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TM-(L)-715/043/00

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TECHNICAL MEMORANDUM

(TM Series)

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Systems Division Program, for Space Systems Division, AFSC.

Utility Program Descriptions

Milestone 11

Merge Change and Transfer Tapes (SMERGE)

by

H. Frieden

12 March 1963

Approved

J. B. Munson

SYSTEM

DEVELOPMENT

CORPORATION

2500 COLORADO AVE.

SANTA MONICA

CALIFORNIA

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12 March 1963

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IDENTIFICATION

- A. Title: Merge Change and Transfer Tapes (SMERGE) Ident K42, Mod AB
- B. Author: H. J. Frieden, 28 February 1963, System Development Corporation

PURPOSE

SMERGE produces an updated 1604-160A Transfer Tape and a duplicate Backup Tape from the existing Transfer Tape and the Change Tape prepared by SWRTOUT. Initially, the existing Transfer Tape contains only an end-of-file mark and the first updated Transfer Tape consists of the information on the Change Tape sorted into the proper order. Thereafter, the existing Transfer Tape is the updated Transfer Tape from the last time SMERGE was operated.

USAGE

A. Calling Sequence

SMERGE is called by a standard COPII calling sequence with no parameters required. It is normally called by SWRTOUT via the successor call function.

B. Tapes Required

1. Unit 16 contains the old Transfer Tape or a tape with an initial end-of-file. After it has been read, SMERGE prints a message to replace with a blank, and then halts. The blank becomes the new Transfer Tape.
2. Unit 17 contains the old Backup Tape. At the beginning of SMERGE, a message to replace with a blank is printed, followed by a halt. The blank becomes the new Backup Tape.
3. Unit 18 contains the Change Tape written by SWRTOUT. At the end of SMERGE, a message to replace with the SCHOPS Tape is printed, followed by a halt.

¹This tape is sometimes referred to as the Prepass Tape. All references in this document to the "Transfer Tape" are to the 1604-160A Transfer Tape.

C. Expected On-Line Printer Messages

After printing each message, SMERGE will first space up the paper to facilitate the reading of the message, and then halt. Press start when ready to continue.

1. REMOVE BACKUP TRANSFER TAPE ON UNIT 17, AND MOUNT BLANK
2. REMOVE OLD TRANSFER TAPE ON UNIT 16, AND MOUNT BLANK
3. REMOVE RINGS FROM NEW TRANSFER AND BACKUP TAPES ON UNITS 16 AND 17
IF SCHOPS REQUESTS ARE FORTHCOMING, MOUNT SCHOPS TAPE ON UNIT 18.

D. Error Messages

1. In case of a read error on the old Transfer Tape,
UNRECOVERABLE READ ERROR ON UNIT 16
MOUNT BACKUP TRANSFER TAPE ON UNIT 16 AND CONTINUE
2. In case of read error after the old Transfer Tape was removed,
UNRECOVERABLE READ ERROR ON UNIT **
MOUNT OLD TRANSFER TAPE ON UNIT 16 AND CONTINUE
3. UNRECOVERABLE WRITE ERROR ON UNIT **, MOUNT NEW TAPE AND CONTINUE
4. END OF TAPE REACHED ON UNIT **, MOUNT LONGER TAPE AND CONTINUE
5. PARITY ERROR ON CHANGE TAPE, JOB ABANDONED
6. CHECKSUM ERROR ON CHANGE TAPE, JOB ABANDONED
7. RECORD ON CHANGE TAPE LONGER THAN 512 WORDS, JOB ABANDONED
8. RECORD ON CHANGE TAPE HAS ILLEGAL FORMAT, JOB ABANDONED

If the Change Tape is in error, it must be regenerated. Mount the old Backup and Transfer Tapes and re-run all programs which were used to generate the Change Tape.

E. Change Tape Format

1. Maximum record size is 512 words.
2. Header Records
 - a. A Header Record is identified by a first word of 01061204
40626220.

- b. Vehicle number, in 4-bit BCD, is in the fourth word, bits 0-15.
- c. Revolution number, in 4-bit BCD, is in the fourth word, bits 24-39.
- d. Station number, in binary, is in the third word, bits 12-17.

3. Message Records

- a. A Message Record is identified by 7777 in bits 36-47 of the first word.
- b. Message type, in binary, is in the first word, bits 24-29. A message type of 00 is illegal.
- c. The message is for the vehicle, revolution, and station of the preceding Header Record.

4. The tape is ended by an end-of-file mark.

F. Transfer Tape Format

The Transfer Tape has the same format as the Change Tape, but it is ordered by message type within station within revolution within vehicle.

G. Backup Tape Format

The Backup Tape is a copy of the Transfer Tape.

METHOD

SMERGE initially requests the operator to remove the old Backup Tape and mount a blank. All tapes are then rewound. Changes are read into memory from the Change Tape until an end of file is reached or until memory is filled. (Memory will be filled by 1000 records or 20000 words of information.) The changes are sorted into order of message type within station within revolution within vehicle.

The Transfer Tape is then merged with the changes in memory, creating the updated tape on the unit which held the old Backup Tape. Any message block on the existing Transfer Tape which has a corresponding entry on the Change Tape is replaced by the new information. New message blocks

for a particular vehicle, revolution, and station are added in order of message type.

At the end of the first pass, the operator is requested to remove the old Transfer Tape and mount a blank. Additional merges are required if the information on the Change Tape could not all fit into memory at one time. The input and output tapes for each pass alternate between units 16 and 17. When the final merge is done, the updated Transfer Tape is copied onto the Backup Tape. SMERGE requests the operator to file protect the new tapes before returning to MTCII.

If an unrecoverable read error occurs on the Change Tape, no recovery is possible. If an unrecoverable read error occurs on the first pass over the Transfer Tape, SMERGE asks the operator to mount the Backup Tape, and starts over. If an unrecoverable read error occurs on a subsequent pass, SMERGE asks the operator to mount the old Transfer Tape, and starts over. An unrecoverable write error causes SMERGE to return to the beginning of the current merge, after asking the operator to mount a new output tape.

RESTRICTIONS

- A. Tape number 16 must be an existant Transfer Tape or a tape initialized by IRT.
- B. The code for message type cannot be 00.
- C. All records for a particular vehicle, revolution, station, and message type must appear contiguously on the Change Tape. Otherwise, the results will depend on the amount of information on the Change Tape. If the information on the Change Tape can all fit in memory at one time, non-contiguous blocks are added together. If it cannot, a non-contiguous block from a later memory load will replace a block from an earlier memory load.

TIMING

The time for the memory sort of the records on the Change Tape depends on the number of records, their initial order, and the type of records. 1000 records could take from 5-35 seconds, with an average time of 10-15 seconds.

The time to read the Change Tape, merge the changes with the existing Transfer Tape, and copy the Transfer Tape onto the Backup Tape, will be limited by the speed of the tapes.

STORAGE REQUIREMENTS

Program: 440 cells

Constants: 113 cells

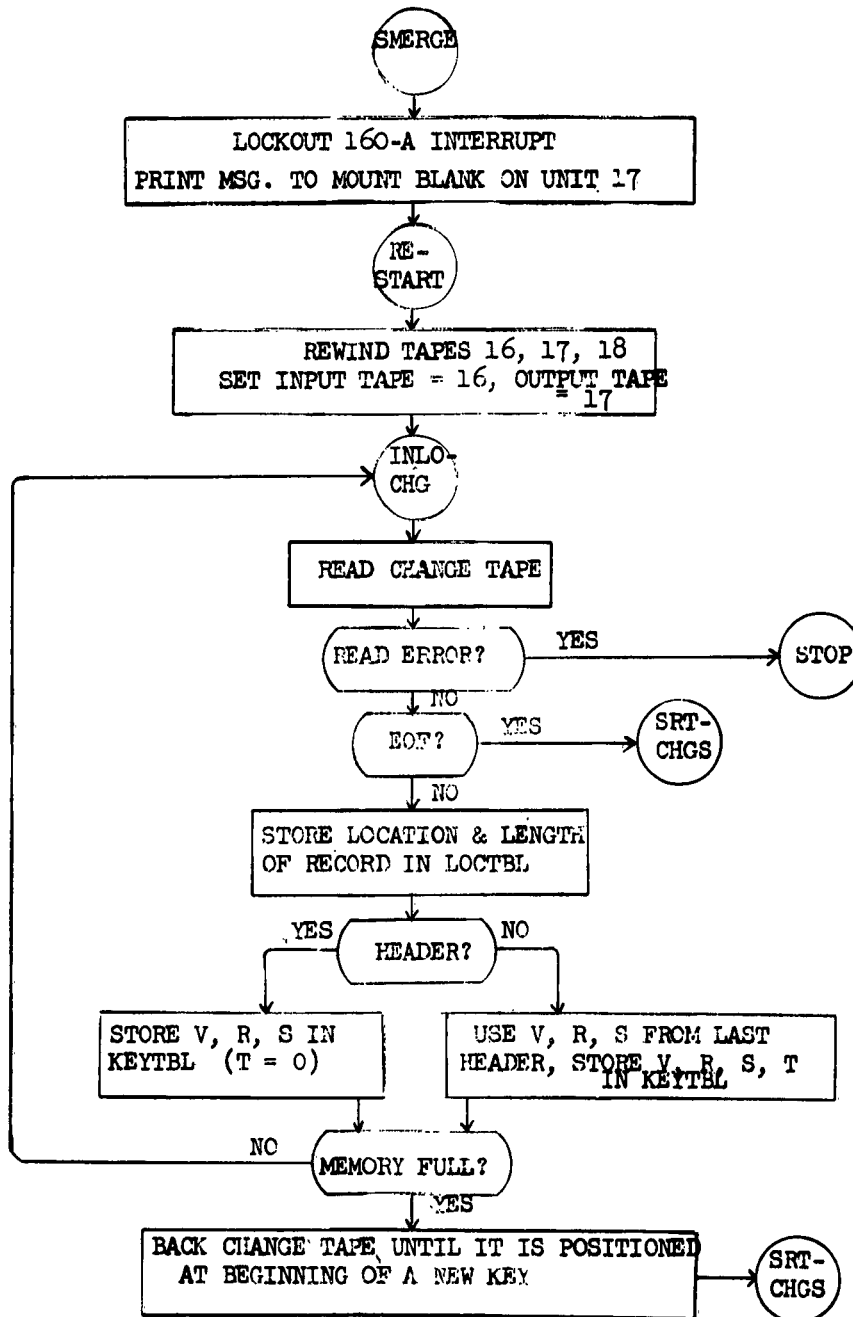
Storage: 23539 cells

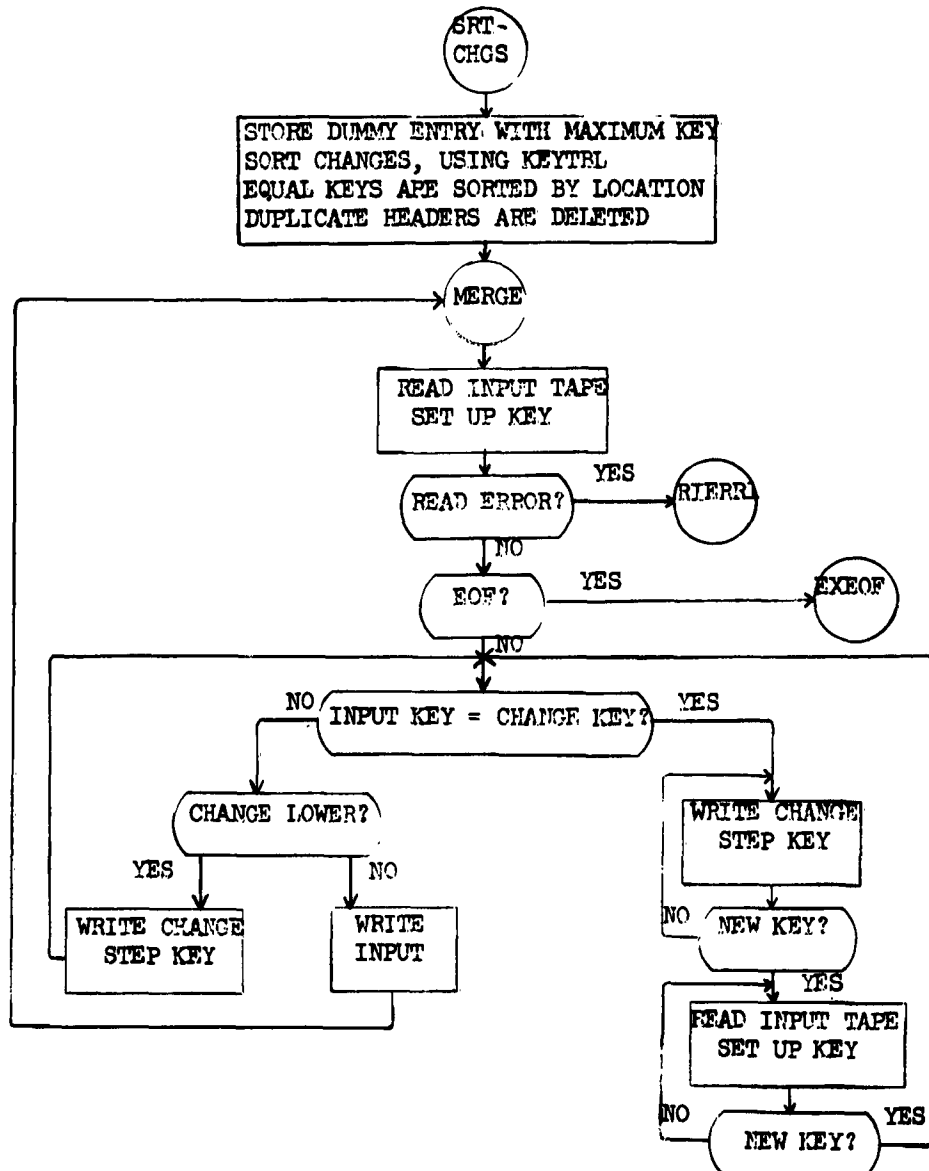
VALIDATION TESTS

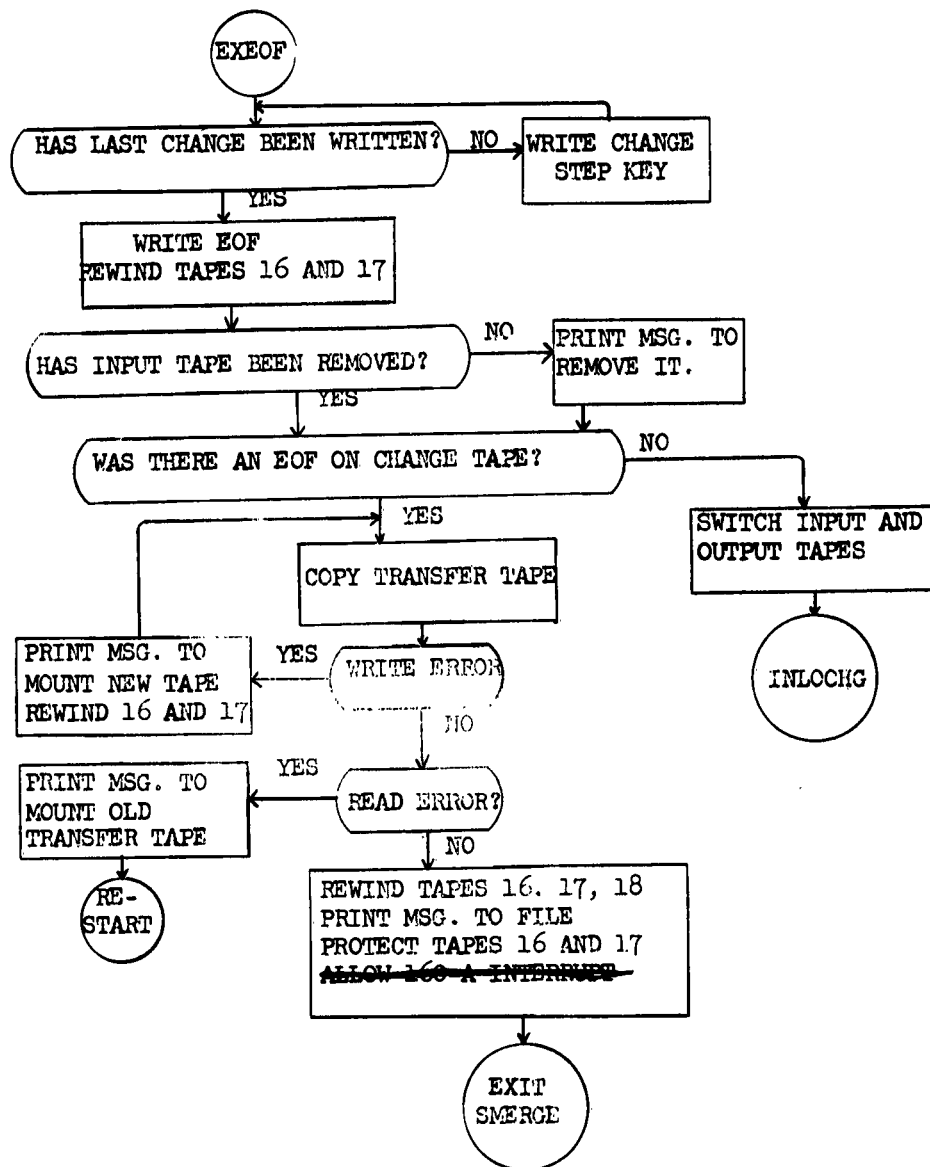
A Change Tape and Transfer Tape were prepared, and mounted on units 18 and 16. SMERGE was operated and produced a new Transfer Tape on unit 16. Tape dumps of the three tapes are shown in Appendices A, B, and C.

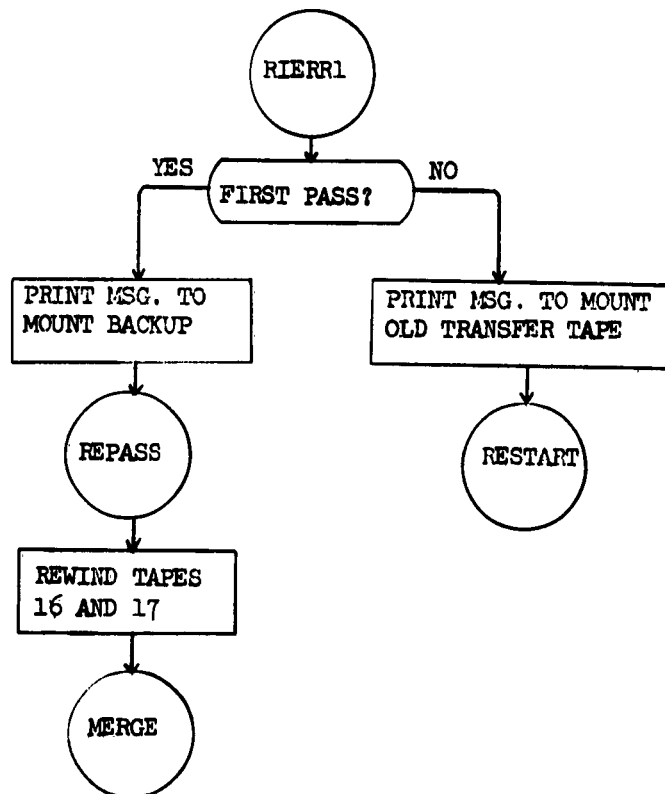
REFERENCE

- A. AF/CPL number for SMERGE is 76042.
- B. TM-891/001/00 (plus Modifications A and B) Combined Milestone 3-4 for the 1604 Augmentation Communication Programs.
- C. Utility Programs Descriptions Milestone 11, Write Change Tape (SWRTOUT), TM-(L)-715/044/00









TAPE	52031	PRINT	0001	FILES	PRINT	0000	RECORDS	SKIP	0000	FILES	SKIP	0000	RECORDS
FILE NO.	00001												
RECORD NO. 00001 00005(OCTAL) WORDS													
00000	01 0 61204	40 6 20220	23 5 16145	22 6 66551	20 6 46123	61 0 30000	00 0 00001	00 0 00000	00 0 00001	00 0 00000	00 0 00000	00 0 00000	00 0 00000
00004	32 3 32301	33 2 43005											
RECORD NO. 00002 00010(OCTAL) WORDS													
00000	77 7 70211	11 3 30000	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00000
00004	00 0 00000	00 0 00000	00 0 00000	00 0 00001	00 0 00000	00 0 00011	00 0 07566	66 4 47760					
RECORD NO. 00003 00010(OCTAL) WORDS													
00000	77 7 70311	11 3 30000	00 0 00000	00 0 00001	00 0 00000	00 0 00002	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00000
00004	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 07466	66 4 47770					
RECORD NO. 00004 00005(OCTAL) WORDS													
00000	01 0 61204	40 6 20220	23 5 16145	22 6 66551	20 6 46123	61 0 20000	00 0 00002	00 0 00001	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00000
00004	32 3 32300	33 2 43005											
RECORD NO. 00005 00010(OCTAL) WORDS													
00000	77 7 70211	11 3 30000	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00000
00004	00 0 00000	00 0 00000	00 0 00000	00 0 00001	00 0 00000	00 0 00011	00 0 07566	66 4 47760					
RECORD NO. 00006 00005(OCTAL) WORDS													
00000	01 0 61204	40 6 20220	23 5 16145	22 6 66551	20 6 46123	61 0 20000	00 0 00001	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00000
00004	32 3 32301	33 2 43005											
RECORD NO. 00007 00010(OCTAL) WORDS													
00000	77 7 70211	11 3 30000	00 0 00000	00 0 00001	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00000
00004	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00000	00 0 00002	00 0 07566	66 4 47770					
RECORD NO. 00010 00010(OCTAL) WORDS													
00000	77 7 70211	11 3 30000	00 0 00000	00 0 00001	00 0 00000	00 0 00002	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00000
00004	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00000	00 0 00002	00 0 07566	66 4 47770					
RECORD NO. 00011 00010(OCTAL) WORDS													

00000	77 7 70215	11 3 30000	00 0 00000	00 0 00002	00 0 00000	00 0 00001	00 0 00000	00 0 00000	00 0 00000
00004	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00000	00 0 00002	00 0 07566	66 4 47770	
RECORD NO. 00012 00005(0CTAL) WORDS									
00000	01 0 61204	40 6 26220	23 5 16145	22 6 66551	20 6 46123	61 0 30000	00 0 00001	00 0 00001	
00004	32 3 32301	33 2 43005							
RECORD NO. 00013 00010(0CTAL) WORDS									
00000	77 7 70316	16 3 30000	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00000	00 0 00001	
00004	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 07461	61 4 47771	
RECORD NO. 00014 00005(0CTAL) WORDS									
00000	01 0 61204	40 6 26220	23 5 16145	22 6 66551	20 6 46123	61 0 20000	00 0 00002	00 0 00001	
00004	32 3 32300	33 2 43005							
RECORD NO. 00015 00010(0CTAL) WORDS									
00000	77 7 70216	16 3 30000	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00002	
00004	00 0 00000	00 0 00004	00 0 00000	00 0 00000	00 0 00000	00 0 00001	00 0 07561	61 4 47770	
RECORD NO. 00016 00005(0CTAL) WORDS									
00000	01 0 61204	40 6 26220	23 5 16145	22 6 66551	20 6 46123	61 0 20000	00 0 00001	00 0 00001	
00004	32 3 32301	33 2 43005							
RECORD NO. 00017 00010(0CTAL) WORDS									
00000	77 7 70216	16 3 30000	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00002	
00004	00 0 00000	00 0 00004	00 0 00000	00 0 00000	00 0 00000	00 0 00001	00 0 07561	61 4 47770	
RECORD NO. 00020 00005(0CTAL) WORDS									
00000	01 0 61204	40 6 26220	23 5 16145	22 6 66551	20 6 46123	61 0 20000	00 0 00002	00 0 00001	
00004	32 3 32300	33 2 43005							
RECORD NO. 00021 00010(0CTAL) WORDS									
00000	77 7 70225	25 3 30000	00 0 00000	00 0 00002	00 0 00000	00 0 00002	00 0 00000	00 0 00002	
00004	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00101	00 0 07552	52 4 47670	
RECORD NO. 00022 00010(0CTAL) WORDS									
00000	77 7 70225	25 3 30000	00 0 00000	00 0 00002	00 0 00000	00 0 00002	00 0 00000	00 0 00002	
00004	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00101	00 0 07552	52 4 47670	

END OF FILE

TAPE	52011	PRINT	00001	FILES	PRINT	00000	RECORDS	SKIP	00000	FILES	SKIP	00000	RECORDS
FILE NO.	00001	00001	00001	00001	00001	00001	00001	00001	00001	00001	00001	00001	00001
FILE NO.	00001	00001	00001	00001	00001	00001	00001	00001	00001	00001	00001	00001	00001
RECORD NO.	00001	00001	00001	00001	00001	00001	00001	00001	00001	00001	00001	00001	00001
00000	01 0 61204	40 6 26220	23 5 16145	22 6 66551	20 6 46123	61 0 20000	00 0 00000	00 0 00001	00 0 00001	00 0 00001	00 0 00001	00 0 00001	00 0 00001
00004	32 3 32301	33 2 43005											
RECORD NO.	00002	00010(OCTAL) WORDS											
00000	77 7 70211	11 3 30000	00 0 00000	00 0 00001	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00002
00004	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00000	00 0 00002	00 0 00000	00 0 00002	00 0 00000	00 0 00002	00 0 07566	66 4 47770	
RECORD NO.	00003	00010(OCTAL) WORDS											
00000	77 7 70211	11 3 30000	00 0 00000	00 0 00002	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00000
00004	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00000	00 0 00002	00 0 00000	00 0 00002	00 0 00000	00 0 00002	00 0 07566	66 4 47770	
RECORD NO.	00004	00010(OCTAL) WORDS											
00000	77 7 70211	11 3 30000	00 0 00000	00 0 00001	00 0 00000	00 0 00002	00 0 00000	00 0 00001	00 0 00000	00 0 00002	00 0 00000	00 0 00000	00 0 00000
00004	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00000	00 0 00002	00 0 00000	00 0 00002	00 0 00000	00 0 00002	00 0 07566	66 4 47770	
RECORD NO.	00005	00010(OCTAL) WORDS											
00000	77 7 70226	26 3 30000	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00001
00004	00 0 00000	00 0 00001	00 0 00000	00 0 00002	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 07551	51 4 47770	
RECORD NO.	00006	00010(OCTAL) WORDS											
00000	77 7 70226	26 3 30000	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00001
00004	00 0 00000	00 0 00002	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 07551	51 4 47770	
RECORD NO.	00007	00010(OCTAL) WORDS											
00000	77 7 70231	31 3 30000	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00001
00004	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 07546	46 4 47770	
RECORD NO.	00010	00010(OCTAL) WORDS											
00000	01 0 61204	40 6 26220	23 5 16145	22 6 66551	20 6 46123	61 0 20000	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00001
00004	32 3 32300	33 2 43009											
RECORD NO.	00011	00010(OCTAL) WORDS											

APPENDIX B OLD TRANSFER TAPE

00000	77 7 70213	11 3 30000	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00000	00 0 00002
00004	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 07566	66 4 47770
RECORD NO. 00012 0005(OCYAL) WORDS								
00000	01 0 61204	40 6 26220	23 5 16145	22 6 66551	20 6 46123	61 0 30000	00 0 00002	00 0 00001
00004	32 3 32300	33 2 33005						
RECORD NO. 00013 0010(OCYAL) WORDS								
00000	77 7 70311	11 3 30000	00 0 00000	00 0 00001	00 0 00000	00 0 00002	00 0 00000	00 0 00001
00004	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 07466	66 4 47770
RECORD NO. 00014 0010(OCYAL) WORDS								
00000	77 7 70316	16 3 30000	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00000	00 0 00001
00004	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 07461	61 4 47771
RECORD NO. 00015 0005(OCYAL) WORDS								
00000	01 0 61204	40 6 26220	23 5 16145	22 6 66551	20 6 46123	61 0 20000	00 0 00003	00 0 00001
00004	32 3 32277	33 2 43005						
RECORD NO. 00016 0010(OCYAL) WORDS								
00000	77 7 70211	11 3 30000	00 0 00000	00 0 00002	00 0 00000	00 0 00002	00 0 00000	00 0 00000
00004	00 0 00000	00 0 00000	00 0 00000	00 0 00002	00 0 00000	00 0 00001	00 0 07566	66 4 47770
RECORD NO. 00017 0010(OCYAL) WORDS								
00000	77 7 70216	16 3 30000	00 0 00000	00 0 00000	00 0 00000	06 0 00000	00 0 00000	00 0 00002
00004	00 0 00000	00 0 00002	00 0 00000	00 0 00002	00 0 00000	00 0 00001	00 0 07561	61 4 47770
RECORD NO. 00020 0010(OCYAL) WORDS								
00000	77 7 70225	29 3 30000	00 0 00000	00 0 00002	00 0 00000	00 0 00002	00 0 00000	00 0 00002
00004	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00001	00 0 07552	52 4 47770
RECORD NO. 00021 0005(OCYAL) WORDS								
00000	01 0 61204	40 6 26220	23 5 16145	22 6 66551	20 6 46123	61 0 20000	00 0 00001	00 0 00002
00004	32 3 32301	33 2 43004						
RECORD NO. 00022 0010(OCYAL) WORDS								
00000	77 7 70211	11 3 30000	00 0 00000	00 0 00002	00 0 00000	00 0 00001	00 0 00000	00 0 00000
00004	00 0 00000	00 0 00002	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 07566	66 4 47770

END OF FILE

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TAPE	52011	PRINT	00001	FILES	PRINT	00000	RECORDS	SKIP	00000	FILES	SKIP	00000	RECORDS
FILE NO.	00001												
RECORD NO.	00001			00005(OCTAL) WORDS									
00000	01 0 61204	40 6 26220	23 5 16145	22 6 66551	20 6 46123	61 0 20000	00 0 00001	00 0 00001	00 0 00001	00 0 00001	00 0 00001	00 0 00001	00 0 00001
00004	32 3 32301	33 2 43005											
RECORD NO.	00002			00010(OCTAL) WORDS									
00000	77 7 70211	11 3 30000	00 0 00000	00 0 00001	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00000
00004	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00000	00 0 00002	00 0 00002	00 0 00002	00 0 00002	00 0 00002	00 0 00002	00 0 00002	00 0 00002
RECORD NO.	00003			00010(OCTAL) WORDS									
00000	77 7 70211	11 3 30000	00 0 00000	00 0 00001	00 0 00000	00 0 00002	00 0 00001	00 0 00002	00 0 00002	00 0 00002	00 0 00002	00 0 00002	00 0 00002
00004	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00000	00 0 00002	00 0 00002	00 0 00002	00 0 00002	00 0 00002	00 0 00002	00 0 00002	00 0 00002
RECORD NO.	00004			00010(OCTAL) WORDS									
00000	77 7 70211	11 3 30000	00 0 00000	00 0 00002	00 0 00000	00 0 00001	00 0 00001	00 0 00001	00 0 00001	00 0 00001	00 0 00001	00 0 00001	00 0 00001
00004	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00000	00 0 00002	00 0 00002	00 0 00002	00 0 00002	00 0 00002	00 0 00002	00 0 00002	00 0 00002
RECORD NO.	00005			00010(OCTAL) WORDS									
00000	77 7 70216	16 3 30000	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00000
00004	00 0 00000	00 0 00004	00 0 00000	00 0 00000	00 0 00000	00 0 00001	00 0 00001	00 0 00001	00 0 00001	00 0 00001	00 0 00001	00 0 00001	00 0 00001
RECORD NO.	00006			00010(OCTAL) WORDS									
00000	77 7 70226	26 3 30000	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00001	00 0 00001	00 0 00001	00 0 00001	00 0 00001	00 0 00001	00 0 00001
00004	00 0 00000	00 0 00001	00 0 00000	00 0 00002	00 0 00000	00 0 00002	00 0 00002	00 0 00002	00 0 00002	00 0 00002	00 0 00002	00 0 00002	00 0 00002
RECORD NO.	00007			00010(OCTAL) WORDS									
00000	77 7 70226	26 3 30000	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00001	00 0 00001	00 0 00001	00 0 00001	00 0 00001	00 0 00001	00 0 00001
00004	00 0 00000	00 0 00002	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00001	00 0 00001	00 0 00001	00 0 00001	00 0 00001	00 0 00001	00 0 00001
RECORD NO.	00010			00010(OCTAL) WORDS									
00000	77 7 70231	31 3 30000	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00001	00 0 00001	00 0 00001	00 0 00001	00 0 00001	00 0 00001	00 0 00001
00004	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00001	00 0 00001	00 0 00001	00 0 00001	00 0 00001	00 0 00001	00 0 00001
RECORD NO.	00011			00005(OCTAL) WORDS									
00000	01 0 61204	40 6 26220	23 5 16145	22 6 66551	20 6 46123	61 0 30000	00 0 00001	00 0 00001	00 0 00001	00 0 00001	00 0 00001	00 0 00001	00 0 00001
00004	32 3 32301	33 2 33005											
RECORD NO.	00012			00010(OCTAL) WORDS									
00000	77 7 70211	11 3 30000	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00001	00 0 00001	00 0 00001	00 0 00001	00 0 00001	00 0 00001	00 0 00001
00004	00 0 00000	00 0 00000	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00001	00 0 00001	00 0 00001	00 0 00001	00 0 00001	00 0 00001	00 0 00001
RECORD NO.	00013			00010(OCTAL) WORDS									

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00000	77 7 70311	11 3 30000	00 0 00000	00 0 00001	00 0 00000	00 0 00002	00 0 00000	00 0 00001
00004	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 07466	66 4 47770
RECORD NO. 00014 00010(OCTAL) WORDS								
00000	77 7 70316	16 3 30000	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00000	00 0 00001
00004	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 07461	61 4 47771
RECORD NO. 00015 00005(OCTAL) WORDS								
00000	01 0 61204	40 6 26220	23 5 16145	22 6 66551	20 6 46123	61 0 20000	00 8 00002	00 0 00001
00004	32 3 32300	33 2 43005						
RECORD NO. 00016 00010(OCTAL) WORDS								
00000	77 7 70211	11 3 30000	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00000	00 0 00001
00004	00 0 00000	00 0 00000	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 07566	66 4 47760
RECORD NO. 00017 00010(OCTAL) WORDS								
00000	77 7 70216	16 3 30000	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00002
00004	00 0 00000	00 0 00004	00 0 00000	00 0 00000	00 0 00000	00 0 00001	00 0 07561	61 4 47770
RECORD NO. 00020 00010(OCTAL) WORDS								
00000	77 7 70225	25 3 30000	00 0 00000	00 0 00002	00 0 00000	00 0 00002	00 0 00000	00 0 00002
00004	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00101	00 0 07552	52 4 47670
RECORD NO. 00021 00010(OCTAL) WORDS								
00000	77 7 70225	25 3 30000	00 0 00000	00 0 00002	00 0 00000	00 0 00002	00 0 00000	00 0 00002
00004	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00101	00 0 07552	52 4 47670
RECORD NO. 00022 00005(OCTAL) WORDS								
00000	01 0 61204	40 6 26220	23 5 16145	22 6 66551	20 6 46123	61 0 30000	00 0 00002	00 0 00001
00004	32 3 32300	33 2 33005						
RECORD NO. 00023 00010(OCTAL) WORDS								
00000	77 7 70311	11 3 30000	00 0 00000	00 0 00001	00 0 00000	00 0 00002	00 0 00000	00 0 00001
00004	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 07466	66 4 47770
RECORD NO. 00024 00010(OCTAL) WORDS								
00000	77 7 70316	16 3 30000	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00000	00 0 00001
00004	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 07461	61 4 47771
RECORD NO. 00025 00005(OCTAL) WORDS								
00000	01 0 61204	40 6 26220	23 5 16145	22 6 66551	20 6 46123	61 0 20000	00 0 00003	00 0 00001
00004	32 3 32277	33 2 43005						
RECORD NO. 00026 00010(OCTAL) WORDS								

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00000	77 7 70211	11 3 30000	00 0 00000	00 0 00002	00 0 00000	00 0 00002	00 0 00000	00 0 00000	00 0 00000
00004	00 0 00000	00 0 00000	00 0 00000	00 0 00002	00 0 00000	00 0 00001	00 0 07566	66 4 47770	
RECORD NO. 00027 00010(OCTAL) WORDS									
00000	77 7 70216	16 3 30000	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00002
00004	00 0 00000	00 0 00002	00 0 00000	00 0 00002	00 0 00000	00 0 00001	00 0 07561	61 4 47770	
RECORD NO. 00030 00010(OCTAL) WORDS									
00000	77 7 70225	25 3 30000	00 0 00000	00 0 00002	00 0 00000	00 0 00002	00 0 00000	00 0 00000	00 0 00002
00004	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00000	00 0 00001	00 0 07552	52 4 47770	
RECORD NO. 00031 00005(OCTAL) WORDS									
00000	01 0 61204	40 6 26220	23 5 16145	22 6 66551	20 6 46123	61 0 20000	00 0 00001	00 0 00002	
00004	32 3 32301	33 2 43004							
RECORD NO. 00032 00010(OCTAL) WORDS									
00000	77 7 70211	11 3 30000	00 0 00000	00 0 00002	00 0 00000	00 0 00001	00 0 00000	00 0 00000	00 0 00000
00004	00 0 00000	00 0 00002	00 0 00000	00 0 00001	00 0 00000	00 0 00001	00 0 07566	66 4 47770	
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