PROGRAM LOADING ROUTINE

Load cards punched with program instructions read into the read area (Locations 1-80). The purpose of the loading routine is to set word marks in the proper locations for loading, and relocate the instructions or constants as they appear in the read area to another storage area not associated with the card reader. The storage area chosen to relocate the instructions may vary depending upon the circumstances of the test.

It is important to note that storage area 100-180 (reserved for punch output) cannot be used to store instructions if the program calls for a punching operation. Neither can storage area 200-300 or 332 (reserved for print output) be used to store instructions if the program calls for a printing operation.

The loading routine described here differs from the one described in the Reference Manual - 1401 Data Processing System (Form A24-1403). First, it requires one leader card instead of three; second, the adder is not used to determine the loading address; and third, a loading address instead of an instruction address is punched in columns 5-7 of the load cards, thus eliminating the need for the adder.

All test programs requiring a loading routine always contain three types of cards. These cards are:

1. Leader Card punched in columns 1 through 11 as follows:

Card Columns and Read-In Locations	INSTRUCTIONS OP	A	B	Remarks
001	,	008	012	Set word marks in Locations 008 and 012. Word mark is automatically placed in 001 upon depression of the Load Key.
008	1	001		Read next record and branch to Location 001.

2. Instruction Cards punched in columns 1 through 19 to load instructions or 1 through 31 to load constants.

Card Columns and Read-In Locations	INSTRUCTIONS OP	A	B	Remarks
001	L	031	???	Load contents of Locations 012 through 031 into Locations ??? which represents the units position of the Instruction Address or Constant Address. When the standard L 031 instruction is used, ??? is always 19 higher than the high order position of the address. Both Loading Address and Instruction Address are shown on the program listings. The Loading Address is punched in columns 5-7; the Instruction Address is not punched in the cards and is used for reference purposes only.