



**ABACO MACHINES**

**OPERATION MANUAL**

**ABACO FALCON LIFTER**

**AUTOMATIC**

**(AFL65A)**



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**APPLICABLE MODEL  
of this FALCON LIFTER AUTOMATIC:**

**AFL65A**

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## ***General Safety Operation Manual Instructions Summary:***

*It is essential to review carefully and understand this Operation Manual before operating the equipment. Failing to read and understand this entire manual may cause injury or death to personnel, or damage to the equipment and the products that are being handled by this equipment if not properly followed.*

*This safety summary includes general safety precautions and instructions that must be understood and applied before, during, and after operations, as well as maintenance to ensure personnel safety and protection of this equipment. Prior to performing any task, the contents included in this manual should be reviewed and fully understood.*

*This manual explains some essential operating or maintenance procedures, practices, conditions, statements, etc. that if those are not strictly followed, it could result in injury, or death by chance in the worst case. And there might be some chances of damaging or destructing materials or machine component itself. In order to avoid or eradicate such worst coincidences and happenings, it is essential to read through this manual and follow accordingly. It is also important to comprehend the functions of this equipment thoroughly for your safe and efficient operations.*

*For any question, please contact your local dealer or distributor.*

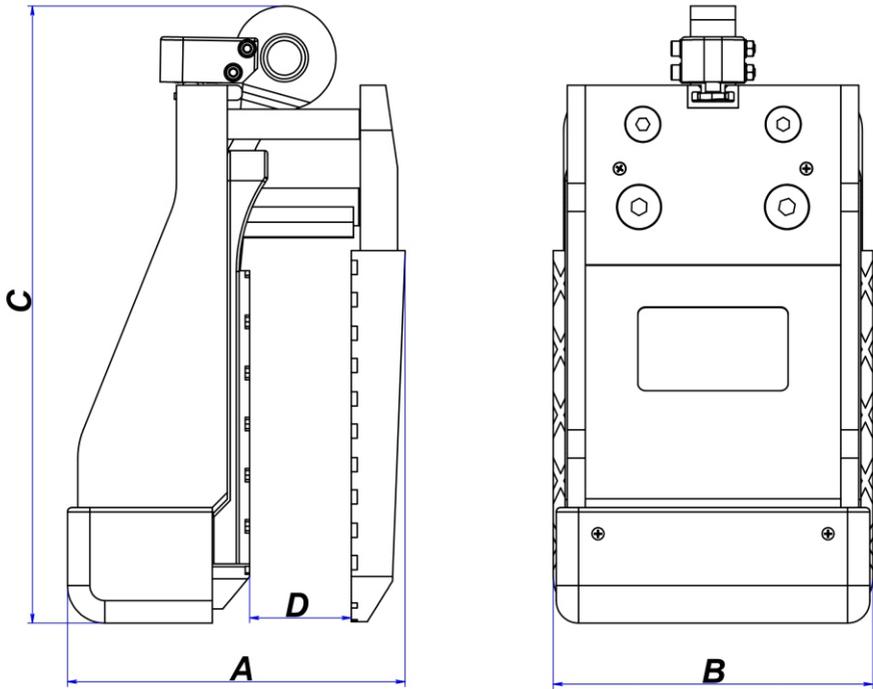
## **I. EQUIPMENT GENERAL INFORMATION:**

- Falcon Lifter Automatic (AFL65A) is designed for clamping and moving stone slabs.
- Opening and Closing mechanism of the clamp plates is fully automatic.
- It is suitable for both natural and artificial stones in various thicknesses ranging from 20 mm to 65 mm.
- The clamp plates are covered by rubber pads to prevent scratches or damages on the stone slab surfaces during operation and transportation.
- The device shall ensure safety for users and increase productivity.

## **II. TECHNICAL SPECIFICATIONS:**

- AFL65A is mainly made of steel for sturdy and durable in harsh and strong impact environment.
- The device shall be used by combining with a crane (or with a forklift truck) to clamp, lift, and transport stone slabs.
- The device shall be hooked to the specialized swivel shackle, which makes a stone slab possible to rotate 360 easily.

**1. Dimensions:**

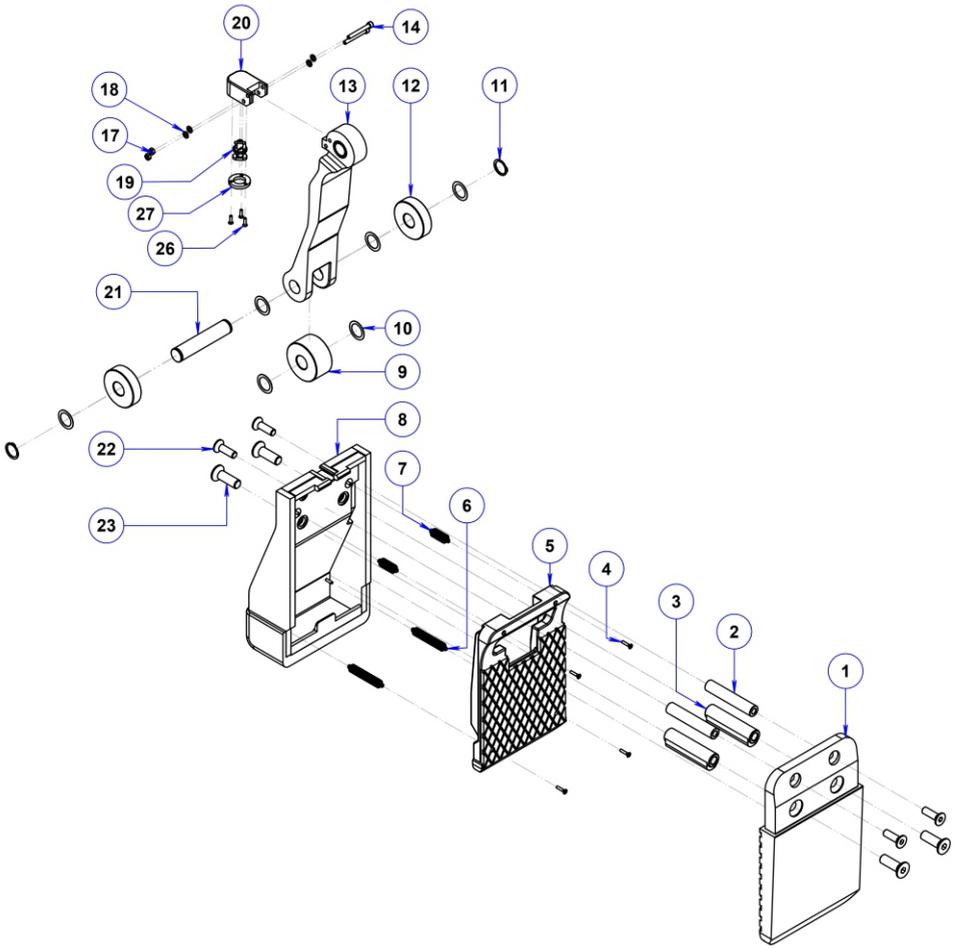


<b>Length (A) inches (mm)</b>	<b>Width (B) inches (mm)</b>	<b>Height (C) inches (mm)</b>
8 <sup>7</sup> / <sub>8</sub> (226)	8 <sup>7</sup> / <sub>16</sub> (214)	16 <sup>3</sup> / <sub>16</sub> (411)

<b>Grip Range (D) inches (mm)</b>	<b>*W.L.L lbs (kg)</b>
<sup>13</sup> / <sub>16</sub> ~ 2 <sup>9</sup> / <sub>16</sub> (20 ~ 65)	2200 (1000)

*\*W.L.L: Work Load Limit*

## 2. Spare Part List:



## SPARE PART LIST

PART NUMBER	DESCRIPTION	QTY.
AFL65A-01	Clamp plate 1	1
AFL65A-02	Top shaft	2
AFL65A-03	Bottom shaft	2
AFL65A-04	Screw M4 x 20	8
AFL65A-05	Clamp plate 2	1
AFL65A-06	Bottom extension spring	2
AFL65A-07	Top extension spring	2
AFL65A-08	Main body	1
AFL65A-09	Roller 1	1
AFL65A-10	Brass washer Ø25	6
AFL65A-11	Circlip Ø25	2
AFL65A-12	Roller 2	2
AFL65A-13	Lifting	1
AFL65A-14	Hexagon socket head cap screw M6 x 50	2
AFL65A-17	Lock nut M6	2
AFL65A-18	Washer Ø6	4
AFL65A-19	Automatic locking latch	1
AFL65A-20	Base, automatic locking latch	1
AFL65A-21	Shaft of roller	1
AFL65A-22	Hexagon socket countersunk head cap screw M12 x 40	4
AFL65A-23	Hexagon socket countersunk head cap screw M16 x 50	4
AFL65A-26	Hexagon socket countersunk head cap screw M4 x 15	3
AFL65A-27	Bushing	1

### **III. SAFETY INSTRUCTIONS:**

#### **1. General Warnings, Cautions and Notes:**

**WARNING:** Before using your Falcon Lifter Automatic, please confirm the surfaces of the slab to be lifted are flat, smooth, and free from dust, oil, or any kind of such harmful substances which cause slipping when lifting.

##### **a. For the Falcon Lifter Automatic:**

##### **Cautions:**

- Follow all the safety regulations and applicable laws in your country for the operations.
- It is strongly recommended that only employees who are highly trained or experienced are allowed to operate this device.
- Lift up the slab slowly. If the slab is not balanced, lower the device, adjust the alignment and lift again.
- Before lifting any product, the Swivel Shackle should be carefully inspected for its wear, any damage, cotter/snap pins loosening / lost, or nut loosening. If the Shackle gets any damage, it should not be used until repaired or replaced.

##### **Warnings:**

- Inspect the lifter carefully and thoroughly. If the rubber pads of clamp plates are worn-out or damaged, do not use.
- This Falcon Lifter Automatic is designed for lifting slabs ranging from 20mm to 65mm. Determine the weight of the slab to be lifted. Do not exceed the W.L.L. (Work Load Limit) shown on page 2.
- All employees must stand within safe area while slabs are being lifted or moved.
- Make sure to check the rubber pads are free from dirt, grease and other substances that may reduce their effectiveness. Clean the rubber pad surfaces by water. Then wait till dry and use the device after.

- Do not lift wet slabs. The grip depends on friction. Lifting wet slab may cause the rubber pads to lose their grips.
- No more than one piece should be lifted at any time.
- Position the lifter at the center of the slab to be lifted, so that the load is balanced.
- Make sure that the slab is inserted to the full depth into the opening of the lifter (Figure available at page 11).
- Light colored materials are not recommended to be clamped by black rubber clamp plate (due to mark the dirt on surfaces).

## **b. General Safety Instructions:**

### **Cautions:**

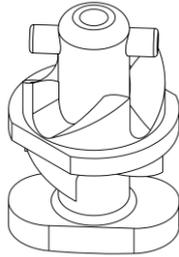
- In order to protect from any accident, it is important to follow safety rules and regulations.
- Read the operation manual carefully before using.
- Make sure that the operation manual is always available beside the place where the lifter is used.
- Give permissions to operate Falcon Lifter Automatic only to persons who are well-trained and competent to work.
- Use appropriate PPE (Personal Protective Equipment) such as helmet, gloves, and safety boots, etc.
- Ensure and confirm each time before using the Falcon Lifter Automatic has No Damage mechanically and functionally and is ready to be operated safely in the safe working conditions.
- Repairs and checks are to be made only by qualified persons.
- If any part worn-out, replace with a new one or contact the manufacturer.
- Before operating this device, check the swivel shackle that nuts are not loosened and cotter and snap pins are all in order. Be aware that Swivel Shackles can be worn-out time to time. Periodical lubrication can reduce wear. If worn-out, replace with a new one.
- Clean the device thoroughly after using.
- Store the lifter in a well-ventilated place, avoid places with high heat or humidity.

## **Warnings:**

- Never leave a lifted load unsupervised.
- Never allow yourself or anybody to go under the lifted slab.
- Be sure to check the device and its accessories duly and periodically, there should be no damage or loosening of fasteners or any irregular unfunctional sound, also before using reconfirm those points once again, then use the device for your safe operations.

### **c. Automatic locking latch system:**

- Automatic locking latch system consists of a cam wheel which could be rotated when the device was lifted up to clamp the stone slab. Make sure that no dust is inside the automatic locking latch, regularly check and lubricate oil to ensure the proper operation.



Automatic locking latch

## **2. Device Usage:**

Preliminary Safety Checks:

“Competent Person” shall check the following before each use.

### **WARNING:**

Check the following before and after operations:

- The Falcon Lifter Automatic is correctly installed/hung in the right manner described in this paragraph and to be operated in safe working conditions.
- The swivel shackle is correctly and securely installed and tightened accordingly.

**Step 1:** Hook the lifter to a forklift boom (Figure 1.1).

**Warning:** Place the Falcon Lifter Automatic at the safe place, then forklift boom has to approach the lifter for installation. Avoid lifting the Falcon Lifter Automatic by hands in order to avoid dropping the lifter.

*Note:* Do not stoop to pick up the device alone, the Falcon Lifter Automatic must be picked up by 2 people.

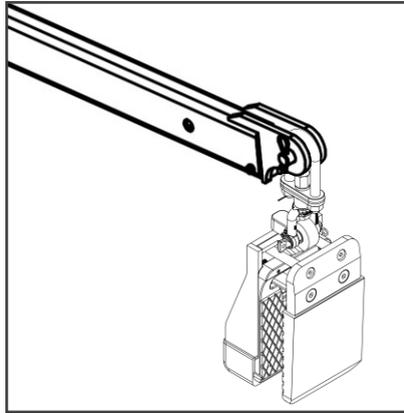


Figure 1.1

**Step 2:** Use slab wedges\* to make a gap between the outer slab and the inner slab (Figure 2.1).

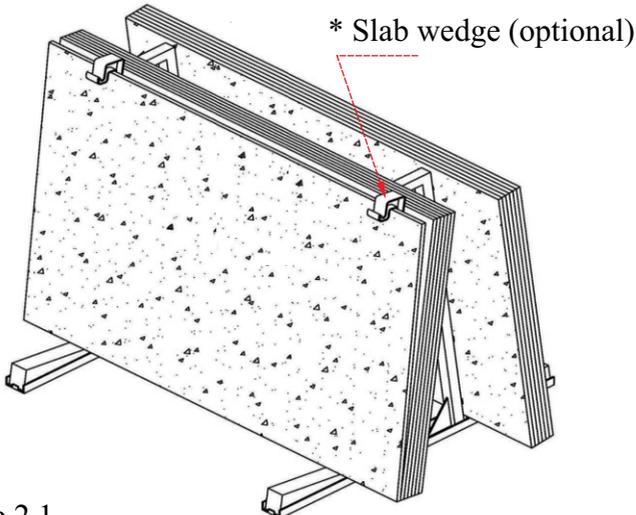


Figure 2.1

### Step 3: Clamp the slab.

Lowering the lifter to be perpendicular to the slab and place at the center of the slab. (Figure 3.1)

*Note: Position the lifter securely at the center of the slab so that the load is balanced. Make sure that the slab is inserted in full depth to the opening of the lifter (refer to Appendix at page 11). Lower the device until the shackle is disengaged.*

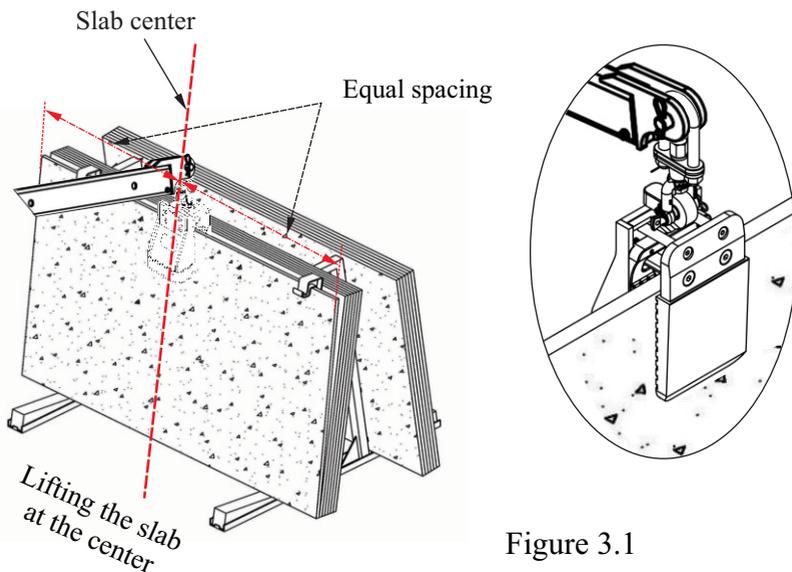


Figure 3.1

- Lift the stone slab slowly to ensure the weight balance. During lifting, the locking latch system will release the clamp plates to tightly grip the stone slab. Then, the stone slab is ready to move out of the stand or rack.

#### **Note:**

- When pulling the lifting, pull at a slow speed until the device clamps the stone slab securely
- If the clamp plates do not grip the slab firmly and securely when lifting the device, lower the device, recheck the status, and lift it up again.

**Step 4:** Move the stone slab to the desired position (Figure 4.1).

**Warning:** *All the people who are not obligated must stand within safety area while slab is being lifted or moved. Do not allow yourself or anybody to go under the lifted slab.*

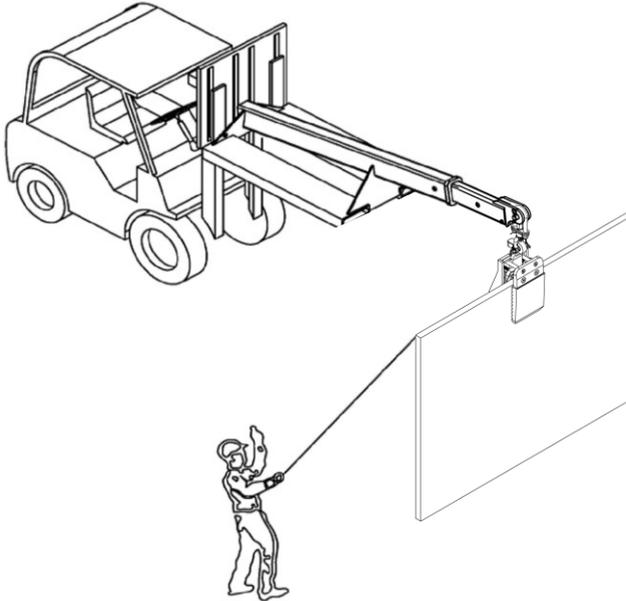


Figure 4.1

**Step 5:** Remove the device out of the stone slab.

Lower the device slowly until the device and the swivel shackle are relaxed, the locking latch will lock automatically to keep the clamp plates open to release the slab. Then move the device away from the slab.

**Cautions:**

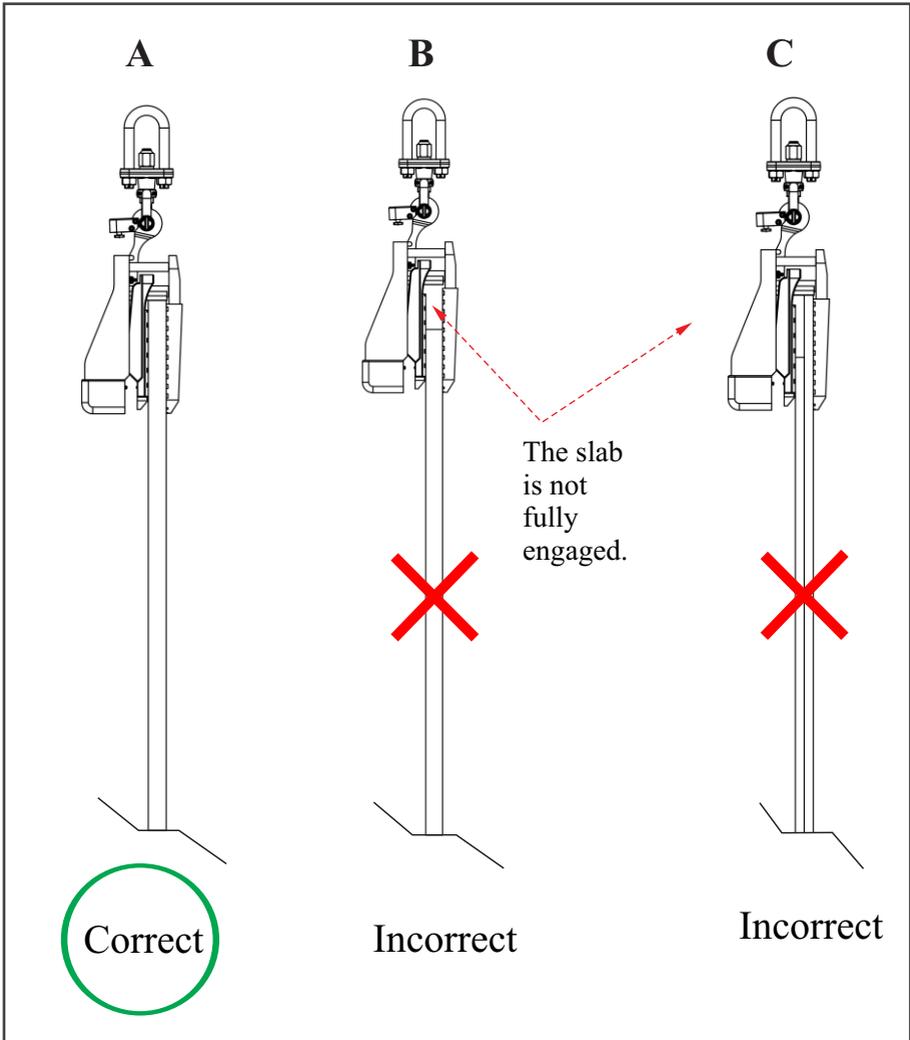
- *Before lowering the slab, make sure there are no obstacles to interfere when lowering the slab to a stand or rack.*
- *If the device still grips the stone slab, do all the steps again, move the device up and down to unlock the locking latch.*

## IV. APPENDIX:

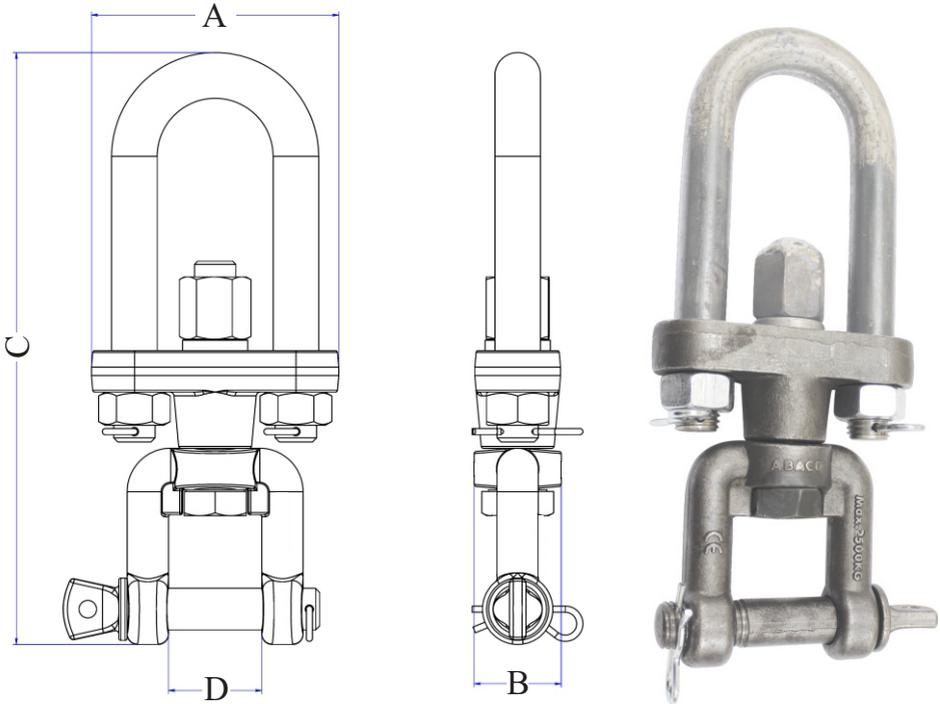
### 1. Correct and incorrect methods of clamping slab:

#### **WARNING**

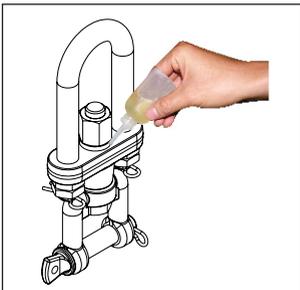
- Do not exceed W.L.L (Work Load Limit, page 2).
- Slab thickness must be within G.R. (Grip Range, page 2).
- Inspect and replace the Swivel Shackle as needed due to ware.



## 2. Swivel Shackle:



Length (A) inches (mm)	Width (B) inches (mm)	Height (C) inches (mm)	(D) inches (mm)
5 ¼ (133)	1 ⅝ (42)	11 ¼ (286)	1 ¾ (45)



- Step 1: Check the wear of friction part.
- Step 2: Lubricate Oil into friction surface once a week.

**Note:** - Lubricate oil once a week.  
 - Lubricate around the lining.

**3. Instructions for clamping multiple slabs:**

- Using the Multi Slab Safeguard Sling to clamp multiple slabs at the same time (Figure 5.1).



Figure 5.1

- After the lifter lift the stone slabs out of the frame (Figure 5.2), install the Multi Slab Safeguard Sling to the lifter (Figure 5.3).

*Note: Pull down the strap and rotate the turn-knob clockwise to fix the ratchet strap clamping tightly to the slabs.*

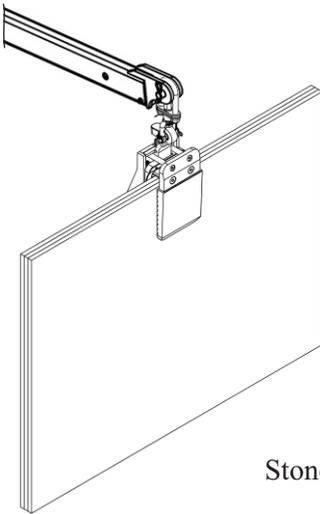


Figure 5.2

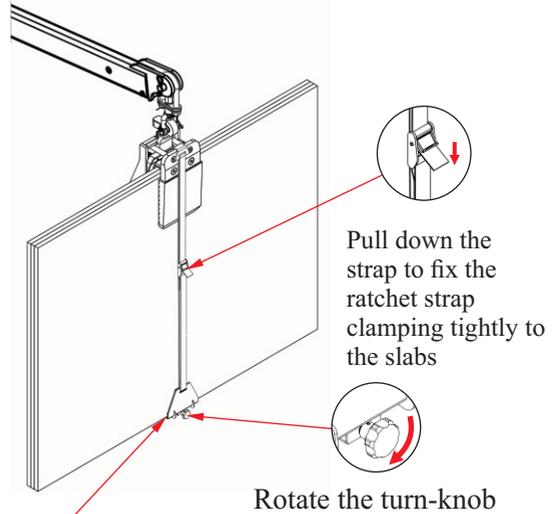
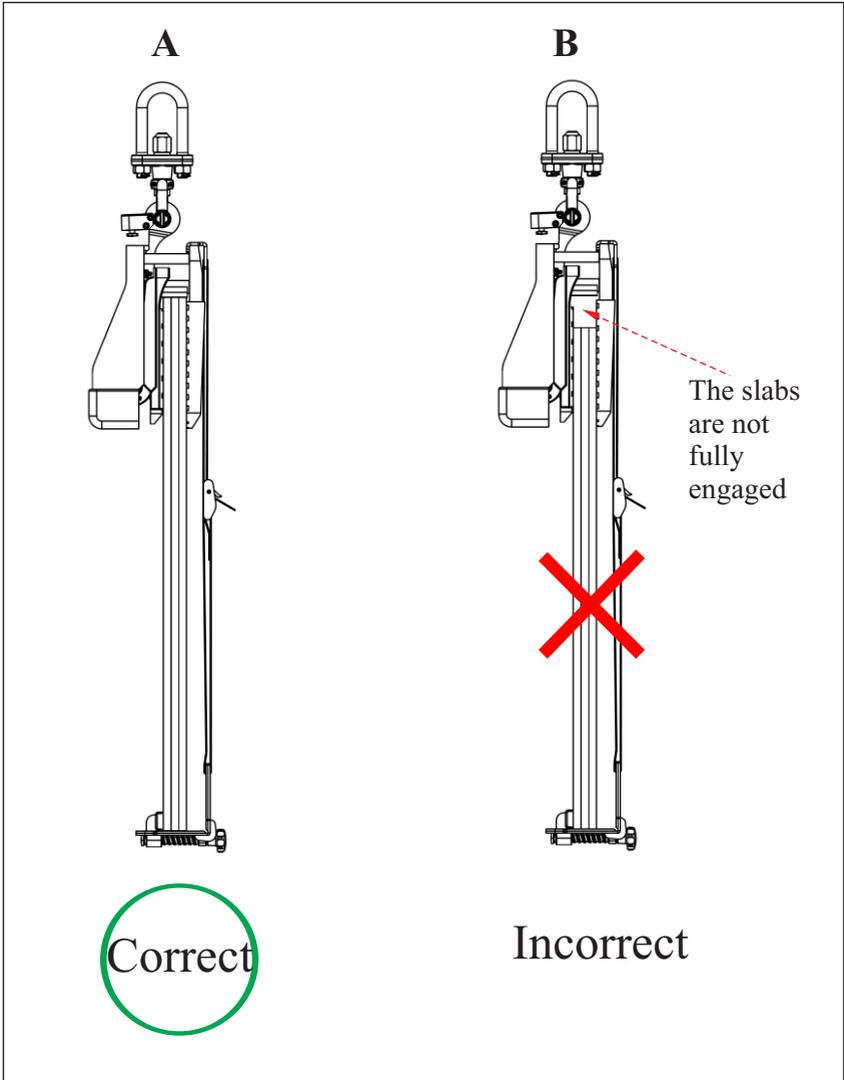


Figure 5.3

**Correct and incorrect methods of clamping multiple slabs:**



## **V. TECHNICAL PROBLEMS & SOLUTIONS:**

<b>Technical problems</b>	<b>Causes</b>	<b>Solutions</b>
Automatic locking latch does not operate	Dust and/ or rust	Lubricate, clean the locking latch
The lifting does not return to the original position.	Lifting is stuck or the spring gets distorted.	Clean the shafts, bearings or replace with a new spring.

## **VI. INSPECTION & MAINTENANCE:**

- Schedule periodic maintenance for the device, especially for the rubber pad of clamp plates, automatic locking latch.
- Always keep necessary spare parts on hand for maintenance or repair.
- Regularly check the tightening conditions of all bolts and nuts.
- Always keep the device clean and away from grease or other substances as they may reduce the effectiveness of the rubber pads and cause them lose their grip.
- Store the device in a well-ventilated place, avoid places with high heat or humidity.

## **VII. WARRANTY POLICY:**

At the time of delivery, it is necessary to inspect the **Falcon Lifter Automatic (AFL65A)** to make sure that it has not been damaged during shipment. The product at the time of dispatch is warranted to be free from defects in material or workmanship.

Claims for errors, shortages, defects, or nonconformities ascertainable upon inspection must be made in writing within eight business days from the date of product delivery. Claims not made as provided above and within the applicable time period will be barred. And no other claims will be considered.

We provide a one (1) year warranty on the **Falcon Lifter Automatic (AFL65A)** from the date of purchase.

During warranty period, we will provide the replacement parts at no charge (*Please note:* shipping and handling fees may apply).

### **Warranty coverage is void if:**

- The operator failed to comply with the instructions in the manual.
- The specifications were not followed.
- Damage was due to inadequate maintenance and inspections.
- Damage was due to improper storage and/or usage.
- Modification and repairs made to the equipment were performed by the user/operator without the manufacture's knowledge and agreement.
- Aftermarket or none genuine spare parts were used for repair installation.
- Modification and repair installations were conducted by uncertified individual.

# WARRANTY CERTIFICATE

You are kindly requested to read the following carefully.

## PERIOD

The warranty starts from the date of purchase (date on distributors invoice).

Warranty is valid for a period of twelve (12) months.

## WARRANTY

This warranty is limited only to provide replacements of the parts recognized by the Company as defective (excluding worn-outs and consumables.)

The Company is not responsible for any misuse or abuse of the product after purchase and/or caused by negligence from the content of this manual.

In an event of equipment failure to operate the machine and/or requiring technical support, operator/user is requested to contact with our Customer Support Department. Our member will inform you (operator/user) of the appropriate procedures accordingly and how to file warranty claim and advise you to your nearest approved service center.

## EXCLUSIONS

Warranty does not apply for damages or failures caused by:

Misuses, errors in transportation, incorrect handling or failing to maintain the equipment appropriately.

Use of non-genuine parts/accessories, or of incorrect specifications.



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