

## Engine Shell Directions for Z scale B-B (4-axle) powered chassis

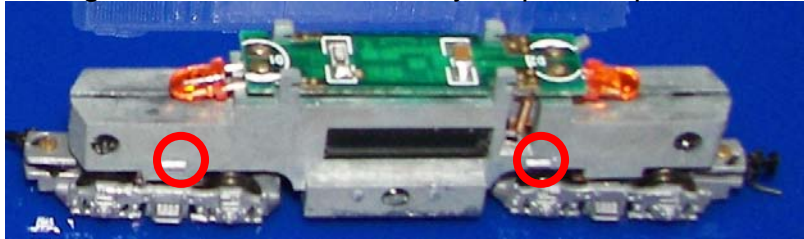
Thank you for supporting Z scale and purchasing a SEARAILS body shell. Following is a brief overview of the requirements for mounting and painting one of our shells. We hope these instructions are clear. Please feel free to contact us at [harbormaster@searails.com](mailto:harbormaster@searails.com) with any questions. Enjoy your purchase!

### 1. Removing the OEM body shell

#### MTL GP-series powered chassis

There are two retaining cleats at the bottom of the powered chassis. These act as clips to which the OEM shell is locked in place on the chassis.

The bottom of the OEM shell should be GENTLY pulled away from these cleats, releasing the shell, which then may be pulled up and off the chassis.



#### AZL GP-series powered chassis

SEARAILS was not provided with an AZL shell to use in its development. Please follow the printed directions included with your AZL shell when purchased. AZL may assist you directly as well. No testing was performed on the AZL B-B powered chassis.

#### Maerklin B-B powered chassis

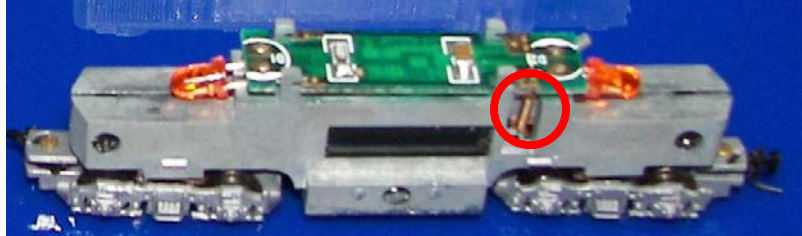
No testing was performed on any Maerklin chassis.

## 2. Removing the Lighting circuit board and lamps.

### All powered chassis

The lighting circuit boards are supported by metal prongs and powered through spring wire connected to terminals at the power pick-up.

- A. Remove the power pickup springs at both the pick-up terminal and the circuit board connections. This will free the circuit board.

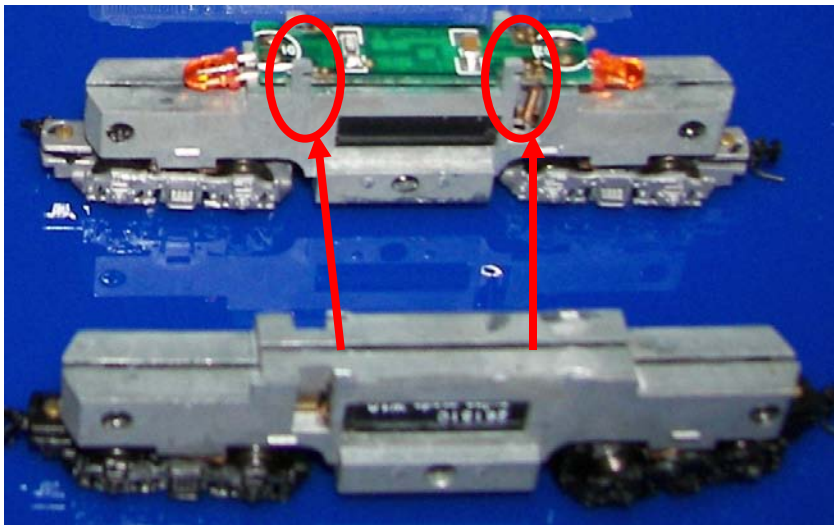


- B. Retain the power pickup springs. The modeler may find that the RR-31 Baldwin RF-16 "B" unit or a following rail car to the RR-20 ALCO can provide adequate space for the lighting circuit re-installation. We have not tried this, but are convinced that certain modelers with skills superior to ours can achieve acceptable results.

## 3. Removing the circuit board support prongs.

### All powered chassis

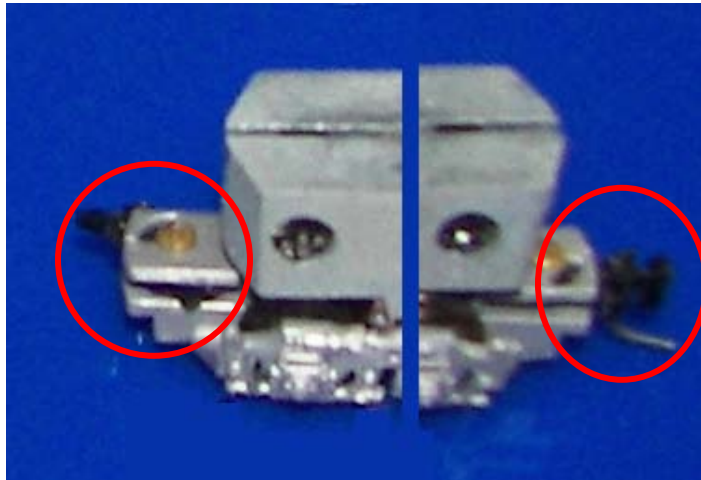
The shell is designed to ride a tenth of a millimeter above the motor housing to provide for air flow. The exhaust vent should be emptied of any extra material to allow complete airflow (as in the original.) This may be accomplished with a #11 X-Acto blade.



#### 4. Removing the OEM truck mounted couplers.

##### MTL GP-series powered chassis

The SEARAILS body shells are designed to be a “glove” fit to the OEM powered chassis. The OEM truck mounted couplers interfere with this fit, and they and their mountings must be removed. SEARAILS provides a body mounted coupler “pocket” in the Pilot Plow of the RR-20 ALCO, and in the leading edge of the RR-30A “Sharknose”. They have been tested to provide an acceptable connection on minimum curves.



Alternatively, you could remove the Pilot Plow and its body mounted coupler pocket (not recommended.)

The connection between the RR-30A and RR-30B can be maintained as on the original, and the coupler at the aft end of the “B” unit may remain on the truck.

##### AZL GP-series and Maerklin’s B-B powered chassis

SEARAILS was not provided with an AZL or Maerklin shell to use in its development. If you have problems, please contact us directly, and provide photos or JPEGs, and we will try to help. Contacting AZL might be more efficient.

#### 5. Attaching the SEARAILS chassis

##### MTL GP-series powered chassis

Remember, there are two retaining cleats at the bottom of the MTL powered chassis. There are cleat receptacles engraved at the inside bottom

of the SEARAILS shell. However, their use may not be necessary. The SEARAILS shells are designed to fit without assistance.

The bottom of the SEARAILS shell should be aligned with the bottom of the large centered weight of the MTL powered chassis. This will provide correct vertical alignment. The veranda walkways should also fit to the bottom of the chassis



AZL GP-series and Maerklin powered chassis

Please follow the printed directions included with your AZL shell when purchased. AZL may assist you directly as well.

## **6. Mounting the MTL 002 02 020 & 002 04 010 Body Mounted couplers**

After selecting the body mounted coupler set acceptable for your use, follow the directions provided by Micro-Trains Lines. SEARAILS tested both ends of the RR-20 and the front end of the RR-30A, and the results were acceptable according to MTL's instructions.

Please note the RR-30B Cab-less body shell requires direct connection to the A unit, but may be connected using body mounted couplers as well. The B unit may also use the MTL-to-Maerklin conversion coupler.

## **7. Painting and decal Instructions**

There are many web-based paint scheme illustration sites. Almost every railroad name has a paint scheme page dedicated to the road's engines and the evolution of their individual schemes.

SEARAILS provides a painting service in response to a request for a special order, and our basic research starts with these three sites;

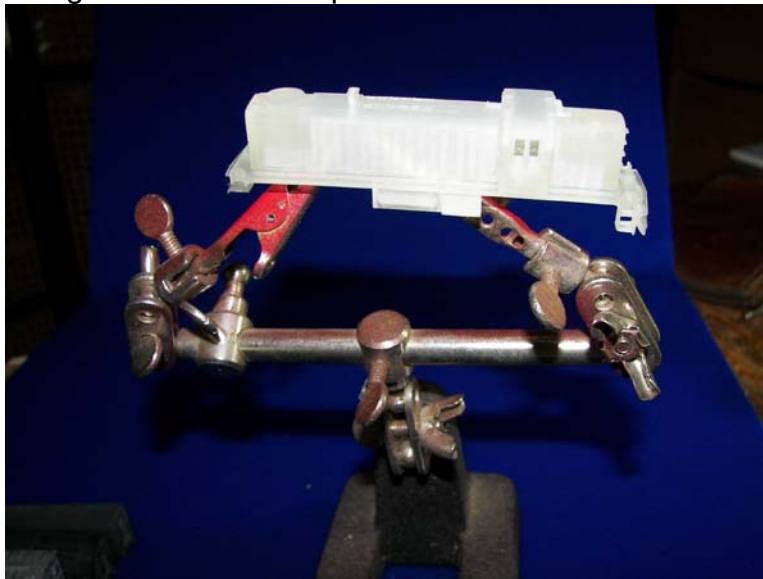
1. [www.paintshop.railfan.net](http://www.paintshop.railfan.net)
2. <http://trainiax.net/drawings/paint>
3. <http://usloki.tripod.com/>

## PAINTING

We don't presume to tell you how to paint. You have purchased our product with the understanding that it is an undecorated shell. We assume you are a skilled modeler and painter.

However, here are some process tips that may assist you in your completion of the model's decoration.

- A. We use an air brush to overcoat, and use the "dry brush" technique for detailing individual components, and to apply shading and shadows.
- B. We use chalks and other dry pigments for "weathering".
- C. We apply a sealing coat using Testor's or Polly Scale's opaque "dull coat". There is a variety of weathering web pages. Simply search for "weathering models".
- D. We use a fixed stand to hold the model, and NEVER touch it with our fingers except when using cotton photographer's gloves. We do not paint the interior.



## CLEANING THE EXTERIOR SURFACE

- A. The shell is supported by a material similar to wax, and contains a percentage of the actual acrylic material used in the photo-fusing process. Before delivery we try to remove all of the support material by using a high pressure air brush and water.

- B. Additionally, before delivery, we use #6311 “SCAT” Wax & Grease Remover – search the web for point of purchase, and detailed user information. Furthermore, a dip in Heptane (rubber cement thinner) was recommended by a member of the Trainboard Forum, and was found to be even more effective, but less efficient in its use compared to the spray.
- C. Finally, with a rubber tooth pick and a baby's toothbrush, we try to remove the support material remaining in the small surface details.

### PRIMING

- A. Priming the surface may be the most important task to perform to attain an excellent presentation of your design. The surface has details of 0.00325” in thickness and height above the surface. To avoid “clogging” the surface and destroying the effect of the surface details you must be careful to use thinned primer and paint. It is always wise to check your work after drying the applied coat.
- B. We recommend testing both your thinned primer and thinned paint on the inside surface, then removing it once you have an acceptable surface. (You don't have to remove it at all, but removing it will avoid any heat problems from the motor.) A good primer coat will present a completely opaque surface without eliminating the difference between the base surface and that of the details.

### BASE COAT

- A. Apply the base coat using either an air brush or the “Dry Brush” method. Dry brushing is simply “picking up” a small amount of paint on the end of your brush, then brushing back and forth on a practice surface until the application of the paint is almost transparent. This indicates the brush is carrying the least amount of paint to apply to the surface in order to transfer an opacity you desire.
- B. Allow the base coat to dry evenly after painting the entire surface. This will avoid tonal differences, and allow for a uniform hue.

### DECORATIVE COLOR

- A. In those instances where more than one color is required for accent, follow the same procedures as above to avoid pigment

build-up. You may have to experiment with the accent color to insure the proper complementary relationship, and avoid excessive contrast.

- B. Masking may be required, and in those instances, we use both line tape from Tamiya, and liquid mask from a variety of suppliers. We prefer using the line tape since it is flexible enough to conform to details, leaves no residue, and is easily removed. It also is available in a variety of widths so trimming is not a problem.

### DECALS

MicroSol provides a clear and complete direction for decal application. Z scale decals are available from a variety of sources.

#### CAUTIONS:

- A. Children – DO NOT ALLOW INFANTS OR SMALL CHILDREN TO HANDLE A SEARAILS SHELL. THERE IS **SIGNIFICANT DANGER OF CHOKING.**
- B. Heat – Avoid exposing your SEARAILS acrylic shell to any source of direct and intense heat. The shell has a prototypical vent which will assist in reducing motor heat.
- C. Light – Sunlight or 5600 Kelvin light sources will have a degrading effect on unpainted surfaces.
- D. Chemical fumes – If burned, the acrylic material will produce a small amount of free iso-cyanate gases which can be significantly dangerous to your health if directly inhaled.