

How to Calculate the Length of a Mainspring

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STEP:

- 1 Determine the strength of the mainspring required
- 2 Divide inside diameter of barrel by 2
- 3 Multiply answer by itself
- 4 Multiply answer of above by 3.142

e.g. : take a barrel diameter of 50mm;

$$50 \text{ div. } 2 = 25$$

$$25 \times 25 = 625$$

$$625 \times 3.142 = \mathbf{1963.75}$$

- 5 Divide diameter of barrel arbour by 2

- 6 Multiply answer by itself

- 7 Multiply answer of above by 3.142

e.g. : take a arbor diameter of 15mm;

$$15 \text{ div. } 2 = 7.5$$

$$7.5 \times 7.5 = 56.25$$

$$56.25 \times 3.142 = \mathbf{176.74}$$

- 8 Subtract answer of step 7 from answer of step 4

- 9 Divide by 2

- 10 Divide total thickness of spring into answer of step 9

- 11 Total = length of mainspring

$$1963.75 - 176.74 = 1787$$

$$1787 \text{ div. } 2 = 893$$

e.g. : example mainspring thickness of 0.50mm

$$893 \text{ div. } 0.50 = \mathbf{1786}$$

Therefore total length of mainspring is 1786mm