```
                                IDENT      SSST
                000032    PROGRAM LENGTH

                          BLOCKS

       000000   000032    PROGRAM*    LOCAL

                          ENTRY POINTS

                             000000 LOOKUP

                          EXTERNAL SYMBOLS

                          HASHS      HASHB      SD.SYMT    STFULL1    STFULL2
```

```
                                        *       X1,A1     START OF NAME
                                        *       B7        RETURN LINK
                                        *
                                        *       RETURNS IN X4 THE SYMBOL TABLE OFFSET FOR THE START OF THE ENT
                                        *
                                                ENTRY     LOOKUP
                                                EXT       HASHS,HASHB
                                                EXT       SD.SYMT,STFULL1,STFULL2
000000  22411                           LOOKUP  LX4       X1,B1     .. OBTAIN ZERO SIGN BIT
              21411                             AX4       12+1-4    .. POSITION FIRST CHARACTER INTO MANTISSA
                    5130000000 X                SA3       HASHS     .. GET HASH SIZE
000001  27404                                   PX4       X4
              24404                             NX4       X4        .. NORMIALIZE INPUT
                    44643                       FX6       X4/X3     .. DIVIDE BY SIZE OF HASH TABLE
                          26656                 UX6       X6,B5
000002  22656                                   LX6       X6,B5     .. INTEGER QUOTIENT
              27606                             PX6       X6
                    24606                       NX6       X6        .. NORMALIZE QUOTIENT
                          40663                 FX6       X6*X3     .. MULTIPLY BY SIZE
000003  31646                                   FX6       X4-X6     .. GET REMAINDER
              26656                             UX6       X6,B5
                    22656                       LX6       X6,B5     .. INTEGER REMAINDER
                          43772                 MX7       58        .. TWO BITS FOR SHIFT COUNT
000004  15767                                   BX7       -X7*X6
              21602                             AX6       2         .. TABLE INDEX
                    5130000000 X                SA3       HASHB     .. GET BASE ADDRESS OF HASH TABLE
000005  10477                                   BR4       X7
              20404                             LX4       4         .. *16
                    37447 43755                 IX4       X4-X7     .. *15
                                                MX7       45
000006  63530                                   SB5       X3
              63440                             SB4       X4
                    53265                       SA2       B5+X6     .. GET HASH TABLE WORD
                          22242                 LX2       X2,B4     .. POSITION POINTER
000007  66300                                   SB3       B0        .. ZERO LEVEL COUNT
              5130000000 X                      SA3       SD.SYMT
                          21344                 AX3       36
000010  63530                                   SB5       X3        .. GET BASE OF SYMBOL TABLE
              76600                             SX6       B0        .. ZERO X6 FOR ADDHERE
                    6144777703                  SB4       B4-60     .. FORM NEGATIVE RIGHT SHIFT
000011  15327                           NEWPTR  BX3       -X7*X2    .. EXTRACT POINTER
              0303000017 +                      ZR        X3,ADDHERE          .. ZERO POINTER
                    53235                       SA2       X3+B5     .. OBTAIN HEADER
000012  5032000002                              SA3       A2+2      .. FIRST WORD OF NAME
              37631                             IX6       X3-X1     .. COMPARE WITH INPUT
                    66331                       SB3       B3+B1     .. INCREMENT LEVEL COUNT
000013  0316000011 +                            NZ        X6,NEWPTR .. INPUT NE ENTRY
              54411                             SA4       A1+B1     .. NEXT WORD OF INPUT
000014  0323000031 +                   CHECKALL  PL        X3,FOUND  .. LAST WORD OF NAME HAS ZERO SIGN
              54331                             SA3       A3+B1     .. NEXT WORD OF SYMBOL TABLE
                    37634                       IX6       X3-X4     .. COMPARE WITH NEXT WORD OF INPUT
000015  0316000011 +                            NZ        X6,NEWPTR .. NOT EQUAL
              54441                             SA4       A4+B1     .. NEXT WORD OF INPUT
```

```
000016  0200000014 +                        JP     CHECKALL  •• STILL EQUAL CHECK FOR END
000017  5130000000 X              ADDHERE   SA3    SD•SYMT   •• ADD SYMBOL TO TABLE
                  63330                     SB3    X3        •• GET ABSOLUTE TOP PTR
                       77435                SX4    B3-B5     •• GET RELATIVE TOP PTR
000020  12724                               BX7    X2+X4     •••ADD TOP PTR TO LAST WORD IN CHAIN
             0316000021 +                   NZ     X6•NOTHT  •• USE ZERO X6 TO INDICATE IN HASH TABLE
                       23747                AX7    X7•B4     •• REPOSITION HASH TABLE WORD B4 IS NEGATIVE
000021  21322                     NOTHT     AX3    18        •• GET END OF SYMBOL TABLE
             63430                          SB4    X3        •••
                  5072000000                SA7    A2+0      •• REPLACE POINTING ENTRY
000022  7170000003                          SX7    TY•TOK    •• FORM FIRST WORD
                  20766                     LX7    54        •••
000023  0634000000 X                        GE     B3•B4•STFULL1
                  56730                     SA7    B3     ••• STORE FIRST WORD
                       43701                MX7    1         •• MINUS SECOND WORD
000024  66331                     STOREL    SB3    B3+B1     •• INCREMENT TOP
             0634000000 X                   GE     B3•B4•STFULL2
                       56730                SA7    B3        •• STORE NEXT WORD
000025  0327000027 +                        PL     X7•LASTNAME
                  10711                     BX7    X1        •• READY NEXT WORD
                       54111                SA1    A1+B1     •• FILL BUFFER REGISTER
000026  0200000024 +                        JP     STOREL
000027  76631                     LASTNAME  SX6    B3+B1     •• REMAKE STACK DESCRIPTOR
             20322                          LX3    18        •• ZEROS SHOULD BE IN THE NEXT FIELD
                  12736                     BX7    X3+X6
                       54730                SA7    A3        •• RESTORE TABLE DESCRIPTOR
000030  0270000000                          JP     B7        •• RETURN
000031  75425                     FOUND     SX4    A2-B5     •• RETURN SYMBOL TABLE POINTER
             0270000000                     JP     B7        •• RETURN
                                            LIST   X
                                  SSSS      XTEXT
                        0000001   TY•EQU    EQU    1                                              SSSS   .1
                        0000000   TY•SET    EQU    0                                              SSSS   .1
                        0000003   TY•TOK    EQU    3                                              SSSS   .1
                        0000004   TY•MAC    EQU    4                                              SSSS   .1
                        0000002   TY•CELL   EQU    2                                              SSSS   .1
                        0000005   TY•DS     EQU    5                                              SSSS   .1
                        0000006   TY•CTRL   EQU    6                                              SSSS   .1
                        0000007   TY•BASED  EQU    7                                              SSSS   .1
                        0000010   TY•PARAM  EQU    8                                              SSSS   .1
                        0000011   TY•AUTO   EQU    9                                              SSSS   .1
                        0000012   N•TYPES   EQU    10                                             SSSS   .1
                                  *                                                               SSSS   .1
                        0000001   AX.PROC   EQU    1                                              SSSS   .1
                        0000002   AX.ARRAY  EQU    2                                              SSSS   .1
                        0000003   AX.CONST  EQU    3                                              SSSS   .1
                        0000004   AX.TEMP   EQU    4                                              SSSS   .1
                                  *                                                               SSSS   .1
                        0000000   FLG.GLOB  EQU    0                                              SSSS   .1
                        0000001   FLG.EEF   EQU    1                                              SSSS   .1
                                  *                                                               SSSS   .1
                        0000001   W•FIXED   EQU    1                                              SSSS   .1
                        0000002   W•FLOAT   EQU    2                                              SSSS   .1
```

```
                  0000003   W.CHAR    EQU      3                          SSSS    .1
                  0000004   W.BIT     EQU      4                          SSSS    .1
                  0000005   W.POINT   EQU      5                          SSSS    .1
                  0000006   W.EVENT   EQU      6                          SSSS    .1
                  0000007   W.TASK    EQU      7                          SSSS    .1
                  0000010   W.CODE    EQU      8                          SSSS    .1
                  0000011   W.DBLE    EQU      9                          SSSS    .1
                  0000012   W.CMPLX   EQU      10                         SSSS    .1
                  0000013   W.LABEL   EQU      11                         SSSS    .1
   000032                             END

                        119 STATEMENTS      41  SYMBOLS
```

SYMBOLIC REFERENCE TABLE (PAGE-LOCATION)

ADDHERE	0000017	PROGRAM*	2-00011	
CHECKALL	0000014	PROGRAM*	3-00016	
FOUND	0000031	PROGRAM*	2-00014	
HASHB	0000000	EXTERNAL*	2-00004	
HASHS	0000000	EXTERNAL*	2-00000	
LASTNAME	0000027	PROGRAM*	3-00025	
NEWPTR	0000011	PROGRAM*	2-00013,	2-00015
NOTHT	0000021	PROGRAM*	3-00020	
SD.SYMT	0000000	EXTERNAL*	2-00007,	3-00017
STFULL1	0000000	EXTERNAL*	3-00023	
STFULL2	0000000	EXTERNAL*	3-00024	
STOREL	0000024	PROGRAM*	3-00026	
TY.TOK	0000003		3-00022	

END OF FILE