

STORAGE - MAINTENANCE PRACTICES

1. General

- A. This section gives the recommended storage procedures for the airplane. The storage time periods are zero to seven days, eight to thirty days, thirty-one to ninety days and ninety-one days and over.
- B. If the airplane is to be stored outside, adhere to parking and mooring. Refer to Chapter 10, [Parking - Maintenance Practices](#) and [Mooring - Maintenance Practices](#). Do not set parking brake. Install all protective covers and cover all fuselage air inlets.
- C. When fueling aircraft, use appropriate EGME/DIEGME fuel additives to combat ice and bacterial growth during storage. Refer to Chapter 12, [Fuel - Servicing](#).

2. Tools and Equipment

Name	Number	Manufacturer	Use
Paraformaldehyde packet form		Vapor Products P.O. Box 8395 Orlando, FL 32856	To protect the airplane's upholstery and carpet against fungus and mildew formation when airplane is stored 30 days or longer in high humidity.

3. Zero to Seven Days

- A. Engines.
 - (1) Engine may be left in an inactive state, with no preservation protection required; provided, engine is sheltered, humidity is not excessively high, engine is not subject to extreme temperature changes which would produce condensation.

4. Eight to Thirty Days

- A. Engines.
 - (1) Engine inactive up to 30 days require no preservation; provided, all engine openings are sealed off and relative humidity in engine is maintained at less than 40 percent. This can be accomplished by placing a desiccant in engine exhaust jet pipe.

NOTE: Ensure that the desiccant is kept off all engine parts by placing it on racks

- B. Fuel Airplane.
 - (1) Drain crossfeed line. Refer to Chapter 28, [Fuselage Fuel Line Shroud - Maintenance Practices](#).
 - (2) Fill wing tanks. Refer to Chapter 12, [Fuel - Servicing](#); or sump fuel tanks no less than once per week. Refer to Chapter 28, [Fuel Contamination - Maintenance Practices](#).
- C. Battery.
 - (1) Disconnect battery.
 - (2) For sealed lead acid batteries only, do the steps that follow:
 - (a) Remove the battery from the airplane. Refer to Chapter 24, [Battery - Removal/Installation](#).

CAUTION: Always remove the battery from the airplane before you connect a charger to it. If a failure of the battery or battery charger occurs during the charging process, acid and/or heat damage can occur to airplane areas near the battery.

CAUTION: Use only approved maintenance chargers when you store the battery. Some models of trickle chargers can cause damage to airplane batteries if they are used for a long period of time.
 - (b) Connect a maintenance charger to the battery.
 - (c) Operate the maintenance charger as necessary to keep a serviceable charge on the battery. Refer to the maintenance charger manufacturer's instruction manual.
- D. Tires.
 - (1) Rotate wheel every two weeks.

5. Thirty-One to Ninety Days

- A. Engines.

- (1) Engines inactive longer than 30 days, but not exceeding 90 days, need only to have the fuel system preserved, engine intake and exhaust openings covered and desiccant and humidity indicators installed.

B. Engine Fuel System.

- (1) Engines inactive for periods exceeding 30 days should have their fuel system inhibited as follows:
 - (a) Close manual fuel supply shutoff valve and disconnect fuel inlet line to fuel pump.
 - (b) Disconnect bypass fuel line from starting control unit to fuel control unit and primary and secondary fuel lines to fuel manifold, at starting control unit.
 - (c) Connect a suitable oil supply line to the fuel pump and supply slushing oil, Specification MIL-O-6081, Grade 1010, at a pressure of 5 to 25 PSI (34.47 to 172.36 kPa) and a temperature of at least 60 °F (15.55 °C).

CAUTION: Extreme care must be taken to prevent foreign material from being drawn into the engine fuel system. The equipment must be provided with suitable filters or strainers, no coarser than a 10 micron rating. Never allow slushing oil to enter engine.

- (d) With the ignition system off and the throttle lever in the IDLE position, carry out a 30-second motoring-cycle. Ensure that slushing oil is coming from the open primary connection. During the motoring run, the throttle lever should be moved from IDLE to CUT-OFF position, then back to IDLE position; this will ensure that slushing oil passes through the bypass section of the starting control unit.
- (e) Cap off primary and bypass connections on the starting control unit and carry out a second motoring run. Check that slushing oil is now coming from the secondary fuel connection on the starting control unit.
- (f) Following the motoring runs, disconnect and remove slushing oil supply; remove caps from bypass and primary connections on start control unit and reconnect all lines.
- (g) Tag throttle lever with date of preservation and a warning stating the inadvisability of cranking engine.

C. Fuel Airplane.

- (1) Drain crossfeed line. Refer to Chapter 28, [Fuselage Fuel Line Shroud - Maintenance Practices](#).
- (2) Fill wing tanks. Refer to Chapter 12, [Fuel - Servicing](#); or sump fuel tanks no less than once per week. Refer to Chapter 28, [Fuel Contamination - Maintenance Practices](#).

D. Battery.

CAUTION: The battery must not be maintenance charged while it is in the airplane. If the battery is removed, then the battery must be fully charged before it is installed in the airplane.

- (1) Disconnect battery.

NOTE: If battery is left in the airplane, regular servicing will be required to prevent discharge. If battery is removed from the airplane, check it regularly for state of charge.

- (2) For sealed lead acid batteries only, do the steps that follow:

- (a) Remove the battery from the airplane. Refer to Chapter 24, [Battery - Removal/Installation](#).

CAUTION: Always remove the battery from the airplane before you connect a charger to it. If a failure of the battery or battery charger occurs during the charging process, acid and/or heat damage can occur to airplane areas near the battery.

CAUTION: Use only approved maintenance chargers when you store the battery. Some models of trickle chargers can cause damage to airplane batteries if they are used for a long period of time.

- (b) Connect a maintenance charger to the battery.
- (c) Operate the maintenance charger as necessary to keep a serviceable charge on the battery. Refer to the maintenance charger manufacturer's instruction manual.

E. Tires.

- (1) Rotate wheels every two weeks.

F. Upholstery and Carpet.

- (1) If airplane is stored in a high humidity area, protect the upholstery and carpet in the cabin area against fungus and mildew. Refer to Cabin Upholstery and Carpet Storage for High Humidity Areas.

6. Ninety-One Days and Over

A. Engines.

- (1) Engines inactive for periods exceeding 90 days must, in addition to 30 to 90 day procedures, have engine oil drained.

B. Engine Fuel System.

- (1) For preservation of engine fuel system, refer to step 5.B.(1).

C. Engine Oil System.

- (1) Drain engine oil. Refer to engine oil servicing. Allow the oil to drain to a slow drip for approximately one-half hour.
- (2) Install and close all previously opened drains.
- (3) Tag oil filler cap with date of preservation.

D. Fuel Airplane.

- (1) Drain crossfeed line. Refer to Chapter 28, [Fuselage Fuel Line Shroud - Maintenance Practices](#).

CAUTION: The wing tanks must be filled to prevent adverse effects of storage. Consequences of not filling wing tanks include fuel sealer shrinkage and fuel leaks, as well as moisture entering the tanks and causing corrosion.

- (2) Fill wing tanks. Refer to Chapter 12, [Fuel - Servicing](#).

E. Battery.

CAUTION: The battery must not be maintenance charged while it is in the airplane. If the battery is removed, then the battery must be fully charged before it is installed in the airplane.

- (1) Disconnect battery and remove from airplane.
- (2) For sealed lead acid batteries only, do the steps that follow:

- (a) Remove the battery from the airplane. Refer to Chapter 24, [Battery - Removal/Installation](#).

CAUTION: Always remove the battery from the airplane before you connect a charger to it. If a failure of the battery or battery charger occurs during the charging process, acid and/or heat damage can occur to airplane areas near the battery.

CAUTION: Use only approved maintenance chargers when you store the battery. Some models of trickle chargers can cause damage to airplane batteries if they are used for a long period of time.

- (b) Connect a maintenance charger to the battery.
- (c) Operate the maintenance charger as necessary to keep a serviceable charge on the battery. Refer to the maintenance charger manufacturer's instruction manual.

F. Tires.

- (1) Rotate wheels every 30 days.

G. Upholstery and Carpet.

- (1) If airplane is stored in a high humidity area, protect the upholstery and carpet in the cabin area against fungus and mildew. Refer to Cabin Upholstery and Carpet Storage for High Humidity Areas.

7. Cabin Upholstery and Carpet Storage for High Humidity Areas

- A. Airplanes stored for extended periods (30 days or more) frequently exude mustiness in the cabin area due to fungus and mildew formation in the carpet and upholstery because of nonventilation.
- B. It has been found that use of Paraformaldehyde in the cabin area can be effective in checking fungus and mildew formation for as long as a year.
- C. When using Paraformaldehyde, use the following safety precautions:

WARNING: Paraformaldehyde may be fatal if swallowed. If swallowed, call physician immediately. Do not breathe vapors.

WARNING: Do not get paraformaldehyde in the eyes, on the skin or clothing. In case of contact with the eyes, flush with clean water.

WARNING: In case of contact with the skin, wash immediately with soap and water.

WARNING: Do not expose to uncoated metal surfaces. Do not expose to heated surfaces or open flames. Paraformaldehyde is flammable and toxic when heated.

- D. Place a sign on the cabin door which states the amount and location of the Paraformaldehyde tablets.

- E. Place a 1.5 ounce bag of paraformaldehyde on a sheet of plastic in each nose baggage compartment and the tailcone baggage compartment. This will protect baggage areas for approximately six weeks.
- F. Hang a 1.5 ounce bag of paraformaldehyde in the forward and aft cabin area of the fuselage to protect the cabin area for approximately six weeks.