

BOSCARO

PATENTED EQUIPMENT
FOR THE BUILDING INDUSTRY

USE AND MAINTENANCE MANUAL AERIAL MAINTENANCE PLATFORM

This use and maintenance manual has been issued according to standard **UNI ISO 12100-2:2009**
In line with Machinery Directive **2006/42/EC**

Standards of reference

UNI EN ISO 12100-1 Safety of machinery – basic concepts, general principles for design –
Part 1: Basic terminology, methods

EN 10204:2005 Metallic products - Types of inspection documents – Also applicable to non-metallic products

UNI ISO 8686-1 Lifting equipment - Design principles for loads and load combinations

- ISO International standard
- EN European standard
- UNI National standard

- CEN European standardization committee
- ISO International standardization organization
- UNI Italian national unification body

- ASME American Society of Mechanical Engineers
- ANSI American National Standards Institute

In compliance with Common CEN/CENELEC Regulations, the national standardization bodies of the following countries are obliged to transpose European standards:

Austria, Belgium, Bulgaria, Croatia, Cyprus, Denmark, Estonia, Finland, France, Germany, Greece, Ireland, Iceland, Italy, Latvia, Lithuania, Luxembourg, Malta, Norway, the Netherlands, Poland, Portugal, the United Kingdom, the Czech Republic, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and Hungary.

In compliance with accident-prevention standards, BOSCARO S.r.l. has issued this instruction booklet to inform users on how to correctly use the aerial maintenance platforms.

Before using the equipment or carrying out any operation, carefully read the instructions contained in this manual. For load situations not covered in this booklet abide by common accident-prevention standards.

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1. FOREWORD

1.1. INTRODUCTION

The purpose of this manual is to provide useful information for correct use and maintenance of the equipment. It is an integral part of the equipment and is supplied with it. The employer must preserve this manual and make it available to the operators.

Depending on the location and conditions of use the employer must assess the risks that the personnel are exposed to in relation to equipment use. Use and maintenance of the equipment must be assigned by the employer only to expert and skilled personnel, trained according to the instructions provided in this manual. In addition, each operator must use the equipment in conditions of safety with regard to other workers, to those that are near the equipment, or those that may be exposed to risks connected to its use.

All use conditions of this equipment cannot be foreseen, therefore, if the operator encounters risks associated with activities, he must adopt the required prevention and protection measures. When in doubt, he must contact the manufacturer who will provide information on the correct use of the equipment under these conditions.



The manufacturer declines any responsibility if the user fails to comply with the instructions contained in this manual.



This manual must always be available to those using this equipment and stored with the utmost care.



Modifying the equipment in any part without prior authorisation from the manufacturer is prohibited.

NOTE The manufacturer declines any responsibility for improper use and for the use of accessories other than those recommended.




1.2. HOW TO READ THE MANUAL

The manual is structured as follows:

- chapter 1 contains general information and references on how to read the manual;
- chapter 2 describes Italian legislation which governs equipment use and provides information on employer responsibilities;
- chapter 3 contains information about the equipment. It contains a general description of the operation and the technical characteristics of the equipment;
- chapter 4 contains information on equipment acceptance procedures upon arrival, as well as on installation and operation set-up;
- chapter 5 contains instructions and warnings needed to operate the equipment in safe conditions;
- chapter 6 describes equipment maintenance;
- chapter 7 describes equipment storage conditions;
- chapter 8 contains information on how to transport the equipment;
- chapter 9 contains information on equipment decommissioning.

1.3. CONVENTIONS USED IN THIS MANUAL

The units of measurement adopted are those of the International System of Units. The symbols used comply with the European directives on safety.

	MANDATORY Compliance with these instructions is mandatory to avoid harm or injury to the operator
	PROHIBITION Paragraphs with this symbol contain instructions that must be carefully followed to avoid harm or injury to the operator
	ATTENTION This information must be perfectly understood in order to avoid harm or injury to the operator
NOTE	Notes contain important information or tips on operating the equipment

1.4. RESPONSIBILITY

The manufacturer declines any responsibility for events or situations caused by any of the following:

- use that is improper or does not comply with the instruction manual;
- use of accessories not recommended by the manufacturer;
- changes to equipment that are unauthorized by the manufacturer;
- lack of routine maintenance;
- use of equipment by personnel who are unfit, untrained or physically or mentally unable.

1.5. WARRANTY

The warranty period provided for by law covers all defects and malfunctioning due to faulty production or to causes that can be attributed to the manufacturer. The warranty does not include the repair or replacement of parts that are broken, worn or damaged after normal or improper use, insufficient maintenance, or for any circumstance that cannot be attributed to manufacturing defects.

Spare parts replaced under warranty must be returned to the manufacturer within 20 days, after which the warranty is void.

Boscaro S.r.l. declines any responsibility for damage to people, property or equipment caused by improper machine use.

2. EMPLOYER RESPONSIBILITIES

2.1. ITALIAN LEGISLATION

The aerial maintenance platform is used to lift persons using machinery designed for lifting goods. Use of this equipment is governed by the laws of the single member states of the European Union.

In Italy, use of this type of equipment is regulated by Leg. Decree n. 81/2008. In particular, point 3.1.4 of annex VI provides that:

“omissis as an exception, equipment not intended for this purpose can be used to lift persons, provided that special safety measures have been taken, in conformity with rules of good technical practice that require the equipment to be adequately controlled and adjusted.omissis”.

The permanent advisory commission for job health and safety, during the 19 January 2011 session, approved a definition of “exceptional” when machinery not intended for such a purpose, is used to lift persons, referred to in annex VI of Leg. Decree 9 April 2008, and subsequent amendments

- *“when working in emergency situations;*
- *during operations needed to prevent dangerous situations, impending accidents or when setting up rescue measures;*

- *when, due to specific site or working conditions, the equipment that is available, or that can be reasonably found, on the market does not guarantee greater conditions of safety.”*

Also:

“lifting persons with machinery not specifically designed for this purpose” ... “is to be carried out, after having performed a risk analysis, according to special safety procedures that include: criteria for choosing the most appropriate equipment; accessory equipment requirements; operating modes of the work phases in which these systems are used, as well as surveillance and control of both”.

2.2. RISK ASSESSMENT

Before allowing the operators to use the platform, the employer must perform a thorough risk assessment. Below is an incomplete list of the checks to perform, or procedures to implement, before use:

- check that the work area is not near powered cables;
- prevent anyone from entering the area under the maintenance platform;
- check the stability and slope of the floor where the equipment will be placed;
- check for tools or parts of machines operating in the work area;
- no vehicles must operate in the platform's work area;
- make sure the lift truck's instruction booklet provides for it to be used with baskets or platforms for lifting people.
- make sure the lift truck's capacity is suited to lift the platform as well as the operators;
- only skilled and adequately trained personnel should be allowed to operate the machine;
- provide adequate PPE to the operators (helmet, harness, safety shoes) and make sure they are correctly used;

3. GENERAL INFORMATION

3.1. FUNCTION

The lift truck accessory, the “aerial maintenance platform”, was designed to provide a new function for the industrial lift truck: it carries technical staff and lets them perform controls, checks, and do maintenance on the systems in industrial sheds, as well as in the open, using only a lift truck.

The equipment can be used internally as well as externally. It must be kept away from direct heat sources and protected from the weather.

3.2. EQUIPMENT DESCRIPTION

The support structure is made from carbon steel profiles, of variable thickness, a bottom layer of sheet metal and wire mesh grids. Control, safety, as well as handling devices, are installed on the support structure.

The equipment is equipped with a platform access door, an attached anti-slip mat, a tool tray and an upper shutter that can open.

3.2.1. CONTROL AND SAFETY DEVICES

The equipment is equipped with the following protection and safety devices:

- a door with automatic spring release mechanism and manual release device;
- an eye bolt to anchor the safety belts, installed inside the cabin;
- a top shutter that provides protection from moving lift truck parts;
- a chain anchoring system that secures the equipment to the lift truck, placed on the back part of the equipment, close to the entrance of the fork housings.

3.2.2. HANDLING DEVICES

The equipment is provided with the following handling devices:

- A housing system for lift truck assembly, installed at the base of the frame.

4. EQUIPMENT ACQUISITION

4.1. RECEPTION

This chapter contains all the procedures to carry out, from equipment reception to operation.

Upon receipt, carry out these checks:

- Check that the equipment has not been tampered with or is damaged in any of its parts. In particular, check the integrity of the metal housings described in chap. 3.2.2;
- Check the integrity and correct operation of all safety devices. Pay special attention to the anchoring system of the lift truck and the access door locking device, both described in chap. 3.2.1.

4.2. INSTALLATION

The equipment is delivered ready for use and its parts do not require installation.

5. USE INSTRUCTIONS

This paragraph shows the intended and unintended use of the machine, with special attention to the conditions that can generate risks to exposed persons.

5.1. CORRECT USE OF THE EQUIPMENT

The aerial maintenance platform is interchangeable equipment that can be added to lift trucks. It is used for maintenance operations at a height, in industrial settings and on construction sites. Depending on the model, the equipment can carry one or two operators in the compartment and can be lifted by the lift truck forks.

The aerial maintenance platform can be used and operated only by expert personnel, equipped with appropriate personal protective equipment (PPE) such as heavy gloves, safety shoes, protective helmets (if required), depending on the location and workplace conditions. It must be operated only from the lift truck's driving seat.



The aerial maintenance platform can only be used on compatible lift trucks.

This is indicated in the use manual or in other lift truck documents.

Assemble the equipment on the lift truck only with the equipment placed firmly on a flat surface, and with no one on board. The operators can enter the equipment only if it is forked, on the ground and with parking brake engaged.

Empty equipment can be transported only with a lift truck.

The operators must follow the instructions contained in the manual, as well as the instructions contained in the lift truck manual.

The platform can be used indoors as well as outdoors. It must be kept away from direct heat sources and protected from the weather.



No other type of use is intended for this equipment and the manufacturer declines any responsibility for use that does not comply with the instructions contained in this manual

5.2. MAIN SAFETY STANDARDS

The employer or production manager must make sure that the lift truck is compatible with the equipment, as well as with its safe use.



Do not exceed the maximum capacity shown on the equipment plate.



The overall weight of the load plus platform must not exceed the maximum admissible values shown on the lift truck's capacity plate (function of height).



All personnel must comply with the warning, danger, prohibition and mandatory signs on the equipment and lift truck.

The operators must also follow the following instructions:

- never remove, even momentarily, any safety or protection devices from the equipment;
- do not exceed the maximum capacity; the number of operators on the platform must never exceed the limit indicated on the plate;
- operate the lift truck only on a level and stable surface;
- lift and lower at a moderate speed and only with the lift truck's parking brake engaged;
- when using the platform, the upright of the lift truck must be kept steady and in a vertical position;
- the driver must not leave his seat while the operator is inside the equipment;
- a coordinator must be appointed when several operators, with different functions, are working at the same time;

- the coordinator, from inside the platform, must assist the lift truck driver should there be obstacles that, during manoeuvring, prevent the equipment from being seen;
- always use personal protective equipment while on board the equipment;
- do not remain close to the equipment when it is in use;

5.3. PROHIBITED USE:



It is forbidden to use the equipment for functions other than those for which it was designed, in particular it is forbidden:

1. for an operator to use the equipment without having read and understand the instruction manual;
2. to fork the platform with lift trucks that are not suited or that cannot be used with forkable equipment;
3. to lift the equipment with systems other than lift trucks (such as cranes, lifting beams, bridge cranes or similar equipment);
4. to handle the platform without connecting the lift truck anchoring device to the forks;
5. for more than two operators to enter the platform;
6. to use the equipment to load or handle any other type of material; in particular, it is strictly forbidden to use the platform to lift pressurized containers, work equipment or machinery;
7. to perform maintenance when the platform is not completely empty and not placed firmly on the ground.

5.4. INSPECTIONS TO CARRY OUT BEFORE USE



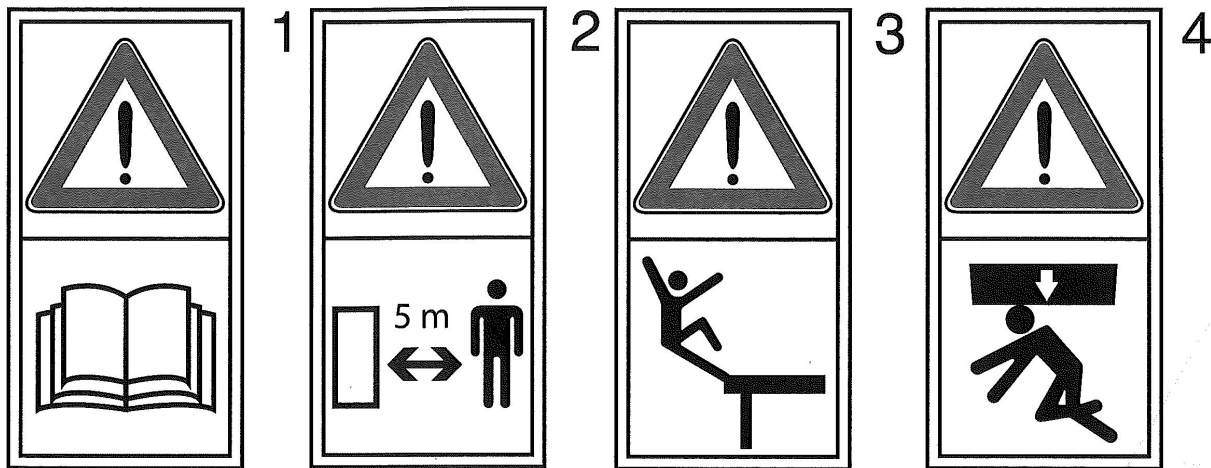
These checks must be performed by operators before any equipment use.

- Check the integrity and proper functioning of the safety pin to prevent the basket from accidentally sliding off the forks that are holding the platform;
- Check the integrity and proper functioning of the platform door locking device;
- Check the integrity of the equipment structure;
- Check that the capacity of the lift truck is greater than the overall operating weight (empty equipment weight, plus weight to transport and unload);

If one of the checks has a negative result the equipment cannot be used.

5.5. SIGNALLING PANELS

Signaling panels placed on the equipment highlight certain dangers related to use. Below are pictograms with a table explaining their meaning:



REF.	QUANTITY AND POSITION	MEANING
1	1 external pictogram close to the door	It is mandatory to read the entire manual before operating the equipment.
2	1 external pictogram close to the door	During operation do not let anyone come within 5 metres of the equipment.
3	1 external pictogram close to the door	Danger of falling from heights, do not reach out beyond the platform.
4	1 external pictogram close to the door	Danger of crushing, do not stand under the lift truck forks.

5.6. DESCRIPTION OF USE

5.6.1. EQUIPMENT ASSEMBLY

- vertically raise the protective fence and secure it with the supplied screws (figure 1);
- the lift truck's uprights must be vertical and the forks must be at the same height of the fork housings (figure 2); adjust the width of the lift forks to have a minimum level of play when inserting the handles;
- fork the equipment, bringing the lift truck slowly forward; make sure that the forks have completely entered the handles (figure 3).
- stop the lift truck, engage the parking brake, get off the lift truck and secure the anchoring chain to the horizontal crossbar of the lift truck fork (figure 4); secure the loose end of the safety pin with the special split pin (figures 5 and 6);
- the driver of the lift truck can now return to the driver seat;
- read the following operational instructions.

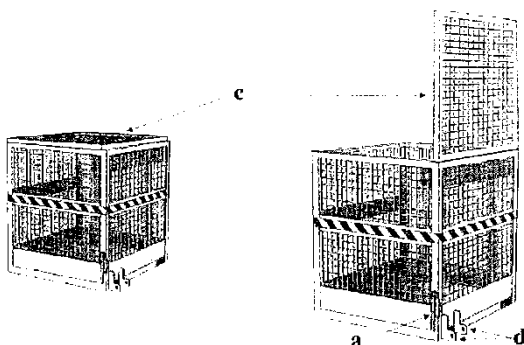


Figure 1 – Aerial maintenance platform, with locking pin (a), protection grid (c) and anchoring plates (d).

Figure 2 – Insertion of the forks in the housings.

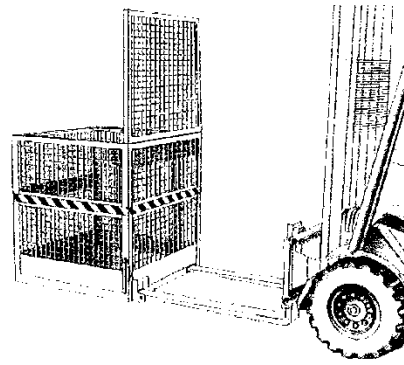
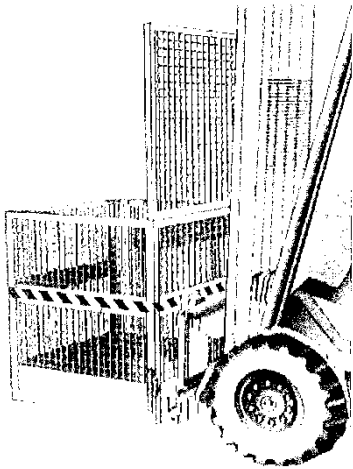


Figure 3 – Assembly of platform on lift.

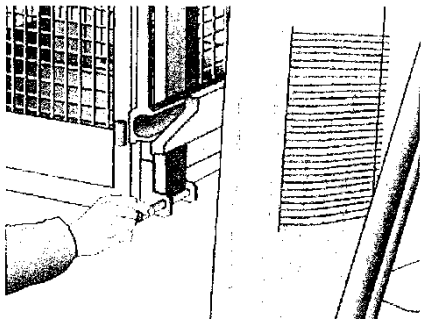


Figure 4 – Insertion of fork anchoring pin.

Figure 5 – Assembly of the split pin on the anchoring pin.

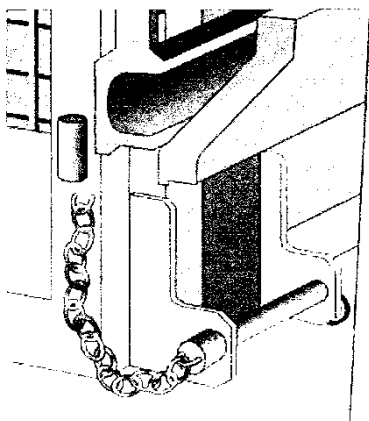
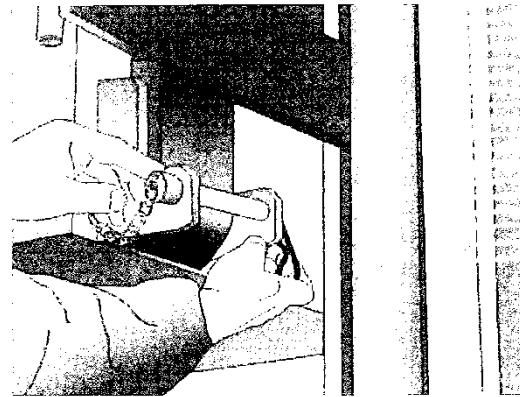


Figure 6 – Completely assembled anchoring pin

5.6.2. OPERATIONAL PHASE

Operators can now enter the platform, which must be sitting on the ground and assembled on the lift truck, following this procedure:



Operators can enter the platform only if it is sitting on the ground and assembled on the lift truck.

1. make sure the protective fence is raised and secured with the supplied screws (figure 1) and that the fork anchoring pin is correctly installed (figure 6);
2. raise the door locking device (figure 7), open the door and enter the platform;
3. close the door and lock it with the locking device;
4. connect the harness hook to the safety belt attachment (figure 8). Operations can now start;
5. read the following instructions on how operators must get off and on the transport and disassembly of the lift truck.



Only operators who wear personal protective equipment (suitable gloves, safety shoes, helmets, depending on the location and workplace conditions) can enter the aerial maintenance platform.



It is strictly prohibited to handle the lift truck while the platform is suspended at more than 20 cm from the ground.

Figure 7 – Door locking device (b)

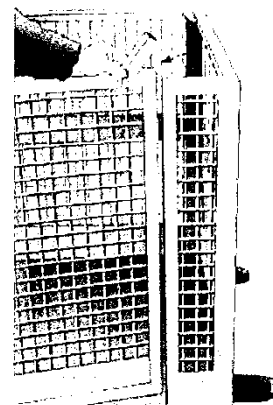
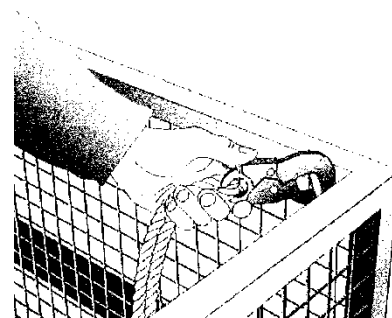


Figure 8 – Hook eye bolt for harness attachment (hook and harness not supplied by Boscaro)



NOTES FOR THE OPERATORS AND LIFT DRIVER:

- At all times follow the lift truck use manual;
- Before moving the lift, lower the forks with the platform to not less than 20 cm from the ground. Bring the platform back to the desired level.
- Before carrying out a manoeuvre, the driver must make sure that objects or persons are not in danger of being hit; if necessary move anyone who is exposed to such a risk;
- Do not stand or let anyone stand under the equipment;
- Take all preventive and safety measures, in compliance with current legislation, to protect against risks from suspended loads;

5.6.3. TRANSPORT OF EMPTY EQUIPMENT



Empty transport of the lift truck must follow preferential pathways. These must be clearly signalled, sufficiently wide, with good visibility, on a level surface which doesn't risk the lift truck's stability, constitute a risk for people or cause damage of any kind.



The equipment cannot be transported with personnel on board.

5.6.4. GETTING OFF THE EQUIPMENT

At the end of operations, or every time the equipment needs to be moved to another work area, the operators must get off the equipment following this procedure:

1. wait for the driver to engage the parking brake and to position the platform, safely and securely, on the ground;
2. the operators can remove the harness hook from the on-board anchor eye bolt (see figure 8);
3. raise the door locking device and open the gate;
4. get off the equipment and close the door, securing it with the locking device.

5.6.5. DISASSEMBLY FROM THE LIFT TRUCK

This paragraph describes the procedure for the removal of the equipment from the lift truck and for placing it in storage.

1. place the lift truck close to the storage area, or on a level area, that is wide and stable, which prevents sudden and uncontrolled movements of the equipment;
2. lower the equipment using the lift truck forks until it rests fully on the ground;
3. engage the parking brake with the lift stopped and the equipment at a standstill. Leave the driver seat, remove the lift anchoring pin and insert it in its seat;
4. return to the driver's seat, release the parking brake, move the lift truck back until the forks are completely free from the housings at the base of the equipment; make sure there are no obstacles before moving the lift truck backwards. The equipment can now be placed in storage.

6. MAINTENANCE

The equipment must be kept clean.



All maintenance, cleaning and adjustment operations must only be carried out by qualified personnel, with the equipment in a stable position, without any load, or connected to any lift truck.

Periodically perform maintenance, checking the wear on the various parts and operation of the safety devices. If one or more parts show clear signs of wear, failures or faults which would not allow it to properly operate, replace or repair them. For this, or when in doubt, directly contact the manufacturer.

The manufacturer declines any responsibility for lack of maintenance or checks described in this use manual, as well as for the use of non-original spare parts.

Routine maintenance must be carried out during the service lifetime of the equipment, every three months, noting the results in the use and maintenance manual.

7. STORAGE

The equipment must be stored without any load and cannot be used as a container to permanently store materials.

The equipment can only be stored with the base facing the ground; it cannot be stored upside down or with the sides lying on the ground.

To avoid deterioration of the metal parts, the equipment must be stored in closed rooms, protected from the weather and away from direct heat sources.

