



ABACO MACHINES

OPERATION MANUAL

ABACO SCISSOR CLAMP

(SC100ALM2)



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**APPLICABLE MODEL
of this SCISSOR CLAMP:**

SC100ALM2

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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.

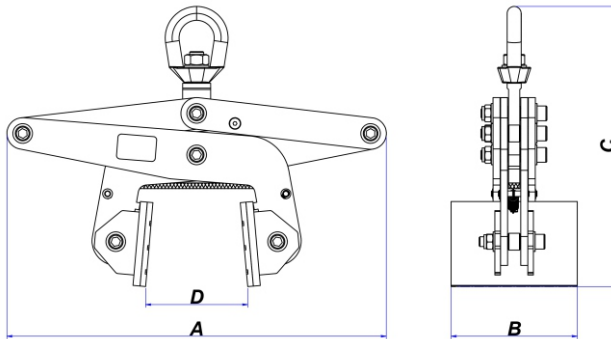
I. EQUIPMENT GENERAL INFORMATION:

- Scissor Clamp (SC100ALM2) is designed for clamping and moving the stone slab with thicknesses from $\frac{3}{8}$ to $3 \frac{15}{16}$ inches (10mm to 100mm). It is suitable for both natural stones and for artificial stones.
- The clamping mechanism is fully automatic.
- The stopper has vulcanized rubber pads to protect stone slabs.
- The clamp plates are covered by vulcanized rubber pads.
- Protects operators in safe, and increases productivity.

II. TECHNICAL SPECIFICATIONS:

- SC100ALM2 is made of steel.
- The rubber pads on surface contacting the slab protect the slab from chipping, scratching and increasing adhesion to the slab while in operation.
- It is designed to work with a hoist or a forklift boom, to clamp, lift and move stone slabs.

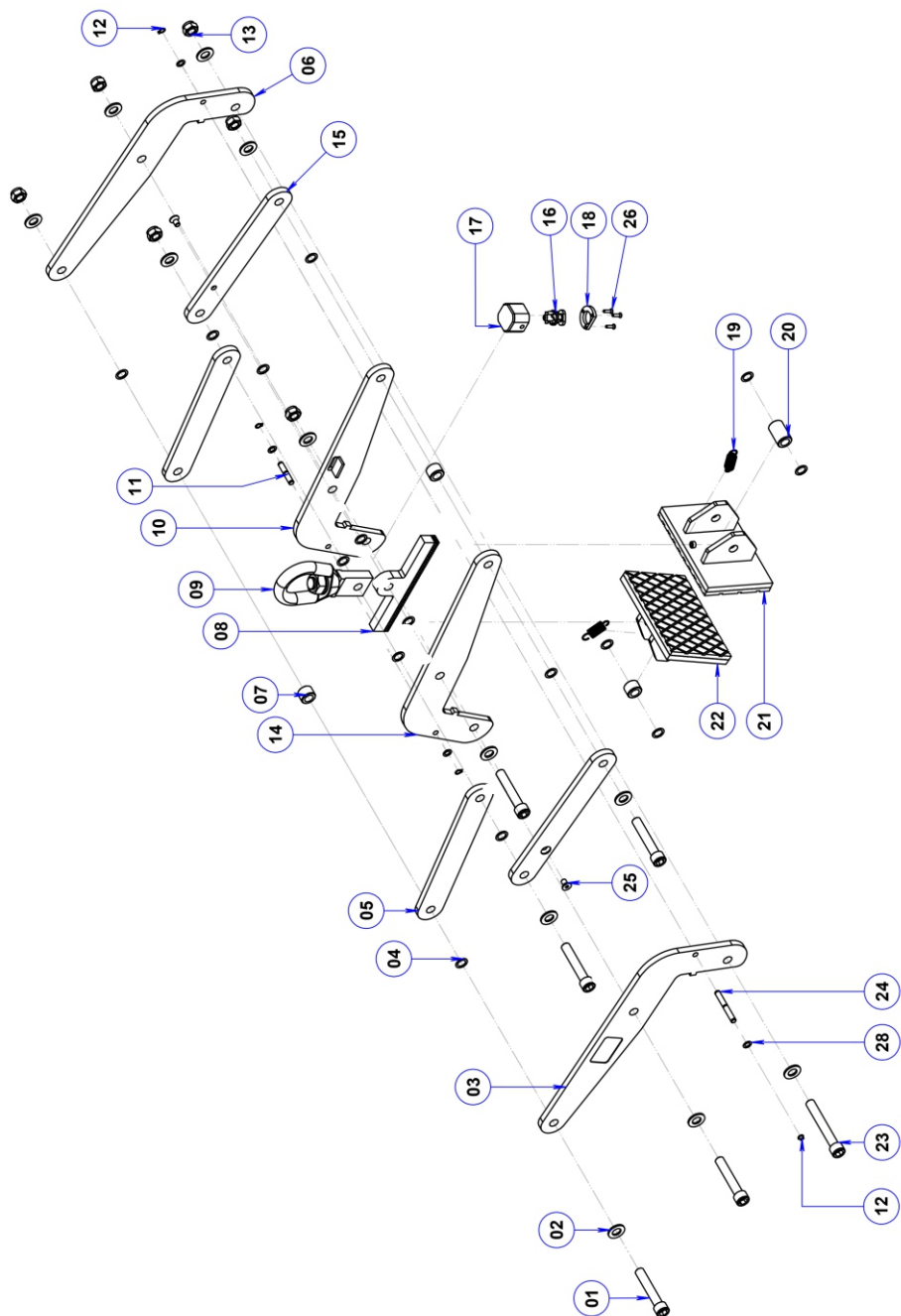
1. Dimensions:



Length (A) inches (mm)	Width (B) inches (mm)	Height (C) inches (mm)	Grip range (D) inches (mm)	*W.L.L lbs (kg)
21 $\frac{5}{16}$ (542)	7 $\frac{1}{16}$ (180)	15 $\frac{3}{4}$ (399)	$\frac{3}{8} \sim 3 \frac{15}{16}$ (10 ~ 100)	2860 (1300)

* W.L.L: Work Load Limit

2. Spare part list:



SPARE PART LIST

PART NUMBER	DESCRIPTION	QTY.
SC100ALM2-01	Hexagon socket head cap screw M14 x80	5
SC100ALM2-02	Washer Ø14	12
SC100ALM2-03	Lever arm 1	1
SC100ALM2-04	Aluminum washer Ø14	16
SC100ALM2-05	Clamp arm 1	2
SC100ALM2-06	Lever arm 2	1
SC100ALM2-07	Bushing 1	3
SC100ALM2-08	Stopper	1
SC100ALM2-09	Hook	1
SC100ALM2-10	Lever arm 3	1
SC100ALM2-11	Pin 1	1
SC100ALM2-12	Circlip Ø8	4
SC100ALM2-13	Lock nut M14	6
SC100ALM2-14	Lever arm 4	1
SC100ALM2-15	Clamp arm 2	2
SC100ALM2-16	Automatic locking latch	1
SC100ALM2-17	Base, auto lock	1
SC100ALM2-18	Bushing 2	2
SC100ALM2-19	Spring, tension	2
SC100ALM2-20	Bushing 3	1
SC100ALM2-21	Clamp plate, left	1
SC100ALM2-22	Clamp plate, right	1
SC100ALM2-23	Hexagon socket head cap screw M14 x 100	1
SC100ALM2-24	Pin 2	1

PART NUMBER	DESCRIPTION	QTY.
SC100ALM2-25	Hexagon socket countersunk head cap screw M8 x 15	2
SC100ALM2-26	Hexagon socket countersunk head cap screw M4 x 15	3
SC100ALM2-28	Aluminum washer Ø8	4

III. SAFETY INSTRUCTIONS:

1. General Warnings, Cautions and Notes:

WARNING: Before using your Scissor Clamp, 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 can cause slipping for lifting.

a. For the Scissor Clamp:

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 clamp, adjust the alignment and lift again.

Warnings:

- Inspect the clamp carefully and thoroughly. If rubber pads of clamp plates are worn-out or damaged, do not use, replace with new pads.
- This Scissor Clamp is designed for lifting slabs with thicknesses ranging from $\frac{3}{8}$ " to $3\frac{15}{16}$ " (10mm to 100mm). Determine the weight of the slab to be lifted. Do not exceed the Work Load Limit (WLL) refer to page 1.

- All employees must stand within the safe area while slabs are being lifted or moved.
- Make sure to check 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 clamp 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 clamp (refer to Appendix at page 10).
- Light colored slabs 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 clamp is used.
- Give permissions to operate the device only to persons who are well-trained and competent to work.
- Use appropriate PPE (Personal Protective Equipment) such as helmets, gloves, and safety boots, etc.
- Ensure and confirm each time before using that the Scissor Clamp has No Damage mechanically and functionally and is ready to be operated safely in the safe working conditions.

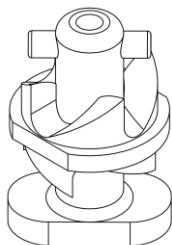
- Repairs and checks are to be made only by qualified persons.
- If any part worn-out, replace with a new one or contact with the manufacturer.
- Clean the device thoroughly after using.
- Store the clamp in a well-ventilated place, avoid places with high heat or humidity

Warnings:

- Never leave a lifted load unsupervised.
- Never allow yourself or anybody to go under the lifted slab.
- Be sure to check the clamp 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 clamp 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 Scissor Clamp is correctly installed/hung in the right manner described in this paragraph and to be operated in safe working conditions.

Step 1: Hook the Scissor Clamp to a forklift boom (Figure 1.1).

Warning: Place the device at a safe place, then crane hook or Forklift boom has to approach the device for installation. Avoid lifting the device by hands in order to avoid dropping the device unintentionally.

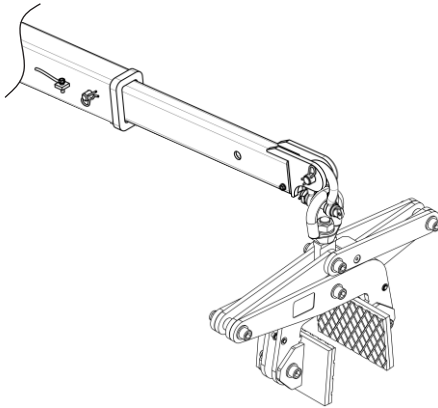


Figure 1.1

Step 2: Clamp the slab

Move the clamp over the slab to be lifted (Figure 2.1).

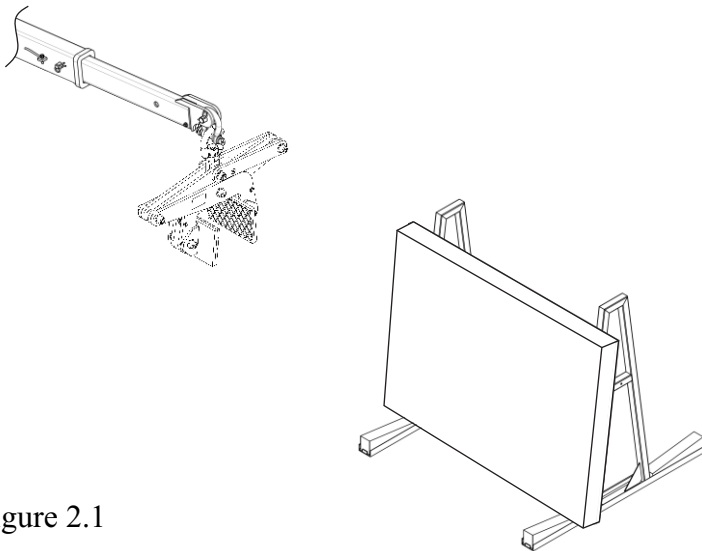


Figure 2.1

Lowering the clamp to be perpendicular to the slab and place at the center of the slab (Figure 2.2).

Note: Position the clamp 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 clamp (Refer to page 10). Lower the clamp until the swivel shackle is loosened.

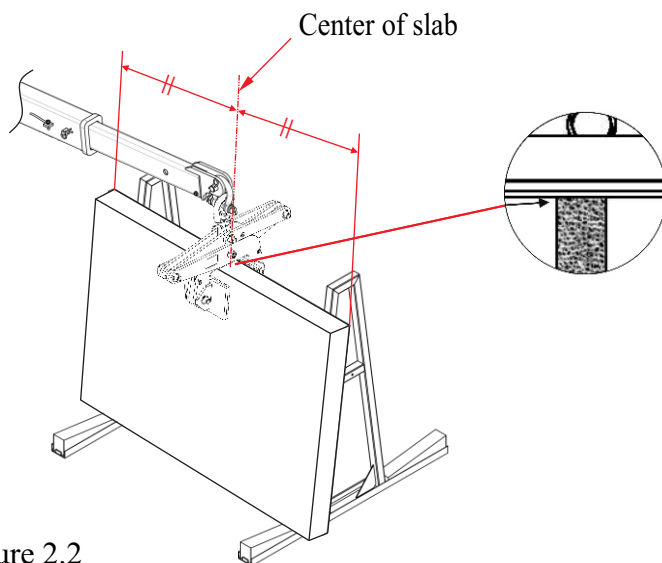


Figure 2.2

- 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: If the clamp plates do not grip the slab firmly and securely when lifting the clamp, lower the clamp, recheck the status, and lift it up again.

Step 3: Move the stone slab (Figure 3.1)

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

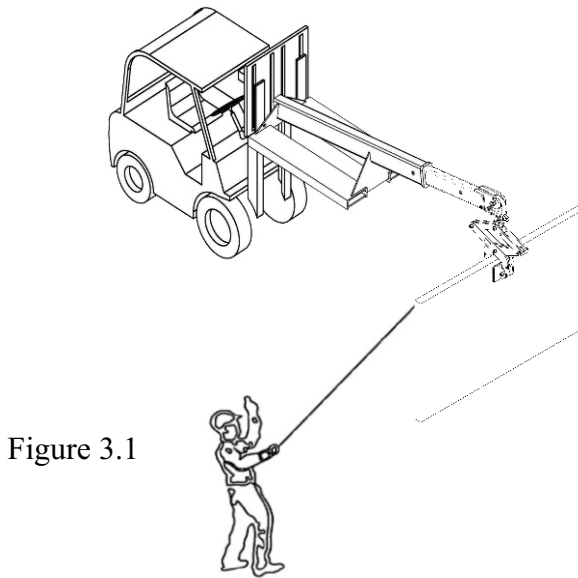


Figure 3.1

Step 4: 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:

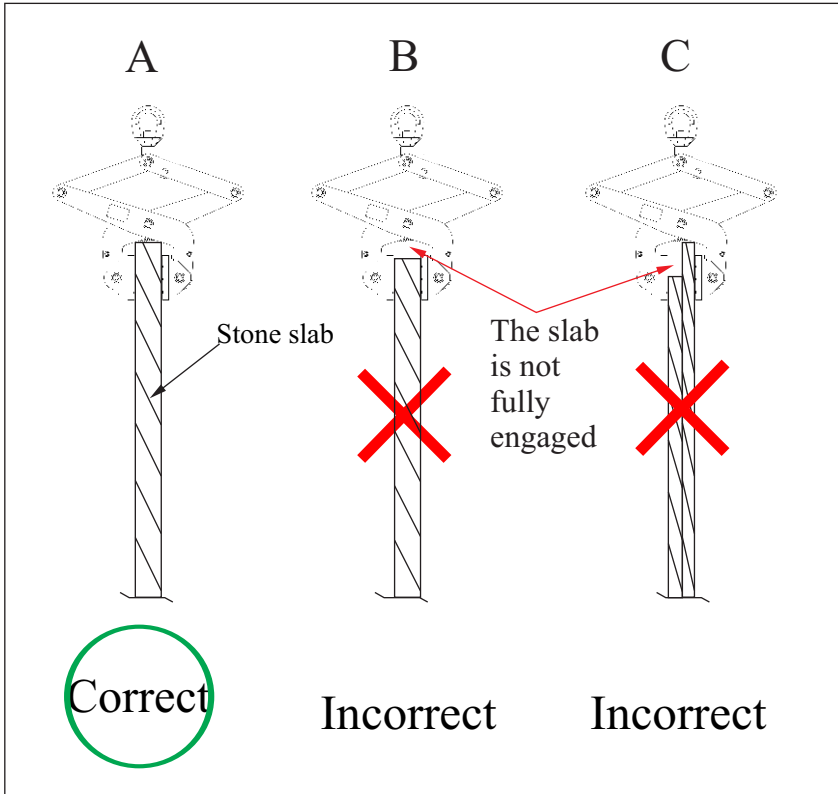
- *Before lowering the slab, make sure there are no obstacles to interfere when lowering the slab to a stand or rack.*
- *If the device still grips the stone slab, do all the steps again, move the device up and down to unlock the locking latch.*

IV. APPENDIX:

1. Correct and incorrect methods of gripping slabs:

WARNING

- Do not exceed the WLL (Work Load Limit) shown on page 1.
- Slab thickness must be within the G.R. (Grip Range – page 1).



2. How to lubricate oil to the friction:



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

V. TECHNICAL PROBLEMS AND SOLUTIONS:

Technical Problems	Causes	Solutions
Automatic locking latch does not operate	Dust and/ or rust	Lubricate, clean the locking latch
Rubber pads of clamping plates are damaged	Worn-out or deformed	Replace with new clamping plates.
It is hard to grip the stone slab	Swivel joints are rust and/ or dust	Clean the device, lubricate the swivel joints

VI. INSPECTION & MAINTENANCE:

- Schedule periodical maintenance for the clamp, especially the rubber pads of clamping plates and automatic locking latch.
- Always keep necessary spare parts on hand for maintenance or repair.
- Check and tighten all nuts and bolts on regular basis.
- Always keep the clamp clean and away from grease or other substances as they may reduce the effectiveness of the rubber pads and cause them to lose their grip.
- Store in a dry and cool place, avoid places with high heat or humidity.

VII. WARRANTY POLICY:

At the time of delivery, it is necessary to inspect the **Scissor Clamp (SC100ALM2)** to make sure that it has not been damaged during shipment. The product at the time of dispatch is warranted to be free of defects in stone slab 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 **Scissor Clamp (SC100ALM2)** 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 are not followed.
- Damage is due to inadequate maintenance and inspections.
- Damage is 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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