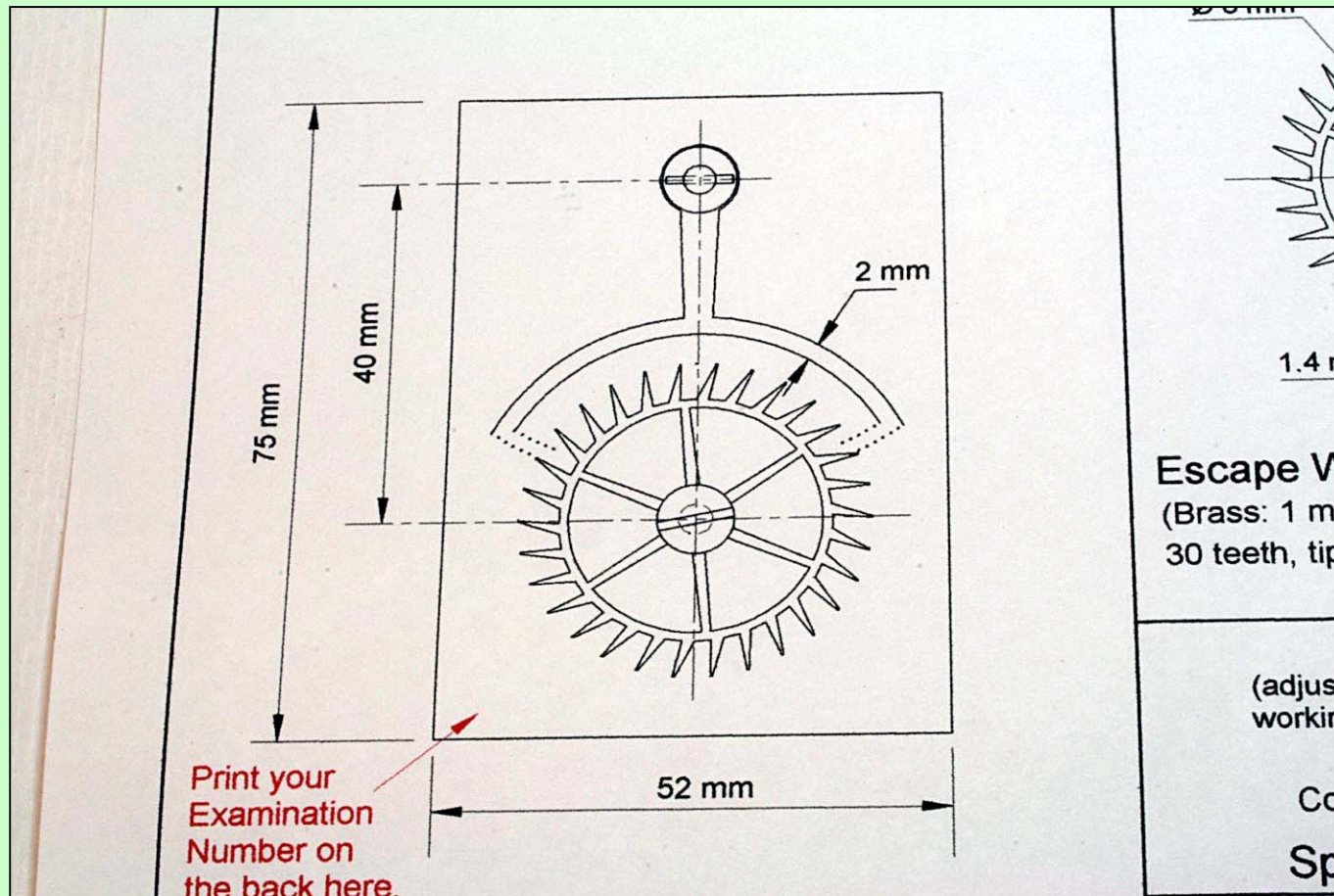




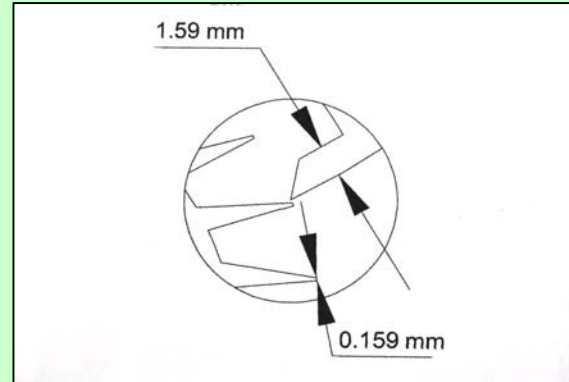
The Final Grade Part II “Clock Pathway” test piece requires the candidate to make a dead beat escapement - large / small.



Most of the dimensions are provided but the candidate has to design the pallets.



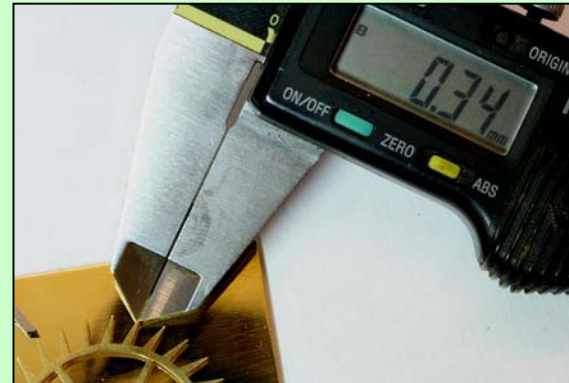
The cutter must match the tooth shape.



You can calculate the size of the tooth tip.

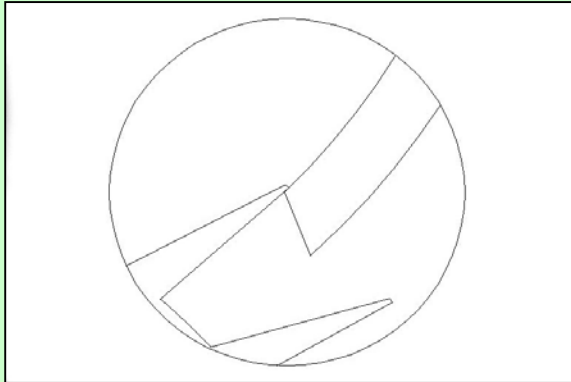


Cut the teeth and check the tip thickness

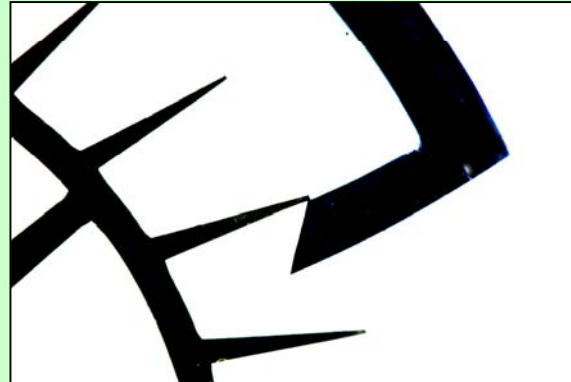


These teeth are too thick.

The escape wheel teeth must be cut accurately to the right thickness at the tip.



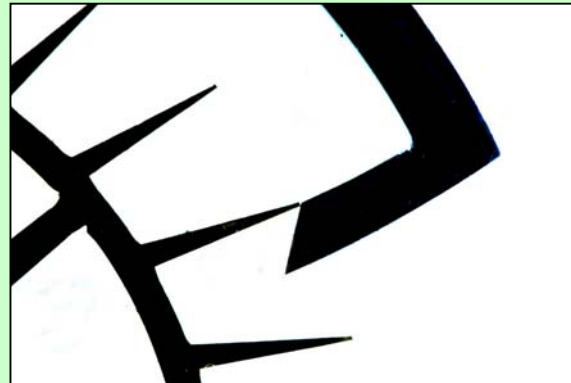
Depth of locking should be $\frac{1}{2}^\circ$.



Depth of locking too small.

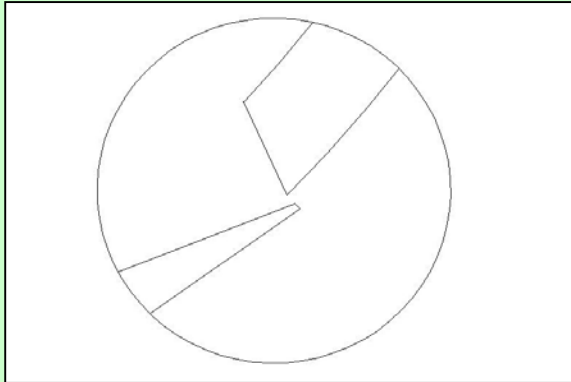


Depth of locking slightly too large.

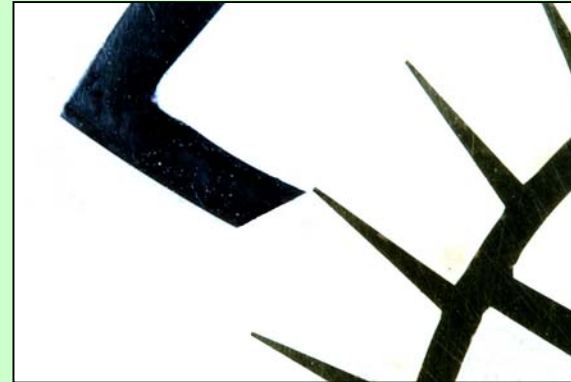


No depth of locking - unsafe.

Accuracy considers mainly the action of the escapement - depth of locking, drop, impulse and the supplementary arc.



The clearance should be $\frac{1}{2}^\circ$.



Entry drop equals tooth tip thickness.



Slightly too large, tooth tip is too thick.



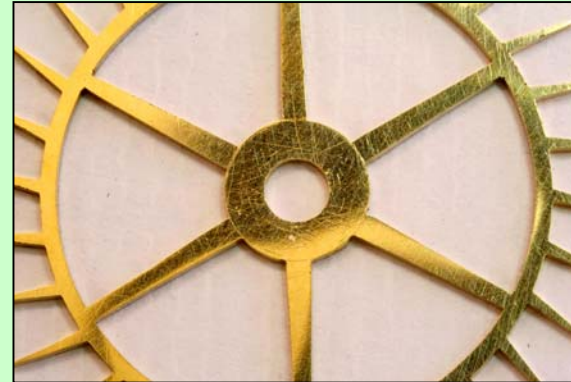
The drop should be equal for both pallets.

The drop should be $1^\circ - \frac{1}{2}^\circ$ tooth tip thickness, $\frac{1}{2}^\circ$ clearance.

The clearance should equal the tooth tip, if it is the right size !!



The “rim” is uniform, corners sharp.



The boss is circular, corners sharp.



The “rim” varies, corners rounded.



The boss is not circular, corners rounded.

The crossing of the wheel must be precise with sharp, not rounded, corners. A filing button can help with the boss.



Free from file marks, even in the corner.

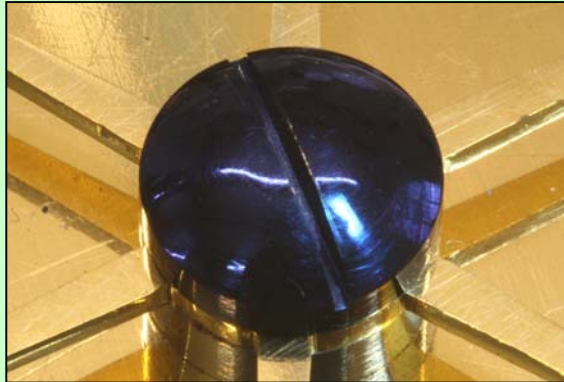


Deep file marks in the corner.



Drawfiling marks are still present.

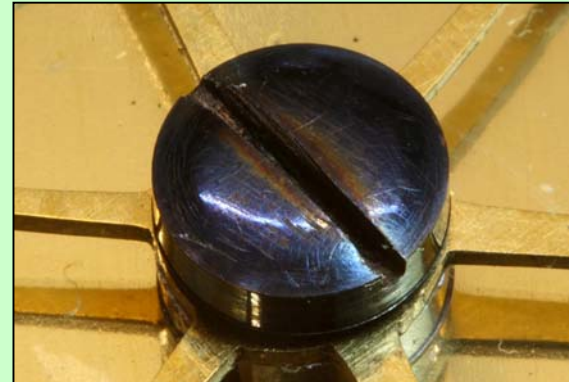
All edges, the pallets, the crossings and the plate should be free from filemarks and blemishes.



Well finished and even blue colour.



Good finish, blue with purple.



Finish should be better, grey uneven blue.

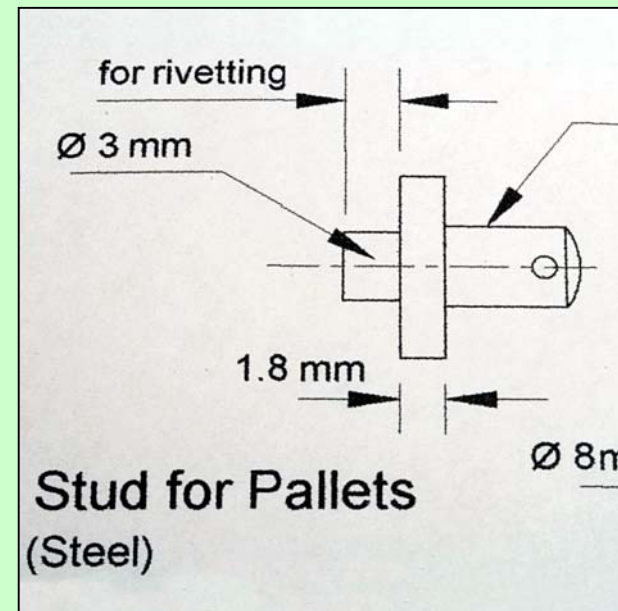
The screw must be well finished and absolutely clean before bluing. Some kinds of steel do not blue easily.



Every surface of every component should be finished to the highest standard. No machining or file or abrasive marks should remain.



The stud is neatly screwed in place.



But the drawing shows it should be rivetted.

Look at the drawing carefully, make sure that every detail is actually correct, don't just think it is correct.