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APRIL 1971

MEMORANDUM TO: Users of S/360 Continuous System Modeling Program (360A-CX-16X) -- V1M2

SUBJECT: APAR Letters

The following is the list of APAR letters that are currently active:

PA-366	PA-052
PA-192	PA-046
PA-189	PA-042
PA-118	PA-015
PA-117	PA-012
PA-114	PA-011
PA-113	PA-010
PA-112	PA-008
PA-111	APS-376
PA-093	APS-374
PA-066	

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MEMORANDUM TO: Users of the S/360 Continuous System Modeling Program

Type II

August 1969

SUBJECT:	APAR. # APS-374	Program # 360A-CX-16X		
	Program Name S/360 Continuous System Modeling Program		Version 1	Modification Level 2

Abstract of Problem

A FORTRAN compile error in the first model will prevent subsequent linkedits for new models when stacking jobs.

When the FORTRAN compiler was envoked by an ATTACH macro, in the DEJCSMP 2 subroutine, the corresponding ECB was not reinitialized and hence the return code of the first compile was the only one ever received. Should the first FORTRAN compile be in error this would prevent all subsequent linkedits since all subsequent compile return codes would appear the same. To correct this error, insert the following card in the DEJCSMP2 source deck between card numbers DEJ2 180 and DEJ2 190:

XC ECBLOCK,ECBLOCK ZERO ECB DEJ2 185

Comments on Problem

Follow the procedure described under "Modifying DEJCSMP2" in the CSMP Operators Manual to incorporate this change in the system. This program modification will be incorporated in a future modification level.

20.0 SYSPAIL 12-7-71

CC:SE Managers

DP Application Program Standards

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APAR Letter

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MEMORANDUM TO: Users of the S/360 Continuous System Modeling Program

Type II

August 1969

SUBJECT:

APAR. #	Program #		
APS-376	360A-CX-16X		
Program Name		**Version**	**Modification Level**
S/360 Continuous System Modeling Program		1	2

Abstract of Problem

Errors may result with models involving implicit loops.

The User's Manual gives the following example of an implicit function:

```
Z    =  IMPL(ZO,ERROR, FOFZ )
C1   =  A * EXP( - TIME )
FOFZ =  C1 + B* SIN( Z )
```

Program errors may result if intermediate variables defined within an implicit loop (such as C1 above) are used outside the loop.

Comments on Problem

Until program fix is found, avoid such usage.
If a term available within a loop is required elsewhere, it should be recomputed outside the loop. Alternatively, for some models it may be possible to place the entire implicit loop within a multiple output procedure thusly:

```
PROCEDURE      C1,  FOFZ = LOOP (ZO, ERROR, TIME )
                      Z  = IMPL (ZO, ERROR, FOFZ )
                     C1  = A * EXP ( - TIME )
                   FOFZ  = C1 + B * SIN (Z)

ENDPRO
```

Note that this requires the user to properly sequence the statements within the loop.

CC: SE Managers

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MEMORANDUM TO: Users of S/360 Continuous System Modeling Program

Type II

SUBJECT:

APAR. #	Program #		
PA-008	360A-CX-16X		
Program Name		**Version**	**Modification Level**
S/360 Continuous System Modeling Program		1	2

Abstract of Problem

An end of data set on unit 13 may occur if a PROCEDURE block is used in a NOSORT section.

Comments on Problem

The S/360 CSMP PROCEDURE is specifically designed for use in parallel, sorted sections. Use of a PROCEDURE within a NOSORT section is nonsensical modeling and will result in an abnormal exit. A new diagnostic will be added in a future version to detect this improper use without aborting the run.

CC: SE MANAGERS

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APAR Letter

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MEMORANDUM TO: Users of S/360 Continuous System Modeling Program

Type II

SUBJECT:	APAR. #	Program #		
	PA-010	360A-CX-16X		
	Program Name		Version	Modification Level
	S/360 Continuous System Modeling Program		1	2

Executing the load module of a previously-stored CSMP model may fail due to concatenation error in FT05F001.

In the "Execution Phase Load Module" section of the CSMP Operator's Manual (H20-0368), procedures are described in figures 11 and 12 to first save a CSMP load module and symbol table and then execute this saved CSMP model independently. This execution step may fail due to concatenating data sets with unlike attributes in FT05F001(such concatenation is unsupported in FORTRAN. To avoid this failure, figure 12 should be changed as below to a three-step procedure, the first two steps of which are to effect the concatenation of the FORTRAN input file FT05F001. Data sets FT13F001 and FT14F001 have been changed to RECFM=VS to reflect OS release 18 requirement for FORTRAN unformatted records. The BLKSIZE and LRECL has been adjusted for more efficient use of disk storage. These changes will be incorporated in a later Technical Newsletter to the CSMP Operator's Manual.

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REVISED FIGURE 12 (CSMP Operator's Manual)

```
//CSMPEXEC  JOB
//CONCAT1   EXEC PGM=IEBGENER
//SYSPRINT  DD   SYSOUT=A
//SYSUT2    DD   UNIT=SYSDA,SPACE=(TRK,(10,2)),DISP=(NEW,PASS),    X
//             DCB=(BLKSIZE=80,LRECL=80,RECFM=F)
//SYSIN     DD   DUMMY
//SYSUT1    DD   UNIT=SYSDA,DISP=SHR,DSN=CSMP.SYMB.CABLE,          X
//             VOL=SER=CSMPDK
//CONCAT2   EXEC PGM=IEBGENER
//SYSPRINT  DD   SYSOUT=A
//SYSUT2    DD   DSN=*.CONCAT1.SYSUT2,DISP=(MOD,PASS)
//SYSIN     DD   DUMMY
//SYSUT1    DD   *
          data and execution control cards

STOP
/*
//GO        EXEC PGM=DEJEXE,REGION=108K
//FT05F001  DD   DSN=*.CONCAT1.SYSUT2,DISP=(OLD,DELETE)
//FT06F001  DD   SYSOUT=A
//FT13F001  DD   UNIT=SYSDA,SPACE=(TRK,(40,40)),                   X
//             DCB=(RECFM=VS,LRECL=204,BLKSIZE=208)
//FT14F001  DD   UNIT=SYSDA,SPACE=(TRK,(40,40)),                   X
//             DCB=(RECFM=VS,LRECL=204,BLKSIZE=208)
//FT15F001  DD   UNIT=(2400,,DEFER),DSN=PREPARE,DISP=(,PASS),      X
//             LABEL=(,NL),VOL=SER=SCRTCH
//STEPLIB   DD   DSN=CSMP.CABLE,DISP=SHR,UNIT=SYSDA,               X
//             VOL=SER=CSMPDK
```

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MEMORANDUM TO: Users of S/360 Continuous System Modeling Program

Type II

SUBJECT:	APAR. #	Program #		
	PA-011	360A-CX-16X		
	Program Name		Version	Modification Level
	S/360 Continuous System Modeling Program		1	2

Abstract of Problem

S/360 CSMP translator may ABEND with a OC5 code in processing INTGR L statements that are continued on several cards.

SYSPAK 20.0 12-7-71

Comments on Problem

The packing operation for continuation cards may interfere with the INTGST subroutine operation if a number or variable name falls across a FORTRAN boundary (every 66 characters). To eliminate this possibility the packing subroutine BUILD should be modified using the Optional Distribution procedures described in the CSMP Operators Manual. The Figure 3 control cards require the following input cards:

```
./  CHANGE LIST=ALL,SEQFLD=783,NAME=BUILD
1110 IF ( MOD ( NP, 6 ) .NE. 0 ) L = L - 1          BUIL 440
     IF ( L    .EQ. 0 ) GO TO 1130                  BUIL 442
     L = L + L + KK - 1                             BUIL 444
./  ENDUP
```

The translator module must be link edited to include the modified BUILD.

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MEMORANDUM TO: Users of S/360 Continuous System Modeling Program

Type II

SUBJECT:	APAR. #	Program #		
	PA-012	360A-CX-16X		
	Program Name		Version	Modification Level
	S/360 Continuous System Modeling Program		1	2

Abstract of Problem

Real variable arrays may be improperly processed if the array name begins with I, J, . . . , N

Comments on Problem

V1M2 of S/360 CSMP may fail to specify a variable array as REAL if the array name begins with I, J., K, L, M, or N. To circumvent this possibility array names for real subscripted variables should not start with these letters. This restriction will be eliminated in a future version.

CC: SE MANAGERS

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MEMORANDUM TO: Users of S/360 Continuous System Modeling Program

Type II

SUBJECT:	APAR. #	Program #		
	PA-015	360A-CX-16X		
	Program Name		Version	Modification Level
	S/360 Continuous System Modeling Program		1	2

Abstract of Problem

Use of a negative numeric constant or a symbolic name preceeded by a negative sign as an argument of a MACRO invocation may result in an OC4 abnormal exit.

SYSPAK 20.0 12-7-71

Comments on Problem

A program error in subroutine MMACST will result in incorrect processing and may cause an abnormal exit if either a negative constant or a symbolic name preceded by a negative sign is used as other than the last argument of a MACRO. The procedure described on page 3 of the S/360 CSMP Operator's Manual (H20-0368-2) should be used to correct the error. The following cards are to be run as input data to the Figure 3 control cards:

```
./ CHANGE LIST = ALL, SEQFLD = 774, NAME = MMACST
   DIMENSION IWORK(13)                          MMAC 130
1910 IF (IWTYPE-2)1950,1912,1920                MMAC2390
1912 IF (INO-11)1913,1915,1913                  MMAC2392
1913 IF (INO-7)1950,1915,1950                   MMAC2393
1915 KLAST = 2                                  MMAC2395
     GO TO 1950                                 MMAC2396
./   ENDUP
```

FORTRAN H Option 1 should be used to compile the subroutine. The Translation module must be relink-edited using the first step of Figure 6 with the data set marked as "OLD".

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MEMORANDUM TO: Users of S/360 Continuous System Modeling Program

Type II

SUBJECT:	APAR. #	Program #		
	PA-052	360A-CX-16X		
	Program Name		Version	Modification Level
	S/360 Continuous System Modeling Program		1	2

Abstract of Problem

Non-unique output names within a SORT section are not diagnosed and an incorrect UPDATE may be created.

SYSPAK 20.0 12-7-71

Comments on Problem

The program fails to recognize a non-unique name situation in a section to be sorted and as a result subroutine UPDATE may have misplaced statements. Subroutines STRUST and MMACST may be modified to correct this situation by using the procedure described on page 3 of the S/360 CSMP Operator's Manual H20-0368-2. The following cards are to be run as input data to the Figure 3 control cards:

```
./ CHANGE LIST = ALL, SEQFLD = 774, NAME = MMACST
1050 NTOUTI = ISORT(NSORT)/1000                 MMAC 320
     CHANGE LIST = ALL, SEQFLD = 774, NAME = STRUST
1320 NTOUTI = ISORT(NSORT)/1000                 STRU 850
./   ENDUP
```

The MMACST and STRUST subroutines must be recompiled and the translation module recreated.

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APAR Letter

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MEMORANDUM TO: Users of S/360 Continuous System Modeling Program

Type II

SUBJECT:	APAR. #	Program #		
	PA-093	360A-CX-16X		
	Program Name		Version	Modification Level
	S/360 Continuous System Modeling Program		1	2

Abstract of Problem

A program error in the IMPL function may cause convergence to an incorrect IMPL output value.

SYSPAK 20.0 12-7-71

Comment on Problem

Procedures described in the S/360 CSMP Operator's Manual should be used to correct this error. The symbolic update shown in Figure 3 is used as follows:

A) Control cards Fig3 10 through Fig3 70 followed by these change cards.

```
./  CHANGE   NAME-IMPL,SEQFLD=783
C                                          IMPL  90
    C(K)=FUNCT                             IMPL 240
1060 A=(FUNCT-XNP1)/(C(K)-C(K+1))          IMPL 290
    C(K)=Q*C(K)+(1.0-Q)*FUNCT              IMPL 420
    XNP1=FUNCT                             IMPL 595
/*
```

B) Compilation is performed using the procedure shown in Figure 4A, with the membername IMPL instead of STATUS on cards Fig4A 70 and Fig4A 90.

C) The linkage edit is performed using part of the procedure shown in Figure 6. The cards Fig6 110 through Fig6 180 are used, followed by

```
//SYSLIN  DD  *
  INCLUDE OBJLIB(IMPL)
  NAME    IMPL(R)
/*
```


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MEMORANDUM TO: Users of S/360 Continuous Modeling Program (360A-CX-16X)

SUBJECT: APAR # PA - 192 Program # 360A-CX-16X
Program Name: S/360 Continuous System Modeling Program
Version 1 Modification Level 2

Abstract of Problem

Continuation cards for logical IF statements may be incorrectly translated.

SYSPAK 20.0 12-7-71

Comment on Problem

If a logical expression (characters within IF parenthesis) is split across two cards the translator may not include the statement in the UPDATE subroutine. The translator may be corrected by using the Optional Distribution Procedures with the following change statements.

```
./      CHANGE SEQFLD=774,NAME=STRUST
        GO TO 2190                          STRU2398
2200    IF(IWTYPE.NE.2)GO TO 1170           STRU2478
        JGO=3                               STRU2480
        IF(LLPRO.EQ.3)GO TO 1300            STRU2490
        NTOUT=NTOUT+1                       STRU2492
        TOUT(NTOUT)=WORDI(1)                STRU2494
        GO TO 1170                          STRU2496
./      CHANGE SEQFLD=774,NAME=SCAN
1470    IF(LLALPH.EQ.2)GO TO 1500           SCAN1420
./      ENDUP
```

Subroutines CSAN and STRUST must be compiled before relink-editing the translator.

DECEMBER 1970

MEMORANDUM TO: Users of S/360 Continuous Modeling Program (360A-CX-16X)

SUBJECT: APAR # PA - 111 Program # 360A-CX-16X
Program Name: S/360 Continuous System Modeling Program
Version 1 Modification Level 2

Abstract of Problem

The statement number is removed on statements with the INTGRL block as part of an expression.

SYSPAK 20.0 12-7-71

Comment on Problem

The V1M2 system may be modified by the Optional Distribution procedures in the CSMP Operator's Manual to correct this program error. The following input to the UPDTE utility (Figure 3 control cards) will modify subroutine INTGST so that statement numbers on procedural statements using the INTGRL block are retained.

```
./    CHANGE SEQFLD=774,NAME=INTGST
C                                  INTG2520
./    ENDUP
```

Subroutine INTGST must be compiled (Figure 4) and the TRANSLATOR relink edited (Figure 6)

DECEMBER 1970

MEMORANDUM TO: Users of S/360 Continuous Modeling Program (360A-CX-16X)

SUBJECT: APAR # PA - 112 Program # 360A-CX-16X
Program Name: S/360 Continuous System Modeling Program
Version 1 Modification Level 2

Abstract of Problem

Internal output variables in macro definitions assigned only by logical IF statements will not have unique names.

SYSPAK 20.0 12-7-71

Comment on Problem

The V1M2 system may be modified by the Optional Distribution procedures in the CSMP Operator's Manual to correct this error. The following input to the UPDTE utility (Figure 3 control cards) will modify subroutine RMACST to correct this situation.

```
./  CHANGE SEQFLD=774,NAME=RMACST
      IF(KLV)1432,1440,1540                                  RMAC1090
1432  IF(INO-12)1434,1550,1150                               RMAC1092
1434  IF(IWTYPE.NE.2.OR.INO.NE.9)GO TO 1430                  RMAC1094
      GO TO 1490                                             RMAC1096
1450  IF(INO.NE.6.OR.CWORD.NE.CBCD(285) )GO TO 1455          RMAC1120
      KLV=-1                                                 RMAC1122
      GO TO 1430                                             RMAC1124
1455  IF(INO.LT.12)GO  TO  1470                              RMAC1130
./  ENDUP
```

Subroutine RMACST must be compiled (Figure 4) and the translator relink edited (Figure 6).

DECEMBER 1970

MEMORANDUM TO: Users of S/360 Continuous Modeling Program (360A-CX-16X)

SUBJECT: APAR # PA - 113 Program # 360A-CX-16X
Program Name: S/360 Continuous System Modeling Program
Version 1 Modification Level 2

Abstract of Problem

Record 2 of a PREPARE data set file is format A8, 3I4. The first word contains arbitrary information if no integration is used.

Comment on Problem

The Systems Manual incorrectly states that the format of Record 2 of a PREPARE file is A8, 3A4. This record is actually created as A8, 3I4. Also if no integration is used the first word of this record will contain arbitrary information. To have the system place blanks in that word so that this condition may be tested for the following input to the UPDTE utility (Figure 3 control cards) may be used.

```
./  CHANGE SEQFLD=774,NAME=SIMOUT
      REAL*8 BEGIN,XMETH,DBLANK/'        '/          SIMO  5Ø
      XMETH=DBLANK                                   SIMO2322
      IF(INTYPE.LT.1Ø)XMETH=TYPINT(INTYPE)           SIMO2324
      WRITE(15,2Ø5Ø)XMETH,KTITLE,NOSYMB,KGRAPH       SIMO233Ø
./  ENDUP
```

Subroutine SIMOUT must be compiled (Figure 4) and the execution phase relink edited (Figure 6).

SYSPAK 20.0 12-7-71

DECEMBER 1970

MEMORANDUM TO: Users of S/360 Continuous Modeling Program (360A-CX-16X)

SUBJECT: APAR # PA - 114 Program # 360A-CX-16X
Program Name: S/360 Continuous System Modeling Program
Version 1 Modification Level 2

Abstract of Problem

Program will not diagnose too many PRTPLT variables if variables appear as print requests (in parenthesis).

Comment on Problem

Subroutine INTRAN does not include the print-only requests on PRTPLT statements when a test for too many variables is made. Abnormal execution may occur from the resulting table overflow. The following input to the UPDTE utility (Figure 3 control cards) may be used to correct this error.

```
./   CHANGE SEQFLD=774,NAME=INTRAN
1760   IF(KPLOT.EQ.5Ø)GO TO 247Ø                  INTR1960
       KPLOT=KPLOT+1                              INTR1962
./   ENDUP
```

Subroutine INTRAN must be compiled (FORTRAN H Opt 1) and the execution phase relink edited (Figure 6).

SYSPAK 20.0 12-7-71

DECEMBER 1970

MEMORANDUM TO: Users of S/360 Continuous Modeling Program (360A-CX-16X)

SUBJECT: APAR # PA-117 Program # 360A-CX-16X
Program Name: S/360 Continuous System Modeling Program
Version 1 Modification Level 2

Abstract of Problem

Translator may incorrectly flag memory block inputs and not use multiple output memory elements to break loops.

Comment on Problem

The Translator incorrectly flags INPUT NAME SAME AS OUTPUT NAME for memory blocks and may not use multiple outputs from memory blocks to break algebraic loops. Incorrect storage assignment is given to memory blocks specified without storage. The following input to be UPDTE utility (Figure 3 control cards) may be used to correct these program errors.

```
./    CHANGE SEQFLD=774,NAME=DATAST
        KNTMEM(NTMEM)=Ø                                  DATA1275
./  CHANGE              NAME=MMACST,SEQFLD=774
        EQUIVALENCE (LL(11),LLMEMS)                      MMAC 152
1560    IF(LLMEMS.EQ.1)GO TO 157Ø                        MMAC157Ø
        IERR=8                                           MMAC1572
./    CHANGE SEQFLD=774,NAME=STRUST
        DO 158Ø KJ1=J1,NTOUT                             STRU1392
        TINT(NMEM)=TOUT(KJ1)                             STRU138Ø
1580    LINT(NMEM)=KJ1                                   STRU139Ø
1590    IF(KNTMEM(NTER).EQ.Ø)GO TO 163Ø                  STRU141Ø
        CALL NTOBCD(NMEMRY,XYZ)                          STRU1415
1810    IF(LLMEMS.EQ.1)GO TO 182Ø                        STRU186Ø
        IERR=8                                           STRU1862
        IF(NINT.LT.NMEM)GO TO 231Ø                       STRU272Ø
        LL(17)=4                                         STRU2722
        GO TO 242Ø                                       STRU2724
./    ENDUP
```

Subroutines DATAST, MMACST, and S TRUST must be compiled and the TRANSLATOR relink edited .

SYSPAK 20.0 12-7-71

DECEMBER 1970

MEMORANDUM TO: Users of S/360 Continuous Modeling Program (360A-CX-16X)

SUBJECT: APAR # PA - 189 Program # 360A-CX-16X
Program Name: S/360 Continuous System Modeling Program
Version 1 Modification Level 2

Abstract of Problem

The CSMP procedure must contain the DD card specified for FORTRAN execution diagnostics.

Comment on Problem

The CSMP system supplies FTØ6FØØ1 as the DD name for printer output during the execution phase. Normally this is also the FORTRAN execution diagnostic unit specified at system generation time. If it is not, the appropriate DD card (for example //FTØ3FØØ1 DD SYSOUT=A) must be supplied as an addition to the CSMP procedure.

JANUARY 1971

MEMORANDUM TO: Users of S/360 Continuous Modeling Program (360A-CX-16X)

SUBJECT: APAR # PA-042 Program 360A-CX-16X
Program Name: S/360 Continuous System Modeling Program
Version 1 Modification Level 2

Abstract of Problem

The DELAY function may create extrapolated rather than interpolated output values.

Comment on Problem

The V1M2 system may be modified by the Optional Distribution procedures in the CSMP Operator's Manual to correct this program error. The following input to the UPDTE utility (Figure 3 control cards) will modify subroutine DELAY.

```
./    CHANGE SEQFLD=783,NAME=DELAY
        KX(K-4)=2                                                    DELA 120
        KX(K-2)=N+N+4                                                DELA 140
1160    CONTINUE                                                     DELA 470
C   IF   I  EQUALS 0 THEN WRAP AROUND IS NEEDED                      DELA 474
C   COPY LAST POINTS IN TABLE TO FIRST LOCATIONS                     DELA 475
C   IN EITHER CASE STORE CURRENT VALUES IN NEXT LOCATIONS            DELA 477
C                                                                    DELA 478
      IF(I.GT.0)GO TO 1200                                           DELA 520
      IF(KX(K-4)+2.LE.KX(K-2))GO TO 1200                             DELA 522
      KX(K-4)=KX(K-4)+2                                              DELA 582
./  ENDUP
```

Subroutine DELAY must be compiled (Figure 4) and the execution phase relink-edited (Figure 6).

SYSPAK 20.0 12-7-71

MEMORANDUM TO: Users of S/360 Continuous Modeling Program (360A-CX-16X)

SUBJECT: APAR # PA-046 Program # 360A-CX-16X
Program Name: S/360 Continuous System Modeling Program
Version 1 Modification Level 2

Abstract of the Problem

Integration method RKS may fail if the difference between TIME and TNEXT becomes effectively zero.

Comment on Problem

The V1M2 system may be modified by the Optional Distribution procedures in the CSMP Operator's Manual to correct this program error. The following input to the UPDTE utility (Figure 3 control cards) will modify subroutine RKS so that the diagnostic message "VARIABLE STEP DELT LESS THAN DELMIN. SIMULATION HALT" will be generated if (TIME - TINEXT) is effectively zero.

```
./    CHANGE SEQFLD=774,NAME=RKS
        IF(AA.EQ.0.0)GO TO 2140                                      RKS  555
./    ENDUP
```

Subroutine RKS must be compiled and the execution phase relink edited.

SYSPAK 20.0 12-7-71

MEMORANDUM TO: Users of S/360 Continuous Modeling Program (360A-CX-16X)

SUBJECT: APAR # PA-066 Program # 360A-CX-16X
Program Name: S/360 Continuous System Modeling Program
Version 1 Modification Level 2

Abstract of Problem

S/360 CSMP does not recognize the FORTRAN 'GOTO' (without an intermediate blank) on macro statements.

Comment on Problem

Subroutine RMACST may be modified to add this FORTRAN form to the macro generating code. Use the Optional Distribution procedures described in the Operator's Manual to compile RMACST and relink-edit the translator. The following modifications are required as input.

```
./     CHANGE SEQFLD=774,NAME=RMACST
       DATA GOTO/'GOTO'/                                    RMAC 112
1850   IF(CWORD-CBCD(291))1852,2030,1852                    RMAC2290
1852   IF(CWORD-GOTO)2100,2032,2100                         RMAC2292
2010   IF(CWORD-CBCD(291)) 2012,2030,2012                   RMAC2640
2012   IF(CWORD-GOTO)2040,2032,2040                         RMAC2642
2032   KIF=0                                                RMAC2730
./     ENDUP
```

SYSPAK 20.0 12-7-71

MEMORANDUM TO: Users of S/360 Continuous Modeling Program (360A-CX-16X)

SUBJECT: APAR # PA-118 Program 360A-CX-16X (Correction)
Program Name: S/360 Continuous System Modeling Program
Version 1 Modification Level 2

Abstract of Problem

A memory function may improperly break an algebraic loop if it is used as part of an expression.

Comment on Problem

The use of a memory function (for example, the CSMP DELAY block) as part of an expression or as a subroutine argument expression may incorrectly allow the statement output(s) to break algebraic loops involving other terms in the expression or other arguments. The following update restricts the loop-breaking to loops involving only the inputs to the memory function and its outputs. It also corrects an error in the sort operation that was not allowing the last memory output encountered to break a loop that did not involve integration.

Subroutines STRUST and SEQUST must be updated and recompiled and the translator re-link-edited.

```
./   CHANGE SEQFLD=774,NAME=STRUST
1550  IF(IPO.EQ.9)LLMEMS=1                                  STRU1296
      IF(K8.NE.4)GO TO 1590                                 STRU1298
1552  CONTINUE                                              STRU1300
      IF(K8.NE.4)GO TO 1970                                 STRU1392
1720  IF(LLMEMS.EQ.0)GO TO 1726                             STRU1740
      IF(IWTYPE.NE.2)GO TO 1726                             STRU1742
      IF(INO.EQ.6.AND.KNTPRN.EQ.1)LLMEMS=0                  STRU1744
      IF(INO.NE.7.AND.KNTPRN.EQ.0)LLMEMS=0                  STRU1746
1726  IF(INO-12)1730,1940,2410                              STRU1748
1960  IF(LLPRO.EQ.2)GO TO 1990                              STRU2090
      IF(LLMEMS.EQ.1)GO TO 1552                             STRU2092
./   CHANGE SEQFLD=774,NAME=SEQUST
2270  IF(LMEM(J).EQ.0)GO TO 2350                            SEQU3150
      IF(NSEQ.GT.J2)GO TO 2292                              SEQU3162
2292  CONTINUE                                              SEQU3202
      IF(J.GE.NMEM)GO TO 2270                               SEQU3370
      IF(NSEQ.GT.J2)GO TO 2392                              SEQU3432
2392  CONTINUE                                              SEQU3472
./   ENDUP
```

SYSPAK 20.0 12-7-71

April 26, 1971

MEMORANDUM TO: Users of S/360 Continuous System Modeling Program (360A-CX-16X)

SUBJECT: APAR # PA-366 Program #360A-CX-16X
Program Name: S/360 Continuous System Modeling Program
Version 1 Modification Level 2

Abstract of Problem:

An abnormal exit will occur if a "PROCEDURAL" label is used in a MACRO definition with more than 25 input and output names. For example:

```
MACRO  Y   = BLK (X1, X2,...,.. X25)
PROCEDURAL   (blank)
```

Comment on Problem:

Table 22 of the translation module has a capacity of 180 input characters. The system code performing the automatic generation of a PROCEDURE statement using the MACRO label statement fails to test for table overflow and an abnormal exit will result. Subroutine RMACST may be modified to perform this test. Use the Optional Distribution procedures described in the Operator's Manual to compile RMACST and relink-edit the translator. The following modifications are required as input:

```
./   CHANGE SEQFLD=774,NAME=RMACST
1926  IF(LETERS(KEND).NE.64)GO TO 1928          RMAC2422
      KEND=KEND-1                               RMAC2424
      GO TO 1926                                RMAC2426
1928  KEND=KEND+1                               RMAC2430
1936  IF(LETERS(KEND).NE.64)GO TO 1938          RMAC2502
      KEND=KEND-1                               RMAC2504
      GO TO 1938                                RMAC2506
1938  KEND=KEND+1                               RMAC2510
      IF(KEND.GT.180)GO TO 2211                 RMAC2542
./   ENDUP
```

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