```
LLL              IIIIIIIII    BBBBBBBBBBBB   RRRRRRRRRRR    TTTTTTTTTTTTTTT  LLL
LLL              IIIIIIIII    BBBBBBBBBBBB   RRRRRRRRRRR    TTTTTTTTTTTTTTT  LLL
LLL              IIIIIIIII    BBBBBBBBBBBB   RRRRRRRRRRR    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   RRRRRRRRRRR         TTT         LLL
LLL                 III       BBBBBBBBBBBB   RRRRRRRRRRR         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
```

```
LL        IIIIII   BBBBBBBB   BBBBBBBB   BBBBBBBB   CCCCCCCC   CCCCCCCC   IIIIII
LL        IIIIII   BBBBBBBB   BBBBBBBB   BBBBBBBB   CCCCCCCC   CCCCCCCC   IIIIII
LL          II     BB     BB  BB     BB  BB     BB  CC         CC           II
LL          II     BB     BB  BB     BB  BB     BB  CC         CC           II
LL          II     BB     BB  BB     BB  BB     BB  CC         CC           II
LL          II     BB     BB  BB     BB  BB     BB  CC         CC           II
LL          II     BBBBBBBB   BBBBBBBB   BBBBBBBB   CC         CC           II
LL          II     BBBBBBBB   BBBBBBBB   BBBBBBBB   CC         CC           II
LL          II     BB     BB  BB     BB  BB     BB  CC         CC           II
LL          II     BB     BB  BB     BB  BB     BB  CC         CC           II
LL          II     BB     BB  BB     BB  BB     BB  CC         CC           II
LLLLLLLLL   IIIIII  BBBBBBBB   BBBBBBBB   BBBBBBBB   CCCCCCCC   CCCCCCCC   IIIIII
LLLLLLLLL   IIIIII  BBBBBBBB   BBBBBBBB   BBBBBBBB   CCCCCCCC   CCCCCCCC   IIIIII


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
LLLLLLLLL   IIIIII  SSSSSSSS
LLLLLLLLL   IIIIII  SSSSSSSS
```

```
0000      1        .TITLE  LIB$BBCCI - Test and clear bit interlocked
0000      2        .IDENT  /1-001/                  ; File: LIBBBCCI.MAR Edit: SBL1001
0000      3
0000      4  ;
0000      5  ;*******************************************************************************
0000      6  ;*                                                                             *
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0000     24  ;*                                                                             *
0000     25  ;*                                                                             *
0000     26  ;*******************************************************************************
0000     27  ;
0000     28
0000     29  ;++
0000     30  ; FACILITY: General Utility Library
0000     31  ;
0000     32  ; ABSTRACT:
0000     33  ;
0000     34  ;       LIB$BBCCI tests and clears a bit with interlock.
0000     35  ;
0000     36  ; ENVIRONMENT: Runs at any access mode, AST Reentrant
0000     37  ;
0000     38  ; AUTHOR: Steven B. Lionel, CREATION DATE: 16-AUG-1982
0000     39  ;
0000     40  ; MODIFIED BY:
0000     41  ;
0000     42  ; 1-001 - Original. SBL 16-AUG-1982
0000     43  ;--
```

```
            0000    45              .SBTTL  DECLARATIONS
            0000    46  ;
            0000    47  ; LIBRARY MACRO CALLS:
            0000    48  ;
            0000    49              NONE
            0000    50  ;
            0000    51  ; EXTERNAL DECLARATIONS:
            0000    52  ;
            0000    53              .DSABL  GBL             ; Force all external symbols to be declared
            0000    54              NONE
            0000    55  ;
            0000    56  ; MACROS:
            0000    57  ;
            0000    58              NONE
            0000    59  ;
            0000    60  ; EQUATED SYMBOLS:
            0000    61  ;
            0000    62              NONE
            0000    63  ;
            0000    64  ; OWN STORAGE:
            0000    65  ;
            0000    66              NONE
            0000    67  ;
            0000    68  ; PSECT DECLARATIONS:
            0000    69  ;
        00000000    70              .PSECT _LIB$CODE PIC, USR, CON, REL, LCL, SHR, -
            0000  ' 71                       EXE, RD, NOWRT, LONG
            0000    72
```

I 12

LIB$BBCCI   - Test and clear bit interlocked   15-SEP-1984 23:48:29   VAX/VMS Macro V04-00   Page 3
1-001   LIB$BBCCI - Test and clear a bit with in 6-SEP-1984 11:03:34   [LIBRTL.SRC]LIBBBCCI.MAR;1   (3)

```
                            0000    74                  .SBTTL   LIB$BBCCI - Test and clear a bit with interlock
                            0000    75  ;++
                            0000    76  ; FUNCTIONAL DESCRIPTION:
                            0000    77  ;
                            0000    78  ;       LIB$BBCCI tests and clears a selected bit under memory interlock.
                            0000    79  ;       LIB$BBCCI makes the VAX-11 BBCCI instruction available as a
                            0000    80  ;       callable procedure.
                            0000    81  ;
                            0000    82  ;       The single bit specified by the "position" and "base" arguments
                            0000    83  ;       is tested, the previous state of the bit remembered, and the bit cleared.
                            0000    84  ;       The reading of the state of the bit and the clearing of it constitute
                            0000    85  ;       an interlocked operation, interlocked against similar operations by
                            0000    86  ;       other processors or devices in the system.  The remembered previous
                            0000    87  ;       state of the bit is then returned as the function value of LIB$BBCCI.
                            0000    88  ;
                            0000    89  ;       for more information, see the VAX-11 Architecture Reference Manual.
                            0000    90  ;
                            0000    91  ; CALLING SEQUENCE:
                            0000    92  ;
                            0000    93  ;       previous-state.wv.v = LIB$BBCCI (position.rl.r, base.rz.r)
                            0000    94  ;
                            0000    95  ; FORMAL PARAMETERS:
                            0000    96  ;
              00000004      0000    97  ;       position = 4    ; The signed longword bit position, relative to "base",
                            0000    98  ;                       ; of the bit being tested and cleared.  Passed by reference.
                            0000    99  ;
              00000008      0000   100  ;       base = 8        ; The byte which contains bit zero of the object
                            0000   101  ;                       ; being tested and cleared.  Passed by reference.
                            0000   102  ;
                            0000   103  ; IMPLICIT INPUTS:
                            0000   104  ;
                            0000   105  ;       NONE
                            0000   106  ;
                            0000   107  ; IMPLICIT OUTPUTS:
                            0000   108  ;
                            0000   109  ;       NONE
                            0000   110  ;
                            0000   111  ; ROUTINE VALUE:
                            0000   112  ;
                            0000   113  ;       The previous value of the bit which was tested and cleared.
                            0000   114  ;
                            0000   115  ; SIDE EFFECTS:
                            0000   116  ;
                            0000   117  ;       Clears the specified bit.
                            0000   118  ;
                            0000   119  ;--
                            0000   120
                    0000    0000   121          .ENTRY   LIB$BBCCI, ^M<>
                 50   D4    0002   122          CLRL     R0                      ; Initially, assume bit clear
02 08 BC  04 BC  E7    0004   123          BBCCI    @position(AP), @base(AP), 10$    ; Skip if bit clear
                 50   D6    000A   124          INCL     R0                      ; Bit was set
                 04    000C   125  10$:          RET                             ; Return previous state
                       000D   126
                       000D   127          .END                                 ; End of module LIB$BBCCI
```

```
BASE            = 00000008
LIB$BBCCI         00000000 RG    01
POSITION        = 00000004
```

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

PSECT name	Allocation		PSECT No.	Attributes											
. ABS .	00000000 (	0.)	00 (0.)	NOPIC	USR	CON	ABS	LCL	NOSHR	NOEXE	NORD	NOWRT	NOVEC	BYTE
_LIB$CODE	0000000D (	13.)	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	00:00:01.35
Command processing	109	00:00:00.32	00:00:01.19
Pass 1	64	00:00:00.25	00:00:00.75
Symbol table sort	0	00:00:00.00	00:00:00.00
Pass 2	38	00:00:00.16	00:00:01.46
Symbol table output	2	00:00:00.01	00:00:00.01
Psect synopsis output	2	00:00:00.01	00:00:00.01
Cross-reference output	0	00:00:00.00	00:00:00.00
Assembler run totals	246	00:00:00.77	00:00:04.77

The working set limit was 900 pages.
1217 bytes (3 pages) of virtual memory were used to buffer the intermediate code.
There were 10 pages of symbol table space allocated to hold 3 non-local and 1 local symbols.
127 source lines were read in Pass 1, producing 10 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$:LIBBBCCI/OBJ=OBJ$:LIBBBCCI MSRC$:LIBBBCCI/UPDATE=(ENH$:LIBBBCCI)

RTLMACMAR
MAR

LIBASCEBC
LIS

LIBASTINP
LIS

RTLMACB32
REQ

STRMACROS
REQ

LIBBINTRE
LIS

RTLODBG
REQ

LIBDEF
FOR

LIBANASTR
LIS

LIBASNMBX
LIS

LIBBBCCI
LIS

LIBCHAR
LIS

LIBABUPCA
LIS

LIBADDX
LIS

RTLPSECT
REQ

SIGDEF
FOR

LIBASCTIM
LIS

LIBTABMAC
MAR

LIBATTACH
LIS

STRLNK
REQ

LIBA2EREV
LIS

LIBBBSSI
LIS

LIBCALLG
LIS

LIBCLICAL
LIS

LIBADDP
LIS