

Subject: INFORMATION: Acceptance of Technical Standard Order (TSO) Holder's Data for Compliance with Part 25 Dynamic Testing Requirements.

Date: JUL 19 1993

From: Manager, Transport Airplane Directorate,  
Aircraft Certification Service, ANM-100

Reply to  
Attn of:

TO: SEE DISTRIBUTION

This memorandum is prompted by the attached memorandum from the National Resource Specialist for Crash dynamics, which describes some of the increased complexity associated with the dynamic testing criteria of § 25.562 of the FAR. These new criteria demand that the seat and its installation be considered much more integrally than has been the practice with statically qualified seats. Consequently, a seat that is qualified under the provisions of TSO C127 without consideration of the installation, might not be acceptable for installation until additional testing and/or analysis is done. For example, evaluation of head injury criteria necessarily requires consideration of the installation, as does the effect of permanent deformation on exit access. This additional testing would normally be the responsibility of the installer. Seats that were qualified under the provisions of TSO C39 were traditionally acceptable for installation with a minimum of additional substantiation.

The attached memorandum proposes that a TSO applicant be allowed to incorporate installation related features into the TSO qualification tests; and use the data generated to support compliance with part 25. This procedure would not require direct FAA involvement in testing or inspection of the articles, and would increase flexibility for the applicant as well as decrease workload on the FAA.

We believe that such an expansion of the TSO procedures could be acceptably under certain conditions, which are summarized as follows:

a. If the applicant elects to address installation concerns as part of the TSO qualification tests, the FAA should review and approve the test plan, as it relates to those installation concerns, prior to testing.

b. The tests that are conducted should provide enough information to qualify the seat itself. That is, the installation tested should not mask the seat performance by, for example, providing additional structural support so that the seat is not realistically loaded.

c. The need for an FAA conformity inspection for items that are not part of the seat should be addressed on a case-by-case basis. We would expect that in most cases such an inspection would not be necessary; however, for complicated installations such as representation of a cockpit instrument panel and glare shield, a special inspection may be warranted.

As noted in the attached memorandum, no airplane components would be marked by the TSO holder. The TSO holder should fully document the test set up, with design data for all components.

Prepared by Jeff Gardlin

Concur Ronald T. Wojnar

Distribution:

ANE-100 ANM-100S

ACE-100 ANM-100L

AEU-100 ANE-150

ASW-100 ANE-170

ASW-150 ASW-190

ACE-115A ANE-115C

ACE-115W AIR-100'