

TX-0 COMPUTER
MASSACHUSETTS INSTITUTE OF TECHNOLOGY
CAMBRIDGE 39, MASSACHUSETTS

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To TX-0 Users:

Memo 5001-29 gives the TX-0 instruction code including all changes and additions which will be installed during the present school year. Three changes are planned which will affect the operation of existing programs:

- (A) Alteration of operate micro orders.
- (1) The bit combinations defining the micro orders AMB and CIA will be changed.
 - (2) The micro order AMB will occur before CIA, instead of after as at present.
 - (3) The micro orders ANL and ORL will be replaced by micro orders ANB and ORB.
 - (4) The commands CLL, CLR, TAC, TBR, PEN will be classified as in-out group orders, and their operation codes will be changed accordingly.

All symbolic operate instructions presently recognized by MACRO will operate correctly providing the new definitions given on the attached sheet are employed. A restore tape for MACRO which contains these will be available.

To insure that programs coded now will remain operational simply by reconversion using the above restore tape, the following rules must be followed:

- (1) The orders CLL, CLR, TAC, TBR and PEN must not be used together or with any in-out order (such as PRT, P6H, DIS) in the same operate instruction.
- (2) The micro order AMB must not be used with R1L, R3L, TAC or PEN in the same operate instruction. (Remember that cyl contains an AMB.)
- (3) For convenience, all special operate instructions used on symbolic program tapes should be defined by parameter assignments in terms of operate instructions recognized by MACRO, e.g.

ran=cyr+cry-opr

laz=cla+lad-opr

These changes in the operation of the TX-0 operate class commands will be made this December or early in 1961, and users will be notified a month in advance.

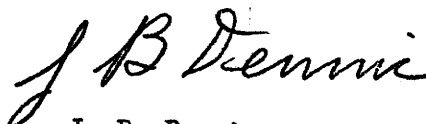
(B) Change of operation of the PETR.

With the installation of the digital magnetic tape system, a second photoelectric tape reader will be made available which will be programmed by a select instruction followed by a sequence of copy instructions to place 18-bit words or 6-bit characters in the live register. Eventually, this reader will take over all tape reading operations, and users whose programs use the reader should be prepared for the switch. However, the R1C and R3C for the present PETR will remain in operation for some time after the new PETR is operating reliably.

(C) The type-in feature.

The new operate command TYP will avoid most of the difficulties involved in programming for manual intervention by means of the on-line flexowriter. After the TYP operation is available, the existing type-in arrangement will be retained until all active users have modified their programs.

JED:EAB


J. B. Dennis

ATTACHMENT I

NEW DEFINITIONS FOR SYMBOLIC OPERATE INSTRUCTIONS
PRESENTLY RECOGNIZED BY MACRO

c11=631000	anz=640050
clr=632000	hlt=630000
cla=700000	opr=600000
clc=700040	rlr=721600
lro=600200	rlc=721000
cal=700200	r3c=723000
alr=640200	dis=622000
ala=640220	dsa=662020
alc=640260	dsc=662060
anl=640207	prt=624000
ana=740207	pnt=624600
orl=640205	pna=664020
ora=740205	pnc=664060
lac=700022	p6h=626600
lcc=700062	p6a=666020
lad=600032	p6s=726000
lpd=600022	p7h=627600
cry=600012	p7a=667020
com=600040	pen=603000
cyl=640030	tac=701000
cyr=600600	tbr=702020
shr=600400	