



**AERO ACCESSORIES, INC.
SERVICE BULLETIN**

**SERVICE BULLETIN: SB-010
SUBJECT: DIAPHRAGM FUEL PUMP LEVER DAMAGE
APPLICABILITY: DIAPHRAGM FUEL PUMPS**

Background: Aero Accessories, Inc. (“Aero”) has recently become aware of atypically worn fuel pump drive train components in some engine applications. It appears that this condition can result in damage to a fuel pump’s lever, create possible misalignment between the pushrod and the pump’s lever, and could result in the pump becoming inoperative if allowed to progress to the point that the pushrod migrated completely off the lever. In order to prevent Aero replacement diaphragm fuel pumps from being installed on engines containing damaged parts; and/or to encourage the removal and inspection of fuel pumps that have been installed on such engines, this bulletin is being issued.

Compliance: Prior to installing any Aero diaphragm fuel pump (also referred to as “TEMPEST”® diaphragm fuel pumps), whether new or overhauled and regardless of the pump’s original manufacturer (Aero Accessories, Inc., AC, or Lycoming), carefully inspect: the pump being removed from the engine for damage to its lever; and for damage to the pushrod (inside the engine accessory case) that contacts the pump’s lever; and for damage to any other component of the pump drive train in the engine.

- a. Photo 1 shows an example of a damaged pump lever. Photo 2 shows a pump lever exhibiting normal wear. Note that normal wear appears as a localized shiny spot near the center of the pump lever’s pushrod pad and does not exhibit scratches, displacement of metal, or worn away metal. Photo 3 shows the end of a damaged pushrod. Note the worn, chipped, scratched, rounded end of the pushrod. Note further that in this example, scalloping is evident around the pushrod’s perimeter. Lesser damaged rods may not exhibit all these damage signatures. Photo 4 shows the end of a pushrod exhibiting normal wear. Note that a normally worn and serviceable pushrod contacts the lever in the approximate center one third (approximately) of the pushrod’s end diameter, as highlighted in photo 5, and that the outer portions of the pushrod’s end surface show no sign of contacting the pump’s lever. In this normally worn example, there is no deformation, scalloping, chipping etc. of the pushrod’s end and the majority of the rod’s original machining marks remain intact.
- b. If any damage is observed – DO NOT INSTALL a fuel pump on the engine until a thorough investigation of the fuel pump drive train, including the pushrod, the hole in the accessory case that guides the pushrod, and the eccentric that drives the pushrod, is carried out in accordance with the engine manufacturer’s instructions and the engine is determined to be in serviceable condition.

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- c. If damage to the lever of a pump previously installed on an engine is discovered, **DO NOT RE-INSTALL** the pump on the engine. Contact Aero Accessories, Inc. regarding the pump and its possible repair.
- d. If you have replaced a diaphragm fuel pump with an Aero fuel pump after August 31, 2014, and the pump that was removed from the aircraft prior to the installation of the Aero pump was not manufactured or overhauled by Aero, Aero strongly urges you, before further flight, to remove the Aero fuel pump currently installed on the aircraft's engine and inspect it for damage incurred as a result of possibly being operated with previously damaged engine parts. Prior to installing a serviceable (undamaged) replacement fuel pump, thoroughly inspect the pump drive train in accordance with this Service Bulletin and the engine manufacturer's instructions.
- e. If the condition addressed by this Service Bulletin is allowed to progress sufficiently, partial or complete loss of engine power could occur.

Safety First: Tempest® and Aero Accessories, Inc. are customer service oriented companies committed to technical innovation in pursuit of aviation safety. While Tempest® and Aero Accessories, Inc. have no authority to compel owners to act responsibly and take prudent action to insure their own safety and the safety of others, Tempest® and Aero Accessories, Inc. believe compliance with this Service Bulletin is important and will help insure better maintained and better performing products.

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**Photo – 1
Damaged Pump Lever**



**Photo – 2
Pump Lever Exhibiting Normal Wear**

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Photo – 3
Damaged Push Rod



Photo – 4
Push Rod Exhibiting Normal Wear

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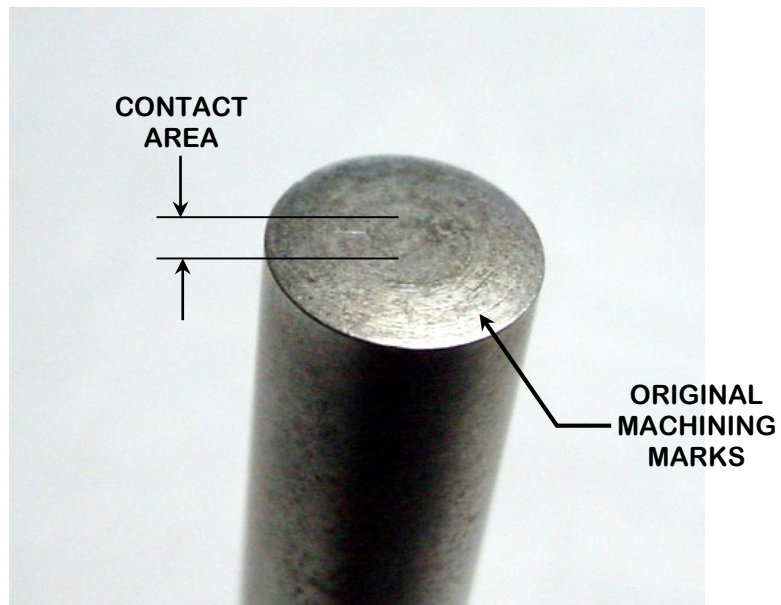


Photo – 5
Push Rod Exhibiting Normal Wear



Photo – 6
Pump Lever from 62B Series Pump
Exhibiting Abnormal Wear

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