

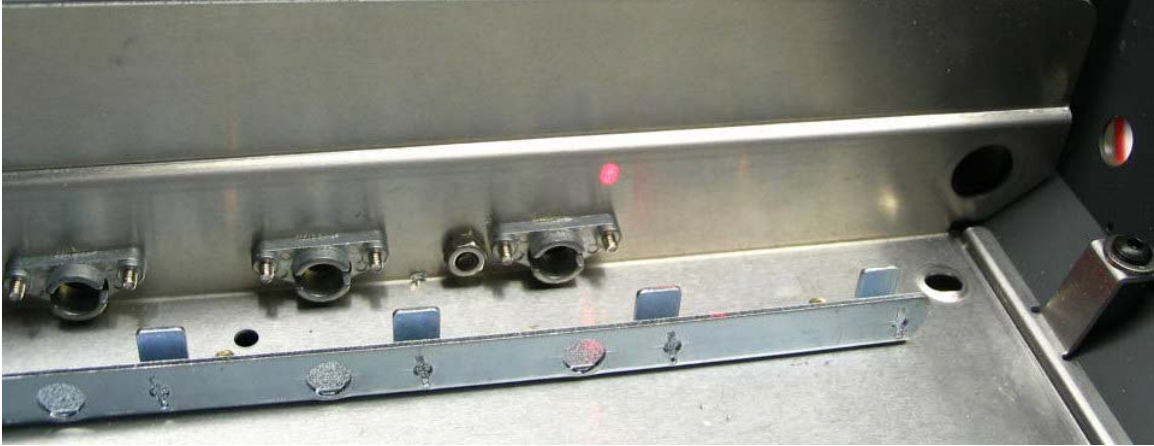
The idler kit must have anchor points for the springs. Installing a screw and two nuts provides the fastest way to create a spring anchor point. Installing the idler kit without making any holes (only basic tools required) is the fastest way to install this kit. Total time should be less than an hour, including test driving the tank. You can anchor the springs anywhere, really, as long as you are not too close to the idler arms.

You have two choices in installing your Tiger 1 Idler kit. This choice is whether to take the Tiger 1 apart or to simply keep it together. The design of the Tiger 1 is so that the aluminum inner frame is separate from the plastic outside hull. You can't drill into the aluminum inner hull to attach a screw and nut using this design, without taking the entire tank apart.

If you use existing anchor points, which are the 2mm screws that hold the suspension pivots in place, the springs won't be equal length. If you make your own anchor points, then both sides will have equal length springs. The difference in idler performance is going to be minimal, but there will be a difference. The spring material is soft enough to provide a wide range of movement and not be too stiff or too soft even with springs of two different lengths. The Tiger 1 has very short axle castings with little leverage. This reduces the amount of swing which you can obtain from the idler wheel and is why there is little adjustability in the Tiger 1 idler. Your track tension can be adjusted but you never seem to have enough distance to get rid of all of the slop.

If in doubt, take the tank apart and drill fresh anchor holes. Otherwise, using an existing screw hole is the easiest way to secure the spring in this kit. If at a later point you take your tank apart, then you can establish new mount points.

There is enough spring material to try different lengths, as well as a small piece of spring to practice making loops with. **USE CAUTION WHEN CUTTING SPRING. THE SPRING ENDS ARE SHARP.** Use eye protection when cutting spring, and a good pair of needle nose pliers and wire cutters are required. Cheap hand tools won't perform like better quality hand tools.



The laser dot shows where you can drill the hole for the screw anchor. The hole must allow a 2mm screw to pass through. Otherwise, you will need to use the existing 2mm screws which attach the suspension pivots to the hull, using 2mm nuts to keep the spring from slipping off the end of the screw threads. If you drill holes, make the opposite side hole in the same location..

The electronics will fit right over this area. You may want to install the electronics and the speaker to see how they will affect the spring anchors.

From here onward, the instructions will show how I converted an actual Tiger 1, using no drilled holes and no permanent modifications to the tank, using only basic hand tools.



Remove the Tamiya idler parts. You will reuse the brass collars and the cast idler arm parts. You won't need the shaft or the e-clips.



The arms should fit over the Tamiya casting. There will be a "left" and a "right" one, based on how the screw is installed which serves as a spring anchor.



File the small casting line break if it prevents the arm from sliding on the part all the way.



Install the parts. Re-use the brass collars, but do not re-use the steel shaft. Use my new, longer steel shaft. Note that the screws in the arms face outwards. I recommend a little grease on all rotating parts. Tighten the large socket-head screws (3mm) and the brass shaft collars, as well as the set-screws that hold the Tamiya idler arms in place. Cut a spring to 1 inch. This will be the right hand spring.



Cut a spring to 1 inch. This will be the right hand spring.

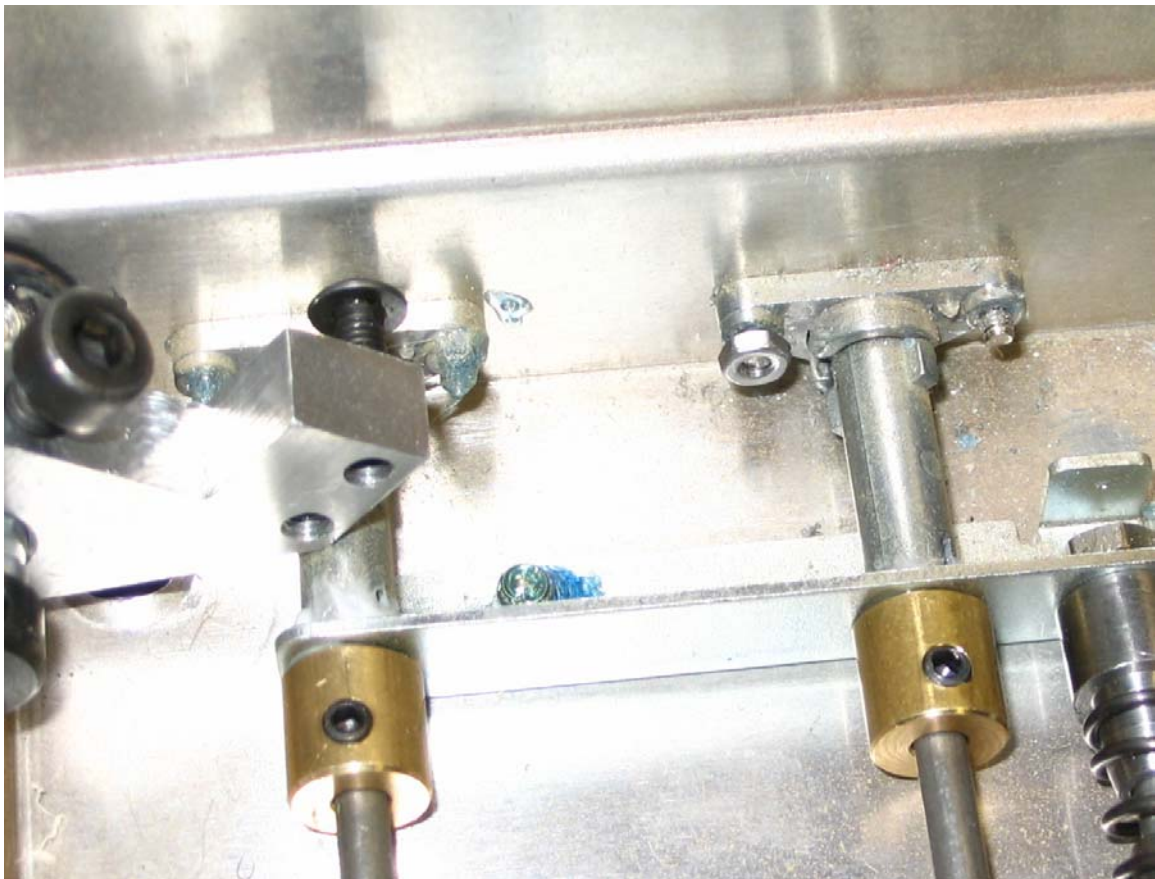


Forming the eye of the spring. Once you cut the spring, place the wire cutter between the last coil of the spring and at the point where it forms a full circle. Squeeze the cutters but do not cut all the way through. The spring will deform enough to form an eyelet. You can use pliers to help finish the bend. Be careful of the sharp ends.



Formed spring.

Thread a 2mm nut onto the exposed end of the 2mm screw as shown. Loop the spring around the anchor screws. I used small, fine tip needle nose pliers to attach the spring, not my fingers, since the ends of the spring can be sharp.



This is the left side. Install a nut on the end of the 2mm screw as shown. This side will need a shorter spring. Yes, you can use a longer spring if you care to. It will have to be hooked to another anchor point, however.



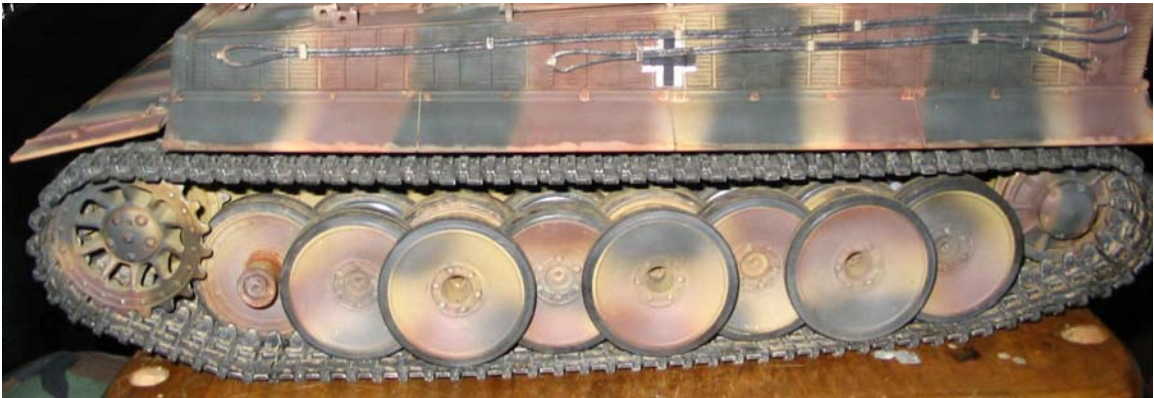
Cut a spring to .75 or $\frac{3}{4}$ of an inch.



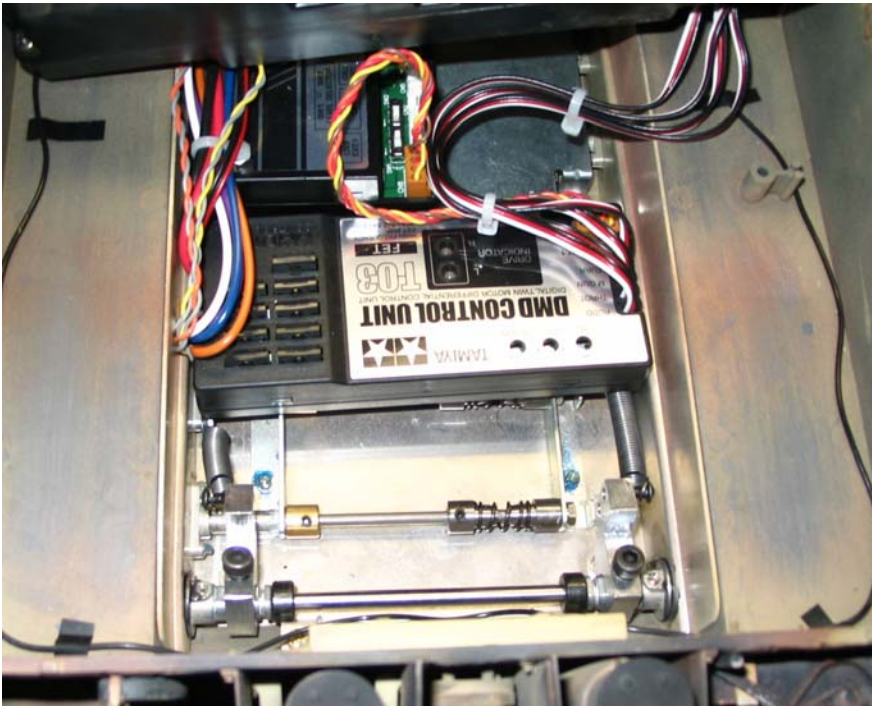
Attach the spring after you form the eyes.



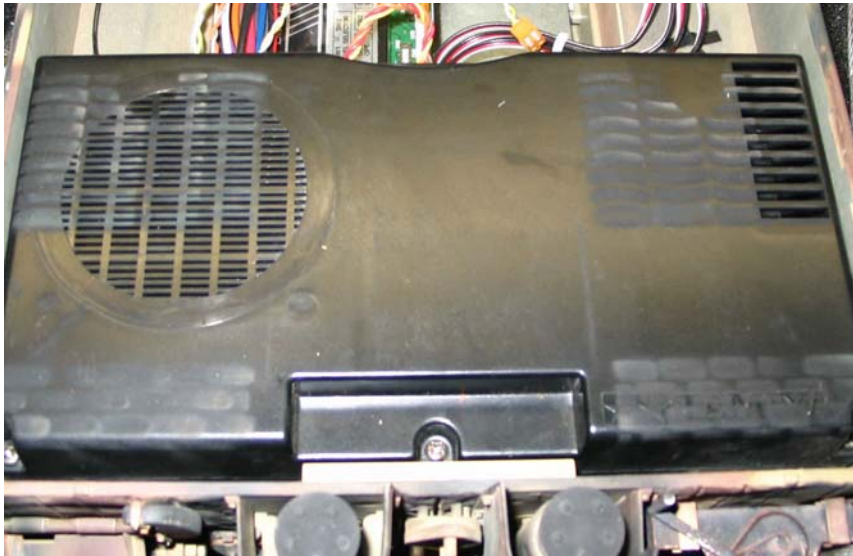
Here is the same set-up with a longer, 1 inch spring. It will slide over the suspension pivot, which is fine, but you'd need to wrap the spring with either a piece of vinyl tube or plastic tube to prevent the spring from "clicking" on the suspension arm.



View from outside. The track should not drag along the top of the roadwheels. I had to remove one track link from each side of this particular tank. The track was too long and did not allow proper tension since it was too long. Be aware that unlike real tanks, our small tanks have lightweight track parts and thus the track will not behave with the same dynamics as a real track. Real Tiger 1 track will begin to slacken and droop as soon as it comes off of the drive sprocket. If you want this look, re-install the extra track link you just removed. Be aware that model track will slip off due to lack of track tension. Scale appearance and scale performance of model tank track tends to result in thrown track, because of the lack of enough tension to fully engage all sprocket teeth and not enough tension to ensure the track teeth stay firmly in contact with the idler wheel.



Place DMD electronics back in place. You can space this away from the springs with a piece of foam, or make a small shelf to keep it elevated, or merely use some tape to support it. This is of course, assuming you place your DMD in this location. This is as Tamiya shows in their instructions.



Reinstall the speaker.