Briggs Models SDL39 Instruction Article

This instruction article shows you how to assemble this kit. There are some tricky parts so please read carefully. I do have replacement parts available if you break some of yours. Some parts will not be used, depending on the prototype unit you are modelling.

To complete this model you will need the following tools and supplies:

Atlas C628 or C630 model. (You only need the mechanism for donor parts)

solder and flux, small soldering iron

CA glue

Micro Crystal Clear or contact cement

pin vise with #62, #78 and #80 drill bits

tweezers

razor saw

horn of your choice

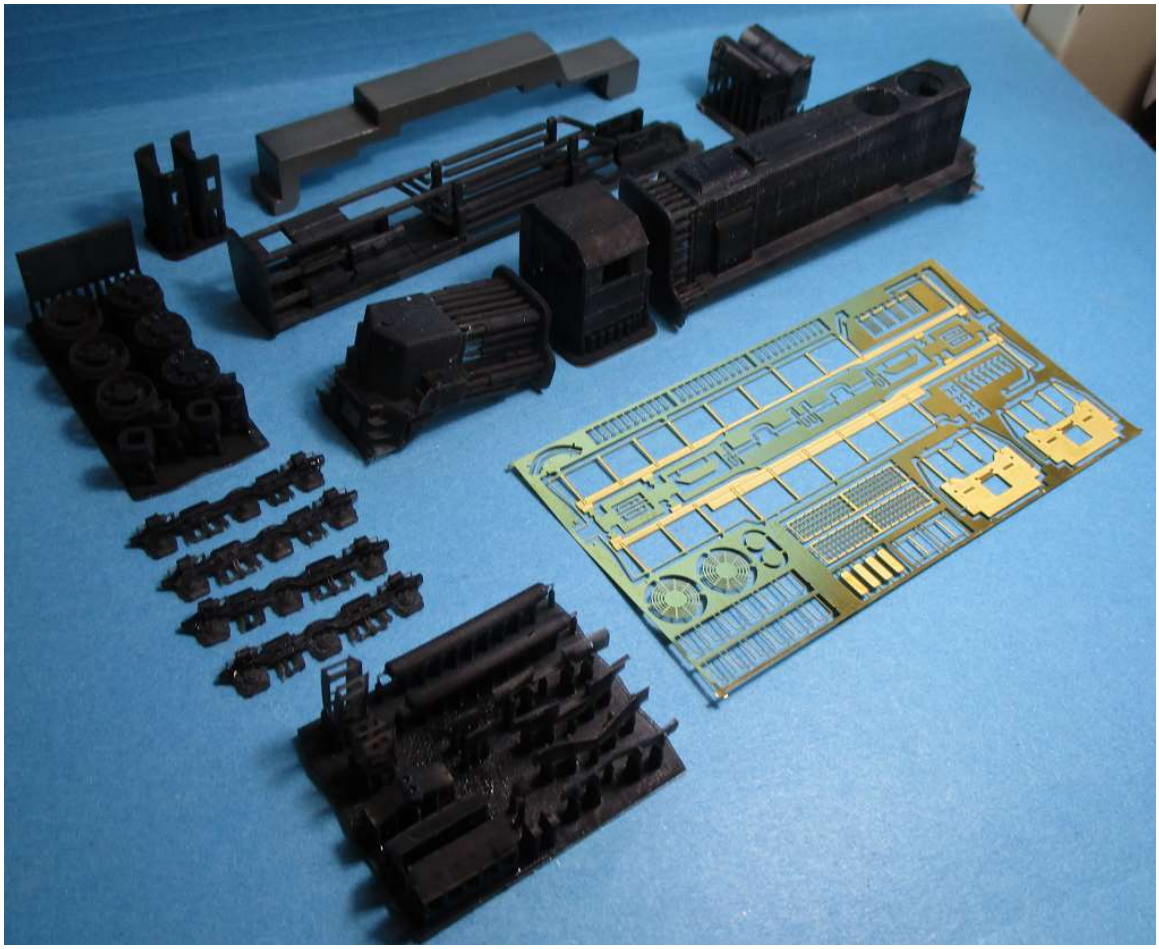
Micro Trains 1015 couplers

400 grit sandpaper

XActo knife with new #11 and chisel blades

modeling files

This is what is included in the kit. Keep in mind I will frequently do small upgrades to my products, and some parts may change slightly for ease of use or accuracy.



3d printed parts:

1 long hood assembly

1 cab

1 short hood assembly

4 truck side frames

1 frame

6 universal couplings

2 worm cover clips

1 fuel tank

2 air tanks

4 plows

2 drop steps

2 MU stands

2 snow shields

1 winterization hatch

6 fan housings

4 all weather windows

1 front number board assembly

1 bell/mount

Etched metal parts:

2 side handrail/side sill units

2 end handrail/pilot units

30 eyebolts

4 wind deflectors

2 sunshades

12 straight grab irons

1 curved grab iron

4 number boards

2 cut levers

4 MU hose assemblies

8 door handles

7 windshield wipers

2 fan grilles

1 fan grille tops

2 cab side window frames

2 radiator screens

Miscellaneous parts:

2 pieces of wire (black for trucks, red for internal wiring)

1 weight

1 window glass template

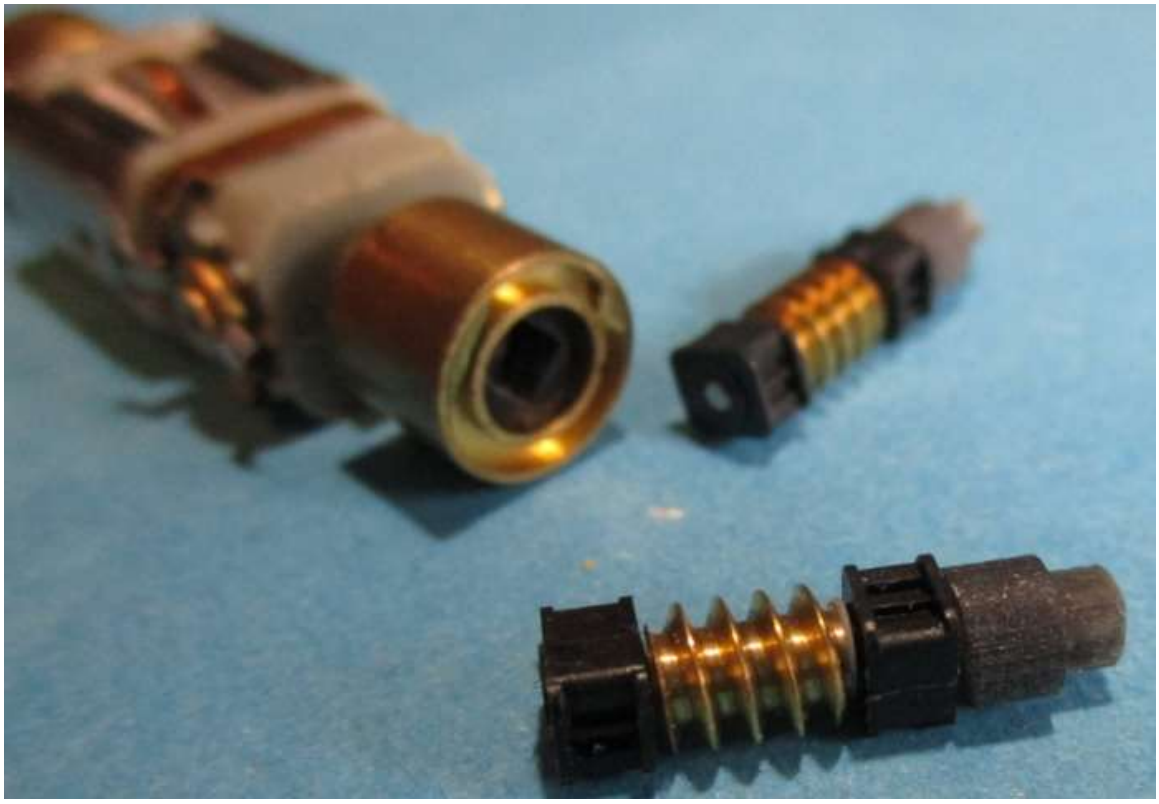
1 peice of mylar

Construction:

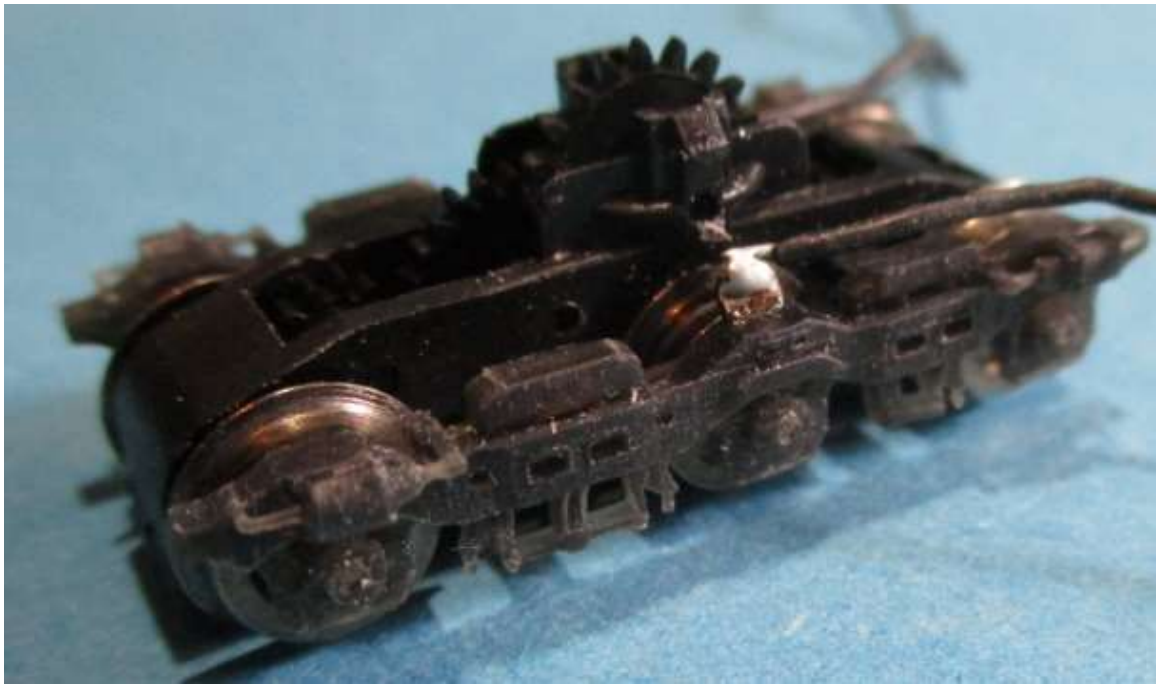
1. Remove the printed parts from the posts they come mounted on. Sand the meeting surfaces smooth. This is particularly important around where the cab, blower duct, and battery boxes meet. DO NOT do anything with the etched parts yet.

2. Disassemble the Atlas ALCo mechanism. You need from it the trucks, the motor/flywheel assembly, and the worms with bearings. Remove the motor mount from the motor assembly and the universal couplings from the shafts or inside the flywheels.

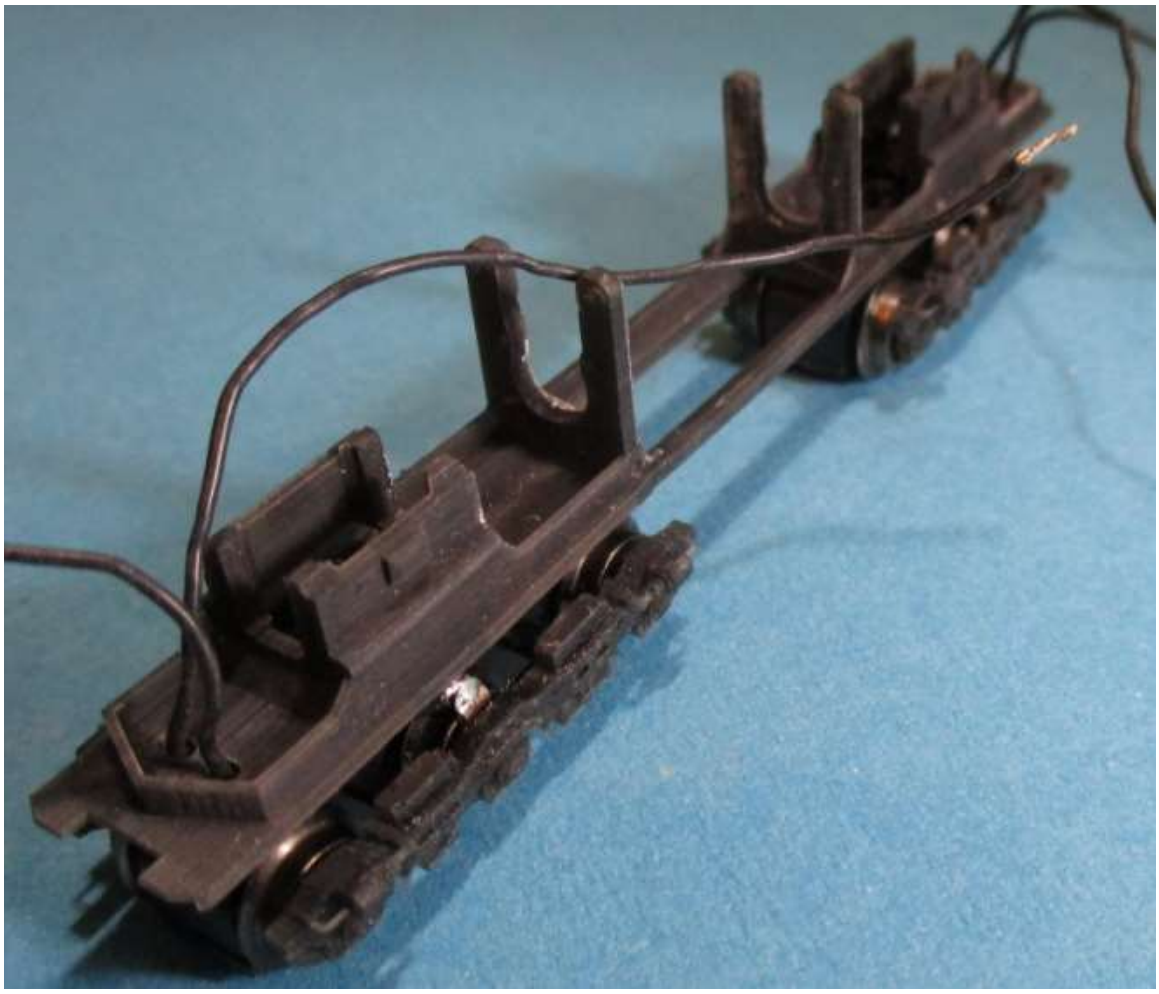
3. Inspect the flywheels. There are two versions of this motor assembly, one with a horned ball inside the flywheel, and one with a hex recess. **If you have a horned ball inside flywheel version**, pick it out with tweezers and discard it, and remove the couplings on the worm shafts. Press the two cups with square holes into the flywheels as far as they will go. The square hole goes outside. Press the couplings with the square projecton on it onto the worm shafts. **If you have a hex recess in the flywheel version**, simply press the hex part onto the worm shafts. When pressing them on, make sure there is a space of about .010" between the bearing and the coupling. I thought it might be a good idea to grind a small flat on the worm shafts to prevent turning. It WAS a good idea.



4. Remove the truck side frame/bottom cover plates from the trucks. Cut off the side frames even with the sides of the cover plate. This is best done with a razor saw. Snap the cover plates back on. Cut the black wire supplied into 4 equal chunks. To the back top of the pickup wipers, solder a piece, so it is pointing towards the shorter end. When you look at my trucks, you can see I did it after assembly, and it could be neater. Now, use your Micro Crystal clear or contact cement to glue the pickups to the Atlas gearboxes. Allow this to dry. In the photo, I have already glued on the side frames, as I needed to test the model at every stage, prior to painting. I would leave them off until after painting if I was building this model again. To protect the wheels during painting, I inserted some paper between the wheels and side frames.



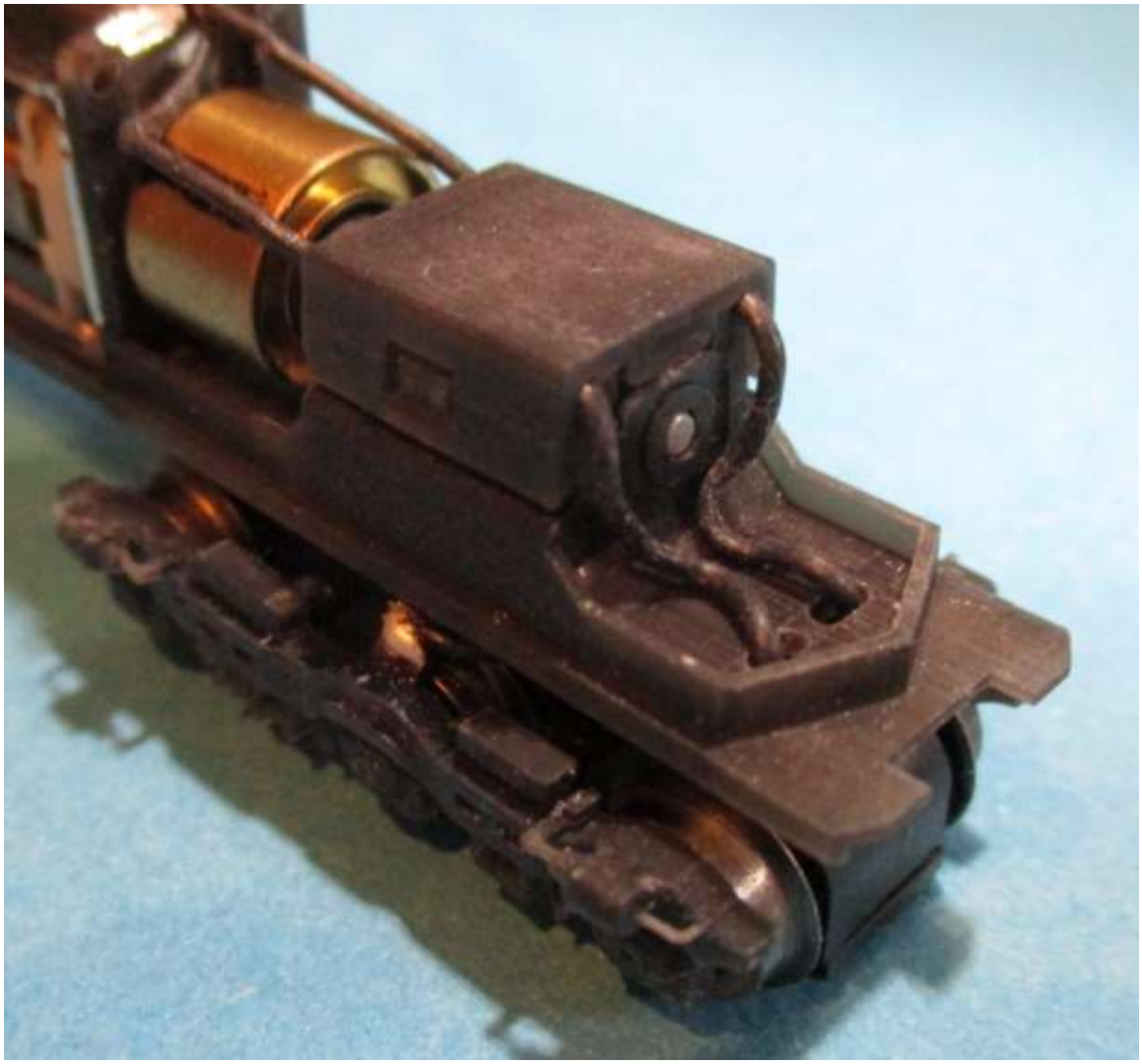
5. Insert the trucks into the frame. They will click into place easily, but if they are binding during turning at all, remove them and slightly scrape the inside curved area in the frame. The pickup wires go through the slots near the end of the frame.



6. The top front of the motor has the contacts. The front of the frame has no recess for the coupler pad. Partially insert the motor in place. Insert the worm assemblies into the flywheels and gently alternately push down at each end until the worm bearings are just slightly in the brackets. Check for end to end clearance. There should be a tiny amount of slop between the universal couplings and in the worm bearings.

You might need to remove the worm assemblies and file the universal male components so they fit into the flywheel recesses completely and provide enough tolerance. Once these parts fit freely and there is a tiny amount of slop in the worm fit to the bracket, continue to push the motor and worm shaft assemblies until they are fully seated in the frame.

7. There are grouves between the worm cover plates and the worm brackets for the pickup wires. Place the wires in their slots, and clip on the worm cover plates. It's a bit tricky to get the wires in place while sliding down the clip. Using your tweezers, pull the wires and arrange them on the ends of the frame as shown in the photo below.



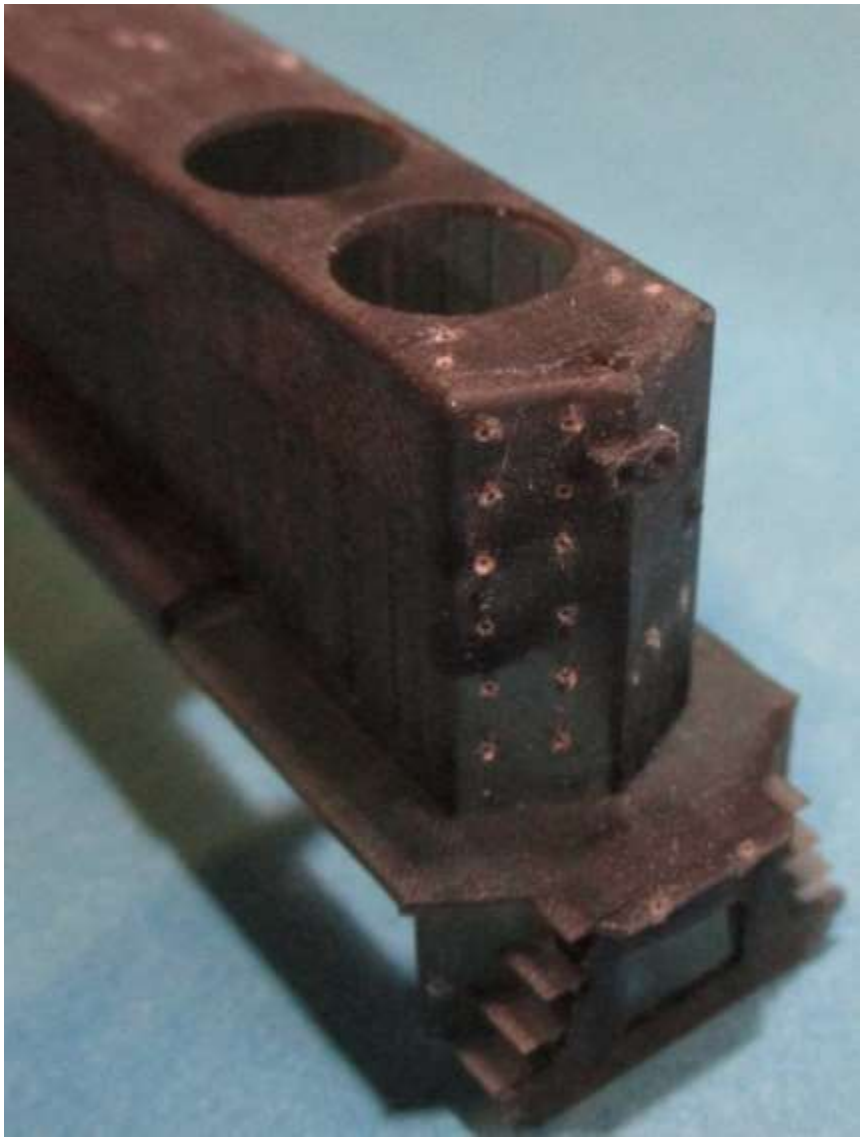
8. Wire the chassis for DCC or straight DC as you want. Test fit the weight now though, and make sure all the wires are routed well and clear the flywheels. Test run your chassis and work out the bugs now. There is space provided in the fuel tank for a speaker, and the bottom of it is perforated. You may be able to get the sound decoder into the recess at the rear of the weight without sacrificing any more of the weight. Note-my weight is the protoype, so it differs from the parts included in the kit. I didn't have production parts yet when I wrote this and took the photos. The only difference is allowing more space for the pickup wipers around the flywheel and motor mount.

9. Test fit the long and short hood assemblies and the cab to the chassis, together. You will see how they slot together. Dissasemble. Mount the cab to the short hood assembly. Make sure the cab is absolutely straight, then glue the cab to the short hood assembly.

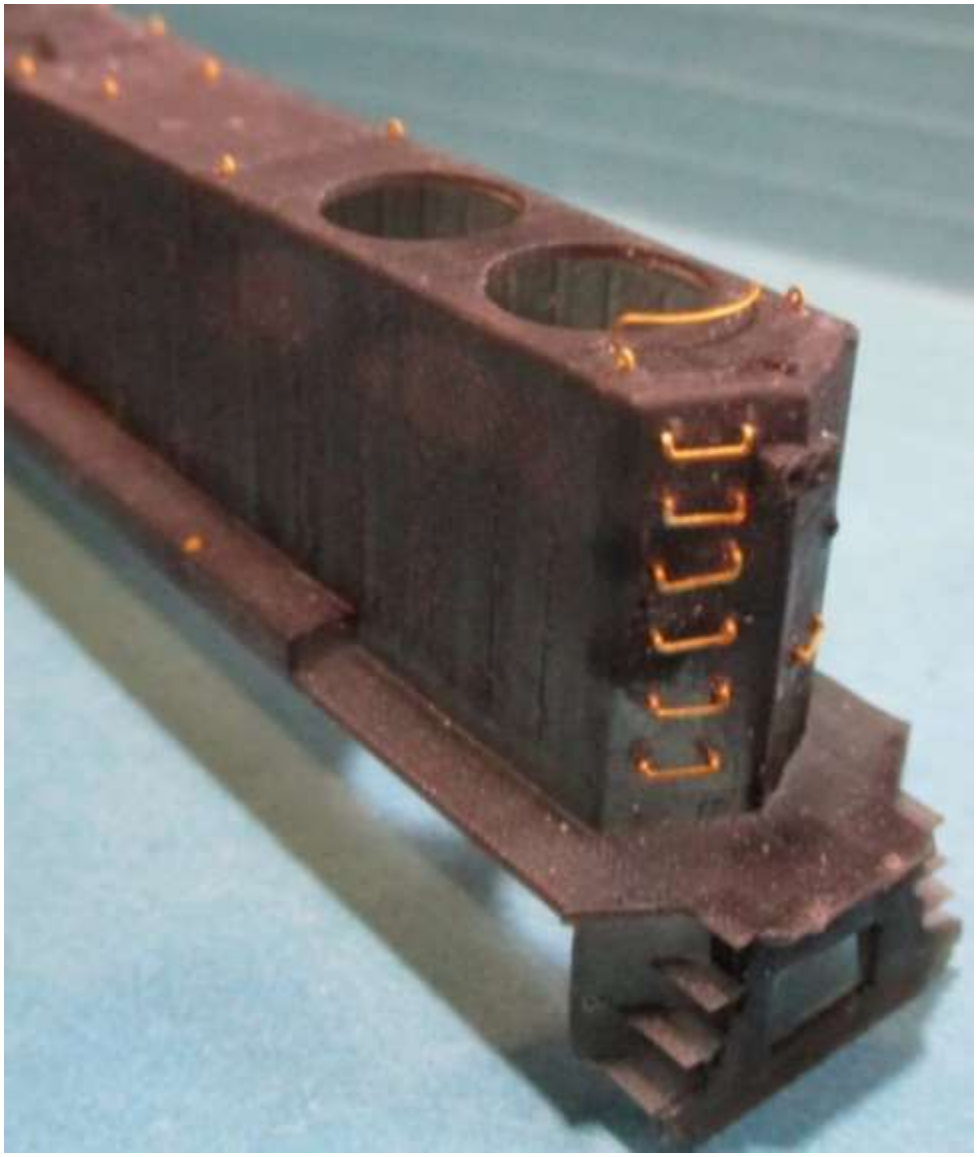
10. Refit the cab/short hood assembly to the long hood assembly. Once the fit is perfect, glue together.

11. Drill the coupler pads on the body #62. Drill all the holes for grab irons, lift rings, windshield wipers, and door handles, on the front and rear hoods, #80. Drill the inside step wells #78 for the ends of the side handrails. There are bolt heads to aid in locating the drill points, and you

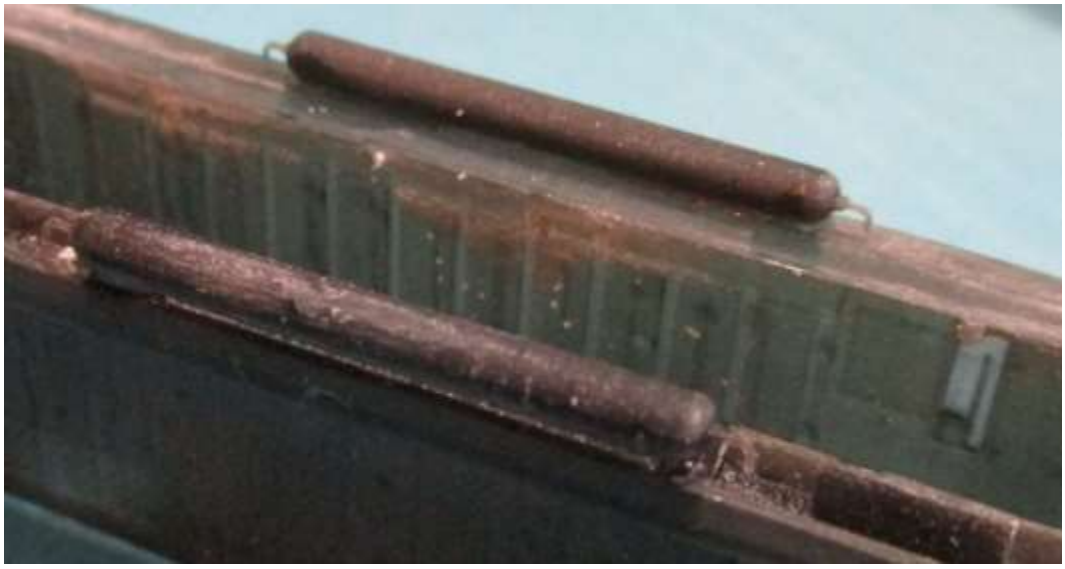
can see in the photo marks my drill made. If you are building a model of a prototype that has wind deflectors and/or sunshades, install those now. There are pre-drills for the sunshades but not the wind deflectors. My model of WC 582 has neither.



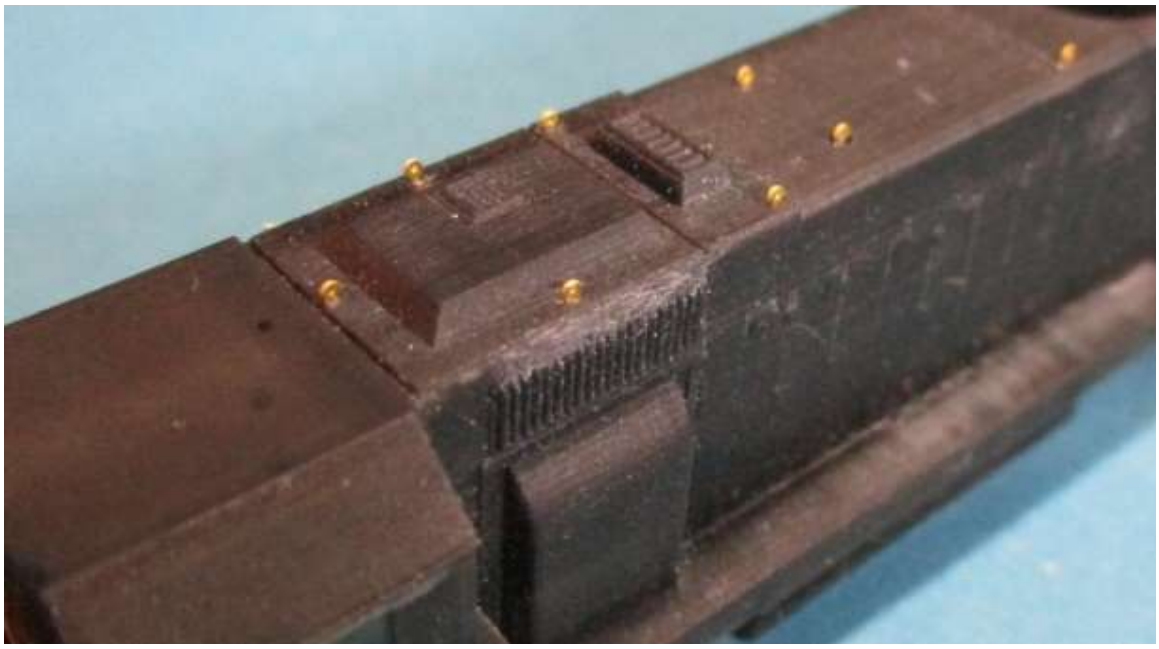
12. Look at the fret around the grab irons. There are small slots in the fret where a bend should be made in the parts... Use a small sharp screwdriver or the back of your knife blade to press down even with the etched marks, to start the bend. Once you have removed the grab iron from the fret, use your tweezers to complete the bends. You might wish to leave off the end grab irons if your paint scheme has graphics in the grab iron locations. Install the grab irons, lift rings, and door handles.

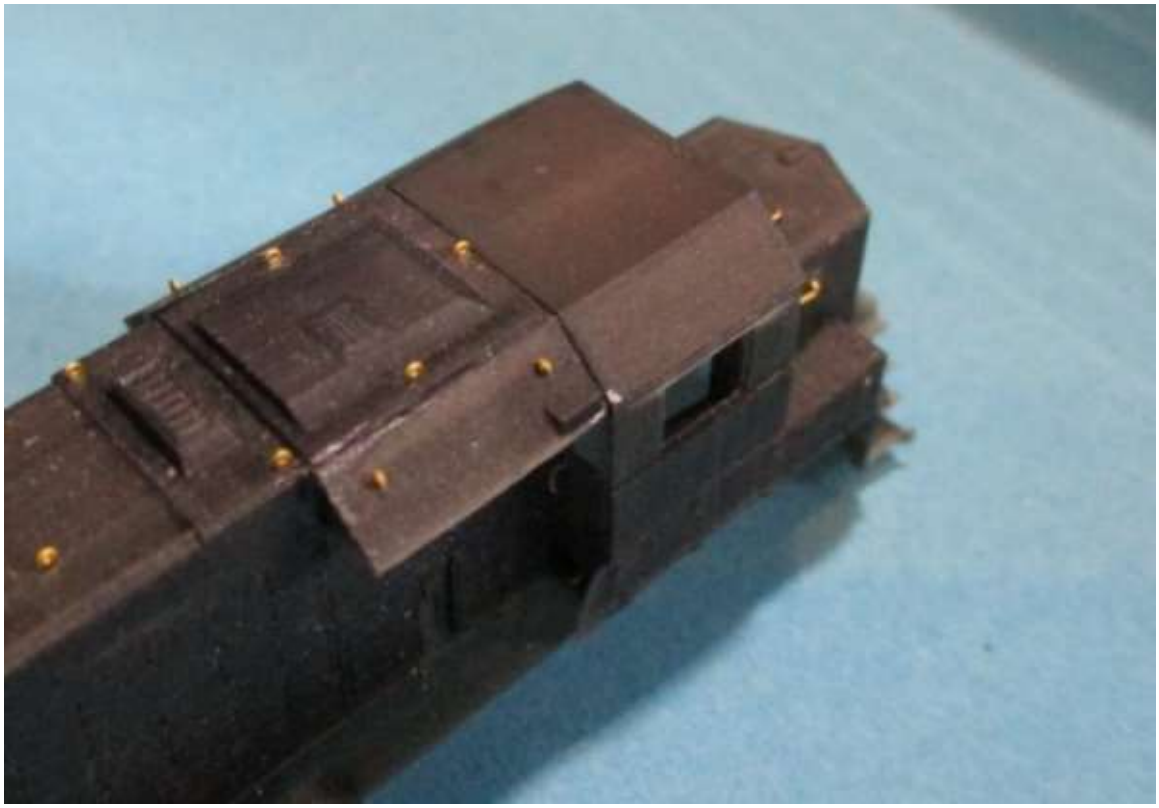


13. Install the air tanks. There are small nubs on the tanks and holes in the body for locating.



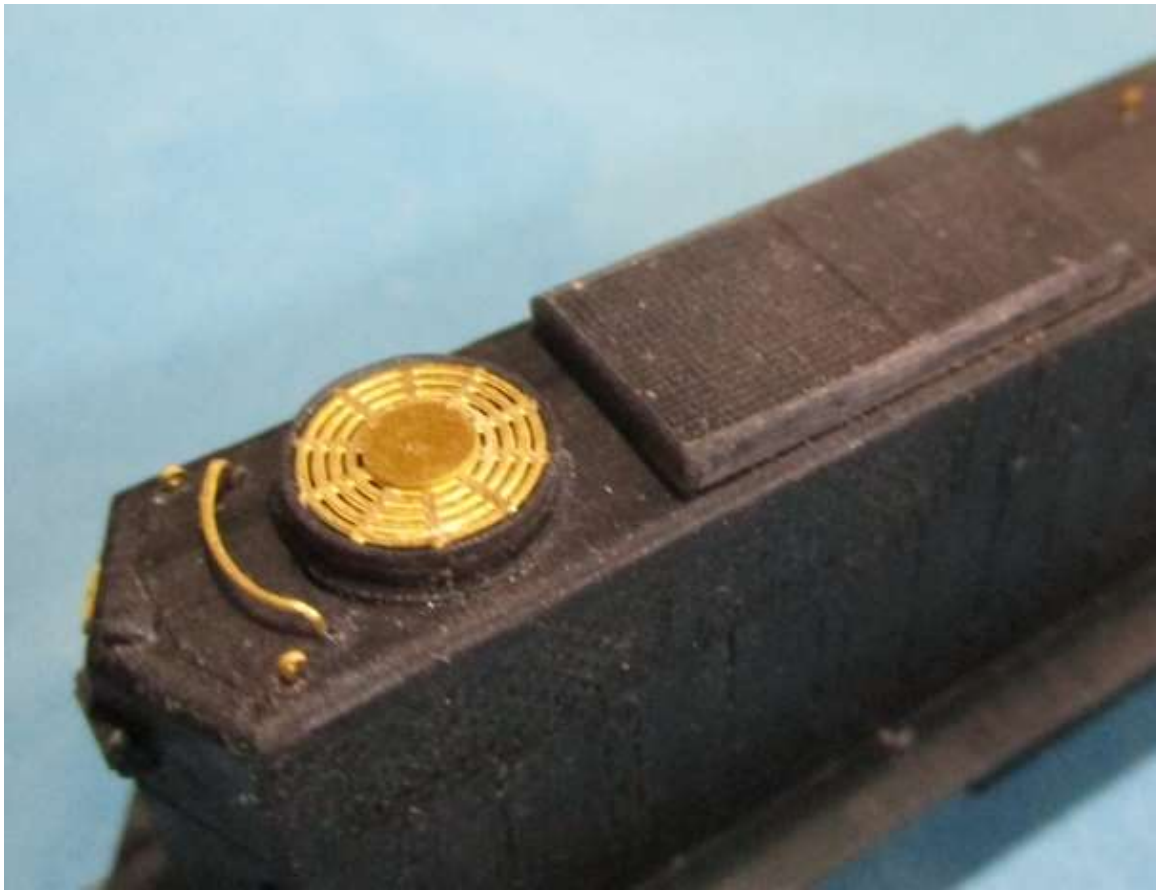
14. Install the snow shields if your prototype has them. To get them to fit well, you will need to shave the top edge of the inertial grille. There are a couple lift rings on each as well.



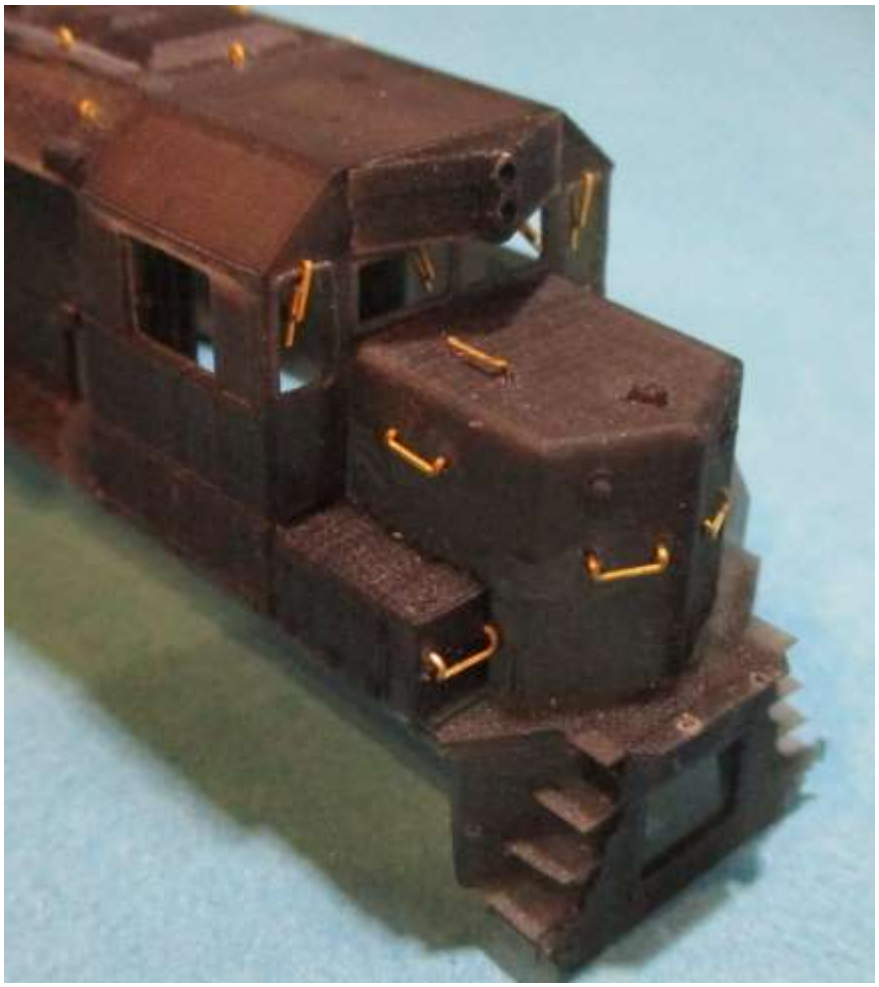


15. Decide which fans you wish to use. I included both solid fans and open ones with etched grilles. I wasn't going to make a new fret just to make the fan grilles finer, and they wouldn't have been much better anyhow, so you have this option. In any case, check if your prototype has a winterization hatch, and if it does leave the forward fan off and glue the winter hatch in place, with the grille over the fan hole. If you choose open fans, glue the housings in place, then remove the grilles from the fret and glue in place. I have demonstrated both styles, as well as the winter hatch. I am building WC #583, in the patch paint scheme, so I am installing the rear fan, and I chose to use the etched type, with a winterization hatch in place of the front fan. I found I had to remove the lift rings under the winter hatch location to get it to fit.

My final configuration-



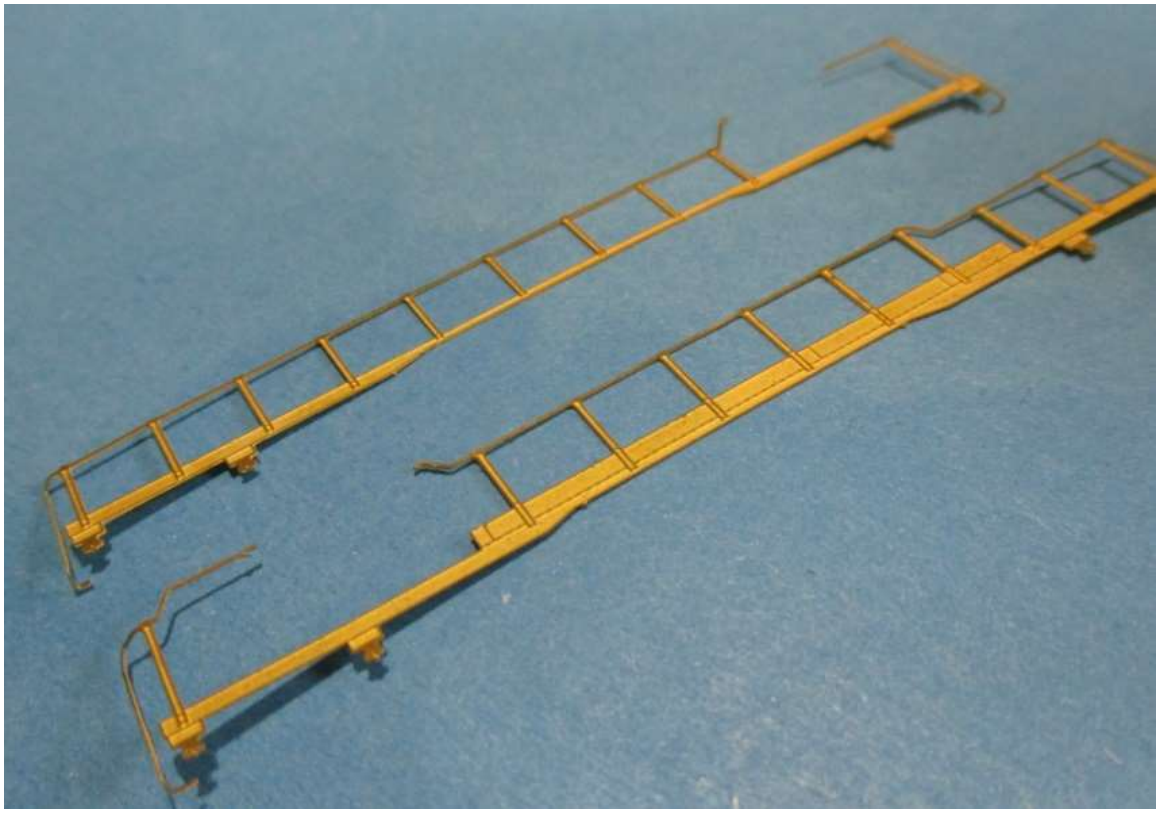
16. Glue the front number board assembly in place.



17. Look at the fret near the top of the end hanrails. There are some little slots there similar to the grab irons. From the front, crease the outside slots, and from the back crease the inside slots. This will start the bends in the end handrails. The chain is etched curved so that you can straighten it a bit to restore paralell geometry in these assemblies. I did not notice until after I was finished development of the frets for the model that as delivered, these units didn't have drop steps. If you are building a MILW unit, you may want to cut out the chain and replace it with a piece of wire.

18. Remove the plows appropriate for your model from the sprue. Remove the pilot/end handrail assemblies and coupler levers from the fret, twist the levers to shape, and install the levers, plows, and MU hose assemblies to the pilots. I also formed the MU hoses a bit to look more hanging. Glue them in place unless you feel it would be easier to paint if left off.

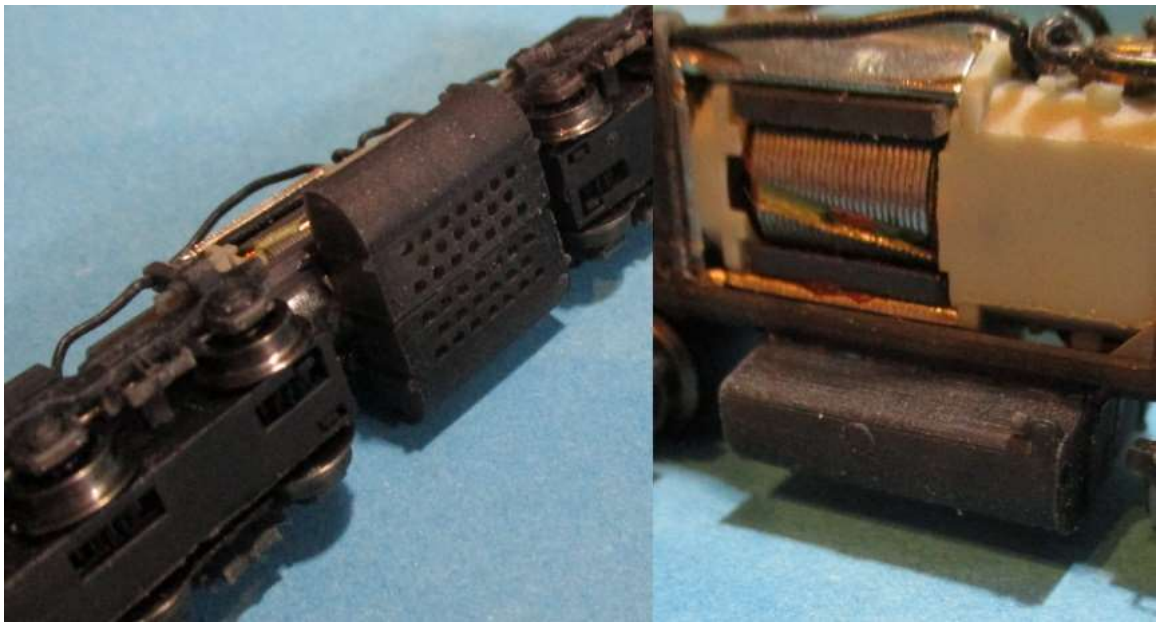
19. Crease the ends of the side handrail assemblies as you did the grab irons and end handrails, at the slots near the ends. Remove the side handrail assemblies from the fret, and bend the ends as the photo shows. Use your sandpaper to gently rough up the back so they stick to the side sills better. Expansion and contraction with temperature makes it difficult to get these to stick. If you want to glue these on before painting, use Micro Crystal Clear or contact cement to glue them in place.



20. Remove the cab side window frames and radiator screens from the fret and glue them in place from the outside of the cab sides. I rememebered to drill the headlight openings now as well. I wasn't planning on lighting this model, so I just inserted some .030 fiber optic and left it at that.

21. Remove the number boards from the fret and glue them in place. I used Micro Crystal Clear to make it easier on myself to position the parts.

22. Go back to the frame, and finish off anything you want to do before painting. I installed the fuel tank now, I didn't get around to it before now. There is a locating ridge molded to the bottom of the frame to locate it correctly end to end. The filler and gauge should be oriented towards the front of the unit. You can kind of see on my shell I broke through and damaged the anticlimbers where the stanchions go in, from drilling. Production shells have the holes printed in place so no drilling is necessary here.



23. I glued the handrail assemblies on now. The finished model prior to the paint shop-

23. Paint your model as desired. I chose the WC patch paint scheme as I had no WS or MILW decals, and I could make this up from my decal box.

24. Peel the backing off the window glass template, and stick it to the clear mylar. Use scizzors to cut on the lines, then glue the window glass in place. I use Micro Scale liquid decal film for this.

25. I now installed the cab top antenna, the all weather windows, horn, and beacon, touched up any paint, and weathered the unit. I wasn't sure where the bell was on snow shield equipped units, so I omitted it. The horn I used was a sample 3d printed part I had sitting on my bench.


WC
583

I hope you had a good time following along on the construction of your SDL39! If you have any questions or comments, please email me at: sales@briggsmanufacturingassociates.com