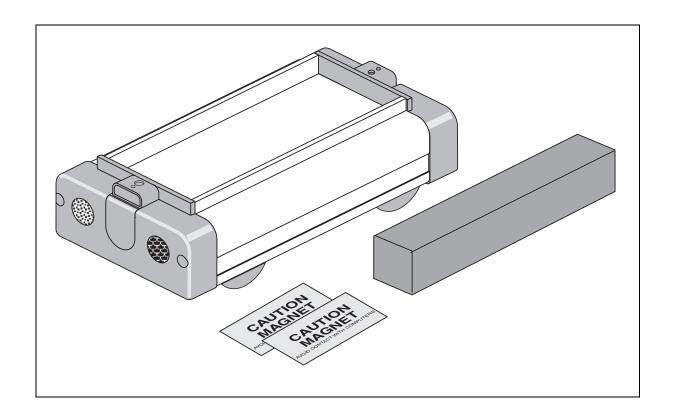


# **Collision Cart**

Model No. ME-9454





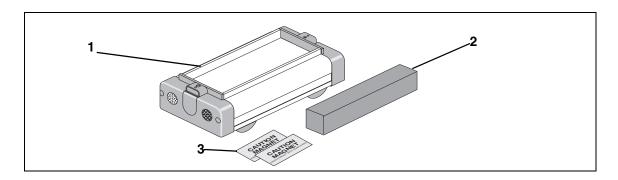


Model No. ME-9454 Collision Cart

## **Collision Cart**

### Model No. ME-9454

### Equipment List



Included Equipment	Replacement Model Number*
1. Collision Cart (1)	ME-9454
2. 500 g Mass (1)	648-0636
3. Caution Magnetic labels (2)	646-04445

<sup>\*</sup>Use Replacement Model Numbers to expedite replacement orders.

Additional Equipment Required	
Dynamics Cart Track, 1.2 meters or 2.2 meters	ME-9435A or ME-9458

Replacement Parts	
Wheel-Axle Assembly (2)	003-05311
End cap (2)	648-04969
End cap plug (2)	648-04694
Suspension spring (4)	632-034
Base Plate (1)	648-04651
1/2" Velcro <sup>®</sup> loop (2)	616-074
1/2" Velcro <sup>®</sup> hook (2)	616-075
Magnet (4)	634-022
Foam Retainer (4)	648-04702

Collision Cart Model No. ME-9454

### Introduction

The PASCO Model ME-9454 Collision Cart is designed specifically for collision experiments in conjunction with any of the PASCO Dynamics Cart and Dynamics Track systems. It differs from the ME-9430 Classic Plunger Cart in two ways:

- 1. The Collision Cart has no spring plunger.
- **2.** The Collision Cart has magnets and Velcro® pads installed on both ends of the cart.

Like the Plunger Cart, the Collision Cart has a mass of approximately 500 g and holes in each end-cap for attaching string or springs. An additional mass of approximately 500 g is included with the cart and fits into the mass tray on top of the cart.

Tip: For best results, measure the mass of the cart and any added mass with an accurate balance or scale.

#### Advantages of the Collision Cart

- The cart comes supplied with Velcro® pads attached, so a Collision Cart will stick to a Plunger Cart during an inelastic collision. (Note: The end of the ME-9430 Plunger Cart used in the inelastic collision must not have magnets attached, or the two carts will not stick together due to the repulsive properties of the magnet assemblies.)
- The Collision Cart has magnets attached, so the cart will bounce off any other cart's magnetic bumpers in an elastic collision, with very little frictional loss. (Note: If you place magnets on the end of the ME-9430 Plunger Cart, the magnets must be placed in the same orientation of polarity as the magnets in the ME-9454 Collision Cart, or they will attract rather than repel during collisions.)
- The Collision Cart can be used against the plunger end of the Plunger Cart to perform explosions.
- Multiple inelastic and elastic collisions may be performed using three or more carts.

Note: Experiments using the Collision Cart are described in the Experiment Guide for the ME-9458 and ME-9435 Dynamics Track Accessory Sets.

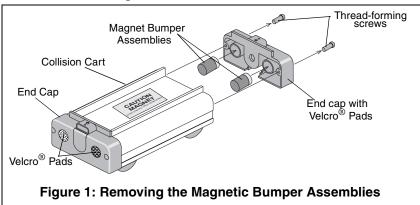
Collision Cart Model No. ME-9454

### Removing the Magnet Bumpers

**1.** Detach each end cap by removing the two screws from the rear of the end cap (See Figure 1).

**Note:** The screws that secure the end caps to each end of the Collision Cart are thread-forming screws and may require substantial force to remove and reinstall. A #1 Phillips point screw driver is required.

**2.** Remove the two magnet bumper assemblies from the cavities on the inside of the end cap as shown.



**Note:** When attaching the magnet assemblies, first slide the magnets into the end cap cavities.

**3**. Replace the rear end cap with the two screws.

