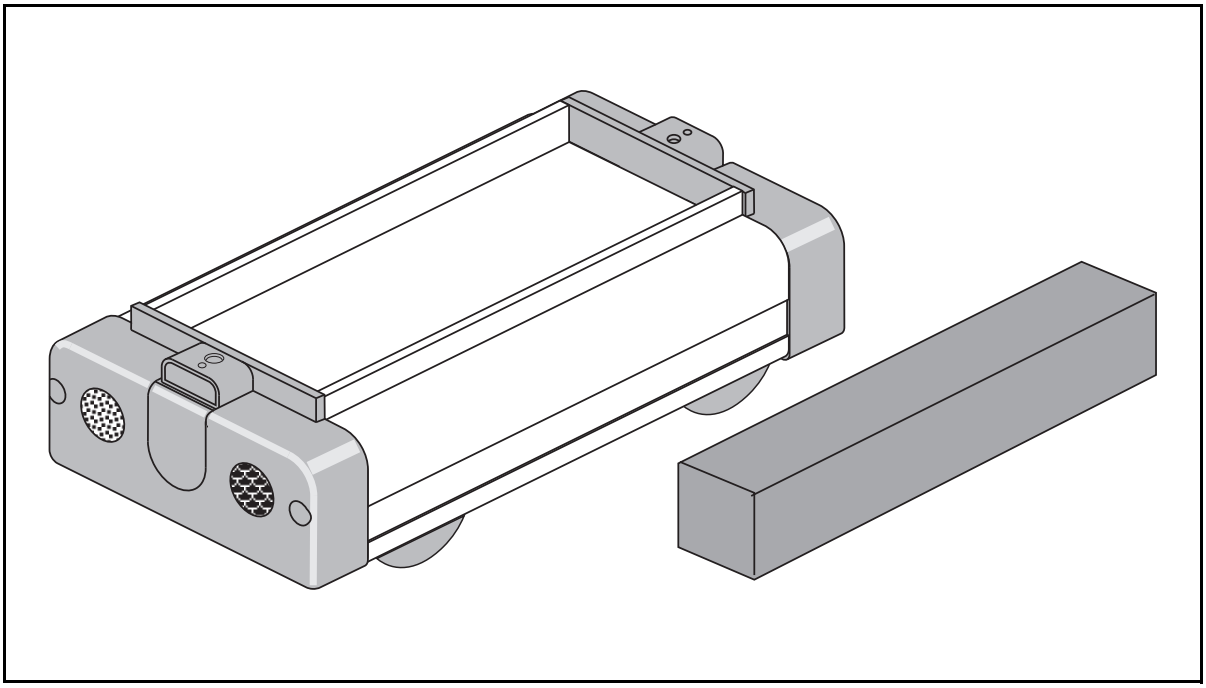
Collision Cart

Model No. ME-9454



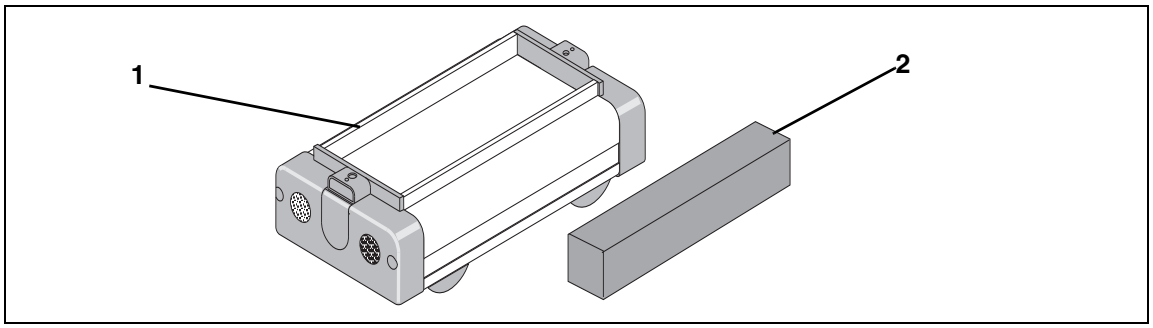
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Collision Cart

Model No. ME-9454

Equipment List



Included Equipment	Replacement Model Number*
1. Collision Cart (1)	ME-9454
2. 500 g Mass (1)	648-0636

*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® loop (2)	616-074
1/2” Velcro® hook (2)	616-075
Magnet (4)	634-022
Foam Retainer (4)	648-04702

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.

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.

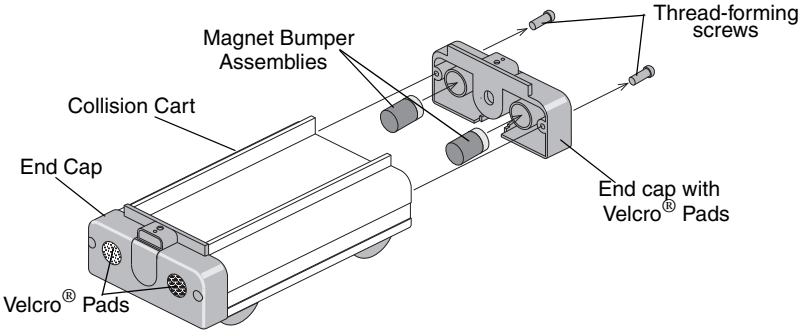


Figure 1: Removing the Magnetic Bumper Assemblies

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.

CAUTION!: Each magnet assembly consists of a foam pad attached to a neodymium magnet. The neodymium magnets are extremely strong. Although only the north end of the magnet is exposed, they can still be a hazard. When opposite poles are brought close to each other, they will accelerate rapidly and can pinch fingers or be easily chipped. They can also erase computer disks and distort computer monitors and television sets.