CUSTOMER ENGINEERING TESTS FOR THE 1401 DATA PROCESSING SYSTEM

SENSE SWITCHES

Purpose of Test

To interrogate the settings of Sense Switches B, C, D, E, F and G. The program is divided into two operations:

1. All switches ON
2. All switches OFF

Units Required

1401 Processing Unit
1402 Card Reader or 729 Tape Drive (see procedure on page 2)
1403 Printer (optional)

Operations Used	Code
Clear	(/)
Set Word Marks	(,)
Clear Word Marks	(ɯ)
Move Digit	(D)
Load	(L)
Branch	(B)
Test and Branch	(B---?)
Add	(A)
Compare	(C)
Stop and Branch	(.---)
Print and Branch	(2---)

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. Three special program cards to set up instructions that are effective only when tests are run from tape (07-09)
5. Program Instruction Cards (10-82)

The program is executed in the following manner:

For the first operation (all switches ON), the COUNTERS SHOULD BE field is loaded with 14 nines - 99 99 99 99 99 99 99 - and the COUNTERS ARE field is initially loaded with 14 zeros - 00 00 00 00 00 00 00. Each Sense Switch is then interrogated in turn to cause a branch to an add instruction. Each add instruction adds a constant "1" into counters labelled B, C, D, E, F and G (one for each Sense Switch), and a cycle counter. Upon completion of this round of instructions, the "1" in the cycle counter is compared with "99". Since on this round the comparison is unequal, the Sense Switches are again interrogated in turn and the "add 1" operations are repeated in the seven counters, thus increasing the values from "1's" to "2's". The 2 in the cycle counter is again compared with "99", and another round of instruction is executed increasing the 2's to 3's, and so on, until the cycle counter stands at "99".