

An unusual car in an unusual scale: Bugatti T13 '8-Soupapes' 1911 on 1/20 (Scratch built)

Ettore Bugatti (1881-1947) started his own automobile factory in Molsheim, France in 1909. Automotive technology was still in its infancy and countless small manufacturers were jostling for this new market.

At the beginning of the twentieth century, cars were still a luxury product reserved for the better off. The manufacturers tried to gain fame for their cars by participating in races, which were usually held on public roads. There was no brake on performance yet and in order to be competitive, the racing cars became increasingly heavier, with engine capacities of up to 12 liters.

However, Bugatti went directly against this race by building a small and light car, which was therefore very agile and easy to brake. That prototype, the Type 10 from 1909, evolved into a series model, the Type 13, which was initially built in small series from 1910. The cars were occasionally used in races and the findings led to technical improvements to the production cars. The chassis had different bodies, from open phaetons to closed sedans. The early engines had four cylinders with 8 valves and 1400 cc, but after the First World War engines with 16 valves were introduced. On the right is Bugatti's first publicity from 1911, then still in German because Molsheim is located in Alsace, which was German territory at the time.



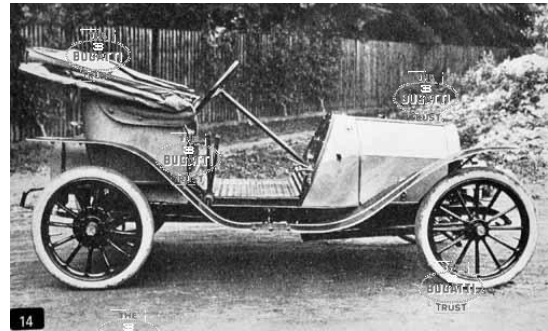
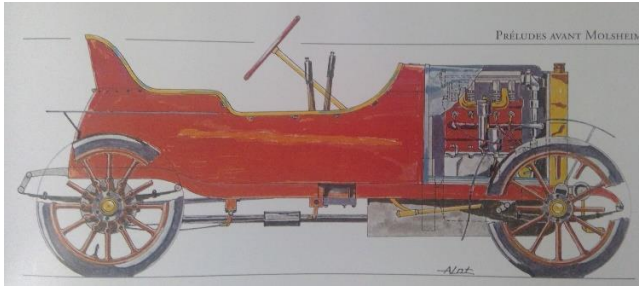
The scale model of this Bugatti from the early years.

My collection of Bugatti's contains cars in various scales, from 1/8 to 1/32. Now that I have built most of the available kits, the collection is being expanded with conversions and even full scratch models.

Every modeler starts with kits and improves in finish and equipment as more are built. In some domains there is also a large after-market, with countless parts in resin, 3D print or laser cut.

As far as I know, there is not such a wealth of parts available for old classic cars, so you just try to make them yourself. Made from Albion profiles in brass or aluminum, but also from recycled material from electrical appliances or even shapes from plastic bottles. Old watches and clocks can also be very useful for all kinds of axles and screws.

I had already built a whole series of Bugatti types when I had the idea to build one of the very first ones, the Type 13 8-soupapes from 1911. There is no kit for it, so it would be a scratch build. No easy task, because there was hardly any plan available, so I had to rely on a 2D drawing from a book and fortunately also a lot of photos that can be found on the internet. There are only 3 cars of this type left in the entire world.



It would be scale 1/20, because my collection already contains 6 cars in that scale and it is easy to calculate during work. Not too big or too small, you can put a lot of detail into it and it also fits easily in your collection cupboard...

I found the wheelbase, track and diameter of the wheels, which allowed me to easily calculate the other dimensions of the car myself, partly based on the photos and the 2-D drawing.

I briefly considered making the wheels out of wood, which would be doable, but then I also needed tires. Wheels from a T-Ford in 1/24, which had exactly the diameter of the small Bugatti Type 13, provided the solution. Those would be the only molded parts I would use for this model.

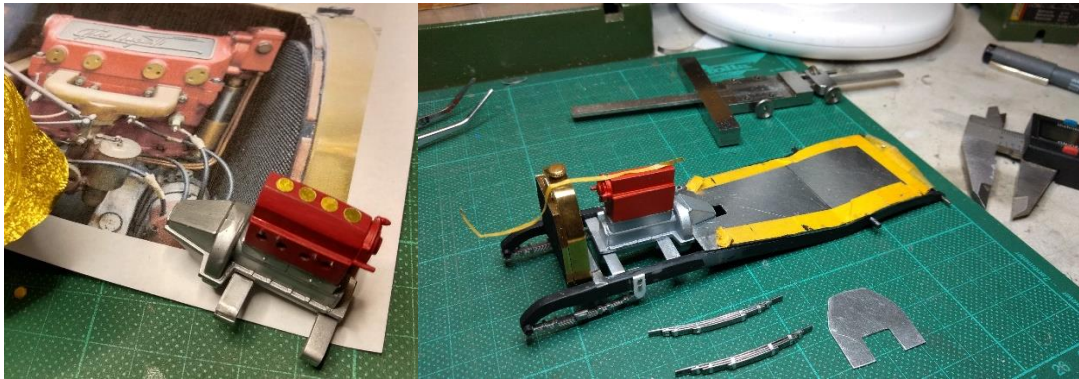
The chassis beams were sawn from 4mm polycarbonate, finished smoothly and connected with metal cross beams to form a usable chassis. That is the basis for the rest, so it must be nice and square and completely flat. You have to think several steps ahead for the engine openings, radiator placement and suspension. Drilling holes must therefore be provided that you will only need at a much later stage, but which you will then no longer be able to do.



The radiator, so typical for this car, is a decorative piece that I wanted to make with the greatest care. The size and shape are very important, because the rest of the body must fit seamlessly with this. Mainly brass was used here, because nothing is as realistic as the real material, of course.



Next came the engine, made from sheet plastic. Everything had to be carefully measured and fitted into the chassis.



Leaf springs were made from steel ribs from an old umbrella.



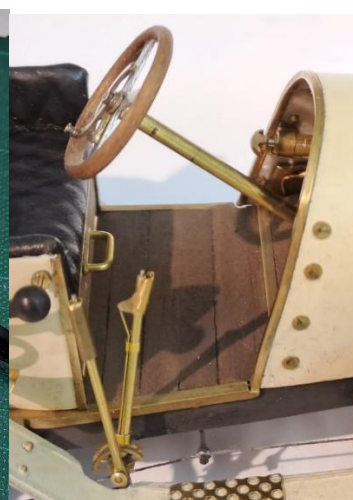
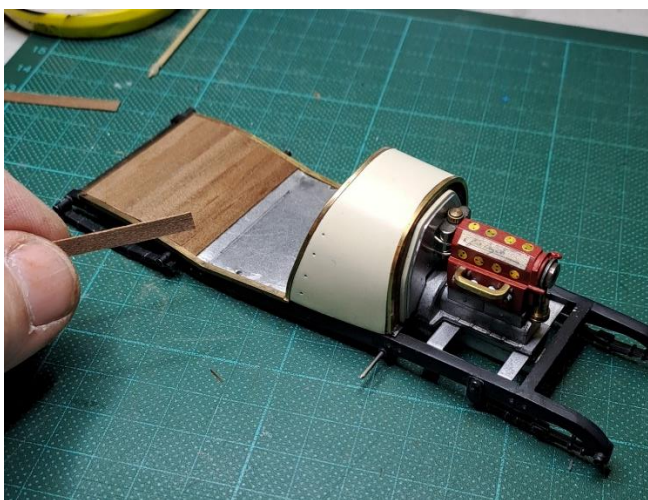
The various body parts were folded and rolled in aluminum. It was constant adjustment and fine-tuning until everything fit perfectly. The metal was then polished smooth and primed.



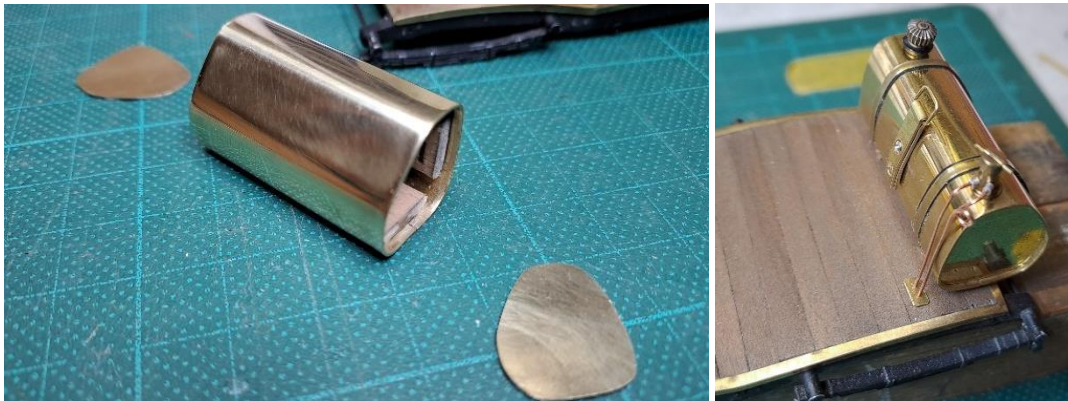
In the meantime, a front axle was made from a square brass profile with an aluminum plate above and below, in order to achieve the desired I-profile. The model has already been temporarily assembled to see if everything was correct and to plan the next steps. In the absence of a script, this has to happen...



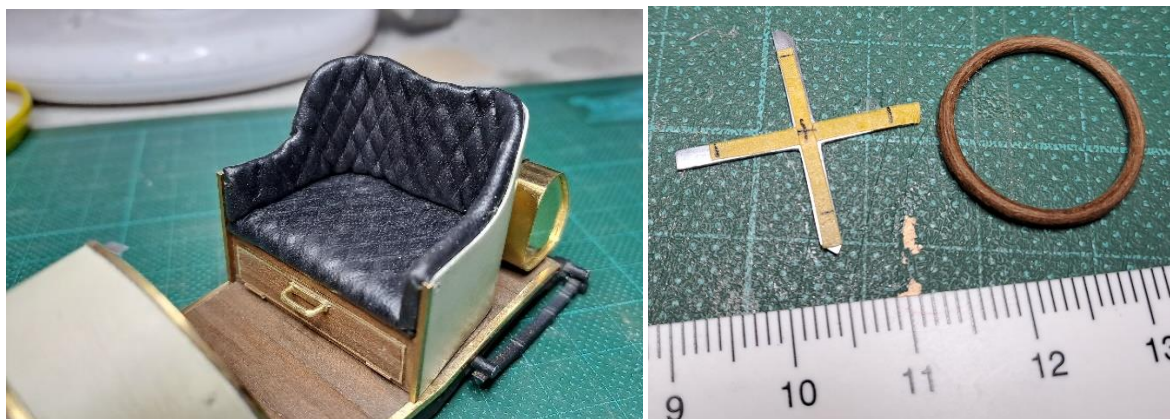
The floor was given a veneer plank covering, which subsequently was aged a bit.



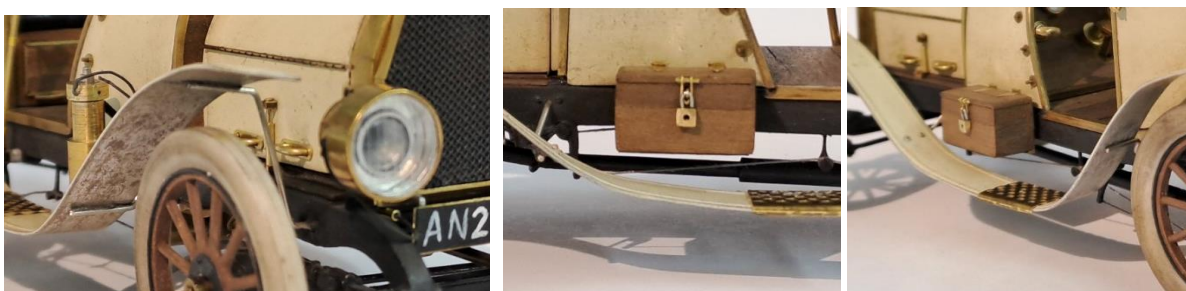
A petrol tank was folded from a sheet of brass, each corner with the correct radius and two precisely fitting side panels. The brass was softly polished and protected against oxidation with a transparent varnish.



The chair was upholstered in black padded leather. I had that leather refined to 0.5mm at my shoe repairer to make it easier to work with. The steering wheel is a rolled-up strip of wood veneer, the spokes were cut from an aluminum plate.



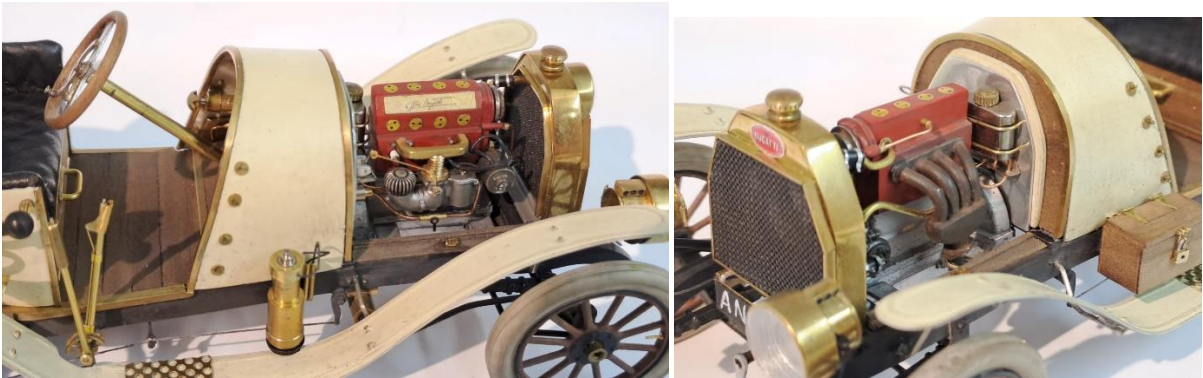
The entire car was further assembled with the addition of many accessories. The headlights each consist of 13 metal parts and also have a lens inside. These are acetylene lamps that were supplied via a small hose from the gas generator on the right side. The tool box on the left is made of wood with hinges and brass padlock.



The horn was turned from brass on my drill and polished, and then bent into the desired shape.

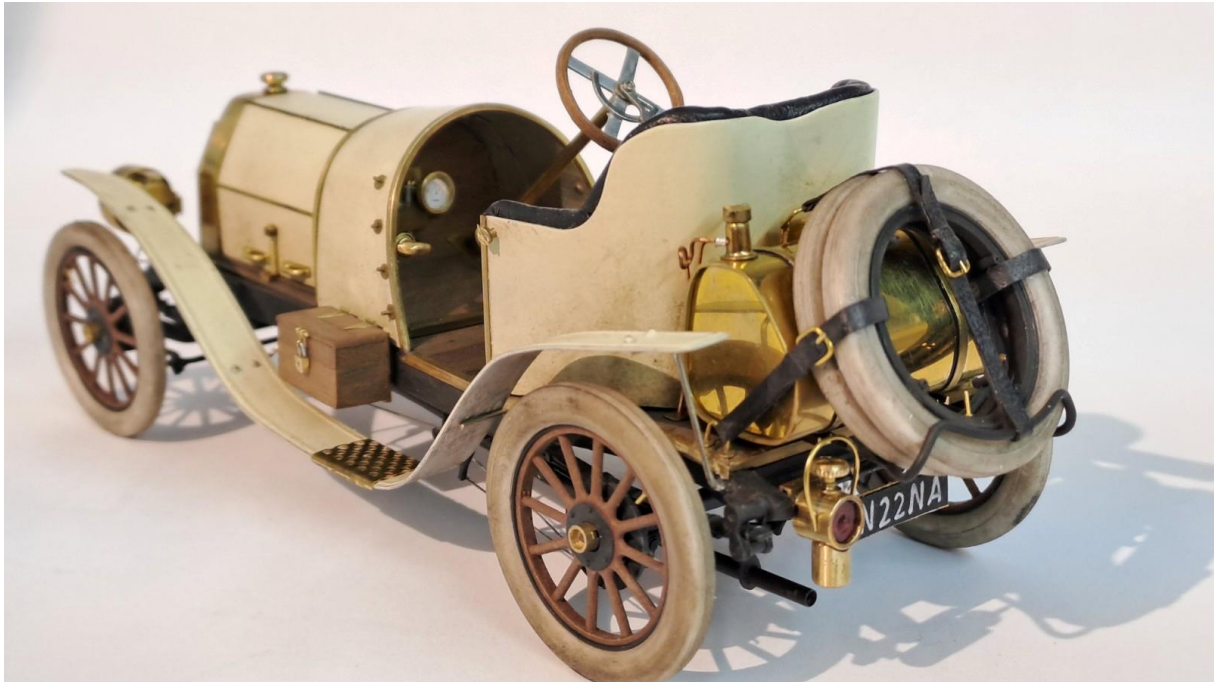


The engine was extensively detailed. Of course, the hood of the model rarely opens, but this made this model even more valuable to me. All pipes were made of brass or copper tubes. The gear and handbrake lever are also made of brass.



And so, after 15 months, this model was created...





Epilogue

This model was quite a challenge, especially because I hardly had any technical drawings. This required me to project from a 2D sketch to 3D, using photos that were then taken in perspective. In all of this, the proportions are of course important, and all thicknesses and diameters must be as correct as possible to provide a realistic picture. A handlebar that is too thick or too large, a fuel tank that is too low or a right fender that has a different curve than the left; It would give a bizarre impression if enlarged 20x to reality. As a result, such a model requires the greatest precision and some luck in finding the right materials.

Completely different from building a kit, where most of the study and development is done by the manufacturer, albeit to make a large production run. Building a scratch model gives the special satisfaction of having created something unique...

Nik Levecque