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# MANDATORY

# SERVICE BULLETIN

DATE: April 22, 2022

Service Bulletin No. 646A  
 (Supersedes Service Bulletin No. 646)  
 Engineering Aspects are  
 FAA Approved

SUBJECT: T-Bolt Clamp Inspection

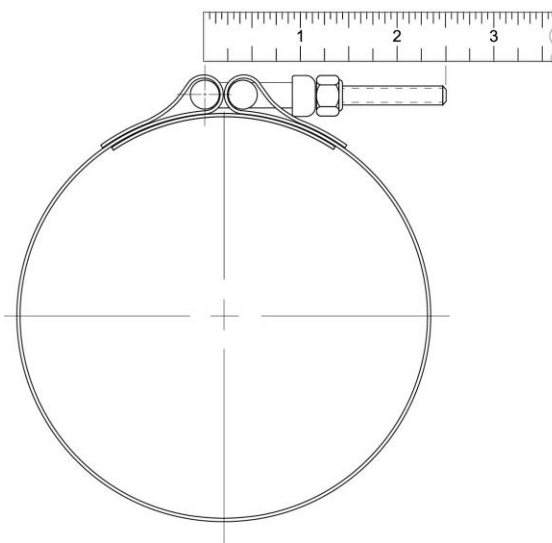
MODELS AFFECTED: TEO-540-C1A; TIO-540-R2AD, -W2A; (L)TIO-540-F2BD, -J2B, -J2BD

TIME OF COMPLIANCE: Inspection of non-conforming T-bolt clamp every 50 hours or replacement with conforming T-bolt clamp at owner's discretion. Replacement with conforming T-bolt clamp must not exceed 12 months.

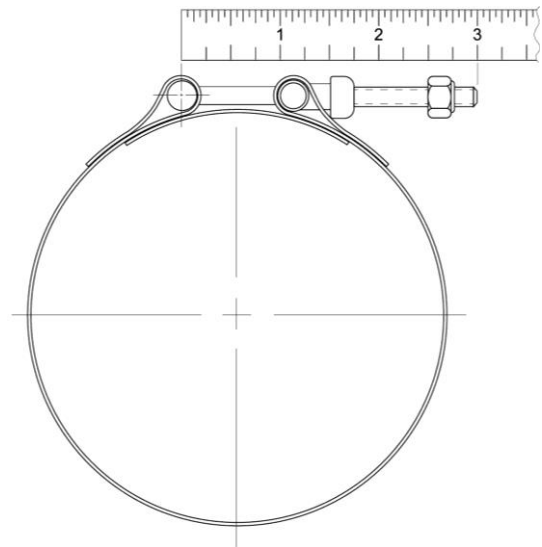
REASON FOR REVISION: Revised TIME OF COMPLIANCE. Added new section for inspecting non-conforming T-bolt clamps after Figure 3. Added new Figure 4. Added a 5<sup>th</sup> bullet point to the criteria to determine non-conforming T-bolt clamps. Revised the NOTICE for warranty considerations

**NOTICE:** Incomplete review of all the information in this document can cause errors. Read the entire Service Bulletin to make sure you have a complete understanding of the requirements.

Lycoming has identified non-conforming T-bolt clamps installed on factory-delivered engines or sold as spares from January 2010 to October 2021. The non-conforming T-bolt clamps have no Lycoming part number marking and could have a vendor part number ending in "438-S". Non-conforming T-bolt clamps can also be identified by the bolt length, which measures 2-1/2 inches (Figure 1). Conforming T-bolt clamps can be identified by the Lycoming part number LW-15570 or 07C29900 marking on the clamp and a bolt length of 3 inches (Figure 2).



**Figure 1**  
**Non-Conforming T-Bolt Clamp**



**Figure 2**  
**Conforming T-Bolt Clamp**



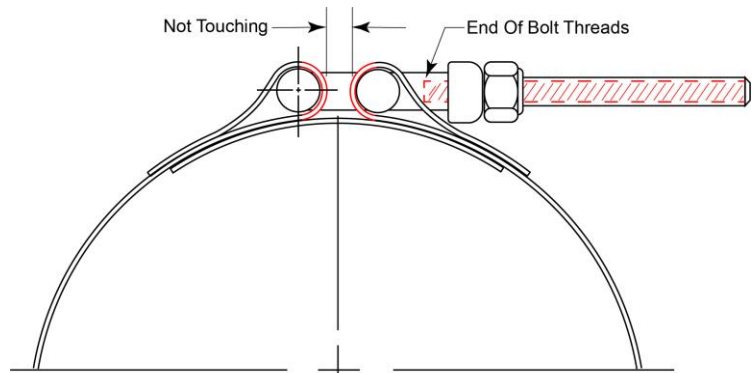
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The non-conforming T-bolt clamp would have been installed to secure the large intake hose P/N LW-15569 (Figure 5) to the throttle body, on TEO-540-C1A engines, or to secure the large intake hose to the fuel injector on the other models affected. The non-conforming T-bolt clamps, when correctly torqued to 35 in.-lb., could result in no gap between the clamp ends (Figure 3) or the nut could reach the end of the bolt threads before reaching the correct torque preventing the T-bolt clamp from properly securing the hose.



**Figure 3**

**Non-Conforming T-Bolt Clamp with No Gap Between the Clamp Ends**



**Figure 4**

**Non-Conforming T-Bolt Clamp with Bolt Threads Remaining when Nut is Correctly Torqued**

**Required Inspections (if a conforming LW-15570 or 07C29900 clamp is not immediately available):**

At the owner’s discretion a non-conforming clamp may remain installed provided the following inspection is completed every 50 hours, time-in-service for up to 12 months.

- The clamp must be inspected to ensure that when torqued correctly to 35 in.-lb. the ends of the clamp are not touching (Figure 4) and the intake hose is securely held in place.
- The nut must be correctly torqued to 35 in.-lb. and still have threads remaining on the bottom of the bolt with the clamp ends not touching (Figure 4).

**NOTICE:** A conforming LW-15570 or 07C29900 clamp **MUST** be installed no later than 12 months from the release date of Service Bulletin No. 646 Rev A.

**Required Action (when conforming LW-15570 or 07C29900 clamps are available):**

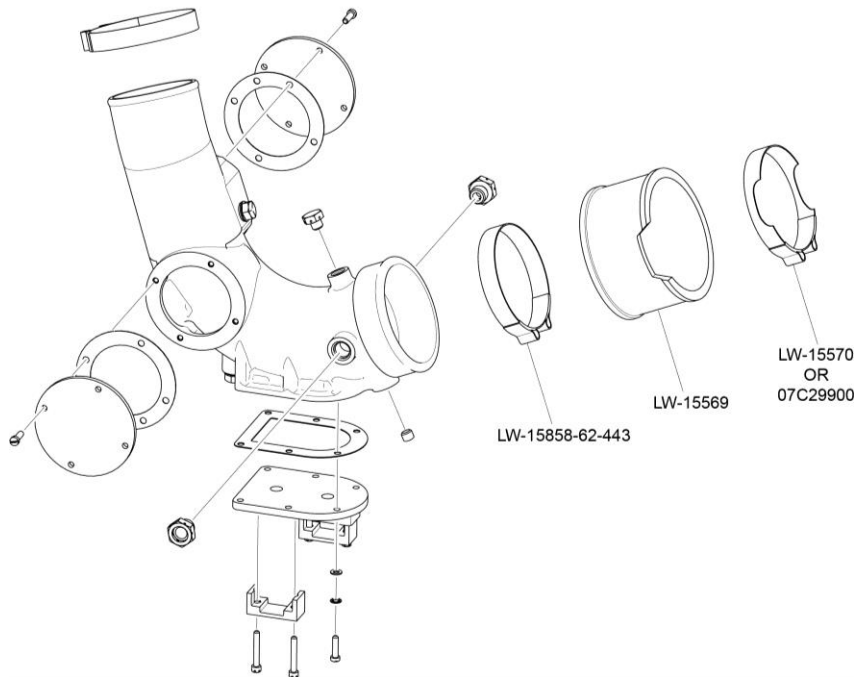
1. Check your spares inventory for any T-bolt clamps sold as Lycoming P/N LW-15570 and examine for the following:
  - A. Remove all T-bolt clamps from your spares inventory that have no Lycoming part number marking or have a vendor part number ending in “438-S”.
  - B. Remove all T-bolt clamps from your spares inventory that have a bolt that measures 2 ½ inches long (Figure 1).
2. Inspect the T-bolt clamp installed on the engine that secures the hose to the throttle body, on TEO-540-C1A engines, or secures the hose to the fuel injector on the other engine models affected to determine if:
  - The clamp has become loose and moved from the original installed location securing the hose.
  - The T-bolt clamp has no Lycoming part number marking or has a vendor part number ending in “438-S”.
  - The bolt measures 2 ½ inches in length (Figure 1).
  - The clamp ends are touching when correctly torqued to 35 in.-lb. (Figure 3).
  - The nut is tightened to the end of the bolt threads before reaching the correct torque of 35 in.-lb.

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3. If any of the conditions identified in Step 2 of this section exist:
  - A. Remove the clamp.
  - B. Clean the hose, turbo discharge housing, and the throttle body or fuel injector with Stoddard Solution or equivalent.
  - C. Ensure there is no oily residue on the hose, turbo discharge housing, throttle body or fuel injector.
  - D. Inspect the hose for damage and deformities. Replace as necessary.

**NOTICE:** If the clamp has become loose and moved from the original installed location or if the clamp ends are touching, replace the hose regardless of condition.

  - E. Order new T-bolt clamps and new hose, as required, from any authorized Lycoming distributor.
  - F. Install the new intake hose (if required) and new T-bolt clamps (Figure 5) in accordance with the applicable maintenance or overhaul manual.



**Figure 5**  
**Intake Hose and Clamps**

- G. Record compliance with this Service Bulletin and any parts replacement in the engine maintenance records.
- H. Return the removed non-conforming T-bolt clamps to Lycoming Engines through the same Authorized Lycoming Distributor, and file a warranty claim for:
  - (1) Reimbursement of the replacement parts.
  - (2) Associated Standard, Non-Expedited Freight.
  - (3) Removal and Reinstallation Labor in accordance with the latest revision of Lycoming's Removal and Installation Labor Allowance Guidebook (SSP-875).

**NOTICE:** Warranty consideration is available for 12 months from the release date of Service Bulletin No. 646 Rev A.

If you have any questions, contact Lycoming Technical Support by phone at 570-327-7222 or 877-839-7878 or email to [Technicalsupport@lycoming.com](mailto:Technicalsupport@lycoming.com).

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