1. General
   A. This procedure has the maintenance practices for the Pratt & Whitney PW4460/4462 engines. This procedure includes:
   - General preservation/depreservation procedures
   - Engine preservation
   - Engine depreservation.

   B. If you are not sure of the length of time the engine will be in storage, use the Method II preservation procedure.

   C. It will be necessary to motor or run the engine to preserve the engine for more than 60 days.

   D. For general preservation guidelines, refer to General Preservation/Depreservation Procedures.

      (1) For a new engine received from Pratt & Whitney, refer to the method shown for “New Supplied Engines”.

      (2) To preserve the engine for 60 days or less, refer to "In-service Engine Put Into Storage (Method I)" for in-service engines.

2. GENERAL PRESERVATION/DEPRESERVATION PROCEDURES
   A. General

      (1) The procedures that follow are used give protection to the engine against damage, too much moisture and unwanted material. These procedures are specified as “Best Practices” for the protection of out-of-service engines during extended periods of non use and storage.

      (2) This procedure is a guideline for each operator to use as a baseline to determine what precautions are necessary for engine protection. These precautions are based on the operator’s experience, local environmental conditions and past preservation practices. The engine preservation policy of an operator must be a flexible program. It must be implemented to give the maximum amount of protection to critical parts, such as gears, bearings and accessory components. Also, it must take into consideration seasonal changes, such as temperature and humidity. Special care must be used in locations where exposure to severe temperature changes, severe humidity or salt water for a long period of time, can cause a higher risk of damage to the engine.

      (3) It is the responsibility of the engine operator to give sufficient protection for engines that will be out-of-service for extended periods of time. It is also important that engines not be put into storage and ignored. Engine preservation guidelines must be used by operators to help start and keep a usable engine preservation plan.

      (4) This section contains the basic procedures that follow:

         (a) New supplied engines.

         (b) In-service engine put into storage as follows:

            1) Preservation for 60 days or less (Method I).

            2) Preservation for more than 60 days (Method II).

         (c) Preservation of the gearbox.

         (d) Preservation of the engine for relative humidity.

         (e) Depreservation of the engine.

      (5) Use the preservation procedure that is necessary for the time that the engine will be kept in storage.
(6) If you are not sure of the length of time the engine will be in storage, use the Method II preservation procedure.

(7) The engine can be left in an inactive status, with no preservation, for seven days if the conditions that follow are done:
(a) The engine is kept in a shelter. In other words, keep the engine inside or if kept outside, install a tarp or PVC plastic sheet over:
   • The inlet cowl
   • The fan exhaust area
   • The engine exhaust area.
(b) The humidity is not more than 60 percent.
(c) The engine is not stored in an area of very high temperature changes, which cause condensation.
(d) After a maximum of seven days and every seven days thereafter, counting from the first day of inactivity, the engine must be run to boil off all condensation in the oil.

B. References

<table>
<thead>
<tr>
<th>Reference</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>70-30-00-910-868</td>
<td>CONSUMABLE MATERIALS (P/B 201)</td>
</tr>
</tbody>
</table>

C. New Supplied Engines

SUBTASK 72-00-09-620-358

(1) When an engine is received from Pratt & Whitney, make a decision if you will operate the engine in 60 days or less. Do one of the steps that follow:
(a) If the engine will be operated in the 60 day limit of Method I, additional preservation is not necessary.
(b) If the engine will not be operated in the 60 day limit of Method I, then do the steps that follow before the expiration of the current preservation period:
   1) Open the engine bag, if one is installed.
   2) Install dehydrating agent and humidity indicators.
   3) Seal the engine bag, as received, if one is installed.
   4) Examine the engine during the preservation (storage) period for relative humidity.

D. In-service Engine Put Into Storage

SUBTASK 72-00-09-620-359

(1) Preservation of the engine for 60 days or less (Method I).

**CAUTION:** DO NOT PERMIT HYDRAULIC FLUID TO STAY ON THE MAIN GEARBOX WHILE THE ENGINE IS IN STORAGE. THE HYDRAULIC FLUID CAN CAUSE CORROSION AND DAMAGE TO THE GEARBOX HOUSING.

(a) Examine the gearbox external surface for hydraulic fluid. If you see hydraulic fluid, it must be removed.
WARNING: USE THE HAZARDOUS MATERIAL WARNINGS GIVEN BELOW FOR THE STEPS THAT FOLLOW.

THE HAZARDOUS MATERIAL WARNINGS ARE LISTED AFTER THE INTRODUCTION SECTION IN THE FRONT OF THE AMM.

Hazardous Material Warnings

HAZMAT 1413, LUBRICANT/OIL AIRCRAFT TURBINE ENGINE/SYNTHETIC BASE (DPM 6167)
HAZMAT 1000, REFER TO MSDS

(b) Flush the engine oil system.
(c) Drain the oil from the engine.
(d) If one or more accessories are removed from the main gearbox, spray lubricating oil (P03-001) on the applicable gearbox drive pads. (CONSUMABLE MATERIALS, TASK 70-30-00-910-868)
(e) Install accessory gearbox covers on the gearbox.
(f) Seal the engine for storage.
(g) Keep the engine in a shelter or if kept outside, install a tarp or PVC plastic sheet over:
   - The inlet cowl
   - The fan exhaust area
   - The engine exhaust area.
(h) Make a record of the engine preservation. The record must have the preservation method and date for each engine.
(i) If the engine will stay in storage for more than 60 days, do Method I again to store the engine for 60 days again. It is permitted to do this method again and again indefinitely.
   NOTE: If you do Method I again, the engine must be serviced with clean oil and motored.
(j) Preserve the engine fuel system.

SUBTASK 72-00-09-620-300

(2) Preservation of the engine for more than 60 days (Method II).
(a) Change the oil in the oil system as follows:
   1) If installed, remove the protective covers from all the engine openings.
   2) Drain the oil from the engine oil system and replace the oil filter element.
   3) Fill the engine oil system.
(b) Motor the engine (Optional to engine operation) as follows:

   NOTE: This alternate method to motor the engine can be used when a test cell is not available to test the engine.

   CAUTION: TO PREVENT DAMAGE TO THE ENGINE, MAKE SURE THAT THE ENGINE IS CORRECTLY INSTALLED IN THE DOLLY STAND AND THE WHEELS OF THE STAND ARE LOCKED.
CAUTION: DO NOT OPERATE THE STARTER MORE THAN THE DUTY CYCLE LIMIT. DAMAGE TO THE STARTER CAN OCCUR.

1) Connect an external air source to the starter air valve.
   
   NOTE: A standard aircraft pneumatic start cart can be used.
   
   NOTE: A locally manufactured coupling can be used to connect the external supply pressure source to the starter air valve.

2) If one or more of the accessories were removed from the main gearbox, make sure that the pad covers and gaskets are installed. Put a cap on the pad cavity drains to prevent the loss of engine oil.

3) Make sure that no lines in the fuel or oil system were disconnected or removed. If a line was removed or disconnected, it must be correctly connected or installed.

4) Manually override the starter shutoff valve to the OPEN position.

5) Dry motor the engine with the starter for three minutes (Optional to engine operation). If necessary, increase the starter inlet air pressure to turn the fan Low Pressure Compressor (LPC). The maximum starter inlet air pressure is 50 psi (344.7 kPa).
   
   NOTE: When the engine is dry motored, the fan LPC must turn. This is necessary to get oil through all of the engine oil system. You must be careful not to operate the starter more than the duty cycle limit.

6) Stop the dry motor and let the engine come to a full stop.

(c) Preserve the engine fuel system.

E. Gearbox Preservation

SUBTASK 72-00-09-020-361

(1) Preserve the gearbox as follows:

CAUTION: DO NOT PERMIT HYDRAULIC FLUID TO STAY ON THE MAIN GEARBOX WHILE THE ENGINE IS IN STORAGE. THE HYDRAULIC FLUID CAN CAUSE CORROSION AND DAMAGE TO THE GEARBOX HOUSING.

(a) Examine the gearbox external surface for hydraulic fluid. If you see hydraulic fluid, it must be removed.

WARNING: USE THE HAZARDOUS MATERIAL WARNINGS GIVEN BELOW FOR THE STEPS THAT FOLLOW.

THE HAZARDOUS MATERIAL WARNINGS ARE LISTED AFTER THE INTRODUCTION SECTION IN THE FRONT OF THE AMM.

Hazardous Material Warnings

HAZMAT 1413, LUBRICANT/OIL AIRCRAFT TURBINE ENGINE/SYNTHETIC BASE (DPM 6167)
HAZMAT 1000, REFER TO MSDS

(b) If one or more accessories are removed from the main gearbox, spray lubricating oil (P03-001) on the gearbox drive pads. (CONSUMABLE MATERIALS, TASK 70-30-00-910-868)

(c) Install accessory gearbox covers on the gearbox.
F. Engine Preservation For Relative Humidity

SUBTASK 72-00-09-620-362

(1) Preserve the engine for relative humidity as follows:

**NOTE:** The relative humidity must be 40 percent or less in the engine during the preservation period for maximum corrosion protection.

(a) Install the dehydrating agent as follows:
   1) Put 26 lb (11.79 kg) - 125 lb (56.70 kg) of dehydrating agent in the engine. Put one half in the intake area and the other half in the tailpipe area.
   2) Hang the dehydrating agent in all areas. Do not let the agent touch the engine parts.
   3) Put relative humidity indicators in the inlet and exhaust areas.

(2) Seal the engine for storage as follows:

(a) Seal all the engine openings and install a tarp or PVC plastic sheet over:
   - The inlet cowl
   - The fan exhaust area
   - The engine exhaust area.

(b) Make sure that the protective covers have windows that let you see the relative humidity indicators in the inlet and exhaust areas.

(c) Make a record of the preservation method and the date for each engine. Include the procedures used for the oil (Oil system is drained) and the fuel system (Lubrication oil in fuel system).

(3) Examine the engine during preservation as follows:

(a) Every 60 days or less, examine the relative humidity indicators.

(b) If the relative humidity is less than 40 percent, change the dehydrating agent, if necessary, and let the engine continue in storage for 60 more days. Do not do Steps (d and e).

(c) If the relative humidity is 40 percent or more, change the dehydrating agent and do not do Steps (d and e).

(d) If no lines in the fuel system were disconnected during the preservation period, re-preserve the oil system only.

**NOTE:** The step for the preservation of the engine fuel system is not required if no lines in the fuel system were disconnected.

(e) If the lines in the fuel system were disconnected during the preservation period, re-preserve both the fuel and oil system.

G. Engine Depreservation

SUBTASK 72-00-09-630-358

(1) For engines preserved for 60 days or less (Method I).

(a) Examine the main gearbox for corrosion damage due to contact with hydraulic fluid. If necessary, repair the hydraulic leaks.

(b) Remove the protective covers, if installed, from all the engine openings.

(c) Fill the engine oil system with fresh oil.

(2) For engines preserved for more than 60 days (Method II).

(a) Examine the main gearbox for corrosion damage due to contact with hydraulic fluid. If necessary, repair the hydraulic leaks.
(b) Remove the protective covers, if installed, from all the engine openings.
(c) Remove the dehydrating agents and relative humidity indicators.
(d) Fill the engine oil system with fresh oil.

---

**TASK 72-00-09-600-870**

**3. ENGINE PRESERVATION**

**A. Fixtures, Tools, Test and Support Equipment**

(1) Fixtures, Tools, Test and Support Equipment

**NOTE:** Equivalent replacements are permitted for the items that follow.

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<tr>
<th>REFERENCE</th>
<th>DESIGNATION</th>
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<td>Not specified</td>
<td>Maintenance platform, No. 1 and 3 engines 4 ft (1.2 m)-8 ft (2.4 m) high</td>
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<tr>
<td>Not specified</td>
<td>Aerial boom, manlift No. 2 engine</td>
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<td>MIL-C-5501 (Types 1 thru 15)</td>
<td>Protective caps and plugs</td>
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<tr>
<td>Not specified</td>
<td>Container, 10 gal (37.9 l)</td>
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<td>Not specified</td>
<td>Torque wrench, 0 in-lb (0.0 N•m) - 300 in-lb (33.9 N•m)</td>
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<tr>
<td>Not specified</td>
<td>Torque wrench, 5 in-lb (0.6 N•m) - 150 in-lb (16.9 N•m)</td>
</tr>
<tr>
<td>Not specified</td>
<td>Tags</td>
</tr>
</tbody>
</table>

The items that follow are for preservation of the fuel system

- CTE 3160 Cart, accessory preservation
- PWA 85433 Adapter, fuel preserve, fuel pump inlet
- PWA 85451 Adapter, fuel preserve, fuel flowmeter outlet
- Not specified Tank, preservation oil, 5 gal (19 l) - 10 gal (38 l). Tank must be open to the air and have a fitting at the bottom
- Not specified Hose, minimum inner diameter 0.5 in. (12.70 mm), minimum length 20 ft (6.10 m)
- Not specified Valve, shutoff
- Not specified Filter, in-line 40 micron

**B. Consumable Materials**

(1) Consumable Materials

**NOTE:** Equivalent replacements are permitted for the items that follow.

**NOTE:** It is possible that some materials in the Consumable Materials chart cannot be used for some or all of their necessary applications. Before you use the materials, make sure the types, quantities and applications of the material necessary are legally permitted in your location. All persons must obey all applicable federal, state, local and provincial laws and regulations when it is necessary to work with these materials.

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**EFFECTIVITY**

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C. Expendable Parts

Table 203 Expendable Parts

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<th>REFERENCE/ITEM</th>
<th>DESIGNATION</th>
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<tr>
<td>Fig. 201/3</td>
<td>Packing</td>
<td>IPC 79-10-25-010-193</td>
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<tr>
<td>Fig. 202/6</td>
<td>Packing</td>
<td>IPC 72-61-10-010-060</td>
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<tr>
<td>Fig. 203/8</td>
<td>Packing</td>
<td>IPC 73-12-15-10-065</td>
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<tr>
<td>Fig. 204/12</td>
<td>Seal</td>
<td>IPC 73-11-60-10-040</td>
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<tr>
<td>Fig. 205/19</td>
<td>Packing</td>
<td>IPC 73-13-05-10-085</td>
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<td>Fig. 205/20</td>
<td>Packing</td>
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<td>Fig. 205/21</td>
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D. References

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<tr>
<td>12-12-01-600-871</td>
<td>PRESSURE SERVICING OF THE ENGINE OIL - ENGINE NO. 2 (P/B 301)</td>
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<td>12-12-01-600-874</td>
<td>FILL THE ENGINE OIL SYSTEM (P/B 301)</td>
</tr>
<tr>
<td>70-10-00-910-884</td>
<td>DEGREASING OF ENGINE EXTERNAL SURFACES (SPOP 1) (P/B 201)</td>
</tr>
<tr>
<td>70-30-00-910-868</td>
<td>CONSUMABLE MATERIALS (P/B 201)</td>
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<tr>
<td>71-00-00-800-868</td>
<td>ENGINE START/STOP (MAINT PRACT 03) (P/B 201)</td>
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<tr>
<td>71-02-02-700-869</td>
<td>ENGINE MOTOR WITH STARTER, DRY-MOTOR (ADJ/TEST 02) (P/B 501)</td>
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<td>71-10-00-010-869</td>
<td>OPENING OF THE THRUST REVERSER DOORS (P/B 201)</td>
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<td>71-10-00-410-869</td>
<td>CLOSING OF THE THRUST REVERSER DOORS (P/B 201)</td>
</tr>
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<td>73-12-04-000-868</td>
<td>REMOVAL OF THE FUEL PUMP FILTER (P/B 401)</td>
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<tr>
<td>73-12-04-400-868</td>
<td>INSTALLATION OF THE FUEL PUMP FILTER (P/B 401)</td>
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<tr>
<td>80-12-01-400-868</td>
<td>INSTALLATION OF THE PNEUMATIC STARTER ASSEMBLY (P/B 401)</td>
</tr>
<tr>
<td>IPC 72-61-10-010-060</td>
<td>Illustrated Parts Catalog</td>
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<td>IPC 73-11-60-10-040</td>
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<tr>
<td>IPC 73-12-15-10-065</td>
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</tr>
<tr>
<td>IPC 73-13-05-10-020</td>
<td>Illustrated Parts Catalog</td>
</tr>
</tbody>
</table>
E. Job Set-up - Engine Preservation

SUBTASK 72-00-09-014361

(1) Open the engine access doors. (OPENING OF THE THRUST REVERSER DOORS, TASK 71-10-00-010-869)

WARNING: TAG AND USE SAFETY CLIPS TO SAFETY THE CIRCUIT BREAKERS. IF THE CIRCUIT BREAKERS ARE NOT OPENED, TAGGED, AND SAFETIED, INJURY TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

(2) For the engine fuel system preservation, open the applicable circuit breakers and install safety tags:

OVERHEAD, BATTERY DIRECT BUS

<table>
<thead>
<tr>
<th>Row</th>
<th>Col</th>
<th>Number</th>
<th>Name</th>
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<tbody>
<tr>
<td>A</td>
<td>16</td>
<td>B1-648</td>
<td>FIREX CONTROL AGENT 1</td>
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<td>A</td>
<td>17</td>
<td>B1-649</td>
<td>FIREX CONTROL AGENT 2 AND 3</td>
</tr>
</tbody>
</table>

F. Procedure - Engine Preservation - 60 Days Or Less (Method 1)

SUBTASK 72-00-09-620-363

(1) Do the preservation of the engine oil system as follows:

(a) Drain the oil from the engine. (SUBTASK 12-12-01-680-267)

NOTE: A new main oil filter must be installed after all the oil is drained.

(b) Fill and service the oil tank. (PRESSURE SERVICING OF THE ENGINE OIL - ENGINE NO. 2, TASK 12-12-01-600-871) (FILL THE ENGINE OIL SYSTEM, TASK 12-12-01-600-874)

(c) Install the starter (if not previously installed). (INSTALLATION OF THE PNEUMATIC STARTER ASSEMBLY, TASK 80-12-01-400-868)

(d) For engines that can not be started and operated, do the steps that follow:

1) Dry-motor the engine with the starter and obey the starter time cycle limits. (ENGINE MOTOR WITH STARTER, DRY-MOTOR (ADJ/TEST 02), TASK 71-02-02-700-869)

2) Make sure the starter inlet air pressure is 15 psi (103.4 kPa) minimum.

3) Make sure that the fan Low Pressure Compressor (LPC) turns during the dry-motor procedure. If necessary, increase the starter inlet air pressure to turn the LPC. The maximum starter inlet air pressure is 50 psi (344.7 kPa). Motor the engine for five minutes.

NOTE: This will flow the oil through the engine.

(e) For engines that can be started and operated, do the steps that follow:

1) Start the engine and set minimum idle. Hold minimum idle for five minutes. (ENGINE START/STOP (MAINT PRACT 03), TASK 71-00-00-800-868)

2) After the oil temperature has reached a minimum of 220°F (104°C), set power at 1.13 - 1.14 Engine Pressure Ratio (EPR) and hold for five minutes.
3) Decrease the power to minimum idle and hold for five minutes.
4) Stop the engine. (ENGINE START/STOP (MAINT PRACT 03), TASK 71-00-00-800-868)

**WARNING:** DO NOT START MAINTENANCE PROCEDURES ON THE ENGINE OIL SYSTEM UNTIL FIVE MINUTES AFTER ENGINE SHUTDOWN. THIS WILL LET THE PRESSURE BLEED FROM THE OIL SYSTEM. IF THE PRESSURE IS NOT BLED, INJURY TO PERSONS CAN OCCUR.

**WARNING:** ENGINE OIL WILL BE HOT IF IT HAS BEEN LESS THAN 30 MINUTES SINCE ENGINE SHUTDOWN. HOT ENGINE OIL CAN CAUSE INJURY TO PERSONS.

**CAUTION:** DO NOT MOTOR THE ENGINE WHEN THE ENGINE OIL IS DRAINED. IF IT IS MOTOURED WITHOUT OIL IN THE OIL SYSTEM, DAMAGE TO THE ENGINE CAN OCCUR.

(f) Drain the oil from the oil tank (1) as follows: (Figure 201)

1) Put a container below the magnetic plug assembly (1) of the oil tank (2).

**WARNING:** USE THE HAZARDOUS MATERIAL WARNINGS GIVEN BELOW FOR THE STEPS THAT FOLLOW.

THE HAZARDOUS MATERIAL WARNINGS ARE LISTED AFTER THE INTRODUCTION SECTION IN THE FRONT OF THE AMM.

Hazardous Material Warnings

HAZMAT 1413, LUBRICANT/OIL AIRCRAFT TURBINE ENGINE/SYNTHETIC BASE (DPM 6167)
HAZMAT 1000, REFER TO MSDS

2) Remove the magnetic plug assembly (1) and drain the oil into the container. Let the oil drain to a slow drip (approximately 1/2 hour).

3) Remove and replace the packing (3).

4) Lubricate the packing (3) with engine oil (P03-001). (CONSUMABLE MATERIALS, TASK 70-30-00-910-868)

5) Lubricate the threads of the magnetic plug assembly (1) with engine oil (P03-001).

6) Install the magnetic plug assembly (1) on the oil tank (2).

7) Torque the magnetic plug assembly (1) to 200 in-lb (22.6 N•m) - 225 in-lb (25.4 N•m).

8) Safety the magnetic plug assembly (1) with lockwire (P05-262).

9) Use a clean cloth (P05-005) to remove unwanted engine oil from the oil tank (2).

(g) Drain the oil from the main gearbox (4) as follows: (Figure 202)

1) Put a container below the magnetic plug assembly (5) of the main gearbox (4).

2) Remove the magnetic plug assembly (5) and drain the oil into the container. Let the oil drain to a slow drip (approximately 1/2 hour).

3) Remove and replace the packing (6).

4) Lubricate the packing (6) with engine oil (P03-001).

5) Lubricate the threads of the magnetic plug assembly (5) with engine oil (P03-001).

6) Reinstall the magnetic plug assembly (5) on the main gearbox (4).

7) Torque the magnetic plug assembly (5) to 200 in-lb (22.6 N•m) - 225 in-lb (25.4 N•m).
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AIRCRAFT MAINTENANCE MANUAL

8) Safety the magnetic plug assembly (5) with lockwire (P05-262).

9) Use a clean cloth (P05-005) to remove unwanted engine oil from the main gearbox (4).

(h) If there are accessories removed from the main gearbox, do the steps that follow:
   1) Remove the accessory drive pad cover and spray engine oil (P03-001) on the gearbox
      drive pads.
   2) Install the drive pad cover.

(i) Write the date of the preservation on a tag and attach the tag to the oil fill cap.

SUBTASK 72-00-09-620-364

(2) Do the preservation of the main gearbox as follows:

CAUTION: DO NOT PERMIT HYDRAULIC FLUID TO STAY ON THE MAIN GEARBOX WHILE
THE ENGINE IS IN STORAGE. THE HYDRAULIC FLUID CAN CAUSE CORROSION
AND DAMAGE TO THE GEARBOX HOUSING.

(a) Examine the external surface of the gearbox for hydraulic fluid. If you see hydraulic fluid,
   remove it. (DEGREASING OF ENGINE EXTERNAL SURFACES (SPOP 1),
   TASK 70-10-00-910-884)

(b) If there are accessories removed from the main gearbox, do the steps that follow:
   1) Remove the accessory drive pad cover and spray engine oil (P03-001) on the gearbox
      drive pads. (CONSUMABLE MATERIALS, TASK 70-30-00-910-868)
   2) Install the drive pad cover.

SUBTASK 72-00-09-620-365

(3) Seal the engine for storage as follows:
   (a) Install a cover, tarp or PVC plastic sheet over the engine intake area.
   (b) Install a cover, tarp or PVC plastic sheet over the engine exhaust area.
   (c) If possible, store the engine inside a building.

SUBTASK 72-00-09-620-366

(4) If the engine will stay in storage for more than 60 days, do the Engine Preservation - 60 Days Or
Less (Method I) again. (SUBTASK 72-00-09-620-363) (SUBTASK 72-00-09-620-364)
(SUBTASK 72-00-09-620-365)

SUBTASK 72-00-09-620-367

(5) Make a record for each engine as follows:
   (a) Make a record of the method used for the preservation.
   (b) Make a record of the date of the preservation.
   (c) Make a record that the oil system is drained.

G. Procedure - Engine Preservation - More Than 60 Days (Method II)

SUBTASK 72-00-09-620-368

(1) Do the preservation of the engine oil system as follows:
WARNING: USE THE HAZARDOUS MATERIAL WARNINGS GIVEN BELOW FOR THE STEPS THAT FOLLOW.

THE HAZARDOUS MATERIAL WARNINGS ARE LISTED AFTER THE INTRODUCTION SECTION IN THE FRONT OF THE AMM.

Hazardous Material Warnings

HAZMAT 1413, LUBRICANT/OIL AIRCRAFT TURBINE ENGINE/SYNTHETIC BASE (DPM 6167)
HAZMAT 1000, REFER TO MSDS

(a) Drain the oil from the engine. (SUBTASK 12-12-01-680-267)

NOTE: A new main oil filter must be installed after all the oil is drained.

(b) Fill and service the oil tank. (PRESSURE SERVICING OF THE ENGINE OIL - ENGINE NO. 2, TASK 12-12-01-600-871) (FILL THE ENGINE OIL SYSTEM, TASK 12-12-01-600-874)

(c) For engines that can be started and operated, do the steps that follow:

1) Start the engine and set minimum idle. Hold minimum idle for five minutes. (ENGINE START/STOP (MAINT PRACT 03), TASK 71-00-00-800-868)

2) After the oil temperature has reached a minimum of 220°F (104°C), set power at 1.13 - 1.14 EPR and hold for five minutes.

3) Decrease the power to minimum idle and hold for five minutes.

4) Stop the engine. (ENGINE START/STOP (MAINT PRACT 03), TASK 71-00-00-800-868)

(d) For engines that can not be started and operated, do the steps that follow:

1) Dry-motor the engine with the starter and obey the starter time cycle limits. (ENGINE MOTOR WITH STARTER, DRY-MOTOR (ADJ/TEST 02), TASK 71-02-02-700-869)

2) Make sure the starter inlet air pressure is 15 psi (103.4 kPa) minimum.

3) Make sure that the fan LPC turns during the dry-motor procedure. If necessary, increase the starter inlet air pressure to turn the LPC. The maximum starter inlet air pressure is 50 psi (344.7 kPa). Motor the engine for five minutes.

NOTE: This will flow the oil through the engine.

4) Stop the dry-motor and let the engine come to a full stop.

(e) For engines that can be started and operated, do the steps that follow:

1) Start the engine and set minimum idle. Hold minimum idle for five minutes. (ENGINE START/STOP (MAINT PRACT 03), TASK 71-00-00-800-868)

2) After the oil temperature has reached a minimum of 220°F (104°C), set power at 1.13 - 1.14 EPR and hold for five minutes.

3) Decrease the power to minimum idle and hold for five minutes.

4) Stop the engine. (ENGINE START/STOP (MAINT PRACT 03), TASK 71-00-00-800-868)

(f) For engines that can not be started and operated, do the steps that follow:

1) Dry-motor the engine with the starter and obey the starter time cycle limits. (ENGINE MOTOR WITH STARTER, DRY-MOTOR (ADJ/TEST 02), TASK 71-02-02-700-869)

2) Make sure the starter inlet air pressure is 15 psi (103.4 kPa) minimum.
3) Make sure that the fan LPC turns during the dry-motor procedure. If necessary, increase the starter inlet air pressure to turn the LPC. The maximum starter inlet air pressure is 50 psi (344.7 kPa). Motor the engine for five minutes.

NOTE: This will flow the oil through the engine.

4) Stop the dry-motor and let the engine come to a full stop.

SUBTASK 72-00-09-620.369

(2) Do the pressure feed preservation of the engine fuel system (For engines that will be inactive for more than 60 days). (Figure 203)

NOTE: The Pressure Feed Method is optional to the Gravity Feed Method.

(a) Drain the fuel system as follows:

1) Put a container below the fuel pump.

WARNING: DO NOT GET FUEL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THE FUEL. KEEP THE FUEL AWAY FROM SPARKS, FLAME, AND HEAT. FUEL IS POISONOUS AND FLAMMABLE, WHICH CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

2) Remove the two drain plugs (7) from the FP1 and FP3 ports of the fuel pump. Let the fuel drain into the container. Discard the two packing (8).

(b) If installed, disconnect the main fuel supply line (9) as follows:

1) Put the container below the main fuel supply line (9) at the fuel pump inlet.

2) Remove the four bolts (10) and washers (11) that attach the main fuel supply line (9) to the fuel pump inlet flange.

3) Move the fuel supply line (9) away from the fuel pump flange. Remove the seal (12) and install protective caps and plugs.

NOTE: The seal will be used again when you install the PWA 85433 Adapter to the fuel pump flange. After the fuel system preservation is done, and the PWA 85433 Adapter is removed, the seal must be discarded. A new seal is used for the main fuel supply line installation.

(c) Remove and replace the fuel pump filter. (REMOVAL OF THE FUEL PUMP FILTER, TASK 73-12-04-000-868) (INSTALLATION OF THE FUEL PUMP FILTER, TASK 73-12-04-400-868)

(d) Install the PWA 85451 Adapter to the fuel flowmeter outlet as follows:

1) Remove the eight bolts (13) that attach the rear fuel flowmeter support (14). Remove the support.

2) Move the packing transfer tube (15) to the rear into the fuel distribution valve strainer cover (16).

3) Remove the four bolts (17) and washers (18) that attach the strainer cover (16) to the fuel distribution valve.

4) Remove the fuel distribution valve strainer cover (16) and the packing transfer tube (15) as one unit. Discard the packing (19), (20 and 21).
5) Remove the seal (22) and install protective caps and plugs.

**NOTE:** The seal will be used again when you install the PWA 85451 Adapter to the fuel flowmeter outlet flange. After the fuel system preservation is done, and the PWA 85451 Adapter is removed, the seal must be discarded. A new seal must be used for the fuel distribution valve strainer cover and packing transfer tube installation.

6) Install the PWA 85451 Adapter and seal (22) to the fuel flowmeter outlet flange and index the adapter to fit over the flowmeter dowel pin. Tighten in place with the three detail bolts.

7) Attach a hose to the PWA 85451 Adapter. Put the other end of the hose into the container.

(e) Install the PWA 85433 Adapter to the fuel pump inlet as follows:

1) Remove the protective caps and plugs from the fuel pump.

2) Install the PWA 85433 Adapter and seal (12) to the fuel pump inlet flange. Tighten in place with the four captured bolts.

(f) Install the two drain plugs (7) on the fuel pump as follows:

**WARNING:** USE THE HAZARDOUS MATERIAL WARNINGS GIVEN BELOW FOR THE STEPS THAT FOLLOW.

THE HAZARDOUS MATERIAL WARNINGS ARE LISTED AFTER THE INTRODUCTION SECTION IN THE FRONT OF THE AMM.

Hazardous Material Warnings

HAZMAT 1082, PETROLATUM/WHITE (DPM 675)
HAZMAT 1000, REFER TO MSDS

1) Lubricate the two packing (8) with white petrolatum (P06-002). Install the packing on the two drain plugs (7). (CONSUMABLE MATERIALS, TASK 70-30-00-910-868)

2) Install the two drain plugs (7) in the FP1 and FP3 ports of the fuel pump.

3) Torque the two drain plugs (7) to 45 in-lb (5.08 N•m) - 55 in-lb (6.21 N•m).

4) Safety the two plugs (7) with lockwire (P05-262).

**CAUTION:** MAKE SURE THE PRESERVATION CART HAS A FILTER OR STRAINER INSTALLED. MAKE SURE THE FILTER OR STRAINER MESH IS NOT LARGER THAN 40 MICRONS. IF A LARGER FILTER OR STRAINER IS USED, DAMAGE TO THE FUEL SYSTEM CAN OCCUR.

(g) Attach the pressure hose of the CTE 3160 Fuel Accessory Preservation Cart Assembly to the PWA 85433 Adapter on the fuel pump inlet.

(h) Make sure the preservation cart assembly is away from the engine air inlet, exhaust and fan air exhaust areas.
WARNING: DO NOT MOVE THE FIRE CONTROL HANDLE TO THE AGENT 1 OR AGENT 2 POSITIONS. THIS WILL CAUSE THE FIREX AGENT CONTAINERS TO OPERATE, AND CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(i) Pull the applicable (No. 1, 2 or 3 engine) fire-control handle down and forward to the FUEL & HYD OFF position. The control handle is found on the center-overhead panel in the flight compartment.

NOTE: When you pull the fire-control handle to the FUEL & HYD OFF position, the aircraft fuel system is isolated from the engine. This is necessary while you wet motor the engine and the main fuel supply line is disconnected from the fuel pump inlet.

(j) Wet motor the engine and do the steps that follow: (ENGINE MOTOR WITH STARTER, WET-MOTOR (ADJ/TEST 02), TASK 71-02-02-700-888)

NOTE: The fire-control handle must stay in the FUEL & HYD OFF position.
The fuel boost pump switch must not be pushed to the ON position.

WARNING: USE THE HAZARDOUS MATERIAL WARNINGS GIVEN BELOW FOR THE STEPS THAT FOLLOW.

THE HAZARDOUS MATERIAL WARNINGS ARE LISTED AFTER THE INTRODUCTION SECTION IN THE FRONT OF THE AMM.
Hazardous Material Warnings

HAZMAT 1205, LUBRICANT/OIL/PRESERVATIVE (DPM 670)
HAZMAT 1000, REFER TO MSDS

1) Use the cart to flush the engine fuel system with oil (P03-002) at a pressure of 5 psig (34.5 kPa) - 25 psig (172.4 kPa) and at a minimum temperature of 60°F (16°C).

2) Flush the engine fuel system until approximately 2 gal (8 l) of oil (P03-002) is discharged into the container.

(k) Stop the wet motor and the pump on the preservation cart assembly. (ENGINE MOTOR WITH STARTER, WET-MOTOR (ADJ/TEST 02), TASK 71-02-02-700-888)

(l) Disconnect the preservation cart assembly and let the engine fuel system drain.

(m) Remove the PWA 85451 Adapter from the fuel flowmeter outlet and discard the seal (22).

(n) Remove the PWA 85433 Adapter from the fuel pump inlet and discard the seal (12).

(o) Connect the main fuel supply line (9) as follows:
1) Install the seal (12) on the main fuel supply line (9) flange to the fuel pump port.
2) Attach the main fuel supply line (9) to the fuel pump inlet flange with the four bolts (10) and washers (11).
3) Torque the four bolts (10) from 180 in-lb (20.337 N•m) to 200 in-lb (22.597 N•m).

(p) Install the rear fuel flowmeter support (14), packing transfer tube (15) and the strainer cover (16) as follows:
1) Lubricate the packing (19 and 20) with white petrolatum (P06-002) and install the packing on the packing transfer tube (15).
2) Put the packing transfer tube (15) into the fuel distribution valve strainer cover (16).
3) Lubricate the packing (21) with white petrolatum (P06-002) and install the packing on the fuel distribution valve strainer cover (16).
WARNING: USE THE HAZARDOUS MATERIAL WARNINGS GIVEN BELOW FOR THE STEPS THAT FOLLOW.

THE HAZARDOUS MATERIAL WARNINGS ARE LISTED AFTER THE INTRODUCTION SECTION IN THE FRONT OF THE AMM.

Hazardous Material Warnings

HAZMAT 1413, LUBRICANT/OIL AIRCRAFT TURBINE ENGINE/SYNTHETIC BASE (DPM 6167)
HAZMAT 1000, REFER TO MSDS

4) Lubricate the four bolts (17) with engine oil (P03-001). Attach the strainer cover (16) and the packing transfer tube (15) to the fuel distribution valve with the four bolts and washers (18).

5) Torque the four bolts (17) to 30 in-lb (3.39 N-m) - 33 in-lb (3.73 N-m).

6) Slide the packing transfer tube (15) forward and engage the fuel flowmeter outlet flange and dowel pin.

7) Put the rear fuel flowmeter support (14) in position and align the bracket.

8) Lubricate the eight bolts (13) with engine oil (P03-001).

9) Attach the flowmeter support (14) to the fuel flowmeter outlet flange and the fuel distribution valve with the eight bolts (13).

NOTE: The four drilled head bolts must be installed to the front (fuel flowmeter side).

10) Torque the eight bolts (13) to 85 in-lb (9.60 N-m) - 95 in-lb (10.73 N-m).

11) Safety the front four drilled head bolts (13) with lockwire (P05-262).

(q) Write the date and the method of preservation on a tag and attach it to the fuel metering unit.

(r) On the Engine Fire Control panel, put the fire—control handle in the NORM position.

SUBTASK 72-00-03820-370

(3) Do the gravity feed preservation of the engine fuel system (For engines that will be inactive for more than 90 days). (Figure 203)

NOTE: The Gravity Feed Method is optional to the Pressure Feed Method.

(a) Drain the fuel system as follows:

1) Put a container below the fuel pump.

WARNING: DO NOT GET FUEL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THE FUEL. KEEP THE FUEL AWAY FROM SPARKS, FLAME, AND HEAT. FUEL IS POISONOUS AND FLAMMABLE, WHICH CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

2) Remove the two drain plugs (7) from the FP1 and FP3 ports of the fuel pump. Let the fuel drain into the container. Discard the two packing (8).

(b) If installed, disconnect the main fuel supply line (9) as follows:

1) Put the container below the main fuel supply line (9) at the fuel pump inlet.

2) Remove the four bolts (10) and washers (11) that attach the main fuel supply line (9) to the fuel pump inlet flange.
3) Move the fuel supply line (9) away from the fuel pump flange. Remove the seal (12) and install protective caps and plugs.

**NOTE:** The seal will be used again when you install the PWA 85433 Adapter to the fuel pump flange. After the fuel system preservation is done, and the PWA 85433 Adapter is removed, the seal must be discarded. A new seal is used for the main fuel supply line installation.

(c) Remove and replace the fuel pump filter. (REMOVAL OF THE FUEL PUMP FILTER, TASK 73-12-04-000-868) (INSTALLATION OF THE FUEL PUMP FILTER, TASK 73-12-04-400-868)

(d) Install the PWA 85451 Adapter to the fuel flowmeter outlet as follows:

1) Remove the eight bolts (13) that attach the rear fuel flowmeter support (14). Remove the support.
2) Move the packing transfer tube (15) to the rear into the fuel distribution valve strainer cover (16).
3) Remove the four bolts (17) and washers (18) that attach strainer cover (16) to the fuel distribution valve.
4) Remove the fuel distribution valve strainer cover (16) and the packing transfer tube (15) as one unit. Discard the packing (19), (20 and 21).
5) Remove the seal (22) and install protective caps and plugs.

**NOTE:** The seal will be used again when you install the PWA 85451 Adapter to the fuel flowmeter outlet flange. After the fuel system preservation is done, and the PWA 85451 Adapter is removed, the seal must be discarded. A new seal must be used for the fuel distribution valve strainer cover and packing transfer tube installation.

6) Install the PWA 85451 Adapter and seal (22) to the fuel flowmeter outlet flange and index the adapter to fit over the flowmeter dowel pin. Tighten in place with the three detail bolts.
7) Attach a hose to the PWA 85451 Adapter. Put the other end of the hose into the container.

(e) Install the PWA 85433 Adapter to the fuel pump inlet as follows:

1) Remove the protective caps and plugs from the fuel pump.
2) Install the PWA 85433 Adapter and seal (12) to the fuel pump inlet flange. Tighten in place with the four captured bolts.

(f) Install the two drain plugs (7) on the fuel pump as follows:

**WARNING:** USE THE HAZARDOUS MATERIAL WARNINGS GIVEN BELOW FOR THE STEPS THAT FOLLOW.

THE HAZARDOUS MATERIAL WARNINGS ARE LISTED AFTER THE INTRODUCTION SECTION IN THE FRONT OF THE AMM.

Hazardous Material Warnings

HAZMAT 1082, PETROLATUM/WHITE (DPM 675)
HAZMAT 1000, REFER TO MSDS

1) Lubricate the two packing (8) with white petrolatum (P06-002). Install the packing on the two drain plugs (7). (CONSUMABLE MATERIALS, TASK 70-30-00-910-868)
2) Install the two drain plugs (7) in the FP1 and FP3 ports of the fuel pump.

3) Torque the two drain plugs (7) to 45 in-lb (5.08 N•m) - 55 in-lb (6.21 N•m).

4) Safety the two plugs (7) with lockwire (P05-262).

(g) Use a clean dry tank with a capacity of 5 gal (19 l) - 10 gal (38 l) and assemble a preservation oil tank as follows:

1) The tank must be open to the air and have a fitting at the bottom to attach a valve and hose.

   **NOTE:** The hose must have a minimum inner diameter of 0.5 in. (12.70 mm) and be a minimum of 20 ft (6.10 m) in length. The hose must not become closed with negative pressure.

   **CAUTION:** MAKE SURE THE PRESERVATION CART HAS A FILTER OR STRAINER INSTALLED. MAKE SURE THE FILTER OR STRAINER MESH IS NOT LARGER THAN 40 MICRONS. IF A LARGER FILTER OR STRAINER IS USED, DAMAGE TO THE FUEL SYSTEM CAN OCCUR.

2) Install a shutoff valve to the bottom of the tank with an in-line 40 micron filter.

3) Attach the hose to the shutoff valve and filter assembly.

4) Attach the other end of the hose to the PWA 85433 Adapter on the fuel pump.

5) Put the tank in a position that is away from the fan exhaust air and a minimum of 5 ft (1.52 m) above the fuel pump inlet.

6) Close the shutoff valve at the bottom of the tank.

**WARNING:** USE THE HAZARDOUS MATERIAL WARNINGS GIVEN BELOW FOR THE STEPS THAT FOLLOW.

THE HAZARDOUS MATERIAL WARNINGS ARE LISTED AFTER THE INTRODUCTION SECTION IN THE FRONT OF THE AMM.

Hazardous Material Warnings

HAZMAT 1205, LUBRICANT/OIL/PRESERVATIVE (DPM 670)
HAZMAT 1000, REFER TO MSDS

7) Put a minimum of 5 gal (19 l) of oil (P03-002) in the tank.

**WARNING:** DO NOT MOVE THE FIRE CONTROL HANDLE TO THE AGENT 1 OR AGENT 2 POSITIONS. THIS WILL CAUSE THE FIREX AGENT CONTAINERS TO OPERATE, AND CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(h) Pull the applicable (No. 1, 2 or 3 engine) fire-control handle down and forward to the FUEL & HYD OFF position. The control handle is found on the center-overhead panel in the flight compartment.

   **NOTE:** When you pull the fire-control handle to the FUEL & HYD OFF position, the aircraft fuel system is isolated from the engine. This is necessary while you wet motor the engine and the main fuel supply line is disconnected from the fuel pump inlet.

(i) Wet motor the engine and do the steps that follow: (ENGINE MOTOR WITH STARTER, WET-MOTOR (ADJ/TEST 02), TASK 71-02-02-700-888)

   **NOTE:** The fire-control handle must stay in the FUEL & HYD OFF position. The fuel boost pump switch must not be pushed to the ON position.
1) Open the valve at the bottom of the tank and flush the engine fuel system until approximately 2 gal (8 l) of oil (P03-002) is discharged into the container.

(j) Stop the wet motor and close the shutoff valve on the tank. (ENGINE MOTOR WITH STARTER, WET-MOTOR (ADJ/TEST 02), TASK 71-02-02-700-888)

(k) Disconnect the hose and let the fuel system drain.

(l) Remove the PWA 85451 Adapter from the fuel flowmeter outlet and discard the seal (22).

(m) Remove the PWA 85433 Adapter from the fuel pump inlet and discard the seal (12).

(n) Connect the main fuel supply line (9) as follows:
   1) Install the seal (12) on the main fuel supply line (9) flange to the fuel pump port.
   2) Attach the main fuel supply line (9) to the fuel pump inlet flange with the four bolts (10) and washers (11).
   3) Torque the four bolts (10) from 180 in-lb (20.337 N•m) to 200 in-lb (22.597 N•m).

(o) Install the rear fuel flowmeter support (14), packing transfer tube (15) and the strainer cover (16) as follows:
   1) Lubricate the packing (19 and 20) with white petrolatum (P06-002) and install the packing on the packing transfer tube (15).
   2) Put the packing transfer tube (15) into the fuel distribution valve strainer cover (16).
   3) Lubricate the packing (21) with white petrolatum (P06-002) and install the packing on the fuel distribution valve strainer cover (16).

**WARNING:** USE THE HAZARDOUS MATERIAL WARNINGS GIVEN BELOW FOR THE STEPS THAT FOLLOW.

THE HAZARDOUS MATERIAL WARNINGS ARE LISTED AFTER THE INTRODUCTION SECTION IN THE FRONT OF THE AMM.

Hazardous Material Warnings

HAZMAT 1413, LUBRICANT/OIL AIRCRAFT TURBINE ENGINE/SYNTHETIC BASE (DPM 6167)
HAZMAT 1000, REFER TO MSDS

4) Lubricate the four bolts (17) with engine oil (P03-001). Attach the strainer cover (16) and the packing transfer tube (15) to the fuel distribution valve with the four bolts and washers (18).

5) Torque the four bolts (17) to 30 in-lb (3.39 N•m) - 33 in-lb (3.73 N•m).

6) Slide the packing transfer tube (15) forward and engage the fuel flowmeter outlet flange and dowel pin.

7) Put the rear fuel flowmeter support (14) in position and align the bracket.

8) Lubricate the eight bolts (13) with engine oil (P03-001).

9) Attach the flowmeter support (14) to the fuel flowmeter outlet flange and the fuel distribution valve with the eight bolts (13).

**NOTE:** The four drilled head bolts must be installed to the front (fuel flowmeter side).

10) Torque the eight bolts (13) to 85 in-lb (9.60 N•m) - 95 in-lb (10.73 N•m).

11) Safety the front four drilled head bolts (13) with lockwire (P05-262).

(p) Write the date and the method of preservation on a tag and attach it to the fuel metering unit.
On the Engine Fire Control panel, put the fire—control handle in the NORM position.

If the engine was originally preserved on wing and then removed, use SUBTASK 72-00-09-620-369 to preserve the fuel system again. If the engine is still on wing, use SUBTASK 72-00-09-620-370 to preserve the fuel system again.

SUBTASK 72-00-09-620-371

Do the preservation of the main gearbox as follows:

**CAUTION:** DO NOT PERMIT HYDRAULIC FLUID TO STAY ON THE MAIN GEARBOX WHILE THE ENGINE IS IN STORAGE. THE HYDRAULIC FLUID CAN CAUSE CORROSION AND DAMAGE TO THE GEARBOX HOUSING.

(a) Examine the external surface of the gearbox for hydraulic fluid. If you see hydraulic fluid, remove it. (DEGREASING OF ENGINE EXTERNAL SURFACES (SPOP 1), TASK 70-10-00-910-884)

(b) If there are accessories removed from the main gearbox, do the steps that follow:
   1) Remove the accessory drive pad cover and spray engine oil (P03-001) on the gearbox drive pads. (CONSUMABLE MATERIALS, TASK 70-30-00-910-868)
   2) Install the drive pad cover.

SUBTASK 72-00-09-620-372

**CAUTION:** DO NOT PUT THE DEHYDRATING AGENT (DESICCANT) NEAR FAN OR TURBINE BLADES. THE BLADES CAN TURN, AND CAUSE DAMAGE TO THE DESICCANT BAGS.

Preserve the engine for relative humidity as follows:

**NOTE:** The relative humidity must be 40 percent or less in the engine during the preservation period for maximum corrosion protection.

(a) Install the dehydrating agent as follows:
   1) Put 25 lb (11.34 kg) to 125 lb (56.70 kg) of dehydrating agent (desiccant) in the bottom of the engine bag or shipping container.
   2) Put relative humidity indicators in the inlet and exhaust areas.

(b) The protective covers must have windows that will let you to see the relative humidity indicators in the inlet and exhaust areas.

(c) Make a record of the preservation method and the date for each engine. Include the procedures used for the oil (Oil system is drained) and the fuel system (Lubrication oil in fuel system).

Seal the engine for storage as follows:

(a) Seal all the engine openings and install a tarp or PVC plastic sheet over:
   • The inlet cowl
   • The fan exhaust area
   • The engine exhaust area.

(b) The protective covers must have windows that will let you to see the relative humidity indicators in the inlet and exhaust areas.

(7) Examine the engine during preservation as follows:

(a) Every 15 days or less, examine the humidity indicators.

(b) If the relative humidity is less than 40 percent, change the dehydrating agent, if necessary, and let the engine continue in storage for 15 more days. Do not do Steps (d) 1) and 2).

(c) If the relative humidity is 40 percent or more, but less than 60 percent change the dehydrating agent and continue in storage for 15 more days.
(d) If the relative humidity is more than 60 percent, change the dehydrating agent and do the steps that follow:

1) If no lines in the fuel system were disconnected during the preservation period, re-preserve the oil system only. (SUBTASK 72-00-09-620-368)

2) If the lines in the fuel system were disconnected during the preservation period, re-preserve both the fuel and oil system. (SUBTASK 72-00-09-620-368) (SUBTASK 72-00-09-620-369) (SUBTASK 72-00-09-620-370)

H. Job Close-up - Engine Preservation

(1) Remove all the tools and equipment from the work area. Make sure the work area is clean.

(2) Close the engine access doors. (CLOSING OF THE THRUST REVERSER DOORS, TASK 71-10-00-410-869)

(3) Remove the safety tags and close these circuit breakers:

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END OF TASK
CHAPTER 10

PARKING, MOORING, STORAGE AND RETURN TO SERVICE
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A = Added, R = Revised, D = Deleted, O = Overflow, C = Customer Originated Change

10-EFFECTIVE PAGES
### Chapter 10
### PARKING, MOORING, STORAGE AND RETURN TO SERVICE

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PARKING, MOORING, STORAGE AND RETURN TO SERVICE - DESCRIPTION AND OPERATION

1. General
   A. The aircraft is usually parked or moored on a cement surface where the necessary park and moor service is available. This chapter does not give data for parked or moored aircraft on surfaces other than prepared areas.
   B. During usual weather, the aircraft is parked with wheel chocks only. During extended parking or storing, the aircraft windows and doors are closed and protective covers installed to prevent entry of unwanted materials and sun damage to the interior.
   C. The protective covers on the doors and windows are not necessary when the aircraft is parked or stored in an enclosed hanger or structure.
   D. During high winds the aircraft should be moored. Mooring is not necessary unless the winds will go above 92 mph (84 knots).

2. Maintenance Practices
   A. Make sure when you use this manual, you should follow general maintenance practices during all aircraft maintenance. The procedures in this chapter are presented with basic instructions. Special tools, consumables, expendables and reference information is identified in the job set-up information section of each procedure. When applicable, access door, circuit breaker and all other information to prepare the aircraft for maintenance is in the job set-up section. Do not use alternative parts unless they are approved.

3. Safety Requirements
   A. Safety requirements are included in all procedures.
1. General
   A. Park procedures are given for an airplane supplied with tricycle landing gear. The direction in which
      the aircraft is parked is determined to permit easier maintenance and servicing, not by wind
      direction.
   B. During usual weather, you must use wheel chocks on the main landing gear when the aircraft is
      parked.
   C. When aircraft are parked or stored for an extended time, all windows and doors are closed.
      Protective covers are installed to prevent entry of unwanted materials.
   D. During extended parking or storage of aircraft in very cold weather, there are special procedures
      that are done.
1. General

A. This procedure has the maintenance practices for parking and storage of aircraft. The procedure includes:
   - Parking and storage
   - Extended parking and storage
   - Cold weather parking and storage
   - Installation/removal of the pitot probe covers (short term parking)
   - Installation/removal of the static port covers (short term parking)
   - Installation/removal of the pitot probe covers (extended parking)
   - Installation/removal of the static port covers (extended parking).

B. You must use wheel chocks on the main landing gear when the aircraft is parked.

C. Short term parking is when an aircraft is going to be parked for a period no longer than 24 hours.

D. Extended parking is when an aircraft is going to be parked for a period no longer than 7 days.

TASK 10-10-00-500-801

2. PARKING AND STORAGE

A. Fixtures, Tools, Test and Support Equipment

   (1) Fixtures, Tools, Test and Support Equipment

   NOTE: Equivalent replacements are permitted for the items that follow.

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C. Procedure - Parking and Storage

SUBTASK 10-10-00-860-001

CAUTION: IF YOU THINK WIND GUSTS WILL BE MORE THAN 69 MPH (60 KNOTS), POINT THE AIRCRAFT INTO THE WIND. THIS WILL PREVENT STRUCTURAL DAMAGE TO THE PRIMARY CONTROL SURFACES.

CAUTION: MAKE SURE THE NOSE GEAR WHEELS ARE ALIGNED WITH THE MAIN LANDING GEAR WHEELS. THIS WILL HELP DECREASE TIRE AND STRUT STRESSES. THESE STRESSES CAN CAUSE HYDRAULIC LEAKS THROUGH THE SHOCK STRUT SEAL.

(1) To park the aircraft on a level surface and prepare it for storage, do the steps that follow:

(Figure 201) (Figure 202)

(a) Center the nosewheel and remove the bypass valve lockpin.
(b) Install the wheel chocks at the forward and aft of the main landing gear wheels on the left and right sides.
(c) Set the parking brakes. (OPERATE THE PARK BRAKES, TASK 32-43-00-860-801)
(d) Put horizontal stabilizer in the 2° nose down position. (OPERATION OF THE ELEVATORS, TASK 27-30-00-860-801)
(e) Connect static ground cable to aircraft in one of the areas that follow:
   - Lower No. 1 engine cowl
   - Lower No. 3 engine cowl
   - Main landing gear.
(f) If necessary, install all landing gear downlock pins.
(g) Do the short-term or long-term engine preservation procedure, as applicable. (ENGINE PRESERVATION, TASK 72-00-09-600-870)
(h) Make sure all the windows are closed.
(i) Make sure all the doors are closed.

(ELECTRICAL CLOSING OF THE FORWARD-LOWER-CARGO DOOR, TASK 52-31-00-410-801)
(ELECTRICAL CLOSING OF THE CENTER-LOWER-CARGO DOOR, TASK 52-32-00-410-801)
(ELECTRICAL CLOSING OF THE AFT-LOWER-CARGO DOOR, TASK 52-33-00-410-801)
(j) Install each cover, plug and shield on the aircraft.

(k) Install the pitot probe/static port covers. (INSTALLATION OF THE PITOT PROBE COVERS (SHORT TERM PARKING), TASK 10-10-00-950-801) (INSTALLATION OF THE STATIC PORT COVERS (SHORT TERM PARKING), TASK 10-10-00-950-803) (INSTALLATION OF THE PITOT PROBE COVERS (EXTENDED PARKING), TASK 10-10-00-950-805) (INSTALLATION OF THE STATIC PORT COVERS (EXTENDED PARKING), TASK 10-10-00-950-807)

(l) Close the cabin pressure outflow valves.

D. Job Close-up - Parking and Storage

SUBTASK 10-10-00-942-002

(1) Remove all tools and equipment from the work area. Make sure the area is clean.

___________ END OF TASK ____________

TP-11MM-KE

BOEING PROPRIETARY - Copyright © Unpublished Work - See title page for details
Static Grounding Locations - Parking and Storage
Figure 201/10-10-00-990-802

EFFECTIVITY
KE ALL

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NOTE:
MAIN, CENTER AND NOSE GEAR LOCKPINS
SHOULD BE INSTALLED IMMEDIATELY
UPON LANDING, AND SHOULD REMAIN
INSTALLED UNTIL THE ENGINES HAVE
BEEN STARTED IN PREPARATION FOR
TAKEOFF.

LOCKPIN INSTALLED
WITH HANDLE IN
BYPASS POSITION

NORMALLY CLOSED

BYPASS VALVE
AND LANDING
GEAR
DOWNLOCK PIN

DOWNLOCK PIN

DOWNLOCK PIN

DOWNLOCK PIN

DOWNLOCK PIN

NOSE GEAR

MAIN GEAR

Downlock Pin Locations - Parking and Storage
Figure 202/10-10-00-990-801

EFFECTIVITY
KE ALL

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3. EXTENDED PARKING AND STORAGE

A. Fixtures, Tools, Test and Support Equipment

(1) Fixtures, Tools, Test and Support Equipment

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<td>SERVICING OF THE WASTE DISPOSAL SYSTEM (P/B 301)</td>
</tr>
<tr>
<td>24-34-02-000-802</td>
<td>REMOVAL OF THE NICKEL CADMIUM BATTERY (P/B 401)</td>
</tr>
<tr>
<td>24-40-00-862-801</td>
<td>REMOVE ELECTRICAL POWER (P/B 201)</td>
</tr>
<tr>
<td>27-50-00-860-801</td>
<td>OPERATION OF THE FLAPS (P/B 201)</td>
</tr>
<tr>
<td>27-60-00-860-801</td>
<td>OPERATION OF THE SPOILERS (P/B 201)</td>
</tr>
<tr>
<td>32-43-00-860-801</td>
<td>OPERATE THE PARK BRAKES (P/B 201)</td>
</tr>
<tr>
<td>34-43-04-000-801</td>
<td>REMOVAL OF THE INERTIAL REFERENCE SYSTEM BATTERY/CHARGER (P/B 201)</td>
</tr>
<tr>
<td>72-00-09-600-870</td>
<td>ENGINE PRESERVATION (P/B 201)</td>
</tr>
</tbody>
</table>

C. Procedure - Extended Parking and Storage

WARNING: DO NOT PARK THE AIRCRAFT IN SOLVENTS, OIL, BRAKE FLUID, GREASE, TAR, OR DEGREASING AGENTS. IT CAN CAUSE DAMAGE TO THE TIRES AND INJURY TO PERSONS.

CAUTION: WHEN THE AIRCRAFT IS PARKED IN HOT AND HUMID WEATHER, MAKE SURE THE FUSELAGE INTERIOR IS WELL VENTILATED. THIS WILL HELP PREVENT DAMAGE TO THE INTERIOR OF THE FUSELAGE.

(1) For extended parking and storage of the aircraft, do the steps that follow:

   (a) Install wheel chocks in front and aft of each main landing gear wheel on each main landing gear.

   (b) Set the park brakes. (OPERATE THE PARK BRAKES, TASK 32-43-00-860-801)

   (c) Close all external panels.
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(d) Make sure the flaps and spoilers are fully retracted. See the referenced tasks:
(OPERATION OF THE FLAPS, TASK 27-50-00-860-801) (OPERATION OF THE
SPOILERS, TASK 27-60-00-860-801)

(e) Do the long-term engine preservation procedure. (ENGINE PRESERVATION,
TASK 72-00-09-600-870)

(f) Install each engine inlet and exhaust duct covers.

(g) Install all other covers, shields or plugs on the aircraft.

(h) Install the pitot probe/static port covers. (INSTALLATION OF THE PITOT PROBE COVERS
(EXTENDED PARKING), TASK 10-10-00-850-805) (INSTALLATION OF THE STATIC
PORT COVERS (EXTENDED PARKING), TASK 10-10-00-950-807)

(i) Release the pressure of the water system. (SERVICING OF THE POTABLE WATER
SYSTEM, TASK 12-14-01-600-801)

(j) Drain the waste disposal system tank. (SERVICING OF THE WASTE DISPOSAL SYSTEM,
TASK 12-14-03-600-801)

(k) If the aircraft will be parked for more than 24 hours, remove all external power, if required.
(REMOVE ELECTRICAL POWER, TASK 24-40-00-862-801)

(l) If the aircraft will be parked for more than 72 hours, remove the nickel cadmium batteries, if
required. (REMOVAL OF THE NICKEL CADMIUM BATTERY, TASK 24-34-02-000-802)

(m) If the aircraft will be parked for more than 72 hours, remove the IRU batteries, if required.
(REMOVAL OF THE INERTIAL REFERENCE SYSTEM BATTERY/CHARGER,
TASK 34-43-04-000-801)

(n) If the aircraft will be parked for more than four days, put wheel covers on each wheel.

D. Job Close-up - Extended Parking and Storage

SUBTASK 10-10-00-942-003

(1) Remove all tools and equipment from the work area. Make sure the area is clean.

END OF TASK

10-10-00-500-803

4. COLD WEATHER PARKING AND STORAGE

A. Fixtures, Tools, Test and Support Equipment

(1) Fixtures, Tools, Test and Support Equipment

NOTE: Equivalent replacements are permitted for the items that follow.

B. References

<table>
<thead>
<tr>
<th>Reference</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>09-11-00-584-801</td>
<td>NOSE-GEAR TOWING (P/B 201)</td>
</tr>
<tr>
<td>12-14-01-600-802</td>
<td>DRAIN THE WATER SYSTEM (P/B 301)</td>
</tr>
<tr>
<td>12-14-03-600-801</td>
<td>SERVICING OF THE WASTE DISPOSAL SYSTEM (P/B 301)</td>
</tr>
<tr>
<td>12-31-04-950-801</td>
<td>PROTECTION OF AIRCRAFT ENGINES (P/B 301)</td>
</tr>
<tr>
<td>72-00-09-600-870</td>
<td>ENGINE PRESERVATION (P/B 201)</td>
</tr>
</tbody>
</table>
C. Procedure - Cold Weather Parking and Storage

SUBTASK 10-10-00-860-004

**WARNING:** DO NOT PARK THE AIRCRAFT IN SOLVENTS, OIL, BRAKE FLUID, GREASE, TAR, OR DEGREASING AGENTS. IT CAN CAUSE DAMAGE TO THE TIRES AND INJURY TO PERSONS.

(1) To park and store the aircraft in cold weather conditions, do the steps that follow:

**NOTE:** Maintenance procedures that are used during the time the aircraft is parked can minimize downtime and delays caused by cold weather.

(a) Before the aircraft is parked, make sure the wheel area is clear of snow or ice.

(b) Drain water from all systems if a ground freeze is possible. (DRAIN THE WATER SYSTEM, TASK 12-14-01-600-802) (SERVICING OF THE WASTE DISPOSAL SYSTEM, TASK 12-14-03-600-801)

(c) If the wheels are frozen to the ramp, you must release them. Use hot air, hot water or inflation to release the wheels.

(d) After the wheels are released, you must move the aircraft to a clear area. (NOSE-GEAR TOWING, TASK 09-11-00-584-801)

(e) Protect the engines from cold weather. (PROTECTION OF AIRCRAFT ENGINES, TASK 12-31-04-950-801)

(f) If snow or ice collects in the engine inlets, exhausts and upper surfaces, you must remove it.

(g) If necessary, do the short-term or long-term engine preservation procedure. (ENGINE PRESERVATION, TASK 72-00-09-600-870)

D. Job Close-up - Cold Weather Parking and Storage

SUBTASK 10-10-00-942-001

(1) Remove all the tools and equipment from the work area. Make sure the area is clean.

**END OF TASK**

**TASK 10-10-00-950-801**

5. INSTALLATION OF THE PITOT PROBE COVERS (SHORT TERM PARKING)

A. Fixtures, Tools, Test and Support Equipment

(1) Fixtures, Tools, Test and Support Equipment

**NOTE:** Equivalent replacements are permitted for the items that follow.

<table>
<thead>
<tr>
<th>REFERENCE</th>
<th>DESIGNATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not specified</td>
<td>Maintenance platform</td>
</tr>
<tr>
<td>821-00319</td>
<td>Cover, pitot probe</td>
</tr>
<tr>
<td>G02447</td>
<td>Tag, red paper, with wire, 3 in. (76.2 mm) wide, 6 in. (152.4 mm) long, &quot;PITOT PROBES COVERED&quot; in black letters</td>
</tr>
</tbody>
</table>

B. Procedure - Pitot Probe Covers Installation (Short Term Parking)

SUBTASK 10-10-00-950-001

(1) Install pitot probe covers as follows:
WARNING: WHEN THE PITOT PROBES HAVE COVERS ON THEM, MAKE SURE THAT A PERSON ON THE GROUND CAN SEE THE COVERS. ALSO MAKE SURE YOU ATTACH A TAG TO THE LEFT CONTROL WHEEL IN THE FLIGHT COMPARTMENT AS A REMINDER THAT THE PITOT PROBES HAVE COVERS ON THEM. IF THE COVERS ARE NOT REMOVED FROM THE PITOT PROBES, INCORRECT AIRSPEED-SENSING AND ALTITUDE-SENSING SIGNALS CAN OCCUR. THIS CAN CAUSE DANGEROUS FLIGHT CONDITIONS.

CAUTION: WHEN AN OPENING HAS A COVER ON IT, MAKE SURE THAT A PERSON ON THE GROUND CAN SEE THE COVER. MAKE SURE YOU DO NOT OPERATE ENGINES WHEN PITOT-PROBE, STATIC-PORT, OR OTHER COVERS ARE INSTALLED. THE COVERS CAN COME OFF AND CAUSE DAMAGE TO THE ENGINES.

(a) Install the protective covers on the pitot probes.
(b) Attach a red paper tag that has "PITOT PROBES COVERED" printed on it in black letters, to the top of the left control wheel in the flight compartment.

END OF TASK

TASK 10-10-00-950-802

6. REMOVAL OF THE PITOT PROBE COVERS (SHORT TERM PARKING)

A. Fixtures, Tools, Test and Support Equipment
   (1) Fixtures, Tools, Test and Support Equipment

   NOTE: Equivalent replacements are permitted for the item that follow.

<table>
<thead>
<tr>
<th>REFERENCE</th>
<th>DESIGNATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Specified</td>
<td>Maintenance platform</td>
</tr>
</tbody>
</table>

B. Remove Pitot Probe Covers
   SUBTASK 10-10-00-950-002
   (1) Remove pitot probe covers as follows:

   WARNING: MAKE SURE YOU REMOVE ALL COVERS FROM THE PITOT PROBES BEFORE FLIGHT. IF THE COVERS ARE NOT REMOVED, INCORRECT AIRSPEED-SENSING AND ALTITUDE-SENSING SIGNALS CAN OCCUR. THIS CAN CAUSE DANGEROUS FLIGHT CONDITIONS.

   (a) Remove cover from pitot probes.
   (b) Remove the red paper tag with "PITOT PROBES COVERED" from top of the left control wheel in the flight compartment.

C. Job Close-up - Pitot Probe Covers Removal (Short Term Parking)
   SUBTASK 10-10-00-942-004
   (1) Remove all the tools and equipment from the work area. Make sure the area is clean.

END OF TASK

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TASK 10-10-00-950-803

7. INSTALLATION OF THE STATIC PORT COVERS (SHORT TERM PARKING)

A. Fixtures, Tools, Test and Support Equipment

(1) Fixtures, Tools, Test and Support Equipment

NOTE: Equivalent replacements are permitted for the items that follow.

<table>
<thead>
<tr>
<th>REFERENCE</th>
<th>DESIGNATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not specified</td>
<td>Maintenance platform</td>
</tr>
<tr>
<td>G02443</td>
<td>Tape, orange barricade, 3 in. (76.2 mm) wide, 4 mils thick &quot;REMOVE BEFORE FLIGHT&quot; in black letters</td>
</tr>
<tr>
<td>G02219</td>
<td>Tape, vinyl adhesive, Scotch No. 471, bright yellow, 1.5 in. (38.1 mm) wide</td>
</tr>
<tr>
<td>G02444</td>
<td>Tag with wire, red paper 3 in. (76.2 mm) wide, 6 in. (152.4 mm) long, &quot;STATIC PORTS COVERED&quot; in black letters</td>
</tr>
</tbody>
</table>

B. Consumable Materials

(1) Consumable Materials

NOTE: Equivalent replacements are permitted for the items that follow.

NOTE: It is possible that some materials in the Consumable Materials chart cannot be used for some or all of their necessary applications. Before you use the materials, make sure the types, quantities, and applications of the materials necessary are legally permitted in your location. All persons must obey all applicable federal, state, local, and provincial laws and regulations when it is necessary to work with these materials.

<table>
<thead>
<tr>
<th>REFERENCE</th>
<th>DESIGNATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>TT-1-735 (Grade A)</td>
<td>Solvent (Isopropyl Alcohol)</td>
</tr>
<tr>
<td>MIL-C-85043 (Type II)</td>
<td>Cloth (low lint)</td>
</tr>
</tbody>
</table>

C. Procedure - Static Port Covers Installation (Short Term Parking)

SUBTASK 10-10-00-950-003

(1) Install static port covers as follows: (Figure 203) (Figure 204) (Figure 205)

WARNING: USE THE HAZARDOUS MATERIAL WARNINGS GIVEN BELOW FOR THE STEPS THAT FOLLOW.

THE HAZARDOUS MATERIAL WARNINGS ARE LISTED AFTER THE INTRODUCTION SECTION IN THE FRONT OF THE AMM.
Hazardous Material Warnings

HAZMAT 1030, ISOPROPYL ALCOHOL (DPM 530)
HAZMAT 1000, REFER TO MSDS

(a) Clean area around each static ports with solvent. Use a clean low lint cloth to dry area where tape will be used.
WARNING: WHEN THE STATIC PORTS HAVE COVERS ON THEM, MAKE SURE THAT A PERSON ON THE GROUND CAN SEE THE COVERS. ALSO MAKE SURE YOU ATTACH A TAG TO THE LEFT CONTROL WHEEL IN THE FLIGHT COMPARTMENT AS A REMINDER THAT THE STATIC PORTS HAVE COVERS ON THEM. IF THE COVERS ARE NOT REMOVED FROM THE STATIC PORTS, INCORRECT AIRSPEED-SENSING AND ALTITUDE-SENSING SIGNALS CAN OCCUR. THIS CAN CAUSE DANGEROUS FLIGHT CONDITIONS.

CAUTION: WHEN AN OPENING HAS A COVER ON IT, MAKE SURE THAT A PERSON ON THE GROUND CAN SEE THE COVER. MAKE SURE YOU DO NOT OPERATE ENGINES WHEN PITOT-PROBE, STATIC-PORT, OR OTHER COVERS ARE INSTALLED. THE COVERS CAN COME OFF AND CAUSE DAMAGE TO THE ENGINES.

(b) Cut 3 ft (0.914 m) length of orange barricade tape with "REMOVE BEFORE FLIGHT" printed in black.

WARNING: DO NOT PUT ADHESIVE TAPE OVER THE HOLES OF THE STATIC PORTS. IF THE HOLES BECOME CLOGGED WITH TAPE RESIDUE, INCORRECT AIRSPEED-SENSING AND ALTITUDE-SENSING SIGNALS CAN OCCUR. THIS CAN CAUSE DANGEROUS FLIGHT CONDITIONS.

(c) Place barricade tape over static port openings and secure top end of tape with 5 in. (127 mm) strip of yellow vinyl adhesive tape. Smooth out tape to make sure that tape bonds to aircraft surface (see steps 1 and 2 of Ref. Fig.). (Figure 204)

(d) Place two 5 in. (127 mm) strips of vinyl adhesive tape over the sides of the barricade tape, overlapping the top strip of adhesive tape (see step 3 of Ref. Fig.). (Figure 204)

(e) Place an 8 in. (203.2 mm) strip of vinyl adhesive tape horizontally across barricade tape below the static port hole, overlapping the two vertical strips (see step 4 of Ref. Fig.). (Figure 204)

(f) Carefully grasp the free end of the barricade tape, and fold it back against the surface of the airplane (see step 5 of Ref. Fig.). (Figure 205)

(g) Place an 8 in. (203.2 mm) strip of vinyl adhesive tape horizontally across the back side of the barricade tape, overlapping the lower half of the first 8 in. (203.2 mm) strip of adhesive tape (see step 6 of Ref. Fig.). (Figure 205)

(h) Allowing barricade tape to stream down, smooth out tape and place 8 in. (203.2 mm) strip of adhesive tape across barricade tape half way down length of barricade tape (see step 7 of Ref. Fig.). (Figure 205)

(i) Wire red paper tag with "STATIC PORTS COVERED" to top of left control wheel in the flight compartment.

END OF TASK
Static Port
Figure 203/10-10-00-990-803

AREA OF TAPE COVERAGE

FWD STATIC PORT

SHOWN AS TYPICAL

AREA OF TAPE COVERAGE

AFT STATIC PORT

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STEP 1
PUT ONE END OF THE BARRICADE TAPE OVER THE STATIC PORT TO COVER THE HOLES

STEP 2
SECURE THE TOP EDGE OF THE BARRICADE TAPE WITH 5 INCHES OF VINYL ADHESIVE TAPE

STEP 3
PUT TWO 5-INCH STRIPS OF VINYL ADHESIVE TAPE OVER THE SIDES OF THE BARRICADE TAPE, OVERLAPPING THE TOP STRIP OF ADHESIVE TAPE

STEP 4
PUT AN 8-INCH HORIZONTAL STRIP OF VINYL ADHESIVE TAPE OVER THE BARRICADE TAPE BELOW THE STATIC PORT HOLE, OVERLAPPING THE TWO VERTICAL STRIPS

Static Port Protective Cover
Figure 204/10-10-00-990-804

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Step 5
Carefully grasp the free section of barricade tape, and fold it back against the surface of the airplane.

Step 6
Place an 8-inch strip of vinyl adhesive tape horizontally over the back side of the barricade tape, overlapping the lower half of the first 8-inch strip of adhesive tape.

Step 7
Put an 8-inch strip of vinyl adhesive tape horizontally over the barricade tape halfway down the length of the barricade tape.

Static Port Protective Cover
Figure 205/10-10-00-990-805

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10-10-00
8. REMOVAL OF THE STATIC PORT COVERS (SHORT TERM PARKING)

A. Fixtures, Tools, Test and Support Equipment

(1) Fixtures, Tools, Test and Support Equipment

NOTE: Equivalent replacements are permitted for the items that follow.

<table>
<thead>
<tr>
<th>REFERENCE</th>
<th>DESIGNATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not specified</td>
<td>Maintenance platform</td>
</tr>
</tbody>
</table>

B. Remove Static Port Covers

(1) Remove static port covers as follows: (Figure 203) (Figure 204) (Figure 205)

**WARNING:** WHEN THE STATIC PORTS HAVE COVERS ON THEM, MAKE SURE THAT A PERSON ON THE GROUND CAN SEE THE COVERS. ALSO MAKE SURE YOU ATTACH A TAG TO THE LEFT CONTROL WHEEL IN THE FLIGHT COMPARTMENT AS A REMINDER THAT THE STATIC PORTS HAVE COVERS ON THEM. IF THE COVERS ARE NOT REMOVED FROM THE STATIC PORTS, INCORRECT AIRSPEED-SENSING AND ALTITUDE-SENSING SIGNALS CAN OCCUR. THIS CAN CAUSE DANGEROUS FLIGHT CONDITIONS.

**CAUTION:** MAKE SURE YOU REMOVE ALL PITOT-PROBE, STATIC-PORT, AND OTHER COVERS BEFORE YOU OPERATE THE ENGINES. IF THE COVERS ARE NOT REMOVED, THEY CAN COME OFF AND CAUSE DAMAGE TO THE ENGINES.

(a) Remove all barricade tape and vinyl adhesive tape from static ports.

**WARNING:** MAKE SURE THAT ALL BARRICADE TAPE, VINYL ADHESIVE TAPE, AND TAPE RESIDUE IS REMOVED FROM THE STATIC PORTS. IF THE HOLES BECOME CLOGGED WITH TAPE RESIDUE, INCORRECT AIRSPEED-SENSING AND ALTITUDE-SENSING SIGNALS CAN OCCUR. THIS CAN CAUSE DANGEROUS FLIGHT CONDITIONS.

(b) Check each static port for tape residue.

**WARNING:** USE THE HAZARDOUS MATERIAL WARNINGS GIVEN BELOW FOR THE STEPS THAT FOLLOW.

THE HAZARDOUS MATERIAL WARNINGS ARE LISTED AFTER THE INTRODUCTION SECTION IN THE FRONT OF THE AMM.

Hazardous Material Warnings

HAZMAT 1030, ISOPROPYL ALCOHOL (DPM 530)
HAZMAT 1000, REFER TO MSDS

(c) If necessary, clean area around each static port with solvent. Use a clean low lint cloth to remove tape residue and other contaminants.

(d) Remove red paper tag with "STATIC PORTS COVERED" from top of left control wheel in flight compartment.
C. Job Close-up - Static Port Covers Removal (Short Term Parking)

SUBTASK 10-10-00-942-00.5

(1) Remove all the tools and equipment from the work area. Make sure the area is clean.

END OF TASK

TASK 10-10-00-950-805

9. INSTALLATION OF THE PITOT PROBE COVERS (EXTENDED PARKING)

A. Fixtures, Tools, Test and Support Equipment

(1) Fixtures, Tools, Test and Support Equipment

NOTE: Equivalent replacements are permitted for the items that follow.

<table>
<thead>
<tr>
<th>REFERENCE</th>
<th>DESIGNATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not specified</td>
<td>Maintenance platform</td>
</tr>
<tr>
<td>821-00319</td>
<td>Cover, pitot probe (nose)</td>
</tr>
<tr>
<td>G02447</td>
<td>Tag, red paper, with wire, 3. in. (76.2 mm) wide, 6 in. (152.4 mm) long, &quot;PITOT PROBES COVERED&quot; in black letters</td>
</tr>
</tbody>
</table>

B. Procedure - Pitot Probe Covers Installation (Extended Parking)

SUBTASK 10-10-00-950-005

(1) Install pitot probe covers as follows:

WARNING: WHEN THE PITOT PROBES HAVE COVERS ON THEM, MAKE SURE THAT A PERSON ON THE GROUND CAN SEE THE COVERS. ALSO MAKE SURE YOU ATTACH A TAG TO THE LEFT CONTROL WHEEL IN THE FLIGHT COMPARTMENT AS A REMINDER THAT THE PITOT PROBES HAVE COVERS ON THEM. IF THE COVERS ARE NOT REMOVED FROM THE PITOT PROBES, INCORRECT AIRSPEED-SENSING AND ALTITUDE-SENSING SIGNALS CAN OCCUR. THIS CAN CAUSE DANGEROUS FLIGHT CONDITIONS.

CAUTION: WHEN AN OPENING HAS A COVER ON IT, MAKE SURE THAT A PERSON ON THE GROUND CAN SEE THE COVER. MAKE SURE YOU DO NOT OPERATE ENGINES WHEN PITOT-PROBE, STATIC- PORT, OR OTHER COVERS ARE INSTALLED. THE COVERS CAN COME OFF AND CAUSE DAMAGE TO THE ENGINES.

(a) Install the protective cover on the pitot probes.

(b) Attach a red paper tag that has "PITOT PROBES COVERED" printed on it in black letters, to the top of the left control wheel in the flight compartment.

END OF TASK

TASK 10-10-00-950-806

10. REMOVAL OF THE PITOT PROBE COVERS (EXTENDED PARKING)

A. Fixtures, Tools, Test and Support Equipment

(1) Fixtures, Tools, Test and Support Equipment

NOTE: Equivalent replacements are permitted for the items that follow.
B. Remove Pitot Probe Covers

SUBTASK 10-10-00.950-006

(1) Remove pitot probe covers as follows:

WARNING: MAKE SURE YOU REMOVE ALL COVERS FROM THE PITOT PROBES BEFORE FLIGHT. IF THE COVERS ARE NOT REMOVED, INCORRECT AIRSPEED-SENSING AND ALTITUDE-SENSING SIGNALS CAN OCCUR. THIS CAN CAUSE DANGEROUS FLIGHT CONDITIONS.

(a) Remove covers from pitot probes.

(b) Remove red paper tag with "PITOT PROBES COVERED" from top of left control wheel in the flight compartment.

C. Job Close-up - Pitot Probe Covers Removal (Extended Parking)

SUBTASK 10-10-094-006

(1) Remove all the tools and equipment from the work area. Make sure the area is clean.

END OF TASK

TASK 10-10-00.950-807

11. INSTALLATION OF THE STATIC PORT COVERS (EXTENDED PARKING)

A. Fixtures, Tools, Test and Support Equipment

(1) Fixtures, Tools, Test and Support Equipment

NOTE: Equivalent replacements are permitted for the items that follow.

<table>
<thead>
<tr>
<th>REFERENCE</th>
<th>DESIGNATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not specified</td>
<td>Maintenance platform</td>
</tr>
<tr>
<td>G02443</td>
<td>Tape, orange barricade, 3 in. (76.2 mm) wide, 4 mils thick &quot;REMOVE BEFORE FLIGHT&quot; in black letters</td>
</tr>
<tr>
<td>G02219</td>
<td>Tape, vinyl adhesive, Scotch No. 471, bright yellow, 1.5 in. (38.1 mm) wide</td>
</tr>
<tr>
<td>G02444</td>
<td>Tag with wire, red paper 3 in. (76.2 mm) wide, 6 in. (152.4 mm) long, &quot;STATIC PORTS COVERED&quot; in black letters</td>
</tr>
</tbody>
</table>

B. Consumable Materials

(1) Consumable Materials

NOTE: Equivalent replacements are permitted for the items that follow.

NOTE: It is possible that some materials in the Consumable Materials chart cannot be used for some or all of their necessary applications. Before you use the materials, make sure the types, quantities, and applications of the materials necessary are legally permitted in your location. All persons must obey all applicable federal, state, local, and provincial laws and regulations when it is necessary to work with these materials.
C. Procedure - Static Port Covers Installation (Extended Parking)

SUBTASK 10-10-00-900-007

(1) Install static port covers as follows: (Figure 203) (Figure 204) (Figure 205) (Figure 206)

**WARNING:** USE THE HAZARDOUS MATERIAL WARNINGS GIVEN BELOW FOR THE STEPS THAT FOLLOW.

The hazardous material warnings are listed after the introduction section in the front of the AMM.

**Hazardous Material Warnings**

HAZMAT 1030, ISOPROPYL ALCOHOL (DPM 530)
HAZMAT 1000, REFER TO MSDS

(a) Clean area around each static port with solvent. Use a clean low lint cloth to dry area where tape will be used.

**WARNING:** WHEN THE STATIC PORTS HAVE COVERS ON THEM, MAKE SURE THAT A PERSON ON THE GROUND CAN SEE THE COVERS. ALSO MAKE SURE YOU ATTACH A TAG TO THE LEFT CONTROL WHEEL IN THE FLIGHT COMPARTMENT AS A REMINDER THAT THE STATIC PORTS HAVE COVERS ON THEM. IF THE COVERS ARE NOT REMOVED FROM THE STATIC PORTS, INCORRECT AIRSPEED-SENSING AND ALTITUDE-SENSING SIGNALS CAN OCCUR. THIS CAN CAUSE DANGEROUS FLIGHT CONDITIONS.

**CAUTION:** WHEN AN OPENING HAS A COVER ON IT, MAKE SURE THAT A PERSON ON THE GROUND CAN SEE THE COVER. MAKE SURE YOU DO NOT OPERATE ENGINES WHEN PITOT-PROBE, STATIC-PORT, OR OTHER COVERS ARE INSTALLED. THE COVERS CAN COME OFF AND CAUSE DAMAGE TO THE ENGINES.

(b) Cut 3 ft (0.914 m) length of orange barricade tape with "REMOVE BEFORE FLIGHT" printed in black.

**WARNING:** DO NOT PUT ADHESIVE TAPE OVER THE HOLES OF THE STATIC PORTS. IF THE HOLES BECOME CLOGGED WITH TAPE RESIDUE, INCORRECT AIRSPEED-SENSING AND ALTITUDE-SENSING SIGNALS CAN OCCUR. THIS CAN CAUSE DANGEROUS FLIGHT CONDITIONS.

(c) Place barricade tape over static port openings and secure top end of tape with 5 in. (127 mm) strip of yellow vinyl adhesive tape. Smooth out tape to make sure that tape bonds to aircraft surface (see steps 1 and 2 of Ref. Fig.). (Figure 204)

(d) Place two 5 in. (127 mm) strips of vinyl adhesive tape over the sides of the barricade tape, overlapping the top strip of adhesive tape (see step 3 of Ref. Fig.). (Figure 204)

(e) Place an 8 in. (203.2 mm) strip of vinyl adhesive tape horizontally across barricade tape below the static port hole, overlapping the two vertical strips (see step 4 of Ref. Fig.). (Figure 204)
Carefully grasp the free end of the barricade tape, and fold it back against the surface of the airplane (see step 5 of Ref. Fig.). (Figure 205)

Place an 8 in. (203.2 mm) strip of vinyl adhesive tape horizontally across the back side of the barricade tape, overlapping the lower half of the first 8 in. (203.2 mm) strip of adhesive tape (see step 6 of Ref. Fig.). (Figure 205)

Allowing barricade tape to stream down, smooth out tape and place 8 in. (203.2 mm) strip of adhesive tape across barricade tape halfway down length of barricade tape (see step 7 of Ref. Fig.). (Figure 205)

Place an 8 in. (203.2 mm) strip of vinyl adhesive tape horizontally over the lower end of the barricade tape (see step 8 of Ref. Fig.). (Figure 206)

Wire red paper tag with "STATIC PORTS COVERED" to top of left control wheel in the flight compartment.

END OF TASK
STEP 5
CAREFULLY GRASP THE FREE SECTION OF BARRICADE TAPE, AND FOLD IT BACK AGAINST THE SURFACE OF THE AIRPLANE

STEP 6
PLACE AN 8-INCH STRIP OF VINYL ADHESIVE TAPE HORIZONTALLY OVER THE BACK SIDE OF THE BARRICADE TAPE, OVERLAPPING THE LOWER HALF OF THE FIRST 8-INCH STRIP OF ADHESIVE TAPE

STEP 7
PUT AN 8-INCH STRIP OF VINYL ADHESIVE TAPE HORIZONTALLY OVER THE BARRICADE TAPE HALFWAY DOWN THE LENGTH OF THE BARRICADE TAPE

STEP 8
PUT AN 8-INCH STRIP OF VINYL ADHESIVE TAPE HORIZONTALLY OVER THE LOWER END OF THE BARRICADE TAPE

Static Port Covers
Figure 206/10-10-00-990-806
12. REMOVAL OF THE STATIC PORT COVERS (EXTENDED PARKING)

A. Fixtures, Tools, Test and Support Equipment

(1) Fixtures, Tools, Test and Support Equipment

NOTE: Equivalent replacements are permitted for the item that follow.

Table 212

<table>
<thead>
<tr>
<th>REFERENCE</th>
<th>DESIGNATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not specified</td>
<td>Maintenance platform</td>
</tr>
</tbody>
</table>

B. Remove Static Port Covers

SUBTASK 10-10-00-950-008

(1) Remove static port covers as follows: (Figure 203) (Figure 204) (Figure 205) (Figure 206)

WARNING: WHEN THE STATIC PORTS HAVE COVERS ON THEM, MAKE SURE THAT A PERSON ON THE GROUND CAN SEE THE COVERS. ALSO MAKE SURE YOU ATTACH A TAG TO THE LEFT CONTROL WHEEL IN THE FLIGHT COMPARTMENT AS A REMINDER THAT THE STATIC PORTS HAVE COVERS ON THEM. IF THE COVERS ARE NOT REMOVED FROM THE STATIC PORTS, INCORRECT AIRSPEED-SENSING AND ALTITUDE-SENSING SIGNALS CAN OCCUR. THIS CAN CAUSE DANGEROUS FLIGHT CONDITIONS.

CAUTION: MAKE SURE YOU REMOVE ALL PITOT-PROBE, STATIC-PORT, AND OTHER COVERS BEFORE YOU OPERATE THE ENGINES. IF THE COVERS ARE NOT REMOVED, THEY CAN COME OFF AND CAUSE DAMAGE TO THE ENGINES.

(a) Remove all barricade tape and vinyl adhesive tape from static ports.

WARNING: MAKE SURE THAT ALL BARRICADE TAPE, VINYL ADHESIVE TAPE, AND TAPE RESIDUE IS REMOVED FROM THE STATIC PORTS. IF THE HOLES BECOME CLOGGED WITH TAPE RESIDUE, INCORRECT AIRSPEED-SENSING AND ALTITUDE-SENSING SIGNALS CAN OCCUR. THIS CAN CAUSE DANGEROUS FLIGHT CONDITIONS.

(b) Check each static port for tape residue.

WARNING: USE THE HAZARDOUS MATERIAL WARNINGS GIVEN BELOW FOR THE STEPS THAT FOLLOW.

THE HAZARDOUS MATERIAL WARNINGS ARE LISTED AFTER THE INTRODUCTION SECTION IN THE FRONT OF THE AMM.

Hazardous Material Warnings

HAZMAT 1030, ISOPROPYL ALCOHOL (DPM 530)
HAZMAT 1000, REFER TO MSDS

(c) If necessary, clean area around each static port with solvent. Use a clean low lint cloth to remove tape residue and other contaminants.

(d) Remove red paper tag with "STATIC PORTS COVERED" from top of left control wheel in flight compartment.
C. Job Close-up - Static Port Covers Removal (Extended Parking)

SUBTASK 10-10-00-942-007

(1) Remove all the tools and equipment from the work area. Make sure the area is clean.

END OF TASK
1. General
A. This procedure has the maintenance practices for aircraft preservation. The procedure includes:
   - Preservation of the aircraft
   - Inspection of the aircraft preservation
B. All items related to the airframe are applicable to short-term and long-term preservation.

2. PRESERVATION OF THE AIRCRAFT
A. Fixtures, Tools, Test and Support Equipment
   (1) Fixtures, Tools, Test and Support Equipment
      NOTE: Equivalent replacements are permitted for the items that follow.

<table>
<thead>
<tr>
<th>REFERENCE</th>
<th>DESIGNATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not specified</td>
<td>Cover, dorsal ram air and inlet</td>
</tr>
<tr>
<td>Not specified</td>
<td>Cover, air-conditioning exhaust (left)</td>
</tr>
<tr>
<td>Not specified</td>
<td>Cover, air-conditioning exhaust (right)</td>
</tr>
<tr>
<td>821-00319</td>
<td>Cover, pitot probe (set of 3)</td>
</tr>
<tr>
<td>Not specified</td>
<td>Cover, tail section louver (left)</td>
</tr>
<tr>
<td>Not specified</td>
<td>Cover, tail section louver (right)</td>
</tr>
<tr>
<td>Not specified</td>
<td>DO NOT OPERATE tags</td>
</tr>
<tr>
<td>Not specified</td>
<td>NO HYDRAULIC POWER AVAILABLE tag</td>
</tr>
</tbody>
</table>

B. Consumable Materials
   (1) Consumable Materials
      NOTE: Equivalent replacements are permitted for the items that follow.
      NOTE: It is possible that some materials in the Consumable Materials chart cannot be used for some or all of their necessary applications. Before you use the materials, make sure the types, quantities and applications of the materials necessary are legally permitted in your location. All persons must obey all applicable federal, state, local and provincial laws and regulations when it is necessary to work with these materials.

<table>
<thead>
<tr>
<th>REFERENCE</th>
<th>DESIGNATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>DPM 661</td>
<td>Film, polyethylene</td>
</tr>
<tr>
<td>DPM 5517</td>
<td>Film, masking</td>
</tr>
<tr>
<td>DPM 5942-2</td>
<td>Masks, aluminized mylar</td>
</tr>
<tr>
<td>DPM 5942-3</td>
<td>Masks, aluminized mylar</td>
</tr>
<tr>
<td>DPM 5723</td>
<td>Paper, abrasion-resistant</td>
</tr>
<tr>
<td>MIL-A-148 (DPM 659)</td>
<td>Foil, aluminum</td>
</tr>
<tr>
<td>DPM 871-3</td>
<td>Tape, adhesive, cloth-backed</td>
</tr>
<tr>
<td>DPM 5404-Ser</td>
<td>Protective coating, solvent removable</td>
</tr>
<tr>
<td>MIL-C-16173 (DPM 665)</td>
<td>Solvent, cutback, corrosion preventive</td>
</tr>
</tbody>
</table>
### MD-11 AIRCRAFT MAINTENANCE MANUAL

(Continued)

<table>
<thead>
<tr>
<th>REFERENCE</th>
<th>DESIGNATION</th>
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<tbody>
<tr>
<td>MIL-H-5606</td>
<td>Fluid, Hydraulic, Petroleum base</td>
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<tr>
<td>(DPM 396)</td>
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<tr>
<td>(DPM 5414)</td>
<td></td>
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<tr>
<td>(DPM 6176) or</td>
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</tr>
<tr>
<td>MIL-H-6083</td>
<td></td>
</tr>
<tr>
<td>(DPM 6177)</td>
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<tr>
<td>DMS 2014</td>
<td>Hydraulic fluid (Fire resistant) (Skydrol)</td>
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<tr>
<td>MIL-B-121</td>
<td>Paper, grease proof, waterproof</td>
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<tr>
<td>(DPM 634)</td>
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</table>

C. References

<table>
<thead>
<tr>
<th>Reference</th>
<th>Title</th>
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<tr>
<td>09-11-00-584-801</td>
<td>NOSE-GEAR TOWING (P/B 201)</td>
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<tr>
<td>10-10-00-950-805</td>
<td>INSTALLATION OF THE PITOT PROBE COVERS (EXTENDED PARKING) (P/B 201)</td>
</tr>
<tr>
<td>10-10-00-950-807</td>
<td>INSTALLATION OF THE STATIC PORT COVERS (EXTENDED PARKING) (P/B 201)</td>
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<tr>
<td>10-20-00-500-801</td>
<td>MOORING of the AIRCRAFT (P/B 201)</td>
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<tr>
<td>12-11-05-600-801</td>
<td>GRAVITY DRAINING OF THE FUEL TANKS (P/B 301)</td>
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<tr>
<td>12-13-03-600-801</td>
<td>SERVICING OF THE ACCUMULATORS (P/B 301)</td>
</tr>
<tr>
<td>12-14-01-600-802</td>
<td>DRAIN THE WATER SYSTEM (P/B 301)</td>
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<tr>
<td>12-14-03-600-801</td>
<td>SERVICING OF THE WASTE DISPOSAL SYSTEM (P/B 301)</td>
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<td>12-24-01-600-801</td>
<td>LUBRICATION OF THE INBOARD AILERON (P/B 301)</td>
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<td>LUBRICATION OF THE OUTBOARD AILERON (P/B 301)</td>
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<tr>
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<td>LUBRICATION OF THE FLIGHT CONTROL MECHANISM (P/B 301)</td>
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<td>12-24-04-600-801</td>
<td>LUBRICATION OF THE ELEVATORS (P/B 301)</td>
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<td>12-24-06-600-801</td>
<td>LUBRICATION OF THE RUDDER (P/B 301)</td>
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<td>LUBRICATION OF THE VERTICAL STABILIZER (P/B 301)</td>
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<tr>
<td>12-24-07-600-801</td>
<td>LUBRICATION OF THE SLATS (P/B 301)</td>
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<td>12-24-08-600-801</td>
<td>LUBRICATION OF THE SPOILERS (P/B 301)</td>
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<td>12-24-09-600-801</td>
<td>LUBRICATION OF THE HORIZONTAL STABILIZER CONSTANT SECTION (P/B 301)</td>
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<td>12-24-10-600-801</td>
<td>LUBRICATION OF THE INBOARD FLAP VANE SPRING CARTRIDGE (P/B 301)</td>
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<td>12-24-10-600-802</td>
<td>LUBRICATION OF THE OUTBOARD FLAP VANE SPRING CARTRIDGE (P/B 301)</td>
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<td>LUBRICATION OF THE SPOILER LATERAL CONTROL MIXER ASSEMBLY (P/B 301)</td>
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<tr>
<td>24-34-02-000-802</td>
<td>REMOVAL OF THE NICKEL CADMIUM BATTERY (P/B 401)</td>
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<tr>
<td>26-24-04-200-801</td>
<td>INSPECTION OF THE PORTABLE FIRE EXTINGUISHER (P/B 601)</td>
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<tr>
<td>27-10-00-860-801</td>
<td>OPERATION OF THE AILERONS (P/B 201)</td>
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<td>27-20-00-860-801</td>
<td>OPERATION OF THE RUDDERS (P/B 201)</td>
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<tr>
<td>27-50-00-860-801</td>
<td>OPERATION OF THE FLAPS (P/B 201)</td>
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<tr>
<td>27-80-00-860-801</td>
<td>OPERATION OF THE SLATS (P/B 201)</td>
</tr>
<tr>
<td>33-51-01-000-802</td>
<td>REMOVAL OF THE EMERGENCY LIGHTING BATTERY POWER SUPPLY (P/B 401)</td>
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## Reference Title

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<td>35-11-01-000-801</td>
<td>REMOVAL OF THE CREW OXYGEN CYLINDER (P/B 401)</td>
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<td>49-00-00-600-802</td>
<td>SHORT TIME PRESERVATION OF THE AUXILIARY POWER UNIT (2 MONTHS TO 5 MONTHS) (P/B 301)</td>
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<td>49-00-00-600-803</td>
<td>LONG TIME PRESERVATION OF THE AUXILIARY POWER UNIT (6 MONTHS TO 2 YEARS) (P/B 301)</td>
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<td>52-11-02-410-801</td>
<td>ELECTRICAL CLOSING OF THE FORWARD PASSENGER DOOR (INTERNAL CONTROLS) (P/B 201)</td>
</tr>
<tr>
<td>52-31-00-410-801</td>
<td>ELECTRICAL CLOSING OF THE FORWARD-LOWER-CARGO DOOR (P/B 201)</td>
</tr>
<tr>
<td>52-31-00-410-802</td>
<td>MANUAL CLOSING OF THE FORWARD-LOWER-CARGO DOOR (P/B 201)</td>
</tr>
<tr>
<td>52-32-00-410-801</td>
<td>ELECTRICAL CLOSING OF THE CENTER-LOWER-CARGO DOOR (P/B 201)</td>
</tr>
<tr>
<td>52-32-00-410-802</td>
<td>MANUAL CLOSING OF THE CENTER-LOWER-CARGO DOOR (P/B 201)</td>
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<tr>
<td>52-33-00-410-801</td>
<td>ELECTRICAL CLOSING OF THE AFT-LOWER-CARGO DOOR (P/B 201)</td>
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<tr>
<td>52-33-00-410-802</td>
<td>MANUAL CLOSING OF THE AFT-LOWER-CARGO DOOR (P/B 201)</td>
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<tr>
<td>52-34-00-410-801</td>
<td>HYDRAULIC CLOSING OF THE FORWARD-UPPER-CARGO DOOR (P/B 201)</td>
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<tr>
<td>52-34-00-410-802</td>
<td>MANUAL CLOSING OF THE FORWARD-UPPER-CARGO DOOR (P/B 201)</td>
</tr>
<tr>
<td>72-00-09-600-870</td>
<td>ENGINE PRESERVATION (P/B 201)</td>
</tr>
</tbody>
</table>

### D. Job Set-up - Aircraft Preservation

SUBTASK 10-10-01-900-001

1. Before you do the aircraft preservation procedure, the aircraft must be positioned in the storage area. Do the steps that follow:

   **CAUTION:** IF YOU THINK WIND GUSTS WILL BE MORE THAN 69 MPH (60 KNOTS), POINT THE AIRCRAFT INTO THE WIND. THIS WILL PREVENT STRUCTURAL DAMAGE TO THE PRIMARY CONTROL SURFACES.

   (a) Tow and position the aircraft on a level surface. If the aircraft is parked on ice or snow, position a mat or apply sand or applicable material below the aircraft tires. (NOSE-GEAR TOWING, TASK 09-11-00-584-801)

   **NOTE:** If possible, position the aircraft a sufficient distance to permit clearance for maintenance, servicing and fire lanes. If possible, keep the fire lanes between each double row and block of aircraft, a width larger than the wing span of the parked aircraft.

2. If necessary, moor aircraft. (MOORING of the AIRCRAFT, TASK 10-20-00-500-801)

### E. Procedure - Aircraft Preservation

SUBTASK 10-10-01-200-002

1. Preserve the aircraft engines. (ENGINE PRESERVATION, TASK 72-00-09-600-870)
SUBTASK 10-10-01-620-001

(2) Preserve the auxiliary power unit. See the referenced tasks: (SHORT TIME PRESERVATION OF THE AUXILIARY POWER UNIT (2 MONTHS TO 5 MONTHS), TASK 49-00-00-600-802) (LONG TIME PRESERVATION OF THE AUXILIARY POWER UNIT (6 MONTHS TO 2 YEARS), TASK 49-00-00-600-803)

SUBTASK 10-10-01-620-002

(3) Preserve the aircraft interior as follows:

   (a) Put protective covers on the floors and carpets.

   (b) Put protective covers on all flight compartment and passenger seats.

   (c) Remove all storage and emergency batteries. See the referenced tasks: (REMOVAL OF THE NICKEL CADMIUM BATTERY, TASK 24-34-02-000-802) (REMOVAL OF THE INERTIAL REFERENCE SYSTEM BATTERY/CHARGER, TASK 34-43-04-000-801) (REMOVAL OF THE EMERGENCY LIGHTING BATTERY POWER SUPPLY, TASK 33-51-01-000-802)

   (d) Drain the potable water systems and air dry. (DRAIN THE WATER SYSTEM, TASK 12-14-01-600-802)

   (e) Drain and flush the waste disposal system. Put a "DO NOT OPERATE" tag on the toilet. Keep the door open for air flow. (SERVICING OF THE WASTE DISPOSAL SYSTEM, TASK 12-14-03-600-801)

   (f) Do an inspection of the portable fire extinguishers for serviceable condition. (INSPECTION OF THE PORTABLE FIRE EXTINGUISHER, TASK 26-24-04-200-801)

   (g) Remove the crew oxygen cylinders. (REMOVAL OF THE CREW OXYGEN CYLINDER, TASK 35-11-01-000-801)

   (h) Remove all components which the service life will expire before the aircraft is re-activated.

SUBTASK 10-10-01-620-003

(4) Preserve the exterior of the aircraft as follows:

   (a) Make sure the pitot tubes, temperature probes, static ports and static plates are dry. Put protective covers or polyethylene film on the pitot tubes, temperature probes, static ports and static plates. (INSTALLATION OF THE PITOT PROBE COVERS (EXTENDED PARKING), TASK 10-10-00-950-805) (INSTALLATION OF THE STATIC PORT COVERS (EXTENDED PARKING), TASK 10-10-00-950-807)

   (b) Put protective covers or polyethylene film on all openings, air scoops, exhausts, etc., in fuselage. Use polyethylene film attached with masking film.

   (c) Do a check of the aircraft exterior, wings and empennage for signs of corrosion, unprotected aluminum, scratches, unprotected rivets and fasteners. Protect the areas as necessary.

(e) Position the flaps to the full up position. (OPERATION OF THE FLAPS, TASK 27-50-00-860-801)

(f) Position the slats to the retracted position. (OPERATION OF THE SLATS, TASK 27-80-00-860-801)

(g) Position the rudders to the neutral position. (OPERATION OF THE RUDDERS, TASK 27-20-00-860-801)

(h) Position the ailerons to the neutral position. (OPERATION OF THE AILERONS, TASK 27-10-00-860-801)

WARNING: USE THE HAZARDOUS MATERIAL WARNINGS GIVEN BELOW FOR THE STEPS THAT FOLLOW.

THE HAZARDOUS MATERIAL WARNINGS ARE LISTED AFTER THE INTRODUCTION SECTION IN THE FRONT OF THE AMM.

Hazardous Material Warning:

HAZMAT 1104, HYDRAULIC FLUID/SKYDROL (DMS QPL 2014)
HAZMAT 1000, REFER TO MSDS

(i) Apply Skydrol hydraulic fluid to the surfaces of all actuating rods and cylinders. Wrap with greaseproof, waterproof paper and apply tape to masking film.

(j) Apply masking film and seal small control surface grooves. Use polyethylene film and tape with masking film for larger openings.

(k) Close all applicable access doors and covers.

(l) If necessary, deflate the struts and attach a tag to the struts.

NOTE: If the struts are deflated, make sure that the strut is 1 in. (25.4 mm) off of the rest stop.
WARNING: USE THE HAZARDOUS MATERIAL WARNINGS GIVEN BELOW FOR THE STEPS THAT FOLLOW.

THE HAZARDOUS MATERIAL WARNINGS ARE LISTED AFTER THE INTRODUCTION SECTION IN THE FRONT OF THE AMM.

Hazardous Material Warnings

HAZMAT 1007, HYDRAULIC FLUID/PETROLEUM-BASE (DPM 366/5414/6176)
HAZMAT 1000, REFER TO MSDS

(m) Wipe the outer portion of all exposed landing gear shock strut pistons with hydraulic fluid (petroleum based) or corrosion preventive compound.

(n) Wrap the outer portions of all exposed pistons and struts with greaseproof, waterproof paper or polyethylene film. Attach with masking film.

NOTE: If aircraft will be moved to a permanent place of storage, do this procedure after the aircraft is in permanent parking area.

(o) If necessary, bleed the hydraulic and brake system accumulators. (SERVICING OF THE ACCUMULATORS, TASK 12-13-03-600-801)

(p) Install a "NO HYDRAULIC POWER AVAILABLE" tag on the hydraulic system control panel.

(q) Clean the tires and remove all unwanted material.

(r) Drain fuel sumps and remove water from the fuel tanks. (GRAVITY DRAINING OF THE FUEL TANKS, TASK 12-11-05-600-801)

(s) Put covers on tires or use polyethylene sheet and adhesive tape.

(t) Do a check of the aircraft. Make sure that all projections, such as antennas, windshield wipers, etc., items not specified before, that could be damaged or weathered are protected with polyethylene sheet and tape.

(u) Put covers on the nose and main landing gear gearwells and other openings not specified before with polyethylene film and adhesive tape.

(v) Make sure all the doors are closed.

(ELECTRICAL CLOSING OF THE FORWARD-LOWER-CARGO DOOR, TASK 52-31-00-410-801)

(ELECTRICAL CLOSING OF THE CENTER-LOWER-CARGO DOOR, TASK 52-32-00-410-801)

(ELECTRICAL CLOSING OF THE AFT-LOWER-CARGO DOOR, TASK 52-33-00-410-801)

(MANUAL CLOSING OF THE FORWARD-LOWER-CARGO DOOR, TASK 52-31-00-410-802)

(MANUAL CLOSING OF THE CENTER-LOWER-CARGO DOOR, TASK 52-32-00-410-802)

(MANUAL CLOSING OF THE AFT-LOWER-CARGO DOOR, TASK 52-33-00-410-802)

(HYDRAULIC CLOSING OF THE FORWARD-UPPER-CARGO DOOR, TASK 52-34-00-410-801)

(MANUAL CLOSING OF THE FORWARD-UPPER-CARGO DOOR, TASK 52-34-00-410-802)

(ELECTRICAL CLOSING OF THE FORWARD PASSENGER DOOR (INTERNAL CONTROLS), TASK 52-11-02-410-801)

(w) Do an inspection of the aircraft preservation as necessary. (INSPECTION OF THE AIRCRAFT PRESERVATION, TASK 10-10-01-200-801)
F. Job Close-up - Aircraft Preservation

(1) Remove all the tools and equipment from the work area. Make sure the area is clean.

--- END OF TASK ---

TASK 10-10-01-200-801

3. INSPECTION OF THE AIRCRAFT PRESERVATION

A. References

<table>
<thead>
<tr>
<th>Reference</th>
<th>Title</th>
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</thead>
<tbody>
<tr>
<td>09-11-00-584-801</td>
<td>NOSE-GEAR TOWING (P/B 201)</td>
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<tr>
<td>10-20-00-500-801</td>
<td>MOORING of the AIRCRAFT (P/B 201)</td>
</tr>
<tr>
<td>12-11-05-600-801</td>
<td>GRAVITY DRAINING OF THE FUEL TANKS (P/B 301)</td>
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<tr>
<td>12-16-01-600-801</td>
<td>SERVICING OF LANDING GEAR TIRE (P/B 301)</td>
</tr>
</tbody>
</table>

B. Job Set-up - Aircraft Preservation Inspection

(1) Do an inspection of the aircraft preservation as follows:

**NOTE:** Some of the inspection/checks are more frequent and performed each 24 hour cycle.

<table>
<thead>
<tr>
<th>INSPECT/CHECK</th>
<th>WHEN PERFORMED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do an inspection of the general condition of the aircraft.</td>
<td>One time each 24 hour cycle.</td>
</tr>
<tr>
<td>Make sure aircraft interior has good air flow.</td>
<td>One time each 24 hour cycle.</td>
</tr>
<tr>
<td><strong>NOTE:</strong> If the temperature is over 90°F (32.2°C), use a fan to increase the air flow.</td>
<td></td>
</tr>
<tr>
<td>Do an inspection of the tire pressure. SERVICING OF LANDING GEAR TIRE, TASK 12-16-01-600-801</td>
<td>One time each 7 day cycle.</td>
</tr>
<tr>
<td>Tow the aircraft and turn the tires 120° to prevent flat spots. If possible, turn tires three times to lubricate the wheel bearings. NOSE-GEAR TOWING, TASK 09-11-00-584-801</td>
<td>One time each 14 day cycle.</td>
</tr>
<tr>
<td>Make sure the aircraft is moored correctly. MOORING of the AIRCRAFT, TASK 10-20-00-500-801</td>
<td>One time each 7 day cycle or winds of 35 knots (40 MPH) or greater.</td>
</tr>
<tr>
<td>Do an inspection of the windows, winshields and light protective covers. Make sure they are attached correctly.</td>
<td>One time each 24 hour cycle or replace as necessary.</td>
</tr>
<tr>
<td>Do an inspection of the strut preservation. Make sure the strut has the correct protective covers installed. Make sure the strut has no leaks.</td>
<td>One time each 90 day cycle.</td>
</tr>
<tr>
<td>Do an inspection of the ground cables. Make sure they are connected correctly.</td>
<td>One time each 24 hour cycle.</td>
</tr>
</tbody>
</table>

10-10-01

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KE ALL

TP-11MM-KE

BOEING PROPRIETARY - Copyright © Unpublished Work - See title page for details
INSPECT/CHECK | WHEN PERFORMED
---|---
Do an inspection of the general aircraft exterior for corrosion. | One time each 24 hour cycle.
Do an inspection below the aircraft for fuel, oil or hydraulic fluid leaks. | One time each 24 hour cycle.
Make sure all the protective covers and protective film is attached and in good condition. Replace as necessary. | One time each 24 hour cycle.

**SUBTASK 10-10-01-212-002**

(2) Some materials used in aircraft preservation requires frequent inspection and replacement. Do an inspection and replace the protective materials as necessary.

<table>
<thead>
<tr>
<th>MATERIAL</th>
<th>REPLACEMENT FREQUENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper, abrasion-resistant. (DPM 5783)</td>
<td>Replace one time each 4 week cycle.</td>
</tr>
<tr>
<td>Adhesive tape. (DPM 871)</td>
<td>Replace one time each 2 month cycle.</td>
</tr>
<tr>
<td>Aluminized Mylar. (DPM 5942)</td>
<td>Replace one time each 1 year cycle.</td>
</tr>
</tbody>
</table>

**SUBTASK 10-10-01-660-001**

(3) Drain fuel sumps and remove water from the fuel tanks. Use the chart that follows. (GRAVITY DRAINING OF THE FUEL TANKS, TASK 12-11-05-600-801)

**NOTE:** The amount of water removed from each sump must be written. The next tank draining must be scheduled as specified in the table below, using the largest water quantity written.

<table>
<thead>
<tr>
<th>Last Drain Time</th>
<th>AMOUNT OF WATER REMOVED (From any drain point on aircraft)</th>
<th>Next Drain Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial</td>
<td>More than 4 fl. oz.(118.3 ml)</td>
<td>7 Days</td>
</tr>
<tr>
<td>7 days</td>
<td>Less than 4 fl. oz.(118.3 ml)</td>
<td>30 Days</td>
</tr>
<tr>
<td>30 Days</td>
<td>More than 4 fl. oz.(118.3 ml)</td>
<td>7 Days</td>
</tr>
<tr>
<td></td>
<td>Less than 4 fl. oz.(118.3 ml)</td>
<td>60 Days</td>
</tr>
<tr>
<td>60 Days</td>
<td>More than 4 fl. oz.(118.3 ml)</td>
<td>30 Days</td>
</tr>
<tr>
<td></td>
<td>Less than 4 fl. oz.(118.3 ml)</td>
<td>60 Days</td>
</tr>
</tbody>
</table>

C. Job Close-up - Aircraft Preservation Inspection

**SUBTASK 10-10-01-942-002**

(1) Remove all the tools and equipment from the work area. Make sure the area is clean.

---

END OF TASK ---

---

**EFFECTIVITY**

**KE ALL**

**TP-11MM-KE**

BOEING PROPRIETARY - Copyright © Unpublished Work - See title page for details
1. General
   A. This procedure has the maintenance practices for aircraft depreservation. The procedure includes:
      - Depreservation of the aircraft auxiliary power unit
      - Depreservation of the aircraft exteriors
      - Depreservation of the aircraft interiors.
   B. All items related to the airframe are applicable to short-term and long-term. The steps for each item
      must be done to put the aircraft in a serviceable condition.

   TASK 10-10-02-600-801

2. AIRCRAFT DEPRESERVATION
   A. References

<table>
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<th>Reference</th>
<th>Title</th>
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<td>REMOVAL OF THE PITOT PROBE COVERS (EXTENDED PARKING)</td>
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<tr>
<td>10-10-00-950-808</td>
<td>REMOVAL OF THE STATIC PORT COVERS (EXTENDED PARKING)</td>
</tr>
<tr>
<td>12-13-03-600-801</td>
<td>SERVICING OF THE ACCUMULATORS (P/B 301)</td>
</tr>
<tr>
<td>12-14-01-600-803</td>
<td>FLUSH AND STERILIZE WATER SYSTEM (P/B 301)</td>
</tr>
<tr>
<td>12-14-03-600-801</td>
<td>SERVICING OF THE WASTE DISPOSAL SYSTEM (P/B 301)</td>
</tr>
<tr>
<td>12-16-01-600-801</td>
<td>SERVICING OF LANDING GEAR TIRE (P/B 301)</td>
</tr>
<tr>
<td>24-34-02-400-802</td>
<td>INSTALLATION OF THE NICKEL CADMIUM BATTERY (P/B 401)</td>
</tr>
<tr>
<td>25-61-01-000-801</td>
<td>REMOVAL OF THE EVACUATION SLIDE/RAFT AND CONTAINER (P/B 401)</td>
</tr>
<tr>
<td>25-61-01-400-801</td>
<td>INSTALLATION OF THE EVACUATION SLIDE/RAFT AND CONTAINERS (P/B 401)</td>
</tr>
<tr>
<td>25-64-01-200-801</td>
<td>INSPECTION OF CREW LIFE VESTS (P/B 201)</td>
</tr>
<tr>
<td>26-24-04-200-801</td>
<td>INSPECTION OF THE PORTABLE FIRE EXTINGUISHER (P/B 601)</td>
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<tr>
<td>32-11-01-619-804</td>
<td>SERVICING OF THE MAIN LANDING GEAR SINGLE-CHAMBER SHOCK STRUT (AIRCRAFT WEIGHT ON SHOCK STRUT) (P/B 301)</td>
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<tr>
<td>32-11-01-619-805</td>
<td>SERVICING OF THE MAIN LANDING GEAR SINGLE-CHAMBER SHOCK STRUT (AIRCRAFT ON WING AND FUSELAGE JACKS) (P/B 301)</td>
</tr>
<tr>
<td>32-15-01-863-801</td>
<td>FILL THE CENTER LANDING GEAR SHOCK STRUT WITH HYDRAULIC FLUID AND NITROGEN (P/B 301)</td>
</tr>
<tr>
<td>32-21-01-863-801</td>
<td>FILL THE NLG SHOCK STRUT WITH HYDRAULIC FLUID AND NITROGEN (P/B 301)</td>
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<tr>
<td>34-43-04-400-801</td>
<td>INSTALLATION OF THE INERTIAL REFERENCE SYSTEM BATTERY/CHARGER (P/B 201)</td>
</tr>
<tr>
<td>35-11-01-400-801</td>
<td>INSTALLATION OF THE CREW OXYGEN CYLINDER (P/B 401)</td>
</tr>
<tr>
<td>49-00-00-600-801</td>
<td>DEPRESERVATION OF THE AUXILIARY POWER UNIT (P/B 301)</td>
</tr>
</tbody>
</table>

   B. Procedure - Aircraft Depreservation

   SUBTASK 10-10-02-630-001
   (1) Depreserve the auxiliary power unit. (DEPRESERVATION OF THE AUXILIARY POWER UNIT, TASK 49-00-00-600-801)

   SUBTASK 10-10-02-630-002
   (2) For aircraft exterior depreservation, do the steps that follow:
(a) Remove protective covers from wheelwell openings, wheels and struts.

1) Do a check of each landing gear shock strut for serviceability as follows:
   a) Prior to return to service check the Landing Gear for correct shock strut pressure and strut extension condition per the service placard.
   b) Make sure that the X-Dimension as shown on the landing gear servicing placard is in the acceptable pressure band for each landing gear shock strut.

(b) If the X-Dimension is not within the strut pressure and strut extension acceptable pressure band, service the landing gear. See the referenced tasks: (FILL THE CENTER LANDING GEAR SHOCK STRUT WITH HYDRAULIC FLUID AND NITROGEN, TASK 32-15-01-863-801) (FILL THE NLG SHOCK STRUT WITH HYDRAULIC FLUID AND NITROGEN, TASK 32-21-01-863-801) (SERVICING OF THE MAIN LANDING GEAR SINGLE-CHAMBER SHOCK STRUT (AIRCRAFT WEIGHT ON SHOCK STRUT), TASK 32-11-01-619-804) (SERVICING OF THE MAIN LANDING GEAR SINGLE-CHAMBER SHOCK STRUT (AIRCRAFT ON WING AND FUNSELAGE JACKS), TASK 32-11-01-619-805)

(c) Make a check of the tire pressure and inflate tires as necessary. (SERVICING OF LANDING GEAR TIRE, TASK 12-16-01-600-801)

(d) Remove protective covers from the items that follow:
   1) Windshields.
   2) Cabin windows.
   3) Anti-collision lights, landing lights and navigation lights.
   4) All glass or acrylic items.

(e) Remove protective covers from pitot probes and static ports. (REMOVAL OF THE PITOT PROBE COVERS (EXTENDED PARKING), TASK 10-10-00-950-806) (REMOVAL OF THE STATIC PORT COVERS (EXTENDED PARKING), TASK 10-10-00-950-808)

(f) Remove protective covers from temperature probes, etc.

(g) Remove protective covers from all openings such as air scoops, exhausts, drains, etc.

(h) Remove masking film, tape, polyethylene sheets, etc., from the control surface gaps and openings.

(i) Make sure all control surfaces are free from obstruction.

(j) Make a check of the aircraft exterior fuselage, wings and empennage for signs of corrosion, unserviceable aluminum, scratches, unserviceable rivets and fasteners.

(k) Service accumulators as required. (SERVICING OF THE ACCUMULATORS, TASK 12-13-03-600-801)

(l) Move aircraft, if required. (NOSE-GEAR TOWING, TASK 09-11-00-584-801)

(3) For aircraft interiors depreservation, do the steps that follow:

(a) Disinfect, de-odorize and fill toilet and waste system. (SERVICING OF THE WASTE DISPOSAL SYSTEM, TASK 12-14-03-600-801)

(b) Flush and sterilize the potable water system. (FLUSH AND STERILIZE WATER SYSTEM, TASK 12-14-01-800-803)
(c) Install storage batteries removed when aircraft was put in storage. See the referenced tasks: (INSTALLATION OF THE NICKEL CADMIUM BATTERY, TASK 24-34-02-400-802) (INSTALLATION OF THE INERTIAL REFERENCE SYSTEM BATTERY/CHARGER, TASK 34-43-04-400-801)

NOTE: Permit 24 hours to recharge batteries on aircraft power before use.

(d) Make a check of the expiration dates on time controlled items. Remove and replace if necessary. See the referenced tasks: (INSPECTION OF CREW LIFE VESTS, TASK 25-64-01-200-801) (REMOVAL OF THE EVACUATION SLIDE/RAFT AND CONTAINER, TASK 25-61-01-000-801) (INSTALLATION OF THE EVACUATION SLIDE/RAFT AND CONTAINERS, TASK 25-61-01-400-801)

(e) Install and activate cylinder supplied oxygen systems. (INSTALLATION OF THE CREW OXYGEN CYLINDER, TASK 35-11-01-400-801)

(f) Make a check of the portable fire extinguishers for serviceable condition and replace as required. (INSPECTION OF THE PORTABLE FIRE EXTINGUISHER, TASK 26-24-04-200-801)

(g) If installed, remove protective covers from floors and carpets.

(h) If installed, remove protective covers from flight compartment and cabin seats.

(i) If removed, install components, such as regulators which the service life expired before the de-preservation.

(j) If installed, remove all crew oxygen masks sealed in plastic bags.

C. Job Close-up - Aircraft Depreservation

SUBTASK 10-10-02-942-001

(1) Remove all the tools and equipment from the work area. Make sure the area is clean.

----- END OF TASK -----

TP-11MM-KE

EFFECTIVITY
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10-10-02

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1. General

A. In good weather conditions an aircraft is parked on a hard concrete level ground with its nose turned into the wind. Regular servicing can be done under these conditions. But when high velocity winds and bad weather conditions occur, regular parking procedures are not always sufficient. Thus to prevent movement of the aircraft under such conditions it is necessary to moor the aircraft. This will prevent damage to the aircraft, equipment and injuries to persons.

B. When you moor the aircraft, it is necessary to follow some of the procedures for parking and storage. This will protect windows, wheels, tires, brakes and other systems.

C. To make sure if the mooring of an aircraft is necessary, it is important to refer to (MOORING, AIRCRAFT - MAINTENANCE PRACTICES, PAGEBLOCK 10-20-00/201). The mooring procedures limit aircraft movement, when you tie down the towing lugs of the nose gear and the main landing gear to the mooring points at the ramp or park area surface. (Figure 1) (Figure 2) (Figure 3) (Figure 4)
Mooring Requirements Dry Pavement-Mooring
Figure 1/10-20-00-990-805
Mooring Ropes Attached-Mooring
Figure 2/10-20-00-990-806
Nose Gear Downlock Bypass Valve-Parking, Storage and Mooring
Figure 3/10-20-00-990-807

NOTE: MAIN, CENTER AND NOSE GEAR LOCKPINS SHOULD BE INSTALLED IMMEDIATELY UPON LANDING, AND SHOULD REMAIN INSTALLED UNTIL THE ENGINES HAVE BEEN STARTED IN PREPARATION FOR TAKEOFF.
Aircraft Grounding Locations-Parking, Storage and Mooring
Figure 4/10-20-00-990-808

EFFECTIVITY
KE ALL

TP-11MM-KE

10-20-00
Mar 01/2003
1. General
   A. This procedure has the instructions to moor an aircraft parked on dry pavement in an open area.
   B. Mooring is usually necessary, when aircraft is to be engaged by high winds or bad weather conditions.

   TASK 10-20-00-500-801

2. MOORING of the AIRCRAFT
   A. Fixtures, Tools, Test and Support Equipment
      (1) Fixtures, Tools, Test and Support Equipment

         NOTE: Equivalent replacements are permitted for the items that follow.

         | REFERENCE | DESIGNATION                                      |
         |-----------|-------------------------------------------------|
         | Not specified | Cable, static, grounding                        |
         | AXG7000-501  | Pin Assembly, downlock landing gear              |
         | AXG7000-501  | Pin Assembly, downlock nose gear                 |
         | 53719       | Pin, center gear downlock                        |
         | AXG7000-501  | Steering by-pass valve lockpin                   |
         | Not specified | Set, covers, airframe                           |
         | Not specified | Set, covers, power plant inlet ducts            |
         | Not specified | Wheel chocks                                    |
         | Not specified | Rope, hemp 1 1/2 in. (38.1 mm) diameter, nose gear |
         | NAS1042-16   | Shackle and pin, main gear 1-in. pin and washers (25.4 mm) |
         | Not specified | Rope, hemp, 2-in. (50.8 mm) diameter, main gear |

   B. References

   Reference | Title                                      |
   ---------  |--------------------------------------------|
   09-11-00-584-801 | NOSE-GEAR TOWING (P/B 201)           |
   09-12-00-584-801 | MAIN GEAR TOWING (P/B 201)            |
   10-10-00-950-801 | INSTALLATION OF THE PITOT PROBE COVERS (SHORT TERM PARKING) (P/B 201) |
   10-10-00-950-803 | INSTALLATION OF THE STATIC PORT COVERS (SHORT TERM PARKING) (P/B 201) |
   10-10-00-950-805 | INSTALLATION OF THE PITOT PROBE COVERS (EXTENDED PARKING) (P/B 201) |
   10-10-00-950-807 | INSTALLATION OF THE STATIC PORT COVERS (EXTENDED PARKING) (P/B 201) |
   12-11-02-600-801 | AUTOMATIC PRESSURE REFUELING (P/B 301) |
   12-11-02-600-802 | MANUAL PRESSURE REFUELING (P/B 301)      |
   12-14-01-600-801 | SERVICING OF THE POTABLE WATER SYSTEM (P/B 301) |
   27-30-00-860-801 | OPERATION OF THE ELEVATORS (P/B 201)     |
   32-43-00-860-801 | OPERATE THE PARK BRAKES (P/B 201)        |

   C. Job Set-up - Aircraft Mooring

      SUBTASK 10-20-00-840-001

      (1) Use the graph to find if mooring is necessary. (Figure 201)
CAUTION: IF YOU THINK WIND GUSTS WILL BE MORE THAN 69 MPH (60 KNOTS), POINT THE AIRCRAFT INTO THE WIND. THIS WILL PREVENT STRUCTURAL DAMAGE TO THE PRIMARY CONTROL SURFACES.

CAUTION: IF YOU THINK WIND GUSTS ARE MORE THAN 92 MPH (80 KNOTS), MAKE SURE YOU MOOR THE AIRCRAFT. THIS WILL HELP PREVENT DAMAGE TO THE AIRCRAFT.

2. Put aircraft on level surface with the nose turned into the wind. (NOSE-GEAR TOWING, TASK 09-11-00-584-801) (MAIN GEAR TOWING, TASK 09-12-00-584-801)

D. Procedure - Aircraft Mooring

1. Moor the aircraft as follows:
   
   a. Make sure the parking brakes are set. (OPERATE THE PARK BRAKES, TASK 32-43-00-860-801)
   
   b. Put horizontal stabilizer at 2 degrees aircraft nosedown position. (OPERATION OF THE ELEVATORS, TASK 27-30-00-860-801)
   
      NOTE: The graph curve is good for horizontal stabilizer positions from 1.3 degrees airplane nose down (AND) to 12.0 degrees nose up (ANU).
   
   c. Make sure the nosewheel is centered and the bypass valve lockpin is removed.
   
   d. Put chocks on the main landing gear wheels.
   
   e. Make sure a static ground cable is attached to the aircraft. (Figure 202)
   
   f. Make sure the landing gear downlock pins are installed and close the main landing gear doors. (Figure 203)
   
   g. Close all windows, crew/passenger and cargo doors.
   
   h. Close all external access and inspection panels.
   
   i. Make sure the wing flaps, spoilers are retracted and the engine thrust reverser is fully retracted and in the stowed position.
   
   j. Install the engine inlet and exhaust covers.
   
   k. Install air inlet covers to each air conditioning duct.
   
   l. Install covers on the alternate static ports. (Figure 204)
   
   m. Install covers on the three pitot tubes and static ports. (INSTALLATION OF THE PITOT PROBE COVERS (SHORT TERM PARKING), TASK 10-10-00-950-801) (INSTALLATION OF THE STATIC PORT COVERS (SHORT TERM PARKING), TASK 10-10-00-950-803) (INSTALLATION OF THE PITOT PROBE COVERS (EXTENDED PARKING), TASK 10-10-00-950-805) (INSTALLATION OF THE STATIC PORT COVERS (EXTENDED PARKING), TASK 10-10-00-950-807)
   
   n. All wing fuel tanks must be full of fuel during high wind conditions up to 92 MPH (80 KNOTS). Make sure the aircraft is full of fuel in the wing tanks only. Fuel in the tail tank can cause a tail heavy condition and cause a tip over condition during high winds. (AUTOMATIC PRESSURE REFUELLING, TASK 12-11-02-600-801) (MANUAL PRESSURE REFUELLING, TASK 12-11-02-600-802)
(o) Make sure to fill all the water systems. Filled water systems will add weight to the aircraft if you think there will be high winds. (SERVICING OF THE POTABLE WATER SYSTEM, TASK 12-14-01-600-801)

NOTE: If there are ground freezing conditions, do not fill water systems.

SUBTASK 10-20-00-840-004

CAUTION: DO NOT USE A WIRE ROPE OR CABLE AROUND THE NOSE GEAR TOW LUG. IT CAN CAUSE SCARRING AND OTHER DAMAGE TO THE SURFACE OF THE TOW LUG.

(2) Attach one end of the mooring rope to each landing gear tow lug and other end to the mooring ground attach points. (Figure 205)

NOTE: Make sure that the angle on the mooring rope is approximately 60 degrees.

E. Job Close-up - Aircraft Mooring

SUBTASK 10-20-00-942-001

(1) Remove all tools and equipment from the work area. Make sure the area is clean.

END OF TASK
MODEL MD-11
GUST VELOCITY REQUIRING AIRCRAFT MOORING

GUST VELOCITY (KNOTS)

MOORING REQUIRED

NO MOORING REQUIRED

AIRPLANE GROSS WEIGHT IN 1000 LBS. OR 454 KGS.

(This curve is good for horizontal stabilizer settings from 1.3° airplane nose down to 12.0° airplane nose up)

Mooring Requirements Dry Pavement - Mooring
Figure 201/10-20-00-990-801

EFFECTIVITY KE ALL

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LEFT NOSE COWL SHOWN
RIGHT NOSE COWL OPPOSITE

LEFT GEAR SHOWN
RIGHT GEAR OPPOSITE

GROUND HERE

BOTTOM SURFACE OF NOSE COWL
VIEW FROM BELOW

VIEW A

STATIC GROUNDING CABLE
ATTACH POINT

VIEW B

Static Grounding Locations - Mooring
Figure 202/10-20-00-990-810

EFFECTIVITY

KE ALL

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NOTE: MAIN, CENTER AND NOSE GEAR LOCKPINS SHOULD BE INSTALLED IMMEDIATELY UPON LANDING, AND SHOULD REMAIN INSTALLED UNTIL THE ENGINES HAVE BEEN STARTED IN PREPARATION FOR TAKEOFF.

LOCKPIN INSTALLED WITH HANDLE IN BYPASS POSITION

NORMALLY CLOSED

BYPASS VALVE AND LANDING GEAR DOWNLOCK PIN

DOWNLOCK PIN

BYPASS VALVE LOCKPIN

NOSE GEAR

DOWNLOCK PIN

DOWNLOCK PIN

MAIN GEAR

Downlock Pin Locations - Mooring
Figure 203/10-20-00-990-812

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Cover Locations - Mooring
Figure 204/10-20-00-990-009
Mooring Ropes Attach Locations - Mooring
Figure 205/10-20-00-990-811
1. General
   
   A. Aircraft that are parked or moored for a period of time must be prepared for flight service. The aircraft are usually parked or moored on dry pavement in an open area.
   
   B. When aircraft are parked or stored for an extended time, the aircraft must be prepared for flight service. The passenger and cargo doors are opened and the protective covers installed over external openings are removed. The flight controls are operated and various systems must be serviced. These systems are:
      - The potable water system
      - The vacuum waste system
      - And the waste disposal system.
   
   C. Aircraft that have been parked or stored during cold weather need the operations given in para. B. and more. Other operations to prepare for flight service include removal of ice and snow. Also, if frozen to the ground, the tires must be released before the aircraft is moved.
   
   D. Aircraft that are moored because of high winds need the operations given in para. B. and include release of the mooring ropes. Also, the fuel tanks and all water tanks need to be examined for quantities. If these tanks were filled to increase the weight of the aircraft (for stability in the high winds), the quantities must be adjusted for flight.
MD-11
AIRCRAFT MAINTENANCE MANUAL

RETURN TO SERVICE OF AIRCRAFT FROM PARKING AND STORAGE – MAINTENANCE PRACTICES

1. General

A. This procedure is used to return an aircraft to service after it has been parked or moored. The procedure includes:
   • Parking and storage
   • Extended parking and storage
   • Cold weather parking and storage
   • Mooring.

B. Return to service maintenance is necessary, when an aircraft is parked or moored because of:
   • High winds
   • Bad weather conditions
   • Parked more than 24 hours.

TASK 10-30-00-800-801

2. RETURN TO SERVICE OF AIRCRAFT FROM PARKING AND STORAGE

A. References

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<tr>
<td>52-11-02-010-807</td>
<td>AUXILIARY OPENING OF THE LEFT FORWARD PASSENGER DOOR (EXTERNAL CONTROLS) (P/B 201)</td>
</tr>
<tr>
<td>71-02-09-700-876</td>
<td>ENGINE PERFORMANCE TEST, MAJOR MAINTENANCE (ADJ/TEST 09) (P/B 501)</td>
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<tr>
<td>72-00-09</td>
<td>PRESERVATION/DEPRESERVATION, ENGINE</td>
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B. Procedure - Return To Service of Aircraft From Parking and Storage

SUBTASK 10-30-00-860-001

(1) Prepare the aircraft for return to service from parking and storage as follows:

(a) Open the left forward Crew/Passenger door. (AUXILIARY OPENING OF THE LEFT FORWARD PASSENGER DOOR (EXTERNAL CONTROLS), TASK 52-11-02-010-807)

(b) If necessary, install the aircraft batteries. (INSTALLATION OF THE NICKEL CADMIUM BATTERY, TASK 24-34-02-400-802)

(c) If necessary, install the Inertial Reference System (IRS) batteries. (INSTALLATION OF THE INERTIAL REFERENCE SYSTEM BATTERY/CHARGER, TASK 34-43-04-400-801)

(d) Do the servicing of the Center Landing Gear (CLG) shock strut. (STRUT, CENTER LANDING GEAR SHOCK - SERVICING, PAGEBLOCK 32-15-01/301)

(e) Connect the external power to the aircraft. (ENERGIZE AIRCRAFT ELECTRICAL POWER SYSTEM, TASK 24-40-00-861-801)

(f) Open the cabin pressure outflow valve at the CABIN PRESS control panel located on the overhead panel as follows:
   1) Push the SYSTEM switchlight to MANUAL.
      a) Make sure that the MANUAL annunciator in the switch is on.
      b) Make sure that CAB PRESS SYS MAN alert is shown on the AIR page of the Systems Display (SD).
   2) Rotate the CABIN PRESS manual selector knob down to the DESC position and hold.
   3) On the CABIN PRESS panel, make sure that the VALVE indicator moves towards the OP (open) position.
      a) Make sure that the outflow valve shows open on the AIR page on the SD.

(g) Remove the fan inlet and exhaust covers from the aircraft engines.

**WARNING:** MAKE SURE YOU REMOVE ALL TAPE AND PITOT/STATIC BLOCKING DEVICES (COVERS). IF THE TAPE AND COVERS ARE NOT REMOVED, SURFACE AND INSTRUMENTATION READINGS WILL NOT BE ACCURATE. THIS CAN CAUSE A MALFUNCTION OF THE AIRCRAFT. DEATH OF INJURY TO PERSONS AND DAMAGE TO THE AIRCRAFT CAN OCCUR.

(h) Remove all the external covers, plugs and shields from the aircraft.

(i) Remove the covers from each pitot tube. (REMOVAL OF THE PITOT PROBE COVERS (SHORT TERM PARKING), TASK 10-10-00-950-802) (REMOVAL OF THE PITOT PROBE COVERS (EXTENDED PARKING), TASK 10-10-00-950-806)

(j) Remove covers from each static port. (REMOVAL OF THE STATIC PORT COVERS (SHORT TERM PARKING), TASK 10-10-00-950-804) (REMOVAL OF THE STATIC PORT COVERS (EXTENDED PARKING), TASK 10-10-00-950-808)

(k) Operate the auxiliary hydraulic pumps. (APPLY HYDRAULIC PRESSURE, SYSTEM NO. 3 AUXILIARY PUMPS, TASK 29-00-00-860-802)

(m) Do an operational test of the brake antiskid system. (OPERATIONAL TEST OF THE ANTISKID SYSTEM, TASK 32-45-00-700-801)

(n) Service the potable water system. (SERVICING OF THE POTABLE WATER SYSTEM, TASK 12-14-01-600-801)

(o) Service the waste disposal system. (SERVICING OF THE WASTE DISPOSAL SYSTEM, TASK 12-14-03-600-801)

(p) Remove each static ground cable from the aircraft. (Figure 201)

(q) If necessary, tow the aircraft to the engine run-up area. (NOSE-GEAR TOWING, TASK 09-11-00-584-801)

(r) For engines that have not been operated in the past 10 days or longer, do the applicable engine depressurization procedures. (PRESERVATION/DEPRESERVATION, ENGINE, SUBJECT 72-00-09)

(s) Do the applicable engine run procedures. (ENGINE PERFORMANCE TEST, MAJOR MAINTENANCE (ADJ/TEST 09), TASK 71-02-09-700-876)

(t) Remove all landing gear downlock pins. (Figure 202)

(u) Remove the nosewheel bypass valve lockpin from the bypass position.

   NOTE: This will transmit hydraulic power to the nose landing gear to turn the aircraft.

C. Job Close-up - Return To Service of Aircraft From Parking and Storage

   SUBTASK 10-30-00-942-001

   (1) Remove all the tools and equipment from the work area. Make sure the area is clean.

   END OF TASK

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Static Grounding Locations - Return To Service
Figure 201/10-30-00-990-801

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NOTE:
MAIN, CENTER AND NOSE GEAR LOCKPINS SHOULD BE INSTALLED IMMEDIATELY UPON LANDING, AND SHOULD REMAIN INSTALLED UNTIL THE ENGINES HAVE BEEN STARTED IN PREPARATION FOR TAKEOFF.

NOTE:
MAIN, CENTER AND NOSE GEAR LOCKPINS SHOULD BE INSTALLED IMMEDIATELY UPON LANDING, AND SHOULD REMAIN INSTALLED UNTIL THE ENGINES HAVE BEEN STARTED IN PREPARATION FOR TAKEOFF.

Downlock Pin Locations - Return To Service
Figure 202/10-30-00-990-802

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TASK 10-30-00-800-802

3. RETURN TO SERVICE OF AIRCRAFT FROM EXTENDED PARKING AND STORAGE

A. Procedure - Return To Service of Aircraft From Extended Parking and Storage
   SUBTASK 10-30-00-860-002

   (1) Prepare the aircraft for return to service from extended parking and storage as follows:
       (a) If installed, remove the wheel covers from each wheel.

       NOTE: If the aircraft will be parked for more than 4 days, wheel covers should be
       installed on each wheel.

       (b) Complete return to service from parking and storage procedure. (RETURN TO SERVICE
       OF AIRCRAFT FROM PARKING AND STORAGE, TASK 10-30-00-800-801)

B. Job Close-up - Return To Service of Aircraft From Extended Parking and Storage
   SUBTASK 10-30-00-942-002

   (1) Remove all the tools and equipment from the work area. Make sure the area is clean.

   END OF TASK

TASK 10-30-00-800-803

4. RETURN TO SERVICE OF AIRCRAFT FROM COLD WEATHER PARKING AND STORAGE

A. References

   Reference	Title
   12-31-05-600-801	REMOVAL OF SNOW AND ICE (DE-ICE) (P/B 301)

B. Procedure - Return To Service of Aircraft From Cold Weather Parking and Storage
   SUBTASK 10-30-00-860-003

   (1) Prepare the aircraft for return to service from cold weather parking and storage as follows:
       (a) Examine for snow or ice in the engine inlets, engine exhausts and the upper surface of the 
       aircraft. Remove snow or ice from these areas. (REMOVAL OF SNOW AND ICE (DE-ICE),
       TASK 12-31-05-600-801)

       (b) If the tires are frozen to the ramp, release them. Use hot air, hot water or inflate the tires.

       (c) Complete return to service from parking and storage procedure. (RETURN TO SERVICE
       OF AIRCRAFT FROM PARKING AND STORAGE, TASK 10-30-00-800-801)

C. Job Close-up - Return To Service of Aircraft From Cold Weather Parking and Storage
   SUBTASK 10-30-00-942-003

   (1) Remove all the tools and equipment from the work area. Make sure the area is clean.

   END OF TASK

TASK 10-30-00-800-804

5. RETURN TO SERVICE FROM MOORING

A. Procedure - Return To Service of Aircraft From Mooring
   SUBTASK 10-30-00-860-004

   (1) Prepare the aircraft for return to service from mooring condition as follows:

       (a) Remove mooring ropes from each landing gear tow lug and ground attach points.

       (Figure 203)
B. Job Close-up - Return To Service of Aircraft From Mooring

SUBTASK 10-30-00-942-004

(1) Remove all the tools and equipment from the work area. Make sure the area is clean.

__________ END OF TASK __________
Mooring Rope Locations - Return To Service
Figure 203/10-30-00-990-603

ROPE 1-1/2 in. (38.1 mm)
NOSE GEAR TOW LUGS
WRAP ROPE AROUND TOW LUG 2 OR 2 TIMES
FWD TOW LUG NOSE GEAR

SHACKLE
PIN (1 in.) (25.4 mm)
COTTER KEY
ROPE (2 in.) (50.4 mm)
FWD TOW LUG MAIN GEAR

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