

# Detailing Athearn Blue Box Freight Cars

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# Disclaimer

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# Background

- Athearn Blue Box 40-foot box cars.
- Fast and economical way to build freight consists – robust construction.
- \$3.00-\$8.00 per car.
- Most will need updated (metal) wheels and couplers.
- Underbody needs correcting - the position of the AB valve, air reservoir and brake cylinder is wrong.
- Underbody benefits from brake detailing.

# Athearn Blue Box GN 11582



# GN 11582 Underbody



This is how they usually come – a loose and rusty weight, plastic wheels and Accumate couplers. This one looks to have done at least a million miles from the state of the wheel treads.

# GN 11582 Underbody



## Underframe of GN 11582

The brake cylinder is on the wrong side of the frame, as are the air reservoir and AB valve.

# GN 11582 Underbody



## Underframe of GN 11582

Swapped 180°, the brake cylinder is on the correct side, but pointing in the wrong direction.

The air reservoir and AB valve are not in the correct positions.

# GN 11582 Underbody



## Underframe of GN 11582

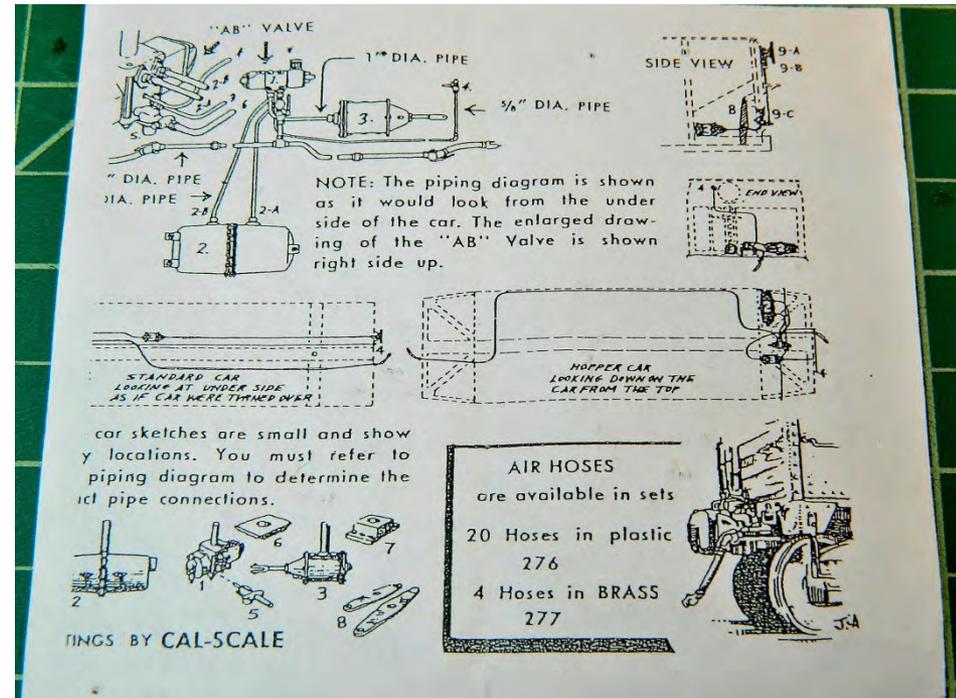
Upside down, the brake cylinder is in the correct position (in line with the hand brake wheel), as are the air reservoir and AB valve.

Clearly, some adjustment is required.

# Detailing Parts

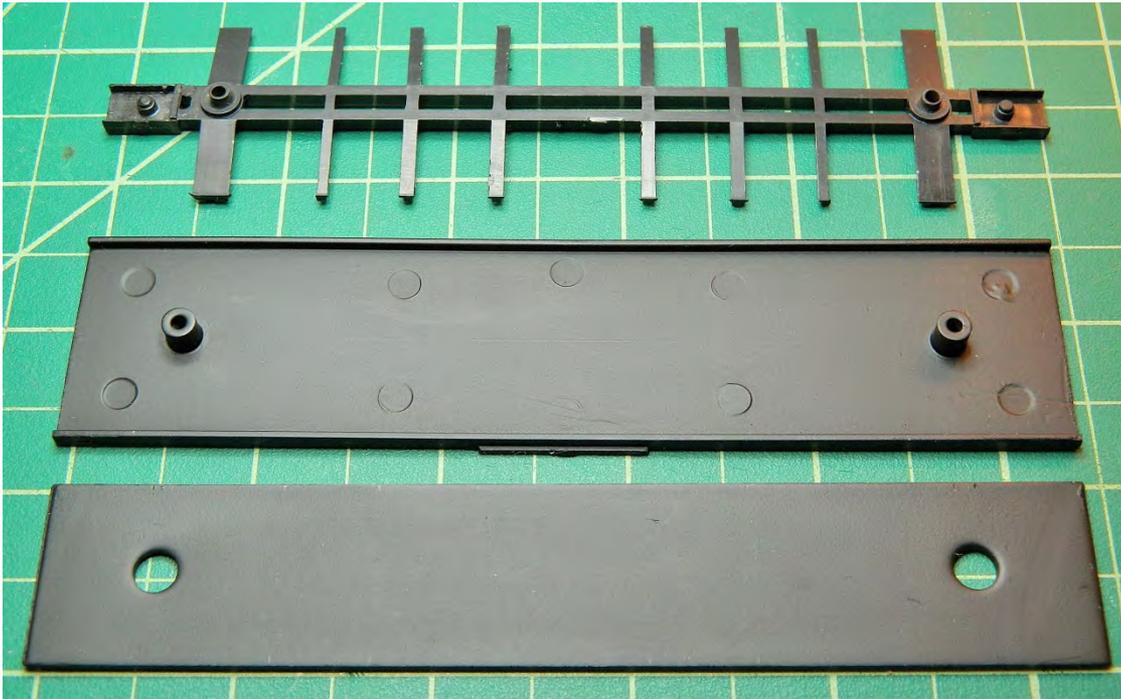
- Cal-Scale (AB brake system, available in plastic and brass).
- Tichy Train Group (KC brake system, but also useful for other bits and pieces).
- Intermountain (AB brake system, complete fret to fit Intermountain freight cars).
- Individual components (e.g., Bethlehem Car Works).
- The original Athearn parts.

# Cal-Scale AB Brake Detail Kit



The kit comes with a useful diagram showing what goes where, as well as the dimensions of the various pipes.

# Get It Cleaned Up And Decent!



Underbody disassembled, all parts given a good scrub in hot water with a drop of unscented dishwasher liquid.

Brake cylinder, reservoir and A-B valve cut off (into the spares box).

Rust removed using #800 emery paper.

Two thin coats of Krylon matt black.

# Fix That Weight



Glue weight in place to stop it sliding around.

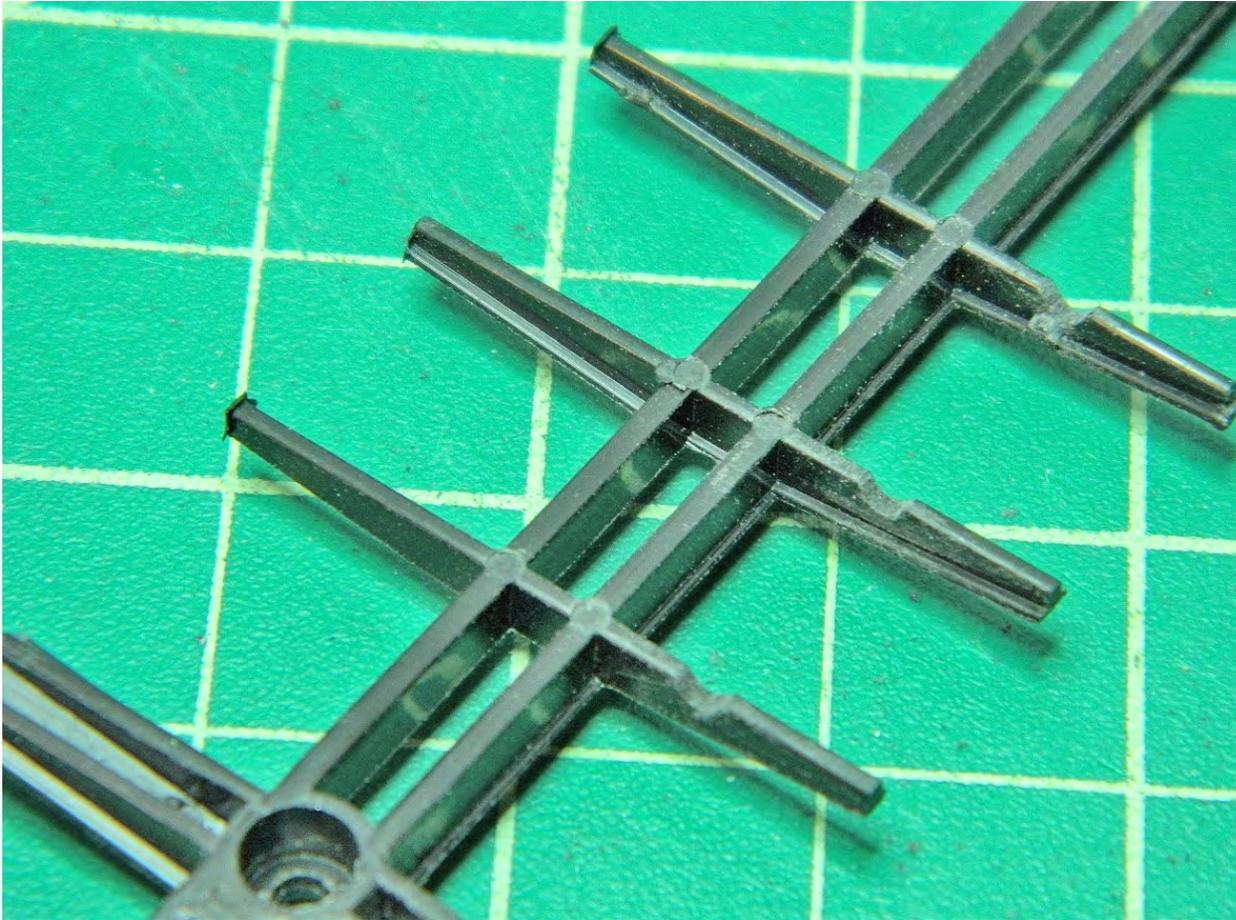
Silicon sealant gives good adherence.

Easily removed without damage to freight car floor.

Good for at least 10 years

Just a few dabs required.

# Add Some Piping



## Air line

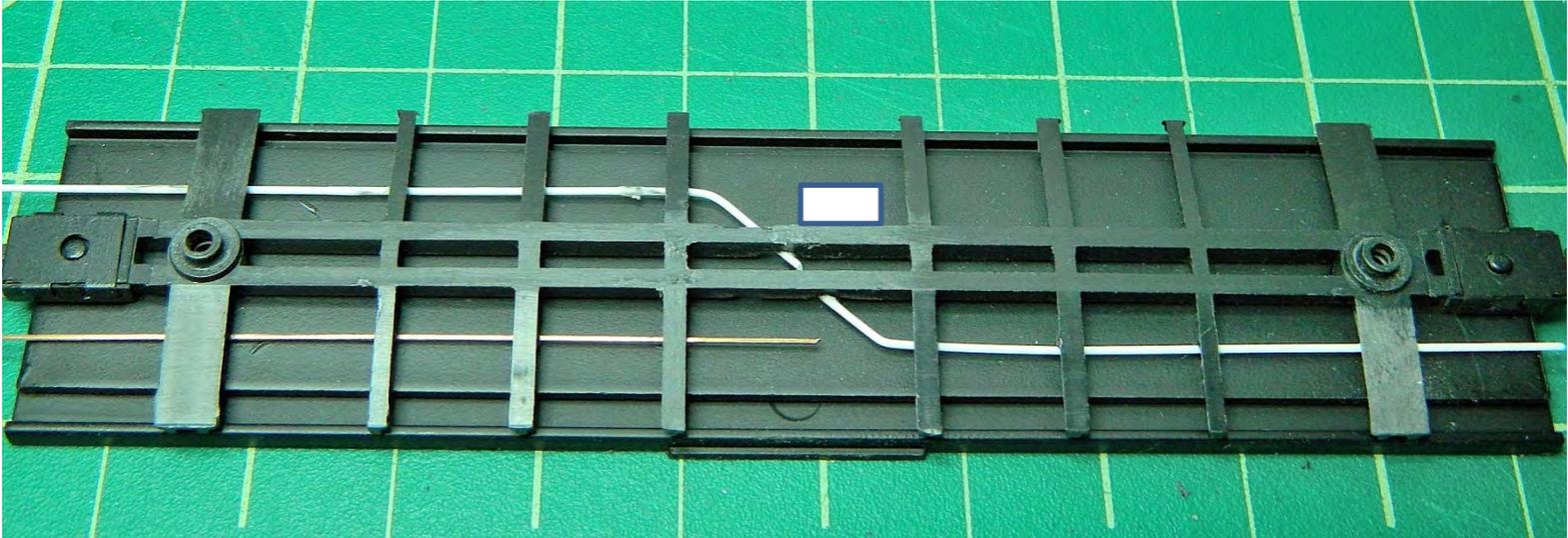
Cut channel in underframe and stringers using a circular needle file.

Try and get a uniform depth of cut.

Make sure the channels are on the correct sides.

Diagonal channel in the middle for the cross-over.

# Add Some Piping

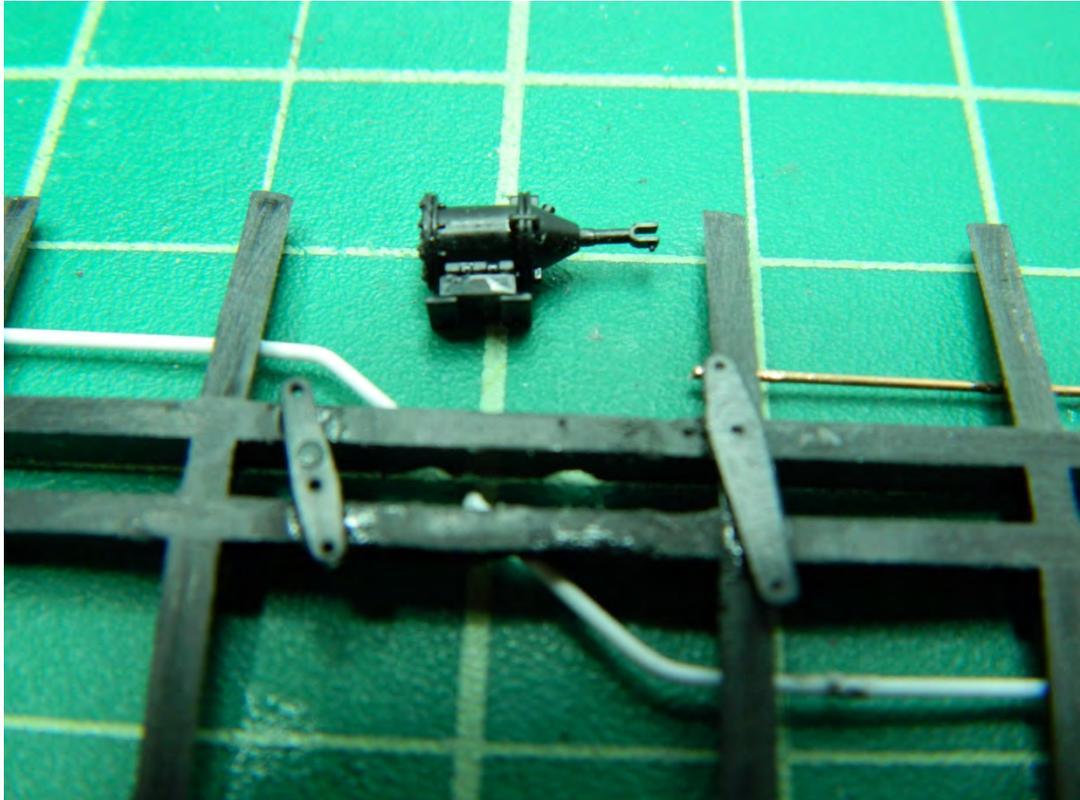


## Air line

Using thin styrene rod, bend gently to an S-shape, insert in channels and glued-up with plastic glue. Line it up with where the air hoses will go. Brass wire is the retainer valve pipe.

Leave enough space for the brake cylinder (  )

# Add The Fittings

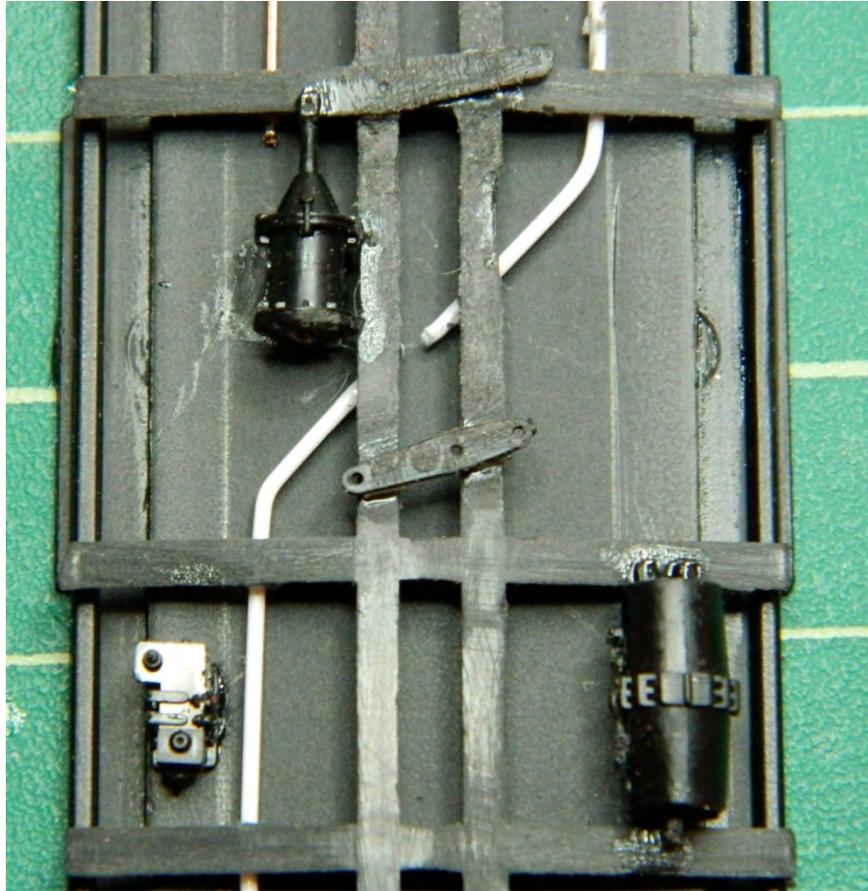


## **Brake cylinder and brake levers**

Remove brake  
cylinder and brake  
levers from sprue.

Check position  
(height) to make  
sure the brake  
cylinder piston rod  
meets the end of  
the brake lever.

# Add The Fittings



**Brake cylinder, brake levers, air reservoir and AB valve**

Brake cylinder fixed with styrene glue to frame.

Brake levers fixed with styrene glue.

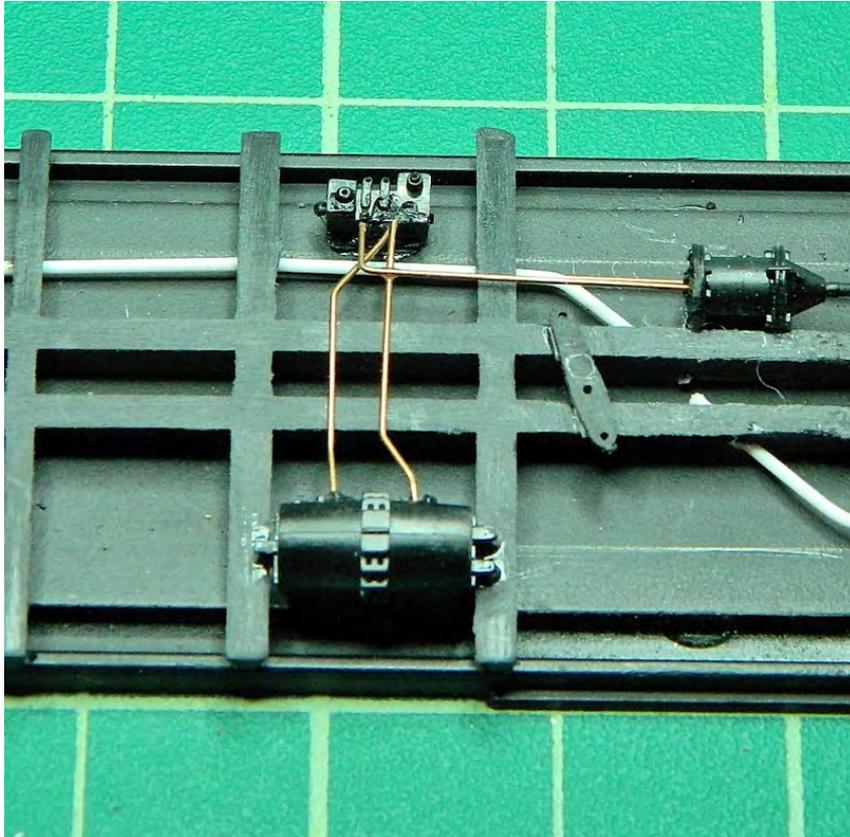
Air reservoir fixed with styrene glue to frame stringers.

AB valve fixed with plastic compatible CAA

# Air Pipes

- AB Valve to:
  - Air reservoir (2)
  - Brake cylinder (1)
  - Retainer valve (1)
- 0.015” phosphor-bronze rod (Tichy Train Group) keyed with #400 emery paper.
- Drill holes in reservoir and brake cylinder for P/B rod.
- Fix with plastic compatible CAA.

# Air Pipes



## **Air pipes:**

Air reservoir (2)

Brake cylinder (1)

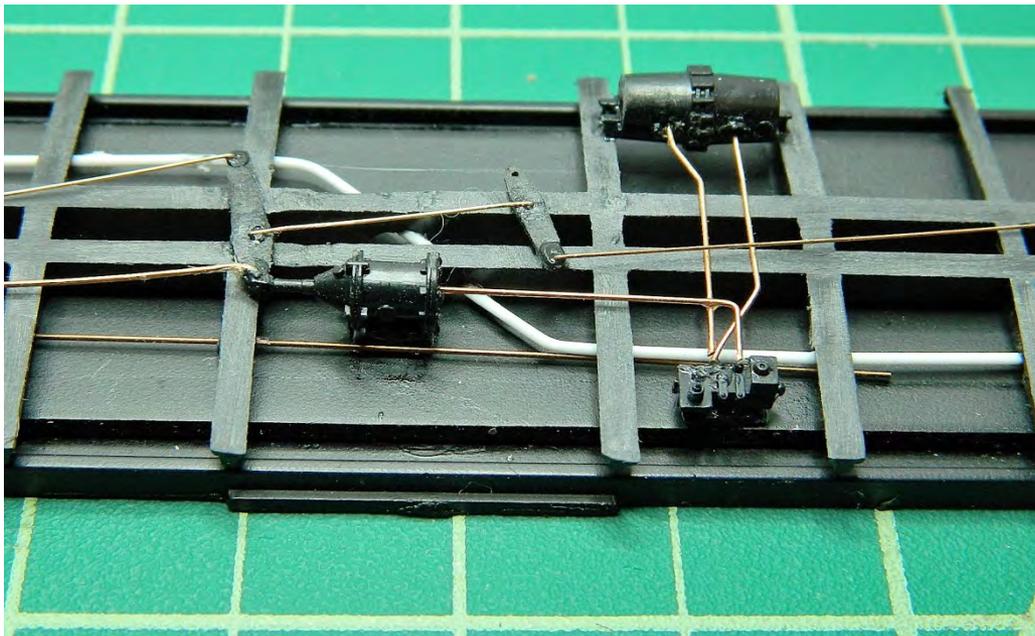
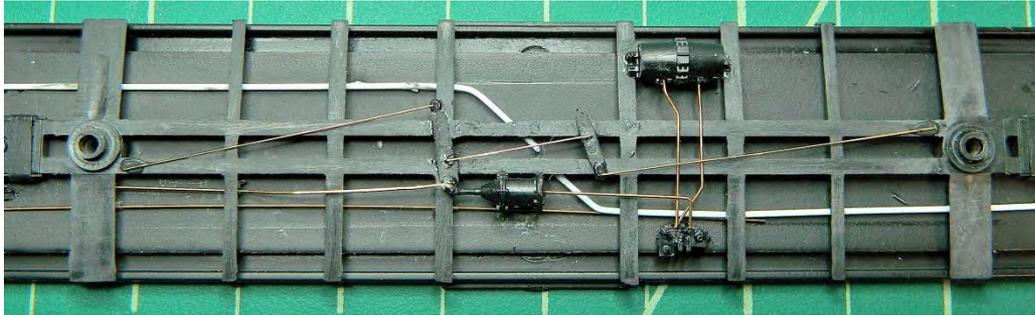
Retainer valve (just visible, 1)

There are more, but they're not visible. Cal-Scale supply a dust filter and pipe, and there should be a pipe between the air line and the AB valve-brake cylinder pipe.

# Brake Rodding

- Hand brake to brake cylinder.
- Inter-brake lever rod.
- Brake levers to truck brakes.
- 0.01" phosphor-bronze wire (Tichy Train Group). keyed with #400 emery paper.
- Drill holes in levers for P-B wire.
- Cut wire to length, allow for bends at ends (90°, ~1mm).
- Glue-up with plastic compatible CAA.

# Brake Rodding



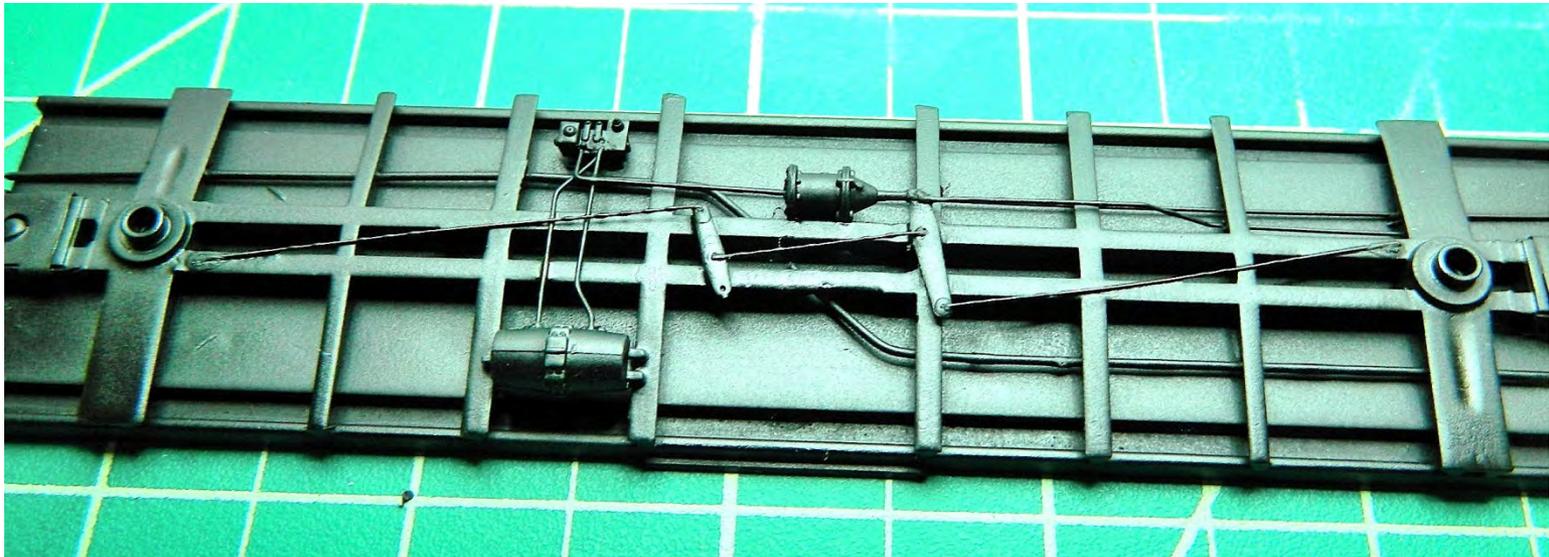
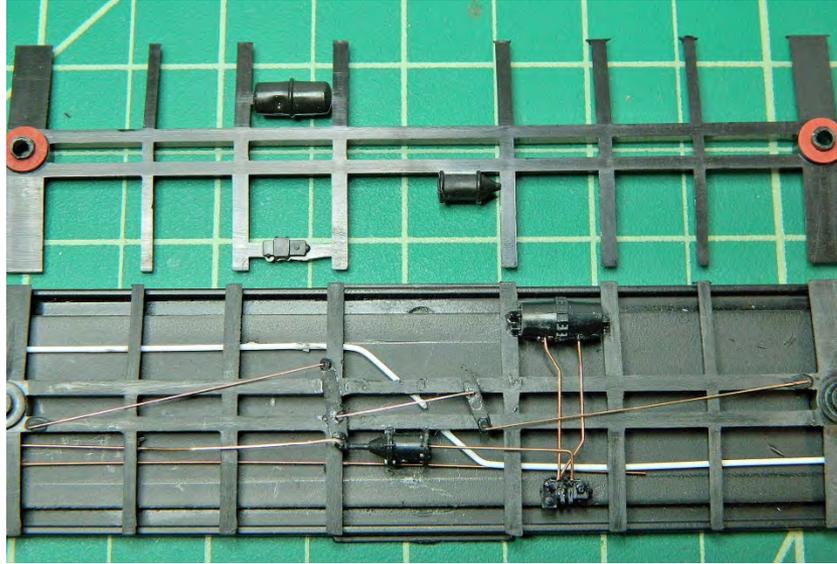
## Brake rodding

Rodding from brake levers to trucks secured with a dab of plastic compatible CAA.

Bend in rod to brake cylinder to represent slack chain (modified using real chain in subsequent conversions).

Off to the paint shop!

# Before And After

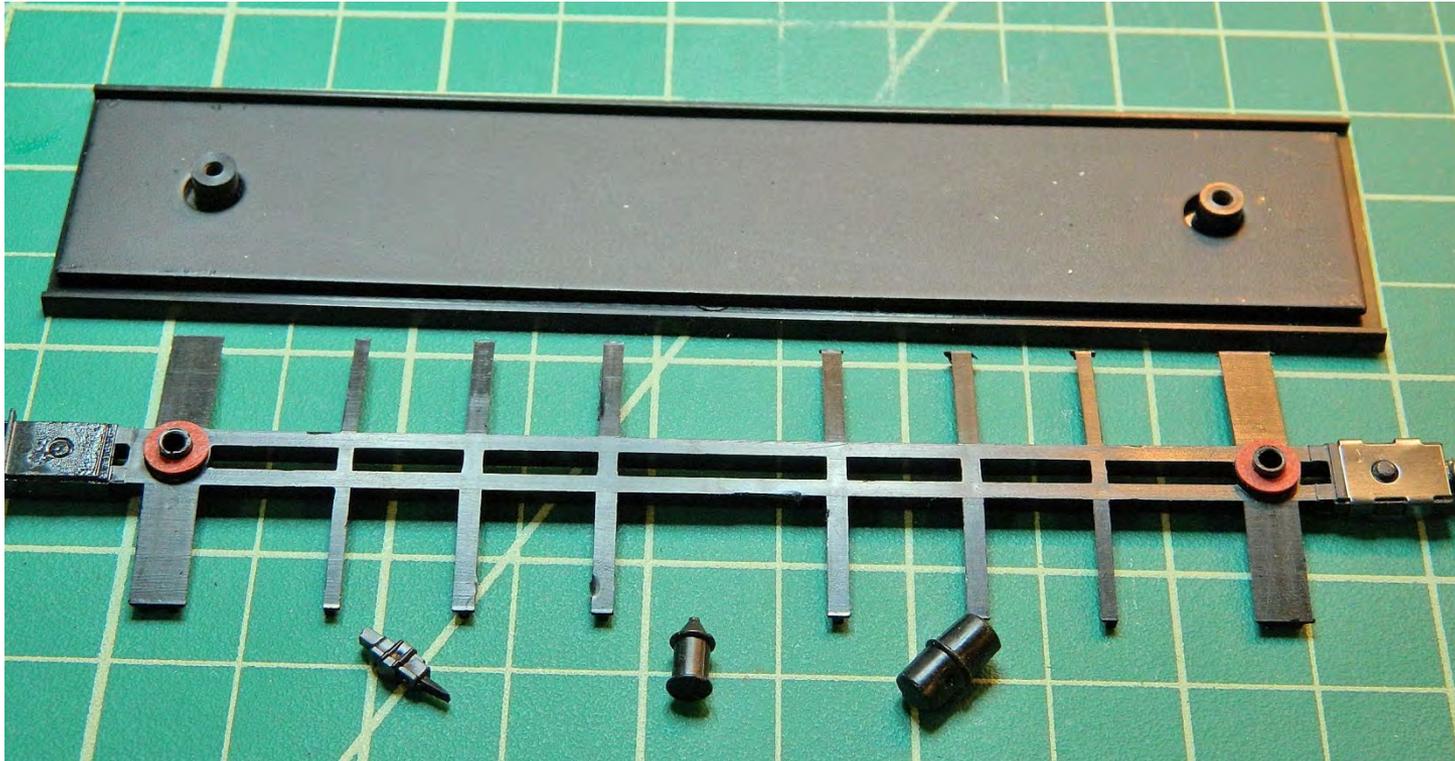


# GN Grain Car 6793



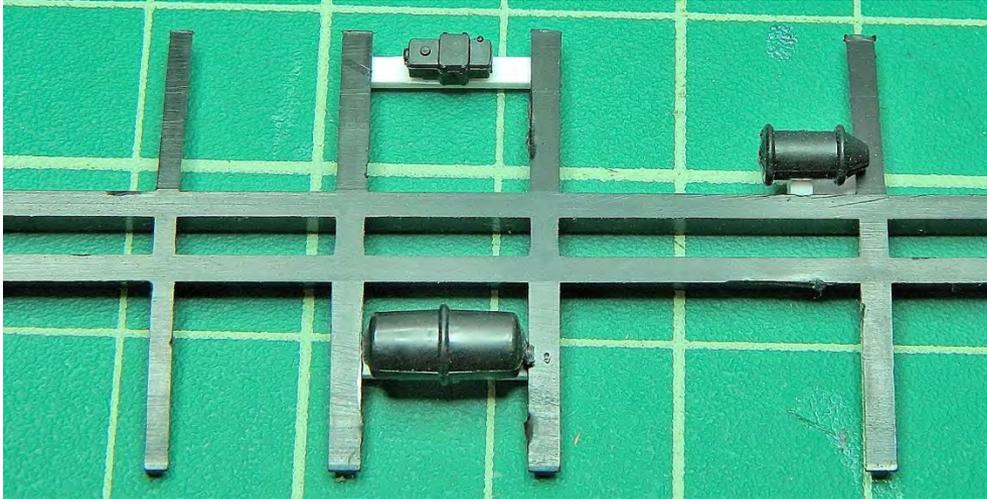
Great Northern grain car 6793 – plenty of body interest and detail but the usual incorrect underbody. This conversion uses the original Athearn fittings, P/B wire, some A-Line brass chain, and scrap bits of styrene sheet.

# GN Grain Car 6793



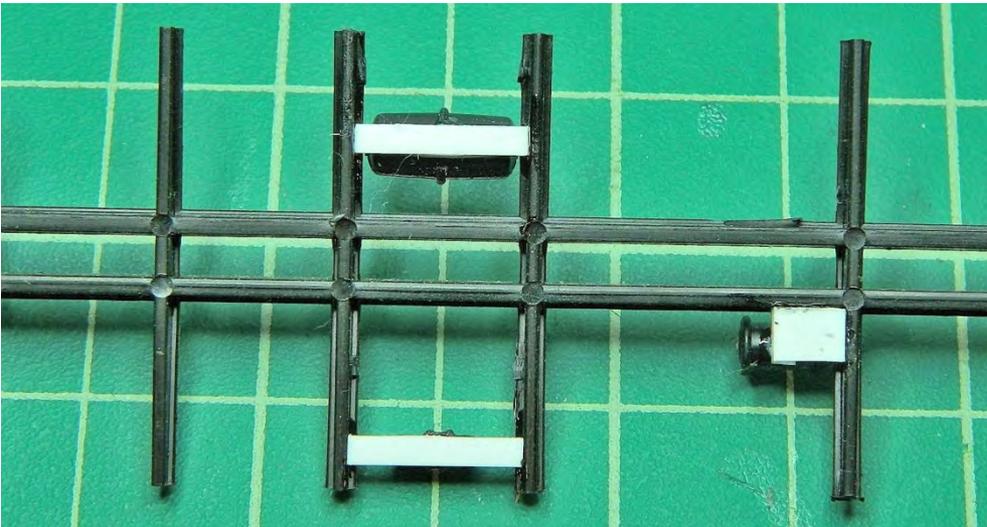
Rust was removed from the weight, and using silicone sealant the weight was glued to the bottom of the floor, followed by 2 coats of matt black. The AB valve, brake cylinder and air reservoir were removed from the frame stringers.

# GN Grain Car 6793



Support pieces of styrene sheet for the AB valve, air reservoir and brake cylinder were glued in place in the correct positions.

The support pieces were allowed to set-up overnight.



The AB valve, air reservoir and brake cylinder were glued in place.

The air line (0.02" P/B wire) and retainer valve line (0.015" P/B wire) were then added.

# GN Grain Car 6793



Brake levers were cut from styrene sheet, glued onto the frames, and holes drilled for the brake rods.

Air lines were cut from 0.015" P/B wire, holes drilled in the air reservoir and brake cylinder, and the wires bent as required and glued in in the holes using CAA.

Brake rodding was cut from 0.01" P/B wire. The handbrake rod was threaded through the end link of the brass chain. The chain was held vertically, coated with CAA, bent to shape when almost set, and the assembly glued to the brake lever.

# GN 11582



It's another GN 11582. This time the Intermountain AB brake kit was used.

# Intermountain AB Brake Kit



The AB brake kit looks good, but those brake rods and airlines are very fragile.

The six I bought all had issues with getting them off the sprue (broken lines and rods) and the brake rod between the brake levers looks suspect.

The air line hoses look rather under-scale as well.



In the end I used only the parts opposite, the brake lever protectors are a nice detail. P/B wire was used as before for the air lines and brake rodding.

# A Trio of Freight Cars



Left to right:

Intermountain;

Cal-Scale;

Athearn Blue Box  
(recycled parts).

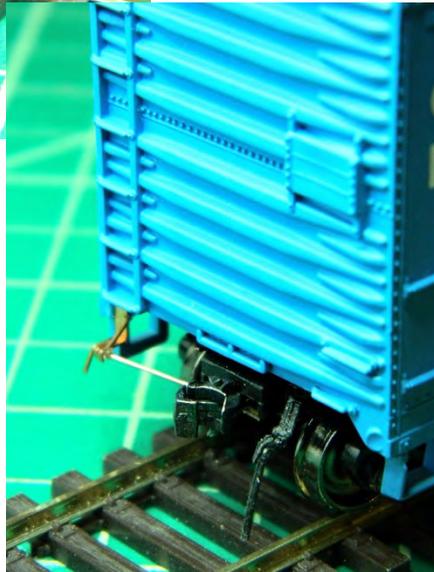
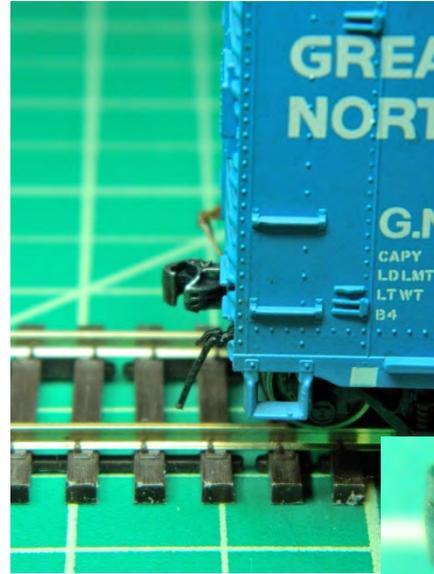
All have metal wheel  
sets and K-D whisker  
couplers.

The Athearn  
recycled parts look  
good, and are very  
cost effective!

# Brake Hoses and cut levers

- Now that the underbody looks decent in the event of a derailment, what about the ends of the cars – specifically air line hoses and cut levers?
- My choices for these are Hi-Tech AAR 22” hoses (flexible rubber, in my hands plastic ones such as those from K-D are too fragile) and Plano cut lever brackets. Fiddly, but well worth the effort.
- So, with an air hose in place, do you keep the K-D magnetic trip pin? Especially if you don't use magnetic uncoupling.

# GN Grain Car 6793



# Conclusions

- Athearn Blue Box 40' freight cars can easily have the AB valve, air reservoir and brake cylinder relocated to where they should be.
- More detail can be achieved by using AB brake kits such as Cal-Scale or Intermountain.
- Air line and brake rod details are easily added using phosphor bronze wire, which is more robust than plastic.
- The cost is minimal - \$0.50-\$3.50 per car.
- Adding brake hoses and cut levers adds a bit more realism and is easily done.
- I'm working on getting those cut levers under the back of the knuckle and allowing access to the coupler – next Mini-Con?