

**IBM**IR  
QUALITY ENGINEERING  
LABORATORY BÜBLINGENTitle: FOLDING ENDURANCE (MIT) -- 7  
AND 9 POINT CARD STOCK

## 1.0 INTRODUCTION

### 1.1 SCOPE

- 1.1.1 This document establishes the method for determining folding endurance (MIT) of 7 and 9 Point Card Stock.
- 1.1.2 Folding endurance is the relative ability of a paper specimen to withstand repeated double folds through a wide angle and under a specified tension.

### 1.2 REFERENCES

#### 1.2.1 Specifications

IBM-IRD 7-02-0101 -- Card Stock IBM Information Processing Cards

IBM-IRD 7-02-0201 -- 9 Point Data Processing

IBM 894502 -- Data Processing Card Stock 7 Point

IBM 894507 -- Data Processing Card Stock 9 Point

#### 1.2.2 Standards

TAPPI T402 -- Conditioning Paper and Paperboard for Testing

TAPPI T423 -- Folding Endurance of Paper

### 1.3 AUTHORIZATION

- 1.3.1 This document is authorized by the Manager of Quality Assurance.

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#### 1.4 TEST EQUIPMENT/MATERIAL

- 1.4.1 Folding Endurance Paper Tester (MIT). See Figure 1.
- 1.4.2 JDC Precision Sample Cutter, Model JDC #15.

#### 1.5 CALIBRATION

- 1.5.1 Calibration shall be in accordance with manufacturers approved calibration procedure.

### 2.0 PROCEDURE

#### 2.1 SAMPLE PREPARATION

- 2.1.1 The test sample shall consist of five standard data processing cards. One specimen shall be taken in each principal direction of card length and card width from each of five data processing cards. A total of 5 MD (4-1/4" x 9/16") and CD (3-1/4" x 9/16") samples.
- 2.1.2 Environment for conditioning and testing shall be in accordance with TAPPI T402. ( $73^{\circ} \pm 3.5^{\circ}\text{F}$  and  $50\% \pm 2\%$  R.H., for a minimum of 2 hours).

### 3.0 TEST INSTRUCTIONS

NOTE: Refer to applicable specification (Reference 1.2.1) for actual value(s) to be tested.

- 3.1 Place the oscillating folding head in the position of zero fold with both sets of clamp faces perpendicular.
- 3.2 Place a 1 kg weight on top of the plunger (Figure 1) to preload sample with a specified tension.

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- 3.3 Clamp the specimen firmly and squarely in the jaws and ensure that the surface of the specimen is not touching the jaw mounting plate. (Figure 1.) Be careful not to touch the sample at the holding point.
- 3.4 Remove the weight from the plunger, if the reading of the load indicator has changed because of slack or sample stretching, reset it by means of the plunger tension adjusting screw to 1 kg.
- 3.5 Turn on the instrument and fold the strip until it is severed at the crease.
- 3.6 Record the total number of double folds required to sever all five specimens.

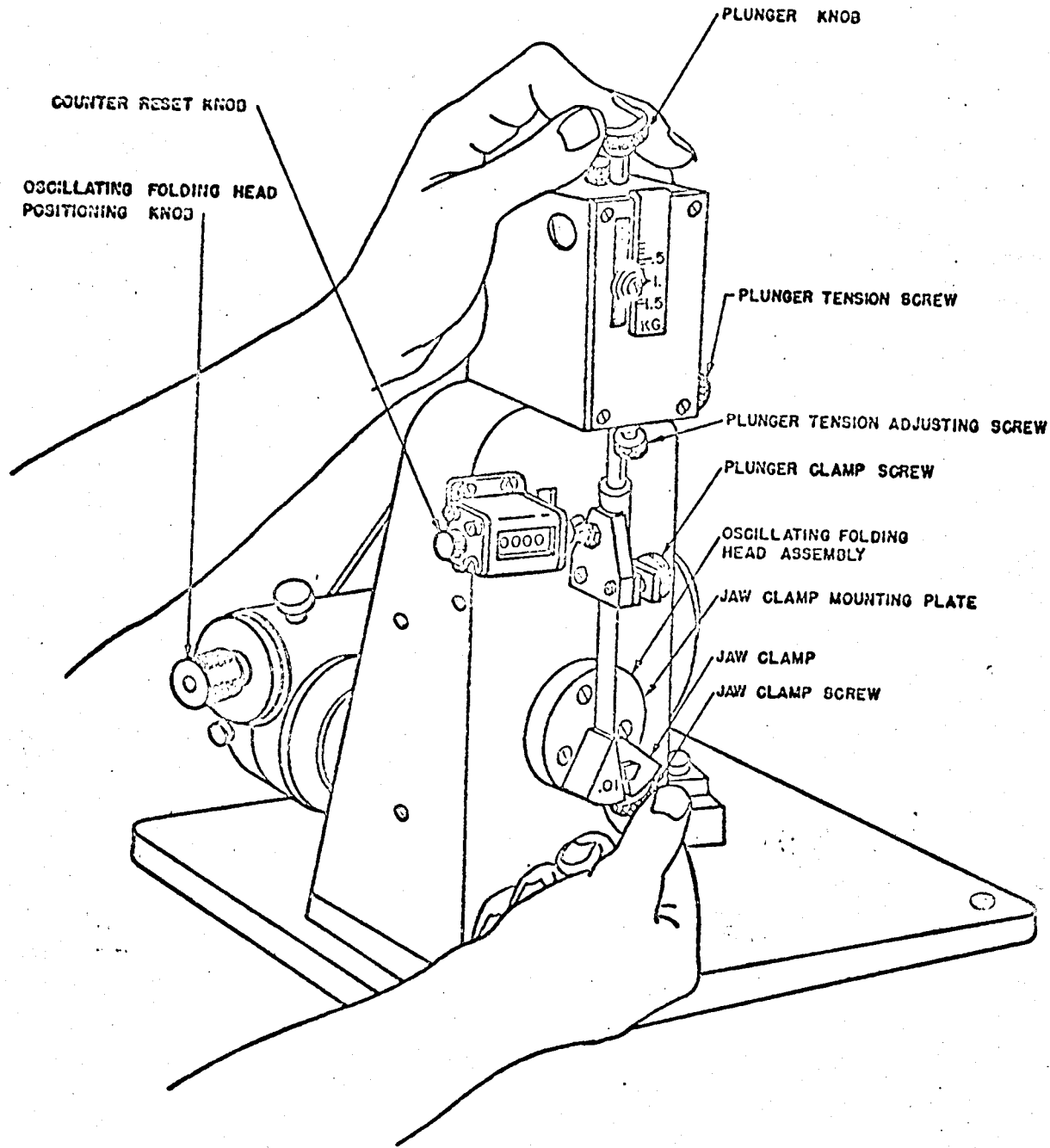
#### 4.0 REPORTING

- 4.1 Report the average number of double folds required to sever the specimen. In reporting the average results, all digits after the first two shall be rounded off to zero. Example: Average = 518, Folding Endurance = 520

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FOLDING ENDURANCE TESTER  
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Figure 1