

American Freedom Train No. 1

Cosmetic Restoration Process



What type of restoration was performed on AFT No. 1?

The project was a comprehensive cosmetic restoration, focused on stabilizing, repairing, and accurately restoring the locomotive's exterior appearance and cab interior. The work was designed to preserve the locomotive for long-term public display.

Why was a cosmetic restoration necessary?

The Museum is actively preparing for the 200th anniversary celebration of the railroad in 2027! The campus transformation will be complete by 2027 as well as in time for the 250th anniversary of the United States in 2026. The railroad was Maryland's gift to the nation.

What condition was the locomotive in before restoration began?

Before restoration, the locomotive showed widespread paint loss and discoloration, extensive corrosion of the exterior metal jacketing, failing internal spacers, and deterioration of decorative and mechanical exterior elements. Some original components were missing or damaged, and earlier paint applied as a temporary fix had fully failed.

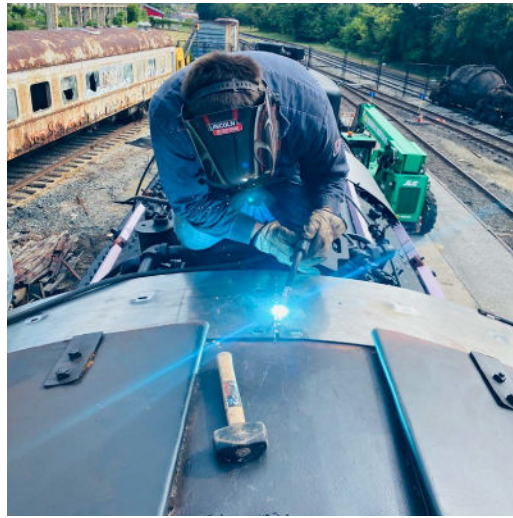
What happened during the disassembly phase?

Restoration began with careful disassembly of exterior components, including removal of metal jacketing, skirting, and selected appliances. Each piece was labeled, documented, and evaluated to determine whether it could be conserved or needed replacement. Original materials were retained whenever possible and used as templates when replacement was required.

What was done to address corrosion and metal deterioration?

All exposed metal surfaces were cleaned using media blasting to remove corrosion, failing paint, and contaminants. Areas of rust-through or structural failure were repaired or replaced. New steel jacketing was fabricated where original panels could not be saved, using original pieces as patterns to ensure accuracy.





Why did the jacking need to be replaced?

The original jacking had deteriorated significantly, with rust-through and failing internal spacers. New jacking was required to stabilize the exterior, prevent further corrosion, and create a sound surface for repainting. New internal spacer materials were installed to properly separate the boiler from the jacking.



How was the locomotive prepared for repainting?

After metal repairs, the entire exterior was thoroughly cleaned, sanded, and primed. Proper surface preparation was essential to ensure long-term paint adhesion and durability, especially given the complexity of the locomotive's decorative paint scheme.

What kind of paint system was used?

The locomotive was painted using commercial-grade, multi-part industrial coatings, including epoxy and polyurethane systems with clear coats. These paints were selected for durability, color stability, and resistance to fading and environmental exposure while maintaining historical accuracy.

How was historical accuracy ensured during repainting?

Museum curators and archivists conducted extensive research using photographs, drawings, and archival records to determine exact colors, striping layouts, and graphic placement. The paint scheme was recreated precisely to match the locomotive's 1976 appearance.

Was the artwork on the tender recreated by hand?

Yes. The iconic eagle and seals were hand painted by artists David and Liné Tutwiler, following historical references, before protective clear coats were applied. David has a long relationship with the American Freedom Train. During the Bicentennial, his painting *American Freedom Train* was purchased by Pepsi Co., one of the Bicentennial sponsors, for display in their corporate offices. Pepsi also later hired David to ride in the cab from Ogden, Utah, to Boise, Idaho, to create additional works of the train and capture its journey throughout the Western side of the country.



What work was done on the cab interior?

The cab interior underwent conservation and cosmetic restoration, including repainting, repair of wood components, restoration of windows and frames, and stabilization of remaining fixtures. The goal was to preserve original materials while presenting the cab as it would have appeared during the Bicentennial era.

Were missing or damaged exterior elements replaced?

Yes. Missing or damaged decorative and functional exterior elements—such as number boards, lighting components, metal trim, and the nose-mounted eagle—were either restored or accurately replicated using historical documentation and surviving examples.

Was any electrical work performed?

Electrical systems for headlights, marker lights, class lights, and cab illumination were inspected, repaired as needed, and rewired to operate safely on standard electrical power for display purposes.

Where was the restoration work carried out?

The work was performed at the B&O Railroad Museum’s Restoration Shop in Baltimore, a 27,000-square-foot facility equipped with metalworking, woodworking, fabrication areas, inspection pits, and a fully enclosed paint booth.

How long did the restoration take?

The restoration required more than 1,300 labor hours and was carried out over multiple phases spanning research, abatement, disassembly, fabrication, repainting, and final assembly.

