

BY ORDER OF THE COMMANDER



**FAIRCHILD AIR FORCE BASE
INSTRUCTION 84-103**

2 OCTOBER 1997

History

**STATIC DISPLAY OF AIRCRAFT AND
MISSILES**

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction establishes policies and procedures for the management of static display aircraft and missiles located at Heritage Air Park and Fairchild Heritage Museum.

CHAPTER 1

AIRCRAFT SPONSOR PROGRAM.

1.1. General. This program consists of Fairchild units that have voluntarily agreed to sponsor airpark displays and maintain them with volunteer personnel and O&M funds.

1.2. Aircraft Sponsors. The aircraft sponsors are as follows:

Table 1.1. Aircraft and Sponsors.

<u>Aircraft</u>	<u>Sponsors</u>
A-26	Daedalians
B-52D	92 AGS
C-47	336 TRG
F-86	92 SUPS
F-101	92 CS
F-105	92 SFS
T-33	92 MS
T-37	92 ARS

CHAPTER 2

MAINTENANCE OF AIR PARK DISPLAYS.

2.1. Sponsor Responsibility. The sponsor is responsible to maintain their aircraft in accordance with AFI 84-103, chapter 7, the appropriate Technical Order (T.O.) Dash 3 structural repair manual and **Attachment 1** of this Operating Instruction, *United States Air Force Museum Program Instructions For Preparation And Maintenance Of Aerospace Vehicles*.

2.1.1. Annual Inspection. Visual check all external and internal areas, where accessible, for active corrosion. All working parts will be checked for light coating of a protective lubricant (CPC). If CPC is missing or not covering the entire polished surface, reapplication is necessary. The inspection will be done before the first semi-annual wash by the sponsoring organization's project officer and the Historical Property Custodian (HPC).

2.1.2. Semi-Annual Wash. Display aircraft will be washed semi-annually by sponsoring organization, at a minimum, once before Aerospace Day and again just before winter sets in or during October - November. The wash will include brightening any polish or gloss finished surfaces and application of a soil barrier or wax to lengthen the period between painting. Wax will not be used on any flat or matte finished surface.

2.1.2.1. Contact the Museum Historical Property Custodian (HPC) to coordinate the date and time for washing of static display aircraft. The HPC will instruct the organization's project officer on aircraft washing procedures. All aluminum surfaces will be cleaned and brightened. All cleaning and application of chemical coatings will be accomplished in accordance with applicable T.Os. and local base environmental regulations.

2.1.3. Monthly Inspection. All static displays will be checked for general condition, security, bird-proofing, and that drain holes are clear of obstructions.

2.1.4. Weekly Inspection. Museum personnel will inspect for evidence of forced entry or external tampering. If forced entry is found, then inspection of interior will be made for any missing equipment. Immediate notification will be made to the Fairchild Heritage Museum HPC. A report will be filed with the Security Police and a copy sent to the Fairchild Heritage Museum and the USAF Museum at Wright-Patterson AFB OH.

2.1.5. Forms Annotation. All discrepancies and corrective action will be documented on the appropriate aircraft forms.

2.1.6. Tools and Equipment. Some hand tools and equipment required to work on the static display aircraft may be signed out from the museum. If special tools or equipment are needed, contact the Museum HPC at least 48 hours in advance so equipment can be made available for your use. Flight-line equipment (i.e., air compressors, maintenance stands, etc.) use will be coordinated through the 92d Maintenance Squadron's Aerospace Ground Equipment (AGE) Flight.

ROBERT BURNS III, Colonel, USAF
Director of Staff

ATTACHMENT 1

INSTRUCTIONS FOR PREPARATION AND MAINTENANCE OF AEROSPACE VEHICLES

Section A1A—General

A1.1. Information. This instruction covers the requirements for the preservation and preparation of aircraft for exhibition or storage by an Air Force organization within the USAF Museum System (USAFMS) and by Federal, State, municipal and civilian museums borrowing aircraft from the USAFMS. The term aircraft, as used in this Instruction refers to all aerospace vehicles.

A1.1.1. These requirements are designed to return and/or maintain the aircraft in as near original configuration as possible and to render them suitable for display.

A1.1.2. Generally, all reconditioning, repairing, and refinishing will be accomplished in accordance with current Air Force directives and instructions. However, when it is unfeasible to return items to a complete serviceable condition, they will be processed so as to be suitable for display purposes. Deviations from this standard must be requested in writing and approved by the USAFM.

A1.2. Security requirements. Aircraft on display and undergoing preparation for display shall be kept secure from unsupervised personnel. The aircraft will be maintained with sufficient security to insure that it is protected from vandalism and theft or unauthorized removal of components.

A1.2.1. Any theft or unauthorized removal of components shall be immediately reported to the local law enforcement agency and, by the next working day, to USAFM/MUS. This must be followed by a report of the investigation of the incident within 30 days.

A1.2.2. To prevent unauthorized entry, all canopies, doors, access hatches, and access plates, except for one entrance door, will be permanently sealed shut by any of the following methods:

A1.2.2.1. Bolting through the hatch to internal crossbars placed across the opening. These can be fabricated from sturdy steel strapping, channel iron, or other appropriate material.

A1.2.2.2. Riveting the door securely to the jamb section.

A1.2.2.3. Attaching hasps internally and securing with inside padlock.

A1.2.2.4. 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.

A1.2.2.5. 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.

A1.3. Maintenance Records.

A1.3.1. Whenever items are permanently removed, the removal and disposition of such items shall be annotated on the AF Form 3581.

A1.3.2. All work items that are accomplished shall be listed and signed off on the AF Form 3581.

A1.3.3. Utilizing the AF Form 3581, 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.

A1.3.4. All maintenance records must be permanently retained by the borrower in a secure area conducive to preservation of the material.

A1.4. References: The work requirements listed herein have been developed in accordance with the following directives: AFM 23-110, Vol. VI; T.O. 00-20-1; AFI 84-103; and applicable maintenance technical orders.

Section A1B— Requirements

A1.5. Demilitarize All Armament Systems and Explosive Material.

A1.5.1. Disarm all systems in accordance with the applicable aircraft technical orders and certify action on AF Form 3580 or later equivalents. **Warning:** All disarming must be accomplished by a fully qualified aircraft ordnance systems specialist.

A1.5.2. Aircraft intended for outdoor display must have all weapons (machine guns, cannons) removed. Only simulated weapons may be used.

A1.6. Prepare Powerplant for Permanent Storage.

A1.6.1. Prepare engines for permanent storage (ref. applicable -2 T.O., T.O. 2R-1-11 and T.O. 2J-1-18).

A1.6.2. Disconnect and drain all water and oil lines, tanks, valves, and pumps. Reconnect lines and reinstall plugs after draining (ref. applicable -2 T.Os.).

A1.6.3. Clean excess oil and grease from exterior components of engines (ref. T.O. 2R-1-84).

A1.6.4. Check power plant cowling for corrosion and damage. Repair and refinish as necessary for display (ref. applicable -3 T.O.).

A1.6.5. Install intake and exhaust protective covers. Standard covers may be used if available, or suitable substitutes.

A1.6.6. Clean and preserve propeller domes (ref. applicable -2 T.O.).

A1.6.7. Clean deicer shoes and apply corrosion preventative compound.

A1.6.8. Clean and check metal components of propellers for corrosion. Treat any affected areas and refinish to standard configuration.

A1.7. Defuel and Purge Fuel Systems.

A1.7.1. Defuel and purge all fuel tanks and check for safety with a combustible gas indicator. Source: Fire Department/Bio-environmental (ref. T.O. 1-1-3).

A1.7.2. Disconnect and drain all fuel lines, valves, sumps, pumps, etc. Reconnect lines after purging (ref. T.O. 1-1-3).

A1.7.3. Spray or seal fuel tanks with a corrosion preventive compound (ref. T.O. 1-1-3).

A1.7.4. Drain water injection systems and deicing fluids whenever found (ref. T.O. 1-1-13).

A1.8. Prepare Landing Gear.

A1.8.1. Release high pressure air from all landing gear shock struts (ref. applicable -2 T.O.).

A1.8.2. Clean and preserve struts (ref. T.O. 1-1-691).

A1.8.3. Clean all wheels and other landing gear components (ref. T.O. 1-1-691).

A1.8.4. Check and remove corrosion. Repaint to standard configuration (ref. T.O. 1-1-691).

A1.8.5. Check all tires for excessive wear and adjust pressure as required (ref. T.O. 4T-1-3).

A1.8.6. Secure all retractable landing gear in the down position with positive locking devices.

A1.9. Prepare Hydraulic Systems.

A1.9.1. Dissipate hydraulic system pressure and release air from hydraulic accumulators (ref. applicable -2 T.O.).

A1.9.2. Disconnect and drain all hydraulic lines, reservoirs, valves, and pumps. Reconnect and reinstall drain plugs after draining (ref. applicable -2 T.O.).

A1.9.3. 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.

A1.10. Prepare Oxygen Systems.

A1.10.1. Release oxygen, both gaseous and liquid, from all systems (ref. applicable -2 T.O.).

A1.10.2. Stow all oxygen masks, bottles, and hoses. Remove all oxygen masks from aircraft displayed outside and store in a secure area conducive to preservation.

A1.10.3. Install dust plugs in filler valves and recharger hoses.

A1.11. Prepare Electrical Systems.

A1.11.1. Remove aircraft batteries and turn in to battery shop, DRMO, or other authorized organization (ref. applicable -2 T.O. or as locally required).

A1.11.2. Remove dry cell batteries from frequency meters and other equipment as applicable (ref. applicable -2 T.O.).

A1.11.3. Pull all circuit breakers only if of the non-radioactive (white plastic shank) type. Contact Bio-Environmental Engineering 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 (ref. applicable -2 T.O.).

A1.11.4. Cover all battery vent hole openings (ref. applicable aircraft -2 T.O.).

A1.12. Prepare Electronic Systems.

A1.12.1. Leave all electronic equipment that is not reclaimed installed on the aircraft.

A1.12.2. Coat exposed metal whip antennas and mechanical items with a corrosion preventative compound.

A1.12.3. Stow all connectors from equipment that has been removed.

A1.13. Miscellaneous Utilities.

A1.13.1. Remove bottles from all fire extinguisher systems, dissipate, and reinstall. Caution: Ensure all chemicals are disposed of in accordance with established base procedures (ref. applicable aircraft -2 T.O.).

A1.13.2. Drain and clean entire drinking water system (ref. applicable aircraft -2 T.O.).

A1.13.3. Drain, clean, and reinstall coffee jugs and water jugs.

A1.14. Prepare Airframe.

A1.14.1. Check airframe for corrosion and treat affected areas (ref. T.O. 1-1-691).

A1.14.2. Clean all debris and foreign material from interior of fuselage (ref. T.O. 1-1-691).

A1.14.3. Check airframe for external damage and repair (ref. applicable -3 T.O.).

A1.14.4. Cover all openings that will allow the entrance of water or other foreign matter that may have a corrosive or other deteriorating affect. Use standard covers if available, or suitable substitutes. Additional protection may be incorporated for aircraft placed in outside storage.

A1.14.5. 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 ensure they are not obstructed.

A1.14.6. Clean and treat lavatory and relief facilities (ref. T.O. 1-1-691).

A1.14.7. 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 (ref. T.O. 1-1-691).

A1.14.8. 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.

A1.15. Prepare Control Surfaces.

A1.15.1. Check all metal control surfaces for corrosion and treat affected areas (ref. T.O. 1-1-691).

A1.15.2. Check all control surfaces for external damage and repair areas as necessary for display purposes (ref. applicable -3 T.O.).

A1.15.3. Inspect all fabric covered control surfaces, repair or recover as necessary (ref. T.O. 1-1A-11).

A1.15.4. Check all control surfaces, attaching mechanisms for loose rivets and/or sheared bolts, and make necessary repairs (ref. applicable -3 T.O.).

A1.15.5. Secure all moveable surfaces in a neutral position with positive locking devices.

A1.16. Radiation Safety.

A1.16.1. Status of radiation survey will be verified by USAFM/MUS prior to physical transfer of aircraft/artifacts.

A1.16.2. Interior of aircraft must be secured and all access prevented until radiation survey is completed. No restoration activity inside or outside of the aircraft will be permitted until verification of the radiation status.

A1.16.3. USAFM/MUS will require certification of completion of the radiation survey when an aircraft is initially acquired for display, with an update to coincide with each annual load renewal.

A1.16.4. Explanatory information regarding the radiation survey is provided in AFI 84-103, Chapter 9 and Attachment 4. Further questions may be directed to USAFM/MUR (Radiation), (513) 255-6930 or DSN 785-6930.

A1.16.5. Survey of aircraft displayed at civilian or non-USAF-operated museums will be accomplished by the USAF Museum Radiation Safety Officer or an authorized USAF representative.

A1.16.6. Following required removal by USAF Museum radiation personnel of certain radioactive components from USAF owned aircraft and artifacts displayed at civilian or non-USAF operated museum, no radioactive components will be reinstalled by the borrowing museum. This prohibition also applies in cases when the aircraft arrives at the borrowing museum with a certification of no radioactivity (such as from the Aerospace Maintenance and Regeneration Center (AMARC)). If radioactive items are found to have been reinstalled during later inspections, the loan will be terminated.

A1.17. Final Preparation.

A1.17.1. Entire aircraft cleaned and refinished as required.

A1.17.2. 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.

A1.17.3. Place aircraft on a concrete or asphalt surface of sufficient strength to support its weight. This will not apply if the recipient, with the permission of the USAFM, has mounted the aircraft on a pylon attached to the aerospace vehicles structural members.

A1.17.4. Aircraft inside or outside that are normally supported on pneumatic tires should be placed on display stands of sufficient height to provide approximately 1 inch clearance between the tire and the display surface, tires should be inflated and checked to maintain normal tire shape, or tires should 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.

A1.17.5. Remove all antenna wires that could serve as a bird roost.

A1.17.6. Install bird-proofing on all aircraft openings, including intake and exhaust covers.

A1.17.7. Flag or cover all protruding objects of a hazardous nature.

A1.18. Coordination.

A1.18.1. Forward one signed copy of AF Form 3580, Aircraft Acceptance, condition and Safety Certificate to:

USAFM/MUS
1100 Spaatz Street
Wright-Patterson AFB OH 45433-7102

A1.18.2. Retain one copy of the AF Form 3580 for your permanent file.

A1.18.3. Deviation from the procedures outlined in this attachment must be requested in writing and requires written approval prior to deviation.

A1.18.4. A written notice of any restoration/preservation task extending beyond 180 days shall be submitted to USAFM/MUS. The notice shall include work to be completed and projected completion date. A final report shall be submitted upon completion. An annual progress report shall be submitted if the project extends beyond a 12 month period.