

**NATIONAL MUSEUM OF THE UNITED STATES AIR FORCE (NMUSAF)
STATIC DISPLAY PROGRAM**

2013 LOAN AGREEMENT, SDA0274

1.0. Parties. This Agreement is entered pursuant to Public Law 80-421 [10 United States Code (USC) §2572], and any amendments thereto, and is effective as of 1 April 2013 between the United States of America, or, "the Government," represented by the National Museum of the United States Air Force (NMUSAF), and collectively referred to hereinafter as "the Lender," and the CITY OF CROSSVILLE hereinafter called "the Borrower," incorporated and operating under the laws of the State/Country of TN and located at CROSSVILLE. The Government hereby establishes with the Borrower a loan agreement for U.S. Air Force (USAF) historical property for the period commencing 1 April 2013 and ending 31 March 2014. This agreement is not transferable.

2.0. Borrower Obligations/Costs. The Borrower has applied, in writing, for the loan of USAF historical property, and hereby agrees to be responsible for all arrangements and, in accordance with 10 USC §2572, is required to pay all costs, charges and expenses incident to the loan of this property, including, but not limited to, the cost of preparation, demilitarization, hazardous material removal, disassembly, packing, crating, handling, maintenance, repair, restoration, transportation and all other actions incidental to the use and/or movement of the loaned property to or from the Borrower's location.

3.0. Loaned Property. The NMUSAF shall loan to the Borrower the historical property identified in the inventory report, which has been included in the loan package and is incorporated into this Agreement by reference as if fully rewritten herein (hereinafter the "Property"). The Borrower accepts the Property on an "as is, where is" basis, and the Lender makes no warranties, expressed or implied, as to the Property's condition, fitness for any particular purpose, or other warranty of any kind.

4.0 Loan Conditions.

4.1. The Borrower agrees that the Property shall be used for static display purposes only. Loaned aerospace vehicles will not be flown or restored to flying condition under any circumstance, nor will they be licensed with the Federal Aviation Administration (FAA). The Borrower shall not remove any parts from loaned aircraft except as directed in paragraph 4.2. Relocation of the Property for temporary special events (parades, ceremonies, air shows, etc.) is not authorized under any circumstances. No decorations of any type, for any purpose (special event, seasonal display, ceremonies, etc.) are authorized to be displayed on any of the Property.

4.2. The Borrower agrees to allow the Lender to remove parts from loaned aerospace vehicles for NMUSAF or military requirements, upon written direction from the NMUSAF. Such parts are generally internal in nature and removal or replacement should not alter the external aesthetic appearance of the aerospace vehicle.

4.3. The Borrower shall not part with possession of the Property or any component of the Property in any manner to any third party either directly or indirectly. The Borrower shall not enter into any negotiations with a third party regarding any future disposition of the loaned material, in whole or in part.

4.4. The Borrower agrees to all of the following: to use the Property in a careful and prudent manner; to not modify the Property in any manner, without prior written permission of the Lender, which would alter the original form, design, or the historical significance of said Property; to perform routine maintenance to include (but not limited to) annual upkeep, periodic painting, repair of damage, day-to-day care and management of the Property, so as to provide an acceptable appearance and to not reflect negatively on the Lender; and to display

and protect the Property in accordance with the instructions set forth in Attachments 1 and 2, which are incorporated into this Agreement by reference as if fully rewritten herein.

4.5. The Borrower agrees that any additions, modifications or alterations that improve the Property become part of said Property and are owned by the NMUSAF.

4.6. Interior access to loaned aerospace vehicles (cockpit, cargo areas, etc.) for purposes other than maintenance or restoration work by persons other than staff or authorized maintenance personnel is prohibited. This is to ensure not only the integrity and preservation of the aircraft, but more importantly, the safety and security of the public.

5.0. Use as Security, Sale or Lease. The Borrower agrees not to use the Property as security for any loan, and not to sell, lease, rent, lend, or exchange the Property under any circumstances.

6.0. Professional Photography. The Borrower shall not make or allow the use of the Property in any manner for commercial use, such as still or motion video production, without prior written approval from the Lender. Casual photography or motion video created by visitors for personal or non-promotional use is permitted.

7.0. Incident Reporting. The Borrower shall within one (1) working day of discovery, notify the Lender of any instance of loss, damage or destruction of the Property.

8.0. Title. The Borrower shall obtain no interest in the Property by reason of this Agreement and title shall remain in the Lender at all times.

9.0. Receipt, Custody & Liability.

9.1. This Agreement shall be executed prior to the Borrower accepting physical custody of the Property or on or before 1 April 2013.

9.2. The Borrower agrees to provide a receipt to the Lender at the time it assumes physical custody of the Property (unless the Property is already in its possession).

9.3. The Borrower agrees that it is strictly liable for up to the full replacement value (FRV) of the Property, as identified in the inventory report, and to accept such liability upon assuming physical custody of the Property or execution of this Agreement, whichever occurs first.

9.4. The Borrower agrees that the FRV of the Property is as identified in the inventory report and waives any right to contest the FRV in any legal proceeding. In the event any item of historical property does not have an FRV identified in the inventory report, the FRV shall be determined at the sole discretion of the NMUSAF.

9.5. The Borrower agrees that if the Property, or any portion thereof, has been irreparably damaged, destroyed or stolen the NMUSAF may direct the Borrower to either replace the Property with an historical item of equal value to the satisfaction of the NMUSAF or require monetary reimbursement equaling the FRV. In the event of less than total loss to the Property, or any portion thereof, the Borrower agrees to repair/replace the damage to the Property to the satisfaction of the NMUSAF or reimburse the NMUSAF for the full value of the damage, as determined by the NMUSAF. The election of a remedy under this subparagraph is at the sole discretion of the NMUSAF. This subparagraph is not intended to waive or limit the Government's rights and remedies, legal or equitable, and the Government reserves all such rights and remedies.

9.6. The Borrower agrees to place the Property on exhibit within ninety (90) days from the date it takes physical custody, or as otherwise mutually agreed upon.

10.0. Borrowers Responsibilities.

10.1. The Borrower agrees to indemnify, save harmless, and defend the Lender from and against all claims, demands, actions, liabilities, judgments, costs, and attorney's fees, arising out of, claimed on account of, or in any manner predicated upon personal injury, death, or property damage caused by or resulting from possession and/or use of the Property.

10.2. The Borrower agrees to report as requested to the Lender on the condition and location of the Property. Further, the Borrower agrees to allow authorized Department of Defense representatives access to the Borrower's records and facilities to assure accuracy of information provided by the Borrower and compliance with the terms of this Agreement.

10.3. The Borrower agrees to return said Property to the Lender on termination of this Agreement or earlier, if it is determined that the Property is no longer required, at no expense to the Lender. In the event of a partial termination, the Borrower agrees to the return of all items of the Property subject to the partial termination, at no expense to the Lender.

11.0. Initial Loan Agreement Requirements.

11.1. The Borrower agrees to furnish the Lender a CD/DVD containing digital images of the Property within fifteen (15) days of taking physical possession of the Property. The image file name must be the accession number for that item (i.e. SD-2000-0136.JPG). For aircraft and ballistic missiles, images will include views showing all external surfaces including tail number and all accessible interior areas including instrument panels, avionics racks and equipment, aircrew, passenger, cargo and payload compartments, wheel wells, and bomb bays. Digital images for all other artifacts will be of sufficient detail to insure positive identification of each object.

11.2. The Borrower shall arrange insurance coverage for the Property on an all-risk, wall-to-wall basis, at a minimum, for an amount that equals the total agreed upon FRV for all items in the inventory report, plus any additional amount to cover the inventory that does not have an identified FRV, so long as the Property remains in its possession. The Borrower further agrees to furnish the Lender proof of said insurance. For Borrowers with private insurance coverage, proof shall constitute a copy of the insurance certificate from the commercial provider, noting any deductible, and showing coverage up to the FRV of the Property and any additional coverage for Property that does not have an FRV identified in the inventory report. For self-insured organizations, proof shall constitute a written and signed statement attesting to its ability to reimburse the Government for the FRV of the Property (as identified in the inventory report and/or as determined by the NMUSAF).

12.0. Annual Loan Renewal Requirements.

12.1. The Borrower agrees to furnish the Lender a CD/DVD containing digital images of the Property. The image name must be the accession number for that item (i.e. SD-2000-0136.JPG). Digital images of aircraft and missiles will provide general views to include sufficient detail to show the overall condition and tail number of the airframe. Digital images for all other artifacts will be of sufficient detail to insure positive identification of each object and its current condition.

12.2. The Borrower agrees to furnish a copy of the most recent annual financial statements to include revenue and expense reporting and a projected budget for the next operating year.

12.3. The Borrower agrees to furnish the Lender proof of insurance as required in subparagraph 11.2 for each renewal period.

12.4. The Borrower agrees to furnish a signed inventory as provided by the Lender with the annual renewal package, which accurately reflects the Property in its possession. Discrepancies in the inventory provided by the Lender shall be noted on the inventory report by the Borrower to the extent that such notes accurately reflect the current inventory held by the Borrower. In the event of a dispute, the Lender shall make the final determination of the current inventory on or near the renewal date and document the NMUSAF records accordingly.

13.0. Display/Maintenance Requirements.

13.1. No aircraft will be renovated, reconfigured, have markings changed, or tail number altered, or any parts added, removed, or replaced as part of a planned restoration effort without prior written approval from the NMUSAF.

13.2. The Borrower agrees that all aircraft, missiles and artifacts on display will have an identification sign adjacent to each display. For aircraft and missiles note the type, model, and serial number. If the aircraft or missile has been reconfigured, markings changed, or serial number altered after acquisition for display purposes, it will be stated on the sign and noted in all records as follows:

"The (item) on display is actually (nomenclature), Serial No. _____, but painted and marked to depict (nomenclature), Serial No. _____, assigned to the (unit and/or person) in (location or theater) during (year)".

13.3. The sign will state that the item is part of the NMUSAF collection as follows:

"This (artifact/object) is on loan from the National Museum of the United States Air Force."

13.4. For aircraft on which the serial number has been altered for display purposes with prior written approval, the model, design and series (i.e. F-100C or F-4C) along with the original serial number will be stenciled in two inch letters using contrasting paint colors on the fuselage under the horizontal stabilizers.

13.5. All record keeping will reflect the true serial number.

14.0. Radioactive Components.

14.1. Completion of Section 2 of Air Force Form 3580, (USAF Museum Aerospace Vehicle Static Display Acceptance Condition and Safety Certificate), or comparable certification indicating that a complete radioactive material survey has been accomplished shall be included in the official file.

14.2. In accordance with Attachment 1, ("NMUSAF Loan and Static Display Programs' Instructions for Preparation and Maintenance of Aerospace Vehicles"), if radioactive items are determined to have been installed or reinstalled during later inspections, the Borrower will pay the cost of removal of the radioactive items and any decontamination required.

15.0. Loan Termination.

15.1. The failure of the Borrower to observe any of the conditions set forth in this Agreement and Attachments 1 and 2 thereto shall be sufficient cause for the Lender to terminate the loan and repossess the Property. Repossession of all or any part of the Property by the Lender shall be made at no cost or expense

to the Government; the Borrower shall be responsible for paying all maintenance, freight, storage, crating, handling, transportation and other costs or charges attributable to such repossession.

15.2. In the event the loan is terminated for any reason, the provisions of this Agreement will remain in effect until all of the Property, or in the event of a partial termination that portion of the Property at issue, has been relocated and in a condition that is satisfactory to the NMUSAF.

15.3. Termination of the loan and subsequent repossession of all or any part of the Property at the option of the Borrower shall require no less than thirty (30) days advance notice to the Lender in writing. This requirement may be waived by the Lender only through the provision of a written waiver to the Borrower prior to the return of the Property.

15.4. The Lender reserves the right not to renew this Agreement, in all or part, and to recall the Property if required by the Lender to meet the requirements of the NMUSAF, Wright-Patterson AFB, OH or for military requirements. The Lender will provide a written thirty (30) day notice of intent to recall to the Borrower. In the event of recall, movement of the recalled Property from the Borrower's site will be accomplished at the Lender's expense.

16.0. Dispute Resolution. In the event a dispute arises between the parties over the terms and conditions of this Agreement reasonable attempts will be undertaken to resolve the matter through negotiation between the parties or persons appointed, in writing, by the parties. This Agreement shall be construed and interpreted in accordance with Federal law. If any provision herein is held unlawful or otherwise unenforceable by the Court any remaining provisions shall be considered divisible and remain in full force and effect. In the further event that negotiations fail to reach a resolution, the parties agree that the Federal District Court for the Southern District of Ohio, at Dayton, Ohio, will have exclusive jurisdiction over such disputes.

Executed on behalf of the Lender this Twenty-Fifth Day of January, 2013 at Wright-Patterson AFB OH.

UNITED STATES OF AMERICA



By: PATRICIA A. OCHS
Title: Static Display Administrator

Agency: National Museum of the United States Air Force

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ACCEPTANCE

The Borrower, through its authorized representative hereby accepts responsibility of the loaned property subject to the terms and conditions contained in the Loan Agreement set forth above. The Borrower certifies that they have read, understand and acknowledge that concealing a material fact and/or making a fraudulent statement in dealing with the federal government may constitute a violation of federal law in accordance with 18 USC §1001.

Executed on behalf of the Borrower this _____ day of _____ 2013,

CITY OF CROSSVILLE, TN
(Name of Borrower/Organization)

By: _____
(Signature)

(Typed or Printed Name & Title)

Address: _____

Telephone: _____ Fax Number: _____

Email: _____

ATTACHMENT 1

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

INSTRUCTIONS FOR PREPARATION AND MAINTENANCE OF AEROSPACE VEHICLES

SECTION A - GENERAL

A. Information:

1. This instruction covers the requirements for the preservation and preparation of aircraft for static display purposes by an organization borrowing an aerospace vehicle from the National Museum of the United States Air Force (NMUSAF).
2. These requirements are designed to return and/or maintain the aerospace vehicle in as near original configuration as possible and to render them suitable for display.
3. Generally, all reconditioning, repairing, and refinishing will be accomplished in accordance with current Air Force directives and instructions and in a manner that would not modify it in any way, thereby altering the original form, design, or the historical significance of, said property. Deviations from this standard must be requested in writing and approved by NMUSAF.

B. Security Requirements:

1. The aerospace vehicle on display and undergoing preparation for display shall be kept secure from unsupervised personnel. The aerospace vehicle will be maintained with sufficient security to insure that it is protected from vandalism and theft or unauthorized removal of components.
2. Any theft or unauthorized removal of components shall be immediately reported to the local law enforcement agency and by the next working day to NMUSAF. This must be followed by a report of the investigation of the incident within 30 days.
3. All canopies, doors, access hatches, and access plates, except for one entrance door, will be permanently sealed shut by any of the following methods to prevent unauthorized entry:
 - a. Bolting through the hatch to internal crossbars placed across the opening. These can be fabricated from sturdy steel strapping or channel iron.
 - b. Riveting the door securely to the jamb section.
 - c. Attaching hasps internally and securing with inside padlock.

d. Whatever method is employed to secure doors and access hatches, the crevices remaining will be filled with caulking compound or elastic putty to prevent internal damage from rain, snow, dust and ice. A hasp welded or riveted in place must secure the access door that is not permanently sealed. Multiple locks (two or three) are preferable, each with separate key or combination. This technique will reduce the possibility of unauthorized access but will provide emergency entrance for authorized personnel.

C. Maintenance Records:

1. Whenever items are permanently removed, the removal and disposition of such items shall be annotated on a maintenance log or AF Form 3581, (available from NMUSAF).
2. All work items that are accomplished shall be listed and signed off on a maintenance log.
3. Utilizing the maintenance log, a detailed accounting will be maintained by the borrower of all items removed or installed with the date of installation/removal and the name of the individual accomplishing the work.
4. Copies of all maintenance records must be returned to NMUSAF with the annual loan renewal process for preservation.

D. References:

The work requirements listed herein have been developed in accordance with the following directives: AFM 23-110, Vol. VI, TO 00-20-1, Defense Disposal Manual 67-4, AFI 84-103, and applicable maintenance technical orders.

SECTION B - REQUIREMENTS

A. Demilitarize All Armament Systems and Explosive Material:

1. Disarm all systems in accordance with the applicable Aircraft Technical Orders and certify action on AF Form 3580, (or later equivalents). Warning: Disarming must be accomplished by a fully qualified USAF ordnance systems specialist. Documentation of these actions must be sent to NMUSAF. (If applicable)
2. Aerospace vehicles intended for outdoor display must have all weapons under 30mm (machine guns, cannons) removed. Only simulated weapons may be used. No weapons of any type may be loaned to non Department of Defense (DoD) organizations.

B. Prepare Power plant for Permanent Storage:

1. Prepare engines for permanent storage. (If applicable)
2. Disconnect and drain all water and oil lines, tanks, valves, and pumps. Reconnect lines and reinstall plugs after draining. (If applicable)
3. Clean excess oil and grease from exterior components of engines. (If applicable)
4. Check power plant cowling for corrosion and damage. Repair and refinish as necessary for display.
5. Install intake and exhaust protective covers. Standard covers may be used if available, or suitable substitutes.
6. Clean and preserve propeller domes.
7. Clean deicer shoes and apply corrosion preventative compound.
8. Clean and check metal components of propellers for corrosion. Treat any affected areas and refinish to standard configuration.

C. Defuel and Purge Fuel Systems:

1. Defuel and purge all fuel tanks and check for safety with a combustible gas indicator.
2. Disconnect and drain all fuel lines, valves, sumps, pumps, etc. Reconnect lines after purging.
3. Spray or seal fuel tanks with a corrosion preventive compound.
4. Drain water injection systems and deicing fluids whenever found.

D. Prepare Landing Gear:

1. Release high-pressure air from all landing gear shock struts.
2. Clean and preserve strut.
3. Clean all wheels and other landing gear components.
4. Check and remove corrosion. Repaint to standard configuration.
5. Check all tires for excessive wear and adjust pressure as required.
6. Secure all retractable landing gear in the down position with positive locking devices.

E. Prepare Hydraulic Systems:

1. Dissipate hydraulic system pressure and release air from hydraulic accumulators. (If applicable)
2. Disconnect and drain all hydraulic lines, reservoirs, valves and pumps. Reconnect and reinstall drain plugs after draining. (If applicable)
3. Clean all exposed finished surfaces of actuating rods, hydraulic cylinders, locks, and valves. Other hydraulic equipment will be cleaned and coated with corrosion preventative compound.

F. Prepare Oxygen Systems

1. Release oxygen, both gaseous and liquid, from all systems. (If applicable)
2. Stow all oxygen masks, bottles, and hoses. Remove all oxygen masks from aerospace vehicles displayed outside and store in a secure area conducive to preservation.
3. Install dust plugs in filler valves and recharge hoses.

G. Prepare Electrical Systems:

1. Remove aerospace vehicle batteries and turn in to battery shop, DRMO, or other authorized organization, or as locally required. (If applicable)
2. Remove dry cell batteries from frequency meters and other equipment. (If applicable)
3. Pull all circuit breakers only if of the non-radioactive (white plastic shank) type. Contact NMUSAF for a radiation survey of circuit breakers if in question, and for assistance with problems. Do not pull radioactive circuit breakers open, as deteriorated radium paint may be scattered in the process to create a possible hazard.
4. Cover all battery vent hole openings.

H. Prepare Electronic Systems:

1. Leave all electronic equipment that is not reclaimed installed on the aerospace vehicle.
2. Coat exposed metal whip antennas and mechanical items with a corrosion preventative compound.
3. Stow all connectors from equipment that has been removed.

I. Miscellaneous Utilities:

1. Remove bottles from all fire extinguisher systems, dissipate and reinstall.
Caution: Insure all chemicals are disposed of in accordance with established State environmental policies.

2. Drain and clean entire drinking water system. (If applicable)

3. Drain, clean, and reinstall coffee jugs and water jugs. (If applicable)

J. Prepare Airframe:

1. Check airframe for corrosion and treat affected areas.

2. Clean all debris and foreign material from interior of fuselage.

3. Check airframe for external damage and repair.

4. Cover all openings that will allow the entrance of water or other foreign matter that may have a corrosive or other deteriorating effect. Use standard covers if available, or suitable substitutes. Additional protection may be incorporated for aerospace vehicles placed in outside storage.

5. Check all fuselage, wing, and empennage drain holes for obstructions. Outside storage or display may necessitate additional drain holes to ensure proper drainage. Drain holes should be periodically probed to insure they are not obstructed.

6. Clean and treat lavatory and relief facilities. (If applicable)

7. Check all astrodomes and plastic panels for crazing and damage, repair and/or replace as necessary. Clean all plastic panels thoroughly with soap and water.

8. Inspect for water trapped in lower portions of fuselage. If water is present comply with instructions contained in applicable technical order for removal and correction.

K. Prepare Control Surfaces:

1. Check all metal control surfaces for corrosion and treat-affected areas.

2. Check all control surfaces for external damage and repair areas as necessary for display purposes.

3. Inspect all fabric-covered control surfaces, repair or recover as necessary.

4. Check all control surfaces, attaching mechanisms for loose rivets and/or sheared bolts and make necessary repairs.

5. Secure all moveable surfaces in a neutral position with positive locking devices.

L. Radiation Safety:

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1. Completion of radiation survey will be verified by NMUSAF prior to physical transfer of aerospace vehicle.
2. Interior of aircraft must be secured and all access prevented until radiation survey is completed. No restoration activity inside or outside the aircraft will be permitted until the radiation survey is completed.
3. Survey of aircraft displayed at non-DoD organization will be accomplished by the NMUSAF Radiation Safety Officer or an authorized USAF representative an annotated on an AF Form 3583.
4. No radioactive components will be reinstalled by the borrowing organization. If radioactive items are found reinstalled during later inspections, the borrowing organization will pay the cost of removal of the radioactive items and any decontamination required.

M. Final Preparation:

1. Entire aircraft cleaned and refinished as required.
2. Secure aircraft by attaching tie down restraints to surface attaching points and to a major structural part of the item. Tie down restraints, including surface attaching points, should be of sufficient strength to withstand the expected wind condition for the locality.
3. Place aerospace vehicle on surface concrete or asphalt of sufficient strength to support its weight. This will not apply if the recipient, with the written permission of the NMUSAF, has mounted the aerospace vehicle on a pylon attached to the aerospace vehicles structural members.
4. Aerospace vehicles inside or outside that are normally supported on pneumatic tires must be placed on display stands of sufficient height to provide approximately 1" clearance between the tire and the display surface, tires should be inflated and or checked to maintain normal tire shape, or tires must be filled with a permanent tire filling compound which will maintain their inflated shape and support the weight of the item for the life of the casing.
5. Remove all antenna wires that could serve as a bird roost.
6. Install bird proofing on all aerospace vehicle openings, including intake and exhaust covers.
7. Flag or cover all protruding objects of a hazardous nature.

N. Coordination:

1. Deviation from the procedures outlined in this attachment must be requested in writing and require written approval prior to deviation.
2. No aerospace vehicle will be renovated, reconfigured, have markings changed, or tail number altered, or any parts added, removed, or replaced as part of a planned restoration effort without prior written approval from the NMUSAF.

02/04/05

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, objects 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 insure 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 object never modify an object 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 object'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 or assistance for proper display of NMUSAF objects.

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 museum objects falls between 50 and 200 lux or 5 and 20 foot-candles. Sensitive objects, such as artwork, color/black and white photographs, and textiles should have their intensity levels adjusted downward toward lower limits and/or limited exposure time. There is a reciprocity law between intensity (lux) and time of exposure: 10 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 UF 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 68 degrees and 50% relative humidity. 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 infestation is detected many methods of pest removal are destructive to artifacts. If a NMUSAF artifact is exposed to infestation, contact NMUSAF conservator.

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

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

storage of objects. Leather and textiles shall be stored flat when possible and laid out on acid free tissue paper. If leather or textiles are hung, they should be hung on well padded hangers. Storage on shelves shall be loose with no piling or stacking of objects 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 objects. Two hands should be used to handle or carry objects to reduce risk of dropping. Carry only one object at a time using both hands. Do not carry or lift objects by handles or weakest point.

G. Display: Displaying an object can be very detrimental if not done properly. Cases should be designed to incorporate UF-3 or UF-5 Plexiglas to shield objects 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 object during transit. Consult NMUSAF to arrange shipping of returned loaned objects.

Revised 8 Dec 2011