

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 preparation and preservation of aerospace vehicles for static display 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. Aerospace vehicles on display and undergoing preparation for display shall be kept secure from unsupervised personnel. Aerospace vehicles will be maintained with sufficient security to ensure 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. The access door that is not permanently sealed must be secured by a hasp welded or riveted in place. 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 (AF Form 3581, available from the NMUSAF).

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/MUC with the annual loan renewal process for preservation.

SECTION B - REQUIREMENTS

A. Prepare Powerplant for Display:

1. Disconnect and drain all water and oil lines, tanks, valves, and pumps. Reconnect lines and reinstall plugs after draining (if applicable).

2. Clean excess oil and grease from exterior components of engines (if applicable).

3. Check powerplant cowling for corrosion and damage. Repair and refinish as necessary for display.

4. Install intake and exhaust protective covers. Use standard covers if available or suitable substitutes.

5. Clean and preserve propeller(s). Treat any affected areas and refinish to standard configuration.

B. Prepare Landing Gear:

1. Clean and preserve strut.

2. Clean all wheels and other landing gear components.

3. Check and remove corrosion. Repaint to standard configuration.
4. Check all tires for excessive wear and adjust pressure as required.
5. Secure all retractable landing gear in the down position with positive locking devices.

C. Prepare Hydraulic Systems:

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.

D. Prepare Electronic Systems:

Leave all electronic equipment that is not reclaimed installed on the aerospace vehicle. Stow all connectors from equipment that has been removed.

E. 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 displayed outside.
5. Check all fuselage, wing, and empennage drain holes for obstructions. Aerospace vehicles displayed outside may necessitate additional drain holes to ensure proper drainage. Drain holes should be periodically probed to ensure they are not obstructed. 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.
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.

F. 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.
3. Inspect all fabric-covered control surfaces, repair or re-cover 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.

G. Radiation Safety:

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.

H. Final Preparation:

1. Secure aerospace vehicles by attaching tie down restraints to surface attaching points and to major structural parts of the item. Tie down restraints, including surface attaching points, should be of sufficient strength to withstand the expected wind condition for the locality.

2. Place aerospace vehicles 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 its structural members.

3. Aerospace vehicles that are normally supported on pneumatic tires must be placed on display stands. Tires should be inflated and or checked to maintain normal tire shape.

4. Remove all antenna wires that could serve as a bird roost.

5. Install bird proofing on all aerospace vehicle openings, including intake and exhaust covers.

6. Flag or cover protruding objects of a hazardous nature.

I. 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 vehicles 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.