CUSTOMER ENGINEERING TESTS
FOR THE 1401 DATA PROCESSING SYSTEM

BIT TEST

Purpose of Test

To test the Branch If Bit Equal circuitry by using characters 1, 2, 4, 8, -, "blank", and A-bit (program generated) as d modifiers. The bits corresponding to the characters are compared one at a time with similar bits in the B address of the instruction to test for equal. They are also compared with unlike bits in various combinations to test for unequal. When errors are detected the machine will either stop or print the results depending upon the setting of Sense Switch E.

Units Required

1401 Processing Unit
1402 Card Reader or 729 Tape Drive
1403 Printer (optional)

Operations Used.	Code
Clear	(/)
Set Word Marks	(,)
Test Character & Branch	(B------1)
Load	(L)
Move	(M)
Branch If Bit Equal	(W-------?)
Move Zone	(Y)
Print	(2)
Stop (error)	(.)

Method of Test

The complete test block consists of the following cards:

1. Title Card (0A)
2. Two Program Chaining Routine Cards (02-03)
3. Three Title and Headings Print Routine Cards (04-06)
4. Four special program cards to set up instructions that are effective only when tests are run from tape (07-10)
5. Program Instruction Cards (11-55)
6. Detail Cards to test for Equal Bits (56-61)
7. Detail Cards to test for Unequal Bits (62-75)

Four Sense Switches may be brought into play as follows:

Sense Switch B ON - permits scoping of the bit test operations as often as desired.
Sense Switch C OFF - no printing for correct results.
ON - prints for correct results.
Sense Switch D ON - repeats the program for an individual card as often as desired.
Sense Switch E OFF - prints for error results.
ON - stops for error results.