



**ABACO MACHINES**  
**OPERATION MANUAL**  
**STONE/STEEL/GLASS/WOODS LIFTER**  
**(ASSGWL20)**



**ABACO MACHINES (USA)**

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**APPLICABLE MODEL**  
**of this STONE/STEEL/GLASS/WOODS LIFTER:**  
**ASSGWL20**

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**Note: Please read this operation manual carefully before using the device.**

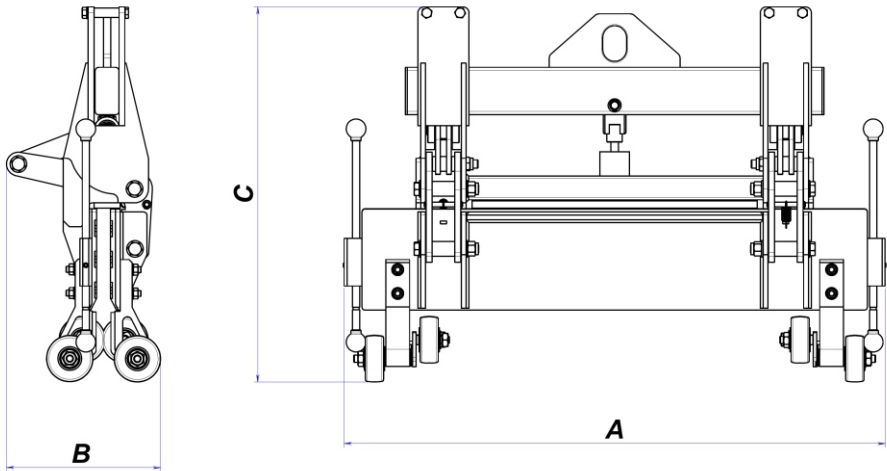
## **I. OVERVIEW:**

- Stone/Steel/Glass/Woods Lifter is designed to work with the forklift boom for lifting and moving long and narrow materials such as: stone, steel, glass, woods, etc.
- The clamping mechanism is fully automatic.
- Clamping from both sides improves clamping force and holds the lifting material more securely. The lifted material will be moved more stably and with less shaking.
- The contact surface of the material is covered with rubber pads to protect it from damage or cracks when lifting.
- In addition, there are two guide shafts to lead the material to the right position.
- Stone/Steel/Glass/Woods Lifter helps reducing labor and ensuring safety for operators.

## **II. TECHNICAL SPECIFICATIONS:**

- Stone/Steel/Glass/Woods Lifter is made of aluminum so it is light and sturdy.
- The device is designed with two lifters which distribute the liftering force evenly. The liftering force will be smaller, the better to hold materials.
- Automatic locking latch will ensure the safe operation.
- Stone/Steel/Glass/Woods Lifter has 8 wheels. The four lower wheels of the lifter protect material from touching abrasive particles on the floor surface. The four upper wheels of the lifter were designed to provide pressure on the material surface to act as a guide as the material glides into the lifter.
- The lifter shall be hooked to the specialized Swivel Shackle which make material possible to rotate 360° easily.

# 1) Dimensions:

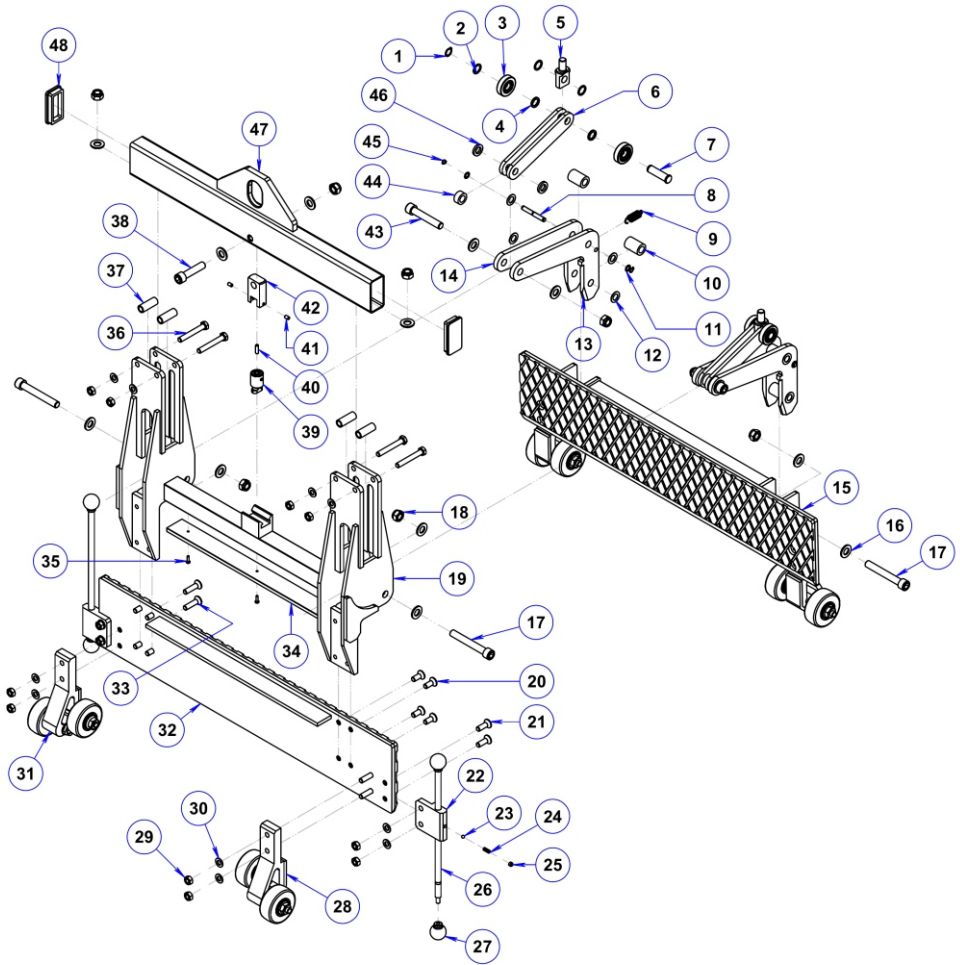


<b>DIMENSIONS IN INCH (MM)</b>		
<b>LENGTH (A)</b> inches (mm)	<b>WIDTH (B)</b> inches (mm)	<b>HEIGHT (C)</b> inches (mm)
36 <sup>5</sup> / <sub>8</sub> (930)	10 <sup>11</sup> / <sub>16</sub> (272)	15 <sup>13</sup> / <sub>16</sub> (655)
<b>GRIP RANGE</b> inches (mm)	<b>NET WEIGHT</b> lbs (kg)	<b>W.L.L**</b> lbs (kg)
<sup>3</sup> / <sub>16</sub> * to <sup>13</sup> / <sub>16</sub> (4* to 20)	64 (29)	1100 (500)

\* In case of lifting and handling thinner material with longer and taller in size, consider its rigidity and brittleness to avoid breakage.

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

## 2) Spare part list (Over view):



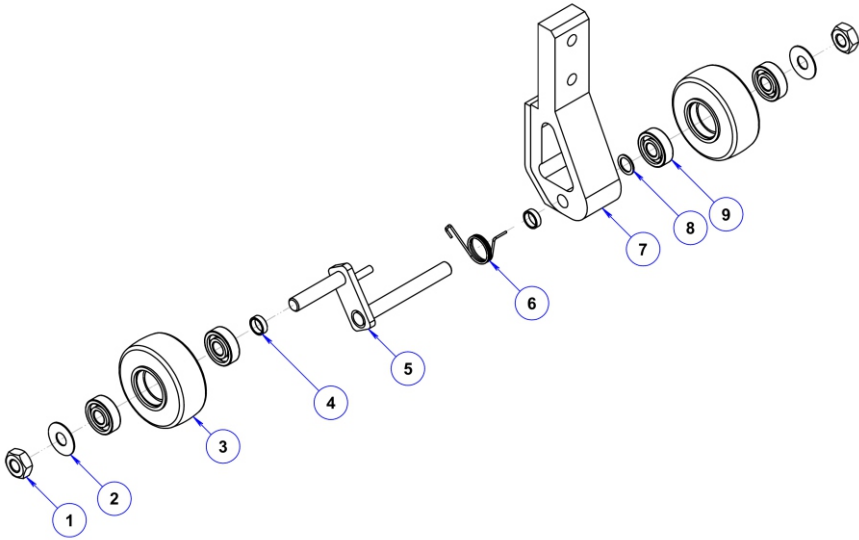
# SPARE PART LIST

<b>Pos.</b>	<b>Description</b>	<b>Code</b>	<b>Qty.</b>
01	External circlip $\varnothing 15 \times 1$	ASSGWL20-01	02
02	Brass washer $\varnothing 16 \times \varnothing 22 \times 1$	ASSGWL20-02	06
03	Roller	ASSGWL20-03	04
04	Washer $\varnothing 16 \times \varnothing 22 \times 2.5$	ASSGWL20-04	04
05	Lifting hook pad	ASSGWL20-05	02
06	Clamp arm 1	ASSGWL20-06	04
07	Pin, clamp arm	ASSGWL20-07	02
08	Pin $\varnothing 8$	ASSGWL20-08	02
09	Extension spring	ASSGWL20-09	02
10	Spacer 1	ASSGWL20-10	04
11	Aluminum washer $\varnothing 8 \times \varnothing 14 \times 0.5$	ASSGWL20-11	04
12	Brass washer $\varnothing 14 \times \varnothing 24 \times 1$	ASSGWL20-12	08
13	Lever arm 1	ASSGWL20-13	02
14	Lever arm 2	ASSGWL20-14	02
15	Clamp jaw 1	ASSGWL20-15	01
16	Washer $\varnothing 14 \times \varnothing 28 \times 2$	ASSGWL20-16	16
17	Allen bolt M14 x 100	ASSGWL20-17	04
18	Lock nut M14	ASSGWL20-18	09
19	Main body	ASSGWL20-19	01
20	Allen bolt countersunk M10 x 25	ASSGWL20-20	08
21	Allen bolt countersunk M10 x 30	ASSGWL20-21	04
22	Plate	ASSGWL20-22	02
23	Steel ball	ASSGWL20-23	02
24	Compression spring	ASSGWL20-24	02
25	Allen set screw M8 x 6	ASSGWL20-25	02

26	Guide shaft	ASSGWL20-26	02
27	Plastic ball	ASSGWL20-27	04
28	Wheel component 1	ASSGWL20-28	02
29	Lock nut M10	ASSGWL20-29	16
30	Washer $\varnothing 10 \times \varnothing 20 \times 1.5$	ASSGWL20-30	16
31	Wheel component 2	ASSGWL20-31	02
32	Clamp jaw 2	ASSGWL20-32	01
33	Allen bolt countersunk M10 x 40	ASSGWL20-33	08
34	Rubber pad	ASSGWL20-34	01
35	Screw M4 x 15	ASSGWL20-35	03
36	Bolt M10 x 70	ASSGWL20-36	04
37	Spacer 2	ASSGWL20-37	04
38	Allen bolt M14 x 60	ASSGWL20-38	01
39	Automatic, locking latch	ASSGWL20-39	01
40	Allen set screw M6 x 20	ASSGWL20-40	01
41	Allen set screw M6 x 10	ASSGWL20-41	02
42	Locking pad	ASSGWL20-42	01
43	Allen bolt M14 x 80	ASSGWL20-43	02
44	Spacer 3	ASSGWL20-44	02
45	External circlip $\varnothing 8$	ASSGWL20-45	04
46	Spacer 4	ASSGWL20-46	04
47	Lifting bar	ASSGWL20-47	01
48	Rubber cap	ASSGWL20-48	02

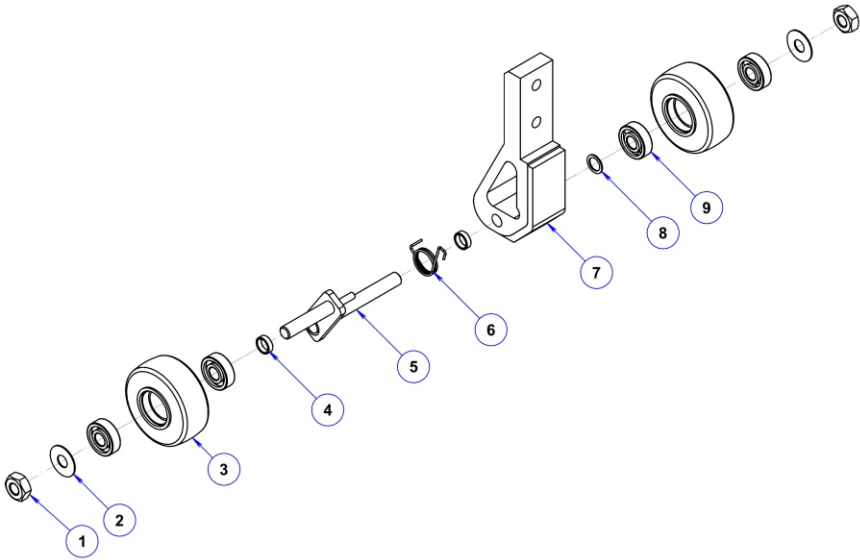


### 3) Spare part list (Wheel component 1):



Pos.	Description	Code	Qty.
01	Nut M12	ASSGWL20-28.1	2
02	Washer $\varnothing 12 \times \varnothing 30 \times 1.2$	ASSGWL20-28.2	2
03	Wheel	ASSGWL20-28.3	2
04	Bushing	ASSGWL20-28.4	2
05	Shaft, wheel	ASSGWL20-28.5	1
06	Spring 1	ASSGWL20-28.6	1
07	Bracket wheel	ASSGWL20-28.7	1
08	Washer, aluminum $\varnothing 12 \times \varnothing 18 \times 1$	ASSGWL20-28.8	1
09	Bearing	ASSGWL20-28.9	4

#### 4) Spare part list (Wheel component 2):



Pos.	Description	Code	Qty.
01	Nut M12	ASSGWL20-28.1	2
02	Washer $\varnothing 12 \times \varnothing 30 \times 1.2$	ASSGWL20-28.2	2
03	Wheel	ASSGWL20-28.3	2
04	Bushing	ASSGWL20-28.4	2
05	Shaft, wheel	ASSGWL20-28.5	1
06	Spring 2	ASSGWL20-31.6	1
07	Bracket wheel	ASSGWL20-28.7	1
08	Washer, aluminum $\varnothing 12 \times \varnothing 18 \times 1$	ASSGWL20-28.8	1
09	Bearing	ASSGWL20-28.9	4

### **III. INSTRUCTIONS FOR USE:**

#### **1. Safety Instructions :**

**WARNING: Before using the Stone/Steel/Glass/Woods Lifter, please confirm the surfaces of the lifting material to be lifted are flat, smooth, and free from dust, oil, or any kind of such harmful substances which allow slipping for lifting.**

##### **a) For Stone/Steel/Glass/Woods Lifter:**

###### **Caution:**

- Carefully consider and 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, experienced are allowed to operate this device. Safety rules and regulations must be strictly followed and respected.
- Lift up the material slowly. If the material is not balanced, lower the lifter, adjust 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 damages, not to be used until repaired or replaced.

###### **WARNING:**

- Inspect the Stone/Steel/Glass/Woods Lifter carefully and thoroughly. If the rubber pads of lifter plates are worn-out or damaged, do not use.
- This device is designed for lifting materials ranging from (4 to 20 mm). Determine the weight of the material to be lifted. Do not exceed the W.L.L. (Work Load Limit) shown on the page 2.
- All employees must stand within safety area while material are being lifted or moved.
- Check to make sure the rubber pads are free from dirt, grease and other substances that may spoil their effectiveness.
- Do not lift wet material. The grip depends on friction. Lifting wet material may cause the rubber pads to lose their grip.
- No more than one piece should be lifted at any time.

- Position the lifter at the center of the material to be lifted, so that the load is balanced.
- Make sure that the material is inserted to the full depth into the opening of the lifter.

***b) General Safety Instructions:***

**Caution:**

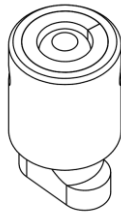
- In order to protect from any accident, it is important to follow safety rules and regulations.
- Read and comprehend the operation manual carefully before using.
- Make sure that the operation manual is always available beside the place where the lifter is used.
- Give permissions to operate Stone/Steel/Glass/Woods Lifter only to the persons who are well-trained and competent to work.
- Use appropriate PPE (Personal Protective Equipment) such as helmet, gloves, and safety boots, etc.
- Ensure that the Stone/Steel/Glass/Woods Lifter has No Damage 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 if necessary.
- Before operating this device, check the swivel shackle that nuts are not loosened and cotter and snap pins are in right position. Be aware that Swivel Shackle can be worn-out time to time. If worn-out, replace with a new one.
- Clean the lifter thoroughly after using.
- Store the lifter in a well-ventilated place, avoid places with high heat or humidity.

**WARNING:**

- Never leave your loaded Stone/Steel/Glass/Woods Lifter unsupervised.
- Never allow yourself or anybody to go under the lifting material.
- Be sure to check the lifter 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 lifter.

**c. About Automatic locking latch:**

Automatic locking system consists of a cam lock which rotates each time the device is lifted, either to lifter-on or to release the load. It is important not to allow dust to go inside, inspect and lubricate it (with machine oil) periodically to ensure it is function properly.



Automatic locking latch

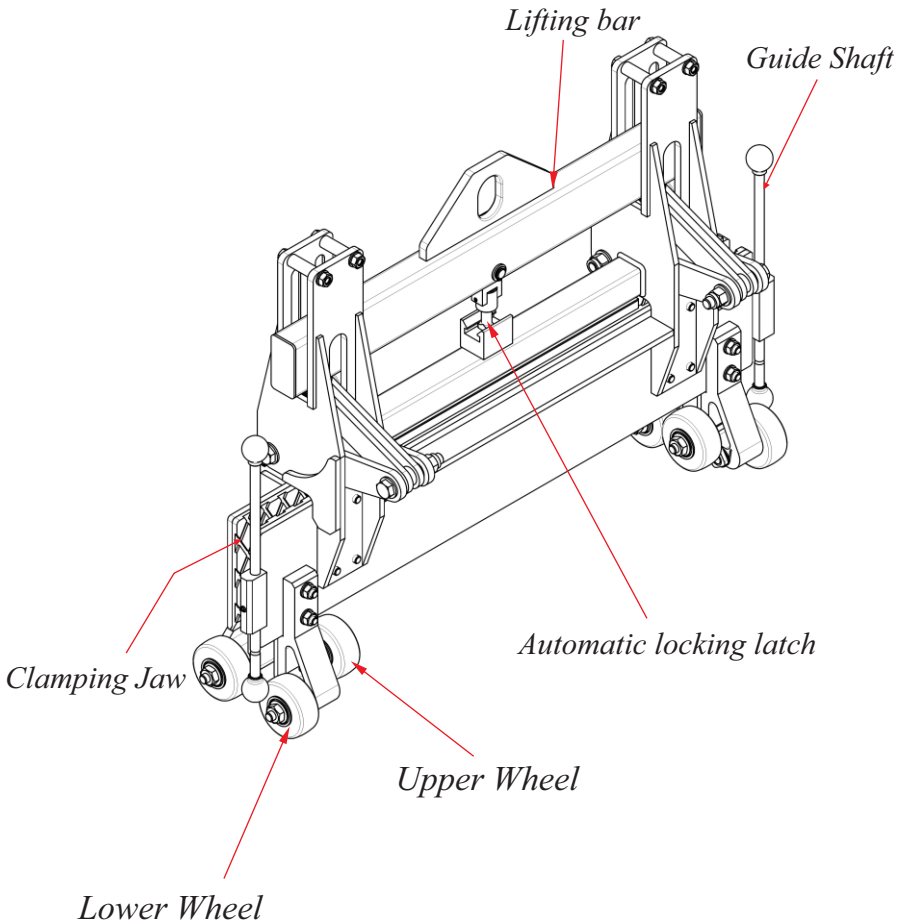
## 2. Device Usage:

Preliminary Safety Checks:

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

### **WARNING:**

- The Stone/Steel/Glass/Woods Lifter 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:**

- Hook the Stone/Steel/Glass/Woods Lifter to a forklift truck (figure 1a). (In this particular case using a forklift boom.)
- Pull down the two guide shafts and move the forklift truck toward the lifting material (figure 1b).
- Move the lifter to the lifting material up to the plastic balls touch the material slightly (figure 1c).

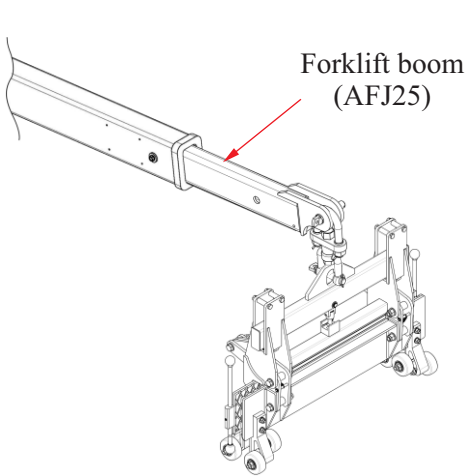


Figure 1a

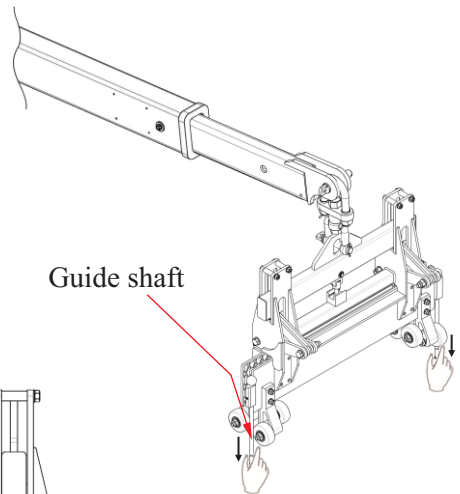
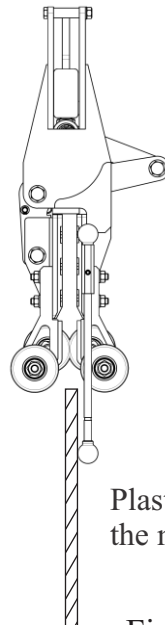


Figure 1b



Plastic ball touches  
the material

Figure 1c

## **Step 2. Grip the material:**

Lower the lifter to be perpendicular to the lifting material and place at the center of it (figure 2a).

**Note:** Position the lifter securely and at the center of the lifting material so that the load is balanced, lower the lifter until the swivel shackle is loosened. Make sure that the material is inserted in full depth to the opening of the lifter. (Refer appendix to page 15)

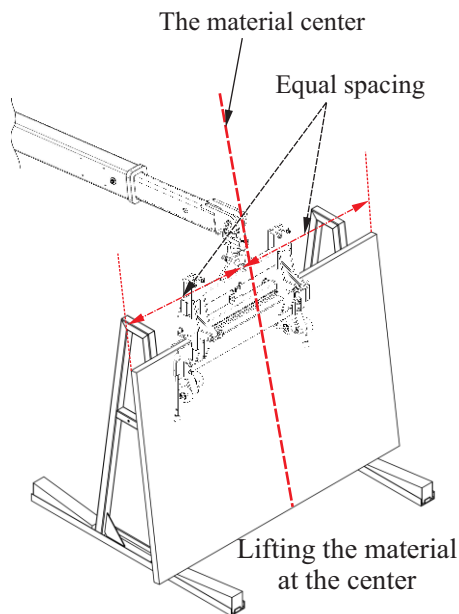


Figure 2a

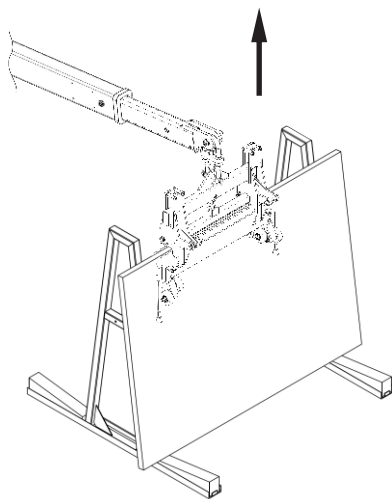


Figure 2b

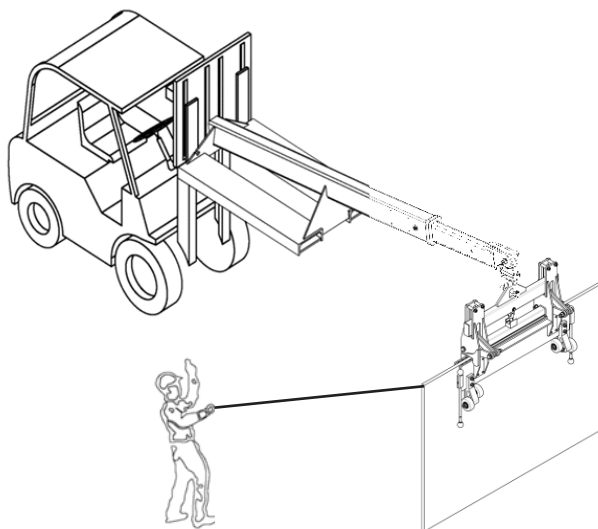
- Lift the material slowly to ensure the load is balanced. While lifting the material, the automatic locking latch will release the clamping jaws to grip the material tightly. Now the material is ready to be moved away from the stand (figure 2b).

*Note: If the clamp jaws do not grip the material firmly and securely when lifting the lifter, lower the lifter, recheck the status, and lift it up again.*



### **Step 3: Move the material:**

Move the material to the desired location.



### **Step 4: Release the material from the lifter:**

Lower the material until the lifter and Swivel Shackle are loosened, the automatic locking latch shall lock and the clamping jaws open. Then lift the lifter out of the material. (The lifter resets the locking latch automatically, open - close, or release-lock the lifters alternatively.)

### **Cautions:**

- Before lowering the material, make sure there are no obstacles to interfere with the material to be lowered.
- If the lifter did not release the material, lift the lifter up and down again to disengage the automatic locking latch.

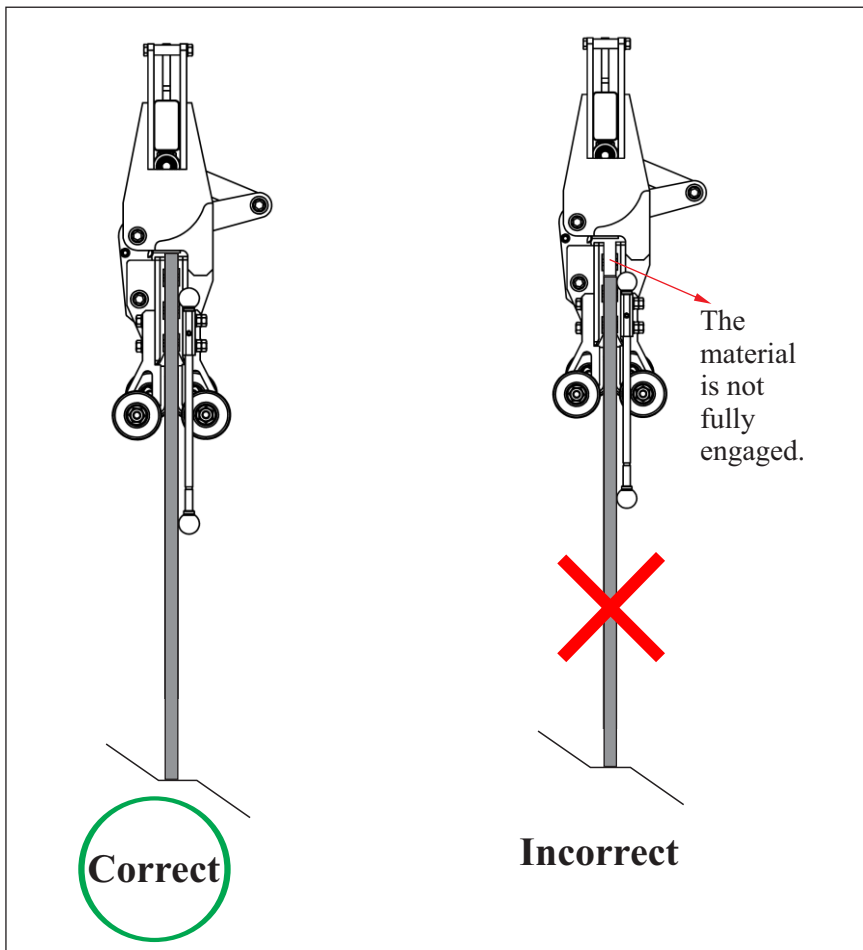
## IV. APPENDIX:

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

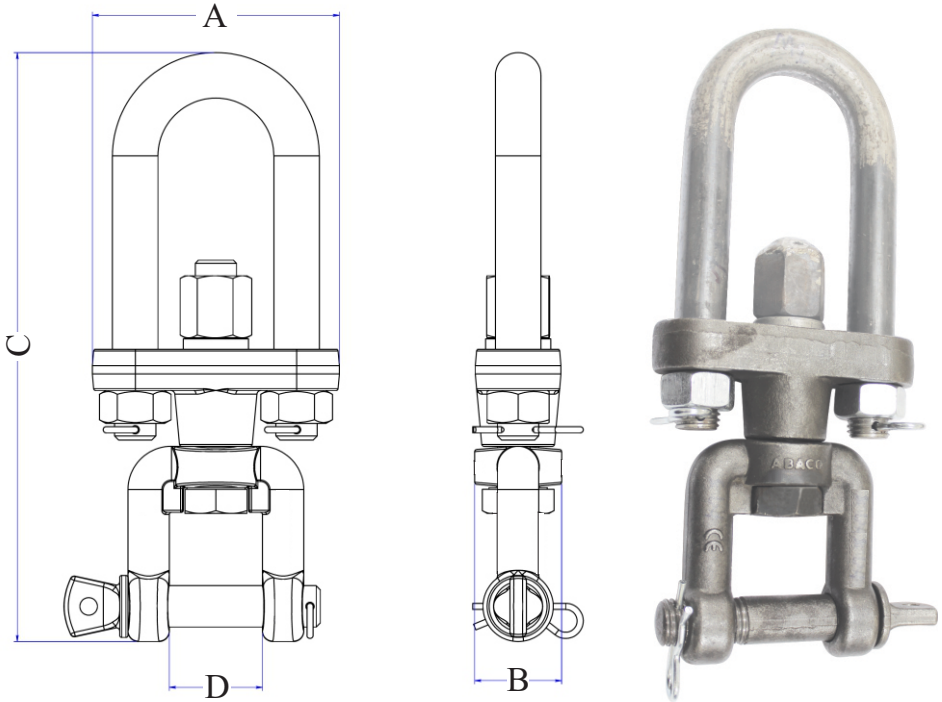
#### WARNING

- Confirm that the Stone/Steel/Glass/Woods Lifter is suitable to your requirement.
- Do not exceed the W.L.L (Work Load Limit) shown on page 2 of this manual.
- Material thickness must be within the G.R. (Grip Range – page 2).
- Inspect and replace the Swivel Shackle as needed due to wear and tear.

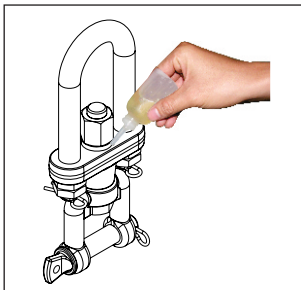
Examples: Correct and incorrect methods of liftering material.



## 2. SWIVEL SHACKLE



Length (A) inches (mm)	Width (B) inches (mm)	Height (C) inches (mm)	Distance (D) inches (mm)	Net Weight lbs (kg)
4 5/8 (118)	1 5/8 (42)	11 1/4 (285)	1 3/4 (45)	7.3 (3.3)



-Step 1: Check the wear of friction part.

-Step 2: Lubricate Oil into friction surface of the spacer once a week.

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

<b>No.</b>	<b>Technical problem</b>	<b>Cause</b>	<b>Solution</b>
1	Automatic locking latch does not operate	Dust and/ or rust	Lubricate, clean the locking latch
2	The wheels are stuck	Dust, bearings are damaged.	Clean the wheels, replace new bearings.

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

- Schedule periodical maintenance for the lifter, especially the rubber pads of clamping jaws, automatic locking latch, rollers.
- Always keep necessary spare parts on hand for maintenance or repair.
- Check and tighten the nuts and bolts on regular basis.
- Always keep the lifter 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 in a dry and cool place, avoid places with high heat or humidity.

## **VII. WARRANTY:**

At the time of delivery, it is necessary to inspect Stone/Steel/Glass/Woods Lifter to make sure that it has not been damaged during shipment. Any claims must be submitted within 8 days from the date of delivery. We provide a one (1) year warranty on the Stone/Steel/Glass/Woods Lifter from the date of purchase.

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

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

- The operator failed to comply with the instructions in the manual.
- The specifications are not followed.
- Damage is due to inadequate maintenance and inspections.
- Damage is due to improper storage and/or usage.
- Repairs were performed by the user without our permission.
- Non-original spare parts were used.

# WARRANTY CERTIFICATE

Please read the following terms and conditions carefully.

## PERIOD

The warranty starts from the date of purchase and is valid for a period of twelve (12) months.

## WARRANTY

This warranty is limited only to providing replacement parts as determined by the Company as defective (excluding worn-outs and consumable parts).

The Company is not responsible for any negligence, abuse, or improper use of the product.

In case the device failed to operate properly within the warranty period, our Customer Support Department will inform you of the appropriate method in dealing with your claim and advise you of your nearest approved service center.

## EXCLUSIONS

The warranty does not apply to damages or failures caused by:  
Incorrect use, misuse, error in transporting, mishandling  
improper or lack of regular maintenance.

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

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