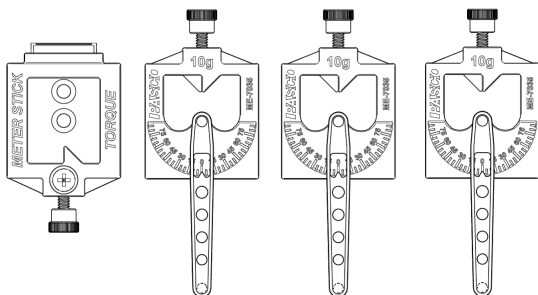


Torque Mass Hanger Set (ME-7035)

Introduction

The Torque Mass Hanger Set is used to perform rotational statics and rotational motion experiments. The set is designed to be used with the ME-7036 Aluminum Meter Stick and the ME-7034 Pivot.

Included equipment



- Meter Stick Clamp
- 3x Mass Hanger

Required equipment

• ME-7036 Aluminum Meter Stick

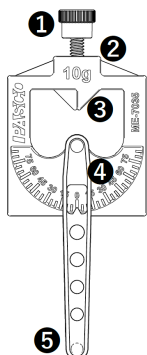
The meter stick is used as the beam in experiments. Each item in the Torque Mass Hanger Set is designed to slide onto the meter stick. Many standard wood meter sticks can also be used with the equipment.

• ME-7034 Pivot

The Meter Stick Clamp attaches to the Pivot to serve as the fulcrum for the meter stick. A PASCO rotary motion sensor, such as the PS-3220 Wireless Rotary Motion Sensor, can also be used in place of the Pivot for sensor-based experiments. (Note that this may require removal of the sensor's three-step pulley.)

Mass Hanger components

The Mass Hangers are used to hang masses at different positions along the meter stick.



1 Set screw

Use to hold the hanger in place on the meter stick.

2 Mass of hanger

The hanger has a mass of 10 grams that must be taken into account when performing experiments. This mass is written on the hanger for ease of reference.

3 Position indicator

Indicates the position of the hanger on the meter stick by lining up with the graduation lines on the meter stick.

4 Angle indicator

Indicates the angle of force relative to the meter stick.

5 Hanger

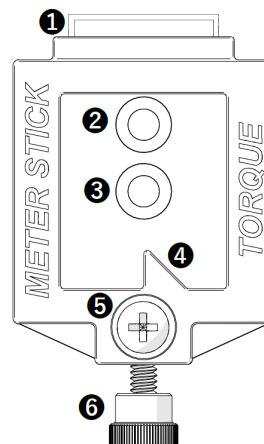
Hang a mass from the hanger, or pull on the hanger with a force sensor.



IMPORTANT: The Mass Hangers have a maximum load mass of 1 kilogram (kg). Masses exceeding this amount should **never** be suspended from a Mass Hanger.

Meter Stick Clamp components

The Meter Stick Clamp is used to attach the meter stick to the Pivot.



1 Level

Indicates when the meter stick is balanced.

2 Offset hole

Insert the Pivot axle into the offset hole for rotational *statics* experiments. This places the center of mass of the meter stick below the pivot point, providing a stable equilibrium.

3 Center hole

Insert the Pivot axle into the center hole for rotational *motion* experiments. This allows the meter stick to rotate around the center of rotation.

4 Position indicator

Indicates the position of the hanger on the meter stick by lining up with the graduation lines on the meter stick.

5 Screw storage

Use the screw to secure the clamp to the Pivot by inserting the screw into the Pivot axle. Store the screw here when not in use.

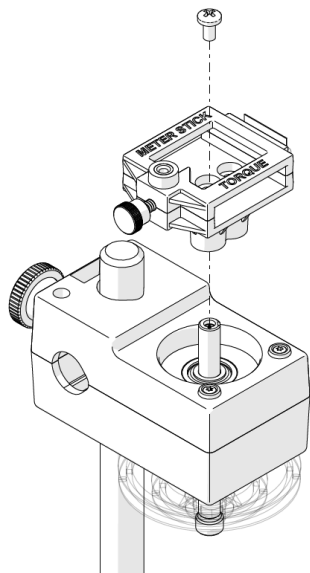
6 Set screw

Use to hold the clamp in place on the meter stick.

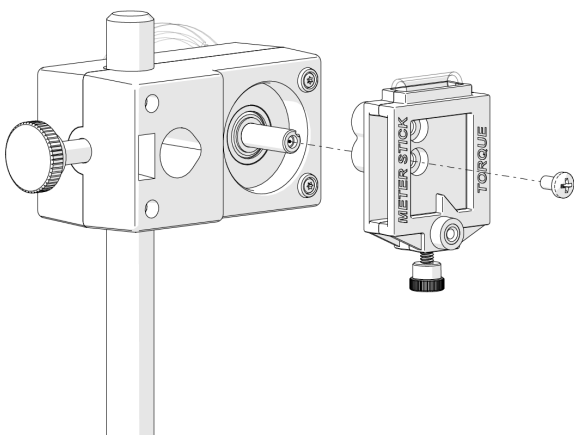
Rotational motion setup

The equipment can be set up in two different ways to perform experiments on rotational inertia or physical pendulums.

1. Attach the Pivot to a rod stand.
 - For rotational inertia experiments, attach the Pivot so that the axle is vertical.

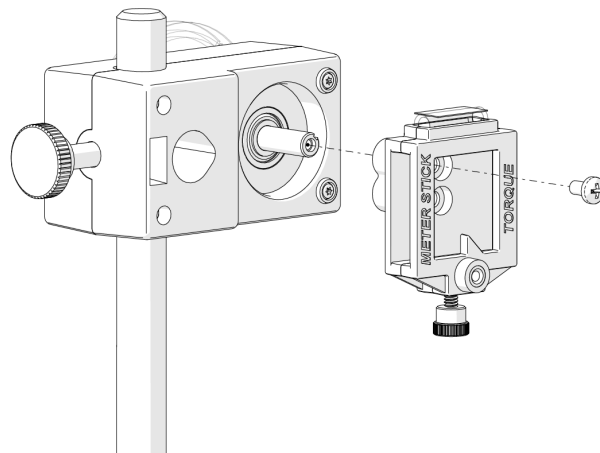


- For physical pendulum experiments, attach the Pivot so that the axle is horizontal.



2. Attach the Meter Stick Clamp to the Pivot by inserting the axle into the *center* hole on the clamp.
3. Remove the screw from storage and insert it into the axle to secure the clamp.
4. Insert the meter stick into the clamp and secure the clamp at the desired position.

Rotational statics setup

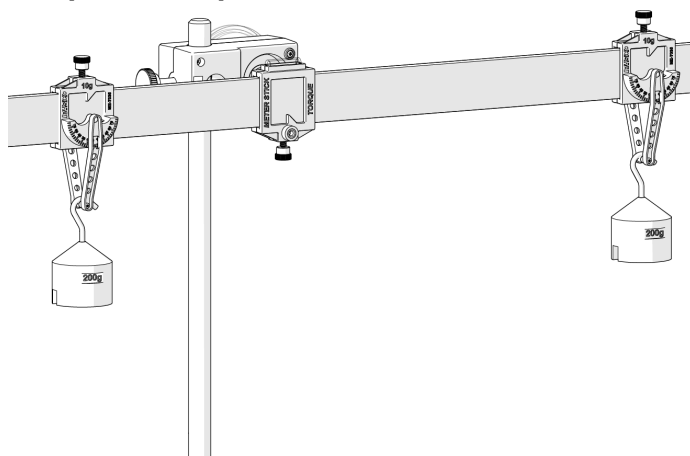


1. Attach the Pivot to a rod stand so that the axle is horizontal.
2. Attach the Meter Stick Clamp to the Pivot by inserting the axle into the *offset* hole on the clamp.
3. Remove the screw from storage and insert it into the axle to secure the clamp.
4. Insert the meter stick into the clamp and secure the clamp at the desired position.
5. Attach the Mass Hangers to the meter stick as needed for your experiment.

Common experiment setups

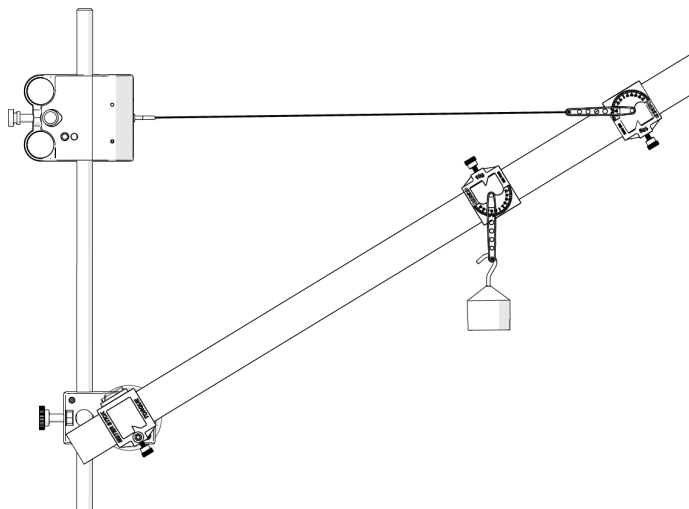
Use the Torque Mass Hanger Set with the Pivot and a meter stick to perform a variety of rotational statics and rotational motion experiments.

Torque and equilibrium



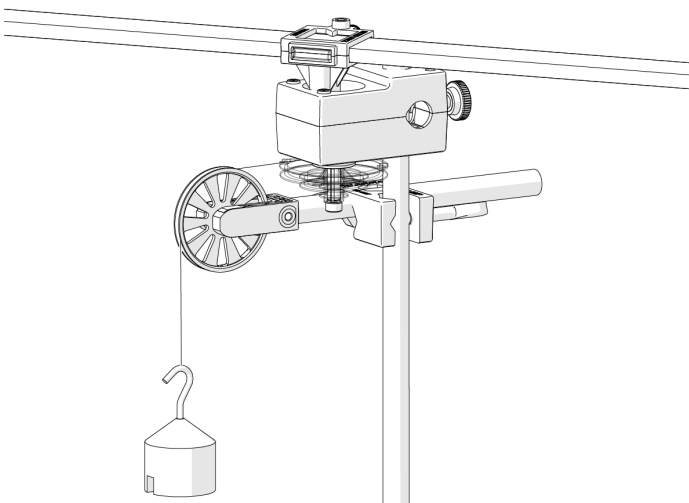
Use this setup to measure torque at different points along the meter stick, determine the center of mass, and determine conditions for equilibrium. Hang masses from the hangers, or use a force sensor to pull on the hangers at various angles.

Statics applications



Use this setup to measure the forces in statics applications, such as a hanging sign or a crane. This setup requires one of the mass hangers to be attached to the meter stick upside-down. Use a force sensor to measure the resultant force.

Rotational inertia

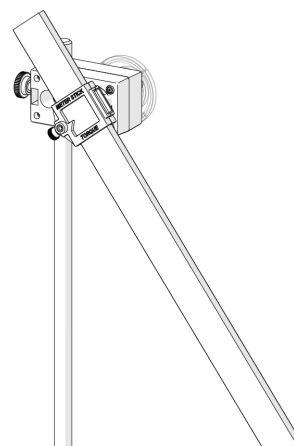


Use this setup to investigate the rotational inertia of a meter stick. The rotation of the meter stick is caused by a constant torque applied to a three-step pulley attached to the Pivot. The string wrapped around the pulley is pulled by a mass hanging over a Super Pulley attached to the rod stand. A photogate can be attached to the Super Pulley to measure the angular speed.



NOTE: The PS-3220 Wireless Rotary Motion Sensor is not compatible with this experiment. Other PASCO rotary motion sensors, such as the PS-2120A PASPORT Rotary Motion Sensor, are compatible.

Physical pendulum



Use the meter stick as a physical pendulum. Investigate what affects the period of oscillation and observe how its rotational inertia changes as the pivot point is moved.

Specifications and accessories

Visit the product page at [pasco.com/product/ME-7035](https://www.pasco.com/product/ME-7035) to view the specifications and explore accessories. You can also download experiment files and support documents from the product page.

Experiment files

Download one of several student-ready activities from the PASCO Experiment Library. Experiments include editable student handouts and teacher notes. Visit [pasco.com/freelabs/ME-7035](https://www.pasco.com/freelabs/ME-7035).

Technical support

Need more help? Our knowledgeable and friendly Technical Support staff is ready to answer your questions or walk you through any issues.

Chat [pasco.com](https://www.pasco.com)

Phone 1-800-772-8700 x1004 (USA)
+1 916 462 8384 (outside USA)

Email support@pasco.com

Regulatory information

Limited warranty

For a description of the product warranty, see the Warranty and Returns page at www.pasco.com/legal.

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