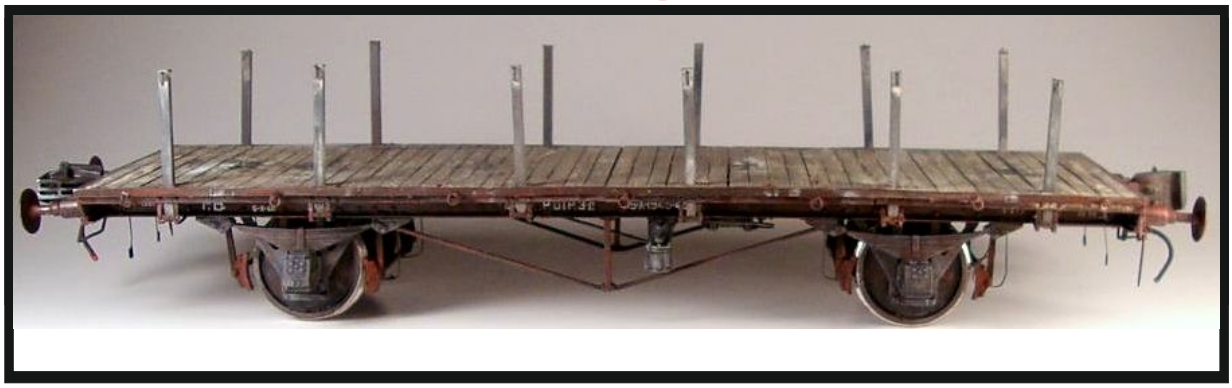
1/35 20t Russian platform railcar



contains 1 highly detailed and accurate model

180 resin parts
70 PE parts
+ plastic parts and wires needed for assembly
decals for 4 various cars (1 in German service)
glue and paints not included
suitable only for advanced modellers
keep safety rules for work with resin
instructions and references on CD

L. Z. models

No.35102

WWW.LZmodels.com

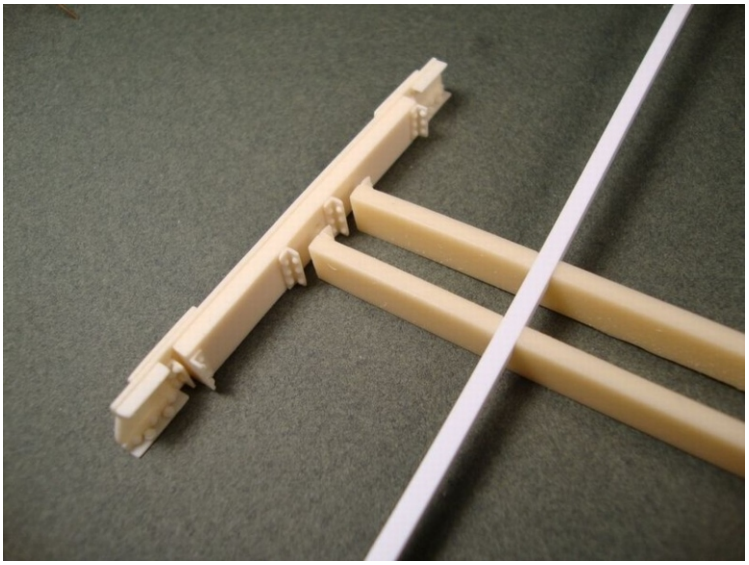
Made in EU

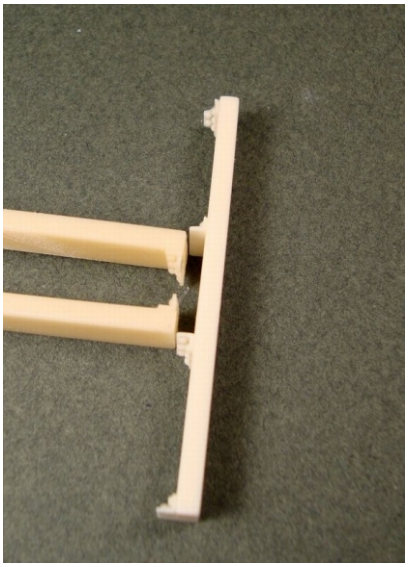
Keep safety rules when working with resin.
For safety reasons, and due to the complexity of construction, this kit is recommended only for advanced modellers.
The kit contains small parts, keep it out of the reach of children.
Glue and paints not included
Contains 180 resin parts, 70 PE parts and plastic parts and wires needed for assembly

Instructions and photos by Adam Kuller, as published at Military Modelling Website:
http://www.militarymodelling.com/forums/postings.asp?th=43627

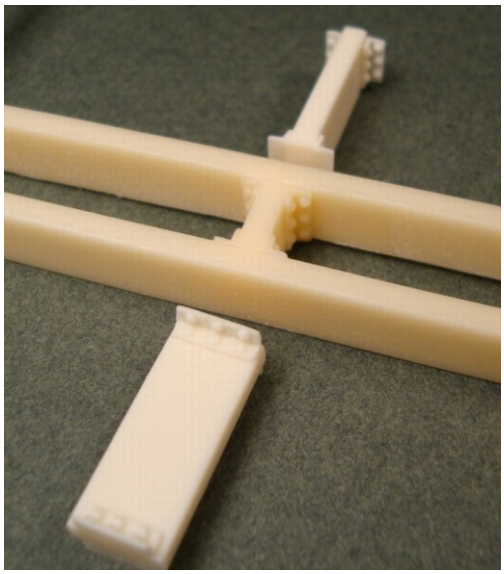
Two axle open platforms were the basis of the cargo fleet of Russian railways from the middle of the XIX century up to 40 years of the XX century, when four axle wagons came into wide service as well. There were many manufacturers in Russia, to name a couple, Ural Car Plant, Krukov carriage factory or Ust-Katav Wagon building Works named after L.M. Kaganovich, who produced in 1934 the wagon pictured. Until 1935 only the well known common screw couplings and buffers were in use in Russia, but they were not well suited to the cold climate and other requirements. In 1928, an UIC appointed Working Group (founded in 1922) began working on the development of automatic coupler. Since the work never got off the drawing board to define the basic requirements, The Soviet Union decided to use the concept of the robust U.S.Willison Coupling.

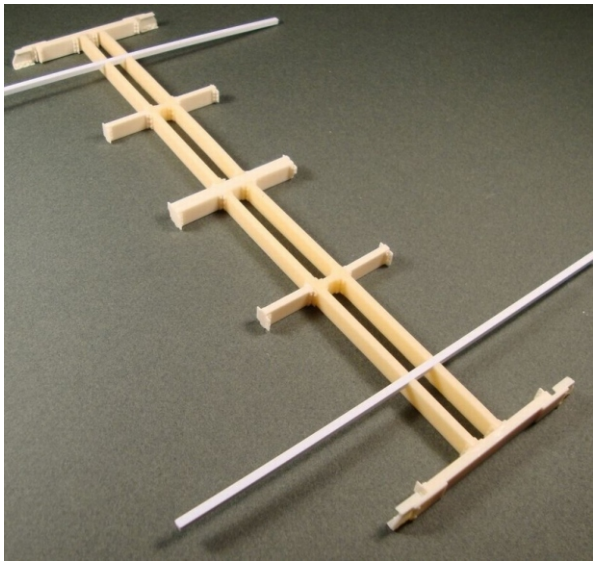
A coupler was constructed in 1932 by team of Moscow engineers responsible for the repair of wagons. After the 1933 introduction of the concept, automatic couplers was adopted, and implementation began in 1935. World War II however interrupted work, so the transition to the automatic coupler was not completed until 1953. During WWII these cars were used widely in military service by Russian Army and captured ones later by Germans. The Wermacht, on their progress East, changed the Russian gauge 1520mm for their own (and usual in most Europe countries) 1435mm. Captured cars got narrower bogies to be used on new rails, and later on, when Germans were withdrawing, the Russians used these changed cars as well.

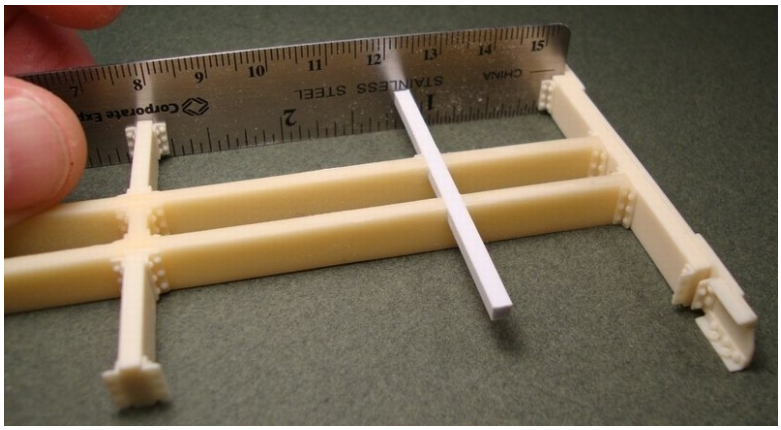


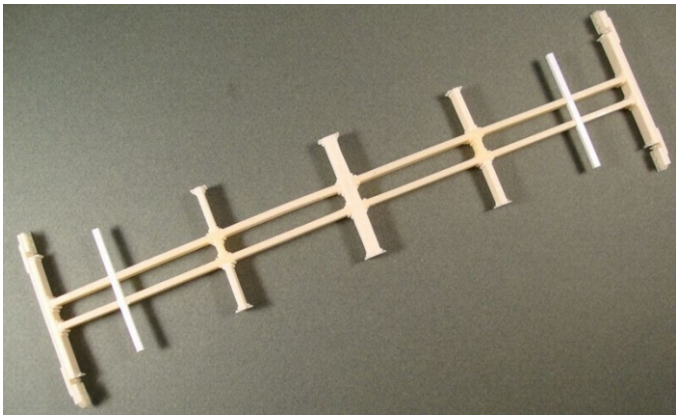


The frame is built bottom side "up", to allow fitting of the 2,5mm square styrene towards each end(chopped later to meet the inside of the U-channels at each side.)
The 4 small side-beams attach in-line with the only crossmember in the center-parts. Note- the smaller "L" brackets go out on these- the inner "L" is the full length of the beam

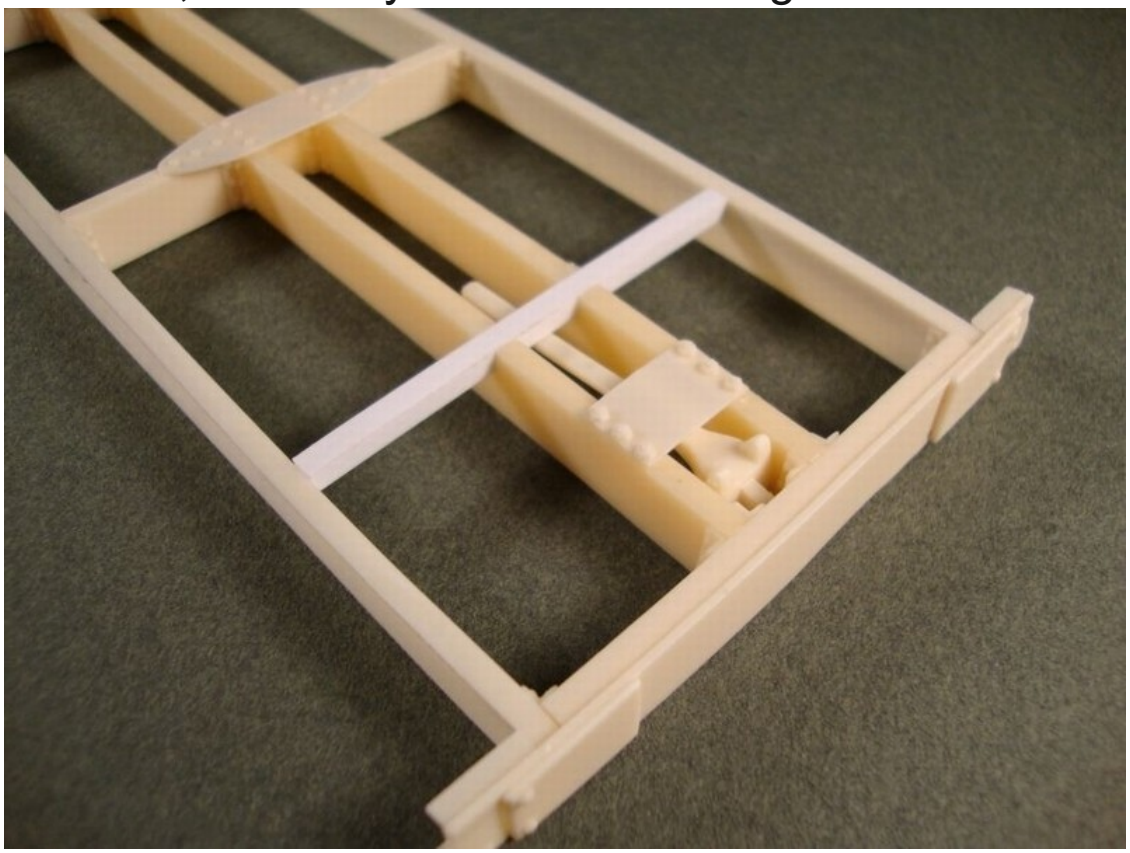


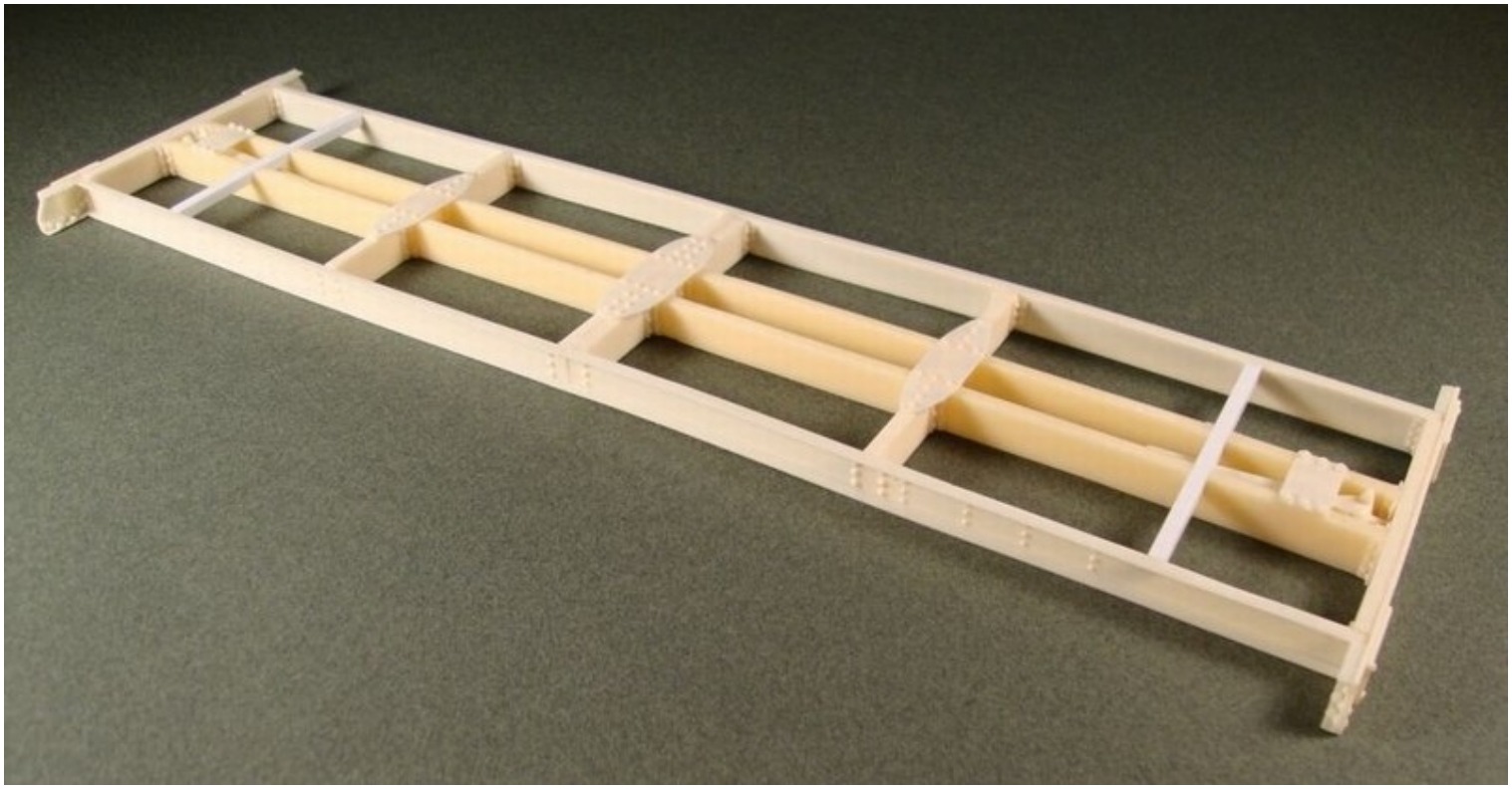


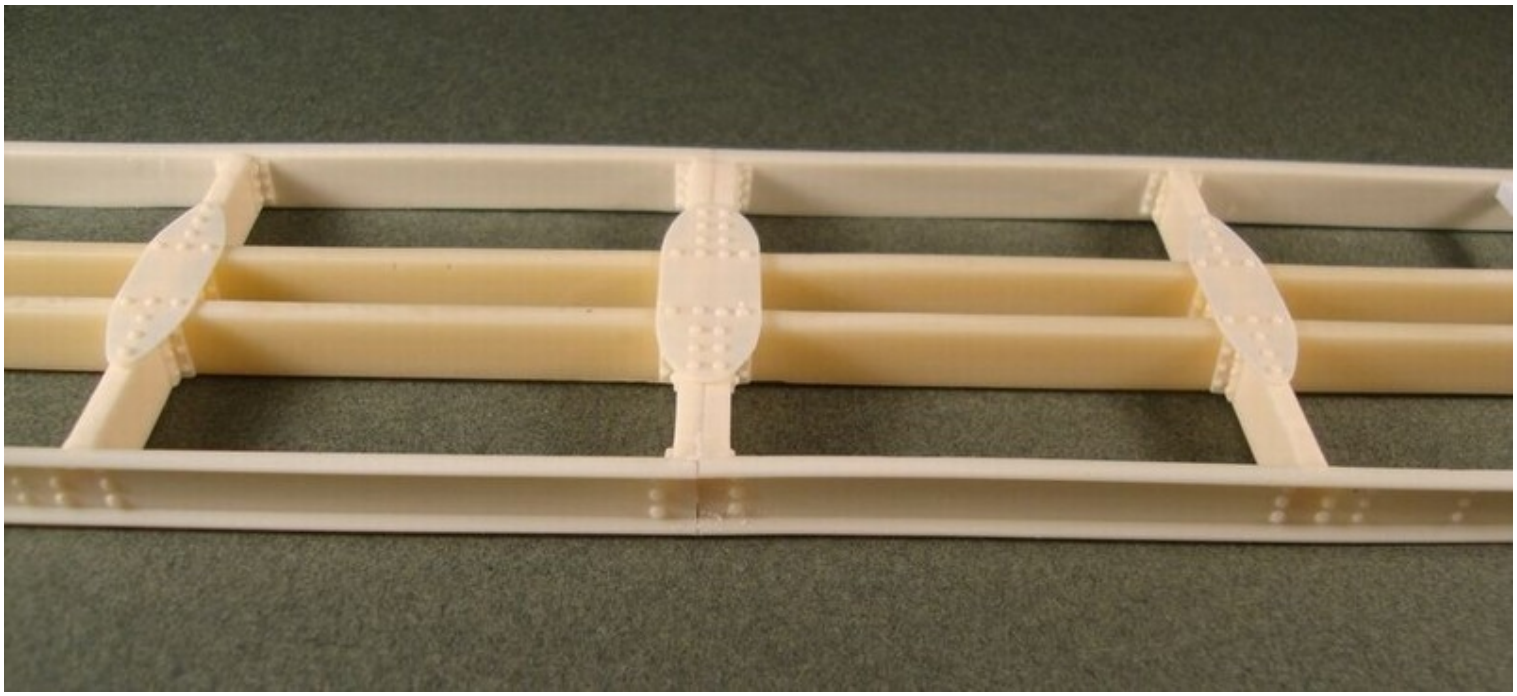




I was now ready to add the U-Channels along the side, after removing from thier pour blocks and cleaning the attachments(which thoughtfully become the attachment point to the end-beams! If there are 2 different lengths of them, assembly 1 shorter + 1 longer on both sides of the car

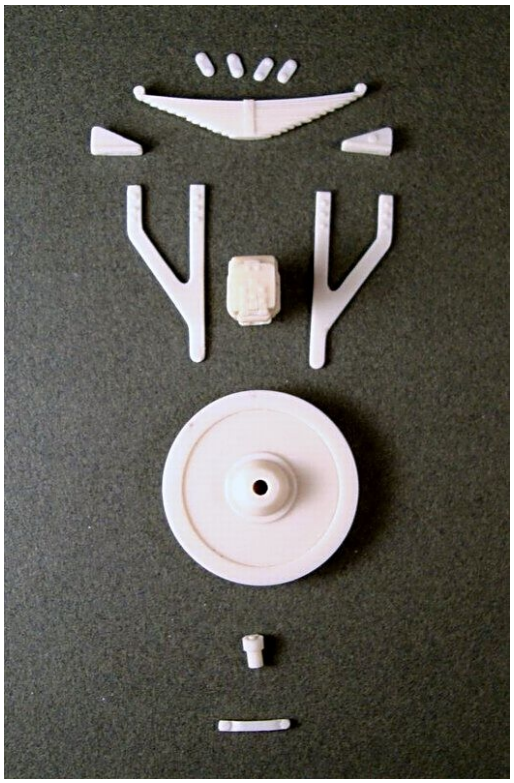


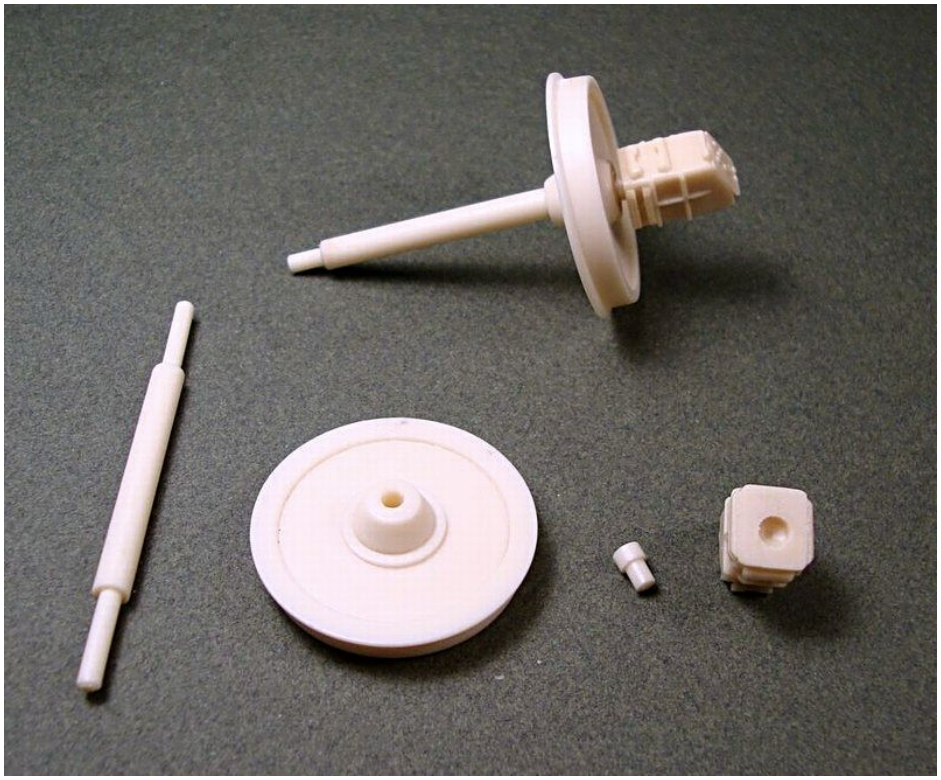




Rivet-plates are added onto the intersections of the frame beams - larger one at center

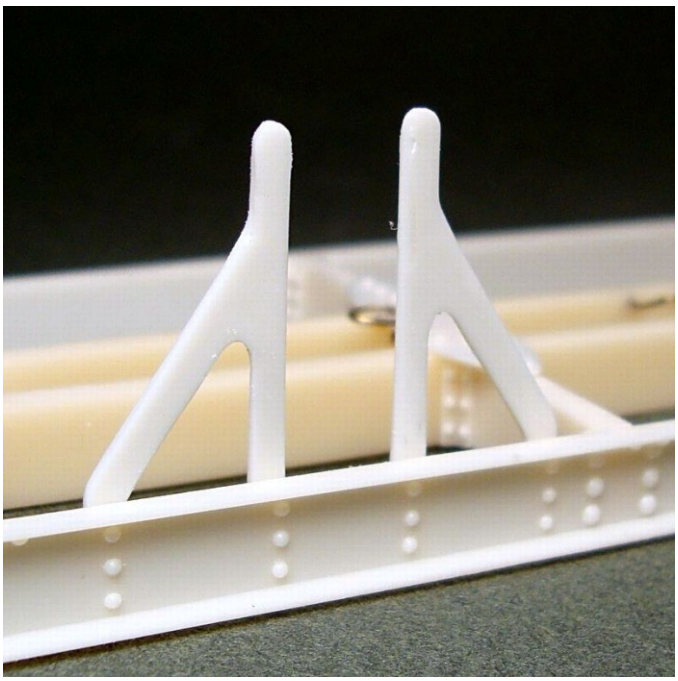
This should be basically everything needed to build one bogie--so this x4 for this wagon

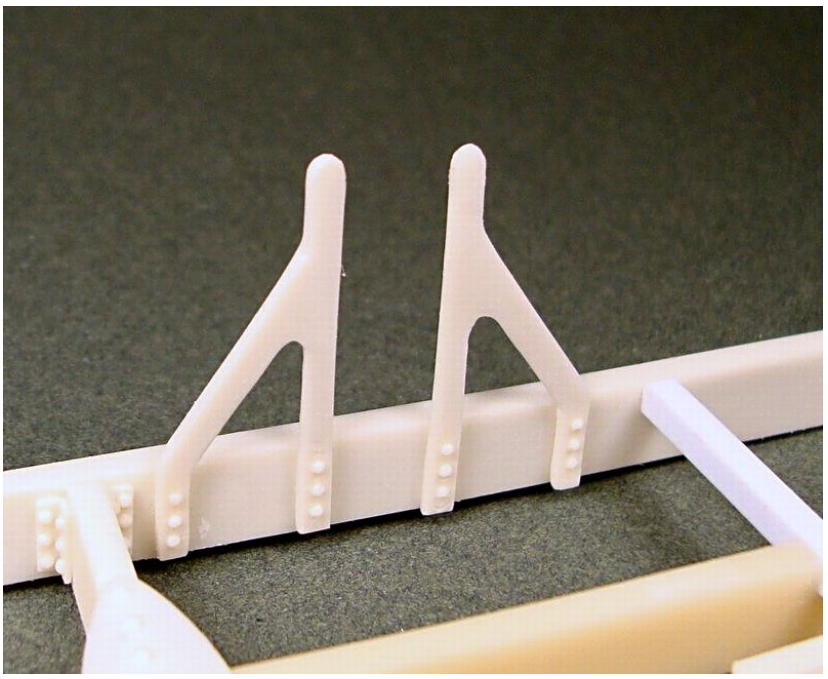




Optional rail gauge:
There are 2 axles with longer thicker centre - for Russian rail gauge, OR two axles with shorter thicker centre and shorter ends - for German rail gauge - these have to be assembled with stub-converter, which fits from the outside hub to the bearing house, shown above.

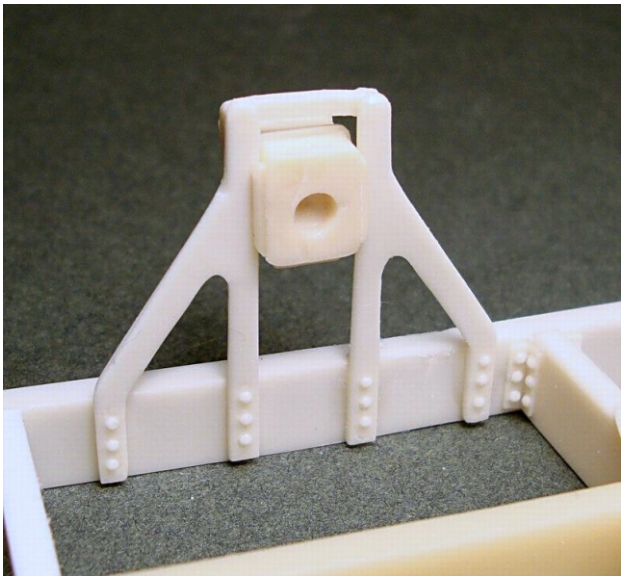
To start, I mounted the left and right "Y" arms. These are positioned by lining up with the rows of large rivets which correspond to the rivets on inside(backs) of the "Y's"





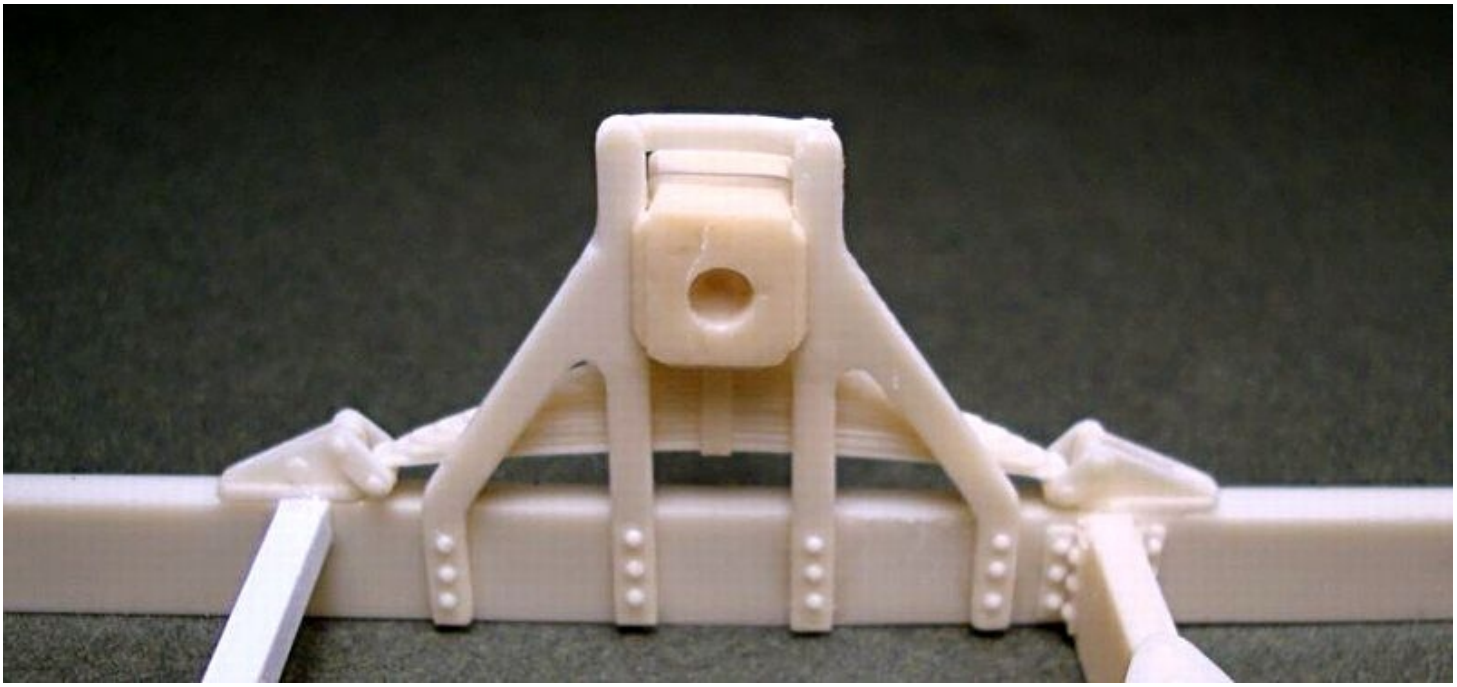
The rivets are all present, even on the upper-inside of the model. It's possible to align the arms with the top of the frames "U"channel, but more importantly I checked to be sure the space between them was square. All construction on the bogies was done with the yellow-label Zap, as this thick C/A allows for some positioning time and provides a good bond.

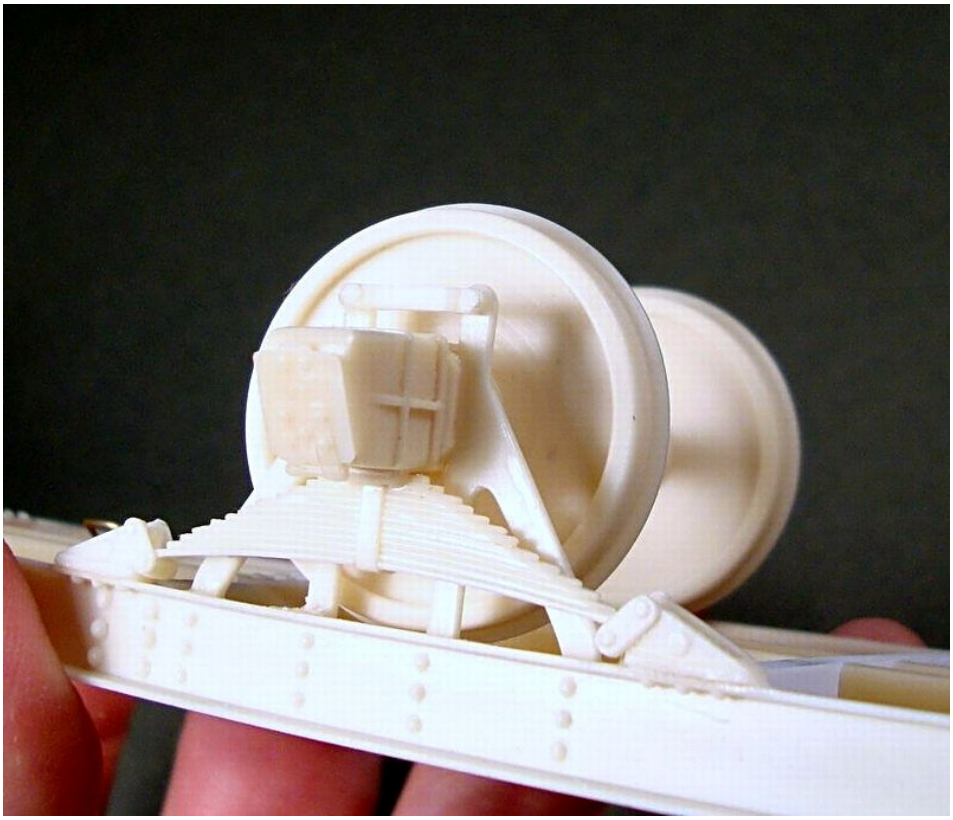
The bearing house can simply be slid down into place, and will stay between the arms unglued until the springs are in the right position, the small end-piece bridges the "Y's"



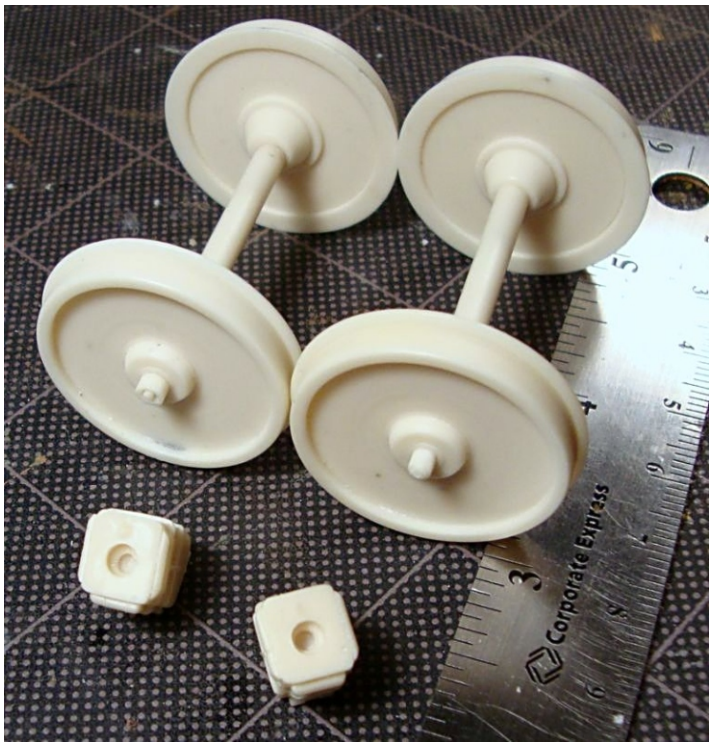
The springs are keyed to fit the tops of the bearing house very nicely, and attaching these beforehand is possible, though they sit there rather well anyways.

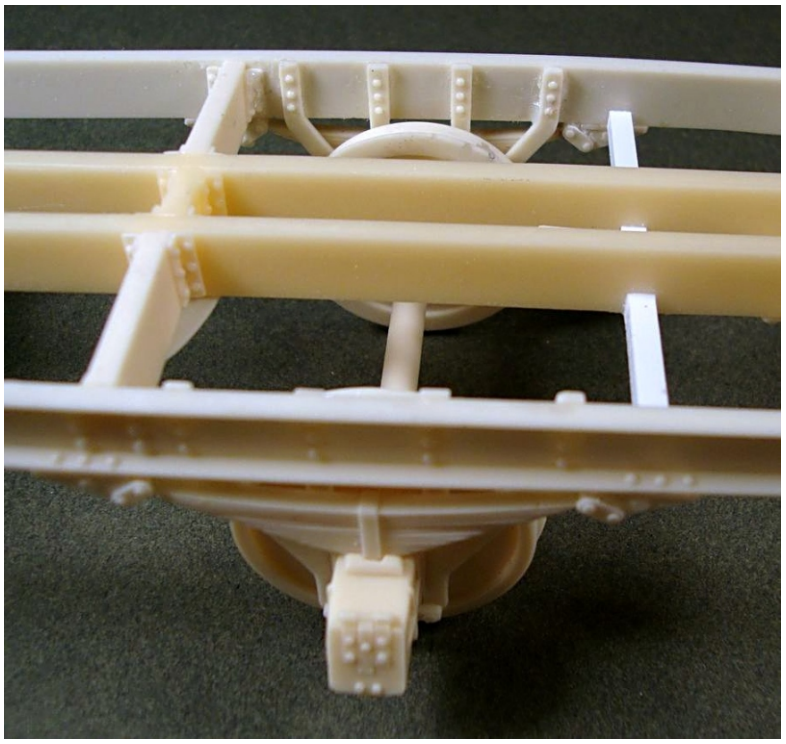
The only area that was difficult for me to determine was the exact distance down the springs valutes are from the U-channel before attaching the triangular bracket and four (4) two-hole brackets, but the bearing/spring assembly slides up and down on the "y's" to position

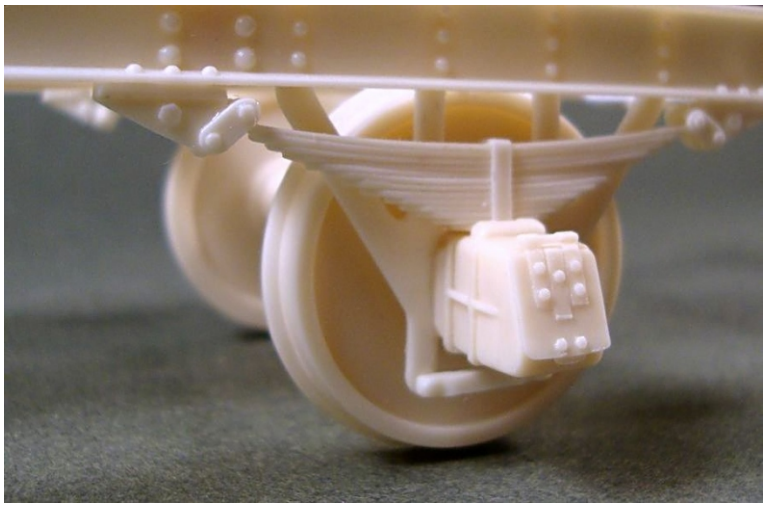




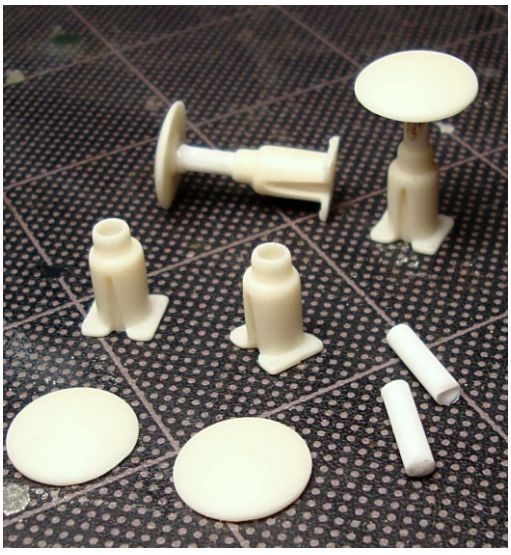
So the triangular brackets butt up to the valutes and the two-hole brackets (all with rivets covering these holes) lock the assembly into place, finalising the whole bogie position. The bogies are build in a way very similar to the real thing, and there is possibility for some movement I locked everything into place by wicking in a small amount of the thin Zap C/A for some strength.



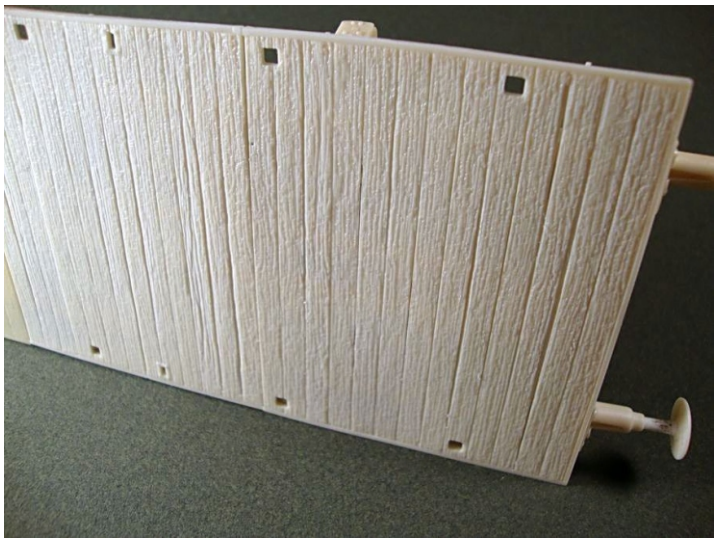




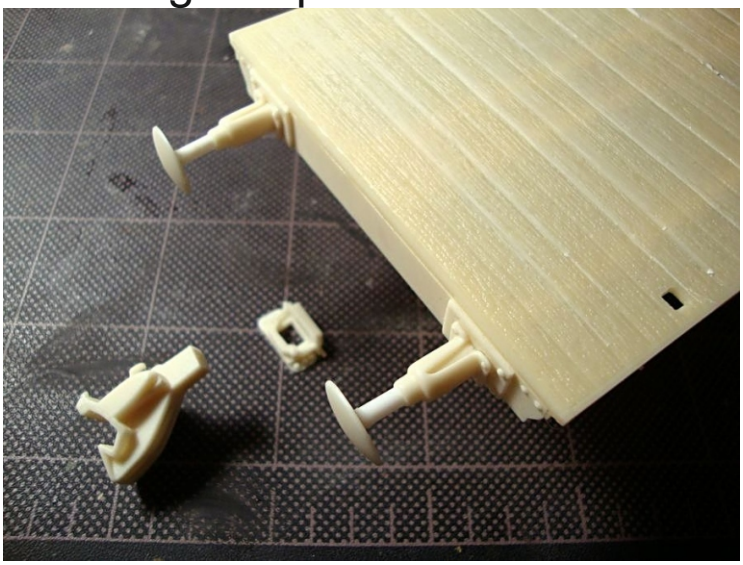
Two buffers are made for both front and rear of the flatcar. The disks are well-cast, but require being careful to remove the small vent attachment cast on the back. Fitting requires cutting a short length from the 2.4mm styrene rod, and cementing that to the centers of the disks for each buffer. The over-all length of each buffer is about 17mm

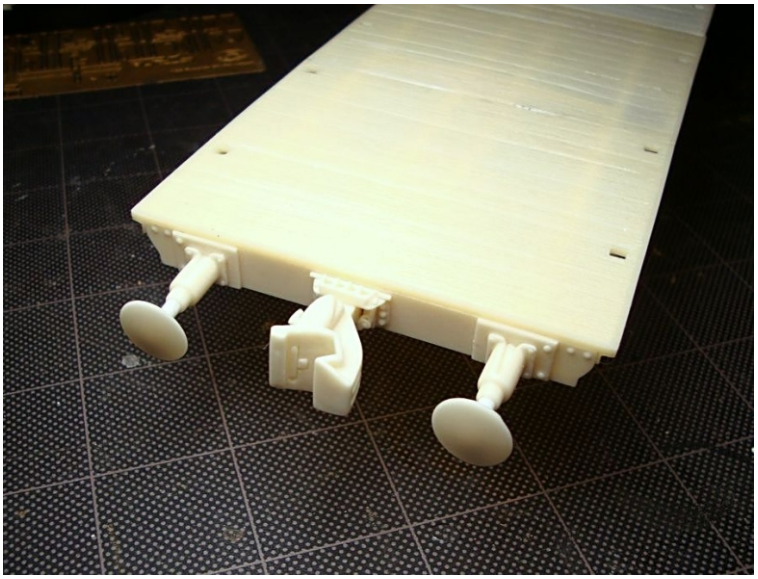


1st thing I layed out the 4 panels and made sure I had them going in the right direction. i labeled the joints to keep from confusing them during handling and did a minimal bit of sanding to flush the edges along the joining ends. A bit sanding or realistic gaps between sections will help to get required length of the floor - little correction to resin shrinkage.

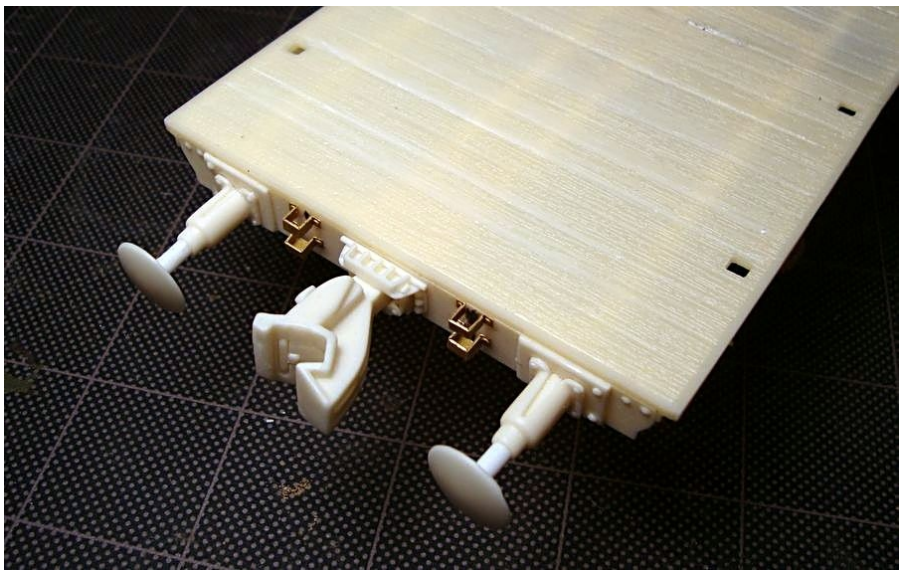


Installing Couplers

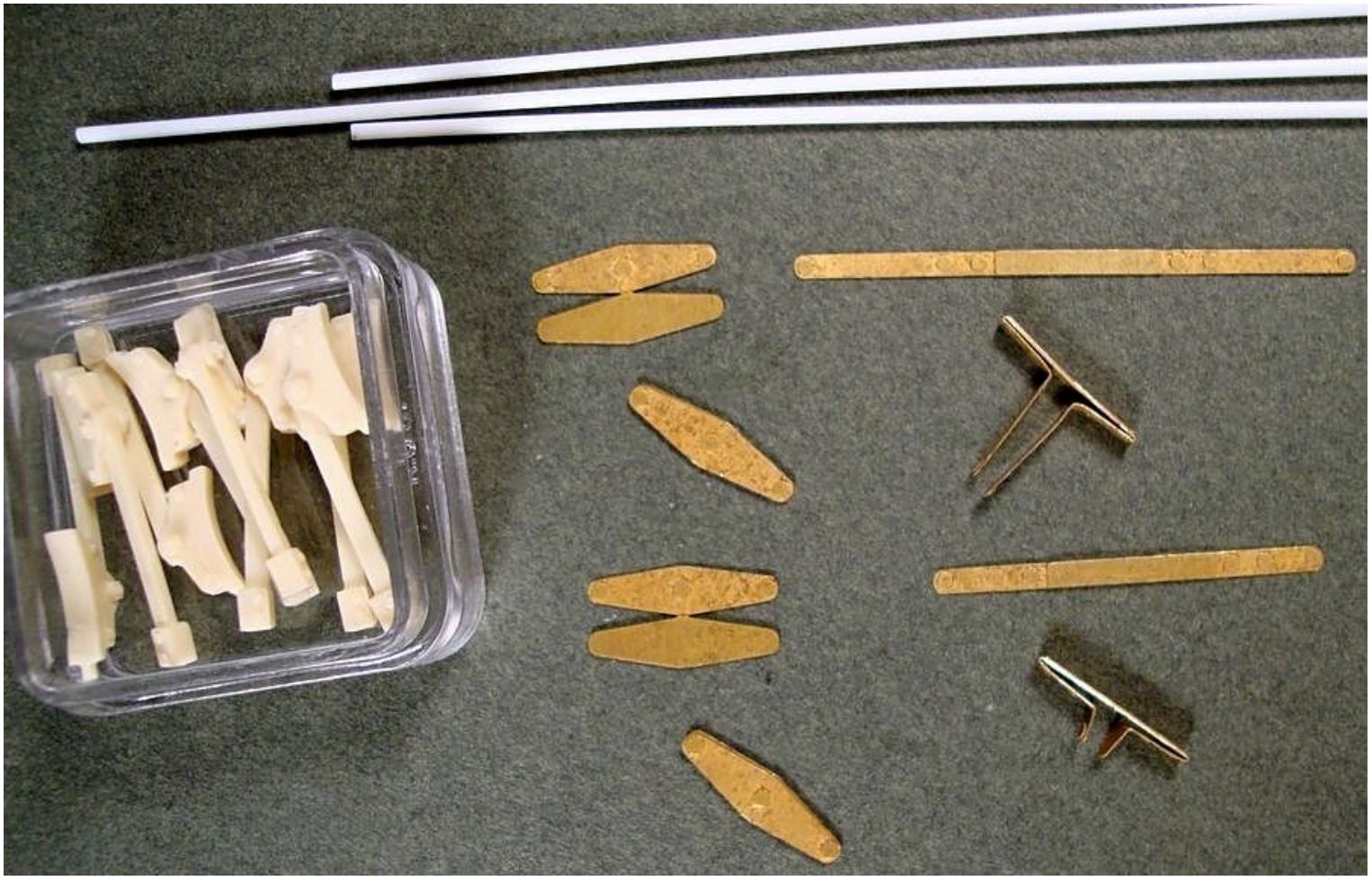




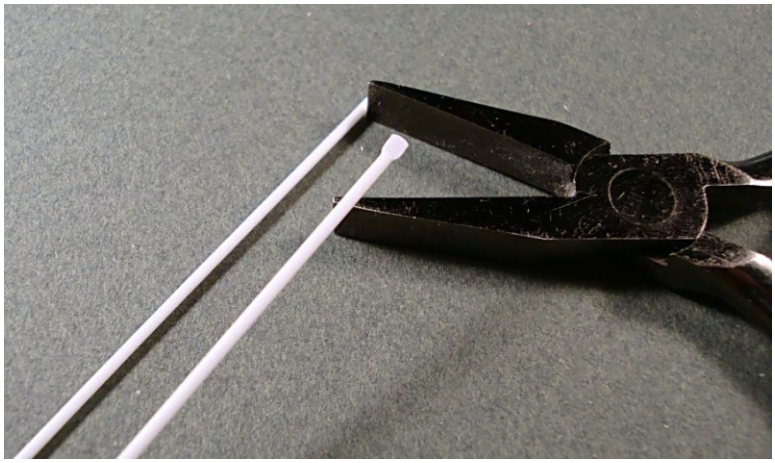
If you build wagon with sides, it is recommended to glue all small details - rings, holders, and so on - at the ends AFTER the side wall´s hinges are fitted

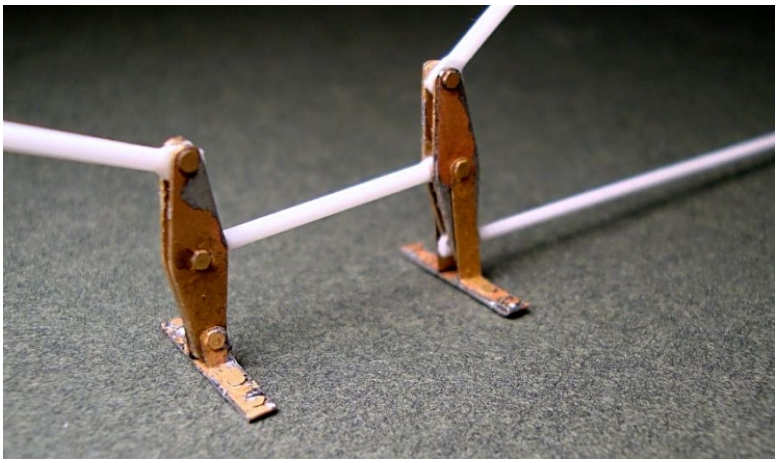


I got started with a few of the PE parts here “d+e” folded very logically and were relatively trouble-free to work with so far. These brackets appear to be placement of front & rear end stanchions, when these are in place--they are sized for the 2,5mm square styrene used elsewhere in the kit.
Putting on the Brakes

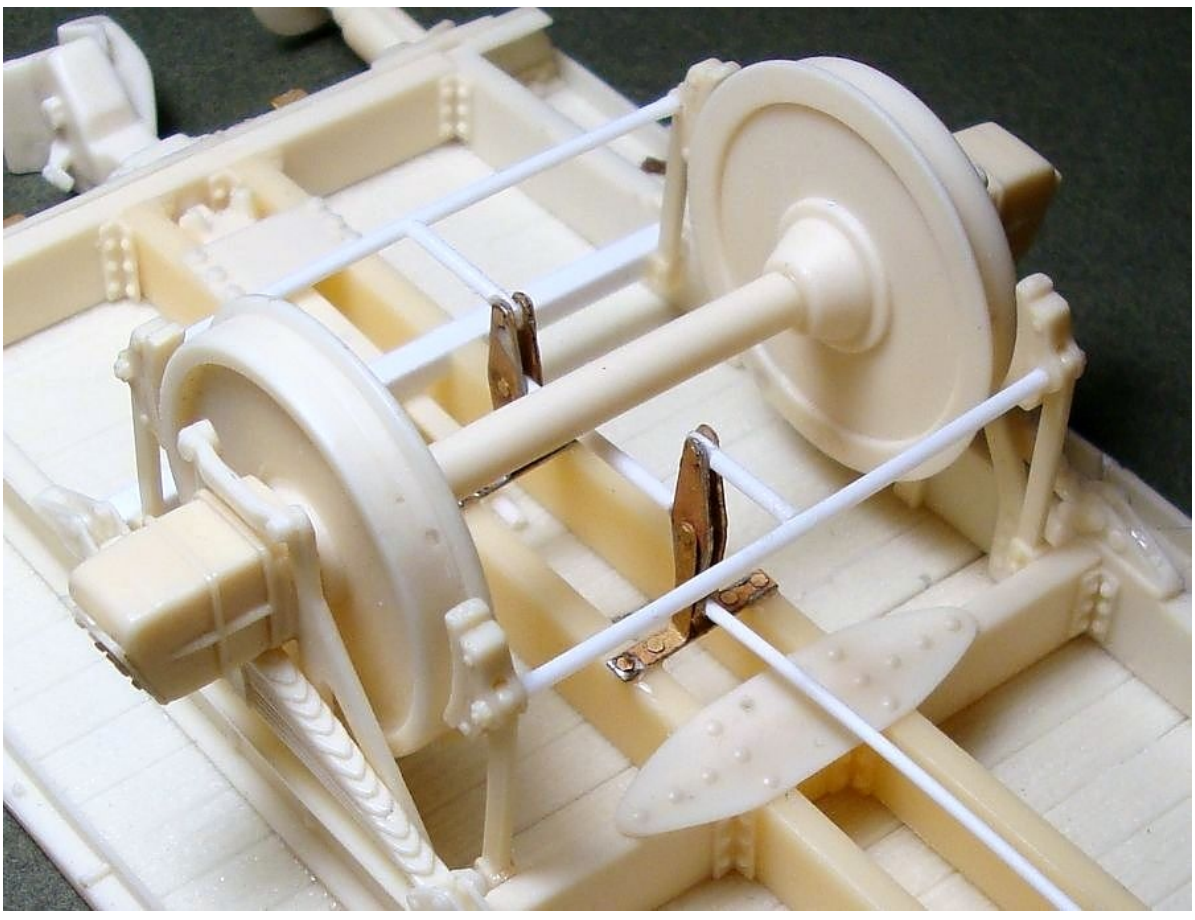


Here's what's needed for Each of the two brake assemblies--the short photo etch strap 'a' and the long one 'b' take careful folding as there's no real fold-mark. There are 2 types of the diamond-shaped arms -- 'e' which has a round rivet in the center and fits to the end of 'b' , and then 'd' which has a hexhead at the center and fits at it's end to 'a'.
2 each are needed per bogie. I found folding them over was difficult to get the halves to line-up so I separated them and soldered them

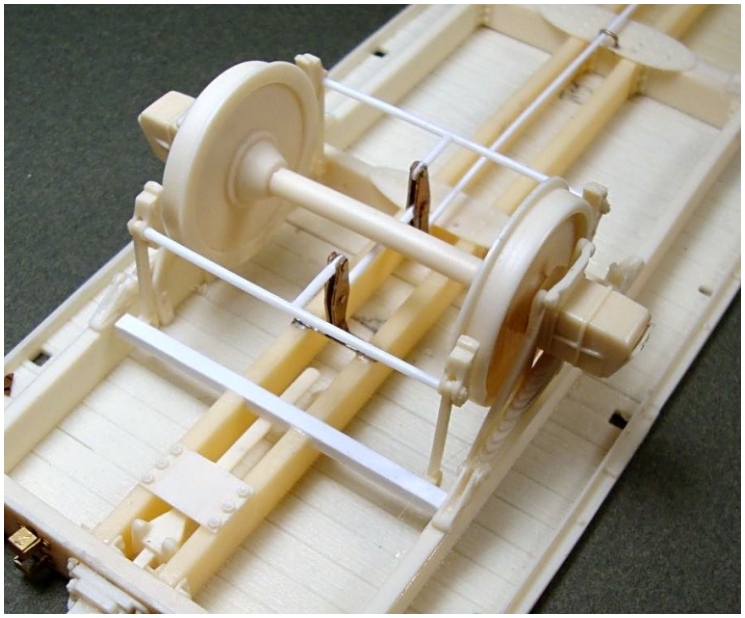


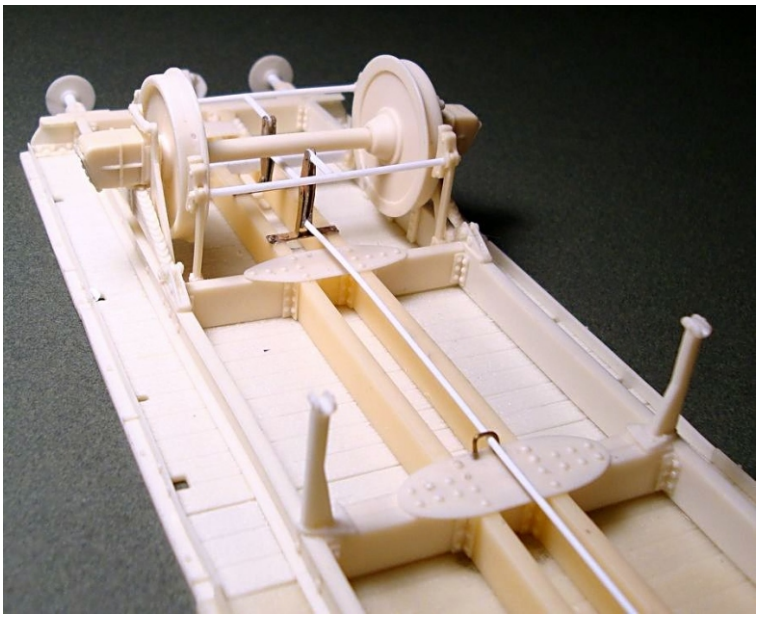


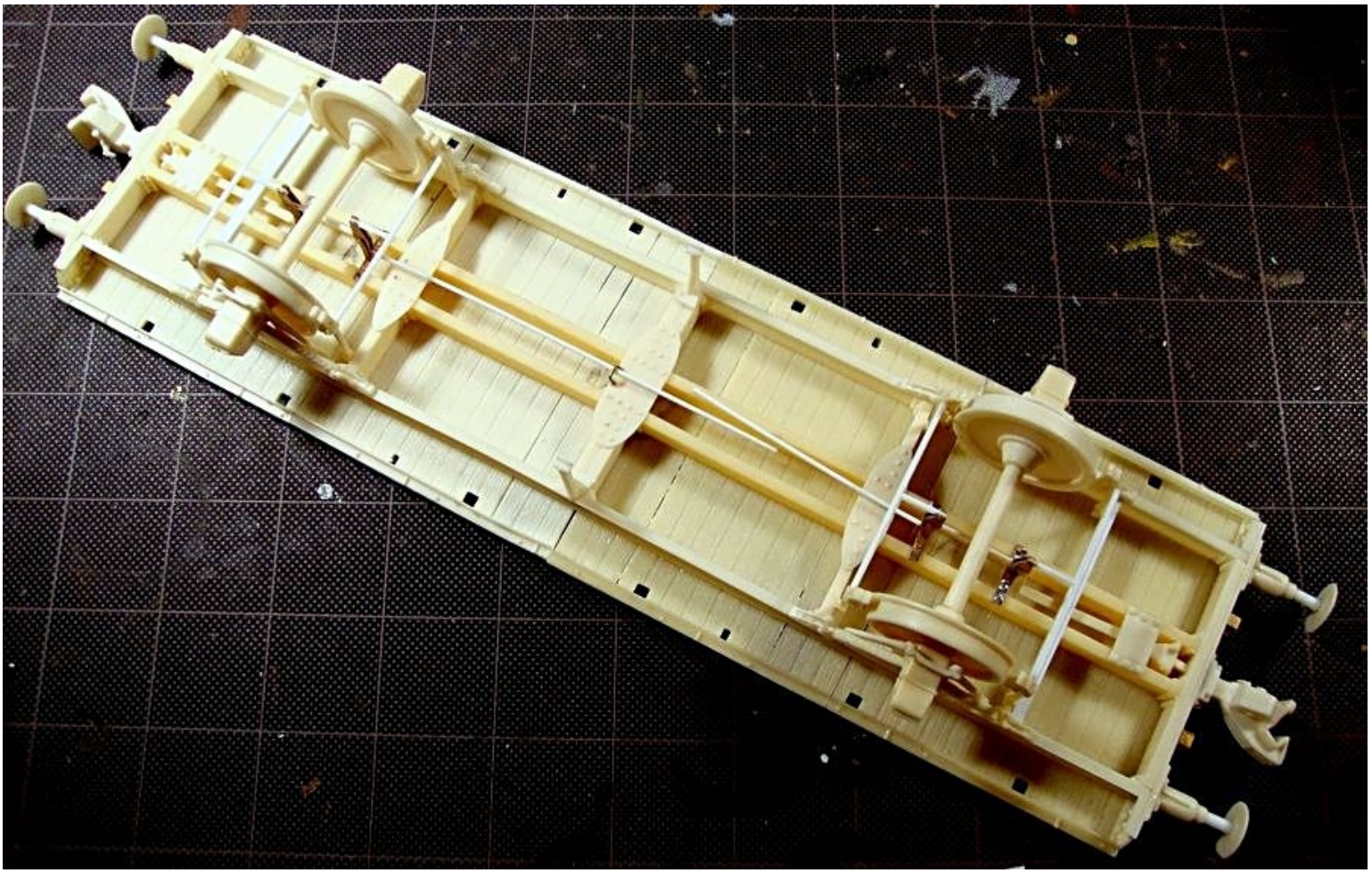
You'll need a few sections of the provided 1.2mm styrene rod pinched in some toothless pliers --this is very easy and results looking very much like how real steel rod is hammered flat for attachment points
The linkage arms need to be about 2cm apart, so I found it easy to start assembly by making a 2cm linkage rod and attached at centers with some gel C/A for it's stickyness



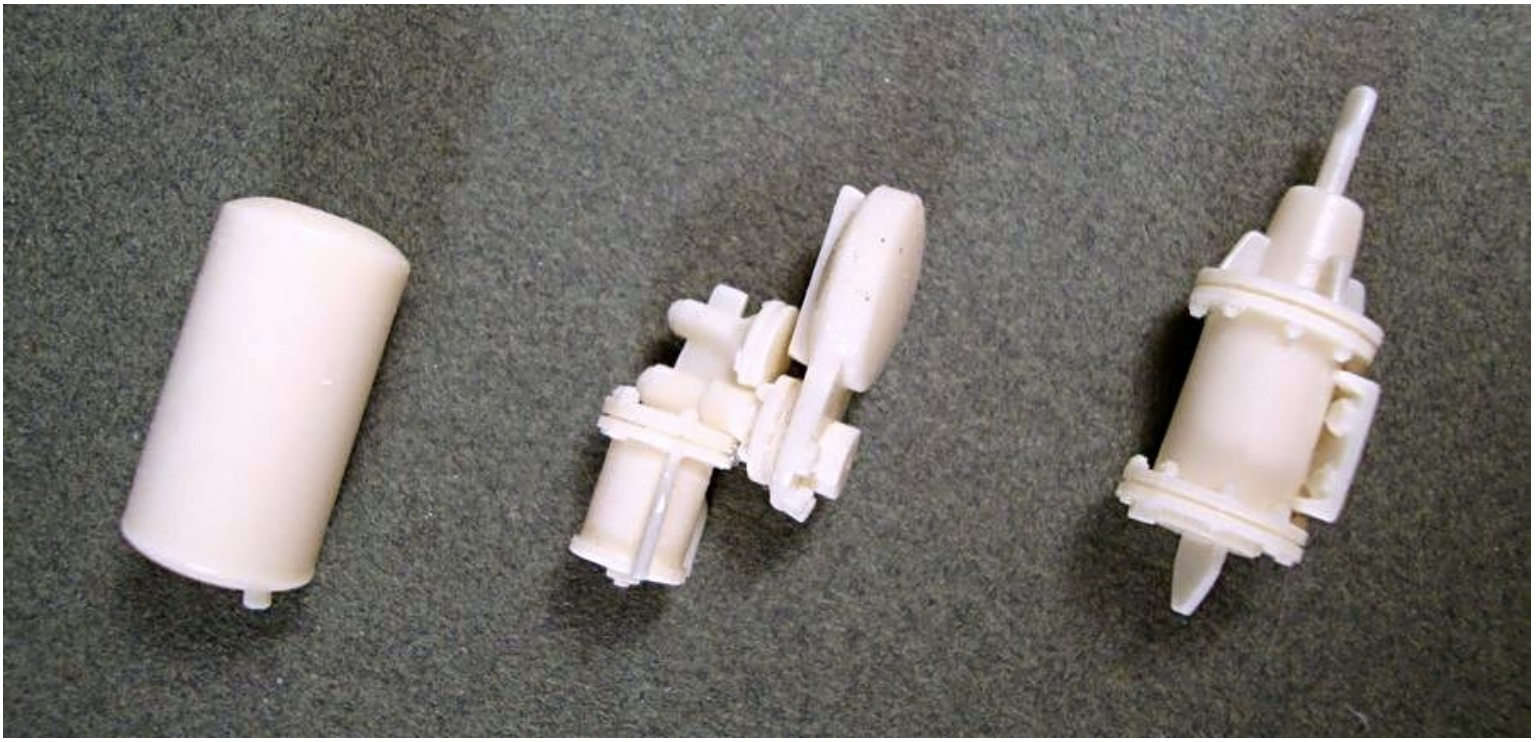
2 small linkage arms aprox 11mm (not at proper angle here) are needed to attach to long brake links(I used Testors liquid styrene cement for that) land the long 1mm rod is attached at bottom of 'b' to run to the air cylinder.

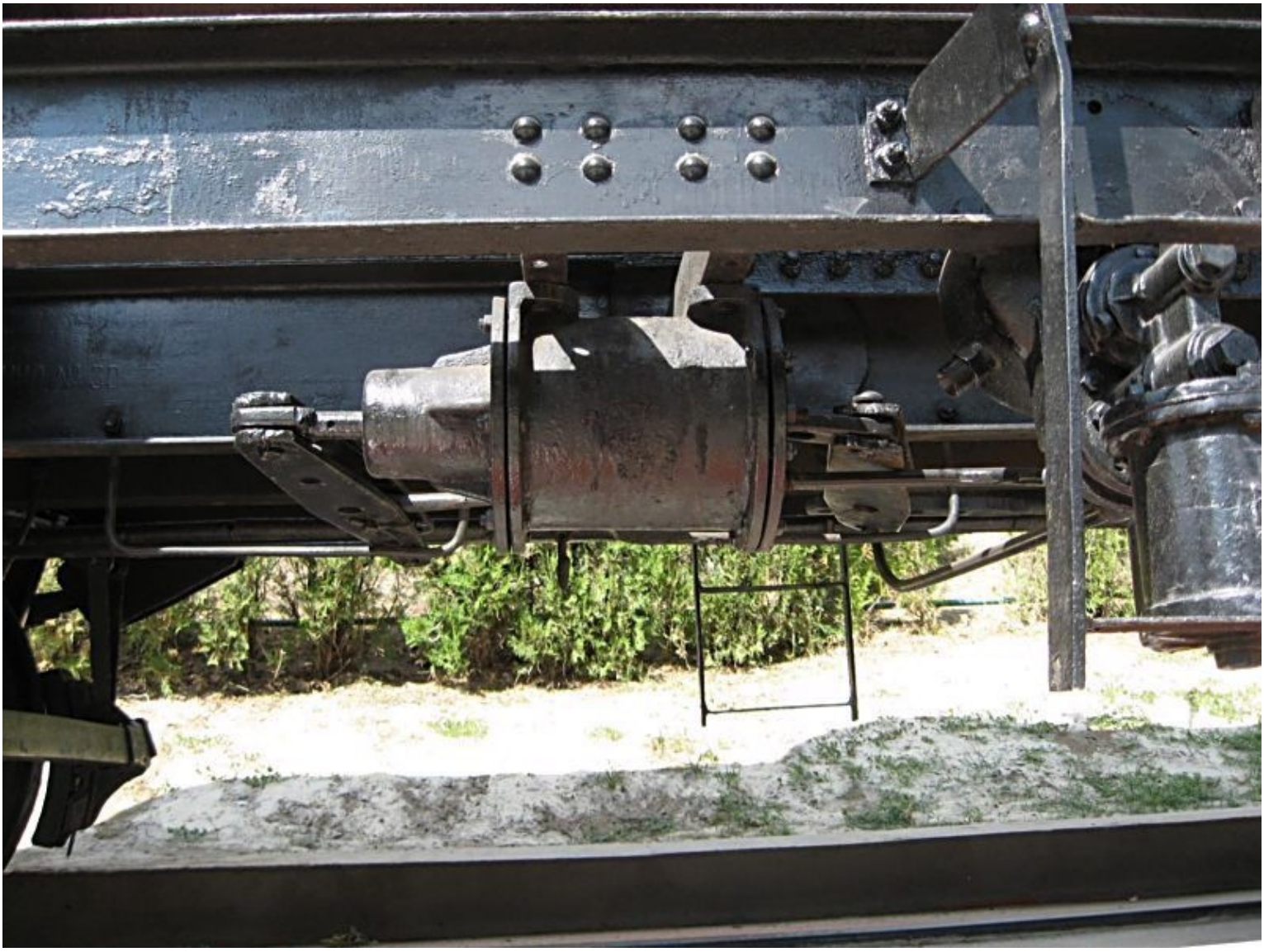




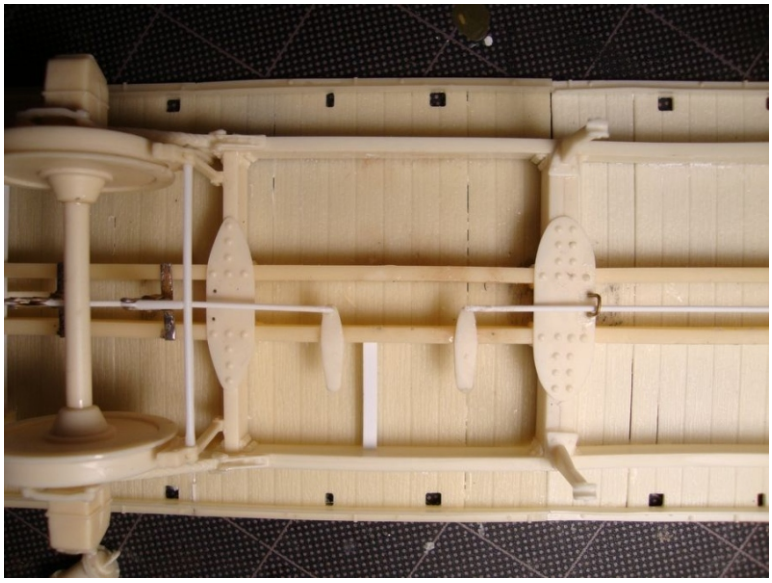
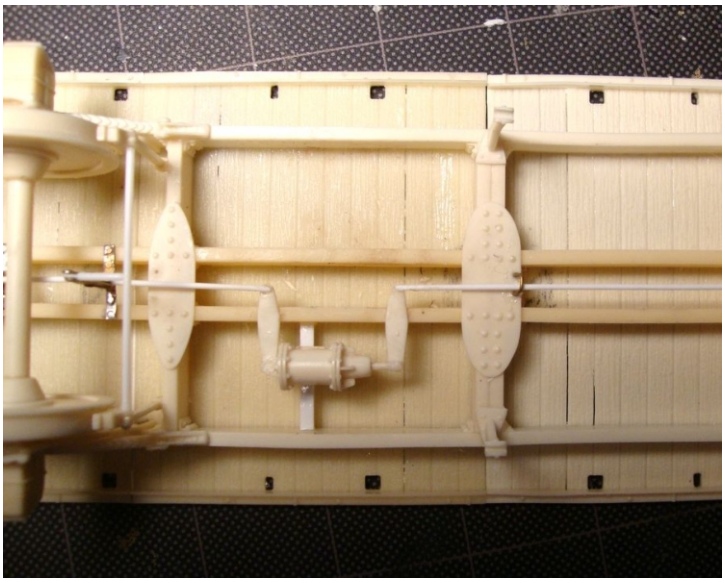
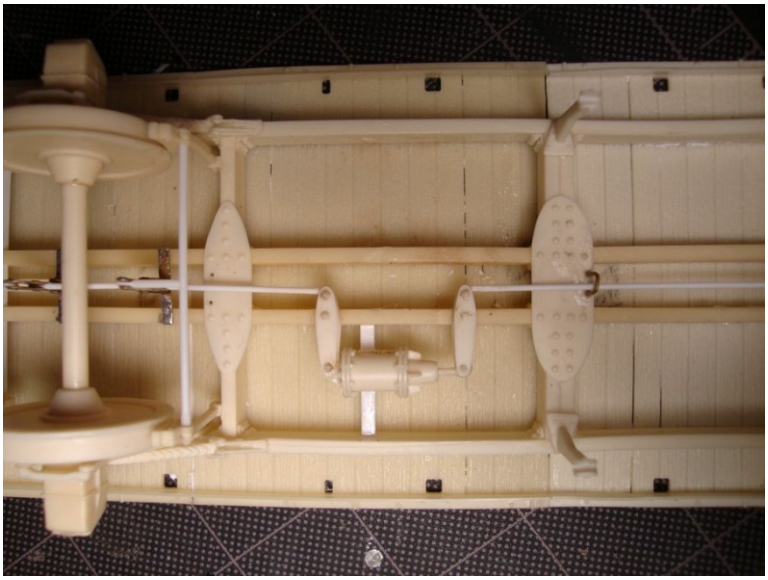
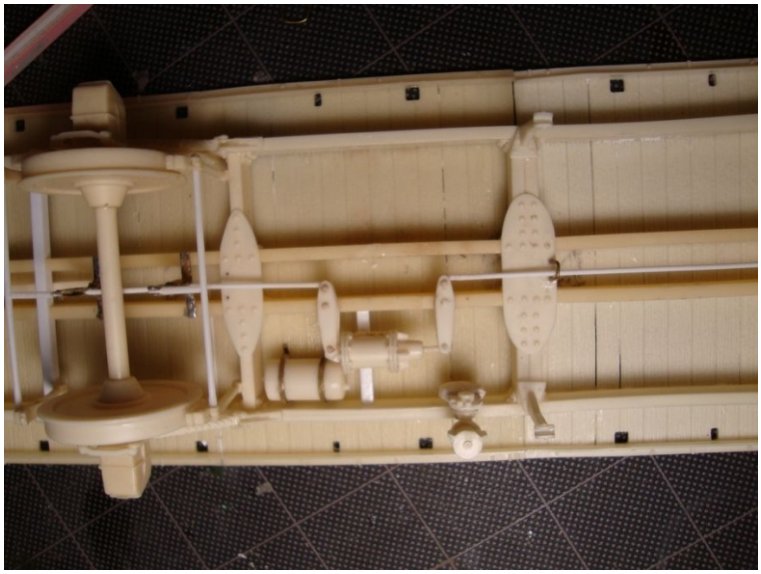


After that--there's just the air cylinder actuator system to install



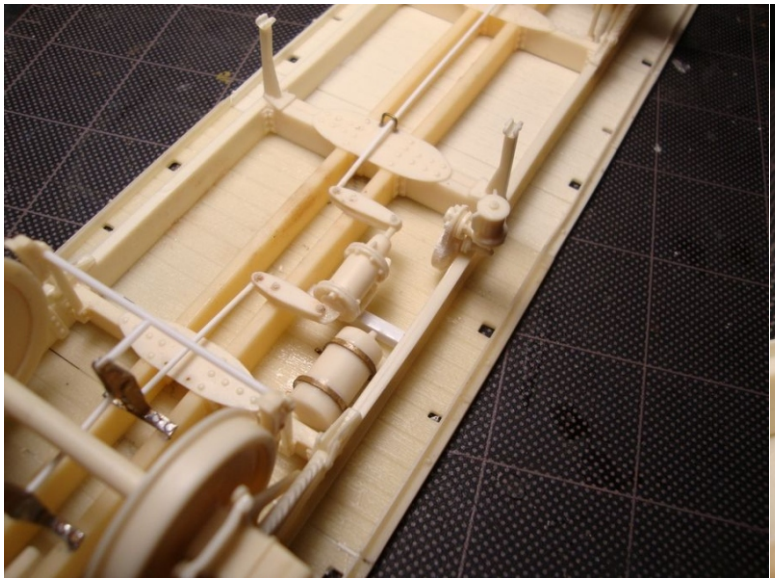
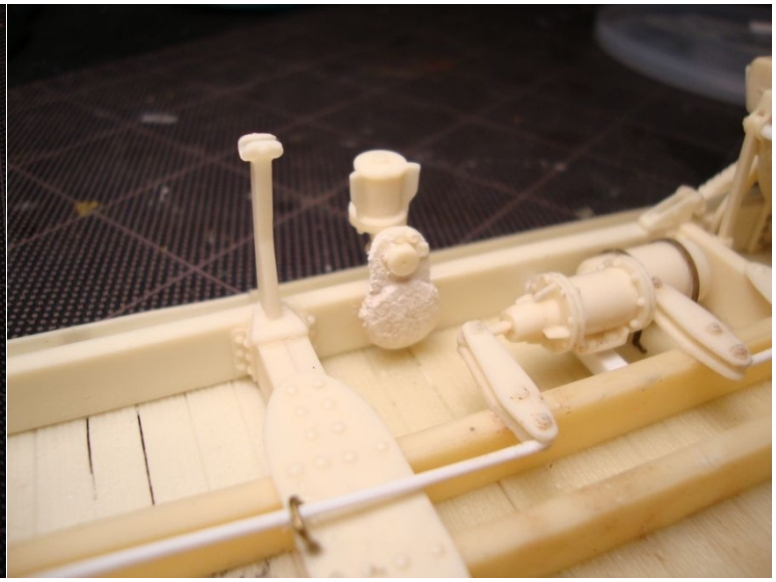


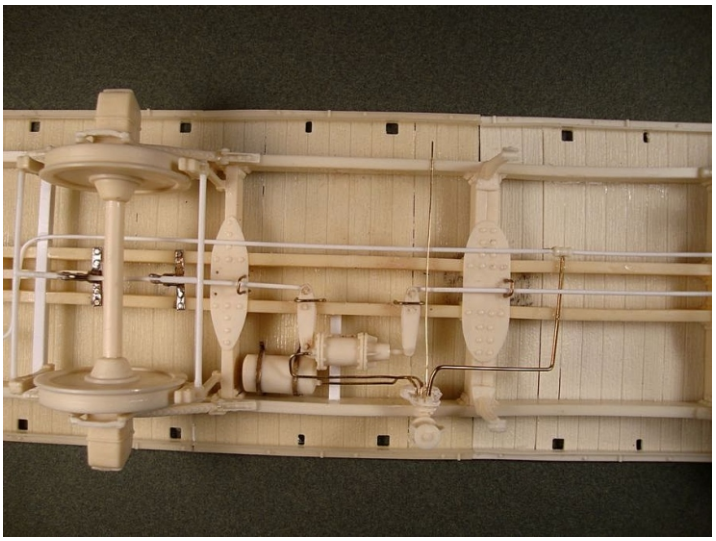
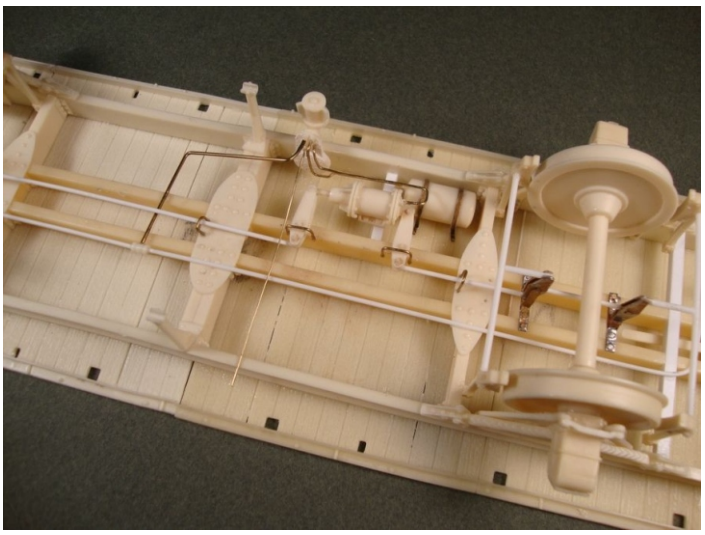
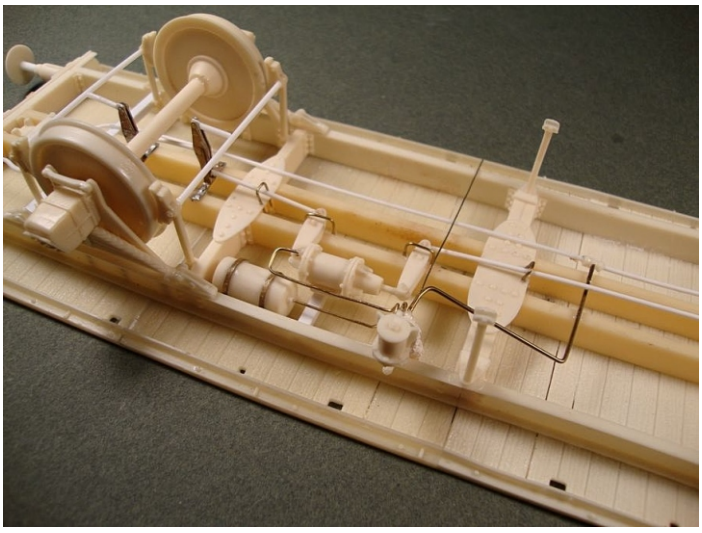
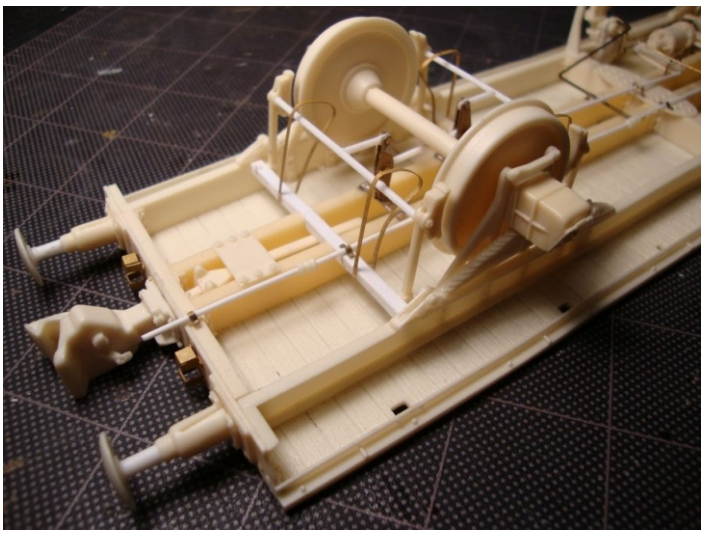
Bottom control arms were attached at chassis beam--'actuator piston´ used to get spacing and placement of styrene support beam.
There is a 'pin' for attachment on the bottom of piston to guide placement and provide attachment point.

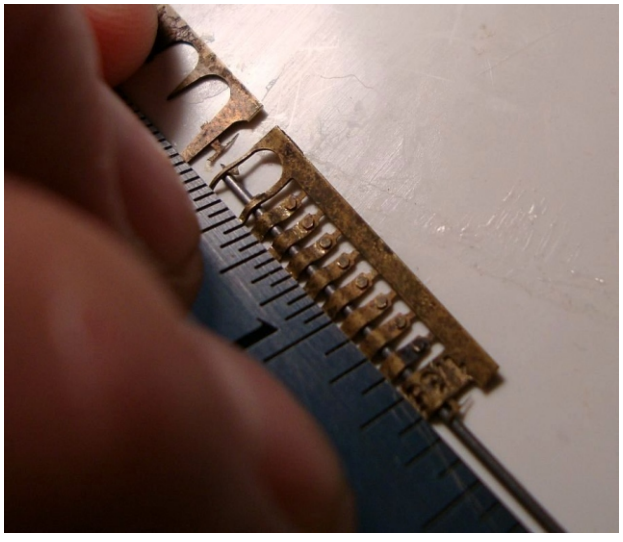
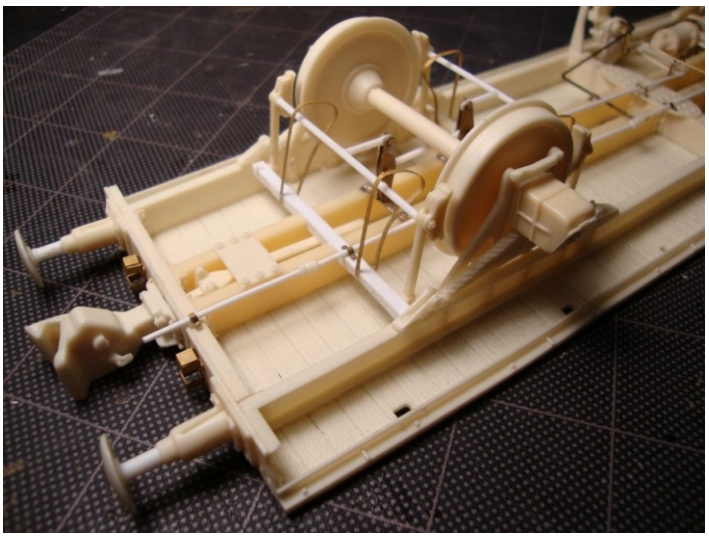
The 'piston' in place. Then the top control arms were attached--with the center bolt lined-up with the chassis rail. Next the two part 'brake power switch' is placed at the outer rail, nearby as is the air storage tank with it's 2 PE hanger straps “i”

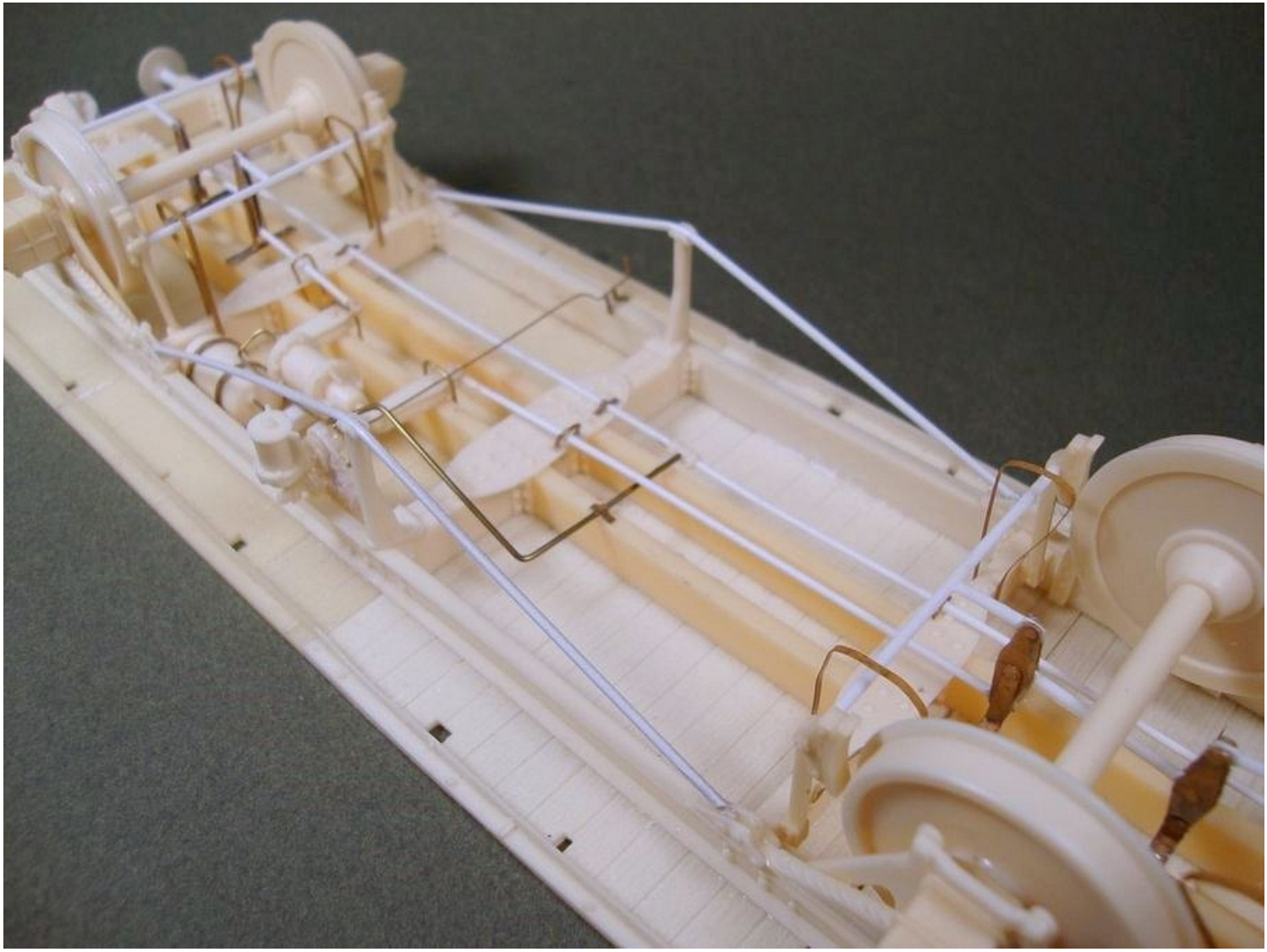
‘Safety hangers' placed in appropriate spots using the kit supplied brass wire

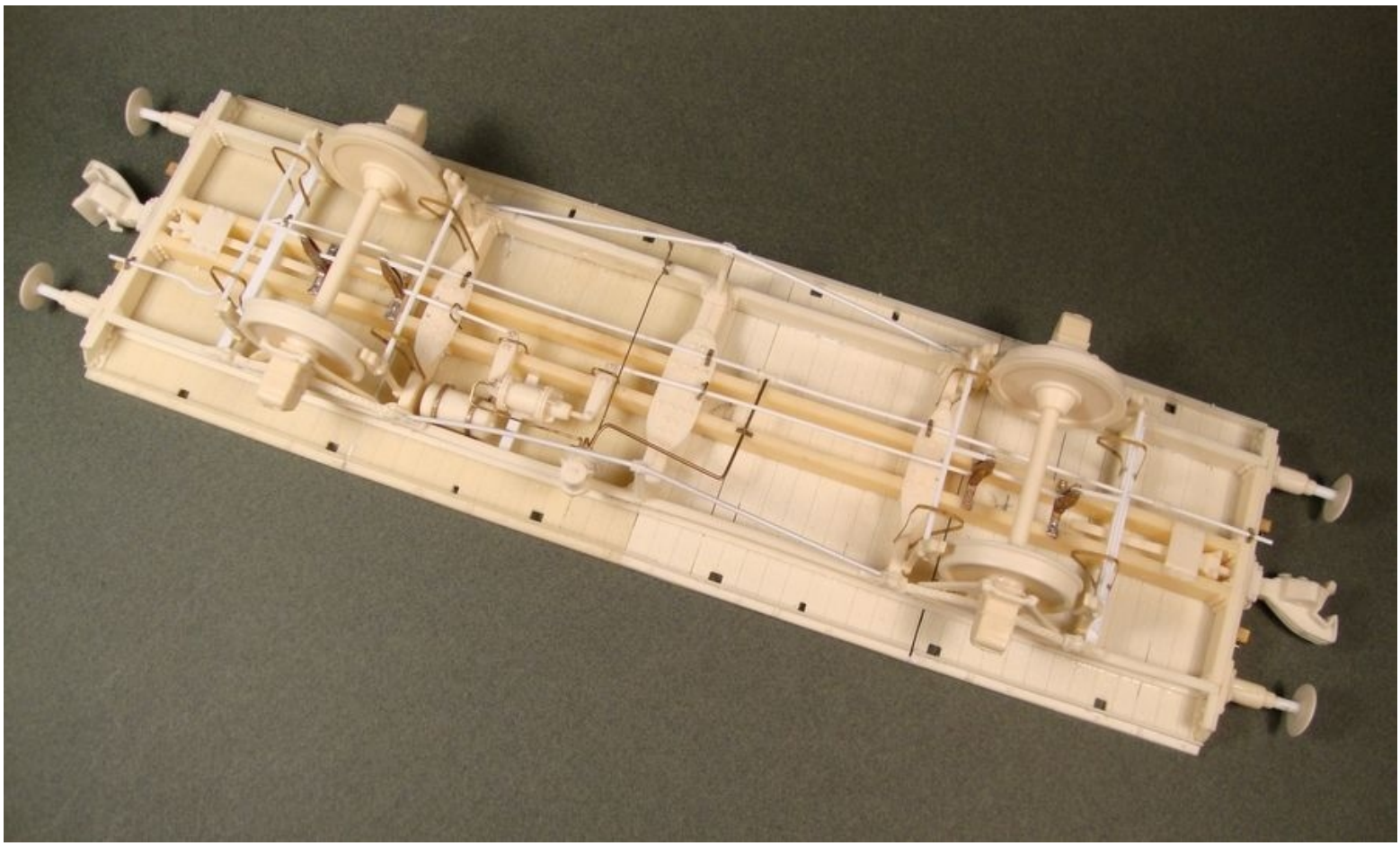





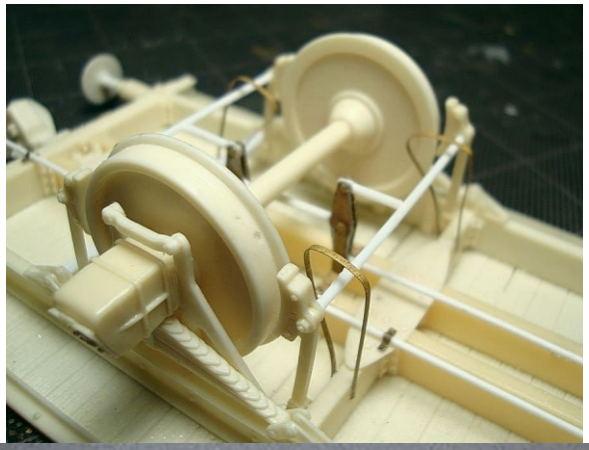
So here I've added air lines from brass wire, as well as a straight line down the entire length of the chassis, made of the 1mm styrene rod
A lead was made from the switch to the long run (this could be styrene as well--but I used brass) to a "T' made from drilling a hole in the side of one of the kit air-line connectors
Other leads were fitted from the cylinder to the switch, and from the switch to the piston, with 0.6mm wire - there are 3 correct-sized receptors for the 'tubes' at the back of switch, and there is a small hole where the small wire (0.4mm)'switch controller' connects and this runs to the other side of the frame and is bracketed by PE

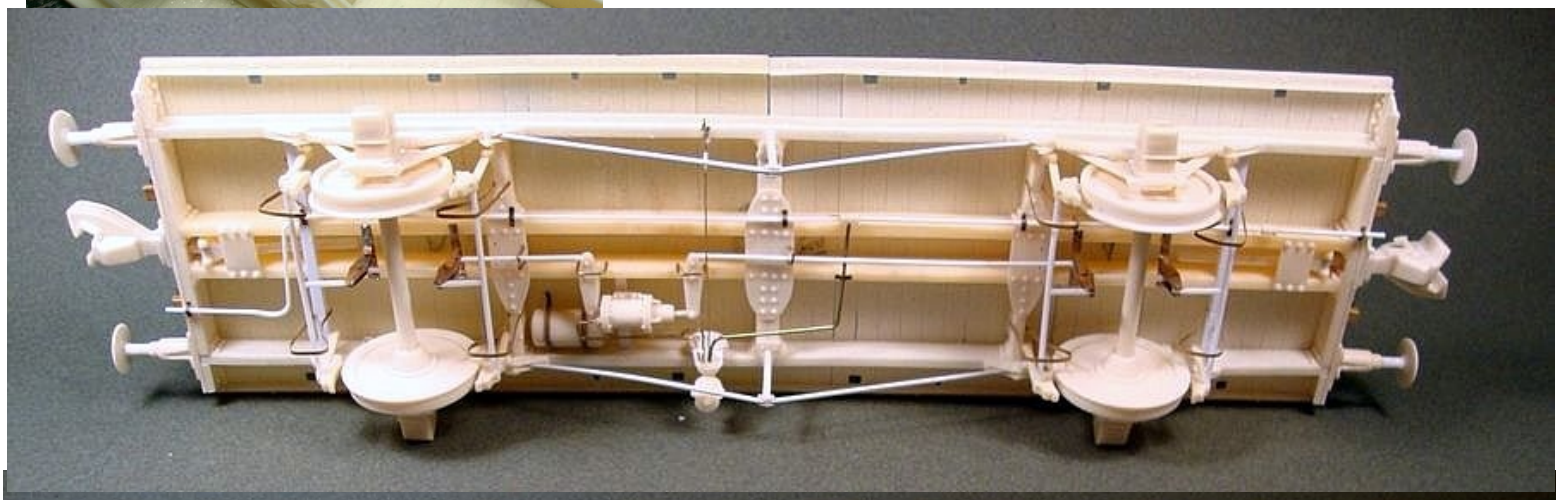



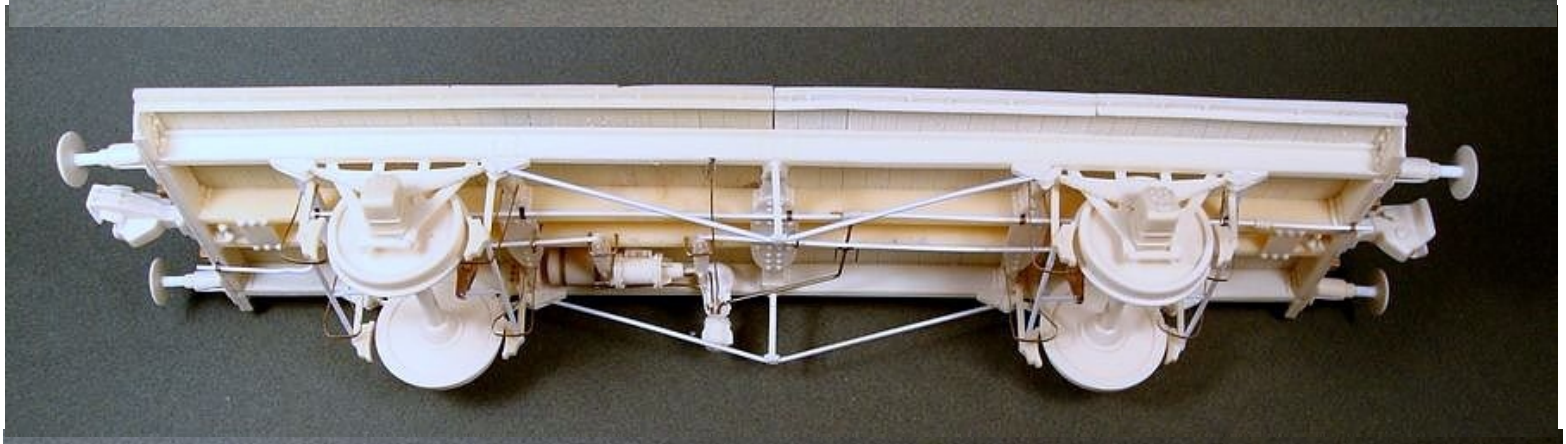


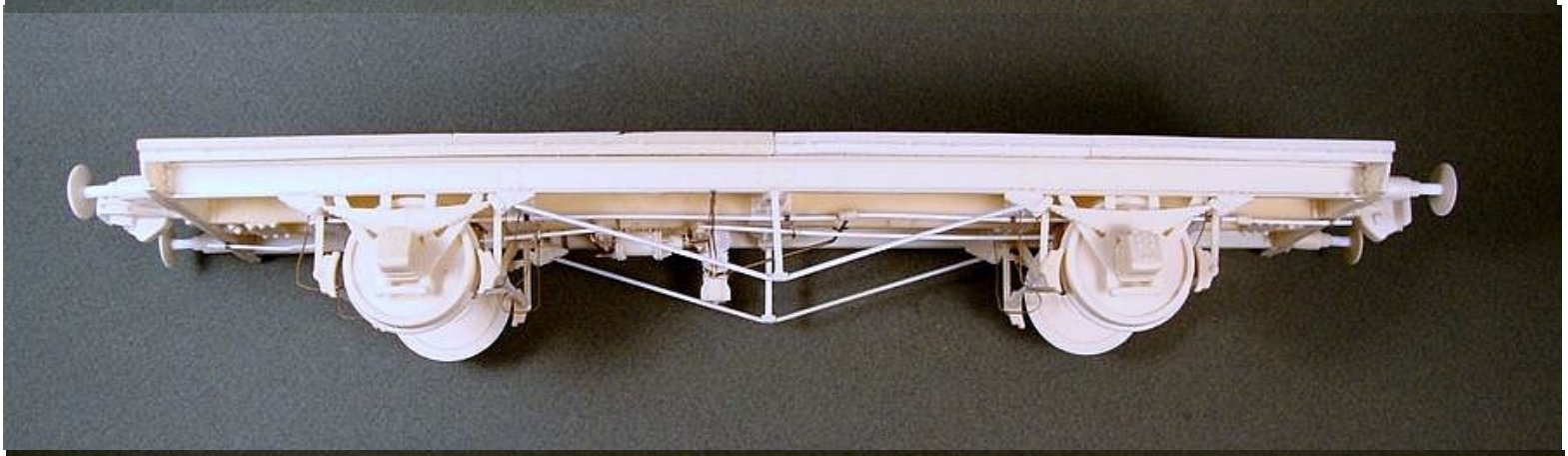
Everything includes the 'V' shaped footholds on the under-chassis stanchions - 1,2mm rod and those small brackets in place

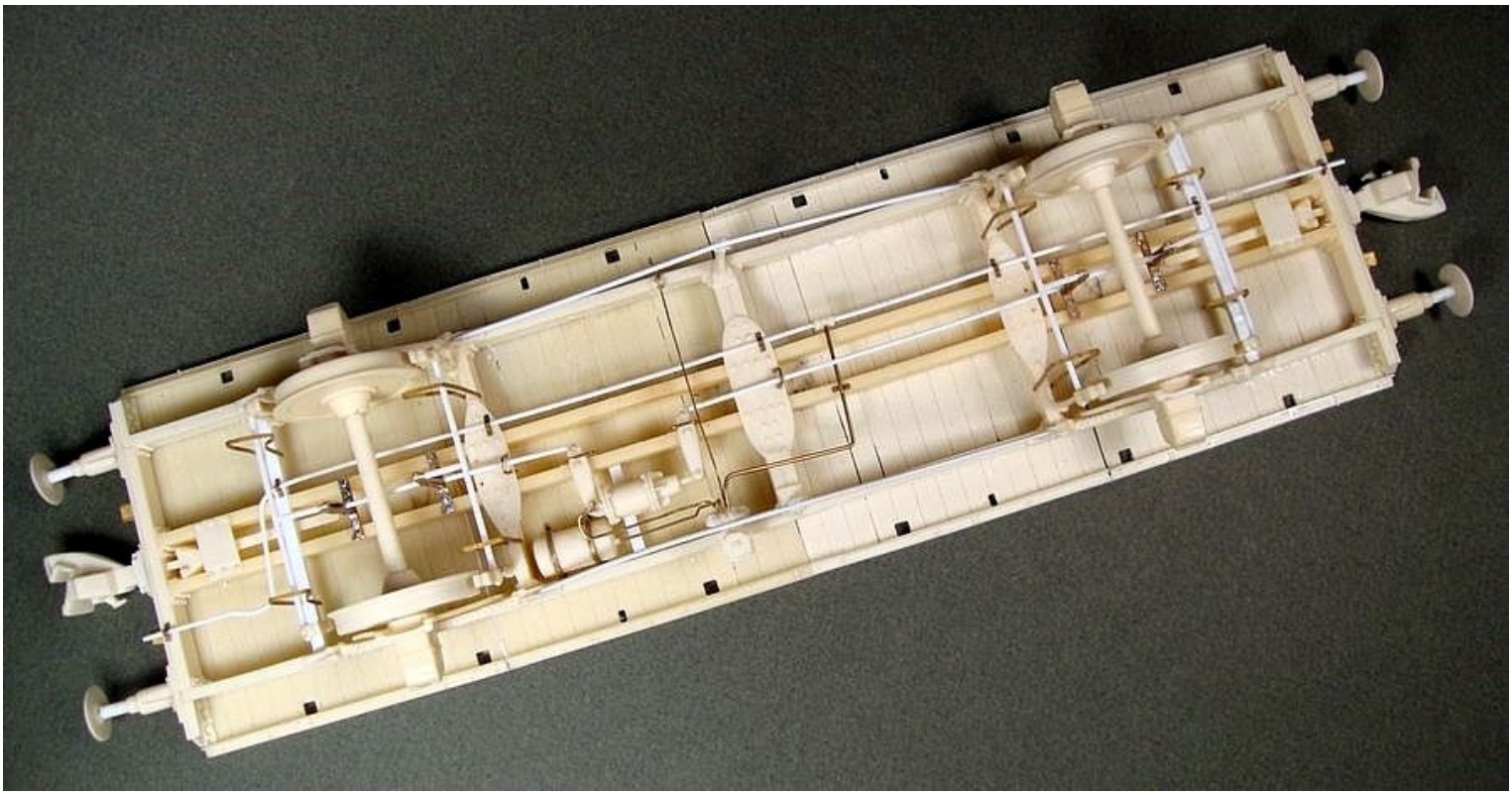








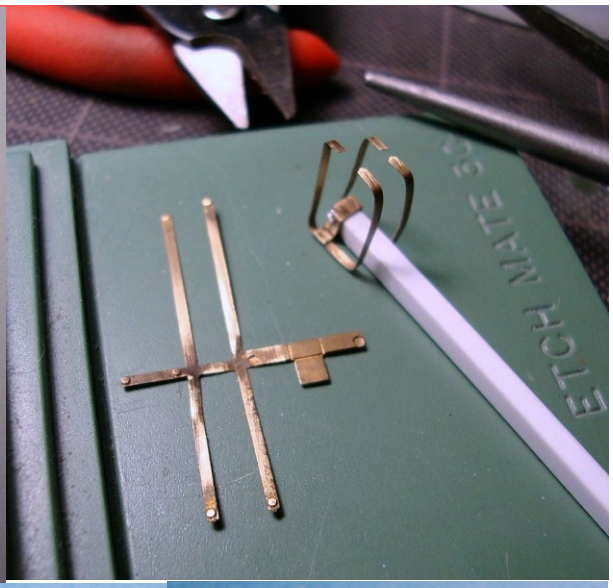


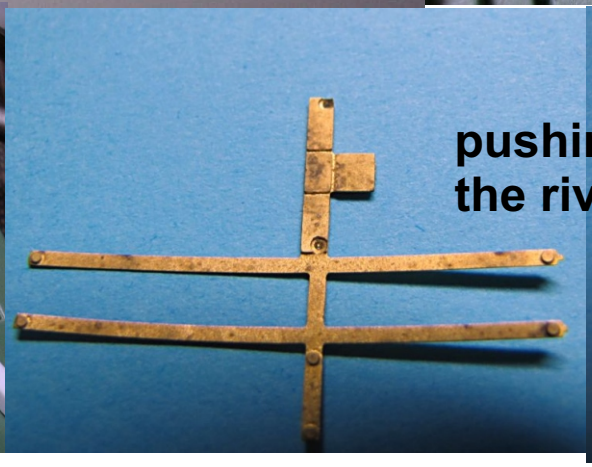


Stanchion Mounts
These steel 'baskets' hang below the deck and are bolted into the 'I' beams of the chassis, and provide a solid point for the stanchions to rest when fitted, which pass through the deck and seat in these.

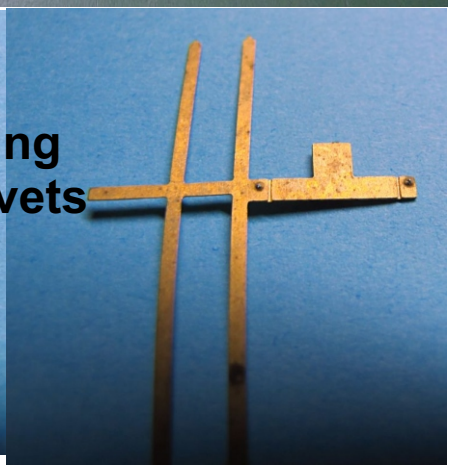
Removed from the P.E. sheet, lightly sanded to give a better gluing and soldering surface - one finished, folded mount, ready for attachment. These are really clever in their design, to fit the part they play, but they are a little complex and there are 12, so I'll show a little step by step that may help some builders. There is also CAST TOOL in the box to bend them much easier.

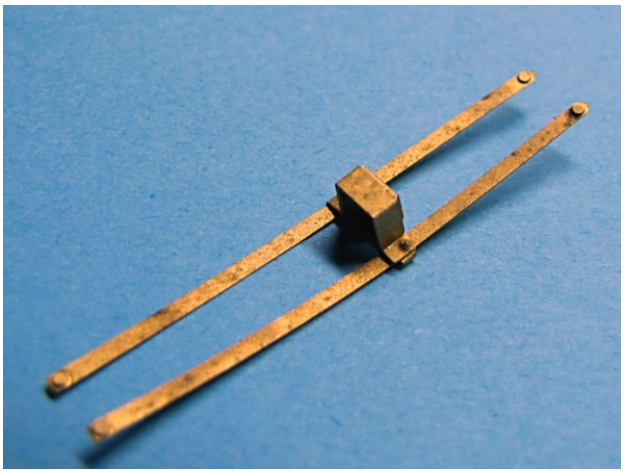
There it is in about 6 steps. I soldered the stanchion 'cup' to make that part nice and solid during mounting ,and later when stanchions are fitted. Certainly C/A could be used



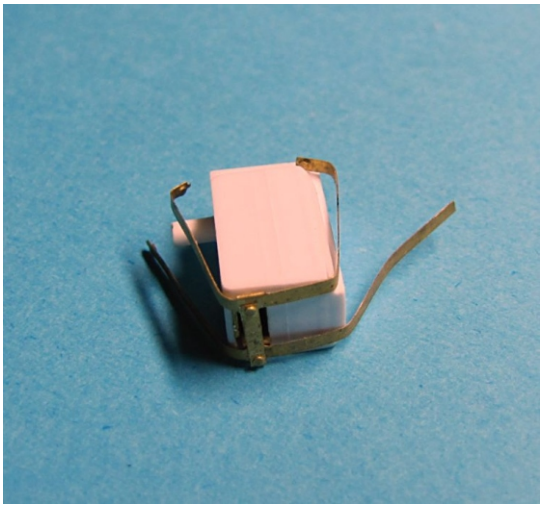


pushing the rivets

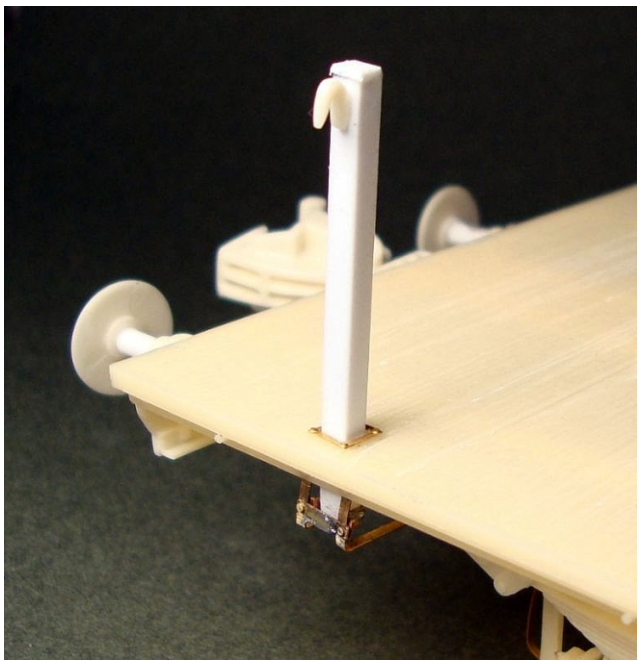


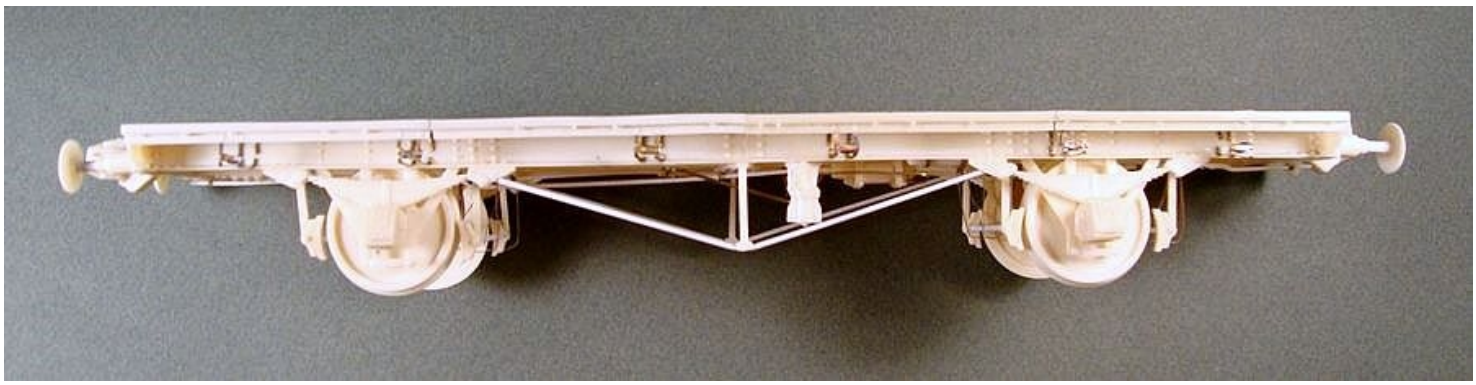


cast tool in the box to bend stanchion holders easy



I lined-up each part with a length of the 2,5mm square styrene used for the stanchion construction, and attached with C/A.

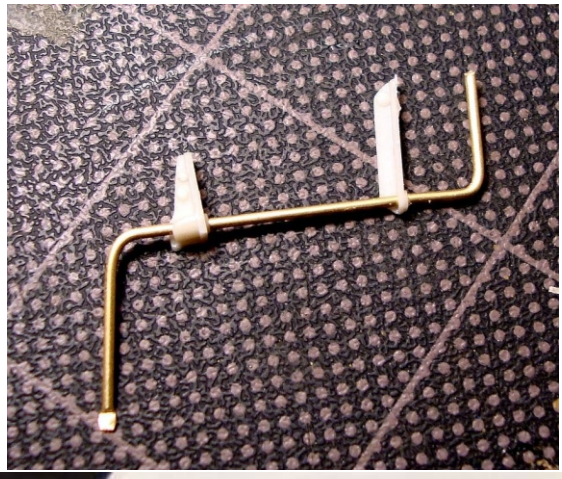


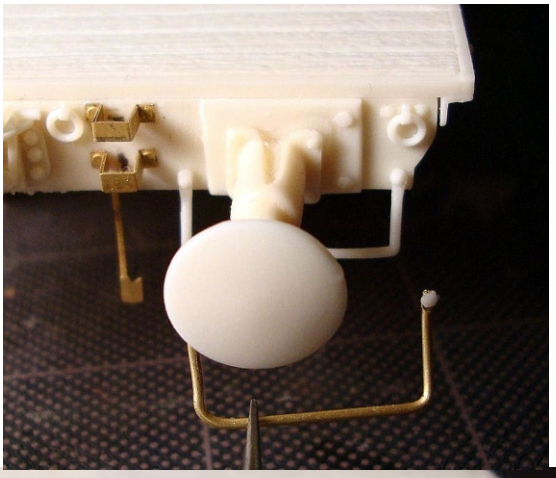


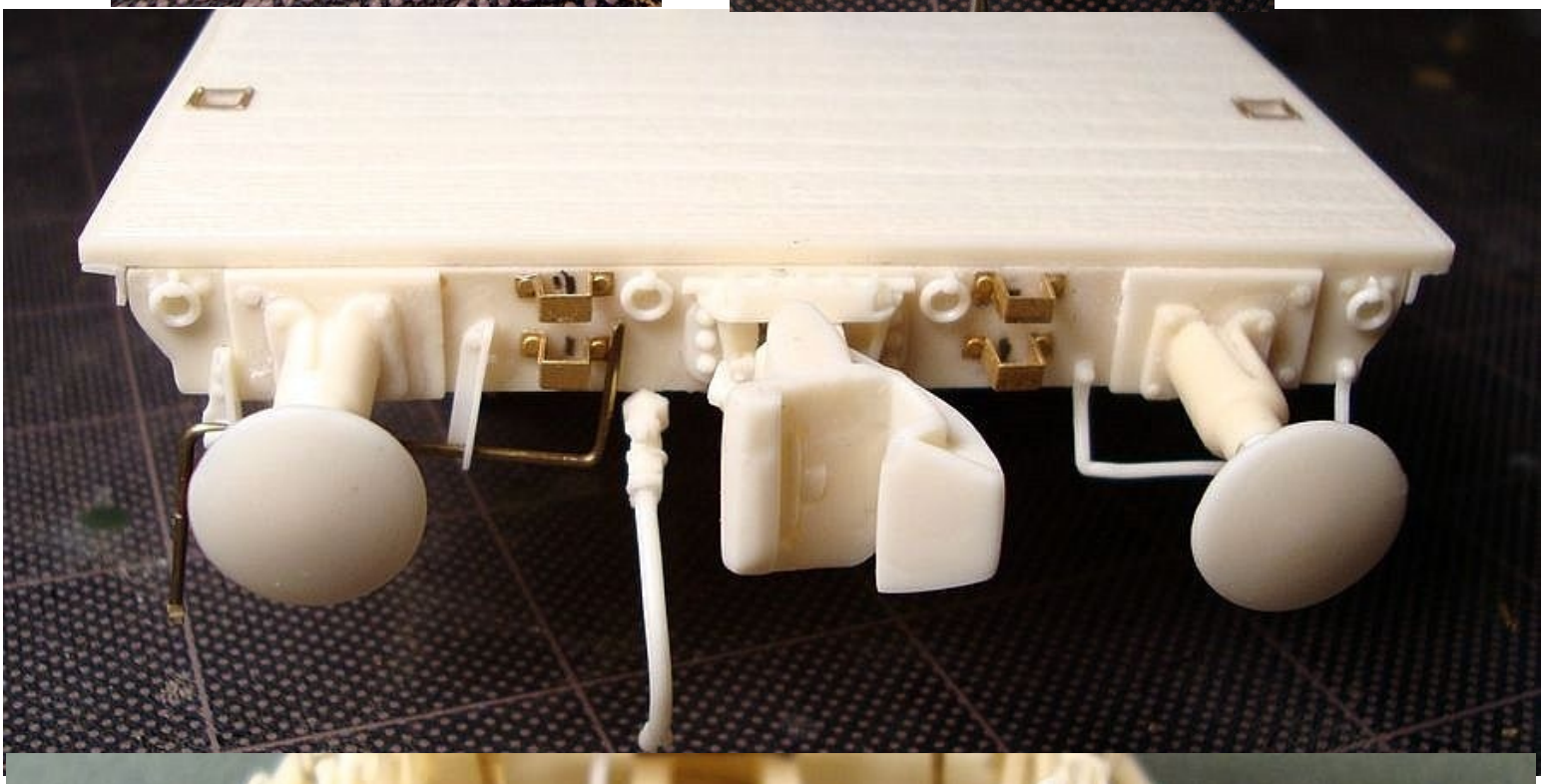
Basic Flatcar Complete

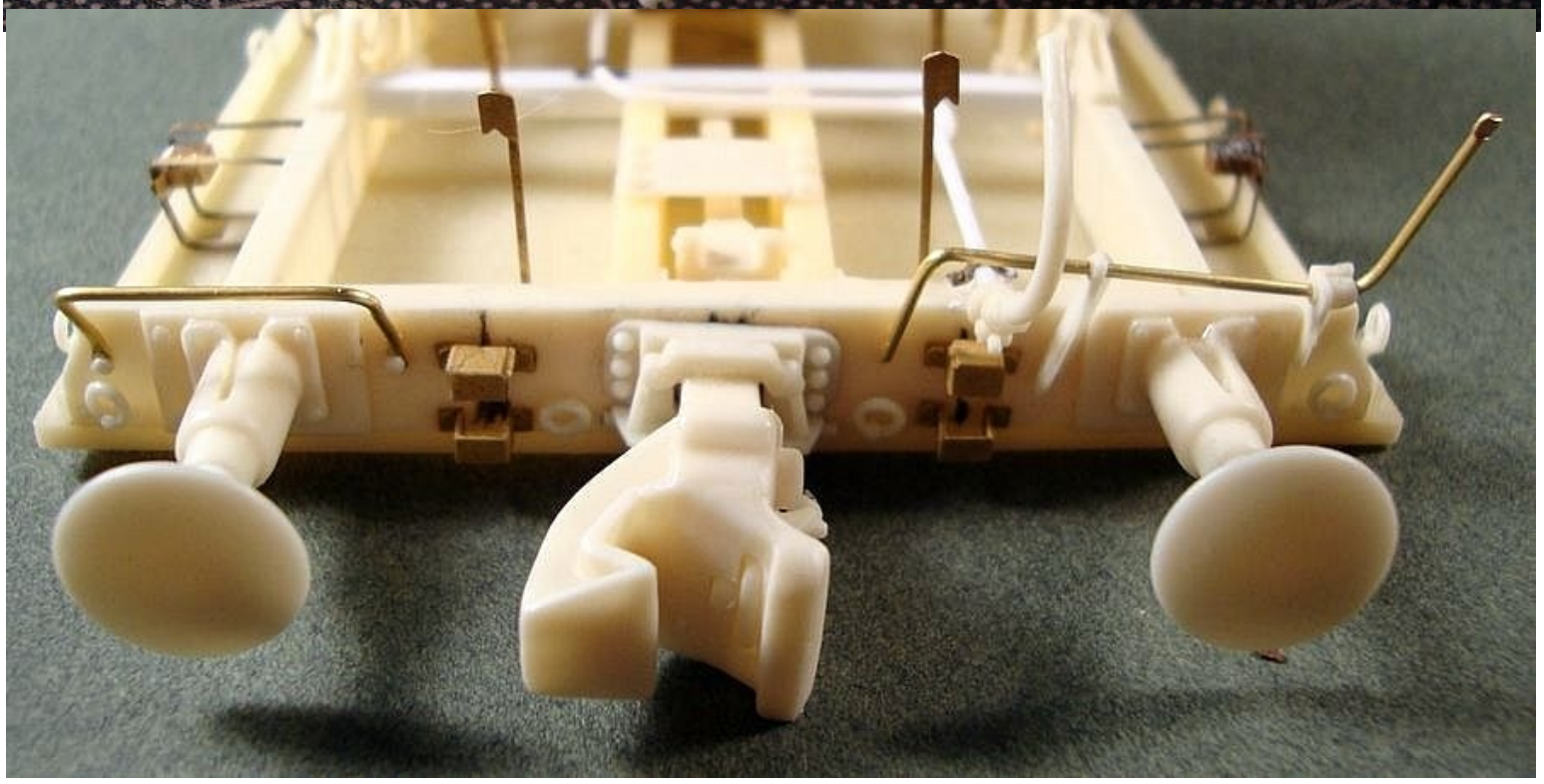
Simple tool (used to work the couplers) that hangs on 2 brackets provided in resin. The tool is bent from provided 0,4mmbrass wire and pinched in some full-sized pliers for the tool-head

If you build wagon with sides, it is recommended to glue all small details - rings, holders, and so on - at the ends AFTER the side wall´s hinges are fitted

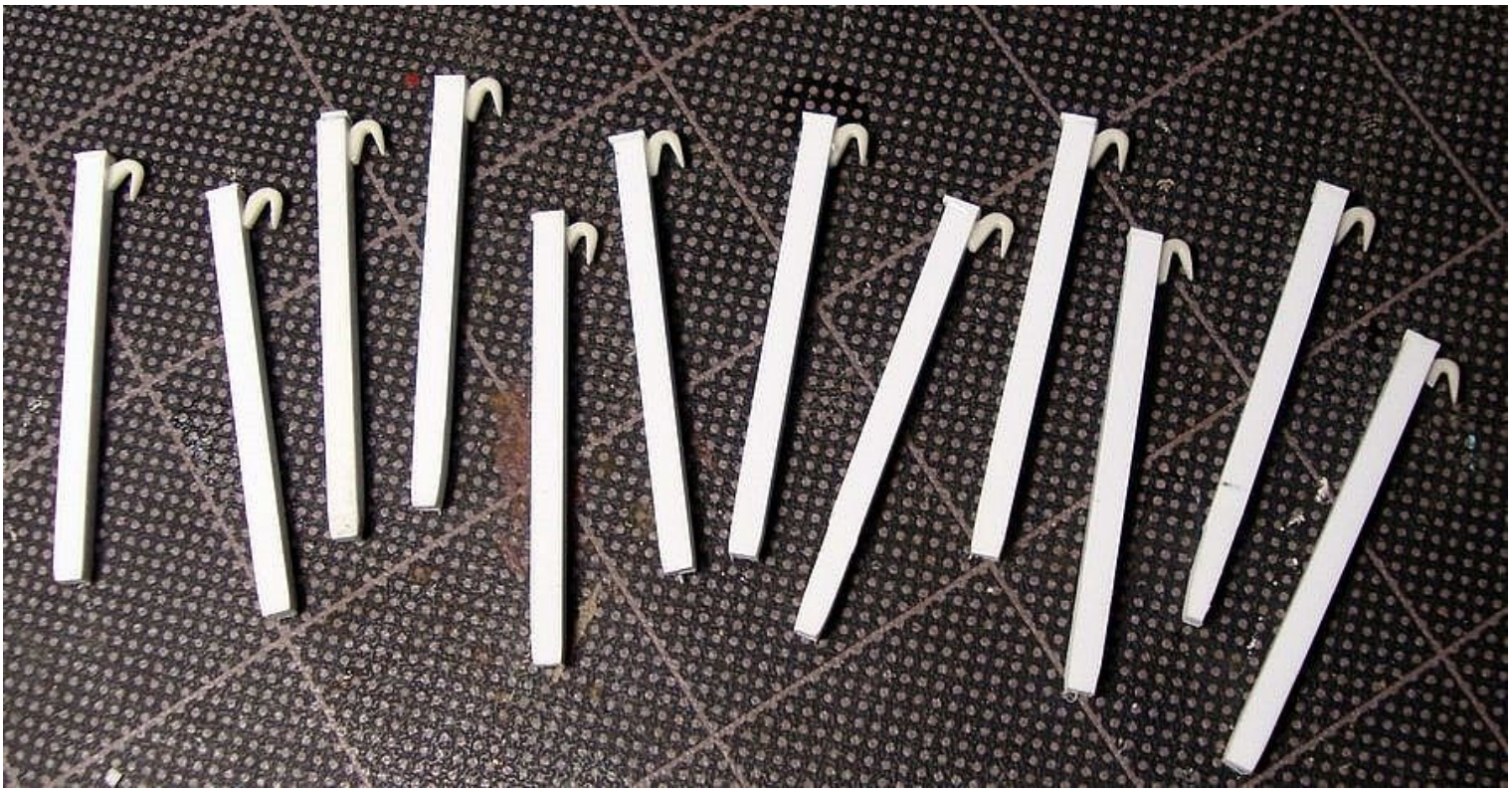


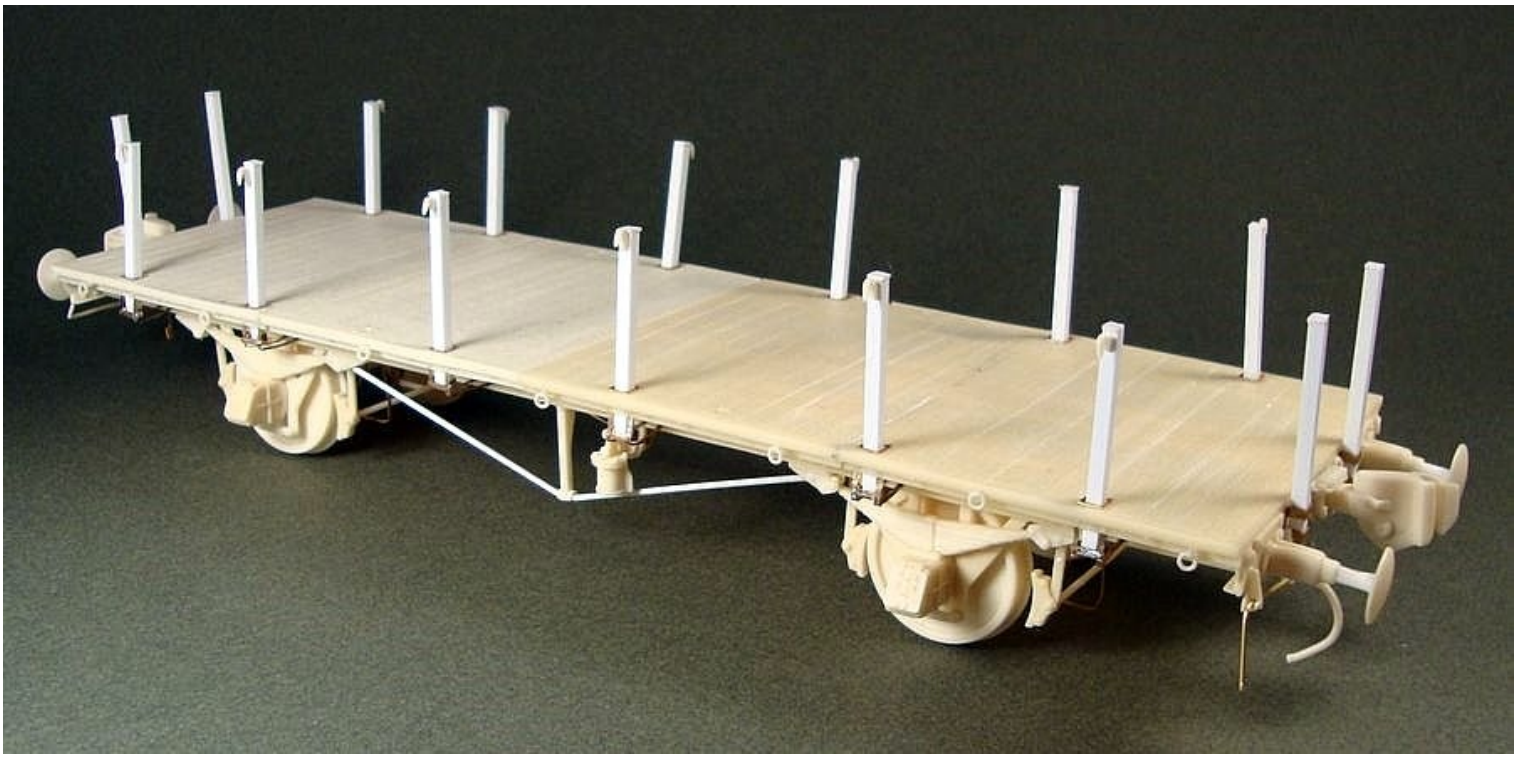




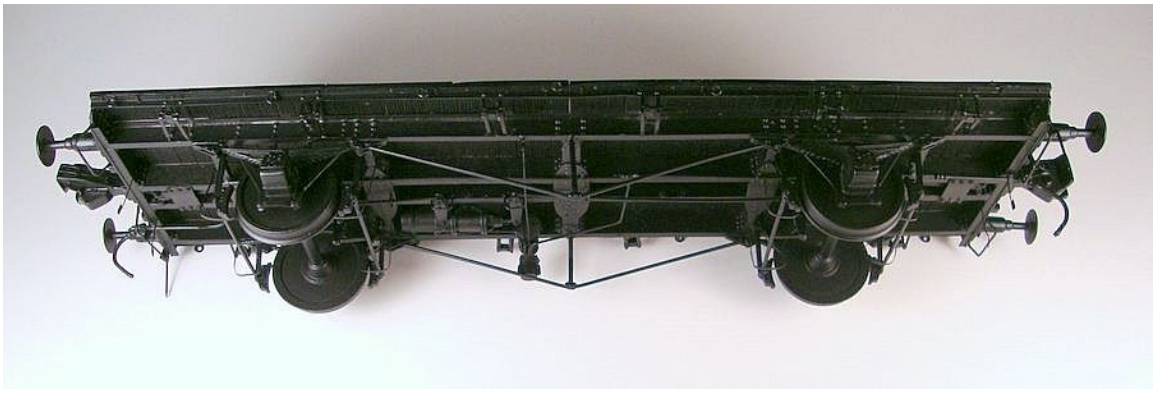


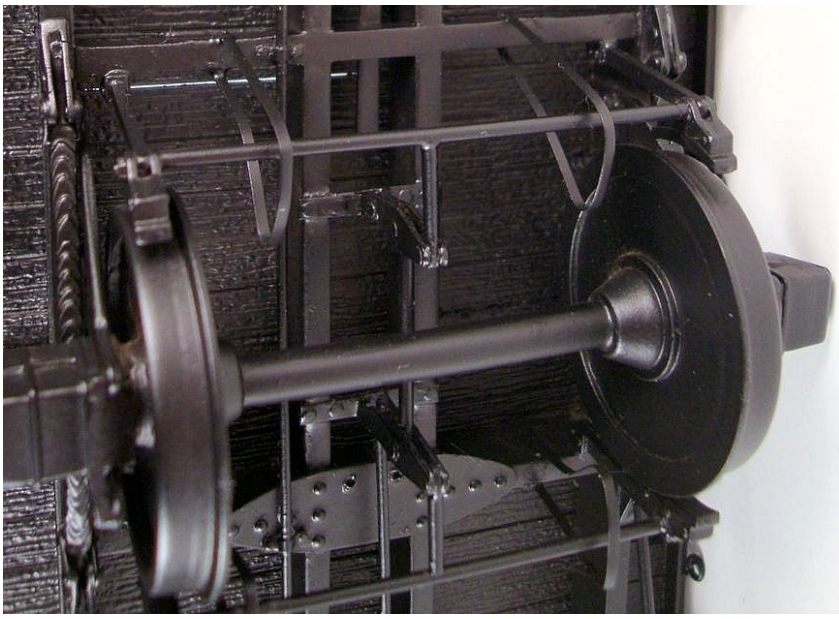
Stanchion Construction & Fit

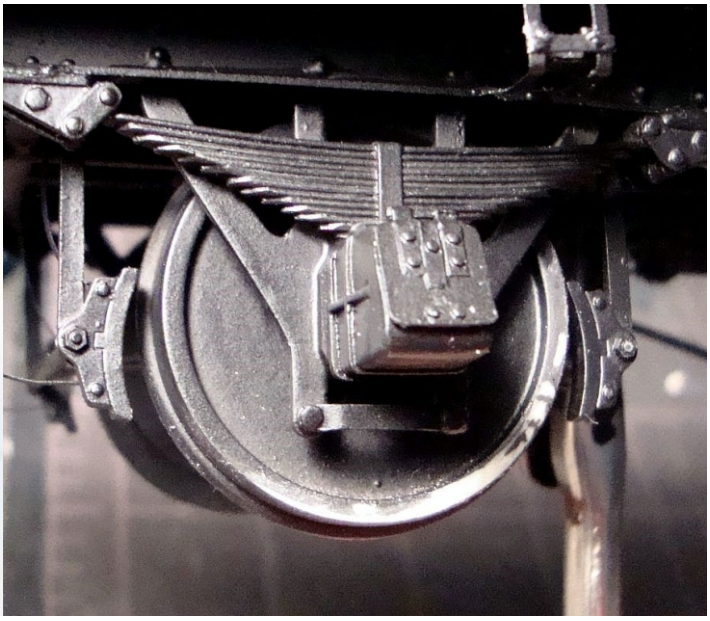


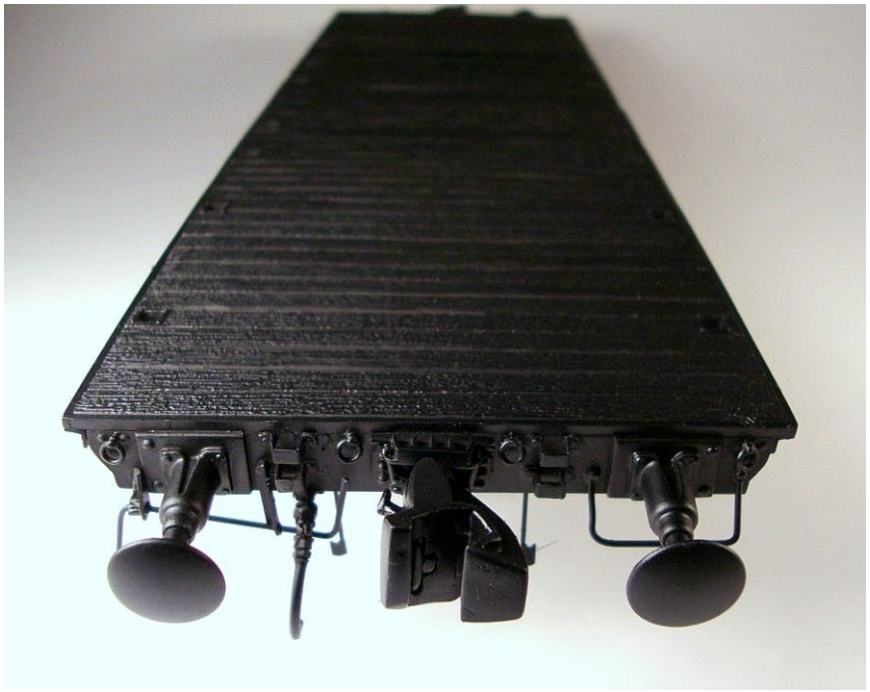


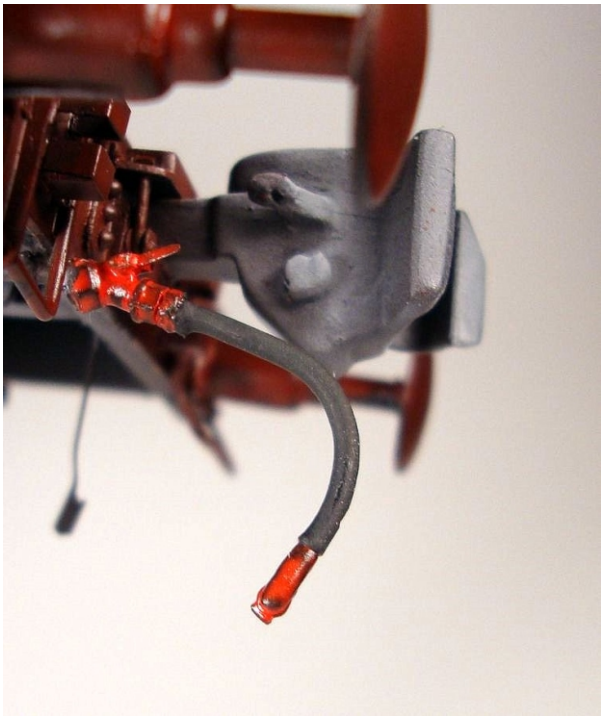
These we're very easy to make, from the 2,5mm square styrene chopped to about 29mm length



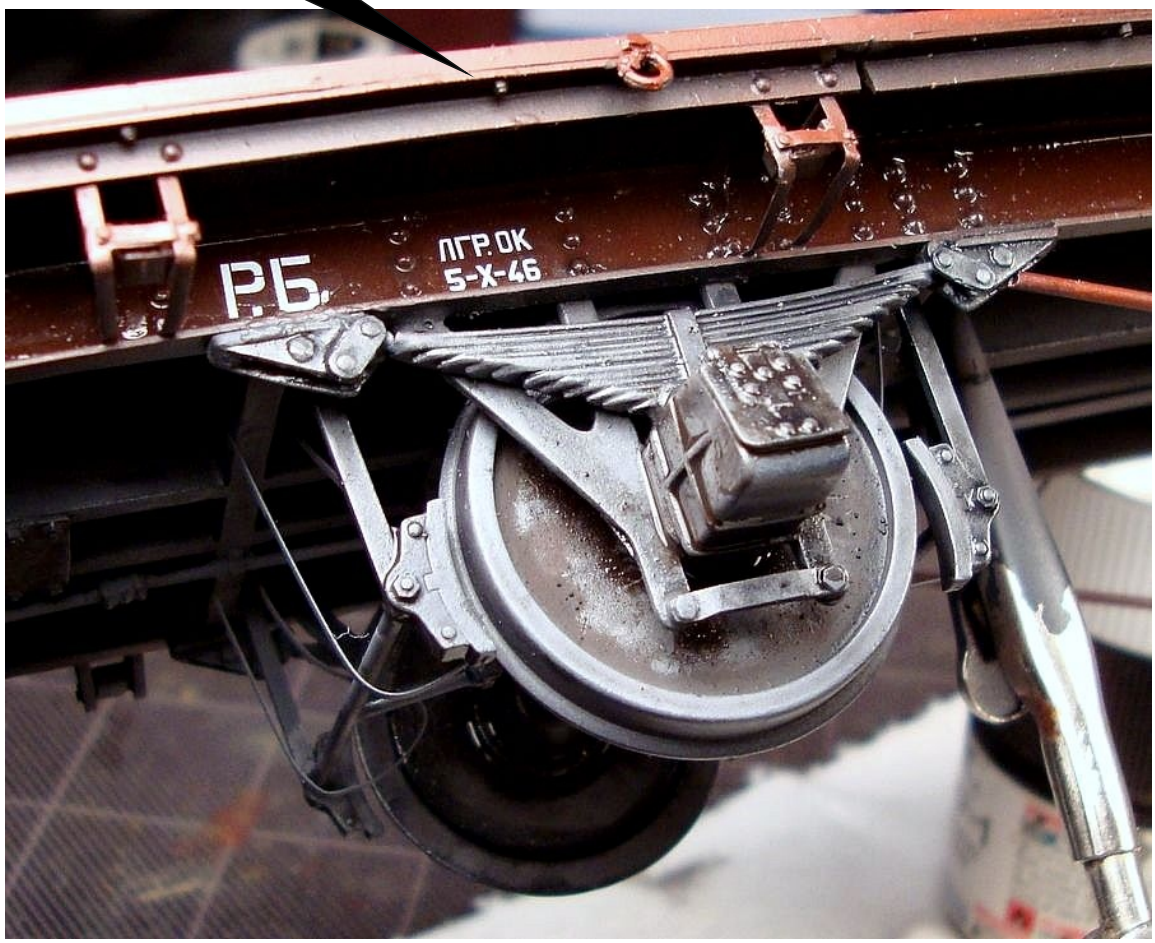






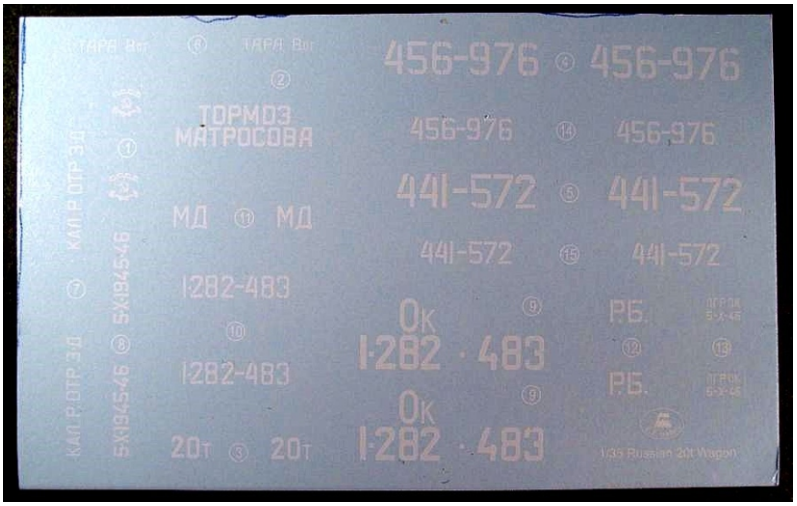


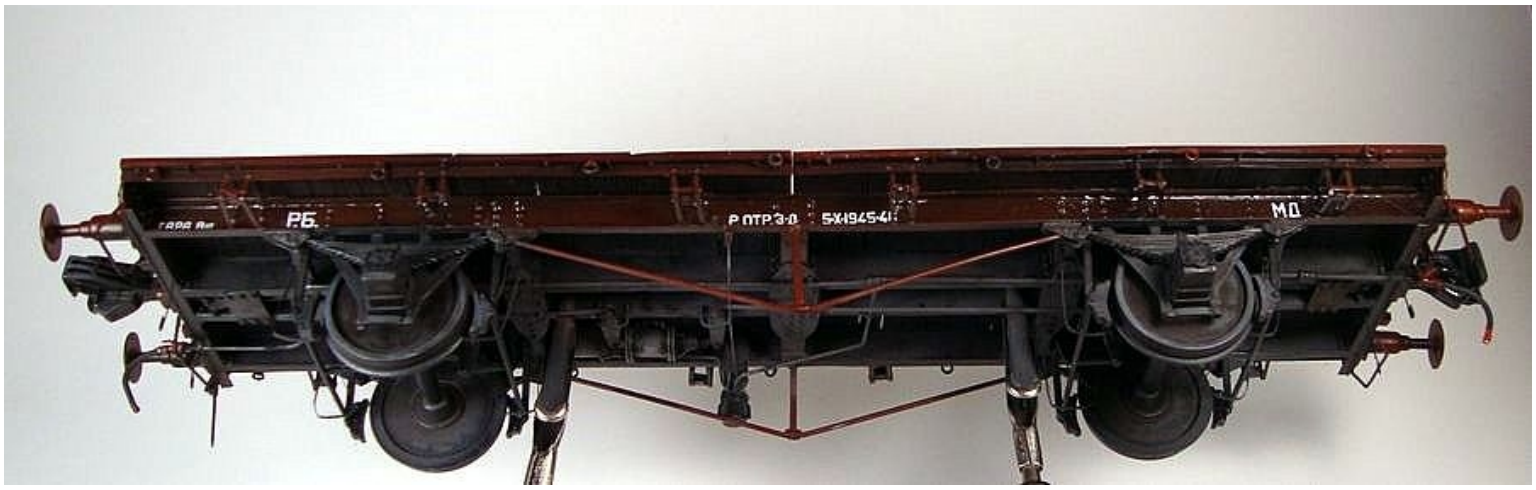
For platform or stanchion railcar the placement of rings does not matter but they have to be placed in exact right position, if wagon with sides is built. Then all side rings have to be glued on tiny pins inside the L angle

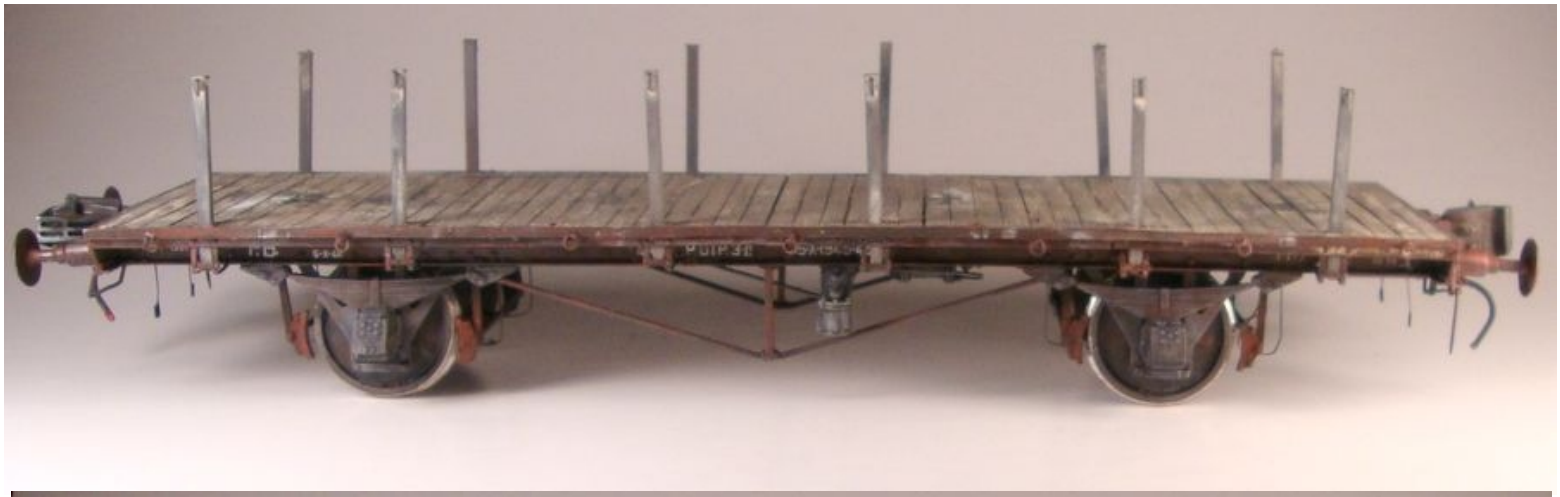


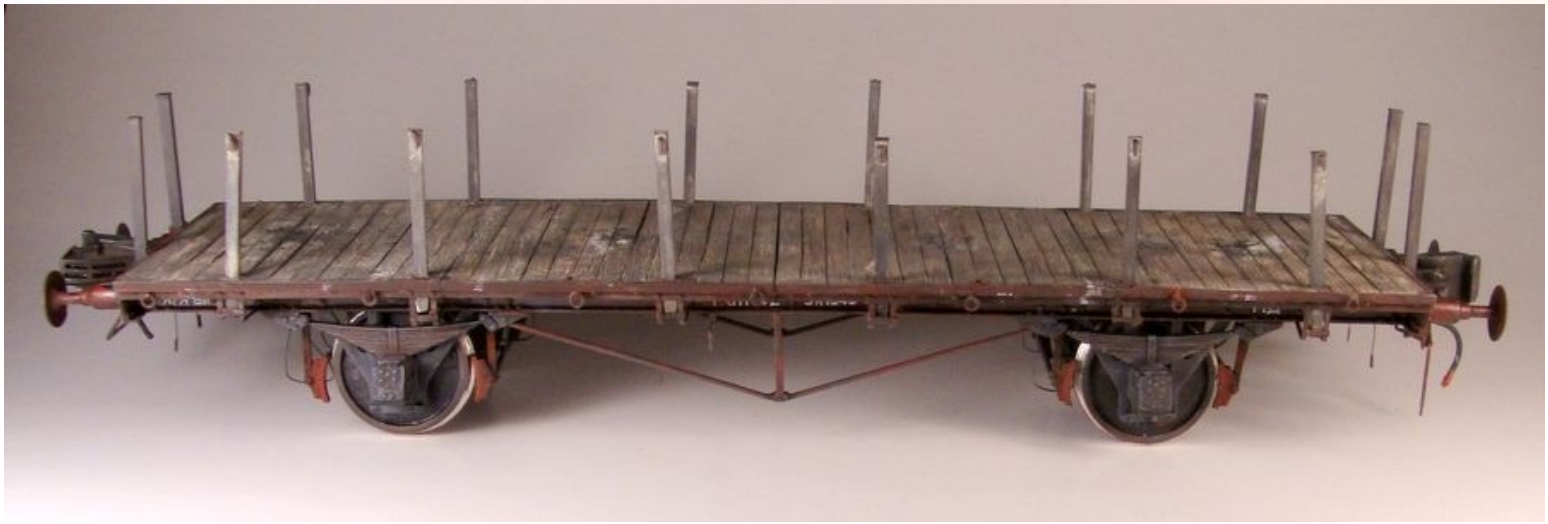
Decals

There are decals for 3 various Russian cars and a whole separate set for a captured German wagon









Excellent walk around by Dmitry Derevyankin can be found at Russian Dishmodels website:
http://dishmodels.ru/wshow.htm?p=396

Instructions and photos by Adam Kuller, as published at Military Modelling Website:
http://www.militarymodelling.com/forums/postings.asp?th=43627

L. Z. models
No.35101
WWW.LZmodels.com