



XW5 Mk II

Operation Guide



DECLARATION

During normal operation the safe working load of a crane should not be exceeded. Therefore, the warning of overload should not be used as a normal operating facility. Certain statutory requirements do not permit the safe working load to be exceeded except for the purpose of testing.

This Rated Capacity Indicator is not suitable for use in explosive atmospheres. Adjustment by unauthorised persons will invalidate any warranty or certification supplied.

This document describes the operation of the XWatch Safety Solutions Ltd XW5 Series 2 RCL/MLD. Dependant on system configuration and licencing, not all the features described may be available.

CONTACT

Xwatch Safety Solutions Ltd,
Unit 11-12 Ashley Heath Industrial Estate
Ringwood Road
Wimborne
England
BH21 6UZ
01633 987344
sales@xwatch.co.uk

CONTENTS

DECLARATION.....	1
CONTACT.....	1
SYMBOLS AND ABBREVIATIONS	4
1 GENERAL INFORMATION	5
2 START UP	5
3 DISPLAY BRIGHTNESS	6
4 RCL OPERATION	7
4.1 RCL Page.....	7
4.2 RCL Operation.....	8
4.2.1 Safe operation	8
4.2.2 Approach to maximum safe working load.....	8
4.2.3 Overload	8
4.2.4 Soft override	9
4.2.5 Load chart generation	9
5 HEIGHT LIMITATION	10
5.1 Height limit page.....	10
5.2 Monitored equipment points	11
5.3 Setting a height limit.....	11
5.4 Using tools	12
5.5 Approaching a height limit.....	13
5.6 At a height limit.....	13
5.7 Cancelling height limitation	13
6 SLEW LIMITATION	14
6.1 Slew limitation type	14
6.1.1 Virtual wall slew limitation	14
6.1.2 Angular slew limitation	15
6.2 Virtual wall slew limiting.....	15
6.2.1 Setting slew wall limits	16
6.3 Approaching a slew wall limit	16
6.4 At a slew wall limit	16
6.5 Angular slew limiting.....	17
6.5.1 Setting angular slew limits	17
6.6 Approaching a slew angle limit.....	18
6.7 At a slew angle limit.....	18
7 ENVELOPE CONTROL	18

7.1	Envelope control page.....	19
7.2	Setting envelope limits	20
7.3	Envelope warning messages	20
8	DIG MODE.....	21
8.1	Dig mode page	21
8.2	Digging operation	22
9	SYSTEM ERRORS	23
9.1	SYSTEM ERROR! Page.....	23
9.2	Example error report	23
10	SYSTEM MONITOR.....	24
10.1	Monitor main menu.....	24
10.2	Check inputs	24
10.3	Test outputs	25
10.3.1	Test outputs menu.....	25
10.3.2	Testing the hydraulics	25
10.3.3	Testing digital outputs	26
10.4	Check sensors	26
10.5	Calibration check.....	27
10.6	System information	28
11	MAINTENANCE	29
11.1	Component Location	29
11.1.1	SCU	30
11.1.2	Angle Sensors	30
11.1.3	Display.....	31
11.1.4	Reeling Drum.....	31
11.1.5	Slew Sensors.....	31
11.1.6	Pressure Transducers.....	32
11.2	Motion Limitation Accuracy Check.....	32
11.2.1	Height Limiter Test	32
11.2.2	Slew Limiter - Angular Test.....	33
11.2.3	Slew Limiter – Virtual Wall Test	33
11.3	RCI Test	34
12	MAINTENANCE INSPECTION SCHEDULE.....	35
12.1	Inspection Chart.....	35
	DOCUMENT HISTORY & APPROVAL	36

SYMBOLS AND ABBREVIATIONS

Abbreviation	Meaning
RCI	Rated Capacity Indicator
PLd	Performance Level D
MLD	Movement Limiting Device
RRV	Road-Rail Vehicle
RCL	Rated Capacity Limiter
SCU	Safety Control Unit

1 GENERAL INFORMATION

XW5 is fully automatic. It is controlled via the six keys and the central navigation pad. Except for the navigation pad, only keys with a legend/symbol will be operational. In the event of a fault, the system will fail safe, and all motions will be disabled. The fault diagnostic page will appear. To allow recovery of the machine, and override key switch is provided. XW5 has a built-in data logger. All events of note are recorded.

2 START UP



XW5 will start automatically when the machine ignition is switched on. There is a short delay while the display collects data from the Safety Controller. Once complete, **CONTINUE** will appear above key 6. If no keys are pressed, the system will automatically continue after 10 seconds. During this period, three option keys are available –



Press to access the XWatch QR code. Scan the code with your device to access further information.



Press to select the desired language. The options appear as flags. If the US flag is selected, the system will display distances in decimal feet, and weights in pounds.



Press to set the time and date.

When the system continues, the alarm test page will appear.



Press **CONFIRM** to continue. With no confirmation, the machine will remain disabled. XW5 will revert to last used page.

3 DISPLAY BRIGHTNESS

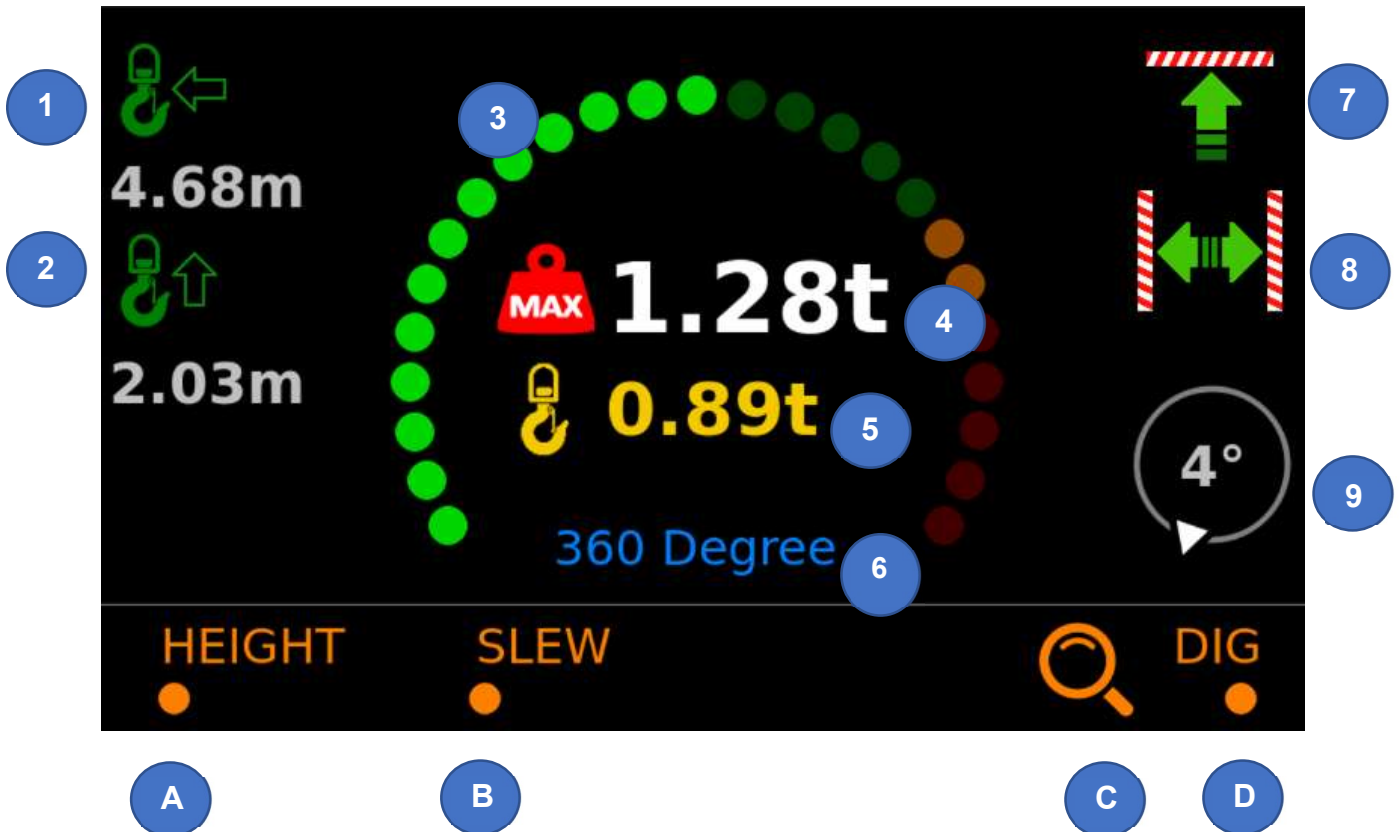
From any operational screen press either the left or right key on the navigation pad to adjust both the display and keypad brightness.



4 RCL OPERATION

When the RCL is operational, the RCL beacon will be active. The RCL is always on regardless of which page is in view. The RCL is only suspended if the system is in dig mode.

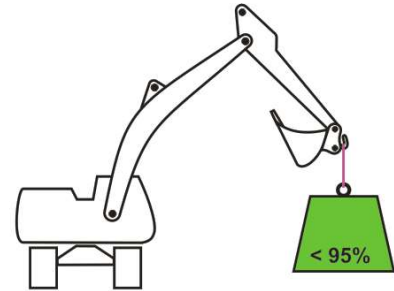
4.1 RCL Page



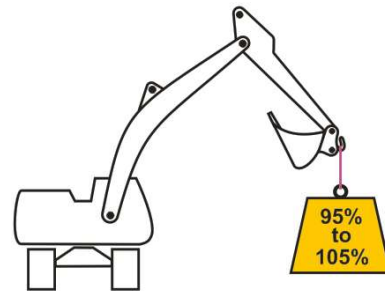
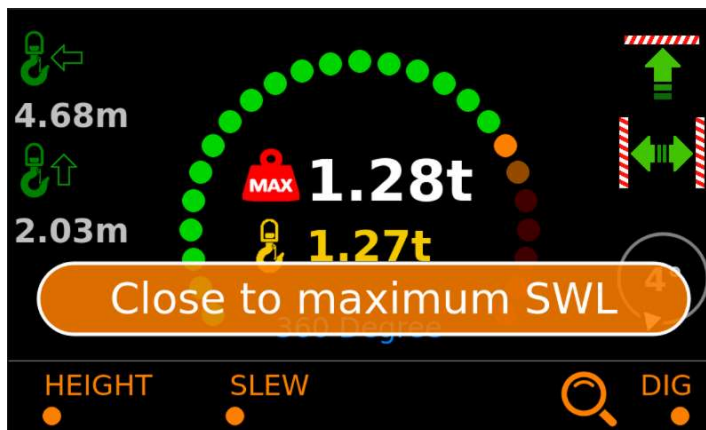
1. Lift radius. This the distance in metres from the slew centre line to the lifting point. The lifting point can be either the bucket pin, or if a quick hitch is present, the lifting eye on the hitch.
2. Lift height. This is the distance in metres from level ground to the lifting point.
3. Load meter. The green sector represents 0 to 95% of the maximum safe working load, the amber sector 95 to 105%, and the red sector > 105%.
4. Maximum safe working load for the current lifting point height and radius.
5. Current load on hook. Note: if the boom lift cylinders are at the end of their stroke this value may be incorrect.
6. Current lifting duty. XW5 can support up to 8 lifting duties. These can be automatically or manually selected.
7. Height limiter status (shown in the ON state).
8. Slew limiter status (shown in the ON state).
9. Optional machine tilt status.
- A. Access to the height limitation page.
- B. Access to the slew limitation page.
- C. Load chart viewer (monoboam machines only).
- D. Access to the digging page.

4.2 RCL Operation

4.2.1 Safe operation

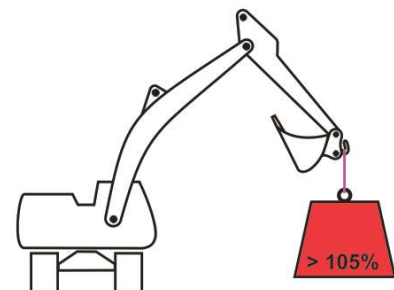
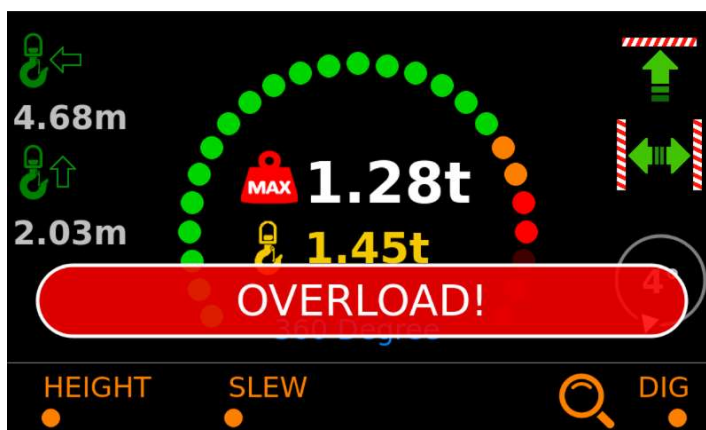


4.2.2 Approach to maximum safe working load



The internal alarm will sound.

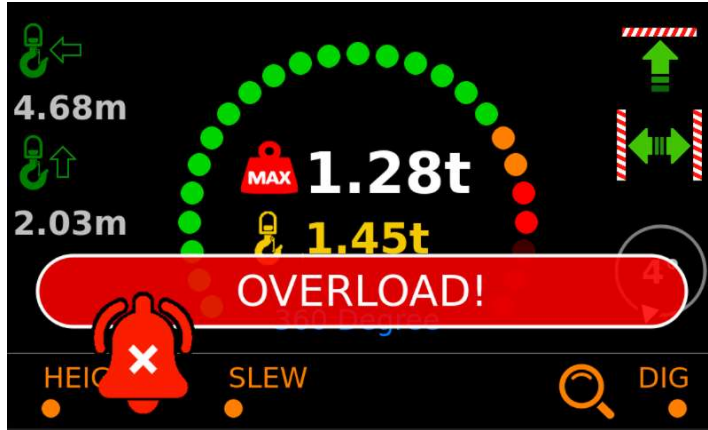
4.2.3 Overload



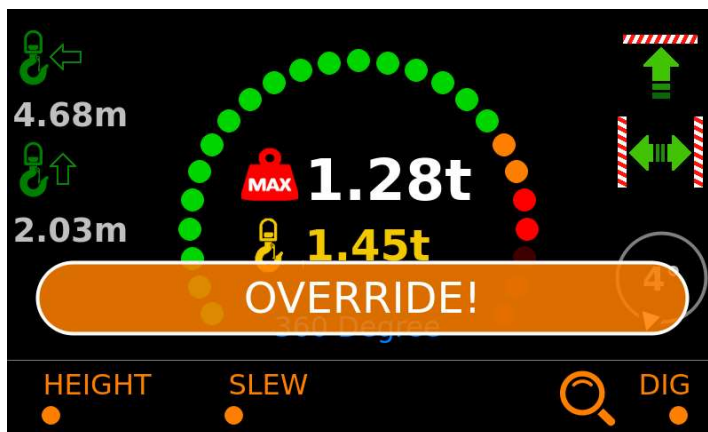
Both the internal and external alarms will sound.

4.2.4 Soft override

If the system has been configured for motion control on overload, after a specified time, any motion that would raise the load or increase the radius, will be prevented.



Press key 2 to override the motion control.



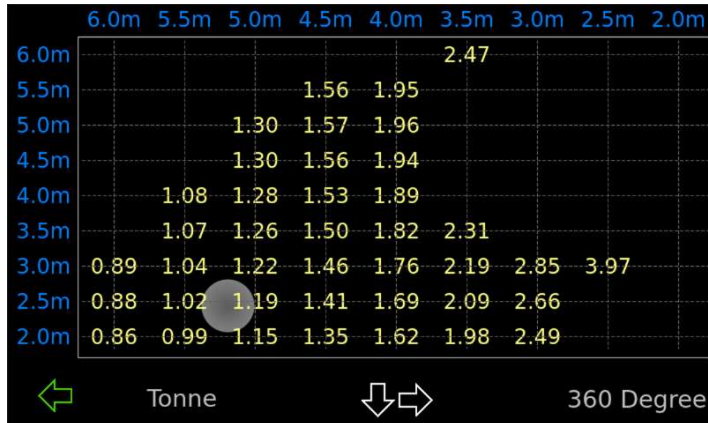
The RCL beacon will turn off, the external alarm will remain on until the overload condition is cleared.

4.2.5 Load chart generation

Press key 5 from the RCL page. Wait for the chart to build.



Once built, a new build will not occur until a lifting duty changes.

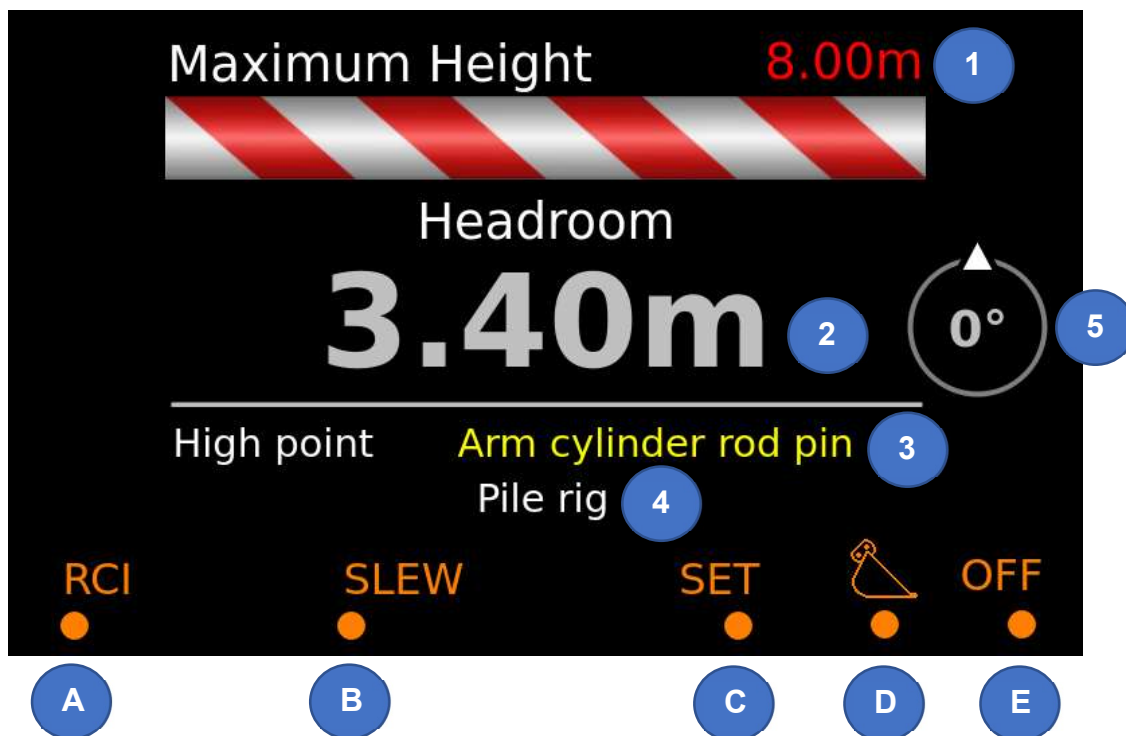


The navigation keys can be used to pan the chart. Press key 1 to return to the RCL page.

The centre of the grey circle represents the current lifting point position.

5 HEIGHT LIMITATION

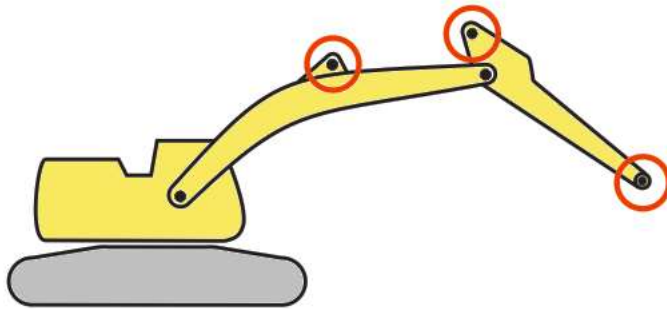
5.1 Height limit page



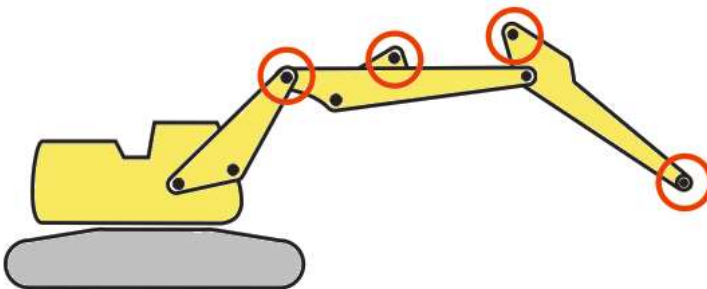
1. Maximum height limit in metres.
2. Headroom. The vertical distance in metres from the highest point of the front-end equipment to the height limit.
3. The highest point on the front-end equipment.
4. Option. Current attachment.
5. Option. Current machine tilt status.
- A. Access to the RCL page.
- B. Access to the slew limitation page.
- C. Set a height limit
- D. Option. Tool menu (attachment).

E. Disable the height limiter.

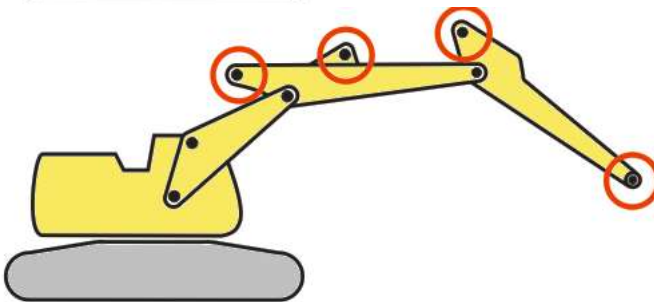
5.2 Monitored equipment points



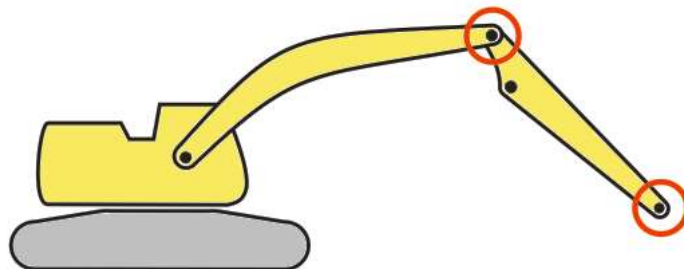
Monoboom machine.



Hydraulic boom forward rams.



Hydraulic boom rear rams.

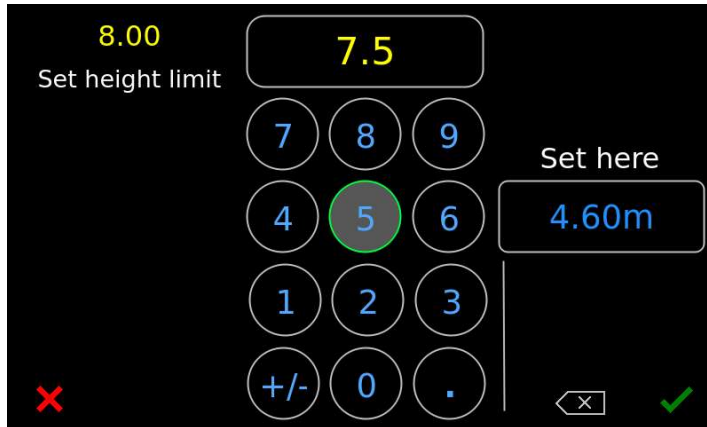


Rehandling machine.

If the optional 'tool bubble' is enabled, the height of the selected tool will be added to the bucket pin height.

5.3 Setting a height limit

Press key 4 from the height limitation page to access the set functions.

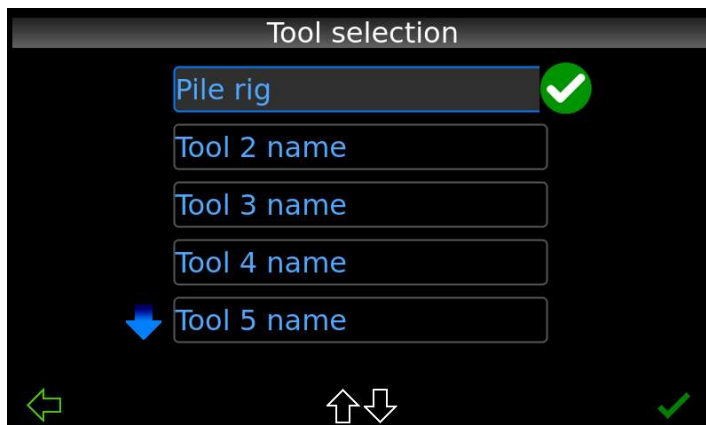


There are two ways to set a new height limit.

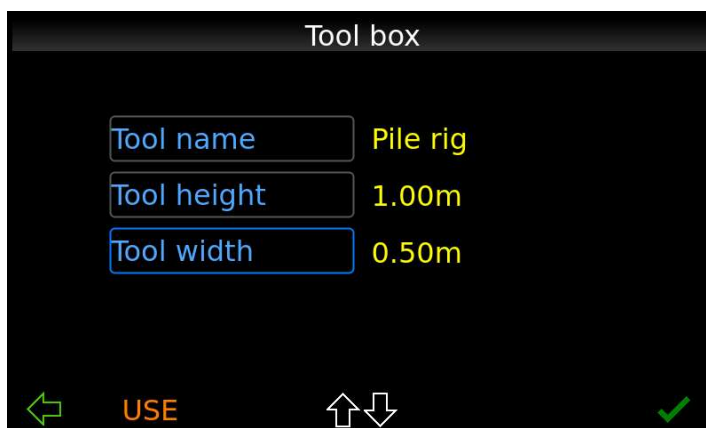
1. Use the navigation pad to move around the keypad. Press the centre button to accept a number. Use key 5 to delete the last number entry. Press key 6 to set the limit and exit. Press key 1 to exit with no change.
2. Use the 'Set here' function. Move the machine to the desired maximum height and press key 4 to accept the displayed value and exit.

5.4 Using tools

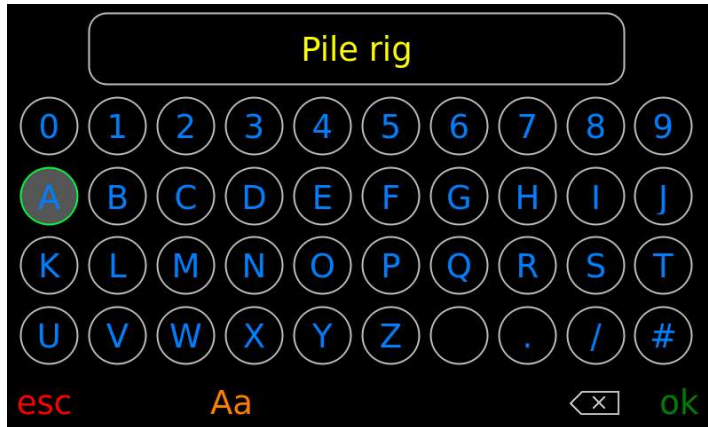
XW5 can optionally support 16 different attachments. The tool dimensions are used to improve safety in both height and slew restriction.



Use the navigation pad to highlight the desired tool (or create a new one). Press key 6 to access the tool or press key 1 to exit with no change.



Use the navigation pad to highlight the desired data item. Press key 6 to edit the value. Press key 2 to select the tool. Press key 1 to return to the Tool selection page.



Numerical data entry is similar to 4.3. Alpha-numeric is shown here. Change case with Aa. Accept the entry with key 6. Use key 1 to exit without change.

5.5 Approaching a height limit



XW5 uses staged speed reduction to control the front-end equipment. The approach distances will have been set during system calibration. When the final approach distance is reached the message shown here appear.

5.6 At a height limit



When the distance to the height limit is less than 0.1 metres any motion that could increase the equipment height will be prevented.

5.7 Cancelling height limitation

From the height limiting page, press key 6 to cancel height limitation. Press key 6 again to reactivate.



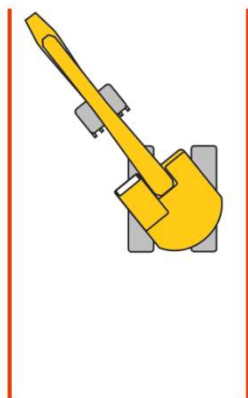
6 SLEW LIMITATION

6.1 Slew limitation type



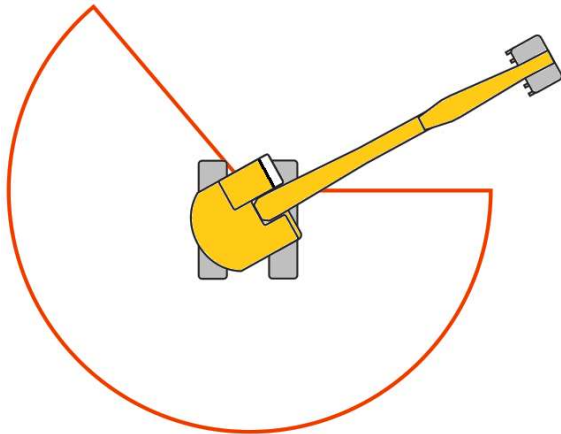
XW5 can support both virtual wall and angular slew limitation. With slew limitation disabled, use key 4 to toggle between the two types.

6.1.1 Virtual wall slew limitation



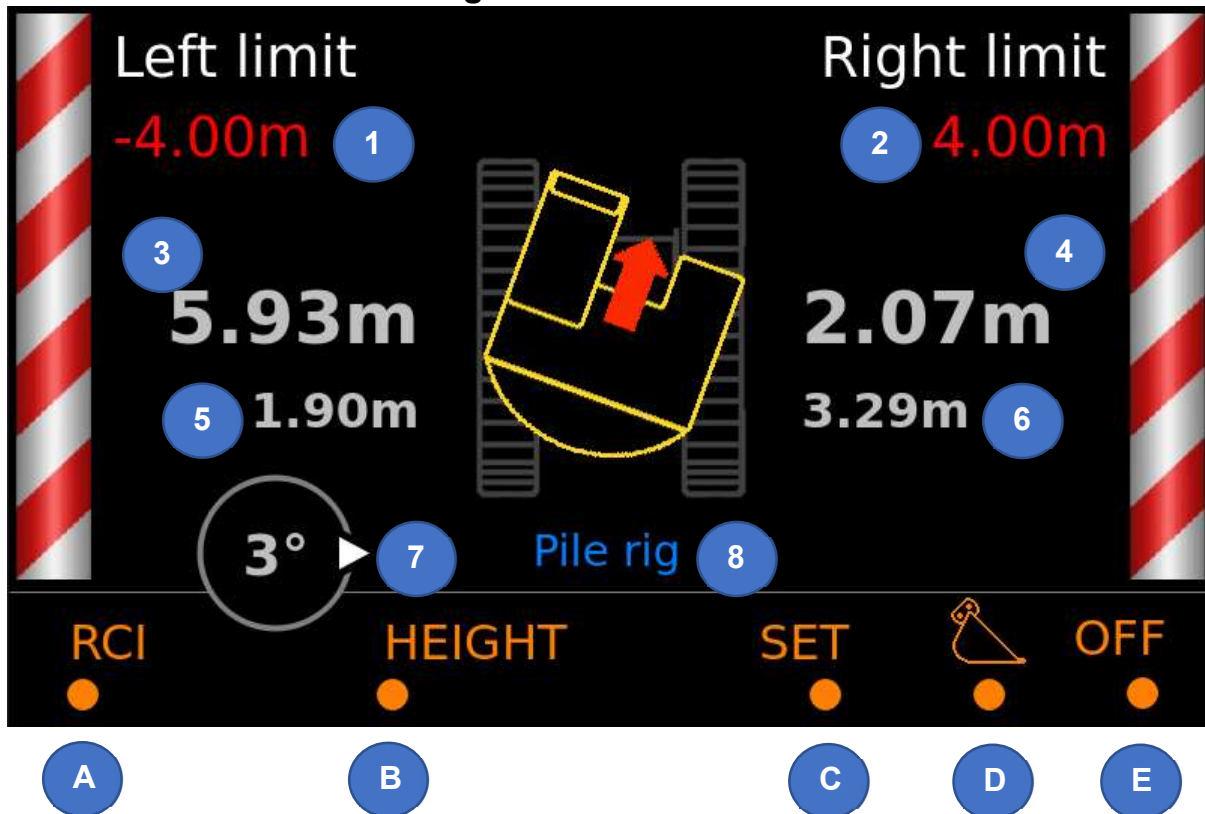
Virtual walls are two parallel limits expressed as a distance to the left and right of the machine centre line. If only one wall is required, the un-needed limit can be set to out of reach.

6.1.2 Angular slew limitation



Angular slew limits are an anti-clockwise angle limit, and a clockwise angle limit. These can be set anywhere in the 360° rotational range.

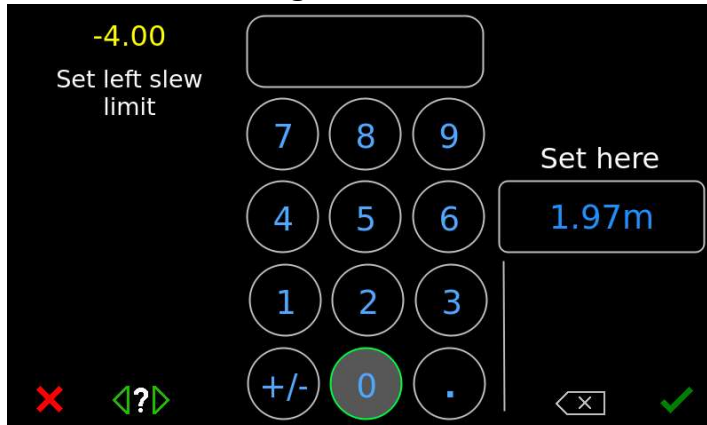
6.2 Virtual wall slew limiting



1. Left slew limit wall
2. Right slew limit wall
3. Front-end equipment distance to left slew limit wall
4. Front-end equipment distance to right slew limit wall
5. Turret rear left corner distance to left slew limit wall
6. Turret rear right corner distance to right slew limit wall
7. Option. Current machine tilt status
8. Option. Current attachment
- A. Access to the RCL page
- B. Access to the height limitation page
- C. Set slew wall limits

- D. Access to the tools menu
- E. Disable slew limitation

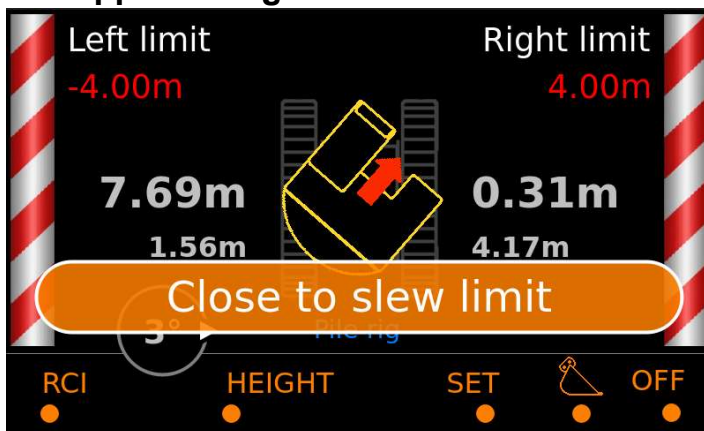
6.2.1 Setting slew wall limits



There are two ways to set a new slew limit wall

1. Use key 2 to select which side to set.
2. Use the navigation pad to move around the keypad. Press the centre button to accept a number. Use key 5 to delete the last number entry. Press key 6 to set the limit and exit. Press key 1 to exit with no change.
3. Use the 'Set here' function. Move the machine to the desired maximum lateral limit and press key 4 to accept the displayed value and exit.

6.3 Approaching a slew wall limit



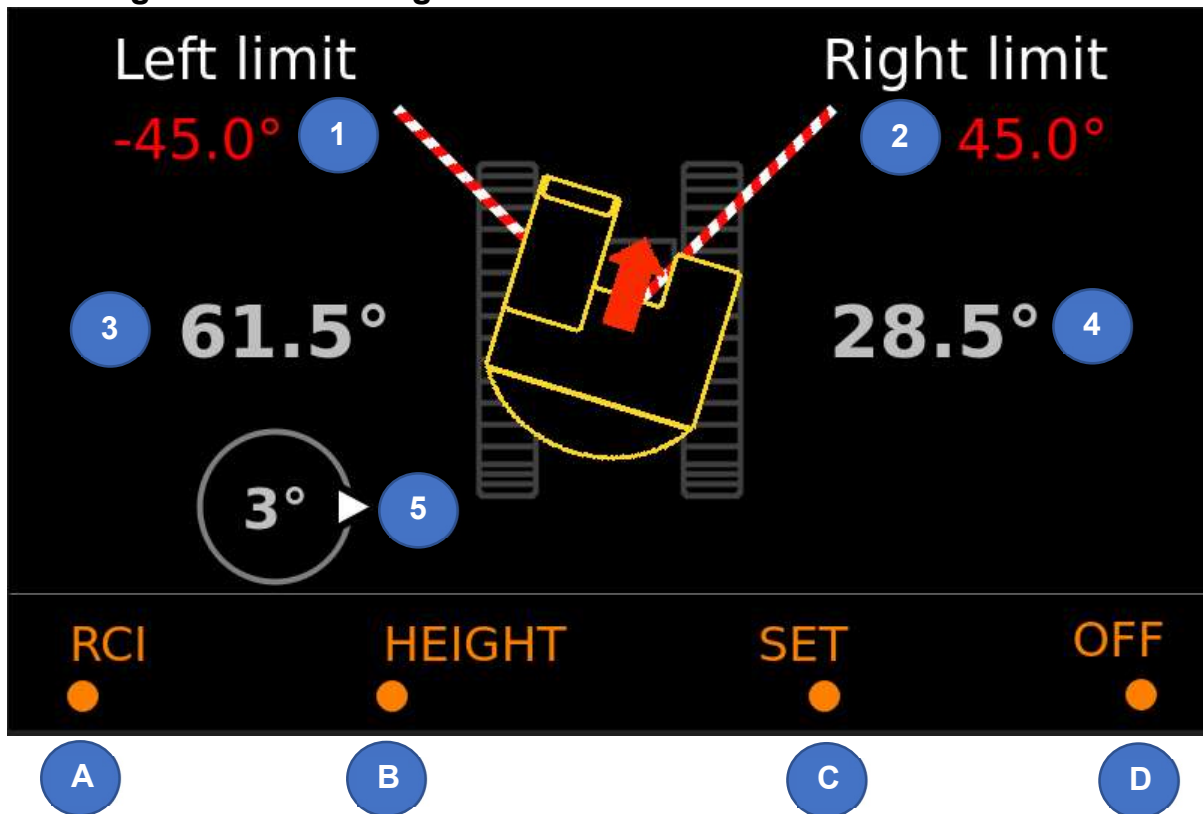
XW5 uses staged speed reduction to control the front-end equipment and slew. The approach distances will have been set during system calibration. When the final approach distance is reached the message shown here appear.

6.4 At a slew wall limit



When the distance to the slew limit is less than 0.1 metres any motion that could increase the lateral distance will be prevented.

6.5 Angular slew limiting



1. Left (anti-clockwise) slew limit angle
2. Right (clockwise) slew limit angle
3. Front-end equipment distance to left slew limit angle
4. Front-end equipment distance to right slew limit angle
5. Turret rear left corner distance to left slew limit wall
6. Turret rear right corner distance to right slew limit wall
7. Option. Current machine tilt status
8. Option. Current attachment
- A. Access to the RCL page
- B. Access to the height limitation page
- C. Set slew angle limits
- D. Disable slew limitation

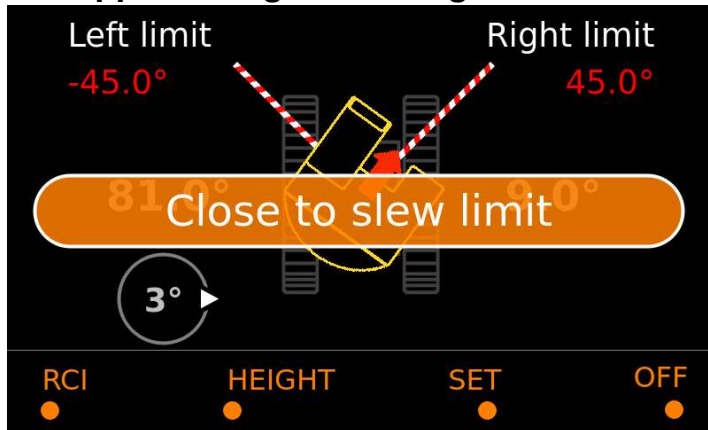
6.5.1 Setting angular slew limits

The screenshot shows the 'Set left slew limit' interface. It features a numeric keypad with buttons for digits 0-9, a decimal point, and a +/- sign. A red 'X' button is on the left, and a green checkmark button is on the right. The current value being set is -18.5°, displayed in a box labeled 'Set here'. The top left shows the current limit value -45.00. The bottom left shows a green arrow and a question mark icon.

There are two ways to set a new slew limit wall

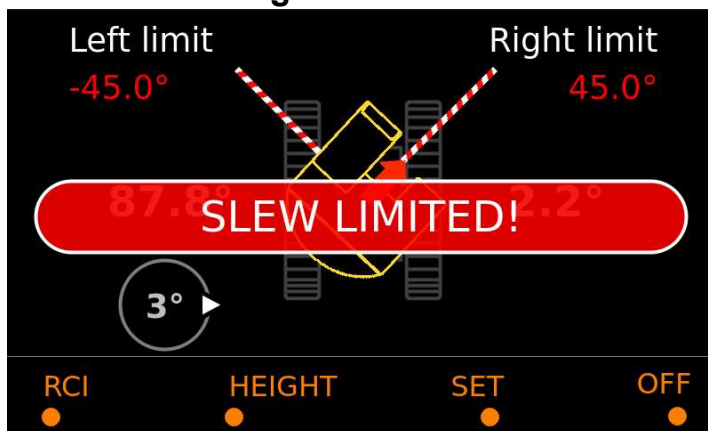
1. Use key 2 to select which side to set.
2. Use the navigation pad to move around the keypad. Press the centre button to accept a number. Use key 5 to delete the last number entry. Press key 6 to set the limit and exit. Press key 1 to exit with no change.
3. Use the 'Set here' function. Move the machine to the desired angle limit and press key 4 to accept the displayed value and exit.

6.6 Approaching a slew angle limit



XW5 uses staged speed control to limit the slew. The approach distances will have been set during system calibration. When the final approach distance is reached the message shown here appear.

6.7 At a slew angle limit

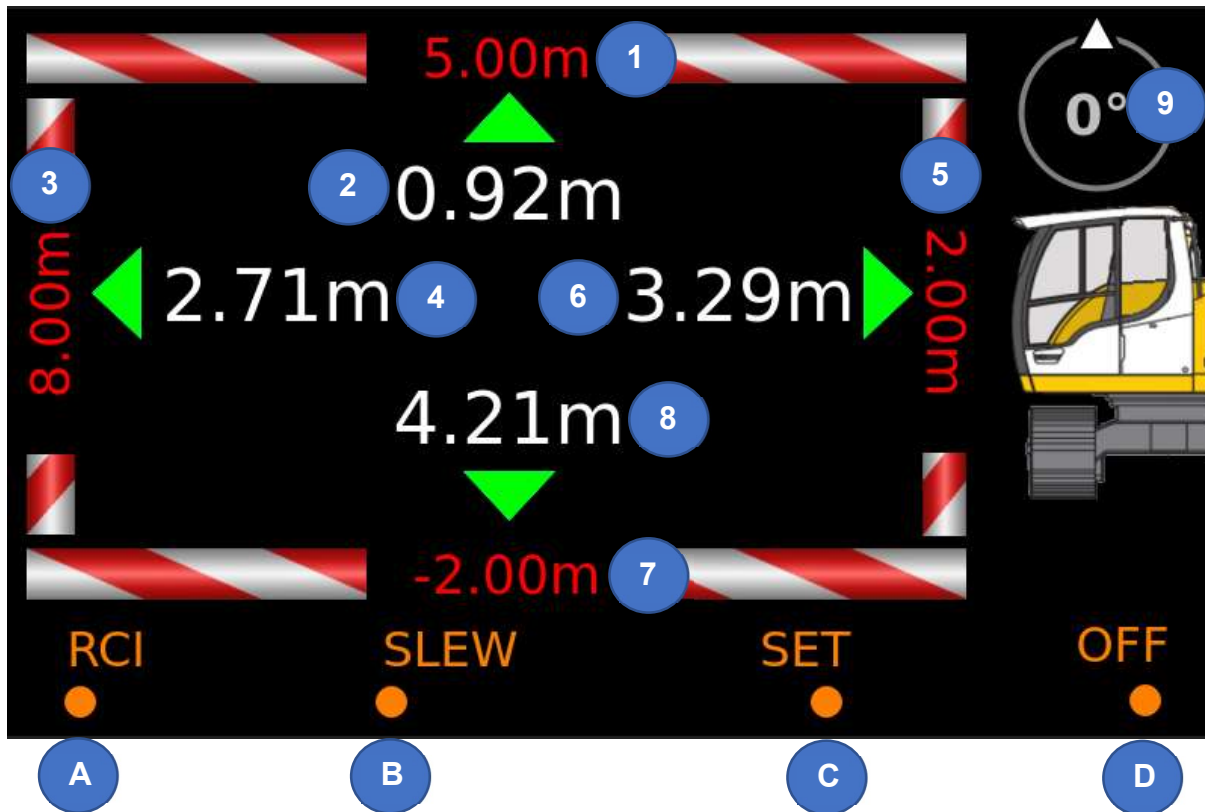


When the distance to the slew limit is less 3 degrees any further slewing will be prevented.

7 ENVELOPE CONTROL

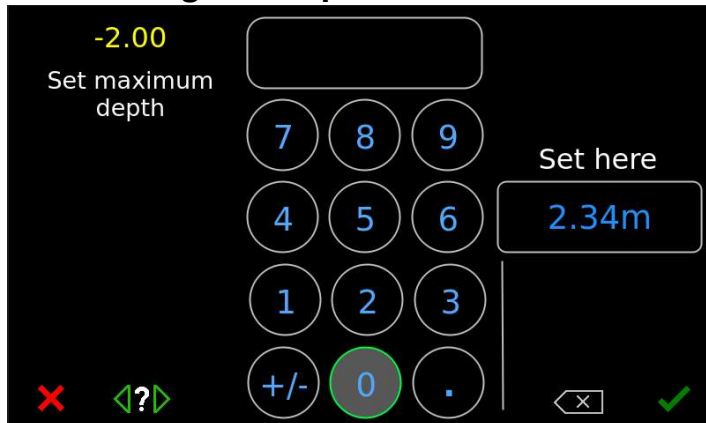
Envelope control is a licensed option and replaces the **Height limitation** function. It is accessed via the **HEIGHT** key from any operational screen. Only the height limit had proportional hydraulic control, radius and depth limits are full stop only.

7.1 Envelope control page



1. Maximum height limit
2. Current distance to the height limit
3. Maximum reach limit
4. Current distance to the maximum reach limit
5. Minimum reach limit
6. Current distance to the maximum reach limit
7. Minimum depth limit
8. Current distance to the maximum depth limit
9. Option. Machine tilt status
- A. Access to the RCL page
- B. Access to the slew limitation page
- C. Set new limits
- D. Disable envelope control

7.2 Setting envelope limits



There are two ways to set a new envelope limits

1. Use key 2 to select which limit to set.
2. Use the navigation pad to move around the keypad. Press the centre button to accept a number. Use key 5 to delete the last number entry. Press key 6 to set the limit and exit. Press key 1 to exit with no change.
3. Use the 'Set here' function. Move the machine to the desired limit and press key 4 to accept the displayed value and exit.

7.3 Envelope warning messages

When approaching a limit, the following messages will appear:

Close to maximum height

Close to maximum reach

Close to minimum reach

Close to maximum depth

When at a limit, the following messages will appear, and any motion that could cause further movement will be prevented:

MAXIMUM HEIGHT!

MAXIMUM REACH!

MINIMUM REACH!

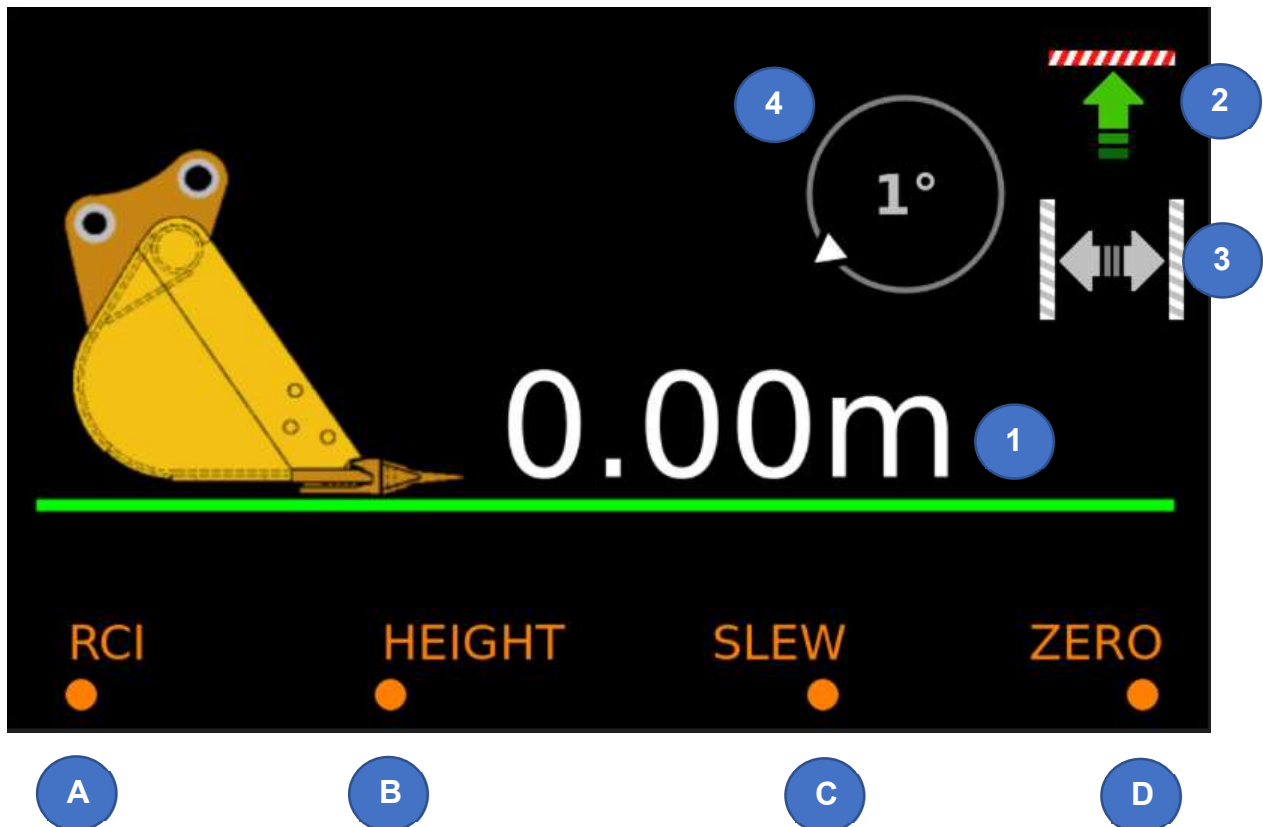
MAXIMUM DEPTH!

If more than one condition is active at the same time, the messages will cycle.

8 DIG MODE

Digging mode provides a rudimentary digging aid. As no bucket angle sensor is fitted the displayed depth will only be accurate when the bucket is in the same orientation as when the system was zeroed (referenced). Referencing is best made with the bucket flat on the ground - this guarantees that the bottom of any excavation performed will be accurate.

8.1 Dig mode page



1. Distance to target
2. Height monitoring status (shown active)
3. Slew monitoring status (shown inactive)
4. Option. Current machine tilt status
- A. Access to RCI page
- B. Access to height limiting page
- C. Access to slew limiting page
- D. Reference to the current elevation

On initial entry to the dig page the depth displayed will be 0.00m

8.2 Digging operation



Place the bucket flat on the ground.



Press key 6 to reference the system.



Dig to the required depth. The bucket needs to be flat on the base of the excavation.



Re-reference the system at the base of the excavation.

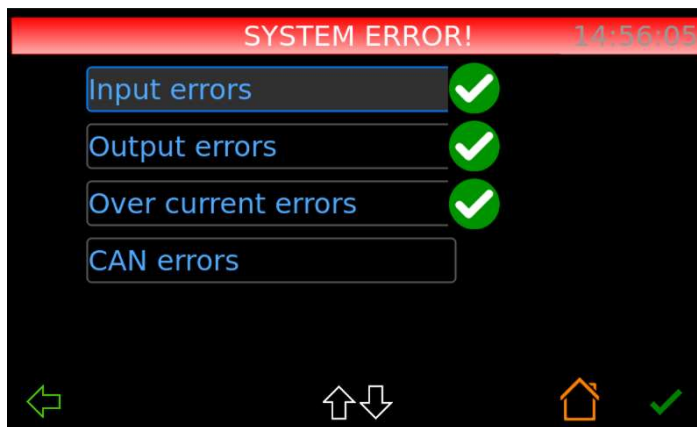


Return the bucket to ground level. In this example the base of the excavation is 2 metres below ground level. When the bucket is flat on the green target line the correct depth has been achieved. If the machine is moved, the bucket can be re-referenced at the base of the previous excavation.

9 SYSTEM ERRORS

In the unlikely event of a system error occurring, the machine will fail safe. The system error page will appear.

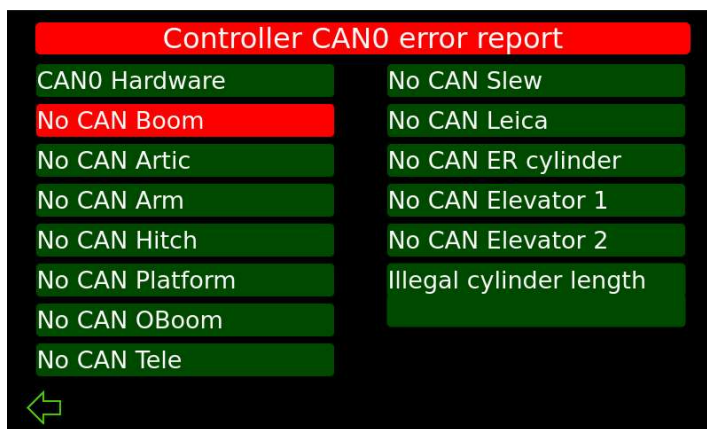
9.1 SYSTEM ERROR! Page



There are four error groups. Those with a tick next to them are OK. Use the navigation key to highlight the offending group, and press key 6 to examine the issue.

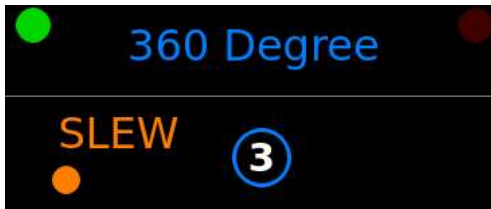
Key 1 can be used to suppress error. Contact XWatch for further information.

9.2 Example error report



10 SYSTEM MONITOR

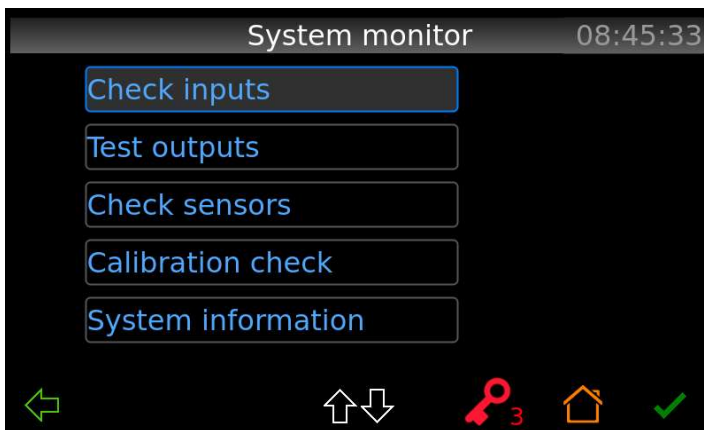
The System monitor allows basic aspects of the system to be checked.



From any operational page, the navigation pad can be used to access the system monitor. Press the **down** key three times, followed by the **centre** key. The number of **down** key presses is shown at the base of the screen.

10.1 Monitor main menu

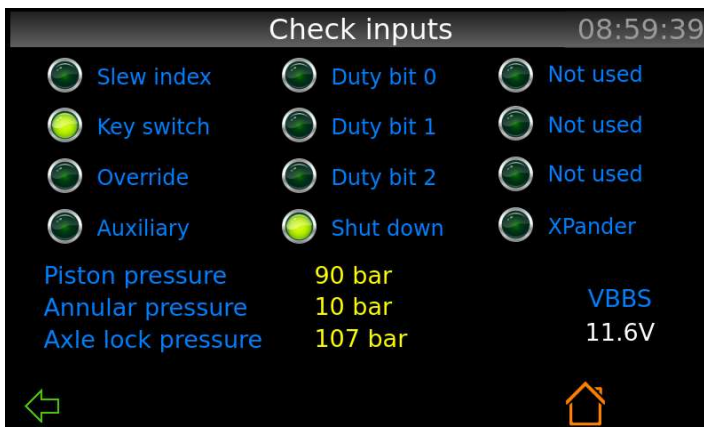
On initial entry to the System monitor, the main menu will be displayed.



Press key 1 (exit), or key 5 (home) to return to the previous operational page. Use the navigation pad to highlight the required option, and press key 6 (tick) to access the option.

10.2 Check inputs

The Check inputs option shows the current state of the digital inputs, and the hydraulic pressures being measured.



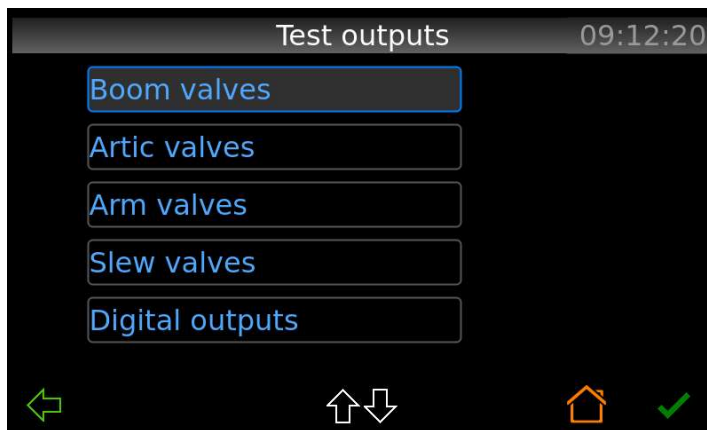
Press key 1 (exit) to return to the main menu, or key 5 (home) to return to the previous operational page.

10.3 Test outputs

The Test outputs option provides a method to test both the proportional control hydraulics and the digital outputs.

10.3.1 Test outputs menu

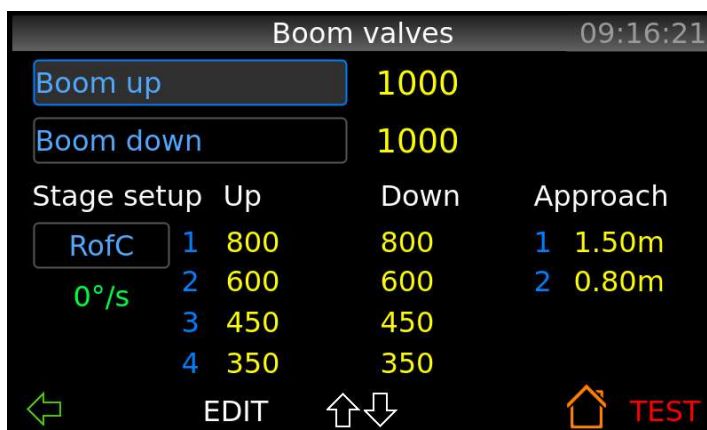
On entry to the Test outputs option, the outputs menu will be shown.



Press key 1 (exit) to return to the main menu, or key 5 (home) to return to the previous operational page. Use the navigation pad to highlight the required test, and press key 6 (tick) to access the test.

10.3.2 Testing the hydraulics

The first four options in the Test outputs menu allow each of the four control valve pairs to be tested. The boom up and down control is shown in the following example.



Use the navigation pad to highlight the required valve to test. Press the EDIT key to enter a value of between 0 and 1000 (0.0 to 100.0%). Press TEST to apply the edited value. Press key 1 (exit) to return to the Output test menu, or key 5 (home) to return to the previous operational page.

10.3.3 Testing digital outputs

This option allows all of the digital outputs to be exercised.



Use the navigation pad to highlight the required output. Press key 6 (either a tick to drive an output, or a cross to stop). Press key 1 (exit) to return to the Output test menu, or key 5 (home) to return to the previous operational page.

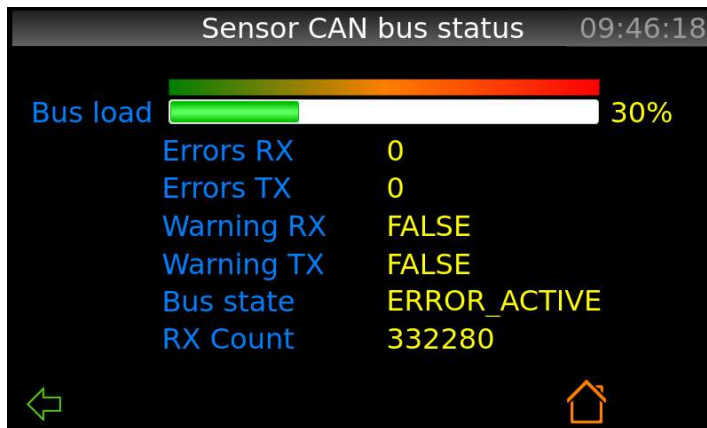
10.4 Check sensors

Check sensors comprises three pages. Two pages show the real time sensor outputs, one page shows the sensor CAN bus status.

Check sensors			09:37:01
	Angle	Offset	Polarity
Boom	41.0°	40.1°	Normal
Artic	Not fitted		
Arm	-63.0°	-63.8°	Reverse
Hitch	Not fitted		
Pitch	1.4°	0.0°	Normal
Roll	-0.4°	0.0°	Normal
OBoom	Not fitted		
Tele	Not fitted		
Slew	0.0°	(Yaw = 0.0°/s)	
 CAN			

Check sensors				09:37:09
	Angle	Offset	Polarity	
ER Cylinder	Not fitted			
Cab elevator 1	Not fitted			
Cab elevator 2	Not fitted			

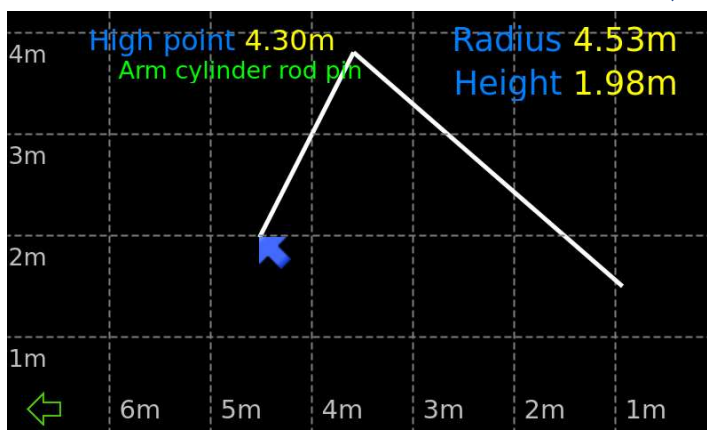
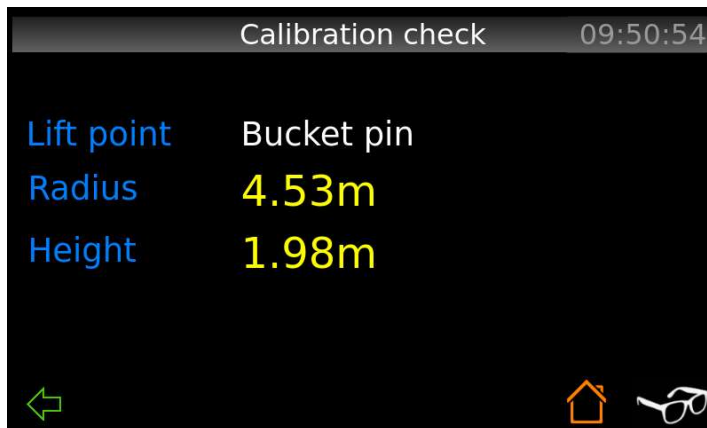
Use the navigation pad to switch between the pages. Press Key 2 (CAN) to access the CAN monitor. Press key 1 (exit) to return to the main menu, or key 5 (home) to return to the previous operational page.



Press key 1 (exit) to return to the Check sensors page, or key 5 (home) to return to the previous operational page.

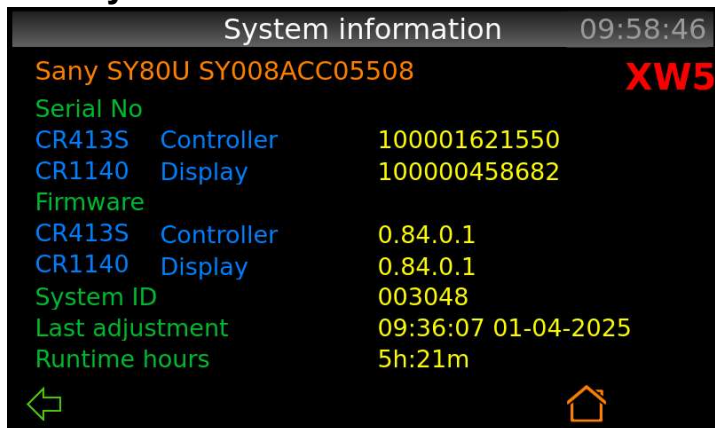
10.5 Calibration check

Calibration check comprises two pages. These provide a sensor calibration check, If the machine is equipped with a cab elevator, additional information will appear on page one.



Press key 1 (exit) to return to the Check sensors page, or key 5 (home) to return to the previous operational page.

10.6 System information

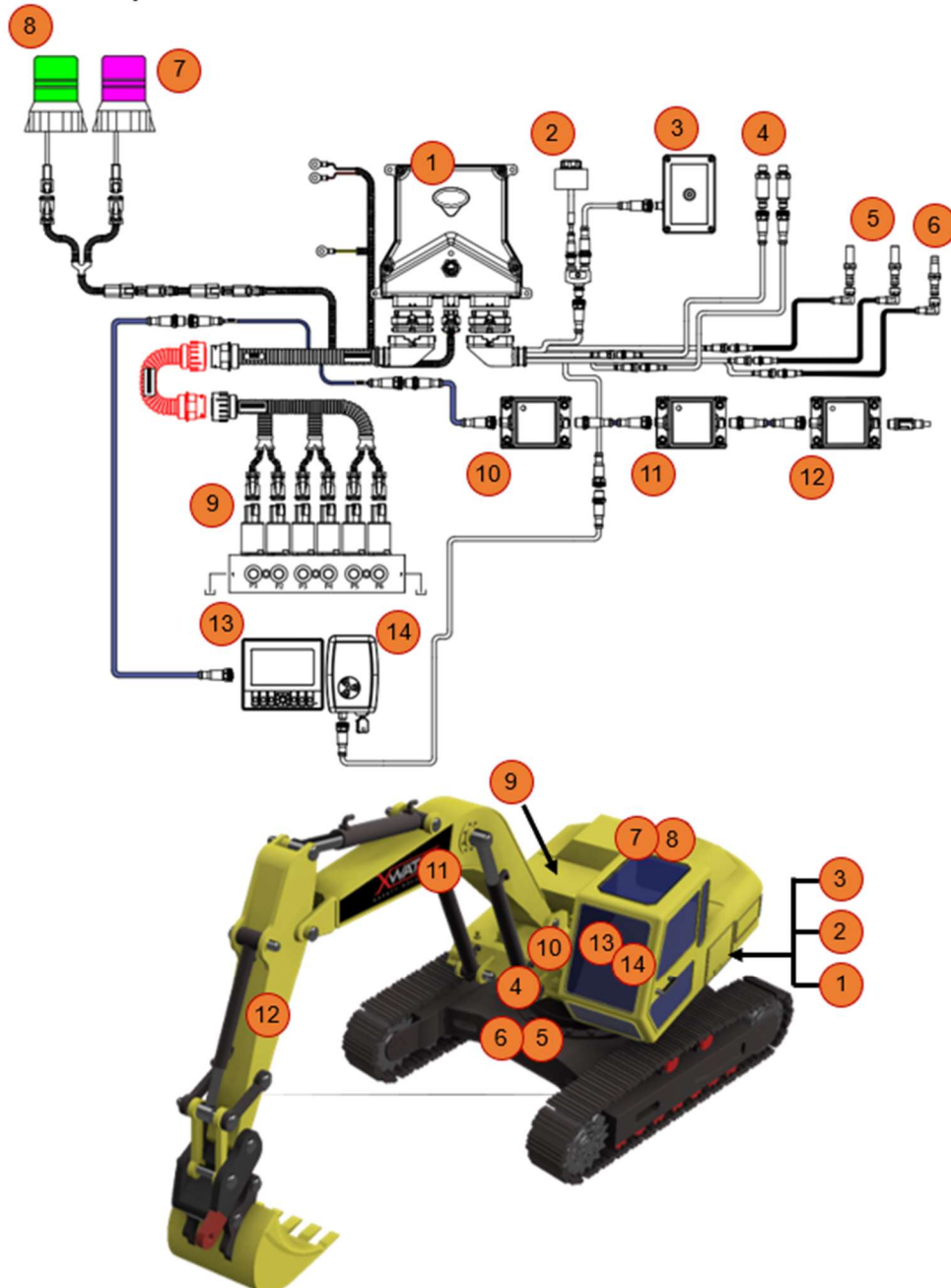


Press key 1 (exit) to return to the main menu, or key 5 (home) to return to the previous operational page.

11 MAINTENANCE

XW Series systems have no user serviceable components. To ensure the system performs as designed, checks must be performed prior to each use.

11.1 Component Location



The table on the following page itemises component description, location, and system usage. The example shown above features the full components. Additional fabricated brackets and hydraulic adaptors etc. are not shown as these are installation specific.

Item	Description	Location
1	XW SCU	Pump or engine bay
2	External Alarm	Engine Bay
3	Override Key Switch	Engine Bay
4	Pressure Sensors	Boom cylinder hose burst valve and boom cylinder pipe work
5	Slew Switches	Slew ring
6	Slew Index	Undercarriage front
7	Limits (Magenta) Beacon	Cab roof
8	RCI (Green) Beacon	Cab roof
9	Valve block	Pump bay
10	Platform sensor	Engine / pump bay
11	Boom sensor	Boom
12	Arm sensor	Arm
13	XW Display	Cab
14	Supervisor Key Switch	Cab

11.1.1 SCU



The SCU is mounted behind one of the rear panels. The unit requires no maintenance. Check the cable entry gromet on the base of the unit is correctly seated, and the cables themselves are not taught.

Do not pressure wash this component.

11.1.2 Angle Sensors



The angle sensors are black sensors mounted to an aluminium base plate. They are each bonded to their appropriate articulation. Check that the mounting is secure, and they cannot be fouled by hydraulic hoses etc. Check that their connecting cables are undamaged, paying particular attention around pivot points. Check that their connecting M12 tees are correctly attached and fully tightened.

Platform sensors look similar to the boom, artic and arm sensors; however, they are mounted flat on the machine turret. Ensure these are also checked as described above.

11.1.3 Display



The XWS display is mounted inside the cab of the machine. The unit requires no maintenance.

Check the screen is clean and the buttons free from grease and dirt.

Do not pressure wash this component.

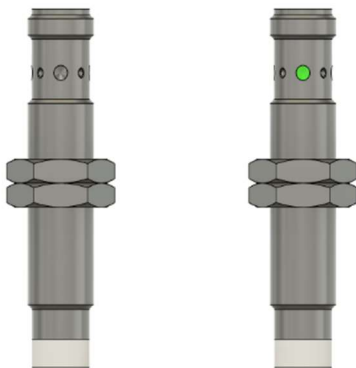
11.1.4 Reeling Drum



If fitted, a reeling drum is mounted to the telescopic arm of the machine. Check that it is securely mounted and that the wire entry is clear of dirt and debris. Check the M12 connector is correctly tightened. Check that the wire is taught and is free from kinks or obstructions. ASM and Baumer variants of the reeling drums supplied are shown to the left.

Do not pressure wash this component.

11.1.5 Slew Sensors



Slew angle can be measured using a pair of proximity switches which monitor the slew ring teeth.

They are fitted next to the slew ring, and normally secured using custom fabricated brackets.

Check that they are securely fitted, and their cabling is well protected, and ensure these switches are kept clean. Ensure the fabricated brackets are free from significant signs of wear (cracks, dents from fouling, etc.)

11.1.6 Pressure Transducers



For RCI systems, two pressure transducers are used to monitor load on hook.

Check the M12 connector is correctly tightened. Check that the cable is free from any damage. Check there are no leaks from the hydraulic seals.

Do not attempt to remove the pressure transducer.

Should there be any visual damage to the sensor, a suitably trained / qualified Xwatch Service engineer is recommended to visit the machine for a replacement.

11.2 Motion Limitation Accuracy Check

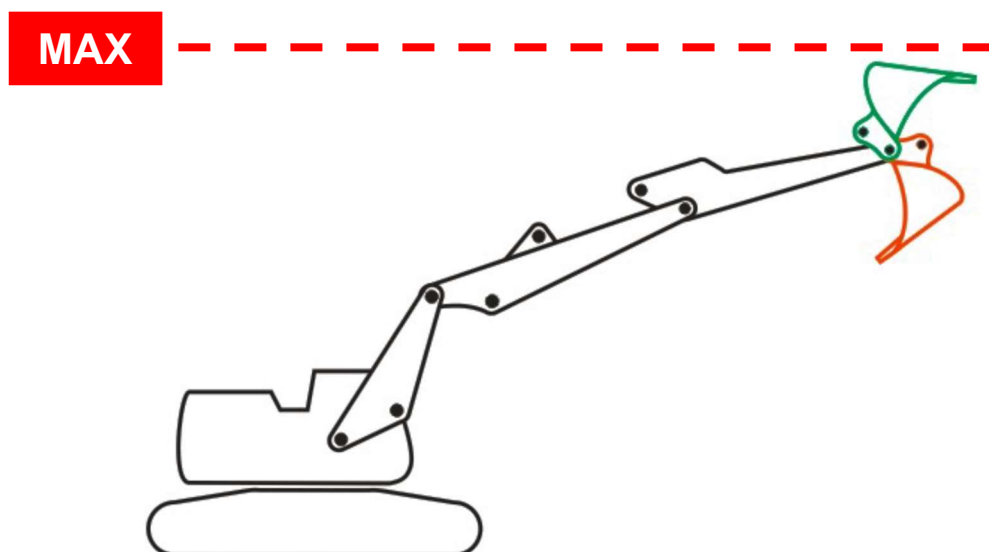
The XW Series system with height limitation shall be regularly tested as specified in the inspection chart.

11.2.1 Height Limiter Test

Place the machine on a level surface where the equipment cannot foul any obstructions.

Set the height limit on the system to a known value, e.g., 6.0m. Lift the main boom to the limit, and then try to articulate the artic and/or arm through the limit, and motions should be cut.

If either articulation(s) fails to stop, do not use the machine until a qualified Xwatch service engineer rectifies the fault.

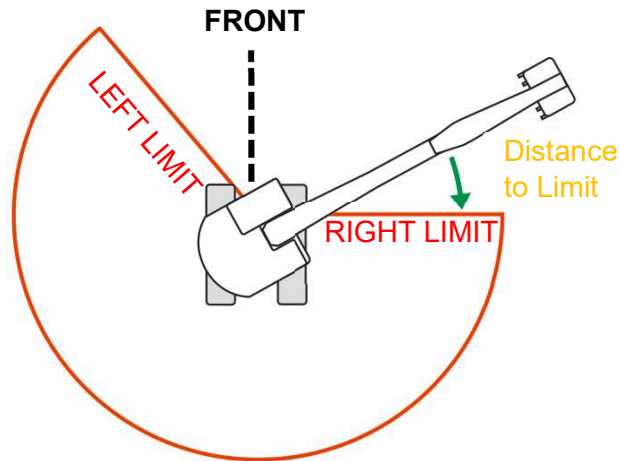


11.2.2 Slew Limiter - Angular Test

Place the machine on a level surface where the equipment cannot foul any obstructions.

Set the slew limit on the system to a known value, e.g., 90° Left and right. At a slow speed initially, slew to the left limit, then to the right limit, the equipment should not exceed the slew limits. Repeat at a faster speed, the equipment should not exceed the slew limits.

If the machine fails to stop in either direction, do not use the machine until a qualified Xwatch service engineer rectifies the fault.

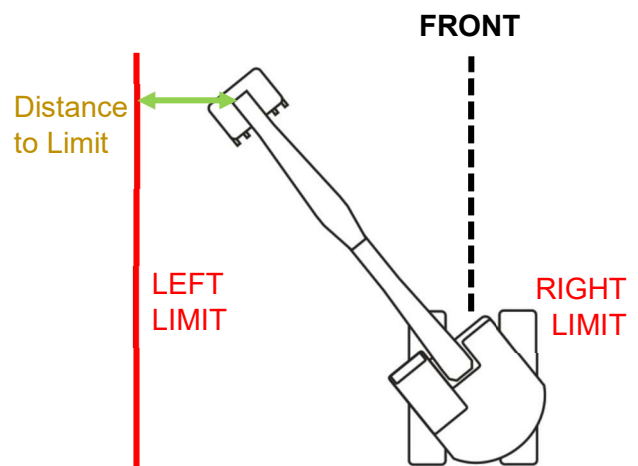


11.2.3 Slew Limiter – Virtual Wall Test

Place the machine on a level surface where the equipment cannot foul any obstructions.

Set the slew limit on the system to a known value, e.g., 4.0m Left and Right. At a slow speed initially, slew to the left limit, then to the right limit, the equipment should not breach the slew walls. Repeat at a faster speed, the equipment should not breach the slew walls.

If slew or any articulation(s) fails to stop, allowing a breach of the virtual wall, do not use the machine until a qualified Xwatch service engineer rectifies the fault.



11.3 RCI Test

Please refer to chapters 4.2.1 to 4.2.3 for more information on safe working practice.

Place the machine on level ground in a location where the equipment is not going to interact with any other external objects.

Whilst referencing load charts, compare the SWL capacity shown with the lifting points at 4 different radius and height positions (If the system possesses multiple lifting duties, repeat this process for each duty – And on the occasion of the system possessing slew dependant lifting duties, note the slew position of the machine whilst referencing the load chart)

(These examples may not be relevant to the machine in question, so adjust figures appropriately if necessary):

3.0m Radius, 2.0m Height, 0° Slew

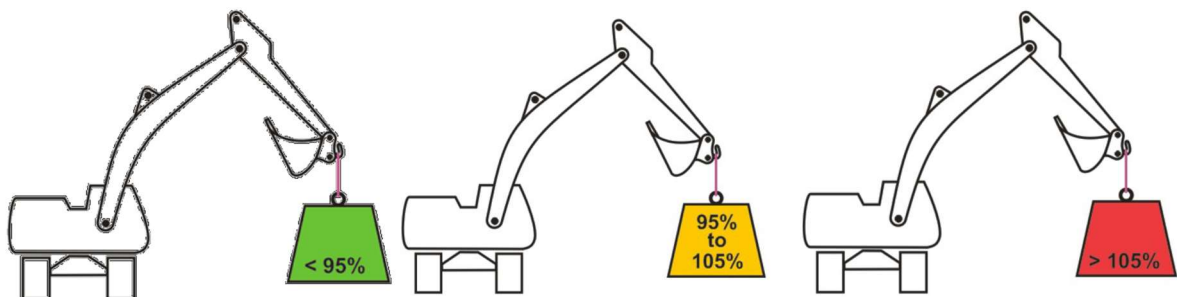
4.0m Radius, 2.0m Height, 90° Slew

6.0m Radius, 2.0m Height, 60° Slew

7.5m Radius, 2.0m Height, 270° Slew

If the values are correct (within $\pm 5\%$), attach a known load test weight or load cell to the bucket pin of the machine (e.g., 2 tonnes) and lift to a sensible height. Check that at 95% the SWL, approach alarm is active. Only take above this (and strictly not above 105%) when appropriate safety measures are applicable.

If at any point, these results are incorrect, please contact XWatch Safety Solutions to arrange a trained Field Service Engineer to resolve the issue before carrying out any operations with the machine in question.



This should form part of your yearly (or as defined by your company's procedure) LOLER Inspection.

12 MAINTENANCE INSPECTION SCHEDULE

XW Series Systems shall be regularly inspected to the following inspection chart:

12.1 Inspection Chart

Note: Not all systems will have the entire range of equipment stated in this inspection chart. Please ensure you are aware of the equipment fitted to the machine in question, and conduct the following inspections as described.

Manual Reference	Title	Exam Code			
		A	B	C	D
Error! Reference source not found.	I/O Controller - Check			☆	☆
11.1.2	Angle Sensors - Check			☆	☆
11.1.3	Display - Check			☆	☆
11.1.4	Reeling Drum – Check			☆	☆
11.1.5	Slew Sensors – Check			☆	☆
11.1.6	Pressure Transducers – Check			☆	☆
11.2.1	Height Limiter – Test	☆		☆	☆
11.2.2	Slew Limiter – Angular Test	☆		☆	☆
11.2.3	Slew Limiter – Virtual Wall Test	☆		☆	☆
11.3	RCI Accuracy - Test			☆	☆
N/A	LOLER				☆

Exam Codes:

- A** Daily / Pre-Use
- B** Weekly
- C** Monthly
- D** Yearly

Term	Action
Check	Determine a particular nominated condition, before, during, or after repair, for example, completeness, security, position
Test	Prove correct operation by trial

DOCUMENT HISTORY & APPROVAL

Version	Date	Change
V0.1	01/25	Initial Draft
V0.2	04/25	Addition of system monitor information
V0.3	04/25	Addition of maintenance plan

Checked by:	M. Harris	Approved By:	G. Welch	Compiled by:	S Franklin
Signature:	<i>M. Harris</i>	Signature:	<i>G. Welch</i>	Date:	01/04/25