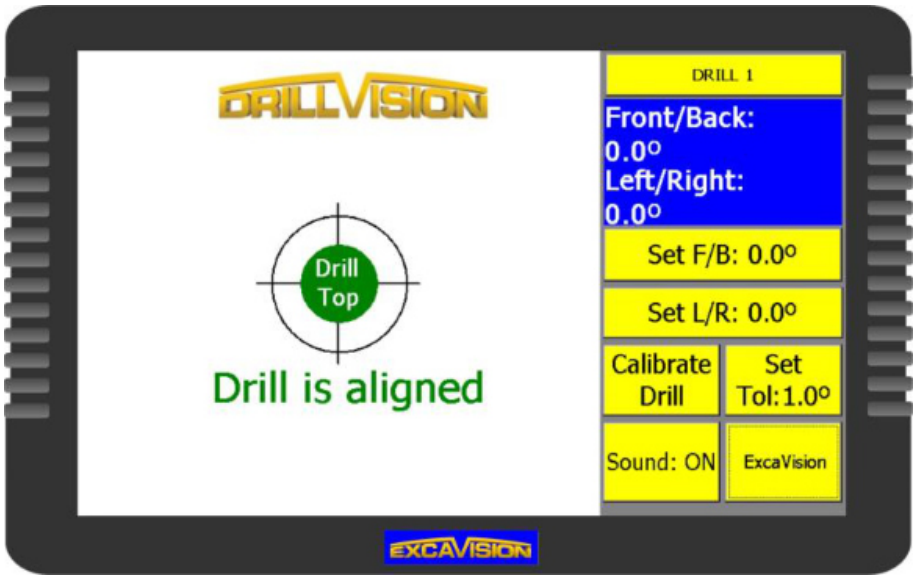
DRILLVISION

Angle monitor for machine-mounted drills

User Manual

DrillVision is an affordable attachment for machine-mounted drills. It provides the most efficient way to insure a proper drilling angle on a drill, auger or pile driver.



How DrillVision works

Two angle sensors measure the front/back and left/right angles of the drill and transmit these angles to a display in the operator's cab.

The operator can key in the desired angle and tolerance. The display will show the actual angle of the drill to within 0.1 degree and give an audible warning and blinking alarm on the screen if the tolerance is exceeded

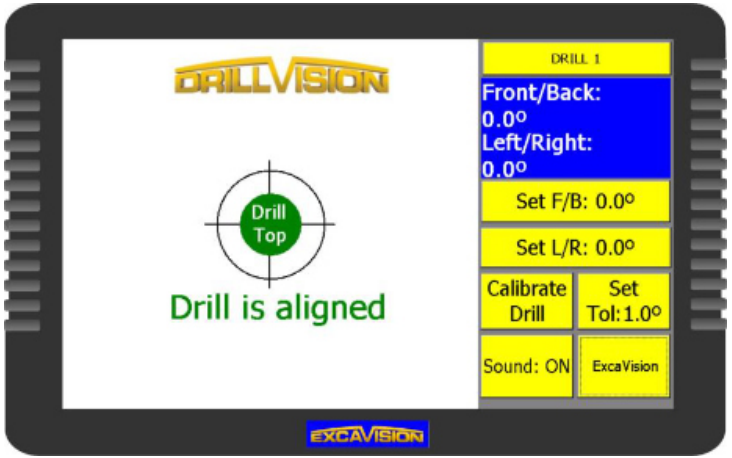
How to use DrillVision

• Turn on the display in the cab and the sensors on the drill.

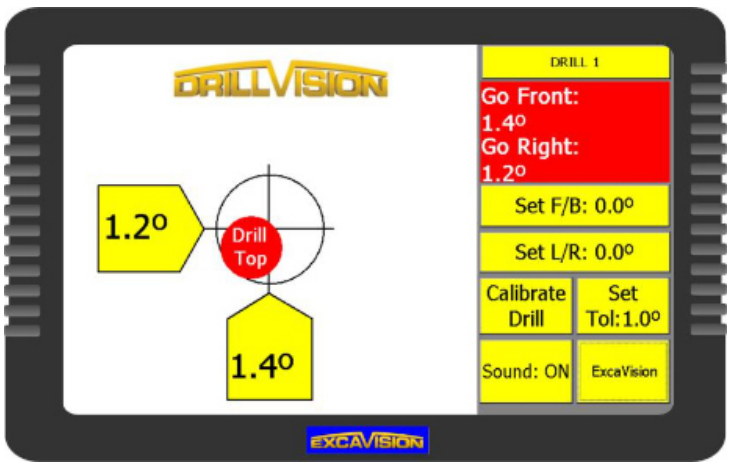
• If needed, set in a new angle. Use Front/Back 0.0 degrees and Left/Right 0.0 degrees for vertical drilling.

• You can choose the Tolerance (the angle error allowed), for example 1.0 degree.

• The screen guides the operator to correct the angle of the drill to stay within the set tolerance



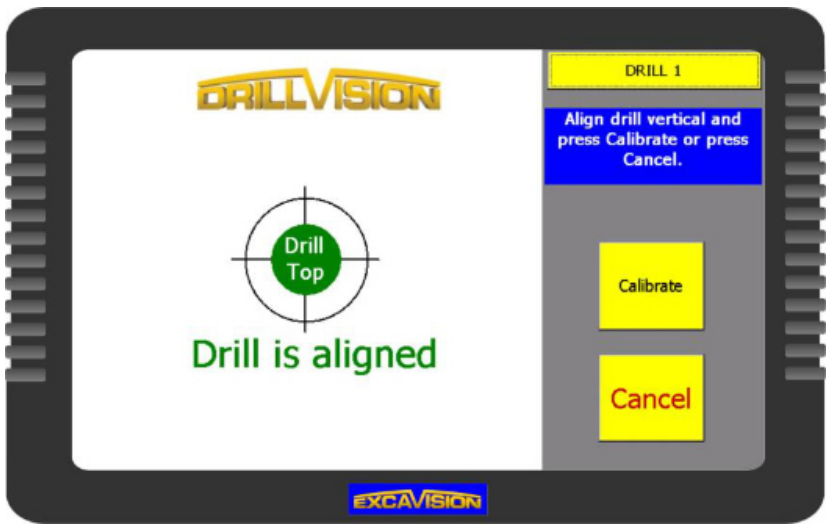
This is the display when the drill is in the desired position



The drill's top needs to be moved to the right and to the front, by the angles shown.

Adjusting DrillVision

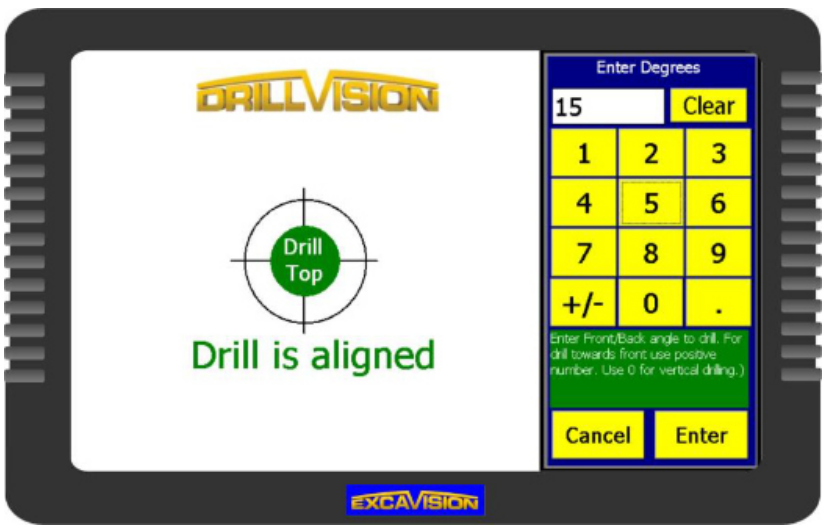
The first time the drill is used, the system has to be aligned. To do that, align the drill so it is perfectly vertical and press Calibrate. This screen appears:



After calibrating the drill, the calibration will be kept in memory.

Setting the desired drilling angles and tolerance

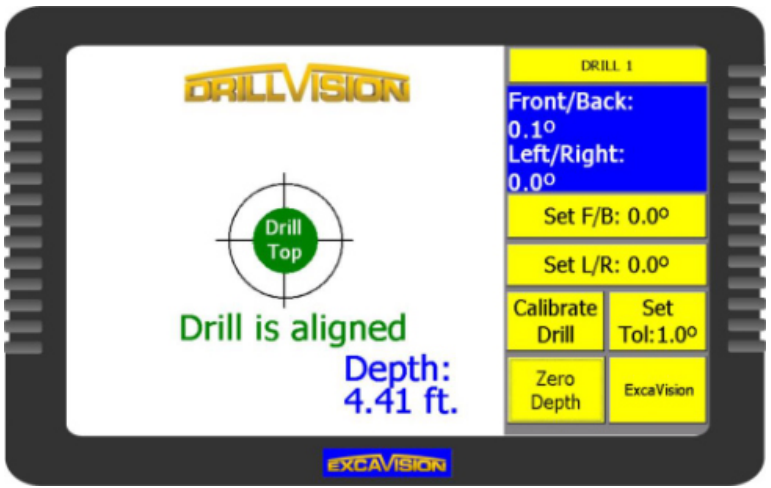
To change the drilling angle to other than vertical, press Press Set F/B or Set L/R and enter desired angle, for example 0.0 and 0.0 degrees for vertical drilling, or set F/B to 15 to drill a hole that goes 15 degrees away from machine.



Press **Set Tol** to enter desired tolerance, i.e.the maximum angle before an alarm sounds.

Depth of drilling

The depth of drilling can be monitored. Place drill tip on surface then press Zero Depth. Start drilling. Now the depth of the tip of the drill is shown on screen.



Depth of drilling can be monitored

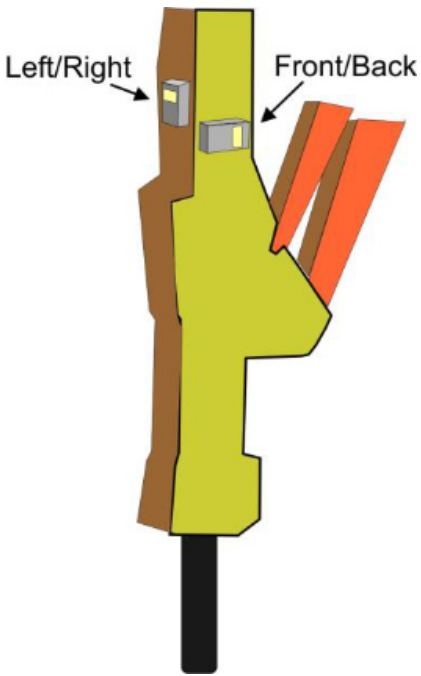
Note: To be able to monitor depth, boom and stick sensors are needed. Depth is shown on display only if the serial numbers of the boom and stick are not zero in Sensor Setup

Enabling depth monitoring: Set the serial numbers of boom and stick sensors to other than0. PressExcaVision-MainMenu–Settings–SensorSetup. If the boom and stick sensors are ON their serial numbers will be automatically detected. You can also key in their serial number

Depth of drilling can be monitored

Installing DrillVision

Install the display in the cab. Plug to 12V or 24V from cigarette plug.



Install the front/back and left-right sensors as in picture.

In this picture, the Front/Back sensor is installed on the left hand side of the drill. The Left/Right sensor is installed in the front of the drill.

Adjust the side of the sensors in the calibration (see below)

Calibrating the system

A note on names: In the Machine Configuration, because DrillVision is based on the same sensors as ExcaVision, the front/back sensor is called Bucket and the left-right sensor is called Tilt Bucket. This may be a little confusing but it means that you can use these same sensors with the full ExcaVision depth monitor for excavators, when using a regular bucket on an excavator.

DrillVision can store any number of drills. To register the present drill and the side of the sensors, go to ExcaVision – Main Menu – Settings – Machine Configuration – Create New Preset. Give the preset a name, for example Drill 1. Then press Modify.

Register side of front/back sensor: Press Bucket.(The front/back sensor is the Bucket sensor in ExcaVision). Choose the side of the sensor by pressing Left or Right.

Register position of left/right sensor: Press Bucket.(The left/right sensor is the Bucket Tilt sensor in ExcaVision). Choose the position of the sensor by pressing Front or Back.

Note on the bucket tilt sensor: To be able to adjust the bucket tilt sensor, when in Bucket, be sure to check the checkbox „Use Tilt Bucket“.

To get to DrillVision: Press Main menu –Seetings – Tools – Other Apps – DrillVision

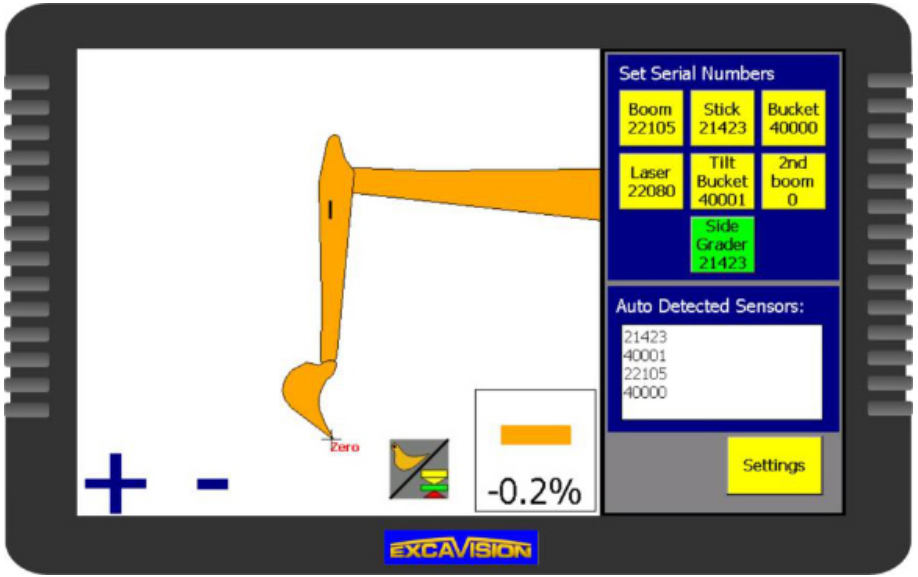
Note: *The calibration will be stored in the computer for as long as the same sensors and drill are used. If you use multiple drills you can store them in different presets in the ExcaVision configuration.*

Frequently asked questions

Q: The display starts in ExcaVision. How do I get to DrillVision?
Answer: If the display starts with ExcaVison, press Main Menu – Settings – Tools – Other Apps - DrillVision.
Next when display is re-powered DrillVision will be the default program.

Q: The DrillVision screen shows "Not receiving Front/back sensor" or „Not receiving left/right sensor"
Answer:
1. Check that the sensors are turned on and the batteries (3xAA) have enough charge. You can also do this in the built-in Sensor Monitor (Main Menu – Settings – Tools – Sensor Monitor).

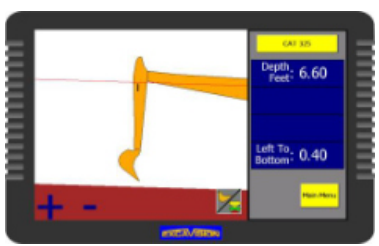
2. Check if the serial number of the sensor is registered in the display. Choosing sensor serial number: The DrillVision comes with the DrillVision sensors serial numbers already programmed. In case it has changed, Press Main Menu – Settings – Sensor Setup. This screen will appear



Choosing sensor serial numbers

If the sensors on DrillVision are turned on, they will be auto-detected. Press the "Bucket" key to choose the serial number of the Front/back sensor and "Tilt Bucket" to chose the serial number of the Left-Right sensor.

Q: Can I upgrade my DrillVision to the ExcaVision excavator depth monitor?
Answer:
Yes, by adding just one more sensor! ExcaVision is a powerful tool for improving excavator performance by allowing the operator to dig exactly to grade without having to go outside and measure.
DrillVision can easily be upgraded to a full **ExcaVision depth monitor** for backhoes and excavators. Since the DrillVision's display and sensor are the same as for ExcaVision, you only need to add one or optionally more sensors to upgrade DrillVision to ExcaVision. All sensors are the same, they just have different serial numbers for the display to be able to distinguish between them.



Upgrading to ExcaVision

Sensors needed:

Boom sensor (2), to measure boom angle
Stick sensor (3), to measure the stick angle (you can use the DrillVision sensor for this)
Bucket sensor (4) (already in DrillVision.
Laser receiver (5), to catch the laser beam from a rotating laser reference when digging large jobs, such as long trenches, foundations and basements.
Body sensor (6) for compensating for track tilt.

The standard ExcaVision system consists of three sensors (boom, stick and bucket) and the Ocalaser automatic laser receiver mounted on the dipper stick. For smaller jobs such as septic tanks, you can skip the bucket sensor and Ocalaser.

EXCAVISION

For more information please visit
www.excavision.com

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