IEEE STANDARDS ASSOCIATION IEEE

IEEE Std 517™-1974 (R2010)

Errata to IEEE Standard Specification Format Guide and Test Procedure for Single-Degree-of-Freedom Rate-Integrating Gyros

Sponsor

Gyro and Accelerometer Panel Committee

of the

IEEE Aerospace and Electronic Systems Society

Correction Sheet
Issued 20 August 2014

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IEEE Std 517-1974 (R2005)

Page 6, 3.3.14.2 Repeatability should be corrected to read as follows *(Note that the sigma symbol was subscripted and should not be)*:
_____ [rad/h, °/h] [maximum spread, 1σ, _____].

Page 24, 6.3 Model Equation (the 5th line of the equation) should be corrected to read as follows *(Note that the word squared was missing from the parenthetical statement)*:
$+D_{II}a_I^2 + D_{SS}a_S^2 + D_{IS}a_I a_S + D_{IO}a_I a_O$ (acceleration-squared-sensitive drift rate)

Page 29, 10.1 Examination of Product (Mechanical) should be corrected to read as follows *(Note that the word "determine" was incorrectly shorted to "mine")*:
The gyro shall be inspected visually and dimensionally for proper identification, surface finish, and for defects in workmanship to determine that it conforms to the requirements of Section _____.

Page 50, Figure 3 caption should be corrected to read as follows *(Note that the word "or" was misspelled as "of")*:
Figure 3 –Vibration Drift Test Orientations (Note: axes orientations are parallel or 45° to the acceleration vector within ±_____°.)

IEEE Std 517-1974 (R2005) Errata Issued 26 April 2010

Page 65, Appendix and definition are spelled incorrectly in errata and should be corrected to read as follows:
Page 65, Appendix B.2 Model Equation, the $D_{II}a_I^2$ definition should be corrected to read as follows:

Page 37, Phase is spelled incorrectly in errata and should be corrected to read as follows:
Page 37, 10.6.3.2 Phase Shift and Electrical Null, the first paragraph should be corrected to read as follows:

IEEE Standard Title, Test, Procedure and Integrating are spelled incorrectly in the title and should be corrected to read as follows:
Errata to IEEE Standard Specification Format Guide and Test Procedure for Single-Degree-of-Freedom Rate-Integrating Gyros

NOTE: Archival errata of 26 April 2010 for IEEE Std 517™-1974 (R2010) follows.

IEEE Std 517™-1974(R2005)

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Page 6, 3.3.14.1 Drift Rate should be corrected to read as follows:

D_F, 0 ± _____ [rad/h, ° /h].

Page 25, 6.3 Model Equation the definition of $D_{IO}a_I a_S$, should be corrected to read as follows:

$D_{IO}a_I a_S$= drift rate attributable to the product of accelerations along the input axis and the spin axis, where D_{IS} is a drift rate coefficient

.

Page 37, 10.6.3.2 PPhase Shift and Electrical Null, the first paragraph should be corrected to read as follows:

Using the torquer, rotate the gyro gimbal until the pickoff output at the previously measured phase angle is a minimum. Record this voltage as the in-phase null, a voltage 90° out-of-phase with this voltage as the quadrature voltage, and the total voltage.

Page 46, 10.12.3.3.2, the second paragraph (immediately after the text box) should be corrected to read as follows:

Connect the table rate monitoring signal and the gyro pickoff output to the phase measuring equipment. Operate the oscillating rate table at an amplitude that is sufficient to generate an easily discernible signal from the pickoff, but not so high as to cause the gimbal to contact the stops. Vary the frequency of the table rate drive until the phase measurement equipment indicates a phase difference of 45 ± _____ °. Record the table drive frequency.

Page 59, 10.15.3.3, the third paragraph should be corrected to read as follows:

Remount the gyro in the fixture with the IRA axis parallel to table rotational axis within _____ arc minutes. Operate the gyro in a rate-sensing mode (Section 8.2) in accordance with the standard test conditions of Section 9.1, connecting the gyro to torquer current measuring equipment. Orient the table so that the gyro IRA is vertical within _____ arc minutes and the ORA is north within _____ arc minutes. Rotate the table approximately _____ ° toward the ORA east and allow _____ minutes for the gyro to stabilize. Rotate the table back to ORA north within arc minutes at a smooth rate of _____ ± _____ ° /s. Stop the table and record torquer current versus time until a final value is reached. Repeat the test by returning to north from the opposite direction.

Page 59, 10.15.3.3, the fourth paragraph should be corrected to read as follows:

Remount the gyro in the fixture with the SRA parallel to table rotational axis within _____ arc minutes. Operate the gyro in a rate-sensing mode (Section 8.2) in accordance with the standard test conditions of Section 9.1. Connect the gyro to torquer current recording equipment. Orient the table so that the gyro ORA is vertical within _____ arc minutes and the SRA north within arc minutes. Rotate the table clockwise approximately 180° at a smooth rate of _____ ±_____ ° /s. Stop the table and record torquer current versus time until a final value is reached. Repeat the test by rotating counterclockwise to the original position.

Page 65, Apendeix B.2 Model Equation, the $D_{II}a_I^2$ defintion should be corrected to read as follows:

= drift rate attributable to the square of acceleration along the IA, where D_{II} is a drift rate coefficient.