

# Service Bulletin

from AVIONIC INSTRUMENTS, LLC

## NOTIFICATION OF MINOR CHANGE FOR THE PART NUMBER 1-002-0102-2173 STATIC INVERTER

**1.0 Aircraft Effectivity:** ATR 42/72

**2.0 Inverter Effectivity:** Units in field not identified as MOD LVL E or above.

**3.0 Type of Change:** Minor Change (Amendment)

**4.0 Change Description:**

Avionic Instruments has released this Service Bulletin to alert the fleet operators in possession of the in service Static Inverters, Part Number 1-002-0102-2173 of the potential for product improvement. In accordance with Notice of Change N° NOC-14-004, NOC-15-101, and NOC-16-001, and as part of product improvement, Static Inverter AI<sup>2</sup> Part number 1-002-0102-2173 is subjected to the following changes:

- A. The terminal stud connection on the DC/DC power board PCB AI<sup>2</sup> part number: 1-001-0201-0721 is replaced with a direct wire connection. The lengths of wire harnesses 1-002-4822-0620, and 1-002-4822-0624 are adjusted as a result. Additional copper area and vias are added to the DC/DC power board PCB. The improvements made result in the DC/DC Power Board PCB AI<sup>2</sup> part number changing from 1-001-0201-0721 to 1-001-0201-1035. The changes made to DC/DC power board PCB result in the DC/DC Converter sub assembly AI<sup>2</sup> part number: 1-002-0107-1720 changing to AI<sup>2</sup> part number 1-002-0107-2056. (MOD C)
- B. Within the relay drive circuit, the paralleled PNP BJT's transistors (Q109, Q114, Q115 and Q116) are replaced with a single P-Channel MOSFET device. The NPN BJT's (Q108, Q117, Q118 and Q119) are replaced with a single N-Channel MOSFET. (MOD D)
- C. The C311 capacitor part number 1-001-0328-0007, is replaced with capacitor part number 1-001-0328-0015. (MOD E)

**5.0 Parts Affected:**

Final Assembly 1-002-0102-2173 Updated to by:

- a. Replacing DC/DC Converter Subassembly, AI<sup>2</sup> P/N 1-002-0107-01720 with 1-002-0107-2056.
- b. Replacing DC/DC Power Board PCB, AI<sup>2</sup> P/N 1-001-0201-0721 with 1-001-0201-1035.
- c. Replacing C311 Capacitor, AI<sup>2</sup> P/N 1-001-0328-0007 with 1-001-0328-0015.

**6.0 Reason for Change:**

- A. Product improvement resulting in an increase in current handling ability. (MOD C)

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B. Product improvement of the system load relay drive circuit for increased reliability. (MOD D)

C. Product improvement of the unit output capacitor, C311 for increased reliability. (MOD E)

## 7.0 Classification of Change

The classification of the modification to MOD D and MOD E is CLASS II and is a recommended change by Avionic Instruments LLC for improved product reliability.

## 8.0 Application of the Change:

Newly produced static inverters, starting with serial number KC001040 (MOD E and above), will have the changes stated in section 4.0. For fielded static inverters, all serial numbers below KC001040 will updated to the changes stated in section 4.0.

## 9.0 Action:

Operators may review their installation records and identify inverters not identified as MOD E or above. Once identified, operators may contact ATR to coordinate return to Avionic Instruments to arrange for the Static Inverter to be upgraded to MOD E.

## 10.0 Performance Impact

### 10.1 Electrical Performance

Subject change has no impact to electrical performance.

### 10.2 Weight & Balance

Subject change has no significant impact on balance and weight.

### 10.3 Interchangeability

Subject change has no impact on equipment interchangeability.

## 11.0 Required Resources

### 11.1 Manpower

Service will be conducted by the supplier.

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## 11.2 Material

The following Avionic Instruments assemblies are required to make the subject change

- A. DC/DC Converter Subassembly, Avionic Instruments part numbers 1-002-0107-2056.
- B. One (1) each of transistor Avionic Instruments part numbers 1-001-0429-0097 and 1-001-0429-0098.
- C. One (1) each of capacitor Avionic Instruments part number 1-001-0328-0015.

## 11.3 Cost

- A. Units to be upgraded to MOD E will be mandatory. Units to be upgraded to MODs C, D and E will be upgraded in conjunction with the return for MOD E. No requests for upgrade From MOD B to MOD C or MOD C to MOD D exclusive of MOD E will be accepted.
- B. For units returned with serial numbers prior to KC001040, units will be updated to MOD E free of charge.
- C. All cost defined above are limited to Avionic Instruments' internal material, labor and overhead of the static inverter modification to MOD level E and return freight exclusive of duty and taxes.

## 11.4 Tools

- A. Standard Tools
- B. Soldering Iron

## 11.5 Spares

The subject change will be completed at Avionic Instruments LLC.

## 12.0 Testing:

Each unit will be subject to acceptance testing in accordance with Avionic Instruments test procedure 1-001-5004-0213.

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## 13.0 Completion

Upon completion of the modification, the label on the top panel will be changed to indicate MOD LVL. "E" (See Figure 1).

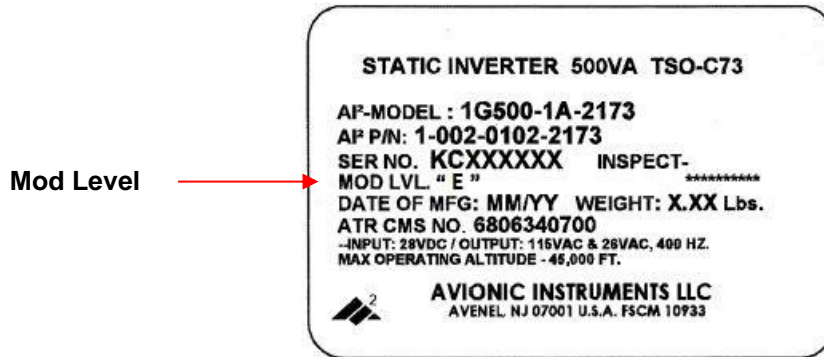


Figure 1: 1-002-0102-2173 Name Plate Label –

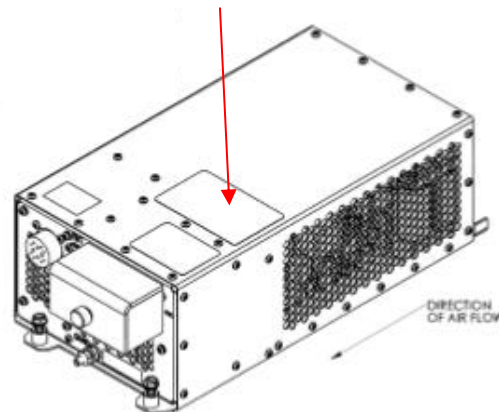


Figure 2: 1-002-0102-2173 Name Plate Label Location

## 14.0 Approval

The technical content of this document is approved under the authority of DOA Ref. EASA.21J.044.

## 15.0 Contacts

For further information, please contact ATR Customer Service.

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