```
LLL                 IIIIIIIII     BBBBBBBBBBBB     RRRRRRRRRRRR     TTTTTTTTTTTTTTT  LLL
LLL                 IIIIIIIII     BBBBBBBBBBBB     RRRRRRRRRRRR     TTTTTTTTTTTTTTT  LLL
LLL                 IIIIIIIII     BBBBBBBBBBBB     RRRRRRRRRRRR     TTTTTTTTTTTTTTT  LLL
LLL                    III        BBB         BBB  RRR         RRR        TTT        LLL
LLL                    III        BBB         BBB  RRR         RRR        TTT        LLL
LLL                    III        BBB         BBB  RRR         RRR        TTT        LLL
LLL                    III        BBB         BBB  RRR         RRR        TTT        LLL
LLL                    III        BBB         BBB  RRR         RRR        TTT        LLL
LLL                    III        BBBBBBBBBBBB     RRRRRRRRRRRR           TTT        LLL
LLL                    III        BBBBBBBBBBBB     RRRRRRRRRRRR           TTT        LLL
LLL                    III        BBBBBBBBBBBB     RRRRRRRRRRRR           TTT        LLL
LLL                    III        BBB         BBB  RRR   RRR              TTT        LLL
LLL                    III        BBB         BBB  RRR   RRR              TTT        LLL
LLL                    III        BBB         BBB  RRR   RRR              TTT        LLL
LLL                    III        BBB         BBB  RRR      RRR           TTT        LLL
LLL                    III        BBB         BBB  RRR      RRR           TTT        LLL
LLL                    III        BBB         BBB  RRR      RRR           TTT        LLL
LLLLLLLLLLLLLLL     IIIIIIIII     BBBBBBBBBBBB     RRR         RRR        TTT        LLLLLLLLLLLLLLL
LLLLLLLLLLLLLLL     IIIIIIIII     BBBBBBBBBBBB     RRR         RRR        TTT        LLLLLLLLLLLLLLL
LLLLLLLLLLLLLLL     IIIIIIIII     BBBBBBBBBBBB     RRR         RRR        TTT        LLLLLLLLLLLLLLL
```

FILEID**LIBFFC

```
LL            IIIIII    BBBBBBBB    FFFFFFFFFF  FFFFFFFFFF    CCCCCCCC
LL            IIIIII    BBBBBBBB    FFFFFFFFFF  FFFFFFFFFF    CCCCCCCC
LL              II      BB      BB  FF          FF          CC
LL              II      BB      BB  FF          FF          CC
LL              II      BB      BB  FF          FF          CC
LL              II      BB      BB  FF          FF          CC
LL              II      BBBBBBBB    FFFFFFFF    FFFFFFFF    CC
LL              II      BBBBBBBB    FFFFFFFF    FFFFFFFF    CC
LL              II      BB      BB  FF          FF          CC
LL              II      BB      BB  FF          FF          CC
LL              II      BB      BB  FF          FF          CC                ....
LL              II      BB      BB  FF          FF          CC                ....
LLLLLLLLLL    IIIIII    BBBBBBBB    FF          FF            CCCCCCCC      ....
LLLLLLLLLL    IIIIII    BBBBBBBB    FF          FF            CCCCCCCC      ....

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
```

Table of contents

(2) 53 DECLARATIONS
(3) 85 LIB$FCC - find first clear bit

```
0000     1          .TITLE  LIB$FFC - find first clear bit
0000     2          .IDENT  /1-002/                 ; File: LIBFFC.MAR
0000     3
0000     4 ;
0000     5 ;**********************************************************************
0000     6 ;*                                                                    *
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0000    24 ;*                                                                    *
0000    25 ;*                                                                    *
0000    26 ;**********************************************************************
0000    27 ;
0000    28
0000    29 ;++
0000    30 ; FACILITY: General Utility Library
0000    31 ;
0000    32 ; ABSTRACT:
0000    33 ;
0000    34 ;       A bit string is scanned for the first bit clear.  If one is found before
0000    35 ;       the string is exhausted then a success status is returned.  Otherwise a
0000    36 ;       failure status is returned.
0000    37 ;
0000    38 ; ENVIRONMENT: User Mode, AST Reentrant
0000    39 ;
0000    40 ;--
0000    41 ; AUTHOR: Donald G. Petersen, CREATION DATE: 03-Jan-78
0000    42 ;
0000    43 ; MODIFIED BY:
0000    44 ;
0000    45 ;       DGP, 03-Jan-78 : VERSION 00
0000    46 ; 01    - Original
0000    47 ; 00-02 - DGP 06-Jan-78 - Change LIB$NOTFOU to a literal
0000    48 ; 00-03 - Return SS$_NORMAL instead of LIB$_NORMAL.  TNH 15-July-78
0000    49 ;                       change BEQL to BNEQ
0000    50 ; 1-001 - Update version number and copyright notice.  JBS 16-NOV-78
0000    51 ; 1-002 - Add "_" to PSECT directive.  JBS 21-DEC-78
```

```
                     53          .SBTTL  DECLARATIONS
                     54 ;
                     55 ; INCLUDE FILES:
                     56 ;
                     57
                     58 ;
                     59 ; EXTERNAL DECLARATIONS:
                     60 ;
                     61          .DSABL  GBL                             ; Disable automatic generation of
                     62                                                  ; .EXTRN
                     63          .EXTRN  SS$_NORMAL                      ; Normal successful completion
                     64          .EXTRN  LIB$_NOTFOU                     ; SEVERE error condition
                     65                                                  ; Value not found
                     66
                     67 ;
                     68 ; MACROS:
                     69 ;
                     70
                     71 ;
                     72 ; EQUATED SYMBOLS:
                     73 ;
                     74
                     75 ;
                     76 ; OWN STORAGE:
                     77 ;
                     78
                     79 ;
                     80 ; PSECT DECLARATIONS:
                     81 ;
                     82          .PSECT _LIB$CODE PIC, SHR, LONG, EXE, NOWRT
                     83
```

```
                                0000     85          .SBTTL  LIBSFCC  - find first clear bit
                                0000     86 ;++
                                0000     87 ; FUNCTIONAL DESCRIPTION:
                                0000     88 ;
                                0000     89 ;       The field specified by the start position, size, and base is searched
                                0000     90 ;       for the first clear bit.  If one is found, a success status is returned as
                                0000     91 ;       well as the bit position (relative to the base) in the find position.
                                0000     92 ;       If a clear bit is not found, a failure status is returned.  If a size of zer
                                0000     93 ;       is specified then a failure status is returned.
                                0000     94 ;
                                0000     95 ; CALLING SEQUENCE:
                                0000     96 ;
                                0000     97 ;       status.wlc.v = LIB$FFC (startpos.rl.r, size.rbu.r, base.rl.r, findpos.wl.r)
                                0000     98 ;
                00000004        0000     99          STARTPOS = 4                            ; Adr of start position
                00000008        0000    100          SIZE = 8                                ; Adr of size
                0000000C        0000    101          BASE = 12                               ; Adr of base
                00000010        0000    102          FINDPOS = 16                            ; Adr of field for clear bit positio
                                0000    103
                                0000    104 ; INPUT PARAMETERS:
                                0000    105 ;
                                0000    106 ;       NONE
                                0000    107 ;
                                0000    108 ; IMPLICIT INPUTS:
                                0000    109 ;
                                0000    110 ;       NONE
                                0000    111 ;
                                0000    112 ; OUTPUT PARAMETERS:
                                0000    113 ;
                                0000    114 ;       NONE
                                0000    115 ;
                                0000    116 ; IMPLICIT OUTPUTS:
                                0000    117 ;
                                0000    118 ;       NONE
                                0000    119 ;
                                0000    120 ; FUNCTION VALUE:
                                0000    121 ;
                                0000    122 ;       SS$_NORMAL - if a clear bit is found
                                0000    123 ;       LIB$_NOTFOU - if a clear bit is not found
                                0000    124 ;
                                0000    125 ; SIDE EFFECTS:
                                0000    126 ;
                                0000    127 ;       SS$_ROPRAND - reserved operand fault for:
                                0000    128 ;                       1.) size greater than 32 is specified
                                0000    129 ;                       2.) start position greater than 31 and field is in registers
                                0000    130 ;
                                0000    131 ;--
                                0000    132
                          0000  0000    133          .ENTRY LIBSFFC , ^M< >          ; Entry point
                                0002    134
10 BC   0C BC   08 BC   04 BC   EB  0002    135          FFC     @STARTPOS(AP), @SIZE(AP), -     ; find first clear bit
                                000B    136                  @BASE(AP), @FINDPOS(AP)
                              08    12  000B    137          BNEQ    10$                     ; branch if bit found
            50  00000000'8F     D0  000D    138          MOVL    #LIB$_NOTFOU, R0        ; return failure status
                                04  0014    139          RET
            50  00000000'8F     D0  0015    140 10$:     MOVL    #SS$_NORMAL, R0         ; return success status
                                04  001C    141          RET
```

```
001D   142          .END
```

```
BASE            = 0000000C
FINDPOS         = 00000010
LIB$FFC           00000000 RG    01
LIB$_NOTFOU       ********   X   00
SIZE            = 00000008
SS$_NORMAL        ********   X   00
STARTPOS        = 00000004
```

Psect synopsis

PSECT name	Allocation	PSECT No.	Attributes
. ABS .	00000000 (0.)	00 (0.)	NC IC USR CON ABS LCL NOSHR NOEXE NORD NOWRT NOVEC BYTE
_LIB$CODE	0000001D (29.)	01 (1.)	PIC USR CON REL LCL SHR EXE RD NOWRT NOVEC LONG

Performance indicators

Phase	Page faults	CPU Time	Elapsed Time
Initialization	29	00:00:00.02	00:00:01.98
Command processing	111	00:00:00.30	00:00:03.04
Pass 1	68	00:00:00.22	00:00:02.24
Symbol table sort	0	00:00:00.00	00:00:00.00
Pass 2	41	00:00:00.21	00:00:02.00
Symbol table output	2	00:00:00.01	00:00:00.01
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	255	00:00:00.79	00:00:09.30

The working set limit was 900 pages.
1409 bytes (3 pages) of virtual memory were used to buffer the intermediate code.
There were 10 pages of symbol table space allocated to hold 7 non-local and 1 local symbols.
142 source lines were read in Pass 1, producing 11 object records in Pass 2.
0 pages of virtual memory were used to define 0 macros.

Macro library statistics

Macro library name	Macros defined
_255DUA28:[SYSLIB]STARLET.MLB;2	0

0 GETS were required to define 0 macros.

There were no errors, warnings or information messages.

```
MACRO/ENABLE=SUPPRESSION/DISABLE=(GLOBAL,TRACEBACK)/LIS=LIS$:LIBFFC/OBJ=OBJ$:LIBFFC MSRC$:LIBFFC/UPDATE=(ENH$:LIBFFC)
```

LIBEMODH
LIS

LIBEMODD
LIS

LIBESTEMU
LIS

LIBEF
LIS

LIBEMULAT
LIS

LIBFFS
LIS

LIBFINCVT
LIS

LIBE2AREV
LIS

LIBFAO
LIS

LIBEMODG
LIS

LIBEXTV
LIS

LIBEDIV
LIS

LIBESTABL
LIS

LIBFFC
LIS

LIBEMODF
LIS

LIBEMUL
LIS

LIBFILSCA
LIS

LIBEXTZV
LIS

LIBEBCASC
LIS

LIBFAOL
LIS