```
RRRRRRRRRRRR      MMM         MMM     SSSSSSSSSSSS
RRRRRRRRRRRR      MMM         MMM     SSSSSSSSSSSS
RRRRRRRRRRRR      MMM         MMM     SSSSSSSSSSSS
RRR         RRR   MMMMMM   MMMMMM  SSS
RRR         RRR   MMMMMM   MMMMMM  SSS
RRR         RRR   MMMMMM   MMMMMM  SSS
RRR         RRR   MMM   MMM   MMM  SSS
RRR         RRR   MMM   MMM   MMM  SSS
RRR         RRR   MMM   MMM   MMM  SSS
RRRRRRRRRRRR      MMM         MMM     SSSSSSSSS
RRRRRRRRRRRR      MMM         MMM     SSSSSSSSS
RRRRRRRRRRRR      MMM         MMM     SSSSSSSSS
RRR   RRR         MMM         MMM              SSS
RRR   RRR         MMM         MMM              SSS
RRR   RRR         MMM         MMM              SSS
RRR      RRR      MMM         MMM              SSS
RRR      RRR      MMM         MMM              SSS
RRR      RRR      MMM         MMM              SSS
RRR         RRR   MMM         MMM  SSSSSSSSSSSS
RRR         RRR   MMM         MMM  SSSSSSSSSSSS
RRR         RRR   MMM         MMM  SSSSSSSSSSSS
```

```
**FILE**ID**RM2CREATE                                H 1                                                    RM
                                                                                                            V0
```

```
RRRRRRRR    MM      MM    222222      CCCCCCCC  RRRRRRRR    EEEEEEEEEE    AAAAAA    TTTTTTTTTT  EEEEEEEEEE
RRRRRRRR    MM      MM    222222      CCCCCCCC  RRRRRRRR    EEEEEEEEEE    AAAAAA    TTTTTTTTTT  EEEEEEEEEE
RR      RR  MMMM  MMMM  22      22  CC          RR      RR  EE            AA      AA      TT      EE
RR      RR  MMMM  MMMM  22      22  CC          RR      RR  EE            AA      AA      TT      EE
RR      RR  MM  MM  MM          22  CC          RR      RR  EE            AA      AA      TT      EE
RR      RR  MM  MM  MM          22  CC          RR      RR  EE            AA      AA      TT      EE
RRRRRRRR    MM      MM        22    CC          RRRRRRRR    EEEEEEEE      AA      AA      TT      EEEEEEEE
RRRRRRRR    MM      MM        22    CC          RRRRRRRR    EEEEEEEE      AA      AA      TT      EEEEEEEE
RR  RR      MM      MM      22      CC          RR  RR      EE            AAAAAAAAAA      TT      EE
RR  RR      MM      MM      22      CC          RR  RR      EE            AAAAAAAAAA      TT      EE
RR    RR    MM      MM    22        CC          RR    RR    EE            AA      AA      TT      EE                ....
RR    RR    MM      MM    22        CC          RR    RR    EE            AA      AA      TT      EE                ....
RR      RR  MM      MM  2222222222    CCCCCCCC  RR      RR  EEEEEEEEEE    AA      AA      TT      EEEEEEEEEE        ....
RR      RR  MM      MM  2222222222    CCCCCCCC  RR      RR  EEEEEEEEEE    AA      AA      TT      EEEEEEEEEE        ....

LL              IIIIII      SSSSSSSS
LL              IIIIII      SSSSSSSS
LL                II      SS
LL                II      SS
LL                II      SS
LL                II      SS
LL                II        SSSSSS
LL                II        SSSSSS
LL                II              SS
LL                II              SS
LL                II              SS
LL                II              SS
LLLLLLLLLL      IIIIII    SSSSSSSS
LLLLLLLLLL      IIIIII    SSSSSSSS
```

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```
0000          $BEGIN  RM2CREATE,000,RM$RMS2,<RELATIVE-SPECIFIC CREATE>
0000
0000    ;
0000    ;****************************************************************************
0000    ;*                                                                          *
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0000    ;*                                                                          *
0000    ;****************************************************************************
0000    ;
```

```
0000   ;++
0000   ;
0000   ; Facility: rms32
0000   ;
0000   ; Abstract:
0C00   ;
0000   ;       this routine performs the relative file
0000   ;       organization-specific create processing.
0000   ;
0000   ; Environment:
0000   ;               star processor running starlet exec.
0000   ;
0000   ; Author: L F Laverdure,          Creation Date: 7-DEC-1977
0000   ;
0000   ; Modified By:
0000   ;
0000   ;       V03-011 RAS0284         Ron Schaefer            30-Mar-1984
0000   ;               Fix STV value on error paths for RMS$_RPL and RMS$_WPL errors.
0000   ;
0000   ;       V03-010 RAS0265         Ron Schaefer             9-Mar-1984
0000   ;               Bump IFB$W_AVLCL to count the BDB & buffer we allocate.
0000   ;
0000   ;       V03-009 KPL0002         Peter Lieberwirth       30-Jul-1983
0000   ;               If AI journaling, journal the prolog.
0000   ;
0000   ;       V03-008 MCN0003         Maria del C. Nasr       08-Mar-1983
0000   ;               I forgot to include $BKTDEF for MCN0002.
0000   ;
0000   ;       V03-007 MCN0002         Maria del C. Nasr       07-Mar-1983
0000   ;               Use symbolic name for maximum bucket size.
0000   ;
0000   ;       V03-006 KBT0462         Keith B. Thompson       13-Jan-1983
0000   ;               Allocate a bdb and buffer to read in prologue
0000   ;
0000   ;       V03-005 MCN0001         Maria del C. Nasr       16-Dec-1982
0000   ;               Maximum number of blocks per bucket was increased from
0000   ;               32 to 127.
0000   ;
0000   ;       V03-004 KBT0332         Keith B. Thompson       10-Sep-1982
0000   ;               Remove $FRBDEF
0000   ;
0000   ;       V03-003 KBT0132         Keith B. Thompson       20-Aug-1982
0000   ;               Reorganize psects
0000   ;
0000   ;       V03-002 KBT0116         Keith B. Thompson       6-Aug-1982
0000   ;               Remove ref. to set_sifb_ptr
0000   ;
0000   ;       V03-001 KBT0097         Keith B. Thompson       13-Jul-1982
0000   ;               Clean up psects
0000   ;
0000   ;       V02-017 CDS0012         C Saether       5-Feb-1982
0000   ;               Back out V02-016.  GBC now in record attributes.
0000   ;
0000   ;       V02-016 CDS0011         C Saether       3-Jan-1982
0000   ;               Store GBC field from FAB to plg.
0000   ;
0000   ;       V02-015 CDS0010         C Saether      25-Aug-1981
```

```
0000     85 ;               Replace call to RM$ALLOC_BCB with RM$ALBLB.
0000     86 ;
0000     87 ;       V02-014 RAS0028         Ron Schaefer    20-Aug-1981
0000     88 ;               Change FAB$C_STM11 to FAB$C_STM.
0000     89 ;
0000     90 ;       V02-013 RAS0015         Ron Schaefer    7-Jul-1981
0000     91 ;               Correct record format check for stream format files.
0000     92 ;
0000     93 ;       V02-012 KPL0001         Peter Lieberwirth       24-Jul-1981
0000     94 ;               Fix broken branches.
0000     95 ;
0000     96 ;       V02-011 CDS0012         C SAETHER       28-Aug-1980     16:00
0000     97 ;               Fix sense of test in V009.
0000     98 ;
0000     99 ;--
0000    100 ;
0000    101
```

```
                0000          .SBTTL  DECLARATIONS
                0000
                0000    ;
                0000    ; Include Files:
                0000    ;
                0000
                0000    ;
                0000    ; Macros:
                0000    ;
                0000
                0000          $FABDEF
                0000          $IFBDEF
                0000          $BKTDEF
                0000          $CSHDEF
                0000          $DEVDEF
                0000          $BDBDEF
                0000          $PLGDEF
                0000          $RLSDEF
                0000          $RMSDEF
                0000          $RJRDEF
                0000          $CJFDEF
                0000
                0000    ;
                0000    ; Equated Symbols:
                0000    ;
                0000
       00000020 0000          FOP=FAB$L_FOP*8                 ; bit offset to fop
                0000
                0000    ;
                0000    ; Own Storage:
                0000    ;
                0000
```

```
0000         .SBTTL  RM$CREATE2 - RELATIVE CREATE ROUTINE
0000
0000  ;++
0000  ;
0000  ; RM$CREATE2
0000  ;
0000  ;       RM$CREATE2 -
0000  ;
0000  ;       this routine performs all of the file create
0000  ;       functions that are specific to the relative
0000  ;       file organization, including:
0000  ;
0000  ;       1. checking that sharing has not been specified in such a way
0000  ;           that inter-process record locking is required.
0000  ;       2. checking that device is a disk if not bio mode
0000  ;       3. checking that record format is not undefined or stream
0000  ;       4. checking that bucket size and maximum record size are compatible
0000  ;       5. verifying maximum record number
0000  ;       6. checking xab chain validity
0000  ;       7. calling the common create routine
0000  ;       8. locking the prolog, initial formatting of the data buckets to zeroes
0000  ;       9. initializing and unlocking the prolog
0000  ;
0000  ; Calling sequence:
0000  ;
0000  ;       entered via case branch from rm$open
0000  ;       returns by jumping to rm$createxit
0000  ;
0000  ; Input Parameters:
0000  ;
0000  ;       r11     impure area address
0000  ;       r10     fwa address
0000  ;       r9      ifab address
0000  ;       r8      fab address
0000  ;
0000  ; Implicit Inputs:
0000  ;
0000  ;       the contents of the fab, ifab, & fwa.
0000  ;
0000  ; Output Parameters:
0000  ;
0000  ;       r0      status code
0000  ;       r1-r7   destroyed
0000  ;
0000  ; Implicit Outputs:
0000  ;
0000  ;       various fields in the ifab & fab are initialized.
0000  ;
0000  ; Completion Codes:
0000  ;
0000  ;       standard rms
0000  ;
0000  ; Side Effects:
0000  ;
0000  ;       none
0000  ;
0000  ;--
```

```
                                        0000   193
```

```
                       0000    195
                       0000    196 ;
                       0000    197 ;  code to handle error conditons.
                       0000    198 ;  (note: this is not the entry point for the rm$create2 routine.)
                       0000    199 ;
                       0000    200
                       0000    201 ERRDEV:
                       0000    202         RMSERR  DEV                     ; device not disk
     FFF8'    31       0005    203 ERRXIT: BRW     RM$CREATEXIT            ; go clean up
                       0008    204
     FFF5'    31       0008    205 ERRRFM: BRW     RM$CRE_ERRRFM           ; rfm = udf or > vfc
                       000B    206
     FFF2'    31       000B    207 ERRMRS: BRW     RM$CRE_ERRMRS           ; mrs < or = 0
                       000E    208
                       000E    209 ERRBKS:
                       000E    210         RMSERR  BKS                     ; bks > BKT$C_MAXBKTSIZ or < cell size
        F0    11       0013    211         BRB     ERRXIT                  ; go clean up
                       0015    212
                       0015    213 ERRMRN:
                       0015    214         RMSERR  MRN                     ; mrn < 0
        E9    11       001A    215         BRB     ERRXIT                  ; go clean up
                       001C    216
```

```
                          001C
                          001C  ;++
                          001C  ;  entry point for relative-specific create
                          001C  ;
                          001C  ;--
                          001C
                          001C  RM$CREATE2::
                          001C          $TSTPT  CREATE2
                          0022
                          0022  ;
                          0022  ;  check that device is disk
                          0022  ;
                          0022
        22 A9    05   E0  0022          BBS     #IFB$V_BIO,IFB$B_FAC(R9),-
                 04       0026                  5$                      ; allow bio on any dev
           69    1C   E1  0027          BBC     #DEV$V_RND,IFB$L_PRIM_DEV(R9),-
                 D5       002A                  ERRDEV                  ; branch if not disk
                          002B
                          002B  ;
                          002B  ;  handle allocation request, if any
                          002B  ;
                          002B
             FFD2'    30  002B  5$:     BSBW    RM$SETALLOC             ; handle allocation xab and
                          002E                                          ;  set deq and rtdeq
                          002E  ERRXIT1:
           D4 50      E9  002E          BLBC    R0,ERRXIT               ; get out on error
           10 A8      D5  0031          TSTL    FAB$L_ALQ(R8)           ; any initial allocation?
              03      12  0034          BNEQ    10$                     ; branch if yes
           10 A8      D6  0036          INCL    FAB$L_ALQ(R8)           ; no - need 1 block for prolog
                          0039
                          0039  ;
                          0039  ;  check rfm and mrs parameters
                          0039  ;
                          0039  ; assume rfm already checked for gtr than maxrfm
                          0039  ;
                          0039
                          0039          ASSUME  FAB$C_UDF       EQ      0
                          0039
           50 A9      95  0039  10$:    TSTB    IFB$B_RFMORG(R9)        ; is rfm undefined?
              CA      13  003C          BEQL    ERRRFM                  ; branch if yes
                          003E
                          003E          ASSUME  FAB$C_STM       GT      FAB$C_VFC
                          003E
           50 A9      91  003E          CMPB    IFB$B_RFMORG(R9),-
              04          0041                  #FAB$C_STM              ; is rfm stream?
              C4      1E  0042          BGEQU   ERRRFM                  ; branch if yes
                          0044
     52 A9     36 A8  B0  0044          MOVW    FAB$W_MRS(R8),IFB$W_LRL(R9)-
                          0049                                          ; set lrl from fab mrs
              C0      15  0049          BLEQ    ERRMRS                  ; branch if not > 0
                          004B
                          004B  ;
                          004B  ;  compute cell size
                          004B  ;
                          004B
  50    01     36 A8  A1  004B          ADDW3   FAB$W_MRS(R8),#1,R0     ; add in delete ctrl byte
           50 A9      91  0050          CMPB    IFB$B_RFMORG(R9),-
```

```
                 01       0053   275                #FAB$C_FIX                   ; fixed rec len?
                 0A   13  0054   276          BEQL      30$                      ; branch if yes
           50    02   A0  0056   277          ADDW2     #2,R0                    ; add in record length field
        51    5F A9   9A  0059   278          MOVZBL    IFB$B_FSZ(R9),R1         ; get fsz
           50    51   A0  005D   279          ADDW2     R1,R0                    ; and add in giving tot. size
                          0060   280
                          0060   281 ;
                          0060   282 ;  check cell size against bks
                          0060   283 ;
                          0060   284
        51    3E A8   9A  0060   285 30$:     MOVZBL    FAB$B_BKS(R8),R1         ; copy bucket size from fab
                 0C   12  0064   286          BNEQ      40$                      ; branch if speced
                          0066   287
                          0066   288 ;
                          0066   289 ; default bucket size to min.
                          0066   290 ; required to contain 1 record
                          0066   291 ;
                          0066   292
                 50   B7  0066   293          DECW      R0                       ; round down
   51     50   0200 8F   A7  0068   294          DIVW3     #512,R0,R1               ; get # blks - 1 for 1 record
                 51   B6  006E   295          INCW      R1                       ; get # blks for 1 record
                 50   B6  0070   296          INCW      R0                       ; restore cell size
        5E A9    51   90  0072   297 40$:     MOVB      R1,IFB$B_BKS(R9)         ; copy bucket size to ifab
           3F    51   91  0076   298          CMPB      R1,#BKT$C_MAXBKTSIZ      ; in range?
                 93   1A  0079   299          BGTRU     ERRBKS                   ; branch if not
     51    51    09   78  007B   300          ASHL      #9,R1,R1                 ; compute bucket size in bytes
           51    50   B1  007F   301          CMPW      R0,R1                    ; cell size < or = bucket size?
                 8A   1A  0082   302          BGTRU     ERRBKS                   ; branch if not
                          0084   303                                             ;  set mrn value
    00AC C9    38 A8  D0  0084   304          MOVL      FAB$L_MRN(R8),IFB$L_MRN(R9)
                          008A   305                                             ; set mrn from fab
                 0B   14  008A   306          BGTR      50$                      ; branch if > 0
                 87   19  008C   307          BLSS      ERRMRN                   ; error if < 0
00AC C9   7FFFFFFF 8F  D0  008E   308          MOVL      #^X7FFFFFFF,IFB$L_MRN(R9)
                          0097   309                                             ; default to max. pos #
                          0097   310
                          0097   311 ;
                          0097   312 ;  go do create.
                          0097   313 ;  (note: this may be a 'create if', in which case return will be
                          0097   314 ;   made to rms0open if actually opened rather than created.)
                          0097   315 ;
                          0097   316
              FF66'   30  0097   317 50$:     BSBW      RMSCREATECOM             ; do common create
              91 50   E9  009A   318          BLBC      R0,ERRXIT1               ; get out on error
                 50   DD  009D   319          PUSHL     R0                       ; save status code
                          009F   320
                          009F   321 ;
                          009F   322 ;  file has been created.
                          009F   323 ;  allocate a lock bdb and bcb and lock the prolog.
                          009F   324 ;
                          009F   325
           5A    59   D0  009F   326          MOVL      R9,R10                   ; set r10 to ifab addr
        22 A9    05   E'  00A2   327          BBC       #IFB$V_BIO,IFB$B_FAC(R9),-
                 03       00A6   328                    52$                      ; continue unless block i/o
               0096   31  00A7   329          BRW       EXIT                     ; avoid formatting for block io
     55    0200 8F    3C  00AA   330 52$:     MOVZWL    #512,R5                  ; ask for 1 block to read prologue
              FF4E'   30  00AF   331          BSBW      RM$ALDBUF                ; get bdb and buffer
              46 50   E9  00B2             BLBC    R0, 70$                   ; Branch on error.
            0084 C9   B6  00B5             INCW    IFB$W_AVLCL(R9)           ; count BDB & buffer
         06 6A   33   E0  00B9             BBS     #IFB$V_NORECLK,(R10),55$ ; Branch if not locking.
            FF40'  30  00BD             BSBW    RM$ALBLB                  ; Get a lock BLB.
              38 50   E9  00C0             BLBC    R0, 70$                   ; Branch on error.
                          00C3      55$:   $CACHE  VBN=#1,-
                          00C3                     SIZE=#0,-
                          00C3                     FLAGS=<LOCK,NOREAD,NOBUFFER>
              2A 50   E9  00CE             BLBC    R0,70$                    ; branch on error
                          00D1
                          00D1      ;
                          00D1      ;  format file by writing zeroes to allocated space
                          00D1      ;
                          00D1
       00B0 C9    02  D0  00D1             MOVL    #2,IFB$L_DVBN(R9)        ; set first data vbn
            51    02  D0  00D6             MOVL    #2,R1                    ; 1st block for zeroing
    56   70 A9    01  C1  00D9             ADDL3   #1,IFB$L_HBK(R9),R6      ; compute eof block
         74 A9    56  D0  00DE             MOVL    R6,IFB$L_EBK(R9)         ; save it
            02    56  D1  00E2             CMPL    R6,#2                    ; eof in vbn 2?
            06    13      00E5             BEQL    60$                      ; branch if yes (no need to zero)
           FF16'  30      00E7             BSBW    RM$FMT_BKT2              ; format (zero) data buckets
            56 50  E9     00EA             BLBC    R0,RLNERR                ; branch on error
                          00ED
                          00ED      ;
                          00ED      ;  get buffer for prolog and initialize prolog.
                          00ED      ;
                          00ED
                          00ED      60$:   $CACHE  VBN=#1,-
                          00ED                     SIZE=#512,-
                          00ED                     FLAGS=<LOCK,NOREAD>      ; get buffer for prolog
              45 50   E9  00FB      70$:   BLBC    R0,ERRBUG                ; branch on error
                 30   BB  00FE             PUSHR   #^M<R4,R5>               ; save bdb and buffer addr
65   0200 8F   00   6E   00   2C  0100             MOVC5   #0,(SP),#0,#512,(R5)     ; zero buffer
                 30   BA  0108             POPR    #^M<R4,R5>               ; restore bdb and buffer addr
         74 A5    01  B0  010A             MOVW    #PLG$C_VER_NO,PLG$W_VER_NO(R5)
                          010E                                              ; set version #
         70 A5    56  D0  010F             MOVL    R6,PLG$L_EOF(R5)         ; and eof vbn
    68 A5   00B0 C9   B0  0112             MOVW    IFB$L_DVBN(R9),PLG$W_DVBN(R5)
                          0118                                              ; and first data vbn
    6C A5   00AC C9   D0  0118             MOVL    IFB$L_MRN(R9),PLG$L_MRN(R5)
                          011E                                              ; and max record number
           FEDF'  30      011E             BSBW    RM$MAKSUM                ; calculate and set checksum
         0A A4    03  88  0121             BISB2   #BDB$M_DRT!BDB$M_VAL,BDB$B_FLGS(R4)
                          0125                                              ; say valid and dirty
            53    02  D0  0125             MOVL    #RLS$M_WRT_THRU,R3       ; cause immediate write
            7E    55  D0  0128             MOVL    R5,-(SP)                 ; protect PLG address from RELEASE
           FED2'  30      012B             BSBW    RM$RELEASE               ; release prolog
            55    8E  D0  012E             MOVL    (SP)+,R5                 ; restore PLG address
              24 50   E9  0131             BLBC    R0,RLSERR                ; branch on error
                          0134
                          0134      ;
                          0134      ; If AI journaling, journal the prolog so that the CREATE can be AI recovered.
                          0134      ;
                          0134
    06 00A0 C9    03  E1  0134             BBC     #IFB$V_AI,IFB$B_JNLFLG(R9),EXIT ; skip if not AI journaling
            003B  30      013A             BSBW    JNL_REC_PLG              ; journal the prolog
              2D 50   E9  013D             BLBC    R0,ERRJNL                ; branch on error
```

```
                         FEBD'  31  0140     EXIT:    BRW     RM$CREATEXIT1              ; Finish up create
                                    0143
                                    0143     ;
                                    0143     ; handle errors
                                    0143     ;
                                    0143
                                    0143     ERRBUG:
                                    0143     RLNERR:                                     ; failed zero data buckets
                            50  DD  0143              PUSHL   R0                         ; store status
                                    0145              $CACHE  VBN=#1,-
                                    0145                      SIZE=#0,-
                                    0145                      ERR=EXIT                   ; re-get prolog bdb
                     00000000'EF  16  0150              JSB     RM$RLNERR                  ; unlock prolog
                            E8  11  0156              BRB     EXIT                       ; and get out
                                    0158
                         0C A8  D5  0158     RLSERR:  TSTL    FAB$L_STV(R8)              ; do we have an stv?
                            09  12  015B              BNEQ    10$                        ; okay use it
      0C A8    6E    00001000 8F  C9  015D              BISL3   #^X1000,(SP),FAB$L_STV(R8); else set the RMS error there
                                    0166     10$:     RMSERR  WPL,(SP)                   ; prolog write error
                            D3  11  016B              BRB     EXIT                       ; go clean up
                                    016D
                                    016D     ERRJNL:  RMSERR  CJF,(SP)                   ; journal write error
                     0C A8  50  D0  0172              MOVL    R0,FAB$L_STV(R8)           ; save CJF status where user can find it
                            C8  11  0176              BRB     EXIT                       ; go clean up
                         0178          .SUBTITLE JNL_REL_PLG - Journal the relative Prolog
                         0178   ;++
                         0178   ; JNL_REL_PLG
                         0178   ;
                         0178   ;       This routine writes the prolog as a block entry to the AI journal.
                         0178   ;
                         0178   ; Inputs:
                         0178   ;
                         0178   ;       r9      IFAB
                         0178   ;       r5      PLG
                         0178   ;
                         0178   ; Outputs:
                         0178   ;
                         0178   ;       r0      status
                         0178   ;
                         0178   ;       PROLOG witten to the journal.
                         0178   ;
                         0178   ;--
                         0178
                         0178   JNL_REL_PLG:
                         0178
        53    30 A9   D0 0178          MOVL    IFB$L_JNLBDB(R9),R3             ; get address of BDB/Buffer
        52    18 A3   D0 017C          MOVL    BDB$L_ADDR(R3),R2               ; get RJR address
                         0180
                         0180   ;
                         0180   ; Set up the common RJR overhead.
                         0180   ;
     03 A2    03      90 0180          MOVB    #RJR$C_BLOCK,RJR$B_ENTRY_TYPE(R2)       ; block IO
     04 A2    01      90 0184          MOVB    #RJR$C_REL,RJR$B_ORG(R2)                ; file organization
     05 A2    1E      90 0188          MOVB    #RJR$_WRITE,RJR$B_OPER(R2)              ; operation
                         018C
                         018C   ;
                         018C   ; Set up the block IO entry.
                         018C   ;
     3C A2    01      D0 018C          MOVL    #1,RJR$L_BLOCK_VBN(R2)          ; PROLOG is VBN 1
 40 A2  00000200 8F   D0 0190          MOVL    #512,RJR$L_BLOCK_SIZE(R2)       ; size of PROLOG is 512 bytes
              3C      BB 0198          PUSHR   #^M<R2,R3,R4,R5>                ; save MOVC3 regs
44 A2   64   0200 8F  28 019A          MOVC3   #512,(R4),RJR$T_BLOCK(R2)       ; copy the prolog
              3C      BA 01A1          POPR    #^M<R2,R3,R4,R5>                ; restore MOVC3 regs
                         01A3
                         01A3   ;
                         01A3   ; Set up the WRTJNL call parameters.
                         01A3   ;
        7E    53      D0 01A3          MOVL    R3,-(SP)                        ; JNLBDB address
        7E    03      D0 01A6          MOVL    #CJF$_AI,-(SP)                  ; AI journaling
      00000000'EF     16 01A9          JSB     RM$WRTJNL                       ; write entry to journal
                         01AF
        5E    08      C0 01AF          ADDL2   #8,SP                           ; pop parameters off stack
                      05 01B2          RSB                                     ; return WRTJNL status to caller
                         01B3
                         01B3          .END
```

```
                                                           I  2
RM2CREATE                       RELATIVE-SPECIFIC CREATE              16-SEP-1984 01:01:32  VAX/VMS Macro V04-00        Page  13
Symbol table                                                           5-SEP-1984 16:24:00  [RMS.SRC]RM2CREATE.MAR;1          (9)

$$.PSECT_EP                    = 00000000                 PLG$L_MRN                 = 0000006C
$$.TMP                         = 00000005                 PLG$W_DVBN                = 00000068
$$RMSTEST                      = 0000001A                 PLG$W_VER_NO              = 00000074
$$RMS_PBUGCHK                  = 00000010                 RJR$B_ENTRY_TYPE          = 00000003
$$RMS_TBUGCHK                  = 00000008                 RJR$B_OPER                = 00000005
$$RMS_UMODE                    = 00000004                 RJR$B_ORG                 = 00000004
BDB$B_FLGS                     = 0000000A                 RJR$C_BLOCK               = 00000003
BDB$L_ADDR                     = 00000018                 RJR$C_REL                 = 00000001
BDB$M_DRT                      = 00000002                 RJR$L_BLOCK_SIZE          = 00000040
BDB$M_VAL                      = 00000001                 RJR$L_BLOCK_VBN           = 0000003C
BKT$C_MAXBKTSIZ                = 0000003F                 RJR$T_BLOCK               = 00000044
CJF$_AI                        = 00000003                 RJR$_WRITE                = 0000001E
CSH$M_LOCK                     = 00000001                 RLNERR                      00000143 R       01
CSH$M_NOBUFFER                 = 00000008                 RLS$M_WRT_THRU            = 00000002
CSH$M_NOREAD                   = 00000004                 RLSERR                      00000158 R       01
DEV$V_RND                      = 0000001C                 RM$ALBLB                    ********   X     01
ERRBKS                           0000000E R       01      RM$ALDBUF                   ********   X     01
ERRBUG                           00000143 R       01      RM$CACHE                    ********   X     01
ERRDEV                           00000000 R       01      RM$CREATE2                  0000001C RG      01
ERRJNL                           0000016D R       01      RM$CREATECOM                ********   X     01
ERRMRN                           00000015 R       01      RM$CREATEXIT                ********   X     01
ERRMRS                           0000000B R       01      RM$CREATEXIT1               ********   X     01
ERRRFM                           00000008 R       01      RM$CRE_ERRMRS               ********   X     01
ERRXIT                           00000005 R       01      RM$CRE_ERRRFM               ********   X     01
ERRXIT1                          0000002E R       01      RM$FMT_BKT2                 ********   X     01
EXIT                             00000140 R       01      RM$MAKSUM                   ********   X     01
FAB$B_BKS                      = 0000003E                 RM$RELEASE                  ********   X     01
FAB$C_FIX                      = 00000001                 RM$RLNERR                   ********   X     01
FAB$C_STM                      = 00000004                 RM$SETALLOC                 ********   X     01
FAB$C_UDF                      = 00000000                 RM$WRTJNL                   ********   X     01
FAB$C_VFC                      = 00000003                 RMS$_BKS                  = 0001841C
FAB$L_ALQ                      = 00000010                 RMS$_CJF                  = 0001C164
FAB$L_FOP                      = 00000004                 RMS$_DEV                  = 000184C4
FAB$L_MRN                      = 00000038                 RMS$_MRN                  = 000185CC
FAB$L_STV                      = 0000000C                 RMS$_WPL                  = 0001C11C
FAB$W_MRS                      = 00000036                 TPT$C_CREATE2               ********   X     01
FOP                            = 00000020
IFB$B_BKS                      = 0000005E
IFB$B_FAC                      = 00000022
IFB$B_FSZ                      = 0000005F
IFB$B_JNLFLG                   = 000000A0
IFB$B_RFMORG                   = 00000050
IFB$L_DVBN                     = 000000B0
IFB$L_EBK                      = 00000074
IFB$L_HBK                      = 00000070
IFB$L_JNLBDB                   = 00000030
IFB$L_MRN                      = 000000AC
IFB$L_PRIM_DEV                 = 00000000
IFB$V_AI                       = 00000003
IFB$V_BIO                      = 00000005
IFB$V_NORECLK                  = 00000033
IFB$W_AVLCL                    = 00000084
IFB$W_LRL                      = 00000052
JNL_REL_PLG                      00000178 R       01
PIO$A_TRACE                      ********   X     01
PLG$C_VER_NO                   = 00000001
PLG$L_EOF                      = 00000070
```

```
                                             +----------------+
                                             ! Psect synopsis !
                                             +----------------+

PSECT name                      Allocation          PSECT No.  Attributes
----------                      ----------          ---------  ----------
.  ABS  .                       00000000  (    0.)  00 (   0.)  NOPIC     USR     CON     ABS     LCL NOSHR NOEXE NORD   NOWRT NOVEC BYTE
RMSRMS2                         000001B3  (  435.)  01 (   1.)    PIC     USR     CON     REL     GBL NOSHR   EXE   RD   NOWRT NOVEC BYTE
$ABS$                           00000000  (    0.)  02 (   2.)  NOPIC     USR     CON     ABS     LCL NOSHR   EXE   RD     WRT NOVEC BYTE

                                          +------------------------+
                                          ! Performance indicators !
                                          +------------------------+

Phase                     Page faults    CPU Time       Elapsed Time
-----                     -----------    --------       ------------
Initialization                     33    00:00:00.07    00:00:00.68
Command processing                118    00:00:00.72    00:00:06.05
Pass 1                            324    00:00:11.06    00:00:28.57
Symbol table sort                   0    00:00:01.42    00:00:02.17
Pass 2                             88    00:00:02.16    00:00:05.42
Symbol table output                12    00:00:00.15    00:00:00.44
Psect synopsis output               2    00:00:00.02    00:00:00.02
Cross-reference output              0    00:00:00.00    00:00:00.00
Assembler run totals              579    00:00:15.60    00:00:43.35

The working set limit was 1350 pages.
60191 bytes (118 pages) of virtual memory were used to buffer the intermediate code.
There were 60 pages of symbol table space allocated to hold 1116 non-local and 10 local symbols.
464 source lines were read in Pass 1, producing 14 object records in Pass 2.
26 pages of virtual memory were used to define 25 macros.

                                         +--------------------------+
                                         ! Macro library statistics !
                                         +--------------------------+

Macro library name                       Macros defined
------------------                       --------------
_$255$DUA28:[RMS.OBJ]RMS.MLB;1                     15
_$255$DUA28:[SYS.OBJ]LIB.MLB;1                      0
_$255$DUA28:[SYSLIB]STARLET.MLB;2                   6
TOTALS (all libraries)                             21

1255 GETS were required to define 21 macros.

There were no errors, warnings or information messages.

MACRO/LIS=LIS$:RM2CREATE/OBJ=OBJ$:RM2CREATE MSRC$:RM2CREATE/UPDATE=(ENH$:RM2CREATE)+EXECML$/LIB+LIB$:RMS/LIB
```

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VAX/VMS V4.0

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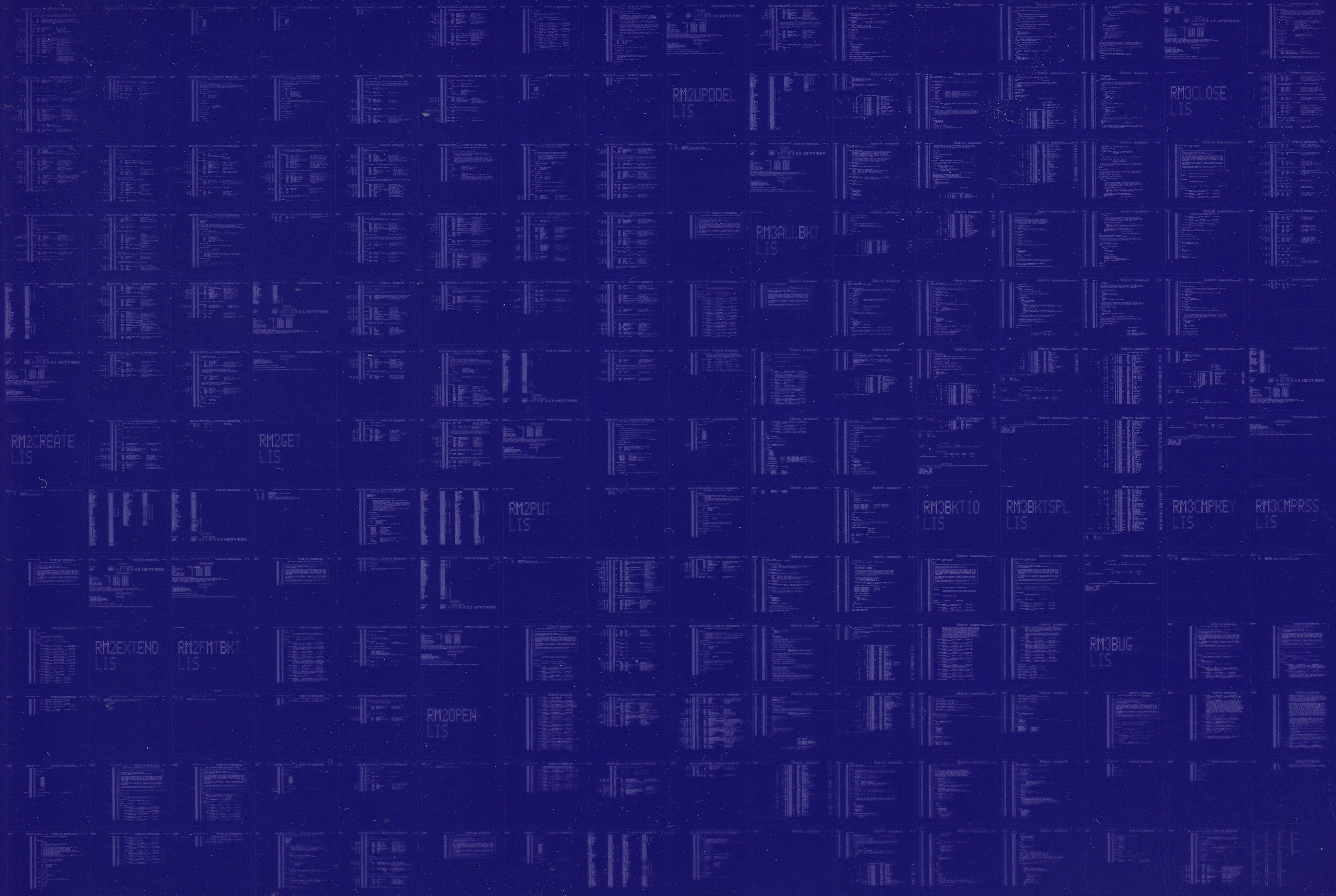

RM2UPDDEL
LIS

RM3CLOSE
LIS

RM3ALLBKT
LIS

RM2CREATE
LIS

RM2GET
LIS

RM2PUT
LIS

RM3BKTIO
LIS

RM3BKTSPL
LIS

RM3CMPKEY
LIS

RM3CMPRSS
LIS

RM2EXTEND
LIS

RM2FMTBKT
LIS

RM3BUG
LIS

RM2OPEN
LIS