

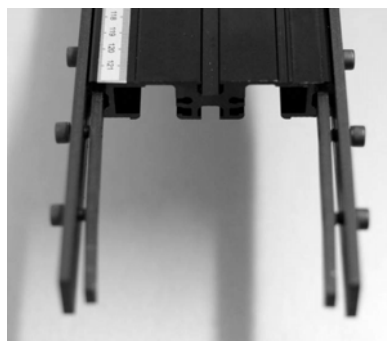
Track-to-Track Coupler

(Order Code T2T-VDS)



The Track-to-Track Coupler consists of two sets of metal bars with hex bolts and a hex wrench. The bars are placed in the side channels of the Vernier Track, part of the Vernier Dynamics System, to join two tracks together.

To attach the coupler, loosen the bolts most of the way, but leave the wide bar connected to the narrow bar by the four bolts. Slide the narrow bar into the side channels at the end of one track so that half of the length of the bar is inserted into the track. Tighten two bolts only enough to keep the coupler from sliding. Repeat for the second side.



Now take the second track, oriented so the centimeter scales of the two tracks are contiguous, and slide it into the couplers on the first track. We find it easiest to do this step with the tracks held vertically.



The two tracks should be well aligned at this point, but if needed, push the loose track into position so that the track surface transition is as smooth as possible. Tighten all eight hex bolts securely.

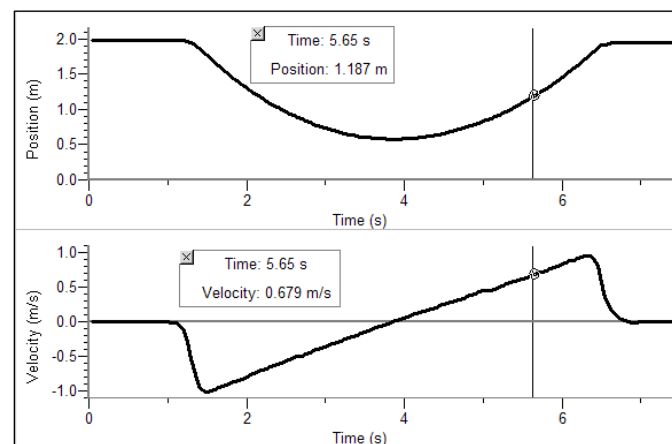
The Vernier Tracks are quite rigid, but the coupled tracks can sag if supported only at the ends. When the tracks are supported near the joint, you can expect to see very little difference in slope between the two track portions. If you are rolling a cart over the track junction, you may sometimes see a small bump in the velocity graph corresponding to the passage of the cart over the junction. If this happens, adjusting the aim of the motion detector slightly higher will often reduce irregularities on the velocity graph. Use the



bump in the velocity graph corresponding to the passage of the cart over the junction. If this happens, adjusting the aim of the motion detector slightly higher will often reduce irregularities on the velocity graph. Use the

“track” switch setting on the Motion Detector, if your detector has that option. In more severe cases, loosen the hex bolts and realign the tracks. Sometimes one pair of track ends will mate more smoothly than the other pair.

Sample data from coupled tracks:



In this experiment, a Motion Detector was attached to the top of a ramp formed from two Vernier Tracks. A Vernier cart rolled freely up and then back down the combination. The track joint, at about 1.2 m from the detector, is at the position marked by the vertical cursor line.



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