless he is properly trained and duly authorized. Applicable rules should be provided for the operators in the course of trainings on forklift safety.

5.3 when maintenance operations, first you must disconnect the circuit and oil, to prevent misuse causing accidents.

5.4 altitude of Troubleshooting: When is a failure at high altitude Make Forklift Mast down to touch the ground roll folder, the Forklift attachments will be remove from the door, and then repair, waste hydraulic oil processing should comply with local laws and regulations.

6 Fail R al

6.1 F a i cli a i f h la f l a

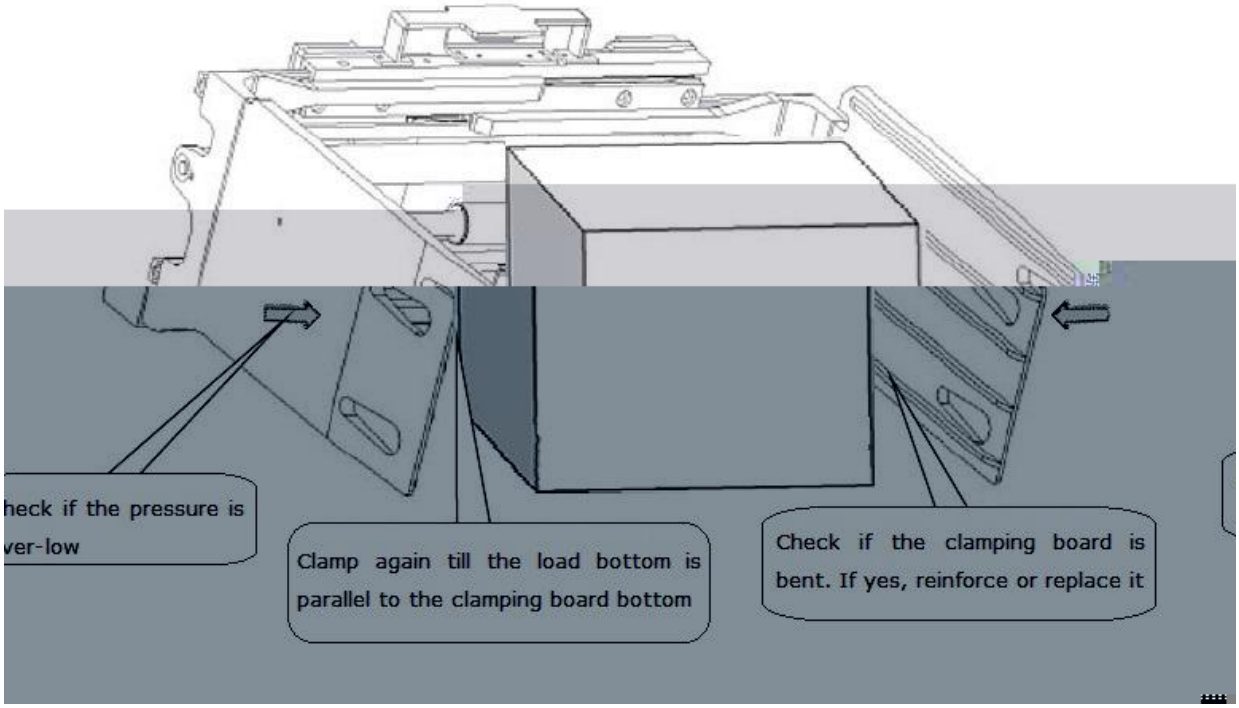


Clamp again to make the load abut against the front face of the guide rail plate.

Check if the clamping plate is bent; reinforce it or replace it if necessary.

Ensure that the center of gravity of the load does not exceed the load center of the attachment.

6.2 F i cli a i f la f l a



Check if the pressure is over-low.

Clamp again till the load bottom is parallel to the clamping board bottom.

Check if the clamping board is bent. If yes, reinforce or replace it.

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7.1 Wa a P i P i i f A i Lia A ach :

(1) For brand-new products: 24 months from the date of delivery to the first carrier, or 4000 hours of product use, whichever comes first.

(2) For economy-grade and non-standard customized products: 12 months from the date of delivery to the first carrier, or 2000 hours of product use, whichever comes first.

7.2 Obli a i f B a E U :

(1) To ensure the smooth implementation of the warranty for Anqing Liandong Attachments, buyers and end users must strictly comply with the provisions of the User Guide of Anqing Liandong Attachments Co., Ltd. during the installation, commissioning, operation and maintenance of the company's products.

(2) Buyers and end users may only repair the purchased attachments with the authorization of Anqing Liandong Attachments Co., Ltd., and shall not arbitrarily remove or replace any parts on the products.

(3) Any unauthorized repair, modification, or products of Anqing Liandong Attachments Co., Ltd., use of parts not provided by the original Anqing Liandong Attachments Co., Ltd., or violation of the relevant provisions in the User Guide, Inspection Specifications, Operation Guide and Maintenance Manual of Anqing Liandong Attachments Co., Ltd. will result in the loss of warranty eligibility.

(4) Anqing Liandong Attachments Co.,

(2) The warranty scope of Anqing Liandong Attachments Co., Ltd. does not include wear and tear during normal use, consumption, as well as normal or regular maintenance work.

(3) Anqing Liandong Attachments Co., Ltd. does not provide warranty for any situations beyond the content of this Warranty Policy and the relevant product clauses stated in the sales contracts of Anqing Liandong Attachments Co., Ltd