

# Body Mounting Kadee Couplers

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This is a clinic on how to body mount Kadee couplers on locomotives and rolling stock. It includes a discussion of the pros and cons of changing couplers and the benefits of body mounting as opposed to the truck mounted couplers with which most cars are sold. We will also discuss the techniques and the tools needed.

Examples of nine cars and three locomotives from various different manufacturers will be displayed (see list below). The freight cars will show how to get consistent coupler height with different floor levels and construction. The locomotives will be used to demonstrate the mounting of Kadee's specially designed fully functional operating front couplers.

Among the examples of freight cars will be two transition cars used to allow multiple types of couplers in a single train. While consistent couplers are desirable, transition cars allow you to avoid the cost of having to convert all of your cars at one time. They also allow you to interoperate with other people's cars.

Please note that while you are free to handle the cars, this will be more of a show and tell clinic than a hands-on, or make and do clinic. I have brought the following cars and locomotives:

## Freight Cars

Aristocraft (Transition Car)	3 dome tank car
Bachmann	Wood Box Car (Sleepy Hollow RR)
Charles Ro (very early USA Trains)	Refrigerator Car (Pacific Fruit Express)
Delton	Refrigerator Car (Colorado & Southern)
LGB	Refrigerator Car (Tiffany)
LGB (Transition Car)	Beer Barrel Tank Car
Scratch Built	Composite Box Car (Sleepy Hollow RR)
USA Trains (early)	Steel Box Car (Sleepy Hollow RR)
USA Trains (Ultimate Series)	Steel Box Car (Santa Fe)

## Locomotives (Specialized Front Coupler examples)

Bachmann	4-6-0 (Ten Wheeler)
LGB	2-6-0 (Mogul)
LGB	2-6-6-2 (Sumpter Valley)

## 1. Why Change Hook & Loop Couplers ?

**Appearance** - Hook & Loop look nothing like the trains we are trying to model.

**Reliability** - Unless you place hooks on both ends of every car, hook and loop may uncouple. Also, when the springs weaken the hooks may droop and cause derailments.

**BUT**

On the other hand they are compatible with all manufacturers' cars.

## 2. Why Kadee (vs Aristocraft or Bachmann knuckle couplers ?)

**Reliable Coupling** - Others may have to be slammed together to get pin to drop. Kadee uses a knuckle spring

**Reliable Operation** - Both other manufacturers have poor reputations for uncoupling unexpectedly (though Bachmann 1:20 couples appear to be better designed). Again Kadee knuckle spring keeps cars coupled

**Easy uncoupling** - either by magnet or by hand.

**BUT**

Kadee couplers cost (about \$8.25 a pair for normal body mounts)

3. Transition cars (cars with Kadee on one end and hook and loop or other coupler on the other end) will let you change a bit at a time

## 4. Why body mount vs truck mounted ?

**Appearance** – Looks better and more realistic.

**Operations** - Force transmitted along center of car even when backing up.

**BUT**

Because you clip the tang off the truck the change is not easily reversed

Most large scale people don't back through curves and switches

## 5. What size to use

G gauge (1:24) vs. #1 Gauge (1:32)

## **TOOLS Required**

Height gauge (\$17.95 from Kadee)

The most important tool

2' length of straight track (can be longer)

To set car and gauge on in order to test height. May need longer track for large locomotives

# 4 Screws (#4 x 1" sheet metal or 4-40 x 1" machine screws and nuts)

Sheet metal screws will screw into mounting holes in draft gear, Machine screws will slip in easily and need loctite

Drill & 7/64" bits

This size bit will slip through holes in draft gear leaving a slightly undersized hole for sheet metal screws but adequate hole for machine screws

Flat bladed screw driver

You could get Phillips head screws but need flat blade to help install centering spring

Flush cutters or dyke cutting pliers or small saw blade or cut off wheel

To cut off the tang on the truck so it doesn't rub in the draft gear box

Loctite 242 Threadlocker (the blue loctite)

To keep machine screws from loosening up

#820 (standard black) or #920 (brown "rust" color) coupler pair (\$8.25 from Kadee)

Obviously this is for a standard installation. Locomotives may require different coupler pair

## **May also use...**

Shims from scrap stock

Longer Machine Screws (& washers and nuts) or Sheet Metal Screws

Tweezers and/or needle nosed pliers

Cradle to hold cars

## **Links to Kadee Information**

These are links to web pages distributed at the clinic, however there is a wealth of additional information available on the Kadee web site.

Click on the description of the item to access the web page:

[Kadee web site home page](#)

[Large scale conversion list](#)

[G scale vs #1 scale](#)

[G scale instructions](#)