sensor & calibration tips

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Greetings!

Welcome to issue #12-

The team at The Modal Shop and PCB Group have been sending out monthly training/tips for dynamic sensors for over a year now! If you are new to our newsletter, please enjoy this short communication, share it with a colleague and have a look at the archive links below where you'll find all the back issues with their wealth of information. We're glad to have you on board!

Join Our Mailing List!

Tip of the Month

Stud considerations

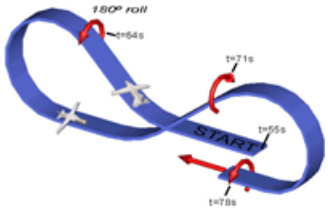
Mounting studs can sometimes cause a drastic source of error. It is most common to use a stud with a shoulder (or flange) at the center to ensure that the stud does not bottom out in either the accelerometer or the mounting hole. Bottoming out can produce strain-induced errors. Take care though that any accelerometer and mounting hole have the proper countersink (or recess) to fully accommodate the thickness of the stud's shoulder. A small but excess tolerance error of only a few thousandths of an inch can cause a gap between the mating surfaces which has an extremely adverse effect on the accelerometer's frequency response at mid and high frequencies.

Quick Links

NCSL
IMEKO
NIST
PTB
Wiki on uncertainty

Flight Test - Application Environment Overview

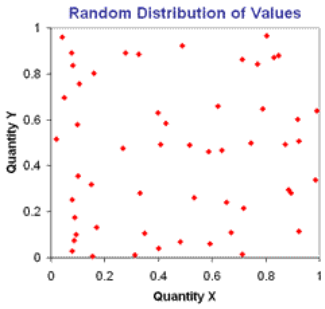
(courtesy of M. Bakewell, PCB Piezotronics, Inc.)



Of the various testing and evaluation methods, flight test is by far one of the most important in the development, design, and validation of an aircraft. Mathematical models, safety, comfort, and performance targets are verified through specific testing of each aircraft system under real flight operating conditions...

Click to read more about flight test applications(http://www.modalshop.com/test_calibration.asp?ID=221)

Statistical Methods of Evaluating Uncertainty



The next chapter of our discussion focuses on the statistical methods of evaluating uncertainty.

When uncertainty contributors are evaluated, they can either be based on statistical methods (called a Type A evaluation), or by other means (called a Type B evaluation). In previous articles we have discussed some of the other methods used such as the systemic uncertainty from the reference accelerometer. The goal of this article is to discuss statistical methods in greater detail.

Click to read more about evaluating uncertainty
(http://www.modalshop.com/test_calibration.asp?ID=222)

Wiki on degauss

The Modal Shop website
PCB Piezotronics website

Farnborough Airshow
NIST uncertainty guideline

Newsletter Archive

sensor & cal tips #9 - Seismic accelerometer for low frequency measurements; Uncertain about your cal?

sensor & cal tips #10 - Facts about Triax; Uncertainty Redux

sensor & cal tips #11 - Mechanical Shock Accelerometer; More Uncertainty Contributors

Archived sensor & cal tips - all the back issues

We appreciate your interest and are glad to be providing regular information to help you with your dynamic testing and calibration needs. If you have any questions you would like answered or have a topic you would like to see covered, please contact us and we'll be glad to help out.

Sincerely,

Michael J. Lally
The Modal Shop
A PCB Group Company
mike.lally@modalshop.com

Forward email