

Ultra Electronics

This Service Bulletin complies with British Civil Airworthiness Requirements, Sect. A, Chapter A5-3.

Signed . 

CAA Approval No. DAI/1501/39
1 April 1998

SERVICE BULLETIN No. 6647-32-10

LANDING GEAR - EXTENSION AND RETRACTION - CONTROL AND INTERFACE

INTRODUCTION OF LGCIU PT. NO. 664700500A4D

1. Planning Information

A. Effectivity

Airbus Industrie A319, A320 and A321 aircraft, all models.

Landing Gear Control and Interface Units (LGCIUs), Part Nos. 664700500A4A, 664700500A4B and 664700500A4C, all serial numbers.

B. Reason

Following the development and introduction into service of LGCIU 664700500A4C (see Service Bulletin 6647-32-7), operators have experienced the ECAM warning 'LGCIU 1(2) FAULT' triggered by proximity sensor disagreement fault. This warning was inappropriate because it caused some systems to be listed as inoperative when, in fact, they were operative. For example 'REVERSER 2' is listed as inoperative when 'LGCIU 2 FAULT' is triggered.

C. Description

The 4D version of the LGCIU software will not trigger the ECAM warning 'LGCIU 1(2) FAULT' for proximity sensor disagreements. Proximity sensor disagreements will still be identified by Failure Messages on the Post Flight Report where they are appended with 'TGT POS', as in the 4C standard.

For the 4D standard LGCIU, the meaning of the ECAM warning 'LGCIU 1(2) FAULT' reverts to the 4B definition, which is that the LGCIU has relinquished control of the

Ultra Electronics

landing gear and that the flight/ground interface information may have defaulted to the flight condition, depending on the exact nature of the fault.

In the 4C version of the software, bit 29 of ARINC label 021 indicates -

LGCIU FAULT OR PROX SENSOR DISAGREE

This Service Bulletin introduces modified software at the 4D standard, in which bit 29 of ARINC label 021 indicates LGCIU FAULT. Bit 28 of ARINC label 023 now indicates PROX SENSOR DISAGREE.

LGCIUs of Pt. No. 664700500A4A, 664700500A4B and 664700500A4C are converted to Pt. No. 664700500A4D by replacing the OBRM, Pt. No. 6650002004A or 6650002004B or 6650002004C with Pt. No. 6650002004D. No other work is required and it is not necessary to disassemble the LGCIU to accomplish this Service Bulletin.

D. Compliance

Compliance with this Service Bulletin is recommended.

Compliance is achieved by fitting a new OBRM. This may be either an exchange unit from the manufacturer, or an OBRM which has been reprogrammed by the aircraft Operator or a Service Agent.

The manufacturer will also accomplish this Service Bulletin, on request, on LGCIUs returned for investigation and/or repair.

E. Approval

The technical data in this Service Bulletin is approved by authority of CAA Approval No. DAI/1501/39.

F. Manpower

The work necessary to accomplish this Service Bulletin is :

- Fit exchange OBRM 0.1 man-hours
- Reprogram and fit existing OBRM 1.1 man-hours

Ultra Electronics

G. Material Cost and Availability

OBRM Pt. No. 6650002004D will be made available to Operators on exchange. Alternatively, a master OBRM will be provided to Operators who wish to reprogram their own OBRMs. New OBRM identification labels will be supplied for fitting to the reprogrammed OBRMs - Operators must inform Ultra Electronics of the quantity required.

Price and delivery data for the OBRMs is available from Ultra Electronics Controls Division (address on page 5 of this Service Bulletin).

H. Tooling - Price and Availability

Operators who wish to reprogram their own OBRMs must have access to an Aerospatiale Firmware Data Loader, Type RMR PRECIS B, Pt. No. 37A0D0-3000-000. Data on price and availability of this device can be obtained from Aerospatiale Avionics and System Division.

J. Weight and Balance

Weight and balance are not affected.

K. Electrical Load Data

This Service Bulletin does not change the aircraft electrical load.

L. References

Ultra Electronics Component Maintenance Manual Ref. No. 32-31-39 (Revision 10).

The ATEC 5000 ATE software specification is L5EA60323TP0E00. The ATEC Series 6 software specification is L6PZ32Z7ZDTP0E00.

M. Intermixability/Interchangeability

A 664700500A4D LGCIU will function correctly with any previous standard of LGCIU.

Ultra Electronics

When a 664700500A4D LGCIU is substituted for either a 664700500A4A or a 664700500A4B LGCIU, the NOVOL RAM must be erased. Refer to CMM 32-31-39, TESTING, page 101. When a 664700500A4D LGCIU is substituted for a 664700500A4C LGCIU, the NOVOL RAM does not require erasure.

2. Accomplishment Instructions

A. OBRM Change

Accomplishment of this Service Bulletin is achieved by removing OBRM Pt. No. 6650002004A, 6650002004B or 6650002004C and replacing it with OBRM Pt. No. 6650002004D.

Refer to Ultra Electronics Component Maintenance Manual 32-31-39, Page 301, para. 2.A for OBRM removal instructions.

Refer to Ultra Electronics Component Maintenance Manual 32-31-39, Page 701, para. 2.A for OBRM installation instructions.

Correct functioning of the new OBRM will automatically be checked during the start-up BITE tests when the LGCIU is next powered up.

Note that previously-logged faults in the LGCIU's NOVOL RAM may be reported incorrectly after the new OBRM is fitted.

B. OBRM Reprogramming

Remove the original identification labels from the OBRM. Make a note of the OBRM Serial Number.

Refer to the Aerospatiale Instruction Manual for the RMR PRECIS B Firmware Data Loader and carry out the erasing, reprogramming and test procedures as directed, using the 6650002004D master OBRM supplied by Ultra Electronics.

Fit the new identification labels to the reprogrammed OBRM. Endorse the OBRM serial number, month/year of modification and software suffix '4D' onto the main identification label. Endorse the software suffix '4D' onto the software label.

Fit the reprogrammed OBRM into the LGCIU as described in para. 2.A above.

Ultra Electronics

C. Notification

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

- Service Bulletin Number.
- Serial Number(s) of the LGCIU(s) modified.
- Serial number(s) of the OBRM(s) reprogrammed.
- Date of modification(s).

Send this data to :

Product Support Manager,
Ultra Electronics Controls Division,
417, Bridport Road, Greenford, Middlesex,
UB6 8UA
United Kingdom

3. Material Information

| New Part Number | Qty. | Keyword | Old Part Number | Inst.-Disposition |
|-----------------|------|--------------|--|-----------------------------------|
| 664700500A4D | 1 | LGCIU | 664700500A4A or 664700500A4B or 664700500A4C | Reworked part |
| 6650002004D | 1 | OBRM | 6650002004A or 6650002004B or 6650002004C | Reworked part or exchange item |
| 001LG01-0448 | 1 | Label, ident | Not applicable | Discard old part |
| 001LG00-0443 | 1 | Label, s/w | Not applicable | Discard old part |

Accomplishment of this Service Bulletin does not change the LGCIU modification state.