The damage discussed here would happen only in an extreme situation where someone pushed in the wheel of a cart and then quickly released it to cause a loud click. This can break the plastic that holds the axle in position. We have found that, in these cases, it is possible to repair the cart by clamping the axle down and out of the way and using epoxy cement to glue the pin in position as shown in the photo attached.
Note that the axle mounting is different on the Vernier Sensor Carts Go Direct® Sensor Cart (Green), order code GDX-CART-G, $169 and Go Direct® Sensor Cart (Yellow), order code GDX-CART-Y, $169 and Encoder Carts Motion Encoder Cart, order code DTS-CART-MEC, $159. This note does not apply to them.

Related Articles

- How do I connect the Go Direct Force and Acceleration Sensor to a plastic Vernier dynamics cart?
- Do you have anything I can 3D print to use with my Vernier sensors?
- Eddy Current Brake Troubleshooting and FAQs
- How do I attach my Go Direct Accelerometer to my experimental setup?
- How do I install Anti-Roll Pegs on my Vernier Dynamics Cart?
- Will the metal cart MEC fit into a new plastic cart?

Need more assistance?

Fill out our online support form or call us toll-free at 1-888-837-6437.
Vernier Software & Technology
13979 SW Millikan Way
Beaverton, OR 97005
United States of America

Phone 1-888-837-6437
Fax 503-277-2440
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How do I connect the Go Direct Force and Acceleration Sensor to a plastic Vernier dynamics cart?

About this FAQ
- Created May 3, 2017
- Updated May 22, 2018
- Article #3974

You will need the larger attachment screw included with the Dynamics Cart and Track System Fasteners for Force Sensor and Accelerometer, order code DTS-ACC, $9 or the one included with Dynamics Cart and Track System, order code DTS, $269.

See the photos below for the correct setup. To assemble, place the Go Direct Force and Acceleration on the cart so that the holes in the sensor line up with the cylindrical brass screws on the cart. The mounting hole of the sensor should line up with the appropriate threaded hole in the cart.
Insert the large attachment screw into the mounting hole and threaded hole, and tighten.
Related Articles

- How can I fix a broken axle mount on a Vernier DTS cart?
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- How do I attach my Go Direct Accelerometer to my experimental setup?
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ASSEMBLY
1. Insert the desired number of magnets into the Eddy Current Brake.
2. The Eddy Current Brake connectors swivel to allow 4 mm of height adjustment when installed in a cart. When the DTS stamp on the connector is upright, it is set at the correct height for our DTS carts such as the Standard Cart or the Plunger Cart. When the GDX stamp on the connector is upright, it is set at the correct height for our Go Direct Sensor Cart.
3. Remove both collision tabs from one end of the cart. Insert the Eddy Current Brake into the exposed slots.

SPECIFICATIONS
The Eddy Current Brake is compatible with the following carts:
* **Standard Cart**, order code DTS-CART-S, $63
* **Plunger Cart**, order code DTS-CART-P, $74
* **Motion Encoder Cart**, order code DTS-CART-MEC, $159
* **Go Direct® Sensor Cart (Green)**, order code GDX-CART-G, $169 and **Go Direct® Sensor Cart (Yellow)**, order code GDX-CART-Y, $169

The Eddy Current Brake is not compatible with our older metal dynamics carts that were part of the Vernier Dynamics Systems sold from 2005-2012.

RELATED VERNIER PRODUCTS
**Dynamics Cart and Track System**, order code DTS, $269
**Dynamics Cart and Track System with Motion Encoder**, order code DTS-EC, $409
Friction Pad DTS, order code DTS-PAD, $30
Go Direct® Sensor Cart (Green), order code GDX-CART-G, $169 and Go Direct® Sensor Cart (Yellow), order code GDX-CART-Y, $169

Related Articles
- How can I fix a broken axle mount on a Vernier DTS cart?
- How do I connect the Go Direct Force and Acceleration Sensor to a plastic Vernier dynamics cart?
- Do you have anything I can 3D print to use with my Vernier sensors?
- How do I attach my Go Direct Accelerometer to my experimental setup?
- How do I install Anti-Roll Pegs on my Vernier Dynamics Cart?
- Will the metal cart MEC fit into a new plastic cart?

Need more assistance?
Fill out our online support form or call us toll-free at 1-888-837-6437.
How do I attach my Go Direct Accelerometer to my experimental setup?

About this FAQ
- Created Apr 2, 2018
- Updated Apr 25, 2018
- Article #4183

The Go Direct® Acceleration Sensor, order code GDX-ACC, $99 comes with the following accessories to attach the sensor to our carts and other equipment.
- Shim plate for cart
- U-bracket for cart (labeled A)
- Cylinder/tube mounting plate (labeled A)

The U-bracket can also be used to attach the sensor to almost any platform using machine (or other) screws and nuts. The holes are appropriate for #4-40 fasteners with a 0.5 inch pan head and a 1/4" nut. This bracket was specifically designed to attach the sensor to the Standard Cart, order code DTS-CART-S, $63 using the DTS hardware with the shim placed between the sensor and the cart.

The cylinder mounting plate is useful for mounting the sensor to a tube (for example: a bicycle seat post or golf club). Use the U-bracket to connect the sensor to the cylinder mounting plate and attach the plate to the tube/cylinder using hook and loop, cord, zip-ties, or other fasteners.

We have also posted a slightly different version (labeled B) of the U-bracket and cylinder (aka tube) mounting plate on the Thingiverse. If you wish to print additional brackets, go to: https://www.thingiverse.com/vernier/about and view Vernier's designs. Note: the B versions on the Thingiverse have screw holes accommodate up to a 1/4 inch thread diameter. A U-bolt with 1.5 inch ID will fit through these holes for an alternative method of securing to a pipe or tube.

Here are some examples of using these for mounting on a bicycle seat tube and a box. You might think about mounting it to the platform of a shake-table in a similar fashion.
TIL 4083: Go Direct Acceleration Troubleshooting and FAQs

Related Articles

- How can I fix a broken axle mount on a Vernier DTS cart?
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Need more assistance?

Fill out our [online support form](mailto:info@vernier.com) or call us toll-free at 1-888-837-6437.
Will the metal cart MEC fit into a new plastic cart?

About this FAQ
- Created Oct 31, 2016
- Updated Nov 1, 2016
- Article #3816

Product Support FAQs
Yes, the encoder system is exactly the same for both the "old" green carts from our (discontinued) VDS-CART and the new plastic form Motion Encoder Cart, order code DTS-CART-MEC, $159.

The exception is that the end cap itself is slightly different. You can attach the old end cap onto the new cart, but the old cap is not quite as wide. It also prevents you from using the mass holders on the encoder end of the cart.

An encoder from the VDS system can be attached to either the Standard Cart, order code DTS-CART-S, $63 or the Plunger Cart, order code DTS-CART-P, $74. Instructions can be found in the user manual for the Motion Encoder Cart Upgrade Kit, order code DTS-MEU, $159 (available online).
Cart from top. Notice that the mold to hold the masses is blocked.

Cart from bottom.
End cap removed.

TIL 3153: Motion Encoder System Troubleshooting and FAQs

Related Articles
• How can I fix a broken axle mount on a Vernier DTS cart?
• How do I connect the Go Direct Force and Acceleration Sensor to a plastic Vernier dynamics cart?
• Do you have anything I can 3D print to use with my Vernier sensors?
• Eddy Current Brake Troubleshooting and FAQs
• How do I attach my Go Direct Accelerometer to my experimental setup?
• How do I install Anti-Roll Pegs on my Vernier Dynamics Cart?

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Fill out our online support form or call us toll-free at 1-888-837-6437.
How do I install Anti-Roll Pegs on my Vernier Dynamics Cart?

About this FAQ
- Created Feb 6, 2015
- Updated May 2, 2017
- Article #3393

Search FAQs

Product Support FAQs
Certain dynamics cart products include a packet of Anti-Roll Pegs. The peg prevents a cart from rolling when the cart is placed on a flat surface. For example, a cart placed on a lab table cannot roll and fall to the floor. However, the peg will move in the center groove of a Vernier track without touching, and the cart will freely roll.

The peg is compatible with all Vernier dynamics carts, both our older green, metal carts and our newer plastic carts. It is compatible with most Vernier Fan Carts. Some fan carts lack the necessary end cap mounting hole, and will require replacement of the end cap. Contact us if you need a replacement end cap.
Locate the hole in the cart end cap on the underside, along the centerline of the cart. Insert the shorter, wider end of the peg into the hole, and seat it firmly with a twist. The peg can be removed in the same manner if the cart is to be used on a surface that lacks the center slot.

Pegs are included with the following products:

- **Dynamics Cart and Track System**, order code DTS, $269
- **Dynamics Cart and Track System with Motion Encoder**, order code DTS-EC, $409
- **Standard Cart**, order code DTS-CART-S, $63
- **Plunger Cart**, order code DTS-CART-P, $74
- **Motion Encoder Cart**, order code DTS-CART-MEC, $159
- **Fan Cart**, order code CART-F, $105
- **Encoder Fan Cart**, order code CART-FEC, $219

Pegs are compatible with the following (discontinued) products:

- **Vernier Dynamics System**, order code VDS
- **Vernier Motion Encoder System**, order code VDS-EC
- **Standard Cart for Vernier Dynamics System**, order code CART-S
- **Plunger Cart for Vernier Dynamics System**, order code CART-P
- **Motion Encoder Cart for Vernier Dynamics System**, order code CART-MEC

Additional pegs can be purchased as **Anti-Roll Pegs (10 Pack)**, order code VDS-ARP10, $3

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**Related Articles**

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