



SERVICE BULLETIN

REVISION TRANSMITTAL SHEET

This sheet transmits Revision 1 to Service Bulletin 6647-32-11

REASON FOR REVISION

To correct typing errors in the Material Information.

To update component details in the Material Information.

Service Bulletin changed to reflect current Service Bulletin format.

FURTHER INFORMATION

Units previously complied with this Service Bulletin are not effected by this revision.

The revision lines in the Left margin identifies the changes.

NOTE: The Service Bulletin has been fully re-printed.

REVISION SEQUENCE

Original: March 31/02

Revision 1: Oct 1/06



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SERVICE BULLETIN No. 6647-32-11

LANDING GEAR - EXTENSION AND RETRACTION - CONTROL AND INTERFACE

INTRODUCTION OF AN IMPROVED METHOD OF MOUNTING INTEGRATED CIRCUITS ON THE MICROPROCESSOR BOARD

1. Planning Information

A. Effectivity

AIRBUS A318, A319, A320 and A321 aircraft, all models.

Landing Gear Control and Interface Units (LGCIUs), Part Nos. 664700500A4X, all serial numbers up to and including 3052, having microprocessor boards with Part Nos. 001LG01-0340 or 001LG01-0450.

B. Concurrent Requirements

Not Applicable.

C. Reason

LGCIU BITE code H138 and/or H146 can be linked to external causes. However, code H146 can be caused by the failure of solder joints that attach the crystal oscillator IC3 to the microprocessor board (Part No. 001LG01-0340 or 001LG01-0450).

The addition of a spacer under IC3 has been proven by in-service experience to significantly reduce the number of H146 codes recorded. A spacer is also introduced under the crystal oscillator IC2 as it improves the ease of manufacture and inspection.

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D. Description

This Service Bulletin introduces an improved method of mounting ICs 2 and 3 on the microprocessor board. The new mounting incorporates an intermediate spacer between the IC and the board surface. The IC is first bonded to the spacer, then the spacer/IC assembly is bonded to the board. Electrical connections are made in the normal way. Finally, the conformal coating on the board is repaired.

Use of the spacer confers the following benefits:

- (1) Improved quality of the soldered joints.
- (2) Reduced stress on the joints.
- (3) Easier visual inspection of the joints.
- (4) Prevention of encroachment under the IC by the conformal coating.

The new method is implemented when IC2 and/or IC3 have to be replaced as a result of faults found during test/inspection or in the event of intermittent code H146, or H146 associated with H138, faults being recorded by the BITE. It is not necessary to accomplish this Service Bulletin on serviceable microprocessor boards.

The manufacturer will install the spacers on all new-build units. Accomplishment of this Service Bulletin does not change the Part Numbers of the microprocessor boards, nor does it affect modification standard of the boards.

E. Compliance

Compliance with this Service Bulletin is recommended.

The manufacturer will also accomplish this Service Bulletin, on request, on LGCIUs returned for investigation and/or repair, if such repair involves replacement of either or both of the ICs concerned.

F. Approval

The technical content of this document is approved under the authority of: DOA Nr. EASA. 21J. 092.



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G. Manpower

The work necessary to accomplish this Service Bulletin is largely covered by the work you will need to do to replace IC2 and/or IC3 on the microprocessor board. The additional work for two spacer/IC assemblies is:

- Bond the spacers to the ICs 0.5 man-hours
- Bond the spacer/IC assemblies to the board 0.5 man-hours

H. Weight and Balance

Weight and balance are not affected.

I. Electrical Load Data

This Service Bulletin does not change the aircraft electrical load.

J. Software Accomplishment Summary

Not applicable

K. References

Ultra Electronics LGCIU Component Maintenance Manual Ref. No. 32-31-39 (Latest Revision).

AIRBUS Technical Follow Up (TFU)

TFU – 32.31.71.044: L/G LGCIU 1 (2) ECAM WARNING

TFU – 32.31.71.047: L/G LGCIU 1 (2) FAULT INTERNAL CODE H138/H146

L. Other Publications Affected

Not applicable.

M. Interchangeability or Intermixability of Parts

Accomplishment of this Service Bulletin does not affect intermixability or interchangeability.



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2. Material Information

A. Material – Price and Availability

Price: The necessary material is detailed in paragraph 2.C.

Availability: Contact Ultra Electronics Controls for availability

B. Industry Support Information

Units returned to Ultra Electronics Controls can have this Service Bulletin carried out on request from Operators, or during a repair of the unit. Normal conditions and warranty terms for repair items will apply.

C. Material Necessary for Each Component(Unit)

The following parts from Ultra Controls are necessary to accomplish this Service Bulletin.

(1) Material to be Purchased



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<u>New PNR</u>	<u>Key Word</u>	<u>Old PNR</u>	<u>Qty</u>	<u>Unit Price</u>	<u>Inst/Disp</u>
664700500A4X	LGCIU	664700500A4X	1	N/A	Reworked LRU
001LG01-0340	PCB, Microprocessor	001LG01-0340	1	N/A	Reworked SRU
001LG01-0450	PCB, Microprocessor	001LG01-0450	1	N/A	Reworked SRU
001LG01-0592	Spacer	N/A	A/R	Price on Request	New Part
2874717408	Integrated Circuit, IC2	2874717408	1	Price on Request (Standard Cost item)	Two Way PNR Change
2874717107 OR	Integrated Circuit, IC3	2874717107	1	N/A	Two Way PNR Change
2874720408 OR	Integrated Circuit, IC3		1	N/A	Two Way PNR Change
2874720508 (Current Item)	Integrated Circuit, IC3		1	Price on Request (Standard Cost item)	Two Way PNR Change

(2) Material Supplied by the Operator (Consumables)

(a) Standard Material

Refer to the related sections of the CMM – Tools and Materials.

(b) Specific Material

A small quantity of standard workshop adhesive, Type RTV 162, is required. This is available world-wide: a typical UK supplier is GE Silicone Ltd.



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D. Material Necessary for Each Spare

Not applicable.

E. Re-identified Parts

Not applicable

F. Tooling – Price and Availability

No special tools are required to accomplish this Service Bulletin.

3. Accomplishment Instructions

CAUTION: YOU MUST WORK ON THE LGCIU ONLY UNDER CLEAN ROOM CONDITIONS. ALL WORK MUST BE CARRIED OUT AN APPROVED METAL OXIDE SEMICONDUCTOR WORK STATION, IN ACCORDANCE WITH STANDARD ANTISTATIC PROCECURES TO PREVENT DAMAGE BY STATIC DISCHARGE

Full description of the procedures is described in the LGCIU CMM, ATA Ref. 32-31-39 (Latest Revision).

A. Access to the Work Area

- (1) Refer to the LGCIU CMM, ATA Ref. 32-31-39, DISASSEMBLY page 301.
- (2) Remove the microprocessor board and check that its Part No. is 001LG01-0340 or 001LG01-0450.
- (3) If the serial number of the LGCIU is 3052 or below, inspect the microprocessor board for the modification. If the modification has already been completed and the board is at Issue 23, continue with any further fault-correction tasks necessary and reassemble the LGCIU. If the modification has not been completed, continue with these Accomplishment Instructions.



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B. Fitting the Spacer(s)

- (1) Refer to the LGCIU CMM, ATA Ref. No. 32-31-39, REPAIR page 601 and IPL Fig. 7, remove and discard the original IC2 and IC3.
- (2) Clean the work area to remove all traces of conformal coating.
- (3) Apply a thin layer of adhesive RTV 162 to the underside of the new IC(s). Position the spacer, Pt. No. 001LG01-0592, centrally on the underside of the IC(s).
- (4) Apply a thin layer of adhesive RTV 162 to the underside of the spacer.
- (5) Fit the new IC/spacer assembly to the board and allow the adhesive to cure (see adhesive manufacturer's instructions).
- (6) Solder the legs of the IC(s) to the board.
- (7) Repair the conformal coating.
- (8) Carry out any further fault-correction tasks necessary.

C. Re-assembly

- (1) Refer to the LGCIU CMM, ASSEMBLY page 701.
- (2) Reassemble the LGCIU, as instructed in the CMM, ASSEMBLY page 701.

D. Test

- (1) Refer to the LGCIU CMM, TESTING AND FAULT ISOLATION page 101.
- (2) Perform a full acceptance test on the LGCIU as instructed in the CMM, TESTING AND FAULT ISOLATION page 101.



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4. Notification

After accomplishment of this Service Bulletin, the Operator must tell the Ultra Controls this data:

- Service Bulletin number.
- Serial number(s) of the LGCIU(s) amended.
- Date of amendment(s).

Send this data to:

Customer Services Manager,
Ultra Electronics Controls
417 Bridport Road, Greenford, Middlesex,
UB6 8UE
United Kingdom

5. Further information

If you need more information about this Service Bulletin, or to obtain price/delivery data, contact the Customer Services Manager at:

Ultra Electronics Controls
417 Bridport Road, Greenford, Middlesex
UB6 8UE
United Kingdom

Telephone: +44 (0) 20 8813 4405 Fax: +44 (0) 20 8813 4351
Email: support@ultracontrols.aero