CUSTOMER ENGINEERING TESTS
FOR THE 1401 DATA PROCESSING SYSTEM

Block No. 0000C

The customer engineering tests described in this manual are specifically designed to help you as a customer engineer in the field to test functional operations of the 1401 and its associated components.

Properly used, these tests will help you to install a 1401 system with a minimum of time and effort to assure efficient operation of the system before you release it to the customer. The tests are arranged in logical sequence from the simple to the complex making it possible for you to become familiar in easy stages with the circuitry involved in the execution of the various operations. The sequence of the tests may help in diagnosing the area of failure. For example, if the Recomplement Test fails after the True Add and Complement Add Tests have run correctly, trouble is indicated in the Recomplement Circuitry.

In addition, you will find them useful and time-saving in handling customer service calls. These tests are not diagnostic in the sense that they will tell you what to do to correct trouble once you have definitely located its source. This is left up to your own ingenuity and resourcefulness as a qualified customer engineer. Experience, of course, in handling similar situations in the past will be your greatest asset in your role as a diagnostician. However, they will provide you with an indispensable tool in helping you quickly to isolate the trouble area through a process of elimination. In that way, you reduce "lost motion" to a minimum, and increase your efficiency to its maximum potential. For example, if you have reasons to suspect that the trouble may be a malfunctioning of the Move Circuit, refer to the description of the Move Test and execute the test as directed. The results of the test will indicate whether you are on the right track.

The 1401 customer engineering tests provided are listed by functional operation on page 12. Obviously, some operations, such as (,) Set Word Marks; (/) Clear; (.) Stop; etc., because they are necessary ingredients of all tests, are not presented as individual tests.

As indicated on page 12, some tests must be conducted separately while others may be conducted separately or chained as described in "Program Chaining Routine." Test blocks designed to test the operation of optional features must be removed from the file if those features are not available on the machine. However, when tests are run from tape, special codes manually set up in a specific area of storage (see pages 12 and 13) will allow a test to be conducted or by-passed.

Format of Test Material

For all functional operations for which a test is provided the material presented follows a fairly consistent pattern. The format includes -

Title of Test
Block No. (Test No.)
Purpose of Test
Units Required
Method of Test
Checking Procedure