



**DIRECCIÓN NACIONAL DE AERONAVEGABILIDAD (DNA)
DIRECCIÓN AVIACIÓN GENERAL (DAG)
REPÚBLICA ARGENTINA**

ADVERTENCIA 082/DAG

La presente ADVERTENCIA tiene por objeto dar a conocer una situación que puede resultar de interés para Talleres Aeronáuticos de Reparación, operadores y/o propietarios de aeronaves. Se emite a los efectos de informar y las recomendaciones no tienen carácter mandatorio.

Ciudad Autónoma de Buenos Aires, 13 de febrero de 2008.

APLICABLE A: Aeronaves equipadas con motores marca Lycoming de 4, 6 y 8 cilindros, cuyos conductos del conjunto de inyección de combustible sean tubos rígidos de acero fijados al motor con abrazaderas metálicas del tipo MS21919.

MOTIVO: Posibilidad de fisuras en los tubos rígidos del sistema de inyección de combustible.

ANTECEDENTES:

- 1- La DAG emitió el 31/10/2007 la Advertencia 076/DAG, en la que se recomienda realizar una inspección rigurosa a las **uniones** de las bombas mecánicas de combustible a las **cañerías rígidas**, para detectar posibles fisuras en ellas, aplicable solamente en algunos modelos de motores Lycoming 520.
- 2- La FAA emitió el 20/09/2007 la Special Airworthiness Information Bulletin (SAIB) N° NE-07-49, relacionada con la falla de los tubos rígidos de acero del sistema de inyección de combustible y como consecuencia directa, la posibilidad de pérdida de combustible, fuego y falla del motor. Se agrega copia del mencionado SAIB.
- 3- El Lycoming MSB N° 342E indica que hay ocasiones en que los tubos de combustible se fracturan a causa de no instalar, luego de un overhaul o una reparación, la totalidad de las abrazaderas metálicas que fijan los tubos rígidos al motor.
- 4- La FAA emitió la AD 2002-26-01 que requiere para una gama de motores marca Lycoming modelos 320, 360, 480, 540 y 720, una inspección inicial, y luego inspecciones repetitivas, de los tubos rígidos de combustible y las abrazaderas de soporte.

RECOMENDACION: Con el objeto de prevenir la falla de los tubos rígidos del sistema de inyección de combustible, que provocaría el derrame (en forma de spray) de combustible y una probable ignición en el compartimiento del motor y su falla, poniendo en riesgo la operación de la aeronave, esta Dirección recomienda:

- Inspeccionar los tubos de combustible rígidos del sistema de inyección de combustible por posibles fisuras y signos de deterioro en los motores marca Lycoming de 4, 6 y 8 cilindros.
- Verificar que todas las abrazaderas metálicas de soporte se encuentren instaladas de manera adecuada y, en caso de encontrar novedades, reemplazar la parte afectada antes del próximo vuelo, de acuerdo a lo manifestado en el párrafo "*Recommendations*" del SAIB N° NE-07-49.
- Tener presente que la AD 2002-26-01 requiere inspecciones repetitivas en los motores a los que aplica.

Para obtener mayor información dirigirse a la División Ingeniería de la DAG:

Tel.: (011) 4508-2105

Fax: (011) 4576-6404

E-mail: av.general@fibertel.com.ar

Página Web: www.dna.org.ar

Ing. Aer. Juan José Bordet
Director de Aviación General



SAIB: NE-07-49

Date: September 20, 2007

SUBJ: Fuel Injector Tube Assemblies and Support Clamps

This is information only. Recommendations aren't mandatory.

Introduction

This Special Airworthiness Information Bulletin (SAIB) alerts you, owners, operators, and certificated repair facilities of **Lycoming four, six, and eight cylinder reciprocating engines with stainless steel fuel injector tube assemblies and support clamps**, of a potential problem that could result in a fuel leak, fire, and engine failure.

Background

The correct installation and inspection of the fuel injector lines is currently described and pictured in Lycoming MSB No. 342E, dated May 18, 2004, and in the Lycoming engine model IO-580-B1A, Maintenance and Overhaul Manual, Airworthiness Limitations Section (ALS).

Lycoming MSB No. 342E states, "There have been instances of fuel line breakages where support clamps have been omitted during field overhaul or repair. The support clamps dampen line vibration due to the impact of cooling air and vibration from the engine and/or aircraft. Also, the fuel supply lines between the fuel injector manifold and the nozzles can become damaged and leak if they are severely bent or kinked during engine maintenance." AD 2002-26-01 mandates the same inspections of the fuel injector lines and clamps as Lycoming MSB No. 342D. In addition, the NYACO confirmed the failure of a fuel injector line due to a corrosion pit that resulted in fuel under pressure being sprayed into the engine compartment. Therefore, when inspecting for the proper installation of the tubes and clamps, the fuel lines must also be inspected for evidence of cracking, corrosion, pitting, physical damage and fuel stains.

Newer Lycoming engine models, such as the IO-580-B1A, and all other newer engine models, have a Maintenance and Overhaul Manual with an ALS that contains instructions for continued airworthiness. Since Lycoming has included the installation and inspection of the fuel injector lines in the ALS for the newer engines models, these engine models will not be included in a Lycoming Mandatory Service Bulletin (MSB) or in a corresponding FAA Airworthiness Directive (AD) that describes the correct installation and inspection of these lines. Therefore, if your Lycoming fuel injected engine model has a Maintenance and Overhaul Manual with an ALS, the ALS must be consulted for the correct installation and inspection of the fuel injector lines.

Newer engines, for which an ALS is applicable, might be modified with equipment clamped to the fuel injector lines. This equipment might be installed by a Field Approval, a Supplemental Type Certificate (STC), or by an aircraft manufactures Type Certificate (TC).

If your Lycoming fuel-injected engine model does not have a Maintenance and Overhaul Manual with an ALS, Lycoming MSB No. 342 must be consulted for the correct installation and inspection of the fuel injector lines.

Older engines, for which Lycoming MSB No. 342D is applicable, might be modified with equipment clamped to the fuel injector lines. This equipment might be installed by a Field Approval, a

Supplemental Type Certificate (STC), or by an aircraft manufacturer's Type Certificate (TC). For these older, modified engines, AD 2002-26-01 and Lycoming MSB No. 342D are still applicable. In this case, owners/operators must request an alternate method of compliance in accordance with Note 2 and paragraph (d) of AD 2002-26-01 to deviate from the AD. For newer engines, owners/operators must request a Supplemental Type Certificate (STC) to deviate from the ALS.

For all Lycoming engines modified with equipment clamped to the fuel injector lines, the installers of this equipment are responsible for the airworthiness of such installations. Specifically, the installers are responsible for ensuring the equipment does not compromise fuel system integrity, whether by chafing or crimping a line, or otherwise.

Recommendations

The purpose of this SAIB is to provide information and recommendations; however, when an AD is mentioned in this SAIB, the AD is still mandatory.

1. We recommend clamping and inspecting the fuel injector lines per the latest revision of Lycoming MSB No. 342 even when the issuance of a new AD lags behind Lycoming's issuance of a revision to Lycoming MSB No. 342. Or, where applicable, clamp and inspect the fuel injector lines per the Airworthiness Limitations Section (ALS) of the Maintenance and Overhaul Manual.
2. For older engines modified in the area of the fuel injector lines and clamps, AD 2002-26-01 and Lycoming MSB No. 342D are still applicable. In this case, owners/operators must request an alternate method of compliance in accordance with Note 2 and paragraph (d) of AD 2002-26-01 to deviate from the AD.
3. For newer engines modified in the area of the fuel injector lines and clamps, the appropriate ALS is applicable. In this case, owners/operators must request a Supplemental Type Certificate (STC) to deviate from the ALS.

For Further Information Contact

Norm Perenson, Aerospace Engineer, FAA NYACO, ANE-171, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; phone: (516) 228-7337; fax: (516) 794-5531; email: norman.perenson@faa.gov.

For Related Service Information Contact

Lycoming Engines, 652 Oliver St, Williamsport, PA 17701; phone: (570) 323-6181; fax: (570) 327-7101; or go to their Web site at: <http://www.lycoming.textron.com/support/publications/service-bulletins/pdfs/SB342E.pdf>.