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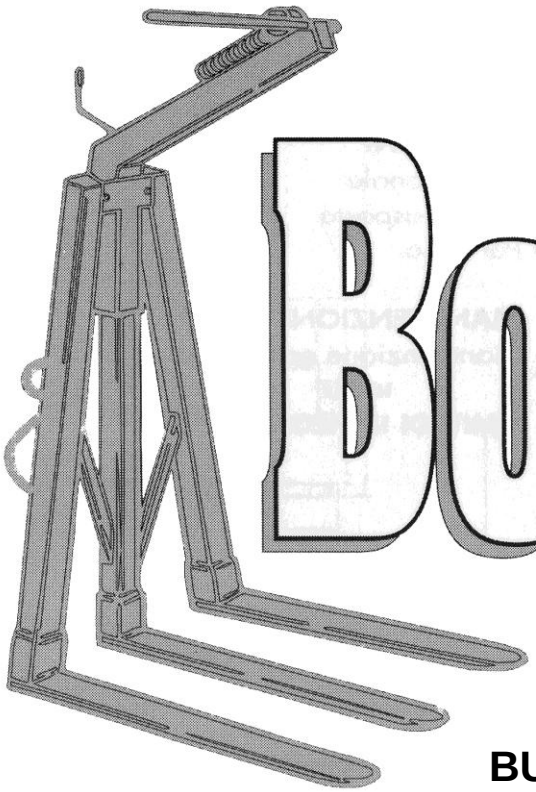

Boscaro

PATENTED
EQUIPMENT FOR THE
BUILDING INDUSTRY

USER AND MAINTENANCE MANUAL

SECONDARY POSITIVE HOLD DEVICE ON FORKS
(CAGE)

This user and maintenance manual was drafted according to the Standard **ISO 12100-2:2009.**
It complies with the Machinery Directive **2006/42/EC.**
Complies with requirements in Standard **EN 13155:2009 type C.**

Reference standards:
EN 1263-1:2003 Safety nets – Safety requirements, test methods

- ISO International standard
- EN European standard

- CEN European standardisation committee
- ISO International standardisation organisation

In compliance with common CEN/CENELEC regulations, the national standardisation bodies of the following countries must comply with the European standards:
Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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Protective cage to transport loads on forks

Introduction

In compliance with accident prevention standards, the company BOSCARO S.r.l. has drafted this instructions booklet to inform users on the most correct use of protective cages for loads.
We therefore recommend that before using the device, read and comply with all the instructions.
For further load situations not covered in this booklet, comply with common accident prevention standards.

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1. USE AND CONSERVATION OF USER AND MAINTENANCE MANUAL

- The user and maintenance manual is for those responsible for installation and maintenance and all user operators during functioning of the device, **especially** the parts relevant to **safety** in the workplace.
- The information contained in the manual is used to indicate the correct use of the protective device, according to the design and manufacturing purposes planned.
- Information is also provided on use, movement, maintenance and servicing, all based on the limitations set by the manufacturer in the manual.
- The user and maintenance manual is an integral part of the equipment and should be conserved until its disposal. The manual should be conserved in a protected place, near the equipment, and easily available for consultation.
- If the manual is damaged or lost, the user must request a copy from the manufacturer.
- The manufacturer reserves the right to make changes to the device and the manuals, without updating previous editions.
- The user can request information and updates which, when issued, become an integral part of the user manual.
- In case of terminating the protection device, it must be terminated with this manual, as specified in the Directive 2006/42/EC.

1.1. Cases where manufacturer declines responsibility

The manufacturer declines all responsibility due to:

- Incorrect use of equipment or its use by staff untrained for professional use;
- Use non-compliant with specific standard;
- Incorrect installation;
- Serious lack of planned maintenance and servicing;
- Changes, intervention or handling of any type performed by unauthorised staff.

The manufacturing company declines all responsibility when the protective cages for loads are not used in complete compliance with safety standards.

2. DESCRIPTION OF PROTECTIVE CAGE FOR LOADS ON FORKS

As we know, one of the biggest problems, in safety terms on a building site is lifting blocks or other materials for building use to heights without risking the operator's safety while working on the load or in its vicinity.

Standard EN 13155:2009 (Lifting equipment – Safety – Mobile equipment to hold load) states:

- 5.2.5.3 Lifting forks for loose material (for example blocks and tiles) for building site use must have a secondary positive hold device (for example net or cage).

  The secondary positive hold device must prevent the complete load being released or any loose part of the load.

  To move loose materials (for example blocks and tiles) the secondary positive hold device (for example net or cage) must not have lateral or bottom openings over 50 mm.
- 5.2.5.4 The lifting forks on the secondary positive hold device requested in point 5.2.5.3 must be capable of holding the evenly distributed load equal to 50% of the maximum operating load in all four horizontal directions.

When manufacturing the equipment, **absolute operational safety** (pursuant to Standard EN 13155:2009) was taken into consideration, as well as ease of use and optimal functionality in any operational context.

Other important scopes include:

- Manufacture of a metal cage whose structure enables dimensions and resistance adequate for operational requirements;
- Manufacture of a metal cage with optimal integral functionality with other equipment to move blocks or similar materials;
- Manufacture of a metal cage with a simple structure, built with competitive costs compared to other safety devices;
- Manufacture of a metal cage reproduced using known technology.

In practice, it is proven that this cage provides a solution for the task and purposes for which it is proposed.

The cages to protect loads are equipment used to lift any type of blocks or other materials in general to heights, placed on pallets on not.

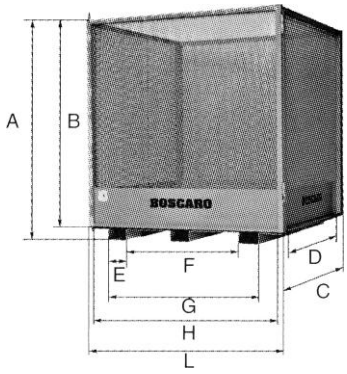
2.1. Features

The cages to protect loads lifted to heights, such as blocks or similar materials for building use, includes a flat metal surface that supports vertical walls, also in metal, to close the sides of the cage. One of these walls can be opened and enables movement to load/unload the material, while the others have the same shape, but are substantially fixed to the surface.

The surface is shaped underneath with compartments to enable insertion of the lifting fork elements. Corresponding to these compartments, the base has borders to enable the vertical supports of the fork to lodge without interfering with the closure trajectory of the opening wall.

One of the walls is composed of and built using two elements. The first is a low element fastened to the surface and a second upper element, hinged horizontally to the first, to provide unloading access for the material loaded, or loading in the case of restructuring.

All the walls have grids except for a bottom strip manufactured using a full plate.



2.2. Dimensions

Mesh dimension **15x20 mm.**
Thread dimension **1.5 mm.**

ART. CODE	CAPACITY kg	DIMENSIONS mm A	B	C	D	E	F	G	H	L	WEIGHT Kg
CST	*	1260	1200	1200	1140	120	515	745	1340	1400	135

* The fork used for lifting must be adequate for the weight of the load plus the weight of the protective cage. (For example the weight of the material 1000 Kg + weight of bin 135 Kg - use a fork with capacity over 1135 Kg – (e.g. mod. **MBA-15**)

3. USE CONDITIONS

The secondary positive hold device is used to protect loads resting on lifting forks applied to cranes. The capacity refers to the lifting fork capacity.

Ensure the material to move and the metal cage to lift blocks to heights has a weight that falls within the capacity indicated on the identification plate of the fork and, obviously, that the material and the equipment fall within the capacity of the crane.

Do not use the protective cage on loads transported on lifting forks before having clearly understood the indications in this manual.

This equipment is used, combined with the lifting forks, as a secondary positive hold device.

Attention: to use the lifting forks, see the specific "User and Maintenance" manual.

4. GENERAL SAFETY SPECIFICATIONS

- Operators must use IPDs (Individual Protection Devices) made available to them and in compliance with the information and training they have received.
- Individual contracting companies will proceed to inform, train and qualify their employees (crane operators and those loading and unloading) on the correct actions to take when lifting and moving loads to heights. It being understood that employees such as crane operators must be trained, pursuant to Leg. Decree 81/08.
- It is necessary to choose equipment compatible with own machinery. The total mass of the suspended load should fall within the nominal capacity of the lifting equipment during normal use conditions.
- The combination of the lifting equipment with the load hold moving equipment must only be activated by staff trained for this use and under safe conditions.
- Lifting and support must occur under controlled conditions and under the management of a specifically designated person.
- The operations involved in using the lifting equipment with the load hold moving equipment should be suspended in the event of winds exceeding the maximum speed planned (which would no longer enable the complete control of the machine) and storms, ice, snow, fog or other adverse weather conditions which could compromise staff safety.
- Where multiple machines are used simultaneously in the same location, communication among crane operators must occur via transceivers, with the crane operator always having one in his hand and the operator on the ground responsible for the harnesses having the other.
- Measures must be taken to ensure employees do not stay under the suspended loads.
- It is not permitted to pass loads over unprotected workplaces, usually occupied by employees.
- It is strictly forbidden to use the equipment before having blocked access to the work area for people and/or animals. For this reason, it is necessary to fence off the area and implement all measures considered appropriate to make the work safer.
- Signs must be clearly visible that indicate forbidden access to the work area to unauthorised employees and the danger of suspended loads.
- Transit is strictly forbidden in the working radius of the equipment.
- Danger of falling materials.
- Danger of crushing.
- Danger of knocks.
- Transit is strictly forbidden with the load outside the enabled work area.
- The load hold moving equipment (lifting forks) are suitable for lifting to heights and movement of unit loads placed on pallets or similar (see point 5.2.5 and point 5.2.7 EN 13155:2009).
- Any intervention on the equipment should take place on the ground and in a stable position.
- Safety of the equipment is linked to the efficiency of the safety systems on the machine on which they are assembled.
- The machine must have an acoustic alarm device to warn people the machine and equipment are operating.

5. INSTRUCTIONS

5.1. For staff

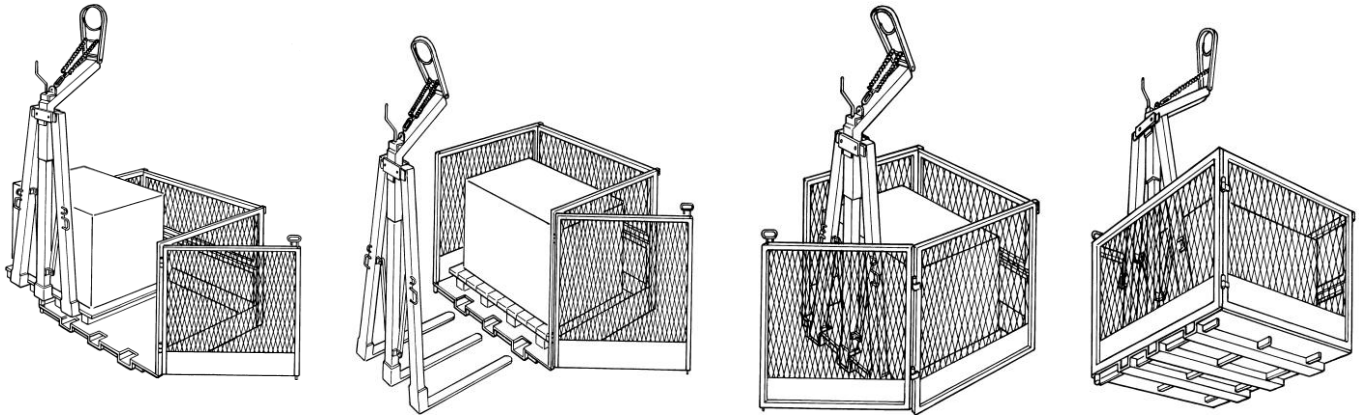
- Lifting operations to move loads to heights must be performed by staff specialising in and trained for this activity. Never allow use by production staff or temporary staff in general.
- It is forbidden to abandon the workplace with load hold moving equipment operating.

5.2. For transport

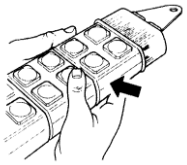
- Adequate means must be used for lifting and transport based on weight and dimensions. To lift, completely insert the fork in the specific compartments and close the wall. The fork must be enclosed within the bin structure. Warehousing of the metal bin does not requirement any particular attention.

5.3. For use

- **Use this device exclusively to protect loads** combined with the lifting forks applied to the lifting device, with a weight under the capacity of the load hold moving equipment **as described in point 3.**
- **To correctly use the secondary positive hold device (protective cage) you must be aware of the standards for the load hold moving equipment used (e.g. lifting fork).**
- Only one operator can use the load hold moving equipment (fork) and the secondary positive hold device (protective cage).
  - During the loading phase, the status of the bin means the access wall is open to enable fork loading of the blocks on the pallet.
  - When the loading phase is complete, the fork is removed from the pallet supporting the load and completely inserted in the compartments, thereby enabling the wall to close and the **compacting of the fork inside the structure of the cage** which can be moved in complete safety**.**
  - The lifting fork can be lifted and on reaching the unloading positioned, proceed to release the load using the inverse procedure.



- To correctly lift, remember the centre of gravity of the load placed on the cage must coincide with that of the fork.
- To maintain efficiency of the protection device, the operator must take care to conduct all operations without forcing.
- At the end of daily use, check the integrity of the protection device and, if damaged, consult point 6.1 **"Ordinary Maintenance".**
- When moving and lifting materials, avoid abrupt acceleration and jolts. Increase speed progressively and use the buzzer alarm on the crane to signal the start of the movement operations.



- Any use other than those planned is forbidden, in particular it is **strictly <u>forbidden</u> to lift people and/or animals, as the equipment was not designed for this purpose.**

Non-compliance with the aforementioned instructions may create dangerous situations and/or damage the equipment, making it unsafe.

6. MAINTENANCE

- A control must be conducted by previously assigned, trained and qualified staff on the use of the load hold moving equipment (forks and pliers), it being understood that employees must be trained to work on the crane.
- The control on the information, training and qualifications provided must be backed up by a report on the training provided, kept by the contractor.
- Any maintenance or service operations must be conducted with the equipment resting on the ground in a stable position.

6.1. Ordinary maintenance

The safety device must be compulsorily inspected:

- whenever it is removed from the warehouse and every day before start up in the worksite;
- after a repair;
- during the service life of the equipment.

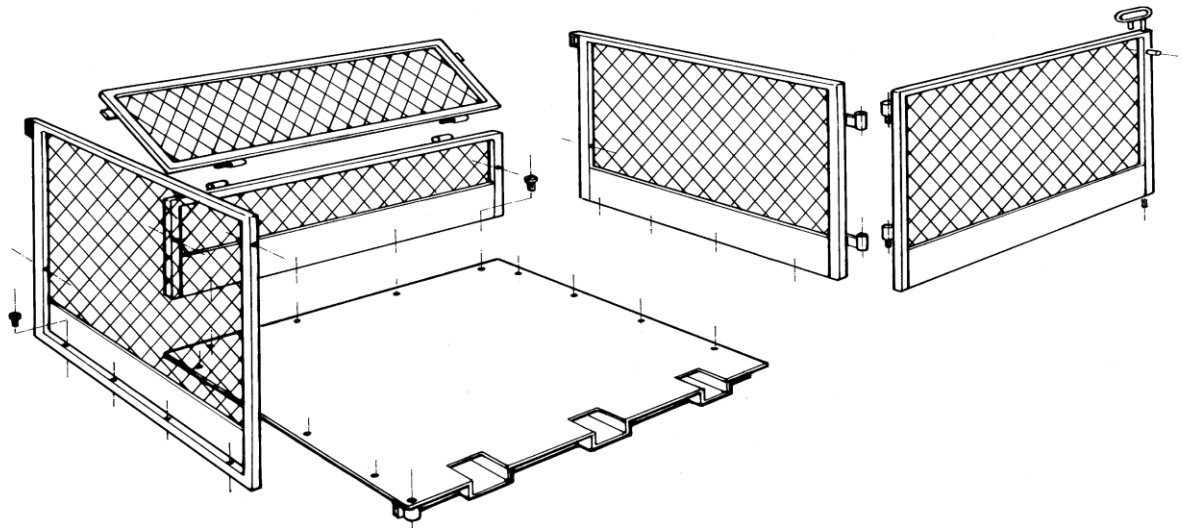
Control of the device is necessary to ensure the efficiency of the device and consists of:

- Checking there are no cracks in the welding;
- Checking for breakages and/or deformations on the metal structure;
- Checking the conditions of the screws and correct tightening of the nuts;

In the case any anomalies are detected contact the manufacturer for the servicing of the device. Operations conducted incorrectly make the equipment dangerous. All repair and servicing of the forks must be performed by qualified personnel at our facilities. The use of aftermarket **parts may compromise the safety of the device, as well as invalidate the CE compliance of the equipment.**

6.2. Assembly diagram

The safety device is dispatched dismantled. The weight of the walls should not exceed circa 25 Kg in weight.
For this reason these walls can be manually lifted and moved.
The rest base must be moved using a machine.



6.3 Device replacement

- wear and tear due to normal use of the device;
- damage (cuts on the strap and/or deformation of the metal parts) resulting from improper use and/or as a result of severe stress even after containment of the load (for having fulfilled its purpose);

The device replaced must be disposed of as special waste

6.4. Conservation

The equipment must rest on the ground in a stable position during storage and in a dry place far from dangerous substances which could affect the components (for example acid, alkaline solutions and solvents).

7. USE LIMITATIONS

The equipment was designed and dimensioned for use equal to 20,000 lifting cycles. Once this limit is reached it must be serviced in our workshop and if necessary replaced.
Wear of the safety device is subject to various situations (such as storage, care during use and any performance of its function), therefore the lifting cycles greatly depend on the aforementioned circumstances.

8. GUARANTEE

The company Boscaro guarantees its device for a maximum period of 12 months from the delivery date for material and construction defects.
On receiving the goods, check:

- The data reported on the transport document (addressee, type of goods, number of packages);
- That the goods received are undamaged.

IN CASE OF ANOMALIES, IMMEDIATELY NOTIFY THE CARRIER, WITH WRITTEN RESERVATION ON THE TRANSPORT DOCUMENT AND ADVISE BOSCARO S.R.L. WITHIN 8 DAYS OF RECEIPT OF THE GOODS.

If manufacturing defects are found, the purchaser is obliged to communicate such defects within 8 days from the date of receipt to Boscaro srl which will undertake to resolve the anomaly as quickly as possible without any additional costs.

The guarantee excludes parts that were damaged due to carelessness or negligence during use, inadequate maintenance, improper use or normal wear, defects due to tampering, damage caused due to transport and any other circumstances which cannot be attributed to manufacturing defects.

The safety device whether repaired under guarantee or not must be accompanied by the photocopy of the invoice and the user and maintenance manual.

MAINTENANCE AND REPAIRS

Note Date	Operation	Outcome	Signature