

## Trailing Questions Care for Industrial Artifacts

**Sarah Bent [Allentown]:** Can I use the inhibitor in a dusty area? I am thinking of metal parts in a grist mill

Yes. Since you need to clean the objects anyway, I recommend, first, vacuuming with HEPA vacuum, followed by surfactant cleaning using Orvus® in water or Vulpex® in water. Rinse well. If the surfaces you want to treat with tannic acid are bare metal or have well-adhered paint (no flaking paint), you can scrub it clean, rinse and then apply the tannic acid to the rusty metal according to the CCI Note. Tannic acid is a water-borne material so there is not a problem applying it to a slightly wet surface. Ethanol in the mixture helps the solution to “wet” the surface and stick, but you want to get oxygen into the reaction with a frothing/brushing motion if possible. See **CCI Notes 9-6** <https://bit.ly/2EVsdjU> and **CCI Notes 9/5** <https://bit.ly/2EU6p8x>

**Michael Bell [Oklahoma City Oklahoma]:** Plastic pallets will break through when heavy items are put on them - I use small pieces of metal: to distribute the weight

Yes, that's a good idea, as long as the object won't shift on the plates. The advantage of our pallet-toppers of plywood is that they are bolted through the plastic pallet and are a continuous surface to spread the load and help secure heavy artifacts with brackets, straps and/or bolts.

**Karen Kroslowitz [Mountain View, CA]:** What is the vendor/source for the pallets? What are their weight limits? Are they available in several sizes?

We get ours from **Uline.com**, but there are other suppliers. Listed in the Webinar handout.

**Ken Middlebrook [San Jose]:** What is the Duragreen® part number?

Bulk Container Express has a number of sizes, this is an example of one we have purchased: **DuraGreen DGP404845-C Plastic Pallet Pack is the 60 lb. Heavyweight** <https://bit.ly/2H9I004>

**Andrea Kuchembuck [Montreal, Quebec]:** What's the specification for the coating on the plywood ?

Latex-based low VOC with fungicidal properties. It is pricey! We use FIBERLOCK AFTERSHOCK FUNGICIDAL COATING® <http://www.fiberlock.com/mold/8390.html>

Sophie Hunter [Hollywood]: Is there any chance you would be willing to share any Conservation policies or procedures documents you have regarding hazardous materials in your collections (such as leaking oils, lead, mold, etc). It would be extremely helpful to me. Thank you so much! This was wonderful.

Response: The Henry Ford's document *Policy for the Management and/or Removal of Hazardous Materials Found in Collections* is posted with the rest of the handout materials for this webinar.

Cristin Waterbury [Dubuque, IA]: How do you determine the weight of a large, heavy object? (if you can't afford that great pallet jack!)

Uline also sells large scales. Perhaps a local warehousing operation might allow you to borrow their in-floor industrial scale. For truly large objects, our rigger loads the artifact onto his trailer and then, stops at a highway truck weigh-station. He provides a close approximation of the artifact weight by subtracting the weight of his tractor and trailer.

Ken Middlebrook [San Jose]: What about handicap access? Polly Huff [Tifton, GA]: Wow do you get around ADA—on the steps that is?

Good point. There are committees in the American Alliance of Museums (AAM) who work on these issues. We do our best to provide alternative programming. For example, the Allegheny Locomotive “climb-aboard experience” is enhanced with interactives and a film at floor level and the Dymaxion House has a ramp that allows a good view inside, even though wheelchairs can't get through the door. The Henry Ford is old enough that some of our displays are “grandfathered in”. We also have a part-time Accessibility Coordinator on staff who works across departments to enhance inclusivity and to design programs for all types of disabled visitors

Evelyn Fidler [Prince William, New Brunswick]: Love that the replacement parts are marked, we have a big problem with that in our agricultural equipment.

So do we! Henry Ford (died 1947) ran this place and had some very skilled woodworkers and machinists repairing objects for decades, and they never marked anything. Wooden members were replaced, often with tell-tall “better” wood (like oak); and they did very fine chamfer-joints to attach new wood to (we assume) replace only the part that was rotten.

Read more here in an article I wrote about the history of conservation at The Henry Ford: <https://bit.ly/2JV87tW>

The best we can do is improve our standards and do better for future generations.

Read the Venice Charter! Although it was written for buildings, I think it can and should apply to all historic artifacts. <https://bit.ly/2H9cBQ0>

Dee Stubbs-Lee [Saint John, NB, Canada]: We've learned that anything that can be touched will be touched - especially if it looks rugged.

FOUNDATION  
OF THE  
AMERICAN  
INSTITUTE FOR  
CONSERVATION  
OF HISTORIC AND  
ARTISTIC WORKS



Amen to that! People are curious and some of us are “tactile learners”. Museums do provide some unfortunate mixed messages sometimes: “OK to touch this, but not that”. Every new project manager and program designer gets a crash course here at The Henry Ford on how robust “hands on” displays really need to be! Although we have fairly good policies, we have learned to pick our battles and focus on the greatest risks, sometimes waiting for a good “teachable moment” to move the conversation forward re: touch-ability of artifacts.

**Erin Kirchner [Fairbanks, AK]:** What was the name of the glue to secure the maker’s plates? **Jamie Draper [Grand Rapids]:** Loctite®

*<http://www.loctiteproducts.com/>* There are a number of different grades, pay attention to whether it needs heat to remove or solvent.

**Michael Bell [Oklahoma City Oklahoma]:** what about using Dawn® instead of Orvus®? **Tahe Zalal [Greensboro NC]:** Other ingredients in Dawn® may not be safe for artifacts? Dyes, additives, etc.

Conservators try to stay away from commercial cleaners like Dawn® or Murphy’s Oil Soap®. For really filthy objects, we use Vulpex® paste (again, about 3% by weight in distilled water). I have been known to resort to hosing down artifacts that were removed from truly filthy storage, but they are very robust, all metal and don’t have crevices or places where water can pool. It’s still a good idea to test in an inconspicuous area, and avoid flaking paint or other fragile surfaces or materials. Vulpex® will generally be a little harsher than Orvus® and is typically more “basic” on the pH scale. It’s a good idea to test pH of these cleaners and record it on the container.

**Karen Kroslowitz [Mountain View, CA]:** Is the Orvus® 3% by weight or volume?

Orvus® is a thick paste and is a little difficult to measure by volume, so, weight is OK.

**Evelyn Fidler [Prince William, New Brunswick]:** do you require your staff to wear safety boots when working around industrial collections?

Yes, staff working with heavy objects and moving palletized collections wear steel-toed boots or shoes.

**Kevin Coffee [Oneida NY]:** never leave tools on a surface plate!

So true! I showed an inappropriate display that was done by an inexperienced exhibit installer who was given insufficient information. We sometimes place a height gauge on the surface plate.

**Sarah Rock [Hamilton, ON]:** We are concerned about the use of distilled water on iron objects - would you still recommend the 3% Orvus® soap, 1:1 distilled water and mineral spirits?

If you are cleaning bare metal that once had paint and only has a small bit of paint left and that is well-adhered, you are really dealing with a rusty surface. The water-based cleaner won’t create undue rust especially if you are doing a tannic acid treatment after cleaning. See the **CCI Notes** in the Handout they mention choosing a clear, slightly windy day for outdoor cleaning.



The surfactant/mineral spirits/water mix is for robust painted surfaces and finished wood components in good condition. The mineral spirits might leave behind residues that interfere with the tannic acid, so I would use ethanol to degrease rather than mineral spirits. We work in small areas, and are not wetting down large areas to control the cleaning and to ensure the cleaner is not penetrating into crevices. Bare bright metal (like working/ moving surfaces, machine “ways”, gears and plated metal) can be cleaned with mineral spirits only.

Consult the CCI Notes in the Handout for more on cleaning.

**JENNY HANKINSON [LITTLETON]:** What sort of cleaning do you do for bringing items back inside at the end of the summer? I would be concerned about insects, rodents, organic materials, etc.

Yes, that’s a legitimate worry! We recommend a thorough vacuuming in all crevices and then, wiping down with Orvus® and water. We do occasionally use compressed air to blow out debris from the thresher, but take great care and use appropriate personal protection! The federal OSHA requirement can be found in 29 CFR Part 1910.242(b), which states: *Compressed air shall not be used for cleaning purposes except where reduced to less than 30 psi and then only with effective chip guarding and personal protective equipment.*

**Linda Endersby [Columbia, MO]:** What is the “rank” on objects?

The Henry Ford developed a policy to help us allocate resources and support programs by assigning a value to historic collections based on their rarity, historical importance and their importance to our programs and exhibitions. More about this can be found in a paper I co-authored. ***Responsibilities, realities and ranking: How a collections tiering policy aids conservators in ethical decision making and judicious resource allocation at the Henry Ford Museum and Greenfield Village*** Mary Fahey and Clara Deck <https://bit.ly/2JT7fWH>

**Lynn Murdoch [Pocatello, Idaho]:** We are very interested in any resources that would help with the restoration of an original 1911 Oregon Shortline Locomotive.

Historical research into the maker is the first step. Perhaps there are some folks at the **Association of Tourist Railway and Railroad Museums** can assist. [www.atrrm.org](http://www.atrrm.org)

Also there is a large restoration facility at the B&O museum in Baltimore that could give advice or recommendations. Also the Railroad Museum of Pennsylvania has a big operation in Strasburg PA: <https://bit.ly/2HJYfJK>

**Dee Stubbs-Lee [Saint John, NB, Canada]:** We will soon have to move a vehicle (sports car) without an engine from one storage building to another. Any advice?

Response: For vehicles with wide enough wheels, GoJak® car dollies are great. <https://www.zendextool.com/gojak-2/>. They don’t work on narrow wheels or carriage wheels.

Of course, we often move cars using standard car floor-jacks, but they are designed to lift “standard” automobiles and often race-cars don’t have an appropriate lifting spot like a transmission housing in a convenient place! We pad the lifting cup with foam or a rag; I saw in a Canadian museum the brilliant use of a standard rubber hockey puck in the cup of a car jack to pad the cup from the artifact it is lifting.



We often just push cars, using their own wheels as push-points if possible because the body on racecars can have unknown structural parts and its sometimes difficult to know where is safe to push from.

We also have a **Stringo**®, <https://www.stringo.com/> which is great, but the car needs to have fairly standard wheel-base; it doesn't work on a number of racecars.

**Sarah Rock [Hamilton, ON]:** Do you use any sort of packing on the oiling points of your historic beam engines? We've got two with 105 points on each that we oil. We're currently in the process of looking for a new packing material, so any suggestions are greatly appreciated. There are oiling cups, as well as oiling wells. The issue with a material like cotton balls is the oil can pull the fibres through the machine. **Michael Bell [Oklahom city Oklahoma]:** You might check with an industrial supply company about cotton packing

*From our Roundhouse and Historic Operating Machinery staff: "We've used cotton string (waste) in the past. Lately, we've used wool roving (from our own wool carding machine), which seems to work well. I prefer a felt or woven cotton wick depending on the frequency of the lubrication for those items that require wicking. I would hesitate to use cotton balls or raw wool as they do tend to break down and send fibers through the system."*

*If you're not going for historical accuracy, there are companies like Bijur <https://bit.ly/2Hb011m> that market a synthetic wicking material and dispenser that can control your oiling down to a specific number of drops per hour. There was a strong recommendation for installing adjustable feed oilers; they are the ticket for a stable, regulated supply, and can be stopped/started at the flip of a lever, resuming the pre-determined rate of feed."*

**Take Zalal [Greensboro NC]:** One of my concerns is that most of our artifacts are out on the floor for the public to interact with. Like I said earlier, some are behind a chain or in vitrines but many of our pieces are out in the open for people to mess with. I would have held off putting objects out on the floor before having some protection and protocol but I was overruled. And like with so many other places, there are budget restraints as well. Not sure where to start especially since we wouldn't be eligible for grants from NEH or elsewhere since we're not a non-profit.

A good place to start is a written Collections Management Policy.

