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Montgomery, AL 36108 USA
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Service Bulletin

Bulletin No. 041 Rev. A

201F Fuel Pump Shaft Seal Leak

1. Planning Information

A. Effectivity*

- (1) Hartzell Engine Technologies LLC (HET) 201F Series Fuel Pump P/N's 201F-5001, 201F-5002, 201F-5003, 201F-5004, 201F-5005, 201F-5006, 201F-5007, and 201F-5008 as used on Lycoming engines listed in Table 1* of this service bulletin. The bulletin affects serial numbers inclusive of S/N H-OEN018FP manufactured between January 2002 through May 2011. In addition, S/N's H-OFN001FP, H-OFN002FP, H-OFN003FP, H-OFN004FP, H-OFN005FP, and H-OLN032FP, have been added per this revision. The affected units may be new, rebuilt, or overhauled. HET Fuel Pumps are FAA PMA approved.

* Engine applications may include but are not limited to those listed in Table 1.

CAUTION: DO NOT USE OBSOLETE OR OUTDATED INFORMATION. PERFORM ALL INSPECTIONS OR WORK IN ACCORDANCE WITH THE MOST RECENT REVISION OF THE HET 200201-0000 (VOLUME 2) FUEL PUMP MAINTENANCE MANUAL (MM) AND THIS SERVICE BULLETIN (SB). INFORMATION CONTAINED IN THE MM AND THE SB MAY BE SIGNIFICANTLY CHANGED FROM EARLIER REVISIONS. USE OF OBSOLETE INFORMATION MAY CREATE AN UNSAFE CONDITION THAT MAY RESULT IN DEATH, SERIOUS BODILY INJURY, AND/OR SUBSTANTIAL PROPERTY DAMAGE. REFER TO THE SB AND MM INDEX FOR THE MOST RECENT REVISION LEVEL.

B. Concurrent Requirements

- (1) None

C. Reason

- (1) Hartzell Engine Technologies LLC, formerly Kelly Aerospace Energy Systems, LLC (KAES), manufactures the engine driven 201F series high pressure fuel pump used in several Lycoming engine applications. It has come to the attention of HET, that a small number of these fuel pumps have developed shaft seal leaks.
- (2) Manufacturing variations may affect fit resulting in reduced clearance which can heat the rotor causing damage to the shaft seal and/or overload of the pump drive coupling. This condition is more likely to occur on low time units.
- (3) Should the shaft seal leak, lost fuel will be routed to drain ports in the pump mounting flange. See Figure 1. The fuel may be conducted overboard via the airframe provided fuel drain system.
- (4) A fuel leak may pose a fire hazard. Pump drive coupling overload will result in engine fuel starvation.
- (5) Regulatory action in the form of an Airworthiness Directive (AD) is unknown.

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D. Description

- (1) This Service Bulletin is being issued to mandate an inspection and provide test instructions to determine if the affected HET fuel pump leaks as a result of a damaged shaft seal. In addition, a corrective action is provided should a leak be discovered. The corrective action requires return of the fuel pump to HET for repair or replacement as necessary.

E. Compliance

- (1) All affected fuel pumps, **before further flight** or installation:
 - (a) Perform fuel pump Identification in accordance with the Accomplishment Instructions.
 - 1 If time in service (TIS) is less than fifty (50) hours, the fuel pump must be returned to HET in accordance with the Corrective Action portion of the Accomplishment Instructions.
 - 2 If TIS is equal to or greater than fifty (50) hours, perform Inspection in accordance with the Accomplishment Instructions (Testing/Terminating Action still required).
- (2) If TIS is equal to or greater than fifty (50) hours and less than one hundred (100) hours since installation, within fifty (50) hours TIS from (date of publication) or next annual inspection, whichever occurs first, perform the Testing/Terminating Action procedure in accordance with the Accomplishment Instructions.
- (3) If TIS is equal to or greater than one hundred (100) hours since installation, within one hundred (100) hours TIS from (date of publication) or next annual inspection, whichever occurs first, perform the Testing/Terminating Action procedure in accordance with the Accomplishment Instructions.

F. Approval

- (1) FAA approval has been obtained on technical data in this publication that affects type design.

G. Manpower

- (1) Negligible for Identification and Inspection.
- (2) Up to two hours labor for gaining access and Return to Service.*
- (3) Up to one (1) hour labor for Testing/Terminating Action.*

* Per engine if used on twin engine aircraft.

H. References

- (1) HET 200201-0000 (Volume 2) fuel pump Overhaul & Maintenance Manual.
- (2) Aircraft maintenance manual (as applicable).
- (3) Lycoming engine Service Instructions or maintenance manual (for applicable model).

I. Other Publications Affected

- (1) None

J. Weight and Balance

- (1) Not affected

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2. Material Information*

(As applicable to engine application.)

A. New P/N	Description	Qty.
201F-5001	201F Fuel Pump, Engine Driven	(1) A/R**
201F-5002	201F Fuel Pump, Engine Driven	(1) A/R**
201F-5003	201F Fuel Pump, Engine Driven	(1) A/R**
201F-5004	201F Fuel Pump, Engine Driven	(1) A/R**
201F-5005	201F Fuel Pump, Engine Driven	(1) A/R**
201F-5006	201F Fuel Pump, Engine Driven	(1) A/R**
201F-5007	201F Fuel Pump, Engine Driven	(1) A/R**
201F-5008	201F Fuel Pump, Engine Driven	(1) A/R**

* Additional airframe or engine parts may be required to support this service bulletin. These parts, if required, must be obtained from the airframe or engine manufacturer.

** Part may be new, rebuilt, overhauled, or repaired as determined by compliance type.

3. Accomplishment Instructions

WARNING THIS PROCEDURE MUST BE PERFORMED BY COMPETENT AND QUALIFIED PERSONNEL WHO ARE FAMILIAR WITH ENGINE AND AIRFRAME MAINTENANCE THAT IS SPECIFIC TO THE ENGINE FUEL SYSTEM. FAILURE TO DO SO MAY RESULT IN ECONOMIC LOSS, EQUIPMENT DAMAGE, AND/OR PHYSICAL INJURY.

CAUTION 1 DO NOT USE OBSOLETE OR OUTDATED INFORMATION. PERFORM ALL INSPECTIONS OR WORK IN ACCORDANCE WITH THE MOST RECENT REVISION OF THIS SERVICE BULLETIN AND THE APPLICABLE AIRCRAFT, ENGINE AND/OR HET 200201-0000 (VOLUME 2) MAINTENANCE MANUAL. INFORMATION CONTAINED IN THESE MANUALS OR THIS SERVICE BULLETIN MAY BE SIGNIFICANTLY CHANGED FROM EARLIER REVISIONS. FAILURE TO COMPLY WITH THE SERVICE BULLETIN OR THE USE OF OBSOLETE INFORMATION MAY CREATE AN UNSAFE CONDITION THAT MAY RESULT IN DEATH, SERIOUS BODILY INJURY, AND/OR SUBSTANTIAL PROPERTY DAMAGE. REFER TO THE APPLICABLE AIRCRAFT, LYCOMING, AND/OR THE HET 200201-0000 (VOLUME 2) MAINTENANCE MANUAL INDEX FOR THE MOST RECENT REVISION LEVEL OF THE PUBLICATION.

CAUTION 2 DO NOT DEPEND ON THIS SERVICE BULLETIN FOR GAINING ACCESS TO THE AIRCRAFT OR ENGINE. ACCESS REQUIRES THE USE OF THE APPLICABLE MANUFACTURER'S MAINTENANCE MANUALS OR SERVICE INSTRUCTIONS. IN ADDITION, ANY PREFLIGHT OR IN FLIGHT OPERATIONAL CHECKS REQUIRE USE OF THE APPROPRIATE AFM OR POH.

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A. Identification

- (1) If positive identification of the fuel pump installation can be made through the aircraft paperwork, continue with 3.A.(4)(a). If positive identification of the fuel pump cannot be made, continue with this instruction.
- (2) Access the aircraft engine driven fuel pump in accordance with the instructions in the applicable engine service instructions and aircraft maintenance manual.
- (3) Remove the cowling from the engine and locate the high pressure fuel pump on the particular model engine you are inspecting.
- (4) Locate the data tag on the fuel pump and determine if the unit is a fuel pump made by HET (formerly Kelly Aerospace).
 - (a) If the unit is NOT an HET (formerly Kelly Aerospace) 201F fuel pump, proceed to section 3.E for return to service.
 - (b) If the unit IS an HET (formerly Kelly Aerospace) 201F series fuel pump, proceed with Compliance.

B. Inspection

CAUTION: AN EXISTING FUEL LEAK WILL BE NOTICED AS BLUE OR BLUE GREEN STAINING IN THE VICINITY OF THE DRAIN PORT AND EXTENDING ONTO THE LOWER COWLING OR DRIPPING FROM THE DRAIN PORT. SHOULD ABNORMAL STAINING OR ANY FUEL LEAKAGE BE NOTICED, REGARDLESS OF REASON OR FUEL PUMP MAKE, MODEL, OR MANUFACTURER, THE CAUSE SHOULD BE INVESTIGATED. IF AUTO GAS IS BEING USED, NO STAINS MAY BE APPARENT. IN SUCH CASES, LEAK DETECTION MUST BE VISUALLY OBSERVED AS LIQUID AT THE OVERBOARD FUEL DRAIN

- (1) Inspect for fuel leakage from the fuel pump overboard drain. As some aircraft may put several drains together, leakage indication may not be caused by the fuel pump. To confirm that the fuel pump has a leak, the following must be accomplished:
 - (a) In a secure area, turn on electrical power, set fuel selector to fullest tank, and place the mixture in idle cutoff (ICO).
 - (b) Engage the fuel boost pump or auxiliary fuel pump and check for a positive indication of fuel pressure.
 - (c) Observe the overboard drain for fuel leakage. If leaking, turn off immediately.
 - (d) Most fuel pump overboard drains are located on the bottom cowl near the firewall. However, check with the specific AFM, POH, or maintenance manual for the aircraft for proper location.
 - (e) If a leak is found, stop aircraft operations immediately. The 201F fuel pump must be removed and returned to HET for repair or replacement before further flight. Proceed to section 3.D.

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- (f) If no leak is found, proceed to section 3.C. for Testing/Terminating Action. If Testing/Terminating Action can not be completed immediately, proceed to section 3.E.4 for return to service. Testing/Terminating Action may be completed at a later time in accordance with the Compliance in this Service Bulletin.

CAUTION

WHEN HANDLING FUEL, USE ALL PRECAUTIONS NECESSARY TO CONTAIN ANY SPILLED OR LEAKED FUEL AND LIMIT ACCESS TO ANYONE NOT ASSIGNED THE TASK OF THE TEST PROCEDURES HEREIN. DO NOT LOCATE THE AIRCRAFT BEING TESTED NEAR OPEN FLAME, HEAT SOURCES, ELECTRICAL SPARKS OR OTHER IGNITION SOURCES. FAILURE TO FOLLOW THESE PRECAUTIONS MAY CREATE AN UNSAFE CONDITION THAT MAY RESULT IN DEATH, SERIOUS BODILY INJURY, AND/OR SUBSTANTIAL PROPERTY DAMAGE.

C. Testing/Terminating Action

- (1) An operational leak test is required as a terminating action.

WARNING

GROUND OPERATION OF AN AIRCRAFT MUST BE PERFORMED BY COMPETENT AND QUALIFIED PERSONNEL WHO ARE FAMILIAR WITH PERFORMING ENGINE AND AIRCRAFT OPERATIONAL RUN-UP AND ARE CAPABLE OF SELECTING A SUITABLE AREA FOR TESTING. FAILURE TO DO SO MAY RESULT IN DEATH, SERIOUS BODILY INJURY, AND/OR SUBSTANTIAL PROPERTY DAMAGE.

- (2) Perform an operational leak test per the following:
 - (a) If not previously done, access the aircraft fuel pump in accordance with the applicable engine service instructions and/or aircraft maintenance manual.
 - (b) Locate the fuel pump overboard drain line connection on the mounting flange and disconnect the aircraft overboard fuel drain line from the fitting. See Figure 1.
 - (c) Plug the aircraft overboard drain line (at pump) with a suitable plug and secure the line to prevent movement.
 - (d) Obtain a clean (preferably clear), heat resistant, flexible tube of suitable size to place on the fuel pump overboard drain line fitting. The tubing must be long enough to extend from the fuel pump to a point outside of the cowling.
 - (e) Route and secure the tubing from the fuel pump to a location outside of the cowling area. Routing should avoid heat or electrical sources and sharp turns. When securing, do not pinch the line closed.
 - (f) Perform a static engine run-up per the applicable aircraft AFM or POH, aircraft maintenance manual, and/or engine service instructions.
 - (g) After engine shut down, observe the ground under the temporary drain location for fuel leakage indication.

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- (h) Allow engine to cool down sufficiently for work to proceed.
- (i) Remove the temporary drain line from pump drain fitting and check for evidence of fuel in the line.
- (j) Place your finger on the drain line fitting installed in fuel pump and check for the presence of fuel.
- (k) If a leak is detected in the line or fitting, remove the fuel pump and proceed to 3.D.
- (l) If no leak is detected, remove the temporary fuel drain line and methods of security. Remove plug from overboard drain line, and re-attach the line to the fuel pump fitting. Consult the engine or aircraft service manuals for proper torque. Proceed to 3.E for return to service.

D. Corrective Action:

- (1) To correct a leakage condition in the fuel pump, it is necessary to send the fuel pump back to the HET factory. Remove and retain all of the engine or airframe supplied fittings from the fuel pump prior to return. **(HET cannot return fittings to the customer.)**
- (2) Forward the affected fuel pump to the HET factory per the instructions contained in Appendix 1 - Commercial Assistance found at the the end of this service bulletin.
 - (a) Upon receipt of the replacement pump, proceed to "Return to Service" 3.E.(1).

E. Return to Service

- (1) Install the fuel pump on the aircraft engine as prescribed in the latest revision of the aircraft or engine maintenance manual or service instructions.
- (2) Perform the recommended fuel pump functional tests in accordance with the appropriate aircraft maintenance manual, engine service instructions, and per operational test in the AFM or POH.
- (3) Using the applicable aircraft and engine manufacturer's maintenance manuals of the latest revision, install any portion of the aircraft that was removed to gain access.
- (4) The aircraft may be returned to service after making a logbook entry to indicate completion of this Service Bulletin as applicable:
 - (a) Inspection and noting the TIS limit for Testing/Terminating Action.
 - (b) Testing/Terminating Action.

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4. Contact Information

- A. All communications regarding this Service Bulletin, must be placed either through Hartzell Engine Technologies Technical Support at (888) 461-6077 or via Fax (334) 386-5450. For the Warranty department, (334) 386-5441.
- B. Written communications must be placed through Hartzell Engine Technologies Technical Support, 2900 Selma Highway, Montgomery, AL 36108, USA.
- C. If E-mail communication is desired, go to our website:<http://www.hartzellenginetech.com> and select "contact" and follow the instructions.
- D. If returning the fuel pump for repair or replacement, return to:

Hartzell Engine Technologies LLC
2900 Selma Highway
Montgomery, AL 36108, USA.

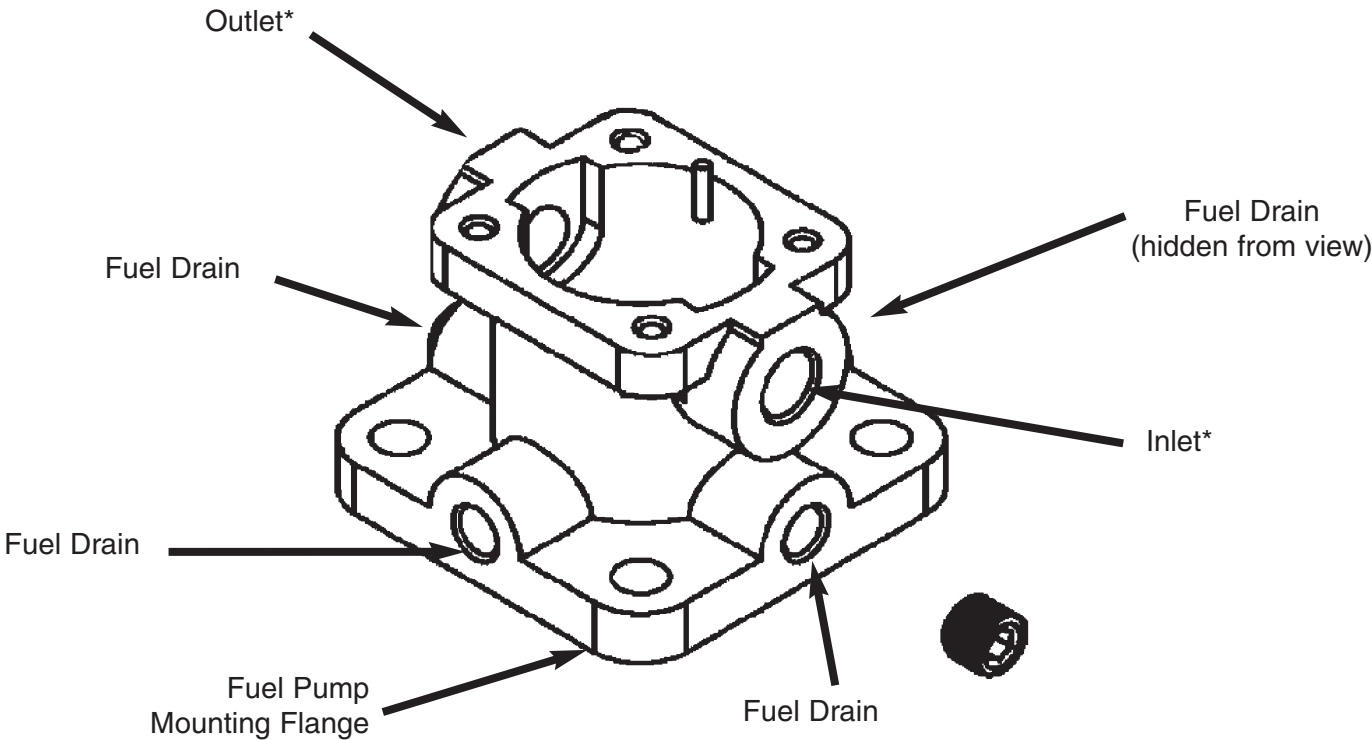
Attention: Warranty / SB 041

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Figure 1 - 201F Inlet / Outlet & Drains



* The fuel inlet or outlet varies by part number.

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Table 1 - Cross Reference

Part Number HET Fuel Pump	Part Number Textron Lycoming (Ref. Only)	Lycoming Engine Installation Eligibility
201F-5001	62D26030	IO-540-G1B5; IO-540-G1D5; IO-540-J4A5; IO-540-R1A5; IO-720-A1A; IO-720-A1B
201F-5002	62D26031	IO-720-A1A; IO-720-A1B
201F-5003	62D26032	IO-540-G1C5; IO-540-K1A5; IO-540-K1B5; IO-540-K1F5; IO-320-C1A; IO-320-F1A
201F-5004	62D26033	IO-360-A1B; TIO-360-A1B
201F-5005	62D26034	IO-540-A1A5; IO-540-G1B5; IO-540-G1D5; IO-540-K1C5; IO-540-K1D5; IO-540-K1F5; IO-540-L1A5; IO-540-P1A5; IO-360-B1D; TIO-540-A2B; TIO-540-C1A; TIO-540-E1A; TIO-540-G1A; TIO-540-H1A
201F-5006	62D26035	IO-540-K1A5D; TIO-360-C1A6D; LIO-320-C1A
201F-5007	62D26036	IO-540-M2A5D; TIO-540-AA1AD; TIO-540-AB1AD
201F-5008	62D26037	TIO-540-AF1A; TIO-540-AF1B

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APPENDIX I

COMMERCIAL ASSISTANCE:

In addition to warranty coverage provided by the HET (formerly KAES) Limited Warranty, HET will provide additional commercial assistance to comply with SB041 Rev. A under the terms outlined in this Appendix.

Commercial Assistance: the following will be provided with the submission of a completed PPCR (Attachment A, Sections I and II only) along with copies of invoices showing breakdown of labor charges and log book entries. This will serve as a claim form when received by HET warranty department. All commercial assistance for SB 041 Rev. A ends one-hundred eighty (180) days from the date of this service bulletin.

If the unit is not sent to HET for repair or rebuild, a completed PPCR (Attachment A, with all Sections completed) along with copies of invoices showing breakdown of labor charges and log book entries must be submitted. This will serve as a claim form when received by HET warranty department (pre-approval required). All commercial assistance for SB 041 Rev. A ends one-hundred eighty (180) days from the date of this service bulletin.

Identification: Labor is negligible.

Removal and Installation: Up to two (2) hours labor (up to \$150 maximum) per engine.
(includes gaining access) This assistance is for affected HET fuel pumps only, no assistance will allowed for others.

Testing: Up to one (1) hour labor (up to \$75 maximum) per engine.
(only) This assistance is for affected HET fuel pumps only, no assistance will allowed for others.

Within North America for units sent to HET there will be no charge for this work and unit will be returned shipping pre-paid by the same method as received.

Outside North America for units sent to HET there will be no charge for this work and will be returned shipping pre-paid, less any applicable duties, by the same method as received. As an alternative, HET will provide a labor allowance of 3 hours labor (up to US \$225 maximum) for units sent to nearest qualified facility. Pre-approval required, call (334) 386-5441. or E-mail: warranty@hartzellenginetech.com

WARRANTY STATEMENT:

- A. The sole warranty for the actions within this Service Bulletin are contained in the HET Limited Warranty Policy issued with the purchase of each new or rebuilt 201F fuel pump (see terms and conditions therein).
- B. Commercial assistance may apply as stated in Appendix 1. Attachment A of this Service Bulletin is required.
- C. Issuance of this Service Bulletin in no way constitutes an implied or expressed warranty of any kind.
- D. This publication does not imply or state any responsibility for the workmanship of any person or entity performing work or maintenance on the engine or aircraft fuel system.

SHIPPING INFORMATION: (when returning to HET)

The 201F fuel pump must be securely packed and packaged so no fluid will seep into the shipping container. A copy of "Attachment A" must have "Customer Information" and "Product or Component Information" sections filled out completely and included inside the shipping container. The 201F fuel pump must be received assembled and undamaged to qualify for repair. Address package to Hartzell Engine Technologies LLC, Warranty Department, 2900 Selma Highway, Montgomery, AL 36108, USA. Also mark "WARRANTY DEPT / SB 041A" clearly on the outside of the shipping container. ***HET will only pay for return shipping by the same method as received. (next day, ground, etc.)***

CONTACT INFORMATION:

All communications regarding this service bulletin, must be placed either through Hartzell Engine Technologies Technical Support at (888) 461-6077 or via Fax (334) 386-5450. For the Warranty department, (334) 386-5441. Written communications must be placed through Hartzell Engine Technologies Technical Support, 2900 Selma Highway, Montgomery, AL 36108, USA.

If e-mail communication is desired, go to our website: <http://www.hartzellenginetech.com> and select "contact" and follow the instructions.



PPCR

Publication Product Condition Report

(To validate warranty or commercial assistance, all information MUST be filled out.)

SECTION I: Customer information (Completed by End User)

Name: _____ Date of Report: _____ Tel: _____

Company Name: _____ E-mail: _____

Address: _____

Aircraft Mfg/: _____ Time in Service: _____ Model: _____ S/N: _____
Engine _____

(as may be applicable)

SECTION II: Product or Component Information (Completed by End User)

Nomenclature: FUEL PUMP, 201F Part Number: _____

Serial Number: _____ Batch/Date Code: _____

Part Time in Service: _____

SECTION III: Compliance Information: (Completed by Repair Facility)

- Compliance with SB-041 A: YES
- Less than 50 hours TIS: YES NO
- Fuel Pump Leaks: YES NO

If yes, please describe condition of fuel pump and leak found:

Eligibility:

To be eligible for any commercial assistance, this form must be completed as instructed above and will serve as a claim form. NO reimbursement will be made without completing this form.

For further information contact Hartzell Engine Technologies LLC at: 2900 Selma Highway, Montgomery, AL, USA or FAX to HET Customer Service, 334-386-5450. The complete service bulletin is available to you online via our website at <http://www.hartzellenginetechologies.com>. SB 041 Rev. A March 5, 2012.