



The fine art of straightening a slot car chassis

No slot car chassis is perfect out from the box. Care in mold making, plastic injection, and storage can make the difference between a good chassis and a warped one, but there is always room for improvement.

This document describes a technique which is a reliable and effective way to get not only a perfectly straight chassis, but a chassis with minimal parasite internal tensions, which are left from the cooling process of the injected material, under normal manufacturing conditions where cooling happens quickly.

The principle is very simple: keep the chassis as straight as possible, heat it up, and cool it down slowly, in water, which is very important as it:

- Acts as a thermostat, thus preventing the chassis to be burnt as it will get no hotter than 100° C
- Has a thermal inertia which slows down the cooling process
- Floats the chassis, helping the parts that are not clamped to stay the way they should without bending under their own weight.

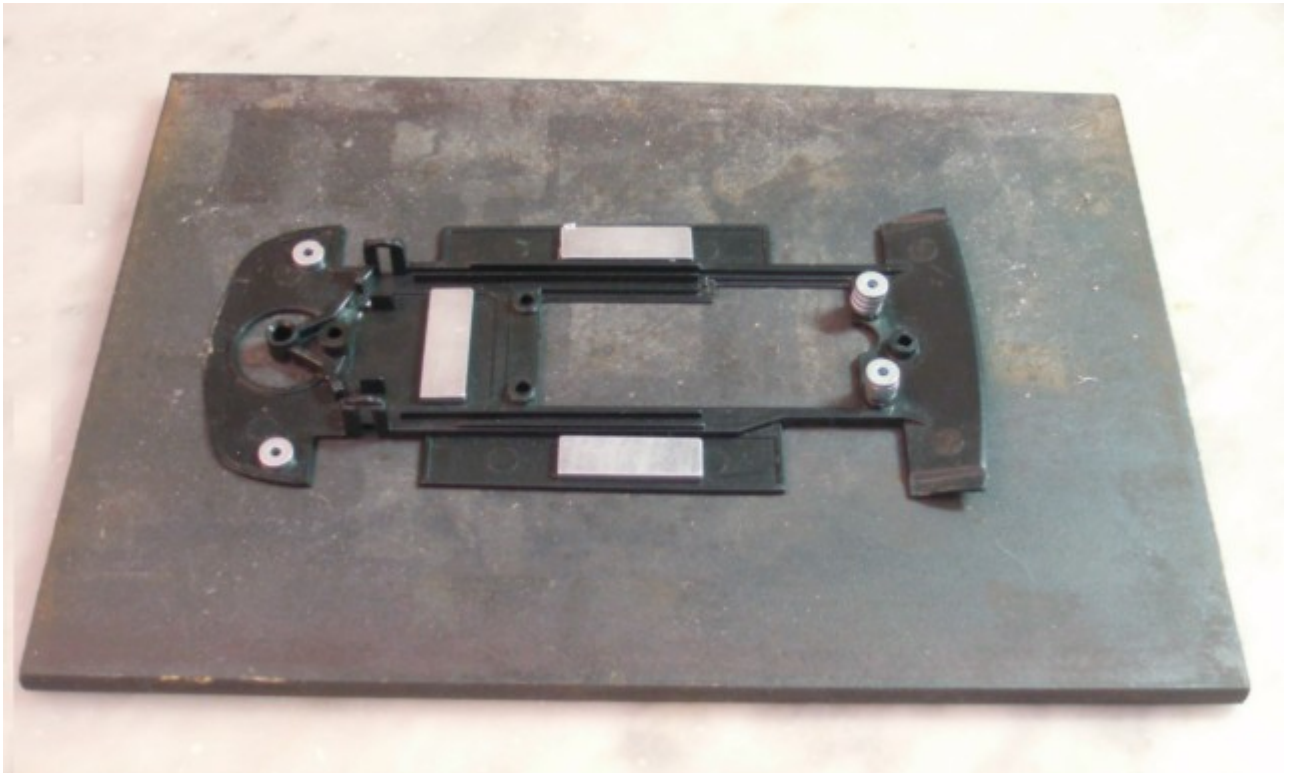
Necessary tools:

- An iron sheet, approximately 7*14*5mm (this is for one Slot.it chassis, increase the 7mm width to 14mm or 21mm for treating two or three chassis at a time), with a nice flat surface which is where your chassis will be clamped to. Most blacksmiths can provide it at very little cost.
- A glass (Pyrex) pan, large enough to hold the iron sheet and approximately 6/7cm high
- Neodymium magnets – 6, 7 pieces each chassis.
- Water
- Oven

Procedure:

Place the chassis on the flat iron sheet.

Clamp it down with the Nd magnets in critical areas: the front (sides of the pickup area), the area between the front axle and the motor mount, the side pans, the motor mount screws area. Make sure you do not alter the original shape of the chassis. Beware: Nd magnets have a very strong magnetic field and are fragile. They tend to snap together and can break on impact. Avoid them snapping together by keeping them separate enough so that the attraction to the iron sheet is stronger than the attraction between magnets.



Put the iron sheet with the clamped chassis in the glass pan.

Pour boiling water (100°C - 212°F) in the pan, enough to cover the chassis completely, with at least an extra couple centimeters of water on top.



Put in the preheated oven at 100°C/110°C - 212°F/230°F and switch off the oven as soon as the chassis is in. Let it cool down overnight.



The trick here is to let everything cool down for several hours. Do NOT pour in cold water to accelerate the process. The oven part can be omitted (even if it is recommended) but the cooling **MUST** be slow. In other words, you can pour boiling water on the chassis and let it cool down, but do not try to speed up the process by adding cold water.

Once at room temperature, remove from the water, remove the magnets with care, and the chassis is ready. Serve well chilled.