CUSTOMER ENGINEERING TESTS
FOR THE 1401 DATA PROCESSING SYSTEM

Block No. 0300A

TRUE ADD

Purpose of Test

To test the True Add circuitry by adding algebraically the A Field (addend) to the B Field (augend) and comparing the result (sum) with the Result Should Be Field. For unequal conditions the machine either stops to permit console checking or prints the results depending upon the setting of Sense Switch E.

The True Add circuitry is employed under the following conditions:

1. When an ADD OP CODE is used and the A Field and the B Field have like signs in the units position. Negative signs are indicated by a "B" bit (11 punch in a card). Any other "A" or "B" bit combination in the units position or no bit is considered a positive sign.

2. When a SUBTRACT OP CODE is used and the A Field and the B Field have unlike signs.

In a True Add operation, the A-B bit combination in the units position of the B Field is unaffected. Remember, that since the result is developed in the B Field storage area, the A-B bit combination in the units position of the sum is the same.

Units Required

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

Operations Used	Code
Clear	(/)
Set Word Marks	(,)
Load	(L)
Add	(A)
Subtract	(S)
Compare	(C)
Branch	(B)
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 (11-48)
6. Detail Cards (49-59)