I. PUNCH OUT PRODUCTION STATISTICS

DON'T USE

1. Set PUNCH VERIFY to PUNCH.
2. Register a card.
3. Set REC/ADV CARD FEED to AUTO.
4. Key indicative information into columns 1 through 66, any program level.
5. In column 67 or prior:
   a. Set PROGRAM MODE to STAT PCH.
   b. Press REL for punch out without reset, or
   c. Press REL and NUMERIC for punch out with reset of counters.

MACHINE WON'T OPERATE

A. WILL NOT RUN

If column indicator is not on:
1. Check the line cord.
2. If plugged in correctly, call the Customer Engineer.

B. FEEDING AND STACKING FAILURES

1. Warped cards may cause improper feeding from the hopper or nicking of the 12 edge when stacked.
2. Foreign objects in the feed can cause jams.
3. When removing jams do not lift the feed rolls farther than necessary.
4. Depressing the card release button will aid in removing a card jam.
5. Stacker switch jammed down in the stacker plate will cause the machine not to feed.
6. When removing card jams from the punch station use the 129 card removal tool only. Do not use the 029 card saw. You may damage the optics.

C. NOT PRINTING OR PRINTING LIGHTLY

1. Ribbon improperly installed or broken. The small eyelet in the ribbon should always be above the reversing arm.
2. Take care not to bend the ribbon spool retaining clamp. Ribbon feeding failures may occur if the spools are clamped too tightly.

D. KEYBOARD LOCKUP

If Character, Field or Record backspace will not unlock the keyboard, perform a machine Clear operation.

E. COLUMN INDICATOR AT 00

1. Record Advance switch off.
2. Stacker full.
3. No card in punch station.

F. COLUMN INDICATOR AT CC (Early machines 00)

Insert blank card in pre-register station and depress Ver Corr key.

G. COLUMN INDICATOR AT 88

Field or Record Backspace and re-verify the entire field or record.

H. CARDS OFF PUNCH

1. Check on card gauge, the printing could be off.
2. Check Section B (Feeding and Stacking Failures).

J. FALSE VERIFY ERRORS

1. Check Section H (Cards Off Punch)
2. Is the data correct?
3. Call Customer Engineer

* For detail recovery procedures, see Section 6 of Operator Reference Manual (GA22-5968).

PROGRAMMING FOR LEVELS 1 - 6

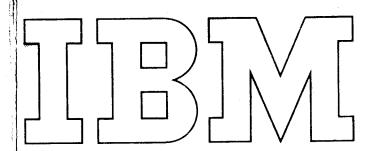| First Column	Rest of Field	Operation
Space	12(&)	Key Numeric - Field Definition
11	12	Skip Automatically
0	12	Duplicate - Verify Automatically
1	12-1	Key Alphabetic
2	12	Start SCND Operation
	12-2	SCND - Units Position Only
3	12	Start LZ - Verify Only
	12-3	Verify, LZ Control - Units Position Only
5	12	Add Accumulator A
6	12	Add Accumulator B
7	12	Add Accumulator C
4 + (5 or 6 or 7)	12	Punch out Accumulator A, B, or C
4 + 8 + (5 or 6 or 7)	12	Punch out and Reset Accumulator A, B, or C

Hints for Programming
a) Do not use 029 program cards that have LZ programmed.
b) Minimum field size for accumulate, SCND, or LZ is two positions.
c) Maximum input field size for accumulate is 14 positions.
d) Maximum output field size for accumulate is 19 positions.
e) Maximum field size for SCND or LZ is 79 positions.
f) Program codes apply for Program Levels 1-6. (Accumulate feature for levels 3, 4, 5 and 6 is a separate feature.)
g) Program Level 0 is 80 single position Alpha fields. It cannot store programs.
h) When punching program cards, use program level zero and hold down numeric key except for X skip punches. For detailed programming and special feature programming, see Section 4 of the Operator Reference Manual (GA22-6968).

129 Card Data Recorder
Operator's Guide

GENERAL INFORMATION

CARDS

1. Use cards that are in good condition to prevent lost time due to misfeeds and jamming.
2. Off-punched cards should be traced to the punching source and corrected immediately. Punching registration should be checked daily with a card gauge.
3. When cards have been removed from their shipping boxes, they should be stored in drawers or racks which are equipped with a pressure device, to prevent warpage.

129 OPERATING INSTRUCTION

A. STORE A PROGRAM

1. Operate CLEAR SWITCH.
2. Set AUTO SKIP DUP to OFF.
3. Set PROGRAM MODE to desired program level (1-6).
4. Insert program card at punch/read station *(punch or verify mode)*, or feed one program card from hopper in punch mode. *(Do not register!)*
5. Press READ button.
   ** *Repeat steps 3-5 for each prog. card to be stored.*

B. PUNCH OUT A PROGRAM CARD

1. Set PUNCH/VERIFY to PUNCH.
2. Operate CLEAR switch.
3. Set AUTO SKIP/DUP to OFF.
★4. Set REC ADV/CARD FEED to MANUAL.
5. Set PROGRAM MODE to PROG PCH.
6. Insert blank card at punch station, or feed blank card from hopper.
7. Press REG (registers card).
8. Press REL *(sets column indicator at 00)*.
9. Press PROG SEL followed by data key (1-6) for prog. level desired.
   ** *Repeat steps 6-9 for each program level desired.*

C. DATA READ

1. Operate CLEAR switch.
2. Set PROGRAM MODE to DATA READ.
3. Insert data card at punch/read station, or feed it from hopper. *(Do not register!)*
4. Press READ button.

D. PUNCH A CARD

1. Place blank cards in hopper.
2. Set PUNCH/VERIFY to PUNCH.
3. Operate CLEAR switch.
4. Set AUTO SKIP/DUP to OFF *(or perform DATA READ)*.
5. Set REC ADV/CARD FEED to AUTO.
6. Set PRINT to ON/OFF, as desired.
7. Set CHARACTER MODE to 48-64, as desired.
8. Press FEED key *(feed 2 cards)*.
9. Set PROGRAM MODE to desired level (1-6 or 0). Manually select level by pressing PROG SEL followed by data key 1-6 or 0. *(First record only!)*
10. ...
    SKIP/DUP to ON.

E. REPUNCH *(make over)* A CARD

1. Operate CLEAR switch.
2. Set PROGRAM MODE to DATA READ.
3. Insert data card at punch/read station. *(Do not register!)*
4. Press READ button.
5. Set REC ADV/CARD FEED to Auto.
6. Set PRINT to ON/OFF, as desired.
7. Ver. DUP to the columns requiring changing, key the correct data, then Ver. DUP balance of card.
8. Insert a blank card at the punch station. Register the card.

F. ADD DATA TO PREPUNCHED CARD

1. Set PUNCH/VERIFY to punch.
2. Operate CLEAR switch.
3. Set AUTO DUP to OFF.
★4. Set REC ADV/CARD FEED to MANUAL.
5. Set PRINT to ON-OFF, as desired.
6. Space or manually skip column indicator to desired col.
7. Key only added character(s).
8. Press REL *(col. indic. = 00)*.
9. Register existing punched card at punch station.
10. Set REC ADV/CARD FEED to AUTO.

** *NOTE: For additional info on these and other topics, see Section 5 of the Operator Reference Manual (GA22-6968).*

Hints for Punching

a) Operating the clear switch will clear data memory. All data must be keyed for the next record.
b) Master data to be duplicated may be entered by use of the data read function.
c) All manual fields are possible left zero *(numeric mode)* or left blank *(alpha mode)* operations. Keying only significant digits, then depressing left zero key will automatically fill high order zeros *(blanks in alpha mode)*. Units position credit X punch and left zeros can be automatically punched by using the LZ minus key.
d) Keying errors can be corrected by character backspace, field backspace or record backspace and rekeying data. In alpha mode depressing the alpha key and "WORD BKSP" will cause the column indicator to backspace to the last space keyed or to the beginning of field, whichever comes first.
e) If operation of the machine is suspended for an extended period of time (e.g. lunch or coffee break) the machine power should remain on, but the card bed should be cleared.
f) Power failures will cause the program and data to be lost. Production statistics and accumulate totals will be reset to zeros.

G. VERIFY A CARD

1. Place cards in hopper.
2. Set PUNCH/VERIFY to VERIFY.
3. Operate CLEAR switch.
4. Set AUTO SKIP/DUP to OFF *(or perform data read)*.
5. Set REC ADV/CARD FEED to AUTO.
6. Set PRINT to ON-OFF *(affects correction cards only)*.
7. Set CHARACTER MODE to 48-68, as desired.
8. Press FEED key *(Feeds one card. All columns are stored in memory.)*

9. Set PROGRAM MODE to desired level (1-6 or 0). Then press PROG SEL followed by data key 1-6 or 0. *(First record only!)*
10. Key first record manually. Then set AUTO SKIP/DUP to ON.

If there is an error in the card, the verify light will glow. Refer to error correction procedures.

Hints for Verifying

a) Cards verified with no error have a 2 and 3 punch in column 81.
b) Correction cards that have been made have a 2 punch in column 81.
c) Error cards have no punches in column 81.
d) Master data may be entered into memory by releasing the card through the punch verify station or perform "DATA READ".
e) In verify mode the memory of the 129 reads all columns of the card you are verifying. When punching a Ver. Correction card, all data in auto skip fields is retained unless manually changed.
f) Using automatic left zero verification *(3 in high order position)* without LZ control *(3 in units position)* an incorrect number of zeros can be passed.

H. VERIFY MODE ERROR CORRECTING PROCEDURES

There are three methods of correcting errors.

1. Single character correction
   a) Verify error light on
   b) Depress verify reset key
   c) Depress correct data key, error light on
   c) Depress verify reset key
   e) Depress correct data key (Memory has been corrected).
   f) Character Backspace *(Alternate method: verify remainder of field, then depress field backspace.)*
   g) Reverify the column in error, continue verifying the rest of the card. Column Indicator indicates CC *(00 on early machines)*.

   h) Insert blank card in pre-register station. Depress Ver Corr key.

2. Multiple errors in one field
   a) Verify error light on
   b) Depress field backspace key
   c) Depress Ver Corr key
   d) Key correct data for entire field
   e) Column indicator 88
   f) Depress field backspace key
   g) Reverify entire field
   h) Continue verify rest of the card
   i) Insert Blank Card in pre-register station. Depress Ver Corr key.

3. Entire record or missing card correction
   a) Depress record backspace key
   b) Depress "Ver Corr" key
   c) Key entire record *(auto functions are active)*
   d) Column Indicator 88
   e) Record backspace. Rekey entire record
      Indicator CC (00 ...
   j) *Insert blank card in pre-register station, depress Ver Corr key*