# IDENTIFICATION

Product Code:

MAINDEC-12-DIEA-D

MEMDATA

PSW 4-13 book to

be tested. Take

Jo Hayback.

8 MEDS

START 2

Product Name:

FLOAT 1'S & Ø'S THROUGH MEMORY

Date Created:

September 23, 1969

Maintainer:

Diagnostic Group

Author:

James Kelly

wind of RIMA PIN

#### 1. ABSTRACT

This memory exerciser floats a word with a single bit set followed by a word with a single bit cleared thru each memory address. In bank  $\emptyset$  all memory locations not reserved for the program itself i.e., from address  $\emptyset24\emptyset$  to 7777 are tested. In extended memory all addresses  $\emptyset90\emptyset$  to 7777 inclusive are tested. In general the algorithm for testing is as follows: Set the accumulator to  $4\emptyset90$ :rotate the number right 4096 times. At the conclusion, test to see if the accumulator is 4000. This test ascertains that each core in all tested locations can store a one, and that relatively rapid access to each memory location does not disturb its contents.

The second major test is to set the accumulator 3777 I.E., all but one bit set to ones, and then rotating this number thru each memory location 4096 times prior to testing — any detected errors will be indicated by either a message type out or an error halt.

## 2. MACHINE REQUIREMENTS

- a. A standard PDP-5, 8 8/S, 8I, 8L, 12 or Linc-8.
- b. An ASR-33 teletype or equivalent.
- c. If the PDP-5 being tested has extended memory, the CIF and CDF instructions must be compatible with the PDP-8.

#### 2.2 Preliminary Programs

All basic instruction and memory diagnostics must have been successfully run prior to attempting to run (FLOAT l's &  $\emptyset$ 's TEST)

## 3. LOADING PROCEDURES

### 3.1 Method

This program must be loaded with the binary loader. If you are unfamiliar with the proper binary loading procedures, refer to the User Handbook for your computer, or appendix "A" of this write up.

- a. Set the teletype reader switch to FREE.
- b. Open the teletype reader andinsert the program tape so that the arrows on the tape are visible to, and pointing toward the operator.
- c. Close the reader and set the reader switch to START.
- d. Set the teletype from panel switch to ON-LINE.
- e. Set the LEFT switches to 7777.
- f. Set the RIGHT switches to 4000.
- g. Set the MODE switch to 8 mode.
- h. Depress I/O preset.
- L. Depress START LS.
- j. When the program tape has been read in, the computer will halt.
- the ACCUMULATOR must be equal to 0000; if it is not, an error has occurred and one might try reloading the binary loader.

#### 4 STARTING PROCEDURE

- a. Remove the paper tape from the teletype reader.
- b. Set the three right most switches SR9, 10, 11 to the number of the memory bank you wish to test.In a basic machine with no extended memory, this would be 000.
- c. Set the MODE switch to 8 mode.
- d. Depress I/O preset.
- e. Depress START 20.
- f. The program, when properly running, will cause the AC to flicker, and the MA to count up. One pass will take approximately 10 min.

### 4.1 Switch Settings

In general, switches 0, 1, 2 allow the test engineer to select the mode of error indication, I.E., type out or error halt. The normal mode with switches 0, 1, 2 on a zero is an error halt. To modify these circumstances procede as follows:

SR00 = 1 Suppress halt SR01 = 1 Suppress typing SR02 = 1 Scope Loop on error

These designated switches have an order of precedence associated with them, which is designed for maximum flexibility.

In the event of an error, the first switch to be tested is switch 0; if it is 0 the computer will halt at address 0063. Depress continue to check switch 1 and obtain printout. If it is a 1, I.E., suppress halt, we test switch 1. If switch 1 is 0 the following "typical" error message will ensue: FLOAT I/O ADDR DATA 0241 6000

This message is interpreted as follows:

- 1) The "ADDR" address of the memory location under test.
  Indicates which memory address was being tested when
  the failure was detected.
- 2) "DATA" indicate the data in this memory location the correct data for the Float 1 test is 4000 the correct data for Float 0 test is 3777.

#### APPENDIX A

#### PDP-8 MODE PERFORATED-TAPE LOADER

#### READIN MODE LOADER

The readin mode (RIM) loader is a minimum length, basic, perforated-tape program for the 33 ASR. It is initially stored in memory by manual use of the operator console keys and switches. The loader is permanently stored in 18 locations of page 37.

The RIM loader can only be used in conjuction with the 33ASR reader (not the high-speed perforated-tape reader). Because a tape in RIM format is, in effect, twice as long as it need be, it is suggested that the RIM loader be used only to read the binary loader when using the 33 ASR. (NOTE: Some PDP-12 diagnostic program tapes are in RIM format).

The complete PDP-12 RIM loader (SA=7756 is as follows:

Absolute Address	Octal Content	Tag	Instruction I Z	Comments
7756	6032	BEG,	KCC	/CLEAR AC AND FLAG
7757	6031		KSF	/SKIP IF FLAG=1
7760 7761, 7762,	5357 6036 7106		JMP-1 KRB CLL RTL	/LOOKING FOR CHARACT /READ BUFFER
7763,	7006		RTL	/CHANNEL 8 IN ACO
7764,	7510		SPA	/CHECKING FOR LEADER
7765,	5357		JMP BEG+1	/FOUND LEADER
7766,	7006		RTL	/OK, CHANNEL 7 IN
7767,	6031		KSF	LINK
7770, 7771, 7772.	5367 6034 7420		JMP-1 KRS SNL	/READ, DO NOT CLEAR /CHECKING FOR ADDRESS
7773,	3776		DCA 1 TEMP	/STORE CONTENT
7774,	3376		DCA TEMP	/STORE ADDRESS
7775.	5356		JMP BEG	/NEXT WORD
7776, 7777,	0 5 <b>XXX</b>	TEMP,	O JMP X	/TEMP STORAGE /JMP START OF BIN LOADER

Placing the RIM loader in core memory by way of the operator console keys ans switches is accomplished as follows:

- a. Set the starting address 7756 in the LEFT switches.
- b. Set the first instruction (6032) in the RIGHT swtiches.
- c. Press the FILL switch.

- d. Set the next instruction (6031) in the RIGHT switches.
  e. Press the FILL STEP switch.
  f. Repeat steps d and e until all 16 instructions have been deposited.

To lead a tape in RIM format, place the tape in the reader, set the LEFT switches to the starting address 7756 of the RIM loader (not of the program being read), press the START LS key, and start the Teletype reader.

6001

0010

M4000, -4000

2000

TEMP.

0021 0070

0000 2600

2223 6261

2004 0242

0025 0000 0026 7774

0007 1026

0010 0000

0011 0000

0012 0157

0013 0000

0014 4000

0015 0000

14:14 PAGE 1

```
/FLOAT 1'S AND 0'S
/COPYRIGHT 1969, DIGITAL EQUIPMENT CORP., NAYVARD, MASS.
ITHIS CORE MEMORY EXERCISER IS FULLY COMPATIBLE WITH A FAMILY
YOF 8 COMPUTERS INCLUDING POP-5, 8, 81, 81, 85, 12 AND LINC+8
VSR02#1 INHIBIT ERROR WALT
/SRØ1=1 INHIBIT TYPEOUT
/SRØ2*1 SCOPE LOOP ON ERROR
ITHIS MEMORY EXERCISER EVALUATES THE ENTIRE CORE MEMORY
VEROM ADDRESS 0240 TO 7777 IN BANKA AND ALL ADDRESSES IN
VEXTENDED MEMORY FUR THE TENDENCY. TO PICK UP OR DROP BITS
ITHE TEST FOR DROPPING BITS IS PERFORMED BY ROTATING A
/SINGLE 1 BIT THRU EACH MEMORY ADDRESS 4096 TIMES AND
/TESTING THE RESULT. THE TEST FOR PICKING UP BITS IS PERFORMED
7BY FLOATING A SINGLE 2 BIT THRU EACH MEMORY ADDRESS
14096 TIMES AND TESTING THE RESULT.
VIO ENSURE MAXIMUM TEST TIME AND MINIMUM BIT FIDDLING
/TIME THE DATA IS ONLY TESTED AT THE CONCLUSION OF
ITHE TEST FOR EACH ADDRESS RATHER THAN AFTER EACH ROTATE.
/TO TEST ANY OR ALL EXTENDED MEMORY SET SWITCHES 9, 10, 11
/TO THE EXTENDED BANK NUMBER.
        SREGGERTENDED MEMORY
        SRIØ=EXTENDED MEMORY
        SR11=EXTENDED MEMORY
#1
K0070. 0070
                                ZEXTENDED MEMORY MASK
REGA.
        0000
                                /GENERAL STORAGE REGISTER
K6201. 6201
                                /CHANGE DATA FIELDS
K0240, 0240
                                /BOTTOM OF TEST
TALLY, 0000
K7774, 7774
K1026, 1026
#10
AUTO10, 0000
DONYET. 0000
MESSA, K215-1
REGB.
        0000
```

```
#2 c
     886
M828 76.14
              $*49*, LAS
                                             VRIAU SMITCHES SKY, 17, 11
                                             /Mave 9, 12, 11 1310 5, 7, 8
2221 7110
                     CLL KTL
                     CLL PAL
0992 71 4
                                              ZHOVE
                             K5672
                                              VSAVE EXTENDED MEMORY 61TS
2(23 xx3)
                     AND
                      CCA
                             REGA
                                              VSTORE EXTANDED MEMORY DATA
0024 3002
2025 1012
                      TAS
                             REGA
                                              VOET SELECTED EXTENDED BANK
0026 1743
                      TAC
                             K6201
                                             YADD CHANGE DATA FIELD (CDF)
0027 3235
                      COL
                              BEGIND
                                              ASTORE AS FIRST INSTRUCTION IN DATA HANGLER
              VSET (P LOWER TEST ADDRESS 2236 FOR BANK O AND 8000 FOR ALL OTHERS
                      TAG
                              HEGA
                                              VGET EXTENDED NEHORY DATA
8238 1022
2031 7650
                     SNA CLA
                                              ITEST FOR EXTENDED MEMORY
                              K3240
6032 1804
                     TAG
                                              /BANK &
2233 3665
                      DCA
                             TALLY
                                              ISET TALLY
                      O C A
                             CONYET
                                              /CLEAR DONYET
0034 3011
              VELOAT A SINGLE 1 PIT
              BEGINZ, MAGO
                                              VSET DATA FIELD
0035 0000
                                              /SET LA1 AC=SUED
0036 7320
                     CLA CLL CML
                      RAR
                                              /MOVE LEG ACE4000
0037 7018
                                              ISTORE IN TEST AUDRESS
0040 3405
                      DCA I
                             TALLY
                      TAD I
                            TALLY
                                              /FETCH IT
0041 1405
                             DONYET
                                              700NE 4896 TIMES YET NO
0042 2011
                      157
                              . - 4
0043 5037
                      JMP
                                              JOO MORE
                              M4230
0044 1014
                      TAD
                                              /ACS4000
0045 7648
                      SZA CLA
                                              /TEST OKAY
2046 5263
                      IMP
                              GOOF
                                              ITEST PAILED TELL OPERATOR
              /FLOAT A SINGLE & BIT
                      CLL CLA CMA
                                              /SET LEG ACE7777
0047 7342
                      RAR
                                              /SET L=1 AC=3777
0050 7010
0051 3405
                      DCA I
                             TALLY
                                              IN TEST ADDRESS
0052 1405
                                              /FETCH IT
                      TAD I
                             TALLY
0053 2011
                                              /DONE 4096 TIMES YET
                      157
                             DONYET
                              , = 4
0054 5050
                      JMP
                                              INOPE
0055 7040
                      CMA
0056 7700
                      SMA CLA
                              GOOF
0057 5063
                      JMP
                                              /TEST FAILED TELL OPERATOR
                      152
                              TALLY
                                              ZUPDATE ADDRESS
0060 2005
              PNTA.
                                              ITEST NEW ADDRESS
0061 5035
                      JMP
                              BEGINØ
                      JMP
                              START
                                              /EXIT
0062 5020
```

21 m O C T m 6 9 14 1 14 P A G E 2

PALIS V141

/FLOAT 1'S AND 0'5

```
VFLOAT 1'S AND 0'S
                         PAL10
                                  V141
                                           21=0CT=69
                                                            14114
                                                                     PAGE 3
                          ZERROR HANDLER
          2063 7604
                         GOOF.
                                  LAS
                                                            VREAD SWITCHES
                 7500
                                                            1520007
          0264
                                  SMA
                                                            VERROR HALT
          0065
                 7402
                                  HLT
                                  RAL
                                                            IMOVE SRUL TO ACE
          0266
                7004
                 7500
                                                            1898147
          0067
                                  SMA
          0070
                 5075
                                  JMP
                                           TALK
                                                            /TYPE
                 7004
                                                            IMOVE SRAZ TO ACL
          0071
                                  RAL
          0072
                 7700
                                                            18832#7
                          PNTB.
                                  SMA CLA
                                           PATA
                                  JMP
          0073
                 5060
                                                            / GO
                                  JMP
                                           PNTA+1
                                                            /SCOPE LOOP
          0074
                5061
                         /TYPE OUT ROUTINE
          0075 7300
                         TALK,
                                  CLA CLL
                                                            /CLEAR AGL
          0076
                6201
                                  6201
                                                            /RESTORE DATA FIELD
          0077
                 1010
                                                            /GET AUTO10=20000 NEVER TYPED
                                  TAD
                                           AUTO10
          0100 7640
                                  SZA CLA
                                                            1=87
          0101
                 5111
                                  JMP
                                           DATA
                                                            INO TYPE NUMERICS
          0102
                                                            /GET POINTER
                                           MESSA
                 1012
                                  TAD
          0103 3010
                                                            /STORE IN AUTO10
                                  DCA
                                           STOTUA
          0104
                 1410
                                  TAD I
                                           AUTOIØ
                                                            /FETCH A CHARACTER
          0105
                 7450
                                  SNA
                                                            /DONE YET
          0106
                 5111
                                  JMP
                                           , +3
                                                            /YES
                                           TYPE
          0107
                 4152
                                  JMS
                                                            ITYPE IT
          0110
                5104
                                  JMP
                                           g ene A
                                                            IND
                         /DATA TYPE OUT
                         DATA
           0111 1005
                                           TALLY
                                                            /GET ADDRESS
                                  TAD
          0112
                 4127
                                  JMS
                                           OCTYP
                                                            /TYPE
          0113
                 1035
                                  TAD
                                           BEGINE
                                                            /GET DATA FIELD
          0114
                                  DCA
                 3115
                                           , to J.
                                                            ISTORE IT
          0115
                 0000
                                  0000
                                                            /SET DATA FIELD
          0116 1405
                                           TALLY
                                  TAD I
          0117
                 4127
                                  JMS
                                           OCTYP
                                           K215
          0120 1160
                                  TAD
                                           TYPE
          0121
                 4152
                                  JMS
          0122
                 1161
                                  TAD
                                           K212
          0123
                 4152
                                           TYPE
                                  JMS
          0124
                 7604
                                  LAS
          0125
                 7006
                                  RTL
          0126
                 5072
                                  JMP
                                           BINA
          0127
                 0000
                          OCTYP.
                                  0
          0130
                 3015
                                  DCA
                                           TEMP
                                           K7774
           0131
                 1006
                                  TAD
                                  DCA
                                           REGB
           0132
                 3013
```

0133 1007

HERE

TAD

K1026

)

### 1913	/FLOAT 1'S AND	018	PAL10	V141	21=007=69	14114 F	AGE 4
0136 7204 RAL 0137 3015 CCA TEMP 0140 1912 TAD AUTO10 0141 7804 RAL 0142 7422 SNL 0143 9134 JMP HEDO 0144 4152 JMS TYPE 0145 2013 ISF REGB 0146 5133 JMP HERE 0147 1804 TAD K8240 0150 4152 JMS TYPE 0151 5527 JMP I OCTYP 0152 8000 TYPE, 2 0153 6846 TLS 0154 6841 JMP HERE 0155 5154 JMP TYPE 0155 5154 JMP HERE 0156 7300 CLA CLL JCLER AC, L JMP I TYPE 0160 8215 K215, 8215 0161 8212 K212, 8212 JADOR OATA 0164 8317 8314 0165 8361 8314 0166 8314 8314 0166 8324 8324 0167 8240 8240 0170 8261 8261 0171 8257 8260 0173 8215 8215 0174 8215 8225 0175 8301 8261 0176 8301 8261 0177 8260 8260 0173 8215 8215 0174 8215 8215 0174 8217 8317 0165 8301 8261 0177 8304 8240 0178 8260 8260 0179 8261 8261 0171 8267 8260 8260 0173 8215 8215 0174 8217 8217 0175 8301 8261 0176 8304 8324 0208 8322 8322 0201 8240 8240 0208 8324 8324 0208 8324 8324 0208 8320 8322 0201 8240 8344 0208 8324 8324	0134	3010	REDO.	DCA	AUT010		
0137 3015					TEMP		
0140 1013 TAO AUTO10 0141 7004 RAL 0142 7422 SNL 0143 5134 JMP REBO 0144 4152 JMS TYPE 0145 2013 JMP HERE 0146 5133 JMP HERE 0147 1004 TAO K0240 0150 4152 JMS TYPE 0151 5527 JMP I OCTYP 0152 0000 TYPE, 2 0153 6046 TLS /TYPE 0155 5154 JMP1 /MAIT FOR FLAG 0155 5154 JMP1 /MAIT FOR FLAG 0156 7300 CLA CLL /CLEAR AC, L 0157 5552 JMP I TYPE /EXIT 0168 0215 K215, 0215 0161 0215 K212, 0215 0163 0314 0164 0317 0317 0165 0301 0314 0166 0324 0326 0167 0240 0240 0178 0261 0261 0171 0261 0261 0171 0261 0261 0171 0260 0240 0178 0261 0261 0171 0261 0261 0171 0261 0261 0171 0260 0240 0178 0260 0260 0173 0215 0215 0174 0210 0261 0175 0301 0261 0176 0304 0344 0176 0304 0344 0177 0304 0344 0177 0304 0344 0178 0301 0301 0301 0176 0304 0322 0217 0228 0322 0218 0240 0240 0177 0304 0344 0228 0322 0322 0219 0240 0240 0265 0301 0301 0274 0340 0275 0304 0344 0286 0215 0215 0277 0212		•			ige gen ku jeks		
### ### ##############################							
### ### ##############################					AGIOTA		
### ### ##############################							
0144 4152 JMS TYPE 0145 2013 IS RECO 0146 5133 JMP HERE 0147 1004 TAO K0240 0150 4152 JMS TYPE 0151 5527 0152 0000 TYPE, 0 0153 6041 TSF JMP I OCTYP 0154 6041 TSF JMP I TYPE 0155 5154 JMP I TYPE 0156 7300 CLA CLL /CLEAR AC, L 0157 5552 JMP I TYPE 0160 0215 K215, 0215 /FLOAT I/P 0161 0212 K212, 0212 /ADDR DATA 0163 0314 2314 0164 0317 0317 0165 0301 C317 0166 0324 0324 0170 0261 0261 0171 0257 0172 0260 0261 0171 0257 0172 0260 0261 0171 0261 0304 0170 0304 0304 0170 0304 0304 0170 0304 0304 0177 0304 0177 0304 0177 0304 0177 0304 0177 0304 0177 0304 0177 0304 0177 0304	-				REDO		
0145   2013							
### ### ##############################		2013		152			
0150 4152							
### 1 OCTYP							
0152 0000 TYPE, 0 0153 6046 0154 6041 0155 5154 0155 5154 0155 5154 0155 5154 0155 5154 0156 7300 0157 552 0160 0215 K215, 0215 0161 0212 K212, 0212 0162 0306 0163 0314 0164 0317 0165 0301 0165 0301 0165 0301 0167 0240 0170 0261 0171 0257 0172 0260 0173 0215 0174 0212 0175 0301 0176 0304 0177 0304 0177 0304 0177 0304 0177 0304 0200 0322 0201 0240 0202 0304 0202 0304 0203 0301 0204 0304 0207 0301 0204 0304 0207 0301 0206 0215 0207 0215 0207 0215 0207 0215 0207 0215 0207 0215 0207 0200 0208 0304 0209 0304 0209 0304 0209 0304 0209 0304 0209 0304 0209 0301 0206 0215 0215 0207 0212							
### ### ##############################	<del>-</del>		TVDE		UCITE		
### ### ##############################			HILE			/TVD0	
0155 5154	_						FLAG
### TYPE	- 4				, -1		· harro
0160       0215       K215       0215       /FLOAT 1/A         0161       0212       K212       0212       /ADDR DATA         0162       0306       0306       /0000       0000         0163       0314       0314       0317         0165       0301       0317       0317         0166       0324       0324       0324         0167       0240       0240       0240         0170       0261       0261       0261         0171       0257       0257       0215         0173       0215       0215       0215         0174       0212       0215       0215         0175       0301       0304       0304         0200       0322       0324       0344         0200       0322       0324       0344         0201       0240       0324       0301         0204       0324       0301       0301         0205       0301       0301       0301         0206       0215       0215       0215         0207       0212       0215       0215         0207       0212       0212	0156			CLA CLL		/CLEAR AC	, .
### ### ##############################					TYPE		
Ø162       Ø306       Ø306       Ø306         Ø163       Ø314       Ø317       Ø317         Ø164       Ø317       Ø317       Ø317         Ø165       Ø301       Ø311       Ø311         Ø166       Ø324       Ø324       Ø324         Ø167       Ø240       Ø240       Ø240         Ø170       Ø261       Ø261       Ø261         Ø171       Ø257       Ø257       Ø257         Ø172       Ø260       Ø260       Ø260         Ø173       Ø215       Ø215         Ø174       Ø212       Ø215         Ø175       Ø301       Ø304         Ø176       Ø304       Ø304         Ø177       Ø304       Ø304         Ø177       Ø304       Ø304         Ø200       Ø322       Ø322         Ø201       Ø240       Ø240         Ø202       Ø301       Ø301         Ø204       Ø324       Ø324         Ø205       Ø301       Ø301         Ø206       Ø215       Ø215         Ø207       Ø212       Ø212						407	
Ø163       Ø314       Ø317       Ø317         Ø164       Ø317       Ø317       Ø317         Ø165       Ø3Ø1       Ø3Ø1       Ø3Ø1         Ø166       Ø324       Ø324       Ø324         Ø179       Ø261       Ø261       Ø261         Ø171       Ø257       Ø257       Ø257         Ø172       Ø26Ø       Ø26Ø       Ø26Ø         Ø173       Ø215       Ø215         Ø174       Ø212       Ø212         Ø174       Ø212       Ø212         Ø175       Ø3Ø1       Ø3Ø1         Ø176       Ø3Ø4       Ø3Ø4         Ø177       Ø3Ø4       Ø3Ø4         Ø177       Ø3Ø4       Ø3Ø4         Ø177       Ø3Ø4       Ø3Ø4         Ø2Ø0       Ø3Ø4       Ø3Ø4         Ø2Ø1       Ø2Ø2       Ø3Ø4         Ø2Ø2       Ø3Ø1       Ø3Ø1         Ø2Ø4       Ø3Ø4       Ø3Ø1         Ø2Ø5       Ø3Ø1       Ø3Ø1         Ø2Ø6       Ø215       Ø215         Ø2Ø6       Ø215       Ø212			K515'				
0164       0317       0317         0165       0301       2301         0166       0324       2324         0167       0240       0240         0170       0261       0261         0171       0257       0257         0172       0260       0260         0173       0215       0215         0174       0212       0212         0175       0301       0301         0176       0304       0304         0177       0304       0304         0200       0322       0322         0201       0240       0240         0202       0304       0304         0203       0301       0301         0204       0324       0324         0205       0301       0301         0206       0215       0215         0207       0212       0212						ANNCA NNS	11/2
0165       0301       2301         0166       0324       2324         0167       0240       0240         0170       0261       0261         0171       0257       0257         0172       0260       0260         0173       0215       0215         0174       0215       0215         0175       0301       0301         0176       0304       0304         0177       0304       0304         0200       0322       0322         0201       0240       0240         0202       0304       0304         0203       0301       0301         0204       0324       0324         0205       0301       0301         0206       0215       0215         0207       0212       0212							
Ø166       Ø324       Ø324         Ø167       Ø240       Ø240         Ø170       Ø261       Ø261         Ø171       Ø257       Ø257         Ø172       Ø260       Ø260         Ø173       Ø215       Ø215         Ø174       Ø212       Ø212         Ø175       Ø301       Ø301         Ø176       Ø304       Ø304         Ø177       Ø304       Ø304         Ø177       Ø302       Ø322         Ø200       Ø322       Ø322         Ø201       Ø240       Ø240         Ø202       Ø304       Ø304         Ø203       Ø301       Ø301         Ø204       Ø324       Ø324         Ø205       Ø301       Ø301         Ø206       Ø215       Ø215         Ø207       Ø212       Ø212							
Ø17Ø       Ø261       Ø261         Ø171       Ø257       Ø257         Ø172       Ø26Ø       Ø26Ø         Ø173       Ø215       Ø215         Ø174       Ø212       Ø212         Ø175       Ø301       Ø301         Ø176       Ø304       Ø334         Ø177       Ø304       Ø344         Ø20Ø       Ø322       Ø322         Ø20Ø       Ø322       Ø322         Ø20Ø       Ø304       Ø304         Ø202       Ø304       Ø304         Ø203       Ø301       Ø301         Ø204       Ø324       Ø324         Ø205       Ø301       Ø301         Ø206       Ø215       Ø215         Ø207       Ø212       Ø212							
0171       0257       0257         0172       0260       0260         0173       0215       0215         0174       0212       0212         0175       0301       0301         0176       0304       0304         0177       0304       0304         0200       0322       0322         0201       0240       0240         0202       0304       0304         0203       0304       0304         0203       0301       0301         0204       0324       0324         0205       0301       0301         0206       0215       0215         0207       0212       0212	0167	0240					
0172       0260       0260         0173       0215       0215         0174       0212       0212         0175       0301       0301         0176       0304       0304         0177       0304       0304         0200       0322       0322         0201       0240       0240         0202       0304       0304         0203       0304       0304         0203       0301       0301         0204       0324       0324         0205       0301       0301         0206       0215       0215         0207       0212       0212							
0173       0215       0215         0174       0212       0212         0175       0301       0301         0176       0304       0304         0177       0304       0304         0200       0322       0322         0201       0240       0240         0202       0304       0304         0203       0304       0304         0203       0301       0301         0204       0324       0324         0205       0301       0301         0206       0215       0215         0207       0212       0212							
0174       0212       0212         0175       0301       0301         0176       0304       0304         0177       0304       0304         0200       0322       0322         0201       0240       0240         0202       0304       0304         0203       0304       0304         0203       0301       0301         0204       0324       0324         0205       0301       0301         0206       0215       0215         0207       0212       0212							
0175       0301       0304       0304         0176       0304       0304       0304         0177       0304       0304       0304         0200       0322       0322       0322         0201       0240       0240       0240         0202       0304       0304       0304         0203       0301       0301       0301         0204       0324       0324         0205       0301       0301       0301         0206       0215       0215       0215         0207       0212       0212       0212							
Ø176       Ø304       Ø334         Ø177       Ø304       Ø344         Ø200       Ø322       Ø322         Ø201       Ø240       Ø240         Ø202       Ø304       Ø304         Ø203       Ø301       Ø301         Ø204       Ø324       Ø324         Ø205       Ø301       Ø301         Ø206       Ø215       Ø215         Ø207       Ø212       Ø212							
0177       0304       0304         0200       0322       0322         0201       0240       0240         0202       0304       0304         0203       0301       0301         0204       0324       0324         0205       0301       0301         0206       0215       0215         0207       0212       0212							
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