MODELING THE READING RS-3

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The RS-3 Locomotive

- RS-3 production started in 1950 and continued through 1956. During that time, the outward appearance as well as the systems and equipment installed in each locomotive varied. In the mid 70's, the railfan community developed the term, "Phase" to differentiate the various spotting features over the production time span. Both **X2200 SOUTH** and **MAINLINE MODELER** have produced excellent articles for the technical fan detailing RS-3 features.

- For our purposes, the Reading purchased Phase 1A and Phase 1B units. The spotting features and differences between these 2 phases are minor. 500 through 509 are Phase 1A units while the remaining RS-3's are all Phase 1B. Phase 1A units have vertical louvers on the battery boxes compared to horizontal louvers on subsequent phases.

1951 Locomotive Deliveries

- In April 1951, the Reading took delivery of their first 10 Alco, RS-3's; numbers 500 through 509. In July, numbers 510 through 515 arrived on the railroad. The next month, 516 through 524 were put into service. The first 25 locomotives were primarily used for freight service, the duty for which they were built and acquired. Photographic evidence exists however, which clearly indicates that they were also used in passenger service as single units. See Trackside, "Reading in Anthracite Country"

- In this photo you can see the vertical louvers on the battery boxes and single, sealed-beam headlight.

- On 501 you can see that the handrail stanchions on the front of the unit do not extend above the horizontal railing. You can also see the plumbing above the auxiliary equipment box in front of the cab.

- The second order differed from the earlier delivery in that 510-524 had a twin sealed-beam headlight with the two lamps arrayed horizontally. Also the battery box louvers were now configured horizontally.

- You can also see that the end stanchions extend above the horizontal end railing.

- Here is the front of 511. You can clearly see the posts next to the drop step extending above the horizontal railing.

1952 Locomotive Deliveries

- In 1952, the first freight units to arrive again show some new spotting features. 496 through 499 were equipped with dynamic brakes and air and signal hoses to work with passenger units. Here is a nearly new 496 in Allentown, PA. 496 like all of the 1951 and 1952 deliveries had the air-cooled turbocharger. Note the lengthwise exhaust stack.

- Here 498 shows the cross-wise, turbo stack.
- Looking further at the photo, you can see that the railing ends, grabs, steps and footboards were painted yellow in the interest of safety, certainly train-service employees could easily see where the primary handholds and footholds were located.

- This view of the end of 498 in the roundhouse at Bethlehem shows the turbo exhaust vent.

- Although the next locomotives delivered were steam generator equipped, numbers 460 through 475, let's finish up with the freight locos, 484 through 495. With the exception of the passenger related air, steam and signal lines, 484 through 495 were the same as their passenger assisting cousins.

Here is 488 at West Cressona. In this photo you can see the added "fire cracker" radio antenna.

- Here is the 494 at Pavonia, NJ on the PRSL. The box directly in front of the cab contains the train radio, including the conduit running to the “firecracker” antenna.

- Here is a closer of view of another feature that was first included with the 1952 locomotives. Directly behind the air reservoir is a set of coils, similar to a transmission cooler. This was not found on the 1951 units but was also on the 1953 locos.

- A number of units were modified in the late 1950's or early 1960's by removing two of the standard, louvered doors and replacing them with one, larger door with a rectangular, filter opening, similar to Phase 2 RS-3's.

You can see the twin openings just above the battery box on 489.

- All of the units in the series 484 through 524 were delivered with the 800-gallon fuel tank, mounted cross-wise under the frame behind the air reservoirs.

You can see 503's fuel tank clearly in this photo.

Passenger Equipped Units 460-475

- If you look below the frame of 475, you can see the water tank for the steam generator.

This photo shows the steam generator stack and also the rectangular vent located behind the exhaust stack.

Another feature was the turned handrail, ahead of the firemen’s seat, which made room for the cab signal equipment box.

- Another feature of the Reading units clearly seen in this photo of 469 is the company's practice of painting the step edges, critical grab irons and footboards yellow. Also the red square at the bottom of the cab was to indicate the emergency fuel cutoff.

- In this shot of 467 at Tamaqua you can see the box housing the cab signal equipment. The water tank is also visible. This wraps up our coverage of the 1952 RS-3 deliveries.

1953 Locomotive Deliveries

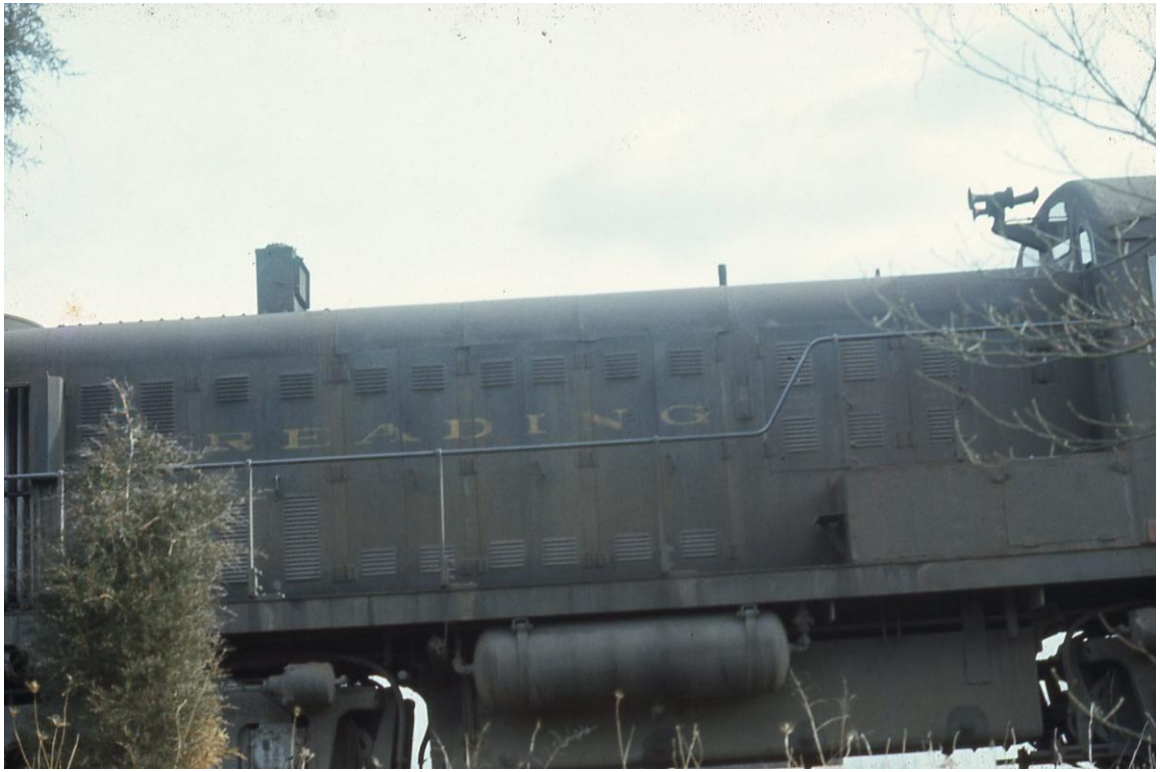
- The 1952 units had one handrail post on the battery box and two posts on the main walkway. In 1953, this was reversed on the Reading units with two on the battery and equipment boxes and one on the deck.

- You can also see that the unit has been modified by replacing two standard doors with one large door with the screened, filter opening. Despite careful research, my friends and I have not found out the logic behind this change. Once again, the constant reminder to look at photos of the unit you're modeling proves a very good suggestion.

The other 1953 differences are the twin, vertically oriented headlights and also the handrail stanchions on the end of the unit.

- You can clearly see the different end railings on the picture of 444.

- Reading's final 7 units, numbers 444 through 450 had the distinction of being the railroads heaviest Alco RS-3's. The major difference for modelers is the units' 1400-gallon fuel tank.



In this photo you can see the lengthwise orientation of the tank. The fuel fill is located at the front of the tank.

- Likewise, 445 shows the 1400-gallon tank and the cooling coil placement. Note also that this loco had the rectangular filters/new door added on the hood.

- These units also had hump control, but there is no visible indication associated with this feature.

Reading 449 was the only locomotive to wear all 3 road switcher paint schemes.

RS-3's in action


449


ZUCKERMAN - HONICKMA
Glass & Plastic Containers & Closur
READING

Who doesn’t want to run RS-3’s on their 1951 to 1974 layout?

Modeling Reading RS-3's (HO Scale)

- Before 1985 the only RS-3 available other than brass, was the Hobbytown unit. They were expensive, but were extremely powerful, just like the prototype. Everything changed when Atlas introduced their RS-3. A few years later, MDC introduced another RS-3. Both of these found their way onto my roster.

- At that time, the Horn Bracket and Auxiliary Equipment box in front of the Fireman's position in the cab were fabricated from Styrene.

- Since that time, Custom Finishing has added the Aux. Equipment Box and Cal Scale provided the brass, Horn Bracket.

- Atlas, Athearn (formerly MDC) Bachman and Bowser/Stewart all offer HO RS-3 locomotives. For my modeling to date, I have worked with Atlas, Athearn and MDC models. I started on a Stewart, now Bowser RS-3, but it remains on my shelf, detailed but not finished.

- Both models have advantages and disadvantages; but both also produce fine running, great looking Reading RS-3's.

- The Atlas unit is great for modeling all of the 1952 RS-3's as well as 510 to 524. The horizontal, twin sealed beam headlight is appropriate. The details for the dynamic brake equipped units require some fabrication, but for 510 to 524, drip strips, the auxiliary equipment box and railing modifications are all that's needed.

DETAIL PARTS

- Smokey Valley RR Products
  - Kit 31 RS-3 Handrail Set
- Cal Scale
- 190-280 Marker Lights
- 190-400 3-Chime Air Horn with Bracket (I only use the bracket).
- Details West
- AH-186 Nathan M-3 Air Horn
- Detail Associates
- 1107 ALCO Lift Rings
- 1202 Bell –Underframe Mount
- Custom Finishing
- 245 Auxiliary Equipment Box
- 152 Cooling Coil
- 151 Steam Generator Stack

  147 Handbrake Chain Guide (I have not added this detail to most of my models, but have used it on my most recent unit. More on that shortly.)

- You can see the chain guides and Handbrake chain in this photo.

Modeling the first order 1951 using an Athearn RS-3

- The Athearn Undecorated RS-3 is the best starting point for a unit from the first order (single, sealed-beam headlight).

- If you can’t find an undec unit, your options are to by a painted unit and remove the factory paint (for early 1951, find a unit with the single headlight, or order parts from Athearn. All of the required parts are available as of 10/03/13.

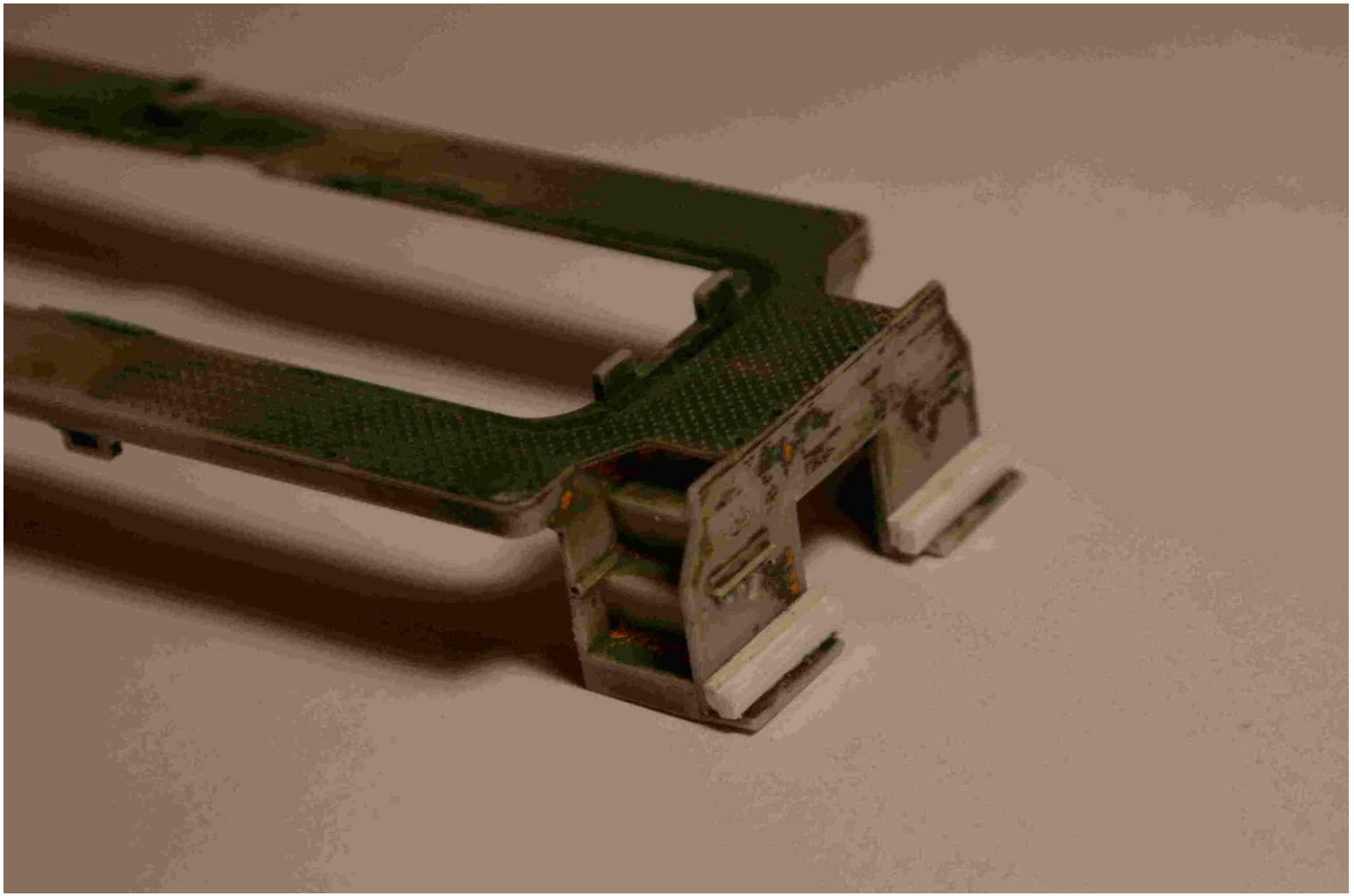
- The previous slide compared the modified front end from my current project loco to a stock, Athearn front end.

- Along with the detail parts, you will need strip styrene for working on the pilots and styrene rod (3/64-inch) for the modified crankcase vent pipe.

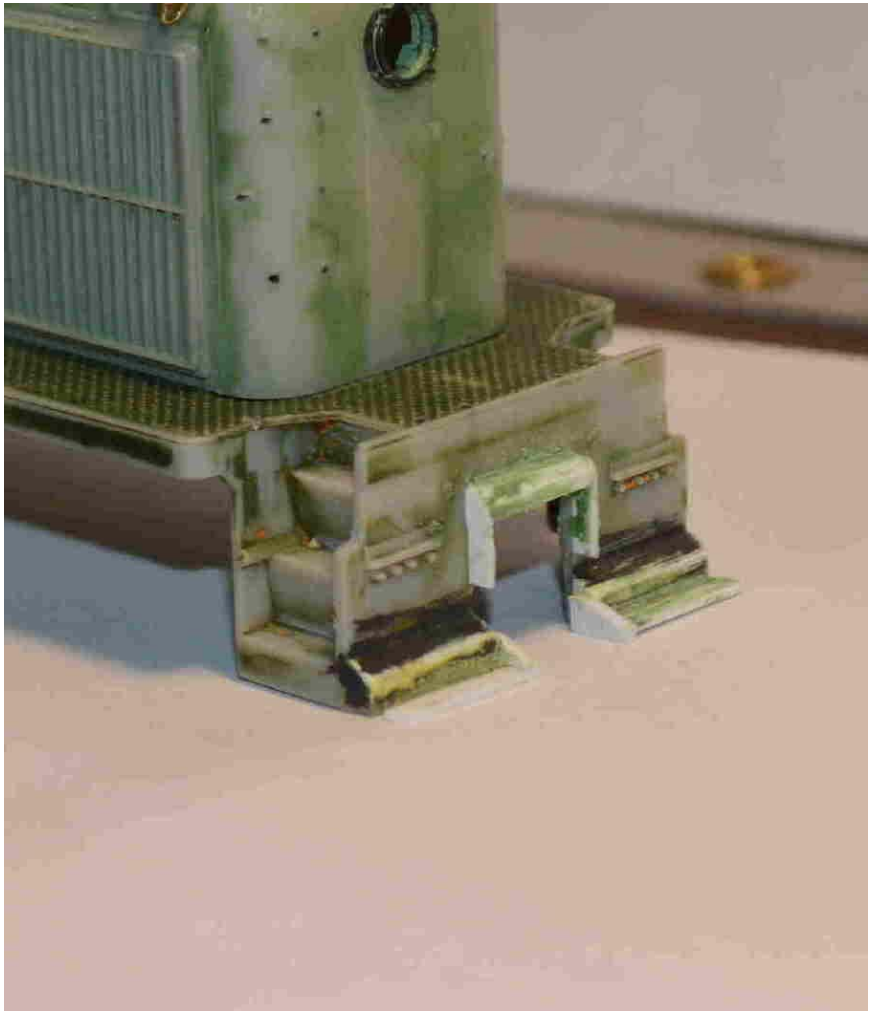
- Evergreen, Scale 1X2 Strip Styrene will work for the Rain Gutters if you don’t already have a preferred material.

- For the first order you also need the Nathan M-3 Airhorn and the Custom Finishing Auxiliary Equipment Box and Marker Lights.

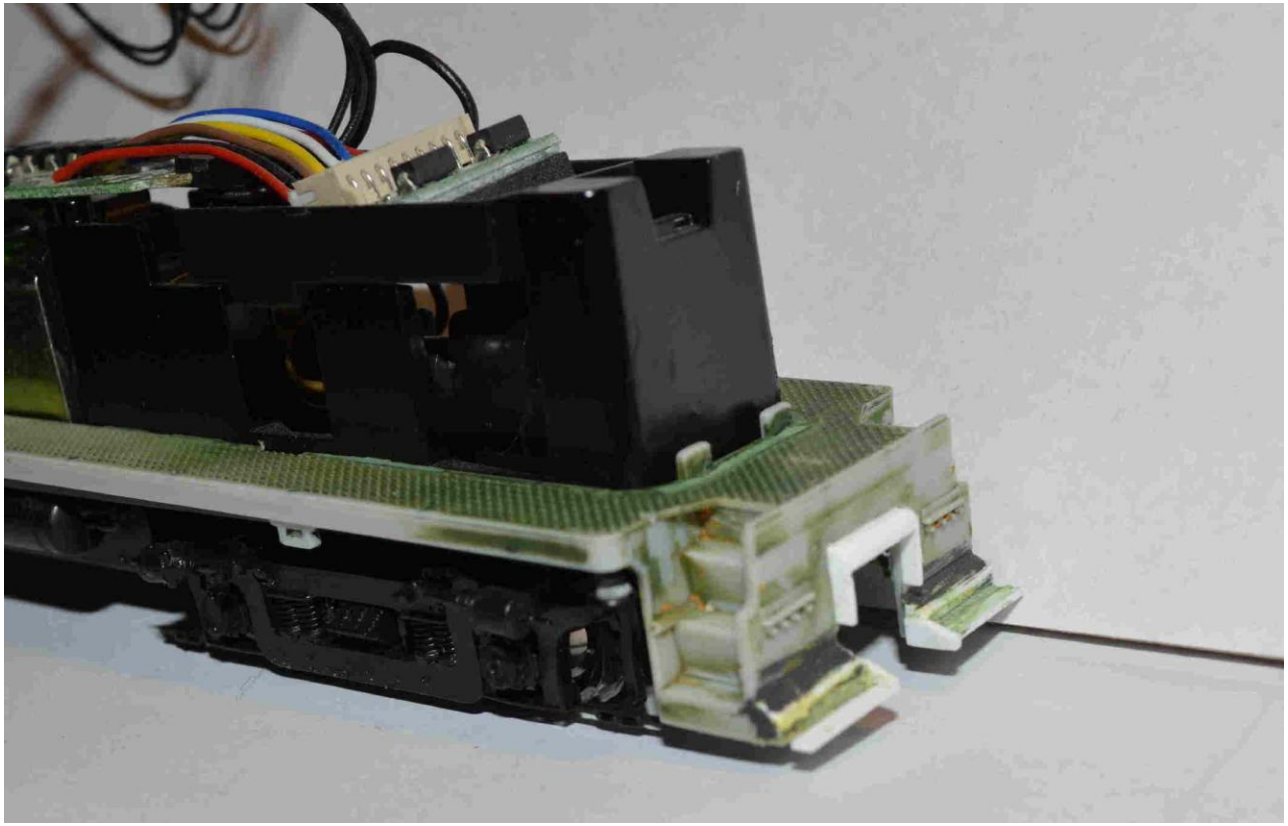
First add strips of 2X8 and 2X6 styrene to the footboards.



- Bevel the top Edge at a 45 degree angle and fill any openings with Putty (I have had good luck with Squadron Green Putty for many years.



- The area around the draft gear has a tapered top and straight sides. This is clearly evident on the Atlas unit but missing from Athearn. The beveled top starts with a length of .060 X .060 styrene, the same width as the draft gear opening. The sides are made with .020 X .060 styrene a scale 15-inches long. Once again, putty any gaps and bevel the top at about 45-degrees.

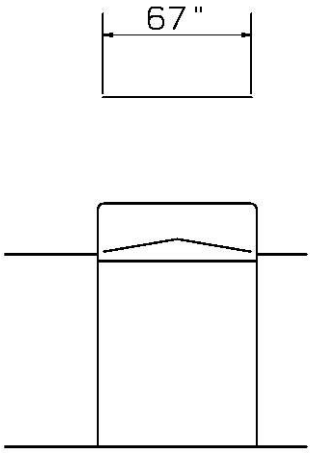


Drill a 3/64-inch hole in the edge of the long hood at the crankcase vent.

- Drill a 1/16-inch hole above the upper front corner of the front, number board boxes.

- Make the crankcase vent pipe from 3/64-inch styrene rod. The top of the vent should be level with the top of the exhaust stack. Also install the Marker Lights.
- I used the stock Athearn Horn Bracket, or install the Cal Scale Bracket and the Nathan M3 Horn.
- Add the Rain Gutters (Drip Strips) on the cab. Use of a Photo for Placement is recommended.

- Here is a sketch I use for bending and placing rain gutters. It is an HO Scale CAD drawing I created.



Adding Railings

- On 504 (pictured under construction) I will be applying the stock, Athearn Railings. On 448, the railings were installed using the Smokey Valley RR Products, Kit 31 – Alco RS-3 Railings.

- On my Atlas locomotives, I used the Atlas railings, modified to fit.

REFERENCES

- Diesels of the Reading Company, Volume 1 by Paul K. Withers
- This is an excellent book with photos of all 67 of the Reading's Locomotives.

- Reading Diesels Volume I, by Dale Woodland
- Excellent Color Photos with history of delivery dates and operations.

Feel Free to Email me with your questions, wwitman@msn.com

THE END