Designation: F 2447 – 05 (Reapproved 2007)

Standard Practice for Production Acceptance Test Procedures for Weight-Shift-Control Aircraft[1]

This standard is issued under the fixed designation F 2447; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 The following requirements apply for the manufacture of weight-shift-control aircraft. This practice includes the production acceptance test requirements for weight-shift-control aircraft.

1.2 This practice applies to aircraft seeking civil aviation authority approval, in the form of flight certificates, flight permits, or other like documentation.

1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory requirements prior to use.*

2. Significance and Use

2.1 The purpose of this practice is to establish that each production aircraft has been assembled properly and operates normally throughout its entire allowable flight envelope.

2.2 If final assembly is completed outside of the main production facility, the manufacturer shall specify the required procedures and what persons are authorized to perform them.

3. Production Acceptance Testing, Ground Testing

3.1 *Inspection Verification*—There shall be a written procedure in effect to verify all top-level inspections have been completed and no discrepancies remain open.

3.2 *Engine Break-In*—There shall be a written procedure in effect to perform the engine break-in. This procedure may include all engine gage verification of operation. All engine readings shall achieve the normal accepted range of readings commensurate with a new engine. If it is not performed during engine break-in, then this verification must be performed under separate procedures. All engine gages shall be verified to be operating. Final stages of engine break-in may be conducted in flight if a forced landing can be made safely at all times.

4. Production Acceptance Testing, Flight Testing

4.1 Every production aircraft shall be flight tested to the following minimums:

4.1.1 Fifteen minutes flight time, including at least one takeoff and landing, trimming of controls for straight and level flight, and verification of control for left turn, right turn, and speed control. Turns shall be made up to the maximum allowable bank angle as prescribed by the manufacturer and speeds (wings level) shall be flown up to the maximum possible for the configuration not to exceed manufacturers' limitations.

4.2 *Instrument Verification*—There shall be a written procedure in effect to verify that all other instruments are operating within normal ranges. If equipped with a compass, the compass variation card data shall be developed with the engine running.

5. Post Flight Acceptance

5.1 There shall be a written procedure in effect to perform post flight inspection that will review all flight critical attachments and structures.

5.2 The reviewing personnel shall sign all post flight review documents.

6. Documentation

6.1 There shall be a written procedure in effect to properly document and store the Production Acceptance Test results such that they are correlated to the specific aircraft for future reference.

6.2 *Test Failures*—There shall be a written procedure in effect to review the causes for any aircraft failures in the Production Acceptance Tests phases. Aircraft may only be released for retest after manufacturing review of the discrepant articles and written release for retest.

7. Keywords

7.1 light sport aircraft; special airworthiness certificate; weight-shift-control

[1] This practice is under the jurisdiction of ASTM Committee F37 on Light Sport Aircraft and is the direct responsibility of Subcommittee F37.40 on Weight Shift.

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