

SPORTCRAFTERS

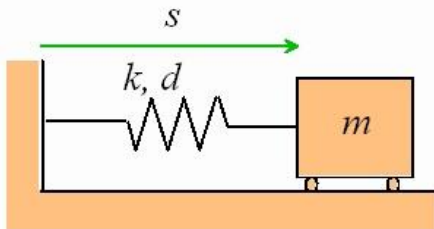
HARMONIC ISOLATOR

The SportCrafters Harmonic Isolator is designed to provide increased stability for users of the SportCrafters Mini-Rollers and Handcycle Trainer who experience excessive fore-aft “rocking” in the cradle of the trainer.

The reason why this happens to some users, on some bikes, at some cadence is a phenomenon known as a harmonic frequency. The basics are as follows:

- Your body and bike have a certain weight. (“*Mass*”)
- Your tire acts as a spring when the tire compresses against one of the drums. (“*Spring*”)
- Lastly, in some configurations, there is a slight fore-aft movement of the center of gravity (“*Excitation*”) as your arms or legs propel the crank, at a certain cadence (“*Frequency*”).

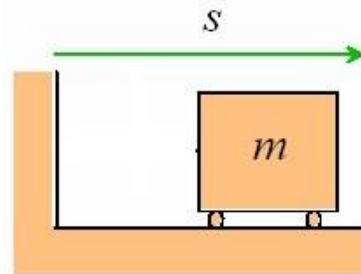
These three elements make up a *spring-mass system*. This system has a natural frequency, which is to say, it will move with very little excitation at a predictable frequency.



If that frequency coincides with your pedalling cadence, it excites the spring-mass system and, the trike or handcycle will respond by rocking fore and aft.

What does the Harmonic Isolator do?

By allowing the trainer to float only slightly, the tire can no longer act like a spring because it can not compress. Therefore, taking the “spring” out of the system makes it stable. Sounds simple... and it is.



TO USE:

If your trainer has any plastic knobs that hold the drums to the trainer frame, these will need to be replaced with the locknuts supplied. Simply remove the knobs, install the locknuts and tighten them against each other with 9/16" or 14mm wrenches.



DO NOT put a wrench on the inner nut of the drum; the torque on these nuts are essential for proper operation.



Place the trainer on the Harmonic Isolator and assure that it moves fore-aft a few inches freely with no interference. That's it!



For handcyclists, the Harmonic Isolator still allows you to mount and dismount the trainer while on your bike. The trainer will rock and move on the Isolator frame during your mount and dismount, but it will recover to it's normal position once you're on or off.