OPERATING SYSTEM = NOS 2.8.1 803/803. 81/01/01. PRINTED = 81/01/01. 01.10.18.

UJN = JSNOBOL FAMILY = CYBER JOB ORIGIN = BATCH.

CREATING JSN = AAEV USER NAME = THUNTER SERVICE CLASS = BATCH.

AAAAAAAAAA AAAAAAAAAA FFFFFFFFFFFF YY YY AAAAAAAAAA AAAAAAAAAA EEEEEEEEEEEE VV VV

AAAAAAAAAAAA AAAAAAAAAAAA FFFFFFFFFFFF YY YY AAAAAAAAAAAA AAAAAAAAAAAA EEEEEEEEEEEE VV VV

AA AA AA AA FF YY YY AA AA AA AA EE VV VV

AA AA AA AA FF YY YY AA AA AA AA EE VV VV

AA AA AA AA FF YY YY AA AA AA AA EE VV VV

AA AA AA AA FF YY YY AA AA AA AA EE VV VV

AA AA AA AA FF YYY YYY AA AA AA AA EE VV VV

AAAAAAAAAAAA AAAAAAAAAAAA FFFFFFFF YYY YYY AAAAAAAAAAAA AAAAAAAAAAAA EEEEEEEE VV VV

AAAAAAAAAAAA AAAAAAAAAAAA FFFFFFFF YYY YYY AAAAAAAAAAAA AAAAAAAAAAAA EEEEEEEE VV VV

AA AA AA AA FF YYYY AA AA AA AA EE VV VV

AA AA AA AA FF YY AA AA AA AA EE VV VV

AA AA AA AA FF YY AA AA AA AA EE VV VV

AA AA AA AA FF YY AA AA AA AA EE V V

AA AA AA AA FF YY AA AA AA AA EE VVVV

AA AA AA AA FF YY AA AA AA AA EEEEEEEEEEEE VVVV

AA AA AA AA FF YY AA AA AA AA EEEEEEEEEEEE VV

MWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWM

WMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMW

MWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWM

WMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMW

MWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWM

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 1

STORAGE ALLOCATION.

ADDRESS LENGTH BINARY CONTROL CARDS.

101 11075 IDENT SNOBOL,101B,SNOBOL

11176 END SNOBOL

BLOCKS TYPE ADDRESS LENGTH

PROGRAM\* ABSOLUTE 0 4212

SNOJOB ABSOLUTE 4212 4764

IDENT SNOBOL,101B,SNOBOL

ABS

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\* \*

\* \*

\* \*

\* \*

\* \*

\* \*

\* \*

\* \*

\* \*

\* CAL-6000 SNOBOL4 COMPILER \*

\* DEVELOPED BY \*

\* CHARLES SIMONYI AND PAUL MCJONES \*

\* BERKELEY, 1968 - 1969 \*

\* \*

\* \*

\* \*

\* \*

\* \*

\* \*

\* \*

\* \*

\* \*

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 2

ASSEMBLY PARAMETERS, WORKING STORAGE

101 ORG 101B

\*

\*

\* ASSEMBLY PARAMETERS

\*

\*

0 TSS EQU 0

0 TRCFLG EQU 0

\*

12 BUFF1 EQU 10 . BUFFER SIZE BETWEEN DYNAMIC

. STORAGE AREA AND THE STACK

50 BUFF2 EQU 40 . MINIMUM NUMBER OF WORDS ON THE

. FREE CHAIN IN GRBCOLL

24 BUFF3 EQU 20 . EXPECTED LENGTH OF A PATTERN

50 BUFF4 EQU 40 . STATIC STORAGE INCREMENT

\*

1000 FLDINCR EQU 1000B . FIELD LENGTH INCREMENT

\*

IFNE TSS,0,2

106 STAKSP EQU 70 . SPACE ALLOCATED FOR P2-P3 STACKS

2 BGP3STK EQU 2

101 7 BSSZ STAKSP-101B+BGP3STK

110 BGP2STK EQU \*

\*

110 17257100000000000000 HASHLWD DATA 57.0 . LENGTH OF THE HASH-TABLE

71 HASHLN EQU 57 . LENGTH OF THE HASH-TABLE

111 HASHTBL EQU \* .

111 71 BSSZ HASHLN . HASH-TABLE

\*

\* OTHER EQU-S

\*

377777 MARK EQU 377777B . USED IN PM.YSTAR

202 00000000000000000201 BUFFSIZE DATA 129

70 LINES EQU 56 LINES AVAILABLE / PAGE

\*

\* PASS 2 STATE-MACHINE STATES

\*

0 ST1 EQU 0

4 ST2 EQU 4

10 ST3 EQU 8

14 ST4 EQU 12

20 ST5 EQU 16

24 ST6 EQU 20

30 ST7 EQU 24

34 ST8 EQU 28

40 ST9 EQU 32

44 ST10 EQU 36

50 ST11 EQU 40

54 ST12 EQU 44

60 ST13 EQU 48

64 ST14 EQU 52

70 ST15 EQU 56

\*

\* PASS 2 OPERAND SITUATIONS

\*

-1 OPSVAR EQU -1 . IDENTIFIER OPERAND

-2 OPSLIT EQU -2 . LITERAL STRING

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 3

ASSEMBLY PARAMETERS, WORKING STORAGE

-3 OPSINT EQU -3 . INTEGER CONSTANT

-4 OPSREAL EQU -4 . REAL CONSTANT

-5 OPSEXP EQU -5 . EXPRESSION AS OPERAND

-6 OPSSPEC EQU -6 . ARRAY OR FUNCTION OPERAND

\*

\* PASS 3 OPERATOR PRIORITIES

\*

12 PRIORA EQU 10 . UNDOL,UNPRD,UNSTAR,DOL,PRD

11 PRIORB EQU 9 . \*\*

10 PRIORC EQU 8 . \*,/

7 PRIORD EQU 7 . +,-,UNPL,UNMIN

6 PRIORE EQU 6 . CAT

5 PRIORF EQU 5 . ALT,COMMA,),RGTBR

4 PRIORG EQU 4 . (,LFTBR,PM,END GO TO

3 PRIORH EQU 3 . =,ASGNPM,GO TO

2 PRIORI EQU 2 . COLON,SEMICOLON

1 PRIORJ EQU 1 . STACK BASE

\*

\* SOPME PASS 2 INPUT VALUES

\*

-1 P2VAR EQU OPSVAR . IDENTIFIER

-2 P2LIT EQU OPSLIT . LITERAL STRING

-3 P2INT EQU OPSINT . INTEGER CONSTANT

-4 P2REAL EQU OPSREAL . REAL CONSTANT

\*

\* SIMPLE VARIABLE TYPES

\*

0 SFTY EQU 0 . TEMPORARY STRING IN LIST FORM

1 STY EQU 1 . STRING IN CHARACTER FORM

2 SSTY EQU 2 . STRING IN LIST FORM

3 SITY EQU 3 . INTEGER CONSTANTS

4 PSTY EQU 4 . SIMPLE PATTERN

5 PATY EQU 5 . ALTERNATED PATTERNS

6 PETY EQU 6 . CONCATENATED PATTERNS

7 ITY EQU 7 . BINARY INTEGER

10 RTY EQU 8 . REAL VALUE

11 ATY EQU 9 . ARRAY REFERENCE

12 DTY EQU 10 . DATA REFERENCE

13 NTY EQU 11 . NAME

14 CTY EQU 12 . CODE REFERENCE

15 INTY EQU 13 . INPUT ASSOCIATED

16 OUTTY EQU 14 . OUTPUT ASSOCIATED

16 SPECTY EQU 14 . LEFT OPERAND IN STACK

0 SKIPTY EQU 0 . EMPTY WORD IN STATIC

\*

\* STATIC RECORD TYPES

\*

36 VARTYP EQU 37B-1 . SIMPLE VARIABLE

35 CALLTYP EQU 37B-2 . FUNCTION

34 LBLTYP EQU 37B-3 . LABEL

33 LITTYP EQU 37B-4 . LITERAL STRING

32 SPCTYP EQU 37B-5 . ANYTHING WHATSOEVER

31 INTTYP EQU 37B-6 . INTEGER CONSTANS

30 REALTYP EQU 37B-7 . REAL CONSTANS

\*

\* FUNCTION TYPES

\*

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 4

ASSEMBLY PARAMETERS, WORKING STORAGE

0 PROCTYP EQU 0 . PROCEDURE

1 DATATYP EQU 1 . DATA FUNCTION

2 FLDTYP EQU 2 . FIELD FUNCTION

3 UNDFTYP EQU 3 . UNDEFINED FUNCTION

\*

\* WORKING STORAGE USED BOTH DURING COMPILATION AND EXECUTION

\*

203 00000000000000000000 FIELDLN DATA 0 . FIELDLENGTH

204 00000000000000000000 MAXSTAT DATA 0 . LIMITS OF THE STATIC STORAGE

205 00000000000000010522 MINSTAT VFD 60/STTBASE .

206 00000000000000000000 MAXSTAK DATA 0 . LIMITS FOR THE STACK

207 00000000000000000000 MINSTAK DATA 0 .

210 77777777777777777776 NXTWRD DATA -1 . COMPILER SOURCE MEDIUM DESCR.

211 00000000000000000000 FRSTWRD DATA 0 .

212 00000000000000000000 INFAIL DATA 0 . SIGN BIT - SIGNAL ERROR ON FAILURE

213 00000000000000000000 STAKTOP DATA 0 . STACK TOP AFTER LAST PROCEDURE

. CALL

214 00000000000000000000 CODELINK DATA 0 . CHAIN OF TRANSLATED CODE PIECES

\*

\* SOME KEYWORDS

\*

215 00000000000000030000 FLDLM DATA 30000B . LIMIT FOR FIELDLN

216 00000000000000377776 MXLNGTH VFD 60/MARK-1 . MAXIMUM STRING LENGTH

217 00000000000000000001 STCOUNT DATA 1

220 00000000000575360400 STLIM DATA 100000000 LIMIT FOR STATEMENT(RULE) COUNT

221 00000000000000000000 ANCHOR DATA 0 . NOTZERO INDICATES ANCHORED SEARCH

\*

\* WORKING STORAGE USED ONLY DURING COMPILATION

\*

222 TEMPBASE EQU \*

222 00000000000000000000 ARROWD DATA 0 . ERROR FLAG FOR CURRENT LINE

223 00000000000000000000 LBLLINK DATA 0 . CHAIN OF LABELS

224 00000000000000000000 VARLINK DATA 0 . CHAIN OF VARIABLES

225 00000000000000000000 TESTCND DATA 0 . USED IN P3

226 00000000000000000000 TSTPMOP DATA 0 . USED IN P2

227 00000000000000000000 PRGBASE DATA 0 .

230 14 CHAR BSSZ 12 . CHARACTER BUFFER FOR PASS1

244 00000000000000000000 COMPB7 DATA 0

245 77777777777777777776 P1ERFLG DATA -1

246 00000000000000000000 CHARLEN DATA 0

247 00000000000000000000 COLS DATA 0

250 00000000000000000000 CPERW DATA 0

251 00000000000000000000 LC DATA 0

252 00000000000000000001 PAGENO DATA 1

253 00000000000000000000 P1MAX DATA 0

254 00000000000000000000 P1SVX3 DATA 0

255 00000000000000000000 P1SVX5 DATA 0

256 00000000000000000001 RULENO DATA 1

257 00000000000000000000 P1SVTAB DATA 0

254 P4SVX4 EQU P1SVX3

253 P4SVB5 EQU P1MAX

255 TRCSVX7 EQU P1SVX5

260 00000000000000000266 FETHEAD VFD 60/OUTFET-1

261 11162025240000000000 INFET VFD 60/5LINPUT

262 4 BSSZ 4

266 00000000000000000000 VFD 60/0

267 17252420252400000000 OUTFET VFD 60/6LOUTPUT

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 5

ASSEMBLY PARAMETERS, WORKING STORAGE

270 4 BSSZ 4

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 6

MACRO DEFINITIONS

3 RECALL MACRO FILE GENERATE PERIODIC OR AUTO RECALL CALL

IFC EQ,$FILE$$

SX0 B0

ELSE

SX0 1

ENDIF

RJ RCL

ENDM

\*

3 WAIT MACRO . WAIT FOR FILE QUIET

LOCAL NEXT

SA1 B2

LX1 59

NG X1,NEXT . IT IS ALREADY QUIET

RECALL B2

NEXT BSS 0

ENDM

\*

3 MACRO =,ACTION,CODE GENERATE FILE ACTION MACROS

\* ACTION IS NAME OF FILE ACTION

\* MACRO, CODE IS FUNCTION CODE TO

\* INSERT IN FET BEFORE CIO CALL.

ACTION MACRO RECALL

IFC EQ,$RECALL$$

SX0 B0

ELSE

SX0 1

ENDIF

SX7 CODE

RJ CIO

ENDM

ENDM

READ = 10B BUFFERED READ

3 274 READ MACRO RECALL = .1

WRITE = 14B BUFFERED WRITE

3 274 WRITE MACRO RECALL = .1

WRITER = 24B WRITE END OF LOGICAL RECORD

3 274 WRITER MACRO RECALL = .1

REWIND = 50B REWIND FILE

3 274 REWIND MACRO RECALL = .1

274 BWRITER = 26B

CLOSE = 150B CLOSE A FILE

3 274 CLOSE MACRO RECALL = .1

UNLOAD = 60B

3 274 UNLOAD MACRO RECALL = .1

\*

\*

\*

\*

MACRO HEAD,X,A,B,C,D,E,F,G,H,I,J,K,L,M,N,O

X EQU \*-P2TBL

VFD 4/O,4/N,4/M,4/L,4/K,4/J,4/I,4/H

VFD 4/G,4/F,4/E,4/D,4/C,4/B,4/A

ENDM

\*

TAIL MACRO A,B,C,D,E

VFD 8/A,8/B,8/C,18/D,18/E

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 7

MACRO DEFINITIONS

ENDM

\*

MACRO TABLE,A,B,C,D,E,F

A EQU \*-P3TBL

VFD 6/B,12/C,6/D,18/E,18/F

ENDM

\*

MACRO MICOP,A,B,C,D,E

A EQU \*-MCOPTBL

IFC EQ,$E$$,2

+ EQ B

IFNE ,,1

+ VFD 30/-1

- VFD 7/C,5/D,18/B

ENDM

\*

SWITCH MACRO Q,A,B,C,D,E,F,G,H,I,J,K,L,M,N,O

+ VFD 4/O,4/N,4/M,4/L,4/K,4/J,4/I,4/H

VFD 4/G,4/F,4/E,4/D,4/C,4/B,4/A

Q EQU \*

ENDM

\*

MACRO TEMP,PARAM

IF -DEF,CCXXCC,1

CCXXCC SET -1

CCXXCC SET CCXXCC+1

PARAM EQU TEMPBASE+CCXXCC

ENDM

\*

ERROR MACRO NUMBER

SB5 NUMBER

EQ RTERROR

ENDM

\*

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 8

TEMPORARY LOCATIONS USED ONLY DURING RUN - TIME

\*

PIX TEMP

SIX TEMP

PIB TEMP

LENFAIL TEMP

SBASE TEMP

TEMPDOL TEMP

TEMPDOL1 TEMP . REFERRED TO AS TEMPDOL+1

SLENGTH TEMP

PCHAIN TEMP

PMASX6 TEMP

PMASX0 TEMP

PMASX3 TEMP

PMASX2 TEMP

PMASX4 TEMP

PMASB1 TEMP

PMASB2 TEMP

PMASB4 TEMP

CALLB5P TEMP . USED IN CALL

DATAWD TEMP . USED IN DATA

PMA5 TEMP

SPOS TEMP

DTYPWD TEMP

UA TEMP . RETURN - PM CHEK INFO

235 PMSTX3 EQU PMASX3

240 PMSTB1 EQU PMASB1

241 PMSTB3 EQU PMASB2

242 PMSTB4 EQU PMASB4

235 PMFA0 EQU PMASX3

240 PMFX4 EQU PMASB1

241 PMFA4 EQU PMASB2

235 QARSV EQU PMASX3

235 QIOSV EQU PMASX3

235 QDEFSV1 EQU PMASX3

240 QDEFSV2 EQU PMASB1

241 QDEFSV3 EQU PMASB2

235 QFRZSV EQU PMASX3

235 QEQSV EQU PMASX3

235 QDATSV1 EQU PMASX3

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 9

KLOOJE KLOOJE KLOOJE

274 TRACE1 BSS 0

274 TRACE2 BSS 0

274 6150000040 ERR32 ERROR 32

274 ADDS1 EQU ERR32

274 ADDS2 EQU ERR32

274 SUBTRS EQU ERR32

274 MULTS EQU ERR32

274 DIVS EQU ERR32

274 EXPS EQU ERR32

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 10

ERROR CALLS

\*

\*

275 ERRORG BSS 0 . ORIGIN FOR THE ERROR OVERLAY

\*

275 6150000000 NOEND ERROR 0

276 6150000001 ERR1 ERROR 1

277 6150000002 ERR2 ERROR 2

300 6150000003 ERR3 ERROR 3

301 6150000004 ERR4 ERROR 4

302 6150000005 ERR5 ERROR 5

303 6150000006 ERR6 ERROR 6

304 6150000007 ERR7 ERROR 7

305 6150000010 ERR8 ERROR 8

306 6150000011 ERR9 ERROR 9

307 6150000012 ERR10 ERROR 10

310 6150000013 ERR11 ERROR 11

311 6150000015 ERR13 ERROR 13

312 6150000016 ERR14 ERROR 14

313 6150000017 ERR15 ERROR 15

314 6150000020 ERR16 ERROR 16

315 6150777756 ERR17 ERROR -17

316 6150000023 ERR19 ERROR 19

317 6150000024 ERR20 ERROR 20

320 6150000025 ERR21 ERROR 21

321 6150000026 ERR22 ERROR 22

322 6150000027 ERR23 ERROR 23

323 6150000030 ERR24 ERROR 24

324 6150000031 ERR25 ERROR 25

325 6150000032 ERR26 ERROR 26

326 6150000033 ERR27 ERROR 27

327 6150000034 ERR28 ERROR 28

330 6150000035 ERR29 ERROR 29

331 6150000036 ERR30 ERROR 30

332 6150000037 ERR31 ERROR 31

333 6150000043 ERR35 ERROR 35

334 6150000044 ERR36 ERROR 36

335 6150000045 ERR37 ERROR 37

336 6150000046 ERR38 ERROR 38

337 6150000047 ERR39 ERROR 39

340 6150000050 ERR40 ERROR 40

341 6150000051 ERR41 ERROR 41

342 6150000052 ERR42 ERROR 42

343 6150000053 ERR43 ERROR 43

344 6150000054 ERR44 ERROR 44

345 6150000060 ERR48 ERROR 48

346 6150000061 ERR49 ERROR 49

347 6150000062 ERR50 ERROR 50

350 6150000064 ERR52 ERROR 52

351 6150000065 ERR53 ERROR 53

352 6150000067 ERR55 ERROR 55

353 6150000070 ERR56 ERROR 56

354 6120000267 FATBUMP SB2 OUTFET

7160000000 SX6 0

355 6150777711 SB5 -54

0100004272 RJ PB

356 0400003341 EQ RTERROR

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 11

TABLE OF MICRO-OPERATIONS

357 MCOPTBL BSS 0

357 0400000441 XNOOP MICOP NOOP,0,2

\*

360 0400000525 XCATCHK MICOP CATCHEK,0,0

361 0400000547 XALTCHK MICOP ALTCHEK,0,0

362 0400000636 XPMCHK MICOP PMCHEK,0,0

363 0400001027 XASCHK MICOP ASCHEK,0,0

364 0400001027 XMCHEK MICOP MCHEK,0,0

365 0400001027 XDCHEK MICOP DCHEK,0,0

366 0400001027 XEXPCHK MICOP EXPCHK,0,0

367 0400001165 XCONCAT MICOP CONCAT,0,0

370 0400000757 XALT MICOP ALTER,0,0

371 0400001042 XAND MICOP ZAND,0,0

372 0400001053 XNOT MICOP ZNOT,0,0

373 0400001047 XEOR MICOP ZEOR,0,0

374 0400001051 XOR MICOP ZOR,0,0

375 0400001056 XLEFT MICOP ZLEFT,0,0

376 0400001061 XRITE MICOP ZRITE,0,0

377 0400001071 XADD MICOP ADD,0,0

400 0400001101 XSUBTR MICOP SUBTR,0,0

401 0400001036 XUNADD MICOP UNADD,0,0

402 0400001035 XUNSUB MICOP UNSUB,0,0

403 0400001107 XMULT MICOP MULT,0,0

404 0400001120 XDIV MICOP DIV,0,0

405 0400001130 XEXP MICOP EXP,0,0

406 0400001322 XPM MICOP PM,0,0

407 0400001454 XPRD MICOP PRD,0,6

410 0400001453 XDOL MICOP DOL,0,6

411 0400001452 XSTAR MICOP STAR,0,6

412 0400001566 XASGN MICOP ASGN,0,4

413 0400001577 XASGNPM MICOP ASGNPM,0,4

414 0400001534 XSUBCM MICOP SUBCOM,0,0

415 0400001647 XPARAM MICOP PARAM,0,0

416 0400000457 XSKIP MICOP SKIP,0,0

417 0400001561 XINDRCN MICOP INDRCN,0,0

420 0400001563 XINDRCV MICOP INDRCV,XINDRCN,2

421 0400000521 XEND MICOP END,0,0

422 0400000275 XNOEND MICOP NOEND,0,0

423 0400001520 XZERO MICOP ZERO,0,2

424 0400001513 XNULL MICOP NULL,0,2

425 0400001525 XARRAY MICOP ARRAY,0,1

426 0400001541 XARRAYN MICOP ARRAYN,0,2

427 0400001542 XARRAYV MICOP ARRAYV,XARRAYN,3

430 7777777776 XCALL MICOP CALL,0,12B,SPEC

431 0400001522 XNAME MICOP NAME,0,1

432 0400001565 XOPRND MICOP OPRND,XNAME,23B

53 XGOX EQU \*-MCOPTBL-1

433 7777777776 XGOS MICOP GOS,0,2,SPEC

434 7777777776 XGOF MICOP GOF,0,2,SPEC

435 7777777776 XGOTO MICOP GOTO,0,2,SPEC

436 0400000504 XGOTOT MICOP GOTOT,0,2

437 0400000500 XGOTOC MICOP GOTOC,0,2

440 0400000476 XNOFAIL MICOP NOFAIL,0,2

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 12

MICRO PROCESSOR: MAIN LOOP

\*

441 5055777776 NEXTMIC SA5 A5-1 . NEXT MICRO-OPERATION

63150 SB1 X5 . OPERATION PART

21522 AX5 18 . ADDRESS PART

442 0335000443 NG X5,NEWRULE . BRANCH IF END OF RULE

0211000000 JP B1+0 . BRANCH TO THE CODE FOR THE MICOP

\*

441 NOOP EQU NEXTMIC

\*

443 5110000217 NEWRULE SA1 STCOUNT . BUMP STCOUNT

5120000220 SA2 STLIM . AND CHECK AGAINST STLIM

444 7170000001 SX7 1

36771 IX7 X7+X1

37212 IX2 X1-X2

445 54710 SA7 A1

0322000316 PL X2,ERR19

446 0211000000 JP B1

\*

447 0335000451 GOTO NG X5,GOTO1 . GO TO TERMINATES THE RULE

6110000451 SB1 GOTO1

450 0400000443 EQ NEWRULE

451 73550 GOTO1 SX5 X5

0335001776 NG X5,RETUN . BRANCH IF RETURN OR UNDEFINED

53550 SA5 X5 . FETCH MICOP ADDRESSED

452 63150 SB1 X5

21522 AX5 18

0335000443 NG X5,NEWRULE

453 0211000000 SSKIP1 JP B1

\*

454 0400000447 GOS EQ GOTO . SLIGHTLY DIFFERENT THAN GOTO

\*

455 54550 SNDMIC SA5 A5 . HIGH ORDER MICRO-INSTRUCTION

43067 MX0 55

20506 LX5 6

15150 BX1 -X0\*X5 . MASK OFF OPERATION CODE

456 21552 AX5 42 . ADDRESS PART OF X5

63110 SB1 X1 . MCOPTBL CONTAINS EQ JUMPS TO THE

0211000357 JP B1+MCOPTBL . COPE FOR THE PARTICULAR MICOP

\*

457 6110000441 SKIP SB1 NEXTMIC

460 5110000213 SSKIP SA1 STAKTOP . SKIP OPERANDS IN STACK

63210 SB2 X1

461 0462000453 SSKIP2 EQ B6,B2,SSKIP1

56160 SA1 B6

63310 SB3 X1

462 67663 SB6 B6-B3

21167 AX1 55

0311000461 NZ X1,SSKIP2 . IF OPERAND IS OF SF TYPE

463 5011777776 SA1 A1-1 . RELEASE IT

76770 SX7 B7

63710 SB7 X1

464 21122 AX1 18

53710 SA7 X1

0400000461 EQ SSKIP2

\*

465 5110000212 FAIL SA1 INFAIL . FAILURE IN CURRENT RULE

0331000306 NG X1,ERR9 . ERROR IF IN GO TO PART

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 13

MICRO PROCESSOR: MAIN LOOP

466 6110000467 SB1 FAIL1

0400000460 EQ SSKIP . SKIP OPERANDS IN THE STACK

467 6120000474 FAIL1 SB2 GOF

6140000447 SB4 GOTO

470 5055000001 SA5 A5+1

471 5055777776 FAIL2 SA5 A5-1 . SKIP MICOPS UNTIL END OF THE RULE

6235000000 SB3 X5+0 . OR A GOF JUMP IS FOUND.

472 0423000475 EQ B2,B3,FAIL3

0434000475 EQ B3,B4,FAIL3 . UNCONDITIONAL JUMP

473 0325000471 PL X5,FAIL2

474 0400000441 GOF EQ NEXTMIC . GOF IS IGNORED OT8ERWISE

475 21522 FAIL3 AX5 18

0400000451 EQ GOTO1 . BUT NOW IT IS EXECUTED

\*

\*

476 43701 NOFAIL MX7 1 . MICRO OPERATION

5170000212 SA7 INFAIL . SET VARIABLE TO SIGNAL ERRO

477 0400000455 EQ SNDMIC . ON FAILURE (IN GO TO PART)

\*

500 56160 GOTOC SA1 B6 . MICRO OPERATION

21167 AX1 55 . TRANSFER CONTROL TO TRANSLATED

6211777763 SB1 X1-CTY . CODE

501 0510000507 NE B1,B0,ERR34 . TOP OPERAND HAS TO BE OF CODE TYPE

5156777776 SA5 B6-1

502 6166777775 GOTOC1 SB6 B6-2 . REMOVE TOP OPERAND

13777 BX7 X7-X7

503 5170000212 SA7 INFAIL . CLEAR INFAIL

0400000447 EQ GOTO

\*

504 5120000506 GOTOT SA2 GTTWD . MICRO OPERATION

6130000507 SB3 GTTSW . GO TO THE LABEL DESCRIBED AT THE

505 0400000526 EQ CHEK . TOP OF THE STACK

\*

506 00000000000 GTTWD SWITCH GTTSW,2,1,3,3,0,0,0,0,0,0,0,0,0,0,0

507 6150000042 ERR34 ERROR 34 . 0, P,I,R,A,D,N,C

510 0100000540 + RJ SCATS . 1, S

511 5146777776 + SA4 B6-1 . 2, SF

0400000513 EQ GOTOT1

512 5146777776 + SA4 B6-1 . 3, SS,SI

5244000000 SA4 X4+0

513 7100000034 GOTOT1 SX0 LBLTYP . SEARCH FOR LABEL TYPE

10144 BX1 X4 . FIRST TO B5

63540 SB5 X4

514 21144 AX1 36

20067 LX0 55

63310 SB3 X1 . LENGTH TO B3

515 0100002675 RJ SEARCH . PERFORM SEARCH

516 0301000307 ZR X1,ERR10 . ERROR IF NOT FOUND

53510 SA5 X1 . LABEL DESCRIPTION TO X5

76770 SX7 B7

517 73550 SX5 X5

0540000502 NE B4,B0,GOTOC1

63740 SB7 X4 . RELEASE OPERAND IF SF

520 21422 AX4 18

53740 SA7 X4

0400000502 EQ GOTOC1 . COMPLETE GO TO

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 14

PROGRAM TERMINATION

521 0100004341 END RJ CLOSEOUT . TERMINATE ALL OUTPUT - TYPE FILES

522 7170051604 .END. SX7 3LEND . MONITOR REQUEST TO QUIT

20752 LX7 42

523 5170000001 SA7 1

524 0400000524 + EQ \* . WAIT FOR MONITOR

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 15

MICRO PROCESSOR: ACTIONS

525 6130000532 CATCHEK SB3 CATCSW . MICRO OPERATION

5120000531 SA2 CATCWD . CHECK LEFT OPERAND FOR CONCAT

\*

\* CHECK TOP OPERAND X0,X1,X2,B1,B3,B4,

\*

526 5116000000 CHEK SA1 B6+0 . FETCH TOP OPERAND

21167 AX1 55 . TYPE PART TO X1

20102 LX1 2

527 6241000000 SB4 X1+0 . GO TO STORE(X2(X1)+B3)

23242 AX2 B4,X2 .

43070 MX0 56 . X2 IS TREATED HERE AS A LINEAR

530 15220 BX2 -X0\*X2 . ARRAY OF 4 BIT INTEGERS

63323 SB3 X2+B3

0233000000 JP B3

\*

531 00021042100 CATCWD SWITCH CATCSW,2,1,3,3,2,2,2,0,2,2,2,2,2,0,0

\*

532 6110000441 + SB1 NEXTMIC . 0, I

0400002401 EQ ITOSFTP

533 0100000540 + RJ SCATS . 1, S

534 0400000441 + EQ NEXTMIC . 2, SF,P,R,A,D,N,C

535 5116777776 CATCSS SA1 B6-1 . 3, SS,SI

7170000002 SX7 2

536 53210 SA2 X1

56760 SA7 B6 . STORE SF TYPE HEADING

0100002350 RJ SSTOSF . COPY THE STRING

537 5166777776 SA6 B6-1 . STORE THE SVD OF THE COPY

0400000441 EQ NEXTMIC

\*

540 46000 SCATS NO

541 56160 + SA1 B6

6241777776 SB4 X1-1 . STRING LENGTH TO B4

67264 SB2 B6-B4 . FIRST

542 6136777776 SB3 B6-1 . LAST

0540000544 NZ B4,SCATS1 . IF NULL STRING THEN ONE

543 5100000001 SA0 1 . MORE WORD HAS TO BE RESERVED

0100002052 RJ RESERVE . IN THE STACK

544 6162000001 SCATS1 SB6 B2+1 . NEW SF TYPE STACK ENTRY CONSISTS

0100002300 RJ STOSFX6 . OF TWO WORDS

545 7170000002 SX7 2

5166777776 SA6 B6-1 . THE SVD

546 56760 SA7 B6 . AND THE HEADING

66400 SB4 B0 . ZERO IN B4 SIGNALS SF TYPE USUALLY

0400000540 EQ SCATS

\*

547 6130000552 ALTCHEK SB3 ALTCSW . MICRO OPERATION CHECK LEFT

5120000551 SA2 ALTCWD . OPERAND FOR ALTERATION

550 0400000526 EQ CHEK

\*

551 00000000016 ALTCWD SWITCH ALTCSW,2,8,1,1,5,3,4,7,0,0,0,0,0,0,0

552 6150000014 + ERROR 12 . 0, R,A,D,N,C

553 5146777776 + SA4 B6-1

0400000602 EQ ALTCSS . 1, SS

554 7146777776 + SX4 B6-1

0400000602 EQ ALTCSF . 2, SF

555 56160 + SA1 B6

63410 SB4 X1

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 16

MICRO PROCESSOR: ACTIONS

0400000615 EQ ALTCPA . 3, PA

556 43074 + MX0 60

0400000563 EQ ALTCS1 . 4, PE

557 6110000001 + SB1 1

77001 SX0 B0-B1

56260 SA2 B6

560 63420 + SB4 X2

0400000564 EQ ALTCS2 . 5, PS

561 0100002255 + RJ ITOS . 7, I

562 7100000000 + SX0 0 . 8, S

563 6110000002 ALTCS1 SB1 2

56260 SA2 B6

63420 SB4 X2

564 66260 ALTCS2 SB2 B6

56010 SA0 B1 . RESERVE LOCATIONS FOR ALT AND

0100002052 RJ RESERVE . PERHAPS LIT

565 66341 SB3 B4+B1

67363 SB3 B6-B3

566 6122777776 ALTCS3 SB2 B2-1 . PUSH TOP OPERAND DOWN B1 WORDS

0423000571 EQ B2,B3,ALTCS4

567 56120 SA1 B2

10711 BX7 X1

54711 SA7 A1+B1

570 0400000566 EQ ALTCS3

571 0320000610 ALTCS4 PL X0,ALTCSS2 . BRANCH IF S OR I

7160001643 SX6 ALTPM

572 20660 LX6 48

0300000574 ZR X0,ALTCPE1 . BRANCH IF PE

57664 SA6 B6-B4 . PS

573 0400000613 EQ ALTCSS3

574 7170001645 ALTCPE1 SX7 EXPPM

20760 LX7 48

575 7114000001 SX1 B4+1

12717 BX7 X1+X7 . PUT EXP AND ENDEX BRACKETS

57764 SA7 B6-B4 . AROUND THE PATTERN EXPRESSION

576 5067777776 SA6 A7-1

7170001624 SX7 ENDEXPM

577 20760 LX7 48

56760 SA7 B6

5100000001 SA0 1

600 0100002052 RJ RESERVE

601 6110000003 SB1 3

0400000613 EQ ALTCSS3

\*

602 ALTCSS BSS 0

602 53140 ALTCSF SA1 X4 . FETCH DESCRIPTOR

21144 AX1 36

6110000002 SB1 2

603 63510 SB5 X1 . LENGTH TO B5

5201000001 SA0 X1+1

604 0100002052 RJ RESERVE

605 53140 SA1 X4

10411 BX4 X1

0100002275 RJ SSTOS . CONVERT THE LIST INTO S FORMAT

606 66340 SB3 B4

64400 SB4 A0

0530000610 NE B3,B0,ALTCSS2 . RELEASE IF SF

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 17

MICRO PROCESSOR: ACTIONS

607 76770 SX7 B7

63740 SB7 X4

21422 AX4 18

53740 SA7 X4

610 7160001643 ALTCSS2 SX6 ALTPM

7170002046 SX7 LITPM

611 20760 LX7 48 . COMMON PROGRAM TO PLACE THE

76140 SX1 B4 . ALT AND LIT PM OPERATIONS

20660 LX6 48

12771 BX7 X7+X1

612 57764 SA7 B6-B4

5067777776 SA6 A7-1

613 7170000016 ALTCSS3 SX7 SPECTY . PUT THE HEADER WORD INTO THE STACK

20767 LX7 55 . SPEC TYPE DOES NOT MATTER

76441 SX4 B4+B1

614 12747 BX7 X4+X7

56760 SA7 B6

0400000441 EQ NEXTMIC

\*

615 21122 ALTCPA AX1 18 . UNPACK PA PARAMETER

66360 SB3 B6

63110 SB1 X1 . INTO B1

67261 SB2 B6-B1

616 5113777776 ALTCPA1 SA1 B3-1

10711 BX7 X1

56730 SA7 B3

617 6133777776 SB3 B3-1

0532000616 NE B3,B2,ALTCPA1

620 7170001643 SX7 ALTPM . PUT ALT OPERATION IN THE FRONT

20760 LX7 48 . OF THE LAST ELEMENT (B1 POINTS

56720 SA7 B2 . TO THE BEGINNING OF IT RELATIVE

621 5100000001 SA0 1 . TO THE END OF THE PATTERN )

0100002052 RJ RESERVE

622 6130777645 SB3 EXPPM-1777B

6150777751 SB5 ARBNOPM-1777B

623 67164 SB1 B6-B4

43014 MX0 12

56210 SA2 B1

11202 BX2 X0\*X2

624 6111000001 ALTCPA2 SB1 B1+1 . LINK ALL ALT OPERATIONS ON THE

625 0416000634 ALTCPA3 EQ B1,B6,ALTCPA6 . ZERO LEVEL TOGETHER

56110 SA1 B1

26721 UX7 B2,X1

626 0371000624 ID X1,ALTCPA2 . PRDPM OR DOLPM

0602000630 GE B0,B2,ALTCPA5

627 63111 ALTCPA4 SB1 X1+B1 . ANY, SPAN OR THE LIKE

0400000625 EQ ALTCPA3

630 0423000627 ALTCPA5 EQ B2,B3,ALTCPA4

0425000627 EQ B2,B5,ALTCPA4 . EXP OR ARBNO

631 6122000134 SB2 B2-ALTPM+1777B

0520000624 NE B2,B0,ALTCPA2 . ANYTHING ELSE

632 64220 SB2 A2

77312 SX3 B1-B2 . A2 HOLDS THE LINK

12723 BX7 X2+X3

54720 SA7 A2

633 54210 SA2 A1

11202 BX2 X0\*X2

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 18

MICRO PROCESSOR: ACTIONS

0400000624 EQ ALTCPA2

634 6110000001 ALTCPA6 SB1 1 . END OF SCAN

. MARK END OF LINK WITH ZERO

10722 BX7 X2

54720 SA7 A2

635 0400000613 EQ ALTCSS3

\*

636 6130000641 PMCHEK SB3 PMCSW . MICRO INSTRUCTION

5120000640 SA2 PMCWD . CHECK LEFT OPERAND FOR PATTERN

637 0400000526 EQ CHEK . MATCH

\*

\* SWITCH FOR PMCHECK,IN GENERAL EVERYTHING IS PUT INTO S FORMAT

640 00000000002 PMCWD SWITCH PMCSW,3,2,4,4,0,0,0,1,0,0,0,0,0,0,0

641 6150000017 + ERROR 15 . 0, P,R,A,D,N,C

642 0100002255 + RJ ITOS . 1, I

643 56160 + SA1 B6 . 2, S

10611 BX6 X1

0400000654 EQ PMC1

644 7146777776 + SX4 B6-1

0400000646 EQ PMCSF . 3, SF

645 5146777776 + SA4 B6-1 . 4, SS,SI

646 53140 PMCSF SA1 X4

21144 AX1 36

63510 SB5 X1

647 5201777776 SA0 X1-1 . B6 MAY BE DECREASED IN FACT

0100002052 RJ RESERVE

650 53140 SA1 X4

10411 BX4 X1

0100002275 RJ SSTOS . CONVERT TO S FORMAT

651 7020000002 SX2 A0+2

0540000653 NE B4,B0,PMCSF1 . RELEASE IF SF

652 76770 SX7 B7 . RELEASE IS DONE BY CHAINING THE

63740 SB7 X4 . END OF LIST TO THE FREE CHAIN

21422 AX4 18 . AND SETTING B7 TO THE BEGINNING

53740 SA7 X4 . OF THE LIST.

653 7160000001 PMCSF1 SX6 STY . STRING HEADER WORD INTO X6

20667 LX6 55

12626 BX6 X2+X6

654 73550 PMC1 SX5 X5 . PACK ADDRESS OF OPERAND

5110000250 SA1 UA . OR UA IF IT IS ZERO INTO

20522 LX5 18 . THE HEADING

655 20122 LX1 18

0315000656 NZ X5,PMC2

10511 BX5 X1

656 12665 PMC2 BX6 X6+X5

56660 SA6 B6

0400000441 EQ NEXTMIC

\* THE FOLLOWING PROCEDURE CHECKS THE OPERANDS FOR ARITHMETIC

\* OPERATIONS (EXCEPT \*\*). NUMBERS WITH ABS VALUE LESS THAN

\* X0 WILL BE REPRESENTED AS BINARY INTEGERS WHILE LARGE

\* NUMBERS WILL BE HANDLED IN STRING FORM. A0 CONTAINS LOG(X0)

\* -

\*

657 7100000002 SACHEK1 SX0 2 . RETURN INTEGER TYPE

12770 BX7 X7+X0

660 46000 SACHEK NO . ENTRY

661 56360 + SA3 B6

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 19

MICRO PROCESSOR: ACTIONS

5120000664 SA2 ARITWD . SWITCH ON TYPE OF TOP OPERAND

21367 AX3 55

662 20302 LX3 2

63430 SB4 X3

23242 AX2 B4,X2

43370 MX3 56

663 15223 BX2 -X3\*X2

63320 SB3 X2

0233000665 JP B3+ARITSW

\*

664 00000000054 ARITWD SWITCH ARITSW,3,5,2,4,0,0,0,6,1,0,0,0,0,0

665 6150000057 ERR47 ERROR 47 . 0, P,A,D,N,C

666 76700 + SX7 B0 . 1, R

0400000660 EQ SACHEK

667 5146777776 + SA4 B6-1 . 2, SS

0400000715 EQ ACHEKSF

670 7146777776 + SX4 B6-1 . 3, SF

0400000715 EQ ACHEKSF

671 5146777776 + SA4 B6-1 . 4, SI

0400000700 EQ ACHEKSI

672 56160 + SA1 B6 . 5, S

63510 SB5 X1

0400000711 EQ ACHEKS

673 5116777776 + SA1 B6-1 . 6, I

0321000675 PL X1,ACHEKI1

674 14111 BX1 -X1 . ABS VALUE

675 37010 ACHEKI1 IX0 X1-X0

7170000007 SX7 ITY

20767 LX7 55

676 0330000657 NG X0,SACHEK1 . LESS THAN X0, RETURN INTEGER TYPE

0100002255 RJ ITOS . ELSE CONVERT TO STRING.

677 0400000660 EQ SACHEK

700 53240 ACHEKSI SA2 X4 . SI FORMAT

5212777776 SA1 X2-1 . TEST INTEGER PART FIRST

37010 IX0 X1-X0

701 0320000705 PL X0,ACSI1 . IF TOO BIG, GO GET THE STRING PART

10611 BX6 X1

54640 SA6 A4

702 7170000007 ACHKSI1 SX7 ITY . ELSE PUT THE INTEGER TO THE

7100000002 SX0 2 . TOP OF THE STACK

703 20767 LX7 55

12707 BX7 X0+X7

5176000000 SA7 B6+0

704 0400000660 EQ SACHEK . RETURN

705 10422 ACSI1 BX4 X2

21444 AX4 36 . LENGTH OF THE STRING TO X4

6254000000 SB5 X4+0

706 5204777776 SA0 X4-1 . RESERVE SPACE

0100002052 RJ RESERVE . (AO MAY BE NEGATIVE)

707 10122 BX1 X2

0100002275 RJ SSTOS . CONVERT SI TO S

710 7214000001 SX1 X4+1

0400000754 EQ ACHEKS5 . GO TO FORM AN S TYPE HEADING

\*

711 6110000000 ACHEKS SB1 0 . PROCESS A NUMBER GIVEN IN S FORM

6120000000 SB2 0 . SET STATE AND COUNT TO ZERO

712 67365 SB3 B6-B5 . NORMALIZED STRING WILL BE STORED

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 20

MICRO PROCESSOR: ACTIONS

76200 SX2 B0 . FROM B0. X2 IS BINARY VALUE

6140000713 SB4 ACHEKSR . RETURN ADDRESS

713 6155777776 ACHEKSR SB5 B5-1

0450000744 EQ B5,B0,ACHEKS1

714 57165 SA1 B6-B5 . EXAMINE ALL CHARACTERS

0400000731 EQ DIGIT

\*

715 53140 ACHEKSF SA1 X4 . RESERVE SPACE IN STACK FOR

21144 AX1 36 . LONGEST POSSIBLE RESULT

64500 SB5 A0 . SAVE A0

53010 SA0 X1

716 0100002052 RJ RESERVE

717 53440 SA4 X4

10044 BX0 X4

6030000000 SB3 A0+0

720 10644 BX6 X4

56050 SA0 B5

66540 SB5 B4 . B5 IS 0 IFF SF

67363 SB3 B6-B3

721 6133777775 SB3 B3-2

66100 SB1 B0 . INITIALIZE DIGIT COUNT

722 6140000725 SB4 ACHKSFR . RETURN ADDRESS

66200 SB2 B0 . STATE

76200 SX2 B0 . BINARY VALUE

723 0300000727 ACHKSF2 ZR X0,ACHKSF3

5240000000 SA4 X0+0 . NEXT WORD FROM THE LIST

724 73040 SX0 X4

13440 BX4 X4-X0

725 43366 ACHKSFR MX3 54 . UNPACK CHARACTERS AND CALL DIGIT

20406 LX4 6

15143 BX1 -X3\*X4

726 0311000731 NZ X1,DIGIT

0400000723 EQ ACHKSF2

727 0550000744 ACHKSF3 NE B5,B0,ACHEKS1 . RELEASE LIST IF SF

76770 SX7 B7

63760 SB7 X6

730 21622 AX6 18

53760 SA7 X6

0400000744 EQ ACHEKS1

\*

731 7271000000 DIGIT SX7 X1+0 . OPEN SUBROUTINE TO CONVERT

7211777732 SX1 X1-1R+ . STRINGS TO INTEGERS

732 0321000741 PL X1,DIGIT2 . BRANCH IF NOT DIGIT

7211000012 SX1 X1+10

733 0331000277 NG X1,ERR2 . ERROR IF LETTER

0311000735 NZ X1,DIGIT4 . IGNORE LEADING BLANKS

734 0602000742 GE B0,B2,DIGIT3

735 10322 DIGIT4 BX3 X2

66240 SB2 B4

20202 LX2 2 . MULTIPLY ACCUMULATED VALUE BY 10

36223 IX2 X2+X3 . AND ADD NEW DIGIT

736 20201 LX2 1

36221 IX2 X2+X1

737 6111000001 DIGIT1 SB1 B1+1 . BUMP DIGIT COUNT

56713 SA7 B1+B3 . STORE NEXT DIGIT

740 0244000000 DIGIT6 JP B4 . RETURN

741 0520000277 DIGIT2 NE B2,B0,ERR2 . ERROR IF AFTER SIGN

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 21

MICRO PROCESSOR: ACTIONS

7231777776 SX3 X1-1

742 6120777776 DIGIT3 SB2 -1 . SET STATE TO AFTER SIGN

0301000740 ZR X1,DIGIT6 . IGNORE +

743 0303000737 ZR X3,DIGIT1 . BRANCH IF -

0400000277 EQ ERR2

\*

744 66631 ACHEKS1 SB6 B3+B1 . AFTER CONVERSION

0410000751 EQ B1,B0,ACHEKS3 . BRANCH IF NULL STRING

745 5113000001 SA1 B3+1 . PICK UP FIRST CHARACTER

7211777731 SX1 X1-1R-

746 0311000750 NZ X1,ACHEKS2 . BYPASS IF NOT -

13000 BX0 X0-X0

747 6111777776 SB1 B1-1

37202 IX2 X0-X2 . CHANGE THE SIGN OF THE BINARY VALUE

750 75001 ACHEKS2 SX0 A0-B1

0330000753 NG X0,ACHEKS4 . TOO LONG, PRODUCE S TYPE RESULT

751 6163000002 ACHEKS3 SB6 B3+2

10622 BX6 X2

752 5166777776 SA6 B6-1 . I TYPE RESULT OT8ERWISE

0400000702 EQ ACHKSI1

753 7111000001 ACHEKS4 SX1 B1+1

754 7170000001 ACHEKS5 SX7 STY . S TYPE HEADING TO X7 USING X1

6166000001 SB6 B6+1

755 20767 LX7 55

12771 BX7 X7+X1

56760 SA7 B6

756 0400000660 EQ SACHEK

\*

757 6130000762 ALTER SB3 ALTSW . MICRO OPERATION

5120000761 SA2 ALTWD . ALTERNATION

760 0400000526 EQ CHEK

\*

761 14631463150 ALTWD SWITCH ALTSW,7,5,8,8,0,1,2,4,3,3,3,3,3,3,3

762 6130000000 + SB3 0 . 0, PS

763 56460 + SA4 B6

63240 SB2 X4

0400001012 EQ ALTPA1 . 1, PA

764 56160 + SA1 B6

63210 SB2 X1

0400001021 EQ ALTPE1 . 2, PE

765 6150000014 + ERROR 12 . 3, R,A,D,N,C

766 0100002255 + RJ ITOS . 4, I

767 56160 + SA1 B6 . 5, S

63210 SB2 X1

57262 SA2 B6-B2

63120 SB1 X2

770 0400001001 EQ ALTS2

771 7146777776 + SX4 B6-1

0400000773 EQ ALTSS1 . 6, SF

772 5146777776 + SA4 B6-1

6130000000 SB3 0 . 7, SS,SI

773 5116777775 ALTSS1 SA1 B6-2

53240 SA2 X4

63110 SB1 X1 . CONVERT THE LIST STRUCTURE INTO

774 64210 SB2 A1 . A LIT OPERATION

21244 AX2 36

63520 SB5 X2

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 22

MICRO PROCESSOR: ACTIONS

775 5202777776 SA0 X2-1

0100002052 RJ RESERVE

776 53140 SA1 X4

10411 BX4 X1

0100002275 RJ SSTOS

777 67262 SB2 B6-B2

0430001001 EQ B3,B0,ALTS2 . RELEASE LIST IF SF

76770 SX7 B7

1000 63740 SB7 X4

21422 AX4 18

53740 SA7 X4

1001 7170002046 ALTS2 SX7 LITPM

20760 LX7 48

1002 7112000000 SX1 B2+0

12717 BX7 X1+X7

57762 SA7 B6-B2

1003 7160000005 ALTS3 SX6 PATY . INSERT PA TYPE HEADING

76020 SX0 B2

20667 LX6 55

1004 20022 ALTS4 LX0 18

76121 SX1 B2+B1

12606 BX6 X0+X6

12616 BX6 X1+X6

1005 66121 SB1 B2+B1 . UPDATE THE CHAIN OF ALT

67161 SB1 B6-B1 . OPERATIONS. ALL ALT-S WILL POINT

5166000000 SA6 B6+0 . TO THE END OF THE PATTERN+1

1006 6111000001 SB1 B1+1

43014 MX0 12

1007 56110 ALTS5 SA1 B1

63210 SB2 X1

77261 SX2 B6-B1

11701 BX7 X0\*X1

1010 12727 BX7 X2+X7

5071000000 SA7 A1+0

64112 SB1 A1+B2

1011 0520001007 NE B2,B0,ALTS5

0400000441 EQ NEXTMIC

\*

1012 57362 ALTPA1 SA3 B6-B2

67462 SB4 B6-B2

63130 SB1 X3

1013 6122777776 SB2 B2-1

6166777776 SB6 B6-1

1014 6144000001 ALTPA2 SB4 B4+1 . POP THE PATTERNONE WORD UP

56140 SA1 B4

10711 BX7 X1

1015 5071777776 SA7 A1-1

0546001014 NE B4,B6,ALTPA2

1016 0403001003 EQ B0,B3,ALTS3 . BRANCH IF SIMPLE PATTERN

7160000005 SX6 PATY

1017 21422 AX4 18 . THE RESULT PARAMETER IS THE PARA

20667 LX6 55 . METER OF THE SECOND OPERAND IN

73040 SX0 X4 . THIS CASE.

1020 0400001004 EQ ALTS4

\*

1021 57362 ALTPE1 SA3 B6-B2

67362 SB3 B6-B2

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 23

MICRO PROCESSOR: ACTIONS

63130 SB1 X3 . PUT EXP AND ENDEX BRACKETS

1022 5100000001 SA0 1 . AROUND THE PATTERN EXPRESSION

0100002052 RJ RESERVE

1023 7170001645 SX7 EXPPM

6122000001 SB2 B2+1

1024 20760 LX7 48

76020 SX0 B2

7160001624 SX6 ENDEXPM

1025 12707 BX7 X0+X7

20660 LX6 48

56730 SA7 B3

1026 5166777776 SA6 B6-1

0400001003 EQ ALTS3

\*

1027 5110001034 ASCHEK SA1 TENTO15 ALLOW 48 BIT NUMBERS FOR DICK ROTH

5100000017 SA0 15 HERE IS THE LOG OF TEN TO THE 15TH

1030 10011 ACHEK1 BX0 X1 . SUBTRACTION

0100000660 RJ SACHEK

1031 0400000441 EQ NEXTMIC

\*

1027 MCHEK EQU ASCHEK

1027 DCHEK EQU ASCHEK

1027 EXPCHK EQU ASCHEK

\*

1032 00000000007346545000 TENTO9 DATA 1000000000

1033 00000000112402762000 TENTO10 DATA 10000000000

1034 00034327724461500000 TENTO15 DATA 1000000000000000

\*

\*

1035 6110001101 UNSUB SB1 SUBTR . MICRO OPERATION UNARY MINUS

0400001037 EQ UNX

1036 6110001071 UNADD SB1 ADD . MICRO OPERATION UNARY PLUS

1037 5116000000 UNX SA1 B6+0 . TEST FOR REAL OPERAND

10711 BX7 X1

21167 AX1 55

1040 7211777767 SX1 X1-RTY

0311000453 NZ X1,SSKIP1

1041 5176777775 SA7 B6-2 . CHANGE LEFTOPERAND TO REAL

0211000000 JP B1 . TYPE

\*

\*

1042 0100001064 ZAND RJ BOOLPCK

1043 11712 BX7 X1\*X2

1044 54720 BOOLXIT SA7 A2

43103 MX1 3

7170777775 SX7 -2

1045 20172 LX1 60+3-5 SHIFT THE DESCRIPTOR PROPERLY

63676 SB6 X7+B6

37717 IX7 X1-X7

56760 SA7 B6+B0

1046 0400000441 EQ NEXTMIC

1047 0100001064 ZEOR RJ BOOLPCK

1050 13712 BX7 X1-X2

0400001044 EQ BOOLXIT

1051 0100001064 ZOR RJ BOOLPCK

1052 12712 BX7 X1+X2

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 24

MICRO PROCESSOR: ACTIONS

0400001044 EQ BOOLXIT

1053 6110001054 ZNOT SB1 ZXNOT

0400001037 EQ UNX

1054 0100001064 ZXNOT RJ BOOLPCK

1055 17721 BX7 -X1-X2

0400001044 EQ BOOLXIT

1056 0100001064 ZLEFT RJ BOOLPCK

1057 76060 SX0 B6

63610 SB6 X1

22762 LX7 B6,X2

63600 SB6 X0

1060 0400001044 EQ BOOLXIT

1061 0100001064 ZRITE RJ BOOLPCK

1062 76060 SX0 B6

63610 SB6 X1

23762 AX7 B6,X2

63600 SB6 X0

1063 0400001044 EQ BOOLXIT

1064 1 BOOLPCK BSSZ 1

1065 5110001034 SA1 TENTO15

5100000017 SA0 15

1066 10011 BX0 X1

0100000660 RJ SACHEK

1067 5116777776 SA1 B6-1

5126777774 SA2 B6-3

1070 0400001064 EQ BOOLPCK

\*

\*

1071 5110001034 ADD SA1 TENTO15

5100000017 SA0 15

1072 10011 BX0 X1

0100000660 RJ SACHEK . CHECK RIGHT OPERAND

1073 5116777775 SA1 B6-2

20703 LX7 3

20103 LX1 3

1074 0327001160 PL X7,ADDSR1 . BRANCH IF ANY OF THE OPERANDS

0321001160 PL X1,ADDSR1

1075 5116777776 SA1 B6-1

5126777774 SA2 B6-3

1076 36712 IX7 X1+X2 . ADD THE INTEGERS

1077 13111 ADDEXIT BX1 X1-X1

36717 IX7 X1+X7 . ENSURE NO MINUS ZERO

5072000000 SA7 A2+0

1100 6166777775 SB6 B6-2

0400000441 EQ NEXTMIC

\*

1101 5110001034 SUBTR SA1 TENTO15

5100000017 SA0 15

1102 10011 BX0 X1

0100000660 RJ SACHEK . CHECK RIGHT OPERAND

1103 6120001106 SB2 SUBTR1

0400001150 EQ ARITH

1104 0400000274 + EQ SUBTRS . BRANCH IF STRING SUBTRACTION

1105 31721 + FX7 X2-X1 . REAL OPERANDS

0400001163 EQ ARITH4

1106 37721 SUBTR1 IX7 X2-X1

0400001077 EQ ADDEXIT

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 25

MICRO PROCESSOR: ACTIONS

\*

1107 5110001034 MULT SA1 TENTO15

5100000017 SA0 15

1110 10011 BX0 X1

0100000660 RJ SACHEK . OPERAND CHECK AS ABOVE

1111 6120001114 SB2 MULT1

0400001150 EQ ARITH

1112 0400000274 + EQ MULTS . BRANCH IF STRING MULTIPLICATION

1113 40721 + FX7 X2\*X1 . REAL OPERANDS

0400001163 EQ ARITH4

1114 27101 MULT1 PX1 X1 . PERFORM INTEGER MULTIPLICATION

27202 PX2 X2

42712 DX7 X1\*X2

26707 UX7 X7

1115 40312 FX3 X1\*X2

10177 BX1 X7

24303 NX3 X3

21160 AX1 48 48 BITS INTEGERS IN STAR

1116 0313000274 NZ X3,ERR32

0311000274 NZ X1,ERR32

1117 0400001077 EQ ADDEXIT

\*

1120 5110001034 DIV SA1 TENTO15

5100000017 SA0 15

1121 10011 BX0 X1

0100000660 RJ SACHEK . OPERAND CHECK AS ABOVE

1122 6120001125 SB2 DIV1

0400001150 EQ ARITH

1123 0400000274 + EQ DIVS . BRANCH IF STRING DIVISION

1124 44721 + FX7 X2/X1 . REAL OPERANDS

0400001163 EQ ARITH4

1125 0301000300 DIV1 ZR X1,ERR3 . ERROR - DIVISION BY ZERO

27101 PX1 X1 . INTEGER DIVISION

27202 PX2 X2

1126 24101 NX1 X1

44721 FX7 X2/X1

26737 UX7 B3,X7

22737 LX7 B3,X7

1127 0400001077 EQ ADDEXIT

\*

1130 5110001034 EXP SA1 TENTO15

5100000017 SA0 15

1131 10011 BX0 X1

0100000660 RJ SACHEK

1132 6120001135 SB2 EXP1

0400001150 EQ ARITH

1133 0400000274 + EQ EXPS

1134 0400000274 + EQ EXPS

1135 0331001145 EXP1 NG X1,EXP4

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 26

MICRO PROCESSOR: ACTIONS

7211777776 SX1 X1-1

1136 0331001146 NG X1,EXP2 SOMETHING TO THE ZEROTH IS ONE

0301001147 ZR X1,EXP8 SOMETHING TO THE FIRST IS THE SOMETHING

1137 63210 SB2 X1 B2 IS THE EXPONENTIATION COUNT

10122 BX1 X2

27202 PX2 X2 THIS IS THE UNIVERSAL MULTIPLIER

1140 27101 EXP3 PX1 X1 THIS IS THE BASE OF THE MULTIPLY LOOP

42712 DX7 X1\*X2 GET THE LOWER 48 BITS

40312 FX3 X1\*X2 GET THE HIGH ORDER BITS

26707 UX7 X7 UNPACK NICELY

1141 10177 BX1 X7 COPY THE PARTIAL RESULT BACK INTO X1

24303 NX3 X3 NORMALIZE THE HIGH BIT RESULT

21160 AX1 48 A ZERO EXPONENT WOULD BE NICE

1142 0313000274 NZ X3,ERR32 FOR SHAME THERE IS SOMETHING IN THE TOP 48

0311000274 NZ X1,ERR32 AN OVERFLOW IN THE BOTTOM 48 PERCHANCE

1143 10177 BX1 X7 RELOAD X1 WITH THE PARTIAL RESULT

6122777776 SB2 B2-1 DECREMENT THE REPEAT FACTOR

1144 0520001140 NE B2,B0,EXP3 IF NON-ZERO DO IT ALL AGAIN

0400001077 EQ ADDEXIT

1145 76700 EXP4 SX7 B0

0400001077 EQ ADDEXIT A MIN US POWER GIVES ZERO RIGHT NOW...

1146 7170000001 EXP2 SX7 1 N\*\*0

0400001077 EQ ADDEXIT

1147 10722 EXP8 BX7 X2 N\*\*1

0400001077 EQ ADDEXIT

\* USED ONLY BY SUBTR,MULT AND DIV

\*

1150 5116777775 ARITH SA1 B6-2 . SAME AS IN ADD

20103 LX1 3

20703 LX7 3

1151 0327001154 PL X7,ARITH1

0321001154 PL X1,ARITH1 . OF THE OPERANDS IS AN INTEGER

1152 5116777776 SA1 B6-1

5126777774 SA2 B6-3

1153 0222000000 JP B2

1154 20173 ARITH1 LX1 59

0317001157 NZ X7,ARITH3

1155 0331000336 NG X1,ERR38

5116777776 SA1 B6-1

1156 5126777774 SA2 B6-3

0222777776 JP B2-1

1157 0222777775 ARITH3 JP B2-2

\*

\*

1160 20173 ADDSR1 LX1 59

0317000274 NZ X7,ADDS1

1161 0331000336 NG X1,ERR38

5116777776 SA1 B6-1

1162 5126777774 SA2 B6-3

30712 FX7 X1+X2 . PERFORM REAL ADDITION

1163 0357000335 ARITH4 OR X7,ERR37

0377000335 ID X7,ERR37

1164 24707 NX7 X7 . NORMALIZE IN CASE OP WAS + OR -

0200001077 JP ADDEXIT

\*

\*

1165 56460 CONCAT SA4 B6 . RIGHT OPERAND HEADING

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 27

MICRO PROCESSOR: ACTIONS

63540 SB5 X4

21467 AX4 55

57365 SA3 B6-B5 . LEFT OPERAND HEADING

1166 21367 AX3 55

20302 LX3 2 . UNPACK TYPES

20402 LX4 2

63230 SB2 X3

1167 5110001173 SA1 CATWD

43070 MX0 56

23121 AX1 B2,X1

1170 15110 BX1 -X0\*X1 . SELECT SWITCH WORD DEPENDING ON

5221001174 SA2 X1+CATSW1 . LEFT OPERAND TYPE

63340 SB3 X4

1171 23132 AX1 B3,X2

15110 BX1 -X0\*X1 . SWITCH ON RIGHT OPERAND TYPE

63210 SB2 X1

1172 0222001177 JP B2+CATSW2

\*

1173 00000000000 CATWD SWITCH CATSW1,1,0,0,0,2,2,2,0,0,0,0,0,0,0,0 LEFT OP

1174 00000000000 SWITCH DUMMY1,7,8,7,7,0,0,0,0,0,0,0,0,0,0,0 R,A,D,N,C

1175 31463146324 SWITCH DUMMY2,14,12,14,14,1,1,1,10,6,6,6,6,6,6,6 SF

1176 00000000006 SWITCH CATSW2,5,4,5,5,2,2,2,3,0,0,0,0,0,0,0 PS,PA,PE

\*

\* TYPE X HERE DENOTES R,A,D,N,C P IS AS USUAL

\*

1177 6150000001 + ERROR 1 . 0, XX,XP,PX,XI,XSI

1200 5043777776 + SA4 A3-1 . 1, SFP

0400001301 EQ CATSFP

1201 67165 CATPP2 SB1 B6-B5 . 2, PP

57265 SA2 B6-B5

0400001256 EQ CATPP

1202 0100002255 + RJ ITOS . 3, PI

1203 56460 + SA4 B6 . 4, PS

63140 SB1 X4

0400001264 EQ CATPS

1204 7146777776 SX4 B6-1 . 5, PSF, PSS, PSI

0400001270 EQ CATPSF

1205 5116777774 + SA1 B6-3 . 6, SFX

0400001250 EQ CATSFR

1206 5116777776 + SA1 B6-1 . 7, XSF,XSS

0400001252 EQ CATSFR1

1207 5116000000 + SA1 B6+0 . 8, XS

7211777776 SX1 X1-1

1210 6166777776 SB6 B6-1

0400001254 EQ CATSFR2

1211 5116777776 + SA1 B6-1 . 10, SFI

0100002364 RJ ITOSF

1212 5166777776 SA6 B6-1

0400001214 EQ \*+2

1213 0100000540 + RJ SCATS . 12, SFS

1214 6130000000 + SB3 0

1215 5146777774 + SA4 B6-3 . 14, SFSS,SFSI,SFSF

21422 AX4 18

53440 SA4 X4 . FETCH LAST WORD OF LEFTOPERAND

1216 43006 MX0 6

10744 BX7 X4

6110000074 SB1 60

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 28

MICRO PROCESSOR: ACTIONS

1217 11240 CTSFSS1 BX2 X4\*X0 . COUNT THE NUMBER OF CHARACTERS

0302001221 ZR X2,CTSFSS2 . IN THE LAST WORD

20406 LX4 6

1220 6111777771 SB1 B1-6

0400001217 EQ CTSFSS1 . RIGHT SHIFT TO B1

1221 5126777776 CTSFSS2 SA2 B6-1 . SVD OF RIGTH OPERAND TO X2

6121777755 SB2 B1-18 . LEFT SHIFT TO B2

1222 74340 SX3 A4 . NOTE HOW X3 IS USED

0430001223 EQ B3,B0,CTSFSS3 . SKIP IF SF ON THE RIGHT

53220 SA2 X2

1223 6150001237 CTSFSS3 SB5 CTSFSSR . RETURN ADDRESS

\*

1224 6141777771 CATSF SB4 B1-6

23640 AX6 X0,B4 . MASK FOR RIGHT SHIFT

10566 BX5 X6

1225 20522 LX5 18 . MASK FOR LEFT SHIFT

76470 SX4 B7

43052 MX0 42 . MASK FOR ADDRESS FIELD

1226 73220 CATSF4 SX2 X2 . TAKE NEXT WORD FROM RIGHT OPERAND

0302001227 ZR X2,CATSF5

53220 SA2 X2

1227 11126 CATSF5 BX1 X2\*X6 . PREPARE FOR RIGHT SHIFT

22111 LX1 B1,X1 . RIGHT SHIFT

12771 BX7 X7+X1 . ADD TO REST OF PREVIOUS WORD

15110 BX1 -X0\*X1

1230 11707 BX7 X0\*X7

0301001236 ZR X1,CATSF8 . READY IF LAST 18 BITS ARE ZERO

63740 SB7 X4

1231 53140 SA1 X4 . GET NEXT FREE WORD

12774 BX7 X7+X4 . ADD LINK TO LAST WORD

0301001234 ZR X1,CATSF7

1232 15410 CATSF6 BX4 -X0\*X1

53730 SA7 X3 . AND STORE

74310 SX3 A1

15125 BX1 -X5\*X2 . PREPARE FOR LEFT SHIFT

1233 22721 LX7 B2,X1 . LEFT SHIFT

0400001226 EQ CATSF4 . LOOP

1234 0100002057 CATSF7 RJ MORFREE

1235 0400001232 EQ CATSF6

1236 63740 CATSF8 SB7 X4

0255000000 JP B5 . RETURN FROM CATSF

1237 53730 CTSFSSR SA7 X3 . STORE LAST WORD

5116777776 SA1 B6-1

53210 SA2 X1

1240 0530001242 NE B3,B0,CTSFSS9 . RELEASE RIGHT OPERAND IF SF

10211 BX2 X1

76770 SX7 B7

1241 63710 SB7 X1

21122 AX1 18

53710 SA7 X1

1242 5146777774 CTSFSS9 SA4 B6-3 . LEFT OPERAND SVD

6166777775 SB6 B6-2

1243 21244 AX2 36 . LENGTH OF RIGHT OPERAND

15220 BX2 -X0\*X2

20322 LX3 18

20022 LX0 18

1244 20244 LX2 36

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 29

MICRO PROCESSOR: ACTIONS

11604 BX6 X0\*X4 . MASK LAST OFF

36662 IX6 X6+X2 . TOTAL LENGTH

12663 BX6 X6+X3 . ADD LAST TO SVD

1245 54640 SA6 A4 . STORE RESULT SVD

5110000216 SA1 MXLNGTH

21644 AX6 36 . CHECK LENGTH AGAINST LIMIT

1246 37116 IX1 X1-X6

0321000441 PL X1,NEXTMIC

1247 6150000022 ERR18 ERROR 18

\*

1250 54215 CATSFR SA2 A1+B5 . RELEASE LEFT OPERAND

56460 SA4 B6 . RESULT EQUALS TO RIGHT

10622 BX6 X2 . OPERAND

10744 BX7 X4 . NOTE - B5 HAPPENS TO CONTAIN 2

1251 54610 SA6 A1

54730 SA7 A3

7140777776 SX4 -1 . MAKE X4 NEGATIVE

1252 53110 CATSFR1 SA1 X1 . ERROR IF SF DOES NOT CONTAIN ZERO

67665 SB6 B6-B5 . REMOVE RIGHT OPERAND

0530001254 NE B3,B0,CATSFR2 . RELEASE RIGHT OPERAND IF SF

1253 76770 SX7 B7

77406 SX4 B0-B6 . MAKE X4 NEGATIVE

64710 SB7 A1

54710 SA7 A1

1254 0334001255 CATSFR2 NG X4,CATSFR3

5211000000 SA1 X1+0 . VALUE TO X1 IF SS OR SI

1255 0301000441 CATSFR3 ZR X1,NEXTMIC . ERROR IF X1 NOT ZERO

0400000311 EQ ERR13

\*

1256 6111000001 CATPP SB1 B1+1

5111000000 SA1 B1+0

1257 0416001261 EQ B1,B6,CATPP1 . PUSH RIGHT OPERAND ONE WORD UP

10611 BX6 X1 . IN THE STACK

1260 5161777776 SA6 B1-1

0400001256 EQ CATPP

1261 7100000006 CATPP1 SX0 PETY . RESULT IS OF PE TYPE

6212777776 SB1 X2-1

1262 6166777776 SB6 B6-1

20067 LX0 55

73611 SX6 X1+B1 . CALCULATE BYPASS

1263 12660 BX6 X6+X0

56660 SA6 B6 . FORM AND STORE HEADING

0400000441 EQ NEXTMIC

\*

1264 57361 CATPS SA3 B6-B1

7100002046 SX0 LITPM . CONVERT STRING TO A LITPM OPERATION

76610 SX6 B1 . OVERWRITING THE HEADING

1265 20060 LX0 48 . OF THE LEFT OPERAND PATTERN

12660 BX6 X6+X0

54630 SA6 A3

73631 SX6 X3+B1 . CALCULATE BYPASS

1266 7100000006 CATPS1 SX0 PETY

20067 LX0 55

12660 BX6 X6+X0

1267 56660 SA6 B6

0400000441 EQ NEXTMIC

\*

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 30

MICRO PROCESSOR: ACTIONS

1270 0430001271 CATPSF EQ B3,B0,CATPSF2

5244000000 SA4 X4+0

1271 53140 CATPSF2 SA1 X4

21144 AX1 36

5201777776 SA0 X1-1

1272 54330 SA3 A3 . LEFT OPERAND HEADING

6211000001 SB1 X1+1 . LENGTH + 1

63510 SB5 X1 . LENGTH FOR SSTOS

1273 63430 SB4 X3 . BYPASS OF LEFT OPERAND

0100002052 RJ RESERVE . RESERVE LENGTH - 1 WORDS

1274 53140 SA1 X4 . TAKE SVD AFRESH

10411 BX4 X1

0100002275 RJ SSTOS . BREAK DOWN THE STRING

1275 7160002046 SX6 LITPM . ONE CHARACTER PER WORD

0530001277 NE B3,B0,CATPSF1 . RELEASE RIGHT OPERAND IF SF

1276 76770 SX7 B7

63740 SB7 X4

21422 AX4 18

53740 SA7 X4

1277 76010 CATPSF1 SX0 B1

20660 LX6 48

12706 BX7 X0+X6

76641 SX6 B4+B1 . NEW BYPASS FOR HEADING

1300 57761 SA7 B6-B1 . STORE LITPM

0400001266 EQ CATPS1

1301 21444 CATSFP AX4 36

63540 SB5 X4

6024000000 SB2 A4+0

1302 6043000001 SB4 A3+1

0450001316 EQ B5,B0,CATSFP2 . BRANCH IF SF IS OF ZERO LENGTH

1303 5204777776 SA0 X4-1

66160 SB1 B6

64300 SB3 A0

1304 0100002052 RJ RESERVE . RESERVE SPACE FOR LITPM

1305 6111777776 CATSFP1 SB1 B1-1 . DISPLACE THE PATTERN B3 WORDS

56110 SA1 B1 . TOWARD THE HIGH CORE

10611 BX6 X1

1306 54613 SA6 A1+B3

0514001305 NE B1,B4,CATSFP1

56120 SA1 B2 . FETCH THE SVD AFRESH

1307 66460 SB4 B6 . SAVE B6

10411 BX4 X1

64660 SB6 A6

76670 SX6 B7

1310 0100002275 RJ SSTOS . BREAK DOWN THE STRING

1311 63740 SB7 X4 . RELEASE LEFT OPERAND

21422 AX4 18

53640 SA6 X4

66640 SB6 B4 . RESTORE B6

1312 7100002046 SX0 LITPM . FORM AND STORE LITPM

20060 LX0 48

1313 7173000002 SX7 B3+2

12770 BX7 X7+X0

56720 SA7 B2

1314 67262 SB2 B6-B2

7162000001 SX6 B2+1 . AND THE HEADING

1315 0400001266 EQ CATPS1

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 31

MICRO PROCESSOR: ACTIONS

\*

1316 54140 CATSFP2 SA1 A4 . USE CATPP TO DISPLACE THE

76770 SX7 B7 . PATTERN TOWARDS LOW CORE

63710 SB7 X1

53710 SA7 X1

1317 7160002046 SX6 LITPM

20660 LX6 48

1320 7100000001 SX0 1

12606 BX6 X0+X6

56160 SA1 B6

1321 54640 SA6 A4

63510 SB5 X1

0400001201 EQ CATPP2

1322 6130001325 PM SB3 PMSW . MICRO OPERATION

5120001324 SA2 PMWD . PATTERN MATCH

1323 6110001353 SB1 PM1 . RETURN FOR STOP

0400000526 EQ CHEK . SWITCH ON RIGHT OPERAND TYPE

\*

\* SWITCH FOR PATTERN MATCH RIGHT OPERAND

\*

1324 10421042110 PMWD SWITCH PMSW,0,5,1,1,3,3,3,4,2,2,2,2,2,2,2

1325 7146777776 + SX4 B6-1

0400001344 EQ PMSF . 0, SF

1326 5146777776 + SA4 B6-1

0400001344 EQ PMSSSI . 1, SS,SI

1327 6150000020 + ERROR 16 . 2, R,A,D,N,C

1330 0400001353 + EQ PM1 . 3, PS,PE,PA

1331 0100002255 + RJ ITOS . 4, I

1332 6110001353 SB1 PM1 . 5, S

1333 5100000001 STOP SA0 1

\*

\* THE FOLLOWING CODE FORMS A SIMPLE PATTERN USING THE TOP

\* OPERAND STRING. ACTUALLY A LIT PM OPERATION IS CREATED

\*

0100002052 RJ RESERVE . PUSH THE STRING DOWN ONE WORD

1334 5116777776 SA1 B6-1 . (TOWARDS HIGH CORE)

63410 SB4 X1 . TOP OF HEADER BYPASS PART TO B4

66200 SB2 B0

1335 6251777776 SB5 X1-1

0425001340 EQ B2,B5,STOP2

1336 5011777776 STOP1 SA1 A1-1 . LOOP B4-1 TIMES

6122000001 SB2 B2+1

1337 10711 BX7 X1

57762 SA7 B6-B2

0525001336 NE B2,B5,STOP1

1340 7110002046 STOP2 SX1 LITPM

20160 LX1 48 . LIT OPERATION WITH PROPER

76740 SX7 B4 . BYPASS PART TO X7

1341 12717 BX7 X1+X7

7110000004 SX1 PSTY

57764 SA7 B6-B4 . PUT IT TO THE FRONT OF THE STRING

1342 20167 LX1 55

7164000001 SX6 B4+1

12616 BX6 X1+X6 . PS HEADER WORD

1343 56660 SA6 B6

0211000000 JP B1 . RETURN

\*

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 32

MICRO PROCESSOR: ACTIONS

\* SS,SI AND SF TYPES HAVE TO BE CONVERTED INTO S FORM. AN EXTRA

\* WORD IN THE FRONT OF THE STRING WILL BE ALLOWED FOR THE

\* LIT OPERATION. THE LIST HOLDING SF WILL BE RELEASED

\*

1344 PMSSSI BSS 0

\*

1344 53140 PMSF SA1 X4 . X4 IS THE ADDRESS WHERE THE SVD

21144 AX1 36 . CAN BE FOUND

53010 SA0 X1 .

1345 0100002052 RJ RESERVE

1346 53140 SA1 X4 . SVD MIGHT HAVE CHANGED

10411 BX4 X1

64500 SB5 A0

1347 0100002275 RJ SSTOS . CONVERT TO S FORMAT

1350 0540001352 NE B4,B0,PMSF1 . RELEASE LIST IF SF

76770 SX7 B7

63740 SB7 X4

1351 21422 AX4 18

53740 SA7 X4

1352 6040000001 PMSF1 SB4 A0+1

0400001340 EQ STOP2 . GO TREAT LIKE S

\*

1353 56160 PM1 SA1 B6 . PREPARE THE RIGHT OPERAND

63210 SB2 X1

7176000001 SX7 B6+1 . INITI AL VALUE FOR PCHAIN

1354 67562 SB5 B6-B2 . FIRST ELEMENT IN THE PATTERN-1

67462 SB4 B6-B2

5170000232 SA7 PCHAIN

1355 5100000002 SA0 2 . THE HEADING OF THE RIGHT OPERAND

0100002052 RJ RESERVE . WILL BE OVERWRITTEN

1356 7110001624 PM1F SX1 ENDEXPM . THIS ENDEX TERMINATES THE PATTERN

13666 BX6 X6-X6

20160 LX1 48

1357 5166777776 SA6 B6-1 . STORE END OF PCHAIN

7120000004 SX2 PSTY

1360 12771 BX7 X7+X1

77665 SX6 B6-B5

20267 LX2 55

1361 5176777775 SA7 B6-2

12662 BX6 X6+X2

56660 SA6 B6 . STORE A TEMPORARY HEADING

1362 6144000001 PM1A SB4 B4+1

1363 0446001407 PM1B EQ B4,B6,PM2 . FETCH ELEMENTS ONE BY ONE

56140 SA1 B4

1364 0371001362 ID X1,PM1A . SKIP $ AND .

26531 UX5 X1,B3

1365 0603001367 GE B0,B3,PM1C . BRANCH IF NOT STRING ARGUMENTED

63414 SB4 B4+X1 . ELEMENT (LIT,ANY ETC.)

1366 0400001363 EQ PM1B

1367 0530001362 PM1C NE B3,B0,PM1A . BRANCH IF NOT STAR (\*)

5215000000 SA1 X5+0 . OPERAND OF STAR

1370 10311 BX3 X1

21367 AX3 55 . TYPE OF OPERAND

7233777773 SX3 X3-4

1371 0333001362 NG X3,PM1A . BRANCH IF SS,SI

7233777774 SX3 X3-3

1372 0333001376 NG X3,PM1D . BRANCH IF PS,PE,PA

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 33

MICRO PROCESSOR: ACTIONS

0313001362 NZ X3,PM1A . BRANCH IF I

1373 43006 MX0 6

15110 BX1 -X0\*X1 . REPLACE I TYPE VALUE WITH SS

0100002364 RJ ITOSF

1374 7110000002 SX1 SSTY

20167 LX1 55

12616 BX6 X1+X6

1375 53650 SA6 X5

0400001362 EQ PM1A

1376 5120000232 PM1D SA2 PCHAIN . SEARCH PCHAIN FOR THE SAME PATTERN

1377 53320 PM1E SA3 X2

73230 SX2 X3

21322 AX3 18

13035 BX0 X3-X5

1400 0300001362 ZR X0,PM1A . BRANCH IF FOUND

0312001377 NZ X2,PM1E

1401 64130 SB1 A3 . ADDRESS OF LAST LINK TO B1

73450 SX4 X5

0100002317 RJ PTOPX4 . LOAD THE PATTERN TO THE STACK

1402 57065 SA0 B6-B5 . RESERVE 3 MORE LOCATIONS

5000000003 SA0 A0+3 . (NOTE THAT B6-A0 WILL POINT TO

66650 SB6 B5 . B5 IN GETSTAK)

1403 7160377777 SX6 MARK

0100002052 RJ RESERVE

1404 7176777776 SX7 B6-1 . LINK THE PATTERN TO PCHAIN

20522 LX5 18

12775 BX7 X7+X5

1405 56710 SA7 B1

5161000001 SA6 B1+1 . INITIALIZE HOPE

13777 BX7 X7-X7 . SET ADDRESS OF TERMINATING ENDEX

1406 0400001356 EQ PM1F . TO ZERO

\*

\*

1407 74750 PM2 SX7 A5 . SAVE A5

5170000245 SA7 PMA5

56150 SA1 B5

1410 63210 SB2 X1

77652 SX6 B5-B2

5160000226 SA6 SBASE . INITIALIZE STRING BASE

1411 6145000001 SB4 B5+1 . INDEX

6135777776 SB3 B5-1 . STRING LENGTH

1412 76730 SX7 B3

5170000231 SA7 SLENGTH

13333 BX3 X3-X3 . SIX

1413 66100 SB1 B0 . SIB

13777 BX7 X7-X7

5170000224 SA7 PIB . PIX

1414 5170000222 SA7 PIX . PIB

5120000206 SA2 MAXSTAK

1415 63520 SB5 X2 . B5 IS MAXSTAK

5140000221 SA4 ANCHOR

13555 BX5 X5-X5 . LOCP, LOCS ARE ZERO

1416 5206000001 SA0 X6+1

1417 74700 PM2A SX7 A0

5170000246 SA7 SPOS . STORE POS IN FIRST LEVEL

76040 SX0 B4

1420 20022 LX0 18

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 34

MICRO PROCESSOR: ACTIONS

12770 BX7 X7+X0

0100002730 RJ ENTER . TRY TO MATCH THE PATTERN

1421 0314001425 NZ X4,PMABT . FAILURE IF PATTERN FAILS IN

6020000000 SB2 A0+0 . ANCHORED MODE

1422 5110000225 SA1 LENFAIL

5102000001 SA0 B2+1

1423 0732001425 LT B3,B2,PMABT

0301001425 ZR X1,PMABT . TEST ON LENGTH FAILURE

1424 7170001417 SX7 PM2A . RESET P AND S STACKS

0400002767 EQ SETSIPI

1425 7150000000 PMABT SX5 0 . GET RID OF P AND S STACKS

7170001427 SX7 PM2B

1426 0400002767 EQ SETSIPI

1427 6163000001 PM2B SB6 B3+1 . RESET B6

5110000245 SA1 PMA5

1430 53510 SA5 X1 . RESTORE A5

0400000465 EQ FAIL . SIGNAL FAILURE

1431 6163000002 PMFOUND SB6 B3+2 . RESET B6 (PROVIDE 1 WORD FOR

7070777776 SX7 A0-1 . THE RESULT)

1432 5140000222 SA4 PIX

5170000235 SA7 PMFA0

1433 0304001444 PMF1 ZR X4,PMF2 . GO THROUGH THE P CHAIN AND

53440 SA4 X4 . PERFORM (.) TYPE ASSIGNMENTS

53340 SA3 X4 . ADDRESS OF VARIABLE TO X3

1434 21422 AX4 18

63240 SB2 X4 . FIRST

21422 AX4 18

63340 SB3 X4 . LAST

1435 10733 BX7 X3

74630 SX6 A3

5170000240 SA7 PMFX4

1436 5160000241 SA6 PMFA4

0100002300 RJ STOSFX6 . CONVERT INTO SF FORMAT

1437 5160000227 SA6 TEMPDOL

6026000001 SB2 A6+1

1440 56620 SA6 B2

21322 AX3 18 . PREPARE ADDRESS OF VARIABLE

0100002537 RJ SASSIGN . AND ASSIGN

1441 5140000240 SA4 PMFX4

73440 SX4 X4

76770 SX7 B7

1442 0314001433 NZ X4,PMF1 . GO BACK IF NOT END OF CHAIN

5110000222 SA1 PIX

1443 5120000241 SA2 PMFA4

63710 SB7 X1

53720 SA7 X2

1444 5110000235 PMF2 SA1 PMFA0

5140000226 SA4 SBASE . PACK THE RELATIVE FWA AND LWA OF

1445 5120000246 SA2 SPOS . SUBSTRING MATCHED INTO THE

5130001451 SA3 PMFHD . HEADING

1446 37114 IX1 X1-X4

37224 IX2 X2-X4

20122 LX1 18

12112 BX1 X1+X2

1447 5150000245 SA5 PMA5

20122 LX1 18

53550 SA5 X5

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 35

MICRO PROCESSOR: ACTIONS

1450 12713 BX7 X1+X3

56760 SA7 B6 . STORE THE HEADING

0400000441 EQ NEXTMIC

\*

1451 34000000000000000001 PMFHD VFD 5/SPECTY,55/1

1452 7170002000 STAR SX7 STARPM . MICRO OPERATION STAR

0400001455 EQ PRD1

\*

1453 7170006000 DOL SX7 DOLPM MICRO OPERATION DOL

0400001455 EQ PRD1

\*

1454 7170001777 PRD SX7 PRDPM MICRO OPERATION PERIOD

1455 73550 PRD1 SX5 X5

20760 LX7 48

6110001503 SB1 PRD4 RETURN ADDRESS OF STOP

1456 0315001460 NZ X5,PRD2 BRANCH IF ADDRESS IS GIVEN

6166777775 SB6 B6-2

1457 5116000001 SA1 B6+1 IF NOT, USE TOPOPERAND NAME

7251000000 SX5 X1+0 INSTEAD

1460 12775 PRD2 BX7 X7+X5

0367001507 DF X7,STAR1 . BRANCH IF STAR

1461 6130001464 SB3 PRDSW

5120001463 SA2 PRDWD

1462 10577 BX5 X7 . PACK PM OP. INTO X5

0400000526 EQ CHEK SWITCH ON OPERAND TYPE

\*

1463 00000000002 PRDWD SWITCH PRDSW,3,2,4,4,5,6,6,1,0,0,0,0,0,0,0

\*

1464 6150000055 + ERROR 45 . 0, R,A,D,N,C

1465 0100002255 + RJ ITOS . 1, I

1466 6110001503 + SB1 PRD4 . 2, S

0400001333 EQ STOP

1467 7146777776 + SX4 B6-1 3, SF

0400001344 EQ PMSF

1470 5146777776 + SA4 B6-1 4, SS,SI

0400001344 EQ PMSSSI

1471 0400001503 + EQ PRD4 5, PS

1472 56260 + SA2 B6 6, PE,PA

63120 SB1 X2 EXPPM BRACKETS HAVE TO BE

67261 SB2 B6-B1 INSERTED AROUND THE PATTERN

66360 SB3 B6

1473 5100000002 SA0 2 RESERVE TWO WORDS FOR THE BRACKETS

0100002052 RJ RESERVE

1474 6140000001 SB4 1

7100001645 SX0 EXPPM

1475 67334 PRD3 SB3 B3-B4 PUSH PATTERN ONE WORD TOWARDS

56130 SA1 B3 HIGH CORE

0423001477 EQ B2,B3,PRD5

1476 10711 BX7 X1

56734 SA7 B3+B4

0400001475 EQ PRD3

1477 7170001624 PRD5 SX7 ENDEXPM

7120000004 SX2 PSTY

1500 20060 LX0 48

20760 LX7 48

20267 LX2 55

57764 SA7 B6-B4 STORE ENDEXPM

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 36

MICRO PROCESSOR: ACTIONS

1501 76614 SX6 B1+B4

73764 SX7 X6+B4

12660 BX6 X6+X0

12772 BX7 X7+X2

1502 56624 SA6 B2+B4 STORE EXPPM

5176000000 SA7 B6+0 STORE HEADING

1503 5100000001 PRD4 SA0 1 COMMON PART

0100002052 RJ RESERVE RESERVE ONE WORD FOR PRD OR DOL

1504 5116777776 SA1 B6-1

10755 BX7 X5

74000 SX0 A0

1505 54710 SA7 A1 STORE PRD OR DOL

36610 IX6 X1+X0 BUMP BYPASS

5166000000 SA6 B6+0

1506 0400000455 EQ SNDMIC

\*

1507 5100000002 STAR1 SA0 2 STAR CREATES A PS TYPE ENTRY

0100002052 RJ RESERVE IN THE STACK

1510 7160000006 SX6 PETY

74100 SX1 A0

20667 LX6 55

1511 12616 BX6 X1+X6

5176777776 SA7 B6-1

56660 SA6 B6

1512 0400000455 EQ SNDMIC

\*

\*

1513 6110000455 NULL SB1 SNDMIC

0100002342 RJ ZROX7

1514 43005 MX0 5

13222 BX2 X2-X2 . PUT AN SF TYPE ENTRY

15770 BX7 -X0\*X7 . TO THE TOP OF THE STACK

1515 5100000002 NULL1 SA0 2 . POINTING TO A NULL STRING

0100002052 RJ RESERVE

1516 7160000002 SX6 2

5176777776 SA7 B6-1

1517 12662 BX6 X6+X2

56660 SA6 B6 . NOTE,THIS IS A LEFT-PART ONLY

0211000000 JP B1 . OPERATION

\* . MICRO OPERATION ZERO

1520 7120000007 ZERO SX2 ITY . SAME WITH A 0 VALUED INTEGER

76700 SX7 B0

20267 LX2 55

1521 6110000455 SB1 SNDMIC

0400001515 EQ NULL1

\* . MICRO OPERATION NAME

1522 73150 NAME SX1 X5 . SAME WITH A NAME IN X5

6110000455 SB1 SNDMIC

\*

1523 10711 X1NAME BX7 X1 . SAME WITH A NAME IN X1

7120000013 SX2 NTY

20267 LX2 55

1524 12772 BX7 X7+X2

0400001515 EQ NULL1

\*

\*

\*

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 37

MICRO PROCESSOR: ACTIONS

1525 5100000003 ARRAY SA0 3 . MICRO OPERATION

0100002052 RJ RESERVE . ARRAY LEFT BRACKET

1526 53150 SA1 X5

10711 BX7 X1

21167 AX1 55

13666 BX6 X6-X6

1527 7211777766 SX1 X1-ATY . ERROR, LEFT OPERAND

0311000301 NZ X1,ERR4

1530 5176777776 SA7 B6-1 . INITIALIZE DOPE POINTER

5166777775 SA6 B6-2 . INITIALIZE VECTOR SUM

1531 7110000003 SX1 3

7170000016 SX7 SPECTY . SPECIAL TYPE WILL BE REMOVED

1532 20767 LX7 55 . BY RIGHT BRACKET

12771 BX7 X7+X1

56760 SA7 B6

1533 0400000441 EQ NEXTMIC

\*

1534 0100001547 SUBCOM RJ SARRAY . MICRO OPERATION SUBSCRIPTCOMMA

1535 0334000303 NG X4,ERR6 . ERROR, TOO MANY SUBSCRIPTS

5044000001 SA4 A4+1 . FETCH MULTIPLYER

1536 54730 SA7 A3 . STORE INCREASED DOPE INDEX

27606 PX6 X6 . OLD VECTOR SUM + X - L

21444 AX4 36

73140 SX1 X4 . U-L+1

1537 27101 PX1 X1

42616 DX6 X1\*X6

26606 UX6 X6

54620 SA6 A2 . STORE NEW VECTOR SUM

1540 0400000441 EQ NEXTMIC

\*

1541 7150001523 ARRAYN SX5 X1NAME . MICRO OPERATION ARRAY NAME

0400001543 EQ ARRAYV1 .

\*

1542 7150002470 ARRAYV SX5 X1VALUE . MICRO OPERATION ARRAY VALUE

1543 0100001547 ARRAYV1 RJ SARRAY

1544 0324000304 PL X4,ERR7 . ERROR, TOO FEW SUBSCRIPTS

65621 SB6 A2-B1

21722 AX7 18

1545 73170 SX1 X7 . FINAL ADDRESS IS THE BASE

36116 IX1 X1+X6 . PLUS THE VECTOR SUM

6110000455 SB1 SNDMIC

1546 0222000000 JP B2

\*

\* THIS SUBROUTINE IS USED ONLY BY SUBCOM AND ARRAYV

\*

1547 46000 SARRAY NO

1550 5110001032 + SA1 TENTO9 . CHECK VALUE OF INDEX EXPRESSION

5100000011 SA0 9

1551 10011 BX0 X1

0100000660 RJ SACHEK

1552 20703 LX7 3

0327000465 PL X7,FAIL . BRANCH IF NOT INTEGER TYPE

63250 SB2 X5

1553 6110000001 SB1 1

57161 SA1 B6-B1 . INDEX VALUE X

65611 SB6 A1-B1

1554 57361 SA3 B6-B1

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 38

MICRO PROCESSOR: ACTIONS

76710 SX7 B1

55231 SA2 A3-B1

36773 IX7 X7+X3 . NEXT DOPE INDEX

1555 53470 SA4 X7

73540 SX5 X4 . UPPER LIMIT

21422 AX4 18

73340 SX3 X4 . LOWER LIMIT

1556 37551 IX5 X5-X1

37013 IX0 X1-X3

36620 IX6 X2+X0 . ADD X - L TO VECTORSUM

1557 0335000465 NG X5,FAIL . FAIL IF OUT OF BOUNDS

0320001547 PL X0,SARRAY . RETURN

1560 0400000465 EQ FAIL

\*

\*

\*

1561 0100002624 INDRCN RJ INDRCT

1562 6110000455 SB1 SNDMIC

0400001523 EQ X1NAME

\*

1563 0100002624 INDRCV RJ INDRCT

1564 0400002470 EQ X1VALUE

\*

1565 73150 OPRND SX1 X5

0400002470 EQ X1VALUE

\*

1566 7235000000 ASGN SX3 X5+0

0303001573 ZR X3,ASGN1

1567 66260 SB2 B6

0100002537 RJ SASSIGN

1570 56160 SA1 B6 . SKIP ASSIGNED VALUE

6211000000 SB1 X1+0

67661 SB6 B6-B1

1571 0400000441 EQ NEXTMIC

1572 6221000001 SB2 X1+1

1573 56160 ASGN1 SA1 B6 . FETCH LEFTOPERAND NAME

63210 SB2 X1

6122000001 SB2 B2+1

1574 57362 SA3 B6-B2

66260 SB2 B6

0100002537 RJ SASSIGN . PERFORM ASSIGNMENT

1575 56160 SA1 B6 . SKIP BOTH OPERANDS

63210 SB2 X1

57162 SA1 B6-B2

63210 SB2 X1

1576 65612 SB6 A1-B2

0400000441 EQ NEXTMIC

\*

1577 6130001602 ASGNPM SB3 ASPMSW . MICRO OPERATION

5120001601 SA2 ASPMWD . ASSIGNMENT WITH A PATTERN MATCH

1600 0400000526 EQ CHEK . LEFT OPERAND

\*

1601 00000000002 ASPMWD SWITCH ASPMSW,3,2,4,4,0,0,0,1,0,0,0,0,0,0,0

\*

1602 6150000056 + ERROR 46 . 0, P,R,A,N,D,C

1603 6110001605 + SB1 \*+2 . 1, I

0400002401 EQ ITOSFTP

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 39

MICRO PROCESSOR: ACTIONS

1604 0100000540 + RJ SCATS . 2, S

1605 7146777776 + SX4 B6-1 . 3, SF

0400001607 EQ ASPM0

1606 5146777776 + SA4 B6-1 . 4, SS,SI

1607 5126777774 ASPM0 SA2 B6-3

5136777775 SA3 B6-2

1610 63320 SB3 X2

65523 SB5 A2-B3 . STRING BASE

21322 AX3 18

63235 SB2 X3+B5 . FIRST CHARACTER MATCHED

1611 66370 SB3 B7 . FIRST OF RESULT STRING

13777 BX7 X7-X7 . OUTPUT WORD

6140000060 SB4 48 . OUTPUT POSITION COUNT

1612 5203777776 ASPM1 SA0 X3-1 . LENGTH IS BEING ACCUMULATED IN A0

1613 6155000001 ASPM2 SB5 B5+1

0652001622 GE B5,B2,ASPM5 . END PACK

1614 5125000000 SA2 B5+0 . NEXT CHAR

6144777771 SB4 B4-6

1615 0540001621 NE B4,B0,ASPM4 . BYPASS IF WORD IS NOT FULL

5117000000 SA1 B7+0

1616 0311001617 NZ X1,ASPM3 . GET A FREE WORD

0100002057 RJ MORFREE

1617 73110 ASPM3 SX1 X1

63710 SB7 X1

20722 LX7 18

12671 BX6 X7+X1 . ADD LINK

1620 13777 BX7 X7-X7

54610 SA6 A1 . STORE OUTPUT WORD

6140000052 SB4 42

1621 20706 ASPM4 LX7 6 . PACK CHAR INTO OUTPUT WORD

12772 BX7 X7+X2

0400001613 EQ ASPM2

1622 20714 ASPM5 LX7 12

22747 LX7 X7,B4 . LEFT JUSTIFY LAST WORD

5117000000 SA1 B7+0

1623 0311001624 NZ X1,ASPM6 . GET A FREE WORD

0100002057 RJ MORFREE

1624 63710 ASPM6 SB7 X1

0430001640 EQ B3,B0,ASPM8 . EXIT IF FLAG IS SET

43006 MX0 6 . OTHERWISE PREPARE FOR CONCATENA-

1625 53240 SA2 X4 . TION

74310 SX3 A1

6150001631 SB5 ASPMR . RETURN TO B5

1626 10422 BX4 X2

21444 AX4 36

63240 SB2 X4

54002 SA0 A0+B2 . SUM LENGTHS IN A0

1627 6124777771 SB2 B4-6 . SET SHIFTS FOR CONCAT

6112000022 SB1 B2+18

1630 0400001224 EQ CATSF . PERFORM CONCATENATION

1631 76670 ASPMR SX6 B7 . UPON RETURN AN EXTRA WORD HAS

63730 SB7 X3 . BEEN RESERVED, RELEASE IT

53630 SA6 X3

43006 MX0 6

1632 76530 SX5 B3 . FIRST TO X5

66300 SB3 B0 . SET FLAG TO EXIT

5116777775 SA1 B6-2

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 40

MICRO PROCESSOR: ACTIONS

1633 5126777774 SA2 B6-3

21144 AX1 36 . LAST CHARACTER MATCHED TO B5

63520 SB5 X2

1634 64220 SB2 A2

65525 SB5 A2-B5

63515 SB5 B5+X1

67125 SB1 B2-B5

1635 74301 SX3 A0+B1 . FINAL LENGTH + 1

6140000060 SB4 48

1636 11107 ASPM7 BX1 X0\*X7 . RIGHT JUSTIFY LAST WORD

0301001612 ZR X1,ASPM1

20706 LX7 6

1637 6144777771 SB4 B4-6

0400001636 EQ ASPM7

1640 5071000000 ASPM8 SA7 A1+0

5136777774 SA3 B6-3

1641 74110 SX1 A1 . LAST

74200 SX2 A0 . LENGTH

20122 LX1 18

20244 LX2 36

1642 12652 BX6 X5+X2

12661 BX6 X6+X1 . FORM SVD IN B6

5160000227 SA6 TEMPDOL

1643 6120000230 SB2 TEMPDOL+1

56620 SA6 B2

21322 AX3 18

1644 7233000000 SX3 X3+0

0303000324 ZR X3,ERR25 . LEFT OPERAND NOT VARIABLE

1645 0100002537 RJ SASSIGN . PERFORM ASSIGNMENT

1646 0400000457 EQ SKIP . SKIP ENTRIES IN THE STACK

\*

\*

1647 0100001651 PARAM RJ SPARAM . MICRO OPERATION

1650 0400000441 EQ NEXTMIC . PARAMETER COMMA

\*

1651 46000 SPARAM NO

1652 5120001654 + SA2 PRMWD . SWITCH ON TYPE OF TOPOPERAND

6130001655 SB3 PRMSW

1653 0400000526 EQ CHEK

\*

1654 04210421042 PRMWD SWITCH PRMSW,1,0,2,3,1,1,1,1,1,1,1,1,1,1,1

1655 0100000540 + RJ SCATS . 0, S

1656 0400001651 + EQ SPARAM . 1, SF,PS,PA,PE,I,R,A,D,N,C

1657 5116777776 + SA1 B6-1 . 2, SS

0400001663 EQ PRMSS

1660 5116777776 + SA1 B6-1 . 3, SI

5130001667 SA3 ITYWD . REPLACE SI BY I

1661 5221000001 SA2 X1+1 . HEADING TO X3, INTEGER TO X2

10733 BX7 X3

10622 BX6 X2

1662 56760 SA7 B6

54610 SA6 A1

0400001651 EQ SPARAM

1663 7170000002 PRMSS SX7 2 . MAKE A COPY OF SS

53210 SA2 X1

56760 SA7 B6 . SF TYPE HEADING

1664 0100002350 RJ SSTOSF

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 41

MICRO PROCESSOR: ACTIONS

1665 5166777776 SA6 B6-1

0400001651 EQ SPARAM

\*

1666 04000000000000000002 SSTYWD VFD 5/SSTY,55/2 . SS TYPE HEADING

1667 16000000000000000002 ITYWD VFD 5/ITY,55/2 . I TYPE HEADING

1670 0100001651 CALL RJ SPARAM . MICRO OPERATION - CALL

1671 54550 SA5 A5

21522 AX5 18

53450 SA4 X5

1672 0334001732 NG X4,CALLSTD

21522 AX5 18

63150 SB1 X5 . ACTUAL PARAMETERS TO B1

1673 10144 BX1 X4

21122 AX1 18 . FORMAL PARAMETERS

63210 SB2 X1

1674 0721000305 LT B2,B1,ERR8 . ERROR, TOO MANY ACTUAL PARAMS.

66560 SB5 B6

56350 SA3 B5

1675 63430 CALL1 SB4 X3 . LINK ACTUAL PARAMETERS

76740 SX7 B4 . TOGETHER IN REVERSE ORDER.

76650 SX6 B5

67554 SB5 B5-B4

1676 6111777776 SB1 B1-1

0410001701 EQ B1,B0,CALL2

1677 20744 LX7 36

56350 SA3 B5

12737 BX7 X3+X7

54730 SA7 A3

1700 0400001675 EQ CALL1

1701 21122 CALL2 AX1 18

63110 SB1 X1 . APPETITE TO B1

21123 AX1 19

66115 SB1 B1+B5

1702 0311001733 NZ X1,DORF . BRANCH IF NOT FUNCTION CALL

. MAKE SURE THAT THERE WILL BE

0661001704 GE B6,B1,CALL3 . ENOUGH SPACE FOR THE FORMALS

1703 57016 SA0 B1-B6

0100002052 RJ RESERVE

1704 54440 CALL3 SA4 A4 . PROCEDURE DESCRIPTION MIGHT HAVE

63140 SB1 X4 . CHANGED

63260 SB2 X6

76650 SX6 B5

1705 5160000243 SA6 CALLB5P

1706 56310 CALL4 SA3 B1 . THIS LOOP TAKES THE ACTUAL

21322 AX3 18 . PARAMETERS AND ASSIGNS THEM TO

53130 SA1 X3 . THE FORMAL VARIABLES FROM THE

76700 SX7 B0 . LEFT TO THE RIGHT. THE ORIGINAL

1707 10511 BX5 X1 . DESCRIPTORS AS WELL AS THEIR

54710 SA7 A1 . ADDRESSES ARE SAVED IN THE STACK

0100002537 RJ SASSIGN

1710 56220 SA2 B2

21244 AX2 36 . LINK TO NEXT ACTUAL PARAM

63222 SB2 X2+B2

10755 BX7 X5

1711 6155000002 SB5 B5+2

5175777776 SA7 B5-1 . STORE ORIGINAL DESCRIPTOR

1712 63320 SB3 X2

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 42

MICRO PROCESSOR: ACTIONS

56210 SA2 B1

63120 SB1 X2 . FORMAL ADDRESSES ARE TAKEN FROM

21222 AX2 18 . THIS LIST

1713 10722 BX7 X2

56750 SA7 B5 . STORE FORMAL ADDRESS

0530001706 NE B3,B0,CALL4 . ZERO MARKS END OF PARAM-LINK

1714 56210 CALL5 SA2 B1 . IF THERE ARE LESS ACTUALS THAN

0332001721 NG X2,CALL6 . FORMALS,NULL VALUE IS SIMULATED

63120 SB1 X2 . FOR THE REST

1715 6155000002 SB5 B5+2

21222 AX2 18

53320 SA3 X2

1716 10733 BX7 X3

5175777776 SA7 B5-1

73720 SX7 X2

1717 56750 SA7 B5

0100002342 RJ ZROX7

1720 53720 SA7 X2

0400001714 EQ CALL5

1721 5130000213 CALL6 SA3 STAKTOP . SYSTEM VARIABLES HAS TO BE

5110000212 SA1 INFAIL . STACKED AS WELL

1722 5140000207 SA4 MINSTAK

74750 SX7 A5

37334 IX3 X3-X4

1723 7160000000 SX6 0

5160000212 SA6 INFAIL . CLEAR INFAIL

1724 20322 LX3 18

12717 BX7 X1+X7

21222 AX2 18 . ENTRY LABEL IN X2

12737 BX7 X3+X7

1725 53420 SA4 X2

6165000002 SB6 B5+2 . NEW B6

43001 MX0 1 . PROCEDURE CALL TYPE

1726 5110000243 SA1 CALLB5P

5175000001 SA7 B5+1

1727 63510 SB5 X1

76660 SX6 B6

77165 SX1 B6-B5 BYPASS VALUE

54630 SA6 A3 . STORE NEW STAKTOP

1730 12701 BX7 X0+X1

5176000000 SA7 B6+0

73540 SX5 X4 . DO NOT TOUCH A5 YET

1731 6110000451 SB1 GOTO1

0400000443 EQ NEWRULE

\*

1732 63140 CALLSTD SB1 X4 . CALL STANDARD PROCEDURE

21522 AX5 18

0211000000 JP B1

\*

\*

\*

1733 7211777776 DORF SX1 X1-1

0311001762 NZ X1,FIELD . BRANCH IF NOT DATA FUNCTION

1734 20545 LX5 37 . ERROR , DATA CANNOT GIVE NAME

0335000327 NG X5,ERR28 . RESULT

63460 SB4 X6

1735 5130000207 SA3 MINSTAK

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 43

MICRO PROCESSOR: ACTIONS

5120000204 SA2 MAXSTAT . RESERVE SPACE IN STATIC

1736 7262000001 SX6 X2+1

73662 SX6 X6+B2

76520 SX5 B2

1737 54620 SA6 A2

63330 SB3 X3

6216000000 SB1 X6+0

1740 0713001742 LT B1,B3,DATA2 . THERE IS ENOUGH ROOM

6132000050 SB3 B2+BUFF4 . ROUND UP

1741 66443 SB4 B4+B3

66553 SB5 B5+B3

0100002042 RJ PUSHSTK . THE STACK HAS TO BE PUSHED TO MAKE

1742 73640 DATA2 SX6 X4 . SPACE

63150 SB1 X5

53620 SA6 X2 . POINTER TO DATA DESCRIPTION

1743 7064777776 SX6 A4-1 . POINTER FOR DATATYPE FUNCTION

73520 SX5 X2

20622 LX6 18

1744 12726 BX7 X2+X6

66240 SB2 B4

5170000244 SA7 DATAWD

1745 6111777776 DATA3 SB1 B1-1 . MUCH LIKE TO A PROCEDURE CALL

7255000001 SX5 X5+1 . THE PARAMETERS ARE ASSIGNED TO

1746 76600 SX6 B0 . NEW VARIABLES

10355 BX3 X5

53650 SA6 X5

1747 0100002537 RJ SASSIGN

1750 56220 SA2 B2 . LINK TO THE NEXT PARAMETER

21244 AX2 36

63222 SB2 X2+B2

63320 SB3 X2

1751 0530001745 NE B3,B0,DATA3

0410001755 EQ B1,B0,DATA5

1752 7255000001 DATA4 SX5 X5+1 . NULL STRINGS WILL BE SUBSTITUTED

0100002342 RJ ZROX7 . FOR MISSING PARAMETERS

1753 53750 SA7 X5

6111777776 SB1 B1-1

1754 0510001752 NE B1,B0,DATA4

1755 7100000012 DATA5 SX0 DTY . PUT A REFERENCE TO THE NEW DATA

6165000002 SB6 B5+2 . TO THE TOP OF THE STACK

1756 7110000002 SX1 2

20067 LX0 55

1757 5120000244 SA2 DATAWD

12601 BX6 X0+X1

12702 BX7 X0+X2

1760 56660 SA6 B6

5176777776 SA7 B6-1

1761 0400000441 EQ NEXTMIC

\*

1762 7211777776 FIELD SX1 X1-1

0311000312 NZ X1,ERR14 . ERROR,THE FUNCTION IS UNDEFINED

1763 56160 SA1 B6 . FIELD FUNCTION

21167 AX1 55

6166777775 SB6 B6-2

1764 7211777765 SX1 X1-DTY

6110000001 SB1 1 . TOP OPERAND MUST BE OF DATA TYPE

1765 0311000320 NZ X1,ERR21 . ERROR IF IT IS NOT

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 44

MICRO PROCESSOR: ACTIONS

5116000001 SA1 B6+1

1766 64240 SB2 A4

53210 SA2 X1

1767 53321 FIELD1 SA3 X2+B1 . SCAN DATA DOPE VECTOR FOR

. THE FIELD ,FIELD ID IS IN B2)

63330 SB3 X3

0423001772 EQ B2,B3,FIELD2

1770 6111000001 SB1 B1+1

0323001767 PL X3,FIELD1

1771 0400000321 EQ ERR22 . ERROR-NO SUCH FIELD IN THIS DATA

1772 74121 FIELD2 SX1 A2+B1 . THE RELATIVE ADDRESS OF THE FIELD

20545 LX5 37 . IN THE DOPE IS THE SAME AS THE

7261000000 SX6 X1+0

1773 7241000000 SX4 X1+0

6110000441 SB1 NEXTMIC

1774 5160000250 SA6 UA . SAVE ADDRESS FOR PMCHEK

0325002472 PL X5,SOPERND . ADDRESS OF THE DESIGNATED

1775 0400001523 EQ X1NAME . VARIABLE AMONG THE DATA

\*

1776 7255377774 RETUN SX5 X5+MARK-3

0325000307 PL X5,ERR10 . JUMP TO UNDEFINED LABEL

1777 56260 XRETURN SA2 B6

63520 SB5 X2

0322000322 PL X2,ERR23 . ERROR, RETURN FROM ZERO LEVEL

2000 67565 SB5 B6-B5

6166777775 SB6 B6-2

66150 SB1 B5

2001 6111000002 XRET1 SB1 B1+2 . LOOP FOR RELEASING FORMAL

0616002007 GE B1,B6,XRET3 . PARAMETERS, AND FOR RESTORING

2002 56310 XRET4 SA3 B1 . THEIR DESCRIPTORS FROM THE STACK

0100002524 RJ FREESVD

2003 0640002005 GE B4,B0,XRET2

53430 SA4 X3 . I/O TYPE NEEDS EXTRA TREATMENT

76770 SX7 B7

2004 63740 SB7 X4

53740 SA7 X4

2005 5121777776 XRET2 SA2 B1-1

10622 BX6 X2

53630 SA6 X3

2006 0400002001 EQ XRET1

2007 6235000002 XRET3 SB3 X5+2 . RELEASE PROCEDURE VALUE

0530002011 NE B3,B0,XRET5 . IF FRETURN

2010 76500 SX5 B0

0400002002 EQ XRET4

2011 6120000001 XRET5 SB2 1

56362 SA3 B6+B2 . SYSTEM VARIABLES

57262 SA2 B6-B2 . SVD OF PROCEDURE VALUE

2012 56160 SA1 B6 . ADDRESS OF PROCEDURE VALUE

53530 SA5 X3 . MICRO P COUNTER

5140000207 SA4 MINSTAK

2013 43001 MX0 1

21322 AX3 18

11703 BX7 X0\*X3

43073 MX0 59

2014 73630 SX6 X3

36664 IX6 X6+X4

5170000250 SA7 UA . CLEAR UA

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 45

MICRO PROCESSOR: ACTIONS

2015 5140000217 SA4 STCOUNT . DECREASE STCOUNT

5170000212 SA7 INFAIL

2016 66650 SB6 B5

36704 IX7 X0+X4

54740 SA7 A4

10722 BX7 X2 . SVD TO X7

2017 5160000213 SA6 STAKTOP

0723000465 LT B2,B3,FAIL . FINISHED IF FRETURN

2020 5120000205 SA2 MINSTAT

53310 SA3 X1

53710 SA7 X1 . RESTORE ORIGINAL VALUE OF PRO-

2021 7242000000 SX4 X2+XWDREL . CEDURE NAME

10633 BX6 X3

20501 LX5 1 . CHECK NAME BIT

2022 0630002025 GE B3,B0,XRET6 . BRANCH IF NOT NRETURN

21367 AX3 55

14555 BX5 -X5

2023 7233777764 SX3 X3-NTY

0313000325 NZ X3,ERR26 . ERROR,NRETURN ETC.

2024 0335002040 NG X5,XRET9 . BRANCH IF VALUE IS NEEDED

2025 0335000324 XRET6 NG X5,ERR25 . ERROR, NO NRETURN WHEN NAME IS

21367 AX3 55 . NEEDED

2026 7233777775 SX3 X3-SSTY . BRANCH IF VALUE IS NOT A STRING

0313002032 NZ X3,XRET8

2027 7170000002 SX7 2

63676 SB6 X7+B6 . STACK SF TYPE ENTRY

20606 LX6 6 . CLEAR SS TYPE BITS

2030 56760 SA7 B6

21606 AX6 6

5166777776 SA6 B6-1

2031 0400000441 EQ NEXTMIC

2032 5264000000 XRET8 SA6 X4+0 . PUT PROCEDURE VALUE TO THE TOP OF

6110002034 SB1 XRETR . THE STACK. NOTE THAT THE SVD IS

2033 0400002472 EQ SOPERND . STORED IN STATIC WHERE AN EVENTUAL

2034 10344 XRETR BX3 X4 . GARBAGE COLLECTION CAN FIND IT

0100002524 RJ FREESVD . RELEASE PROCEDURE VALUE

2035 13777 BX7 X7-X7

53730 SA7 X3 . CLEAR XWRD

0640000441 GE B4,B0,NEXTMIC . I/O TYPE NEEDS EXTRA TREATMENT

2036 53430 SA4 X3

76770 SX7 B7

63740 SB7 X4

53740 SA7 X4

2037 0400000441 EQ NEXTMIC

2040 7246000000 XRET9 SX4 X6+0 . VALUE OF NRETURN

6110000441 SB1 NEXTMIC

2041 5160000250 SA6 UA . NOTE NRETURN FOR PMCHECK

0400002472 EQ SOPERND

\*

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 46

STORAGE MANAGEMENT ROUTINES

\* X1,X7,B1,B2,B3,A0

2042 46000 PUSHSTK NO

2043 56030 + SA0 B3

0100002052 RJ RESERVE . RESERVE ENOUGH SPACE

2044 5110000207 SA1 MINSTAK . BUMP MINSTAK

63210 SB2 X1

73713 SX7 X1+B3

2045 67163 SB1 B6-B3

54710 SA7 A1

2046 56110 PSHSTK1 SA1 B1

6111777776 SB1 B1-1

10711 BX7 X1

2047 54713 SA7 A1+B3

0612002046 GE B1,B2,PSHSTK1

2050 5110000213 PSHSTK2 SA1 STAKTOP . BUMP STACKTOP

73713 SX7 X1+B3

54710 SA7 A1

2051 0400002042 EQ PUSHSTK

\*

\* THIS PROCEDURE RESERVES X1 WORDS IN THE STACK. B6 IS UPDATED

\* X1,A0

\*

2052 46000 RESERVE NO

2053 5110000206 + SA1 MAXSTAK

64606 SB6 A0+B6 . CHECK IF NEW B6 NOT GREATER

14111 BX1 -X1 . THAN MAXSTAK

2054 73116 SX1 X1+B6

0331002052 NG X1,RESERVE

2055 0100002112 RJ GETSTAK . GET STACK SPACE IF IT IS

2056 0400002052 EQ RESERVE

\*

\*

\* SUBROUTINE MOREFREE HAS TO BE CALLED WHENEVER THE END OF THE

\* FREE CHAIN IS MET.( A ZERO WORD ) HALF OF THE SPACE BETWEEN

\* THE STACK AND DYNAMIC WILL BE RESERVED, OR IF IT IS TOO SHORT

\* ADDITIONAL FIELDLENGTH WILL BE REQUESTED.

\* X1

\*

2057 46000 MORFREE NO

2060 5170002111 + SA7 MFX7 . SAVE SOME REGISTERS

5160002110 SA6 MFX6

2061 10722 BX7 X2

5170002107 SA7 MFX2

2062 5110000206 SA1 MAXSTAK

76260 SX2 B6

37612 IX6 X1-X2

2063 7226777765 SX2 X6-BUFF1 . STORAGE

0332002074 NG X2,MFLEN . TOO SHORT

2064 21601 AX6 1

37716 IX7 X1-X6 . RESERVE HALF OF IT

54710 SA7 A1

2065 10611 MFCHN BX6 X1 . FILL UP STORE WITH A FREE CHAIN

5167000000 SA6 B7+0 . FROM X1 TO X7 TOWARD LOW CORE

2066 7261777776 MFCHN1 SX6 X1-1

53610 SA6 X1

73160 SX1 X6

2067 13217 BX2 X1-X7

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 47

STORAGE MANAGEMENT ROUTINES

0312002066 NZ X2,MFCHN1

76700 SX7 B0 . END OF CHAIN WORD

2070 54760 SA7 A6

5110002110 SA1 MFX6 . RESTORE REGISTERS

2071 5120002111 SA2 MFX7

10611 BX6 X1

10722 BX7 X2

2072 56170 SA1 B7 . TO ASSIST CALLING SIDE

5120002107 SA2 MFX2

2073 0400002057 EQ MORFREE . RETURN

2074 7160001000 MFLEN SX6 FLDINCR

2075 5110000203 MFLEN1 SA1 FIELDLN

36716 IX7 X1+X6

2076 5120000215 SA2 FLDLM

37227 IX2 X2-X7

2077 0332000315 NG X2,ERR17 . ERROR.MAX FIELDLENGTH HAS BEEN

54710 SA7 A1 . EXCEEDED

20736 LX7 30

IFNE TRCFLG,0,1

2100 5170002106 SA7 FLDSTAT

5120002105 SA2 FLDCALL

2101 10722 BX7 X2

5170000001 SA7 1 . CALL MEM WITH RECALL

2102 7211777776 SX1 X1-1

2103 5120000001 + SA2 1

0312002103 NZ X2,\* . WAIT UNTIL COMPLETE

2104 36116 IX1 X1+X6

37716 IX7 X1-X6 . GO TO FILL UP VIRGIN STORAGE

0400002065 EQ MFCHN . WITH FREE CHAIN

\*

2105 15051520000000002106 FLDCALL VFD 18/3LMEM,2/1,40/FLDSTAT

2106 00000000000000000000 FLDSTAT DATA 0 . STATUS WORD

\*

2107 00000000000000000000 MFX2 DATA 0 . REGISTER SAVE WORDS

2110 00000000000000000000 MFX6 DATA 0

2111 00000000000000000000 MFX7 DATA 0

\*

\*

\* GETSTAK PRODUCES SPACE FOR THE STACK UP TO B6. B6-A0 MUST

\* CONTAIN THE LAST SENSIBLE STACK ENTRY. A GARBAGE COLLECTION

\* WILL BE PERFORMED IF NECESSARY

\* A0,X1

\*

2112 46000 GETSTAK NO

2113 5160002110 + SA6 GSX6 . SAVE REGISTERS USED IN GETSTAK

5170002111 SA7 GSX7

2114 76630 SX6 B3

76740 SX7 B4

5160002145 SA6 GSB3

2115 5170002146 SA7 GSB4

10622 BX6 X2

2116 5160002107 SA6 GSX2

76270 SX2 B7

2117 7110000000 SX1 B0+0

2120 7211000001 GS1 SX1 X1+1 . NUMBER OF FREE WORDS TO X1

53220 SA2 X2

2121 0312002120 NZ X2,GS1

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 48

STORAGE MANAGEMENT ROUTINES

7211777776 SX1 X1-1

2122 66370 SB3 B7

64720 SB7 A2

76660 SX6 B6

2123 5120000206 SA2 MAXSTAK

37226 IX2 X2-X6

36112 IX1 X1+X2

2124 0331002126 NG X1,GS2 . IF FREE SPACE NOT ENOUGH OR

7211777727 SX1 X1-BUFF2 . GARBAGE COLLECTION WOULD NOT BE

2125 0321002132 PL X1,GS3 . EFFICIENT, REQUEST MORE FIELDLENGTH

2126 14611 GS2 BX6 -X1

7266000100 SX6 X6+100B

21606 AX6 6 . ROUND THE AMOUNT OF FIELDLENGTH

2127 20606 LX6 6 . NEEDED UP TO THE NEXT OCTAL

5110002131 SA1 GSRET . HUNDRED

10711 BX7 X1

2130 5170002057 SA7 MORFREE . GO TO REQUEST FIELDLENGTH

0400002075 EQ MFLEN1

2131 0400002132 GSRET EQ GS3

2132 76610 GS3 SX6 B1 . SAVE REGISTERS USED IN GRBCOLL

76720 SX7 B2

5160002143 SA6 GSB1

2133 5170002144 SA7 GSB2

66730 SB7 B3

64100 SB1 A0

2134 67661 SB6 B6-B1 . RESET D6 TO A REASONABLE VALUE

0100002147 RJ GRBCOLL . COLLECT GARBAGE

2135 64606 SB6 B6+A0 . RESTORE B6

5110002110 SA1 GSX6

2136 5120002111 SA2 GSX7 . RESTORE ALL REGISTERS USED

10611 BX6 X1

10722 BX7 X2

2137 5110002143 SA1 GSB1

5120002144 SA2 GSB2

2140 63110 SB1 X1

63220 SB2 X2

5110002145 SA1 GSB3

2141 5120002146 SA2 GSB4

63310 SB3 X1

63420 SB4 X2

2142 5120002107 SA2 GSX2

0400002112 EQ GETSTAK . RETURN

\*

2107 GSX2 EQU MFX2

2110 GSX6 EQU MFX6

2111 GSX7 EQU MFX7

2143 00000000000000000000 GSB1 DATA 0

2144 00000000000000000000 GSB2 DATA 0

2145 00000000000000000000 GSB3 DATA 0

2146 00000000000000000000 GSB4 DATA 0

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 49

GARBAGE COLLECTION

\* GARBAGE COLLECTION BEGINS WITH COUNTING THE NUMBER OF WORDS

\* ON THE FREE CHAIN. OUR AIM IS TO GATHER ALL FREE WORDS TO

\* THE LOWER PART OF THE DYNAMIC AREA THAT WE CAN DELETE THEM.

\* THIS CAN BE OBTAINED BY SCANNING ALL EXISTING CHAINS AND

\* MOVE THOSE LINKS IN THE LOWER PART TO A FREE LINK IN THE

\* UPPER.

\* X1,X2,X6,X7,B1,B2,B3,B4

2147 46000 GRBCOLL NO

2150 76270 + SX2 B7

76600 SX6 B0

5110000206 SA1 MAXSTAK

2151 7266000001 GRB1 SX6 X6+1 . COUNT THE NUMBER OF FREE WORDS

74720 SX7 A2

53220 SA2 X2

2152 0312002151 NZ X2,GRB1

36616 IX6 X1+X6

63160 SB1 X6 . B1 IS THE LIMIT BETWEEN THE LOWER

2153 7266777776 SX6 X6-1

54610 SA6 A1

66460 SB4 B6

2154 0100002200 RJ GRBFW . AND THE UUPER PART

2155 64220 SB2 A2 . IF THE END OF FREE CHAIN IS IN

0621002160 GE B2,B1,GRB3 . THE LOWER PART, RELOCATE

74610 SX6 A1

2156 53670 SA6 X7 . UPDATE THE LINK LEADING TO THE

7170000000 SX7 B0+0 . END WORD

54710 SA7 A1

2157 0100002200 RJ GRBFW

2160 56240 GRB3 SA2 B4 . CRIPTIONS OF THE MISSING LINKS

63320 SB3 X2 . NOTE THAT THERE IS NO LIMIT ON

0302002175 ZR X2,GRB2

2161 0332002171 NG X2,GRB4 . THE LOOP, RETURN OCCURS IN GRBFW

67443 SB4 B4-B3

21267 AX2 55

2162 0312002160 NZ X2,GRB3

5124000001 SA2 B4+1 . SF TYPE FOUND IN STACK

2163 0100002204 RJ GRBLINK

2164 0630002160 GE B3,B0,GRB3 . LAST WAS NOT CHANGED

43152 MX1 42

2165 5124000001 SA2 B4+1

74710 SX7 A1

20122 LX1 18 . UPDATE LAST IF CHANGED

2166 20722 LX7 18

11212 BX2 X1\*X2

12727 BX7 X2+X7

54720 SA7 A2

2167 0100002200 RJ GRBFW

2170 0400002160 EQ GRB3

2171 6144777776 GRB4 SB4 B4-1 . PROCEDURE CALL FOUND IN STACK

67243 SB2 B4-B3 . SCAN STACKED FORMAL PARAMETERS

2172 6122000002 SB2 B2+2 . NOTE THAT STACKED ADDRESSES WILL

0100002216 RJ GRBSCAN . BE SKIPPED OVER IN CRBSCAN

2173 5124000001 SA2 B4+1

63320 SB3 X2

65423 SB4 A2-B3

2174 0400002160 EQ GRB3

2175 5120000205 GRB2 SA2 MINSTAT . SCAN STATIC TO UPDATE

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 50

GARBAGE COLLECTION

63220 SB2 X2 . LIST DESCRIPTORS

67402 SB4 B0-B2

2176 0100002216 RJ GRBSCAN . NO RETURN

\*

\* GRBFW SUPPLIES THE NEXT FREE LINK WHICH IS IN THE UPPER

\* PART. GARBAGE COLLECTION ENDS WHEN THE END WORD IS MET.

\* (I.E. THERE ARE NO MORE FREE WORDS IN UPPER Q.E.D.)

\* LOCAL TO GRBCOLL

2177 6271000000 GRB5 SB7 X1+0 . NO, THIS IS NOT THE ENTRY

2200 46000 GRBFW NO

2201 56170 GRB6 SA1 B7 . NEXT FREE LINK

0301002147 ZR X1,GRBCOLL . BRANCH IF ENDWORD

2202 0671002177 GE B7,B1,GRB5 . BRANCH IF IN UPPER

63710 SB7 X1

2203 0400002201 EQ GRB6 . LOOP IF IN POWER

\*

\* THIS SUBROUTINE FOLLOWS A LIST STRUCTURE. IF A LINK IS

\* IN LOWER, IT WILL BE RELOCATED.

\* LOCAL TO GRBCOLL

2204 46000 GRBLINK NO

2205 63320 GRBL1 SB3 X2 . POINTER TO NEXT WORD

0403002204 EQ B0,B3,GRBLINK . BRANCH IF END LIST

2206 0631002215 GRBL2 GE B3,B1,GRBL4 . BRANCH IF IN UPPER

74710 SX7 A1

43152 MX1 42

2207 11112 BX1 X1\*X2 . UPDATE LINK AND RELOCATE

12717 BX7 X1+X7

54720 SA7 A2

56230 SA2 B3

2210 10722 BX7 X2

54710 SA7 A1

54270 SA2 A7

63320 SB3 X2

2211 0503002213 NE B0,B3,GRBL3 . IF END LIST THEN

6130777776 SB3 -1 . SIGNAL LAST IS RELOCATED

2212 0400002204 EQ GRBLINK . AND RETURN

2213 0100002200 GRBL3 RJ GRBFW

2214 0400002206 EQ GRBL2

2215 53220 GRBL4 SA2 X2 . IN UPPER, GET NEXT WORD

0400002205 EQ GRBL1

\* LOCAL TO GRBCOLL

\*

2216 46000 GRBSCAN NO

2217 0424002216 GRBS1 EQ B2,B4,GRBSCAN . END OF AREA

56220 SA2 B2

2220 0322002230 PL X2,GRBS3 . BRANCH IF SVD

21222 AX2 18

2221 7162000001 SX6 B2+1

63222 SB2 X2+B2 . X2 IS BYPASS

21245 AX2 37

2222 7222000002 SX2 X2+2 . BRANCH IF NOT VARIABLE OR

0332002217 NG X2,GRBS1 . FUNCTION NAME

2223 0312002227 NZ X2,GRBS2

53260 SA2 X6

10122 BX1 X2

2224 21167 AX1 55

0311002217 NZ X1,GRBS1 . IF PROCEDURE

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 51

GARBAGE COLLECTION

2225 0100002204 RJ GRBLINK . UPDATE PROCEDURE DOPE

2226 0730002243 LT B3,B0,GRBS4

0400002217 EQ GRBS1

2227 53260 GRBS2 SA2 X6 . IF VARIABLE

6122777776 SB2 B2-1 . FETCH SVD

2230 6122000001 GRBS3 SB2 B2+1

10122 BX1 X2 . SWITCH ON TYPE OF SVD

21167 AX1 55

2231 7211777775 SX1 X1-2

0301002237 ZR X1,GRBSS . SS TYPE

2232 7211777775 SX1 X1-2

0331002217 NG X1,GRBS1 . SKIP OR SI TYPE

2233 7211777774 SX1 X1-3

0331002237 NG X1,GRBSS . PS,PA OR PE

2234 7211777776 SX1 X1-1

0301002245 ZR X1,GRBR . R TYPE

2235 7211777772 SX1 X1-5

0331002217 NG X1,GRBS1 . A,D,N OR C

2236 0100002247 GRBIO RJ GRBSNGL . IN OR OUT, SVD IS IN DYNAMIC

. STORAGE TOO

2237 74620 GRBSS SX6 A2

0100002204 RJ GRBLINK . UPDATE LIST

2240 0630002217 GE B3,B0,GRBS1

43152 MX1 42 . CHANGE LAST IF CHANGED

53260 SA2 X6

2241 74710 SX7 A1

20122 LX1 18

20722 LX7 18

11212 BX2 X1\*X2

2242 12727 BX7 X2+X7

54720 SA7 A2

2243 0100002200 GRBS4 RJ GRBFW . GRBFW HAS TO BE CALLED WHENEVER

2244 0400002217 EQ GRBS1 . GRBLINK RETURNS A LAST CHANGED

. SIGNAL

2245 0100002247 GRBR RJ GRBSNGL . ACTION ON R TYPE

2246 0400002217 EQ GRBS1

\*

\* LOCAL TO GRBCOLL

\*

2247 46000 GRBSNGL NO

2250 63320 + SB3 X2

0631002247 GE B3,B1,GRBSNGL . RETURN IF IN UPPER

74710 SX7 A1

2251 43152 MX1 42

11112 BX1 X1\*X2 . RELOCATE AND UPDATE LINK

12717 BX7 X1+X7

54720 SA7 A2

2252 56230 SA2 B3

10722 BX7 X2

54710 SA7 A1

54210 SA2 A1

2253 0100002200 RJ GRBFW

2254 0400002247 EQ GRBSNGL

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 52

MISCELLANEOUS SUBROUTINES

\* ROUTINE MUST BE CALLED WITH AN INTEGER TOP OPERAND. IT

\* WILL BE REMOVED AND REPLACED WITH A NORMALIZED STRING (S)

\* X1,X2,X3,X4,X6,X7,B1

\*

2255 46000 ITOS NO

2256 5100000012 + SA0 10 . RESERVE FOR WORST CASE, TEN

0100002052 RJ RESERVE . DIGITS AND A SIGN

2257 5116777764 SA1 B6-11 . B6 HAS BEEN INCREASED

0100002331 RJ ICX1X6 . CONVERT INTEGER TO STRING

2260 43266 MX2 54 . MASK 1 CHAR LONG

64110 SB1 A1

0337002262 NG X7,ITOS1 . IF THE NUMBER WAS NEGATIVE

2261 6166777776 SB6 B6-1 . FIRST CHAR IS A -

0400002264 EQ ITOS3 .

2262 7170000046 ITOS1 SX7 1R-

2263 56710 ITOS2 SA7 B1 . LOOP, STORE NEXT CHAR

6111000001 SB1 B1+1

2264 20606 ITOS3 LX6 6 . UNPACK NEXT CHAR

15762 BX7 -X2\*X6 . LOOP IF NOT ZERO

0307002266 ZR X7,ITOS4 . OR ELEVENTH DIGIT

2265 0516002263 NE B1,B6,ITOS2

2266 75111 ITOS4 SX1 A1-B1 . -(BYPASS LENGTH-1) TO X1

66610 SB6 B1 . STACK TOP

7211777776 SX1 X1-1

2267 7170000001 SX7 STY

20767 LX7 55

14111 BX1 -X1

2270 12717 BX7 X1+X7

56760 SA7 B6 . S TYPE HEADING

0400002255 EQ ITOS

\* THIS ROUTINE BREAKS DOWN A STRING OF LENGTH B5 INTO

\* CHARACTERS. THE LAST CHARACTER, IF ANY, WILL BE STORED AT B6-1

\* XT IS THE ADDRESS OF THE FIRST WORD ON ENTRY.

\* X0,X1,X2,X3,X7,B5

\*

2271 53210 SSTOS1 SA2 X1 .NO,THIS IS NOT THE ENTRY

73120 SX1 X2 . LINK TO NEXT WORD

11202 BX2 X0\*X2 . MASK LINK OFF, THIS WILL PRODUCE

2272 20206 SSTOS2 LX2 6 . A ZERO CHARACTER AT THE

15723 BX7 -X3\*X2 . END OF THE WORD

0307002271 ZR X7,SSTOS1

2273 57765 SA7 B6-B5

6155777776 SB5 B5-1 . DECREASE LENGTH

2274 0550002272 SSTOS3 NE B5,B0,SSTOS2 . GO BACK IF NOT ZERO

\*

2275 46000 SSTOS NO .ENTER HERE

2276 43052 + MX0 42 . SET UP MASKS

43366 MX3 54

0550002271 NE B5,B0,SSTOS1

2277 0400002275 EQ SSTOS

\* THE FOLLOWING SUBROUTINE ASSIGNS A STRING TO A LIST

\* STRUCTURE. B2 POINTS TO THE FIRST, B3 TO THE LAST CHARACTER

\* UPON ENTRY. THE SVD OF THE CREATED STRUCTURE WILL BE PUT

\* INTO XG

\* X0,X1,X2,X6,B2,B3,B1

\*

2300 46000 STOSFX6 NO

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 53

MISCELLANEOUS SUBROUTINES

2301 6122777776 + SB2 B2-1

76170 SX1 B7 . FIRST IN LIST

20130 LX1 24

2302 77632 SX6 B3-B2 . STRING LENGTH

12016 BX0 X1+X6

0400002311 EQ STOSF3

2303 7160000000 STOSF1 SX6 B0+0

6110000052 SB1 42

2304 0423002314 STOSF2 EQ B2,B3,STOSF5 . ASSEMBLE SEVEN CHARACTERS

6122000001 SB2 B2+1 . LEFT JUSTIFIED ZERO FILL

2305 20606 LX6 6

56220 SA2 B2

12662 BX6 X6+X2

2306 6111777771 SB1 B1-6

0510002304 NE B1,B0,STOSF2

2307 0423002314 EQ B2,B3,STOSF5

20622 LX6 18

12616 BX6 X1+X6 . ADD A POINTER TO THE WORD

2310 56670 SA6 B7 . AND STORE IT

63710 SB7 X1

2311 5117000000 STOSF3 SA1 B7+0 . GET NEXT FREE WORD

0311002313 NZ X1,STOSF4

2312 0100002057 RJ MORFREE . END OF FREE CHAIN HAS BEEN MET

2313 73110 STOSF4 SX1 X1

0400002303 EQ STOSF1

2314 20622 STOSF5 LX6 18

22616 LX6 B1,X6 . LEFT JUSTIFY LAST WORD

56670 SA6 B7

63710 SB7 X1

2315 20044 LX0 36

74660 SX6 A6

20622 LX6 18

12606 BX6 X0+X6 . FORM SVD IN X6

2316 0400002300 EQ STOSFX6 . AND RETURN

\* WHEN CALLING THIS SUBROUTINE, X4 MUST POINT TO A CELL WHERE

\* A P TYPE SVD CAN BE FOUND. THE PATTERN WILL BE LOADED TO THE

\* STACK FROM B6 TOWARD THE HIGH CORE. B6 WILL BE INCREASED

\* TO POINT TO THE END WHILE THE ORIGINAL VALUE IS SAVED IN B3

\* X1,X2,X4,X7,B3,B2,A0

\*

2317 46000 PTOPX4 NO

2320 53140 PTOP1 SA1 X4 . TAKE SVD AFRESH

66360 SB3 B6

5120000206 SA2 MAXSTAK

2321 63220 SB2 X2

43014 MX0 12

2322 53210 PTOP2 SA2 X1 . NEXT WORD IN LIST

73120 SX1 X2

6166000001 SB6 B6+1

2323 0726002326 LT B2,B6,PTOP3 . OUT OF SPACE, WE ARE IN TROUBLE

10722 BX7 X2

21222 AX2 18

2324 11770 BX7 X7\*X0

73220 SX2 X2 . CONVERT PATTERN WORD INTO

12772 BX7 X7+X2 . PM OPERATION FORMAT (UNPACKABLE)

56760 SA7 B6

2325 0311002322 NZ X1,PTOP2 . LOOP IF NOT END OF LIST

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 54

MISCELLANEOUS SUBROUTINES

0400002317 EQ PTOPX4

2326 6166000024 PTOP3 SB6 B6+BUFF3 . WE DO NOT HAVE ANY INFORMATION

57063 SA0 B6-B3

2327 0100002112 RJ GETSTAK . HOW LONG THE PATTERN WILL BE, SO

2330 66630 SB6 B3 . WE REQUEST A REASONABLE AMOUNT

0400002320 EQ PTOP1 . AND TRY AGAIN. NOTE THAT THE LIST

. STRUCTURE MIGHT HAVE CHANGED.

\*

\*

\*

\* ROUTINE TO CONVERT AN INTEGER IN X1 INTO A DISPLAY CODED

\* STRING IN X6. THE RESULT IS THE ABS VALUE LEFT JUSTIFIED

\* WITH ZERO FILL.

\* X1,X2,X3,X6,X7,B1

\*

2331 46000 ICX1X6 NO

2332 10711 + BX7 X1 . SAVE OLD SIGN

0321002333 PL X1,IC1 .

14111 BX1 -X1 . ABS VALUE

2333 13666 IC1 BX6 X6-X6 . INITIALIZE RESULT

5120002341 SA2 TEN

27101 PX1 X1

2334 44312 IC2 FX3 X1/X2 . LOOP, X3 IS THE NUMBER

26333 UX3 B3,X3 . LESS THE LAST DIGIT

22333 LX3 B3,X3

27403 PX4 X3

2335 24404 NX4 X4

40442 FX4 X4\*X2

31414 FX4 X1-X4

26434 UX4 B3,X4

2336 22434 LX4 B3,X4

7244000033 SX4 X4+1R0

12664 BX6 X6+X4

2337 20666 LX6 54

27103 PX1 X3

7200000001 SX0 X0+1 . COUNT NUMBER OF DIGITS

2340 0313002334 NZ X3,IC2 . LOOP IF THERE ARE MORE DIGITS

0400002331 EQ ICX1X6

2341 17235000000000000000 TEN DATA 10.0

\*

\* X1,X2

2342 46000 ZROX7 NO

2343 56170 + SA1 B7

13777 BX7 X7-X7

0311002345 NZ X1,ZROX7A

2344 0100002057 RJ MORFREE

2345 54710 ZROX7A SA7 A1 . CREATE A NULL STRING VALUE

63710 SB7 X1 . AND RETURN ITS SVD IN X7

74110 SX1 A1

74710 SX7 A1

2346 20122 LX1 18

12117 BX1 X1+X7

7170000002 SX7 SSTY

2347 20767 LX7 55

12717 BX7 X1+X7

0400002342 EQ ZROX7

\* X0,X1,X2,X6,X7

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 55

MISCELLANEOUS SUBROUTINES

\*

2350 46000 SSTOSF NO

2351 43022 + MX0 18

76670 SX6 B7

20066 LX0 54

11020 BX0 X2\*X0 . LENGTH AND FIRST TO X6

2352 12606 BX6 X0+X6

43052 MX0 42

0400002355 EQ SSTOSF2

2353 53220 SSTOSF1 SA2 X2 . NEXT WORD IN SS

11702 BX7 X0\*X2

73220 SX2 X2

63710 SB7 X1

2354 0302002357 ZR X2,SSTOSF3 . BRANCH IF END LIST

12771 BX7 X7+X1

54710 SA7 A1

2355 56170 SSTOSF2 SA1 B7 . NEXT FREE WORD TO X1

0301002361 ZR X1,SSTOSF4 . BRANCH IF

73110 SX1 X1

2356 0400002353 EQ SSTOSF1

2357 74110 SSTOSF3 SX1 A1

54710 SA7 A1

20122 LX1 18

12661 BX6 X6+X1

2360 0400002350 EQ SSTOSF

2361 0100002057 SSTOSF4 RJ MORFREE

2362 73110 SX1 X1

0400002353 EQ SSTOSF1

\*

2363 74410 ITOSF4 SX4 A1

54610 SA6 A1 . STORE LAST WORD

20422 LX4 18

12674 BX6 X7+X4 . ADD LWA TO THE SVD

2364 00000000000000000000 ITOSF DATA 0 . ENTRY POINT

2365 13000 BX0 X0-X0 . INITIALIZE CHARACTER COUNT

0100002331 RJ ICX1X6 . CONVERT INTEGER INTO DISPLAY

2366 13333 BX3 X3-X3 . INITIALIZE SIGN TO POSITIVE

43266 MX2 54

7117000000 SX1 B7+0 . FIRST FOR SVD

2367 0327002372 PL X7,ITOSF1 . BRANCH IF POSITIVE

7140000046 SX4 1R-

2370 15362 BX3 -X2\*X6 . 10TH DIGIT MAY OVERFLOW TO X3

11662 BX6 X6\*X2

20466 LX4 54

20666 LX6 54

2371 20344 LX3 36

12664 BX6 X6+X4 . INSERT - SIGN

7200000001 SX0 X0+1 . BUMP CHARACTER COUNT

2372 6230777770 ITOSF1 SB3 X0-7

20044 LX0 36 . ADD NUMBER OF CHARACTERS TO SVD

12710 BX7 X1+X0 .

2373 5117000000 ITOSF2 SA1 B7+0 . GET A FREE WORD

0311002375 NZ X1,ITOSF3

2374 0100002057 RJ MORFREE

2375 63710 ITOSF3 SB7 X1

73110 SX1 X1

0603002363 GE B0,B3,ITOSF4 . BRANCH IF THE NUMBER FITS INTO A

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 56

MISCELLANEOUS SUBROUTINES

2376 43052 MX0 42 . SINGLE WORD

15260 BX2 -X0\*X6 . OTHERWISE STORE THE FIRST SEVEN

11606 BX6 X0\*X6 . CHARACTERS

12661 BX6 X6+X1 . AND REPEAT THE LOOP WITH THE

2377 54610 SA6 A1 . REMAINING ONES

20252 LX2 42

12623 BX6 X2+X3

67303 SB3 B0-B3 . MAKE B3 NEGATIVE (ZERO IS OK)

2400 0400002373 EQ ITOSF2

2401 5116777776 ITOSFTP SA1 B6-1 . CONVERT TOP ENTRY IN

0100002364 RJ ITOSF . STACK FROM I TO SF

2402 7170000002 SX7 2

5166777776 SA6 B6-1

2403 56760 SA7 B6

0211000000 JP B1

\*

2404 17174000000000000000 HALF DATA 0.5

2405 17204000000000000000 ONE DATA 1.0

2406 17734430234712400000 TENTO13 DATA 1.0E13

\*

2407 0450002412 RTOSF0 ZR B5,RTOSF02 . STORE WORD

6155777771 SB5 B5-6

2410 20606 RTOSF01 LX6 6

12606 BX6 X0+X6

5000000001 SA0 A0+1 . CHARACTER COUNT

2411 0244000000 JP B4

2412 20622 RTOSF02 LX6 18

6150000044 SB5 36

56170 SA1 B7

2413 0311002414 NZ X1,RTOSF03

0100002057 RJ MORFREE

2414 73110 RTOSF03 SX1 X1

63710 SB7 X1

12616 BX6 X1+X6

54610 SA6 A1

2415 13666 BX6 X6-X6

0400002410 EQ RTOSF01

2416 00000000000000000000 RTOSF DATA 0 . REAL IN X1 TO SVD IN X6

2417 76770 SX7 B7 . START OF FREE CHAIN

5120000205 SA2 MINSTAT

13666 BX6 X6-X6 . X6 WILL BE CHARACTER BUFFER

2420 5272000000 SA7 X2+XWDREL

6150000052 SB5 42 . BIT COUNT FOR XHARACTER BUFFER

2421 56000 SA0 B0 . CHARACTER COUNT

66200 SB2 B0 . SCALE FACTOR

24401 NX4 X1

2422 6130000015 SB3 13 . SIGNIFICANT DIGIT COUNT

0304002447 ZR X4,RTOSF6 . ZERO IS ALREADY NORMALIZED.

2423 0321002426 PL X1,RTOSF1

7100000046 SX0 1R-

2424 14444 BX4 -X4

6140002426 SB4 RTOSF1

2425 0400002407 EQ RTOSF0 . OUTPUT MINUS SIGN

2426 5120002405 RTOSF1 SA2 ONE

5110005531 SA1 ONETENTH

2427 5130002341 SA3 TEN

2430 31042 RTOSF2 FX0 X4-X2

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 57

MISCELLANEOUS SUBROUTINES

0330002432 NG X0,RTOSF3 . R < 1.0

45443 RX4 X4/X3

2431 6122000001 SB2 B2+1

0400002430 EQ RTOSF2

2432 31041 RTOSF3 FX0 X4-X1

0320002434 PL X0,RTOSF4

41434 RX4 X3\*X4

2433 6122777776 SB2 B2-1

0400002432 EQ RTOSF3

2434 5110002406 RTOSF4 SA1 TENTO13

41541 RX5 X4\*X1

2435 5140002404 SA4 HALF

30445 FX4 X4+X5

26414 UX4 B1,X4

2436 22414 LX4 B1,X4

27404 PX4 X4

24404 NX4 X4

45441 RX4 X4/X1

2437 31142 FX1 X4-X2

0331002441 NG X1,RTOSF45

45443 RX4 X4/X3

2440 6122000001 SB2 B2+1

2441 0602002447 RTOSF45 LE B2,B0,RTOSF6 . R WAS < 1.0

6140002442 SB4 RTOSF5

2442 0420002451 RTOSF5 ZR B2,RTOSF8 . INTEGER PART CONVERTED

6122777776 SB2 B2-1

2443 6133777776 SB3 B3-1

0730002450 NG B3,RTOSF7 . OUTPUT A ZERO

2444 40543 FX5 X4\*X3 . R\*10.0

26015 UX0 X5,B1

22010 LX0 X0,B1

27700 PX7 X0

2445 7200000033 SX0 X0+1R0

24707 NX7 X7

31457 FX4 X5-X7

2446 24404 NX4 X4

0400002407 EQ RTOSF0 . OUTPUT DIGIT

2447 6140002451 RTOSF6 SB4 RTOSF8

2450 7100000033 RTOSF7 SX0 1R0

0400002407 EQ RTOSF0

2451 7100000057 RTOSF8 SX0 1R.

6140002453 SB4 RTOSF9

2452 0400002407 EQ RTOSF0

2453 6122000001 RTOSF9 SB2 B2+1

0602002450 LE B2,B0,RTOSF7 . OUTPUT A ZERO

2454 0603002461 LE B3,B0,RTOSF10 . FINISHED

6133777776 SB3 B3-1

2455 40543 FX5 X4\*X3 . R\*10.0

26015 UX0 X5,B1

22010 LX0 X0,B1

27700 PX7 X0

2456 7200000033 SX0 X0+1R0

24707 NX7 X7

31457 FX4 X5-X7

2457 24404 NX4 X4

0314002407 NZ X4,RTOSF0 . FINISHED

2460 6140002461 SB4 RTOSF10

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 58

MISCELLANEOUS SUBROUTINES

0400002407 EQ RTOSF0

2461 5120000205 RTOSF10 SA2 MINSTAT

0306002465 ZR X6,RTOSF12 . NO CHARS TO STORE

2462 6155000022 SB5 B5+18

22656 LX6 B5,X6

56170 SA1 B7

2463 0311002464 NZ X1,RTOSF11

0100002057 RJ MORFREE

2464 5061000000 RTOSF11 SA6 A1+0

6271000000 SB7 X1+0

2465 5212000000 RTOSF12 SA1 X2+XWDREL . FWA

74660 SX6 A6 . LWA

20622 LX6 18

2466 12616 BX6 X1+X6

74500 SX5 A0 . CHAR COUNT

20544 LX5 36

12656 BX6 X5+X6

2467 13777 BX7 X7-X7

54710 SA7 A1 . ZERO XWDREL

0400002416 EQ RTOSF . RETURN

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 59

OPERAND TO THE TOP OF THE STACK

2470 7241000000 X1VALUE SX4 X1+0

7261000000 SX6 X1+0

2471 6110000455 SB1 SNDMIC

5160000250 SA6 UA . SAVE ADDRESS FOR PMCHEK

\* RETURN IS IN B1

2472 53140 SOPERND SA1 X4 . SVD OF OPERAND TO X1

5120002476 SA2 OPRNDWD . SWITCH ON TYPE (CF. CHEK)

10311 BX3 X1

2473 21167 AX1 55

20102 LX1 2

63410 SB4 X1

43070 MX0 56

2474 23242 AX2 B4,X2

15220 BX2 -X0\*X2

6232000000 SB3 X2+0

2475 0233002477 JP B3+OPRNDSW

\*

2476 31200000344 OPRNDWD SWITCH OPRNDSW,0,0,1,1,4,4,4,2,7,0,0,0,0,5,6

\*

2477 43005 + MX0 5 . 0, A,D,N,C

10633 BX6 X3

0400002507 EQ OPRNDR1

2500 43005 + MX0 5 . 1, SS,SI

10644 BX6 X4

0400002507 EQ OPRNDR1

2501 43005 + MX0 5 . 2, I

10633 BX6 X3

20606 LX6 6 . EXTEND THE SIGN

21606 AX6 6

2502 0400002507 EQ OPRNDR1

2503 43005 + MX0 5 . 4, PS,PE,PA

11603 BX6 X0\*X3

0400002512 EQ OPRNDP

2504 56010 + SA0 B1 . 5, IN

10544 BX5 X4

0400002516 EQ OPRNDIN

2505 0400002521 + EQ OPRNDOT . 6, OUT

2506 5213000000 + SA1 X3+0 . 7, R

43005 MX0 5

10611 BX6 X1

2507 5100000002 OPRNDR1 SA0 2 . RESERVE 2 LOCATIONS IN THE STACK

0100002052 RJ RESERVE

2510 74200 OPRNDR2 SX2 A0

11703 BX7 X0\*X3 . HEADING TO X7

5166777776 SA6 B6-1 . STORE SECONDARY WORD FROM X6

2511 12772 BX7 X7+X2

56760 SA7 B6

0211000000 JP B1+0 . RETURN

\*

2512 21344 OPRNDP AX3 36 . PATTERN TYPE OPERAND

73330 SX3 X3 . PARAMETER TO X3

0100002317 RJ PTOPX4 . LOAD PATTERN TO THE STACK

2513 20322 LX3 18

5100000001 SA0 1 . RESERVE ONE WORD FOR HEADING

12663 BX6 X6+X3 . FORM HEADING IN X6 AND X3

2514 65303 SB3 A0-B3 . B3 GOT ITS VALUE IN PTOPX4

76363 SX3 B6+B3

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 60

OPERAND TO THE TOP OF THE STACK

0100002052 RJ RESERVE

2515 12663 BX6 X6+X3

56660 SA6 B6 . STORE HEADING

0211000000 JP B1+0 . RETURN

\*

2516 0100002524 OPRNDIN RJ FREESVD . OPERAND INPUT ASSOCIATED

2517 63350 SB3 X5

0100004364 RJ INPUT . CALL INPUT

2520 7245000000 SX4 X5+0

6010000000 SB1 A0+0 . RESTORE REGISTERS

2521 5100000002 OPRNDOT SA0 2 . ALSO FOR OUTPUT

0100002052 RJ RESERVE

2522 53140 SA1 X4 . MAKE A COPY OF THE RESULTING

53210 SA2 X1 . STRING AND USE ITS SF TYPE

0100002350 RJ SSTOSF . DESCRIPTION INSTEAD

2523 13333 BX3 X3-X3

0400002510 EQ OPRNDR2

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 61

ASSIGNMENT TO A SIMPLE VARIABLE

\* X0,X1,X2,X3,X4,X7,B3,B4,X6 IF IO

\*

2524 46000 FREESVD NO

2525 53130 + SA1 X3 . SVD TO BE FREED TO X1

5120002531 SA2 FSVDWD

43070 MX0 56

2526 0301002524 ZR X1,FREESVD . RETURN IF EMPTY

10411 BX4 X1 . SWITCH ON TYPE (CF. CHEK)

21167 AX1 55

2527 20102 LX1 2

63410 SB4 X1

23242 AX2 B4,X2

15220 BX2 -X0\*X2

2530 63320 SB3 X2

0233002532 JP B3+FSVDSW

\*

2531 10410421002 FSVDWD SWITCH FSVDSW,0,0,3,0,3,3,3,1,0,1,1,1,1,2,2

\*

2532 76770 + SX7 B7 . 0, R

63740 SB7 X4

5274000000 SA7 X4+0

2533 0400002524 + EQ FREESVD . 1, N,A,D,C

2534 67404 + SB4 B0-B4 . 2, IN,OUT

5244000000 SA4 X4+0

2535 76770 + SX7 B7 . 3, SS,PS,PE,PA

63740 SB7 X4

21422 AX4 18

53740 SA7 X4

2536 0400002524 EQ FREESVD

\*

\*

2537 46000 SASSIGN NO

2540 43070 + MX0 56

56120 SA1 B2 . FETCH HEADING OF THE VALUE

5120002544 SA2 SASGNWD . TO BE ASSIGNED

2541 10411 BX4 X1 . SWITCH ON ITS TYPE

21167 AX1 55

20102 LX1 2

63310 SB3 X1

2542 23232 AX2 B3,X2

15220 BX2 -X0\*X2

63320 SB3 X2

2543 0233002545 JP B3+SASGNSW

\*

2544 00114631714 SASGNWD SWITCH SASGNSW,4,0,1,12,11,11,11,6,14,9,9,9,9,0,0

\*

2545 63340 + SB3 X4 . 0, S

67323 SB3 B2-B3

0400002604 EQ SASGNS

2546 5142777776 SA4 B2-1 . 1, SS

5224000000 SA2 X4+0

2547 0100002350 RJ SSTOSF

2550 5110000216 SA1 MXLNGTH

0400002606 EQ SASGNSF

2551 5122777776 + SA2 B2-1 . 4, SF

5110000216 SA1 MXLNGTH

2552 10622 BX6 X2

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 62

ASSIGNMENT TO A SIMPLE VARIABLE

0400002606 EQ SASGNSF

2553 7120000007 + SX2 ITY . 6, I

5112777776 SA1 B2-1

2554 20267 SASGNI1 LX2 55

43006 MX0 6

15110 BX1 -X0\*X1

12612 BX6 X1+X2

2555 0400002567 EQ SASGN2

2556 5112777776 + SA1 B2-1 . 9, A,D,N,C

10611 BX6 X1

2557 0400002567 EQ SASGN2

2560 0400002611 + EQ SASGNP . 11, P

2561 5142777776 + SA4 B2-1 12, SI

5214000001 SA1 X4+1

2562 7120000007 SX2 ITY

0400002554 EQ SASGNI1

2563 5122777776 + SA2 B2-1 14, R

56170 SA1 B7

10622 BX6 X2

2564 0311002565 NZ X1,SASGNR1 . GET A FREE WORD AND STORE

0100002057 RJ MORFREE . THE REAL VALUE THERE

2565 6271000000 SASGNR1 SB7 X1+0

5061000000 SA6 A1+0

2566 7071777775 SX7 A1-2

36674 IX6 X7+X4

2567 0100002524 SASGN2 RJ FREESVD . COMMON PART, NEW DESCR. IS IN X6

2570 0740002572 LT B4,B0,SASGNIO . BRANCH IF IO ASSOCIATED

\*

\* TRACER CODE MAY BE INSERTED HERE

\*

5263000000 SA6 X3+0 . PERFORM ACTUAL ASSIGNMENT

2571 0400002537 EQ SASSIGN . AND RETURN

\*

2572 53130 SASGNIO SA1 X3 . I/O ASSOCIATED

6144000064 SB4 B4+INTY\*4

53610 SA6 X1 . PERFORM ASSIGNMENT

\*

\* TRACER CODE HERE TOO

\*

2573 0404002537 TRACER2 EQ B0,B4,SASSIGN . READY IF INPUT

10166 BX1 X6 . TEST TYPE TO BE OUTPUT

21667 AX6 55

2574 7266777775 SX6 X6-SSTY . CHECK FOR STRING TYPE

0316002577 NZ X6,SASGNO1

2575 63330 SASGNO2 SB3 X3

0100004512 RJ OUTPUT . CALL OUTPUT

2576 0400002537 EQ SASSIGN . AND RETURN

\*

2577 63430 SASGNO1 SB4 X3 . TEST TYPE TO BE OUTPUT

20106 LX1 6 . MASK VALUE PART OFF

7276777772 SX7 X6-ITY+SSTY

2600 0317000350 NZ X7,ERR52 . ERROR IF NOT INTEGER

64260 SB2 A6 . SAVE X3,A6

21106 AX1 6 . EXTEND THE SIGN

2601 0100002364 RJ ITOSF . CONVERT IT INTO STRING

2602 7100000002 SX0 SSTY

20067 LX0 55

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 63

ASSIGNMENT TO A SIMPLE VARIABLE

76340 SX3 B4

2603 12660 BX6 X6+X0 . STORE SS TYPE RESULT

56620 SA6 B2

0400002575 EQ SASGNO2 . GO AND OUTPUT IT

\*

2604 6122777776 SASGNS SB2 B2-1 . PROCESS S TYPE

6133000001 SB3 B3+1 . BY CONVERTING IT INTO SF FORM

2605 0100002300 RJ STOSFX6

2606 10766 SASGNSF BX7 X6 . PROCESS SF TYPE

21644 AX6 36 . LENGTH OF STRING TO X6

7100000002 SX0 SSTY

2607 37116 IX1 X1-X6

20067 LX0 55

12607 BX6 X0+X7 . ADD SS TYPE TO DESCRIPTION

2610 0321002567 PL X1,SASGN2 . GO TO ASSIGN IT

0400001247 EQ ERR18 . ERROR IF STRING IS TOO LONG

\*

2611 43005 SASGNP MX0 5 . PROCESS P TYPE

63340 SB3 X4

76170 SX1 B7 . FIRST

11704 BX7 X0\*X4

2612 43052 MX0 42

21422 AX4 18 . PARAMETER OF PA

67323 SB3 B2-B3

12771 BX7 X7+X1 . PACK FIRST AND TYPE TO X7

2613 15440 BX4 -X0\*X4

6133000001 SB3 B3+1

20444 LX4 36

2614 5117000000 SASGNP1 SA1 B7+0 . GET NEXT FREE WORD

0311002616 NZ X1,SASGNP2

2615 0100002057 RJ MORFREE

2616 56230 SASGNP2 SA2 B3 . FETCH PATTER WORD

10622 BX6 X2

20222 LX2 18

12662 BX6 X6+X2 . SHIFT ADDRESS 18 BITS TO THE LEFT

2617 11660 BX6 X6\*X0 . TO MAKE SPACE FOR LINK

6133000001 SB3 B3+1

2620 0423002622 EQ B2,B3,SASGNP3 . END LOOP

73110 SX1 X1

63710 SB7 X1

2621 12661 BX6 X6+X1 . ADD LINK TO THE WORD

54610 SA6 A1 . AND STORE

0400002614 EQ SASGNP1

2622 54610 SASGNP3 SA6 A1 . STORE LAST WORD WITH 0 LINK

63710 SB7 X1

74110 SX1 A1

12774 BX7 X7+X4

2623 20122 LX1 18 . PACK PA PARAMETER AND LAST

12671 BX6 X7+X1 . INTO THE DESCRIPTOR

0400002567 EQ SASGN2 . GO TO ASSIGN IT

\*

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 64

INDIRECT SEARCH

\*

2624 46000 INDRCT NO

2625 5120002627 + SA2 INDCWD . SWITCH ON THE TYPE OF TOPOPERAND

6130002630 SB3 INDCSW

2626 0400000526 EQ CHEK

\*

2627 00000400006 INDCWD SWITCH INDCSW,5,4,6,6,0,0,0,3,0,0,0,1,0,0,0

\*

2630 6150000041 + ERROR 33 . 0, P,A,D,C,R

2631 5116777776 + SA1 B6-1 . 1, N

6166777775 SB6 B6-2 . RETURN NAME AND REMOVE TOPOPERAND

2632 73110 SX1 X1

0400002624 EQ INDRCT

2633 0100002255 + RJ ITOS . 3, I

2634 0100000540 + RJ SCATS . 4, S

2635 5146777776 + SA4 B6-1 . 5, SF

0400002637 EQ INDR1

2636 5146777776 + SA4 B6-1 . 6, SS,SI

5244000000 SA4 X4+0

2637 7100000036 INDR1 SX0 VARTYP . SET UP SEARCH CALL FOR A VARIABLE

0100002645 RJ INDRX

2640 0530002642 NE B3,B0,INDR8

0100002342 RJ ZROX7 . ASSIGN NULL VALUE

2641 7213000001 SX1 X3+1 . IF NEW VARIABLE

5273000001 SA7 X3+1

2642 6166777775 INDR8 SB6 B6-2

0540002624 NE B4,B0,INDRCT . END IF NOT SF

2643 76770 SX7 B7

63740 SB7 X4

21422 AX4 18

53740 SA7 X4

2644 0400002624 EQ INDRCT

\*

\*

2645 46000 INDRX NO

2646 10144 + BX1 X4

63540 SB5 X4

21144 AX1 36

20067 LX0 55

2647 6231000000 SB3 X1+0 . LENGTH TO B3

0430000326 EQ B3,B0,ERR27 . ERROR IF NULL STRING

2650 0100002675 RJ SEARCH

2651 0311002645 NZ X1,INDRX . BRANCH IF FOUND

5130002674 SA3 FLSIX . (NO. OF CHARACTERS/WORD) - 1, =6.0

2652 76530 SX5 B3

27105 PX1 X5

30113 FX1 X1+X3

2653 5130002673 SA3 SEVEN . =7.0

44113 FX1 X1/X3

26621 UX6 X1,B2

2654 5130000204 SA3 MAXSTAT

22626 LX6 X6,B2

12732 BX7 X3+X2 . NUMBER OF TEXT WORDS+MAXSTAT TO X7

2655 54720 SA7 A2

36763 IX7 X6+X3

2656 5140000207 INDR2 SA4 MINSTAK

7277000002 SX7 X7+2 . ALLOW FOR BYPASS WORD AND SVD

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 65

INDIRECT SEARCH

2657 37474 IX4 X7-X4

54730 SA7 A3 . STORE NEW MAXSTAT

0334002661 NG X4,INDR3 . BRANCH IF THERE IS ENOUGH ROOM

2660 6234000050 SB3 X4+BUFF4 . ROUND UP APPETITE

0100002042 RJ PUSHSTK . MAKE ROOM IN STATIC

2661 5146777776 INDR3 SA4 B6-1 . FETCH OPERAND AFRESH

0440002663 EQ B4,B0,INDR5 . BYPASS IF SF

2662 53440 SA4 X4

2663 7213000003 INDR5 SX1 X3+3

73640 SX6 X4

20544 LX5 36 . SHIFT STRING LENGT8 FOR HEADING

2664 53260 INDR6 SA2 X6 . NEXT WORD

7262000000 SX6 X2+0

13726 BX7 X2-X6

2665 0306002670 ZR X6,INDR7 . END OF LIST

12771 BX7 X7+X1

2666 5271777776 SA7 X1-1 . STORE WORD IN STATIC

7211000001 SX1 X1+1

2667 0400002664 EQ INDR6

2670 12605 INDR7 BX6 X0+X5 . HEADING FOR VARIABLE-TYPE RECORD

5271777776 SA7 X1-1 . STORE LAST WORD

37713 IX7 X1-X3

2671 20722 LX7 18

12667 BX6 X6+X7

7213000001 SX1 X3+1

2672 53630 SA6 X3 . STORE HEADING

66300 SB3 B0 . INDICATE NEW RECORD IN B3

0400002645 EQ INDRX

\*

2673 17227000000000000000 SEVEN DATA 7.0 . NUMBER OF CHARACTERS IN A WORD

2674 17226000000000000000 FLSIX DATA 6.0

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 66

SEARCH ROUTINE

\* X0,X1,X2,X3,X6,X7,B2,B3,B5

\*

2675 46000 SEARCH NO

2676 43752 + MX7 42 . X7 IS A MASK AND A FLAG

13222 BX2 X2-X2

66250 SB2 B5

43602 MX6 2

2677 20672 LX6 58

11606 BX6 X0\*X6 . BYPASS IF TYPE IS NOT INTEGER

0316002702 NZ X6,SEARCH1 . OR REAL CONSTANT

2700 56250 SA2 B5

43714 MX7 12

15227 BX2 -X7\*X2 . MASK 48 BITS OFF

13777 BX7 X7-X7 . SET FLAG

2701 0400002704 EQ SEARCH2

2702 56120 SEARCH1 SA1 B2 . OTHERWISE EXOR THE WORDS IN

6221000000 SB2 X1+0 . THE NAME TOGETHER

13221 BX2 X2-X1

2703 0520002702 NE B2,B0,SEARCH1

11227 BX2 X2\*X7 . AND MASK 42 BITS OFF

20252 LX2 42

2704 5130000110 SEARCH2 SA3 HASHLWD . THE HASH FUNCTION IS A SIMPLE

27202 PX2 X2 . INTEGER DIVISION

44123 FX1 X2/X3

2705 26121 UX1 X1,B2

22121 LX1 X1,B2

27101 PX1 X1

24101 NX1 X1

2706 40313 FX3 X1\*X3

31223 FX2 X2-X3

26222 UX2 X2,B2

22222 LX2 X2,B2 . HASHTABLE INDEX IS IN X2

2707 43605 MX6 5 . START OF THE CHAIN OF NAMES WITH

5222000111 SA2 X2+HASHTBL . THIS HASHCODE TO X1

2710 73120 SEARCH3 SX1 X2 . SEARCH LOOP

0301002675 ZR X1,SEARCH . END OF THE CHAIN RETURN NOT FOUND

53210 SA2 X1

2711 10322 BX3 X2

21344 AX3 36

63230 SB2 X3 . CHECK LENGTH OF NAME

2712 0523002710 NE B2,B3,SEARCH3

13302 BX3 X0-X2

11336 BX3 X3\*X6 . CHECK TYPE

2713 0313002710 NZ X3,SEARCH3

6022000002 SB2 A2+2

2714 0327002722 PL X7,SEARCH5 . BYPASS IF INTEGER OR REAL CONST.

76150 SX1 B5

2715 73110 SEARCH4 SX1 X1

0301002710 ZR X1,SEARCH3 . END OF THE NAME

56320 SA3 B2

2716 53110 SA1 X1 . NEXT WORD IN NAME

63230 SB2 X3

13313 BX3 X1-X3

11337 BX3 X3\*X7 . COMPARE THE CHARACTERS ONLY

2717 0313002710 NZ X3,SEARCH3

0502002715 NE B0,B2,SEARCH4 . THERE ARE MORE WORDS

2720 73110 SX1 X1

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 67

SEARCH ROUTINE

0311002710 NZ X1,SEARCH3

2721 7012000001 SEARCH6 SX1 A2+1 . RETURN FOUND

0400002675 EQ SEARCH

2722 56150 SEARCH5 SA1 B5 . FOR CONSTANTS COMPARE VALUES

56320 SA3 B2

13313 BX3 X1-X3

2723 0313002710 NZ X3,SEARCH3

0400002721 EQ SEARCH6

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 68

PATTERN MATCHING

2724 46000 ENTERA NO

2725 7205000000 + SX0 X5+0 . THE NEXT ELEMENT IS THE ELEMENT

5120002724 SA2 ENTERA . AFTER THE ALTERNATIVE

2726 0330002732 NG X0,ENTER1

6240000000 SB4 X0+0

2727 0400002732 EQ ENTER1

\*

2730 46000 ENTER NO . RECURSIVE CALL

2731 46000 + NO

5120002730 SA2 ENTER

2732 6166000004 ENTER1 SB6 B6+4

0756002743 LT B5,B6,PMBUMP . BRANCH IF THERE IS NO SPACE

2733 10622 PMBUMPR BX6 X2 . STORE X5,X4,THE RETURN JUMP

5176777776 SA7 B6-1 . AND X7 IN THE STACK

56660 SA6 B6

2734 10644 BX6 X4

10755 BX7 X5

5166777774 SA6 B6-3

2735 5176777775 SA7 B6-2

5150000224 SA5 PIB

2736 7121000000 SX2 B1+0

20522 LX5 18

12525 BX5 X2+X5

2737 43001 MX0 1

20522 LX5 18

12550 BX5 X5+X0

\*

2740 7100000001 NEXT SX0 1 . SET NO ALTERNATIVE

20021 LX0 17

12505 BX5 X0+X5

2741 56140 NEXT1 SA1 B4 . NEXT PM OPERATION TO X1

0371003024 ID X1,YDOL . IGNORE DOLPM OR PRDPM

26121 UX1 X1,B2

2742 0222003157 JP B2+YSTAR

\*

2743 7100000002 PMBUMP SX0 SSTY . STORE AN S TYPE DESCRIPTION OF

5110000205 SA1 MINSTAT . STACKS S AND P IN STATIC SUCH

2744 20067 LX0 55 . THAT THE GARBAGE COLLECTION

12630 BX6 X3+X0 . WILL BE ABLE TO CHANGE THEM.

5261000001 SA6 X1+SIXREL

2745 10655 BX6 X5

5160002760 SA6 SKMRAR5

2746 5150000245 SA5 PMA5 . RESTORE A5 FOR ERRORMESSAGE

5255000000 SA5 X5+0

2747 5130000222 SA3 PIX

12630 BX6 X3+X0

74300 SX3 A0

2750 5261000000 SA6 X1+PIXREL

6123000001 SB2 B3+1 . DESCRIBE IN A0 WHERE THE LAST

2751 57062 SA0 B6-B2 . NORMAL STACK ENTRY CAN BE FOUND

0100002112 RJ GETSTAK

2752 5110000206 SA1 MAXSTAK

53030 SA0 X3

63510 SB5 X1

2753 5110000205 SA1 MINSTAT

5231000000 SA3 X1+PIXREL . CLEAR USED LOCATIONS

2754 73630 SX6 X3

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 69

PATTERN MATCHING

5211000001 SA1 X1+SIXREL

2755 5160000222 SA6 PIX . RESTORE STACK POINTERS

73310 SX3 X1

13666 BX6 X6-X6

2756 54630 SA6 A3

54610 SA6 A1

5150002760 SA5 SKMRAR5

2757 0400002733 EQ PMBUMPR

2760 1 SKMRAR5 BSSZ 1

\*

2761 5110000225 ALTLFM SA1 LENFAIL

15551 BX5 -X1\*X5

2762 0400002764 EQ ALTLF

2763 43001 ALT MX0 1 . ALTERNATE WITHOUT LENGTH FAILURE

15550 BX5 -X0\*X5

2764 7170002740 ALTLF SX7 NEXT . SIGN BIT IN X5 IS ONE IFF ALL

73150 SX1 X5 . ALTERNATIVES LENGTH FAILED

2765 0321002767 PL X1,SETSIPI

43001 MX0 1

15605 BX6 -X5\*X0

2766 5160000225 SA6 LENFAIL

0400003273 EQ EXIT

\*

2767 5110000224 SETSIPI SA1 PIB . OPEN SUBROUTINE TO RESET S AND P

0301002777 ZR X1,ALTLF5

2770 5120000222 SA2 PIX . STACK POINTERS

6221000000 SB2 X1+0 . THESE STACKS CONSTITUTE TWO LIST

2771 20530 LX5 24 . STRUCTURES

7215000000 SX1 X5+0

20544 LX5 36

2772 77002 ALTLF1 SX0 B0-B2 . RESET STACK P

36001 IX0 X0+X1

0300002775 ZR X0,ALTLF2

2773 53220 SA2 X2

76670 SX6 B7 . LINK FREED WORD TO THE FREE CHAIN

64720 SB7 A2

54620 SA6 A2

2774 6122777776 SB2 B2-1 . B2 IS THE NUMBER OF WORDS IN

0400002772 EQ ALTLF1 . STACK P

2775 7261000000 ALTLF2 SX6 X1+0

5061000000 SA6 A1+0 . STORE B2 IN PIB

2776 73620 SX6 X2

5160000222 SA6 PIX

2777 20552 ALTLF5 LX5 42

7215000000 SX1 X5+0

20522 LX5 18

3000 67201 ALTLF3 SB2 B0-B1 . RESET STACKS

63212 SB2 X1+B2

0402003003 EQ B0,B2,ALTLF4

3001 53330 SA3 X3

76670 SX6 B7 . AS ABOVE

64730 SB7 A3

54630 SA6 A3

3002 6111777776 SB1 B1-1 . B1 IS RESERVED FOR THE NUMBER OF

0400003000 EQ ALTLF3 . WORDS IN STACK S

3003 73330 ALTLF4 SX3 X3

63270 SB2 X7

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 70

PATTERN MATCHING

0222000000 JP B2

\*

3004 0311001431 YENDEX NZ X1,PMFOUND . FOUND IF OUERMOST END

6144000001 SB4 B4+1

3005 53230 SA2 X3

10622 BX6 X2

21244 AX2 36

63220 SB2 X2

3006 0302003010 ZR X2,YENDEX1 . UNLESS ARBNO CALLED

56140 SA1 B4

74200 SX2 A0

3007 0361003010 DF X1,YENDEX1 . PERFORM ASSIGNMENTS

0100003300 RJ ASSIGNS

3010 76770 YENDEX1 SX7 B7 . REMOVE TOP ELEMENT FROM

63730 SB7 X3 . STACK S

73360 SX3 X6

56770 SA7 B7

3011 21622 AX6 18

6111777776 SB1 B1-1

3012 5216777776 SA1 X6-1

26121 UX1 X1,B2

63460 SB4 X6

3013 0520003015 NE B2,B0,YENDEX2 . IF STAR CALLED

10266 BX2 X6

21222 AX2 18

3014 63220 SB2 X2

74200 SX2 A0

0100003300 RJ ASSIGNS

3015 76740 YENDEX2 SX7 B4 . SAVE WORD FROM STACK S IN X4

10466 BX4 X6 .

74000 SX0 A0

20722 LX7 18

3016 12707 BX7 X0+X7

63460 SB4 X6

0100002730 RJ ENTER . RECURSIVE CALL

3017 10644 BX6 X4

20622 LX6 18

56170 SA1 B7

12663 BX6 X6+X3 . RESTORE X4 INTO STACK S

3020 0311003021 NZ X1,YENDEX3

0100002057 RJ MORFREE

3021 56670 YENDEX3 SA6 B7

63710 SB7 X1

6111000001 SB1 B1+1

3022 74360 SX3 A6

0400003273 EQ EXIT

3023 73114 YALTER SX1 X1+B4 . PACK ADDRESS OF ALTERNATIVE

43052 MX0 42 . INTO X5

11550 BX5 X5\*X0

12551 BX5 X5+X1

3024 6144000001 YDOL SB4 B4+1 . NEXT OPERATION

0400002741 EQ NEXT1

\*

3025 7164000001 YEXP SX6 B4+1 . BEGIN EXPRESSION

63414 SB4 X1+B4

3026 6111000001 SB1 B1+1

6120003034 SB2 YEXPR

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 71

PATTERN MATCHING

3027 56170 POPS SA1 B7 . STACK INDEX AND POS IN STACK S

74700 SX7 A0 . (OPEN SUBROUTINE IS USED BY

73250 SX2 X5 . YSTAR AS WELL)

20722 LX7 18

3030 0311003031 NZ X1,POPS1

0100002057 RJ MORFREE

3031 0322003032 POPS1 PL X2,POPS2

7124000000 SX2 B4+0

3032 12772 POPS2 BX7 X7+X2

63710 SB7 X1

20722 LX7 18

12773 BX7 X7+X3

3033 54710 SA7 A1

0222000000 JP B2

3034 74310 YEXPR SX3 A1

76740 SX7 B4

74000 SX0 A0 . SET UP CALL TO MATCH THE

20722 LX7 18 . EXPRESSION

3035 63460 SB4 X6

12770 BX7 X7+X0

0100002730 RJ ENTER

3036 0400002761 EQ ALTLFM

\*

3037 6144000001 YARB SB4 B4+1 . ARB PATTERN ELEMENT

74400 SX4 A0

3040 56140 YARB1 SA1 B4

0361003042 DF X1,YARB2

73240 SX2 X4

3041 64200 SB2 A0

0100003300 RJ ASSIGNS

3042 76740 YARB2 SX7 B4

74000 SX0 A0

20722 LX7 18

53040 SA0 X4

3043 12770 BX7 X7+X0

0100002724 RJ ENTERA . TRY TO MATCH THE REST OF THE

3044 5110000225 SA1 LENFAIL . PATTERN

6224000000 SB2 X4+0 . EXTEND THE STRING MACHED

3045 7244000001 SX4 X4+1

0732002763 LT B3,B2,ALT . TOO LONG

3046 0301002763 ZR X1,ALT

7170003040 SX7 YARB1 . RESET STACKS AND TRY AGAIN

3047 0400002767 EQ SETSIPI

\*

3050 6020777776 YLEN SB2 A0-1 . LEN PATTERN ELEMENT

6144000001 SB4 B4+1

3051 63212 SB2 X1+B2

0732002764 LT B3,B2,ALTLF . TOO LONG

3052 5114000000 SA1 B4+0

7162000001 SX6 B2+1

3053 0361003073 DF X1,ENTERX6

73260 SX2 X6

64200 SB2 A0

3054 0400003072 EQ YTAB1 . GO TRY TO MATCH THE REST

\*

3055 5120000226 YPOS SA2 SBASE . POS PATTERN ELEMENT

6144000001 SB4 B4+1

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 72

PATTERN MATCHING

3056 7070777776 YPOS1 SX7 A0-1

36112 IX1 X1+X2 . CORE ADDRESS OF POSITION TO X1

37117 IX1 X1-X7

3057 0331002764 NG X1,ALTLF . POS ALREADY LEFT BEHIND

0311002763 NZ X1,ALT . POS NOT REACHED YET

3060 56140 SA1 B4

74600 SX6 A0

0361003073 DF X1,ENTERX6

3061 64200 SB2 A0

74200 SX2 A0

0400003072 EQ YTAB1 . GO TRY TO MATCH THE REST

\*

3062 14111 YRPOS BX1 -X1 . RPOS PATTERN ELEMENT

6144000001 SB4 B4+1

76230 SX2 B3 . TRANSFORM INTO POS

3063 0400003056 EQ YPOS1

\*

3064 5120000226 YTAB SA2 SBASE . TAB PATTERN ELEMENT

6144000001 SB4 B4+1

3065 36112 YTAB2 IX1 X1+X2

64200 SB2 A0

7261000001 SX6 X1+1

3066 67202 SB2 B0-B2

63262 SB2 X6+B2

0720002764 LT B2,B0,ALTLF . TAB-STOP IS LEFT ALREADY

3067 63210 SB2 X1

5114000000 SA1 B4+0

3070 0732002764 LT B3,B2,ALTLF

0361003073 DF X1,ENTERX6

3071 64200 SB2 A0

10266 BX2 X6

3072 0100003300 YTAB1 RJ ASSIGNS .

3073 76740 ENTERX6 SX7 B4 . TRY TO MATCH THE REST

74100 SX1 A0

20722 LX7 18

53060 SA0 X6

3074 12771 BX7 X7+X1

0100002724 RJ ENTERA

3075 0400002761 EQ ALTLFM . SEEK ALTERNATE IF MATCH FAILS

\*

3076 14111 YRTAB BX1 -X1 . RTAB PATTERN ELEMENT

76230 SX2 B3 . TRANSFORM INTO TAB

6144000001 SB4 B4+1

3077 0400003065 EQ YTAB2

\*

3100 5114000001 YREM SA1 B4+1 . REM PATTERN ELEMENT

6144000001 SB4 B4+1

3101 7163000001 SX6 B3+1

0361003073 DF X1,ENTERX6 . REST OF THE PATTERN WILL HAVE

3102 64200 SB2 A0 . TO MACH THE NULL STRING

10266 BX2 X6

0400003072 EQ YTAB1

\*

3103 6144000001 YBAL SB4 B4+1 . BAL PATTERN ELEMENT

7140000000 SX4 0

3104 7160000052 YBAL1 SX6 1R)

7170000051 SX7 1R(

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 73

PATTERN MATCHING

3105 64200 SB2 A0 . NOTE THAT BAL NEVER SIGNALS LENGTH

63242 SB2 X4+B2 . FAILURE

0732002763 LT B3,B2,ALT . SEEK ALTERNATIVE IF END OF STRING

3106 56120 SA1 B2

13016 BX0 X1-X6

0300002763 ZR X0,ALT . MISMATCH IF NEXT CHARACTER IS )

3107 7100000000 SX0 0 . X0 IS THE LEVEL COUNTER

3110 56120 YBAL2 SA1 B2

13217 BX2 X1-X7

0312003112 NZ X2,YBAL3

3111 7200000001 SX0 X0+1 . IF ( ADD ONE

0400003114 EQ YBAL4

3112 13216 YBAL3 BX2 X1-X6

0312003114 NZ X2,YBAL4

3113 7200777776 SX0 X0-1 . IF ) SUBTRACT ONE

3114 6122000001 YBAL4 SB2 B2+1

0300003116 ZR X0,YBAL5 . LOOP UNTIL IT IS ZERO

3115 0732002763 LT B3,B2,ALT

0400003110 EQ YBAL2

3116 74400 YBAL5 SX4 A0

56140 SA1 B4

14444 BX4 -X4 . NUMBER OF CHARACTERS SCANNED

73442 SX4 X4+B2 . TO X4

3117 76620 SX6 B2

0361003121 DF X1,YBAL6

10266 BX2 X6

3120 64200 SB2 A0

0100003300 RJ ASSIGNS

3121 76140 YBAL6 SX1 B4 . SET UP RECURSIVE CALL

74700 SX7 A0

53060 SA0 X6

20122 LX1 18

3122 12717 BX7 X1+X7

0100002724 RJ ENTERA . TRY TO MATCH THE REST OF THE

3123 7170003104 SX7 YBAL1 . PATTERN

0400002767 EQ SETSIPI . IF FAILS GO TO EXTEND BAL

\*

3124 6144000001 YFAIL SB4 B4+1 . FAIL PATTERN ELEMENT

0400002763 EQ ALT . SEEK ALTERNATIVE

\*

3125 6144000001 YFENCE SB4 B4+1 . FENCE PATTERN ELEMENT

64200 SB2 A0

74200 SX2 A0

3126 0100003300 RJ ASSIGNS . IF THE REST OF THE PATTERN DOES

3127 0100002724 RJ ENTERA . NOT MACH THEN

\*

3130 0400001425 YABORT EQ PMABT . ABORT THE WHOLE PATTERN MATCH

\*

3131 76440 YARBNO SX4 B4 . ARBNO PATTERN ELEMENT

63414 SB4 X1+B4

5224000001 SA2 X4+1

3132 74700 SX7 A0

73620 SX6 X2

0306002763 ZR X6,ALT . ALTERNATIVE IF NO HOPE TO MATCH

3133 7216400000 SX1 X6-MARK

0311003135 NZ X1,YARBNO1

3134 20722 LX7 18 . HAS NOT BEEN CALLED YET RECURSI-

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 74

PATTERN MATCHING

12727 BX7 X2+X7 . VELY - INITIALIZE

10277 BX2 X7

54720 SA7 A2

3135 56140 YARBNO1 SA1 B4 . MATCH A NULL STRING FIRST

0361003137 DF X1,YARBNO2

21222 AX2 18

3136 63220 SB2 X2

74200 SX2 A0

0100003300 RJ ASSIGNS

3137 6020777776 YARBNO2 SB2 A0-1

7216777776 SX1 X6-1

3140 77032 SX0 B3-B2

37710 IX7 X1-X0 . SET HOPE TO THE NUMBER OF CHARAC-

5224000001 SA2 X4+1 . TERS IN THE REST OF THE STRING

3141 20452 LX4 42 . OR HOPE - 1 WHICHEVER IS SMALLER

0337003142 NG X7,YARBNO3

10100 BX1 X0

3142 43052 YARBNO3 MX0 42

12446 BX4 X4+X6

11702 BX7 X0\*X2

20422 LX4 18

3143 12671 BX6 X7+X1 . SET UP RECURSIVE CALL

54620 SA6 A2

76740 SX7 B4

74000 SX0 A0

3144 20722 LX7 18

12770 BX7 X7+X0

0100002724 RJ ENTERA . TRY TO MATCH THE REST OF THE

. STRING

3145 7170003146 SX7 YARBNO4

0400002767 EQ SETSIPI

3146 56170 YARBNO4 SA1 B7

73640 SX6 X4 . IF IT FAILS WE STACK A RETURN

20622 LX6 18 . TO THIS ARBNO ELEMENT AND TRY

12663 BX6 X6+X3 . TO MATCH THE ARGUMENT OF ARBNO

3147 0311003150 NZ X1,YARBNO5 . IF IT MATCHES WE RETURN TO A

0100002057 RJ MORFREE . NEW INCARNATION OF ARBNO WHICH

3150 63710 YARBNO5 SB7 X1 . WILL MATCH A NULL STRING FIRST

74310 SX3 A1 . ETC.

54610 SA6 A1

76740 SX7 B4

3151 6111000001 SB1 B1+1

7000000000 SX0 A0+0

3152 20722 LX7 18

6244000002 SB4 X4+2

12707 BX7 X0+X7

3153 0100002730 RJ ENTER

3154 5214000001 YARBNO6 SA1 X4+1 . IF ALL THIS FAILS WE RESTORE

43052 MX0 42 . THE HOPE AND GO TO SEEK AN

21422 AX4 18 . ALTERNATIVE

3155 11170 BX1 X7\*X0

12714 BX7 X1+X4

5071000000 SA7 A1+0

3156 0400002763 EQ ALT

\*

3157 5221000000 YSTAR SA2 X1+0 . DEFERRED EVALUATION (\*) OPERATOR

6144000001 SB4 B4+1

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 75

PATTERN MATCHING

3160 10722 YSTAR1 BX7 X2 . SVD OF ARGUMENT TO X7,X2

21267 AX2 55

7202777775 SX0 X2-SSTY . STRING

3161 0300003166 ZR X0,YSTARS

7202777770 SX0 X2-PETY-1 . PATTERN PS,PA OR PE

3162 0330003210 NG X0,YSTARP

7202777762 SX0 X2-INTY . INPUT ASSOCIATED

3163 0300003177 ZR X0,YSTARIN

7202777761 SX0 X2-OUTTY . TYPE ERROR IF NOT OUTPUT

3164 0310000323 NZ X0,ERR24

5227000000 SA2 X7+0 WILL THE REAL DESCRIPTOR PLEASE STAND UP

3165 0400003160 EQ YSTAR1

3166 6020777776 YSTARS SB2 A0-1 . TREATMENT OF A STRING IS

73670 SX6 X7 . SIMILAR TO THE TREATMENT OF LIT

43066 MX0 54

3167 0306003175 YSTARS1 ZR X6,YSTARS3 . MATCHES IF END OF STRING

5216000000 SA1 X6+0

3170 7261000000 SX6 X1+0 . NEXT WORD TO X1

13116 BX1 X1-X6

3171 20106 YSTAR2 LX1 6

15410 BX4 -X0\*X1

6122000001 SB2 B2+1

3172 0304003167 ZR X4,YSTARS1 . NEXT CHARACTER TO X4

0732002764 LT B3,B2,ALTLF . SEEK ALTERNATIVE IF NOT EQUAL

3173 56220 SA2 B2 . TO CORRESPONDING CHARACTER IN

13242 BX2 X4-X2 . THE STRING

0302003171 ZR X2,YSTAR2

3174 0400002763 EQ ALT

3175 56140 YSTARS3 SA1 B4

76620 SX6 B2

0361003073 DF X1,ENTERX6

3176 10266 BX2 X6 . TRY TO MACH THE REST OF THE STRING

64200 SB2 A0

0400003072 EQ YTAB1

3177 10633 YSTARIN BX6 X3 . IF INPUT ASSOCIATED

76710 SX7 B1

5160000235 SA6 PMSTX3

3200 5170000240 SA7 PMSTB1

76640 SX6 B4 . SAVE REGISTERS

74720 SX7 A2

3201 5160000242 SA6 PMSTB4

5170000241 SA7 PMSTB3

3202 64320 SB3 A2

0100004364 RJ INPUT . CALL INPUT

3203 5110000240 SA1 PMSTB1

5120000241 SA2 PMSTB3

3204 5130000235 SA3 PMSTX3

5140000242 SA4 PMSTB4 . RESTORE REGISTERS

3205 63110 SB1 X1

63440 SB4 X4

5110000206 SA1 MAXSTAK

3206 5140000231 SA4 SLENGTH

63510 SB5 X1

63340 SB3 X4

3207 53120 SA1 X2

0400003166 EQ YSTARS . TREAT THE STRING JUST INPUT

\*

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 76

PATTERN MATCHING

3210 5140000232 YSTARP SA4 PCHAIN . THE ARGUMENT IS A PATTERN

6020777776 SB2 A0-1

3211 53240 YSTARP1 SA2 X4

73420 SX4 X2

21222 AX2 18

13221 BX2 X2-X1 . FIND IT

3212 0312003211 NZ X2,YSTARP1

7042000001 SX4 A2+1

3213 7062000002 SX6 A2+2

53140 SA1 X4

20422 LX4 18

3214 0301002763 ZR X1,ALT . SEEK ALTERNATIVE IF NO HOPE TO

12441 BX4 X4+X1 . MATCH

67223 SB2 B2-B3

3215 7271777776 SX7 X1-1

6111000001 SB1 B1+1 . SET HOPE TO THE NUMBER OF CHARAC-

3216 73072 SX0 X7+B2 . TERS IN THE REST OF THE STRING

0330003217 NG X0,YSTARP2 . OR TO HOPE - 1 WHICHEVER IS

77702 SX7 B0-B2 . SMALLER

3217 6120003221 YSTARP2 SB2 YSTARPR

5071000000 SA7 A1+0

3220 0400003027 EQ POPS . STACK RETURN

3221 74310 YSTARPR SX3 A1 . (LIKE IN CASE OF EXP)

76740 SX7 B4

74000 SX0 A0

20722 LX7 18

3222 63460 SB4 X6

12770 BX7 X7+X0

0100002730 RJ ENTER . TRY TO MATCH THE PATTERN IN TH

3223 73740 SX7 X4 . VARIABLE AND THE REST OF THIS

21422 AX4 18 . PATTERN

5274000000 SA7 X4+0

3224 0400002761 EQ ALTLFM . SEEK ALTERNATIVE IF IT FAILS

\*

3225 6020777775 YLIT SB2 A0-2 . MATCH A LITERAL

7174000001 SX7 B4+1

3226 63212 SB2 X1+B2

63414 SB4 X1+B4

0732002764 LT B3,B2,ALTLF . LITERAL TOO LONG

3227 6221777775 SB2 X1-2

74602 SX6 A0+B2

56440 SA4 B4 . LIT MAY USE X4

3230 7266000001 SX6 X6+1

0720003234 LT B2,B0,YLIT2

3231 54102 YLIT1 SA1 A0+B2

53272 SA2 X7+B2

6122777776 SB2 B2-1

3232 13112 BX1 X1-X2

0311002763 NZ X1,ALT . TRY ALTERNATIVE IF MISMATCH

3233 0620003231 GE B2,B0,YLIT1

3234 0364003073 YLIT2 DF X4,ENTERX6

73260 SX2 X6

64200 SB2 A0

3235 0100003300 RJ ASSIGNS

3236 0400003073 EQ ENTERX6

\*

3237 64200 YANY SB2 A0 . ANY -PATTERN ELEMENT

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 77

PATTERN MATCHING

54200 SA2 A0

63414 SB4 B4+X1

3240 0732002764 LT B3,B2,ALTLF . TOO SHORT

63210 SB2 X1

56440 SA4 B4

3241 6122777776 YANY1 SB2 B2-1 . FAIL IF NONE OF THE CHARACTERS

0420002763 EQ B2,B0,ALT

3242 57142 SA1 B4-B2 . MATCHED

13012 BX0 X1-X2

0310003241 NZ X0,YANY1

3243 7060000001 YANY2 SX6 A0+1

0364003073 DF X4,ENTERX6

3244 64200 SB2 A0

10266 BX2 X6

0400003072 EQ YTAB1

\*

3245 64200 YNOTANY SB2 A0 . NOTANY-PATTERN ELEMENT

54200 SA2 A0

63414 SB4 B4+X1

3246 0732002764 LT B3,B2,ALTLF

63210 SB2 X1

56440 SA4 B4

3247 6122777776 YNOTAN1 SB2 B2-1

0420003243 EQ B2,B0,YANY2

3250 57142 SA1 B4-B2

13012 BX0 X1-X2 . FAIL IF ANY OF THE CHARACTERS

0310003247 NZ X0,YNOTAN1

3251 0400002763 EQ ALT

\*

3252 63414 YSPAN SB4 B4+X1 . SPAN PATTERN ELEMENT

13777 BX7 X7-X7

10611 BX6 X1

56440 SA4 B4

3253 63260 YSPAN1 SB2 X6 . COUNT IN X7 HOW MANY CONSECUTIVE

74100 SX1 A0 . ANY -ELEMENT WOULD MATCH

76030 SX0 B3

36117 IX1 X1+X7

3254 53210 SA2 X1

37101 IX1 X0-X1

0321003256 PL X1,YSPAN2 . END OF STRING IS REACHED

3255 0307002764 ZR X7,ALTLF

0400003262 EQ YSPAN4

3256 6122777776 YSPAN2 SB2 B2-1

0420003261 EQ B2,B0,YSPAN3

3257 57142 SA1 B4-B2

13012 BX0 X1-X2

0310003256 NZ X0,YSPAN2

3260 7277000001 SX7 X7+1

0400003253 EQ YSPAN1

3261 0307002763 YSPAN3 ZR X7,ALT . FAIL IF NONE

3262 74600 YSPAN4 SX6 A0 . MATCH X7 CHARACTERS

36667 IX6 X6+X7

0364003073 DF X4,ENTERX6

3263 64200 SB2 A0

10266 BX2 X6

0400003072 EQ YTAB1

\*

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 78

PATTERN MATCHING

3264 63414 YBREAK SB4 B4+X1 . BREAK PATTERN ELEMENT

13777 BX7 X7-X7

10611 BX6 X1

56440 SA4 B4

3265 63260 YBREAK1 SB2 X6 . COUNT IN X7 HOW MANY CONSECUTIVE

74100 SX1 A0 . NOT ANY ELEMENTS WOULD MATCH

76030 SX0 B3

36117 IX1 X1+X7

3266 53210 SA2 X1

37101 IX1 X0-X1

0331002764 NG X1,ALTLF . END OF STRING IS REACHED

3267 6122777776 YBREAK2 SB2 B2-1

0420003272 EQ B2,B0,YBREAK3

3270 57142 SA1 B4-B2

13012 BX0 X1-X2

0310003267 NZ X0,YBREAK2

3271 0400003262 EQ YSPAN4 . MATCH X7 CHARACTERS

3272 7277000001 YBREAK3 SX7 X7+1

0400003265 EQ YBREAK1

\*

3273 7170003274 EXIT SX7 EXIT1 . EXIT FROM THE RECURSIVE

0400002767 EQ SETSIPI . PROCEDURE

3274 6166777773 EXIT1 SB6 B6-4 . DECREASE STACK

5116000003 SA1 B6+3

3275 5146000001 SA4 B6+1 . RESTORE X4,X5,A0,B4

53010 SA0 X1

21122 AX1 18

3276 5156000002 SA5 B6+2

6241000000 SB4 X1+0

3277 0266000004 JP B6+4 . AND RETURN (THE ADDRESSES CELL

. CONTAINS AN EQ JUMP)

\* X0,X1,X2,X7,B2

\*

3300 46000 ASSIGNS NO

3301 7100777776 + SX0 -1

7222777776 SX2 X2-1 . LAST IN STRING TO X2

3302 7200000001 ASGNS1 SX0 X0+1

53104 SA1 X0+B4 . NEXT ASSIGNMENT

3303 0361003300 DF X1,ASSIGNS . RETURN IF NO MORE ASSIGNMENTS

76720 SX7 B2

3304 0331003320 NG X1,ASGNS2 . BRANCH IN INSTANT ($) ASSIGNMENT

73710 SX7 X1 . VARIABLE ADDRESS TO P STACK

3305 5110000222 SA1 PIX

20722 LX7 18

12771 BX7 X7+X1

3306 56170 SA1 B7

0311003310 NZ X1,ASGNS3

3307 0100002057 RJ MORFREE

3310 54710 ASGNS3 SA7 A1

63710 SB7 X1

10722 BX7 X2 . PACK LAST AND FIRST IN STRING

76120 SX1 B2 . INTO X7

3311 20722 LX7 18

12717 BX7 X1+X7

74110 SX1 A1

20722 LX7 18

3312 12771 BX7 X7+X1 . X7 TO P STACK

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 79

PATTERN MATCHING

56170 SA1 B7

0311003314 NZ X1,ASGNS4

3313 0100002057 RJ MORFREE

3314 54710 ASGNS4 SA7 A1

6271000000 SB7 X1+0

74710 SX7 A1 . CODE TO BUMP P STACK POINTER (PIX)

3315 5110000224 SA1 PIB . AND WORD COUNT (PIB)

5170000222 SA7 PIX

3316 7271000002 SX7 X1+2

54710 SA7 A1

3317 0400003302 EQ ASGNS1

3320 5160000233 ASGNS2 SA6 PMASX6 . $ TYPE ASSIGNMENT

5170000241 SA7 PMASB2

3321 10700 BX7 X0

10633 BX6 X3

5170000234 SA7 PMASX0 . SAVE REGISTERS

3322 73310 SX3 X1

10722 BX7 X2

5160000235 SA6 PMASX3

3323 5170000236 SA7 PMASX2

10744 BX7 X4

76610 SX6 B1

3324 5170000237 SA7 PMASX4

5160000240 SA6 PMASB1

3325 63320 SB3 X2

76740 SX7 B4

5170000242 SA7 PMASB4 . CONVERT PART OF THE STRING FROM

3326 0100002300 RJ STOSFX6 . FIRST TO LAST INTO SF FORMAT

3327 5160000227 SA6 TEMPDOL

6120000230 SB2 TEMPDOL+1

3330 56620 SA6 B2 . MAKE SURE SF TYPE

0100002537 RJ SASSIGN

3331 5110000231 SA1 SLENGTH

5120000206 SA2 MAXSTAK

3332 5130000234 SA3 PMASX0

5140000233 SA4 PMASX6 . RESTORE REGISTERS

3333 63310 SB3 X1

63520 SB5 X2

10033 BX0 X3

10644 BX6 X4

3334 5110000240 SA1 PMASB1

5120000242 SA2 PMASB4

3335 5130000235 SA3 PMASX3

5140000237 SA4 PMASX4

3336 63110 SB1 X1

63420 SB4 X2

5110000241 SA1 PMASB2

3337 5120000236 SA2 PMASX2

6221000000 SB2 X1+0

3340 0400003302 EQ ASGNS1

\*

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 80

DEFINITIONS OF PM OPERATIONS

\*

1777 PRDPM EQU 1777B . NOTE. POSITIVE INDEFINITE

6000 DOLPM EQU 6000B . NEGATIVE INDEFINITE

\*

\*

1624 ENDEXPM EQU YENDEX-YSTAR+1777B . NOTE NEGATIVE VALUES

1643 ALTPM EQU YALTER-YSTAR+1777B

1645 EXPPM EQU YEXP-YSTAR+1777B

1657 ARBPM EQU YARB-YSTAR+1777B

1670 LENPM EQU YLEN-YSTAR+1777B

1675 POSPM EQU YPOS-YSTAR+1777B

1702 RPOSPM EQU YRPOS-YSTAR+1777B

1704 TABPM EQU YTAB-YSTAR+1777B

1716 RTABPM EQU YRTAB-YSTAR+1777B

1720 REMPM EQU YREM-YSTAR+1777B

1723 BALPM EQU YBAL-YSTAR+1777B

1744 FAILPM EQU YFAIL-YSTAR+1777B

1745 FENCEPM EQU YFENCE-YSTAR+1777B

1750 ABORTPM EQU YABORT-YSTAR+1777B

1751 ARBNOPM EQU YARBNO-YSTAR+1777B

\*

2000 STARPM EQU YSTAR-YSTAR+2000B . NOTE ZERO VALUE

\*

2046 LITPM EQU YLIT-YSTAR+2000B . NOTE POSITIVE VALUES

2060 ANYPM EQU YANY-YSTAR+2000B . THE ELEMENTS ARE FOLLOWED

2066 NTANYPM EQU YNOTANY-YSTAR+2000B . BY A CHARACTER STRING

2073 SPANPM EQU YSPAN-YSTAR+2000B

2105 BREAKPM EQU YBREAK-YSTAR+2000B

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 81

ERROR OVERLAY LOADER SNOJOB

USE SNOJOB

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 82

I/O SUBROUTINES SNOJOB

\* CIO USES X2,X3,X7, X0 CONTAINS ON INPUT THE RECAL FLAG (0 OR 1) AND IS

\* NOT CHANGED.

\*

4212 5120000001 CIOWAIT SA2 1

0312004212 NZ X2,\*

4213 00000000000000000000 CIO DATA 0

4214 56220 SA2 B2 FET FWA

43352 MX3 42

11223 BX2 X2\*X3 CLEAR OUT CODE AND STATUS

12727 BX7 X2+X7 ADD FUNCTION CODE

4215 56720 SA7 B2

7170031117 SX7 3RCIO

20702 LX7 2

4216 12707 BX7 X0+X7 ADD RECALL BIT

76320 SX3 B2 FET ADDRESS

20750 LX7 40

12737 BX7 X3+X7

4217 5170000001 SA7 1

0400004212 EQ CIOWAIT

4220 5120000001 RCLWAIT SA2 1

0312004220 NZ X2,\*

4221 00000000000000000000 RCL

4222 7170220314 SX7 3RRCL

20702 LX7 2

12707 BX7 X0+X7

4223 20750 LX7 40

0300004225 ZR X0,RCL1 . B2 CONTAINS GARBAGE

4224 7122000000 SX2 B2+0

12727 BX7 X2+X7

4225 5170000001 RCL1 SA7 1

0400004220 EQ RCLWAIT

\* GETB RETURNS THE NEXT WORD IN THE FILE POINTED TO BY B2. GETB

\* DECREMENTS B3 BY THE NUMBER OF CHARACTERS IT RETURNS EACH TIME IT IS

\* CALLED. WHEN B3 REACHES ZERO, GETB RETURNS ZERO CHARACTERS AND

\* INCREMENTS B5 BY 2.

\*

\* WHEN GETB REACHES A ZERO BYTE OR EOR, IT RETURNS BLANK CHARACTERS,

\* INCREMENTS B5 BY 1, AND CONTINUES TO CHECK B3. THUS TO READ A LINE,

\* SET B3 = UNIT RECORD LENGTH, B5 = 0, AND CALL GETB UNTIL B5 = 2 OR 3.

\*

\* IN X2 IS RETURNED THE FILE WORD WITH BLANK AND/OR ZERO FILL. IN X3 IS

\* RETURNED THE WORD EXACTLY AS IT APPEARED IN THE FILE (BUT IT IS NOT

\* RETURNED IF GETB IS CALLED WITH B5 .NE. 0).

\*

4226 00000000000000000000 GETB DATA 0

4227 0450004233 ZR B5,GETB02 EQL/EQUR FLAG NOT SET

6145777775 SB4 B5-2

4230 7120000000 SX2 0

0640004226 PL B4,GETB . URL EXCEEDED, ZERO FILL

4231 5120004511 GETB01 SA2 BLANKS

0400004242 EQ GETB05

4232 7100000001 GETB08 RECALL B2 . WAIT FOR COMPLETION OF LAST OP

4233 5112000002 GETB02 SA1 B2+2 IN

5132000003 SA3 B2+3 OUT

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 83

I/O SUBROUTINES SNOJOB

4234 37113 IX1 X1-X3

0301004246 ZR X1,GETB07

53230 SA2 X3 PICK UP BUFFER WORDS

4235 5110004263 SA1 MASKM

37012 IX0 X1-X2

13002 BX0 X0-X2

4236 11001 BX0 X0\*X1

0310004256 NZ X0,GETB56

4237 7273000001 GETB03 SX7 X3+1 . INCREMENT THE OUT POINTER

5112000004 SA1 B2+4 LIMIT

4240 73110 SX1 X1

37117 IX1 X1-X7

0301004253 ZR X1,GETB09 OUT=LIMIT

4241 5073000000 GETB04 SA7 A3+0 STORE NEW OUT

10322 BX3 X2 FOR COMPILER LISTING ROUTINE

4242 6133777765 GETB05 SB3 B3-10 DECREMENT UNIT RECORD LENGTH

0703004226 LT B0,B3,GETB RETURN

4243 6155000002 SB5 B5+2

67303 SB3 -B3

43066 MX0 54

4244 0430004226 GETB06 ZR B3,GETB

11202 BX2 X0\*X2

20006 LX0 6

4245 6133777776 SB3 B3-1

0400004244 EQ GETB06

4246 56120 GETB07 SA1 B2 FET FWA

20173 LX1 59

0321004232 PL X1,GETB08 . FILE IS BUSY

4247 20170 LX1 60-4 . =RCY 4 (LEFT-JUSTIFY THE EOR BIT)

0331004255 NG X1,GETB12

4250 7100000001 READ RECALL

4252 0400004233 EQ GETB02

4253 5112000001 GETB09 SA1 B2+1 FIRST

7271000000 SX7 X1+0

4254 0400004241 EQ GETB04

4255 6155000001 GETB12 SB5 B5+1

0400004231 EQ GETB01

4256 43160 GETB56 MX1 48

15121 BX1 -X1\*X2

0311004260 NZ X1,GETB57

4257 6155000001 SB5 B5+1

4260 20066 GETB57 LX0 54

15002 BX0 -X2\*X0

10700 BX7 X0

20702 LX7 2

4261 12707 BX7 X0+X7

12227 BX2 X2+X7

20703 LX7 3

12227 BX2 X2+X7

4262 0400004237 EQ GETB03

4263 01010101010101010101 MASKM DATA 10HAAAAAAAAAA

\* CZB MOVES THE (INPUT) FILE WHOSE FET ADDRESS IS CONTAINED IN B2 TO THE

\* NEXT ZERO BYTE OR EOR, WHICHEVER COMES FIRST. HOWEVER, IF THE LINE

\* STATUS IN B5 IS 1 OR 3, INDICATING A ZERO BYTE HAS ALREADY BEEN FOUND,

\* CZB DOES NOTHING AND IMMEDIATELY EXITS.

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 84

I/O SUBROUTINES SNOJOB

\* REGISTERS SAVED] B1, B2, B6, B7, A0, A5-X5, AND A6-X6.

4264 00000000000000000000 CZB DATA 0 . ENTRY/EXIT

4265 6155777775 CZB1 SB5 B5-2 . B5 = ;1 IF ZERO BYTE ENCOUNTERED!

\* +&2 IF RECORD LENGTH REACHED]

0550004264 NZ B5,CZB . WAS 1 OR 3, SO ZERO BYTE SEEN

4266 6130377777 SB3 377777B . =2!17-1, A LONG RECORD

0100004226 RJ GETB . GET BUFFER WORD AND POSSIBLY SET B5

4267 0550004265 CZB2 NZ B5,CZB1 . MOST LIKELY B5 = 1 NOW

0100004226 RJ GETB

4270 0200004267 JP CZB2

\* PB USES X0,X2,X3,X4,X7. IT PUTS THE WORD IN X6 INTO THE BUFFER WHOSE

\* FET FWA IS IN B2. X6 AND B2 ARE NOT CHANGED.

\*

4271 53620 PB3 SA6 X2 . PUT WORD INTO BUFFER

73740 SX7 X4

5072000000 SA7 A2+0 . UPDATE IN POINTER

4272 00000000000000000000 PB DATA 0

4273 5122000002 SA2 B2+2 FET IN POINTER

5132000004 SA3 B2+4 LIMIT POINTER

4274 7242000001 SX4 X2+1

73330 SX3 X3

37343 IX3 X4-X3

4275 0313004276 NZ X3,PB1

5142000001 SA4 B2+1 FIRST

4276 73440 PB1 SX4 X4

5132000003 SA3 B2+3 . OUT

37334 IX3 X3-X4

4277 0313004271 NZ X3,PB3

56320 SA3 B2 FET FWA

20373 LX3 59 CHECK COMPLETION BIT

4300 0323004303 PL X3,PB2

7100000001 WRITE RECALL

4302 0400004273 EQ PB+1

4303 7100000001 PB2 RECALL B2

4304 0400004273 EQ PB+1

\*

\* CBO USES X2,X3,X4, AND X7(IF CIO IS CALLED)

\* IT RETURNS X2 .NE. 0 IF ZERO BYTE IS NOT IN X6

\*

4305 00000000000000000000 CBO DATA 0

4306 43060 MX0 48

15660 BX6 -X0\*X6

0316004305 NZ X6,CBO

4307 5122000002 SA2 B2+2 IN

5132000003 SA3 B2+3 OUT

4310 37232 IX2 X3-X2

5132000001 SA3 B2+1 FIRST

4311 5142000004 SA4 B2+4 LIMIT

37343 IX3 X4-X3

73330 SX3 X3

4312 21301 AX3 1 BUFFER LENGTH / 2

0332004313 NG X2,CBO1

14333 BX3 -X3

4313 36223 CBO1 IX2 X2+X3

0322004305 PL X2,CBO

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 85

I/O SUBROUTINES SNOJOB

56220 SA2 B2

4314 20273 LX2 59

0322004305 PL X2,CBO

76000 WRITE

4316 0400004305 EQ CBO

\*

4317 20405 CBI2 LX4 5

5122777776 SA2 B2-1 . LINK WORD

43701 MX7 1

4320 20745 LX7 37

12727 BX7 X2+X7 . SET EOI FLAG

54720 SA7 A2

4321 00000000000000000000 CBI . CHECK FOR EOR ON INPUT FILE

4322 5112777776 SA1 B2-1

20127 LX1 59-36

4323 0331000352 NG X1,ERR55 . EOI FLAG WAS SET

4324 5112000002 CBI0 SA1 B2+2 . IN POINTER

5122000003 SA2 B2+3 . OUT POINTER

4325 37112 IX1 X1-X2

0311004321 NZ X1,CBI . BUFFER IS NOT EMPTY

56420 SA4 B2 . FET FIRST WORD

4326 20473 LX4 59

0324004334 PL X4,CBI1 . BUSY

20463 LX4 51

4327 0334004317 NG X4,CBI2 . EOI ENCOUNTERED

54110 SA1 A1 . IN AGAIN

37112 IX1 X1-X2

4330 0311004321 NZ X1,CBI . A PRU WAS JUST MOVED

20405 LX4 5 . EXAMINE EOR BIT

4331 0334004321 NG X4,CBI . EOR WAS ENCOUNTERED

7100000001 READ RECALL

4333 0400004324 EQ CBI0 . TRY AGAIN

4334 7100000001 CBI1 RECALL B2

4335 0400004324 EQ CBI0 . LIKEWISE

4336 0100004341 ABT RJ CLOSEOUT

4337 7170010224 .ABT. SX7 3LABT . MONITOR REQUEST TO ABORT

20752 LX7 42

4340 5170000001 SA7 1

0400004340 EQ \*

4341 00000000000000000000 CLOSEOUT . ROUTINE TO TERMINATE OUTPUT FILES

4342 6110000260 SB1 FETHEAD . HEAD OF FILE LIST

4343 56110 CO1 SA1 B1 . BUFFER BLOCK HEADER WORD

6121000001 SB2 B1+1 . FET ADDRESS

63110 SB1 X1 . LINK

4344 0100004346 RJ TERMIN . TO WRITER OR NOT TO WRITER...

4345 0510004343 NZ B1,CO1

0400004341 EQ CLOSEOUT

4346 00000000000000000000 TERMIN DATA 0 . ISSUE WRITER ON OUTPUT FILE

4347 56120 WAIT

4351 5112000002 SA1 B2+2 . IN POINTER

5122000003 SA2 B2+3 . OUT

4352 37112 IX1 X1-X2

56220 SA2 B2

0301004361 ZR X1,TERMIN3 . SEE IF BUFFERED WRITE WAS LAST OP

4353 7100000044 SX0 44B . EXAMINE MOTION, R/W BITS

7110000030 SX1 30B . EXAMINE EOR/EOF BITS

4354 11002 BX0 X0\*X2

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 86

I/O SUBROUTINES SNOJOB

11112 BX1 X1\*X2

0310004356 NZ X0,TERMIN2 . LAST OP WRITE OR REWIND

4355 0311004346 NZ X1,TERMIN . LAST OP OPEN

4356 7100000001 TERMIN2 WRITER RECALL

4360 0400004346 EQ TERMIN

4361 7100000024 TERMIN3 SX0 24B

11202 BX2 X0\*X2 . EXAMINE EOR, R/W BITS

4362 7222777773 SX2 X2-4B . COMPARE TO BUFFERED WRITE

0312004346 NZ X2,TERMIN . LAST OP WAS NOT BUFFERED WRITE

4363 0400004356 EQ TERMIN2

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 87

INPUT ROUTINE SNOJOB

GETL MACRO

LOCAL NEXT

SA1 B7 . NEXT FREE WORD

NZ X1,NEXT . NOT THE LAST ONE

RJ MORFREE . GET MORE

NEXT SB7 X1 . UPDATE FREE POINTER

SX1 X1 . CLEAR UPPER 42 BITS

ENDM

\*

4364 00000000000000000000 INPUT DATA 0

4365 66130 SB1 B3

56210 SA2 B1 INPUT ASSOCIATED VARIABLE DESCRIPTOR

21222 AX2 18

4366 6222000001 SB2 X2+1 FWA OF FET

0100004321 RJ CBI

4367 5132777776 SA3 B2-1 . FILE HEADER WORD

43601 MX6 1

20646 LX6 1+18+18+1 . EOR FLAG POSITION

4370 0311004374 NZ X1,READ . BUFFER CONTAINS DATA

12663 BX6 X6+X3 . SET EOR FLAG

54630 SA6 A3

4371 43701 MX7 1

15747 BX7 -X7\*X4 . CBI LEFT FET FIRST WORD IN X4

20705 LX7 5

54740 SA7 A4

4372 0100002342 RJ ZROX7

4373 56210 SA2 B1

53720 SA7 X2 . NULL VALUE

0400000465 EQ FAIL

4374 15636 READ BX6 -X6\*X3 . CLEAR EOR FLAG

54630 SA6 A3

66500 SB5 B0 . CLEAR END FLAG

56410 SA4 B1 . INPUT ASSOCIATED SVD

4375 20430 LX4 60-36 . RIGHT JUSTIFY UNIT RECORD LENGTH

63340 SB3 X4

5110000216 SA1 MXLNGTH . MAXIMUM STRING LENGTH KEYWORD

4376 73240 SX2 X4

37212 IX2 X1-X2

0332001247 NG X2,ERR18 . ERROR - TOO LONG

4377 0100004226 RJ GETB . GET DATA WORD IN X2

4400 56170 GETL GET LIST WORD

74610 SX6 A1

4403 7130000002 SX3 SSTY

20367 LX3 55

12636 BX6 X3+X6 NEW ISD

4404 43022 MX0 18

20066 LX0 54

20444 LX4 36

11004 BX0 X0\*X4

4405 12606 BX6 X0+X6

53640 SA6 X4

43052 MX0 42

11602 BX6 X0\*X2

4406 0400004414 EQ LOOPA

4407 0100004226 LPLP RJ GETB . GET BUFFER WORD ONE

4410 43052 MX0 42

11602 BX6 X0\*X2

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 88

INPUT ROUTINE SNOJOB

0306004475 ZR X6,ENDL

4411 56170 GETL REACHED END-OF-UNIT-RECORD

4414 12616 LOOPA BX6 X1+X6

5061000000 SA6 A1+0 STORE LIST WORD 1

15620 BX6 -X0\*X2

4415 0306004475 ZR X6,ENDL

0100004226 RJ GETB GET BW2

4416 43030 MX0 24

20652 LX6 42

11302 BX3 X0\*X2

20352 LX3 42

4417 12636 BX6 X3+X6

56170 GETL

12616 BX6 X1+X6

54610 SA6 A1 STORE LW2

4422 15620 BX6 -X0\*X2

0306004475 ZR X6,ENDL

4423 0100004226 RJ GETB GET BW3

4424 43006 MX0 6

20630 LX6 24

11302 BX3 X0\*X2

20330 LX3 24

4425 12636 BX6 X3+X6

56170 GETL

12616 BX6 X1+X6

54610 SA6 A1 STORE LW3

4430 15220 BX2 -X0\*X2

0302004475 ZR X2,ENDL

43052 MX0 42

4431 20206 LX2 6

11602 BX6 X0\*X2

56170 GETL

12616 BX6 X1+X6

54610 SA6 A1 STORE LW4

4434 15620 BX6 -X0\*X2

0306004475 ZR X6,ENDL

4435 0100004226 RJ GETB GET BW4

4436 43036 MX0 30

20652 LX6 42

11302 BX3 X0\*X2

20360 LX3 48

4437 12636 BX6 X3+X6

56170 GETL

12616 BX6 X1+X6

54610 SA6 A1 STORE LW5

4442 15620 BX6 -X0\*X2

0306004475 ZR X6,ENDL

4443 0100004226 RJ GETB GET BW5

4444 43014 MX0 12

20636 LX6 30

11302 BX3 X0\*X2

20336 LX3 30

4445 12636 BX6 X3+X6

56170 GETL

12616 BX6 X1+X6

54610 SA6 A1 STORE LW6

4450 15220 BX2 -X0\*X2

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 89

INPUT ROUTINE SNOJOB

0302004475 ZR X2,ENDL

20214 LX2 12

4451 43052 MX0 42

11602 BX6 X0\*X2

56170 GETL

12616 BX6 X1+X6

54610 SA6 A1 STORE LW7

4454 15620 BX6 -X0\*X2

0306004475 ZR X6,ENDL

4455 0100004226 RJ GETB GET BW6

4456 43044 MX0 36

20652 LX6 42

11302 BX3 X0\*X2

20366 LX3 54

4457 12636 BX6 X3+X6

56170 GETL

12616 BX6 X1+X6

54610 SA6 A1 STORE LW8

4462 15620 BX6 -X0\*X2

0306004475 ZR X6,ENDL

4463 0100004226 RJ GETB GET BW7

4464 43022 MX0 18

20644 LX6 36

11302 BX3 X0\*X2

20344 LX3 36

4465 12636 BX6 X3+X6

56170 GETL

12616 BX6 X1+X6

54610 SA6 A1 STORE LW9

4470 15620 BX6 -X0\*X2

0306004475 ZR X6,ENDL

20622 LX6 18

4471 56170 GETL

12616 BX6 X1+X6

54610 SA6 A1 STORE LW10

4474 0400004407 EQ LPLP

4475 54160 ENDL SA1 A6

43052 MX0 42

11601 BX6 X0\*X1

54660 SA6 A6

4476 56210 SA2 B1 IAVD

53220 SA2 X2 ISD

74360 SX3 A6 LWA OF NEW STRING

20322 LX3 18 IS INSERTED

4477 12623 BX6 X2+X3 INTO ISD

54620 SA6 A2

0100004264 RJ CZB SKIP UP TO ZERO BYTE

4500 5112000002 CHECK1 SA1 B2+2 IN

5122000003 SA2 B2+3 OUT

4501 37112 IX1 X1-X2

5122000001 SA2 B2+1 FIRST

4502 5132000004 SA3 B2+4 LIMIT

37232 IX2 X3-X2

73220 SX2 X2

4503 21201 AX2 1 BUFFER LENGTH / 2

0331004504 NG X1,CHECK2

14222 BX2 -X2

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 90

INPUT ROUTINE SNOJOB

4504 36112 CHECK2 IX1 X1+X2

0321004364 PL X1,INPUT

56120 SA1 B2

4505 20167 LX1 55

0331004364 NG X1,INPUT

4506 7100000001 READ B2

4510 0400004364 EQ INPUT

4511 55555555555555555555 BLANKS DATA 10H

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 91

OUTPUT ROUTINE SNOJOB

4512 00000000000000000000 OUTPUT DATA 0

4513 56230 SA2 B3 OUTPUT ASSOCIATED VARIABLE DESCRIPTOR

53120 SA1 X2 SIMPLE VARIABLE DESCRIPTOR

63410 SB4 X1 B4 = NEXT LIST WORD

21222 AX2 18

4514 6222000001 SB2 X2+1 FET FWA

21222 AX2 18

43066 MX0 54

4515 15620 BX6 -X0\*X2 CARRIAGE CONTROL CHARACTER

20666 LX6 54 LEFT JUSTIFY CCC

0316004530 NZ X6,HAV1 IF CCC IS NONNULL, ENTER SEQ AT HAV1

4516 0440004522 HAV0 ZR B4,H01

56140 SA1 B4 GET LIST WORD 1

63410 SB4 X1

4517 43052 MX0 42

11601 BX6 X0\*X1

7110000000 SX1 0

4520 0440004522 ZR B4,H01

56140 SA1 B4

63410 SB4 X1

4521 43022 MX0 18

11301 BX3 X0\*X1

20322 LX3 18

12636 BX6 X3+X6

4522 0100004562 H01 RJ PUTB STORE BUFFER WORD 1

4523 20122 LX1 18

43030 MX0 24

11601 BX6 X0\*X1 REMAINDER TO X6

76100 SX1 B0

4524 0440004526 HAV4 ZR B4,H41

56140 SA1 B4

63410 SB4 X1

4525 43044 MX0 36

11301 BX3 X0\*X1

20344 LX3 36

12636 BX6 X3+X6

4526 0100004562 H41 RJ PUTB STORE BW2

4527 20144 LX1 36

43006 MX0 6

11601 BX6 X0\*X1

76100 SX1 B0

4530 0440004535 HAV1 ZR B4,H11

5114000000 SA1 B4+0

4531 6241000000 SB4 X1+0

43052 MX0 42

11301 BX3 X0\*X1

4532 20366 LX3 54

12636 BX6 X3+X6

7110000000 SX1 0

4533 0440004535 HAV8 ZR B4,H11

56140 SA1 B4

63410 SB4 X1

4534 43014 MX0 12

11301 BX3 X0\*X1

20314 LX3 12

12636 BX6 X3+X6

4535 0100004562 H11 RJ PUTB STORE BW3

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 92

OUTPUT ROUTINE SNOJOB

4536 20114 LX1 12

43036 MX0 30

11601 BX6 X0\*X1

76100 SX1 B0

4537 0440004541 HAV5 ZR B4,H51

56140 SA1 B4

63410 SB4 X1

4540 43036 MX0 30

11301 BX3 X0\*X1

20336 LX3 30

12636 BX6 X3+X6

4541 0100004562 H51 RJ PUTB STORE BW4

4542 20136 LX1 30

43014 MX0 12

11601 BX6 X0\*X1

76100 SX1 B0

4543 0440004550 HAV2 ZR B4,H21

5114000000 SA1 B4+0

4544 6241000000 SB4 X1+0

43052 MX0 42

11301 BX3 X0\*X1

4545 20360 LX3 48

12636 BX6 X3+X6

7110000000 SX1 0

4546 0440004550 HAV9 ZR B4,H21

56140 SA1 B4

63410 SB4 X1

4547 43006 MX0 6

11301 BX3 X0\*X1

20306 LX3 6

12636 BX6 X3+X6

4550 0100004562 H21 RJ PUTB STORE BW5

4551 20106 LX1 6

43044 MX0 36

11601 BX6 X0\*X1

76100 SX1 B0

4552 0440004554 HAV6 ZR B4,H61

56140 SA1 B4

63410 SB4 X1

4553 43030 MX0 24

11301 BX3 X0\*X1

20330 LX3 24

12636 BX6 X3+X6

4554 0100004562 H61 RJ PUTB STORE BW6

4555 20130 LX1 24

43022 MX0 18

11601 BX6 X0\*X1

76100 SX1 B0

4556 0440004560 HAV3 ZR B4,H31

56140 SA1 B4

63410 SB4 X1

4557 43052 MX0 42

11301 BX3 X0\*X1

20352 LX3 42

12663 BX6 X6+X3

4560 0100004562 H31 RJ PUTB

4561 7160000000 SX6 0

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 93

OUTPUT ROUTINE SNOJOB

0400004516 EQ HAV0

4562 00000000000000000000 PUTB DATA 0

4563 0100004272 RJ PB

4564 0100004305 RJ CBO

4565 0316004562 NZ X6,PUTB

0400004512 EQ OUTPUT

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 94

INITIALIZATION OF THE TRANSLATED CODE SNOJOB

4566 55232503030523230625 SMESS DIS ,\* SUCCESSFUL COMPILATION\*

4571 5110000205 POST0 SA1 MINSTAT

5221000044 SA2 X1+STNPRL+1

4572 20201 POST1 LX2 1 . LOOP TO FIND FIRST STANDARD

21223 AX2 19 . PROCEDURE IN THE CHAIN WHICH HAS

0322004574 PL X2,POST2 . BEEN USED

4573 63520 SB5 X2

53215 SA2 X1+B5

0400004572 EQ POST1

4574 6110000001 POST2 SB1 1 . B1 IS THE CONSTANT ONE

21222 AX2 18 . NEW STATIC BASE

37021 IX0 X2-X1 . STATIC DISPLACEMENT TO X0 AND B7

4575 10722 BX7 X2 . RELOCATE MINSTAT

54710 SA7 A1

5120000204 SA2 MAXSTAT

4576 63700 SB7 X0

63320 SB3 X2

6120000032 SB2 SPCTYP

4577 5221777776 SA2 X1-1

0470004631 EQ B7,B0,POST11A . BYPASS IF NO DISPLACEMENT

4600 54221 POST3 SA2 A2+B1 . NEXT RECORD HEADING

65423 SB4 A2-B3

63520 SB5 X2

10722 BX7 X2

4601 0440004620 POST4 EQ B4,B0,POST9 . END OF STATIC

0302004615 ZR X2,POST7 . EMPTY WORD

4602 0450004603 EQ B5,B0,POST5

36720 IX7 X2+X0 . RELOCATE THE HASH-LINK

4603 21267 POST5 AX2 55 . TYPE OF RECORD TO B5

54727 SA7 A2+B7

6252000037 SB5 X2+37B

4604 66421 SB4 B2+B1 . LITERAL TYPE

77154 SX1 B5-B4 . REMEMBER IF LITERAL

0745004611 LT B4,B5,POST5B . BRANCH IF VAR,CALL OR LABEL

4605 0452004616 EQ B5,B2,POST8 . BRANCH IF I/O BUFFER

5022000001 SA2 A2+1

4606 67421 SB4 B2-B1 . INTEGER TYPE

36720 IX7 X2+X0 . RELOCATE FIRST

20752 LX7 42

4607 0754004610 LT B5,B4,POST5A . BRANCH IF REAL

36770 IX7 X7+X0 . RELOCATE LAST

4610 20722 POST5A LX7 18

54727 SA7 A2+B7

0301004613 ZR X1,POST6 . BRANCH IF LITERAL

4611 5022000001 POST5B SA2 A2+1 . COPY ONE WORD

10622 BX6 X2

54627 SA6 A2+B7

4612 0754004600 LT B5,B4,POST3 . BRANCH IF REAL

4613 54221 POST6 SA2 A2+B1 . COPY BCD WITH LINKS RELOCATED

63520 SB5 X2

0450004615 EQ B5,B0,POST7

4614 36720 IX7 X2+X0

54727 SA7 A2+B7

0400004613 EQ POST6

4615 10622 POST7 BX6 X2 . LAST WORD WITH ZERO LINK

54627 SA6 A2+B7

0400004600 EQ POST3

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 95

INITIALIZATION OF THE TRANSLATED CODE SNOJOB

4616 21722 POST8 AX7 18

63570 SB5 X7 . BYPASS TO B5

54225 SA2 A2+B5

65423 SB4 A2-B3

4617 63520 SB5 X2

10722 BX7 X2

0400004601 EQ POST4

\*

4620 6150000071 POST9 SB5 HASHLN . LOOP TO RELOCATE NONZERO ENTRIES

4621 6155777776 POST10 SB5 B5-1 . IN THE HASH - TABLE

5115000111 SA1 B5+HASHTBL

4622 36710 IX7 X1+X0

0301004623 ZR X1,POST11

54710 SA7 A1

4623 0550004621 POST11 NE B5,B0,POST10

5150000262 SA5 INFET+1 . UPDATE INPUT AND OUTPUT FET - S

4624 36750 IX7 X5+X0

73670 SX6 X7

54750 SA7 A5 . FIRST

54651 SA6 A5+B1 . IN

4625 54661 SA6 A6+B1 . OUT

54561 SA5 A6+B1

36750 IX7 X5+X0

54750 SA7 A5 . LIMIT

4626 5150000270 SA5 OUTFET+1

36750 IX7 X5+X0

73670 SX6 X7

4627 54750 SA7 A5 . FIRST

54651 SA6 A5+B1 . IN

54661 SA6 A6+B1 . OUT

54561 SA5 A6+B1

4630 36750 IX7 X5+X0

54750 SA7 A5 . LIMIT

4631 5150000227 POST11A SA5 PRGBASE

76470 SX4 B7

63550 SB5 X5

4632 67606 SB6 B0-B6

66661 SB6 B6+B1 . ADDRESS OF LAST MICRO-OPERATION

76220 SX2 B2 . SPCTYP FOR THE HEADING

77156 SX1 B5-B6 . PROGRAM LENGTH TO X1

4633 20267 LX2 55

63411 SB4 X1+B1

20122 LX1 18

12712 BX7 X1+X2 . STATIC RECORD READING FOR THE CODE

4634 43052 MX0 42

56737 SA7 B3+B7

5110000214 SA1 CODELINK

4635 76637 SX6 B3+B7

0311004636 NZ X1,POST11B

76137 SX1 B3+B7

4636 20622 POST11B LX6 18

73510 SX5 X1

12656 BX6 X5+X6

54610 SA6 A1

4637 21122 AX1 18

0301004641 ZR X1,POST11C

53110 SA1 X1

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 96

INITIALIZATION OF THE TRANSLATED CODE SNOJOB

4640 21622 AX6 18

12661 BX6 X6+X1

4641 54610 POST11C SA6 A1

64474 SB4 A7+B4 . NEW PROGRAM BASE TO B4

76570 SX5 B7

43652 MX6 42

4642 20422 LX4 18 . RELOCATION CONST. FOR LOW ORDER

20544 LX5 36 . RELOCATION CONST. FOR HIGH ORDER

20622 LX6 18 . MICOP-S

14000 BX0 -X0

4643 56160 POST12 SA1 B6 . NEXT WORD OF MICOP-S

0301004657 ZR X1,POST17 . FINISHED IF ZERO

15710 BX7 -X0\*X1

4644 5221000357 SA2 X1+MCOPTBL

73320 SX3 X2 . ABS ADDRESS OF LOW ORDER MICOP

12773 BX7 X7+X3 . TO X3

4645 0332004652 NG X2,POST15 . GO TO OR CALL

0470004651 EQ B7,B0,POST14 . BYPASS IF NO RELOCATION

4646 21122 AX1 18

63210 SB2 X1 . LOW ORDER ADDRESS

21122 AX1 18

63310 SB3 X1 . HIGH ORDER ADDRESS

4647 0420004650 EQ B2,B0,POST13

36774 IX7 X7+X4 . NONZERO ADDRESSES HAS TO BE

4650 0430004651 POST13 EQ B3,B0,POST14 . RELOCATED

36775 IX7 X7+X5

4651 54771 POST14 SA7 A7+B1 . STORE WORD

66661 SB6 B6+B1

0400004643 EQ POST12

\*

4652 20246 POST15 LX2 38

0332004656 NG X2,POST16 . BRANCH IF CALL

21122 AX1 18 . ADDRES OF GO TO

4653 73110 SX1 X1

0331004651 NG X1,POST14

11767 BX7 X6\*X7

4654 14111 BX1 -X1

73114 SX1 X1+B4

20122 LX1 18 . IF DEFINED, REPLACE IT BY THE ABS

12771 BX7 X7+X1 . ADDRESS

4655 0400004651 EQ POST14

4656 36774 POST16 IX7 X7+X4 . RELOCATE ADDRESS OF CALL

0400004651 EQ POST14

\*

4657 5110000223 POST17 SA1 LBLLINK . WE SHALL PROCESS ALL LABELS

5140000206 SA4 MAXSTAK . REFERENCED OR DEFINED DURING THE

4660 63210 POST18 SB2 X1 . RECENT COMPILATION

0421004703 EQ B2,B1,POST24 . END OF THE CHAIN OF LABELS

53117 SA1 X1+B7

4661 63210 SB2 X1

20130 LX1 24

63310 SB3 X1

20122 LX1 18

4662 0720004670 LT B2,B0,POST21 . BRANCH IF LABEL IS NOT DEFINED

77542 SX5 B4-B2 . ABS ADDRESS TO X5

10355 BX3 X5

4663 0430004667 POST18A EQ B3,B0,POST20 . BRANCH IF LABEL HAS NOT BEEN USED

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 97

INITIALIZATION OF THE TRANSLATED CODE SNOJOB

20322 LX3 18 . IN PREVIOUSLY COMPILED CODE

67201 SB2 B0-B1 . IF NOT SO, SPREAD DEFINED VALUE

4664 0423004667 EQ B2,B3,POST20

4665 57203 POST19 SA2 B0-B3

11726 BX7 X2\*X6

21222 AX2 18

12773 BX7 X7+X3

4666 63320 SB3 X2

54720 SA7 A2

0532004665 NE B3,B2,POST19

4667 10755 POST20 BX7 X5 . STORE NEW LABEL DESCRIPTION

54710 SA7 A1

0400004660 EQ POST18

4670 0703004675 POST21 LT B0,B3,POST22A . LABEL DEFINED IN EARLIER COMPLTN.

76542 SX5 B4+B2 . IF THE LABEL HAS NOT BEEN DEFINED

15505 BX5 -X5\*X0 . THEN IN THE CHAIN OF

4671 56242 POST22 SA2 B4+B2 . REFERENCES, THE RELATIVE LINKS

11762 BX7 X6\*X2 . HAVE TO BE REPLACED BY ABSOLUTE

21222 AX2 18 . ONES

63220 SB2 X2

4672 73221 SX2 X2+B1

0302004701 ZR X2,POST23

76242 SX2 B4+B2

4673 15202 BX2 -X2\*X0

20222 LX2 18

12772 BX7 X7+X2

54720 SA7 A2

4674 0400004671 EQ POST22

4675 76530 POST22A SX5 B3 . ABS ADDRESS TO X5

76330 SX3 B3

20322 LX3 18

4676 56242 POST22B SA2 B4+B2 . SPREAD VALUE TO JUMPS THROUGH

11762 BX7 X6\*X2 . NEGATIVE RELATIVE CHAIN TERMINATED

21222 AX2 18 . BY -1 LINK

63220 SB2 X2

4677 73221 SX2 X2+B1

12773 BX7 X7+X3

54720 SA7 A2

4700 0312004676 NZ X2,POST22B

0400004667 EQ POST20

\*

4701 0430004667 POST23 EQ B3,B0,POST20

76230 SX2 B3

20222 LX2 18

4702 12772 BX7 X7+X2

54720 SA7 A2

0400004667 EQ POST20

\*

4703 77641 POST24 SX6 B4-B1 . BEGINNING OF THE STACK TO X6

63340 SB3 X4

5130000244 SA3 COMPB7 . RESTORE B7 (IT POINTS TO THE FREE

4704 56150 POST25 SA1 B5 . LIST)

66551 SB5 B5+B1 . SHIFT THE STACK TO ITS PLACE

10711 BX7 X1

57741 SA7 B4-B1

4705 66441 SB4 B4+B1

0635004704 GE B3,B5,POST25

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 98

INITIALIZATION OF THE TRANSLATED CODE SNOJOB

76070 SX0 B7

4706 63730 SB7 X3

64670 SB6 A7 . B7 IS THE STACK TOP POINTER

5160000204 SA6 MAXSTAT

4707 5130000213 SA3 STAKTOP . SET STACKTOP TO ITS ABS VALUE

5160000207 SA6 MINSTAK

4710 5120000224 SA2 VARLINK

36663 IX6 X6+X3

54630 SA6 A3

4711 0302004714 POST26 ZR X2,POST27 . ASSIGN A NULL VALUE TO ALL VARI-

36220 IX2 X2+X0 . ABLES DEFINED IN THE RECENT

53320 SA3 X2 . COMPILATION

4712 0100002342 RJ ZROX7

4713 53720 SA7 X2

73230 SX2 X3

0400004711 EQ POST26

\* NOW THE CODE IS READY TO RUN. IT BEGINS AT X6-1

4714 5110000210 POST27 SA1 NXTWRD

5256000000 SA5 X6+0 . BEGIN EXECUTION OF THE PROGRAM

4715 0331000441 NG X1,NEXTMIC . IF FIRST COMPILATION

7170000014 SX7 CTY . IF RESULT OF COMPILE, PUT

4716 7266777776 SX6 X6-1 . REFERENCE TO THE COMPILED

5146777776 SA4 B6-1 . CODE TO THE TOP OF THE STACK

4717 53540 SA5 X4 . HEADER HAS BEEN FIXED AT QCMPL

20767 LX7 55

12776 BX7 X7+X6

54740 SA7 A4

4720 5110000211 SA1 FRSTWRD

0301000441 ZR X1,NEXTMIC . FREE THE REMAINDER OF THE

4721 76770 SX7 B7 . ARGUMENT STRING

63710 SB7 X1

4722 53110 POST28 SA1 X1

73110 SX1 X1

0311004722 NZ X1,POST28

4723 54710 SA7 A1

0400000441 EQ NEXTMIC

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 99

RUN - TIME FUNCTIONS SNOJOB

\*

\*

4724 56160 QIF SA1 B6 . STANDARD PROCEDURE IF

63110 SB1 X1 . SKIP PARAM AND

65611 SB6 A1-B1 . RETURN A NULL VALUE

21167 AX1 55

4725 43006 MX0 6

0311004730 NZ X1,QIF3 . FREE IF SF

4726 5116000001 SA1 B6+1

76770 SX7 B7

63710 SB7 X1

4727 21122 AX1 18

53710 SA7 X1

4730 7255777776 QIF3 SX5 X5-1

0315004724 NZ X5,QIF

4731 6166000002 SB6 B6+2

4732 0100002342 QIF2 RJ ZROX7

4733 7160000002 SX6 2

15770 BX7 -X0\*X7 . REMOVE SS TYPE

56660 SA6 B6

4734 5176777776 SA7 B6-1

0400000441 EQ NEXTMIC

\*

4735 IFQ BSS 0

\*

\*

4735 7255777776 QSIZE SX5 X5-1

0315000317 NZ X5,ERR20 . TOO MANY PARAMETERS

4736 56260 SA2 B6

21267 AX2 55

5116777776 SA1 B6-1

4737 10611 BX6 X1

0302004742 ZR X2,QSIZE1 . PARAM IS SF TYPE

4740 7222777770 SX2 X2-ITY

0312000330 NZ X2,ERR29 . NOT STRING TYPE

4741 0100002364 RJ ITOSF

4742 76770 QSIZE1 SX7 B7

63760 SB7 X6

21622 AX6 18

53760 SA7 X6 . LINK PARAM TO FREE CHAIN

4743 5120001667 SA2 ITYWD

10722 BX7 X2

21622 AX6 18

4744 5166777776 SA6 B6-1 . LENGTH

56760 SA7 B6

4745 0400000441 EQ NEXTMIC

4746 SIZEQ BSS 0

4746 6110001670 QLEN SB1 LENPM

0400004753 EQ QPAT

4747 6110001675 QPOS SB1 POSPM

0400004753 EQ QPAT

4750 6110001702 QRPOS SB1 RPOSPM

0400004753 EQ QPAT

4751 6110001704 QTAB SB1 TABPM

0400004753 EQ QPAT

4752 6110001716 QRTAB SB1 RTABPM

4753 7255777776 QPAT SX5 X5-1

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 100

RUN - TIME FUNCTIONS SNOJOB

0315000317 NZ X5,ERR20 . TOO MANY PARAMETERS

4754 5100000012 SA0 10

5110001033 SA1 TENTO10

4755 10011 BX0 X1

76510 SX5 B1 . SAVE PATTERN TYPE

0100000660 RJ SACHEK

4756 20703 LX7 3

0327000342 PL X7,ERR42 . NOT ITY

43053 MX0 43

4757 5116777776 SA1 B6-1

0331000342 NG X1,ERR42 . NEGATIVE NOT LEGAL

4760 11001 BX0 X0\*X1

0310000342 NZ X0,ERR42 . TOO LARGE

20560 LX5 48

4761 12615 BX6 X1+X5

7170000004 SX7 PSTY

54610 SA6 A1

4762 20767 LX7 55

7160000002 SX6 2

12667 BX6 X6+X7

4763 56660 SA6 B6

0400000441 EQ NEXTMIC

4764 PATQ BSS 0

\*

\* . - + 0

4764 6110000006 QEQ SB1 6B . 1 1 0

0400004772 EQ QEQ1

4765 6110000001 QNE SB1 1 . 0 0 1

0400004772 EQ QEQ1

4766 6110000005 QGT SB1 5 . 1 0 1

0400004772 EQ QEQ1

4767 6110000004 QGE SB1 4 . 1 0 0

0400004772 EQ QEQ1

4770 6110000003 QLT SB1 3 . 0 1 1

0400004772 EQ QEQ1

4771 6110000002 QLE SB1 2 . 0 1 0

4772 7255777776 QEQ1 SX5 X5-1

0305005041 ZR X5,QEQ8 . BRANCH IF SINGLE PARAM

4773 7255777776 SX5 X5-1

0315000317 NZ X5,ERR20 . ERROR IF MORE THAN TWO PARAMS

4774 56160 SA1 B6

76510 SX5 B1

63110 SB1 X1

57261 SA2 B6-B1

4775 21167 AX1 55 . RIGHT PARAM TYPE

21267 AX2 55 . LEFT PARAM TYPE

7231777770 SX3 X1-ITY

4776 7242777770 SX4 X2-ITY

0313005010 NZ X3,QEQ5 . BRANCH IF NOT BOTH ARE

4777 0314005010 NZ X4,QEQ5 . INTEGERS

5000 5116777776 QEQ2 SA1 B6-1 . COMPARE INTEGERS

5126777774 SA2 B6-3

5001 6166777775 SB6 B6-2

37121 IX1 X2-X1

5002 7140000001 QEQ3 SX4 1 . TEST ON X1 - + 0

0301005004 ZR X1,QEQ4

5003 20401 LX4 1

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 101

RUN - TIME FUNCTIONS SNOJOB

0321005004 PL X1,QEQ4

20401 LX4 1

5004 11545 QEQ4 BX5 X4\*X5 . MASK BY BIT PATTERN OF THE

0315000465 NZ X5,FAIL . RELATION

43005 MX0 5

5005 0100002342 RJ ZROX7 . NULL STRING IS RETURNED IF

5006 7160000002 SX6 2 . SUCCESS

15770 BX7 -X0\*X7

56660 SA6 B6 . CLEAR SS TYPE

5007 5176777776 SA7 B6-1

0400000441 EQ NEXTMIC

5010 7261777767 QEQ5 SX6 X1-RTY . IF ONE PARAM IS REAL THEN

7242777767 SX4 X2-RTY . BOTH HAVE TO BE REAL

5011 0306005036 ZR X6,QEQ7

0304000665 ZR X4,ERR47

5012 5146777776 SA4 B6-1

0303005016 ZR X3,QEQ5A . BRANCH IF RIGHT OP IS INTEGER

5013 0311000665 NZ X1,ERR47 . ERROR IF NOT SF

5120000205 SA2 MINSTAT

5014 7100000002 SX0 SSTY

20067 LX0 55

12640 BX6 X4+X0 . ADD SS TYPE BITS

5015 53620 SA6 X2 . IF SF STORE IN XWRD

0400005017 EQ QEQ5B

5016 10644 QEQ5A BX6 X4 . ELSE IN SAVE LOCATION

5160000235 SA6 QEQSV

5017 6166777775 QEQ5B SB6 B6-2

5110001033 SA1 TENTO10

5020 10011 BX0 X1

5100000012 SA0 10

5021 0100000660 RJ SACHEK . CHECK LEFT PARAM

5022 5100000002 SA0 2

0100002052 RJ RESERVE

5023 5120000205 SA2 MINSTAT

53220 SA2 X2

10622 BX6 X2

5024 0312005027 NZ X2,QEQ5C . RESTORE RIGHT PARAM

5120001667 SA2 ITYWD

5025 5110000235 SA1 QEQSV . CUT IT SHORT IF INTEGER

10722 BX7 X2

10611 BX6 X1

5026 5166777776 SA6 B6-1

0400005033 EQ QEQ5D

5027 74700 QEQ5C SX7 A0 . SACHEK DOES NOT CARE IF THE

5166777776 SA6 B6-1 . SS BITS ARE ON

56760 SA7 B6

5030 13777 BX7 X7-X7 . CLEAR XWRD

54720 SA7 A2

5110001033 SA1 TENTO10

5031 10011 BX0 X1

5100000012 SA0 10

5032 0100000660 RJ SACHEK . CHECK RIGHT PARAM

5033 63170 QEQ5D SB1 X7

57161 SA1 B6-B1

20703 LX7 3

20103 LX1 3

5034 0327005035 PL X7,QEQ6

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 102

RUN - TIME FUNCTIONS SNOJOB

0331005000 NG X1,QEQ2 . BRANCH IF BOTH ARE INTEGERS

5035 6150000040 QEQ6 ERROR 32

\*

\*

5036 0314000665 QEQ7 NZ X4,ERR47

6166777775 SB6 B6-2

5037 5116000001 SA1 B6+1

5126777776 SA2 B6-1

5040 31121 FX1 X2-X1 . COMPARE REAL VALUES

24101 NX1 X1 . TAKE CARE OF ZERO RESULT

0400005002 EQ QEQ3

\*

5041 5110001033 QEQ8 SA1 TENTO10 . CHECK SIMGLE PARAM

5100000012 SA0 10

5042 10011 BX0 X1

76510 SX5 B1

0100000660 RJ SACHEK

5043 20703 LX7 3

5116777776 SA1 B6-1

5044 0337005002 NG X7,QEQ3 . BRANCH IF INTEGER TYPE

6150000040 ERROR 32

\*

5046 EQQ BSS 0

\*

\*

5046 6140002073 QSPAN SB4 SPANPM

0400005052 EQ QANY1

5047 6140002105 QBREAK SB4 BREAKPM

0400005052 EQ QANY1

5050 6140002066 QNOTANY SB4 NTANYPM

0400005052 EQ QANY1

5051 6140002060 QANY SB4 ANYPM

5052 7255777776 QANY1 SX5 X5-1 . NO OF PARAMETERS

0315000317 NZ X5,ERR20

5053 56160 SA1 B6

21167 AX1 55 . TYPE OF PARAMETER

0311005064 NZ X1,QANY3 . BRANCH IF NOT SF

5054 5126777776 QANY2 SA2 B6-1 . SVD TO X2

21244 AX2 36

63520 SB5 X2 . LENGTH TO B5

5055 53020 SA0 X2

64320 SB3 A2

0100002052 RJ RESERVE . RESERVE B5 WORDS

5056 76640 SX6 B4 . PM OPERATION TO X6

7145000002 SX4 B5+2 . BYPASS TO X4

20660 LX6 48

5057 77263 SX2 B6-B3 . PM OPERATION BYPASS PART

56130 SA1 B3

12662 BX6 X6+X2

56630 SA6 B3 . STIRE PM OPERATION

5060 7130000004 SX3 PSTY

20367 LX3 55

12734 BX7 X3+X4

5061 10411 BX4 X1

56760 SA7 B6 . STORE HEADING ( PS TYPE )

0100002275 RJ SSTOS . BREAK THE STRING DOWN INTO

5062 76670 SX6 B7 . FREE SF PARAMETER

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 103

RUN - TIME FUNCTIONS SNOJOB

63740 SB7 X4

21422 AX4 18

53640 SA6 X4

5063 0400000441 EQ NEXTMIC . CHARACTERS AND EXIT

5064 7211777770 QANY3 SX1 X1-ITY

0311000330 NZ X1,ERR29 . ERROR IF NOT INTEGER

5065 5116777776 SA1 B6-1

0100002364 RJ ITOSF . CONVERT I TO SF

5066 5166777776 SA6 B6-1

0400005054 EQ QANY2

\*

5067 ANYQ BSS 0

\*

5067 7255777776 QTRIM SX5 X5-1

0315000317 NZ X5,ERR20 . ERROR IF MORE THAN ONE PARAMETER

5070 56160 SA1 B6

21167 AX1 55

0301005073 ZR X1,QTRIM1 . BRANCH IF STRING PARAM

5071 7211777770 SX1 X1-ITY

0311000330 NZ X1,ERR29 . ERROR IF NOT INTEGER

5072 0400000441 EQ NEXTMIC . INTEGERS ARE TRIMMED ANYWAY

5073 5126777776 QTRIM1 SA2 B6-1 . SVD OF OPERAND

13666 BX6 X6-X6 . CHARACTER COUNT

10522 BX5 X2

5074 5212000000 SA1 X2+0 . TO INITIALIZE X3

43066 MX0 54

5075 7140000055 SX4 1R . BLANK TO X4

6110000000 SB1 0 . NO SKIP MODE

5076 0302005107 QTRIM2 ZR X2,QTRIM5 . FINIS IF LINK IS ZERO

74310 SX3 A1 . LAST REFERENCE

53120 SA1 X2 . NEXT WORD

5077 73210 SX2 X1

13112 BX1 X1-X2 . REMOVE LINK

6120777771 SB2 -6 . INITIALIZE POSITION COUNT

5100 20106 QTRIM3 LX1 6 . NEXT CHAR TO X7

6122000006 SB2 B2+6

15710 BX7 -X0\*X1

5101 0307005076 ZR X7,QTRIM2 . NEXT WORD IF IT IS ZERO

7266000001 SX6 X6+1 . BUMP CHARACTER COUNT

5102 13774 BX7 X7-X4 . COMPARE IT WITH A BLANK

0410005105 EQ B1,B0,QTRIM4 . BRANCH IF NO SKIP

5103 0307005100 ZR X7,QTRIM3 . NEXTCHAR IF BLANK

66100 SB1 B0 . END SKIP MODE IF NOT BLANK

5104 0400005100 EQ QTRIM3

5105 0317005100 QTRIM4 NZ X7,QTRIM3 . NOT BLANK IN NO SKIP

64110 SB1 A1 . BLANK IN NO SKIP

53060 SA0 X6

5106 66320 SB3 B2

63530 SB5 X3

0400005100 EQ QTRIM3

5107 0410000441 QTRIM5 EQ B1,B0,NEXTMIC . RETURN IF NO SKIP

0530005113 NE B3,B0,QTRIM6

5110 5131000000 SA3 B1+0 . CASE OF ALL BLANKS

73630 SX6 X3

54630 SA6 A3

5111 56250 SA2 B5 . FIRST BLANK WAS THE FIRST

76110 SX1 B1 . CHARACTER IN A WORD

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 104

RUN - TIME FUNCTIONS SNOJOB

73720 SX7 X2

13727 BX7 X2-X7

5112 54720 SA7 A2

0400005115 EQ QTRIM7

5113 56110 QTRIM6 SA1 B1 . FIRST BLANK WAS NOT THE FIRST

43006 MX0 6 . CHARACTER IN A WORD

6133777771 SB3 B3-6

5114 23030 AX0 X0,B3 . MASK THE BLANKS OFF

11701 BX7 X0\*X1

54710 SA7 A1

64510 SB5 A1

5115 73750 QTRIM7 SX7 X5 . FIRST

76650 SX6 B5 . LAST

73350 SX3 X5

21522 AX5 18

5116 20622 LX6 18

7000777776 SX0 A0-1 . LENGTH IN CHARACTERS

20044 LX0 36

5117 12767 BX7 X6+X7

12770 BX7 X7+X0 . FORM SVD IN X7

5176777776 SA7 B6-1 . RESULT

5120 73110 SX1 X1 . RETURN IF NOTHING IS THERE

13331 BX3 X3-X1 . TO BE FREED

0301000441 ZR X1,NEXTMIC

5121 0303000441 ZR X3,NEXTMIC

76770 SX7 B7 . FREE WORDS CONTAINING TRAILING

63710 SB7 X1 . BLANKS

5122 53750 SA7 X5

0400000441 EQ NEXTMIC

\*

5123 TRIMQ BSS 0

\*

5123 6110000221 QANCHOR SB1 ANCHOR . STANDARD PROCEDURE ANCHOR

5124 56160 QANCHOR1 SA1 B6

21167 AX1 55

0311005126 NZ X1,QANCHOR2 . BRANCH IF PARAM IS NOT A STRING

5125 5126777776 SA2 B6-1

53120 SA1 X2 . FETCH FIRST WORD OF STRING

5126 10711 QANCHOR2 BX7 X1 . SET KEYWORD TO ZERO IF PARAM

56710 SA7 B1 . IS A NULL STRING ELSE

\* . SET IT TO NOT ZERO

7245777776 SX4 X5-1

5127 0304004724 ZR X4,QIF

0400000317 EQ ERR20 . ONLY ONE PARAMETER ALLOWED

\*

5130 ANCHORQ BSS 0

\*

\*

5130 7255777776 QARBNO SX5 X5-1

0315000317 NZ X5,ERR20 . ERROR IF MORE THAN ONE PARAM

5131 56160 SA1 B6

21167 AX1 55

0301005135 ZR X1,QARBN1 . BRANCH IF STRING

5132 7211777770 SX1 X1-ITY

0331005137 NG X1,QARBN2 . BRANCH IF PATTERN

5133 0311000326 NZ X1,ERR27 . ERROR IF NOT INTEGER

6110005135 SB1 QARBN1

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 105

RUN - TIME FUNCTIONS SNOJOB

5134 0400002401 EQ ITOSFTP . CONVERT INTEGER TO STRING

5135 6110005137 QARBN1 SB1 QARBN2 . CONVERT STRING TO PATTERN

7146777776 SX4 B6-1

5136 66400 SB4 B0 . SIGNAL SF TYPE

0400001344 EQ PMSF

5137 56460 QARBN2 SA4 B6

63240 SB2 X4

5100000003 SA0 3

5140 66360 SB3 B6

74602 SX6 A0+B2 . NEW BYPASS

0100002052 RJ RESERVE . RESERVE THREE LOCATIONS

5141 5113777776 QARBN3 SA1 B3-1 . PUSH PATTERNN TOWARD HIGH CORE

6122777776 SB2 B2-1 . TO MAKE ROOM FOR ARBNO HEADING

5142 10711 BX7 X1

64310 SB3 A1

5071000002 SA7 A1+2

5143 0520005141 NE B2,B0,QARBN3

7100001751 SX0 ARBNOPM

5144 7110000006 SX1 PETY

7120001624 SX2 ENDEXPM

5145 6110777776 SB1 -1

20060 LX0 48 . PREPARE ARBNOPM OPERATION

20167 LX1 55 . PREPARE PS TYPE HEADING

5146 20260 LX2 48 . PREPARE END EXPRESSION

73761 SX7 X6+B1 . BYPASS FOR ARBNOPM

12661 BX6 X6+X1 . FORM HEADING IN X6

12770 BX7 X7+X0

5147 57731 SA7 B3-B1

56660 SA6 B6

10722 BX7 X2

5150 7160377777 SX6 MARK . PART OF THE ARBNO OPERATION

55671 SA6 A7-B1

56761 SA7 B6+B1

5151 0400000441 EQ NEXTMIC

\*

5152 ARBNOQ BSS 0

\*

\*

\*

5152 20514 QNXID6 LX5 12 . LEFT JUSTIFY LAST WORD

22735 LX7 X5,B3

56170 SA1 B7

5153 0420005161 EQ B2,B0,QNXID . RETURN IF NO RESULT

0311005155 NZ X1,QNXID7

5154 0100002057 RJ MORFREE

5155 54710 QNXID7 SA7 A1 . STORE LAST WORD

63710 SB7 X1

0336005157 NG X6,QNXID8 . BYPASS IF NOTHING TO BE FREED

5156 76770 SX7 B7

66740 SB7 B4 . FREE USED INPUT WORDS

53760 SA7 X6

5157 74610 QNXID8 SX6 A1 . LAST

76720 SX7 B2 . LENGTH

20622 LX6 18

20744 LX7 36

5160 76150 SX1 B5 . FIRST

12676 BX6 X7+X6 . FORM SVD IN X6 AND RETURN

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 106

RUN - TIME FUNCTIONS SNOJOB

12616 BX6 X1+X6

5161 46000 QNXID NO . ENTRY POINT

5162 63440 + SB4 X4 . FIRST TO BE FREED

66570 SB5 B7 . FIRST

66200 SB2 B0 . FIRST SYMBOL = TRUE

13555 BX5 X5-X5 . CLEAR OUTPUT WORD

5163 6130000060 SB3 48 . OUTPUT POSITION

0400005166 EQ QNXID2

5164 0304005152 QNXID1 ZR X4,QNXID6 . END OF INPUT

53240 SA2 X4 . TAKE NEXT WORD

73420 SX4 X2

5165 74620 SX6 A2 . LAST TO BE FREED

13224 BX2 X2-X4

5166 20206 QNXID2 LX2 6

15320 BX3 -X0\*X2 . NEXT INPUT CHARACTER TO X3

0303005164 ZR X3,QNXID1 . END OF WORD

5167 7273777744 SX7 X3-1RZ-1

0337005173 NG X7,QNXID3 . BRANCH IF ALPHABETIC

5170 7273777732 SX7 X3-1R9-1

0420005161 EQ B2,B0,QNXID

5171 0337005173 NG X7,QNXID3 . BRANCH IF DIGIT

7273777720 SX7 X3-1R.

5172 0317005152 NZ X7,QNXID6 . BRANCH IF TERMINATOR

5173 6122000001 QNXID3 SB2 B2+1 . FIRST SYMBOL = FALSE

6133777771 SB3 B3-6

5174 0530005200 NE B3,B0,QNXID5 . BYPASS IF OUTPUT WORD NOT FULL

20522 LX5 18

56170 SA1 B7

5175 0311005176 NZ X1,QNXID4 . GET FREE WORD

0100002057 RJ MORFREE

5176 73110 QNXID4 SX1 X1

63710 SB7 X1 . ADD LINK

12751 BX7 X5+X1

13555 BX5 X5-X5

5177 5071000000 SA7 A1+0 . STORE OUTPUT WORD

6130000052 SB3 42

5200 20506 QNXID5 LX5 6 . PACK NEXT OUTPU0 CHARACTER

12553 BX5 X5+X3

0400005166 EQ QNXID2

\*

5201 46000 SRCHCLL NO

5202 7100000035 + SX0 CALLTYP . SEARCH FOR A CALL TYPE ENTRY

0100002645 RJ INDRX . IN STATIC

5203 0430005201 EQ B3,B0,SRCHCLL . RETURN IF NEW ENTRY

53210 SA2 X1

10322 BX3 X2

5204 21367 AX3 55

76770 SX7 B7

0313005201 NZ X3,SRCHCLL . RETURN IF NOT PROCEDURE

5205 63720 SB7 X2 . RELEASE PARAMETERLIST

5206 53220 SRCHC1 SA2 X2

73220 SX2 X2

0312005206 NZ X2,SRCHC1

5207 54720 SA7 A2

0400005201 EQ SRCHCLL

\*

\*

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 107

RUN - TIME FUNCTIONS SNOJOB

5210 56160 QDEFINE SA1 B6 . STANDARD PROCEDURE DEFINE

5146777776 SA4 B6-1

43701 MX7 1

5211 6110000001 SB1 1

7255777776 SX5 X5-1 . BYPASS IF ONE PARAMETER

5212 0305005224 ZR X5,QDEF1

7265777776 SX6 X5-1

5213 0316000317 NZ X6,ERR20 . MORE THAN TWO PARAMETERS

20766 LX7 54

12771 BX7 X7+X1

5214 54710 SA7 A1 . SET BIT A ON TOP STACK ENTRY

21167 AX1 55

0311000330 NZ X1,ERR29 . ERROR IF NOT SF

5215 53240 SA2 X4 . FIRST WORD OF STRING

0312005220 NZ X2,QDEF0 . SECOND ARGUMENT NOT NULL

76770 SX7 B7 . FREE THE

5216 54720 SA7 A2 . NULL SECOND

64770 SB7 A7 . PARAMETER AND

6166777775 SB6 B6-2 . POP THE STACK

5217 0200005210 JP QDEFINE . TRY AGAIN

5220 43066 QDEF0 MX0 54 . =HOLE 6

13222 BX2 X2-X2

0100005161 RJ QNXID . GET IDENTIFIER

5221 0314000344 NZ X4,ERR44 . ERROR IF TERMINATOR IS NOT END

5166777776 SA6 B6-1

5222 6110000000 SB1 0 . SET A FLAG, TWO PARAMS

5116777775 SA1 B6-2

5223 5146777774 SA4 B6-3

5224 21167 QDEF1 AX1 55

43066 MX0 54

0311000330 NZ X1,ERR29 . ERROR, FIRST PARAM NOT SF

5225 13222 BX2 X2-X2

0100005161 RJ QNXID . GET FIRST IDENTIFIER

5226 0420000344 EQ B2,B0,ERR44 . ERROR, PROC NAME MISSING

7273777726 SX7 X3-1R(

5227 0317000344 NZ X7,ERR44 . TERMINATOR IS NOT (

0510005231 NE B1,B0,QDEF2

5230 5166777774 SA6 B6-3

0400005233 EQ QDEF3

5231 5166777776 QDEF2 SA6 B6-1 . IF IT IS THE ENTRY LABEL ALSO.

56160 SA1 B6 . SET BIT B ON TOP STACK ENTRY

43702 MX7 2

5232 20766 LX7 54

12771 BX7 X7+X1

54710 SA7 A1

5233 13666 QDEF3 BX6 X6-X6

66100 SB1 B0

5160000240 SA6 QDEFSV2 . NO OF PARAMS = 0

5234 10600 QDEF4 BX6 X0

0100005161 RJ QNXID . GET NEXT IDENTIFIER

5235 0313005236 NZ X3,QDEF5

0420005246 EQ B2,B0,QDEF6

5236 6111000001 QDEF5 SB1 B1+1 . BUMP NUMBER OF PARAMS

5100000002 SA0 2

5237 0420000344 EQ B2,B0,ERR44

0100002052 RJ RESERVE . STORE NAME AS A SF TYPE STACK

5240 5166777776 SA6 B6-1 . ENTRY

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 108

RUN - TIME FUNCTIONS SNOJOB

74700 SX7 A0

56760 SA7 B6

5241 0303005246 ZR X3,QDEF6

7273777721 SX7 X3-1R,

5242 0307005234 ZR X7,QDEF4

7273777725 SX7 X3-1R) . ) DELIMITS FORMALS AND LOCALS

5243 0317000344 NZ X7,ERR44

5110000240 SA1 QDEFSV2

5244 76710 SX7 B1

0311000344 NZ X1,ERR44 . TWO )-S IN PROTOTYPE

54710 SA7 A1

5245 0400005234 EQ QDEF4

5246 5110000240 QDEF6 SA1 QDEFSV2

0301000344 ZR X1,ERR44 . ERROR , NO ) IN PROTOTYPE

5247 7171000002 SX7 B1+2

20745 LX7 37 . APPETITE = 2 \* (LOCALS + FORMALS)

20122 LX1 18

5250 12771 BX7 X7+X1 . NO OF FORMALS IS IN X1

54710 SA7 A1

5251 0100002624 QDEF7 RJ INDRCT . FIND ADDRESS OF NEXT FORMAL

5252 5120000205 SA2 MINSTAT . PARAM OR LOCAL VARIABLE

0400005254 EQ QDEF9

5253 5121000000 QDEF8 SA2 B1+0

5254 63120 QDEF9 SB1 X2

0510005253 NE B1,B0,QDEF8

76770 SX7 B7

5255 12727 BX7 X2+X7 . PUT THE ADDRESS ON A LIST

54720 SA7 A2

73610 SX6 X1

56170 SA1 B7

5256 0311005257 NZ X1,QDEF10

0100002057 RJ MORFREE

5257 63710 QDEF10 SB7 X1

20622 LX6 18

56360 SA3 B6

54610 SA6 A1

5260 20306 LX3 6

0323005251 PL X3,QDEF7 . JUMP BACK IF BIT A IS NOT SET

66400 SB4 B0 . SIGNAL SF TYPE FOR INDRX

5261 5146777776 SA4 B6-1

7100000034 SX0 LBLTYP . FIND STATIC ADDRESS OF THE

5262 0100002645 RJ INDRX . ENTRY LABEL

5263 73610 SX6 X1

5160000235 SA6 QDEFSV1

43721 MX7 17

5264 0530005265 NE B3,B0,QDEF11

20722 LX7 18 . INITIALIZE LABEL IF NEW RECORD

53710 SA7 X1

5265 56160 QDEF11 SA1 B6

20107 LX1 7

0331005270 NG X1,QDEF12

5266 5116777776 SA1 B6-1 . RELEASE THE STRING CONTAINING

76770 SX7 B7 . THE ENTRY NAME IF BIT B IS NOT

63710 SB7 X1 . SET

5267 21122 AX1 18

53710 SA7 X1

6166777775 SB6 B6-2

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 109

RUN - TIME FUNCTIONS SNOJOB

5270 5146777776 QDEF12 SA4 B6-1 . FIND STATIC ADDRESS OF THE

0100005201 RJ SRCHCLL . PROCEDURE

5271 7271000000 SX7 X1+0

5170000241 SA7 QDEFSV3

5272 0100002624 RJ INDRCT . LOOK UF VARIABLE HAVING

5273 76670 SX6 B7 . THE SAME NAME AS THE PROCEDURE

6166000002 SB6 B6+2 . RESET STACK POINTER

20122 LX1 18 . FORM PARAMETER LIST BY CONCATE-

5274 5120000241 SA2 QDEFSV3 . NATING THE REVERSED LIST OF

12661 BX6 X6+X1 . STATIC ADDRESSES AND THE

63220 SB2 X2 . ADDRESS OF THE ENTRY LABEL

5275 56170 SA1 B7

5120000235 SA2 QDEFSV1

43001 MX0 1 . THIS BIT SIGNALS THE END OF LIST

5276 0311005277 NZ X1,QDEF13A

0100002057 RJ MORFREE

5277 63710 QDEF13A SB7 X1

20222 LX2 18

12720 BX7 X2+X0

54710 SA7 A1

5300 56170 SA1 B7

5140000205 SA4 MINSTAT

66170 SB1 B7

5301 0311005302 NZ X1,QDEF13B

0100002057 RJ MORFREE

5302 63710 QDEF13B SB7 X1

5061000000 SA6 A1+0

53240 SA2 X4

5303 13666 BX6 X6-X6

53640 SA6 X4 . CLEAR XWRD

63320 SB3 X2

5304 53320 QDEF14 SA3 X2 . NEXT WORD FROM ADDRESS LIST

73230 SX2 X3

13332 BX3 X3-X2

64430 SB4 A3

5305 56170 SA1 B7

0311005307 NZ X1,QDEF15

5306 0100002057 RJ MORFREE

5307 63710 QDEF15 SB7 X1

73110 SX1 X1

76710 SX7 B1

64110 SB1 A1

5310 12737 BX7 X3+X7

54710 SA7 A1 . NEXT WORD TO PARAM LIST

0312005304 NZ X2,QDEF14

5311 5120000240 SA2 QDEFSV2

76110 SX1 B1

12712 BX7 X1+X2

5312 56720 SA7 B2 . ASSIGN THE PARAM LIST IS THE

76670 SX6 B7 . STATIC ENTRY

66730 SB7 B3

56640 SA6 B4

5313 43005 MX0 5

0100002342 RJ ZROX7 . RESULT OF DEFINE IS A NULL STRING

5314 7160000002 SX6 2

15770 BX7 -X0\*X7 . CLEAR SS TYPE

56660 SA6 B6

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 110

RUN - TIME FUNCTIONS SNOJOB

5315 5176777776 SA7 B6-1

0400000441 EQ NEXTMIC

5316 DEFINEQ BSS 0

\*

\*

5316 66500 QDIFFER SB5 B0 . DIFFER FLAG

0400005320 EQ QCOMP

5317 6150000001 QIDENT SB5 1 . IDENT FLAG

5320 6215777775 QCOMP SB1 X5-2

0701000317 GT B1,B0,ERR20 . TOO MANY PARAMETERS

5321 6140000001 SB4 1 . SET IDENT FLAG

0710005345 LT B1,B0,QCOMP6 . NULL SECOND PARAMETER

5322 56160 SA1 B6

10011 BX0 X1 . SAVE HEADER WORD

21167 AX1 55

5323 0311005352 NZ X1,QCOMP8 . SECOND PARAMETER IS NOT SF

5324 5116777775 QCOMP1 SA1 B6-2

10011 BX0 X1 . SAVE HEADER WORD

21167 AX1 55

5325 0311005366 NZ X1,QCOMP14 . FIRST PARAMETER NOT SF

5116777774 SA1 B6-3 . FIRST SVD

5326 10011 QCOMP2 BX0 X1

76770 SX7 B7 . PREPARE TO FREE SF

63700 SB7 X0

21022 AX0 18

5327 53200 SA2 X0

12727 BX7 X2+X7

53700 SA7 X0

21022 AX0 18 . SAVE LENGTH OF STRING

5330 5126777776 SA2 B6-1 . SECOND SVD

10522 BX5 X2

76670 SX6 B7

5331 63750 SB7 X5

21522 AX5 18

53350 SA3 X5

12736 BX7 X3+X6

5332 53750 SA7 X5

21522 AX5 18 . LENGTH OF STRING

6166777773 SB6 B6-4 . POP DESCRIPTORS FROM STACK

5333 37505 IX5 X0-X5 . COMPARE LENGTH

0315005344 NZ X5,QCOMP5 . DIFFER

5334 53310 QCOMP3 SA3 X1

73130 SX1 X3 . LINK OF STRING ONE

53420 SA4 X2

13313 BX3 X1-X3

5335 73240 SX2 X4 . LINK TO STRING TWO

13424 BX4 X2-X4

13334 BX3 X3-X4 . COMPARE STRING WORDS

13426 BX4 X2-X6 . SEE IF END OF STRING

5336 0313005344 NZ X3,QCOMP5 . DIFFER

0314005334 NZ X4,QCOMP3 . TRY NEXT PAIR

5337 0545000465 QCOMP4 NE B4,B5,FAIL

5340 0100002342 MKNULL RJ ZROX7

5341 43005 MX0 5

15770 BX7 -X0\*X7 . CLEAR SS TYPE

5176000001 SA7 B6+1

5342 7160000002 SX6 2

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 111

RUN - TIME FUNCTIONS SNOJOB

6166000002 SB6 B6+2

5343 56660 SA6 B6

0400000441 EQ NEXTMIC

5344 66400 QCOMP5 SB4 B0 . SET DIFFER FLAG

0400005337 EQ QCOMP4

5345 56160 QCOMP6 SA1 B6 . HEADER WORD

10011 BX0 X1

5126777776 SA2 B6-1

5346 21167 AX1 55

0311005362 NZ X1,QCOMP12 . GO POP STACK, REPORT DIFFER

53120 SA1 X2 . FIRST STRING WORD

5347 0301005350 ZR X1,QCOMP7 . IDENT

66400 SB4 B0 . SET DIFFER F-AG

5350 76770 QCOMP7 SX7 B7 . PREPARE TO FREE SF

63720 SB7 X2

21222 AX2 18

53720 SA7 X2

5351 6166777775 SB6 B6-2

0400005337 EQ QCOMP4

5352 7211777770 QCOMP8 SX1 X1-ITY

0311005355 NZ X1,QCOMP9

5353 5116777776 SA1 B6-1

0100002364 RJ ITOSF

5354 5166777776 SA6 B6-1

0400005324 EQ QCOMP1

5355 63300 QCOMP9 SB3 X0 . BYPASS OF SECOND PARAM

57263 SA2 B6-B3

13302 BX3 X0-X2

67663 SB6 B6-B3 . POP SECOND PARAMETER

5356 0313005363 NZ X3,QCOMP13 . DIFFER

6133777776 SB3 B3-1 . GET WORD COUNT

5357 55114 QCOMP10 SA1 A1-B4

55224 SA2 A2-B4

37112 IX1 X1-X2

67334 SB3 B3-B4 . DECREMENT WORD COUNT

5360 0311005362 NZ X1,QCOMP12 . DIFFER

0530005357 NZ B3,QCOMP10

5361 63300 QCOMP11 SB3 X0

67663 SB6 B6-B3 . POP FIRST PARAM

0400005337 EQ QCOMP4

5362 66400 QCOMP12 SB4 B0 . SET DIFFER FLAG

0400005361 EQ QCOMP11

5363 10022 QCOMP13 BX0 X2 . SAVE SVD

21267 AX2 55

66400 SB4 B0 . SET DIFFER FLAG

5364 0312005361 NZ X2,QCOMP11 . POP FIRST PARAMETER, EXIT

5126777776 SA2 B6-1

5365 0400005350 EQ QCOMP7 . FREE FIRST PARAMETER, EXIT

5366 7211777770 QCOMP14 SX1 X1-ITY

0311005371 NZ X1,QCOMP15

5367 5116777774 SA1 B6-3

0100002364 RJ ITOSF

5370 10166 BX1 X6

0400005326 EQ QCOMP2

5371 57164 QCOMP15 SA1 B6-B4 . PREPARE TO FREE SECOND PARAMETER

76770 SX7 B7

63710 SB7 X1

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 112

RUN - TIME FUNCTIONS SNOJOB

21122 AX1 18

5372 53710 SA7 X1

65614 SB6 A1-B4

0400005362 EQ QCOMP12 . SET DIFFER FLAG AND POP FIRST PARAM

\*

5373 COMPQ BSS 0

\*

5373 7255777776 QSTAR SX5 X5-1

0315000317 NZ X5,ERR20 ONLY ONE ARGUMENT IF YOU PLEASE

5374 56160 SA1 B6 PICK UP THE DESCRIPTOR

21167 AX1 55 SHIFT THE DESCRIPTOR TO THE TYPE FIELD

0301005424 ZR X1,HEXTERN STRING TO INTEGER CONVERSION DESIRED

5375 7211777770 SX1 X1-ITY IS IT AN INTEGER

0311000330 NZ X1,ERR29 WHAT DO YOU WANT, MAGIC.....

5376 5116777776 SA1 B6-1 PICK UP THE INTEGER

5377 43201 HEXUDE MX2 1 PREPARE TO PICK OFF THE TOP BIT

11221 BX2 X2\*X1 PICK OFF THE SIGN BIT

43414 MX4 12

15114 BX1 -X4\*X1

5400 20201 LX2 1 SHIFT THE SIGN BIT TO ADD POSITION

36121 IX1 X2+X1 MAKE THE NUMBER TWOS COMPLEMENT

43070 MX0 56 THE COMPLEMENT OF THE FOUR BIT MASK

5401 7140001777 SX4 1777B THIS IS THE NUMBER OF TIMES AROUND THE LOOP

43600 MX6 0 CLEAR THE FIRST WORD RESULT REGISTER

5402 15310 HEXED BX3 -X0\*X1 PICK OFF A CHARACTER

21104 AX1 4 SHIFT THE SOURCE WORD ONE CHARACTER

7223777765 SX2 X3-12B IS IT 0-9 OR A-F

5403 0322005404 PL X2,HEXALL GO WASH YOUR MOUTH OUT

7233000044 SX3 X3+44B IT IS A DIGIT 0-9 ADD IN 33B

5404 7233777766 HEXALL SX3 X3-11B

21401 AX4 1 DECREMENT THE COUNTER (NOTE PALINDROMIC SHIFTS)

12663 BX6 X6+X3 OR THE CHARACTER INTO THE RESULT REGISTER

5405 20666 LX6 60-6 SHIFT THE RESULT ONE PARCEL RIGHT

0314005402 NZ X4,HEXED SHOULD WE DO IT AGAIN

43436 MX4 30 PICK UP THE LOW FIVE CHARACTERS

5406 15764 BX7 -X4\*X6 LOAD THEM INTO THE SECOND WORD

11646 BX6 X4\*X6 KILL OFF THE OLD BITS IN X6

7140000003 SX4 3 WE GO AROUND THIS LOOP TWICE

5407 15310 HEXAGON BX3 -X0\*X1 PICJ UP YE OLDE CHARACTER

21104 AX1 4 END OFF THE DATA WORD

7223777765 SX2 X3-12B AGAIN, ARE WE FISH OR FOWL

5410 0322005411 PL X2,NOHEX

7233000044 SX3 X3+44B CLEARLY IT IS A FOWL

5411 7233777766 NOHEX SX3 X3-11B BIRDS AND FISH ARE RELATED

21401 AX4 1 DECREMENT THE LOOP COUNTER IN TIME FOR CHRISTMAS

12663 BX6 X6+X3 OR THE CHARACTER INTO THE DESTINATION REG

5412 20666 LX6 60-6 SHIFT THE DESTINATION REGISTER RIGHT

0314005407 NZ X4,HEXAGON SIX SIDES TIME TWO MAKE TWELVE CHARS.

76170 SX1 B7 PICK UP THE NEXT FREE WORD ADDRESS

5413 43002 MX0 2 THIS IS AN 12B BELIEVE IT OR NOT

20050 LX0 36+4 ONE FOR ME AND ONE FOR YOU

12410 BX4 X1+X0 OR IN THE LINK ADDRESS

56170 SA1 B7 PCIK UP THE POINTER TO THE NEXT FREE WORD

5414 0311005415 NZ X1,HEXSTAR IF THERE IS ONE OKAY, IF NOT THEN

0100002057 RJ MORFREE REQUEST MORE GARBAGE FROM THE FSL

5415 63710 HEXSTAR SB7 X1 PICK UP THE CHAIN ADDRESS

73110 SX1 X1 ONLY 18 BITS SURVIVE

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 113

RUN - TIME FUNCTIONS SNOJOB

12661 BX6 X6+X1 OR THE DATA INTO THE CHAIN LINK ADDRESS

54610 SA6 A1 STORE THE DATA AND CHAIN IN THE INDICATED ADDRES

5416 20736 LX7 30 JUSTIFY THE SECOND WORD PROPERLY

56170 SA1 B7 AND GET THE NEXT FREE WORD POINTER

0311005420 NZ X1,STARHEX IF NONE IS AVAILABLE GET SOME

5417 0100002057 RJ MORFREE SOME IS GOTTEN

5420 63710 STARHEX SB7 X1 GET THE CHAIN POINTER BACK INTO B7

73110 SX1 X1 TRUNCATE ALL BUT THE BOTTOM 18 BITS

74510 SX5 A1 GET THE CHAIN ADDRESS

54710 SA7 A1 STUFF THE WORD AWAY

5421 20522 LX5 18 SHIFT FOR THE DESCRIPTOR

12645 BX6 X4+X5 LOAD THE DESCRITOR WITH THE END

5166777776 SA6 B6-1 LOAD THE DESCRIPTOR ADDRESS

5422 7170000002 SX7 2 ALMOST DONE

56760 SA7 B6 ALL DONE NOW

5423 0400000441 EQ NEXTMIC GO TO THE NEXT MICROP

5424 5116777776 HEXTERN SA1 B6-1 GET THE ACTUAL PARAMETER

43052 MX0 42

13666 BX6 X6-X6 IDLE UNITS ARE THE DEVIL PLAYTHINGS

5425 43306 MX3 6

13777 BX7 X7-X7

5426 15210 HEXCITE BX2 -X0\*X1 YANK OFF THE LINK ADDRESS

11101 BX1 X0\*X1 TRIM THE DATA OFF THE WORD

5427 11431 HEXAM BX4 X3\*X1 MUNCH OFF A CHARACTER

15113 BX1 -X3\*X1 DELETE THE CHARACTER FROM THE WORD

20406 LX4 6 ROUND THE ROSY ONE CHARACTER

20106 LX1 6 LIKEWISE IM SURE

5430 0304005437 ZR X4,HEXCISE IF CHARACTER IS NULL,CHECK LINK

7254777731 SX5 X4-1R- MINUS SIGN PERCHANCE

5431 0305005441 ZR X5,HEXCELL WHY YES IT IS A MINUS SIGN

7254777732 SX5 X4-1R+ WHAT ABOUT A UNARY PLUS SIGN

5432 0305005427 ZR X5,HEXAM IF IT IS IGNORE IT THOROUGHLY

7254777732 SX5 X4-45B ARE WE IN THE BOUNDS OF AN INTEGER

5433 0325000465 PL X5,FAIL THOUGHT YOUWOULD SLIP ONE OVER ON ME DID YOU

7254777744 SX5 X4-33B CHECK LOWER BOUND

5434 0335000465 NG X5,FAIL NAUGHTY,NAUGHTY TO FOOL MOTHER NATURE

10466 BX4 X6 LOOK HOW I MULTIPLY BY TEN

20401 LX4 1 TIMES TWO

5435 20603 LX6 3 TIMES EIGHT

36664 IX6 X6+X4 AND WE GET TIMES TEN

36665 IX6 X6+X5 ADD IN THE NEW CHARACTER

5436 0400005427 EQ HEXAM OFF WE GO INTO THE WIDE BLUE YONDER

5437 0302005442 HEXCISE ZR X2,HEXTANT NOW CUT THAT OUT(PUN)

53120 SA1 X2 PICK UP THE WORD POINTED TO BY THE LINK

5440 0400005426 EQ HEXCITE TURN ON THE PROCESS AGAIN

5441 14777 HEXCELL BX7 -X7 GEN UP A WORD OF ALL ONES

0400005427 EQ HEXAM SHAZZAN

5442 13167 HEXTANT BX1 X6-X7 COMPLEMENT IF NECESSARY

0400005377 EQ HEXUDE EXUDE CONFIDENCE THAT WE ARE DONE

5443 STARQ BSS 0

5443 7255777776 QUNSTAR SX5 X5-1

0315000317 NZ X5,ERR20 TWO MANY ARGUMENTS(PUN)

5444 56160 SA1 B6 PCIK UP THE DESCRIPTOR

21167 AX1 55 OFF WITH HIS HEAD

0301005447 ZR X1,HEXTINT STRING IN

5445 7211777770 SX1 X1-ITY IS IT AN INTEGER

0311000330 NZ X1,ERR29 NO ITS NOT, ZAPPPPP....

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 114

RUN - TIME FUNCTIONS SNOJOB

5446 0400000465 EQ FAIL DONT CALL ME ILL CALL YOU

5447 5116777776 HEXTINT SA1 B6-1 PICK UP THE VARIABLE FIRST WORD

43052 MX0 42

13666 BX6 X6-X6

5450 43306 MX3 6

5451 15210 HEXNEXT BX2 -X0\*X1 PICK UP THE LINK ADDRESS (IF ANY)

11101 BX1 X0\*X1 MASK THE DATA REGISTER

5452 11431 HEXIT BX4 X3\*X1 PCIK UP ONE CHARACTER

15113 BX1 -X3\*X1 CLEAN OUT THAT CHARACTER

20406 LX4 6 SHIFT THE CHARACTER TO THE LOW BYTE

20106 LX1 6 SHIFT THE HOLE IN THE DATA WORD TO THE LOW BYTE

5453 0304005460 ZR X4,HEXOUT IF NO CHARACTER CHECK FOR NEXT LINKAGE

7254777732 SX5 X4-45B DID WE OVERSHOOT

5454 0325000465 PL X5,FAIL

7254777744 SX5 X4-33B IS THIS A DECIMAL NUMBER

5455 0325005457 PL X5,PUREHEX YES IT IS, JUMP TO STORAGE ROUTINE

7254777770 SX5 X4-7B IS IT A VALID HEXADECIMAL DIGIT

5456 0325000465 PL X5,FAIL

7254000011 SX5 X4+11B CONVERT IT TO BINARY

5457 20604 PUREHEX LX6 4 SHIFT THE DESTINATION REGISTER TO ACCEPT THE OR

12665 BX6 X6+X5 OR IN THE CHARACTER

0400005452 EQ HEXIT GO BACK AND TRY IT AGAIN

5460 0302005462 HEXOUT ZR X2,HEXDONE

53120 SA1 X2 PICK UP THE NEXT WORD IN THE CHAIN

5461 0400005451 EQ HEXNEXT

5462 43014 HEXDONE MX0 12

15660 BX6 -X0\*X6 CLEAR THE HIGH BITS JUST IN CASE

43315 MX3 13

11336 BX3 X3\*X6 PICK OFF THE HEXADECIMAL SIGN BIT

5463 20315 LX3 13

37663 IX6 X6-X3 SUBTRACT OFF THE ADDITIONAL COMPLEMENT

20614 LX6 12 POSIITION THE HEX SIGN BIT TO THE TOP

21614 AX6 12 SHIFT THE BIT INTO ALL 12 POSITIONS

5464 5166777776 SA6 B6-1

7170000007 SX7 ITY

5465 20767 LX7 55

7110000002 SX1 2

12717 BX7 X1+X7

5466 56760 SA7 B6

0400000441 EQ NEXTMIC

5467 UNSTARQ BSS 0

5467 7255777776 QCNVT SX5 X5-1

0315000317 NZ X5,ERR20 . TOO MANY PARAMETERS

5470 56160 SA1 B6

21167 AX1 55 . EXAMINE TYPE

0301005502 ZR X1,QCNVT3 . SFTY

5471 7211777767 SX1 X1-RTY

0311005475 NZ X1,QCNVT1 . INTEGER OR WHAT

5472 5116777776 SA1 B6-1

0100002416 RJ RTOSF

5473 5166777776 SA6 B6-1

7170000002 SX7 SSTY STRING TYPE AS RESULT

5474 56760 SA7 B6

0400000441 EQ NEXTMIC

5475 7211000001 QCNVT1 SX1 X1+RTY-ITY

0311000330 NZ X1,ERR29 . PARAMETER TYPE ERROR

5476 5116777776 SA1 B6-1

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 115

RUN - TIME FUNCTIONS SNOJOB

27601 PX6 X1

24606 NX6 X6

5477 5166777776 QCNVT2 SA6 B6-1

7170000010 SX7 RTY

5500 20767 LX7 55

7110000002 SX1 2

12717 BX7 X1+X7

5501 56760 SA7 B6

0400000441 EQ NEXTMIC

5502 13777 QCNVT3 BX7 X7-X7 . SIGN ASSUMED POSITIVE

43600 MX6 0

6140000000 SB4 0

5503 5116777776 SA1 B6-1 . SVD

7100000077 SX0 77B

5504 43500 MX5 0

66500 SB5 B0

66400 SB4 B0

5505 5140002341 SA4 TEN

5506 0301005526 QCNVT4 ZR X1,QCNVT9 . END OF STRING

5221000000 SA2 X1+0 . NEXT STRING WORD

5507 7212000000 SX1 X2+0 . LINK

13221 BX2 X2-X1 . CLEAR LOWER 18 BITS

5510 20206 QCNVT5 LX2 6

11302 BX3 X0\*X2

0303005506 ZR X3,QCNVT4

5511 7233777744 SX3 X3-1R0

0333000351 NG X3,ERR53 . ILLEGAL CHARACTER IN REAL NUMBER

5512 6223777765 SB2 X3-1R++1R0

0620005520 GE B2,B0,QCNVT7 . NOT DIGIT

5513 27303 PX3 X3

24303 NX3 X3

0540005516 NZ B4,QCNVT6 . STATE IS AFTER POINT

5514 40664 FX6 X6\*X4 . NUMBER := NUMBER \* 10

30636 FX6 X3+X6 . NUMBER := NUMBER + NEW DIGIT

6150777775 SB5 1R9-1R- . STATE ]= AFTER SIGN

5515 0400005510 EQ QCNVT5

5516 40335 QCNVT6 FX3 X3\*X5 . SCALE NEW DIGIT

40554 FX5 X5\*X4

30636 FX6 X3+X6

5517 0400005510 EQ QCNVT5

5520 6223777753 QCNVT7 SB2 X3-1R.+1R0

0424005524 EQ B2,B4,QCNVT8 . POINT, IN -BEFORE POINT- STATE

5521 6223777764 SB2 X3-1R-+1R0

0752000351 GT B2,B5,ERR53 . ILLEGAL CHARACTER (INCLUDING

\* POINT OR SIGN IN WRONG STATE)

5522 6150777775 SB5 1R9-1R- . STATE ]=AFTER SIGN

0720005510 NG B2,QCNVT5 . SIGN WAS +

5523 43774 MX7 60 . NEGATIVE

0400005510 EQ QCNVT5

5524 5140005531 QCNVT8 SA4 ONETENTH

6140000021 SB4 77B-1R.+1 . STATE ]= AFTER POINT (77B IS CODE

\* FOR SEMICOLON - SEE TEST AT QCNVT7)

5525 10544 BX5 X4

0400005510 EQ QCNVT5

5526 5116777776 QCNVT9 SA1 B6-1

13667 BX6 X6-X7 . GIVE RESULT PROPER SIGN

76770 SX7 B7

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 116

RUN - TIME FUNCTIONS SNOJOB

5527 63710 SB7 X1

21122 AX1 18

5271000000 SA7 X1+0 . FREE SF STRING

5530 0400005477 EQ QCNVT2

5531 17146314631463146315 ONETENTH DATA 0.1E0

5532 CNVTQ BSS 0

\*

5532 7255777776 QARRAY SX5 X5-1 . X5 CONTAINS NO. OF PARAMETERS

0315000317 NZ X5,ERR20 . TOO MANY PARAMETERS

5533 56160 SA1 B6 . DESCRIPTOR FROM TOP OF STACK

21167 AX1 55

0311005627 NZ X1,QAR18 . IF NOT SF, MUST BE INTEGER

5534 5110000205 QAR0 SA1 MINSTAT

6251000000 SB5 X1+XWDREL . XWDREL IS KNOWN BY GARBCOLL.

5535 5116777776 SA1 B6-1 . SVD

73610 SX6 X1

56650 SA6 B5 . INITIALIZE XWDREL = NEXT STRING WRD

5536 7140000001 SX4 1

5110000204 SA1 MAXSTAT

5537 73610 SX6 X1

27404 PX4 X4 . X4 WILL CONTAIN ARRAYSIZE

5160000235 SA6 QARSV . SAVE OLD MAXSTAT

5540 7266000001 SX6 X6+1

6166777775 SB6 B6-2 . POP PARAMETER FROM STACK

5541 54610 SA6 A1 . LET MAXSTAT POINT AFTER HEADER WORD

13222 BX2 X2-X2 . X2 WILL CONTAIN CURRENT STRING WORD

7100000077 SX0 77B . ONE CHARACTER MASK

5542 7130000000 QAR1 SX3 0 . INTEGER := 0

66400 SB4 B0 . INSIDENUMBER := -FALSE-

43574 MX5 60 . BEFORECOLON := -TRUE-

5543 20206 QAR2 LX2 6

11102 BX1 X0\*X2 . EXAMINE NEXT CHARACTER

0311005547 NZ X1,QAR3

5544 56150 SA1 B5 . ADDRESS OF NEXT WORD

0301005571 ZR X1,QAR10 . END OF STRING

53210 SA2 X1 . PICK UP NEW WORD

5545 76770 SX7 B7 . PUT SF

53710 SA7 X1 . WORD ONTO

63710 SB7 X1 . FREE CHAIN

73720 SX7 X2 . LINK

5546 56750 SA7 B5

13227 BX2 X2-X7 . CLEAR LOWER 18 BITS

0400005543 EQ QAR2 . TRY AGIAN

5547 7261777744 QAR3 SX6 X1-1R0

0336000337 NG X6,ERR39 . MALFORMED PROTOTYPE (ILLEGAL CHAR)

5550 7276777765 SX7 X6-10

0337005556 NG X7,QAR4 . DIGIT

5551 7267777775 SX6 X7-2

0336005562 NG X6,QAR6 . SIGN

5552 7261777721 SX6 X1-1R,

0306005564 ZR X6,QAR7 . COMMA

5553 7261777777 SX6 X1-1R:

0306005565 ZR X6,QAR8 . COLON

5554 7261777727 SX6 X1-1R/

0306005565 ZR X6,QAR8 . COLON

5555 0400000337 EQ ERR39 . MFP (ILLEGAL CHAR, AGAIN)

5556 0540005560 QAR4 NZ B4,QAR5 . -IF- INSIDENUMBER -THEN- -JUMP-

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 117

RUN - TIME FUNCTIONS SNOJOB

6140000001 SB4 1 . INSIDENUMBER := -TRUE-

5557 73360 SX3 X6 . INTEGER := DIGIT

0400005543 EQ QAR2

5560 20301 QAR5 LX3 1

10733 BX7 X3

20302 LX3 2

36337 IX3 X3+X7

5561 36336 IX3 X3+X6 . INTEGER := INTEGER \* 10 + DIGIT

0400005543 EQ QAR2

5562 0540000343 QAR6 NZ B4,ERR43 . SYNTAX ERROR (TWO SIGNS)

14777 BX7 -X7

36777 IX7 X7+X7

5563 6247000001 SB4 X7+1 . SIGN := +1 OR -1

0400005543 EQ QAR2

5564 7160005542 QAR7 SX6 QAR1 . RETURN ADDRESS

0400005610 EQ QAR13 . PROCESS COMMA

5565 0325000343 QAR8 PL X5,ERR43 . SYNTAX ERROR (TWO COLONS)

0315000343 NZ X5,ERR43 . SYNTAX ERROR (TWO COLONS)

5566 43153 MX1 43

11113 BX1 X1\*X3

0311000346 NZ X1,ERR49 . LOWER BOUND TOO LARGE

5567 10533 BX5 X3

0640005570 GE B4,B0,QAR9 . -IF- SIGN = + -THEN- -JUMP-

14533 BX5 -X3

5570 13333 QAR9 BX3 X3-X3 . INTEGER := 0

66400 SB4 B0 . INSIDENUMBER := -FALSE-

0400005543 EQ QAR2

5571 7160005572 QAR10 SX6 QAR11 . RETURN ADDRESS

0400005610 EQ QAR13 . PROCESS IMPLIED COMMA

5572 43701 QAR11 MX7 1 . FLAG TO MARK LAST DESCRIPTOR

12767 BX7 X6+X7 . X6 CONTAINS LAST DESCRIPTOR

54760 SA7 A6

26404 UX4 X4

5573 36734 IX7 X3+X4 . X3 CONTAINS C(MAXSTAT)

5120000207 SA2 MINSTAK

54730 SA7 A3 . NEW MAXSTAT

5574 20522 LX5 18 . X5 ALSO CONTAINS OLD MAXSTAT

5110000235 SA1 QARSV

37631 IX6 X3-X1 . CALCULATE BYPASS

5575 7100000032 SX0 SPCTYP . STATIC RECORD TYPE

20622 LX6 18

20067 LX0 55

5576 12606 BX6 X0+X6

53610 SA6 X1

7201000000 SX0 X1+0 . DOPE ADDRESS

5577 12505 BX5 X0+X5 . COMBINE WITH BASE ADDRESS

37272 IX2 X7-X2

0332005601 NG X2,QAR12 . ROOM EXISTS FOR ARRAY

5600 6232000050 SB3 X2+BUFF4

0100002042 RJ PUSHSTK . MAKE ROOM

5601 7244777776 QAR12 SX4 X4-1 . DECREMENT ARRAY LENGTH

0100002342 RJ ZROX7 . MAKE NULL VALUE

5602 5273000000 SA7 X3+0

7233000001 SX3 X3+1

5603 0314005601 NZ X4,QAR12

7160000011 SX6 ATY . ARRAY TYPE

5604 5100000002 SA0 2

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 118

RUN - TIME FUNCTIONS SNOJOB

0100002052 RJ RESERVE . GET TWO STACK WORDS

5605 20667 LX6 55

12756 BX7 X5+X6

5176777776 SA7 B6-1

5606 7170000002 SX7 2

12767 BX7 X6+X7

56760 SA7 B6

5607 0400000441 EQ NEXTMIC

5610 43701 QAR13 MX7 1

20771 LX7 57

20636 LX6 30

12667 BX6 X6+X7

5611 5160005626 SA6 QAR17 . RETURN INSTRUCION

43153 MX1 43

11713 BX7 X1\*X3

5612 0317000346 NZ X7,ERR49 . UPPPER BOUND TOO LARGE

0325005614 PL X5,QAR14 . -IF- ^BEFORECOLON -THEN- -JUMP-

5613 0315005614 NZ X5,QAR14 . -IF- ^BEFORECOLON -THEN- -JUMP-

7150000001 SX5 1 . LOWERBOUND := 1 BY DEFAULT

5614 0640005615 QAR14 PL B4,QAR15 . UPPER IS POSITIVE

14333 BX3 -X3 . UPPER IS NEGATIVE

5615 37735 QAR15 IX7 X3-X5 . UPPER - LOWER

7267000001 SX6 X7+1 . U - L + 1

11116 BX1 X1\*X6

5616 73770 SX7 X7 . BANISH MINUS ZERO

0337000345 NG X7,ERR48 . NON-POSITIVE DIMENSION

27706 PX7 X6

5617 42447 DX4 X4\*X7 . ARRAYSIZE := ARRAYSIZE \* DIMENSION

43752 MX7 42

15557 BX5 -X7\*X5 . MAKE 60 BITS FIT INTO 18

15337 BX3 -X7\*X3

5620 20522 LX5 18 . LOWER BOUND

12535 BX5 X3+X5 . UPPERBOUND

20644 LX6 36 . U-L+1

12656 BX6 X5+X6

5621 0311000347 NZ X1,ERR50 . DIMENSION TOO LARGE

5130000204 SA3 MAXSTAT

5622 7273000001 SX7 X3+1

5110000207 SA1 MINSTAK

5623 54730 SA7 A3 . UPDATE MAXSTAT

37171 IX1 X7-X1

0331005625 NG X1,QAR16 . STATIC AND STACK HAVE NOT COLLIDED

5624 6231000050 SB3 X1+BUFF4

0100002042 RJ PUSHSTK . MAKE ROOM

5625 54330 QAR16 SA3 A3 . MAXSTAT AGAIN

5263777776 SA6 X3-1 . STORE DESCRIPTOR

10533 BX5 X3 . LEAVE MAXSTAT IN X3, X5

5626 0400005626 QAR17 EQ \* . RETURN WORD

5627 7211777770 QAR18 SX1 X1-ITY

0311000330 NZ X1,ERR29 . WRONG PARAMETER TYPE

5630 5116777776 SA1 B6-1

0100002364 RJ ITOSF

5631 5166777776 SA6 B6-1

0400005534 EQ QAR0

5632 ARRAYQ BSS 0

\*

\*

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 119

RUN - TIME FUNCTIONS SNOJOB

\* REMARK PUTS A MESSAGE ON THE DAYFILE, USING THE SCOPE FUNCTION MSG.

\* UNDER PSEUDO-SCOPE (TSS), MSG-S GO TO THE TELETYPE, AND THUS WE HAVE

\* THE PROCEDURE OUT. THE ARGUMENT IS A SINGLE STRING OR INTEGER.

\*

\*

5632 7255777776 QREMARK SX5 X5-1

0315000317 NZ X5,ERR20 . TOO MANY ACTUAL PARAMETERS

5633 56260 SA2 B6

21267 AX2 55

5116777776 SA1 B6-1

5634 10611 BX6 X1

0302005641 ZR X2,QREMARK1 . PARAMETER IS STRING

5635 7222777770 SX2 X2-ITY

0312000330 NZ X2,ERR29 . NOT INTEGER, TYPE ERROR

5636 0100002364 RJ ITOSF INTEGER IN X1 TO SVD IN X6

5637 7170000002 SX7 2

5166777776 SA6 B6-1 . STORE NEWLY MADE SVD

5640 46000 NO

46000 NO

5176000000 SA7 B6+0 . STORE STACK BYPASS

5641 7176777776 QREMARK1 SX7 B6-1 . ADDRESS OF STRING SVD

7150000001 SX5 QRMKFET-1

5642 20522 LX5 18

21644 AX6 36

7266777656 SX6 X6-81

5643 0326000353 PL X6,ERR56 . MESSAGE TOO LONG

7160000007 SX6 QRMKBUF

5644 12757 BX7 X5+X7

5170000235 SA7 QRMKSVD

64370 SB3 A7 . PARAM FOR OUTPUT ROUTINE

5645 5160000003 SA6 QRMKFET+1 . PSEUDO FIRST POINTER

5066000001 SA6 A6+1 . IN

5646 5066000001 SA6 A6+1 . OUT

7266000030 SX6 X6+QRMKBUFL

5647 5066000001 SA6 A6+1 . LIMIT

0100004512 RJ OUTPUT

5650 7160000007 SX6 QRMKBUF

5110005655 SA1 QRMKCALL . MSG CALL

5651 20636 LX6 30

10711 BX7 X1

5160000235 SA6 QRMKSTAT

5652 5170000001 SA7 1

7150000001 SX5 1 . =1, FOR QIF

5653 5110000001 + SA1 1

0311005653 NZ X1,\* . WAIT FOR RA+1 TO CLEAR

5654 0400004724 EQ QIF

\*

5655 15230720000000000235 QRMKCALL VFD 18/3LMSG,2/1,40/QRMKSTAT

\*

235 QRMKSVD EQU PMASX3

235 QRMKSTAT EQU PMASX3

2 QRMKFET EQU 2

7 QRMKBUF EQU 2+5

30 QRMKBUFL EQU 3\*8 . LONG ENOUGH SO BUFFER WILL NEVER BE

. MORE THAN 1/2 FULL, SO OUTPUT WILL

. NOT TRY TO ISSUE A WRITE

\*

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 120

RUN - TIME FUNCTIONS SNOJOB

5656 REMARKQ BSS 0

\*

IN IFNE TSS,0

IN ENDIF

\*

\* TIME IS A SNOBOL PRIMITIVE FUNCTION WHICH RETURNS AN 8 CHARACTER

\* PARAMETER(S) (IGNORED) ARE ARBITRARY IN TYPE AND NUMBER.

5656 6110005714 QTIME SB1 QTD . RETURN

7140000010 SX4 8 . LENGTH OF VALUE STRING

5657 43306 MX3 6 . 1 CHARACTER MASK

\* LEFT-JUSTIFIED, BLANK FILLED. TOD USES A1-X1,X2,A6-X6, AND RETURNS TO

\* THE ADDRESS PASSED TO IT IN B1.

5660 5110005665 TOD SA1 TODCALL . SCOPE RA+1 REQUEST WORD

10611 BX6 X1

13777 BX7 X7-X7

5661 5170000235 SA7 TODWD . THE LOW ORDER BIT OF THE RESPONSE

\* WORD IS NON-ZERO WHEN THE REQUEST

\* PROCESSING IS COMPLETE

5160000001 SA6 1 . ISSUE REQUEST

5662 5110000001 TOD1 SA1 1

0311005662 NZ X1,TOD1 . WAIT FOR COMPLETION

5663 5110000235 SA1 TODWD . TIME, IN BHH.MM.SS. FORMAT

5120005666 SA2 TODMASK

5664 13612 BX6 X1-X2 . CHANGE DOTS TO COLONS AND BLANK

20606 LX6 6 . LEFT JUSTIFY

0211000000 JP B1 . RETURN

5665 241115 TODCALL VFD 18/3LTIM . PP ROUTINE

2 VFD 2/1 . RECALL DESIRED

000002 VFD 16/2 . TIM FUNCTION FOR T-O-D

00000235 VFD 24/TODWD . ADDRESS FOR RESPONSE

235 TODWD EQU PMASX3

5666 00000034000034000002 TODMASK VFD 24/34B,18/34B,18/2

\* DATE IS LIKE TIME, EXCEPT IT RETURNS A 9 CHARACTER STRING, AS

\* 10 JUL 70.

5667 6110005714 QDATE SB1 QTD

7140000011 SX4 9

5670 43314 MX3 2\*6

\* CALENDR RETURNS THE CURRENT DATE IN X6, FORMATTED AS 10 JUL 70, LEFT

\* JUSTIFIED, BLANK FILLED. CALENDR USES X0,A1-X1,X2,A6-X6. IT RETURNS TO

\* THE ADDRESS PASSED TO IT IN B1.

5671 5110005705 CALENDR SA1 DATCALL

10611 BX6 X1

13777 BX7 X7-X7

5672 5170000235 SA7 DATWD . CLEAR RESPONSE WORD

5160000001 SA6 1 . ISSUE REQUEST

5673 54160 CAL1 SA1 A6

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 121

RUN - TIME FUNCTIONS SNOJOB

0311005673 NZ X1,CAL1 . WAIT FOR COMPLETION

43052 MX0 60-18 . =HOLE 18

5674 5110000235 SA1 DATWD . DATE, IN BMM/DD/YYB FORMAT

15610 BX6 -X0\*X1 . YYB

20130 LX1 4\*6 . LEFT JUSTIFY DD...

5675 43014 MX0 6+6

11001 BX0 X0\*X1

12606 BX6 X0+X6 . DD00000YYB

21106 AX1 6 . RIGHT JUSTIFY ONES DIGIT OF MONTH

5676 43066 MX0 60-6

15210 BX2 -X0\*X1

7222777743 SX2 X2-1R0-1 . CONVERT TO BINARY (AND SUBTRACT 1)

5677 21106 AX1 6

15110 BX1 -X0\*X1 . TENS DIGIT OF MONTH

7211777744 SX1 X1-1R0 . CONVERT TO BINARY

5700 20101 LX1 1 . 2 \* TENS

36212 IX2 X1+X2 . 2 \* TENS + ONES - 1

20102 LX1 2 . 8 \* TENS

36212 IX2 X1+X2 . 10 \* TENS + ONES - 1

5701 20273 LX2 59 . DIVIDE BY 2

5212005706 SA1 MONTHS+X2

43036 MX0 30

5702 0332005703 NG X2,CAL2 . ODD

20136 LX1 30 . EVEN

5703 15110 CAL2 BX1 -X0\*X1

20122 LX1 18

12661 BX6 X6+X1 . ADD ABBREVIATION FOR MONTH

5704 0211000000 JP B1 . RETURN

5705 241115 DATCALL VFD 18/3LTIM . PP ROUTINE

2 VFD 2/1 . RECALL DESIRED

000001 VFD 16/1 . TIM FUNCTION FOR DATE

00000235 VFD 24/DATWD . RESPONSE ADDRESS

235 DATWD EQU PMASX3

M MACRO E,O

VFD 6/1R ,18/3R\_E,12/2R ,18/3R\_O,6/1R

ENDM

5706 55120116555506050255 MONTHS M JAN,FEB

5707 55150122555501202255 M MAR,APR

5710 55150131555512251655 M MAY,JUN

5711 55122514555501250755 M JUL,AUG

5712 55230520555517032455 M SEP,OCT

5713 55161726555504050355 M NOV,DEC

5714 43052 QTD MX0 7\*6

11706 BX7 X0\*X6 . FIRST 7 CHARACTERS

20652 LX6 7\*6

56170 GETL . GET A (CLEARED) FREELIST WORD IN X1

74210 SX2 A1 . SAVE ADDRESS OF THIS FREE WORD

12771 BX7 X7+X1

5717 54710 SA7 A1

11636 BX6 X3\*X6

20444 LX4 18+18 . POSITION FUTURE SVD LENGTH FIELD

56170 GETL

54610 SA6 A1

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 122

RUN - TIME FUNCTIONS SNOJOB

74660 SX6 A6 . LWA FOR SVD TO BE CONSTRUCTED

5722 20622 LX6 18

12646 BX6 X4+X6

12662 BX6 X6+X2

5723 7120000002 SX2 2 . STACK BYPASS WORD (TYPE = SF = 0)

5724 56160 QTDC SA1 B6 . STACK BYPASS OF PARAMETER

63110 SB1 X1

67661 SB6 B6-B1 . POP PARAMETER

21167 AX1 55

5725 0311005727 NZ X1,QTDC1 . NOT SF, SO NOTHING TO FREE

5011777776 SA1 A1-1 . SF SVD

5726 76770 SX7 B7

63710 SB7 X1

21122 AX1 18

53710 SA7 X1 . LET LAST STRING WORD LINK TO FREE

5727 7255777776 QTDC1 SX5 X5-1 . DECREMENT ACTUAL PARAMETER COUNT

0315005724 NZ X5,QTDC . POP ANOTHER

5730 6166000002 SB6 B6+2 . STACK-SPACE FOR VALUE

10722 BX7 X2

56760 SA7 B6 . BYPASS WORD

5731 5166777776 SA6 B6-1 . VALUE WORD

0200000441 JP NEXTMIC . FINISHED

\* CLOCK IS SIMILAR TO DATE AND TIME, BUT IT RETURNS AN INTEGER

\* REPRESENTING THE NUMBER OF MILLISECONDS OF CPU TIME THE JOB HAS

\* CONSUMED SO FAR.

5732 5110005742 QCLOCK SA1 CLKCALL

10611 BX6 X1

13777 BX7 X7-X7

5733 5170000235 SA7 CLKWD . CLEAR RESPONSE WORD

5160000001 SA6 1 . ISSUE REQUEST

5734 54160 QCLK1 SA1 A6

0311005734 NZ X1,QCLK1 . WAIT FOR COMPLETION

43060 MX0 48

5735 5110000235 SA1 CLKWD . 48/SECONDS,12/MILLISECONDS

15610 BX6 -X0\*X1

43017 MX0 15

5736 20033 LX0 15+12

11110 BX1 X1\*X0

20163 LX1 60-12+3

10211 BX2 X1

5737 20101 LX1 1 . 16 \* SECONDS

36221 IX2 X2+X1 . 24 \* SECONDS

20106 LX1 6 . 1024 \* SECONDS

37112 IX1 X1-X2 . 1000 \* SECONDS

5740 5120001667 SA2 ITYWD

36616 IX6 X1+X6

5741 0200005724 JP QTDC

5742 241115 CLKCALL VFD 18/3LTIM . PP ROUTINE

2 VFD 2/1 . RECALL DESIRED

000000 VFD 16/0 . TIM FUNCTION FOR ELAPSED TIME

00000235 VFD 24/CLKWD . RESPONSE ADDRESS

235 CLKWD EQU PMASX3

5743 TDCQ BSS 0 . END OF TIME, DATE, CLOCK

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 123

RUN - TIME FUNCTIONS SNOJOB

\*

5743 7255777776 QEOI SX5 X5-1

0315000317 NZ X5,ERR20 . TOO MANY PARAMETERS

5744 6110005745 SB1 QEOI1 . RETURN LINK

0400005747 EQ FETLOOK

5745 0314000333 QEOI1 NZ X4,ERR35 . UNDEFINED FILENAME

20327 LX3 59-36 . LOOK AT EOI FLAG

5746 0323000465 PL X3,FAIL . NOT EOI

0400005340 EQ MKNULL . MAKE NULL STRING AND RETURN

\*

453 JPB1 EQU SSKIP1 . ADDRESS OF A -JP B1- INSTRUCTION

5747 56160 FETLOOK SA1 B6

21167 AX1 55

0311000340 NZ X1,ERR40 . ILLEGAL FILENAME

5750 5116777776 SA1 B6-1

53110 SA1 X1 . PICK UP BCD

10611 BX6 X1

5751 76770 SX7 B7

54710 SA7 A1

64770 SB7 A7 . PUT SF WORD BACK ON LIST

43052 MX0 42

5752 6166777775 SB6 B6-2 . POP STACK

5130000260 SA3 FETHEAD . HEAD OF FILE-LIST

5753 5043000001 FETLOOK1 SA4 A3+1 . FIRST WORD OF FET

11404 BX4 X0\*X4 . CLEAR LAST CODE AND STATUS

13446 BX4 X4-X6 . COMPARE FILENAME TO X6

5754 0304000453 ZR X4,JPB1 . A4 = ADDRESS OF FET

7233000000 SX3 X3+0 . GET RID OF DESCRIPTION

5755 0303000453 ZR X3,JPB1 . A3 = ADDRESS OF LAST LINK

5233000000 SA3 X3+0

5756 0400005753 EQ FETLOOK1

\*

5757 EOIQ BSS 0 . EOI NEEDS FETLOOK

\*

\*

\* VALID CHECKS THE FILENAME IN X6. IF IT IS INVALID, X6 IS SET TO ZERO.

\* X2, X3, X4, X5, AND X7 ARE USED.

\*

5757 00000000000000000000 VALID

5760 5120005765 SA2 MASK

5130005766 SA3 MAX

5761 15432 BX4 -X2\*X3 . MAX(2,4,6,8-10)

11323 BX3 X2\*X3 . MAX(1,3,5,7)

11526 BX5 X2\*X6 . LFN(1,3,5,7)

15762 BX7 -X2\*X6 . LFN(2,4,6,8-10)

5762 37335 IX3 X3-X5

37447 IX4 X4-X7

15332 BX3 -X2\*X3

11424 BX4 X2\*X4

5763 12334 BX3 X3+X4

0303005757 ZR X3,VALID . FILENAME OK

13666 BX6 X6-X6

5764 0400005757 EQ VALID

5765 77007700770077000000 MASK VFD 12/7700B,12/7700B,12/7700B,12/7700B,12/0000B

5766 32444444444444000000 MAX DATA 7LZ999999 . MAXIMUM ALLOWABLE FILENAME

\*

5767 00000000000000000000 OPEN . OPEN ALTERNR

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 124

RUN - TIME FUNCTIONS SNOJOB

5770 56120 SA1 B2

7170000120 SX7 120B . FUNCTION CODE

12717 BX7 X1+X7

5771 54710 SA7 A1

5110005777 SA1 OPECALL

76720 SX7 B2

5772 12717 BX7 X1+X7

43252 MX2 42

5170000001 SA7 1

5773 54170 + SA1 A7

0311005773 NZ X1,\*

56120 SA1 B2

5774 11712 BX7 X1\*X2 . CLEAR CODE AND STATUS

74170 SX1 A7 . ONE BIT

12717 BX7 X1+X7

54710 SA7 A1

5775 5112000003 SA1 B2+3

7271000000 SX7 X1+0

5776 5172000002 SA7 B2+2 . IN := OUT

0400005767 EQ OPEN

5777 17200520000000000000 OPECALL VFD 18/3LOPE,2/1,40/0

6000 6225777775 QOUTPUT SB2 X5-2 . ATTACH VARIABLE IN OUTPUT SENSE

0702006003 GT B2,B0,QOUT1 . CARRIAGE CONTROL CHAR SPECIFIED

6001 0720000340 NG B2,ERR40 . ILLEGAL FILENAME

7160000000 SX6 0 . NULL CARRAIGE CONTROL CHARACTER

6002 0400006013 EQ QOUT3

6003 56160 QOUT1 SA1 B6

5126777776 SA2 B6-1

21167 AX1 55 . EXAMINE TYPE

6004 6166777775 SB6 B6-2 . POP PARAMETER

0311006010 NZ X1,QOUT2 . CCC NOT A STRING

6005 53120 SA1 X2 . PICK UP STRING

76770 SX7 B7 . PUT SF

53720 SA7 X2 . WORD ONTO

63720 SB7 X2 . FREE CHAIN

6006 43006 MX0 6

15210 BX2 -X0\*X1

0312000330 NZ X2,ERR29 . TYPE ERROR (CC NOT SINGLE CHAR)

6007 10611 BX6 X1

20606 LX6 6

0400006013 EQ QOUT3

6010 7211777770 QOUT2 SX1 X1-ITY

0311000330 NZ X1,ERR29

6011 0332000330 NG X2,ERR29 . TYPE ERROR (MUST BE SINGLE POS DIG)

7212777765 SX1 X2-10

6012 0321000330 PL X1,ERR29

7262000033 SX6 X2+1R0

6013 7150000016 QOUT3 SX5 OUTTY

20523 LX5 19

12656 BX6 X5+X6

6014 5160000235 SA6 QIOSV

0400006027 EQ QIO

6015 6225777775 QINPUT SB2 X5-2 . ATTACH VARIABLE IN INPUT SENSE

0702006020 GT B2,B0,QIN1 . UNIT RECORD LENGTH WAS SPECIFIED

6016 0720000340 NG B2,ERR40 . ILLEGAL FILENAME

7160000000 SX6 0 . NULL URL

6017 0400006025 EQ QIN2

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 125

RUN - TIME FUNCTIONS SNOJOB

6020 5100000012 QIN1 SA0 10

5110001033 SA1 TENTO10

6021 10011 BX0 X1

0100000660 RJ SACHEK . GUARANTEE INTEGER ON TOP OF STACK

6022 20703 LX7 3 . X7 CONTAINS TYPE

0327000330 PL X7,ERR29 . TYPE ERROR (URL TOO LARGE)

43053 MX0 43

6023 5116777776 SA1 B6-1

10611 BX6 X1

11001 BX0 X0\*X1

6024 0310000330 NZ X0,ERR29 . TYPE ERROR (URL TOO LARGE)

6166777775 SB6 B6-2 . POP STACK

6025 7150000015 QIN2 SX5 INTY . STATIC RECORD TYPE

20523 LX5 19

12656 BX6 X5+X6

6026 5160000235 SA6 QIOSV

6027 6110006030 QIO SB1 \*+1

0400005747 EQ FETLOOK . SEARCH FOR FET

6030 7003000000 SX0 A3+0 . SAVE BUFFER BLOCK ADDRESS

0304006046 ZR X4,QIO2 . BUFFER BLOCK ALREADY EXISTS

6031 5110000204 SA1 MAXSTAT

0100005757 RJ VALID . CHECK FOR GOOD FILENAME

6032 0306000340 ZR X6,ERR40 . X6 = 0 OR FILENAME

5140000202 SA4 BUFFSIZE

6033 6244000006 SB4 X4+6 . BB LENGTH (FET + HEADER = 6)

73714 SX7 X1+B4

54710 SA7 A1 . UPDATE MAXSTAT

6034 5120000207 SA2 MINSTAK

37272 IX2 X7-X2

10511 BX5 X1 . SAVE OLD MAXSTAT

6035 0332006037 NG X2,QIO1 . STATIC AND STACK HAVE NOT COLLIDED

6232000050 SB3 X2+BUFF4

6036 0100002042 RJ PUSHSTK . X0,X4,X5,X6,B4 MUST BE SAVED

6037 53300 QIO1 SA3 X0 . LAST BB HEADER

12735 BX7 X3+X5 . ADD LINK

54730 SA7 A3

76140 SX1 B4 . BB LENGTH

6040 7170000032 SX7 SPCTYP . CATCH-ALL TYPE

20745 LX7 37

12717 BX7 X1+X7

6041 20722 LX7 18

53750 SA7 X5 . STATIC RECORD TYPE

6150000001 SB5 1

6042 7275000006 SX7 X5+6 . FWA OF CIRCULAR BUFFER

53655 SA6 X5+B5 . STORE FILENAME IN FET

76150 SX1 B5

6043 20122 LX1 18 . FET LENGTH FIELD

12617 BX6 X1+X7

54665 SA6 A6+B5 . FIRST

54765 SA7 A6+B5 . IN

6044 54775 SA7 A7+B5 . OUT

36747 IX7 X4+X7

54775 SA7 A7+B5 . LIMIT

63255 SB2 X5+B5 . FET ADDRESS FOR OPEN ROUTINE

6045 73050 SX0 X5 . ADDRESS OF BUFFER BLOCK

0100005767 RJ OPEN

6046 5110000235 QIO2 SA1 QIOSV

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 126

RUN - TIME FUNCTIONS SNOJOB

20122 LX1 18

12610 BX6 X1+X0 . ADD BB POINTER TO FUTURE SVD

6047 20622 LX6 18

54610 SA6 A1

0100002624 RJ INDRCT . GET ADDRESS OF SVD IN X1

6050 10511 BX5 X1

56170 SA1 B7

0311006052 NZ X1,QIO3

6051 0100002057 RJ MORFREE

6052 63710 QIO3 SB7 X1

5120000235 SA2 QIOSV

53350 SA3 X5 . OLD VALUE

6053 10633 BX6 X3

10433 BX4 X3

21467 AX4 55

6054 7274777762 SX7 X4-INTY

0307000341 ZR X7,ERR41 . ALREADY ATTACHED

6055 7274777761 SX7 X4-OUTTY

0307000341 ZR X7,ERR41 . ALREADY ATTACHED

6056 54610 QIO4 SA6 A1 . PUT OLD VALUE INTO FREEWORD

74310 SX3 A1

0100002342 RJ ZROX7

6057 43005 MX0 5

15770 BX7 -X0\*X7 . CLEAR SS TYPE

12623 BX6 X2+X3 . NEW SVD POINTS TO OLD

53650 SA6 X5

6060 0400006070 EQ QIORET

6061 7255777776 QDETACH SX5 X5-1 . DETACH A VARIABLE FROM FILE

0315000317 NZ X5,ERR20 . TOO MANY PARAMETERS

6062 0100002624 RJ INDRCT . RETURN ADDRESS OF SVD IN X1

6063 53210 SA2 X1

53320 SA3 X2 . VALUE SVD

10633 BX6 X3

21267 AX2 55 . EXAMINE TYPE

6064 7242777762 SX4 X2-INTY

0304006066 ZR X4,QDTCH1 . INPUT ASSOCIATED

6065 7242777761 SX4 X2-OUTTY

0314000334 NZ X4,ERR36 . NOT ATTACHED

6066 53610 QDTCH1 SA6 X1 . RESTORE VALUE

7170000000 SX7 0

54730 SA7 A3 . MAKE NULL IN LEFT-OVER FREE WORD

6067 74770 SX7 A7

10677 BX6 X7

20722 LX7 18

12767 BX7 X6+X7 . FUNCTION VALUE

6070 5100000002 QIORET SA0 2

0100002052 RJ RESERVE . RESERVE TWO STACK WORDS

6071 5176777776 SA7 B6-1 . VALUE

7170000002 SX7 2

6072 56760 SA7 B6 . BYPASS

0400000441 EQ NEXTMIC

6073 IOQ BSS 0

6073 7255777776 QREWIND SX5 X5-1 . ROUTINE TO REWIND FILE

0315000317 NZ X5,ERR20 . TOO MANY PARAMETERS

6074 6110006075 SB1 QRW0

0400005747 EQ FETLOOK . SEARCH FOR FET

6075 0314000333 QRW0 NZ X4,ERR35 . UNDEFINED FILENAME

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 127

RUN - TIME FUNCTIONS SNOJOB

64240 SB2 A4

6076 0100004346 RJ TERMIN . PERFORM WRITER IF OUTPUT FILE

6077 5122777776 SA2 B2-1

43602 MX6 2

20646 LX6 2+18+18

6100 15626 BX6 -X6\*X2 . CLEAR EOR,EOI FLAGS

54620 SA6 A2

5112000002 SA1 B2+2

6101 10611 BX6 X1

5162000003 SA6 B2+3 . SET OUT := IN

6102 7100000001 REWIND RECALL

6104 56120 SA1 B2 PICK UP THE FIRST WORD OF THE FET

20173 LX1 59 SHIFT THE COMPLETION BIT TO THE TOP

0331006106 NG X1,QRW3 IF WE ARE COMPLETE SKIP THE RECALL

6105 7100000001 RECALL B2 WE ARE NOT DONE SKIP THE RECALL

6106 56120 QRW3 SA1 B2 OH WELL, LETS BE COMPLETELY SAFE

43601 MX6 1 GENERATE THE ONE BIT SIEVE

20612 LX6 10 SHIFT THE HOLE TO THE EOI POSITION

15616 BX6 -X6\*X1 KNOCK OUT THE ACCURSED EOI BOI BIT

6107 54610 SA6 A1 AND BACK GOES THE BOWDLERIZED EDITION

0400006145 EQ QEFRW

6110 7255777776 QUNLOAD SX5 X5-1

0315000317 NZ X5,ERR20

6111 6110006112 SB1 QUNL0 CF. CLOSE

0400005747 EQ FETLOOK

6112 0314000333 QUNL0 NZ X4,ERR35

64240 SB2 A4

56120 WAIT

6115 7100000001 UNLOAD RECALL

6117 0400006145 EQ QEFRW

6120 7255777776 QCLOSE SX5 X5-1 STANDARD PROCEDURE CLOSE(FILE)

0315000317 NZ X5,ERR20 TOO MANY ARGUMENTS

6121 6110006122 SB1 QCL0 HOME IS WHERE YOUR B1 IS...HA.

0400005747 EQ FETLOOK CHECK FILE VALIDITY

6122 0314000333 QCL0 NZ X4,ERR35 SHAME ON YOU, YOU DIDNT HAVE THAT FILE

64240 SB2 A4

56120 WAIT

6125 7100000001 CLOSE RECALL

6127 0400006145 EQ QEFRW

6130 6215777775 QENDFILE SB1 X5-2 . STANDARD PROCEDURE ENDGROUP

0701000317 GT B1,B0,ERR20 . MORE THAN TWO PARAMETERS

6131 13555 BX5 X5-X5 . =0, THE DEFAULT LEVEL NUMBER

0710006137 NG B1,QEOR1 . USE THE DEFAULT SECOND PARAMETER

6132 5100000012 SA0 10

5110001033 SA1 TENTO10

6133 10011 BX0 X1

0100000660 RJ SACHEK . GET INTEGER ON TOP OF STACK

6134 20703 LX7 3 . X7 CONTAINS TYPE OF STACK TOP

0327000330 PL X7,ERR29 . TYPE ERROR (TOO LARGE)

43070 MX0 60-4

6135 5116777776 SA1 B6-1

11001 BX0 X0\*X1

10511 BX5 X1

6136 0310000330 NZ X0,ERR29 . LEVEL NUMBER MUST BE BETWEEN ;0,15!

6166777775 SB6 B6-2 . POP STACK

6137 6110006140 QEOR1 SB1 QEOR2

0200005747 JP FETLOOK

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 128

RUN - TIME FUNCTIONS SNOJOB

6140 0314000333 QEOR2 NZ X4,ERR35 . NO SUCH FILE

64240 SB2 A4

56120 WAIT . RECALL IF BUSY

6143 7100000001 SX0 1 . RECALL FLAG FOR CIO CALL

7170000024 SX7 24B . =WRITER FUNCTION

6144 20516 LX5 18-4 . POSITION LEVEL NUMBER

12757 BX7 X5+X7

0100004213 RJ CIO . ISSUE REQUEST

6145 5100000002 QEFRW SA0 2

0100002052 RJ RESERVE

6146 7160000002 SX6 2

0100002342 RJ ZROX7

6147 43005 MX0 5

15770 BX7 -X0\*X7 . CLEAR SS TYPE

5176777776 SA7 B6-1 . MAKE A NULL VALUE

6150 56660 SA6 B6

0400000441 EQ NEXTMIC

6151 EFRWQ BSS 0

\*

6151 7255777776 QEORL SX5 X5-1 . STANDARD PROCEDURE EORLEVEL

0315000317 NZ X5,ERR20 . TOO MAY PARAMETERS

6152 6110006153 SB1 QEORL1

0200005747 JP FETLOOK

6153 0314000333 QEORL1 NZ X4,ERR35 . NO SUCH FILE

20327 LX3 60-37 . FILE HEADER WORD WAS RETURNED IN X3

6154 0323006160 PL X3,QEORL3 . EOI FLAG WAS NOT SET

43673 MX6 59 . =-1, PSEUDO-LEVEL FOR EOI

6155 6166000002 QEORL2 SB6 B6+2

5110001667 SA1 ITYWD

6156 5166777776 SA6 B6-1 . RETURN-VALUE

10611 BX6 X1

56660 SA6 B6 . STACK BYPASS

6157 0200000441 JP NEXTMIC . FINISHED

6160 20373 QEORL3 LX3 60-1 . LEFT JUSTIFY EOR FLAG

0323000465 PL X3,FAIL . THE FILE IS NOT AT AN ENDGROUP

54440 SA4 A4 . LFN AND CODE AND STATUS

6161 21416 AX4 18-4 . RIGHT JUSTIFY LEVEL NUMBER

7160000017 SX6 17B

11664 BX6 X6\*X4

6162 0200006155 JP QEORL2

6163 EORLQ BSS 0 . END OF EORLEVEL

\*

\*

6163 7255777776 QDT SX5 X5-1

0315000317 NZ X5,ERR20 . TOO MANY PARAMETERS

6164 56160 SA1 B6

63110 SB1 X1

67661 SB6 B6-B1

21167 AX1 55

6165 0311006205 NZ X1,QDT7 . FOR SURE NOT STRING

5126000001 SA2 B6+1

6166 10022 BX0 X2 . SAVE SVD

66100 SB1 B0 . SET STATE TO BEFORE SIGN

7170000077 SX7 77B

6167 6120006216 SB2 QDTS . INNOCENT UNTIL PROVEN GUILTY

6170 20106 QDT1 LX1 6

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 129

RUN - TIME FUNCTIONS SNOJOB

11371 BX3 X7\*X1 . NEXT CHARACTER

0313006173 NZ X3,QDT2 . NOT END OF WORD

6171 0302006200 ZR X2,QDT4 . GUILTY OF INTEGERISM

53120 SA1 X2 . NEXT STRING WORD

73210 SX2 X1 . LINK

6172 13112 BX1 X1-X2 . CLEAR LOWER 18 BITS

0400006170 EQ QDT1 . TRY AGAIN

6173 7233777744 QDT2 SX3 X3-1R0

0333006201 NG X3,QDT5 . NOT AN INTEGER

6174 7233777765 SX3 X3-1R++1R0

0333006177 NG X3,QDT3 . DIGIT

6175 7233777775 SX3 X3-1R\*+1R+

0323006201 PL X3,QDT5 . STRING

6176 0510006201 NZ B1,QDT5 . STRING (TWO SIGNS)

6177 6110000001 QDT3 SB1 1

0400006170 EQ QDT1

6200 6120006220 QDT4 SB2 QDTI

6201 76670 QDT5 SX6 B7

63700 SB7 X0

21022 AX0 18

53600 SA6 X0 . RELEASE SF STRING

6202 6166000002 QDT6 SB6 B6+2

5110001666 SA1 SSTYWD

6203 10711 BX7 X1

56760 SA7 B6

7162000000 SX6 B2+0

6204 5166777776 SA6 B6-1

0400000441 EQ NEXTMIC

6205 7211777770 QDT7 SX1 X1-ITY

6120006226 SB2 QDTP

6206 0331006202 NG X1,QDT6

7221777774 SX2 X1-DTY+ITY

6207 0302006211 ZR X2,QDT8

20101 LX1 1

6210 6221006220 SB2 X1+QDTI

0400006202 EQ QDT6

6211 5116000001 QDT8 SA1 B6+1

21122 AX1 18

53110 SA1 X1

6212 43022 MX0 18

20066 LX0 54

7120000002 SX2 SSTY

6213 11601 BX6 X0\*X1

20267 LX2 55

7031000002 SX3 A1+2

6214 12626 BX6 X2+X6

12636 BX6 X3+X6

5160000247 SA6 DTYPWD

6215 64260 SB2 A6

0400006202 EQ QDT6

6216 04000006006217006217 QDTS VFD 5/SSTY,19/6,18/\*+1,18/\*+1

6217 23242211160700000000 DATA 6LSTRING

6220 04000007006221006221 QDTI VFD 5/SSTY,19/7,18/\*+1,18/\*+1

6221 11162405070522000000 DATA 7LINTEGER

6222 04000004006223006223 QDTR VFD 5/SSTY,19/4,18/\*+1,18/\*+1

6223 22050114000000000000 DATA 4LREAL

6224 04000005006225006225 QDTA VFD 5/SSTY,19/5,18/\*+1,18/\*+1

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 130

RUN - TIME FUNCTIONS SNOJOB

6225 01222201310000000000 DATA 5LARRAY

6226 04000007006227006227 QDTP VFD 5/SSTY,19/7,18/\*+1,18/\*+1

6227 20012424052216000000 DATA 7LPATTERN

6230 04000004006231006231 QDTN VFD 5/SSTY,19/4,18/\*+1,18/\*+1

6231 16011505000000000000 DATA 4LNAME

6232 04000004006233006233 QDTC VFD 5/SSTY,19/4,18/\*+1,18/\*+1

6233 03170405000000000000 DATA 4LCODE

6234 DTQ BSS 0

\*

\*

6234 7255777776 QFLV SX5 X5-1

0315000317 NZ X5,ERR20

6235 56160 SA1 B6

63110 SB1 X1

67661 SB6 B6-B1

21167 AX1 55

6236 0311006240 NZ X1,QFLV1 . NO STRING TO RELEASE

5116000001 SA1 B6+1

6237 76670 SX6 B7

63710 SB7 X1

21122 AX1 18

53610 SA6 X1

6240 5110000213 QFLV1 SA1 STAKTOP

7160000000 SX6 0

6241 53210 QFLV2 SA2 X1 . NEXT STACK HEADER

63120 SB1 X2 . BYPASS

0302006244 ZR X2,QFLV4 . DONE

6242 0322006243 PL X2,QFLV3 . NOT FUNCTION CALL

7266000001 SX6 X6+1

6243 67101 QFLV3 SB1 -B1

73111 SX1 X1+B1

0400006241 EQ QFLV2

6244 6166000002 QFLV4 SB6 B6+2

5110001667 SA1 ITYWD

6245 10711 BX7 X1

56760 SA7 B6

5166777776 SA6 B6-1

6246 0400000441 EQ NEXTMIC

6247 FLVQ BSS 0

\*

\*

6247 6215777775 QLGT SB1 X5-2

0701000317 GT B1,B0,ERR20 . TOO MANY PARAMS

6250 0710006271 LT B1,B0,QLGT6 . SECOND PARAM NULL

56160 SA1 B6

21167 AX1 55

6251 0311006275 NZ X1,QLGT7 . SECOND PARAM NOT SF TYPE

6252 5116777775 QLGT1 SA1 B6-2

21167 AX1 55

6253 0311006300 NZ X1,QLGT8 . FIRST PARM NOT SF

6254 46000 QLGT2 NO

5116777774 SA1 B6-3 . FIRST SVD

10011 BX0 X1 . SAVE

6255 13777 QLGT22 BX7 X7-X7 . PRESET S/F FLAG TO FAILURE

5126777776 SA2 B6-1 . SECOND SVD

10522 BX5 X2 . SAVE ALSO

6256 53310 QLGT3 SA3 X1 . WORD OF FIRST STRING

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 131

RUN - TIME FUNCTIONS SNOJOB

53420 SA4 X2

73130 SX1 X3 . LINK

73240 SX2 X4

6257 13313 BX3 X1-X3 . CLEAR LOWER 18 BITS OF STRING WORD

13424 BX4 X2-X4

37343 IX3 X4-X3

20373 LX3 59 . LOOK AT BIT 0

6260 0333006262 NG X3,QLGT4 . FIRST > SECOND

0313006263 NZ X3,QLGT5 . FIRST < SECOND

6261 0301006263 ZR X1,QLGT5 . FIRST @ SECOND

0312006256 NZ X2,QLGT3

6262 0100002342 QLGT4 RJ ZROX7 . SUCCESS - MAKE NULL VALUE

6263 76670 QLGT5 SX6 B7

63700 SB7 X0

21022 AX0 18

53600 SA6 X0 . FREE FIRST STRING

6264 76670 SX6 B7

63750 SB7 X5

21522 AX5 18

53650 SA6 X5 . FREE SECOND STRING

6265 6166777773 SB6 B6-4 . POP STACK

0307000465 ZR X7,FAIL

6266 6166000002 SB6 B6+2

43005 MX0 5

15770 BX7 -X0\*X7

6267 5176777776 SA7 B6-1

7170000002 SX7 2

6270 5176000000 SA7 B6+0

0400000441 EQ NEXTMIC

6271 5100000002 QLGT6 SA0 2

0100002052 RJ RESERVE . RESERVE STACK SPACE FOR NULL

6272 7160000002 SX6 2

0100002342 RJ ZROX7

6273 5176777776 SA7 B6-1 . NULL SECOND PARAM

56660 SA6 B6

6274 0400006252 EQ QLGT1 . GO CHECK FIRST PARAM

6275 7211777770 QLGT7 SX1 X1-ITY

0311000330 NZ X1,ERR29 . TYPE ERROR

6276 5116777776 SA1 B6-1

0100002364 RJ ITOSF

6277 5166777776 SA6 B6-1

0400006252 EQ QLGT1 . GO CHECK FIRST PARAM

6300 7211777770 QLGT8 SX1 X1-ITY

0311000330 NZ X1,ERR29 . TYPE ERROR

6301 5116777774 SA1 B6-3

0100002364 RJ ITOSF

6302 10166 BX1 X6

10011 BX0 X1 . SAVE SVD

0400006255 EQ QLGT22 . GO COMPARE STRINGS

6303 LGTQ BSS 0

\*

\*

6303 7255777776 QDATA SX5 X5-1

0315000317 NZ X5,ERR20 . ERROR IF MORE THAN ONE PARAMETER

6304 56160 SA1 B6

43301 MX3 1

10611 BX6 X1

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 132

RUN - TIME FUNCTIONS SNOJOB

21167 AX1 55

6305 0311000323 NZ X1,ERR24 . PARAM HAS TO BE A STRING

5146777776 SA4 B6-1

6306 66100 SB1 B0 . INITIALIZE FIELD COUNT

43066 MX0 54 . PREPARE QNXTID

13222 BX2 X2-X2

20366 LX3 54

6307 12663 BX6 X6+X3

56660 SA6 B6 . MARK TOP OPERAND IN STACK

6310 10600 QDAT1 BX6 X0

0100005161 RJ QNXID . NEXT IDENTIFIER IN PROTOTYPE

6311 0303006323 ZR X3,QDAT5 . BRANCH IF END OF PROTOTYPE

0420000331 EQ B2,B0,ERR30 . SYNTAX ERROR E. G. A(,

6312 7273777726 SX7 X3-1R(

0317006316 NZ X7,QDAT2

6313 0510000331 NE B1,B0,ERR30 . SYNTAX ERROR E. G. A(B(

6314 6111777776 QDAT3 SB1 B1-1 . BUMP FIALD COUNT

6315 5166777776 QDAT4 SA6 B6-1 . STORE SVD OF THE IDENTIFIER

0400006310 EQ QDAT1

6316 5100000002 QDAT2 SA0 2

0100002052 RJ RESERVE

6317 0610000331 GE B1,B0,ERR30 . SYNTAX ERROR E. G. A,

74700 SX7 A0

56760 SA7 B6

6320 7213777721 SX1 X3-1R,

0301006314 ZR X1,QDAT3

6321 7213777725 SX1 X3-1R)

0311000331 NZ X1,ERR30 . SYNTAX ERROR E. G. A(B.

6322 67101 SB1 B0-B1 . B1 IS THE TRUE FIELD COUNT NOW

0400006315 EQ QDAT4

6323 0601000331 QDAT5 GE B0,B1,ERR30 . SYNTAX ERROR E. G. A

0520000331 NE B2,B0,ERR30 . OR A(B

6324 76710 SX7 B1 . SAVE NUMBER OF FIELDS

5170000235 SA7 QDATSV1

66400 SB4 B0 . SIGNAL SF FOR INDRX

6325 5146777776 QDAT6 SA4 B6-1

0100005201 RJ SRCHCLL . LOOK UP NEXT FUNCTION

6326 5126777776 SA2 B6-1

76770 SX7 B7 . FREE THE IDENTIFIER

63720 SB7 X2

6327 21222 AX2 18

56360 SA3 B6

53720 SA7 X2

20306 LX3 6 . END LOOP IF TOPOPERAND IS MARKED

6330 0333006343 NG X3,QDAT10

6166777775 SB6 B6-2

6331 7160000002 SX6 FLDTYP

7130000001 SX3 1

6332 20667 LX6 55 . IT IS A FIELD FUNCTION

20322 LX3 18 . WITH ONE PARAMETER

12663 BX6 X6+X3

10711 BX7 X1

6333 56170 SA1 B7

53670 SA6 X7

0311006335 NZ X1,QDAT7 . PUT ADDRESS ON A LIST

6334 0100002057 RJ MORFREE

6335 63710 QDAT7 SB7 X1

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 133

RUN - TIME FUNCTIONS SNOJOB

20722 LX7 18

5120000205 SA2 MINSTAT . BEGINNING OF THE LIST IS IN XWRD

6336 53320 SA3 X2 . CHECK IF ADDRESS IN NOT

12737 BX7 X3+X7 . REPEATED IN THE LIST

74610 SX6 A1

54710 SA7 A1

6337 0303006342 QDAT8 ZR X3,QDAT9

53330 SA3 X3

13173 BX1 X7-X3

6340 73330 SX3 X3

21122 AX1 18

0311006337 NZ X1,QDAT8

6341 0400000332 EQ ERR31

6342 53620 QDAT9 SA6 X2

0400006325 EQ QDAT6

6343 5130000235 QDAT10 SA3 QDATSV1

5120000204 SA2 MAXSTAT

6344 6243000001 SB4 X3+1 . NO OF FIELDS + 1

7100000001 SX0 DATATYP

6345 20322 LX3 18 . NO OF FIELDS TO X3

20067 LX0 55

12623 BX6 X2+X3

12660 BX6 X6+X0 . FUNCTION DESCRIPTOR

6346 73510 SX5 X1

5140000207 SA4 MINSTAK

73724 SX7 X2+B4 . RESERVE B4 WORDS IN STATIC

6347 37474 IX4 X7-X4

54720 SA7 A2

0334006351 NG X4,QDAT11

6350 6234000050 SB3 X4+BUFF4

0100002042 RJ PUSHSTK . PUSH THE STACK IF NECESSARY

6351 7100000032 QDAT11 SX0 SPCTYP . CREATE A STATIC RECORD

63160 SB1 X6 . CONSISTING OF THE ADDRESSES

53650 SA6 X5 . OF THE FIELD FUNCTIONS OF

6352 5120000205 SA2 MINSTAT

76640 SX6 B4 . THIS DATATYPE.

53220 SA2 X2

6353 20622 LX6 18

13777 BX7 X7-X7

54720 SA7 A2 . CLEAR XWRD

63220 SB2 X2

6354 20067 LX0 55

12660 BX6 X6+X0

56610 SA6 B1 . HEADER

6355 6111000001 QDAT12 SB1 B1+1

53320 SA3 X2 . NEXT WORD FROM LIST

10733 BX7 X3

6356 21722 AX7 18

13157 BX1 X5-X7 . CHECK IF NOT THE SAME NAME AS

0301000332 ZR X1,ERR31 . THE DATATYPE

6357 73230 SX2 X3

56710 SA7 B1

43001 MX0 1

12607 BX6 X0+X7

6360 0312006355 NZ X2,QDAT12

76770 SX7 B7 . FREE THE LIST

66720 SB7 B2

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 134

RUN - TIME FUNCTIONS SNOJOB

6361 54730 SA7 A3

56610 SA6 B1

0400004732 EQ QIF2 . NULL VALUE IS RETURNED

\*

6362 DATAQ BSS 0

6362 6110000220 QSTLIMIT SB1 STLIM . STANDARD PROCEDURE STLIMIT

0400006365 EQ QMAXLN1

6363 6110000217 QSTCOUNT SB1 STCOUNT . STANDARD PROCEDURE STCOUNT

0400006365 EQ QMAXLN1

6364 6110000216 QMAXLN SB1 MXLNGTH . STANDARD PROCEDURE MAXLNGTH

6365 7255777776 QMAXLN1 SX5 X5-1 . ERROR IF MORE THAN ONE PARAM

0315000317 NZ X5,ERR20

6366 56160 SA1 B6

21167 AX1 55

0311006371 NZ X1,QMAXLN2 . BRANCH IF NOT STRING PARAM

6367 5116777776 SA1 B6-1

53110 SA1 X1

76770 SX7 B7

6370 0301006376 ZR X1,QMAXLN3 . BRANCH IF NULL STRING

6371 5110001033 QMAXLN2 SA1 TENTO10

5100000012 SA0 10

6372 76510 SX5 B1

10011 BX0 X1

0100000660 RJ SACHEK . CONVERT PARAM INTO INTEGER FORM

6373 20704 LX7 4

0327000330 PL X7,ERR29 . VALUE TOO BIG

6374 5116777776 SA1 B6-1

10711 BX7 X1

53750 SA7 X5 . ASSIGN VALUE TO KEYWORD

6375 7150000001 SX5 1

0400004724 EQ QIF . RETURN NULL

6376 64710 QMAXLN3 SB7 A1 . RETURN THE VALUE OF THE KEYWORD

54710 SA7 A1 . FREE THE NULL STRING

56110 SA1 B1

10611 BX6 X1

6377 5166777776 SA6 B6-1

5110001667 SA1 ITYWD

6400 10611 BX6 X1

56660 SA6 B6

0400000441 EQ NEXTMIC

\*

6401 MAXLNQ BSS 0

\*

6401 7255777776 QALPHA SX5 X5-1 . STANDARD PROCEDURE ALPHABET

0315000317 NZ X5,ERR20 . ERROR IF MORE THAN ONE PARAMETER

6402 56160 SA1 B6

63110 SB1 X1 . REMOVE THE PARAMETER

21167 AX1 55

65611 SB6 A1-B1

6403 0311006405 NZ X1,QALPHA1

5116000001 SA1 B6+1

6404 76770 SX7 B7

63710 SB7 X1

21122 AX1 18

53710 SA7 X1

6405 7140006407 QALPHA1 SX4 ABC . THE RESULT IS THE DISPLAY CODE

6110000441 SB1 NEXTMIC . ALPHABET

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 135

RUN - TIME FUNCTIONS SNOJOB

6406 0400002472 EQ SOPERND

\*

6407 04000077006420006410 ABC VFD 5/SSTY,19/63,18/ABC2,18/ABC1

\*

6410 01020304050607006411 ABC1 VFD 42/01020304050607B,18/\*+1

6411 10111213141516006412 VFD 42/10111213141516B,18/\*+1

6412 17202122232425006413 VFD 42/17202122232425B,18/\*+1

6413 26273031323334006414 VFD 42/26273031323334B,18/\*+1

6414 35363740414243006415 VFD 42/35363740414243B,18/\*+1

6415 44454647505152006416 VFD 42/44454647505152B,18/\*+1

6416 53545556576061006417 VFD 42/53545556576061B,18/\*+1

6417 62636465666770006420 VFD 42/62636465666770B,18/\*+1

6420 71727374757677000000 ABC2 VFD 42/71727374757677B,18/0

\*

6421 ALPHAQ BSS 0

\*

6421 7255777776 QFREEZE SX5 X5-1

0315000317 NZ X5,ERR20 . TOO MANY PARAMETERS

6422 56160 SA1 B6 . SVD

21167 AX1 55

0311000330 NZ X1,ERR29 . MUST BE STRING

6423 5116777776 SA1 B6-1 . SVD

53110 SA1 X1 . FIRST (AND HOPEFULLY LAST) WORD

10611 BX6 X1

6424 0100005757 RJ VALID . CHECK FOR GOOD FILENAME

6425 0306000340 ZR X6,ERR40 . NO

5160006452 SA6 QFRZFET

6426 5110000203 SA1 FIELDLN

64260 SB2 A6 . FET ADDRESS FOR OPEN CALL

10611 BX6 X1

6427 5066000004 SA6 A6+4 . LIMIT POINTER OF FET

0100005767 RJ OPEN

6430 5110006453 SA1 QFRZFET+1 . FIRST

73610 SX6 X1

6431 5061000001 SA6 A1+1 . IN

7266000001 SX6 X6+1

6432 5066000001 SA6 A6+1 . OUT

5110006457 SA1 QFRZWRD . LOADER TABLE HEADER WORD

6433 10611 BX6 X1

76770 SX7 B7

5160000107 SA6 BGP2STK-1 . STORE JUST BEFORE REAL SNOBOL

6434 20722 LX7 18

76560 SX5 B6

12757 BX7 X5+X7

20722 LX7 18

6435 74550 SX5 A5

12757 BX7 X5+X7

5170000235 SA7 QFRZSV

6436 0100004341 RJ CLOSEOUT . TERMINATE FILE(S)

6437 6120006452 SB2 QFRZFET . RESTORE B2

7100000001 BWRITER RECALL

6441 0200000522 JP .END. . JUST ISSUE END REQUEST

6442 5110000235 QFREEZE1 SA1 QFRZSV

53510 SA5 X1

21122 AX1 18

6443 63610 SB6 X1

21122 AX1 18

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 136

RUN - TIME FUNCTIONS SNOJOB

5120000203 SA2 FIELDLN

6444 14222 BX2 -X2

63710 SB7 X1

64100 SB1 A0

73321 SX3 X2+B1

6445 74700 SX7 A0

54720 SA7 A2

0303000441 ZR X3,NEXTMIC . NEW FL = OLD FL

6446 6111777776 QFREEZE2 SB1 B1-1

7161777776 SX6 B1-1

6447 63221 SB2 X2+B1

56610 SA6 B1

0520006446 NE B2,B0,QFREEZE2

6450 76670 SX6 B7

6277777776 SB7 X7-1

56610 SA6 B1

6451 0400000441 EQ NEXTMIC

\*

6452 00000000000000000000 QFRZFET DATA 0

6453 00000000000000000106 VFD 60/BGP2STK-2 . FIRST

6454 00000000000000000106 VFD 60/BGP2STK-2 . IN

6455 00000000000000000107 VFD 60/BGP2STK-1 . OUT

6456 00000000000000000000 DATA 0 . LIMIT

6457 50000000000107006442 QFRZWRD VFD 6/50B,18/0,18/BGP2STK-1,18/QFREEZE1

\*

6460 FREEZEQ BSS 0

\*

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 137

PASS1 CONTROL TABLE SNOJOB

P1TBL MACRO VAL,ALTVAL,SLB,BUO,IDC,NC,SPACT,SPADD,LITTERM

VFD 1/SLB,1/BUO,1/SPACT,1/IDC,1/NC,1/LITTERM,18/SPADD,18/

,ALTVAL,18/VAL

ENDM

\*

\* PASS 1 TABLE FLAG BITS

\*

1 SLB EQU 1 . SUPPRESS LEADING BLANKS

1 BUO EQU 1 . BINARY OR UNARY OPERATOR

1 SPACT EQU 1 . SPAECIAL ACTION

1 IDC EQU 1 . IDENTIFIER CHARACTER

1 NC EQU 1 . NUMBER CHARACTER

1 LITTERM EQU 1 . LITERAL TERMINATOR

6460 40000000000000000157 P1TAB P1TBL P2END,,SLB ENDPRG

6461 04000000000000770634 P1TBL -ID,,,,IDC A

6462 04000000000000770634 P1TBL -ID,,,,IDC B

6463 04000000000000770634 P1TBL -ID,,,,IDC C

6464 04000000000000770634 P1TBL -ID,,,,IDC D

6465 04000000000000770634 P1TBL -ID,,,,IDC E

6466 04000000000000770634 P1TBL -ID,,,,IDC F

6467 04000000000000770634 P1TBL -ID,,,,IDC G

6470 04000000000000770634 P1TBL -ID,,,,IDC H

6471 04000000000000770634 P1TBL -ID,,,,IDC I

6472 04000000000000770634 P1TBL -ID,,,,IDC J

6473 04000000000000770634 P1TBL -ID,,,,IDC K

6474 04000000000000770634 P1TBL -ID,,,,IDC L

6475 04000000000000770634 P1TBL -ID,,,,IDC M

6476 04000000000000770634 P1TBL -ID,,,,IDC N

6477 04000000000000770634 P1TBL -ID,,,,IDC O

6500 04000000000000770634 P1TBL -ID,,,,IDC P

6501 04000000000000770634 P1TBL -ID,,,,IDC Q

6502 04000000000000770634 P1TBL -ID,,,,IDC R

6503 04000000000000770634 P1TBL -ID,,,,IDC S

6504 04000000000000770634 P1TBL -ID,,,,IDC T

6505 04000000000000770634 P1TBL -ID,,,,IDC U

6506 04000000000000770634 P1TBL -ID,,,,IDC V

6507 04000000000000770634 P1TBL -ID,,,,IDC W

6510 04000000000000770634 P1TBL -ID,,,,IDC X

6511 04000000000000770634 P1TBL -ID,,,,IDC Y

6512 04000000000000770634 P1TBL -ID,,,,IDC Z

6513 06000000000000770563 P1TBL -INT,,,,IDC,NC 0

6514 06000000000000770563 P1TBL -INT,,,,IDC,NC 1

6515 06000000000000770563 P1TBL -INT,,,,IDC,NC 2

6516 06000000000000770563 P1TBL -INT,,,,IDC,NC 3

6517 06000000000000770563 P1TBL -INT,,,,IDC,NC 4

6520 06000000000000770563 P1TBL -INT,,,,IDC,NC 5

6521 06000000000000770563 P1TBL -INT,,,,IDC,NC 6

6522 06000000000000770563 P1TBL -INT,,,,IDC,NC 7

6523 06000000000000770563 P1TBL -INT,,,,IDC,NC 8

6524 06000000000000770563 P1TBL -INT,,,,IDC,NC 9

6525 20000000000021000041 P1TBL P2UNPL,P2PLUS,,BUO +

6526 20000000000024000044 P1TBL P2UNMIN,P2MINUS,,BUO

6527 30000045000027770675 P1TBL -ASTER1,P2MULT,,BUO,,,SPACT,ASTER-PASS1 \*

6530 30000057000032770664 P1TBL -SLASH1,P2DIV,,BUO,,,SPACT,SLASH-PASS1 /

6531 00000000000104770640 P1TBL -LPAREN,P2LFTPR (

6532 40000000000000000120 P1TBL P2RGTPR,,SLB )

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 138

PASS1 CONTROL TABLE SNOJOB

6533 20000000000056000076 P1TBL P2UNDOL,P2DOL,,BUO $

6534 40000000000131770735 P1TBL -SUPPRESS,P2EQUAL,SLB

6535 00000000000000770721 P1TBL -BLANK BLANK

6536 40000000000124770735 P1TBL -SUPPRESS,P2COMMA,SLB

6537 24000000000054000071 P1TBL P2UNPRD,P2PRD,,BUO,IDC .

6540 00000000000000000167 P1TBL P2ERR1 #

6541 00000000000112770735 P1TBL -SUPPRESS,P2LFTBR [

6542 40000000000000000127 P1TBL P2RGTBR,,SLB ]

6543 40000000000134770735 P1TBL -SUPPRESS,P2CLN,SLB

6544 00000000000000770613 P1TBL -LIT QUOTE

6545 00000000000000000167 P1TBL P2ERR1 \_

6546 20000000000060000165 P1TBL P2ERR2,P2ALT,,BUO !

6547 20000000000001000167 P1AND P1TBL P2ERR1,P2AND,,BUO &&&&&&&&&&&&

6550 00000000000000770613 P1TBL -LIT '

6551 20000000000007000167 P1OR P1TBL P2ERR1,P2OR,,BUO ????????

6552 20000000000012000167 P1LEFT P1TBL P2ERR1,P2LEFT,,BUO <<<<<<<<

6553 20000000000015000167 P1RITE P1TBL P2ERR1,P2RITE,,BUO >>>>>>>>

6554 00000000000000000167 P1TBL P2ERR1 @

6555 00000000000000000167 P1TBL P2ERR1 \

6556 20000000000004000047 P1NOT P1TBL P2NOT,P2EOR,,BUO ^^^^^^^^

6557 40000000000144770725 P1TBL -SEMI,P2SMCLN,SLB SEMICOLON

6560 41000000000144770725 P1EOS P1TBL -SEMI,P2SMCLN,SLB,,,,,,LITTERM EOS

6561 20000000000035000165 P1EXP P1TBL P2ERR2,P2EXP,,BUO \*\*

\*

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 139

PASS 2 CONTROL TABLE SNOJOB

6561 P2TBL EQU \*-1

6562 10001041040 P2AND HEAD 0,0,13,13,0,0,0,0,1,1,2,2,0,0,2

6563 37400020000044007353 TAIL 176B,0,P3AND,ST10,OUTP2

6564 37400020000054007353 TAIL 176B,0,P3AND,ST12,OUTP2

6565 10001041040 P2EOR HEAD 0,0,10,10,0,0,0,0,1,1,2,2,0,0,2

6566 37400022000044007353 TAIL 176B,0,P3EOR,ST10,OUTP2

6567 37400022000054007353 TAIL 176B,0,P3EOR,ST12,OUTP2

6570 10001041040 P2OR HEAD 0,0,07,07,0,0,0,0,1,1,2,2,0,0,2

6571 37400023000044007353 TAIL 176B,0,P3OR,ST10,OUTP2

6572 37400023000054007353 TAIL 176B,0,P3OR,ST12,OUTP2

6573 10001041040 P2LEFT HEAD 0,0,04,04,0,0,0,0,1,1,2,2,0,0,2

6574 37400024000044007353 TAIL 176B,0,P3LEFT,ST10,OUTP2

6575 37400024000054007353 TAIL 176B,0,P3LEFT,ST12,OUTP2

6576 10001041040 P2RITE HEAD 0,0,01,01,0,0,0,0,1,1,2,2,0,0,2

6577 37400000000000007356 TAIL 176B,0,0,0,ACT2

6600 37400025000044007353 TAIL 176B,0,P3RITE,ST10,OUTP2

6601 37400025000054007353 TAIL 176B,0,P3RITE,ST12,OUTP2

6602 10001041040 P2PLUS HEAD 0,0,13,13,0,0,0,0,1,1,2,2,0,0,2

6603 37400026000044007353 TAIL 176B,0,P3PLUS,ST10,OUTP2

6604 37400026000054007353 TAIL 176B,0,P3PLUS,ST12,OUTP2

6605 10001041040 P2MINUS HEAD 0,0,10,10,0,0,0,0,1,1,2,2,0,0,2

6606 37400027000044007353 TAIL 176B,0,P3MIN,ST10,OUTP2

6607 37400027000054007353 TAIL 176B,0,P3MIN,ST12,OUTP2

6610 10001041040 P2MULT HEAD 0,0,7,7,0,0,0,0,1,1,2,2,0,0,2

6611 37400030000044007353 TAIL 176B,0,P3MULT,ST10,OUTP2

6612 37400030000054007353 TAIL 176B,0,P3MULT,ST12,OUTP2

6613 10001041040 P2DIV HEAD 0,0,4,4,0,0,0,0,1,1,2,2,0,0,2

6614 37400031000044007353 TAIL 176B,0,P3DIV,ST10,OUTP2

6615 37400031000054007353 TAIL 176B,0,P3DIV,ST12,OUTP2

6616 10001462100 P2EXP HEAD 0,0,1,1,0,0,0,0,2,2,3,3,0,0,2

6617 37400000000000007356 TAIL 176B,0,0,0,ACT2

6620 37400032000044007353 TAIL 176B,0,P3EXP,ST10,OUTP2

6621 37400032000054007353 TAIL 176B,0,P3EXP,ST12,OUTP2

6622 10000040040 P2UNPL HEAD 0,0,0,0,0,0,0,0,1,0,2,0,0,0,2

6623 40000016000044007353 TAIL 200B,0,P3UNPL,ST10,OUTP2

6624 40000016000054007353 TAIL 200B,0,P3UNPL,ST12,OUTP2

6625 10000040040 P2UNMIN HEAD 0,0,0,0,0,0,0,0,1,0,2,0,0,0,2

6626 40000017000044007353 TAIL 200B,0,P3UNMIN,ST10,OUTP2

6627 40000017000054007353 TAIL 200B,0,P3UNMIN,ST12,OUTP2

6630 10000040040 P2NOT HEAD 0,0,0,0,0,0,0,0,1,0,2,0,0,0,2

6631 40000021000044007353 TAIL 200B,0,P3NOT,ST10,OUTP2

6632 40000021000054007353 TAIL 200B,0,P3NOT,ST12,OUTP2

6633 04000420000 P2USTAR HEAD 0,0,0,0,0,0,0,0,0,0,1,1,0,0,1

6634 40026033000014007361 TAIL 200B,ST12,P3STAR,ST4,ACT3

6635 04000420000 P2PRD HEAD 0,0,7,7,0,0,0,0,0,0,1,1,0,0,1

6636 37426037000014007361 TAIL 176B,ST12,P3PRD,ST4,ACT3

6637 04000420000 P2DOL HEAD 0,0,5,5,0,0,0,0,0,0,1,1,0,0,1

6640 37426036000014007361 TAIL 176B,ST12,P3DOL,ST4,ACT3

6641 04000420000 P2ALT HEAD 0,0,3,3,0,0,0,0,0,0,1,1,0,0,1

6642 37400035000050007353 TAIL 176B,0,P3ALT,ST11,OUTP2

6643 30003145240 P2BLANK HEAD 2,3,1,1,0,0,4,0,5,5,6,6,0,0,6

6644 37400000000000007356 TAIL 176B,0,0,0,ACT2

6645 60000055000004007367 TAIL 300B,0,P3LABEL,ST2,ACT4

6646 37410011000050007370 TAIL 176B,ST5,P3PM,ST11,ACT5

6647 40000000000030007340 TAIL 200B,0,0,ST7,PASS2

6650 37400034000040007353 TAIL 176B,0,P3CAT,ST9,OUTP2

6651 37400034000050007353 TAIL 176B,0,P3CAT,ST11,OUTP2

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 140

PASS 2 CONTROL TABLE SNOJOB

6652 20002103140 P2UNPRD HEAD 0,1,2,0,0,0,0,0,3,3,4,4,0,0,4

6653 40002010000014007433 TAIL 200B,ST2,P3NAME,ST4,ACT20

6654 40000010000014007353 TAIL 200B,0,P3NAME,ST4,OUTP2

6655 40022010000014007361 TAIL 200B,ST10,P3NAME,ST4,ACT3

6656 40026010000014007361 TAIL 200B,ST12,P3NAME,ST4,ACT3

6657 20002103144 P2UNDOL HEAD 0,5,1,1,0,0,0,2,3,3,4,4,0,0,4

6660 40000007000010007353 TAIL 200B,0,P3INDR,ST3,OUTP2

6661 40014051000010007372 TAIL 200B,ST7,P3BGTT,ST3,ACT6

6662 40022007000010007361 TAIL 200B,ST10,P3INDR,ST3,ACT3

6663 40026007000010007361 TAIL 200B,ST12,P3INDR,ST3,ACT3

6664 40002007000010007440 TAIL 200B,ST2,P3INDR,ST3,ACT21

6665 20002103140 P2LFTPR HEAD 0,7,1,5,0,0,2,0,3,3,4,4,0,0,4

6666 60004045000040007377 TAIL 300B,ST3,P3LFTPR,ST9,ACT9

6667 60000050000034007353 TAIL 300B,0,P3COND,ST8,OUTP2

6670 60022045000040007377 TAIL 300B,ST10,P3LFTPR,ST9,ACT9

6671 60026045000050007377 TAIL 300B,ST12,P3LFTPR,ST11,ACT9

6672 20004045000040007377 TAIL 100B,ST3,P3LFTPR,ST9,ACT9

6673 24002524200 P2LFTBR HEAD 0,1,2,2,0,0,3,0,4,4,5,5,0,0,5

6674 77002000000010007375 TAIL 374B,ST2,0,ST3,ACT8

6675 20004000000000007412 TAIL 100B,ST3,0,0,ACT13

6676 60014051000014007414 TAIL 300B,ST7,P3BGTC,ST4,ACT14

6677 20022000000000007412 TAIL 100B,ST10,0,0,ACT13

6700 20026000000000007412 TAIL 100B,ST12,0,0,ACT13

6701 74031042102 P2RGTPR HEAD 0,0,14,14,0,0,0,1,2,2,2,2,3,0,15

6702 20000052000030007353 TAIL 100B,0,P3GT,ST7,OUTP2

6703 37400000000000007357 TAIL 176B,0,0,0,ACT11

6704 37400043000000007421 TAIL 176B,0,P3CALL,0,ACT17

6705 54416314600 P2COMMA HEAD 0,0,10,10,0,0,0,0,12,12,12,12,1,2,11

6706 37430041000070007361 TAIL 176B,ST13,P3PARAM,ST15,ACT3

6707 37432042000040007361 TAIL 176B,ST14,P3SUBCM,ST9,ACT3

6710 44204631440 P2RGTBR HEAD 0,0,7,7,0,0,0,0,9,9,9,9,0,1,9

6711 37400044000000007421 TAIL 176B,0,P3RGTBR,0,ACT17

6712 34003567340 P2EQUAL HEAD 0,1,5,5,2,0,0,0,7,7,7,7,0,0,7

6713 20412012000070007361 TAIL 102B,ST6,P3ASGN,ST15,ACT3

6714 37412013000070007425 TAIL 176B,ST6,P3PMA,ST15,ACT18

6715 14002104200 P2CLN HEAD 1,7,2,2,5,6,0,0,4,4,4,4,0,0,3

6716 60200055000030007367 TAIL 301B,0,P3LABEL,ST7,ACT4

6717 37600000000000007356 TAIL 177B,0,0,0,ACT2

6720 77400000000000007406 TAIL 376B,0,0,0,ACT12

6721 37400000000000007357 TAIL 176B,0,0,0,ACT16

6722 37400015000030007353 TAIL 176B,0,P3CLN2,ST7,OUTP2

6723 37400014000030007353 TAIL 176B,0,P3CLN1,ST7,OUTP2

6724 60400015000030007353 TAIL 302B,0,P3CLN2,ST7,OUTP2

6725 40003567340 P2SMCLN HEAD 2,3,4,4,1,5,6,0,7,7,7,7,0,0,8

6726 37600002000000007353 TAIL 177B,0,P3RULE2,ST1,OUTP2

6727 60200000000000007430 TAIL 301B,0,0,0,ACT19

6730 60400002000000007353 TAIL 302B,0,P3RULE2,ST1,OUTP2

6731 37400000000000007356 TAIL 176B,0,0,0,ACT2

6732 37400001000000007353 TAIL 176B,0,P3RULE1,ST1,OUTP2

6733 40000003000000007353 TAIL 200B,0,P3RULE3,ST1,OUTP2

6734 37400000000000007357 TAIL 176B,0,0,0,ACT16

6735 77400000000000007406 TAIL 376B,0,0,0,ACT12

6736 20030005000070007361 AUXPR TAIL 100B,ST13,P3BCALL,ST15,ACT3

6737 20032006000040007361 AUXBR TAIL 100B,ST14,P3LFTBR,ST9,ACT3

6740 04210421042 P2END HEAD 1,1,1,1,1,1,1,1,1,1,1,1,1,1,1

6741 77600047000000007353 TAIL 377B,0,P3END,0,OUTP2

161 AUXERR EQU \*-P2TBL

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 141

PASS 2 CONTROL TABLE SNOJOB

6742 04210421042 P2ERR4 HEAD 1,1,1,1,1,1,1,1,1,1,1,1,1,1,1

6743 77400000000000007757 TAIL 376B,0,0,0,ERRACT3

6744 04210421042 P2ERR3 HEAD 1,1,1,1,1,1,1,1,1,1,1,1,1,1,1

6745 77400000000000007755 TAIL 376B,0,0,0,ERRACT2

6746 04210421042 P2ERR2 HEAD 1,1,1,1,1,1,1,1,1,1,1,1,1,1,1

6747 77400000000000007754 TAIL 376B,0,0,0,ERRACT1

6750 04210421042 P2ERR1 HEAD 1,1,1,1,1,1,1,1,1,1,1,1,1,1,1

6751 77400000000000007756 TAIL 376B,0,0,0,ERRACT

\*

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 142

PASS3 CONTROL TABLE SNOJOB

6751 P3TBL EQU \*-1

6752 20000002000000007565 P3RULE1 TABLE 20B,0,PRIORI,0,ARULE1

6753 20000002000037007565 P3RULE2 TABLE 20B,0,PRIORI,XSKIP,ARULE1

6754 40000000000000007565 P3RULE3 TABLE 40B,0,0,0,ARULE1

6755 40000000000000007564 P3RULE4 TABLE 40B,0,0,0,ARULE4

6756 40000004000000007607 P3BCALL TABLE 40B,0,PRIORG,0,ABCALL

6757 42000004000046007572 P3LFTBR TABLE 42B,0,PRIORG,XARRAY,ALFTBR

6760 40004112000000007460 P3INDR TABLE 40B,XINDRCV,PRIORA,0,STACKX4

6761 50000012000000007460 P3NAME TABLE 50B,0,PRIORA,0,STACKX4

6762 20002704000003007575 P3PM TABLE 20B,XPM,PRIORG,XPMCHK,APM

6763 44003303000000007601 P3ASGN TABLE 44B,XASGN,PRIORH,0,AASGN

6764 22003403000000000000 P3PMA TABLE 22B,XASGNPM,PRIORH,0,0

6765 20000002000000007451 P3CLN1 TABLE 20B,0,PRIORI,0,PASS3

6766 20000002000037007451 P3CLN2 TABLE 20B,0,PRIORI,XSKIP,PASS3

6767 02002207000044000000 P3UNPL TABLE 2B,XUNADD,PRIORD,XZERO,0

6770 02002307000044000000 P3UNMIN TABLE 2B,XUNSUB,PRIORD,XZERO,0

6771 22001211000004000000 P3AND TABLE 22B,XAND,PRIORB,XASCHK,0

6772 02001311000044000000 P3NOT TABLE 2B,XNOT,PRIORB,XZERO,0

6773 22001411000004000000 P3EOR TABLE 22B,XEOR,PRIORB,XASCHK,0

6774 22001511000004000000 P3OR TABLE 22B,XOR,PRIORB,XASCHK,0

6775 22001611000004000000 P3LEFT TABLE 22B,XLEFT,PRIORB,XASCHK,0

6776 22001711000004000000 P3RITE TABLE 22B,XRITE,PRIORB,XASCHK,0

6777 22002007000004000000 P3PLUS TABLE 22B,XADD,PRIORD,XASCHK,0

7000 22002107000004000000 P3MIN TABLE 22B,XSUBTR,PRIORD,XASCHK,0

7001 22002410000005000000 P3MULT TABLE 22B,XMULT,PRIORC,XMCHEK,0

7002 22002510000006000000 P3DIV TABLE 22B,XDIV,PRIORC,XDCHEK,0

7003 22002611000007000000 P3EXP TABLE 22B,XEXP,PRIORB,XEXPCHK,0

7004 16003212000000000000 P3STAR TABLE 16B,XSTAR,PRIORA,0,0

7005 22001006000001000000 P3CAT TABLE 22B,XCONCAT,PRIORE,XCATCHK,0

7006 22001105000002000000 P3ALT TABLE 22B,XALT,PRIORF,XALTCHK,0

7007 36003112000000000000 P3DOL TABLE 36B,XDOL,PRIORA,0,0

7010 36003012000000000000 P3PRD TABLE 36B,XPRD,PRIORA,0,0

7011 00000000000045007451 P3NULL TABLE 0B,0,0,XNULL,PASS3

7012 20000005000036007621 P3PARAM TABLE 20B,0,PRIORF,XPARAM,APARAM

7013 20000005000035007451 P3SUBCM TABLE 20B,0,PRIORF,XSUBCM,PASS3

7014 20000005000000007623 P3CALL TABLE 20B,0,PRIORF,0,ACALL

7015 20000005000000007630 P3RGTBR TABLE 20B,0,PRIORF,0,ARGTBR

7016 02000004000000000000 P3LFTPR TABLE 2B,0,PRIORG,0,0

7017 20000005000000007571 P3RGTPR TABLE 20B,0,PRIORF,0,ARGTPR

7020 40000000000000010000 P3END TABLE 40B,0,0,0,AEND

7021 40000000000000007654 P3COND TABLE 40B,0,0,0,ACOND

7022 40000003000000007674 P3BGTT TABLE 40B,0,PRIORH,0,ABGTT

51 P3BGTC EQU P3BGTT

7023 40000000000000007667 P3GT TABLE 40B,0,0,0,AGT

7024 20000004000057007710 P3GTT TABLE 20B,0,PRIORG,XGOTOT,AGTT

7025 20000004000060007710 P3GTC TABLE 20B,0,PRIORG,XGOTOC,AGTT

7026 40000000000000007634 P3LABEL TABLE 40B,0,0,0,ALABEL

\*

14 P3ENDUN EQU P3CLN1

\*

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 143

PASS1: MAIN LOOP SNOJOB

7027 0100010274 PRE5 RJ HEADING

7030 0100010072 PRE4 RJ UNPACK

7031 5124000230 PASS1 SA2 B4+CHAR NEXT SOURCE CHARACTER

0332007030 NG X2,PRE4

7032 6144000001 SB4 B4+1

5232006460 SA3 P1TAB+X2

7033 73130 NOINPUT1 SX1 X3 VALUE FIELD OF P1TAB ENTRY

0331007036 NG X1,BRANCH

7034 0100007340 NOINPUT2 RJ PASS2 OUTPUT VALUE FROM P1TAB

7035 0400007031 EQ PASS1

7036 14111 BRANCH BX1 -X1

63510 SB5 X1

0255000000 JP B5 JUMP TO COMPL. OF ADDRESS IN TABL

7037 10633 SUPSAVE BX6 X3

5160000254 SA6 P1SVX3

7040 0100010072 RJ UNPACK

7041 5130000254 SA3 P1SVX3

7042 5124000230 SUPPRESS SA2 B4+CHAR SUPPRESS TRAILING BLANKS

0332007037 NG X2,SUPSAVE

7043 6144000001 SB4 B4+1

7044 7212777722 SUP0 SX1 X2-1R

0301007042 ZR X1,SUPPRESS

7045 6144777776 SB4 B4-1 BACK UP CHAR POINTER

20352 LX3 42 GET ALTVAL FIELD OF P1TAB ENTRY

73130 SX1 X3

7046 0400007034 EQ NOINPUT2

7047 10633 CLX BX6 X3

5160000254 SA6 P1SVX3 SAVE X3

7050 0100010072 RJ UNPACK

7051 5130000254 SA3 P1SVX3

0400007063 EQ BLANK1

7052 5110000256 SEMI SA1 RULENO

7261000001 SX6 X1+1

7053 5160000256 SA6 RULENO

7110000144 SX1 P2SMCLN

7054 0400007034 EQ NOINPUT2

7055 0100010072 RJ UNPACK

7056 5124000230 BLANK SA2 B4+CHAR PROCESS A BLANK

0332007055 NG X2,\*-1

7057 6144000001 SB4 B4+1

7212777722 SX1 X2-1R

7060 0301007056 ZR X1,BLANK A STRING OF BLANKS # ONE BLANK

5232006460 SA3 X2+P1TAB

7061 0333007033 NG X3,NOINPUT1 OP REQUIRING LEADING BLNK SUPPRES

7062 20301 BLANK0 LX3 1 LOOK AT BUO FLAG

0323007073 PL X3,NOT.UB NOT AN EITHER/OR OPERATOR

7063 5124000230 BLANK1 SA2 B4+CHAR

0332007047 NG X2,CLX

7064 6144000001 SB4 B4+1

7212777722 SX1 X2-1R

7065 20373 LX3 59 . CANCEL PREVIOUS LEFT SHIFT

0301007042 ZR X1,SUPPRESS . SUPPRESS BLANKS, OUTPUT CHAR

20302 LX3 2 . LOOK AT SPECIAL FLAG

7066 0333007075 NG X3,SPECIAL GO PROCESS SPECIAL CASE

20372 LX3 58

7067 7263000000 NOT.B.1 SX6 X3+0 UNARY VALUE TO OUTPUT LATER

5160000257 SA6 P1SVTAB

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 144

PASS1: MAIN LOOP SNOJOB

7070 6144777776 SB4 B4-1 BACK UP CHAR POINTER

7110000062 SX1 P2BLANK

7071 0100007340 RJ PASS2

7072 5110000257 SA1 P1SVTAB UNARY VALUE TO OUTPUT NOW

0400007034 EQ NOINPUT2

7073 7110000062 NOT.UB SX1 P2BLANK

6144777776 SB4 B4-1 BACK UP CHAR POINTER

7074 0400007034 EQ NOINPUT2

7075 20326 SPECIAL LX3 22 GET SPECIAL JUMP FIELD

63530 SB5 X3

0255007031 JP B5+PASS1

7076 7212777730 ASTER SX1 X2-1R\*

0311007100 NZ X1,NOT.EXP

7077 5130006561 SA3 P1EXP

0400007062 EQ BLANK0

7100 7130000052 NOT.EXP SX3 P2USTAR

0400007067 EQ NOT.B.1 OUTPUT BLANK, THEN USTAR

7101 0100010072 RJ UNPACK

7102 5124000230 ASTER1 SA2 B4+CHAR

0332007101 NG X2,\*-1

7103 6144000001 SB4 B4+1

7212777730 SX1 X2-1R\*

7104 0311007106 NZ X1,NOT.EXP1

7110000161 SX1 P2ERR4

7105 0400007034 EQ NOINPUT2

7106 7110000052 NOT.EXP1 SX1 P2USTAR

6144777776 SB4 B4-1 BACK UP CHAR POINTER

7107 0400007034 EQ NOINPUT2

7110 7212777727 SLASH SX1 X2-1R/

0311007120 NZ X1,NOT.ALT NOT //, WHICH IS ALTERNATION

7111 5130006546 SA3 P1TAB+1R!

0400007062 EQ BLANK0

7112 0100010072 RJ UNPACK

7113 5124000230 SLASH1 SA2 B4+CHAR PICK UP CHAR AFTER /

0332007112 NG X2,\*-1

7114 6144000001 SB4 B4+1

0301007117 ZR X1,SLASH2

7115 7212777731 SX1 X2-1R-

0311007120 NZ X1,NOT.ALT

7116 5130006556 SA3 P1NOT

0400007062 EQ BLANK0

7117 7110000161 SLASH2 SX1 P2ERR4

0400007034 EQ NOINPUT2 UNARY //, SINCE NO PRECEDING BLAN

7120 7212777725 NOT.ALT SX1 X2-1R)

0311007122 NZ X1,NOT.RBR NOT /), WHICH IS RIGHT BRACKET

7121 7110000127 SX1 P2RGTBR

0400007034 EQ NOINPUT2

7122 7212777730 NOT.RBR SX1 X2-1R\*

0311007124 NZ X1,NOT.AND

7123 5130006547 SA3 P1AND

0400007062 EQ BLANK0

7124 7212777732 NOT.AND SX1 X2-1R+

0311007126 NZ X1,NOT.OR

7125 5130006551 SA3 P1OR

0400007062 EQ BLANK0

7126 7212777731 NOT.OR SX1 X2-1R-

0311007130 NZ X1,NOT.XOR

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 145

PASS1: MAIN LOOP SNOJOB

7127 5130006556 SA3 P1NOT

0400007062 EQ BLANK0

7130 7212777755 NOT.XOR SX1 X2-1RR

0311007132 NZ X1,NOT.RYT

7131 5130006553 SA3 P1RITE

0400007062 EQ BLANK0

7132 7212777763 NOT.RYT SX1 X2-1RL

0311007134 NZ X1,NOT.LFT

7133 5130006552 SA3 P1LEFT

0400007062 EQ BLANK0

7134 7110000134 NOT.LFT SX1 P2CLN

6144777776 SB4 B4-1 BACK UP CHAR POINTER

7135 0400007034 EQ NOINPUT2

7136 0100010072 RJ UNPACK

7137 5124000230 LPAREN SA2 B4+CHAR

0332007136 NG X2,\*-1

7140 6144000001 SB4 B4+1

7212777727 SX1 X2-1R/

7141 5130006531 SA3 P1TAB+1R(

0311007044 NZ X1,SUP0

7142 5130006541 SA3 P1TAB+1R[

0400007042 EQ SUPPRESS

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 146

PASS1: IDENTIFIER PROCESSING SNOJOB

7143 5110000204 ID SA1 MAXSTAT TOP OF STATIC

7261000002 SX6 X1+2 FIRST ADDRESS FOR BCD OF ID

7144 5160000253 SA6 P1MAX

7160000052 SX6 42

7145 5160000250 SA6 CPERW INITIALIZE CHAR/WORD COUNT

13555 BX5 X5-X5 X5 WILL HOL UP TO 7 CHARS

13666 BX6 X6-X6

7146 5160000246 SA6 CHARLEN LENGTH OF IDENTIFIER

0400007155 EQ ID3 JUMP INTO MAIN LOOP

7147 10655 ID1 BX6 X5 SAVE X5 WHEN CALLING UNPACK

5160000255 SA6 P1SVX5

7150 0100010072 RJ UNPACK GET MORE CHARACTERS

7151 5110000255 SA1 P1SVX5

10511 BX5 X1 RESTORE X5 (MUST SAVE A5)

7152 5124000230 ID2 SA2 B4+CHAR

0332007147 NG X2,ID1 GET MORE CHARACTERS

7153 6144000001 SB4 B4+1

5232006460 SA3 P1TAB+X2 LOOK AT IDC FLAG

7154 20303 LX3 3

0323007157 PL X3,ID4 TERMINATOR FOUND

7155 0100007315 ID3 RJ PUTCHAR

7156 0400007152 EQ ID2

7157 6144777776 ID4 SB4 B4-1 BACK UP CHAR POINTER

0100007326 RJ LASTCHAR STORE LAST WORD WITH ZERO LINK

7160 7160000036 SX6 VARTYP

20623 LX6 19

12646 BX6 X4+X6 ADD IN LENGTH IN CHARS (LASTCHAR

\* LEAVES LENGTH IN X4)

7161 20622 LX6 18

5130000204 SA3 MAXSTAT

37113 IX1 X1-X3 CALCULATE BYPASS, X1 = LWA + 1

7162 12616 BX6 X1+X6

20622 LX6 18

5263000000 SA6 X3+0

7163 7110777776 SX1 P2VAR

0400007034 EQ NOINPUT2

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 147

PASS1: LITERAL PROCESSING SNOJOB

7164 5110000204 LIT SA1 MAXSTAT TOP OF STATIC

7261000002 SX6 X1+2 FWA OF BCD

7165 5160000253 SA6 P1MAX INITIALIZE P1MAX FOR PUTCHAR

7160000052 SX6 42 INITIALIZE BITS AVAILABLE/WORD

7166 5160000250 SA6 CPERW

13666 BX6 X6-X6

13555 BX5 X5-X5 X5 WILL HOLD UP TO 7 CHARS OF LIT

7167 5160000246 SA6 CHARLEN NUMBER OF CHARS IN LIT

7232000000 SX3 X2+0 SAVE TERMINATING QUOTE MARK

7170 0400007175 EQ LIT2 JUMP INTO MAIN LOOP

7171 10633 LIT1 BX6 X3

10755 BX7 X5

5170000255 SA7 P1SVX5 SAVE X5

7172 5160000254 SA6 P1SVX3 SAVE X3 WHEN GETTING CHARS

0100010072 RJ UNPACK

7173 5130000255 SA3 P1SVX5

10533 BX5 X3

7174 5130000254 SA3 P1SVX3

7175 5124000230 LIT2 SA2 B4+CHAR

0332007171 NG X2,LIT1 GO GET MORE

7176 6144000001 SB4 B4+1

5242006460 SA4 X2+P1TAB

7177 37632 IX6 X3-X2 SEE IF END OF LITERAL

0306007202 ZR X6,LIT3 YES

20405 LX4 5

7200 0334007212 NG X4,LIT4 ERROR - NO LITERAL TERMINATOR

0100007315 RJ PUTCHAR

7201 0400007175 EQ LIT2

7202 0100007326 LIT3 RJ LASTCHAR

7203 7170000033 SX7 LITTYP

20723 LX7 19

12747 BX7 X4+X7 X4 = NO OF CHARS (LASTCHAR SETS)

7204 20722 LX7 18

5130000204 SA3 MAXSTAT

37113 IX1 X1-X3 ITEM LENGTH

7205 12717 BX7 X1+X7

20722 LX7 18

7110000002 SX1 SSTY

7206 53730 SA7 X3 LITERAL DESCRIPTOR

20123 LX1 19

12714 BX7 X1+X4

20722 LX7 18

7207 74160 SX1 A6 LWA OF BCD CHARACTERS

12717 BX7 X1+X7

7213000002 SX1 X3+2 FWA OF BCD CHARACTERS

7210 20722 LX7 18

12717 BX7 X1+X7

5077000001 SA7 A7+1 SIMPLE VARIABLE DESCRIPTOR

7211 7110777775 SX1 P2LIT

0400007034 EQ NOINPUT2

7212 7110000163 LIT4 SX1 P2ERR3 ERR3 = EOS BEFORE END OF LITERAL

6144777776 SB4 B4-1 BACK UP CHAR POINTER

7213 0400007034 EQ NOINPUT2

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 148

PASS1: INTEGER PROCESSING SNOJOB

7214 5110000204 INT SA1 MAXSTAT TOP OF STATIC

7261000003 SX6 X1+3

7215 5160000253 SA6 P1MAX SET UP P1MAX FOR PUTCHAR ROUTINE

7160000052 SX6 42 BITS AVAILABLE/WORD

7216 5160000250 SA6 CPERW

7160000000 SX6 0

7217 5160000246 SA6 CHARLEN LENGTH OF INTEGER

0400007223 EQ INT1 JUMP INTO MAIN LOOP

7220 0100010072 RJ UNPACK GET MORE CHARS

7221 5124000230 SA2 B4+CHAR

0332007220 NG X2,\*-1

7222 6144000001 SB4 B4+1

7223 7212777744 INT1 SX1 X2-1R0

0301007221 ZR X1,\*-2 SKIP LEADING ZEROES

7224 13555 BX5 X5-X5 X5 WILL HOLD UP TO 7 CHARS

13333 BX3 X3-X3 X3 WILL HOLD BINARY FORM

5140002341 SA4 TEN

7225 0400007234 EQ INT4 GO BEGIN ACTUAL CONVERSION

7226 10633 INT2 BX6 X3

5160000254 SA6 P1SVX3 SAVE X3 WHILE GETTING CHARS

10655 BX6 X5

7227 5160000255 SA6 P1SVX5

0100010072 RJ UNPACK

7230 5130000254 SA3 P1SVX3

5140000255 SA4 P1SVX5

7231 10544 BX5 X4

5140002341 SA4 TEN

7232 5124000230 INT3 SA2 B4+CHAR

0332007226 NG X2,INT2

7233 6144000001 SB4 B4+1

7234 5212006460 INT4 SA1 X2+P1TAB

20104 LX1 4

7235 0321007246 PL X1,INT7 TERM FOUND

5110000246 SA1 CHARLEN

7236 7211777764 SX1 X1-11

0321007242 PL X1,INT6 TOO LONG, TREAT AS LIT

7237 7262777744 INT5 SX6 X2-1R0 CONVERT DIGIT TO BINARY

27606 PX6 X6 AND

24606 NX6 X6 FLOAT

7240 40334 FX3 X3\*X4 OLD TOTAL \* 10.0

30336 FX3 X3+X6 + NEW DIGIT

0100007315 RJ PUTCHAR STORE BCD DIGIT

7241 0400007232 EQ INT3

7242 5110000204 INT6 SA1 MAXSTAT

5211000003 SA1 X1+3 FIRST WORD OF BCD

7243 43052 MX0 42

11601 BX6 X0\*X1 CLEAR OLD LINK

74110 SX1 A1 AND ADD

12616 BX6 X1+X6 NEW ONE

7244 5061777776 SA6 A1-1

7061000000 SX6 A1+0

7245 5160000253 SA6 P1MAX P1MAX = C(MAXSTAT)+3

0400007237 EQ INT5 GO ON

7246 7262777720 INT7 SX6 X2-1R. TEST FOR REAL NO.

0306007265 ZR X6,REAL GO PROCESS REAL NUMBER

7247 6144777776 SB4 B4-1 BACK UP CHAR POINTER

5120000246 SA2 CHARLEN

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 149

PASS1: INTEGER PROCESSING SNOJOB

7250 7242777764 SX4 X2-11

0324007202 PL X4,LIT3 IF> 10 CHARS, TREAT AS LITERAL

7251 0313007254 NZ X3,INT8

7150000033 SX5 1R0 ALL ZEROES GIVES ONE ZERO DIGIT

7252 7160000044 SX6 36

5160000250 SA6 CPERW SET BITS/WORD TO BE CONSISTENT

7253 7170000001 SX7 1 . CHARACTER COUNT = 1 FOR INTEGER 0

5170000246 SA7 CHARLEN

7254 0100007326 INT8 RJ LASTCHAR

7255 7160000003 SX6 SITY

20623 LX6 19

12646 BX6 X4+X6 X4 = CHAR COUNT, FROM LASTCHAR

7256 20622 LX6 18

74260 SX2 A6 LWA OF BCD

12626 BX6 X2+X6

20622 LX6 18

7257 5120000204 SA2 MAXSTAT

7242000003 SX4 X2+3 FWA OF BCD

7260 7170000031 SX7 INTTYP

20745 LX7 37

12646 BX6 X4+X6

7261 5262000001 SA6 X2+1 SIMPLE VARIABLE DESCRIPTOR

26653 UX6 B5,X3

22656 LX6 B5,X6

7262 5262000002 SA6 X2+2

37112 IX1 X1-X2

12617 BX6 X1+X7 ITEM LENGTH

7263 20622 LX6 18

53620 SA6 X2 STRING-INTGER DESCRIPTOR

7110777774 SX1 P2INT OUTPUT VALUE

7264 0400007034 EQ NOINPUT2 OUTPUT P2INT AND GO ON

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 150

PASS1: REAL NUMBER PROCESSING SNOJOB

7265 5110005531 REAL SA1 ONETENTH =0.1E0

10511 BX5 X1 X5 WILL HOLD SCALE FACTOR FOR ND

7266 5124000230 REAL1 SA2 B4+CHAR

0332007302 NG X2,CLZ

7267 6144000001 SB4 B4+1

5242006460 SA4 X2+P1TAB

7270 7222777744 SX2 X2-1R0

27202 PX2 X2

20404 LX4 4 NUMBER CHARACTER FLAG

7271 0324007273 PL X4,REAL2 TERMINATOR FOUND

24202 NX2 X2

40225 FX2 X2\*X5 SCALE DIGIT

7272 30323 FX3 X2+X3 ADD TO TOTAL

40515 FX5 X1\*X5 NEXT POWER TO SCALE BY

0400007266 EQ REAL1

7273 5110000204 REAL2 SA1 MAXSTAT

6144777776 SB4 B4-1 BACK UP CHAR POINTER

7274 10733 BX7 X3

5271000002 SA7 X1+2

74270 SX2 A7 ADDRESS OF BINARY

7275 7170000010 SX7 RTY

20767 LX7 55

12727 BX7 X2+X7

7276 5271000001 SA7 X1+1

7170000030 SX7 REALTYP

7277 20745 LX7 37

7120000003 SX2 3

12727 BX7 X2+X7 ADD IN ITEM BYPASS

7300 20722 LX7 18

53710 SA7 X1 REAL NUMBER DESCRIPTOR

7110777773 SX1 P2REAL

7301 0400007034 EQ NOINPUT2

7302 10633 CLZ BX6 X3

5160000254 SA6 P1SVX3 SAVE BINARY

10655 BX6 X5

7303 5160000255 SA6 P1SVX5 SAVE SCALE FACTOR

0100010072 RJ UNPACK

7304 5130000255 SA3 P1SVX5

10533 BX5 X3 (MUST NO TOUCH A5)

7305 5130000254 SA3 P1SVX3

5110005531 SA1 ONETENTH

7306 0400007266 EQ REAL1

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 151

PASS1: MISCELLANEOUS ROUTINES FOR INT, LIT, ID SNOJOB

7307 00000000000000000000 TBUMP DATA 0

7310 66560 SB5 B6

0760007311 NG B6,\*+1

67506 SB5 -B6

7311 5110000253 SA1 P1MAX

7211000001 SX1 X1+1

7312 63515 SB5 X1+B5

0750007307 NG B5,TBUMP

7313 0100010037 RJ BUMP

7314 0400007310 EQ TBUMP+1

7315 00000000000000000000 PUTCHAR DATA 0 ADD CHAR IN XI TO THOSE IN X5

7316 20506 LX5 6

12525 BX5 X2+X5

5120000246 SA2 CHARLEN

7317 7262000001 SX6 X2+1

5160000246 SA6 CHARLEN

7320 5120000250 SA2 CPERW

7262777771 SX6 X2-6

7321 0316007325 NZ X6,PUTCHAR1

0100007307 RJ TBUMP RETURN WITH C(P1MAX)+1 IN X1

7322 20522 LX5 18

12615 BX6 X1+X5 LINK

5261777776 SA6 X1-1

7323 7150000000 SX5 0

7261000000 SX6 X1+0

7324 5061000000 SA6 A1+0 UPDATE P1MAX ( = \* + 1)

7160000052 SX6 42 RESET BITS REMAINING/WORD

7325 5160000250 PUTCHAR1 SA6 CPERW

0400007315 EQ PUTCHAR

7326 00000000000000000000 LASTCHAR DATA 0

7327 5140000246 SA4 CHARLEN

0305007334 ZR X5,LC1

7330 0100007307 LC0 RJ TBUMP GET C(P1MAX) + 1 IN X1

7331 5120000250 SA2 CPERW

6232000022 SB3 X2+18

7332 22635 LX6 B3,X5

5261777776 SA6 X1-1

7333 0400007326 EQ LASTCHAR

7334 0304007330 LC1 ZR X4,LC0

5110000253 SA1 P1MAX

7335 5221777776 SA2 X1-1

43052 MX0 42

11602 BX6 X0\*X2 ZERO LINK FOR LAST WORD

7336 5062000000 SA6 A2+0

0400007326 EQ LASTCHAR

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 152

PASS2 SNOJOB

7337 6170000000 ZEND SB7 0 . SET OPERAND SITUATION TO ZERO

\*

7340 46000 PASS2 NO . ENTRY TO PASS2

7341 0331007351 P2TRCT NG X1,OPRACT . CHANGED IF TESTOUTPUT TO EQ P2TRC

0710007751 LT B1,B0,INSKIP . BRANCH IF AFTER ERROR

7342 5221006561 ACT1 SA2 X1+P2TBL . FETCH TABLEWORD

43070 MX0 56

23212 AX2 B1,X2 . SECONDARY WORD INDEX DEPENDS ON

7343 15220 BX2 -X0\*X2 . THE STATE (B1)

63220 SB2 X2

0402007760 EQ B0,B2,SYXERR . SYNTAX ERROR IF IT IS ZERO

7344 54222 SA2 A2+B2

23472 AX4 B7,X2 . BRANCH IF OPERAND SITUATION IS

0334007347 NG X4,ACT1A .ALLOWABLE

7345 7271777715 SX7 X1-P2BLANK

0307007765 ZR X7,OPRERR4 BLANK AFTER AN UNARY

7346 0400007762 EQ OPRERR1 NONE OF THE ABOVE

7347 63320 ACT1A SB3 X2 . ACTION TO B3

21222 AX2 18

6212000000 SB1 X2+0 . NEW STATE TO B1

7350 0233000000 JP B3+0 . SWITCH TO ACTION

\*

7351 0507007763 OPRACT NE B0,B7,OPRERR2 . ERROR, DELIMITER IS MISSING

63710 SB7 X1

7352 0400007340 EQ PASS2 . NEW OPERAND SITUATION TO B7

7353 20242 OUTP2 LX2 34 . OUTPUT OUTPART AND RETURN

21264 AX2 52

73120 SX1 X2

7354 0301007337 OUTX1 ZR X1,ZEND

0100007451 RJ PASS3

7355 0400007337 EQ ZEND

\*

7356 6120777772 ACT2 SB2 OPSEXP

0427007424 EQ B2,B7,ACT17A

7357 54300 DESTACK SA3 A0 . RESTORE STATE AND ACTION FROM

\* . THE STACK

5000000001 SA0 A0+1

63330 SB3 X3

7360 21322 AX3 18

63130 SB1 X3

0233000000 JP B3+0 . SWITCH TO ACTION

\*

7361 7170007342 ACT3 SX7 ACT1

7362 6120007353 STAKOUT SB2 OUTP2

7363 10622 STACKX7 BX6 X2 . SET X6 TO STACKPART OF THE

20632 LX6 26 . SECONDARY TABLEWORD

21664 AX6 52

7364 20622 STACKP2 LX6 18 . STACK X6 AND X7, RETURN TO B2

5000777776 SA0 A0-1

12667 BX6 X6+X7

7365 64300 SB3 A0 . CHECK BUMPING AGAINST PASS3

65353 SB3 A5-B3 . STACK

5060000000 SA6 A0+0

7366 0630000354 GE B3,B0,FATBUMP

0222000000 JP B2+0

\*

7367 0507007353 ACT4 NE B0,B7,OUTP2 . BLANK IN STATE 1

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 153

PASS2 SNOJOB

0400007340 EQ PASS2

\*

7370 7177000000 ACT5 SX7 B7+0 . BLANK IN STATE 2

5170000226 SA7 TSTPMOP

7371 0400007361 EQ ACT3

\*

7372 7170007373 ACT6 SX7 ACT7 . $ IN CONDITION

0400007362 EQ STAKOUT

7373 7201777657 ACT7 SX0 X1-P2RGTPR

0310007761 NZ X0,SYXERR1

7374 7110000053 SX1 P3GTT

0400007354 EQ OUTX1

\*

7375 6120007342 ACT8 SB2 ACT1 . WEIRD CHARACTER IN STATE2

7170007342 SX7 ACT1

7376 0400007363 EQ STACKX7

\*

7377 7170007403 ACT9 SX7 ACT10 . LEFT PARANTHESES ACTION

0407007362 EQ B0,B7,STAKOUT . NO OPERAND

7400 6120007402 SB2 ACT9A . IDENTIFIER OPERAND

7401 7170007340 ACT9B SX7 PASS2

0400007363 EQ STACKX7

7402 5120006736 ACT9A SA2 AUXPR

0400007347 EQ ACT1A

7403 7201777657 ACT10 SX0 X1-P2RGTPR . CHECK MATCHING RIGHT

0310007767 NZ X0,SYXERR2

7404 7110000046 SX1 P3RGTPR

0100007451 RJ PASS3

7405 6170777772 SB7 OPSEXP

0400007340 EQ PASS2

\*

7357 ACT11 EQU DESTACK . RIGHT PARANTHESES ACTION

\*

7406 0507007357 ACT12 NE B0,B7,ACT11 . TERMINATOR IN STATE 15

6211000000 SB1 X1+0 . WITHOUT OPERAND

7407 7110000040 SX1 P3NULL . SAVE X1 IN B1

0100007451 RJ PASS3 . OUTPUT P3NULL

7410 76110 SX1 B1 . RESTORE X1 (LAST INPUT BYTE)

6170777771 SB7 OPSSPEC

7411 0400007357 EQ DESTACK

\*

7412 6120007413 ACT13 SB2 ACT13A . LEFT BRACKET ACTION

0400007401 EQ ACT9B

7413 5120006737 ACT13A SA2 AUXBR

0400007347 EQ ACT1A

\*

7414 7150007417 ACT14 SX5 ACT15 . LEFT BRACKET AMONG CONDITIONS

7110000050 SX1 P3COND

7415 10022 BX0 X2

0100007451 RJ PASS3 . OUTPUT P3COND

7416 10755 BX7 X5 . PASS 3 SAVES X5,X0 IN THIS

10200 BX2 X0 . PARTICULAR CASE

0400007362 EQ STAKOUT

7417 7201777650 ACT15 SX0 X1-P2RGTBR

0310007770 NZ X0,SYXERR3

7420 7110000054 SX1 P3GTC

0400007354 EQ OUTX1

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 154

PASS2 SNOJOB

\*

7357 ACT16 EQU DESTACK .

\*

7421 20242 ACT17 LX2 34 . END OF PARAMETER OR SUBSCRIPT

21264 AX2 52 . LIST

63110 SB1 X1 . SAVE X1

73120 SX1 X2

7422 0100007451 RJ PASS3 . OUTPUT OUTPART

7423 7111000000 SX1 B1+0 . RESTORE X1

7424 6170777771 ACT17A SB7 OPSSPEC .

0400007357 EQ DESTACK

\*

7425 5130000226 ACT18 SA3 TSTPMOP . EQUAL SIGN IN STATE 5

7203000001 SX0 X3-OPSVAR . LEFT OPERAND OF PM

7426 0300007361 ZR X0,ACT3 . CAN BE VARIABLE OR SPEC

7203000006 SX0 X3-OPSSPEC

7427 0300007361 ZR X0,ACT3

0400007764 EQ OPRERR3

\*

7430 0407007432 ACT19 EQ B0,B7,ACT19A . SEMICOLON IN STATE 1

7110000055 SX1 P3LABEL

7431 0100007451 RJ PASS3

7432 7110000004 ACT19A SX1 P3RULE4

0400007354 EQ OUTX1

\*

7433 7170007434 ACT20 SX7 ACT20A . NAME OPERATOR IN STATE 2

0400007362 EQ STAKOUT

7434 6211000000 ACT20A SB1 X1+0 . SAVE X1

7110000014 SX1 P3ENDUN

7435 0100007451 RJ PASS3 . OUTPUT END UNARY OPERATOR

7436 6170777772 SB7 OPSEXP

7111000000 SX1 B1+0

7437 6110000004 SB1 ST2

0400007342 EQ ACT1

7440 7170007441 ACT21 SX7 ACT21A . INDIRECT OPERATOR IN STATE 2

0400007362 EQ STAKOUT

7441 6211000000 ACT21A SB1 X1+0

7110000014 SX1 P3ENDUN

7442 0100007451 RJ PASS3 . OUTPUT END UNARY OPERATOR

7443 7111000000 SX1 B1+0 . RESTORE X1

6170777771 SB7 OPSSPEC

7444 6110000004 SB1 ST2

0400007342 EQ ACT1

\*

7445 0400007446 P2TRCS EQ P2TRC

7446 7170000002 P2TRC SX7 2 . TEST OUTPUT

0100010220 RJ TRC

7447 0331007351 NG X1,OPRACT . INSTRUCTIONS DISPLACED BY

0710007751 LT B1,B0,INSKIP . TEST OUTPUT CALL

7450 0400007342 EQ ACT1

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 155

PASS3 SNOJOB

7451 46000 PASS3 NO . ENTRY TO PASS 3

7452 5241006751 P3TRCT SA4 X1+P3TBL . FETCH TABLEWORD

0334007466 NG X4,PASS3A . BRANCH IF ACTION FIRST

7453 10144 P3TRC1 BX1 X4 . (CHANGED IF TESTOUTPUT.

20101 LX1 1

0321007455 PL X1,P3OUT

7454 0100007532 RJ OUTST . OUTST IF BIT IS SET

7455 10544 P3OUT BX5 X4

21522 AX5 18

73650 SX6 X5

7456 0306007457 P3OUTA ZR X6,PASS3B . OUTPUT OUTPART UNLESS IT IS ZERO

0100007717 RJ PASS4

7457 10544 PASS3B BX5 X4

20504 LX5 4

0325007466 PL X5,PASS3A . BRANCH IF BIT IS SET

7460 10644 STACKX4 BX6 X4

5065000001 SA6 A5+1 . STACK TABLEWORD

64200 SB2 A0

7461 65252 SB2 A5-B2 . CHECK BUMPING AGAINST PASS 2

54560 SA5 A6 . STACK

0720007451 LT B2,B0,PASS3 . AND RETURN

7462 0400000354 EQ FATBUMP

7463 0400007464 P3TRCS EQ P3TRC

7464 7170000003 P3TRC SX7 3 . TEST OUTPUT

0100010220 RJ TRC

7465 5241006751 SA4 X1+P3TBL

0324007453 PL X4,P3TRC1

7466 63240 PASS3A SB2 X4

0222000000 JP B2+0

\*

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 156

PASS3 SNOJOB

7467 46000 GETVAR NO

7470 5120000204 + SA2 MAXSTAT . SET UP SEARCH CALL

6252000002 SB5 X2+2

7471 53320 SA3 X2

10522 BX5 X2

10033 BX0 X3

21344 AX3 36

7472 63330 SB3 X3

0100002675 RJ SEARCH

7473 0311007467 NZ X1,GETVAR . LOOK UP OPERAND

0100007477 RJ SCHLINK

7474 6120777776 SB2 OPSVAR

0527007467 NE B2,B7,GETVAR

7475 5120000224 SA2 VARLINK . IF VARIABLE LINK IT TO A CHAIN

10722 BX7 X2 . SO AT THE END IT WILL BE

73610 SX6 X1 . INITIALIZED TO A NULL VALUE

7476 53710 SA7 X1

54620 SA6 A2

0400007467 EQ GETVAR

\*

7477 46000 SCHLINK NO

7500 53150 + SA1 X5 . SET UP LINKAGE IF OPERAND

21122 AX1 18 . WAS NOT FOUND

63210 SB2 X1

73652 SX6 X5+B2

7501 12725 BX7 X2+X5

5160000204 SA6 MAXSTAT

54720 SA7 A2

7502 7215000001 SX1 X5+1

0400007477 EQ SCHLINK

\*

7503 46000 SCHLBL NO

7504 5120000204 + SA2 MAXSTAT . SET UP SEARCH CALL

53320 SA3 X2

10522 BX5 X2

7505 6252000002 SB5 X2+2

7100000034 SX0 LBLTYP

7506 21344 AX3 36

20067 LX0 55 . LABEL TYPE TO X0

63330 SB3 X3

7507 0100002675 RJ SEARCH

7510 0311007503 NZ X1,SCHLBL . RETURN IF FOUND

0100007477 RJ SCHLINK

7511 53250 SA2 X5

43305 MX3 5

15623 BX6 -X3\*X2

12606 BX6 X0+X6

7512 5062000000 SA6 A2+0

7130000000 SX3 0 . DIRTY TRICK WITH X3

7513 43721 SCHLBL1 MX7 17

5120000223 SA2 LBLLINK . LINK IT TO LABEL CHAIN

20722 LX7 18

7514 73610 SX6 X1

20222 LX2 18

54620 SA6 A2

12727 BX7 X2+X7

7515 12737 BX7 X3+X7 . SEE ALSO GETLBL3

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 157

PASS3 SNOJOB

53710 SA7 X1

0400007503 EQ SCHLBL

\*

7516 43052 GETLBL1 MX0 42 . THIS IS NOT THE ENTRY

15130 BX1 -X0\*X3

7517 46000 GETLBL NO

7520 0100007503 + RJ SCHLBL . LOOK UP LABEL

7521 53210 SA2 X1 . LABEL DESCRIPTION TO X2

73320 SX3 X2

0332007516 NG X2,GETLBL1 . STANDARD LABEL (RETURN, ETC.)

7522 10622 BX6 X2

21622 AX6 18

43052 MX0 42

73660 SX6 X6

7523 0306007531 ZR X6,GETLBL3 . BRANCH IF NOT ON THE CHAIN

0323007516 PL X3,GETLBL1 . DEFINED LABEL ON THE CHAIN

7524 5110000227 SA1 PRGBASE

73616 SX6 X1+B6

7525 0760007526 LT B6,B0,GETLBL2 . RELATIVE MICOP ADDRESS

77606 SX6 B0-B6 . TO X6

36616 IX6 X1+X6

7526 14666 GETLBL2 BX6 -X6

7266777776 SX6 X6-1 . MAKE IT NEGATIVE

11202 BX2 X0\*X2

7527 15660 BX6 -X0\*X6

12626 BX6 X2+X6

54620 SA6 A2

15130 BX1 -X0\*X3

7530 0400007517 EQ GETLBL

7531 15320 GETLBL3 BX3 -X0\*X2 . NOTE HOW WE JUMP INSIDE OF SCHLBL

20344 LX3 36 . WHICH HAS JUST BEEN CALLED

0400007513 EQ SCHLBL1

\*

7532 46000 OUTST NO

7533 6120777773 + SB2 OPSREAL . BYPASS IF OPERAND IS EXPRESSION

0772007537 LT B7,B2,OUTST3 . OR SPEC

7534 0100007467 RJ GETVAR

7535 7160000053 OUTST2 SX6 XOPRND . OUTPUT OPERAND

20122 LX1 18

12616 BX6 X1+X6

7536 0100007717 RJ PASS4

7537 10144 OUTST3 BX1 X4

43066 MX0 54

21144 AX1 36

15210 BX2 -X0\*X1 . THE PRIORITY OF THE OPERATOR

7540 6252000000 SB5 X2+0 . TO B5

5055000000 SA5 A5+0 . TOP ELEMENT IN THE STACK TO X5

7541 20530 OUTST4 LX5 24

43066 MX0 54

15250 BX2 -X0\*X5

63320 SB3 X2 . PRIORITY OF TOP OPERATOR

7542 0735007532 LT B3,B5,OUTST . IF SMALLER , EXIT

13666 BX6 X6-X6

20546 LX5 38 . IF NOT NAME, STAR ETC.

7543 0325007553 PL X5,OUTST7 . THEN BYPASS

0100007555 RJ GIVENM

7544 20501 LX5 1 . BRANCH IF LAST MICOP IS

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 158

PASS3 SNOJOB

13666 BX6 X6-X6

0322007550 PL X2,OUTST5 . NOT AN OPERAND

7545 0325007550 PL X5,OUTST5

56160 SA1 B6 . ONLY FOR STAR, PRD OR DOL

21122 AX1 18

7546 73610 SX6 X1

6166000001 SB6 B6+1

67606 SB6 B0-B6

7547 20622 OUTST8 LX6 18

7550 43060 OUTST5 MX0 48

21555 AX5 45 . OUTPUT TOP OPERATOR

15050 BX0 -X0\*X5

12606 BX6 X0+X6

7551 0306007552 ZR X6,OUTST6 . UNLESS ZERO

0100007717 RJ PASS4

7552 5055777776 OUTST6 SA5 A5-1

0400007541 EQ OUTST4

7553 20501 OUTST7 LX5 1 . JUMP BACK IF NOT ASSIGN

0325007550 PL X5,OUTST5

10655 BX6 X5

7554 20625 LX6 21 . ADDRESS OF ASSIGN TO X6

21652 AX6 42

0400007547 EQ OUTST8

\*

7555 46000 GIVENM NO

7556 0760007562 + LT B6,B0,GIVENM1 . BYPASS IF LAST MICOP WAS A XCALL

56160 SA1 B6

43065 MX0 53

7557 5221000357 SA2 X1+MCOPTBL

20245 LX2 37 . EXCHANGE LAST MICOP BY ITS

43652 MX6 42 . NAME ALTERNATIVE

7560 15720 BX7 -X0\*X2

11661 BX6 X6\*X1

12767 BX7 X6+X7

56760 SA7 B6

7561 13666 BX6 X6-X6 . X6 MUST BE STILL ZERO

0400007555 EQ GIVENM

7562 43201 GIVENM1 MX2 1 . IF XCALL, SET CHECK NAME BIT

57106 SA1 B0-B6

20273 LX2 59

12612 BX6 X1+X2

7563 54610 SA6 A1

0400007555 EQ GIVENM

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 159

PASS3 SNOJOB

7564 7160000000 ARULE4 SX6 XNOOP . EMPTY RULE

0100007717 RJ PASS4

7565 0660007566 ARULE1 GE B6,B0,ARULEA . SET NEW RULE BIT ON LAST MICOP

67606 SB6 B0-B6

7566 56160 ARULEA SA1 B6

43001 MX0 1

12601 BX6 X0+X1

13777 BX7 X7-X7

7567 54610 SA6 A1

67606 SB6 B0-B6 . NEXT MICOP INTO NEW WORD

5170000225 SA7 TESTCND

7570 0400007451 EQ PASS3

\*

7571 5055777776 ARGTPR SA5 A5-1 . RIGHT PARANTHESES, REMOVE TOP

0400007451 EQ PASS3 . OPERATOR

\*

7572 0100007467 ALFTBR RJ GETVAR . LEFT BRACKET

7573 10544 BX5 X4

21522 AX5 18

20122 LX1 18

73650 SX6 X5

7574 12616 BX6 X1+X6

0400007456 EQ P3OUTA

\*

7575 6120777773 APM SB2 OPSREAL . PATTERN MATCH

0772007460 LT B7,B2,STACKX4 . BRANCH IF LEFT OP NOT SIMPLE

7576 57106 SA1 -B6

10611 BX6 X1 . SET ADDRESS PART OF PMCHECK TO

21122 AX1 18 . OPERAND ADDRESS

73110 SX1 X1

7577 20144 LX1 36

12616 BX6 X1+X6

54610 SA6 A1

7600 0400007460 EQ STACKX4

\*

7601 7107000001 AASGN SX0 B7-OPSVAR

0300007605 ZR X0,AASGN1

7602 0100007532 RJ OUTST

7603 0100007555 RJ GIVENM

7604 0400007460 EQ STACKX4

7605 0100007467 AASGN1 RJ GETVAR

7606 20122 LX1 18

12414 BX4 X1+X4

0400007460 EQ STACKX4

\*

7607 5120000204 ABCALL SA2 MAXSTAT . BEGIN CALL ACTION

7100000003 SX0 3 . CALLTYP EQORED WITH VARTYPE

7610 6252000002 SB5 X2+2

20067 LX0 55

53320 SA3 X2 . LOOK UP FUNCTION

7611 13730 BX7 X3-X0

10522 BX5 X2

10077 BX0 X7

21344 AX3 36

7612 54730 SA7 A3

63330 SB3 X3

0100002675 RJ SEARCH

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 160

PASS3 SNOJOB

7613 0311007616 NZ X1,ABCALL1

0100007477 RJ SCHLINK . IF NEW, INITIALIZE TO UNDEFINED

7614 7120377777 SX2 MARK

7170000003 SX7 UNDFTYP

7615 20767 LX7 55

20222 LX2 18 . AS MANY PARAMS AS YUO WISH

12772 BX7 X7+X2

53710 SA7 X1

7616 53210 ABCALL1 SA2 X1 . CLEAR NOT USED BIT

20202 LX2 2

21201 AX2 1

20273 LX2 59

7617 10722 BX7 X2 . STACK AN ENTRY WITH X1

20122 LX1 18 . AND 0 COUNTING PART

54720 SA7 A2

43052 MX0 42

7620 12441 BX4 X4+X1

11404 BX4 X0\*X4

0400007460 EQ STACKX4

\*

7621 54550 APARAM SA5 A5 . PARAMETER COMMA

7100000001 SX0 1 . INCREASE NUMBER OF PARAMETERS

36650 IX6 X5+X0 . BY ONE

7622 54650 SA6 A5

0400007451 EQ PASS3

\*

7623 54150 ACALL SA1 A5 . END CALL

5055777776 SA5 A5-1

43252 MX2 42

7624 7201000001 SX0 X1+1 . NO OF PARAMS TO X0

20222 LX2 18

15112 BX1 -X2\*X1 . FUNCTION NAME TO X1

7625 20044 LX0 36

7120000051 SX2 XCALL

12601 BX6 X0+X1

7626 12626 BX6 X2+X6

0100007717 RJ PASS4 . OUTPUT MICOP

7627 67606 SB6 B0-B6 . NEXT MICOP INTO NEW WORD

0400007451 EQ PASS3

\*

7630 54150 ARGTBR SA1 A5 . RIGHT BRACKET

5055777776 SA5 A5-1 . REMOVE TOP OPERAND

73010 SX0 X1

7631 7160000050 SX6 XARRAYV

20022 LX0 18

12660 BX6 X6+X0

7632 0100007717 RJ PASS4

7633 0400007451 EQ PASS3

\*

7634 0100007503 ALABEL RJ SCHLBL . LOOK UP LABEL

7635 53210 SA2 X1 . LABEL DESCRIPTION TO X2

43052 MX0 42

0332007773 NG X2,ERRLBL

7636 63220 SB2 X2

11702 BX7 X0\*X2

0702007771 LT B0,B2,ERRLBL2

7637 10322 BX3 X2 . TEST IF IT WAS USED OR DEFINED

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 161

PASS3 SNOJOB

21222 AX2 18 . IN EARLIER COMPILATION

20344 LX3 36 .

7640 0302007513 ZR X2,SCHLBL1 . BEWARE OF DIRTY TRICKS

76120 SX1 B2

21222 AX2 18

7641 7222777776 SX2 X2-1

0322007772 PL X2,ERRLBL3

7642 5130000227 SA3 PRGBASE

73636 SX6 X3+B6 . NOTE THAT B6 IS NEGATIVE

20022 LX0 18

7643 6120000001 SB2 1

73662 SX6 X6+B2

12767 BX7 X6+X7

7644 20622 LX6 18

54720 SA7 A2 . NEW LABEL DESCRIPTION

7645 73212 ALABEL1 SX2 X1+B2 . GO BACK IN THE CHAIN

0302007650 ZR X2,ALABEL2 . AND ASSIGN DEFINED LABEL VALUE

36713 IX7 X1+X3 . THE CHAIN ENDS WITH A -1 LINK

7646 53170 SA1 X7

11701 BX7 X0\*X1

12776 BX7 X7+X6

54710 SA7 A1

7647 21122 AX1 18

73110 SX1 X1

0400007645 EQ ALABEL1

7650 5130007653 ALABEL2 SA3 ENDBCD . TEST FOR END LABEL

54222 SA2 A2+B2

13223 BX2 X2-X3

7651 0312007451 NZ X2,PASS3 . RETURN IF NOT END

6110777775 SB1 -2

7652 0400007451 EQ PASS3

\*

7653 05160400000000000000 ENDBCD DATA 3LEND

\*

\* NOTE THAT THE FOLLOWING CODE SAVES X0 AND X5. THIS FEATURE IS

\* USED ELSEWHERE IN THE CODE (ACT14).

\*

7654 5120000225 ACOND SA2 TESTCND . AFTER A CONDITION

7130000003 SX3 3B . SET MASK TO NEITHER S NOR F

7655 73430 SX4 X3

0470007662 EQ B7,B0,ACOND1

21301 AX3 1 . SET MASK TO NO S

7656 5110000204 SA1 MAXSTAT

7170000006 SX7 1RF

7657 5211000002 SA1 X1+2

7160000023 SX6 1RS

7660 20106 LX1 6

13661 BX6 X6-X1

0306007662 ZR X6,ACOND1 . BRANCH IF S

7661 20301 LX3 1 . SET MASK TO NO F

13771 BX7 X7-X1

0317007666 NZ X7,ACOND2 . ERROR IF NOT F

7662 73220 ACOND1 SX2 X2 . CHECK PREVIOUS CONDITION (IF ANY)

12723 BX7 X2+X3 . AGAINST MASK

73620 SX6 X2

11223 BX2 X2\*X3

7663 0306007664 ZR X6,ACOND3 . SECOND GO TO IS UNCONDITIONAL

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 162

PASS3 SNOJOB

73340 SX3 X4

7664 20322 ACOND3 LX3 18

12737 BX7 X3+X7 . PRESENT CONDITION TO X7

54720 SA7 A2

7665 0302007451 ZR X2,PASS3

7666 7110000120 ACOND2 SX1 P2RGTPR . PREPARE FOR ERROR

0400007766 EQ ERRCND2 . ERRORNEOUS CONDITION

\*

7667 0100007517 AGT RJ GETLBL

7670 5120000225 SA2 TESTCND

20122 LX1 18 . OUTPUT A GOF, GOS OR GO TO

7671 7160000053 SX6 XGOX . MICOP DEPENDING THE CONDITION

21222 AX2 18

36662 IX6 X6+X2

7672 12661 BX6 X6+X1

0100007717 RJ PASS4

7673 67606 SB6 B0-B6

0400007451 EQ PASS3

\*

7674 5120000225 ABGTT SA2 TESTCND

21222 AX2 18

14222 BX2 -X2

7675 7252000003 SX5 X2+3B

5130000227 SA3 PRGBASE

7676 76260 SX2 B6

0322007677 PL X2,ABGTT3

14222 BX2 -X2

7677 37332 ABGTT3 IX3 X3-X2

0305007704 ZR X5,ABGTT2 . BRANCH IF UNCONDITIONAL

7700 7160000056 SX6 XGOTO . A BYPASS JUMP WILL BE STORED

0100007717 RJ PASS4 . INSTEAD OF THIS MICOP BY AGTT

7701 5130000227 SA3 PRGBASE

76260 SX2 B6

43052 MX0 42

7702 37332 IX3 X3-X2 . RELATIVE MICOP ADDRESS TO X3

11404 BX4 X0\*X4

20522 LX5 18 . FORM STACK ENTRY USING NEGATED

12443 BX4 X4+X3 . CONDITION CODE AND ADDRESS IN X4

7703 12445 BX4 X4+X5

20551 LX5 41

0325007706 PL X5,ABGTT1 . BYPASS IF S

7704 7263000002 ABGTT2 SX6 X3+2

7170000055 SX7 XGOF . OUTPUT GOF \*+1

7705 20622 LX6 18

12667 BX6 X6+X7

0100007717 RJ PASS4

7706 7160000061 ABGTT1 SX6 XNOFAIL . OUTPUT MICOP TO CHECK

0100007717 RJ PASS4 . AN EVENTUAL FAILURE IN THE

7707 0400007460 EQ STACKX4 . FOLLOWING EXPRESSION

\*

7710 54150 AGTT SA1 A5

5055777776 SA5 A5-1 . REMOVE TOP OPERATOR

63310 SB3 X1

7711 21122 AX1 18

63210 SB2 X1

0402007451 EQ B0,B2,PASS3 . READY IF UNCONDITIONAL

7712 5120000227 SA2 PRGBASE

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 163

PASS3 SNOJOB

7162000053 SX6 B2+XGOX . BYPASS JUMP TO X6

7713 67206 SB2 B0-B6

73322 SX3 X2+B2

0660007715 GE B6,B0,AGTT1

7714 73326 SX3 X2+B6 . REL ADDRESS TO X3

7715 7233000001 AGTT1 SX3 X3+1

20322 LX3 18

12663 BX6 X6+X3

7716 67303 SB3 B0-B3

53623 SA6 X2+B3 . STORE BYPASS JUMP

0400007451 EQ PASS3

\*

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 164

PASS4 SNOJOB

7717 46000 PASS4 NO

7720 5216000357 P4TRCT SA1 X6+MCOPTBL . FETCH TABLE ENTRY

46000 NO

20150 LX1 40

7721 0331007731 P4TRC1 NG X1,PASS4B . BRANCH IF LOW ORDER ONLY

0660007726 GE B6,B0,PASS4C

7722 5120000205 SA2 MINSTAT

6166000001 SB6 B6+1 . B6 IS NEGATIVE

7723 63226 SB2 X2+B6 . STORE MICOP IN LOW ORDER BITS

57606 SA6 B0-B6

0720007717 LT B2,B0,PASS4 . CHECK BUMPING AGAINST STATIC

7724 0100010037 PASS4A RJ BUMP

7725 0400007717 EQ PASS4

7726 56160 PASS4C SA1 B6 . STORE MICOP IN HIGH ORDER BITS

73260 SX2 X6

21622 AX6 18

20266 LX2 54 . OPERATION TO X2

7727 20644 LX6 36 . ADDRESS TO X6

12662 BX6 X6+X2

67606 SB6 B0-B6 . NEXT MICOP INTO NEW WORD

12661 BX6 X6+X1

7730 57606 SA6 B0-B6

0400007717 EQ PASS4

7731 0660007732 PASS4B GE B6,B0,PASS4D . STORE MICOP IN LOW ORDER BITS

67606 SB6 B0-B6

7732 5120000204 PASS4D SA2 MAXSTAT

6166777776 SB6 B6-1

7733 63220 SB2 X2

56660 SA6 B6

67226 SB2 B2-B6

7734 0720007717 LT B2,B0,PASS4

0400007724 EQ PASS4A

\*

7735 0400007736 P4TRCS EQ P4TRC

7736 7170000004 P4TRC SX7 4

10166 BX1 X6

10644 BX6 X4

7737 5160000254 SA6 P4SVX4

7165000000 SX6 B5+0

7740 5160000253 SA6 P4SVB5

0100010220 RJ TRC

7741 5120000253 SA2 P4SVB5

10611 BX6 X1

63520 SB5 X2

7742 5211000357 SA1 X1+MCOPTBL

20150 LX1 40

7743 5140000254 SA4 P4SVX4

0400007721 EQ P4TRC1

\*

7744 5221006562 INSKIP1 SA2 X1+P2TBL+1

7231777616 SX3 X1-AUXERR

7745 20207 LX2 7

66700 SB7 B0

0323007340 PL X3,PASS2

7746 0322007340 PL X2,PASS2

6110000000 SB1 ST1

7747 5150000002 SA5 BGP3STK

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 165

PASS4 SNOJOB

5100000110 SA0 BGP2STK

7750 0400007342 EQ ACT1

7751 7121000001 INSKIP SX2 B1+1

0302007744 ZR X2,INSKIP1

7752 7221777620 SX2 X1-P2END

0302010001 ZR X2,AEND3

7753 0400007340 EQ PASS2

7754 7170010317 ERRACT1 SX7 KE1

0400007774 EQ KSKM

7755 7170010324 ERRACT2 SX7 KE2

0400007774 EQ KSKM

7756 7170010312 ERRACT SX7 KE

0400007774 EQ KSKM

7757 7170010331 ERRACT3 SX7 KE3

0400007774 EQ KSKM

7760 7170010336 SYXERR SX7 KS

0400007774 EQ KSKM

7761 7170010343 SYXERR1 SX7 KS1

0400007774 EQ KSKM

7762 7170010367 OPRERR1 SX7 KO1

0400007774 EQ KSKM

7763 7170010374 OPRERR2 SX7 KO2

0400007774 EQ KSKM

7764 7170010401 OPRERR3 SX7 KO3

0400007774 EQ KSKM

7765 7170010406 OPRERR4 SX7 KO4

0400007774 EQ KSKM

7766 7170010362 ERRCND2 SX7 KC2

0400007774 EQ KSKM

7767 7170010355 SYXERR2 SX7 KS2

0400007774 EQ KSKM

7770 7170010350 SYXERR3 SX7 KS3

0400007774 EQ KSKM

7771 7170010420 ERRLBL2 SX7 KL2

0400007774 EQ KSKM

7772 7170010425 ERRLBL3 SX7 KL3

0400007774 EQ KSKM

7773 7110000120 ERRLBL SX1 P2RGTPR FAKE FAKE FAKE

7170010413 SX7 KL

7774 20722 KSKM LX7 18 UP THE ERR ADDR AND PUT IN OFFSET

76240 SX2 B4 PUT THE OFFSET IN AN X REGISTER

12772 BX7 X7+X2 OR IN THE OFFSET

20722 LX7 18 UP THE WHOLE WORD ONE BYTE

7775 5120010434 SA2 HCOLS PICK UP THE NUMBER OF TEN CHAR WORDS

12772 BX7 X7+X2 OR IN THE WORD COUNT

7776 5170000222 SA7 ARROWD STORE THE TOTAL IN THE ERROR INDICATR

6110777776 SB1 -1 SET UP THE ERROR INDICATOR

7777 0400007751 EQ INSKIP

\*

10000 7160000043 AEND SX6 XNOEND

0400010002 EQ AEND2

10001 7160000042 AEND3 SX6 XEND

10002 0100007717 AEND2 RJ PASS4

10003 7160000042 SX6 XEND

0100007717 RJ PASS4 . THE WORD FOR THIS EXTRA END WILL

\* BE USED FOR THE CODE HEADING

10004 5110000210 SA1 NXTWRD . BRANCH IF NOT COMPILATION

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 166

PASS4 SNOJOB

0321010025 PL X1,AEND6 . FROM CARDS

10005 5150000245 SA5 P1ERFLG

0305010021 ZR X5,AEND5

10006 13666 BX6 X6-X6

63450 SB4 X5 . REMEMBER THE ERRORFLAG

0100010210 RJ P1PB

10007 0325010014 PL X5,AEND1 . BRANCH IF COMPILATION UNSUCCESFUL

5120004566 SA2 SMESS

10010 5110004567 SA1 SMESS+1

5150004570 SA5 SMESS+2 . ISSUE MESSAGE INTO OUTPUT

10011 10622 BX6 X2

0100004272 RJ PB

10012 10611 BX6 X1

0100004272 RJ PB

10013 10655 BX6 X5

0100004272 RJ PB

10014 56120 AEND1 WAIT . MAKE SURE OUTPUT FILE IS NOT BUSY

10016 7100000001 WRITER RECALL . WRITE END OF RECORD (LEVEL 0)

10020 0640004336 PL B4,ABT . FLUSH BUFFERS AND ABORT

10021 5110010451 AEND5 SA1 SCALL

10611 BX6 X1

10022 5160000001 SA6 1

10023 5110000001 + SA1 1

0311010023 NZ X1,\*

10024 0400004571 EQ POST0 . NOW RELOCATE THE CODE

10025 5150000222 AEND6 SA5 ARROWD

0305004571 ZR X5,POST0 . NO COMPILATION ERRORS

10026 6150777714 SB5 -51

0400003341 EQ RTERROR

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 167

GET NEXT CHARACTERS WHEN COMPILING STRINGS SNOJOB

\*

\* GETNEXT IS USED WHEN THE COMPILER IS CALLED VIA THE CONVERT FUNCTION.

\* IT EXPECTS THE NEXT STRING WORD TO UNPACK TO BE AT THE LOCATION

\* SPECIFIED BY THE LOWER 18 BITS OF NXTWRD. WHEN GETNEXT REACHES THE END

\* OF THE STRING, IT OUTPUTS AN ENDPRG CHARACTER. GETNEXT USES X1, X2,

\* X6, AND X7. IT RESETS B4 TO ZERO, SINCE IT EXITS BY JUMPING TO "EXIT"

\* IN UNPACK.

\*

10027 53210 GETNEXT SA2 X1 . X2 = LIST WORD TO PROCESS

73620 SX6 X2 X6 = ADDRESS OF NEXT WORD, BETTER NOT

\* BE NEGATIVE.

54610 SA6 A1 UPDATE NXTWRD

13226 BX2 X2-X6 CLEAR LOWER 18 BITS OF X2

10030 66400 SB4 B0

43106 MX1 6

10031 11712 GETNEXT1 BX7 X1\*X2

0307010034 ZR X7,GETNEXT2 STOP ON ZERO CHARACTER

20706 LX7 6

10032 5174000230 SA7 B4+CHAR OUTPUT THIS CHAR

6144000001 SB4 B4+1

10033 20206 LX2 6

0400010031 EQ GETNEXT1

10034 0316010166 GETNEXT2 NZ X6,LEAVE

7170000100 SX7 P1EOS-P1TAB . END OF STATEMENT

10035 5174000230 SA7 B4+CHAR

5164000231 SA6 B4+CHAR+1 . P1END-P1TBL = 0

10036 0400010166 EQ LEAVE EXIT TO UNPACK, WHERE -1 WILL BE STOR

\* AT END OF CHAR, THEN FINAL RETURN IS

\* MADE.

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 168

COMPILATION TIME FIELDLENGTH REQUEST SNOJOB

\* BUMP IS CALLED WHENEVER THE COMPILER RUNS OUT OF STORAGE

\*

10037 46000 BUMP NO

10040 76660 + SX6 B6 . GET ADDRESS OF LAST MICOP

0326010041 PL X6,BUMP1

14666 BX6 -X6

10041 5160000207 BUMP1 SA6 MINSTAK . CONSIDER THE CODE AS THE BOTTOM

5110000244 SA1 COMPB7

10042 76070 SX0 B7

63710 SB7 X1 . START OF FREE CHAIN

5110000211 SA1 FRSTWRD . ENTRY IN THE STACK

10043 5120000210 SA2 NXTWRD

0332010051 NG X2,BUMP3

10044 76670 SX6 B7

63710 SB7 X1

10045 53110 BUMP2 SA1 X1 . FREE THE TRANSLATED SOURCE

7211000000 SX1 X1+0 . STRING

13712 BX7 X1-X2

10046 0317010045 NZ X7,BUMP2

54610 SA6 A1

10047 7120000002 SX2 SSTY

20267 LX2 55

12712 BX7 X1+X2 . SS TYPE FOR SOURCE STRING

10050 5110000205 SA1 MINSTAT

5271000000 SA7 X1+XWDREL

10051 76660 BUMP3 SX6 B6 . SAVE LAST MICOP ADDRESS

74700 SX7 A0 . SAVE STACK POINTER

5120000206 SA2 MAXSTAK

10052 63620 SB6 X2 . STACK TOP

5100000777 SA0 FLDINCR-1

10053 0100002052 RJ RESERVE . PROVOKE FIELDLENGTH REQUEST

10054 5110000206 SA1 MAXSTAK

53070 SA0 X7 . RESTORE STACK POINTER

76770 SX7 B7

10055 5170000244 SA7 COMPB7

5120000207 SA2 MINSTAK

10056 67706 SB7 B0-B6

63717 SB7 X1+B7

14722 BX7 -X2

10057 6166777000 SB6 B6-FLDINCR+1

63676 SB6 B6+X7

10060 6177000777 SB7 B7+FLDINCR-1

10061 53126 BUMP4 SA1 X2+B6 . PUSH THE STACK AND MICOPS

6166777776 SB6 B6-1 . INTO THE NEW AREA

10711 BX7 X1

10062 54717 SA7 A1+B7

0660010061 GE B6,B0,BUMP4

10063 5110000227 SA1 PRGBASE

73717 SX7 X1+B7

54710 SA7 A1

10064 63660 SB6 X6

0660010065 GE B6,B0,BUMP5

67707 SB7 B0-B7

10065 66667 BUMP5 SB6 B6+B7 . RESTORE MICOP ADDRESS

63700 SB7 X0 . RESTORE OPSIT

5110000210 SA1 NXTWRD

10066 0331010037 NG X1,BUMP

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 169

COMPILATION TIME FIELDLENGTH REQUEST SNOJOB

5120000205 SA2 MINSTAT . RESTORE SOURCE STRING POINTER

10067 5222000000 SA2 X2+XWDREL

13666 BX6 X6-X6

10722 BX7 X2

10070 54620 SA6 A2

54710 SA7 A1

5170000211 SA7 FRSTWRD

10071 0400010037 EQ BUMP

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 170

PASS1: CHARACTER UNPACKING AND LISTING GENERATION SNOJOB

10072 00000000000000000000 UNPACK DATA 0

10073 5110000210 SA1 NXTWRD

0321010027 PL X1,GETNEXT BRANCH IF COMPILATION FROM A STRING

10074 5110010434 SA1 HCOLS PICK UP THE WORD COUNTER

7261000001 SX6 X1+1 INCREMENT IT

10075 54610 SA6 A1 STORE IT BACK

5110000247 SA1 COLS SEE IF IN END OF LINE STATE

10076 0311010140 NZ X1,UP3 NO

76600 SX6 B0 CLEAR OUT THE WORD COUNTER

10077 5160010434 SA6 HCOLS

7160000110 SX6 72

10100 5160000247 SA6 COLS RESET REMAINING COLUMNS INDICATOR

5110000222 SA1 ARROWD SEE IF ERRORS TO INDICATE

10101 0301010123 ZR X1,UP2 NO

76600 SX6 B0 FINISH THIS LINE

10102 0100010210 RJ P1PB OUT WE GO

10103 7160000001 SX6 1

5160000245 SA6 P1ERFLG IN CASE NO LIST WAS ON

10104 5120010433 SA2 HERRMES PICK UP THE WORD \*\*ERROR\*\*

5110000222 SA1 ARROWD NOW GET THE ERROR DESCRIPTOR

10105 10622 BX6 X2 AFTER A RESPECTFUL WAIT PRINT ERROR

0100004272 RJ PB DOWN THE CHUTE

10106 5120010432 SA2 HYPHEN PICK UP THE WORD OF RIGHT ARROWS

63510 SB5 X1 TRIM OFF THE DESCRIPTOR BYTE COUNT

10107 0450010112 EQ B5,B0,HFORGET ERROR IN FIRST BYTE FORGET ARROWS

10622 BX6 X2 COPY THE ARROWS TO AN OUTPUT REGISTER

10110 0100004272 HLOOP RJ PB EMPTY THE QUIVVER OF ARROWS

10111 6155777776 SB5 B5-1 DECREMENT THE WORD COUNT

0705010110 LT B0,B5,HLOOP ARE WE DONE YET(IF NOT JUMP)

10112 21122 HFORGET AX1 18 GET THE OFFSET IN THE DESCRIPTOR

5221010435 SA2 X1+HARO-1 CHOOSE YOUR WEAPON CAREFULLY

10622 BX6 X2 ONCE AGAIN WE MUST STORE FROM X6

10113 0100004272 RJ PB THREE,TWO,ONE, FIRE.....

10114 21122 AX1 18 RETRIEVE THE ERROR MESS ADDRESS

6251000004 SB5 X1+4 PICKUP THE OFFSET ERR MESS ADDRESS

10115 6140777773 SB4 -4 THIS IS THE COMPLEMENT OF THE MESS LE

10116 56154 HSTOP SA1 B5+B4 GET THE ERROR WORD FROM THE TABLE

10611 BX6 X1 ACROSS WE GO TO X6

0100004272 RJ PB OUT,OUT, DAMN WORD

10117 6144000001 SB4 B4+1 INCREMENT THE COUNTER

0740010116 LT B4,B0,HSTOP IF WE REACHED 4 QUIT,IF NOT JUMP

10120 13666 BX6 X6-X6 EXOTIC ARENT WE

5160000222 SA6 ARROWD CLEAN ARROWS NOSE

10121 0100010210 RJ P1PB P1PB CHECKS LINE COUNT

10122 13666 BX6 X6-X6

0100010210 RJ P1PB . PRINT BLANK LINE

10123 7160000001 UP2 SX6 1 CONTINUED STATEMENT LEGAL FLAG

10124 6120000261 UP2.5 SB2 INFET

0100004321 RJ CBI RETURN WITH X1.NE.0 IF NOT EOR

10125 0301010170 ZR X1,UP7 YES, EOR

53120 SA1 X2 CBI LEFT X2 = FET.OUT

43006 MX0 6

10126 11301 BX3 X0\*X1 LOOK AT FIRST CHAR

20306 LX3 6

7243777730 SX4 X3-1R\* SEE IF THIS IS A COMMENT LINE

10127 0304010173 ZR X4,UP8 YES

7243777720 SX4 X3-1R. SEE IF IS CONTINUATION LINE

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 171

PASS1: CHARACTER UNPACKING AND LISTING GENERATION SNOJOB

10130 0304010202 ZR X4,UP10 YES

7243777731 SX4 X3-1R- IS IT A CONTROL CARD

10131 0304010234 ZR X4,CONCRD YES IT IS

10132 5110000256 UP2.7 SA1 RULENO

0100002331 RJ ICX1X6 CONVERT TO BCD

10133 7110000055 SX1 1R

7140000077 SX4 77B

10134 11746 UP2.8 BX7 X4\*X6

0317010136 NZ X7,UP2.9

12616 BX6 X1+X6

10135 20106 LX1 6

20406 LX4 6

0400010134 EQ UP2.8

10136 20666 UP2.9 LX6 54

0100010210 RJ P1PB PUT RULENO INTO BUFFER

10137 5110000247 SA1 COLS

10140 63310 UP3 SB3 X1 COLS REMAINING TO PROCESS

66500 SB5 B0

6120000261 SB2 INFET

10141 0100004226 RJ GETB GET NEXT WORD IN X2,X3

10142 7163000000 UP3.5 SX6 B3+0

5160000247 SA6 COLS

10143 10522 BX5 X2 SAVE WORD TO UNPACK

10633 BX6 X3 WORD TO LIST

0100010210 RJ P1PB

10144 7100000077 SX0 77B

6140000000 SB4 0

10145 20506 UP4 LX5 6

11605 BX6 X0\*X5 NEXT CHZR

0306010150 ZR X6,UP5 DO NOT PUT ZEROES IN BUFF

10146 5164000230 SA6 CHAR+B4

6144000001 SB4 B4+1

10147 15550 BX5 -X0\*X5 ZERO CHAR JUST STORED

0400010145 EQ UP4

10150 0450010166 UP5 ZR B5,LEAVE IF NO EOL, EXIT

76540 SX5 B4 SAVE POS

13666 BX6 X6-X6

10151 5160000247 SA6 COLS FLAG END OF LINE

6155777775 SB5 B5-2 SEE IF ZERO BYTE HAS BEEN REACHED

10152 0550010157 NZ B5,UP6 YES

6130000012 SB3 10

10153 6150000000 SB5 0

6120000261 SB2 INFET

10154 0100004226 RJ GETB GET LAST WORD

10155 10633 BX6 X3

0100004264 RJ CZB . SKIP TO ZERO BYTE

10156 0100010210 RJ P1PB LIST COLS 81 - 90

10157 13666 UP6 BX6 X6-X6

0100010210 RJ P1PB ZERO BYTE

10160 6120000261 SB2 INFET

0100004321 RJ CBI CHECK IF BUFF NOT EMPTY

10161 63450 SB4 X5

0301010164 ZR X1,UP6.5

53120 SA1 X2 X2 = FET.OUT

10162 20106 LX1 6

7100000077 SX0 77B

11101 BX1 X0\*X1

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 172

PASS1: CHARACTER UNPACKING AND LISTING GENERATION SNOJOB

10163 7211777720 SX1 X1-1R.

0301010166 ZR X1,LEAVE NO EOS, EXIT

10164 7160000100 UP6.5 SX6 100B EOS CHARACTER

5164000230 SA6 B4+CHAR

10165 6144000001 SB4 B4+1

10166 7160777776 LEAVE SX6 -1 TERMINATOR

5164000230 SA6 B4+CHAR

10167 6140000000 SB4 0

0400010072 EQ UNPACK

10170 76600 UP7 SX6 B0 ENDPRG CHARACTER

5160000230 SA6 CHAR

43701 MX7 1

10171 15747 BX7 -X7\*X4 CLEAR EOR BIT

20705 LX7 5

5074000000 SA7 A4+0

10172 6140000001 SB4 1

0400010166 EQ LEAVE

10173 6130000132 UP8 SB3 90

5110004511 SA1 BLANKS

10174 10611 BX6 X1

66500 SB5 B0

0100010210 RJ P1PB

10175 6120000261 UP9 SB2 INFET

0100004226 RJ GETB

10176 10633 BX6 X3

0100010210 RJ P1PB

10177 0450010175 ZR B5,UP9

7160000000 SX6 0

10200 0100010210 RJ P1PB

10201 7160000000 SX6 0

0400010124 EQ UP2.5 LOOK FOR MORE COMMENTS, X6 = 0

\* MEANS CONTINUE NTO RECOGNIZED

10202 0306010132 UP10 ZR X6,UP2.7 CONTINUE LEGAL FLAG NOT SET

5110004511 SA1 BLANKS

10203 10611 BX6 X1

0100010210 RJ P1PB

10204 6120000261 SB2 INFET

6130000110 SB3 72

10205 66500 SB5 B0

0100004226 RJ GETB

10206 43006 MX0 6

15220 BX2 -X0\*X2

20206 LX2 6 PERIOD SHOUL NOT BE PUT IN BUFF

10207 0400010142 EQ UP3.5

10210 00000000000000000000 P1PB DATA 0

10211 5110000245 SA1 P1ERFLG

6120000267 SB2 OUTFET

10212 0301010210 ZR X1,P1PB

0100004272 RJ PB

10213 0100004305 RJ CBO

10214 0316010210 NZ X6,P1PB

5110000251 SA1 LC

10215 7261000001 SX6 X1+1

5160000251 SA6 LC

10216 0336010210 NG X6,P1PB

0100010274 RJ HEADING

10217 0400010210 EQ P1PB

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 173

TRACE ROUTINE SNOJOB

10220 00000000000000000000 TRC DATA 0

10221 5170000255 SA7 TRCSVX7

10511 BX5 X1

13666 BX6 X6-X6

10222 0100010210 RJ P1PB GUARANTEE ZERO BYTE

10223 5120004511 SA2 BLANKS

5110000255 SA1 TRCSVX7

10224 10622 BX6 X2

63310 SB3 X1

7215000000 SX1 X5+0

10225 6133777776 TRC1 SB3 B3-1

0100004272 RJ PB

10226 0530010225 NZ B3,TRC1

43071 MX0 57

43466 MX4 54

10227 7120000076 SX2 1R^

0331010231 NG X1,TRC3

10230 15210 TRC2 BX2 -X0\*X1

21103 AX1 3

7222000033 SX2 X2+1R0

10231 11646 TRC3 BX6 X4\*X6

12626 BX6 X2+X6

20666 LX6 54

10232 0311010230 NZ X1,TRC2

0100010210 RJ P1PB

10233 10155 BX1 X5

0400010220 EQ TRC

10234 43022 CONCRD MX0 18

11301 BX3 X0\*X1 PICK OFF THREE CHARACTERS

20322 LX3 18

10235 7243317265 SX4 X3-3R-EJ

0314010244 NZ X4,NOTEJCT

10236 76600 CONHEAD SX6 B0

5160000251 SA6 LC

10237 0100010210 RJ P1PB

10240 66500 CONTIX SB5 B0

6130000132 SB3 90

10241 6120000261 TITLOOX SB2 INFET

0100004226 RJ GETB

10242 0450010241 ZR B5,TITLOOX

10243 7160000000 CONFIX SX6 0

0400010124 EQ UP2.5

10244 7243315457 NOTEJCT SX4 X3-3R-SP IS IT A -SPACE CONTROL CARD

0314010262 NZ X4,NOTSPCE TOO BAD NOT THIS EITHER

10245 76600 SX6 B0

43044 MX0 36

15110 BX1 -X0\*X1

43006 MX0 6

10246 20006 LX0 6

20152 LX1 42

10247 11410 SPCLOOP BX4 X1\*X0

15110 BX1 -X0\*X1

20106 LX1 6

10250 7234777722 SX3 X4-1R

0303010247 ZR X3,SPCLOOP ALLOW FREE FORMATTING OF THE SPACE NUM

10251 0304010254 ZR X4,REPTFAC

7234777744 SX3 X4-1R0

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 174

TRACE ROUTINE SNOJOB

10252 20601 LX6 1

10466 BX4 X6

20602 LX6 2

36664 IX6 X6+X4

10253 36663 IX6 X6+X3

0400010247 EQ SPCLOOP

10254 5160010261 REPTFAC SA6 REPLSP

0306010240 ZR X6,CONTIX

10255 76600 SX6 B0

0100010210 RJ P1PB

10256 7266000066 SX6 X6+LINES-2

0306010240 ZR X6,CONTIX

10257 5110010261 SA1 REPLSP

7261777776 SX6 X1-1

10260 0400010254 EQ REPTFAC

10261 1 REPLSP BSSZ 1

10262 7243315366 NOTSPCE SX4 X3-3R-TI IS IT A -TITLE CARD

0314010240 NZ X4,CONTIX IM NO SWAMI FORGET THIS CARD

10263 66500 SB5 B0

6130000132 SB3 90

10264 7160010461 SX6 PAGE+1

5160010474 SA6 SPORTIT

10265 6120000261 SB2 INFET

0100004226 RJ GETB

10266 6120000261 TITLOOP SB2 INFET

0100004226 RJ GETB

10267 10633 BX6 X3

5130010474 SA3 SPORTIT

53630 SA6 X3

10270 7263000001 SX6 X3+1

5160010474 SA6 SPORTIT

10271 0450010266 ZR B5,TITLOOP

76600 SX6 B0

10272 5160000251 SA6 LC MAKE P1PB THINK WE ARE AT THE BOTTOM OF THE PAGE

0100010210 RJ P1PB EJECT A PAGE AND CLEAR THE BUFFER

10273 0400010243 EQ CONFIX CALL FOR THE NEXT STATEMENT TO BE READ

\*

\* HEADING DESTROYS X0,X1,X2,X3,X4,X6,X7,B3.

\*

10274 00000000000000000000 HEADING DATA 0

10275 5110000252 SA1 PAGENO

7261000001 SX6 X1+1

10276 54610 SA6 A1

0100002331 RJ ICX1X6

10277 5110004263 SA1 MASKM

37216 IX2 X1-X6

13226 BX2 X2-X6

10300 11221 BX2 X2\*X1

20266 LX2 54

15226 BX2 -X6\*X2

10122 BX1 X2

10301 20102 LX1 2

12121 BX1 X2+X1

12661 BX6 X6+X1

20103 LX1 3

10302 12661 BX6 X6+X1

5160010460 SA6 PAGE

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 175

TRACE ROUTINE SNOJOB

10303 6150777762 SB5 TITLE-TITB-1

10304 5125010467 HD1 SA2 TITB+1+B5

6120000267 SB2 OUTFET

10305 10622 BX6 X2

0100004272 RJ PB

10306 6155000001 SB5 B5+1

0550010304 NZ B5,HD1

10307 13666 BX6 X6-X6

0100004272 RJ PB SKIP LINE AFETER TITILE

10310 7160777711 SX6 -LINES+2

5160000251 SA6 LC

10311 0400010274 EQ HEADING

10312 55241011235503100122 KE DIS ,$ THIS CHARACTER ALLOWED ONLY IN LITERALS $

10317 55241011235517200522 KE1 DIS ,$ THIS OPERATOR CANNOT BE UNARY $

10324 55251603141723050455 KE2 DIS ,$ UNCLOSED LITERAL (ODD NUMBER OF QUOTES) $

10331 55111626011411045503 KE3 DIS ,$ INVALID CHARACTER AFTER \* OR / $

10336 55021116012231551720 KS DIS ,$ BINARY OP WITH MISSING ARGUMENT $

10343 55200122051624100523 KS1 DIS ,$ PARENTHESIS OR GROUPING ERROR $

10350 55251602011401160305 KS3 DIS ,$ UNBALANCED BRACKETS $

10355 55251602011401160305 KS2 DIS ,$ UNBALANCED PARENTHESES $

10362 55052222172255111655 KC2 DIS ,$ ERROR IN GO TO FIELD OF STATEMENT $

10367 55052222171605172523 KO1 DIS ,$ ERRONEOUS OPERATOR FOUND $

10374 55151123231116075502 KO2 DIS ,$ MISSING BLANK OR DELIMITER $

10401 55052222171605172523 KO3 DIS ,$ ERRONEOUS USE OF EQUALITY $

10406 55021401161355061714 KO4 DIS ,$ BLANK FOLLOWS UNARY OPERATOR $

10413 55220523052226050455 KL DIS ,$ RESERVED WORD USED AS LABEL $

10420 55241011235514010205 KL2 DIS ,$ THIS LABEL IS MULTIPLY DEFINED $

10425 55140102051455040506 KL3 DIS ,$ LABEL DEFINED IN PREVIOUS COMPILATION $

10432 65656565656565656565 HYPHEN DATA 65656565656565656565B

10433 55474705222217224747 HERRMES DATA 10H \*\*ERROR\*\*

10434 00000000000000000000 HCOLS DATA 0 THIS IS THE COLUMN POINTER

10435 70555555555555555555 DATA 70555555555555555555B

10436 70555555555555555555 HARO DATA 70555555555555555555B

10437 65705555555555555555 DATA 65705555555555555555B

10440 65657055555555555555 DATA 65657055555555555555B

10441 65656570555555555555 DATA 65656570555555555555B

10442 65656565705555555555 DATA 65656565705555555555B

10443 65656565657055555555 DATA 65656565657055555555B

10444 65656565656570555555 DATA 65656565656570555555B

10445 65656565656565705555 DATA 65656565656565705555B

10446 65656565656565657055 DATA 65656565656565657055B

10447 65656565656565656570 DATA 65656565656565656570B

10450 65705555555555555555 DATA 65705555555555555555B

10451 15230700000000004566 SCALL VFD 18/3LMSG,42/SMESS

10452 34030114555523551655 TITLE DATA 10H1CAL S N

10453 17550255175514555555 DATA 10HO B O L

10454 00000000000000000000 DATE DATA 0

10455 55555555555555555555 DATA 10H

10456 00000000000000000000 TIME DATA 0

10457 55555555552001070555 DATA 10H PAGE

10460 00000000000000000000 PAGE DATA 0

10461 55555555555555555555 DATA 10H

10462 55555555555555555555 DATA 10H

10463 55555555555555555555 DATA 10H

10464 55555555555555555555 DATA 10H

10465 55555555555555555555 DATA 10H

10466 55555555555555555555 TITB DATA 10H

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 176

TRACE ROUTINE SNOJOB

10467 00000000000000000000 DATA 0

10470 00000000000000000000 DATA 0

10471 00000000000000000000 DATA 0

10472 00000000000000000000 DATA 0

10473 00000000000000000000 DATA 0

10474 00000000000000000000 SPORTIT DATA 0

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 177

TEMPORARY TRACE R3UTINE SNOJOB

TRACE IFNE TRCFLG,0

TRACE ENDIF

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 178

RUN - TIME COMPILATION SNOJOB

10475 7255777776 QCMPL SX5 X5-1 . STANDARD PROCEDURE COMPILE

0315000317 NZ X5,ERR20

10476 5100000002 SA0 2 . MAKE SURE THERE IS ENOUGH CORE

0100002052 RJ RESERVE

10477 6166777775 SB6 B6-2

56160 SA1 B6

21167 AX1 55 . ERROR IF PARAMETER

10500 0311000330 NZ X1,ERR29 . IS NOT A STRING

0100002147 RJ GRBCOLL . GARBAGE COLLECT

10501 6110000001 SB1 1

7170000014 SX7 CTY

10502 57161 SA1 B6-B1 . SVD OF STRING PARAMETER

20767 LX7 55

74650 SX6 A5 . SAVE MICROINSTR COUNTER

76211 SX2 B1+B1

10503 12772 BX7 X7+X2 . PREPARE CODE TYPE

56760 SA7 B6 . ENTRY IN THE STACK

57661 SA6 B6-B1

73710 SX7 X1

10504 5170000211 SA7 FRSTWRD

5170000210 SA7 NXTWRD

10505 5120000213 SA2 STAKTOP

5130000206 SA3 MAXSTAK

10506 5140000207 SA4 MINSTAK

37624 IX6 X2-X4 . PUSH STACK TO HIGH CORE

54620 SA6 A2 . AS FAR AS IT GOES

10507 67306 SB3 B0-B6 . TO MAKE ROOM FOR THE

63333 SB3 X3+B3 . COMPILATION

63240 SB2 X4

10510 56120 QCMPL1 SA1 B2

10711 BX7 X1

54713 SA7 A1+B3

66221 SB2 B2+B1

10511 0662010510 GE B6,B2,QCMPL1

73643 SX6 X4+B3 . INITIALIZE PRGBASE

13777 BX7 X7-X7

10512 5160000227 SA6 PRGBASE

5276777776 SA7 X6-1

10513 64670 SB6 A7

76670 SX6 B7 . SAVE B7

5170000222 SA7 ARROWD . CLEAR ERROR FLAG

10514 5160000244 SA6 COMPB7

76610 SX6 B1

67606 SB6 B0-B6 . INITIALIZE B6 OF COMPILER

10515 5170000224 SA7 VARLINK . ZERO TO VARLINK

5160000223 SA6 LBLLINK . END OF LIST TO LBLLINK

10516 7170000001 SX7 PRIORJ

20744 LX7 36

10517 5150000002 SA5 BGP3STK . PASS3 STACK POINTER

5100000110 SA0 BGP2STK . PASS 2 TACK POINTER

10520 54750 SA7 A5

66700 SB7 B0 . NO OPERAND TO OPSIT

6110000000 SB1 ST1 . INITIAL STATE

10521 0400007030 EQ PRE4 . START COMPILATION

\*

10522 CMPLQ BSS 0

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 179

MACROS FOR STANDARD PROCEDURE AND VARIABLE DESCRIPTORS SNOJOB

COUNT MACRO STRING . SET COUNT := NO. OF CHARS IN STRING

COUNT SET 0

DUP 9999

COUNT SET COUNT+1

MIC MICRO COUNT+1,1,$STRING$

IFC EQ,$"MIC"$$,1

STOPDUP

ENDD

ENDM

WDCNT MACRO LENGTH . SET WDCNT = LENGTH // 7

WDCNT SET LENGTH/7

IFNE LENGTH-WDCNT\*7,0,1

WDCNT SET WDCNT+1

ENDM

BCD MACRO STRING . PUT STRING INTO LINKED FORMAT

ST MICRO 1,,$STRING$

DUP 9999

TEMPMIC MICRO 1,7,$"ST"$

ST MICRO 8,,$"ST"$

LOC SET \*+1

IFC EQ,$"ST"$$,2

LOC SET 0

STOPDUP

VFD 42/0L"TEMPMIC",18/LOC

ENDD

ENDM

PATTERN MACRO NAME . STANDARD PATTERN VALUE DESCRIPTION

COUNT NAME . COUNT := NO. OF CHARS

WDCNT COUNT . WDCNT := NO. OF WORDS

VFD 5/VARTYP,19/COUNT,18/WDCNT+2,18/0

VFD 1/1,59/NAME\_PM

BCD NAME

FREELEN$ SET FREELEN$+1 . RESERVE FSL SPACE

ENDM

PROC MACRO NAME,ENDQ,ENTRY,LAST . STANDARD PROCEDURE DESCRIPTION

COUNT NAME . COUNT := NO. OF CHARS IN NAME

WDCNT COUNT . WDCNT := NO. OF WORDS IN NAME

VFD 5/CALLTYP,19/COUNT,18/WDCNT+2,18/0

IFC NE,$ENTRY$$,2

QNAME MICRO 1,,$ENTRY$

IFNE ,,1

QNAME MICRO 1,,$Q\_NAME$

IFC EQ,$LAST$$,2

VFD 1/1,1/1,22/ENDQ,18/\*-STTBASE+WDCNT+2,18/"QNAME"

IFNE ,,1

VFD 1/1,1/0,22/ENDQ,18/\*-STTBASE+WDCNT+2,18/"QNAME"

BCD NAME

ENDM

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 180

INITIALIZATION SNOJOB

10522 00000000000000000000 DATA 0

10522 STTBASE EQU \*-1

10523 00000000000000000000 DATA 0

0 PIXREL EQU 0

1 SIXREL EQU 1

2 STNDREL EQU 2

0 XWDREL EQU 0

\*

5 FREELEN$ SET 5 . SPACE FOR START OF FSL, STACK, AND

. CODE AREA

\*

10524 74000005000003000000 VFD 5/VARTYP,19/5,18/3,18/0 INPUT

10525 32000120000260000000 VFD 5/INTY,19/80,18/INFET-1,18/0 STANDARD ASSOCIATION

10526 11162025240000000000 DATA 5LINPUT

6 FREELEN$ SET FREELEN$+1 . NULL FOR INPUT

10527 74000006000003000000 VFD 5/VARTYP,19/6,18/3,18/0 OUTPUT

10530 34000055000266000000 VFD 5/OUTTY,19/1R ,18/OUTFET-1,18/0 STANDARD ASSOCIATION

10531 17252420252400000000 DATA 6LOUTPUT

7 FREELEN$ SET FREELEN$+1 . NULL FOR OUTPUT

10532 70000006000003000000 VFD 5/LBLTYP,19/6,18/3,18/0

10533 40000000000000400002 VFD 1/1,41/0,18/-MARK+2

10534 22052425221600000000 DATA 6LRETURN

10535 70000007000003000000 VFD 5/LBLTYP,19/7,18/3,18/0

10536 40000000000000400001 VFD 1/1,41/0,18/-MARK+1

10537 06220524252216000000 DATA 7LFRETURN

10540 70000007000003000000 VFD 5/LBLTYP,19/7,18/3,18/0

10541 40000000000000400000 VFD 1/1,41/0,18/-MARK

10542 16220524252216000000 DATA 7LNRETURN

10543 74000005000003000000 PATTERN ABORT

10546 74000003000003000000 PATTERN ARB

10551 74000003000003000000 PATTERN BAL

10554 74000004000003000000 PATTERN FAIL

10557 74000005000003000000 PATTERN FENCE

10562 74000003000003000000 PATTERN REM

43 STNPRL EQU \*-STTBASE

10565 72000007000003000000 PROC COMPILE,CMPLQ,QCMPL

IFNE TRCFLG,0,1

10570 72000006000003000000 PROC FREEZE,FREEZEQ

10573 72000010000004000000 PROC ALPHABET,ALPHAQ,QALPHA

10577 72000007000003000000 PROC STLIMIT,MAXLNQ

10602 72000007000003000000 PROC STCOUNT,MAXLNQ

10605 72000010000004000000 PROC MAXLNGTH,MAXLNQ,QMAXLN

10611 72000004000003000000 PROC DATA,DATAQ

10614 72000003000003000000 PROC LGT,LGTQ

10617 72000010000004000000 PROC FNCLEVEL,FLVQ,QFLV

10623 72000010000004000000 PROC DATATYPE,DTQ,QDT

10627 72000010000004000000 PROC EORLEVEL,EORLQ,QEORL

10633 72000010000004000000 PROC ENDGROUP,EFRWQ,QENDFILE

10637 72000005000003000000 PROC CLOSE,EFRWQ

10642 72000006000003000000 PROC UNLOAD,EFRWQ

10645 72000006000003000000 PROC REWIND,EFRWQ

10650 72000006000003000000 PROC DETACH,IOQ

10653 72000005000003000000 PROC INPUT,IOQ

10656 72000006000003000000 PROC OUTPUT,IOQ

10661 72000003000003000000 PROC EOI,EOIQ

10664 72000005000003000000 PROC CLOCK,TDCQ

10667 72000004000003000000 PROC DATE,TDCQ

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 181

INITIALIZATION SNOJOB

10672 72000004000003000000 PROC TIME,TDCQ

IFNE TSS,0,1

IFNE TSS,0,2

10675 72000006000003000000 PROC REMARK,REMARKQ

10700 72000005000003000000 PROC ARRAY,ARRAYQ

10703 72000007000003000000 PROC CONVERT,CNVTQ,QCNVT

10706 72000006000003000000 PROC UNSTAR,UNSTARQ,QUNSTAR

10711 72000004000003000000 PROC STAR,STARQ,QSTAR

10714 72000005000003000000 PROC IDENT,COMPQ

10717 72000006000003000000 PROC DIFFER,COMPQ

10722 72000006000003000000 PROC DEFINE,DEFINEQ

10725 72000005000003000000 PROC ARBNO,ARBNOQ

10730 72000006000003000000 PROC ANCHOR,ANCHORQ

10733 72000004000003000000 PROC TRIM,TRIMQ

10736 72000003000003000000 PROC ANY,ANYQ

10741 72000006000003000000 PROC NOTANY,ANYQ

10744 72000002000003000000 PROC EQ,EQQ

10747 72000002000003000000 PROC NE,EQQ

10752 72000002000003000000 PROC GT,EQQ

10755 72000002000003000000 PROC GE,EQQ

10760 72000002000003000000 PROC LT,EQQ

10763 72000002000003000000 PROC LE,EQQ

10766 72000005000003000000 PROC BREAK,ANYQ

10771 72000004000003000000 PROC SPAN,ANYQ

10774 72000004000003000000 PROC RTAB,PATQ

10777 72000003000003000000 PROC TAB,PATQ

11002 72000004000003000000 PROC RPOS,PATQ

11005 72000003000003000000 PROC POS,PATQ

11010 72000003000003000000 PROC LEN,PATQ

11013 72000004000003000000 PROC SIZE,SIZEQ

11016 72000002000003000000 PROC IF,IFQ,,LAST

11021 BUFFBASE EQU \*

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 182

INITIALIZATION SNOJOB

11021 66700 SNOBOL SB7 B0 TERMINATOR FLAG FOR CONTROL CARD SCAN

13666 BX6 X6-X6

5160000100 SA6 100B

11022 74600 SX6 A0

5160000203 SA6 FIELDLN

11023 5110000070 SA1 70B START OF IMAGE

43006 MX0 6 ONE CHAR MASK

11024 0100011066 RJ GN IGNORE PROGRAM NAME

11025 0100011066 CC1 RJ GN GET PARAM IN X6

11026 10366 BX3 X6

13666 BX6 X6-X6

7242777723 SX4 X2-1R= SEE IF SEPERATOR IS =

11027 0314011030 NZ X4,CC2 NO

0100011066 RJ GN

11030 11203 CC2 BX2 X0\*X3 FIRST CHAR

20206 LX2 6

7242777766 SX4 X2-1RI

11031 0304011042 ZR X4,CC3 INPUT FILE

7242777763 SX4 X2-1RL

11032 0304011043 ZR X4,CC4 OUTPUT FILE/LIST FLAG

7242777730 SX4 X2-1R\*

11033 0304011052 ZR X4,CC7 SPECIAL PARAM

7242777756 SX4 X2-1RQ

11034 0304011025 ZR X4,CC12

7242777753 SX4 X2-1RT

11035 0314011025 NZ X4,CC1 UNKNOWN OPTION, IGNORE

5120007445 SA2 P2TRCS TURN ON TRACE

11036 5130007463 SA3 P3TRCS

10622 BX6 X2

10733 BX7 X3

11037 5160007341 SA6 P2TRCT

5170007452 SA7 P3TRCT

11040 5120007735 SA2 P4TRCS

10622 BX6 X2

11041 5160007720 SA6 P4TRCT

0400011025 EQ CC1

11042 6130000261 CC3 SB3 INFET

0400011045 EQ CC5

11043 11406 CC4 BX4 X0\*X6

20406 LX4 6

7244777744 SX4 X4-1R0

11044 0304011050 ZR X4,CC6 L=0, TURN OFF LIST

6130000267 SB3 OUTFET

11045 0306011025 CC5 ZR X6,CC1 NULL FILENAME IMPLIES DEFAULT

0100005757 RJ VALID X6 RETURNED 0 IF INVALID FILENAME

11046 0306011105 ZR X6,CCERROR

56630 SA6 B3 STORE INTO CORRECT FET

11047 0400011025 EQ CC1

11050 7160000000 CC6 SX6 0

5160000245 SA6 P1ERFLG

11051 0400011025 EQ CC1

11052 20306 CC7 LX3 6

11203 BX2 X0\*X3

20206 LX2 6

13777 BX7 X7-X7 BINARY FORM OF PARAM

11053 11506 CC8 BX5 X0\*X6

0305011060 ZR X5,CC9 FINISHED CONVERTING

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 183

INITIALIZATION SNOJOB

20506 LX5 6

11054 15660 BX6 -X0\*X6

20606 LX6 6

20703 LX7 3 OLD TOTAL \* 8

11055 7255777744 SX5 X5-1R0

0335011105 NG X5,CCERROR ALPHABETIC CHAR

11056 7245777767 SX4 X5-1R8+1R0

0324011105 PL X4,CCERROR SPECIAL CHAR

11057 36757 IX7 X5+X7

0400011053 EQ CC8

11060 7242777775 CC9 SX4 X2-1RB

0314011063 NZ X4,CC11 . NOT BUFFER SIZE

11061 7267777676 SX6 X7-65 BUFFER SIZE .LT. 65 IGNORED

0336011025 NG X6,CC1

11062 5170000202 SA7 BUFFSIZE

0400011025 EQ CC1

11063 7242777771 CC11 SX4 X2-1RF

0314011025 NZ X4,CC1

11064 5170000215 SA7 FLDLM

0400011025 EQ CC1

IFEQ TRCFLG,0,2

11025 CC12 EQU CC1

TRC IFNE ,,

TRC ENDIF

11065 01000040000000000000 FILEWD VFD 6/1,6/0,6/0,1/1,41/0

11066 00000000000000000000 GN DATA 0

11067 0570011115 NZ B7,PRE1

7160000000 SX6 0

11070 6120000074 SB2 60 60-CHAR.COUNT\*6

11071 11201 GN1 BX2 X0\*X1 NEXT CHAR

0312011073 NZ X2,GN2

11072 5011000001 SA1 A1+1

11201 BX2 X0\*X1

11073 15110 GN2 BX1 -X0\*X1

20106 LX1 6

20206 LX2 6

11074 6212777732 SB1 X2-1R+

0610011077 GE B1,B0,GN4

11075 20606 GN3 LX6 6

12626 BX6 X2+X6

6122777771 SB2 B2-6

11076 0400011071 EQ GN1

11077 6212777722 GN4 SB1 X2-1R IS THERE AN IMBEDDED BLANK

0410011071 ZR B1,GN1 ZOUNDS, THERE IS.....

11100 6212777730 SB1 X2-1R\* HOW ABOUT AN ASTERISK(\*B,\*F,...)

0410011075 ZR B1,GN3 \* IS LEGAL PARAM CHAR

11101 22626 LX6 B2,X6 LEFT JUSTIFY

6212777720 SB1 X2-1R.

11102 0410011104 ZR B1,GN5

6212777725 SB1 X2-1R)

11103 0410011104 ZR B1,GN5

0400011066 EQ GN

11104 6170000001 GN5 SB7 1

0400011066 EQ GN

11105 5110000001 CCERROR SA1 1

0311011105 NZ X1,\*

11106 5120011111 SA2 ECALL

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 184

INITIALIZATION SNOJOB

10622 BX6 X2

54610 SA6 A1

11107 5110000001 + SA1 1

0311011107 NZ X1,\* . WAIT FOR RA+1 TO LCEAR

11110 0200004337 JP .ABT. . JSUT ISSUE ABT REQUEST

11111 15230700000000011112 ECALL VFD 18/3LMSG,42/CCERRM

11112 23161702171455031716 CCERRM DATA 10HSNOBOL CON

11113 24221714550301220455 DATA 10HTROL CARD

11114 05222217225700000000 DATA 6LERROR.

11115 6110011116 PRE1 SB1 PRE2

0200005671 JP CALENDR . GET DATE IN X6

11116 5160010454 PRE2 SA6 DATE . SET UP COMPILER TITLE

6110011120 SB1 PRE2.1

11117 0200005660 JP TOD

11120 5160010456 PRE2.1 SA6 TIME . TIME-OF-DAY FOR COMPILER TITLE

5110000202 SA1 BUFFSIZE LENGTH OF ONE BUFFER

11121 36211 IX2 X1+X1

6170000001 SB7 1 . CONSTANT 1

76570 SX5 B7 LOAD X5 WITH A 1

11122 73227 SX2 X2+B7 BUFFER LENGTH \* 2 + 1

7160000032 SX6 SPCTYP

20645 LX6 37

11123 12626 BX6 X2+X6

20622 LX6 18

5160011021 SA6 BUFFBASE BYPASS WORD

11124 7160011022 SX6 BUFFBASE+1 STARTING ADDERSS FOR BUFFERS

20522 LX5 18

12756 BX7 X5+X6

11125 5170000262 SA7 INFET+1

54677 SA6 A7+B7

54667 SA6 A6+B7 OUT

11126 36616 IX6 X1+X6 FIRST+LENGTH=LIMIT

54667 SA6 A6+B7

12756 BX7 X5+X6

11127 5170000270 SA7 OUTFET+1

54677 SA6 A7+B7 IN

54667 SA6 A6+B7 OUT

11130 36616 IX6 X1+X6

54667 SA6 A6+B7 LIMIT

7266000014 SX6 X6+FREELEN$-1 . FL NEEDED

11131 63160 SB1 X6

65101 SB1 A0-B1

0610011137 GE B1,B0,PRE2.5

11132 5110000215 SA1 FLDLM

37116 IX1 X1-X6

11133 0331011105 NG X1,CCERROR . MAX FIELD LENGTH HAS BEEN EXCEEDED

5160000203 SA6 FIELDLN

11134 20636 LX6 30

IFNE TRCFLG,0,1

5160002106 SA6 FLDSTAT

11135 5120002105 SA2 FLDCALL . REQUEST LARGER FIELD LENGTH

10722 BX7 X2

56770 SA7 B7 . RA+1

11136 5110000001 + SA1 1

0311011136 NZ X1,\*

11137 6120000261 PRE2.5 SB2 INFET

0100005767 RJ OPEN

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 185

INITIALIZATION SNOJOB

11140 6120000267 SB2 OUTFET

0100005767 RJ OPEN

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 186

INITIALIZATION SNOJOB

11141 5120000203 PRE3 SA2 FIELDLN

6110777776 SB1 -1

11142 63720 SB7 X2

5140000205 SA4 MINSTAT

11143 6244000002 SB4 X4+STNDREL

11144 56140 INIT1 SA1 B4 . LOOP TO FIND HASH CODES FOR

10011 BX0 X1 . STANDARD VARIABLES AND PROCEDURES

21122 AX1 18

74510 SX5 A1

11145 63414 SB4 X1+B4

21122 AX1 18

6051000002 SB5 A1+2 . FWA OF THE NAME

11146 63310 SB3 X1

0430011164 EQ B3,B0,INIT4

11147 0100002675 RJ SEARCH

11150 12752 BX7 X5+X2

54720 SA7 A2

21067 AX0 55

11151 7200000001 SX0 X0+1 . BRANCH IF FUNCTION OR LABEL

0310011144 NZ X0,INIT1

11152 5215000001 SA1 X5+1

0331011160 NG X1,INIT3 . BRANCH IF ARB, BAL, REM ETC.

11153 13777 BX7 X7-X7

66771 SB7 B7+B1

56770 SA7 B7

11154 7100000002 SX0 SSTY

76670 SX6 B7

20067 LX0 55 . INPUT OR OUTPUT INITIALIZED TO

11155 20622 LX6 18 . A NULL STRING VALUE

76770 SX7 B7

12776 BX7 X7+X6

66771 SB7 B7+B1

11156 12770 BX7 X7+X0

76670 SX6 B7

56770 SA7 B7

12661 BX6 X6+X1

11157 54610 INIT2 SA6 A1

0400011144 EQ INIT1

11160 6177777776 INIT3 SB7 B7-1

43014 MX0 12

20160 LX1 48

11161 11701 BX7 X0\*X1

56770 SA7 B7

76670 SX6 B7

76770 SX7 B7

11162 20622 LX6 18

7100000004 SX0 PSTY

20067 LX0 55

11163 12676 BX6 X7+X6

12606 BX6 X0+X6

0400011157 EQ INIT2

11164 76740 INIT4 SX7 B4

5170000204 SA7 MAXSTAT

76771 SX7 B7+B1

11165 13666 BX6 X6-X6

5170000244 SA7 COMPB7

53670 SA6 X7 . END OF THE FREE WORD CHAIN

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 187

INITIALIZATION SNOJOB

11166 73771 SX7 X7+B1

5170000206 SA7 MAXSTAK

53670 SA6 X7 . FIRST WORD IN THE STACK

11167 5170000227 SA7 PRGBASE . BASE FOR THE OBJECT PROGRAM

73771 SX7 X7+B1

53670 SA6 X7 . FIRST WORD OF THE OBJECT PROGRAM

\*

11170 63670 SB6 X7

7170000001 SX7 PRIORJ

20744 LX7 36

11171 67606 SB6 B0-B6

5150000002 SA5 BGP3STK

11172 5100000110 SA0 BGP2STK

54750 SA7 A5

66700 SB7 B0 . INITIALIZE PASS 2 OPSIT

11173 6110000000 SB1 ST1

7170000001 SX7 1

11174 5170000223 SA7 LBLLINK

5110000245 SA1 P1ERFLG

11175 0301007030 ZR X1,PRE4

0400007027 EQ PRE5

USE \*

3341 64350 RTERROR SB3 A5

0750003403 NG B5,ERROR40 . COMPILATION ERROR

3342 5110000214 SA1 CODELINK

6140000001 SB4 1

3343 53210 ERROR01 SA2 X1 . PICK UP CODE HEADER

7212000000 SX1 X2+0 . LINK TO NEXT

21222 AX2 18

3344 6222777776 SB2 X2-1 . WORDCOUNT = BYPASS - 1

64122 SB1 A2+B2 . ADDRESS OF FIRST MICRO INSTRUCTION

3345 0413003351 ERROR02 EQ B1,B3,ERROR10

5131000000 SA3 B1+0

3346 0323003347 PL X3,ERROR03 . NOT END OF RULE

6144000001 SB4 B4+1

3347 6122777776 ERROR03 SB2 B2-1

6111777776 SB1 B1-1

3350 0702003345 GT B2,B0,ERROR02

0311003343 NZ X1,ERROR01

3351 6120000000 ERROR10 SB2 0

5110000213 SA1 STAKTOP

3352 53210 ERROR11 SA2 X1 . NEXT STACK HEADER

63120 SB1 X2 . BYPASS

0302003355 ZR X2,ERROR20 . BOTTOM OF STACK

3353 0322003354 PL X2,ERROR12

6122000001 SB2 B2+1

3354 67101 ERROR12 SB1 -B1

73111 SX1 X1+B1

0400003352 EQ ERROR11

3355 76140 ERROR20 SX1 B4 . RULE NUMBER

43506 MX5 6

0100002331 RJ ICX1X6

3356 7170000055 SX7 1R

20744 LX7 36

20552 LX5 42

3357 11156 ERROR205 BX1 X5\*X6

0311003361 NZ X1,ERROR206

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 188

INITIALIZATION

12667 BX6 X6+X7

3360 20506 LX5 6

20706 LX7 6

0400003357 EQ ERROR205

3361 43052 ERROR206 MX0 42

20622 LX6 18

5110003410 SA1 TERMESS+2

3362 15760 BX7 -X0\*X6

12717 BX7 X1+X7

54710 SA7 A1

43006 MX0 6

3363 11706 BX7 X0\*X6

5011000001 SA1 A1+1

12717 BX7 X1+X7

3364 54710 SA7 A1

76120 SX1 B2 . RECURSION LEVEL

0100002331 RJ ICX1X6

3365 7170000055 SX7 1R

12667 BX6 X6+X7

20666 LX6 54

3366 5160003412 SA6 TERMESS+4

6120000267 SB2 OUTFET

3367 6110777772 SB1 TERMESS-MESSTER . WORD COUNT

3370 5111003413 ERROR21 SA1 MESSTER+B1

6111000001 SB1 B1+1

3371 10611 BX6 X1

0100004272 RJ PB

3372 0710003370 NG B1,ERROR21

5110003406 SA1 TERMESS

3373 7100000061 SX0 61B

20066 LX0 54

13601 BX6 X0-X1

3374 54610 SA6 A1

5120003405 SA2 MCALL

10722 BX7 X2

3375 5170000001 SA7 1

3376 54270 + SA2 A7

0312003376 NZ X2,\*

3377 5115003413 ERROR30 SA1 ERRORD+B5 . DIRECTORY ENTRY

63110 SB1 X1 . FWA ERROR MESSAGE

43560 MX5 48

3400 56210 ERROR31 SA2 B1

10622 BX6 X2

0100004272 RJ PB

3401 15665 BX6 -X5\*X6

6111000001 SB1 B1+1

3402 0316003400 NZ X6,ERROR31

0200004336 JP ABT . FLUSH BUFFERS AND ABORT

3403 67505 ERROR40 SB5 -B5

6120000267 SB2 OUTFET

3404 0400003377 EQ ERROR30

3405 15230700000000003406 MCALL VFD 18/3LMSG,42/TERMESS

3406 34052222172255240522 TERMESS DATA 10H1ERROR TER

3407 15111601241117165511 DATA 10HMINATION I

3410 16552225140555000000 DATA 7LN RULE

3411 00550124551405260514 DATA 9R AT LEVEL

3412 00000000000000000000 DATA 0

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 189

INITIALIZATION

3413 MESSTER BSS 0

MACRO \*,LABEL,TEXT

LABEL DIS ,$ TEXT$

ENDM

3413 ERRORD BSS 0

3413 00000000000000003504 VFD 60/E0

3414 00000000000000003513 VFD 60/E1

3415 00000000000000003522 VFD 60/E2

3416 00000000000000003532 VFD 60/E3

3417 00000000000000003536 VFD 60/E4

3420 00000000000000003561 VFD 60/E5

3421 00000000000000003545 VFD 60/E6

3422 00000000000000003553 VFD 60/E7

3423 00000000000000003677 VFD 60/E8

3424 00000000000000003567 VFD 60/E9

3425 00000000000000003575 VFD 60/E10

3426 00000000000000003603 VFD 60/E11

3427 00000000000000003611 VFD 60/E12

3430 00000000000000003616 VFD 60/E13

3431 00000000000000003625 VFD 60/E14

3432 00000000000000003635 VFD 60/E15

3433 00000000000000003643 VFD 60/E16

3434 00000000000000003651 VFD 60/E17

3435 00000000000000003656 VFD 60/E18

3436 00000000000000003663 VFD 60/E19

3437 00000000000000003670 VFD 60/E20

3440 00000000000000003705 VFD 60/E21

3441 00000000000000003714 VFD 60/E22

3442 00000000000000003721 VFD 60/E23

3443 00000000000000004102 VFD 60/E24

3444 00000000000000003726 VFD 60/E25

3445 00000000000000003734 VFD 60/E26

3446 00000000000000003743 VFD 60/E27

3447 00000000000000003750 VFD 60/E28

3450 00000000000000003755 VFD 60/E29

3451 00000000000000003763 VFD 60/E30

3452 00000000000000003767 VFD 60/E31

3453 00000000000000003773 VFD 60/E32

3454 00000000000000004107 VFD 60/E33

3455 00000000000000004113 VFD 60/E34

3456 00000000000000004000 VFD 60/E35

3457 00000000000000004006 VFD 60/E36

3460 00000000000000004017 VFD 60/E37

3461 00000000000000004022 VFD 60/E38

3462 00000000000000004027 VFD 60/E39

3463 00000000000000004034 VFD 60/E40

3464 00000000000000004043 VFD 60/E41

3465 00000000000000004116 VFD 60/E42

3466 00000000000000004053 VFD 60/E43

3467 00000000000000004126 VFD 60/E44

3470 00000000000000004132 VFD 60/E45

3471 00000000000000004136 VFD 60/E46

3472 00000000000000004142 VFD 60/E47

3473 00000000000000004057 VFD 60/E48

3474 00000000000000004067 VFD 60/E49

3475 00000000000000004074 VFD 60/E50

3476 00000000000000004146 VFD 60/E51

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 190

INITIALIZATION

3477 00000000000000004153 VFD 60/E52

3500 00000000000000004156 VFD 60/E53

3501 00000000000000004164 VFD 60/E54

3502 00000000000000004177 VFD 60/E55

3503 00000000000000004205 VFD 60/E56

3504 55140530110317072201 E0 DIS ,$ LEXICOGRAPHICAL END OF PROGRAM ENCOUNTERED DURING

,EXECUTION.$

3513 55111414050701145517 E1 DIS ,$ ILLEGAL OPERAND TYPE IN AN ARITHMETIC OPERATION (+

,, -, \*, /, \*\*).$

3522 55232422111607552523 E2 DIS ,$ STRING USED IN ARITHMETIC OPERATION DOES NOT CONFO

,RM TO NUMBER SYNTAX.$

3532 55041126112311171655 E3 DIS ,$ DIVISION BY ZERO WAS ATTEMPTED.$

3536 55260122110102140555 E4 DIS ,$ VARIABLE TO THE LEFT OF A [ DOES NOT CONTAIN AN AR

,RAY VALUE.$

3545 55241005220555270522 E6 DIS ,$ THERE WERE TOO MANY SUBSCRIPTS IN AN ARRAY REFEREN

,CE.$

3553 55241717550605275523 E7 DIS ,$ TOO FEW SUBSCRIPTS APPEARED IN AN ARRAY REFERENCE.

,$

3561 55241005552601142505 E5 DIS ,$ THE VALUE OF AN ARRAY INDEX MUST BE OF INTEGER TYP

,E.$

3567 55015506011114252205 E9 DIS ,$ A FAILURE OCCURRED IN THE EVALUATION OF THE GO-TO

,PART.$

3575 55011655012424051520 E10 DIS ,$ AN ATTEMPT WAS MADE TO JUMP TO AN UNDEFINED LABEL.

,$

3603 55111414050701145503 E11 DIS ,$ ILLEGAL COMBINATION OF OPERAND TYPES FOR CONCATENA

,TION.$

3611 55061722021104040516 E12 DIS ,$ FORBIDDEN OPERAND TYPE FOR ALTERNATION.$

3616 55241005550401240155 E13 DIS ,$ THE DATA TYPE USED MAY ONLY BE CONCATENATED WITH T

,HE NULL STRING.$

3625 55241005550317162324 E14 DIS ,$ THE CONSTRUCTION IMPLIED A CALL OF A FUNCTION WHIC

,H HAS NOT BEEN DEFINED.$

3635 55241005551405062455 E15 DIS ,$ THE LEFT OPERAND FOR A PATTERN MATCH MUST BE A STR

,ING.$

3643 55241005552211071024 E16 DIS ,$ THE RIGHT OPERAND FOR A PATTERN MATCH MUST BE A PA

,TTERN.$

3651 55241005551501301115 E17 DIS ,$ THE MAXIMUM FIELD LENGTH HAS BEEN EXCEEDED.$

3656 55241005551501301115 E18 DIS ,$ THE MAXIMUM STRING LENGTH HAS BEEN EXCEEDED.$

3663 55241005552324012405 E19 DIS ,$ THE STATEMENT LIMIT HAS BEEN EXCEEDED.$

3670 55241717551501163155 E20 DIS ,$ TOO MANY ACTUAL PARAMETERS WERE GIVEN IN A STANDAR

,D PROCEDURE CALL.$

3677 55241717551501163155 E8 DIS ,$ TOO MANY ACTUAL PARAMETERS WERE GIVEN IN A FUNCTIO

,N CALL.$

3705 55241005552001220115 E21 DIS ,$ THE PARAMETER FOR A FIELD FUNCTION WAS NOT A DATA

,REFERENCE.$

3714 55161755232503105506 E22 DIS ,$ NO SUCH FIELD IN THE REFERENCED DATA STRUCTURE.$

3721 55015522052425221655 E23 DIS ,$ A RETURN WAS ATTEMPTED FROM THIS LOW LEVEL.$

3726 55011655461622052425 E25 DIS ,$ AN -NRETURN- WAS EXPECTED FROM THE PROCEDURE CALLE

,D.$

3734 55015520221703050425 E26 DIS ,$ A PROCEDURE RETURNING BY -NRETURN- MUST SUPPLY A N

,AME AS ITS VALUE.$

3743 55111604112205032455 E27 DIS ,$ INDIRECT REFERENCE TO THE NULL STRING.$

3750 55243120055505222217 E28 DIS ,$ TYPE ERROR, DATA FUNCTION CANNOT SUPPLY A NAME.$

3755 55200122011505240522 E29 DIS ,$ PARAMETER TYPE ERROR IN STANDARD PROCEDURE CALL.$

3763 55233116240130550522 E30 DIS ,$ SYNTAX ERROR IN DATA DEFINITION.$

3767 55042520141103012405 E31 DIS ,$ DUPLICATE NAMES IN DATA DEFINITION.$

3773 55232422111607550122 E32 \* (STRING ARITHMETIC NOT YET IMPLEMENTED.)

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 191

INITIALIZATION

4000 55015523240116040122 E35 \* (A STANDARD I/O PROCEDURE REFERENCED A NONEXISTENT FILE.)

, FILE.$

4006 55011655012424051520 E36 DIS ,$ AN ATTEMPT WAS MADE TO DETACH A VARIABLE WHICH WAS

, NOT ASSOCIATED WITH ANY FILE.$

4017 55220501145501221124 E37 \* (REAL ARITHMETIC OVERFLOW.)

4022 55243120055515112315 E38 \* (TYPE MISMATCH IN ARITHMETIC OPERATION.)

4027 55111414050701145503 E39 DIS ,$ ILLEGAL CHARACTER APPEARED IN ARRAY PROTOTYPE.$

4034 55011655111414050701 E40 DIS ,$ AN ILLEGAL FILENAME WAS SPECIFIED TO AN I/O ASSOCI

,ATION PROCEDURE.$

4043 55011655012424051520 E41 DIS ,$ AN ATTEMPT WAS MADE TO I/O ASSOCIATE A VARIABLE WH

,ICH WAS ALREADY ATTACHED.$

4053 55233116240130550522 E43 DIS ,$ SYNTAX ERROR IN ARRAY PROTOTYPE.$

4057 55011655012222013155 E48 DIS ,$ AN ARRAY LOWER BOUND MUST BE LESS THAN THE CORRESP

,ONDING UPPER BOUND.$

4067 55015502172516045511 E49 DIS ,$ A BOUND IN AN ARRAY PROTOTYPE WAS TOO LARGE.$

4074 55015504111505162311 E50 DIS ,$ A DIMENSION IN AN ARRAY PROTOTYPE WAS TOO LARGE.$

4102 55172005220116045506 E24 \* (OPERAND FOR UNARY \* IS NOT STRING OR PATTERN.)

4107 55243120055505222217 E33 \* (TYPE ERROR, INDIRECT IMPOSSIBLE.)

4113 55243120055505222217 E34 \* (TYPE ERROR IN GO TO PART.)

4116 55052222171605172523 E42 \* (ERRONEOUS PARAMETER FOR PATTERN FUNCTION (LEN, POS, RPOS, TAB, RT

,AB).)

4126 55233116240130550522 E44 \* (SYNTAX ERROR IN PROCEDURE HEADING.)

4132 55243120055505222217 E45 \* (TYPE ERROR IN THE PATTERN REFERENCE.)

4136 55171614315501552324 E46 \* (ONLY A STRING MAY BE ASSIGNED HERE.)

4142 55243120055505222217 E47 \* (TYPE ERROR IN ARITHMETIC CONTEXT.)

4146 55233116240130550522 E51 \* (SYNTAX ERROR IN STRING TO BE COMPILED.)

4153 55171614315523242211 E52 \* (ONLY STRINGS MAY BE OUTPUT.)

4156 55111603172222050324 E53 \* (INCORRECT SYNTAX FOR STRING TO BE CONVERTED TO REAL.)

4164 55031716072201242514 E54 \* (CONGRATULATIONS, YOU HAVE DISCOVERED THE ONLY LIMITATION IN SNOBO

,L, PLEASE SIMPLIFY THE ABOVE CONSTRUCTION.)

4177 55011655012424051520 E55 \* (AN ATTEMPT WAS MADE TO READ PAST AN END-OF-INFORMATION.)

4205 55015523242211160755 E56 \* (A STRING TO BE DISPLAYED WAS TOO LONG.)

11176 END SNOBOL

54700B CM STORAGE USED 13817 STATEMENTS 1716 SYMBOLS 000018 INVENTED SYMBOLS

PARALLEL CPU ASSEMBLY 23.688 SECONDS 7203 REFERENCES

ERROR DIRECTORY.

3 TYPE ERROR DUPLICATE MACRO DEFINITION. NEW ONE OVERRIDES.

OCCURRED ON PAGES 6

SYMBOLIC REFERENCE TABLE.

AASGN 7601 142/11 159/36 L

AASGN1 7605 159/37 159/41 L

ABC 6407 134/56 135/03 L

ABCALL 7607 142/06 159/46 L

ABCALL1 7616 160/01 160/09 L

ABC1 6410 135/03 135/05 L

ABC2 6420 135/03 135/13 L

ABGTT 7674 142/42 162/20 L

ABGTT1 7706 162/41 162/47 L

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 192

SYMBOLIC REFERENCE TABLE.

ABGTT2 7704 162/29 162/42 L

ABGTT3 7677 162/26 162/28 L

ABORTPM 1750 80/19 D 180/29

ABT 4336 85/35 L 166/19 188/48

ACALL 7623 142/36 160/27 L

ACHEKI1 675 19/25 19/27 L

ACHEKS 711 19/23 19/55 L

ACHEKSF 715 19/16 19/18 20/08 L

ACHEKSI 700 19/20 19/33 L

ACHEKSR 713 20/02 20/03 L

ACHEKS1 744 20/04 20/34 20/39 21/07 L

ACHEKS2 750 21/11 21/15 L

ACHEKS3 751 21/08 21/17 L

ACHEKS4 753 21/16 21/21 L

ACHEKS5 754 19/53 21/22 L

ACHEK1 1030 23/17 L

ACHKSFR 725 20/22 20/29 L

ACHKSF2 723 20/25 L 20/33

ACHKSF3 727 20/25 20/34 L

ACHKSI1 702 19/39 L 21/20

ACOND 7654 142/41 161/38 L

ACOND1 7662 161/41 161/49 161/53 L

ACOND2 7666 161/52 162/06 L

ACOND3 7664 161/57 162/02 L

ACSI1 705 19/36 19/45 L

ACT1 7342 152/06 L 152/43 153/14 153/15 154/34 154/43 154/50 165/02

ACT1A 7347 152/14 152/18 L 153/24 153/45

ACT10 7403 153/18 153/25 L

ACT11 7357 140/26 153/32 D 153/34

ACT12 7406 140/39 140/52 153/34 L

ACT13 7412 140/20 140/22 140/23 153/42 L

ACT13A 7413 153/42 153/44 L

ACT14 7414 140/21 153/47 L

ACT15 7417 153/47 153/54 L

ACT16 7357 140/40 140/51 154/02 D

ACT17 7421 140/27 140/32 154/04 L

ACT17A 7424 152/34 154/10 L

ACT18 7425 140/35 154/13 L

ACT19 7430 140/46 154/20 L

ACT19A 7432 154/20 154/23 L

ACT2 7356 139/15 139/31 139/52 140/38 140/48 152/33 L

ACT20 7433 140/02 154/26 L

ACT20A 7434 154/26 154/28 L

ACT21 7440 140/11 154/35 L

ACT21A 7441 154/35 154/37 L

ACT3 7361 139/44 139/48 140/05 140/10 140/30 140/53 152/43 L 154/15

139/46 140/04 140/09 140/29 140/34 140/54 153/05 154/17

ACT4 7367 139/53 140/37 152/57 L

ACT5 7370 139/54 153/03 L

ACT6 7372 140/08 153/07 L

ACT7 7373 153/07 153/09 L

ACT8 7375 140/19 153/14 L

ACT9 7377 140/13 140/15 140/16 140/17 153/18 L

ACT9A 7402 153/20 153/23 L

ACT9B 7401 153/21 L 153/43

ADD 1071 11/19 23/33 24/29 L

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 193

SYMBOLIC REFERENCE TABLE.

ADDEXIT 1077 24/41 L 25/28 26/19 26/23 26/54

24/57 25/47 26/21 26/25

ADDSR1 1160 24/36 24/37 26/45 L

ADDS1 274 9/04 D 26/46

ADDS2 274 9/05 D

AEND 10000 142/40 165/50 L

AEND1 10014 166/07 166/17 L

AEND2 10002 165/51 165/53 L

AEND3 10001 165/06 165/52 L

AEND5 10021 166/03 166/20 L

AEND6 10025 166/01 166/26 L

AGT 7667 142/44 162/09 L

AGTT 7710 142/45 142/46 162/51 L

AGTT1 7715 163/04 163/06 L

ALABEL 7634 142/47 160/50 L

ALABEL1 7645 161/16 L 161/25

ALABEL2 7650 161/17 161/26 L

ALFTBR 7572 142/07 159/17 L

ALPHAQ 6421 135/15 L 180/39

ALT 2763 69/14 L 71/41 73/03 73/18 73/54 75/28 76/49 77/28

71/40 72/05 73/06 73/39 74/54 76/12 77/07 77/50

ALTCHEK 547 11/05 15/46 L

ALTCPA 615 16/01 17/20 L

ALTCPA1 616 17/24 L 17/28

ALTCPA2 624 17/40 L 17/44 17/51 18/01

ALTCPA3 625 17/41 L 17/47

ALTCPA4 627 17/46 L 17/48 17/49

ALTCPA5 630 17/45 17/48 L

ALTCPA6 634 17/41 18/02 L

ALTCPE1 574 16/28 16/31 L

ALTCSF 602 15/55 16/46 L

ALTCSS 602 15/53 16/45 L

ALTCSS2 610 16/25 16/57 17/05 L

ALTCSS3 613 16/30 16/43 17/13 L 18/06

ALTCSW 552 15/46 15/50 D

ALTCS1 563 16/03 16/11 L

ALTCS2 564 16/08 16/14 L

ALTCS3 566 16/19 L 16/24

ALTCS4 571 16/20 16/25 L

ALTCWD 551 15/47 15/50 L

ALTER 757 11/12 21/29 L

ALTLF 2764 69/13 71/48 72/25 75/24 77/03 77/41

69/16 L 72/04 72/28 76/39 77/20 78/11

ALTLFM 2761 69/11 L 71/22 72/39 76/33

ALTLF1 2772 69/31 L 69/39

ALTLF2 2775 69/33 69/40 L

ALTLF3 3000 69/47 L 69/55

ALTLF4 3003 69/49 69/56 L

ALTLF5 2777 69/25 69/44 L

ALTPA1 1012 21/37 22/39 L

ALTPA2 1014 22/44 L 22/48

ALTPE1 1021 21/40 22/56 L

ALTPM 1643 16/26 17/05 17/29 17/50 80/07 D

ALTSS1 773 21/49 21/52 L

ALTSW 762 21/29 21/33 D

ALTS2 1001 21/47 22/07 22/12 L

ALTS3 1003 22/17 L 22/49 23/13

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 194

SYMBOLIC REFERENCE TABLE.

ALTS4 1004 22/20 L 22/54

ALTS5 1007 22/29 L 22/36

ALTWD 761 21/30 21/33 L

ANCHOR 221 4/26 L 33/51 104/33

ANCHORQ 5130 104/46 L 181/13

ANYPM 2060 80/25 D 102/32

ANYQ 5067 103/12 L 181/15 181/16 181/23 181/24

APARAM 7621 142/34 160/21 L

APM 7575 142/10 159/25 L

ARBNOPM 1751 17/35 80/20 D 105/18

ARBNOQ 5152 105/36 L 181/12

ARBPM 1657 80/09 D 180/30

ARGTBR 7630 142/37 160/41 L

ARGTPR 7571 142/39 159/14 L

ARITH 1150 24/52 25/08 25/36 25/54 26/28 L

ARITH1 1154 26/31 26/32 26/36 L

ARITH3 1157 26/37 26/42 L

ARITH4 1163 24/55 25/11 25/39 26/51 L

ARITSW 665 19/09 19/11 D

ARITWD 664 19/01 19/11 L

ARRAY 1525 11/41 37/01 L

ARRAYN 1541 11/42 37/31 L

ARRAYQ 5632 118/55 L 181/05

ARRAYV 1542 11/43 37/34 L

ARRAYV1 1543 37/32 37/35 L

ARROWD 222 4/31 L 165/46 S 166/26 170/13 170/20 170/43 S 178/41 S

ARULEA 7566 159/03 159/05 L

ARULE1 7565 142/02 142/03 142/04 159/03 L

ARULE4 7564 142/05 159/01 L

ASCHEK 1027 11/07 23/15 L 23/22 23/23 23/24

ASGN 1566 11/30 38/27 L

ASGNPM 1577 11/31 38/49 L

ASGNS1 3302 78/37 L 79/11 79/50

ASGNS2 3320 78/41 79/12 L

ASGNS3 3310 78/47 78/49 L

ASGNS4 3314 79/02 79/04 L

ASGN1 1573 38/28 38/36 L

ASPMR 1631 39/43 39/51 L

ASPMSW 1602 38/49 38/53 D

ASPMWD 1601 38/50 38/53 L

ASPM0 1607 39/03 39/05 L

ASPM1 1612 39/14 L 40/11

ASPM2 1613 39/15 L 39/32

ASPM3 1617 39/21 39/23 L

ASPM4 1621 39/19 39/30 L

ASPM5 1622 39/16 39/33 L

ASPM6 1624 39/36 39/38 L

ASPM7 1636 40/10 L 40/14

ASPM8 1640 39/39 40/15 L

ASSIGNS 3300 70/13 71/30 73/28 74/09 78/34 L

70/28 72/32 73/44 76/54 78/39

ASTER 7076 137/54 144/12 L

ASTER1 7102 137/54 144/19 L

ATY 11 3/37 D 37/07 117/56

AUXBR 6737 140/54 L 153/44

AUXERR 161 140/57 D 164/51

AUXPR 6736 140/53 L 153/23

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 195

SYMBOLIC REFERENCE TABLE.

BALPM 1723 80/16 D 180/31

BGP2STK 110 2/23 D 136/20 136/22 165/01 187/13

135/41 S 136/21 136/24 178/50

BGP3STK 2 2/21 D 2/22 164/57 178/49 187/12

BLANK 7056 138/03 143/38 L 143/42

BLANKS 4511 82/52 90/08 L 172/19 172/34 173/06

BLANK0 7062 143/45 L 144/32 144/51 145/02 145/10

144/15 144/41 144/55 145/06

BLANK1 7063 143/31 143/47 L

BOOLPCK 1064 23/43 23/53 23/56 24/04 24/07 24/13 24/19 L 24/26

BOOLXIT 1044 23/45 L 23/55 24/01 24/06 24/12 24/18

BRANCH 7036 143/08 143/11 L

BREAKPM 2105 80/28 D 102/28

BUFFBASE 11021 181/32 D 184/25 S 184/26

BUFFSIZE 202 2/33 L 125/24 183/15 S 184/16

BUFF1 12 2/10 D 46/47

BUFF2 50 2/12 D 48/09

BUFF3 24 2/14 D 54/02

BUFF4 50 2/15 D 43/09 65/04 117/49 118/43 125/32 133/30

BUMP 10037 151/09 164/12 168/03 L 168/57 169/08

BUMP1 10041 168/05 168/07 L

BUMP2 10045 168/16 L 168/19

BUMP3 10051 168/13 168/26 L

BUMP4 10061 168/43 L 168/47

BUMP5 10065 168/52 168/54 L

BUO 1 137/09 D 137/53 137/55 138/05 138/13 138/16 138/20

137/52 137/54 138/01 138/12 138/15 138/17 138/23

CALENDR 5671 120/52 L 184/11

CALL 1670 11/44 41/06 L

CALLB5P 243 8/19 D 41/43 S 42/34

CALLSTD 1732 41/10 42/46 L

CALLTYP 35 3/49 D 180/42 180/49 180/56 181/08 181/15 181/22 181/29

106/42 180/43 180/50 180/57 181/09 181/16 181/23 181/30

180/36 180/44 180/51 181/01 181/10 181/17 181/24 181/31

180/38 180/45 180/52 181/04 181/11 181/18 181/25

180/39 180/46 180/53 181/05 181/12 181/19 181/26

180/40 180/47 180/54 181/06 181/13 181/20 181/27

180/41 180/48 180/55 181/07 181/14 181/21 181/28

CALL1 1675 41/19 L 41/29

CALL2 1701 41/24 41/30 L

CALL3 1704 41/36 41/39 L

CALL4 1706 41/44 L 42/06

CALL5 1714 42/07 L 42/19

CALL6 1721 42/08 42/20 L

CAL1 5673 120/57 L 121/01

CAL2 5703 121/23 121/25 L

CATCHEK 525 11/04 15/01 L

CATCSS 535 15/22 L

CATCSW 532 15/01 15/16 D

CATCWD 531 15/02 15/16 L

CATPP 1256 27/31 29/30 L 29/35

CATPP1 1261 29/32 29/36 L

CATPP2 1201 27/29 L 31/13

CATPS 1264 27/35 29/45 L

CATPSF 1270 27/37 30/01 L

CATPSF1 1277 30/15 30/20 L

CATPSF2 1271 30/01 30/03 L

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 196

SYMBOLIC REFERENCE TABLE.

CATPS1 1266 29/52 L 30/25 30/57

CATSF 1224 28/13 L 39/50

CATSFP 1301 27/28 30/26 L

CATSFP1 1305 30/35 L 30/39

CATSFP2 1316 30/30 31/02 L

CATSFR 1250 27/39 29/11 L

CATSFR1 1252 27/41 29/18 L

CATSFR2 1254 27/45 29/20 29/25 L

CATSFR3 1255 29/25 29/27 L

CATSF4 1226 28/19 L 28/37

CATSF5 1227 28/20 28/22 L

CATSF6 1232 28/32 L 28/39

CATSF7 1234 28/31 28/38 L

CATSF8 1236 28/27 28/40 L

CATSW1 1174 27/12 27/19 D

CATSW2 1177 27/17 27/22 D

CATWD 1173 27/08 27/19 L

CBI 4321 85/13 L 85/20 85/28 85/30 87/15 170/49 171/51

CBI0 4324 85/17 L 85/32 85/34

CBI1 4334 85/23 85/33 L

CBI2 4317 85/07 L 85/25

CBO 4305 84/42 L 84/45 84/57 85/03 85/05 93/04 172/50

CBO1 4313 84/54 84/56 L

CCERRM 11112 184/06 184/07 L

CCERROR 11105 182/46 183/06 183/08 183/55 L 184/46

CCXXCC 26 8/02 D 8/04 8/07 8/10 8/13 8/16 8/19 8/22

8/02 8/05 8/08 8/11 8/14 8/17 8/20 8/23

8/02 D 8/05 D 8/08 D 8/11 D 8/14 D 8/17 D 8/20 D 8/23 D

8/02 8/05 8/08 8/11 8/14 8/17 8/20 8/23

8/03 8/06 8/09 8/12 8/15 8/18 8/21 8/24

8/03 D 8/06 D 8/09 D 8/12 D 8/15 D 8/18 D 8/21 D 8/24 D

8/03 8/06 8/09 8/12 8/15 8/18 8/21 8/24

8/04 8/07 8/10 8/13 8/16 8/19 8/22

8/04 D 8/07 D 8/10 D 8/13 D 8/16 D 8/19 D 8/22 D

CC1 11025 182/09 L 182/36 182/48 183/14 183/18 183/22

182/26 182/44 182/51 183/16 183/20

CC11 11063 183/12 183/17 L

CC12 11025 182/24 183/22 D

CC2 11030 182/13 182/15 L

CC3 11042 182/18 182/37 L

CC4 11043 182/20 182/39 L

CC5 11045 182/38 182/44 L

CC6 11050 182/42 182/49 L

CC7 11052 182/22 182/52 L

CC8 11053 182/56 L 183/10

CC9 11060 182/57 183/11 L

CHAR 230 4/37 L 143/38 144/34 147/19 150/03 167/26 S 172/07 S

143/03 143/47 145/15 148/10 167/19 S 171/31 S 172/11 S

143/18 144/19 146/15 148/28 167/25 S 172/04 S

CHARLEN 246 4/40 L 147/08 S 148/34 149/08 S 151/16 S

146/08 S 148/07 S 148/57 151/14 151/31

CHECK1 4500 89/48 L

CHECK2 4504 89/56 90/01 L

CHEK 526 13/32 15/48 21/31 35/25 40/39

15/06 L 18/10 31/17 38/51 64/05

CIO 4213 82/06 L 84/34 85/31 90/06 127/29 128/08 166/18

83/31 85/04 86/04 127/11 127/38 135/51

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 197

SYMBOLIC REFERENCE TABLE.

CIOWAIT 4212 82/04 L 82/19

CLKCALL 5742 122/28 122/51 L

CLKWD 235 122/31 S 122/36 122/54 122/55 D

CLOSEOUT 4341 14/01 85/35 85/40 L 85/47 135/49

CLX 7047 143/27 L 143/48

CLZ 7302 150/04 150/33 L

CMPLQ 10522 178/56 L 180/36

CNVTQ 5532 116/06 L 181/06

CODELINK 214 4/18 L 95/47 187/25

COLS 247 4/41 L 170/07 170/12 S 171/16 171/22 S 171/38 S

COMPB7 244 4/38 L 97/51 168/08 168/35 S 178/42 S 186/56 S

COMPQ 5373 112/06 L 181/09 181/10

CONCAT 1165 11/11 26/57 L

CONCRD 10234 171/03 173/28 L

CONFIX 10243 173/41 L 174/36

CONHEAD 10236 173/33 L

CONTIX 10240 173/36 L 174/08 174/12 174/18

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 198

SYMBOLIC REFERENCE TABLE.

COUNT 2 180/29 D 180/38 180/43 D 180/48 180/54 D 181/06 181/13 D 181/23

180/29 180/38 D 180/43 180/48 D 180/54 181/06 D 181/13 181/23 D

180/29 D 180/38 180/43 D 180/48 180/55 D 181/06 181/13 D 181/23

180/29 180/38 D 180/43 180/49 D 180/55 181/07 D 181/13 181/23 D

180/29 D 180/38 180/44 D 180/49 180/55 D 181/07 181/13 D 181/23

180/29 180/38 D 180/44 180/49 D 180/55 181/07 D 181/13 181/23 D

180/29 D 180/38 180/44 D 180/49 180/55 D 181/07 181/13 D 181/23

180/29 180/39 D 180/44 180/49 D 180/55 181/07 D 181/13 181/23 D

180/29 D 180/39 180/44 D 180/49 180/55 D 181/07 181/13 D 181/23

180/29 180/39 D 180/44 180/49 D 180/55 181/07 D 181/13 181/23 D

180/29 D 180/39 180/44 D 180/49 180/56 D 181/07 181/13 D 181/23

180/29 180/39 D 180/44 180/49 D 180/56 181/07 D 181/13 181/24 D

180/30 D 180/39 180/45 D 180/49 180/56 D 181/07 181/14 D 181/24

180/30 180/39 D 180/45 180/49 D 180/56 181/07 D 181/14 181/24 D

180/30 D 180/39 180/45 D 180/49 180/56 D 181/07 181/14 D 181/24

180/30 180/39 D 180/45 180/50 D 180/56 181/07 D 181/14 181/24 D

180/30 D 180/39 180/45 D 180/50 180/56 D 181/07 181/14 D 181/24

180/30 180/39 D 180/45 180/50 D 180/56 181/08 D 181/14 181/24 D

180/30 D 180/39 180/45 D 180/50 180/56 D 181/08 181/14 D 181/24

180/30 180/39 D 180/45 180/50 D 180/56 181/08 D 181/14 181/24 D

180/31 D 180/39 180/45 D 180/50 180/56 D 181/08 181/14 D 181/24

180/31 180/39 D 180/45 180/50 D 180/56 181/08 D 181/14 181/25 D

180/31 D 180/39 180/45 D 180/50 180/57 D 181/08 181/15 D 181/25

180/31 180/39 D 180/45 180/50 D 180/57 181/08 D 181/15 181/25 D

180/31 D 180/39 180/45 D 180/50 180/57 D 181/08 181/15 D 181/25

180/31 180/40 D 180/45 180/50 D 180/57 181/08 D 181/15 181/25 D

180/31 D 180/40 180/45 D 180/50 180/57 D 181/08 181/15 D 181/25

180/31 180/40 D 180/45 180/50 D 180/57 181/09 D 181/15 181/25 D

180/32 D 180/40 180/45 D 180/50 180/57 D 181/09 181/15 D 181/25

180/32 180/40 D 180/45 180/51 D 180/57 181/09 D 181/15 181/25 D

180/32 D 180/40 180/46 D 180/51 180/57 D 181/09 181/16 D 181/25

180/32 180/40 D 180/46 180/51 D 180/57 181/09 D 181/16 181/26 D

180/32 D 180/40 180/46 D 180/51 181/01 D 181/09 181/16 D 181/26

180/32 180/40 D 180/46 180/51 D 181/01 181/09 D 181/16 181/26 D

180/32 D 180/40 180/46 D 180/51 181/01 D 181/09 181/16 D 181/26

180/32 180/40 D 180/46 180/51 D 181/01 181/09 D 181/16 181/26 D

180/32 D 180/40 180/46 D 180/51 181/01 D 181/09 181/16 D 181/26

180/32 180/40 D 180/46 180/51 D 181/01 181/09 D 181/16 181/26 D

180/33 D 180/40 180/46 D 180/51 181/01 D 181/09 181/16 D 181/26

180/33 180/40 D 180/46 180/51 D 181/01 181/10 D 181/16 181/27 D

180/33 D 180/40 180/46 D 180/51 181/01 D 181/10 181/16 D 181/27

180/33 180/41 D 180/46 180/51 D 181/01 181/10 D 181/16 181/27 D

180/33 D 180/41 180/46 D 180/51 181/04 D 181/10 181/16 D 181/27

180/33 180/41 D 180/46 180/52 D 181/04 181/10 D 181/16 181/27 D

180/33 D 180/41 180/46 D 180/52 181/04 D 181/10 181/17 D 181/27

180/33 180/41 D 180/46 180/52 D 181/04 181/10 D 181/17 181/27 D

180/33 D 180/41 180/46 D 180/52 181/04 D 181/10 181/17 D 181/27

180/33 180/41 D 180/46 180/52 D 181/04 181/10 D 181/17 181/27 D

180/33 D 180/41 180/47 D 180/52 181/04 D 181/10 181/17 D 181/27

180/33 180/41 D 180/47 180/52 D 181/04 181/10 D 181/17 181/28 D

180/34 D 180/41 180/47 D 180/52 181/04 D 181/10 181/18 D 181/28

180/34 180/41 D 180/47 180/52 D 181/04 181/10 D 181/18 181/28 D

180/34 D 180/41 180/47 D 180/52 181/04 D 181/10 181/18 D 181/28

180/34 180/41 D 180/47 180/52 D 181/04 181/11 D 181/18 181/28 D

180/34 D 180/41 180/47 D 180/52 181/04 D 181/11 181/18 D 181/28

180/34 180/41 D 180/47 180/52 D 181/04 181/11 D 181/18 181/28 D

180/34 D 180/41 180/47 D 180/52 181/05 D 181/11 181/19 D 181/28

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 199

SYMBOLIC REFERENCE TABLE.

180/34 180/42 D 180/47 180/53 D 181/05 181/11 D 181/19 181/29 D

180/36 D 180/42 180/47 D 180/53 181/05 D 181/11 181/19 D 181/29

180/36 180/42 D 180/47 180/53 D 181/05 181/11 D 181/19 181/29 D

180/36 D 180/42 180/47 D 180/53 181/05 D 181/11 181/19 D 181/29

180/36 180/42 D 180/47 180/53 D 181/05 181/11 D 181/19 181/29 D

180/36 D 180/42 180/47 D 180/53 181/05 D 181/11 181/20 D 181/29

180/36 180/42 D 180/47 180/53 D 181/05 181/11 D 181/20 181/29 D

180/36 D 180/42 180/47 D 180/53 181/05 D 181/11 181/20 D 181/29

180/36 180/42 D 180/47 180/53 D 181/05 181/11 D 181/20 181/30 D

180/36 D 180/42 180/48 D 180/53 181/05 D 181/11 181/20 D 181/30

180/36 180/42 D 180/48 180/53 D 181/05 181/12 D 181/20 181/30 D

180/36 D 180/42 180/48 D 180/53 181/06 D 181/12 181/21 D 181/30

180/36 180/42 D 180/48 180/54 D 181/06 181/12 D 181/21 181/30 D

180/36 D 180/42 180/48 D 180/54 181/06 D 181/12 181/21 D 181/30

180/36 180/42 D 180/48 180/54 D 181/06 181/12 D 181/21 181/30 D

180/36 D 180/42 180/48 D 180/54 181/06 D 181/12 181/21 D 181/30

180/36 180/42 D 180/48 180/54 D 181/06 181/12 D 181/21 181/30 D

180/38 D 180/42 180/48 D 180/54 181/06 D 181/12 181/22 D 181/30

180/38 180/43 D 180/48 180/54 D 181/06 181/12 D 181/22 181/31 D

180/38 D 180/43 180/48 D 180/54 181/06 D 181/12 181/22 D 181/31

180/38 180/43 D 180/48 180/54 D 181/06 181/12 D 181/22 181/31 D

180/38 D 180/43 180/48 D 180/54 181/06 D 181/12 181/22 D 181/31

180/38 180/43 D 180/48 180/54 D 181/06 181/13 D 181/22 181/31 D

180/38 D 180/43 180/48 D 180/54 181/06 D 181/13 181/23 D 181/31

CO1 4343 85/42 L 85/46

CPERW 250 4/42 L 146/05 S 147/05 S 148/05 S 149/06 S 151/17 151/28 S 151/34

CTSFSSR 1237 28/11 28/42 L

CTSFSS1 1217 28/01 L 28/05

CTSFSS2 1221 28/02 28/06 L

CTSFSS3 1223 28/09 28/11 L

CTSFSS9 1242 28/45 28/51 L

CTY 14 3/40 D 13/22 98/21 178/11

CZB 4264 84/03 L 84/06 89/47 171/46

CZB1 4265 84/04 L 84/09

CZB2 4267 84/09 L 84/11

DATAQ 6362 134/05 L 180/43

DATATYP 1 4/02 D 133/19

DATAWD 244 8/20 D 43/21 S 43/43

DATA2 1742 43/08 43/13 L

DATA3 1745 43/22 L 43/32

DATA4 1752 43/34 L 43/38

DATA5 1755 43/33 43/39 L

DATCALL 5705 120/52 121/30 L

DATE 10454 175/47 L 184/12 S

DATWD 235 120/55 S 121/03 121/33 121/34 D

DCHEK 1027 11/09 23/23 D

DEFINEQ 5316 110/03 L 181/11

DESTACK 7357 152/35 L 153/32 153/40 154/02 154/11

DIGIT 731 20/06 20/32 20/41 L

DIGIT1 737 20/54 L 21/04

DIGIT2 741 20/43 20/57 L

DIGIT3 742 20/47 21/02 L

DIGIT4 735 20/46 20/48 L

DIGIT6 740 20/56 L 21/03

DIV 1120 11/24 25/31 L

DIVS 274 9/08 D 25/37

DIV1 1125 25/35 25/40 L

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 200

SYMBOLIC REFERENCE TABLE.

DOL 1453 11/28 35/09 L

DOLPM 6000 35/09 80/03 D

DORF 1733 41/34 42/52 L

DTQ 6234 130/08 L 180/46

DTY 12 3/38 D 43/39 43/55 129/32

DTYPWD 247 8/23 D 129/48 S

DUMMY1 1175 27/20 D

DUMMY2 1176 27/21 D

ECALL 11111 183/57 184/06 L

EFRWQ 6151 128/18 L 180/48 180/49 180/50 180/51

END 521 11/37 14/01 L

ENDBCD 7653 161/26 161/33 L

ENDEXPM 1624 16/37 23/08 32/31 35/52 80/06 D 105/20

ENDL 4475 88/01 88/17 88/36 89/01 89/20 89/37 L

88/06 88/28 88/47 89/09 89/31

ENTER 2730 34/02 68/08 L 68/10 70/35 71/21 74/47 76/29

ENTERA 2724 68/01 L 68/03 71/36 72/38 73/34 73/45 74/28

ENTERX6 3073 71/51 72/29 72/49 76/51 77/12

72/08 72/33 L 75/31 76/55 77/53

ENTER1 2732 68/04 68/06 68/11 L

EOIQ 5757 123/33 L 180/55

EORLQ 6163 128/42 L 180/47

EQQ 5046 102/23 L 181/17 181/18 181/19 181/20 181/21 181/22

ERRACT 7756 141/08 165/12 L

ERRACT1 7754 141/06 165/08 L

ERRACT2 7755 141/04 165/10 L

ERRACT3 7757 141/02 165/14 L

ERRCND2 7766 162/07 165/28 L

ERRLBL 7773 160/53 165/38 L

ERRLBL2 7771 160/56 165/34 L

ERRLBL3 7772 161/07 165/36 L

ERRORD 3413 188/39 189/05 L

ERRORG 275 10/03 L

ERROR01 3343 187/27 L 187/39

ERROR02 3345 187/32 L 187/38

ERROR03 3347 187/34 187/36 L

ERROR10 3351 187/32 187/40 L

ERROR11 3352 187/42 L 187/49

ERROR12 3354 187/45 187/47 L

ERROR20 3355 187/44 187/50 L

ERROR205 3357 187/56 L 188/04

ERROR206 3361 187/57 188/05 L

ERROR21 3370 188/24 L 188/28

ERROR30 3377 188/39 L 188/51

ERROR31 3400 188/42 L 188/47

ERROR40 3403 187/24 188/49 L

ERR1 276 10/06 L

ERR10 307 10/15 L 13/48 44/21

ERR11 310 10/16 L

ERR13 311 10/17 L 29/28

ERR14 312 10/18 L 43/51

ERR15 313 10/19 L

ERR16 314 10/20 L

ERR17 315 10/21 L 47/16

ERR18 1247 29/09 L 63/16 87/39

ERR19 316 10/22 L 12/16

ERR2 277 10/07 L 20/45 20/57 21/05

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 201

SYMBOLIC REFERENCE TABLE.

ERR20 317 10/23 L 102/34 107/08 114/43 126/29 127/41 130/43 135/18

99/28 103/15 110/10 116/09 126/54 128/21 131/54 178/02

100/01 104/44 112/09 119/07 127/23 128/46 134/12

100/40 104/50 113/52 123/03 127/32 130/12 134/45

ERR21 320 10/24 L 43/57

ERR22 321 10/25 L 44/10

ERR23 322 10/26 L 44/24

ERR24 323 10/27 L 75/10 132/02

ERR25 324 10/28 L 40/28 45/21

ERR26 325 10/29 L 45/19

ERR27 326 10/30 L 64/41 104/56

ERR28 327 10/31 L 42/55

ERR29 330 10/32 L 103/20 112/14 118/50 124/43 125/06 127/54 134/26

99/35 107/13 113/57 119/14 124/44 125/11 131/38 135/21

103/06 107/31 114/56 124/38 124/46 127/49 131/44 178/08

ERR3 300 10/08 L 25/40

ERR30 331 10/33 L 132/13 132/16 132/22 132/28 132/31 132/32

ERR31 332 10/34 L 133/13 133/50

ERR32 274 9/03 L 9/05 9/07 9/09 25/26 26/15

9/04 9/06 9/08 25/25 26/14

ERR34 507 13/23 13/35 L

ERR35 333 10/35 L 123/06 126/57 127/26 127/35 128/01 128/24

ERR36 334 10/36 L 126/38

ERR37 335 10/37 L 26/51 26/52

ERR38 336 10/38 L 26/38 26/47

ERR39 337 10/39 L 116/45 116/56

ERR4 301 10/09 L 37/08

ERR40 340 10/40 L 123/14 124/24 124/55 125/23 135/26

ERR41 341 10/41 L 126/17 126/19

ERR42 342 10/42 L 100/08 100/11 100/13

ERR43 343 10/43 L 117/10 117/17 117/18

ERR44 344 10/44 L 107/24 107/34 107/36 107/55 108/07 108/10 108/14

ERR47 665 19/12 L 101/15 101/18 102/05

ERR48 345 10/45 L 118/26

ERR49 346 10/46 L 117/21 118/16

ERR5 302 10/10 L

ERR50 347 10/47 L 118/36

ERR52 350 10/48 L 62/52

ERR53 351 10/49 L 115/27 115/44

ERR55 352 10/50 L 85/16

ERR56 353 10/51 L 119/26

ERR6 303 10/11 L 37/19

ERR7 304 10/12 L 37/36

ERR8 305 10/13 L 41/16

ERR9 306 10/14 L 12/57

EXIT 3273 69/22 70/46 78/21 L

EXIT1 3274 78/21 78/23 L

EXP 1130 11/25 25/49 L

EXPCHK 1027 11/10 23/24 D

EXPPM 1645 16/31 17/34 23/04 35/45 80/08 D

EXPS 274 9/09 D 25/55 25/56

EXP1 1135 25/53 25/57 L

EXP2 1146 26/02 26/22 L

EXP3 1140 26/07 L 26/18

EXP4 1145 25/57 26/20 L

EXP8 1147 26/03 26/24 L

E0 3504 189/06 190/06 L

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 202

SYMBOLIC REFERENCE TABLE.

E1 3513 189/07 190/08 L

E10 3575 189/16 190/23 L

E11 3603 189/17 190/25 L

E12 3611 189/18 190/27 L

E13 3616 189/19 190/28 L

E14 3625 189/20 190/30 L

E15 3635 189/21 190/32 L

E16 3643 189/22 190/34 L

E17 3651 189/23 190/36 L

E18 3656 189/24 190/37 L

E19 3663 189/25 190/38 L

E2 3522 189/08 190/10 L

E20 3670 189/26 190/39 L

E21 3705 189/27 190/43 L

E22 3714 189/28 190/45 L

E23 3721 189/29 190/46 L

E24 4102 189/30 191/17 L

E25 3726 189/31 190/47 L

E26 3734 189/32 190/49 L

E27 3743 189/33 190/51 L

E28 3750 189/34 190/52 L

E29 3755 189/35 190/53 L

E3 3532 189/09 190/12 L

E30 3763 189/36 190/54 L

E31 3767 189/37 190/55 L

E32 3773 189/38 190/56 L

E33 4107 189/39 191/18 L

E34 4113 189/40 191/19 L

E35 4000 189/41 190/57 L

E36 4006 189/42 191/03 L

E37 4017 189/43 191/05 L

E38 4022 189/44 191/06 L

E39 4027 189/45 191/07 L

E4 3536 189/10 190/13 L

E40 4034 189/46 191/08 L

E41 4043 189/47 191/10 L

E42 4116 189/48 191/20 L

E43 4053 189/49 191/12 L

E44 4126 189/50 191/22 L

E45 4132 189/51 191/23 L

E46 4136 189/52 191/24 L

E47 4142 189/53 191/25 L

E48 4057 189/54 191/13 L

E49 4067 189/55 191/15 L

E5 3561 189/11 190/19 L

E50 4074 189/56 191/16 L

E51 4146 189/57 191/26 L

E52 4153 190/01 191/27 L

E53 4156 190/02 191/28 L

E54 4164 190/03 191/29 L

E55 4177 190/04 191/31 L

E56 4205 190/05 191/32 L

E6 3545 189/12 190/15 L

E7 3553 189/13 190/17 L

E8 3677 189/14 190/41 L

E9 3567 189/15 190/21 L

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 203

SYMBOLIC REFERENCE TABLE.

FAIL 465 12/56 L 38/11 87/29 113/34 114/14 128/35

34/17 38/13 101/04 113/36 114/18 131/22

37/52 45/08 110/52 114/01 123/08

FAILPM 1744 80/17 D 180/32

FAIL1 467 13/01 13/03 L

FAIL2 471 13/06 L 13/10

FAIL3 475 13/08 13/09 13/12 L

FATBUMP 354 10/52 L 152/54 155/22

FENCEPM 1745 80/18 D 180/33

FETHEAD 260 4/53 L 85/41 123/23

FETLOOK 5747 123/05 123/12 L 125/18 126/56 127/25 127/34 127/57 128/23

FETLOOK1 5753 123/24 L 123/31

FIELD 1762 42/53 43/50 L

FIELDLN 203 4/08 L 47/12 135/28 136/01 182/05 S 184/47 S 186/01

FIELD1 1767 44/04 L 44/09

FIELD2 1772 44/07 44/11 L

FILEWD 11065 183/25 L

FLDCALL 2105 47/21 47/31 L 184/51

FLDINCR 1000 2/17 D 47/11 168/30 168/40 168/42

FLDLM 215 4/22 L 47/14 183/19 S 184/44

FLDSTAT 2106 47/20 S 47/31 47/32 L 184/50 S

FLDTYP 2 4/03 D 132/47

FLSIX 2674 64/44 65/31 L

FLVQ 6247 130/39 L 180/45

FREELEN$ 15 180/09 D 180/19 180/29 D 180/31 180/32 D 180/34

180/15 180/19 D 180/30 180/31 D 180/33 180/34 D

180/15 D 180/29 180/30 D 180/32 180/33 D 184/40

FREESVD 2524 44/31 45/36 60/06 61/03 L 61/07 61/22 61/29 62/26

FREEZEQ 6460 136/26 L 180/38

FRSTWRD 211 4/14 L 98/28 168/11 169/07 S 178/20 S

FSVDSW 2532 61/15 61/17 D

FSVDWD 2531 61/05 61/17 L

GETB 4226 82/47 L 83/21 87/40 88/18 89/10 171/44 173/39

82/51 84/08 87/55 88/37 89/21 172/24 174/24

83/17 84/10 88/07 88/48 171/20 172/40 174/26

GETB01 4231 82/52 L 83/37

GETB02 4233 82/48 82/56 L 83/32

GETB03 4237 83/09 L 83/50

GETB04 4241 83/14 L 83/35

GETB05 4242 82/53 83/16 L

GETB06 4244 83/21 L 83/25

GETB07 4246 83/02 83/26 L

GETB08 4232 82/55 L 83/28

GETB09 4253 83/13 83/33 L

GETB12 4255 83/30 83/36 L

GETB56 4256 83/08 83/38 L

GETB57 4260 83/40 83/42 L

GETLBL 7517 157/06 L 157/29 162/09

GETLBL1 7516 157/04 L 157/10 157/16

GETLBL2 7526 157/19 157/22 L

GETLBL3 7531 157/15 157/30 L

GETNEXT 10027 167/09 L 170/03

GETNEXT1 10031 167/16 L 167/22

GETNEXT2 10034 167/17 167/23 L

GETSTAK 2112 46/29 47/44 L 48/42 54/04 68/51

GETVAR 7467 156/01 L 156/10 156/13 156/19 157/37 159/17 159/41

GIVENM 7555 157/56 158/25 L 158/37 158/43 159/39

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 204

SYMBOLIC REFERENCE TABLE.

GIVENM1 7562 158/26 158/38 L

GN 11066 182/08 182/09 182/14 183/26 L 183/52 183/54

GN1 11071 183/30 L 183/42 183/44

GN2 11073 183/31 183/34 L

GN3 11075 183/39 L 183/46

GN4 11077 183/38 183/43 L

GN5 11104 183/49 183/51 183/53 L

GOF 474 11/49 13/03 13/11 L

GOS 454 11/48 12/30 L

GOTO 447 11/50 12/19 L 12/30 13/04 13/28

GOTOC 500 11/52 13/20 L

GOTOC1 502 13/25 L 13/52 13/56

GOTOT 504 11/51 13/30 L

GOTOT1 513 13/38 13/41 L

GOTO1 451 12/19 12/20 12/22 L 13/13 42/43

GRBCOLL 2147 48/27 49/08 L 50/12 178/09

GRBFW 2200 49/21 49/28 49/47 50/10 L 50/37 51/32 51/52

GRBIO 2236 51/19 L

GRBLINK 2204 49/37 50/20 L 50/22 50/36 51/01 51/22

GRBL1 2205 50/21 L 50/40

GRBL2 2206 50/23 L 50/38

GRBL3 2213 50/34 50/37 L

GRBL4 2215 50/23 50/39 L

GRBR 2245 51/16 51/35 L

GRBSCAN 2216 49/52 50/03 50/43 L 50/44

GRBSNGL 2247 51/19 51/35 51/40 L 51/42 51/53

GRBSS 2237 51/10 51/14 51/21 L

GRBS1 2217 50/44 L 50/57 51/12 51/23 51/36

50/52 51/03 51/18 51/33

GRBS2 2227 50/53 51/04 L

GRBS3 2230 50/46 51/06 L

GRBS4 2243 51/02 51/32 L

GRB1 2151 49/12 L 49/15

GRB2 2175 49/31 49/57 L

GRB3 2160 49/23 49/29 L 49/35 49/38 49/48 49/56

GRB4 2171 49/32 49/49 L

GRB5 2177 50/09 L 50/13

GRB6 2201 50/11 L 50/15

GSB1 2143 48/22 S 48/33 48/47 L

GSB2 2144 48/23 S 48/34 48/48 L

GSB3 2145 47/49 S 48/37 48/49 L

GSB4 2146 47/50 S 48/38 48/50 L

GSRET 2131 48/15 48/19 L

GSX2 2107 47/52 S 48/41 48/44 D

GSX6 2110 47/45 S 48/29 48/45 D

GSX7 2111 47/46 S 48/30 48/46 D

GS1 2120 47/55 L 47/57

GS2 2126 48/08 48/11 L

GS3 2132 48/10 48/19 48/20 L

GTTSW 507 13/31 13/34 D

GTTWD 506 13/30 13/34 L

HALF 2404 56/17 L 57/12

HARO 10436 170/31 175/33 L

HASHLN 71 2/26 D 2/28 95/09

HASHLWD 110 2/25 L 66/22

HASHTBL 111 2/27 D 66/34 95/11

HAV0 4516 91/12 L 93/01

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 205

SYMBOLIC REFERENCE TABLE.

HAV1 4530 91/11 91/42 L

HAV2 4543 92/17 L

HAV3 4556 92/49 L

HAV4 4524 91/30 L

HAV5 4537 92/05 L

HAV6 4552 92/37 L

HAV8 4533 91/50 L

HAV9 4546 92/25 L

HCOLS 10434 165/44 170/04 170/10 S 175/31 L

HD1 10304 175/02 L 175/07

HEADING 10274 143/01 172/56 174/40 L 175/12

HERRMES 10433 170/19 175/30 L

HEXAGON 5407 112/39 L 112/48

HEXALL 5404 112/28 112/30 L

HEXAM 5427 113/24 L 113/32 113/42 113/47

HEXCELL 5441 113/30 113/46 L

HEXCISE 5437 113/28 113/43 L

HEXCITE 5426 113/22 L 113/45

HEXDONE 5462 114/23 114/26 L

HEXED 5402 112/25 L 112/34

HEXIT 5452 114/08 L 114/22

HEXNEXT 5451 114/06 L 114/25

HEXOUT 5460 114/12 114/23 L

HEXSTAR 5415 112/54 112/56 L

HEXTANT 5442 113/43 113/48 L

HEXTERN 5424 112/12 113/17 L

HEXTINT 5447 113/55 114/02 L

HEXUDE 5377 112/16 L 113/49

HFORGET 10112 170/25 170/30 L

HLOOP 10110 170/27 L 170/29

HSTOP 10116 170/37 L 170/41

HYPHEN 10432 170/23 175/29 L

H01 4522 91/12 91/18 91/25 L

H11 4535 91/42 91/50 91/57 L

H21 4550 92/17 92/25 92/32 L

H31 4560 92/49 92/56 L

H41 4526 91/30 91/37 L

H51 4541 92/05 92/12 L

H61 4554 92/37 92/44 L

ICX1X6 2331 52/09 54/16 L 54/38 55/36 171/05 174/44 187/52 188/17

IC1 2333 54/18 54/20 L

IC2 2334 54/23 L 54/37

ID 7143 137/16 137/20 137/24 137/28 137/32 137/36 137/40

137/17 137/21 137/25 137/29 137/33 137/37 137/41

137/18 137/22 137/26 137/30 137/34 137/38 146/01 L

137/19 137/23 137/27 137/31 137/35 137/39

IDC 1 137/11 D 137/20 137/25 137/30 137/35 137/40 137/45 137/50

137/16 137/21 137/26 137/31 137/36 137/41 137/46 137/51

137/17 137/22 137/27 137/32 137/37 137/42 137/47 138/05

137/18 137/23 137/28 137/33 137/38 137/43 137/48

137/19 137/24 137/29 137/34 137/39 137/44 137/49

ID1 7147 146/10 L 146/16

ID2 7152 146/15 L 146/22

ID3 7155 146/09 146/21 L

ID4 7157 146/20 146/23 L

IFQ 4735 99/24 L 181/31

INDCSW 2630 64/04 64/07 D

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 206

SYMBOLIC REFERENCE TABLE.

INDCWD 2627 64/03 64/07 L

INDRCN 1561 11/35 38/17 L

INDRCT 2624 38/17 64/02 L 64/27 108/20 126/05

38/21 64/13 64/32 109/05 126/30

INDRCV 1563 11/36 38/21 L

INDRX 2645 64/21 64/35 L 64/43 65/28 106/43 108/42

INDR1 2637 64/17 64/20 L

INDR2 2656 64/56 L

INDR3 2661 65/03 65/06 L

INDR5 2663 65/07 65/09 L

INDR6 2664 65/12 L 65/19

INDR7 2670 65/15 65/20 L

INDR8 2642 64/22 64/26 L

INFAIL 212 4/15 L 12/56 13/17 S 13/27 S 42/21 42/26 S 45/02 S

INFET 261 4/54 L 170/48 171/43 172/23 173/38 174/25 182/37 184/56

95/16 171/19 171/50 172/37 174/23 180/13 184/29 S

INIT1 11144 186/06 L 186/20 186/38

INIT2 11157 186/37 L 186/51

INIT3 11160 186/22 186/39 L

INIT4 11164 186/14 186/52 L

INPUT 4364 60/08 75/44 87/10 L 90/02 90/05 90/07

INSKIP 7751 152/05 154/49 165/03 L 165/48

INSKIP1 7744 164/50 L 165/04

INT 7214 137/42 137/44 137/46 137/48 137/50 148/01 L

137/43 137/45 137/47 137/49 137/51

INTTYP 31 3/53 D 149/19

INTY 15 3/41 D 62/35 75/07 125/13 126/16 126/35 180/13

INT1 7223 148/08 148/13 L

INT2 7226 148/19 L 148/29

INT3 7232 148/28 L 148/43

INT4 7234 148/18 148/31 L

INT5 7237 148/37 L 148/53

INT6 7242 148/36 148/44 L

INT7 7246 148/33 148/54 L

INT8 7254 149/03 149/09 L

IOQ 6073 126/52 L 180/52 180/53 180/54

ITOS 2255 16/09 19/31 27/32 35/30 52/30

18/15 21/42 31/28 52/05 L 64/14

ITOSF 2364 27/47 55/34 L 62/55 103/08 111/52 119/15 131/46

33/04 56/11 99/36 111/23 118/52 131/40

ITOSFTP 2401 15/19 38/57 56/10 L 105/01

ITOSF1 2372 55/40 55/49 L

ITOSF2 2373 55/52 L 56/09

ITOSF3 2375 55/53 55/55 L

ITOSF4 2363 55/30 L 55/57

ITOS1 2262 52/12 52/15 L

ITOS2 2263 52/16 L 52/21

ITOS3 2264 52/14 52/18 L

ITOS4 2266 52/20 52/22 L

ITY 7 3/35 D 41/05 99/34 103/19 112/13 118/49 129/32

19/28 62/02 100/47 104/54 113/56 119/13 131/37

19/39 62/15 100/48 111/20 114/35 124/42 131/43

36/41 62/51 103/05 111/49 114/55 129/29

ITYWD 1667 40/47 41/05 L 99/41 101/38 122/47 128/29 130/34 134/37

JPB1 453 123/11 D 123/27 123/29

KC2 10362 165/28 175/21 L

KE 10312 165/12 175/13 L

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 207

SYMBOLIC REFERENCE TABLE.

KE1 10317 165/08 175/14 L

KE2 10324 165/10 175/15 L

KE3 10331 165/14 175/16 L

KL 10413 165/39 175/26 L

KL2 10420 165/34 175/27 L

KL3 10425 165/36 175/28 L

KO1 10367 165/20 175/22 L

KO2 10374 165/22 175/23 L

KO3 10401 165/24 175/24 L

KO4 10406 165/26 175/25 L

KS 10336 165/16 175/17 L

KSKM 7774 165/09 165/13 165/17 165/21 165/25 165/29 165/33 165/37

165/11 165/15 165/19 165/23 165/27 165/31 165/35 165/40 L

KS1 10343 165/18 175/18 L

KS2 10355 165/30 175/20 L

KS3 10350 165/32 175/19 L

LASTCHAR 7326 146/24 147/29 149/09 151/30 L 151/38 151/45

LBLLINK 223 4/32 L 96/45 156/51 178/46 S 187/18 S

LBLTYP 34 3/50 D 13/41 108/41 156/37 180/20 180/23 180/26

LC 251 4/43 L 172/52 172/54 S 173/34 S 174/34 S 175/11 S

LC0 7330 151/33 L 151/39

LC1 7334 151/32 151/39 L

LEAVE 10166 167/23 167/27 171/35 172/02 172/06 L 172/17

LENFAIL 225 8/05 D 34/05 69/11 69/21 S 71/37

LENPM 1670 80/10 D 99/48

LGTQ 6303 131/50 L 180/44

LINES 70 2/34 D 174/11 175/10

LIT 7164 138/10 138/14 147/01 L

LITPM 2046 17/06 22/12 29/46 30/14 30/50 31/06 31/46 80/24 D

LITTERM 1 137/13 D 138/22

LITTYP 33 3/51 D 147/30

LIT1 7171 147/11 L 147/20

LIT2 7175 147/10 147/19 L 147/28

LIT3 7202 147/24 147/29 L 149/02

LIT4 7212 147/26 147/51 L

LOC 0 180/29 D 180/39 D 180/45 D 180/49 D 180/57 D 181/10 D 181/18 D 181/26 D

180/29 180/39 180/45 180/49 180/57 181/10 181/18 181/26

180/30 D 180/39 D 180/45 D 180/50 D 181/01 D 181/11 D 181/19 D 181/27 D

180/30 180/39 180/45 180/50 181/01 181/11 181/19 181/27

180/31 D 180/40 D 180/46 D 180/51 D 181/04 D 181/12 D 181/20 D 181/28 D

180/31 180/40 180/46 180/51 181/04 181/12 181/20 181/28

180/32 D 180/41 D 180/46 D 180/52 D 181/05 D 181/13 D 181/21 D 181/29 D

180/32 180/41 180/46 180/52 181/05 181/13 181/21 181/29

180/33 D 180/42 D 180/47 D 180/53 D 181/06 D 181/14 D 181/22 D 181/30 D

180/33 180/42 180/47 180/53 181/06 181/14 181/22 181/30

180/34 D 180/42 D 180/47 D 180/54 D 181/07 D 181/15 D 181/23 D 181/31 D

180/34 180/42 180/47 180/54 181/07 181/15 181/23 181/31

180/36 D 180/43 D 180/48 D 180/55 D 181/08 D 181/16 D 181/24 D

180/36 180/43 180/48 180/55 181/08 181/16 181/24

180/38 D 180/44 D 180/48 D 180/56 D 181/09 D 181/17 D 181/25 D

180/38 180/44 180/48 180/56 181/09 181/17 181/25

LOOPA 4414 87/54 88/03 L

LPAREN 7137 137/56 145/15 L

LPLP 4407 87/55 L 89/36

MARK 377777 2/32 D 33/23 73/55 160/03 180/24

4/23 44/20 105/31 180/21 180/27

MASK 5765 123/40 123/54 L

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 208

SYMBOLIC REFERENCE TABLE.

MASKM 4263 83/04 83/51 L 174/45

MAX 5766 123/41 123/55 L

MAXLNQ 6401 134/42 L 180/40 180/41 180/42

MAXSTAK 206 4/11 L 46/24 48/05 53/44 75/51 96/46 168/32 187/02 S

33/49 46/44 49/11 68/52 79/34 168/28 178/23

MAXSTAT 204 4/09 L 94/15 118/37 146/01 147/34 149/17 156/27 S 161/43

43/01 98/04 S 125/21 146/30 148/01 150/16 156/33 164/26

64/51 116/19 133/17 147/01 148/44 156/02 159/46 186/53 S

MCALL 3405 188/34 188/52 L

MCHEK 1027 11/08 23/22 D

MCOPTBL 357 11/01 L 11/10 11/18 11/26 11/34 11/42 11/50 164/45

11/02 11/11 11/19 11/27 11/35 11/43 11/51

11/04 11/12 11/20 11/28 11/36 11/44 11/52

11/05 11/13 11/21 11/29 11/37 11/45 11/53

11/06 11/14 11/22 11/30 11/38 11/46 12/38

11/07 11/15 11/23 11/31 11/39 11/47 96/14

11/08 11/16 11/24 11/32 11/40 11/48 158/29

11/09 11/17 11/25 11/33 11/41 11/49 164/02

MESSTER 3413 188/23 188/24 189/01 L

MFCHN 2065 46/52 L 47/29

MFCHN1 2066 46/54 L 47/01

MFLEN 2074 46/48 47/11 L

MFLEN1 2075 47/12 L 48/18

MFX2 2107 46/43 S 47/09 47/34 L 48/44

MFX6 2110 46/41 S 47/04 47/35 L 48/45

MFX7 2111 46/40 S 47/05 47/36 L 48/46

MINSTAK 207 4/12 L 42/57 46/05 98/06 S 118/39 133/25 168/36

42/22 44/50 64/56 117/35 125/28 168/07 S 178/24

MINSTAT 205 4/10 L 56/40 68/55 101/34 116/13 164/07 186/04

45/09 58/02 94/02 108/21 133/02 168/24

49/57 68/37 101/19 109/22 133/35 169/01

MKNULL 5340 110/53 L 123/09

MONTHS 5706 121/21 121/40 L

MORFREE 2057 28/38 53/23 62/21 79/03 88/43 105/45 112/55

39/22 54/46 63/31 87/41 88/54 106/30 113/06

39/37 55/26 70/41 88/02 89/05 108/32 121/50

46/39 L 55/54 71/06 88/13 89/16 109/16 121/56

47/10 56/31 74/37 88/24 89/27 109/25 126/09

48/17 S 58/08 78/48 88/32 89/33 109/38 132/56

MULT 1107 11/23 25/03 L

MULTS 274 9/07 D 25/09

MULT1 1114 25/07 25/12 L

MXLNGTH 216 4/23 L 29/05 61/53 61/56 87/36 134/10

NAME 1522 11/45 36/47 L

NC 1 137/12 D 137/43 137/45 137/47 137/49 137/51

137/42 137/44 137/46 137/48 137/50

NEWRULE 443 12/05 12/10 L 12/21 12/27 42/44

NEXT 2740 68/28 L 69/16

NEXTMIC 441 12/02 L 18/47 29/56 44/15 99/22 104/25 115/09 131/29

12/08 22/37 35/03 45/31 99/46 104/29 118/08 134/40

12/40 23/19 37/16 45/39 100/22 105/34 122/22 134/57

13/11 23/52 37/29 45/44 101/11 110/02 126/51 136/08

15/18 24/45 38/34 45/46 103/04 111/03 128/17 136/17

15/21 29/08 38/47 98/20 103/21 113/16 128/33

15/28 29/27 40/34 98/29 103/51 114/40 129/28

17/18 29/43 43/48 98/36 104/24 114/54 130/38

NEXT1 2741 68/31 L 70/52

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 209

SYMBOLIC REFERENCE TABLE.

NOEND 275 10/05 L 11/38

NOFAIL 476 11/53 13/16 L

NOHEX 5411 112/42 112/44 L

NOINPUT1 7033 143/07 L 143/44

NOINPUT2 7034 143/09 L 143/36 144/08 144/28 144/47 146/36 147/53 150/32

143/26 144/05 144/25 144/43 145/13 147/50 149/31

NOOP 441 11/02 12/08 D

NOTEJCT 10244 173/32 173/43 L

NOTSPCE 10262 173/44 174/17 L

NOT.ALT 7120 144/30 144/39 144/44 L

NOT.AND 7124 144/49 144/52 L

NOT.B.1 7067 143/56 L 144/17

NOT.EXP 7100 144/13 144/16 L

NOT.EXP1 7106 144/23 144/26 L

NOT.LFT 7134 145/08 145/11 L

NOT.OR 7126 144/53 144/56 L

NOT.RBR 7122 144/45 144/48 L

NOT.RYT 7132 145/04 145/07 L

NOT.UB 7073 143/46 144/06 L

NOT.XOR 7130 144/57 145/03 L

NTANYPM 2066 80/26 D 102/30

NTY 13 3/39 D 36/51 45/18

NULL 1513 11/40 36/28 L

NULL1 1515 36/33 L 36/45 36/54

NXTWRD 210 4/13 L 98/18 165/57 168/12 168/56 170/02 178/21 S

ONE 2405 56/18 L 56/54

ONETENTH 5531 56/55 115/50 116/05 L 150/01 150/41

OPECALL 5777 124/05 124/21 L

OPEN 5767 123/57 L 124/20 125/56 135/32 184/57 185/02

OPRACT 7351 152/04 152/23 L 154/48

OPRERR1 7762 152/17 165/20 L

OPRERR2 7763 152/23 165/22 L

OPRERR3 7764 154/18 165/24 L

OPRERR4 7765 152/16 165/26 L

OPRND 1565 11/46 38/24 L

OPRNDIN 2516 59/36 60/06 L

OPRNDOT 2521 59/37 60/11 L

OPRNDP 2512 59/33 59/50 L

OPRNDR1 2507 59/22 59/25 59/30 59/41 L

OPRNDR2 2510 59/43 L 60/17

OPRNDSW 2477 59/16 59/18 D

OPRNDWD 2476 59/07 59/18 L

OPSEXP 7777772 3/03 D 152/33 153/29 154/31

OPSINT 7777774 3/01 D 3/23

OPSLIT 7777775 2/57 D 3/22

OPSREAL 7777773 3/02 D 3/24 157/35 159/25

OPSSPEC 7777771 3/04 D 153/39 154/10 154/16 154/41

OPSVAR 7777776 2/56 D 3/21 154/14 156/12 159/36

OUTFET 267 4/53 10/52 172/47 180/17 184/35 S 188/22

4/57 L 95/25 175/03 182/43 185/01 188/50

OUTPUT 4512 62/46 91/01 L 93/06 119/36

OUTP2 7353 139/03 139/12 139/22 139/32 139/41 140/07 140/45 152/44

139/04 139/13 139/23 139/33 139/42 140/14 140/47 152/57

139/06 139/16 139/25 139/35 139/50 140/25 140/49

139/07 139/17 139/26 139/36 139/56 140/41 140/50

139/09 139/19 139/28 139/38 139/57 140/42 140/56

139/10 139/20 139/29 139/39 140/03 140/43 152/26 L

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 210

SYMBOLIC REFERENCE TABLE.

OUTST 7532 155/07 157/34 L 157/52 159/38

OUTST2 7535 157/38 L

OUTST3 7537 157/36 157/42 L

OUTST4 7541 157/48 L 158/17

OUTST5 7550 158/02 158/03 158/10 L 158/19

OUTST6 7552 158/14 158/16 L

OUTST7 7553 157/55 158/18 L

OUTST8 7547 158/09 L 158/23

OUTTY 16 3/42 D 75/09 124/48 126/18 126/37 180/17

OUTX1 7354 152/29 L 153/12 153/57 154/24

PAGE 10460 174/21 174/57 S 175/51 L

PAGENO 252 4/44 L 174/41

PARAM 1647 11/33 40/33 L

PASS1 7031 137/54 137/55 143/03 L 143/10 144/11

PASS2 7340 139/55 144/03 152/25 153/21 164/54 165/07

143/09 152/03 L 153/01 153/30 164/55

PASS3 7451 142/13 152/30 154/08 155/01 L 160/25 161/31 163/11

142/14 153/28 154/22 155/21 160/39 162/05

142/33 153/37 154/30 159/12 160/48 162/18

142/35 153/50 154/39 159/15 161/29 162/56

PASS3A 7466 155/03 155/15 155/28 L

PASS3B 7457 155/11 155/13 L

PASS4 7717 155/12 159/02 162/16 162/48 164/13 165/53

157/41 160/37 162/31 163/15 L 164/23 165/55

158/15 160/47 162/46 164/11 164/31

PASS4A 7724 164/12 L 164/32

PASS4B 7731 164/05 164/24 L

PASS4C 7726 164/06 164/14 L

PASS4D 7732 164/24 164/26 L

PATQ 4764 100/23 L 181/25 181/26 181/27 181/28 181/29

PATY 5 3/33 D 22/17 22/50

PB 4272 10/55 84/37 166/14 170/27 172/49 175/09

84/19 L 93/03 166/16 170/33 173/12 188/27

84/35 166/12 170/22 170/39 175/05 188/44

PB1 4276 84/25 84/27 L

PB2 4303 84/33 84/36 L

PB3 4271 84/16 L 84/30

PCHAIN 232 8/10 D 32/28 S 33/10 76/01

PETY 6 3/34 D 29/36 29/52 36/19 75/05 105/19

PIB 224 8/04 D 33/47 S 68/20 69/24 79/07

PIX 222 8/02 D 34/20 68/45 69/26 78/43

33/48 S 34/43 69/02 S 69/43 S 79/08 S

PIXREL 0 68/48 S 68/56 180/04 D

PM 1322 11/26 31/14 L

PMABT 1425 34/03 34/07 34/08 34/11 L 73/47

PMASB1 240 8/16 D 8/26 8/30 8/35 79/24 S 79/41

PMASB2 241 8/17 D 8/27 8/31 8/36 79/13 S 79/47

PMASB4 242 8/18 D 8/28 79/27 S 79/42

PMASX0 234 8/12 D 79/16 S 79/35

PMASX2 236 8/14 D 79/20 S 79/48

PMASX3 235 8/13 D 8/29 8/33 8/37 8/39 79/43 119/51 121/34

8/25 8/32 8/34 8/38 79/19 S 119/50 120/38 122/55

PMASX4 237 8/15 D 79/23 S 79/44

PMASX6 233 8/11 D 79/12 S 79/36

PMA5 245 8/21 D 33/35 S 34/15 34/55 68/43

PMBUMP 2743 68/12 68/36 L

PMBUMPR 2733 68/13 L 69/08

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 211

SYMBOLIC REFERENCE TABLE.

PMCHEK 636 11/06 18/08 L

PMCSF 646 18/20 18/22 L

PMCSF1 653 18/31 18/36 L

PMCSW 641 18/08 18/13 D

PMCWD 640 18/09 18/13 L

PMC1 654 18/18 18/39 L

PMC2 656 18/43 18/45 L

PMFA0 235 8/29 D 34/21 S 34/47

PMFA4 241 8/31 D 34/32 S 34/44

PMFHD 1451 34/50 35/05 L

PMFOUND 1431 34/18 L 70/03

PMFX4 240 8/30 D 34/31 S 34/39

PMF1 1433 34/22 L 34/42

PMF2 1444 34/22 34/47 L

PMSF 1344 31/23 32/07 L 35/34 105/05

PMSF1 1352 32/15 32/20 L

PMSSSI 1344 31/25 32/05 L 35/36

PMSTB1 240 8/26 D 75/38 S 75/45

PMSTB3 241 8/27 D 75/42 S 75/46

PMSTB4 242 8/28 D 75/41 S 75/48

PMSTX3 235 8/25 D 75/37 S 75/47

PMSW 1325 31/14 31/21 D

PMWD 1324 31/15 31/21 L

PM1 1353 31/16 31/27 31/29 32/23 L

PM1A 1362 32/42 L 32/45 32/50 32/55 33/01 33/09 33/15

PM1B 1363 32/43 L 32/49

PM1C 1367 32/47 32/50 L

PM1D 1376 32/57 33/10 L

PM1E 1377 33/11 L 33/16

PM1F 1356 32/31 L 33/31

PM2 1407 32/43 33/34 L

PM2A 1417 33/54 L 34/09

PM2B 1427 34/12 34/14 L

POPS 3027 71/01 L 76/22

POPS1 3031 71/05 71/07 L

POPS2 3032 71/07 71/09 L

POSPM 1675 80/11 D 99/50

POST0 4571 94/02 L 166/25 166/27

POST1 4572 94/04 L 94/09

POST10 4621 95/10 L 95/15

POST11 4623 95/13 95/15 L

POST11A 4631 94/20 95/34 L

POST11B 4636 95/49 95/51 L

POST11C 4641 95/56 96/03 L

POST12 4643 96/11 L 96/29

POST13 4650 96/23 96/25 L

POST14 4651 96/18 96/25 96/27 L 96/35 96/41 96/43

POST15 4652 96/17 96/31 L

POST16 4656 96/32 96/42 L

POST17 4657 96/12 96/45 L

POST18 4660 96/47 L 97/13

POST18A 4663 96/57 L

POST19 4665 97/04 L 97/10

POST2 4574 94/06 94/10 L

POST20 4667 96/57 97/03 97/11 L 97/40 97/42 97/47

POST21 4670 96/54 97/14 L

POST22 4671 97/17 L 97/28

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 212

SYMBOLIC REFERENCE TABLE.

POST22A 4675 97/14 97/29 L

POST22B 4676 97/32 L 97/39

POST23 4701 97/22 97/42 L

POST24 4703 96/48 97/49 L

POST25 4704 97/52 L 97/57

POST26 4711 98/10 L 98/16

POST27 4714 98/10 98/18 L

POST28 4722 98/32 L 98/34

POST3 4600 94/21 L 94/48 94/57

POST4 4601 94/25 L 95/07

POST5 4603 94/27 94/29 L

POST5A 4610 94/40 94/42 L

POST5B 4611 94/34 94/45 L

POST6 4613 94/44 94/49 L 94/54

POST7 4615 94/26 94/51 94/55 L

POST8 4616 94/35 95/01 L

POST9 4620 94/25 95/09 L

PRD 1454 11/27 35/12 L

PRDPM 1777 35/12 80/02 D

PRDSW 1464 35/22 35/27 D

PRDWD 1463 35/23 35/27 L

PRD1 1455 35/07 35/10 35/13 L

PRD2 1460 35/16 35/20 L

PRD3 1475 35/46 L 35/51

PRD4 1503 35/15 35/31 35/37 36/07 L

PRD5 1477 35/48 35/52 L

PRE1 11115 183/27 184/10 L

PRE2 11116 184/10 184/12 L

PRE2.1 11120 184/13 184/15 L

PRE2.5 11137 184/43 184/56 L

PRE3 11141 186/01 L

PRE4 7030 143/02 L 143/04 178/54 187/20

PRE5 7027 143/01 L 187/21

PRGBASE 227 4/36 L 157/17 162/24 162/57 178/37 S

95/34 161/08 162/32 168/48 187/04 S

PRIORA 12 3/08 D 142/08 142/09 142/28 142/31 142/32

PRIORB 11 3/09 D 142/17 142/18 142/19 142/20 142/21 142/22 142/27

PRIORC 10 3/10 D 142/25 142/26

PRIORD 7 3/11 D 142/15 142/16 142/23 142/24

PRIORE 6 3/12 D 142/29

PRIORF 5 3/13 D 142/30 142/34 142/35 142/36 142/37 142/39

PRIORG 4 3/14 D 142/06 142/07 142/10 142/38 142/45 142/46

PRIORH 3 3/15 D 142/11 142/12 142/42

PRIORI 2 3/16 D 142/02 142/03 142/13 142/14

PRIORJ 1 3/17 D 178/47 187/09

PRMSS 1663 40/45 40/54 L

PRMSW 1655 40/38 40/41 D

PRMWD 1654 40/37 40/41 L

PROCTYP 0 4/01 D

PSHSTK1 2046 46/10 L 46/14

PSHSTK2 2050 46/15 L

PSTY 4 3/32 D 31/50 32/35 35/53 100/16 102/51 186/47

PTOPX4 2317 33/19 53/41 L 54/01 59/52

PTOP1 2320 53/42 L 54/06

PTOP2 2322 53/47 L 53/57

PTOP3 2326 53/50 54/02 L

PUREHEX 5457 114/16 114/20 L

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 213

SYMBOLIC REFERENCE TABLE.

PUSHSTK 2042 43/12 46/02 L 46/18 65/05 117/50 118/44 125/33 133/31

PUTB 4562 91/25 91/57 92/32 92/56 93/05

91/37 92/12 92/44 93/02 L

PUTCHAR 7315 146/21 147/27 148/42 151/11 L 151/29

PUTCHAR1 7325 151/19 151/28 L

P1AND 6547 138/13 L 144/50

P1EOS 6560 138/22 L 167/24

P1ERFLG 245 4/39 L 166/02 170/18 S 172/46 182/50 S 187/19

P1EXP 6561 138/23 L 144/14

P1LEFT 6552 138/16 L 145/09

P1MAX 253 4/45 L 4/51 146/03 S 147/03 S 148/03 S 148/52 S 151/05 151/40

P1NOT 6556 138/20 L 144/40 145/01

P1OR 6551 138/15 L 144/54

P1PB 10210 166/06 170/46 171/47 172/26 172/45 L 172/55 173/25 174/35

170/16 171/15 171/49 172/29 172/48 172/57 173/35

170/44 171/25 172/22 172/36 172/51 173/05 174/10

P1RITE 6553 138/17 L 145/05

P1SVTAB 257 4/49 L 143/57 S 144/04

P1SVX3 254 4/46 L 143/15 S 143/28 S 147/14 S 148/20 S 150/34 S

4/50 143/17 143/30 147/18 148/24 150/40

P1SVX5 255 4/47 L 146/11 S 147/13 S 148/22 S 150/36 S

4/52 146/13 147/16 148/25 150/38

P1TAB 6460 137/15 L 143/43 145/19 146/18 148/31 167/24

143/06 144/31 145/21 147/22 150/06

P2ALT 60 138/12 139/49 D

P2AND 1 138/13 139/02 D

P2BLANK 62 139/51 D 144/02 144/06 152/15

P2CLN 134 138/09 140/36 D 145/11

P2COMMA 124 138/04 140/28 D

P2DIV 32 137/55 139/27 D

P2DOL 56 138/01 139/47 D

P2END 157 137/15 140/55 D 165/05

P2EOR 4 138/20 139/05 D

P2EQUAL 131 138/02 140/33 D

P2ERR1 167 138/06 138/13 138/16 138/18 141/07 D

138/11 138/15 138/17 138/19

P2ERR2 165 138/12 138/23 141/05 D

P2ERR3 163 141/03 D 147/51

P2ERR4 161 141/01 D 144/24 144/42

P2EXP 35 138/23 139/30 D

P2INT 7777774 3/23 D 149/30

P2LEFT 12 138/16 139/11 D

P2LFTBR 112 138/07 140/18 D

P2LFTPR 104 137/56 140/12 D

P2LIT 7777775 3/22 D 147/49

P2MINUS 24 137/53 139/21 D

P2MULT 27 137/54 139/24 D

P2NOT 47 138/20 139/40 D

P2OR 7 138/15 139/08 D

P2PLUS 21 137/52 139/18 D

P2PRD 54 138/05 139/45 D

P2REAL 7777773 3/24 D 150/31

P2RGTBR 127 138/08 140/31 D 144/46 153/54

P2RGTPR 120 137/57 140/24 D 153/09 153/25 162/06 165/38

P2RITE 15 138/17 139/14 D

P2SMCLN 144 138/21 138/22 140/44 D 143/35

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 214

SYMBOLIC REFERENCE TABLE.

P2TBL 6561 139/01 D 139/14 139/30 139/45 140/06 140/31 140/57 152/06

139/02 139/18 139/34 139/47 140/12 140/33 141/01 164/50

139/05 139/21 139/37 139/49 140/18 140/36 141/03

139/08 139/24 139/40 139/51 140/24 140/44 141/05

139/11 139/27 139/43 140/01 140/28 140/55 141/07

P2TRC 7446 154/45 154/46 L

P2TRCS 7445 154/45 L 182/27

P2TRCT 7341 152/04 L 182/31 S

P2UNDOL 76 138/01 140/06 D

P2UNMIN 44 137/53 139/37 D

P2UNPL 41 137/52 139/34 D

P2UNPRD 71 138/05 140/01 D

P2USTAR 52 139/43 D 144/16 144/26

P2VAR 7777776 3/21 D 146/35

P3ALT 35 139/50 142/30 D

P3AND 20 139/03 139/04 142/17 D

P3ASGN 12 140/34 142/11 D

P3BCALL 5 140/53 142/06 D

P3BGTC 51 140/21 142/43 D

P3BGTT 51 140/08 142/42 D 142/43

P3CALL 43 140/27 142/36 D

P3CAT 34 139/56 139/57 142/29 D

P3CLN1 14 140/42 142/13 D 142/49

P3CLN2 15 140/41 140/43 142/14 D

P3COND 50 140/14 142/41 D 153/48

P3DIV 31 139/28 139/29 142/26 D

P3DOL 36 139/48 142/31 D

P3END 47 140/56 142/40 D

P3ENDUN 14 142/49 D 154/29 154/38

P3EOR 22 139/06 139/07 142/19 D

P3EXP 32 139/32 139/33 142/27 D

P3GT 52 140/25 142/44 D

P3GTC 54 142/46 D 153/56

P3GTT 53 142/45 D 153/11

P3INDR 7 140/07 140/09 140/10 140/11 142/08 D

P3LABEL 55 139/53 140/37 142/47 D 154/21

P3LEFT 24 139/12 139/13 142/21 D

P3LFTBR 6 140/54 142/07 D

P3LFTPR 45 140/13 140/15 140/16 140/17 142/38 D

P3MIN 27 139/22 139/23 142/24 D

P3MULT 30 139/25 139/26 142/25 D

P3NAME 10 140/02 140/03 140/04 140/05 142/09 D

P3NOT 21 139/41 139/42 142/18 D

P3NULL 40 142/33 D 153/36

P3OR 23 139/09 139/10 142/20 D

P3OUT 7455 155/06 155/08 L

P3OUTA 7456 155/11 L 159/23

P3PARAM 41 140/29 142/34 D

P3PLUS 26 139/19 139/20 142/23 D

P3PM 11 139/54 142/10 D

P3PMA 13 140/35 142/12 D

P3PRD 37 139/46 142/32 D

P3RGTBR 44 140/32 142/37 D

P3RGTPR 46 142/39 D 153/27

P3RITE 25 139/16 139/17 142/22 D

P3RULE1 1 140/49 142/02 D

P3RULE2 2 140/45 140/47 142/03 D

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 215

SYMBOLIC REFERENCE TABLE.

P3RULE3 3 140/50 142/04 D

P3RULE4 4 142/05 D 154/23

P3STAR 33 139/44 142/28 D

P3SUBCM 42 140/30 142/35 D

P3TBL 6751 142/01 D 142/07 142/13 142/19 142/25 142/31 142/37 142/44

142/02 142/08 142/14 142/20 142/26 142/32 142/38 142/45

142/03 142/09 142/15 142/21 142/27 142/33 142/39 142/46

142/04 142/10 142/16 142/22 142/28 142/34 142/40 142/47

142/05 142/11 142/17 142/23 142/29 142/35 142/41 155/02

142/06 142/12 142/18 142/24 142/30 142/36 142/42 155/26

P3TRC 7464 155/23 155/24 L

P3TRCS 7463 155/23 L 182/28

P3TRCT 7452 155/02 L 182/32 S

P3TRC1 7453 155/04 L 155/27

P3UNMIN 17 139/38 139/39 142/16 D

P3UNPL 16 139/35 139/36 142/15 D

P4SVB5 253 4/51 D 164/40 S 164/42

P4SVX4 254 4/50 D 164/38 S 164/47

P4TRC 7736 164/34 164/35 L

P4TRCS 7735 164/34 L 182/33

P4TRCT 7720 164/02 L 182/35 S

P4TRC1 7721 164/05 L 164/48

QALPHA 6401 134/44 L 180/39

QALPHA1 6405 134/50 134/56 L

QANCHOR 5123 104/33 L 181/13

QANCHOR1 5124 104/34 L

QANCHOR2 5126 104/36 104/39 L

QANY 5051 102/32 L 181/15

QANY1 5052 102/27 102/29 102/31 102/33 L

QANY2 5054 102/38 L 103/10

QANY3 5064 102/37 103/05 L

QARBNO 5130 104/49 L 181/12

QARBN1 5135 104/53 104/57 105/02 L

QARBN2 5137 104/55 105/02 105/06 L

QARBN3 5141 105/12 L 105/17

QARRAY 5532 116/08 L 181/05

QARSV 235 8/32 D 116/22 S 117/38

QAR0 5534 116/13 L 118/54

QAR1 5542 116/28 L 117/15

QAR10 5571 116/35 117/28 L

QAR11 5572 117/28 117/30 L

QAR12 5601 117/48 117/51 L 117/55

QAR13 5610 117/16 117/29 118/09 L

QAR14 5614 118/17 118/18 118/20 L

QAR15 5615 118/20 118/22 L

QAR16 5625 118/42 118/45 L

QAR17 5626 118/13 S 118/48 L

QAR18 5627 116/12 118/49 L

QAR2 5543 116/31 L 116/43 117/03 117/09 117/14 117/27

QAR3 5547 116/33 116/44 L

QAR4 5556 116/47 116/57 L

QAR5 5560 116/57 117/04 L

QAR6 5562 116/49 117/10 L

QAR7 5564 116/51 117/15 L

QAR8 5565 116/53 116/55 117/17 L

QAR9 5570 117/23 117/25 L

QBREAK 5047 102/28 L 181/23

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 216

SYMBOLIC REFERENCE TABLE.

QCLK1 5734 122/33 L 122/34

QCLOCK 5732 122/28 L 180/56

QCLOSE 6120 127/31 L 180/49

QCL0 6122 127/33 127/35 L

QCMPL 10475 178/01 L 180/36

QCMPL1 10510 178/30 L 178/34

QCNVT 5467 114/42 L 181/06

QCNVT1 5475 114/48 114/55 L

QCNVT2 5477 115/03 L 116/04

QCNVT3 5502 114/46 115/10 L

QCNVT4 5506 115/19 L 115/25

QCNVT5 5510 115/23 L 115/36 115/40 115/47 115/49 115/54

QCNVT6 5516 115/32 115/37 L

QCNVT7 5520 115/29 115/41 L

QCNVT8 5524 115/42 115/50 L

QCNVT9 5526 115/19 115/55 L

QCOMP 5320 110/07 110/09 L

QCOMP1 5324 110/17 L 111/25

QCOMP10 5357 111/32 L 111/37

QCOMP11 5361 111/38 L 111/42 111/46

QCOMP12 5362 111/10 111/36 111/41 L 112/04

QCOMP13 5363 111/30 111/43 L

QCOMP14 5366 110/20 111/49 L

QCOMP15 5371 111/50 111/55 L

QCOMP2 5326 110/22 L 111/54

QCOMP3 5334 110/42 L 110/51

QCOMP4 5337 110/52 L 111/05 111/19 111/40

QCOMP5 5344 110/41 110/50 111/04 L

QCOMP6 5345 110/12 111/06 L

QCOMP7 5350 111/12 111/14 L 111/48

QCOMP8 5352 110/16 111/20 L

QCOMP9 5355 111/21 111/26 L

QDATA 6303 131/53 L 180/43

QDATE 5667 120/44 L 180/57

QDATSV1 235 8/39 D 132/34 S 133/16

QDAT1 6310 132/10 L 132/19

QDAT10 6343 132/45 133/16 L

QDAT11 6351 133/29 133/32 L

QDAT12 6355 133/45 L 133/55

QDAT2 6316 132/15 132/20 L

QDAT3 6314 132/17 L 132/26

QDAT4 6315 132/18 L 132/30

QDAT5 6323 132/12 132/31 L

QDAT6 6325 132/36 L 133/15

QDAT7 6335 132/55 132/57 L

QDAT8 6337 133/07 L 133/12

QDAT9 6342 133/07 133/14 L

QDEFINE 5210 107/01 L 107/20 181/11

QDEFSV1 235 8/34 D 108/44 S 109/13

QDEFSV2 240 8/35 D 107/48 S 108/08 108/13 109/46

QDEFSV3 241 8/36 D 109/04 S 109/09

QDEF0 5220 107/15 107/21 L

QDEF1 5224 107/06 107/29 L

QDEF10 5257 108/31 108/33 L

QDEF11 5265 108/46 108/49 L

QDEF12 5270 108/51 109/01 L

QDEF13A 5277 109/15 109/17 L

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 217

SYMBOLIC REFERENCE TABLE.

QDEF13B 5302 109/24 109/26 L

QDEF14 5304 109/32 L 109/45

QDEF15 5307 109/37 109/39 L

QDEF2 5231 107/37 107/40 L

QDEF3 5233 107/39 107/46 L

QDEF4 5234 107/49 L 108/05 108/12

QDEF5 5236 107/51 107/53 L

QDEF6 5246 107/52 108/03 108/13 L

QDEF7 5251 108/20 L 108/38

QDEF8 5253 108/23 L 108/25

QDEF9 5254 108/22 108/24 L

QDETACH 6061 126/28 L 180/52

QDIFFER 5316 110/06 L 181/10

QDT 6163 128/45 L 180/46

QDTA 6224 129/57 L

QDTC 6232 130/06 L

QDTCH1 6066 126/36 126/39 L

QDTI 6220 129/17 129/35 129/53 L

QDTN 6230 130/04 L

QDTP 6226 129/30 130/02 L

QDTR 6222 129/55 L

QDTS 6216 128/56 129/51 L

QDT1 6170 128/57 L 129/07 129/16

QDT2 6173 129/02 129/08 L

QDT3 6177 129/11 129/15 L

QDT4 6200 129/03 129/17 L

QDT5 6201 129/09 129/13 129/14 129/18 L

QDT6 6202 129/22 L 129/31 129/36 129/50

QDT7 6205 128/51 129/29 L

QDT8 6211 129/33 129/37 L

QEFRW 6145 127/21 127/30 127/39 128/09 L

QENDFILE 6130 127/40 L 180/48

QEOI 5743 123/02 L 180/55

QEOI1 5745 123/04 123/06 L

QEORL 6151 128/20 L 180/47

QEORL1 6153 128/22 128/24 L

QEORL2 6155 128/28 L 128/40

QEORL3 6160 128/26 128/34 L

QEOR1 6137 127/43 127/56 L

QEOR2 6140 127/56 128/01 L

QEQ 4764 100/26 L 181/17

QEQSV 235 8/38 D 101/26 S 101/39

QEQ1 4772 100/27 100/29 100/31 100/33 100/35 100/37 L

QEQ2 5000 100/51 L 102/01

QEQ3 5002 100/55 L 102/11 102/20

QEQ4 5004 100/56 101/01 101/03 L

QEQ5 5010 100/49 100/50 101/12 L

QEQ5A 5016 101/17 101/25 L

QEQ5B 5017 101/24 101/27 L

QEQ5C 5027 101/37 101/44 L

QEQ5D 5033 101/43 101/53 L

QEQ6 5035 101/57 102/02 L

QEQ7 5036 101/14 102/05 L

QEQ8 5041 100/38 102/13 L

QFLV 6234 130/11 L 180/45

QFLV1 6240 130/17 130/23 L

QFLV2 6241 130/25 L 130/32

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 218

SYMBOLIC REFERENCE TABLE.

QFLV3 6243 130/28 130/30 L

QFLV4 6244 130/27 130/33 L

QFREEZE 6421 135/17 L 180/38

QFREEZE1 6442 135/53 L 136/24

QFREEZE2 6446 136/09 L 136/13

QFRZFET 6452 135/27 S 135/33 135/50 136/19 L

QFRZSV 235 8/37 D 135/48 S 135/53

QFRZWRD 6457 135/38 136/24 L

QGE 4767 100/32 L 181/20

QGT 4766 100/30 L 181/19

QIDENT 5317 110/08 L 181/09

QIF 4724 99/03 L 99/15 104/43 119/46 134/31 181/31

QIF2 4732 99/17 L 134/03

QIF3 4730 99/08 99/14 L

QINPUT 6015 124/53 L 180/53

QIN1 6020 124/54 125/01 L

QIN2 6025 124/57 125/13 L

QIO 6027 124/52 125/17 L

QIORET 6070 126/27 126/46 L

QIOSV 235 8/33 D 124/51 S 125/16 S 125/57 126/11

QIO1 6037 125/31 125/34 L

QIO2 6046 125/20 125/57 L

QIO3 6052 126/08 126/10 L

QIO4 6056 126/20 L

QLE 4771 100/36 L 181/22

QLEN 4746 99/48 L 181/29

QLGT 6247 130/42 L 180/44

QLGT1 6252 130/48 L 131/36 131/42

QLGT2 6254 130/51 L

QLGT22 6255 130/54 L 131/49

QLGT3 6256 130/57 L 131/11

QLGT4 6262 131/08 131/12 L

QLGT5 6263 131/09 131/10 131/13 L

QLGT6 6271 130/44 131/30 L

QLGT7 6275 130/47 131/37 L

QLGT8 6300 130/50 131/43 L

QLT 4770 100/34 L 181/21

QMAXLN 6364 134/10 L 180/42

QMAXLN1 6365 134/07 134/09 134/11 L

QMAXLN2 6371 134/15 134/20 L

QMAXLN3 6376 134/19 134/32 L

QNE 4765 100/28 L 181/18

QNOTANY 5050 102/30 L 181/16

QNXID 5161 105/43 106/02 L 106/20 107/23 107/33 107/50 132/11

QNXID1 5164 106/09 L 106/16

QNXID2 5166 106/08 106/14 L 106/39

QNXID3 5173 106/18 106/21 106/24 L

QNXID4 5176 106/29 106/31 L

QNXID5 5200 106/26 106/37 L

QNXID6 5152 105/40 L 106/09 106/23

QNXID7 5155 105/44 105/46 L

QNXID8 5157 105/48 105/52 L

QOUTPUT 6000 124/22 L 180/54

QOUT1 6003 124/23 124/27 L

QOUT2 6010 124/31 124/42 L

QOUT3 6013 124/26 124/41 124/48 L

QPAT 4753 99/49 99/51 99/53 99/55 99/57 L

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 219

SYMBOLIC REFERENCE TABLE.

QPOS 4747 99/50 L 181/28

QREMARK 5632 119/06 L 181/04

QREMARK1 5641 119/12 119/21 L

QREWIND 6073 126/53 L 180/51

QRMKBUF 7 119/27 119/37 119/53 D

QRMKBUFL 30 119/34 119/54 D

QRMKCALL 5655 119/38 119/48 L

QRMKFET 2 119/22 119/31 S 119/52 D

QRMKSTAT 235 119/41 S 119/48 119/51 D

QRMKSVD 235 119/29 S 119/50 D

QRPOS 4750 99/52 L 181/27

QRTAB 4752 99/56 L 181/25

QRW0 6075 126/55 126/57 L

QRW3 6106 127/14 127/16 L

QSIZE 4735 99/27 L 181/30

QSIZE1 4742 99/33 99/37 L

QSPAN 5046 102/26 L 181/24

QSTAR 5373 112/08 L 181/08

QSTCOUNT 6363 134/08 L 180/41

QSTLIMIT 6362 134/06 L 180/40

QTAB 4751 99/54 L 181/26

QTD 5714 120/12 120/44 121/47 L

QTDC 5724 122/06 L 122/17 122/49

QTDC1 5727 122/10 122/16 L

QTIME 5656 120/12 L 181/01

QTRIM 5067 103/14 L 181/14

QTRIM1 5073 103/18 103/22 L

QTRIM2 5076 103/29 L 103/38

QTRIM3 5100 103/35 L 103/42 103/44 103/45 103/50

QTRIM4 5105 103/41 103/45 L

QTRIM5 5107 103/29 103/51 L

QTRIM6 5113 103/52 104/05 L

QTRIM7 5115 104/04 104/12 L

QUNLOAD 6110 127/22 L 180/50

QUNL0 6112 127/24 127/26 L

QUNSTAR 5443 113/51 L 181/07

RCL 4221 82/22 L 84/36 85/49 127/28 128/03

82/55 85/33 127/15 127/37 166/17

RCLWAIT 4220 82/20 L 82/31

RCL1 4225 82/27 82/30 L

READ 4374 87/19 87/30 L

REAL 7265 148/55 150/01 L

REALTYP 30 3/54 D 150/25

REAL1 7266 150/03 L 150/15 150/42

REAL2 7273 150/10 150/16 L

REMARKQ 5656 120/01 L 181/04

REMPM 1720 80/15 D 180/34

REPLSP 10261 174/07 S 174/13 174/16 L

REPTFAC 10254 173/56 174/07 L 174/15

RESERVE 2052 15/37 19/49 31/35 36/18 46/28 101/33 128/10

16/16 20/12 32/10 36/34 46/30 102/43 131/31

16/41 22/02 32/30 37/02 52/07 105/11 132/21

16/51 23/03 33/24 41/38 59/42 107/56 168/31

17/33 30/10 35/43 46/04 60/01 118/01 178/04

18/26 30/34 36/08 46/23 L 60/12 126/47

RETUN 1776 12/23 44/20 L

RPOSPM 1702 80/12 D 99/52

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 220

SYMBOLIC REFERENCE TABLE.

RTABPM 1716 80/14 D 99/56

RTERROR 3341 9/03 10/12 10/20 10/28 10/36 10/44 10/56 31/26

10/05 10/13 10/21 10/29 10/37 10/45 13/35 35/29

10/06 10/14 10/22 10/30 10/38 10/46 15/51 38/55

10/07 10/15 10/23 10/31 10/39 10/47 18/14 64/09

10/08 10/16 10/24 10/32 10/40 10/48 19/12 102/02

10/09 10/17 10/25 10/33 10/41 10/49 21/41 102/21

10/10 10/18 10/26 10/34 10/42 10/50 27/26 166/29

10/11 10/19 10/27 10/35 10/43 10/51 29/09 187/23 L

RTOSF 2416 56/38 L 58/20 114/50

RTOSF0 2407 56/21 L 56/53 57/37 57/40 57/43 57/56 58/01

RTOSF01 2410 56/23 L 56/37

RTOSF02 2412 56/21 56/27 L

RTOSF03 2414 56/30 56/32 L

RTOSF1 2426 56/49 56/52 56/54 L

RTOSF10 2461 57/46 57/57 58/02 L

RTOSF11 2464 58/07 58/09 L

RTOSF12 2465 58/03 58/11 L

RTOSF2 2430 56/57 L 57/04

RTOSF3 2432 57/01 57/05 L 57/09

RTOSF4 2434 57/06 57/10 L

RTOSF45 2441 57/20 57/23 L

RTOSF5 2442 57/24 57/25 L

RTOSF6 2447 56/48 57/23 57/38 L

RTOSF7 2450 57/28 57/39 L 57/45

RTOSF8 2451 57/25 57/38 57/41 L

RTOSF9 2453 57/42 57/44 L

RTY 10 3/36 D 23/37 101/12 101/13 114/47 114/55 115/04 150/21

RULENO 256 4/48 L 143/32 143/34 S 171/04

SACHEK 660 18/56 L 19/44 24/23 25/06 37/50 101/52 127/47

19/14 21/27 24/32 25/34 100/06 102/17 134/24

19/32 23/18 24/50 25/52 101/31 125/04

SACHEK1 657 18/54 L 19/30

SARRAY 1547 37/18 37/35 37/46 L 38/12

SASGNIO 2572 62/27 62/34 L

SASGNI1 2554 62/04 L 62/16

SASGNO1 2577 62/44 62/49 L

SASGNO2 2575 62/45 L 63/04

SASGNP 2611 62/12 63/18 L

SASGNP1 2614 63/29 L 63/43

SASGNP2 2616 63/30 63/32 L

SASGNP3 2622 63/38 63/44 L

SASGNR1 2565 62/20 62/22 L

SASGNS 2604 61/49 63/06 L

SASGNSF 2606 61/54 62/01 63/09 L

SASGNSW 2545 61/43 61/45 D

SASGNWD 2544 61/35 61/45 L

SASGN2 2567 62/08 62/11 62/26 L 63/15 63/50

SASSIGN 2537 34/38 38/41 41/50 61/32 L 62/40 79/32

38/30 40/29 43/27 62/32 62/47

SBASE 226 8/06 D 33/39 S 34/48 71/56 72/18

SCALL 10451 166/20 175/44 L

SCATS 540 13/36 15/20 15/30 L 15/44 27/50 39/01 40/42 64/15

SCATS1 544 15/35 15/38 L

SCHLBL 7503 156/32 L 156/42 157/02 157/07 160/50

SCHLBL1 7513 156/50 L 157/32 161/03

SCHLINK 7477 156/11 156/21 L 156/30 156/43 160/02

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 221

SYMBOLIC REFERENCE TABLE.

SEARCH 2675 13/47 66/03 L 67/03 156/41 186/15

64/42 66/36 156/09 159/57

SEARCH1 2702 66/10 66/16 L 66/19

SEARCH2 2704 66/15 66/22 L

SEARCH3 2710 66/35 L 66/41 66/44 66/49 66/55 67/01 67/07

SEARCH4 2715 66/48 L 66/56

SEARCH5 2722 66/46 67/04 L

SEARCH6 2721 67/02 L 67/08

SEMI 7052 138/21 138/22 143/32 L

SETSIPI 2767 34/10 34/13 69/18 69/24 L 71/43 73/36 74/31 78/22

SEVEN 2673 64/48 65/30 L

SFTY 0 3/28 D

SITY 3 3/31 D 149/10

SIX 223 8/03 D

SIXREL 1 68/40 S 69/01 180/05 D

SIZEQ 4746 99/47 L 181/30

SKIP 457 11/34 12/40 L 40/30

SKIPTY 0 3/44 D

SKMRAR5 2760 68/42 S 69/07 69/09 L

SLASH 7110 137/55 144/29 L

SLASH1 7113 137/55 144/34 L

SLASH2 7117 144/37 144/42 L

SLB 1 137/08 D 137/57 138/04 138/09 138/22

137/15 138/02 138/08 138/21

SLENGTH 231 8/09 D 33/43 S 75/52 79/33

SMESS 4566 94/01 L 166/08 166/09 166/10 175/44

SNDMIC 455 12/32 L 36/15 36/28 36/48 38/18

13/18 36/25 36/44 37/41 59/03

SNOBOL 11021 1/15 182/01 L

SOPERND 2472 44/17 45/34 45/48 59/06 L 135/01

SPACT 1 137/10 D 137/54 137/55

SPANPM 2073 80/27 D 102/26

SPARAM 1651 40/33 40/36 L 40/43 40/53 41/02 41/06

SPCLOOP 10247 173/51 L 173/55 174/06

SPCTYP 32 3/52 D 94/18 117/40 125/38 133/32 184/21

SPECIAL 7075 143/54 144/09 L

SPECTY 16 3/43 D 17/13 35/05 37/12

SPORTIT 10474 174/22 S 174/28 174/31 S 176/06 L

SPOS 246 8/22 D 33/55 S 34/49

SRCHCLL 5201 106/41 L 106/44 106/49 106/55 109/02 132/37

SRCHC1 5206 106/51 L 106/53

SSKIP 460 12/41 L 13/02

SSKIP1 453 12/28 L 12/43 23/38 123/11

SSKIP2 461 12/43 L 12/48 12/54

SSTOS 2275 16/54 19/51 30/13 32/14 52/50

18/29 22/05 30/45 52/46 L 102/56

SSTOSF 2350 15/26 40/57 55/02 L 55/25 60/15 61/52

SSTOSF1 2353 55/10 L 55/20 55/28

SSTOSF2 2355 55/09 55/17 L

SSTOSF3 2357 55/14 55/21 L

SSTOSF4 2361 55/18 55/26 L

SSTOS1 2271 52/36 L 52/41 52/49

SSTOS2 2272 52/39 L 52/44

SSTOS3 2274 52/44 L

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 222

SYMBOLIC REFERENCE TABLE.

SSTY 2 3/30 D 54/53 63/11 101/20 129/53 130/04 168/21

33/05 62/43 68/36 114/52 129/55 130/06 186/26

41/04 62/51 75/03 129/42 129/57 135/03

45/23 62/56 87/43 129/51 130/02 147/38

SSTYWD 1666 41/04 L 129/23

STACKP2 7364 152/48 L

STACKX4 7460 142/08 155/16 L 159/34 159/44 162/49

142/09 159/26 159/40 160/19

STACKX7 7363 152/45 L 153/16 153/22

STAKOUT 7362 152/44 L 153/08 153/19 153/53 154/27 154/36

STAKSP 106 2/20 D 2/22

STAKTOP 213 4/16 L 42/20 46/15 130/23 187/41

12/41 45/07 S 98/05 178/22

STAR 1452 11/29 35/06 L

STARHEX 5420 113/05 113/07 L

STARPM 2000 35/06 80/22 D

STARQ 5443 113/50 L 181/08

STAR1 1507 35/21 36/17 L

STCOUNT 217 4/24 L 12/10 45/01 134/08

STLIM 220 4/25 L 12/11 134/06

STNDREL 2 180/06 D 186/05

STNPRL 43 94/03 180/35 D

STOP 1333 31/30 L 35/32

STOP1 1336 31/41 L 31/45

STOP2 1340 31/40 31/46 L 32/21

STOSFX6 2300 15/39 34/33 52/57 L 53/34 63/08 79/28

STOSF1 2303 53/07 L 53/25

STOSF2 2304 53/09 L 53/15

STOSF3 2311 53/06 53/21 L

STOSF4 2313 53/22 53/24 L

STOSF5 2314 53/09 53/16 53/26 L

STTBASE 10522 4/10 180/41 180/48 180/55 181/07 181/14 181/21 181/28

180/02 D 180/42 180/49 180/56 181/08 181/15 181/22 181/29

180/35 180/43 180/50 180/57 181/09 181/16 181/23 181/30

180/36 180/44 180/51 181/01 181/10 181/17 181/24 181/31

180/38 180/45 180/52 181/04 181/11 181/18 181/25

180/39 180/46 180/53 181/05 181/12 181/19 181/26

180/40 180/47 180/54 181/06 181/13 181/20 181/27

STY 1 3/29 D 18/36 21/22 52/25

ST1 0 2/38 D 140/45 140/47 140/49 140/50 164/56 178/53 187/16

ST10 44 2/47 D 139/09 139/19 139/28 139/38 140/09

139/03 139/12 139/22 139/32 139/41 140/15

139/06 139/16 139/25 139/35 140/04 140/22

ST11 50 2/48 D 139/50 139/54 139/57 140/16

ST12 54 2/49 D 139/10 139/20 139/29 139/39 139/46 140/10

139/04 139/13 139/23 139/33 139/42 139/48 140/16

139/07 139/17 139/26 139/36 139/44 140/05 140/23

ST13 60 2/50 D 140/29 140/53

ST14 64 2/51 D 140/30 140/54

ST15 70 2/52 D 140/29 140/34 140/35 140/53

ST2 4 2/39 D 139/53 140/02 140/11 140/19 154/33 154/42

ST3 10 2/40 D 140/08 140/10 140/13 140/19

140/07 140/09 140/11 140/17 140/20

ST4 14 2/41 D 139/46 140/02 140/04 140/21

139/44 139/48 140/03 140/05

ST5 20 2/42 D 139/54

ST6 24 2/43 D 140/34 140/35

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 223

SYMBOLIC REFERENCE TABLE.

ST7 30 2/44 D 140/08 140/25 140/41 140/43

139/55 140/21 140/37 140/42

ST8 34 2/45 D 140/14

ST9 40 2/46 D 139/56 140/13 140/15 140/17 140/30 140/54

SUBCOM 1534 11/32 37/18 L

SUBTR 1101 11/20 23/31 24/47 L

SUBTRS 274 9/06 D 24/53

SUBTR1 1106 24/51 24/56 L

SUPPRESS 7042 138/02 138/04 138/07 138/09 143/18 L 143/22 143/52 145/22

SUPSAVE 7037 143/14 L 143/19

SUP0 7044 143/21 L 145/20

SYXERR 7760 152/11 165/16 L

SYXERR1 7761 153/10 165/18 L

SYXERR2 7767 153/26 165/30 L

SYXERR3 7770 153/55 165/32 L

TABPM 1704 80/13 D 99/54

TBUMP 7307 151/01 L 151/08 151/10 151/20 151/33

TDCQ 5743 122/57 L 180/56 180/57 181/01

TEMPBASE 222 4/30 D 8/04 8/07 8/10 8/13 8/16 8/19 8/22

8/02 8/05 8/08 8/11 8/14 8/17 8/20 8/23

8/03 8/06 8/09 8/12 8/15 8/18 8/21 8/24

TEMPDOL 227 8/07 D 34/34 S 40/23 S 40/24 79/29 S 79/30

TEMPDOL1 230 8/08 D

TEN 2341 54/21 54/39 L 56/56 115/18 148/17 148/27

TENTO10 1033 23/27 L 100/03 101/28 101/49 102/13 125/02 127/45 134/20

TENTO13 2406 56/19 L 57/10

TENTO15 1034 23/15 23/28 L 24/20 24/29 24/47 25/03 25/31 25/49

TENTO9 1032 23/26 L 37/47

TERMESS 3406 188/07 188/21 S 188/23 188/29 188/52 188/53 L

TERMIN 4346 85/45 85/48 L 86/03 86/05 86/09 127/02

TERMIN2 4356 86/02 86/04 L 86/10

TERMIN3 4361 85/54 86/06 L

TESTCND 225 4/34 L 159/11 S 161/38 162/10 162/20

TIME 10456 175/49 L 184/15 S

TITB 10466 175/01 175/02 175/57 L

TITLE 10452 175/01 175/45 L

TITLOOP 10266 174/25 L 174/32

TITLOOX 10241 173/38 L 173/40

TOD 5660 120/19 L 184/14

TODCALL 5665 120/19 120/34 L

TODMASK 5666 120/29 120/39 L

TODWD 235 120/22 S 120/28 120/37 120/38 D

TOD1 5662 120/26 L 120/27

TRACER2 2573 62/40 L

TRACE1 274 9/01 L

TRACE2 274 9/02 L

TRC 10220 154/47 155/25 164/41 173/01 L 173/27

TRCFLG 0 2/08 D

TRCSVX7 255 4/52 D 173/02 S 173/07

TRC1 10225 173/11 L 173/13

TRC2 10230 173/18 L 173/24

TRC3 10231 173/17 173/21 L

TRIMQ 5123 104/31 L 181/14

TSS 0 2/07 D

TSTPMOP 226 4/35 L 153/04 S 154/13

UA 250 8/24 D 18/40 44/16 S 44/57 S 45/47 S 59/04 S

UNADD 1036 11/21 23/33 L

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 224

SYMBOLIC REFERENCE TABLE.

UNDFTYP 3 4/04 D 160/04

UNPACK 10072 143/02 143/29 144/18 145/14 147/15 148/23 170/01 L

143/16 143/37 144/33 146/12 148/09 150/37 172/09

UNSTARQ 5467 114/41 L 181/07

UNSUB 1035 11/22 23/31 L

UNX 1037 23/32 23/34 L 24/03

UP10 10202 171/01 172/33 L

UP2 10123 170/14 170/47 L

UP2.5 10124 170/48 L 172/31 173/42

UP2.7 10132 171/04 L 172/33

UP2.8 10134 171/08 L 171/13

UP2.9 10136 171/09 171/14 L

UP3 10140 170/08 171/17 L

UP3.5 10142 171/21 L 172/44

UP4 10145 171/28 L 171/34

UP5 10150 171/30 171/35 L

UP6 10157 171/40 171/48 L

UP6.5 10164 171/53 172/03 L

UP7 10170 170/50 172/10 L

UP8 10173 170/56 172/18 L

UP9 10175 172/23 L 172/27

VALID 5757 123/39 L 123/51 123/53 125/22 135/25 182/45

VARLINK 224 4/33 L 98/07 156/14 178/45 S

VARTYP 36 3/48 D 146/25 180/16 180/30 180/32 180/34

64/20 180/12 180/29 180/31 180/33

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 225

SYMBOLIC REFERENCE TABLE.

WDCNT 1 180/29 D 180/39 D 180/47 D 180/53 181/05 181/12 181/19 181/26 D

180/29 180/39 180/47 180/54 D 181/05 181/13 D 181/19 181/26

180/29 D 180/39 180/47 D 180/54 181/06 D 181/13 181/20 D 181/26

180/29 180/40 D 180/47 180/54 D 181/06 181/13 D 181/20 181/27 D

180/30 D 180/40 180/47 180/54 181/06 181/13 181/20 D 181/27

180/30 180/40 180/48 D 180/54 181/07 D 181/13 181/20 181/27 D

180/30 D 180/41 D 180/48 180/55 D 181/07 181/14 D 181/20 181/27

180/30 180/41 180/48 D 180/55 181/07 D 181/14 181/21 D 181/27

180/31 D 180/41 180/48 180/55 D 181/07 181/14 D 181/21 181/28 D

180/31 180/42 D 180/48 180/55 181/07 181/14 181/21 D 181/28

180/31 D 180/42 180/49 D 180/55 181/08 D 181/14 181/21 181/28 D

180/31 180/42 D 180/49 180/56 D 181/08 181/15 D 181/21 181/28

180/32 D 180/42 180/49 D 180/56 181/08 D 181/15 181/22 D 181/28

180/32 180/42 180/49 180/56 D 181/08 181/15 D 181/22 181/29 D

180/32 D 180/43 D 180/49 180/56 181/08 181/15 181/22 D 181/29

180/32 180/43 180/50 D 180/56 181/09 D 181/15 181/22 181/29 D

180/33 D 180/43 D 180/50 180/57 D 181/09 181/16 D 181/22 181/29

180/33 180/43 180/50 D 180/57 181/09 D 181/16 181/23 D 181/29

180/33 D 180/43 180/50 180/57 D 181/09 181/16 D 181/23 181/30 D

180/33 180/44 D 180/50 180/57 181/09 181/16 181/23 D 181/30

180/34 D 180/44 180/51 D 180/57 181/10 D 181/16 181/23 181/30 D

180/34 180/44 D 180/51 181/01 D 181/10 181/17 D 181/23 181/30

180/34 D 180/44 180/51 D 181/01 181/10 D 181/17 181/24 D 181/30

180/34 180/44 180/51 181/01 D 181/10 181/17 D 181/24 181/31 D

180/36 D 180/45 D 180/51 181/01 181/10 181/17 181/24 D 181/31

180/36 180/45 180/52 D 181/01 181/11 D 181/17 181/24 181/31 D

180/36 180/45 D 180/52 181/04 D 181/11 181/18 D 181/24 181/31

180/38 D 180/45 180/52 D 181/04 181/11 D 181/18 181/25 D 181/31

180/38 180/45 180/52 181/04 D 181/11 181/18 D 181/25

180/38 D 180/46 D 180/52 181/04 181/11 181/18 181/25 D

180/38 180/46 180/53 D 181/04 181/12 D 181/18 181/25

180/38 180/46 D 180/53 181/05 D 181/12 181/19 D 181/25

180/39 D 180/46 180/53 D 181/05 181/12 D 181/19 181/26 D

180/39 180/46 180/53 181/05 D 181/12 181/19 D 181/26

XADD 20 11/19 D 142/23

XALT 11 11/12 D 142/30

XALTCHK 2 11/05 D 142/30

XAND 12 11/13 D 142/17

XARRAY 46 11/41 D 142/07

XARRAYN 47 11/42 D 11/43

XARRAYV 50 11/43 D 160/44

XASCHK 4 11/07 D 142/17 142/19 142/20 142/21 142/22 142/23 142/24

XASGN 33 11/30 D 142/11

XASGNPM 34 11/31 D 142/12

XCALL 51 11/44 D 160/34

XCATCHK 1 11/04 D 142/29

XCONCAT 10 11/11 D 142/29

XDCHEK 6 11/09 D 142/26

XDIV 25 11/24 D 142/26

XDOL 31 11/28 D 142/31

XEND 42 11/37 D 165/52 165/54

XEOR 14 11/15 D 142/19

XEXP 26 11/25 D 142/27

XEXPCHK 7 11/10 D 142/27

XGOF 55 11/49 D 162/43

XGOS 54 11/48 D

XGOTO 56 11/50 D 162/30

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 226

SYMBOLIC REFERENCE TABLE.

XGOTOC 60 11/52 D 142/46

XGOTOT 57 11/51 D 142/45

XGOX 53 11/47 D 162/12 163/01

XINDRCN 40 11/35 D 11/36

XINDRCV 41 11/36 D 142/08

XLEFT 16 11/17 D 142/21

XMCHEK 5 11/08 D 142/25

XMULT 24 11/23 D 142/25

XNAME 52 11/45 D 11/46

XNOEND 43 11/38 D 165/50

XNOFAIL 61 11/53 D 162/47

XNOOP 0 11/02 D 159/01

XNOT 13 11/14 D 142/18

XNULL 45 11/40 D 142/33

XOPRND 53 11/46 D 157/38

XOR 15 11/16 D 142/20

XPARAM 36 11/33 D 142/34

XPM 27 11/26 D 142/10

XPMCHK 3 11/06 D 142/10

XPRD 30 11/27 D 142/32

XRETR 2034 45/33 45/35 L

XRETURN 1777 44/22 L

XRET1 2001 44/28 L 44/40

XRET2 2005 44/32 44/37 L

XRET3 2007 44/29 44/41 L

XRET4 2002 44/30 L 44/44

XRET5 2011 44/42 44/45 L

XRET6 2025 45/15 45/21 L

XRET8 2032 45/24 45/32 L

XRET9 2040 45/20 45/45 L

XRITE 17 11/18 D 142/22

XSKIP 37 11/34 D 142/03 142/14

XSTAR 32 11/29 D 142/28

XSUBCM 35 11/32 D 142/35

XSUBTR 21 11/20 D 142/24

XUNADD 22 11/21 D 142/15

XUNSUB 23 11/22 D 142/16

XWDREL 0 45/12 56/42 S 58/11 116/14 168/25 S 169/02 180/07 D

XZERO 44 11/39 D 142/15 142/16 142/18

X1NAME 1523 36/50 L 37/31 38/19 44/18

X1VALUE 2470 37/34 38/22 38/25 59/01 L

YABORT 3130 73/47 L 80/19

YALTER 3023 70/47 L 80/07

YANY 3237 76/57 L 80/25

YANY1 3241 77/06 L 77/10

YANY2 3243 77/11 L 77/24

YARB 3037 71/24 L 80/09

YARBNO 3131 73/49 L 80/20

YARBNO1 3135 73/56 74/04 L

YARBNO2 3137 74/05 74/10 L

YARBNO3 3142 74/16 74/18 L

YARBNO4 3146 74/30 74/32 L

YARBNO5 3150 74/36 74/38 L

YARBNO6 3154 74/48 L

YARB1 3040 71/26 L 71/42

YARB2 3042 71/27 71/31 L

YBAL 3103 72/54 L 80/16

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 227

SYMBOLIC REFERENCE TABLE.

YBAL1 3104 72/56 L 73/35

YBAL2 3110 73/08 L 73/19

YBAL3 3112 73/10 73/13 L

YBAL4 3114 73/12 73/14 73/16 L

YBAL5 3116 73/17 73/20 L

YBAL6 3121 73/25 73/29 L

YBREAK 3264 78/01 L 80/28

YBREAK1 3265 78/05 L 78/19

YBREAK2 3267 78/12 L 78/16

YBREAK3 3272 78/13 78/18 L

YDOL 3024 68/32 70/51 L

YENDEX 3004 70/03 L 80/06

YENDEX1 3010 70/09 70/12 70/14 L

YENDEX2 3015 70/23 70/29 L

YENDEX3 3021 70/40 70/42 L

YEXP 3025 70/54 L 80/08

YEXPR 3034 70/57 71/15 L

YFAIL 3124 73/38 L 80/17

YFENCE 3125 73/41 L 80/18

YLEN 3050 71/45 L 80/10

YLIT 3225 76/35 L 80/24

YLIT1 3231 76/45 L 76/50

YLIT2 3234 76/44 76/51 L

YNOTANY 3245 77/17 L 80/26

YNOTAN1 3247 77/23 L 77/27

YPOS 3055 71/56 L 80/11

YPOS1 3056 72/01 L 72/16

YREM 3100 72/46 L 80/15

YRPOS 3062 72/13 L 80/12

YRTAB 3076 72/41 L 80/14

YSPAN 3252 77/30 L 80/27

YSPAN1 3253 77/34 L 77/49

YSPAN2 3256 77/40 77/43 L 77/47

YSPAN3 3261 77/44 77/50 L

YSPAN4 3262 77/42 77/51 L 78/17

YSTAR 3157 68/34 80/07 80/10 80/13 80/16 80/19 80/24 80/27

74/56 L 80/08 80/11 80/14 80/17 80/20 80/25 80/28

80/06 80/09 80/12 80/15 80/18 80/22 80/26

YSTARIN 3177 75/08 75/35 L

YSTARP 3210 75/06 76/01 L

YSTARPR 3221 76/20 76/23 L

YSTARP1 3211 76/03 L 76/07

YSTARP2 3217 76/18 76/20 L

YSTARS 3166 75/04 75/13 L 75/56

YSTARS1 3167 75/16 L 75/23

YSTARS3 3175 75/16 75/29 L

YSTAR1 3160 75/01 L 75/12

YSTAR2 3171 75/20 L 75/27

YTAB 3064 72/18 L 80/13

YTAB1 3072 71/54 72/11 72/32 L 72/52 75/34 77/15 77/56

YTAB2 3065 72/20 L 72/44

ZAND 1042 11/13 23/43 L

ZEND 7337 152/01 L 152/29 152/31

ZEOR 1047 11/15 23/53 L

ZERO 1520 11/39 36/41 L

ZLEFT 1056 11/17 24/07 L

ZNOT 1053 11/14 24/02 L

CAL-6000 S N O B O L COMPASS 3.7-803. 81/01/01. 01.09.46. PAGE 228

SYMBOLIC REFERENCE TABLE.

ZOR 1051 11/16 23/56 L

ZRITE 1061 11/18 24/13 L

ZROX7 2342 36/29 54/42 L 87/26 101/06 117/52 131/12

42/17 54/56 98/13 109/54 126/22 131/33

43/35 64/23 99/17 110/53 128/12

ZROX7A 2345 54/45 54/47 L

ZXNOT 1054 24/02 24/04 L

.ABT. 4337 85/36 L 184/05

.END. 522 14/02 L 135/52

CAL S N O B O L 01D::.$01. 01%10%15 PAGE 1

1 OUTPUT = 'HELLO WORLD!'

2 END

SUCCESSFUL COMPILATION

HELLO WORLD!

ERROR TERMINATION IN RULE 3 AT LEVEL 0

LEXICOGRAPHICAL END OF PROGRAM ENCOUNTERED DURING EXECUTION.

AAEV DESKTOP CYBER. NOS 2.8.1 803/803. 81/01/01. 01.10.16.

01.09.44.JSNOBOL.

01.09.44.UCCR, AA, 021, 11.054KCDS.

01.09.44.USER,THUNTER,.

01.09.44.ABSC, B.

01.09.44.SETASL,\*.

01.09.44. ASL = UNLIMITED, JSL = UNLIMITED.

01.09.44.SETJSL,\*.

01.09.44. ASL = UNLIMITED, JSL = UNLIMITED.

01.09.44.SETTL,\*.

01.09.45. TL = UNLIMITED.

01.09.45.COPYBR,INPUT,SNOBOL.

01.09.45. COPY COMPLETE.

01.09.45. END. 0 FILES; 1 RECORD; 43063 WORDS.

01.09.45.REWIND,SNOBOL.

01.09.45.REPLACE,SNOBOL.

01.09.46.COMPASS,I=SNOBOL.

01.10.14. 9 WARNING MESSAGES IN SNOBOL

01.10.15. ASSEMBLY COMPLETE. 54700B CM USED.

01.10.15. 24.822 CPU SECONDS ASSEMBLY TIME.

01.10.15.LGO.

01.10.15. SUCCESSFUL COMPILATION

01.10.15. ERROR TERMINATION IN RULE 3 AT LEVEL 0

01.10.15.UEAD, 0.001KUNS.

01.10.15.UEPF, 0.006KUNS.

01.10.15.UEMS, 29.739KUNS.

01.10.15.UECP, 24.958SECS.

01.10.15.AESR, 37.124UNTS.

01.10.15.$OUT(\*/OP=E)

01.10.15. NO FILES PROCESSED.

01.10.16.$UNLOAD(\*/OP=O)

01.10.16. NO FILES PROCESSED.

01.10.16.$DAYFILE(OUTPUT,JT=D)

01.10.58.UCLP, AA, 020, 14.848KLNS.