## YOUNGMAN

**INNOVATIVE WORK AT HEIGHT SOLUTIONS** 



B<sub>0</sub>22 X<sub>2</sub>3

Single person micro powered access platform

INSTRUCTIONS
FOR USE
Edition March 2009





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#### 1.1 INTRODUCTION

These Instructions for Use provide information on the safe operation of the BoSS X3 single person micro powered access platform. Operators should read and understand all the information contained within this manual before operating the BoSS X3.

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.

checklist

#### 1.2 CHARACTERISTICS AND DESCRIPTION

The BoSS X3 is a manually propelled, micro powered access platform.

The BoSS X3 includes the following features:

- Maximum Safe Working Height 4.55 metres
- Safe Working Load 240kg (1 person plus tools and materials)
- Overall width 0.7m fits through standard doorways, down corridors and into passenger lifts
- Rigid and robust box section scissor construction
- Slide out base unit compartment for easy maintenance of serviceable parts.
- Gate with spring loaded hinge, built in toeboard and positive locking latch mechanism
- Slide out tray for charging cables and guardrail tools
- Lightweight, only 349kg
- 12v/100Ah battery
- 1.2kw motor
- Slip resistant deck
- Steel guardrails
- Stowed height 1.8m (only 0.85m with guardrails removed)
- Stowed length 1.23m (with brakes applied)
- Easy to transport (forklift entry points)
- Brakes on all four wheels
- Easy to manoeuvre
- Tilt sensor fitted as standard and programmed to allow a maximum chassis inclination of 1.5°
- Integral battery charger
- Battery charge level indicator
- Easy to use handset controls
- Hydraulic fluid release valve on base unit for emergency platform lowering
- Pressure loss valve on hydraulic ram
- Heavy duty protective cover
- Safety cut out on descent at 1.85 metres
- Low maintenance
- CE Certificate of Conformity and tested in accordance with EN 280

#### 1.3 INTENDED USE

The BoSS X3 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 X3 is intended to lift one person, plus essential tools and materials, to enable work to be undertaken at height. The BoSS X3 is designed for indoor use only 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 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 X3 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 X3 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)
- be able to demonstrate understanding of the need for and correct use and maintenance of personal protective equipment;
- j. operate the BoSS X3 safely and manoeuvre the machine as required, to correctly position and carry out the tasks in a correct and proper manner;
- be able to identify and avoid foreseeable hazards and recognise unsafe practices/ developing situations;
- I. carry out daily pre-use checks.

#### **WARNING**

Operation of the BoSS X3 by untrained or inadequately trained operators may result in serious injury or death.

## 1.4 SELECTION AND MINIMUM ATTRIBUTES OF OPERATORS

In addition to the Operator of the BoSS X3 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

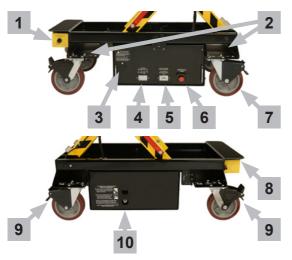
No modifications shall be made to this machine unless Youngman Group Ltd. has given full written approval. If in doubt please contact us for advice:

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

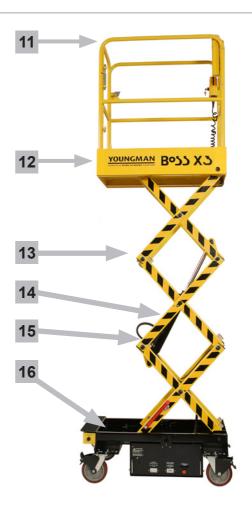
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- **f** +44 (0) 1621 859845
- e sales@youngmangroup.com

#### 1.6 TERMINOLOGY

- Charging cables and guardrail tools tray
- 2 Forklift access and transit strap points
- 3 Battery charging connection point
- 4 Battery charging indicator
- **5** Battery charge level indicator
- 6 Base unit emergency stop
- Smooth roll castors with non marking tyres
- 8 Step up to platform
- 9 Brakes
- **10** Emergency lowering release valve
- 11 Guardrails
- **12** Work Platform
- 13 Scissor assembly
- **14** Hydraulic ram
- **15** Pressure loss valve
- 16 Chassis
- 17 Handset control unit
- 18 Instructions for Use storage tube
- **19** Access gate



#### 1.6 TERMINOLOGY





#### 2.1 TECHNICAL DATA

Safe Working Load – 240 kilograms equivalent to – 1 person plus 160 kilograms of tools and materials

Maximum Platform Height – 2.55 metres Maximum Safe Working Height – 4.55 metres

Platform Length – 1.05 metres Platform Width – 0.57 metres Platform Guardrail Height – 1.1 metres Toeboard Height – 0.15 metres

Maximum allowable manual force – 200 Newtons Maximum allowable wind speed – 0 metres/second Maximum allowable chassis inclination - 1.5°

Electrical current – 12 volt DC Motor – 1.2kW Battery – 12v/100Ah Battery charger – universal 110 and 240 volts AC – automatic

Hydraulic system: Maximum hydralic pressure – 250 bar Reservoir capacity – 2 litres

Function speeds:

Ascent time - 12 seconds (80kg) - 14 seconds (240kg) Descent time - 13 seconds (80kg) - 12 seconds (240kg)

Maximum number of lifts and descents on one charge >430 (80kg)/ >225 (240kg)

Maximum overall length (brakes not deployed) – 1.28 metres Overall height (stowed) – 1.8 metres

Overall mass of unit excluding rated load – 349 kilograms

Maximum wheel load – 450 kilograms

Maximum point loading per castor - 150 kilograms

Ground clearance - 0.05 metres

#### 2.2 OPERATING SITE

When the BoSS X3 is delivered to the site ensure that the machine will be able to reach the work area; this is not a 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 setting up the machine paying particular attention to the following issues:

#### 2.2.1 GROUND CONDITIONS

Ensure that the ground on which the BoSS X3 is to operate is capable of supporting the weight of the machine (including the maximum rated load of 240kg). Be aware of specific floor areas such as manhole covers which may not be designed to withstand the maximum 150kg point loading exerted by the castor wheels.

#### 2.2.2 GROUND FLATNESS

Ideally the BoSS X3 should be operated on flat surfaces resulting in a 0 degree chassis inclination. However, the BoSS X3 can be safely operated where the ground is slightly uneven resulting in a lateral or longitudinal chassis inclination of 1.5 degrees or less. The BoSS X3 is fitted with a tilt sensor and will not raise if this angle is exceeded.

All four castor 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 X3 measures should be taken to segregate the machine from other vehicles. This might include the use of barriers, signage and re-routing measures.

#### 2.3 NOISE AND VIBRATION

The maximum noise level emitted by the BoSS X3 is 68.2 dB(A)

Hand and arm vibration expearienced on the BoSS X3 does not excead 1.91m/s<sup>2</sup>

#### 2.4 LIMITATIONS

The BoSS X3 is limited to indoor operation and must not be used outdoors. Please consult us 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 the BoSS X3 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 240kg rated capacity (Safe Working Load or SWL) of the

**NEVER** use the BoSS X3 as a crane

NEVER attempt to increase the reach or working height of the BoSS X3 by use of additional equipment eg ladders

**NEVER** use the BoSS X3 in temperatures exceading 50°C or below -20°C

**NEVER** manoeuvre the BoSS X3 on an inclined surface otherwise it may become uncontrollable

NEVER release the brakes or manoeuvre the BoSS X3 whilst in an elevated position as this may cause instability

**NEVER** manoeuvre the BoSS X3 with a person or materials on the platform.

**NEVER** attempt to get on or off the work platform of the BoSS X3 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 X3 outdoors

**NEVER** use the BoSS X3 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 allow works overhead of the BoSS X3 to be carried out which are outside the control of the operator

**NEVER** use the BoSS X3 as an electrical earth when welding structures alongside it

**NEVER** use the guardrails to carry materials

**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 and lowering of the platform

**ALWAYS** carry tools and materials within the confines of the guardrails of the work platform

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 X3 is positioned on adequate ground to support the weight of the machine and its rated load.

**ALWAYS** keep the BoSS X3 clear of live electric conductors

ALWAYS keep the BoSS X3 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 the work platform

**ALWAYS** ensure the access gate is closed 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)

#### **4.1 DAILY CHECKS**

It is essential to carry out daily checks on the BoSS X3 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 and by feeling underneath the base unit tray
- Loose electrical fittings and sensors by visual inspection
- Chafed hydraulic hose or electrical cable by visual inspection
- Condition of castors, tyres and brakes by visual inspection
- Structure guardrails, platform, scissors and chassis (eg damage, cracks, corrosion, abrasions, welds, connections)
- Visual inspection of the castellated scissor nuts and the split pin retainers
- Obscured, dirty or damaged instruction labelling and plates
- Emergency stop function activated on the handset
- Emergancy stop function activated on the base unit
- Emergency lowering of platform (see page19)
- Raise and lower functions including descent delay (the raise and lower functions can be tested by removing the handset controller from its holder on the work platform and using the controls whilst at ground level)

If the above pre-use checks reveal malfunctions or damage on the BoSS X3, then the machine 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 X3, 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 MANOEUVRING THE PLATFORM

Manoeuvre the platform into position using both hands on the platform guardrail uprights as shown below. Take care to avoid trapping hands or feet whilst manoeuvring the platform.



#### **WARNING**

Never manoevre the BoSS X3 whilst it is elevated or with a person, tools or materials on the platform.

Never attempt to move the platform on a gradient without assistance. Always carry out a risk assessment.

14 BoSS X3 Instructions for Use youngmangroup.com

#### 4.3 ENGAGING THE BRAKES

Always ensure all four castor brakes are engaged before elevating the work platform to prevent any inadvertent movement.

The brakes are engaged by use of a foot pushing down on the lever as shown in the photographs below. To release the brakes push the toe of the foot under the lever and flick upwards.



Fixed castor



Swivel castor

#### 4.4 BATTERY ISOLATION SWITCH

The BoSS X3 is provided with a key operated switch 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, as shown below making sure the red emergency stop button is fully released.

Ensure that when the machine is not in use, the emergency stop button is depressed and the key removed.



## 4.5 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.



#### **4.6 HANDSET CONTROL UNIT**

The handset control unit houses the platform raise and lower controls.

Pressing the 'UP' button raises the platform. Pressing the 'DOWN' button lowers the platform

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 of 1.85m from ground level. 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 time delay and when the operator is sure it is safe to do so, the 'DOWN' button can be depressed a second time to continue the descent.



#### **4.7 EMERGENCY STOP**

An emergency stop button is provided on the handset control unit. Once depressed this isolates power to the raise and lower functions.

To restore functionality, twist the emergency stop button key clockwise to release the button as shown below.



There is also an emergency stop button on the base unit. Push in to activate and twist clockwise to release.



#### **4.8 EMERGENCY LOWERING**

In the unlikely vent of a power failure of the BoSS X3 the platform can be lowered manually by use of the following procedure.

- 1. Turn the finger screw on the pressure loss valve anticlockwise until it will not turn any further as shown in figure 1.
- 2. Then, turn the emergency valve on the base unit anticlockwise until the platform begins to desend, as shown in figure 2. If you need to stop the desent simply turn this valve clockwise again.





Figure 1

Figure 2

#### **WARNING**

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

#### **4.9 BATTERY CHARGING**

A battery charge level indicator is fitted to the BoSS X3 as shown in the photographs below. When the battery is fully charged the segment at the far right hand side of the display will be illuminated red, as shown in figure 1 below. When the second segment from the left is illuminated, as shown in figure 2 below, it is time to put the BoSS X3 on charge





Figure 1

Figure 2

The BoSS X3 is fitted with an integral battery charger.

#### 4.9 BATTERY CHARGING - CONTINUED

To charge the battery, follow the steps below:

- **a.** Depress the emergency stop button on the handset control unit and remove the key.
- **b.** Remove the cover from the charging connection point. as shown in figure 2 below.





Figure 1

Figure 2

- c. Connect either the 240 volt or 110 volt lead (dependent on the mains supply) to the BoSS X3 charging connection point. These cables are to be found in the charging cable and guardrail tools tray under the step up to the platform.
- **d.** Connect the mains lead to a suitable power supply (either 110 volt or 240 volt)
- e. Whilst the battery is charging to 80% of capacity the second light will be flashing as shown in figure 1 below and when the charging of the remaining 20% is underway the third light will begin flashing as indicated in figure 2 below.

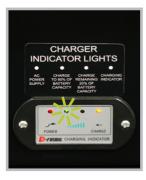




Figure 1

Figure 2

**f.** When the battery is fully charged all lights four lights will illuminate after aproximatley 10 hours.

#### **5.1 STORAGE**

The BoSS X3 should be stored inside in a secure, clean and dry environment, the emergency stop on the handset depressed and the key removed The protective cover should then be placed over the machine. It should not be stored outside.

When the BoSS X3 is parked the brakes must be applied and if the machine has to be parked on a gradient the castors must be chocked. The BoSS X3 must not be stored where the air temperature exceeds 50°C or falls below -20°C.

#### **5.2 LOADING AND UNLOADING**

The BoSS X3, with brakes applied, may be loaded onto a vehicle by means of an adequately rated forklift using the forklift points provided on the machine (see pictures below).





#### **WARNING**

The machine may be lifted from either side using these points only and it must not be lifted from either end. Ensure the forks are sufficiently inserted into the forklift entry points.

Once located in the correct position on the vehicle the BoSS X3 should be anchored by means of fully tightened straps passed through the forklift access points.

#### **5.2 LOADING AND UNLOADING**

The BoSS X3 may also be wheeled onto an adequately rated tail lift with the platform in the fully lowered position. The swivel castor brakes should then be applied, the tail lift raised, the brakes released and the machine wheeled onto the flat base of the tail lift vehicle and all four brakes applied. The BoSS X3 should be anchored to the vehicle by means of straps passed through the fork lift access points.





#### **WARNING**

The BoSS X3 weighs 349 kilograms and the forklift or tail lift used to lift the machine must be adequately rated.

#### **5.3 LIFTING**

No lifting attachment points are provided on the BoSS X3 and therefore lifting of the machine by means of a crane or hiab is strictly prohibited.

#### 5.4 PREPARATION FOR TRANSPORT

Prior to transporting the BoSS X3 on a vehicle, ensure that the following precautions are taken:

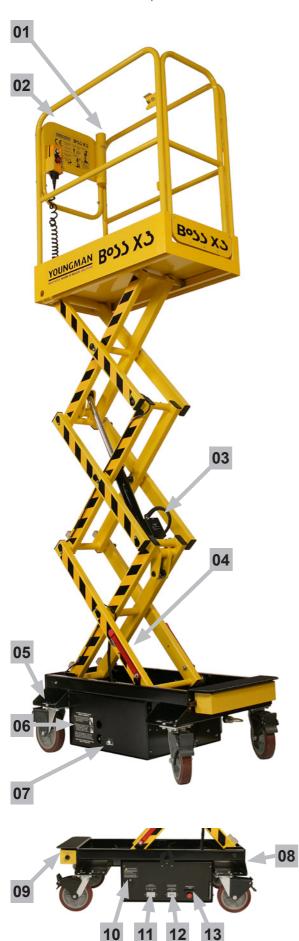
- **a.** Ensure that the platform is fully lowered to its rest position
- **b.** Ensure that the handset control unit is secured to the platform
- c. Ensure all four brakes are engaged
- **d.** Secure the BoSS X3 to the transport vehicle using straps through each of the forklift entry points as shown below





#### **6.1 MACHINE LABELLING**

See below for the correct location of the BoSS X3 labels and machine plate



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#### **6.1 MACHINE LABELLING**









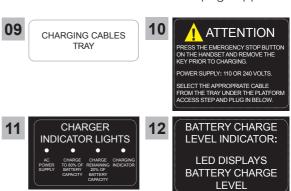


On all four forklift and transit strap points





Located on the end of the chassis as indicated on the page opposite.





# 6 Maintenance and repair record

# 6 Maintenance and repair record

#### **6.2 MAINTENANCE RECORD**

Date	Scheduled maintenance undertaken	Location	Ву

#### **6.3 REPAIRS RECORD**

Date	Repairs undertaken	Location	Ву

#### **6.4 EXAMINATION/TESTS RECORD**

Date	Examinations / tests undertaken	Location	Ву	Safe to use Y/N?

Please photocopy these pages for your own use as required.

#### 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 this BoSS X3. 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 this BoSS X3 going undetected and possibly resulting in an unsafe machine.

Note that Regulation 8 of the Lifting Equipment Regulations 1998 (LOLER) 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> <li>Hydraulic oil leaks by visual inspection of the floor around the base unit and by feeling underneath the base unit tray</li> </ul>	
<ul> <li>Loose electrical fittings and sensors by visual inspection</li> </ul>	
<ul> <li>Chafed hydraulic hose or electrical cable by visual inspection</li> </ul>	
<ul> <li>Condition of castors, tyres and brakes by visual inspection</li> </ul>	
<ul> <li>Structure – guardrails, platform, scissors and chassis (eg damage, cracks, corrosion, abrasions, welds, connections)</li> </ul>	
<ul> <li>Visual inspection of the castellated scissor nuts and the split pin retainers</li> </ul>	
<ul> <li>Obscured, dirty or damaged instruction labelling and plates</li> </ul>	
<ul> <li>Emergency stop function activated on the handset</li> </ul>	
<ul> <li>Emergency stop function activated on the base unit.</li> </ul>	
<ul><li>Emergency lowering of platform (see page 19)</li></ul>	
<ul> <li>Raise and lower functions including descent delay (the raise and lower functions can be tested by removing the handset controller from its holder on the work platform and using the controls whilst at ground level)</li> </ul>	

#### **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

## YOUNGMAN

#### **INNOVATIVE WORK AT HEIGHT SOLUTIONS**





For further information about this product or any other products and services, please contact:

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