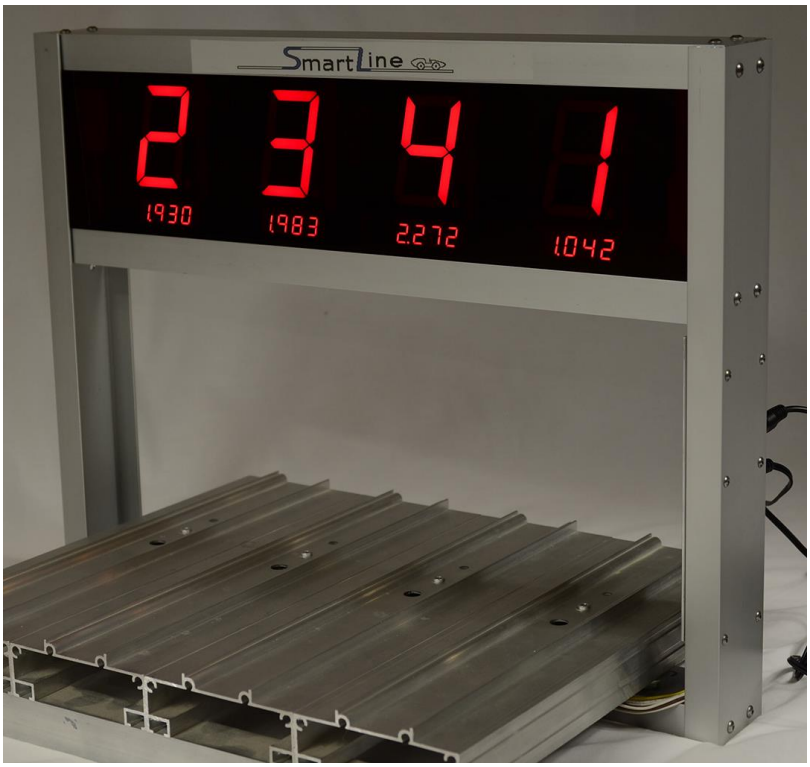
INSTALLATION MANUAL

For Drilling New Holes in a Custom Track

VERSION 4.0



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Installing the Finish Line

We thank you for purchasing the eTekGadget SmartLine Finish Line system. This manual will assist you with the installation of the SmartLine Finish Line system. Use this procedure if you already have a track and need to drill the holes and mount the timer yourself.

BestTrack and Piantedosi track manufacturers will pre-drill the track for our timer. It is highly recommended that you ask the manufacturer to pre-drill the holes if you are buying a new track.

A Quick Overview

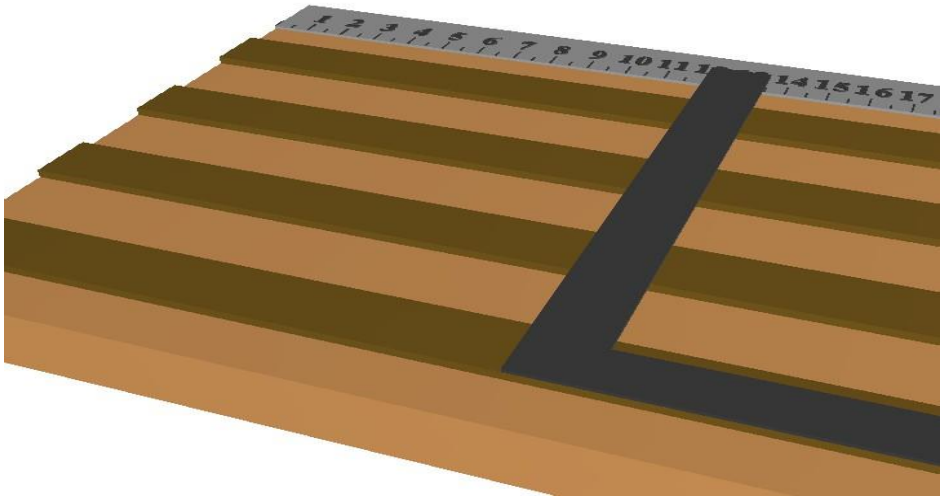
The installation of the sensors in your track involves drilling a ¼ inch hole in the middle of each lane about one foot from the end of the track. The following instructions provide tips on making sure the hole is in the center of each lane.

Tools needed

- A ¼ inch high-speed drill bit. For a wooden track a Forstner type drill bit will drill a cleaner edged hole.
- A small Phillips head screwdriver.
- A square to mark a line across the track.
- Two straight strips of wood or metal long enough to span the width of the track.
- Four clamps to temporarily hold the strips on the track.
- A small rectangle of sheet metal or metal strip about 1 inch wide and 2 inches long to be used as a drill guide.

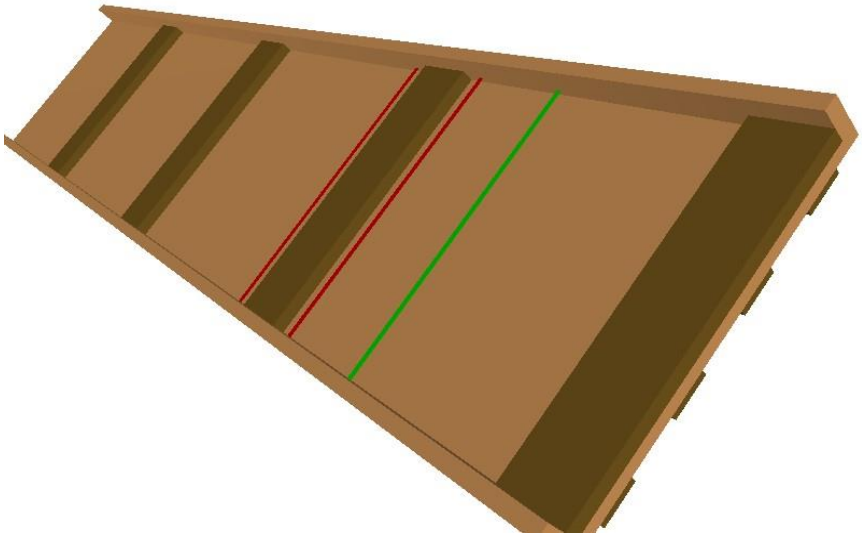
Choose a Location

Choose a location for the finish line. About one foot from the end of the last track section is a good location for the finish line. You will need about 3/8 (.375) inch of clearance



under the track for the sensors. This is an issue only for tracks which lay flat on the floor.

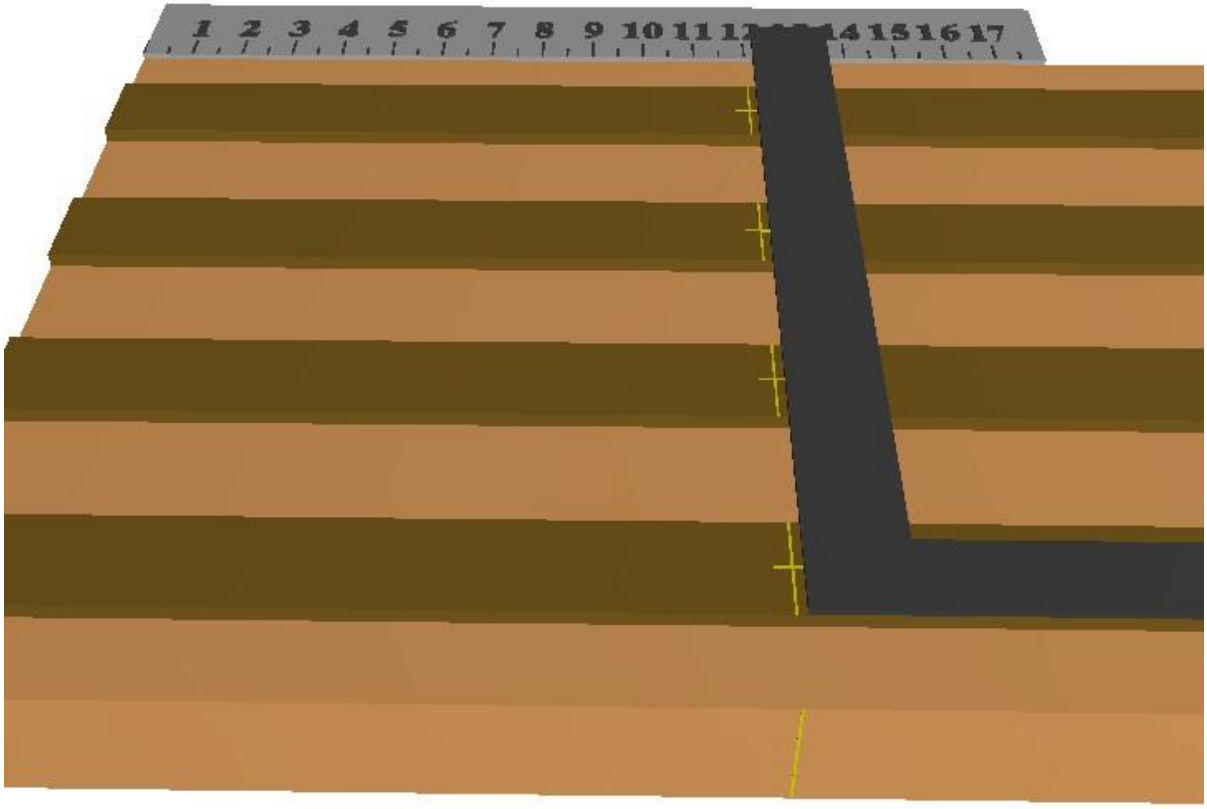
Check the underside of the track to make sure the location is clear. The picture shows the underside of a track section with bad locations in red and a good location in green.



The photo sensors and their associated wiring will be located on the underside of the track. Allow about two inches of clearance on either side of the finish line for the wiring.

Mark the Line

Using the square mark a line across the track where the finish line will be.
Mark the center of each lane on the raised center of each lane. The center marks need to be within 1/16 inch of the center, so you don't have to be extremely accurate. However, make the marks as close to center as possible. The reason for this is that the front tip of the cars will trigger the sensor and it is best to have it as close to the center as possible.



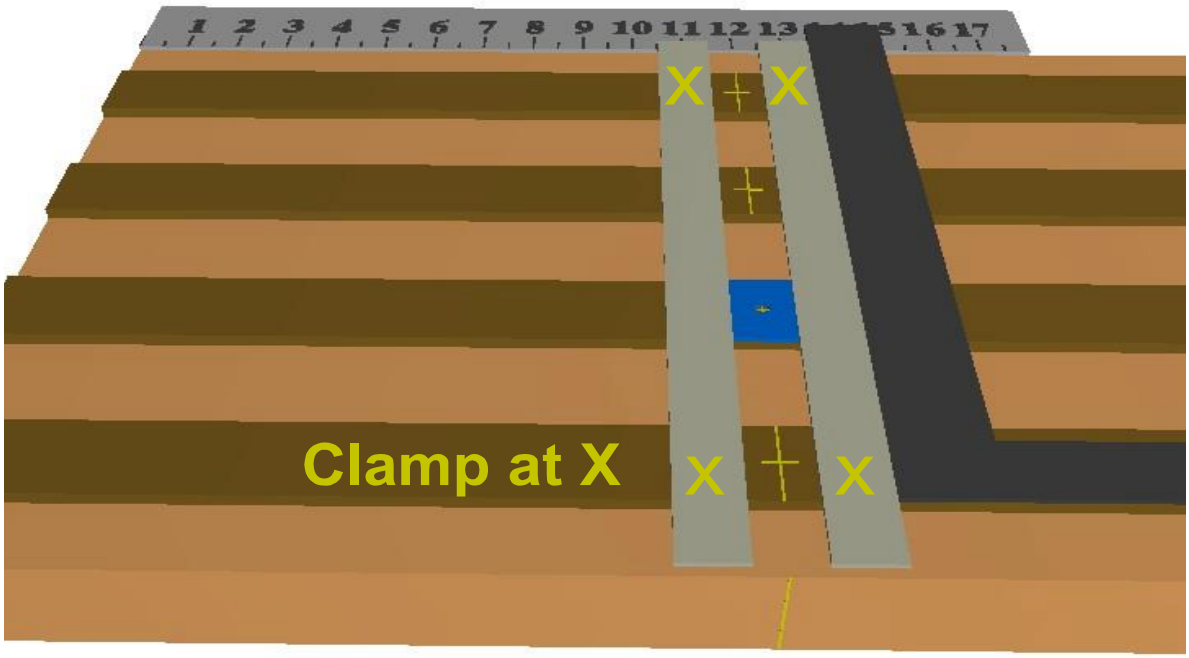
Make the Drill Guide

Mark the center of the metal plate and drill a ¼ inch hole.

This plate will serve as your drill guide for drilling the sensor holes in the track.

Clamp strips in place

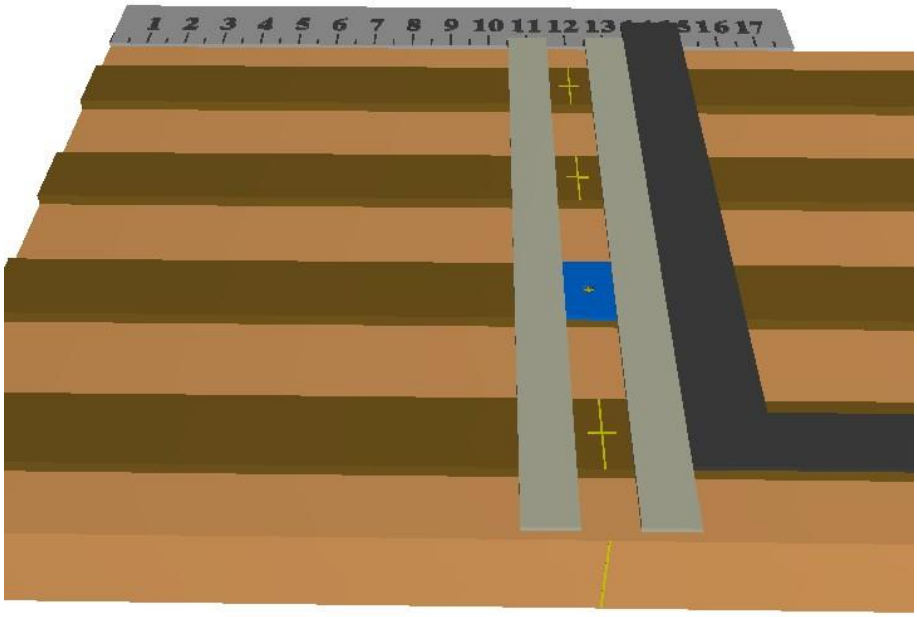
Clamp the long wood or metal strips in place while sighting the centers of the hole with the drill guide plate. It is very **important** to use the square to make sure that the holes are all parallel to the side of the track. Position the strips as square to the track as possible.



The advantage to using this method is that the drill guide will locate each lane's hole accurately along the track length.

Drill the Holes

Using the drill guide placed between the clamped down strips, drill the sensor holes with a ¼ inch drill. Hold the drill guide **firmly** in place while drilling the hole. The clamped strips will prevent it from moving along the length of the track, keeping the holes in perfect line. Do not remove the clamps until you have drilled all of the holes. The picture shows the drill guide in blue.



Install the Underbar

Set the bar with the sensors in place so that they are facing straight up into the hole in your track.

You may have to make adjustments to fit the timer on your track such as cutting a slot in the side rail of the track for the timer to sit in. You may need to raise the bottom of the track up off the floor ½" to accommodate the timer.

Fasten the bar to the track with the screws and wing nuts provided.

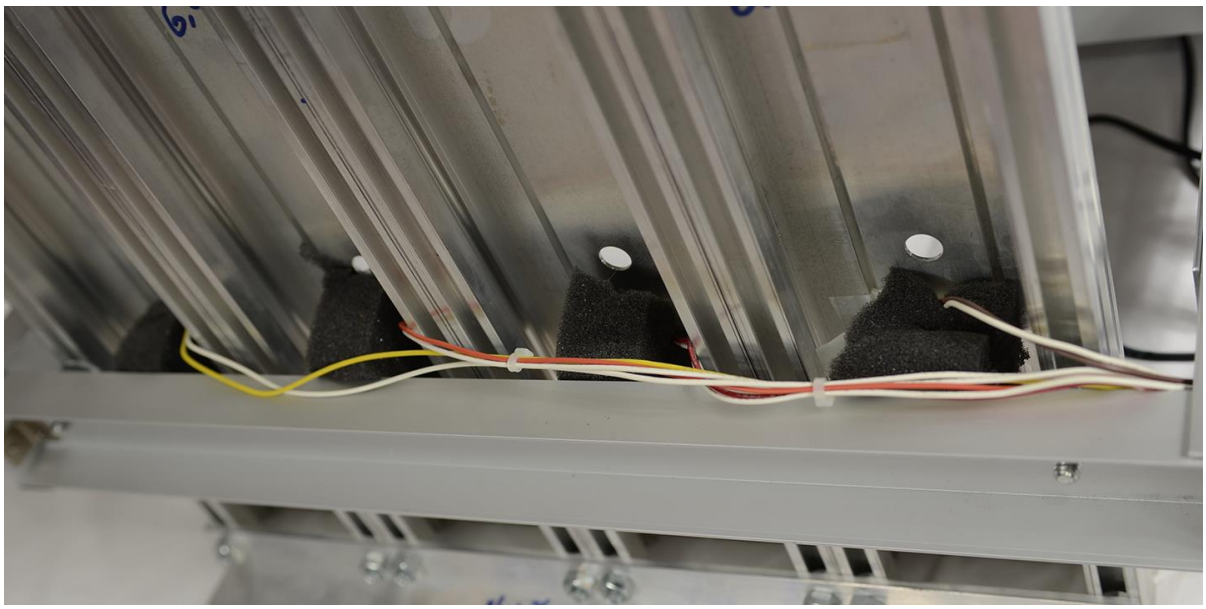
If your track does not have mounting holes already, you may want to remove the bar from the bottom of the timer to use as a template. You can do this with a Phillips head screwdriver. The sensors can be unplugged from the CPU board. There is a locking tab on the side of this connector that you push in when pulling the connector off. Screw the wood screw side into the track. The machine screw fits through the underbar and the wing nut holds the timer in place.

The sensors will be installed at this point because they are mounted on the underbar with double sided tape but if you need to adjust them continue reading the next section.

Important: Make sure the wires are not pinched by the track. We install a wire harness to hold them to the side of the timer underbar.

Install the Sensors

The sensors are mounted onto the underbar with double sided tape. They should be in the proper location if the measurements provided where accurate. If you do need to move the sensors to line up with the holes, please be very careful not to pull on the wires or cut them. It is sometimes difficult to lift them off the tape. If you do, another piece of tape should be used to reposition it. The sensors are placed on a square of foam for BestTrack tracks to hold them up in the holes. These foam squares are not used on Custom tracks.



If your sensor fits up into the hole of the track and you need to remove it, do not pull on the wires. If a sensor gets stuck in the track, **do not try to pull it out from the back**. **Push it out from the top with the back of a ¼ or 3/16 inch drill bit.**

Custom Track Mounting

The mount screw for the custom track comes with a cork on it just to hold it in place. Remove this cork when you install the screw into the side bar of your track.

There is a wing nut on the bottom that you will use to hold the timer up onto the track rail.

The wires from the CPU board to the sensors must not be pinched under the track. We have mounted them on the side of the bar with a wire harness to protect them. On most custom tracks you need to cut a notch in the rail for the timer. Please cut the notch wider on the CPU side for the wires.

Contact us if you have any questions.

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