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DQM Mechanical Driver—Fixed Boom Angle Option

By Cristhian Bermudez

Our DQM Mechanical driver that was developed to integrate the sensors needed in a crane. We usually provide one or two rotation sensors to calculate the depth and bucket open/close, an inclinometer to measure the boom angle, and a dual antenna GPS. Check these two articles for more information:

- [Crane DREDGEPACK System - Installation and Setup Part 1](#)
- [Crane DREDGEPACK System - Installation and Setup Part 2](#)

Recently, we received a couple of requests to integrate our system in a dredge that only has a drum and the angle in the boom is fixed (Figure 1).

FIGURE 1. Crane with Fixed Boom



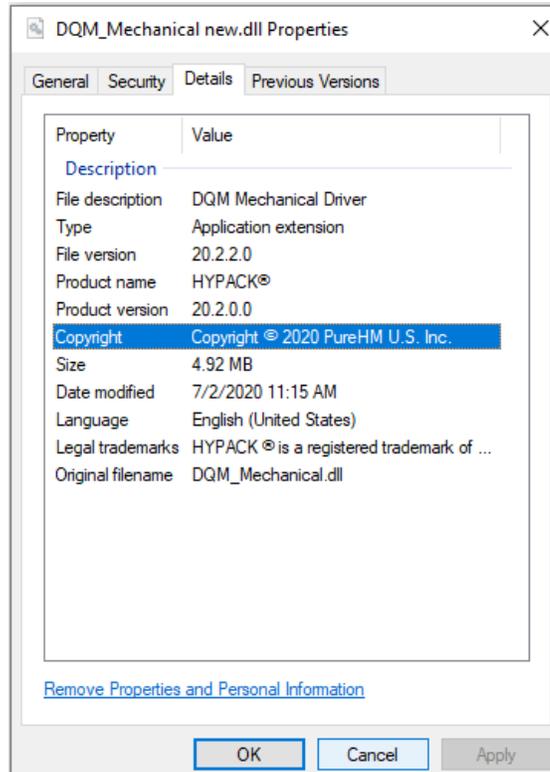
In this case, we can use only the dual antenna GPS and the rotation sensor installed on the drum.

FIGURE 2. HD25A Encoder with HYPACK® Interface



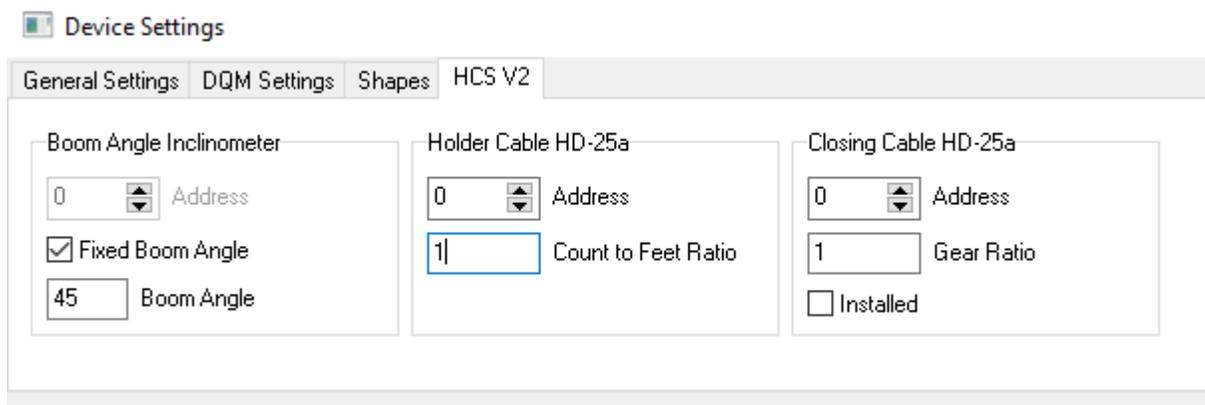
We have modified our DQM Mechanical driver to enter the boom angle manually. The driver version 20.2.2.0 now has this feature.

Driver Version



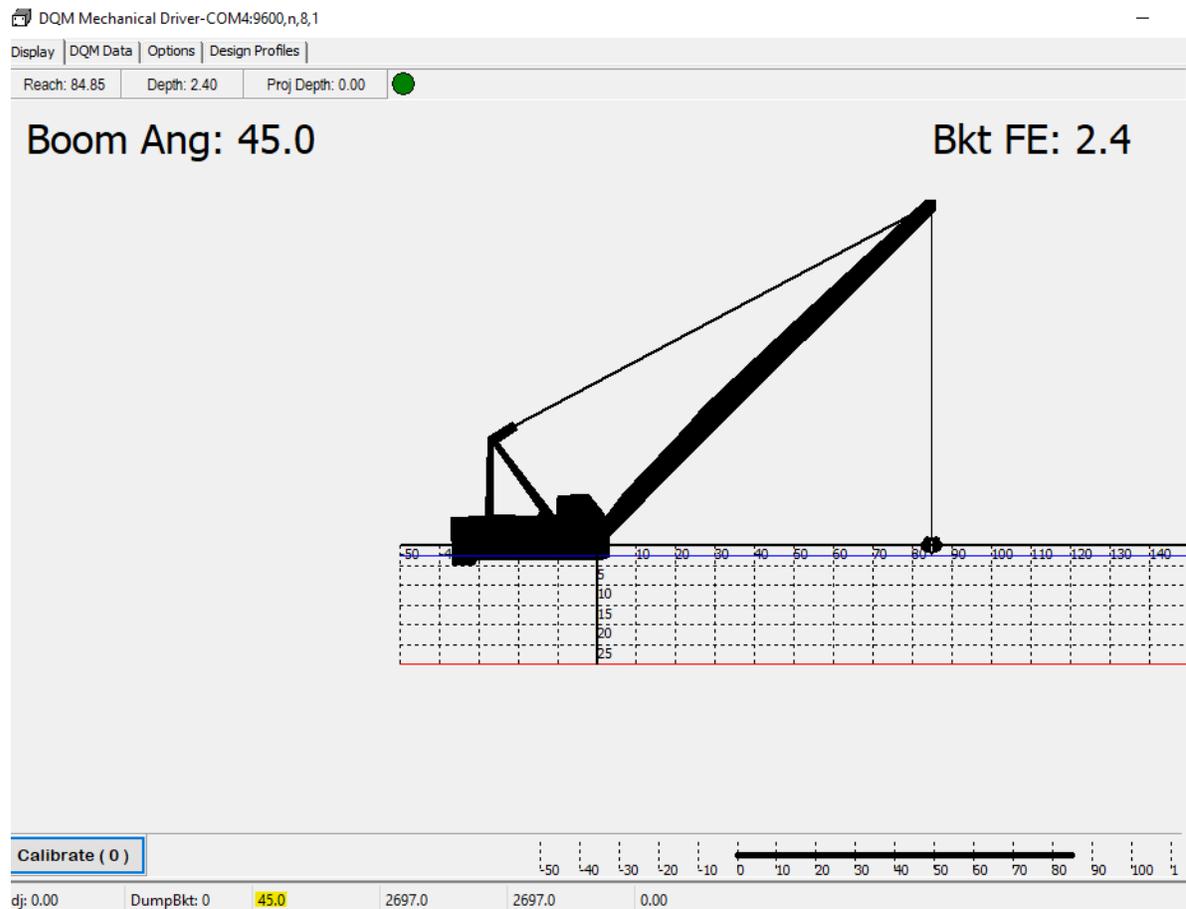
In the HCS V2 tab, there is a **Fixed Boom Angle** option that you can enable and enter the angle you measured. In this case, you only need to set the Address for the HD25A sensor and in the Survey tab, and configure the COM port for this driver.

FIGURE 4. DQM Mechanical Driver Setup.



In my example, you have a 45 degree boom angle during the operation. As you can see in the bottom of the DQM driver window, it shows the fixed angle.

FIGURE 5. DQM Mechanical Driver Window



In the General Settings tab, remember to use the **System Type** to the HYPACK Crane System V2 and, if you are not using a switch to mark the buckets, set your **Bucket Mark Switch** option to None.

FIGURE 6. DQM Mechanical driver General Settings

Device Settings

General Settings | **DQM Settings** | Shapes | HCS V2

System Type
HYPACK Crane System V2

Bucket Mark Switch
None

Enter Trunion Offset if GPS is NOT installed on the crane boom tip.

Trunion to Drum Offset
X Offset: 0
Y Offset: 0

Dog Offset: 180

Heading
 Relative Inherited
 Absolute RelHDG

Depth Reset
Depth Reset Time (Seconds)
5

Directory/Filename Naming Time Basis
 Local GMT

Filtering
 Boom Angle Filter F.: 0.8

