

MINUTES OF MEETING

SUBJECT: 1401 Product Testing Program

DATE: October 13, 1959

PLACE: Mr. R. L. Bussey's office

PRESENT: Messrs. R. L. Bussey J. M. King  
M. A. Crawford G. Luning  
J. M. Cunningham R. A. Rowley  
J. E. Daygar A. D. Miller  
P. Farbanish ← M. VanderVeen  
J. J. Ingram M. V. Weller

PURPOSE: To discuss the 1401 system to be sent to Testing for the "B" Phase Test.

Reference: Testing Laboratory Report # 1401-2341-1002 dated October 1, 1959  
Minutes of Meetings, June 9 & 18 - W. E. Mann

DISCUSSION &  
CONCLUSIONS:

The 1401 System to be used for the "B" phase test was discussed and these minutes will document all areas which have not previously been covered.

The items of discussion are listed by problem and action to be taken.

General Items

1. The following features will be installed on the Model C system for "B" test.

Expanded Print Edit  
Read Punch Release  
Sense Switches  
Additional Print Control  
4 K Memory  
Dual Speed Carriage (will be evaluated on the # 2 printer,  
1403-7611)

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General Items - cont'd

2. Testing stated in their report that all interconnector cables extend beyond the back of the units and is a potential trip hazard.

Engineering will review, however, it is doubtful if anything can be done prior to "B" test.

3. Engineering stated that they will change the print hammer gate on the "B" system and release the improved print hammer driver circuits.

1401 Processing Unit

1. Memory temperature compensation.

Engineering will provide a memory with a heater for the "B" test and a more sophisticated model with the Optional Features Model System to be sent to Testing at a later date.

2. Sync points for service ease.

Engineering will use standard back panel protection on some of the gates with some sync points tagged for Testing's evaluation.

3. False sync checks.

a) The thermal delay will be replaced with capacitor delay to eliminate false sync checks when the "T" frame is opened.

b) Sync checks will be made only during printing operation.

4. Zone addition.

Zone adder will be corrected on the "B" test machine.

5. Clock.

Memory cycle will be reduced to 11/11.54 micro seconds on the "B" system.

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1401 Processing Unit - cont'd

6. Voltage drop between boxes.

This will be corrected on the "B" system by a relocation of the power supplies and new cabling.

7. Air circulating fans.

Some of the new fans will be installed in the "B" system.

8. Punch feed run in.

The "All Scans Complete" signal will not occur until the punch is completely run in.

1401 Console

1. Operator console panel.

Some changes will be made in the console for the "B" test, however, the final rearrangement can now be seen on the Optional Features model in Engineering. The complete panel will be functionally tested during the Optional Feature test.

2. Key operation not conforming to the specifications.

- a) Single Cycle Process Key

Will be able to perform I/O operation while in the single cycle process mode on the "B" system.

- b) Single Cycle Non Process Key *No need # will go through recode*

Engineering will review

*It's needed?*

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1401 Console - confd

c) Memory Scan Operation Model Switch

Memory scan will be done in the forward direction starting at the dial switch.

d) Process Check Stop Switch

Will be on Optional Feature model.

1403 Reader Punch

1. Testing requested that all sound reduction improvements be on the "B" system.

Engineering will install on "B" system.

2. Improved die release lever.

This will be seen on a machine in Rochester.

3. Front joggler adjustment stud.

These will have urethan inserts and will be seen in Poughkeepsie.

Testing stated that the corrections for items 2 & 3 must be evaluated by the respective Testing Laboratory, by December 1, 1959.

4. Card Deck Slide.

Rochester Testing is in the process of evaluating this now.

5. Operator control panel,

6. Relay and connector locations

Testing will evaluate these from Engineering drawings.

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1402 Reader Punch - cont'd

7. Covering for the High Speed Cams.

These will be covered in the "B" test machine.

8. Column Indication of Read and Punch errors.

Testing will see this on the Optional Feature model.

9. Elimination of the Code C. B.'s and Punch Emitter.

These will be eliminated on the Optional Feature model and to improve the C. B. reliability all C. B. lines will be 26 volts. The "B" system will have 16 volt lines.

10. AMP Connectors.

5 of the 7 connector cables will have the improved type on the "B" system.

11. False sync check errors.

Modifications of the Reader and Punch ON/OFF circuitry will be on the "B" machine.

12. Punch stacker jogglers.

The stackers on the "B" system will operate independently.

13. Non Process run out.

A relay will be added to the non process run out circuit of the "B" system.

14. Memory row-bit resistors.

The row-bit resistors in the "B" system memory will all be of the same value.

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1402 Console

The "B" system will have the new sequencing system and the Optional Feature model will have the new sequencing and the final relocation.

The console will also be rearranged for human factors consideration on the Optional Features model.

1403 Chain Printer

Background - Two meetings were held in June 1959 which documented the changes to the "B" test Chain Printer. The first meeting was held on June 9 and is documented in W. E. Mann's minutes of that date. The second meeting, June 18 further defined some of the items.

In our meeting today, we reviewed both sets of above minutes. Any items not listed here have been corrected, or are on test.

There are two Chain Printers involved in the "B" test of the 1401.

The printer designated as # 2 is on test using a 7611 as a driver.

The printer designated as # 6 is the machine being built by Engineering for the STRETCH program. Testing stated that they will require control of this printer (in Engineering) for one week in November 1959 to evaluate the items listed below.

Items from the June 9, 1959 Minutes of Meeting:

Mechanical

1. Control knob indicator.

Testing will evaluate the correction for this on # 6 printer.

2. Access to top forms guide.

Testing will evaluate the correction for this on # 6 printer.

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Mechanical items from June 9th meeting - cont'd

6. Locks on casters for safety.

Have been installed and Testing is evaluating.

7. Covers for micro-switch terminals, carriage commutator terminals and tractor drive gears.

Testing will evaluate the correction for this on # 6 printer.

8. Terminals located on T-gate are considered hazardous.

Testing will evaluate the correction for this on # 6 printer.

9. Front paper guides should be stronger.

Testing will evaluate the correction for this on # 6 printer.

10. Front paper guide bar knob inconvenient.

Testing will evaluate the correction for this on # 6 printer.

12. Forms thickness adjustment.

Testing will evaluate the correction for this on # 6 printer.

Other changes proposed for the mechanical portion of the "B" Test.

1. Hammer unit.

- a) Hammer Unit screws strip in the machine castings.

Testing will evaluate the correction for this on # 6 printer.

- b) Hammer backstop.

Testing will evaluate the correction for this on, # 6 printer.

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Other changes proposed for the mechanical portion of "B" test - cont'd

- c) Armature air gap adjustments.

Testing will evaluate the correction for this on # 6 printer.

- d) Hammers (Nylon molded)

These will be installed on the # 2 machine by Oct. 16th.

2. Carriage

- a) Carriage commutator.

Testing will evaluate the correction for this on # 6 printer.

- b) Start/Stop Magnets.

One set of high speed magnets has been installed on # 2 printer and the second set will be installed.

- c) Tractors.

Testing require 4 sets of tractors of release design for the "B" test.

Engineering will provide these by November 2, 1959. The base material will be cotton cord and they will have redesigned steel pins.

3. Forms stand and forms handling.

Testing wishes to see the changes to the forms handling no later than the last week of November 1959.

4. Chain backstop.

This is on # 2 printer now.



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Other changes proposed for the mechanical portion of "B" test - cont'd

5. Chain Cartridge (release design).

Testing will see this on the # 6 printer. Testing stated that to evaluate the adjustments, etc., they will need a chain cartridge assembly to disassemble and adjust, no later than the last week in November.

6. Chain.

Testing stated that they had not seen a production chain. They require an equivalent, one year life test of a production chain cartridge with a chain made up of production 370 rolled type.

Engineering will review this requirement.

7. Chain drive system.

Hardened steel gears will be used in production and Engineering will install production gears in the # 2 machine by November 15'59.

8. Ribbon Mechanism

Testing reported several problems in the ribbon area. Engineering will rework the mechanism on the # 2 printer for further testing evaluation and Testing will review the release design on the # 6 printer, length of this test determined by the performance on the # 2 printer.

The June 18 Minutes of Meeting refer to the June 9 minutes and the following are those items and the correction action to be taken:

4. Cover over the ribbon to protect the operator.

Testing will evaluate this change on # 6 printer.

5. Hammer unit difficult to remove.

Testing will evaluate this change on # 6 printer.

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11. Horizontal print line position and vernier not labeled.

Testing will evaluate the change on # 6 printer.

12. Forms thickness adjustment.

Testing will evaluate the correction for this on both the # 2 and the # 6 printers.

On page 2 of the June 18th report under the heading of Other Changes were the following:

1. Hammer unit.

Covered previously.

2. Carriage.

- a) Carriage commutator.

Testing will review this change on # 6 printer.

- b) Covered previously.

- 3, 5 and 8 Covered previously.

The following items covered in today's meeting had not been discussed in other meetings but were reported by Testing:

1. Testing stated that the drum timing control dial gets too hot.

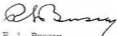
Engineering will investigate.

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3. Print armature pivot wear.

Improved armatures will be sent to Testing very soon, ten will be put on # 2 printer and eight on the robot.



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RLB:jlc

cc: Mr. C. E. Branscomb  
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