

# IMPROVING RUNNING CHARACTERISTICS OF TRAIN SET FREIGHT CARS

## 1. WHY BOTHER?

- Replace poor quality trucks and wheels & improve running characteristics
  - These cars tend to have Talgo trucks (couplers mounted to the truck)
- Mount Kadee couplers to the body
  - General practice for cars up to 60' scale
- Uniform materials and or style of trucks & couplers
- Better, more to scale trucks, wheels, couplers

## 2. MATERIALS & TOOLS

- Screwdrivers, X Acto knife, Kadee height gauge, drill (1/16" in pin vise), KD assembly jig, liquid plastic glue or Super Glue
- Suitable trucks (2)
- Suitable wheels (recommend Kadee #520 or 521)
- Mounting screws for trucks and couplers (4 #56 screws)
- Kadee couplers (recommend KD #5)
- Styrene sheet, strips and tubing
- Suitable victim...uh....car, for modification



## 3. WHY UPGRADE?

- Many cheap (Tyco, AHM, Varney, Life-Like Bachmann) cars, especially from train sets, have snap-in or push pin mounted trucks with horn hook couplers attached
  - These mounting systems don't allow you to install trucks correctly (tighten with a screw)
    - Screw mounting lets you tighten one truck enough to prevent wobble or rocking
  - Kadee or similar metal wheels are less prone to buildup of "crud" on the wheels, helping to keep the rails cleaner
  - Like the NWV, many model RR clubs require metal wheels (if you find a car on our layout with plastic wheels please let Paul or me know)
- Body mounting of couplers (Kadee #5 or equivalent) is the preferred system because of reliability
  - Some "Kadee compatible" or "knuckle-type" couplers are made of plastic & they will flex with a heavy train, causing uncoupling

## 4. COSTS

- Probably less than \$10; I assume it will be \$5-6 per car.
- Cheaper than throwing away a good car & buying a "fancy" car by Kadee that has these items already

- Not that much if you do 1 car every once in a while

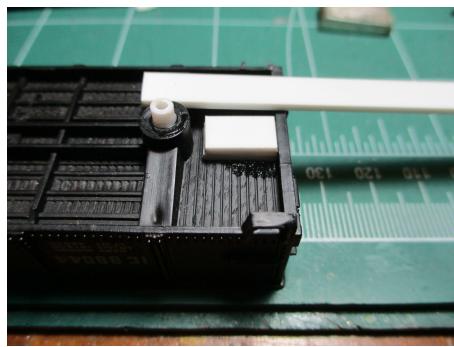
5. LET'S GET TO WORK! There are 2 possible methods:



- Filling Mounting Holes Method:
  - Assemble 2 Kadee #5 couplers in KD box
  - Choose a set of suitable trucks for your car (recommend Athearn, Atlas or similar)
  - Mount Kadee or similar metal wheels on/in the trucks (note that wheels on my cars are shiny)
  - Now, fill the mounting holes
    - Cut plastic tubing to length, insert into mounting hole & cement in place, cut flush when dry.



- Figure out how best to mount Kadee couplers in their box
- Will need a KD coupler height gauge, styrene strips to shim the coupler to height
- Glue mounting pad(s) in place & allow to dry (in example I used 2 pieces of .060x.250 Evergreen styrene strips, which worked out perfectly.)



- Drill hole in appropriate location (center on the car, not too far out or in from the car end)



- When tubing has dried, screw in the trucks (may need to drill to clear screw)
- Test coupler height w/Kadee gauge



- Athearn Underframe Method:

- You might be able to use an underframe from an Athearn car in place of the one on your “victim”.
  - This will provide correct truck mounting, and coupler height, saving a lot of work, if you can find the frame.



- They used to be available from Athearn years ago, so you might find some old stock frames, or remove one from a junker from a show or hobby shop.