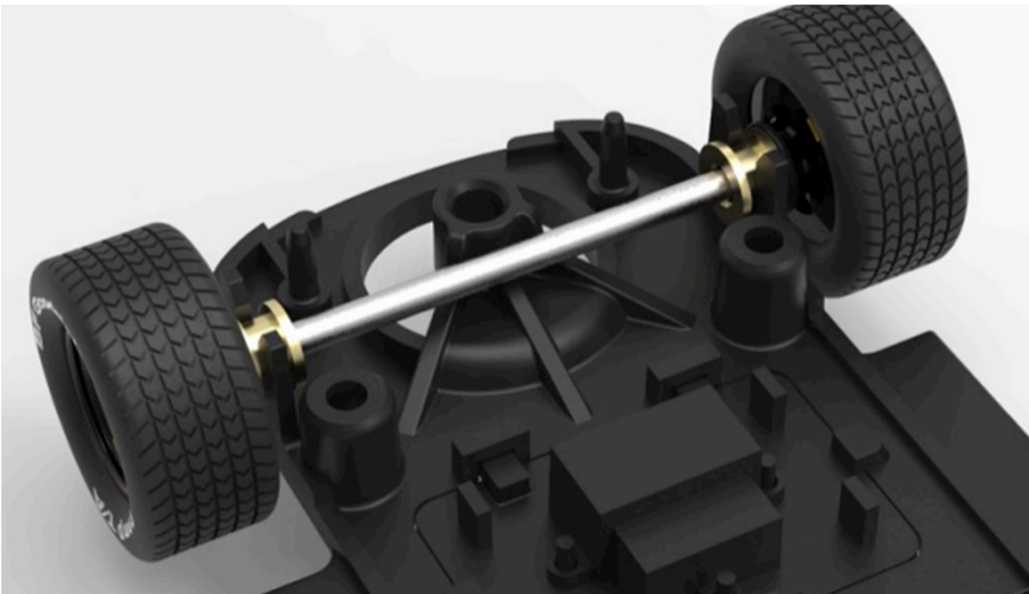


## Pioneer Legends Guide Pin Issues

-- by Church 2023 (rev. 4/28)

**By now you have heard of the problem...**most of the Pioneer 1:32 slot cars have the same problem. Frankly the Pioneer slot cars are great fun. They are fast out of the box and have great detail. Down to the white lettering on the tires, these cars are very highly detailed and represent their full scale brotherhood about as well as any manufacturer out there.

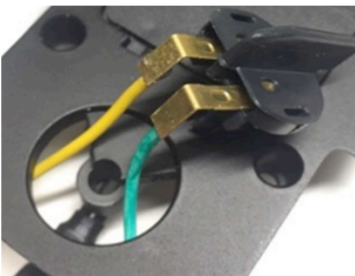
But, their “guide pin” simply sucks. It runs sloppy, the braid pickups pull out while running on the track, the pin falls out when racing hard into turns and changing lanes is a caution when running on digital raceways.



Actually the chassis design is not to blame. The guide is a snap in unit that pops up through the hole shown here in front of the axle. The axles are very strong and the wheel bushings seat nicely in the chassis mount. This is a well-made slot car. The guide pin however is sloppy as all hell. It binds from time to time because the pickup wires can get caught on the guide pin post.

Shown below, these clips slide into the guide just behind the pin.

They can easily snag along the opening in the chassis and because the guide pin flops around like a fish out of water, the wires pull and the braid eventually becomes unattached from the guide.



Without a doubt this is problem that must be resolved at Pioneer. But for those of us already running these...we must find a solution.

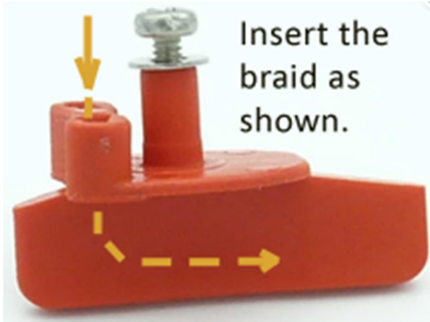
*In the next few pages we will show you how to improve performance.*

*Note: Save these brush clip retainers for later use. I did find a way to apply them. They will come in handy if you use the Pioneer UltraBraid [R].*

In this article, I offer you my method that I have experimented with, and achieved very good success.

There is a slot car accessories company out there that creates several different high performance guide pins for all slot-car enthusiasts. SlotInvasion USA ([www.SlotInvasionUSA.com](http://www.SlotInvasionUSA.com)) offers a wide variety of products including guide pins, specialty tools and digital chipsets. In simple terms they offer solutions...and that is what we came for.

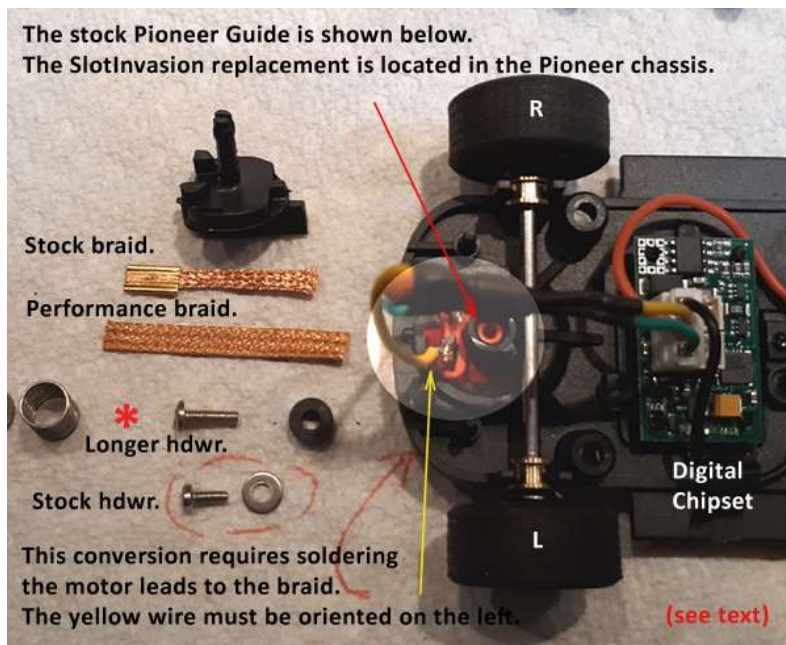
**Illustrated here is the Slotit, Pioneer Legends guide assembly for Carrera [R] and most wood track systems.**



Insert the braid as shown.

These guides are made from a polyimide, a high-performance plastic. The SlotInvasion [R] guide is very strong and slippery through the track guide. It will not break down under heat from friction. Polyimide plastic is used in military applications so you can trust it will hold up during the fastest laps. For the Pioneer Legend application this guide fits general much better than the OEM Pioneer. However, the guide post where the small screw is attached, this is not tall enough and the screw supplied is too short for a replacement on the Pioneer chassis without some modification. The Slotit guide is the best solution, however use a longer screw as shown.

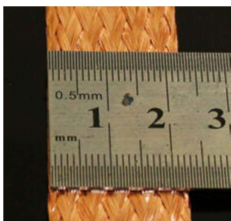
I did not want to butcher the Pioneer chassis. That was my full intention, to make this a simple modification. Follow along here, remove the OEM guide pin. Pull down, it will pop out in your hand. Remove the braid pickups by pulling them from the face of the guide. Now extract the yellow and green wire clips. Cut off the



brass retainer and set aside.

You can use the original Pioneer braid, but I recommend you buy the Pioneer UltraBraid on a roll. You cut the braid to 1 ½ inch length, solder to the yellow/green wire, slide them into the SlotInvasion guide and trim as shown. Remember, if you run Carrera digital, you must place the yellow wire on the left side of the pickup. Now that the guide is in place, use a longer screw as shown (#2). You can use the flat washer that came with the guide pin kit. You can also use a small (#2) bushing in the guide hole. Either way works fine. Keep in mind you want a small amount of guide-pin side play, in order to control the roll center when taking

hard turns. If the chassis does not roll side to side properly it will slide along the guide pin and cause premature braid failure.



The Pioneer Legend series has a high rear weight percentage, they tend to rotate a lot in the rear, and this means they run loose. Loose is fast but this is exactly why the stock guide-pin design was such a failure. Trust me when I tell you, these cars are a “blast” to race. They are really fun on a digital track where there are a lot of lane changes, chicanes and cross-overs.

Stay tuned...this article is about to be continued.



I have been in contact with the nice people at SlotInvasion. I received a pair of BRM/Revo guide pins from LEB Hobbies. They are not a “plug and play” replacement for the Pioneer guide. I decided to order a “bare chassis” from Pioneer. That should arrive very soon. I am going to work on the guide pin swap. I will offer a modified solution when the time comes. I intend to swap my Legend car components to the modified chassis.

What generated my interest to continue my investigation came after I found out I could use a wider brush (braid-pickup) in the BRM/Revo guide. I can use a 4.7mm wide braid. This should totally eliminate “digital stall” when the Legend passes through a Carrera lane change. What is “digital stall” you ask...well, the digital signal can be lost when the slot car stalls in a “dead spot” where lane changes open up the track, you not only lose power, you lose your “lap timing data”. This could mean the difference between a win or lose if you are competing in a “total laps” timed event.

### What you need:



The bare chassis, or your car’s chassis. You are going to make adjustments to the guide pin area only, so I suggest you remove the front axle for this part of the modification.

You need the SlotInvasion BRM/Revo kit as shown. You will also need a set of brushes. I cut these from Pioneer UltraBraid [R].

The length should be 1 1/4 inches to start. You will trim these later. Look at your chassis carefully; the guide pin area resembles the letter “C”. It is this

You will remove .020 from this area...



area you will modify.

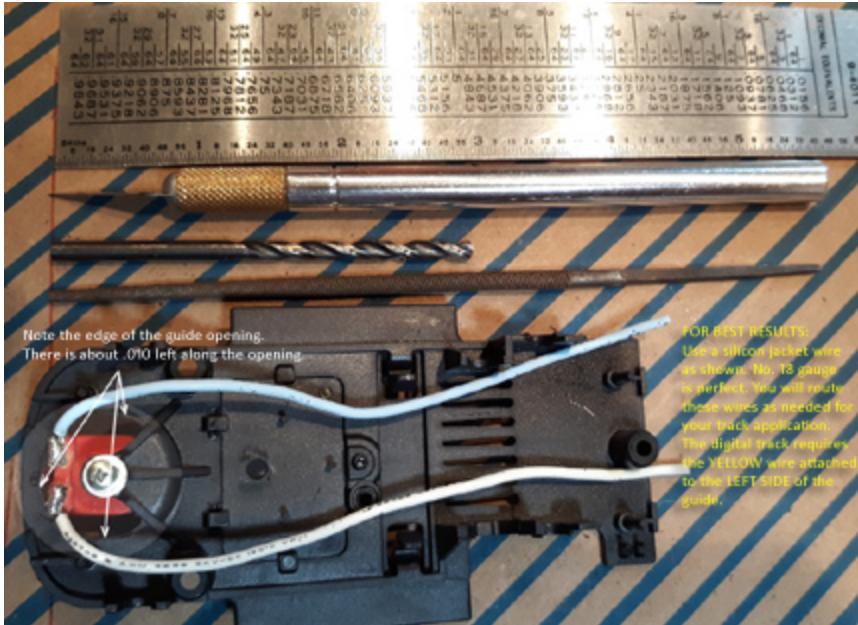
Let us begin. First you must drill out the guide hole. This requires a 5/32 drill bit (slightly larger than 0.125). You do not need a drill. A variable speed Dremel [R] will work at the slowest speed. I used a simple drill/tap holder. This requires very little power, but you want the drill to run straight. Don’t force the bit through the guide hole. When the hole is finished, take your new guide and check the results from the top down. You cannot slide the guide up until you open the guide area as shown.

The next step is a “trial and error” procedure. Use the Exacto [R] knife with a fresh blade. Slowly scrape away material in the area above shown in “yellow”. Take your time and work along the entire opening from 8 o’clock to 4 o’clock. Stop and check the progress after a few minutes. Then continue till the new guide can be installed and swept left to right.

The amount you take out will leave about .010 along the ridge. You will enlarge the size of the “C” opening.



Now you are ready for the guide modification.



This is the finished chassis. The area marked here will give you an idea just how much you will remove from the guide hole.

The wires are soldered to the braid; you will see that in the actual guide illustration.

The tools are shown here that will help you complete the modification. The small file can be a 6 inch bastard cut file, or a half-round rasp that is not over aggressive cut. Note: you cannot use sand paper. There is simply not enough room. Don't start this conversion without the correct tools.

The guide swap...



Here is the guide, ready to insert in the chassis. Note what I did to aid the brush location onto the track?? The small brass clip that came with the original Pioneer guide is installed as shown by pushing it up through the Revo brush guides. You can see they pop up to hold the brush tight inside the guide. The brush cannot slip out, it is soldered, but the Pioneer clips help maintain a solid contact to the track. You will trim off the brushes as required for your layout whether it be wood or plastic snap track.

I have to close this article saying there are other solutions out there. You must decide. If you are a "super tuner" go for what ever makes you happy. In the end both of the SlotInvasion guides mentioned here work great.

The Slotit guide works fine, but you need a longer screw. My lap times improved dramatically after using the Slotot conversion. No chassis modifications were required; however you will need to solder motor wires. That said, the Revo guide (above) gave me the same solid lap times, but I noticed that the car changed lanes smoother. On our track, the "S" turns offered more "rear end rotation" with better reaction 8 out of 10 turns. On the stock Pioneer guide, the car left the track 50% of the time. One more thing I noticed...side by side through a "chicane" the SlotInvasion equipped car had a clear advantage over the stock Pioneer.

One last thing, this article was not meant to solve any inherent problems. This was an exercise in "fine tuning" an already fun car to race. Take these tips to your level, not mine. *I never meant to reinvent the wheel.*