

# TWO-STROKE ENGINE



THIS EDUCATIONAL program, **Two-stroke Engine**, was designed for the 16K Spectrum by Tim Rose of Woolwich, London. For those interested in simple physics it describes, with working diagrams, the action of a two-stroke engine. It would be useful as a demonstration program for teaching, or for students struggling to reproduce diagrams.

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10 GO SUB 240: BORDER 0: PAPER
0: INK 5: CL5
20 CIRCLE 125,39,24
30 PRINT AT 20,0:"Two Stroke"
"Engine by Tim Rose 10/2/1983"
40 PLOT 102,100: DRAW 0,-50: D
RAW -12,-15: DRAW 0,-50: DRAW 70
,0,PI: DRAW 0,30: DRAW -8,5: DRA
W 15,0: PLOT PEEK 23677,PEEK 236
78+12
50 DRAW -15,0: DRAW 0,4: DRAW
15,0: PLOT PEEK 23677,PEEK 23678
+12: DRAW -15,0: DRAW 0,53: DRAW
-50,0,2: PLOT 100,90: DRAW 0,-3
5: DRAW -1,0: DRAW 0,35
60 PRINT AT 0,14: INK 7: BRIGHT
1:"a"
70 FOR z=(2*PI)-PI/6 TO 0 STEP
-PI/6
80 FOR z=0 TO 1
90 LET b=126+30*CO5 a: LET c=3
9+20*SIN a
100 PLOT OVER 1:b,c: DRAW OVER
1:126-b,45
110 LET d=c+45
120 OVER 1: PLOT 105,d: DRAW 44
,9: DRAW 0,20: DRAW -32,10: DRAW
-13,-10: DRAW 0,-20: OVER 0
130 IF INT c=59 THEN GO SUB 021
0
140 IF INT c=56 AND b>126 THEN
PRINT AT 0,0:"Power" :;AT 1,
14:"" :;AT 2,13:"" :;AT 3,
13:""
150 IF INT c=21 AND b>126 THEN
GO SUB 0290
160 IF INT c=38 AND b<126 THEN
PRINT AT 0,0:"Compression"
170 IF INT c=48 AND INT b<126 T
HEN GO SUB 0280
180 IF (INKEY*="c" OR INKEY*="C
") AND z=0 THEN COPY
190 IF (INKEY*="s" OR INKEY*="S
") AND z=0 THEN GO TO 190
200 NEXT z: NEXT a: GO TO 70
210 PRINT AT 0,0:"Ignition"
:;AT 1,14: INK 2: BRIGHT 1:"bbbb"
:;AT 2,13:"bbbbbb":;AT 2,13:"bbbbbb
":;AT 3,13:"bbbbbb": IF z=0 THEN
FOR x=0 TO 10: BEEP 0,01,10: BE
EP 0,01,20: NEXT x
220 RETURN
230 PRINT AT 0,0:"" :; OVE
R 1: PLOT 134,122: DRAW 20,-20,P
1/2: PLOT 155,102: DRAW 16,0: PL
OT 166,106: DRAW 5,-4: DRAW -5,-
4: PRINT AT 9,22:"Exhaust":;AT 10
,24:"Out"
240 PRINT AT 9,0:"Fuel forced":
;AT 10,5:"up": PLOT 96,40: DRAW 0
,55: DRAW 20,22: DRAW -5,0: POKE
23677,PEEK 23677+5: DRAW 0,-5:
OVER 0
250 IF z=0 THEN FOR x=1 TO 100:
IF INKEY*="c" OR INKEY*="C" THE
N COPY
260 IF z=0 THEN NEXT x
270 RETURN
280 OVER 1: PLOT 160,85: DRAW -
12,0: DRAW -5,-20: DRAW -4,5: PO
KE 23677,PEEK 23677+11: DRAW -6,
-5: PRINT AT 11,21:"Fuel sucked"
:;AT 12,25:"in": OVER 0: GO TO 25
0
290 RESTORE 300: FOR x=0 TO 14:
READ y: POKE USR "3"+x,y: NEXT
x: RETURN
300 DATA BIN 00001110,BIN 00001
110,BIN 00011111,BIN 0001111,32
,BIN 1100110,BIN 00100100,BIN 0
001200,BIN 00101010,0,BIN 10
00100,BIN 0101010,0,BIN 000010
0,0
310 SAVE "2 Stroke" LINE 1

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14,14,31,31,32,206,4,12,90,0,169,0,  
74,0,36,0