

WAR DEPARTMENT
 OFFICE OF THE CHIEF SIGNAL OFFICER
 WASHINGTON

September 18, 1937

MEMORANDUM FOR: Mr. David A. Salmon, Chief of Communications and
 Records Division, Department of State.

Pursuant to your informal request I have just completed the study of the degree of cryptographic security afforded by the cipher machine known as the Codatype which has been installed in your division by the International Business Machines Corporation for test and determination as to possible usefulness in State Department communications. The following is a summary report of the results of that study and of the conclusions reached therein:

1. It was agreed between us as a preliminary that it is fair to assume that, in actual service, practical considerations would require that a set of plug-board connections remain the same for a whole day's traffic and that only the two-dial settings controlling the initial point of entry of the three commutators and the initial point of entry of the 12-disc program device assembly be changed from message to message within the day's traffic.

2. In this case an enemy cryptanalytic staff would not know the wiring of the commutators, the positions of the pins on the program device, or the settings of the keying dials. Nevertheless, it can be stated that one day's traffic, if it consisted of say 40 - 50 messages, can be solved, although this solution might require one or two weeks by a well organized cryptanalytic staff. Its purpose would be not so much to learn the contents of these messages as to reconstruct the cam positions on the discs of program device and wiring of the commutators.

3. When the latter data have been obtained, the analysis of messages of any subsequent day's traffic would be particularly easy and could probably be accomplished within 6 - 8 hours. The purpose of this analysis would be merely to eliminate the effects of the daily change in plug-board connections. (The various dial settings are of no particular consequence in this machine.)

4. When the latter effects have been ascertained, individual messages can be read rapidly, though of course not nearly as rapidly as the machine can decipher them.

5. Based upon the foregoing premises, only 12 messages, all enciphered by the same plug-board arrangement but with different dial

settings, were requested for study. It was thought that possibly the cam positions on the program device and the wirings of the commutators were the same as had been found from a previous study of the machine, before the addition of the plug-board. Had this been true, the subsequent study would have required less time, but it was soon noted that at least the cam positions had been changed, if not the wirings of the commutators. Upon request, and in order to conform with the assumptions set forth in Par. 1 above, the cipher equivalents of 9,000 consecutive A's were furnished and from this text the effective cam positions were readily reconstructed. It also developed that the commutator wirings were unchanged and that the internal period for the checking circuit, namely 180 letters, coincided with the external check shown at the end of every 4th line. This indicated that the program device made a complete revolution in 180 letters, whereas before this period was 360.

6. Having the cam positions and the commutator wirings, only one of the 12 messages was selected for detailed study. This was the longest in the set, namely "No. 1130 from Paris August 9, Section One." It contains 9 periods of 180 letters. Applying the principles of solution devised to meet the situation, the plain-text of the first period was recovered and is attached hereto. In this process, some time was lost because of unfamiliarity with necessary procedure. This is always to be expected of an initial solution, but it can now be stated definitely that a second trial would undoubtedly yield solution of such a first period within the time indicated in Par. 2 above. This is hardly sufficient for confidential or secret messages.

7. The following conclusions seem warranted:

a. As regards its mechanico-electrical functioning, the machine appears to be highly reliable, speedy, and efficient.

b. The degree of cryptographic security afforded by the machine is relatively low, and certainly not sufficient for governmental confidential or secret messages.

c. The cryptographic principle upon which this machine is based is quite weak. In a final analysis it consists of but three primary mixed, reciprocal sequences. It is true that these sequences are brought into play in an irregular manner for an irregular number of sequent letters, and that the complete period is 19,000 letters. But this period is a resultant period; it is relatively very short compared as cryptographic periods go; and even then it is composed of but 18 different types of primary periods of only 180 letters each. The fact that there are two dial settings for each message, one with 25 different positions and the other with 50, is of no serious consequence from a cryptanalytic viewpoint.

d. It is doubtful whether anything can be done to eliminate the more or less fatal cryptographic weakness of this model and still retain a machine and cryptographic system which will be practical for the purpose for which intended.

William F. Friedman,
Principal Cryptanalyst.

ERYJERHPYRDYXGUDXBGVJJOJKGARLF	A
111222222223333322222111113333	1
AAABCCOCCDEEEFFFGHHIIJJJKKLLMM	2
REFERENCE-EMBASSYS-ELEVEN-FOUR	

KFFOBIGDAZLCTLMWMOUYRHVQXJVWUW	A
3222223333111112222211111111	1
MNNNOOOPP PRRRSSSTTUUVVWXXXY	2
TEEN-AUGUST-FOUR-EIGHT-PM-THE	

LTMPVDNIOPNYAZYAZYZEXGPGWKOLID	A
13333311111333333333222221111	1
YYZZZZZZZZZAAAAAABBCCOCCDDDD	2
FOLLOWING-IS-AN-ANALYSIS-OF-TH	

CRGZDACTFMZVGXODATFAZNIQGOKEYM	A
122222333322222222222111113333	1
DEEEEEFFFFFGGGGHHHHIIJJKKKKKKL	2
E-FRENCH-OFFER-OF-AUGUST-THIRD	

HDKBTXJFWBZFSPEHXMHFAPJEBEKKEP	A
3222222222233333111112222221111	1
LLLMNNNOOOPP PRRSSSTTTTTTT	2
-PREPARED-BY-THE-ACTING-COMMER	

JBTNZTHHYWTATEZTMCPSKQLPRVWZAY	A
1333331111111111333332222221111	1
UUUUUUUVVVVVWWWXXXXXXYYZZZ	2
CIAL-ATTACHE-AT-MY-REQUEST-PAR	

A 0 1 2 3 4 5 6 7 8 9 10

(14)

6 pencils

NO. 1130 FROM PARIS AUGUST 9 SECTION TWO.

38 NVOVU CEDNV NKIWI VUXSE LLAOD RDJDB SMXOR WJJQH WLPHO
 39 PSKPU BNIHE WOAIM XFPKG ZBZGB NRNTG MROTO ATAMM TYRGP
 40 VLTCE XRPKI OAORZ FYBRN FWFSY JRLLS DCGYM UGTAI HFUAO
 41 HVOJX KDI TN HXRHG FDGYU TUSFP VPLHL NRVUP RELPE HCUKE.
 42 ³³ SFEJO GDCIN ZQWZR APCDM UOBIL XBEMI RDAEF GUFSSZ JKTFSS
 43 JVXSV ZEXDK ZPXVT HKVKW ISBCN MUPNU LZXHH CDMTX DIVMU
 44 GKLWF LTFUD PZYNI MABST SINCL GFRZL QCSME JKLOU AIBDZ
 45 ZDMGO LWNOE PABVX FUBVF UBDGR KZPV⁶⁵ BDTFW PIUUX ERWOG.
 46 - BZKWY CWHZH DOCVJ OKBKW GCLJF ZRFAH ARKFS WOU EG YGTZN
 47 DZUNJ BFKOI HCIZB NDTAR VTMHR LHTVZ BLZGW NSXOL XVWGJ
 48 SDZVC VBKFG DWLOF JTRWR FLIYF SOBZF YGVLJ JRZIG LEZIK
 49 PJAHL ASMAO PKOJD FRNWZ YCFKM FRCOB XTWFV IIPVE HYHZL.
 50 HBVIC LND OY ZWGVU LWKTR GJERO GIVSY JLAJW ZLSGG OXENL
 51 JXDSF OKSPE HCDTJ TGGIE VLXLL ZZPVH TRRTZ EMXAP VLMYD
 52 CAECT SNBXA PCKZB SATHS WDMWR JKTLO XWDRD CPCNY MZFGT
 53 ³⁴ SHXZJ GYCLR PULXO LZGVZ IRPCD FMLHS TIMMO OBABR TMEIH.
 54 UDUOK XSXLU ZEOLT KPJMG WMVSJ WDEWI WXDEF RBYPK DBQXD
 55 OUXDG EUGCP FPFUD ⁶² OVBDC FWPCA CUDWA GPEEC XTFKL ZRJTJ
 56 ONCYZ EXLTK DAYPV NCCMK PMTOR YLENK JVDUS MLYJT LTUMR
 57 PNUOH WHITN CBRHP AHS AW RUF CZ JIIUP MDJFX RIJZM NLJHA.
 58 KJBWW CXIDJ ONCRW NCRDJ NUYNW RRGXD AHOMO LOBGZ OGESA
 59 XOXFS WFRLT YCHBB RXGRL VTEHD BKOAB SUZUW DTBDS XQLXH
 60 YOWKE MSPAH XDLBR UBR RJ

(12)

10 p. 10/10

NO. 1130 FROM PARIS AUGUST 9, SECTION FOUR.

61 GVENO SWSYF SLWMC NVMLG LBAZP IHPLY FPCZI KJYML SBSRO
 62 ISDRV XWJJY TZXCZ MLHWV NZBAG SVDFFA SIOVD BMCAH MKXWF
 63 GHOUV OWVMO VHRBW EXJUP JSUVG CKGJS ZJVLM GAYNA IXMMT
 64 IAJNG SLPRL YBAZP SGSUG IVNTD FWXBF YCVJI DFZRD FHPON.
 65 XVNYE AFWAB TZBWW EUCLM PTEGZ AYVJP VLGXJ MXOPO UHWUG
 66 WRDIL HEWFO ATZBN BNYJF WLTCG UGFND DMJLW KAZKL ATDLH
 67 QEYZB SMZFK GLNRI NLGIO CKLTZ QOBLR VXGFW BVJZC TPPAH
 68 KPYAH VANUM VRDJW HLILI DNDFG CKHEG EPPGY YYWBZ RDFGE.
 69 - VAEMI GRVIU TWJNU AEFIL SHTSM BPLRV JZDJG VYBWO XKNXC
 70 SUXNA KCRAF NHMDC VDXBO HTRIM XBTVB YONYO YFGEH YHTXO
 71 FGPNE FLYFF CFXKS FVTHK LESDZ JFEFX SATNK WLOIT OGLZW
 72 KTOHT OVRBD ZWJXT XCIZY IDZMO GUYGI HCGWU TDJBU DKEIG.
 73 HAIYS TGIUT RBHSR WONGZ CDKLU ORYXR LNZOX ETTGD ERSDA
 74 HYBWR WHJTH WEPAB YUVNJ HYOWL ZFAZA IBFYT MYAQZ JGJKA
 75 USEVJ ZFVMP SMXMN ECQPG MGCNE ZMWZK ELHJT BSNOZ DYPCB
 76 AIOKN ACVBD JWDES RWWAF SFROZ KFHTR FKNEG XGNMH JBSIG.
 77 - SIOLG SMTDR MDXXM IUTLH KAJSZ BRHHP NIUHM MPUKM AZIRV
 78 WVCMR SCYUH XJIZI FLRVT FIADX FVITN TEIAG NNPGW GOEDB
 79 DBLLF IZBSM BVREY ORNLG JPMON FZFKT AWESP ZJGJB LGCVS
 80 TBSPT ZCULG PZNOR WXJWH GYBFS JXEGJ FRGPN FHTWH CTXGT.
 81 MSDLK ZCGJZ RPHRU XSFPY JYLUH TDELN NURVR WDJTF WJYRA
 82 IWPAH WDWMD UHXBY VZVRT YMHKM PCIXH BTDBI GMIIX HSYVM
 83 NJNKC JBINZ SDFCP MYFKS PYEPJ ECZLC PZBYT EPXZC OGBAZ
 84 FDIYD IYZOP JFSZM PGDMG BPZYH EYUVZ OZZYE FGDZR NJVOH.

① 85 HXWVN SZZTH URSJU FLXGD IUNDZ WDLMX RVOOH TJYGG EFSBA
 86 NWZNH CTYLC YDBZB MIIER VYSLG⁷ UGT¹³XG TMOAF KBGCK GRMKQ
 87 FBZLR YNVOM BGAHL NBDCE FPGHI CXGKY TVYDE FWIWF MIPLR
 88 GDPZY TGZKN RVAGK OMKDE CLJAL ZTOCM WDJZG IFZRD GOSIN.
 89 GBHFS AIAXU NTKSB MHNSB JIGFM KOTOP JWGJF OXAPY WTNJG
 90 IXSFO LSYRF MGJDG OBFRE IECJW GLSBG ABGJG BVYYV JHSBC
 91 ZNTNO SQESK SXORX AOCRM RVHED MMTZT YJRTF CNODT RCCJP
 92 TLKYH LULIB OGVWJ VNAAAY XNDTK CSRCH FHMF B DNONZ HGOZR.
 ⑬ 93 MSRNE ESALH ZZIRA GKASI FNSCO YPPXB CJMVJ LXNPJ OBPJV
 94 PDAPA PMTIZ DSSTJ WZLDW FCGEU KNZTB PALIW JFIHG XUWNU
 95 FAFZP JOTBI DBXSD BBYFU CDXLD CMRYW CSREO PQXEM SCCTV
 96 BNVRK VZPAX ONXMN GJGIW MPIWL VZCLS YAFUG ZGEVF IJPOM.
 97 NHZWL CBKTY PJYYC LDCBE LBCTI BCIZH IWTWM BGUKM VBRDY
 98 MAHCD RERYX OAZOT BTNOW RXJUK GDWYA WAETS UTLUH MNWOP
 99 IWITZ PBXBS CDPNP HWNOL PEV FY JJHTX DUVVX

NO. 387 TO PARIS JULY 29.

⁵ UOEDC ¹⁰ AKMWA ¹⁵ ZMARS ²⁰ RHWBF ²⁵ AIHEK ³⁰ WRFLN ³⁵ LXTOZ ⁴⁰ OHVWI ⁴⁵ SGVBH
 BKKBE THBIW UF'BUI RDXNH UKYWN XZSOY ZOVXS BVMVP VCGMG⁹⁰
 IZYAE UKDFF NSVTR ECNLF YIERN ATOLA¹²⁰ JMEHF¹²⁵ XHJXK¹³⁰ CHTTB¹³⁵
 DZGWH ETXAB GVKHJ ZKWMI VFZOV RCCZX SHHCT KAUTY OVITE.
 LKJVC PBWOO HWERE IUYHR XEWIN XRWBI FMUNA KBRWF TUPED
 SVCDJ EYZCG ZNBUO DTVMP GDXOA SPYWC LKDXI OSYKG KSMUY
 JRGJK GSF EW EYVJV KADUT TOEYO MATEC OEVUH TECGT ZXASB
 FMBLW CUFUI WBXVI JNFIR UYUKO LBEEG HGWKI SZHXX ZZAUT.
 SLIPP SSHZR NNDLL NDPHK PNBOV FEWMR DUTLU WMBZS VXXWD
 ZZXYB NCDKN HURSO GVJHP ZNSDJ IKHAM WULZN BTAXP TLSVA
 LWHVJ KXREK NSNCW RASYA WHIZN DSYZT RFLZX LJMGV UACVA
 IFWGM WTYRL SAPBM AWHSF JSUNR SWPCO

7

TO THE AMERICAN CONSUL PARIS JULY 29, 6 P.M.

UOECT EWRMH BDXMK RDZYC PBNYT UDRVM EVRAA GXMHR HVIUU
YFOTE AIREP NKEUT HMTIS FFKXM YHTRE WIBPA KHZGE GFBL5
JNFKH BKHVH BRGJH UAXBG FCYWF GNDKY RTOWB JXTMG LCUVF
UHGBW SXPUR PRWJH UJCHN DLXXG UYNJV LBGSY MHZCO WDOPK.
KJORJ XYKAX KDOFI MLKML NUOSK PPYVG DDYSO CCHXW AYHUI
DVZBN TFXKS FJNLO TXBII UTEMZ DGTWX VBBOT CASOV IVGXY
NPIZT ERGLP STKNX JLUYK XTLLD ZWOLN QRHJE YNYXD VYRBO
MPOUZ GBFCL FTXBC BMHPL FBZSN FZNEH DTVGM KDDIJ HREWT.
KXDUO ADRW VECDC NGDWO WYAXV VLAEV KMMPF OYCKA ICRDJ
KDZZE PFVEC EBTZR YWVJC DDJKL NUDAR WOMMK VBTZI MSGZW
PRKLS SVUEE WCNFV CYDFE VFSAC GDSVS NFECK JABLH AADSK
EJFMF ZTHYX MVWXd XVTIG CHHME TFXNC HTYZD VJWKF BSZEZ.
XORCK ILPYF LFWVH HDMHU ISZGG TTNSL NWCJG RSKNU JNB5H
UTAIH DZXKN UEAMH EVESG JXAPR JHJLG VYLPW WBCLP AVPAE
STSKH GFWGF ELHFZ VFGWF YJGBO RHGTU OGHZU OWSUT BCIAW
HNBSR YJIUL HRXPW DPCTN JYIMO SCIWP LKNVH MTZLY ZCKUT.
FYGPO APKDN CAMBL JVHFJ MCPXU LRVGC JSTJU CJYUX YAWGW
YUOMM WRZIQ JSBFC UDBLF LUDTD GZCNJ DSEWJ UOJIZ KWMKS
KDDGF FRMOD JPHDK ERJVA VICTD FBTOT EMRYV

3

NO. 394 TO PARIS JULY 30

UBYSP OZWEU DAIR LIDKW GBXRP EIAZN CRWWH RGOAR WIZLN
EIZKL AFFYW FRXEX DVWAH SACNV DZXHG YLHOM YJKYZ DRBMU
FVWOO NXXNR GMOPJ VOWXU LFPGC WFAVF FMVVK LPKCC RKRNA
PWDEH PBHYD JVERM ATZYN IWJHE WFKTC UBENT GUKKU KAONR.
SHUHJ FGSZJ DEJCF RKPCK GBSLU JIEYB GESFL WDGND GJIVI
FVMMS GSTSM BCTHJ KXDWS BFEKX BICGI ZGABO LLMHO DZHUI
LKZWO VCCEC TAXGL NOMEI VLULG KEJGC ORILV NWBCY SNZDN
GWXZY NFJOK ZMMUB IYAZD OKNPP ULIPA WNCEV TTSXV VSAGM.
HYNNL GYTZB JTVSM ZFCRJ PJNOE KGFMY IHSPA RJMGB GGLFS
WRSDY ABYOF TTAMT HEWBH FWWBY RBNEV XJXDS ZNIWV MNWDD
KLZWS BMIWR OXKRG DIYHI MOPTC MZROX MPOBX MMPTL PKRWN
AVRNR ORJCA MFRYU NGIEL KFOSU FTCDT AGJSC KCFBW UYSPM.
FALZH VUBXO YZZGM RWTMR AALLB PVFRK GOCMW AGZWP BHILH
SLMEA ZPNJK DTHJJ PJHKP EYCDI JVWXR HEOHR LPLSZ LXFHX
DTHM JVFFT ESSXT KREIX OBWLF TAEZF HVNXV FJBNZ EWBFY
CFXFW YBTKY HVGCP RBGAT OUPNL HEJCN NTGXZ PAXLK INXBL.
UFYUI OGMCU TGRMO

A

NO. 397 TO PARIS AUGUST 2

FKXVF OGRAL VAVFY NESVF SWEE0 LEXBH EOZRF XXPCE LYGCO
GTWRM CLLFJ HFWJE GOKME FHFTY LSNDE UZSEJ NJBGN TPHYU
SICND BNJYU ARMKR IUNMP BKBLM DZSCM EXHNN CYHRJ DVGDC
TCJCL BFWCF KACGI SYWGH SFCIZ LJRKJ IWPWG JYVFR JGYXR.
JVTSR DVOFC NKVYN NJIUG MAXSD IOBXF PCEYA GIPOD MDMZW
FXKGT VOJNR VEVYR MGVIL FJAPW GICWD XGDTH EYRVD WRASK
BFXEU DNUVF ZAUBT LKBEW DIFUK SVOSL CUVXM ASXRC CWUSO
GMEVL MOOHS ENZVP AXVDK XWADP HROOM PLIJD EWRRN CCDCD.
ZKEYM VGMGY BGAZD TZMRB NPSPG CPTMS GUKRW KXXAT BFJTG
LPDPF KKERO LTYSA LBEHK MWGJF UHJCD PPUNT ZMVGU CLNME
XTZND IAABT CNRWV DLRMS VHKIU EFRON KYWDO ZNRCK OPRAX
NATJB JZENM IMCOK XMGMC GBPLR OCRVE MJKDJ TANWZ FCTHY.
KZSKY VFDOT ZHZOI FMSMH KNHOP ZLZUK TUJVR WBWRJ VPAAL
PNAJU HSKOX SXGNB GOYEH MCKZT IRDNB GFIGB ZZGOT AHATR
AYINC DYSKV PAGNS WKNYZ VMLNI GFWKD LXFYL ZLGGZ EOVJL
FCXGO IHXVW PAMBE LUHPT BZBZK LIKNJ PUYAG EWURN YHWOJ.
DEMAP OUWIV WKOBT CUAKM NWTID HGAUX FSRGA XVLVS EMZWK
GOMGX BXLRR WGKAZ AFNHZ YXSFO LPGER OTKTX MMCPS MGHFO
YEUMF DXHSI IURJA HASZU LLBSX OTBNY ASVFA XWNAC WNHMC
IUKWL CSSKB HUKMD SEWMG WOXPB JPASS RBDWR IMLAB JPFTY.
TZIHR CENEX DDVRF JYRFX



NO. 40I TO PARIS AUGUST 2.

LADPX FPTTW UXTPY BGTAG IBYVG OCLTI NLEGV NIEWE KKFRU
IUFpz ERKZF YIYYT PSGOK ZJFBR BSVEF IZFGY GVWZW TIOFN
NUWDK EYMTI GRNAE YHROC BRJOU AOSUU EGPVB GFCBB ZCLYD
DWZYF KTEIJ YOAVC VTMEP XADGG HFBMY AZTYA WKIOH MRNOF.
CTXCT LFPGP MZJLF HOKEH PWCOA ELCAY HCVLL MZSGU RNFRE
GMABH DTBZA UMUWI ZAKAL MZNTA CXDPM KXXMG ZDPLY LUCMZ
DKBKW FRCAM IJCES DJPOR SZRTH KXTJV CGKAY IWTLP AYBBT
KFGWZ KOSCK XONOF USCAX LJHAL GCKXT DZNET WXIRH PIXPJ.
FCYKL XGTJG JWKYA SRJTE JXSWP SYSID YZLNW SKXRW CWBAC
INDOY RKAJS JSKTT

6

NO. 405 TO PARIS AUGUST 3.

GZJUP CLBOY AOVGI PBHRA NDEVI ABSRT BRPVS FUNWK FOYMT
XPRJR HATUG DCSP0 TCVJG KOAIP LXNUL HIBRO WCWPJ FJGYM
LJV DV VKRNA JOE ZT FJVNB LEJUB NYZML NEXUY FKYIO LUFZU
YFILZ FCUDJ LBNGB PLYSA ZULGI OVVG F PYKZP HSDMG PKLAS.
WMXUB RGJWG OWRUA JDFMO UZLJV DRACZ ABBVK KJFNB CJFEM
ZOCZD LOMAI UZGIT JEOVG HMPAT EKTMO VMVRB KNWVJ RMLDL
IOYAY HHUJY VZWPG YBTLG CAYNT ZIDOS HSRJS TWYFA MEXNO
HEFAS UGYAH DWHJW RORBT NKVHE VWXPY HGAUI KNPVC RIPAM.
GWIPS RUWJA HDCND LUXBW YATYX GUFXH FNMMG BMUBM HPKSV
MBZMH VUSHJ LWKTA BDEMW RTWOV JACUE XYDCX AUXRL MJJIW
FGRLP DYDAS YMUCP YCYLI ZSVDI GYNBH KOWTE VWGRV AUOSG

7

NO. 412 TO PARIS AUGUST 5

SFBXA TFDZY KWIGG KYAFA RVSWS HEMUN SJSES UWCCI MRWEG
FZBGV RHPIS XZWCK LKXZI PASFG RNTIU GUZLZ MLLVU LSKTV
EJFVR LNWPD WBLMT NWNVA HCNDZ KXDBS KCRYI TFKUI XRGMC
JYUJR LHLVA ZYNJS TMYWW EDWZF WXLHC SPRLU HEECD CALYR.
BFQGV MYUOD AOHML EUNKI BTOHU XZDPI PARLF CIFLR IHVPI
IKMUL UOSHE PHKEM OIZKU MBVUW HZNVW GCDCW EOLPC LHGJL
VOAEH TFKSJ ZESPJ YBAYR NTQAT OOWXF HYAIA RELMI NVINT
CAKDV PERZT ZDXSL NAJXE WDIMZ SEQFH PZNNY GCVHN CPFUR.
HIDKF JNPET OIOAO CVFXV APAKJ STOYV LIIJH NZHNS HBRBJ
HKXLA OCJLG KWIDG CYAVD YCHIK BJIAE USLAY CYCWV KSTDA
XZYRE FRGIC VBSTI HKYVN HDHCY TVISH UOWOP SVXMS RVSGU
ASCIH BETZN OLCHE YZEAM COEWT UATRY JEKHD XTMAK FMGSX.
UNNSW TTKLT UFZUD ACEUK WGVKM HNDDBR OBBBS

NO. 424 TO PARIS AUGUST II.

2
2
2
2
2
6
 CRUAL DCDDT OEDSZ AYTBH KYZTN VBTZS AKMIU UTOOF AMYCK
 EMMIZ GPMDP ZDFXV UONAL RUFKO AFCSY AZNWF LCZDS WPJKR
 UFRFL IADNZ PPMHA HWPFW WHUCH ECKUE NKWGR MUCAE BITMD
 GMLRU FWMVE BUOLX VLZNE TNKEJ MHGPR YNOKR CCJLG HELBU.
 BMLPJ YDBSZ GABJK GRXNP DHWUY YJFKU CHYUS CXMFP VNOOW
 ZDZNH AAMUW GKPYP LSOFV DXOXN SNIYD KIBAH DKJAY IWLEY
 UTFJN GSBNA RAZGT FGFYE IHLUJ CHKFW ESGFR SWFNW FJDMN
 JZBYW GYEED ZNVDN VRYNV XTHOY RKJGU WJVGV CUWXN CKLIP.
 RSMDK VRLOY TJNXI VHFHO UMJZF CUDDZ UIFWJ CZEEN KKAXL
 KZVXA GYDTR GGDMW WPAWN AAHGB JUWJX ORNSN FKRYN MYRWF
 XJVAY VBHKB NSTFP NYCUA NNUBW MCWVH IUXKV EIGDC FNLRE
 IURWH OMDPH KVCWX KPOAT POPFX KZNZB EOTKM FHKBL GTBKP.
 LKFJC ZZJMU AYDYV BNIVF PSYUV CNRNI FGYPX RUNBV SUONI
 MCXHY HOPCW AEMBF KRLNZ JTEHK POGSN HXREF BKKWW

Communication Operations

1) A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
C H A J V U X B M D R W I O N S K P Y F E L G T Z

2) A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
B A J O G V E U R C L K T S D W I N M H F A T X Z

3) A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
R K T S T P J V M G B O I U L F A D C N H X W E Z

Alphabet REF ID: A4127215

ORSE YD

~~L D Y E B O A G H K R F X C N H Z V T J W P M I S~~

Answer 1150

L C Y H B T A W U M R S X D N E Z V O J G P K I F

- Old table
before
S.D.
Test

A 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 A

B 23 24 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 B

C 20 21 22 23 24 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 C

D 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 0 1 2 3 4 5 6 D

E 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 0 1 2 3 4 5 6 7 8 E

F 18 19 20 21 22 23 24 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 F

G 14 15 16 17 18 19 20 21 22 23 24 0 1 2 3 4 5 6 7 8 9 10 11 12 13 G

H 22 23 24 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 H

I 17 18 19 20 21 22 23 24 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 I

J 13 14 15 16 17 18 19 20 21 22 23 24 0 1 2 3 4 5 6 7 8 9 10 11 12 J

K 16 17 18 19 20 21 22 23 24 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 K

L 19 20 21 22 23 24 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 L

M 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 0 1 2 M

L C Y H B T A W U M R S X D N E Z V O J G P K I F

N 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 0 1 2 3 4 5 6 7 N

O 12 13 14 15 16 17 18 19 20 21 22 23 24 0 1 2 3 4 5 6 7 8 9 10 11 O

P 15 16 17 18 19 20 21 22 23 24 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 P

R 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 0 1 2 3 R

S 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 0 1 2 3 4 S

T 24 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 T

U 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 0 1 U

V 11 12 13 14 15 16 17 18 19 20 21 22 23 24 0 1 2 3 4 5 6 7 8 9 10 V

W 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 0 W

X 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 0 1 2 3 4 5 X

Y 21 22 23 24 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 Y

Z 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 0 1 2 3 4 5 6 7 8 9 Z

L C Y H B T A W U M R S X D N E Z V O J G P K I F

Alphabet 2

REF ID: A4127215

K B J U Y M T X H C A L S W F R E D Z O G I V P N
A 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 A
B 16 17 18 19 20 21 22 23 24 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 B
C 24 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 C
D 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 0 1 2 3 4 5 6 D
E 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 0 1 2 3 4 5 E
F 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 0 1 2 3 F
G 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 0 1 2 3 4 5 6 7 8 9 G
H 23 24 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 H
I 11 12 13 14 15 16 17 18 19 20 21 22 23 24 0 1 2 3 4 5 6 7 8 9 10 I
J 17 18 19 20 21 22 23 24 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 J
K 15 16 17 18 19 20 21 22 23 24 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 K
L 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 0 L
M 20 21 22 23 24 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 M
K B J U Y M T X H C A L S W F R E D Z O G I V P N
N 14 15 16 17 18 19 20 21 22 23 24 0 1 2 3 4 5 6 7 8 9 10 11 12 13 N
O 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 0 1 2 3 4 5 6 7 8 O
P 13 14 15 16 17 18 19 20 21 22 23 24 0 1 2 3 4 5 6 7 8 9 10 11 12 P
R 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 0 1 2 3 4 R
S 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 0 1 S
T 21 22 23 24 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 T
U 18 19 20 21 22 23 24 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 U
V 12 13 14 15 16 17 18 19 20 21 22 23 24 0 1 2 3 4 5 6 7 8 9 10 11 V
W 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 0 1 2 W
X 22 23 24 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 X
Y 19 20 21 22 23 24 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 Y
Z 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 0 1 2 3 4 5 6 7 Z
K B J U Y M T X H C A L S W F R E D Z O G I V P N

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Alphabet 2

C R V Y N F K B P U E H A T J S O X I Z M W L D G
 A 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 A
 B 20 21 22 23 24 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 B
 C 13 14 15 16 17 18 19 20 21 22 23 24 0 1 2 3 4 5 6 7 8 9 10 11 12 C
 D 11 12 13 14 15 16 17 18 19 20 21 22 23 24 0 1 2 3 4 5 6 7 8 9 10 D
 E 23 24 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 E
 F 18 19 20 21 22 23 24 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 F
 G 12 13 14 15 16 17 18 19 20 21 22 23 24 0 1 2 3 4 5 6 7 8 9 10 11 G
 H 24 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 H
 I 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 0 1 2 3 4 5 I
 J 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 0 1 J
 K 19 20 21 22 23 24 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 K
 L 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 0 1 2 3 4 5 6 7 8 9 L
 M 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 0 1 2 3 4 5 6 7 M
 C R V Y N F K B P U E H A T J S O X I Z M W L D G
 N 17 18 19 20 21 22 23 24 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 N
 O 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 0 1 2 3 O
 P 21 22 23 24 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 P
 R 14 15 16 17 18 19 20 21 22 23 24 0 1 2 3 4 5 6 7 8 9 10 11 12 13 R
 S 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 0 1 2 S
 T 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 0 T
 U 22 23 24 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 U
 V 15 16 17 18 19 20 21 22 23 24 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 V
 W 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 0 1 2 3 4 5 6 7 8 W
 X 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 0 1 2 3 4 X
 Y 16 17 18 19 20 21 22 23 24 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 Y
 Z 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 0 1 2 3 4 5 6 Z
 C R V Y N F K B P U E H A T J S O X I Z M W L D G

1 2 3 2 1 3 2 3 1

*Wheel No 1
Block No 1
Alpha 21*

BHBVP	MRWAA	ZCBAX	VFVCS	FNEFU	ZWAYT	NXSHU	ZFBHV	XPVDN
IFISU	PPLY	QUATH	DUANT	TODMA	YREME	NGER	TANDY	QUMAY
YCVTW	FCLWY	JKAZT	HIEGF	UZBDF	YBMOS	YBAZC	EWTXO	CRJUX
NOTPE	R110D	UT1F1	CANMA	KEYOU	THINK	ATHOU	GHTFO	RYOUR
YULSW	FRVEN	SLKTB	PMTXT	FXHCN	JACAM	YJXII	LERTX	VBRE
SELFIC	OMMA	HAVE	NORED	ADDED	TOYOU	RSTAT	UREPE	R10D

MESSAGE NO. 2

Wheel 1123
at start of ph
Block No 3

12321323

CHZLK VKRWY JXJZR UPTIA AMGDY VSSYO GVBUN BUEZT HFTCA
 ① THE AMERICAN PEOPLE COMMA IN COMMON WITH OTHER PEOPLE
 BBIRF XAYCW XRMGG RZEYA PTNNO SZNCS TGKRB GEZMA DHKGJ
 SO FTH EWORK DCOMM AHAVE COMMIA DURING THE ASTIN ELVEM
 IKLGM EZSSD EMORG WRJAL XWESJ FNZDL FNGRT RANKB JPZUN
 ONTHS COMMA COMET OADR WINDY REALIZ ATION OF THE NECES
 NISFY NYPGF YMIAR KJPSL TWYNM OURRM TJCAE GMHUZ EVIWU
 SITYF DRINT ERNBT IONAL ECONO MICCO OPERA TIONA STHEB
 WDNAJ GEIXK RRWZR UZMVR EIDPG PJNYR JNKFJ LGX
 ESTGU ARANT EEOFP ROSPE RITYA NDPEA CPER 103

MESSAGE NO. 1

- ALPH 1 - Black
- " 2 - Red
- " 3 - Green

Alpha 18
Wheel 2 at start but going into #3
Block #6

Wheel #1

ORMIS	GBNCH	FLDIX	EODCW	VPADY	NLXIB	JMHIR	SEJDX	FVEAS
ANEKE	CUTIV	WOFAN	EWENG	LANDM	ANUYA	CTURI	NGCOM	PANIC
3	2	5	3	2	5	4	3	4

Wheel #3

GWING	JIBUZ	TRSWA	VXJCP	HEXBW	GZFUM	XJLRB	ANZNE	KAEAS
0IMM	NCHEC	KINIC						
3	3	5						

BFWES EWXWS ODHCK ELKMH SKLZS TGWDL KLGCL SUDKD BNJCS

SWCCY SUDTV NFMBK SDRZN KBXPW YGFYI FTFCR KSCSN SXNRW

GBBUU YKMKE YRRKE FRACI HVDJL VGSHF WCZVU

OOARN	VENTA
EN	DUPON SDEFI

ZWCZR ZKMEG
NITEP ERIPD

MESSAGE NO. 3

1-4-6-10-14-15

2

4
Disk No 2
75 pins

¹ LLLCC ¹² YYYYY ²⁰ HUUUM ³⁰ MMMMT ⁴⁰ TTXXX ⁵⁰ XXXXX ⁶⁰ XXHHH ⁷⁰ QUEEE ⁸⁰ EEHHS
¹³ SSSSS ¹² WWWW ¹⁰⁰ FFRRE ¹³⁰ EEDDD ¹⁴⁰ DDDDD ¹⁵⁰ DDZZO ¹⁶⁰ OOGGG ¹⁷⁰ GGPPP ¹⁸⁰ KKKKK
¹³ KLLLL ¹⁴⁰ DPPNN ¹⁵⁰ NKKKK ¹⁶⁰ KBJJV ¹⁷⁰ YYYYY ¹⁸⁰ YYYYY ¹⁹⁰ NFFFF ²⁰⁰ FFFFK ²¹⁰ KWWWU
¹² UUUUM ¹³ MRRRR ¹⁴⁰ SSSSS ¹⁵⁰ SSSSS ¹⁶⁰ XXXDD ¹⁷⁰ DDNNN ¹⁸⁰ NEEZZ ¹⁹⁰ ZZZZZ ²⁰⁰ ZZZZZ
¹² VDZZZ ¹³ ZZZOO ¹⁴⁰ OOGGG ¹⁵⁰ IIIII ¹⁶⁰ VVVPP ¹⁷⁰ PIIFF ¹⁸⁰ LLLCC ¹⁹⁰ CCCCC ²⁰⁰ CCCYY
¹³ YYHHH ¹⁴⁰ HNNNN ¹⁵⁰ NNNFF ¹⁶⁰ FKKKK ¹⁷⁰ KKKKK ¹⁸⁰ KBBBB ¹⁹⁰ BPPPP ²⁰⁰ UMMMM ²¹⁰ MRRRR
¹³ SSHHH ¹⁴⁰ HHHHH ¹⁵⁰ AAAAA ¹⁶⁰ TTTTT ¹⁷⁰ TTTTT ¹⁸⁰ JJJJJ ¹⁹⁰ SSSOO ²⁰⁰ OOOXX ²¹⁰ XIIII
¹² IZZZ ¹³ ZZMMM ¹⁴⁰ MMMGG ¹⁵⁰ GGIII ¹⁶⁰ IIVVV ¹⁷⁰ VVVVP ¹⁸⁰ PPPPP ¹⁹⁰ PPPPN ²⁰⁰ NNNNN
¹ LLLCY ¹⁰ HBTA ²⁰ WUUM ³⁰ RSSSX ⁴⁰ SSWWW ⁵⁰ FFRRR ⁶⁰ EOXXI ⁷⁰ IZZM ⁸⁰ MMWWL
¹³ LLLDD ¹⁴⁰ PNNNN ¹⁵⁰ NKKBB ¹⁶⁰ JJJJU ¹⁷⁰ UYYM ¹⁸⁰ MMMMT ¹⁹⁰ TXXXX ²⁰⁰ HHHCC ²¹⁰ CAAAR
¹⁴⁰ RSSXD ¹⁵⁰ DDNNN ¹⁶⁰ NEZZZ ¹⁷⁰ ZZZVV ¹⁸⁰ OOJJJ ¹⁹⁰ JGGMW ²⁰⁰ WWLLD ²¹⁰ DDDGC ²²⁰ CRRRV
¹⁴⁰ JJJJU ¹⁵⁰ YYYM ¹⁶⁰ MTTT ¹⁷⁰ TXXXH ¹⁸⁰ CCCC ¹⁹⁰ AALL ²⁰⁰ LLLSS ²¹⁰ WWWW ²²⁰ SSSSO
¹⁴⁰ OOZVV ¹⁵⁰ VVOJJ ¹⁶⁰ JGGGG ¹⁷⁰ GPPPP ¹⁸⁰ VVPPP ¹⁹⁰ NNNKK ²⁰⁰ KKKBJ ²¹⁰ JUUUU ²²⁰ UYYMM
¹⁴⁰ MTTAA ¹⁵⁰ AWUUU ¹⁶⁰ UUUM ¹⁷⁰ RRRRR ¹⁸⁰ HAAA ¹⁹⁰ AATT ²⁰⁰ JSSSS ²¹⁰ SSOOO ²²⁰ OZVVO
¹⁴⁰ OOOOO ¹⁵⁰ JJJGG ¹⁶⁰ GWWW ¹⁷⁰ WLLDD ¹⁸⁰ DDDDG ¹⁹⁰ GGCCC ²⁰⁰ CRRVJ ²¹⁰ JJJUU ²²⁰ UYMMT
¹⁴⁰ XXXXX ¹⁵⁰ HHCAA ¹⁶⁰ ALLSS ¹⁷⁰ WWWW ¹⁸⁰ FFRZZ ¹⁹⁰ VVVOO ²⁰⁰ OJJGG ²¹⁰ GGPPK ²²⁰ IIFFF
¹⁴⁰ LLLKK ¹⁵⁰ BBJJJ ¹⁶⁰ JUUUU ¹⁷⁰ YMMM ¹⁸⁰ MTTT ¹⁹⁰ TXXXH ²⁰⁰ HHHHH ²¹⁰ HHHHC ²²⁰ QUUEE
¹⁴⁰ EHHHA ¹⁵⁰ TTTJJ ¹⁶⁰ JJJSR ¹⁷⁰ REEEE ¹⁸⁰ EDDDO ¹⁹⁰ OOOOJ ²⁰⁰ JJJJJ ²¹⁰ GGGPP ²²⁰ PPPKK
¹⁴⁰ KIIII ¹⁵⁰ IIIID ¹⁶⁰ DGGGC ¹⁷⁰ CRRRR ¹⁸⁰ RVVVY ¹⁹⁰ YNNNN ²⁰⁰ FFFFF ²¹⁰ MMMMM ²²⁰ ITBBB
¹⁴⁰ BBPPP ¹⁵⁰ PUUUE ¹⁶⁰ EEEEH ¹⁷⁰ HAAA ¹⁸⁰ AATTN ¹⁹⁰ NNNNN ²⁰⁰ EEEZZ ²¹⁰ ZZVVO ²²⁰ OOJJJ
¹⁴⁰ JJGGG ¹⁵⁰ GPPPP ¹⁶⁰ PPKKK ¹⁷⁰ PPPPN ¹⁸⁰ NNNNN ¹⁹⁰ KKKBB ²⁰⁰ JJJUU ²¹⁰ UUUBB ²²⁰ BBTTT
¹⁴⁰ AAWWW ¹⁵⁰ WUUM ¹⁶⁰ MRRRS ¹⁷⁰ SXXXX ¹⁸⁰ DDDJJ ¹⁹⁰ JJJSS ²⁰⁰ SOOOO ²¹⁰ OXXXI ²²⁰ IIIIZ
¹⁴⁰ ZMMM ¹⁵⁰ LLLDD ¹⁶⁰ DGGGC ¹⁷⁰ CLLCC ¹⁸⁰ YYYV ¹⁹⁰ YYNN ²⁰⁰ FFFFK ²¹⁰ KKKKB ²²⁰ BPPPP
¹⁴⁰ PUUUE ¹⁵⁰ EHHLS ¹⁶⁰ SSWWF ¹⁷⁰ FRRRR ¹⁸⁰ EEDDD ¹⁹⁰ DZZOJ ²⁰⁰ JGGGP ²¹⁰ PKKKI ²²⁰ IIFFF

Disk No 1

5

Wheel No 3

6

(6)

No 3
Wheel N=1
(16)

¹ LLLCY HBTAA ² WWUMC ALLLS SSWWW ³ FFFSS OOXXI IIZZM MMWWL
 LLLPP PNNNN NKKBB JJJJU HBBBT TTTTA AWWW UUPUU UEEEE
 EHAT TTJJJ JSOOO OOOXX IZZZ ZMMM WLLD DDDGC CCRRV
 VJJJU YYYM MTTT TXXH CCCC AALL LLLS WWFR RRRRE
 EEEDD DDZOO OGGGM MWWW LLDD GGGC CCCR VVYY YNNFF
 FFFKK KBPPP PPPM RRRR SSXX XDDD NEEEE EEZZ ZVVO
 OOOZZ OOOGG GIIII IVVPP PPPN NLLL LCCY YYHH HBTTA
 WWWW UUMEE EHAA DDDDN NNEEZ XXXII IZZGG GGIIV PFFFF.

No 6
(17)
Wheel N=2

¹ LLL²BB³ JJJJ⁴ UUYM⁵ MMMT⁶ TXXX⁷ XXXX⁸ XXHH⁹ CAAA¹⁰ A¹¹EHHA
 AAAAA TTTJJ JJSSE EEDDD DDDDV VVOOJ JGGG GPPP KKKKK
 KKKKK IIFG GCCC CRVV YYYYY YYYYY NFFF MMTT TXBBP
 PPPU UEEEE HHHH HHHH AAATD DNNN NEEZ ZZZZ ZZZV
 VVOO OOOJJ JGGG PIIII VVPP PPPN KKKBB BBCC CCCY
 YHHH HHBB BBTT TAAA AAACK KBBB BPPP PUUU UEEE
 HHHH HHHH AAAAA TDDD DDDT JJJJ SSSO OOOX XIIII
 IZZZ ZMGG GGGG GGIII IIVV VVVI IIIII IIIIF FFFFF.

No 5
(18)
Wheel N=3

¹ LLLL² CCYY³ YYHH⁴ BBTT⁵ MTTT⁶ TXXH⁷ H⁸PPP⁹ PPPU¹⁰ UUEE
 EHHH¹¹ WWFF¹² FFRR¹³ REEE¹⁴ EDDZ¹⁵ ZZZO¹⁶ OOOO¹⁷ GGII¹⁸ IIIVK
 KIIII¹⁹ IIIII²⁰ IFFL²¹ LCCC²² CYYH²³ HBBN²⁴ FFFF²⁵ FFFF²⁶ KBBB
 XXHH²⁷ HCCA²⁸ AAAAL²⁹ LLSS³⁰ SSWF³¹ FFFF³² RRRRE³³ EEDI³⁴ IZZZ
 ZZGG³⁵ GPPP³⁶ PPKK³⁷ IIIIF³⁸ NNNN³⁹ KKKBB⁴⁰ JJJU⁴¹ UUY⁴² YMMM
 TAWW⁴³ WUUM⁴⁴ MRRR⁴⁵ SXXX⁴⁶ TTTJJ⁴⁷ JJSS⁴⁸ SOOO⁴⁹ OXXI⁵⁰ IOOJ
 JGGP⁵¹ KKKI⁵² IGGC⁵³ CCRR⁵⁴ VVVV⁵⁵ YYNN⁵⁶ FFFT⁵⁷ TTTX⁵⁸ XHHH
 HCCA⁵⁹ ALLS⁶⁰ SSWF⁶¹ FRRR⁶² EEDV⁶³ VOOJ⁶⁴ JGGP⁶⁵ PKKI⁶⁶ IFFF.

This sequence
for 11 letters
name as for
alphabet (#1
#2 for 25
#3 for 8 letters etc) is
Block #4

Wheel #1

This seq
name as for
Block #3

Wheel #2

This seq
name as
Block #1

Wheel #3

¹ LLLCY HBTAA ² WXHCC ALLLS ³ SSWWW FFFRR EEDDZ ¹³ Z¹² IZZM MMW¹² V
_{3 1 1 1 1 2 2 1 2 1 3 3}
VVVPP PNNNN NKKBB JJJJU UYYYM MMMMT TXXWV UUUMM MRRRR
RHHAT TWFFF FREEE EEEDX IZZZ ZMMW WLLD DDDGC CLCCY
YYYYH BBBBT TAAAA AWWU MMMM RRSS SSSXX DDDNE EEEZ
ZEEDD DDZOO OGGGG GIIII VVPPP NFFLL LLLCY YHHH HBBT
TTTAA ABPPP PPUU EEEEE HAAA AATT JSSS EEZZ ZVVO
OOIII ZZZM MWWW WLLD DDDG GCCC CRRV VVYY YNFFK
BBBBB PUEE EHHSS WWWF FFRRE DDDZ ZOOG GGIV PPNN.
³ LLLCC ² YYYYY ⁵ HHH³ MM⁵ TTT³ XXX¹⁰ BB³ PPP² UEEEE EEHHA
AAASS WWFF FFRRE EEDD VVVV VOOJ JGGG GGWW LLLL
LLLLL DDDG GCCC CRVV YYYYY YYYYY NFFF FFFK KBBP
PHHC CAAAA LLLL LLLL SSSW WFFF FRRR EEEEE EEEED
DDZZ ZZZO OOGM WWW LLLD DDDG CCCR RRRR RRRV
VVYY YNNN NNNT TAAAA AAAAA AWWW WUUU UMMM MRRR
SSLL LLLL SSSS WWW WWW FN NN EEEZ ZZVV VOOO
OOJJ JGMM MMMM GGPP PPKK LLLD DDDP PPPN NFFF.
¹ LLLL⁵ ¹⁰ CCYY¹⁵ ²⁰ YYHH²⁵ ³⁰ YMMM³⁵ ⁴⁰ MMTT⁴⁵ ⁵⁰ KBBB⁵⁵ ⁶⁰ PPP⁶⁵ ⁷⁰ HHH⁷⁵ ⁸⁰ HHC⁸⁵ ⁹⁰ CCAA⁹⁵
ALLS WWFF FFRRE EZZZ ZVVV OOOJ JJJJ GGGP PPLL
LDDD DDD² PNNNK KBBB BJJJ YNNN FFFF FTTT AAWW
WUUU UMMR RRRS SXXX XXDN NNNN EEEZ ZZVO OOJJ
JGGG GIIII IIVV PPPN NFFF LLLC YVYY YYNN BTTT
AAWW WUUM MRRS SXXX DDDN NNNE EZZZ ZXXI IIII
ZMMW LLLD DGGC CCCR VVVV YYNN FFFK KKKK XHHH
HCCA ALLS SSWF FRRE ZZVV VOOJ JGGP PKKI IFFF.
~~LLLBJ UYMT XXHC ALLS SSWW FFRR EEDD ZZOO GMWL~~

1 2 3 2 1
14-10-9-28-27

4

Same as
Block #6
Wheel N^o 1
10

¹ LLLBJ UYMTT XXHCC ALLLS SSWWW FFFRR EEDDZ ZZOOG ³GMWWL
_{3 1 1 1 1 2 2}
 LLLDD DGGGG GCCRB JJJJU UYYT TTTA AWWW UUUM MRRR
 RSSXD DDNNJ JS000 OOOXX IZZZ ZMMW WLLD PPPNK KKRRV
 VVVVY NNNNF FKKKK KBBBP UUUUM RRSS SSSXX DDDNE EEEZ
 ZZZVV VVOJJ JGGGG GIIII VVPPP NNNKK KKKBJ JJUHH HBBTT
 TTAA AWUUU UUUM RRRRR SSXAA AATT JSSS SS000 OOXI
 IIIII ZZZMM MWWW WKKII IIIIG GGCC CRRV VVVY YNFFK
 BBBB PPUAA ALLSS WWWF FFRRE DDDZO OJJGG GGPPK IFFF.

Same as
Block # 7
Wheel N^o 3
11

LLLLL ₅ CCYYY ₂ YYUUU _{5 1} YMMM MMTT TXXH HHHH HHHHC CCAA
 ALLS WWFF FFFSS S000 OXXI IIZO OOOO GGGI IIVV
 VPPPI IIIII IFFFL CRRR RVVY YNNN FFFF FFFF TXXX
 XXHH HCCA AAAAL LLSS SSTT JJJJJ SSSO OOXI IZZZ
 ZMMM MWWW WLLL DDDDG GGGG CCCRR VVYH HHHB BBTT
 AAWW WHHC CAAAL LSSS WWFF NNNE EZZZ ZVVO OOOJ
 JGGGP KKKID DGGC CCCRR VVVY HHHB TFFK KKKK BPPP
 PUUUE EHHHA AATT JRRRR EEDD DZZO OGGI IVVK IFFF.

Same as
1
Wheel N^o 2
12

LLLCC ₃ YYYYY ₅ HHHBM ₃ MMMT ³ TTXB BBBB ² BBPH CAAA ALLS
 SSSS WWFF FFRRZ ZZZVV VVVV VVOO JJJGG GGPPP KKKLL
 LLLLL DDDGN NKKKK KBJJ UUUUY YYYYY NFFF FTAA AWWU
 UUUUM MRRR SSSS SSSS XXXDD DDNN NEEZ ZZZZ ZZZV
 VVOO ZZZO OGGG IIIII VKKI IIFF LLCRR RRRR CCCY
 YYHH HHHB BBTT TAAAA AAAAA AWWW WUUU UUUU UEEE
 HHHH HHHH AAAAA TTTT TTTT JJJJ SSSO OOOX DZZZ
 ZZOO OGGG GGGG GGIPP PPKK KKKI IIIII IIIIF FFFF.



Same as
Block 52
13
Wheel #21

LLLCY HBTAA WWHCC ALLLS SSWWW FFFRR EEDDZ ZZOOG GGIIV
VVVPP PNNNN NKKRR VVVVY YNNNF FFFMT TXXXX HHHCC CAAAA
ALLSD DDNNN NEZZZ OOOXX IZZZ ZMMM WLLD DDDGC KKBBJ
JJJJU YYYM MTTT TXXH CCUU EHHH HHAA TTTJS SSSSO
OOOX XXIZZ ZMMM MWWW LLDD GGGC CCLCY YYHH HBBT
TTTAA AXHH HHHCC AAAAA LLSS XXDD NEEEE EEZZ ZVVO
OOOO JJJGM MWWW WLLD DDDF FLLL LCRV VVVY YNFFK
BBBBB PUEE EHAA TWWF FFRRE DDDZ ZOOG GGIPK IFFF.

Same as
#4

14
Wheel #3

LLLLL CCYYY YUUU YMMM MTTT TXXH HHHH H³PPU UUEA
ALLS WWFF FFRRE REEEE EDDZ ZZZO OOOJ GGGP PPPK
KDDDD DPPP PNNK KBBR RVVY YNNN FFFF FFFF KAWW
WUUU UMMR RRRS SSXX XXDN NNNN EEEZ ZVVO OOJJ
JOGG GIIII IIVV PPPN NNNN KLLC YYHH HHHB BBT
AAWW WPUU UEEH HAAAA TTTJ JJSS S000 ZVVO OOOJ
JGMM LLLD DGGC CCCR VVVV YYNN FFFK KKKK BPPP
PUUE EHHHA AATW FRRR EDDD DZZO OGGI IVVP PNNN.

not block

15
Wheel #2

LLCC YYYYY HHHBT TTTA TTTXX XXXX X³PPP UEEEE EEHA
AAAA WWFF FFRRE EDDD DDDD DZZO OGGG GGIII VVVK
KKKK I I I F F LLLL LCYYY HHHH HHYY NFFF FFFK KBBB
HHHC CAAAA LLLL LLLL SSSW WFFF FRRRE EEEEO OOOX
XXOO OOOJ JJGG PPPP VVPP PPPN KKKB BBBB BBBJ
JYHH HHHB BBTT TAAAA KKKK KBBB BPPP PUUU UMR
SSSS SSSS XAAAA TTTT TTTT JJJJ SSSOE EEED DZZZ
ZZOO OGGG GGGG GGIII IIVK KKKI IIII IIIIF FFFF.

① | 8 | 2 | 3 | 2

123
213
23

NEWEN	GLAND	SDEAT	HTOLL	FROMR	AGING	WATER	SANDA	VALAN
VZEVJ	NRTIF	YLFMW	SRJAL	HXYZG	JVPDY	BOOLW	EZMSG	HGGIH
CHESH	MOUNTE	DTOT	TO NIGHE	VJMM	LATIE	MOS	RTS	ELIOUS
PNEIU	FTAUZ	DYEVN	ZOHEG	SEWTJ	OYYTN	IURIB	PHMBL	TOITB
FLOOD	SINCE	THEHU	NDRED	MILLI	ONDOL	LARDI	SASTE	ROFNI
XRBPV	EBLRH	ZDAZP	JCLLA	PXZZT	SYUOH	HWPXH	MJOLZ	PDUOR

JOHOJ PTHGK ARCKG KFXGT AMUXL YIHYN MHBUH ANXTW ZJKIT
 WCWDX HUETW FCZVF WHREA WEFEN VEFOL PZALX DENFH FULOM
 ROYHA WRZBM XEZIL EIWRW BWLSB HTPTI KRGEZ EQZAN VENZN
 FJEEI BSRVX ZXANP XJJDK CJGDO YWRZH VDYZW JDXGH VLGND
 BCITT CNFRA HKFEZ CJBBJ YSXL LTIMS CSJXG MGYPN HCEFL
 TAZOA EFFYJ JYMYA DUXOB KYBSI HPTPZ MBUHG LPIAI AMYKW
 UDDST JURZR MOGSW VANDO TCNTU UXBWA EMFWD VFXIE VZBWA
 EDBYO ENZJE PUTDA WUNMT YGPFJ SGM MY HDANJ XRLDK EITTJ
 BVOHG CPACA VSWML RVJTR FGALC UFKJL OKOSP MTXEY ITIPH
 NTPJR SXMDM WWMK MPXTT LWDXU LBLSM AWKIC JKNLO VJCHD
 IEBZG UOCCY DPNAI EAZKB GYNLV YIURW FUHDP BLULT LVKU
 WYBSA JZYNM OTJMG JUZSV GBDSM MNAWE SIMZS OVEZJ NJEEI
 CMPGY FZGJU ENALE ZCXLO XSOGV HRBWZ ZDCJS PVZIW ZJBXP.

NEW ENGLANDS DEATH TOLL FROM RAGING WATERS AND AVALAN-
 CHES MOUNTED TO FIFTY-NINE IN THE MOST SERIOUS
 FLOODS IN THE HUNDRED MILLION DOLLAR DISASTER OF
 NINETEENTY SEVEN COMM WHEN ONE HUNDRED TWENTY FIVE
 PERSONS PERISHED PERIOD THE DEAD ARE COLON HENRY ROY
 COMM THIRTY FIVE COMM DROWNED IN PISCATAQUOG RIVER
 COMM AGOSTON COMM NEW HAMPSHIRE SEMI COLONE EUGEN
 E HILL COMM SIXTY FIVE COMM KILLED IN A NAVAL ANCHOR
 CL EN COMM NEW HAMPSHIRE SEMI COLON SERAPHIN ANARDIC
 COMM AEGHT COMM BROCKTON COMM DROWNED WHEN A RAFT OVE
 R TURNED SEMI COLONE ZRAOBER COMM FIFTY COMM KILLE
 D IN A NAVAL ANCHOR NORTH JAY COMM NEW HAMPSHIRE SEMI
 COLON STEPHEN HART COMM THIRTY TWO COMM DROWNED AT G
 R O N COMM VERMONT PERIOD MORE THAN A SCORE WERE IN JU
 RED AS ICE HYPHEN CHOKED RIVERS AND TRIBUTARIES COMM
 FED BY RAPIDLY MELTING SNOWS AND TORRENTIAL RAINS COM.

5 10 15 20 25 30 35 40 45
 VZVJ NRTIF YLFMW SRJAL HXYZG JVPDY BOOLW EZMSG HGGIH
 NEWENGLANDSDEATHTOLL

50 55 60 65 70 75 80 85 90
 PNEIU FTAUZ DYEVM ZOHEG SEWTJ OYYTN IURIB PHMBL TOITB

95 100 105 110 115 120 125 130 135
 XRPV EBLRH ZDAZP JCLLA PXZZT SYUOH HWPXH MIOLZ PDUOR

140 145 150 155 160 165 170 175 180
 JOHOJ PTHGK ARCKG KFXGT AMUXL YIHYN MHBUE ANXTW ZJKIT

185 190 195 200 205 210 215 220 225
 WCWDX HUETW FCZVF WHREA WEFEN VEFOL PZALX DENFH FULOM

230 235 240 245 250 255 260 265 270
 ROYHA WRZBM XEZIL EIWRW BWLSB HTPTI KRGEZ EQZAN VENZN

275 280 285 290 295 300 305 310 315
 FJEEI BSRVX ZXANP XJJDK CJGDO YWRZH VDYZW JDXGH VLGND

320 325 330 335 340 345 350 355 360
 BCITT CNFRA HKFEZ CJBBI YSXL LIIMS CSJXG MGYPN HCEFL.

TAZOA EFFYJ JYMYA DUXOB KYBSI HPTPZ MBUEG LPIAI AMYKW

UDDST JURZR MOGSW VANDO TCNTU UXBWA EMFWD VFXIE VZBWA

EDBYO ENZJE PUTDA WUNMT YGPFJ SGMYY HDANJ XRLDK EITTJ

BVOHG CPACA VSWML RVJTR FGALC UFKJL OKOSP MTXEV ITIPH

NTPJR SXMDM WWMK MPXTT LWDXU LBLSM AWKIC JKNLO VJCHD

IEBZG UOCCY DPNAI EAZKB GYNLV YIURW FUHDP BLULT LVIKU

WYBSA JZYNM OTJMG JUZSV GBDSM MNAWE SIMZS OVEZJ NJEEI

CMPGY FZGJU ENALE ZCXLO XSOGV HRBWZ ZDCJS PVZIW ZJBXP.

VZFBVJ NRTIF YLFMW SRJAL HXYZG JVPDY BOOLW EZMSG HGGIH
VZFBVJ NRTIF YLFMW SRJAL HXYZG JVPDY BOOLW EZMSG HGGIH
PNEIU FTAUZ DYEVM ZOHEG SEWTR OYYTN IURIB PHMBL TOITB
PNEIU FTAUZ DYEVM ZOHEG SEWTR OYYTN IURIB PHMBL
XRBPV EBLRH ZDAZP JCLLA PXZZT SYUOH HWPBX MIOLZ PDUOR

JOHOJ PTHGK ARCKG KFXGT AMUXL YIHYN MHBUE ANXTW ZJKIT
WCWDX HUETW FCZVF WHREA WEFEN VEFOL PZALX DENFH FULOM
ROYHK WRZEM XPLLN IWRRH WFSBH TGTIP MGEZE QIANV ERZYF
JEEIK SRRXZ OANPX TJLKC JGCEO YWRZH VDYZW JDXGH VLGND
BCITT CNFRA HKFEZ CJBBJ YSHEL LIIMS CSJXG MGYPN HCEFL
SAZOA EFFYJ JYMYA DUXOB KYBSI HPTPZ MBUEG LPIBI AMYKW
UDDST JURZR MOGSW VANDO TCNTU UXBWA EMFWD VFXIE VZBWA
EDBYO ENZJE PUTDA WUNMT YGPFJ SGM MY HDANJ XRLDK EITTJ
BVOHG CPACA VSWML RVJTR FGALC UFKJL OKOSP MTXEV ITIPH
NTPJR SXMDM WWMK MPXTT LWDXU LBLSM AWKIC JKLNO VJCHD
IEBZG UOCY DPNAI EAZKB GVNLY YIURW FUHDP BLULT LUYKU
WYBSA JZYNM OTJMG JUZSV GBDSM MNAWE SIMZS OVEZJ NJEEI
CMPGY FZGJU ENALE ZCXLO XSOGV HRBWZ ZDCJS PVZIW ZJBXP.

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E HILL COMMASIXTY FIVE COMMAKILLED IN ANAVALANCHE AT
CLEN COMMANEWHAMPSHIRE SEMI COLON SERAPHI NANARDIC
OMMAEIGHT COMMABROCKTON COMMADROWNED WHEN A RAFT OVE
R TURNED SEMI COLONE ZRAOBER COMMALFIFTY COMMAKILLE
D IN ANAVALANCHE AT NORTH JAY COMMANEWHAMPSHIRE SEMI
COLON STEPHEN HART COMMATHIRTYTWO COMMADROWNED AT G
ROTON COMMAMONTVERMONT PERIOD MORE THAN A SCORE WERE IN JU
RED AS ICE HYPHEN CHOKED RIVERS AND TRIBUTARIES COMM
FED BY RAPIDLY MELTING SNOWS AND TORRENTIAL RAINS COM.

NEW ENGLANDS DEATH TOLL FROM RAGING WATERS AND AVALANCHES MOUNTED TO FIFTY ON EIGHT COMMpanies IN THE MOST SERIOUS FLOODS SINCE THE HUNDRED MILLION DOLLAR DISASTER OF NINETEENTWENTY SEVEN COMMpanies WHEN ONE HUNDRED TWENTY FIVE PERSONS PERISHED PERIOD THE DEAD ARE COLON HENRY ROY COMMETHIRTY ONE COMMADROWNED IN PISCATAQUOG RIVER COMMAGOFFSTOWN COMMANEWHAMPSHIRE SEMI COLONE EUGEN EHILL COMMASIXTY FIVE COMMAKILLED IN ANAVALANCHE AT GLEN COMMANEWHAMPSHIRE SEMI COLON SERAPHINONARDI COMM AEIGHT COMMABROCKTON COMMADROWNED WHEN ARAFTOVERTURNED SEMI COLONE ZRAOBER COMM FIFTY COMM AKILLED IN ANAVALANCHE AT NORTH JAY COMMANEWHAMPSHIRE SEMI COLON STEPHEN HART COMM THIRTY TWO COMMADROWNED AT GROTON COMM VERMONT PERIOD MORE THAN A SCORE WERE IN JURIED AS ICE HYPHEN CHOKED RIVERS AND TRIBUTARIES COMM FED BY RAPIDLY MELTING SNOWS AND TORRENTIAL RAINS COM.

2

^{3 1 1 1 2 2 1 1 3 3 2 1 3 2 2 1 1 3 2 3 2}
 LLLCY HBTAA WWUMC ALLLS SSWWT JJJSS OOXD@ @@OOG GGIV
 VVVPP PNNNN NKKEC YYYYH HBBBT TTTTA AWWW UUUMM MREE
 EHHAT TTJF FREE EEEDD @@OO@ @MMW WLLD DIIFL LLCCY
 YYYYH BBBBT TAAA AWWU MMMM RRSS SSSXX DDDNE EEEE@
 @@VY DD@OO OGGGG GIIII VKIII FFLL LLCRV VVYYY HBBTT
 TTTAA AWUUU UUUMM RRRRR SSXXX XXDDD NEEEE ES000 OOXI
 TIIII @MM MWWW WLLDD DDDDG GGCC CRRV VVYY UYMT

ABC

A

XXXXX HHCAA ALLSS WWDN NEE@ VVVOO OJJGG GGPPK IFFFF.
 LLLCC YYYYY HHUYM MMMT TTTXX XXXX XXHHH CAAA AALLS

B

ILLII VVVPP PPNMW WLLL LLLL LLDJU UUYYY YMMM TTTT
 TTTT LLLCC CYYYY FKBBB PPPPP PPPP UEEEE EEEHH REED
 DDDD@ @O000 GGGGG GGGGG IIXII IIOO@ @MMW WWWW WWWL

1 2 3 4 5 6 7 8 9 10 @ A B C D E F G H I J K L M
 L C Y H B T A W U M ≡ ≡ ≡ ≡ ≡ ≡ ≡ ≡ ≡ ≡ ≡ ≡ ≡

U Y M T X H C A L S I N O P Q R S T U V W X Y Z
 @ O G I V P N K B C ≡ ≡ ≡ ≡ ≡ ≡ ≡ ≡ ≡ ≡ ≡ ≡ ≡

11 12 13 14 15 16 17 18 19 20
 R S X D N E @ Y O J

G P K I F

47
360

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	@
W	T	Y	@	H	R	V	B	W	S	B	C	C	K	X	N		E	W	A	M	P	L	D	H		O
L	C	A	L	D	L	C	A	F	F	I	S	R	E	G	K		S	O	J	D	K	T	H	U		M
T	P	R	N	@	K	P	C	@	G		J	W	M	@	U		V	X	X	Y	Y	L	H	M		V
			G	S			U	X	U		T		J						X	Y	Y	L	H	M		V
			J				R												F	E	O	J			F	

~~AWUMC~~

GIFLC

GIFLCYHBTAWUM

MR

CALSWTJFRED@O

///

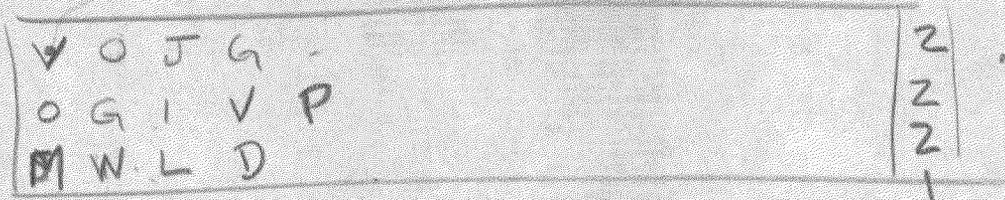
@MWLD

MTXHCA

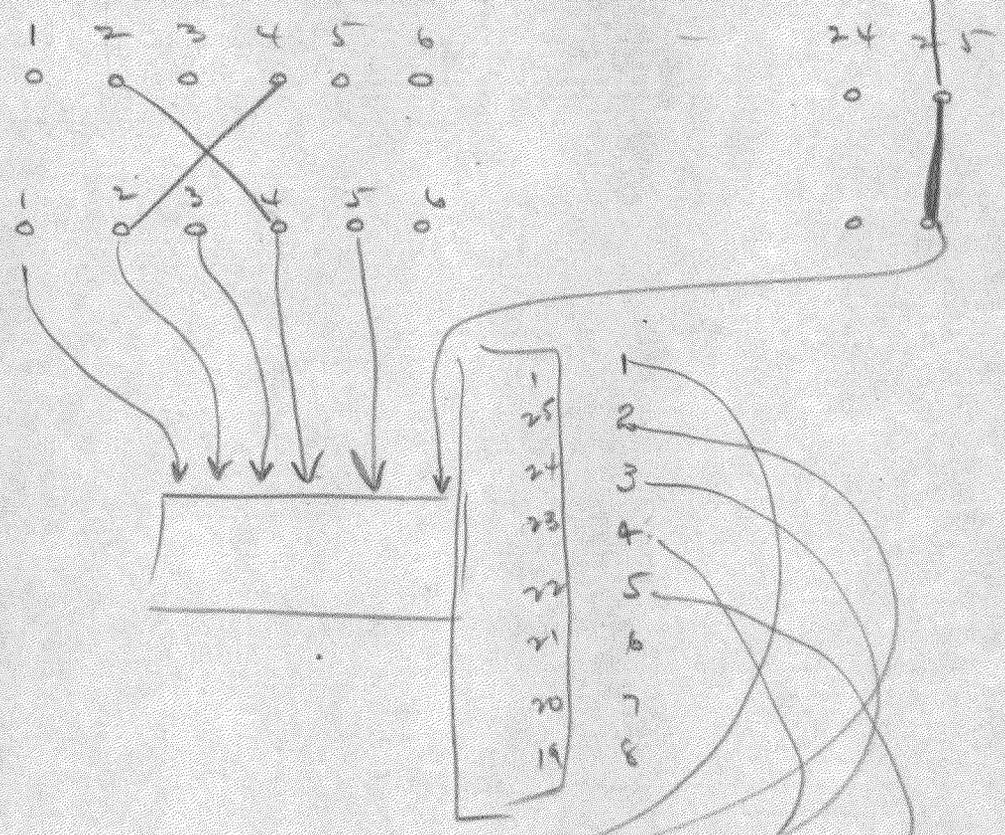
RSDNE[?]SOXI@MWLDGCRVYUJMTX

EHC RVYM

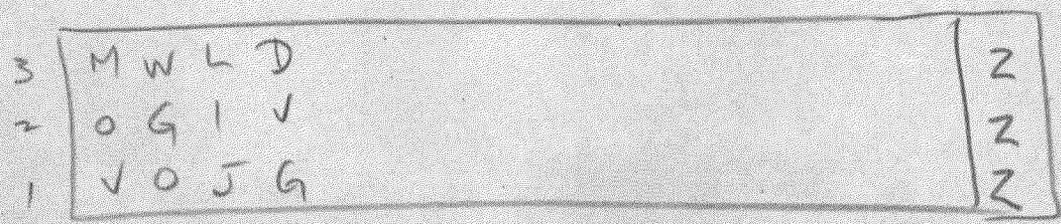
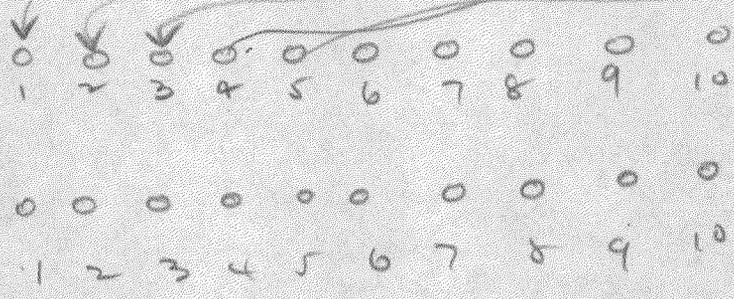
- 1.
- 2.
- 3.



Playboard



Playboard



1 2 3
 Determine
 type of stepping

4 5 6
 Determine sequence
 of commutators

Determine
 starting
 point of
 commutators

11
 Determine
 sequence
 of wheels
 1-2-3

12
 Determine
 sequence
 of wheels
 4-5-6-7-8-9

1
 25 pos.

3?

	0	1	2	3	4	5	6	7	8
0		A	B	C	D	E	F	G	H
1	E		F	G	H	I	J	K	L
2		F		G	H	I	J	K	L
3			G		H	I	J	K	L
4				H		I	J	K	L
5					I		J	K	L
6						J		K	L
7							K		L
8								L	
9									L
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									

Stepping Wheel No 1

New cam position
State Dept Post
Determined from
9000 depression of
A, with no playboard
connections interchanged.

Stepping Wheel No 2

	0	1	2	3	4	5	6	7	8	9
0	1	1	1	2	2	2	2	3	3	
1	3	3	3	2	2	2	2	1	1	
2	3	3	3	3	3	2	2	2	2	
3	2	2	2	3	3	3	3	1	1	
4	1	1	1	2	2	2	2	2	2	
5	2	2	1	1	1	1	1	3	3	
6	3	3	3	3	3	1	1	1	1	
7	1	3	3	3	3	2	2	2	2	
8	2	1	1	1	1	2	2	2	2	
9	2	2	2	2	2	2	3	2	2	
10	2	2	2	2	2	1	1	3	3	
11	3	3	3	2	2	2	2	2	2	
12	3	3	3	3	3	3	1	1	1	
13	1	1	1	2	2	2	2	2	2	
14	2	2	1	1	1	1	1	3	3	
15	3	3	3	3	3	3	3	3	2	
16	2	2	2	2	3	3	3	3	3	
17	3	3	3	2	2	2	2	2	2	
18	1	1	1	1	1	2	2	2	3	
19	2	1	1	1	1	1	1	1	1	
20	1	3	3	3	3	2	2	2	2	
21	2	2	3	3	3	3	3	1	1	
22	1	1	1	2	2	2	2	2	2	
23	2	2	2	2	1	1	1	1	3	
24	3	3	3	3	3	3	1	1	1	
25	1	1	3	3	3	3	3	2	1	
26	1	1	1	1	2	2	2	2	2	
27	2	3	3	3	3	3	3	2	2	
28	1	1	1	1	1	3	3	3	3	
29	3	3	2	2	2	2	2	3	3	
30	1	1	1	1	1	2	2	2	2	
31	2	2	2	1	1	1	1	1	1	
32	1	1	1	3	3	3	3	3	3	
33	3	1	1	1	1	1	1	1	1	
34	1	3	3	3	3	3	3	3	2	
35	2	2	2	2	2	1	1	1	1	
36	1									

5A 5A

5B

5

5C

5D

5E

5F

6A

6B

6C

6D

6E

6F

Distribution of the three alphabets by block types

REF ID: A4127215

	0	1	2	3	4	5	6	7	8	9
0		1 ₂	1	2 ₁	2	2	2	3 ₀	3	3
1	3	3	3	2 ₃	2	2	1 ₅	1	1	1
2	1	3 ₃	3	3	2 ₀	2	2	2	2	2
3	3	3	1 ₆	1	1	1	1	1	2 ₉	2
4	2	2	2	2	2	2	2	1 ₇	1	1
5	1	1	1	1	3 ₀	3	3	3	3	3
6	1 ₃	1	1	3 ₁	3	3	3	3	3	3
7	2 ₃	2	2	1 ₈	1	1	1	1	1	1
8	1	2 ₇	2	2	2	2	2	2	3 ₄	3
9	3	3	2 ₉	2	2	2	2	2	2	2
10	2	1 ₈	1	1	1	1	1	1	1	3 ₀
11	3	3	3	3	3	2 ₈	2	2	2	2
12	2	2	2	3 ₁	1 ₇	1	1	1	1	1
13	1	2 ₂	2	2	2	2	2	2	2	2
14	2	2	2	1 ₆	1	1	1	1	1	3 ₇
15	3	3	3	3	3	3	1 ₇	1	1	1
16	1	1	1	3 ₇	3	3	3	3	3	3
17	2 ₉	2	2	2	2	2	2	2	1 ₃	1
18	1	1 ₁	1	1	1	2 ₃	2	2	3 ₀	3
19	3	3	2 ₅	2	2	2	2	1 ₆	1	1
20	1	1	1	3 ₀	3	3	3	3	3	2
21	2	2	2	2	3 ₆	3	3	3	3	2
22	1 ₅	1	1	1	1	2 ₉	2	2	2	2
23	2	2	2	2	1 ₆	1	1	1	1	1
24	3	3	3	3	3	3	3	3	3	3
25	1	1	1	1	1	1	1	3 ₂	3	2 ₀
26	2	2	2	2	2	1 ₅	1	1	1	1
27	2 ₄	2	2	2	2	3 ₅	3	3	3	3
28	2	2	2	2	1 ₉	1	1	1	1	1
29	1	3 ₅	3	3	3	3	2 ₂	2	3 ₁	1 ₉
30	1	1	1	1	1	1	1	1	2 ₉	2
31	2	2	2	2	2	2	1 ₅	1	1	1
32	1	3 ₉	3	3	3	3	3	3	3	3
33	1 ₈	1	1	1	1	1	1	1	3 ₀	3
34	3	3	3	3	3	3	3	3	2 ₉	2
35	2	2	2	2	2	2	1 ₅	1	1	1
36	1									

3A

3B

3

3C

3D

3E

3F

4A

4B

4

4C

4D

4E

4F

Distribution

	0	1	2	3	4	5	6	7	8	9
0	1 ₃	1	1	2 ₈	2	2	2	2	2	2
1	2	2	3 ₅	3	3	3	3	2 ₅	2	2
2	2	2	1 ₅	1	1	1	1	3 ₅	3	3
3	3	3	2 ₅	2	2	2	2	3 ₅	3	3
4	3	3	1 ₅	1	1	1	1	2 ₅	2	2
5	2	2	1 ₁₀	1	1	1	1	1	1	1
6	1	1	3 ₅	3	3	3	3	1 ₅	1	1
7	1	1	3 ₁₀	3	3	3	3	3	3	3
8	3	3	2 ₅	2	2	2	2	1 ₅	1	1
9	1	1	2 ₅	2	2	2	2	3 ₅	3	3
10	3	3	2 ₁₀	2	2	2	2	2	2	2
11	2	2	1 ₅	1	1	1	1	3 ₅	3	3
12	3	3	2 ₁₀	2	2	2	2	2	2	2
13	2	2	3 ₅	3	3	3	3	1 ₅	1	1
14	1	1	2 ₅	2	2	2	2	1 ₅	1	1
15	1	1	3 ₅	3	3	3	3	1 ₁₀	1	1
16	1	1	1	1	1	1	1	3 ₅	3	3
17	3	3	2 ₅	2	2	2	2	1 ₄	1	1
18	1	1 ₄	1	1	1	2 ₁₀	2	2	2	2
19	2	3 ₄	3	3	3	2 ₆	2	2	2	1 ₆
20	1	1	1	1	1	3 ₁₀	3	3	3	3
21	3	2 ₇	2	2	2	3 ₁₀	3	3	3	1 ₃
22	1	1	2 ₆	2	2	2	2	2	1 ₃	1
23	1	3 ₁₀	3	3	3	3	3	1 ₄	1	1
24	1	3 ₇	3	3	3	3	3	3	2 ₆	2
25	2	2	2	2	1 ₉	1	1	1	1	1
26	1	1	1	2 ₆	2	2	2	2	2	3 ₇
27	3	3	3	3	3	3	2 ₇	1 ₈	1	1
28	1	1	1	1	1	3 ₅	3	3	3	3
29	2	2	2	2	2	2	2	3 ₁₀	3	3
30	3	3	3	3	3	3	3	1 ₆	1	1
31	1	1	1	2 ₇	2	2	2	2	2	2
32	1	1	1	1	1	1	1	1	1	3 ₄
33	3	3	3	1 ₉	1	1	1	1	1	1
34	1	1	3 ₁₀	3	3	3	3	3	3	3
35	3	3	2 ₈	2	2	2	2	2	2	2
36	1									

3³ 3⁴

1 A

1 B

1 C

①

⑥

180

Handwritten signature

2 A

2 B

②

2 C

2 D

2 E

2 F

2 F

20 per 829

Stepping
Wheel

	1	2	3	4	5	6
1	X	X	X	X	X	X
2	X	X	X	X	X	X
3	X	X	X	X	X	X

1	11 -	19	115 -	37	26
2	22 -	20	31	38	12
3	33 -	21	25	39	35
4	24 -	22	11 -	40	24 -
5	15 -	23	24 - A	41	11 -
6	36 2	24	16 B	42	25
7	14	25	34 C	43	31
8	23	26	26 D	44	23
9	31	27	12 E	45	14
10	16	28	36 F	46	32
11	32	29	14 G	47	21 ✓
12	21 A	30	22 - H	48	13
13	12 B	31	33 - I	49	22 -
14	34 C	32	21 ✓ J	50	36 -
15	25 D	33	13		
16	13 E	34	32		
17	26	35	23		
18	35	36	35		
19	15				

	1	2	3	4	5	6
1						
2						
3						

22/33 - 2
11/24 + 24/4

36-14

123 213 231 213 132

Stepping
Wheel
Ceph.
Seg.

I

Stepping
Wheel

1 - LLOBJ JUYYY YFFKB HXXHC QRRRR SATTT IWFFF TSSSO QVOOJ 45
 JOGGG GPPPP PKKKI DDGGG GLLLL LRRRR RRVVV VJJJU UHHHH 1
 HUYYY YNFFF RMMPT TTXXX HUMMM MUURE ELLLS SSWWW WJJJJ 135
 SEEEE ZERRE DVVVV OIIIZ ZJGGG GGGPP FLLLL DPPP, NFFFF 180
 2 - LLOJ JJUUY NFFFM TXHUU MMMME EHHAA SWWWJ JJSSE ZEEDD 225
 DZOJJ ZMMWW LKKII DDDGG GGNIN NNKLL LLLLC CYJJJ JUYYY 270
 YNNNN YTTTT TAAAK BBBBH HCCAA AEEEH HHHAA TDDNN MNRRR 2
 RRRR ZVVVO OOOI, ZZJJJ JGGGG GWWW WWWWL LVVVP PPNF.
 3 - LBBB JVYYY NNNYY TTTTA KKBXH HHHHU URRSS SSISS SWWWW 45
 NEEEE ZZZQX XXIZJ JGMMM WWWLV VVKII IIIIF NNNKK KBRVV 90
 VUUUU YYYYY TTTTT TAAKK KKBXX XXXXX XHPUU UUMMM CAAAA 135 3 3
 AALSS SSXXX XDRJS SSSOO VVVVO OJZZM MMWWI IVVPP PPIFF 180
 4 - LLOJ JUYYN NYMMM TWUUU MUURE EHHSS SWWVJ JJSSE ZZZVD 275
 DZZOO OGGPP KKKID DDDGG GGGGG FLLLL LCKKB BJJJY YHHHU 270
 UYYYY NFFFM MTTAA WWWU PUURE AAERS SSSXX DDWFF FRRR 315 2 4
 EEEEE OXXXI IIIIO JJJJJ JGMMM MWWW WLVV VVVVP IIPFF 360
 5 - LLOBJ JUNNN NFETX XWUUU UEEEE LSWWW WJJJJ JEEZ ZVOZO 45
 OGGG GPPPP PKLLD DDGGF ELLLL QRRRR BJJJJ YYYX UUUU 90 1 5
 UYYYY NYMMM MMTAA ABBB, PCC CCGAE EHHHA XDDD DNNFF 135
 6 - RRRRR EZZZZ VVXXX IILIZ ZZMGG GGGWW WLLLL DPPP NNNNF 160
 LLOCC JJJYU BBBB, TTTTA KKBHP HHHHC QEEHH HHSXX XDWWW 225
 FRRRR EEEZV VVOZZ ZMMMM PPKK KLLD DDPT FFFLK KBBJJ 270 3 6
 JYYYY NNYYB TTTTT FKKKK KTTXX XBBB WUUU HHCC CRRR 315
 RRRSS SAAAA ATTJS EEEZZ VVVVO IZZZM MMWII IVVPI IIIFF 360

1 1

2 2

3 3

2 4

1 5

3 6

Stepping
Wheel

Alphabet
Sequence

7- ¹LLCC²J³ ¹JUN²NNN³ ¹NMM²TX³ ¹XWW²UM³ ¹MR²EE³E⁴ ¹HA²TWW³ ¹WW²FJJ³ JSSSZ ZV000
 OOGGG GIPPP PKKKD DDGGG GCCCC LCCCG CRVJJ JJJJH HHHHU
 UUYYN NNFFM MMMAA AAWWW PPUUU CCURR RSSSX XXWWW WFFFF

1

4

(4)

8- ¹LL²KBJ³ ¹JV²YYN³ ¹NN²MMM³ ¹AW²UUU³ ¹UU²U³CA⁴ ALLSA ADDDN NNRRR EEEDD
 DOOJJ JGGWW LLLDI IIDGG GGGGN NNLLL LLLLC BJJJJ JUYYY
 YYYYY YMMMM TAAAA WWBPP PUUEA AAAAL LLHXX DDDNN FFRRR
 RRREZ ZVVVO OOOII ZZZZZ JGGGG GPWWW WWWVV VVVVP PFFFF

2

3

(5)

9- ¹LL²QBB³ ¹JJJ²UU³ ¹YNN²NNN³ ¹FMM²PT³ TAWWU UPPPU UAALL LHHA AADDD
 NFRRR EZZZV VVOJJ JMMMM WPPKK KLLDD DDDDG GNNKK KCCYY
 YUUUU YNNNN FMMMM MTTT TAAWW WBBBB BHHH HHCC CUEEE
 ERSSS SLSSS SDDNE ESSOO XVVOO OJJJG GMWWV WVVPP PIIFF

3

1

10- ¹LL²CCY³ ¹JU²YNY³ ¹BTT²AW³ ¹WW²UM³ ¹UE²EE³E⁴ ¹LS²WW³ ¹WT²JJJ³ ¹JSE²EZ³ ¹ZV²ZO
 OOGGG GIIPP PKKLD DDGGG FLILL LRRRR RRJYY YYYU UUUU
 UYNNN NMMPT TTTAA KBBBB PHCC CUER RSSS SSWW WFNNN
 EEEEE ZZOOO XXXXX OOOOJ JGGGG MMMW WLLV PPPPI PFFFF

1

6

(6)

11- ¹LL²CCB³ ¹JJJ²UU³ ¹NN²NNY³ ¹MM²PTA³ ¹AA²WP³ ¹PP²PU³ ¹CA²ALH³ ¹HH²HXX³ ¹XW²WW
 FFE²EE³ OOOOX XVOJJ ZMMMM WWIV VVVII IIIIF FFNKK KBBV
 VYYYY YBBBB TTTT FKKKT TTTX XBBBB BPPP PUMM MAAA
 AALLS SSXXX XDDJS SSEZZ VVVO OZZZM MMWW WVVPP PPNF

3

2

(7)

12- ¹LL²LBJ³ ¹JJU²UY³ ¹YN²FFF³ ¹KX²HHH³ ¹CM²MR³ ¹RH²HAA³ ¹AW²WF³ ¹FJ²SSS³ ¹OZZ²V
 VZZOO OGGPP KKKII IDGG GFFFF FGCC CCCR RJJJ JHHH
 HYYYY YFFFF FTTTT XXXXH HMMRR REEH HLLS WWWF FJSS
 SEEBZ ZDDZ ZOOO JZZZ ZGGG GPPP PWWL LUVV PIFF

2

1

Stepping
Wheel
Capn
Seq.

3

13- ¹LLCCJ² ¹JUYY² ¹NFFK² XXXUM MRRRE HATTT WFFFJ JSSEZ ZDZZO
 OOGGG MWWW WKKKI DDGGG GCKKK KBBCC OCYYY YJYJU UUYUY
 YNNNN YBTTT TTTAK KKBXX HHCCC CUUEE EHHHA AXDDD DNFFF
 RRRRE ZZZZZ VVVXX IIOOJ JGGGG GMMWW WLLLL DPPPP NNNNF.

1 2

7

14- ¹LLCCB² ¹JJVY² ¹NYYY² MTTTA AABBP PPPHC CAAHH HHHAX XDDDDW
 PFRRR EEZZV VVOJZ ZMMMM WWLIL KKKII IDDPN NNNKL LCCYJ
 JUUYU NNNNY MMTT TAAAA KKKBB XXBWW WUUUU UCCCC CAAAA
 RRSSS HAAAA ATTJE EEEZZ VVXII IZZZM MMIII IVVPP IIIFF.

3 4

15- ¹LLCB² ¹JJY² ¹NNFM² ¹TXU²UUP UUUUE ALLSS SWTTJ JNEEE ZZZDD
 DZZOO JGGPP KKLDD DDDGF FFFFF GGCCC KKKKB CYYYY JUUUU
 UYYYY NMMMM MTTTA WWBBP PUGAA AAAAH HHHAA DDDNN NNERR
 RRRRE EVVVO OOOIII ZZZZZ ZMMGG GPPWW WWWL LLVVP PPNNF.

2 5

8

16- ¹LLCB² ¹JYNN² ¹NFMT² ¹WWUM² UEBAA LSWWT TDNNN NERRE EDZZO
 OJGGG GPPFW WLLLL IIGGG GCOCK KBCCC CCYYY JJJJU UUYUY
 YUYUY YMMMM TTTAA AAWBB PPUUC CCAA ALHSX XXDDD WFFFF
 RRREE ZZZZZ VVVXX IIIIZ JGGGG GGMWW WLLLV PPPP NNNFF.

1 3

17- ¹LLCY² ¹JJUYY² ¹BBTTT² ¹AWUU² UUUUE ALLSS STTTJ JNEEE ZZEDD
 DZZOO OGGPP KKKDD DDDGG FFFFF FGCCC CCKLC CYYYY JUUUU
 UNNNN NFMMP TAAAA BBBBP PCAA AEEES SSSXS WWFF FFEES
 EEEZZ ZVXXI IIIII JJJJJ JGGGG MWWW WWIV VVVI IFFFF.

2 6

9

18- ¹LLCB² ¹JJVY² ¹NNNY² ¹MMTK² KKBPP HHHHC CAEHH HSSXX XDDWW
 FFRRR ZZZZV VVIZZ ZMMMG PPPK LLDD PPPN PFFLL KBBJJ
 JUUUU NYYYY MMTT TAKK KKTXX XXXXB BPPPP UUMMM MMRAA
 AALLL LSXXX XDTJS SSSOO XXXOO OJJZM MWWW WLVP PPPNF.

3 5

Jeppia
Wheel Alph
Seq.

19
Hand
⑤

LLC²BJ J³UN³NN N²FT²TX X¹XW¹UU UEEEE LSWWW WJ²JJ JEE²EZ ZVOZO
OOGGG GPPPP PKLLD DDGGF FL²LLL CRRRR BBJ²JJ YYY²YH UUUUU
UUY²YY NY²MMM M²MTA AABBB P²CCC C²CAE E²HHHA X²DDD D²NNFF
RRRRR EZZZZ VVXXX I²IIIZ ZZMGG GGG²WW W²LLL DD²PPP N²NNNF.

1 5

20

LLCBB JJJU YNNNN F²MMT TAWWU U²PPU UAALL LH²HAA ADDDD
N²FRRR EZZZV VVOJJ J²MMM W²PKK KL²DD D²DDG G²NNKK K²CCYY
YUUUU YNNNN F²MMM M²TTT TA²AW W²BBB B²HHH H²CCC C²UEE
ERSSS SLSSS SDDNE ESSOO X²VVO O²JJG G²MWW W²VPP P²IFF.

3 1

21

LLLBJ JJY²N N²NFMM TXUUP UUUUE ALLSS SW²TJ J²NEE ZZZDD
DZZOO JGGPP K²KLDD D²DDG F²FFFF G²CCC K²KKKB C²YYY JUUUU
U²YYY N²MMM M²PTA W²BBP P²CAA AAAAH H²HAA D²DNN N²NERR
RRRRE EVVVO O²III ZZZZZ Z²MGG G²PPW W²WWL LL²VVP P²NNF.

2 5

22

LLC²BJ JU²YYY Y²FKB B²XXHC CRRRR SAT²TT TW²FFF F²SSO OVOOJ
JOGGG GPPPP P²KKKI IDGGG GL²LLL L²RRR R²VVV V²JJU U²HHH
HU²YYY Y²NFFF F²MMT T²XXX HUMMM MU²EE E²LLS S²SWW W²JJJ
SE²EE Z²EE D²VVV O²IIIZ Z²JGG G²GPP P²LLL D²PPP N²FFF.

1 1

23

LLC²J JJY²N NY²MMM TW²UU MU²EE E²HSS SW²TJ J²SSE ZZZVD
DZZOO OGGPP K²KID D²DDG G²GGG F²LLL L²CKB B²JJY Y²HHU
U²YYN N²FFM M²TAA W²WU PU²EE AAERS S²SXX DD²FFF F²RRR
E²EEZ O²XXI I²IIIO J²JJJ J²GMM M²WWW W²IIV V²VVP I²FFF.

2 4

24

LLCCY JU²YNY B²PTAW W²WUM UEEEE LSWWW WT²JJ J²SEEZ ZVZZO
OOGGG GI²PP P²KLD DDGGG FL²LLL L²RRR R²RJY Y²YYU UUUUU
UY²NNN N²NMT T²TAA K²BBB P²CCC CU²ER R²SSS S²SWW W²FNN
E²EEE Z²ZOO X²XXX O²OOJ J²JGG M²MWW W²LVV P²PPPI F²FFF.

1 6

25- LLOCB JJVYY NYYYY MTTTA AABBP PPPHC GAAHH HHHAX XDDDW
 FFRRR EEZZV VVOJZ ZMMMM WWLL KKKII IDDPN NNNKL LCCYJ
 JUUYU NNNNY MMMPT TAAAA KKKBB XXBWW WUUUU UUUCC CAAA
 RRSSS HAAAA ATTJE EEEZZ VVXII IZZZM MIIII IVVPP IIIFF.

34

(13)

26- LLLCY JJUYU BBTTT AWUUU UUUUE ALLSS STTTJ JJERE ZZEED
 DZZOO OGGPP KKKDD DDDGG FFFFF FGCC CCKLC CYYYJ JUUUU
 UNNNN NFMMP TAAAA BBBBP PCCAA AEEES SSSXS WWFFF FFEED
 EEEBZ ZVXXI IIIII JJJJJ JGGGG MWWW WWIV VVVI IFFFF.

26

27- LLOCJ JUYUY NFFKX XXXUM MRRRE HATTT WFFFJ JSSEZ ZDZZO
 OOGGG MWWW WKKKI DDGGG GCKKK KBBCC CYYY YJJJU UUYUY
 YNNNN YBTTT TTTAK KKBXX HHCCC CUUEE EHHHA AXDDD DNFFF
 RRRRE ZZZZZ VVVXX IIOOJ JGGGG GMMWW WLLLL DPPPP NNNNF.

12

(14)

28- LLCCO JJJYU BBBB TTTTA KKBPP HHHHC CEEHH HHSXX XDWWW
 FFRRR EEEZV VVOZZ ZMMMM PPPKK KLLDD DDPIF FFFLK KBBJJ
 JYYYY NNYB TTTT FKKKK KTTXX XBBBW WUUUH HHCCG CRRR
 RRSSS SAAAA ATTJS EEEZZ VVVOO IZZZM MMWII IVVPI IIIFF.

36

29- LLOCJ JUNNN NMMTX XWUUM MREEE HATWW WFFJJ JSSSZ ZVOOO
 OOGGG GIPPP PKKKD DDGGG GCCCC LCCCG CRVJJ JJJJH HHHHU
 UUYYN NNFFM MMLAA AAWWW PPUUU CCURR RSSSX XXWWW WFFFF
 EEEEE OOOOO XXXXV OOOOJ JJMMM MMMWW WLWVV PPPPP FFFFF.

14

(15)

30- LLLCJ JJUUY NNFFM TXHUU MMMME EHHAA SWWWJ JJSEE ZEEDD
 DZOJJ ZMMWW LKKII DDDGG GGNNN NNNKL LLLLC CYJJJ JUUYU
 YNNNN YTTTT TAAAK BBBBH HCCAA AEEEH HHHAA TDDNN NNNRR
 RRRRZ ZVVVO OOOII ZZJJJ JGGGG GWWW WWLW LVVVP PNNNF.

22

31- LLBBB JVVYY NNYYY TTTTA KKBXH HHHHU URRSS SSLSS SWWWW
 FNEEE ZZZOX XXIZJ JGMMM WWLV VVKII IIIIF NNNKK KBRVV
 VUUUU YYYYY TTTTT TAACK KKBX XXXX XHPUU UUMMM CCAAA
 AALSS SSXXX XDDJS SSSOO VVVOO OJZZM MMWVI IVVPP PPIFF.

33

32- LLLBJ JJUUY YNFFF KXHHH CMMMR RHAA AWWWF FJSSS OZZVV
 VZZOO OGGPP KKKII IDDGG GFFFF FGCCC CCCC RJJJJ JHHHH
 HYYYY YFFFF FTTTT XXXXH HMMRR REEEH HLISS WWVWF FJSSS
 SEEEZ ZDDDZ ZO000 JZZZZ ZGGGG GPPPP FWWVL LVVVP PIPFF.

21

33- LLBBJ JYNNN NFMTX WWUUM UEEAA LSWWF TDNNN NERRE EDZZO
 OJGGG GPFWW WLLLI IIGGG GCOCK KBCCC CCYYY JJJJU UUYYY
 YUYYY YMMM TTTAA AAWBB PPUUC CCAA ALHSX XXDDD WFFFF
 RRREE ZZZZZ VVVXX IIIIZ JGGGG GGMWW WLLLV PPPPP NNFFF.

13

34- LLCGB JJJUO NNNNY MMTA AAWWP PPPPU CAALH HHHXX XWWW
 FEEEE OOOOX XVOJJ ZMMM WWIVV VVVII IIIIF FFKK KBEVV
 VYYYY YBBBB TTTTT FKKKT TTTXX XBBBB BFFFF FUMMM MAAA
 AALLS SSXXX XDDJS SSEZZ VVVOO OZZZM MMWWW WVVP PPNF.

32

35- LLKBJ JVYYN NNMMM AWUUU UUCA ALISA ADDDN NNRRR EEDD
 DOOJJ JGGWW LLLDI IIDGG GGGGN NNLLL LLLLC BJJJJ JUYYY
 YYYYY YMMMM TAAAA WWVBP PUEA AAAAL LLHXX DDDNN FFRRR
 RRREZ ZVVVO OOOII ZZZZZ JGGGG GFWWW WWWV VVVVP PFFFF.

23

36- LLCBB JJVYY NNNY MMTTK KKBWP HHHHC CAEHH HSSXX XDDW
 FFRRR ZZZZV VVIZZ ZMMMG PPKK LLLDD PPPPN FFFLL KBBJJ
 JUUUU NYYYY MMMT TAKKK KKTXX XXXXB BPPP UUMMM MMRAA
 AALLL LSXXX XDTJS SSSOO XXXOO OJJZM MMWWW WLVVP PPNF.

35

7

Stepping
Wheel Alpha
Seq

37- LLLCY JJUYY BBPTT AWUUU UUUUE ALLSS STTTJ JJEER ZZEEDD
 DZZOO OGGPP KKKDD DDDGG FFFFF FGCCC CCKLC CYYYJ JUUUU
 UNNNN NFMMT TAAAA BBBBP PCCAA AEEES SSSXS WWWFF FFEER
 EEEEBZ ZVXXI IIIII JJJJJ JGGGG MWWW WVVV VVVVI IFFFF.

38- LLCCJ JUYYY NFFKX XXXUM MRRRE HATTT WWPFF JSSEZ ZDZZO
 OOGGG MWWW WKKKI DDGGG GCKKK KBBCC CCYYY YYJJU UUYYY
 YNNNN YBTTT TTTAK KKBXB HHCOC CUURE EHHHA AXDDD DNFFF
 RRRRE ZZZZZ VVVXX IIOOJ JJJGG GMMWW WLLLL DPPPP NNNNF.

39- LLCBB JJVYY NNNYY MMTTK KKBBP HHHHC CAEHH HSSXX XDDWW
 FRRRR ZZZZV VVIZZ ZMMMG PPPKK LLIDD PPPPN FFFLL KBBJJ
 JUUUU NYYYY MMMMT TAKKK KKTXX XXXXB BPPPP UUMMM MMRAA
 AALLL LSXXX XDTJS SSSOO XXXOO OJJZM MMWWW WLPPP PPPNF.

40- LLLCJ JJYYN NYMMM TWUUU MMUUE EHHSS SWWTF JJSSE ZZZVD
 DZZOO OGGPP KKKID DDDGG GGGGG FLLLL LCKKB BJJJY YHHHU
 UYYYN NFFFM MTTAA WWWU PUURE AAERS SSSXX DDWFF FRRRR
 EEEEBZ OXXXI IIIIO JJJJJ JGMMM MWWW WVVV VVVVP IFFFF.

41- LLOBJ JUYYY YFPKB BXKHC CRRRR SATTT TWFFF FSSSO OVOOJ
 JOGGG GPPPP PKKKI IDGGG GLLLL LRRRR RRVVV VJJJU UHHHH
 HUYYY YNFFF FMMP TTTXX HUMMM MUURE ELLS SSWW WJJJJ
 SEEEE ZEEEE DVVVV OIIIZ ZJGGG GGGPP FLLLL DPPPP NFFFF.

42- LLLBJ JJYYN NNFMM TXUUP UUUUE ALLSS SWTTF JNEEE ZZZDD
 DZZOO JGGPP KKLDD DDDGF FFFFF GGCCC KKKKB CYYYJ JUUUU
 UYYYY NMMMM MTTTA WWBBP PUCAA AAAAH HHAA DDDNN NNERR
 RRRRE EVVVO OIIII ZZZZZ ZMMGG GPFWW WWWL LLVVP PPPNF.

26

12

35

24

11

25

Stepping

43- LLOBB JJJU YNNNN FMMMM TAWWU UPPPU UAALL LHAA ADDDD
 NFRRR EZZZV VVOJJ JMMMM WPFKK KLIDD DDDDG GNNKK KGCYY
 YUUUU YNNNN FMMMM MTTTT TAAWW WBBBB BHHHH HHCCG GUEEE
 ERSSS SLSSS SDDNE ESSOO XVVOO OJJJG GMWWV WVVP PIIFF.

31

44- LLKBJ JVYYN NNNMM AWUUU UUUCA ALLSA ADDDN NNRRR EEEDD
 DOOJJ JGGWW LLLDI IIDGG GGGGN NNLLL LLLLC BJJJJ JUYYY
 YYYYY YMMMM TAAAA WWBFP PUEEA AAAAL LLHXX DDDNN FRRRR
 RRREZ ZVVVO OOOII ZZZZZ JGGGG GPWWV WWWVV VVVVP PFFFF.

23

45- LLCCJ JUNNN NMMTX XWUUM MREEE HATW WVFJJ JSSSZ ZV000
 OOGGG GIPPP PKKKD DDGGG GCCCG LCCCG CRVJJ JJJJH HHHHU
 UUYYN NNFFM MMMAA AAWWW PPUUU GCURR RSSSX XXWWW WFFFF
 EEEEE OOOOO XXXXV OOOOJ JMMMM MMMWW WLWVV PPPPP FFFFF.

14

46- LLCCB JJJU NNNNY MMMTA AAWWP PPPPU CAALH HHHXX XWWWV
 FFERE OOOOX XVOJJ ZMMMM WWIVV VVVII IIIIF FFKKK KBBVV
 VYYYY YBBBB TTTTF FKKKT TTTXX XBBBB BPPPP PUMMM MMAAA
 AALLS SSXXX XDDJS SSEZZ VVVOO OZZZM MMWWW WVVP PPPPF.

32

47- LLLBJ JJUUY YNFFF KXHHH GMMMR RHAA AWWWF FJSSS OZZVV
 VZZOO OGGPP KKKII IDDGG GFFFF FGCCG CCCCR RJJJJ JHHHH
 HYYYY YFFFF FTTTT XXXXH HMMRR REEEH HLLSS WWVFP FJSSS
 SEEEZ ZDDDZ ZO000 JZZZZ ZGGGG GPPPP PWWVL LVVVP PIIFF.

21

48- LLBBJ JYNNN NFMTX WWWUM UEEAA LSWWT TDNNN NERRE EDZZO
 OJGGG GPPFW WLLLI IIGGG GCCCK KBCCG CCYYY JJJJU UUYYY
 YUYYY YMMMM TTTAA AAWBB PPUUC CCCAA ALHSX XXDDD WFFFF
 RRREE ZZZZZ VVVXX IIIIZ JGGGG GGMWW WLLLV PPPPP NNFFF.

13

49- LLLCJ JJUUY NNEFM TXHUU MMMME EHHAA SWWWJ JJSEE ZEEDD
 DZOJJ ZMMWW LKKII DDDGG GGNNN NKKLL LLLLC CYJJJ JUUY
 YNNNN YTTTT TAAAK BBBBH HCCAA AEEEH HHHAA EDDNN RRRR
 RRRRZ ZVVVO OOOII ZZJJJ JGGGG GWWWW WWWWL LVVVP PPNNF.

22

50- LLCCJ JJJYU BBBB TTTTA KKBBP HHHHC CEEHH HHSXX XDWWW
 PFRRR EEEZV VVOZZ ZMMMM PPPKK KLLDD DDPIF FFPLK KBBJJ
 JYYYY NNYBY TTTTT FKKKK KTTXX XBBEW WUUUH HCCG GRRR
 RRRSS SSAAA ATTJS EEEZZ VVVOO IZZZM MMWII IVVPI IILFF.

36

1- LLCBJ JUYYY YFFKB BXXHC CRRRR SATTT TWFFF FSSSO OVOOJ
 JOGGG GPPPP PKKKI IDGGG GLLLL LRRRR RRVVV VJJJU UHHHH
 HUYYY YNFFF PMMTP TTXXX HUMMM MUUEE ELLLS SSWWW WJJJJ
 SEEEE ZEEEE DVVVV OIIIZ ZJGGG GGGPP PLLLL DPPPP NFFFF.

N^o 1

N^o 2

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The original
 came before
 before State PPT
 Test

alph 1 - 182 letters
 " 2 - 89
 " 3 - 99

alph 1 - 87
 2 - 134
 3 - 139

N^o 3

N^o 4

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alph-107
2-120
3-133

alph-106
2-133
3-121

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Geoph-120
2-152
3-88

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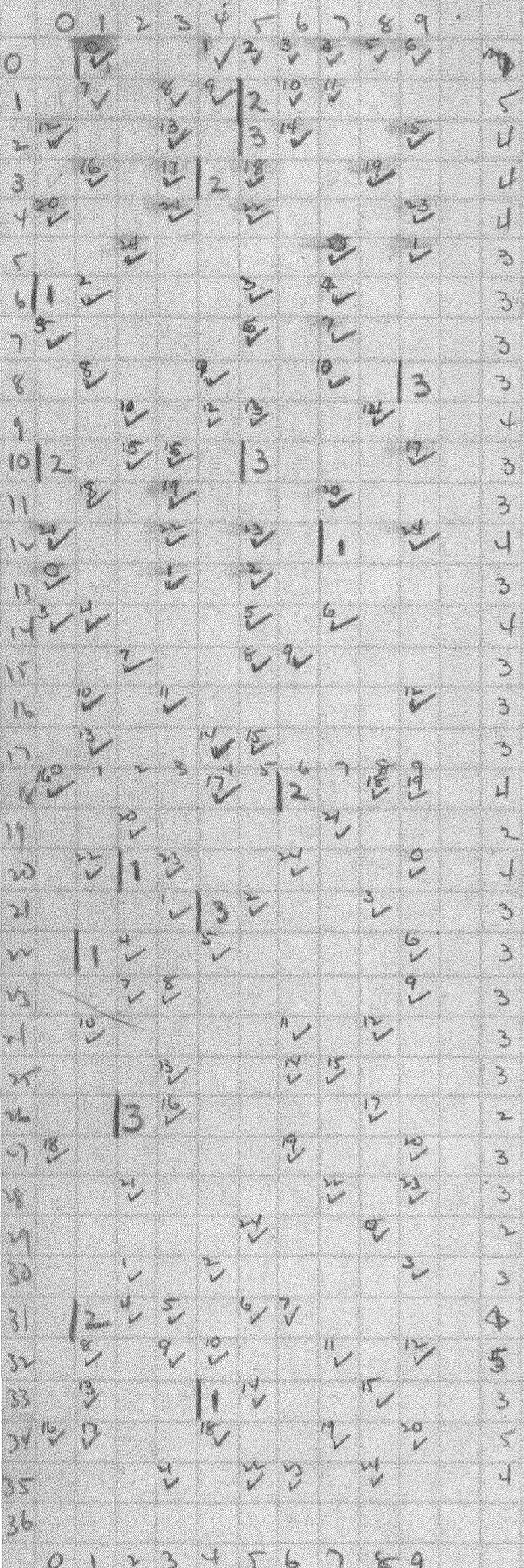
Geoph-124
2-98
3-138

to close circuit for
 stepping 1 on Wheel #1

for Wheel No. 1

Distribution of alphabets ~~(25 total)~~
 omitted

Alphabet	Letter No.
1	4 59, 60 133, 134 213, 214 302, 303
2	5 61, 62, 63, 64 135, 136, 137, 138 139 215, 216, 217 304, 305, 306
3	6 65, 66 140, 218, 219, 220, 221 309, 310, 311
4	7 67, 68, 69 141, 142, 143, 144 222, 223, 312
5	8 70, 71, 72, 73, 74 145, 146, 224, 225, 226, 227, 228 313, 314
6	9 10 75, 76 147, 148, 149, 150, 151 229, 230, 231 315
7	11 12 77, 78, 79, 80 152, 153, 154 232 316, 317, 318, 319, 320
8	13 81, 82, 83 155, 233, 234, 235, 236, 237, 238 321, 322
9	14 15 84, 85, 86 156, 157, 158, 159, 160 239, 240 323
10	16 87, 88, 89, 90, 91 161, 162 241, 242, 243, 244, 245 324, 325, 326
11	17 18, 19 92, 93 163, 164, 165, 166, 167, 168 246, 247 327, 328
12	20 21, 22 94 169, 170, 248, 249, 250, 251, 252, 253, 254, 255 329, 330
13	23 24, 25 95, 96, 97 171, 172, 173 253, 254, 255 331, 332, 333, 334
14	26 27, 28 98, 99, 100, 101 174 256 335, 336, 337
15	29 30 102 175, 176, 177, 178, 179 257, 258, 259, 260, 261, 262 338, 339
16	31 32 103, 104, 105, 106, 107, 108 180, 181, 182, 183 263, 264, 265, 266
17	33 34 109, 110 184, 185, 186, 187 268, 269 341, 342, 343
18	35 36, 37 111, 112 188, 270, 271, 272, 273, 274 275 344, 345, 346
19	38 39 113, 114, 115, 116 189, 190, 191 276, 277, 278 347, 348
20	40 41, 42 117, 118, 119 192, 193, 194, 195, 196 279, 280, 281 349, 350
21	43 44 120, 121, 122 197, 198, 199, 200 282, 283, 284, 285, 286 351, 352
22	45 46, 47 48 123, 124 201, 202, 287, 288, 355
23	49 50, 51 125, 126, 127, 128 203, 204, 205 289, 290, 291, 292 293, 294
24	52 53 54, 55, 56 129 206, 207, 208 295, 296, 297 358, 359, 360
25	1 2 3 57, 58 130, 131, 132 209, 210, 211, 212 298, 299, 300, 301



Total pins 175

Plus out (to close stepping circuit) on wheel # 2

REF ID: A4127215

Distribution of alphabets

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5	6	7	8	9	10	11	12	13	14
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7	8	9	10	11	12	13	14	15	16
8	9	10	11	12	13	14	15	16	17
9	10	11	12	13	14	15	16	17	18
10	11	12	13	14	15	16	17	18	19
11	12	13	14	15	16	17	18	19	20
12	13	14	15	16	17	18	19	20	21
13	14	15	16	17	18	19	20	21	22
14	15	16	17	18	19	20	21	22	23
15	16	17	18	19	20	21	22	23	24
16	17	18	19	20	21	22	23	24	25
17	18	19	20	21	22	23	24	25	26
18	19	20	21	22	23	24	25	26	27
19	20	21	22	23	24	25	26	27	28
20	21	22	23	24	25	26	27	28	29
21	22	23	24	25	26	27	28	29	30
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23	24	25	26	27	28	29	30	31	32
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36	37	38	39	40	41	42	43	44	45

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3	11	12	13	111	112	113	114	115	116	117	118	119	120	121	122	123
4	14	15	16	17	18	113	114	115	116	117	118	119	120	121	122	123
5	18	16	17	18	19	113	114	115	116	117	118	119	120	121	122	123
6	20	21	22	119	130	131	142	143	144	145	146	147	148	149	150	151
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14	54	55	56	57	163	164	165	166	167	168	169	170	171	172	173	174
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17	63	64	65	66	67	68	69	70	71	72	180	181	182	183	184	185
18	73	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197
19	74	75	76	77	189	190	191	192	193	194	195	196	197	198	199	200
20	78	79	80	81	82	193	194	195	196	197	198	199	200	201	202	203
21	83	84	85	196	197	198	199	200	201	202	203	204	205	206	207	208
22	86	87	88	89	90	91	92	93	94	95	201	202	203	204	205	206
23	96	97	98	204	205	206	207	208	209	210	211	212	213	214	215	216
24	99	100	101	209	210	211	212	213	214	215	216	217	218	219	220	221
25	1	2	3	102	103	104	105	106	107	108	109	110	111	112	113	114

Total 75

Pin out (to close at THE IDMA 4127215 Wheel # 3

Reproduction

1	6	7	107	108	109	110	111	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304																																																																																																																																																																																																	
2	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304

Total

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100

NO. II28 FROM PARIS AUGUST 7

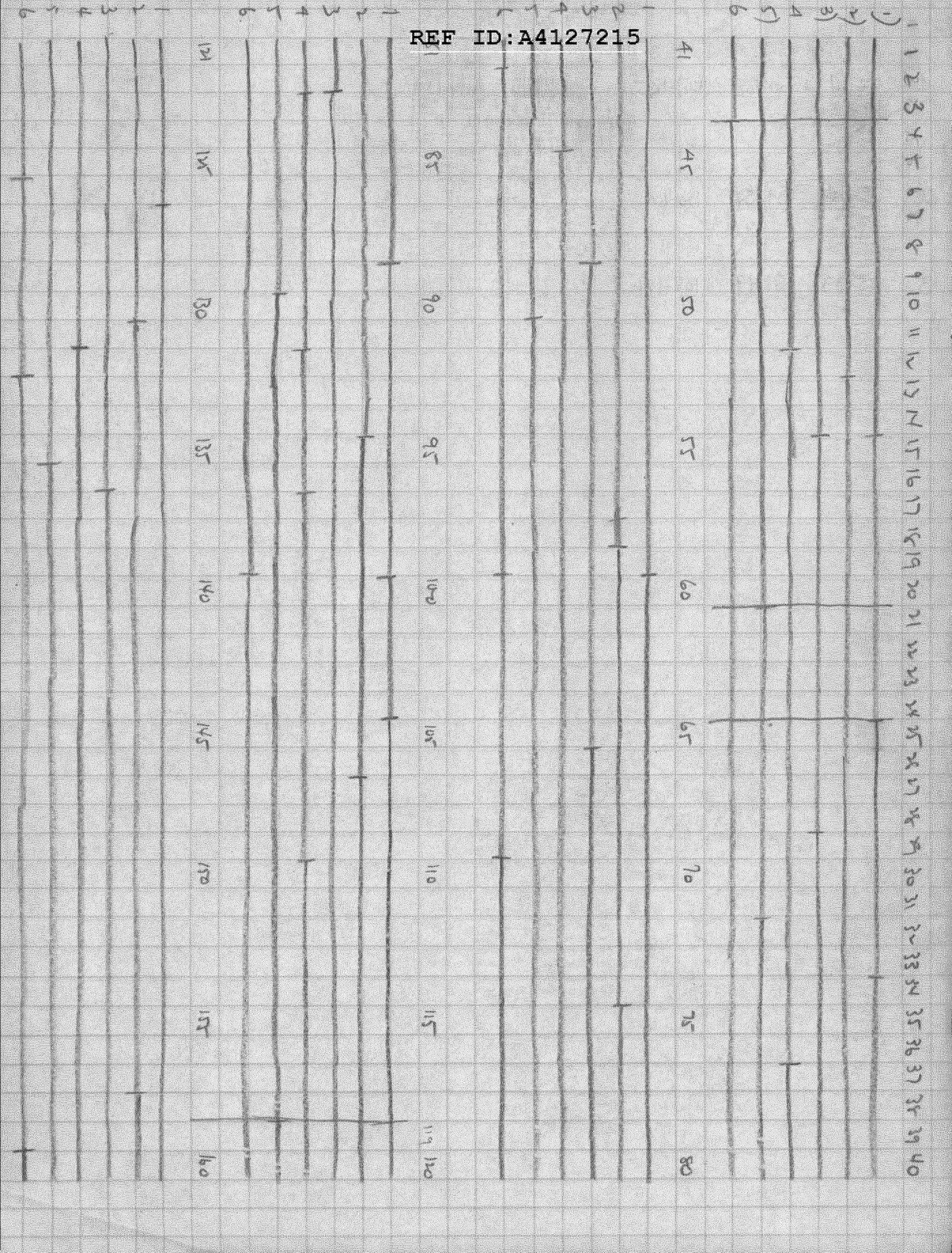
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 JAHTI AIRUB UXMRF JLICJ UYJLG JVIOE DFHTR FGKXZ PXBTD
 AAYRT OJJIB JCMFY CDMZF DFIMT PCLIM XPGCG VTZTY JTOLS.
21 ⇒ GPMGP XDRPU WMWSX IRIWE UEKZC NRXUS GVIOS ALAKM LZWGP
 YFBOU JHYHZ DKNRY JMDDD XSTBI TAKYY ZKPKR OPUTY PKFMS
 UKWJH GIJIX JUYTL AKUDY SWEYO VBRIO RYREU VLNDV KXCDW
 FWSKF IBRUA CEELY CLINE IVHWS ZHCZE HJIBW BFIST EORTN.
 WKIPP HGEKD LEFYD WPDUP ZAGVN WLTDN ONADF SKCGF ZSMKK
 JKYNJ DVPAR KDTAV VZXVU YNRIG XTLDN NUIJC PYKOW IHIYM
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 ALNIM RYWEL FXSVP FAEYC GIPYN ZBXHV NNDZB ZXIGE RGCFG.
 FXMIL PJUKI UJUKC HBROJ RIXZW FNMGL ZTEJT OWVGA TWGSH
 BIIPN EJPBF PXMAL OXHMR KECCB YSUVN INEUD XCZEG LTXFO
 CTDJL BLDRX VEVUS VYLAC RAZOD JRHXB YUXBJ YXXEH TGBZT
 YOHEO VNFUN GUUBH XYJDR KVDUP INMGB JVDMC OZRJW GUOUT.
 GPVOB KMNAM GMMBW TZCPF CVJID RFVXA AEDNB VUPWF LRBK
 KEYUR DNVAD SWZZN ERWHW AUTZJ XPMCR JZWZE CJRPG JLWCN
 WGBCG PWIRE NACHL JEOEF UPTHF EFZTB EXPEL WMGCJ NYKPI
 BNTWN IBEBI NMCSP UDACN DDDSZ IEKVP GKOIA JZRWE TEXSJ.
 XMGCK IEVZL FJVDF KTSYD VMAZX TUNVD

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

41 45 50 55 60 65 70 75 80

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3 25-33 89-99 105-126

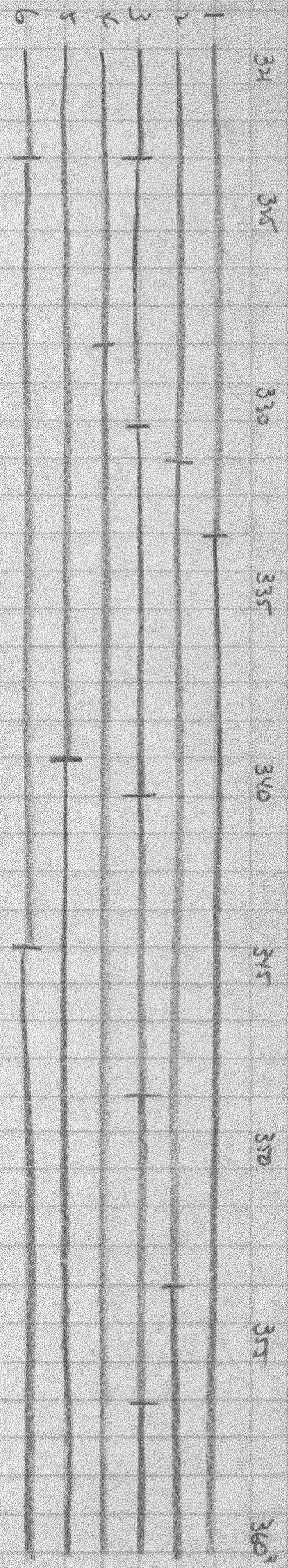
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 2 | K B J U Y M T X H C A L S W F R E D Z O G I V P N
 3 | C R V Y N F K B P U E H A T J S O X I Z M W L D G

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
 B 1 | Y H B T A W U M R S X D N E Z V O J G P K I F L C
 2 | C A L S W F R E D Z O G I V P N K B J U Y M T X H
 3 | F K B P U E H A T J S O X I Z M W L D G C R V Y N

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
 C 1 | T A W U M R S X D N E Z V O J G P K I F L C Y H B
 2 | B J U Y M T X H C A L S W F R E D Z O G I V P N K
 3 | A T J S O X I Z M W L D G C R V Y N F K B P U E H

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
 D 1 | O J G P K I F L C Y H B T A W U M R S X D N E Z V
 2 | Z O G I V P N K B J U Y M T X H C A L S W F R E D
 3 | J S O X I Z M W L D G C R V Y N F K B P U E H A T

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
 E 1 | Z V O J G P K I F L C Y H B T A W U M R S X D N E
 2 | O G I V P N K B J U Y M T X H C A L S W F R E D Z
 3 | V Y N F K B P U E H A T J S O X I Z M W L D G C R

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
 F 1 | W U M R S X D N E Z V O J G P K I F L C Y H B T A
 2 | I V P N K B J U Y M T X H C A L S W F R E D Z O G
 3 | B P U E H A T J S O X I Z M W L D G C R V Y N F K

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
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 2 | R E D Z O G I V P N K B J U Y M T X H C A L S W F
 3 | T J S O X I Z M W L D G C R V Y N F K B P U E H A

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
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 2 | H C A L S W F R E D Z O G I V P N K B J U Y M T X
 3 | D G C R V Y N F K B P U E H A T J S O X I Z M W L

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
 K 1 | M R S X D N E Z V O J G P K I F L C Y H B T A W U
 2 | A L S W F R E D Z O G I V P N K B J U Y M T X H C
 3 | K B P U E H A T J S O X I Z M W L D G C R V Y N F

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
 L 1 | A W U M R S X D N E Z V O J G P K I F L C Y H B T
 2 | N K B J U Y M T X H C A L S W F R E D Z O G I V P
 3 | S O X I Z M W L D G C R V Y N F K B P U E H A T J

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
 M 1 | K I F L C Y H B T A W U M R S X D N E Z V O J G P
 2 | M T X H C A L S W F R E D Z O G I V P N K B J U Y
 3 | X I Z M W L D G C R V Y N F K B P U E H A T J S O

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
 N 1 | V O J G P K I F L C Y H B T A W U M R S X D N E Z
 2 | L S W F R E D Z O G I V P N K B J U Y M T X H C A
 3 | P U E H A T J S O X I Z M W L D G C R V Y N F K B

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
 O 1 | D N E Z V O J G P K I F L C Y H B T A W U M R S X
 2 | E D Z O G I V P N K B J U Y M T X H C A L S W F R
 3 | W L D G C R V Y N F K B P U E H A T J S O X I Z M

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
 P 1 | R S X D N E Z V O J G P K I F L C Y H B T A W U M
 2 | S W F R E D Z O G I V P N K B J U Y M T X H C A L
 3 | N F K B P U E H A T J S O X I Z M W L D G C R V Y

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
 Q 1 |
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 3 |

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
 R 1 | P K I F L C Y H B T A W U M R S X D N E Z V O J G
 2 | G I V P N K B J U Y M T X H C A L S W F R E D Z O
 3 | H A T J S O X I Z M W L D G C R V Y N F K B P U E

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
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 2 | P N K B J U Y M T X H C A L S W F R E D Z O G I V
 3 | L D G C R V Y N F K B P U E H A T J S O X I Z M W

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
 T 1 | C Y H B T A W U M R S X D N E Z V O J G P K I F L
 2 | Y M T X H C A L S W F R E D Z O G I V P N K B J U
 3 | G C R V Y N F K B P U E H A T J S O X I Z M W L D

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
 U 1 | I F L C Y H B T A W U M R S X D N E Z V O J G P K
 2 | X H C A L S W F R E D Z O G I V P N K B J U Y M T
 3 | Y N F K B P U E H A T J S O X I Z M W L D G C R V

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
 V 1 | N E Z V O J G P K I F L C Y H B T A W U M R S X D
 2 | W F R E D Z O G I V P N K B J U Y M T X H C A L S
 3 | E H A T J S O X I Z M W L D G C R V Y N F K B P U

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
 W 1 | F L C Y H B T A W U M R S X D N E Z V O J G P K I
 2 | V P N K B J U Y M T X H C A L S W F R E D Z O G I
 3 | O X I Z M W L D G C R V Y N F K B P U E H A T J S

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
 X 1 | J G P K I F L C Y H B T A W U M R S X D N E Z V O
 2 | U Y M T X H C A L S W F R E D Z O G I V P N K B J
 3 | M W L D G C R V Y N F K B P U E H A T J S O X I Z

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
 Y 1 | B T A W U M R S X D N E Z V O J G P K I F L C Y H
 2 | T X H C A L S W F R E D Z O G I V P N K B J U Y M
 3 | U E H A T J S O X I Z M W L D G C R V Y N F K B P

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
 Z 1 | E Z V O J G P K I F L C Y H B T A W U M R S X D N
 2 | D Z O G I V P N K B J U Y M T X H C A L S W F R E
 3 | I Z M W L D G C R V Y N F K B P U E H A T J S O X

92 NA AYX
 76 CVB
 63 IXM
 70 KCR
 9 TWI
 33 ZYX

6

11 NB CKM
 87 DCE
 25 NTL
 66 NYJ
 16 SYZ
 52 XAP

6

57 NC BRH
 56 CMK
 20 FND
 12 INL
 44 LGF
 58 RDJ
 58 RWN
 15 VBT
 56 YZE

9

23 ND BPT
 20 CJW
 66 DMJ
 16 EEV
 68 FGC
 21 JXT
 50 OYZ
 47 TAR
 92 TKC
 31 TSD
 35 XZB
 46 ZUN
 85 ZWD

13

75 NE CQP
 93 ESA
 71 FLY
 76 GXG
 34 JTB
 9 YLY
 75 ZMW

7

22 NF BKY
 17 CEI
 80 HTW
 36 JNP
 16 WET
 40 WFS
 79 ZFK

7

88 NG BHF
 26 IMH
 96 JGI
 64 SLP
 10 YOL
 73 ZCD

6

86 NH CTY
 70 MDC
 41 XRH
 10 ZUP
 97 ZWL

5

34 NI DHB
 39 HEW
 44 MAB
 10 NPK
 3 OGO
 2 OPN
 77 UHM
 24 XXS

8

19 NJ BBE
 47 BPK
 89 GIX
 74 HYO
 21 IEJ
 83 NKC
 15 RFL
 84 VOH
 27 VWE

9

83 NK CJB
 38 LWI
 56 JVD
 71 WLO

4

26 NL AKZ
 67 GIO
 79 GJP

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452570

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452571

6

35 NMDUN
76 HJB
33 JHU
43 UPN

4

78 NNP GW
81 URV

2

30 NO BMY
91 DTR
45 EPA
99 LPE
92 NZH
80 RWX
91 SQE
61 SWS
98 WRX
75 ZDY

10

36 NPE QS
78 GWG
99 HWN
93 JOB
10 KYN
28 WUI

6

8 NRFVS
31 HPS
67 INL
17 JWW
39 NTG
88 VAG
41 VUP

7

89 NS BJI
93 COY
10 GKS
10 MUT
22 VIC
47 XOL
85 ZZT

7

64 NT DFW
78 EIA
39 GMR
89 KSB
25 LVE
91 NOS
13 PEM

7

69 NU AEF
94 FAF
43 LZX
68 MVR
57 OHW
24 OWU
81 RVR
58 YNW

8

34 NVFIY
61 MLG
38 NKI
87 OMB
24 OVK
38 OVU
96 RKV
15 URM

8

6 NWGIA
98 OPI
58 RRG
86 ZNH
49 ZYC

5

69 NXCSU
26 LKO
96 MNG
16 NBS
35 RYS
64 VNY

6

11 NYAGN
2 AZY
65 EAF
66 JFW
35 MHN
52 MZF
34 NID
70 OYF

8

52 NZPAC

FORM-11

452572

FORM-11

452573

92 HGO
42 QWZ
83 SDF
94 TBP
4 THH

7

171

59 OABSU
86 FKB
39 IMX
40 ORZ
39 TAM
66 TZB
98 ZOT

7

53 OBA BR
90 FRE
58 GZO
1 LGD
42 ILX
5 IVX
67 LRV
30 MYP
93 PJV
27 TNJ
49 XTW
10 ZBY
48 ZFY

13

FORM-11

67 OCKLT
88 MWD
91 RMR
46 VJO

452574

4

17 ODFBC
38 RDJ
91 TRC
34 XMJ

4

78 OEDBD
8 FBT
45 PAB
26 ZRY

4

70 OFGPN
48 JTR

2

83 OGBAZ
45 BZK
42 DCI
58 ESA
50 IVS
71 LZW
3 OKE
92 VWJ
72 VYG
33 YHG

10

31 OHDXF
84 HXW
85 TJY
72 TOV
40 TRI
40 VOJ
57 WHI

7

8 OIDPR
47 HCI
18 RWE
20 RWV
61 SDR
71 TOG

6

FORM-11

49 OJDFR
1 KGA
41 XKD

452575

3

46 OK BKW
3 EYM
28 IPL
8 LSK
76 NAC
51 SPE
27 URV
54 XSX

8

29 OLBEE
77 GSM
7 HHX
10 HLY
2 IDC
58 OBG
99 PEV
90 SYP

REF ID: A41272
SYR
WNO
XVW
ZGV

12

87 OM BGA
35 EXH
88 KDE
96 NHZ
58 OLO

5

58 ON CRW
56 CYZ
31 DTS
79 FZF
73 GZC
-96 XMN
-64 XVN
11 YAG
78 YOY
92 ZHG

10

53 00 BAB
85 HTJ
36 PWC

3

452576

FORM-11

30 OPEST
98 IWI
84 JFS
89 JWG
49 KOJ
2 NYA
65 OUH
95 QXE
38 SKP
29 SLL
36 WCP

11

5 ORGFF
79 NLG
38 WJJ
25 WWK
80 WXJ
91 XAO
56 YLE
73 YXR
40 ZPY

9

88 OSING
91 QES
33 RFY
61 WSY
21 XFU
12 XWP

6

95 OT BID
22 BTC
98 BTN
11 MLT
39 OAT
89 OPJ
24 TYN

7

44 OUAIB
46 EGY
24 ETI
27 FSR
65 HWU
63 VOW
55 XDG
23 XUV
2 YRH

9

452577

FORM-11

55 OVBDC
62 DBM
63 HRB
24 KXT
72 RBD
38 UCE
32 WHG
35 XGO
6 XUY

9

74 OWLZF
17 NEC
33 OSR
98 RXJ
13 SGR
25 UDO
63 VMO

7

89 OXAPY
16 AXP
50 BNL
6 CHU
26 FIF

6 CHU
26 ELL
75 FTT
59 FSW
69 KNX
52 WDR

9

23 OY AAH
12 BWQ
70 FGE
27 LVD
93 PPX
15 WVD
50 ZWG

7

75 OZ DYP
19 IXW
76 KEH
17 KKR
20 KYP
92 RMS
22 XKD
84 ZYE

8

FORM-11

452578

180

45 PA BVX
74 BYU
67 HKP
57 HSA
82 HWD
60 HXD
94 LIW
94 PMT
96 XON

9

24 PBOUE
99 XBS

2

55 PC ACU
75 BAI
53 DMU
42 DMU
82 IXH
52 KZB
52 NYM
61 ZIK

8

94 PD APA
20 SBD
18 VBD

3

55 PEECX
51 HCD
41 HCU
3 HXM
13 MUI
36 QSB
30 STR
99 VFY

8

68 PFGYY
36 HUJ
6 HWG
55 PFU
55 UDO
6 VSM

6

FORM-11

452579

84 PGDMG
87 HIC
13 HXE
75 MGC
78 WGO
2 WKO

6

38 PHOPS
81 RUX
99 WNO

3

61 PIHPL
45 UUX
98 WIT
96 WLW

4

49 PJ AHL
4 BTN
4 EBE
83 ECZ
84 FSZ
54 MGW
93 OBP
28 OKI
8 OKL
95 OTB
63 SUV
93 VPD

93 OBP
28 OKA
95 OTB
63 SUV
93 VPD
16 WCL
89 WGJ
97 YYC

15

54 PK DBQ
39 GZB
40 IOA
47 OIH
49 OJD
10 YNH

6

41 PL HLN
87 RGD
69 RVJ
28 VGI
61 YFP

5

FORM-11

452580

57 PM DJF
30 FLR
87 IPL
79 ONF
94 TIZ
56 TOR
83 YFK

7

25 PM BNT
71 EFL
80 FHT
77 IUH
99 PHW
16 RJW
43 ULZ
57 UOH
2 YAZ

9

7 PO LHH
96 MNH
64 NXV
65 UHW
12 YBW

5

67 PP AHK
93 XBC

2

95 PQXEM

1

9 PR AFV
41 ELP
8 KJT
64 LYB
4 VWZ
29 ZTR

6

28 PS ETT
64 GSU
39 KPU
4 KQL
29 LLD
75 MXM
31 SMZ

7

FORM-11

452581

65 PT EGZ
81 JYL
23 LAK
91 LKY
6 LTF
80 ZCU

6

39 PU BNI
44 BPZ
77 KMA
53 LXA
45 VBD
17 XAA

6

11 PV BTC
2 DNI
25 EAH
49 EHY
51 HIR
65 LGX
51 LMY
17 LRK
39 LTC
56 NCC
41 PLH
19 TBA
11 ULD
27 YHJ

30 LHW
28 UID

4

93 PXBCJ

10 GPV
36 LSC
30 RLE
43 VTH
83 ZCO

6

68 PYAHV
40 BRN
83 EPJ
22 KFU
1 RDY

89 WTN
20 ZDF

7

83 PZBYT
13 DNT

79 JGJ
20 KSG
80 NOR
24 NVO
84 YHE
44 YNI

24 YPZ
88 YTG

10

165

12 QBGWR

1

44 QCSME

1

91 QESKS
67 YZB

2

86 QFBZL

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38 QHWLP

1

46 QKWYC

1

4 QLPRV
59 XHY

2

67 QOBLR

1

75 QPGMG

1

36 QSBUH

1

42 QWZRA

1

54 QXDOU

95 EMS
23 MAY

3

26 QYLMY
32 VLA

2

74 QZJGJ

1

19

70 RAFNH
9 FVM

93 GKA
81 IWP

42 PCD
29 TGT

19 TSJ

7

29 RBBTT
72 DZW

63 WEX
54 YPK

4

91 RCCJP
92 HFH

21 LCD
49 OBX

4

FORM-11

452582

FORM-11

452583

52 CPC
68 FCF
64 FHP
88 GOS
66 ILH
38 JDB
58 JNU
68 JWH
34 NYM
30 PWL
6 TYP
97 YMA
1 YXG

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FORM-11

452584

14

7 RE CBG
90 IEC
41 LPE
95 OPQ
98 RYX
79 YOR

6

46 RF AHA
76 KNE
15 LCJ
48 LIY
9 LKB
90 MGJ
8 VSK
33 YUN

8

37 RG BWW
87 DPZ
5 FFD
31 JBT
50 JER
21 JUB
30 LEW
80 PNF
39 PVL
27 PVY
58 XDA
3 ZDA

12

41 RH GFD
77 HPN
11 LOT
57 PAH
31 PSS
1 PYR
73 SRW
2 VCX
35 YSG

9

57 RI JZM
70 MXB
67 NLG
24 XRN

4

FORM-11

452585

5 RJ CKL
52 KTL
55 TJO
17 WWB

4

20 RK CPY
5 FOB
46 FSW
17 IFA
33 IVZ
8 JTR
96 VZP
45 ZPU

8

30 RL EPM
1 FKF
47 HTV
40 LSD
73 NZO
59 TYC
59 VTE
64 YBA

8

77 RM DXX
86 KQF
13 LFH
91 RVH
92 SRN
36 SXA
15 TSO

7

93 RN EES
40 FWF
24 IXX
84 JVO
79 LGJ
39 TGM
49 WZY

7

FORM-11

58 GIV
18 IRW
61 ISD
21 SXF
39 TOA
35 VXG
33 WOS
76 ZKF

452586

9

53 RPCDF
81 HRU
48 KIO
56 NUO
9 RAF
53 ULX

6

26 RQYLM

1

58 RRGXD
51 TZE
23 UEK

3

78 RSCYU
73 DAH
85 JUF

3

91 RTFCM
27 HOB
53 MEI
82 YMH
51 ZEM

5

68 RUBRR
23 EKZ
57 FCZ
23 LMT
25 SJY
81 XSF

6

88 RVAGK
27 FRG
91 HED
69 IUT
69 JZD
23 LCB
85 OOH
81 RWD

78 TFI
47 TMH
41 UPR
77 WVC
84 WZA
67 XGP
62 XWJ
86 YSL

452587

16

81 RWDJT
18 EWP
74 HJT
38 JJQ
58 NCR
45 OGB
73 ONG
48 RFL
28 VGP
76 WAF
25 WKY
88 XJW
29 YYJ

13

91 RXAOC
59 GRL
87 GYL
98 JUK
13 KVI
38 ZSI

6

81 RYJER
56 LEN
87 NVO
31 OHD
35 SBH
26 VHT
95 WCS
98 XOA
73 XRL

9

48 RZIGL
44 LQC
29 PRZ
48 PYB
29 TRB

5

452588

FORM-11

89 SA IAX
 93 LHZ
 52 THS
 71 TNK
 57 WRU
 58 XOX

6

85 SB ANW
 43 CNM
 90 CZN
 20 DHC
 90 GAB
 35 HTR
 89 JIG
 89 MHN
 61 SRO
 36 UHO
 09 YHG

11

95 SC CTV
 99 DPN
 36 HAJ
 93 OYP
 78 YUH

5

73 SD AHY
 95 BBY
 40 CGY
 31 E ZD
 83 FCP
 81 LKZ
 62 RVX
 07 SXA
 71 ZJF
 48 ZVC

10

32 SE F IY
 38 LLA
 26 NLA
 19 PDL
 28 TTH
 75 VJZ

6

42 SFE JO
 31 IBA
 51 OKS
 90 OLS
 24 PBO
 81 PTJ
 41 PVP
 76 ROZ
 71 VTH

9

21 SG CZS
 35 EHN
 50 GOX
 10 KSW
 13 RML
 64 SUG
 18 YDT

7

69 SH TSM
 53 XZJ

2

93 SIF NS
 76 GSI
 44 NCL
 88 NGB
 77 OLG
 62 OVD
 30 SYJ
 18 VUB

8

19 SJ CBE
 85 UFL
 42 VXS
 54 WDE
 28 WUC
 80 XEG
 25 YMJ

7

08 SK MDV
 08 DEF
 39 PUB
 04 QLP
 91 SXO

5

86 SL GUG
 29 LDV
 64 PRL
 61 WMC

FORM-11

452589

FORM-11

49 SM AOP
 69 BPL
 79 BVR
 44 EJK
 86 LXS
 56 LYJ
 77 TDR
 10 UTN
 32 WXD
 75 XMN
 38 XOR
 67 ZFK
 31 ZUW

13

52 SN BXA
 75 OZD

2

48 SO BZF
 29 LBE
 15 YWV
 20 ZKY

4

60 SP AHX
 51 EHC
 03 EHX
 80 TZC
 17 VLR
 83 YEP
 79 ZJG

7

91 SQESK

1

92 SR CHF
 06 DTY
 95 EOP
 33 FYU
 21 GJU
 93 NEE
 61 OIS
 27 THO
 73 WON
 76 WWA

10

FORM-11

31 SS MZU
 94 TJW
 34 XOD

3

79 ST BSP
 73 GIU
 53 IMM
 94 JWZ
 30 RDP
 44 SIN

6

64 SUGIV
 98 TLU
 63 VGC
 70 XNA
 59 ZUW

5

62 SV DFA
 22 ICY
 43 ZEX

3

52 SW DMW
 59 FRL
 24 HGI
 28 IXV
 10 LEN
 46 OUE
 61 SYF

7

36 SX AUG
 07 AUW
 21 FUB
 54 LUZ
 34 ODX
 47 OLX
 91 ORX
 59 QLX
 12 WPO

9

96 SY AFU
 61 FSL
 50 JLA
 40 JRL
 30 JTM
 22 LTK
 90 RFM
 82 VMN
 16 ZGN

FORM-11

82 VMN
16 7GN
77 SZ BRH
63 JVI
84 MPG
37 RGB
12 XBH
85 ZTH

9

6

165

40 TAI HF
39 MMT
47 RVT
04 TEZ
79 WES
12 ZSZ

6

19 TB AXK
59 DSX
95 IDB
94 PAL
73 RHS
75 SNO
80 SPT
34 SSX
22 TCB
98 TNO
15 XJH

11

22 TC BDZ
40 EXR
66 GUG
12 UTE

4

82 TD BIG
81 ELN
64 FWX
72 JBU
66 LHQ
05 ORG
77 RMD

7

FORM-11

65 TEGZA
59 HDB
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20 LNC
83 PXZ
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04 ZTM

452593

7

03 TFAZN
91 CNO
06 HPF
78 IAD
55 KLZ
03 MZV
42 SJV
81 WJY
45 WPI

9

73 TG DER
51 GIE
73 IUT
39 MRO
29 TKD
08 VLX
88 ZKN

7

28 THDAB
04 HYW
71 KLE
43 KVK
27 QBT
52 SWD
85 URS
74 WEP

8

63 TIAJN
05 AYW
97 BCI
26 DLV
53 MMO
18 SIV
94 ZDS
24 ZJI

8

55 TJ ONC
51 TGG
94 WZL
85 YGG
81 YLU

5

FORM-11

22 TKAHN
92 CSR

452594

92 CSR
56 DAY
29 DUM
54 PJM
89 SBM

6

23 TL AKR
77 HKA
28 KSW
92 KYH
01 MWM
52 OXW
06 TFH
56 TUM
98 UHM
25 VEA

10

04 TMCPS
53 EIH
47 HRL
11 LTY
86 OAF
02 PVD
80 SDL
74 YAQ
30 YVL
19 ZDA

10

57 TNCBR
10 GYO
41 HXR
89 JGI
27 JVW
71 KWL
91 OSQ
98 OWR
78 TEI
04 ZTH

10

39 TOATA
88 CMW
71 GLZ
72 HTO
31 NDT
89 PJW
56 RYL
72 VRB

8

13 TPEMU
67 PAH
44 UBP

3

32 TQYVL

1

29 TRBBT

1

121

91 TRCCJ

1

30 TRDPW
76 FKN
09 FLK
50 GJE
70 IMX
35 OVX
51 RTZ
48 WRF

8

31 TS DEZ
52 HXZ
44 INC
19 JCB
69 MBP
52 NBX
29 OLB
15 OYW
98 UTL
22 YLT

10

73 TTGDE
28 HDA
29 SOL
24 YNU

4

56 TUMRP
07 REC
41 SFP

3

95 TVBNV

452595

452596

FORM-11

FORM-11

49 TW FVI
80 HCT
10 HZN
09 IRP
69 JNU
97 MBG

6

72 TX CIZ
43 DIV
99 DUV
80 GTM
86 GTM
03 JFW
70 OFG
24 SFP

8

59 TY CHB
11 DEJ
91 JRT
86 LCY
82 MHK
24 NUO
06 PFN
97 PJY
39 RGP
23 RIX

10

66 TZ BNB
65 BWW
21 BZR
80 CUL
51 EMX
05 FYT
46 NDZ
16 OXA
99 PBX
67 QOB
91 TYJ
62 XCY

12



452597

FORM-11

69 UA EFL
44 IBD
40 OHV

3

18 UB AXM
45 DGR
22 ITS

3

21 UB MCC

1

21 UB NDJ
39 NIH
44 PZY
60 RRJ
45 VFU

5

95 UC DXL
38 EDN
65 LMP
28 PJO

4

72 UD KEI
25 ORW
55 OVB
54 UOK
55 WAG
01 XBG

6

46 UE GYG
23 KZQ
24 TIZ
33 VHF

4

452598

FORM-11

94 UF AFZ
57 CZJ
85 LXG
28 SJW
27 SRT
42 XZJ

6

36 UG CNF
55 CPF
66 FND
64 IVN
43 KLW
40 TAI
86 TXG

TXG
DRD
ZGE

9

77 UHMMP
98 MNW
36 OOP
81 TDE
65 WUG
82 XBY
78 XJI

7

29 UIDRW
32 FCS
06 IPT
13 YVI

4

36 UJAFD
25 BBI
05 TZF

3

41 UKESF
98 GDW
77 MAZ
97 MVB
94 NZT

5

11 ULDED
80 GPZ
92 IBO
23 MTY
50 WKT
53 XOL
43 ZXH

7

56 UMRPN
68 VRD
30 WOP

3

33 UNAZY
85 DZW
47 JBP
10 SGK
89 TKS
35 XRY

6

42 UOBIL
57 HWH
27 KUR
54 KXS
73 RYX
24 WUD
26 XEI

7

36 UPFHU
63 JSU
57 MDJ
43 NUL
41 REL
10 XGP

6

19 URATS
07 ECB
15 MTS
26 QYL
85 SJU
27 VFR
81 VRW

7

75 USEVJ
41 FPV
25 JYM
56 MLY

4

73 UTBRH
72 DJB
12 EUW
77 LHK
98 LUH
10 NGY
41 USF
69 WJN

8

45 UUXER

1

45 UVBDT
32 COV
63 GCK
23 MND
74 NJH
63 OWV
84 ZOZ

7

FORM-11

452599

FORM-11

452600

43 UVBUI
32 CQV
23 GPK
74 MND
63 NJH
84 OWV
ZOZ

7

59 UWDTB
15 FCI
07 IYK
02 LTM
94 NUF
19 TEL
31 VSF
12 WNC

8

17 UX AAY
55 DGE
45 ERW
70 NAK
38 SEL
81 SFP
23 UVM

7

58 UYNWR
02 RHV
06 XGA

3

54 UZEOL
06 OVX
59 UWD

3

FORM-11

130

452601

69 VAEMI
88 GKO
68 NUM

3

55 VB DCF
76 DJW
45 DIE
18 DYW
15 FAE
48 KFG
95 NVR
97 RDY
15 TBX
11 TCU
70 YON

11

78 VCMRS
32 QVW
48 VBK
02 XJV

4

08 VD ANR
62 BMC
62 FAS
15 MBV
02 NIO
56 USM
28 VET
70 XBO

8

25 VE AHG
25 APV
49 HYH
61 NOS
28 TLK

5

96 VF IJP
34 IYR
26 KSE
27 RGP
45 UBD
99 YJJ

6

FORM-11

63 VGCKG
28 INP
20 PDS
03 XDD

4

452602

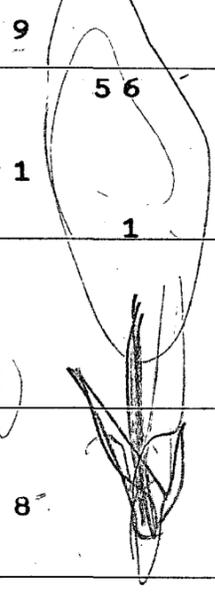
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33 FJV
63 RBW
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51 TRR

6

13 VI ALB
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13 LPG

22
13
78
69
29
CVA
PG
PV
TNT
UTW
WBR

90 VJHSB



64 VJIDF
01 JOJ
93 LXN
46 OKB
65 PVL
67 ZCT
69 ZDJ
75 ZFV

16 VKCNX
07 CXT
28 FPS
43 WIS
18 WTI
24 XTX

FORM-11

32 VL AZB
31 BRG
23 CBR
65 GXJ
48 JJR
63 MGA
51 MYD
34 NVF
17 RKI
40 TCE
08 XDE
51 **KLL**

452603

12

12 VMALT
09 HXZ
61 LGL
23 NDB
82 NJN
63 OVH
75 PSM
43 UGK
09 VMH

9

92 VNAAY
56 CCM
74 JHY
38 KIW
64 TDF
65 YEA
62 ZBA

7

84 VOHHX
08 IDP
41 JXK
87 MBG
85 OHT
29 PSL
24 VKX
38 VUC
63 WVM

9

93 VPDAP
41 LHL

2

FORM-11

72 VRBDZ
21 CLC
68 DJW
79 EYO
96 KVZ
33 OWO
82 TYM
81 WDJ

8

31 VSFIB
54 JWD
08 KOE
06 MLX
79 TBS
50 YJL

6

19 VT BAX
59 EHD
78 FIA
71 HKL
43 HKV
47 MHR

6

452604

18 VUBAX
11 LDE
50 LWK
41 PRE
15 RMT
38 XSE

7

33 VVHCO

1

27 VWEAJ
47 GJS
32 HGA
92 JVN
02 UWL
77 VCM
04 ZAY

7

05 VXFKT
45 FUB
35 GOM
67 GPW
43 SVZ
06 UYX
62 WJJ

7

FORM-11

452605

69 VYBWO
87 DEF
72 GIH
27 HJI
86 SLG
90 YVJ

6

47 VZBLZ
34 CHH
96 CLS
43 EXD
53 IRP
84 OZZ
96 PAX
82 VRT

8

109

65 WABTZ
98 ETS
76 FSF
55 GPE
18 MGF

5

17 WBKOZ
29 RAT
67 VJZ
03 ZFS
68 ZRD
19 ZUW

6

05 WCAMC
16 LKY
36 PXL
95 SRE
58 XID

5

76 WDESR
54 EWI
81 JTF
88 JZG
18 KEJ
85 LMX
52 MWR
52 RDC

FORM-11

452606

59 TBD
82 WMD

10

27 WEAJA
74 PAB
79 SPZ
16 TZO
65 UCL
18 WPD
63 XJU

7

94 WFCGE
15 CIX
62 GH0
44 LTP
66 OAT
59 RLT
30 RXZ
40 SYJ
49 VII

9

46 WGCLJ
6 IAW
89 JFO
47 JSD

47 JSD
 12 MJG
 78 OED
 50 VUL

8

80 WHCTX
 32 GAD
 24 GIW
 80 GYB
 57 ITN
 74 JTH
 68 LIL
 46 ZHD
 10 ZNI

9

09 WIRPR
 43 SBC
 99 TZP
 38 VUX
 87 WPM
 54 WXD
 28 XVK
 07 YKB

8

94 WJFIH
 38 JQH
 62 JYT
 69 NUA
 92 VNA
 72 XTX
 81 YRA
 25 ZUO

8

66 WKAZK
 09 BZE
 60 EMS
 16 MZN
 02 OLI
 71 TOH
 50 TRG
 25 YDC

8

97 WLCBK
 10 ENS
 30 HWN
 48 OFJ
 71 OIT
 38 PHO
 66 TCG
 02 TMP
 96 VZC
 74 ZFA

10

97 WMBGU
 61 CNV
 82 DUH
 02 OUY
 96 PIW
 54 VSI

6

12 WNCIN
 58 CRD
 22 FBK
 17 FCE
 21 JIE
 30 OBM
 45 OEP
 99 OLP
 47 SXO
 85 SZZ
 94 UFA

11

39 WOAIM
 45 GBZ
 73 NGZ
 30 PES
 98 PIW
 33 SRF
 46 UEG
 69 XKN

8

82 WPAHW
 55 CAC
 18 DVB
 45 IUU
 87 MIP
 12 OYB
 24 ZYP

7

12 WQBGW

1

66 WRDIL
 48 FLI
 52 JKT
 05 KFO
 18 OIR

FORM-11

452607

FORM-11

452608

01R
58 R G X
57 H F C
74 W H J
07 X G Y
98 X J U
13 X K V

11

13 W S G R M
61 Y F S

2

04 W T A T E
20 E L N
18 I S I
89 N J G
97 W M B

5

FORM-11

452609

28 W U C P J
25 D O R
65 G W R
29 I D R
05 J T Z
72 T D J
02 W L T

7

78 W V C M R
15 D M B
20 G P D
63 M O V
62 N Z B
31 S F I

6

76 W W A F S
17 B K O
58 C X I
65 E U C
25 K Y D
12 N C I
85 N S Z
07 R X G
37 Y Y O

9

64 W X B F Y
34 C D V
54 D E F
32 D T O
80 J W H

5

98 W Y A W A
46 C W H
20 M G R
29 Y J R

4

04 W Z A Y G
75 K E L
94 L D W
50 L S G
86 N H C
42 R A P
49 Y C F

7

FORM-11

182

452610

17 X A A Y S
91 O C R
52 P C K
51 P V L
89 P Y W
36 U G C
07 U W I
32 X C I
16 X P J

9

93 X B C J M
42 E M I
64 F Y C
01 G V J
12 H Y B
50 N L J
70 O H T
99 S C D
70 T V B
82 Y V Z

10

34 X C D V L
06 H U I
32 I N M
72 I Z Y
69 S U X
62 Y M L

6

58 X D A H O
03 D A T
54 E F R
08 E P J
55 G E U

REF ID: A4127215

43 KZP
54 OUX
51 SFO
32 TQY
99 UVV

12

80 XEGJF
26 IFA
95 MSC
45 RWO
73 TTG
13 XPZ

FORM-11

452611

6

31 XFAJB
05 KTD
39 PKG
59 SWF
21 UBM
45 UBV
78 VIT

7

06 XGAGJ
85 DIU
87 KYT
76 NMH
35 OME
02 PGW
10 PVU
67 PWB
59 RLV
07 SDS
86 TMO
80 TMS
01 UDX
07 YLE

14

82 XHBTD
35 FZX
43 HCD
82 SYV
59 YCW

5

58 XIDJO

1

03 XJFWB
15 HUW
78 IZI
27 KDO
65 MXO
98 UKG
63 UPJ
02 VWU
80 WHG

9

FORM-11

41 XKDIT
22 DOT
35 DXU
15 FNJ
19 MKD
69 NXC
13 VIL

7

452612

08 XLCFI
95 DCM
26 KOE
51 LZZ
36 SCH
56 TKD
54 UZE

7

23 XMAYB
33 BVR
04 HFA
77 IUT
34 JEB
63 MTI
75 NEC
96 NGJ
18 WDK

9

70 XNAKC
16 BSY
92 DTK
93 PJO

4

98 X0AZO
34 DXM
70 FGP
47 LXV
53 LZG
96 NXM
65 POU
38 RWJ
91 RXA
59 XFS

11

FORM-11

59 XQLXH

452613

1

41 XRHGF

57 IJZ
30 LEP
73 LNZ
24 NIX
40 PKI
85 VOO
35 YSB

8

71 XS ATN

95 DBB
38 ELL
90 FOL
24 FPB
81 FPT
71 FVT
06 RDT
43 VZE
24 WHG
54 XLU

11

55 XTFKL

07 URE
49 WFV
10 WHZ
72 XCI
24 XSF
21 ZBZ

7

89 XUNTK

36 PFH
23 VMN
94 WNU
06 YXG

5

28 XV KFP

65 NYE
43 THK
47 W G J

4

19 XWBZU

52 DRD
62 FGH
62 JJY
12 POY
85 WNS

6

77 XX MIU

24 SWH

2

35 XZ BFR

83 COG
53 JGY
42 JKT
33 JLB
30 SIS
09 WKB

7

169

23 YA AHY

96 FUG
11 GNB
68 HVA
22 MFZ
74 QZJ
98 WAE
32 XAX
02 ZYA
02 ZYZ

10

64 YB AZP

12 AZW
80 FSJ
23 OUX
40 RNF
69 WOX
12 WQB
74 WRW

8

49 YCFKM

34 FNY
59 HBB
97 LDC
53 LRP
64 VJI
46 WHZ
60 WKE

8

FORM-11

452614

FORM-11

86 YDBZB

452615

86 YDBZB
25 CAR
87 EFW
11 EJJ
84 IYZ
11 JEB
18 TMZ
09 ZKL

9

65 YEAFW
84 FGD
83 PJE
13 SEP

4

71 YFFCF
70 GEH
83 KSP
61 PCZ
61 SLW

5

44

48 YFSOB

1

1

95 YFUCD

1

4 YGAIK
85 GEF
72 IHC
46 TZN
48 VLJ

5

84 YHEYU
09 GIN
33 GXM
27 JIJ
92 LUL
70 TXO
49 ZLH

7

FORM-11

72 YIDZM
07 GPO

452616

2

01 YJERH
66 FWL
99 JHT
50 LAJ
40 RLL
91 RTF
29 RZP
56 TLT
30 TMY

9

07 YKBVK
22 FUB

2

86 YLCYD
07 EHY
56 ENK
27 MYU
22 TKA
81 UHT
28 VDV
09 YDZ

8

97 YMAHC
20 GRK
03 HDK
82 HKM
35 HND
25 JGP
62 LHW
61 LSB
40 UGT
52 ZFG

10

63 YNAIX
10 HZU
34 IDH
44 IMA
24 UOW
87 VOM
58 WRR

7

FORM-11

31 YOHDX
10 LHL
70 NYO
79 RNL
74 WLZ
70 YFG

452617

6

75
 96
 97
 54
 16
 93
 56
 30
 22
 20
 24

FNW
 JYY
 KDB
 NRJ
 PXB
 VNC
 XRL
 YKF
 ZKS
 ZNV

11

81
 34
 01
 90
 39
 02
 23
 23

YRAIW
 DNY
 DYX
 FMG
 GPV
 HVC
 IXR
 RUE

8

35
 35
 86
 17
 73
 36

YSBHT
 GEH
 LGU
 PVL
 TGI
 ZRG

6

83
 88
 05
 74
 87
 62

YTEPX
 GZK
 IAY
 MYA
 VYD
 ZXC

6

78
 33
 10
 27
 41
 74

YUHXJ
 NAZ
 NSG
 OKU
 TUS
 VNJ

FORM-11

452618

84

VZO

7

26
 13

YVHTI
 IAL

2

90

YVJHS

1

65
 32
 31
 82
 82

YVJPV
 LAZ
 LBR
 MNJ
 ZVR

5

18
 68
 05
 95
 04
 89
 15

YWAMG
 BZR
 CAM
 CSR
 TAT
 TNJ
 VDM

7

06
 01
 92
 98
 73
 10
 33

YXGAG
 GUD
 NDT
 OAZ
 RLN
 TWH
 ZJL

7

97
 29
 90
 68
 68

YYCLD
 JRZ
 VJH
 WBZ
 YWB

5

67
 20
 02
 56
 16
 84
 16
 50

YZBSM
 DFO
 EXG
 EXL
 GNF
 OPJ
 VIB
 WGV

8

FORM-11

452619

130

74
 26
 04
 65

ZAIBF
 NGI
 YGA
 YVJ

4

62
 35

ZBAGS
 ERH

62 ZB AGS
 35 FRH
 47 LZG
 86 MII
 66 NBN
 47 NDT
 77 RHH
 52 SAT
 79 SMB
 67 SMZ
 32 UVC
 65 WWE
 83 YTE
 10 YUM
 39 ZGB
 21 ZRO

16

73 ZC DKL
 81 GJZ
 34 HHY
 96 LSY
 83 OGB
 67 TPP
 80 ULG

7

03 ZD ACT
 19 AUR
 20 FOI
 69 JGV
 31 JRY
 45 MGO
 13 NTP
 94 SST
 75 YPC

9

09 ZE CFO
 22 CWN
 51 MXA
 54 OLT
 43 XDK
 02 XGP
 56 XLT

7

74 ZF AZA
 83 DIY
 52 GTS
 67 KGL
 79 KTA
 03 SPE
 75 VMP
 48 YGV
 05 YTI

9

39 ZG BNR
 96 EVF
 88 IFZ
 16 NFW
 53 VZI
 47 WNS

6

46 ZH DOC
 92 GOZ
 97 IWT

3

78 ZI FLR
 48 GLE
 61 KJY
 48 KPJ
 93 RAG
 53 RPC
 77 RVW
 19 XWB

8

71 ZJ FEF
 79 GJB
 74 GJK
 53 GYC
 57 IIU
 24 IOT
 42 KTF
 33 LBF
 63 VLM

9

75 ZK ELH
 76 FHT
 17 KRO
 66 LAT
 09 LSB
 88 NRV
 20 SGC
 20 YPZ

8

83 ZL CPZ
 01 CTL

FORM-11

452620

FORM-11

452621

48 KPJ
93 RA6
55 RPP
77 RVW
19 XWB

8

71 ZJ FEF
79 GJB
74 GJK
53 GYC
57 I IU
24 IOT
42 KTF
33 LBF
63 VLM

9

FORM-11

75 ZK ELH
76 FHT
17 KRO
66 LAT
09 LSB
88 NRV
20 SGC
20 YPZ

452621

8

83 ZL CPZ
01 CTL
94 DWF
49 HBV
44 QCS
87 RYN
50 SGG

7

57 ZM NLJ
72 OGV
84 PGD
75 WZK

4

16 ZN DEE
46 DZU
34 EJT
86 HCT
10 INP
03 IOG
80 ORW
91 TNO
24 VOV

9

58 ZO GES
84 PJF
98 TBT
06 VXU
16 XAX
73 XET
23 YAA
84 ZZY

8

96 ZP AXO
99 BXB
61 IHP
95 JOT
29 RZT
64 SGS
45 UVB
17 UXA
51 VHT
43 XVT
40 YBR

11

FORM-11

67 ZO OBL
42 WZR
23 XMA

3

42 ZR APC
68 DFG
64 DFH
88 DGO
46 FAH
37 GBW
55 JTJ
92 MSR
84 NJV
21 OSX
81 PHR
26 YVH

12

83 ZS DFC
30 ISY
21 RGJ
12 ZXB

4

94 ZT BPA
04 HHY
85 HUR
04 MCP
88 OCM
29 RBB

452622

FORM-11

99 ZFA XU
 95 BXB
 29 JOT
 64 RZT
 45 SGS
 17 UVB
 51 UXA
 43 VHT
 40 YBR

452622

11

67 ZQOBL
 42 WZR
 23 XMA

3

42 ZR APC
 68 DFG
 64 DFH
 88 DGO
 46 FAH
 37 GBW
 55 JTJ
 92 MSR
 84 NJV
 21 OSX
 81 PHR
 26 YVH

12

83 ZS DFC
 30 ISY
 21 RGJ
 12 ZXB

4

94 ZT BPA
 04 HHY
 85 HUR
 04 MCP
 88 OCB
 29 RBB
 91 YJR

7

47 ZUNJB
 25 OXE
 10 PXG
 59 WDT
 19 WTE
 31 WVS

6

FORM-11

48 ZV CVB
 03 GXD
 16 IBY
 82 RTY

452623

4

85 ZW DLM
 12 GMJ
 50 GUV
 72 JXT
 09 KBZ
 71 KTO
 97 LCB

7

12 ZX BHY
 62 CYM
 43 HHC
 22 KDO
 35 KDX

5

02 ZY AZY
 49 CFK
 84 EFG
 84 HEY
 72 IDZ
 44 NIM
 24 PZN
 88 TGZ
 33 XZJ
 02 ZEX

10

44 ZZ DMG
 93 IRA
 51 PVH
 85 THU
 84 YEF

5

188 4329

FORM-11

452624

52

87
30
110
17
1127

ESA0SEPEMSWGU&AMM 0001
 UKOWPANIQDXQEXMYXJSPBZSEBUV&LA 0031
 CJNOVVHRTGFXEENCWBSCKPURXGTKDG 0061
 MGBLJBFJHGMMOYKQJOWCXLIIQDVQBX 0091
 PYEMOGPDWAEUBDRIVHFQDIXVCQILYG 0121
 KLOFWQAQVVSRBMBBEEQIIVIUBIVXPS 0151
 QQRHEUBJTONDB GCHI HUA FHACGAYXU 0181
 OSKHOMNBLWGLBQBDFACPYGRUJSGBO 0211
 IOPCQONFQVNNBADEGGFEWKFVCRSOTT 0241
 FWGXQVTHUCHJUWXUDYPUDCIQTWBEVY 0271
 DEHYQFUVAGRBWNKHSSJOBRRBPUEXVQX 0301
 FL5DLWS5WUYKUQVUUQRTGVTXGWXODM 0331
 LCPSIYJBLKWHSVTMSHOMRWHVAWAQTR 0361
 OHRETUKQHYTOWRKB IYUYKVPXLIOQXU 0391
 BYKGGGWXFOBHUSQMP³LG³EAXTTXKOD²C
 - "R-AS-FOLLOWS-"
 XT²XKBWCFRBSAFOVXFTACHROXQEHMRY 0451
 NXUUEM&UVALOCUBKAXMNEBYFRWBQPP 0481
 CAWMNMWUQRSSMSXKHDJDSKMSTQRNRR 0511
 JUOGWADHQIYABIPODMALIARNSXIBVO 0541
 JVGQBCEXUEUFROLKXFQQDLAVGTRHWM 0571
 RFXNHTMATUHTAENFQUAMHKBRBNIWDX 0601
 PJDGHLJFJSBOSIVBDYJDBWVUFDLPLA 0631
 SWNUTGTSBNILIHNOKPSDNBVBIGVXAC 0661
 RNRREFVBI OHGMWMPAWGICGBXQEWTI 0691
 VGNFYFLFRPCERWYBGKIXFCMCLWCPQYQ 0721
 LCTJHGTHHCKMVGLBMTPEYYNPVVFNH 0751
 QCAECKDPLLGBJTCISGOKPIQQPJFBBR 0781
 KPIRUVDPNEFWFHFRLMEOWBHOIYTMN 0811
 XPJOXPXNRGVHAPJHKSQARNYHBMAIXH 0841
 PRKUNHGUJBOSGVIVPDREVUOIDITQWF 0871
 SWKQHXRTASMTBBOCBLU1QCXOWCBK&N 0901
 SANQXAGVDTMGKJMDGTYKJHYVLDEROQ 0931
 RWWAELJNFNJNVGHKSMDWKPRWATQTHF 0961
 XYHADQXKIVTXEMUADUHIRBICSEBVSM 0991
 ENYWHYREUBKIHVVBUQNHWPYEFGFKGL 1021
 GEXMBCFJVHTOIOVRKVCQRQBVCXENXT 1051
 DUTRNDDOTNUXPDRGLISHURQRRJADU 1081
 ACNJCEVBOHCTSKJHBEYEUYADWWMMYU 1111

090702

FORM-11

~~ABCDEFGHIJKLMN OPQRSTUVWXYZ~~

44-6540

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
44	63	40	40	43	37	47	51	42	32	40	33	40	42	49	40	49	53	42
T	U	V	W	X	Y	Z	1	2	3	4	5	6	7	8	9			
43	50	52	45	51	33	1			1	1	3	1	1	2	1			

3 (11) 01 TPLSS YBLNT GJOPE IQCLX A0ZSA AZ

4 (11) 01 BARWW MLAPE OCSEW NQGAT IVYKW WE

123 EOKPP FIVCU YUVIZ TQZVD XYDAV V⁴⁵⁶OMDF EWNBO VRNWL FQING PGBIU U

709 MLBEE CMRUA NIMAJ DQWRL FKAER R0

008 NWSNN RAIHD ZGRXM YQOIE VZHPO 0

11 TPLDW YLIPE FCSXF LQOJC SHDAH M

21 TPRSS YLUND FCOAR BQMFA KTZDV C

31 TPISW YDENP FCYIF MQGJC RGKDG 0

41 TPLSS YBLNT GJOPE IQCLX A0ZSA A

(1) A B Y L I P J V (2) N X R W
 (2) A H T Y J K P I O Z E F S
 (3) M L G R Y F B U H T S X Z

A B C D E F G H I J K L M N O
 P R S T U V W X Y Z

A
B
C
D
E
F
G
H

12
76

||
(

ABCDEFGHIJKLMNOPQRSTUVWXYZ

ABCDEFGHIJKLMNOPQRSTUVWXYZ

ABCDEFGHIJKLMNOPQRSTUVWXYZABCDEFGHIJKLMNOPQRSTUVWXYZ

ABCDEFGHIJKLMNOPQRSTUVWXYZ

ABCDEFGHIJKLMNOPQRSTUVWXYZ

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ABCDEFGHIJKLMNOPQRSTUVWXYZ

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ABCDEFGHIJKLMNOPQRSTUVWXYZ

ABCDEFGHIJKLMNOPQRSTUVWXYZ

ABCDEFGHIJKLMNOPQRSTUVWXYZ

A

Stepping Wheel No 1
Block type No 1

Cypher Text
Comm. #
Alph.

1	ERY JERHPYRDYXGUDXBGVJJJJKGARLF	A
	1 1 1 2 2 2 2 2 2 2 3 3 3 3 2 2 2 2 1 1 1 1 1 3 3 3 3	1
	A A B B C C D E E E E F F G H H H I J J K K K K L M N N N	1 - Stepping wheel

2	K F F O B I G D A Z L C T L M W M O U Y R H V C X J V W U W	A
	3 2 2 2 2 2 3 3 3 3 1 1 1 1 1 2 2 2 2 1 1 1 1 1 1 1 1 1	1
	N N O O O P P P R R S T T U U U V V V V W W W W X X X Y	1

62	L T M P V D N I O P N Y A Z Y A Z Y Z E X G P G W K O L I D	A
	1 3 3 3 3 1 1 1 1 1 3 3 3 3 3 3 3 3 2 2 2 2 1 1 1 1	1
	Y Y Z Z Z Z A A A A B B B B B B C C C C C C D D D D D D	1

3	C R G Z D A C T F M Z V G X D D A T F A Z N I O G O K E Y M	A
	1 2 2 2 2 2 3 3 3 3 2 2 2 2 2 2 2 2 1 1 1 1 1 3 3 3 3	1
	D D E E E E E F F F F F F G G G G H H H I I J J J J J J K K	1

4	H D K B T X J F W B Z F S P E H X M H F A P J E B E K K E P	A
	3 2 2 2 2 2 2 2 2 2 3 3 3 3 1 1 1 1 2 2 2 2 2 1 1 1 1	1
	K L L L M M M N N N N O O O P P P P P R R R R R S S S S S	1

101	J B T N Z T H H Y W T A T E Z T M C P S K Q L P R V W Z A Y	A
	1 3 3 3 3 1 1 1 1 1 1 1 1 1 3 3 3 3 2 2 2 2 2 1 1 1 1	1
	T T T T U U U V V V V V V W W W X X X Y Y Y Y Z Z Z Z Z	1

Stepping Wheel /
Block type 3

13

A

NRS
~~ERYJERHPYROYXGUDXBGVJJOJKGARLF~~ A
 112222333333222111113333222223 3
 AABBCCEEEEFFGHHHHIJJKKKKLMNN 1

~~KFFOBTGDZLCTLMWMOUYRHVQXJVVUW~~ A
 3111111222222222111111113333331 3
 NN0000PPRRSTTUUVVVVWWWWWXXXY 1
 OIRWEWPDVBDYW

~~LTPVUNIOPNYAZYAZYZEZXPQGWKOLID~~ A
 113333333222111111112222222333 3
 YZZZZAAABBBBCCCCCDDDDDD 1

~~CRGZDACTFMZVQXDDATFAZNIQGOKEYM~~ A
 322222222211111111333333222222 3
 DEEEEEFFFFFGGGHHHHIIJJJJJJJKK 1

~~HDKBTXJFWBZFSPEHXMHFAPJEBEKKEP~~ A
 2231111111222222222222211111133 3
 KLLMMNNNNNO0000PPPPRRRRRSSSS 1

~~JBTNZTHHYWTATEZTMCPQSKQLPRVWZAY~~ A
 333331111111333333322222222111 3
 TTTTUUVVVVVVWWWXXXYZZZZ 1
 OIRWVGPDSDHC

Stepping W #1
Block type #4

A

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	
ERY	JER	HPY	RDY	XGUD	XB	GVJ	JJKGARLF
111	122	233	333	222	222	111	11133333322
A	ABB	CCD	EEEEE	FF	GH	HHH	IJJKKKKLMNN
							1

<u>8</u>	<u>9</u>	<u>10</u>					
KFF	OBIG	DAZ	LCT	LMW	MOUY	RHV	CXJVVWUW
222	333	333	311	111	122	222	222221111113
NN	000	0PP	PRR	STT	UUU	VVV	VVVWWWXXXY
							1

<u>1</u>	<u>2</u>	<u>3</u>					
LT	MPVD	NIOP	NYAZ	YAZ	YZEX	GP	GWKOLID
333	333	333	311	111	111	133	2222222111112
YY	ZZZ	AAA	AAA	BBBB	BBBB	CCCC	CCCCDDDDDD
							1

<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>				
CRG	ZDA	CTFM	ZV	XDD	ATFA	ZNI	OGOKEYM
222	233	333	322	222	111	111	113333322311
D	EEEE	EE	FFFF	FGG	GG	HHH	IIJJJJJKK
							1

<u>7</u>	<u>8</u>	<u>9</u>					
HDK	BTXJ	FWBZ	FSPE	HXM	HFA	PJEB	EKKEP
111	111	122	222	222	222	111	1133333333331
KL	LLM	MMN	NNN	O000	0PP	PPR	RRRRSSSS
							1

<u>10</u>							
JBT	NZTH	YWT	ATEZ	TMCP	SKQL	PRV	WZAY
111	111	133	333	333	333	222	2222211111
T	TTT	UUU	VVV	VVV	VVV	WWW	XXXYYYYZZZZ
							1

Stepping Wheel #1
Block type #5

A

WLI
 1 2 3 4 5 6 7
 ERY JERHPYRDYXGUDXBGVJJJKGARLF A
 111222233333322221133333322222 5
 AABBBCCDEEEFFFGHHHHIJJKKKKLMNN 1

8 9 10
 KFFOBIGDAZLCTLMWMOUYRHVXCXJVVWUW A
 223333111111122222222111111333 5
 NN0000PPPRRSTTUUVVVVWWWWWXXXY 1

1 2 3 4
 LTMPVDNIOPNYAZYAZYZEXGPGWKOLID A
 333311111133333222221111122222 5
 YYZZZZAAABBBBCCCCDDDDDD 1

5 6 7
 CRGZDACTFMZVGXDDATFAZNIOGOKEYM A
 22222322222221113333322222223 5
 DDEEEEEEFFFFFFFGGGGHHHHIIJJJJJKK 1

8 9
 HDKBTXJFWBZFSPEHXMHFAPJEBEKKEP A
 3333111111122222222111111333 5
 KLLMMNNNN0000PPPPRRRRRSSSS 1

10 11 12
 JBTNZTHHYWTATEZTMCPKSKQLPRVWZAY A
 33333332222333333332222221 5
 TTTTUUVVVVVVWWWWWXXXYZZZZ 1

Stopping wheel #1
Block type #6

A

¹	²	³	⁴	⁵	⁶	⁷	⁸	⁹	¹⁰	¹¹	
ERY	JER	HPY	RDY	XG	UDX	BGV	JJO	JKG	AR	LF	A
1	1	1	1	2	2	2	3	2	1	1	1
A	A	B	B	C	C	D	E	E	E	F	F

¹²	¹³									¹⁴	
KFF	OBI	GD	AZ	LCT	LM	WM	OUY	RHV	CX	JV	WU
2	3	3	3	3	1	1	1	1	2	2	2
N	N	O	O	O	P	P	P	R	R	S	T

	¹						²	³	⁴		
L	T	M	P	V	D	N	I	O	P	N	Y
3	3	3	3	3	1	1	1	1	1	3	3
Y	Y	Z	Z	Z	Z	A	A	A	B	B	B

	⁵				⁶	⁷				⁸	⁹
C	R	G	Z	D	A	C	T	F	M	Z	V
3	3	3	3	3	2	2	1	1	1	1	1
D	D	E	E	E	E	F	F	F	F	F	G

		¹⁰	¹¹				¹²	¹³			
H	D	K	B	T	X	J	F	W	B	Z	F
1	1	1	1	2	2	2	2	2	2	2	1
K	L	L	M	M	M	N	N	N	N	O	O

							¹⁴				
J	B	T	N	Z	T	H	H	Y	W	T	A
1	1	1	1	1	1	1	1	1	3	3	3
T	T	T	T	U	U	U	V	V	V	V	W

A

1	2	3	4	5	6	7	8	9	
ERY	JERHPY	RDY	XGUDXB	GVJJO	JKGARLF				A
1111	2222	2233	32222	11111	11333333				2
AA	ABCC	CDDE	EEFF	FFGH	IIJJ	JJKL	LLMM		2

						10	11	12	13	14	
KFF	OBIGD	AZL	CTLM	WM	DUYR	HV	CX	JV	WUW		A
2222	3333	1111	22222	2111	3333333	1111					2
MNNN	OOOP	PPRR	RRSS	STTU	UUUV	VVWW	XXXY				2

						1	2	3	4	
LTMP	VDNIO	PNYA	ZY	AZY	ZEX	GP	GW	KOL	ID	A
3333	3332	22222	11111	11111	11111	2222	2223			2
YYY	ZZZZ	ZZZZ	ZAAA	AAAA	ABBB	CCCC	DDDD			2

		6	5					7	8	
CRGZ	DACT	FMZ	VG	XDD	ATFA	ZNIO	GO	KEY	M	A
3333	3211	11111	1133	3333	3222	2222	2233	333		2
DEEEE	EEFFF	GGGG	HHHH	IIJJ	KKKK	KKL				2

		8	9					10			
HDK	BTX	JFW	BZ	FS	PE	HXM	HF	AP	JEB	KEP	A
3333	3311	11111	1222	2222	2111	1111	1111	1133			2
LLL	MMNN	OOOP	PPPP	PPRR	SSST	TTTT					2

						12	13	14			
JBT	NZTH	HYWT	ATE	ZT	MC	PSK	QL	PR	VW	ZAY	A
3311	1111	1111	1333	3333	3333	3332	2222	2222	21		2
UUUU	UUUV	VVVV	VWWW	WWWW	WWXX	XXXY	YYZZ				2

A X J G	A X G E	A Y P R
A Y U X	A X Y E	A Y M O
A X M O	A Y W C	

302

A

ERY JERHPYRDYXGUDXBGVJJJJKGARLF	A
112222333333222111113332222223	3
AAABCCCDDEEEFFFGHIIJJJKKLLMM	2

KFFOBIGDAZLCTLMWMOUYRHVCXJVVUW	A
311111122222222211111113333331	3
MNNN000PPPRRRSSSTTUUVVWVXXXY	2

LTMPVDNIOPNYAZYAZYZEXGPGWKOLID	A
113333333222111111112222222333	3
YYYZZZZZZZZZZAAAAAABBCCCCDDDD	2

CRGZDACTFMZVGXD DATFAZNIOGOKEYM	A
3222222222111111111333333222222	3
DEEEEFEEEEFFGGGGHHHHIIJJKKKKKKL	2

HDKBTXJFWBZFSPEHXMHFAPJEBEKKEP	A
223111111122222222222211111133	3
LLMMNNN0000PPPPPPPRRSSSTTTTTT	2

JBTNZTHHYWTATEZTMCP SKQLPRVWZAY	A
33333111111133333322222222111	3
UUUUUUUVVVVVVWWWWWXXXXXYZZZ	2

ERY	JERHPYRDY	XGUDXB	GVJJ	JKGARLF	A
1111	2223333	22222	11111	33333322	4
AA	ABCCDDEE	EEFFFGH	IIJJ	JJKKLLMM	2

KFF	OBIGDA	ZLCTLM	WMOUYR	HVCX	JVWUW	A
222	333333	11111	22222	22222	1111113	4
MNN	N000PP	PRRRS	SSSTT	UUUVV	VWXXXY	2

LT	MPVDNIO	PNY	AZY	AZY	ZEXGPGW	KOLID	A
333	333333	11111	11111	133	22222	222111112	4
YYY	ZZZZZZ	ZZZ	AAAAA	ABB	CCCCC	DDDD	2

CRG	ZDACTFM	ZVG	XDDAT	FAZNI	OGOKEYM	A
222	233333	2222	11111	11333	3322311	4
DEE	EEEEFF	FFFGG	GGHHH	IIJJ	KKKKKKL	2

HD	KBTXJ	FWBZF	SPEHX	MHFAP	JEBEKKEP	A
111	11112	22222	22211	11133	33333331	4
LLL	MMNNN	0000P	PPPPP	PRRSS	STTTT	2

JB	TNZTH	HYWT	A	TEZTM	CPSKQL	PRVWZAY	A
111	11113	33333	33333	22222	22222	11111	4
UUU	UUUVV	VVVV	WWWWW	WWW	XXXXX	YYZZZ	2

52

A

WRX

ERY JERHPYRDYXGUDXBGVJJJKGARLF	A
111222233333322221133333322222	5
AAABCCCDDEEEFFFGHIIJJJKKLLMM	2

KFFOBIGDAZLCTLMWMOUYRHV CXJ VWUW	A
2233331111111222222221111113333	5
MNNNOOOPPPRRRSSSTTUUVVWXXXY	2

LTMPVDNIOPNYAZYAZYZEXGPGWKOLID	A
33331111113333322221111122222	5
YYYZZZZZZZZZAAAAAABBCCCCDDDD	2

CRGZDACTFMZVGXDDATFAZNI OGOKEYM	A
2222322222221113333322222223	5
DEEEEEFFFFFGGGGHHHHIIJJJKKKKKKL	2

HDKBTXJFWBZFSPEHXMHFAPJEBEKKEP	A
33333111111122222221111113333	5
LLMMNNNOOOPPPPPRRRSSSTTTT	2

JBTNZTHHYWTATEZTMCP SKQLPRVWZAY	A
3333333322222333333322222221	5
UUUUUUUVVVVVWWWWWWWXXXXXXYYZZZ	2

A

SGCZ

ERYJERHPYRDYXGUDXBGVJJJJKGARLF	A
1111122232111111111113333322222	6
AAABCCCDDEEEFFFGHIIJJJKKLLMM	2

KFFOBIGDAZLCTLMWMOUYRHVCXJVVWUW	A
233333311111222222222221111133	6
MNNN000PPPRRRSSSTTUUVVWVWXXXY	2

LTMPVDNIOPNYAZYAZYZEEXGPGWKOLID	A
3333311111133333321111122222222	6
YYYZZZZZZZZZAAAAAABBCCGCCDDDD	2

CRGZDACTFMZVGXDDATFAZNIOGOKEYM	A
33333322111111333333222223331	6
DEEEEEEFFFGGGGHHHHIIJJKKKKKKL	2

HDKBTXJFWBZFSPEHXMHFAPJEBEKKEP	A
11112222222111111111133333333	6
LLMMNNN0000PPPPPPPRRRSSSTTTT	2

JBTNZTHHYWTATEZTMCPKQLPRVWZAY	A
111111111133333333222222111111	6
UUUUUUUVVVVVWWWWWWWXXXXXYZZZ	2



A

3-1

NMJ

ERY JERHPYRDYXGUDXBGVJJJKGARLF	A
1112222222333332222111113333	1
AABBBCCCDEEEEEFFFFGGGHHIIIIJ	3

KFFOBIGDAZLCTLMWMOUYRHV CX J V W U W	A
322222333331111122222111111111	1
JKLLLLLLMMMNNNOOPPPRRRRRSSSTUU	3

L TMPVDNIOPNYAZYAZY ZEXGPGWKOLID	A
133333111113333333332222211111	1
UVVVVWWWXXXXYYYYYZZZZAAABBCC	3

CRGZDACTFMZVGXDDATFAZNIOGOKEYM	A
122222333332222222221111133333	1
CDDDEEEEEFFFFFGGGGGGGHHHHHHH	3

HDKBTXJFWBZFSPEHXMHFAPJEBEKKEP	A
322222222233333111112222211111	1
HIIIIIJJJJJKKKKKLMMMMMMMMNOP	3

JBTNZTHHYWTATEZTMCP SKQLPRVWZAY	A
1333331111111111333332222211111	1
PPRRSSSTTTUUUVVVVWWWXXYYYYYZZ	3

msw

A

ERYJERHPYRDYXGUDXBGVJJJKGARLF	A
111122222233332222111111333333	2
AABBBCCCDDEEEEEEFFFGGGHHIIIIJ	3

KFFOBIGDAZLCTLMWMOUYRHV CXJ VWUW	A
222233331112222221113333331111	2
JKKLLLLLMMMNNNNOOPPPRRRRRSSSTUU	3

LTMPVDNIOPNYAZYAZYXGPGWKOLID	A
3333332222221111111122222233	2
UVVVVWWWXXXXYYYYZZZZAAABBCC	3

CRGZDACTFMZVGXDDATFAZNIOGOKEYM	A
333321111111333322222223333	2
CDDDEEEEEFFFFFGGGGGGGHHHHHH	3

HDKBTXJFWBZFSPEHXMHFAPJEBEKKEP	A
3333331111122222221111111133	2
HIIIIIJJJJKKKKKLMMMMMMMNOP	3

JBTNZTHHYWTATEZTMCPSKQLPRVWZAY	A
331111111113333333222222221	2
PPRRSSSTTTUUUVVWWWXXYYYYYZZ	3

3 3 3 3 3 3
 V V V V W W W

A

ERY JERHPYRDYXGUDXBGVJJJJKGARLF	A
112222333333222111113332222223	3
AABBBCCCDDEEEEEFFFGGGHHIIIIJ	3

KFFOBIGDAZLCTLMWMOUYRHVCXJWUW	A
31111112222222211111113333331	3
JKKLLLLLMMMNNNOOPPPRRRRSSSTUU	3

LTMPVDNIOPNYAZYAZYZEXGPGWKOLID	A
11333333322211111111222222333	3
UVVVVWWWXXXXXYYYYYYZZZZAAABBC	3

CRGZDACTFMZVGXDDATFAZNIOGOKEYM	A
32222222211111111333333222222	3
CDDDEEEEEFFFGGGGGGGHHHHHHH	3

HDKBTXJFWBZFSPEHXMHFAPJEBEKKEP	A
2231111112222222222211111133	3
HIIIIIJJJJJKKKKKLMMMMMMMMNOP	3

JBTNZTHHYWTATEZTMCP SKQLPRVWZAY	A
33333111111133333332222222111	3
PPRRSSSTTTUUUVVVVWWWXXYYYYYZ	3

A

SFEJOGDCINZQWZRABCDMJOBLL
 ERYJERHPYRDYXGUDXBGVJJJKGARLF A
 111222233333322221133333322222 5
 AABBBCCCDDEEEEEEFFFGGGHHIIIIJ 3

KFFOBIGDAZLCTLMWMOUYRHV CXJ VWUW A
 223333111111122222222111111333 5
 JKLLLLLMMMNNNOOPPPRRRRSSSTUU 3

LTMPVDNIOPNYAZYAZYZEXGPGWKOLID A
 333311111133333222221111122222 5
 UVVVVWWWXXXXYYYYZZZZAAABBBCC 3

CRGZDACTFMZVGXDDATFAZNIOGOKEYM A
 22222322222221113333322222223 5
 CDDDEEEEEEFFFGGGGGGGHHHHHHH 3

HDKBTXJFWBZFSPEHXMHFAPJEBEKKEP A
 3333311111112222222111111333 5
 HIIIIIIJJJJKKKKKLMMMMMMNNOP 3

VBDTFWP

JBTNZTHHYWTATEZTMCP SKQLPRVWZAY A
 3333333222223333333322222221 5
 PPPRRSSSTTUUVVVWWWXXYYYYZZ 3

A

UDWOKXSXWUZEOLTKRJMGMVSVWDEWI	
ERYJERHPYRDYXGUDXBGVJJOJKGARLF	A
11112223333222221111133333322	4
AABBBCCCODEEEEEFFFFFGGGHHIIIIJ	3

KFFOBIGDAZLCTLMWMOUYRHV CXJ VWUW	A
2223333331111122222222221111113	4
JKKLLLLLMMMNNNOOPPPRRRRSSSTUU	3

62

V B D C F W P

LTMPVDNIOPNYAZYAZYZE XGPGWKOLID	A
333333333111111133222222111112	4
UVVVVVWWWXXXXYYYYYYZZZZZAAABBC	3

35

CRGZDACTFMZVGXDDATFAZNI OGOKEYM	A
222233333222211111113333322311	4
CDDDEEEEEEEEEFFFFFGGGGGGGHHHHHH	3

HDKBTXJFWBZFSPEHXMHFAPJEBEKKEP	A
11111122222222111113333333331	4
HIIIIIJJJJJKKKKKLMMMMMMMMNOP	3

JBTNZTHHYWTATEZTM CPSKQLPRVWZAY	A
111111133333333322222211111	4
PPRRSSS TTTUUUVVVVVWWWXXYYYYYZ	3

A

ERY JERHPYRDYXGUDXBGVJJJJKGARLF	A
1111122232111111111113333322222	6
AABBBCCCDDEEEEEEFFF FGGGHHIIIIJ	3

KFFOBIGDAZLCTLMWMOUYRHV CXJVWUW	A
23333331111222222222221111133	6
JKKLLLLLMMMNNNNOOPPPRRRRRSSSTUU	3

LTMPVDNIOPNYAZYAZY ZEXGPGWKOLID	A
3333311111133333321111122222222	6
UVVVVWWWXXXXXXYYYYYYZZZZAAABBC	3

CRGZDACTFMZVGXDDATFAZNI OGOKEYM	A
33333322111111333333222223331	6
CDDDDDEEEEEEFFFFFFFGGGGGGHHHHHH	3

HDKBTXJFWBZFSPEHXMHFAPJEBEKKEP	A
111122222221111111111333333333	6
HIIIIIJJJJJKKKKKLMMMMMMMMNNOP	3

JBTNZTHHYWTATEZTMCPSKQLPRVWZAY	A
11111111133333333222222111111	6
PPRRSSSTTTUUUVVVVWWWXXYYYYYZ	3

35-34
 3 4 5
 34

B

13

GAIKHRJCKLAWUJTZFYTIAYWCAMCWRK	B
112222333333222111113332222223	3
AABBCCDEEEFFFGHHHHIJJKKKKLMNN	1

FOBIVXFKTDORGFDDUZOVXUYXGAGJKC	B
311111122222222211111113333331	3
NN0000PPPRRSTTUUVVVVWWWWWXXXY	1

JOXCHUIIPTLTFHPFVSM LXSRDTYPFNW	B
113333333222111111112222222333	3
YYZZZZAA AABBBBBBBCC CCCCDDDDDD	1

GIAWWRXGYLEHYIGPOLHHXGSDSXAUI	B
322222222211111111333333222222	3
DDEEEEFF FFFF FGGGGHHHIIJJJJJJKK	1

YKBVKCXTURECBGAAEIXLCFIVDANRFV	B
2231111111222222222222221111133	3
KLLMMMNNNN0000PPPPRRRRRSSSSS	1

SKOEFBTGVLXDEPJOKLSKMDVOIDPRKJ	B
333331111111333333322222222111	3
TTTTUUUVVVVVVWWWX XXYY YYZZZZ	1

13

B

14

G A I K H R J C K L A W U J T Z F Y T I A Y W C A M C W R K	8
1 1 1 1 2 2 2 3 3 3 3 2 2 2 2 2 1 1 1 1 1 3 3 3 3 3 3 2 2	4
A A B B C C D E E E E F F G H H H H I J K K K K L M N N N	1

F O B I V X F K T D O R G F F D U Z O V X U Y X G A G J K C	8
2 2 2 3 3 3 3 3 1 1 1 1 1 2 2 2 2 2 2 2 2 1 1 1 1 1 1 3	4
N N O O O O P P P P R R S T T U U U V V V V W W W W W X X X Y	1

J O X C H U I I P T L T F H P F V S M L X S R D T Y P F N W	8
3 3 3 3 3 3 3 3 1 1 1 1 1 1 1 3 3 2 2 2 2 2 2 1 1 1 1 1 2	4
Y Y Z Z Z Z A A A A B B B B B C C C C C C D D D D D D	1

G I A W R X G Y L E H Y I G P O L H H X G S D S X A U W I	8
2 2 2 2 3 3 3 3 3 2 2 2 2 1 1 1 1 1 1 1 3 3 3 3 3 2 2 3 1 1	4
D D E E E E E F F F F F F G G G G H H H I I J J J J J K K	1

Y K B V K C X T U R E C B G A A E I X L C F I V D A N R F V	8
1 1 1 1 1 1 1 2 2 2 2 2 2 2 2 1 1 1 1 1 3 3 3 3 3 3 3 3 1	4
K L L L M M M N N N N O O O O P P P P P R R R R R R S S S S S	1

S K O E F B T G V L X D E P J O K L S K M D V O I D P R K J	8
1 1 1 1 1 1 1 3 3 3 3 3 3 3 3 3 2 2 2 2 2 2 2 2 1 1 1 1 1	4
T T T T U U U V V V V V V W W W X X X Y Y Y Y Z Z Z Z Z	1

B

15

G A I K H R J C K L A W U J T Z F Y T I A Y W C A M C W R K	B
1 1 1 2 2 2 2 3 3 3 3 3 2 2 2 2 1 1 3 3 3 3 3 2 2 2 2 2	5
A A B B C C D E E E E F F G H H H H I J J K K K K L M N N N	1

F O B I V X F K T D O R G F F D U Z O V X U Y X G A G J K C	B
2 2 3 3 3 3 1 1 1 1 1 1 2 2 2 2 2 2 2 1 1 1 1 1 1 3 3 3	5
N N O O O P P P R R R S T T U U U V V V V W W W W W X X X Y	1

J O X C H U I I P T L T F H P F V S M L X S R D T Y P F N W	B
3 3 3 3 1 1 1 1 1 1 3 3 3 3 3 2 2 2 2 1 1 1 1 1 2 2 2 2 2	5
Y Y Z Z Z Z A A A A B B B B B B C C C C C C D D D D D D	1

G I A W W R X G Y L E H Y I G P O L H H X G S D S X A U W I	B
2 2 2 2 2 3 2 2 2 2 2 2 2 1 1 1 3 3 3 3 3 2 2 2 2 2 2 2 3	5
D D E E E E E F F F F F F G G G G H H H I I J J J J J K K	1

Y K B V K C X T U R E C B G A A E I X L C F I V D A N R F V	B
3 3 3 3 3 1 1 1 1 1 1 1 2 2 2 2 2 2 2 1 1 1 1 1 1 3 3 3	5
K L L L M M M N N N N O O O O P P P P P R R R R R R S S S S S	1

S K O E F B T G V L X D E P J O K L S K M D V O I D P R K J	B
3 3 3 3 3 3 3 2 2 2 2 2 3 3 3 3 3 3 3 3 2 2 2 2 2 2 2 1	5
T T T T U U U V V V V V V W W W X X X Y Y Y Y Y Z Z Z Z	1

15

B

16

G A I K H R J C K L A W U J T Z F Y T I A Y W C A M C W R K	B
1 1 1 1 2 2 2 3 2 1 1 1 1 1 1 1 1 1 1 3 3 3 3 2 2 2 2	6
A A B B C C D E E E E F F G H H H H I J J K K K K L M N N N	1

F O B I V X F K T D O R G F F D U Z O V X U Y X G A G J K C	B
2 3 3 3 3 3 1 1 1 1 2 2 2 2 2 2 2 2 2 2 1 1 1 1 1 3 3	6
N N O O O P P P R R S T T U U U V V V V W W W W X X X Y	1

J O X C H U I I P T L T F H P F V S M L X S R D T Y P F N W	B
3 3 3 3 3 1 1 1 1 1 1 3 3 3 3 3 2 1 1 1 1 1 2 2 2 2 2 2	6
Y Y Z Z Z Z A A A A B B B B B B C C C C C C D D D D D D	1

G I A W W R X G Y L E H Y I G P O L H H X G S D S X A U W I	B
3 3 3 3 3 3 2 2 1 1 1 1 1 1 3 3 3 3 3 2 2 2 2 2 3 3 3 1	6
D D E E E E E F F F F F F G G G G H H H I I J J J J J K K	1

Y K B V K C X T U R E C B G A A E I X L C F I V D A N R F V	B
1 1 1 1 2 2 2 2 2 2 2 1 1 1 1 1 1 1 1 1 3 3 3 3 3 3 3 3	6
K L L L M M M N N N N O O O O P P P P P R R R R R R S S S S S	1

S K O E F B T G V L X D E P J O K L S K M D V O I D P R K J	B
1 1 1 1 1 1 1 1 1 3 3 3 3 3 3 3 2 2 2 2 2 2 1 1 1 1 1 1	6
T T T T U U U V V V V V V W W W X X X Y Y Y Y Y Z Z Z Z Z	1

B

21

GAIKHRJCKLAWUJTZFYTIAYWCAMCWRK	B
111222222223333322222111113333	1
AAABCCCDDEEEFFFGHHIIJJJKKLLMM	2

FOBIVXFKTDORGFDDU'ZOVXUYXGAGJKC	B
322222333331111122222111111111	1
MNNN000PPPRRRSSSTTUUVVWWXXXY	2

JOXCHUIIPTLTFHPFVSM LXSRDTYPFNW	B
133333111113333333333222221111	1
YYYZZZZZZZZZAAAAAABBCCCCDDDD	2

GIAWWRXGYLEHYIGPOLHHXGSDSXAUWI	B
122222333332222222222111113333	1
DEEEEFEEEEFFGGGGHHHHIIJJKKKKKKL	2

YKBVKCXTURECBGAAEIXLCFIVDANRFV	B
322222222223333311111222221111	1
LLMNNN0000PPPPPPPRRSSSTTTTTT	2

SKOEFBTG VLXDEP JOKLSKMDVOIDPRKJ	B
13333311111111111133333222221111	1
UUUUUUUVVVVVVWWWWWWWWWXXXXXXYYZZZ	2

21

B

22

GAIKHRJCKLAWUJTZFYTIAYWCAMCWRK	B
111122222233332222111111333333	2
AAABCCCDDEEEFFFGHIIJJJKKLLMM	2

FOBIVXFKTDORGF F DUZOVXUYXGAGJKC	B
222233331112222221113333331111	2
MNNNOOOPPPRRRSSSTTUUVVWVWXXXY	2

JOXCHUIIPTLTFHPFVSMLXSRDTYPFNW	B
3333333222221111111122222233	2
YYYZZZZZZZZAAAAAABBCCCCCDDDD	2

GIAWRXGYLEHYIGPOLHHXGSDSXAUI	B
3333321111111333332222223333	2
DEEEEFFFFFFFFGGGGHHHHIIJJKKKKKKL	2

YKBVKCXTURECBGAAEIXLCFIVDANRFV	B
33333311111122222211111111133	2
LLMMNNNOOOPPPPPPPRRSSSTTTTTT	2

SKOEFBTGVLXDEPJOKLSKMDVOTDPRKJ	B
33111111111133333333322222221	2
UUUUUUVVVVVWWWWWWWXXXXXYZZZ	2

22

B

23

G A I K H R J C K L A W U J T Z F Y T I A Y W C A M C W R K	B
1 1 2 2 2 2 3 3 3 3 3 2 2 2 1 1 1 1 1 3 3 3 2 2 2 2 2 2 3	3
A A A B C C C D D E E E F F F G H I I I J J J J K K L L M M	2

F O B I V X F K T D O R G F F D U Z O V X U Y X G A G J K C	B
3 1 1 1 1 1 2 2 2 2 2 2 2 2 1 1 1 1 1 1 1 3 3 3 3 3 1	3
M N N N O O O P P P R R R S S S T T U U U V V W W X X X Y Y	2

J O X C H U I I P T L T F H P F V S M L X S R D T Y P F N W	B
1 1 3 3 3 3 3 3 2 2 2 1 1 1 1 1 1 1 1 2 2 2 2 2 2 3 3 3	3
Y Y Y Z Z Z Z Z Z Z Z Z A A A A A A A B B C C C C C D D D D	2

G I A W W R X G Y L E H Y I G P O L H H X G S D S X A U W I	B
3 2 2 2 2 2 2 2 2 1 1 1 1 1 1 1 1 3 3 3 3 3 2 2 2 2 2 2	3
D E E E E E F F F F F G G G G H H H I I J J K K K K K K L	2

Y K B V K C X T U R E C B G A A E I X L C F I V D A N R F V	B
2 2 3 1 1 1 1 1 1 2 2 2 2 2 2 2 2 2 2 2 1 1 1 1 1 1 3 3	3
L L L M N N N O O O O P P P P P P R R R S S S T T T T T T	2

S K O E F B T G V L X D E P J O K L S K M D V O I D P R K J	B
3 3 3 3 1 1 1 1 1 1 1 3 3 3 3 3 3 2 2 2 2 2 2 2 2 1 1 1	3
U U U U U V V V V V W W W W W W W X X X X Y Y Y Z Z Z	2

23

B

24

G A I K H R J C K L A W U J T Z F Y T I A Y W C A M C W R K	B
1 1 1 1 2 2 2 3 3 3 3 2 2 2 2 1 1 1 1 1 3 3 3 3 3 2 2	4
A A A B C C C D D E E E F F F G H I I I J J J J K K L L M M	2

F O B I V X F K T D O R G F F D U Z O V X U Y X G A G J K C	B
2 2 2 3 3 3 3 3 1 1 1 1 1 2 2 2 2 2 2 2 2 1 1 1 1 1 3	4
M N N N O O O P P P R R R S S S T T U U U V V W W X X X Y Y	2

J O X C H U I I P T L T F H P F V S M L X S R D T Y P F N W	B
3 3 3 3 3 3 3 3 1 1 1 1 1 1 1 3 3 2 2 2 2 2 2 1 1 1 1 2	4
Y Y Y Z Z Z Z Z Z Z Z Z A A A A A A A B B C C C C D D D D	2

G I A W W R X G Y L E H Y I G P O L H H X G S D S X A U W I	B
2 2 2 2 3 3 3 3 2 2 2 2 1 1 1 1 1 1 1 3 3 3 3 2 2 3 1 1	4
D E E E E E F F F F F G G G G H H H H I I J J K K K K K K L	2

Y K B V K C X T U R E C B G A A E I X L C F I V D A N R F V	B
1 1 1 1 1 1 2 2 2 2 2 2 2 1 1 1 1 1 3 3 3 3 3 3 3 3 1	4
L L L M M N N N O O O O P P P P P P P R R R S S S T T T T T T	2

S K O E F B T G V L X D E P J O K L S K M D V O I D P R K J	B
1 1 1 1 1 1 3 3 3 3 3 3 3 3 2 2 2 2 2 2 2 2 1 1 1 1 1	4
U U U U U U V V V V V W W W W W W W X X X X X Y Y Y Z Z Z	2

24

B

25

G A I K H R J C K L A W U J T Z F Y T I A Y W C A M C W R K	B
1 1 1 2 2 2 2 3 3 3 3 3 2 2 2 2 1 1 3 3 3 3 3 2 2 2 2	5
A A A B C C C D D E E E F F F G H I I I J J J J K K L L M M	2

F O B I V X F K T D O R G F F D U Z O V X U Y X G A G J K C	B
2 2 3 3 3 3 1 1 1 1 1 1 1 2 2 2 2 2 2 2 1 1 1 1 1 1 3 3 3	5
M N N N O O O P P P R R R R S S S T T U U U V V W W X X X Y Y	2

J O X C H U I I P T L T F H P F V S M L X S R D T Y P F N W	B
3 3 3 3 1 1 1 1 1 1 3 3 3 3 2 2 2 2 2 1 1 1 1 1 2 2 2 2	5
Y Y Y Z Z Z Z Z Z Z Z Z A A A A A A A B B C C C C C D D D D	2

G I A W W R X G Y L E H Y I G P O L H H X G S D S X A U W I	B
2 2 2 2 2 3 2 2 2 2 2 2 2 1 1 1 3 3 3 3 2 2 2 2 2 2 2 3	5
D E E E E E F F F F F G G G G H H H H I I J J K K K K K K L	2

Y K B V K C X T U R E C B G A A E I X L C F I V D A N R F V	B
3 3 3 3 3 1 1 1 1 1 1 1 1 2 2 2 2 2 2 2 1 1 1 1 1 1 3 3 3	5
L L L M M N N N O O O O P P P P P P R R R S S S T T T T T	2

S K O E F B T G V L X D E P J O K L S K M D V O I D P R K J	B
3 3 3 3 3 3 3 2 2 2 2 2 3 3 3 3 3 3 3 3 2 2 2 2 2 2 2 1	5
U U U U U U V V V V V W W W W W W W X X X X X Y Y Y Z Z Z	2

25

B

26

G A I K H R J C K L A W U J T Z F Y T I A Y W C A M C W R K	8
1 1 1 1 1 2 2 2 3 2 1 1 1 1 1 1 1 1 1 1 1 3 3 3 3 3 2 2 2 2 2	6
A A A B C C C D D E E E F F F G H I I I J J J J K K L L M M	2

F O B I V X F K T D O R G F F D U Z O V X U Y X G A G J K C	8
2 3 3 3 3 3 3 1 1 1 1 1 2 2 2 2 2 2 2 2 2 2 2 1 1 1 1 1 3 3	6
M N N N O O O P P P R R R S S S T T U U U V V W W X X X Y Y	2

J O X C H U I I P T L T F H P F V S M L X S R D T Y P F N W	8
3 3 3 3 3 1 1 1 1 1 1 3 3 3 3 3 2 1 1 1 1 1 2 2 2 2 2 2 2	6
Y Y Y Z Z Z Z Z Z Z Z Z A A A A A A A B B C C C C C D D D D	2

G I A W W R X G Y L E H Y I G P O L H H X G S D S X A U W I	8
3 3 3 3 3 3 2 2 1 1 1 1 1 1 3 3 3 3 3 3 2 2 2 2 2 3 3 3 1	6
D E E E E E F F F F F F G G G G H H H H I I J J K K K K K K L	2

Y K B V K C X T U R E C B G A A E I X L C F I V D A N R F V	8
1 1 1 1 2 2 2 2 2 2 2 1 1 1 1 1 1 1 1 1 1 3 3 3 3 3 3 3 3	6
L L L M M N N N O O O O P P P P P P P R R R S S S T T T T T T	2

S K O E F B T G V L X D E P J O K L S K M D V O I D P R K J	8
1 1 1 1 1 1 1 1 1 1 3 3 3 3 3 3 3 3 2 2 2 2 2 2 2 1 1 1 1 1 1	6
U U U U U U V V V V V W W W W W W W W X X X X X Y Y Y Z Z Z	2

26

B

31

G A I K H R J C K L A W U J T Z F Y T I A Y W C A M C W R K	B
1 1 1 2 2 2 2 2 2 2 3 3 3 3 2 2 2 2 1 1 1 1 1 3 3 3 3	1
A A B B B C C C D D E E E E E F F F F G G G H H I I I I J	3

F O B I V X F K T D O R G F F D U Z O V X U Y X G A G J K C	B
3 2 2 2 2 3 3 3 3 3 1 1 1 1 2 2 2 2 1 1 1 1 1 1 1 1 1	1
J K K L L L L M M M N N N N O O P P P R R R R R S S S T U U	3

J O X C H U I I P T L T F H P F V S M L X S R D T Y P F N W	B
1 3 3 3 3 1 1 1 1 1 3 3 3 3 3 3 3 3 2 2 2 2 2 1 1 1 1	1
U V V V V W W W X X X X X Y Y Y Y Y Z Z Z Z A A A B B C C	3

G I A W W R X G Y L E H Y I G P O L H H X G S D S X A U W I	B
1 2 2 2 2 3 3 3 3 2 2 2 2 2 2 2 2 1 1 1 1 1 3 3 3 3	1
C D D D D E E E E E F F F F F F G G G G G G H H H H H H H	3

Y K B V K C X T U R E C B G A A E I X L C F I V D A N R F V	B
3 2 2 2 2 2 2 2 2 3 3 3 3 1 1 1 1 2 2 2 2 2 1 1 1 1	1
H I I I I I I J J J J K K K K K L M M M M M M M N N O P	3

S K O E F B T G V L X D E P J O K L S K M D V O I D P R K J	B
1 3 3 3 3 1 1 1 1 1 1 1 1 1 3 3 3 3 2 2 2 2 2 1 1 1 1	1
P P P R R S S S T T T U U U V V V W W W W X X Y Y Y Y Z Z	3

B

32

G A I K H R J C K L A W U J T Z F Y T I A Y W C A M C W R K	B
1 1 1 1 2 2 2 2 2 2 3 3 3 3 2 2 2 2 1 1 1 1 1 1 3 3 3 3 3 3	2
A A B B B C C C C D D E E E E E F F F F F G G G G H H I I I I I J	3

F O B I V X F K T D O R G F F D U Z O V X U Y X G A G J K C	B
2 2 2 2 3 3 3 3 1 1 1 2 2 2 2 2 2 1 1 1 3 3 3 3 3 3 1 1 1 1	2
J K K L L L L L M M M N N N N O O P P P R R R R R S S S T U U	3

J O X C H U I I P T L T F H P F V S M L X S R D T Y P F N W	B
3 3 3 3 3 3 2 2 2 2 2 2 1 1 1 1 1 1 1 1 2 2 2 2 2 2 3 3	2
U V V V V W W W X X X X X Y Y Y Y Y Z Z Z Z A A A B B C C	3

G I A W W R X G Y L E H Y I G P O L H H X G S D S X A U W I	B
3 3 3 3 2 1 1 1 1 1 1 1 3 3 3 3 3 2 2 2 2 2 2 2 3 3 3 3	2
C D D D D E E E E E E F F F F F F G G G G G G H H H H H H H	3

Y K B V K C X T U R E C B G A A E I X L C F I V D A N R F V	B
3 3 3 3 3 3 1 1 1 1 1 1 2 2 2 2 2 2 2 1 1 1 1 1 1 1 1 1 3 3	2
H I I I I I I J J J J J K K K K K L M M M M M M M M N N O P	3

S K O E F B T G V L X D E P J O K L S K M D V O I D P R K J	B
3 3 1 1 1 1 1 1 1 1 1 3 3 3 3 3 3 3 3 3 2 2 2 2 2 2 2 2 1	2
P P P R R S S S T T T U U U V V V W W W W X X Y Y Y Y Y Z Z	3



G A I K H R J C K L A W U J T Z F Y T I A Y W C A M C W R K	B
1 1 2 2 2 2 3 3 3 3 3 2 2 2 1 1 1 1 1 3 3 3 2 2 2 2 2 3	3
A A B B B C C C D D E E E E E F F F F G G G G H H I I I I I J	3

F O B I V X F K T D O R G F F D U Z O V X U Y X G A G J K C	B
3 1 1 1 1 1 1 2 2 2 2 2 2 2 2 1 1 1 1 1 1 1 3 3 3 3 3 3 1	3
J K K L L L L L M M M N N N N O O P P P R R R R R S S S T U U	3

J O X C H U I I P T L T F H P F V S M L X S R D T Y P F N W	B
1 1 3 3 3 3 3 3 3 2 2 2 1 1 1 1 1 1 1 1 2 2 2 2 2 2 2 3 3 3	3
U V V V V W W W X X X X X Y Y Y Y Y Y Z Z Z Z A A A B B C C	3

G I A W W R X G Y L E H Y I G P O L H H X G S D S X A U W I	B
3 2 2 2 2 2 2 2 2 1 1 1 1 1 1 1 1 3 3 3 3 3 3 2 2 2 2 2 2	3
C D D D D E E E E E E F F F F F F F G G G G G G G H H H H H H	3

Y K B V K C X T U R E C B G A A E I X L C F I V D A N R F V	B
2 2 3 1 1 1 1 1 1 2 2 2 2 2 2 2 2 2 2 2 1 1 1 1 1 1 3 3	3
H I I I I I I J J J J K K K K K L M M M M M M M N N O P	3

S K O E F B T G V L X D E P J O K L S K M D V O I D P R K J	B
3 3 3 3 3 1 1 1 1 1 1 1 3 3 3 3 3 3 3 2 2 2 2 2 2 2 1 1 1	3
P P P R R S S S T T T U U U V V V W W W W X X Y Y Y Y Z Z	3

B

34

G A I K H R J C K L A W U J T Z F Y T I A Y W C A M C W R K	B
1 1 1 1 2 2 2 3 3 3 3 2 2 2 2 1 1 1 1 1 3 3 3 3 3 2 2	4
A A B B B C C C D D E E E E E F F F F G G G H H I I I I J	3

F O B I V X F K T D O R G F F D U Z O V X U Y X G A G J K C	B
2 2 2 3 3 3 3 3 1 1 1 1 1 2 2 2 2 2 2 2 1 1 1 1 1 1 3	4
J K K L L L L M M M N N N N O O P P P R R R R S S S T U U	3

J O X C H U I I P T L T F H P F V S M L X S R D T Y P F N W	B
3 3 3 3 3 3 3 3 1 1 1 1 1 1 1 3 3 2 2 2 2 2 1 1 1 1 1 2	4
U V V V V W W W X X X X Y Y Y Y Y Z Z Z Z A A A B B C C	3

G I A W W R X G Y L E H Y I G P O L H H X G S D S X A U W I	B
2 2 2 2 3 3 3 3 2 2 2 2 1 1 1 1 1 1 1 3 3 3 3 2 2 3 1 1	4
C D D D E E E E E F F F F F F G G G G G H H H H H H	3

Y K B V K C X T U R E C B G A A E I X L C F I V D A N R F V	B
1 1 1 1 1 1 2 2 2 2 2 2 2 1 1 1 1 1 3 3 3 3 3 3 3 3 1	4
H I I I I I I J J J J K K K K K L M M M M M M M N N O P	3

S K O E F B T G V L X D E P J O K L S K M D V O I D P R K J	B
1 1 1 1 1 1 1 3 3 3 3 3 3 3 3 2 2 2 2 2 2 2 1 1 1 1 1	4
P P P R R S S S T T T U U U V V V W W W W X X Y Y Y Y Z Z	3

B

35

G A I K H R J C K L A W U J T Z F Y T I A Y W C A M C W R K	B
1 1 1 2 2 2 2 3 3 3 3 3 2 2 2 2 1 1 3 3 3 3 3 2 2 2 2 2	5
A A B B B C C C D D E E E E E F F F F G G G H H I I I I I J	3

F O B I V X F K T D O R G F F D U Z O V X U Y X G A G J K C	B
2 2 3 3 3 3 1 1 1 1 1 1 2 2 2 2 2 2 2 1 1 1 1 1 1 3 3 3	5
J K K L L L L L M M M N N N N O O P P P R R R R R S S S T U U	3

J O X C H U I I P T L T F H P F V S M L X S R D T Y P F N W	B
3 3 3 3 1 1 1 1 1 1 3 3 3 3 3 2 2 2 2 2 1 1 1 1 1 2 2 2 2 2	5
U V V V V W W W X X X X X Y Y Y Y Y Z Z Z Z A A A B B C C	3

G I A W R X G Y L E H Y I G P O L H H X G S D S X A U W I	B
2 2 2 2 3 2 2 2 2 2 2 2 1 1 1 3 3 3 3 3 2 2 2 2 2 2 2 3	5
C D D D D E E E E E E F F F F F F F G G G G G G H H H H H H H	3

Y K B V K C X T U R E C B G A A E I X L C F I V D A N R F V	B
3 3 3 3 3 1 1 1 1 1 1 1 1 2 2 2 2 2 2 2 1 1 1 1 1 1 3 3 3	5
H I I I I I I J J J J J K K K K K L M M M M M M M M N N O P	3

S K O E F B T G V L X D E P J O K L S K M D V O I D P R K J	B
3 3 3 3 3 3 3 3 2 2 2 2 2 3 3 3 3 3 3 3 3 2 2 2 2 2 2 2 1	5
P P P R R S S S T T T U U U V V V W W W W X X Y Y Y Y Y Z Z	3

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B

36

G A I K H R J C K L A W U J T Z F Y T I A Y W C A M C W R K	B
1 1 1 1 2 2 2 3 2 1 1 1 1 1 1 1 1 1 1 1 3 3 3 3 2 2 2 2	6
A A B B B C C C D D E E E E E F F F F G G G H H I I I I J	3

F O B I V X F K T D O R G F F D U Z O V X U Y X G A G J K C	B
2 3 3 3 3 3 1 1 1 1 2 2 2 2 2 2 2 2 2 2 1 1 1 1 1 3 3	6
J K K L L L L M M M N N N N O O P P P R R R R R S S S T U U	3

J O X C H U I I P T L T F H P F V S M L X S R D T Y P F N W	B
3 3 3 3 3 1 1 1 1 1 1 3 3 3 3 3 2 1 1 1 1 1 2 2 2 2 2 2	6
U V V V V W W W X X X X Y Y Y Y Y Z Z Z Z A A A B B C C	3

G I A W W R X G Y L E H Y I G P O L H H X G S D S X A U W I	B
3 3 3 3 3 3 2 2 1 1 1 1 1 1 3 3 3 3 3 2 2 2 2 2 3 3 3 1	6
C D D D D E E E E E E F F F F F F G G G G G G H H H H H H H	3

Y K B V K C X T U R E C B G A A E I X L C F I V D A N R F V	B
1 1 1 1 2 2 2 2 2 2 2 1 1 1 1 1 1 1 1 1 1 3 3 3 3 3 3 3	6
H I I I I I I J J J J K K K K K L M M M M M M M N N O P	3

S K O E F B T G V L X D E P J O K L S K M D V O I D P R K J	B
1 1 1 1 1 1 1 1 1 1 3 3 3 3 3 3 2 2 2 2 2 2 1 1 1 1 1 1	6
P P P R R S S S T T T U U U V V V W W W X X Y Y Y Y Y Z Z	3

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TRFLKBNEYLYDZKLSBYHGINATWIRPRA	C
111222222223333322222111113333	1
AABBCCDEEEFFFGHHHHIJJKKKKLNNN	1

FVMVMHXZWKBZECFOBZBYUNSGKSWLEN	C
322222333331111122222111111111	1
NN0000PPRRSTTUUVVVVWWWXXXY	1

SMUTNGYOLHLYXTWHZNIINPKYNHZUPXG	C
133333111113333333332222211111	1
YYZZZZAAABBBBCCDDDDDD	1

PVULDEDAONYAGNBCKMCJIMGYDJEBGR	C
122222333332222222222111113333	1
DDEEEEFFFFFFFFGGGGHHHIIJJJJJKK	1

HLOTMLTYDEJJPVBTCUTEUWWNCINLVM	C
322222222223333311111222221111	1
KLLMMMNNNN0000PPPPRRRRSSSS	1

ALTAZSZXBHYBAZWGMJOSXWPOYBWBGB	C
133333111111111133333222221111	1
TTTTUUUVVVVVVWWWXXXYZZZZ	1

TRFLKBNEYLYDZKLSBYHGINATWIRPRA C
 111122222233332222111111333333 2
 AABBCCEEEFFFGHHHIJJKKKKLMNN 1

FVMVMHXZWKBZECFOBZBYUNSGKSWLEN C
 222233331112222221113333331111 2
 NN0000PPPRRSTTUUVVVVWWWWWXXY 1

SMUTNGYOLHLYXTWHZNINPKYNHZUPXG C
 3333332222211111111122222233 2
 YYZZZZAA AABBBBBBCCCCCDDDDDD 1

PVULDEDAONYAGNBCKMCJIMGYDJEBGR C
 3333221111111333332222223333 2
 DDEEEEFF FFFFGGGGHHIJJJJJJKK 1

HLOTMLTYDEJJPVBTCUTEUWWNCINLVM C
 33333311111222222211111111133 2
 KLLMMNNNN0000PPPPRRRRRSSSSS 1

ALTAZSZXBHYBAZWGMJOSXWPOYBWOBG C
 33111111111333333333222222221 2
 TTTTUUVVVVVVWWWX XXYYYYYZZZZ 1

C

TRFLKBNEYLYDZKLSBYHGINATWIRPRA	C
11222233333322211111333222223	3
AABBCCDEEEFFFGHHHHIJKKKKLMNN	1

FVMVMHXZWKBZECFOBZBYUNSGKSWLEN	C
31111112222222211111113333331	3
NN0000PPPRRSTTUUVVVVWWWWWXXY	1

SMUTNGYOLHLYXTWHZNI NPKYNHZUPXG	C
11333333222111111112222222333	3
YYZZZZAA AABBBBBBCCCCCDDDDDD	1

PVULDEDA ONYAGNBCKMCJIMGYDJEBGR	C
3222222221111111133333222222	3
DDEEEEFF FFFFGGGGHHHIIJJJJJKK	1

HLOTMLTYDEJJPVBTCUTEUWWNCINLVM	C
22311111112222222222211111133	3
KLLMMNNNNNO0000PPPPRRRRRSSSS	1

ALTAZSZXBHYBAZWMJOSXWPOYBWQBG	C
3333311111133333322222222111	3
TTTTUUUVVVVVVWWWWWXXXYZZZZ	1

C

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TRFLKBNEYLYDZKLSBYHGINATWIRPRA	C
111122233332222211111133333322	4
AABBCCDEEEFFFGHHHHIJJKKKKLLMNN	1

FVMVMHXZWKBZECF0BZBYUNSGKSWLEN	C
222333333111112222222221111113	4
NN0000PPPRRSTTUUVVVVWWWWWXXXY	1

SMUTNGYOLHLYXTWHZNPKNHZUPXG	C
33333333111111133222222111112	4
YYZZZZAAABBBBCCCCDDDDDD	1

PVULDEDAONYAGNBCKMCJIMGYDJEBGR	C
222233333222211111113333322311	4
ODEEEEEFFFFFGGGGHHHIIJJJJJKK	1

HLOTMLTYDEJJPVBTCUTEUWWNCINLVM	C
111111122222222111111333333331	4
KLLMMNNNN0000PPPPRRRRRSSSS	1

ALTAZSZXBHYBAZWGMJOSXWPOYBWQBG	C
1111111333333333222222211111	4
TTTTUUUVVVVVVWWWWWXXXYZZZZ	1

TRFLKBNEYLYDZKLSBYHGINATWIRPRA C
 111222233333322221133333322222 5
 AABBCDEEEFFFGHHHIJJKKKKLMNNN 1

FVMVMHXZWKBZECFOBZBYUNSGKSWLEN C
 223333111111122222222111111333 5
 NN0000PPRRRSTTUUVVVVWWWWWXXXY 1

SMUTNGYDLHLYXTWHZNI NPKYNHZUPXG C
 333311111133333222221111122222 5
 YYZZZZAA AABBBBBBBBC C C C C C D D D D D 1

PVULDEDA ONYAGNBCKMCJIMGYDJEBGR C
 222223222222221113333322222223 5
 DDEEEEFF FFFF FGGGGHHHIIJJJJJJKK 1

HLOTMLTYDEJJPVBTGUTEUWWNCINLVM C
 333331111111122222222111111333 5
 KLLMMNNNNNO0000PPPPRRRRRRSSSSS 1

ALTAZSZXBHYBAZWGMJOSXWPOYBWBGB C
 3333333222223333333322222221 5
 TTTTUUVVVVVVWWWX XXYYYYZZZZZ 1

TRF LKBNEYLYDZKLSBYHGINATWIRPRA C
 111112223211111111113333322222 6
 A A B B C C D E E E E F F G H H H I J J K K K K L M N N N 1

FVVMVHXZWKBZECFOBZBYUNSGKSWLEN C
 233333311111222222222221111133 6
 N N O O O P P P R R S T T U U U V V V V W W W W X X X Y 1

SMUTNGYOLHLYXTWHZNINPKYNHZUPXG C
 333331111113333332111112222222 6
 Y Y Z Z Z Z A A A A B B B B B C C C C C D D D D D 1

PVULDEDAONYAGNBCKMCJIMGYDJEBGR C
 33333322111111333333222223331 6
 D D E E E E F F F F F G G G G H H H I I J J J J J K K 1

HLOTMLTYDEJJPVBTCUTEUWWNCINLVM C
 11112222222111111111133333333 6
 K L L L M M M N N N N O O O O P P P P R R R R R S S S S S 1

ALTAZSZXBHYBAZWGMJOSXWPOYBWQBG C
 111111111133333333222222111111 6
 T T T T U U U V V V V V V W W W X X X X Y Y Y Y Z Z Z Z 1

21

C

TRFLKBNEYLYDZKLSBYHGINATWIRPRA	C
11122222222333332222111113333	1
AAABCCDDEEEFFFGHHIIJJJKKLLMM	2

FVMVMHXZWKBZECFOBZBYUNSGKSWLEN	C
32222233331111122222111111111	1
MNNNOOOPP PRRRSSSTTUUVVWXXXY	2

SMUTNGYOLHLYXTWHZNI NPKYNHZUPXG	C
13333311111333333333222221111	1
YYYZZZZZZZZZAAAAAABBCCCCDDDD	2

PVULDEDAONYAGNBCKMCIJMGYDJEBGR	C
12222233332222222222111113333	1
DEEEEF FFFFGGGGHHHHIIJJKKKKKL	2

HLOTMLTYDEJJPVBTCUTEUWWNCINLVM	C
322222222223333311111222221111	1
LLLMMNNNOOOPP PRRRSSSTTTT	2

ALTAZSZXBHYBAZWGMJOSXWPOYBWQBG	C
13333311111111113333222221111	1
UUUUUVVVVVWWWWWWWXXXXYYZZZ	2

122

C

TRFLKBNEYLYDZKLSBYHGINATWIRPRA	C
111122222233332222111111333333	2
AAABCCCDDEEEFFFGHHIIJJJKKLLMM	2

FVMVMHXZWKZECFOBZBYUNSGKSWLEN	C
222233331112222221113333331111	2
MNNN000PPPRRRSSSTTUUVVWVWXXXY	2

SMUTNGYOLHLYXTWHZNINPKYNHZUPXG	C
333333222222111111111222222233	2
YYYZZZZZZZZZAAAAAAAABBCCCCCDDDD	2

PVULDEDAONYAGNBCKMCJIMGYDJEBGR	C
333332111111133333222222233333	2
DEEEEEFFFFFGGGGHHHHIIJJKKKKKKKL	2

HLOTMLTYDEJJPVBTCUTEUWWNCINLVM	C
3333331111112222222211111111133	2
LLMMNNN0000PPPPPPPRRSSSTTTTTT	2

ALTAZSZXBHYBAZWGMJOSXWPOYBWBQBG	C
331111111113333333333222222221	2
UUUUUUUVVVVVVWWWWWWWWWXXXXXXYYZZZ	2

C

23

TRFLKBNEYLYDZKLSBYHGINATWIRPRA	C
112222333333222111113332222223	3
AAABCCCDDEEEFFFGHIIJJJKKLLMM	2

FVMVMHXZWKBZECFOBZBYUNSGKSWLEN	C
31111112222222211111113333331	3
MNNN000PPPRRRSSSTTUUVVWXXXY	2

SMUTNGYOLHLYXTWHZNI NPKYNHZUPXG	C
113333332221111111222222333	3
YYYZZZZZZZZZAAAAAABBCCCCDDDD	2

PVULDEDAONYAGNBCKMCJIMGYDJEBGR	C
3222222221111111133333222222	3
DEEEEFEEEEFGGGHHHHIIJJKKKKKKL	2

HLOTMLTYDEJJPVBTCUTEUWWNCINLVM	C
2231111111222222222211111133	3
LLMMNNN0000PPPPPPRRSSSTTTT	2

ALTAZSZXBHYBAZWGMJOSXWPOYBWQBG	C
33333111111133333322222222111	3
UUUUUVVVVVWWWWWWWXXXXYZZZ	2

C

24

TRFLKBNEYLYDZKLSBYHGINATWIRPRA	C
111122233332222211111133333322	4
AAABCCCDDEEEFFFGHIIJJJKKLLMM	2

FVMVMHXZWKBZECFOBZBYUNSGKSWLEN	C
222333333111112222222221111113	4
MNNN000PPPRRRSSSTTUUVVWVWXXXY	2

SMUTNGYOLHLYXTWHZNINPKYNHZUPXG	C
333333333111111133222222111112	4
YYYZZZZZZZZZZAAAAAABBCCCCDDDD	2

PVULDEDAONYAGNBCKMCJIMGYDJEBGR	C
222233333222211111113333322311	4
DEEEEEFFFFFGGGGHHHHIIJJKKKKKKL	2

HLOTMLTYDEJJPVBTCUTEUWWNCINLVM	C
111111122222222111113333333331	4
LLMMNNN0000PPPPPPRRSSSTTTTTT	2

ALTAZSZXBHYBAZWGMJOSXWPOYBWQBG	C
11111113333333332222222211111	4
UUUUUVVVVVVWWWWWWWXXXXXYZZZ	2

C

25

TRFLKBNEYLYDZKLSBYHGINATWIRPRA	C
1112222333332222113333322222	5
AAABCCDDEEEFFFGHIIJJJKKLLMM	2

FVMVMHXZWKBZECFOBZBYUNSGKSWLEN	C
22333311111122222222111111333	5
MNNNOOOPP PRRRSSSTTUUVVWXXXY	2

SMUTNGYOLHLYXTWHZNI NPKYNHZUPXG	C
333311111133333222221111122222	5
YYYZZZZZZZZZAAAAAABBCCCCDDDD	2

PVULDEDAONYAGNBCKM CJIMGYDJEBGR	C
222223222222221113333222222223	5
DEEEEFF FFFFGGGGHHHHIIJJKKKKKKL	2

HLOTMLTYDEJJPVBTCUTEUWWNCINLVM	C
33333111111122222222111111333	5
LLMMNNNOOOPP PRRRSSSTTTT	2

ALTAZSZXBHYBAZWGMJOSXWPOYBWQBG	C
3333333222223333333322222221	5
UUUUUVVVVVWWWWWWX XXXXYZZZ	2

Q

TRF LKBNEYLYDZKLSBYHGINATWIRPRA	C
111112223211111111113333322222	6
AAABCCDDEEEFFFGHHIIJJJKKLLMM	2

FVMVMHXZWKBZECFOBZBYUNSGKSWLEN	C
233333311111222222222221111133	6
MNNN000PPPRRRSSSTTUUVVWVWXXXY	2

SMUTNGYOLHLYXTWHZNIINPKYNHZUPXG	C
3333311111133333321111122222222	6
YYYZZZZZZZZZZAAAAAABBCCCCDDDD	2

PVULDEDAONYAGNBCKMCJIMGYDJEBGR	C
33333322111111333333222223331	6
DEEEEEFFFFFGGGGHHHHIIJJKKKKKKKL	2

HLOTMLTYDEJJPVBTCUTEUWWNCINLVM	C
111122222222111111111133333333	6
LLLMMNNN0000PPPPPPPRRRSSSTTTTTT	2

ALTAZSZXBHYBAZWGMJOSXWPOYBWQBG	C
111111111133333333222222111111	6
UUUUUUUVVVVVVWWWWWWWWWXXXXXYZZZ	2

C

9)

TRFLKBN EYLYDZKLSBYHGINATWIRPRA	C
1112222222333332222111113333	1
AABBBCCCDDEEEEEEFFF FGGGHHIIIIJ	3

FVMVMHXZWK BZECF OBZBYUNSGKSWLEN	C
322222333331111122222111111111	1
JKKLLLLLMMMNNN OOPPPRRRRSSSTUU	3

SMUTNGYOLHLYXTWHZNI NPKYNHZUPXG	C
133333111113333333332222211111	1
UVVVVWWWXXXXXYYYYYYZZZZAAABBC	3

PVULDEDAONYAGNBCKMCJIMGYDJEBGR	C
122222333332222222221111133333	1
CDDDEEEEEEFFFFF FGGGGGGHHHHHHH	3

HLOTMLTYDEJJPVBTCUTEUWWNCINLVM	C
32222222223333311112222211111	1
HIIIIIJJJJJKKKKKLMMMMMMMMNOP	3

ALTAZSZXBHYBAZWGMJOSXWPOYBWQBG	C
133333111111111333332222211111	1
PPRRRSSSTTTUUUVVVWWWXXYYYYYZZ	3

C

3v

TRFLKBNEYLYDZKLSBYHGINATWIRPRA	C
111122222233332222111111333333	2
AABBBCCCDDEEEEEFFFFGGGHHIIIIJ	3

FVMVMHXZWKBZECFOBZBYUNSGKSWLEN	C
222233331112222221113333331111	2
JKKLLLLLMMMNNNOOPPPRRRRRSSSTUU	3

SMUTNGYOLHLYXTWHZNIINPKYNHZUPXG	C
3333332222211111111122222233	2
UVVVVWWWXXXXXYYYYYYZZZZAAABBC	3

PVULDEDAONYAGNBCKMCJIMGYDJEBGR	C
33332111111133332222223333	2
CDDDEEEEEFFFFFGGGGGGGHHHHHH	3

HLOTMLTYDEJJPVBTCUTEUWWNCINLVM	C
3333311111122222211111111133	2
HHIIIIIIJJJJKKKKKLMMMMMMMNOP	3

ALTAZSZXBHYBAZWGMJOSXWPOYBWBQBG	C
3311111111133333333322222221	2
PPRRRSSSTTTUUUVVVVWWWXXYYYYYZ	3

33

TRFLKBNEYLYDZKLSBYHGINATWIRPRA	C
11222233333322211111333222223	3
AABBBCCCDDEEEEEFFFFGGGHHIIIIJ	3

FVMVMHXZWKBZECFOBZBYUNSGKSWLEN	C
31111112222222211111113333331	3
JKKLLLLLMMMNNNOOPPPRRRRSSSTUU	3

SMUTNGYOLHLYXTWHZNIINPKYNHZUPXG	C
1133333322211111112222222333	3
UVVVVWWWXXXXXYYYYYZZZZAAABBC	3

PVULDEDAONYAGNBCKMCJIMGYDJEBGR	C
322222222111111113333322222	3
CDDDDDEEEEEFFFFFGGGGGGHHHHHHH	3

HLOTMLTYDEJJPVBTCUTEUWWNCINLVM	C
223111111222222222221111133	3
HIIIIIJJJJJKKKKKLMMMMMMMMNOP	3

ALTAZSZXBHYBAZWGMJOSXWPOYBWBGBG	C
33333111111333333222222111	3
PPRRRSSSTTUUVVVWWWXXYYYYYZZ	3

C

TRFLKBNEYLYDZKLSBYHGINATWIRPRA	C
111222233333322221133333322222	5
AABBBCCCDDEEEEEFFFGGGHHIIIIJ	3

FVMVMHXZWKBZECFOBZBYUNSGKSWLEN	C
223333111111122222222111111333	5
JKKLLLLLMMMNNNNOOPPPRRRRR99STUU	3

SMUTNGYOLHLYXTWHZNI NPKYNHZUPXG	C
333311111133333222221111122222	5
UVVVVWWWXXXXXYYYYYZZZZAAABBC	3

PVULDEDAONYAGNBCKMCJIMGYDJEBGR	C
22222322222221113333322222223	5
CDDDDDEEEEEFFFGGGGGGGHHHHHHH	3

HLOTMLTYDEJJPVBTCUTEUWWNCINLVM	C
333331111111122222222111111333	5
HIIIIIJJJJKKKKKLMMMMMMMMNOP	3

ALTAZSZXBHYBAZWGMJOSXWPOYBWQBG	C
33333333222223333333322222221	5
PPRRRSSSTTTUUUVVVVWWWXXYYYYYZ	3

36

TRFLKBNEYLYDZKLSBYHGINATWIRPRA	C
1111122232111111111113333322222	6
AABBBCCCDDEEEEEFFFGGGHHIIIIJ	3

FVMVMHXZWKBZECFOBZBYUNSGKSWLEN	C
233333311111222222222221111133	6
JKKLLLLLMMMNNNOOPPPRRRRSSSTUU	3

SMUTNGYOLHLYXTWHZNI NPKYNHZUPXG	C
333331111113333332111112222222	6
UVVVVWWWXXXXXXYYYYYYZZZZAAABBC	3

PVULDEDAONYAGNBCKMCJIMGYDJEBGR	C
33333322111111333333222223331	6
CDDDEEEEEFFFGGGGGGGHHHHHHH	3

HLOTMLTYDEJJPVBTCUTEUWWNCINLVM	C
11112222222111111111133333333	6
HIIIIIJJJJJKKKKKLMMMMMMMMNOP	3

ALTAZSZXBHYBAZWGMJOSXWPOYBWQBG	C
111111111133333333222222111111	6
PPRRRSSSTTTUUUVVVVWWWXXYYYYYZ	3

Block type No 1
Block " No 2

Stepping Wheel No 2

Z P B D O I T D W L K U F Z H F C R J K P P K P J P S W O J P G G C Z K L U E T K P V I N
O G T C I V Y R C N V A H G S N A D P I D D K D G K L T L H V C C Y P U Y H R X R D G E V
V H U G N T Y B A S I T C I P M V T W I B B F B O D H L V Z I M M U Z P V N S P K Y S B U

Z E A V I E I M C E M S P P K B F G M D V Z W X M Z H L E B L E B E V G D X D C S Z M S P
F P C B K F V H V N M A O M G V J U L S D A W R L A M K D T K D T D G Y D F D N S O J D I
P E J L Y F W F P O M B T R J T L S Y U T B I M Y B P C I U C I U I Y W S K S I P G I L X

U L E J K B R A X Y G G V L F L W U N U I C V I P I J C N U N B G N D W L G D Z B P R L A
Y N O I V Y T C B A V O I C N K X L U H K G P B K B G Y E E W Y I I E E I C L P T A W J C
S S X L I N X N A L D O Z R M W B K J P R X Y K D K O A Z Y A C X X H P H M F Z B W A Z X

O M X O I Z Y B U G M Y Y M H A P G S M G I I F J P P K X S K O C A V A _ H W J X K N F H
D Z G D S E Y K L J S U U S M J U P M L P V V B D N I K R W K B V H G X _ I C Z L G E N M
O E B O D O W S Z D M G G M L X G I V A I W W N H Z W M D J M T P C Z Y _ A R U P J X G P

REF ID: A4127215

NO. 1130 FROM PARIS AUGUST 9

*Stephane
Wood 2*

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17																											
Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H																											
ERYUJ	ERH	PRY	RDY	XGY	UDX	BGV	JJO	JKG	ARL	LEK	FEF	OB	IG	DA	ZL	OT	LM																											
ZPBD	OIT	DWL	KU	FZH	FCR	JK	PKP	JPS	SW	OP	GG	ZK	L	U	ET	KPV	IN																											
OGT	CIV	YRC	NVA	HGS	NAD	PI	DD	KD	GK	LT	LHY	CC	Y	P	UT	HR	KR	DD	GE	V																								
VH	U	G	N	T	Y	B	A	S	I	T	C	I	P	M	V	T	W	I	B	B	F	B	O	D	H	L	V	Z	I	M	M	U	Z	P	V	N	S	P	K	T	S	B	U	
(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)	(41)	(42)	(43)	(44)	(45)	(46)	(47)	(48)	(49)	(50)	(51)	(52)	(53)	(54)	(55)	(56)	(57)	(58)	(59)	(60)		
W	O	U	Y	R	H	V	O	X	J	V	W	U	W	L	T	M	P	V	D	N	I	O	P	N	Y	A	Z	Y	A	Z	Y	Z	E	X	G	P	G	W	K	O	L	I	D	
Z	E	A	V	I	E	I	M	G	E	M	S	P	R	K	B	F	G	M	D	V	Z	W	X	M	Z	H	L	E	B	L	E	B	E	V	G	D	X	D	E	S	Z	M	S	P
F	P	C	B	K	F	V	H	V	N	M	A	O	M	G	V	J	U	L	S	D	A	W	R	L	A	M	K	D	T	E	D	T	D	G	T	D	F	D	N	S	O	J	D	I
P	E	J	L	T	F	W	F	P	O	M	B	T	R	J	T	L	S	Y	U	T	R	I	M	Y	B	P	C	I	U	C	I	U	I	Y	M	S	K	S	I	P	G	I	L	X
O	R	G	Z	D	A	C	T	F	M	Z	V	G	X	D	D	A	T	F	A	Z	N	I	O	G	O	K	E	Y	M	H	D	K	B	T	X	J	F	W	B	Z	F	S	P	E
U	L	E	J	K	B	R	A	X	Y	G	G	V	L	F	L	W	U	N	U	I	C	V	I	P	I	J	C	N	U	N	B	G	N	D	W	L	G	D	Z	B	P	R	L	A
Y	N	O	I	V	Y	T	C	B	A	V	O	I	C	N	K	X	L	U	H	K	G	P	R	K	B	G	T	E	W	Y	I	E	E	I	C	L	P	T	A	W	J	C		
S	S	X	L	I	N	X	N	A	L	D	O	Z	R	M	W	G	K	D	P	R	X	Y	K	D	K	O	A	Z	Y	A	C	X	X	H	P	M	F	Z	B	W	N	Z	X	
H	X	M	H	F	A	P	J	E	B	E	K	K	E	P	J	B	T	N	Z	T	H	Y	W	T	A	T	E	Z	T	M	O	P	S	K	Q	L	P	R	V	W	Z	A	Y	
O	M	X	O	I	Z	Y	B	U	G	M	T	M	H	A	P	G	S	M	G	I	I	F	J	P	K	X	S	K	O	C	A	V	A	-	H	W	J	X	K	N	F	H		
D	Z	G	D	S	E	T	K	L	J	S	J	U	S	M	J	U	P	M	L	P	V	B	D	N	I	K	R	W	K	B	V	H	G	X	-	I	C	Z	L	G	E	N	M	
O	E	B	O	D	O	W	S	Z	D	M	G	G	M	L	X	G	I	V	A	I	W	W	N	H	Z	W	M	D	J	M	T	P	C	Z	T	-	A	R	U	P	J	X	G	P

3 green
4 purple

Z P B D O I T D W L K U F Z H F O R J K P P K P J P S W O J P G G C Z K L U E T K P V I N
O G T C I V Y R C N V A H G S N A D P I D D K D G K L T L H V C O Y P U Y H R X R D G E V
V H U G N T Y B A S I T C I P M V T W I B B E B O D H L V Z I M M U Z P V N S P K Y S B U

Z E A V I E I M C E M S P P K B F G N D V Z W X M Z H L E B L E B E V G D X D C S Z M S P
F P C B K F V H V N M A O M G V J U L S D A W R L A M K D T K D T D G Y D F D N S O J D I
P E J L Y F W F P O M B T R J T L S Y U T B I M Y B P C I U C I U I Y W S K S I P G I L X

U L E J K B R A X Y G G V L F L W U N U I C V I P I J C N U N B G N D W L G D Z B P R L A
Y N O I V Y T G B A V O I C N K X L U H K G P B K B G Y E E W Y I I E E I O L F T A W J C
S S X L I N X N A L D O Z R M W B K J P R X Y K D K O A Z Y A C X X H P H M F Z B W A Z X

O M X O I Z Y B U G M Y Y M H A P G S M G I I F J P P K X S K O C A V A _ H W J X K N F H
D Z G D S E Y K L J S U U S M J U P M L P V V B D N I K R W K B V H G X _ I C Z L G E N M
O E B O D O W S Z D M G G M L X G I V A I W W N H Z W M D J M T P C Z Y _ A R U P J X G P

W. Knudsen 2

6
5

ZPBD OITDW LKUFZHF ORJKRPPKPSW OJPGG CZKLUETKPVIN
OOTOIVYR ONVAHGSNA DPIDDKDGKLLTHVCCYPUYHRXR DGEV
VHUONTYBASITCIPMVTWIBBFBODHLVZIMMUZPVNSPKYSGU

ZEAVIEIMGEMSPPKBFGMDVZWXNZHLEBLEBEVGD XDOOSZMSP
FPGBKFVHVNMADONGVJULSDAWRLAMKDTKDTGGYDFONSODI
PEJLYFWFPOMBTRJTLSTYUTBIMYBPOIUOIUIYWSKSIPIGILX

ULEJKBRAXYGGVLLFWUNUICV IPIJONUNBGNDWLG OZBPRLLA
YNOIYVTCBAVOICMKXLUHKGPBKBGYE EWTIIEEIOCLPTAWJG
SSXLINXNALDOZRMBWBJUPRXYKDKOAZYACXKHPMHFZZBWAZZX

OMXOIZYBUGMYTNHAPQSMGIIFJPPKXSKOCAVA_HWJXKNFM
DZG DSEYKLLJSUUSMJUPMLPVVBDN IKRWKBVHGXI OZLGENM
OEBDOWS ZDMGMLXGIVAIWNNH ZWMDJMTPOZYT_ARUPPJXGP

NO. 1130 FROM PARIS AUGUST 9

É	Y	J	E	R	H	P	Y	R	D	Y	X	G	U	D	X	B	G	V	J	J	O	J	K	G	A	R	L	F	K	F	F	O	B	I	G	D	A	Z	L	O	T	L	M	
Z	P	T	D	V	I	T	X	W	F	K	U	E	Y	I	F	W	Z	G	O	O	G	J	V	J	U	B	N	Z	O	V	V	F	D	J	K	B	X	Y	O	O	N	J	R	
O	G	X	C	G	V	Y	F	C	P	V	A	X	O	L	P	H	F	G	O	F	F	P	R	Z	P	H	U	X	M	O	T	T	J	G	K	B	Y	S	Y	L	F	D	S	Z
V	H	E	G	Y	T	Y	K	A	J	I	T	G	X	B	Z	C	E	I	O	N	N	Y	F	J	W	P	Z	D	O	S	X	X	B	O	F	G	C	A	F	V	C	A	Y	F
W	M	O	U	Y	R	H	V	C	X	J	V	W	U	W	L	T	M	P	V	D	N	I	O	P	N	Y	A	Z	Y	A	Z	Y	Z	E	X	G	P	G	W	K	O	L	I	D
D	S	H	D	J	X	J	T	P	S	B	A	V	V	O	L	P	V	T	M	N	D	B	R	W	N	C	K	D	Y	I	D	Y	D	E	O	R	M	S	F	M	N	W	R	G
L	O	T	V	I	L	Z	Y	D	G	K	M	R	B	E	Z	N	K	X	H	F	X	A	W	C	H	U	V	R	Y	P	R	Y	R	Z	J	F	L	R	V	A	D	K	E	G
F	K	H	I	G	V	X	R	Y	A	S	V	U	L	E	U	Z	A	G	F	E	N	S	I	R	F	K	L	O	B	D	O	B	O	R	Z	A	Y	T	O	K	L	O	W	O
C	R	G	Z	D	A	C	T	F	M	Z	V	G	X	D	D	A	T	F	A	Z	N	I	O	G	O	K	E	Y	M	H	D	K	B	T	X	J	F	W	B	Z	F	S	P	E
W	F	N	O	P	B	M	T	S	C	G	J	Z	F	I	I	A	W	D	A	P	I	N	G	O	G	Z	I	S	B	R	C	V	R	M	Y	G	Z	U	S	F	Z	T	G	C
U	P	Z	G	I	Y	M	H	K	C	V	Z	G	H	P	P	T	A	J	T	P	D	G	P	V	P	D	B	W	S	C	B	Z	D	S	L	E	M	T	Z	B	M	H	V	Y
J	J	O	W	X	N	O	Y	H	W	D	S	I	C	Z	Z	K	F	T	K	G	J	C	Y	M	Y	T	U	O	G	P	L	J	T	B	Y	K	O	C	J	V	O	B	J	A
H	X	M	H	F	A	P	J	E	B	E	K	K	E	P	J	B	T	N	Z	T	H	H	Y	W	T	A	T	E	Z	T	M	C	P	S	K	Q	L	P	R	V	W	Z	A	Y
D	B	U	E	J	X	K	F	H	N	H	K	K	T	L	Y	V	Z	U	A	O	G	G	K	V	J	J	G	R	P	V	C	A	Z	T	-	H	U	J	X	K	D	F	H	
S	W	E	F	H	S	N	G	T	I	T	P	P	H	J	P	N	O	J	H	I	O	O	N	R	V	O	P	W	S	N	K	V	H	O	T	-	I	A	Z	L	G	R	N	M
H	F	Y	T	Z	A	O	E	J	X	J	Z	Z	O	Z	T	M	J	G	U	O	I	I	V	U	X	Z	I	W	T	Z	A	P	C	I	V	-	A	V	U	P	J	O	G	P

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Meal 3 - Station 1

ZPTDVITXWFKUIEYIFWZG00GGJVJUBNZOVVFDJKBXY00NJR
OGXGGVYFCPVAXXOLPHFG0FFPRZPHUXM0TTJGKBSYSLFDSZ
VHEGYTYKAJITGXBZCEIONNYFJWPZDOSXXB0FGCAFVCAVF

OSHDJXJTPSBAVVOLPVTMNDBRWNCKDYIOYDEORMSFNWRG
LOTYILZYYDQKWRBEBZNXKHFXAWCHUVRYPRYRZJFLRVADKEG
FKHIGVXRYASVULEUZAGFENSIRFKLOB00BORZAYTOKL0W0

WFN0PBRITS0GJZFI1AWDAPINGOGZISBR0VRMYGZUSFZT00
UPZGIYMHKKCVZGHPPTAJTPO0PVYPPDBW500BZD0SLEMTZBMVY
JJOWXNOYHMDSICZKZKFTKGGJOYMYTU00PLJTBTK00JV0BJA

DBUEJXKFFHNHKKTLTYVZUA00GKVJJGRRPVCAZT_HUJXKDFH
SWEFHSNGTITPPHJPN0JHI00NRV0PWSNKVHOT_IJAZLGRNM
HFTYTTZAOEJXJZZOZTMJGU0IIVUXZIWTTZAP0IV_AVVUPJ00P

Stopping wheel 3 Section 1

ZPTIDVITXWFKUIEYIFWZG00GJVVJUBNZOVVFDJKBXYOONJR
OGXCGVYFCRPVAXOLPHFGOFFPRZPHUXMOTTJGKBYSYLFDSSZ
VHEGYTYKAJITGXBZCEIONNYFJWPZDOSXXB OFGCAFVCA YF

DSHDJXJTPSBVVVOLTMTNDBRWNCCKDYIDYDEORMSFMNWRG
LOTVILZYGKMRBEZLNKXHFAXAWCHUVRYPRYZJFLRVADKEG
FKHIGVXRYASVULEUZAGFENSIRFKLOBDOBORZAYTOKLOWO

WFNOFBMTSCGGJZFIIAWDAPINGOGZISBROVRMYGZUSFZTGCC
UPZGIYMHKCVZGHPTAJTDPDGPVPDDBWSSCBZDLSLEMTZBMHVVY
JJOWXNOYHWD SICZZKFTKGGJCYMYTUOGPLJTB YKOCJVOBJA

DBUEJXKFNHKKKTLVYZUAOGGKVVJGRRPVCAZT_HUJXKDFH
SWEFHSNGTITRPHJPNNOJHIOONRVOPWSNKVHOT_I A ZLGRNM
HFY TZA O E J X J Z Z O Z T M J G U O I I V U X Z I W T Z A P C I V _ A V U P J O G P

Handwritten: Section 1
Sheet 3

ZPTDVI TXWFKUI EYIFWZG00GJVJUBNZOVVFDJKBX Y00NJR
 OGXCGVYFCPVAXOLPHFGOFFPRZPHUXMOTTJGKBYSLFDSZ
 VHEGYTYKADJITGXBZCEIONNYFJWPZDOSXXBOFGCA FVCA YF

DSHDJXJTPSBAYVOLPVTMND BRWNC KDYIDYDEORMS FWNWRG
 LOTVILZYGDKMRBEZNXHXHFXAWOHUVRYPRYZJFLRVADKEG
 FKHIGVXRYASVUL EUZAGFENSIRFKL OBBORZAYTOKLOWO

WFNOPBMTSOGJZFIIAWDAPINGOGZISBRCV RMYGZUSFZTGC
 UPZGIYMHKCVZGHPRPTAJJTPDGPVPDBWSOBZDSLEM TZBMHVY
 JJOWXNOYHWDSICZZKFTKGJGYMYTUOGPLJTB YKOCJV08JA

DBUEJXKFHNHKKTLTYVZUAOGGKVJJGRRPVC AZT_HUJXKDFH
 SWEFHSNGTITPHJPNQJHIOONRVOPWSNKVHOT_IAZLGRNM
 HFY TZAOEJXJZZOZTMJGUOII VUXZIWITZAPCIV_AVUPJOGP

abel 1 - Section 2

0	G	A	K	H	R	J	C	K	L	A	W	U	J	T	Z	F	Y	T	I	A	Y	W	C	A	M	C	W	R	K	F	O	B	I	V	X	F	K	T	D	O	R	G	F	F	
1	S	L	M	R	T	I	E	M	D	R	B	B	H	O	U	K	N	S	M	V	M	N	M	E	R	U	V	X	M	K	G	C	Z	K	H	U	K	F	Z	M	B	D	B	L	C
2	R	K	R	L	Y	V	L	M	F	U	Y	J	S	F	L	N	U	W	S	P	C	E	X	L	A	E	W	A	H	P	C	Y	P	U	J	D	L	K	O	C	X	S	H	F	R
3	T	C	M	B	Y	T	R	O	E	Z	N	W	P	N	K	C	J	O	B	Y	U	Z	R	L	E	Y	G	N	G	Z	M	U	Z	P	G	U	L	W	J	F	A	Y	K	C	R

20	D	U	Z	O	V	X	U	Y	X	G	A	G	J	K	C	J	O	X	C	H	U	I	I	P	T	L	T	F	H	P	F	V	S	M	L	X	S	R	D	T	Y	P	F	N	W
21	X	V	R	U	M	N	J	L	E	W	P	U	M	A	H	R	S	O	B	Y	K	U	R	C	A	Y	U	B	S	U	E	K	F	U	P	K	I	G	B	W	D	R	G	Y	
22	S	B	S	L	H	P	U	J	N	L	I	S	M	X	N	T	F	J	K	B	T	F	F	S	Y	N	M	V	U	W	V	F	K	X	B	M	K	V	G	X	C	R	N	F	K
23	P	L	T	O	F	S	G	F	O	U	W	E	M	Y	E	W	Z	Z	H	C	V	Z	Z	N	G	S	C	P	V	F	P	H	G	Z	X	L	G	T	O	V	A	B	E	H	Z

4	G	I	A	W	W	R	X	G	Y	L	E	H	Y	I	G	P	O	L	H	H	X	G	S	D	S	X	A	U	W	I	Y	K	B	V	K	C	X	T	U	R	E	C	B	G	A
5	N	S	B	H	H	L	I	Z	M	S	P	U	M	N	V	Z	J	D	R	R	Y	J	B	Y	B	H	M	W	M	O	N	G	D	L	P	V	A	N	S	M	B	J	Z	L	N
6	Z	D	Y	B	B	N	X	G	L	Y	N	X	L	G	I	Z	V	T	C	C	L	P	X	J	X	S	C	E	X	N	E	I	G	N	V	W	R	D	G	H	X	R	P	Y	F
7	O	L	N	M	M	S	G	I	J	M	B	K	J	C	Z	E	V	L	P	P	Y	W	K	D	K	N	U	A	R	N	Z	X	O	W	I	G	B	A	O	G	S	R	Z	V	J

15	A	E	I	X	L	O	F	I	V	D	A	N	R	F	V	S	K	O	E	F	B	T	G	V	L	X	D	E	P	J	O	K	L	S	K	M	D	V	O	I	D	P	R	K	J
16	E	A	I	M	P	P	I	F	T	M	V	M	D	F	A	D	Y	A	M	C	P	G	A	M	C	N	D	S	A	U	M	A	H	V	A	G	Z	Y	S	A	V	M	G	U	S
17	R	C	Y	Z	F	D	S	M	Y	C	D	U	S	W	M	E	U	C	S	R	U	P	A	H	O	P	W	F	H	Y	S	X	I	G	X	U	E	L	F	S	D	L	O	C	X
18	S	X	U	E	F	Y	D	E	R	F	Y	C	Y	G	V	S	G	J	M	A	G	I	P	F	E	S	U	L	C	Z	X	Y	A	Z	Y	S	A	P	Z	X	C	Y	E	F	L

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Whead 1

Block 1

Block 2

Sect 1

SLMRTIEMDRBBHOUKNSSWVMNNERUVXMKKGCZKHUKFZMBDBLQ
 RKRLTYVLMFYUJSFLNUWSSPCEXLLAEWAHPQYPUJDLKOOXSHFR
 TOMBYTRROEZNWPNKCKUOBYUZRLLEYGNGZMUZPGLWJFAYKCR

XVRUMNJLEWPUMAHRSOBYKUUURCA YUBSUEKFUPKIGBWD RGY
 SBSLHPUNLISMXNT FJKBTFFSYNMVUWVFKXBMKVGXCRNFK
 PLTOFSGFOUWEMYEWZZHGVZZZNGSCPVFPHGZZX LGTOVABEHZ

NSBHHLIZMSPUMNVZJDRRYJBYBHMWMONGDLPVANSMBJZLN
 ZDYBBNXGLYXNLGIZVTCCLPXXJXSCEXNEIGNVWRDGHXRPFYF
 OLNMMSGIJMBKJ DZEVLLPPTYWKDKNUARNZXOWIGBAOGSRZVJ

EAIMPPIFTMVMDFADYAMCGP GANCONDS AU MAHVAGZXS AVMGUS
 RGYZFD SMYCDUSWMEUCSRUPAHOPWFHY SXIGXUELFSDLOCK
 SKUEFYDERFXCYGVS GJM RGI PFESU L CZXYAZYSAPZXCYEFL

Walter New Sabin

0 A I K N R J O K L L A W U J T Z F Y T I A Y W O A B C W R K F O B I V X F K T O O R G F F

18 D U Z O V X U Y X G A G J K C J O X C H U I P T L T F H P F V S M L X S R D T Y P F N W

4 Q I A W R R X G Y L E H Y I G P O L N H X G S O S X A U W I Y K B V K C X T U R E O B G A

A E I X L G F I V D A N R F V S K O E F B T G V L X D E P J O K L S K M D V O I D P R K J

Wheel 3

Section V

Q A I K H R J C K L A W U J T Z F Y T I A Y W C A M C W R K F O B I V X F K T D O R G F F

D U Z O V X U Y X G A G J K C J O X O H U I I P T L T F H P F V S M L X S R D T Y P F N W

G I A W R X G Y L E H Y I G P O L H H X G S D S X A U W I Y K B V K C X T U R E C B G A

A E I X L O F I V D A N R F V S K O E F G T G V L X D E P J O K L S K M D V O I D P R K J

Week 1

Section 2

(6) (S)

SLMRTIENORRBBHOUKNSMVNMNERUVXMKGOCZKHUKFZMBDBLC
RKRLTYVLMFYJJSFLNUWSPOEEXLAEWAHPCTYPUJDLKCOXSHFR
TOMBYTROEZLNWPNKCOJBYUZRLEYGNGZMUZPGULWJFA YKCR

XVRUWNJLEWPUMAHRSOBYKUURCA YUBSSUEK FUPKIGBWDRGY
SBSLHPUNLISM XNTFJKBTFFSYN WVVUWVFKXBMKVGXCRNFK
PLTOFGSGFOUWEMYEWZZHC VZZNGSCPVFPHGZZXLGTOVABEHZ

NSBHHLLIZMSPUMNVZJDRRYJBYBHWWRONGOLP VANSMBJZLLN
ZDYBBNXGLYNXLGIZVTOCLPXJXSCEXNEIGNVWRDGHXRPFYF
OLNMWSGIJMBKJGZEVLPYWKOKNUARNZXOWIGBAOGGRZVJ

EAIMPPIFTWVMDFA DYANCPGARONDS AU MAHVAGZXS AVMGUS
RCYZFDGMYCDUSWMEUCSRUPAHO PWFHY SXIGXUELFSDLOCKX
SKUEFYDERFXCYGVSGJMRGIPFESULCZXYAZYSAPPZXC YEFLL

Wheel 1

Section 1

Block

3

S L M R T I E M D R B B H O U K N S M V M N M E R U V X M K G C Z K H U K F Z M B D B L C
 R K R L Y V L M F U Y J S F L N U W S P C E X L A E W A H P C Y P U J D L K O C X S H F R
 T C M B Y T R O E Z N W P N K C J O B Y U Z R L E Y G N G Z M U Z P G U L W J F A Y K C R

4

X V R U M N J L E W P U M A H R S O B Y K U U R C A Y U B S U E K F U P K I G B W D R G Y
 S B S L H P U J N L I S M X N T F J K B T F F S Y N M V U W V F K X B M K V G X C R N F K
 P L T O F S G F O U W E M Y E W Z Z H C V Z Z N G S C P V F P H G Z X L G T O V A B E H Z

N S B H H L I Z M S P U M N V Z J D R R Y J B Y B H M W M O N G D L P V A N S M B J Z L N
 Z D Y B B N X G L Y N X L G I Z V T C C L P X J X S C E X N E I G N V W R D G H X R P Y F
 O L N M M S G I J M B K J C Z E V L P P Y W K D K N U A R N Z X O W I G B A O G S R Z V J

E A I M P P I F T M V M D F A D Y A M C P G A M C N D S A U M A H V A G Z X S A V M G U S
 R C Y Z F D S M Y C D U S W M E U C S R U P A H O P W F H Y S X I G X U E L F S D L O C X
 S X U E F Y D E R F X C Y G V S G J M R G I P F E S U L C Z X Y A Z Y S A P Z X C Y E F L

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E	R	Y	J	E	R	H	P	Y	R	D	Y	X	G	U	D	X	B	G	V	J	J	O	J	K	G	A	R	L	F	K	F	F	O	B	I	G	D	A	Z	L	C	T	L	M		1					
W	M	O	C	Y	R	H	V	C	X	J	V	W	U	L	T	M	P	V	D	N	I	O	P	N	Y	A	Z	Y	A	Z	Y	Z	E	X	G	P	G	W	K	O	L								2		
C	R	G	Z	D	A	C	T	F	M	Z	V	G	X	D	D	A	T	F	A	Z	N	I	O	G	O	K	E	Y	M	H	D	K	B	T	X	J	F	W	B	Z	F	S								3	
H	X	M	H	F	A	P	J	E	B	E	K	K	E	P	J	B	T	N	Z	H	H	Y	W	T	A	T	E	Z	T	M	C	P	S	K	Q	L	P	R	V	W	Z									4	
G	A	I	K	H	R	J	C	K	L	A	W	U	J	T	Z	F	Y	T	I	A	Y	W	C	A	M	C	W	R	K	F	O	B	I	V	X	F	K	T	D	O	R	G									5

D U Z O V X U Y X G A G J K C J O X C H U I I P T L T F H P F V S M L X S R D T Y P F N W 6

G I A W W R X G Y L E H Y I G P O L H H X G S D S X A U W I Y K B V K C X T U R E C B G A 7

A E I X L C F I V D A N R F V S K O E F B T G V L X D E P J O K L S K M D V O I D P R K J 8

T R F L K B N E Y L Y D Z K L S B Y H G I N A T W I R P R A F V M V M H X Z W K B Z E C F 9

U B Z B Y U N S G K S W L E N S M U T N G Y O L H L Y X T W H Z N I N P K Y N H Z U P X G 10

P V U L D E D A O N Y A G N B C K M C J I M G Y D J E B G R H L O T M L T Y D E J J P V B 11

T C U T E U W W N C I N L V M A L T A Z S Z X B H Y B A Z W G M J O S X W P O Y B W Q B G 12

W R X K V I I P G H X E X P Z D N T P E M U I Y V I A L B O W S G R M L F H E L I J D Y E 13

S E P D L Z B O K B H J Y I T J Z E D M N S M P V V U L U A V G H W K T O X I K P I Y U J 14

I N V U R M T S O Y W V D M B V B F A E I G F N C V B T B X J H U W F C I X K F N J R F L 15

C J F W K M Z N D E E V K C N X N B S Y Z G N F W E T Z O X A X P J W C L K Y Z V I B Y P 16

N R J W W B K O Z K K R O D F B C H Z P U X A A Y S P V L R K I F A M E O W N F C E I E H 17

W R O I R W E W P D V B D Y W A M G F B M A V K W T I S I V U B A X M W D K E J F S G Y D 18

T M Z D A U R A T S J C B E I C K N J B B E J F G M A P V T B A X K M K D O Z I X W B Z U 19

W T E L N C F N D C J W Y M G R K C P Y Z D F O I R W V G P D S B D H C M S O Z K Y P Z K 20

S G C Z S R G J U B N D J X T Z B Z R O S X F U B M C C B W N J I E J M V R C L C D C J L 21

J O Z X K D O T B T C B D Z E C W N F B K Y P Y K F U B I T S Y L T K A H N S V I C Y A M 22

F Z O Y A A H Y R R U E K Z Q X M A Y B O U X U V M N D B P T L A K R V L C B R U L M T Y 23

R I X R N I X X S W H G I W P Z Y P Z N V O V K X T X S F P B O U E T I Z J I O T T Y N U 24

O W U D O R W W K Y D C A R U S J Y M J G P N B N T L V E A P V E A H G A U J B B I W J Z 25

U O X E I F A I B N X L K O E Z R Y V H T I D L V F K S E N L A K Z A N G I M H D K U R Q 26

Y L M Y U O K U R V F R G P V Y H J I J F O U F S R T H O B T N J V W E A J A F X J K D O 27

Y L V D V E T L K S W I X V K F P S E T T H D A B H U F S J W U C P J O K I P L V G I N P 28

W U I D R W Y Y J R Z P R Z T R B B T T S O L B E E I V O P S L L D V I W B R A T G T K D 29

WUI DRWYYJRZPRZTRRRTTSOLNFFVCP SLIDVIWBRATGTKD 29
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 YVLBRGJBTONDTSDZDJRYOHDXFAJBDNRHPSSMZUWVSFIB 31
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 SZRGBWYYO 37

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 ONCYZEXLTKDAYPVNCCMKPMTORYLENKJVDUSMLYJTLTUMR 56
 PNUOHWHITNCBRHPAHS AWRUFCZJI IUPMDJFXRIJZMNLJHA 57
 KJBWWCXIDJONCRWNCRDJNUYNWRRGXDAHOMOLOBGZOGESA 58
 XOXFSWFRLTYCHBBRXGRLVTEHDBKOABSUZUWDTBDSXQLXH 59
 YCWKEMSPA HXDLBRUBRRJ 60

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SZRGBWYYO 37

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NVOVUCEDNVNKIWI VUXSELLAODRDJDBSMXORWJJQHWPLO 38

PSKPUBNIHEWOAIMXFPKGZBZGBNRNTGMROTOATAMMTYRGP 39

VLTCEXRPKIOAORZPYBRNFWSYJRLLSDCGYMUGTAIHFUAO 40

HVOJXKDI TNHXRHGFDGYUTUSFPVPLHLNRVUPRELPEHCUKE 41

SFEJOGDCINZQWZRAPCDMUOBILXBEMIRDAEFGUFZXJKTFS 42

JVXSVZEXDKZPXVTHKVKWISBCNMUPNULZXHHCDMTXDIVMU 43

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FREQUENCY A B C D E F G H I J K L M
N O P Q R S T U V W X Y Z

