

## Pulley Bracket

Order Code B-SPA



The Pulley Bracket is used to attach a Vernier Ultra Pulley (order code SPA, purchased separately) to a Vernier Track (order code TRACK, purchased separately). The same track is included with all versions of the Vernier Dynamics Cart and Track System (order codes DTS, DTS-EC, and DTS-GDX).

Typically the Pulley Bracket is used when an experiment requires a string passing between a hanging mass and a dynamics cart. This configuration is commonly called a modified-Atwood's machine.

The Pulley Bracket can be assembled for use with or without a photogate (either the Vernier Photogate (order code VPG-BTD) or the Go Direct Photogate (order code GDX-VPG), purchased separately). When assembled with a photogate, the pulley spokes pass through the beam of the photogate, allowing the gate to perform motion timing.

To install the Pulley Bracket, loosen the wing bolt on the short leg of the L-shaped bracket, and insert the oblong nut into the slot in the center underside of the track. Tighten the wing bolt with the bracket firmly against the end of the track. If a photogate will not be used in the setup, attach the pulley on the vertical arm of the bracket, away from the track, using the supplied short bolt. Do not include the u-channel bracket.

To add a photogate, slide the u-channel bracket over the L-shaped bracket, with the open side facing away from the track and the bolt hole up. Place the photogate in the open slot and the pulley between the arms of the photogate as shown in Figure 1. Fasten with the long bolt.



Figure 1

Adjust the height of the pulley as needed to keep the string horizontal. The appropriate height will vary depending on the attachment point to the cart—usually either to the cart, itself, or to a force sensor riding on the cart.

For the string, we suggest using multifilament braided fishing line, as it has little stretch and is easily obtained from sporting goods stores. A good alternative is upholstery thread, found in sewing and craft stores.



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