



SERVICE INSTRUCTION M20-115

Date: March 12, 2008

SUBJECT: TO ADVISE OWNERS OF PRECISION AIRMOTIVE LLC SERVICE BULLETIN NO. PRS-107 REV. 1 (ATTACHED)

MODELS/ SN M20E, M20F, M20J, M20M with Fuel Injected Lycoming Engines that are equipped with RSA-5 or RSA-10 series Fuel Injection Servos.

AFFECTED:

TIME OF COMPLIANCE: MANDATORY: Immediate Action Required Prior to Next Flight
INSPECT PER, AND COMPLY WITH PRECISION AIRMOTIVE LLC SERVICE BULLETIN PRS-107 REV. 1

INTRODUCTION: PRECISION AIRMOTIVE has recently learned of two incidents relating to its RSA fuel injection servos. In both cases the brass hex plug p/n 383493 on the cover of the regulator was found hanging from the safety wire, out of the hole, with damaged threads. In one instance the condition was found on the ground while troubleshooting a lean running condition. In the second instance the occurrence is believed to have happened in the air while flying at cruise power. The aircraft in the latter instance experienced a significant loss of power and misfiring while in flight. An off airport landing was made, resulting in considerable damage to the aircraft. The servos in these incidents had between 200 and 300 hours TSN. PRECISION AIRMOTIVE issued a Safety Alert on 3/3/2008 requiring inspection of these plugs for looseness. PRECISION AIRMOTIVE has now received additional reports of loose plugs on RSA-5 and RSA-10 servos on various different aircraft models. PRECISION AIRMOTIVE has determined that the gasket p/n 365533 located between the hex plug p/n 383493 and the servo regulator cover can shrink from engine heat which can cause the hex plug to lose torque against the regulator cover. The material in these gaskets was changed beginning August 22, 2006, and the gaskets that have been identified as experiencing shrinkage were all comprised of the new gasket material. The attached PRECISION AIRMOTIVE Service Bulletin PRS-107 REV.1 details the inspection steps to be taken and applicable procedures.

INSTRUCTIONS: Refer to PRECISION AIRMOTIVE LLC SERVICE BULLETIN NO. PRS-107 REV. 1 (Attached)

WARRANTY: Refer to PRECISION AIRMOTIVE LLC SERVICE BULLETIN NO. PRS-107 REV. 1 (Attached)

REFERENCE DATA: Refer to PRECISION AIRMOTIVE LLC SERVICE BULLETIN NO. PRS-107 REV. 1 (Attached)

PARTS LIST: Refer to PRECISION AIRMOTIVE LLC SERVICE BULLETIN NO. PRS-107 REV. 1 (Attached)

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FAA-PMA FACILITY #PQ111NM

MANDATORY Service Bulletin Fuel Systems

Bulletin No.: PRS-107

Revision No: 1

Date: 3/6/08

ENGINEERING ASPECTS OF THIS
BULLETIN ARE FAA APPROVED

SUBJECT: HEX PLUG 383493 COMING LOOSE FROM REGULATOR COVER

A. EFFECTIVITY:

All aircraft with RSA-5 or RSA-10 series Fuel Injection Servos which have had a new, rebuilt, overhauled, or repaired engine and/or servo installed since August 22, 2006.

B. REASON:

Precision Airmotive has recently learned of two incidents relating to its RSA fuel injection servos. In both cases the brass hex plug p/n 383493 on the cover of the regulator was found hanging from the safety wire, out of the hole, with damaged threads. In one instance the condition was found on the ground while troubleshooting a lean running condition. In the second instance the occurrence is believed to have happened in the air while flying at cruise power. The aircraft in the latter instance experienced a significant loss of power and misfiring while in flight. An off airport landing was made, resulting in considerable damage to the aircraft. The servos in these incidents had between 200 and 300 hours TSN. Precision Airmotive issued a Safety Alert on 3/3/08 requiring inspection of these plugs for looseness. Precision has now received additional reports of loose plugs on RSA-5 and RSA-10 servos on various different aircraft models. Precision Airmotive has determined that the gasket p/n 365533 located between the hex plug p/n 383493 and the servo regulator cover can shrink from engine heat which can cause the hex plug to lose torque against the regulator cover. The material in these gaskets was changed beginning August 22, 2006, and the gaskets that have been identified as experiencing shrinkage were all comprised of the new gasket material.

This bulletin identifies affected servos and provides information for immediate inspection and a temporary repair until a new gasket material is selected or another long term solution is established.

C. COMPLIANCE:

IMMEDIATE ACTION REQUIRED PRIOR TO NEXT FLIGHT: Immediately inspect all aircraft with RSA-5 or RSA-10 servos which have had a new, rebuilt, overhauled, or repaired engine and/or servo installed since August 22, 2006 to determine if the brass regulator hex plug is loose.

CONTINUED ACTION REQUIRED: Until a long term solution is found continue periodic inspections to determine if the hex plug is loose. Such inspections must occur at whichever comes first – at every oil change or every 50 hours of engine run time.

D. INSPECTION:**DO NOT FLY YOUR AIRCRAFT UNTIL THE SERVO PLUG HAS BEEN INSPECTED.**

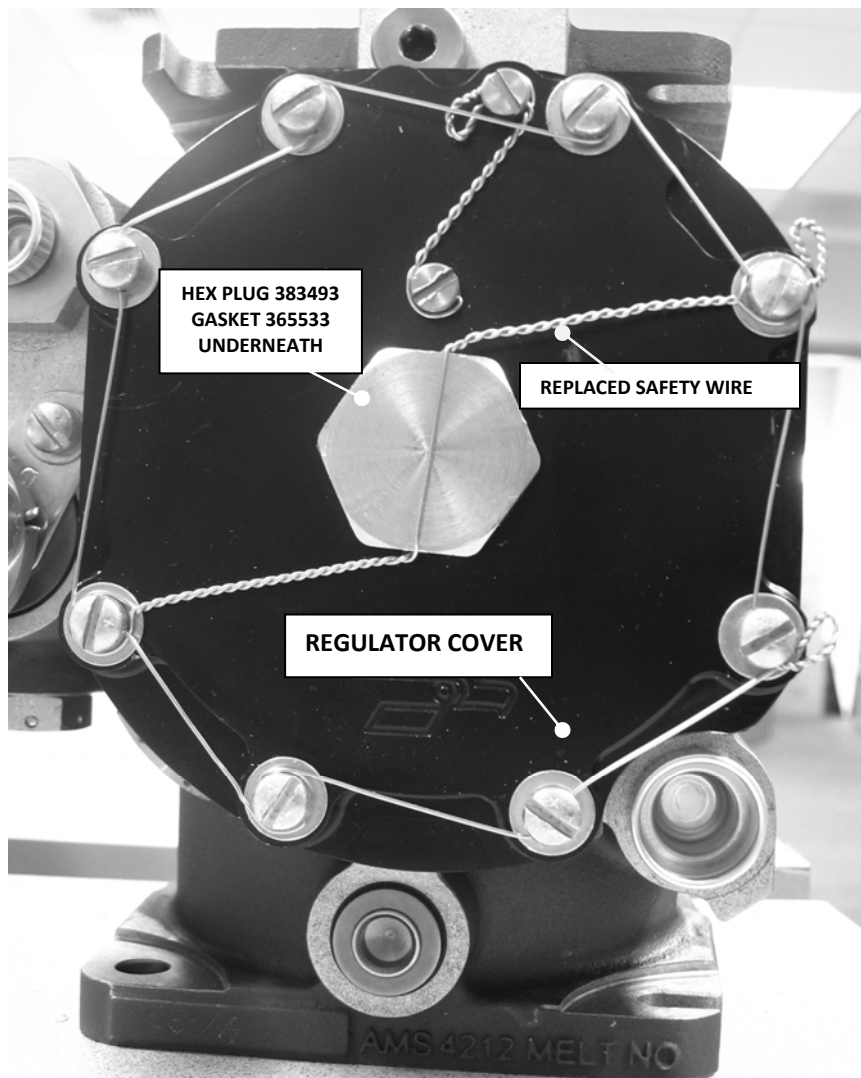
Determining if the plug is loose requires more than just a visual inspection. The inspection should be accomplished by attempting to turn the plug by hand, while taking care not to damage the safety wire or seal

IF THE PLUG IS LOOSE, DO NOT FLY YOUR AIRCRAFT UNTIL THE ISSUE IS RESOLVED AS SET FORTH IN THIS SERVICE BULLETIN.**E. ACTION IF HEX PLUG IS NOT FOUND LOOSE.**

1. Enter in the Engine log book the date in which the plug was inspected per PRS-107 and indicate that the plug was NOT loose.
2. Continued action is required per section C.

F. ACTION IF HEX PLUG IS FOUND LOOSE:

1. Carefully cut and remove the safety wire that spans between the hex plug 383493 and regulator cover only.
2. Remove hex plug while ensuring that gasket 365533 that is behind the plug is not lost. The gasket may be slightly stuck to regulator cover.
3. Examine the threads on the hex plug and regulator cover for damage. Threads should be smooth, consistent, with no burrs or chips. The hex plug outer diameter threads should also measure within .7419-.7500 inches.
4. If the threads on either the hex plug or regulator cover are damaged or don't measure within the aforementioned dimensions the servo must be removed and sent to Precision Airmotive for repair.
5. If the threads on both the hex plug and the regulator cover are acceptable. Inspect the gasket 365533 for tears and other damage. If the gasket is damaged acquire a new gasket from Precision Airmotive distribution.
6. With an acceptable hex plug, an acceptable regulator cover, and an acceptable gasket, install the gasket over the hex plug and install plug into the regulator cover. Torque the hex plug to 90-100 in-lbs.
7. The hex plug must be safety wired with .025 inch diameter wire to the regulator cover as shown in the figure below. The wire shall pass thru the plug such that it pulls the plug in the tightened direction and does not touch the corners of the hex on the plug.
8. Ensure that any other safety wire on the servo that may have been damaged when removing the hex plug safety wire is replaced.
9. Enter in the engine log book the date in which the plug was inspected, torqued, and safety wired per this service bulletin PRS-107.
10. Continued action is required per section C.



Note: Plug safety wire is wrapped around regulator screws under existing wire. It does not go through the holes in the screws.

G. **SECTION IV – WARRANTY INFORMATION:**

If your servo was manufactured or rebuilt by Precision Airmotive during this time period, Precision will provide a reimbursement to the aircraft owner of up to \$100 per servo for resolution of this problem. A listing of the serial numbers manufactured or rebuilt by Precision Airmotive during this time may be found on our website at www.precisionairmotive.com. Please note that this listing is NOT a complete list of servos that may contain this gasket. Servos overhauled or repaired by other repair stations during this time period may also contain this part and must comply with this bulletin.

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