Railroad Tracks and Other Stuff- Steve Warmath

As the new Safety Officer, I would like to recognize Jerry Coney for the great articles he has shared with us the last two years. I looked back at the list of subjects Jerry has written about and scratched my head wondering, what I could add? He's about covered it all. Luckily, he sent me an e-mail from Don Reeder about a friends encounter with railroad tracks and I submit it as the basis for this month's article. Don's e-mail reads***: "I took the attached picture at a railroad crossing that was the scene of a friend's motorcycle accident. He saw the situation and slowed in anticipation of trouble, but lost control anyway and was thrown from his bike. He was injured but not life threatening. His bike was pretty messed up. It didn't help that the tracks are at an angle to the road path. He wasn't able to approach the tracks at a 90 degree angle due to oncoming traffic."*** The track culprit is shown in picture on right.

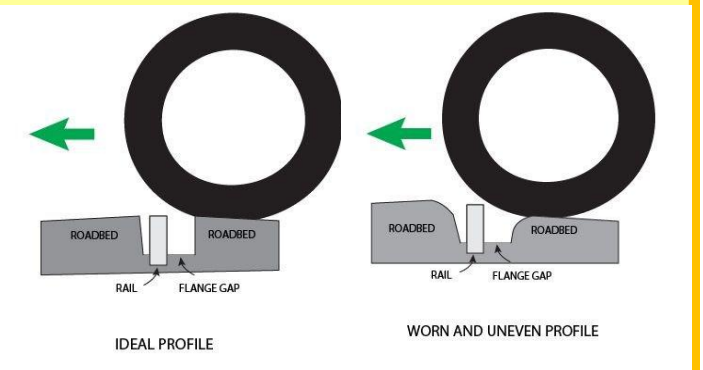
There are three potential hazards you are confronted with when crossing rails: 1) Low traction (particularly if the rail is wet or oily or if there is ice on it) note all the sand in the picture, 2) A wide flange gap between the roadbed and the rail that can trap your tire, and 3) differences in elevation between the road bed and the rail.

Traction - obviously you want your motorcycle path of travel (not just the front tire) to have the greatest attack angle possible when you encounter low traction. You want the momentum of the motorcycle to carry you across the low traction area in as short a period of time as possible. A low attack angle **increases** the time you are exposed to that low traction.

Gap - A flange gap always exists between the roadbed and the rail itself to provide room for the train or trolley wheels to seat on the rail itself. These are usually no wider than about two inches. That is sufficient to capture your tire and rob you of steering (directional) control if you attempt to ease (low attack angle of your tire) across the track. It means only a trivial to modest bump with a large attack angle.

Height disparity - Just the fact that there is a flange gap next to the rail (actually, there is a gap on both sides of each rail because even though they are made of steel, rails actually move relative to stationary roadbeds when tons of weight are being carried by them) will cause the front tire to encounter a height difference between the roadbed and the rail, and it will be greater the wider the flange gap is as your tire will begin to roll off the leading edge of the roadbed before it encounters the rail itself.

But not all roadbeds are well maintained. Instead of looking like this (left):
A worn and badly maintained roadbed could look more like this: (right), like the picture above.



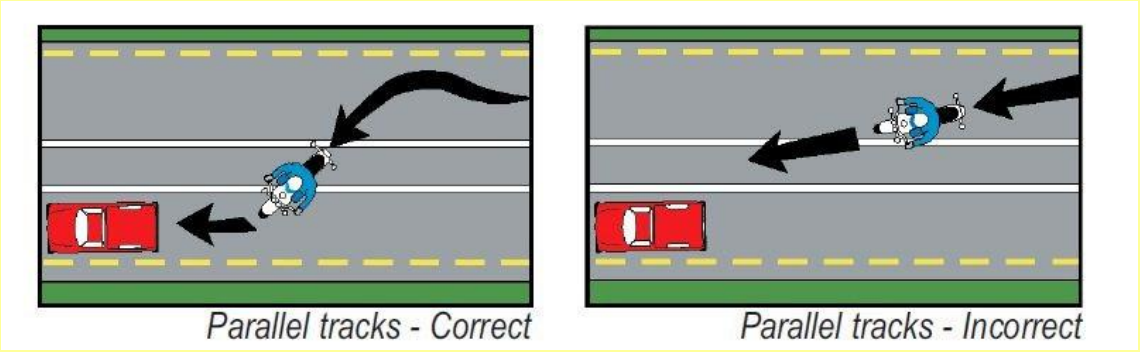
Note that there could easily be two height differences in that profile where the tire hits the rail as the first difference and then after rolling up onto that rail, the tire will hit the roadbed at yet another height difference.

(Continued on page 4)

(Continued from page 3)

Steve Warmath…..

With a large attack angle (both tire and path of travel), those differences will merely be felt as a trivial or modest bump. With a smaller attack angle, crossing that rail on a well maintained roadbed is not a big deal unless the rail is wet, oily, sandy or icy. But consider what happens if the front tire is not pointing in the same direction as the motorcycle's path of travel and that roadbed is not well maintained. In other words, the bike is in a turn at the time. When the front tire hits the rail, it will be with the leading left or right side of the tire. That is absolutely a counter-steering input! If you are making a left turn across the tracks, the front tire will be 'kicked' slightly to the right and the result will be a lean to the left and your handlebar along with the front tire will veer slightly to the left. Then the tire hits the raised edge of the next roadbed as it crosses over the rail. Another counter-steer kick to the right and a very good possibility of the motorcycle capsizing immediately. So you now know that you should not be **IN** a turn when you cross railroad tracks. But sometimes you cannot avoid it. Sometimes there is insufficient space for you to complete a turn before your front tire attempts to surmount a track. It seems the majority of crossings have 90 degree crossing angles, which is good. Unless you are familiar with a particular crossing, it is difficult to see the actual condition of the roadbed until you are right up on it. Slow down approaching a crossing and buy yourself some time to see what you are about to encounter. Trying to cross tracks perpendicular that are not 90 degrees to your path of travel can be dangerous as it can lead you into oncoming traffic as Don's e-mail noted. Consider, for example, that you are riding on the roadbed BETWEEN the tracks of a trolley system that is running parallel to the roadway. The tracks have been embedded into a lane of traffic.
In order to get out of that position you must cross one rail on the left or right of the track. Unless you are moving at a virtual standstill, crossing a rail is exceedingly dangerous if the roadbed is not well maintained, or there is moisture, oil, sand or ice on the tracks. When you turn your front wheel to one side or the other, it takes time for your motorcycle to yaw into the desired direction of travel. During that time, the front tire is pointing in a different direction than is the rear tire (you are still turning). Try to cross the tracks upright with the front tire and rest of the bike pointing in the same direction. Below is the correct and incorrect way to get out of the trolley trap. So……approach railroad tracks with caution, look for those conditions that may ruin your day and be prepared to execute a plan to safely cross.



Other Stuff- Murphy's Law: Creative Solutions to Not- So- Common Everyday Problems

I often think about weird stuff that can happen to me and the people around me. I don't know why, I guess I like to play "What would I do?" I like to be a problem solver, especially with Murphy's Law always in tow.

(Continued on page 9)