

# *Ride Trains*

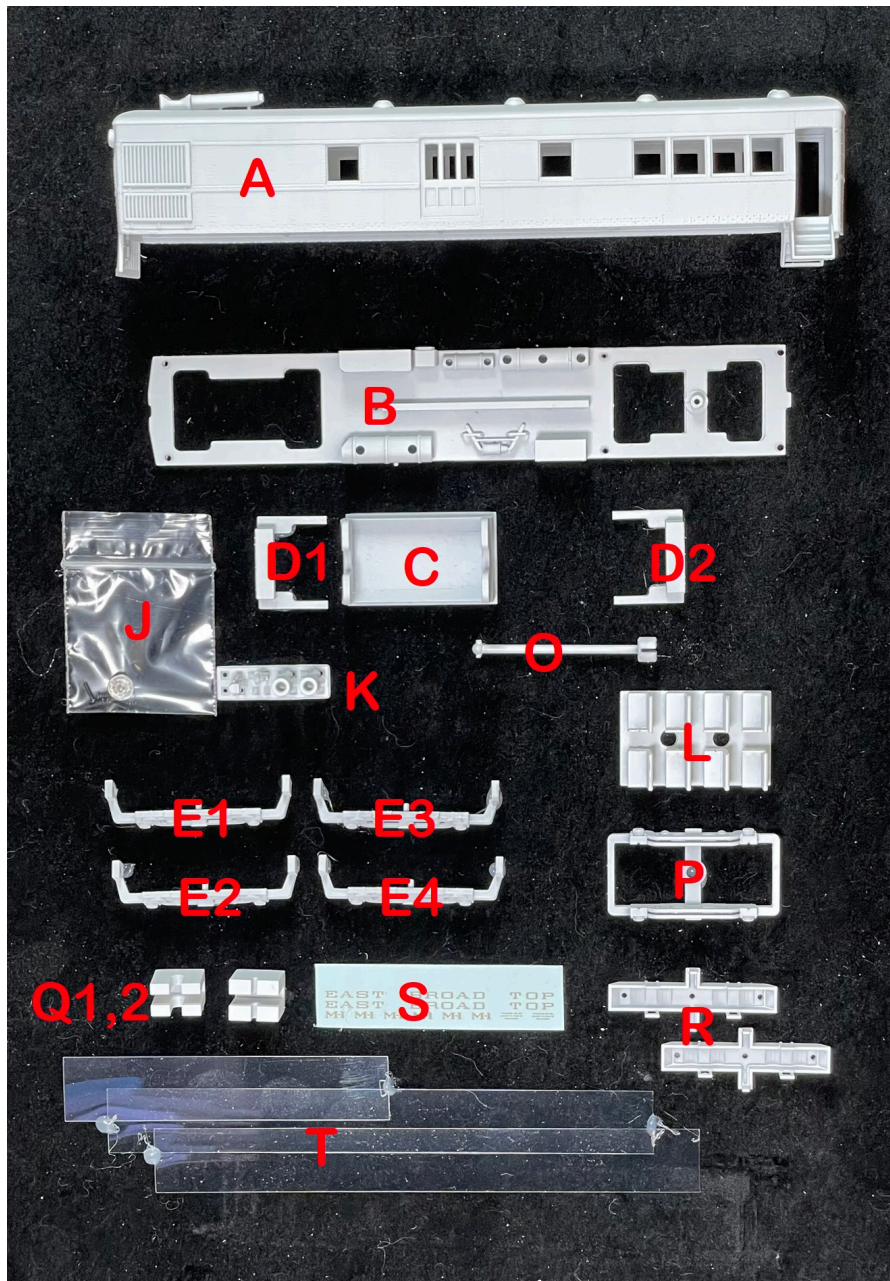


## **East Broad Top M-1 HOn3 ASSEMBLY INSTRUCTIONS**

This kit creates a M-1 narrow gauge diesel as used on the East Broad Top Railroad. The power mechanism and parts adapt a Lifelike HO scale SW9 or 1200 for HOn3 track. The 3D printed shell and details complete the kit. The printed parts should not be washed in hot water, they have been double cleaned in 99% alcohol before shipping. Any additional cleaning should be done with rubbing alcohol and a microfiber cloth. ACC (Superglue) is used to attach parts together.



## PARTS DIAGRAM:



- A - Body
- B - Underframe
- C - Motor cradle
- D - Truck retainer
- E - Sideframes

- J = Small Screws Attach Floor To Shell, Large Screw for rear truck K (optional)
- K = Horn, Bell, axle chuffs
- L = Interior Seats
- Q = Gear and Axle Cut Jigs
- O = Long drive shaft
- R = Gear covers to be used if the donor mechanism has thick covers
- S = Decals
- T = Window Glazing

Note: Requires LifeLike Proto 2000 SW9/1200 mechanism

If you choose to build this with one powered truck and a detailed interior

Two Walthers 36" wheelsets with straight axles are required. K, P & L will be used

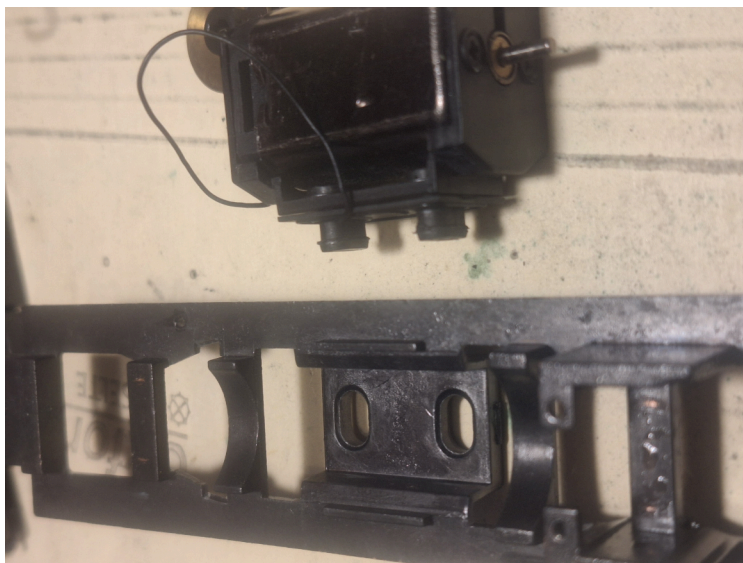
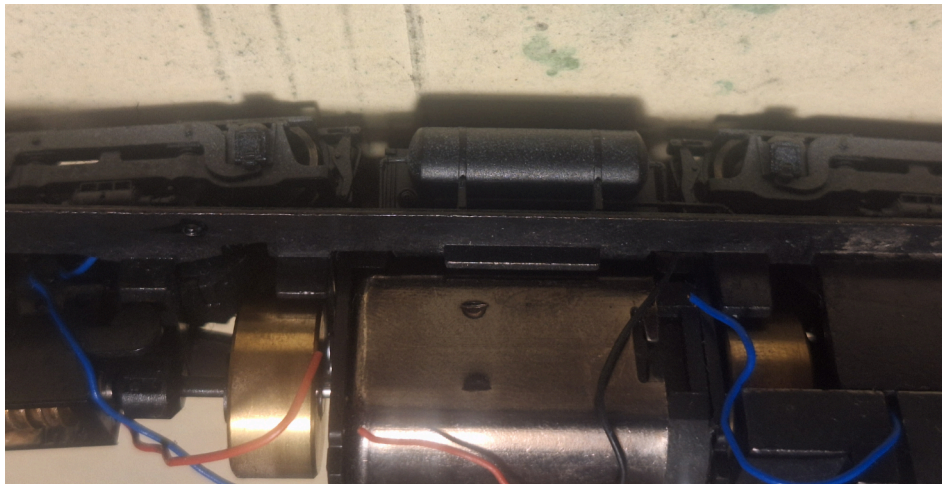
With two powered trucks E3, E4, O, and D2 will be used.

## MODIFYING LIFELIKE SW9/1200 TO HOn3

STEP 1: Remove the Lifelike engine from the shell to begin.



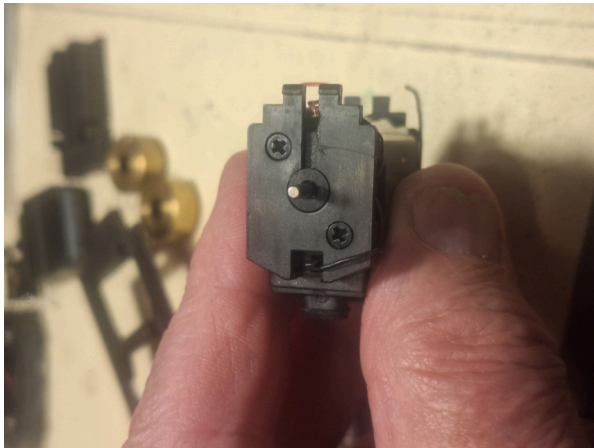
STEP 2: Remove trucks and motor by removing screws that hold weight to frame. Then remove the motor from the frame.



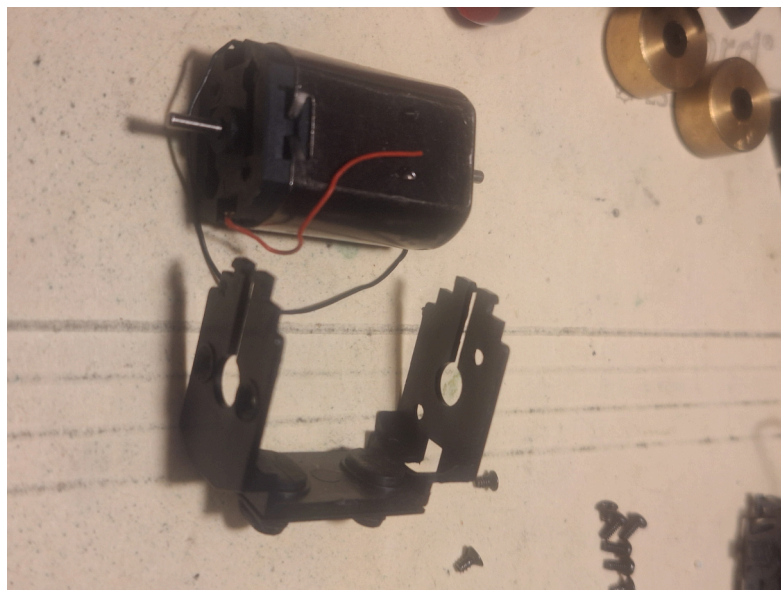
STEP 3: Remove fly wheels by prying gently with a flat bladed screwdriver.



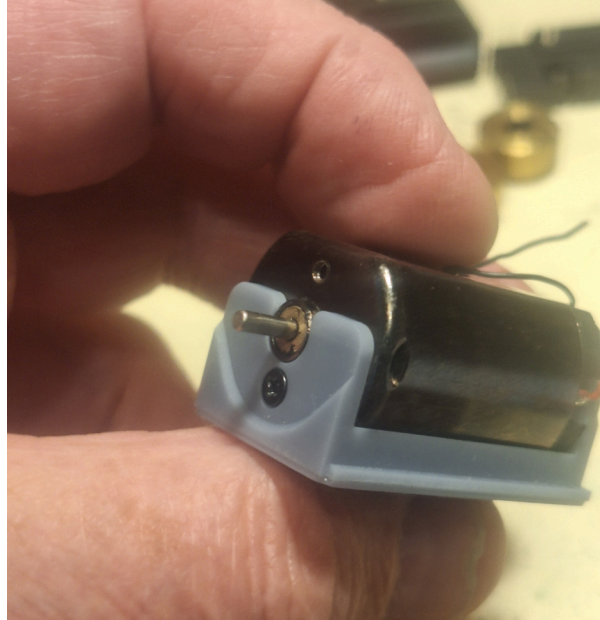
STEP 4: Remove motor cradle screws, two at each end of motor, and set aside.



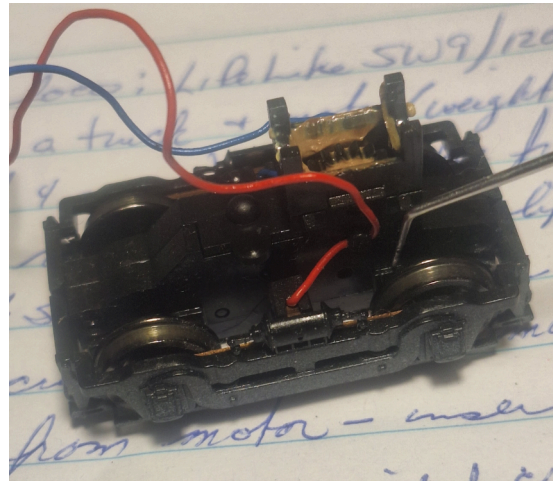
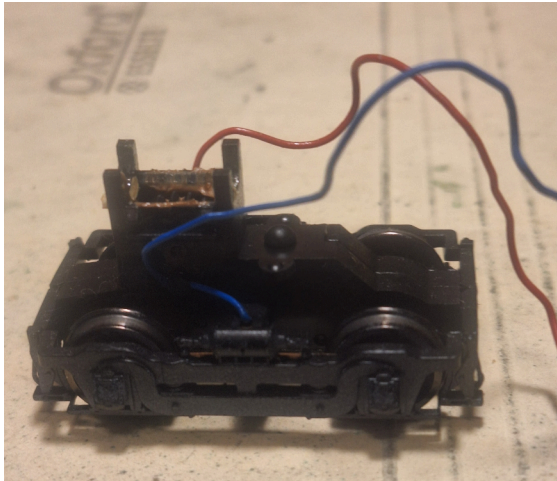
STEP 5: Remove motor cradle from motor.



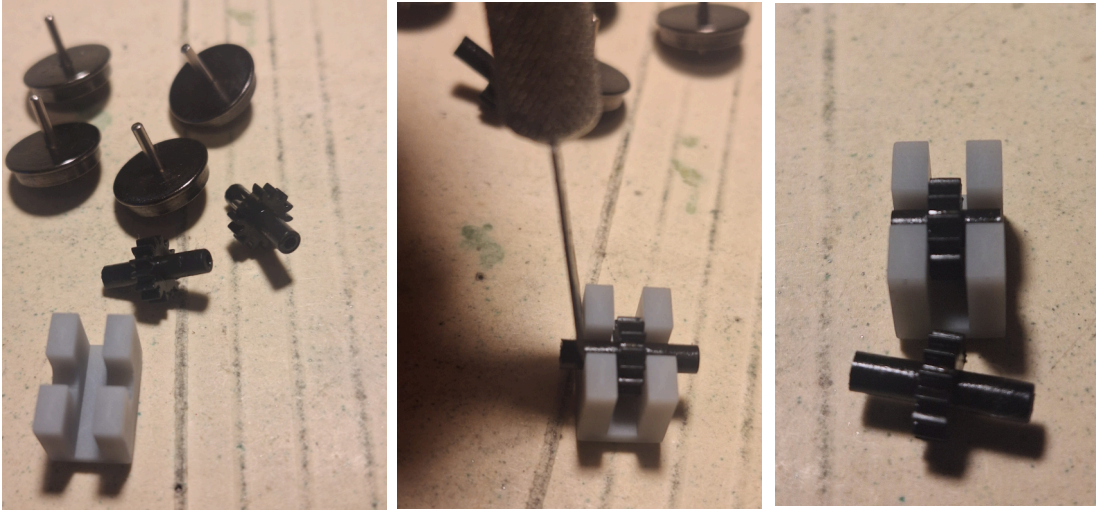
STEP 6: Insert motor into 3D printed cradle. Secure with one screw that was removed in STEP 4.



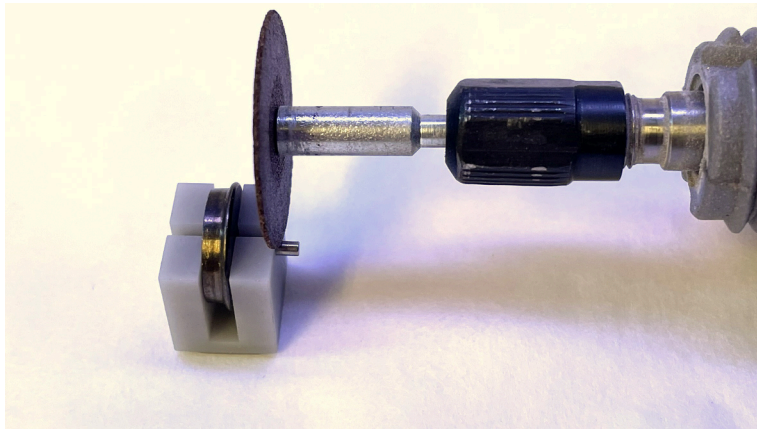
STEP 7: Disassemble the power truck side frames and bottom plate, with clips by the axles. Save power pickups, bottom clip, gear tower, and axle.



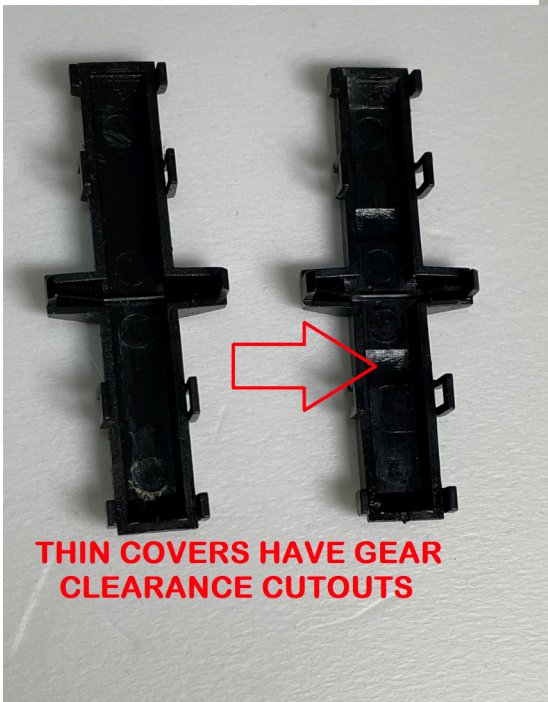
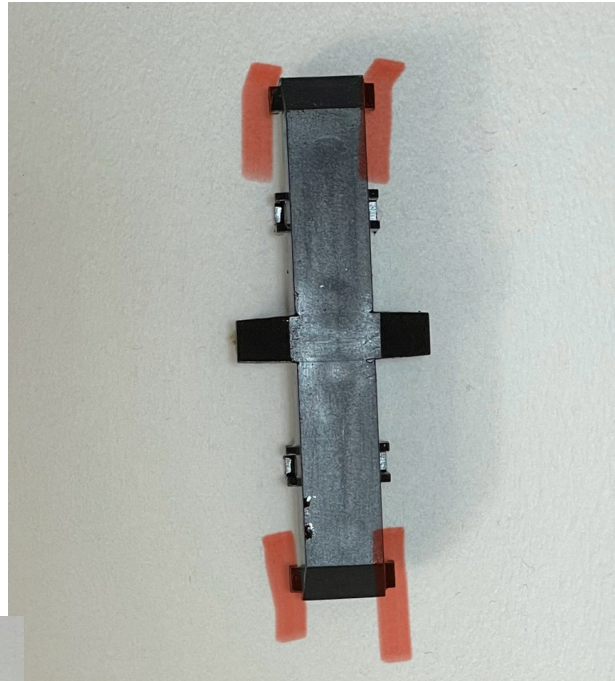
STEP 8: Remove wheel and axle halves from center gear. Place center gear in cutoff jig. Cut the ends of the center gear that extend outside the jig will give the correct HOn3 spacing.



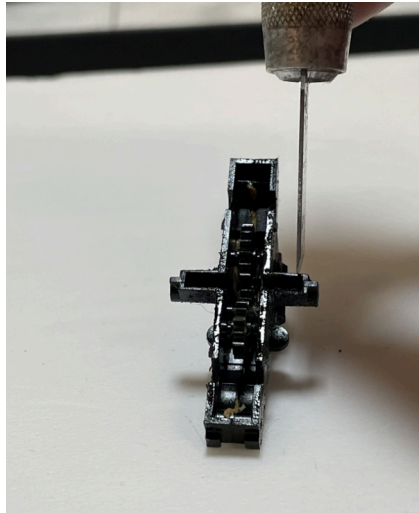
STEP 9: Place wheel in the axle cutting Jig. Using a cutoff disc, cut along the edge of the jig. Don't worry about damaging the jig, you will throw it away. It is more important that the axle is cut flush. Axles that are too long can touch in the gear chuff and cause a short. Repeat for all eight wheels.



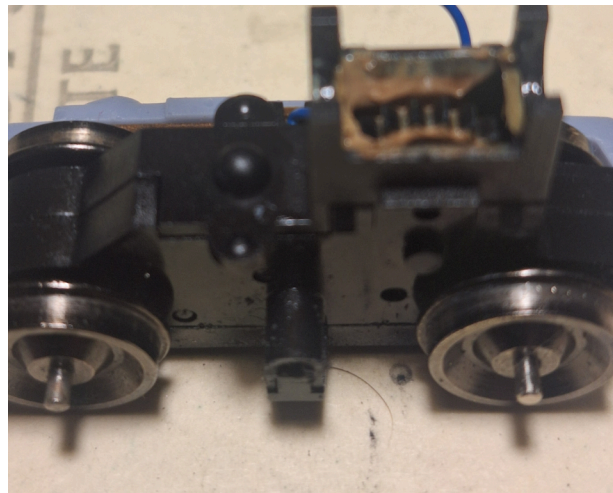
STEP 10: When cutting is complete clean up the end of the axles with a file or sandpaper. Chucking the axle into a motor tool or small drill at low speed can speed up this process. Reassemble the axles into the gear muffs. Use a HOn3 flange gauge to check that the axles are gauged correctly. If you have the thick style gear cover it is recommended to use the included 3d printed replacements. (O) Cut the alignment tabs (4) off the ends of the cover. Recommended - file the locking tabs slightly to make them the same thickness all way from top to bottom.



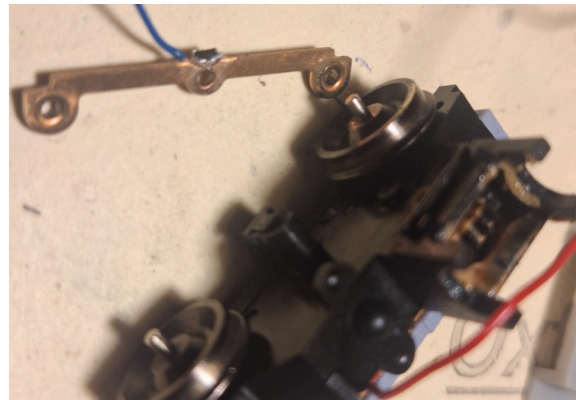
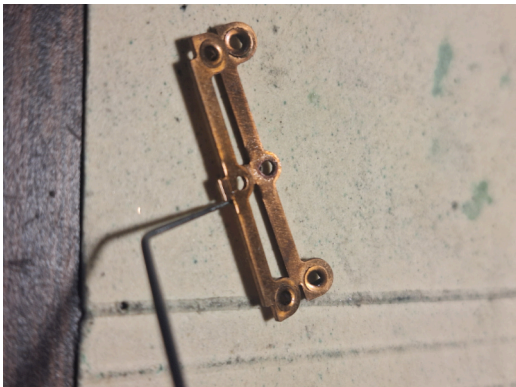
STEP 11: Cut the extensions from the gear tower flush with the wall. Keeping the blade angle towards the outside helps keep this cut straight.



STEP 12: Insert the wheels into the tower and gently snap the gear cover back into place. Be sure everything is correctly done before this step, the gear cover cannot be removed without pulling the wheels off.



STEP 13: Replace power pickups and new side frames "L". Pop black wire keepers from power pickup and cut tab flush, proceed to solder wires to each pickup.

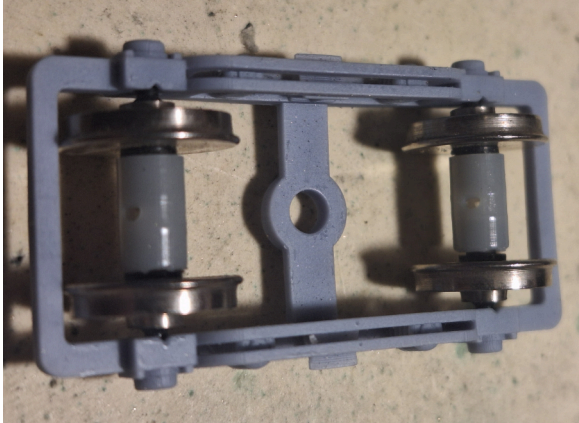




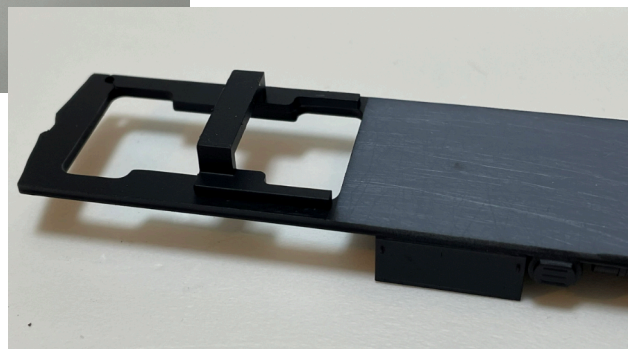
STEP 14: If building with one powered truck use the Wheel Chuffs, Wheels, and Rear Truck to assemble the rear trucks.

Cut the axle length the same as was created using the axle cut jig.

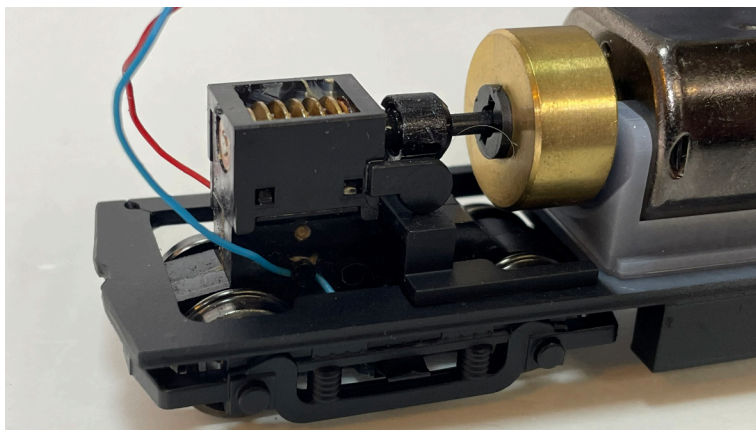
STEP 9 in order to fit in the Rear Truck. Use the Wheel Chuffs "K" to attach the wheels on each side creating an HOn3 axle. Install to rear frame with one large flat head screw "J" (two are pictured". If you want to forgo the interior and make both trucks powered, cut the beam out of the rear opening and convert the other power truck as previously described.



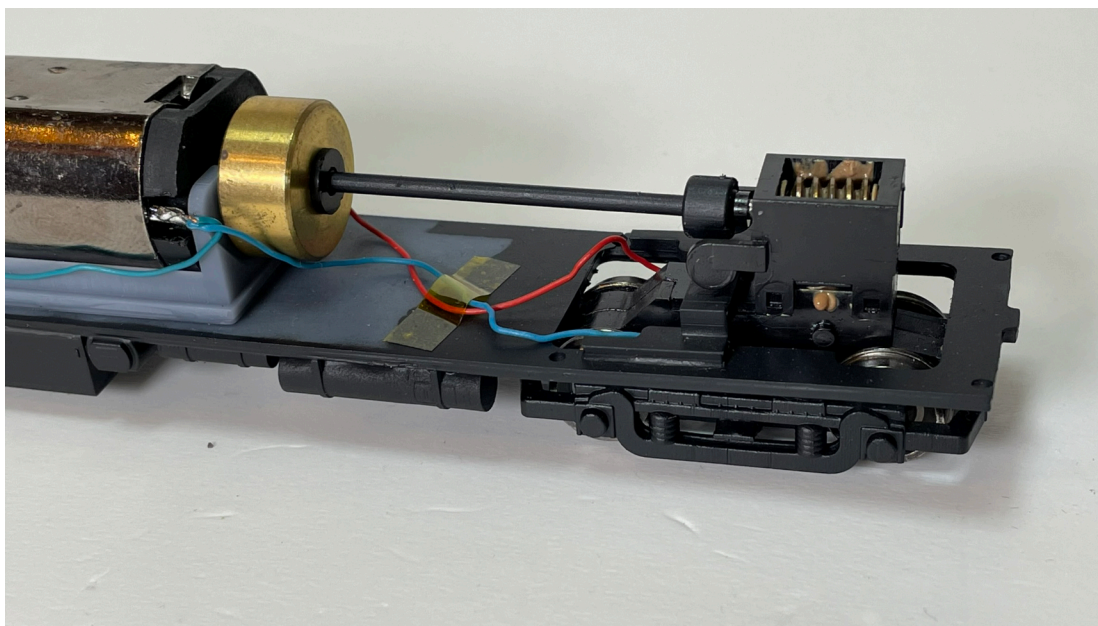
STEP 15: Insert drive shaft into recess in flywheel. Place engine on a solid flat and level surface, aligning bridge frame and motor on Floor "C". Attach Powered Truck Retainer "G" (two are pictured) onto top side of the floor "C" over the powered truck and under the worm and drive shaft. If all looks good, flow ACC cement only on the Powered Truck Retainer "G" where it attaches to the Floor "C" without getting ACC cement on any nearby wheels or gears. Allow ACC to set for an hour. This is a good time to paint. But mask the area where the motor mount will need to be glued.



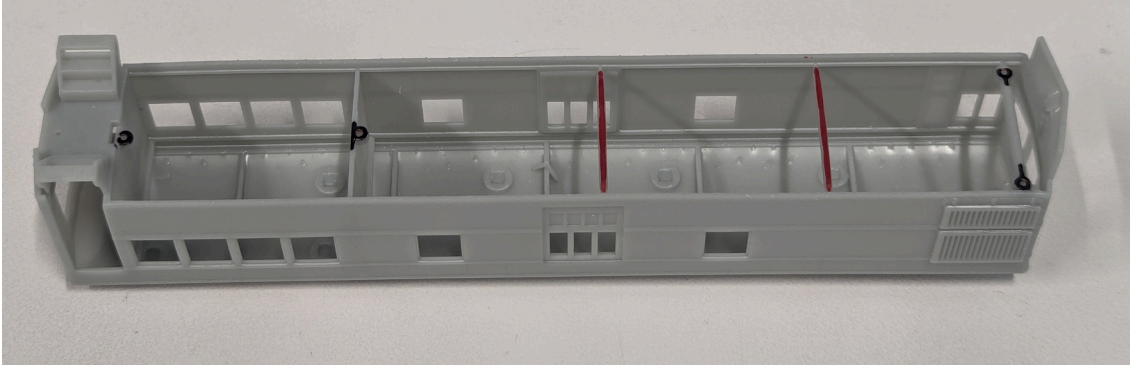
STEP 16: Install the front truck into the chassis. Line up the motor, centering it in the frame and providing enough space for the truck to fully flex without binding. In my experience this means the pins are just inside the flywheel.



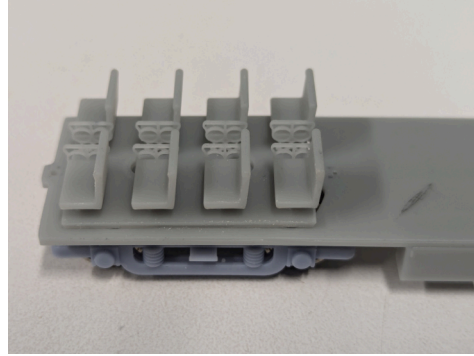
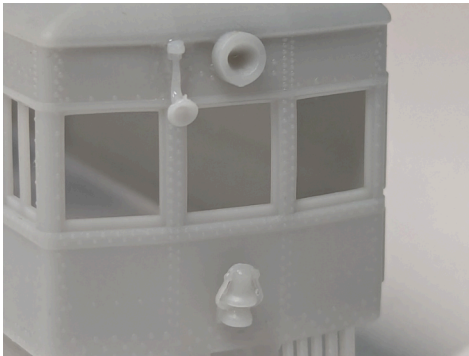
STEP 17: If you have opted for the powered rear truck, install it in a similar Manner. Painting the driveshaft black is recommended. The position of the rear Flywheel can be adjusted to allow proper flex in the rear truck while maintaining Shaft engagement. Solder the pickup wires to the motor or install a decoder.



STEP 18: Carefully remove the two red highlighted 3D printed braces in the photo. The four black areas are used to mount the floor to the shell.



STEP 19: Attach the bell and horn "E" to the front of the cab. Attach the seats "D" to the rear passenger compartment.



STEP 17: Attach the floor to the chassis black highlighted spots in the photo, using the 4 small screws "J".



STEP 18: Paint and decal with included East Broad Top decal. I have found Tamiya TS-21 dark green to be a very close match to the blue/green of the prototype

