

This document is for drillers.

<p>Screen Layout</p>	<p>The boxes across the top of the EDR main screen are called “trace boxes,” and correspond to the data graphed in the plots below them. The boxes in the far left column of the main screen are called “reading boxes,” or “shortcut buttons,” and show data or provide shortcuts depending on how you set them up.</p> <p>To scroll through available plots, use the arrow buttons at the bottom right of the main screen.</p> <p>To add a plot, select any trace box and click Add Plot. To delete a plot, select a trace box above the plot you want to delete and click Delete Plot. To display multiple traces in a plot (stacked traces), select Setup View > View > Traces per Plot, and select the number of traces you want displayed.</p>
<p>Trace Orders</p>	<p>Trace order refers to which traces the EDR displays on the main screen. The EDR includes default trace orders, and also enables you to set up your own custom trace orders. To change the trace order displayed, select Setup View > Default Orders or Custom Orders, then select the trace order you want to view.</p> <p>To create a custom trace order, select Setup View > Default Orders. Choose a trace order to start with and modify it to suit your needs. When you’re done, select Setup View > Custom Orders > Save As. Enter a new name for the custom order and select Save.</p> <p>Select any trace box to: change the trace displayed, change the trace colour, flip the scale, or set scale and alarm limits.</p> <p>For more detailed information, see EDR Trace Setup Quick Tips on help.pason.com.</p>
<p>Depth Corrections</p>	<p>The most accurate way to make a depth correction is the Set Depth button at the bottom of the pipe tally. When the kelly is down and before picking up to make a connection, go to the Main Menu and select Tally > Set Depth. The message “Do you want to update measured Hole Depth and Bit Depth to match Pipe Tally depth” is displayed. Select Yes. The tally must be up to date before making a depth correction. The hole depth and bit depth will be reset to match the total depth of the joints in the tally.</p>
<p>Calibrating Hook Load</p>	<p>The hook load should be calibrated if there is a 5,000 lb/5 daN difference between weight indicators. To calibrate the hook load, go to the Main Menu, select Setup > Calibrate, enter the password (255.3158), then select OK > Hook Load. When entering the high and low values, make sure to re-enter the value, even if it is the same. If this procedure is not performed properly, depth will not track correctly.</p>
<p>Hook Load Threshold</p>	<p>This number is set in conjunction with the hook load calibration, and tells the system when the string is in or out of slips. For depth to track correctly, the hook load threshold must be set correctly. To set the hook load threshold, from the Main Menu, select Setup > Calibrate, and enter the password (255.3158), then select OK > Hook Thresh. Set the hook load threshold 3-4 kDaN (8-10 Klb) above the combined weight of the blocks and kelly. Every time the hook load is recalibrated, the hook load threshold value must also be checked. If the depth is not correct when back to bottom after a connection, check that the hook load threshold value and hook load calibration is correct.</p>

<p>Trouble-shooting Depth Problems</p>	<p>When depth is not tracking correctly, check the following:</p> <ul style="list-style-type: none"> • Ensure hook load is working correctly (showing gains and losses at the appropriate times). • Check the Block Height trace: there should be up and down movement on each connection. If movement is consistent, then the depth sensors and cable are functioning properly. If there is no movement, check the connections on either end of the depth cable and inspect the cable and crown sensors for damage. If there is still no movement, contact Pason Technical Support at 1-877- 255-3158 for assistance. • Check the hook load threshold setting by selecting Setup > Diagnostics > Depth Debug (from the DHC) or Show Cal (from the RMPC). Make a note of the value and then check the hook load trace of a past connection. The hook load value should never be above the current threshold setting while making a connection. Check the last 10 connections. If the hook load value is above the threshold at any time while the string is in slips, recalibrate the hook load and the threshold.
<p>Weight On Bit (WOB)</p>	<p>The WOB trace is not a sensor, but a simple deduction of the hook load from the string weight (e.g., string weight – hook load = WOB). String weight must be kept current in order for a value to show in the WOB trace. There are three ways to adjust the WOB:</p> <ol style="list-style-type: none"> 1. Select the Wt. On Bit trace, then enter the hook load reading of the string while hanging and rotating before tagging bottom using the Change button. 2. Select the Wt. On Bit trace. While the string is hanging and rotating two feet off bottom, select Zero WOB. The string weight will equal the hook load reading on the EDR the moment the WOB is zeroed. 3. Select the zero switch next to the trip window on the Pason Pit Volume Totalizer (PVT). This is the preferred method if the rig is using a PVT. Hold down the zero switch for one second while holding the string two feet off bottom. String weight may be updated every connection.
<p>Tripping</p>	<p>When tripping out of the hole, the EDR will track the bit until the string weighs approximately 5000 lbs/5 daN. To track the bit position to bottom, stop when the BHA is in the hole and reset the bit depth to the length of the BHA. This ensures that the bit position will be recorded accurately as it goes back to bottom.</p>