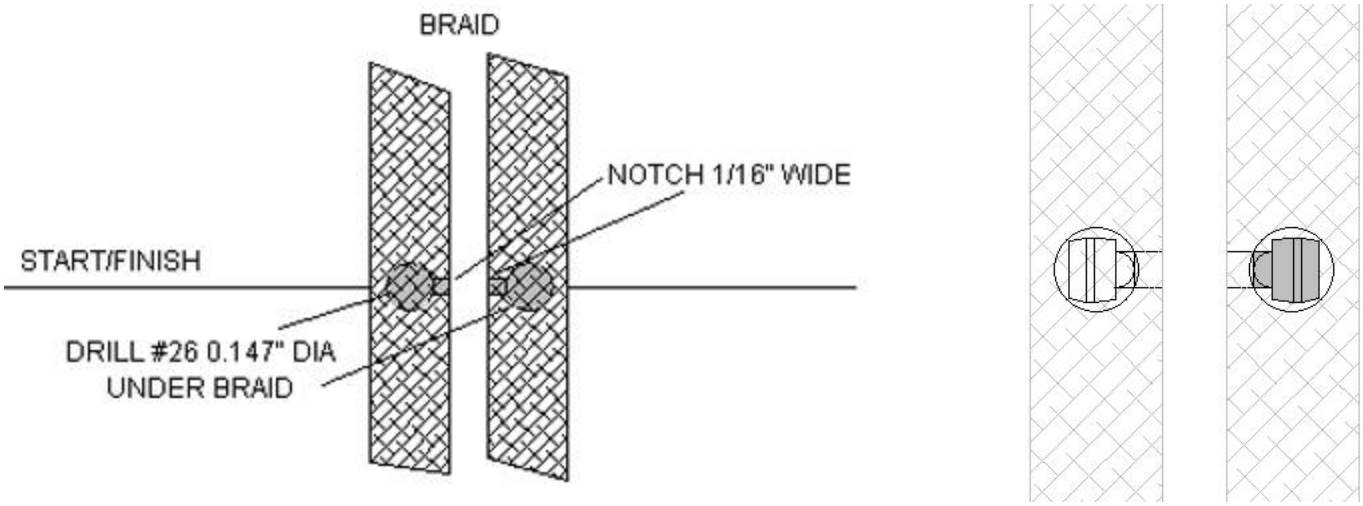

Installation Instructions – Lap Counter System for Routed Track Use (PMTR6850 or similar)

This lap counter system does not require any dead strip or interruption of power and can be used with braided tracks or tracks using copper tape. The system is not directionally sensitive and uses ultra miniature "side looking" infrared optical sensors. The infrared light used is invisible to the human eye and cannot be observed in operation. This system senses the guide as it passes through the slot and is recommended for 1/32 or 1/24 scale racing (use of an overhead bridge type system is recommended for HO).

CAVEAT : If the sensors are close coupled (very close together) in your application then use of white or blue guides may cause missed count issues. Those issues can be resolved by marking the sides of the guide with a black permanent marker.

1. Peel back the braid / copper tape at the start / finish line and drill a 0.147" DIA hole through the track in the center of the braid / tape.
2. Notch a groove into the slot from the holes drilled that is approximately 1/16" wide and 1/8" deep. It is critical that this groove is straight across the slot since that is the light path for the sensors to perform their function.
3. Install one clear and one dark colored sensor opposite one another from underneath the track in the holes that were drilled. The top of the sensors should be just slightly underneath the braid / tape and MOST CRITICAL the small round lenses of the sensors must face one another as noted in the upper right hand illustration.
4. Bend the leads of the sensors at 90 degrees flush along the bottom surface of the track and temporarily tape the sensors in place. Recheck to make sure the sensors are not too high (but their height is the same from side to side) and that the lenses face one another.
5. Plug in the printer port cable into the computer, install the software (see attached) and plug in the small wall pack transformer to power the sensor electronics. Fire up the system and test the operation by passing a small strip of cardboard between the sensors.
6. When satisfied with operation use silicone RTV adhesive or sealant to fill in the bottom of each sensor hole to more permanently mount the sensor. Make sure that the silicone is not too excessive such that it obscures the lenses of the sensors.
7. Install a cable clamp or similar device (not included) to strain relieve the cable going to the sensors so that any tension on the cable does not cause any problem with sensor alignment.
8. Re-install the braid / copper tape
9. Vacuum the area occasionally to prevent buildup of dust or crud that may obscure the sensor light path.