```
LOCN B1 B2 B3
                         *      RANDOM NUMBER ROUTINE
                         *
                         *      TSC   BOX 2574  W.LAFAYETTE  IND. 47906
                         *
                         * THIS ROUTINE WHEN CALLED WILL PRODUCE A RANDOM
                         * NUMBER IN LOCATION 'RNDM' THROUGH 'RNDM+3'.
                         * A SEQUENCE OF 2 TO THE 31ST MINUS 1 RANDOM
                         * NUMBERS RESULT BEFORE THE SEQUENCE REPEATS.
                         * 8 BIT BYTES ARE RETURNED IN THE A ACCUMULATOR.
                         * INITIALIZATION CAN BE DONE BY EITHER NONZERO
                         * SEEDING OR RELYING ON POWER-UP GARBAGE IN
                         * MEMORY. THE ILLEGAL STATE IS ALL ZEROES.


                              ORG     $A04A
A04A F7 A0 70   RANDOM   STA B   BSAVE     SAVE THE B ACCUMULATOR
A04D C6 08               LDA B   #8        SET COUNTER
A04F B6 A0 74   RPT      LDA A   RNDM+3    GET M.S.BYTE OF RANDOM NO.
A052 48                  ASL A             SHIFT IT LEFT THREE
A053 48                  ASL A             TIMES TO GET BIT 28
A054 48                  ASL A             IN LINE WITH BIT 31
A055 B8 A0 74            EOR A   RNDM+3    XOR A WITH RANDOM NO.
A058 48                  ASL A             PUT BIT 28.XOR.31 IN
A059 48                  ASL A             CARRY BY SHIFTING LEFT
A05A 79 A0 71            ROL     RNDM      ROTATE ALL FOUR BYTES OF
A05D 79 A0 72            ROL     RNDM+1    THE RANDOM NO., ROTATING
A060 79 A0 73            ROL     RNDM+2    THE CARRY INTO THE LSB
A063 79 A0 74            ROL     RNDM+3    THE MSB IS LOST
A066 5A                  DEC B             DECREMENT THE COUNTER
A067 26 E6               BNE     RPT       IF ITS NOT 0, GO REPEAT
A069 F6 A0 70            LDA B   BSAVE     RESTORE THE B ACCUMULATOR
A06C B6 A0 71            LDA A   RNDM      PUT RANDOM # IN A
A06F 39                  RTS               RETURN TO CALLING PROGRAM


                     * TEMP STORAGE AREA


A070             BSAVE    RMB     1
A071             RNDM     RMB     4
                          END


SYMBOL TABLE:

BSAVE   A070   RANDOM A04A   RNDM    A071   RPT     A04F
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S113A04AF7A070C608B6A07448484848B8A07448482F
S113A05A79A07179A07279A07379A0745A26E6F668
S109A06AA070B6A07139DC
S9030000FC