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16. Abstract (Limit: 200 words) The Honeywell H6000 Utility Software System consists of a composite of many different types of basic (non-functional) software required in support of H6000 functional automated data systems. This software includes utility and general purpose programs/subroutines which perform specific functions common to many users. Code conversion, data compaction, and tape file input/output are a few of the functions performed by the system.				
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Volume I
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Automatic Data Processing Systems and Procedures
H6000 UTILITY SOFTWARE COMPUTER OPERATION MANUAL: S891/ZA
COMPUTER OPERATION MANUAL

This manual provides detailed operational descriptions of the systems, programs, and subroutines of H6000 standard Air Force utility software. This manual is the central point of documentation for standard Air Force H6000 utility software.

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PART ONE - GENERAL INFORMATION

SECTION 1. INTRODUCTION

1.1 Purpose of Computer Operation Manual. The objective of this Computer Operation Manual for H6000 utility software is to provide computer control and computer operator personnel with a detailed operational description of the standard Air Force utility programs and subroutines for the H6000 computer system.

1.2 Project References. AFM 171-604 (Volume II). H6000 Utilities Users Manual. Unclassified.

1.3 Terms and Abbreviations.

DCS - Data Compaction System.
SSF - Standard System Format.
PGM - Program.
BMC - Bulk Media Conversion.
DPI - Data Processing Installation.
I/O - Input/Output.

PART TWO - DATA COMPACTION SYSTEM (DCS)

SECTION 3. SYSTEM OVERVIEW

3.1 System Application. The purpose of the DCS is to conserve limited data storage space. Operational improvements provided by the DCS include reduced processor time and reduced data storage space resulting in an overall reduction in the cost per job run. The storage space savings can be valuable where disk storage is involved and can enhance disk storage as a viable alternative to other storage media. Since less I/O is required on a compacted file, I/O error probability is reduced. The functions of the DCS include the compaction and decompaction of SSF files, and the reading and writing of compacted files by user COBOL programs or programs that use the file and record control facility. The subroutines (ZAP3FO, ZAP4FO, ZAP5FO, and ZAP6FO) allow compacted file interface with negligible modification to existing programs.

3.2 System Organization. Figures 3-01 thru 3-06 show the general data processing operations of each program and subroutine of the DCS.

3.3 Program Inventory:

PROGRAM/SUBROUTINE NAME	PROGRAM-ID	CLASSIFICATION
File Compaction Program	ZAP1FO	Unclassified
File Decompaction Program	ZAP2FO	Unclassified
Write Compacted File Subroutine	ZAP3FO	Unclassified
Read Compacted File Subroutine	ZAP4FO	Unclassified
COBOL Program Write Compacted File Subroutine	ZAP5FO	Unclassified
COBOL Program Read Compacted File Subroutine	ZAP6FO	Unclassified

3.4 File Inventory:

FILE NAME	FILE ID	MEDIUM	STORAGE
Decompacted SSF File	FZAPxFOAU	Tape/Disk	N/A
DCS Compacted SSF File	FZAPxFOIU	Tape/Disk	N/A

NOTE: File ID constructed to user specifications.

3.5 Processing Overview. The DCS is a method of saving data storage by elimination of redundant words of data between successive records of a file. This idea has been incorporated into four subroutines and two programs. The subroutines allow compacted file interface with negligible modification to existing programs. The two programs are stand-alone conversions between system standard format (SSF) files and compacted SSF format files.

3.6 Security and Privacy. The classification of the DCS will be determined by the data and the user.

3.7 System Configuration and Installation Procedures. These programs, as included on the AFDSDC block release tape, are in object form (R*). These programs may be selected and added to a program library or called directly from the tape. Programs ZAP1FO and ZAP2FO are stand-alone programs to compact and decompact SSF files. The other four (ZAP3FO, ZAP4FO, ZAP5FO, and ZAP6FO) are subroutines that allow user programs to read and write compacted files.

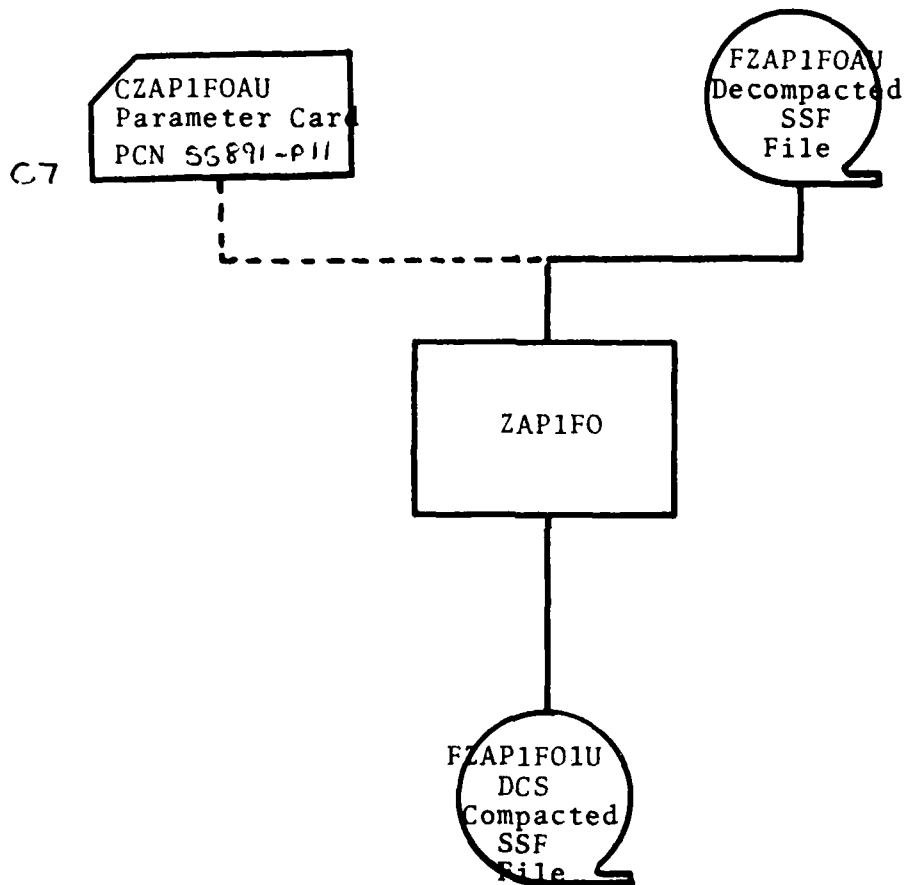


FIGURE 3-01. ZAP1FO Processing Flow

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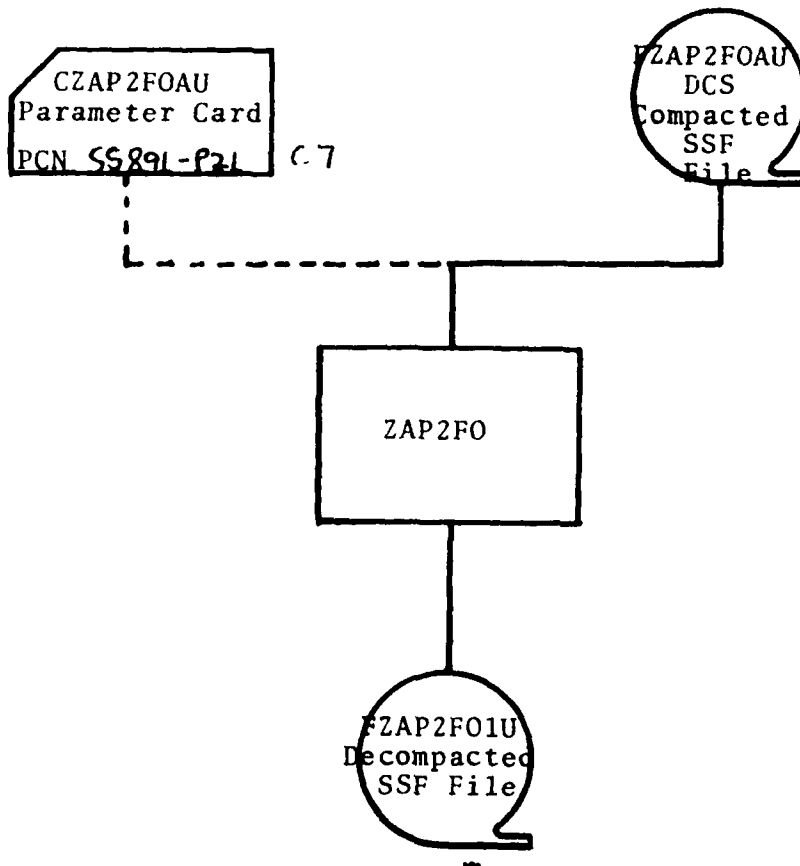


FIGURE 3-02. ZAP2FO Processing Flow.

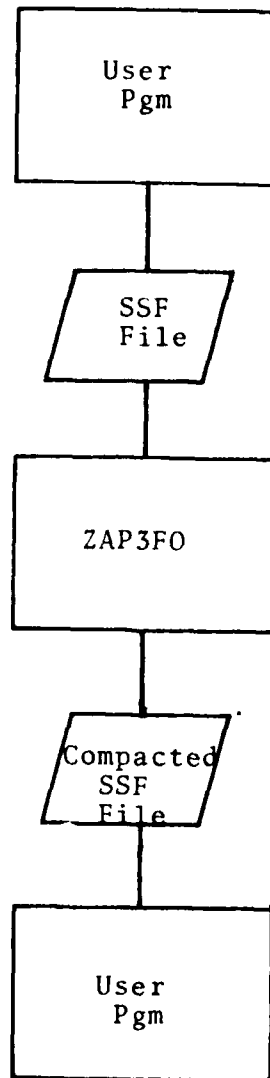


FIGURE 3-03. ZAP3FO Processing Flow.

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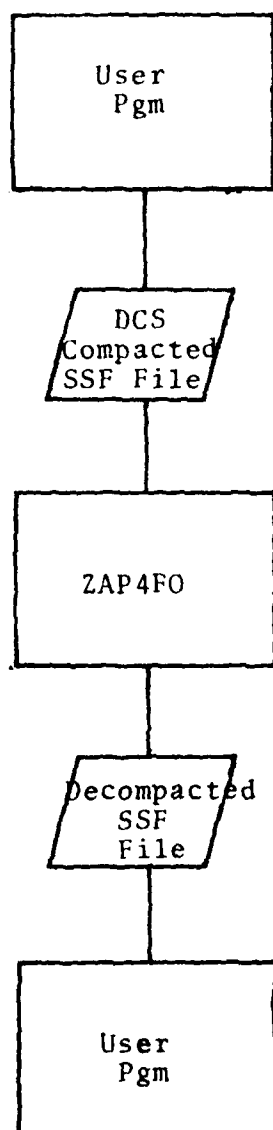


FIGURE 3-04. ZAP4FO Processing Flow

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3-7

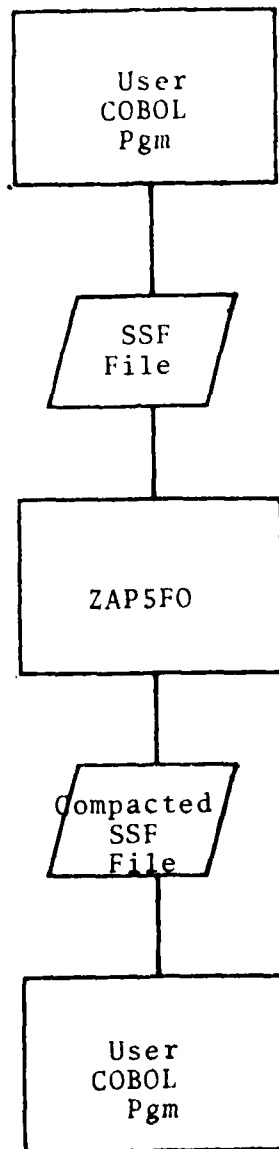


FIGURE 3-05. ZAP5FO Processing Flow

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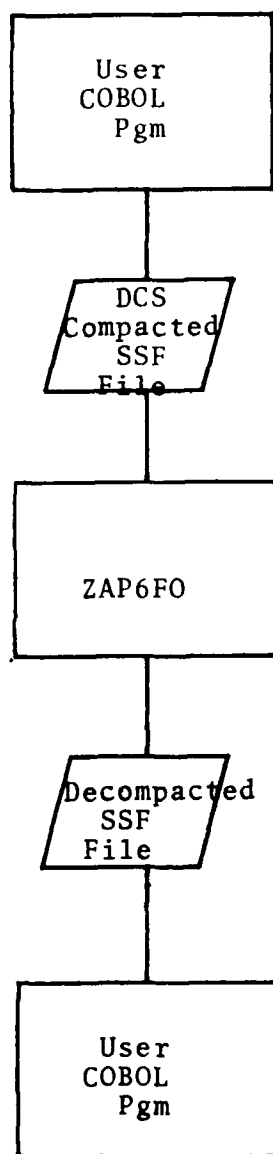


FIGURE 3-06. ZAP6FO Processing Flow

SECTION 4. DESCRIPTION OF RUNS

4.1 Run Inventory:

4.1.1 ZAP1FO File Compaction Program. The function of this program is to convert SSF files to compacted SSF files.

4.1.2 ZAP2FO File Decompression Program. The function of this program is to convert compacted files to decompacted SSF files.

4.1.3 ZAP3FO Write Compacted File Subroutine. The function of this subroutine is to permit user GMAP, FORTRAN, and other programs that use the file and record control facility, to write compacted files.

4.1.4 ZAP4FO Read Compacted File Subroutine. This subroutine permits user GMAP, FORTRAN, and other programs that use the file and record control facility to read compacted files. Records are decompacted and provided to the user program in SSF.

4.1.5 ZAP5FO COBOL Program Write Compacted File Subroutine. This subroutine permits user COBOL programs to write compacted files.

4.1.6 ZAP6FO COBOL program Read Compacted File Subroutine. This subroutine permits user COBOL programs to read compacted files.

4.2 Phasing. N/A.

4.3 ZAP1FO Run Description:

4.3.1 Control Inputs. The following job control statements are required to initiate the run:

Col 1	Col 8	Col 16
\$	IDENT	(USER SPECIFIED)
\$	USERID	(USER SPECIFIED)
\$	LIBRARY	LA
\$	USE	ZAP1FO,ZAP3FO
\$	ENTRY	ZAP1FO
\$	EXECUTE	
\$	LIMITS	,5K
\$	TAPE9	LA,X0D,,nnnnn,,User Library
\$	TAPE9	FA,X1D,,nnnnn,,FZAP1FOAU
\$	TAPE9	F1,X2D,,99999,,FZAP1FO1U
\$	ENDJOB	

See paragraph 4.1.1.1f in Users Manual for optional parameter card format.

4.3.2 Management Information:

4.3.2.1 Run Identification. ZAP1FO.

4.3.2.2 Peripheral Equipment Requirements. Tape and/or disk.

4.3.2.3 Security Classification. Determined by data.

4.3.2.4 Software Problems. Report any difficulty directly to AFDSDC Field Assistance, AUTOVON 921-4021.

4.3.2.5 Operator Messages/Responses. N/A.

4.3.3 Input/Output Files. Input is an SSF file. Output will be a compacted SSF file.

4.3.4 Output Reports. ZAP1FO produces a line summary on SYSOUT containing a count of input file and output file blocks. This is used as an indication of how much compaction is realized.

4.3.5 Reproduced Output Reports. N/A.

4.3.6 Restart/Recovery Procedures. If the job unit aborts, purge all output IAW DPI processing procedures, rerun job unit according to local DPI procedures.

4.4 ZAP2FO Run Description:

4.4.1 Control Inputs. The following job control statements are required to initiate the run:

Col 1	Col 8	Col 16
\$	IDENT	(USER SPECIFIED)
\$	USERID	(USER SPECIFIED)
\$	LIBRARY	LA
\$	USE	ZAP2FO,ZAP4FO
\$	ENTRY	ZAP2FO
\$	EXECUTE	
\$	LIMITS	,5K
\$	TAPE9	LA,X0D,,nnnnn,,User Library
\$	TAPE9	FA,X1D,,nnnnn,,FZAP2FOAU
\$	TAPE9	F1,X2D,,99999,,FZAP2FO1U
\$	ENDJOB	

See paragraph 4.2.1.1d in Users Manual for optional parameter card format.

4.4.2 Management Information:

4.4.2.1 Run Identification. ZAP2FO.

4.4.2.2 Peripheral Equipment Requirements. Tape and/or disk.

4.4.2.3 Security Classification: Determined by data.

4.4.2.4 Software Problems. Report any difficulty to AFDSDC Field Assistance, AUTOVON 921-4021.

4.4.2.5 Operator Messages/Responses. N/A.

4.4.3 Input/Output Files. Input is a SSF file that has been compacted by this DCS. Output will be a SSF file expanded from a DCS compacted file.

4.4.4 Output Reports. N/A.

4.4.5 Reproduced Output Reports. N/A.

4.4.6 Restart/Recovery Procedures. If the job unit aborts, purge all output IAW DPI processing procedures; rerun job unit according to local DPI procedures.

4.5 ZAP3FO Run Description:

4.5.1 Control Inputs. The following job control statements are required:

Col 1	Col 8	Col 16
\$	LIBRARY	LA
\$	USE	USER PGM,ZAP3FO
\$	ENTRY	USER PGM
\$	EXECUTE	
\$	TAPE9	LA,X0D,,nnnnn,,User Library

4.5.2 Management Information:

4.5.2.1 Run Identification. ZAP3FO.

4.5.2.2 Peripheral Equipment Requirements. Tape and/or disk.

4.5.2.3 Security Classification. Determined by data.

4.5.2.4 Software Problems. Report any difficulty to AFSDC Field Assistance, AUTOVON 921-4021.

4.5.2.5 Operator Messages/Responses. N/A.

4.5.3 Input/Output Files. Input will be SSF records from a user program. Output is a SSF compacted file.

4.5.4 Output Reports. N/A.

4.5.5 Reproduced Output Reports. N/A.

4.5.6 Restart/Recovery Procedures. If the job unit aborts, purge all output IAW DPI processing procedures, rerun job unit according to local DPI procedures.

4.6 ZAP4FO Run Description:

4.6.1 Control Inputs. The following job control statements must be included to initiate the run:

Col 1	Col 8	Col 16
\$	LIBRARY	LA
\$	USE	USER PGM,ZAP4FO
\$	ENTRY	USER PGM
\$	EXECUTE	
\$	TAPE9	LA,XØD,,nnnnn,,User Library

4.6.2 Management Information:

4.6.2.1 Run Identification. ZAP4FO.

4.6.2.2 Peripheral Equipment Requirements. Tape and/or disk.

4.6.2.3 Security Classification. Determined by data.

4.6.2.4 Software Problems. Report any difficulty to AFSDC Field Assistance, AUTOVON 921-4021.

4.6.2.5 Operator Messages/Responses. N/A.

4.6.3 Input/Output Files. Input is a SSF file previously compacted by this DCS. Output is a SSF file expanded from a DCS compacted file.

4.6.4 Output Reports. N/A.

4.6.5 Reproduced Output Reports. N/A.

4.6.6 Restart/Recovery Procedures. If the job unit aborts, purge all output IAW DPI processing procedures; rerun job unit according to local DPI procedures.

4.7 ZAP5FO Run Description:4.7.1 Control Inputs. The following job control statements are required:

Col 1	Col 8	Col 16
\$	LIBRARY	LA
\$	USE	USER PGM,ZAP5FO
\$	ENTRY	USER PGM
\$	EXECUTE	
\$	TAPE9	LA,XØD,,nnnnn,,User Library

4.7.2 Management Information:4.7.2.1 Run Identification. ZAP5FO.4.7.2.2 Peripheral Equipment Requirements. Tape and/or disk.4.7.2.3 Security Classification. Determined by data.4.7.2.4 Software Problems. Report any difficulty to AFSDC Field Assistance, AUTOVON 921-4021.4.7.2.5 Operator Messages/Responses. N/A.4.7.3 Input/Output Files. Inputs are SSF records from a user COBOL program. Output is a SSF compacted file.4.7.4 Output Reports. N/A.4.7.5 Reproduced Output Reports. N/A.4.7.6 Restart/Recovery Procedures. If the job unit aborts, purge all output IAW DPI processing procedures, rerun job unit according to local DPI procedures.4.8 ZAP6FO Run Description:4.8.1 Control Inputs. The following job control statements must be included to initiate the run.

Col 1	Col 8	Col 16
\$	LIBRARY	LA
\$	USE	USER PGM,ZAP6FO
\$	ENTRY	USER PGM
\$	EXECUTE	
\$	TAPE9	LA,XØD,,nnnnn,,User Library

4.8.2 Management Information:4.8.2.1 Run Identification. ZAP6FO.4.8.2.2 Peripheral Equipment Requirements. Tape and/or disk.4.8.2.3 Security Classification. Determined by data.4.8.2.4 Software Problems. Report any difficulty to AFSDC Field Assistance, AUTOVON 921-4021.4.8.2.5 Operator Messages/Responses. N/A.

4.8.3 Input/Output Files. Input is a SSF file previously compacted by this DCS. Output is a SSF file expanded from a DCS compacted file.

4.8.4 Output Reports. N/A.

4.8.5 Reproduced Output Reports. N/A.

4.8.6 Restart/Recovery Procedures. If the job unit aborts, purge all output IAW DPI processing procedures, rerun job unit according to local DPI procedures.

PART FOUR - CARD UTILITIES

SECTION 7. SYSTEM OVERVIEW

7.1 System Application. The purpose of these programs is to aid the user in the ability to read or punch card decks with invalid characters on WWMCCS H6000 systems.

7.2 System Organization. Figures 7-01 and 7-02 show the general data processing operations of each program.

7.3 Program Inventory:

PROGRAM/SUBROUTINE NAME	PROGRAM-ID	CLASSIFICATION
H6000 Binary to BCD Card Input	ZAA0FO	Unclassified
H6000 BCD to Binary Card Punch	ZAB0FO	Unclassified

7.4 File Inventory:

RCS/PCN	TITLE	FILE-ID	MEDIUM
	Output BCD File	FZAA0FOBU	Tape/Disk (See Note)
	Parameter File	FZAB0FOAU	Tape/Disk (See Note)
	Input BCD File	FZAB0FOBU	Tape/Disk (See Note)
(.7 S891-A00	File Identification	CZAA0FOAU	Card
(.7 S891-A01	Parameter Card/Binary Deck	CZAA0FOBU	Card
(.7 S891-A02	Invalid Character Report	PZAA0FOIU	List
(.7 S891-B01	Parameter Card	CZAB0FOAU	Card
(.7 S891-B11	Output Binary Deck	CZAB0FOBU	Card

NOTE: File ID constructed to users specification.

7.5 Processing Overview. These programs provide a method of reading or punching card decks that contain other than valid ASCII characters.

7.6 Security and Privacy. The classification will be determined by the data and the user.

7.7 System Configuration and Installation Procedures. The programs, as included on the AFDSDC block release tape, are in object form (R*). These programs may be selected and added to a program library or called directly from the release tape. The programs are stand-alone programs.

1 January 1977

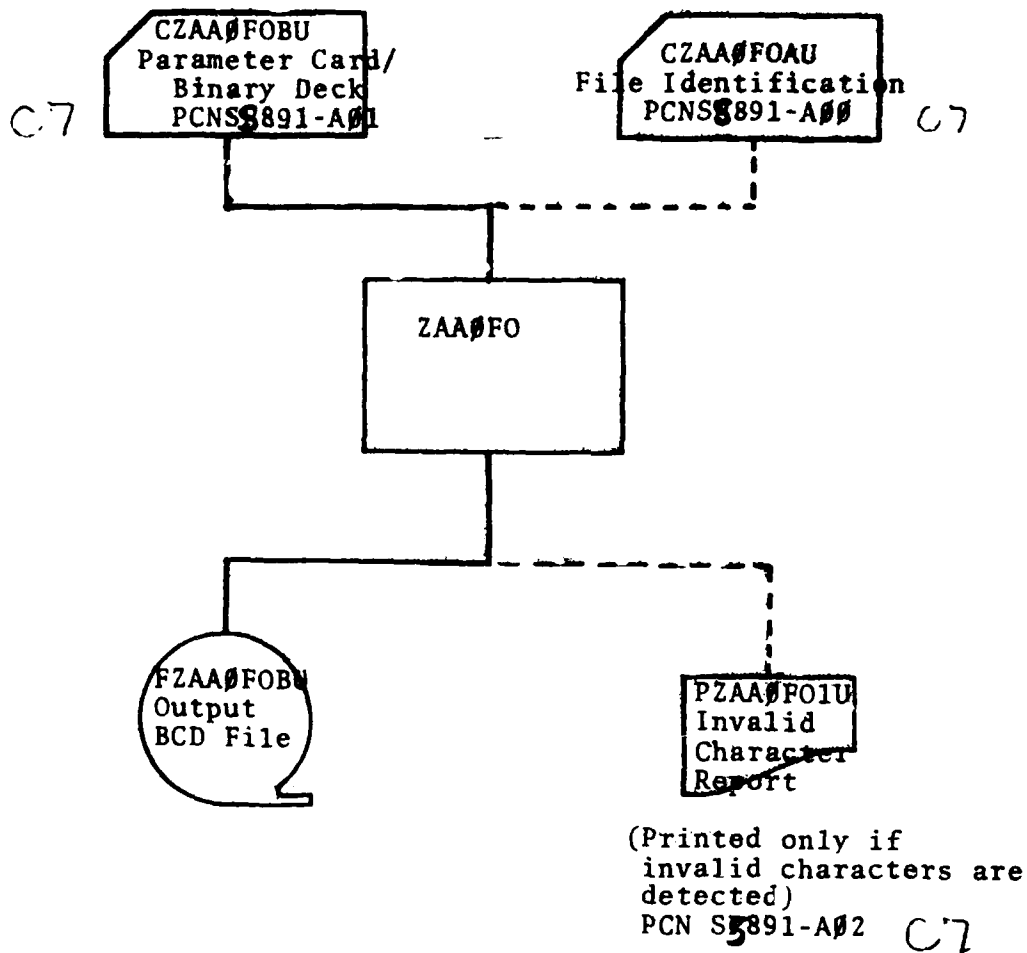


FIGURE 7-01. ZAAFO Processing Flow

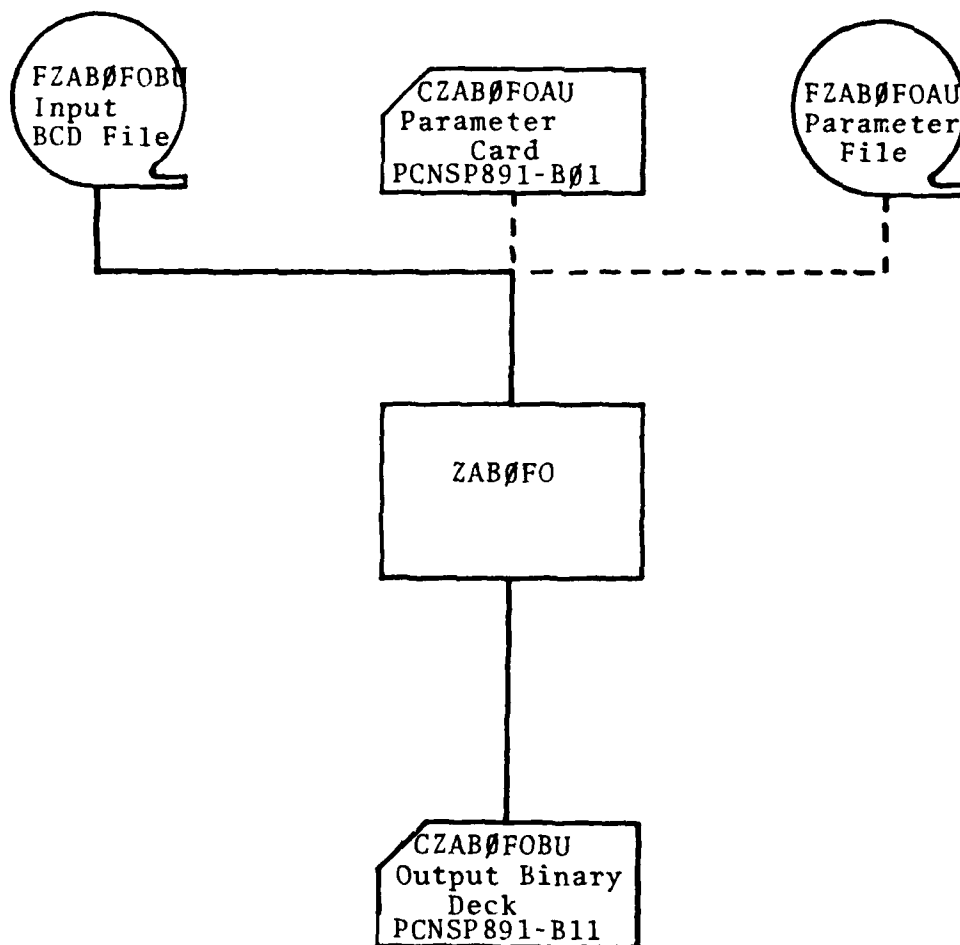


FIGURE 7-02. ZABØFO Processing Flow

SECTION 8. DESCRIPTION OF RUNS

8.1 Run Inventory:

8.1.1 ZAA#FO - H6000 Binary To BCD Card Input. The function of this program is to read in a card deck containing non-standard characters and, by parameter card.

- a. Convert 12/# punches to OCTAL 6# and convert 11/# punches to OCTAL 4#.
- b. Replace invalid characters with valid ones.
- c. Allows user to change the transliteration table.
- d. Put "VALUE OF ID" on internal output tape labels.

8.1.2 ZAB#FO - H6000 BCD To Binary Card Punch. The function of this program is to punch a card deck containing invalid characters from a system standard format file, and by parameter card.

- a. Convert OCTAL 6# to 12/# punches and convert OCTAL 4# to 11/# punches.
- b. Modify the transliteration to punch any standard character for any OCTAL value.

8.2 Phasing. N/A.

8.3 ZAA#FO Run Description:

8.3.1 Control Inputs. The following control cards are required to read a card deck containing 12/#, 11/# punches and producing a tape file with a "VALUE OF ID":

Col 1	Col 8	Col 16
\$	IDENT	(USER SPECIFIED)
\$	USERID	(USER SPECIFIED)
\$	LIBRARY	LA
\$	USE	ZAA#FO
\$	ENTRY	ZAA#FO
\$	EXECUTE	ON3
\$	LIMITS	,5K
\$	TAPE9	LA,X#D,,nnnnn,,USER-LIBRARY
\$	READ	C1
\$	TAPE9	F1,X1D,,99999,,OUTPUT-BCD-FILE
\$	ENDJOB	
(PARAMETER CARD/BINARY DECK, IF USED, IS INPUTTED THRU A DEDICATED CARD READER)		
\$	ENDJOB	

See Figures 8-01 thru 8-05 of the Users Manual for Parameter Card Formats.

8.3.2 Management Information:

8.3.2.1 Run Identification. ZAA#FO.

8.3.2.2 Peripheral Equipment Requirements. Card reader, tape and/or disk.

8.3.2.3 Security Classification. Determined by data.

8.3.2.4 Software Problems. Report any difficulty directly to AFSDC Field Assistance, AUTOVON 921-4021.

8.3.2.5 Operator Messages/Responses:

a. If ZAA#FO detects errors on the parameter cards, the number and type of errors will be displayed on SYSOUT. These are informational messages only.

TYPE 1 - Table overflow; only 14 additional characters are allowed - usually format #1 error.

TYPE 2 - No match is found. Usually formats #2 and #3.

TYPE 3 - OCTAL value was in error. Format #1 error.

b. ZAA#FO detected aborts will cause a users A1 MME GEBORT. The reason will be printed on the execution report. The following are the aborts and reasons:

C7 *ERROR - PCN card PCNS#891A#0 missing or invalid.
Valid PCN is not present.

C7 *ERROR - PCN card PCNS#891A#1 missing or invalid.
Valid PCN is not present.

*ERROR - "TAKE" card missing or invalid.
SWITCH #2 is on and valid "TAKE" card is not present.

*ERROR - VALUE OF ID missing or invalid.
SWITCH #3 is on and valid VALUE OF ID card is not present.

*ERROR - Invalid characters detected.
Invalid characters were detected during this run.

*ERROR - "TAKE" card contains an octal 77.
An ! should not be used as a replacement character.

8.3.3 Input/Output Files:

a. Input. Card decks containing non-standard characters.

b. Output. Standard system format tapes or disk files.

8.3.4 Output Reports. ZAA#FO produces an error list of invalid characters detected in the input deck.

8.3.5 Reproduced Output Reports. N/A.

8.3.6 Restart/Recovery Procedures. If the job unit aborts, purge all output IAW local DPI procedures, rerun job unit according to local DPI procedures.

8.4 ZAB#FO Run Description:

8.4.1 Control Inputs. The following control cards are required to punch a card deck containing 12/# and 11/# punches using a standard system format tape as input:

Col 1	Col 8	Col 16
\$	IDENT	(USER SPECIFIED)
\$	USERID	(USER SPECIFIED)
\$	LIBRARY	LA
\$	USE	ZAB#FO
\$	ENTRY	ZAB#FO
\$	EXECUTE	
\$	LIMITS	,5K
\$	TAPE9	LA,X#D,,nnnnn,USER-LIBRARY
\$	READ	CA
\$	OR	
\$	TAPE9	FA,X1D,,nnnnn,,PARAMETER-FILE
\$	TAPE9	F1,X2D,,nnnnn,,INPUT-BCD-FILE

Col 1	Col 8	Col 16
\$	SYSOUT	C1
\$	ENDJOB	

(PARAMETER CARDS, IF USED, ARE INPUTTED THRU A DEDICATED CARD READER)

\$	ENDJOB	
----	--------	--

See Figures 8-06 thru 8-07 of Users Manual for Parameter Card Formats.

8.4.2 Management Information:

8.4.2.1 Run Identification. ZAB#FO.

8.4.2.2 Peripheral Equipment Requirements. Card punch, tape and/or disk.

8.4.2.3 Security Classification. Determined by data.

8.4.2.4 Software Problems. Report any difficulty to AFSDC Field Assistance, AUTOVON 921-4021.

8.4.2.5 Operator Messages/Responses:

a. If ZAB#FO encounters a punch alert, a message to the console directs the operator to remove two cards from the punch and type in "C" when he is ready to continue.

b. ZAB#FO detected aborts will cause a user A1 MME GEBORT. The reason will be printed on the execution report. The following are the aborts and reasons:

*ERROR - PCN card missing or invalid.
Valid PCN is not present.

*ERROR - Unrecoverable I/O error at card punch
System error, purge output and rerun job.

8.4.3 Input/Output Files:

a. Input. Standard system format tape or disk files.

b. Output. Card decks containing non-standard characters.

8.4.4 Output Reports. N/A.

8.4.5 Reproduced Output Reports. N/A.

8.4.6 Restart/Recovery Procedures. If the job unit aborts, purge all output IAW local DPI processing procedures, rerun job unit according to local DPI procedures.

PART FIVE - GENERAL PURPOSE TAPE FILE INPUT UTILITY

SECTION 9. SYSTEM OVERVIEW

- 9.1 System Application. The purpose of the General Purpose Tape File Input Utility (GPTFIU) is to read 7 or 9 track H6000 Standard System or Non-Standard System Format Tape Files and convert them into the opposite format. Character transliterations are performed as specified by the user.
- 9.2 System Organization. Figures 9-01 thru 9-02 show the general data processing operation of the GPTFIU.
- 9.3 Program Inventory:

PROGRAM NAME	PROGRAM-ID	CLASSIFICATION
General Purpose Tape File Input Program	ZAT1FO	Unclassified
General Purpose Tape File Output Program	ZAT2FO	Unclassified

9.4 File Inventory:

RCS/PCN	TITLE	FILE-ID	MEDIUM
	Non-SSF-Input	FZAT1FOAU	Tape
	SSF-Output	FZAT1FOIU	Tape/Disk
	SSF-Input	FZAT2FOAU	Tape/Disk
	Non-SSF-Output	FZAT2FOIU	Tape
C7 S891-T11	Parameter Card	CZAT1FOAU	Card
• C7 S891-T12	Input Tape Utility Parameter List	PZAT1FOIU	List
• C7 S891-T21	Parameter Card	CZAT2FOAU	Card
• C7 S891-T22	Output Tape Utility Parameter List	PZAT2FOIU	List

Note: File ID constructed to users specification.

- 9.5 Processing Overview. The GPTFIU is a method of converting H6000 Standard System and Non-Standard System Format Tape Files to the opposite format. The system consists of two programs (ZAT1FO and ZAT2FO).
- 9.6 Security and Privacy. The classification of the GPTFIU runs will be determined by the data being processed and the user.
- 9.7 System Configuration and Installation Procedures. This utility, as included on the AFMDC block release tape, is in object form (R*). The programs may be selected and added to a program library or called directly from the supplied tape, ZAT1FO and ZAT2FO are stand-alone programs.

1 July 1977

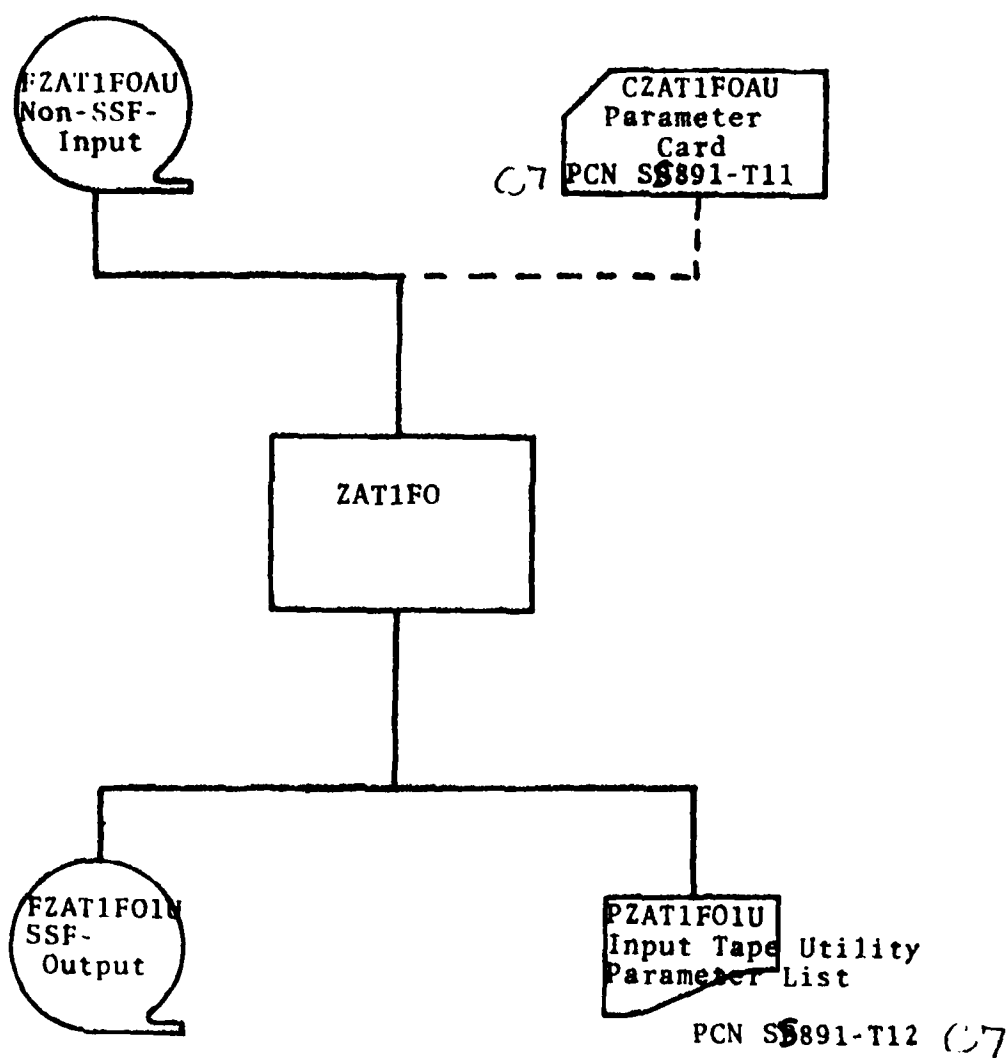


FIGURE 9-01. ZAT1FO Processing Flow

1 July 1977

9-3

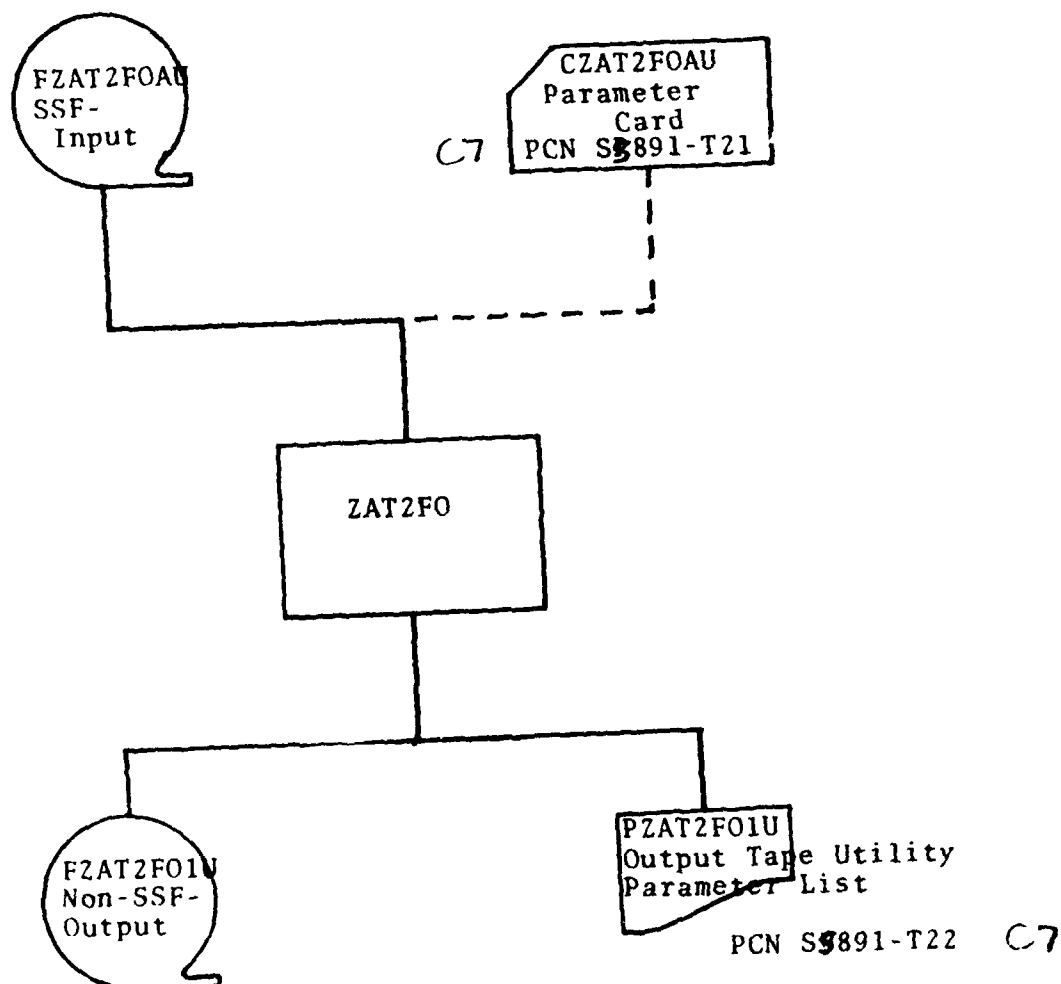


FIGURE 9-02. ZAT2FO Processing Flow

SECTION 10. DESCRIPTION OF RUNS

10.1 Run Inventory:

10.1.1 ZAT1FO - General Purpose Tape File Input Program. The function of this program is to convert Non-Standard System Format Tape Files to Standard System Format files.

10.1.2 ZAT2FO - General Purpose Tape File Output Program. The function of this program is to convert H6000 Standard System Format files to Non-Standard System Format tape files.

10.2 Phasing. N/A.

10.3 ZAT1FO Run Description:

10.3.1 Control inputs. The following job control language (JCL) is required to initiate the run.

Col 1	Col 8	Col 16
\$	IDENT	(USER SPECIFIED)
\$	USERID	(USER SPECIFIED)
\$	LIBRARY	LA
\$	USE	ZAT1FO
\$	ENTRY	ZAT1FO
\$	EXECUTE	
\$	LIMITS	,6K
\$	TAPE9	LA,X0D,,nnnnn,,USER-LIB
(OPTIONAL PARAMETER CARDS)		
\$	TAPE7	F1,X1D,,nnnnn,,USER-SPEC (Non-SSF-Input)
\$	TAPE7	F2,X2D,,,USER-SPEC (SSF-Output)
\$	ENDJOB	

10.3.2 Management Information:

10.3.2.1 Run Identification. ZAT1FO.

10.3.2.2 Peripheral Equipment Requirements. Tape/disk/card reader/printer.

10.3.2.3 Security Classification. Determined by the user and data.

10.3.2.4 Software Problems. Report any difficulty directly to the AFSDSC Field Assistance, AUTOVON 921-4021.

10.3.2.5 Operator Messages/Responses. The following message appears on the operators console:

*ATT S#sssss MT I-CC-DD NNN CE

During an actual run, the letters sssss would be replaced by the SNUMB. If the operator wishes to continue, he should mount reel NNN of the multi-reel input file on tape unit I-CC-DD. Then he should transmit a "C" to continue. If, however, the operator wishes to terminate the run, or all reels have been exhausted, the operator should enter an "E". ZAT1FO detected aborts will cause a users A1 MME GEBORI. The reason for the abort will be printed on the execution report. The following are the aborts and reasons.

*ERROR - Insufficient Buffer Space.

Insufficient buffer space for input/output blocks increase core limits via \$ LIMITS card.

*ERROR - PCN missing or invalid

A valid PCN card was not provided as the first card of the input parameter deck.

***ERROR - Uncorrectable read error**

No USE or IGNORE option specified or counts exhausted.

***ERROR - Invalid Translation Mode**

Translation mode specified in cc 43-48 of the parameter card is not valid.

***ERROR - Translation Table Card Error**

Translation table card has data past cc 74 or program expects another translation table card.

*** ERROR - Invalid File/Reel Cnt**

When multi-reel file or multi-file reel parameter is used, cc 59-60 must be numeric.

*** ERROR - Invalid Parity Cnt**

When input parity count parameter is used, cc 56-57 must be numeric.

*** ERROR - Invalid Blocking Factor**

Input blocking factor in cc 31-36 is in error.

*** ERROR - Rcd Length Must Be Numeric**

When input record length parameter is used, cc 39-42 must be numeric.

*** ERROR - Pad Subfields Not Numeric**

If padding parameter is used, padding subfields must be numeric.

10.3.3 Input/Output Files. Input is a Non-Standard System Format Tape file.
Output is a Standard System Format file.

*** 10.3.4 Output Reports.** Input Tape Utility Parameter List PCN S891-T12. **C.7**

10.3.5 Reproduced Output Reports. N/A.

10.3.6 Restart/Recovery Procedures. If the job unit aborts, purge all output IAW DPI processing procedures, rerun job unit according to local DPI procedures.

10.4 ZAT2FO Run Description:

10.4.1 Control Inputs. The following job control statements are required to initiate the run:

Col 1	Col 8	Col 16
\$	IDENT	(USER SPECIFIED)
\$	USERID	(USER SPECIFIED)
\$	LIBRARY	LA
\$	USE	ZAT2FO
\$	ENTRY	ZAT2FO
\$	EXECUTE	
\$	LIMITS	,6K
\$	TAPE9	LA,XØD,,nnnnn,,USER-LIBRARY
(OPTIONAL PARAMETER CARDS)		
\$	TAPE7	F1,X1D,,nnnnn,,USER-SPEC (SSF-Input)
\$	TAPE7	F2,X2D,,,,USER-SPEC (Non-SSF-Output)
\$	ENDJOB	

10.4.2 Management Information:

10.4.2.1 Run Identification. ZAT2FO.

10.4.2.2 Peripheral Equipment Requirements. Tape/disk/reader/printer.

10.4.2.3 Security Classification. Determined by data.

10.4.2.4 Software Problems. Report any difficulty directly to AFSDC Field Assistance, AUTOVON 921-4021.

10.4.2.5 Operator Messages/Responses. ZAT2FO detected aborts will cause a users ABORT. The reason for the abort will be printed on the execution report. The following are the aborts and reasons:

*ERROR - Insufficient Buffer Space

Insufficient buffer space for input/output blocks, increase core limits via \$ LIMITS card.

*ERROR - Invalid Translation Mode

Translation mode specified in cc 43-48 of the parameter card is not valid.

*ERROR - Translation Table Card Error

Translation table card has data past cc 74 or program expects another transliteration table card or user table has more than 64 characters.

*ERROR - Insufficient Label Space

Insufficient space for label records, increase core limits by 1K.

*ERROR - Insufficient Number of Label Records

User header and trailer label records were specified, but were not provided.

*ERROR - PCN Missing or Invalid

A valid PCN card was not provided.

* *ERROR - Invalid Blocking Factor

Input blocking factor in cc 31-36 is in error.

* *ERROR - Rcd Length Must be Numeric

When output record length parameter is used, cc 39-42 must be numeric.

10.4.3 Input/Output Files. Input is a system standard format tape file. Output is a non-system standard format tape file.

* 10.4.4 Output Reports. Output Tape Utility Parameter List PCN S5891-T22. C7

10.4.5 Reproduced Output Reports. N/A.

10.4.6 Restart/Recovery Procedures. If the job unit aborts, purge all output IAW DPI processing procedures, rerun job unit according to local DPI procedures.

PART SIX - B3500 BACKUP PROCESSING

SECTION 11. SYSTEM OVERVIEW

11.1 System Application. The purpose of these programs is to aid the user in the ability to take B3500 printer or punch backup tapes and output them on the H6000 computer.

11.2 System Organization. Figures 11-01 thru 11-02 show the general data processing operations of each program.

11.3 Program Inventory:

PROGRAM NAME	PROGRAM-ID	CLASSIFICATION
Processing of B3500 Print Backup Tapes	ZAK1FO	Unclassified
Processing of B3500 Punch Backup Tapes	ZAK3FO	Unclassified

11.4 File Inventory:

RCS/PCN	TITLE	FILE-ID	MEDIUM
	B3500 Backup Printer Tape	FZAK1FOBU	Tape
	B3500 Backup Punch Tape	FZAK3FOBU	Tape
	B3500 Listing	PZAK1FO1U	List
C7 S8891-K11	Parameter Card	CZAK1FOAU	Card
C7 S8891-K31	B3500 Punch Deck	CZAK3FO1U	Card

NOTE: File-ID is the B3500 file-ID of the user.

11.5 Processing Overview. These programs provide a method of printing or punching B3500 backup tapes on the H6000.

11.6 Security and Privacy. The classification will be determined by the data and the user.

11.7 System Configuration and Installation Procedures. The programs, as included on the AFDSDC block release tape, are in object form (R*). These programs may be selected and added to a program library or called directly from the release tape. The programs are stand-alone programs.

1 December 1976

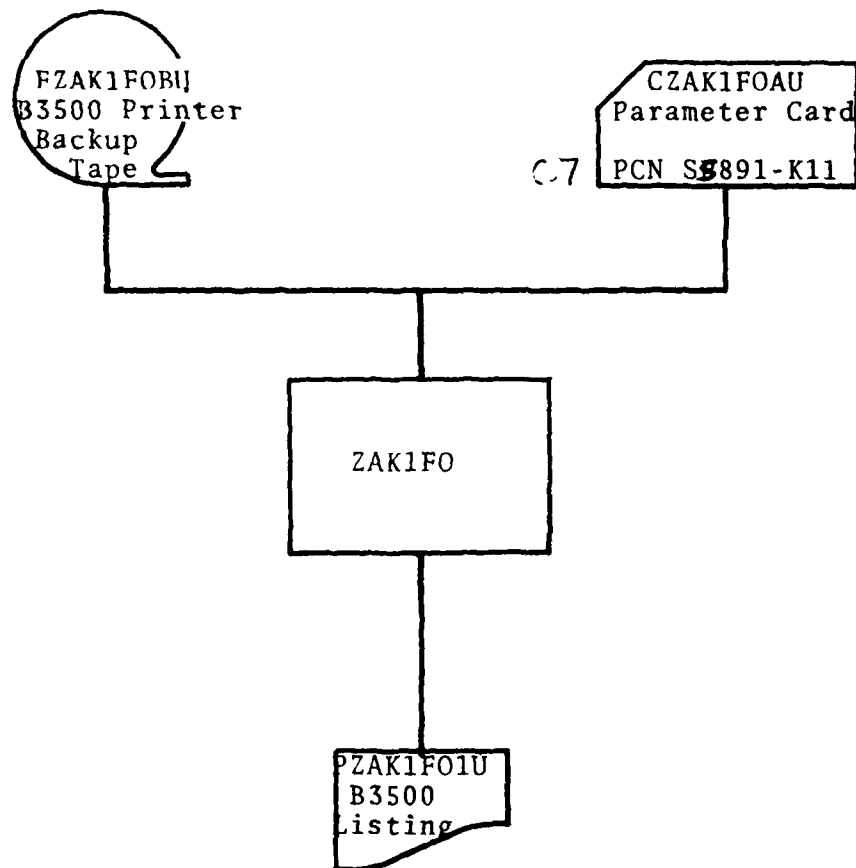


FIGURE 11-01. ZAK1FO Processing Flow

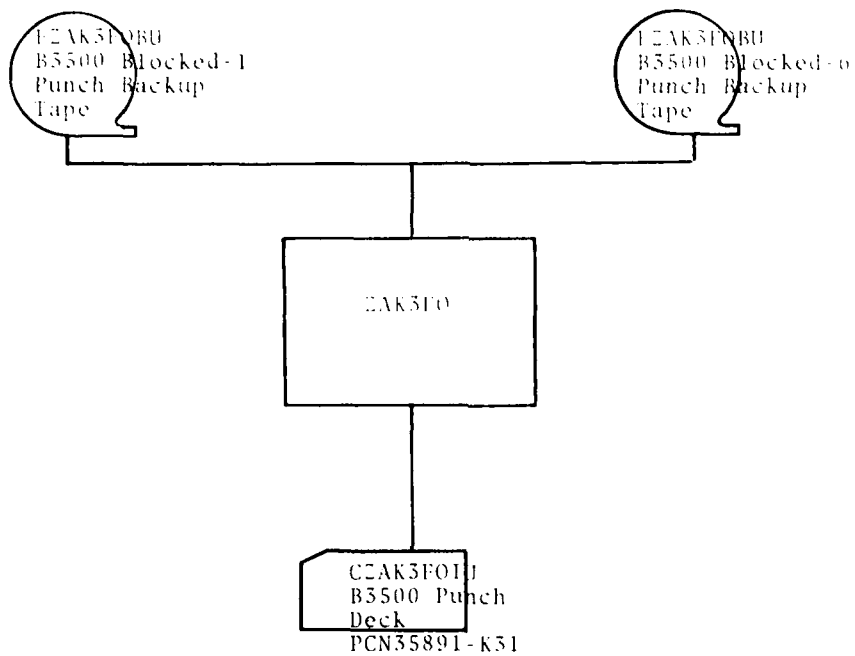


FIGURE 11-02. ZAK3FO Processing Flow

SECTION 12. DESCRIPTION OF RUNS

12.1 Run Inventory:

12.1.1 ZAK1FO - Processing of B3500 Print Backup Tapes. The function of this program is to read a B3500 printer backup tape and by using the options in the parameter card.

- a. Print an entire tape or selectively print any individual file on the tape.
- b. If a multi-reel report is to be printed, a separate run is required for each reel of tape.
- c. Restart option to resume printing if the job is stopped or interrupted. When the restart option is used, printing starts with the file and page specified and prints the remainder of the file plus any files that follow on the input tape.
- d. User can specify part paper desired:
 - (1) With a \$ REPORT control card if output print is assigned to SYSOUT with a \$ SYSOUT control card.
 - (2) By using field 5 and 6 of the parameter card and a \$ PRINT control card (not recommended on pre 6.0 H6000 GCOS system release because the report may not be formatted correctly).
- e. Special carriage tape is not required.

12.1.2 ZAK3FO - Processing of B3500 Punch Backup Tapes. The function of this program is to read a B3500 punch backup tape and output punch cards identical to the B3500 cards. Parameter cards are not required.

12.2 Phasing. N/A.

12.3 ZAK1FO Run Description:

12.3.1 Control Inputs. The following control cards are required to read B3500 printer backup tape and print all files on the tape. Using a \$ REPORT control card to specify part paper desired with output assigned to SYSOUT.

Col 1	Col 8	Col 16
\$	IDENT	(USER SPECIFIED)
\$	USERID	(USER SPECIFIED)
\$	LIBRARY	LA
\$	USE	ZAK1FO
\$	ENTRY	C.ZAK1
\$	EXECUTE	
\$	LIMITS	20,20K
\$	TAPE9	LA,X0D,,nnnnn,,USER-LIBRARY
\$	TAPE9	FA,X1D,,99999,,B3500-BACKUP-PRINTER-TAPE
\$	REPORT	63,PR,3PART PAPER (see note 1)
\$	SYSOUT	PI
\$	(Parameter Control Card) (See note 2)	
\$	ENDJOB	

NOTE 1: Omit \$ REPORT control card if special printer paper is not desired.

NOTE 2: For parameter card formats reference Users Manual, AFM 171-604, Vol II, Section 12, Para 12.1.2.1.

12.3.2 Management Information:12.3.2.1 Run Identification. ZAK1FO.12.3.2.2 Peripheral Equipment Requirements. Card reader, tape and printer.
~~NOTE: The punch is dedicated to the program during EXECUTION.~~12.3.2.3 Security Classification. Determined by data.12.3.2.4 Software Problems. Report any difficulty directly to AFSDSC Field Assistance, AUTOVON 921-4021.12.3.2.5 Operator Messages/Responses:

a. The following message will be displayed on the console when a specific part paper is required:

X PART PAPER REQ ON PRINTER YY. Mount "X" part paper on printer "YY". Type in "C" to continue. NOTE: This message will not be displayed if field 5 on the parameter is blank or if print file (file code P1) is assigned to SYSOUT.

b. ZAK1FO parameter card detected errors will cause an A1 MME GEBORT. The abort will be printed on the execution report. Following are the aborts and reasons:

PCN MISSING OR INVALID. Incorrect parameter card.

PAGE NOT IN FILE, RESTART ABORTED. Non-existent page specified on parameter card for restart point.

12.3.3 Input/Output Files:

a. INPUT:

(1) Input is a B3500 print backup tape that is considered to have the following characteristics:

- BLOCKED OR UNBLOCKED
 - STANDARD LABELS
 - 9 TRACK
 - HIGH DENSITY
 - FIXED RECORD LENGTH OF 136 EBCDIC CHARACTERS
- CREATED WITH THE "PBTB" OPTION OFF--must be MCPV generated and not
- (2) A parameter card containing user options. spooled off of disk backup

b. OUTPUT:

(1) Output will be a listing identical to the B3500 listing.

12.3.4 Output Reports. N/A.12.3.5 Reproduced Output Reports. N/A.

12.3.6 Restart/Recovery Procedures. If the job unit aborts, the RESTART option of the parameter card should be used if possible. If the RESTART option is not applicable, purge all out IAW local DPI processing procedures; rerun job unit according to local DPI procedures.

12.1 ZAK3FO Run Description:

12.1.1 Control Inputs:

12.1.1.1 Job Control Language (JCL) to punch a B3500 punch backup tape:

Col 1	Col 8	Col 16
\$	IDEN1	(USER SPECIFIED)
\$	USERID	(USER SPECIFIED)
\$	LIBRARY	LA
\$	USE	ZAK3FO
\$	ENTRY	ZAK3FO
\$	EXECUTE	
\$	LIMITS	,1K
\$	TAPE9	LA, XPD,,nnnnn,,USER LIBRARY
\$	TAPE9	F1, XID,,nnnnn,,B3500-BLOCKED-1-BACKUP
		PUNCH TAPE (OPTIONAL)
\$	TAPE9	F6, XID,,nnnnn,,B3500-BLOCK-6-BACKUP
		PUNCH TAPE (OPTIONAL)
\$	PUNCH	C1
\$	ENDJOB	

*NOTE: The punch is dedicated to the program during execution.

12.1.2 Management Information:

12.1.2.1 Run Identification. ZAK3FO.

12.1.2.2 Peripheral Equipment Requirements. Card reader, tape, and card punch.

12.1.2.3 Security Classification. Determined by data.

12.1.2.4 Software Problems. Report any difficulty directly to ADPDC Field Assistance, ARIOVON 921-1021.

*12.1.2.5 Operator Messages/Responses:

a. The following message will be displayed on the console when an error is detected in the card punch:

PUNCH ERROR -- CLEAR AND READY PUNCH

b. ZAK3FO detected errors will result in a user's ABNME GIBORI. The abort will be printed on the execution report. Following are the aborts and reasons:

*ERROR NO F1 OR F6 TAPE INPUT. The tape input was not input as Filecode F1 or F6.

*ERROR NO PUNCH CARD (FC C1) PRESENT. The "\$ PUNCH" card did not have C1 as the Filecode in col6, or the "\$ PUNCH" card was not in the JCL stream.

*ERROR - INPUT IS NOT A TAPE. The F1 or F6 input Filecode was not assigned to tape.

12.1.3 Input/Output Files:

a. INPUT. Input is a 9-track EBCDIC B3500 punch backup tape.

b. OUTPUT. Output will be a punched card deck identical to the B3500.

12.1.4 Output Reports. N/A.

12.4.5 Reproduced Output Reports. N/A.

12.4.6 Restart/recovery Procedures. If the job unit aborts, purge all output IAW local DPI processing procedures, rerun job unit accordant to local DPI procedures.

PART SEVEN - TEST FILE GENERATOR PROGRAMS

SECTION 13. SYSTEM OVERVIEW

13.1 System Application. The purpose of the Test File Generator Programs is to enable programmers to create test data files for subsequent use as input to a designated program. Program development often requires that test data files be created for adequate validation. ZACØFO and ZADØFO enable data bases to be created for this purpose. Input is accepted from cards (ZACØFO), disk or tape (ZADØFO) and placed on disk or tape in standard system format. The size of the input and output is designated via a control card.

13.2 System Organization. Figures 13-01 and 13-02 show the general data processing operation of the Test File Generator Programs.

13.3 Program Inventory:

PROGRAM/SUBROUTINE NAME	PROGRAM-ID	CLASSIFICATION
Test File Generator from Cards	ZACØFO	Unclassified
Test File Generator from Tape/Disk	ZADØFO	Unclassified

13.4 File Inventory:

RCS/PCN	TITLE	FILE-ID	MEDIUM
	ZACØFO Output	FZACØFO1U	Tape/Disk
	Test Data Input	FZADØFOAU	Tape/Disk
	ZADØFO Output	FZADØFO1U	Tape/Disk
C7 S891-CØ1	Control Card/Test Data	CZACØFOAU	Card
C7 S891-DØ1	Control Card	CZADØFOAU	Card

13.5 Processing Overview. The Test File Generator Program provides the capability to create data files for subsequent use to validate programs. The programmer can specify the size of each record by the use of a control card in his deck. This control card is identified by an asterisk (*) in card column 1 and should precede the data. The output file (disk or tape) is specified by the appropriate control card in the deck.

13.6 Security and Privacy. The classification of the Test File Generator Program run will be determined by the data and user.

13.7 System Configuration and Installation Procedures. The programs, as included on the AFDSDC block release tape, are in object form (R*). They may be selected and added to a program library or called directly from tape.

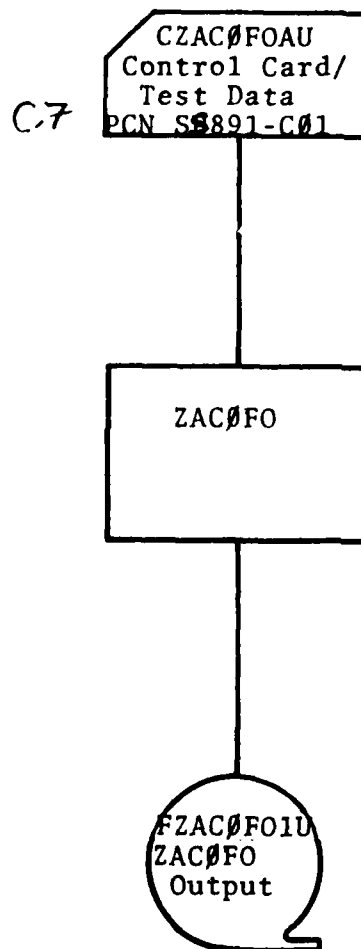


FIGURE 13-01. ZACFO Processing Flow

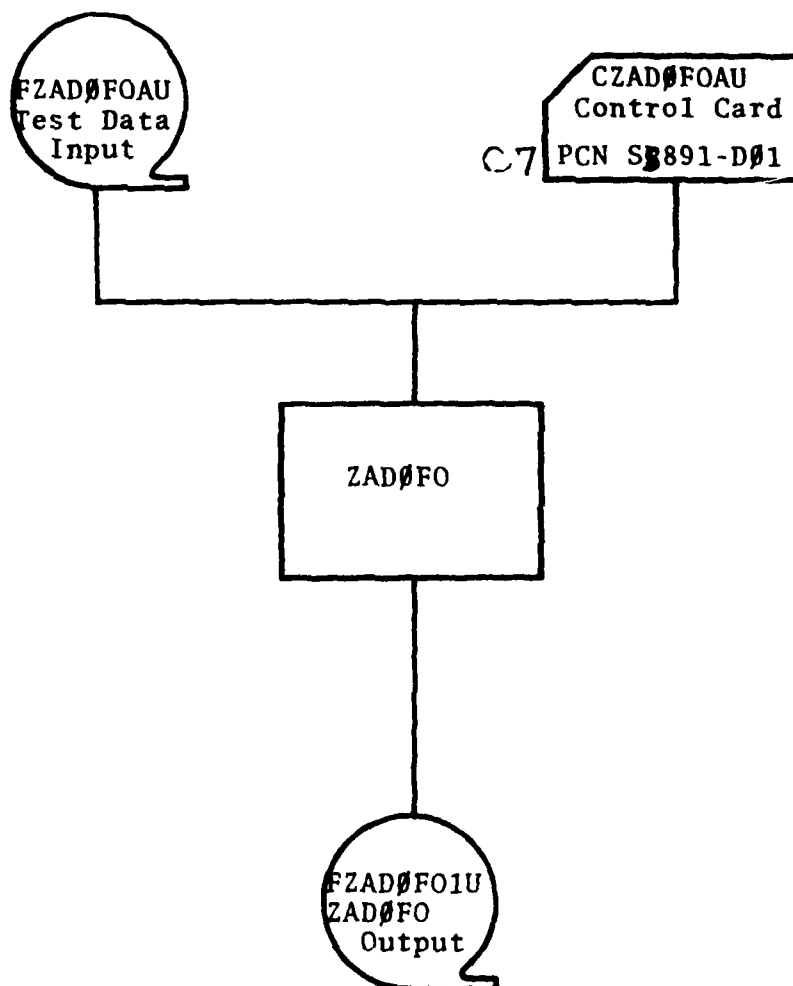


FIGURE 13-02. ZADFO Processing Flow

SECTION 14. DESCRIPTION OF RUNS

14.1 Run Inventory:

14.1.1 ZAC#FO - Test File Generator From Cards. The function of this program is to create test data files from card image input for use in debugging programs.

14.1.2 ZAD#FO - Test File Generator From Tape/Disk. The function of this program is to create test data files from tape or disk input for use in debugging programs.

14.2 Phasing. N/A.

14.3 ZAC#FO Run Description:

14.3.1 Control Inputs. The following job control statements are required to initiate the run.

Col 1	Col 8	Col 16
\$	IDENT	(USER SPECIFIED)
\$	USERID	(USER SPECIFIED)
\$	LIBRARY	LA
\$	USE	ZAC#FO
\$	ENTRY	ZAC#FO
\$	EXECUTE	
\$	LIMITS	,4K
\$	TAPE9	LA,X#D,,nnnnn,,USER-LIBRARY
\$	TAPE9	F1,X1D,,99999,,ZAC#FO-OUTPUT
\$	DATA	I*
\$	ENDJOB	

See paragraph 14.1.2.1 of the Users Manual for PCN and Control Card Formats.

14.3.2 Management Information:

14.3.2.1 Run Identification. ZAC#FO.

14.3.2.2 Peripheral Equipment Requirements. Tape or disk.

14.3.2.3 Security Classification. Determined by data.

14.3.2.4 Software Problems. Report any difficulty directly to AFSDC Field Assistance, AUTOVON 921-4021.

14.3.2.5 Operator Messages/Responses. ZAC#FO detected aborts will terminate with an AI MME GEBORT. The following are the aborts and reasons for them.

- *ERROR - PCN card missing or invalid.
Valid PCN card is not present.
- *ERROR - First data card needs * in Col 1.
First card in data deck does not contain an asterisk in Col 1.
- *ERROR - Character count greater than 1908.
The input or output character count 15 greater than 1908.
- *ERROR - No control card present.
No control card present or data present.
- *ERROR - File codes do not match.
The file code on the appropriate JCL card doesn't match the file code in the control card.

14.3.3 Input/Output Files. Input is in card format. Output will be formatted based on the requirements of the programmer.

14.3.4 Output Reports. N/A.

14.3.5 Reproduced Output Reports. N/A.

14.3.6 Restart/Recovery Procedures. If the job unit aborts, purge all output IAW DPT processing procedures, rerun job unit.

14.4 ZAD@FO Run Description

14.4.1 Control Inputs. The following job control statements are required to initiate the run

Col 1	Col 4	Col 16
\$	IDENT	(USER SPECIFIED)
\$	USERID	(USER SPECIFIED)
\$	LIBRARY	LA
\$	USE	ZAD@FO
\$	ENTRY	ZAD@FO
\$	EXECUTE	
\$	LIMITS	,4K
\$	TAPE9	LA,X@D,,nnnnn,,USPR-LIBRARY
\$	TAPE9	F2,X2D,,nnnnn,,TEST-DATA-INPUT
\$	TAPE9	P1,X1D,,99999,,ZAD@FO-OUTPUT
\$	DATA	I*
\$	ENDJOB	

See paragraph 14.2.2.1 of the Users Manual for PCN and Control Card Formats.

14.4.2 Management Information:

14.4.2.1 Run Identification. ZAD@FO.

14.4.2.2 Peripheral Equipment Requirements. Tape or disk.

14.4.2.3 Security Classification. Determined by data.

14.4.2.4 Software Problems. Report any difficulty directly to AFDSDC Field Assistance, AUTOVON 921-4021.

14.4.2.5 Operator Messages/Responses. ZAD@FO detected aborts will terminate with a Zn abort. The following are the aborts and reasons for them:

- *ERROR - PCN card missing or invalid.
Valid PCN card is not present.
- *ERROR - First data card needs * in Col 1.
First card in data deck does not contain an asterisk in Col 1.
- *ERROR - Character count greater than 1908.
The input or output character count is greater than 1908.
- *ERROR - No control card present.
No control card present or data present.
- *ERROR - File codes do not match.
The file code on the appropriate JCL card doesn't match the file code in the control card.
- *ERROR - Input data FC must be F2.
File code of input data is not F2.

14.4.3 Input/Output Files. Input and output will be in SSF.

14.4.4 Output Reports. N/A.

14.4.5 Reproduced Output Reports. N/A.

14.4.6 Restart/Recovery Procedures. If the job unit aborts, purge all output IAW
DPI processing procedures; rerun job unit according to local DPI procedures.

PART EIGHT - COMMAND IDENTIFIER SUBROUTINE

SECTION 15. SYSTEM OVERVIEW

15.1 System Application. The purpose of this subroutine is to eliminate the necessity of changing many standard programs if the location of the command code in the \$ IDENT control card is changed. It moves the command code from the slave prefix area to a user work area for output label processing, file control table file-ID modification, or other uses required.

15.2 System Organization. Figure 15-01 shows the general data processing operations.

15.3 Program Inventory:

PROGRAM/SUBROUTINE NAME	PROGRAM-ID	CLASSIFICATION
Command Identifier Subroutine	ZAP7FO	Unclassified

15.4 File Inventory. N/A.

15.5 Processing Overview. The Command Identifier Subroutine provides sites, who support other commands, the ability to differentiate between command data without changing standard programs when the command code in the \$ IDENT is relocated. It moves the command code from the slave prefix area to a user's work area for required processing.

15.6 Security and Privacy. The classification of the subroutine run will be the same as the overall job classification.

15.7 System Configuration and Installation Procedures. This subroutine, as included on the AFDSDC block release tape, is in object form (R*). It may be selected and added to a library or called directly from the tape.

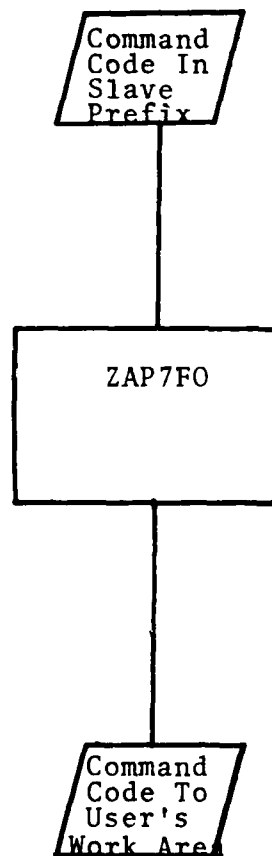


FIGURE 15-01. ZAP7FO Processing Flow

SECTION 16. DESCRIPTION OF RUNS

16.1 Run Inventory:

16.1.1 ZAP7FO - Command Identifier Subroutine. The function of this subroutine is to move the command code from the slave prefix to a user's work area.

16.2 Phasing. N/A.

16.3 ZAP7FO Run Description:

16.3.1 Control Inputs:

a. The following job control statements are required when using the object library:

Col 1	Col 8	Col 16
\$	IDENT	
\$	USERID	
	.	
	.	
\$	EXECUTE	
	.	
\$	PRMFL	*L,R,R,CAT/FILE WITH ZAP7FO

b. The following job control statements are required when using a \$ LIBRARY control card:

Col 1	Col 8	Col 16
\$	IDENT	
\$	USERID	
	.	
	.	
\$	LIBRARY	LB (See Control Cards Reference Manual for format and placement)
	.	
	.	
	.	
\$	EXECUTE	
\$	PRMFL	LB,R,R,CAT/FILE WITH ZAP7FO

16.3.2 Management Information:

16.3.2.1 Run Identification. ZAP7FO.

16.3.2.2 Peripheral Equipment Requirements. N/A.

16.3.2.3 Security Classification. Determined by data.

16.3.2.4 Software Problems. Report any difficulty directly to AFSDC Field Assistance, AUTOVON 921-4021.

16.3.2.5 Operator Messages/Responses. N/A.

16.3.3 Input/Output Files. N/A.

16.3.4 Output Reports. N/A.

16.3.5 Reproduced Output Reports. N/A.

16.3.6 Restart/Recovery Procedures. N/A.

PART NINE - COBOL SORT ROUTINE

SECTION 17. SYSTEM OVERVIEW

17.1 System Application. The purpose of the COBOL Sort Routine (PRESTO) is to reduce core in COBOL programs using the SORT verb. Operational improvement provided by PRESTO include reduced core requirements at run time which improves system throughput. ZAPØFO works as a subroutine in conjunction with standard COBOL SORT Sub-routines to allow the Honeywell Sort/Merge program to use work space which would otherwise be used during the sort. ZAPØFO cannot be used in the merge portion of the Honeywell Sort/Merge. ZAPØFO moves the contents of its work space to a (H#) temporary random disk file. ZAPØFO can be used with some modification to existing programs.

17.2 System Organization. Figure 17-01 shows the General system flo. of ZAPØFO.

17.3 Program Inventory:

<u>PROGRAM/SUBROUTINE NAME</u>	<u>PROGRAM ID</u>	<u>CLASSIFICATION</u>
COBOL Sort Routine (PRESTO)	ZAPØFO	Unclassified

17.4 File Inventory. (H#) temporary file created by program.

17.5 Processing Overview. ZAPØFO is a method for overlaying the unused file control block in a label common area. If an abort takes place, it interrupts and restores the file control blocks as they were. The program does a CALL PRESTO at the beginning of the program and all Sorts thereafter are interrupted and placed in overlay area.

17.6 Security and Privacy. The classification of the COBOL Sort Routine (PRESTO) will be determined by the data and user.

17.7 System Configuration and Installation Procedures. This program, as included in the AFDSDC Block Release tape, is in object (R*). This program should be added to a program library.

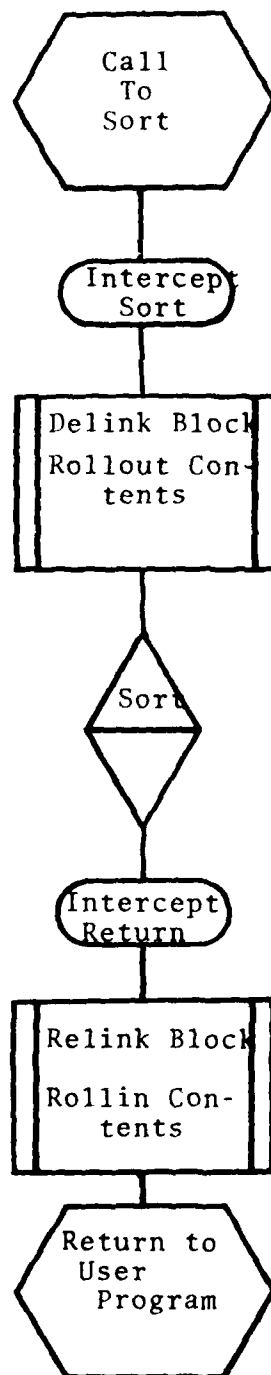


FIGURE 17-01. ZAPFO Processing Flow

SECTION 18. DESCRIPTION OF RUNS

18.1 Run Inventory:

18.1.1 ZAPFO - COBOL Sort Routine (PRESTO). The function is to reduce core to COBOL with SORT by overlaying File Control Block not used during the Sort.

18.2 Phasing. N/A.

18.3 ZAPFO Run Description:

18.3.1 Control Inputs. The following is a sample of JCL:

Col 1	Col 8	Col 16
\$	OPTION	COBOL
\$	USE	ZAPFO
\$	USE	.SMA/1/,.XBUF1/4540/
\$	USE	.XBUF2/2/,.F1/872/F3/872/
\$	USE	P1/880,.SMC/1/
\$	COBOL	NDECK
\$	(SOURCE)	
	.	
050000	Procedure Division.	
050100	001-BEGIN.	
050200	CALL PRESTO	
050300	SORT-FILE	
050400	STOP RUN.	
\$	EXECUTE	
\$	LIMITS	...
\$	PRMFL	*L,R,S,...
\$	FILE	H#,,3R
\$	FILE	S1,20R
\$	DATA	F1
	.	
\$	TAPE	F2...
\$	TAPE	F3...
\$	SYSOUT	P1

18.3.2 Management Information:

18.3.2.1 Run Identification. ZAPFO.

18.3.2.2 Peripheral Equipment Requirements. Disk.

18.3.2.3 Security Classification. Determined by data.

18.3.2.4 Software Problems. Report any difficulty directly to AFSDC Field Assistance, AUTOVON 921-4021.

18.3.2.5 Operator Messages/Responses. N/A.

18.3.3 Input/Output Files. N/A.

18.3.4 Output Reports. N/A.

18.3.5 Reproduced Output Reports. N/A.

18.3.6 Restart/Recovery Procedures. The COBOL Sort Routine (PRESTO) restores the overlaid area if an abort takes place.

PART TEN - COBOL AIDS

SECTION 19. SYSTEM OVERVIEW

19.1 System Application. The purpose of the COBOL Aids is to give the COBOL programmer some tools to be used in the development/conversion of COBOL programs. These aids could be in the form of translators, optimizers or other utility software which becomes available for the COBOL user.

19.2 System Organization. Figure 19-01 shows the general data processing operation of the program ZABUFO.

19.3 Program Inventory:

<u>PROGRAM/SUBROUTINE NAME</u>	<u>PROGRAM ID</u>	<u>CLASSIFICATION</u>
B3500 to H6000 COBOL Translator	ZABUFO	Unclassified

19.4 File Inventory:

<u>RCS/PCN</u>	<u>TITLE</u>	<u>FILE ID</u>	<u>MEDIUM</u>
	B3500 COBOL Program	FZABUFOAU	Tape/Disk
	H6000 COBOL Program	FZABUF01U	Tape/Disk
* C7 S891-RU2	AFDSDC B3500-to-H6000 COBOL Translator	PZABUF02U	List

NOTE: File ID constructed to user specifications.

19.5 Processing Overview. COBOL aids are provided to reduce the amount of time and increase efficiency in the development/conversion of COBOL programs. The only program currently available is the B3500 to H6000 COBOL translator. Other programs will be added to this category as they become operational and available.

19.6 Security and Privacy. The classification will be determined by the data and user.

19.7 System Configuration and Installation Procedures. These programs, as included on the AFDSDC block release tape, are in object form (R*). These programs may be selected and added to a program library or called directly from the tape.

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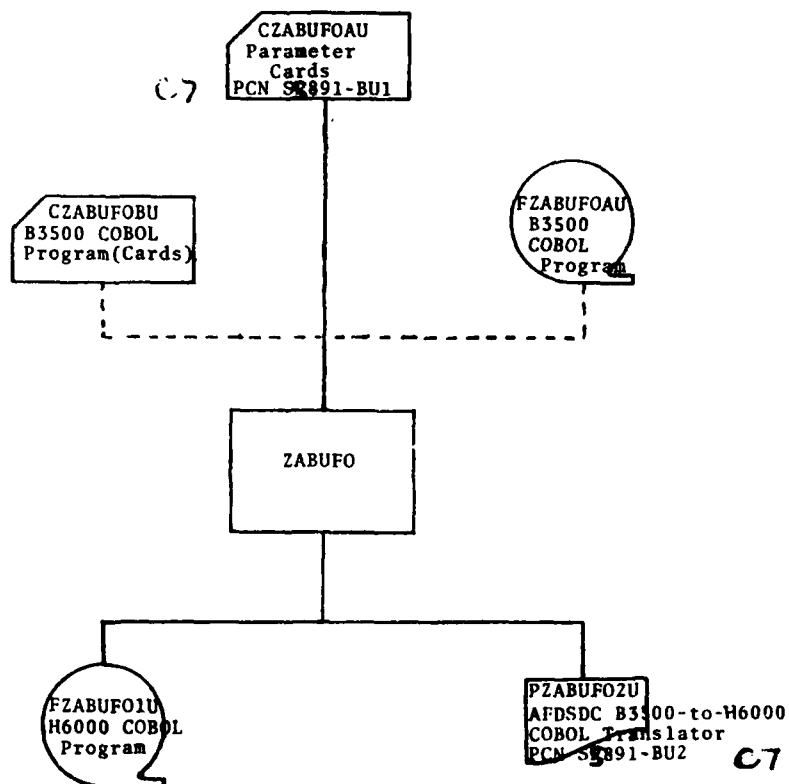


FIGURE 19-01. ZABUFO Processing Flow

SECTION 20. DESCRIPTION OF RUNS

20.1 Run Inventory:

20.1.1 ZABUFO - B3500 TO H6000 COBOL TRANSLATOR. The function of this program is to assist in the conversion of B3500 COBOL programs to H6000 COBOL. Translated programs may be placed on tape or disk for later input to the COBOL compiler. One parameter card input source program is required.

20.2 Phasing. N/A.

20.3 ZABUFO Run Description:

20.3.1 Control Inputs:

20.3.1.1 Sample JCL For Card Input (Source):

NOTE: If the source deck contains 11-Ø and/or 12-Ø punches, program ZABUFO should be executed as the first activity in the job stream.

Col 1	Col 8	Col 16
\$	IDENT	(USER SPECIFIED)
\$	USERID	(USER SPECIFIED)
\$	LIBRARY	LA
\$	USE	ZABUFO
\$	ENTRY	C.ZABU
\$	EXECUTE	
\$	LIMITS	n1,23K,,n2
\$	TAPE9	LA,XØD,,nnnn,,USER-LIBRARY
\$	DATA	C2
See Figure 20-01 Users Manual for Parameter Card Format.		
\$	DATA	C1
\$	Source Deck 1 thru Source Deck n	
\$	TAPE9	F2,X1D,,99999,,H6000-COBOL Program
\$	SYSOUT	P1
\$	ENDJOB	

where n = a maximum of 50

n1 = nr. parameter cards X .04 hrs

n2 = total nr. source cards of all programs to be translated X2.5 (SYSOUT limits)

20.3.1.2 Sample JCL For Tape Or Disk Input (Source):

NOTE: Tape input to the translator must be converted via program ZAT1FO. (See AFM 171-604, Part Five, Vols I & II.)

Col 1	Col 8	Col 16
\$	IDENT	(USER SPECIFIED)
\$	USERID	(USER SPECIFIED)
\$	LIBRARY	LA
\$	USE	ZABUFO
\$	ENTRY	C.ZABU
\$	EXECUTE	
\$	LIMITS	n1,23K,,n2
\$	TAPE9	LA,XØD,,nnnnn,,USER-LIB
\$	DATA	C2 (See Note 1)
\$	TAPE9	F1,X1D,,nnnnn,,FxxxxxxAU(See Note 2)
\$	TAPE9	F2,X2D,,nnnnn,,FyyyyyyIU(See Note 3)
\$	SYSOUT	P1
\$	ENDJOB	

NOTE 1: Ref User Manual for format of Parameter Cards.

NOTE 2: Program ID of Input Program.

NOTE 3: Program ID of Output Program.

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20.3.1.3 H6000 COBOL Compilation After ZABUFO. A source program can be selected from the translator output file by UTILITY as input to compilation. The following example of JCL flow briefly describes this function.

Col 1	Col 8	Col 16
\$	UTILITY	
\$	TAPE9	F1 (input file description - from Translator)
\$	FILE	F3,A1S (output file description - input to COBOL)
\$	FUTIL	F1,F3,RWD/F1/, (SKIP/n-1),
\$	ETC	COPY/1F/,RWD/F1/
\$	COBOL	options
\$	UPDATE	
\$	ALTER	
	.	(source programs changes) optional
\$	FILE	S*,A1R (COBOL source input - from UTILITY)

where n = source program position on Translator created file.

These activities could be placed immediately preceding the #ENDJOB card of the translator activity. (\$ SNUMB, IDENT and USERID cards must be deleted and Logical Unit Designators (LUDs) must bind the files between activities.) If only one source program is translated, the translator output file can be used as input to COBOL (S*), bypassing the UTILITY activity. (A LUD must bind the files between activities.)

20.3.2 Management Information:

20.3.2.1 Run Identification. ZABUFO.

20.3.2.2 Peripheral Equipment Requirements. Tape and/or Disk.

20.3.2.3 Security Classification. Determined by data.

20.3.2.4 Software Problems. Report any difficulty directly to AFSDC Field Assistance, AUTOVON 921-4021.

20.3.2.5 Operator Messages/Responses. N/A.

- * 20.3.3 Input/Output Files. Input is a source program from card, SOLT or MFSOLT tape, or H6000 disk. Tape input must be translated to H6000 system standard format via program ZAT1FO. B3500 MFSOLT tapes contain a directory plus one file for each source program. To get the correct number of programs converted (ZAT1FO), the user must add one to the number of files input (Ref AFM 171-604, Vol II, Figure 10-02, INPUT FILE/REEL Field). ZABUFO will accept only the first B3500 source program output from ZAT1FO. If the remaining programs are to be translated, each program must be input individually to ZABUFO via UTILITY or input as cards. Output will be translated program written on tape or disk for later processing. If disk is used, appropriate user action must be taken to allocate Catalog/File space prior to the translation.

20.3.4 Output Reports. ZABUFO produces a side-by-side listing of the B3500 program and the translated program on SYSOUT.

20.3.5 Reproduced Output Reports. N/A.

20.3.6 Restart/Recovery Procedures. If the job unit aborts, purge all output IAW DPI processing procedures; rerun job unit according to local DPI procedures.

PART ELEVEN - TAPE CERTIFICATION PROGRAM

SECTION 21. SYSTEM OVERVIEW

21.1 System Application. The purpose of the tape certification program is to provide a means of certifying magnetic tapes for those installations not possessing an electronic tape certifier. It provides the capability of locating and identifying defective sections of magnetic tapes. This will enable defective and marginal tapes to be identified and removed from the tape library.

21.2 System Organization. Figure 21-01 shows the general data processing operations.

21.3 Program Inventory:

PROGRAM/SUBROUTINE NAME	PROGRAM ID	CLASSIFICATION
Tape Certification Program	ZAT3FO	Unclassified

21.4 File Inventory. N/A.

21.5 Processing Overview. The certification utility is a method of certifying magnetic tapes for those installations who do not have access to an electronic tape certifier. This function is accomplished by one stand-alone program which uses repetitive writes and reads to determine the condition of tapes.

21.6 Security and Privacy. The classification of each processing run will be determined by the reel classification.

21.7 System Configuration and Installation Procedures. This program is included on the AFDSDC block release tape, is in object form (R*). It may be selected and added to a program library.

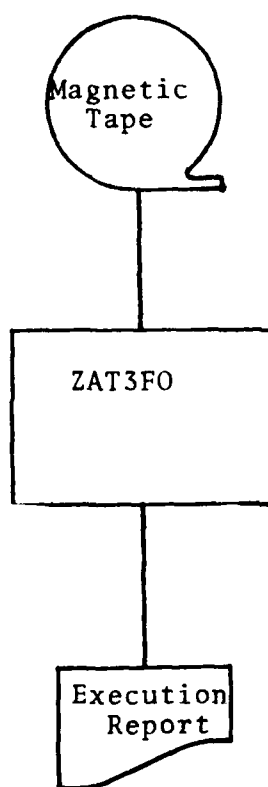


FIGURE 21-01. ZAT3FO Processing Flow

SECTION 22. DESCRIPTION OF RUNS

22.1 Run Inventory:

- * 22.1.1 ZAT3FO - Tape Certification Program. The function of this program is to certify the physical condition of magnetic tapes. This program will not work on MT500 or MT600 tape subsystems. Those subsystems are firmware controlled and do not interface with any user programs.

22.2 Phasing. N/A.

22.3 ZAT3FO Run Description:

22.3.1 Control Inputs. The following job control statements are used to initiate the run.

Col 1	Col 8	Col 16
\$	IDENT	(User Specified)
\$	USERID	(User Specified)
\$	LIBRARY	LA
\$	USE	ZAT3FO
\$	ENTRY	ZAT3FO
\$	EXECUTE	
\$	LIMITS	NN,5K,,20000
\$	TAPE9	LA,X0D,,nnnnn,,USER-LIBRARY
C7 \$	TAPE9	FA,X1D ,nnnnn (enter reel nr of tape
\$	FILE	P*,NULL to be certified)
\$	ENDJOB	

22.3.2 Management Information. N/A.

22.3.2.1 Run Identification. ZAT3FO.

22.3.2.2 Peripheral Equipment Requirements. Tape.

22.3.2.3 Security Classification. Determined by data.

22.3.2.4 Software Problems. Report any difficulty directly to AFSDSC Field Assistance, AUTOVON 921-4021.

22.3.2.5 Operator Messages/Responses. ZAT3FO will allocate a tape handler and the operator should ready the unit with the first tape to be certified. At the end of the certification process of each tape, the following message will appear on the console.

***TAPE CERTIFIER S#XXXXX, (T)erm or (C)ontinue.

If there is another tape to be certified, the operator should type a "C". A "T" will terminate the run. If a "C" is entered, a standard mount message will be issued for the tape handler.

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The following message will appear if no label record exists on the tape:

***ENTER REEL NUMBER i-cc-uu

The operator should type in the reel number.

22.3.3 Input/Output Files. N/A.

22.3.4 Output Reports. Messages are provided on the execution report showing pertinent information about the run.

22.3.5 Reproduced Output Reports. N/A.

22.3.6 Restart/Recovery Procedures. If job unit aborts, purge all Output IAW local DPI processing procedures; rerun job unit according to local DPI procedures.

PART TWELVE - SYSTEM TAPE CREATE/UPDATE

SECTION 23. SYSTEM OVERVIEW

23.1 System Application. The purpose of this system is to create and maintain a tape containing a copy of the current boot-deck. This system enables an initial tape to be created from card input. It also provides the ability to update this boot-deck tape with any section(s) of the boot-deck by building a new tape with the new section(s) applied in the proper sequence.

23.2 System Organization. Figure 23-01 shows the general data processing operations of program ZAT4FO.

23.3 Program Inventory:

PROGRAM/SUBROUTINE	PROGRAM-ID	CLASSIFICATION
H6000 System Startup Tape Create/Update Program	ZAT4FO	Unclassified

23.4 File Inventory:

RCS/PCN	TITLE	FILE-ID	MEDIUM
	Current Boot Tape	FZAT4FOAU	Tape
	New Boot Tape	FZAT4FOAU	Tape
SP891-T41	Control Card	CZAT4FOAU	Card
SP891-T42	Update Listing	PZAT4FO1U	List

NOTE: User Specified.

23.5 Processing Overview. Program ZAT4FO uses as input a current boot-deck tape, applies the new boot-deck section(s) and builds a new boot-deck tape. Boot-deck sections to be updated are input by the card reader.

23.6 Security and Privacy. Determined by data.

23.7 System Configuration and Installation Procedures. These programs, as included on the AFSDC block release tape, are in object form (R*). These programs may be selected and added to a program library or called directly from the tape.

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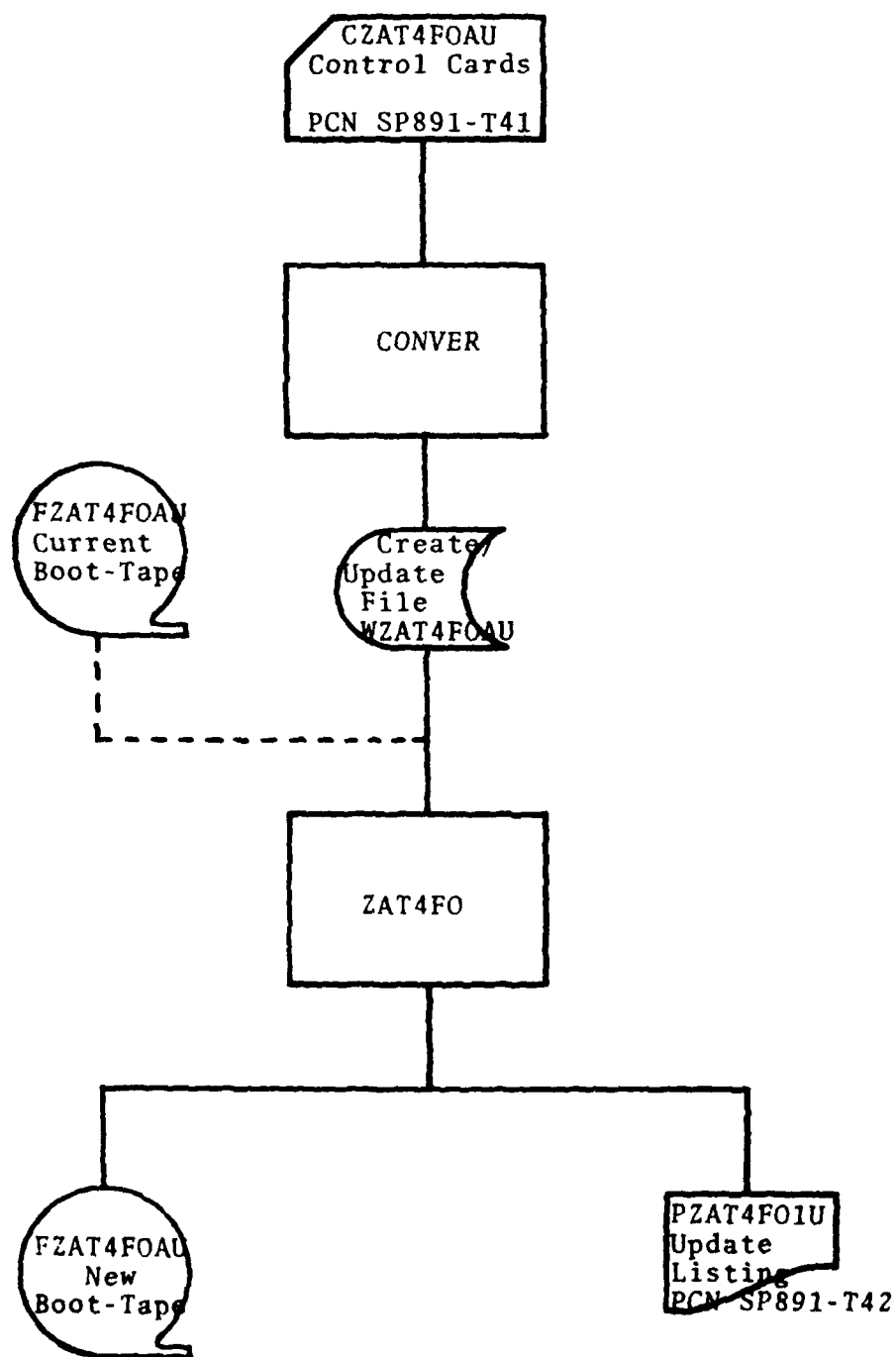


FIGURE 23-01. ZAT4FO Processing Flow

SECTION 24. DESCRIPTION OF RUNS

24.1 Run Inventory:

24.1.1 ZAT4FO - H6000 System Startup Tape Create/Update Program. The function of this program is to create/update and print the H6000 system startup boot-tape. ZAT4FO accepts as input any section(s) of the boot-deck and the current boot-tape and creates a new boot-tape.

24.2 Phasing. N/A.

24.3 ZAT4FO Run Description:

24.3.1 Control Inputs:

24.3.1.1 Job Control Language (JCL) for the initial creation of H6000 system startup boot-tape:

Col 1	Col 8	Col 16
\$	IDENT	(USER SPECIFIED)
\$	USERID	(USER SPECIFIED)
\$	CONVER	
\$	READ	IN,AIR
\$	INPUT	MBIN
\$	TAPEn	OT,X1D,,,BOOTAPE
\$	OUTPUT	B27,MIXL,NLABEL,NSER
\$	ENDJOB	

(where "n" on the \$ TAPE card is a 7 or 9 depending on the type of drive to be used for the tape bootload).

24.3.1.2 Job Control Language (JCL) for H6000 system startup tape update:

Col 1	Col 8	Col 16
\$	IDENT	(USER SPECIFIED)
\$	USERID	(USER SPECIFIED)
\$	CONVER	NSPIN
\$	INPUT	MBIN
\$	READ	IN
\$	FILE	OT,X3S,50L
\$	LIBRARY	LA
\$	USE	ZAT4FO
\$	ENTRY	C.ZAT4
\$	EXECUTE	
\$	LIMITS	10,15K
\$	TAPE9	LA,X0D,,nnnnn,,USER-LIBRARY
\$	TAPE9	F1,X1D,,nnnnn,,FZAT4FOAU
\$	SYSOUT	P2
\$	FILE	W3,X3R
\$	TAPE9	F4,X4D,,99999,,FZAT4FOAU
\$	ENDJOB	

24.3.1.3 When the BMC requests the card reader, input the boot-deck section(s) in sequence that are to be updated. For a list of the boot-tape, input the "\$PRINT" control card followed by three (3) ***EOF cards. The boot-deck sections are:

- a. BOOT-DECK, ***EOF (precede with \$BOOT-D card)
- b. INIT-DECK
- c. \$CONFIG, ***EOF
- d. \$INITIALIZE, ***EOF

- e. \$EDIT, ***EOF
- f. \$FILES, ***EOF
- g. \$PATCH, ***EOF
- h. \$LOAD, ***EOF
- i. ***EOF, ***EOF - MANDATORY

NOTE: See Figure 24-61 of Users Manual for Control Card Format.

24.3.2 Management Information:

24.3.2.1 Run Identification. ZAT4FO.

24.3.2.2 Peripheral Equipment Requirements. Tape and card reader.

24.3.2.3 Security Classification. Determined by data.

24.3.2.4 Software Problems. Report any difficulty directly to AFSDSC Field Assistance, AUTOVON 921-4021.

24.3.2.5 Operator Messages/Responses. ZAT4FO detected errors will cause a users AI MME GEBORT. The following message will be printed on the execution report:

ZAT4FO - PCN missing or invalid.
ZAT4FO - Input deck (or tape) out of sequence.

24.3.3 Input/Output Files. Input will be a current boot-deck tape (except for the initial creation) along with the section(s) to be updated preceded by a Product Control Card (PCN). Output will be a new or updated boot-deck tape.

24.3.4 Output Reports. ZAT4FO produces an update listing of the boot-deck tape.

24.3.5 Reproduced Output Reports. N/A.

24.3.6 Restart/Recovery Procedures. If the job unit aborts, purge all output IAW DPI processing procedures. Rerun job unit accordant to local DPI procedures.

* PART THIRTEEN - TAPE UNIT COMPATIBILITY TEST PROGRAM

SECTION 25 SYSTEM OVERVIEW

25.1 System Application. The purpose of the Tape Unit Compatibility Test Program is to test the compatibility of the Magnetic Tape Handlers on H6000 computers.

25.2 System Organization. Figure 25-01 shows the general data processing operation of the program.

25.3 Program Inventory:

PROGRAM NAME	PROGRAM-ID	CLASSIFICATION
Tape Unit Compatibility Test Program	ZAJ1FO	Unclassified

25.4 File Inventory:

RCS/PCN	TITLE	FILE-ID	MEDIUM
SP891-311	ZAJ1FO - Tape Unit Compatibility Test Results	PZAJ1F01U	List

25.5 Processing Overview. The Tape Unit Compatibility Test Program provides a method of testing the compatibility of the Magnetic Tape Handlers on H6000 computers.

25.6 Security and Privacy. Unclassified.

25.7 System Configuration and Installation Procedures. This program, as included on the AFDDDC block release tape, is in object form (R*). The program may be selected and added to a program library or called directly from the supplied tape; ZAJ1FO is a stand-alone program.

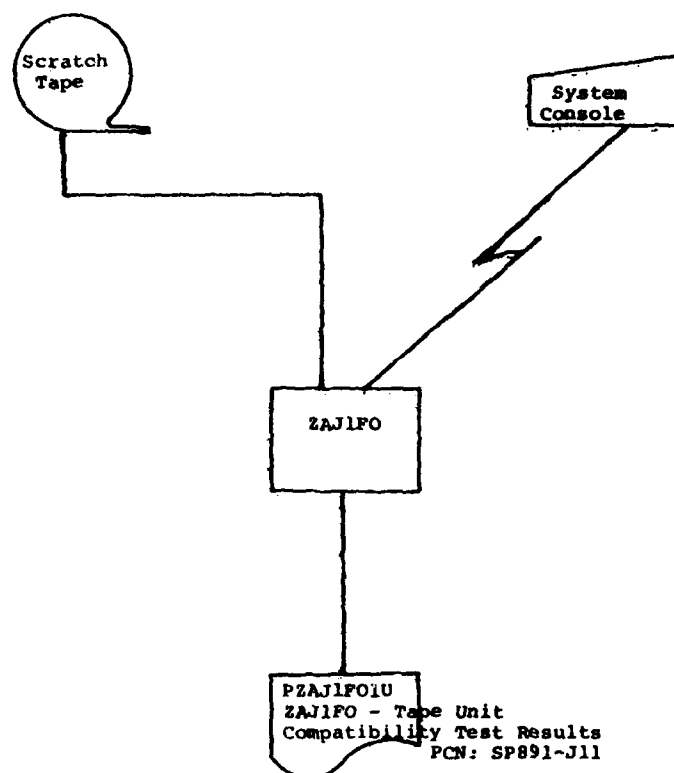


FIGURE 25-01. ZAJ1FO Processing Flow

SECTION 26. DESCRIPTION OF RUNS

26.1 Run Inventory:

26.1.1 ZAJLFO - Tape Unit Compatibility Test Program. The function of this program is to test the compatibility of Magnetic Tape Handlers on H6000 computers.

26.2 Phasing. NA.

26.3 ZAJLFO Run Description:

26.3.1 Control Inputs. The following job control language (JCL) is required to initiate the run. ZAJLFO must be run in a 0-mix environment.

```
Col 1  Col 8  Col 16
$      IDENT  (User Specified)
$      USERID (User Specified)
$      LIBRARY LA
$      USE     ZAJLFO
$      ENTRY
$      EXECUTE
$      LIMITS  ,5K
$      TAPE9   LA,X1D,,nnnn,,User Library
$      ENDJOB
```

26.3.2 Management Information:

26.3.2.1 Run Identification. ZAJLFO.

26.3.2.2 Peripheral Equipment Requirements. Tape, System Console.

26.3.2.3 Security Classification. Unclassified

26.3.2.4 Software Problems. Report any difficulty to the AFDSDC Field Assistance, AUTOVON 921-4021.

26.3.2.5 Operator Messages/Responses. The following messages appear on the operator's console:

TAPE UNIT COMPATIBILITY TEST PROGRAM

No response is required to this message. It is informational only.

HOW MANY DRIVES ARE TO BE TESTED TODAY?

The response to this message is a two-digit number indicating how many tape handlers are to be tested against each other during this execution, such as "06." The number may vary from 02 to nn, where nn is the maximum number of 800 BPI 9-track tape handlers present on the system.

WHAT DRIVE DO YOU DESIRE TO START ON?

The response to this message is a two-digit number indicating the first tape handler to be tested. Tape handler 9T1 would be entered as "01", tape handler 9T6 would be entered as "06", and tape handler 9TC would be entered as "12."

WHAT DRIVE SHOULD BE USED NEXT?

The response to this message is again a two-digit number indicating the next tape handler to be tested. This message will continue to appear, requiring a response until the indicated number of tape handlers to be tested has been allocated.

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ERROR - ANSWER LAST QUESTION

This message is self-explanatory.

ATTENTION PLACE ALL TAPE UNITS IN STANDBY STATUS

All tape handlers, with the exception of the handler on which the accounting tape is mounted, should have any tapes on them dismounted and the unit placed in its standby status as opposed to its ready status.

RESPOND "DONE" WHEN ALL UNITS IN STANDBY STATUS

After all tape handlers, with the exception of the unit on which the accounting tape is mounted, have been placed in standby status, the operator should enter "DONE", so signifying.

MOUNT SCRATCH AND READY UNIT NN

"NN" will be a two-digit number indicating the starting tape handler of the test sequence. The operator should mount a scratch tape on the indicated unit, load it, and insure it is in ready status.

DISMOUNT TAPE, PLACE UNIT IN STANDBY STATUS

The operator should manually unload the test tape and place the unit in standby status.

RESPOND "DONE" WHEN TAPE DISMOUNTED

After the operator has unloaded the test tape and placed the unit in standby status, he should enter "DONE" in response to this message.

MOUNT TEST TAPE ON UNIT NN

"NN" will be a two-digit number indicating the next tape handler to be tested. The operator should mount the test tape on the indicated unit, load it, and insure it is in ready status.

HARDWARE READ/WRITE ERROR OCCURRED - PROGRAM ABORTED

This message is self-explanatory. The operator should rerun the job using a different scratch tape. If this message occurs during the subsequent run, it is probable that one of the tape handlers is experiencing a hardware read/write error and the appropriate personnel should be notified so that it may be repaired.

26.3.3 Input/Output Files. NA.26.3.4 Output Reports. ZAJ1FO - Tape Unit Compatibility Test Results, PCN: SP891-J11, File-ID: PZAJ1F01U.26.3.5 Reproduced Output Reports. NA.26.3.6 Restart/Recovery Procedures. If program aborts, rerun ZAJ1FO paying particular attention to giving correct responses on the System Console to program initiated questions.

* PART FOURTEEN - STANDARD A1 ABORT SUBROUTINE

SECTION 27. SYSTEM OVERVIEW

27.1 System Application. The purpose of the Standard A1 Abort Subroutine is to provide H6000 programmers a common subroutine that will eliminate redundant programming efforts. This subroutine is designed to cause a display of the user's A1 Abort code when there is a need to discontinue execution of a COBOL program or job stream caused by a predetermined error condition that would negate continued processing without being corrected.

27.2 System Organization. Figure 27-01 shows the general data processing operation for calling the ZASIFO subroutine into the COBOL program.

27.3 Program Inventory:

SUBROUTINE NAME	SUBROUTINE-ID	CLASSIFICATION
A1 Abort Subroutine	ZASIFO	Unclassified

27.4 File Inventory: N/A

27.5 Processing Overview. The Standard A1 Abort Subroutine provides the H6000 programmer with a pre-programmed subroutine to reduce duplicating programming efforts and increase programmer effectiveness in functional programming areas. It must be used with COBOL 74 and subsequent COBOL compilers.

27.6 Security and Privacy. Unclassified.

27.7 System Configuration and Installation Procedures. This subroutine, as included on the AFDSDC block release tape, is in object form (R*). The subroutine may be selected and added to a program library or it may be called directly from the block release tape as determined by local DPL procedure. This subroutine is not a stand-alone program; it is an individual subroutine that is to be included in a program using the CALL verb.

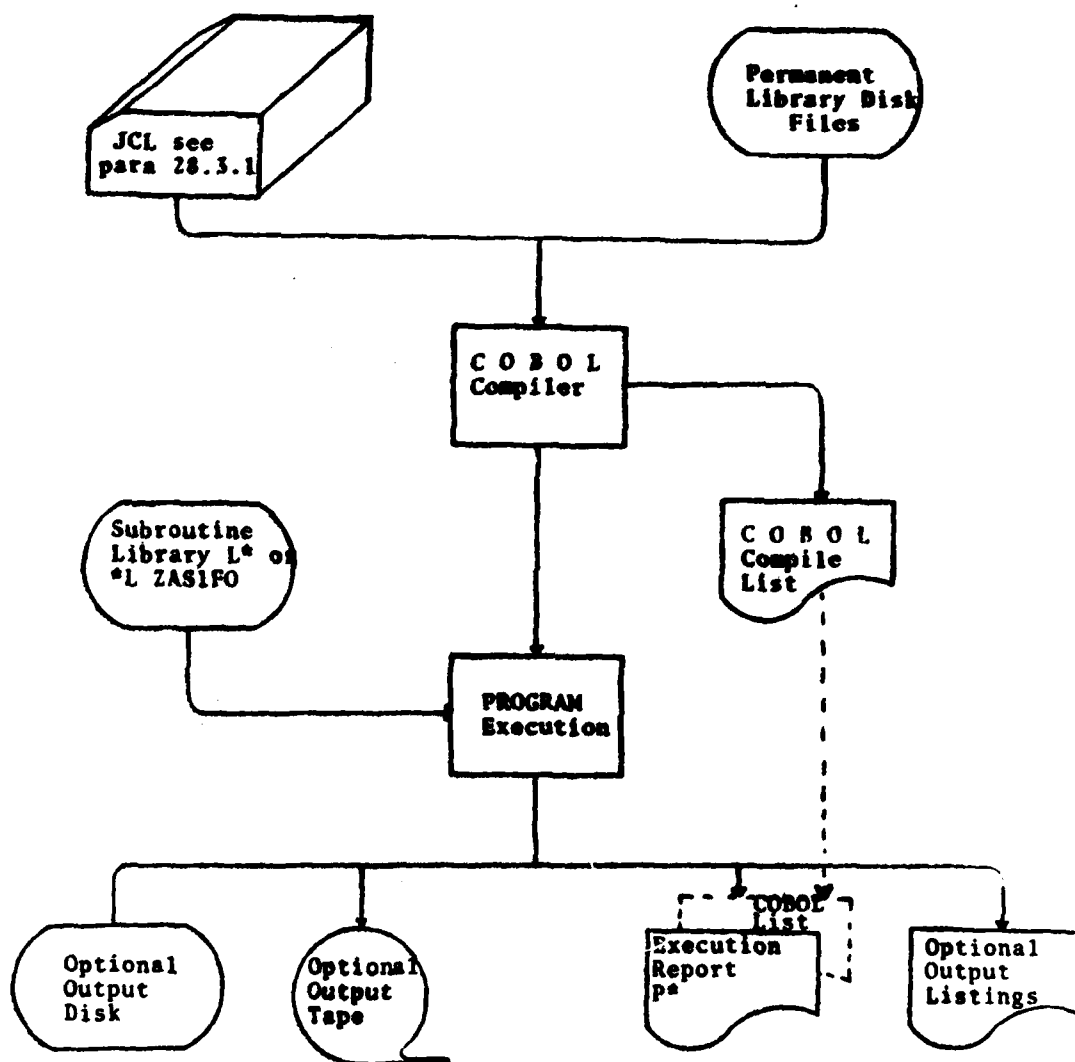


FIGURE 27-01. Standard A1 Abort Subroutine Processing Flow

SECTION 28. DESCRIPTION OF RUNS

28.1 Run Inventory:

28.1.1 ZASIFO - Standard AI ABORT Subroutine. The function of this subroutine is to cause the display of a USER's AI ABORT on the activity termination line of the job execution report when a predetermined condition will negate any usefull output or further processing unless corrected.

28.2 Phasing. N/A.

28.3 ZASIFO Run Description:

28.3.1 Control Inputs. The following job control statements are required to initiate the run:

Col 1	Col 8	Col 16
\$	IDENT	(USER SPECIFIED)
\$	USERID	(USER SPECIFIED)
\$	LIBRARY	LA
\$	USE	ZASIFO
\$	ENTRY	ZASIFO
\$	EXECUTE	
\$	LIMITS	(USER SPECIFIED)
\$	TAPE9	LA, XØD,,nnnnn,,User Library (with ZASIFO)
\$	ENDJOB	

28.3.2 Management Information:

28.3.2.1 Subroutine Identification. ZASIFO.

28.3.2.2 Peripheral Equipment Requirements. N/A.

28.3.2.3 Security Classification. Unclassified.

28.3.2.4 Software Problems. Report any difficulty to the AFSDC Field Assistance, AUTOVON 921-4021.

28.3.2.5 Operator Messages/Responses. N/A.

28.3.3 Input/Output Files. N/A.

28.3.4 Output Reports. N/A.

28.3.5 Reproduced Output Reports. N/A.

28.3.6 Restart/Recovery Procedures. N/A.

* PART FIFTEEN - FILE ACCESS INQUIRY SUBROUTINE

SECTION 29. SYSTEM OVERVIEW

29.1 System Application. The purpose of the File Access Inquiry Subroutine is to provide application programs the following information about a cataloged file:

- a. The date that the last activity which wrote to the file relinquished its allocation. (MMDDYY - one word BCD)
- b. The time that the last activity which wrote to the file relinquished its allocation. (HHMMSS - one word BCD)
- c. The current total number of allocations of any kind to the file since it was created. (999999 - one word BCD)
- d. The date of the last allocation of any kind. (MMDDYY - one word BCD)
- e. The date the file was created. (MMDDYY - one word BCD)

29.2 System Organization. Figure 29-1 shows the general data processing operation of ZAS2FO.

29.3 Program Inventory:

PROGRAM/SUBROUTINE NAME	PROGRAM-ID	CLASSIFICATION
File Access Inquiry Subroutine	ZAS2FO	Unclassified

29.4 File Inventory. N/A.

29.5 Processing Overview. The File Access Inquiry Subroutine is invoked through the standard H6000 subroutine calling protocol. After verifying the type and number of parameters, the subroutine formats the application program's request for the File Management Supervisor. After a successful return from FMS the parameters are used to pass the requested information back to the application program. Any error conditions detected by FMS or ZAS2FO will cause the subroutine to print a diagnostic message on the job execution report and terminate the job with an "A1" abort.

29.6 Security and Privacy. The classification of the subroutine run will be the same as the overall job classification.

29.7 System Configuration and Installation Procedures. The File Access Inquiry Subroutine, as included on the AFDSDC block release tape, is a relocatable object deck. (R* Format) It may be selected and added to a library or called directly from the tape.

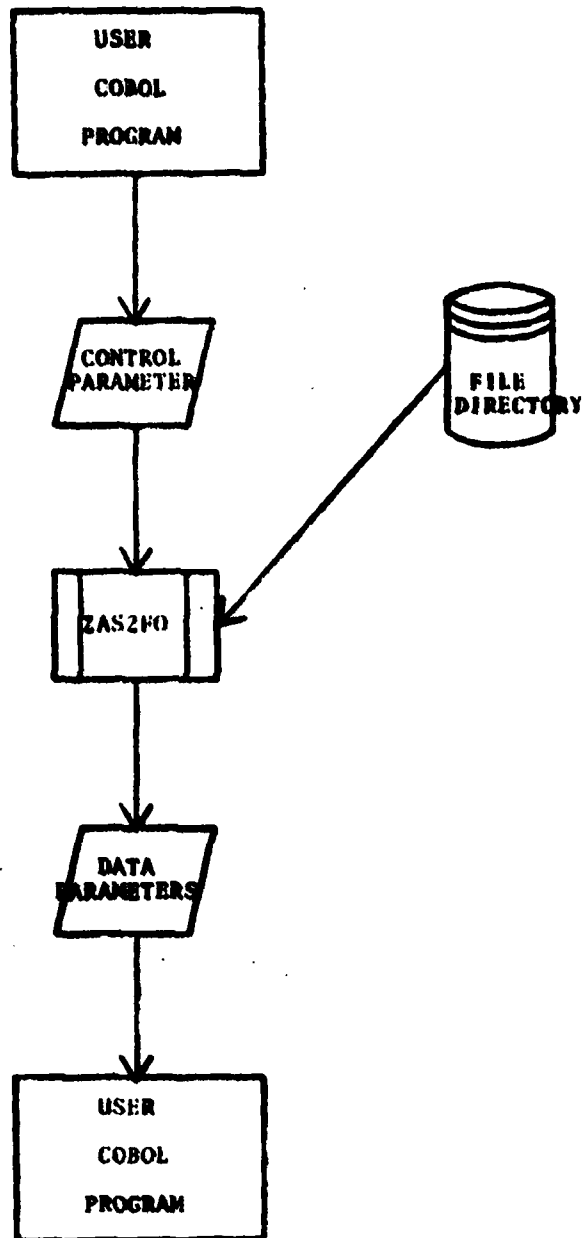


FIGURE 29-01. ZAS2FO Processing Flow

SECTION 30. DESCRIPTION OF RUNS

30.1 Run Inventory:

30.1.1 ZAS2FO - File Access Inquiry Subroutine. The function of the File Access Inquiry Subroutine is to provide a limited interface between application programs and the File Management Supervisor.

30.2 Phasing. N/A.

30.3 ZAS2FO Run Description:

30.3.1 Control Inputs: The following job control cards are suitable for calling ZAS2FO directly from the AFDSDC release tape:

Col 1	Col 8	Col 16
\$	IDENT	
\$	USERID	
\$	OPTION	COBOL
\$	COBOL	
		(the program which calls ZAS2FO)
\$	LIBRARY	LB
\$	EXECUTE	
\$	TAPE9	LB,T1D,,nnnnn,,file-id (of the release tape)
\$	ENDJOB	

30.3.2 Management Information:

30.3.2.1 Run Identification. ZAS2FO.

30.3.2.2 Peripheral Equipment Requirements. N/A.

30.3.2.3 Security Classification. The File Access Inquiry Subroutine is certified to access only the file directory records of a given file and will not access any of the user's data.

30.3.2.4 Software Problems. Report any difficulty directly to AFDSDC Field Assistance, AUTOVON 921-4021.

30.3.2.5 Operator Messages/Responses. N/A.

30.3.5 Input/Output Files. N/A.

30.3.4 Output Reports. N/A.

30.3.5 Reproduced Output Reports. N/A.

30.3.6 Restart/Recovery Procedures. N/A.

1 August 1980

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SUMMARY OF REVISED, DELETED, OR ADDED MATERIAL

This revision completely redocuments the P891 system IAW revised AFM 171-100, Volume II standards dated 1 November 1975. The following documents are deleted as of 1 December 1976:

H6000 User Advisory #20, dated 26 Aug 74.
H6000 User Advisory #22, dated 24 Oct 74.
H6000 User Advisory #23, dated 8 Mar 74.
H6000 User Advisory #25, dated 8 Apr 74.
H6000 User Advisory #26, dated 8 Apr 74.
H6000 User Advisory #27, dated 3 Jun 74.
H6000 User Advisory #30, dated 6 Jan 75.
H6000 User Advisory #31, dated 26 Aug 74.
H6000 User Advisory #34, dated 18 Sep 74.
H6000 User Advisory #35, dated 24 Oct 74.
H6000 User Advisory #36, dated 24 Oct 74.
H6000 User Advisory #37, dated 4 Dec 74.
H6000 User Advisory #39, dated 6 Jan 76.
H6000 User Advisory #40, dated 17 Jan 75.
H6000 User Advisory #44, dated 31 Mar 75.
H6000 User Advisory #45, dated 25 Aug 75.
H6000 User Advisory #46, dated 17 Oct 75.
H6000 User Advisory #47, dated 17 Oct 75.
Gunter H6000 Software Advisory Notice, SDT014, dated 25 Sep 73
Gunter H6000 Software Advisory Notice, SDT016, dated 17 May 74
Gunter H6000 Software Advisory Notice, SDT045, dated 12 Feb 75
Gunter H6000 Software Advisory Notice, SDT055, dated 15 Aug 75
Gunter H6000 Software Advisory Notice, SDT057, dated 28 Oct 75
Gunter H6000 Software Advisory Notice, SDM064, dated 18 Feb 76

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change 1
AFM 171 604
Volume 1
1 January 1977

Automatic Data Processing Systems and Procedures

H6000 UTILITY SOFTWARE COMPUTER OPERATION MANUAL: P891/ZA

AFM 171-604, Volume 1, 1 December 1976, is changed as follows:

Page Changes. New or revised material is indicated by *.

<u>Remove</u>	<u>Date</u>	<u>Insert</u>
5-1, 5-2	1 Dec 76	5-1, 5-2 ✓
5-7, 5-8	"	5-7, 5-8 ✓
7-1, 7-2	"	7-1, 7-2 ✓
8-1 thru 8-3	"	8-1 thru 8-3 ✓
14-1, 14-2	"	14-1, 14-2 ✓
20-1, 20-2	"	20-1, 20-2 ✓
24-1, 24-2	"	24-1, 24-2 ✓

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AFM 171-604, Volume I, 1 December 1976, is changed as follows:

Page Changes. New or revised material is indicated by *.

Remove	Date	Insert
9-1 thru 9-3	1 Dec 76	9-1 thru 9-3
10-1, 10-2	"	10-1, 10-2

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CHANGE 3
AFM 171-604
Volume 1
1 September 1977

Automatic Data Processing Systems and Procedures
H6000 UTILITY SOFTWARE COMPUTER OPERATION MANUAL: P891/ZA

AFM 171-604, Volume 1, 1 December 1976, is changed as follows:

Write-in Changes:

Page	Portion	Action
10-2	Para 10.3.4	Change the Output Reports paragraph to read: "Input Tape Utility Parameter List, PCN SP891-T12."
10-3	Para 10.4.4	Change the Output Reports paragraph to read: "Output Tape Utility Parameter List, PCN SP891-T22."

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Volume 1
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AFM 171-604, Volume I, 1 December 1976, is changed as follows:

Page Changes. New or revised material is indicated by *.

Remove	Date	Insert
6-7, 6-8	1 Dec 76	6-7, 6-8
10-1 thru 10-3	1 Jul 77	10-1 thru 10-3

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CHANGE 5
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AFM 171-604, volume I, 1 December 1976, is changed as follows:

Page Changes. New or revised material is indicated by *.

Remove	Date	Insert
vii	1 Dec 76	vii, viii
24-3	"	25-1, 25-2
		26-1 thru 26-3

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AFM 171-604, volume I, 1 December 1976, is changed as follows:

Page Changes. New or revised material is indicated by *.

Remove	Date	Insert
1-1	1 Dec 76	1-1
19-1, 19-2	"	19-1, 19-2
20-1, 20-2	1 Jan 77	20-1, 20-2

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CHANGE 7
AFM 171-604
Volume I
1 November 1979

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H6000 UTILITY SOFTWARE COMPUTER OPERATION MANUAL: S891/ZA

COMPUTER OPERATION MANUAL

AFM 171-604, Volume I, 1 December 1976, is changed as follows:

1. Page Insert changes. New or revised material is indicated by *.

Remove	Date	Insert
i thru vi	1 Dec 76	
vii, viii	1 Jun 78	i thru viii
Section 5	1 Dec 76	
Section 6	"	
22-1	"	22-1, 22-2

2. Write-In Changes:

Page	Reference	Action
3-3	Fig 3-01	Change "PCN SP891-P11" to "PCN SS891-P11."
3-4	Fig 3-02	Change "SP891-P21" to "SS891-P21."
7-1	Para 7.4	Change "SP891-A00" to "SS891-A00." Change "SP891-A01" to "SS891-A01." Change "SP891-A02" to "SS891-A02." Change "SP891-B01" to "SS891-B01." Change "SP891-B11" to "SS891-B11."
7-2	Fig 7-01	Change "PCNSP891-A01" to "PCNSS891-A01."

1 November 1979

Change "PCNSP891-A00" to
"PCNSS891-A00."

Change "PCN SP891-A02" to
"PCN SS891-A02."

7-3 Fig 7-02 Change "PCNSP891-B01" to
 "PCNSS891-B01."

Change "PCNSP891-B11" to
"PCNSS891-B11."

8-2 Para 8.3.2.5b Change "PCNSP891A00" to
 "PCNSS891A00."

Change "PCNSP891A01" to
"PCNSS891A01."

9-1 Para 9.4 Change "SP891-T11" to "SS891-T11."
 Change "SP891-T12" to "SS891-T12."
 Change "SP891-T21" to "SS891-T21."
 Change "SP891-T22" to "SS891-T22."

9-2 Fig 9-01 Change "PCN SP891-T11" to
 "PCN SS891-T11."

Change "PCN SP891-T12" to
"PCN SS891-T12."

9-3 Fig 9-02 Change "PCN SP891-T21" to
 "PCN SS891-T21."

Change "PCN SP891-T22" to
"PCN SS891-T22."

10-2 Para 10.3.4 Change "PCN SP891-T12" to
 "PCN SS891-T12."

10-3 Para 10.4.4 Change "PCN SP891-T22" to
 "PCN SS891-T22."

11-1 Para 11.4 Change "SP891-K11" to "SS891-K11."
 Change "SP891-K31" to "SS891-K31."

11-2 Fig 11-01 Change "PCN SP891-K11" to
 "PCN SS891-K11."

11-3 Fig 11-02 Change "PCNSP891-K31" to
 "PCNSS891-K31."

13-1	Para 13.4	Change "SP891-C01" to "SS891-C01." Change "SP891-D01" to "SS891-D01."
13-2	Fig 13-01	Change "PCN SP891-C01" to "PCN SS891-C01."
13-3	Fig 13-02	Change "PCN SP891-D01" to "PCN SS891-D01."
19-1	Para 19.4	Change "SP891-BU2" to "SS891-BU2."
19-2	Fig 19-01	Change "PCN SP891-BU1" to "PCN SS891-BU1." Change "PCN SP891-BU2" to "PCN SS891-BU2."
22-1	Para 22.3.1	Change "\$ TAPE9 FA,X1D (Tape) to be certified)" to "\$ TAPE9 FA,X1D,,nnnnn (Enter reel nr of tape to be certified).

BY ORDER OF THE SECRETARY OF THE AIR FORCE

OFFICIAL

LEW ALLEN, JR., General, USAF
Chief of Staff

VAN L. CRAWFORD, JR., Colonel, USAF
Director of Administration