```
GET $BCPL.D.S$
EXTERNAL !OP  //  OPERATIONS TO GET OUT OF OPERCL
      DRUACC = $DR:UACC$
      LCASCI = $LC:ASCI$
      ECMCAP = $EC:MCAP$
      ECCOUT = $EC:COUT$
      ECSEV  = $EC:SEV$
      ECGEVH = $EC:GEVH$
      DFOPRW = $DF:OPRW$
      DFSHAZ = $DF:SHAZ$
      DFPROB = $DF:PROB$
      DFREAD = $DF:READ$
      DFWRIT = $DF:WRIT$
      DFPCLS = $DF:PCLS$
      DFCLO  = $DF:CLO$
            !OP
EXTERNAL !CAPS // CAPABILITIES DECLAIRED IN HEAD
      DAYFILE
      DAYF
      PROFILE
      OPERCL
      CLASSCD
      CODFILE
            !CAPS
MANIFEST !IDX  //INDEXES IN VARIOUS PLACES TO LINK WITH HEADS
      PHFREE      = 0
      PHEND       = 1
      PHACT       = 2
      PHADESC     = 3

      CMMDSTF           = 0

      CSROOTD     = 0
      CSNULLAK    = 1
      CSNULAK     = 1
      CSPROF      = 15B
      CSDAYF      = 16B
      CSDFEC      = 17B

      ATWORDS     = 1
      ATBLKS      = 2
      ATDSTRD     = 3

      PLOGCT      = 4
      PFATHER     = 4
      PSPENT      = 6
      PLINK       = 0
      PINUSE      = 7
            !IDX

MANIFEST !       // VARIOUS CONSTANTS
      DFBLKSZ     = 256       // DAYFILE BLOCK SIZE
      PFBLKSZ     = 256       // PROFILE BLOCK SIZE
      DFSIZE      = 16        // DAYFILE ENTRY SIZE
```

```
      PFSIZE    = 32       // PROFILE ENTRY SIZE
      LOGCTMSK  = 7777B
      LOW30     = 7777777777B
      MINACT    = -2^AMASK
          ]
LET START() BE [STRT
LET CS(X) = 1 ↑ 59 ≤ X↑30 ≤ CMMDSTF
LET OPER(X) = 1 ↑ 59 ≤ X↑30 ≤ OPERCL
LET ENDF = DFBLKSZ
LET HDBUF = VEC 2*PFSIZE
// GET CAPS FOR DAYFILE AND PROFILE
XJR(0,1↑30≤PROFILE,OPER(DRUACC),CS(CSROOTD),1↑30≤↓PROFILE   ↓,CS(CSNULAK))
XJR(0,1↑30≤DAYFILE,OPER(DRUACC),CS(CSROOTD),1↑30≤↓DAYFILE   ↓,CS(CSNULAK))
// PUT THESE CAPS IN CMMDSTF
XJ(OPER(ECCOUT),CMMDSTF,CSPROF,PROFILE)
XJ(OPER(ECCOUT),CMMDSTF,CSDAYF,DAYFILE)
// OPEN THE FILES
XJR(0,1↑30≤PROFILE,OPER(DFOPRW),PROFILE)
XJR(0,1↑30≤DAYFILE,OPER(DFOPRW),DAYFILE)

// IF THE DATUM IS NEGATIVE SHAZAM THE DAYFILE TO BE DUMPED
IF RV 6 DO [6
     //GET THE BACKUP AND BE SURE IT IS NULL
     XJR(0,1↑30≤DAYF,OPER(DRUACC),CS(CSROOTD),1↑30≤↓DAYF     ↓,CS(CSNULAK))
     XJR(0,1↑30≤DAYF,OPER(DFOPRW),DAYF)
     TEST XJ(OPER(DFPROB),DAYF,0) ≡ 0 DO [
          XJ(OPER(DFSHAZ),DAYFILE,DAYF)
          XJ(OPER(DFCLO),DAYFILE)
          XJ(OPER(ECMCAP),DAYF,DAYFILE,-0) ]
     ELSE [ // COMPLAIN ABOUT FILE BEING THERE
          XJ(OPER(DFCLO),DAYF)
          XJ(OPER(LCASCI),2, 6↑30 ≤ (TABLE 80,
                    ≠DAYFILE ≠,
                    ≠WAS NOT ≠,
                    ≠DUMPED A≠,
                    ≠FTER LAS≠,
                    ≠T SAVE*N ≠))   ]6

// FIND THE END OF THE DAY FILE AND PUT THE EVENT IN THE EVENT CHANNEL
[DF  LET BUF = VEC DFBLKSZ
     TEST XJ(OPER(DFPROB),DAYFILE,0) ≡ 0 DO
          ENDF ↑0   // THERE NO BLOCKS ON THE FILE
     ELSE [FE  //FIND THE END OF THE DAY FILE
          WHILE XJ(OPER(DFPROB),DAYFILE,ENDF) = 0 DO ENDF ↑ ENDF+.DFBLKSZ
          ENDF ↑ ENDF -. DFBLKSZ
          XJ(OPER(DFREAD),DAYFILE,ENDF,BUF,DFBLKSZ)
          FOR I = 0 TO DFBLKSZ/DFSIZE -1 DO [1
               IF BUF.(I*DFSIZE) =. 0 BREAK
          ENDF ↑ ENDF +. DFSIZE ]FE
     XJ(OPER(ECSEV),CS(CSDFEC),ENDF)   ]DF
//READ IN THE HEAD FORM PROFILE
XJ(OPER(DFREAD),PROFILE,0,HDBUF,2*PFSIZE)
// TEST FOR THERE BEING AN UNFINISHED ACT TO COMPLETE
SWITCHON HDBUF.PHACT ^ LOW30 INTO [CA
```

```
CASE ATWORDS:
     FOR I = 0 TO HDBUF.PHACT ↑ -31 DO
          XJ(OPER(DFWRIT),PROFILE,HDBUF.(PHADESC+2*I),HDBUF+PHADESC+2*I+1
               ,1)
     XJ(OPER(DFPCLS),CS(CSPROF))
     GOTO ACTCLEAR

CASE ATBLKS: [B  // BLOCKS MAY BE IN DAYFILE OR PROFILE
     LET PT = HDBUF + PHADESC
     LET ENDF = (HDBUF.PHACT↑-30) + PT
     UNTIL PT GE ENDF DO [L
          LET DESC = RV PT
          LET FILE = DESC -> DAYFILE, PROFILE
          LET BSZ = DESC ↑ -30
          IF DESC DO DESC,BSZ ↱ -DESC, -BSZ
          XJ(OPER(DFWRIT),FILE,DESC^LOW30,PT+1,BSZ)
          PT ↱ PT + 1 + BSZ ]L
     XJ(OPER(DFPCLS),CS(CSPROF))
     XJ(OPER(DFPCLS),CS(CSDAYF))
     GOTO ACTCLEAR ]B

ACTCLEAR:  // CLEAR OUT THE ACT AS SPECIFIED IN THE HEAD
     HDBUF.PHACT ↱ 0
     XJ(OPER(DFWRIT),PROFILE,PHACT,HDBUF.PHACT,1)
     ICA
// CYCLE THROUGH THE PROFILE DELETING LOGON COUNTS AND INUSE
// ALSO ZERO THE SPENTS FIELD OF ANY PROFILE WITH NO FATHER
[CP  LET POS = PFBLKSZ  // NOTE THAT THIS STARTS ON THE SECOND BLOCK
                        // AND NO PROFILES ARE ALLOWED ON THE FIRST BLOCK
     LET BUF = VEC PFBLKSZ
     UNTIL POS GE HDBUF.PHEND DO [NB // NEST BLOCK
          LET CHNG = FALSE
          XJ(OPER(DFREAD),PROFILE,POS,BUF,PFBLKSZ)
          FOR I = 0 TO PFBLKSZ/PFSIZE - 1 DO [NP
               LET PF = BUF + I *PFSIZE
               UNLESS (PF.PLOGCT↑-18^LOGCTMSK) = 0 DO [1
                    PF.PLOGCT ↱ PF.PLOGCT ^ -LOGCTMSK ↑ 18
                    CHNG ↱ TRUE ]1
               UNLESS (PF.PINUSE ^ LOW30) =• 0 DO [2
                    PF.PINUSE ↱ PF.PINUSE ^ -LOW30
                    CHNG ↱ TRUE  ]2
               IF (PF.PFATHER^AMASK) = 0 DO [3
                    PF.PSPENT ↱ PF.PSPENT^-LOW30
                    CHNG ↱ TRUE  ]3
               // CHECK FOR INACTIVE TO BE PUT ON THE FREECHAIN
               IF (PF.PLINK ^ AMASK) =• MINACT DO [IA
                    //MAKE AN ACT IN THE HEAD
                    HDBUF.PHADESC↱ POS+I*PFSIZE+PLINK
                    HDBUF.(PHADESC+1) ↱(PF.PLINK ^ -AMASK) ≤
                              (HDBUF.PHFREE ^ AMASK)
                    HDBUF.PHFREE ↱ HDBUF.PHADESC
                    HDBUF.PHACT ↱ 2↑30 ≤ ATWORDS
                    // PUT IT ON THE DISK
```

```
                                CLNPRF

                        XJ(OPER(DFWRIT),PROFILE,0,HDBUF,PHADESC+2)
                        XJ(OPER(DFPCLS),CS(CSPROF))
                        // PUT THE FIXES ON THE PROFILE
                        PF.PLINK ← HDBUF.(PHADESC+1)
                        XJ(OPER(DFWRIT),PROFILE,POS,BUF,PFBLKSZ)
                        XJ(OPER(DFPCLS),CS(CSPROF))
                        CHNG ← FALSE
                        HDBUF.PHACT ← 0
                        XJ(OPER(DFWRIT),PROFILE,PHACT,HDBUF.PHACT,1) ]NP
                IF CHNG DO XJ(OPER(DFWRIT),PROFILE,POS,BUF,PFBLKSZ)
                POS ← POS + PFBLKSZ ]NB
        ]CP
// CLOSE THE FILES
XJ(OPER(DFCLO),PROFILE)
XJ(OPER(DFCLO),DAYFILE)
]START
```