Converting a Slot.it Ferrari F40 to run on a SCX Digital track.

Georges Payne, January 2013

I began with the standard Ferrari F40 chassis in figure 1. I used a 11/64 drill bit to enlarge the guide pivot hole. I would have liked to use a slightly smaller bit, like maybe #19 but I did not have one at home. (figure 2) But the guide works really well as it is, even if it's not as tight as I would like.

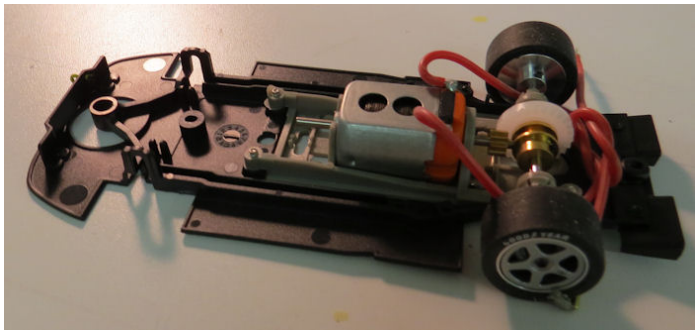

Figure 1

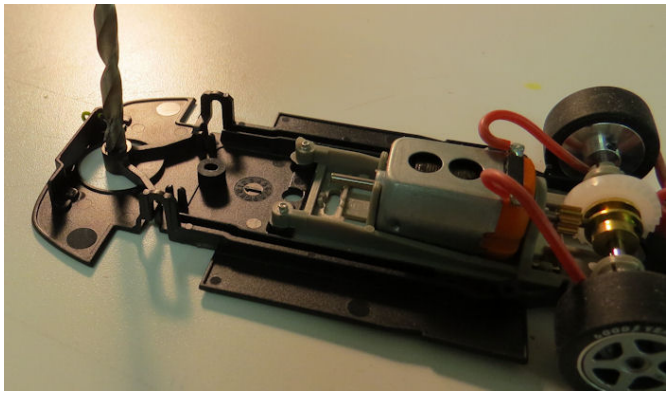

Figure 2

The SCX guide has to be modified to remove the stoppers that are molded at the base of the pivot post. Using a sharp hobby knife, they can be easily removed. (figures 3 and 4)

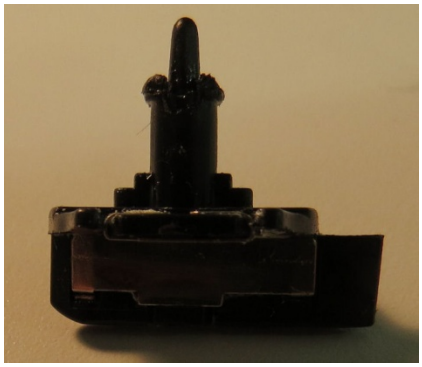

Figure 3

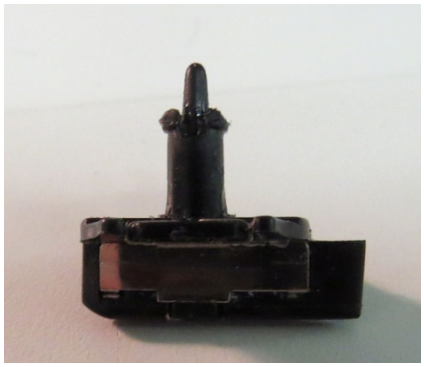

Figure 4

That way, the guide can sit flush with the underside of the chassis, just like the original Slot.it guide. On figure 5, the Slot.it guide is mounted on the chassis, and on figure 6, the SCX digital guide is mounted on the same chassis with the enlarged guide hole.

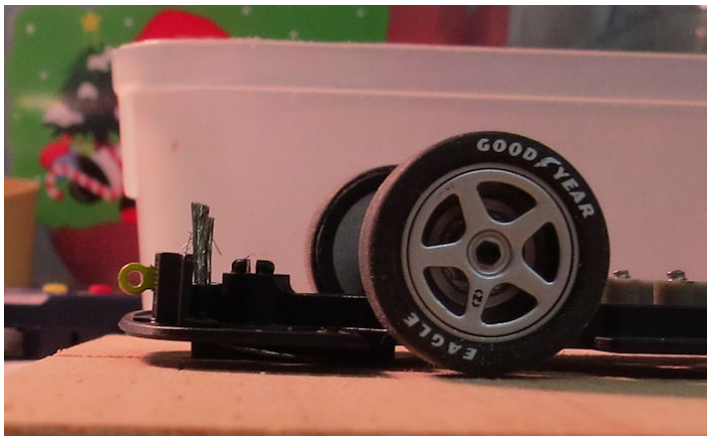

Figure 5

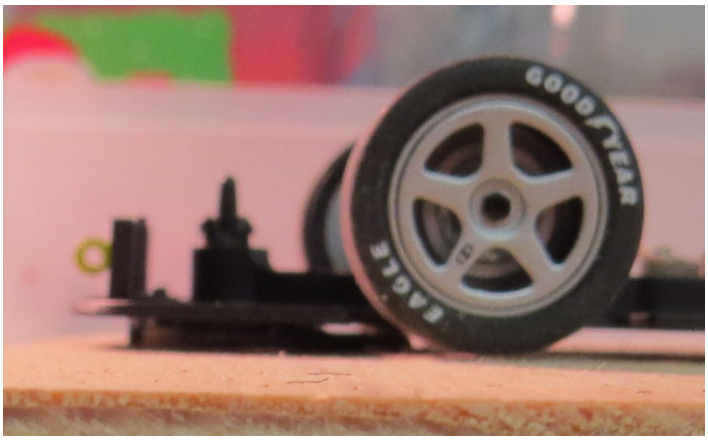

Figure 6

Viewed from above in figure 7, the braids are sitting perfectly where they should. This is kind of an easy conversion because the SCX digital chip can be used almost without modifications. It fits right in between the inline motor cradle and the guide post, except that for the chip to fit perfectly, you need to grind a little plastic off using a Dremel rotary tool, as shown in figure 8. The part that is the most heart wrenching is when you attack that beautiful body with the Dremel. First, in figure 9, the post where the chassis is attached to the body has to go. And then in figure 10, the radiator that is sitting under the hood and the opening in the hood where the hot air exits have to be modified, to make room for the plunger that pushes down on the guide post.

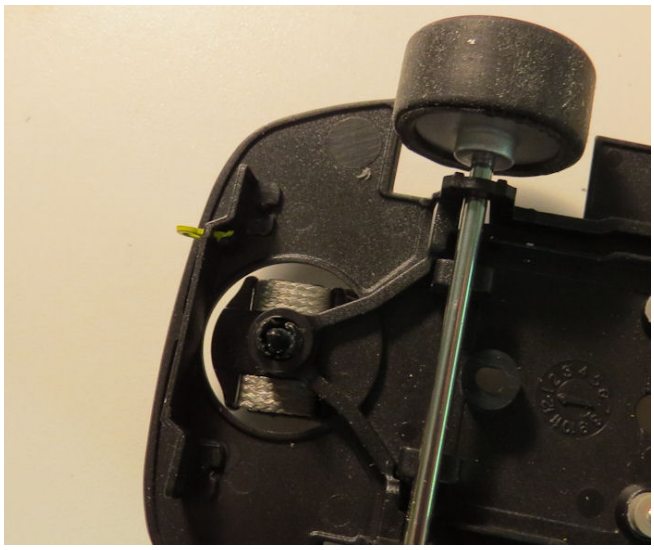

Figure 7

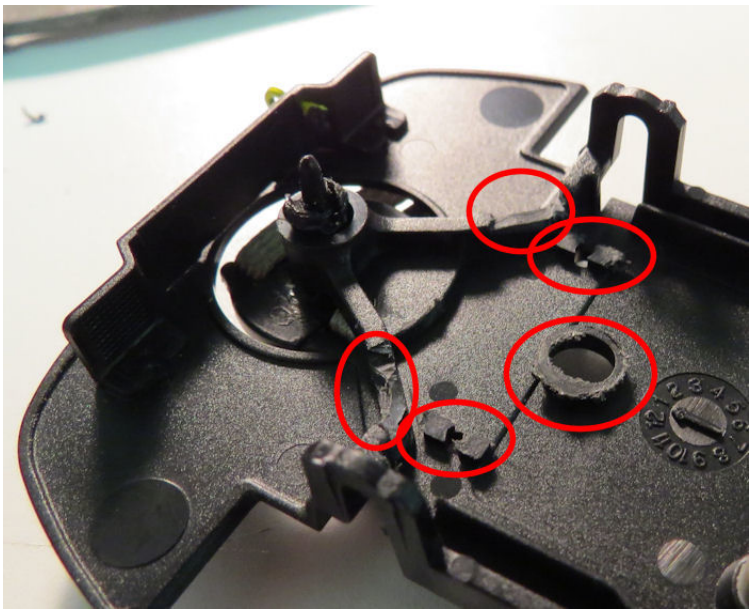

Figure 8

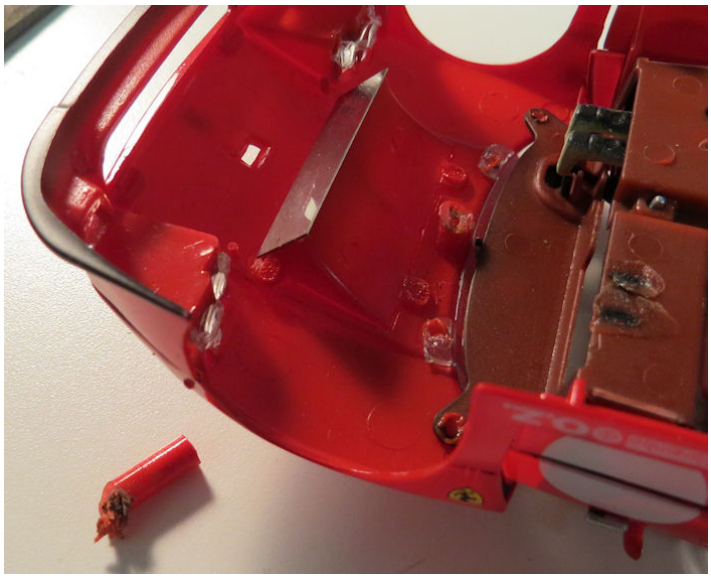

Figure 9

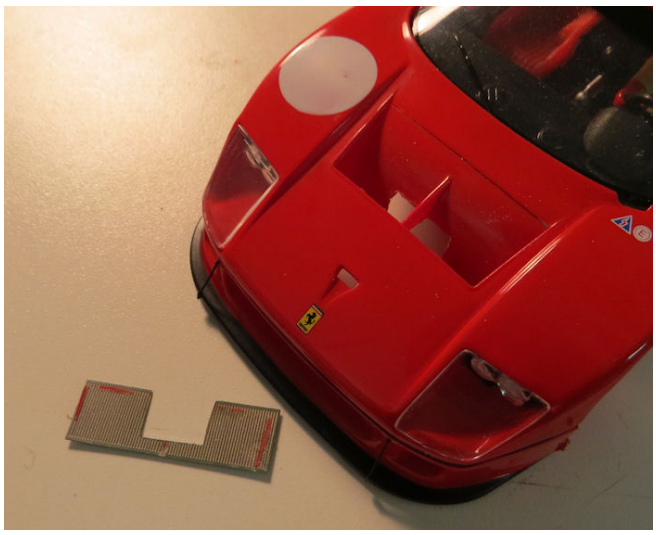

Figure 10

Figure 11 shows the cut in the radiator and in the body, and the plunger already in place under the body. In figure 12, the chip with the plunger is in place, but it will have to come off many times before the work is finished. It all fit so well I decided to keep the two copper strips bringing the power up from the braids, but they will have to be shaped differently because they conflict with the radiator.

Figure 11

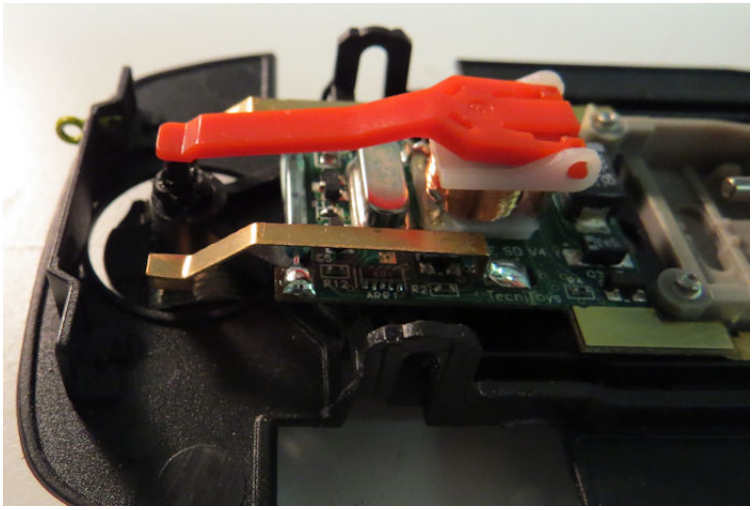

Figure 12

Figure 13 shows the bends I made in the two copper strips, and just above, the radiator at an angle under the hood. Nothing is glued yet.

Now is the time to begin thinking about getting rid of the solid axle. I decided to make my own stub axles from scratch. I used two aluminum rivets from 5/32 pop rivets, and two 2-1/2" finishing nails. The original solid axle is 0.95 inch in diameter, and the nails are 0.100 inch in diameter. I would love to have a micro lathe but in the meantime, I have to make do with what I have. Figure 14 shows a complete stub shaft assembly, an unmodified nail, a small washer, and a 5/32 pop rivet.

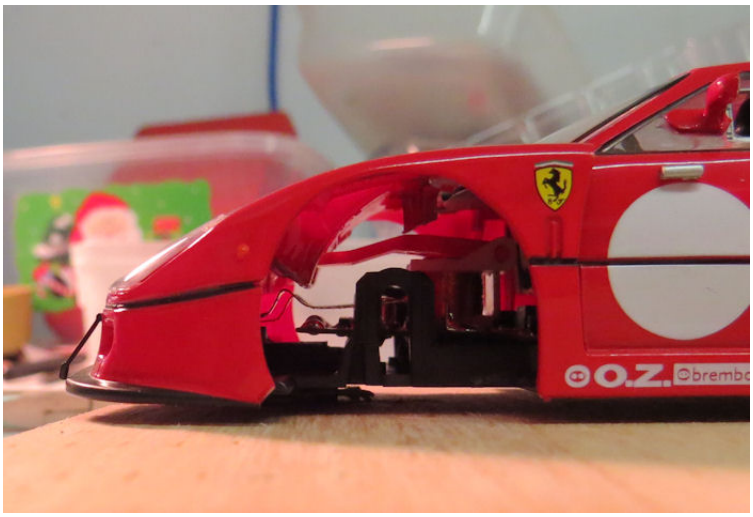

Figure 13

Figure 14

To bring the nails down to the right diameter, I used a power drill and a small file. (figure 16) Then I used a soft abrasive bit in the Dremel, while the drill is rotating. (figure 17) Finally, I polished the shaft on a cotton wheel with a polishing paste. (figure 18) Cutting the nail to the right length is easily accomplished using a cutting disk with the nail rotating in the drill chuck. (figure 19)

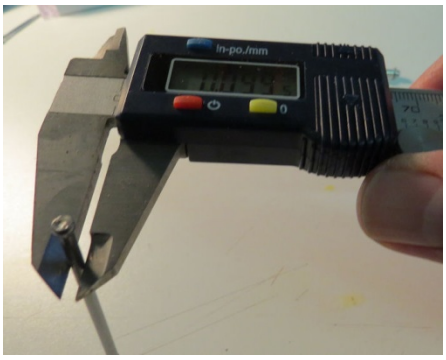

Figure 15

Figure 16

Figure 17

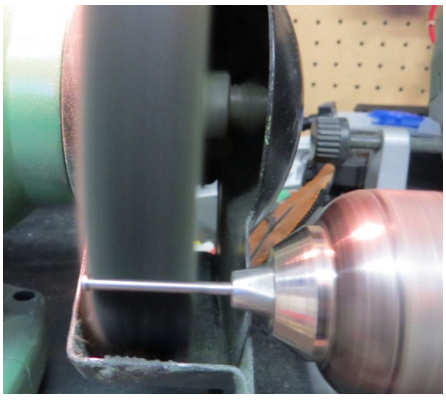

Figure 18

Figure 19

Now for the rivets. They are easily cut to length by drilling a 5/32 hole in a piece of wood of the right thickness, then filing them down flush with the wood. (figure 20) After that was done, I measured the height of the axle from the bottom of the chassis to make sure that the new stub shafts would ride at the same height. (figure 21)

Figure 20

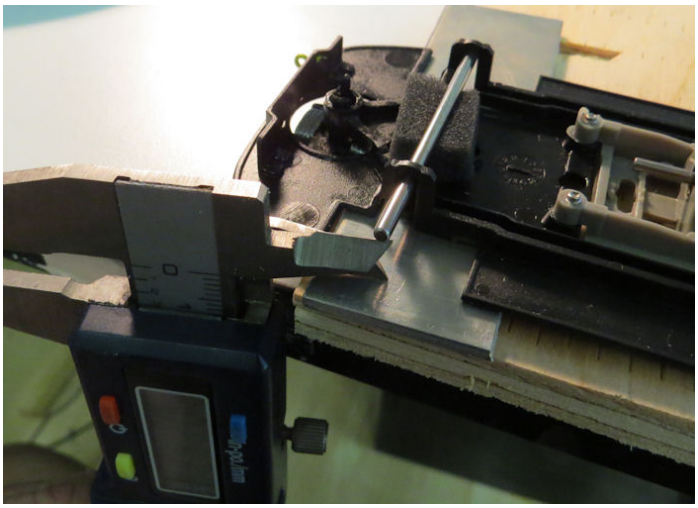

Figure 21

In figure 22, I used a Dremel to carefully enlarge the place where the 5/32 rivet will go. One side has been modified, and the other one, the one closer to the camera, is still left untouched. After the two sides have been modified, I put the two rivets in place, and I used the original axle to align them. (figure 23) The small piece of foam is there only to hold the axle as high as it will go. Then carefully adjust the openings so the rivets will be at the exact same height from the bottom of the chassis as the original rigid axle used to be.

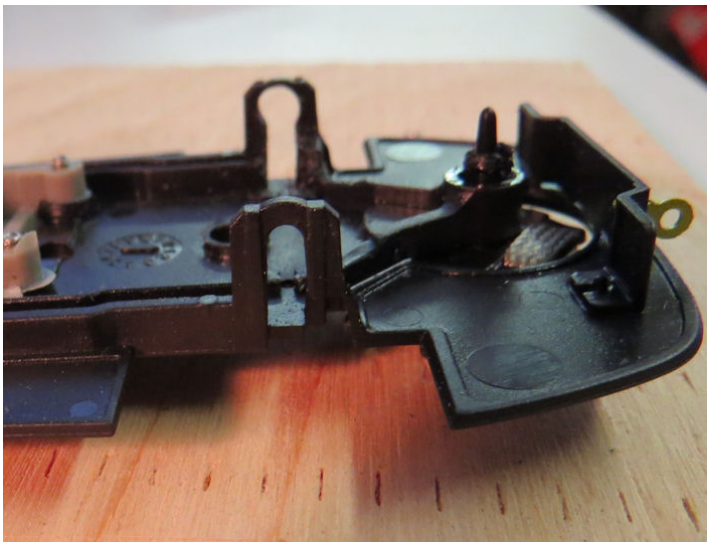

Figure 22

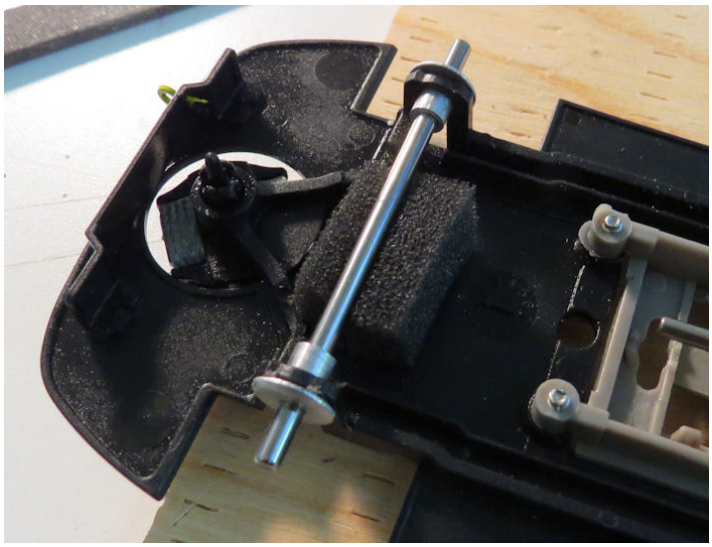

Figure 23

Now is the time to glue the rivets in place, and reinforce the chassis at the same time. I used JB Weld for that. (figure 24) Again, the axle and piece of foam are there to make sure that the rivets are perfectly aligned.

While the glue was curing, I relocated the reed switch in the front because the chip is not lying at the very bottom of the chassis like in a SCX car. I thought about keeping the reed switch on the chip and see if it worked that way, but decided to do the mod now and be done with it. On figure 25, we can see that I also added a strip of self adhesive vinyl to prevent the power strips to accidentally come in contact the chip circuitry. The white stuff on the brown wires is nail polish, and it is there for the same reason. Note that the little plates inside the reed switch have to lie flat relative to the ground.

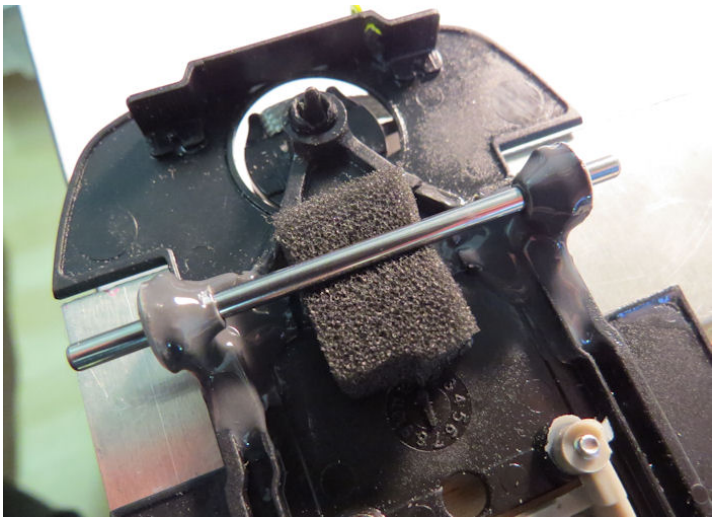

Figure 24

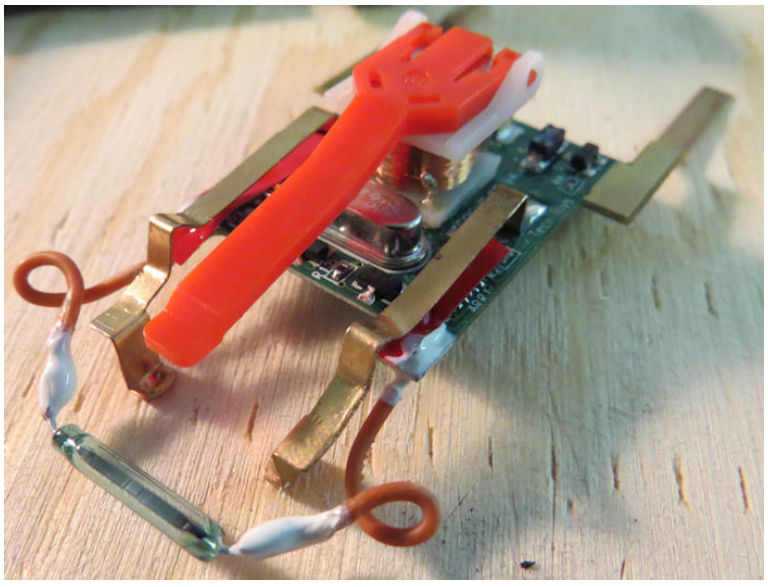

Figure 25

Now is the time to make sure everything fits perfectly before final assembly. A little filing here and there, and in go the stub shafts with the front wheels. (figure 26) They ride about half a millimeter further out than stock but it does not look bad, and now that the rivets are glued to the chassis, it would be real easy to reduce that margin by half if it bothered me.

Then it's time for the chip to be glued in place, using hot glue. I like hot glue for this part because it holds well but can be easily removed later to replace the chip if it turns out that it can't handle the stock motor in the Ferrari.

Figure 26

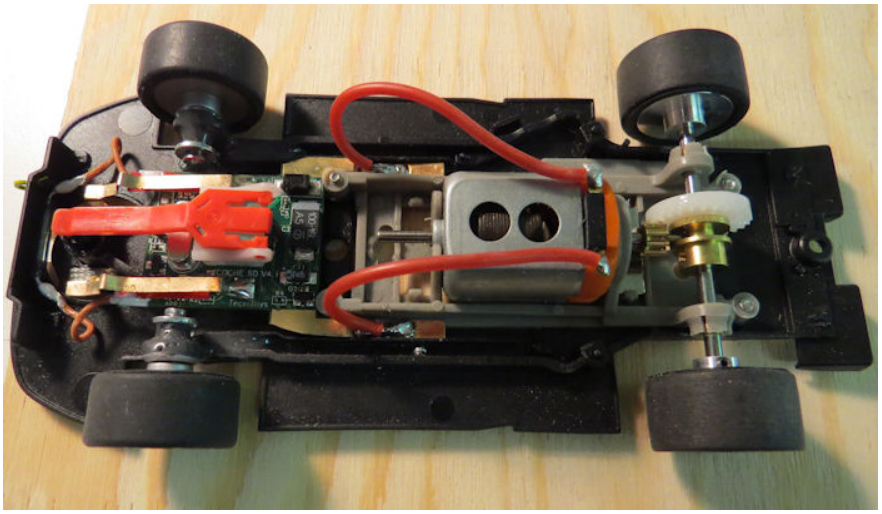

Figure 27

All that's left now is to install new posts to hold the front of the chassis to the body, and we are set for testing that beauty. I found mounting posts and two screws in an old Newbright car and glued them under the flat body surfaces under the headlight lenses.

As modified, the F40 works flawlessly, it did not even require final adjustments once I glued the posts. On the track the F40 is considerably faster than my stock SCX cars and in fact it's way too fast to compete against them, really. So I'll have to find other projects like this conversion to even out the field real soon!!!