```
 OPTIONS NODECK,LIST,XREF,NOREL,OBJ(P)

THE LIST OF OPTIONS USED DURING THIS ASSEMBLY IS--   NODECK,LIST,XREF,NOREL,OBJ
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```
                          EXTERNAL SYMBOL LIST

SYMBOL    TYPE                                      VER 15, MOD 00  05/06/22  PAGE   1

#KNAME    MODULE
```

```
ERR LOC  OBJECT CODE    ADDR STMT SOURCE STATEMENT         VER 15, MOD 00  05/06/22  PAGE   2

    0000                      1 #KNAME START 0
                              2        PRINT ON,NODATA
                              3 *      @SYS  EXP-N
                            214+       PRINT ON
                            215 *      @FXD  EXP-N
                            620+       PRINT ON
                            621 *      @CAN  EXP-N
                            724+       PRINT ON
                            725 *      @DIR  EXP-N
                            845+       PRINT ON
                            846 *      @ERM  EXP-N
                           1468+       PRINT ON
                           1469 *      @SPF  EXP-N
                           1932+       PRINT ON
```

@SPFEQ - SYSTEM PROGRAM FILE EQUATES

```
                           1935 *************************************************************************
                           1936 * 5703-XM1      COPYRIGHT IBM CORP. 1970                              *
                           1937 *                      REFER TO INSTRUCTIONS ON COPYRIGHT NOTICE, 120-2083   *
                           1938 *                                                                     *
                           1939 *************************************************************************
                           1940 *STATUS -                                                             *
                           1941 *    VERSION 1 MODIFICATION 0                                         *
                           1942 *                                                                     *
                           1943 *FUNCTION                                                             *
                           1944 *    THE FUNCTION OF KNAMES IS TWO-FOLD.  EITHER IT WILL RENAME THE   *
                           1945 *    PERMANENT FILE SPECIFIED BY THE USER-FILE-SPECIFICATION, OR IF   *
                           1946 *    THE SPECIFICATION IS NOT PRESENT, IT WILL RENAME THE WORK FILE   *
                           1947 *    AREA.  FOR A PERMANENT DISK FILE, THE USER DIRECTORY AND POOLED  *
                           1948 *    DIRECTORY (IF THE FILE IS POOLED) ARE SEARCHED TO INSURE THE NEW *
                           1949 *    FILENAME DOES NOT ALREADY EXIST.  IF THE NAME IS DUPLICATED, THE *
                           1950 *    COMMAND IS ABORTED.  IF THE NAME IS VALID THE RESPECTIVE DIR-    *
                           1951 *    ECTORIES ARE MODIFIED.  FOR THE RENAME OF THE WORKFILE, THE NON- *
                           1952 *    EXISTENCE OF A WORK FILE WILL CAUSE THE COMMAND TO BE REJECTED.  *
                           1953 *                                                                     *
                           1954 *ENTRY POINTS                                                         *
                           1955 *    THE FIRST EXECUTABLE INSTRUCTION FOLLOWING THE PROGRAM HEADER;   *
                           1956 *    INDEX REGISTER 2 (@XR) IS ADDRESSING THE FIRST BYTE IN THE       *
                           1957 *    COMMAND LINE FOLLOWING THE KEYWORD.                              *
                           1958 *                                                                     *
                           1959 *INPUT                                                                *
                           1960 *    INPUT TO THE KEYWORD IS THE ADDRESS WITHIN THE INPUT LINE BUFFER *
                           1961 *    OF THE COMMAND LINE TO BE SYNTAX CHECKED-SAVED IN $XRSAV,        *
                           1962 *                                                                     *
                           1963 *OUTPUT                                                               *
                           1964 *    N/A                                                              *
                           1965 *                                                                     *
                           1966 *EXTERNAL REFERENCES                                                  *
                           1967 *        DL2ICS - TWO TRACK LOGICAL DISK IOCS                         *
                           1968 *        SALPHR - SAVE AREA IN SALPHA - SYNTAX CHECKED PARAMETER      *
                           1969 *        SALPH8 - ENTRY TO SALPHA-SYNTAX CHECK FILENAME AND PASSWORD  *
                           1970 *        SAL375 - SAVE AREA IN SALPHA FOR ERROR POINTER - SYNTAX      *
                           1971 *        SCANIT - DELIMITER SCAN ROUTINE                              *
                           1972 *        SCAMMA - SWITCH IN SCANIT - DELIMITER SCAN INDR              *
                           1973 *        SCACOF - MASK IN SCANIT TO BYPASS BLANKS ONLY                *
                           1974 *        SFINDF - FILE SEARCH CONTROL ROUTINE                         *
                           1975 *        SFISTR - SWITCH IN SFINDF - INHIBIT * LIBRARY SEARCH ORDER   *
                           1976 *        SFIVOL - SWITCH IN SFINDF - INHIBIT SVOLID RE-ENTRY          *
                           1977 *        SUFFER - FILE SPECIFICATION SYNTAX CHECKER                   *
                           1978 *        TSMLES - DATA MANAGEMENT COMMUNICATION REGIONS               *
                           1979 *        $XRSAV - ADDR IN SYSTEM NUCLEUS-SAVE INDEX REGISTER 2 (@XR)  *
                           1980 *        $CAERR - ADDR IN SYSTEM NUCLEUS-ERROR CODE SAVE AREA         *
                           1981 *        $CAERK - ADDR IN SYSTEM NUCLEUS-ERROR EXIT ROUTINE           *
                           1982 *        $CARPL - ADDR IN SYSTEM NUCLEUS-NORMAL EXIT ROUTINE          *
                           1983 *        $DISKN - ADDR IN SYSTEM NUCLEUS-PHYSICAL DISK IOCS ROUTINE   *
                           1984 *        $WAITF - ADDR IN SYSTEM NUCLEUS-WAIT DPL FOR DISK ROUTINE    *
                           1985 *        $CIMSK - ADDR IN SYSTEM NUCLEUS-IR MASK ROUTINE              *
                           1986 *        $WFNME - ADDR IN SYSTEM NUCLEUS-CURRENT WORK FILE NAME       *
                           1987 *        $WFDEF - MASK IN $WFNME - WORK FILE DEFINED INDR             *
                           1988 *        $INDR3 - ADDR IN SYSTEM NUCLEUS-SYSTEM INDRS                 *
                           1989 *        $ERHRD - MASK IN $INDR3 - HARD ERROR INNR                    *
                           1990 *                                                                     *
```

```
                            1991 *EXITS, NORMAL                                             *
                            1992 *      $CARPL - NORMAL EXIT ADDRESS IN SYSTEM NUCLEUS       *
                            1993 *                                                          *
                            1994 *EXITS, ERROR                                              *
                            1995 *      $CAERK - ERROR EXIT ADDRESS IN SYSTEM NUCLEUS        *
                            1996 *                  (NOTE ERROR PROCEDURES)                 *
                            1997 *                                                          *
                            1998 *TABLES/WORK AREAS                                         *
                            1999 *    ALL CHARACTER CONSTANTS & PPL'S USED TO PRINT MESSAGES FOR THE   *
                            2000 *    INTERACTION WITH THE USER ARE LOCATED AT THE BEGINNING OF THE    *
                            2001 *    MODULE TO ENABLE THEM TO BE MODIFIED FOR WORLD TRADE CONSIDERATION*
                            2002 *    KNAMES'S OTHER CONSTANTS.  DPL'S, AND WORK AREAS ARE LOCATED      *
                            2003 *    BETWEEN THE 2 MAIN BLOCKS OF CODE FOR BASE ADDRESSABILITY.        *
                            2004 *    (NOTE: CHARACTER CODE DEPENDENCY)                      *
                            2005 *                                                          *
                            2006 *ATTRIBUTES                                                *
                            2007 *    RELOCATABLE                                           *
                            2008 *                                                          *
                            2009 *CHARACTER CODE DEPENDENCY                                 *
                            2010 *    CHARACTER CODE DEPENDENCY CLASS - C                    *
                            2011 *    THE OPERATION OF THIS MODULE DEPENDS UPON AN INTERNAL REPRESENTA- *
                            2012 *    TION OF THE EXTERNAL CHARACTER SET WHICH IS EQUIVALENT TO THE ONE *
                            2013 *    USED AT ASSEMBLY TIME.  THE CODING HAS BEEN ARRANGED SO THAT RE-  *
                            2014 *    DEFINITION OF CHARACTER CONSTANTS, BY REASSEMBLY, WILL RESULT IN  *
                            2015 *    A CORRECT MODULE FOR THE NEW DEFINITIONS.  THE FOLLOWING ARE THE  *
                            2016 *    SPECIAL CONSIDERATIONS FOR THIS MODULE:                *
                            2017 *    *   CHARACTER CONSTANT STRINGS WHICH ARE USED AS INFORMATIVE      *
                            2018 *        MESSAGES OR ERROR MESSAGES FOR THE USER ARE LOCATED IN A      *
                            2019 *        GROUP AT THE BEGINNING OF THE MODULE WITH ADEQUATE EXPANSION  *
                            2020 *        AREA INCLUDED FOR WORLD TRADE CONSIDERATIONS FOR TRANSLATION  *
                            2021 *        TO FOREIGN LANGUAGES.                              *
                            2022 *    *  PPL'S USED TO PRINT THE ABOVE MENTIONED CHARACTER CONSTANTS    *
                            2023 *        ARE LOCATED ADJACENT TO THEM FOR LENGTH REVISION.  *
                            2024 *    *  @SYSEQ TO CONSIDER - USED FOR IMMEDIATE COMPARES ETC.          *
                            2025 *        * @BLANK                                           *
                            2026 *        * @ASTER                                           *
                            2027 *        * @EOS                                             *
                            2028 *        * @ZERO                                            *
                            2029 *        * @B1                                              *
                            2030 *                                                          *
                            2031 *NOTES                                                     *
                            2032 *    ERROR PROCEDURES                                       *
                            2033 *      THE FOLLOWING CONDITIONS WILL CAUSE AN ERROR CODE TO BE SAVED   *
                            2034 *      IN $CAERR, AND AN ERROR EXIT TO BE MADE TO $CAERK IN THE        *
                            2035 *      SYSTEM NUCLEUS:                                      *
                            2036 *        * INVALID SYNTAX IN COMMAND LINE; DETECTED VIA SUFFER,        *
                            2037 *          SALPHA, KNAMES, OR SCANIT.                       *
                            2038 *        * THE SPECIFIED PASSWORD IS NOT FOUND IN THE PASSWORD         *
                            2039 *          DIRECTORY.                                       *
                            2040 *        * THE OLD-FILENAME SPECIFIED IS NOT FOUND IN THE USER         *
                            2041 *          DIRECTORY.                                       *
                            2042 *        * THE NEW-FILENAME IS ALREADY IN THE USER OR POOLED          *
                            2043 *          DIRECTORY.                                       *
                            2044 *        * WORKFILE NOT DEFINED WHEN AN ATTEMPT TO RENAME THE WORK     *
                            2045 *          FILE IS MADE.                                    *
                            2046 *        * SPECIFICATION OF A ONE-STAR OR TWO-STAR FILENAME FOR THE    *
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                              2047 *      OLD-FILENAME OR NEW-FILENAME.                           *
                              2048 *    * NEW-FILENAME SPECIFIED IS THE SAME AS THE OLD-FILENAME   *
                              2049 *      SPECIFIED.                                              *
                              2050 *    * A HARD HALT WILL OCCUR IF THE OLD FILE IS FOUND TO BE    *
                              2051 *      POOLED. AND THE POOLED FILE IS NOT FOUND.               *
                              2052 *                                                             *
                              2053 *   REGISTER USAGE                                            *
                              2054 *    INITIALLY, INDEX REGISTER 1 (@BR) IS USED AS A BASE REGISTER, *
                              2055 *    WHILE INDEX REGISTER 2 (@XR) ADDRESSES THE INPUT LINE BUFFER *
                              2056 *    DURING THE SYNTAX CHECK.                                  *
                              2057 *    SUBSEQUENTLY, INDEX REGISTER 2 (@XR) IS USED AS A POINTER INTO *
                              2058 *    THE DIRECTORY BLOCKS IN CORE FOR THE RENAME OPERATION.    *
                              2059 *                                                             *
                              2060 *   SAVED/RESTORED AREAS                                       *
                              2061 *    N/A                                                      *
                              2062 *                                                             *
                              2063 *   MODIFICATION CONSIDERATIONS                                *
                              2064 *    NOTE THAT THE TSMLES COMMUNICATIONS REGION HAS BEEN BROKEN *
                              2065 *    UP (IE. PART OF THE FIELDS OVERLAY EXECUTABLE CODE) SO    *
                              2066 *    THAT A BASE REGISTER MAY BE USED TO ADDRESS THE FIELDS OR *
                              2067 *    SO THAT OPTIMUM USE OF BUFFER SPACE COULD BE MADE.        *
                              2068 *                                                             *
                              2069 *   REQUIRED MODULES                                           *
                              2070 *    @SYSEQ - COMMON SYSTEM SOFTWARE EQUATES                    *
                              2071 *    @FXDEQ - FIXED ADDRESSES IN SYSTEM NUCLEUS                 *
                              2072 *    @CANEQ - FIXED ADDRESSES OUTSIDE SYSTEM NUCLEUS            *
                              2073 *    @DIREQ - SYSTEM LIBRARY DIRECTORY EQUATES                 *
                              2074 *    @ERMEQ - ERROR MESSAGE EQUATES                            *
                              2075 *    DL2ICS - TWO TRACK LOGICAL DISK IOCS                       *
                              2076 *    SALPHA - FILENAME, PASSWORD, VOL-ID ALPHAMERIC SYNTAX CHECKER *
                              2077 *    SCANIT - DELIMITER SCAN ROUTINE                           *
                              2078 *    SFINDF - FILE SEARCH CONTROL ROUTINE                      *
                              2079 *    SGETDB - PASSWORD DIRECTORY SEARCH; USER BLOCK ACCESS     *
                              2080 *    SRCHFN - FILENAME SEARCH ROUTINE                          *
                              2081 *    SUFFER - FILE SPECIFICATION SYNTAX CHECKER                *
                              2082 *    SVOLID - RESOLVES SPECIFIED VOL-ID PHYSICAL LOCATION      *
                              2083 *    TSMLES - DATA MANAGEMENT COMMON AREAS                     *
                              2084 *                                                             *
                              2085 *   OTHER                                                      *
                              2086 *    SPECIAL NOTES:                                           *
                              2087 *    * THE I/O ROUTINES ARE REQUIRED TO BE CORE RESIDENT FOR   *
                              2088 *      EXECUTION.                                              *
                              2089 *    * THE COMMAND MAY BE ABORTED VIA INQUIRY REQUEST UNTIL    *
                              2090 *      PHYSICAL DISK WRITES ARE STARTED.                       *
                              2091 ***********************************************************************
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                              2093 ********************************************************************
                              2094 *                                                                  *
                              2095 *              MODULE INITIALIZATION AND SYNTAX CHECK               *
                              2096 *                                                                  *
                              2097 ********************************************************************
                              2098 *                                                                  *
                              2099 *                                                                  *
                              2100 *        HDR    #KNAME                       PROGRAM NAME
                              2101 ********************************************************************
                              2102 * PROGRAM HEADER FOR DISK LOAD                                     *
                              2103 ********************************************************************
                              2104 *#$KNAM EQU    X'05C0'                       DISK ADDR OF #KNAME
                              2105 *#$$KNA EQU    X'0C00'                       CORE LOAD ADDRESS OF #NAME
                              2106 *#$@KNA EQU    008                           SECTOR CNT OF #KNAME
     0C00                     2107         ORG    #$$KNA                        CORE LOAD ADDRESS
                    0C00 2108 $$$$$$ EQU    *                             FIRST LOCATION IN PROGRAM
     0C00 7BD2D5C1D4C5  0C05 2109        DC     CL6'#KNAME'                   PROGRAM NAME
     0C06 26            0C06 2110        DC     IL1'038'                      PROGRAM NUMBER OF #KNAME
                    0C07 2111 #KNAM  EQU    *                             ENTRY POINT TO PROGRAM
                              2112 *** END OF EXPANSION ***

     0C07 C0 87 0C55        2114 KNAME  B      KNA100                        BYPASS MESSAGE TEXT
                              2115 *
                              2116 *         MTEXT @@M300-@PRETR,PATCH-015
                              2117 ********************************************************************
                              2118 * PPL'S AND TEXT FOR MESSAGE
                              2119 ********************************************************************
     0C0B C0            0C0B 2120 @@M300 DC     AL1(@PRETR)                   PRINT CONTROL FUNCTION
     0C0C 37            0C0C 2121        DC     IL1'55'                       LENGTH OF MESSAGE
     0C0D 0C0F          0C0E 2122        DC     AL(@CADDR)(@@T300)            ADDR OF MESSAGE
                              2123 *
                    0C0F 2124 @@T300 EQU    *                             LEFT BYTE OF MESSAGE
     0C0F C5D9D9D6D940F5F8 0C41 2125        DC     CL051'ERROR 580 DUPLICATE DISK LABELS - SPECIFY DISK LOCA'
     0C42 E3C9D6D5      0C45 2126        DC     CL004'TION'
                              2127 *** END OF EXPANSION ***

                              2129 *
                              2130 * PATCH AREA FOR MESSAGES
                              2131 *
     0C46              0C54 2132 $$$001 DS     CL015                         MSG EXPANSION PATCH AREA
```

```
                         2134 *************************************************************************
                         2135 *                                                                       *
            0C55 2136 KNABSE EQU    *                          BASE ADDR
                         2137 *
            00FF 2138 KNA255 EQU    255                        SECTOR DISPLACEMENT
                         2139 *
                         2140 *KNA100 ENTER BASE-KNABSE         ENTRY POINT
            0C55 2141         USING KNABSE,@BR                  BASE ADDRESS SPECIFICATION
            0C55 2142 KNA100 EQU    *                          MODULE ENTRY POINT
  0C55 C2 01 0C55         2143         LA    KNABSE,@BR         LOAD BASE REGISTER
                         2144 *** END OF EXPANSION ***

  0C59 35 02 03C7         2146         L     $XRSAV,@XR         LOAD SYNTAX CHECK POINTER
  0C5D BD 1E 00           2147         CLI   @ZERO(,@XR),@EOS   AT EOS ?
  0C60 3C 10 03CD         2148         MVI   $CAERR,@@E130      REQUIRED PARAMETER MISSING
                         2149 *       BE    4CAERK             ERROR EXIT
  0C64 C0 87 13B3         2150         B     SCANIT             SEARCH FOR NON-BLANK
  0C68 3C 18 03CD         2151         MVI   $CAERR,@@E139      INVALID DELIMITER
  0C6C C0 81 0469         2152         BZ    $CAERK             ERROR EXIT
                         2153 *
  0C70 BD 5C 00           2154         CLI   @ZERO(,@XR),@ASTER ASTERIK FILE SPECIFIED ?
  0C73 3C 14 03CD         2155         MVI   $CAERR,@@E135       INVALID USE OF * OR ** FILE
  0C77 F2 81 58           2156         JE    KNA250             ERROR EXIT
                         2157 *
  0C7A C0 87 121F         2158         B     SUFFER             SYNTAX CHECK FILE SPEC
  0C7E F2 82 FF           2159         JL    KNA390             ERROR EXIT
                         2160 *
  0C81 BD 1E 00           2161         CLI   @ZERO(,@XR),@EOS   AT EOS ?
  0C84 F2 01 1E           2162         JNE   KNA200             NO, CHECK FOR NEW SAVED FILENAME
                         2163 *                                                                       *
                         2164 *************************************************************************
```

```
      #KNAME - RENAME WORKFILE OR USER FILE


ERR LOC   OBJECT CODE      ADDR STMT SOURCE STATEMENT            VER 15, MOD 00  05/06/22  PAGE   9

                           2166 ******************************************************************************
                           2167 *                                                                            *
    0C87 7D 40 07          2168           CLI    SMPSWD-##DPEN(,@BR),@BLANK   WAS A PASSWORD SPECIFIED ?
    0C8A 3C 10 03CD        2169           MVI    $CAERR,@@E130                REQUIRED PARAMETER MISSING
    0C8E F2 01 EF          2170           JNE    KNA390                       YES, ERROR EXIT
                           2171 *
    0C91 38 40 0443        2172           TBN    $WFNME,$WFDEF                IS WORKFILE DEFINED ?
    0C95 3C 2A 03CD        2173           MVI    $CAERR,@@E220                WORKFILE NOT DEFINED
    0C99 F2 90 E1          2174           JF     KNA380                       ERROR EXIT
                           2175 *
    0C9C 1C 07 0443 16     2176           MVC    $WFNME(##LUEN),SMFNAM(,@BR)  RENAME WORKFILE
    0CA1 C0 87 04A1        2177           B      $CARPL                       NORMAL EXIT
                           2178 *
    0CA5 3C 87 13D0        2179 KNA200 MVI       SCAMMA,SCACOF                SET SCANIT
    0CA9 BD 5C 00          2180           CLI    @ZERO(,@XR),@ASTER           ASTERIK FILE SPECIFIED ?
    0CAC 3C 14 03CD        2181           MVI    $CAERR,@@E135                INVALID USE OF * OR ** FILE
    0CB0 F2 81 CD          2182           JE     KNA390                       ERROR EXIT
    0CB3 C0 87 12E8        2183           B      SALPH8                       SYNTAX CHECK NEW FILENAME
    0CB7 F2 82 C6          2184           JL     KNA390                       ERROR EXIT
    0CBA F2 81 07          2185           JZ     KNA220                       CHECK FOR EOS
                           2186 *
    0CBD 34 02 133C        2187           ST     SAL375+@OP1,@XR              SAVE ERROR POINTER
    0CC1 7C 12 73          2188           MVI    KNA240+@Q(,@BR),@@E133       MODIFY ERROR CODE
                           2189 *
    0CC4 BD 1E 00          2190 KNA220 CLI       @ZERO(,@XR),@EOS             ARE WE AT EOS ?
    0CC7 3C 11 03CD        2191 KNA240 MVI       $CAERR,@@E131                INVALID PARAMETER
    0CCB F2 81 15          2192           JE     KNA280                       YES, CONTINUE PROCESSING
                           2193 *
    0CCE 35 02 133C        2194           L      SAL375+@OP1,@XR              LOAD ERROR POINTER
    0CD2 F2 87 AB          2195 KNA250 J        KNA390                       ERROR EXIT
                           2196 *                                                                            *
                           2197 ******************************************************************************
```

```
                              2199 **********************************************************************
                              2200 *                                                                    *
                              2201 *               DATA BUFFERS, CONSTANTS, AND WORK AREAS              *
                              2202 *                                                                    *
                              2203 **********************************************************************
                              2204 *                                                                    *
                              2205 *KNAUSE DPL    FUNC-@DPUT,CNT-##LU,CADDR-KNABF1
                         0CD5 2206 KNAUSE EQU    *                          DISK PARAMETER LIST
    0CD5 02              0CD5 2207        DC     AL1(@DPUT)                 REQUESTED FUNCTION
    0CD6 00              0CD6 2208        DC     AL1(*-*)                   CYLINDER ADDRESS
    0CD7 00              0CD7 2209        DC     AL1(*-*)                   HEAD/SECTOR/DRIVE/DISK SPEC
    0CD8 02              0CD8 2210        DC     AL1(##LU)                  SECTOR COUNT
    0CD9 1514            0CDA 2211        DC     AL2(KNABF1)                BUFFER ADDRESS
                              2212 *** END OF EXPANSION ***
                              2213 *
                              2214 *
                              2215 *KNASTR DPL    FUNC*MPUT,CNT-##LU,CADDR-KNABF3
                         0CDB 2216 KNASTR EQU    *                          DISK PARAMETER LIST
    0CDB 02              0CDB 2217        DC     AL1(@DPUT)                 REQUESTED FUNCTION
    0CDC 00              0CDC 2218        DC     AL1(*-*)                   CYLINDER ADDRESS
    0CDD 00              0CDD 2219        DC     AL1(*-*)                   HEAD/SECTOR/DRIVE/DISK SPEC
    0CDE 02              0CDE 2220        DC     AL1(##LU)                  SECTOR COUNT
    0CDF 1714            0CE0 2221        DC     AL2(KNABF3)                BUFFER ADDRESS
                              2222 *** END OF EXPANSION ***

    0CE1 0100            0CE2 2224 KNASCT DC     XL2'0100'                  HEX CONSTANT - INCREMENT OF 256
                              2225 *
    0CC5                      2226        ORG    KNAUSE-2*##LUEN            RESET FOR WORKAREA DEFINITION
    0CC5                 0CCC 2227 KNAFNE DS     CL(##LUEN)                 SAVE NEW FILENAME
    0CCD                 0CD4 2228 KNAOLD DS     CL(##LUEN)                 SAVE OLD FILENAME
    0CE3                      2229        ORG
                              2230 *                                                                    *
                              2231 **********************************************************************
```

```
                            2233 ************************************************************************
                            2234 *                                                                      *
                            2235 *               CHECK EXISTENCE OF SAVED DISK FILE                     *
                            2236 *                                                                      *
                            2237 ************************************************************************
                            2238 *                                                                      *
   0CE3 4C 07 77 13AE       2239 KNA280 MVC    KNAFNE(##LUEN,@BR),SALPHR+##DUEN   SAVE NEW FILENAME
   0CE8 5D 07 16 77         2240        CLC    SMFNAM(##LUEN,@BR),KNAFNE(,@BR)    IS NEW SAME AS OLD ?
   0CEC 3C 32 03CD          2241        MVI    $CAERR,@@E229              CONDITION PRESENT
   0CF0 F2 81 8A            2242        JE     KNA380                    YES, ERROR EXIT
   0CF3 7C 00 00            2243        MVI    SMIND1(,@BR),@ZERO        INITIALIZE TSMLES INDR
                            2244 *
   0CF6 C0 87 0EBB          2245        B      SFINDF                    SEARCH FOR DISK FILE
   0CFA 3C 80 0476          2246        MVI    $CIMSK,@NOP               MASK INTERRUPTS
             0469 2247 SFIERR EQU    $CAERK                    ERROR EXIT FROM SFINDF
                            2248 *
   0CFE 79 88 00            2249        TBF    SMIND1(,@BR),SM1PNF+SM1FNE  FILE & PASSWORD FOUND
   0D01 F2 90 79            2250        JF     KNA380                    ERROR EXIT
                            2251 *                                                                      *
                            2252 ************************************************************************
                            2253 *                                                                      *
                            2254 *          MODIFY FILE ENTRY FOR RENAME & TEST POOL STATUS             *
                            2255 *                                                                      *
                            2256 ************************************************************************
                            2257 *                                                                      *
   0D04 75 02 18            2258        L      SMUDEA(,@BR),@XR          ADDR OF SAVED ENTRY
   0D07 B8 08 0D            2259        TBN    ##DUES(,@XR),##MUER       IS FILE PROTECTED        1-4
   0D0A 3C 27 03CD          2260        MVI    $CAERR,@@E215             USER FILE PROTECTED
   0D0E F2 10 6F            2261        JT     KNA390                    YES, ERROR EXIT
   0D11 9C 07 07 77         2262        MVC    ##DUEN(##LUEN,@XR),KNAFNE(,@BR)   CHANGE TO NEW NAME
   0D15 BB 04 0D            2263        SBF    ##DUES(,@XR),##MUEO       SET OPEN INDR OFF
                            2264 *
   0D18 B8 10 0D            2265        TBN    ##DUES(,@XR),##MUEX       IS FILE POOLED ?
   0D1B F2 90 04            2266        JF     KNA300                    NO, CONTINUE TO DUPL SEARCH
   0D1E 3C 80 0D54          2267        MVI    KNA350+@Q,@NOP            SET SWITCH FOR POOL DIRECTORY
                            2268 *
   0D22 75 02 1C            2269 KNA300 L      SMUDBA(,@BR),@XR          ADDR CURRENT BUFFER
   0D25 6C 01 82 01         2270        MVC    KNAUSE+@DSAD(@CADDR,@BR),##DUHA(,@XR)   GET BLOCK ADDR
   0D29 2C FF 1613 FF       2271        MVC    KNABF1+KNA255(@SCTSZ),KNA255(,@XR)   SAVE USER BLOCK FOR
   0D2E 76 02 8D            2272        A      KNASCT(,@BR),@XR              * RESTORATION AFTER
   0D31 2C FF 1713 FF       2273        MVC    KNABF2+KNA255(@SCTSZ),KNA255(,@XR)  * RENAME
                            2274 *                                                                      *
                            2275 ************************************************************************
```

#KNAME - RENAME WORKFILE OR USER FILE

                              2277 ***
                              2278 *   *
                              2279 *   SEARCH AND CHECK FOR A DUPLICATE 'NEW' NAME   *
                              2280 *   *
                              2281 ***
                              2282 *   *
     0D36 5C 07 7F 16   2283   MVC   KNAOLD(##LUEN,@BR),SMFNAM(,@BR)   SAVE USER FILENAME
     0D3A 5C 07 16 77   2284   MVC   SMFNAM(##LUEN,@BR),KNAFNE(,@BR)   SUPPLY NEW NAME
     0D3E 7C 00 00   2285   MVI   SMIND1(,@BR),@ZERO   INITIALIZE TSMLES INDR
     0D41 3C 80 0EDC   2286   MVI   SFIVOL,@NOP   SET SVOLID SWITCH IN SFINDF
                              2287 *
     0D45 C0 87 0EBB   2288   B   SFINDF   CHECK FOR DUPLICATE NAME
                              2289 *
     0D49 78 80 00   2290   TBN   SMIND1(,@BR),SM1FNE   DUPLICATE FOUND ?
     0D4C 3C 60 03CD   2291   MVI $CAERR,@@E420   DUPLICATE NAME
     0D50 F2 90 2D   2292   JF   KNA390   YES, ERROR EXIT
                              2293 *   *
                              2294 ***
                              2295 *   *
                              2296 *   CHECK IF POOLED FILE EXISTS   *
                              2297 *   *
                              2298 ***
                              2299 *   *
     0D53 F2 87 68   2300 KNA350 JC   KNA500,@UCB   JUMP IF NOT POOLED
                              2301 *
     0D56 7C 00 00   2302   MVI   SMIND1(,@BR),@ZERO   INITIALIZE TSMLES INDR
     0D59 3C 80 0FA4   2303   MVI   SFISTR,@NOP   SET * SWITCH IN SFINDF
     0D5D 5C 07 16 7F   2304   MVC   SMFNAM(##LUEN,@BR),KNAOLD(,@BR)   RESTORE FOR SEARCH
     0D61 7C 40 0E   2305   MVI   SMPSWD(,@BR),@BLANK   PRIME FOR POOL DIRECTORY
     0D64 5C 06 0D 0E   2306   MVC   SMPSWD-@B1(##LUEN-@B1,@BR),SMPSWD(,@BR)   * PASSWORD
     0D68 7C 5C 07   2307   MVI   SMPSWD-##DPEN(,@BR),@ASTER   * SEARCH
                              2308 *
     0D6B C0 87 0EBB   2309   B   SFINDF   SEARCH POOLED DIRECTORY
                              2310 *
     0D6F 79 88 00   2311   TBF   SMIND1(,@BR),SM1PNF+SM1FNE PASSWORD AND FILE FOUND
     0D72 F2 10 0F   2312   JT   KNA400   YES, CHECK FOR DUPLICATE
                              2313 *
     0D75 3C 9A 03CD   2314   MVI $CAERR,@@E553   POOLED FILENAME NOT FOUND
     0D79 3A 04 03D6   2315   SBN $INDR3,$ERHRD   SET HARD HALT INDR
     0D7D E2 02 FF   2316 KNA380 LA   KNA255(,@XR),@XR   GET XR OUT OF INPUT BUFFER
     0D80 C0 87 0469   2317 KNA390 B $CAERK   ERROR EXIT
                              2318 *   *
                              2319 ***

```
                            2321 ***********************************************************************
                            2322 *                                                                     *
                            2323 *              MODIFY POOLED ENTRY FOR RENAME IN SAVE BUFFER           *
                            2324 *                                                                     *
                            2325 ***********************************************************************
                            2326 *                                                                     *
   0D84 75 02 18            2327 KNA400 L     SMUDEA(,@BR),@XR          ADDR POOLED ENTRY
   0D87 9C 07 07 77         2328        MVC   ##DUEN(##LUEN,@XR),KNAFNE(,@BR)  CHANGE TO NEW NAME
   0D8B BB 04 0D            2329        SBF   ##DUES(,@XR),##MUEO       SET OFF OPEN INDR
                            2330 *
   0D8E 75 02 1C            2331        L     SMUDBA(,@BR),@XR          ADDR CURRENT BUFFER
   0D91 6C 01 88 01         2332        MVC   KNASTR+@DSAD(@DADDR,@BR),##DUHA(,@XR)  GET BLOCK ADDR
   0D95 2C FF 1813 FF       2333        MVC   KNABF3+KNA255(@SCTSZ),KNA255(,@XR)  SAVE POOL BLOCK FOR
   0D9A 76 02 8D            2334        A     KNASCT(,@BR),@XR          * RESTORATION AFTER
   0D9D 2C FF 1913 FF       2335        MVC   KNABF4+KNA255(@SCTSZ),KNA255(,@XR) * RENAME
                            2336 *                                                                     *
                            2337 ***********************************************************************
                            2338 *                                                                     *
                            2339 *         SEARCH AND CHECK FOR A DUPLICATE 'NEW' POOLED NAME           *
                            2340 *                                                                     *
                            2341 ***********************************************************************
                            2342 *                                                                     *
   0DA2 7C 00 00            2343        MVI   SMIND1(,@BR),@ZERO        INITIALIZE TSMLES INDR
   0DA5 5C 07 16 77         2344        MVC   SMFNAM(##LUEN,@BR),KNAFNE(,@BR) SUPPLY NEW NAME
                            2345 *
   0DA9 C0 87 0EBB          2346        B     SFINDF                   SEARCH FOR A DUPLICATE
                            2347 *
   0DAD 78 80 00            2348        TBN   SMIND1(,@BR),SM1FNE       DUPLICATE FOUND ?
   0DB0 3C 60 03CD          2349        MVI   $CAERR,@@E420            DUPLICATE FILENAME
   0DB4 C0 90 0D80          2350        BF    KNA390                   YES, ERROR EXIT
                            2351 *
                            2352 *    DSKL2 KNASTR                      RESTORE RENAMED POOLED BLOCK
   0DB8 C0 87 0E22          2353        B     DL2ICS                   PERFORM RELATIVE DISK OP
   0DBC 0CDB           0DBD 2354        DC    AL2(KNASTR)              DPL ADDRESS
                            2355 *** END OF EXPANSION ***

                            2357 *KNA500 DSKL2 KNAUSE                   RESTORE RENAMED USER FILE BLOCK
   0DBE C0 87 0E22          2358 KNA500 B     DL2ICS                   PERFORM RELATIVE DISK OP
   0DC2 0CD5           0DC3 2359        DC    AL2(KNAUSE)              DPL ADDRESS
                            2360 *** END OF EXPANSION ***

   0DC4 C0 87 04A1          2362 KNA600 B     $CARPL
                            2363 *                                                                     *
                            2364 ***********************************************************************
```

```
                              2366 *        PATCH 90,1
                              2367 ***********************************************************************
                              2368 * PATCH AREA 1
                              2369 ***********************************************************************
    0DC8                 0E21 2370 $$$$$1 DS    CL90                       PATCH AREA FOR PROGRAM          *
                              2371 ***********************************************************************
                              2372 *        $DL2P
```

```
2374+********************************************************************************
2375+*  5703-XM1  COPYRIGHT IBM CORP 1970                                          *
2376+*                    REFER TO INSTRUCTIONS ON COPYRIGHT NOTICE. 120-2083      *
2377+*                                                                             *
2378+********************************************************************************
2379+*STATUS -                                                                      *
2380+*    VERSION 1 MODIFICATION 0                                                  *
2381+*                                                                              *
2382+*FUNCTION                                                                      *
2383+*    * DL2ICS CONVERTS A RELATIVE DISK ADDRESS TO A PHYSICAL DISK             *
2384+*      ADDRESS AND COMBINES IT WITH A BASE ADDRESS PLACED IN DL2RAD           *
2385+*      BY THE CALLER.                                                          *
2386+*    * THE RELATIVE DISK ADDRESS IS A TWO BYTE CYLINDER SECTOR COUNT          *
2387+*      IN THE CALLERS DISK PARAMETER LIST (DPL).                               *
2388+*    * THE COUNT IS A CYLINDER SECTOR DISPLACEMENT FROM THE BASE              *
2389+*      ADDRESS PLACED IN DL2RAD                                                *
2390+*    * DL2ICS IS USED TO PROCESS DATA ON THE FIXED OR REMOVABLE DISK          *
2391+*      ON EITHER DRIVE AND PROVIDES THE INTERFACE TO $DISKN.                   *
2392+*    * THE PHYSICAL DISK ADDRESS IS PLACED IN A COPY OF THE USERS DPL         *
2393+*      IN DL2ICS AND A CALL IS MADE TO $DISKN TO PERFORM THE REQUESTED        *
2394+*      OPERATION.                                                              *
2395+*                                                                              *
2396+*ENTRY POINTS                                                                  *
2397+*    * THE ENTRY IS DL2ICS. THE BASE REGISTER IS SAVED AND RESTORED           *
2398+*      ON RETURN. THE INDEX REGISTER IS NOT USED.                             *
2399+*    * THE FORMAT OF THE CALLING SEQUENCE IS AS FOLLOWS:                      *
2400+*        B   DL2ICS                                                           *
2401+*        DC  AL2(PARMLT)                                                      *
2402+*      WHERE PARMLT IS THE ADDR OF THE PARAMETER LIST TO BE PROCESSED. *
2403+*                                                                              *
2404+*INPUT                                                                         *
2405+*    * THE INPUT IS A TWO BYTE BASE DISK ADDRESS PLACED IN                    *
2406+*      DL2RAD AND A SIX BYTE DPL. THE SAME FORMAT AS THE DPL FOR              *
2407+*      $DISKN EXCEPT FOR THE DISK ADDRESS WHICH IS A RELATIVE CYLINDER *
2408+*      AND SECTOR DISPLACEMENT FROM THE BASE ADDRESS IN DL2RAD.              *
2409+*                                                                              *
2410+*OUTPUT                                                                        *
2411+*    NONE.                                                                     *
2412+*                                                                              *
2413+*EXTERNAL REFERENCES                                                           *
2414+*    $DISKN - ENTRY TO PHYSICAL DISK ROUTINE IS THE SYSTEM NUCLEUS.  *
2415+*                                                                              *
2416+*EXITS, NORMAL                                                                 *
2417+*    NORMAL - EXIT IS TO THE FIRST INSTRUCTION FOLLOWING THE POINTER *
2418+*      TO THE DPL. THE BASE REGISTER IS RESTORED. THE RETURN ADDRESS *
2419+*      IS THE ADDRESS RECALL REGISTER (ARR) +2.                              *
2420+*                                                                              *
2421+*EXITS, ERROR                                                                  *
2422+*    NONE                                                                      *
2423+*                                                                              *
2424+*TABLES/WORK AREAS                                                             *
2425+*    * THE CONSTANTS AND WORK AREAS RESIDE AT THE END OF THE EXECUTABLE*
2426+*      CODE AND ARE REFERENCED BY A DISPLACEMENT RELATIVE TO THE VALUE *
2427+*      IN INDEX REGISTER 1 (@BR).                                            *
2428+*    * DL2SEC AND DL2SAD ARE EQUATED TO OPERAND LOCATIONS IN THE             *
2429+*      EXECUTABLE CODE TO ELIMINATE EXCESS WORKING STORAGE.                   *
```

```
                              2430+*                                                          *
                              2431+*ATTRIBUTES                                                *
                              2432+*    * DL2ICS IS REUSABLE                                  *
                              2433+*                                                          *
                              2434+*CHARACTER CODE DEPENDENCY                                 *
                              2435+*     THE OPERATION OF THIS MODULE DOES NOT DEPEND UPON A PARTICULAR  *
                              2436+*      INTERNAL REPRESENTATION OF THE EXTERNAL CHARACTER SET.  *
                              2437+*                                                          *
                              2438+*NOTES                                                     *
                              2439+*    ERROR PROCEDURES                                      *
                              2440+*      NONE                                                *
                              2441+*                                                          *
                              2442+*    REGISTER USAGE                                        *
                              2443+*     INDEX REGISTER 1 (@BR) IS SAVED AND RESTORED. THIS REGISTER IS *
                              2444+*     USED DURING EXECUTION. REGISTER 2 (@BR) IS NOT USED. *
                              2445+*                                                          *
                              2446+*    SAVED/RESTORED AREAS                                  *
                              2447+*      NONE                                                *
                              2448+*                                                          *
                              2449+*    MODIFICATION CONSIDERATIONS                           *
                              2450+*      NONE                                                *
                              2451+*                                                          *
                              2452+*    REQUIRED MODULES                                      *
                              2453+*     @SYSEQ - COMMON SYSTEM EQUATES.                      *
                              2454+*     @FXDEQ - SYSTEM NUCLEUS ADDRESSES AND INDICATORS VALUES EQUATES *
                              2455+*                                                          *
                              2456+*    OTHER                                                 *
                              2457+*     DL2ICS MAY BE USED TO CONVERT THE DISK ADDRESS ONLY AND NOT TO *
                              2458+*     CALL $DISKN IF THE USER MOVES A UCB CODE TO DL2SWH.  *
                              2459+*     THIS OPTION IS NOT STANDARD USAGE.                   *
                              2460+******************************************************************************
                         0E26 2461+       USING DL2000,@BR              ESTABLISH ADDRESSABILITY
                              2462+*
                         0001 2463+DL2E01 EQU   X'01'                    FIELD LENGTH OF 1
                         0002 2464+DL2E02 EQU   X'02'                    FIELD LENGTH OF 2
                         0018 2465+DL2E18 EQU   X'18'                    HEX TRACK SECTOR COUNT
                         0060 2466+DL2E60 EQU   X'60'                    PHYSICAL SECTOR COUNT
                         0083 2467+DL2TSD EQU   X'83'                    MASK OFF TRACK SPINDLE DISK
                         007C 2468+DL2E7C EQU   X'7C'                    MASK OUT SECTOR COUNT
                         0E22 2469+DL2ICS EQU   *                        ENTRY POINT
      0E22 34 01 0EA3          2470+       ST    DL2900+@OP1,@BR         SAVE OLD BASE
                         0E26 2471+DL2000 EQU   *                        START PROCESSING
      0E26 C2 01 0E26          2472+       LA    DL2000,@BR              SET BASE ADORESS
      0E2A 76 08 8A            2473+       A     DL2C01(,@BR),@ARR       BUMP TO RIGHT BYTE OF ADDR
      0E2D 74 08 14            2474+       ST    DL2001+@DOP2(,@BR),@ARR ADDR OF PARAM
      0E30 76 08 8A            2475+       A     DL2C01(,@BR),@ARR       BUMP TO RETURN ADDR
      0E33 74 08 81            2476+       ST    DL2910+@OP1(,@BR),@ARR  SAVE RETURN ADDR
                              2477+*
      0E36 4C 01 1D 0000       2478+DL2001 MVC   DL2002+@DOP2(@DADDR,@BR),*-* SETUP ADDR OF DPL
      0E3B 5E 01 1D 8C         2479+       ALC   DL2002+@DOP2(@CADDR,@BR),DL2C05(,@BR) DUMP TO RIGHT END
      0E3F 4C 05 92 0000       2480+DL2002 MVC   DL2DPL(@DPLNG,@BR),*-*  MOVE USER DPL TO WORK AREA
      0E44 5F 00 8F 86         2481+DL2005 SLC   DL2LST+@DSAD(DL2E01,@BR),DL2C48(,@BR) ADJUST SCTR/CYL
      0E48 F2 82 07            2482+       JM    DL2006                  GO TO RESTORE TO CONTINUE
      0E4B 5E 00 8E 8A         2483+       ALC   DL2LST+@DCYL(DL2E01,@BR),DL2C01(,@BR) BUMP CYLINDER COUNT
      0E4F D0 87 1E            2484+       B     DL2005(,@BR)            BACK FOR NEXT CYLINDER
      0E52 5E 00 8F 86         2485+DL2006 ALC   DL2LST+@DSAD(DL2E01,@BR),DL2C48(,@BR) RESTORE POSITIVE
```

```
     DL2ICS - TWO TRACK LOGICAL IOCR
```

```
                                 2486+*
                                 2487+*     GET THE LOGICAL SECTOR FROM THE DPL. THE NUMBER IS LEFT ADJUSTED
                                 2488+*     TO COMAE IT MTN THE POINTER ESTABLISHED PRIOR TO AN ENTRY.
     0E56 5C 00 1D 8F            2489+      MVC   DL2SEC(DL2E01,@BR),DL2LST+@DSAD(,@BR) GET SECTOR NUMBER
     0E5A 7C 00 8F               2490+      MVI   DL2LST+@DSAD(,@BR),@ZERO  CLEAR SECTOR BYTE
                                 2491+*
                                 2492+*     MOVE THE RELATIVE START TO THE DFL
                                 2493+*
     0E5D 5E 01 8F 94            2494+      ALC   DL2LST+@DSAD(DL2E02,@BR),DL2RAD(,@BR) DL2RAD TO DPL
     0E61 7D 18 1D               2495+      CLI   DL2SEC(,@BR),DL2E18       IS COUNT OVER A TRACK
     0E64 F2 82 08               2496+      JL    DL2008                    NO GO CHANGE A PHYSICAL ADOR
     0E67 5E 01 8F 85            2497+      ALC   DL2LST+@DSAD(DL2E02,@BR),DL2K80(,@BR) BUMP TRACK VALUE
     0E6B 5F 00 1D 88            2498+      SLC   DL2SEC(1,@BR),DL2K18(,@BR) DECR BY TRACK VALUE
     0E6F 5E 00 1D 1D            2499+DL2008 ALC  DL2SEC(1,@BR),DL2SEC(,@BR) SHIFT LEFT 1
     0E73 5E 00 1D 1D            2500+      ALC   DL2SEC(1,@BR),DL2SEC(,@BR) SHIFT LEFT
     0E77 5C 00 14 8F            2501+      MVC   DL2SAD(DL2E01,@BR),DL2LST+@DSAD(,@BR) GET SECTOR ADDRESS
                                 2502+*
                                 2503+*     ZERO OUT THE SECTOR COUNT AND LEAVE THE DISK. SPINDLE AND
                                 2504+*     TRACK BITS AS IS TO BE RE INSERTED AFTER THE SECTOR HAS BEEN
                                 2505+*     LOCATES.
                                 2506+*
     0E7B 7B 7C 8F               2507+      SBF   DL2LST+@DSAD(,@BR),DL2E7C TURN OFF
     0E7E 7B 83 14               2508+      SBF   DL2SAD(,@BR),DL2TSD       OFF TRACK SPINDLE DISK
     0E81 5E 00 14 1D            2509+      ALC   DL2SAD(DL2E01,@BR),DL2SEC(,@BR) COMBINE SECTOR COUNTS
     0E85 7D 60 14               2510+DL2010 CLI  DL2SAD(,@BR),DL2E60       TEST IF TRACK CROSSED
     0E88 F2 82 08               2511+      JL    DL2100
                                 2512+*
                                 2513+*     INCREMENT TRACK BIT. OVERFLOW INTO THE CYLINDER COUNT.
                                 2514+*
     0E8B 5E 01 8F 85            2515+      ALC   DL2LST+@DSAD(DL2E02,@BR),DL2K80(,@BR)
     0E8F 5F 00 14 83            2516+      SLC   DL2SAD(1,@BR),DL2K60(,@BR) DECR BY TRACK VALUE
                                 2517+*
     0E93 5E 00 8F 14            2518+DL2100 ALC  DL2LST+@DSAD(1,@BR),DL2SAD(,@BR) INSERT SECTOR COUNT
                                 2519+*
     0E97 F2 80 06               2520+DL2110 JC   DL2900,@NOP               CONVERSION SWITCH
                             0E98 2521+DL2SWH EQU DL2110+@Q                  ADDR OF Q CODE FOR SWITCH
     0E9A C0 87 0025            2522+      B    $DISKN                    GO PROCESS I/O
     0E9E 0EB3                0E9F 2523+      DC   AL2(DL2LST)               ADDRESS OF DPL
     0EA0 C2 01 0000            2524+DL2900 LA   *-*,@BR                   RESTORE CALLERS BASE
     0EA4 C0 87 0000            2525+DL2910 B    *-*
                                 2526+****************************************************************
                                 2527+*      CONSTANTS
                                 2528+****************************************************************
     0EA8 0060                0EA9 2529+DL2K60 DC   XL2'0060'                SECTOR COUNT OF 24 LEFT ADJUSTD
     0EAA 0080                0EAB 2530+DL2K80 DC   XL2'0080'                BIT FOR INCREMENTING TRACK
     0EAC 30                  0EAC 2531+DL2C48 DC   IL1'48'                  CYLINDER VALUE FOR 1 DISK
     0EAD 0018                0EAE 2532+DL2K18 DC   XL2'18'                  HEX SECTORS PER TRACK
     0EAF 0001                0EB0 2533+DL2C01 DC   IL2'1'                   CONSTANT FOR REGISTER MODE
     0EB1 0005                0EB2 2534+DL2C05 DC   IL2'5'                   DISP TO RIGHT END OF DPL
                                 2535+****************************************************************
                                 2536+*      WORK AREA
                                 2537+****************************************************************
                             0EB3 2538+DL2LST EQU  *                        LIST HIGH END
     0EB3                    0EB8 2539+DL2DPL DS   CL(@DPLNG)               WORKING DPL
                             0EB5 2540+DL2PHY EQU  DL2LST+@DSAD             POINTER TO PHYSICAL DADDR
                             0E3A 2541+DL2SAD EQU  DL2001+@DOP2             SAVE SECTOR BYTE FROM DPI
```

```
                        0E43 2542+DL2SEC EQU   DL2002+@DOP2          WORKING SECTOR ADDRESS FIELD
     0EB9               0EBA 2543+DL2RAD DS    CL(@DADDR)            USER RELATIVE STARTING ADDR.
                        0EBB 2544+DL2END EQU   *                     END OF DL2ICS
                             2545+***                     END OF DL2ICS                        ***
                             2546 *
                             2547 *      $FIND
```

```
                          2549+*************************************************************************
                          2550+*  5703-XM1    COPYRIGHT IBM CORP. 1970                                *
                          2551+*                REFER TO INSTRUCTIONS ON COPYRIGHT NOTICE, 120-2083   *
                          2552+*                                                                      *
                          2553+*************************************************************************
                          2554+*STATUS                                                                *
                          2555+*    VERSION 1 MODIFICATION 0                                           *
                          2556+*                                                                      *
                          2557+*FUNCTION                                                               *
                          2558+*    * SFINDF IS A CONTROL MODULE USED TO LOCATE A SPECIFIED PASSWORD  *
                          2559+*      AND/OR FILENAME.                                                 *
                          2560+*    * IF THE FILENAME, PASSWORD, AND VOLUME-ID ARE ALL EXPLICITLY     *
                          2561+*      SPECIFIED. A CALL IS ISSUED TO SVOLID, SGETDB AND SRCHFN TO     *
                          2562+*      SEARCH FOR THE REQUIRED FILE IN THE FILE LIBRARY SPECIFIED.     *
                          2563+*      IF THE PASSWORD OR VOLUME-ID IS NOT EXPLICITLY DEFINED, SFINDF  *
                          2564+*      WILL DEFAULT TO THE CURRENT USER SPECIFICATIONS, IF THEY EXIST, *
                          2565+*      FOR THE MISSING PARAMETERS AND THEN ISSUE THE REQUIRED CALLS    *
                          2566+*      TO SGETDS AND/OR SRCHFN TO LOCATE THE FILE.                     *
                          2567+*    * IF A ONE OR TWO-STAR FILENAME IS SPECIFIED, THE SPECIFIED DISK, *
                          2568+*      OR ALL DISKS ON THE SYSTEM WILL BE SEARCHED IN AN ATTEMPT TO    *
                          2569+*      LOCATE THE FILE. THE CALLER MAY SET AN INDICATOR TO TERMINATE   *
                          2570+*      THE SEARCH AFTER A GIVEN NUMBER OF DISKS HAVE BEEN SEARCHED.    *
                          2571+*                                                                      *
                          2572+*ENTRY POINTS                                                           *
                          2573+*    THE ENTRY POINT IS SFINDF.                                          *
                          2574+*    THE CALLING SEQUENCE IS AS FOLLOWS:                                 *
                          2575+*         B     SFINDF                                                   *
                          2576+*                                                                      *
                          2577+*INPUT                                                                  *
                          2578+*    * THE FOLLOWING INFORMATION MUST BE SET UP IN TSMLES BEFORE       *
                          2579+*      CALLING SFINDF.                                                   *
                          2580+*        * SMPSWD  MUST CONTAIN SPECIFIED PASSWORD                      *
                          2581+*        * SMVOID  MUST CONTAIN SPECIFIED VOLUME                        *
                          2582+*        * SMFNAM  MUST CONTAIN SPECIFIED FILENAME                      *
                          2583+*    * THE FOLLOWING SWITCHES ARE PROVIDED TO HANDLE ONE OR TWO-STAR   *
                          2584+*      FILES:                                                           *
                          2585+*        * SFIVOL - IF @NOP IS SET SVOLID WILL NOT BE CALLED. SVOLID   *
                          2586+*                  IS NOT REUSABLE AND THIS SWITCH MUST BE SET BEFORE*
                          2587+*                  SFINDF IS CALLED A SECOND TIME.                     *
                          2588+*        * SFISTR - IF @NOP IS SET ONLY 1 DISK WILL BE SEARCHED        *
                          2589+*        * SFIFND - IF @NOP SET WITH SFIVOL ONLY THE NUMBER OF DISKS   *
                          2590+*                  SPECIFIED IN SFINTR WILL BE SEARCHED.               *
                          2591+*                                                                      *
                          2592+*OUTPUT                                                                 *
                          2593+*    * THE OUTPUT FROM SFINDF IS SET IN TSMLES, THE POINTERS AND USER  *
                          2594+*      DIRECTORIES REQUIRED ARE INITALIZED.                            *
                          2595+*                                                                      *
                          2596+*EXTERNAL REFERENCES                                                    *
                          2597+*         TSMLES - (SMALES) DATA MANAGEMENT SAVE AREAS AND BUFFERS.    *
                          2598+*         $VOLID - CORE RESIDENT VOLID TABLE.                           *
                          2599+*         $USRDR - DISPLACEMENT TO CURRENT USER DIRECTORY.             *
                          2600+*         $FILIB - CURRENT USER FILE LIBRARY DISK ADDRESS.             *
                          2601+*         DL2ICS - TWO TRACK LOGICAL IOCS.                             *
                          2602+*         SRCHFN - SEARCH USER DIRCTY BLOCK.                           *
                          2603+*         SGETDB - SEARCH PASSWORD DIRCTY.                             *
                          2604+*         SVOLID - SEARCH VOL-ID TABLE.                               *
```

```
                                 2605+*        $CAERR - SAVE AREA FOR SYSTEM ERROR MESSAGT CODE.          *
                                 2606+*                                                                  *
                                 2607+*EXITS, NORMAL                                                     *
                                 2608+*   * NORMAL RETURN IS TO THE CALLER FOLLOWING THE BRANCH TO SFINDF. *
                                 2609+*                                                                  *
                                 2610+*EXITS, ERROR                                                      *
                                 2611+*   * THE ERROR RETURN IS TO SFIERR WHICH MUST BE DEFINED BY THE    *
                                 2612+*      CALLER.                                                     *
                                 2613+*                                                                  *
                                 2614+*TABLES/WORKAREAS                                                  *
                                 2615+*   * N/A                                                          *
                                 2616+*                                                                  *
                                 2617+*ATTRIBUTES                                                        *
                                 2618+*   * RELOCATABLE                                                  *
                                 2619+*   * RE-USABLE                                                    *
                                 2620+*                                                                  *
                                 2621+*CHARACTER CODE DEPENDENCY                                         *
                                 2622+*   * THE OPERATION OF THIS MODULE DOES NOT DEPEND UPON A PARTICULAR *
                                 2623+*      INTERNAL REPRESENTATION OF THE EXTERNAL CHARACTER SET.       *
                                 2624+*                                                                  *
                                 2625+*NOTES                                                             *
                                 2626+*    ERROR PROCEDURES                                              *
                                 2627+*      IF A FILE-SPEC WAS NOT ENTERED AND A CURRENT USER IS NOT IN  *
                                 2628+*        AFFECT.  THE ERROR EXIT TO SFIERR IS TAKEN.               *
                                 2629+*                                                                  *
                                 2630+*    REGISTER USAGE                                                *
                                 2631+*      @BR AND @XR ARE SAVED AND RESTORED. DURING EXECUTION @BR IS  *
                                 2632+*      USED AS A BASE REGISTER AND @XR IS USED TO POINT TO $NUCBS.  *
                                 2633+*                                                                  *
                                 2634+*    SAVED/RESTORED AREAS                                          *
                                 2635+*      NONE                                                        *
                                 2636+*                                                                  *
                                 2637+*    MODIFICATION CONSIDERATIONS                                   *
                                 2638+*      NONE                                                        *
                                 2639+*                                                                  *
                                 2640+*    REQUIRED MODULES                                              *
                                 2641+*        @SYSEQ - SYSTEM SOFTWARE EQUATES.                         *
                                 2642+*        @FXDEQ - SYSTEM NUCLEUS ADDRESSES AND INDICATOR VALUES.   *
                                 2643+*        TSMLES - DATA MANAGEMENT SAVE AREAS AND BUFFERS.          *
                                 2644+*        $VOLID - SEARCH VOLUME-ID SUBROUTINE.                     *
                                 2645+*        SRCHFN - SEARCH FOR FILENAME SUBROUTINES.                 *
                                 2646+*        SGETDB - SEARCH PASSWORD DIRECTORY SUBROUTINE.            *
                                 2647+*        DL2ICS - TWO TRACK DISK LOGICAL IOCS.                     *
                                 2648+*                                                                  *
                                 2649+*    OTHER                                                         *
                                 2650+*      NONE                                                        *
                                 2651+*******************************************************************


                                 2653+*
                                 2654+*                    EQUATES USED IN THIS SUBROUTINE
                                 2655+*
                            0EBB 2656+SFINDF EQU    *                           START OF MODULE
      0EBB 34 01 0FC8            2657+      ST    SFISBR,@BR                    SAVE @BR
      0EBF C2 01 0EF9            2658+      LA    SFIBSE,@BR                    SET LOCAL BASE
                            0EF9 2659+      USING SFIBSE,@BR                    *
```

```
     0EC3 74 08 D3          2660+        ST      SFIEXT(,@BR),@ARR          SAVE RETURN ADDR
     0EC6 74 02 CB          2661+        ST      SFISXR(,@BR),@XR           SAVE @XR
     0EC9 C2 02 03C0        2662+        LA      $NUCBS,@XR                 SET NUCLEUS BASE
                 03C0 2663+             USING   $NUCBS,@XR                  *
     0ECD 3D 40 0C5C        2664+        CLI     SMPSWD-##LPEN+@B1,@BLANK   WAS A PASSWD SPECIFIED ?
     0ED1 F2 81 98          2665+        JE      SFI500                     NO, GO CHECK LOGON STATUS
     0ED4 3D 40 0866        2666+        CLI     SMVOID-$VOLID+@B1,@BLANK   WAS A VOL-ID SPECIFIED ?
     0ED8 F2 81 07          2667+        JE      SFI100                     NO, GO CHECK LOGON STATUS
     0EDB C0 87 1114        2668+SFI050  B       SVOLID                     RESOLVE SPECIFIED VOL-ID
                 0EDC 2669+SFIVOL EQU    SFI050+@Q                  SET TO A NOP FOR SUCCESSIVE USE
     0EDF F2 87 75          2670+        J       SFI350                     GO TO GET DIRECTORY
                            2671+*
                            2672+*                    PASSWORD WAS SPECIFIED, BUT VOL-ID WAS NOT
                            2673+*
     0EE2 3D 5C 0C5C        2674+SFI100  CLI     SMPSWD-##LPEN+@B1,SFIAST   IS PASSWORD AN '*' ?
     0EE6 F2 01 63          2675+        JNE     SFI320                     NO, GO CHK FOR FILE LIBR DADDR
     0EE9 7C 00 D4          2676+        MVI     SFICTR(,@BR),@ZERO         YES, INITLZ LOOP CTR TO ZERO
     0EEC 7C 00 DB          2677+        MVI     SFITTC(,@BR),@ZERO         INITLZ THIS TIME COUNTER
     0EEF BD 00 19          2678+        CLI     $FILIB-@B1(,@XR),@ZERO     CURRENT USER IN FORCE ?
     0EF2 F2 01 5D          2679+        JNE     SFI340                     YES, GO TRY THAT FIRST
     0EF5 3A 08 0C55        2680+        SBN     SMIND1,SM1PNF              SET PASSWORD NOT FOUND INDR.
                            2681+*
                            2682+*                    THE FOLLOWING ROUTINE WILL SEARCH ALL DISKS ON THE
                            2683+*                    SYSTEM FOR THE SPECIFIED ONE OR TWO STAR FILE
                            2684+*
     0EF9 7D 01 D4          2685+SFI200  CLI     SFICTR(,@BR),@B1           CHECK THE DISK POINTER
     0EFC F2 82 1A          2686+        JL      SFI220                     GO CHECK F1
     0EFF F2 81 28          2687+        JE      SFI230                     GO CHECK F2
     0F02 7D 03 D4          2688+        CLI     SFICTR(,@BR),SFIE03
     0F05 F2 82 33          2689+        JL      SFI240                     GO CHECK R1
                            2690+*
     0F08 BD 00 4C          2691+SFI210  CLI     $VOLR2+SFIE06(,@XR),@ZERO DOES R2 CONTAIN A FILE LIBR
     0F0B F2 81 AC          2692+        JE      SFI545                     NO, NO MORE TO CHK, GO RETURN
     0F0E 2C 01 0C6F 4D     2693+        MVC     SMBFDA(@DADDR),$VOLR2+SFIE07(,@XR) SET LIBR DADDR FOR
     0F13 7C FE D4          2694+        MVI     SFICTR(,@BR),SFIEFE        * SEARCH AND INCR DISK POINTER
     0F16 F2 87 3E          2695+        J       SFI350                     GO TO SEARCH
                            2696+*
     0F19 BD 00 44          2697+SFI220  CLI     $VOLF1+SFIE06(,@XR),@ZERO DOES F1 CONTAIN A FILE LIBR
     0F1C F2 81 0B          2698+        JE      SFI230                     NO, GO CHECK F2
     0F1F 2C 01 0C6F 45     2699+        MVC     SMBFDA,$VOLF1+SFIE07(@DADDR,@XR) SET LIBR DADDR FOR SEWN
     0F24 7C 01 D4          2700+        MVI     SFICTR(,@BR),@B1           INCR DISK POINTER
     0F27 F2 87 2D          2701+        J       SFI350                     SO TO SEARCH
                            2702+*
     0F2A BD 00 54          2703+SFI230  CLI     $VOLF2+SFIE06(,@XR),@ZERO DOES F2 CONTAIN A FILE LIBR
     0F2D F2 81 0B          2704+        JE      SFI240                     NO, SO CHECK R1
     0F30 2C 01 0C6F 55     2705+        MVC     SMBFDA,$VOLF2+SFIE07(@DADDR,@XR) SET LIBR DADDR FOR SEACH
     0F35 7C 02 D4          2706+        MVI     SFICTR(,@BR),SFIE02        INCR DISK POINTER
     0F38 F2 87 1C          2707+        J       SFI350                     GO TO SEARCH
                            2708+*
     0F3B BD 00 3C          2709+SFI240  CLI     $VOLR1+SFIE06(,@XR),@ZERO DOES R1 CONTAIN A FILE LIBR
     0F3E D0 81 0F          2710+        BE      SFI210(,@BR)               NO, GO CHECK R2
     0F41 2C 01 0C6F 3D     2711+        MVC     SMBFDA,$VOLR1+SFIE07(@DADDR,@XR) SET LIB DADDR FOR SEARCH
     0F46 7C 03 D4          2712+        MVI     SFICTR(,@BR),SFIE03        INCR DISK POINTER
     0F49 F2 87 0B          2713+        J       SFI350                     GO TO SEARCH
                            2714+*
                            2715+*                    PASSWORD SPECIFIED, BUT VOLUME ID WAS NOT.
```

```
       SFINDF - FILE SEARCH CONTROL MODULE


ERR LOC   OBJECT CODE      ADDR STMT SOURCE STATEMENT              VER 15, MOD 00  05/06/22  PAGE  22

                                  2716+*                   CHECK FOR CURRENT USER
                                  2717+*
    0F4C BD 00 19                 2718+SFI320 CLI  $FILIB-@B1(,@XR),@ZERO    CURRENT USER SPEC IN FORCE
    0F4F F2 81 20                 2719+       JE   SFI505                    NO, GO TO ERR ROUTINE
    0F52 2C 01 0C6F 1A            2720+SFI340 MVC  SMBFDA(@DADDR),$FILIB(,@XR) YES, SET TO USER LIBR
                                  2721+*
                                  2722+*                   SO SEARCH FOR SPECIFIED PASSWORD
                                  2723+*
    0F57 C0 87 0FD7               2724+SFI350 B    SGETDB                    SEARCH FOR PASSWORD
    0F5B 38 08 0C55               2725+       TBN  SMIND1,SM1PNF             WAS PASSWORD FOUND
    0F5F F2 10 3B                 2726+       JT   SFI540                    NO, GO TEST STAR COUNTER
    0F62 38 10 0C55               2727+       TBN  SMIND1,SM1PDS             PASSWORD DIRCTY ONLY REQ'SED
    0F66 F2 10 58                 2728+       JT   SFI550                    YES, GO RETURN TO USER
    0F69 F2 87 26                 2729+       J    SFI520                    NO, GO SEARCH FOR FILENAME
                                  2730+*
                                  2731+*                   ONLY FILENAME SPECIFIED, CHECK FOR CURRENT USER
                                  2732+*
    0F6C BD 00 19                 2733+SFI500 CLI  $FILIB-@B1(,@XR),@ZERO    CURRENT USER SPEC IN FORCE
    0F6F F2 01 07                 2734+       JNE  SFI510                    YES, BYPASS ERROR MESSAGE
    0F72 BC 21 0D                 2735+SFI505 MVI  $CAERR(,@XR),@@E200       SET NO CURRENT USER ERROR CODE
    0F75 C0 87 0469               2736+       B    SFIERR                    GO TO ERROR RETURN
                                  2737+*
                                  2738+*                   GET FIRST USER DIRECTORY BLOCK
                                  2739+*
    0F79 2C 01 0EBA 1A            2740+SFI510 MVC  DL2RAD,$FILIB(@DADDR,@XR) SET DL2ICS BASE DADDR
    0F7E 2C 01 0C6F 1A            2741+       MVC  SMBFDA,$FILIB(@DADDR,@XR) SET LIBR DADDR TO COMMON AREA
    0F83 6C 01 D7 1C              2742+       MVC  SFIRDA(,@BR),$USRDR(@DADDR,@XR) SET DL2ICS RELATIVE DADDR
    0F87 C0 87 0E22               2743+       B    DL2ICS                    GO READ USER DIRECTORY BLOCK
    0F8B 0FCE          0F8C       2744+       DC   AL2(SFIDPL)               * CADDR OF DPL
    0F8D 2C 01 0C7F 1C            2745+       MVC  SMFUDA,$USRDR(@DADDR,@XR) PRESERVE 1ST BLOCK REL. DADDR
                                  2746+*
                                  2747+*                   SEARCH USER DIRECTORY BLOCK FOR FILENAME
                                  2748+*
    0F92 C0 87 1063               2749+SFI520 B    SRCHFN                    GO TO SEARCH ROUTINE
    0F96 38 80 0C55               2750+       TBN  SMIND1,SM1FNE             WAS NAME FOUND
    0F9A F2 10 24                 2751+       JT   SFI550                    YES, SO RETURN
                                  2752+*
                                  2753+*                   PASSWORD OR FILENAME NOT FOUND
                                  2754+*
    0F9D 7D FE D4                 2755+SFI540 CLI  SFICTR(,@BR),SFIEFE       ONE OR TWO STAR FILE WITH MORE
    0FA0 F2 84 1E                 2756+       JH   SFI550                    * DISKS TO SEARCH ? NO, GET OUT
    0FA3 D0 82 00                 2757+SFI542 BC   SFI200(,@BR),@BL          * YES, GO SEARCH
            0FA4 2758+SFISTR EQU  SFI542+@Q                                  * NOP FOR 1ST * OR ** SEARCHED
    0FA6 F2 87 11                 2759+SFI543 JC   SFI545,@UCB               BYPASS TRY CONTROL UNLESS
            0FA7 2760+SFIFND EQU  SFI543+@Q                                  * Q-CODE CHANGED TO A NOP
    0FA9 7D 06 DC                 2761+       CLI  SFINTR(,@BR),SFIETD       IS TRY COUNTER AT MAX ?
    0FAC F2 02 0B                 2762+       JNL  SFI545                    YES, SO SET ERROR CODE
    0FAF 5E 00 DB DD              2763+       ALC  SFITTC(,@BR),SFIONE(,@BR) INCR THIS TRY COUNTER
    0FB3 5D 00 DB DC              2764+       CLC  SFITTC(,@BR),SFINTR(1,@BR) THIS TRY = TRYS REQUIRED ?
    0FB7 D0 01 00                 2765+       BNE  SFI200(,@BR)              NO, GO TRY THE NEXT DISK
    0FBA BC 26 0D                 2766+SFI545 MVI  $CAERR(,@XR),@@E213       SET * OR ** NOT FOUND CODE
    0FBD 3A 80 0C55               2767+       SBN  SMIND1,SM1FNE             SET ON FILE NOT FOUND INDR.
                                  2768+*
                                  2769+*                   RETURN TO USER
                                  2770+*
    0FC1 C2 02 0000               2771+SFI550 LA   *-*,@XR                   RELOAD @XR
```

SFINDF - FILE SEARCH CONTROL MODULE

```
                              0FC4 2772+SFISXR EQU    SFI550+@OP1              *
       0FC5 C2 01 0000             2773+SFI560 LA     *-*,@BR                  RELOAD @BR
                              0FC8 2774+SFISBR EQU    SFI560+@OP1              *
       0FC9 C0 87 0000             2775+SFI570 B      *-*                      RETURN TO THE USER
                              0FCC 2776+SFIEXT EQU    SFI570+@OP1              *
                                   2777+*
                                   2778+*              CONSTANTS AND SAVE AREAS
                                   2779+*
       0FCD                   0FCD 2780+SFICTR DS     XL1                      COUNTER USED TO CONTROL THE
       0FCD                        2781+      ORG     *-1                      * SEARCH FOR A STAR FILE
       0FCD FF                0FCD 2782+      DC      AL1(SFIEFF)              INITLZ'D FOR NO SEARCH
       0FCE 01                0FCE 2783+SFIDPL DC     AL1(@DGET)              DPL TO READ USER DIRCTY BLOCK 1
       0FCF                   0FD0 2784+SFIRDA DS     XL2                      * RELATIVE DISK ADDRESS
       0FD1 02                0FD1 2785+      DC      XL1'02'                 * SECTOR COUNT
       0FD2 1114              0FD3 2786+      DC      AL2(SMUDB1)             * CORE BUFFER ADDRESS
       0FD4                   0FD4 2787+SFITTC DS     CL1                      THIS TRY COUNTER
       0FD5                   0FD5 2788+SFINTR DS     CL1                      NUMBER OF TRYS REQUIRED COUNTER
       0FD5                        2789+      ORG     SFINTR                  INITLZ NUMBER CF TRYS REQUIRED
       0FD5 00                0FD5 2790+      DC      XL1'0'                  * COUNTER TO ZERO
       0FD6 01                0FD6 2791+SFIONE DC     XL1'1'                   COUNTER INCREMENT
                                   2792+*
                                   2793+*                   EQUATES
                                   2794+*
       0469                   2795+SVOERR EQU    SFIERR                   SVOLID ERROR RETURN ADDRESS
       005C                   2796+SFIAST EQU    C'*'                     STAR LIBR TEST CHARACTER
       0002                   2797+SFIE02 EQU    X'02'                    STAR COUNTER TEST R1 CODE
       0003                   2798+SFIE03 EQU    X'03'                    STAR COUNTER TEST R2 CODE
       00FE                   2799+SFIEFE EQU    X'FE'                    STAR COUNTER COMPLETE CODE
       00FF                   2800+SFIEFF EQU    X'FF'                    NOT A * OR ** FILE COUNTER CODE
       0006                   2801+SFIE06 EQU    X'06'                    DISP TO LIBR DADDR BYTE 0
       0007                   2802+SFIE07 EQU    X'07'                    DISP TO LIBR DADDR BYTE 1
       0EF9                   2803+SFIBSE EQU    SFI200                   LOCAL BASE ADDRESS
       0FD6                   2804+SFIEND EQU    *-1                      LAST BYTE OF SFINDF
       0006                   2805+SFIETD EQU    6                        MAX TRY REQUIRED COUNTER VALUE
       0001                   2806+      DROP   @BR
       0002                   2807+      DROP   @XR
                              2808+***                  END OF SFINDF                         ***
                              2809 *
                              2810 *      $GETD
```

```
                        2812+*******************************************************************************
                        2813+*  5703-XM1 COPYRIGHT IBM CORP. 1970                            *
                        2814+*          REFER TO INSTRUCTIONS ON COPY RIGHT NOTICE, 120-2083  *
                        2815+*                                                              *
                        2816+*******************************************************************************
                        2817+*STATUS                                                         *
                        2818+*    VERSION 1 MODIFICATION 0                                   *
                        2819+*                                                              *
                        2820+*FUNCTION                                                       *
                        2821+*    * SGETDB PROVIDES TWO PRIMARY FUNCTIONS. IT WILL SEARCH THE  *
                        2822+*      PASSWORD DIRECTORY FOR A SPECIFIED PASSWORD ONLY, OR IF     *
                        2823+*      INDICATED WILL GO AND READ IN THE FIRST USER BLOCK ASSOCIATED *
                        2824+*      WITH THAT PASSWORD.                                       *
                        2825+*    * IF THE PASSWORD SEARCH ONLY IS REQUESTED A SWITCH IS SET TO  *
                        2826+*      INHIBIT READING THE DIRECTORY ON SUBSEQUENT ENTRIES.       *
                        2827+*    * THE ERROR CODE FOR PASSWORD NOT FOUND IS ALWAYS SET IN $CAERR. *
                        2828+*      IF THE PASSWORD IS OR IS NOT FOUND THE INDICATOR IN SMIND1 IS *
                        2829+*      SET APPROPRIATELY.                                        *
                        2830+*                                                              *
                        2831+*ENTRY POINTS                                                   *
                        2832+*    SGETDB - ENTRY TO SEARCH PASSWORD DIRECTORY AND GET         *
                        2833+*             ASSOCIATED USER DIRECTORY. THE CALLING SEQUENCE IS  *
                        2834+*             AS FOLLOWS:                                        *
                        2835+*                 B     SGETDB                                   *
                        2836+*                                                              *
                        2837+*INPUT                                                          *
                        2838+*    * THE BASE ADDRESS OF THE LIBRARY MUST BE IN SM1FDA IN TSMLES.  *
                        2839+*    * THE PASSWORD MUST BE IN SMPSWD.                           *
                        2840+*    * IF THE PASSWORD DIRECTORY IS TO BE SEARCHED ONLY, THEN SM1PDS *
                        2841+*      IN SMIND1 MUST BE SET TO 1. IF THE FIRST USER DIRECTORY BLOCK *
                        2842+*      ASSOCIATED WITH THE SPECIFIED PASSWORD IS TO BE READ IN THEN *
                        2843+*      THEN SM1PDS MUST BE SET TO 0.                             *
                        2844+*                                                              *
                        2845+*OUTPUT                                                         *
                        2846+*    * IF THE SPECIFIED PASSWORD IS FOUND THE ADDRESS OF THE LEFT BYTE *
                        2847+*      OF THE ENTRY IS PLACED IN SMPEAD, SM1PNF IN SMIND1 IS SET TO 0. *
                        2848+*      AND THE USER DIRECTORY RDADDR IS PLACED IN SMFUDA.        *
                        2849+*    * IF THE USER DIRECTORY WAS REQUESTED, THE READ OPERATION IS  *
                        2850+*      STARTED BUT NO WAIT IS PERFORMED. THE USER DIRECTORIES OVERLAY *
                        2851+*      THE PASSWORD DIRECTORIES IN CORE.                         *
                        2852+*    * IF THE SPECIFIED PASSWORD WAS NOT FOUND SM1PNF, IS SET TO 1 AND *
                        2853+*      THE ADDRESS FOR THE NEXT AVAILABLE ENTRY IS IN SMPEAD.    *
                        2854+*                                                              *
                        2855+*EXTERNAL REFERENCES                                            *
                        2856+*          $CAERR - LOCATION FOR SYSTEM ERROR CODE               *
                        2857+*          SMIND1 - DATA MANAGEMENT INDICATOR                    *
                        2858+*          DL2RAD - LOCATION OF FILE PHYSICAL BASE ADDRESS        *
                        2859+*          SMBFDA - LOCATION OF LIBRARY BASE ADDRESS             *
                        2860+*          DL2ICS - ENTRY TO DISK I/O ROUTINE                    *
                        2861+*          $DISKN - ENTRY TO SYSTEM DISK IOCS                    *
                        2862+*          $WAITF - LOCATION OF COMMON I/O WAIT FUNCTION          *
                        2863+*          SMPSWD - LOCATION PASSWORD ARGUMENT                   *
                        2864+*          SMPEAD - LOCATION OF PASSWORD ENTRY ADDRESS           *
                        2865+*          SMFUDA - LOCATION OF USER DIRECTORY RDADDR            *
                        2866+*                                                              *
                        2867+*EXITS, NORMAL                                                  *
```

```
                              2868+*    NORMAL EXIT IS TO THE FIRST INSTRUCTION FOLLOWING THE BRANCH    *
                              2869+*    TO SGETDB                                                        *
                              2870+*                                                                     *
                              2871+*EXITS, ERROR                                                         *
                              2872+*    NONE                                                             *
                              2873+*                                                                     *
                              2874+*TABLES/WORKAREAS                                                     *
                              2875+*    NONE                                                             *
                              2876+*                                                                     *
                              2877+*ATTRIBUTES                                                           *
                              2878+*    RELOCATABLE                                                      *
                              2879+*    REUSABLE                                                         *
                              2880+*                                                                     *
                              2881+*CHARACTER CODE DEPENDENCY                                            *
                              2882+*    THE OPERATION OF THIS MODULE DOES NOT DEPEND UPON A PARTICULAR   *
                              2883+*    INTERNAL REPRESENTATION OF THE EXTERNAL CHARACTER SET.           *
                              2884+*                                                                     *
                              2885+*NOTES                                                                *
                              2886+*    ERROR PROCEDURES                                                 *
                              2887+*       THE ERROR CODE FOR PASSWORD NOT FOUND IS ALWAYS SET BUT SGETDB *
                              2888+*       DETECTS NO PARTICULAR ERROR. THE CONDITION AS TO IF THE       *
                              2889+*       PASSWORD WAS OR WAS NOT FOUND IS INDICATED HOWEVER.           *
                              2890+*                                                                     *
                              2891+*    REGISTER USAGE                                                   *
                              2892+*       @BR AND @XR1 ARS SAVED AND RESTORED. @BR IS USED AS A BASE    *
                              2893+*       REGISTER AND @XR IS USED AS AN INDEX TO THE PASSWORD DIRCTY.  *
                              2894+*       @ARR IS USED TO PROVIDE THE RETURN ADDRESS.                   *
                              2895+*                                                                     *
                              2896+*    SAVED/RESTORED AREAS                                             *
                              2897+*       NONE                                                          *
                              2898+*                                                                     *
                              2899+*    MODIFICATION CONSIDERATIONS                                      *
                              2900+*       IN USING SGETDB THE USER MUST TAKE INTO CONSIDERATION THAT    *
                              2901+*       SGETDB DOES NOT WAIT FOR THE USER DIRECTORY BLOCK TO BE IN    *
                              2902+*       CORE BEFORE RETURNING.                                        *
                              2903+*                                                                     *
                              2904+*    REQUIRED MODULES                                                 *
                              2905+*       @SYSEQ - SYSTEM SOFTWARE EQUATES                              *
                              2906+*       @FXDEQ - NUCLEUS EQUATES                                      *
                              2907+*       @DIREQ - LIBRARY DIRECTORY EQUATES                            *
                              2908+*       DL2ICS - DISK IOCS                                            *
                              2909+*       TSMLES - DATA MANAGEMENT COMMUNICATIONS AREA                  *
                              2910+*                                                                     *
                              2911+*    OTHER                                                            *
                              2912+*       NONE                                                          *
                              2913+***********************************************************************
                              2914+*SGETDB ENTER BASE,SGETDB,EXIT,SGE90,@BR,@XR,@ARR
                         0FD7 2915+        USING SGETDB,@BR                    BASE ADDRESS SPECIFICATION
                         0FD7 2916+SGETDB EQU   *                             MODULE ENTRY POINT
  0FD7 34 01 104F             2917+        ST    SGE900+@OP1,@BR              SAVE @BR
  0FDB C2 01 0FD7             2918+        LA    SGETDB,@BR                   LOAD BASE REGISTER
  0FDF 74 02 7C               2919+        ST    SGE901+@OP1(,@BR),@XR        SAVE @XR
  0FE2 74 08 80               2920+        ST    SGE902+@OP1(,@BR),@ARR       SAVE RETURN ADDRESS
                              2921+*** END OF EXPANSION ***

  0FE5 3C 23 03CD             2923+        MVI   $CAERR,@@E210                PASSWORD NOT ON DISK
```

```
      SGETDB - GET USER DIRECTORY BLOCK ROUTINE


ERR LOC   OBJECT CODE      ADDR STMT SOURCE STATEMENT          VER 15, MOD 00  05/06/22  PAGE  26

    0FE9 3B 08 0C55            2924+        SBF   SMIND1,SM1PNF              INITIALIZE INDICATOR TO FOUND
    0FED F2 80 15             2925+SGE050 JC    SGE055,@NOP               SET SWITCH FOR 2ND ENTRY
    0FF0 7C 87 17             2926+        MVI   SGE050+@Q(,@BR),@UCB      TURN SWITCH ON FOR NEXT ENTRY
    0FF3 0C 01 0EBA 0C6F      2927+        MVC   DL2RAD,SMBFDA             STUFF IN THE BASE ADDR
    0FF9 C0 87 0E22           2928+        B     DL2ICS                   CALL DISK I/O ROUTINE
    0FFD 1058            0FFE 2929+        DC    AL2(SGEDPL)              POINTER TO PARAMETER LIST
    0FFF C0 87 0025           2930+        B     $DISKN                   WAIT FOR DIRCTY TO LOAD
    1003 057F            1004 2931+        DC    AL2($WAITF)              WAIT FOR DIRCTY

    1005 75 02 86             2933+SGE055 L     SGEDPL+@DBFR2(,@BR),@XR   PASSWORD BUFFER CADDR
    1008 6C 00 89 00          2934+        MVC   SGECNT(1,@BR),##DPHC(,@XR) ENTRY COUNT TO WORK
    100C E2 02 04             2935+        LA    ##DPE1(,@XR),@XR         BUMP TO FIRST PASSWORD
                              2936+*
    100F 2D 07 0C63 07        2937+SGE060 CLC   SMPSWD(##LPEN),##DPEN(,@XR) LOOK AT PSWD ENTRY
    1014 F2 81 0E             2938+        JE    SGE070                   FOUND THE PSWD
    1017 E2 02 0C             2939+        LA    ##LPE(,@XR),@XR          BUMP TO LOOK AT NEXT ENTRY
    101A 5F 00 89 8B          2940+        SLC   SGECNT(1,@BR),SGEC01(,@BR) DECR ENTRY COUNT
    101E D0 01 38             2941+        BNE   SGE060(,@BR)             BACK FOR LOOK AT ENTRY
    1021 3A 08 0C55           2942+        SBN   SMIND1,SM1PNF            NOT FOUND INDICATOR
                              2943+*
                              2944+*          THE PASSWORD OR THE END OF THE DIRCTY HAS BEEN FOUND,
                              2945+*          SAVE THE POINTERS.
                              2946+*
    1025 34 02 0C7D           2947+SGE070 ST    SMPEAD,@XR               SAVE ENTRY ADDRESS
    1029 2C 01 0C7F 09        2948+        MVC   SMFUDA(@DADDR),##DPEA(,@XR) POSSIBLE USER DADDR OF BLK
    102E 38 10 0C55           2949+        TBN   SMIND1,SM1PDS            TEST SEARCH BIT ONLY ON
    1032 F2 10 17             2950+        JT    SGE900                   SEARCH ONLY SO EXIT
    1035 7D 00 89             2951+        CLI   SGECNT(,@BR),@ZERO       TEST COUNT IF ENTRY FOUND
    1038 F2 81 11             2952+        JE    SGE900                   JUMP IF NOT FOUND
    103B 6C 01 83 09          2953+SGE080 MVC   SGEDPL+@DSAD(@DADDR,@BR),##DPEA(,@XR) BLK ADDR TO DPL
    103F C0 87 0E22           2954+        B     DL2ICS                   CALL TO READ USER DIRCTY
    1043 1058            1044 2955+        DC    AL2(SGEDPL)              POINTER TO PARAMETER LIST
                              2956+*
    1045 7C 80 17             2957+        MVI   SGE050+@Q(,@BR),@NOP     TURN OFF SKIP INSTR
    1048 5C 01 83 88          2958+        MVC   SGEDPL+@DSAD(@DADDR,@BR),SGERAD(,@BR) RESTORE DSAD PSWD
                              2959+*
                              2960+*SGE900 EXIT @BR,@XR,,RETURN
    104C C2 01 0000           2961+SGE900 LA    *-*,@BR                  RESTORE OBR
    1050 C2 02 0000           2962+SGE901 LA    *-*,@XR                  RESTORE OXR
    1054 C0 87 0000           2963+SGE902 B     *-*                      RETURN TO CALLING PROGRAM
                              2964+*** END OF EXPANSION ***
                              2965+*
                              2966+*          DPL TO READ IN THE PASSWORD DIRCTY
                              2967+*
                              2968+*SGEDPL $DPL  FUNC-@DGET,DADDR-##RP,CNT-##LP,CADDR-SMPDB1
                         1058 2969+SGEDPL EQU   *                        DISK PARAMETER
    1058 01             1058 2970+        DC    AL1(@DGET)              REQUESTED FUNCTION
    1059 0001           105A 2971+        DC    AL2(##RP)               DISK ADDRESS
    105B 04             105B 2972+        DC    AL1(##LP)               SECTOR COUNT
    105C 1114           105D 2973+        DC    AL2(SMPDB1)             BUFFER ADDRESS
                              2974+*** END OF EXPANSION ***

    105E 0001           105F 2976+SGERAD DC    AL2(##RP)               RELATIVE DADDR OF DIRCTY
    1060                1060 2977+SGECNT DS    CL1                      SAVE AREA FOR ENTRY COUNT
    1061 0001           1062 2978+SGEC01 DC    IL2'1'                   CONSTANT 1 FOR ADDR MODIFCATION
```

SGETDB - GET USER DIRECTORY BLOCK ROUTINE

```
                       1063 2980+SGEEND EQU   *                        END ADDR OF SGETDB
                            2981+***                          END OF SGETDB                        ***
                            2982 *
                            2983 *      $RCHF
```

```
2985+********************************************************************************
2986+*  5703-XM1 COPYRIGHT IBM CORP. 1970                                          *
2987+*           REFER TO INSTRUCTIONS ON COPY RIGHT NOTICE, 120-2083              *
2988+*                                                                             *
2989+********************************************************************************
2990+*STATUS                                                                        *
2991+*    VERSION 1 MODIFICATION 0                                                  *
2992+*                                                                              *
2993+*FUNCTION                                                                      *
2994+*    * SRCHFN SEARCHES A USER DIRECTORY FOR A SPECIFIED FILENAME. IT           *
2995+*      IS ASSUMED THAT THE DIRECTORY TO BE SEARCHED HAS BEEN READ INTO         *
2996+*      CORE AT SMUDBI IN TSMLES.  IF THE DIRECTORY IS LINKED TO AN             *
2997+*      ADDITIONAL BLOCK IT IS READ IN TO THE SECONDARY BUFFER WHILE            *
2998+*      THE PRIMARY BLOCK IS SEARCHED.                                          *
2999+*    * THE ADDRESS OF THE ENTRY OR THE ADDRESS FOR A NEW ENTRY IS              *
3000+*      PLACED IN SMUDEA. THE ADDRESS OF THE ACTIVE DIRECTORY IS PLACED         *
3001+*      IN SMUDBA.  IF THE NAME WAS NOT FOUND SMIFNE IS SET TO 1 IN             *
3002+*      SMIND1.  IF THE NAME WAS FOUND THE INDICATOR IS SET TO 0.               *
3003+*                                                                              *
3004+*ENTRY POINTS                                                                  *
3005+*    SRCHFN - ENTRY TO SEARCH FOR A FILENAME. THE CALLING SEQUENCE             *
3006+*             IS AS FOLLOWS:                                                   *
3007+*                 B    SRCHFN                                                  *
3008+*                                                                              *
3009+*INPUT                                                                         *
3010+*    THE USER DIRECTORY BLOCK MUST BE READ INTO SMUDB1 IN TSMLES.              *
3011+*    THE NAME OF THE ENTRY TO SEARCH FOR MUST BE IN SMFNAM IN TSMLES           *
3012+*                                                                              *
3013+*OUTPUT                                                                        *
3014+*    * IF THE FILE NAME IS FOUND THE ADDRESS OF THE ENTRY IS SET IN            *
3015+*      SMUDEA. THE ADDRESS OF THE BUFFER CONTAINING THE ENTRY IS IN            *
3016+*      SMUDBA, AND THE INDICATOR BIT SMIFNE IN SMIND1 IS SET TO 0.             *
3017+*    * IF THE FILE NAME WAS NOT FOUND SMUDEA CONTAINS THE ADDRESS OF           *
3018+*      WHERE THE NEXT ENTRY MAY BE MADE IN THE DIRECTORY. SMUDBA               *
3019+*      CONTAINS THE ADDRESS OF THE BUFFER CONTAINING THE LAST BLOCK,           *
3020+*      AND SMIFNE IS SET TO 1 IN SMIND1.                                       *
3021+*    * SMUDEA CONTAINS THE ADDRESS OF THE LEFTMOST BYTE OF THE FIELD,          *
3022+*    * THE ERROR CODE FOR FILE NOT FOUND IS ALWAYS MOVED TO $CAERR,            *
3023+*                                                                              *
3024+*EXTERNAL REFERENCES                                                           *
3025+*        $CAERR - LOCATION OF ERROR CODE INDICATOR.                            *
3026+*        $DISKN - ENTRY TO DISK IOCS.                                          *
3027+*        $WAITF - ADDRESS OF COMMON I/O WAIT FUNCTION.                         *
3028+*        DL2ICS - ENTRY TO DISK LOGICAL IOCS.                                  *
3029+*        SMFNAM - ADDRESS OF FILENAME SAVE AREA                                *
3030+*        SMUDEA - ADDRESS OF USER DIRECTORY ENTRY ADDRESS.                     *
3031+*        SMUDBA - ADDRESS OF USER DIRECTORY BUFFER ADDRESS.                    *
3032+*        SMDAAD - LOCATION OF RELATIVE DISK ADDRESS OF ACTIVE BUFFER.          *
3033+*        SMIFNE - VALUE OF NOT FOUND INDICATOR.                                *
3034+*        SMIND1 - LOCATION INDICATOR 1.                                        *
3035+*        SMUDB1 - ADDRESS OF DIRECTORY BLOCK BUFFER.                           *
3036+*        SMUDB2 - ADDRESS OF DIRECTORY BLOCK BUFFER.                           *
3037+*                                                                              *
3038+*EXITS, NORMAL                                                                 *
3039+*    THE REGISTER @BR @XR ARE RESTORED AND THE EXIT IS TO THE                  *
3040+*    ADDRESS SAVED FROM THE @ARR REGISTER.                                     *
```

```
                              3041+*                                                             *
                              3042+*EXITS, ERROR                                                 *
                              3043+*   NONE.                                                     *
                              3044+*                                                             *
                              3045+*TABLES/WORKAREAS                                             *
                              3046+*   NONE                                                      *
                              3047+*                                                             *
                              3048+*ATTRIBUTES                                                   *
                              3049+*   RELOCATABLE                                               *
                              3050+*                                                             *
                              3051+*CHARACTER CODE DEPENDENCY                                    *
                              3052+*   CHARACTER CODE DEPENDENCY CLASS - C                       *
                              3053+*   THE OPERATION OF THIS MODULE DEPENDS UPON AN INTERNAL REPRESENTA- *
                              3054+*   TION OF THE EXTERNAL CHARACTER SET WHICH IS EQUIVALENT TO THE ONE *
                              3055+*   USED AT ASSEMBLY TIME.  THE CODING HAS BEEN ARRANGED SO THAT RE-  *
                              3056+*   DEFINITION OF CHARACTER CONSTANTS, BY REASSEMBLY, WILL RESULT IN  *
                              3057+*   A CORRECT MODULE FOR THE NEW DEFINITIONS.                 *
                              3058+*                                                             *
                              3059+*NOTES                                                        *
                              3060+*   ERROR PROCEDURES                                          *
                              3061+*      NONE                                                   *
                              3062+*                                                             *
                              3063+*   REGISTER USAGE                                            *
                              3064+*      @BR AND @XR ARE SAVED ON ENTRY AND RESTORED AT EXIT.   *
                              3065+*      @ARR IS USED AS THE RETURN ADDRESS.                    *
                              3066+*                                                             *
                              3067+*   SAVED/RESTORED AREAS                                      *
                              3068+*      NONE                                                   *
                              3069+*                                                             *
                              3070+*   MODIFICATION CONSIDERATIONS                               *
                              3071+*      NONE                                                   *
                              3072+*                                                             *
                              3073+*   REQUIRED MODULES                                          *
                              3074+*      @SYSEQ - SYSTEM SOFTWARE EQUATES.                      *
                              3075+*      @DIREQ - LIBRARY DIRECTORY EQUATES.                    *
                              3076+*      @FXDEQ - SYSTEM NUCLEUS EQUATES.                       *
                              3077+*      DL2ICS - LOGICAL DISK IOCS.                            *
                              3078+*      TSMLES - DATA MANAGEMENT COMMUNICATIONS AREA.          *
                              3079+*                                                             *
                              3080+*   OTHER                                                     *
                              3081+*      NONE                                                   *
                              3082+*******************************************************************************
```

```
                          1063 3084+SRCHFN EQU   *                        ENTRY TO SEARCH FILENAME
     1063 34 01 10ED           3085+       ST    SRC900+@OP1,@BR          SAVE BASE REGISTER
                          1067 3086+       USING SRC010,@BR
     1067 C2 01 1067           3087+SRC010 LA    SRC010,@BR              SET BASE ADDR
     106B 74 02 8A             3088+       ST    SRC910+@OP1(,@BR),@XR   SAVE INDEX REG
     106E 74 08 8E             3089+       ST    SRC920+@OP1(,@BR),@ARR  SAVE RETURN ADDR
     1071 3C 24 03CD           3090+       MVI   $CAERR,@@E211           FILE NOT FOUND
     1075 5C 01 9B A1          3091+       MVC   SRCBF1(@CADDR,@BR),SRCBA1(,@BR) INITIALIZE OLF POINTER
     1079 5C 01 9D A3          3092+       MVC   SRCBF2(@CADDR,@BR),SRCBA2(,@BR) ALTERNATE BUFFER
     107D 5C 01 9F 9B          3093+       MVC   SRCACT(@CADDR,@BR),SRCBF1(,@BR) SET ACTIVE BUFFER

     1081 C0 87 0025           3095+SRC020 B     $DISKN                  WAIT FOR USER BLOCK
     1085 057F            1086 3096+       DC    AL2($WAITF)             WAIT OP DPL
                               3097+*
     1087 7C 87 5E             3098+       MVI   SRC055+@Q(,@BR),@UCB    RESET NOP FOR LINKED DIRCTY
     108A 75 02 9F             3099+       L     SRCACT(,@BR),@XR        PICKUP POINTER TO ACTIVE BUFFER
                               3100+*
                               3101+*           BLOCK LINK SHOULD ALWAYS BE GREATER THAN 1 IF IT IS
                               3102+*           PRESENT. IF NOT THE LINK BYTE SHOULD BE ZERO.
                               3103+*
     108D 9D 01 03 A6          3104+       CLC   ##DUHB(@DADDR,@XR),SRCC01(,@BR) TEST LIVE FIELD
     1091 F2 82 11             3105+       JL    SRC030                  JUMP NOT LINKED
     1094 5C 01 AC 9D          3106+       MVC   SRCBFR(@DADDR,@BR),SRCBF2(,@BR) GET ALTERNATE BUFFER ADDR
     1098 6C 01 A9 03          3107+       MVC   SRCDAD(@DADDR,@BR),##DUHB(,@XR) SET LINK TO MEXT BLOCK
     109C C0 87 0E22           3108+       B     DL2ICS                  READ NEXT BLOCK
     10A0 110E            10A1 3109+       DC    AL2(SRCDPL)             POINTER TO DPL
                               3110+*
     10A2 7C 80 5E             3111+       MVI   SRC055+@Q(,@BR),@NOP    SET SWITCH FOR LINKED BLOCK
     10A5 6C 00 A4 04          3112+SRC030 MVC   SRCCNT(1,@BR),##DUHC(,@XR) GET ENTRY COUNT
     10A9 E2 02 0C             3113+       LA    ##DUEI(,@XR),@XR        BUMP TO FIRST ENTRY
     10AC 7D 00 A4             3114+       CLI   SRCCNT(,@BR),@ZERO      IS STARTING COUNT ZERO ?
     10AF D0 81 5D             3115+       BE    SRC055(,@BR)            YES, RETURN NOT FOUND
     10B2 8D 07 07 0C6B        3116+SRC035 CLC   ##DUEN(##LUEN,@XR),SMFNAM LOOK AT ENTRY
     10B7 F2 81 1C             3117+       JE    SRC040                  JUMP IF THE NAME IS FOUND
     10BA E2 02 32             3118+       LA    ##LUE(,@XR),@XR         BUMP THE POINTER FOR NEXT ENTRY
     10BD 5F 00 A4 A6          3119+       SLC   SRCCNT(1,@BR),SRCC01(,@BR) DECR ENTRY COUNTER
     10C1 D0 01 4B             3120+       BNE   SRC035(,@BR)            BACK TO TEXT NEXT ENTRY
     10C4 F2 00 2F             3121+SRC055 JC    SRC060,*-*              LINK SWITCH
     10C7 5C 01 9B 9D          3122+       MVC   SRCBF1(@CADDR,@BR),SRCBF2(,@BR) SWITCH BUFFERS
     10CB 5C 01 9D 9F          3123+       MVC   SRCBF2(@CADDR,@BR),SRCACT(,@BR) *
     10CF 5C 01 9F 9B          3124+       MVC   SRCACT(@CADDR,@BR),SRCBF1(,@BR) SET ACTIVE BUFFER
     10D3 D0 87 1A             3125+       B     SRC020(,@BR)            GO BACK TO NEXT BUFFER
                               3126+*
                               3127+*           FILENAME HAS BEEN FOUND.
                               3128+*
     10D6 34 02 0C6D           3129+SRC040 ST    SMUDEA,@XR              SAVE ENTRY ADDR
     10DA 3B 80 0C55           3130+       SBF   SMIND1,SM1FNE           TURN OFF NOT FOUND INDICATOR
     10DE 75 02 9F             3131+SRC050 L     SRCACT(,@BR),@XR        GET CADDR OF ACTIVE BUFFER
     10E1 34 02 0C71           3132+       ST    SMUDBA,@XR              SAVE CADDR IN SMALES
     10E5 2C 01 0C79 01        3133+       MVC   SMDAAD,##DUHA(@DADDR,@XR) SAVE RDADDR OF ACTIVE DIRCTY
     10EA C2 01 0000           3134+SRC900 LA    *-*,@BR                 RESTORE CALLERS BASE
     10EE C2 02 0000           3135+SRC910 LA    *-*,@XR                 RESTORE INDEX
     10F2 C0 87 0000           3136+SRC920 B     *-*                     RETURN

                               3138+*
                               3139+*           FILENAME WAS NOT FOUND. SAVE ADDR FOR NEXT ENTRY AND
```

SRCHFN - SEARCH FOR FILE NAME IN USER DIRECTORY

```
                              3140+*          SET THE INDICATOR.
                              3141+*
     10F6 34 02 0C6D          3142+SRC060 ST    SMUDEA,@XR              SAVE ADDR FOR NEXT ENTRY
     10FA 3A 80 0C55          3143+       SBN   SMIND1,SM1FNE           TURN ON NOT FOUND INDICATOR
     10FE D0 87 77            3144+       B     SRC050(,@BR)            GO TO RETURN
```

SRCHFN - SEARCH FOR FILE NAME IN USER DIRECTORY

```
                              3146+*
                              3147+*              CONSTANTS AND WORK AREA
                              3148+*
    1101              1102 3149+SRCBF1 DS    CL(@CADDR)                WORK AREA PRIMARY BUFFER ADDR
    1103              1104 3150+SRCBF2 DS    CL(@CADDR)                WORK AREA SECONDARY BUFFER ADDR
    1105              1106 3151+SRCACT DS    CL(@CADDR)                SAVE AREA FOR ACTIVE BUFFER
    1107 1114         1108 3152+SRCBA1 DC    AL2(SMUDB1)               ADDRESS OF USED DIRCTY BLUFFER 1
    1109 1314         110A 3153+SRCBA2 DC    AL2(SMUDB2)               ADDRESS OF DIRCTY BUFFER 2
    110B              110B 3154+SRCCNT DS    CL1                       WORK AREA FOR ENTRY COUNT
    110C 0001         110D 3155+SRCC01 DC    IL2'1'                    CONSTANT TO DECR ENTRY COUNT
                      110E 3156+SRCDPL EQU   *                         DEFINE LEFT END OF DPL
    110E 01           110E 3157+SRCGET DC    AL1(@DGET)                READ OP CODE
    110F              1110 3158+SRCDAD DS    CL(@DADDR)                RELATIVE ADDR OF BLOCK
    1111 02           1111 3159+SRCSCT DC    AL1(##LU)                 SECTOR COUNT FOR BLOCK
    1112              1113 3160+SRCBFR DS    CL(@CADDR)                BUFFER ADDR OF BLOCK
                              3161+***                   END OF SRCHFN                           ***
                              3162 *
                              3163 *        $VOLI
```

```
3165+*********************************************************************
3166+* 5703-XM1  COPYRIGHT IBM CORP. 1970                                *
3167+*             REFER TO INSTRUCTIONS ON COPYRIGHT NOTICE  120-2083    *
3168+*                                                                   *
3169+*********************************************************************
3170+*STATUS                                                             *
3171+*   VERSION 1 MODIFICATION 0                                        *
3172+*                                                                   *
3173+*FUNCTION                                                           *
3174+*   THE FUNCTION OF SVOLID IS TO SEARCH THE CORE RESIDENT TABLE OF   *
3175+*   VOLUME ID'S ON THE SYSTEM FOR A SPECIFIED VOLUME ID. IF THE      *
3176+*   VOLUME IS NOT FOUND, AN ERROR CODE WILL BE PUT IN $CAERR AND AN  *
3177+*   EXIT TO $VOERR IN THE CALLING ROUTINE WILL BE TAKEN. IF MORE     *
3178+*   THAN ONE VOLUME WITH THE SAME VOL-ID IS FOUND ON THE SYSTEM, THE *
3179+*   USER OF THE SYSTEM IS REQUESTED TO INDICATE WHICH DRIVE AND DISK *
3180+*   IS TO BE USED. IF THE USER IS UNABLE TO RESOLVE THE CONFLICT,    *
3181+*   THE COMMAND IS REJECTED. IF THE INPUT SOURCE IS NOT THE KEYBOARD, *
3182+*   THE COMMAND IS REJECTED. OTHERWISE THE FILE LIBRARY ADDRESS OF    *
3183+*   THE RESOLVED VOLUME IS PLACED IN SMBFDA IN THE TSMLES COMMUNICA-  *
3184+*   TIONS REGION, AND A NORMAL RETURN IS TAKEN.                      *
3185+*                                                                   *
3186+*ENTRY POINTS                                                       *
3187+*   $VOLID - THE FIRST EXECUTABLE INSTRUCTION. IT IS ASSUMED THAT    *
3188+*   SMVOID IN TSMLES HAS BEEN PRIMER. ALSO, IF THE VM OPTION OF      *
3189+*   SVOLID HAS BEEN ASSEMBLED FOR EXECUTION TIME USAGE.             *
3190+*   THE FIELDS SVOIOF AND SVODSK SHOULD BE PRIMED WITH THE GET/PUT   *
3191+*   GET/PUT FILENAME AND DISK FILENAME, RESPETIVELY.               *
3192+*                                                                   *
3193+*INPUT                                                              *
3194+*   INPUT TO SVOLID IS THE SPECIFIED VOL-ID IN THE TSMLES REGION -   *
3195+*   SMVOID.                                                          *
3196+*                                                                   *
3197+*OUTPUT                                                             *
3198+*   OUTPUT FROM SVOLID IS THE FILE LIBRARY ADDRESS OF THE RESOLVED   *
3199+*   SPECIFIED VOL-ID - PLACED IN SMBFDA.                            *
3200+*                                                                   *
3201+*EXTERNAL REFERENCES                                                *
3202+*        SVOBUF - TEMPORARY SECTOR BUFFER SAVE AREA - USER SUPPLIED  *
3203+*        SVOERR - ERROR EXIT ADDR FROM SVOLID                       *
3204+*        TSMLES - DATA MANAGEMENT COMMUNICATIONS REGION             *
3205+*        $$ILHD - FIRST BYTE OF INPUT LINE HEADER                   *
3206+*        $$XIND - EXECUTION INDR PASS AREA                          *
3207+*        $$INND - LAST CHARACTER OF INPUT LINE BUFFER               *
3208+*        $$INLN - FIRST CHARACTER OF INPUT LINE BUFFER              *
3209+*        $$PRES - ENTRY TO ENABLE KEYBOARD                          *
3210+*        $VOLID - ADDR IN SYSTEM NUCLEUS - VOLUME ID TABLE          *
3211+*        $CAERR - ADDR IN SYSTEM NUCLEUS - ERROR CODE SAVE AREA      *
3212+*        $KEYCD - INDR BYTE CONTAINING KEYBOARD INDR IN SYSTEM NUCLEUS *
3213+*        $CARDI - MASK IN SKEYCD - CARD INPUT MODE                  *
3214+*        $SPRNT - ADDR IN SYSTEM NUCLEUS-SYSTEM PRINTER IOCR INTERFACE *
3215+*        $CIMSK - ADDR IN SYSTEM NUCLEUS-IR MASK ROUTINE INDR       *
3216+*        $WAITF - ADDR IN SYSTEM NUCLEUS-DISK WAITS DPL             *
3217+*        $KYBSY - MASK IN $KEYCD - KEYBOARD BUSY                    *
3218+*        $TRUNK - MASK IN $KEYCD - TRUNCATED LINE INDR             *
3219+*        $UNHSK - ADDR IN SYSTEM NUCLEUS-ENTRY TO UNMASK IR         *
3220+*                                                                   *
```

```
                                3221+*EXITS, NORMAL                                         *
                                3222+*   NEXT SEQUENTIAL INSTRUCTION IN CALL ROUTINE.       *
                                3223+*                                                      *
                                3224+*EXITS, ERROR                                          *
                                3225+*   $VOERR - ERROR EXIT ROUTINE IN CALL ROUTINE.       *
                                3226+*   (NOTE: ERROR PROCEDURES).                          *
                                3227+*                                                      *
                                3228+*TABLES/WORK AREAS                                     *
                                3229+*   CONSTANTS, PPL'S. AND WORK AREAS WHICH ARE ADDRESSED BY THE BASE *
                                3230+*   REGISTER (@BR) ARE LOCATED TO BE REFERENCED AS SUCH. THOSE *
                                3231+*   WHICH ARE NOT ADDRESSED BY A BASE REGISTER ARE LOCATED AT THE *
                                3232+*   END OF THE MODULE.                                 *
                                3233+*                                                      *
                                3234+*ATTRIBUTES                                            *
                                3235+*   RELOCATABLE, CONDITIONALLY REUSABLE (SEE OTHER).    *
                                3236+*                                                      *
                                3237+*CHARACTER CODE DEPENDENCY                             *
                                3238+*   CHARACTER CODE DEPENDENCY CLASS - C                *
                                3239+*   THE OPERATION OF THIS MODULE DEPENDS UPON AN INTERNAL REPRESENTA- *
                                3240+*   TION OF THE EXTERNAL CHARACTER SET WHICH IS EQUIVALENT TO THE ONE *
                                3241+*   USED AT ASSEMBLY TIME. THE CODING HAS BEEN ARRANGED SO THAT RE *
                                3242+*   DEFINITION OF CHARACTER CONSTANTS, BY REASSEMBLY, WILL RESULT IN *
                                3243+*   A CORRECT MODULE FOR THE NEW DEFINITIONS. THE FOLLOWING ARE THE *
                                3244+*   SPECIAL CONSIDERATIONS FOR THIS MODULE:             *
                                3245+*   * CHARACTER CONSTANT FOR DECIMAL L(ONE)    INTERNAL EQUATE *
                                3246+*   * CHARACTER CONSTANT FOR DECIMAL 2(TWO)    INTERNAL EQUATE *
                                3247+*   * @BLANK - PART OF @SYSEQ - FOR SYNTAX CHECK       *
                                3248+*   * @CHARR - PART OF @SYSEQ - FOR SYNTAX CHECK       *
                                3249+*   * @CHARF - PART OF @SYSEQ - FOR SYNTAX CHECK       *
                                3250+*   * @EOS   - PART OF @SYSEQ - FOR SYNTAX CHECK       *
                                3251+*                                                      *
                                3252+*NOTES                                                 *
                                3253+*   ERROR PROCEDURES                                   *
                                3254+*      THE FOLLOWING CONDITIONS WILL CAUSE AN ERROR CODE TO BE PLACED *
                                3255+*      IN SCAERR AND AN EXIT BRANCH TO BE TAKEN TO SVOERR: *
                                3256+*      * THE SPECIFIED VOLUME ID IS NOT ON THE SYSTEM.  *
                                3257+*      * DUPLICATE VOLUME ID'S ARE RTLADO. AND INPUT IS NOT FROM *
                                3258+*        THE KEYBOARD.                                 *
                                3259+*      * THE SPECIFIED PHYSICAL ID FROM THE KEYBOARD DOES NOT CONTAIN *
                                3260+*        ONE OF THE MULTIPLY DEFINED VOLUME ID'S.       *
                                3261+*      * THE SPECIFIEC OR RESOLVED VOLUME DOES NOT CONTAIN A LIBRARY *
                                3262+*        AREA.                                         *
                                3263+*                                                      *
                                3264+*   REGISTER USAGE                                     *
                                3265+*      INDEX REGISTER 1 (@BR) IS USED PRIMARILY AS A BASE REGISTER *
                                3266+*      AND SECONDLY AS AN INDEX IN THE VOL ID TABLE.    *
                                3267+*      INDEX REGISTER 2 (@XR) IS USED PRIMARILY AS AN INDEX REGISTER *
                                3268+*      IN THE VOL-ID TABLE AND SECONDLY AS AN INDEX TO SYNTAX CHECK *
                                3269+*      KEYBOARD INPUT WHEN VOLUMES ARE MULTIPLY DEFINED. *
                                3270+*                                                      *
                                3271+*   SAVED/RESTORED AREAS                               *
                                3272+*      NOBE                                            *
                                3273+*                                                      *
                                3274+*   MODIFICATION CONSIDERATIONS                        *
                                3275+*      VOLID'S SEARCH OF THE VOL-ID TABLE (SVOLID) IS TOTALLY *
                                3276+*      DEPENDENT ON THE FORMAT OF THE TABLE AS IT EXISTS; ESPECIALLY *
```

```
                                3277+*     THE NUMBER OF ENTRIES WHICH NOW EXIST (IE. FOUR).         *
                                3278+*                                                              *
                                3279+*   REQUIRED MODULES                                           *
                                3280+*       @CANEQ - COMMON CORE LOCATIONS OUTSIDE SYSTEM NUCLEUS  *
                                3281+*       @DIREQ - SYSTEM LIBRARY DIRECTORY EQUATES              *
                                3282+*       @ERMEQ - ERROR MESSAGE EQUATES                         *
                                3283+*       @FXDEQ - COMMON CORE LOCATIONS WITHIN THE SYSTEM NUCLEUS *
                                3284+*       @SYSEQ - COMMON SYSTEM SOFTWARE EQUATES                *
                                3285+*       TSMLES - DATA MANAGEMENT COMMUNICATION REGIONS         *
                                3286+*                                                              *
                                3287+*   OTHER                                                      *
                                3288+*     SVOLID MAY BE RE-USED IF THE CALL ROUTINE WILL PRIME 'SVOCT1' *
                                3289+*     WITH A '4', AND 'SVOCT2' WITH A '0' BEFORE EACH RE-ENTRY. *
                                3290+*     BOTH OF THESE FIELDS ARE 1 BYTE LONG AND CONTIGUOUS, RESPEC- *
                                3291+*     TIVELY. (IE. CAN BE INITIALIZED WITH 'MVC' OF X'0400'). *
                                3292+************************************************************************
```

```
      SVOLID - RESOLVE SPECIFIED VOLUME-ID


ERR LOC   OBJECT CODE        ADDR STMT SOURCE STATEMENT          VER 15, MOD 00  05/06/22  PAGE  36

                             3294+*****************************************************************************
                             3295+*                                                                           *
                             3296+*                  SVOLID MODULE EQUATES                                    *
                             3297+*                                                                           *
                             3298+*****************************************************************************
                             3299+*
                        0001 3300+SVOLN1 EQU    1                            LENGTH CODE OF ONE
                        00F1 3301+SVO001 EQU    X'F1'                        CONSTANT OF 1 FOR COMPARE
                        00F2 3302+SVO002 EQU    X'F2'                        CONSTANT OF 2 FOR COMPARE
                        0100 3303+SVOINP EQU    $$XIND-$$ILHD+@B1            LENGTH INPUT BUFFER
                        00FF 3304+SVOEND EQU    $$XIND-$$ILHD                DISP TO END OF SVOBUF

                             3306+*****************************************************************************
                             3307+*                                                                           *
                             3308+*                  INITIALIZATION OF MODULE                                 *
                             3309+*                                                                           *
                             3310+*****************************************************************************
                             3311+*
                        1114 3312+SVOLID EQU    *                            ENTRY POINT
                        1126 3313+       USING SVOBSE,@BR                     BASE ADDRESS
      1114 34 01 1160         3314+       ST    SVO274+@OP1,@BR              SAVE BASE CONTENTS
      1118 C2 01 1126         3315+       LA    SVOBSE,@BR                   LOAD BASE ADDRESS
      111C 74 02 3E           3316+       ST    SVO276+@OP1(,@BR),@XR        SAVE INDEX REGISTER
      111F 74 08 46           3317+       ST    SVO290+@OP1(,@BR),@ARR       SAVE RETURN ADDR

                             3319+*****************************************************************************
                             3320+*                                                                           *
                             3321+*                  SEARCH VOL-ID TABLE                                      *
                             3322+*                                                                           *
                             3323+*****************************************************************************
                             3324+*
      1122 C2 02 03FB         3325+       LA    $VOLID+@VOLID-@B1,@XR        LOAD XR AS POINTER INTO NUCLEUS
                        1126 3326+SVOBSE EQU    *
      1126 8D 05 00 0C5B      3327+SVO100 CLC   @ZERO(@VOLID,@XR),SMVOID     IS THIS THE VOL-ID ?
      112B D0 01 11           3328+       BNE   SVO200(,@BR)                 NO, CHECK NEXT ENTRY
      112E 2C 01 0C6F 02      3329+       MVC   SMBFDA(@DADDR),@DADDR(,@XR)  SAVE DADDR-DUPLICATE CHECK
      1133 5E 00 48 49        3330+       ALC   SVOCT2(SVOLN1,@BR),SVOONE(,@BR) INCREMENT COUNT
      1137 E2 02 08           3331+SVO200 LA    @VOLID+@DADDR(,@XR),@XR      INCREMENT XR
      113A 5F 00 47 49        3332+       SLC   SVOCT1(SVOLN1,@BR),SVOONE(,@BR) IS THE LAST ENTRY ?
      113E D0 01 00           3333+       BNZ   SVO100(,@BR)                 NO, CHECK NEXT ONE
```

```
                              3335+****************************************************************************
                              3336+*                                                                          *
                              3337+*               PROCESS ENTRY IF FOUND                                     *
                              3338+*                                                                          *
                              3339+****************************************************************************
                              3340+*
    1141 7D 02 48             3341+        CLI    SVOCT2(,@BR),@D1          WAS AN ID FOUND ?
    1144 3C 29 03CD           3342+        MVI    $CAERR,@@E217            ERROR - NO ID FOUND
    1148 D0 82 33             3343+        BL     SVO270(,@BR)             NO, ERROR EXIT
    114B D0 84 4A             3344+        BH     SVO300(,@BR)             MORE THAN 1 ID

                              3346+****************************************************************************
                              3347+*                                                                          *
                              3348+*               CHECK DISK ADDR OF LIBRARY                                 *
                              3349+*                                                                          *
                              3350+****************************************************************************
                              3351+*
    114E 3D 00 0C6E           3352+SVO260 CLI    SMBFDA-@B1,@ZERO         IS THERE A LIBRARY ?
    1152 F2 01 08             3353+        JNE    SVO274                   YES, RETURN
    1155 3C 54 03CD           3354+        MVI    $CAERR,@@E351           ERROR - NO LIBRARY
    1159 3C 87 1166           3355+SVO270 MVI    SVO280+@Q,@UCB           SET ERROR EXIT

                              3357+****************************************************************************
                              3358+*                                                                          *
                              3359+*               END OF MODULE PROCESSING                                   *
                              3360+*                                                                          *
                              3361+****************************************************************************
                              3362+*
    115D C2 01 0000           3363+SVO274 LA     *-*,@BR                  RESTORE BASE REGISTER
    1161 C2 02 0000           3364+SVO276 LA     *-*,@XR                  RESTORE INDEX REGISTER
                              3365+*
    1165 C0 80 0469           3366+SVO280 BC     SVOERR,@NOP              ERROR EXIT
    1169 C0 87 0000           3367+SVO290 B      *-*                      RETURN
```

```
                          3369+***********************************************************************
                          3370+*                                                                     *
                          3371+*                   DATA CONSTANTS, BUFFERS, WORK AREAS AND SAVE AREAS      *
                          3372+*                                                                     *
                          3373+***********************************************************************
                          3374+*
     116D            116D 3375+SVOCT1 DS    CL1                        COUNTER - NUMBER OF DISKS - 4
     116D                 3376+       ORG   SVOCT1                     RESET FOR INITIALIZATION
     116D 04         116D 3377+       DC    XL1'04'                    INITIALIZED TO 4
                          3378+*
     116E            116E 3379+SVOCT2 DS    CL1                        COUNTER - DUPLICATE DISK LABELS
     116E                 3380+       ORG   SVOCT2                     RESET FOR INITIALIZATION
     116E 00         116E 3381+       DC    XL1'00'                    INITIALIZED TO 0
     116F 01         116F 3382+SVOONE DC    XL1'01'                    INITIALIZED TO 1 FOR COUNTER

                          3384+***********************************************************************
                          3385+*                                                                     *
                          3386+*               PROCESS MULTIPLE ENTRIES                              *
                          3387+*                                                                     *
                          3388+***********************************************************************
                          3389+*
     1170 38 01 03C3      3390+SVO300 TBN   $KEYCD,$CARDI              IS KEYBOARD INPUT MODE ?
     1174 3C 25 03CD      3391+SVO310 MVI   $CAERR,@@E212              KEYBOARD NOT INPUT MODE
     1178 D0 10 33        3392+SVO315 BT    SVO270(,@BR)               NO ERROR EXIT
```

```
                        3394+*********************************************************************
                        3395+*                                                                   *
                        3396+*              ASK USER FOR DRIVE CLARIFICATION                     *
                        3397+*                                                                   *
                        3398+*********************************************************************
                        3399+*
                   117B 3400+SVO320 EQU   *                          PRINT MESSAGES
     117B C0 87 0465     3401+       B     $SPRNT                     PRINT MESSAGE
     117F 0C0B      1180 3402+       DC    AL2(@@M300)                ERROR MESSAGE PPL
                        3403+*
     1181 0C 00 11A4 0476 3404+      MVC   SVO335+@VQ(@B1),$CIMSK     OBTAIN CURRENT MASK STATUS
     1187 C0 87 0465     3405+       B     $SPRNT                     WAIT FOR PRINT
     118B 057F      118C 3406+       DC    AL2($WAITF)                ADDR OF PPL

                        3408+*********************************************************************
                        3409+*                                                                   *
                        3410+*         MODIFY INPUT BUFFER FOR ACCEPTANCE OF INPUT ANSWER        *
                        3411+*                                                                   *
                        3412+*********************************************************************
                        3413+*
                   118D 3414+SVO330 EQU   *                          ENABLE INPUT ROUTINE
                        3415+*  SET FOR JUMP AFTER INITIAL SAVE OF INPUT BUFFER
     118D F2 80 09       3416+       JC    SVO333,@NOP                SAVE SWITCH
     1190 0C FF 131E 06FF 3417+      MVC   SVOBUF+SVOEND(SVOINP),$$XIND SAVE INPUT BUFFER
     1196 7C 87 68       3418+       MVI   SVO330+@Q(,@BR),@UCB       SET SWITCH TO BYPASS SAVE
                        3419+*
     1199 3C 40 06FA     3420+SVO333 MVI   $$INND,@BLANK              CLEAR INPUT BUFFER
     119D 0C F2 06F9 06FA 3421+      MVC   $$INND-@B1($$INND-$$INLN),$$INND
                        3422+*
     11A3 C0 01 048D     3423+SVO335 BC    $UNMSK,@VQ                 BRANCH IF UNMASKED
     11A7 C0 87 0890     3424+       B     $$PRES                     GET USER'S RESRONSE
     11AB 38 10 03C3     3425+SVO350 TBN   $KEYCD,$KYBSY              IS KEYBOARD BUSY ?
     11AF C0 10 11AB     3426+       BT    SVO350                     YES, WAIT
     11B3 C0 87 0465     3427+       B     $SPRNT                     WAIT FOR PRINTER RETURN
     11B7 057F      11B8 3428+       DC    AL2($WAITF)                ADDR OF PPL
```

```
      SVOLID - RESOLVE SPECIFIED VOLUME-ID
```

```
                              3430+*************************************************************************
                              3431+*                                                                       *
                              3432+*                    VERIFY VOL-ID ON DRIVE SPECIFIED                    *
                              3433+*                                                                       *
                              3434+*************************************************************************
                              3435+*
     11B9 C2 02 0606          3436+        LA    $$INLN-@B1,@XR              ADDR FIRST RESPONSE BYTE
     11BD C2 01 03FB          3437+        LA    $VOLID+@VOLID-@B1,@BR       REFERENCE POINT FOR THE VOLID
                              3438+*
     11C1 E2 02 01            3439+SVO360 LA    @B1(,@XR),@XR               INDEX BY BLANK
     11C4 BD 40 00            3440+        CLI   @ZERO(,@XR),@BLANK         IS IT A BLANK ?
     11C7 C0 81 11C1          3441+        BE    SVO360                     YES, CHECK NEXT BYTE
                              3442+*
     11CB BD F1 01            3443+        CLI   @B1(,@XR),SVO001           IS IT DRIVE 1 ?
     11CE F2 81 0A            3444+        JE    SVO400                     YES, CHECK DISK TYPE
                              3445+*
     11D1 BD F2 01            3446+        CLI   @B1(,@XR),SVO002           IS IT DRIVE 2 ?
     11D4 C0 01 117B          3447+        BNE   SVO320                     NO, ASK USER AGAIN
     11D8 D2 01 10            3448+        LA    2*@VOLID+2*@DADDR(,@BR),@BR SET INDEX FOR DRIVE 2
     11DB BD D9 00            3449+SVO400 CLI   @ZERO(,@XR),@CHARR         IS IT REMOVABLE ?
     11DE F2 81 0A            3450+        JE    SVO440
                              3451+*
     11E1 BD C6 00            3452+        CLI   @ZERO(,@XR),@CHARF         IS IT FIXED ?
     11E4 C0 01 117B          3453+        BNE   SVO320                     ASK AGAIN
     11E8 D2 01 08            3454+        LA    @VOLID+@DADDR(,@BR),@BR    SET INDEX FOR FIXED
     11EB E2 02 01            3455+SVO440 LA    @B1(,@XR),@XR              INCREMENT TO NEXT BYTE
     11EE E2 02 01            3456+SVO445 LA    @B1(,@XR),@XR              INCREMENT TO NEXT BYTE
     11F1 BD 40 00            3457+        CLI   @ZERO(,@XR),@BLANK         IS IT A BLANK ?
     11F4 C0 81 11EE          3458+        BE    SVO445                     YES, CHECK NEXT BYTE
                              3459+*
     11F8 BD 1E 00            3460+        CLI   @ZERO(,@XR),@EOS           AT EOS ?
     11FB C0 01 117B          3461+        BNE   SVO320                     ASK AGAIN
                              3462+*
     11FF 0C FF 06FF 131E     3463+        MVC   $$XIND(SVOINP),SVOBUF+SVOEND RESTORE INPUT
     1205 4D 05 00 0C5B       3464+SVO450 CLC   @ZERO(@VOLID,@BR),SMVOID   IS IT THE VOLID ?
     120A 3C 28 03CD          3465+        MVI   $CAERR,@@E216              VOLUME NOT ON THAT DRIVE
     120E C0 01 1159          3466+        BNE   SVO270                     NO, ERROR EXIT
```

SVOLID - RESOLVE SPECIFIED VOLUME-ID

```
                              3468+*****************************************************************************
                              3469+*                                                                           *
                              3470+*               SAVE VOL-ID LIBRARY ADDR                                    *
                              3471+*                                                                           *
                              3472+*****************************************************************************
                              3473+*
 1212 1C 01 0C6F 02           3474+       MVC    SMBFDA(@DADDR),@DADDR(,@BR)  SAVE LIBRARY ADDR
 1217 3B 80 03C3              3475+       SBF    $KEYCD,$TRUNK                SET OFF RM EXCEEDED INDR
 121B C0 87 114E              3476+       B      SVO260                      NORMAL EXIT
                              3477+***                            END OF SVOLID                         ***
                              3478 *
                              3479 *       $UFFE
```

```
                              3481+****************************************************************************
                              3482+* 5703-XM1  COPYRIGHT IBM CORP. 1970                                     *
                              3483+*            REFER TO INSTRUCTIONS ON COPYRIGHT NOTICE  120-2083          *
                              3484+*                                                                        *
                              3485+****************************************************************************
                              3486+*STATUS                                                                  *
                              3487+*    VERSION 1 MODIFICATION 0                                             *
                              3488+*                                                                        *
                              3489+*FUNCTION                                                                 *
                              3490+*    THE FUNCTION OF SUFFER IS TO SYNTAX CHECK A FILE SPECIFICATION       *
                              3491+*    AND SCAN TO THE FIRST NON-DELIMITER FOLLOWING A VALID ONE.           *
                              3492+*    A SPECIFICATION CAN CONSIST OF ANY OF THE FOLLOWING:                 *
                              3493+*    *   FILENAME / PASSWORD / VOL-D                                      *
                              3494+*    *   FILENAME / PASSWORD                                              *
                              3495+*    *   FILENAME                                                         *
                              3496+*    *   **FILENAME / VOL-ID                                              *
                              3497+*    *   **FILENAME                                                       *
                              3498+*    *   *FILENAME / VOL-ID                                               *
                              3499+*    *   *FILENAME                                                        *
                              3500+*                                                                        *
                              3501+*ENTRY POINTS                                                             *
                              3502+*    SUFFER - FIRST LOCATION IN PROGRAM. SUFFER EXPECTS INDEX            *
                              3503+*             REGISTER 2 (@XR) TO BE ADDRESSING THE LEFTMOST CHARACTER *
                              3504+*             OF THE FILE SPECIFICATION. THE CALLING SEQUENCE IS:       *
                              3505+*                      B     SUFFER                                     *
                              3506+*                                                                        *
                              3507+*INPUT                                                                    *
                              3508+*    INPUT TO SUFFER IS INDE, REGISTER 2 (@XR) ADDRESSING THE LEFTMOST *
                              3509+*    CHARACTER OF THE FILE-SPECIFICATION TO BE SYNTAX CHECKED.           *
                              3510+*                                                                        *
                              3511+*OUTPUT                                                                   *
                              3512+*    OUTPUT FROM SUFFER UPON NORMAL EXIT IS INDEX REGISTER 2 (@XR)       *
                              3513+*    ADDRESSING THE FIRST NON-DELIMITER FOLLOWING THE FILE SPECIFICA-    *
                              3514+*    TION. THE FILENAME WILL BE SAVED IN SMFNAM IN TSMLES. THE PASS-     *
                              3515+*    WORD IF SPECIFIED WILL BE SAVED IN SMPSWD 1N TSMLES, OTHERWISE IT *
                              3516+*    WILL BE BLANKS. (NOTE: ** OR * FILENAMES, WHEN SPECIFIED, WILL      *
                              3517+*    CAUSE THE *'S TO BE SAVED IN SMPSWD). THE VOL-ID, IF SPECIFIED,     *
                              3518+*    WILL BE SAVED IN SMVOID IN TSMLES, OTHERWISE A BLANK IS MOVED       *
                              3519+*    TO SMVOID AS AN INDICATOR.                                          *
                              3520+*    OUTPUT FROM SUFFER UPON ERROR EXIT IS INDEX REGISTER 2 (@XR)        *
                              3521+*    ADDRESSING THE INVALID CHARACTER (SEE EXITS,ERROR). THE PROGRAM     *
                              3522+*    STATUS REGISTER (@PSR) WILL CONTAIN A LOW CONDITION CODE.           *
                              3523+*                                                                        *
                              3524+*EXTERNAL REFERENCES                                                      *
                              3525+*        SALPHR - ADDR IN SALPHA - SYNTAX CHECKED PARAMETER              *
                              3526+*        SALPH6 - ENTRY TO SALPHA - SYNTAX CHECK VOL-ID                  *
                              3527+*        SALPH8 - ENTRY TO SALPHA - SYNTAX CHECK PASSWORD; FILENAME      *
                              3528+*        SAL375 - SAVE AREA IN SALPHA - ERROR POINTER SAVE AREA          *
                              3529+*        SCANIT - DELIMITER SCAN MODULE                                  *
                              3530+*        SCAMMA - SWITCH IN SCANIT - DELIMITER SCAN TYPE INDR            *
                              3531+*        SCACOF - MASK IN SCANIT TO BYPASS BLANKS ONLY                   *
                              3532+*        SCACOM - MASK IN SCANIT - BYPASS 1 COMMA                        *
                              3533+*        SCACNT - COUNTER IN SCANIT - NUMBER OF SCANNED BLANKS           *
                              3534+*        TSMLES - DATA MANAGEMENT COMMUNICATIONS REGIONS                 *
                              3535+*        $CAERR - ADDR IN SYSTEM NUCLEUS-ERROR CODE SAVE AREA            *
                              3536+*                                                                        *
```

```
                              3537+*EXITS, NORMAL                                         *
                              3538+*   NEXT SEQUENTIAL INSTRUCTION IN CALL ROUTINE. INDEX REGISTER   *
                              3539+*   2 (@XR) WILL BE ADDRESSING THE FIRST NON-DELIMITER FOLLOWING  *
                              3540+*   THE FILE SPECIFICATION. THE PROGRAM STATUS REGISTER (@PSR)    *
                              3541+*   WILL CONTAIN A NON-LOW CONDITION CODE.                        *
                              3542+*                                                                 *
                              3543+*EXITS, ERROR                                                     *
                              3544+*   NEXT SEQUENTIAL INSTRUCTION IN CALL ROUTINE. INDEX REGISTER   *
                              3545+*   2 (@XR) WILL BE ADDRESSING THE LEFTMOST BYTE OF AN INVALID    *
                              3546+*   PARAMETER OR WILL BE ADDRESSING AN INVALID DELIMITER IN THE   *
                              3547+*   FILE SPECIFICATION. THE PROGRAM STATUS REGISTER (@PSR)        *
                              3548+*   WILL CONTAIN A LOW CONDITION CODE.                            *
                              3549+*   T                                                             *
                              3550+*TABLES/WORK AREAS                                                *
                              3551+*   SUFFER DOES NOT CONTAIN ANY TABLES OR WORK AREAS.             *
                              3552+*                                                                 *
                              3553+*ATTRIBUTES                                                       *
                              3554+*   RELOCATABLE,REUSABLE                                          *
                              3555+*                                                                 *
                              3556+*CHARACTER CODE DEPENDENCY                                        *
                              3557+*   CHARACTER CODE DEPENDENCY CLASS - C                           *
                              3558+*   THE OPERATION OF THIS MODULE DEPENDS UPON AN INTERNAL REPRESENTA- *
                              3559+*   TION OF THE EXTERNAL CHARACTER SET WHICH IS EQUIVALENT TO THE  *
                              3560+*   USED AT ASSEMBLY TIME. THE CODING HAS BEEN ARRANGED SO  THAT RE-  *
                              3561+*   DEFINITION OF CHARACTER CONSTANTS, BY REASSEMBLY, WILL RESULT IN *
                              3562+*   A CORRECT MODULE FOR THE NEW DEFINITIONS. THE FOLLOWING ARE THE  *
                              3563+*   SPECIAL CONSIDERATIONS FOR THIS MODULE:                       *
                              3564+*       * @ASTER - PART OF @SYSEQ                                 *
                              3565+*       * @SLASH - PART OF @SYSEQ                                 *
                              3566+*       * @COMMA - PART OF @SYSEQ                                 *
                              3567+*       * @EOS   - PART OF @SYSEQ                                 *
                              3568+*       * @BLANK - PART OF @SYSEQ                                 *
                              3569+*       * CHARACTER LEFT PARENTHESIS - C'('                      *
                              3570+*                                                                 *
                              3571+*NOTES                                                            *
                              3572+*   ERROR PROCEDURES                                              *
                              3573+*       THE FOLLOWING ERROR CONDITIONS WILL CAUSE SUFFER TO RETURN A  *
                              3574+*       LOW CONDITION CODE TO THE CALL ROUTINE AND INDEX REGISTER 2  *
                              3575+*       (@XR) ADDRESSING THE ERROR:                               *
                              3576+*         * ANY ERROR RETURNED FROM SALPHA (NOTE SALPHA ERRORS).  *
                              3577+*         * ANY ERROR RETURNED FROM SCANIT (NOTE SCANIT ERRORS).  *
                              3578+*         * ANY INVALID DELIMITER FOLLOWING THE SPECIFICATION     *
                              3579+*         * ANY INVALID PARAMETER WITHIN THE SPECIFICATION.       *
                              3580+*       NOTE MODIFICATION CONSIDERATIONS.                         *
                              3581+*                                                                 *
                              3582+*   REGISTER USAGE                                                *
                              3583+*       INDEX RESISTER 1 (@BR) IS SAVED AND RESTORED FOR THE CALL  *
                              3584+*       ROUTINE AND USED AS A BASE FOR ADDRESSING WITHIN THE MODULE.  *
                              3585+*       INDEX REGISTER 2 (@XR) IS USED AS AN INDEX TO SCAN THE FILE  *
                              3586+*       SPECIFICATION.                                            *
                              3587+*                                                                 *
                              3588+*   SAVED/RESTORED AREAS                                          *
                              3589+*       N/A                                                       *
                              3590+*                                                                 *
                              3591+*   MODIFICATION CONSIDERATIONS                                   *
                              3592+*       SUFFER'S NORMAL DELIMITER SCAN UPON EXIT ALLOWS ONLY BLANKS  *
```

```
                          3593+*      AND 1 COMMA FOLLOWING THE FILE-SPECIFICATION. AN EXCEPTION    *
                          3594+*      TO THIS USE (UTILIZED BY THE MODULE KALLOC) IS THE OPTION OF   *
                          3595+*      HAVING A LEFT PARENTHESIS IE. '(' FOLLOWING THE FILE SPECI-    *
                          3596+*      FICATION INSTEAD OF A COMMA. THIS USE IS EFFECTED BY           *
                          3597+*      MODIFYING THE Q-CODE OF THE INSTRUCTION LABELED SUF625 WITH A   *
                          3598+*      BRANCH EQUAL CONDITION CODE.                                   *
                          3599+*                                                                     *
                          3600+*   REQUIRED MODULES                                                  *
                          3601+*      SALPHA - FILENAME, PASSWORD, VOL-ID ALPHAMERIC SYNTAX CHECKER   *
                          3602+*      SCANIT - DELIMITER SCAN ROLTINE                                *
                          3603+*      TSMLES - DATA MANAGEMENT COMMUNICATION REGIONS                 *
                          3604+*      @DIREQ - SYSTEM LIBRARY DIRECTORY EQUATES                      *
                          3605+*      @ERMEQ - ERROR MESSAGE EQUATES                                 *
                          3606+*      @FXDEQ - COMMON CORE LOCATIONS WITHIN THE SYSTEM NUCLEUS        *
                          3607+*      @SYSEQ - COMMON SYSTEM SOFTWARE EQUATES                        *
                          3608+*                                                                     *
                          3609+*   OTHER                                                             *
                          3610+*      N/A                                                            *
                          3611+************************************************************************
```

```
                              3613+*******************************************************************************
                              3614+*
                              3615+*                INITIALIZATION OF MODULE
                              3616+*
                              3617+*******************************************************************************
                              3618+*
                              3619+*SUFFER ENTER BASE-SUFBSE,EXIT-SUFND,@BR,,@ARR
                     1252 3620+        USING SUFBSE,@BR                  BASE ADDRESS SPECIFICATION
                     121F 3621+SUFFER EQU   *                           MODULE ENTRY POINT
   121F 34 01 12E3          3622+        ST    SUFND0+@OP1,@BR          SAVE @BR
   1223 C2 01 1252          3623+        LA    SUFBSE,@BR              LOAD BASE REGISTER
   1227 74 08 95            3624+        ST    SUFND2+@OP1(,@BR),@ARR   SAVE RETURN ADDRESS
                              3625+*** END OF EXPANSION ***

                              3627+*******************************************************************************
                              3628+*
                              3629+*                INITIALIZE FIELDS IN TSMLES
                              3630+*
                              3631+*******************************************************************************
                              3632+*
   122A 3C 40 0C63           3633+        MVI   SMPSWD,@BLANK            BLANK ALL OF PASSWORD FIELD
   122E 0C 06 0C62 0C63      3634+        MVC   SMPSWD-@B1(##LPEN-@B1),SMPSWD
   1234 3C 40 0C56           3635+        MVI   SMVOID-@VOLID+@B1,@BLANK  BLANK FIRST BYTE OR VOL-1D

                              3637+*******************************************************************************
                              3638+*
                              3639+*                CHECK FOR AND PROCESS POOLED AND IBM FILENAMES
                              3640+*
                              3641+*******************************************************************************
                              3642+*
   1238 BD 5C 00             3643+        CLI   @ZERO(,@XR),@ASTER       ASTERISK IN FILENAME ?
   123B F2 01 14             3644+        JNE   SUF100                   NO, PROCESS FILENAME
   123E 3C 5C 0C5C           3645+        MVI   SMPSWD-##DPEN,@ASTER     SAVE * IN SMPSWD
   1242 E2 02 01             3646+        LA    @B1(,@XR),@XR            INCREMENT XR BY ONE
   1245 BD 5C 00             3647+        CLI   @ZERO(,@XR),@ASTER       ASTERISK IN FILENAME ?
   1248 F2 01 07             3648+        JNE   SUF100                   NO, PROCESS FILENAME
   124B 3C 5C 0C5D           3649+        MVI   SMPSWD-##DPEN+@B1,@ASTER SAVE * IN SMPSWD
   124F E2 02 01             3650+        LA    @B1(,@XR),@XR            INCREMENT XR BY ONE

                              3652+*******************************************************************************
                              3653+*
                              3654+*                PROCESS FILENAME
                              3655+*
                              3656+*******************************************************************************
                              3657+*
                     1252 3658+SUFBSE EQU   *                           BASE ADDR IN MODULE
   1252 3C 87 13D0           3659+SUF100 MVI   SCAMMA,SCACOF            PRIME SCANIT
   1256 C0 87 12E8           3660+        B     SALPH8                  SYNTAX CHECK FILENAME
   125A D0 82 85             3661+        BL    SUF750(,@BR)            TAKE ERROR EXIT
   125D 0C 07 0C6B 13AE      3662+        MVC   SMFNAM(##LUEN),SALPHR+##DUEN SAVE FILENAME
   1263 BD 61 00             3663+        CLI   @ZERO(,@XR),@SLASH      IS A SLASH DELIMITER PRESENT ?
   1266 F2 01 35             3664+        JNE   SUF600                  NO, RETURN TO USER
   1269 3D 5C 0C5C           3665+        CLI   SMPSWD-##DPEN,@ASTER    SHOULD A PASSWORD BE CHECKED?
   126D F2 81 1A             3666+        JE    SUF200                  NO, CHECK VOL-ID

                              3668+*******************************************************************************
```

```
                                 3669+*
                                 3670+*          PROCESS PASSWORD
                                 3671+*
                                 3672+********************************************************************
                                 3673+*
     1270 E2 02 01               3674+        LA    @B1(,@XR),@XR            INCREMENT XR BY ONE
     1273 C0 87 13B3             3675+        B     SCANIT                  BYPASS BLANKS
     1277 C0 87 12E8             3676+        B     SALPH8                  SYNTAX CHECK PASSWORD
     127B D0 82 85               3677+        BL    SUF750(,@BR)            TAKE ERROR EXIT
     127E 0C 07 0C63 13AE        3678+        MVC   SMPSWD(##LPEN),SALPHR+##DPEN SAVE PASSWORD
     1284 BD 61 00               3679+        CLI   @ZERO(,@XR),@SLASH      IS SLASH DELIMITER PRESENT ?
     1287 F2 01 14               3680+        JNE   SUF600                  NO, RETURN TO USER

                                 3682+********************************************************************
                                 3683+*
                                 3684+*          PROCESS VOL-ID
                                 3685+*
                                 3686+********************************************************************
                                 3687+*
     128A E2 02 01               3688+SUF200 LA    @B1(,@XR),@XR            INCREMENT XR BY ONE
     128D C0 87 13B3             3689+        B     SCANIT                  BYPASS BLANKS
     1291 C0 87 12EC             3690+        B     SALPH6                  SYNTAX CHECK VOL-ID
     1295 D0 82 85               3691+SUF400 BL    SUF750(,@BR)            TAKE ERROR EXIT
     1298 0C 05 0C5B 13AC        3692+        MVC   SMVOID(@VOLID),SALPHR+@VOLID-@B1 SAVE VALID
     129E BD 4D 00               3693+SUF600 CLI   @ZERO(,@XR),C'('         IS THIS '(' ?
     12A1 F2 80 39               3694+SUF625 JC    SUF800,@NOP              JUMP IF '(' VALID ADJACENT
     12A4 3D 00 13F3             3695+        CLI   SCACNT,@ZERO            ANY BLANKS SCANNED ?
     12A8 F2 01 0C               3696+        JNE   SUF650                  YES, CONTINUE DELIMITER SCAN
     12AB BD 1E 00               3697+        CLI   @ZERO(,@XR),@EOS        IS IT EOS ?
     12AE F2 81 2C               3698+        JE    SUF800                  YES, RETURN
     12B1 BD 6B 00               3699+        CLI   @ZERO(,@XR),@COMMA      IS IT A COMMA ?
     12B4 F2 01 18               3700+        JNE   SUF680                  NO, ERROR EXIT
                                 3701+*
     12B7 34 02 133C             3702+SUF650 ST    SAL375+@OP1,@XR          SAVE ERROR POINTER
     12BB 3C 01 13D0             3703+        MVI   SCAMMA,SCACOM           MODIFY SCANIT TO BYPASS COMMA
     12BF C0 87 13B3             3704+        B     SCANIT                  BYPASS DELIMITERS
     12C3 F2 82 11               3705+        JL    SUF750                  ERROR - RETURN

                                 3707+********************************************************************
                                 3708+*
                                 3709+*          MODIFY PSR FOR ERROR INDICATION
                                 3710+*
                                 3711+********************************************************************
                                 3712+*
     12C6 BD 4D 00               3713+        CLI   @ZERO(,@XR),C'('         IS IT '(' ?
     12C9 F2 01 11               3714+        JNE   SUF800                  NO, RETURN
     12CC 7C 18 7E               3715+        MVI   SUF680+@Q(,@BR),@@E139   INVALID DELIMITER
     12CF 3C 00 03CD             3716+SUF680 MVI   $CAERR,*-*               ERROR CODE
     12CF                        3717+        ORG   SUF680                  INITIALIZE INSTRUCTION
     12CF 3C 11 03CD             3718+        MVI   $CAERR,@@E131           INVALID PARAMETER
                                 3719+*
     12D3 35 02 133C             3720+        L     SAL375+@OP1,@XR          RESTORE ERROR POINTER
     12D7 75 04 44               3721+SUF750 L     SUF400+@Q(,@BR),@PSR     LOAD CONDITION LOW INTO PSR
     12DA F2 87 03               3722+SUF780 J     SUFND0                  ERROR EXIT

                                 3724+********************************************************************
```

```
                              3725+*
                              3726+*              END OF MODULE PROCESSING
                              3727+*
                              3728+*****************************************************************************
                              3729+*
   12DD 75 04 89             3730+SUF800 L     SUF780+@Q(,@BR),@PSR      LOAD CODE FOR NORMAL EXIT
                              3731+*SUFND  EXIT  @BR,,RETURN
   12E0 C2 01 0000           3732+SUFND0 LA     *-*,@BR                  RESTORE @BR
   12E4 C0 87 0000           3733+SUFND2 B      *-*                      RETURN TO CALLING PROGRAM
                              3734+*** END OF EXPANSION ***
                              3735+***                          END OF SUFFER                          ***
                              3736 *
                              3737 *      $ALPH
```

```
                         3739+***********************************************************************
                         3740+*  5703-XM1    COPYRIGHT IBM CORP. 1970                               *
                         3741+*               REFER TO INSTRUCTIONS ON COPYRIGHT NOTICE, 120-2083    *
                         3742+*                                                                      *
                         3743+***********************************************************************
                         3744+*STATUS                                                                *
                         3745+*    VERSION 1 MODIFICATION 0                                           *
                         3746+*                                                                      *
                         3747+*FUNCTION                                                               *
                         3748+*    THE FUNCTION OF SALPHA IS TO SYNTAX CHECK AN 8 CHARACTER OR 6      *
                         3749+*    CHARACTER ALPHAMERIC PARAMETER DETERMINED BY THE ENTRY POINT,      *
                         3750+*    SALPH8 OR SALPH6 RESPECTIVELY. ENTRY AT SALPHA IMPLIES A REQUEST   *
                         3751+*    THAT THE FIRST CHARACTER BE ALPHABETIC. A SYNTACTICALLY CORRECT    *
                         3752+*    PARAMETER WILL BE SAVED AT SALPHR (LEFTMOST BYTE ADDRESS), THE     *
                         3753+*    COUNT OF THE NUMBER OF VALID CMARACTERS, IF NEEDED, IS FOOD IN     *
                         3754+*    SALCNT. UPON ENTRY, SALPHA REQUIRES INDEX RESISTER 2 (OM TO BE     *
                         3755+*    ADDRESSING THE FIRST CHARACTER 0, THE PARAMETER TO BE SYNTAX       *
                         3756+*    CHECKED. UPON NORMAL RETURN INDEX REGISTER 2 (@XR) WILL BE         *
                         3757+*    ADDRESSING THE FIRST NON-DELIMITER FOLLOWING THE PARAMETER (NOTE   *
                         3758+*    INPUT),                                                            *
                         3759+*                                                                      *
                         3760+*ENTRY POINTS                                                           *
                         3761+*    * SALPH8 - ENTRY POINT TO SYNTAX CHECK AN EIGHT CHARACTER          *
                         3762+*                ALPHAMERIC PARAMETER WHOSE FIRST CHARACTER MUST BE     *
                         3763+*                ALPHABETIC.                                            *
                         3764+*    * SALPH6 - ENTRY POINT TO SYNTAX CHECK A SIX CHARACTER             *
                         3765+*                ALPHAMERIC PARAMETER WHICH HAS NO RESTRICTIONS ON       *
                         3766+*                THE TYPE OF THE FIRST CHARACTER. (NOTE MODIFICA-       *
                         3767+*                TION CONSIDERATIONS)                                   *
                         3768+*                                                                      *
                         3769+*INPUT                                                                 *
                         3770+*    UPON ENTRY TO SALPHA, AT EITHER ENTRY POINT, INDEX REGISTER 2      *
                         3771+*    (@XR) SHOULD BE ADDRESSING THE LEFTMOST CHARACTER OF THE PARAMETER*
                         3772+*    TO BE SYNTAX CHECKED. ALSO, THE SWITCH 'SCAMMA' IN SCANIT SHOULD   *
                         3773+*    BE SET FOR THE TYPE OF DELIMITER SCAN REQUESTED AFTER THE SYNTAX   *
                         3774+*    CHECK. (IE. BLANKS ONLY OR BLANKS WITH 1 COMMA).                   *
                         3775+*                                                                      *
                         3776+*OUTPUT                                                                *
                         3777+*    OUTPUT FROM SALPHA INCLUDES THE SYNTAX CHECKED PARAMETER AT SALPHR*
                         3778+*    (LEFTMOST BYTE OF SAVE AREA) AND THE COUNT OF VALID CHARACTERS     *
                         3779+*    IN SALCNT, AND INDEX REGISTER 2 (@XR) WILL BE POINTING AT THE      *
                         3780+*    FIRST NON-DELIMITER AFTER THE PARAMETER. THE ONLY EXCEPTION TO     *
                         3781+*    THIS IS UPON DETECTION OF AN ERROR (SEE ERROR EXITS AND PROC.)     *
                         3782+*                                                                      *
                         3783+*EXTERNAL REFERENCES                                                    *
                         3784+*         SCANIT - DELIMITER SCAN MODULE                                *
                         3785+*         $CAERR - ADDR IN SYSTEM NUCLEUS-ERROR CODE SAVE AREA          *
                         3786+*                                                                      *
                         3787+*EXITS, NORMAL                                                          *
                         3788+*    NEXT SEQUENTIAL INSTRUCTION IN CALL ROUTINE WITH INDEX             *
                         3789+*    REGISTER 2 (@XR) POINTING TO THE NEXT NON-DELIMITER                *
                         3790+*    FOLLOWING THE PARAMETER AND WITH A NON-LOW CONDITION CODE          *
                         3791+*    IN THE PROGRAM STATUS RESISTER (@PSR),                             *
                         3792+*                                                                      *
                         3793+*EXITS, ERROR                                                           *
                         3794+*    NEXT SEQUENTIAL INSTRUCTION IN CALL ROUTINE WILH INDEX             *
```

```
                    3795+*    REGISTER 2 (@XR) POINTING TO THE LEFTMOST CHARACTER OF THE      *
                    3796+*    INVALID PARAMETER AND WITH A LOW CONDITION CODE IN THE          *
                    3797+*    PROGRAM STATUS REGISTER (@PSR),                                 *
                    3798+*                                                                    *
                    3799+*TABLES/WORK AREAS                                                   *
                    3800+*    ALL OF THE CONSTANTS AND WORK AREAS IN SALPHA ARE LOCATED AT THE *
                    3801+*    END OF THE MODULE AND ARE ADDRESSED BY INDEX REGISTER 1 (RBR).  *
                    3802+*                                                                    *
                    3803+*ATTRIBUTES                                                          *
                    3804+*    REUSABLE, RELOCATABLE                                           *
                    3805+*                                                                    *
                    3806+*CHARACTER CODE DEPENDENCY                                           *
                    3807+*    CHARACTER CODE DEPENDENCY CLASS - E                             *
                    3808+*    THE OPERATION OF THIS MODULE DEPENDS UPON THE FOLLOWING PROPERTIES*
                    3809+*    OF THE INTERNAL REPRESENTATION OF THE EXTERNAL CHARACTER SET:   *
                    3810+*    * THE FOLLOWING SPECIAL ALPHABETIC CHARACTERS ARE PART OF       *
                    3811+*      @SYSEQ AND ARE SPECIFICALLY COMPARED FOR:                     *
                    3812+*        * @DOLAR                                                     *
                    3813+*        * @NUMBR                                                     *
                    3814+*        * @ASIGN                                                     *
                    3815+*    * THE REMAINING-ALPHABETIC CHARACTERS ARE DEFINED TO BE         *
                    3816+*      INCLUSIVELY IN THE RANGE DEFINED BY THE FOLLOWING IN @SYSEQ:  *
                    3817+*        * @CHARA                                                     *
                    3818+*        * @CHARZ                                                     *
                    3819+*                                                                    *
                    3820+*    THE DECIMAL NUMBERS FALL INTO THE CATEGORY OF BEING GREATER     *
                    3821+*    THAN AN @CHARZ (IE. THIS IS DEFAULTED TO BY CHECKING METHOD)    *
                    3822+*    THE SPECIFIC INSTRUCTIONS WHICH REQUIRE MODIFICATION IF THESE   *
                    3823+*    PROPERTIES OF THE CHARACTER SET ARE CHANGED MAY BE IDENTIFIED BY: *
                    3824+*      * SAL200 - FOR THE THREE SPECIAL CHARACTERS                   *
                    3825+*      * SAL250 - FOR THE REMAINING ALPHABETIC RANGE                 *
                    3826+*      * SAL425 - BRANCHES 'TO' THIS LOCATION IMPLY DEFAULT TO NUMERIC *
                    3827+*                                                                    *
                    3828+*NOTES                                                               *
                    3829+*    ERROR PROCEDURES                                               *
                    3830+*      THE FOLLOWING ERROR CONDITIONS WILL RESULT IN AN ERROR CODE   *
                    3831+*      BEING SET IN $CAERR AND AN ERROR EXIT BEING MADE (SEE EDITS,  *
                    3832+*      ERROR):                                                       *
                    3833+*      * A NON-ALPHABETIC FIRST CHARACTER WHEN ENTRY WAS AT          *
                    3834+*        SALPH8.                                                     *
                    3835+*      * A NON-ALPHAMERIC CHARACTER EMBEDDED IN A PARAMETER WHICH    *
                    3836+*        SALPH8 WAS CALLED TO CHECK.                                 *
                    3837+*      * A NON-ALPHAMERIC CHARACTER BEING FIRST OR EMBEDDED IN A     *
                    3838+*        PARAMETER WHICH SALPH6 WAS CALLED TO CHECK.                 *
                    3839+*      * A PARAMETER OF GREATER THAN EIGHT CHARACTERS WHEN ENTRY     *
                    3840+*        WAS AT SALPH8.                                              *
                    3841+*      * A PARAMETER OF GREATER THAN SIX CHARACTERS WHEN ENTRY       *
                    3842+*        WAS AT SALPH6.                                              *
                    3843+*                                                                    *
                    3844+*    REGISTER USAGE                                                 *
                    3845+*      INDEX REGISTER 1 (@BR) IS USED AS A BASE REGISTER THROUGHOUT  *
                    3846+*      THE EXEQUTION OF THE MODULE. IT IS SAVED FOR THE CALL PROGRAM *
                    3847+*      UPON ENTRY AND RESTORED UPON EXIT.                            *
                    3848+*      INDEX REGISTER 2 (@XR) IS USED AS A PARAMETER PASSING REGISTER.*
                    3849+*      UPON ENTRY IT CONTAINS THE ADDRESS OF THE LEFTMOST BYTE OF    *
                    3850+*      PARAMETER TO BE SYNTAX CHECKED AND UPON EXIT IT CONTAINS THE  *
```

```
                             3851+*       ADDRESS OR THE FIRST NON-DELIMITER FOLLOWING THE PARAMETEP.    *
                             3852+*       (NOTE ERROR EXITS AND PROCEDURES),                            *
                             3853+*                                                                     *
                             3854+*    SAVED/RESTORED AREAS                                             *
                             3855+*       NONE                                                          *
                             3856+*                                                                     *
                             3857+*    MODIFICATION CONSIDERATIONS                                      *
                             3858+*       BECAUSE OF ITS CHARACTER CODE DEPENDENCY AND PARAMETER LENGTH *
                             3859+*       QUALIFICATIONS, ONE MUST TAKE SPECIAL CARE IN MODIFYING SALPHA,*
                             3860+*       ESPECIALLY THE CONSTANTS AND WORK AREAS AND THEIR RE-INITIAL, *
                             3861+*       IZATION. SALPHA IS MOST COMMONLY USED TO SYNTAX FILENAMES,    *
                             3862+*       PASSWORDS, AND VOL-IDS AND IS THEREFORE USED BY THE MODULE    *
                             3863+*       SUFFER (FILE SPECIFICATION SYNTAX CHECKER). THEREFORE, ANY    *
                             3864+*       SIGNIFICANT CHANGE IN SALPHA WILL REQUIRE AN INVESTIGATION    *
                             3865+*       into ITS USE AND IMPACT ON SUFFER.                            *
                             3866+*         SPECIAL NOTE: AN IRREGULAR USE OF SALPHA WHICH CAN BE       *
                             3867+*         EFFECTED IS THE SYNTAY CHECK OF A PARAMETER WITH A MAXIMUM  *
                             3868+*         OF 10 CHARACTERS. THIS IS DONE BY MODIFYING THE Q-CODE OF   *
                             3869+*         THE INSTRUCTION AT SAL450 PRIOR TO ENTRANCE AT SALPH6, WITH *
                             3870+*         X'0A' OR ITS EQUIVALENT. (NOTE: ONE SUCH MODULE WHICH       *
                             3871+*         USES THIS OPTION IS UINITL)                                 *
                             3872+*                                                                     *
                             3873+*    REQUIRED MODULES                                                 *
                             3874+*       SCANIT - DELIMITER SCAN ROUTINE                               *
                             3875+*       @DIREQ - SYSTEM LIBRARY DIRECTORY EQUATES                     *
                             3876+*       @ERMEQ - ERROR MESSAGE EQUATES                                *
                             3877+*       @FXDEQ - COMMON CORE LOCATIONS WITHIN THE SYSTEM NUCLEUS      *
                             3878+*       @SYSEQ - COMMON SYSTEM SOFTWARE EQUATES                       *
                             3879+*                                                                     *
                             3880+*    OTHER                                                            *
                             3881+*       N/A                                                           *
                             3882+*********************************************************************************
                             
                             3884+*********************************************************************************
                             3885+*                                                                     *
                             3886+*                    SALPNA MODULE EQUATES                            *
                             3887+*                                                                     *
                             3888+*********************************************************************************
                    0008     3889+SALCT8 EQU   ##LUEN                    COUNT COMPARE FIELD
                             3890+*
                    0006     3891+SALCT6 EQU   @VOLID                    COUNT COMPARE FIELD
                             
                             3893+*********************************************************************************
                             3894+*                                                                     *
                             3895+*                    INITIALIZATION OF MODULE                         *
                             3896+*                                                                     *
                             3897+*********************************************************************************
                             
                             3899+*SALPH8 ENTER CHECK                         FILENAME OR PASSWORD
                    12E8     3900+SALPH8 EQU   *                           MODULE ENTRY POINT
                             3901+*** END OF EXPANSION ***
                             
    12E8 3A 80 13A3          3903+      SBN   SALIDR,SAL008               SET ON SALPH8 INDR
                             3904+*
                             3905+*SALPH6 ENTER BASE-SALBSE,EXIT-SALND,@BR,,@ARR  VOL-ID CHECK
```

```
      SALPHA - SYNTAX CHECKER MODULE
```

```
                            1308 3906+        USING SALBSE,@BR              BASE ADDRESS SPECIFICATION
                            12EC 3907+SALPH6 EQU    *                       MODULE ENTRY POINT
      12EC 34 01 139E            3908+        ST    SALND0+@OP1,@BR         SAVE ABA
      12F0 C2 01 1308            3909+        LA    SALBSE,@BR              LOAD BASE RESISTER
      12F4 74 08 9A              3910+        ST    SALND2+@OP1(,@BR),@ARR  SAVE RETURN ADDRESS
                                 3911+*** END OF EXPANSION ***

      12F7 74 02 34              3913+        ST    SAL375+@OP1(,@BR),@XR   SAVE ERROR POINTER

                                 3915+*************************************************************
                                 3916+*                                                           *
                                 3917+*           INITIALIZE WORK AREAS AND VARIABLE INSTRUCTIONS  *
                                 3918+*                                                           *
                                 3919+*************************************************************
      12FA 7C 40 A8              3920+SAL100 MVI   SALPR7(,@BR),@BLANK     BLANK OUT SALPAR FOR PROCESSING
      12FD 5C 08 A7 A8           3921+        MVC   SALPR6(##LPEN+@B1,@BR),SALPR7(,@BR)
      1301 7C 00 9C              3922+        MVI   SALCNT(,@BR),@ZERO      ZERO OUT COUNTER
      1304 5C 01 63 AA           3923+        MVC   SAL525+@OP1(2,@BR),SALPHS(,@BR) MODIFY MOVE OF CHARACTER

                                 3925+*************************************************************
                                 3926+*                                                           *
                                 3927+*                CHECK EBCDIC CHARACTERS                     *
                                 3928+*                                                           *
                                 3929+*************************************************************
                                 3930+*
                            1308 3931+SALBSE EQU    *                       MODULE BASE ADDR
      1308 BD 5B 00              3932+SAL200 CLI   @ZERO(,@XR),@DOLAR      IS IT A '$' ?
      130B F2 81 32              3933+        JE    SAL400                  YES, PROCESS CHARACTER
      130E BD 7B 00              3934+        CLI   @ZERO(,@XR),@NUMBR      IS IT A '#' ?
      1311 F2 81 2C              3935+        JE    SAL400                  YES, PROCESS CHARACTER
      1314 BD 7C 00              3936+        CLI   @ZERO(,@XR),@ASIGN      IS IT A '@' ?
      1317 F2 81 26              3937+        JE    SAL400                  YES, PROCESS CHARACTER
                                 3938+*
      131A BD C1 00              3939+        CLI   @ZERO(,@XR),@CHARA      IS IT AN ALPHA (A-Z) ?
      131D F2 82 53              3940+SAL250 JL    SAL750                  NO, CHECK FOR DELIMITERS
      1320 BD E9 00              3941+        CLI   @ZERO(,@XR),@CHARZ      IS IT AN ALPHA (A-Z) ?
      1323 F2 04 1A              3942+        JNH   SAL400                  YES, PROCESS CHARACTER
      1326 78 80 9B              3943+        TBN   SALIDR(,@BR),SAL008     ENTERED AT SALPH8 ?
      1329 F2 90 17              3944+        JF    SAL425                  NO, CHECK IF NUMERIC
                                 3945+*
      132C 78 01 9B              3946+        TBN   SALIDR(,@BR),SALFST     WAS FIRST CHAR FOUND ALPHA ?
      132F 3C 00 03CD            3947+        MVI   $CAERR,@@E100           ALPHA CHAR REQUIRED--ERROR
      1333 F2 10 0D              3948+        JT    SAL425                  YES, CONTINUE
      1336 75 04 16              3949+SAL350 L     SALERR(,@BR),@PSR       LOAD ERROR CODE - LOW
      1339 C2 02 0000            3950+SAL375 LA    *-*,@XR                 RESTORE ERROR POINTER
      133D F2 87 58              3951+        J     SAL800                  TAKE ERROR FAIT

                                 3953+*************************************************************
                                 3954+*                                                           *
                                 3955+*              PROCESS ALPHAMERIC CHARACTER                  *
                                 3956+*                                                           *
                                 3957+*************************************************************
      1340 7A 01 9B              3958+SAL400 SBN   SALIDR(,@BR),SALFST     SET ON ALPHA :NOR
                                 3959+*
      1343 5E 00 9C 9E           3960+SAL425 ALC   SALCNT(1,@BR),SAL001(,@BR) ADD 1 TO CHARACTER COUNTER
      1347 78 80 9B              3961+        TBN   SALIDR(,@BR),SAL008     WAS ENTRY AT SALPH8 ?
```

```
      SALPHA - SYNTAX CHECKER MODULE


ERR LOC   OBJECT CODE      ADDR STMT SOURCE STATEMENT              VER 15, MOD 00  05/06/22  PAGE  52

    134A D0 90 52            3962+        BF    SAL450(,@BR)              NO, CHECK COUNT FOR VALUE OF SIX
    134D 7D 08 9C            3963+        CLI   SALCNT(,@BR),##LPEN       HAS COUNT EXCEEDED 8 ?
    1350 3C 02 03CD          3964+        MVI   $CAERR,@@E102            PASSWORD/FILENAME LENGTH ERROR
    1354 D0 84 2E            3965+        BH    SAL350(,@BR)             YES, TAKE ERROR EXIT
    1357 F2 87 0A            3966+        J     SAL500                   NO, CONTINUE PROCESSING
    135A 7D 06 9C            3967+SAL450 CLI    SALCNT(,@BR),@VOLID      HAS COUNT EXCEEDED 6 ?
    135D 3C 03 03CD          3968+        MVI   $CAERR,@@E103            INVALID VOL-ID LENGTH
    1361 D0 84 2E            3969+        BH    SAL350(,@BR)             YES, TAKE ERROR EXIT

                             3971+*
                             3972+*                  MODIFY MOVE OF CHARACTER
                             3973+*
    1364 5E 01 63 9E         3974+SAL500 ALC    SAL525+@OP1(2,@BR),SAL001(,@BR)
    1368 2C 00 0000 00       3975+SAL525 MVC    *-*,@ZERO(1,@XR)         MOVE CHARACTER TO OUTPUT AREA
    136D E2 02 01            3976+        LA     @B1(,@XR),@XR           INCREMENT XR BY I
    1370 D0 87 00            3977+        B      SAL200(,@BR)            CHECK NEXT CHARACTER

                             3979+*********************************************************************
                             3980+*                                                                   *
                             3981+*              CHECK ERRORS AND BYPASS DELIMITERS                    *
                             3982+*                                                                   *
                             3983+*********************************************************************
    1373 7D 00 9C            3984+SAL750 CLI    SALCNT(,@BR),@ZERO       ANY VALID CHARACTERS ?
    1376 3C 10 03CD          3985+SAL755 MVI    $CAERR,@@E130            REQUIRED PARAM MISSING
    137A F2 01 17            3986+        JNE    SAL775                   YES, BYPASS DELIMITERS, EYIT
    137D BD 1E 00            3987+        CLI    @ZERO(,@XR),@EOS         IS IT EOS ?
    1380 F2 81 0E            3988+        JE     SAL760                   YES, ERROR EVIL
    1383 78 80 9B            3989+        TBN    SALIDR(,@BR),SAL008      ENTERED AT SALPH8 ?
    1386 3C 00 03CD          3990+        MVI    $CAERR,@@E100            ALPHABETIC CHAR REQUIRED
    138A F2 10 04            3991+        JT     SAL760                   ERROR EYIT
    138D 3C 01 03CD          3992+        MVI    $CAERR,@@E101            ALPHAMERIC CHAR REQUIRED
    1391 D0 87 2E            3993+SAL760 B      SAL350(,@BR)             ERROR EYIT
    1394 C0 87 13B3          3994+SAL775 B      SCANIT                   BYPASS DELIMITERS

                             3996+*********************************************************************
                             3997+*                                                                   *
                             3998+*          SET OFF INDICATORS FOR POSSIBLE SALDHA RE-ENTRY           *
                             3999+*                                                                   *
                             4000+*********************************************************************
    1398 7C 00 9B            4001+SAL800 MVI    SALIDR(,@BR),@ZERO

                             4003+*********************************************************************
                             4004+*                                                                   *
                             4005+*                     END OF MODULE PROCESSING                       *
                             4006+*                                                                   *
                             4007+*********************************************************************
                             4008+*SALND  EXIT  @BR,,RETURN                    EXIT
    139B C2 01 0000          4009+SALND0 LA     *-*,@BR                  RESTORE @BR
    139F C0 87 0000          4010+SALND2 B      *-*                      RETURN TO CALLING PROGRAM
                             4011+*** END OF EXPANSION ***

                             4013+*********************************************************************
                             4014+*                                                                   *
                             4015+*              DATA CONSTANTS, BUFFERS, AND WORK AREAS               *
                             4016+*                                                                   *
                             4017+*********************************************************************
```

```
      SALPHA - SYNTAX CHECKER MODULE


ERR LOC   OBJECT CODE      ADDR STMT SOURCE STATEMENT          VER 15, MOD 00  05/06/22  PAGE  53

    13A3                   13A3 4018+SALIDR DS    CL1                         1 BYTE OF FLAGS
    13A3                        4019+      ORG    *-1
    13A3 00                13A3 4020+      DC     XL1'00'                     INITIALIZED TO ZERO

                           0080 4022+SAL008 EQU   X'80'                       ENTRY POINT INDICATOR
                                4023+*                                        * 0 - ENTERED AT SALPH6
                                4024+*                                        * 1 - ENTERED AT SALPH8
                           0001 4025+SALFST EQU   X'01'                       FIRST CHARACTER IS ALPHA / INDR
                                4026+*                                        * 0 - CHARACTER IS NOT ALPHA
                                4027+*                                        * 1 - CHARACTER IS ALPHA
    13A4                   13A4 4028+SALCNT DS    CL1                         BYTE CHARACTER COUNTER
    13A4                        4029+      ORG    *-1
    13A4 00                13A4 4030+      DC     XL1'00'                     INITIALIZED TO ZERO
    13A5 0001              13A6 4031+SAL001 DC    XL2'0001'                   COUNTER INCREMENT
                           13A7 4032+SALPHR EQU   *
    13A7                   13B0 4033+      DS    CL(##LUEN+2*@B1)             SYNTAX SAVE UNIT
    13B1 13A6              13B2 4034+SALPHS DC    AL2(SALPHR-1)               ADDR FOR MODIFYING MOVE
                           13B0 4035+SALPR7 EQU   SALPHR+##DPEN+2*@B1         ADDR IN SALPHR FOR CLANKINS
                           13AF 4036+SALPR6 EQU   SALPHR+##DPEN+@B1           * OUT THE FIELD
                           131E 4037+SALERR EQU   SAL250+@Q                   ADDR ERROR CODE FOR LOAD
                                4038+***                    END OF SALPHA                          ***
                                4039 *
                                4040 *        $CANI
```

SCANIT - DELIMETER SCAN MODULE

```
                        4042+******************************************************************************
                        4043+*  5703-XM1    COPYRIGHT IBM CORP. 1970                                     *
                        4044+*                  REFER TO INSTRUCTIONS ON COPYRIGHT NOTICE, 120-2083       *
                        4045+*                                                                            *
                        4046+******************************************************************************
                        4047+*STATUS                                                                      *
                        4048+*    VERSION 1 MODIFICATION 0                                                *
                        4049+*                                                                            *
                        4050+*FUNCTION                                                                     *
                        4051+*    THE FUNCTION OF SCANIT IS TO SCAN PAST VALID DELIMITERS AND             *
                        4052+*    RETURN A POINTER TO THE FIRST CHARACTER THAT'S NOT A DELIMITER.         *
                        4053+*                                                                            *
                        4054+*ENTRY POINTS                                                                 *
                        4055+*    * THE ENTRY POINT IS SCANIT.                                            *
                        4056+*    * THE CALLING SEQUENCE IS AS FOLLOWS:                                   *
                        4057+*            B     SCANIT                                                    *
                        4058+*        WITH REGISTER 2 (@XR) POINTING TO THE FIRST CHARACTER TO BE         *
                        4059+*        EXAMINED.                                                           *
                        4060+*                                                                            *
                        4061+*INPUT                                                                        *
                        4062+*    NONE                                                                    *
                        4063+*                                                                            *
                        4064+*OUTPUT                                                                       *
                        4065+*    NONE                                                                    *
                        4066+*                                                                            *
                        4067+*EXTERNAL REFERENCES                                                          *
                        4068+*    $CAERR - ERROR CODE SAVE AREA                                           *
                        4069+*                                                                            *
                        4070+*EXITS, NORMAL                                                                *
                        4071+*    NORMAL EXIT FROM SCANIT IS TO THE BYTE FOLLOWING THE BRANCH TO          *
                        4072+*    SCANIT IN THE CALLING ROUTINE. THE PSR (REGISTER 4) WILL CONTAIN        *
                        4073+*    A ZERO IF NO DELIMITERS WERE FOUND OR A HIGH CONDITION IF ONE OR        *
                        4074+*    MORE DELIMITERS WERE SCANNED.                                           *
                        4075+*                                                                            *
                        4076+*EXITS, ERROR                                                                 *
                        4077+*    ERROR EXIT FROM SCANIT IS TO THE BYTE FOLLOWING THE BRANCH TO           *
                        4078+*    SCANIT IN THE CALLING ROUTINE. THE PSR WILL CONTAIN A LOW               *
                        4079+*    CONDITION.                                                              *
                        4080+*                                                                            *
                        4081+*TABLES/WORKAREAS                                                             *
                        4082+*    * SCACNT - AREA CONTAINING NUMBERS OF DELIMITERS SCANNED                *
                        4083+*    * SCAMMA - LOC WHERE SCACOM MAY BE MOVED IF ONE COMMA IS ALSO           *
                        4084+*      TO BE CONSIDERED A DELIMITER. MOVING SCACOF BACK INTO SCAMMA          *
                        4085+*      INDICATES THAT ONLY BLANKS SHOULD BE CONSIDERED DELIMITERS.           *
                        4086+*                                                                            *
                        4087+*ATTRIBUTES                                                                   *
                        4088+*    RELOCATABLE AND RE-USABLE                                               *
                        4089+*                                                                            *
                        4090+*CHARACTER CODE DEPENDENCY                                                     *
                        4091+*    THE OPERATION OF THIS MODULE DOES NOT DEPEND UPON A PARTICULAR          *
                        4092+*    INTERNAL REPRESENTATION OF THE EXTERNAL CHARACTER SET.                  *
                        4093+*                                                                            *
                        4094+*NOTES                                                                        *
                        4095+*    ERROR PROCEDURES                                                        *
                        4096+*        THE ONLY ERROR CONDITION DETECTED BY SCANIT IS THE CASE WHERE       *
                        4097+*        A CARRIAGE-RETURN CODE FOLLOWS A COMMA.  UPON RETURN TO THE         *
```

```
      SCANIT - DELIMETER SCAN MODULE


ERR LOC   OBJECT CODE     ADDR STMT SOURCE STATEMENT         VER 15, MOD 00  05/06/22  PAGE  55

                          4098+*      CALLING ROUTINE, @PSR WILL BE SET TO A LOW CONDITION, THE     *
                          4099+*      ERROR CODE IS SET IN $CAERR, AND MG WILU BE POINTING TO THE   *
                          4100+*      CARRIAGE-RETURN CHARACTER.                                    *
                          4101+*                                                                    *
                          4102+*   REGISTER USAGE                                                   *
                          4103+*      REGISTER 2 (@XR) IS USED AS A POINTER ACROSS THE AREA BEING    *
                          4104+*      SCANNED FOR DELIMETERS.                                       *
                          4105+*                                                                    *
                          4106+*   SAVED/RESTORED AREAS                                             *
                          4107+*      UPON ENTRY TO SCANIT, REGISTER 8 (@ARR) IS SAVED AND USED AS   *
                          4108+*      THE RETURN ADDRESS.                                           *
                          4109+*                                                                    *
                          4110+*   MODIFICATION CONSIDERATIONS                                      *
                          4111+*      NONE                                                          *
                          4112+*                                                                    *
                          4113+*   REQUIRED MODULES                                                 *
                          4114+*      * @SYSEQ - COMMON SYSTEM EQUATES                               *
                          4115+*      * @FXDEQ - FIXED NUCLEUS ADDRESSES EQUATES                     *
                          4116+*                                                                    *
                          4117+*   OTHER                                                            *
                          4118+*      SCANIT IS INITIALIZED TO BYPASS BLANKS ONLY. IF SCACOM IS      *
                          4119+*      MOVED TO SCAMMA, ONE COMMA WILL BE SCANNED ALONG WITH BLANKS.  *
                          4120+*      THE INSTRUCTION TO DO THIS IS AS FOLLOWS:                      *
                          4121+*            MVI    SCAMMA,SCACOM                                     *
                          4122+*                                                                    *
                          4123+*      TO DROP THE COMMA FROM ITS DELIMITER STATUS, SCACOF SHOULD BE  *
                          4124+*      MOVED TO SCAMMA, USING THE FOLLOWING INSTRUCTION:              *
                          4125+*            MVI    SCAMMA,SCACOF                                     *
                          4126+*                                                                    *
                          4127+*****************************************************************************


                          4129+*
                          4130+*                    EQUATES USED IN THIS SUBROUTINE
                          4131+*
                     0001 4132+SCAINC EQU   1                       TO INCREMENT POINTER
                     0001 4133+SCACOM EQU   @BNE                    SWITCH TO ALLOW SCANNING COMMA
                     0087 4134+SCACOF EQU   @UCB                    SWITCH TO SET OFF THE INDICATON
                          4135+*                                    * FOR SCANNING A COMMA
                     13B3 4136+SCANIT EQU   *                       ENTRY POINT TO THIS SUBROUTINE
  13B3 34 08 13EF         4137+       ST    SCA500+@OP1,@ARR        SAVE RETURN ADDRESS
  13B7 34 02 13F1         4138+       ST    SCASVE,@XR              SAVE POINTER VALUE
  13BB 3C 04 03CD         4139+       MVI   $CAERR,@@E110           SET ERROR CODE
  13BF F2 87 03           4140+       J     SCA200                  GO TO PROCESS
  13C2 E2 02 01           4141+SCA100 LA    SCAINC(,@XR),@XR        INCREMENT POINTER TO NEXT CHAR
  13C5 BD 40 00           4142+SCA200 CLI   0(,@XR),@BLANK          IS THIS CHAR BLANK ?
  13C8 C0 81 13C2         4143+       BE    SCA100                  YES, FETCH NEXT ONE
  13CC BD 6B 00           4144+       CLI   0(,@XR),@COMMA          IS IT A COMMA ?
  13CF F2 87 10           4145+SCA250 JC    SCA400,@UCB             UCS TO RETURN -- OR NOP IF
                          4146+*                                    * SCAMMA IS ACTIVE AND CHAR
  13D2 E2 02 01           4147+SCA300 LA    SCAINC(,@XR),@XR        INCREMENT POINTER TO NEXT CHAR
  13D5 BD 40 00           4148+       CLI   0(,@XR),@BLANK          IS THIS CHAR A BLANK ?
  13D8 C0 81 13D2         4149+       BE    SCA300                  YES, FETCH NEXT ONE
  13DC BD 1F 00           4150+       CLI   0(,@XR),@EOS+1          IS THIS EOS ?
  13DF F2 82 0A           4151+       JL    SCA500                  IF NOT, SKIP ERROR ROUTINE
  13E2 34 02 13F3         4152+SCA400 ST    SCACNT,@XR              SAVE NEW POINTER VALUE
```

```
      SCANIT - DELIMETER SCAN MODULE

ERR LOC   OBJECT CODE     ADDR STMT SOURCE STATEMENT              VER 15, MOD 00  05/06/22  PAGE  56

    13E6 0F 01 13F3 13F1       4153+       SLC    SCACNT(2),SCASVE             SET PSR TO EQUAL IF POINTER
                               4154+*                                         * NOT ADVANCED
    13EC C0 87 0000            4155+SCA500 B      *-*                         YES, RETURN
                          13D0 4156+SCAMMA EQU    SCA250+@Q                    TO SET SCAN COMMA INDICATOR
                               4157+*
                               4158+*                  SAVE AREA
                               4159+*
                          13F0 4160+SCASV1 EQU    *                           FIRST BYTE OF SCASVE
    13F0                  13F1 4161+SCASVE DS     CL2                         ORIGINAL POINTER VALUE SAVE
    13F2                  13F3 4162+SCACNT DS     CL2                         SAVE AREA FOR TOTAL CHAR SCAN
                               4163+***                      END OF SCANIT                          ***
                               4164 *
                          121F 4165 SVOBUF EQU    SUFFER                      SVOLID TEMPORARY SAVE
```

```
                         4167 ******************************************************************************
                         4168 * SMALES- SYSTEM DATA MANAGEMENT COMMON SAVE AREAS AND EQUATES         *
                         4169 *          USED TO PROVIDE COMMUNICATION BETWEEN SUBROUTINES USED       *
                         4170 *            BY THE VARIOUS KEYWORDS INVOLVED WITH FILE MANIPULATION     *
                         4171 ******************************************************************************
                         4172 *                                                                        *
         0C55            4173 SMALES EQU    KNABSE                     START OF MANAGEMENT AREA
         0C55            4174 SMIND1 EQU    SMALES                     INDICATOR BYTE
         0C5B            4175 SMVOID EQU    SMIND1+6                   SPECIFIED VOLUME ID SAVE AREA
         0C63            4176 SMPSWD EQU    SMVOID+8                   SPECIFIED PASSWORD SAVE AREA
         0C6B            4177 SMFNAM EQU    SMPSWD+8                   SPECIFIED FILENAME SAVE AREA
         0080            4178 SM1FNE EQU    X'80'                      SRCHFN INDR NAME NOT FOUND
         0040            4179 SM1NPD EQU    X'40'                      PACK INDR NULL DIRCTY FULL
         0020            4180 SM1STN EQU    X'20'                      STORIN PACK INDICATOR BIT
         0010            4181 SM1PDS EQU    X'10'                      SGETDB SEARCH ONLY FLAG
         0008            4182 SM1PNF EQU    X'08'                      SGETDB PASSWORD NOT FOUND
         0C6D            4183 SMUDEA EQU    SMFNAM+2                   FILENAME DIRCTY ENTRY ADDR
         0C6F            4184 SMBFDA EQU    SMUDEA+2                   DADDR OF FILE LIBRARY
         0C71            4185 SMUDBA EQU    SMBFDA+2                   CADDR OF ACTIVE BUFFER ADDR
         0C73            4186 SMNULT EQU    SMUDBA+2                   TOTAL OF NULL SECTORS AVAILABLE
         0C75            4187 SMNDEA EQU    SMNULT+2                   NULL DIRCTY ENTRY ADDR
         0C77            4188 SMNSCT EQU    SMNDEA+2                   COUNT OF NULL SECTORS REQUIRED
         0C79            4189 SMNETD EQU    SMNSCT+2                   CADDR NEW ENTRY TO NULL DIRCTY
         0C7B            4190 SMUPEN EQU    SMNETD+2                   CADDR NEW USER DIRCTY ENTRY
         0C7D            4191 SMPEAD EQU    SMUPEN+2                   CADDR PASSWORD ENTRY
         0C7F            4192 SMFUDA EQU    SMPEAD+2                   REL DADDR FIRST USER DIRCTY BLK
         0C81            4193 SMNDBA EQU    SMFUDA+2                   NULL DIRCTY BUFFER CORE ADDR
         0C79            4194 SMDAAD EQU    SMNETD                     RELATIVE DADDR
                         4195 *
         1114            4196 SMPDB1 EQU    SVOLID                     PASSWORD DIRCTY BUFFER
         1114            4197 SMUDB1 EQU    SMPDB1                     USER DIRCTY BLOCK1 BUFFER
         1314            4198 SMUDB2 EQU    SMUDB1+512                 USER DIRTY BLK 2 BUFFER
         1514            4199 SMAEND EQU    SMUDB2+512                 END OF SMALES AREA
                         4200 *
         1514            4201 KNABF1 EQU    SMAEND                     SAVED USER BLOCK WITH RENAMED
         1614            4202 KNABF2 EQU    KNABF1+@SCTSZ              * FILE
         1714            4203 KNABF3 EQU    KNABF2+@SCTSZ              SAVED POOL BLOCK WITH RENAMED
         1814            4204 KNABF4 EQU    KNABF3+@SCTSZ              * FILE
                         4205 *                                                                        *
                         4206 ******************************************************************************
                         4207        PRINT  ON
         FFFF            4208        END
```

TOTAL STATEMENTS IN ERROR IN THIS ASSEMBLY =   0

```
$$$$$$   001  0C00 2108
$$$$$1   090  0E21 2370
$$$CMD   001  0020 0659
$$$DAT   001  0040 0658
$$$EPL   001  0091 0655
$$$ERN   001  0080 0709
$$$FUN   001  0010 0660
$$$NLN   001  00A0 0705
$$$STD   001  0081 0654
$$$001   015  0C54 2132
$$BNLN   001  0605 0635   0637
$$CDBS   001  08C0 0685
$$CDND   001  0666 0644
$$CDRD   001  0890 0683   0685
$$CKEY   001  0603 0633
$$CKFF   001  0B3D 0665
$$COFF   001  0B44 0664
$$CSNS   001  209C 0694
$$DATB   001  0BBF 0666
$$EOSA   001  0AFE 0663
$$ERSK   001  1C00 0704
$$FITS   001  1D00 0712
$$FLIB   001  06FF 0711
$$ILEN   001  0601 0629   0631   0635
$$ILHD   001  0600 0627   0629   3303   3304
$$INLN   001  0607 0642   0644   0646   3421   3436
$$INND   001  06FA 0646   3420*  3421   3421   3421*
$$KBDT   001  09E1 0653   0657
$$KBSN   001  09E2 0657   0662
$$KLD1   001  0600 0717
$$KLD2   001  0700 0719
$$KLD3   001  0C00 0721
$$LPOS   001  09EB 0662
$$PCNT   001  07E9 0678
$$PLYN   001  2004 0692
$$PRES   001  0890 0651   0653   0663   0664   0665   0666   0683   3424
$$PRFL   001  2143 0696
$$PRNT   001  0707 0672   0673   0677   0678
$$PRTN   001  0782 0673
$$PSIO   001  07CE 0677
$$PYCD   001  2200 0698
$$PYMP   001  2000 0690   0692   0694   0696   0698
$$SLIB   001  1C00 0707
$$TPCD   001  0606 0637   0642
$$UPAR   001  0602 0631   0633
$$WSPB   001  1E00 0710
$$XIND   001  06FF 0708   0711   3303   3304   3417   3463*
$$ZERO   001  0000 0223   0224   0226   0227   0228   0232   0690
$ABORT   001  0010 0336
$BASIC   001  0080 0394
$BIGCD   001  0080 0470
$BLDPL   001  0579 0603   0605
$BLNOE   001  0569 0593
$BLOAD   001  0522 0584   0586   0589   0602   0603
$BLRTN   001  0550 0592   0593
$BRSAV   001  03C5 0281   0282
```

```
$BSADR  001  0587 0608    0610
$BUFPT  001  03E3 0489    0490
$CABLD  001  04B4 0562    0563
$CAERK  001  0469 0539    0542   2152   2247   2317
$CAERR  001  03CD 0287    0289   2148*  2151*  2155*  2169*  2173*  2181*  2191*  2241*  2260*  2291*  2314*
                          2349*  2735*  2766*  2923*  3090*  3342*  3354*  3391*  3465*  3716*  3718*  3947*
                          3964*  3968*  3985*  3990*  3992*  4139*
$CAIPL  001  049D 0558    0560
$CALLI  001  0008 0479
$CARDI  001  0001 0250    3390
$CARPL  001  04A1 0560    0562   2177   2362
$CIENT  001  0483 0549    0550
$CIEXT  001  0480 0548    0549
$CIMSK  001  0476 0545    0548   2246*  3404
$CISUS  001  0496 0553    0558
$CLBFR  001  0010 0437
$CMDKY  001  0008 0349
$CMODE  001  0002 0399
$CONFG  001  03DD 0462    0472
$CRPOS  001  03E2 0488    0489
$CRTAD  001  044D 0527    0528
$CRTAV  001  0002 0343
$CRTDN  001  0002 0367
$CRTIN  001  03D3 0364    0371
$CRTNO  001  0004 0346
$CRTPU  001  0004 0368
$CRTSP  001  0008 0369
$CRTUP  001  0001 0366
$CRUSH  001  0080 0475
$CSDPL  001  050E 0574    0575
$C0001  001  0464 0531    0537
$DATE   001  043A 0512    0513
$DBGUF  001  03E0 0474    0483
$DBLOK  001  0001 0424
$DFDET  001  03E8 0495    0496
$DISKN  001  0025 0226    2522   2930   3095
$DKERR  001  0008 0405
$DKSIZ  001  03D7 0449    0457   0498
$DK100  001  0001 0451
$DK200  001  0002 0452
$DK400  001  0004 0453
$DK600  001  0008 0454
$DK800  001  0010 0455
$DPLSV  001  0449 0523    0525
$DTNMB  001  0040 0270
$DTRDR  001  0040 0358
$ENDNU  001  0600 0617    0627   0651   0672   0708   0717   0719   0721
$ERDPL  001  046F 0542    0544
$ERFIL  001  0040 0297
$ERHRD  001  0004 0429    2315
$ERKEY  001  0080 0301
$ERLOG  001  0345 0231
$ERMAD  001  0472 0544    0545
$ERPND  001  0004 0402
$ERRCT  001  03CF 0303
$ERRPG  001  03CE 0291
```

```
$ERSFL  001  0035 0296
$ERSTK  001  0030 0294
$ER050  001  0363 0232
$ER1N2  001  0050 0299
$EXADR  001  0517 0577   0579
$EXCMD  001  0001 0331
$EXFTR  001  043B 0513   0518
$FCIND  001  0010 0409
$FDIND  001  0040 0416
$FEARR  001  0004 0224
$FEMAP  001  0588 0610   0611
$FILIB  001  03DA 0460   0461  2678  2718  2720  2733  2740  2741
$FITIN  001  0010 0385
$FUIND  001  0020 0414
$GUFIO  001  0583 0607   0608
$GUFIR  001  0008 0259
$HISTE  001  042E 0510   0511
$HIST1  001  0435 0511   0512
$HRDER  001  0020 0355
$INDR1  001  03D4 0371   0397
$INDR2  001  03D5 0397   0422
$INDR3  001  03D6 0422   0449  2315*
$INLNO  001  03CF 0289   0291  0303  0310
$INRPT  001  0020 0267
$IOIND  001  03D2 0338   0364
$IOPGS  001  0010 0478
$IOYES  001  0002 0253
$IPLDV  001  05FF 0614   0617
$IRKEY  001  0020 0477
$KEYBD  001  03E1 0483   0488
$KEYCD  001  03C3 0247   0281  3390  3425  3475*
$KEYDT  001  0040 0391
$KE090  001  00DE 0227
$KE130  001  01D5 0228
$KYBSY  001  0010 0264   3425
$LDRTN  001  0571 0602
$LEVEL  001  03DF 0472   0474
$LIST   001  0002 0426
$LMRGN  001  03C1 0242   0244
$LNPTR  001  0080 0361
$LOADB  001  054A 0586
$LOADR  001  051A 0579   0582
$LPRIO  001  03EA 0496
$LPROS  001  03E5 0491   0493
$LPRP3  001  03E4 0490   0491
$MOUNT  001  0020 0440
$MPDWN  001  0001 0340
$NEXTB  001  03E6 0493   0494
$NEXTL  001  03E7 0494   0495
$NOENB  001  0008 0432
$NOLST  001  0004 0256
$NUCBS  001  03C0 0239   0240  2662  2663
$NWRKF  001  0080 0445
$NWRKR  001  0040 0442
$PASWD  001  042D 0509   0510
$PAUSD  001  04BA 0563   0565
```

```
$PAUSE   001  0002 0333
$PGMDT   001  0020 0388
$PGMST   001  0010 0352
$PKERT   001  0419 0507   0509
$PLST1   001  0454 0528   0529
$PLST2   001  045B 0529   0530
$PLST3   001  0462 0530   0531
$PRDEV   001  044B 0525   0527
$PRESN   001  0002 0376
$PROCI   001  0001 0373
$PRPOS   001  03C2 0244   0247
$PSDBR   001  04FA 0568
$PSDXR   001  04F2 0567   0568
$PSTEP   001  0004 0334
$PSTMT   001  0008 0335
$PTCH1   001  03F5 0498   0502
$READY   001  0080 0418
$REORD   001  0040 0476
$RLOAD   001  051E 0582   0584
$RMRGN   001  03C0 0240   0242
$RSTR    001  04D6 0565   0567  0569  0574
$RUNIT   001  0001 0312
$SFAID   001  050D 0570
$SPRNT   001  0465 0537   0539  3401  3405  3427
$SRTRN   001  04FE 0569   0570
$STEPT   001  0002 0313
$SWPCR   001  0511 0575   0577
$TABLN   001  03CB 0284   0287
$TFLOW   001  0008 0319
$TRACE   001  0004 0314
$TRALL   001  0010 0320
$TROVR   001  054E 0589   0592
$TRUNK   001  0080 0272   3475
$TRVAR   001  0020 0321
$UNMSK   001  048D 0550   0553  3423
$USRDR   001  03DC 0461   0462  2742  2745
$VMDEF   001  0080 0325
$VOLF1   001  03FE 0504   0505  2697  2699
$VOLF2   001  040E 0506   2703  2705
$VOLID   001  03F6 0502   0503  0507  2666  3325  3437
$VOLR1   001  03F6 0503   0504  2709  2711
$VOLR2   001  0406 0505   0506  2691  2693
$WAITF   001  057F 0605   0607  2931  3096  3406  3428
$WFDEF   001  0040 0519   2172
$WFLOK   001  0008 0382
$WFNME   001  0443 0518   0523  2172  2176*
$WSIND   001  0004 0379
$XIND1   001  03D0 0310   0329
$XIND2   001  03D1 0329   0338
$XIND3   001  03D8 0457   0460
$XPREC   001  0040 0322
$XRSAV   001  03C7 0282   0284  2146
$ZTRAD   001  05A2 0611
$12K     001  0004 0466
$16CKY   001  0008 0468
$16K     001  0002 0465
```

```
$22IMP  001  0001 0463
#$$#BL  001  0000 1793
#$$#CK  001  0000 1921
#$$#CN  001  0000 1889
#$$#CO  001  0000 1681
#$$#CS  001  0000 1741
#$$#DR  001  0000 1485
#$$#ER  001  0000 1685
#$$#FS  001  0000 1781
#$$#IN  001  0000 1925
#$$#PW  001  0000 1929
#$$#RS  001  0000 1761
#$$#SA  001  0000 1749
#$$#SS  001  0000 1745
#$$#VU  001  0600 1705
#$$#0T  001  0700 1477
#$$#1T  001  0000 1481
#$$BCO  001  0600 1493
#$$BOV  001  0800 1765
#$$DPR  001  0700 1501
#$$DRE  001  0889 1517
#$$DSP  001  2800 1537
#$$ECM  001  0C00 1797
#$$EFK  001  0C00 1817
#$$ERR  001  0C00 1789
#$$EXM  001  0C00 1677
#$$FIL  001  0E00 1757
#$$FIS  001  0E00 1753
#$$FML  001  0200 1885
#$$FMS  001  0200 1725
#$$GRA  001  0889 1649
#$$GUF  001  0C00 1785
#$$INL  001  0600 1865
#$$INS  001  0600 1489
#$$KAL  001  0C00 1653
#$$KCA  001  0C00 1869
#$$KCH  001  0C00 1621
#$$KCN  001  0C00 1737
#$$KCT  001  0C00 1589
#$$KDE  001  0C00 1585
#$$KDI  001  0D00 1665
#$$KDN  001  0C00 1573
#$$KDO  001  0E00 1669
#$$KED  001  0C00 1509
#$$KEN  001  0C00 1513
#$$KEX  001  0C00 1533
#$$KGO  001  0C00 1505
#$$KHE  001  0C00 1689
#$$KKE  001  0C00 1917
#$$KLI  001  0C00 1593
#$$KLL  001  0920 1893
#$$KLO  001  0C00 1597
#$$KME  001  0D00 1577
#$$KMO  001  0C00 1521
#$$KNA  001  0C00 1633   2107
#$$KOV  001  0E00 1553
```

```
                              CROSS REFERENCE

SYMBOL   LEN VALUE DEFN   REFERENCES                       VER 15, MOD 00  05/06/22  PAGE  63

#$$KPA   001  0C00 1529
#$$KPO   001  0C00 1617
#$$KPR   001  0C00 1641
#$$KRE   001  0C00 1561
#$$KRL   001  0700 1657
#$$KRM   001  0C00 1525
#$$KRN   001  0700 1545
#$$KRO   001  0D00 1549
#$$KRS   001  0C00 1873
#$$KRU   001  0C00 1569
#$$KRV   001  0800 1661
#$$KSA   001  0C00 1605
#$$KSE   001  0E00 1645
#$$KSO   001  0C20 1697
#$$KSS   001  0C00 1629
#$$KSV   001  0980 1625
#$$KSY   001  0C00 1637
#$$KWI   001  0C00 1565
#$$KWR   001  0C00 1557
#$$LOA   001  0600 1497
#$$MIP   001  0C00 1693
#$$SDS   001  0C00 1805
#$$SFF   001  0E00 1809
#$$SFL   001  0F00 1801
#$$SFO   001  1500 1773
#$$SFS   001  0C00 1769
#$$SPA   001  0C00 1609
#$$SPO   001  0806 1613
#$$SPS   001  0C00 1601
#$$STR   001  1600 1777
#$$TDC   001  1000 1581
#$$TSY   001  1000 1541
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#$@VVM   001  0030 1722
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#$@ZLB   001  0002 1898
#$@ZLO   001  000C 1858
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#$@ZL1   001  0007 1902
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#$@ZL3   001  000A 1910
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#$KCHA   001  053C 1620
#$KCND   001  0F80 1736
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#$SFSY   001   1800  1768
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#$ZUTM   001  1C14 1860
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##DNHR   001  0003 0773
##DNHY   001  0001 0772
##DPEA   001  0009 0749    2948   2953
##DPEN   001  0007 0748    2168   2307*  2937   3645*  3649*  3665   3678   4035   4036
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##DPE1   001  0004 0747    2935
##DPHC   001  0000 0745    2934
##DPHR   001  0003 0746
##DUEA   001  0009 0760
##DUED   001  0012 0765
##DUEF   001  000B 0761
##DUEH   001  002B 0766
##DUEI   001  000C 0762    3113
##DUEL   001  000F 0764
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##DUE1   001  000C 0758
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##LNE    001  0006 0820
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##LNH    001  0004 0817
##LNHY   001  0001 0815
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##LPE    001  000C 0795    2939
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##LUE    001  0032 0810    3118
##LUED   001  0003 0807
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##MUEV  001  0002 0839
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@@E607	001	00AC	1196	1198
@@E608	001	00AD	1198	1200
@@E609	001	00AE	1200	1202
@@E610	001	00AF	1202	1204
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@@E612	001	00B1	1206	1208
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@@E701	001	00B5	1214	1216
@@E710	001	00B6	1216	1218
@@E712	001	00B7	1218	1220
@@E713	001	00B8	1220	1222
@@E714	001	00B9	1222	1224
@@E715	001	00BA	1224	1226
@@E716	001	00BB	1226	1228
@@E717	001	00BC	1228	1230
@@E718	001	00BD	1230	1232
@@E720	001	00BE	1232	1234
@@E721	001	00BF	1234	1236
@@E723	001	00C0	1236	1238
@@E724	001	00C1	1238	1240
@@E725	001	00C2	1240	1242
@@E726	001	00C3	1242	1244
@@E727	001	00C4	1244	1246
@@E728	001	00C5	1246	1248
@@E729	001	00C6	1248	1250
@@E730	001	00C7	1250	1252
@@E732	001	00C8	1252	1254
@@E752	001	00C9	1254	1256
@@E753	001	00CA	1256	1258
@@E754	001	00CB	1258	1260
@@E755	001	00CC	1260	1262
@@E756	001	00CD	1262	1264
@@E757	001	00CE	1264	1266

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                            CROSS REFERENCE

SYMBOL  LEN VALUE DEFN   REFERENCES                        VER 15, MOD 00  05/06/22  PAGE  74

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@@E762  001  00D3 1274   1276
@@E763  001  00D4 1276   1278
@@E764  001  00D5 1278   1280
@@E765  001  00D6 1280   1282
@@E766  001  00D7 1282   1284
@@E767  001  00D8 1284   1286
@@E768  001  00D9 1286   1288
@@E769  001  00DA 1288   1290
@@E770  001  00DB 1290   1292
@@E771  001  00DC 1292   1294
@@E772  001  00DD 1294   1296
@@E773  001  00DE 1296   1298
@@E774  001  00DF 1298   1300
@@E775  001  00E0 1300   1302
@@E776  001  00E1 1302   1304
@@E777  001  00E2 1304   1306
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@@E781  001  00E6 1312   1314
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@@E784  001  00E9 1318   1320
@@E785  001  00EA 1320   1322
@@E786  001  00EB 1322   1324
@@E790  001  00EC 1324   1326
@@E791  001  00ED 1326   1328
@@E792  001  00EE 1328   1330
@@E793  001  00EF 1330   1332
@@E794  001  00F0 1332   1334
@@E795  001  00F1 1334   1336
@@E796  001  00F2 1336   1338
@@E797  001  00F3 1338   1340
@@E798  001  00F4 1340   1342
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@@E801  001  FFFF 1372
@@E802  001  FFFF 1374
@@E803  001  FFFF 1376
@@E804  001  FFFF 1378
@@E900  001  00F5 1342   1344
@@E901  001  00F6 1344   1346
@@E902  001  00F7 1346   1348
@@E903  001  00F8 1348   1350
@@E905  001  00F9 1350   1352
@@E906  001  00FA 1352   1354
@@E910  001  00FB 1354
@@M300  001  0C0B 2120   3402
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@ARR    001  0008 0016   2473* 2474  2475* 2476  2660  2920  3089  3317  3624  3910  4137
@ASIGN  001  007C 0071   3936
@ASTER  001  005C 0069   2154  2180  2307  3643  3645  3647  3649  3665
@BCRDL  001  0050 0088
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@BE      001  0081 0043
@BF      001  0090 0052
@BH      001  0084 0041
@BL      001  0082 0042   2757
@BLANK   001  0040 0065   2168   2305   2664   2666   3420   3440   3457   3633   3635   3920   4142   4148
@BM      001  0082 0054
@BNE     001  0001 0046   4133
@BNH     001  0004 0044
@BNL     001  0002 0045
@BNM     001  0002 0057
@BNOL    001  0020 0050
@BNOZ    001  0008 0049
@BNP     001  0004 0056
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@BOL     001  00A0 0048
@BOZ     001  0088 0047
@BP      001  0084 0053
@BR      001  0001 0013   2141   2143*  2168   2176   2188   2239   2240   2240   2243   2249   2258   2262
                          2269   2270   2272   2283   2283   2284   2284   2285   2290   2302   2304   2304
                          2305   2306   2306   2307   2311   2327   2328   2331   2332   2334   2343   2344
                          2344   2348   2461   2470   2472*  2473   2474   2475   2476   2478   2479   2479
                          2480   2481   2481   2483   2483   2484   2485   2485   2489   2489   2490   2494
                          2494   2495   2497   2497   2498   2498   2499   2499   2500   2500   2501   2501
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                          2657   2658*  2659   2660   2661   2676   2677   2685   2688   2694   2700   2706
                          2710   2712   2742   2755   2757   2761   2763   2763   2764   2764   2765   2773*
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                          2951   2953   2957   2958   2958   2961*  3085   3086   3087*  3088   3089   3091
                          3091   3092   3092   3093   3093   3098   3099   3104   3106   3106   3107   3111
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                          3125   3131   3134*  3144   3313   3314   3315*  3316   3317   3328   3330   3330
                          3332   3332   3333   3341   3343   3344   3363*  3392   3418   3437*  3448   3448*
                          3454   3454*  3464   3474   3620   3622   3623*  3624   3661   3677   3691   3715
                          3721   3730   3732*  3906   3908   3909*  3910   3913   3920   3921   3921   3922
                          3923   3923   3943   3946   3949   3958   3960   3960   3961   3962   3963   3965
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                          3635*  3646   3649*  3650   3674   3688   3692   3921   3976   4033   4035   4036
@CADDR   001  0002 0142   2122   2270   2479   3091   3092   3093   3122   3123   3124   3149   3150   3151
                          3160
@CARDL   001  0060 0087   0644
@CHARA   001  00C1 0072   3939
@CHARF   001  00C6 0073   3452
@CHARR   001  00D9 0074   3449
@CHARZ   001  00E9 0075   3941
@CLOFF   001  0010 0094
@CLON    001  0011 0093
@COMMA   001  006B 0066   3699   4144
@CPLUS   001  004E 0079
@DADDR   001  0002 0140   2332   2478   2543   2693   2699   2705   2711   2720   2740   2741   2742   2745
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                          3454   3474   3474
@DBFR1   001  0004 0129
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@DCALK  001  0001 0081
@DCBCY  001  0009 0115
@DCBT1  001  0050 0117
@DCNT   001  0003 0128
@DCST1  001  0040 0116
@DCTRL  001  0000 0125
@DCYL   001  0001 0126   2483*
@DD2    001  0003 0030
@DGET   001  0001 0134   2783   2970   3157
@DOLAR  001  005B 0068   3932
@DOP2   001  0004 0028   2474*  2478*  2479*  2541   2542
@DPLNG  001  0006 0132   2480   2539
@DPOS   001  0000 0133
@DPUT   001  0002 0135   2207   2217
@DSAD   001  0002 0127   2270*  2332*  2481*  2485*  2489   2490*  2494*  2497*  2501   2507*  2515*  2518*
                         2540   2953*  2958*
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@DSCS1  001  0000 0107
@DSIVF  001  0003 0138
@DSPIN  001  0002 0131
@DTRSZ  001  0018 0085
@DVBCY  001  0007 0108
@DVRFY  001  0031 0136
@DWAIT  001  00FF 0137
@DWBCY  001  0005 0103
@DWSIZ  001  00C0 0105
@DWTB1  001  0003 0104
@DZERO  001  00F0 0064
@D1     001  0002 0026   3341
@EOF    001  001C 0077
@EOFTC  001  0075 0162
@EOS    001  001E 0076   2147   2161   2190   3460   3697   3987   4150
@FDDBC  001  0000 0195
@FDE1   001  000C 0200
@FDFNA  001  000B 0198
@FDHLN  001  0002 0208
@FDLNC  001  0002 0193
@FDNSC  001  0003 0210
@FDSD   001  0000 0206
@FLACE  001  0009 0197
@FLDBC  001  0001 0196
@FLENT  001  0004 0201
@FLFNA  001  0002 0199
@FLHLN  001  0002 0209
@FLLNC  001  0002 0194
@FLNSC  001  0001 0211
@FLSD   001  0001 0207
@HDRLN  001  0007 0092   0672
@IAR    001  0010 0017
@INDEX  001  0001 0156   0157
@INST3  001  0003 0032
@INST4  001  0004 0033
@INST5  001  0005 0034
@INST6  001  0006 0035
@I1IAR  001  00C0 0020
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                                    CROSS REFERENCE

SYMBOL   LEN  VALUE DEFN    REFERENCES                              VER 15, MOD 00   05/06/22   PAGE   77

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@MAPEN   001  0005 0089
@MINCR   001  2000 0083
@MINUS   001  0060 0080
@NOP     001  0080 0040    2246   2267   2286   2303   2520   2925   2957   3111   3366   3416   3694
@NUMBR   001  007B 0070    3934
@OPD2    001  0004 0029
@OP1     001  0003 0027    2187*  2194   2470*  2476*  2772   2774   2776   2917*  2919*  2920*  3085*  3088*
                           3089*  3314*  3316*  3317*  3622*  3624*  3702*  3720   3908*  3910*  3913*  3923*
                           3974*  4137*
@OP2     001  0005 0031
@PCTRL   001  0000 0149
@PDATA   001  0003 0151
@PGCSZ   001  0020 0082    0083
@PPLNG   001  0004 0148
@PRCNT   001  0001 0150
@PRETR   001  00C0 0154    2120
@PRINT   001  0040 0152    0154
@PSR     001  0004 0015    3721*  3730*  3949*
@PWAIT   001  00FF 0158
@P1IAR   001  0020 0018
@P2IAR   001  0040 0019
@Q       001  0001 0024    2188*  2267*  2521   2669   2758   2760   2926*  2957*  3098*  3111*  3355*  3418*
                           3715*  3721   3730   4037   4156
@REGL    001  0002 0012
@RETRN   001  0080 0153    0154
@RLDWN   001  004F 0159
@RTRNC   001  0080 0161
@SBLN    001  0005 0170
@SBLNL   001  0002 0184
@SCTSZ   001  0100 0100    2271   2273   2333   2335   4202   4203   4204
@SDFLN   001  0007 0090
@SDF0    001  0000 0166
@SDF1    001  0001 0167
@SDF2    001  0002 0168
@SDF3    001  0003 0169
@SECCY   001  0030 0086
@SIST    001  0001 0181
@SLASH   001  0061 0067    3663   3679
@SLAST   001  0002 0183
@SMIDL   001  0003 0182
@SNULL   001  0080 0173
@SONLY   001  0000 0180
@STEXT   001  0007 0172
@STYPE   001  0006 0171
@TBCNT   001  0000 0160
@TBLEF   001  0010 0155    0157
@TBLIX   001  0011 0157
@UCB     001  0087 0039    2300   2759   2926   3098   3355   3418   4134   4145
@UPARW   001  005A 0078
@VADDR   001  0002 0141
@VENTA   001  0056 0113
@VMDDV   001  00FE 0114
@VMFD1   001  0000 0109
@VMFD2   001  0001 0110
@VMRS3   001  0002 0112
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@VOLID  001  0006 0091   3325   3327   3331   3437   3448   3454   3464   3635*  3692   3692   3891   3967
@VQ     001  0001 0025   3404*  3423
@WSFIT  001  0500 0101
@WSTBL  001  0503 0102
@XR     001  0002 0014   2146*  2147   2154   2161   2180   2187   2190   2194*  2258*  2259   2262   2263
                         2265   2269*  2270   2271   2272*  2273   2316   2316*  2327*  2328   2329   2331*
                         2332   2333   2334*  2335   2661   2662*  2663   2678   2691   2693   2697   2699
                         2703   2705   2709   2711   2718   2720   2733   2735   2740   2741   2742   2745
                         2766   2771*  2807   2919   2933*  2934   2935   2935*  2937   2939   2939*  2947
                         2948   2953   2962*  3088   3099*  3104   3107   3112   3113   3113*  3116   3118
                         3118*  3129   3131*  3132   3133   3135*  3142   3316   3325*  3327   3329   3331
                         3331*  3364*  3436*  3439   3439*  3440   3443   3446   3449   3452   3455   3455*
                         3456   3456*  3457   3460   3643   3646   3646*  3647   3650   3650*  3663   3674
                         3674*  3679   3688   3688*  3693   3697   3699   3702   3713   3720*  3913   3932
                         3934   3936   3939   3941   3950*  3975   3976   3976*  3987   4138   4141   4141*
                         4142   4144   4147   4147*  4148   4150   4152
@ZERO   001  0000 0062   2147   2154   2161   2180   2190   2243   2285   2302   2343   2490   2676   2677
                         2678   2691   2697   2703   2709   2718   2733   2951   3114   3327   3352   3440
                         3449   3452   3457   3460   3464   3643   3647   3663   3679   3693   3695   3697
                         3699   3713   3922   3932   3934   3936   3939   3941   3975   3984   3987   4001
DL2C01  002  0EB0 2533   2473   2475   2483
DL2C05  002  0EB2 2534   2479
DL2C48  001  0EAC 2531   2481   2485
DL2DPL  006  0EB8 2539   2480*
DL2END  001  0EBB 2544
DL2E01  001  0001 2463   2481   2483   2485   2489   2501   2509
DL2E02  001  0002 2464   2494   2497   2515
DL2E18  001  0018 2465   2495
DL2E60  001  0060 2466   2510
DL2E7C  001  007C 2468   2507
DL2ICS  001  0E22 2469   2353   2358   2743   2928   2954   3108
DL2K18  002  0EAE 2532   2498
DL2K60  002  0EA9 2529   2516
DL2K80  002  0EAB 2530   2497   2515
DL2LST  001  0EB3 2538   2481*  2483*  2485*  2489   2490*  2494*  2497*  2501   2507*  2515*  2518*  2523
                         2540
DL2PHY  001  0EB5 2540
DL2RAD  002  0EBA 2543   2494   2740*  2927*
DL2SAD  005  0E3A 2541   2501*  2508*  2509*  2510   2516*  2518
DL2SEC  005  0E43 2542   2489*  2495   2498*  2499   2499*  2500   2500*  2509
DL2SWH  003  0E98 2521
DL2TSD  001  0083 2467   2508
DL2000  001  0E26 2471   2461   2472
DL2001  005  0E36 2478   2474*  2541
DL2002  005  0E3F 2480   2478*  2479*  2542
DL2005  004  0E44 2481   2484
DL2006  004  0E52 2485   2482
DL2008  004  0E6F 2499   2496
DL2010  003  0E85 2510
DL2100  004  0E93 2518   2511
DL2110  003  0E97 2520   2521
DL2900  004  0EA0 2524   2470*  2520
DL2910  004  0EA4 2525   2476*
KNABF1  001  1514 4201   2211   2271*  4202
KNABF2  001  1614 4202   2273*  4203
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KNABF4   001  1814 4204   2335*
KNABSE   001  0C55 2136   2141   2143   4173
KNAFNE   008  0CCC 2227   2239*  2240   2262   2284   2328   2344
KNAME    004  0C07 2114
KNAOLD   008  0CD4 2228   2283*  2304
KNASCT   002  0CE2 2224   2272   2334
KNASTR   001  0CDB 2216   2332*  2354
KNAUSE   001  0CD5 2206   2226   2270*  2359
KNA100   001  0C55 2142   2114
KNA200   004  0CA5 2179   2162
KNA220   003  0CC4 2190   2185
KNA240   004  0CC7 2191   2188*
KNA250   003  0CD2 2195   2156
KNA255   001  00FF 2138   2271   2271*  2273   2273*  2316   2333   2333*  2335   2335*
KNA280   005  0CE3 2239   2192
KNA300   003  0D22 2269   2266
KNA350   003  0D53 2300   2267*
KNA380   003  0D7D 2316   2174   2242   2250
KNA390   004  0D80 2317   2159   2170   2182   2184   2195   2261   2292   2350
KNA400   003  0D84 2327   2312
KNA500   004  0DBE 2358   2300
KNA600   004  0DC4 2362
SALBSE   001  1308 3931   3906   3909
SALCNT   001  13A4 4028   3922*  3960*  3963   3967   3984
SALCT6   001  0006 3891
SALCT8   001  0008 3889
SALERR   003  131E 4037   3949
SALFST   001  0001 4025   3946   3958
SALIDR   001  13A3 4018   3903*  3943   3946   3958*  3961   3989   4001*
SALND0   004  139B 4009   3908*
SALND2   004  139F 4010   3910*
SALPHR   001  13A7 4032   2239   3662   3678   3692   4034   4035   4036
SALPHS   002  13B2 4034   3923
SALPH6   001  12EC 3907   3690
SALPH8   001  12E8 3900   2183   3660   3676
SALPR6   001  13AF 4036   3921*
SALPR7   001  13B0 4035   3920*  3921
SAL001   002  13A6 4031   3960   3974
SAL008   001  0080 4022   3903   3943   3961   3989
SAL100   003  12FA 3920
SAL200   003  1308 3932   3977
SAL250   003  131D 3940   4037
SAL350   003  1336 3949   3965   3969   3993
SAL375   004  1339 3950   2187*  2194   3702*  3720   3913*
SAL400   003  1340 3958   3933   3935   3937   3942
SAL425   004  1343 3960   3944   3948
SAL450   003  135A 3967   3962
SAL500   004  1364 3974   3966
SAL525   005  1368 3975   3923*  3974*
SAL750   003  1373 3984   3940
SAL755   004  1376 3985
SAL760   003  1391 3993   3988   3991
SAL775   004  1394 3994   3986
SAL800   003  1398 4001   3951
SCACNT   002  13F3 4162   3695   4152*  4153*
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SYMBOL  LEN VALUE DEFN   REFERENCES                          VER 15, MOD 00  05/06/22  PAGE  80

SCACOF  001  0087 4134   2179  3659
SCACOM  001  0001 4133   3703
SCAINC  001  0001 4132   4141  4147
SCAMMA  003  13D0 4156   2179* 3659* 3703*
SCANIT  001  13B3 4136   2150  3675  3689  3704  3994
SCASVE  002  13F1 4161   4138* 4153
SCASV1  001  13F0 4160
SCA100  003  13C2 4141   4143
SCA200  003  13C5 4142   4140
SCA250  003  13CF 4145   4156
SCA300  003  13D2 4147   4149
SCA400  004  13E2 4152   4145
SCA500  004  13EC 4155   4137* 4151
SFIAST  001  005C 2796   2674
SFIBSE  003  0EF9 2803   2658  2659
SFICTR  001  0FCD 2780   2676* 2685  2688  2694* 2700* 2706* 2712* 2755
SFIDPL  001  0FCE 2783   2744
SFIEFE  001  00FE 2799   2694  2755
SFIEFF  001  00FF 2800   2782
SFIEND  001  0FD6 2804
SFIERR  001  0469 2247   2736  2795
SFIETD  001  0006 2805   2761
SFIEXT  004  0FCC 2776   2660*
SFIE02  001  0002 2797   2706
SFIE03  001  0003 2798   2688  2712
SFIE06  001  0006 2801   2691  2697  2703  2709
SFIE07  001  0007 2802   2693  2699  2705  2711
SFIFND  003  0FA7 2760
SFINDF  001  0EBB 2656   2245  2288  2309  2346
SFINTR  001  0FD5 2788   2761  2764  2789
SFIONE  001  0FD6 2791   2763
SFIRDA  002  0FD0 2784   2742*
SFISBR  004  0FC8 2774   2657*
SFISTR  003  0FA4 2758   2303*
SFISXR  004  0FC4 2772   2661*
SFITTC  001  0FD4 2787   2677* 2763* 2764
SFIVOL  004  0EDC 2669   2286*
SFI050  004  0EDB 2668   2669
SFI100  004  0EE2 2674   2667
SFI200  003  0EF9 2685   2757  2765  2803
SFI210  003  0F08 2691   2710
SFI220  003  0F19 2697   2686
SFI230  003  0F2A 2703   2687  2698
SFI240  003  0F3B 2709   2689  2704
SFI320  003  0F4C 2718   2675
SFI340  005  0F52 2720   2679
SFI350  004  0F57 2724   2670  2695  2701  2707  2713
SFI500  003  0F6C 2733   2665
SFI505  003  0F72 2735   2719
SFI510  005  0F79 2740   2734
SFI520  004  0F92 2749   2729
SFI540  003  0F9D 2755   2726
SFI542  003  0FA3 2757   2758
SFI543  003  0FA6 2759   2760
SFI545  003  0FBA 2766   2692  2759  2762
SFI550  004  0FC1 2771   2728  2751  2756  2772
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                           CROSS REFERENCE

SYMBOL  LEN VALUE DEFN    REFERENCES                    VER 15, MOD 00  05/06/22  PAGE  81

SFI560  004 0FC5 2773    2774
SFI570  004 0FC9 2775    2776
SGECNT  001 1060 2977    2934* 2940* 2951
SGEC01  002 1062 2978    2940
SGEDPL  001 1058 2969    2929  2933  2953* 2955  2958*
SGEEND  001 1063 2980
SGERAD  002 105F 2976    2958
SGETDB  001 0FD7 2916    2724  2915  2918
SGE050  003 0FED 2925    2926* 2957*
SGE055  003 1005 2933    2925
SGE060  005 100F 2937    2941
SGE070  004 1025 2947    2938
SGE080  004 103B 2953
SGE900  004 104C 2961    2917* 2950  2952
SGE901  004 1050 2962    2919*
SGE902  004 1054 2963    2920*
SMAEND  001 1514 4199    4201
SMALES  001 0C55 4173    4174
SMBFDA  001 0C6F 4184    2693* 2699* 2705* 2711* 2720* 2741* 2927  3329* 3352  3474* 4185
SMDAAD  001 0C79 4194    3133*
SMFNAM  001 0C6B 4177    2176  2240  2283  2284* 2304* 2344* 3116  3662* 4183
SMFUDA  001 0C7F 4192    2745* 2948* 4193
SMIND1  001 0C55 4174    2243* 2249  2285* 2290  2302* 2311  2343* 2348  2680* 2725  2727  2750
                        2767* 2924* 2942* 2949  3130* 3143* 4175
SMNDBA  001 0C81 4193
SMNDEA  001 0C75 4187    4188
SMNETD  001 0C79 4189    4190  4194
SMNSCT  001 0C77 4188    4189
SMNULT  001 0C73 4186    4187
SMPDB1  001 1114 4196    2973  4197
SMPEAD  001 0C7D 4191    2947* 4192
SMPSWD  001 0C63 4176    2168  2305* 2306  2306* 2307* 2664  2674  2937  3633* 3634  3634* 3645*
                        3649* 3665  3678* 4177
SMUDBA  001 0C71 4185    2269  2331  3132* 4186
SMUDB1  001 1114 4197    2786  3152  4198
SMUDB2  001 1314 4198    3153  4199
SMUDEA  001 0C6D 4183    2258  2327  3129* 3142* 4184
SMUPEN  001 0C7B 4190    4191
SMVOID  001 0C5B 4175    2666  3327  3464  3635* 3692* 4176
SM1FNE  001 0080 4178    2249  2290  2311  2348  2750  2767  3130  3143
SM1NPD  001 0040 4179
SM1PDS  001 0010 4181    2727  2949
SM1PNF  001 0008 4182    2249  2311  2680  2725  2924  2942
SM1STN  001 0020 4180
SRCACT  002 1106 3151    3093* 3099  3123  3124* 3131
SRCBA1  002 1108 3152    3091
SRCBA2  002 110A 3153    3092
SRCBFR  002 1113 3160    3106*
SRCBF1  002 1102 3149    3091* 3093  3122* 3124
SRCBF2  002 1104 3150    3092* 3106  3122  3123*
SRCCNT  001 110B 3154    3112* 3114  3119*
SRCC01  002 110D 3155    3104  3119
SRCDAD  002 1110 3158    3107*
SRCDPL  001 110E 3156    3109
SRCGET  001 110E 3157
SRCHFN  001 1063 3084    2749
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                         CROSS REFERENCE

SYMBOL  LEN VALUE DEFN   REFERENCES                      VER 15, MOD 00  05/06/22  PAGE  82

SRCSCT  001 1111 3159
SRC010  004 1067 3087   3086  3087
SRC020  004 1081 3095   3125
SRC030  004 10A5 3112   3105
SRC035  005 10B2 3116   3120
SRC040  004 10D6 3129   3117
SRC050  003 10DE 3131   3144
SRC055  003 10C4 3121   3098* 3111* 3115
SRC060  004 10F6 3142   3121
SRC900  004 10EA 3134   3085*
SRC910  004 10EE 3135   3088*
SRC920  004 10F2 3136   3089*
SUFBSE  001 1252 3658   3620  3623
SUFFER  001 121F 3621   2158  4165
SUFND0  004 12E0 3732   3622* 3722
SUFND2  004 12E4 3733   3624*
SUF100  004 1252 3659   3644  3648
SUF200  003 128A 3688   3666
SUF400  003 1295 3691   3721
SUF600  003 129E 3693   3664  3680
SUF625  003 12A1 3694
SUF650  004 12B7 3702   3696
SUF680  004 12CF 3716   3700  3715* 3717
SUF750  003 12D7 3721   3661  3677  3691  3705
SUF780  003 12DA 3722   3730
SUF800  003 12DD 3730   3694  3698  3714
SVOBSE  001 1126 3326   3313  3315
SVOBUF  001 121F 4165   3417* 3463
SVOCT1  001 116D 3375   3332* 3376
SVOCT2  001 116E 3379   3330* 3341  3380
SVOEND  001 00FF 3304   3417* 3463
SVOERR  001 0469 2795   3366
SVOINP  001 0100 3303   3417  3463
SVOLID  001 1114 3312   2668  4196
SVOLN1  001 0001 3300   3330  3332
SVOONE  001 116F 3382   3330  3332
SVO001  001 00F1 3301   3443
SVO002  001 00F2 3302   3446
SVO100  005 1126 3327   3333
SVO200  003 1137 3331   3328
SVO260  004 114E 3352   3476
SVO270  004 1159 3355   3343  3392  3466
SVO274  004 115D 3363   3314* 3353
SVO276  004 1161 3364   3316*
SVO280  004 1165 3366   3355*
SVO290  004 1169 3367   3317*
SVO300  004 1170 3390   3344
SVO310  004 1174 3391
SVO315  003 1178 3392
SVO320  001 117B 3400   3447  3453  3461
SVO330  001 118D 3414   3418*
SVO333  004 1199 3420   3416
SVO335  004 11A3 3423   3404*
SVO350  004 11AB 3425   3426
SVO360  003 11C1 3439   3441
SVO400  003 11DB 3449   3444
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                                   CROSS REFERENCE

SYMBOL  LEN VALUE DEFN   REFERENCES                        VER 15, MOD 00  05/06/22  PAGE  83

SVO440  003  11EB 3455    3450
SVO445  003  11EE 3456    3458
SVO450  005  1205 3464


TOTAL STATEMENTS IN ERROR IN THIS ASSEMBLY =      0


OL105 I   THE CODE LENGTH OF #KNAME IS  5108 DECIMAL.
OL103 I   TOTAL NUMBER OF LIBRARY SECTORS REQUIRED IS   12
          NAME-#KNAME,PACK-R1R1R1,UNIT-R1,RETAIN-P,LIBRARY-R,CATEGORY-000
```

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      OVERLAY LINKAGE EDITOR CORE USAGE MAP    05/06/22


 START     CATEGORY   NAME AND      CODE LENGTH
ADDRESS               ENTRY     HEXADECIMAL DECIMAL

 0C00         0     #KNAME          13F4    5108


OL100 I  THE TOTAL CORE USED BY #KNAME IS  5108 DECIMAL.
OL101 I  THE START CONTROL ADDRESS OF THIS MODULE IS 0C00.
OL104 I  TOTAL NUMBER OF LIBRARY SECTORS REQUIRED IS   20
         NAME-#KNAME,PACK-R1R1R1,UNIT-R1,RETAIN-P,LIBRARY-O
```