```
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

                                                     2 ***********************************************************************
                                                     3 *
                                                     4 *Testcase IEEE LOAD ROUNDED
                                                     5 *  Test case capability includes IEEE exceptions, trappable and
                                                     6 *  otherwise.  Test result, FPCR flags, and DXC saved for all tests.
                                                     7 *  Load Rounded does not set the condition code.
                                                     8 *
                                                     9 *
                                                    10 *                      ********************
                                                    11 *                      **   IMPORTANT!   **
                                                    12 *                      ********************
                                                    13 *
                                                    14 *        This test uses the Hercules Diagnose X'008' interface
                                                    15 *        to display messages and thus your .tst runtest script
                                                    16 *        MUST contain a "DIAG8CMD ENABLE" statement within it!
                                                    17 *
                                                    18 *
                                                    19 ***********************************************************************
                                                    20 ***********************************************************************

                                                    22 ***********************************************************************
                                                    23 *
                                                    24 *                        bfp-002-loadr.asm
                                                    25 *
                                                    26 *        This assembly-language source file is part of the
                                                    27 *        Hercules Binary Floating Point Validation Package
                                                    28 *                        by Stephen R. Orso
                                                    29 *
                                                    30 * Copyright 2016 by Stephen R Orso.
                                                    31 * Runtest *Compare dependency removed by Fish on 2022-03-08
                                                    32 * PADCSECT macro/usage removed by Fish on 2022-03-08
                                                    33 *
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                                                    57 * PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY
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                                                    59 * (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE
                                                    60 * OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
                                                    61 *
                                                    62 ***********************************************************************

                                                    64 ***********************************************************************
                                                    65 *
                                                    66 *
                                                    67 *Testcase IEEE LOAD ROUNDED
                                                    68 *  Test case capability includes ieee exceptions trappable and
                                                    69 *  otherwise.  Test result, FPCR flags, and DXC saved for all tests.
                                                    70 *  Load Rounded does not set the condition code.
                                                    71 *
                                                    72 * Tests the following three conversion instructions
                                                    73 *   LOAD ROUNDED (long to short BFP, RRE)
                                                    74 *   LOAD ROUNDED (extended to short BFP, RRE)
                                                    75 *   LOAD ROUNDED (extended to long BFP, RRE)
                                                    76 *   LOAD ROUNDED (long short BFP, RRF-e)
                                                    77 *   LOAD ROUNDED (extended to long BFP, RRF-e)
                                                    78 *   LOAD ROUNDED (extended to short BFP, RRF-e)
                                                    79 *
                                                    80 * This routine exhaustively tests rounding in 32- and 64-bit binary
                                                    81 * floating point.  It is not possible to use Load Rounded to test
                                                    82 * rounding of 128-bit results.  There is no Load Rounded that returns
                                                    83 * a 128-bit result.
                                                    84 *
                                                    85 * Test data is compiled into this program.  The test script that runs
                                                    86 * this program can provide alternative test data through Hercules R
                                                    87 * commands.
                                                    88 *
                                                    89 * Test Case Order
                                                    90 * 1) Long to short BFP basic tests (exception traps and flags, NaNs)
                                                    91 * 2) Long to short BFP rounding mode tests
                                                    92 * 3) Extended to short BFP basic tests
                                                    93 * 4) Extended to short BFP rounding mode tests
                                                    94 * 5) Extended to long BFP basic tests.
                                                    95 * 6) Extended to long BFP rounding mode tests
                                                    96 * 7) Long to short BFP trappable underflow and overflow tests
                                                    97 * 8) Extended to short BFP trappable underflow and overflow tests
                                                    98 * 9) Extended to Long BFP trappable underflow and overflow tests
                                                    99 *
                                                   100 * Test data is 'white box,' meaning it is keyed to the internal
                                                   101 * characteristics of Softfloat 3a, while expecting results to conform
                                                   102 * to the z/Architecture Principles of Opeartion, SA22-7832-10.
                                                   103 *
                                                   104 * In the discussion below, "stored significand" does not include the
                                                   105 * implicit units digit that is always assumed to be one for a non-
                                                   106 * tiny Binary Floating Point value.
                                                   107 *
                                                   108 * Round long or extended to short: Softfloat uses the left-most 30
                                                   109 *   bits of the long or extended BFP stored significand for
                                                   110 *   rounding, which means 7 'extra' bits participate in the
                                                   111 *   rounding.  If any of the right-hand 22 bits are non-zero, the
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                                                   112 *   30-bit pre-rounded value is or'd with 1 in the low-order bit
                                                   113 *   position.  Bit 30 is the "sticky bit."
                                                   114 *
                                                   115 * Round extended to long: Softfloat uses the left-most 62 bits of
                                                   116 *   the extended BFP stored significand for rounding, which means
                                                   117 *   10 'extra' bits participate in the rounding.  If any of the
                                                   118 *   remaining right-hand 50 bits are non-zero, the 62-bit pre-
                                                   119 *   rounded value is or'd with 1 in the low-order bit position.  Bit 62
                                                   120 *   is the "sticky bit."  At least one of the test cases will have one
                                                   121 *   bits in only the low-order 64 bits of the stored significand.
                                                   122 *
                                                   123 * The or'd 1 bit representing the bits not participating in the
                                                   124 *   rounding process prevents false exacts.  False exacts would
                                                   125 *   otherwise occur when the extra 7 or 10 bits that participate
                                                   126 *   in rounding are zero and bits to the right of them are not.
                                                   127 *
                                                   128 * Basic test cases are needed as follows:
                                                   129 *   0, +1.5, -1.5, QNaN, SNaN,
                                                   130 *
                                                   131 * Rounding test cases are needed as follows:
                                                   132 *   Exact results are represented (no rounding needed)
                                                   133 *   Ties are represented, both even (round down) and odd (round up)
                                                   134 *   False exacts are represented
                                                   135 *   Nearest value is toward zero
                                                   136 *   Nearest value is away from zero.
                                                   137 *   Each of the above must be represented in positive and negative.
                                                   138 *
                                                   139 * Because rounding decisions are based on the binary significand,
                                                   140 *   there is limited value to considering test case inputs in
                                                   141 *   decimal form.  The binary representations are all that is
                                                   142 *   important.
                                                   143 *
                                                   144 * If overflow/underflow occur and are trappable, the result should
                                                   145 *   be in the source format but scaled to the target precision.
                                                   146 *   These test cases are handled by both the basic tests to
                                                   147 *   ensure that the non-trap results are correct and again by
                                                   148 *   specific trappable overflow/underflow tests to ensure that the
                                                   149 *   scaled result rounded to target precision is returned in
                                                   150 *   the source format.
                                                   151 *
                                                   152 * Overflow/underflow behavior also means that result registers
                                                   153 *   must be sanitized and allocated in pairs for extended inputs;
                                                   154 *   results must store source format registers.  Basic tests
                                                   155 *   for overflow/underflow only store the target precision, so
                                                   156 *   *Want needs to be coded accordingly.  The trappable
                                                   157 *   overflow/underflow tests store the source format.
                                                   158 *
                                                   159 *   Overflow/underflow test cases include inputs that overflow
                                                   160 *   the target precision and that result in a tiny in the target.
                                                   161 *   Rounding mode for all overflow/underflow testing is Round
                                                   162 *   to Nearest, Ties to Even (RNTE).
                                                   163 *
                                                   164 * Rounding test cases are needed as follows:
                                                   165 *   Exact results are represented (no rounding needed)
                                                   166 *   Ties are represented, both even (round down) and odd (round up)
                                                   167 *   False exacts are represented
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

                                                   168 *   Nearest value is toward zero
                                                   169 *   Nearest value is away from zero.
                                                   170 *   Each of the above must be represented in positive and negative.
                                                   171 *
                                                   172 * Because rounding decisions are based on the binary significand,
                                                   173 *   there is limited value to considering test case inputs in
                                                   174 *   decimal form.  The binary representations are all that is
                                                   175 *   important.
                                                   176 *
                                                   177 * Three input test data sets are provided, one for long to short, one
                                                   178 *   for extended to short, and one for extended to long.  We cannot use
                                                   179 *   the same extended inputs for long and short results because the
                                                   180 *   rounding points differ for the two result precisions.
                                                   181 *
                                                   182 * Also tests the following floating point support instructions
                                                   183 *   LOAD  (Short)
                                                   184 *   LOAD  (Long)
                                                   185 *   LFPC  (Load Floating Point Control Register)
                                                   186 *   SRNMB (Set BFP Rounding Mode 3-bit)
                                                   187 *   STFPC (Store Floating Point Control Register)
                                                   188 *   STORE (Short)
                                                   189 *   STORE (Long)
                                                   190 *
                              00000000  0000A693   191 BFPLDRND START 0
                              00000000  00000001   192 R0       EQU   0
                              00000001  00000001   193 R1       EQU   1
                              00000002  00000001   194 R2       EQU   2
                              00000003  00000001   195 R3       EQU   3
                              00000004  00000001   196 R4       EQU   4
                              00000005  00000001   197 R5       EQU   5
                              00000006  00000001   198 R6       EQU   6
                              00000007  00000001   199 R7       EQU   7
                              00000008  00000001   200 R8       EQU   8
                              00000009  00000001   201 R9       EQU   9
                              0000000A  00000001   202 R10      EQU   10
                              0000000B  00000001   203 R11      EQU   11
                              0000000C  00000001   204 R12      EQU   12
                              0000000D  00000001   205 R13      EQU   13
                              0000000E  00000001   206 R14      EQU   14
                              0000000F  00000001   207 R15      EQU   15
                                                   208 *
                                                   209 * Floating Point Register equates to keep the cross reference clean
                                                   210 *
                              00000000  00000001   211 FPR0     EQU   0
                              00000001  00000001   212 FPR1     EQU   1
                              00000002  00000001   213 FPR2     EQU   2
                              00000003  00000001   214 FPR3     EQU   3
                              00000004  00000001   215 FPR4     EQU   4
                              00000005  00000001   216 FPR5     EQU   5
                              00000006  00000001   217 FPR6     EQU   6
                              00000007  00000001   218 FPR7     EQU   7
                              00000008  00000001   219 FPR8     EQU   8
                              00000009  00000001   220 FPR9     EQU   9
                              0000000A  00000001   221 FPR10    EQU   10
                              0000000B  00000001   222 FPR11    EQU   11
                              0000000C  00000001   223 FPR12    EQU   12
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

                              0000000D  00000001   224 FPR13    EQU   13
                              0000000E  00000001   225 FPR14    EQU   14
                              0000000F  00000001   226 FPR15    EQU   15
                                                   227 *
00000000                      00000000             228          USING *,R15
00000000                      0000A280             229          USING HELPERS,R12
                                                   230 *
                                                   231 * Above works on real iron (R15=0 after sysclear)
                                                   232 * and in z/CMS (R15 points to start of load module)
                                                   233 *

                                                   235 ***********************************************************************
                                                   236 *
                                                   237 * Low core definitions, Restart PSW, and Program Check Routine.
                                                   238 *
                                                   239 ***********************************************************************

00000000                      00000000  0000008E   241          ORG   BFPLDRND+X'8E'      Program check interrution code
0000008E  0000                                     242 PCINTCD  DS    H
                                                   243 *
                              00000150  00000000   244 PCOLDPSW EQU   BFPLDRND+X'150'     z/Arch Program check old PSW
                                                   245 *
00000090                      00000090  000001A0   246          ORG   BFPLDRND+X'1A0'     z/Arch Restart PSW
000001A0  00000001 80000000                        247          DC    X'0000000180000000',AD(START)
                                                   248 *
000001B0                      000001B0  000001D0   249          ORG   BFPLDRND+X'1D0'     z/Arch Program check NEW PSW
000001D0  00000000 00000000                        250          DC    X'0000000000000000',AD(PROGCHK)
                                                   251 *
                                                   252 * Program check routine.  If Data Exception, continue execution at
                                                   253 * the instruction following the program check.  Otherwise, hard wait.
                                                   254 * No need to collect data.  All interesting DXC stuff is captured
                                                   255 * in the FPCR.
                                                   256 *
000001E0                      000001E0  00000200   257          ORG   BFPLDRND+X'200'
00000200                                           258 PROGCHK  DS    0H             Program check occured...
00000200  9507 F08F                     0000008F   259          CLI   PCINTCD+1,X'07'  Data Exception?
00000204  A774 0004                     0000020C   260          JNE   PCNOTDTA       ..no, hardwait (not sure if R15 is ok)
00000208  B2B2 F150                     00000150   261          LPSWE PCOLDPSW       ..yes, resume program execution

0000020C  900F F23C                     0000023C   263 PCNOTDTA STM   R0,R15,SAVEREGS  Save registers
00000210  58C0 F27C                     0000027C   264          L     R12,AHELPERS     Get address of helper subroutines
00000214  4DD0 C000                     0000A280   265          BAS   R13,PGMCK        Report this unexpected program check
00000218  980F F23C                     0000023C   266          LM    R0,R15,SAVEREGS  Restore registers

0000021C  12EE                                     268          LTR   R14,R14        Return address provided?
0000021E  077E                                     269          BNZR  R14            Yes, return to z/CMS test rig.
00000220  B2B2 F228                     00000228   270          LPSWE PROGPSW        Not data exception, enter disabled wait
00000228  00020000 00000000                        271 PROGPSW  DC    0D'0',X'0002000000000000',XL6'00',X'DEAD' Abnormal end
00000238  B2B2 F2F8                     000002F8   272 FAIL     LPSWE FAILPSW        Not data exception, enter disabled wait
0000023C  00000000 00000000                        273 SAVEREGS DC    16F'0'         Registers save area
0000027C  0000A280                                 274 AHELPERS DC    A(HELPERS)     Address of helper subroutines
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

                                                   276 ***********************************************************************
                                                   277 *
                                                   278 *  Main program.  Enable Advanced Floating Point, process test cases.
                                                   279 *
00000280  B600 F308                     00000308   280 START    STCTL R0,R0,CTLR0    Store CR0 to enable AFP
00000284  9604 F309                     00000309   281          OI    CTLR0+1,X'04'  Turn on AFP bit
00000288  B700 F308                     00000308   282          LCTL  R0,R0,CTLR0    Reload updated CR0
                                                   283 *
                                                   284 * Long Load Rounded to short tests
                                                   285 *
0000028C  41A0 F314                     00000314   286          LA    R10,LTOSBAS    Long BFP test inputs
00000290  4DD0 F3A4                     000003A4   287          BAS   R13,LEDBR      Load rounded to short BFP
00000294  41A0 F344                     00000344   288          LA    R10,LTOSRM     Long BFP inputs for rounding tests
00000298  4DD0 F424                     00000424   289          BAS   R13,LEDBRA     Round to short BFP using rm options
                                                   290 *
                                                   291 * Extended Load Rounded to short tests
                                                   292 *
0000029C  41A0 F324                     00000324   293          LA    R10,XTOSBAS    Point to extended BFP test inputs
000002A0  4DD0 F4F6                     000004F6   294          BAS   R13,LEXBR      Load rounded to short BFP
000002A4  41A0 F354                     00000354   295          LA    R10,XTOSRM     Extended BFP inputs for rounding tests
000002A8  4DD0 F57A                     0000057A   296          BAS   R13,LEXBRA     Round to short BFP using rm options
                                                   297 *
                                                   298 * Extended Load Rounded to short tests
                                                   299 *
000002AC  41A0 F334                     00000334   300          LA    R10,XTOLBAS    Point to extended BFP test inputs
000002B0  4DD0 F64C                     0000064C   301          BAS   R13,LDXBR      Load rounded to long BFP
000002B4  41A0 F364                     00000364   302          LA    R10,XTOLRM     Extended BFP inputs for rounding tests
000002B8  4DD0 F6D0                     000006D0   303          BAS   R13,LDXBRA     Round to long BFP using rm options
                                                   304 *
                                                   305 * Trappable long to short tests
                                                   306 *
000002BC  41A0 F374                     00000374   307          LA    R10,LTOSOU     Long BFP over/underflow test inputs
000002C0  4DD0 F3EE                     000003EE   308          BAS   R13,LEDBROUT   Load rounded to short BFP, trappable
                                                   309 *
                                                   310 * Trappable extended to short tests
                                                   311 *
000002C4  41A0 F384                     00000384   312          LA    R10,XTOSOU     Extended BFP over/underflow test inputs
000002C8  4DD0 F540                     00000540   313          BAS   R13,LEXBROUT   Load rounded to short BFP, trappable
                                                   314 *
                                                   315 * Trappable extended to long tests
                                                   316 *
000002CC  41A0 F394                     00000394   317          LA    R10,XTOLOU     Extended BFP over/underflow test inputs
000002D0  4DD0 F696                     00000696   318          BAS   R13,LDXBROUT   Load rounded to long BFP, trappable
                                                   319 *
                                                   320 ***********************************************************************
                                                   321 *                   Verify test results...
                                                   322 ***********************************************************************
                                                   323 *
000002D4  58C0 F27C                     0000027C   324          L     R12,AHELPERS     Get address of helper subroutines
000002D8  4DD0 C0A0                     0000A320   325          BAS   R13,VERISUB      Go verify results
000002DC  12EE                                     326          LTR   R14,R14          Was return address provided?
000002DE  077E                                     327          BNZR  R14              Yes, return to z/CMS test rig.
000002E0  B2B2 F2E8                     000002E8   328          LPSWE GOODPSW          Load SUCCESS PSW
```

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  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

000002E8                                           330          DS    0D            Ensure correct alignment for PSW
000002E8  00020000 00000000                        331 GOODPSW  DC    X'0002000000000000',AD(0)  Normal end - disabled wait
000002F8  00020000 00000000                        332 FAILPSW  DC    X'0002000000000000',XL6'00',X'0BAD' Abnormal end
                                                   333 *
00000308  00000000                                 334 CTLR0    DS    F
0000030C  00000000                                 335 FPCREGNT DC    X'00000000'  FPCR, trap all IEEE exceptions, zero flags
00000310  F8000000                                 336 FPCREGTR DC    X'F8000000'  FPCR, trap no IEEE exceptions, zero flags
                                                   337 *
                                                   338 * Input values parameter list, four fullwords:
                                                   339 *      1) Count,
                                                   340 *      2) Address of inputs,
                                                   341 *      3) Address to place results, and
                                                   342 *      4) Address to place DXC/Flags/cc values.
                                                   343 *
00000314                                           344 LTOSBAS  DS    0F           Inputs for long to short BFP tests
00000314  0000000D                                 345          DC    A(LTOSCT/8)
00000318  000007A8                                 346          DC    A(LTOSIN)
0000031C  00001000                                 347          DC    A(LTOSOUT)
00000320  00001080                                 348          DC    A(LTOSFLGS)
                                                   349 *
00000324                                           350 XTOSBAS  DS    0F           Inputs for extended to short BFP tests
00000324  0000000D                                 351          DC    A(XTOSCT/16)
00000328  00000890                                 352          DC    A(XTOSIN)
0000032C  00001900                                 353          DC    A(XTOSOUT)
00000330  00001980                                 354          DC    A(XTOSFLGS)
                                                   355 *
00000334                                           356 XTOLBAS  DS    0F           Inputs for extended to long BFP tests
00000334  0000000D                                 357          DC    A(XTOLCT/16)
00000338  00000A60                                 358          DC    A(XTOLIN)
0000033C  00002200                                 359          DC    A(XTOLOUT)
00000340  00002300                                 360          DC    A(XTOLFLGS)
                                                   361 *
00000344                                           362 LTOSRM   DS    0F       Inputs for long to short BFP rounding tests
00000344  00000010                                 363          DC    A(LTOSRMCT/8)
00000348  00000810                                 364          DC    A(LTOSINRM)
0000034C  00001100                                 365          DC    A(LTOSRMO)
00000350  00001500                                 366          DC    A(LTOSRMOF)
                                                   367 *
00000354                                           368 XTOSRM   DS    0F       Inputs for extended to short BFP rounding tests
00000354  00000010                                 369          DC    A(XTOSRMCT/16)
00000358  00000960                                 370          DC    A(XTOSINRM)
0000035C  00001A00                                 371          DC    A(XTOSRMO)
00000360  00001E00                                 372          DC    A(XTOSRMOF)
                                                   373 *
00000364                                           374 XTOLRM   DS    0F       Inputs for extended to long BFP rounding tests
00000364  00000010                                 375          DC    A(XTOLRMCT/16)
00000368  00000B30                                 376          DC    A(XTOLINRM)
0000036C  00002400                                 377          DC    A(XTOLRMO)
00000370  00002B00                                 378          DC    A(XTOLRMOF)
                                                   379 *
00000374                                           380 LTOSOU   DS    0F       Inputs for long to short BFP rounding tests
00000374  00000008                                 381          DC    A(LTOSOUCT/8)
00000378  000007D0                                 382          DC    A(LTOSINOU)
0000037C  00003000                                 383          DC    A(LTOSOUO)
00000380  00003080                                 384          DC    A(LTOSOUOF)
                                                   385 *
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

00000384                                           386 XTOSOU   DS    0F        Inputs for extended to short BFP rounding tests
00000384  00000008                                 387          DC    A(XTOSOUCT/16)
00000388  000008E0                                 388          DC    A(XTOSINOU)
0000038C  00003100                                 389          DC    A(XTOSOUO)
00000390  00003180                                 390          DC    A(XTOSOUOF)
                                                   391 *
00000394                                           392 XTOLOU   DS    0F        Inputs for extended to long BFP rounding tests
00000394  00000008                                 393          DC    A(XTOLOUCT/16)
00000398  00000AB0                                 394          DC    A(XTOLINOU)
0000039C  00003200                                 395          DC    A(XTOLOUO)
000003A0  00003280                                 396          DC    A(XTOLOUOF)
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

                                                   398 ***********************************************************************
                                                   399 *
                                                   400 * Round long BFP to short BFP.  A pair of results is generated for each
                                                   401 * input: one with all exceptions non-trappable, and the second with all
                                                   402 * exceptions trappable.   The FPCR contents are stored for each result.
                                                   403 *
                                                   404 ***********************************************************************

000003A4  9823 A000                     00000000   406 LEDBR    LM    R2,R3,0(R10)  Get count and address of test input values
000003A8  9878 A008                     00000008   407          LM    R7,R8,8(R10)  Get address of result area and flag area.
000003AC  1222                                     408          LTR   R2,R2         Any test cases?
000003AE  078D                                     409          BZR   R13           ..No, return to caller
000003B0  0DC0                                     410          BASR  R12,0         Set top of loop
                                                   411 *
000003B2  B375 0010                                412          LZDR  FPR1          Zero FRP1 to clear any residual
000003B6  6800 3000                     00000000   413          LD    FPR0,0(,R3)   Get long BFP test value
000003BA  B29D F30C                     0000030C   414          LFPC  FPCREGNT      Set exceptions non-trappable
000003BE  B344 0010                                415          LEDBR FPR1,FPR0     Cvt long in FPR0 to short in FPR1
000003C2  7010 7000                     00000000   416          STE   FPR1,0(,R7)   Store short BFP result
000003C6  B29C 8000                     00000000   417          STFPC 0(R8)         Store resulting FPCR flags and DXC
                                                   418 *
000003CA  B375 0010                                419          LZDR  FPR1          Zero FRP1 to clear any residual
000003CE  B29D F310                     00000310   420          LFPC  FPCREGTR      Set exceptions trappable
000003D2  B344 0010                                421          LEDBR FPR1,FPR0     Cvt long in FPR0 to short in FPR1
000003D6  7010 7004                     00000004   422          STE   FPR1,4(,R7)   Store short BFP result
000003DA  B29C 8004                     00000004   423          STFPC 4(R8)         Store resulting FPCR flags and DXC
                                                   424 *
000003DE  4130 3008                     00000008   425          LA    R3,8(,R3)     Point to next input value
000003E2  4170 7008                     00000008   426          LA    R7,8(,R7)     Point to next result pair
000003E6  4180 8008                     00000008   427          LA    R8,8(,R8)     Point to next FPCR result area
000003EA  062C                                     428          BCTR  R2,R12        Convert next input value.
000003EC  07FD                                     429          BR    R13           All converted; return.
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

                                                   431 ***********************************************************************
                                                   432 *
                                                   433 * Round long BFP to short BFP.  Inputs are expected to generate
                                                   434 * overflow or underflow exceptions, all of which are trappable.  This
                                                   435 * means a scaled result should be generated rounded to the target
                                                   436 * precision but returned in the source precision.   The FPCR contents
                                                   437 * are stored for each result.
                                                   438 *
                                                   439 ***********************************************************************


000003EE  9823 A000                     00000000   441 LEDBROUT LM    R2,R3,0(R10)  Get count and address of test input values
000003F2  9878 A008                     00000008   442          LM    R7,R8,8(R10)  Get address of result area and flag area.
000003F6  1222                                     443          LTR   R2,R2         Any test cases?
000003F8  078D                                     444          BZR   R13           ..No, return to caller
000003FA  0DC0                                     445          BASR  R12,0         Set top of loop
                                                   446 *
000003FC  B375 0010                                447          LZDR  FPR1          Zero FRP1 to clear any residual
00000400  6800 3000                     00000000   448          LD    FPR0,0(,R3)   Get long BFP test value
00000404  B29D F310                     00000310   449          LFPC  FPCREGTR      Set exceptions trappable
00000408  B344 0010                                450          LEDBR FPR1,FPR0     Cvt long in FPR0 into short in FPR1
0000040C  6010 7000                     00000000   451          STD   FPR1,0(,R7)   Store long scaled BFP trapped result
00000410  B29C 8000                     00000000   452          STFPC 0(R8)         Store resulting FPCR flags and DXC
                                                   453 *
00000414  4130 3008                     00000008   454          LA    R3,8(,R3)     Point to next input value
00000418  4170 7008                     00000008   455          LA    R7,8(,R7)     Point to next long trapped result value
0000041C  4180 8004                     00000004   456          LA    R8,4(,R8)     Point to next FPCR result area
00000420  062C                                     457          BCTR  R2,R12        Convert next input value.
00000422  07FD                                     458          BR    R13           All converted; return.
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

                                                   460 ***********************************************************************
                                                   461 *
                                                   462 * Convert long BFP to rounded short BFP using each possible rounding
                                                   463 * mode.  Ten test results are generated for each input.  A 48-byte test
                                                   464 * result section is used to keep results sets aligned on a quad-double
                                                   465 * word.
                                                   466 *
                                                   467 * The first four tests use rounding modes specified in the FPCR with
                                                   468 * the IEEE Inexact exception supressed.  SRNM (2-bit) is used  for
                                                   469 * the first two FPCR-controlled tests and SRNMB (3-bit) is used for
                                                   470 * the last two To get full coverage of that instruction pair.
                                                   471 *
                                                   472 * The next six results use instruction-specified rounding modes.
                                                   473 *
                                                   474 * The default rounding mode (0 for RNTE) is not tested in this
                                                   475 * section; prior tests used the default rounding mode.  RNTE is tested
                                                   476 * explicitly as a rounding mode in this section.
                                                   477 *
                                                   478 ***********************************************************************

00000424  9823 A000                     00000000   480 LEDBRA   LM    R2,R3,0(R10)  Get count and address of test input values
00000428  9878 A008                     00000008   481          LM    R7,R8,8(R10)  Get address of result area and flag area.
0000042C  1222                                     482          LTR   R2,R2         Any test cases?
0000042E  078D                                     483          BZR   R13           ..No, return to caller
00000430  0DC0                                     484          BASR  R12,0         Set top of loop
                                                   485 *
00000432  6800 3000                     00000000   486          LD    FPR0,0(,R3)    Get long BFP test value
                                                   487 *
                                                   488 * Test cases using rounding mode specified in the FPCR
                                                   489 *
00000436  B29D F30C                     0000030C   490          LFPC  FPCREGNT      Set exceptions non-trappable, clear flags
0000043A  B299 0001                     00000001   491          SRNM  1             SET FPCR to RZ, Round towards zero.
0000043E  B344 0410                                492          LEDBRA FPR1,0,FPR0,B'0100'  FPCR ctl'd rounding, mask inexact
00000442  7010 7000                     00000000   493          STE   FPR1,0*4(,R7) Store shortened rounded BFP result
00000446  B29C 8000                     00000000   494          STFPC 0(R8)         Store resulting FPCRflags and DXC
                                                   495 *
0000044A  B29D F30C                     0000030C   496          LFPC  FPCREGNT      Set exceptions non-trappable, clear flags
0000044E  B299 0002                     00000002   497          SRNM  2             SET FPCR to RP, Round to +infinity
00000452  B344 0410                                498          LEDBRA FPR1,0,FPR0,B'0100'  FPCR ctl'd rounding, mask inexact
00000456  7010 7004                     00000004   499          STE   FPR1,1*4(,R7) Store shortened rounded BFP result
0000045A  B29C 8004                     00000004   500          STFPC 1*4(R8)       Store resulting FPCR flags and DXC
                                                   501 *
0000045E  B29D F30C                     0000030C   502          LFPC  FPCREGNT      Set exceptions non-trappable, clear flags
00000462  B2B8 0003                     00000003   503          SRNMB 3             SET FPCR to RM, Round to -infinity
00000466  B344 0410                                504          LEDBRA FPR1,0,FPR0,B'0100'  FPCR ctl'd rounding, mask inexact
0000046A  7010 7008                     00000008   505          STE   FPR1,2*4(,R7) Store shortened rounded BFP result
0000046E  B29C 8008                     00000008   506          STFPC 2*4(R8)       Store resulting FPCR flags and DXC
                                                   507 *
00000472  B29D F30C                     0000030C   508          LFPC  FPCREGNT      Set exceptions non-trappable, clear flags
00000476  B2B8 0007                     00000007   509          SRNMB 7             RFS, Round Prepare for Shorter Precision
0000047A  B344 0410                                510          LEDBRA FPR1,0,FPR0,B'0100'  FPCR ctl'd rounding, mask inexact
0000047E  7010 700C                     0000000C   511          STE   FPR1,3*4(,R7) Store shortened rounded BFP result
00000482  B29C 800C                     0000000C   512          STFPC 3*4(R8)       Store resulting FPCR flags and DXC
                                                   513 *
                                                   514 * Test cases using rounding mode specified in the instruction M3 field
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

                                                   515 *
00000486  B29D F30C                     0000030C   516          LFPC  FPCREGNT      Set exceptions non-trappable, clear flags
0000048A  B344 1010                                517          LEDBRA FPR1,1,FPR0,B'0000'  RNTA, to nearest, ties away
0000048E  7010 7010                     00000010   518          STE   FPR1,4*4(,R7) Store shortened rounded BFP result
00000492  B29C 8010                     00000010   519          STFPC 4*4(R8)       Store resulting FPCR flags and DXC
                                                   520 *
00000496  B29D F30C                     0000030C   521          LFPC  FPCREGNT      Set exceptions non-trappable, clear flags
0000049A  B344 3010                                522          LEDBRA FPR1,3,FPR0,B'0000'  RFS, prepare for shorter precision
0000049E  7010 7014                     00000014   523          STE   FPR1,5*4(,R7) Store shortened rounded BFP result
000004A2  B29C 8014                     00000014   524          STFPC 5*4(R8)       Store resulting FPCR flags and DXC
                                                   525 *
000004A6  B29D F30C                     0000030C   526          LFPC  FPCREGNT      Set exceptions non-trappable, clear flags
000004AA  B344 4010                                527          LEDBRA FPR1,4,FPR0,B'0000'  RNTE, to nearest, ties to even
000004AE  7010 7018                     00000018   528          STE   FPR1,6*4(,R7) Store shortened rounded BFP result
000004B2  B29C 8018                     00000018   529          STFPC 6*4(R8)       Store resulting FPCR flags and DXC
                                                   530 *
000004B6  B29D F30C                     0000030C   531          LFPC  FPCREGNT      Set exceptions non-trappable, clear flags
000004BA  B344 5010                                532          LEDBRA FPR1,5,FPR0,B'0000'  RZ, toward zero
000004BE  7010 701C                     0000001C   533          STE   FPR1,7*4(,R7) Store shortened rounded BFP result
000004C2  B29C 801C                     0000001C   534          STFPC 7*4(R8)       Store resulting FPCR flags and DXC
                                                   535 *
000004C6  B29D F30C                     0000030C   536          LFPC  FPCREGNT      Set exceptions non-trappable, clear flags
000004CA  B344 6010                                537          LEDBRA FPR1,6,FPR0,B'0000' RP, to +inf
000004CE  7010 7020                     00000020   538          STE   FPR1,8*4(,R7) Store shortened rounded BFP result
000004D2  B29C 8020                     00000020   539          STFPC 8*4(R8)       Store resulting FPCR flags and DXC
                                                   540 *
000004D6  B29D F30C                     0000030C   541          LFPC  FPCREGNT      Set exceptions non-trappable, clear flags
000004DA  B344 7010                                542          LEDBRA FPR1,7,FPR0,B'0000' RM, to -inf
000004DE  7010 7024                     00000024   543          STE   FPR1,9*4(,R7) Store shortened rounded BFP result
000004E2  B29C 8024                     00000024   544          STFPC 9*4(R8)       Store resulting FPCR flags and DXC
                                                   545 *
000004E6  4130 3008                     00000008   546          LA    R3,8(,R3)     Point to next input value
000004EA  4170 7030                     00000030   547          LA    R7,12*4(,R7)  Point to next short BFP result pair
000004EE  4180 8030                     00000030   548          LA    R8,12*4(,R8)  Point to next FPCR result area
000004F2  062C                                     549          BCTR  R2,R12        Convert next input value.
000004F4  07FD                                     550          BR    R13           All converted; return.
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

                                                   552 ***********************************************************************
                                                   553 *
                                                   554 * Round extended BFP to short BFP.  A pair of results is genearted for
                                                   555 * each input: one with all exceptions non-trappable, and the second
                                                   556 * with all exceptions trappable.   The FPCR contents are stored for
                                                   557 * each result.
                                                   558 *
                                                   559 ***********************************************************************


000004F6  9823 A000                     00000000   561 LEXBR    LM    R2,R3,0(R10)  Get count and address of test input values
000004FA  9878 A008                     00000008   562          LM    R7,R8,8(R10)  Get address of result area and flag area.
000004FE  1222                                     563          LTR   R2,R2         Any test cases?
00000500  078D                                     564          BZR   R13           ..No, return to caller
00000502  0DC0                                     565          BASR  R12,0         Set top of loop
                                                   566 *
00000504  6800 3000                     00000000   567          LD    FPR0,0(,R3)   Get extended BFP test value part 1
00000508  6820 3008                     00000008   568          LD    R2,8(,R3)     Get extended BFP test value part 2
0000050C  B29D F30C                     0000030C   569          LFPC  FPCREGNT      Set exceptions non-trappable
00000510  B346 0010                                570          LEXBR FPR1,FPR0     Cvt extended in FPR0-2 to short in FPR1
00000514  7010 7000                     00000000   571          STE   R1,0(,R7)     Store short BFP result
00000518  B29C 8000                     00000000   572          STFPC 0(R8)         Store resulting FPCR flags and DXC
                                                   573 *
0000051C  B29D F310                     00000310   574          LFPC  FPCREGTR      Set exceptions trappable
00000520  B375 0010                                575          LZDR  FPR1          Eliminate any residual results
00000524  B346 0010                                576          LEXBR FPR1,FPR0     Cvt extended in FPR0-2 to short in FPR1
00000528  7010 7004                     00000004   577          STE   FPR1,4(,R7)   Store short BFP result
0000052C  B29C 8004                     00000004   578          STFPC 4(R8)         Store resulting FPCR flags and DXC
                                                   579 *
00000530  4130 3010                     00000010   580          LA    R3,16(,R3)    Point to next input value
00000534  4170 7008                     00000008   581          LA    R7,8(,R7)     Point to next long rounded value pair
00000538  4180 8008                     00000008   582          LA    R8,8(,R8)     Point to next FPCR result area
0000053C  062C                                     583          BCTR  R2,R12        Convert next input value.
0000053E  07FD                                     584          BR    R13           All converted; return.
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

                                                   586 ********************************************************************
                                                   587 *
                                                   588 * Round extended BFP to short BFP.  Inputs are expected to generate
                                                   589 * overflow or underflow exceptions, all of which are trappable.  This
                                                   590 * means a scaled result should be generated rounded to the target
                                                   591 * precision but returned in the source precision.   The FPCR contents
                                                   592 * are stored for each result.
                                                   593 *
                                                   594 ********************************************************************


00000540  9823 A000                     00000000   596 LEXBROUT LM    R2,R3,0(R10)  Get count and address of test input values
00000544  9878 A008                     00000008   597          LM    R7,R8,8(R10)  Get address of result area and flag area.
00000548  1222                                     598          LTR   R2,R2         Any test cases?
0000054A  078D                                     599          BZR   R13           ..No, return to caller
0000054C  0DC0                                     600          BASR  R12,0         Set top of loop
                                                   601 *
0000054E  6800 3000                     00000000   602          LD    FPR0,0(,R3)   Get extended BFP test value part 1
00000552  6820 3008                     00000008   603          LD    R2,8(,R3)     Get extended BFP test value part 2
00000556  B29D F310                     00000310   604          LFPC  FPCREGTR      Set exceptions trappable
0000055A  B346 0010                                605          LEXBR FPR1,FPR0     Cvt float in FPR0-2 to scaled in FPR1-3
0000055E  6010 7000                     00000000   606          STD   FPR1,0(,R7)   Store scaled extended BFP result part 1
00000562  6030 7008                     00000008   607          STD   FPR3,8(,R7)   Store scaled extended BFP result part 2
00000566  B29C 8000                     00000000   608          STFPC 0(R8)         Store resulting FPCR flags and DXC
                                                   609 *
0000056A  4130 3010                     00000010   610          LA    R3,16(,R3)    Point to next input value
0000056E  4170 7010                     00000010   611          LA    R7,16(,R7)    Point to next extended trapped result
00000572  4180 8004                     00000004   612          LA    R8,4(,R8)     Point to next FPCR result area
00000576  062C                                     613          BCTR  R2,R12        Convert next input value.
00000578  07FD                                     614          BR    R13           All converted; return.
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

                                                   616 ***********************************************************************
                                                   617 *
                                                   618 * Convert long BFP to integers using each possible rounding mode.
                                                   619 * Ten test results are generated for each input.  A 48-byte test result
                                                   620 * section is used to keep results sets aligned on a quad-double word.
                                                   621 *
                                                   622 * The first four tests use rounding modes specified in the FPCR with
                                                   623 * the IEEE Inexact exception supressed.  SRNM (2-bit) is used  for
                                                   624 * the first two FPCR-controlled tests and SRNMB (3-bit) is used for
                                                   625 * the last two To get full coverage of that instruction pair.
                                                   626 *
                                                   627 * The next six results use instruction-specified rounding modes.
                                                   628 *
                                                   629 * The default rounding mode (0 for RNTE) is not tested in this
                                                   630 * section; prior tests used the default rounding mode.  RNTE is tested
                                                   631 * explicitly as a rounding mode in this section.
                                                   632 *
                                                   633 ***********************************************************************

0000057A  9823 A000                     00000000   635 LEXBRA   LM    R2,R3,0(R10)  Get count and address of test input values
0000057E  9878 A008                     00000008   636          LM    R7,R8,8(R10)  Get address of result area and flag area.
00000582  1222                                     637          LTR   R2,R2         Any test cases?
00000584  078D                                     638          BZR   R13           ..No, return to caller
00000586  0DC0                                     639          BASR  R12,0         Set top of loop
                                                   640 *
00000588  6800 3000                     00000000   641          LD    FPR0,0(,R3)    Get long BFP test value
                                                   642 *
                                                   643 * Test cases using rounding mode specified in the FPCR
                                                   644 *
0000058C  B29D F30C                     0000030C   645          LFPC  FPCREGNT      Set exceptions non-trappable, clear flags
00000590  B299 0001                     00000001   646          SRNM  1             SET FPCR to RZ, Round towards zero.
00000594  B346 0410                                647          LEXBRA FPR1,0,FPR0,B'0100' FPCR ctl'd rounding, mask inexact
00000598  6010 7000                     00000000   648          STD   FPR1,0*4(,R7) Store shortened rounded BFP result
0000059C  B29C 8000                     00000000   649          STFPC 0(R8)         Store resulting FPCR flags and DXC
                                                   650 *
000005A0  B29D F30C                     0000030C   651          LFPC  FPCREGNT      Set exceptions non-trappable, clear flags
000005A4  B299 0002                     00000002   652          SRNM  2             SET FPCR to RP, Round to +infinity
000005A8  B346 0410                                653          LEXBRA FPR1,0,FPR0,B'0100' FPCR ctl'd rounding, mask inexact
000005AC  6010 7004                     00000004   654          STD   FPR1,1*4(,R7) Store shortened rounded BFP result
000005B0  B29C 8004                     00000004   655          STFPC 1*4(R8)       Store resulting FPCR flags and DXC
                                                   656 *
000005B4  B29D F30C                     0000030C   657          LFPC  FPCREGNT      Set exceptions non-trappable, clear flags
000005B8  B2B8 0003                     00000003   658          SRNMB 3             SET FPCR to RM, Round to -infinity
000005BC  B346 0410                                659          LEXBRA FPR1,0,FPR0,B'0100' FPCR ctl'd rounding, mask inexact
000005C0  6010 7008                     00000008   660          STD   FPR1,2*4(,R7) Store shortened rounded BFP result
000005C4  B29C 8008                     00000008   661          STFPC 2*4(R8)       Store resulting FPCR flags and DXC
                                                   662 *
000005C8  B29D F30C                     0000030C   663          LFPC  FPCREGNT      Set exceptions non-trappable, clear flags
000005CC  B2B8 0007                     00000007   664          SRNMB 7             RFS, Round Prepare for Shorter Precision
000005D0  B346 0410                                665          LEXBRA FPR1,0,FPR0,B'0100' FPCR ctl'd rounding, mask inexact
000005D4  6010 700C                     0000000C   666          STD   FPR1,3*4(,R7) Store shortened rounded BFP result
000005D8  B29C 800C                     0000000C   667          STFPC 3*4(R8)       Store resulting FPCR flags and DXC
                                                   668 *
                                                   669 * Test cases using rounding mode specified in the instruction M3 field
                                                   670 *
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

000005DC  B29D F30C                     0000030C   671          LFPC  FPCREGNT      Set exceptions non-trappable, clear flags
000005E0  B346 1010                                672          LEXBRA FPR1,1,FPR0,B'0000' RNTA, to nearest, ties away
000005E4  6010 7010                     00000010   673          STD   FPR1,4*4(,R7) Store shortened rounded BFP result
000005E8  B29C 8010                     00000010   674          STFPC 4*4(R8)       Store resulting FPCR flags and DXC
                                                   675 *
000005EC  B29D F30C                     0000030C   676          LFPC  FPCREGNT      Set exceptions non-trappable, clear flags
000005F0  B346 3010                                677          LEXBRA FPR1,3,FPR0,B'0000' RFS, prepare for shorter precision
000005F4  6010 7014                     00000014   678          STD   FPR1,5*4(,R7) Store shortened rounded BFP result
000005F8  B29C 8014                     00000014   679          STFPC 5*4(R8)       Store resulting FPCR flags and DXC
                                                   680 *
000005FC  B29D F30C                     0000030C   681          LFPC  FPCREGNT      Set exceptions non-trappable, clear flags
00000600  B346 4010                                682          LEXBRA FPR1,4,FPR0,B'0000' RNTE, to nearest, ties to even
00000604  6010 7018                     00000018   683          STD   FPR1,6*4(,R7) Store shortened rounded BFP result
00000608  B29C 8018                     00000018   684          STFPC 6*4(R8)       Store resulting FPCR flags and DXC
                                                   685 *
0000060C  B29D F30C                     0000030C   686          LFPC  FPCREGNT      Set exceptions non-trappable, clear flags
00000610  B346 5010                                687          LEXBRA FPR1,5,FPR0,B'0000' RZ, toward zero
00000614  6010 701C                     0000001C   688          STD   FPR1,7*4(,R7) Store shortened rounded BFP result
00000618  B29C 801C                     0000001C   689          STFPC 7*4(R8)       Store resulting FPCR flags and DXC
                                                   690 *
0000061C  B29D F30C                     0000030C   691          LFPC  FPCREGNT      Set exceptions non-trappable, clear flags
00000620  B346 6010                                692          LEXBRA FPR1,6,FPR0,B'0000' RP, to +inf
00000624  6010 7020                     00000020   693          STD   FPR1,8*4(,R7) Store shortened rounded BFP result
00000628  B29C 8020                     00000020   694          STFPC 8*4(R8)       Store resulting FPCR flags and DXC
                                                   695 *
0000062C  B29D F30C                     0000030C   696          LFPC  FPCREGNT      Set exceptions non-trappable, clear flags
00000630  B346 7010                                697          LEXBRA FPR1,7,FPR0,B'0000' RM, to -inf
00000634  6010 7024                     00000024   698          STD   FPR1,9*4(,R7) Store shortened rounded BFP result
00000638  B29C 8024                     00000024   699          STFPC 9*4(R8)       Store resulting FPCR flags and DXC
                                                   700 *
0000063C  4130 3010                     00000010   701          LA    R3,16(,R3)    Point to next input value
00000640  4170 7030                     00000030   702          LA    R7,12*4(,R7)  Point to next long BFP converted values
00000644  4180 8030                     00000030   703          LA    R8,12*4(,R8)  Point to next FPCR/CC result area
00000648  062C                                     704          BCTR  R2,R12        Convert next input value.
0000064A  07FD                                     705          BR    R13           All converted; return.
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

                                                   707 ***********************************************************************
                                                   708 *
                                                   709 * Round extended BFP to long BFP.  A pair of results is generated for
                                                   710 * each input: one with all exceptions non-trappable, and the second
                                                   711 * with all exceptions trappable.   The FPCR contents are stored for
                                                   712 * each result.
                                                   713 *
                                                   714 ***********************************************************************

0000064C  9823 A000                      00000000  716 LDXBR    LM    R2,R3,0(R10)  Get count and address of test input values
00000650  9878 A008                      00000008  717          LM    R7,R8,8(R10)  Get address of result area and flag area.
00000654  1222                                     718          LTR   R2,R2         Any test cases?
00000656  078D                                     719          BZR   R13           ..No, return to caller
00000658  0DC0                                     720          BASR  R12,0         Set top of loop
                                                   721 *
0000065A  6800 3000                      00000000  722          LD    FPR0,0(,R3)   Get extended BFP test value part 1
0000065E  6820 3008                      00000008  723          LD    R2,8(,R3)     Get extended BFP test value part 1
00000662  B29D F30C                      0000030C  724          LFPC  FPCREGNT      Set exceptions non-trappable
00000666  B345 0010                                725          LDXBR FPR1,FPR0     Round extended in FPR0-2 to long in FPR1
0000066A  6010 7000                      00000000  726          STD   FPR1,0(,R7)   Store shortened rounded BFP result
0000066E  B29C 8000                      00000000  727          STFPC 0(R8)         Store resulting FPCR flags and DXC
                                                   728 *
00000672  B29D F310                      00000310  729          LFPC  FPCREGTR      Set exceptions trappable
00000676  B376 0010                                730          LZXR  FPR1          Eliminate any residual results
0000067A  B345 0010                                731          LDXBR FPR1,FPR0     Round extended in FPR0-2 to long in FPR1
0000067E  6010 7008                      00000008  732          STD   FPR1,8(,R7)   Store shortened rounded BFP result
00000682  B29C 8004                      00000004  733          STFPC 4(R8)         Store resulting FPCR flags and DXC
                                                   734 *
00000686  4130 3010                      00000010  735          LA    R3,16(,R3)    Point to next extended BFP input value
0000068A  4170 7010                      00000010  736          LA    R7,16(,R7)    Point to next long BFP rounded value pair
0000068E  4180 8008                      00000008  737          LA    R8,8(,R8)     Point to next FPCR result area
00000692  062C                                     738          BCTR  R2,R12        Convert next input value.
00000694  07FD                                     739          BR    R13           All converted; return.
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

                                                   741 ***********************************************************************
                                                   742 *
                                                   743 * Round extended BFP to long BFP.  Inputs are expected to generate
                                                   744 * overflow or underflow exceptions, all of which are trappable.  This
                                                   745 * means a scaled result should be generated rounded to the target
                                                   746 * precision but returned in the source precision.   The FPCR contents
                                                   747 * are stored for each result.
                                                   748 *
                                                   749 ***********************************************************************

00000696  9823 A000                     00000000   751 LDXBROUT LM    R2,R3,0(R10)  Get count and address of test input values
0000069A  9878 A008                     00000008   752          LM    R7,R8,8(R10)  Get address of result area and flag area.
0000069E  1222                                     753          LTR   R2,R2         Any test cases?
000006A0  078D                                     754          BZR   R13           ..No, return to caller
000006A2  0DC0                                     755          BASR  R12,0         Set top of loop
                                                   756 *
000006A4  6800 3000                     00000000   757          LD    FPR0,0(,R3)   Get extended BFP test value part 1
000006A8  6820 3008                     00000008   758          LD    R2,8(,R3)     Get extended BFP test value part 1
000006AC  B29D F310                     00000310   759          LFPC  FPCREGTR      Set exceptions trappable
000006B0  B345 0010                                760          LDXBR FPR1,FPR0     Round ext'd in FPR0-2 to scaled in FPR1-3
000006B4  6010 7000                     00000000   761          STD   FPR1,0(,R7)   Store scaled extended BFP result part 1
000006B8  6030 7008                     00000008   762          STD   FPR3,8(,R7)   Store scaled extended BFP result part 2
000006BC  B29C 8000                     00000000   763          STFPC 0(R8)         Store resulting FPCR flags and DXC
                                                   764 *
000006C0  4130 3010                     00000010   765          LA    R3,16(,R3)    Point to next extended BFP input value
000006C4  4170 7010                     00000010   766          LA    R7,16(,R7)    Point to next long BFP rounded value pair
000006C8  4180 8004                     00000004   767          LA    R8,4(,R8)     Point to next FPCR result area
000006CC  062C                                     768          BCTR  R2,R12        Convert next input value.
000006CE  07FD                                     769          BR    R13           All converted; return.
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

                                                   771 ***********************************************************************
                                                   772 *
                                                   773 * Convert extended BFP to integers using each possible rounding mode.
                                                   774 * Ten test results are generated for each input.  A 48-byte test result
                                                   775 * section is used to keep results sets aligned on a quad-double word.
                                                   776 *
                                                   777 * The first four tests use rounding modes specified in the FPCR with
                                                   778 * the IEEE Inexact exception supressed.  SRNM (2-bit) is used  for
                                                   779 * the first two FPCR-controlled tests and SRNMB (3-bit) is used for
                                                   780 * the last two To get full coverage of that instruction pair.
                                                   781 *
                                                   782 * The next six results use instruction-specified rounding modes.
                                                   783 *
                                                   784 * The default rounding mode (0 for RNTE) is not tested in this
                                                   785 * section; `prior tests used the default rounding mode.  RNTE is tested
                                                   786 * explicitly as a rounding mode in this section.
                                                   787 *
                                                   788 ***********************************************************************


000006D0  9823 A000                     00000000   790 LDXBRA   LM    R2,R3,0(R10)  Get count and address of test input values
000006D4  9878 A008                     00000008   791          LM    R7,R8,8(R10)  Get address of result area and flag area.
000006D8  1222                                     792          LTR   R2,R2         Any test cases?
000006DA  078D                                     793          BZR   R13           ..No, return to caller
000006DC  0DC0                                     794          BASR  R12,0         Set top of loop
                                                   795 *
000006DE  6800 3000                     00000000   796          LD    FPR0,0(,R3)    Get extended BFP test value part 1
000006E2  6820 3008                     00000008   797          LD    R2,8(,R3)    Get extended BFP test value part 2
                                                   798 *
                                                   799 * Test cases using rounding mode specified in the FPCR
                                                   800 *
000006E6  B29D F30C                     0000030C   801          LFPC  FPCREGNT      Set exceptions non-trappable, clear flags
000006EA  B299 0001                     00000001   802          SRNM  1             SET FPCR to RZ, Round towards zero.
000006EE  B345 0410                                803          LDXBRA FPR1,0,FPR0,B'0100' FPCR ctl'd rounding, mask inexact
000006F2  6010 7000                     00000000   804          STD   FPR1,0*8(,R7) Store shortened rounded BFP result
000006F6  B29C 8000                     00000000   805          STFPC 0(R8)         Store resulting FPCR flags and DXC
                                                   806 *
000006FA  B29D F30C                     0000030C   807          LFPC  FPCREGNT      Set exceptions non-trappable, clear flags
000006FE  B299 0002                     00000002   808          SRNM  2             SET FPCR to RP, Round to +infinity
00000702  B345 0410                                809          LDXBRA FPR1,0,FPR0,B'0100' FPCR ctl'd rounding, mask inexact
00000706  6010 7008                     00000008   810          STD   FPR1,1*8(,R7) Store shortened rounded BFP result
0000070A  B29C 8004                     00000004   811          STFPC 1*4(R8)       Store resulting FPCR flags and DXC
                                                   812 *
0000070E  B29D F30C                     0000030C   813          LFPC  FPCREGNT      Set exceptions non-trappable, clear flags
00000712  B2B8 0003                     00000003   814          SRNMB 3             SET FPCR to RM, Round to -infinity
00000716  B345 0410                                815          LDXBRA FPR1,0,FPR0,B'0100' FPCR ctl'd rounding, mask inexact
0000071A  6010 7010                     00000010   816          STD   FPR1,2*8(,R7) Store shortened rounded BFP result
0000071E  B29C 8008                     00000008   817          STFPC 2*4(R8)       Store resulting FPCR flags and DXC
                                                   818 *
00000722  B29D F30C                     0000030C   819          LFPC  FPCREGNT      Set exceptions non-trappable, clear flags
00000726  B2B8 0007                     00000007   820          SRNMB 7             RFS, Round Prepare for Shorter Precision
0000072A  B345 0410                                821          LDXBRA FPR1,0,FPR0,B'0100' FPCR ctl'd rounding, mask inexact
0000072E  6010 7018                     00000018   822          STD   FPR1,3*8(,R7) Store shortened rounded BFP result
00000732  B29C 800C                     0000000C   823          STFPC 3*4(R8)       Store resulting FPCR flags and DXC
                                                   824 *
00000736  B29D F30C                     0000030C   825          LFPC  FPCREGNT      Set exceptions non-trappable, clear flags
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

0000073A  B345 1010                                826          LDXBRA FPR1,1,FPR0,B'0000' RNTA, to nearest, ties away
0000073E  6010 7020                     00000020   827          STD   FPR1,4*8(,R7) Store shortened rounded BFP result
00000742  B29C 8010                     00000010   828          STFPC 4*4(R8)       Store resulting FPCR flags and DXC
                                                   829 *
00000746  B29D F30C                     0000030C   830          LFPC  FPCREGNT      Set exceptions non-trappable, clear flags
0000074A  B345 3010                                831          LDXBRA FPR1,3,FPR0,B'0000' RFS, prepare for shorter precision
0000074E  6010 7028                     00000028   832          STD   FPR1,5*8(,R7) Store shortened rounded BFP result
00000752  B29C 8014                     00000014   833          STFPC 5*4(R8)       Store resulting FPCR flags and DXC
                                                   834 *
00000756  B29D F30C                     0000030C   835          LFPC  FPCREGNT      Set exceptions non-trappable, clear flags
0000075A  B345 4010                                836          LDXBRA FPR1,4,FPR0,B'0000' RNTE, to nearest, ties to even
0000075E  6010 7030                     00000030   837          STD   FPR1,6*8(,R7) Store shortened rounded BFP result
00000762  B29C 8018                     00000018   838          STFPC 6*4(R8)       Store resulting FPCR flags and DXC
                                                   839 *
00000766  B29D F30C                     0000030C   840          LFPC  FPCREGNT      Set exceptions non-trappable, clear flags
0000076A  B345 5010                                841          LDXBRA FPR1,5,FPR0,B'0000' RZ, toward zero
0000076E  6010 7038                     00000038   842          STD   FPR1,7*8(,R7) Store shortened rounded BFP result
00000772  B29C 801C                     0000001C   843          STFPC 7*4(R8)       Store resulting FPCR flags and DXC
                                                   844 *
00000776  B29D F30C                     0000030C   845          LFPC  FPCREGNT      Set exceptions non-trappable, clear flags
0000077A  B345 6010                                846          LDXBRA FPR1,6,FPR0,B'0000' RP, to +inf
0000077E  6010 7040                     00000040   847          STD   FPR1,8*8(,R7) Store shortened rounded BFP result
00000782  B29C 8020                     00000020   848          STFPC 8*4(R8)       Store resulting FPCR flags and DXC
                                                   849 *
00000786  B29D F30C                     0000030C   850          LFPC  FPCREGNT      Set exceptions non-trappable, clear flags
0000078A  B345 7010                                851          LDXBRA FPR1,7,FPR0,B'0000' RM, to -inf
0000078E  6010 7048                     00000048   852          STD   FPR1,9*8(,R7) Store shortened rounded BFP result
00000792  B29C 8024                     00000024   853          STFPC 9*4(R8)       Store resulting FPCR flags and DXC
                                                   854 *
00000796  4130 3010                     00000010   855          LA    R3,16(,R3)    Point to next input value
0000079A  4170 7050                     00000050   856          LA    R7,10*8(,R7)  Point to next long BFP rounded result
0000079E  4180 8030                     00000030   857          LA    R8,12*4(,R8)  Point to next FPCR result area
000007A2  062C                                     858          BCTR  R2,R12        Convert next input value.
000007A4  07FD                                     859          BR    R13           All converted; return.
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

                                                   861 ***********************************************************************
                                                   862 *
                                                   863 * BFP inputs.  One set of longs and two sets of extendeds are included.
                                                   864 * Each set includes input values for basic exception testing and input
                                                   865 * values for exhaustive rounding mode testing.  One set of extended
                                                   866 * inputs is used to generate short results, and the other is used to
                                                   867 * generate long results.  The same set cannot be used for both long
                                                   868 * and short because the rounding points are different.
                                                   869 *
                                                   870 * We can cheat and use the same decimal values for long to short and
                                                   871 * and extended to short because the result has the same number of
                                                   872 * bits and the rounding uses the same number of bits in the pre-
                                                   873 * rounded result.
                                                   874 *
                                                   875 ***********************************************************************


                                                   877 *
                                                   878 * Long to short basic tests, which tests trappable results, NaN
                                                   879 * propagation, and basic functionality.  The second part of this list
                                                   880 * is used for testing trappable results.
                                                   881 *
000007A8                                           882 LTOSIN   DS    0D        Inputs for long to short BFP basic tests
000007A8  00000000 00000000                        883          DC    X'0000000000000000'         +0
000007B0  3FF80000 00000000                        884          DC    X'3FF8000000000000'         +1.5
000007B8  BFF80000 00000000                        885          DC    X'BFF8000000000000'         -1.5
000007C0  7FF01000 00000000                        886          DC    X'7FF0100000000000'         SNaN
000007C8  7FF81100 00000000                        887          DC    X'7FF8110000000000'         QNaN
                                                   888 * See rounding tests below for details on the following four
000007D0                                           889 LTOSINOU DS    0D            start of under/overflow tests
000007D0  47EFFFFF FFFFFFFF                        890          DC    X'47EFFFFFFFFFFFFF'    Positive oveflow test
000007D8  C7EFFFFF FFFFFFFF                        891          DC    X'C7EFFFFFFFFFFFFF'    Negative oveflow test
000007E0  47FFFFFF EFFFFFFF                        892          DC    X'47FFFFFFEFFFFFFF'    Positive oveflow prec. test
000007E8  C7FFFFFF EFFFFFFF                        893          DC    X'C7FFFFFFEFFFFFFF'    Negative oveflow prec. test
000007F0  36900000 00000000                        894          DC    X'3690000000000000'    Positive magnitude underflow
000007F8  B6900000 00000000                        895          DC    X'B690000000000000'    Negative magnitude underflow
00000800  47F00000 00000000                        896          DC    X'47F0000000000000'    Positive magnitude overflow
00000808  C7F00000 00000000                        897          DC    X'C7F0000000000000'    Negative magnitude overflow
                                                   898 *
                              00000068  00000001   899 LTOSCT   EQU   *-LTOSIN     Count of long BFP in list * 8
                              00000040  00000001   900 LTOSOUCT EQU   *-LTOSINOU   Ct * 8 of trappable over/underflow tests


                                                   902 *
                                                   903 * Test cases for exhaustive rounding mode tests of long to short
                                                   904 * Load Rounded.
                                                   905 *
00000810                                           906 LTOSINRM DS    0D        Inputs for long to short BFP rounding tests
                                                   907 *              x'8000000000000000'    sign bit
                                                   908 *              x'7FF0000000000000'    Biased Exponent
                                                   909 *              x'000FFFFFE0000000'    Significand used in short
                                                   910 *              x'000000001FC00000'    Significand used in rounding
                                                   911 *              x'00000000003FFFFF'    'extra' significand bits
                                                   912 *   Note: in the comments below, 'up' and 'down' mean 'toward
                                                   913 *   higher magnitude' and 'toward lower magnitude' respectively and
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

                                                   914 *   without regard to the sign, and rounding is to short BFP.
                                                   915 *
                                                   916 * Exact (fits in short BFP)   ..  1.99999988079071044921875
00000810  3FFFFFFF E0000000                        917          DC    X'3FFFFFFFE0000000'    Positive exact
00000818  BFFFFFFF E0000000                        918          DC    X'BFFFFFFFE0000000'    Negative exact
                                                   919 *
                                                   920 * Tie odd - rounds up    ..  1.99999994039535522460937 5
                                                   921 * rounds up to                ..  2.0
                                                   922 * rounds down to              ..  1.99999988079071044921875
00000820  3FFFFFFF F0000000                        923          DC    X'3FFFFFFFF0000000'    Positive tie odd
00000828  BFFFFFFF F0000000                        924          DC    X'BFFFFFFFF0000000'    Negative tie odd
                                                   925 *
                                                   926 * Tie even - rounds down ..  1.9999998211860656738281 25
                                                   927 * rounds up to                ..  1.99999988079071044921875
                                                   928 * rounds down to              ..  1.9999997615814208984375
00000830  3FFFFFFF D0000000                        929          DC    X'3FFFFFFFD0000000'    Positive tie even
00000838  BFFFFFFF D0000000                        930          DC    X'BFFFFFFFD0000000'    Negative tie even
                                                   931 *
                                                   932 * False exact 1.9999998817220328017896235905936919152736663818359375
                                                   933 * ..rounds up to       2.0
                                                   934 * ..rounds down to     1.99999988079071044921875
00000840  3FFFFFFF E03FFFFF                        935          DC    X'3FFFFFFFE03FFFFF'    Positive false exact
00000848  BFFFFFFF E03FFFFF                        936          DC    X'BFFFFFFFE03FFFFF'    Negative false exact
                                                   937 *
                                                   938 * Nearest is towards zero: 1.99999988125637173652648925781 25
                                                   939 * ..rounds up to           2.0
                                                   940 * ..rounds down to         1.99999988079071044921875
00000850  3FFFFFFF E0200000                        941          DC    X'3FFFFFFFE0200000'    Positive zero closer
00000858  BFFFFFFF E0200000                        942          DC    X'BFFFFFFFE0200000'    Negative zero closer
                                                   943 *
                                                   944 * Nearest is away from zero: 1.9999999990686774253845214843 75
                                                   945 * ..rounds up to             2.0
                                                   946 * ..rounds down to           1.99999988079071044921875
00000860  3FFFFFFF FFC00000                        947          DC    X'3FFFFFFFFFC00000'    Positive zero further
00000868  BFFFFFFF FFC00000                        948          DC    X'BFFFFFFFFFC00000'    Negative zero further
                                                   949 *
                                                   950 * Overflow test: 3.402823669209384256844427444746065 01888E38
                                                   951 * ..rounds up to    Overflow
                                                   952 * ..rounds down to  3.4028234663852885981170418348451692 5440E38
00000870  47EFFFFF FFFFFFFF                        953          DC    X'47EFFFFFFFFFFFFF'    Positive oveflow test
00000878  C7EFFFFF FFFFFFFF                        954          DC    X'C7EFFFFFFFFFFFFF'    Negative oveflow test
                                                   955 *
                                                   956 * Underflow test:  7.0064923216240853546186479164495 8...E-46
                                                   957 * ..rounds up to   1.4012984643248170709237295832899 1...E-45
                                                   958 *                  represented in short bfp as a tiny.
                                                   959 * ..rounds down to     underflow (but exact)
00000880  36900000 00000000                        960          DC    X'3690000000000000'    Positive magnitude underflow
00000888  B6900000 00000000                        961          DC    X'B690000000000000'    Negative magnitude underflow
                              00000080  00000001   962 LTOSRMCT EQU   *-LTOSINRM   Count of long BFP rounding tests * 8


                                                   964 *
                                                   965 * Extended to short basic tests, which tests trappable results, NaN
                                                   966 * propagation, and basic functionality.  The second part of this list
                                                   967 * is used for testing trappable results.
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

                                                   968 *
00000890                                           969 XTOSIN   DS    0D        Inputs for extended to short BFP basic tests
00000890  00000000 00000000                        970          DC    X'00000000000000000000000000000000'         +0
000008A0  3FFF8000 00000000                        971          DC    X'3FFF8000000000000000000000000000'         +1.5
000008B0  BFFF8000 00000000                        972          DC    X'BFFF8000000000000000000000000000'         -1.5
000008C0  7FFF0100 00000000                        973          DC    X'7FFF0100000000000000000000000000'         SNaN
000008D0  7FFF8110 00000000                        974          DC    X'7FFF8110000000000000000000000000'         QNaN
                                                   975 * See rounding tests below for details on the following four
000008E0                                           976 XTOSINOU DS    0D            start of over/underflow test cases
000008E0  407EFFFF FFFFFFFF                        977          DC    X'407EFFFFFFFFFFFFFFFFFFFFFFFFFFFF'    Pos. oveflow test
000008F0  C07EFFFF FFFFFFFF                        978          DC    X'C07EFFFFFFFFFFFFFFFFFFFFFFFFFFFF'    Neg. oveflow test
00000900  407FFFFF FEFFFFFF                        979          DC    X'407FFFFFEFFFFFFFFFFFFFFFFFFFFFFF'    Pos. oveflow test
00000910  C07FFFFF FEFFFFFF                        980          DC    X'C07FFFFFEFFFFFFFFFFFFFFFFFFFFFFF'    Neg. oveflow test
00000920  3F690000 00000000                        981          DC    X'3F690000000000000000000000000000'    Pos. exact uflow
                                                   982 *                                                 ..result is tiny
00000930  BF690000 00000000                        983          DC    X'BF690000000000000000000000000000'    Neg. exact uflow
                                                   984 *                                                 ..result is tiny
00000940  407F0000 00000000                        985          DC    X'407F0000000000000000000000000000'    Pos. exact oflow
00000950  C07F0000 00000000                        986          DC    X'C07F0000000000000000000000000000'    Neg. exact oflow
                                                   987 *
                              000000D0  00000001   988 XTOSCT   EQU   *-XTOSIN     Count of extended BFP in list * 16
                              00000080  00000001   989 XTOSOUCT EQU   *-XTOSINOU   Ct * 16 of trappable over/underflow tests


                                                   991 *
                                                   992 * Test cases for exhaustive rounding mode tests of extended to short
                                                   993 * Load Rounded.
                                                   994 *
00000960                                           995 XTOSINRM DS    0D     Inputs for extended to short BFP rounding tests
                                                   996 *              x'80000000000000000000000000000000'  sign bit
                                                   997 *              x'7FFF0000000000000000000000000000'  Biased Exponent
                                                   998 *              x'0000FFFFFE0000000000000000000000'  Sig'd used in short
                                                   999 *              x'0000000001FC00000000000000000000'  Sig'd used in rndg
                                                  1000 *              x'000000000003FFFFFFFFFFFFFFFFFFFF'  'extra' sig'd bits
                                                  1001 *   Note: in the comments below, 'up' and 'down' mean 'toward
                                                  1002 *   higher magnitude' and 'toward lower magnitude' respectively and
                                                  1003 *   without regard to the sign, and rounding is to short BFP.
                                                  1004 *
                                                  1005 * Exact (fits in short BFP)   ..  1.99999988079071044921875
00000960  3FFFFFFF FE000000                       1006          DC    X'3FFFFFFFFE0000000000000000000000'    Pos. exact
00000970  BFFFFFFF FE000000                       1007          DC    X'BFFFFFFFFE0000000000000000000000'    Neg. exact
                                                  1008 *
                                                  1009 * Tie odd - rounds up    ..  1.999999940395355224609375
                                                  1010 * rounds up to                ..  2.0
                                                  1011 * rounds down to              ..  1.99999988079071044921875
00000980  3FFFFFFF FF000000                       1012          DC    X'3FFFFFFFFF0000000000000000000000'    Pos. tie odd
00000990  BFFFFFFF FF000000                       1013          DC    X'BFFFFFFFFF0000000000000000000000'    Neg. tie odd
                                                  1014 *
                                                  1015 * Tie even - rounds down ..  1.999999821186065673828125
                                                  1016 * rounds up to                ..  1.99999988079071044921875
                                                  1017 * rounds down to              ..  1.9999997615814208984375
000009A0  3FFFFFFF FD000000                       1018          DC    X'3FFFFFFFFD0000000000000000000000'    Pos. tie even
000009B0  BFFFFFFF FD000000                       1019          DC    X'BFFFFFFFFD0000000000000000000000'    Neg. tie even
                                                  1020 *
                                                  1021 * False exact 1.99999988172203302383422851562499998... (continues)
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

                                                  1022 *               ..07407005561276414694402205741507... (continues)
                                                  1023 *               ..2681461898351784611804760061204433441162109375
                                                  1024 * ..rounds up to       2.0
                                                  1025 * ..rounds down to     1.99999988079071044921875
000009C0  3FFFFFFF FE03FFFF                       1026          DC    X'3FFFFFFFFE03FFFFFFFFFFFFFFFFFFFF'    Pos. false exact
000009D0  BFFFFFFF FE03FFFF                       1027          DC    X'BFFFFFFFFE03FFFFFFFFFFFFFFFFFFFF'    Neg. false exact
                                                  1028 *
                                                  1029 * Nearest is towards zero: 1.9999998812563717365264892578125
                                                  1030 * ..rounds up to           2.0
                                                  1031 * ..rounds down to         1.99999988079071044921875
000009E0  3FFFFFFF FE020000                       1032          DC    X'3FFFFFFFFE0200000000000000000000'    Pos. zero closer
000009F0  BFFFFFFF FE020000                       1033          DC    X'BFFFFFFFFE0200000000000000000000'    Neg. zero closer
                                                  1034 *
                                                  1035 * Nearest is away from zero: 1.999999999068677425384521484375
                                                  1036 * ..rounds up to             2.0
                                                  1037 * ..rounds down to           1.99999988079071044921875
00000A00  3FFFFFFF FFFC0000                       1038          DC    X'3FFFFFFFFFFC00000000000000000000'    Pos. zero further
00000A10  BFFFFFFF FFFC0000                       1039          DC    X'BFFFFFFFFFFC00000000000000000000'    Neg. zero further
                                                  1040 *
                                                  1041 * Overflow test:    3.40282366920938463463374607431768178688E38
                                                  1042 * ..rounds up to    Overflow
                                                  1043 * ..rounds down to  3.40282346638528859811704183484516925440E38
00000A20  407EFFFF FFFFFFFF                       1044          DC    X'407EFFFFFFFFFFFFFFFFFFFFFFFFFFFF'    Pos. oveflow test
00000A30  C07EFFFF FFFFFFFF                       1045          DC    X'C07EFFFFFFFFFFFFFFFFFFFFFFFFFFFF'    Neg. oveflow test
                                                  1046 *
                                                  1047 * Underflow test:   7.00649232162408535461864791644958...E-46
                                                  1048 * ..rounds up to    1.40129846432481707092372958328991...E-45
                                                  1049 *                   represented in short bfp as a tiny.
                                                  1050 * ..rounds down to  Underflow (but exact)
00000A40  3F690000 00000000                       1051          DC    X'3F690000000000000000000000000000'    Pos. exact u-flow
                                                  1052 *                                                     ..result is tiny
00000A50  BF690000 00000000                       1053          DC    X'BF690000000000000000000000000000'    Neg. exact u-flow
                                                  1054 *                                                     ..result is tiny
                              00000100  00000001  1055 XTOSRMCT EQU   *-XTOSINRM   Count of extended BFP rounding tests * 16
                                                  1056 *
                                                  1057 * Extended to long basic tests, which tests trappable results, NaN
                                                  1058 * propagation, and basic functionality.  The second part of this list
                                                  1059 * is used for testing trappable results.
                                                  1060 *
00000A60                                          1061 XTOLIN   DS    0D        Inputs for extended to long BFP basic tests
00000A60  00000000 00000000                       1062          DC    X'00000000000000000000000000000000'         +0
00000A70  3FFF8000 00000000                       1063          DC    X'3FFF8000000000000000000000000000'         +1.5
00000A80  BFFF8000 00000000                       1064          DC    X'BFFF8000000000000000000000000000'         -1.5
00000A90  7FFF0100 00000000                       1065          DC    X'7FFF0100000000000000000000000000'         SNaN
00000AA0  7FFF8110 00000000                       1066          DC    X'7FFF8110000000000000000000000000'         QNaN
                                                  1067 * See rounding tests below for details on the following four
00000AB0                                          1068 XTOLINOU DS    0D       Start of trappable over/underflow test cases
00000AB0  43FEFFFF FFFFFFFF                       1069          DC    X'43FEFFFFFFFFFFFFFFFFFFFFFFFFFFFF'    Pos. oveflow test
00000AC0  C3FEFFFF FFFFFFFF                       1070          DC    X'C3FEFFFFFFFFFFFFFFFFFFFFFFFFFFFF'    Neg. oveflow test
00000AD0  43FFFFFF FFFFFFFF                       1071          DC    X'43FFFFFFFFFFFFFF7FFFFFFFFFFFFFFF'    Pos. oveflow test
00000AE0  C3FFFFFF FFFFFFFF                       1072          DC    X'C3FFFFFFFFFFFFFF7FFFFFFFFFFFFFFF'    Neg. oveflow test
00000AF0  3BCC0000 00000000                       1073          DC    X'3BCC0000000000000000000000000000'    Pos. underflow
                                                  1074 *                                                     ..result is tiny
00000B00  BBCC0000 00000000                       1075          DC    X'BBCC0000000000000000000000000000'    Neg. underflow
                                                  1076 *                                                     ..result is tiny
00000B10  43FF0000 00000000                       1077          DC    X'43FF0000000000000000000000000000'    Pos. exact o-flow
```

```
  LOC       OBJECT CODE       ADDR1     ADDR2    STMT

00000B20  C3FF0000 00000000                      1078          DC    X'C3FF0000000000000000000000000000'    Neg. exact o-flow
                            000000D0  00000001  1079 XTOLCT   EQU   *-XTOLIN     Count of extended BFP in list * 16
                            00000080  00000001  1080 XTOLOUCT EQU   *-XTOLINOU   Ct * 16 of trappable over/underflow tests
                                                 1081 *
                                                 1082 * Test cases for exhaustive rounding mode tests of long to short
                                                 1083 * Load Rounded.
                                                 1084 *
00000B30                                         1085 XTOLINRM DS    0D      Inputs for extended to short BFP rounding tests
                                                 1086 *               x'80000000000000000000000000000000'  sign bit
                                                 1087 *               x'7FFF0000000000000000000000000000'  Biased Exponent
                                                 1088 *               x'0000FFFFFFFFFFFFF000000000000000'  Sig'd used in long
                                                 1089 *               x'00000000000000000FFC000000000000'  Sig'd used in rndg
                                                 1090 *               x'00000000000000000003FFFFFFFFFFFF'  'extra' sig'd bits
                                                 1091 *
                                                 1092 *   Note: in the comments below, 'up' and 'down' mean 'toward
                                                 1093 *   higher magnitude' and 'toward lower magnitude' respectively and
                                                 1094 *   without regard to the sign, and rounding is to short BFP.
                                                 1095 *
                                                 1096 *
                                                 1097 * Exact (fits in short BFP)
                                                 1098 * ..  1.9999999999999997779553950749686919152736663818359375
                                                 1099 *
00000B30  3FFFFFFF FFFFFFFF                      1100          DC    X'3FFFFFFFFFFFFFFFF000000000000000'    Pos. exact
00000B40  BFFFFFFF FFFFFFFF                      1101          DC    X'BFFFFFFFFFFFFFFFF000000000000000'    Neg. exact
                                                 1102 *
                                                 1103 *
                                                 1104 * Tie odd - rounds up
                                                 1105 * ..  1.99999999999999988897769753748434595763683319091796875
                                                 1106 * rounds up to                  ..  2.0
                                                 1107 * rounds down to
                                                 1108 * ..  1.9999999999999997779553950749686919152736663818359375
                                                 1109 *
00000B50  3FFFFFFF FFFFFFFF                      1110          DC    X'3FFFFFFFFFFFFFFFF800000000000000'    Pos. tie odd
00000B60  BFFFFFFF FFFFFFFF                      1111          DC    X'BFFFFFFFFFFFFFFFF800000000000000'    Neg. tie odd
                                                 1112 *
                                                 1113 *
                                                 1114 * Tie even - rounds down
                                                 1115 * ..  1.99999999999999966693309261245303787291049957275390625
                                                 1116 * rounds up to
                                                 1117 * ..  1.9999999999999997779553950749686919152736663818359375
                                                 1118 * rounds down to
                                                 1119 * ..  1.999999999999999555910790149937383830547332763671875
                                                 1120 *
00000B70  3FFFFFFF FFFFFFFF                      1121          DC    X'3FFFFFFFFFFFFFFFE800000000000000'    Pos. tie even
00000B80  BFFFFFFF FFFFFFFF                      1122          DC    X'BFFFFFFFFFFFFFFFE800000000000000'    Neg. tie even
                                                 1123 *
                                                 1124 *
                                                 1125 * False exact 1.9999998817220330238342285156249998... (continues)
                                                 1126 *               ..07407005561276414694402205741507... (continues)
                                                 1127 *               ..2681461898351784611804760061204433441162109375
                                                 1128 * ..rounds up to       2.0
                                                 1129 * ..rounds down to
                                                 1130 * ..  1.9999999999999997779553950749686919152736663818359375
                                                 1131 *
00000B90  3FFFFFFF FFFFFFFF                      1132          DC    X'3FFFFFFFFFFFFFFFF003FFFFFFFFFFFF'    Pos. false exact
00000BA0  BFFFFFFF FFFFFFFF                      1133          DC    X'BFFFFFFFFFFFFFFFF003FFFFFFFFFFFF'    Neg. false exact
```

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  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

                                                  1134 *
                                                  1135 *
                                                  1136 * Nearest is towards zero:
                                                  1137 * ..  1.999999999999999977817223550946579280207515694200992584228515625
                                                  1138 * ..rounds up to           2.0
                                                  1139 * ..rounds down to
                                                  1140 * ..  1.99999999999999997779553950749686919152736663818359375
                                                  1141 *
00000BB0  3FFFFFFF FFFFFFFF                       1142          DC    X'3FFFFFFFFFFFFFFFF004000000000000'    Pos. zero closer
00000BC0  BFFFFFFF FFFFFFFF                       1143          DC    X'BFFFFFFFFFFFFFFFF004000000000000'    Neg. zero closer
                                                  1144 *
                                                  1145 * Nearest is away from zero:
                                                  1146 * ..  1.99999999999999999722444243843710864894092082977294921875
                                                  1147 * ..rounds up to             2.0
                                                  1148 * ..rounds down to
                                                  1149 * ..  1.9999999999999999555910790149937383830547332763671875
                                                  1150 *
00000BD0  3FFFFFFF FFFFFFFF                       1151          DC    X'3FFFFFFFFFFFFFFFFE00000000000000'    Pos. zero further
00000BE0  BFFFFFFF FFFFFFFF                       1152          DC    X'BFFFFFFFFFFFFFFFFE00000000000000'    Neg. zero further
00000BF0                                          1153          DS    0D           required by asma for following EQU to work.
                                                  1154 *
                                                  1155 * Overflow test:    1.797693134862315708145274237317043...E308
                                                  1156 * ..rounds up to    Overflow
                                                  1157 * ..rounds down to  1.797693134862315907729305190789024...E308
00000BF0  43FEFFFF FFFFFFFF                       1158          DC    X'43FEFFFFFFFFFFFFFFFFFFFFFFFFFFFF'    Pos. oveflow test
00000C00  C3FEFFFF FFFFFFFF                       1159          DC    X'C3FEFFFFFFFFFFFFFFFFFFFFFFFFFFFF'    Neg. oveflow test
                                                  1160 *
                                                  1161 * Underflow test:   2.47032822920623272088284396434110...E-324
                                                  1162 * ..rounds up to    4.94065645841246544176568792868221...E-324
                                                  1163 * ..rounds down to  Underflow
00000C10  3BCC0000 00000000                       1164          DC    X'3BCC0000000000000000000000000000'    Pos. tie odd
                                                  1165 *                                                     ..result is tiny
00000C20  BBCC0000 00000000                       1166          DC    X'BBCC0000000000000000000000000000'    Neg. tie odd
                                                  1167 *                                                     ..result is tiny
                              00000100  00000001  1168 XTOLRMCT EQU   *-XTOLINRM   Count of extended BFP rounding tests * 16
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

                                                  1170 ***********************************************************************
                                                  1171 *                 ACTUAL results saved here
                                                  1172 ***********************************************************************
                                                  1173 *
                                                  1174 *               Locations for ACTUAL results
                                                  1175 *
                                                  1176 *
                              00001000  00000000  1177 LTOSOUT  EQU   BFPLDRND+X'1000'    Short BFP rounded from long
                                                  1178 *                                  ..9 pairs used, room for 16
                              00001080  00000000  1179 LTOSFLGS EQU   BFPLDRND+X'1080'    FPCR flags and DXC from above
                                                  1180 *                                  ..9 pairs used, room for 16
                              00001100  00000000  1181 LTOSRMO  EQU   BFPLDRND+X'1100'    Short BFP result rounding tests
                                                  1182 *                                  ..14 sets used, room for 21
                              00001500  00000000  1183 LTOSRMOF EQU   BFPLDRND+X'1500'    FPCR flags and DXC from above
                                                  1184 *                                  ..14 sets used, room for 21
                                                  1185 *
                              00001900  00000000  1186 XTOSOUT  EQU   BFPLDRND+X'1900'    Short BFP rounded from extended
                                                  1187 *                                  ..5 pairs used, room for 16
                              00001980  00000000  1188 XTOSFLGS EQU   BFPLDRND+X'1980'    FPCR flags and DXC from above
                                                  1189 *                                  ..5 pairs used, room for 16
                              00001A00  00000000  1190 XTOSRMO  EQU   BFPLDRND+X'1A00'    Short BFP rounding tests
                                                  1191 *                                  ..14 sets used, room for 21
                              00001E00  00000000  1192 XTOSRMOF EQU   BFPLDRND+X'1E00'    FPCR flags and DXC from above
                                                  1193 *                                  ..14 sets used, room for 21
                                                  1194
                                                  1195 *
                              00002200  00000000  1196 XTOLOUT  EQU   BFPLDRND+X'2200'    Long BFP rounded from extended
                                                  1197 *                                  ..5 pairs used, room for 16
                              00002300  00000000  1198 XTOLFLGS EQU   BFPLDRND+X'2300'    FPCR flags and DXC from above
                                                  1199 *                                  ..5 pairs used, room for 32
                              00002400  00000000  1200 XTOLRMO  EQU   BFPLDRND+X'2400'    Long BFP rounding tests
                                                  1201 *                                  ..12 results used, room for 22
                              00002B00  00000000  1202 XTOLRMOF EQU   BFPLDRND+X'2B00'    FPCR flags and DXC from above
                                                  1203 *                                  ..12 results used, room for 21
                                                  1204 *
                              00003000  00000000  1205 LTOSOUO  EQU   BFPLDRND+X'3000'    Long BFP trappable o/uflow tests
                                                  1206 *                                  ..4 results used, room for 16
                              00003080  00000000  1207 LTOSOUOF EQU   BFPLDRND+X'3080'    FPCR flags and DXC from above
                                                  1208 *
                              00003100  00000000  1209 XTOSOUO  EQU   BFPLDRND+X'3100'    Extd BFP trappable o/uflow tests
                                                  1210 *                                  ..4 results used, room for 8
                              00003180  00000000  1211 XTOSOUOF EQU   BFPLDRND+X'3180'    FPCR flags and DXC from above
                                                  1212 *
                              00003200  00000000  1213 XTOLOUO  EQU   BFPLDRND+X'3200'    Extd BFP trappable o/uflow tests
                                                  1214 *                                  ..4 results used, room for 8
                              00003280  00000000  1215 XTOLOUOF EQU   BFPLDRND+X'3280'    FPCR flags and DXC from above
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

                                                  1217 ***********************************************************************
                                                  1218 *                    EXPECTED results
                                                  1219 ***********************************************************************
                                                  1220 *
00000C30                      00000C30  00004000  1221          ORG   BFPLDRND+X'4000'   (past end of actual results)
                                                  1222 *
                              00004000  00000001  1223 LTOSOUT_GOOD EQU *
00004000  D3C5C4C2 D9409985                       1224  DC CL48'LEDBR result pairs 1-2'
00004030  00000000 00000000                       1225  DC XL16'00000000000000003FC000003FC00000'
00004040  D3C5C4C2 D9409985                       1226  DC CL48'LEDBR result pairs 3-4'
00004070  BFC00000 BFC00000                       1227  DC XL16'BFC00000BFC000007FC0800000000000'
00004080  D3C5C4C2 D9409985                       1228  DC CL48'LEDBR result pairs 5-6'
000040B0  7FC08800 7FC08800                       1229  DC XL16'7FC088007FC088007F80000027F00000'
000040C0  D3C5C4C2 D9409985                       1230  DC CL48'LEDBR result pairs 7-8'
000040F0  FF800000 A7F00000                       1231  DC XL16'FF800000A7F000007F80000027FFFFFF'
00004100  D3C5C4C2 D9409985                       1232  DC CL48'LEDBR result pairs 9-10'
00004130  FF800000 A7FFFFFF                       1233  DC XL16'FF800000A7FFFFFF0000000056900000'
00004140  D3C5C4C2 D9409985                       1234  DC CL48'LEDBR result pairs 11-12'
00004170  80000000 D6900000                       1235  DC XL16'80000000D69000007F80000027F00000'
00004180  D3C5C4C2 D9409985                       1236  DC CL48'LEDBR result pair 13'
000041B0  FF800000 A7F00000                       1237  DC XL16'FF800000A7F000000000000000000000'
                              00000007  00000001  1238 LTOSOUT_NUM EQU (*-LTOSOUT_GOOD)/64
                                                  1239 *
                                                  1240 *
                              000041C0  00000001  1241 LTOSFLGS_GOOD EQU *
000041C0  D3C5C4C2 D940C6D7                       1242  DC CL48'LEDBR FPCR pairs 1-2'
000041F0  00000000 F8000000                       1243  DC XL16'00000000F800000000000000F8000000'
00004200  D3C5C4C2 D940C6D7                       1244  DC CL48'LEDBR FPCR pairs 3-4'
00004230  00000000 F8000000                       1245  DC XL16'00000000F800000000800000F8008000'
00004240  D3C5C4C2 D940C6D7                       1246  DC CL48'LEDBR FPCR pairs 5-6'
00004270  00000000 F8000000                       1247  DC XL16'00000000F800000000280000F8002C00'
00004280  D3C5C4C2 D940C6D7                       1248  DC CL48'LEDBR FPCR pairs 7-8'
000042B0  00280000 F8002C00                       1249  DC XL16'00280000F8002C0000280000F8002800'
000042C0  D3C5C4C2 D940C6D7                       1250  DC CL48'LEDBR FPCR pairs 9-10'
000042F0  00280000 F8002800                       1251  DC XL16'00280000F800280000180000F8001000'
00004300  D3C5E7C2 D940C6D7                       1252  DC CL48'LEXBR FPCR pairs 11-12'
00004330  00180000 F8001000                       1253  DC XL16'00180000F800100000280000F8002000'
00004340  D3C5E7C2 D940C6D7                       1254  DC CL48'LEXBR FPCR pair 13'
00004370  00280000 F8002000                       1255  DC XL16'00280000F80020000000000000000000'
                              00000007  00000001  1256 LTOSFLGS_NUM EQU (*-LTOSFLGS_GOOD)/64
                                                  1257 *
                                                  1258 *
                              00004380  00000001  1259 LTOSRMO_GOOD EQU *
00004380  D3C5C4C2 D9C1404E                       1260  DC CL48'LEDBRA +exact FPCR modes 1-3, 7'
000043B0  3FFFFFFF 3FFFFFFF                       1261  DC XL16'3FFFFFFF3FFFFFFF3FFFFFFF3FFFFFFF'
000043C0  D3C5C4C2 D9C1404E                       1262  DC CL48'LEDBRA +exact M3 modes 1, 3-5'
000043F0  3FFFFFFF 3FFFFFFF                       1263  DC XL16'3FFFFFFF3FFFFFFF3FFFFFFF3FFFFFFF'
00004400  D3C5C4C2 D9C1404E                       1264  DC CL48'LEDBRA +exact M3 modes 6, 7'
00004430  3FFFFFFF 3FFFFFFF                       1265  DC XL16'3FFFFFFF3FFFFFFF0000000000000000'
00004440  D3C5C4C2 D9C14060                       1266  DC CL48'LEDBRA -exact FPCR modes 1-3, 7'
00004470  BFFFFFFF BFFFFFFF                       1267  DC XL16'BFFFFFFFBFFFFFFFBFFFFFFFBFFFFFFF'
00004480  D3C5C4C2 D9C14060                       1268  DC CL48'LEDBRA -exact M3 modes 1, 3-5'
000044B0  BFFFFFFF BFFFFFFF                       1269  DC XL16'BFFFFFFFBFFFFFFFBFFFFFFFBFFFFFFF'
000044C0  D3C5C4C2 D9C14060                       1270  DC CL48'LEDBRA -exact M3 modes 6, 7'
000044F0  BFFFFFFF BFFFFFFF                       1271  DC XL16'BFFFFFFFBFFFFFFF0000000000000000'
00004500  D3C5C4C2 D9C1404E                       1272  DC CL48'LEDBRA +tie odd FPCR modes 1-3, 7'
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  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

00004530  3FFFFFFF 40000000                       1273  DC XL16'3FFFFFFF400000003FFFFFFF3FFFFFFF'
00004540  D3C5C4C2 D9C1404E                       1274  DC CL48'LEDBRA +tie odd M3 modes 1, 3-5'
00004570  40000000 3FFFFFFF                       1275  DC XL16'400000003FFFFFFF400000003FFFFFFF'
00004580  D3C5C4C2 D9C1404E                       1276  DC CL48'LEDBRA +tie odd M3 modes 6, 7'
000045B0  40000000 3FFFFFFF                       1277  DC XL16'400000003FFFFFFF0000000000000000'
000045C0  D3C5C4C2 D9C14060                       1278  DC CL48'LEDBRA -tie odd FPCR modes 1-3, 7'
000045F0  BFFFFFFF BFFFFFFF                       1279  DC XL16'BFFFFFFFBFFFFFFFC0000000BFFFFFFF'
00004600  D3C5C4C2 D9C14060                       1280  DC CL48'LEDBRA -tie odd M3 modes 1, 3-5'
00004630  C0000000 BFFFFFFF                       1281  DC XL16'C0000000BFFFFFFFC0000000BFFFFFFF'
00004640  D3C5C4C2 D9C14060                       1282  DC CL48'LEDBRA -tie odd M3 modes 6, 7'
00004670  BFFFFFFF C0000000                       1283  DC XL16'BFFFFFFFC00000000000000000000000'
00004680  D3C5C4C2 D9C1404E                       1284  DC CL48'LEDBRA +tie even FPCR modes 1-3, 7'
000046B0  3FFFFFFE 3FFFFFFF                       1285  DC XL16'3FFFFFFE3FFFFFFF3FFFFFFE3FFFFFFF'
000046C0  D3C5C4C2 D9C1404E                       1286  DC CL48'LEDBRA +tie even M3 modes 1, 3-5'
000046F0  3FFFFFFF 3FFFFFFF                       1287  DC XL16'3FFFFFFF3FFFFFFF3FFFFFFE3FFFFFFE'
00004700  D3C5C4C2 D9C1404E                       1288  DC CL48'LEDBRA +tie even M3 modes 6, 7'
00004730  3FFFFFFF 3FFFFFFE                       1289  DC XL16'3FFFFFFF3FFFFFFE0000000000000000'
00004740  D3C5C4C2 D9C14060                       1290  DC CL48'LEDBRA -tie even FPCR modes 1-3, 7'
00004770  BFFFFFFE BFFFFFFE                       1291  DC XL16'BFFFFFFEBFFFFFFEBFFFFFFFBFFFFFFF'
00004780  D3C5C4C2 D9C14060                       1292  DC CL48'LEDBRA -tie even M3 modes 1, 3-5'
000047B0  BFFFFFFF BFFFFFFF                       1293  DC XL16'BFFFFFFFBFFFFFFFBFFFFFFEBFFFFFFE'
000047C0  D3C5C4C2 D9C14060                       1294  DC CL48'LEDBRA -tie even M3 modes 6, 7'
000047F0  BFFFFFFE BFFFFFFF                       1295  DC XL16'BFFFFFFEBFFFFFFF0000000000000000'
00004800  D3C5C4C2 D9C1404E                       1296  DC CL48'LEDBRA +false exact FPCR modes 1-3, 7'
00004830  3FFFFFFF 40000000                       1297  DC XL16'3FFFFFFF400000003FFFFFFF3FFFFFFF'
00004840  D3C5C4C2 D9C1404E                       1298  DC CL48'LEDBRA +false exact M3 modes 1, 3-5'
00004870  3FFFFFFF 3FFFFFFF                       1299  DC XL16'3FFFFFFF3FFFFFFF3FFFFFFF3FFFFFFF'
00004880  D3C5C4C2 D9C1404E                       1300  DC CL48'LEDBRA +false exact M3 modes 6, 7'
000048B0  40000000 3FFFFFFF                       1301  DC XL16'400000003FFFFFFF0000000000000000'
000048C0  D3C5C4C2 D9C14060                       1302  DC CL48'LEDBRA -false exact FPCR modes 1-3, 7'
000048F0  BFFFFFFF BFFFFFFF                       1303  DC XL16'BFFFFFFFBFFFFFFFC0000000BFFFFFFF'
00004900  D3C5C4C2 D9C14060                       1304  DC CL48'LEDBRA -false exact M3 modes 1, 3-5'
00004930  BFFFFFFF BFFFFFFF                       1305  DC XL16'BFFFFFFFBFFFFFFFBFFFFFFFBFFFFFFF'
00004940  D3C5C4C2 D9C14060                       1306  DC CL48'LEDBRA -false exact M3 modes 6, 7'
00004970  BFFFFFFF C0000000                       1307  DC XL16'BFFFFFFFC00000000000000000000000'
00004980  D3C5C4C2 D9C1404E                       1308  DC CL48'LEDBRA +near zero FPCR modes 1-3, 7'
000049B0  3FFFFFFF 40000000                       1309  DC XL16'3FFFFFFF400000003FFFFFFF3FFFFFFF'
000049C0  D3C5C4C2 D9C1404E                       1310  DC CL48'LEDBRA +near zero M3 modes 1, 3-5'
000049F0  3FFFFFFF 3FFFFFFF                       1311  DC XL16'3FFFFFFF3FFFFFFF3FFFFFFF3FFFFFFF'
00004A00  D3C5C4C2 D9C1404E                       1312  DC CL48'LEDBRA +near zero M3 modes 6, 7'
00004A30  40000000 3FFFFFFF                       1313  DC XL16'400000003FFFFFFF0000000000000000'
00004A40  D3C5C4C2 D9C14060                       1314  DC CL48'LEDBRA -near zero FPCR modes 1-3, 7'
00004A70  BFFFFFFF BFFFFFFF                       1315  DC XL16'BFFFFFFFBFFFFFFFC0000000BFFFFFFF'
00004A80  D3C5C4C2 D9C14060                       1316  DC CL48'LEDBRA -near zero M3 modes 1, 3-5'
00004AB0  BFFFFFFF BFFFFFFF                       1317  DC XL16'BFFFFFFFBFFFFFFFBFFFFFFFBFFFFFFF'
00004AC0  D3C5C4C2 D9C14060                       1318  DC CL48'LEDBRA -near zero M3 modes 6, 7'
00004AF0  BFFFFFFF C0000000                       1319  DC XL16'BFFFFFFFC00000000000000000000000'
00004B00  D3C5C4C2 D9C1404E                       1320  DC CL48'LEDBRA +near +inf FPCR modes 1-3, 7'
00004B30  3FFFFFFF 40000000                       1321  DC XL16'3FFFFFFF400000003FFFFFFF3FFFFFFF'
00004B40  D3C5C4C2 D9C1404E                       1322  DC CL48'LEDBRA +near +inf M3 modes 1, 3-5'
00004B70  40000000 3FFFFFFF                       1323  DC XL16'400000003FFFFFFF400000003FFFFFFF'
00004B80  D3C5C4C2 D9C1404E                       1324  DC CL48'LEDBRA +near +inf M3 modes 6, 7'
00004BB0  40000000 3FFFFFFF                       1325  DC XL16'400000003FFFFFFF0000000000000000'
00004BC0  D3C5C4C2 D9C14060                       1326  DC CL48'LEDBRA -near -inf FPCR modes 1-3, 7'
00004BF0  BFFFFFFF BFFFFFFF                       1327  DC XL16'BFFFFFFFBFFFFFFFC0000000BFFFFFFF'
00004C00  D3C5C4C2 D9C14060                       1328  DC CL48'LEDBRA -near -inf M3 modes 1, 3-5'
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  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

00004C30  C0000000 BFFFFFFF                       1329  DC XL16'C0000000BFFFFFFFC0000000BFFFFFFF'
00004C40  D3C5C4C2 D9C14060                       1330  DC CL48'LEDBRA -near -inf M3 modes 6, 7'
00004C70  BFFFFFFF C0000000                       1331  DC XL16'BFFFFFFFC000000000000000000000000'
00004C80  D3C5C4C2 D9C1404E                       1332  DC CL48'LEDBRA +overflow FPCR modes 1-3, 7'
00004CB0  7F7FFFFF 7F800000                       1333  DC XL16'7F7FFFFF7F8000007F7FFFFF7F7FFFFF'
00004CC0  D3C5C4C2 D9C1404E                       1334  DC CL48'LEDBRA +overflow M3 modes 1, 3-5'
00004CF0  7F800000 7F7FFFFF                       1335  DC XL16'7F8000007F7FFFFF7F8000007F7FFFFF'
00004D00  D3C5C4C2 D9C1404E                       1336  DC CL48'LEDBRA +overflow M3 modes 6, 7'
00004D30  7F800000 7F7FFFFF                       1337  DC XL16'7F8000007F7FFFFF0000000000000000'
00004D40  D3C5C4C2 D9C14060                       1338  DC CL48'LEDBRA -overflow FPCR modes 1-3, 7'
00004D70  FF7FFFFF FF7FFFFF                       1339  DC XL16'FF7FFFFFFF7FFFFFFF800000FF7FFFFF'
00004D80  D3C5C4C2 D9C14060                       1340  DC CL48'LEDBRA -overflow M3 modes 1, 3-5'
00004DB0  FF800000 FF7FFFFF                       1341  DC XL16'FF800000FF7FFFFFFF800000FF7FFFFF'
00004DC0  D3C5C4C2 D9C14060                       1342  DC CL48'LEDBRA -overflow M3 modes 6, 7'
00004DF0  FF7FFFFF FF800000                       1343  DC XL16'FF7FFFFFFF8000000000000000000000'
00004E00  D3C5C4C2 D9C1404E                       1344  DC CL48'LEDBRA +tiny tie odd FPCR modes 1-3, 7'
00004E30  00000000 00000001                       1345  DC XL16'00000000000000010000000000000001'
00004E40  D3C5C4C2 D9C1404E                       1346  DC CL48'LEDBRA +tiny tie odd M3 modes 1, 3-5'
00004E70  00000001 00000001                       1347  DC XL16'00000001000000010000000000000000'
00004E80  D3C5C4C2 D9C1404E                       1348  DC CL48'LEDBRA +tiny tie odd M3 modes 6, 7'
00004EB0  00000001 00000000                       1349  DC XL16'00000001000000000000000000000000'
00004EC0  D3C5C4C2 D9C14060                       1350  DC CL48'LEDBRA -tiny tie odd FPCR modes 1-3, 7'
00004EF0  80000000 80000000                       1351  DC XL16'80000000800000008000000180000001'
00004F00  D3C5C4C2 D9C14060                       1352  DC CL48'LEDBRA -tiny tie odd M3 modes 1, 3-5'
00004F30  80000001 80000001                       1353  DC XL16'80000001800000018000000080000000'
00004F40  D3C5C4C2 D9C14060                       1354  DC CL48'LEDBRA -tiny tie odd M3 modes 6, 7'
00004F70  80000000 80000001                       1355  DC XL16'80000000800000010000000000000000'
                              00000030  00000001  1356 LTOSRMO_NUM EQU (*-LTOSRMO_GOOD)/64
                                                  1357 *
                                                  1358 *
                              00004F80  00000001  1359 LTOSRMOF_GOOD EQU *
00004F80  D3C5C4C2 D9C1404E                       1360  DC CL48'LEDBRA +exact FPC modes 1-3, 7 FCPR'
00004FB0  00000001 00000002                       1361  DC XL16'00000001000000020000000300000007'
00004FC0  D3C5C4C2 D9C1404E                       1362  DC CL48'LEDBRA +exact M3 modes 1, 3-5 FPCR'
00004FF0  00000000 00000000                       1363  DC XL16'00000000000000000000000000000000'
00005000  D3C5C4C2 D9C1404E                       1364  DC CL48'LEDBRA +exact M3 modes 6, 7 FCPR'
00005030  00000000 00000000                       1365  DC XL16'00000000000000000000000000000000'
00005040  D3C5C4C2 D9C14060                       1366  DC CL48'LEDBRA -exact FPC modes 1-3, 7 FCPR'
00005070  00000001 00000002                       1367  DC XL16'00000001000000020000000300000007'
00005080  D3C5C4C2 D9C14060                       1368  DC CL48'LEDBRA -exact M3 modes 1, 3-5 FPCR'
000050B0  00000000 00000000                       1369  DC XL16'00000000000000000000000000000000'
000050C0  D3C5C4C2 D9C14060                       1370  DC CL48'LEDBRA -exact M3 modes 6, 7 FCPR'
000050F0  00000000 00000000                       1371  DC XL16'00000000000000000000000000000000'
00005100  D3C5C4C2 D9C1404E                       1372  DC CL48'LEDBRA +tie odd FPC modes 1-3, 7 FCPR'
00005130  00000001 00000002                       1373  DC XL16'00000001000000020000000300000007'
00005140  D3C5C4C2 D9C1404E                       1374  DC CL48'LEDBRA +tie odd M3 modes 1, 3-5 FPCR'
00005170  00080000 00080000                       1375  DC XL16'00080000000800000008000000080000'
00005180  D3C5C4C2 D9C1404E                       1376  DC CL48'LEDBRA +tie odd M3 modes 6, 7 FCPR'
000051B0  00080000 00080000                       1377  DC XL16'00080000000800000000000000000000'
000051C0  D3C5C4C2 D9C14060                       1378  DC CL48'LEDBRA -tie odd FPC modes 1-3, 7 FCPR'
000051F0  00000001 00000002                       1379  DC XL16'00000001000000020000000300000007'
00005200  D3C5C4C2 D9C14060                       1380  DC CL48'LEDBRA -tie odd M3 modes 1, 3-5 FPCR'
00005230  00080000 00080000                       1381  DC XL16'00080000000800000008000000080000'
00005240  D3C5C4C2 D9C14060                       1382  DC CL48'LEDBRA -tie odd M3 modes 6, 7 FCPR'
00005270  00080000 00080000                       1383  DC XL16'00080000000800000000000000000000'
00005280  D3C5C4C2 D9C1404E                       1384  DC CL48'LEDBRA +tie even FPC modes 1-3, 7 FCPR'
```

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  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

000052B0  00000001 00000002                       1385  DC XL16'00000001000000020000000300000007'
000052C0  D3C5C4C2 D9C1404E                       1386  DC CL48'LEDBRA +tie even M3 modes 1, 3-5 FPCR'
000052F0  00080000 00080000                       1387  DC XL16'00080000000800000008000000080000'
00005300  D3C5C4C2 D9C1404E                       1388  DC CL48'LEDBRA +tie even M3 modes 6, 7 FCPR'
00005330  00080000 00080000                       1389  DC XL16'00080000000800000000000000000000'
00005340  D3C5C4C2 D9C14060                       1390  DC CL48'LEDBRA -tie even FPC modes 1-3, 7 FCPR'
00005370  00000001 00000002                       1391  DC XL16'00000001000000020000000300000007'
00005380  D3C5C4C2 D9C14060                       1392  DC CL48'LEDBRA -tie even M3 modes 1, 3-5 FPCR'
000053B0  00080000 00080000                       1393  DC XL16'00080000000800000008000000080000'
000053C0  D3C5C4C2 D9C14060                       1394  DC CL48'LEDBRA -tie even M3 modes 6, 7 FCPR'
000053F0  00080000 00080000                       1395  DC XL16'00080000000800000000000000000000'
00005400  D3C5C4C2 D9C1404E                       1396  DC CL48'LEDBRA +false exact FPC modes 1-3, 7 FCPR'
00005430  00000001 00000002                       1397  DC XL16'00000001000000020000000300000007'
00005440  D3C5C4C2 D9C1404E                       1398  DC CL48'LEDBRA +false exact M3 modes 1, 3-5 FPCR'
00005470  00080000 00080000                       1399  DC XL16'00080000000800000008000000080000'
00005480  D3C5C4C2 D9C1404E                       1400  DC CL48'LEDBRA +false exact M3 modes 6, 7 FCPR'
000054B0  00080000 00080000                       1401  DC XL16'00080000000800000000000000000000'
000054C0  D3C5C4C2 D9C14060                       1402  DC CL48'LEDBRA -false exact FPC modes 1-3, 7 FCPR'
000054F0  00000001 00000002                       1403  DC XL16'00000001000000020000000300000007'
00005500  D3C5C4C2 D9C14060                       1404  DC CL48'LEDBRA -false exact M3 modes 1, 3-5 FPCR'
00005530  00080000 00080000                       1405  DC XL16'00080000000800000008000000080000'
00005540  D3C5C4C2 D9C14060                       1406  DC CL48'LEDBRA -false exact M3 modes 6, 7 FCPR'
00005570  00080000 00080000                       1407  DC XL16'00080000000800000000000000000000'
00005580  D3C5C4C2 D9C1404E                       1408  DC CL48'LEDBRA +near zero FPC modes 1-3, 7 FCPR'
000055B0  00000001 00000002                       1409  DC XL16'00000001000000020000000300000007'
000055C0  D3C5C4C2 D9C1404E                       1410  DC CL48'LEDBRA +near zero M3 modes 1, 3-5 FPCR'
000055F0  00080000 00080000                       1411  DC XL16'00080000000800000008000000080000'
00005600  D3C5C4C2 D9C1404E                       1412  DC CL48'LEDBRA +near zero M3 modes 6, 7 FCPR'
00005630  00080000 00080000                       1413  DC XL16'00080000000800000000000000000000'
00005640  D3C5C4C2 D9C14060                       1414  DC CL48'LEDBRA -near zero FPC modes 1-3, 7 FCPR'
00005670  00000001 00000002                       1415  DC XL16'00000001000000020000000300000007'
00005680  D3C5C4C2 D9C14060                       1416  DC CL48'LEDBRA -near zero M3 modes 1, 3-5 FPCR'
000056B0  00080000 00080000                       1417  DC XL16'00080000000800000008000000080000'
000056C0  D3C5C4C2 D9C14060                       1418  DC CL48'LEDBRA -near zero M3 modes 6, 7 FCPR'
000056F0  00080000 00080000                       1419  DC XL16'00080000000800000000000000000000'
00005700  D3C5C4C2 D9C1404E                       1420  DC CL48'LEDBRA +near +inf FPC modes 1-3, 7 FCPR'
00005730  00000001 00000002                       1421  DC XL16'00000001000000020000000300000007'
00005740  D3C5C4C2 D9C1404E                       1422  DC CL48'LEDBRA +near +inf M3 modes 1, 3-5 FPCR'
00005770  00080000 00080000                       1423  DC XL16'00080000000800000008000000080000'
00005780  D3C5C4C2 D9C1404E                       1424  DC CL48'LEDBRA +near +inf M3 modes 6, 7 FCPR'
000057B0  00080000 00080000                       1425  DC XL16'00080000000800000000000000000000'
000057C0  D3C5C4C2 D9C14060                       1426  DC CL48'LEDBRA -near -inf FPC modes 1-3, 7 FCPR'
000057F0  00000001 00000002                       1427  DC XL16'00000001000000020000000300000007'
00005800  D3C5C4C2 D9C14060                       1428  DC CL48'LEDBRA -near -inf M3 modes 1, 3-5 FPCR'
00005830  00080000 00080000                       1429  DC XL16'00080000000800000008000000080000'
00005840  D3C5C4C2 D9C14060                       1430  DC CL48'LEDBRA -near -inf M3 modes 6, 7 FCPR'
00005870  00080000 00080000                       1431  DC XL16'00080000000800000000000000000000'
00005880  D3C5C4C2 D9C1404E                       1432  DC CL48'LEDBRA +overflow FPCR modes 1-3, 7 FPCR'
000058B0  00000001 00200002                       1433  DC XL16'00000001002000020000000300000007'
000058C0  D3C5C4C2 D9C1404E                       1434  DC CL48'LEDBRA +overflow M3 modes 1, 3-5 FPCR'
000058F0  00280000 00080000                       1435  DC XL16'00280000000800000028000000080000'
00005900  D3C5C4C2 D9C1404E                       1436  DC CL48'LEDBRA +overflow M3 modes 6, 7 FPCR'
00005930  00280000 00080000                       1437  DC XL16'00280000000800000000000000000000'
00005940  D3C5C4C2 D9C14060                       1438  DC CL48'LEDBRA -overflow FPCR modes 1-3, 7 FPCR'
00005970  00000001 00000002                       1439  DC XL16'00000001000000020020000300000007'
00005980  D3C5C4C2 D9C14060                       1440  DC CL48'LEDBRA -overflow M3 modes 1, 3-5 FPCR'
```

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  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

000059B0  00280000 00080000                       1441  DC XL16'00280000000800000028000000080000'
000059C0  D3C5C4C2 D9C14060                       1442  DC CL48'LEDBRA -overflow M3 modes 6, 7 FPCR'
000059F0  00080000 00280000                       1443  DC XL16'00080000002800000000000000000000'
00005A00  D3C5C4C2 D9C1404E                       1444  DC CL48'LEDBRA +tiny tie odd FPCR modes 1-3, 7 FPCR'
00005A30  00100001 00100002                       1445  DC XL16'00100001001000020010000300100007'
00005A40  D3C5C4C2 D9C1404E                       1446  DC CL48'LEDBRA +tiny tie odd M3 modes 1, 3-5 FPCR'
00005A70  00180000 00180000                       1447  DC XL16'00180000001800000018000000180000'
00005A80  D3C5C4C2 D9C1404E                       1448  DC CL48'LEDBRA +tiny tie odd M3 modes 6, 7 FPCR'
00005AB0  00180000 00180000                       1449  DC XL16'00180000001800000000000000000000'
00005AC0  D3C5C4C2 D9C14060                       1450  DC CL48'LEDBRA -tiny tie odd FPCR modes 1-3, 7 FPCR'
00005AF0  00100001 00100002                       1451  DC XL16'00100001001000020010000300100007'
00005B00  D3C5C4C2 D9C14060                       1452  DC CL48'LEDBRA -tiny tie odd M3 modes 1, 3-5 FPCR'
00005B30  00180000 00180000                       1453  DC XL16'00180000001800000018000000180000'
00005B40  D3C5C4C2 D9C14060                       1454  DC CL48'LEDBRA -tiny tie odd M3 modes 6, 7 FPCR'
00005B70  00180000 00180000                       1455  DC XL16'00180000001800000000000000000000'
                              00000030  00000001  1456 LTOSRMOF_NUM EQU (*-LTOSRMOF_GOOD)/64
                                                  1457 *
                                                  1458 *
                              00005B80  00000001  1459 XTOSOUT_GOOD EQU *
00005B80  D3C5E7C2 D9409985                       1460  DC CL48'LEXBR result pairs 1-2'
00005BB0  00000000 00000000                       1461  DC XL16'0000000000000000003FC000003FC00000'
00005BC0  D3C5E7C2 D9409985                       1462  DC CL48'LEXBR result pairs 3-4'
00005BF0  BFC00000 BFC00000                       1463  DC XL16'BFC00000BFC000007FC0800000000000'
00005C00  D3C5E7C2 D9409985                       1464  DC CL48'LEXBR result pairs 5-6'
00005C30  7FC08800 7FC08800                       1465  DC XL16'7FC088007FC088007F800000207F0000'
00005C40  D3C5E7C2 D9409985                       1466  DC CL48'LEXBR result pairs 7-8'
00005C70  FF800000 A07F0000                       1467  DC XL16'FF800000A07F00007F800000207FFFFF'
00005C80  D3C5E7C2 D9409985                       1468  DC CL48'LEXBR result pairs 9-10'
00005CB0  FF800000 A07FFFFF                       1469  DC XL16'FF800000A07FFFFF000000005F690000'
00005CC0  D3C5E7C2 D9409985                       1470  DC CL48'LEXBR result pair 11-12'
00005CF0  80000000 DF690000                       1471  DC XL16'80000000DF6900007F800000207F0000'
00005D00  D3C5E7C2 D9409985                       1472  DC CL48'LEXBR result pair 13'
00005D30  FF800000 A07F0000                       1473  DC XL16'FF800000A07F00000000000000000000'
                              00000007  00000001  1474 XTOSOUT_NUM EQU (*-XTOSOUT_GOOD)/64
                                                  1475 *
                                                  1476 *
                              00005D40  00000001  1477 XTOSFLGS_GOOD EQU *
00005D40  D3C5E7C2 D940C6D7                       1478  DC CL48'LEXBR FPCR pairs 1-2'
00005D70  00000000 F8000000                       1479  DC XL16'00000000F800000000000000F8000000'
00005D80  D3C5E7C2 D940C6D7                       1480  DC CL48'LEXBR FPCR pairs 3-4'
00005DB0  00000000 F8000000                       1481  DC XL16'00000000F800000000800000F8008000'
00005DC0  D3C5E7C2 D940C6D7                       1482  DC CL48'LEXBR FPCR pairs 5-6'
00005DF0  00000000 F8000000                       1483  DC XL16'00000000F800000000280000F8002C00'
00005E00  D3C5E7C2 D940C6D7                       1484  DC CL48'LEXBR FPCR pairs 7-8'
00005E30  00280000 F8002C00                       1485  DC XL16'00280000F8002C0000280000F8002800'
00005E40  D3C5E7C2 D940C6D7                       1486  DC CL48'LEXBR FPCR pairs 9-10'
00005E70  00280000 F8002800                       1487  DC XL16'00280000F800280000180000F8001000'
00005E80  D3C5E7C2 D940C6D7                       1488  DC CL48'LEXBR FPCR pairs 11-12'
00005EB0  00180000 F8001000                       1489  DC XL16'00180000F800100000280000F8002000'
00005EC0  D3C5E7C2 D940C6D7                       1490  DC CL48'LEXBR FPCR pair 13'
00005EF0  00280000 F8002000                       1491  DC XL16'00280000F80020000000000000000000'
                              00000007  00000001  1492 XTOSFLGS_NUM EQU (*-XTOSFLGS_GOOD)/64
                                                  1493 *
                                                  1494 *
                              00005F00  00000001  1495 XTOSRMO_GOOD EQU *
00005F00  D3C5E7C2 D9C1404E                       1496  DC CL48'LEXBRA +exact FPCR modes 1-3, 7'
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  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

00005F30  3FFFFFFF 3FFFFFFF                       1497  DC XL16'3FFFFFFF3FFFFFFF3FFFFFFF3FFFFFFF'
00005F40  D3C5E7C2 D9C1404E                       1498  DC CL48'LEXBRA +exact M3 modes 1, 3-5'
00005F70  3FFFFFFF 3FFFFFFF                       1499  DC XL16'3FFFFFFF3FFFFFFF3FFFFFFF3FFFFFFF'
00005F80  D3C5E7C2 D9C1404E                       1500  DC CL48'LEXBRA +exact M3 modes 6, 7'
00005FB0  3FFFFFFF 3FFFFFFF                       1501  DC XL16'3FFFFFFF3FFFFFFF0000000000000000'
00005FC0  D3C5E7C2 D9C14060                       1502  DC CL48'LEXBRA -exact FPCR modes 1-3, 7'
00005FF0  BFFFFFFF BFFFFFFF                       1503  DC XL16'BFFFFFFFBFFFFFFFBFFFFFFFBFFFFFFF'
00006000  D3C5E7C2 D9C14060                       1504  DC CL48'LEXBRA -exact M3 modes 1, 3-5'
00006030  BFFFFFFF BFFFFFFF                       1505  DC XL16'BFFFFFFFBFFFFFFFBFFFFFFFBFFFFFFF'
00006040  D3C5E7C2 D9C14060                       1506  DC CL48'LEXBRA -exact M3 modes 6, 7'
00006070  BFFFFFFF BFFFFFFF                       1507  DC XL16'BFFFFFFFBFFFFFFF0000000000000000'
00006080  D3C5E7C2 D9C1404E                       1508  DC CL48'LEXBRA +tie odd FPCR modes 1-3, 7'
000060B0  3FFFFFFF 40000000                       1509  DC XL16'3FFFFFFF400000003FFFFFFF3FFFFFFF'
000060C0  D3C5E7C2 D9C1404E                       1510  DC CL48'LEXBRA +tie odd M3 modes 1, 3-5'
000060F0  40000000 3FFFFFFF                       1511  DC XL16'400000003FFFFFFF400000003FFFFFFF'
00006100  D3C5E7C2 D9C1404E                       1512  DC CL48'LEXBRA +tie odd M3 modes 6, 7'
00006130  40000000 3FFFFFFF                       1513  DC XL16'400000003FFFFFFF0000000000000000'
00006140  D3C5E7C2 D9C14060                       1514  DC CL48'LEXBRA -tie odd FPCR modes 1-3, 7'
00006170  BFFFFFFF BFFFFFFF                       1515  DC XL16'BFFFFFFFBFFFFFFFC0000000BFFFFFFF'
00006180  D3C5E7C2 D9C14060                       1516  DC CL48'LEXBRA -tie odd M3 modes 1, 3-5'
000061B0  C0000000 BFFFFFFF                       1517  DC XL16'C0000000BFFFFFFFC0000000BFFFFFFF'
000061C0  D3C5E7C2 D9C14060                       1518  DC CL48'LEXBRA -tie odd M3 modes 6, 7'
000061F0  BFFFFFFF C0000000                       1519  DC XL16'BFFFFFFFC00000000000000000000000'
00006200  D3C5E7C2 D9C1404E                       1520  DC CL48'LEXBRA +tie even FPCR modes 1-3, 7'
00006230  3FFFFFFE 3FFFFFFF                       1521  DC XL16'3FFFFFFE3FFFFFFF3FFFFFFE3FFFFFFF'
00006240  D3C5E7C2 D9C1404E                       1522  DC CL48'LEXBRA +tie even M3 modes 1, 3-5'
00006270  3FFFFFFF 3FFFFFFF                       1523  DC XL16'3FFFFFFF3FFFFFFF3FFFFFFE3FFFFFFE'
00006280  D3C5E7C2 D9C1404E                       1524  DC CL48'LEXBRA +tie even M3 modes 6, 7'
000062B0  3FFFFFFF 3FFFFFFE                       1525  DC XL16'3FFFFFFF3FFFFFFE0000000000000000'
000062C0  D3C5E7C2 D9C14060                       1526  DC CL48'LEXBRA -tie even FPCR modes 1-3, 7'
000062F0  BFFFFFFE BFFFFFFE                       1527  DC XL16'BFFFFFFEBFFFFFFEBFFFFFFFBFFFFFFF'
00006300  D3C5E7C2 D9C14060                       1528  DC CL48'LEXBRA -tie even M3 modes 1, 3-5'
00006330  BFFFFFFF BFFFFFFF                       1529  DC XL16'BFFFFFFFBFFFFFFFBFFFFFFEBFFFFFFE'
00006340  D3C5E7C2 D9C14060                       1530  DC CL48'LEXBRA -tie even M3 modes 6, 7'
00006370  BFFFFFFE BFFFFFFF                       1531  DC XL16'BFFFFFFEBFFFFFFF0000000000000000'
00006380  D3C5E7C2 D9C1404E                       1532  DC CL48'LEXBRA +false exact FPCR modes 1-3, 7'
000063B0  3FFFFFFF 40000000                       1533  DC XL16'3FFFFFFF400000003FFFFFFF3FFFFFFF'
000063C0  D3C5E7C2 D9C1404E                       1534  DC CL48'LEXBRA +false exact M3 modes 1, 3-5'
000063F0  3FFFFFFF 3FFFFFFF                       1535  DC XL16'3FFFFFFF3FFFFFFF3FFFFFFF3FFFFFFF'
00006400  D3C5E7C2 D9C1404E                       1536  DC CL48'LEXBRA +false exact M3 modes 6, 7'
00006430  40000000 3FFFFFFF                       1537  DC XL16'400000003FFFFFFF0000000000000000'
00006440  D3C5E7C2 D9C14060                       1538  DC CL48'LEXBRA -false exact FPCR modes 1-3, 7'
00006470  BFFFFFFF BFFFFFFF                       1539  DC XL16'BFFFFFFFBFFFFFFFC0000000BFFFFFFF'
00006480  D3C5E7C2 D9C14060                       1540  DC CL48'LEXBRA -false exact M3 modes 1, 3-5'
000064B0  BFFFFFFF BFFFFFFF                       1541  DC XL16'BFFFFFFFBFFFFFFFBFFFFFFFBFFFFFFF'
000064C0  D3C5E7C2 D9C14060                       1542  DC CL48'LEXBRA -false exact M3 modes 6, 7'
000064F0  BFFFFFFF C0000000                       1543  DC XL16'BFFFFFFFC00000000000000000000000'
00006500  D3C5E7C2 D9C1404E                       1544  DC CL48'LEXBRA +near zero FPCR modes 1-3, 7'
00006530  3FFFFFFF 40000000                       1545  DC XL16'3FFFFFFF400000003FFFFFFF3FFFFFFF'
00006540  D3C5E7C2 D9C1404E                       1546  DC CL48'LEXBRA +near zero M3 modes 1, 3-5'
00006570  3FFFFFFF 3FFFFFFF                       1547  DC XL16'3FFFFFFF3FFFFFFF3FFFFFFF3FFFFFFF'
00006580  D3C5E7C2 D9C1404E                       1548  DC CL48'LEXBRA +near zero M3 modes 6, 7'
000065B0  40000000 3FFFFFFF                       1549  DC XL16'400000003FFFFFFF0000000000000000'
000065C0  D3C5E7C2 D9C14060                       1550  DC CL48'LEXBRA -near zero FPCR modes 1-3, 7'
000065F0  BFFFFFFF BFFFFFFF                       1551  DC XL16'BFFFFFFFBFFFFFFFC0000000BFFFFFFF'
00006600  D3C5E7C2 D9C14060                       1552  DC CL48'LEXBRA -near zero M3 modes 1, 3-5'
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  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

00006630  BFFFFFFF BFFFFFFF                       1553  DC XL16'BFFFFFFFBFFFFFFFBFFFFFFFBFFFFFFF'
00006640  D3C5E7C2 D9C14060                       1554  DC CL48'LEXBRA -near zero M3 modes 6, 7'
00006670  BFFFFFFF C0000000                       1555  DC XL16'BFFFFFFFC0000000000000000000000000'
00006680  D3C5E7C2 D9C1404E                       1556  DC CL48'LEXBRA +near +inf FPCR modes 1-3, 7'
000066B0  3FFFFFFF 40000000                       1557  DC XL16'3FFFFFFF400000003FFFFFFF3FFFFFFF'
000066C0  D3C5E7C2 D9C1404E                       1558  DC CL48'LEXBRA +near +inf M3 modes 1, 3-5'
000066F0  40000000 3FFFFFFF                       1559  DC XL16'400000003FFFFFFF400000003FFFFFFF'
00006700  D3C5E7C2 D9C1404E                       1560  DC CL48'LEXBRA +near +inf M3 modes 6, 7'
00006730  40000000 3FFFFFFF                       1561  DC XL16'400000003FFFFFFF0000000000000000'
00006740  D3C5E7C2 D9C14060                       1562  DC CL48'LEXBRA -near -inf FPCR modes 1-3, 7'
00006770  BFFFFFFF BFFFFFFF                       1563  DC XL16'BFFFFFFFBFFFFFFFC0000000BFFFFFFF'
00006780  D3C5E7C2 D9C14060                       1564  DC CL48'LEXBRA -near -inf M3 modes 1, 3-5'
000067B0  C0000000 BFFFFFFF                       1565  DC XL16'C0000000BFFFFFFFC0000000BFFFFFFF'
000067C0  D3C5E7C2 D9C14060                       1566  DC CL48'LEXBRA -near -inf M3 modes 6, 7'
000067F0  BFFFFFFF C0000000                       1567  DC XL16'BFFFFFFFC0000000000000000000000000'
00006800  D3C5E7C2 D9C1404E                       1568  DC CL48'LEXBRA +overflow FPCR modes 1-3, 7'
00006830  7F7FFFFF 7F800000                       1569  DC XL16'7F7FFFFF7F8000007F7FFFFF7F7FFFFF'
00006840  D3C5E7C2 D9C1404E                       1570  DC CL48'LEXBRA +overflow M3 modes 1, 3-5'
00006870  7F800000 7F7FFFFF                       1571  DC XL16'7F8000007F7FFFFF7F8000007F7FFFFF'
00006880  D3C5E7C2 D9C1404E                       1572  DC CL48'LEXBRA +overflow M3 modes 6, 7'
000068B0  7F800000 7F7FFFFF                       1573  DC XL16'7F8000007F7FFFFF0000000000000000'
000068C0  D3C5E7C2 D9C14060                       1574  DC CL48'LEXBRA -overflow FPCR modes 1-3, 7'
000068F0  FF7FFFFF FF7FFFFF                       1575  DC XL16'FF7FFFFFFF7FFFFFFF800000FF7FFFFF'
00006900  D3C5E7C2 D9C14060                       1576  DC CL48'LEXBRA -overflow M3 modes 1, 3-5'
00006930  FF800000 FF7FFFFF                       1577  DC XL16'FF800000FF7FFFFFFF800000FF7FFFFF'
00006940  D3C5E7C2 D9C14060                       1578  DC CL48'LEXBRA -overflow M3 modes 6, 7'
00006970  FF7FFFFF FF800000                       1579  DC XL16'FF7FFFFFFF8000000000000000000000'
00006980  D3C5E7C2 D9C1404E                       1580  DC CL48'LEXBRA +tiny tie odd FPCR modes 1-3, 7'
000069B0  00000000 00000001                       1581  DC XL16'00000000000000010000000000000001'
000069C0  D3C5E7C2 D9C1404E                       1582  DC CL48'LEXBRA +tiny tie odd M3 modes 1, 3-5'
000069F0  00000001 00000001                       1583  DC XL16'00000001000000010000000000000000'
00006A00  D3C5E7C2 D9C1404E                       1584  DC CL48'LEXBRA +tiny tie odd M3 modes 6, 7'
00006A30  00000001 00000000                       1585  DC XL16'00000001000000000000000000000000'
00006A40  D3C5E7C2 D9C14060                       1586  DC CL48'LEXBRA -tiny tie odd FPCR modes 1-3, 7'
00006A70  80000000 80000000                       1587  DC XL16'80000000800000008000000180000001'
00006A80  D3C5E7C2 D9C14060                       1588  DC CL48'LEXBRA -tiny tie odd M3 modes 1, 3-5'
00006AB0  80000001 80000001                       1589  DC XL16'80000001800000018000000080000000'
00006AC0  D3C5E7C2 D9C14060                       1590  DC CL48'LEXBRA -tiny tie odd M3 modes 6, 7'
00006AF0  80000000 80000001                       1591  DC XL16'80000000800000010000000000000000'
                              00000030  00000001  1592 XTOSRMO_NUM EQU (*-XTOSRMO_GOOD)/64
                                                  1593 *
                                                  1594 *
                              00006B00  00000001  1595 XTOSRMOF_GOOD EQU *
00006B00  D3C5E7C2 D9C1404E                       1596  DC CL48'LEXBRA +exact FPC modes 1-3, 7 FCPR'
00006B30  00000001 00000002                       1597  DC XL16'00000001000000020000000300000007'
00006B40  D3C5E7C2 D9C1404E                       1598  DC CL48'LEXBRA +exact M3 modes 1, 3-5 FPCR'
00006B70  00000000 00000000                       1599  DC XL16'00000000000000000000000000000000'
00006B80  D3C5E7C2 D9C1404E                       1600  DC CL48'LEXBRA +exact M3 modes 6, 7 FCPR'
00006BB0  00000000 00000000                       1601  DC XL16'00000000000000000000000000000000'
00006BC0  D3C5E7C2 D9C14060                       1602  DC CL48'LEXBRA -exact FPC modes 1-3, 7 FCPR'
00006BF0  00000001 00000002                       1603  DC XL16'00000001000000020000000300000007'
00006C00  D3C5E7C2 D9C14060                       1604  DC CL48'LEXBRA -exact M3 modes 1, 3-5 FPCR'
00006C30  00000000 00000000                       1605  DC XL16'00000000000000000000000000000000'
00006C40  D3C5E7C2 D9C14060                       1606  DC CL48'LEXBRA -exact M3 modes 6, 7 FCPR'
00006C70  00000000 00000000                       1607  DC XL16'00000000000000000000000000000000'
00006C80  D3C5E7C2 D9C1404E                       1608  DC CL48'LEXBRA +tie odd FPC modes 1-3, 7 FCPR'
```

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00006CB0  00000001 00000002                       1609  DC XL16'00000001000000020000000300000007'
00006CC0  D3C5E7C2 D9C1404E                       1610  DC CL48'LEXBRA +tie odd M3 modes 1, 3-5 FPCR'
00006CF0  00080000 00080000                       1611  DC XL16'00080000000800000008000000080000'
00006D00  D3C5E7C2 D9C1404E                       1612  DC CL48'LEXBRA +tie odd M3 modes 6, 7 FCPR'
00006D30  00080000 00080000                       1613  DC XL16'00080000000800000000000000000000'
00006D40  D3C5E7C2 D9C14060                       1614  DC CL48'LEXBRA -tie odd FPC modes 1-3, 7 FCPR'
00006D70  00000001 00000002                       1615  DC XL16'00000001000000020000000300000007'
00006D80  D3C5E7C2 D9C14060                       1616  DC CL48'LEXBRA -tie odd M3 modes 1, 3-5 FPCR'
00006DB0  00080000 00080000                       1617  DC XL16'00080000000800000008000000080000'
00006DC0  D3C5E7C2 D9C14060                       1618  DC CL48'LEXBRA -tie odd M3 modes 6, 7 FCPR'
00006DF0  00080000 00080000                       1619  DC XL16'00080000000800000000000000000000'
00006E00  D3C5E7C2 D9C1404E                       1620  DC CL48'LEXBRA +tie even FPC modes 1-3, 7 FCPR'
00006E30  00000001 00000002                       1621  DC XL16'00000001000000020000000300000007'
00006E40  D3C5E7C2 D9C1404E                       1622  DC CL48'LEXBRA +tie even M3 modes 1, 3-5 FPCR'
00006E70  00080000 00080000                       1623  DC XL16'00080000000800000008000000080000'
00006E80  D3C5E7C2 D9C1404E                       1624  DC CL48'LEXBRA +tie even M3 modes 6, 7 FCPR'
00006EB0  00080000 00080000                       1625  DC XL16'00080000000800000000000000000000'
00006EC0  D3C5E7C2 D9C14060                       1626  DC CL48'LEXBRA -tie even FPC modes 1-3, 7 FCPR'
00006EF0  00000001 00000002                       1627  DC XL16'00000001000000020000000300000007'
00006F00  D3C5E7C2 D9C14060                       1628  DC CL48'LEXBRA -tie even M3 modes 1, 3-5 FPCR'
00006F30  00080000 00080000                       1629  DC XL16'00080000000800000008000000080000'
00006F40  D3C5E7C2 D9C14060                       1630  DC CL48'LEXBRA -tie even M3 modes 6, 7 FCPR'
00006F70  00080000 00080000                       1631  DC XL16'00080000000800000000000000000000'
00006F80  D3C5E7C2 D9C1404E                       1632  DC CL48'LEXBRA +false exact FPC modes 1-3, 7 FCPR'
00006FB0  00000001 00000002                       1633  DC XL16'00000001000000020000000300000007'
00006FC0  D3C5E7C2 D9C1404E                       1634  DC CL48'LEXBRA +false exact M3 modes 1, 3-5 FPCR'
00006FF0  00080000 00080000                       1635  DC XL16'00080000000800000008000000080000'
00007000  D3C5E7C2 D9C1404E                       1636  DC CL48'LEXBRA +false exact M3 modes 6, 7 FCPR'
00007030  00080000 00080000                       1637  DC XL16'00080000000800000000000000000000'
00007040  D3C5E7C2 D9C14060                       1638  DC CL48'LEXBRA -false exact FPC modes 1-3, 7 FCPR'
00007070  00000001 00000002                       1639  DC XL16'00000001000000020000000300000007'
00007080  D3C5E7C2 D9C14060                       1640  DC CL48'LEXBRA -false exact M3 modes 1, 3-5 FPCR'
000070B0  00080000 00080000                       1641  DC XL16'00080000000800000008000000080000'
000070C0  D3C5E7C2 D9C14060                       1642  DC CL48'LEXBRA -false exact M3 modes 6, 7 FCPR'
000070F0  00080000 00080000                       1643  DC XL16'00080000000800000000000000000000'
00007100  D3C5E7C2 D9C1404E                       1644  DC CL48'LEXBRA +near zero FPC modes 1-3, 7 FCPR'
00007130  00000001 00000002                       1645  DC XL16'00000001000000020000000300000007'
00007140  D3C5E7C2 D9C1404E                       1646  DC CL48'LEXBRA +near zero M3 modes 1, 3-5 FPCR'
00007170  00080000 00080000                       1647  DC XL16'00080000000800000008000000080000'
00007180  D3C5E7C2 D9C1404E                       1648  DC CL48'LEXBRA +near zero M3 modes 6, 7 FCPR'
000071B0  00080000 00080000                       1649  DC XL16'00080000000800000000000000000000'
000071C0  D3C5E7C2 D9C14060                       1650  DC CL48'LEXBRA -near zero FPC modes 1-3, 7 FCPR'
000071F0  00000001 00000002                       1651  DC XL16'00000001000000020000000300000007'
00007200  D3C5E7C2 D9C14060                       1652  DC CL48'LEXBRA -near zero M3 modes 1, 3-5 FPCR'
00007230  00080000 00080000                       1653  DC XL16'00080000000800000008000000080000'
00007240  D3C5E7C2 D9C14060                       1654  DC CL48'LEXBRA -near zero M3 modes 6, 7 FCPR'
00007270  00080000 00080000                       1655  DC XL16'00080000000800000000000000000000'
00007280  D3C5E7C2 D9C1404E                       1656  DC CL48'LEXBRA +near +inf FPC modes 1-3, 7 FCPR'
000072B0  00000001 00000002                       1657  DC XL16'00000001000000020000000300000007'
000072C0  D3C5E7C2 D9C1404E                       1658  DC CL48'LEXBRA +near +inf M3 modes 1, 3-5 FPCR'
000072F0  00080000 00080000                       1659  DC XL16'00080000000800000008000000080000'
00007300  D3C5E7C2 D9C1404E                       1660  DC CL48'LEXBRA +near +inf M3 modes 6, 7 FCPR'
00007330  00080000 00080000                       1661  DC XL16'00080000000800000000000000000000'
00007340  D3C5E7C2 D9C14060                       1662  DC CL48'LEXBRA -near -inf FPC modes 1-3, 7 FCPR'
00007370  00000001 00000002                       1663  DC XL16'00000001000000020000000300000007'
00007380  D3C5E7C2 D9C14060                       1664  DC CL48'LEXBRA -near -inf M3 modes 1, 3-5 FPCR'
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  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

000073B0  00080000 00080000                       1665  DC XL16'00080000000800000008000000080000'
000073C0  D3C5E7C2 D9C14060                       1666  DC CL48'LEXBRA -near -inf M3 modes 6, 7 FCPR'
000073F0  00080000 00080000                       1667  DC XL16'00080000000800000000000000000000'
00007400  D3C5E7C2 D9C1404E                       1668  DC CL48'LEXBRA +overflow FPCR modes 1-3, 7 FPCR'
00007430  00000001 00200002                       1669  DC XL16'00000001002000020000000300000007'
00007440  D3C5E7C2 D9C1404E                       1670  DC CL48'LEXBRA +overflow M3 modes 1, 3-5 FPCR'
00007470  00280000 00080000                       1671  DC XL16'00280000000800000028000000080000'
00007480  D3C5E7C2 D9C1404E                       1672  DC CL48'LEXBRA +overflow M3 modes 6, 7 FPCR'
000074B0  00280000 00080000                       1673  DC XL16'00280000000800000000000000000000'
000074C0  D3C5E7C2 D9C14060                       1674  DC CL48'LEXBRA -overflow FPCR modes 1-3, 7 FPCR'
000074F0  00000001 00000002                       1675  DC XL16'00000001000000020020000300000007'
00007500  D3C5E7C2 D9C14060                       1676  DC CL48'LEXBRA -overflow M3 modes 1, 3-5 FPCR'
00007530  00280000 00080000                       1677  DC XL16'00280000000800000028000000080000'
00007540  D3C5E7C2 D9C14060                       1678  DC CL48'LEXBRA -overflow M3 modes 6, 7 FPCR'
00007570  00080000 00280000                       1679  DC XL16'00080000002800000000000000000000'
00007580  D3C5E7C2 D9C1404E                       1680  DC CL48'LEXBRA +tiny tie odd FPCR modes 1-3, 7 FPCR'
000075B0  00100001 00100002                       1681  DC XL16'00100001001000020010000300100007'
000075C0  D3C5E7C2 D9C1404E                       1682  DC CL48'LEXBRA +tiny tie odd M3 modes 1, 3-5 FPCR'
000075F0  00180000 00180000                       1683  DC XL16'00180000001800000018000000180000'
00007600  D3C5E7C2 D9C1404E                       1684  DC CL48'LEXBRA +tiny tie odd M3 modes 6, 7 FPCR'
00007630  00180000 00180000                       1685  DC XL16'00180000001800000000000000000000'
00007640  D3C5E7C2 D9C14060                       1686  DC CL48'LEXBRA -tiny tie odd FPCR modes 1-3, 7 FPCR'
00007670  00100001 00100002                       1687  DC XL16'00100001001000020010000300100007'
00007680  D3C5E7C2 D9C14060                       1688  DC CL48'LEXBRA -tiny tie odd M3 modes 1, 3-5 FPCR'
000076B0  00180000 00180000                       1689  DC XL16'00180000001800000018000000180000'
000076C0  D3C5E7C2 D9C14060                       1690  DC CL48'LEXBRA -tiny tie odd M3 modes 6, 7 FPCR'
000076F0  00180000 00180000                       1691  DC XL16'00180000001800000000000000000000'
                               00000030  00000001 1692 XTOSRMOF_NUM EQU (*-XTOSRMOF_GOOD)/64
                                                  1693 *
                                                  1694 *
                               00007700  00000001 1695 XTOLOUT_GOOD EQU *
00007700  D3C4E7C2 D9409985                       1696  DC CL48'LDXBR result pair 1'
00007730  00000000 00000000                       1697  DC XL16'00000000000000000000000000000000'
00007740  D3C4E7C2 D9409985                       1698  DC CL48'LDXBR result pair 2'
00007770  3FF80000 00000000                       1699  DC XL16'3FF80000000000003FF8000000000000'
00007780  D3C4E7C2 D9409985                       1700  DC CL48'LDXBR result pair 3'
000077B0  BFF80000 00000000                       1701  DC XL16'BFF8000000000000BFF8000000000000'
000077C0  D3C4E7C2 D9409985                       1702  DC CL48'LDXBR result pair 4'
000077F0  7FF81000 00000000                       1703  DC XL16'7FF81000000000000000000000000000'
00007800  D3C4E7C2 D9409985                       1704  DC CL48'LDXBR result pair 5'
00007830  7FF81100 00000000                       1705  DC XL16'7FF81100000000007FF8110000000000'
00007840  D3C4E7C2 D9409985                       1706  DC CL48'LDXBR result pair 6'
00007870  7FF00000 00000000                       1707  DC XL16'7FF000000000000023FF000000000000'
00007880  D3C4E7C2 D9409985                       1708  DC CL48'LDXBR result pair 7'
000078B0  FFF00000 00000000                       1709  DC XL16'FFF0000000000000A3FF000000000000'
000078C0  D3C4E7C2 D9409985                       1710  DC CL48'LDXBR result pair 8'
000078F0  7FF00000 00000000                       1711  DC XL16'7FF000000000000023FFFFFFFFFFFFFF'
00007900  D3C4E7C2 D9409985                       1712  DC CL48'LDXBR result pair 9'
00007930  FFF00000 00000000                       1713  DC XL16'FFF0000000000000A3FFFFFFFFFFFFFF'
00007940  D3C4E7C2 D9409985                       1714  DC CL48'LDXBR result pair 10'
00007970  00000000 00000000                       1715  DC XL16'00000000000000005BCC000000000000'
00007980  D3C4E7C2 D9409985                       1716  DC CL48'LDXBR result pair 11'
000079B0  80000000 00000000                       1717  DC XL16'8000000000000000DBCC000000000000'
000079C0  D3C4E7C2 D9409985                       1718  DC CL48'LDXBR result pair 12'
000079F0  7FF00000 00000000                       1719  DC XL16'7FF000000000000023FF000000000000'
00007A00  D3C4E7C2 D9409985                       1720  DC CL48'LDXBR result pair 13'
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  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

00007A30  FFF00000 00000000                       1721  DC XL16'FFF0000000000000A3FF000000000000'
                              0000000D  00000001  1722 XTOLOUT_NUM EQU (*-XTOLOUT_GOOD)/64
                                                  1723 *
                                                  1724 *
                              00007A40  00000001  1725 XTOLFLGS_GOOD EQU *
00007A40  D3C4E7C2 D940C6D7                       1726  DC CL48'LDXBR FPCR pairs 1-2'
00007A70  00000000 F8000000                       1727  DC XL16'00000000F800000000000000F8000000'
00007A80  D3C4E7C2 D940C6D7                       1728  DC CL48'LDXBR FPCR pairs 3-4'
00007AB0  00000000 F8000000                       1729  DC XL16'00000000F800000000800000F8008000'
00007AC0  D3C4E7C2 D940C6D7                       1730  DC CL48'LDXBR FPCR pairs 5-6'
00007AF0  00000000 F8000000                       1731  DC XL16'00000000F800000000280000F8002C00'
00007B00  D3C4E7C2 D940C6D7                       1732  DC CL48'LDXBR FPCR pairs 7-8'
00007B30  00280000 F8002C00                       1733  DC XL16'00280000F8002C0000280000F8002800'
00007B40  D3C4E7C2 D940C6D7                       1734  DC CL48'LDXBR FPCR pairs 9-10'
00007B70  00280000 F8002800                       1735  DC XL16'00280000F800280000180000F8001000'
00007B80  D3C4E7C2 D940C6D7                       1736  DC CL48'LDXBR FPCR pairs 11-12'
00007BB0  00180000 F8001000                       1737  DC XL16'00180000F800100000280000F8002000'
00007BC0  D3C4E7C2 D940C6D7                       1738  DC CL48'LDXBR FPCR pair 13'
00007BF0  00280000 F8002000                       1739  DC XL16'00280000F80020000000000000000000'
                              00000007  00000001  1740 XTOLFLGS_NUM EQU (*-XTOLFLGS_GOOD)/64
                                                  1741 *
                                                  1742 *
                              00007C00  00000001  1743 XTOLRMO_GOOD EQU *
00007C00  D3C4E7C2 D9C1404E                       1744  DC CL48'LDXBRA +exact FPC modes 1, 2'
00007C30  3FFFFFFF FFFFFFFF                       1745  DC XL16'3FFFFFFFFFFFFFFF3FFFFFFFFFFFFFFF'
00007C40  D3C4E7C2 D9C1404E                       1746  DC CL48'LDXBRA +exact FPC modes 3, 7'
00007C70  3FFFFFFF FFFFFFFF                       1747  DC XL16'3FFFFFFFFFFFFFFF3FFFFFFFFFFFFFFF'
00007C80  D3C4E7C2 D9C1404E                       1748  DC CL48'LDXBRA +exact M3 modes 1, 3'
00007CB0  3FFFFFFF FFFFFFFF                       1749  DC XL16'3FFFFFFFFFFFFFFF3FFFFFFFFFFFFFFF'
00007CC0  D3C4E7C2 D9C1404E                       1750  DC CL48'LDXBRA +exact M3 modes 4, 5'
00007CF0  3FFFFFFF FFFFFFFF                       1751  DC XL16'3FFFFFFFFFFFFFFF3FFFFFFFFFFFFFFF'
00007D00  D3C4E7C2 D9C1404E                       1752  DC CL48'LDXBRA +exact M3 modes 6, 7'
00007D30  3FFFFFFF FFFFFFFF                       1753  DC XL16'3FFFFFFFFFFFFFFF3FFFFFFFFFFFFFFF'
00007D40  D3C4E7C2 D9C14060                       1754  DC CL48'LDXBRA -exact FPC modes 1, 2'
00007D70  BFFFFFFF FFFFFFFF                       1755  DC XL16'BFFFFFFFFFFFFFFFBFFFFFFFFFFFFFFF'
00007D80  D3C4E7C2 D9C14060                       1756  DC CL48'LDXBRA -exact FPC modes 3, 7'
00007DB0  BFFFFFFF FFFFFFFF                       1757  DC XL16'BFFFFFFFFFFFFFFFBFFFFFFFFFFFFFFF'
00007DC0  D3C4E7C2 D9C14060                       1758  DC CL48'LDXBRA -exact M3 modes 1, 3'
00007DF0  BFFFFFFF FFFFFFFF                       1759  DC XL16'BFFFFFFFFFFFFFFFBFFFFFFFFFFFFFFF'
00007E00  D3C4E7C2 D9C14060                       1760  DC CL48'LDXBRA -exact M3 modes 4, 5'
00007E30  BFFFFFFF FFFFFFFF                       1761  DC XL16'BFFFFFFFFFFFFFFFBFFFFFFFFFFFFFFF'
00007E40  D3C4E7C2 D9C14060                       1762  DC CL48'LDXBRA -exact M3 modes 6, 7'
00007E70  BFFFFFFF FFFFFFFF                       1763  DC XL16'BFFFFFFFFFFFFFFFBFFFFFFFFFFFFFFF'
00007E80  D3C4E7C2 D9C1404E                       1764  DC CL48'LDXBRA +tie odd FPC modes 1, 2'
00007EB0  3FFFFFFF FFFFFFFF                       1765  DC XL16'3FFFFFFFFFFFFFFF4000000000000000'
00007EC0  D3C4E7C2 D9C1404E                       1766  DC CL48'LDXBRA +tie odd FPC modes 3, 7'
00007EF0  3FFFFFFF FFFFFFFF                       1767  DC XL16'3FFFFFFFFFFFFFFF3FFFFFFFFFFFFFFF'
00007F00  D3C4E7C2 D9C1404E                       1768  DC CL48'LDXBRA +tie odd M3 modes 1, 3'
00007F30  40000000 00000000                       1769  DC XL16'40000000000000003FFFFFFFFFFFFFFF'
00007F40  D3C4E7C2 D9C1404E                       1770  DC CL48'LDXBRA +tie odd M3 modes 4, 5'
00007F70  40000000 00000000                       1771  DC XL16'40000000000000003FFFFFFFFFFFFFFF'
00007F80  D3C4E7C2 D9C1404E                       1772  DC CL48'LDXBRA +tie odd M3 modes 6, 7'
00007FB0  40000000 00000000                       1773  DC XL16'40000000000000003FFFFFFFFFFFFFFF'
00007FC0  D3C4E7C2 D9C14060                       1774  DC CL48'LDXBRA -tie odd FPC modes 1, 2'
00007FF0  BFFFFFFF FFFFFFFF                       1775  DC XL16'BFFFFFFFFFFFFFFFBFFFFFFFFFFFFFFF'
00008000  D3C4E7C2 D9C14060                       1776  DC CL48'LDXBRA -tie odd FPC modes 3, 7'
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  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

00008030  C0000000 00000000                       1777  DC XL16'C000000000000000BFFFFFFFFFFFFFFF'
00008040  D3C4E7C2 D9C14060                       1778  DC CL48'LDXBRA -tie odd M3 modes 1, 3'
00008070  C0000000 00000000                       1779  DC XL16'C000000000000000BFFFFFFFFFFFFFFF'
00008080  D3C4E7C2 D9C14060                       1780  DC CL48'LDXBRA -tie odd M3 modes 4, 5'
000080B0  C0000000 00000000                       1781  DC XL16'C000000000000000BFFFFFFFFFFFFFFF'
000080C0  D3C4E7C2 D9C14060                       1782  DC CL48'LDXBRA -tie odd M3 modes 6, 7'
000080F0  BFFFFFFF FFFFFFFF                       1783  DC XL16'BFFFFFFFFFFFFFFFC000000000000000'
00008100  D3C4E7C2 D9C1404E                       1784  DC CL48'LDXBRA +tie even FPC modes 1, 2'
00008130  3FFFFFFF FFFFFFFE                       1785  DC XL16'3FFFFFFFFFFFFFFE3FFFFFFFFFFFFFFF'
00008140  D3C4E7C2 D9C1404E                       1786  DC CL48'LDXBRA +tie even FPC modes 3, 7'
00008170  3FFFFFFF FFFFFFFE                       1787  DC XL16'3FFFFFFFFFFFFFFE3FFFFFFFFFFFFFFF'
00008180  D3C4E7C2 D9C1404E                       1788  DC CL48'LDXBRA +tie even M3 modes 1, 3'
000081B0  3FFFFFFF FFFFFFFF                       1789  DC XL16'3FFFFFFFFFFFFFFF3FFFFFFFFFFFFFFF'
000081C0  D3C4E7C2 D9C1404E                       1790  DC CL48'LDXBRA +tie even M3 modes 4, 5'
000081F0  3FFFFFFF FFFFFFFE                       1791  DC XL16'3FFFFFFFFFFFFFFE3FFFFFFFFFFFFFFE'
00008200  D3C4E7C2 D9C1404E                       1792  DC CL48'LDXBRA +tie even M3 modes 6, 7'
00008230  3FFFFFFF FFFFFFFF                       1793  DC XL16'3FFFFFFFFFFFFFFF3FFFFFFFFFFFFFFE'
00008240  D3C4E7C2 D9C14060                       1794  DC CL48'LDXBRA -tie even FPC modes 1, 2'
00008270  BFFFFFFF FFFFFFFE                       1795  DC XL16'BFFFFFFFFFFFFFFEBFFFFFFFFFFFFFFE'
00008280  D3C4E7C2 D9C14060                       1796  DC CL48'LDXBRA -tie even FPC modes 3, 7'
000082B0  BFFFFFFF FFFFFFFF                       1797  DC XL16'BFFFFFFFFFFFFFFFBFFFFFFFFFFFFFFF'
000082C0  D3C4E7C2 D9C14060                       1798  DC CL48'LDXBRA -tie even M3 modes 1, 3'
000082F0  BFFFFFFF FFFFFFFF                       1799  DC XL16'BFFFFFFFFFFFFFFFBFFFFFFFFFFFFFFF'
00008300  D3C4E7C2 D9C14060                       1800  DC CL48'LDXBRA -tie even M3 modes 4, 5'
00008330  BFFFFFFF FFFFFFFE                       1801  DC XL16'BFFFFFFFFFFFFFFEBFFFFFFFFFFFFFFE'
00008340  D3C4E7C2 D9C14060                       1802  DC CL48'LDXBRA -tie even M3 modes 6, 7'
00008370  BFFFFFFF FFFFFFFE                       1803  DC XL16'BFFFFFFFFFFFFFFEBFFFFFFFFFFFFFFF'
00008380  D3C4E7C2 D9C1404E                       1804  DC CL48'LDXBRA +false exact FPC modes 1, 2'
000083B0  3FFFFFFF FFFFFFFF                       1805  DC XL16'3FFFFFFFFFFFFFFF4000000000000000'
000083C0  D3C4E7C2 D9C1404E                       1806  DC CL48'LDXBRA +false exact FPC modes 3, 7'
000083F0  3FFFFFFF FFFFFFFF                       1807  DC XL16'3FFFFFFFFFFFFFFF3FFFFFFFFFFFFFFF'
00008400  D3C4E7C2 D9C1404E                       1808  DC CL48'LDXBRA +false exact M3 modes 1, 3'
00008430  3FFFFFFF FFFFFFFF                       1809  DC XL16'3FFFFFFFFFFFFFFF3FFFFFFFFFFFFFFF'
00008440  D3C4E7C2 D9C1404E                       1810  DC CL48'LDXBRA +false exact M3 modes 4, 5'
00008470  3FFFFFFF FFFFFFFF                       1811  DC XL16'3FFFFFFFFFFFFFFF3FFFFFFFFFFFFFFF'
00008480  D3C4E7C2 D9C1404E                       1812  DC CL48'LDXBRA +false exact M3 modes 6, 7'
000084B0  40000000 00000000                       1813  DC XL16'40000000000000003FFFFFFFFFFFFFFF'
000084C0  D3C4E7C2 D9C14060                       1814  DC CL48'LDXBRA -false exact FPC modes 1, 2'
000084F0  BFFFFFFF FFFFFFFF                       1815  DC XL16'BFFFFFFFFFFFFFFFBFFFFFFFFFFFFFFF'
00008500  D3C4E7C2 D9C14060                       1816  DC CL48'LDXBRA -false exact FPC modes 3, 7'
00008530  C0000000 00000000                       1817  DC XL16'C000000000000000BFFFFFFFFFFFFFFF'
00008540  D3C4E7C2 D9C14060                       1818  DC CL48'LDXBRA -false exact M3 modes 1, 3'
00008570  BFFFFFFF FFFFFFFF                       1819  DC XL16'BFFFFFFFFFFFFFFFBFFFFFFFFFFFFFFF'
00008580  D3C4E7C2 D9C14060                       1820  DC CL48'LDXBRA -false exact M3 modes 4, 5'
000085B0  BFFFFFFF FFFFFFFF                       1821  DC XL16'BFFFFFFFFFFFFFFFBFFFFFFFFFFFFFFF'
000085C0  D3C4E7C2 D9C14060                       1822  DC CL48'LDXBRA -false exact M3 modes 6, 7'
000085F0  BFFFFFFF FFFFFFFF                       1823  DC XL16'BFFFFFFFFFFFFFFFC000000000000000'
00008600  D3C4E7C2 D9C1404E                       1824  DC CL48'LDXBRA +near zero FPC modes 1, 2'
00008630  3FFFFFFF FFFFFFFF                       1825  DC XL16'3FFFFFFFFFFFFFFF4000000000000000'
00008640  D3C4E7C2 D9C1404E                       1826  DC CL48'LDXBRA +near zero FPC modes 3, 7'
00008670  3FFFFFFF FFFFFFFF                       1827  DC XL16'3FFFFFFFFFFFFFFF3FFFFFFFFFFFFFFF'
00008680  D3C4E7C2 D9C1404E                       1828  DC CL48'LDXBRA +near zero M3 modes 1, 3'
000086B0  3FFFFFFF FFFFFFFF                       1829  DC XL16'3FFFFFFFFFFFFFFF3FFFFFFFFFFFFFFF'
000086C0  D3C4E7C2 D9C1404E                       1830  DC CL48'LDXBRA +near zero M3 modes 4, 5'
000086F0  3FFFFFFF FFFFFFFF                       1831  DC XL16'3FFFFFFFFFFFFFFF3FFFFFFFFFFFFFFF'
00008700  D3C4E7C2 D9C1404E                       1832  DC CL48'LDXBRA +near zero M3 modes 6, 7'
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  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

00008730  40000000 00000000                       1833  DC XL16'40000000000000003FFFFFFFFFFFFFFF'
00008740  D3C4E7C2 D9C14060                       1834  DC CL48'LDXBRA -near zero FPC modes 1, 2'
00008770  BFFFFFFF FFFFFFFF                       1835  DC XL16'BFFFFFFFFFFFFFFFBFFFFFFFFFFFFFFF'
00008780  D3C4E7C2 D9C14060                       1836  DC CL48'LDXBRA -near zero FPC modes 3, 7'
000087B0  C0000000 00000000                       1837  DC XL16'C000000000000000BFFFFFFFFFFFFFFF'
000087C0  D3C4E7C2 D9C14060                       1838  DC CL48'LDXBRA -near zero M3 modes 1, 3'
000087F0  BFFFFFFF FFFFFFFF                       1839  DC XL16'BFFFFFFFFFFFFFFFBFFFFFFFFFFFFFFF'
00008800  D3C4E7C2 D9C14060                       1840  DC CL48'LDXBRA -near zero M3 modes 4, 5'
00008830  BFFFFFFF FFFFFFFF                       1841  DC XL16'BFFFFFFFFFFFFFFFBFFFFFFFFFFFFFFF'
00008840  D3C4E7C2 D9C14060                       1842  DC CL48'LDXBRA -near zero M3 modes 6, 7'
00008870  BFFFFFFF FFFFFFFF                       1843  DC XL16'BFFFFFFFFFFFFFFFC000000000000000'
00008880  D3C4E7C2 D9C1404E                       1844  DC CL48'LDXBRA +near +inf FPC modes 1, 2'
000088B0  3FFFFFFF FFFFFFFF                       1845  DC XL16'3FFFFFFFFFFFFFFF4000000000000000'
000088C0  D3C4E7C2 D9C1404E                       1846  DC CL48'LDXBRA +near +inf FPC modes 3, 7'
000088F0  3FFFFFFF FFFFFFFF                       1847  DC XL16'3FFFFFFFFFFFFFFF3FFFFFFFFFFFFFFF'
00008900  D3C4E7C2 D9C1404E                       1848  DC CL48'LDXBRA +near +inf M3 modes 1, 3'
00008930  40000000 00000000                       1849  DC XL16'40000000000000003FFFFFFFFFFFFFFF'
00008940  D3C4E7C2 D9C1404E                       1850  DC CL48'LDXBRA +near +inf M3 modes 4, 5'
00008970  40000000 00000000                       1851  DC XL16'40000000000000003FFFFFFFFFFFFFFF'
00008980  D3C4E7C2 D9C1404E                       1852  DC CL48'LDXBRA +near +inf M3 modes 6, 7'
000089B0  40000000 00000000                       1853  DC XL16'40000000000000003FFFFFFFFFFFFFFF'
000089C0  D3C4E7C2 D9C14060                       1854  DC CL48'LDXBRA -near -inf FPC modes 1, 2'
000089F0  BFFFFFFF FFFFFFFF                       1855  DC XL16'BFFFFFFFFFFFFFFFBFFFFFFFFFFFFFFF'
00008A00  D3C4E7C2 D9C14060                       1856  DC CL48'LDXBRA -near -inf FPC modes 3, 7'
00008A30  C0000000 00000000                       1857  DC XL16'C000000000000000BFFFFFFFFFFFFFFF'
00008A40  D3C4E7C2 D9C14060                       1858  DC CL48'LDXBRA -near -inf M3 modes 1, 3'
00008A70  C0000000 00000000                       1859  DC XL16'C000000000000000BFFFFFFFFFFFFFFF'
00008A80  D3C4E7C2 D9C14060                       1860  DC CL48'LDXBRA -near -inf M3 modes 4, 5'
00008AB0  C0000000 00000000                       1861  DC XL16'C000000000000000BFFFFFFFFFFFFFFF'
00008AC0  D3C4E7C2 D9C14060                       1862  DC CL48'LDXBRA -near -inf M3 modes 6, 7'
00008AF0  BFFFFFFF FFFFFFFF                       1863  DC XL16'BFFFFFFFFFFFFFFFC000000000000000'
00008B00  D3C4E7C2 D9C1404E                       1864  DC CL48'LDXBRA +overflow FPC modes 1, 2'
00008B30  7FEFFFFF FFFFFFFF                       1865  DC XL16'7FEFFFFFFFFFFFFF7FF0000000000000'
00008B40  D3C4E7C2 D9C1404E                       1866  DC CL48'LDXBRA +overflow FPC modes 3, 7'
00008B70  7FEFFFFF FFFFFFFF                       1867  DC XL16'7FEFFFFFFFFFFFFF7FEFFFFFFFFFFFFF'
00008B80  D3C4E7C2 D9C1404E                       1868  DC CL48'LDXBRA +overflow M3 modes 1, 3'
00008BB0  7FF00000 00000000                       1869  DC XL16'7FF00000000000007FEFFFFFFFFFFFFF'
00008BC0  D3C4E7C2 D9C1404E                       1870  DC CL48'LDXBRA +overflow M3 modes 4, 5'
00008BF0  7FF00000 00000000                       1871  DC XL16'7FF00000000000007FEFFFFFFFFFFFFF'
00008C00  D3C4E7C2 D9C1404E                       1872  DC CL48'LDXBRA +overflow M3 modes 6, 7'
00008C30  7FF00000 00000000                       1873  DC XL16'7FF00000000000007FEFFFFFFFFFFFFF'
00008C40  D3C4E7C2 D9C14060                       1874  DC CL48'LDXBRA -overflow FPC modes 1, 2'
00008C70  FFEFFFFF FFFFFFFF                       1875  DC XL16'FFEFFFFFFFFFFFFFFFEFFFFFFFFFFFFF'
00008C80  D3C4E7C2 D9C14060                       1876  DC CL48'LDXBRA -overflow FPC modes 3, 7'
00008CB0  FFF00000 00000000                       1877  DC XL16'FFF0000000000000FFEFFFFFFFFFFFFF'
00008CC0  D3C4E7C2 D9C14060                       1878  DC CL48'LDXBRA -overflow M3 modes 1, 3'
00008CF0  FFF00000 00000000                       1879  DC XL16'FFF0000000000000FFEFFFFFFFFFFFFF'
00008D00  D3C4E7C2 D9C14060                       1880  DC CL48'LDXBRA -overflow M3 modes 4, 5'
00008D30  FFF00000 00000000                       1881  DC XL16'FFF0000000000000FFEFFFFFFFFFFFFF'
00008D40  D3C4E7C2 D9C14060                       1882  DC CL48'LDXBRA -overflow M3 modes 6, 7'
00008D70  FFEFFFFF FFFFFFFF                       1883  DC XL16'FFEFFFFFFFFFFFFFFFF0000000000000'
00008D80  D3C4E7C2 D9C1404E                       1884  DC CL48'LDXBRA +tiny tie odd FPC modes 1, 2'
00008DB0  00000000 00000000                       1885  DC XL16'00000000000000000000000000000001'
00008DC0  D3C4E7C2 D9C1404E                       1886  DC CL48'LDXBRA +tiny tie odd FPC modes 3, 7'
00008DF0  00000000 00000000                       1887  DC XL16'00000000000000000000000000000001'
00008E00  D3C4E7C2 D9C1404E                       1888  DC CL48'LDXBRA +tiny tie odd M3 modes 1, 3'
```

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  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

00008E30  00000000 00000001                       1889  DC XL16'00000000000000010000000000000001'
00008E40  D3C4E7C2 D9C1404E                       1890  DC CL48'LDXBRA +tiny tie odd M3 modes 4, 5'
00008E70  00000000 00000000                       1891  DC XL16'00000000000000000000000000000000'
00008E80  D3C4E7C2 D9C1404E                       1892  DC CL48'LDXBRA +tiny tie odd M3 modes 6, 7'
00008EB0  00000000 00000001                       1893  DC XL16'00000000000000010000000000000000'
00008EC0  D3C4E7C2 D9C14060                       1894  DC CL48'LDXBRA -tiny tie odd FPC modes 1, 2'
00008EF0  80000000 00000000                       1895  DC XL16'80000000000000008000000000000000'
00008F00  D3C4E7C2 D9C14060                       1896  DC CL48'LDXBRA -tiny tie odd FPC modes 3, 7'
00008F30  80000000 00000001                       1897  DC XL16'80000000000000018000000000000001'
00008F40  D3C4E7C2 D9C14060                       1898  DC CL48'LDXBRA -tiny tie odd M3 modes 1, 3'
00008F70  80000000 00000001                       1899  DC XL16'80000000000000018000000000000001'
00008F80  D3C4E7C2 D9C14060                       1900  DC CL48'LDXBRA -tiny tie odd M3 modes 4, 5'
00008FB0  80000000 00000000                       1901  DC XL16'80000000000000008000000000000000'
00008FC0  D3C4E7C2 D9C14060                       1902  DC CL48'LDXBRA -tiny tie odd M3 modes 6, 7'
00008FF0  80000000 00000000                       1903  DC XL16'80000000000000008000000000000001'
                              00000050  00000001  1904 XTOLRMO_NUM EQU (*-XTOLRMO_GOOD)/64
                                                  1905 *
                                                  1906 *
                              00009000  00000001  1907 XTOLRMOF_GOOD EQU *
00009000  D3C4E7C2 D9C1404E                       1908  DC CL48'LDXBRA +exact FPC modes 1-3, 7 FCPR'
00009030  00000001 00000002                       1909  DC XL16'00000001000000020000000300000007'
00009040  D3C4E7C2 D9C1404E                       1910  DC CL48'LDXBRA +exact M3 modes 1, 3-5 FPCR'
00009070  00000000 00000000                       1911  DC XL16'00000000000000000000000000000000'
00009080  D3C4E7C2 D9C1404E                       1912  DC CL48'LDXBRA +exact M3 modes 6, 7 FCPR'
000090B0  00000000 00000000                       1913  DC XL16'00000000000000000000000000000000'
000090C0  D3C4E7C2 D9C14060                       1914  DC CL48'LDXBRA -exact FPC modes 1-3, 7 FCPR'
000090F0  00000001 00000002                       1915  DC XL16'00000001000000020000000300000007'
00009100  D3C4E7C2 D9C14060                       1916  DC CL48'LDXBRA -exact M3 modes 1, 3-5 FPCR'
00009130  00000000 00000000                       1917  DC XL16'00000000000000000000000000000000'
00009140  D3C4E7C2 D9C14060                       1918  DC CL48'LDXBRA -exact M3 modes 6, 7 FCPR'
00009170  00000000 00000000                       1919  DC XL16'00000000000000000000000000000000'
00009180  D3C4E7C2 D9C1404E                       1920  DC CL48'LDXBRA +tie odd FPC modes 1-3, 7 FCPR'
000091B0  00000001 00000002                       1921  DC XL16'00000001000000020000000300000007'
000091C0  D3C4E7C2 D9C1404E                       1922  DC CL48'LDXBRA +tie odd M3 modes 1, 3-5 FPCR'
000091F0  00080000 00080000                       1923  DC XL16'00080000000800000008000000080000'
00009200  D3C4E7C2 D9C1404E                       1924  DC CL48'LDXBRA +tie odd M3 modes 6, 7 FCPR'
00009230  00080000 00080000                       1925  DC XL16'00080000000800000000000000000000'
00009240  D3C4E7C2 D9C14060                       1926  DC CL48'LDXBRA -tie odd FPC modes 1-3, 7 FCPR'
00009270  00000001 00000002                       1927  DC XL16'00000001000000020000000300000007'
00009280  D3C4E7C2 D9C14060                       1928  DC CL48'LDXBRA -tie odd M3 modes 1, 3-5 FPCR'
000092B0  00080000 00080000                       1929  DC XL16'00080000000800000008000000080000'
000092C0  D3C4E7C2 D9C14060                       1930  DC CL48'LDXBRA -tie odd M3 modes 6, 7 FCPR'
000092F0  00080000 00080000                       1931  DC XL16'00080000000800000000000000000000'
00009300  D3C4E7C2 D9C1404E                       1932  DC CL48'LDXBRA +tie even FPC modes 1-3, 7 FCPR'
00009330  00000001 00000002                       1933  DC XL16'00000001000000020000000300000007'
00009340  D3C4E7C2 D9C1404E                       1934  DC CL48'LDXBRA +tie even M3 modes 1, 3-5 FPCR'
00009370  00080000 00080000                       1935  DC XL16'00080000000800000008000000080000'
00009380  D3C4E7C2 D9C1404E                       1936  DC CL48'LDXBRA +tie even M3 modes 6, 7 FCPR'
000093B0  00080000 00080000                       1937  DC XL16'00080000000800000000000000000000'
000093C0  D3C4E7C2 D9C14060                       1938  DC CL48'LDXBRA -tie even FPC modes 1-3, 7 FCPR'
000093F0  00000001 00000002                       1939  DC XL16'00000001000000020000000300000007'
00009400  D3C4E7C2 D9C14060                       1940  DC CL48'LDXBRA -tie even M3 modes 1, 3-5 FPCR'
00009430  00080000 00080000                       1941  DC XL16'00080000000800000008000000080000'
00009440  D3C4E7C2 D9C14060                       1942  DC CL48'LDXBRA -tie even M3 modes 6, 7 FCPR'
00009470  00080000 00080000                       1943  DC XL16'00080000000800000000000000000000'
00009480  D3C4E7C2 D9C1404E                       1944  DC CL48'LDXBRA +false exact FPC modes 1-3, 7 FCPR'
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  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

000094B0  00000001 00000002                      1945  DC XL16'00000001000000020000000300000007'
000094C0  D3C4E7C2 D9C1404E                      1946  DC CL48'LDXBRA +false exact M3 modes 1, 3-5 FPCR'
000094F0  00080000 00080000                      1947  DC XL16'00080000000800000008000000080000'
00009500  D3C4E7C2 D9C1404E                      1948  DC CL48'LDXBRA +false exact M3 modes 6, 7 FCPR'
00009530  00080000 00080000                      1949  DC XL16'00080000000800000000000000000000'
00009540  D3C4E7C2 D9C14060                      1950  DC CL48'LDXBRA -false exact FPC modes 1-3, 7 FCPR'
00009570  00000001 00000002                      1951  DC XL16'00000001000000020000000300000007'
00009580  D3C4E7C2 D9C14060                      1952  DC CL48'LDXBRA -false exact M3 modes 1, 3-5 FPCR'
000095B0  00080000 00080000                      1953  DC XL16'00080000000800000008000000080000'
000095C0  D3C4E7C2 D9C14060                      1954  DC CL48'LDXBRA -false exact M3 modes 6, 7 FCPR'
000095F0  00080000 00080000                      1955  DC XL16'00080000000800000000000000000000'
00009600  D3C4E7C2 D9C1404E                      1956  DC CL48'LDXBRA +near zero FPC modes 1-3, 7 FCPR'
00009630  00000001 00000002                      1957  DC XL16'00000001000000020000000300000007'
00009640  D3C4E7C2 D9C1404E                      1958  DC CL48'LDXBRA +near zero M3 modes 1, 3-5 FPCR'
00009670  00080000 00080000                      1959  DC XL16'00080000000800000008000000080000'
00009680  D3C4E7C2 D9C1404E                      1960  DC CL48'LDXBRA +near zero M3 modes 6, 7 FCPR'
000096B0  00080000 00080000                      1961  DC XL16'00080000000800000000000000000000'
000096C0  D3C4E7C2 D9C14060                      1962  DC CL48'LDXBRA -near zero FPC modes 1-3, 7 FCPR'
000096F0  00000001 00000002                      1963  DC XL16'00000001000000020000000300000007'
00009700  D3C4E7C2 D9C14060                      1964  DC CL48'LDXBRA -near zero M3 modes 1, 3-5 FPCR'
00009730  00080000 00080000                      1965  DC XL16'00080000000800000008000000080000'
00009740  D3C4E7C2 D9C14060                      1966  DC CL48'LDXBRA -near zero M3 modes 6, 7 FCPR'
00009770  00080000 00080000                      1967  DC XL16'00080000000800000000000000000000'
00009780  D3C4E7C2 D9C1404E                      1968  DC CL48'LDXBRA +near +inf FPC modes 1-3, 7 FCPR'
000097B0  00000001 00000002                      1969  DC XL16'00000001000000020000000300000007'
000097C0  D3C4E7C2 D9C1404E                      1970  DC CL48'LDXBRA +near +inf M3 modes 1, 3-5 FPCR'
000097F0  00080000 00080000                      1971  DC XL16'00080000000800000008000000080000'
00009800  D3C4E7C2 D9C1404E                      1972  DC CL48'LDXBRA +near +inf M3 modes 6, 7 FCPR'
00009830  00080000 00080000                      1973  DC XL16'00080000000800000000000000000000'
00009840  D3C4E7C2 D9C14060                      1974  DC CL48'LDXBRA -near -inf FPC modes 1-3, 7 FCPR'
00009870  00000001 00000002                      1975  DC XL16'00000001000000020000000300000007'
00009880  D3C4E7C2 D9C14060                      1976  DC CL48'LDXBRA -near -inf M3 modes 1, 3-5 FPCR'
000098B0  00080000 00080000                      1977  DC XL16'00080000000800000008000000080000'
000098C0  D3C4E7C2 D9C14060                      1978  DC CL48'LDXBRA -near -inf M3 modes 6, 7 FCPR'
000098F0  00080000 00080000                      1979  DC XL16'00080000000800000000000000000000'
00009900  D3C4E7C2 D9C1404E                      1980  DC CL48'LDXBRA +overflow FPCR modes 1-3, 7 FPCR'
00009930  00000001 00200002                      1981  DC XL16'00000001002000020000000300000007'
00009940  D3C4E7C2 D9C1404E                      1982  DC CL48'LDXBRA +overflow M3 modes 1, 3-5 FPCR'
00009970  00280000 00080000                      1983  DC XL16'00280000000800000028000000080000'
00009980  D3C4E7C2 D9C1404E                      1984  DC CL48'LDXBRA +overflow M3 modes 6, 7 FPCR'
000099B0  00280000 00080000                      1985  DC XL16'00280000000800000000000000000000'
000099C0  D3C4E7C2 D9C14060                      1986  DC CL48'LDXBRA -overflow FPCR modes 1-3, 7 FPCR'
000099F0  00000001 00000002                      1987  DC XL16'00000001000000020020000300000007'
00009A00  D3C4E7C2 D9C14060                      1988  DC CL48'LDXBRA -overflow M3 modes 1, 3-5 FPCR'
00009A30  00280000 00080000                      1989  DC XL16'00280000000800000028000000080000'
00009A40  D3C4E7C2 D9C14060                      1990  DC CL48'LDXBRA -overflow M3 modes 6, 7 FPCR'
00009A70  00080000 00280000                      1991  DC XL16'00080000002800000000000000000000'
00009A80  D3C4E7C2 D9C1404E                      1992  DC CL48'LDXBRA +tiny tie odd FPCR modes 1-3, 7 FPCR'
00009AB0  00100001 00100002                      1993  DC XL16'00100001001000020010000300100007'
00009AC0  D3C4E7C2 D9C1404E                      1994  DC CL48'LDXBRA +tiny tie odd M3 modes 1, 3-5 FPCR'
00009AF0  00180000 00180000                      1995  DC XL16'00180000001800000018000000180000'
00009B00  D3C4E7C2 D9C1404E                      1996  DC CL48'LDXBRA +tiny tie odd M3 modes 6, 7 FPCR'
00009B30  00180000 00180000                      1997  DC XL16'00180000001800000000000000000000'
00009B40  D3C4E7C2 D9C14060                      1998  DC CL48'LDXBRA -tiny tie odd FPCR modes 1-3, 7 FPCR'
00009B70  00100001 00100002                      1999  DC XL16'00100001001000020010000300100007'
00009B80  D3C4E7C2 D9C14060                      2000  DC CL48'LDXBRA -tiny tie odd M3 modes 1, 3-5 FPCR'
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  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

00009BB0  00180000 00180000                       2001  DC XL16'00180000001800000018000000180000'
00009BC0  D3C4E7C2 D9C14060                       2002  DC CL48'LDXBRA -tiny tie odd M3 modes 6, 7 FPCR'
00009BF0  00180000 00180000                       2003  DC XL16'00180000001800000000000000000000'
                              00000030  00000001  2004 XTOLRMOF_NUM EQU (*-XTOLRMOF_GOOD)/64
                                                  2005 *
                                                  2006 *
                              00009C00  00000001  2007 LTOSOUO_GOOD EQU *
00009C00  D3C5C4C2 D940A399                       2008  DC CL48'LEDBR trap results 1-2'
00009C30  27F00000 00000000                       2009  DC XL16'27F0000000000000A7F0000000000000'
00009C40  D3C5C4C2 D940A399                       2010  DC CL48'LEDBR trap results 3-4'
00009C70  27FFFFFF E0000000                       2011  DC XL16'27FFFFFFE0000000A7FFFFFFE0000000'
00009C80  D3C5C4C2 D940A399                       2012  DC CL48'LEDBR trap results 5-6'
00009CB0  56900000 00000000                       2013  DC XL16'5690000000000000D690000000000000'
00009CC0  D3C5C4C2 D940A399                       2014  DC CL48'LEDBR trap results 7-8'
00009CF0  27F00000 00000000                       2015  DC XL16'27F0000000000000A7F0000000000000'
                              00000004  00000001  2016 LTOSOUO_NUM EQU (*-LTOSOUO_GOOD)/64
                                                  2017 *
                                                  2018 *
                              00009D00  00000001  2019 LTOSOUOF_GOOD EQU *
00009D00  D3C5C4C2 D940A399                       2020  DC CL48'LEDBR trap FPCR 1-4'
00009D30  F8002C00 F8002C00                       2021  DC XL16'F8002C00F8002C00F8002800F8002800'
00009D40  D3C5C4C2 D940A399                       2022  DC CL48'LEDBR trap FPCR 5-8'
00009D70  F8001000 F8001000                       2023  DC XL16'F8001000F8001000F8002000F8002000'
                              00000002  00000001  2024 LTOSOUOF_NUM EQU (*-LTOSOUOF_GOOD)/64
                                                  2025 *
                                                  2026 *
                              00009D80  00000001  2027 XTOSOUO_GOOD EQU *
00009D80  D3C5E7C2 D940A399                       2028  DC CL48'LEXBR trap results 1'
00009DB0  207F0000 00000000                       2029  DC XL16'207F0000000000000000000000000000'
00009DC0  D3C5E7C2 D940A399                       2030  DC CL48'LEXBR trap results 2'
00009DF0  A07F0000 00000000                       2031  DC XL16'A07F0000000000000000000000000000'
00009E00  D3C5E7C2 D940A399                       2032  DC CL48'LEXBR trap results 3'
00009E30  207FFFFF FE000000                       2033  DC XL16'207FFFFFFE0000000000000000000000'
00009E40  D3C5E7C2 D940A399                       2034  DC CL48'LEXBR trap results 4'
00009E70  A07FFFFF FE000000                       2035  DC XL16'A07FFFFFFE0000000000000000000000'
00009E80  D3C5E7C2 D940A399                       2036  DC CL48'LEXBR trap results 5'
00009EB0  5F690000 00000000                       2037  DC XL16'5F690000000000000000000000000000'
00009EC0  D3C5E7C2 D940A399                       2038  DC CL48'LEXBR trap results 6'
00009EF0  DF690000 00000000                       2039  DC XL16'DF690000000000000000000000000000'
00009F00  D3C5E7C2 D940A399                       2040  DC CL48'LEXBR trap results 7'
00009F30  207F0000 00000000                       2041  DC XL16'207F0000000000000000000000000000'
00009F40  D3C5E7C2 D940A399                       2042  DC CL48'LEXBR trap results 8'
00009F70  A07F0000 00000000                       2043  DC XL16'A07F0000000000000000000000000000'
                              00000008  00000001  2044 XTOSOUO_NUM EQU (*-XTOSOUO_GOOD)/64
                                                  2045 *
                                                  2046 *
                              00009F80  00000001  2047 XTOSOUOF_GOOD EQU *
00009F80  D3C5E7C2 D940A399                       2048  DC CL48'LEXBR trap FPCR 1-4'
00009FB0  F8002C00 F8002C00                       2049  DC XL16'F8002C00F8002C00F8002800F8002800'
00009FC0  D3C5E7C2 D940A399                       2050  DC CL48'LEXBR trap FPCR 5-8'
00009FF0  F8001000 F8001000                       2051  DC XL16'F8001000F8001000F8002000F8002000'
                              00000002  00000001  2052 XTOSOUOF_NUM EQU (*-XTOSOUOF_GOOD)/64
                                                  2053 *
                                                  2054 *
                              0000A000  00000001  2055 XTOLOUO_GOOD EQU *
0000A000  D3C4E7C2 D940A399                       2056  DC CL48'LDXBR trap result 1'
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  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

0000A030  23FF0000 00000000                       2057  DC XL16'23FF0000000000000000000000000000'
0000A040  D3C4E7C2 D940A399                       2058  DC CL48'LDXBR trap result 2'
0000A070  A3FF0000 00000000                       2059  DC XL16'A3FF0000000000000000000000000000'
0000A080  D3C4E7C2 D940A399                       2060  DC CL48'LDXBR trap result 3'
0000A0B0  23FFFFFF FFFFFFFF                       2061  DC XL16'23FFFFFFFFFFFFFF0000000000000000'
0000A0C0  D3C4E7C2 D940A399                       2062  DC CL48'LDXBR trap result 4'
0000A0F0  A3FFFFFF FFFFFFFF                       2063  DC XL16'A3FFFFFFFFFFFFFF0000000000000000'
0000A100  D3C4E7C2 D940A399                       2064  DC CL48'LDXBR trap result 5'
0000A130  5BCC0000 00000000                       2065  DC XL16'5BCC0000000000000000000000000000'
0000A140  D3C4E7C2 D940A399                       2066  DC CL48'LDXBR trap result 6'
0000A170  DBCC0000 00000000                       2067  DC XL16'DBCC0000000000000000000000000000'
0000A180  D3C4E7C2 D940A399                       2068  DC CL48'LDXBR trap result 7'
0000A1B0  23FF0000 00000000                       2069  DC XL16'23FF0000000000000000000000000000'
0000A1C0  D3C4E7C2 D940A399                       2070  DC CL48'LDXBR trap result 8'
0000A1F0  A3FF0000 00000000                       2071  DC XL16'A3FF0000000000000000000000000000'
                               00000008  00000001 2072 XTOLOUO_NUM EQU (*-XTOLOUO_GOOD)/64
                                                  2073 *
                                                  2074 *
                               0000A200  00000001 2075 XTOLOUOF_GOOD EQU *
0000A200  D3C4E7C2 D940A399                       2076  DC CL48'LDXBR trap FPCR 1-4'
0000A230  F8002C00 F8002C00                       2077  DC XL16'F8002C00F8002C00F8002800F8002800'
0000A240  D3C4E7C2 D940A399                       2078  DC CL48'LDXBR trap FPCR 5-8'
0000A270  F8001000 F8001000                       2079  DC XL16'F8001000F8001000F8002000F8002000'
                               00000002  00000001 2080 XTOLOUOF_NUM EQU (*-XTOLOUOF_GOOD)/64
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

0000A280                                          2082 HELPERS  DS    0H        (R12 base of helper subroutines)

                                                  2084 ***********************************************************************
                                                  2085 *               REPORT UNEXPECTED PROGRAM CHECK
                                                  2086 ***********************************************************************

0000A280                                          2088 PGMCK    DS    0H
0000A280  F342 C072 F08E      0000A2F2  0000008E  2089          UNPK  PROGCODE(L'PROGCODE+1),PCINTCD(L'PCINTCD+1)
0000A286  926B C076                     0000A2F6  2090          MVI   PGMCOMMA,C','
0000A28A  DC03 C072 C178      0000A2F2  0000A3F8  2091          TR    PROGCODE,HEXTRTAB

0000A290  F384 C07C F150      0000A2FC  00000150  2093          UNPK  PGMPSW+(0*9)(9),PCOLDPSW+(0*4)(5)
0000A296  9240 C084                     0000A304  2094          MVI   PGMPSW+(0*9)+8,C' '
0000A29A  DC07 C07C C178      0000A2FC  0000A3F8  2095          TR    PGMPSW+(0*9)(8),HEXTRTAB

0000A2A0  F384 C085 F154      0000A305  00000154  2097          UNPK  PGMPSW+(1*9)(9),PCOLDPSW+(1*4)(5)
0000A2A6  9240 C08D                     0000A30D  2098          MVI   PGMPSW+(1*9)+8,C' '
0000A2AA  DC07 C085 C178      0000A305  0000A3F8  2099          TR    PGMPSW+(1*9)(8),HEXTRTAB

0000A2B0  F384 C08E F158      0000A30E  00000158  2101          UNPK  PGMPSW+(2*9)(9),PCOLDPSW+(2*4)(5)
0000A2B6  9240 C096                     0000A316  2102          MVI   PGMPSW+(2*9)+8,C' '
0000A2BA  DC07 C08E C178      0000A30E  0000A3F8  2103          TR    PGMPSW+(2*9)(8),HEXTRTAB

0000A2C0  F384 C097 F15C      0000A317  0000015C  2105          UNPK  PGMPSW+(3*9)(9),PCOLDPSW+(3*4)(5)
0000A2C6  9240 C09F                     0000A31F  2106          MVI   PGMPSW+(3*9)+8,C' '
0000A2CA  DC07 C097 C178      0000A317  0000A3F8  2107          TR    PGMPSW+(3*9)(8),HEXTRTAB

0000A2D0  4100 0042                     00000042  2109          LA    R0,L'PROGMSG     R0 <== length of message
0000A2D4  4110 C05E                     0000A2DE  2110          LA    R1,PROGMSG       R1 --> the message text itself
0000A2D8  4520 C27A                     0000A4FA  2111          BAL   R2,MSG           Go display this message
                                                  2112
0000A2DC  07FD                                    2113          BR    R13              Return to caller



0000A2DE                                          2115 PROGMSG  DS   0CL66
0000A2DE  D7D9D6C7 D9C1D440                       2116          DC    CL20'PROGRAM CHECK! CODE '
0000A2F2  88888888                                2117 PROGCODE DC    CL4'hhhh'
0000A2F6  6B                                      2118 PGMCOMMA DC    CL1','
0000A2F7  40D7E2E6 40                             2119          DC    CL5' PSW '
0000A2FC  88888888 88888888                       2120 PGMPSW   DC    CL36'hhhhhhhh hhhhhhhh hhhhhhhh hhhhhhhh '
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

                                                  2122 ***********************************************************************
                                                  2123 *                    VERIFICATION ROUTINE
                                                  2124 ***********************************************************************

0000A320                                          2126 VERISUB  DS    0H
                                                  2127 *
                                                  2128 **       Loop through the VERIFY TABLE...
                                                  2129 *

0000A320  4110 C32C                     0000A5AC  2131          LA    R1,VERIFTAB       R1 --> Verify table
0000A324  4120 0012                     00000012  2132          LA    R2,VERIFLEN       R2 <== Number of entries
0000A328  0D30                                    2133          BASR  R3,0              Set top of loop

0000A32A  9846 1000                     00000000  2135          LM    R4,R6,0(R1)       Load verify table values
0000A32E  4D70 C0C2                     0000A342  2136          BAS   R7,VERIFY         Verify results
0000A332  4110 100C                     0000000C  2137          LA    R1,12(,R1)        Next verify table entry
0000A336  0623                                    2138          BCTR  R2,R3             Loop through verify table

0000A338  9500 C278                     0000A4F8  2140          CLI   FAILFLAG,X'00'    Did all tests verify okay?
0000A33C  078D                                    2141          BER   R13               Yes, return to caller
0000A33E  47F0 F238                     00000238  2142          B     FAIL              No, load FAILURE disabled wait PSW




                                                  2144 *
                                                  2145 **       Loop through the ACTUAL / EXPECTED results...
                                                  2146 *

0000A342  0D80                                    2148 VERIFY   BASR  R8,0              Set top of loop

0000A344  D50F 4000 5030      00000000  00000030  2150          CLC   0(16,R4),48(R5)   Actual results == Expected results?
0000A34A  4770 C0DA                     0000A35A  2151          BNE   VERIFAIL          No, show failure
0000A34E  4140 4010                     00000010  2152 VERINEXT LA    R4,16(,R4)        Next actual result
0000A352  4150 5040                     00000040  2153          LA    R5,64(,R5)        Next expected result
0000A356  0668                                    2154          BCTR  R6,R8             Loop through results

0000A358  07F7                                    2156          BR    R7                Return to caller
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

                                                  2158 ***********************************************************************
                                                  2159 *                    Report the failure...
                                                  2160 ***********************************************************************

0000A35A  9005 C250                     0000A4D0  2162 VERIFAIL STM   R0,R5,SAVER0R5   Save registers
0000A35E  92FF C278                     0000A4F8  2163          MVI   FAILFLAG,X'FF'   Remember verification failure
                                                  2164 *
                                                  2165 **       First, show them the description...
                                                  2166 *
0000A362  D22F C1E0 5000      0000A460  00000000  2167          MVC   FAILDESC,0(R5)   Save results/test description
0000A368  4100 0044                     00000044  2168          LA    R0,L'FAILMSG1    R0 <== length of message
0000A36C  4110 C1CC                     0000A44C  2169          LA    R1,FAILMSG1      R1 --> the message text itself
0000A370  4520 C27A                     0000A4FA  2170          BAL   R2,MSG           Go display this message
                                                  2171 *
                                                  2172 **       Save address of actual and expected results
                                                  2173 *
0000A374  5040 C24C                     0000A4CC  2174          ST    R4,AACTUAL       Save A(actual results)
0000A378  4150 5030                     00000030  2175          LA    R5,48(,R5)       R5 ==> expected results
0000A37C  5050 C248                     0000A4C8  2176          ST    R5,AEXPECT       Save A(expected results)
                                                  2177 *
                                                  2178 **       Format and show them the EXPECTED ("Want") results...
                                                  2179 *
0000A380  D205 C210 C408      0000A490  0000A688  2180          MVC   WANTGOT,=CL6'Want: '
0000A386  F384 C216 C248      0000A496  0000A4C8  2181          UNPK  FAILADR(L'FAILADR+1),AEXPECT(L'AEXPECT+1)
0000A38C  9240 C21E                     0000A49E  2182          MVI   BLANKEQ,C' '
0000A390  DC07 C216 C178      0000A496  0000A3F8  2183          TR    FAILADR,HEXTRTAB

0000A396  F384 C221 5000      0000A4A1  00000000  2185          UNPK  FAILVALS+(0*9)(9),(0*4)(5,R5)
0000A39C  9240 C229                     0000A4A9  2186          MVI   FAILVALS+(0*9)+8,C' '
0000A3A0  DC07 C221 C178      0000A4A1  0000A3F8  2187          TR    FAILVALS+(0*9)(8),HEXTRTAB

0000A3A6  F384 C22A 5004      0000A4AA  00000004  2189          UNPK  FAILVALS+(1*9)(9),(1*4)(5,R5)
0000A3AC  9240 C232                     0000A4B2  2190          MVI   FAILVALS+(1*9)+8,C' '
0000A3B0  DC07 C22A C178      0000A4AA  0000A3F8  2191          TR    FAILVALS+(1*9)(8),HEXTRTAB

0000A3B6  F384 C233 5008      0000A4B3  00000008  2193          UNPK  FAILVALS+(2*9)(9),(2*4)(5,R5)
0000A3BC  9240 C23B                     0000A4BB  2194          MVI   FAILVALS+(2*9)+8,C' '
0000A3C0  DC07 C233 C178      0000A4B3  0000A3F8  2195          TR    FAILVALS+(2*9)(8),HEXTRTAB

0000A3C6  F384 C23C 500C      0000A4BC  0000000C  2197          UNPK  FAILVALS+(3*9)(9),(3*4)(5,R5)
0000A3CC  9240 C244                     0000A4C4  2198          MVI   FAILVALS+(3*9)+8,C' '
0000A3D0  DC07 C23C C178      0000A4BC  0000A3F8  2199          TR    FAILVALS+(3*9)(8),HEXTRTAB

0000A3D6  4100 0035                     00000035  2201          LA    R0,L'FAILMSG2    R0 <== length of message
0000A3DA  4110 C210                     0000A490  2202          LA    R1,FAILMSG2      R1 --> the message text itself
0000A3DE  4520 C27A                     0000A4FA  2203          BAL   R2,MSG           Go display this message
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

                                                  2205 *
                                                  2206 **       Format and show them the ACTUAL ("Got") results...
                                                  2207 *
0000A3E2  D205 C210 C40E      0000A490  0000A68E  2208          MVC   WANTGOT,=CL6'Got:  '
0000A3E8  F384 C216 C24C      0000A496  0000A4CC  2209          UNPK  FAILADR(L'FAILADR+1),AACTUAL(L'AACTUAL+1)
0000A3EE  9240 C21E                     0000A49E  2210          MVI   BLANKEQ,C' '
0000A3F2  DC07 C216 C178      0000A496  0000A3F8  2211          TR    FAILADR,HEXTRTAB

0000A3F8  F384 C221 4000      0000A4A1  00000000  2213          UNPK  FAILVALS+(0*9)(9),(0*4)(5,R4)
0000A3FE  9240 C229                     0000A4A9  2214          MVI   FAILVALS+(0*9)+8,C' '
0000A402  DC07 C221 C178      0000A4A1  0000A3F8  2215          TR    FAILVALS+(0*9)(8),HEXTRTAB

0000A408  F384 C22A 4004      0000A4AA  00000004  2217          UNPK  FAILVALS+(1*9)(9),(1*4)(5,R4)
0000A40E  9240 C232                     0000A4B2  2218          MVI   FAILVALS+(1*9)+8,C' '
0000A412  DC07 C22A C178      0000A4AA  0000A3F8  2219          TR    FAILVALS+(1*9)(8),HEXTRTAB

0000A418  F384 C233 4008      0000A4B3  00000008  2221          UNPK  FAILVALS+(2*9)(9),(2*4)(5,R4)
0000A41E  9240 C23B                     0000A4BB  2222          MVI   FAILVALS+(2*9)+8,C' '
0000A422  DC07 C233 C178      0000A4B3  0000A3F8  2223          TR    FAILVALS+(2*9)(8),HEXTRTAB

0000A428  F384 C23C 400C      0000A4BC  0000000C  2225          UNPK  FAILVALS+(3*9)(9),(3*4)(5,R4)
0000A42E  9240 C244                     0000A4C4  2226          MVI   FAILVALS+(3*9)+8,C' '
0000A432  DC07 C23C C178      0000A4BC  0000A3F8  2227          TR    FAILVALS+(3*9)(8),HEXTRTAB

0000A438  4100 0035                     00000035  2229          LA    R0,L'FAILMSG2    R0 <== length of message
0000A43C  4110 C210                     0000A490  2230          LA    R1,FAILMSG2      R1 --> the message text itself
0000A440  4520 C27A                     0000A4FA  2231          BAL   R2,MSG           Go display this message

0000A444  9805 C250                     0000A4D0  2233          LM    R0,R5,SAVER0R5   Restore registers
0000A448  47F0 C0CE                     0000A34E  2234          B     VERINEXT         Continue with verification...



0000A44C                                          2236 FAILMSG1 DS   0CL68
0000A44C  C3D6D4D7 C1D9C9E2                       2237          DC    CL20'COMPARISON FAILURE! '
0000A460  4D8485A2 83998997                       2238 FAILDESC DC    CL48'(description)'


0000A490                                          2240 FAILMSG2 DS   0CL53
0000A490  40404040 4040                           2241 WANTGOT  DC    CL6' '           'Want: ' -or- 'Got:  '
0000A496  C1C1C1C1 C1C1C1C1                       2242 FAILADR  DC    CL8'AAAAAAAA'
0000A49E  407E40                                  2243 BLANKEQ  DC    CL3' = '
0000A4A1  88888888 88888888                       2244 FAILVALS DC    CL36'hhhhhhhh hhhhhhhh hhhhhhhh hhhhhhhh '


0000A4C8  00000000                                2246 AEXPECT  DC    F'0'             ==> Expected ("Want") results
0000A4CC  00000000                                2247 AACTUAL  DC    F'0'             ==> Actual ("Got") results
0000A4D0  00000000 00000000                       2248 SAVER0R5 DC    6F'0'            Registers R0 - R5 save area
0000A4E8  F0F1F2F3 F4F5F6F7                       2249 CHARHEX  DC    CL16'0123456789ABCDEF'
                              0000A3F8  00000010  2250 HEXTRTAB EQU   CHARHEX-X'F0'    Hexadecimal translation table
0000A4F8  00                                      2251 FAILFLAG DC    X'00'            FF = Fail, 00 = Success
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

                                                  2253 ***********************************************************************
                                                  2254 *        Issue HERCULES MESSAGE pointed to by R1, length in R0
                                                  2255 ***********************************************************************

0000A4FA  4900 C404                     0000A684  2257 MSG      CH    R0,=H'0'                Do we even HAVE a message?
0000A4FE  07D2                                    2258          BNHR  R2                      No, ignore

0000A500  9002 C2B0                     0000A530  2260          STM   R0,R2,MSGSAVE           Save registers

0000A504  4900 C406                     0000A686  2262          CH    R0,=AL2(L'MSGMSG)       Message length within limits?
0000A508  47D0 C290                     0000A510  2263          BNH   MSGOK                   Yes, continue
0000A50C  4100 005F                     0000005F  2264          LA    R0,L'MSGMSG             No, set to maximum

0000A510  1820                                    2266 MSGOK    LR    R2,R0                   Copy length to work register
0000A512  0620                                    2267          BCTR  R2,0                    Minus-1 for execute
0000A514  4420 C2BC                     0000A53C  2268          EX    R2,MSGMVC               Copy message to O/P buffer

0000A518  4120 200A                     0000000A  2270          LA    R2,1+L'MSGCMD(,R2)      Calculate true command length
0000A51C  4110 C2C2                     0000A542  2271          LA    R1,MSGCMD               Point to true command

0000A520  83120008                                2273          DC    X'83',X'12',X'0008'     Issue Hercules Diagnose X'008'
0000A524  4780 C2AA                     0000A52A  2274          BZ    MSGRET                  Return if successful
0000A528  0000                                    2275          DC    H'0'                    CRASH for debugging purposes

0000A52A  9802 C2B0                     0000A530  2277 MSGRET   LM    R0,R2,MSGSAVE           Restore registers
0000A52E  07F2                                    2278          BR    R2                      Return to caller





0000A530  00000000 00000000                       2280 MSGSAVE  DC    3F'0'                   Registers save area
0000A53C  D200 C2CB 1000      0000A54B  00000000  2281 MSGMVC   MVC   MSGMSG(0),0(R1)         Executed instruction


0000A542  D4E2C7D5 D6C8405C                       2283 MSGCMD   DC    C'MSGNOH * '            *** HERCULES MESSAGE COMMAND ***
0000A54B  40404040 40404040                       2284 MSGMSG   DC    CL95' '                 The message text to be displayed
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

                                                  2286 ***********************************************************************
                                                  2287 *                          VERIFY TABLE
                                                  2288 ***********************************************************************
                                                  2289 *
                                                  2290 *        A(actual results), A(expected results), A(#of results)
                                                  2291 *
                                                  2292 ***********************************************************************

0000A5AC                                          2294 VERIFTAB DC    0F'0'
0000A5AC  00001000                                2295          DC    A(LTOSOUT)
0000A5B0  00004000                                2296          DC    A(LTOSOUT_GOOD)
0000A5B4  00000007                                2297          DC    A(LTOSOUT_NUM)
                                                  2298 *
0000A5B8  00001080                                2299          DC    A(LTOSFLGS)
0000A5BC  000041C0                                2300          DC    A(LTOSFLGS_GOOD)
0000A5C0  00000007                                2301          DC    A(LTOSFLGS_NUM)
                                                  2302 *
0000A5C4  00001100                                2303          DC    A(LTOSRMO)
0000A5C8  00004380                                2304          DC    A(LTOSRMO_GOOD)
0000A5CC  00000030                                2305          DC    A(LTOSRMO_NUM)
                                                  2306 *
0000A5D0  00001500                                2307          DC    A(LTOSRMOF)
0000A5D4  00004F80                                2308          DC    A(LTOSRMOF_GOOD)
0000A5D8  00000030                                2309          DC    A(LTOSRMOF_NUM)
                                                  2310 *
0000A5DC  00001900                                2311          DC    A(XTOSOUT)
0000A5E0  00005B80                                2312          DC    A(XTOSOUT_GOOD)
0000A5E4  00000007                                2313          DC    A(XTOSOUT_NUM)
                                                  2314 *
0000A5E8  00001980                                2315          DC    A(XTOSFLGS)
0000A5EC  00005D40                                2316          DC    A(XTOSFLGS_GOOD)
0000A5F0  00000007                                2317          DC    A(XTOSFLGS_NUM)
                                                  2318 *
0000A5F4  00001A00                                2319          DC    A(XTOSRMO)
0000A5F8  00005F00                                2320          DC    A(XTOSRMO_GOOD)
0000A5FC  00000030                                2321          DC    A(XTOSRMO_NUM)
                                                  2322 *
0000A600  00001E00                                2323          DC    A(XTOSRMOF)
0000A604  00006B00                                2324          DC    A(XTOSRMOF_GOOD)
0000A608  00000030                                2325          DC    A(XTOSRMOF_NUM)
                                                  2326 *
0000A60C  00002200                                2327          DC    A(XTOLOUT)
0000A610  00007700                                2328          DC    A(XTOLOUT_GOOD)
0000A614  0000000D                                2329          DC    A(XTOLOUT_NUM)
                                                  2330 *
0000A618  00002300                                2331          DC    A(XTOLFLGS)
0000A61C  00007A40                                2332          DC    A(XTOLFLGS_GOOD)
0000A620  00000007                                2333          DC    A(XTOLFLGS_NUM)
                                                  2334 *
0000A624  00002400                                2335          DC    A(XTOLRMO)
0000A628  00007C00                                2336          DC    A(XTOLRMO_GOOD)
0000A62C  00000050                                2337          DC    A(XTOLRMO_NUM)
                                                  2338 *
0000A630  00002B00                                2339          DC    A(XTOLRMOF)
0000A634  00009000                                2340          DC    A(XTOLRMOF_GOOD)
0000A638  00000030                                2341          DC    A(XTOLRMOF_NUM)
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

                                                  2342 *
0000A63C  00003000                                2343          DC    A(LTOSOUO)
0000A640  00009C00                                2344          DC    A(LTOSOUO_GOOD)
0000A644  00000004                                2345          DC    A(LTOSOUO_NUM)
                                                  2346 *
0000A648  00003080                                2347          DC    A(LTOSOUOF)
0000A64C  00009D00                                2348          DC    A(LTOSOUOF_GOOD)
0000A650  00000002                                2349          DC    A(LTOSOUOF_NUM)
                                                  2350 *
0000A654  00003100                                2351          DC    A(XTOSOUO)
0000A658  00009D80                                2352          DC    A(XTOSOUO_GOOD)
0000A65C  00000008                                2353          DC    A(XTOSOUO_NUM)
                                                  2354 *
0000A660  00003180                                2355          DC    A(XTOSOUOF)
0000A664  00009F80                                2356          DC    A(XTOSOUOF_GOOD)
0000A668  00000002                                2357          DC    A(XTOSOUOF_NUM)
                                                  2358 *
0000A66C  00003200                                2359          DC    A(XTOLOUO)
0000A670  0000A000                                2360          DC    A(XTOLOUO_GOOD)
0000A674  00000008                                2361          DC    A(XTOLOUO_NUM)
                                                  2362 *
0000A678  00003280                                2363          DC    A(XTOLOUOF)
0000A67C  0000A200                                2364          DC    A(XTOLOUOF_GOOD)
0000A680  00000002                                2365          DC    A(XTOLOUOF_NUM)
                                                  2366 *
                              00000012  00000001  2367 VERIFLEN EQU   (*-VERIFTAB)/12    #of entries in verify table
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

0000A684                                          2369          END
0000A684  0000                                    2370                =H'0'
0000A686  005F                                    2371                =AL2(L'MSGMSG)
0000A688  E68195A3 7A40                           2372                =CL6'Want: '
0000A68E  C796A37A 4040                           2373                =CL6'Got:  '
```

```
     SYMBOL        TYPE  VALUE   LENGTH  DEFN  REFERENCES

AACTUAL             F    00A4CC       4  2247  2174  2209
AEXPECT             F    00A4C8       4  2246  2176  2181
AHELPERS            A    00027C       4   274   264   324
BFPLDRND            J    000000   42644   191   241   244   246   249   257  1177  1179  1181  1183  1186  1188  1190  1192  1196
                                               1198  1200  1202  1205  1207  1209  1211  1213  1215  1221
BLANKEQ             C    00A49E       3  2243  2182  2210
CHARHEX             C    00A4E8      16  2249  2250
CTLR0               F    000308       4   334   280   281   282
FAIL                I    000238       4   272  2142
FAILADR             C    00A496       8  2242  2181  2183  2209  2211
FAILDESC            C    00A460      48  2238  2167
FAILFLAG            X    00A4F8       1  2251  2140  2163
FAILMSG1            C    00A44C      68  2236  2168  2169
FAILMSG2            C    00A490      53  2240  2201  2202  2229  2230
FAILPSW             X    0002F8       8   332   272
FAILVALS            C    00A4A1      36  2244  2185  2186  2187  2189  2190  2191  2193  2194  2195  2197  2198  2199  2213  2214
                                               2215  2217  2218  2219  2221  2222  2223  2225  2226  2227
FPCREGNT            X    00030C       4   335   414   490   496   502   508   516   521   526   531   536   541   569   645   651
                                                657   663   671   676   681   686   691   696   724   801   807   813   819   825
                                                830   835   840   845   850
FPCREGTR            X    000310       4   336   420   449   574   604   729   759
FPR0                U    000000       1   211   413   415   421   448   450   486   492   498   504   510   517   522   527   532
                                                537   542   567   570   576   602   605   641   647   653   659   665   672   677
                                                682   687   692   697   722   725   731   757   760   796   803   809   815   821
                                                826   831   836   841   846   851
FPR1                U    000001       1   212   412   415   416   419   421   422   447   450   451   492   493   498   499   504
                                                505   510   511   517   518   522   523   527   528   532   533   537   538   542
                                                543   570   575   576   577   605   606   647   648   653   654   659   660   665
                                                666   672   673   677   678   682   683   687   688   692   693   697   698   725
                                                726   730   731   732   760   761   803   804   809   810   815   816   821   822
                                                826   827   831   832   836   837   841   842   846   847   851   852
FPR10               U    00000A       1   221
FPR11               U    00000B       1   222
FPR12               U    00000C       1   223
FPR13               U    00000D       1   224
FPR14               U    00000E       1   225
FPR15               U    00000F       1   226
FPR2                U    000002       1   213
FPR3                U    000003       1   214   607   762
FPR4                U    000004       1   215
FPR5                U    000005       1   216
FPR6                U    000006       1   217
FPR7                U    000007       1   218
FPR8                U    000008       1   219
FPR9                U    000009       1   220
GOODPSW             X    0002E8       8   331   328
HELPERS             H    00A280       2  2082   229   274
HEXTRTAB            U    00A3F8      16  2250  2091  2095  2099  2103  2107  2183  2187  2191  2195  2199  2211  2215  2219  2223
                                               2227
IMAGE               1    000000   42644     0
LDXBR               I    00064C       4   716   301
LDXBRA              I    0006D0       4   790   303
LDXBROUT            I    000696       4   751   318
LEDBR               I    0003A4       4   406   287
LEDBRA              I    000424       4   480   289
LEDBROUT            I    0003EE       4   441   308
```

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     SYMBOL        TYPE  VALUE   LENGTH  DEFN  REFERENCES

LEXBR               I    0004F6       4   561   294
LEXBRA              I    00057A       4   635   296
LEXBROUT            I    000540       4   596   313
LTOSBAS             F    000314       4   344   286
LTOSCT              U    000068       1   899   345
LTOSFLGS            U    001080       0  1179   348  2299
LTOSFLGS_GOOD       U    0041C0       1  1241  1256  2300
LTOSFLGS_NUM        U    000007       1  1256  2301
LTOSIN              D    0007A8       8   882   899   346
LTOSINOU            D    0007D0       8   889   900   382
LTOSINRM            D    000810       8   906   962   364
LTOSOU              F    000374       4   380   307
LTOSOUCT            U    000040       1   900   381
LTOSOUO             U    003000       0  1205   383  2343
LTOSOUOF            U    003080       0  1207   384  2347
LTOSOUOF_GOOD       U    009D00       1  2019  2024  2348
LTOSOUOF_NUM        U    000002       1  2024  2349
LTOSOUO_GOOD        U    009C00       1  2007  2016  2344
LTOSOUO_NUM         U    000004       1  2016  2345
LTOSOUT             U    001000       0  1177   347  2295
LTOSOUT_GOOD        U    004000       1  1223  1238  2296
LTOSOUT_NUM         U    000007       1  1238  2297
LTOSRM              F    000344       4   362   288
LTOSRMCT            U    000080       1   962   363
LTOSRMO             U    001100       0  1181   365  2303
LTOSRMOF            U    001500       0  1183   366  2307
LTOSRMOF_GOOD       U    004F80       1  1359  1456  2308
LTOSRMOF_NUM        U    000030       1  1456  2309
LTOSRMO_GOOD        U    004380       1  1259  1356  2304
LTOSRMO_NUM         U    000030       1  1356  2305
MSG                 I    00A4FA       4  2257  2111  2170  2203  2231
MSGCMD              C    00A542       9  2283  2270  2271
MSGMSG              C    00A54B      95  2284  2264  2281  2262
MSGMVC              I    00A53C       6  2281  2268
MSGOK               I    00A510       2  2266  2263
MSGRET              I    00A52A       4  2277  2274
MSGSAVE             F    00A530       4  2280  2260  2277
PCINTCD             H    00008E       2   242   259  2089
PCNOTDTA            I    00020C       4   263   260
PCOLDPSW            U    000150       0   244   261  2093  2097  2101  2105
PGMCK               H    00A280       2  2088   265
PGMCOMMA            C    00A2F6       1  2118  2090
PGMPSW              C    00A2FC      36  2120  2093  2094  2095  2097  2098  2099  2101  2102  2103  2105  2106  2107
PROGCHK             H    000200       2   258   250
PROGCODE            C    00A2F2       4  2117  2089  2091
PROGMSG             C    00A2DE      66  2115  2109  2110
PROGPSW             D    000228       8   271   270
R0                  U    000000       1   192   263   266   280   282  2109  2162  2168  2201  2229  2233  2257  2260  2262  2264
                                                 2266  2277
R1                  U    000001       1   193   571  2110  2131  2135  2137  2169  2202  2230  2271  2281
R10                 U    00000A       1   202   286   288   293   295   300   302   307   312   317   406   407   441   442   480
                                                  481   561   562   596   597   635   636   716   717   751   752   790   791
R11                 U    00000B       1   203
R12                 U    00000C       1   204   229   264   324   410   428   445   457   484   549   565   583   600   613   639
                                                  704   720   738   755   768   794   858
R13                 U    00000D       1   205   265   287   289   294   296   301   303   308   313   318   325   409   429   444
```

```
     SYMBOL        TYPE  VALUE   LENGTH  DEFN  REFERENCES

                                                458   483   550   564   584   599   614   638   705   719   739   754   769   793
                                                859  2113  2141
R14                 U    00000E       1   206   268   269   326   327
R15                 U    00000F       1   207   228   263   266
R2                  U    000002       1   194   406   408   428   441   443   457   480   482   549   561   563   568   583   596
                                                598   603   613   635   637   704   716   718   723   738   751   753   758   768
                                                790   792   797   858  2111  2132  2138  2170  2203  2231  2258  2260  2266  2267
                                               2268  2270  2277  2278
R3                  U    000003       1   195   406   413   425   441   448   454   480   486   546   561   567   568   580   596
                                                602   603   610   635   641   701   716   722   723   735   751   757   758   765
                                                790   796   797   855  2133  2138
R4                  U    000004       1   196  2135  2150  2152  2174  2213  2217  2221  2225
R5                  U    000005       1   197  2150  2153  2162  2167  2175  2176  2185  2189  2193  2197  2233
R6                  U    000006       1   198  2135  2154
R7                  U    000007       1   199   407   416   422   426   442   451   455   481   493   499   505   511   518   523
                                                528   533   538   543   547   562   571   577   581   597   606   607   611   636
                                                648   654   660   666   673   678   683   688   693   698   702   717   726   732
                                                736   752   761   762   766   791   804   810   816   822   827   832   837   842
                                                847   852   856  2136  2156
R8                  U    000008       1   200   407   417   423   427   442   452   456   481   494   500   506   512   519   524
                                                529   534   539   544   548   562   572   578   582   597   608   612   636   649
                                                655   661   667   674   679   684   689   694   699   703   717   727   733   737
                                                752   763   767   791   805   811   817   823   828   833   838   843   848   853
                                                857  2148  2154
R9                  U    000009       1   201
SAVER0R5            F    00A4D0       4  2248  2162  2233
SAVEREGS            F    00023C       4   273   263   266
START               I    000280       4   280   247
VERIFAIL            I    00A35A       4  2162  2151
VERIFLEN            U    000012       1  2367  2132
VERIFTAB            F    00A5AC       4  2294  2367  2131
VERIFY              I    00A342       2  2148  2136
VERINEXT            I    00A34E       4  2152  2234
VERISUB             H    00A320       2  2126   325
WANTGOT             C    00A490       6  2241  2180  2208
XTOLBAS             F    000334       4   356   300
XTOLCT              U    0000D0       1  1079   357
XTOLFLGS            U    002300       0  1198   360  2331
XTOLFLGS_GOOD       U    007A40       1  1725  1740  2332
XTOLFLGS_NUM        U    000007       1  1740  2333
XTOLIN              D    000A60       8  1061  1079   358
XTOLINOU            D    000AB0       8  1068  1080   394
XTOLINRM            D    000B30       8  1085  1168   376
XTOLOU              F    000394       4   392   317
XTOLOUCT            U    000080       1  1080   393
XTOLOUO             U    003200       0  1213   395  2359
XTOLOUOF            U    003280       0  1215   396  2363
XTOLOUOF_GOOD       U    00A200       1  2075  2080  2364
XTOLOUOF_NUM        U    000002       1  2080  2365
XTOLOUO_GOOD        U    00A000       1  2055  2072  2360
XTOLOUO_NUM         U    000008       1  2072  2361
XTOLOUT             U    002200       0  1196   359  2327
XTOLOUT_GOOD        U    007700       1  1695  1722  2328
XTOLOUT_NUM         U    00000D       1  1722  2329
XTOLRM              F    000364       4   374   302
XTOLRMCT            U    000100       1  1168   375
```

```
     SYMBOL        TYPE  VALUE   LENGTH  DEFN  REFERENCES

XTOLRMO             U    002400       0  1200   377  2335
XTOLRMOF            U    002B00       0  1202   378  2339
XTOLRMOF_GOOD       U    009000       1  1907  2004  2340
XTOLRMOF_NUM        U    000030       1  2004  2341
XTOLRMO_GOOD        U    007C00       1  1743  1904  2336
XTOLRMO_NUM         U    000050       1  1904  2337
XTOSBAS             F    000324       4   350   293
XTOSCT              U    0000D0       1   988   351
XTOSFLGS            U    001980       0  1188   354  2315
XTOSFLGS_GOOD       U    005D40       1  1477  1492  2316
XTOSFLGS_NUM        U    000007       1  1492  2317
XTOSIN              D    000890       8   969   988   352
XTOSINOU            D    0008E0       8   976   989   388
XTOSINRM            D    000960       8   995  1055   370
XTOSOU              F    000384       4   386   312
XTOSOUCT            U    000080       1   989   387
XTOSOUO             U    003100       0  1209   389  2351
XTOSOUOF            U    003180       0  1211   390  2355
XTOSOUOF_GOOD       U    009F80       1  2047  2052  2356
XTOSOUOF_NUM        U    000002       1  2052  2357
XTOSOUO_GOOD        U    009D80       1  2027  2044  2352
XTOSOUO_NUM         U    000008       1  2044  2353
XTOSOUT             U    001900       0  1186   353  2311
XTOSOUT_GOOD        U    005B80       1  1459  1474  2312
XTOSOUT_NUM         U    000007       1  1474  2313
XTOSRM              F    000354       4   368   295
XTOSRMCT            U    000100       1  1055   369
XTOSRMO             U    001A00       0  1190   371  2319
XTOSRMOF            U    001E00       0  1192   372  2323
XTOSRMOF_GOOD       U    006B00       1  1595  1692  2324
XTOSRMOF_NUM        U    000030       1  1692  2325
XTOSRMO_GOOD        U    005F00       1  1495  1592  2320
XTOSRMO_NUM         U    000030       1  1592  2321
=AL2(L'MSGMSG)      R    00A686       2  2371  2262
=CL6'Got:  '        C    00A68E       6  2373  2208
=CL6'Want: '        C    00A688       6  2372  2180
=H'0'               H    00A684       2  2370  2257
```

```
MACRO  DEFN  REFERENCES

No defined macros
```

```
   DESC     SYMBOL    SIZE     POS        ADDR

Entry: 0

Image      IMAGE     42644  0000-A693  0000-A693
  Region             42644  0000-A693  0000-A693
    CSECT  BFPLDRND  42644  0000-A693  0000-A693
   STMT                                                       FILE NAME

1     c:\Users\Fish\Documents\Visual Studio 2008\Projects\MyProjects\ASMA-0\bfp-002-loadr\bfp-002-loadr.asm

** NO ERRORS FOUND **
```