

# Modelling your own VIA Rail F40PH-2

October 29, 2012, version 2



Welcome to my VIA F40PH-2 modelling instruction document. While there are competing brands of lesser quality F40s available in the new and used markets, I feel the Kato unit provides the best starting point due to its quality design, drivetrain, features and relative ease of purchase online at competitive prices. These instructions therefore describe the procedures for working from the Kato Amtrak F40PH and may need slight adaptations for other brands of F40s. The Amtrak and RTA road names that were offered both feature significantly different detailing. Kato never released undecorated versions of the F40. This general summary document is intended to summarize in a single, printable PDF the numerous steps outlined on my website. It should also complement the instructions that were written specifically for the Kaslo fret installation and the F40PH-2 parts list, which are available as free downloads from my website. All documents are based on the pre-REN versions. It is recommended to acquire all of the required detail parts before beginning work.

- ✓ Disassemble entire locomotive right down to the bare frame and shell

- ✓ Place drive components in one box and all other parts in another. Set Kato box aside as it will not be needed again until the rebuild is complete
- ✓ Strip the paint from the shell either by 99% alcohol bath (7 day soak time) or by grit blaster.
- ✓ File away the backup light material from the speaker cup
- ✓ Remove the marker lights from the window pieces

## **SHELL**

### ***Removal of all unwanted detail***

1. Ream out all four fans with a step or conical bit (i.e. Unibit)
2. Grind down remaining outer ring fan material with a rotary tool (i.e. Dremel) sanding drum and finish up with chisel.
3. Remove entire inertial hatch
4. Remove front bumpers and small round discs on nose with chisel and then sand down front
5. Chisel/file/sand down the top of the exhaust hatch (just the smaller exhaust piece)
6. File/chisel down the rear marker lights and sand hatches
7. Cut out the side engine access door along with a small section of car body to the right
8. Sand off all detail below the cab windows including the steps below the doors
9. Sand off all detail on the cab roof
10. Chisel/file/sand off all detail above the windshield
11. Chisel/file/sand off small dynamic brake access hatches towards the top of the roofline on both sides

### ***Drilling***

12. Fabricate and install new dynamic brake fan base out of .015 or .020 styrene and glue new fan in place (remember to cut out a rectangular notch to accommodate the winterization hatch installation later)
13. Carefully ream out center of new dynamic brake fan -- be careful not to damage the outer ring and leave some material to provide a base for the new Plano see-through fan-top. Allow the step or conical bit (i.e. Unibit) to remove some of the new base material as well to facilitate addition of fan blades later.

14. Fabricate a new exhaust hatch base out of .040 styrene and glue over top of existing base.
15. Drill and file rectangular hole in the new exhaust hatch and base to facilitate addition of new exhaust part from Kaslo fret
16. Drill and file square hole under both cab doors to facilitate addition of new recessed step parts from Kaslo fret
17. Drill and carefully file new rear small square sand hatches, below the location of existing ones
18. Drill a mounting hole for the horn in the appropriate location
19. Drill two holes in the bottom edge underneath the cab steps to allow for mounting wire reinforced bracing for the cab stirrups. Do the same thing under the location for new engine room door. You should end up with a total of 6 under-sill holes

#### ***Putty and finish-up work***

20. Fill in the notch at top and front with putty and sand down until old notch becomes invisible
21. Fill in all holes on cab roof with putty and sand down until old location becomes invisible
22. Fill in rear sand hatches and marker lights with putty and sand down until old location becomes invisible
23. Fill in backup light with putty after gluing .005 or .010 styrene backing inside the shell. After putty is dry, sand down until old light becomes invisible
24. Add new inertial hatch (Cannon FH1358 recommended) and carefully remove existing vent with chisel
25. Fill in tiny grooves of new inertial hatch vent with putty and sand smooth
26. Fill in the railing installation holes with putty or gap filling ACC

#### ***Addition of new parts***

27. A new section of car body including batten strips needs to be fabricated or carved from another model and grafted into the location you carved out in step 7. Once this part has been secured and prepared, glue it in place and finish with putty and filing as necessary. Ensure the mount is flush both on the inside and the outside of the shell. Consider casting a few copies of this part to allow modelling of more than 1 unit.



28. Add Plano #185 fan base (may need to be trimmed slightly) for the three radiator fans.

29. Add two Quiet fans (see my parts list for options)

30. Add MBE winterization hatch and modify the notch described in step 12 as necessary for a tight fit.



31. Add .005 styrene squares to the corners of the inertial filter hatch as described in the Kaslo fret instructions.

32. Add a new small .015 base for the new inertial hatch vent as described in the Kaslo fret instructions.

33. Add Plano fan top and blades in new dynamic brake fan housing.

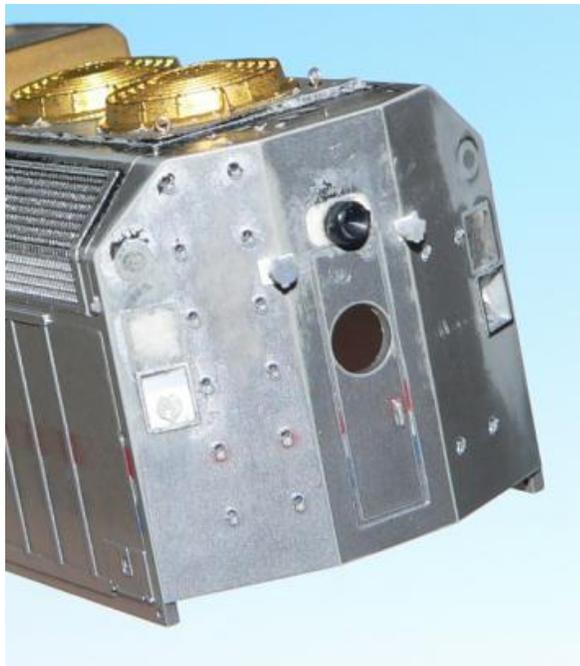
34. Add MBE horn

35. Add Sinclair antenna

36. Add eye pins to the roof



37. Add high-mount MU plugs and new single backup light to the rear



38. Add new headlight (Kato style is incorrect for VIA but can still be used if the factory lighting system is more important)

39. Add remainder of desired parts from Kaslo fret per the Kaslo instructions.

40. Carefully wash the shell in warm, soapy water to remove finger grease

41. Prime with grey and when dry, mask and airbrush paint grey, yellow and black areas



42. When paint is dry, apply the decals/lettering. I used Microscale set 87-667. See my parts list for other options.



43. Install and paint grab irons and trim lettering as necessary.



44. Carefully spray the lettered shell with Dullcote or other decal sealer to give the shell a consistent finish.
45. Install remaining Kaslo parts such as sand hatches, cab window frame, wind deflectors, sunshades, windows, cab interior, shell weight, rear window and speaker cup etc. Here is an example of remaining parts for four units, along with a few extra parts to be applied as necessary. The blue decal pieces are side sill decals. Hand paint final details. Some can be installed prior to Dullcote while others (such as cab window frames) should be installed afterwards.

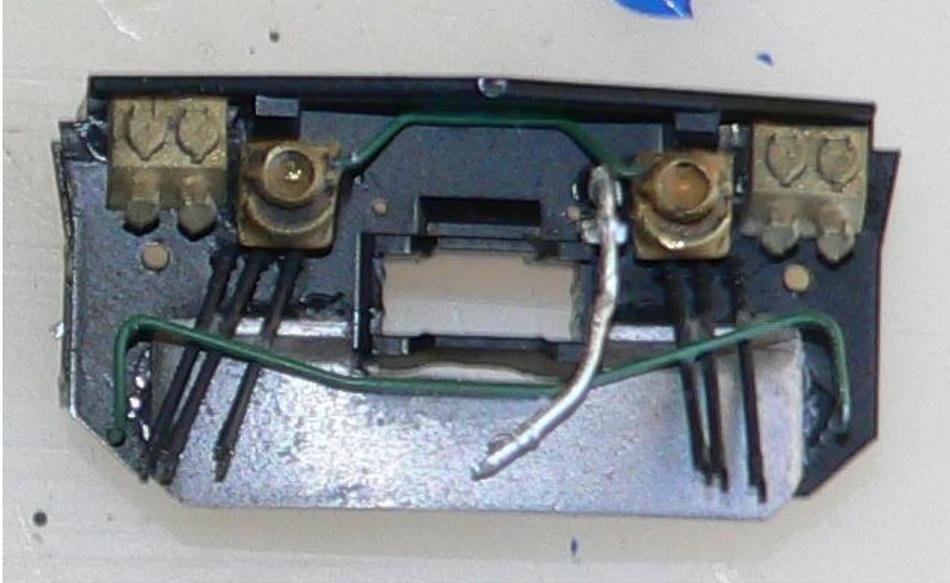


46. Install the cab and engine room door stirrup steps. I recommend drilling holes for wire braces which can add strength to the step assemblies as shown here. Test-mount the shell to ensure proper alignment with under frame.
47. Glue MV lenses in ditch lights, headlights and backup light.
48. Mount the shell to the completed and painted drive
49. Weather if desired

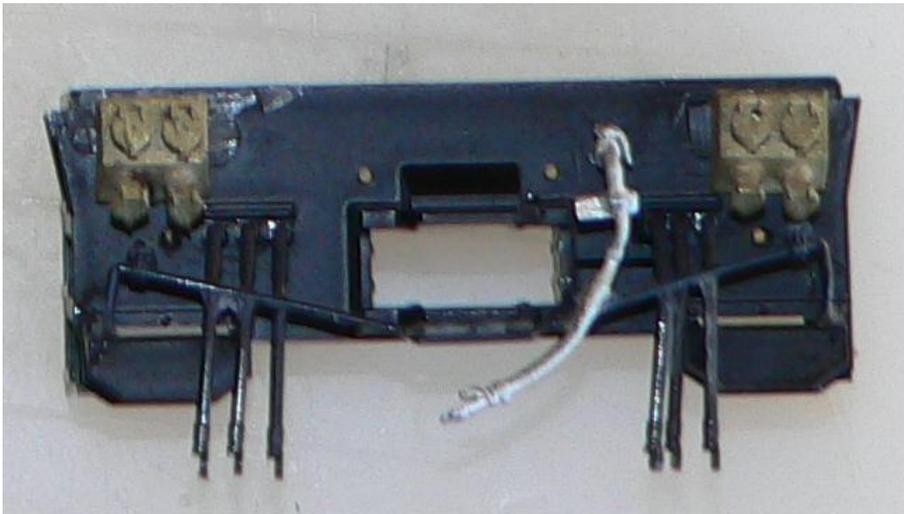


## **PILOTS and Cab Interior**

50. Remove unwanted detail including all existing MU plugs
51. Modify Juneco pilot with the addition of a notch to fit under coupler box and rounding of both bottom corners. Glue in place.
52. Glue MBE MU pieces in place
53. Install MU hoses
54. Glue ditch lights in place
55. The ditch lights have a conduit between them; fabricate this out of .015 floral or music wire
56. Fabricate and install coupler lift bars. I prefer the Kato RTA lift bars as they are very close to the VIA style.

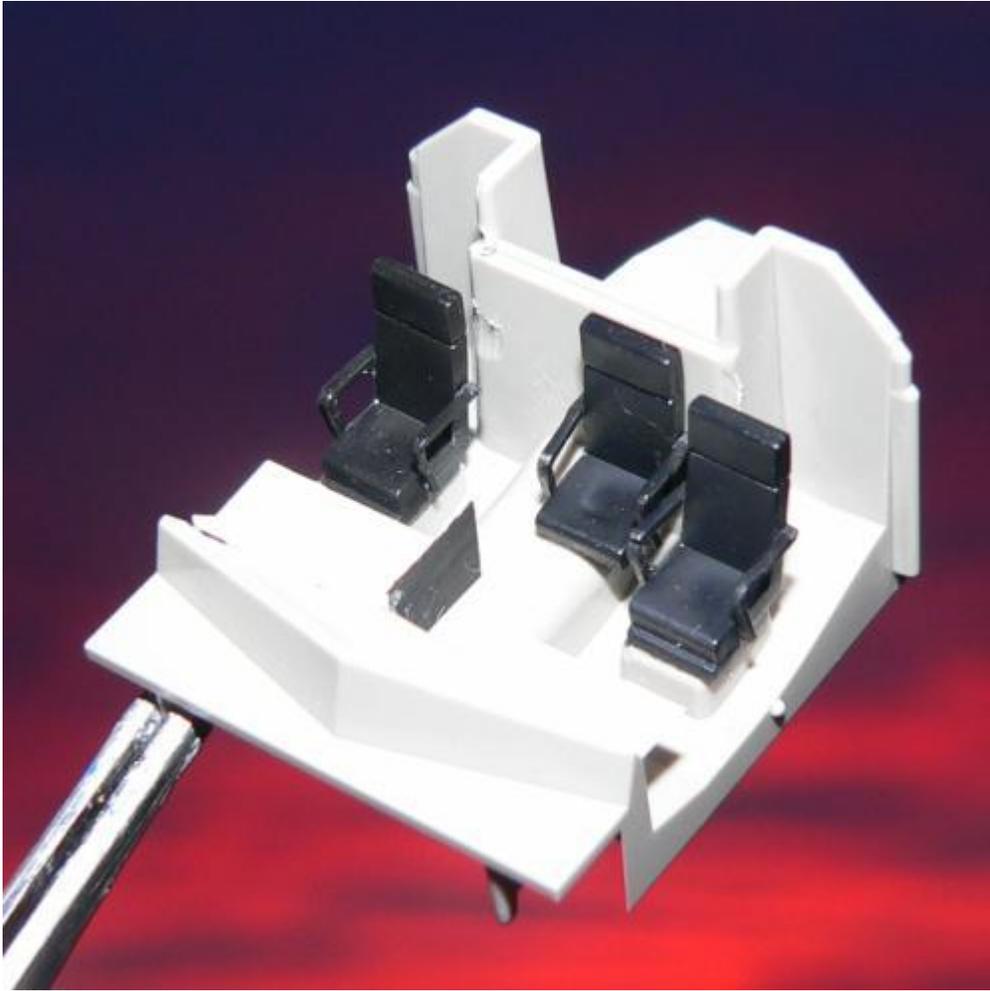


57. Install train line air hose



58. Airbrush completed pilots flat or satin finish black

59. Hand paint MU plugs according to prototype photos



60.

61. Detail the cab interior for VIA specs. You can make this as basic or elaborate as you wish. Grind down the existing two seats and build up with Rapido cabooses cupola seats. They are the closest I have found on the market. Also replace the traditional controls with styrene desktop controls for engineer and small desk surface for conductor.
62. The height of the new seats will prevent the shell from seating properly on the frame, so you will need to modify the window pieces that go under the cab roof. I removed some material with file or Dremel bit until the reassembled shell was able to be properly mounted to frame.

## UNDERFRAME/CHASSIS

63. With the correct safety glasses, gloves, clothing and protection, carefully grind away a section of the under frame as shown here. This is required in order to allow clearance for new air tanks and other details. Please work extremely carefully as this is can be a dangerous operation.



64. File away the two narrow skirts from each plastic side contact railing as well as to remove the air dryer detail parts.
65. Discard the entire stirrup step collar as it is not needed.
66. Fabricate a new fuel tank out of Kato SD70MAC fuel tanks. Consider casting extra copies for your own future use. Remember to drill hole and mount the round gauge (DA FU3101).

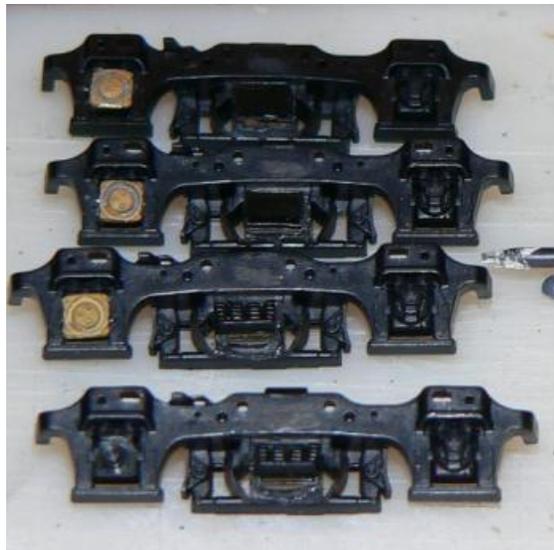


67. Cut and build up new .030 styrene boxes for the batteries and fuel tank.



## TRUCK SIDEFAMES

68. Locate a salvage set of side frames with the correct type of leaf spring detail. This is a good use for P2K side frames that have been upgraded with nicer quality Athearn ones. Carefully remove the leaf spring detail from the old side frames. Consider casting copies of the leaf spring triangles for future use and to save from having to scrap too many side frame sets.
69. Grind/file down the factory pillow block detail to make way for the new leaf spring part.
70. Grind/file down the left journal and replace with MBE GP38-2 bearings, except for the FL side frame, which should have a speed recorder on that journal instead. **IMPORTANT: test for truck swing clearance with cab stirrup steps before gluing in place.**



71. Cut .015 styrene squares to fit at bottom of swing hanger. Do not leave swing hangers open in empty space. File styrene squares carefully for correct fit.



72. Add slider bars and anti-hunting dampers.

73. Add small squares and sensor wires (see prototype photos)
74. Add re rail frogs if applicable to your modeling year of operation.
75. Add Kaslo chain from fret and Kato cylinder/lines.



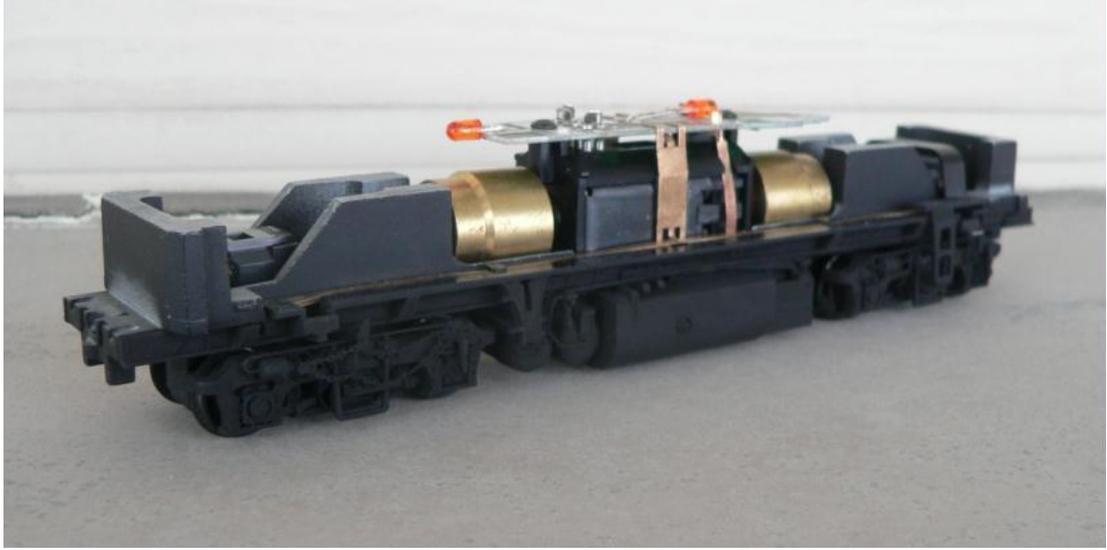
76. Airbrush paint the side frames a flat or satin black finish. Airbrushing produces a far nicer result than hand painting with all of the details we have added.

## FINAL DRIVE ASSEMBLY AND PAINTING

77. Assemble and install fuel tank sides and styrene pieces described in step 63.



78. Fabricate the air tanks out of 9/32" tubing and ends saved from the parts box or cast where necessary. Follow prototype photos and build up the remaining detail with guitar string (.065 or less), wire, traction motor cables (optional), brackets for battery box, new air dryer parts, fuel fillers, lines and re-rail frogs along with the fuel tank steps from the Kaslo fret. Test both trucks and ensure proper swing clearance with rear of air tanks and cab stirrup steps. Carefully clean off finger grease and airbrush paint after detailing is complete.



79. Install painted front and rear pilots.







A note about the Renaissance (“ren”) rebuilds that were done between 2006 and 2012. Lone GPA-30d #6400 was unique in that it was the first and only ren rebuild released in 2006 without a cabinet. That unit existed only for 4 years before it was destroyed in a wreck in early 2010. All other ren rebuilds released after 2009 feature a large HEP cabinet mounted on the rear steps. While we are hoping to produce a quality flat brass etch and resin kit for this cabinet, the instructions outlined in this document and others must still be followed as a base. There are very few features of the original units that were not found on the rens. The obvious omissions we have observed on the rens include the front sandboxes and marker lights which negate the need for those parts from the base fret. As always, careful study of numerous detail and other prototype photos from a range of eras, angles and photographers is critically important. If this ren kit is produced and released as planned, there will be an updated version of this document to account for the differences. Keep an eye on my website for updates.

Thank you for reading and following along. If you have any questions or comments, please do not hesitate to contact me. I am most interested in hearing from anyone who completes one or more of these models and welcome any corrections or improvements to the steps outlined in this document.

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