

## Engine Preservation and Storage

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13. Seal all other exposed engine openings with suitable plugs and covers. Attach “REMOVE BEFORE FLIGHT” streamers to installed plugs and covers.
14. Affix a readily visible tag to the propeller (or storage container, if installed) with the following information:

*DO NOT TURN PROPELLER - ENGINE PRESERVED*  
(preservation date)
15. Indicate the status of new or rebuilt engines which have not been placed in service on the preservation tag.
16. Make a copy of Table 9-1, “Engine Preservation Checklist,” on page 7. Enter the serial number, storage date and next inspection due date on the form. Attach the form to the engine.
17. For indefinite storage, visually inspect the dehydrator plugs at 15-day intervals. Change the dehydrator plugs at the first indication (if any plug is not dark blue, replace the dehydrator plug) of color change. If more than half the dehydrator plugs change color, replace all desiccant material on the engine.
18. Repeat application of cylinder preservative application at 90 intervals.

### 9-1.5. Crated Engine, Indefinite Storage

Store engines awaiting installation in the original crate in a sheltered area, protected from the elements. Factory new and rebuilt engines are preserved for 90 days prior to shipment from the factory.

#### **WARNING**

**Perform this procedure in an area free of sparks, flames, or other ignition sources.**

1. Monitor engines awaiting installation to ensure the preservation date.
2. Perform a Visual Inspection upon receipt of the engine; correct any discrepancies noted.
3. Remove spark plugs, shipping plugs, or dehydrator plugs from top spark plug bosses.
4. Rotate the crankshaft until the No. 1 piston is at the Bottom Dead Center (BDC) position.
  - a. Use a common garden sprayer (with clean reservoir and nozzle) to spray atomized cylinder preservation oil that meets MIL-PRF-46002, through the cylinder top spark plug hole; thoroughly coat all interior cylinder surfaces by moving the sprayer nozzle from top to bottom of the cylinder while spraying.
  - b. Rotate the crankshaft to position each cylinder at BDC and repeat application of preservation oil to each cylinder.
  - c. Repeat application of preservative oil to each cylinder without rotating the crankshaft.

- d. When all cylinder walls are thoroughly coated, ensure no piston is positioned at Top Dead Center.
- e. Remove the oil fill gauge rod (dipstick) from the oil fill tube and spray approximately two ounces of preservative oil through the oil filler tube. Reinstall the oil fill gauge rod.
5. Install dehydrator plugs MS27215-1 or MS27215-2 in each of the top spark plug holes. Ensure that each dehydrator plug is dark blue in color when installed.
6. Install a dehydrator plug (MS27215-1 or MS27215-2) in the crankcase breather tube and wrap with moisture resistant tape to seal the breather opening.
7. Insert two desiccant bags (MIL-D-3464) in the induction inlet. Cover the opening with an appropriately sized shipping plug or moisture resistant tape.
8. If an exhaust system is provided with the engine, insert a desiccant bag (MIL-D-3464) in the exhaust outlet. If no exhaust is provided, Cover the opening with an appropriately sized shipping plug or moisture resistant tape.
9. Seal exposed engine openings (open exhaust ports, induction plenum or throttle inlet) with suitable plugs and covers.
10. Wrap the engine with the original shipping bag, place two desiccant bags (MIL-D-3464) inside the shipping bag. Wrap the shipping bag around the base of the shipping crate with moisture resistant tape and cover with the original shipping crate.
11. Affix a readily visible tag to shipping crate with the following information:

*DO NOT TURN CRANKSHAFT - ENGINE PRESERVED*  
*(preservation date)*
12. Indicate the status of new or rebuilt engines which have not been placed in service on the preservation tag.
13. Make a copy of Table 9-1, "Engine Preservation Checklist," on page 7. Enter the serial number, storage date and next inspection due date on the form. Attach the form to the outside of the shipping crate.
14. Visually inspect dehydrator plugs at 15-day intervals. Change the dehydrator plugs at the first indication (if any plug is not dark blue, replace the dehydrator plug) of color change. If more than half the dehydrator plugs change color, replace all desiccant material on the engine.
15. Repeat application of cylinder preservative at 90 intervals.

### 9-1.6. Return an Engine to Service after Storage

1. Remove seals and desiccant bags.
2. Remove cylinder dehydrators (or plugs) from top and bottom spark plug holes.
3. Change the engine oil according to the “Engine Oil Servicing” in Section 6-4.8. Service the engine to the proper sump capacity with oil conforming to MIL-C-6529 Type II (Break-in oil, SAE J 1966 non-dispersant mineral oil).
4. Rotate propeller several revolutions by hand to remove preservative oil.
5. Remove AN-4060 protectors from the ignition leads.
6. Service and install spark plugs and leads according to the instructions in Section 6-4.9.2, “Spark Plug Maintenance” and Section 6-4.9.3, “Ignition Harness Maintenance”.
7. Prepare the turbocharger for return to service according to instructions in Section 9-2.6 or Section 9-2.7.
8. Clean and service engine and aircraft according to the Aircraft Manufacturer’s instructions. Perform a visual inspection and correct any discrepancies noted.
9. Perform a normal engine start according to the Airplane Flight Manual or Pilot’s Operating Handbook.
10. Conduct an “Engine Operational Check” according to instructions in Section 6-4.7; correct any discrepancies.
11. Perform a “Flight Check” according to instructions in Section 7-2.4; correct any discrepancies before releasing the aircraft for normal service.
12. Change engine oil and filter after first 25 hours of operation.