STAT

Approved For Release 2005/06/23 : CIA-RDP78B05171A000400030003-7

CLASSIFICATION

DOCUMENT NO.

SHEET 1 OF

USED ON MLT-1540

DATE 30 October 1970

REVISION (See last sheet for record)

STAT

TITLE

ACCEPTANCE TEST PROCEDURE FOR LIGHT TABLE MLT-1540

SERIAL NUMBER Preproduction Model

TEST BY -

STAT

DATE 28 November 1970

TIME 0930 - 1330

Declass review by NGA/DoD

This item has successfully performed to all of the requirements as itemized and checked in the body of this procedure.

Date Signature

STAT

PREPARED BY	DATE	APPROVED BY	DATE

Approved For Release 2005/06/23 : CIA-RDP78B05171A000400030003-7

STAT

Approved For Release 2005/06/23 : CIA-RDP78B05171A000400030003-7

1.0 PURPOSE

The purpose of the Acceptance Test Procedure is to verify that the Modular Light Table, MLT-1540, meets its functional and performance requirements.

2.0 EQUIPMENT REQUIRED

STAT

2.1 MLT-1540 complete per [redacted] Drawing No.

2.2 Test film as follows:

9.5 inch wide, 4 mil base, 1,000 foot roll

[illegible] inch film, 1,000 foot, [illegible] rolls

5 inch film, 1,000 foot, 2 rolls

70mm film, 1,000 foot, 2 rolls

2.3 Empty take-up spools
(This should be commensurate with the number of films required as listed above.)

2.4 [illegible]

2.4 Stop watch

2.5 GFE foot lambert meter (Weston Model 759)

3.0 ACCEPTANCE TEST

Completion and verification of each of the following items shall be noted by the inspector's stamp or initials in the space provided.

3.1 Mechanical and visual inspection.

STAT

The MLT shall be carefully examined to determine conformance to the requirements of [redacted] Drawing ; Outline Drawing. Moving parts such as covers, latches and gear mechanisms shall be checked to assure proper fit and operation without sticking or binding. Quality of workmanship, proper materials and finishes, nameplate installation, etc. shall be verified.

STAT

Approved For Release 2005/06/23 : CIA-RDP78B05171A000400030003-7

STAT

Approved For Release 2005/06/23 : CIA-RDP78B05171A000400030003-7

CLASSIFICATION

DOCUMENT NO.

SHEET NO. 3

3.2 Mark off table surfaces with chalk marks to show restricted areas using the plastic template provided.- _____

3.2 Connect table to regulated 117 VAC, 25 amp power source. ✓

3.3 Turn lights on to max intensity, both sides.

a) Record time turned on. 0915 ✓

3.4 Operate the elevating mechanism.

a) Note max and min distance from floor. (Max = 40" Min = 22") 22" min 40" max

3.5 Check operation of manual hand elevation for smoothness of operation. ✓

3.6 Check film rollers for smoothness of operation and surface. ✓

3.7 Check that the coating on bottom cover is in place and smoothly applied. ✓

3.8 Check that wheel locks operate properly, both for rotation and rolling. ✓

3.9 Mount two 1,000 ft rolls of 70mm film on table, dual web configuration, emulsion up.

a) Note time to rewind completely, both rolls at same time, in opposite direction. (≤ 3 minutes) rear 2m 5.8s front 2m 1.7s

b) Note tracking characteristics. ✓

c) Note effect on stationary web when other moves and stops rapidly. Check both webs. (No interreaction) ✓

2 [illegible] = 0.0213 in/sec 94 sec

d) Measure min speed on front roll ohly. (Smooth control from 0 to 1 inch/ min.) 0.127 in/min

3.10 Mount two 1,000 ft rools of 70mm film on table, dual web configuration, emulsion down.

Front stopped because film was incorrectly threaded — run against frame rather than under roller

a) Note time to rewind completely, both rools at same time, in opposite direction. (≤ 3 minutes) rear 2m 6.5s front 2m 26.5s

b) Note tracking characteristics. ✓

STAT

Approved For Release 2005/06/23 : CIA-RDP78B05171A000400030003-7

STAT

Approved For Release 2005/06/23 : CIA-RDP78B05171A000400030003-7

CLASSIFICATION

DOCUMENT NO.

SHEET NO. 4

c) Note effect of stationary roll when other moves and stops rapidly. Check both webs. (No iterreaction) ✓

3.12 Mount two rolls of 5.5" (1,000 ft) on table, emulsion up, dual web configuration.

a) Note time to completely rewind. (3 minutes) _____

b) Note evidence of self induced vibration with the films at null. (When viewed at maximum magnification) _____

3.11 Mount two rolls 5" film (1,000 ft) on table, split vertical mode, emulstion up and emulsion down. ✓

a) Operate to insure split vertical capability. ✓

3.12 Mount 1,000 ft roll 9 1/2" film, emulsion up.

a) Note time to completely rewind. ($\leq$ 3 min.) 2 min 5.5 sec

b) Operate take-up mechanism. Note max capability. ($\geq$ 76 inches) 77 1/2 in

c) Scan slowly with loop take up. Note tracking problems. ✓

d) Start and stop rapidly from full speed (no loop). (No slack loops or excessive tension) ✓

3.13 Operate tilt mechanism.

a) Note that full tilt provides $15^{\circ} \pm 1^{\circ}$ slope. ✓

b) Note that horizontal table is level $\pm 1^{\circ}$. ✓

3.14 Operate carriage motion system with table horizontal, and weight of optics on carriage. ✓

Set friction locks.

a) Note force required to move carriage with locks set. ($\geq$ 10 lbs) ✓

Release friction locks.

b) Check operation of adjustable stops, "x" direction. ✓

STAT

Approved For Release 2005/06/23 : CIA-RDP78B05171A000400030003-7

STAT

Approved For Release 2005/06/23 : CIA-RDP78B05171A000400030003-7

CLASSIFICATION

DOCUMENT NO.

SHEET NO. 5

c) Check that "Y" motion cover full depth of the formats. ✓

d) Note max speed, x direction. (≥ .5 in/sec) right = 0.402 in/sec, left = 0.414 in/sec

right = 6 in / 14.9 sec = 0.402 in/sec left = 6 in / 14.5 sec = 0.414 in/sec

e) Determine min speed, x direction. 0.0146 in/sec

left = 1 in / 68.6 sec = 0.0146 in/sec min speed

f) Note max speed, y direction (≥ .5 in/sec). 0.398 in/sec

down = 6 in / 15.2 sec = 0.398 in/sec up = 6 in / 15.2 sec = 0.398 in/sec

g) Determine min speed, y direction. 0.0295 in/sec

down = 1 in / 33.9 sec = 0.0295 in/sec min speed

h) Verify that 10 lbs will not move bridge with motors powered in x and y direction. ✓

7.5 lbs cause 1/16" backlash

1/16 in backlash with 10 lbs force

i) Note force required to move carriage with motors disengaged x and y direction. (≤ 4 lbs both axis) ✓

y = 2-3 lbs up, 2-3 lbs down up to 4 lbs

x = 1-2 lbs left, 1-2 lbs right

3.15 Operate carriage motion system with table tilted, and weight of optics on carriage.

a) Note max speed, x direction. (≥ .5 in/sec) left = 0.411 in/sec, right = 0.416 in/sec

left = 6 in / 14.6 sec = 0.411 right = 6 in / 14.4 = 0.416

b) Determine min speed, x direction.

left = 1 in = right = 1 in = min speed

Minimum speed can be made = 0

c) Note max speed, y direction. (≥ .5 in/sec) up = 0.357 in/sec, down = 0.387 in/sec

down = 6 in / 15.5 sec = 0.387 up = 6 in / 16.8 sec = 0.357

d) Determine min speed, y direction. up = 0.0342 in/sec, down = 0.0316 in/sec

down = 1 in / 31.6 sec = 0.0316 up = 1 in / 29.2 = 0.0342 min speed

e) Verify that 10 lbs will not move bridge with motors powered in x and y direction. ✓

f) Check operation of "fail-safe" system for Y-direction movement. ✓

3.16 Mount dial indicator on optics holder with weight of optics attached.

Corrected 31 Nov 70

a) Note smoothness of operation from action of indicator. as the microscope is raised and lowered throughout its range.

Focus drifts downward

3.17 Check parallelism of optics carriage to format surfaces with dial indicator.

a) Note maximum deviation. (Within .015 inches) ✓

0.008 max

STAT

Approved For Release 2005/06/23 : CIA-RDP78B05171A000400030003-7

Approved For Release 2005/06/23 : CIA-RDP78B05171A000400030003-7

CLASSIFICATION

DOCUMENT NO.

SHEET NO. 6

3.18 Mark off table surfaces with china markers to show this must restricted area using the plastic template provided. [illegible] carriage. ✓

a) Note collimation deviation, if any. (10 minutes max x & y) Not Done

3.19 Check illumination on left format surface.

a) Note time. Check that 30 minutes minimum have elapsed since 3.4 a). 1300 hours ✓

b) Note max illumination at format center. (≥ 3,000 ft lamberts) ✓

left = 3200
right = 3150

Max illumination

Set right format to minimum.

c) Note deviation from previous max. (100 ft Lamberts) 3300 ft-l

Return right format to maximum.

Set illumination at left center to 3,000 fl.

d) Note minimum illumination over entire surface. 1500 50%

3000
1500
1500

Entire surface

e) Note minimum illumination in restricted area. 2350 21.7%

3000
2350
650

Restricted Area

Set illumination at minimum.

f) Note reading at format center. (≤ 200 Ft LAMBERTS) 100 ftl ✓

MIN ILLUMINATION

Set right illumination at minimum.

g) Note deviation from previous minimum. (≤ 100 ft Lamberts) 0 ✓

Deviation

Return illumination, both sides, to max.

STAT

Approved For Release 2005/06/23 : CIA-RDP78B05171A000400030003-7

STAT

Approved For Release 2005/06/23 : CIA-RDP78B05171A000400030003-7

CLASSIFICATION

DOCUMENT NO.

SHEET NO. 7

3.20 Check illumination on right format surface.

a) Note time. Check that 30 minutes minimum have elapsed since 2.4 a).

a) Note maximum illumination at format center. (≥ 3,000 ft lamberts) 3200 Max illumination ✓

Set left format to minimum.

c) Note deviation from previous maximum. (≤ 100 ft lamberts) 3300 Deviation ✓

Return left to max.

Set illumination at center of format to 3,000 fl.

d) Note minimum illumination over entire surface. 1450 Entire surface 51.7%

3000
1450
1550

e) Note minimum illumination in restricted area. 2350 Restricted area 21.7%

3000
2350
650

Set illumination at minimum.

f) Note reading at format center. (≤ 200 FT LAMBERTS) 100 ft-l MIN ILLUMINATION ✓

Set left illumination at minimum.

g) Note deviation from previous minimum. (≤ 100 ft lamberts) 0 Deviation ✓

3.21 a) Note difference between ~~3.20~~ 3.19 b) and ~~3.20~~ 3.20 b). (≤ 100 ft lamberts) ✓

3.22 Observe light sources for evidence of flicker.

a) Set both at max. Report flicker, if any. ✓

b) Set both at minimum. Report flicker, if any. no flicker @ 200 ft-l
no flicker left, one tube flickers right @ 100 ft-l

3.23 Operate film masking system. Insure that lights extinguish in proper order. ✓

STAT

Approved For Release 2005/06/23 : CIA-RDP78B05171A000400030003-7