

PAPER ENIGMA MACHINE

TO USE FOR DNWPO CIPHER-BUSTERS #4: ENIGMA

Wheel I (tape/glue here)		Wheel II (tape/glue here)		Wheel III (tape/glue here)		
A	G	A	N	A	D	
B	E	B	A	B	U	
C	O	C	V	C	C	
D	C	D	S	D	K	
E	A	E	T	E	N	
F	X	F	I	F	E	
G	H	G	R	G	S	
H	I	H	G	H	T	
I	N	I	L	I	W	
J	S	J	O	J	O	
K	T	K	B	K	R	
L	L	L	U	L	H	
M	R	M	J	M	P	
N	U	N	P	N	Y	
O	K	O	E	O	Z	
P	M	P	Y	P	L	
Q	Z	Q	M	Q	I	
R	Y	R	C	R	G	
S	W	S	F	S	V	
T	V	T	K	T	A	
U	Q	U	W	U	B	
V	P	V	Z	V	F	
W	J	W	X	W	J	
X	F	X	Q	X	M	
Y	D	Y	H	Y	Q	
*	Z	*	Z	*	Z	X
A	G	A	N	A	D	
B	E	B	A	B	U	
C	O	C	V	C	C	
D	C	D	S	D	K	
E	A	E	T	E	N	
F	X	F	I	F	E	
G	H	G	R	G	S	
H	I	H	G	H	T	
I	N	I	L	I	W	
J	S	J	O	J	O	
K	T	K	B	K	R	
L	L	L	U	L	H	
M	R	M	J	M	P	
N	U	N	P	N	Y	
O	K	O	E	O	Z	
P	M	P	Y	P	L	
Q	Z	Q	M	Q	I	
R	Y	R	C	R	G	
S	W	S	F	S	V	
T	V	T	K	T	A	
U	Q	U	W	U	B	
V	P	V	Z	V	F	
W	J	W	X	W	J	
X	F	X	Q	X	M	
Y	D	Y	H	Y	Q	
*	Z	*	Z	*	Z	X

Cut apart here and here.

Reflector	Wheel I	Wheel II	Wheel III	Key/ Lamp
A	Slot here ↑	* Slot here ↑	* Slot here ↑	A
B				B
C				C
D				D
E				E
F				F
G				G
H				H
I				I
J				J
K				K
L				L
M				M
A				N
B				O
C				P
D				Q
E				R
F				S
G				T
H				U
I				V
J				W
K				X
L				Y
M	Slot here ↓	Slot here ↓	Slot here ↓	Z

Assembly:

1. Cut out the “Wheels” to the left.
2. Cut slots in the “Machine” above where indicated at the top and bottom of each Wheel column.
3. Slide the “Wheels” through the slots in the appropriate column and slide so that the initial settings, indicated by the letter in the left column of each wheel, are in the top (A) row.
4. Optional: Bend the wheels and machine around and glue or tape the wheels so that the top A and bottom Z connect.

Operation:

1. Select the plain-text letter in the Key/ Lamp column.
2. Work to the left- read the letter adjacent to the plain-text letter on the right half of Wheel III.
3. Then find that same letter on the left half of Wheel III, then move to the adjacent letter on Wheel II.
Repeat steps 2 and 3 for Wheel II and Wheel I.
4. Read the adjacent letter on the reflector then move to the *other* of the same letter in the reflector.
5. Now work back to the right- read the letter adjacent on the left half of Wheel I, then find that same letter on the right half, and repeat for Wheel II and III.
6. Read the cipher-text letter in the Key/ Lamp column.
7. Move Wheel III up one row and repeat for next plain-text letter.
8. If the “Z” on any wheel reaches the top (A) row (indicated by the asterisks), move both that wheel and the wheel to the left up one row.

Example:

If the initial setting on the wheels is GPS, then the word DUCK should encipher as QRQA (and vice versa).

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