

# Trouble Shooting

## 1. Introduction

This document describes how to spot signs of poor performance and methods for trouble-shooting these problems. It will focus on identifying and addressing these issues. The document is structured such that the most common problems are described towards the beginning of the document and the rarer problems are towards the end.

## 2. Transponder Mounting

### Symptoms:

1. Missed crossings
2. Low hits and or power numbers

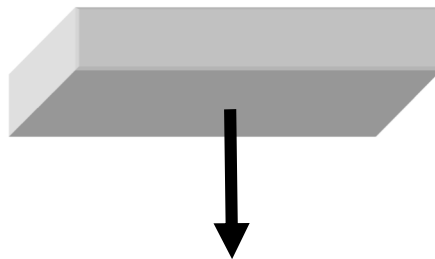
Hits is the number of times the system “sees” the transponder as it crosses the loop. When the cars are traveling slowly you should see higher numbers, for example 100+ at parade speed (up to 30-50 Miles per hour). As the vehicles travel faster the numbers will get smaller as the system “sees” the transponder in detection range for a shorter amount of time. This is normal. However, if the numbers are dropping under 20 hits then this indicates possible mounting problems – either poor location or incorrect orientation.

Power should be consistent from lap to lap and from vehicle to vehicle. If one vehicle is showing about 60 from lap to lap and another is showing 50 it represents a huge power difference. A 10 difference indicates a loss of more than half the power.

### Fixes:

1. The most common problem is incorrect mounting position of the transponder. Most problems can be resolved by proper mounting

## Transponder Mounting



These transponders should be mounted horizontally with the **label** side facing the track

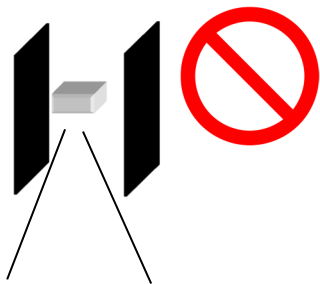




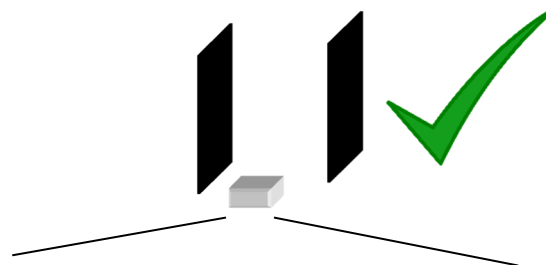
No metal or carbon fiber should be between the transponder and the track. These types of material will block the signal of the transponders.

**Note: Signals can go through plastic so it is possible to use a piece of plastic as a mounting plate.**

It is possible to recess the transponder, however keep in mind that recessing the transponder can create problems such as shown below.



**Poor location:** Narrow window for detection. The signal can't be seen



**Good location:** No metal to block the signal. The detection window is very wide.