



## Hydraulic Excavator Jib Height Control.

The North Level District Internal Drainage Board has installed Pulsar Blackbox non-contacting, level measurement equipment to control the jib (cutter arm) height of their hydraulic excavators. This helps to ensure that the arm cannot tangle in overhead power cables, keeping the driver safe and making sure that power supplies are not interrupted.

In a change from their more usual applications controlling and measuring flow and level of many different materials, Pulsar Measurement have supplied ultrasonic, level measurement to the North Level District Internal Drainage Board to measure the height of the jib arms mounted on hydraulic excavators used to keep the drainage channels clear.

As the excavators work along the drains cutting weeds, there is a danger that they can hit or even pull down

overhead power lines. This is clearly dangerous to the driver but can also interrupt power supplies to homes and businesses or set fields of stubble alight. The Health and Safety Executive (HSE) have identified this as an issue and have a multitude of publications detailing safe working methods. At the North Level District Internal Drainage Board, the written procedures to avoid this issue include the instruction to drivers to maintain a 2 m (6.6 ft) clearance below power cables at all times. The driver knows the height of the power cables from a set of tables, and can set a maximum height for the cutting arm. In order to set the maximum height accurately, the driver needs to know the height of the jib arm above variable ground levels. This is where the Pulsar unit comes in.

Pulsar supplied Blackbox non-contacting, ultrasonic equipment consisting of a dB10 transducer mounted on the cutter arm connecting to a Blackbox unit with a level display in the cab. The transducer was mounted on bearings that allowed it to rotate freely so the transducer continuously faced the ground. It emits ultrasonic pulses which reflect from the ground, the time taken for the echo to return to



*As the excavators work along the drains, cutting weeds, there is a danger that they can hit or even pull down the overhead power lines. So an innovative and unique solution was devised to give the driver in the cab an indication of the arm level.*

the transducer face being converted to a distance. The driver can then read off the measurement from the display in the cab and limit the jib arm height accordingly. The Blackbox unit has provided reliable measurement on many different surfaces, including plowed fields, riverbanks, and more, and has helped the North Level District Internal Drainage Board to work more safely.

## More Information

**Blackbox 130:** <https://pulsarmeasurement.com/Blackbox.html>

## Featured Products



Blackbox 130 Controller



dB10 Transducer



## Delivering the Measure of Possibility

Pulsar Measurement offers worldwide professional support for all of our products, and our network of global partners all offer full support and training. Our facilities in Malvern, UK and Largo, USA are home to technical support teams who are always available to answer your call or attend your site when required. Our global presence, with direct offices in the UK, USA, Canada, and Malaysia allow us to create close relationships with our customers and provide service, support, training, and information throughout the lifetime of your product.

For more information, please visit our website:

[www.pulsarmeasurement.com](http://www.pulsarmeasurement.com)



INFO@PULSARMEASUREMENT.COM

*Pulsar Measurement is a trading name of Pulsar Process Measurement, Ltd.*

*Copyright © 2020 Pulsar Measurement  
Registered Address: 1 Chamberlain Square CS, Birmingham B3 3AX  
Registered No.: 3345604 England & Wales*

## Delivering the Measure of Possibility

**United States**  
11451 Belcher Road South  
Largo, FL 33773  
+1 888-473-9546

**Canada**  
16456 Sixsmith Drive  
Long Sault, Ont. K0C 1P0  
+1 855-300-9151

**United Kingdom**  
Cardinal Building, Enigma  
Commercial Centre  
Sandy's Road, Malvern WR14 1JJ  
+44 (0) 1684 891371