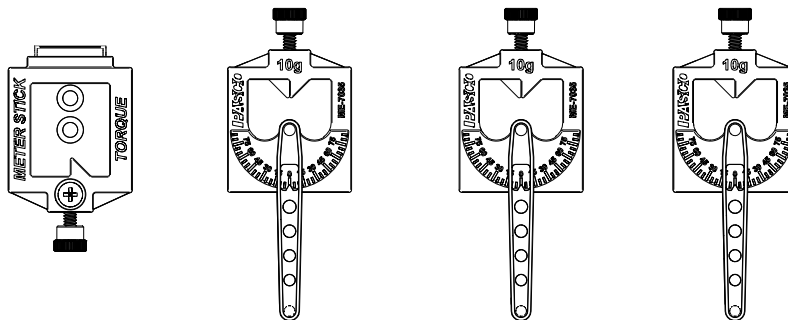


# Torque Mass Hanger Set

ME-7035

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.



## What's Included

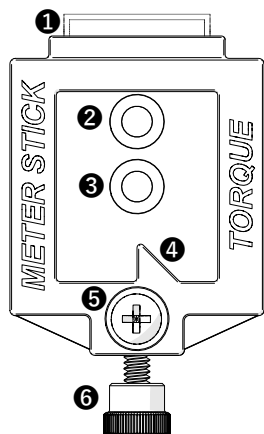
- Meter Stick Clamp
- 3x Mass Hanger

## 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 can also be used in place of the Pivot for sensor based experiments.

## Meter Stick Clamp Components

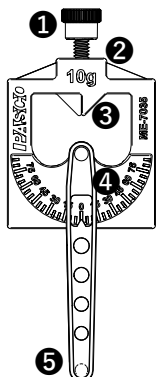
The Meter Stick Clamp is used to attach the meter stick to the Pivot.



- 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 to provide 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 about 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.

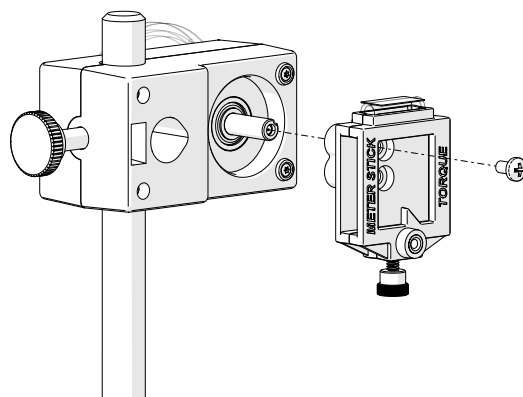
## Mass Hanger Components

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.
- 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.

## Rotational Statics Setup

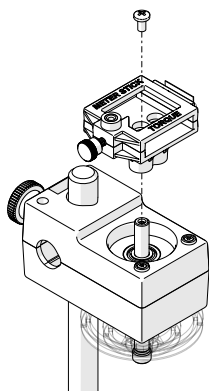


1. Attach the Pivot to a rod stand so that the axle is horizontal.
2. Attach the Meter Stick Clamp to the Pivot by inserting the axle into the *offset* hole on the clamp.
3. Remove the screw from storage and insert into the axle to secure the clamp.
4. Insert the meter stick into the clamp and secure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

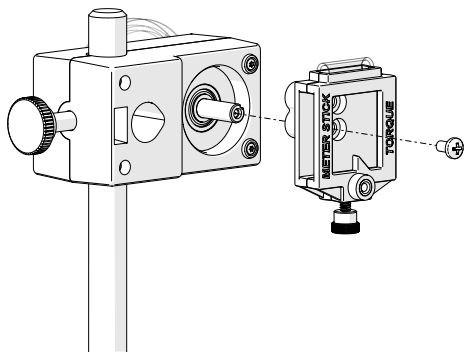
## Rotational Motion Setup

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.

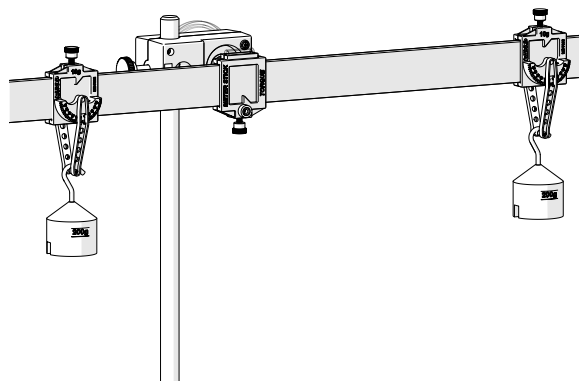


2. Attach the Meter Stick Clamp to the Pivot by inserting the axle into the *center* hole on the clamp.
3. Remove the screw from storage and insert into the axle to secure the clamp.
4. Insert the meter stick into the clamp and secure the clamp at the desired position.

## Common Experiment Setups

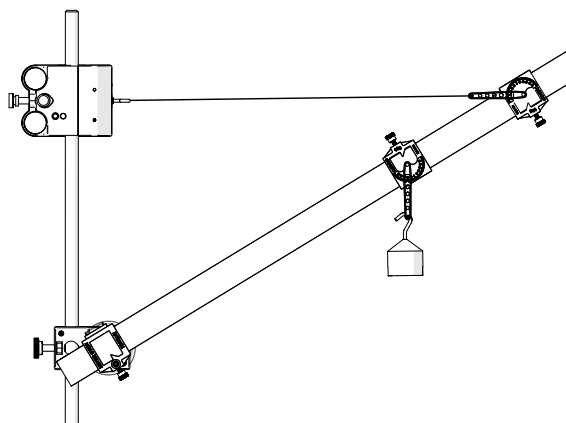
Use the Torque Mass Hanger Set with the Pivot and a meter stick to perform a variety of rotational statics and rotational motion experiments.

### Torque and Equilibrium



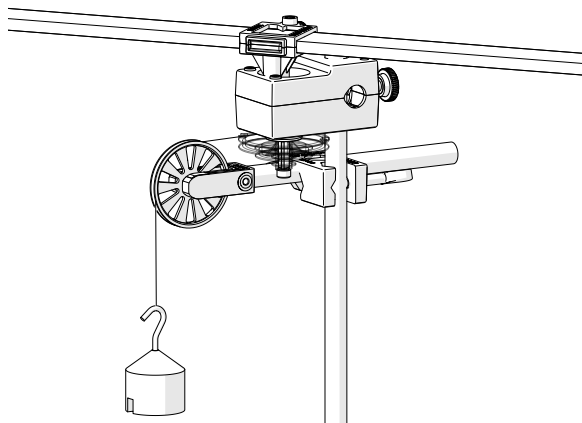
Use this setup to measure torque at different points along the meter stick, determine the center of mass, and determine conditions for equilibrium. Hang masses from the hangers or use a force sensor to pull on the hangers at various angles.

### Statics Applications



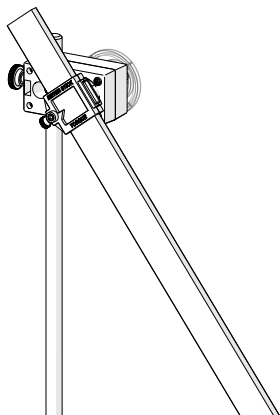
Use this setup to measure the forces in statics applications such as a hanging sign or a crane. This setup requires one of the mass hangers to be attached to the meter stick upside-down. Use a force sensor to measure the resultant force.

## 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 the three-step pulley attached to the Pivot. The string wrapped around the three-step 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.

## Physical Pendulum



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

## Experiments

Print-ready experiment worksheets are available to download from the PASCO website. Go to [pasco.com/freelabs](http://pasco.com/freelabs) and enter **ME-7035** in the Part No. field.

## Additional Information

Visit [pasco.com/product/ME-7035](http://pasco.com/product/ME-7035) for additional information about the Torque Mass Hanger Set including:

- Recommended Accessories
- Replacement Items
- Specifications
- Knowledge Base Articles

## Technical Support

Contact PASCO Technical Support for assistance with this or any other PASCO product.

Phone 1-800-772-8700 (Option 4)  
+1 916 462 8384

Online [pasco.com/support](http://pasco.com/support)

## Warranty, Copyright, and Trademarks

### Limited Warranty

For a description of the product warranty, see the Warranty and Returns page at [www.pasco.com/legal](http://www.pasco.com/legal).

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