



AIRWORTHINESS BULLETIN

Suspected Unapproved Parts - Aircraft
Electronic Fuel System Instruments

AWB 01-028 **Issue :** 1
Date : 8 October 2013

1. Effectivity

All aircraft fitted with electro-mechanical indicators.

2. Purpose

Inform registered operators and maintenance organisations of instances of the potential for unapproved parts or modifications made to aircraft indicators.

3. Background

CASA in conjunction with the indicator manufacturer Original Equipment Manufacturer (OEM) has investigated and confirmed cases of suspected unapproved parts (SUP) or modifications which had been carried out on electro-mechanical fuel quantity and fuel flow indicators and the following cases below have been provided to demonstrate the issue.

Case 1

An authorised repair facility identified a fuel quantity indicator with a non-original equipment label installed. The label had even changed the original part number of the indicator. There was no documentation available for the modification.



Problems with fuel quantity indicators could cause a fuel mismanagement problem.



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Case 2

An authorised repair facility identified a fuel flow indicator had been found modified to indicate kilograms per hour instead of pounds per hour according to the part number. An inspection found a non OEM sticker had been used instead of original dial face. The data plate was also found to be altered.



In this example the original data plate can be seen underneath the non OEM approved data plate. Only one data plate should be installed on the indicator. The data plate also states that 2 “LAMBS” are required with their associated part numbers.





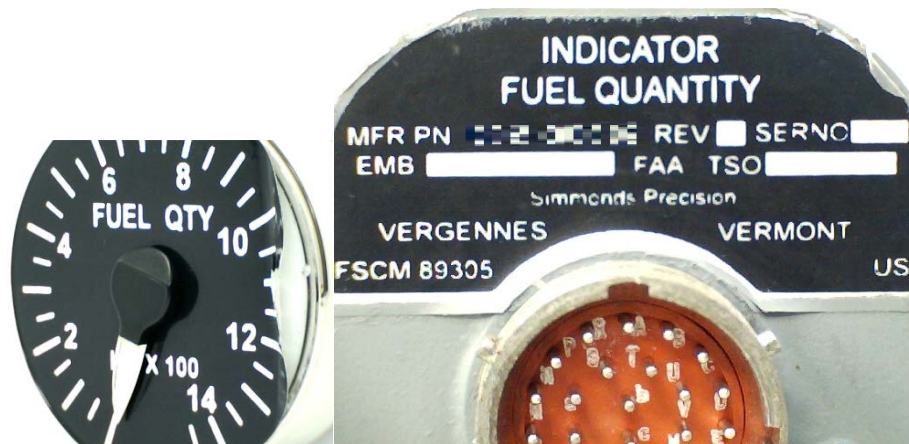
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Case 3

Another case of a non OEM approved printed sticker stuck over the correct dial face. Part numbers in the Illustrated Parts Catalogue (IPC) should be verified against the units on the dial face.





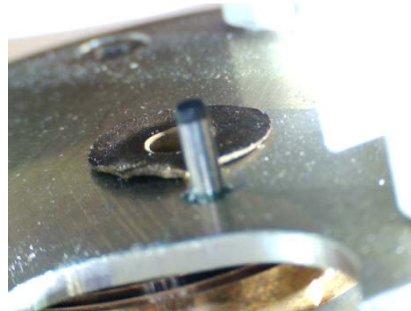
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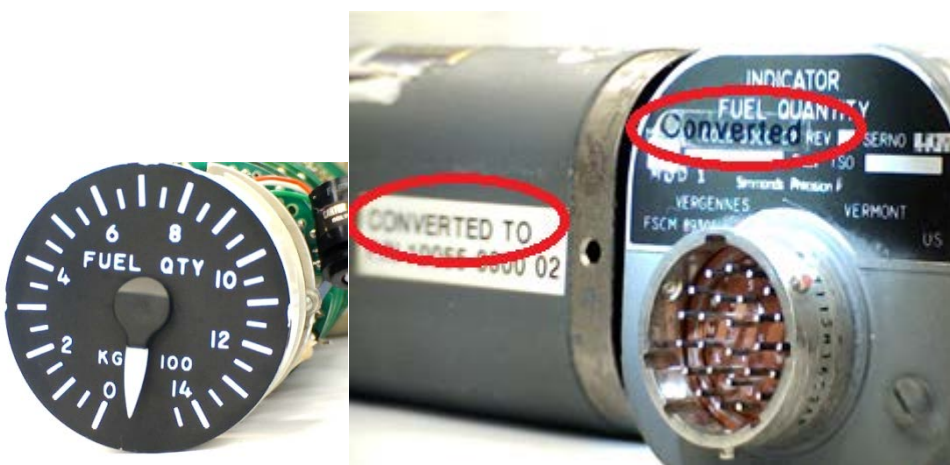
Case 4

During repair at an authorised repair facility an indicator was found to have a non OEM manufactured bushing replacing the original pointer shaft ball bearing.



The example above shows a bushing installed instead of a ball bearing. This could lead to premature failure of the indicator and possible loss of indication during flight.

The same indicator was found with a 'CONVERTED' label stuck over the OEM data plate and indicator case. The indicator was also released from the previous repairer with a 'KG' (Kilograms) dial face installed in place of the original 'LBS' (Pounds) dial face.



The indicator was received with the previous repairers' tamper-proof seal still intact. This type of inaccuracy could cause a fuel load mismanagement problem.



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Case 6

In another case identified by an authorised repair facility, identified an indicator had a non OEM manufactured dial installed in an upside down position. Investigation also found the pointer failed the friction tests and became stuck at 2000lbs position. The indicator also had a non-approved identification label fitted.



Data plates should clearly identify the manufacturer and type of indicator.

Case 7

This fuel quantity indicator had a decal for a dial face which was delaminating. Investigation also found a decal had been fitted in place of the correct identification plate. Further investigation found the indicator was an incorrect part. That is the wrong part for the intended system and could cause a fuel load mismanagement problem.



4. Recommendations

Counterfeit labels and dial faces requires experience and skill to detect. Registered operators and/or maintenance organisations are encouraged to look for any signs of tampering or changes that look out of the ordinary.



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5. Reporting

Report any issues via CASA SDR system. Any items that may be suspect as original should be highlighted by selecting the Suspected Unapproved Parts check box in the Report Category. If the information is available provide the Suppliers details on the SDR online form.

Any suppliers and submitters details for suspected unapproved parts are treated as confidential. CASA will only use or disclose information reported under the SDR defect reporting scheme for purposes consistent with the interests of safety and in accordance with applicable laws.

6. Enquiries

Enquiries with regard to the content of this Airworthiness Bulletin should be made via the direct link e-mail address:

AirworthinessBulletin@casa.gov.au

or in writing, to:

Airworthiness and Engineering Standards Branch
Standards Division
Civil Aviation Safety Authority
GPO Box 2005, Canberra, ACT, 2601