

ATTACHMENT 2

NATIONAL MUSEUM OF THE UNITED STATES AIR FORCE (NMUSAF) LOAN AND STATIC DISPLAY PROGRAMS

INSTRUCTIONS FOR THE CARE OF ARTIFACTS

A. Information:

1. These general guidelines are provided to fulfill the NMUSAF's obligation to ensure the preservation of the collection and to define the responsibilities of organizations that retain historical property for display.

2. Under normal circumstances, artifacts will not be made available from the NMUSAF unless the basic measures for preservation and conservation have already been accomplished. However, regardless of the state of preservation at the time of receipt, an assessment must be made and all appropriate measures taken to ensure continued preservation of historical property. All items must be properly prepared for exhibition, placed in a safe environment and inspected periodically.

B. General Guidelines for Artifacts:

1. All artifacts must be protected from harmful exposure and maintained in a stable environment. Preservative treatments and mounting techniques will vary with each item depending on its material(s), condition and display method. The following are some general guidelines:

a. When displaying an artifact never modify it in such a way as to alter or compromise its integrity, authenticity or uniqueness. Retain its natural characteristics.

b. Provide appropriate physical security against vandalism or theft through the use of locked or sealed display cases. The artifact's intrinsic value should determine the security measures required.

c. Good housekeeping and environmental control are essential for the long term care of museum artifacts.

2. Contact the NMUSAF Conservator for guidance if needed.

C. Damage Threats to Artifacts: The threats of damage or deterioration to artifacts generally come from four sources:

1. People – The greatest threat to the continued survival of an artifact comes from people. This is a result of mishandling the artifact resulting in mechanical breakage, soiling from unprotected hands (fingerprints), improper cleaning methods and incorrect attempts at preservation or repairs (making it 'look' better). Unfortunately, theft must also be included in this category.

2. Light – Light, a form of radiation, damages many materials, especially fabrics. This damage is first observed as the fading of colors followed by the gradual breakdown of the material. The most harmful portion of the light spectrum is ultra-violet (UV). Protecting from UV is accomplished by avoidance of natural sunlight or artificial light such as florescent and halogen. The use of Light Emitting Diodes (LED) is the preferred standard in museum exhibits. Normal incandescent lighting is low in UV radiation.

a. All historical property on loan from the NMUSAF that is on interior exhibit will not be exposed to light level which exceeds 200 lux or 20 foot-candles from any source. The acceptable level for most artifacts falls between 50 and 200 lux or 5 and 20 foot-candles. Sensitive artifacts, such as artwork, photographs and textiles should have their intensity levels adjusted toward lower limits and/or limited exposure time. There is a reciprocity law between intensity (lux) and time of exposure: Ten hours of exposure at 50 lux has the same damaging effect as 1 hour at 500 lux.

b. Protection for UV is accomplished by avoidance or shielding. Shielding of UV producing light sources, such as direct or diffused sunlight and all fluorescent lighting, requires UV Plexiglas, solar screen, blackout curtains or UV filtering sleeves. All UV filtering media have a life span of about 10 years, after which they must be changed to maintain their effectiveness.

3. Environment – The most common environmental threats are heat and humidity. Ideally, an artifact is displayed at a constant temperature of 67 degrees and 47% relative humidity, with no more than a 5 degree temperature or 5 percent humidity variation. Of the two, humidity is the most destructive. Excessive heat and humidity may create a favorable environment for the growth of molds and fungus as well as rust/corrosion. Rapid changes in temperature and humidity should be avoided.

4. Insect/Pest – Insects and pests can be highly destructive. The first line of defense is the cleanliness of the facility. Careful monitoring and frequent inspection will provide early detection of infestation. If and when an infestation is detected many methods of pest removal are destructive to artifacts. If an artifact is exposed to infestation, contact the NMUSAF Conservator.

D. Conservation: Adherence to the guidelines for preservation of artifacts will go a long way to ensure their longevity. In rare instances, some conservation measures may be needed. Contact the NMUSAF Conservator for guidance. Do not attempt to treat an artifact on your own.

E. Storage: All attempts should be made to place artifacts on exhibit as soon as possible. Environmental control, good housekeeping and periodic inspections are essential to the proper

storage of artifacts. Textiles shall be stored flat when possible and laid out on acid free tissue paper. Well padded hangers should be used if textiles are hung for display. Storage on shelves shall be loose with no piling or stacking of artifacts and all shelving covered with acid free tissue. If shelving is wood, it shall be sealed to deter transfer of acid from wood to artifacts. Cabinets are preferable to open storage as they discourage theft, dust and insect problems.

F. Handling: Wear cotton, nitrile or latex gloves while handling artifacts. Two hands should be used to handle or carry artifacts to reduce risk of dropping. Carry only one artifact at a time. Do not carry or lift artifacts by handles or weakest point.

G. Display: Displaying an artifact can be very detrimental if not done properly. Cases should be designed to incorporate UF-3 or UF-5 Plexiglas to shield artifacts from UV light. Cases should be ventilated to allow air exchange and openings filtered to prevent entry of insects. All interior surfaces of wooden cases should be properly sealed. All artifacts should be buffered from acidic display materials. Never alter an artifact to fit a case or to facilitate mounting. Use mannequins that do not place undue stress on uniforms. Do not force garments on to mannequins. Keep cases clean and place them in areas away from direct sun and extremes in temperature and humidity.

H. Shipping: Damage to artifacts can occur during shipping. Use appropriate packing materials to protect the artifact during transit. Consult the NMUSAF to arrange shipping.

