

## Roadster quartz clock conversion

by Paul Alting van Geusau

The Roadster electric clock, placed inside the speedometer, is a very nice detail peculiar to the Roadster. However, although the clock mechanism is of a very high quality, after many years of continuous effort even the best mechanism can fail. In most cases the clock can be repaired but this is a specialist job, in particular when new mechanical clock parts are needed. Of course, such a repair has its price but if you want to preserve originality there is no other way.



Since the clock is a separate part mounted in the speedometer body the question arises whether it is not possible to replace a broken clock by a working one, either from another car or by substituting another clock mechanism. Although adaptations are possible in order to accommodate another car clock mechanism, a conversion starting from a quartz clock mechanism would clearly be preferable, because such mechanisms are very reliable time keepers, they are readily available, and they are inexpensive.

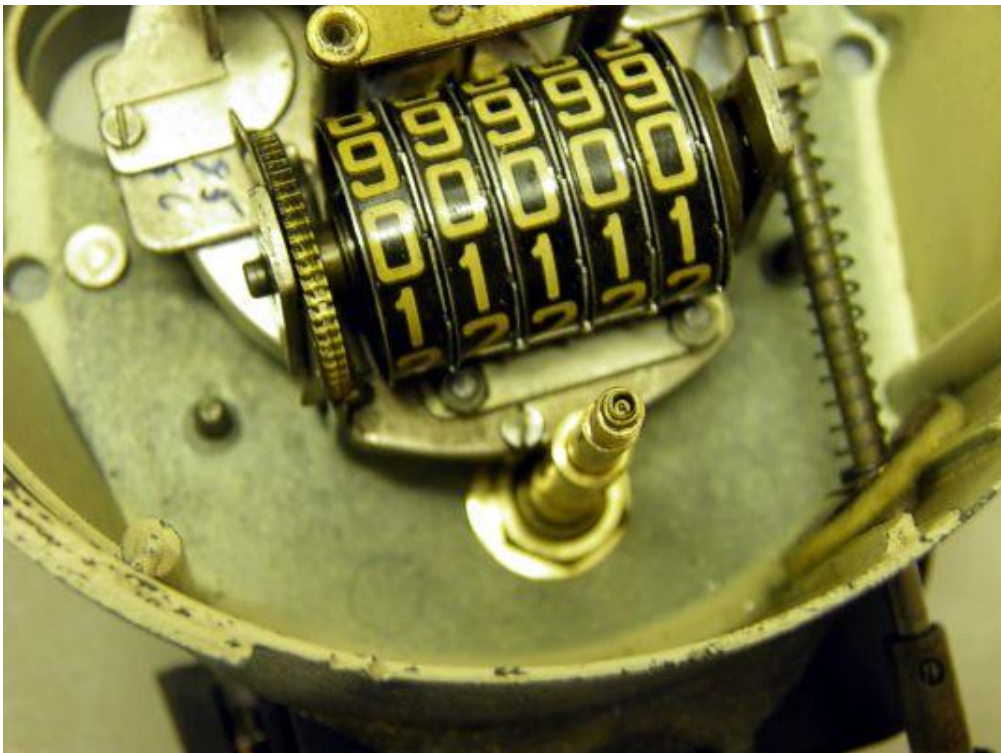
My original clock is still working well but, since I had a spare speedometer, I couldn't resist the challenge of adapting it to house a quartz clock mechanism. I selected a DCF controlled quartz clock, which is quite affordable at 11 Euros.

The original clock mechanism is mounted by three screws to the back of the speedometer. The quartz clock unit has a central mounting with a large diameter nut and fits in the hole for the hand extensions. A small amount of metal must be removed from the speedometer chassis to allow sufficient space for the nut if a direct mounting is envisaged. It is very important that the clock mechanism output shafts and hole in the speedometer face plate for support of the coaxial hand tube extensions are exactly aligned. If not, the resulting friction of the coaxial tubes for driving the hands will stop the clock, in particular when using three tubes if a seconds hand is added. Achieving this is easier when mounting the clock mechanism directly on the speedometer body. A separate battery holder (also easy to find on eBay) is used in order to give more space for access to the speedometer cable and easier replacement of the battery.

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Here you see the three coaxial extensions for driving the hands.



I found brass tubing for the three coaxial extensions on eBay at

[http://www.ebay.de/itm/Messingrohr-hart-3-0-2-2-mm-2-x-ca-33cm-/260927376851?pt=RC\\_Modellbau&hash=item3cc07bcdd3](http://www.ebay.de/itm/Messingrohr-hart-3-0-2-2-mm-2-x-ca-33cm-/260927376851?pt=RC_Modellbau&hash=item3cc07bcdd3)).

I used my lathe and some other brass tubing to manufacture three coaxial tubes. However if you have no lathe available it is quite possible to manufacture the tubes from a number of different diameter coaxial tubes glued together with Loctite to transition from a large diameter (hour hand connection on the clock mechanism) to a small diameter one (hour (minute?) hand hole diameter). The same can be done for the minute hand. Although I managed to make three coaxial connections for the hour, minute and seconds hands, respectively, I think that without a lathe it is better to have only the hour and minute hands tubes. The clock driving force for the seconds hand is minimal and the slightest misalignment of the tubes will stop the clock.

My mechanism is complete but the hands still need painting. However, the clock has been running very well (now two months) without problems.



I hope this article shows how relatively easy it is to make the Roadster clock working again and perhaps might give some of the club members the necessary motivation to start working on their broken clocks.