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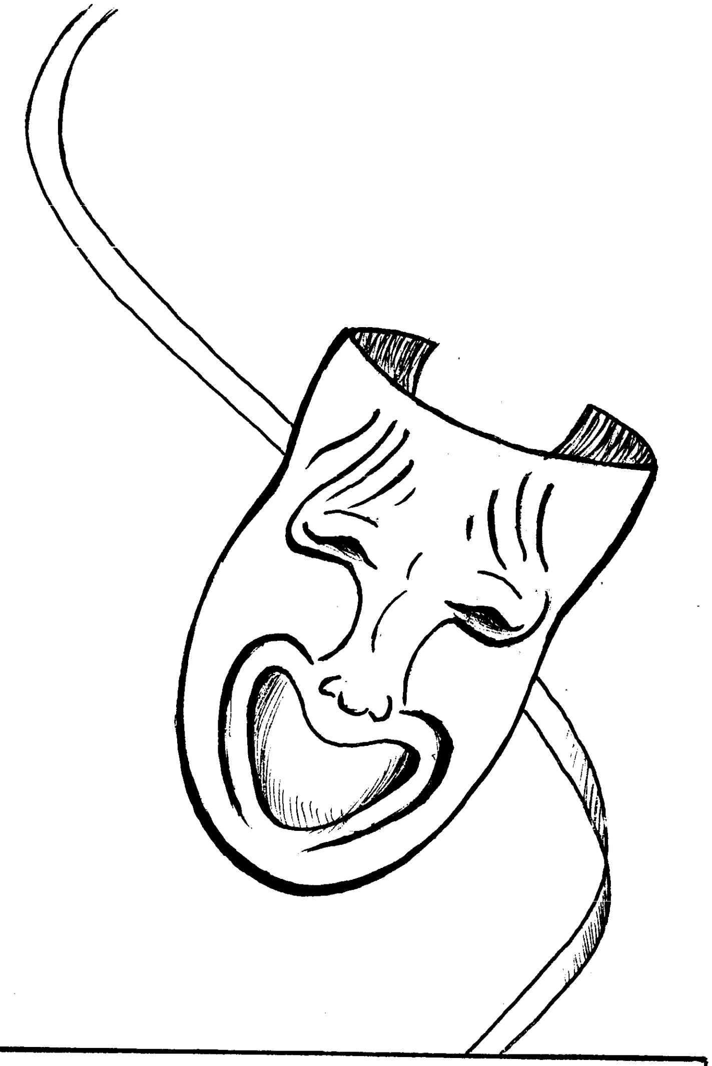

PROGRAM DESIGN SPECIFICATION FOR THE DATA SIMULATION PROGRAM (JSTRZ) A SUB-PROGRAM OF THE JOVIAL INTERPRETER SYSTEM

PROGRAM DESIGN SPECIFICATION FOR THE DATA SIMULATION PROGRAM (JSTRZ) -- A SUB-PROGRAM OF THE JOVIAL INTERPRETER SYSTEM

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INTRODUCTION

The Data Simulation Program (hereinafter referred to as JSTRZ) provides a method of generating, on the 709 Computer, table and item environment for the initial checkout of JOVIAL-coded programs. It operates under the control of the Test Control Program (JTCPZ). JTCPZ reads JSTRZ in from the Master Tape and branches control to it. JSTRZ then reads in from cards, table and item values in alphanumerical form, converts the values to properly scaled binary form or, in the case of status items, uses the status symbology as output, and stores the resulting values in the appropriate table positions in core storage. From this temporary core storage, the generated tables are written on tape. This tape output is twofold, since JSTRZ is equipped to process a parallel sort of input -- the initial conditions and also the expected results to the test. The initial and expected inputs are dealt with independently of one another, and the subsequent output is stored on separate tapes. However, the temporary core storage of the two is the same. The reason for this is not to jeopardize the relative position on the output tape which each initial condition will have with its parallel counterpart, the expected result. Following its operation and resulting output, JSTRZ returns control to JTCPZ.

The Baby Compool is used extensively during the operation of JSTRZ. Pertinent information for each input is extracted from this Compool and is employed to the fullest. The Data Processing Program (JDSYZ) uses the two output tapes of JSTRZ in its analysis of the operation of the JOVIAL-coded program. Another possible input to JSTRZ is supplied by the Interpreter First Pass (JALLZ). This consists of additional initial table data, most likely tables of constants internal to the JOVIAL-coded program, and is stored on tape in a form such that it can be processed by JSTRZ.

ENVIRONMENT

Readily accessible data, pertinent to the subsequent output, must be available when JSTRZ operates.

Tables

1. Baby Compool - In alphabetical order.

Associated Items

COMTAG - Hollerith tag, left-justified, with blanks in unused bytes.
TAGTYP - Indicates type of tag (Ø = item, 1 = table, 2 = value).
TABTYP - Indicates type of table (Ø = rigid, 1 = variable).
WDSTRY - Number of blocks in table.
NENTRY - Number of words per block.
ABSADD - Absolute address of a table control word, or absolute address of the first entry of an item.
PNTPOS - The number of bits to the right of the binary point when dealing with mixed fractions.
ADDSTA - Relative address in table B of the block of registers containing the legal statuses of the item.
NSTATI - The number of statuses for status-coded items.
ITCODE - Type of coding
Ø = Status (ST)
1 = Floating Point (FP)
2 = Fixed Integer (FI)
3 = B-coded Hollerith (BH)
4 = Indirect Addressing (AD) - not incorporated in this model of JSTRZ.
5 = Mixed Fractions (MX)

2. Variable Table (VAT)

Associated Items

VLOC - Absolute address of table control word or absolute address of the first entry of an item.

Tapes

1. Prestored Card Input - Each data input card will be prestored on tape prior to a testing cycle. Each card is one record on this tape, and is read by JSTRZ into core in the BCD mode.

2. Additional Initial Table Data - An optional feature, used when the JOVIAL-coded program defines a set of tables internal to the program itself. These tables are most likely tables of constants.

Communication Registers

COMREG - Decrement contains the number of words in entire Baby Compool. Address portion contains current address of Baby Compool. The address of the Baby Compool contains, in the decrement, the number of entries in Table A, and, in the address portion, the number of words in the Baby Compool including the control word. Set by Assemble Baby Compool (JABCZ).

TABREG - Decrement contains the number of words in the table environment. Address portion contains the starting address of the table data. Set by Interpreter First Pass (JALLZ).

BVAT - Decrement contains the number of words in the Variable Table (VAT). Address portion contains the starting address of the VAT Table. Set by Interpreter First Pass (JALLZ).

Sense Indicators

1. TABSIM Cards (Sense Bit 8) (Ø = no revisions to table data input cards; 1 = revisions to table data input cards.) Set by the Test Control Program (JTCPZ).

2. TABSIM Data on Tape (Sense Bit 1Ø) (Ø = no additional initial table data on tape; 1 = additional initial table data on tape.) Set by Interpreter First Pass (JALLZ).

Sense Switch

Sense Switch #1 depressed when inputs are introduced through the card reader.

INPUTS

The main inputs to JSTRZ come from punched cards inserted via prestored tape or the card reader. Normally, system design specifies all inputs to be prestored, but in an unforeseen occurrence, such as failure of peripheral prestoring equipment or the like, the card reader is used to initiate the input.

There is the option, however, of having cards read in via the card reader when there are to be additions, deletions or changes to the data already prestored on tape. JSTRZ will be informed when to process card reader revisions by testing an indicator set by JTCPZ. Should a great number of additions, deletions, or changes have to be made, a new prestored tape must be generated or, in the case when there are many tests sequentially stacked on the prestored tape, the individual test in question may be bypassed at the programmer's discretion. Another input to JSTRZ is the Additional Initial Table Data which may be created by the Interpreter First Pass, and stored temporarily on tape. The format of this tape input is described in detail below under "Additional Initial Table Data."

Card Format (See Diagram I)

Each input card contains information necessary to generate one item. This information is punched in fixed fields as follows:

Column 2 = "S" (JSTRZ Indicator) - An optional character used solely for identification purposes.

Columns 8-11 = Entry Value - A decimal number indicating the relative position in a table in which an item is to be stored. The entry value is right-justified, i.e., the least significant number must be in column 11. Leading zeros are not mandatory, but if used will not hinder the output. Where the entry value is zero there need not be any punches in the appropriate columns.

Columns 13-18 = Tag - Ranges up to six characters depending on the type.

ITEM - From four to six characters composed of, and identified by all letters.

TAGLESS ITEM - (Table Tag) - Four or five characters composed of, and identified by the following: three letters and one digit; three letters and two digits. (Tagless item inputs are presently not being considered for implementation into the Interpreter System Checkout. However, the capacity to process such a type has been installed in JSTRZ. Further clarification on its use and makeup is explained directly below under "Item Value.")

Columns 25-40 = Item Value - May be one of several forms, depending on the type of coding specified in the Baby Compool. The form of the item value must be compatible with the type of coding for the particular item tag.

1. ST (Status) - Expressed as alphanumeric characters ranging from one to six characters. First character <u>must</u> be punched in column 25. If blanks are desired, an absence of a punch in the required columns is necessary. Machine format will show characters to be left-oriented with blanks in unused positions.

2. FP (Floating Point) - Expressed either as signed or unsigned decimal numbers. A decimal point is mandatory on the data card to distinguish between floating point and non-floating point numbers. It is possible to express an FP coded item value as a multiple of ten using the "$$" character as the base ten. For example:

   .272$$2 = .Ø272$$3 = 272Ø.$$-2 = 27.2

3. FI (Fixed Integer) - Expressed as sign/unsign. decimal integer. No decimal point is mandatory; if one is used, the value will be converted erroneously. The "$$" character may be implemented with this type and if used must be followed by "AØ." If the latter notation is not used, the value will be converted erroneously. Example of proper format:

   272ØØ = 272$$2AØ = 272ØØØØ$$-2AØ

4. BH (B-coded Hollerith) - Expressed as alphanumeric characters ranging from one to six characters. Machine format will show characters to be right-oriented with preceding zeros. First character <u>must</u> be punched in column 25.

5. MX (Mixed Fractions) - Expressed as either signed or unsigned decimal numbers. They may be expressed as powers of ten using the "$$" character. Here again, as in FP, the decimal point is mandatory. A distinguishing factor from FP is the positioning of the binary point. This is accomplished by indicating the number of bits to the left of bit position 35 where it is desired to place the binary point. This number must be the same as the value contained in point position in the Baby Compool for this particular item. In the case where the numbers differ, the value in the Compool is used. The significant character used to indicate the positioning of the binary point of an item is "A." If the "A" is omitted in a mixed fraction value, the converted result will be erroneous. In the case where the "AØ" is indicated, the binary point will be positioned at bit 35 and all fractional parts will be lost. For example:

   272Ø.A3 = 27.2$$2A3 = 272ØØ.$$-1A3

6. AD (Indirect Addressing) - This model of JSTRZ is not equipped to process this type of item coding.

7. Tagless Item - In octal fraction form (twelve octal digits). To simulate such a type, the actual octal representation of what is to appear in the appropriate register of the table indicated by the entry value must be punched consecutively in columns 25 through 36 inclusive.

Order of Input

A pertinent procedural prerequisite to JSTRZ is the order of input. Due to the dual-processing of both the initial conditions and the expected results of a test, a differentiating element is essential in order not to confuse one meaningful factor from the other. Consequently the manner in which this input data is received by JSTRZ must be compatible with the predetermined format; otherwise, an erroneous test will result without the program being aware that it is in error.

FORMAT

Expected Results (optional)
"ENDE" Card (columns 7-1Ø) (required with expected results)
Initial Conditions
"END" Card (Columns 7-9)

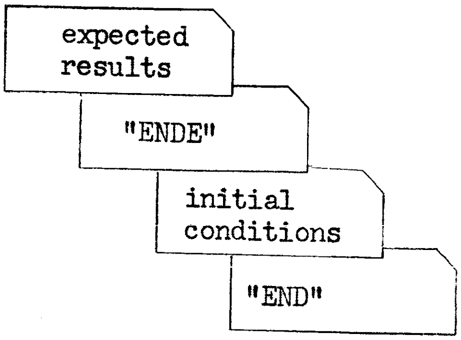
Each individual test does not necessarily have to include expected results. This is an optional feature used when it will benefit the final processing of the test results. When such an input is incorporated in a test, the data cards must be terminated by an "ENDE" card. Failure to include an "ENDE" card will result in the processing of both the expected results and the initial conditions as one meaningful input. Following the "ENDE" card are the initial conditions, terminated by an "END" card. Absence of an "END" card will cause a machine hang-up.

Card Reader Revisions

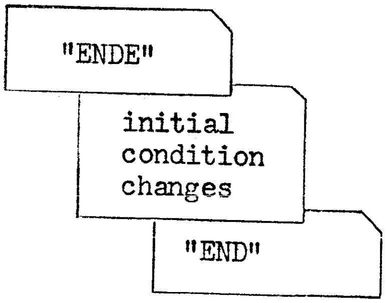
When there are additions, deletions, or changes to input data on the prestored tape, the card reader is utilized as a medium of receiving such input information. Here again, as on the prestored tape, the predetermined format is essential to be compatible with the test structure.

Possible cases when using the card reader:

1. INITIAL PRESTORED TAPE SETUP

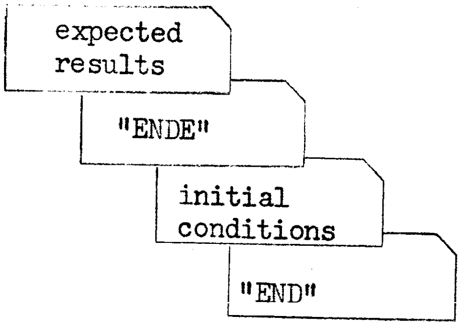


CARD READER SETUP

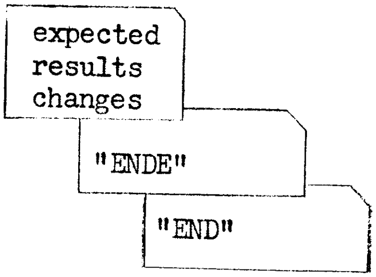


Here there are some expected results in the test and there are no changes to these, but there are some changes to the initial conditions. The first card in the card reader must be an "ENDE" card, followed by the changes to the initial conditions and terminated by an "END" card.

2. INITIAL PRESTORED TAPE SETUP

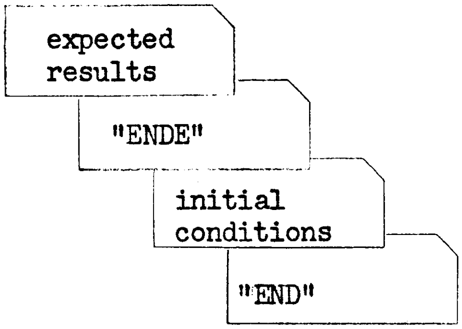


CARD READER SETUP



Here there are some expected results in the test and there are changes to these, but there are no changes to the initial conditions. The first set of cards in the card reader must be the changes to the expected results, terminated by an "ENDE" card and followed by a single "END" card.

3. INITIAL PRESTORED TAPE SETUP



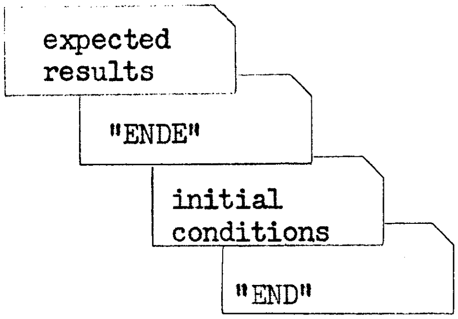
CARD READER SETUP

not

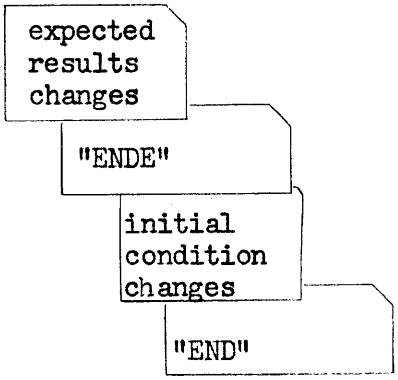
used

Here there are expected results in the test, but there are changes neither to these nor to the initial conditions. In this case there need not be any cards in the card reader.

4. INITIAL PRESTORED TAPE SETUP

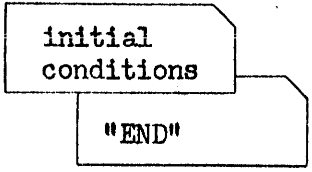


CARD READER SETUP



Here there are some expected results in the test and there are changes to these and also changes to the initial conditions. The first set of cards in the card reader must be the expected-results changes, terminated by an "ENDE" card, followed by the set of initial condition changes, terminated by an "END" card.

5. INITIAL PRESTORED TAPE SETUP



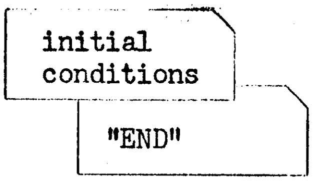
CARD READER SETUP

not

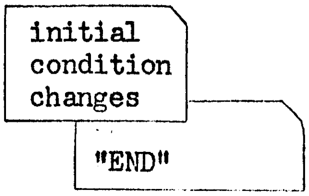
used

Here there are no expected results in the test and there are no changes to the initial conditions. In this case there need not be any cards in the card reader.

6. INITIAL PRESTORED TAPE SETUP



CARD READER SETUP



Here there are no expected results in the test, but there are changes to the initial conditions. The first set of cards in the card reader must be the changes to the initial conditions, terminated by an "END" card.

Note 1: Where no expected results were utilized in the initial composition of the test, it is impossible to insert such data via the card reader. The only way to adjust this addition to the test is to prestore all the input data over again.

Note 2: To delete a simulated value, it is necessary to include on the data input card in the card reader the entry value, the COMTAG, and a zero in column 25.

Note 3: When there are to be revisions to prestored tape data, JTCPZ is instructed to set Sense Bit 8 from information inserted on the Test Control Card. This latter case is concerned with columns 49-54 of the card. If there are revisions, STAREV is punched in these columns. If there are no revisions, these columns are left blank.

DIAGRAM I — DATA INPUT FORMAT

ID	TERM	ENTRY VALUE	COMTAG	VALUE	COMMENTS
2	7	8 9 10 11	13 14 15 16 17 18	25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40	43 ⟶ 80
S			INPUT A	42Ø	FIXED INTEGER
		2Ø	BOOM	2₿₿3AØ	FIXED INTEGER
S		111	RAIDER	X1ØØ	STATUS
S		3	POSY	+43.25₿₿2A3	MIXED FRACTION
		31	AAAII	A31	B-CODED HOLLERITH
S		1ØØ	ACKACK	.322₿₿-2	FLOATING POINT
	END				TERM OF INITIAL
S	ENDE				TERM OF EXPECTED
		7	FLIGHT	AB3333	B-CODED HOLLERITH
		47	PLANE	BOMBER	STATUS
S		Ø	BASEA	99.99A6	MIXED FRACTION
			BASEB	73.	FLOATING POINT
S		23	XOIL	DET	STATUS
		18	MIS8Ø	123456123456	TAGLESS ITEM
S		ØØØ1	CIVL	-23.₿₿5A3	MIXED FRACTION
			PRECIP	RAIN	B-CODED HOLLERITH

Additional Initial Table Data

Tables of constants internal to the JOVIAL-coded programs are constructed by the Interpreter First Pass (JALLZ) and stored temporarily on a buffer tape. JSTRZ will select this data, determine from the Variable Table (VAT) the absolute address in core where to store this information, and read the data into this address and subsequent following registers. This additional initial table data as it appears on the buffer tape is in its final binary converted form. The reason for its temporary storage on tape is that at the time of its makeup, the absolute address in core where it is to be finally stored has not yet been allocated.

Following is the format as it would appear on the buffer tape:

Diagram II Additional Initial Table Data Tape Format

RELATIVE ADDRESS OF TAG LOCATION IN VAT TABLE	
ITEM A	ENTRY Ø
ITEM A	ENTRY 1
ITEM A	ENTRY N
EOR	
RELATIVE ADDRESS OF TAG LOCATION IN VAT TABLE	
ITEM B	ENTRY Ø
ITEM B	ENTRY 1
ITEM B	ENTRY N
EOR	
RELATIVE ADDRESS OF TAG LOCATION IN VAT TABLE	
ITEM N	ENTRY Ø
ITEM N	ENTRY 1
ITEM N	ENTRY N

EOR
EOF

FUNCTIONS

1. By examining TABREG, JSTRZ determines the total number of registers needed for temporary storage of output.

2. Clears the aforementioned (TABREG) block of storage.

3. Sets up table control words for rigid tables.

4. Sets up table control words, depending on the number of entries, for variable tables.

5. Reads each data input card from the prestored tape or the card reader, one record at a time (each card is a record).

6. Performs certain checks on columns not used to indicate significant input data.

7. Converts decimal entry value to binary.

8. Determines type of item coding.

9. Converts simulated values to properly scaled binary output.

10. Stores resulting output in appropriate core storage.

11. Sets TABSIM Error Sense Indicator when a card is found to be in error.

12. Prints out cards found to be in error, along with the apparent reason.

13. Distinguishes between initial and expected results by examining "END" or "ENDE" card, and processes preceding input cards accordingly.

14. Examines TABSIM Cards Sense Indicator to determine if there are any revisions to information on prestored tape.

15. Reads cards from card reader if there are additions, deletions or changes to simulated data information (see 14, above) and processes them similar to initial inputs.

16. Examines TABSIM Data on Tape Indicator to determine if there is any additional initial table data on tape.

17. If 16, above is met, processes and merges initial data on tape with the initial inputs. Precedence of the tape inputs overrides the initial conditions.

18. Sets up output on two distinct tape units, one for expected results and one for initial conditions.

19. Sets Expected TABSIM Data Sense Indicator when there is at least one expected result in the test.

20. Rewinds both the Expected Results Tape and the Initial Conditions Tape.

OUTPUTS

JSTRZ will always store the simulated tables in the proper core storage as specified by the Baby Compool. In the Interpreter System, the table core allocation is one consecutive block of registers. All table and item environment for the program being tested is contained in this area.

Tapes

There are two main outputs from JSTRZ, each of which is written on a separate tape. One contains the expected results, and the other the initial conditions. The amount of information on each is the same (i.e., the length of the output records on each tape are identical). The tapes are composed of two records, the first of which is an identification record of two words, and the second of which contains the actual table data in block form.

The identification record has, depending on whether it is an expected or an initial tape, an "E" or an"I" (binary representation) respectively, in the last six bits of the first word. The preceding thirty bits are all zeros. The second word contains the total number of words in record #2. This number is the same as is in the left-half word of the register, the address of which is in TABREG. Record #2 contains, in the first register, the control word of the initial table. This control word is made up of the number of entries in the left-half portion (S, 1-17) and the number of words, or registers allocated to this table, in the right-half portion (18-35). The remainder of the table area is composed of the individual table control words along with the simulated data stored in their appropriate registers.

There are two types of tables used in the Interpreter System, rigid and variable. JSTRZ is concerned with this fact only where the make-up of the table control word is in question. In the case of a rigid table, the maximum number of entries, and consequently the maximum number of words, is contained in the control word. This information is extracted from the Baby Compool. On the other hand, when dealing with variable tables, JSTRZ keeps track of the highest entry value used as input to the variable table in question, and uses that entry value, plus one, as the left-half portion of the control word. This value, multiplied by the number of blocks for this table as found in the Baby Compool, is used as the right-half portion. Therefore, a distinguishing element is apparent in that in a rigid table the number of words is the maximum amount of registers the table is allocated; whereas in the case of a variable table the number of words is the actual number of registers containing significant data. However, there remains, as in the case of a variable table, the full complement of registers allocated with the unused registers containing zero. In the table storage area all registers not containing pertinent data contain + Ø.

Diagram III - JSTRZ Output Tape Format

IDENTIFICATION	"E" or "I"
NUMBER OF WORDS IN FOLLOWING RECORD	

EOR

Table A Control Word	NUMBER OF ENTRIES	NUMBER OF WORDS
	ITEM 1	ENTRY Ø
	ITEM 1	ENTRY 1
	ITEM 1	ENTRY N
	ITEM 2	ENTRY Ø
	ITEM 2	ENTRY 1
	ITEM 2	ENTRY 1
Table B Control Word	NUMBER OF ENTRIES	NUMBER OF WORDS
	ITEM 1	ENTRY Ø
	ITEM 1	ENTRY 1
	ITEM 1	ENTRY N
Table N Control Word	NUMBER OF ENTRIES	NUMBER OF WORDS
	ITEM 1	ENTRY Ø
	ITEM 1	ENTRY 1
	ITEM 1	ENTRY N
	ITEM 2	ENTRY Ø
	ITEM 2	ENTRY 1
	ITEM 2	ENTRY N

EOR

Sense Indicators

Two sense indicators are set during JSTRZ's operation. When an error is found in any of the legality checks made on the input card data, Sense Indicator Bit 13 is set to one. Should at least one expected result exist in the test, Sense Indicator Bit 14 is set to one. This informs JDSYZ to process the expected results tape.

Message Printouts

Numerous self-explanatory printouts occur at times when JSTRZ legality checks warrant it. The entry value, COMTAG, item value, and apparent reason for its rejection are logged out. JSTRZ does not process completely any card found in error during its checks.

Legality Checks and Subsequent Printouts

1. An initial check on illegal punches in columns not used to indicate significant input produces the following printouts:

```
ERRONEOUS PUNCH IN EITHER COLUMNS 3, 4, 5, or 6.
ERRONEOUS PUNCH IN COLUMN 12.
ERRONEOUS PUNCH IN ONE OR MORE COLUMNS 19-24.
ERRONEOUS PUNCH IN COLUMN 41.
```

2. Column 7 is used only when an "ENDE" or an "END" card is indicated. Any other punch causes the card in question to be deleted from the test and the printout shows:

```
ERRONEOUS PUNCH IN COLUMN 7 (NOT E OR BLANK).
```

3. Where an "E" is found in column, a check is made to determine if the card is an "ENDE" or "END" card. If not, the printout shows:

```
ERRONEOUS PUNCH IN EITHER COLUMNS 8, 9, or 1Ø.
ERRONEOUS PUNCH IN EITHER COLUMNS 8 or 9.
```

4. COMTAG DOES NOT EXIST IN BABY COMPOOL.

   An illegal communication tag, found by Compool look-up, not to be included in the Baby Compool.

5. ENTRY VALUE EXCEEDS MAXIMUM LIMITS.

   A check is made of the number of entries contained in the Baby Compool for this item, along with the entry value on the card. Where the entry value is larger than limits provide, the above printout occurs.

6. STATUS ITEM DOES NOT EXIST IN TABLE B OF BABY COMPOOL.

When the status symbology, as indicated in the item value, is not contained in the block of statuses in Table B of the Baby Compool, the above printout occurs.

7. BLANK IN COLUMN 25.

The significant input (item value) must begin in column 25. If not, the card is deleted and the above printout occurs.

8. ITEM VALUE INCOMPATIBLE WITH FORMAT

Where the simulated value is different than the required format, the above printout occurs.

9. TAGLESS ITEM VALUE IS NOT OCTAL.

When the item value for a tagless item contains anything other than 12 octal digits, the above printout occurs.

10. ERRONEOUS CONVERSION OF ENTRY VALUE.

When the subroutine used to convert the decimal entry value to binary discovers an error internal to itself or in the entry value, the above printout occurs.

11. JSTRZ CANNOT PROCESS INDIRECT ADDRESSING ITEM CODING.

Since JSTRZ is not equipped to process indirect addressing item coding, it will log out the above printout whenever such an item is contained in the data input deck.

12. ONLY ONE $ SIGN, EXPONENT SYMBOL IS $$.

A check is made to be sure that two dollar signs are used to indicate an exponent of the base 1Ø. When such is not the case, the above printout occurs.

13. ERRONEOUS CONVERSION OF ITEM VALUE.

Where the subroutine used to convert the data information discovers that the value is incompatible with storage requirements, the above printout occurs. In the case of a MX, FP, or FI, if the item value contains a character other than a digit, a comma, a decimal point, a dollar sign, an "A," a plus sign, or a minus sign, the card will be logged out as in error.

14. POINT POSITION VALUE ON CARD IN ERROR, VALUE IN BABY COMPOOL USED TO POSITION MIXED FRACTION.

A check is made with point position as contained in the Baby Compool along with the point position as contained on the input card. When the two values differ, the one in the Compool is used and the above printout occurs. In this case, the card is not deleted from the test.

15. Some printouts occur when there is faulty transmission of tape information. These will cause JSTRZ to relinquish control immediately to JTCPZ.

FAULTY USE OR ERRONEOUS TRANSFER OF INFORMATION ON THE ADDITIONAL INITIAL TABLE DATA TAPE, RETURN TO CONTROL.

FAULTY USE OR ERRONEOUS TRANSFER OF INFORMATION ON THE PRESTORED INPUT TAPE.

FAULTY USE OR ERRONEOUS TRANSFER OF INFORMATION ON THE EXPECTED RESULTS TAPE.

FAULTY USE OR ERRONEOUS TRANSFER OF INFORMATION ON THE INITIAL CONDITIONS OUTPUT TAPE.

16. Should JSTRZ legality checks detect an error in any data input card, the following comment is logged out.

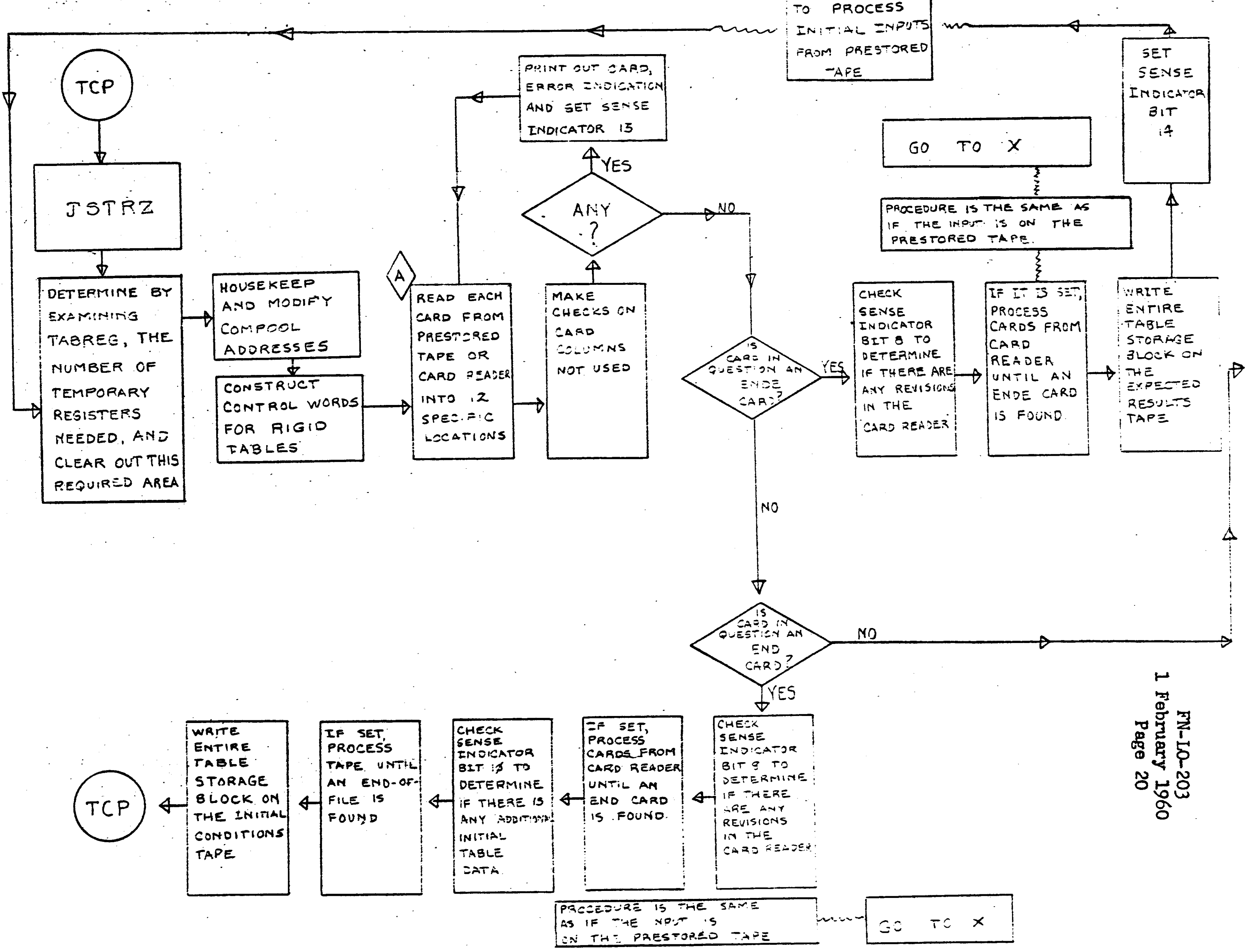
THE FOLLOWING OFF-LINE LISTING INCLUDES THE ENTRY VALUE, THE COMTAG AND THE REASON FOR ITS REJECTION OR THE REASON FOR SOME CHANGE IN THE ITEM VALUE.

17. Upon completion of operation, JSTRZ will print out:

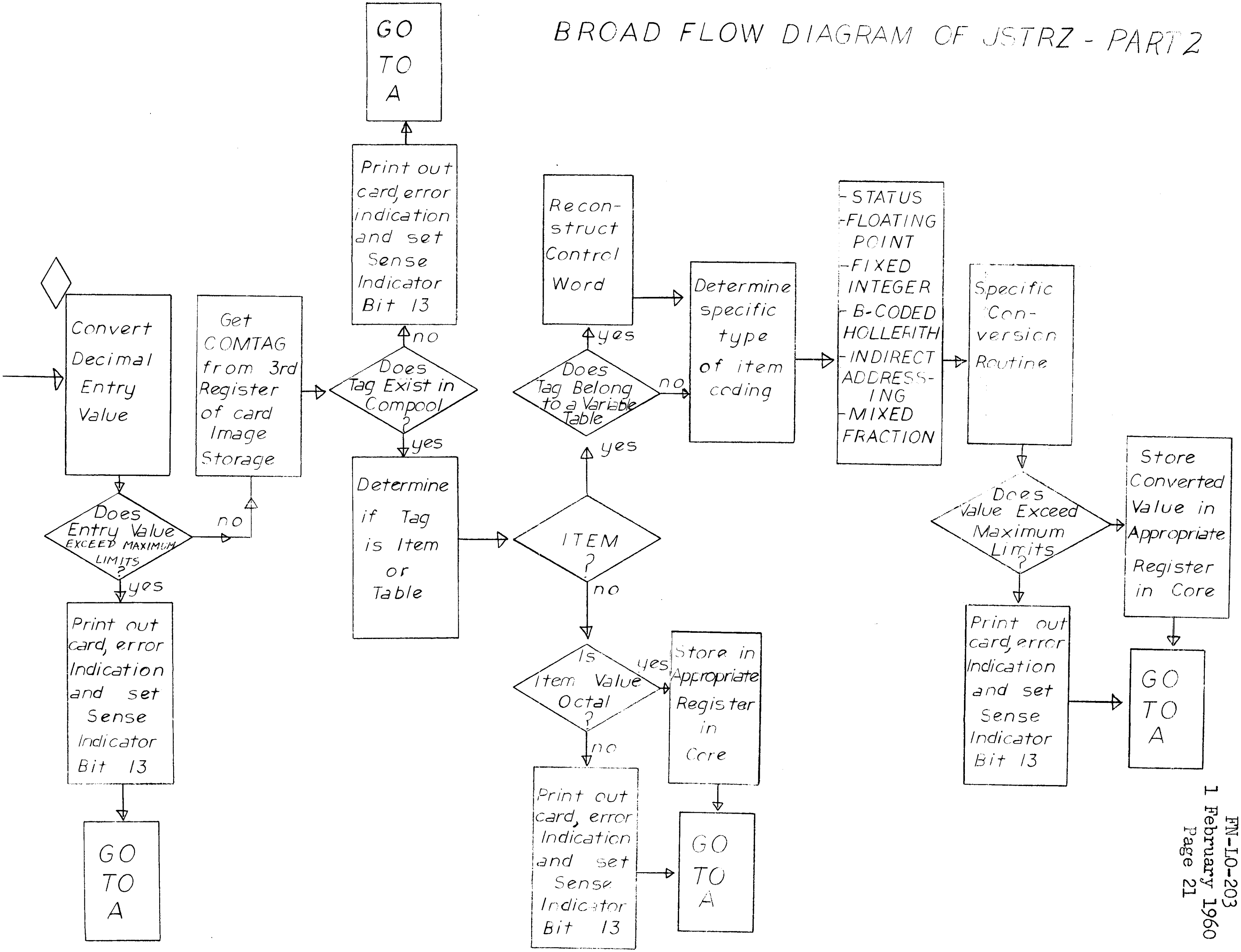
JSTRZ HAS FINISHED PROCESSING THE TABLE AND ITEM ENVIRONMENT FOR THIS TEST.

All printouts which occur in #1-13, above, include also the card image in question. In these cases the simulated values are not included in the test. Each one causes the error indicator (Sense $\overline{\text{Bit}}$ 13) to be set. When the printout in #14, above, occurs, the card image it is concerned with is also printed out. Here, the correction by Compool override is made and the simulated value is processed and stored in its appropriate register. Printouts in #15, #16, and #17, above, do not include a specific card image, but are concerned only with a general self-explanatory fact. All printouts in #15, above, occur both on- and off-line.

DIAGRAM IV - BROAD FLOW DIAGRAM OF JSTRZ


TCP
JSTRZ
DETERMINE BY EXAMINING TABREG, THE NUMBER OF TEMPORARY REGISTERS NEEDED, AND CLEAR OUT THIS REQUIRED AREA
HOUSEKEEP AND MODIFY COMPOOL ADDRESSES
CONSTRUCT CONTROL WORDS FOR RIGID TABLES
A
READ EACH CARD FROM PRESTORED TAPE OR CARD READER INTO 12 SPECIFIC LOCATIONS
MAKE CHECKS ON CARD COLUMNS NOT USED
ANY ?
YES
NO
PRINT OUT CARD, ERROR INDICATION AND SET SENSE INDICATOR 13
TO PROCESS INITIAL INPUTS FROM PRESTORED TAPE
SET SENSE INDICATOR BIT 14
GO TO X
PROCEDURE IS THE SAME AS IF THE INPUT IS ON THE PRESTORED TAPE.
IS CARD IN QUESTION AN ENDE CARD?
YES
NO
CHECK SENSE INDICATOR BIT 8 TO DETERMINE IF THERE ARE ANY REVISIONS IN THE CARD READER
IF IT IS SET, PROCESS CARDS FROM CARD READER UNTIL AN ENDE CARD IS FOUND.
WRITE ENTIRE TABLE STORAGE BLOCK ON THE EXPECTED RESULTS TAPE
IS CARD IN QUESTION AN END CARD?
NO
YES
CHECK SENSE INDICATOR BIT 9 TO DETERMINE IF THERE ARE ANY REVISIONS IN THE CARD READER
IF SET, PROCESS CARDS FROM CARD READER UNTIL AN END CARD IS FOUND.
CHECK SENSE INDICATOR BIT 10 TO DETERMINE IF THERE IS ANY ADDITIONAL INITIAL TABLE DATA
IF SET, PROCESS TAPE UNTIL AN END-OF-FILE IS FOUND
WRITE ENTIRE TABLE STORAGE BLOCK ON THE INITIAL CONDITIONS TAPE
TCP
PROCEDURE IS THE SAME AS IF THE INPUT IS ON THE PRESTORED TAPE
GO TO X

BROAD FLOW DIAGRAM OF JSTRZ - PART 2



Convert Decimal Entry Value
Does Entry Value EXCEED MAXIMUM LIMITS ?
no
yes
Print out card, error Indication and set Sense Indicator Bit 13
GO TO A
Get COMTAG from 3rd Register of card Image Storage
Does Tag Exist in Compool ?
no
Print out card, error indication and set Sense Indicator Bit 13
GO TO A
yes
Determine if Tag is Item or Table
ITEM ?
yes
no
Does Tag Belong to a Variable Table
yes
Reconstruct Control Word
no
Is Item Value Octal ?
yes
Store in Appropriate Register in Core
GO TO A
no
Print out card, error Indication and set Sense Indicator Bit 13
GO TO A
Determine specific type of item coding
- STATUS
-FLOATING POINT
-FIXED INTEGER
- B-CODED HOLLERITH
- INDIRECT ADDRESSING
-MIXED FRACTION
Specific Conversion Routine
Does Value Exceed Maximum Limits ?
Print out card, error Indication and set Sense Indicator Bit 13
GO TO A
Store Converted Value in Appropriate Register in Core
GO TO A

A listing of the program symbolic
Deck will be issued as the first supplement
to this document (FN-LO-203, S-1).

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