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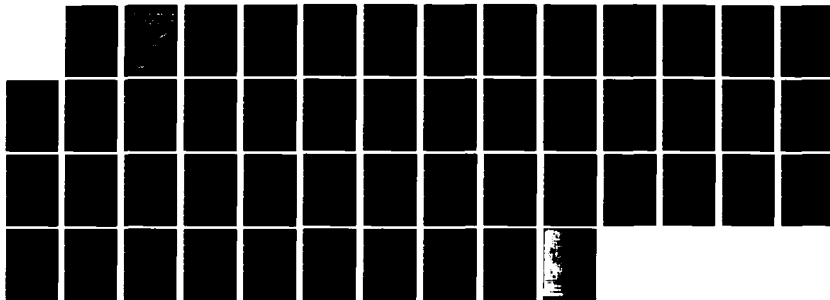
JOINT OPERATION PLANNING SYSTEM (JOPS) UTC-UIC
DIRECTORY FILE (UTC TAB) GENERATOR USERS MANUAL(U)
NATIONAL MILITARY COMMAND SYSTEM SUPPORT CENTER
WASHINGTON DC MAY 75

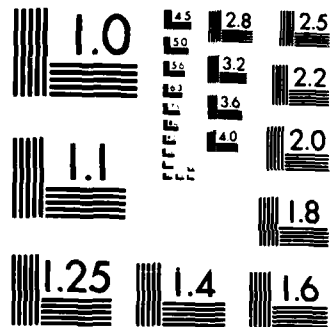
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JOINT OPERATION PLANNING SYSTEM (JOPS) UTC - UIC DIRECTORY FILE (UTC TAB) GENERATOR

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**WWMCCS
DOCUMENTATION
PROJECT NO.
J7204**

DRAFT

USERS MANUAL

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ACKNOWLEDGMENT

This users manual is prepared by the National Military Command System Support Center, Joint Operations Planning Division, as the primary user document defining the capabilities of the UTC-UIC Directory File Generator (UTCTAB) and providing explicit instructions on how to use those capabilities.

SECTION 1 GENERAL DESCRIPTION

1.1 Purpose of the Users Manual

The objective of the Users Manual for the UTC-UIC Directory File Generator (UTCTAB) is to familiarize the JOPS, user and technician with the file contents and to provide the necessary information to utilize the directory file generation program.

1.2 Project References

a. The following staff agencies/commands are designated responsibilities as indicated:

(1) Users - OJCS, Unified Commands, others as required.

(2) Program maintenance and exportation - NMCSSC, JOPS Division, B355.

SECTION 2 SYSTEM SUMMARY

2.1 System Application

a. UTCTAB generates the indexed sequential data and index files, referenced singularly as the UTC-UIC Directory File. This permanent on-line file is necessary for execution of the FRG FORSTAT retrieval modules, F12K and F38.

b. F12K and F38 both make retrievals from the FORSTAT Active Unit File (FORSTQ) based on the Unit Type Code and the Unit Identification Code. The UTC-UIC Directory File provides a separate index to FORSTQ records through the Unit Type Code and associated Unit Identification Code.

c. Once the UTC-UIC Directory File has been generated, retrieval time against the FORSTQ file is minimized.

d. UTCTAB is designed to provide the operation planner with the actual units currently available for his scenario.

2.2 System Operation

a. A breakdown of the information flow through the system is illustrated by a System Information Flowchart contained in Appendix

b. User interface with the system consists of submission of the job deck to run UTCTAB and review of the hard-copy diagnostics produced by UTCTAB.

2.3 System Configuration

2.3.1 Equipment Environment

UTCTAB can be executed on any HIS 6000 computer system meeting WWMCCS standards. The WWMCCS configuration includes:

- a. HIS 6060 Central Processor
- b. System Control Unit (128K memory)
- c. Input Output Controller IOC/I
- d. CPR201 Card Reader
- e. PRT201 High Speed Printer
- f. DSS181 Disk with DSU181
- g. MTH405 Nine-Track Magnetic Tape Handler

2.3.2 Software Environment

- a. General Comprehensive Operating System (GCOS)
- b. Indexed Sequential Processor (ISP)
- c. HIS COBOL Compiler
- d. HIS File System (or HIS File Management System)

2.4 System Organization

UTCTAB is organized as a two activity job. The two separate activities are as follows:

a. Activity one retrieves records from the FORSTQ file, based on Unit Identification Code (UIC) and Unit Type Code (UTC). When a record has been retrieved, the UIC and UTC from that record are moved to the directory record area. After all directory records have been built, they are sorted in ascending order, using UTC as a major sort and UIC as a minor sort. A count is made of the UIC's having the identical UTC. This ascending count is inserted in each record and reset to one when the UTC changes. The sorted indexed sequential file is then ready to be used as a separate index to FORSTQ records, based on the type of unit.

b. After the directory file has been built in the first activity of UTCTAB, activity two writes the file on a magnetic tape providing a separate backup copy. Should the permanent directory file be lost through computer malfunction, it can be restored from a previous backup tape without re-running UTCTAB.

2.5 System Performance

a. The input data to UTCTAB is provided by the FORSTQ Data Base and the FORSTAT Copy Library. Both the FORSTQ Data Base and the FORSTAT Copy Library reside on on-line permanent disk storage space.

b. The outputs produced by UTCTAB are the indexed sequential UTC-UIC Directory File, the backup of the file, and the report of the number of records generated during each run. The directory file resides on an on-line permanent disk pack. The back-up for the file is maintained on a 9 - track magnetic tape. The report is output on the high-speed (1200 lpm) system printer.

c. The response time is dependent upon the computer system workload and the status of the FORSTQ file. UTCTAB cannot be executed during FORSTAT file updates, due to a read denial by GCOS. Should UTCTAB be submitted during the FORSTAT updates, execution will be delayed until update completion.

d. UTCTAB is currently limited to using the FORSTQ Data Base.

e. UTCTAB checks to ensure that each read from the FORSTQ file is successful before building each directory record. Should an unsuccessful read occur, a message will be printed on the output report indicating an error and processing will continue.

f. UTCTAB is currently executing the generate and save activities in approximately twelve minutes. The rate is expected to remain constant.

g. UTCTAB is currently designed to build the directory file based on the UTC-UIC combination. With minor modifications to the source program, a directory based on a different key field could be built. However, these changes would preclude UTCTAB from supporting the FRG modules. UTCTAB is also designed to interface with the FORSTQ Data Base. In order to interface with the full FORSTAT file, several modifications to the system would be necessary.

h. System reliability is enhanced by the ability to execute from either an object library or a source deck.

2.6 System Data Base.

a. UTC-UIC Directory File. The UTC-UIC Directory File contains an index to the FORSTQ file based on the Unit Type Code.

b. FORSTAT Active Unit File (FORSTQ). The FORSTQ file contains status and identity information on all of the active units maintained on the full FORSTAT data base. The FORSTQ file is utilized as a subset of the FORSTAT system.

2.7 General Description of Inputs, Processing, and Outputs.

a. The required inputs for directory file generation are the FORSTQ file and two data files containing the ISP parameters for both the UTC-UIC Directory File and the FORSTQ file. Additionally, when UTCTAB is compiled, the FORSTAT Copy Library is required. The library provides the latest FORSTAT file description.

b. In the compilation phase, the UTCTAB source program obtains the FORSTQ file description from the copy library. The ISP parameters for both FORSTQ and the directory file are retrieved from the external parameter files. Once this information has been accessed, UTCTAB reads each record from the FORSTQ and constructs records for the directory file. During execution the output report is produced. After file creation is complete, a save of the file is made on magnetic tape.

c. System outputs are the UTC-UIC Directory File, a magnetic tape back-up and a printed report.

SECTION 3 STAFF FUNCTIONS RELATED TO TECHNICAL OPERATIONS

3.1 Input Requirements

a. UTCTAB should be run as a recurring production job on a weekly basis by the user site's JOPS Support Group. This weekly run completely regenerates the directory file with the current FORSTQ UIC's and UTC's. Intermediate runs can be made on an "as needed" basis to support exercises and special functions where the latest information is imperative.

b. User input is in the form of the run decks illustrated in Appendix A. All associated user input is contained in the run decks.

3.2 Composition Rules

The input length, format, and punctuation follow the standard H6000 rules for Job Control Language and Index Sequential Processing.

3.3 Vocabulary

No special vocabulary is required for system execution.

3.4 Input Formats

The input format for the FORSTQ file taken from the FORSTAT Copy Library appears in Appendix B, Figure 1. The input ISP parameters for the FORSTQ file and the UTC-UIC Directory File appear in Appendix B, Figures 2 and 3 respectively.

3.5 Sample Inputs

UTCTAB is a stand-alone job which can be executed in a "load and go" mode from an object library. The user can, at his option, maintain the source file and execute in a "compile, load and go" mode, thus adding an additional activity to the job stream. Appendix A, Figure 1 illustrates the Job Control Language (JCL) required to create the object library. Appendix A, Figure 3 shows file generation from the object library and file save. Appendix A, Figure 4 shows file generation from the source file and file save. Should it become necessary to restore the directory file from tape, Appendix A, Figure 5 shows the run stream for this activity.

3.6 Output Requirements

Prior to the initial execution of UTCTAB, permanent file space must be created for the directory file, as illustrated in Appendix A, Figure 2; and a 9 - track magnetic tape must be allocated for the directory file back-up.

3.7 Output Formats

The output format for the UTC-UIC Directory File appears in Appendix B, Figure 4.

3.8 Sample Output

A sample of the output report from UTCTAB appears in Appendix C, Figure 1.

3.9 Utilization of System Output

As stated previously, the UTC-UIC Directory File generated by UTCTAB is required by the FRG FOR JTA retrieval modules.

APPENDIX A

JOB CONTROL LANGUAGE FOR THE UTC-UIC FILE GENERATOR (UTCTAB)

1. The purpose of this appendix is to provide the user with examples of all of the job control language required by UTCTAB. The three areas of concern are:
 - a. Creation of file space for all UTCTAB unique files.
 - b. Generation of data and libraries.
 - c. File restoration due to computer malfunction.
2. Figure 1 illustrates file space allocation for the object library and generation of the library. These two activities are run only once, when the user will be executing in the "load and go" mode.
3. Figure 2 is an example of the job control language necessary to create the space for the UTC-UIC Directory File.
4. Figure 3 illustrates generation of the directory file data, utilizing the "load and go" mode. The run streams represented in Figures 1 and 2 must be executed before this activity.
5. Figure 4 depicts how to generate directory file data in the "compile, load and go" mode. This run stream may be executed to update the file after space has been allocated (reference figure 1).
6. Figure 5 shows how to restore the directory from the backup tape. This activity is used when the permanent directory file has been destroyed and the situation precludes re-generating the file through an update run.

CREATING SPACE FOR OBJECT LIBRARY

Col. 1	Col. 8	Col. 16	Col. 73
\$	IDENT		
\$	USERID		
\$	FILSYS		
USERID			
F	CREAT	UMC1/SUBCAT1/UTCUICRS,FCLASS/UNC/,BLOCKS/1,15/	
\$	ENDJOB		
	GENERATING OBJECT LIBRARY		
\$	IDENT		
\$	USERID		
\$	FILEDIT	SOURCE, OBJECT, INITIALIZE	
\$	LIMITS	Ø5,36K,2K	
\$	FILE	K*,NULL	
\$	PRMFL	R*,W,S,UMC1/SUBCAT1/UTCUICRS OBJECT LIBRARY	
\$	DATA	*C,,COPY	
\$	INCLUDE	SOURCE,OBJECT,ON	
\$	LOWLOAD		
\$	USE	.XBUF1/5000/,.XBUF2/2	
\$	COBOL	NDECK,LIBCPY	UTCAB
	SOURCE PROGRAM FOR UTCTAB		
\$	ENDEDIT		
\$	ENDCOPY		
\$	PRMFL	.L,R,S,UMC2/SUBCAT2/CPYLIB FORSTAT COPY LIBRARY	
\$	ENDJOB		

Figure 1. Creating space for and generating object library for UTCTAB

Col. 1	Col. 8
\$	IDENT
\$	USERID
\$	FILSYS
USERID	
FCREAT	UMC1/SUBCAT1/UICDD,BLOCKS/600,600/,
	FCLASS/TTT/ACCESS/CONCURRENT/,MODE/RAND/
FCREAT	UMC1/SUBCAT1/UICDX,BLOCKS/60,60/,
	FCLASS/TTT/,ACCESS/CONCURRENT/,MODE/RAND/
\$	ENDJOB

Figure 2. Creating Space for Directory File

("LOAD AND GO" MODE)

Col. 1	Col. 8	Col. 16
\$	IDENT	
\$	USERID	
\$	EXECUTE DUMP	
\$	LIMITS	Ø5,20K,,2K
\$	PRMFL	R*,W,S,UMC1/SUBCAT1/UTCUICRS OBJECT LIBRARY
\$	FILE	ST,P3R,10R
\$	PRMFL	IX,W,R,UMC1/SUBCAT1/UICDX DIRECTORY FILE INDEX
\$	PRMFL	DT,W,R,UMC1/SUBCAT1/UICDD DIRECTORY FILE DATA
\$	DATA	DD ISP PARAMS FOR FORSTQ
\$	PRMFL	F1,R,R,UMC2/SUBCAT2/FSINDX FORSTQ INDEX
\$	PRMFL	FS,R,R,UMC2/SUBCAT2/FSDATA FORSTQ DATA
\$	DATA	DW ISP PARAMS FOR DIRECTORY FILE
\$	UTILITY	
\$	PRMFL	DI,R,R,UMC1/SUBCAT1/UICDX DIRECTORY FILE INDEX
\$	PRMFL	DD,R,R,UMC1/SUBCAT1/UICDD DIRECTORY FILE DATA
\$	TAPE9	T1,T1D,,1599,,DIR-BKUP,,DEN8
\$	FUTIL	D1,T1,RSAVE/1F/,HOLD/T1/
\$	FUTIL	DD,T1,RSAVE/1F/
\$	ENDJOB	

Figure 3. Generating Directory File from Object Library and Saving Directory File Backup

("COMPILE, LOAD AND GO" MODE)

Col. 1	Col. 8	Col. 16
\$	IDENT	
\$	USERID	
\$	OPTION COBOL	
\$	USE	.XBUF1/5000/,.XBUF2/2/
\$	COBOL	NDECK,LIBCPY
\$	LIMITS	Ø5,36K,,2K
	SOURCE PROGRAM FOR UTCTAB	
\$	PRMFL	.L,R,S,UMC2/SUBCAT2/CPYLIB FORSTAT COPY LIBRARY
\$	EXECUTE	DUMP
\$	LIMITS	Ø5,20K,,2K
\$	FILE	ST,P3R,10R
\$	PRMFL	IX,W,R,UMC1/SUBCAT1/UICDX DIRECTORY FILE INDEX
\$	PRMFL	DT,W,R,UMC1/SUBCAT1/UICDD DIRECTORY FILE DATA
\$	DATA	DD ISP PARAMS FOR FORSTQ
	reference Appendix B, Figure 2 for contents here	
\$	PRMFL	F1,R,R,UMC2/SUBCAT2/FSINDX FORSTQ INDX
\$	PRMFL	FS,R,R,UMC2/SUBCAT2/FSDATA FORSTQ DATA
\$	DATA	DW ISP PARAMS FOR DIRECTORY FILE
	reference Appendix B, Figure 3 for contents here	
\$	UTILITY	
\$	PRMFL	DI,R,R,UMC1/SUBCAT1/UICDX DIRECTORY FILE INDEX
\$	PRMFL	DD,R,R,UMC1/SUBCAT1/UICDD DIRECTORY FILE DATA
\$	TAPE9	T1,T1D,,15999,,DIR-BKUP,,DEN8
\$	FUTIL	DI,T1,RSAVE/1F/,HOLD/T1/
\$	ENDJOB	

Figure 4. Generating Directory File from source file
and Saving Directory File backup

Col. 1	Col. 8	Col. 16
\$	IDENT	
\$	USERID	
\$	UTILITY	
\$	LIMITS	,10K
\$	TAPE9	T1,X1D,,15999,,DIR-BKUP,,DEN8
\$	PRMFL	DI,W,R,UMC1/SUBCAT1/UICDX DIRECTORY FILE INDEX
\$	PRMFL	DD,W,R,UMC1/SUBCAT1/UICDD DIRECTORY FILE DATA
\$	FUTIL	T1,DI,RWD/T1/,RREST/1F/,HOLD/T1/
\$	FUTIL	T1,DD,RREST/1F/
\$	ENDJOB	

Figure 5. Restoring Directory File from backup

APPENDIX B

INPUT AND OUTPUT FORMATS FOR UTCTAB

1. The purpose of Appendix B is to display the format, or file description, of all data either input to, or output from, UTCTAB. The file formats for the FORSTQ input file and UTC-UIC Directory output file and the contents of the two ISP parameters files are shown.
2. Figure 1 is the file description of the FORSTQ input file. This figure is comprised of twenty-one pages displaying every record type in the FORSTQ file.
3. Figure 2 depicts the ISP Parameters for the FORSTQ file. These parameters are the data for the file referenced by the file code DD, and must be inserted in the job stream exactly as displayed. (See Appendix A, Figures 3 and 4).
4. Figure 3 contains the ISP parameters for the UTC-UIC Directory File. They are the data for the file referenced by the file code DW. As with the FORSTQ parameters, this data must be inserted into the job stream exactly as displayed (see Appendix A, Figures 3 and 4).
5. Figure 4 is the file description of the Directory File output record. This format is used for both the permanent file and the tape backup file.

```

01 FORSTAT-ISP-RECORD COPY FORSTAT-ISP-RECORD.
05 FS-RECORD-CONTROL-GROUP.
    10 FS-UIC-RLT.
        15 FS-UIC.
            20 FILLER.
                25 FS-GOVT    PICTURE X(1).
            20 FS-SERVID.
                25 FS-DOOCO    PICTURE X(1).
                25 FS-COMPID  PICTURE X(4).
    15 FS-RECORD-LEVEL-TYPE.
        20 FS-RLT.
            25 FS-RECLEV  PICTURE X(1).

            25 FS-RECTYP  PICTURE X(2).

            25 FS-LEVNO   PICTURE X(1).
            25 FS-TYPNO   PICTURE X(2).
    10 FS-RECORD-SEQUENCE-NUMBER.
        15 FS-RSN.
            20 FILLER.
                25 FS-RECSNO  PICTURE 9(5).
                25 FS-PSEQ    PICTURE X(1).
05 FS-COMMON-DATA-GROUP.
    10 FS-RECORD-STATUS-INDICATOR.
        25 FS-RECSTAT  PICTURE X(1).
    10 FS-RECORD-DELETION-KEY.
        15 FS-RELATIVE-ACCESS-CODE.
            25 FS-RAC    PICTURE X(1).
        15 FS-REPORT-CARD-SEQ-NO.
            20 FS-DATE.
                25 FS-RNUM    PICTURE X(3).
                25 FS-CDSEQ    PICTURE X(3).
05 FS-DATA-GROUP.
    25 FILLER    PICTURE X(179).
05 FS-RECORD-LEVEL-1-TYPE-00 REDEFINES FS-DATA-GROUP.
    10 FS-INSTALLATION-PARAMETERS.
        25 FILLER    PICTURE X(4).
        25 FS-MASTER PICTURE X(6).
        25 FS-CCINT  PICTURE X.
        25 FS-MODE   PICTURE X(1).
        25 FILLER   PICTURE X(4).
        25 FS-MYUIC  PICTURE X(6).
        25 FILLER   PICTURE X(6).
        25 FS-EXNAME PICTURE X(30).
    10 FILLER    PICTURE X(120).
05 FS-RECORD-LEVEL-1-TYPE-01 REDEFINES FS-DATA-GROUP.
    10 FS-PIPE-CARD-DATA-GROUP.
        15 FS-GROUPA1.

```

Figure 1. FORSTQ File Description (Part 1 of 21)

```

20 FILLER.
  25 FS-SERV      PICTURE X(1).
  25 FS-ANAME     PICTURE X(30).
  25 FS-UTC       PICTURE X(5).

      25 FS-ULC    PICTURE X(3).
      25 FS-SCLAS PICTURE X(1).
15 FS-GROUPA2.
  20 FILLER.
    25 FS-MJCOM   PICTURE X(3).
    25 FS-MJNDP   PICTURE X(3).
    25 FS-MAJOR   PICTURE X(1).
    25 FS-REVAL   PICTURE X(1).
15 FS-UDC.
  20 FS-UNCS.
    25 FS-UNCOM   PICTURE X(1).
    25 FS-UNSTA   PICTURE X(1).
  20 FILLER.
    25 FS-UNMIS   PICTURE X(1).
15 FILLER.
  20 FILLER.
    25 FS-VSERV   PICTURE X(3).
    25 FS-LNAME   PICTURE X(55).
    25 FS-COAF    PICTURE X(2).
    25 FS-PRIME   PICTURE X(6).
  20 FS-RIDE-ERROR-FLAGS.
    25 FS-FRR0001 PICTURE X(1).
    25 FS-ERP0002 PICTURE X(1).
    25 FS-ERP0003 PICTURE X(1).
    25 FS-FRR0004 PICTURE X(1).
    25 FS-FRR0005 PICTURE X(1).
    25 FS-ERP0006 PICTURE X(1).
    25 FS-ERP0007 PICTURE X(1).
  20 FILLER.
    25 FS-XUTC    PICTURE X(1).
    25 FS-?UPDATE PIC X(5).
    25 FS-FREE-AB PIC X(11).
10 FILLER      PICTURE X(36).
05 FS-RECORD-LEVEL-1-TYPE-02 REDEFINES FS-DATA-GROUP.
10 FS-X-CARD-DATA-GROUP.
15 FS-GROUPX.
  20 FILLER.
    25 FS-TDATE   PICTURE X(6).
    25 FS-TRGED   PICTURE X(4).
    25 FS-DEPDT   PICTURE X(6).
    25 FS-ARRDT   PICTURE X(6).
    25 FS-RPTOR   PICTURE X(6).
  25 FS-INTR1    PICTURE X(6).

```

Figure 1. (Part 2 of 21)

```

    25 FS-INTR2    PICTURE X(6).
    25 FS-TRGEONA PICTURE X(17).
    25 FS-TRGE0C0 PICTURE X(2).
    25 FS-GCMD     PICTURE X(3).
    25 FS-ATACH   PICTURE X(3).
    25 FS-XTRGED  PIC X(1).
    25 FS-GCCNTS  PIC X(15).
  10 FILLER      PICTURE X(96).
05 FS-RECORD-LEVEL-1-TYPE-03 REDEFINES FS-DATA-GROUP.
  10 FS-HQMC-UNIQUE-DATA-GROUP.
    15 FILLER.
      20 FILLER.
        25 FS-ASTAT          PICTURE X(1).
        25 FS-MMCMD          PICTURE X(6).
        25 FS-PUC            PICTURE X(5).
        25 FS-CMSTRT.
          30 FS-CMSRT1       PICTURE X(2).
          30 FS-CMSRT2       PICTURE X(4).
        25 FS-MCC            PICTURE X(3).
        25 FILLER            PICTURE X(1).
    15 FS-MARGRP1.
      20 FILLER.
        25 FS-HQMC-DATE-A    PICTURE X(6).
        25 FS-HQMC-DATE-D-CHG PICTURE X(6).
        25 FS-HQMC-DATE-J    PICTURE X(6).
        25 FS-HQMC-DATE-K    PICTURE X(6).
        25 FS-HQMC-DATE-L    PICTURE X(6).
        25 FS-HQMC-DATE-M    PICTURE X(6).
        25 FS-HQMC-DATE-N    PICTURE X(6).
        25 FS-HQMC-DATE-P    PICTURE X(6).
        25 FS-HQMC-DATE-Q    PICTURE X(6).
        25 FS-HQMC-DATE-R    PICTURE X(6).
        25 FS-HQMC-DATE-V    PICTURE X(6).
        25 FS-HQMC-DATE-X    PICTURE X(6).
        25 FS-HQMC-DATE-DM1   PICTURE X(6).
        25 FS-HQMC-DATE-DM1-AST PICTURE X(6).
        25 FS-HQMC-DATE-JM1   PICTURE X(6).
        25 FS-HQMC-DATE-LM5   PICTURE X(6).
        25 FS-HQMC-DATE-LM6   PICTURE X(6).
        25 FS-HQMC-DATE-PM3   PICTURE X(6).
        25 FILLER              PICTURE X(6).
    15 FS-MARGRP2 REDEFINES FS-MARGRP1.
      20 FS-MARGRP2-DATE OCCURS 19 TIMES.
        25 FS-MARGRP-DATE    PICTURE X(6).
    15 FILLER.
      25 FS-FREE-HQMC        PICTURE X(6).
  10 FILLER      PICTURE X(36).
05 FS-RECORD-LEVEL-2-TYPE-04 REDEFINES FS-DATA-GROUP.

```

Figure 1. (Part 3 of 21)

```

10 FS-SUBORDINATE-UIC-DATA-GROUP.
  15 FS-GROUP4.
    20 FS-SBGRP.
      25 FS-SBFLG PICTURE X(1).
      25 FS-SBUIC PICTURE X(6).
    20 FS-FLGRP4.
      25 FS-FLAG-4 PICTURE X(1).
      25 FS-FLAG4A PICTURE X(1).
      25 FS-FLAG4B PICTURE X(1).
10 FILLER PICTURE X(168).
05 FS-RECORD-LEVEL-1-TYPE-05 REDEFINES FS-DATA-GROUP.
  10 FS-PARENT-UIC-DATA-GROUP.
    15 FS-GROUP5.
      20 FS-PSORT.
        25 FS-UICP PICTURE X(6).
        25 FS-SUIC PICTURE X(6).
      20 FILLER.
        25 FS-PUIC PICTURE X(6).
      20 FS-GRPER05.
        25 FS-ERR0501 PICTURE X(1).
        25 FS-ERR0502 PICTURE X(1).
      20 FILLER.
        25 FS-FREE-5 PICTURE X(14).
10 FILLER PICTURE X(144).
05 FS-RECORD-LEVEL-1-TYPE-06 REDEFINES FS-DATA-GROUP.
  10 FS-D-CARD-DATA-GROUP.
    15 FS-GROUPD.
      20 FS-GROUPD1.
        25 FS-CSERV PICTURE X(1).
        25 FS-OPCON PICTURE X(6).
        25 FS-ADCON PICTURE X(6).
        25 FS-HOGE0 PICTURE X(4).
        25 FS-PRGE0 PICTURE X(4).
      20 FS-GROUPD2.
        25 FS-ACTIV PICTURE X(2).
        25 FS-FLAG PICTURE X(1).
      20 FS-GROUPD3.
        25 FS-CBCOM PICTURE X(1).
        25 FS-DFCON PICTURE X(1).
      20 FILLER.
        25 FS-PCTEF PICTURE X(1).
      20 FS-HGEO.
        25 FS-HGEONA PICTURE X(17).
        25 FS-HGEOCO PICTURE X(2).
        25 FS-HOLPRCO PICTURE X(2).
      20 FS-PGEO.
        25 FS-PGEONA PICTURE X(17).
        25 FS-PGFOCO PICTURE X(2).

```

Figure 1. (Part 4 of 21)

```

    25 FS-PGEOPC PICTURE X(3).
    25 FS-PTACKZ PICTURE X(1).
    25 FS-PGEOPR PICTURE X(4).
    25 FS-PRLPRC0 PICTURE X(2).
    25 FS-PGCINC PICTURE 9.
  20 FS-D-ERROR-FLAG.
    25 FS-FRP000P PICTURE X(1).
    25 FS-ERP0009 PICTURE X(1).
    25 FS-FRR0010 PICTURE X(1).
    25 FS-FRR0011 PICTURE X(1).
    25 FS-FRR0012 PICTURE X(1).
    25 FS-FRR0013 PICTURE X(1).
    25 FS-FRR0014 PICTURE X(1).
    25 FS-FRR0015 PICTURE X(1).
    25 FS-FRR0016 PICTURE X(1).
    25 FS-FRR0017 PICTURE X(1).
  20 FILLER.
    25 FS-PPRCNT PICTURE X(3).
    25 FS-POINT PICTURE X(20).
    25 FS-XHGED PICTURE X(1).
    25 FS-XPRGED PICTURE X(1).
    25 FS-NUCIN PICTURE X(1).
  20 FS-HIERARCHY-CODE-GROUP.
    25 FS-DHIER PICTURE X(30).
    25 FS-AHIER PICTURE X(30).
    25 FS-ERRHOP PICTURE X.
    25 FS-EDRHAD PICTURE X.
  20 FS-FREE-D PICTURE X(2).
  05 FS-RECORD-LEVEL-1-TYPE-07 REDEFINES FS-DATA-GROUP.
    10 FS-EMARKED-UIC-DATA-GROUP.
      15 FS-GROUP7.
        20 FS-GROUP7.
          25 FS-EMBRK PICTURE X(6).
          25 FS-FANAME PICTURE X(30).
        20 FILLER.
          25 FS-FREF-7 PICTURE X(10).
    10 FILLER PICTURE X(132).
  05 FS-RECORD-LEVEL-1-TYPE-08 REDEFINES FS-DATA-GROUP.
    10 FS-MOVEREP-DATA-GROUP.
      15 FS-MOVEREP-GROUP1.
        25 FS-NTASK PICTURE X(13).
        25 FS-PLETD PICTURE X(6).
        25 FS-NDEST PICTURE X(17).
        25 FS-DETA PICTURE X(6).
        25 FS-MODFG PICTURE X(1).
        25 FS-CXVRS PICTURE X(1).
        25 FS-NEDSC.
        30 LAT-DSC.

```

Figure 1. (Part 5 of 21)


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35 DSC-LEAD-ZERO          PICTURE X(1).
35 DSC-LATITUDE           PICTURE X(5).
35 DSC-LAT-ZERO-SFC      PICTURE X(2).
35 DSC-LAT-BLANK         PICTURE X(2).
30 LONG-DPC.
35 DSC-LONGITUDE          PICTURE X(6).
35 DSC-LONG-ZERO-SFC     PICTURE X(2).
35 DSC-LONG-BLANK        PICTURE X(2).
25 FS-NOCEAN PICTURE X(2).
15 FS-MOVEREP-GROUP2.
25 FS-FREE-MR PICTURE X(42).
10 FILLER                  PICTURE X(70).
05 FS-RECORD-LEVEL-1-TYPE-09 REDEFINES FS-DATA-GROUP.
10 FS-G-CARD-DATA-GROUP.
15 FS-GROUPG.
20 FS-GRUPG.
25 FS-TCAA PICTURE X(30).
25 FS-TADC PICTURE X(1).
25 FS-ROUTE PICTURE X(7).
25 FS-MEDIA PICTURE X(1).
20 FS-GRPER09.
25 FS-ERR0901 PICTURE X(1).
25 FS-ERR0902 PICTURE X(1).
20 FILLER.
25 FS-G-TRTYP PICTURE X(6).
25 FS-FREE-G PICTURE X(11).
10 FILLER                  PICTURE X(120).
05 FS-RECORD-LEVEL-2-TYPE-10 REDEFINES FS-DATA-GROUP.
10 FS-J-CARD-DATA-GROUP.
15 FS-GROUPJ.
20 FS-TPCTL.
25 FS-TPERS PICTURE X(2).
25 FS-DEPLY PICTURE X(6).
20 FILLER.
25 FS-STRUC PICTURE 9(5).
25 FS-AUTH PICTURE 9(5).
25 FS-ASGD PICTURE 9(5).
25 FS-POSTR PICTURE 9(5).
20 FS-GRUPJ.
25 FS-PEGEN PICTURE X(4).
25 FS-PICDA PICTURE X(6).
25 FS-CASDT PICTURE X(6).
20 FILLER.
25 FS-PEPOINT PICTURE X(20).
25 FS-DEPS PICTURE 9(5).
25 FS-TDEPS PICTURE 9(5).
25 FS-CASPW PICTURE 9(5).
25 FS-CCASP PICTURE 9(5).

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Figure 1. (Part 6 of 21)

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20 FS-PJFO.
   25 FS-PEGEONA PICTURE X(17).
   25 FS-PEGEDCO PICTURE X(2).
   25 FS-PEGEDPC PICTURE X(3).
   25 FS-PETACKZ PICTURE X(1).
   25 FS-PEGENPR PICTURE X(4).
   25 FS-PELPRCO PICTURE X(2).
   25 FS-PEGCINC PICTURE 9.
20 FS-GRPER10.
   25 FS-FRP1001 PICTURE X(1).
   25 FS-FRR1002 PICTURE X(1).
20 FILLER.
   25 FS-FLAG-J PICTURE X(1).
   25 FS-XPEGFO PICTURE X(1).
   25 FS-FREE-J PICTURE X(12).
10 FILLER PICTURE X(48).
05 FS-RECORD-LEVEL-2-TYPE-11 REDEFINES FS-DATA-GROUP.
10 FS-K-CARD-DATA-GROUP.
15 FS-GROUPK.
20 FILLER.
   25 FS-TRFAD PICTURE X(5).
   25 FS-READY PICTURE X(1).
   25 FS-REASN PICTURE X(1).
   25 FS-PRRAT PICTURE X(1).
   25 FS-PRRES PICTURE X(3).
   25 FS-FSRAT PICTURE X(1).
   25 FS-FSRRES PICTURE X(3).
   25 FS-FRRAT PICTURE X(1).
   25 FS-FPRES PICTURE X(3).
   25 FS-TRRAT PICTURE X(1).
   25 FS-TRRES PICTURE X(3).
   25 FS-SECRN PICTURE X(3).
   25 FS-TEPRN PICTURE X(3).
   25 FS-CARAT PICTURE X(1).
   25 FS-CADAT PICTURE X(6).
   25 FS-LIV PICTURE X(1).
   25 FS-RLIM PICTURE X(1).
   25 FS-RICDA PICTURE X(6).
20 FS-GPPER11.
   25 FS-FRP1101 PICTURE X(1).
   25 FS-FRR1102 PICTURE X(1).
   25 FS-FRR1103 PICTURE X(1).
   25 FS-FRR1104 PICTURE X(1).
   25 FS-FRR1105 PICTURE X(1).
   25 FS-FRP1106 PICTURE X(1).
   25 FS-FRR1107 PICTURE X(1).
   25 FS-FRP1108 PICTURE X(1).
   25 FS-FRR1109 PICTURE X(1).

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Figure 1. (Part 7 of 21)

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25 FS-FRR1110 PICTURE X(1).
25 FS-FRR1111 PICTURE X(1).
25 FS-FRR1112 PICTURE X(1).
25 FS-FRR1113 PICTURE X(1).
25 FS-FRR1114 PICTURE X(1).
25 FS-FRR1115 PICTURE X(1).
25 FS-FRR1116 PICTURE X(1).
25 FS-FRR1117 PICTURE X(1).
25 FS-FRR1118 PICTURE X(1).
25 FS-FRR1119 PICTURE X(1).
25 FS-FRR1120 PICTURE X(1).
25 FS-FRR1121 PICTURE X(1).
25 FS-FRR1122 PICTURE X(1).
25 FS-FRR1123 PICTURE X(1).
25 FS-FRR1124 PICTURE X(1).
25 FS-FRR1125 PICTURE X(1).
25 FS-FRR1126 PICTURE X(1).
25 FS-FRR1127 PICTURE X(1).
25 FS-FRR1128 PICTURE X(1).
25 FS-FRR1129 PICTURE X(1).
25 FS-FRR1130 PICTURE X(1).
25 FS-FRR1131 PICTURE X(1).
25 FS-FRR1132 PICTURE X(1).
25 FS-FRR1133 PICTURE X(1).
25 FS-FRR1134 PICTURE X(1).
25 FS-FRR1135 PICTURE X(1).
25 FS-FRR1136 PICTURE X(1).
25 FS-FRR1137 PICTURE X(1).
25 FS-FRR1138 PICTURE X(1).
25 FS-FRR1139 PICTURE X(1).
25 FS-FRR1140 PICTURE X(1).
25 FS-FRR1141 PICTURE X(1).
25 FS-FRR1142 PICTURE X(1).
15 FILLER.
20 FILLER.
25 FS-FLAG-K PICTURE X(1).
25 FS-FRFE-K PICTURE X(7).
10 FILLER PICTURE X(84).
05 FS-RECORD-LEVEL-2-TYPE-12 REDEFINES FS-DATA-GROUP.
10 FS-KF1-CARD-DATA-GROUP.
15 FS-GROUPKF.
20 FS-GOPKCN.
25 FS-TREAD12 PICTURE X(5).
25 FS-SARAT PICTURE X(1).
25 FS-SADAT PICTURE X(5).
25 FS-SPRSN PICTURE X(1).
25 FS-TARAT PICTURE X(1).
25 FS-TADAT PICTURE X(5).

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Figure 1. (Part 8 of 21)

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    25 FS-TPRSN      PICTURE X(1).
    25 FS-DTORI      PICTURE X(6).
    25 FS-CRATE      PICTURE X(1).
  20 FS-GRPER12.
    25 FS-FRR1201    PICTURE X(1).
    25 FS-FRR1202    PICTURE X(1).
    25 FS-FRR1203    PICTURE X(1).
    25 FS-FRR1204    PICTURE X(1).
    25 FS-FRR1205    PICTURE X(1).
    25 FS-FRR1206    PICTURE X(1).
    25 FS-FRR1207    PICTURE X(1).
    25 FS-FRR1208    PICTURE X(1).
    25 FS-FRR1209    PICTURE X(1).
    25 FS-FRR1210    PICTURE X(1).
  20 FILLER.
    25 FS-FLAG-12    PICTURE X(1).
    25 FS-FREE-12    PICTURE X(19).
  10 FILLER          PICTURE X(120).
  05 FS-RECORD-LEVEL-2-TYPE-13 REDEFINES FS-DATA-GROUP.
  10 FS-LM-CARD-DATA-GROUP.
  15 FS-GROUPLM.
  20 FS-MECTL.
    25 FS-MEOPT      PICTURE X(13).
    25 FS-TECON      PICTURE X(6).
  20 FILLER.
    25 FS-FLAG-LM    PICTURE X(1).
    25 FS-MECAP      PICTURE X(1).
    25 FS-EOPDV      PICTURE X(1).
    25 FS-MEPSA      PICTURE 9(3).
    25 FS-METAL      PICTURE 9(3).
    25 FS-MEPSD      PICTURE 9(3).
    25 FS-MEORD      PICTURE 9(3).
    25 FS-MEORM      PICTURE 9(3).
    25 FS-MEORC      PICTURE 9(3).
    25 FS-MEORD      PICTURE 9(3).
    25 FS-CREWA      PICTURE 9(2).
    25 FS-CREAL      PICTURE 9(2).
    25 FS-CREWF      PICTURE 9(2).
    25 FS-CRMRD      PICTURE 9(2).
    25 FS-CRMRN      PICTURE 9(2).
    25 FS-CRMRC      PICTURE 9(2).
    25 FS-CRMRD      PICTURE 9(2).
  15 FS-GROUPLM.
  20 FS-MEDEC.
    25 MEDEC1        PICTURE X(2).
    25 MEDEC2        PICTURE X(2).
    25 MEDEC3        PICTURE X(2).
  20 FS-TGFD.

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Figure 1. (Part 9 of 21)

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    25 FS-TEGEONA PICTURE X(17).
    25 FS-TEGENCO PICTURE X(2).
    25 FS-TEGEOPC PICTURE X(3).
    25 FS-TETACKZ PICTURE X(1).
    25 FS-TEGEOPR PICTURE X(4).
    25 FS-TELPRCO PICTURE X(2).
    25 FS-TEGCINC PICTURE 9.
  20 FILLER.
    25 FS-MPRCNT PICTURE X(3).
  20 FS-MEGRD.
    25 FS-MECL PICTURE X(3).
    25 FS-MENAM PICTURE X(18).
    25 FS-MEMOD PICTURE X(10).
  20 FS-GPPEP13.
    25 FS-FRR1301 PICTURE X(1).
    25 FS-FRP1302 PICTURE X(1).
    25 FS-FRR1303 PICTURE X(1).
    25 FS-FRP1304 PICTURE X(1).
  20 FILLER.
    25 FS-TEPOINT PICTURE X(20).
    25 FS-TEGED PICTURE X(4).
  15 FILLER.
  20 FILLER.
    25 FS-XMEQPT PICTURE X(1).
    25 FS-XTEGEO PICTURE X(1).
    25 FS-MEPSD-RMK PICTURE X.
    25 FS-FREE-LM PICTURE X(3).
  10 FILLER PICTURE X(12).
  05 FS-RECORD-LEVEL-2-TYPE-14 REDEFINES FS-DATA-GROUP.
  10 FS-LF1-LF2-CARD-DATA-GROUP.
  15 FS-GROUPLF.
  20 FS-GROUPLF1.
    25 FS-CNMEOPT PICTURE X(13).
    25 FS-MEPAS PICTURE 9(2).
    25 FS-MEDEP PICTURE 9(2).
    25 FS-MEAUG PICTURE 9(2).
    25 FS-MEODF PICTURE 9(2).
    25 FS-MEONF PICTURE 9(2).
    25 FS-MEOCF PICTURE 9(2).
    25 FS-MEODF PICTURE 9(2).
    25 FS-MEOCN PICTURE 9(2).
    25 FS-CRDEP PICTURE 9(2).
    25 FS-CPDDF PICTURE 9(2).
    25 FS-COHDF PICTURE 9(2).
    25 FS-CPDNF PICTURE 9(2).
    25 FS-CO4NF PICTURE 9(2).
    25 FS-CPDCF PICTURE 9(2).
    25 FS-COHCF PICTURE 9(2).

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Figure 1. (Part 10 of 21)

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    25 FS-CDDDF      PICTURE 9(2).
    25 FS-CODDF      PICTURE 9(2).
    25 FS-XDTDD      PICTURE X(4).
  20 FS-GROUPLF2.
    25 FS-EQPTA      PICTURE 9(2).
    25 FS-EQPTR      PICTURE 9(2).
    25 FS-EQPTC      PICTURE 9(2).
    25 FS-EQPTD      PICTURE 9(2).
    25 FS-CREWR      PICTURE 9(2).
    25 FS-CREWC      PICTURE 9(2).
    25 FS-CREWD      PICTURE 9(2).
    25 FS-CREWF      PICTURE 9(2).
  15 FS-GRPER14.
    25 FS-FRR1401    PICTURE X(1).
    25 FS-FRR1402    PICTURE X(1).
  15 FILLER.
    25 FS-XCNMEQP    PICTURE X(1).
    25 FS-FLAG-14    PICTURE X(1).
    25 FS-FRFE-14    PICTURE X(9).
  10 FILLER          PICTURE X(96).
  05 FS-RECORD-LEVEL-2-TYPE-15 REDEFINES FS-DATA-GROUP.
    10 FS-N-CARD-DATA-GROUP.
      15 FS-GROUPN.
        20 FS-PLN15.
          25 FS-PIDNO    PICTURE X(5).
          25 FS-FROND    PICTURE X(5).
        20 FILLER.
          25 FS-PLEAC    PICTURE X(1).
          25 FS-DDP      PICTURE X(2).
          25 FS-DDPRD    PICTURE X(8).
          25 FS-MDT      PICTURE X(5).
          25 FS-PUTCV    PICTURE X(5).
      15 FILLER.
        20 FILLER.
          25 FS-FLAG-N    PICTURE X(1).
          25 FS-PFLG15    PICTURE X(1).
        20 FS-GRPER15.
          25 FS-FRR1501    PICTURE X(1).
          25 FS-FRR1502    PICTURE X(1).
          25 FS-FRR1503    PICTURE X(1).
          25 FS-FRR1504    PICTURE X(1).
          25 FS-FRR1505    PICTURE X(1).
        20 FILLER.
          25 FS-FREE-N    PICTURE X(2).
  10 FILLER          PICTURE X(131).
  05 FS-RECORD-LEVEL-2-TYPE-16 REDEFINES FS-DATA-GROUP.
    10 FS-P-CARD-DATA-GROUP.
      15 FS-P-SECONDARY-CONTROL.

```

Figure 1. (Part 11 of 21)

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20 FS-P-SECTL.
    25 FS-PIN          PIC X(5).
    25 FS-PEOPT        PIC X(13).
    25 FS-TYPCOM       PIC X(6).
    25 FS-ALTYP        PIC X(2).
15 FILLER.
20 FILLER.
    25 FS-NUMBR        PIC 9(3).
    25 FS-NUMEA        PIC 9(3).
    25 FS-ALRET        PIC X(5).
    25 FS-TPGED        PIC X(4).
20 FS-TPGED-EXP.
    25 FS-TPGEDNA      PIC X(17).
    25 FS-TPGEDCO      PIC X(2).
    25 FS-TPGEOPC      PIC X(3).
    25 FS-TPTACKZ      PIC X(1).
    25 FS-TPGEDPR      PIC X(4).
    25 FS-TPLPRCO      PIC X(2).
20 FS-PEOPT-EXP.
    25 FS-PECL         PIC X(3).
    25 FS-PEMDD        PIC X(10).
20 FILLER.
    25 FS-TPPJINT      PIC X(20).
20 FS-P-REVALIDATION.
    25 FS-XPEOPT       PIC X(1).
    25 FS-XTPGED       PIC X(1).
20 FS-GRPER16.
    25 FS-EPR1601      PIC X.
    25 FS-EPR1602      PIC X.
    25 FS-EPR1603      PIC X.
    25 FS-EPR1604      PIC X.
    25 FS-EPR1605      PIC X.
20 FILLER.
    25 FS-FREE-P       PIC X(8).
10 FILLER              PIC X(60).
05 FS-RECORD-LEVEL-2-TYPE-17 REDEFINES FS-DATA-GROUP.
10 FS-T-CARD-DATA-GROUP.
15 FS-GROUP.
20 FS-CECTL.
    25 FS-TEOPT        PICTURE X(11).
    25 FS-VESEN        PICTURE X(4).
20 FILLER.
    25 FS-DECDN        PICTURE X(1).
    25 FS-VECUS        PICTURE X(2).
    25 FS-AVCAT        PICTURE X(1).
    25 FS-RESND        PICTURE X(1).
    25 FS-ERDTE        PICTURE X(6).
    25 FS-FXDAC        PICTURE X(1).

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Figure 1. (Part 12 of 21)

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    25 FS-CPGEN      PICTURE X(4).
    25 FS-CFGEN      PICTURE X(4).
    25 FS-FQDEP      PICTURE X(6).
    25 FS-FQARR      PICTURE X(6).
    25 FS-TPIN       PICTURE X(5).
    25 FS-TLFAC      PICTURE X(1).
    25 FS-TLFQE      PICTURE X(2).
15 FILLER.
    20 FILLER.
    25 FS-TECL       PICTURE X(3).
    25 FS-TEMOD      PICTURE X(10).
    25 FS-CPGEQNA    PICTURE X(17).
    25 FS-CPGEQCD    PICTURE X(2).
    25 FS-CPGEOPC    PICTURE X(3).
    25 FS-CPTACKZ    PICTURE X(1).
    25 FS-CPGEOPR    PICTURE X(4).
    25 FS-CPLPRCD    PICTURE X(2).
    25 FS-CPGCINC    PICTURE 9.
    25 FS-CFGEQNA    PICTURE X(17).
    25 FS-CFGEQCD    PICTURE X(2).
    25 FS-FLAG-T     PICTURE X(1).
    25 FS-PFLG17     PICTURE X(1).
    20 FS-GRPER17.
    25 FS-ERR1701    PICTURE X(1).
    25 FS-ERR1702    PICTURE X(1).
    25 FS-ERR1703    PICTURE X(1).
    25 FS-ERR1704    PICTURE X(1).
    25 FS-ERR1705    PICTURE X(1).
    25 FS-ERR1706    PICTURE X(1).
    25 FS-ERR1707    PICTURE X(1).
    25 FS-ERR1708    PICTURE X(1).
    25 FS-ERR1709    PICTURE X(1).
    20 FILLER.
    25 FS-CPPDINT    PICTURE X(20).
15 FILLER.
    20 FILLER.
    25 FS-XTFOPT     PICTURE X(1).
    25 FS-XCPGEN     PICTURE X(1).
    25 FS-XCFGEN     PICTURE X(1).
    25 FS-ERFE-T     PICTURE X(3).
    10 FILLER      PICTURE X(24).
05 FS-RECORD-LEVEL-2-TYPE-13 REDEFINES FS-DATA-GROUP.
    10 FS-TF1-CARD-DATA-GROUP.
    15 FS-GROUPTF.
    20 FS-CECNCTL.
    25 FS-UFOPF      PICTURE X(11).
    25 FS-MESENFI    PICTURE X(4).
    20 FILLER.

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Figure 1. (Part 13 of 21)


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    25 FS-MEGS      PICTURE X(1).
    25 FS-SEDY      PICTURE X(1).
    25 FS-TEDY      PICTURE X(1).
    25 FS-FRDDY     PICTURE X(5).
    25 FS-AVAIL     PICTURE X(1).
    25 FS-DCNDY     PICTURE X(5).
    25 FS-FOPET     PICTURE X(6).
    25 FS-GEGR      PICTURE X(4).
    25 FS-OPERL     PICTURE X(6).
    25 FS-NORSK     PICTURE X(1).
    25 FS-NORSL     PICTURE X(1).
    25 FS-DAFLD     PICTURE X(4).
15 FS-GRPERR18.
    25 FS-FRR1801  PICTURE X(1).
    25 FS-FRR1802  PICTURE X(1).
    25 FS-FRR1803  PICTURE X(1).
    25 FS-FRR1804  PICTURE X(1).
    25 FS-FRR1805  PICTURE X(1).
    25 FS-FRR1806  PICTURE X(1).
    25 FS-FRR1807  PICTURE X(1).
    25 FS-FRR1808  PICTURE X(1).
    25 FS-FRR1809  PICTURE X(1).
    25 FS-FRR1810  PICTURE X(1).
    25 FS-FRR1811  PICTURE X(1).
    25 FS-FRR1812  PICTURE X(1).
    25 FS-FRR1813  PICTURE X(1).
15 FILLER.
    25 FS-XTEOPT1  PICTURE X(1).
    25 FS-FLAG-18  PICTURE X(1).
    25 FS-FREE-18  PICTURE X(15).
10 FILLER          PICTURE X(96).
05 FS-RECORD0-L-LEVEL-1-TYPE-19 REDEFINES FS-DATA-GROUP.
10 FS-V-CARD-DATA-GROUP.
15 FS-GROUPV.
20 FS-GRUPV.
    25 FS-ACGED    PICTURE X(4).
    25 FS-ACITY    PICTURE X(2).
    25 FS-ADATE    PICTURE X(6).
    25 FS-MDATE    PICTURE X(4).
    25 FS-RDATE    PICTURE X(6).
20 FILLER.
    25 FS-ACGEDNA  PICTURE X(17).
    25 FS-ACGEDCO  PICTURE X(2).
20 FS-GRPERR19.
    25 FS-FRR1901  PICTURE X(1).
    25 FS-FRR1902  PICTURE X(1).
    25 FS-FRR1903  PICTURE X(1).
15 FILLER.

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Figure 1. (Part 14 of 21)

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    20 FILLER.
      25 FS-XACGED PICTURE X(1).
      25 FS-FRFE-V PICTURE X(13).
    10 FILLER PICTURE X(120).
05 FS-RECORD-LEVEL-2-TYPE-20 REDEFINES FS-DATA-GROUP.
    10 FS-NUCLEAR-DATA-START-RECORD.
      25 FS-FRFE-20 PICTURE X(10).
    10 FILLER PICTURE X(168).
05 FS-RECORD-LEVEL-3-TYPE-21 REDEFINES FS-DATA-GROUP.
    10 FS-P-CARD-DATA-GROUP.
      15 FS-REMARK.
        20 FS-RMKSSID.
          25 FS-RMKID PICTURE X(27).
          25 FS-LABEL PICTURE X(5).
        20 FILLER.
          25 FS-REMRK PICTURE X(21).
      15 FILLER.
        20 FILLER.
          25 FS-PTOT PICTURE X(1).
          25 FS-FLAG-R PICTURE X(1).
          25 FS-FRFE-R PICTURE X(3).
    10 FILLER PICTURE X(120).
05 FS-RECORD-LEVEL-2-TYPE-22 REDEFINES FS-DATA-GROUP.
    10 FS-2S-CARD-DATA-GROUP.
      15 FS-2S-SECONDARY-CONTROL.
        20 FS-2S-SFCTL.
          25 FS-22-FLD7 PIC X(3).
          25 FS-22-FLD19 PIC X(7).
          25 FS-22-FLD28 PIC X(4).
      15 FILLER.
        20 FS-2S-INPUT-GROUP.
          25 FS-22-FLD5 PIC X(6).
          25 FS-22-FLD27 PIC 9(3).
          25 FS-22-FLD20 PIC 9(3).
          25 FS-22-FLD29 PIC 9(3).
          25 FS-22-FLD30 PIC 9(3).
          25 FS-22-FLD35 PIC 9(3).
          25 FS-22-FLD18 PIC 9(3).
          25 FS-22-FLD36 PIC X(4).
        20 FS-NUGEO-FXP.
          25 FS-22-FLD8 PIC X(17).
          25 FS-22-FLD9 PIC X(2).
      20 FILLER.
          25 FS-22-FLD22 PIC X(1).
          25 FS-22-FLD46 PIC X(1).
          20 FS-FRFE-22 PIC X(7).
    10 FILLER PICTURE X(108).
05 FS-RECORD-LEVEL-2-TYPE-23 REDEFINES FS-DATA-GROUP.

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Figure 1. (Part 15 of 21)

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10 FS-0-CARD-DATA-GROUP.
15 FS-0-SECONDARY-CONTROL.
20 FS-0-SECTL.
    25 FS-23-FLD25      PIC X(5).
    25 FS-23-FLD5      PIC X(3).
    25 FS-23-FLD19     PIC X(7).
15 FILLER.
20 FILLER.
    25 FS-23-FLD10     PIC X(10).
    25 FS-23-FLD38     PIC X(6).
    25 FS-23-FLD24     PIC X(2).
    25 FS-23-FLD26     PIC 9(2).
    25 FS-23-FLD20     PIC 9(2).
    25 FS-23-FLD32     PIC 9(2).
    25 FS-23-FLD12     PIC X(5).
    25 FS-23-FLD13     PIC X(1).
    25 FS-23-FLD14     PIC X(5).
    25 FS-23-FLD7      PIC X(3).
    25 FS-23-FLD33     PIC X(2).
    25 FS-23-FLD37     PIC X(4).
20 FS-DSGF0-EXP.
    25 FS-23-FLD8      PIC X(17).
    25 FS-23-FLD9      PIC X(2).
        25 FS-23-FLD47    PIC X(3).
        25 FS-23-FLD48    PIC X.
    25 FS-23-FLD39     PIC X(4).
    25 FS-23-FLD40     PIC X(2).
    25 FS-23-FLD41     PIC X(20).
21 FS-MUOPT-EXP.
    25 FS-23-FLD42     PIC X(3).
    25 FS-23-FLD43     PIC X(10).
20 FILLER.
    25 FS-23-FLD17     PIC X(1).
20 FS-0-REVALIDATION.
    25 FS-23-FLD44     PIC X(1).
    25 FS-23-FLD45     PIC X(1).
20 FS-CORR23.
    25 FS-ERR2301      PIC X.
    25 FS-ERR2302      PIC X.
    25 FS-ERR2303      PIC X.
    25 FS-ERR2304      PIC X.
    25 FS-ERR2305      PIC X.
    25 FS-ERR2306      PIC X.
    25 FS-ERR2307      PIC X.
    25 FS-ERR2308      PIC X.
    25 FS-ERR23        PIC X(10).
10 FILLER              PIC X(36).
05 FS-RECORD-LEVEL-2-TYPE-25 REDEFINES FS-DATA-GROUP.

```

Figure 1. (Part 16 of 21)

```

1) FS-JM1-CARD-DATA-GROUP.
  15 FS-GROUPDM.
    20 FS-PICTL.
      25 FS-PII          PICTURE X(1).
      25 FS-PIIET       PICTURE X(3).
    20 FILLER.
      25 FS-CORNK       PICTURE X(5).
      25 FS-CONAM       PICTURE X(17).
    20 FILLER.
      25 FS-FLAG-DM1    PICTURE X(1).
      25 FS-FREE-DM1    PICTURE X(7).
  10 FILLER          PICTURE X(144).
05 FS-RECORD-LEVEL-2-TYPE-26 REDEFINES FS-DATA-GROUP.
  10 FS-JM1-CARD-DATA-GROUP.
    15 FS-GROUPJM.
      20 FS-SCATD1.
        25 FS-SCATD     PICTURE X(2).
      20 FILLER.
        25 FS-MGF       PICTURE 9(5).
        25 FS-AGO       PICTURE 9(5).
        25 FS-NA        PICTURE 9(5).
        25 FS-NFO       PICTURE 9(5).
        25 FS-MENL      PICTURE 9(5).
        25 FS-NAVO      PICTURE 9(5).
        25 FS-NAVE      PICTURE 9(5).
        25 FS-OTHOF     PICTURE 9(5).
        25 FS-OTHEN     PICTURE 9(5).
      20 FS-PIADD1.
        25 FS-PIADD     PICTURE X(6).
      20 FS-GRPER26.
        25 FS-FRR2601   PICTURE X(1).
      20 FILLER.
        25 FS-FLAG-JM1  PICTURE X(1).
        25 FS-FREE-JM1  PICTURE X(15).
  10 FILLER          PICTURE X(108).
05 FS-RECORD-LEVEL-2-TYPE-27 REDEFINES FS-DATA-GROUP.
  10 FS-LM5-LM6-CARD-DATA-GROUP.
    15 FS-GROUPLM5-6.
      20 FS-GROUPLM5.
        25 FS-ACRFT     PICTURE X(13).
        25 FS-AFLHO     PICTURE 9(4).
        25 FS-ACPAS     PICTURE 9(2).
        25 FS-NOSTR     PICTURE 9(2).
        25 FS-NOSTC     PICTURE 9(2).
        25 FS-ATREL     PICTURE 9(2).
        25 FS-NOPCR     PICTURE 9(2).
        25 FS-PSTND     PICTURE 9(2).
        25 FS-NPATE     PICTURE 9(2).

```

Figure 1. (Part 17 of 21)

25 FS-NSPCR	PICTURE 9(2).
25 FS-CSTND	PICTURE 9(2).
25 FS-NSATF	PICTURE 9(2).
25 FS-NASCA	PICTURE 9(2).
25 FS-NFOCR	PICTURE 9(2).
25 FS-NSTND	PICTURE 9(2).
25 FS-NFOTF	PICTURE 9(2).
25 FS-NFOCA	PICTURE 9(2).
25 FS-PLTTD	PICTURE 9(2).
25 FS-NFOTD	PICTURE 9(2).
20 FS-GROUPLM6.	
25 FS-HCCCR	PICTURE 9(2).
25 FS-HCCND	PICTURE 9(2).
25 FS-HCCCA	PICTURE 9(2).
25 FS-FLFCR	PICTURE 9(2).
25 FS-FLFND	PICTURE 9(2).
25 FS-FLFCA	PICTURE 9(2).
25 FS-AROCR	PICTURE 9(2).
25 FS-AROND	PICTURE 9(2).
25 FS-AROCA	PICTURE 9(2).
20 FS-GRPER27.	
25 FS-FRR2701	PICTURE X(1).
25 FS-FRR2702	PICTURE X(1).
25 FS-FRR2703	PICTURE X(1).
25 FS-FRR2704	PICTURE X(1).
25 FS-FRR2705	PICTURE X(1).
25 FS-FRR2706	PICTURE X(1).
25 FS-FRR2707	PICTURE X(1).
25 FS-FRR2708	PICTURE X(1).
25 FS-FRR2709	PICTURE X(1).
20 FILLER.	
25 FS-FLAG-LM5	PICTURE X(1).
25 FS-FLAG-LM6	PICTURE X(1).
25 FS-TRANCODE-LM6	PICTURE X(1).
25 FS-DATE-LM5	PICTURE X(6).
25 FS-DATE-LM6	PICTURE X(6).
25 FS-FREE-LM5-6	PICTURE X(13).
10 FILLER	PICTURE X(72).
25 FS-RECORD-LEVEL-3-TYPE-23 REDEFINES FS-DATA-GROUP.	
10 FS-R43-CARD-DATA-GROUP.	
15 FS-REMARK-RM3.	
20 FS-CRMLP.	
25 FS-CRVID	PICTURE X(27).
25 FS-CLA9L	PICTURE X(5).
20 FS-CPMRK.	
25 FS-CDATE	PICTURE X(6).
25 FS-CREMARK	PICTURE X(15).
15 FILLER.	

Figure 1. (Part 18 of 21)
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```

    20 FILLER.
        25 FS-RTOT-RM3          PICTURE X(1).
        25 FS-FLAG-RM3         PICTURE X(1).
        25 FS-FREE-RM3         PICTURE X(3).
10 FILLER          PICTURE X(120).
05 FS-RECORD-LEVEL-2-TYPE-29 REDEFINES FS-DATA-GROUP.
10 FS-KN1-CARD-DATA-GROUP.
    15 FS-GRUPKN.
        20 FS-GRUPKN1.
            25 FS-PPMA          PIC X(5).
            25 FS-MARAT         PIC X.
            25 FS-MAREA         PIC X(3).
            25 FS-CHDAT         PIC X(6).
            25 FS-FMART         PIC X.
            25 FS-FCDAT         PIC X(6).
        20 FS-GRPER29.
            25 FS-ERR2901       PIC X.
            25 FS-ERR2902       PIC X.
            25 FS-ERR2903       PIC X.
            25 FS-ERR2904       PIC X.
        20 FILLER.
            25 FS-FRFE-29       PIC X(8).
10 FILLER          PIC X(144).
05 FS-RECORD-LEVEL-2-TYPE-30 REDEFINES FS-DATA-GROUP.
10 FS-PRO-CARD-DATA-GROUP.
    15 FS-GROUP-PRO.
        20 FILLER          PICTURE X(55).
        15 FILLER.
            20 FS-CDTYP-PRO     PICTURE X(3).
        15 FS-USER-DATA-PRO.
            20 FILLER          PICTURE X(109).
10 FILLER          PICTURE X(12).
05 FS-RECORD-LEVEL-2-TYPE-31 REDEFINES FS-DATA-GROUP.
10 FS-PR1-CARD-DATA-GROUP.
    15 FS-GROUP-PR1.
        20 FILLER          PICTURE X(55).
        15 FILLER.
            20 FS-CDTYP-PR1     PICTURE X(3).
        15 FS-USER-DATA-PR1.
            20 FILLER          PICTURE X(109).
10 FILLER          PICTURE X(12).
05 FS-RECORD-LEVEL-2-TYPE-32 REDEFINES FS-DATA-GROUP.
10 FS-PR2-CARD-DATA-GROUP.
    15 FS-GROUP-PR2.
        20 FILLER          PICTURE X(55).
        15 FILLER.
            20 FS-CDTYP-PR2     PICTURE X(3).
        15 FS-USER-DATA-PR2.

```

Figure 1. (Part 19 of 21)

```

      20 FILLER                                PICTURE X(103).
10 FILLER                                PICTURE X(12).
05 FS-RECORD-LEVEL-2-TYPE-33 REDEFINES FS-DATA-GROUP.
  10 FS-PR3-CARD-DATA-GROUP.
    15 FS-GROUP-PR3.
      20 FILLER                                PICTURE X(55).
    15 FILLER.
      20 FS-CDTYP-PR3                            PICTURE X(3).
    15 FS-USER-DATA-PR3.
      20 FILLER                                PICTURE X(103).
10 FILLER                                PICTURE X(12).
05 FS-RECORD-LEVEL-2-TYPE-34 REDEFINES FS-DATA-GROUP.
  10 FS-PR4-CARD-DATA-GROUP.
    15 FS-GROUP-PR4.
      20 FILLER                                PICTURE X(55).
    15 FILLER.
      20 FS-CDTYP-PR4                            PICTURE X(3).
    15 FS-USER-DATA-PR4.
      20 FILLER                                PICTURE X(103).
10 FILLER                                PICTURE X(12).
05 FS-RECORD-LEVEL-2-TYPE-35 REDEFINES FS-DATA-GROUP.
  10 FS-PR5-CARD-DATA-GROUP.
    15 FS-GROUP-PR5.
      20 FILLER                                PICTURE X(55).
    15 FILLER.
      20 FS-CDTYP-PR5                            PICTURE X(3).
    15 FS-USER-DATA-PR5.
      20 FILLER                                PICTURE X(103).
10 FILLER                                PICTURE X(12).
05 FS-RECORD-LEVEL-2-TYPE-36 REDEFINES FS-DATA-GROUP.
  10 FS-PR6-CARD-DATA-GROUP.
    15 FS-GROUP-PR6.
      20 FILLER                                PICTURE X(55).
    15 FILLER.
      20 FS-CDTYP-PR6                            PICTURE X(3).
    15 FS-USER-DATA-PR6.
      20 FILLER                                PICTURE X(103).
10 FILLER                                PICTURE X(12).
05 FS-RECORD-LEVEL-2-TYPE-37 REDEFINES FS-DATA-GROUP.
  10 FS-PR7-CARD-DATA-GROUP.
    15 FS-GROUP-PR7.
      20 FILLER                                PICTURE X(55).
    15 FILLER.
      20 FS-CDTYP-PR7                            PICTURE X(3).
    15 FS-USER-DATA-PR7.
      20 FILLER                                PICTURE X(103).
10 FILLER                                PICTURE X(12).
05 FS-RECORD-LEVEL-3-TYPE-38 REDEFINES FS-DATA-GROUP.

```

Figure 1. (Part 20 of 21)

```

10 FS-PRG-CARD-DATA-GROUP.
  15 FS-GROUP-PR9.
    20 FS-RSEQ-PR8          PICTURE X.
    20 FS-RTOT-PR8         PICTURE X.
    20 FILLER              PICTURE X(53).
  15 FILLER.
    20 FS-CDTYP-PR9        PICTURE X(3).
10 FILLER                  PICTURE X(120).
05 FS-RECORD-LEVEL-3-TYPE-39 REDEFINES FS-DATA-GROUP.
  10 FS-PRG-CARD-DATA-GROUP.
    15 FS-GROUP-PR9.
      20 FS-RSEQ-PR9          PICTURE X.
      20 FS-RTOT-PR9         PICTURE X.
      20 FILLER              PICTURE X(53).
    15 FILLER.
      20 FS-CDTYP-PR9        PICTURE X(3).
10 FILLER                  PICTURE X(120).

```

Figure 1. (Part 21 of 21)
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Col. 1	Col. 8	Col. 16
ISP	RECORD	RECSZ=34,KEYSZ=18,KEYOFF=0
ISP	INDEX	FC=F1,PAGESZ=1024
ISP	DATA	FC=FS,PAGESZ=1024,PAGEFIL=100

Figure 2. ISP parameters for FORSTQ file

Col. 1	Col. 8	Col. 16
ISP	RECORD	RECSZ=3,KEYSZ=9,KEYOFF=0
ISP	INDEX	FC=IX,PAGESZ=1024
ISP	DATA	FC=DT,PAGESZ=1024,PAGEFIL=100

Figure 3. ISP parameters for Directory File

Ø1	UIC-DIRECTORY-RECORD.		
Ø5	F-UNIT-TYPE-CODE	PIC	X(Ø5).
Ø5	F-UIC-COUNT	PIC	9(Ø4).
Ø5	F-UIC	PIC	X(Ø6).
Ø5	FILLER	PIC	X(Ø2).

Figure 4. Output format for Directory File

APPENDIX C

OUTPUT REPORTS FORM UTCTAB

1. Appendix C provides an example of the output report produced by UTCTAB. As UTCTAB is designed to build the Directory File, rather than generate a report, these reports are in the manner of diagnostic and trace displays.
2. Figure 1 is an example of the final processing display. It is a two line report indicating the number of unique UTC's encountered and the number of UIC's read. The UIC count is also used to indicate the number of directory records generated.
3. Figure 2 illustrates the error message displayed when a read error occurs while reading the FORSTQ file. Processing will continue with the remaining FORSTQ records.
4. Figure 3 shows the error message displayed when a write error occurs while building the directory file. As with a read error, processing on the file will continue.

UTC TOTAL 001265

UTC TOTAL 012174

Figure 1. Final Processing Messages

BAD ISP RETURN CODE FROM FORSTAT 000X02

Figure 2. FORSTQ Read Error Message

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BAD ISP RETURN CODE ON UTC-UIC TABLE FILE 000X03

RECORD BEING WRITTEN IS 0AAHB0017

Figure 3. Directory File Write Error Message

APPENDIX D

1. Appendix D contains the system flowchart for UTCTAB. A macro flowchart is provided to give the user an overview of the functions performed to generate the UTC-UIC Directory File. The processing flow is divided into four basic sections, with distinct functions performed in each section. They are:

Section A: Read FORSTQ file and extract required data

Section B: Sort data

Section C: Read sorted data and build directory file

Section D: Print final processing report

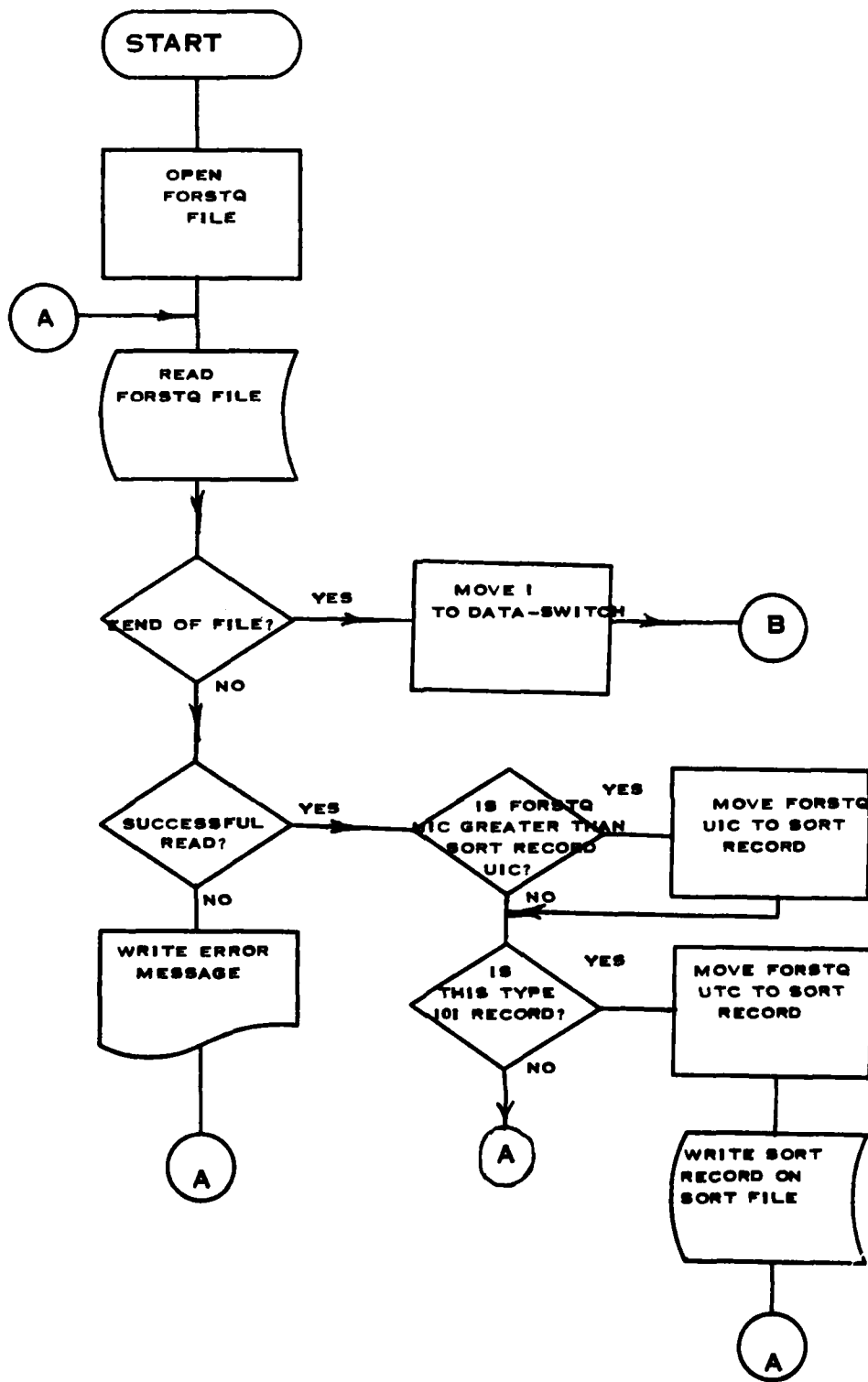


Figure 1. System Flowchart (Part 1 of 3)

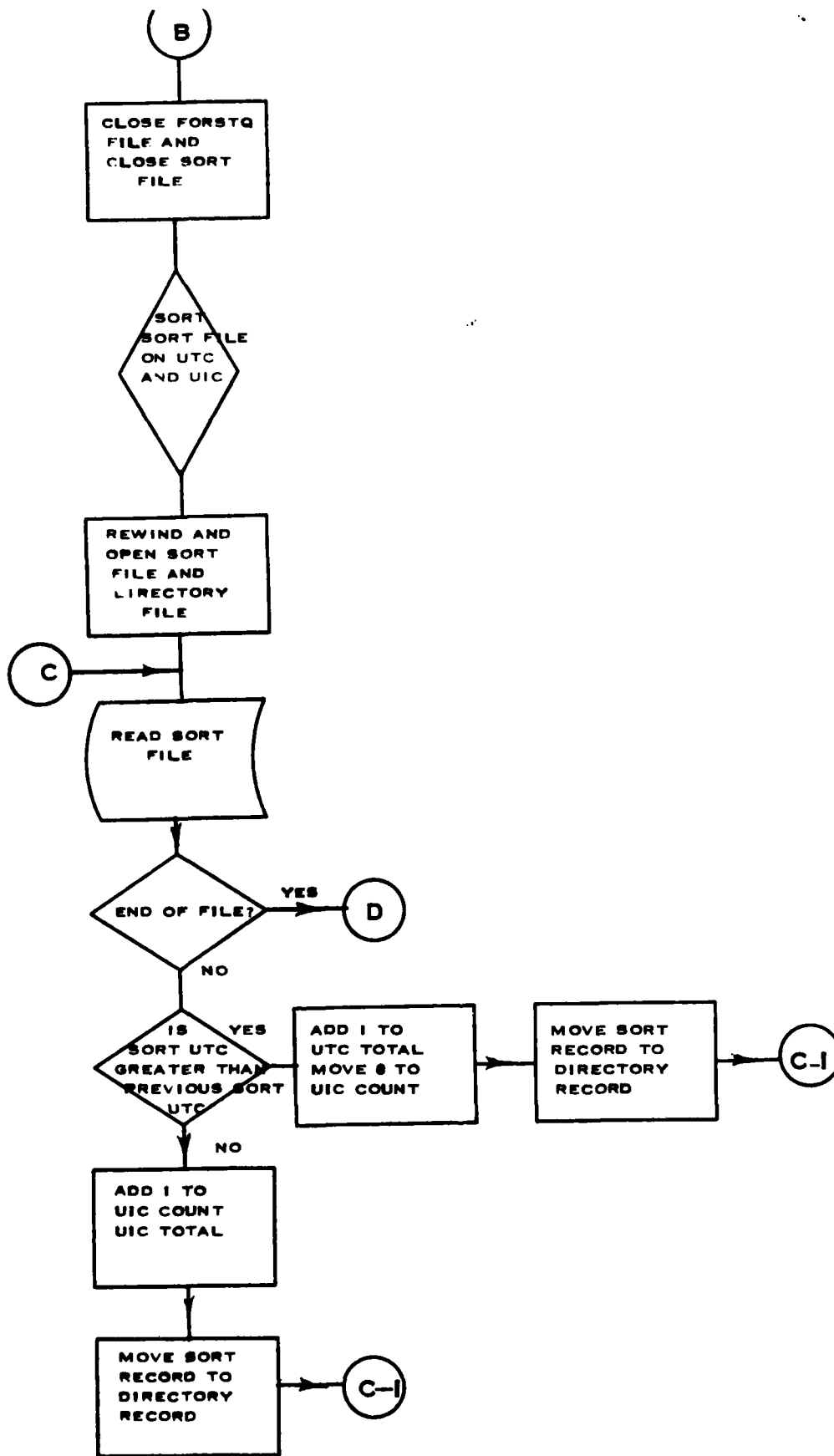


Figure 1. (Part 2 of 3)

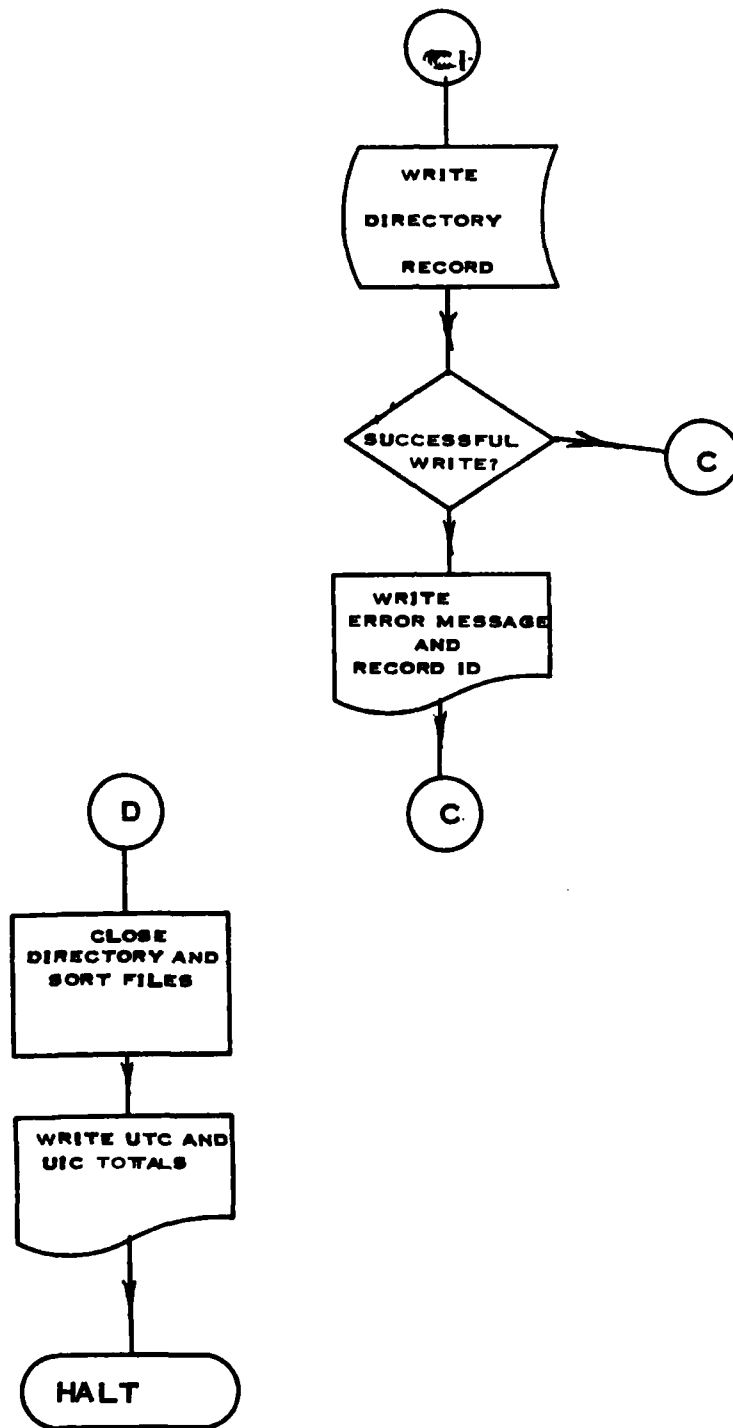


Figure 1. (Part 3 of 3)

END

FILMED

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