



HBLT Troubleshooting Guide

Overview:

This document will cover basic issues that may arise with the HBLT and provide a guide on how to troubleshoot and resolve them.

Problem	Possible Problem	Possible Solution
<p>BURPING</p> <p>The HBLT is experiencing excessive burping (clicking) when trying to run a test.</p>	<p>The 0 pressure point of the HBLT has drifted. If the HBLT is burping (clicking) excessively it is most likely sitting over +/-2PSI when open to atmosphere. Note: <i>Some burping is common and expected especially if you have a high purge rate set on the HBLT. On average 2 to 4 clicks is fine.</i></p>	<p>Since the HBLT has drifted off its zero point you will need to calibrate the HBLT. Please review the Owners Manual and see our website at www.Crescentdesign.com and go to the “How To” videos section for a demo video on calibrating the HBLT.</p>
<p>PRESSURE OVERSHOOT</p> <p>HBLT overshooting the programmed pressure target.</p>	<p>This can be caused by one or more of these issues:</p> <p>Air in the system (most common)</p> <p>Incorrect compliance setting</p> <p>Up Ramp Rate setting too high</p>	<p>Make sure to purge the HBLT under vacuum every morning or before the start of each shift. Run a total of 3 purge cycles under vacuum. Note: <i>Always make sure that your parts are prepped and purged of air for best test results.</i></p> <p>Lower the compliance setting</p> <p>Lower the Ramp Rate</p>
<p>MOTOR STALLED ERROR</p> <p>When purging the HBLT under vacuum and the “Motor Stalled” error message is displayed.</p>	<p>If the HBLT purges into an open container with nothing attached to the outlet, but the motor stalls when purging under vacuum the HBLT needs to be calibrated.</p> <p>If this error is displayed while running a test please contact Crescent Design.</p>	<p>Calibrate the HBLT. Please review the Owners Manual and go to www.Crescentdesign.com and navigate to “How To” videos section for a demo video on calibrating the HBLT.</p>

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<p>MOTOR OVERHEATING ERROR</p> <p>When running a test and the “Motor Overheating” error is displayed.</p>	<p>It is possible to get the actuator motor hot during tests that maintain high pressures for long periods of time or during fatigue tests with a large number of cycles. The motor needs to be turned off to cool down.</p> <p>If this error is displayed while the HBLT is idle please contact Crescent Design.</p>	<p>Turn off the HBLT. Use a rag or towel to put over the luer connection at the outlet and disconnect it to relieve the pressure. Let the HBLT sit while turned off for 30 minutes to let the motor cool.</p>
<p>PRESSURE LIMIT EXCEEDED ERROR</p> <p>When running a test and the “Pressure Limit Exceeded” message is displayed.</p>	<p>The hydraulic pressure exceeded the operational limits of the HBLT. The main cause of this problem is mis-calibration.</p> <p>Target pressure is close to the HBLT limit.</p>	<p>Calibrate the HBLT and run the test again. If the issue persists please contact Crescent Design.</p> <p>Lower the ramp rate.</p>
<p>THE CYLINDER IS OUT OF WATER CHECK FOR LEAKS</p> <p>When running a test the “Cylinder is out of water check for leaks” is displayed.</p>	<p>This message is displayed when the actuator reaches the exhaust limit switch while running a test. This can occur if the product leaks, is very compliant, or is compliant and large. The cylinder does not have enough volume to reach the target pressure and maintain it.</p> <p>Internal HBLT leakage.</p>	<p>If <u>not</u> using a FILL: Check the product for leaks.</p> <p>Pre-fill the product before running the test.</p> <p>Try constraining the product to limit its compliance.</p> <p>Lean HBLT on side and see if any water comes out of enclosure.</p>

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<p>A FILL (or PURGE) TIMEOUT HAS OCCURED. PLEASE CALL FOR SERVICE.</p> <p>During the fill sequence the “Fill Timeout” message is displayed.</p>	<p>The HBLT displays this alert message when the fill operation times out without encountering a limit switch. The timeout value varies depending on the cylinder volume.</p> <p>Wrong power module inlet power selection.</p>	<p>Install power module voltage selector for 110-120V.</p>
<p>FALSE BURST REPORTED</p> <p>When running a test and the HBLT declares a burst but the product is intact with no failure or leak.</p>	<p>Tubing loose in Tuohy-Borst which allows the tubing to slip in the fitting causing a sudden drop in pressure.</p> <p>CAUTION: Over tightening the Touhy-Borst fitting can collapse the tubing restricting fluid flow and pressurization of the product under test.</p> <p>An internal HBLT leak.</p>	<p>Change the compression fitting rubber O-ring often. A damaged O-ring will cause connection issues. Use a quality connector such as the Plasti-Mate Tuohy-Borst made by S4J manufacturing PN# A7530. Mark the balloon stem with a black sharpie right at the connection so you can see if it slips.</p> <p>It may be necessary to use a hypo tube inside the I.D. of the product tube to allow sufficient compression of the fitting without collapsing the fluid path. This will also ensure repeatable product-to-product test results.</p> <p>To check the HBLT for leaks, install a metal cap or ball valve directly to the outlet and run a simple ramp test to the maximum pressure of the HBLT and let it dwell for 60 seconds. If it leaks down more than 10% in 60 seconds please contact Crescent Design.</p>

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<p>FALSE BURST AT START OF DOWN RAMP</p>	<p>The up burst or down burst setting is too close to the down ramp rate setting.</p>	<p>Increase the down burst rate or decrease the down ramp rate.</p> <p>Ensure that the compliance settings are correct (not too high).</p>
<p>FALSE BURST AT THE BEGINNING OF A TEST</p>	<p>The initial (starting) pressure is negative (below zero) causing the HBLT to detect a downward pressure decay.</p>	<p>Check HBLT calibration and adjust if necessary. Ensure that zero is adjusted close to zero.</p>
<p>INTAKE LIMIT ERROR</p>	<p>If this error is displayed when running a test it may be caused by the HBLT zero calibration point not being at zero (or close to zero). If zero is off more than 3 PSI the intake limit switch could be reached before reaching zero PSI.</p>	<p>Calibrate the HBLT. Review the Owners Manual and go to www.Crescentdesign.com and navigate to “How To” videos section for a demo video on calibrating the HBLT.</p>

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EXHAUST LIMIT ERROR	<p>If this error is displayed it could be one of the following issues:</p> <p>An HBLT or product leak prevents reaching the target pressure. This allows the HBLT to activate the exhaust limit switch.</p> <p>The product is too compliant or large for the HBLT to reach the set pressure.</p>	<p>To check the HBLT for leaks, install a metal cap or ball valve directly to the outlet and run a simple ramp test to the maximum pressure of the HBLT and let it dwell for 60 seconds. If it leaks down more than 10% in 60 seconds please contact Crescent Design. Inspect the product for pinhole leaks.</p> <p>Check maximum volume output of your model HBLT and verify how much volume is needed to test each different product.</p>
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