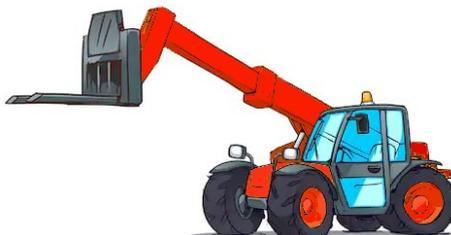# XWTele / XWFork

Height Limiter

Operating Instructions

This height limiting device is not suitable for use in explosive atmospheres. Adjustment by unauthorised persons will invalidate any warranty or certification supplied.

This manual covers the operation of the following XW Series products:

XWTele   Height limitation for telescopic handlers

XWFork   Height limitation for industrial and rough terrain fork lift trucks

As these products are very similar, they only differ with regard to sensor number and type, they are dealt with in a single document.

XWTele uses a single boom angle sensor and a reeling drum for the telescopic section to measure height. XWFork uses just the reeling drum to measure the fork position on the lifting mast. Both systems have either proportional or black/white valves to control the machine hydraulics.

A platform angle sensor is a option. This allows machine chassis angles to be monitored to provide either a warning or motion control in the event of dangerous angles being reached.

A Supervisor key switch is an option. If this is installed then the key must be in the **unlock** position to allow new limits to be set. If the key is in the **lock** position the height limit cannot be disabled.

Document History

| Version	Date	Change
Draft	17-07-2019	Initial effort

Contents

1. General information

The system will start automatically when the machine ignition is switched on. After a short delay, while the system transfers information from the I/O controller, the display above will appear. The height limiter will operate after 10 seconds, or immediately if **ok** is pressed. Previous settings will be active.
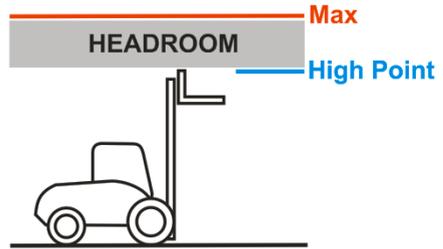
2. Operation

2.1 Telehandler
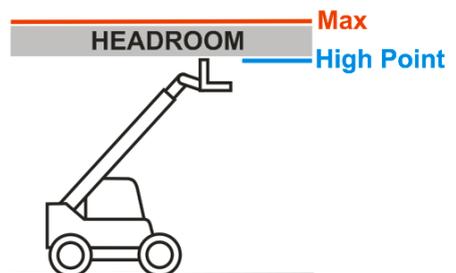
Three important pieces of information are shown on the display. They are the **Max** height limit, the current machine **High Point**, and the amount of headroom available to operate in.

2.2 Forklift

Information displayed when configured for forklift operation is the same as described in section 2.1.

2.3 Approaching a height limit

As the Headroom reduces to less than 0.5 metres, the headroom value displayed will change colour. Machines that are equipped with proportional motion control valves will reduce the boom up and telescope out speeds.
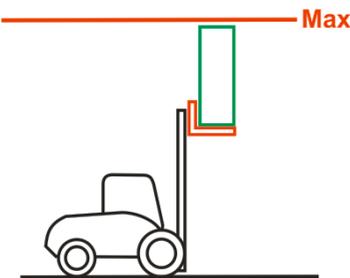
2.4 At a height limit

When the Headroom reduces to 0.1 metres or less, all motions that would increase the height of the machine will be prevented. Full power is available to move away from a height limit.

3. Setting Limits

3.1 Height limit considerations
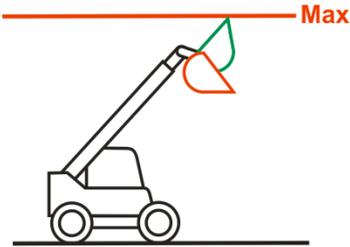
The system is only aware of the main equipment position. Any tool or load must be taken into account when setting a height limit. Tools on telehandlers must be in their least favourable configuration. The height of any load when using forks must always be accounted for.

It is advisable to use the **HERE** facility as described in section 3.3 when setting a limit to avoid error.

Once a limit is set, check for satisfactory operation before commencing work.

3.2 Manual setting

To manually set a new height limit press the **SET** button.

Button operation

Select a digit to adjust

Adjust selected digit

ok   Set the height limit as manually edited and exit

ESC   Abandon any changes and exit

The 'padlock' symbol indicated that all motion control is deactivated.

3.3 Automatic setting

To automatically set a new height limit press the **SET** button.

To automatically set a new height limit, move the machine until the desired height is achieved (shown as **Current = 5.76** in this example) and press **HERE**.

Control will return to the main operation screen.

4. Disabling Limits

To disable a height limit press **OFF** from the main operation screen. All motion control will be disabled.

Note: If the system has tilt monitoring (see section 5) it will remain operational while the height limit is disabled.

Press **ON** to return to the previously active height limit.

5. Tilt Monitor

If the system has been configured for tilt monitoring then additional information will be displayed on the main operation screen.
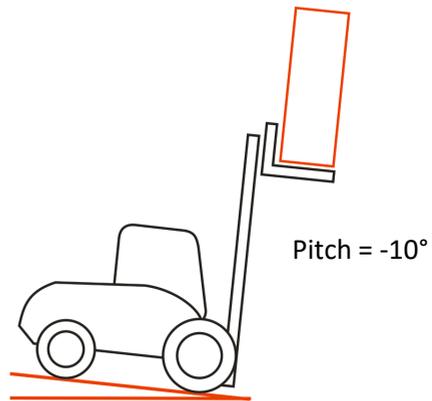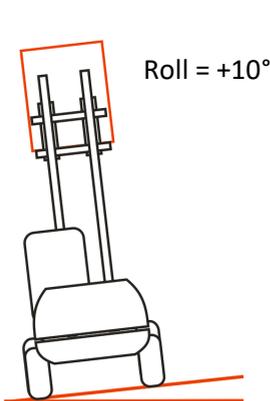

Pitch is the fore-aft chassis angle. Positive values are when the front of the machine is UP.

Roll is the side-side chassis angle. Positive values are when the right side of the machine is UP.

Roll = +10°

Pitch = -10°

The maximum pitch and roll angles are set during system installation, and are fixed. If either of these values is exceeded a warning will be issued. There is an output available in the IO Controller to allow the machine to be disabled.

6. Fault Page

The system continuously monitors the health of the sensors and the IO Controller inputs and outputs. If a problem is detected, the screen shown above will appear. If the system has motion control valves fitted, the system will failsafe and close all the valves. The failed sensor(s) will be shown in red.

If a fault occurs with IO Controller a further line of text will be shown at the base of the screen describing the error. If there is more than one error, the messages will cycle.