# M E M O R A N D U M

TO:       TX-0 Computer Users

SUBJECT:  Proposed Alterations of the TX-0 Operate Instruction

DATE:     17 December 1959

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Certain changes in the specification of the TX-0 operate instruction are being planned. These alterations are designed to improve the organization of the operate orders and to allow for several useful additions. Among other possibilities, the changes would allow:

a)  exchanging the contents of AC and LR.

b)  "and" and "or" operations leaving the result in AC.

c)  transfer of numbers between the AC, LR and the proposed index register.

So that a minimum of effort will be required in correcting programs to operate with these changes, programmers are advised to take the following precautions in the construction of operate instructions.

1)  Do not use CLL or CLR with AMB in the same operate instruction. (Remember that the order CYL consists of AMB, PAD, CRY and therefore should not be used with CLL or CLR.)

2)  Do not use AMB (or CYL) with R1C, R3C, or PEN.

3)  Do not use more than one of the orders PEN, TAC or TBR in the same operate instruction. Do not use PEN, TAC or TBR together with any other in-out order.

4)  When using operate instructions involving the commands PEN, TAC, TBR, AND or OR, make appropriate definitions at the beginning of your English tape by means of the MACRO parameter assignment facility, or by some other means which can be alterred simply.

If these instructions are followed, the proposed changes will only necessitate changing the definitions of orders using the commands PEN, TAC, TBR, AND or OR, in order to continue the operability of current programs.

The operate instruction r1l=761031, which is included in the initial symbol table of MACRO and uses the R1L and AMB orders, will not work after the changes have been made. Therefore, this instruction should not be used. All other operate instructions defined in MACRO will continue to operate correctly except for two redefinitions as follows:

$$tac = 741000$$

$$tbr = 742020$$

An initial symbol table for MACRO containing these revised definitions will be available when the changes have been made.

A preliminary survey of past users of the TX-0 has shown that the proposed changes would not cause inordinate hardships for most of the programmers currently using the machine. If any programmers feel differently on this matter I would appreciate hearing from them in the very near future.

J. Dennis

JBD/dbh