

YOUNGMAN

INNOVATIVE WORK AT HEIGHT SOLUTIONS



BOSS X3X-SP

The ultimate self propelled micro scissor lift

**INSTRUCTIONS
FOR USE**

Edition April 2011



EN 280

IP54

Contents

SECTION 1 - DESCRIPTION	PAGE
1.1 Introduction	1
1.2 Characteristics and description	2
1.3 Intended use	3
1.4 Selection and minimum attributes of operators	4
1.5 Modifications	5
1.6 Terminology	6
SECTION 2 - SPECIFICATION	
2.1 Technical data	10
2.2 Operating site	12
2.2.1 Ground conditions	12
2.2.2 Ground flatness	12
2.2.3 Overhead obstructions	12
2.2.4 Segregation from other site vehicle movements	12
2.3 Noise and vibrations	13
2.4 Limitations	13
SECTION 3 - SAFETY RULES	
14	
SECTION 4 - OPERATING INSTRUCTIONS	
4.1 Daily checks	16
4.2 Disengaging the drive wheel brakes	17
4.3 Battery isolation switch	19
4.4 Entering and leaving the work platform	19
4.5 Handset control unit	20
4.6 Base unit control panel	22
4.7 Emergency lowering	23
4.8 Battery charging	24
4.9 Driving and manoeuvring the platform	26
4.10 Extending the work platform	27
SECTION 5 - TRANSPORT, HANDLING AND STORAGE	
5.1 Storage	28
5.2 Loading and unloading	29
5.3 Lifting	31
5.4 Preparation for transport	31
SECTION 6 - MAINTENANCE AND REPAIR RECORD	
6.1 Machine labelling	32
6.2 Maintenance record	38
6.3 Repairs record	38
6.4 Examination/tests record	38
6.5 Daily checks – Operator checklist	40
SECTION 7 BOSS X3X-SP ACCESSORIES	
7.1 Confined Space Guardrail	42
7.2 Heavy Duty All Weather Cover	42

1.1 INTRODUCTION

These Instructions for Use provide information on the safe operation of the BoSS X3X-SP single person, self propelled micro scissor lift. Operators should read and understand all the information contained within this manual before operating the BoSS X3X-SP.

Additional copies of these instructions may also be obtained from Youngman Group Ltd, please see contact details on the back cover. The Instructions are also available to download from our website at youngmangroup.com.

The information contained in these instructions is based on the latest product information at the time of publication. As Youngman Group Ltd. operate a policy of continuous product improvement we reserve the right to make product changes at any time without obligation

1.2 CHARACTERISTICS AND DESCRIPTION

The BoSS X3X-SP is a self propelled, micro scissor lift.

- Safe working height of 5.14 metres (Platform height – 3.14 metres)
- Drivable at full height (13.5 metres/minute)
- 76 centimetres wide – fits through personnel doorways and into passenger lifts
- For indoor and outdoor use – wind rating with non extended platform
- 1.65 metres platform length (including 0.4 metre extension)
- Weight of 495 kilograms facilitating lifting on a standard tail lift
- Straight line driving with swivel castor lock feature
- Highly manoeuvrable – turns within its own footprint of only 1.27 metres
- 350 lifts and descents, 16.1 kilometres driving or mix of two on a single charge
- Pothole protection activation on platform ascent
- Ramp loading – up to 35% (19.2°)
- Forklift loading via longitudinal fork lifting points
- Low battery protection system
- Electromagnetic brakes on drive motors with backup powered & manual release systems
- Tilt sensor, overload and pressure loss protection as standard
- Safety cut out on descent (3 seconds)
- Audible alarm and flashing light on ascent, descent and drive
- Self closing gate with built in toeboard, locking latch and transit gate lock
- Slip resistant deck incorporating lanyard point
- Safety and usage instructions mounted on guardrail
- Multi function handset controller with locking or lift off feature
- Base unit LED display and diagnostic centre, emergency stop, key switch, raise and lower buttons, charging point and indicator light
- Emergency descent (backup power and manual systems)
- Two slide out drawers for easy maintenance access
- Fail safe props for deployment during maintenance
- Anti static strip
- Rigid and robust box section scissors
- Heavy duty drive wheels, swivel castors, power pack, battery charger and batteries
- Guardrail mounted tool box for storage of charging cables and guardrail tools
- Maintenance manual
- EC Declaration of Conformity
- 6 months LOLER certification (UK only)
- 12 months parts warranty

The following optional equipment is also available:

- Heavy Duty All Weather Protective Cover
- Confined Space Guardrail

1.3 INTENDED USE

The BoSS X3X-SP has been designed to comply with the safety requirements of the European Machinery, Low Voltage and Electromagnetic Compatibility Directives and in accordance with the European Standard EN 280 Mobile Elevating Work Platforms – Design calculations – Stability criteria – Construction – Safety – Examinations and tests.

The BoSS X3X-SP is intended to lift one person, plus essential tools and materials, to enable work to be undertaken at height. The BoSS X3X-SP is designed for indoor and outdoor use (outdoor only with platform closed) and must be used on level ground which is able to support the weight of the machine and its maximum safe working load. Typical applications include maintenance, cleaning, painting, fit and strip out work etc. at varying heights above ground level.

WARNING

The user must obtain the guidance and written approval of Youngman Group Ltd in the event of any special working methods or conditions which are outside those specified in this section.

1.4 SELECTION AND MINIMUM ATTRIBUTES OF OPERATORS

Personnel operating the BoSS X3X-SP should have either been selected, trained and authorised to do so, or be undergoing formal training under supervision. ISO 18878 gives details of the requirements for the training of MEWP operators.

Records of training and experience of personnel should be consulted to assist in the selection of suitable personnel.

Personnel should be instructed not to work under the influence of alcohol, drugs or other impairment to efficiency. Personnel should also be assessed as to their physical ability to undertake the appointed tasks.

The BoSS X3X-SP operator should:

- a. be physically fit;
- b. appear to be comfortable working at height when taken up in the work platform of a MEWP
- c. have a responsible attitude;
- d. demonstrate an ability to learn;
- e. be able to communicate clearly with other personnel on site;
- f. be able to demonstrate understanding of relevant health and safety regulations;
- g. be able to demonstrate understanding of accident prevention and control;
- h. be able to demonstrate that they can work safely at height (Youngman offer a Work at Height Regulations training course called the Knowledge. For more information please call +44 (0) 1621 745900)
- i. be able to demonstrate understanding of the need for and correct use and maintenance of personal protective equipment;
- j. operate the BoSS X3X-SP safely and manoeuvre the machine as required, to correctly position and carry out the tasks in a correct and proper manner;
- k. be able to identify and avoid foreseeable hazards and recognise unsafe practices/developing situations;
- l. carry out daily pre-use checks.

WARNING

Operation of the BoSS X3X-SP by untrained or inadequately trained operators may result in serious injury or death.

We recommend that all operators are trained to use a Type 3a MEWP at an IPAF approved training centre.

1.4 SELECTION AND MINIMUM ATTRIBUTES OF OPERATORS

In addition to the Operator of the BoSS X3X-SP the Site Surveyor and Planner and machine Demonstrator should be competent to fulfil these roles as specified in the Safe Use of MEWP's – Code of Practice sections 7.2.6 and 7.2.7 respectively.

When planning the job the Site Surveyor and Planner should work through the following stages:

- a.** Identify the task to be undertaken.
- b.** Select an appropriate MEWP.
- c.** Identify the hazards associated with the task.
- d.** Carry out a risk assessment.
- e.** Identify control measures.
- f.** Develop the method to be used.
- g.** Record the planning in a Method Statement (including any contingency activities for personnel rescue).
- h.** Communicate the plan to all persons involved.
- i.** Review the plan before the job starts and incorporate any changing circumstances.

1.5 MODIFICATIONS

No modifications shall be made to a BoSS X3X-SP unless Youngman Group Ltd. has given full written approval. If in doubt please contact us for advice:

Youngman Group Ltd.
The Causeway
Maldon
Essex
CM9 4LJ
United Kingdom

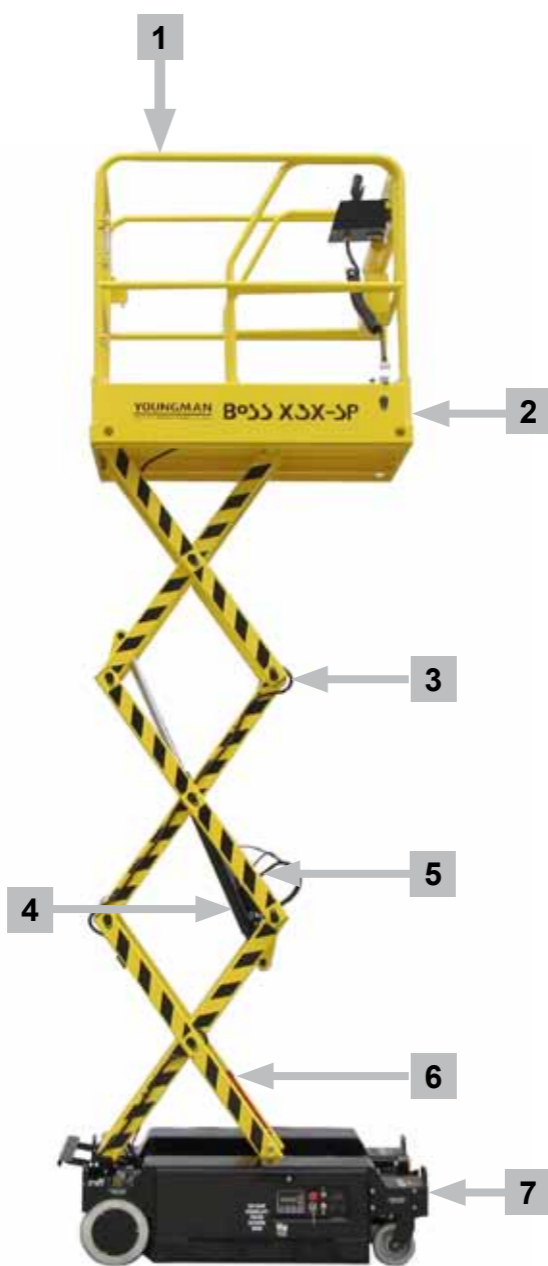
t +44 (0) 1621 745900

f +44 (0) 1621 859845

e sales@youngmangroup.com

1.6 TERMINOLOGY

- 1** Guardrails
- 2** Work platform
- 3** Scissor assembly
- 4** Hydraulic ram
- 5** Pressure loss valve
- 6** Fail safe maintenance props (x2)
- 7** Chassis



1.6 TERMINOLOGY

- 8** Deck extension
- 9** Motion warning light
- 10** Fork lifting point



1.6 TERMINOLOGY

- 11** Main safety and operation label
- 12** Instructions for Use tube
- 13** Handset controller
- 14** Tool box
- 15** Slip resistant deck incorporating lanyard point
- 16** Access gate
- 17** Emergency descent handle - stage 2 of manual operation
- 18** Emergency descent button - single stage using backup power
- 19** Step up to platform
- 20** Hoisting, winching and tie down point (x4)



1.6 TERMINOLOGY

- 21** Drive wheel (x2)
- 22** Drawer release handle (x2)
- 23** LCD display and diagnostic centre
- 24** Base unit emergency stop
- 25** Control position selector key switch
- 26** Raise and lower buttons
- 27** Charging indicator light
- 28** Charging socket
- 29** Swivel castor (x2)
- 30** Pothole protection bar (x2)
- 31** Handset controller connector
- 32** Deck release tab for cleaning



- 33** Deck extension release pedal
- 34** Emergency descent valve - stage 1 of manual operation



2.1 TECHNICAL DATA

Measurments:

Rated load, manual forces and weight:

Safe working load

equivalent to

Maximum allowable manual force

Maximum allowable chassis inclination

Maximum allowable wind speed

Maximum load per wheel

Machine weight

Maximum point loading

Dimensions:

Maximum platform height

Minimum platform height

Maximum safe working height

Platform delay on descent height

Platform width

Platform length

Platform guardrail height

Toeboard height

Overall width

Stowed height

Stowed length (with step deployed)

Ground clearance

Electrical:

Voltage

Power pack motor

Drive wheel motors

Batteries (deep cycle/sealed gel)

Battery charger

Hydraulics:

Maximum hydraulic pressure

Working pressure

Hydraulic fluid reservoir

Performance:

Maximum number of lifts and descents on one charge:

Ascent time

Descent time

Maximum driving speed (platform lowered)

Maximum driving speed (platform raised)

*Including 3 seconds for the intermediate stop on descent

2.1 TECHNICAL DATA

	Metric	Imperial
	150kg (inc on platform extension)	331lbs (inc on platform extension)
	(1 person (80kg) plus 70kg tools & materials)	(1 person (176lbs) plus 154lbs tools & materials)
	200N	
	1.5°	
	12.5m/s (with platform closed)	28mph (with platform closed)
	420kg (based on drive wheels – swivel castor rating is 500kg)	926lbs (based on drive wheels – swivel castor rating is 1102lbs)
	495kg	1091lbs
	14.83kg/cm ²	211psi
	3.14m	10'4"
	0.63m	2'1"
	5.14m	16'10"
	1.86m	4'7"
	0.7m	2'4"
	1.25m-1.65m	4'1"-5'5"
	1.1m	3'7"
	0.15m	6"
	0.76m	2'6"
	1.74m (0.89m with guardrails removed)	5'9" (2'11" with guardrails removed)
	1.39m	4'7"
	Platform lowered 0.045-0.09m Platform raised 0.01m	Platform lowered 2" - 4" Platform raised 0.4"
	24V DC	
	1.2kW DC	
	24V/2800rpm/0.5kW	
	2 x 12V/100Ah	
	100-120V/200-240V (automatic switching)	
	255 bar	
	150 bar	
	1.5 litres	0.33 gallons
	350 (150kg load)	211 psi
	19 seconds (150kg load)	
	21 seconds (150kg load)	
	65m/minute	2.42mph
	13.5m/minute	0.5mph

2.2 OPERATING SITE

When a BoSS X3X-SP is delivered to site ensure that the machine will be able to reach the work area; this is not rough terrain machine and should not be transported across unstable or uneven ground as this could cause significant damage to the machine. It is good practice to walk the route from the machines parking place to the workplace.

A visual inspection of the operating area should be made before using the machine paying particular attention to the following issues:

2.2.1 GROUND CONDITIONS

Ensure that the ground on which the BoSS X3X-SP is to operate is capable of supporting the weight of the machine (including the maximum rated load of 150kg). Be aware of specific floor areas such as manhole covers which may not be designed to withstand the maximum point loading of 14.83kg/cm² exerted by the wheels.

2.2.2 GROUND FLATNESS

Ideally the BoSS X3X-SP should be operated on flat surfaces resulting in a 0 degree chassis inclination. However, the BoSS X3X-SP can be safely operated where the ground is slightly uneven resulting in a 1.5° maximum lateral and longitudinal inclination. The BoSS X3X-SP operating system is fitted with a tilt sensor and will not raise or drive if this angle is exceeded.

All four wheels must be in contact with the ground at all times.

2.2.3 OVERHEAD OBSTRUCTIONS

Ensure that adequate clearance is available above and all round the platform before deployment and elevation and pay particular attention to the presence of live electrical cables.

2.2.4 SEGREGATION FROM OTHER SITE VEHICLE MOVEMENTS

Every worksite should be subject to a risk assessment and where vehicle movements are likely to occur close to the BoSS X3X-SP, measures should be taken to segregate the machine from other vehicles. This might include the use of cones, barriers, signage and re-routing measures.



WARNING

When the machine is being operated in an area where there are other vehicle movements the operator should wear a harness and the lanyard should be clipped into the lanyard point on the floor of the platform as shown.

2.3 NOISE AND VIBRATION

The maximum noise level emitted by a BoSS X3X-SP is 84.6dB(A).

Hand and arm vibration experienced on the BoSS X3X-SP does not exceed 6.37m/s².

2.4 LIMITATIONS

The BoSS X3X-SP can be used indoors or outdoors, **BUT IF USED OUTDOORS THE PLATFORM MUST BE CLOSED IE. NOT EXTENDED.**

Please consult Youngman direct if you are unsure about any application for which the machine is being considered.

The machine has been tested for Electromagnetic Compatibility (EMC) however, operation near to high powered radio transmission apparatus (eg radar, antennae) or within strong electrical and/or magnetic fields may affect some of the features of this machine.

WARNING

This machine has not been designed for operation in a hazardous environment where flammable or explosive gases or particulates are present. Advice should be sought from the person in charge of the site regarding the need to select MEWP's that are designed for use in the hazardous environment and the use of suitable personal protective equipment. Expert advice may need to be sought.

This machine is not electrically insulated and must never be used for live line working. Death or serious injury can result from contact with, or inadequate clearance from, electrical conductors.

The risk assessment carried out as part of the planning process when considering the use of a BoSS X3X-SP machine should take account of the particular hazards of lone working. Of particular concern is the rescue of the occupant from the platform in the case of machine malfunction, work platform entanglement or a medical emergency. Guidance on lone working is given in the HSE leaflet INDG 73 [20].

3 SAFETY RULES

These safety rules should be adhered to in every way.

- NEVER** exceed the 150kg rated capacity (Safe Working Load or SWL) of the platform
- NEVER** use the BoSS X3X-SP as a crane
- NEVER** attempt to increase the reach or working height of the BoSS X3X-SP by use of additional equipment eg ladders
- NEVER** use the BoSS X3X-SP in temperatures exceeding 50°C or below -20°C
- NEVER** attempt to get on or off the work platform of the BoSS X3X-SP when elevated
- NEVER** apply external side loads to the platform or scissor structure
- NEVER** allow persons at ground level to operate the controls whilst the platform is occupied (unless in an emergency situation)
- NEVER** operate the BoSS X3X-SP outdoors with the platform extended
- NEVER** drive or raise the platform with the component access drawers open
- NEVER** use the BoSS X3X-SP as a jack, prop or tie to support other structures or machines etc.
- NEVER** interfere with, wedge or attempt to override hydraulic, electrical or mechanical safety devices
- NEVER** remove the platform guardrails when the machine is in use
- NEVER** allow works overhead of the BoSS X3X-SP to be carried out which are outside the control of the operator
- NEVER** use the BoSS X3X-SP as an electrical earth when welding structures alongside it
- NEVER** use the guardrails to carry materials
- NEVER** forklift the machine from either side or from the drive wheel end – use the fork lifting points at the swivel castor end of the machine
- NEVER** stand behind or in front of the machine during ramp loading
- NEVER** make any addition to the BoSS X3X-SP which would increase its wind load eg notice boards
- NEVER** use the BoSS X3X-SP without the removable guardrails in place
- NEVER** allow anyone to stand near the machine as the platform is being raised. This particularly applies to each side of the machine where there is a foot trap hazard caused by the deployment of the pothole protection bars as the platform rises
- NEVER** attempt to overreach

3 SAFETY RULES

- ALWAYS** check that there are no obstructions or persons that may be struck by the platform before and during the raising, lowering and driving of the platform
- ALWAYS** carry tools and materials within the confines of the guardrails of the work platform
- ALWAYS** undertake the daily checks recommended in this handbook prior to the operation of the machine
- ALWAYS** ensure that all instructions, warning and safe working load labelling and plates are clean and legible
- ALWAYS** ensure the BoSS X3X-SP is positioned on adequate ground to support the weight of the machine and its rated load.
- ALWAYS** keep the BoSS X3X-SP clear of live electric conductors
- ALWAYS** keep the BoSS X3X-SP away from contact with fixed objects (buildings etc) or moving objects (vehicles, cranes etc)
- ALWAYS** ensure hands are within the confines of the guardrails when elevating or lowering the work platform
- ALWAYS** ensure the access gate is closed and latched once the operator has entered the work platform
- ALWAYS** ensure that another responsible person on site knows how to use the emergency controls
- ALWAYS** ensure the weight is evenly distributed within the platform
- ALWAYS** ensure the safety of persons that may enter the area around the platform and keep other vehicles clear of the work area (eg cordon off areas to prevent persons and other vehicles entering the danger area)
- ALWAYS** ensure the horn sounds when the power is switched on
- ALWAYS** ensure the batteries are charged before use
- ALWAYS** read and understand these Instructions for Use before using the machine
- ALWAYS** use fail-safe props if working under the work platform
- ALWAYS** thread the hoisting straps inside the guardrails when hoisting the machine
- ALWAYS** lock the swivel castors before ramp loading
- ALWAYS** check that the LOLER certification of the machine is in date before use (UK ONLY)

4.1 DAILY CHECKS

It is essential to carry out daily checks on the BoSS X3X-SP to ensure its safe condition of use including the following as a minimum:

- Hydraulic oil leaks by visual inspection of the floor around the base unit, by feeling underneath the drawer which houses the power pack and by examination of the ram and pressure loss valve and sensor
- Loose electrical fittings and sensors by visual inspection
- Chafed hydraulic hose or electrical cables by visual inspection
- Condition of drive wheel and swivel castor tyres and wheels by visual inspection
- Structure – guardrails, platform, scissors and chassis (eg damage, cracks, corrosion, abrasions, welds, connections)
- Visual inspection of the tab locking nuts and washers on the scissor assembly
- Obscured, dirty or damaged instruction labelling and plates
- Emergency stop function activated on the handset controller
- Emergency stop function activated on the base unit
- Emergency lowering of platform – both backup power and manual systems (see page 23)
- Raise and lower functions including descent delay and deployment of pothole protection bars at each side of the base unit (the raise and lower functions can be tested by unclipping and removing the handset controller from its holder on the work platform and using the controls whilst at ground level)
- With the base unit key selector in the platform position try to push the machine to ensure drive wheel brakes are engaged
- Switch on power and:
 - Ensure that the horn sounds to confirm operation
 - Check that the battery is fully charged using either the battery level indicator on the front of the handset controller or by checking the base unit LCD display

If the above pre-use checks reveal malfunctions or damage on the machine, then it must not be used until the problem is rectified. If in doubt seek further assistance by contacting Youngman. If instruction labels or plates are no longer legible or missing contact Youngman for replacements. The Daily Checks page in Section 6.5 of these Instructions for Use may be photocopied or are available to download from our website at youngmangroup.com to provide an aide memoir for operators when undertaking these important checks.

WARNING

Before operating the BoSS X3X-SP, you must ensure that you have been adequately trained in its use and have read and fully understood these Instructions for Use, paying particular attention to the Safety Rules in Section 3.

4.2 DISENGAGING THE DRIVE WHEEL BRAKES

In the case of an operating system or power failure and in order to move the BoSS X3X-SP clear of the work area or to facilitate loading the machine onto a tail lift, the electromagnetic brakes of the drive wheels can be disengaged.

Firstly, open the drawer by pressing the button on the drawer lock and then rotating the bar anticlockwise as shown below.



The drawer is equipped with a handle on the base at each side to facilitate drawer opening as shown below.



There is a brake release switch which uses the machines backup power supply mounted on top of the battery retainer plate in the drawer (see figure 1).

Remove the switch and the extension cable from their retaining clips and standing at the swivel castor end of the machine press the red button (see figure 2) and the brakes will release. The machine can then be pushed manually and steered using the swivel castors.

Always ensure that you release the button to engage the brakes after moving the machine.



Figure 1



Figure 2

4.2 DISENGAGING THE DRIVE WHEEL BRAKES

In exceptional circumstances and in the case of a failure of the powered brake release system each drive wheel brake can be manually disengaged by removing the protective cover using the two release bolts (see figure 1) and turning the wing nuts clockwise (see figure 2).

Always ensure that you engage the brakes by turning the wing nut on each drive wheel anticlockwise until the brakes engage.

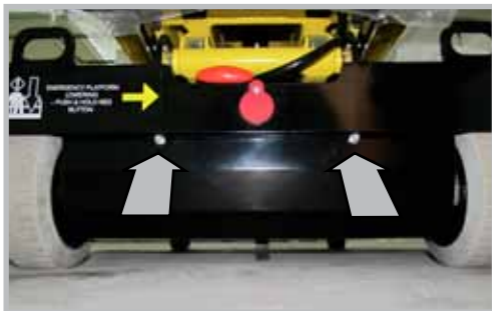


Figure 1



Figure 2

WARNING

The BoSS X3X-SP weighs 495 kilograms and may require more than one person to push it when the drive wheel brakes are disengaged.

Never attempt to move the platform on a gradient with the drive wheel brakes disengaged without assistance.

Always carry out a risk assessment.

4.3 BATTERY ISOLATION SWITCH

The BoSS X3X-SP is provided with a key operated switch on the base unit which is used to isolate the battery and therefore the electrical system, preventing unauthorised use.

To enable the electrical system, insert the key and turn clockwise to select the platform position enabling the handset controller and anticlockwise which is spring loaded for selection of the base unit raise and lower functions.

Ensure that when the machine is not in use the key is removed.

Off

Platform



Base



4.4 ENTERING AND LEAVING THE WORK PLATFORM

Always use 3 points of contact when entering and exiting the platform (eg the use of 2 hands and one foot as shown in the pictures below). Always use the step up to the platform on the base of the machine.



On entering the platform, ensure that the gate is closed behind you, as shown below.



4.5 HANDSET CONTROL UNIT

The handset control unit is equipped with the following features as shown on the photograph opposite:

1. **EMERGENCY STOP** – in the event of an emergency push the button. After the emergency situation has passed twist to release.
2. **HORN** – press to warn of your presence.
3. **STRAIGHT LINE LOCK** – press to lock the swivel castors in a straight line. Button lights up green when the function is selected.
4. **SLOW SPEED** - press to select the raised platform driving speed when the platform is lowered. Button lights up green when the function is selected.

5. **UP/DOWN** – press to select the up/down function and then grip the trigger on the joystick pushing forwards to raise the platform and pulling backwards to lower. The machine will remember this instruction for 5 seconds – after this time has elapsed you will need to reselect the function.

To avoid crushing or shearing hazards, an intermediate stop feature on lowering is fitted to activate when the platform reaches a base of work platform height from ground level of 1.86 metres. This is a safety mechanism that reminds the operator to look around the machine to determine whether any persons are adjacent to the machine. After a 3 second time delay, and when the operator is sure it is safe to do so, the up/down button can be pressed again and the trigger on the joystick gripped and the joystick pulled backwards to continue the descent.

6. **DRIVE** - press to select the drive function and then grip the trigger on the joystick and move the joystick in the direction of travel required. The machine will remember this instruction for 5 seconds – after this time has elapsed you will need to reselect the function
7. **TILT** – the BoSS X3X-SP is fitted with a tilt sensor and if the 1.5° maximum angle of inclination is exceeded this red warning light will flash and an alarm inside the handset will sound. The platform will not lift or drive whilst this condition prevails.
8. **OVERLOAD** – the BoSS X3X-SP is fitted with an auto load sensing system to prevent the platform from being operated if the platform is overloaded. If overloaded or approaching an overload situation this red light will flash and an alarm built into the handset will sound. The platform will not lift, lower or drive until the overload is removed.



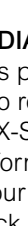
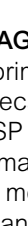
4.5 HANDSET CONTROL UNIT

9. **JOYSTICK WITH SAFETY TRIGGER** – this is used in conjunction with the UP/DOWN and DRIVE buttons referred to above.
10. **BATTERY LEVEL INDICATOR** – the red LED indicates the battery charge level.



4.6 BASE UNIT CONTROL PANEL

The base unit control panel is equipped with the following features as shown on the photograph below:

1. **LCD DISPLAY AND DIAGNOSTIC CENTRE** – this display module is primarily used to make adjustments to and to recalibrate the machine – please see BoSS X3X-SP Maintenance Manual for further information. The default display shows the hour meter on the left (hours the power pack and drive wheel motors have been run for) and on the right, the charge level of the batteries expressed as a percentage. If a charging cable is plugged in the display will read CHARGING.
2. **EMERGENCY STOP** – in the event of an emergency push the button. After the emergency situation has passed twist to release.
3. **PLATFORM/OFF/BASE** – this key selector isolates the power to the machine when the key is in the OFF position and should be removed for security and safety reasons when the machine is not in use. The key can be turned to the PLATFORM position to activate the functions on the handset controller or turned (spring loaded) to the BASE position to allow the platform to be raised and lowered using the  and  buttons.
4.  – raises the platform when used in conjunction with key switch held in the BASE position.
5.  – lowers the platform when used in conjunction with key switch held in the BASE position.
6. **BATTERY CHARGER INDICATOR** – LED light will be lit red when the charging cable is plugged into the machine and connected to a mains/transformer power supply. The light will turn green when the machine is fully charged.
7. **CHARGING CABLE SOCKET** – the charging cables, which can be found in the tool box, are plugged in here – either mains or 110V transformer and then plugged into the power supply. **DO NOT** open the base unit drawers during the charging process.



4.7 EMERGENCY LOWERING

In the unlikely event of a power or operating system failure the platform can be lowered either using the single stage backup power supply or using the two stage non powered system.

Lower using backup power supply

The BoSS X3X-SP is fitted with a backup power supply which is kept fully charged. There is a red button behind the red rubber cover under the step up to the platform as shown below. Simply press the button and the platform will lower. To stop the platform lowering at any time, remove your finger from the button.



Lower using non powered system

The BoSS X3X-SP is fitted with a two stage manual emergency descent system. To operate:

1. Turn the emergency valve on the base unit anticlockwise until it will not turn any further as shown in *figure 1* below.
2. Pull the red handle under the step up to the platform as shown in *figure 2* below and the platform will descend. To stop the descent at any time, release the handle.



Figure 1



Figure 2

WARNING

Always ensure someone other than the operator is trained to perform this rescue.

4.8 BATTERY CHARGING

The BoSS X3X-SP is fitted with two battery charge level indicators, one on the front of the handset controller (red LED shows charge level) – see *figure 1*, and one on the base unit LCD display (expressed as a percentage of full charge) – see *figure 2*.



Figure 1



Figure 2

The machine is also fitted with a two stage low battery protection system to alert the operator to charge the machine as follows:

- When the charge level drops to 25% of full charge the platform will no longer raise
- When the charge level drops to 20% of full charge the platform will no longer raise or drive

The BoSS X3X-SP is fitted with an integral automatic voltage switching battery charger.

To charge the batteries follow the steps below:

- a. Uncover the charging connection point as shown in figure 1 below
- b. Connect either the mains or 110 volt charging cable to the charging point as shown in figure 2 below. These cables are located in the charging cables and guardrail tools tray mounted on the platform guardrail.



Figure 1



Figure 2

- c. Connect the lead to a suitable power supply (either 110 volt or mains).
- d. Whilst the batteries are charging the LED charger indicator will light up red, as shown in figure 1 on the following page. Also, if the key is in the machine and it is turned to PLATFORM the base unit LCD display will read CHARGING as shown in figure 2 on the following page.
- e. When the batteries are fully charged the LED charger indicator will light up green as shown in figure 3 on the following page. To charge the batteries from 20% to full will take approximately 11 hours.

4.8 BATTERY CHARGING



Figure 1



Figure 2



Figure 3

WARNING

The machine is fitted with a safety system which stops all functions being used during the charging process.

Keep the base unit drawers closed during the charging process.

The BoSS X3X-SP must be charged where the ambient temperature is between 0 and 50°C.

4.9 DRIVING AND MANOEUVRING THE PLATFORM

Firstly, ensure that the base unit key selector has been turned to the platform position.

The BoSS X3X-SP can be driven with the platform in the lowered or raised position. If the platform is lowered the operator may select the slower, raised platform height speed, by depressing the SLOW SPEED switch on the handset controller which will light up green as shown below.



Whether driving the platform lowered or raised select DRIVE mode on the handset controller (this instruction is stored by the machine for 5 seconds) and then gripping the trigger on the joystick move the joystick carefully in the required direction of travel as shown on the handset controller. The joystick is a proportional controller so the further you push the joystick in one direction the faster the machine will travel.

In order to turn the machine within its own radius, move the joystick horizontally to the left (see below) or right.



The BoSS X3X-SP is equipped with a straight line driving feature to allow you to drive straight forwards or backwards. Firstly, line up the machine in the direction you wish you travel and then select the STRAIGHT LINE LOCK function by pressing the switch on the handset which will light up green as shown on the following page. Then select the DRIVE function and gripping the trigger on the joystick push the joystick straight forwards or pull backwards to travel forwards or backwards respectively.

4.9 DRIVING AND MANOEUVRING THE PLATFORM



To disengage this function press the button again. The green light will no longer be illuminated.

The machine is fitted with a safety feature which can either be enabled (standard) or disabled (upon request). This feature allows you to stop the machine when using the straight line lock function by moving the joystick to the left or right.

4.10 EXTENDING THE WORK PLATFORM

WARNING

The work platform must not be extended outdoors or where there is any wind force applied to the machine.

The work platform can be extended to two extension settings to provide additional working area on the platform and to act as a cantilever over obstacles. The platform can be extended by 20 centimetres or 40 centimetres giving work platform lengths of 1.45 and 1.65 metres respectively. The rated load of the extension platform is the same as, but not additional to, the rated load of the main platform which is 150 kilograms.

The operator should grip the extension guardrail on each side, in the labelled area, and then apply the foot to the pedal on the left hand side toeboard releasing the locking pin and then pushing the deck to the required position as shown in the pictures below.



5.1 STORAGE

The BoSS X3X-SP should ideally be stored inside in a secure, clean and dry environment, with the key removed.

When the BoSS X3X-SP is parked the electromagnetic drive wheel brakes must be engaged and if the machine has to be parked on a gradient the drive wheels must be chocked. The BoSS X3X-SP must not be stored where the air temperature exceeds 50°C or falls below -20°C.

When the machine is not in use the handset controller can be removed from the platform for secure storage. Firstly, turn the locking ring on the handset connector anticlockwise and pull out the plug (see *figure 1 below*) and then unclip the handset and lift off the platform (see *figure 2 below*).



Figure 1



Figure 2

Alternatively the handset can be padlocked to the platform using the clip under the controller as shown below.



The toolbox can also be padlocked when the machine is out of use as shown below.



In order to improve storage space utilisation or during transport the step up to the platform can be unbolted and stowed as shown in the photograph below.



5.2 LOADING AND UNLOADING

Ramp loading

The BoSS X3X-SP has been designed so that it can be driven up or down a ramp for the purpose of loading and unloading. The maximum angle of inclination allowed is 35% (19.2°).

The following procedure should be followed for ramp loading:

1. Ensure the machine has been driven to around 50 centimetres in front of the ramp and that the swivel castors are locked straight (using the straight line lock button on the handset controller)
2. Alight the platform
3. Unclip and lift the handset controller from the platform and stand to the side of the ramp.
4. Press the DRIVE button on the handset controller and then gripping the trigger on the joystick push the joystick forwards until the machine is correctly positioned on the trailer or vehicle to which it is being loaded.
5. Tie down using adequately rates straps threaded through the hoisting, winching and tie down points



WARNING

Under no circumstances stand behind or in front of the machine when loading or unloading using a ramp.

The machine must be unloaded and fully lowered for ramp loading and unloading.

The SLOW SPEED switch must not be activated for ramp loading.

Forklift Loading

The BoSS X3X-SP is equipped with longitudinal fork lifting points located at the swivel castor end of the machine.

Once located in the correct position on the vehicle the BoSS X3X-SP should be anchored by means of fully passed through the hoisting, winching tightened and adequately rated straps and tie down points.



5.2 LOADING AND UNLOADING

WARNING

The machine must be unloaded and fully lowered for forklift loading and unloading.

Ensure the forklift used to lift the BoSS X3X-SP is adequately rated.

Ensure the forks are sufficiently inserted into the forklift entry points.

The machine **MUST NOT** fork lifted from either side or from the drive wheel end.

Tail lift loading

The BoSS X3X-SP weighs only 495 kilograms and can therefore be lifted by a 500 kilogram (or higher) rated tail lift.

The following procedure should be used for tail lift loading:

1. Release the drive wheel brakes with the powered brake release switch
2. With the drive wheels facing forwards, push the machine onto the tail lift
3. Swing round so that the machine is fully on the tail lift
4. Lock the brakes by releasing the button
5. Lift tail lift safety ramps at outer edge to vertical
6. Raise tail lift (do not stand on the tail lift with the machine unless the tail lift is rated to carry the operator plus the machine)
7. Unlock the brakes again with the powered brake release switch
8. Pull onto flat bed of vehicle and tie down using adequately rates straps threaded through the hoisting, winching and tie down points
9. Carry out the same process in reverse to unload



WARNING

The machine must be unloaded and fully lowered for tail lift loading and unloading.

The BoSS X3X-SP weighs 495 kilograms and it is recommended that two operators push and position the machine on the tail lift. A risk assessment must be undertaken.

5.3 LIFTING

The BoSS X3X-SP may be lifted by a crane or Hiab by threading or attaching (by means of locking hook) adequately rated lifting straps through the four hoisting, winching and tie down points.



WARNING

A full risk assessment must be carried out.

The straps must be threaded inside the guardrails of the machine.

5.4 PREPARATION FOR TRANSPORT

Prior to transporting the BoSS X3X-SP on a vehicle, ensure that the following precautions are taken:

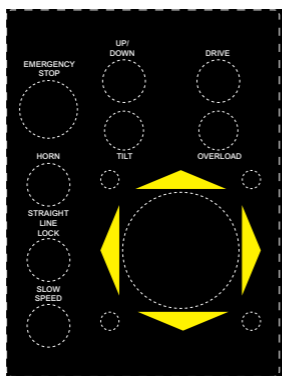
- Ensure that the platform is fully lowered to its rest position
- Ensure that the handset control unit is secured to the platform (using the clip on the underside) and that the transit gate lock is engaged as shown below
- Ensure that the drive wheel brakes are engaged
- Secure the BoSS X3X-SP to the transport vehicle using adequately rated straps through each of the hoisting, winching and tie down points.



If the vehicle into which the BoSS X3X-SP is being loaded has limited headroom then the guardrails may be removed using the tools provided in the charging cables and guardrails tool tray. Once the guardrails have been removed the stowed height of the machine reduces to 89 centimetres.

6.1 MACHINE LABELLING

5



6

TO UNCLIP
HANDSET
FROM
GUARDRAIL
– RELEASE
CLIP
UNDER
HANDSET
AND LIFT
OFF
BRACKET

7

PLEASE GRIP HERE WHEN
EXTENDING THE PLATFORM

8

HARNESS
LANYARD
POINT



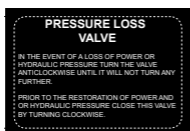
9

**DO NOT EXTEND THE PLATFORM
WHEN WORKING OUTDOORS**

10

MAXIMUM SAFE WORKING LOAD 150KG –
ONE PERSON PLUS TOOLS AND MATERIALS

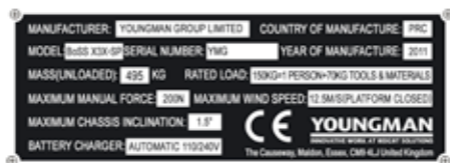
11



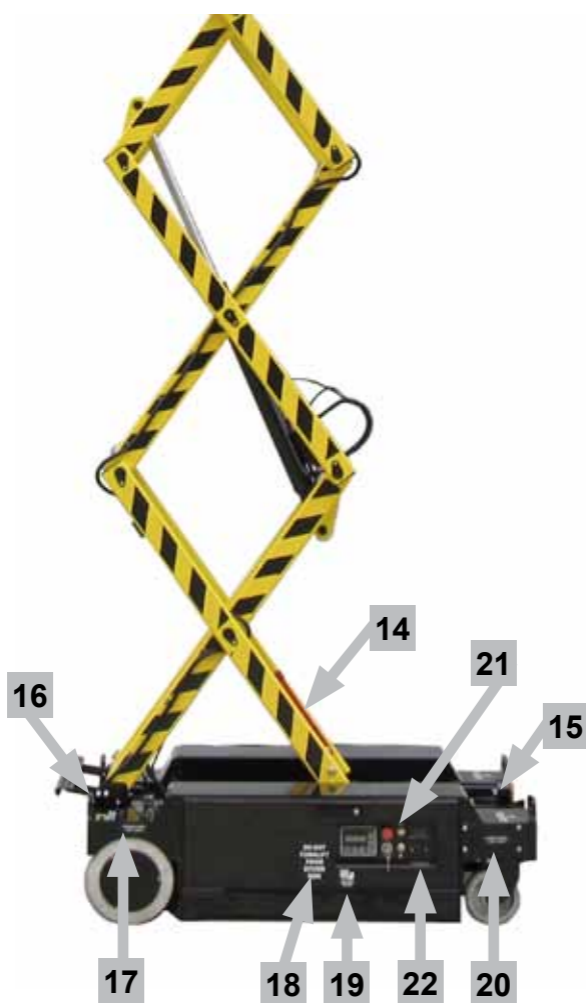
12



13



6.1 MACHINE LABELLING



14 ENSURE BOTH MAINTENANCE PROPS ARE IN POSITION BEFORE UNDERTAKING MAINTENANCE UNDER THE RAISED PLATFORM.

15 ← SILICONE LUBRICANT ONLY →

16 ↑
HOISTING, WINCHING
& TIE DOWN POINT

17 MAXIMUM WHEEL
LOAD: 420 KG

6.1 MACHINE LABELLING

18



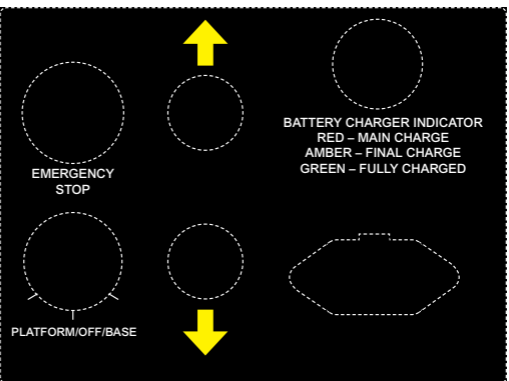
19



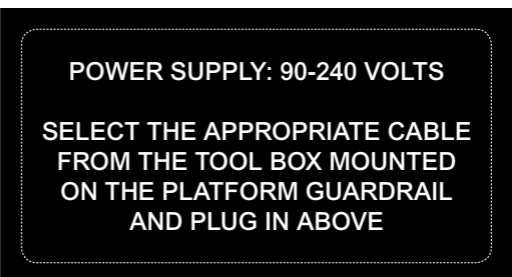
20



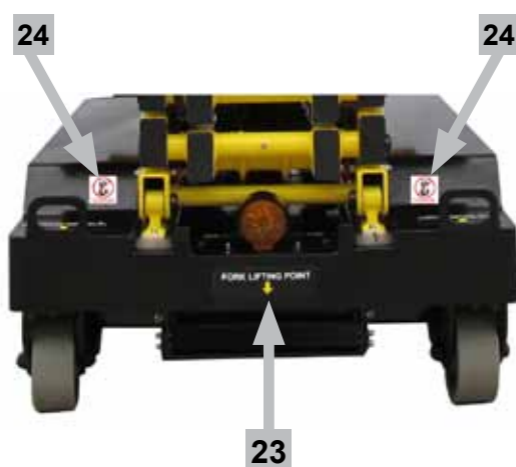
21



22



6.1 MACHINE LABELLING



23

FORK LIFTING POINT



24



**DO NOT STAND UNDER
PLATFORM EXTENSION**

6.1 MACHINE LABELLING



25

TO LOWER THE PLATFORM WITHOUT POWER IN AN EMERGENCY

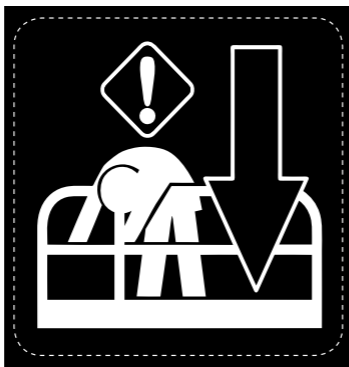
- 1 TURN THE VALVE TO THE RIGHT OF THIS LABEL ANTICLOCKWISE UNTIL IT WILL NOT TURN ANY FURTHER
- 2 PULL THE PRESSURE LOSS RELEASE HANDLE TOWARDS YOU UNTIL THE PLATFORM HAS FULLY LOWERED AND THEN RELEASE



PRIOR TO THE RESTORATION OF POWER TURN THE VALVE TO THE RIGHT OF THIS LABEL CLOCKWISE UNTIL FULLY TIGHT AND THEN USE THE BASE UNIT OR HANDSET CONTROLLER IN ACCORDANCE WITH THE INSTRUCTIONS FOR USE

DO NOT USE A PRESSURE WASHER ON THIS SIDE OF THE BASE UNIT UNLESS BOTH RUBBER PLUGS ARE IN POSITION.

26



6.2 MAINTENANCE RECORD

	Location	By

	Location	By

	Location	By	Safe to use Y/N?

6.5 DAILY CHECKS – OPERATOR CHECKLIST

The following checklist has been provided to enable daily pre-operation checks to be undertaken prior to use of the BoSS X3X-SP. These checks should be carried out each working day or at the beginning of each shift. The purpose of the checks is to identify any wear and tear or malfunctions of the machine's components and systems.

WARNING

Failure to undertake these checks may result in defects on or deterioration of the machine going undetected and possibly resulting in an unsafe machine.

Note that Regulation 8 of the Lifting Equipment Regulations 1998 (LOLER) (UK) require that persons using lifting equipment have appropriate training and instruction to enable them to identify whether the lifting equipment is safe to use.

6.5 DAILY CHECKS – OPERATOR CHECKLIST

Prior to operating the platform, the following items must be checked -

Machine Number

Check	OK?
<ul style="list-style-type: none"> Hydraulic oil leaks by visual inspection of the floor around the base unit, by feeling underneath the drawer which houses the power pack and by examination of the ram and pressure loss valve and sensor 	
<ul style="list-style-type: none"> Loose electrical fittings and sensors by visual inspection 	
<ul style="list-style-type: none"> Chafed hydraulic hose or electrical cables by visual inspection 	
<ul style="list-style-type: none"> Condition of drive wheel and swivel castor tyres and wheels by visual inspection 	
<ul style="list-style-type: none"> Structure – guardrails, platform, scissors and chassis (eg damage, cracks, corrosion, abrasions, welds, connections) 	
<ul style="list-style-type: none"> Visual inspection of the tab locking nuts and washers on the scissor assembly 	
<ul style="list-style-type: none"> Obscured, dirty or damaged instruction labelling and plates 	
<ul style="list-style-type: none"> Emergency stop function activated on the handset controller 	
<ul style="list-style-type: none"> Emergency stop function activated on the base unit 	
<ul style="list-style-type: none"> Emergency lowering of platform – both backup power and manual systems (see page 23) 	
<ul style="list-style-type: none"> Raise and lower functions including descent delay and deployment of pothole protection bars at each side of the base unit (the raise and lower functions can be tested by unclipping and removing the handset controller from its holder on the work platform and using the controls whilst at ground level) 	
<ul style="list-style-type: none"> With the base unit key selector in the platform position try to push the machine to ensure the drive wheel brakes are engaged 	
<ul style="list-style-type: none"> Switch on power and: <ul style="list-style-type: none"> Ensure that the horn sounds to confirm operation 	
<ul style="list-style-type: none"> Check that the battery is fully charged using either the battery level indicator on the front of the handset controller or by checking the base unit LCD display 	

WARNING

Should any defects be identified in any of the above areas, these should be reported to your employer. It may be necessary to seek further assistance from the supplier of the machine, this may be the hire company or the manufacturer.

You should only rectify any defects if you are authorised and competent to do so.

Do not use this machine unless each of the items above is checked and stated as OK

SECTION 7 – BOSS X3X-SP ACCESSORIES

7.1 CONFINED SPACE GUARDRAIL

The BoSS X3X-SP Confined Space Guardrail has been developed to easily fit to the existing extension platform guardrail retainer points to allow access to restricted spaces such as the void above suspended ceilings.



7.2 HEAVY DUTY ALL WEATHER COVER

Ideal for protecting the machine when transporting or in storage.



YOUNGMAN

INNOVATIVE WORK AT HEIGHT SOLUTIONS



EN 280

IP54

For further information about the BoSS X3X-SP or any of our other products and services, please contact :

Youngman Group Ltd
The Causeway, Maldon,
Essex, CM9 4LJ,
United Kingdom

t +44 (0)1621 745900
f +44 (0)1621 859845
e sales@youngmangroup.com

youngmangroup.com