

(d) The source of the basic aerodynamic model and the aerodynamic coefficient data used to modify the basic model.

(e) The engine model(s) and its data revision number or reference.

(f) The flight control data revision number or reference.

(g) The flight management system identification and revision level.

(h) The FTD model and manufacturer.

(i) The date of FTD manufacture.

(j) The FTD computer identification.

(k) The visual system model and manufacturer, including display type.

(l) The motion system type and manufacturer, including degrees of freedom.

(4) A Table of Contents.

(5) A log of revisions and a list of effective pages.

(6) List of all relevant data references.

(7) A glossary of terms and symbols used (including sign conventions and units).

(8) Statements of compliance and capability (SOCs) with certain requirements.

(9) Recording procedures or equipment required to accomplish the objective tests.

(10) The following information for each objective test designated in Attachment 2 of this appendix, as applicable to the qualification level sought:

(a) Name of the test.

(b) Objective of the test.

(c) Initial conditions.

(d) Manual test procedures.

(e) Automatic test procedures (if applicable).

(f) Method for evaluating FTD objective test results.

(g) List of all relevant parameters driven or constrained during the automatic test(s).

(h) List of all relevant parameters driven or constrained during the manual test(s).

(i) Tolerances for relevant parameters.

(j) Source of Validation Data (document and page number).

(k) Copy of the Validation Data (if located in a separate binder, a cross reference for the identification and page number for pertinent data location must be provided).

(l) FTD Objective Test Results as obtained by the sponsor. Each test result must reflect the date completed and must be clearly labeled as a product of the device being tested.

f. A convertible FTD is addressed as a separate FTD for each model and series airplane to which it will be converted and for the FAA qualification level sought. The NSPM will conduct an evaluation for each configuration. If a sponsor seeks qualification for two or more models of an airplane type using a convertible FTD, the sponsor must provide a QTG for each airplane model, or a QTG for the first airplane model and a supplement to that QTG for each additional airplane model. The NSPM will conduct evaluations for each airplane model.

g. The form and manner of presentation of objective test results in the QTG must include the following:

(1) The sponsor's FTD test results must be recorded in a manner acceptable to the NSPM, that allows easy comparison of the FTD test results to the validation data (e.g., use of a multi-channel recorder, line printer, cross plotting, overlays, transparencies).

(2) FTD results must be labeled using terminology common to airplane parameters as opposed to computer software identifications.

(3) Validation data documents included in a QTG may be photographically reduced only if such reduction will not alter the graphic scaling or cause difficulties in scale interpretation or resolution.

(4) Scaling on graphical presentations must provide the resolution necessary to evaluate the parameters shown in Attachment 2, Table B2A of this appendix.

(5) Tests involving time histories, data sheets (or transparencies thereof) and FTD test results must be clearly marked with appropriate reference points to ensure an accurate comparison between FTD and airplane with respect to time. Time histories recorded via a line printer are to be clearly identified for cross-plotting on the airplane data. Overplots may not obscure the reference data.

h. The sponsor may elect to complete the QTG objective and subjective tests at the manufacturer's facility or at the sponsor's training facility (or other sponsor designated location where training will take place). If the tests are conducted at the manufacturer's facility, the sponsor must repeat at least one-third of the tests at the sponsor's training facility in order to substantiate FTD performance. The QTG must be clearly annotated to indicate when and where each test was accomplished. Tests conducted at the manufacturer's facility and at the sponsor's designated training facility must be conducted after the FTD is assembled with systems and sub-systems functional and operating in an interactive manner. The test results must be submitted to the NSPM.

i. The sponsor must maintain a copy of the MQTG at the FTD location.

j. All FTDs for which the initial qualification is conducted after May 30, 2014, must have an electronic MQTG (eMQTG) including all objective data obtained from airplane testing, or another approved source (reformatted or digitized), together with correlating objective test results obtained from the performance of the FTD (reformatted or digitized) as prescribed in this appendix. The eMQTG must also contain the general FTD performance or demonstration results (reformatted or digitized) prescribed in this appendix, and a description of the equipment necessary to perform the initial qualification evaluation and the continuing qualification evaluations. The eMQTG must include the