

X 4

User and Maintenance Manual



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X 4

User and Maintenance Manual

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CE statement of conformity

THE MANUFACTURER

COMET OFFICINE S.r.l

DECLARES THAT THE FOLLOOWING MACHINE:

- Generic denomination: **ELEVATING WORK PLATFORM**
- Function: **LIFTING**
- Modele/type:
- Serial number: * *
- Commercial name: **X4**
- Year of manufacture:

INSTALLED ON:

ELEMENT	FACTORY	MODEL	MANUFACTURE NR.
CHASSIS			

THIS COMPLIES WITH THE RELEVANT PROVISIONS, THE FOLLOWING DIRECTIVES AND THE RELEVANT NATIONAL IMPLEMENTATION PROVISIONS:

2006/42/CE

Machinery Directive

2000/14/CE

Directive émission on noise emission from machines and equipement for outdoor use, as amended by 2005/88/CE

- Machine type: air access platform with internal combustion engines, in accordance with the definitions n. 1 of Annex I / Directive 2000/14/EC
- Procedure applied for conformity assessment: **enclosure V of directive 2000/14/EC**

Guaranteed sound power level (sec. 97/68/CE e smi) dB (A):
(kW):

Measured sound power level (sec. 97/68/CE e smi) dB (A):
(kW):

- Depositary for tecnica file: **COMET OFFICINE S.r.l, Via Castelfranco, 46/2 loc. Tivoli, 40017 SAN GIOVANNI in PERSICETO (BO)**

2004/108/CE

Electromagnetic Compatibility Diretctive

2006/95/CE

Low Voltage Directive

EN 12100:2010

EN 280:2011

+ A2:2009

PERSON AUTHORISED TO WRITE THE TECHNICAL SHEET:

Name: **COMET OFFICINE S.r.l**

Address: **c/o COMET OFFICINE S.r.l, Via Castelfranco, 46/2 loc. Tivoli, 40017 SAN GIOVANNI in PERSICETO (BO)**

NOTIFIE AGENCY THAT CARRIER OUT THE CE EXAMINATION OF THE TYPE AS PER ANNEX IX: VERICERT srl n°1878 – Via Cavina 19 – 48100 RAVENNA (RA), n° 1878.M170340CT.0212 attestato del 28/02/2012

Tivoli di San Giovanni in Persiceto (BO),

Roberto Aleotti – Legal Representative

The original CE declaration is delivered with the machine. The document represented above is an exemple.

X 4

User and Maintenance Manual

Regulation for the after-sales assistance and warranty conditions

The materials supplied by Co.me.t. Officine S.r.l. have a guarantee of 12 months from the date of the first commissioning, as shown on the delivery receipt to the Customer.

Co.me.t. Officine S.r.l. shall repair or replace the pieces recognised as defective during the warranty period.

With the replacement of the part deemed defective, Co.me.t. Officine S.r.l. is freed from any expense incurred by the Dealer and the Dealer's Customer, from any alleged damages, present and future loss of earnings, conventional penalty, etc...

The warranty does not include the replacement and/ or repair of parts worn out during the normal use of the machine.

As for accessories and parts manufactured and supplied by third parties, the manufacturer's warranty conditions apply.

- The machine is guaranteed according to the contractual arrangements stipulated at the sale.
- "Non-original" Spare parts are not authorised by the Manufacturer, who is not responsible for any damage caused by these parts.
- The warranty is void if the rules and instructions for use contained in this booklet are not observed, or the actions provided have not been carried out on by their deadlines.

INTRODUCTION

1.1 PURPOSE OF THE MANUAL

CO.ME.T. OFFICINE SRL prepares and submits this Manual as part of X4 with the purpose of providing users with all the information needed for:

- ➔ Proper awareness of safety issues
- ➔ Proper handling and installation
- ➔ Thorough knowledge of the operation and limitations
- ➔ Proper, safe use
- ➔ Carrying out maintenance work safely and correctly
- ➔ Using X4 safely and in compliance with current standards protecting workers' health and the environment.

 **Managers of the departments where X4 will be used are required under current standards to read the contents of this document, or have it read by assigned operators and maintenance workers for the parts of their competence.**

The instructions, drawings and technical documents contained in this document are confidential, the property of the Manufacturer and may not be reproduced in any way, either entirely or partially. The customer is responsible for making sure that only the latest versions of this document are actually present at point of use, in the event that any amendments have been received.

1.2 STORAGE AND UPDATING OF THE MANUAL

The X4 manual must be stored with care and must accompany the machine in all its transfers of ownership. No parts of it should be pulled out or modified. If the manual is lost or damaged, you can request a copy from the manufacturer by providing the model data, serial number and year of construction. The manufacturer reserves the right to make changes or improvements without notifying the customer and without updating the manual that has already been delivered to the user. Moreover, in the event of changes to the X4 installed by the Customer, agreed upon with the Manufacturer and resulting in the modification of one or more chapters of this manual, it will be the responsibility of the Manufacturer to send the new revisions of all chapters affected by the change to Manual holders. It is the

responsibility of the user, following the directions accompanying updated documentation, to replace all old chapters with new chapters in all copies and to replace the first page and index with the revised pages.

The Manufacturer is responsible for descriptions contained in the Italian language. Translations cannot be fully verified; therefore, if any inconsistency is detected, see the original document in Italian and contact the Manufacturer who will make the modifications it deems appropriate.

1.3 RECIPIENTS

This manual is intended for: X4 installers, operators and qualified maintenance personnel.

→ **OPERATOR**: Person assigned to routinely operating, adjusting and maintaining X4.
The operator must also have the following qualifications:

- must be of age
- is both physically and mentally fit to carry out particularly difficult technical works
- has been properly instructed about X4 use and maintenance
- has been deemed suitable by the employer to carry out the task entrusted to him
- is able to understand and interpret the manual and the safety requirements
- knows emergency procedures and their implementation
- is equipped with the psychological/physical abilities required to operate X4
- is familiar with the specific applicable standards
- has understood the operating procedures established by the Manufacturer of X4

→ **SKILLED PERSONNEL**: those people who have followed specialisation, training, etc. courses and have experience related to X4 installation, commissioning and maintenance, and repair and transport.

1.4 GLOSSARY AND PICTOGRAMS

The paragraph below explains the abbreviations used and the meaning of pictograms used to indicate operator qualification and X4

status. The use allows users to quickly and unambiguously understand information needed to use the machine.

Danger zone: area inside and/or near X4 where the presence of a person constitutes a risk to the safety and health of that person.

Exposed person: any person wholly or partially inside a danger zone.

Operator: person in charge of installing, operating, adjusting, maintaining, cleaning and transporting X4.

Human-Machine Interaction: any situation in which an operator interacts with X4 in any of the operating phases during any point in the life of the machine.

Operator qualification: minimum level of skills that the operator must hold to perform the operation described.

Number of operators: adequate number of operators for performing described operations optimally, resulting from a careful analysis made by the Manufacturer, so the use of a different number of operators could prevent an expected result or endanger the safety of personnel.

Machine status: the status of the machine, including the operating mode, for example automatic operation, stop, etc. and safety conditions on the machine such as included protectors, excluded protectors, pressed emergency stops, type of isolation from energy sources, etc.

Residual risk: danger that could not be eliminated or sufficiently reduced by design, against which the protections are not (or are not totally) effective. The manual gives information regarding the existence of this risk and the instructions and warnings to enable it to be overcome.

Safety component: intended as any component used to provide safety, and whose failure or malfunctioning endangers the safety and/or health of exposed persons.

PICTOGRAMS

 The following symbols with accompanying descriptions contain important information and requirements., Failure to comply with them may endanger the physical safety of personnel, loss of contractual warranty and frees the manufacturer from any liability.

Pictograms relative to machine status

Symb.	Description	Table 01/01.
	Machine off: electricity and hydraulic power cut off.	
	Machine on: electricity and hydraulic power connected and in a safe stop condition by means of open mobile protectors (specifying which); JOG disabled; fixed protectors closed.	
	Machine on: with electricity and hydraulic power connected and in a safe stop condition by means of a held emergency stop or other control component in place for this purpose, located near the area of intervention (clearly specifying which emergency stop or component to use).	
	Moving machine: with automatic operation, closed mobile protectors with their interlocking device activated and fixed protectors closed.	
	Moving machine: with hold-to-control operation (JOG), closed mobile protectors with their interlocking device activated and fixed protectors closed.	
	Moving machine: with hold-to-control operation (JOG), one or more excludable open mobile protectors (specifying which) with its interlocking device disabled, any remaining fixed protectors closed with its interlocking device activated and fixed protectors closed.	
	Machine on: stopped and prepared to start (stand-by conditions) by means of operational consent activation (e.g., product presence), fixed protectors closed with safety device included and fixed protectors closed.	

Typical safety-related pictograms. The symbols in this table indicate **DANGER**

Symb.	Description			Table 01/02.
	General danger		Suspended loads	
	Dangerous electrical voltage		Falling materials	
	Crushing of upper limbs			
	Entanglement			
	Dragging			

PROHIBITION symbols

Symb.	Description			Table 01/03.
	No access to unauthorised personnel		No access	
	Do not remove safety devices			
	Do not clean, oil, grease, repair or adjust moving components			

	Do not perform work before disconnecting power
	Do not touch moving parts

Symbols that indicate **REQUIREMENTS**

Symb.	Description	Table 01/04.	
	Use protective gloves		Check cables and chains
	Use safety footwear		Read instructions for use
	Use protective helmet		
	Use safety belts		
	Use goggles		

2 DESCRIPTION AND FEATURES

2.1 INTENDED USE

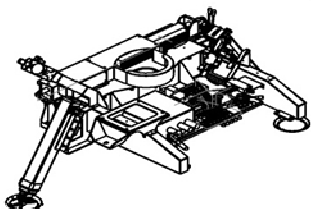
X4 is a device which has been designed to fit out small and medium size vehicles. It is ideal for lifting and moving persons carrying out works at certain heights or maintenance inside hangars (false ceilings, lighting, painting, etc.) or on roads (tree pruning, terrace or roof maintenance, satellite equipment installations, lighting maintenance, etc.) or in tunnels. The work platform lifts personnel by means of joints and extensions, allowing movement in a working radius and even angular displacement by means of column rotation. The machine works with 4 stabilisers pressed to the ground, a levelled frame and with vehicle suspensions discharged. The operator can bring a work tool basket which does not exceed the indicated capacity. X4 consists of an articulated structure which, in the stand-by position, occupies the encumbrance of the vehicle, behind the cabin. Thanks to the compactness of X4, it can even be applied to material transport or work tool loading platform. All machine movement controls (safety controls) and 4 stabilisers are located on the vehicle loading platform, while X4 movement controls only are installed in the basket. In addition, the basket is also equipped with an outlet for using equipment and tools. The machine has three operating types, which vary depending on needs:

- I. **Pump coupled to the motor:** standard operation for outdoor works.
- II. **Hand pump:** for emergency operation, activate the lever next to the emergency button in the control unit on the machine.
- III. **Electrical pump:** for emergency operation, activate by button inside the control panel.

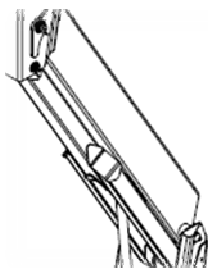
2.2 PRINCIPLE OF OPERATION

X4 is, essentially, an elevating work platform which consists of various components. The main component is the PLATFORM, which has a base anchored to a steel subframe. The base contains a slew drive rotating system. Connected at the slew drive is the rotating column on which we find the articulated joint that attaches the bracket on by a screw series. This works as an articulated joint and is driven by a motor attached to the slew drive. From the bracket, with the principle of the articulated joint, we find the head, a component that connects the bracket to the arm, moved by hydraulic pistons. Inside the latter is the telescopic arm, which is a further extension on the arm. This extension is telescopically moved and allows work at distances greater than those normally practicable. Finally, there is a basket attached to the end of the telescopic arm. The Platform described above moves and articulates thanks to hydraulic pistons and valves with hydraulic connections where pipes bring oil to the pistons. The oil that arrives to the pistons is pressurised by a pump coupled to the motor; this coupling takes place thanks to power take-off. When the platform is stationary, the pump keeps running and the oil goes in the tank to be drawn out again. All movements are therefore ensured by the hydraulic energy supplied by the pump (electric or manual motor pump). When the oil movement control lever is activated, oil arrives in the valves which sort them in one direction or another. The hydraulic pistons allow the machine to be lifted and all other movements. The lever controls have 2 locations: one on board the machine (emergency) and one main one inside the basket. X4 movements are regulated by the detection system; in this case, by micro-switches. These are located at the machine articulated joint points and control the positions assumed by the machine itself during work, preventing it from taking positions which are a safety risk.

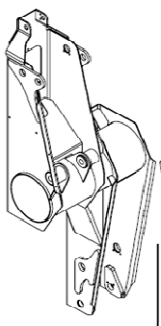
2.3 STRUCTURAL ELEMENTS



STABILISERS: There are 2 front fastened to the base of the platform activated by the lever controls. Their travel is governed by micro-switches.



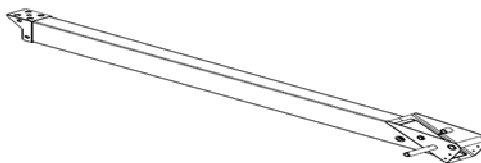
PANTOGRAPH ARM: Located at the end of the column, it forms the first articulated joint of the machine thanks to a narrow pin with a ring nut which acts as a fulcrum



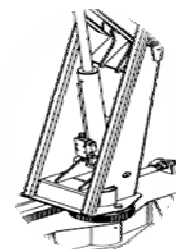
HEAD: component which connects the bracket with the telescopic arm thanks to narrow pins with ring nuts



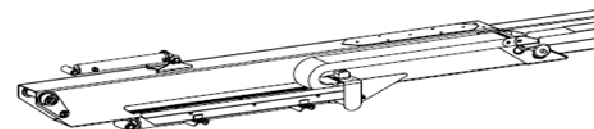
BASKET: the actual level where the operator will perform a specific job at a height or at a position that is otherwise inaccessible; the basket is made of iron, aluminium or fiberglass



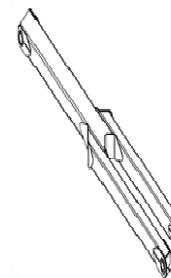
EXTENSION: further arm elongation



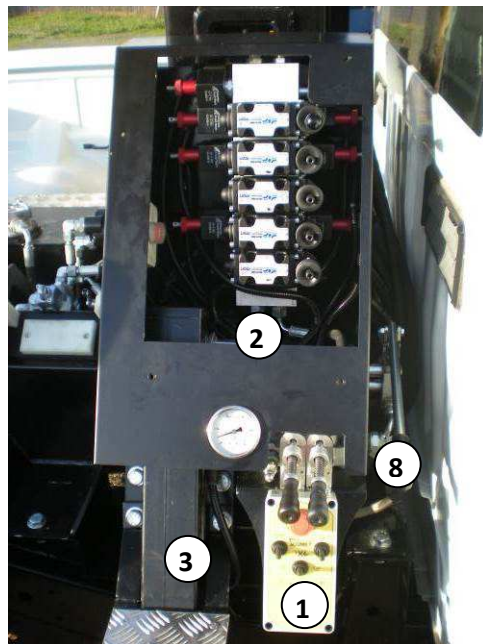
COLUMN: emerges from the base and makes the rotation, thanks to a system driven by a slew drive. A piston, which lifts the first bar or bracket, is located inside.



TELESCOPIC ARM: hydraulically activated by a piston; the extension is housed inside.



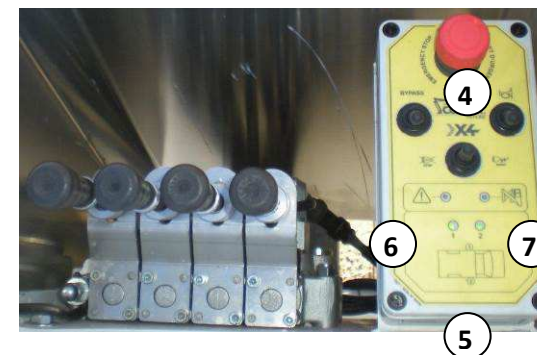
SECOND BAR : forked support that connects the column and the head.



2.4 CONTROL UNIT

Here is short description of this essential X4 element.

The control unit is set at two locations. The main is in the basket and the auxiliary location is on board the machine. To select the workstation from the basket, the operator must turn the selector lever in place on the control unit on board the machine. On board the machine, we can find an assembly of annexed X4 movement controls, including controls for stabiliser descent. Integral parts of the control unit are the emergency button, the start switch, the vehicle motor stop switch the bypass switch, and the acoustic warning switch. These devices can also be found in the basket. Finally, we find a spherical level for more precise stabilisation of the vehicle in the control unit. (see Fig.1)



3a

- 1→ **Stabiliser controls**, there are 2 of them and they are only located on the on board machine control unit.
- 2→ **Manometer**.
- 3→ **Handling controls**.
- 3.a→ **Handling controls in the basket**.
- 4→ **Emergency button**.
- 5→ **Motor switch**, with which it is possible to start and stop the vehicle motor.

- 6→Bypass switch
- 7→Acoustic warning switch
- 8→ Hand pump.



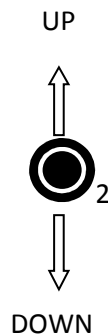
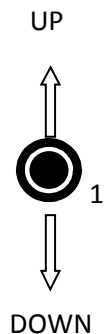
Use of the ground control location is only allowed when no personnel is inside the basket or in the event of an emergency.

2.5 STABILISATION

X4 stabilisation takes place by activating the lever controls located on board the machine. By means of the controls, stabiliser descent will be started. Observe the spherical level as reference for proper, precise machine levelling. In addition, interpose plates supplied by the manufacturer between the ground and stabilisers..



Maximum load under the stabilisers 1.850 kg (5 kg/cm²)



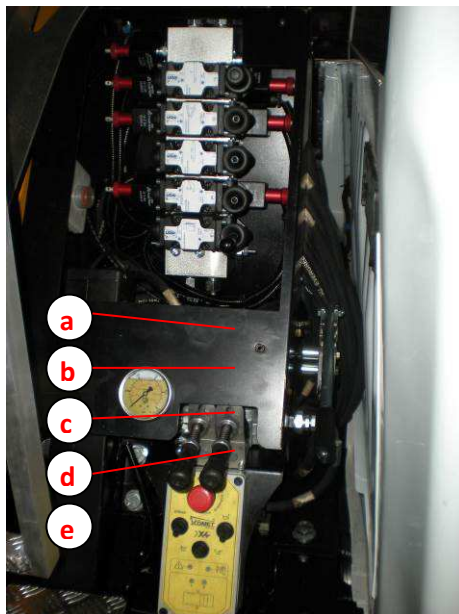
Control #1 is the first to the right

2.6



MOVEMENT CONTROLS, PRESENT ON THE BASKET

Superstructure controls are made up of 4 levers (shown in the image): the first control to the left raises and lowers the arm, the second raises and lowers the pantograph arm, the third control extends and returns the telescopic extension and the last rotates the column.



2.6a MOVEMENT CONTROLS, PRESENT ON THE CHASSIS

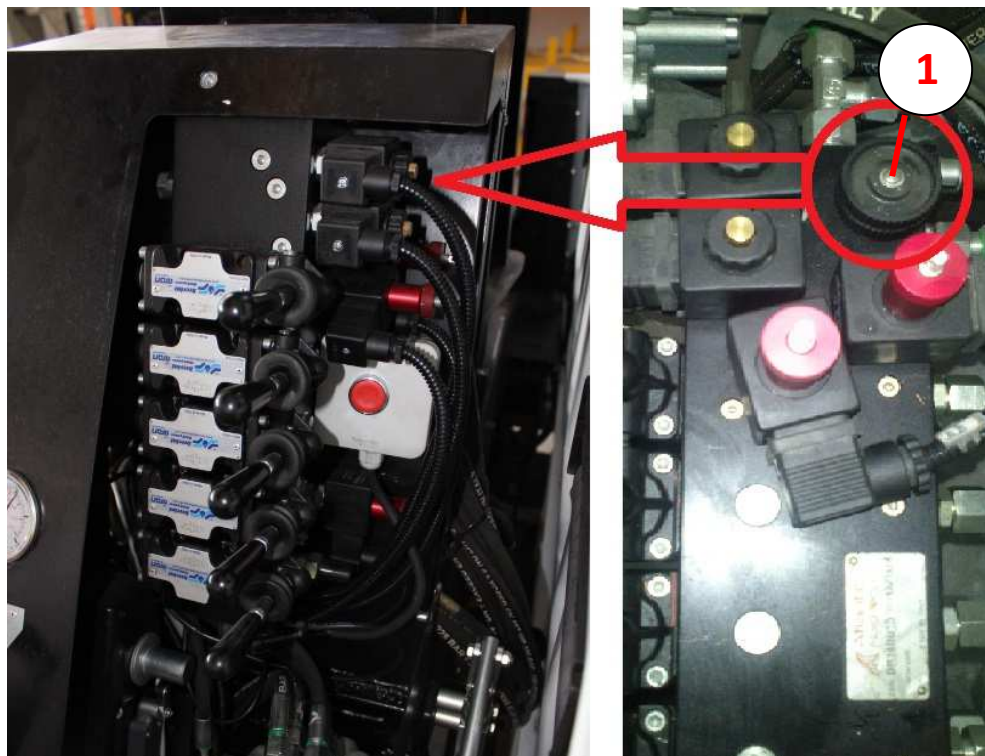
- a) Arm control lever
- b) Pantograph control lever
- c) Telescopic control lever
- d) Rotation control lever
- e) Basket re-phasing control lever
- f) Emergency stop button
- g) Bypass lever
- h) Outrigger/platform selector

Movement control on the chassis are disabilitated during the normal use of the machine.

h



To use this control, for clean operation, workshop operation or to re-phase basket position it's obligatory that there aren't person or object into the basket



1. To use this control the operator have to turn off the engine
2. Screw completely control n°1 in picture above
3. Now the operator can move the machine and make all movement by (a)-(b)-(c)-(d)-(e) lever
4. Once finished release unscrew completely control n°1



DURING THIS OPERATION IT'S FORBIDDEN TO HAVE PERSON OR OBJECT INTO THE BASKET



BASKET LEVELLING RE-PHASING CONTROL: During machine movements, the basket levelling is carried out with a closed circuit hydraulic pantograph arm. When level re-phasing decalibrates, it can be reset using the fifth lever on the ground distribution system.

RE-PHASING MUST BE CARRIED OUT WHILE THE BASKET IS EMPTY. If it is detected during work that the basket level has deviated by more than 5° from the horizontal position, bring the machine to its closed position and re-phase the level.

2.7 INDICATION INTO VEHICLE CAB

In the cab there is the button activation / deactivation of the pump connected to the motor and three LEDs, which indicate the following state of the machine:

GREEN: stabilisers closed, the pump off = the vehicle can be moved without risk of damage to any part

YELLOW: stabilisers closed, the pump inserted = the vehicle can be moved, but with the risk of damaging the pump.

RED: open stabilisers = the vehicle can not be moved.



2.8 BYPASS FUNCTION



A bypass switch on the control panel disables the automatic anti-collision blocks present.

This control allows for more freedom in movement in order to reach positions which are not normally permitted. However, the operator must be fully aware that excluding the blocks may incur equipment collisions with the vehicle cabin and loading platform. The presence of an active bypass function prevents all blocking and excludes bar lowering for rotation about the vehicle cabin.



Operate the vehicle at a reduced speed when the bypass is activated.
Possibility of collisions



It is prohibited to use more of a movement in the same time: the interplay of movements can cause uncontrollable accidental movements

2.9 USE OF THE MACHINE



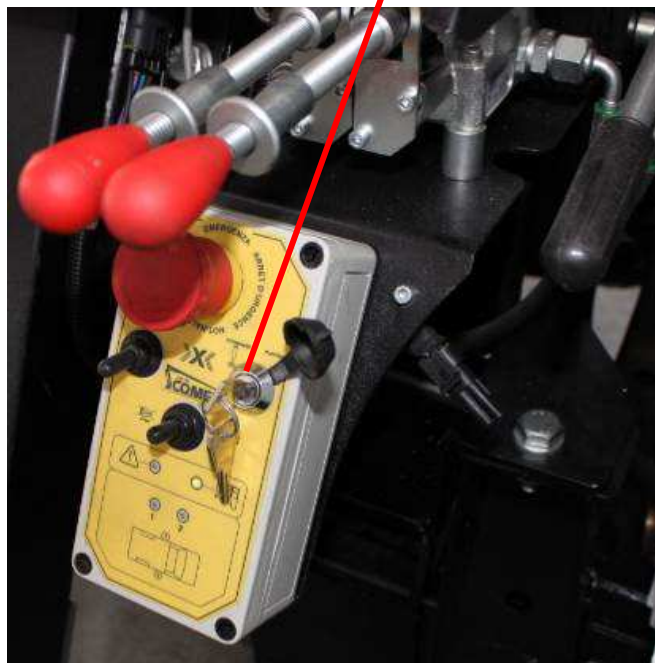
First to use the machine the operator must have read and understand all parts of the present manual. Especially the safety prescriptions.

- Find and prepare a correct place to stabilize the machine
- Turn on the PTO with selector near hourmeter in vehicle cab. The yellow light comes on

PTO



- Stabilize the machine and check the level indicator to be sure of the correct stabilization, in this case both red led into panel must shut off. (if one of the leds it's on, then the outrigger doesn't touch correctly the ground)
- Turn the key of ground control panel into platform position, otherwise the boom doesn't work



- Open the rear door of the box of the machine and open the ladder, remind to open correctly the safety device because the ladder can collide the rear lights while closing the ladder.



- Reach the basket and before operate be sure to wear helmet and safety sling secured to the basket
- Open the machine follow the correct procedure:
 - **Boom up**
 - **Pantograph up**
 - **Rotation clockwise**
 - **Extension out**
 - **Extension in**
 - **Rotation anti-clockwise**
 - **Pantograph down**
 - **Boom Down**



- If during the operation, the machine it's moving to position where there is the possibility to collide with itself or with vehicle cab, the devices stops the movimentation of the platform
in this case the operator must return in original position with bypass command.



It's IMPORTANT to know that with bypass engaged the machine can collide with cab and itself.
USE MACHINE CAREFULLY AND SLOWLY WHEN BYPASS IS ACTIVE!

- When the operator is working the platform must be turned off and the panel must be closed above them.
- Close the machine with procedure described, then to raise the outrigger the operator must turn the key in ground control panel in outrigger mode.

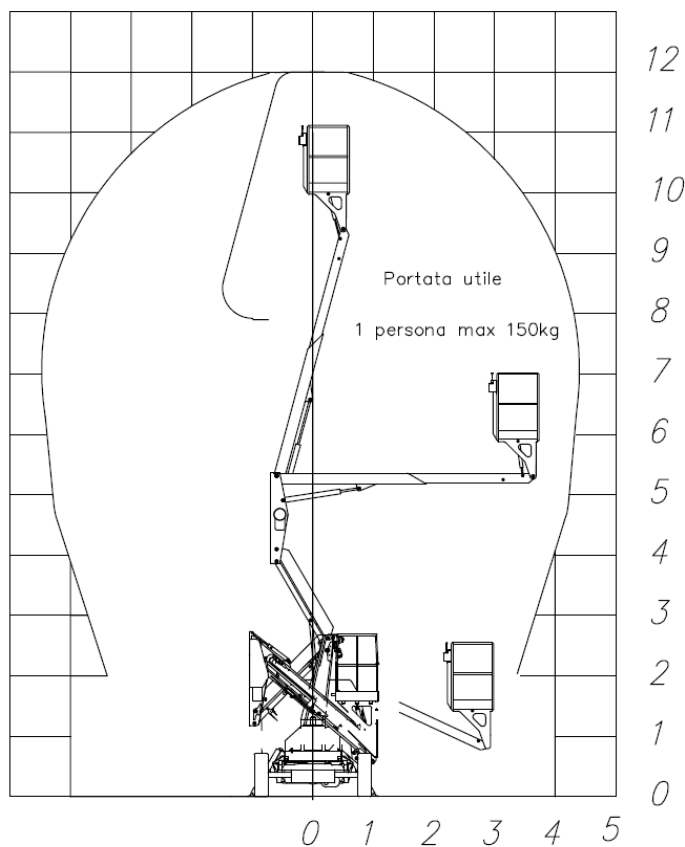


- Before drive check that outriggers are completely raised by green led inside the cab of the vehicle.

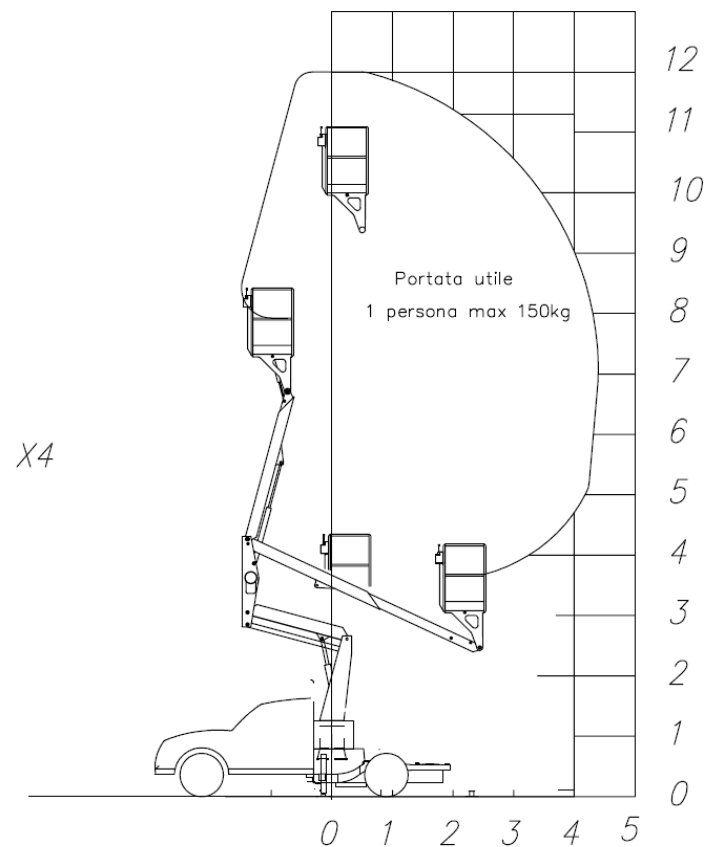
2.10 TECHNICAL DATA SHEET

Model	X4
Max operating height	11.5 m
Max floor level height	9.5 m
Max number of persons to be lifted	1
Basket dimensions	0,8 x 0,7 x h1,1 m
Platform rotation	180°
Operating pressure	145 bar
Max capacity	150 kg - 1 person
Max working radius	4,5 m
Lifting speed	Max.0,4 m/s
Extension speed	Max.0,4 m/s
Rotating speed	Max.0,7 m/s

2.11 WORK AREA AND WORKING RADIUS

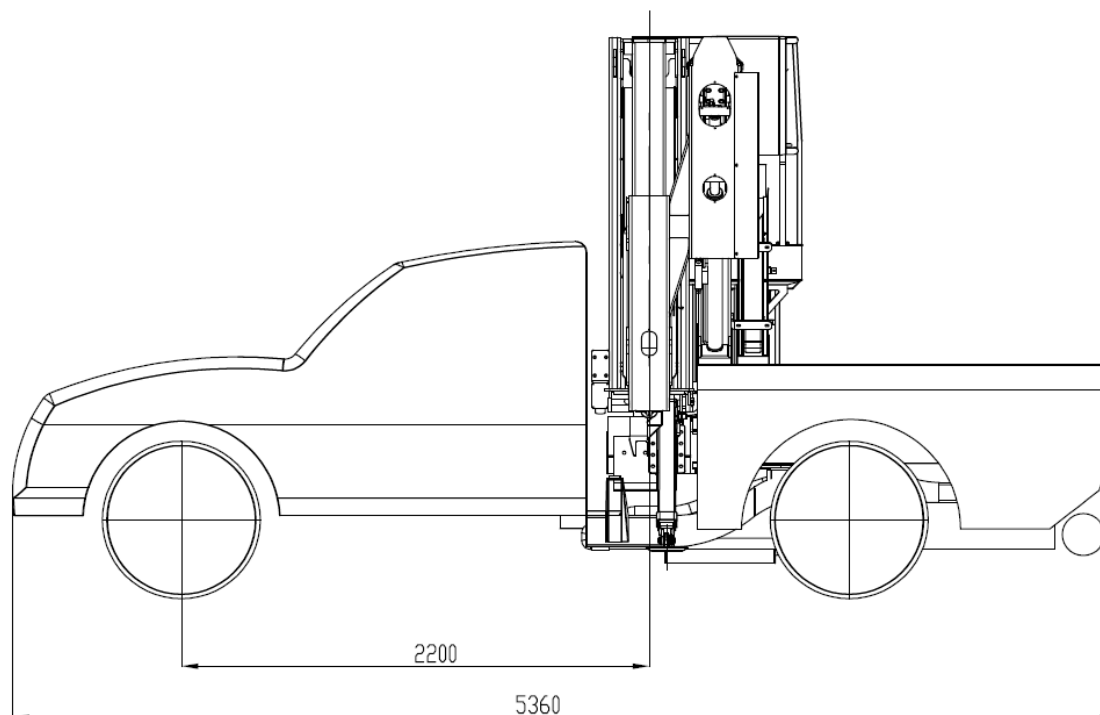
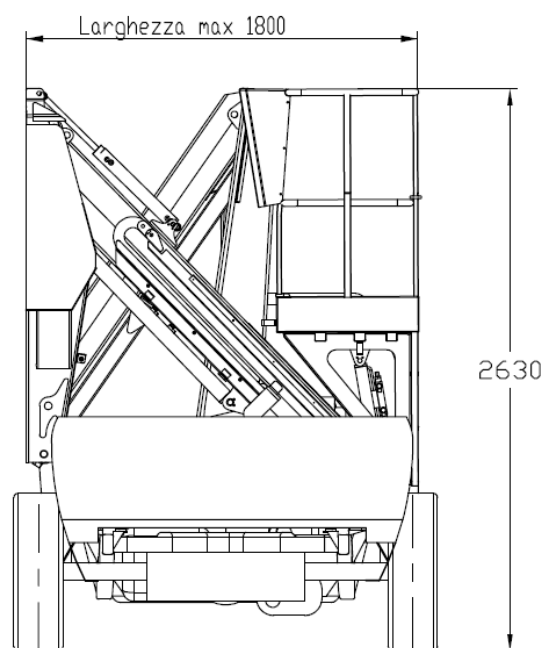


AREA DI LAVORO IN SETTORI LATERALI



AREA DI LAVORO NEL SETTORE POSTERIORE

2.12 MAXIMUM DIMENSIONS



3 SAFETY

3.1 Overview

Foreword

Most of the accidents that occur at work are due to negligence in the maintenance or operation of the machine.

It is therefore necessary to read this manual so as to be able to operate in the greatest possible safety and always maintain the machine in a state of efficiency.

**If in doubt, refer to the user's manual
or call the Service Centre of the manufacturer:**

tel. (0039)0516878711

Positioning

Check the backing surface.

The ground and positioning structures must be flat, compact, resistant and not soft (prefer concrete, asphalt and compact ground), depending on the force transmitted by the machine outrigger.

It is important to take precautions to ensure the ground or base on which the machine will be used is compact and stable, is of adequate bearing capacity and there is appropriate friction. Therefore, planks may have to be laid to distribute the load, or plates (material is not supplied), or the stabilising base must be widened, etc...

Do not stabilise the machine on surfaces that are slick, icy or wet or in any way slippery.

The elevating platform after stabilisation may be affected by poor soil conditions, the settling of the soil, on which the gradient of the machine depends, i.e., its stability.

The following are typical conditions of the ground that requires particular attention:

- **Uncompacted filling material:**
earth or other filling material can be piled along a trench that is filled but not compacted. Cracks in the terrain along the trench are an indication of uncompacted filling material.
- **Underground and basement areas:**
generally they cannot withstand the weight of the machine therefore, the ground may give way suddenly.
- **Underground services:**
sewers, manholes, drains, wells, gas and water pipelines, etc. can be damaged by the weight of the platform or may not withstand the load, sink and cause the machine to tilt over.
- **Extremely slippery and smooth surfaces:**
very low friction between the stabilisers and the ground (for instance friction between steel and marble with frost) can cause the machine to slide, especially if inclined, even after having stabilised the machine and this leads to serious consequences.
- **Weather conditions:**
heavy or incessant rainfall can alter the conditions of the ground and cause subsidence; if you see or suspect that the ground has become too soft you must evaluate the action to be taken so as to ensure the machine is kept level and assess the bearing capacity of the support beds, widen the stabilising base, etc. However, do not go near the area in question.

Thereafter, monitor the change in the conditions of the ground regularly.

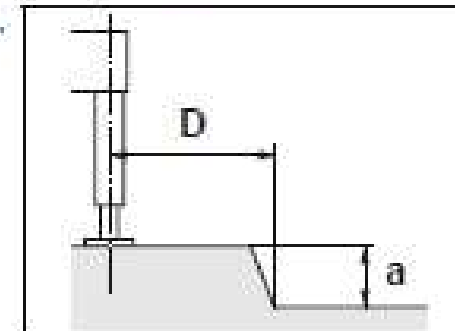
Attention

Frozen ground may seem more stable but in fact a thaw, possible throughout the day, may vary the conditions of lifting.

Do not set the stabilisers in place on edges of embankments, slopes, uneven ground, etc. Where possible, the stabilisers must only be set on ground that is flat or made level.

Should the stabilisers be set on edges of embankments, slopes, uneven ground, etc. the following requirements must be met:

- uncompacted ground: $D = 2a$
- compacted ground: $D = a$



Check that every stabiliser and the relative supporting material makes complete contact with the ground before starting the works and thereafter, implement regular inspections.

If in doubt about the conditions of the ground, refer to the site manager.

The descent of the feet jacks must not compromise the working stability, for this reason both positioning and levelling must be performed with the elevating platform in rest configuration, using the spirit levels positioned at the side of the outrigger positions to check that the machine is level ($\pm 1^\circ$).

Before removing the Lifting platform from its idle position, ensure that the machine has been stabilised and levelled properly, within the design limits stipulated by the manufacturer (1°) and that it is positioned on a surface that is stable and adequate for the maximum force exerted on the ground by the stabilisers (shown on the relative plate affixed on them).

Table of the approximate pressure units allowable for certain types of land

	Allowable pressure (daN/cm ²)
Loose, non-compact soils	1 ÷ 2
Granular compacted soils (sand)	2 ÷ 6
Compacted soils (sand + gravel)	4 ÷ 10
Medium strength rocks (sandstones, limestones)	10 ÷ 15
Rocks of high strength (strong sandstones, strong limestones)	15 ÷ 30
Massive rocks (granite, porphyry, basalt)	30 ÷ 50

The stabilization of the platform shall be carried out so as to lift the wheels off the ground and in any case to unload the weight of the lifting platform from the springs or suspensions of the vehicle.

The stabiliser jacks have a long enough run to lift the machine completely off the ground.

Test for correct stabilisation by checking the wheel elevating off the ground, the flatness of the frame and the compactness of the soil on which the stabiliser feet are supported.

Engage the vehicle's handbrake.

If the handbrake is not applied, the opening of the stabiliser feet would cause an acoustic alarm.

Delimitation of the working area

Before working with the elevating platform, make sure the visibility and environmental conditions that can occur in the work area are limited with adequate signalling systems:

- barriers;
- tapes delimitating the area;
- signals (of prohibition, of warning, of danger, etc...);
- signals delimitating the area (light signals, cones, etc...).

Note

This material is not included with the lifting platform.

To assess the work area in order to limit it, consider the worst case trajectory, i.e., where the danger is greatest, also considering that failures can occur at any position where the elevating platform would be located.

Note

Wherever possible, bound an area bigger than the crane's maximum outreach.

In the area you have to eliminate whatever dangerous object or toxic substance.

The delimitation must explicit the no admittance for people, animals, means and vehicles not authorised.

When it is impossible to eliminate the transit risk inside the lifting platform working area, it is necessary to arrange some authorized personnel to survey the area limits and direct the traffic in the concerned area.

Attention

Should the operator be forced to work close to, or pass by residential and/or crowded buildings, it would be advisable to evacuate people and protect possible worthy goods.

Take the same precautions if you work close to artistic goods.

It would be better to contract a suitable assurance for possible damages caused during work.

Environment

Temperature

The Lifting platform can work correctly at an environmental temperature between -10°C e -45°C. If you reported a different degree, working with the lifting platform would be forbidden without the right cautions.

Humidity

The electric equipment works correctly at an atmospheric conditions with a humidity less than 85% at a max temperature of +45° C.

Higher humidity is allowed with inferior temperatures.

With a higher humidity and a temperature near 0° you would incur in a block of the mechanical electric and safety systems.

Check out their correct working before using the lifting platform.

Visibility and light

Before positioning the elevating platform, check respect for the minimal visibility standards, avoiding shadow cones, stroboscopic effects and dazzle, areas with little visibility (fog, smoke, etc.) and un-lit.

Do not operate in the work area and in particular in proximity of the work and commands area whenever reasonable safety and visibility are not guaranteed

If you have to work in barely lighted up areas, illuminate the area with lighting devices, connected to energy source not in relation to the machine.

In this case do not point the supplementary lighting devices to the operator's eyes, but place them at the worker's shoulders, so that you could illuminate rightly the working area without dazzling him.

Do not operate when visibility from the basket is poor: agree on the meaning of signals to use if you need to resort to help from an operator on the ground.

Power lines

Windy conditions can cause the cables to swing beyond the distance allowed and reach the lifting platform, thereby causing electrical discharge.

The electric discharge is a danger for all the exposed people's lives, so you have to keep the lifting platform at the distances indicated in the table here reported.

Remain at the distances stated in the table in the vicinity of high voltage electric lines:

Table of safety distances

Safety distance from active electric lines (live) and unprotected or insufficiently protected electric plants to be observed when performing electrical works, net if the clearance deriving from the type of job, the equipment used, as well as side slip of the operators due to the wind and lowering of height due to thermal conditions.

Nominal voltage Un (kV)	Minimum distance allowed (m)
≤ 1	3
10	3.5
15	3.5
132	5
220	7
380	7

If you incurred in contacts between the lifting platform and the electric lines, or the distance between the lifting platform and the electric lines were reduced (because of wind, swinging, etc), causing dangerous discharge, it would be necessary:

- keep staff and animals in the area at a distance of at least 10 m from the elevating platform or the vehicle;
- the workers within a beam of 10 m must go out skipping with the legs closed and united;
- avoid contact with the elevating platform and/or the vehicle;
- Inform staff in the surrounding area of the impending danger, prohibiting them from approaching and touching the elevating platform and vehicle;
- if your position is free from dangerous implications, do not try to go away, but keep staying in your position waiting for specialised aid, do not touch any object or metallic part different from those you are already in touch with;
- operators who are in the basket, or on the floor or in the cab of the vehicle must remain still in that position, waiting for specialised help.

Note

The same warnings are valid in case of contact with electrodes, electric lines of trains, tram, trolley bus, cableways, etc...

It is forbidden to work with the lifting platform at a distance from the aerial and underground electric lines lower than the minimum distance allowed by the norms issued in the Country in which you are working.

Note

Warnings are to be considered effective also for the electric lines of trains, tram, trolley bus, cableway, etc...

Attention

In case of wind both electric cables and the lifting platform could swing with jumps.

This sudden approaching can change the safety distance in a dangerous way, exposing the structure to possible electric discharge.

Remain at a safe distance from the electric line (see also D.3.4. in Table "Power lines"-
"Table of safety distances" - Leg. D. 81/2008).

When moving the machine beneath or nearby overhead power lines, always use the help of a person who is an expert in giving indications from the ground.

Do not raise any part of the machine whilst passing beneath overhead power lines or between two poles that indicate the maximum height.

Wind conditions

It is forbidden to operate in open areas in very windy conditions with an intensity close to 50 km/h (approx. 12.5 m/s is equal to 6 on the Beaufort scale) and in gusts of wind.

Refer to the following table to value the effects of the wind:

Strength of the wind		Speed of the wind		Effect of the wind
Beaufort degree	Name	m/s	km/h	
0	Calm	0÷0.2	1	Calm, the smoke goes up straight-line.
1	Light movement of air	0.3÷1.5	1÷5	Direction of the wind indicated only by the movement of the wind, but not by a flag.
2	Light wind	1.6÷3.3	6÷11	You feel the wind on your face, the leaves are rustling, the flag is moving.
3	Light breeze	3.4÷5.4	12÷19	Leaves and branches are moving, the wind stretch light flags out.
4	Moderate breeze	5.5÷7.9	20÷28	It lifts dust and free papers, it moves branches and finest rods.
5	Fresh breeze	8.0÷10.7	29÷38	Little leaves begin to wave. On lakes you can see foams.
6	Strong wind	10.8÷13.8	39÷49	Strong rods are moving, whistles in telegraphidlines, it is hard to use umbrellas.
7	Tight wind	13.9÷17.1	50÷61	All trees are moving, it is hard to go against the wind.
8	Stormy wind	17.2÷20.7	62÷74	It breaks the branches of the trees, it is difficult to walk in open air.
9	Storm	20.8÷24.4	75÷88	Little damages to houses (it destroys the covers of chimneys and tiles).
10	Violent storm	24.5÷28.4	89÷102	Up rooted trees, damaged houses.

In the absence of an anemometer strong wind conditions can be detected when: the strong branches move, it is possible to hear the wind whistling between the overhead power lines and it is very hard to keep an umbrella open.

It is very important to be aware that the speed of wind increases with height off the ground and can increase by 50% at 20 metres off the ground. Furthermore, there lies a cooling factor caused by the wind and the height, i.e. the speed of the wind increases together with the height, however the temperature drops.

You must pay attention when lifting sheets/plates of material that have a large surface used to coat buildings, panels and other material that can act as a "sail": even the minimum force exerted by the wind on a large surface becomes significant and can seriously jeopardise the stability of a crane, especially in conditions of gusts of wind.

During the use

Approaching the work position must be done at a moderate speed and with caution to avoid collisions or rocking the arms.

Movement, driving and placement

To ensure the safety during moving or driving the machine, always fold down the aerial part of the machine.

In particular, make sure the stabilisers are in rest position.

Danger

While moving and driving, always put on the safety locks of all the parts which require such use.

If necessary, restore the efficiency of the pins, shear pins and blocks, calling directly and exclusively the closer Authorised Shop Assistance.

Ways of displacement and/or circulation must be completed with the technical data of the installator and of the builder of the auto-vehicle.

However respect the issued norms.

Note

Before you begin driving on the road, make sure that the indicator inside the cab signals proper closing of the stabiliser feet (green light lit).

If the red light is on and the buzzer is turned on, turn off the vehicle and check for proper positioning or the integrity of the signalling system.

Make sure that inside the basket there are no objects, materials, tools, etc., before moving the vehicle.

When you work within productive areas (erecting yards and industrial areas) pay attention where the machine is placed.

Attention

Driving on the road is prohibited with objects, materials or weights that are hanging from or inside the basket.

Prefer workplaces for the elevating platform that have these characteristics:

- it should be a large enough place to contain the entire structure, so as not to create any dangerous situations during the operations with the lifting platform arm;
- they must not impede the work spaces of other equipment nearby (other elevating platforms, cranes, bridge cranes, conveyors, etc.) unless the equipment is previously taken out of service for the entire period of the use of the elevating platform.

If you have not previous indications and authorisations, the placement of the machine must not interfere with:

- safety doors, pedestrian crossing and transit ways;
- exits ways in case of danger, doors and private entrances, driveways;
- the visibility of signals (road-signals, warning sign, signal lights etc...).

Working on public roads

- When working in an area where vehicles and pedestrians pass from, for your own and others' safety you must ensure that the entire work area is closed off with cones, warning panels, indication, flashing yellow lights, etc.
Refer to the work supervisor.
- Under no circumstances must parts of a lifting platform be extended or rotated above the road.

- It is illegal for anyone but specifically authorised personnel to direct the traffic on public roads. A request must be presented to the local police.
- When works must be implemented during the night, in an area accessed by the public, barriers together with indication, flashing yellow lights must be set up.

Working in enclosed areas

- It is forbidden to use the lifting platform in closed environments or when exhaust fumes are released directly on people standing on the working area, if the exhaust pipe has not been routed far away from the operator or the exposed people.
- The use of the machine must not impede the work spaces of other equipment nearby (other elevating platforms, cranes, bridge cranes, conveyors, etc.) unless the equipment is previously taken out of service for the entire period of the use of the elevating platform.
- The work area must be an environment large enough to hold the entire structure, so as not to create situations of danger during manoeuvres with the arm of the elevating platform.

General rules of conduct

To prevent accidents, strictly observe the existing regulations and the operating and maintenance instructions provided by the manufacturer.

Check the integrity of the personal safety devices prior to use.

Make sure that the safety devices are in perfect condition; if not, immediately provide for repair or replacement.

The machine can work only on solid ground; the maximum pressure on the soil under a single stabiliser is shown on the same stabiliser and on the plate on the tower.

Always check that the inclination of the frame does not exceed 1° of incline both longitudinal and transverse.

Put spacers between the ground and the plate to distribute the load to the ground and restore horizontality (see figure).

The spacers must be of suitable material, secured to the ground and among themselves so that they cannot move and/ or slip.

The position of the foot support of the stabiliser foot must be horizontal.

Make sure that no one is closeby, except as permitted.

Secure all tools, implements or other materials placed inside the basket, to prevent movements or falls of the same; all unused equipment must be removed from the basket before ascending.

Before ascending to a height, ensure the good functionality of all the controls, and place the equipment and working material so that it does not cause damage or create hazards, either of tripping or falling.

It is mandatory to use type-approved safety belts for PLE and not supplied.

Always check that the bars protecting access to the basket are perfectly intact.

When at a height, pay attention not to strike the basket against fixed or mobile parts or against the lorry cabin.

Observe the minimum clearances in the presence of live power lines (at least 5 m, see table "Power lines"- "Table of safety distances" page 29).

During operation, there must be present, on the ground, at least one person who knows the specialised use of the machine.

Manoeuvres from the ground are allowed only in case of emergency.

When work is finished, replace the machine in rest position, the basket must be in the right position and the stabilisers fully retracted.

Observe any special regulations on driving when working in a place open to traffic, using flashing lights, beeping signals, and the appropriate visual signs on the ground.

If you must abandon the machine, leaving it unattended, position the machine in the rest configuration.

Refer to the vehicle owner's manual for all those elements or parts that are proper and related to the vehicle on which the platform is installed.

Forbidden behaviours

- Never stabilise the platform on structures whose consistency is not known.
- It is forbidden to move the elevating platform when the stabiliser feet are not supported tightly on the floor and/ or when the support on the ground under the stabiliser does not guarantee maximum stability.
- It is prohibited to modify the stabilisation with staff inside the basket of the elevating platform.
- It is prohibited to continue work as soon as failures occur, however small, in the soil.
- It is prohibited to use the elevating platform for elevating loads unless there are personnel authorised with the work equipment.
- Do not use the machine with loads suspended from the sides of the basket, or use the latter as a means to transport materials, which are not tools needed to work, from one point to another.
- It is prohibited to use the elevating platform to push or drag a load.
- It is forbidden to lift, pull or push loads fixed on earth.
- It is prohibited to load, lift or move loads.
The platform is NOT and should not be used as, a crane loader.
- Do not use the machine near live power lines (see table above "Power lines"- "Table of safety distances").
- Do not insert hands or tools in the moving parts or openings in the joints of the arms.
- Do not exceed the permitted capacity, both for number of occupants and for the weight of the equipment.
- It is forbidden to tamper with the seals (plugs) on the valves and safety valves.
- Do not lock the bars protecting access to the basket in the open position.
- Do not operate if the level bubble does not indicate that the machine is level.
- Do not operate if the soil is not properly levelled and resistant to the stabilisers' pressure.

- Do not climb on board the basket.
- On the basket, do not use ladders, raised floors, tables or anything else to reach the work point.
- Never try to ascend or descend from the machine during motion.
- Do not lean or hang on the outside of the basket.
- Do not use the control levers or pipes as handles for climbing.
- Do not carry fuel tanks, hydraulic oil or other flammable material without taking appropriate precautions.
- Do not make any sudden reversals of movement.
- Avoid sudden braking, sudden departures or changes of direction.
- If the basket or any part of the machine is trapped in an adjoining structure, do not use the control commands.
Request the assistance of specialised personnel.
- Do not attach wires, cables or similar objects to the basket. They could pinch or attach to an external hard object resulting in damage to the machine or its tipping.
- it is prohibited to modify, remove or replace any components that would reduce the overall weight or the stability of the base of the machine, such as ballast, batteries, spare wheels, etc.
- It is prohibited to move the vehicle with an operator at a height.
Operation not allowed by the safety systems supplied with the basket.
- It is forbidden to stand under the basket.
- It is prohibited to place the elevating platform on surfaces that transmit vibration.
- It is prohibited to place and use the elevating platform when environmental conditions present a risk of an explosion or fire.

Attention

The elevating platform CANNOT be used in potentially explosive and/ or incendiary environments as this is not in compliance with ATEX 94/9/EC and 1999/92/EC directives.

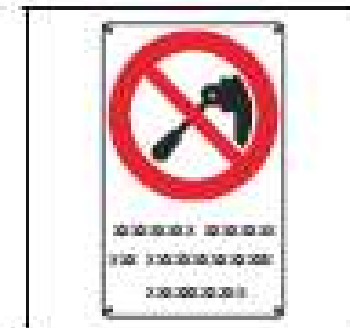
- It is prohibited to place and use the elevating platform when the environment is contaminated by a corrosive atmosphere.
- It is prohibited to disassemble the mechanical, electrical or hydraulic parts of the elevating platform.
- Perform only those operations (adjustment mechanical, electrical or hydraulic, etc.) described in this publication.
- It is prohibited to perform any operation (adjustment, disassembly, etc.) on the elevating platform when the same is in motion.
- It is forbidden to operate with mechanical electrical or hydraulic safety devices that has been removed and/or illegally broken.
- It is absolutely forbidden to stay by the crane not properly addressed (ex. ties, wide clothes, unbuttoned and/or protruding etc.): wear only working suits.
- It is forbidden to use the elevating platform as a ground during the welding of nearby structures, unless it is equipped with adequate equipment for this purpose.
- It is prohibited to use the machine to tow another vehicle.
- It is forbidden to operate in open place during a storm.
- It is prohibited to use the elevating platform in enclosed areas or when the exhaust gas is directly emitted at personnel present in the workplace, without having provided for the connection of the proper evacuation hose for the exhaust gases of the vehicle, pointing away from the operator and the people exposed.
- It is prohibited to use the elevating platform in an environment where the sound intensity exceeds the values of law, without adequate hearing protection.
- Do not direct high pressure jets onto the electrical components, cabets and boxes while washing the machine. Also do not use chemical cleaners or gasoline that would cause serious damage to the paint and plastic components.

Method used to access hazardous areas

To prevent access to hazardous parts composed of moving parts in general, guards are present on various machine parts (made of sheet metal, metal mesh, plastic etc.) and are fixed with screws and/or nuts etc...

To avoid the risk of serious injury due to the presence of moving parts adhere strictly to the following rules of conduct.

- The guards must always be present and correctly secured during machine operation.
- The guards must only be removed by authorised personnel using suitable tools.
- The guards must only be removed when the machine is at a standstill and cannot be restarted by third parties.
- Before removing fixed guards disconnect the machine from the energy sources and affix a sign stating "Work in progress; Do not use".



- Before restarting the machine, reposition the guards and secure them as envisaged by the manufacturer.
- The threaded fasteners must be torqued in such a way as to prevent their removal using only the hands or makeshift tools.

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User and Maintenance Manual

The operators

The elevating platform needs at least two operators.

Establish roles within the work group before starting to work so that each operator fully understands the task to be performed.

Each operator can cover multiple tasks and roles (example: the person who uses the platform, the maintenance man, the driver of the vehicle may be the same person).

Jobs

Every operator has some jobs to do and he must respect them.

The operative people who work with a lifting platform are:

Operator on the ground

The operator on the ground must ensure the work area to report any hazards to the operator in the basket, external staff must be kept from entering the danger zone and must be able to perform all the operations of retraction with safety for the platform and the operator in the basket if the latter is unable to do so.

Person in charge of using the lifting platform

- Before using the lifting platform in erecting yards or in industrial areas, he takes information from the safety responsible of the area about the possible dangers in the area in which the lifting platform has to work and about the dangers you could cause by using the lifting platform.
- He chooses the place in which operate and park the vehicle with the lifting platform.
- He delimitates the working area to avoid the entrance to non-authorised people.

- He values the direction to take and the relative danger degree given by the possible presence of obstacles.
- carries out the elevating operations, of approaching the work point.
- He realises the operations for closing the lifting platform for a transport in complete safety.
- He controls visually the lifting platform searching possible anomalies.
- checks the status and readability of work diagrams and the plates applied to the elevating platform.
- Wear, according to the activity to be carried out, personal protective equipment (PPE).



HELMET

Use of protective helmet to prevent risks generated by any impact with obstacles.



GLOVES

Use protective gloves to prevent cuts, perforation, puncture or burns when carrying out activities at a height.

You have not strictly forced to use gloves when it is necessary to increase the sensitivity in using levers or manipulators.



SHOES

Use of accident-prevention shoes to prevent risks generated by falling materials when working at a height.



CLOTHES

Use protecting clothes to avoid to get entangled with lifted and transported parts.



ACOUSTIC PROTECTION

Protect the hearing in case you use the lifting platform in an area with an acoustic intensity higher than the values indicated by the law.

Driver of the vehicle

- Check the correct position of the transport of the elevating platform and the proper placement of the mechanical stops present.
- Drive the vehicle set-up with the elevating platform in complete safety from one work place to another.

Note

The driver of the vehicle during transport doesn't need PPE.

In fact, it is underlined that while driving the vehicle equipment such as helmet, accident prevention shoes and glasses (or protective screen) must be put out for not troubling movements while driving.

Employed in the ordinary maintenance

- He checks out the state of preservation of the lifting platform, the wear of the sliding elements (ex.: wearpads on the booms), flexible pipes and possible leakages.
- He realises the ordinary maintenance as foreseen and as frequently indicated in the present publication.
- He signals unexpected situations (as wears, fallings down, breaks, etc.) to the authorised shop and to the lifting platform's owner.
- He checks out that the supplementary maintenance have been realised by authorised shops as frequently indicated in the present manual.
- He fills the control register.
- Wear, according to the activity to be carried out, personal protective equipment (PPE).



CLOTHES

Use protecting clothes to avoid any entanglement with mechanical parts of the lifting platform or vehicle.



GLOVES

Use of protecting gloves to avoid cuts, perforations or picks caused by mechanical parts non-correctly trimmed.



SHOES

Use safety shoes to avoid risks caused by the falling down of materials or devices used during the ordinary maintenance.



EYEGASSES

Protect your eyes with eyeglasses or protecting screens in case of operations near the hydraulic system in pressure.

Company manager using the elevating platform

He informs the operator employed to the use of the lifting platform about:

- Dangers present in the working area and on those that could be created by using the lifting platform.
- Possible presence of workers in the dangerous area (area of manoeuvre of the lifting platform) that cannot abandon the working area because of particular jobs.
- Possible emissions of dangerous substances in the air or in the ground that could compromise the safe movement of the loads.
- Safety devices compulsory in the working area.

Responsible for the safety of the lifting platform

- He informs the employed to the use of the lifting platform about the dangers that could be produced by using the lifting platform.

Danger

The responsible for the safety of the lifting platform must watch over the crane to avoid an improper use of it; to avoid any possible damages to the operator, exposed people, animals and material present in the working area.

Personal protective equipment (PPE)

During the course of normal work and during maintenance work it is necessary to ensure that workers are provided and are using Personal Protective Equipment for the task at hand.

Attention

The personal protection devices must be carefully stored and replaced when damaged.

Suitability

The operator's aptitude requisites, knowledge and training must be respondent to the norm ISO 9926-1:1992.

Suitability of the machine operator must first be verified by health checks, in strict compliance with the law applicable in the Country of use.

~~The machine must be used by a trained operator who has no problems pertaining to sight or~~

never use the lifting platform in the following situations:

The machine must be used by a trained operator who has no problems pertaining to sight or hearing.

It is the responsibility of the employer of the company using the elevating platform to verify, including through tests or attitudinal surveys, that:

- the operator employed to the use of the lifting platform is able following the professional medical visit;
- the operator is a person physically and mentally wealthy, aware and responsible of the possible dangers that could occur by using the lifting platform and a person who is able of self-control even in highly stressing situations;
- the operator employed to the functioning and/or maintenance of the lifting platform is wealthy and that he does not present pathology that could arise suddenly;
- the operator has good sight (even if through eyeglasses or lenses), good hearing, ready reflexes, good movements coordination;
- the operator does not take substances that could alter his physical and mental capacities (medicines, alcohol, drugs, etc.).

Non-perfect physical conditions can be the causes of serious damages to himself, but also to people, animals or material good in the working area of the lifting platform;

- the operator is able to read and comprehend the documents, symbols, stickers and working diagrams applied on the lifting platform;
- the operator knows that it is not allowed to use the lifting platform for strangers, because they do not know the risks and dangers they can cause;
- the operators must have specific skills and must have participated in the training course;
- the operator is at least 18 years old;
- the operator has got a regular driving licence valid in that country, in case he has to drive the vehicle on which the lifting platform is mounted;
- the operator must have read and understood this User Manual and the relative annexes.

The builder suggest proceeding norms, accepting the main norms for safety:

Each worker must take care for his and others safety and wealth, considering his own formation and the instructions given by the employer; practically taking care of those people on whom the effects of actions or omissions could fall on during the working.

In order to realise such aims, the workers have to:

- use correctly the machines, devices, equipments, dangerous substances, transport equipments and other vehicles;
- use correctly the individual protections and after using put them on their proper place back;
- do not put out of order, replace or change place to the safety devices arbitrarily, but use them correctly;
- signal to the employer and/or to the employed in safety every situations that could be reasonably considered a real and immediate danger for safety and wealth; for the same reason you have to signal also whatever defect found in protecting systems;
- cooperate with the employer and/or with the employed in safety for the protection of the safety and wealth of the workers during the working, respecting the national norms and the duties imposed by the competent authority;
- cooperate with the employer and/or with the employed in safety for the realisation of environmental and working conditions without any risk of danger, in order to grant to workers safety and wealth in the working area, respecting the national norms.

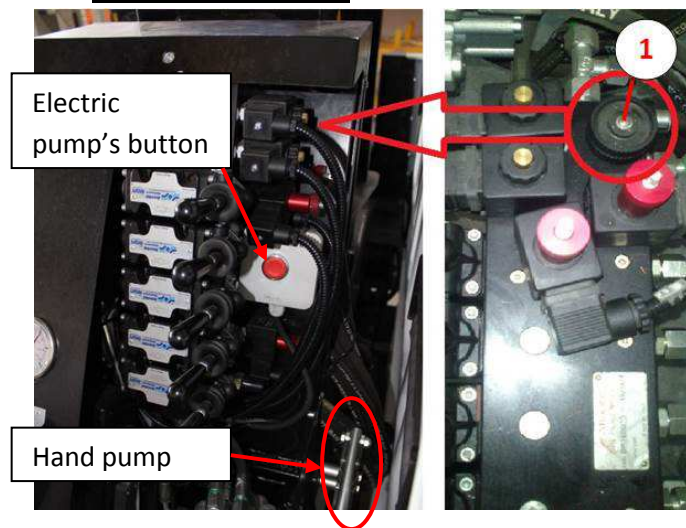
Furthermore, the employer has to:

- check out that workers and their agents know the laws and safety norms;
- check out that the workers and their agents respect the laws and safety norms;
- give all the necessary information for the respect of the operator's safety and wealth;
- respect the issued safety and wealth norms.

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User and Maintenance Manual

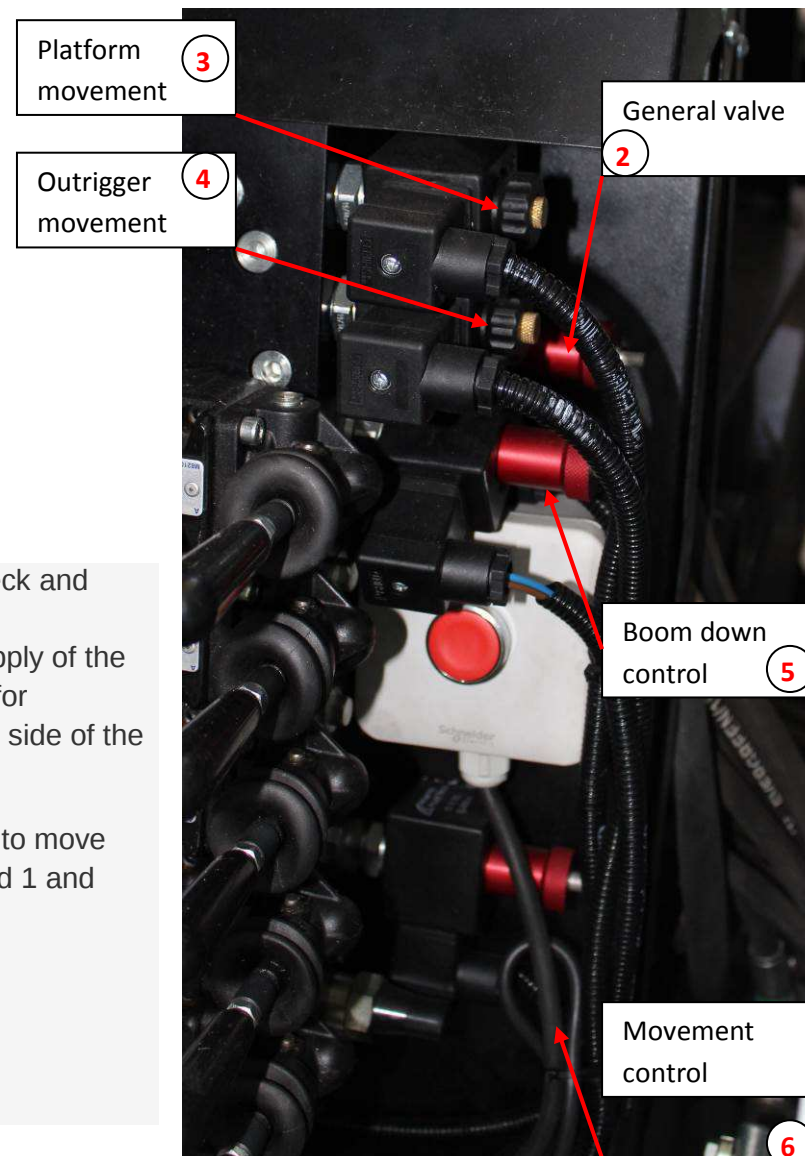
3.2 EMERGENCY USE



In case of emergency shutdown of the machine, reset the first movement, check and eliminate the cause.

In cases where one can not eliminate the cause of a result of failure of the supply of the hydraulic machine is equipped with an electric motor and with an hand pump for emergency operations, both located in the compartment situated and the right side of the equipment.

The emergency procedure in case that the operator in the basket is not able to move lever, the operator that work at ground have to screw completely the command 1 and move the lever situated in the base of the platform.



In case that there isn't electric you will act as follows:

1. Make sure you have the dashboard and handbrake on Voltage, and the key to cutting electrical use (if any).
2. Screw completely all the electrovalve and the control pos.1 - 2 - 5 - 6
3. Now the operator will be able to use electric pump, if there isn't electrical power it's possible to operate with hand pump.
4. To return with platform the operator must unscrew valve n°3 that is for platform movement
5. Once platform is correctly in rest position the operator have to screw completely valve n°3 and unscrew completely valve n°4
6. Operate electric pump's button and operate the controls of emergency by carefully following the sequence described in the preceding paragraph (Back extensions → rotation → Down with pantograph → Down boom → back stabilizers)

(Proceed the same with hand pump)



ATTENTION

COMPLETION OF THE EMERGENCY RETURN TO ORIGINAL POSITION OF EXCLUSION OF ELECTROMAGNETIC DEVICES. WORKING WITH THESE CLOSED, IT MAKES NO STOPPING THE OPERATION OF EMERGENCY AND SECURITY FUNCTIONS OF THE MACHINE. WHEN OPERATING IN FAILURE TO ELECTRICAL SAFETY DEVICES ARE NOT ACTIVE, SO DO THE RIGGING WITH DUE CARE AND CHECK REGULARLY THE POSITION AND STRUCTURE OF THE BASKET. DEVICES FOR EXCLUSION OF EMERGENCY BEEN SEALED. RESPONSE AND RECOVERY OCCURRED 'MUST GO AT AN AUTHORIZED TO RESTORE THE PLUMBING.

3.3 VIBRATIONS

During use, X4 does not generate vibrations, except light vibrations produced by the pump. If you feel vibrations, stop works and contact an authorised workshop.

3.4 SOUND EMISSION

This machine is equipped with an acoustic warning: a repetitive buzzer that signals machine status.

4 GENERAL INFORMATION

4.1 MANUFACTURER'S IDENTIFICATION DATA

Manufacturer : **CO.ME.T. Officine s.r.l.** Via Castelfranco, 46 - Loc. Tivoli – 40017 San Giovanni in Persiceto BO

Tél.(+39) 051-6878711 - Fax (+39) 051-799902

www.officinecomet.com

info@officinecomet.com

4.2 MACHINE PLATES

		S. GIOVANNI IN PERSICETO BOLOGNA - ITALY TEL. 0039/051.6878711 FAX 0039/051.799902		
MODELLO MODEL		MATRICOLA SERIAL		
VEICOLO VEHICLE		DATA DI FABBR. YEAR		
N° DI TELAIO CHASSIS SERIAL				
	kg		N	
	kg			
	mt/s			
	REAZIONE MAX. MAX REACTION	daN	ANT. FRONT	POST. REAR
	PRESSIONE MAX. MAX PRESSURE	daN/cm ²		
	PRESSIONE MAX. CIRCUITO MAX OPERATING PRESSURE	MPa		

5.MAINTENANCE

5.1 MAINTENANCE SCHEDULE

FREQUENCY	OPERATIONS
Every day before start-up	Checks to be carried out without people in the basket: → Emergency stop buttons → Proper stabiliser function → Controls and indicator lights → Battery charge → Fuel and oil levels → Pin locking must be free from defects or deformities → Complete legibility of plates → There should be no leaks in the hydraulic system, no loose electrical connections or signs of rubbing.
Every 50 hours of operation	→ Check motor oil levels → Check machine cleaning conditions → Check hydraulic connection conditions
Monthly	Perform a full cleaning and lubrication cycle, check and grease all articulation components on the machine.
Every 3 months	Check tightening of main fastenings: → Subframe nuts and bolts → Ring nuts on pins. Replace if screw or nuts tightening is not correct.
Every 6 months	Perform thorough checks of the machine and report results in the appropriate checks register

Annually	Complete change of hydraulic system oil. Replace in an authorised workshop.
Every 1-3 years (1500- 4500 hours)	Complete inspection by CO.ME.T. OFFICINE SRL or authorised workshop.
At 15,000 hours (10 years)	Complete servicing by CO.ME.T. OFFICINE SRL or authorised workshop.

5.2 PERIODS OF INACTIVITY

If the machine is not used for a long period, follow precise requirements before setting it aside:

- Bring the machine to a dry, aerated location.
- Remove machine keys.
- Clean the entire hydraulic system.
- Protect with anti-corrosion products.
- Grease surfaces not protected by paint, sliding guides, gears, pins and articulation components.
- Avoid covering the machine with plastic sheeting to prevent harmful condensation.

Follow the manufacturer's instructions for the carriage.

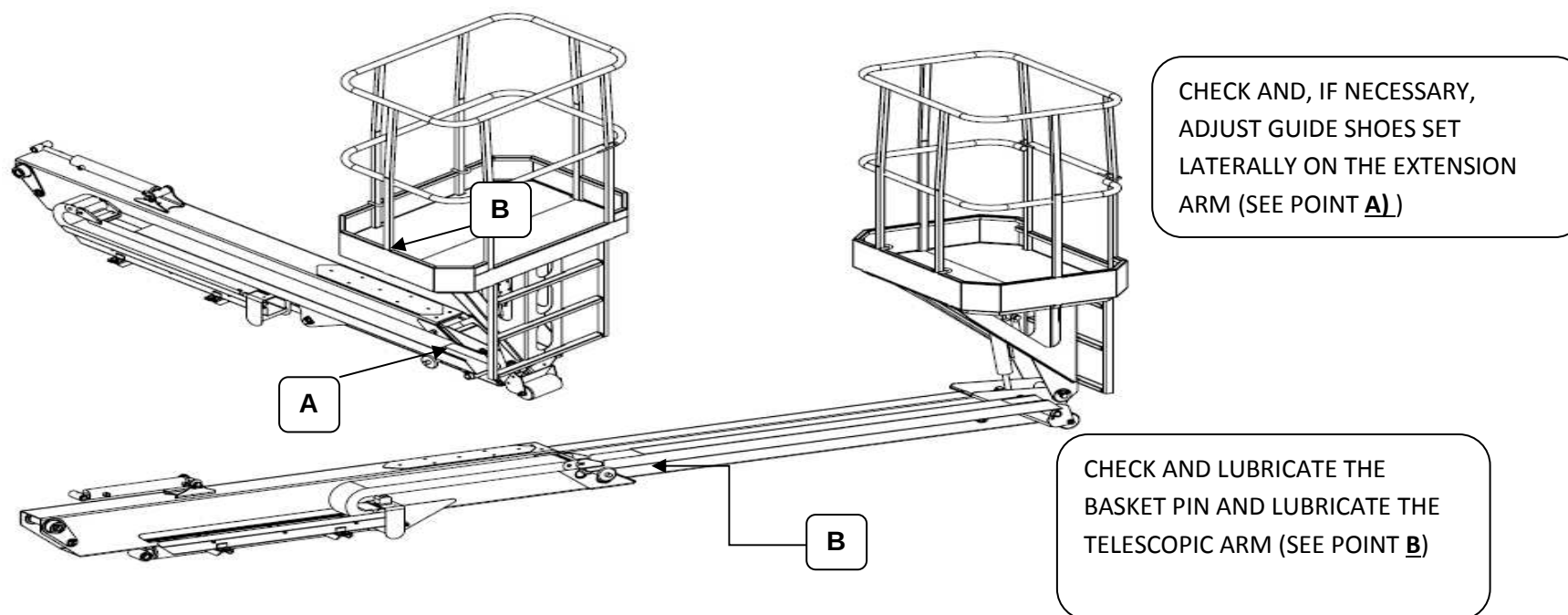
5.3 DEMOLITION AND DISMANTLING

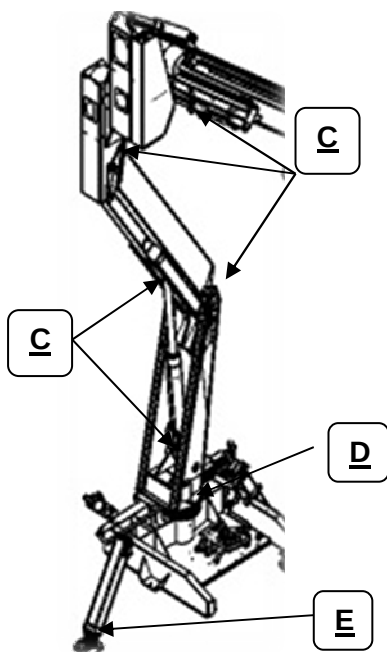
In the event of demolition, remove all parts of the machine and separate them according to the type of material. The parts will then be allocated to various collection points. Different types of material are present in X4:

- Ferrous materials: structural and mechanical components.
- Electrical materials: solenoid valves, wires, coils, relays, etc.
- Plastic materials: gaskets, protections, electrical panels.
- Oils and lubricants: hydraulic oil, lubricant grease.

5.4 CHECKS AND LUBRICATION

CO.ME.T. OFFICINE SRL recommends the use of Petronas Hydraulicar AP46 oil



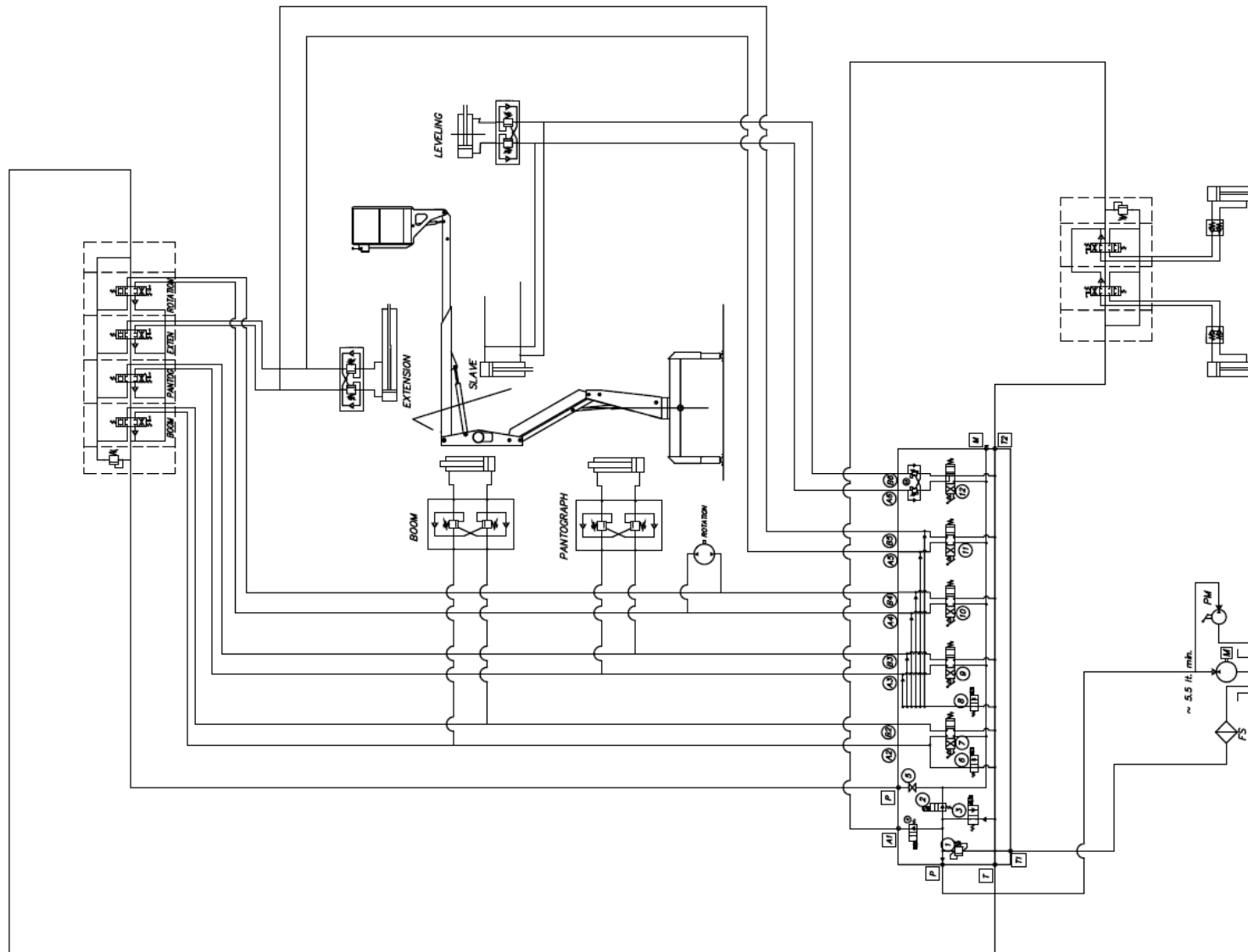


CHECK CLEARANCE AND LUBRICATION OF MACHINE
ARTICULATION PINS (SEE POINTS C)

LUBRICATE SLEW DRIV (SEE POINT D)

LUBRICATE THE 4 STABILIZER (SEE POINT E)

NOTE: ALSO CHECK FOR THE PRESENCE OF
ANY RUST THAT MAY HIGHLIGHT
COLLISIONS, CRACKS OR OTHER
SITUATIONS WHERE INTERVENTION OF
MICRO-SWITCHES AND CYLINDER BLOCK
VALVES IS NECESSARY. CHECK THE
CONDITIONS



6 CHECKS REGISTER

6.1 References

Leg. Decree 81 of 09/04/2008 (amended by Leg. Decree 106 of 03/08/2009) - Consolidated Law on the protection of health and safety in the workplace (merges and repeals Pres. Decree 547 of 27/04/55, Leg. Decree 626 of 19/09/1994 et seq. and Leg. Decree 277 of 15/08/1991). For machine data, refer to that stated in this use and maintenance manual.

6.2 Management of recordings and reports

The pages set-up for recording the control, maintenance interventions and reports are an integral part of the machine documentation and must be filled-in completely according to the methods described below.

New provisions can intervene to modify the user obligations regarding filling-in the registers attesting to the controls and maintenance performed (e.g. in the event of modifications to current legislation).

At the user's responsibility, all the significant events affecting the operating life of the vehicle must be noted and in particular:

- variations in the equipment;
- replacement of mechanisms, structural elements, safety devices, etc.;
- major failures and the related repairs, not falling within normal or extraordinary maintenance;
- periodic checks of the cables or chains (when present);
- obligatory periodic checks;
- transferring the property.

Attention

- Do not leave anything blank: if the item is not applied write: NOT APPLICABLE.

- At the end of the examination, fill-in “The inspection report, periodic checks and non-compliance”.

IF NON-CONFORMITIES HAVE BEEN DETECTED, DESCRIBE THEM IN L.4. AND ALSO INDICATE THE RESOLUTION AND THE CLOSURE OF THE NON-CONFORMITY.

Note:

If there are not enough sheets in the log for the records, add the necessary papers (eg., photocopying the various schedules in advance), prepared according to the formats shown here.

The additional sheets of the user must contain references that can identify them as part of this section of the manual for this machine.

6.2.1 Controls and scheduled periodic maintenance register

All controls and scheduled maintenance interventions indicated in chapter 6.4. must be recorded in register 6.4.

The daily controls are not recorded every day, but are however mandatory for correct machine operation

If non-conformities are highlighted during the daily controls, these must be recorded in 6.4.

The following must be indicated in the register 6.4.:

- Report number
- Date
- Machine work hours
- Indication of controls carried out (tick the box at the side of the indication of frequency of the control you declare to have performed all of the operations relative to that frequency as

indicated in 6.4.)

- Control results
- Description of any anomalies
- Description of any interventions
- Operator's signature

6.2.2. Maintenance and extraordinary checks register

Must be performed at authorised workshop if:

- structural changes
- major repairs
- non-routine maintenance
- recommissioning after long down periods
- disassembly and reassembly elsewhere

The extraordinary checks carried out at the authorised office consist in the inspection of the machine and this is performed by suitably trained operators.

Every intervention must be recorded on 6.4. "The inspection report, periodic checks and noncompliance".

6.2.3. Register of controls envisioned by current legislation

ON COMMISSIONING OF THE ELEVATING PLATFORM, THE USER MUST REPORT TO THE AUTHORISED AND COMPETENT BODY FOR THE TERRITORY OF REFERENCE.

This register must be presented to the technician assigned to performing the above-mentioned checks and successive checks.

The reports of the checks carried out by the control body must be kept inside the register.

If ropes and chains are present, the three-monthly checks must be recorded in the table 6.6.

If the ropes and chains are replaced (IF PRESENT) the table 6.7. must be filled-in.

6.2.4. Authorised persons

The records must be performed by staff carrying out tests (owner or authorised workshop), this personnel must be expert and, when required, authorised by law.

6.2.5. Conservation of the control register

This register must be kept for the entire life span of the machine.

The register is an integral part of the use and maintenance manual, which describes the methods and frequency with which the controls and maintenance must be performed.

It is prohibited to divide the controls register from the use and maintenance manual.

ON COMMISSIONING OF THE ELEVATING PLATFORM, THE USER MUST report to the authorised and COMPETENT body FOR THE TERRITORY IN RELATION TO THE POSITION OF THE ESTABLISHMENT OR SITE.

This register must be presented to the technician assigned to performing the above-mentioned checks and successive checks.

6.3. Method for carrying out the checks

Controls and maintenance = See table 6.4. and successive descriptions

Extraordinary maintenance and checks = According to punctual requirements

Controls envisioned by current legislation = Yearly check by authorised body + ropes and chains every three months (if presents)

Summary of where the controls and maintenance are indicated within the manual:

- Chapter 3 “Safety”
 - Inspection on delivery
 - couplings
 - Daily inspection
 - Batteries
 - Electric pump
 - Routine maintenance (Put reference to 6.4.)
- Chapter I “Maintenance”
 - 6.4. Periodic maintenance table (100, 250, 500 hours, 2nd and 3rd service – NB the daily controls are indicated.)
- Chapter L “Recordings”
 - 6.4. –

Report No.	Date	Machine work hours
Checks relating to the testing of operations ☐ 100 hours ☐ 250 hours ☐ 500 hours ☐ Ropes and chains (if presents) ☐ Extraordinary maintenance and new inspection (also fill-in L.8.) ☐ Other		
Results: ☐ Positive ☐ Negative (anomalies detected)	Malfunction: ☐ Resolved ☐ NOT resolved	
Description of the anomaly:		
Description of the solution (intervention, replacement, etc.)		
Operator Function	Name surname	Signature

6.4 The inspection report, periodic checks and non-compliance

Report No.	Date	Machine work hours
Checks relating to the testing of operations ☐ 100 hours ☐ 250 hours ☐ 500 hours ☐ Ropes and chains (if presents) ☐ Extraordinary maintenance and new inspection (also fill-in L.8.) ☐ Other		
Results: ☐ Positive ☐ Negative (anomalies detected)		Malfunction: ☐ Resolved ☐ NOT resolved
Description of the anomaly:		
Description of the solution (intervention, replacement, etc.)		
Operator Function	Name surname	Signature

Report No.	Date	Machine work hours
Checks relating to the testing of operations ☐ 100 hours ☐ 250 hours ☐ 500 hours ☐ Ropes and chains (if presents) ☐ Extraordinary maintenance and new inspection (also fill-in L.8.) ☐ Other		
Results: ☐ Positive ☐ Negative (anomalies detected)		Malfunction: ☐ Resolved ☐ NOT resolved
Description of the anomaly:		
Description of the solution (intervention, replacement, etc.)		
Operator Function	Name surname	Signature

Report No.	Date	Machine work hours
Checks relating to the testing of operations ☐ 100 hours ☐ 250 hours ☐ 500 hours ☐ Ropes and chains (if presents) ☐ Extraordinary maintenance and new inspection (also fill-in L.8.) ☐ Other		
Results: ☐ Positive ☐ Negative (anomalies detected)		Malfunction: ☐ Resolved ☐ NOT resolved
Description of the anomaly:		
Description of the solution (intervention, replacement, etc.)		
Operator Function	Name surname	Signature

Report No.	Date	Machine work hours
Checks relating to the testing of operations ☐ 100 hours ☐ 250 hours ☐ 500 hours ☐ Ropes and chains (if presents) ☐ Extraordinary maintenance and new inspection (also fill-in L.8.) ☐ Other		
Results: ☐ Positive ☐ Negative (anomalies detected)		Malfunction: ☐ Resolved ☐ NOT resolved
Description of the anomaly:		
Description of the solution (intervention, replacement, etc.)		
Operator Function	Name surname	Signature

6.5 Change of ownership record

SUCCESSIVE CHANGES OF OWNERSHIP

Date _____

The ownership of the WORK PLATFORM _____
described in this manual is transferred to the Firm/Company:

It is hereby certified that, at the date mentioned above, the technical specifications, dimensions and functions of the WORK PLATFORM described in this manual conform to those originally existing and that any modifications have been recorded in this Register

The Seller

The Buyer

SUCCESSIVE CHANGES OF OWNERSHIP

Date _____

The ownership of the WORK PLATFORM _____
described in this manual is transferred to the Firm/Company:

It is hereby certified that, at the date mentioned above, the technical specifications, dimensions and functions of the WORK PLATFORM described in this manual conform to those originally existing and that any modifications have been recorded in this Register

The Seller

The Buyer

SUCCESSIVE CHANGES OF OWNERSHIP

Date _____

The ownership of the WORK PLATFORM _____
described in this manual is transferred to the Firm/Company:

It is hereby certified that, at the date mentioned above, the technical specifications, dimensions and functions of the WORK PLATFORM described in this manual conform to those originally existing and that any modifications have been recorded in this Register

The Seller

The Buyer

[illegible]

6.7 Cable / chain characteristics (if presents)

Id.	Brand	Model	Capacity	Q.ty
1				

6.8 Form for placements and changes made

Place:	Date:	Hours recorded:
--------	-------	-----------------

Description of the item replaced
(structural elements, safety devices, accessories, etc.)

Reason for the replacement

The manager for repairs declares having checked after the installation the perfect efficiency of the replaced and/ or changed part and that he has attested restoration of the original safely conditions

Signature of the manager for the repair

Signature of the machine manager

6.9 Form for recording significant damage and related repairs

Place:	Date:	Hours recorded:
--------	-------	-----------------

Failure description

Conceivable causes

Results of repair made

Signature of the manager for the repair

Signature of the machine manager

Warning

No special measures need be taken during disposal of the machinery as more than 90% (in weight) of this is made up of recyclable materials.

The machine should be scrapped adopting safety measures that take account of the logistic and environmental conditions and the state of wear.

Nonetheless, follow the general rules below:

- Wear protective clothing and accessories (helmet, safety footwear, gloves, and safety spectacles and facemask if necessary) approved in accordance with statutory safety legislation.
- Disconnect the machine from all energy sources.
- Use suitable lifting means as indicated in the “Transport” section of the “Lifting systems” chapter.



Attention

The machinery must be demolished and disposed of by specialized, qualified technicians in accordance with all rules on the scrapping of industrial products.

Information for filling-in the reports and the service documents

The pages prepared inside this manual for recording the acceptance reports and servicing are an integral part of the machine documentation and must be filled-in completely according to the methods described below.

New provisions can intervene to modify the user obligations regarding filling-in the registers attesting to the controls and maintenance performed (e.g. in the event of modifications to current legislation).

At the user's responsibility, all the significant events affecting the operating life of the vehicle must be noted and in particular:

- variations in the equipment
- replacement of mechanisms, structural elements, safety devices, etc.
- major failures and the related repairs, not falling within normal or extraordinary maintenance
- periodic checks of the cables or chains (when present)
- obligatory periodic checks
- transferring the property

Attention

- Do not leave anything blank: if the item is not applied write: NOT APPLICABLE.

Regulation for the after-sales assistance and warranty conditions

The after-sales service regulations and warranty conditions must be filled-in completely on delivery of the machine. 3 copies must be filled-in, of which one remains with the owner, one to Officine CO.ME.T srl and one to the retailer/authorised dealer.

Acceptance report and first service

The acceptance report must be filled-in completely on machine delivery.

The controls indicated in D.10.3. are performed on delivery. Any defects or non-conformities detected must be indicated on the acceptance report.

The acceptance report must be filled-in in 3 copies, of which one remains with the owner, one to Officine CO.ME.T. and one with the retailer/authorised dealer.

The first service report, which must be performed on delivery, is made up of three copies:

- The 1st copy is attached to this manual.
- The 2nd copy to detach and deliver to the retailer/authorised dealer.
- The 3rd copy is detached and sent to Officine CO.ME.T. to start the warranty.

Second and third service

The controls envisioned for the second and third service are indicated in chapter I.4.

The execution of the service must be recorded in L.4. and on the service reports

The service report, which must be filled-in completely, is made up from three copies:

- The 1st copy is attached to this manual.
- The 2nd copy is detached and delivered to the authorised service centre.
- The 3rd copy is detached and sent to Officine CO.ME.T.

Page deliberately empty

*Page to be detached and sent to CO.ME.T. OFFICINE SRL duly filled-in, stamped and signed by the customer
page to be filled out and detached at the time of delivery to the end customer*

REPORT OF DELIVERY ACCEPTANCE	
The undersigned	
assigned by the company	
the retraction of the aerial platform:	
AERIAL WORK PLATFORMS	
Model	
Serial number	
VEHICLE	
Model	
Frame	
Vehicle registration plate	
DOCUMENTS DELIVERED TOGETHER WITH EQUIPMENT	
☐ Waybills/ Logbook ☐ Declaration of Conformity of the aerial platform ☐ Operating/ maintenance manual/ spare parts of aerial platform ☐ Diagram of work applied to the machine, the same as what is reported in this publication ☐ The nameplate contains the data consisting of the documentation attached to the machine ☐ Hydraulic/ electrical layouts ☐ Declares to be informed about the rules of use, maintenance, support and accident prevention in this manual	
Date	
for CO.ME.T. Officine srl	receipt for the CUSTOMER
.....	

Page deliberately empty

*Copy for Retailer/ Dealer
page to be filled out and detached at the time of delivery to the end customer*

REPORT OF DELIVERY ACCEPTANCE	
The undersigned assigned by the company the retraction of the aerial platform:	
AERIAL WORK PLATFORMS	
Model	
Serial number	
VEHICLE	
Model	
Frame	
Vehicle registration plate	
DOCUMENTS DELIVERED TOGETHER WITH EQUIPMENT	
☐ Waybills/ Logbook ☐ Declaration of Conformity of the aerial platform ☐ Operating/ maintenance manual/ spare parts of aerial platform ☐ Diagram of work applied to the machine, the same as what is reported in this publication ☐ The nameplate contains the data consisting of the documentation attached to the machine ☐ Hydraulic/ electrical layouts ☐ Declares to be informed about the rules of use, maintenance, support and accident prevention in this manual	
Date	
for CO.ME.T. Officine srl	receipt for the CUSTOMER
.....	

Page deliberately empty

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page to fill out at the time of delivery to End customer*

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The undersigned assigned by the company the retraction of the aerial platform:	
AERIAL WORK PLATFORMS	
Model	
Serial number	
VEHICLE	
Model	
Frame	
Vehicle registration plate	
DOCUMENTS DELIVERED TOGETHER WITH EQUIPMENT ☐ Waybills/ Logbook ☐ Declaration of Conformity of the aerial platform ☐ Operating/ maintenance manual/ spare parts of aerial platform ☐ Diagram of work applied to the machine, the same as what is reported in this publication ☐ The nameplate contains the data consisting of the documentation attached to the machine ☐ Hydraulic/ electrical layouts ☐ Declares to be informed about the rules of use, maintenance, support and accident prevention in this manual Date	
for CO.ME.T. Officine srl	receipt for the CUSTOMER

Page deliberately empty

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page to be filled out and detached at the time of delivery to the end customer*

CUSTOMER		
Address		
Person assigned	Tel.	Fax

PLATFORM	Serial number
Vehicle	Vehicle registration plate
Date of delivery	Warranty duration
	Frame

AUTHORISED DEALER
AUTHORISED SERVICE CENTRE

REGULATION FOR THE AFTER-SALES ASSISTANCE AND WARRANTY CONDITIONS

1. The CO.ME.T. guarantees the machine for 12 months from delivery.
Spare parts will be supplied free of charge during the warranty period for the replacement of pieces resulting faulty, this does not include electrical parts.
2. The warranty is only valid if on delivery the page of the use and maintenance manual relative to FIRST SERVICING has been sent to CO.ME.T. duly filled-in and signed.
3. The warranty is only valid if all controls and scheduled maintenance, indicated in the use and maintenance manual, have been recorded.
4. After-sales service is assured during the warranty period, only with charges for any consumables consisting in the execution of n. 3 services, distributed as follows:
First service: on delivery for staff training.
Second service: within 6 months and however not over 250 hours of work for general control.
Third service: within 12 months and however not over 500 hours of work for general control.
5. Servicing must be performed at the CO.ME.T. establishment or at the After-sales Point to which the machine has been assigned.
Whenever the Customer requests the Servicing be performed at his own establishment, all transfer costs and travelling time of the technician will be at his own expense.
6. Subscriptions: on expiry of the warranty period, the Customer can request subscription to the Schedules After-sales Service, normally consisting in 2 interventions every year to be performed every 6 months. Estimates for the cost of the Service will be supplied on request.
The spare parts are not included in the cost of the subscription; they will be supplied at list price.

Date

Stamp and signature of the customer
for acceptance of the warranty conditions

Page deliberately empty

*Copy for Retailer/ Dealer
page to be filled out and detached at the time of delivery to the end customer*

CUSTOMER			
Address			
Person assigned	Tel.	Fax	

PLATFORM	
Vehicle	Serial number
Date of delivery	Vehicle registration plate
	Frame
	Warranty duration

AUTHORISED DEALER
AUTHORISED SERVICE CENTRE

REGULATION FOR THE AFTER-SALES ASSISTANCE AND WARRANTY CONDITIONS

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The spare parts are not included in the cost of the subscription; they will be supplied at list price.

Date

Stamp and signature of the customer
for acceptance of the warranty conditions

Page deliberately empty

*Copy to be kept attached to the manual
page to fill out at the time of delivery to End customer*

CUSTOMER		
Address		
Person assigned	Tel.	Fax

PLATFORM		
Vehicle	Serial number	Frame
Date of delivery	Vehicle registration plate	Warranty duration

AUTHORISED DEALER
AUTHORISED SERVICE CENTRE

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Estimates for the cost of the Service will be supplied on request.
The spare parts are not included in the cost of the subscription; they will be supplied at list price.

Date

Stamp and signature of the customer
for acceptance of the warranty conditions

Page deliberately empty

FIRST SERVICE COUPON be made upon delivery			
Customer			
Address			
Model	Serial number		
Operation: - Instructions for use and maintenance to the Customer - Practical operation of each element of the machine - Delivery of the machine complete with CO.ME.T.: - registration documents to DMV - "CE" statement of conformity - instruction Manual on maintenance and spare parts			
Comments:			
Coupon cut on:		The stamp of the service centre approved for the customer	
Hours indicated by the counter:		The customer	

Page deliberately empty

COPY FOR RETAILER/ DEALER
to be fill out and detached at the time of delivery to final customer

FIRST SERVICE COUPON be made upon delivery			
Customer			
Address			
Model		Serial number	
Operation: • Instructions for use and maintenance to the Customer • Practical operation of each element of the machine • Delivery of the machine complete with CO.ME.T.: - registration documents to DMV - "CE" statement of conformity - instruction Manual on maintenance and spare parts			
Comments:			
Coupon cut on:		The stamp of the service centre approved for the customer	
Hours indicated by the counter:		The customer	

Page deliberately empty

Page to be completed and attached and kept with this manual

FIRST SERVICE COUPON be made upon delivery					
Customer					
Address					
Model		Serial number			
Operation: • Instructions for use and maintenance to the Customer • Practical operation of each element of the machine • Delivery of the machine complete with CO.ME.T.: - registration documents to DMV - "CE" statement of conformity - instruction Manual on maintenance and spare parts					
Comments:					
Coupon cut on:		The stamp of the service centre approved for the customer		The customer	
Hours indicated by the counter:					

Page deliberately empty

Page to be detached and send to CO.ME.T. OFFICINE SRL duly completed,
stamped and signed by the Customer and whoever cut the coupon,
within 15 days of execution to be entitled to the warranty

SECOND SERVICE COUPON
to be carried out within 6 months after delivery and/ or 150 hours

Customer			
Address			
Model		Serial number	
Operation: • Checks and records: - efficiency of block valves on each jack - efficiency of safety system - tightening the fifth wheel screws, gearbox rotation, frame anchoring - efficiency of remote control of basket - Control of cables and/ or chains of arm extender skids (if presents) • Lubrication: - lubricating joints of base props and any other point specified in the lubrication chart • Replacement operations: - hydraulic oil and filter • Operation test: - efficiency of reach limiter (when present) - load cells (when present)			
Comments:			
Coupon cut on:		The stamp of the service centre approved for the customer	
Hours indicated by the counter:		The customer	

Page deliberately empty

COPY FOR RETAILER/ DEALER
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SECOND SERVICE COUPON

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Comments:			
Coupon cut on:		The stamp of the service centre approved for the customer	
Hours indicated by the counter:		The customer	

Page deliberately empty

Page to be completed and attached and kept with this manual

SECOND SERVICE COUPON
to be carried out within 6 months after delivery and/ or 150 hours

Customer			
Address			
Model		Serial number	
Operation: • Checks and records: - efficiency of block valves on each jack - efficiency of safety system - tightening the fifth wheel screws, gearbox rotation, frame anchoring - efficiency of remote control of basket - Control of cables and/ or chains of arm extender skids (if presents) • Lubrication: - lubricating joints of base props and any other point specified in the lubrication chart • Replacement operations: - hydraulic oil and filter • Operation test: - efficiency of reach limiter (when present) - load cells (when present)			
Comments:			
Coupon cut on:		The stamp of the service centre approved for the customer	
Hours indicated by the counter:		The customer	

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Page to be detached and send to CO.ME.T. OFFICINE SRL duly completed,
 stamped and signed by the Customer and whoever cut the coupon,
 within 15 days of execution to be entitled to the warranty

THIRD SERVICE COUPON to be carried out within 12 months after delivery and/ or 300 hours		
Customer		
Address		
Model	Serial number	
Operation: • Checks and records: - efficiency of block valves on each jack - efficiency of safety system - restarting tower rotation clearances - emergency manual and electric pump efficiency - tightening joint nuts and bolts - hydraulic pressure circuit - control of cables and/ or chains of arm extender skids (if presents) • Lubrication: - lubricating joints of base props and any other point specified in the lubrication chart • Replacement operations: - hydraulic oil and filter • Operation test: - efficiency of reach limiter (when present) - load cells (when present)		
Comments:		
Coupon cut on:	The stamp of the service centre approved for the customer	The customer
Hours indicated by the counter:		

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*COPY FOR RETAILER/ DEALER
to be fill out and detached at the time of delivery to final customer*

THIRD SERVICE COUPON to be carried out within 12 months after delivery and/ or 300 hours		
Customer		
Address		
Model	Serial number	
Operation: • Checks and records: - efficiency of block valves on each jack - efficiency of safety system - restarting tower rotation clearances - emergency manual and electric pump efficiency - tightening joint nuts and bolts - hydraulic pressure circuit - control of cables and/ or chains of arm extender skids (if presents) • Lubrication: - lubricating joints of base props and any other point specified in the lubrication chart • Replacement operations: - hydraulic oil and filter • Operation test: - efficiency of reach limiter (when present) - load cells (when present)		
Comments:		
Coupon cut on:	The stamp of the service centre approved for the customer	The customer
Hours indicated by the counter:		

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Page to be completed and attached and kept with this manual

THIRD SERVICE COUPON to be carried out within 12 months after delivery and/ or 300 hours		
Customer		
Address		
Model	Serial number	
Operation: • Checks and records: - efficiency of block valves on each jack - efficiency of safety system - restarting tower rotation clearances - emergency manual and electric pump efficiency - tightening joint nuts and bolts - hydraulic pressure circuit - control of cables and/ or chains of arm extender skids (if presents) • Lubrication: - lubricating joints of base props and any other point specified in the lubrication chart • Replacement operations: - hydraulic oil and filter • Operation test: - efficiency of reach limiter (when present) - load cells (when present)		
Comments: 		
Coupon cut on:	The stamp of the service centre approved for the customer	The customer
Hours indicated by the counter:		

