

**ROLLING SPHERE FATIGUE TEST FOR ARM REST AND
OTHER INTRICATE TRIM ASSEMBLIES****Application**

This procedure is used to evaluate the resistance to deterioration of the covers and foams employed in arm rests, and to evaluate the cover to foam adhesion properties.

Apparatus Required

A free rolling 41 mm diameter sphere with means of applying a 10.9 kg load.

A machine capable of providing 40 +/- 5 strokes per minute and having an adjustable stroke length. A Flex Fold Machine (see BN 102-04) or similar unit is satisfactory.

Fixtures are also required for stationary mounting of various arm rest designs having adjustments to allow for vertical and horizontal alignment of the arm rest with relation to the stroke direction of the weighted sphere (see BO 113-03, Figure 1).

Conditioning and Test Conditions

All test values indicated herein are based on material conditioned in a controlled atmosphere of 23 +/- 2 °C and 50 +/- 5 % relative humidity for not less than 24 h prior to testing and tested under the same conditions unless otherwise specified.

Procedure

1. Mount the arm rest so that the rolling sphere will travel horizontally along the surface center line of the arm rest (see BO 113-03).
2. Adjust the stroke to a length that will allow for testing the critical areas having a vertical internal support. Arm rests having more than one critical area may require remounting and retesting if a critical area cannot be included due to limitations in the stroke length of the machine.
3. Run for the specified number of cycles indicated by the material specification.

Date	Action	Revisions
2001 06 26	Revised	Editorial – no technical change A. Cockman
2001 03 28	Revised	Editorial – no technical change A. Cockman
1992 11 02		

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4. Examine the cover stock and report any cracking or other adverse effects. Cut through the cover stock and examine for delamination from foam and for foam deterioration (crumbling) or for other adverse effects as specified by the engineering document.

Chemicals, materials, parts, and equipment referenced in this document must be used and handled properly. Each party is responsible for determining proper use and handling in its facilities.