



ABACO MACHINES

OPERATION MANUAL

ABACO STONE CRAB LIFTER

AUTOMATIC

(ASCL50A)



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OPERATION MANUAL

APPLICABLE MODEL
of this STONE CRAB LIFTER AUTOMATIC:

ASCL50A

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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.

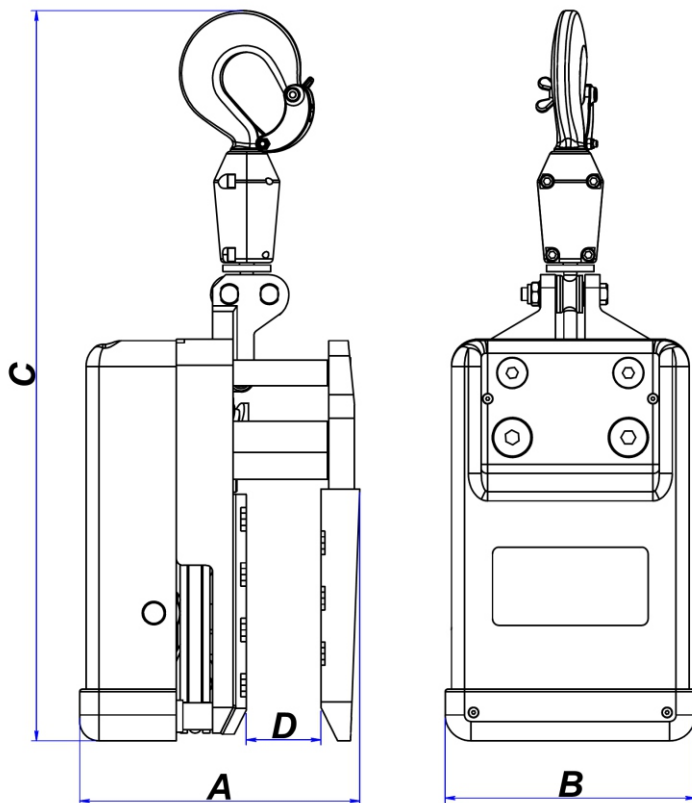
I. EQUIPMENT GENERAL INFORMATION:

- Stone Crab Lifter Automatic (ASCL50A) is designed for clamping and moving stone slabs.
- It is suitable for both natural and artificial stones in various thicknesses ranging from $\frac{9}{16}$ " (15 mm) to $1\frac{15}{16}$ " (50 mm).
- Clamp plates are covered by rubber pads to prevent from scratching or damages on the stone slab surfaces during operation and transportation.
- The construction consists of a swivel hook and a steel cable to clamp and move stone slabs easily.
- The lifter ensures safety for users and provides productivity.

II. TECHNICAL SPECIFICATIONS:

- ASCL50A is mainly made of aluminum for sturdiness, lightweight, and durable in harsh environment or even against harsh impacts.
- Stone Crab Lifter Automatic shall be used by combining with a crane (or a forklift truck) to clamp, lift, and transport stone slabs.

1. Dimensions:



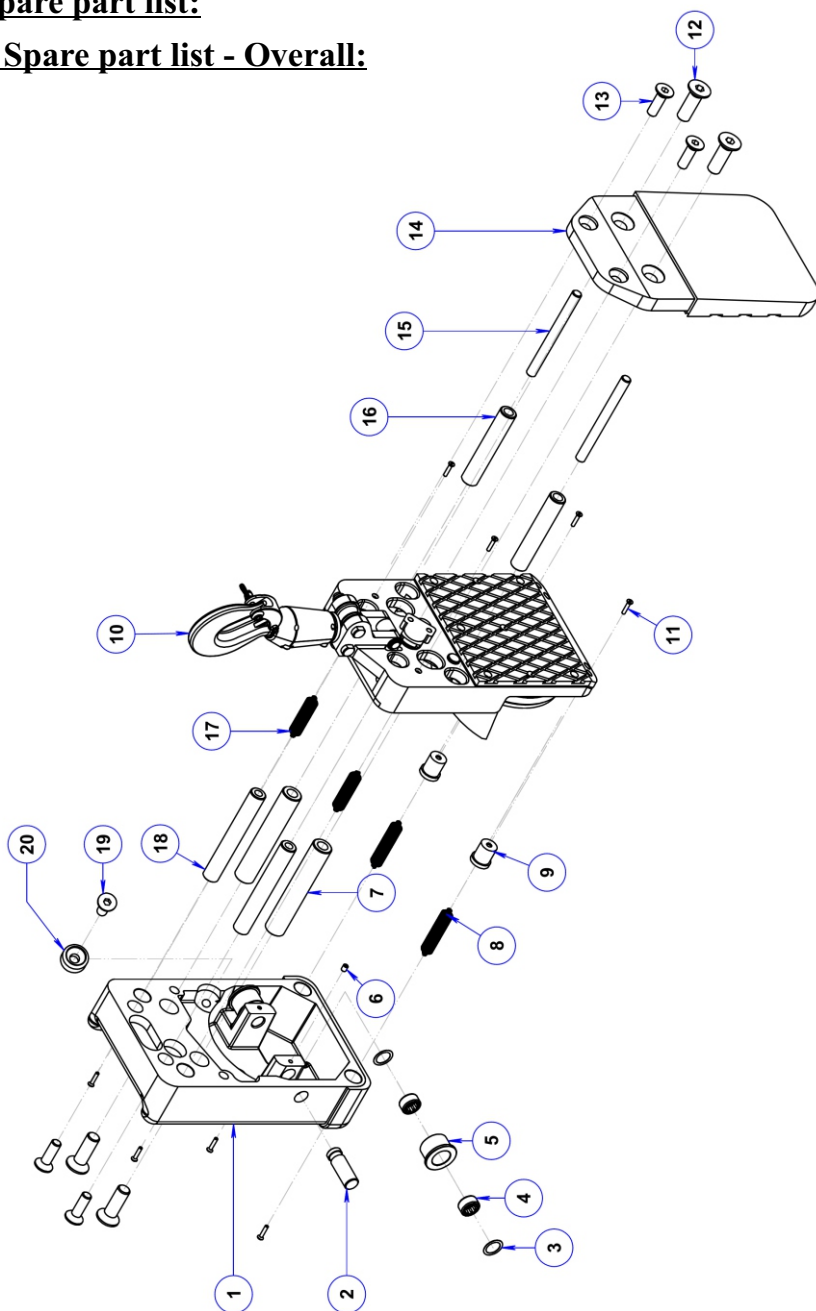
Length (A) inches (mm)	Width (B) inches (mm)	Height (C) inches (mm)
8 ½ (217)	7 ⅝ (194)	22 ¼ (565)

Grip Range (D) inches (mm)	W.L.L* lbs (kg)
9/16 ~ 1 15/16 (15 ~ 50)	2640 (1200)

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

2. Spare part list:

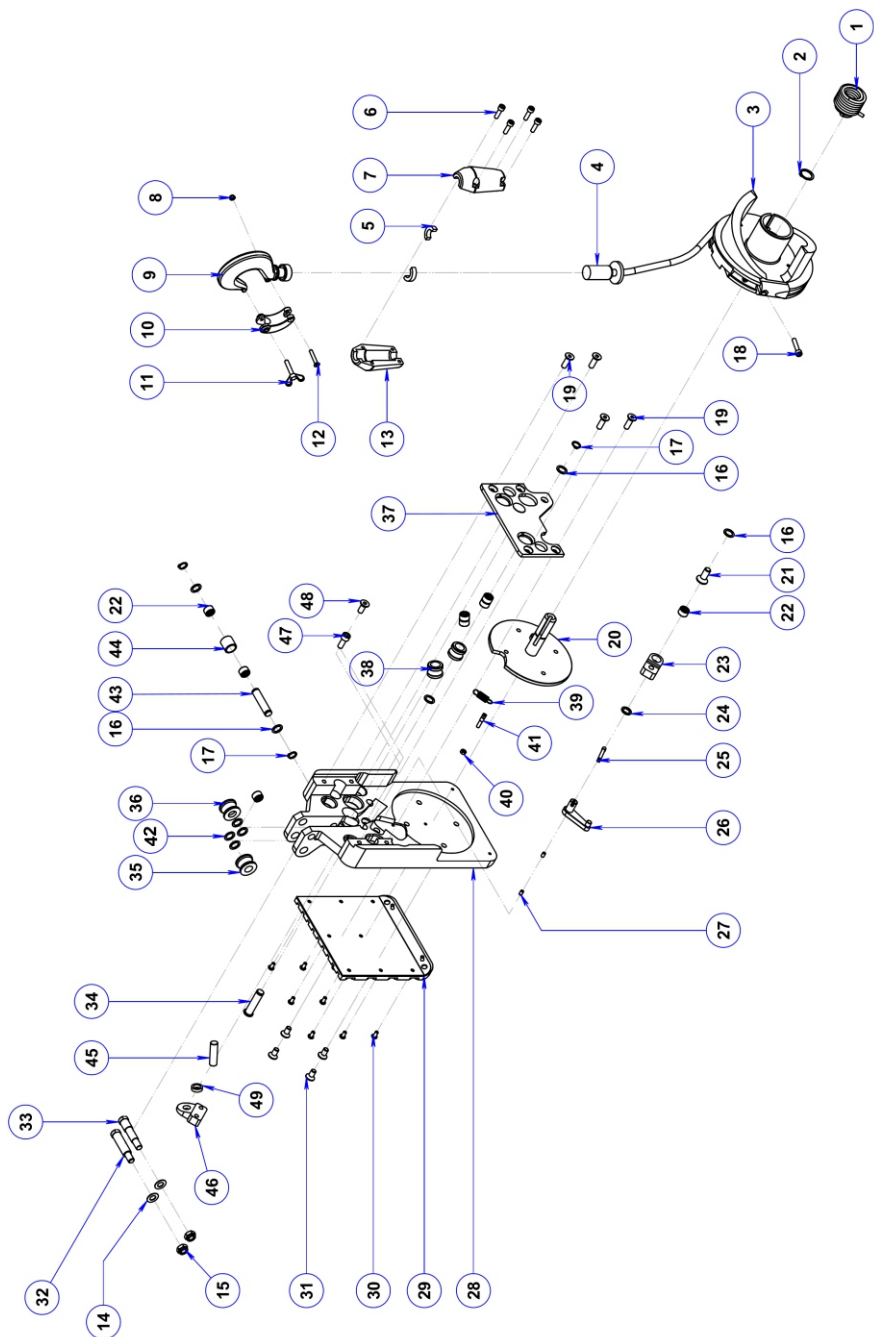
2.1. Spare part list - Overall:



SPARE PART LIST

PART NUMBER	DESCRIPTION	QTY.
ASCL50A-01	Main body	1
ASCL50A-02	Shaft	2
ASCL50A-03	Brass washer $\phi 18$	4
ASCL50A-04	Bearing 1	4
ASCL50A-05	Roller A	2
ASCL50A-06	Hexagon socket set screw M6 x 8	2
ASCL50A-07	Bottom pin	2
ASCL50A-08	Bottom extension spring	2
ASCL50A-09	Spring cover	2
ASCL50A-10	Center plate assembly	1
ASCL50A-11	Screw M4 x 20	8
ASCL50A-12	Hexagon socket countersunk head cap screw M16 x 50	4
ASCL50A-13	Hexagon socket countersunk head cap screw M12 x 40	4
ASCL50A-14	Fixed plate	1
ASCL50A-15	Stopper pin	2
ASCL50A-16	Tube	2
ASCL50A-17	Top extension spring	2
ASCL50A-18	Top pin	2
ASCL50A-19	Hexagon socket countersunk head cap screw M12 x 30	1
ASCL50A-20	Roller B	1

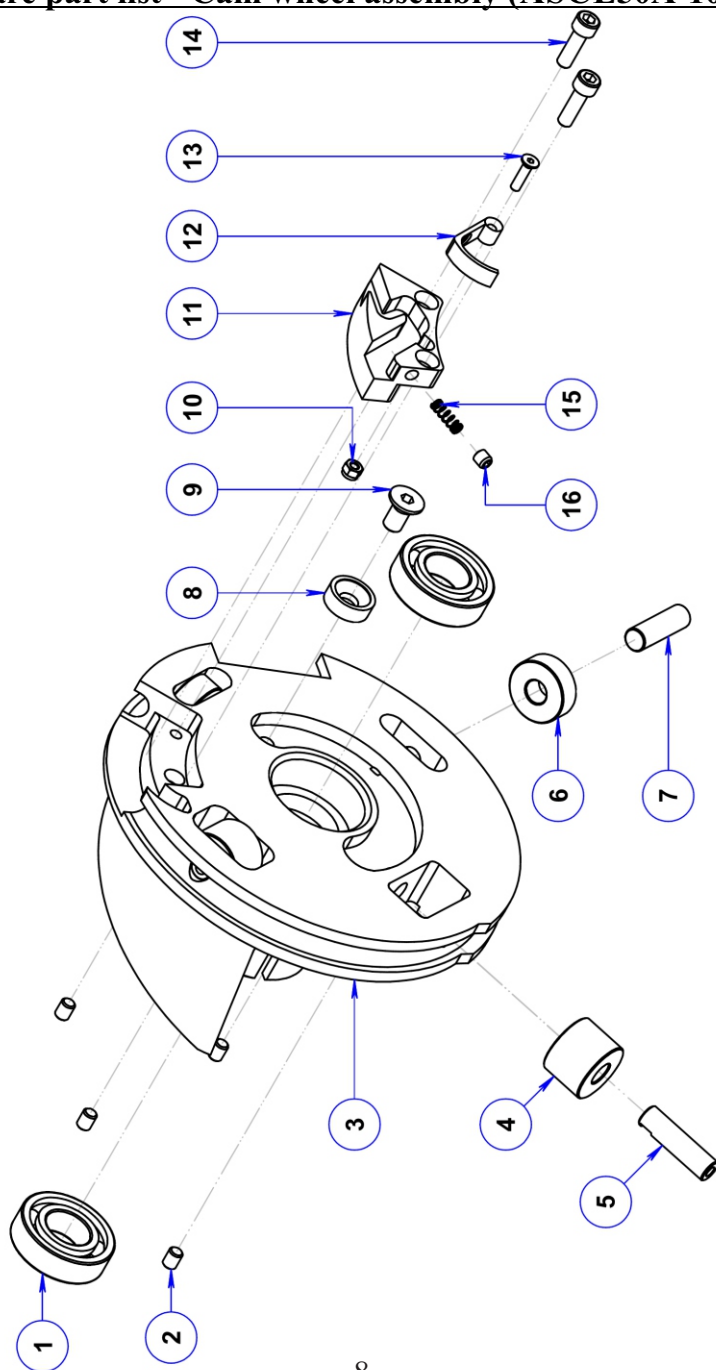
2.2. Spare part list - Center plate assembly (ASCL50A-10):



PART NUMBER	DESCRIPTION	QTY.
ASCL50A-10.1	Torsion spring	1
ASCL50A-10.2	Circlip ø20	1
ASCL50A-10.3	Cam wheel assembly	1
ASCL50A-10.4	Steel cable	1
ASCL50A-10.5	Double-lip seal	2
ASCL50A-10.6	Hexagon socket head cap screw M6 x 20	4
ASCL50A-10.7	Swivel housing A	1
ASCL50A-10.8	Lock nut M5	1
ASCL50A-10.9	Swivel hook	1
ASCL50A-10.10	Stopper hook	1
ASCL50A-10.11	Wing bolt M6 x 30	1
ASCL50A-10.12	Hexagon socket countersunk head cap screw M5 x 30	1
ASCL50A-10.13	Swivel housing B	1
ASCL50A-10.14	Washer ø10	2
ASCL50A-10.15	Lock nut M10	2
ASCL50A-10.16	Brass washer ø12	6
ASCL50A-10.17	Circlip ø12	3
ASCL50A-10.18	Hexagon socket countersunk head cap screw M8 x 25	4
ASCL50A-10.19	Hexagon socket head cap screw M6 x 30	1
ASCL50A-10.20	Shaft, cam wheel	1
ASCL50A-10.21	Hexagon socket countersunk head cap screw M10 x 25	1
ASCL50A-10.22	Bearing 2	8
ASCL50A-10.23	Base, lock latch	1
ASCL50A-10.24	Bushing, latch	1

ASCL50A-10.25	Pin, latch	1
ASCL50A-10.26	Lock, latch	1
ASCL50A-10.27	Hexagon socket set screw M5 x 8	2
ASCL50A-10.28	Center plate	1
ASCL50A-10.29	Clamp plate	1
ASCL50A-10.30	Hexagon socket button head cap screw M5 x 10	10
ASCL50A-10.31	Hexagon socket countersunk head cap screw M8 x 16	4
ASCL50A-10.32	Shaft, pulley 1	1
ASCL50A-10.33	Shaft, pulley 2	1
ASCL50A-10.34	Shaft, pulley 3	1
ASCL50A-10.35	Pulley 1	1
ASCL50A-10.36	Pulley 2	1
ASCL50A-10.37	Sub plate	1
ASCL50A-10.38	Pulley 3	2
ASCL50A-10.39	Tension spring	1
ASCL50A-10.40	Nut M5	1
ASCL50A-10.41	Spring pin	1
ASCL50A-10.42	Brass washer Ø14	3
ASCL50A-10.43	Shaft, pulley 4	1
ASCL50A-10.44	Pulley 4	1
ASCL50A-10.45	Shaft, skewed roller	1
ASCL50A-10.46	Pad, skewed roller	1
ASCL50A-10.47	Hexagon socket head cap screw M8 x 20	1
ASCL50A-10.48	Hexagon socket countersunk head cap screw M8 x 20	1
ASCL50A-10.49	Bushing, pulley	1

2.3. Spare part list - Cam wheel assembly (ASCL50A-10.3):



SPARE PART LIST

PART NUMBER	DESCRIPTION	QTY.
ASCL50A-10.3.1	Bearing 3	2
ASCL50A-06	Hexagon socket set screw M6 x 8	4
ASCL50A-10.3.3	Pulley, cam	1
ASCL50A-10.3.4	Roller 1	2
ASCL50A-10.3.5	Shaft, roller 1	2
ASCL50A-10.3.6	Roller 2	2
ASCL50A-10.3.7	Shaft, roller 2	2
ASCL50A-10.3.8	Bushing	1
ASCL50A-10.3.1	Hexagon socket countersunk head cap screw M8 x 16	1
ASCL50A-10.3.10	Lock nut M4	1
ASCL50A-10.3.11	Pad, lock latch	1
ASCL50A-10.3.12	Latch, pad lock	1
ASCL50A-10.3.13	Hexagon socket countersunk head cap screw M4 x 16	1
ASCL50A-10.6	Hexagon socket head cap screw M6 x 20	2
ASCL50A-10.3.15	Compression spring	1
ASCL50A-10.3.16	Hexagon socket set screw M6 x 6	1

III. SAFETY INSTRUCTIONS:

1. General Warnings, Cautions and Notes:

WARNING: Before using your Stone Crab Lifter Automatic, 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 when lifting.

a. For the Stone Crab Lifter Automatic:

Cautions:

- Follow all the safety regulations and applicable laws in your region for the operations.
- It is strongly recommended that only employees who are highly trained or experienced are allowed to operate this device. Safety rules and regulations must be strictly respected and followed.
- Lift up the slab slowly. If the slab is not balanced, lower the lifter, adjust the alignment and lift again.

WARNINGS:

- Inspect the lifter carefully and thoroughly. If the rubber pads of clamp plates are worn-out or damaged, do not use.
- This Stone Crab Lifter Automatic is designed for lifting slabs with thickness ranging from $\frac{9}{16}$ " to $1\frac{15}{16}$ " (15 to 50 mm). Determine the weight of the slab to be lifted. Do not exceed the Work Load Limit (WLL). Refer to 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 (refer to Appendix at page 17).

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 the device 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 Stone Crab 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.
- Clean the device thoroughly after using.
- Store the lifter in a well-ventilated place, and avoid places with high heat or humidity.

Warnings:

- Never leave a lifted load unsupervised.
- Never allow yourself or anybody to go under lifted slabs.
- 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 for your safe operations.

2. Device usage:

Preliminary Safety Checks:

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

WARNING: The Stone Crab Lifter Automatic is correctly installed/hung in the right manner described in this paragraph and to be operated in safe working conditions.

Step 1: Hook the Stone Crab Lifter Automatic to a forklift boom or to a crane hook (Figure 1.1).

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

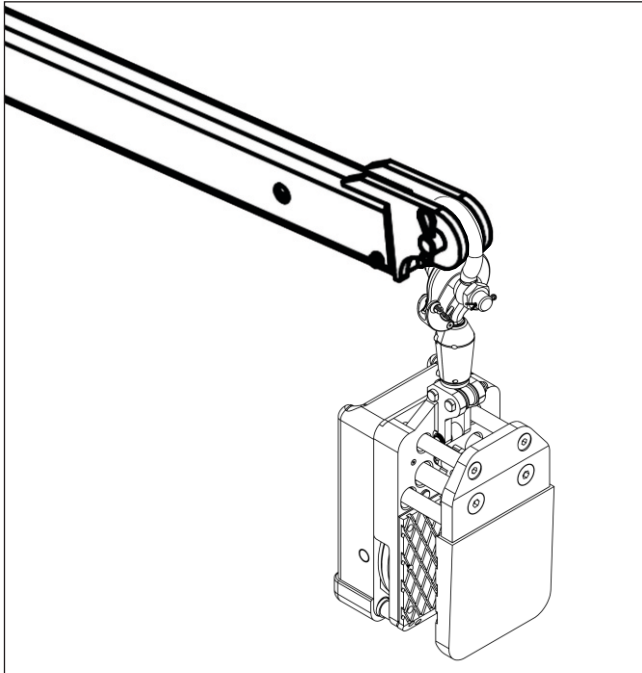


Figure 1.1

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

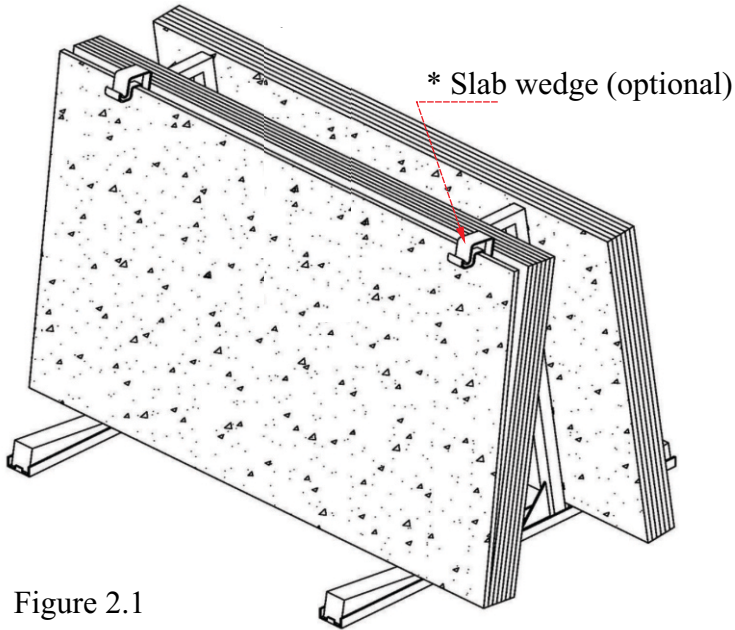


Figure 2.1

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 page 17). Lower the lifter until the shackle is disengaged.

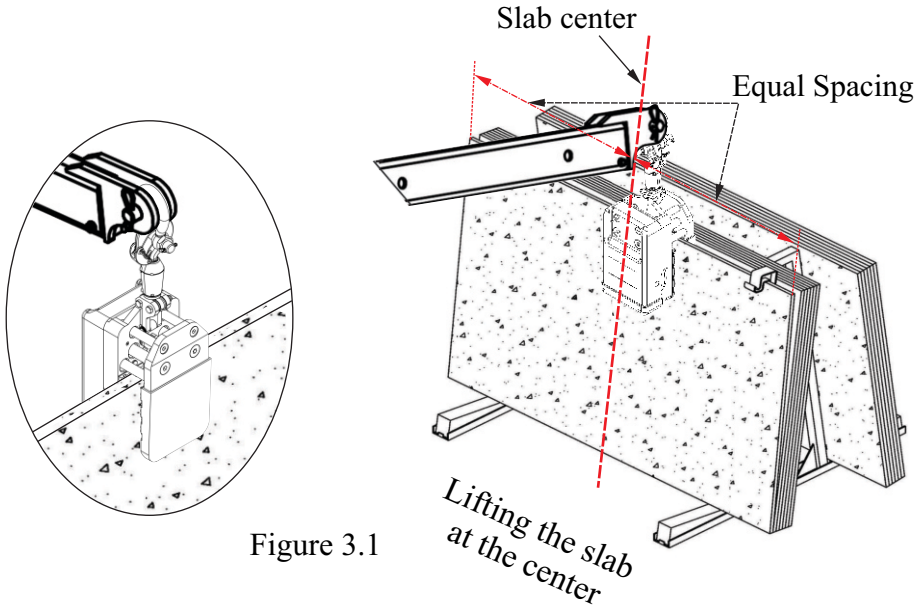


Figure 3.1

- Lift the slab slowly to ensure the weight balance. During lifting, the automatic locking latch system helps keeping the clamping plates closed tightly to grip the 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, lower the lifter, recheck the status, and lift it up again.*

Step 4: Move the slab to the desired location (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 lifted slabs.*

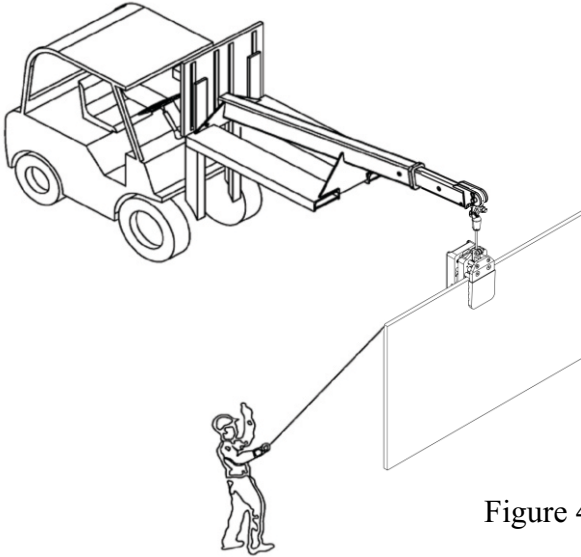


Figure 4.1

Step 5: Remove the lifter out of the slab.

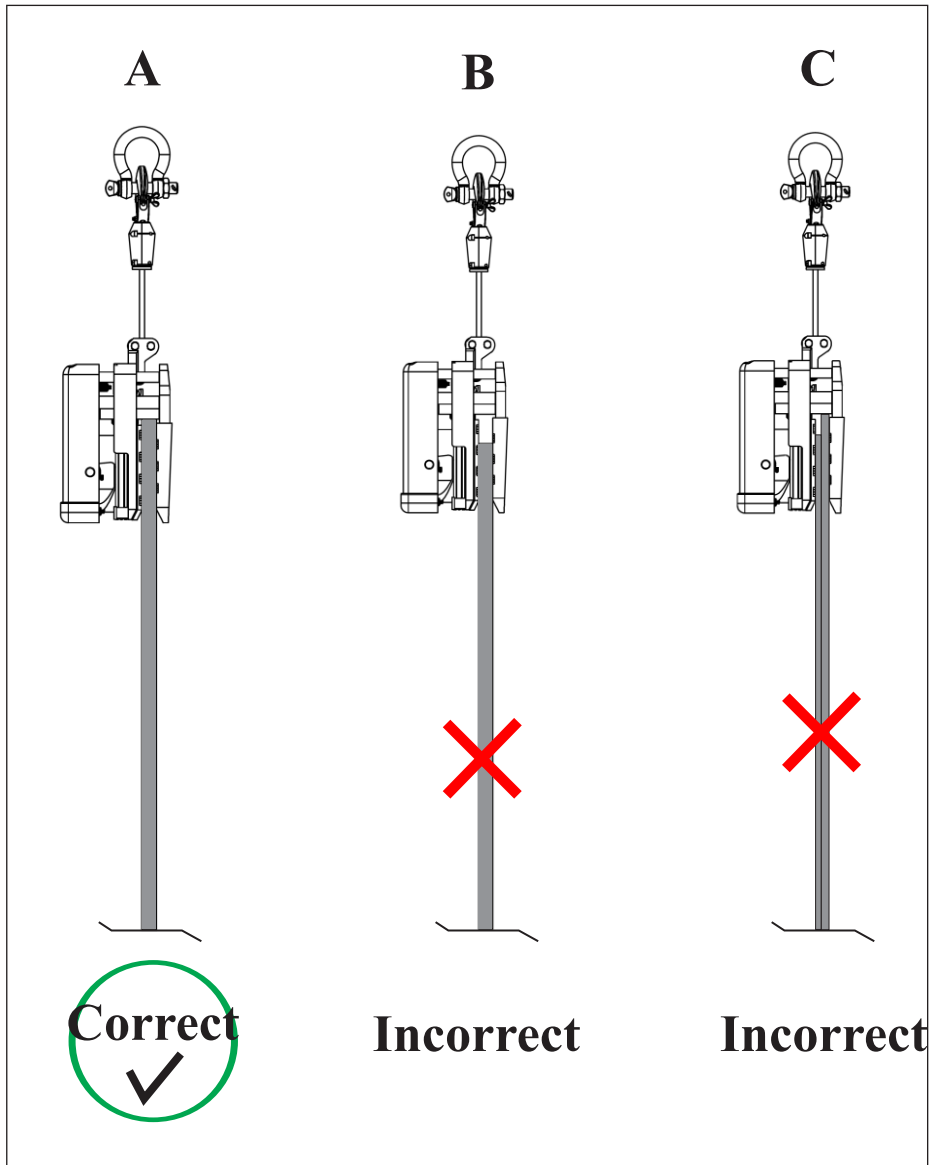
Lower the lifter slowly until the lifter and the hook are released, the automatic locking latch will lock the cam wheel automatically to keep the clamp plates open to release the slab. Then move the lifter away from the slab.

Cautions:

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

IV. APPENDIX:

1. Correct and incorrect methods of clamping slabs:



V. TECHNICAL PROBLEMS & SOLUTIONS:

Technical Problems	Causes	Solutions
Automatic locking latch does not operate	Dust and/or rust on rotary joint, rollers makes the automatic locking latch does not return to the original position	Lubricate oil, clean the locking latch
The steel cable is stuck and does not return to the original position	Spring is worn out, the steel cable is rusted so the cam wheel does not rotate to the original position	Clean the device, lubricate oil, or replace with new parts

VI. INSPECTION & MAINTENANCE:

- Schedule periodic maintenance for the lifter, especially for the rubber pad of clamp plates, automatic locking latch and cam pulley.
- Always keep necessary spare parts on hand for maintenance or repair.
- Regularly check the tightening conditions of all bolts and nuts.
- 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 grips.
- Store the lifter 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 **Stone Crab Lifter Automatic (ASCL50A)** 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 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 **Stone Crab Lifter Automatic (ASCL50A)** 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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