



HALT & HASS Training Seminar

May 9, 2018

CSZ will be holding a one-day HALT & HASS training seminar at our headquarters in Cincinnati, OH. The seminar is intended to provide both theory and practice in HALT and HASS to those who want to learn enough about the methods to perform them well without assistance. All seminars include meals and training materials.

As a courtesy to our customers, CSZ is offering a discount of 50% off the \$990 seminar price, making the final price final price \$495. Must register by April 27 to receive the discount.

Course Outline

HALT (Highly Accelerated Life Test) is a weakness discovery process used during product development. A stepped stress process is used taking products beyond specification to find weakness and to quantify product margins. HASS (Highly Accelerated Stress Screening) is using during production to screen products for unexpected weakness to prevent these weaknesses from surfacing during customer use. HALT and HASS both use the same type of specialized test chamber.

This concentrated one day HALT and HASS class will provide the student with a complete working knowledge of when and how to apply HALT to a wide variety of products. Even more important, the student will learn how to interpret the results of the test and determine how to respond. Discussion will also include “when do we stop improving” which is a most often asked question. Critical concepts covered are:

- Preparing for a HALT test.
- Understanding the mindset behind HALT so that its intent is not confused with traditional Qualification testing.
- Understanding the details of the standardized HALT Test Process so that product margin can be compared between products.
- “Problem preventing design practices” that can be learned from conducting HALT.
- Video will be shown of a wide variety of products being tested so that fixturing and monitoring can be seen by example.
- Why we compare what does not fail to what does fail to see the contrast in product strength.
- Normal precautions to ensure safe use of the HALT chamber.
- Preparing for a HASS process.
- How to develop the HASS screen.
- Importance in using the “Safety of Screen” process to make sure that product damage does not occur.
- “Screen Tuning” to optimize the efficiency of screening activity.
- Using the HASS screening results for continuous improvement of the product.

SEE CHAMBER IN OPERATION AT OUR CINCINNATI TEST LABORATORY

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Instructor Biography

Larry Edson introduced HALT within General Motors of North America in 2002 with a focus on electronics and lighting. The surprising effectiveness of the HALT process inspired the use of HALT across a wide variety of products with unexpected success. GM's success stories around the effective use of HALT were decisive in promoting the use of HALT in other GM organizations and the GM supplier base around the world. HALT proved very effective in the development of the use of LED lighting in vehicles and HALT & HASS became an official process as documented by Larry with the GM Global Specification GMW8287 in 2004. Larry became a Technical Fellow within GM and conducted many HALT tests in partnership with GM suppliers. Video of those tests will be shown in this class so that students can see the practical application of conducting HALT tests. Larry started his own company in 2007 and has taught HALT & HASS to many companies in many different countries around the world. Noted clients of Larry Edson Consulting Inc. have been; Sandia National Labs, John Deere, Philips Healthcare, The Giant Hadron Collider Project at CERN in Genève, Vestas Wind Turbines of Denmark, and many others too numerous to list.

REGISTRATION FORM - HALT & HASS Seminar

Company: _____

Phone: _____ E-mail: _____

Address: _____

The following people will be attending:

Name: _____ Title: _____

Name: _____ Title: _____

Name: _____ Title: _____

Name: _____ Title: _____

Name: _____ Title: _____

Register online at <http://www.cszindustrial.com/Resources/Customer-Training-Seminars.aspx> or email completed form to indsales@genthermcsz.com

Be sure to register by April 27 to receive your discount.

Cincinnati Sub-Zero has a special hotel room rate at the Sharonville, OH Drury Inn for \$95.00 per night plus tax. You may reserve your room in our block by contacting the hotel directly at (513) 771-5601. *Please be sure to mention CSZ when making your reservation.*