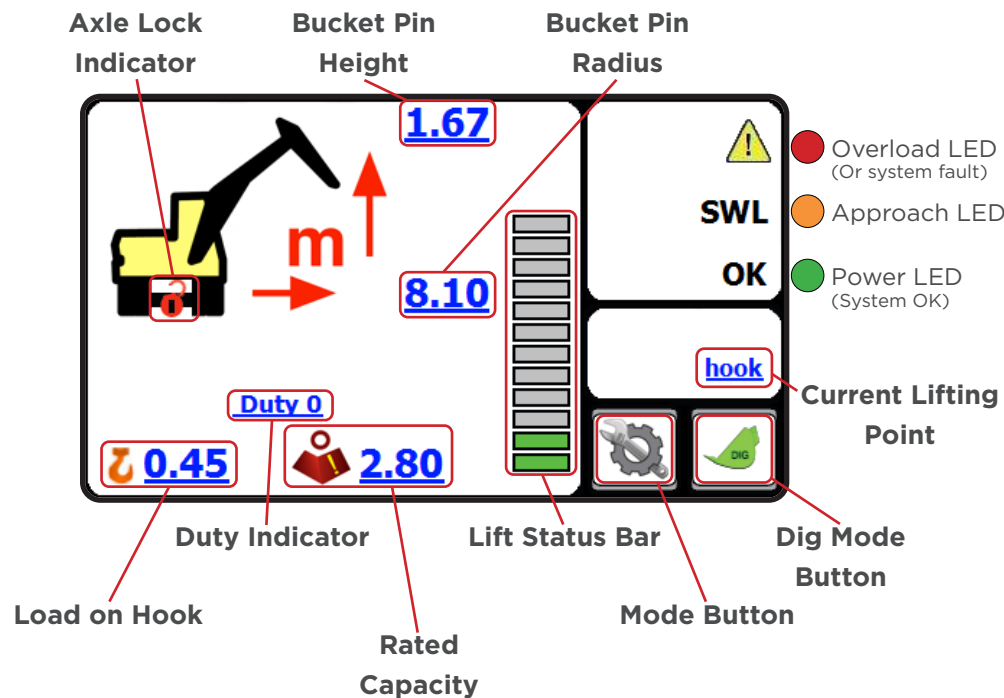


The 2-LHS system is wired to automatically start whenever the machine is started. There is no operator ON/OFF control. At switch on the system will initially show a blank screen and the green LED on the front panel will blink. Once self tests are complete the indicator screen will illuminate. The system will automatically start in the lift mode.

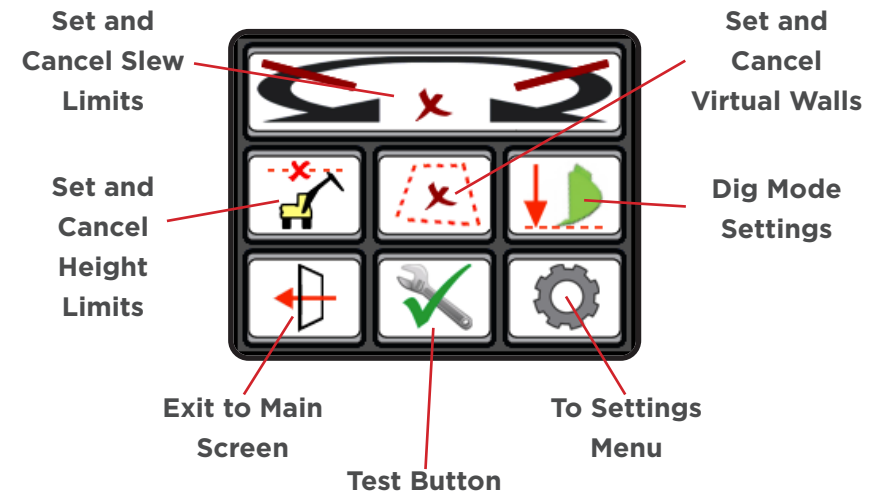
FRONT SCREEN



From the main screen, press on the Mode button.



The following window should appear:

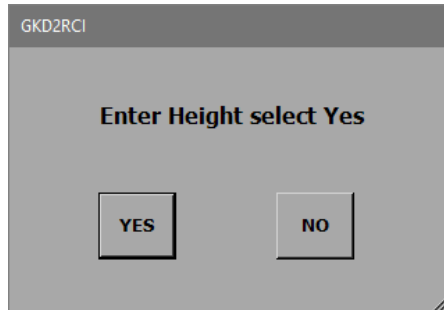


SETTING A HEIGHT LIMIT

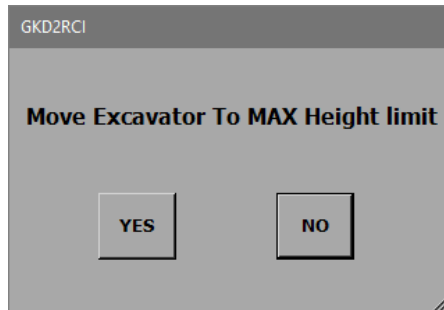
From the Mode Menu, press on the “**Height Limit**” button.

This screen will ask you to enter the height limit.

Press **Yes** to enter the height, from the ground, in Metres.



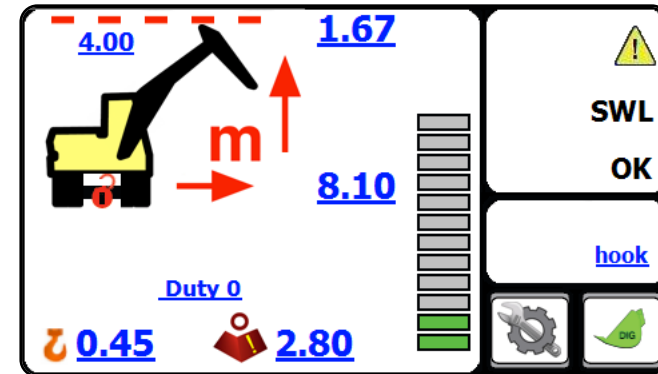
Press **No** to show the next screen, **Move Excavator to MAX Height Limit**. On this screen, press “**YES**” when the machine is in the correct position.



NOTE: this screen will timeout if not selected within 10 seconds and return you to the operator screen.

When there is a height limit set, this will be shown on the main screen.

If the height is exceeded then the internal buzzer will sound and the boom lift will be cut (if an optional motion valve is fitted).



CANCELLING A HEIGHT LIMIT

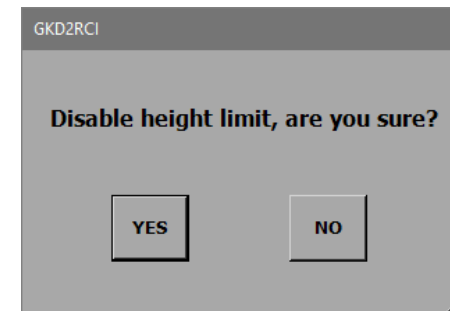
Access the Mode Menu and press on the “**Height Limit**” button.



The 2-LHS will prompt the operator to confirm that the height limit should be disabled, as shown here.

Pressing “**YES**” will disable the height limit function.

Normal operation will be resumed but with no height limit active.

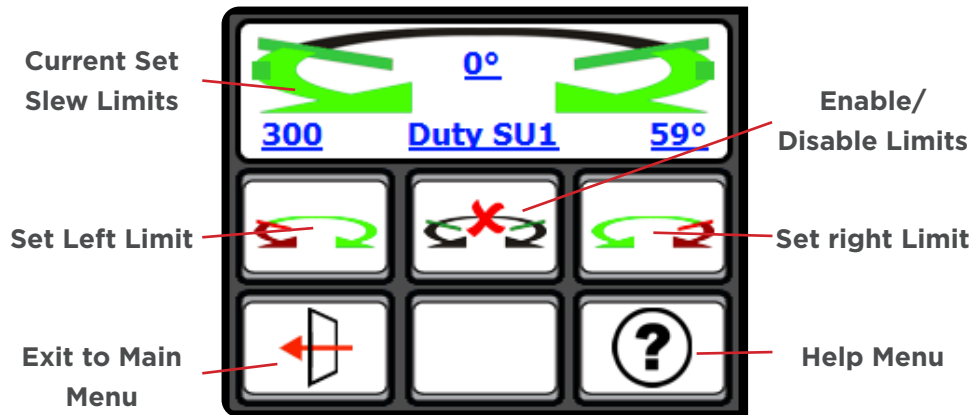


SETTING A SLEW LIMIT

From the Mode Menu, press on the “Set/Cancel Slew Limit” button.



The 2-LHS will then show you this screen:



To set slew limits, slew the machine left to required position and press the “Set Left Limit” button.

Then slew the machine right to the required position and press the “Set Right Limit” button. Return to the operator screen and check that the limits are working correctly by slewing the machine left and right until the limits are reached.

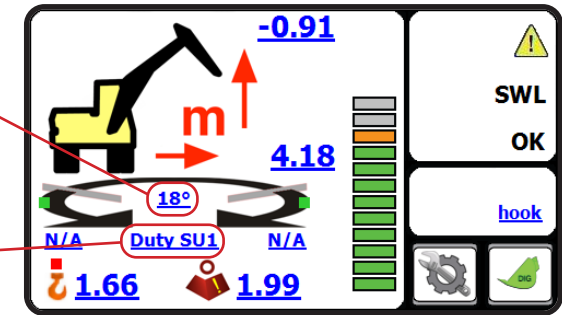
SLEW LIFTING DUTIES

The 2-LHS system may optionally be equipped with an additional module to monitor the slew position of the turret relative to the machine undercarriage, and automatically select lift duties based on the slew position of the turret.

Current duty in use, and the current slew position of the turret relative to the undercarriage, are indicated on the 2-LHS display.

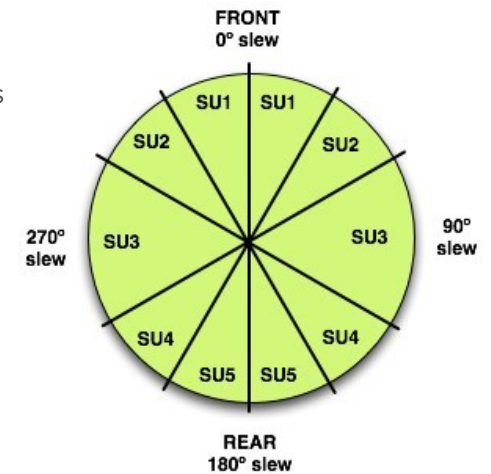
Current slew position of the turret in degrees (0 -360)

Current Slew Duty (SU1 - SU5)



Typically, 10 slew “duties” are available. The duties are named SU1 - SU5, with each duty having it’s own calibrated “tip” point for the machine.

As the turret is slewed the appropriate lift duty for the slew position is automatically selected, and the lift capacity calculated by the 2-LHS will be adjusted for the slew position of the machine based on the duty in use.



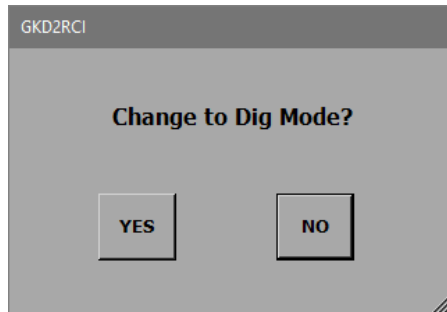
DIG MODE

When the excavator is not being used for lifting operations then the 2-LHS should be switched into dig mode. In dig mode the alarm is muted and any motion cuts (if fitted) will not be activated in the event of an overload situation. While in dig mode, the 2-LHS provides a guide to levelling or trenching.

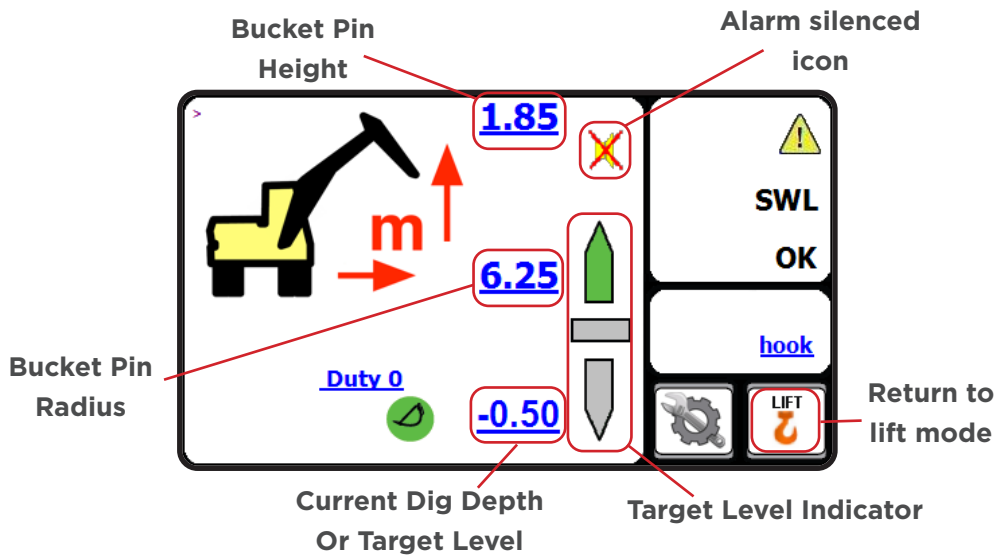
To enter Dig Mode, press on the dig button.



The 2-LHS will prompt the operator to confirm that they want to switch into Dig Mode.



Pressing "YES" will switch the 2-LHS into dig mode and the main screen should now look like this:



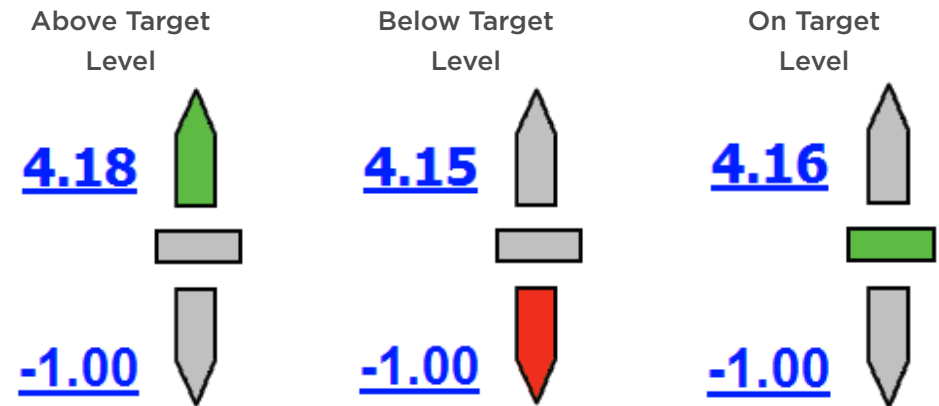
To exit Dig Mode and return to Lifting Mode, press on the "Return to Lift Mode" button, shown above.

SLEW LIFTING DUTIES

To adjust or set the dig depth, press on the button which is in the Mode Menu.

The system will ask you if you want to enter a depth using the on screen keypad. Press "YES" to access the keypad. Enter the dig depth required in metres, typically a negative distance.

The Dig Depth is indicated by the icons below:

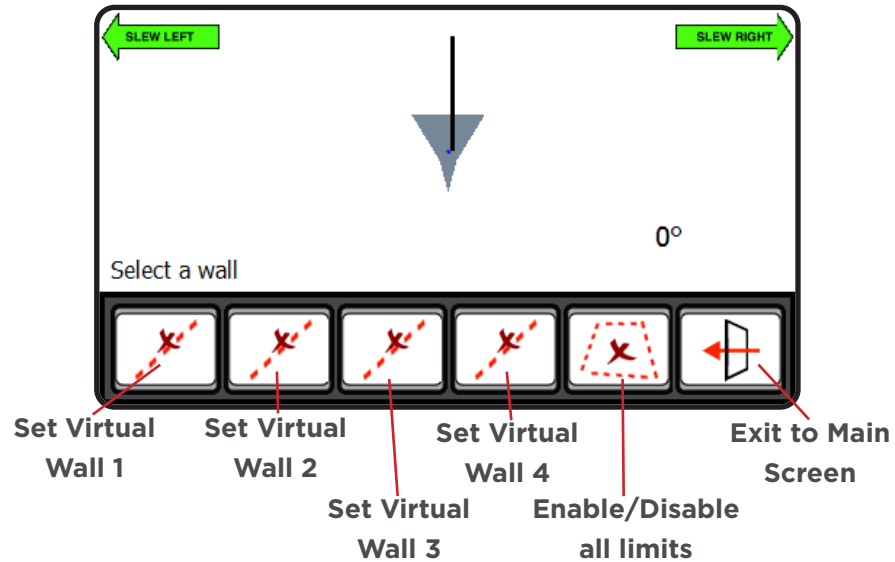


VIRTUAL WALLS

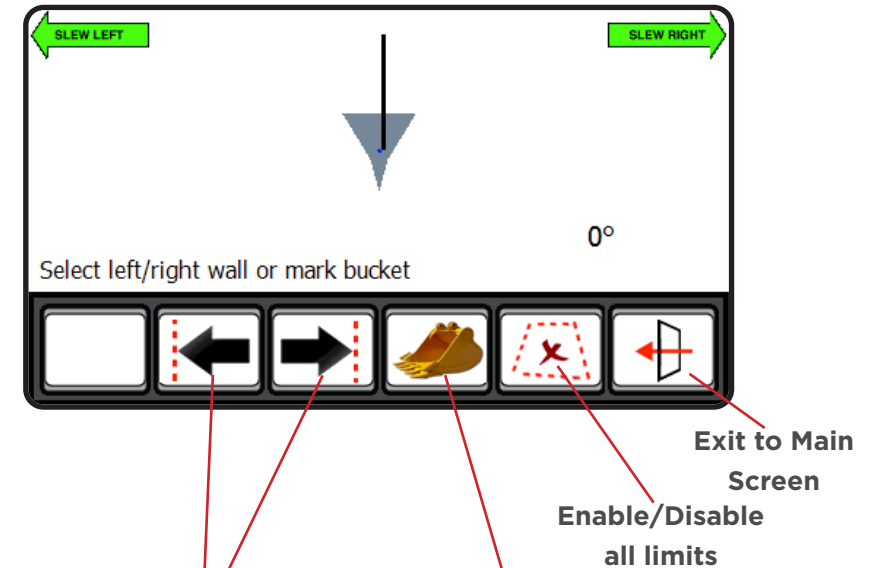
From the main screen, press on the Mode button:

Then press on the Virtual Wall button:

You should be shown the screen below:



Pressing on any of the “Set Virtual Wall” buttons will display the following screen:



Set a left or right virtual wall which will be parallel with the tracks or wheels of the machine.

This is entered as a distance, in metres, from the centre of the machine.

Set a virtual wall by moving the bucket or tool to 2 different points near the machine. The system will then connect these points with a ‘virtual wall’ which will then become the limit.

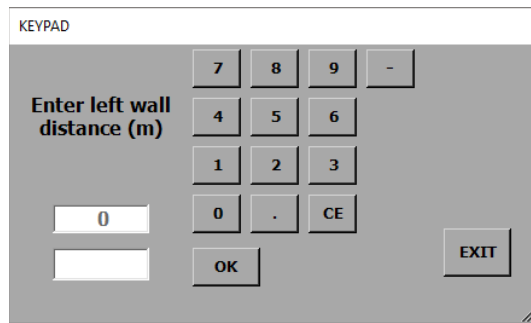
SETTING A VIRTUAL WALL BY ENTERING A DISTANCE

Press on the “Set Virtual Wall 1” button.

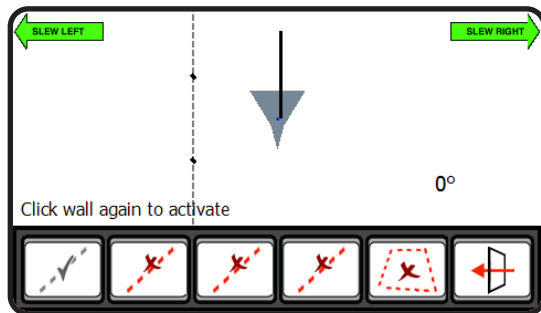
Then press on the “Left Wall” button.

A keypad will open for you to enter the distance to the left wall, in metres.

Enter the distance and press **OK**.

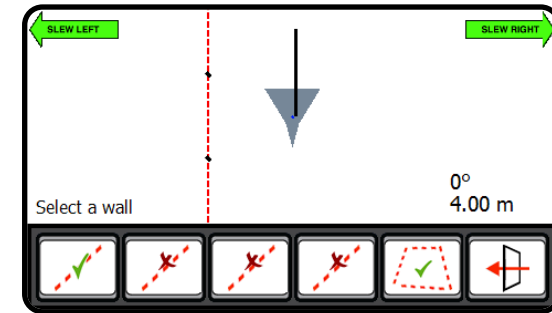


The screen should now change back to one similar to that pictured below.



The “Set Virtual Wall 1” button will now be greyed out. Pressing on this button will activate the virtual wall and the button will change to indicate that the virtual wall is not active.

The screen pictured below, shows a virtual wall set and active.

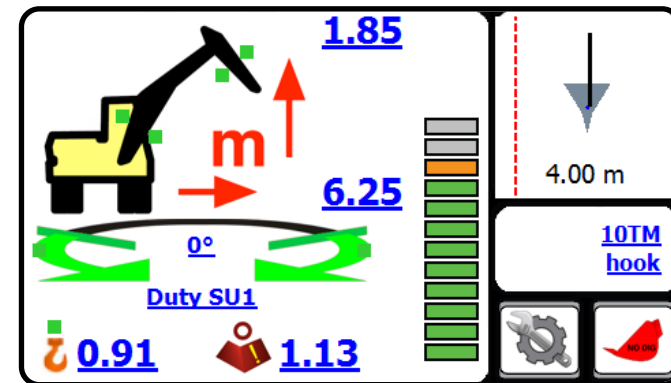


The screen pictured below, shows the main operator screen once the virtual wall has been set and activated.

The top right corner of the display will show where the virtual wall is in relation to the machine. It will also show the distance to the virtual wall from the machine.

As the machine slews, its position and distance to the wall will be updated automatically.

When the machine reaches the virtual wall, all relevant machine motions will be prevented from breaching the wall. This includes Boom and Dipper motions.

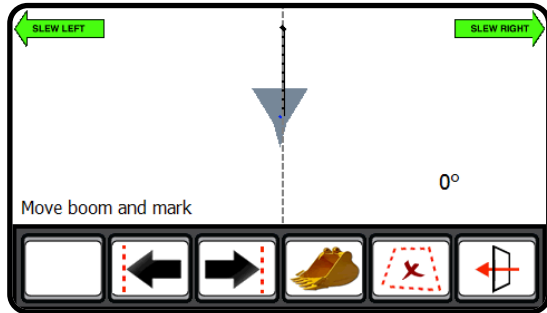


SETTING A VIRTUAL WALL USING THE BUCKET

Move the machine and position the bucket where the first point of the wall is required.

Press on the “**Bucket**” button.

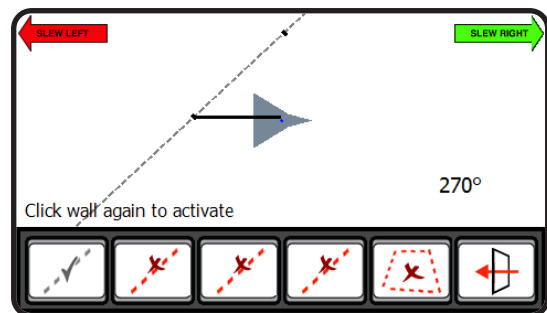
The system will log this point as the first point of the virtual wall.



Slew the machine to move the bucket to the second position. As the machine moves, you will see the screen update and create a virtual wall between the first point and where the bucket is.

Once you have positioned the machine at the second point, press the “**Bucket**” button again.

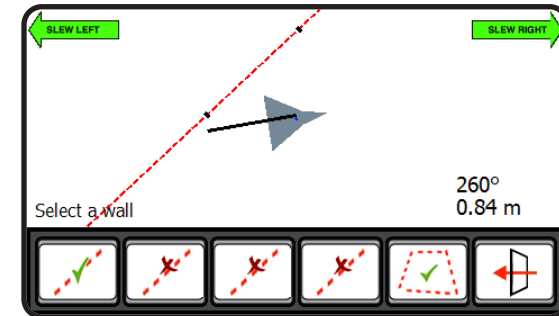
This will log the second point of the virtual wall.



The “**Set Virtual Wall 1**” button will now be greyed out. Pressing on this button will activate the virtual wall and the button will change to indicate that the virtual wall is not active.

This method is the same for Virtual Walls 2, 3 & 4.

The screen pictured below, shows the main operator screen once the



virtual wall has been set and activated.

The top right corner of the display will show where the virtual wall is in relation to the machine. It will also show the distance to the virtual wall from the machine.

As the machine slews, its position and distance to the wall will be updated automatically.

When the machine reaches the virtual wall, all relevant machine motions will be prevented from breaching the wall. This includes Boom and Dipper motions.

