

MILITARY STANDARD

RELIABILITY PROGRAM FOR SYSTEMS AND EQUIPMENT
DEVELOPMENT AND PRODUCTION

TO ALL HOLDERS OF MIL-STD-785B

1. THE FOLLOWING PAGES OF MIL-STD-785B HAVE BEEN REVISED AND SUPERSEDE THE PAGES LISTED:

NEW PAGE	DATE	SUPERSEDED PAGES	DATE
301-1	3 July 1986	301-1	15 September 1980
301-2	3 July 1986	301-2	15 September 1980

2. RETAIN THIS NOTICE AND INSERT BEFORE TABLE OF CONTENTS.

3. Holders of MIL-STD-785B will verify that page changes and additions indicated above have been entered. This notice page will be retained as a check sheet. This issuance, together with appended pages, is a separate publication. Each notice is to be retained by stocking points until the military standard is completely revised or canceled.

Custodians:

Army - CR
Navy - AS
Air Force - 11

Preparing activity:

Air Force - 11

(Project No. RELI-0027)

Review activities:

Army - AR, AV, AT, ME, MI, SC, TE
Navy - EC, OS, SA, SH, YD, TD, MC, CG
Air Force - 10, 13, 17, 18, 19, 24, 95

TASK 301

ENVIRONMENTAL STRESS SCREENING (ESS)

301.1 PURPOSE. The purpose of task 301 is to establish and implement environmental stress screening procedures so that early failure(s) due to weak parts, workmanship defects, and other nonconformance anomalies can be identified and removed from the equipment.

301.2 TASK DESCRIPTION

301.2.1 Environmental stress screening (also known as preconditioning or burn-in) shall be conducted at those levels of assembly (part/component, board, subassembly, assembly) needed to detect and remove early failures due to weak parts, workmanship defects and other nonconformance anomalies.

301.2.1.1 During development, ESS procedures, taking into consideration the equipment design, part/component technology, and production fabrication techniques, shall be formulated. ESS procedures shall be designed for the end item and for all lower level items which will be procured separately as spare or repair parts. A plan for implementing these procedures shall also be prepared, indicating the proposed application of ESS during development and production. The proposed ESS procedures and implementation plan shall be subject to approval by the PA.

301.2.2 ESS shall be designed to stimulate relevant failures by stressing the item. The stressing need not simulate the precise operational environment the item will see. Environmental stress types may be applied in sequence. During ESS, the item shall be cycled through its operational modes while simultaneously being subjected to the required environmental stresses.

301.2.3 Upon approval of the proposed ESS procedures and implementation plan, a detailed environmental stress screening process plan shall be prepared and included as part of the reliability test plan. The ESS detailed process plan shall include the following, subject to PA approval prior to initiation of ESS:

- a. Description of environmental stress types, levels, profiles, and exposure times to be applied.
- b. Identification of level (part/component, board, subassembly, assembly) at which ESS will be accomplished.
- c. Identification of item performance and stress parameters to be monitored during ESS.
- d. Proposed ESS duration (failure-free interval and maximum ESS time per item).
- e. Method of incorporating ESS results into FRACAS (Task 104).

301.2.4 The results of ESS during development shall be analyzed and used as the basis for the ESS procedures to be specified for production.

301.2.5 Failures occurring during ESS shall be incorporated into the FRACAS (Task 104).

301.2.6 Production ESS results shall be analyzed and procedures adjusted to maintain the most effective screen.

301.3 DETAILS TO BE SPECIFIED BY THE PA (reference 1.2.2.1)

301.3.1 Details to be specified in the SOW shall include the following, as applicable:

- a. Identification of the requirement to develop ESS procedures, implementation plan, and detailed test plan.
- b. Specification of detailed ESS requirements.
- c. Delivery identification of any data items required.
- d. Imposition of Task 104 as a requisite task.