

ENGINE MOUNT - MAINTENANCE PRACTICES

PT6A-140

1. General

- A. This section gives the maintenance procedures for Airplane 208B2197 and Airplanes 208B5000 and On, PT6A-140 engine mount maintenance. The procedures include, the engine mount truss removal and installation, the engine mount elastomer removal and installation, the engine mount bracket to engine mount ring removal and installation, and the engine mount bracket to engine removal and installation. Airplanes with the PT6A-140 engine must have the correct engine mount bracket installed. Refer to the Model 208 Illustrated Parts Catalog.
- B. For Airplanes 20800001 and On and 208B0001 thru 208B2196 and 208B2198 thru 208B4999 engine mount maintenance procedures refer to Engine Mount - Maintenance Practices.

2. Engine Mount Truss Assembly Removal/Installation

- A. Remove the Engine Mount Truss Assembly (Refer to Figure 201).
 - (1) Remove the upper cowling doors. Refer to Engine Cowling and Nose Cap - Maintenance Practices, Upper Cowling Door Removal/Installation.
 - (2) Remove the lower cowling sections. Refer to Engine Cowling and Nose Cap - Maintenance Practices, Lower Cowl Panel Removal/Installation.
 - (3) Remove the upper center cowling panel section. Refer to Engine Cowling and Nose Cap - Maintenance Practices Cowling Center Panel Removal/Installation.
 - (4) Remove the right nose-cap. Refer to Nose-Cap Removal/Installation.
 - (5) Remove the left nose-cap, induction air duct, and inertial air separator as a single assembly. Refer to Nose-Cap Removal/Installation.
 - (6) Remove the engine. Refer to Power Plant (PT6A-140) - Maintenance Practices, Engine Removal/Installation.
 - (7) Remove the nose gear. Refer to Chapter 32, Nose Landing Gear - Maintenance Practices.
 - (8) Remove the clamps that attach the electrical wire bundles, lines, and hoses to the engine mount truss assembly.
 - (9) Seal and stow the electrical wire bundles, lines, and hoses.
 - (10) Hold the engine mount truss assembly and remove the bolts that attach the upper engine mount truss assembly, the lower engine mount truss assembly, and the center engine mount truss assembly to the firewall structure.
 - (11) Keep for installation the nuts and barrel nuts that attach the upper engine mount truss assembly, the lower engine mount truss assembly, and the center engine mount truss assembly to the firewall structure.
- B. Install the Engine Mount Truss Assembly (Refer to Figure 201).

CAUTION: Make sure you install the correct engine mount truss assembly for the PT6A-140 engine before you install the truss to the airplane. The tubing wall thickness is greater on some of the tubes while the outside diameter remains the same. The part number placard for the engine mount truss assembly (p/n 2651040-2) is located on the left upper side of the truss on the firewall mount boss. Refer to the Model 208 Illustrated Parts Catalog.

- (1) Put the engine mount truss assembly in position against the firewall structure.

CAUTION: You must use a countersunk washer with an internal wrenching bolt. This will help prevent damage to the bolt.

- (2) Put the countersunk washers with the countersunk face next to the bolt head radius on the bolts that attach the upper engine mount truss assembly and the lower engine mount truss assembly to the firewall structure.
- (3) Install the bolt, countersunk washer, washer, and nut that attach the upper engine mount truss assembly to the firewall structure.
- (4) Install the bolt, washers, special washer (if necessary), and nut that attach the center engine mount truss assembly to the firewall structure.
- (5) Install the bolt, countersunk washer, and barrel nut that attach the lower engine mount truss assembly to the firewall structure.
- (6) Install the bolts that attach the upper engine mount truss assembly and the lower engine mount truss assembly to the firewall structure.
- (7) Torque the bolt that attaches the center engine mount truss assembly to the firewall structure to a range of 160 to 190

inch-pounds.

- (8) Install the nose gear. Refer to Chapter 32, Nose Landing Gear - Maintenance Practices.
- (9) Install the engine. Refer to Engine Removal/Installation.
- (10) Make sure the routing of the wire bundles, the lines, and the hoses is correct.
- (11) Install the clamps on the lines and hoses on the engine mount truss assembly.
- (12) Install the left nose-cap, induction air duct, and inertial air separator as a single assembly. Refer to Nose-Cap Removal/Installation.
- (13) Install the right nose-cap. Refer to Nose-Cap Removal/Installation.
- (14) Install the upper center cowling section. Refer to Cowling Center Panel Removal/Installation.
- (15) Install the lower cowling panel sections. Refer to Lower Cowl Panel Removal/Installation.
- (16) Install the upper cowling doors. Refer to Upper Cowling Door Removal/Installation.

3. Engine Mount Elastomers Removal/Installation

A. Remove the Engine Mount Elastomers (Refer to Figure 201).

- (1) Remove the upper cowling doors. Refer to Upper Cowling Door Removal/Installation.
- (2) Remove the lower cowling sections. Refer to Lower Cowl Panel Removal/Installation.
- (3) Remove the upper center cowling panel section. Refer to Cowling Center Panel Removal/Installation.
- (4) Remove the right nose-cap. Refer to Nose-Cap Removal/Installation.
- (5) Remove the left nose-cap, induction air duct, and inertial air separator as a single assembly. Refer to Nose-Cap Removal/Installation.

CAUTION: Before you remove any engine mount bracket from the engine mount ring, make sure that you hold the engine with a hoist and a sling. This will help prevent engine movement and damage.

- (6) Hold the engine with a hoist and a sling. Refer to Power Plant - General.

CAUTION: Make sure you remove and install only one engine mount bracket to the engine mount ring at a time. This will help prevent engine movement and damage.

- (7) Remove the cotter pin, nut, washer, countersunk washer, and bolt that attach the engine mount bracket to the engine mount ring.

(a) Discard the cotter pin.

- (8) Clean the nut, washers and bolt with MPK or a suitable cleaning solvent.

- (9) Remove the aft elastomer.
- (10) If necessary, adjust the hoist to make enough clearance between the engine mount bracket and the engine mount ring to free the forward elastomer.
- (11) Remove the forward elastomer.
- (12) Keep for installation the spacer and the pins.

B. Install the Engine Mount Elastomers (Refer to Figure 201).

- (1) If necessary, adjust the hoist to make enough clearance between the engine mount bracket and the engine mount ring to install the forward elastomer.
- (2) Put the spacer, pins, and forward elastomer in position.

CAUTION: Make sure that there is no grease on the bolt threads.

- (3) Apply a layer of general purpose grease MIL-G-81322 or an equivalent grease to the bolt shank.

CAUTION: You must use a countersunk washer with an internal wrenching bolt. This will help prevent damage to the bolt.

- (4) Put a countersunk washer with the countersunk face next to the bolt head radius on the bolt that attaches the engine mount bracket to the engine mount ring. Refer to Chapter 20, Torque Data - Maintenance Practices.
- (5) Put the aft elastomer in position and install the bolt, with the countersunk washer under the bolt head, that attaches the engine mount bracket to the engine mount ring.
- (6) Install the washer and nut on the bolt that attaches the engine mount bracket to the engine mount ring.

- (7) Install the nut that attaches the engine mount bracket to the engine mount ring.
- (8) Install the cotter pin that attaches the engine mount bracket to the engine mount ring.
- (9) Remove the hoist and the sling from the engine.
- (10) Install the left nose-cap, induction air duct, and inertial air separator as a single assembly. Refer to Nose-Cap Removal/Installation.
- (11) Install the right nose-cap. Refer to Nose-Cap Removal/Installation.
- (12) Install the upper center cowling section. Refer to Cowling Center Panel Removal/Installation.
- (13) Install the lower cowling panel sections. Refer to Lower Cowl Panel Removal/Installation.
- (14) Install the upper cowling doors. Refer to Upper Cowling Door Removal/Installation.

4. Engine Mount Bracket to the Engine Mount Ring Bolt Removal/Installation

A. Remove the Engine Mount Bracket from the Engine Mount Ring Bolt (Refer to Figure 201).

- (1) Remove the upper cowling doors. Refer to Upper Cowling Door Removal/Installation.
- (2) Remove the lower cowling sections. Refer to Lower Cowl Panel Removal/Installation.
- (3) Remove the upper center cowling panel section. Refer to Cowling Center Panel Removal/Installation.
- (4) Remove the right nose-cap. Refer to Nose-Cap Removal/Installation.
- (5) Remove the left nose-cap, induction air duct, and inertial air separator as a single assembly. Refer to Nose-Cap Removal/Installation.

CAUTION: Before you remove any engine mount bracket to engine mount ring, make sure that you hold the engine with a hoist and a sling. This will help prevent engine movement and damage.

- (6) Hold the engine with a hoist and a sling. Refer to Power Plant - General.

CAUTION: Make sure you remove and install only one engine mount bracket to the engine mount ring bolt at a time. This will help prevent engine movement and damage.

- (7) Remove the cotter pin, nut, washer, countersunk washer, and bolt that attach the engine mount bracket to the engine mount ring.

(a) Discard the cotter pin.

- (8) Clean the nut, washers and bolt with MPK or a suitable cleaning solvent.

B. Install the Engine Mount Bracket to Engine Mount Ring Bolt (Refer to Figure 201).

CAUTION: Make sure that there is no grease on the bolt threads.

- (1) Apply a layer of general purpose grease MIL-G-81322 or an equivalent grease to the bolt shank.

CAUTION: You must use a countersunk washer with an internal wrenching bolt. This will help prevent damage to the bolt.

- (2) Put a countersunk washer with the countersunk face next to the bolt head radius on the bolt that attaches the engine mount bracket to the engine mount ring. Refer to Chapter 20, Torque Data - Maintenance Practices.
- (3) Install the bolt, with the countersunk washer under the bolt head, that attaches the engine mount bracket to the engine mount ring.
- (4) Install the washer and nut on the bolt that attaches the engine mount bracket to the engine mount ring.
- (5) Install the nut that attaches the engine mount bracket to the engine mount ring.
- (6) Install the cotter pin that attaches the engine mount bracket to the engine mount ring.
- (7) Remove the hoist and the sling from the engine.
- (8) Install the left nose-cap, induction air duct, and inertial air separator as a single assembly. Refer to Nose-Cap Removal/Installation.
- (9) Install the right nose-cap. Refer to Nose-Cap Removal/Installation.
- (10) Install the upper center cowling section. Refer to Cowling Center Panel Removal/Installation.
- (11) Install the lower cowling panel sections. Refer to Lower Cowl Panel Removal/Installation.
- (12) Install the upper cowling doors. Refer to Upper Cowling Door Removal/Installation.

5. Engine Mount Bracket to the Engine Bolt Removal/Installation

A. Remove the Engine Mount Bracket from the Engine Bolt (Refer to Figure 201).

- (1) Remove the upper cowling doors. Refer to Upper Cowling Door Removal/Installation.
- (2) Remove the lower cowling sections. Refer to Lower Cowl Panel Removal/Installation.
- (3) Remove the upper center cowling panel section. Refer to Cowling Center Panel Removal/Installation.
- (4) Remove the right nose-cap. Refer to Nose-Cap Removal/Installation.
- (5) Remove the left nose-cap, induction air duct, and inertial air separator as a single assembly. Refer to Nose-Cap Removal/Installation.
- (6) Remove the safety wire from the bolt that attaches the engine mount bracket to the engine.

CAUTION: Do not remove more than two of the 12 total engine mount bracket to engine bolts at one time. This will help prevent engine movement.

- (7) Remove the washer and bolt that attach the engine mount bracket to the engine.

B. Install the Engine Mount Bracket to the Engine (Refer to Figure 201).

CAUTION: Make sure that you use the correct washer for the type of bolt used to connect the engine mount bracket to the engine. You must use a countersunk washer with an internal wrenching bolt. This will help prevent damage to the bolt.

- (1) If necessary, put a countersunk washer with the countersunk face next to the bolt head radius on the bolt that attaches the engine mount bracket to the engine.

NOTE: Although most airplanes have an internal wrenching bolt with a countersunk washer that attaches the engine mount bracket to the engine, some airplanes have a hex head bolt with a flat washer.

- (2) Install the bolt, with the washer under the bolt head, that attaches the engine mount bracket to the engine.
- (3) Torque the bolt that attaches the engine mount bracket to the engine to a range of 275 to 300 inch-pounds.
- (4) Install safety wire on the bolts that attach the engine mount bracket to the engine. Refer to Chapter 20, Safelying - Maintenance Practices.
- (5) Install the left nose-cap, induction air duct, and inertial air separator as a single assembly. Refer to Nose-Cap Removal/Installation.
- (6) Install the right nose-cap. Refer to Nose-Cap Removal/Installation.
- (7) Install the upper center cowling section. Refer to Cowling Center Panel Removal/Installation.
- (8) Install the lower cowling panel sections. Refer to Lower Cowl Panel Removal/Installation.
- (9) Install the upper cowling doors. Refer to Upper Cowling Door Removal/Installation.

Figure 201 : Sheet 1 : Engine Mount

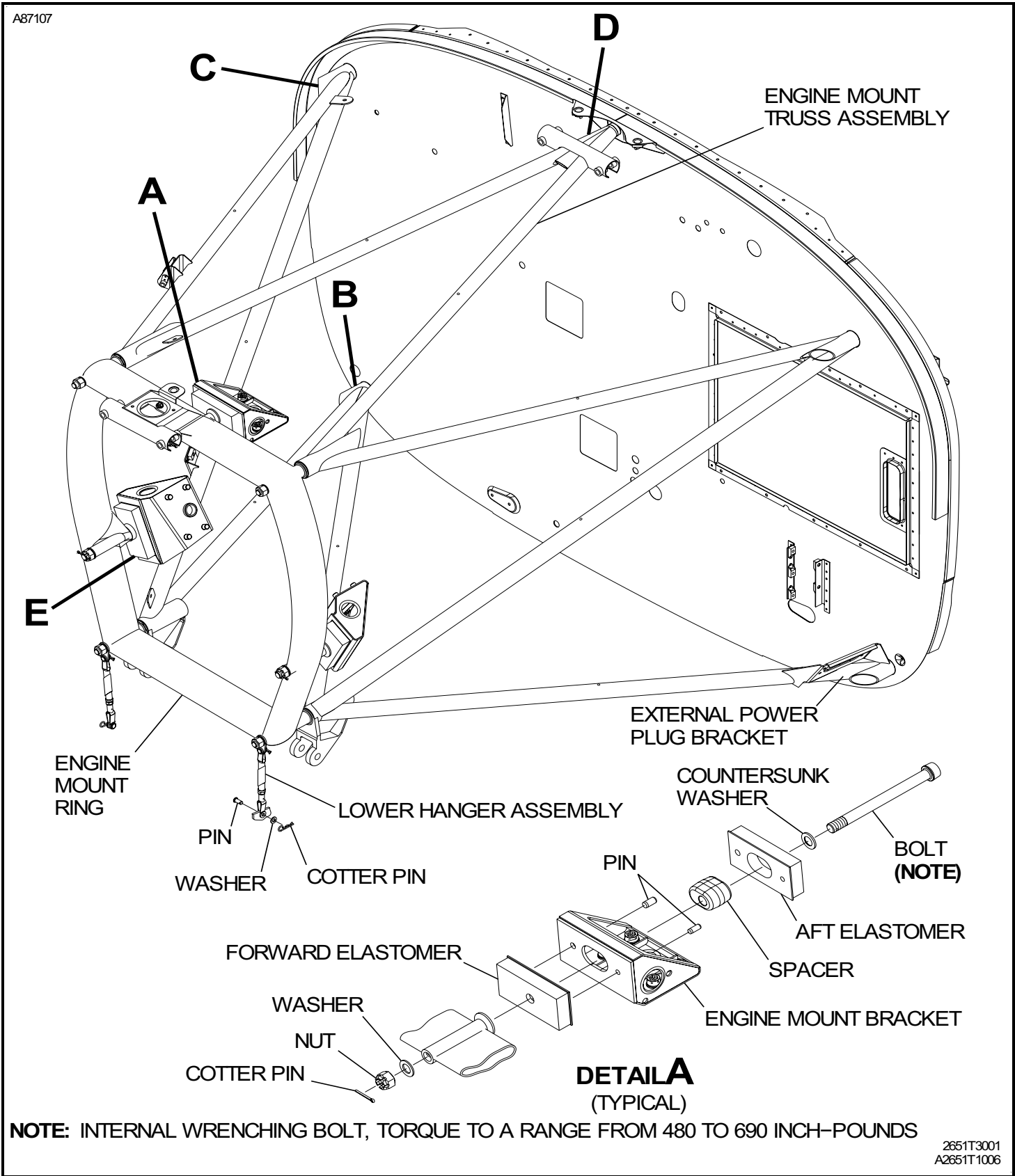


Figure 201 : Sheet 2 : Engine Mount

