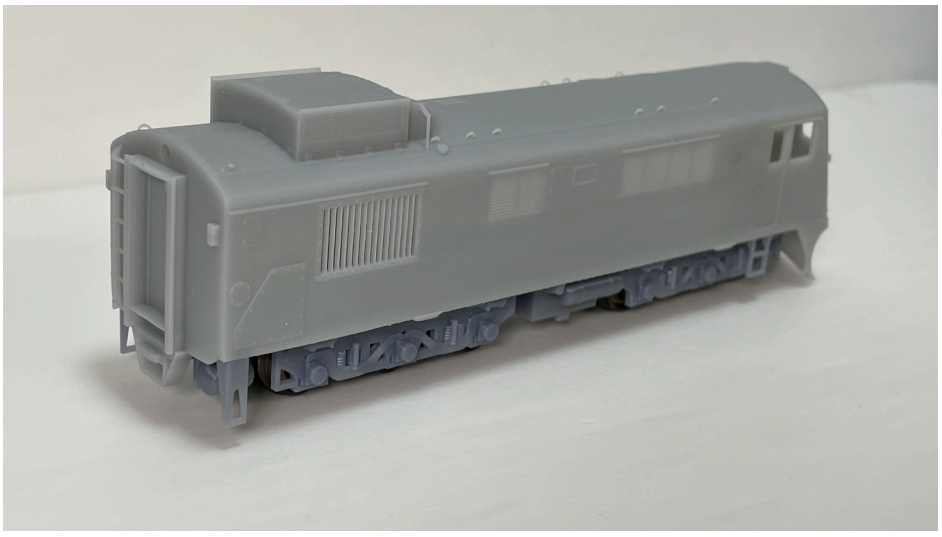
Ride Trains

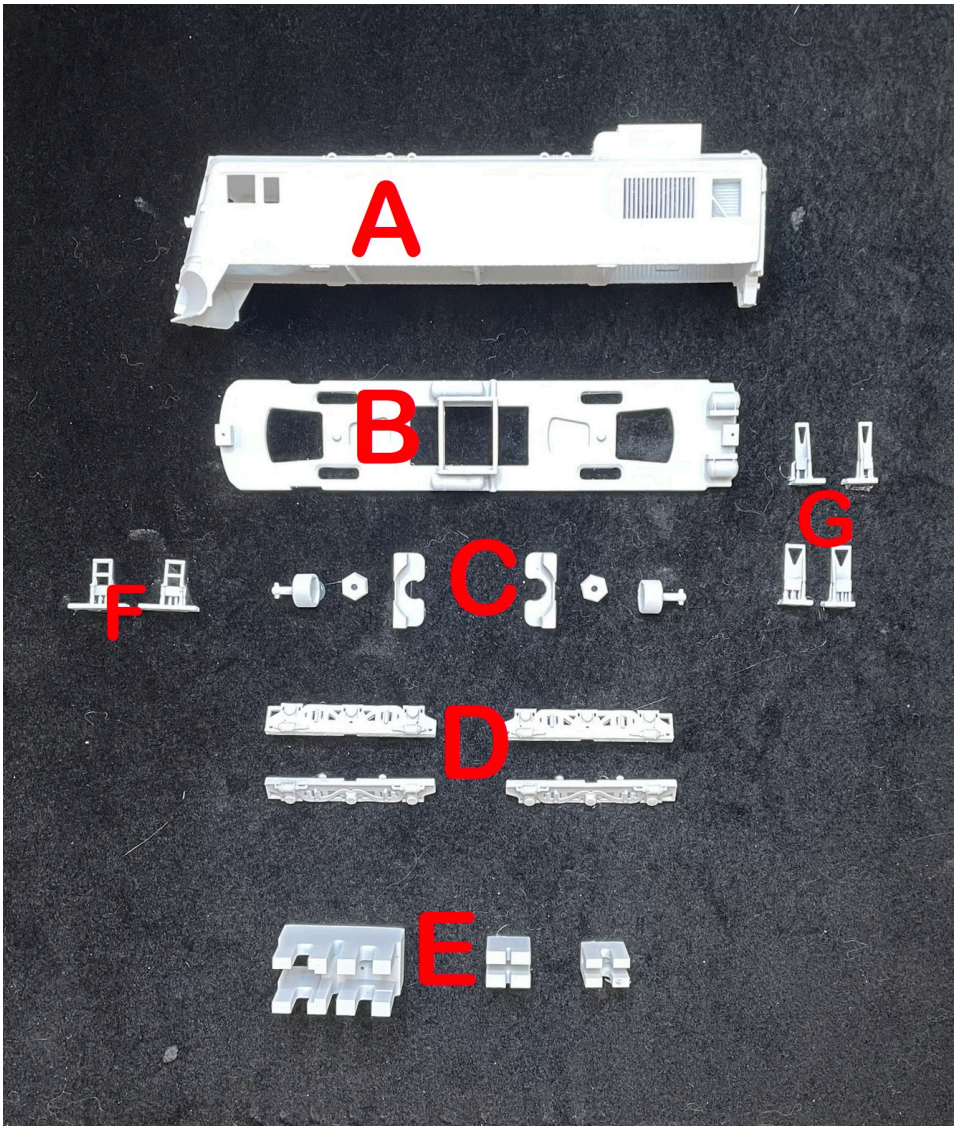
White Pass & Yukon 90 Class HOn3
ASSEMBLY INSTRUCTIONS

This kit creates a 90 Class narrow gauge diesel as used on the White Pass and Yukon Route. Also known as the shovel nose. Kit requires a Kato RSC-2 diesel chassis as a donor.

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:



Tools needed:
Rotary tool
Cut-off wheel
Screwdrivers
superglue
(gel & runny)
file
#18 blade & holder
Pin vise
#49 drill
nippers
NMRA HOn3 gauge

A - Body
B - Underframe
C - Motor cradle
D - Sideframes
E - Cut jigs
F = Front Steps

Note: Requires Kato RSC-2 mechanism

C = Note motor cradle with large hole is towards the rear of the locomotive

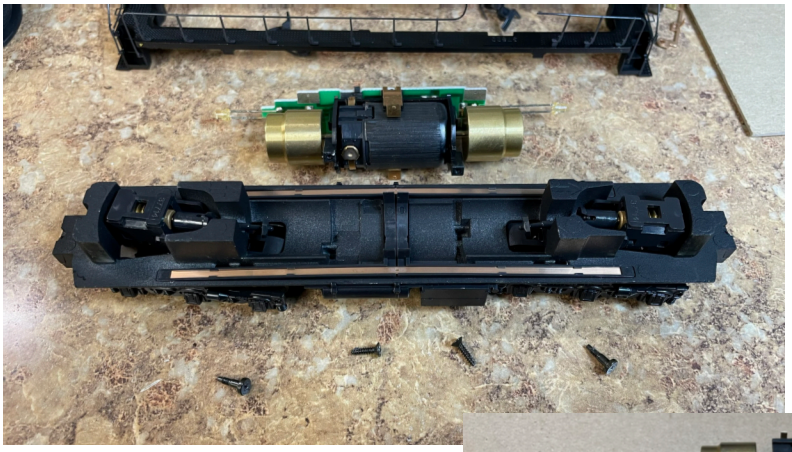
D = Note the squared off ends of the truck sideframes are towards the Ends of the locomotive

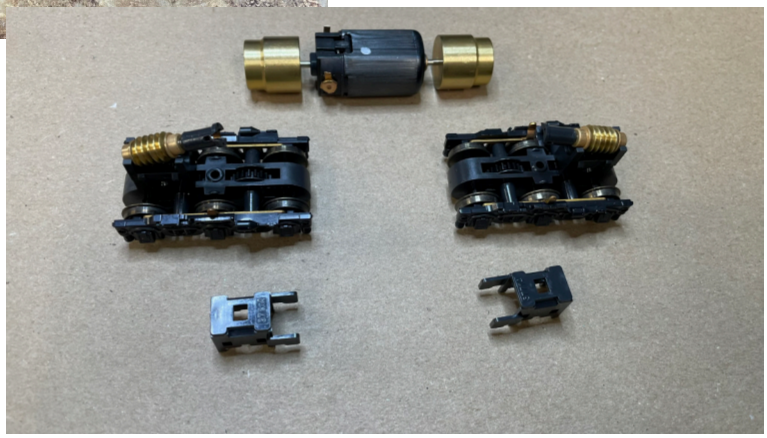
G = Rear steps - small and large included - use photos, the smaller ones were more common

MODIFYING Kato RSC-2 TO HOn3

STEP 1: Remove the shell from the mechanism.

STEP 2: Remove handrails and motor by removing four screws from the bottom of the locomotive. Then cut the power tabs that hold the motor to the circuit board. Finally CAREFULLY remove the covers from the worm gears, releasing the trucks. This is best done by reaching up between the wheels.

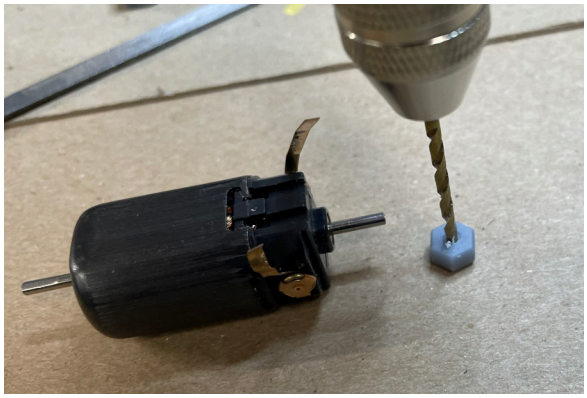




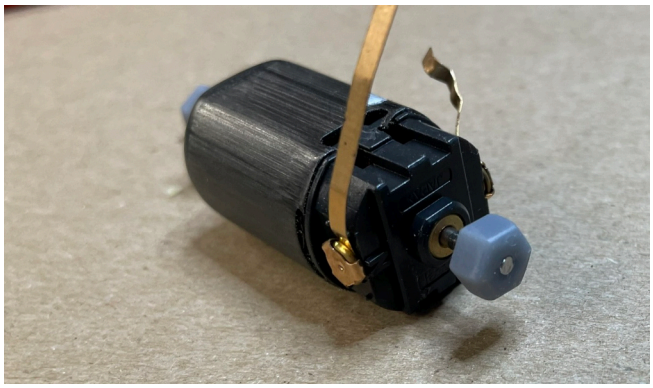
STEP 3: Remove fly wheels by any means necessary. Good luck. Sometimes they come off, sometimes they don't. Cut 1/8" (0.125") off each shaft and sand or file ends smooth.

Search "motor pinion gear puller" on Amazon. They are as little as $10. A replacement motor is $30. HM-5 motor w/o flywheels is Pn 31-500.

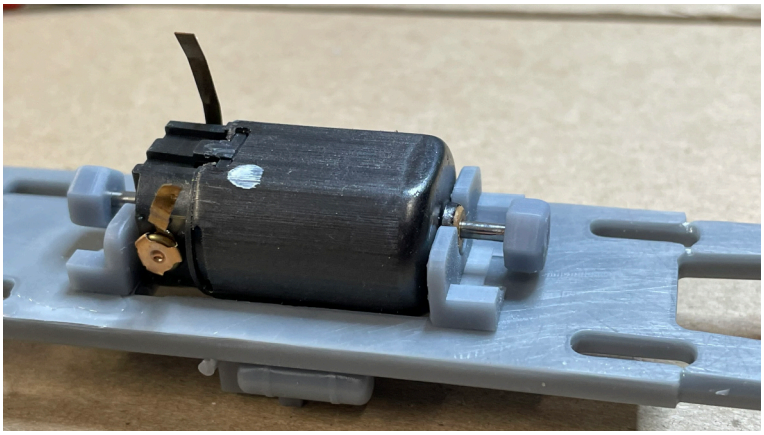
STEP 4: Drill out the hex nuts using a #49 drill bit. #48 or 2mm will work but will require a drop of superglue



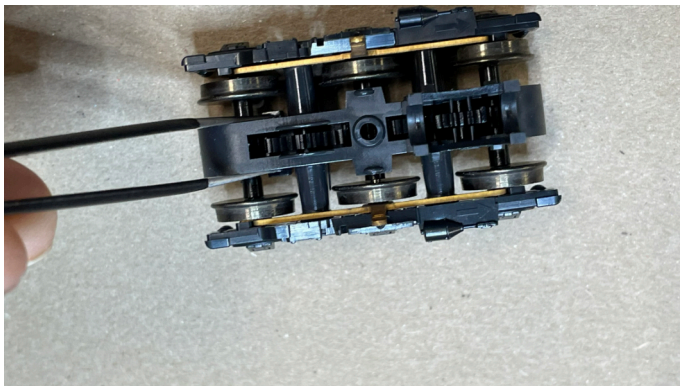
STEP 5: Press hex nuts onto motor shaft until flush or nearly flush.



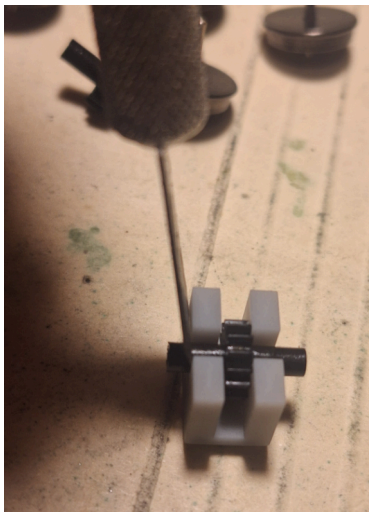
STEP 6: Insert motor into 3D printed cradle, centering it in the frame. Cradles are marked L for the end with the wires and S for the blank end. Once everything is lined up secure with superglue.



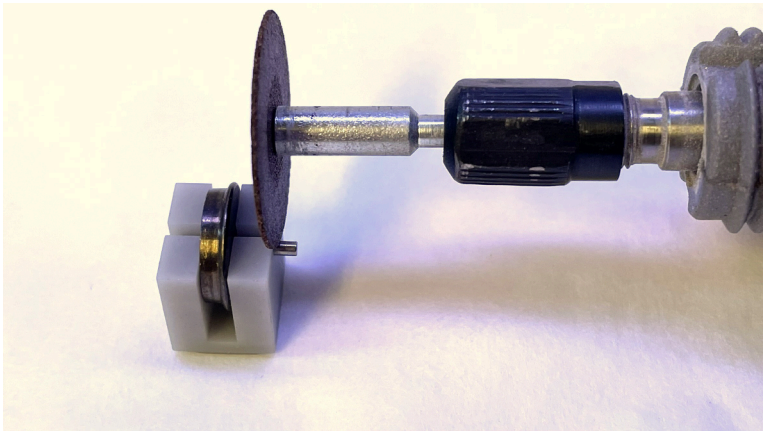
STEP 7: Disassemble the power truck side frames and bottom plate, with clips by the axles. I use tweezers to disengage both clips simultaneously.



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. Be sure to cut flush, use a sharp chisel blade.


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.

STEP 11: Cut the extensions from the gear tower flush with the wall. Trim excess with a hobby knife.

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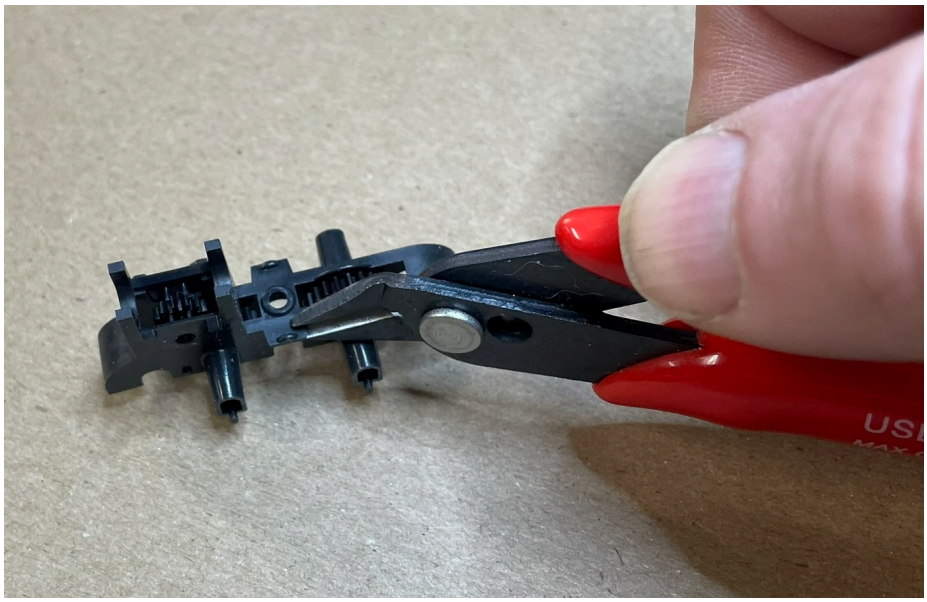
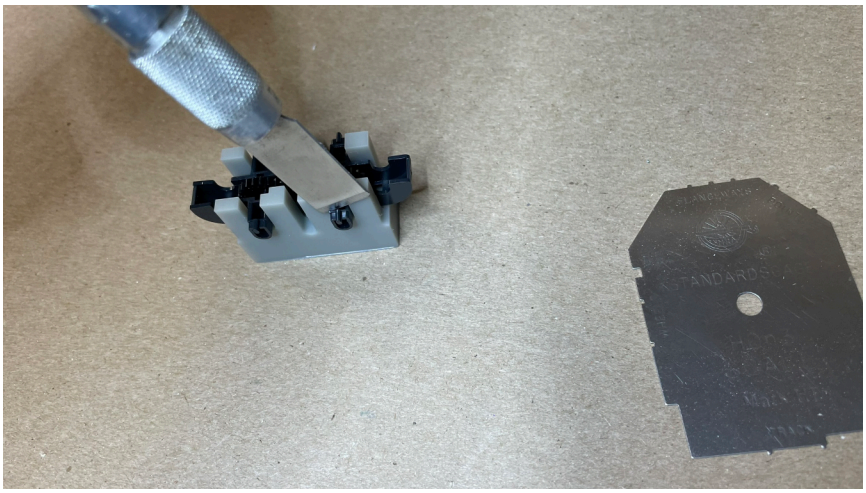
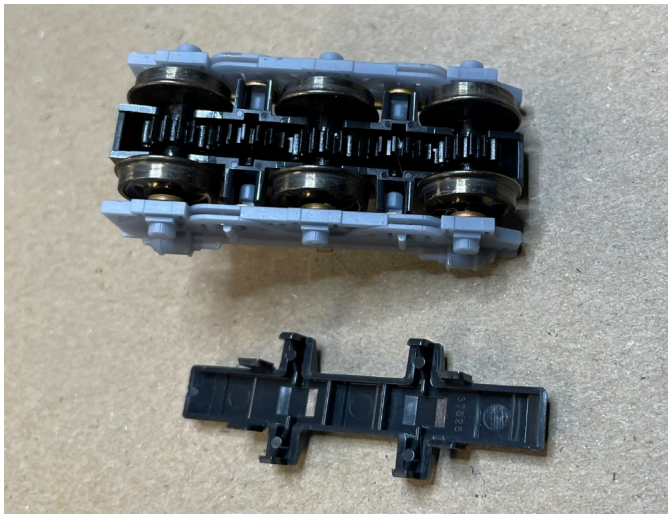


STEP 12: Cut the extensions from the gear tower flush with the wall. Keeping the blade angle towards the outside helps keep this cut straight.

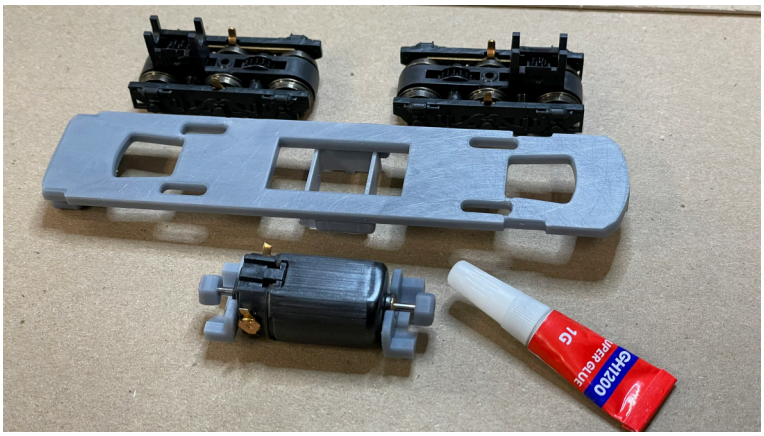


STEP 13: Insert the wheels into the tower and gently snap the gear cover back into place. Be sure everything is correctly done before this step, check that the wheelsets are correctly gauged and paint the sideframes. The gear cover cannot be removed without spreading the wheels.
NOTE: The squared off ends go to the end with the gear tower.

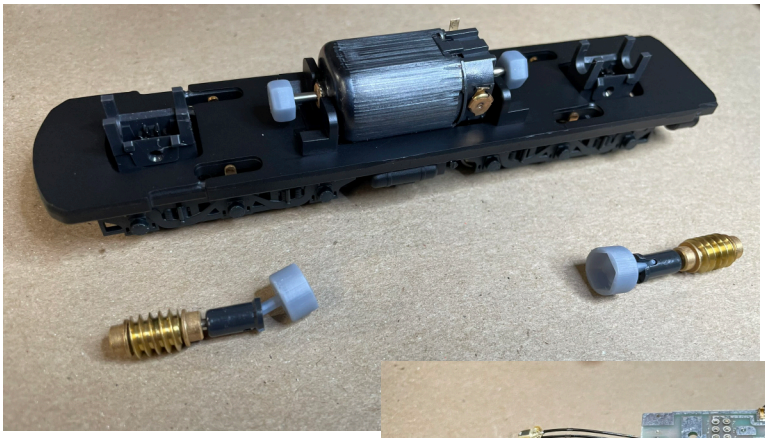


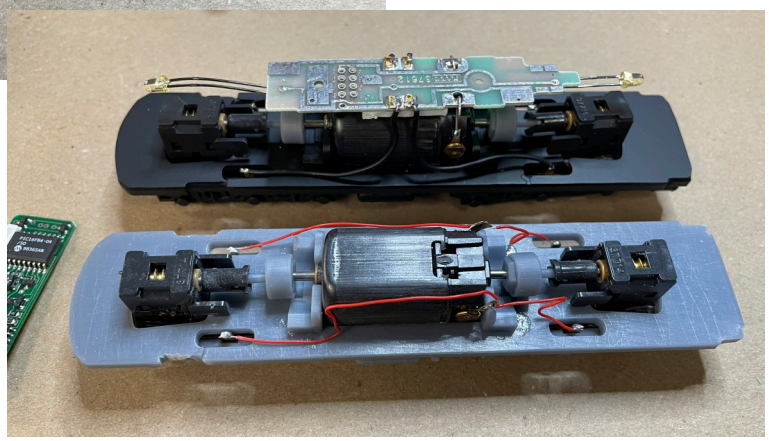
STEP 13: Double-check the wheel gauge, the tabs will often push the wheels out.

STEP 14: Glue the motor mounts to the frame. If you paint the frame prior to this step mask or sand the area to be glued.

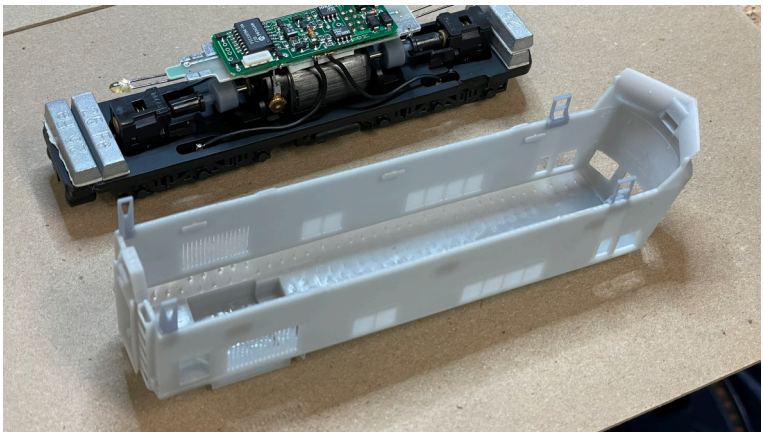


STEP 15: Install the hex couplers into the worm drive, then install the trucks, ensuring the worm cover is snapped onto all four bosses.
Check for proper truck flex.
Solder the pickup wires to the motor or install a decoder.





STEP 16: Remove and discard the body cross braces and glue the steps in using super glue. Recommended - decoder installation and added weights.



STEP 17: Paint and decal. Decals are available from Smoky Mountain Laser Craft email them at ionhoss@yahoo.com
- if using a water based paint, prime using an oil or lacquer based primer first. Mr Finishing surfacer white 1500 is recommended. If using lacquer based paints like Floquil or Star brand no surface prep is needed or recommended.

STEP 18: Coupler pockets are designed for Kadee 705. Some modification may be needed for other styles. The upper and lower tab stops may need to be removed proper fitment.