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THE ALL-NATION LINE

MANUFACTURE AND DISTRIBUTOR "O" SCALE MODEL RAILROADS

All Nation Brill 27 MCB non-powered

Description, Parts List & Assembly

THE BRILL 27-M.C.B. TRUCK

THIS is the Brill standard high-speed truck, and it is built in different sizes to suit all interurban loads and speeds. Although it has the "Master Car Builder's" system of equalization, it is distinctly a Brill product, because it has solid-forged side frames with low end frames, fold-over gusset plates, bulb angle transoms, double- and single-corner forged transom brackets, "Half-Ball" brake hangers, friction springs at the bottom of the bolster swing links, short bearings for the equalizing bars in pockets on the journal boxes, pressed steel pedestal wear plates or gibs, planed faces of the pedestals to give an accurate fit to the gibs, oil-retaining center bearings, and, in fact, every part of the truck, from center plate to boxes, bears the imprint of Brill experience, facilities and development.

THE J. G. BRILL COMPANY, PHILADELPHIA

Brill 27 M.C.B. Truck Kit

Step-by-Step Beginner Build Guide

The die cast sideframes are representative of the Brill 27 truck, the plastic truck body parts are not.

1. Set up your workspace

A stable, comfortable workspace makes the entire build easier.

- Use a flat, well-lit table.
- Put down a cutting mat or a piece of cardboard.
- Keep a small tray or cup for tiny parts.
- Gather your tools: hobby knife, sanding stick, tweezers, clamps/clothespins, small files, CA or J B Weld Kwik, small square, 0-90 & 0-80 taps, Dremel/Cutting Disk, Arbor wheel press, NMRA Gauge and optional paints.

2. Lay out and inspect all parts for 2 pairs

Identify each major component before you begin. Parts list description for one truck.

You should see:

- **1 Main Internal truck frame** (three-piece internal superstructure, bolster, end bars)
- **2 End Bars**
- **3 Bolster Stands optional height sizes (one one is needed)**
- **2 0-80 screws for bolster mounts to the mainframe**
- **4 0-90 screws to mount end bars to the mainframe**
- **2 axles #1524**
- **4 brass axles bushing/bearings #4073**
- **4 33” wheels #1354 non-insulated**
- **2 Brill die cast sideframes #E-19**

Check for:

- Straightness
- Clean edges of brims, threads build plate support material
- Any small nubs from printing (these will be trimmed next)
- Check hole alignments for #4073

3. Trim and smooth the parts

This is the “prep” stage that makes assembly clean and square.

- Use the hobby knife to **carefully trim** any small bumps or leftover print supports.
- Use small files to smooth any edges left from the brims
- Lightly sand edges that will be glued—this improves adhesion.
- Do not over-sand; you’re just smoothing, not reshaping.

4. Test-fit the major components & Assembly Instructions

Dry-fitting prevents surprises later.

Mainframe + Bearings

- Identify the mainframe superstructure top verses the bottom
- The bottom has cross plates under the axle locations
- Determine which bolster works best in terms of the height of car body and couplers
- Mount the bolster to the top of the mainframe using the 2 0-80 screws. If holes need clearance, use a #56 drill bit and tap the hole with a 0-80 tap
- Press fit the bearings #4073 into the axles holes on the mainframe. Use 1 axles to make sure of the alignment and that the axle does not bind. Holes might need to be burnish with a rat tail file. Press them in and use some glue to secure them in place. Set aside until glue is set and dry.
- Tap the holes located on the ends of each mainframe piece using the 0-90 tap. A #60 tab drill bit might be needed to clear the hole before tapping.
- Do not mount end bars
- Press 1 wheel onto each axle using an arbor press
- Place the axle through the #4073 bearings and press on the second wheel, check using the NMRA gauge
- Using the 0-90 screws, mount the end bars on the ends of the mainframes
- Before fitting and mounting the sideframes, decide whether to use the Dremel to cut the ends of the axles off flush with the face of the wheel. The decision here is whether your preference is to have more lateral side play in the wheel sets. Left uncut, the axles extends into the journal box but serves no purpose with the journal but may constrain the lateral motion of the wheel set.
- Glue side frames onto the end bars using CA or J B Weld cement.

Visual Parts Identification

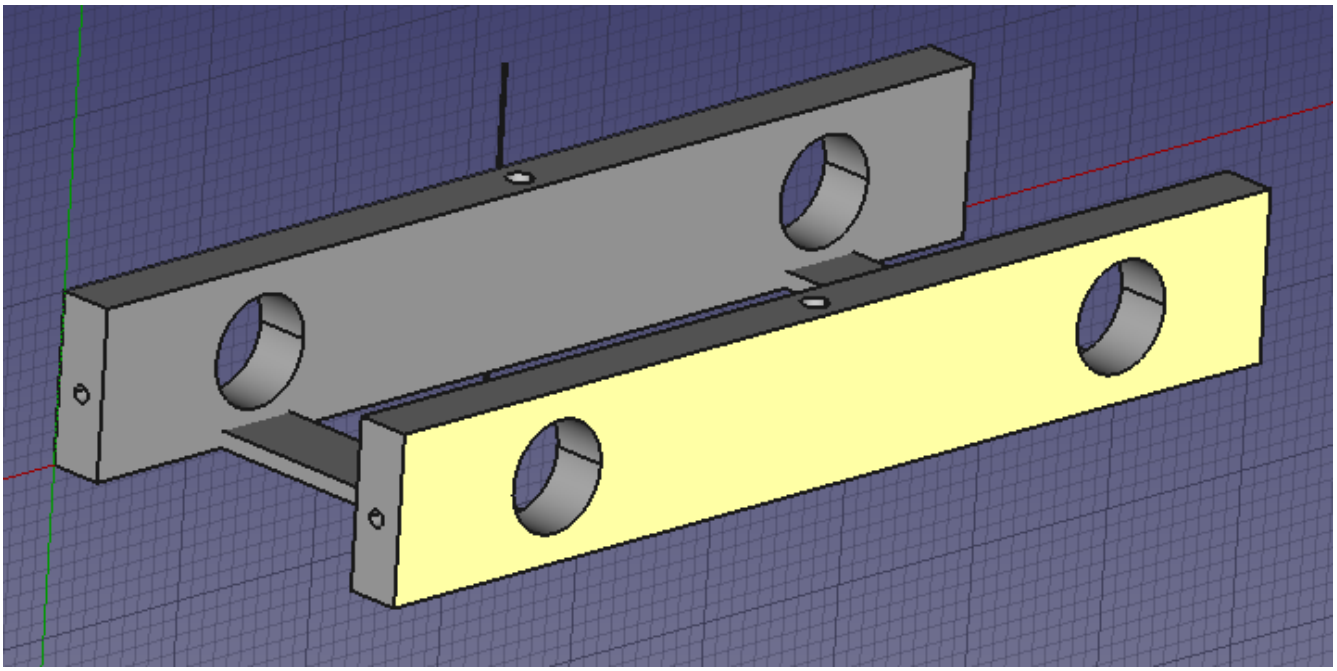

Figure 1: Main Frame

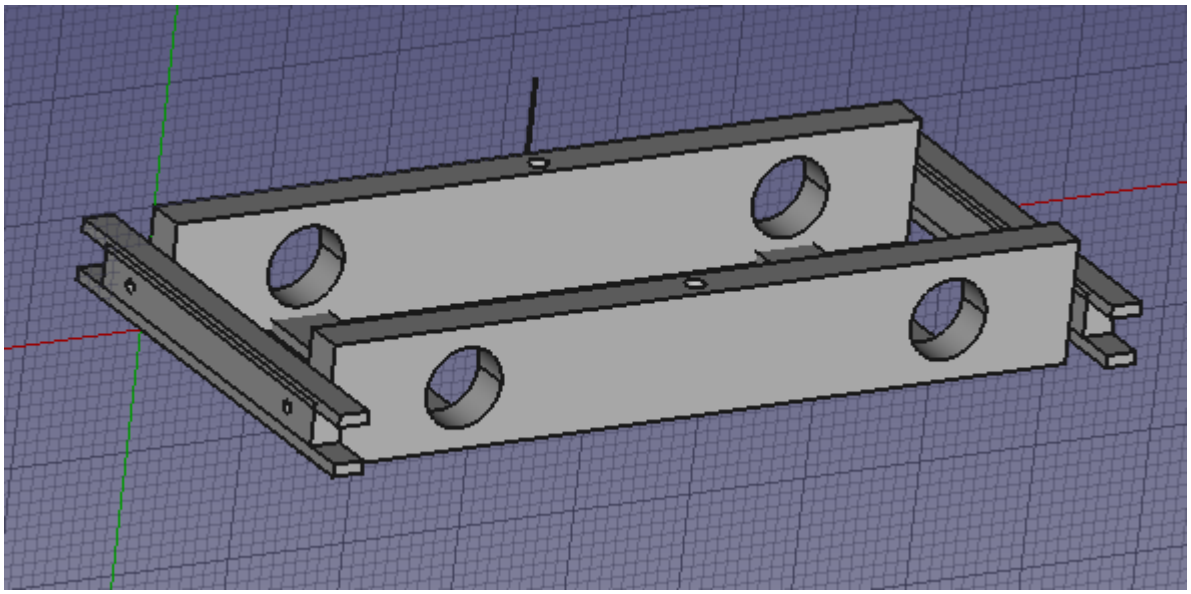

Figure 2: Main Frame Top Side View

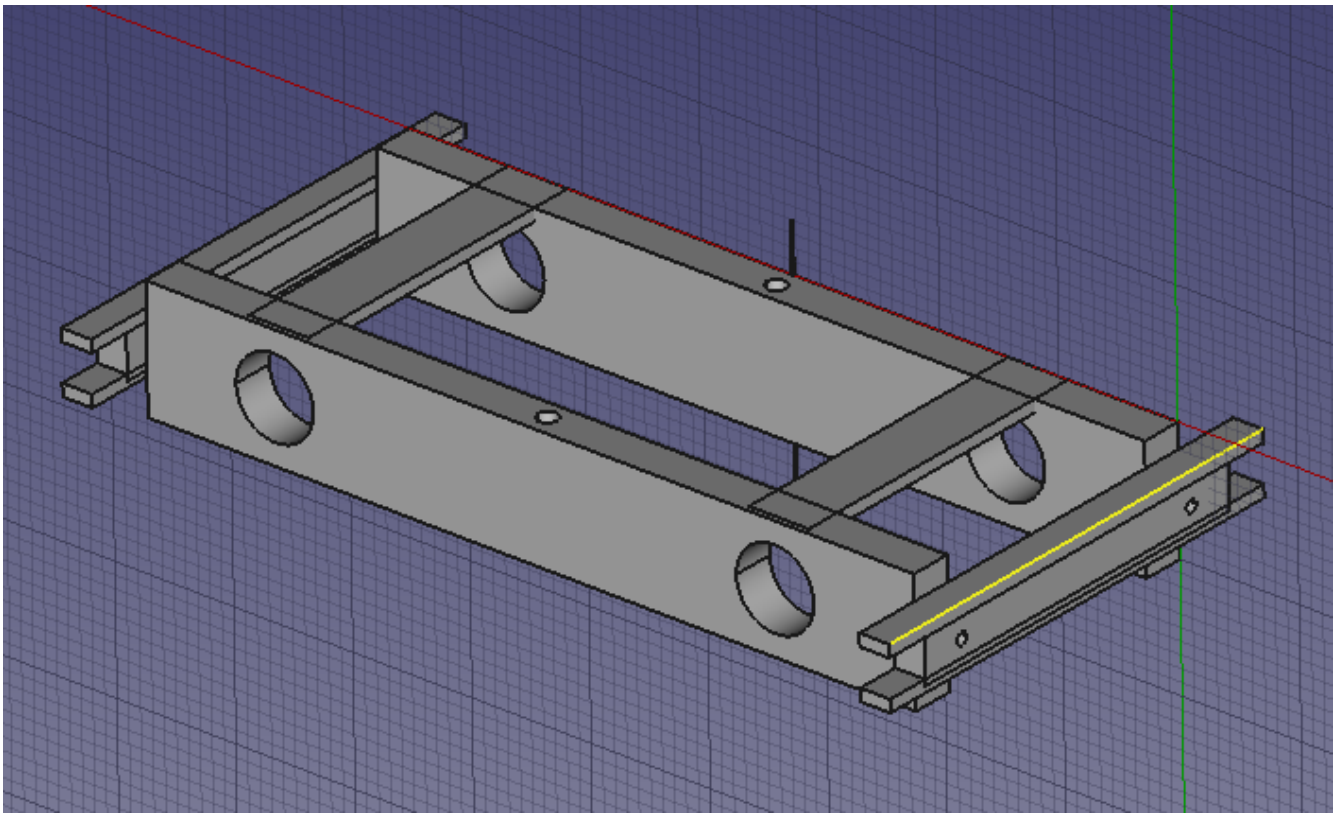

Figure 3: Main Frame Bottom View with End Bars

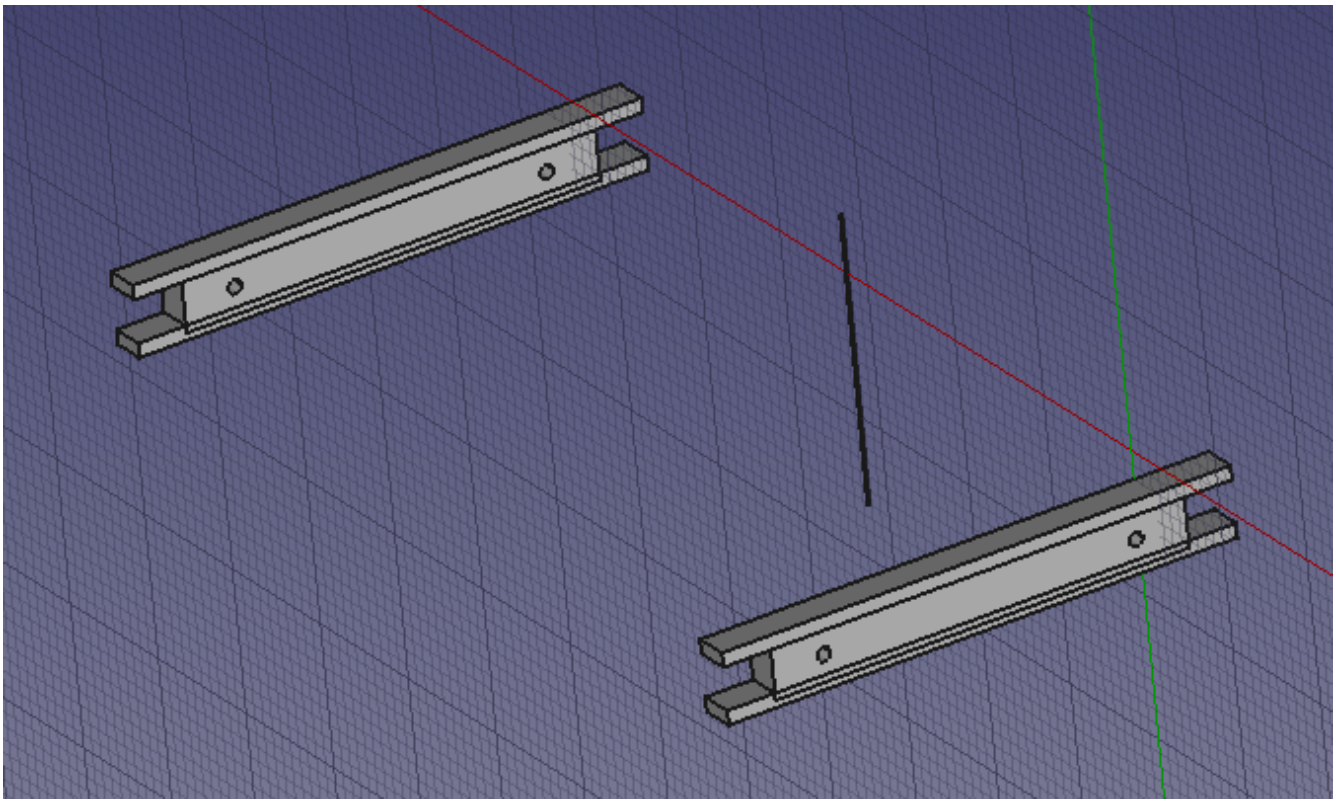

Figure 4: End Bars

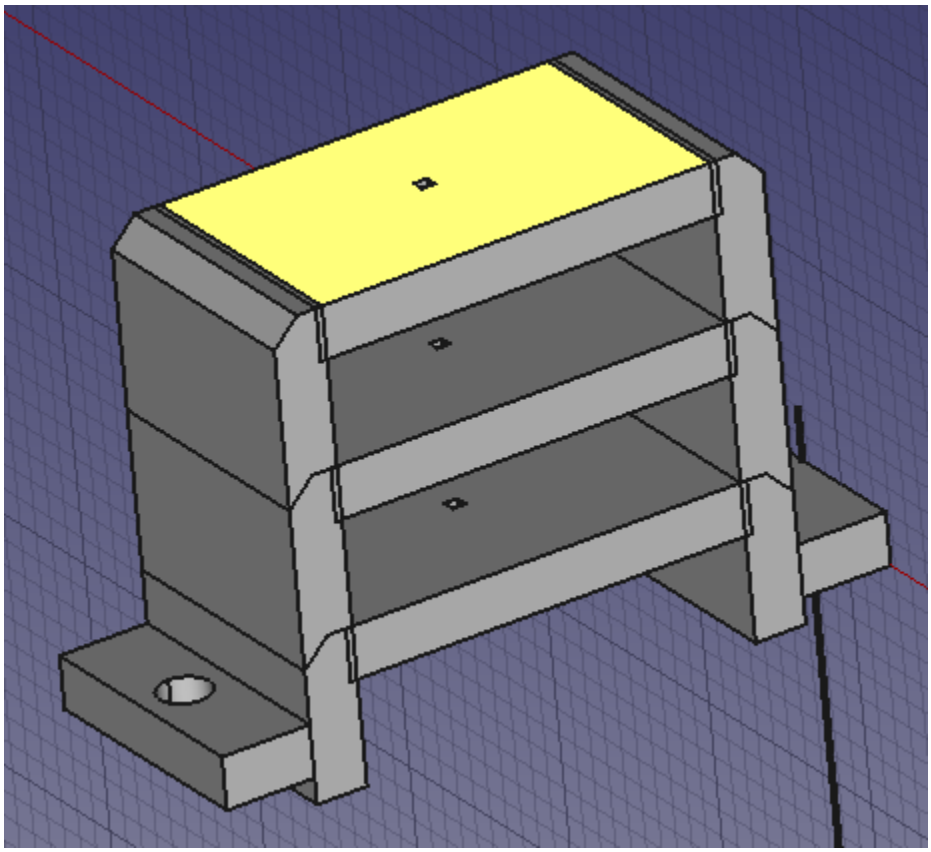

Figure 5: 3 Bolster Heights Option Stacked View

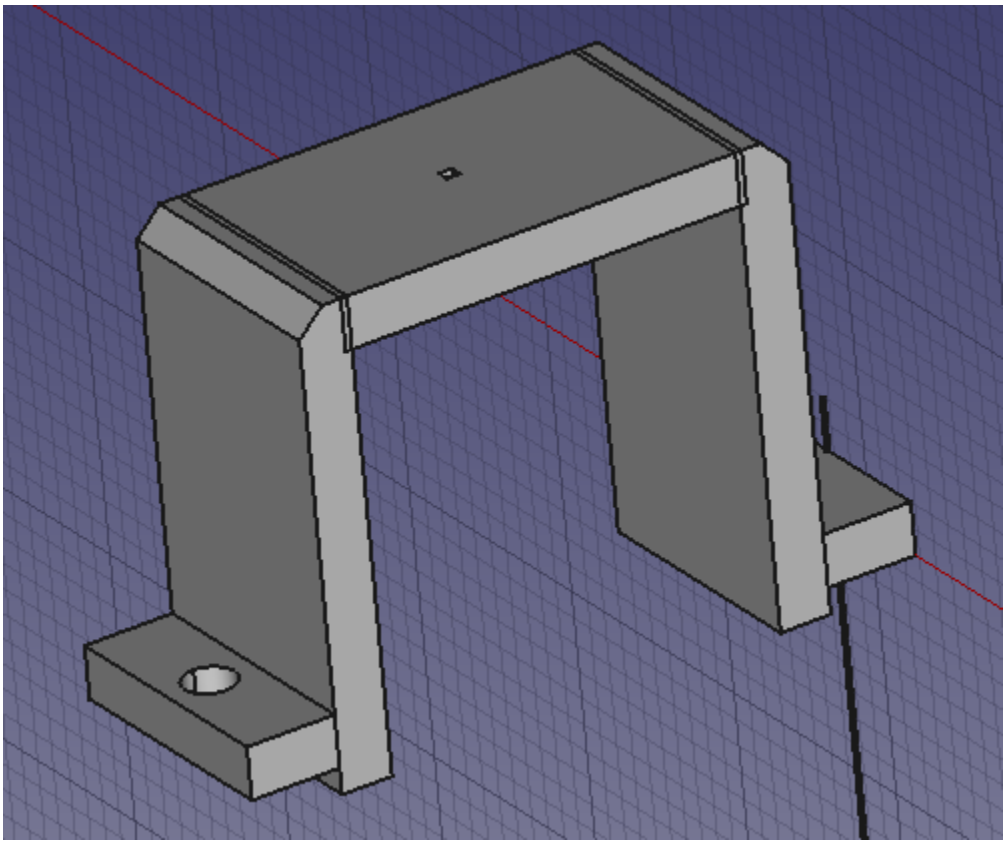

Figure 6: High Bolster Option

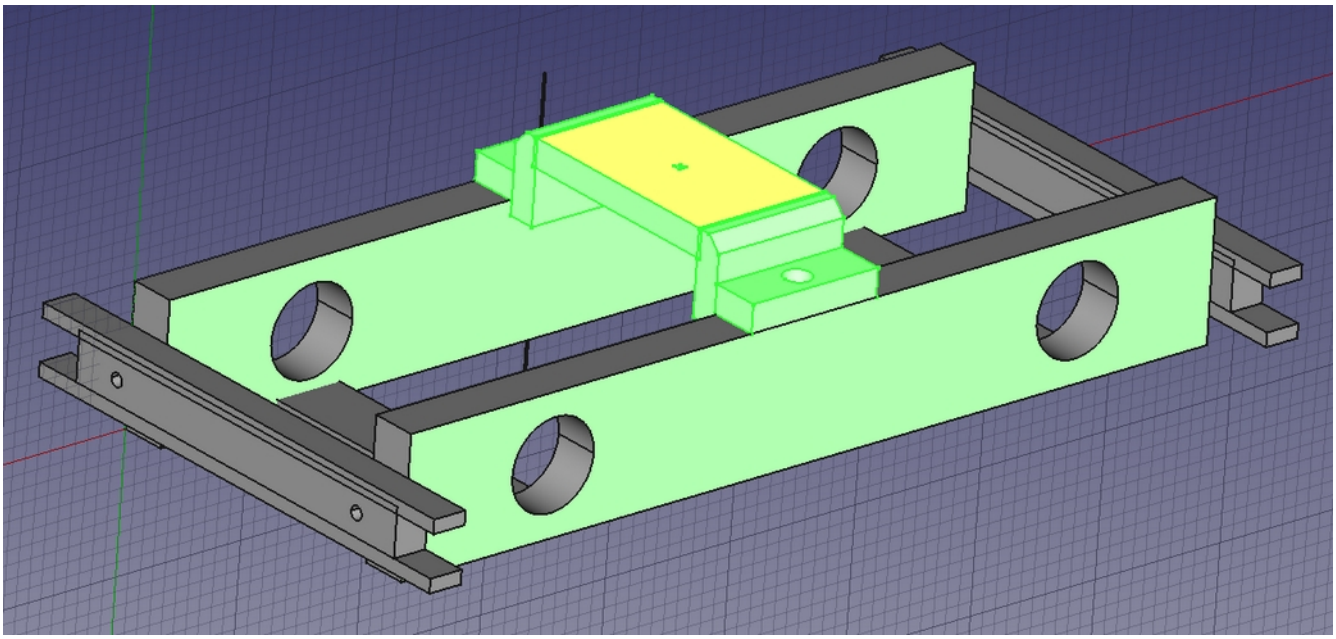

Figure 7: Main Frame with Bolster Mount

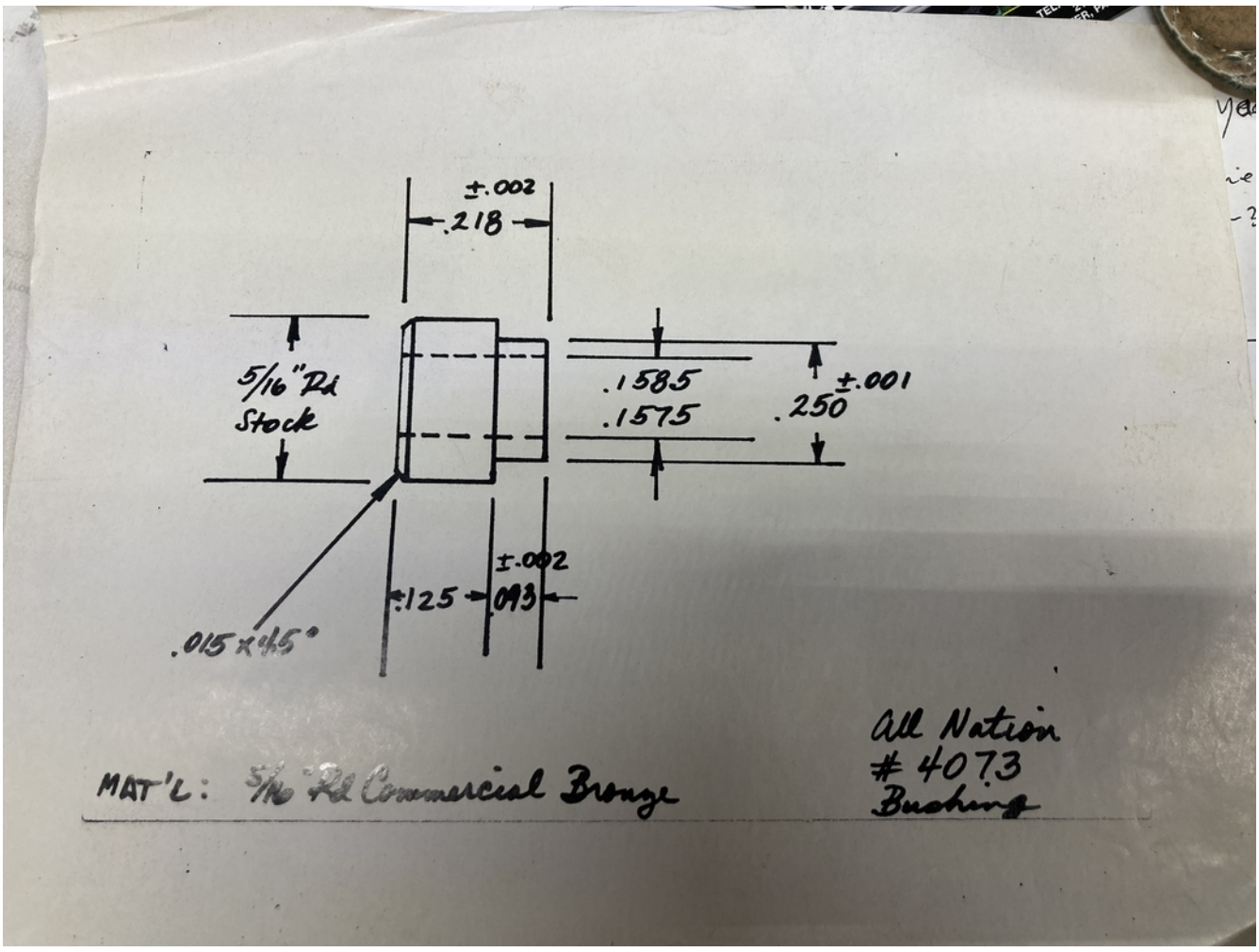

Figure 8: Bearing/Bushing #4073 Drawing

Figure 9: Brill Side Frames

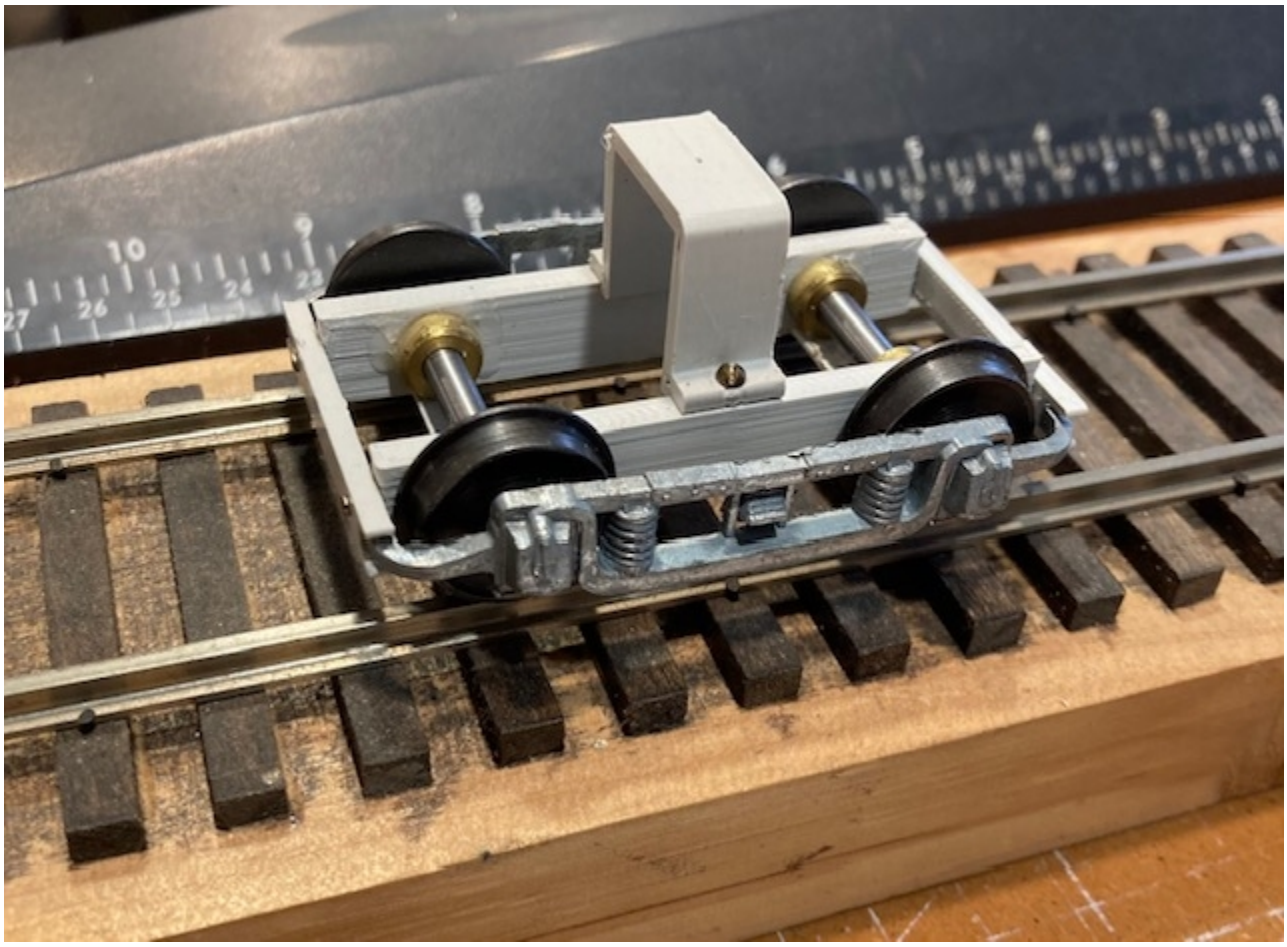

Figure 10: All Nation Line Brill Truck

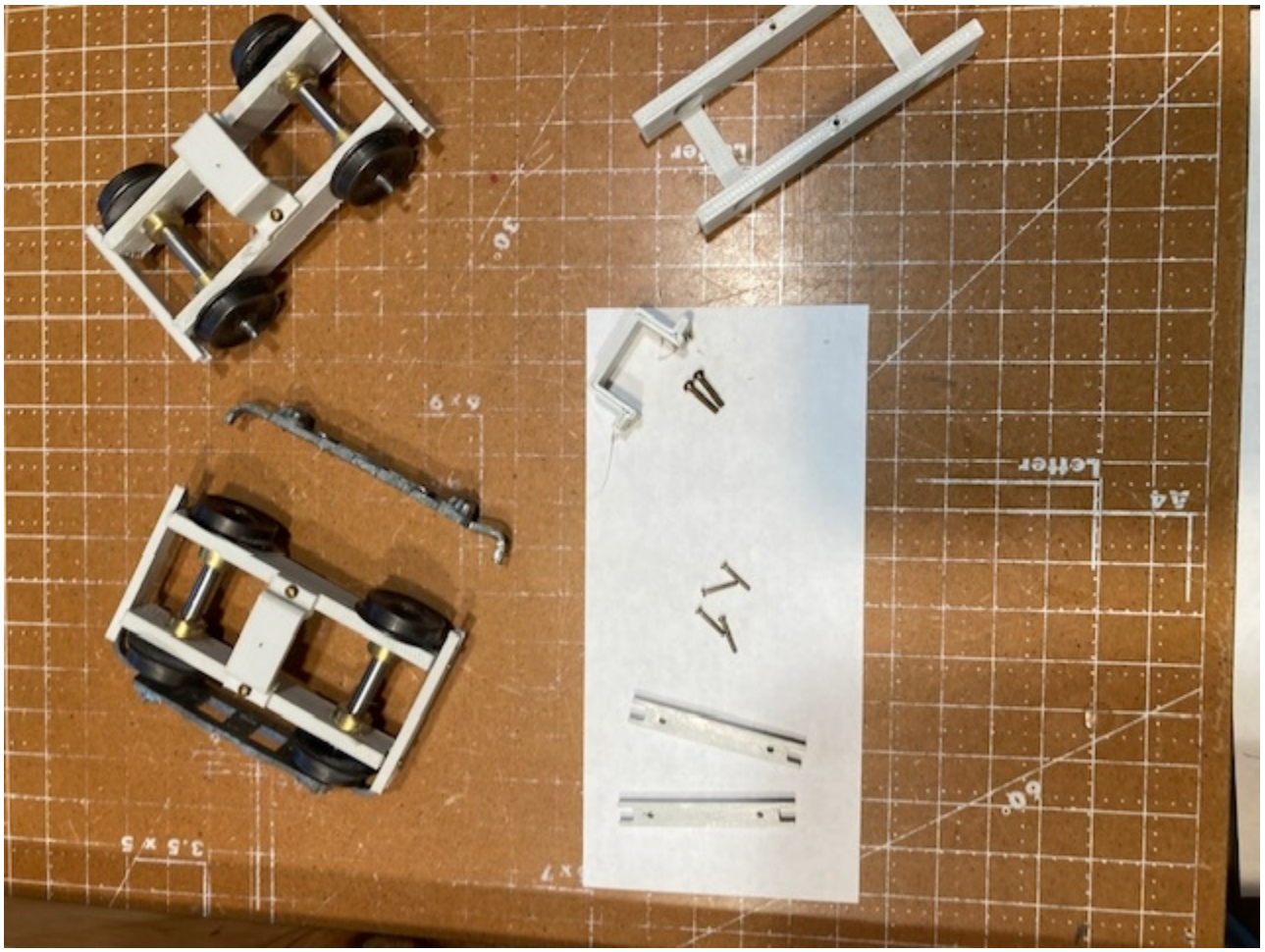

Figure 11: All Nation Line Brill Truck Parts

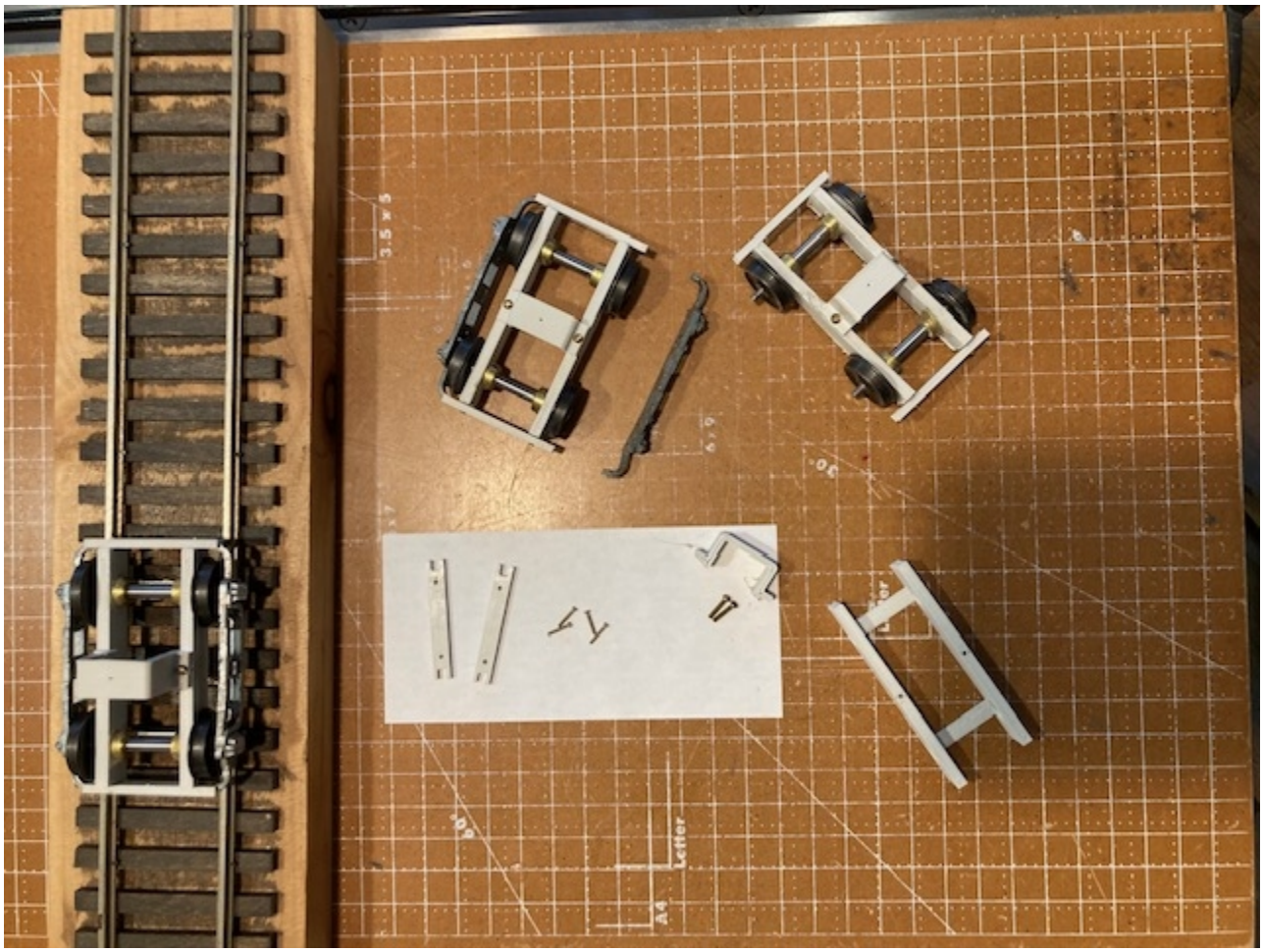

Figure 12: All Nation Line Kit Parts