### SERVICE BULLETIN SUMMARY

AIRBUS INDUSTRIE
CUSTOMER SERVICES DIRECTORATE
1 Rond Point Maurice BELLONTE
31707 BLAGNAC CEDEX FRANCE
Tel: (33) 61933333
Telex: AIRBU 530526F

This summary is for information only and is not approved for modification of the aircraft

TITLE: AIR CONDITIONING - COCKPIT AND CABIN TEMPERATURE CONTROL - INTRODUCE

ZONE TEMPERATURE CONTROLLER 775CO000-04

MODIFICATION No.: 25639K4404 ATA SYSTEM: 21

#### REASON/DESCRIPTION/OPERATIONAL CONSEQUENCES

This Service Bulletin is published to advise operators of the issue of the LIEBHERR Service Bulletin No. 775C-21-02. Several operators have reported spurious fault messages on ECAM/CFDS originating from the Trim Valve Potentiometer. Investigations have shown that the Zone Controller Software has to be improved to replace the potentiometer function with the step counting principle.

This Service Bulletin describes the procedure to modify the Zone Controller from P/N 775C0000-03 to the P/N 775C0000-04.

This Service Bulletin gives information about the improved Software functions as follows:

- Introduction of new software for the Trim Air Valve (TAV) position indication and monitoring. The step-counting principle will replace the TAV potentiometer and open limit switch monitoring.
   Only the closed position of the TAV will be monitored. The conditions for the closed position are:
  - \* After power on,
  - \* Both packs closed,
  - \* Pack start,
  - \* Hot Air switch off,
  - \* Duct overheat.

The zone main controller counts the commanded steps for each of the TAV stepper motors to calculate the TAV position for the ECAM indication. The closed position of the limit switch gives the reference for zero indication.

 Improvement of the system reactions if a TAV failure occurs. If a TAV fails, independent of detection during power-up test or continuous monitoring, the same system reactions will occur.

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- Improvement of the main controller for the duct overheat monitoring. The duct overheat detection will be done by the duct sensor. The early overheat detection will not be given because the pressure reduce function of the TAPRV is no longer activated
- Improved fault messages in the event of both the recirculation fans 1 and 2 failing. In addition to the ECAM warning "COND L AND R CAB FAN FAULT", the CFDS message "RECIRC FAN 1 AND 2 OR SUPPLY" is transmitted.
- Improvement of the A/C type indication. One of the two indicated A/C types at the CFDS submenue 'LRU Identification' will be changed from 'INSTALLED IN A320' to 'INSTALLED IN A320/A319'.
- Improved failure classification of some CFDS Class III messages, which, during the failure condition could give a loss of performance. Because they are ignored by some operators, the following class III messages will now be indicated as class II:

#### Zone Faults:

- \* Temp. Selectors
- \* Flow Selector
- \* NO DATA FROM CFDS Confirmation time increased to 5 min.
- \* NO DATA FROM ADIRS Confirmation time increased to 5 min.
- \* NO DATA FROM CIDS Confirmation time increased to 5 min.
- \* NO 28 V ZONE MAIN Confirmation time increased to 30 sec., monitor active all the time
- \* NO 28 V ON ZONE SECD Confirmation time increased to 30 sec., monitor active all the time

#### Pack Faults:

- \* NO 28 V ON PACK 1(2) MAIN (SECD)
- \* P1 (2) WATER EX TEMP SENSOR (disagree sensor 1 and 2)
- \* P1 (2) COMP TEMP SENSOR
- \* P1 (2) COMP OVHT SENSOR

The indicated text at last/previous legs report will be unchanged.

- Improvement of the APU demand logic to solve problems caused during pack starting.
- NOTE: The modification detailed in this Service Bulletin also contains other minor improvements which have not been described.

The accomplishment of this Service Bulletin will improve the monitoring reliability of the air-conditioning system.

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#### **EFFECTIVITY**

This Service Bulletin is applicable to these customer(s):

AAA,ACA,ADR,AEF,AFR,AIB,ALK,AMC,ANA,AUA,AZA,BAW,BV,CDN,CSC,CYP,DLH,FHA,

GFA,HP,IAC,IBE,ITF,KAC,MON,MSR,MXA,NWA,OHY,OYC,RGA,RJA,SAA,SWR,SHK,TAI,

TAR,UAL,XF,XP,XR,XW,XZ.

#### SERVICE BULLETIN(S) TO BE ACCOMPLISHED PREVIOUSLY OR SIMULTANEOUSLY

Service Bulletin No. A320-21-1092 (Modification No. 24340K3364)

REFERENCES/REPERCUSSIONS

TFU : No: 21.60.00.004

OEB : None

AOT : None

SIL : None

LIFE LIMIT : None

LINE MAINTENANCE AFFECTED : No

OTHER : None

NATURE OF THE WORK

AIRCRAFT: NO

EQUIPMENT: YES

HARD: NO

SOFT: YES

OBRM: NO

COMPLIANCE

Desirable

MANPOWER

TOTAL MANHOURS 2.50

ELAPSED TIME (HOURS) 2.50

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# SERVICE BULLETIN SUMMARY

### MATERIAL INFORMATION

AIRCRAFT DATA

None

EQUIPMENT DATA

Designation: Zone Controller

Supplier: LIEBHERR-AERO-TECHNIK GmbH

Service Bulletin No.: 775C-21-02

Old Part Number : 7750000-03

New Part Number : 775C0000-04

Interchangeability code: O2 (Refer to ATA 200 Chapter 1A-2)

Mixability: Not applicable

### **APPENDICES**

None

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Tel: (33) 61933333 Telex: AIRBU 530526F

TITLE: AIR CONDITIONING - COCKPIT AND CABIN TEMPERATURE CONTROL - INTRODUCE

ZONE TEMPERATURE CONTROLLER 775C0000-04

MODIFICATION No.: 25639K4404 ATA SYSTEM: 21

### 1. PLANNING INFORMATION

### A. EFFECTIVITY

(1) Aircraft models: 320-111, 320-211, 320-212, 320-214, 320-212, 320-231, 320-232, 320-233, 321-111, 321-112,

321-131

### (2) Aircraft

Customer and Fleet No.	MSN	Kit No.	Qty of Kits NONE	Config. No. NONE
AAA 001-013	022,023,024,025,026,027, 029,030,140,142,157,229, 547			
ACA 201-234	059,068,073,084,122,126, 127,141,149,150,154,159, 183,233,242,248,253,254, 255,265,277,290,310,311, 324,330,333,341,342,350, 359,378,384,426			
ADR 001-003	043,113,114			
AEF 001 051,052	575 565,580			
AFR 001,002 004-008 031-048	005,007 014,019,020,021,002 061,062,063,100,101,102, 128,129,133,186,187,188, 226,227,228,285,286,287 131,132			
100,400	1219126			

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Customer and Fleet No.	MSN	Kit No.	Qty of Kits NONE	Config. No. NONE
AIB 001 401,402	258 376,386			
ALK 001,002	374,406			
AMC 001,002	112,293			
ANA 001-022	138,139,148,151,167,170, 196,212,219,245,300,328, 365,383,413,482,501,507, 531,534,549,554			
AUA 476-478	552,570,581			
AZA 001-017	477,488,494,495,434,524, 526,532,515,516,513,514, 576,583,586,593,599			
BAW 001-010	006,008,011,017,018,039, 042,103,109,120			
BV 051,052	185,191			
CDN 401-405 407-411 415,416	174,175,210,231,232 283,284,302,305,309 403,404			
csc 051-053	540,551,556			
CYP 001-008	028,035,037,038,180,256, 295,316			
DLH 001-010	069,070,071,072,078,083, 086,093,094,104			
012-034	110,111,116,117,135,137, 147,161,162,172,200,201, 202,209,216,217,218,267, 268,269,346,382,401			
101–115	458,468,473,474,484,493, 412,502,505,518,560,563, 564,567,595			

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	omer and t No.	MSN	Kit No.	Qty of Kits	Config.	
rtee	C NO.		NONE	NONE	No. NONE	
FHA	001,002	332,369				
	101-103	538,555,602				
GFA	801-816	313,325,345,375,419,421, 438,445,459,466,481,497, 536,537,542,543				
HP	620-622	052,053,054				
	624-629	055,064,065,066,067,076				
	631-637	077,081,082,091,092,098, 099				
IAC	001-012	045,046,047,048,049,050, 051,056,057,058,074,075				
	014-031	080,089,090,095,096,097, 396,398,416,423,431,432, 451,469,486,490,492,499				
IBE	001-022	134,136,143,146,158,173, 176,177,199,207,223,224, 240,241,246,264,266,274, 303,312,323,356	·			
ITF	001-003	010,012,013				
	005-018	016,033,036,044,004,003, 108,115,130,155,156,184, 214,239				
	020-027	278,337,352,236,237,377, 491,525				
	101-105	498,509,521,529,544				
	201,202	144,145				
	301,302	204,211				
	401-403	215,244,270				
KAC	001-003	181,182,195				
MON	001,002	379,389				
MSR	001-007	165,166,178,194,198,351, 366				

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Customer and Fleet No.		MSN	Kit No.	Qty of Kits NONE	Config. No. NONE
MXA	001-010	252,259,260,261,275,276, 296,320,321,353			
	012,016	368,433			
NWA	301-350	031,032,034,040,041,060, 106,107,118,121,125,152, 153,160,171,192,197,206, 208,213,262,263,272,273, 281,282,297,298,306,307, 318,319,329,339,340,355, 358,360,367,372,380,381, 387,388,399,400,408,410, 417,418			
ОНҮ	001	385			
OYC	001-006	163,164,168,169,179,193			
RGA	001-006	590,594,601,605,607,611			
RJA	001-003	087,088,569			
SAA	001-007	243,249,250,251,334,335, 440			
SHK	001-003	322,326,344			
SWR	226-237	533,545,548,553,559,562, 566,574,577,585,596,603			
	276-281	517,519,520,522,535,541	-		
TAI	001,002	558,561		-	
	051-054	448,453,460,461			
TAR	001-008	119,124,205,370,390,402, 123,511			
UAL	401-435	435,439,442,450,452,454, 456,457,462,463,464,465, 470,472,475,479,483,485, 487,489,500,503,504,506, 508,510,512,523,539,568, 571,587,589,592,613			

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Customer a Fleet No.	nd	MSN	Kit No.	Qty of Kits NONE	Config. No. NONE
XF 001-00	393,394,41 <sup>4</sup> 415,405,36	4,430,443,447, 1			
053-05	6 428,496,527	,530			
101-10	3 425,573,582	2			
201-20	550,557,59 <sup>2</sup> 550,	597ر ا			
501,50	2 446,422	•			
504-50	8 371,397,409	,427,528			
551,55	2 279,579				
XP 001	085				
051-05		,222,294,299,			
062,06	391,392	•			
502,50	362,363				
504-50	6 455,471,584	<b>,</b>			
XR 501-52	280, 291, 292 315, 317, 327	3,247,257,271, 2,304,308,314, 7,336,338,429, 7,476,478,480,			
XW 501-50 509	347,354,357 441	7,373,411,424			
XZ 003,00 101-11		3,289,331,343, 3,436	e		

Unassigned aircraft: 364,546,572
This modification is embodied prior to delivery on:

A319 aircraft MSN 578 and subsequent A320 aircraft MSN 615 and subsequent A321 aircraft MSN 604 and subsequent.

### (3) Spares

Zone controller P/N 775C0000-03

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#### SERVICE BULLETIN

#### B. REASON

### (1) History

This Service Bulletin is published to advise operators of the issue of the LIEBHERR Service Bulletin No. 775C-21-02. Several operators have reported spurious fault messages on ECAM/CFDS originating from the Trim Valve Potentiometer. Investigations have shown that the Zone Controller Software has to be improved to replace the potentiometer function with the step counting principle.

#### (2) Objective/Action

This Service Bulletin describes the procedure to modify the Zone Controller from P/N 775C0000-03 to the P/N 775C0000-04.

This Service Bulletin gives information about the improved Software functions as follows:

Introduction of new software for the Trim Air Valve (TAV)
position indication and monitoring. The step-counting principle
will replace the TAV potentiometer and open limit switch
monitoring.

Only the closed position of the TAV will be monitored. The conditions for the closed position are:

- \* After power on,
- \* Both packs closed,
- \* Pack start,
- \* Hot Air switch off.
- \* Duct overheat.

The zone main controller counts the commanded steps for each of the TAV stepper motors to calculate the TAV position for the ECAM indication. The closed position of the limit switch gives the reference for zero indication.

- Improvement of the system reactions if a TAV failure occurs. If a TAV fails, independent of detection during power-up test or continuous monitoring, the same system reactions will occur.
- Improvement of the main controller for the duct overheat monitoring. The duct overheat detection will be done by the duct sensor. The early overheat detection will not be given because the pressure reduce function of the TAPRV is no longer activated
- Improved fault messages in the event of both the recirculation fans 1 and 2 failing. In addition to the ECAM warning "COND L AND R CAB FAN FAULT", the CFDS message "RECIRC FAN 1 AND 2 OR SUPPLY" is transmitted.

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- Improvement of the A/C type indication. One of the two indicated A/C types at the CFDS submenue 'LRU Identification' will be changed from 'INSTALLED IN A320' to 'INSTALLED IN A320/A319'.
- Improved failure classification of some CFDS Class III messages, which, during the failure condition could give a loss of performance. Because they are ignored by some operators, the following class III messages will now be indicated as class II:

#### Zone Faults:

- \* Temp. Selectors
- \* Flow Selector
- \* NO DATA FROM CFDS Confirmation time increased to 5 min.
- \* NO DATA FROM ADIRS Confirmation time increased to 5 min.
- \* NO DATA FROM CIDS Confirmation time increased to 5 min.
- \* NO 28 V ZONE MAIN Confirmation time increased to 30 sec., monitor active all the time
- \* NO 28 V ON ZONE SECD Confirmation time increased to 30 sec., monitor active all the time

#### Pack Faults:

- \* NO 28 V ON PACK 1(2) MAIN (SECD)
- \* P1 (2) WATER EX TEMP SENSOR (disagree sensor 1 and 2)
- \* P1 (2) COMP TEMP SENSOR
- \* P1 (2) COMP OVHT SENSOR

The indicated text at last/previous legs report will be unchanged.

 Improvement of the APU demand logic to solve problems caused during pack starting.

#### (3) Advantages

The accomplishment of this Service Bulletin will improve the monitoring reliability of the air-conditioning system.

(4) Operational/Maintenance Consequences

None

(5) Accomplishment Timescale

In accordance with operators maintenance planning.

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#### SERVICE BULLETIN

#### C. DESCRIPTION

To accomplish this Service Bulletin it is necessary to :

(1) Modify the Zone Controller 8HK P/N 775C0000-03.

### D. APPROVAL

The design data contained in this Service Bulletin has been approved under the authority of DGAC Design Organisation Approval No C 01. The changes specified in this Service Bulletin have been approved by the DGAC when they are major, or under the authority of DGAC Design Organisation Approval No. CO1, when they are minor.

### E. MANPOWER

This Service Bulletin is written for an aircraft in a maintenance condition. The manhours/elapsed time estimates do not include the time to prepare for the modification, non-productive elapsed times or administration.

NOTE: The manhours for the modification include 1.0 manhours given in the LIEBHERR Service Bulletin No. 775C-21-02.

Get access	0.25
Modification	1.25
Test	0.50
Close-up	0.50
TOTAL MANHOURS	2.50
ELAPSED TIME (HOURS)	2.50

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### F. MATERIAL - COST AND AVAILABILITY

(1) Material

Procurement to be negotiated directly with:

LIEBHERR-AERO-TECHNIK GmbH Customer Service Postfach 1363 D-88163 Lindenberg GERMANY

(2) Cost and Availability

Cost:

The material required to accomplish this Service Bulletin is free of charge.

Availability:

The availability of the material for this Service Bulletin is to be negotiated directly with:

LIEBHERR-AERO-TECHNIK GmbH Customer Service Postfach 1363 D-88163 Lindenberg GERMANY

G. TOOLING - PRICE AND AVAILABILITY

None

H. WEIGHT AND BALANCE

Not changed

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I. REFERENCES

Aircraft Maintenance Manual (AMM) : 12-34-24, 21-63-00, 21-63-34

Service Bulletin (SB)

: A320-21-1092

LIEBHERR Service Bulletin

: 775C-21-02

J. PUBLICATIONS AFFECTED

Illustrated Parts Catalog (IPC) : 21-63-08, 21-63-34

Aircraft Maintenance Manual (AMM)

: 21-63-00, 21-63-18

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### 2. ACCOMPLISHMENT INSTRUCTIONS

#### A. GENERAL

WARNING: MAKE SURE THAT YOU OBEY ALL THE WARNINGS AND ALL THE CAUTIONS INCLUDED IN THE REFERENCED PROCEDURES.

#### (1) Preparation

- (a) Electrical ground the aircraft (Refer to AMM 12-34-24, P. Block 201).
- (b) Open the access door 811.
- (c) Open, safety and tag the applicable circuit breakers as given in AMM 21-63-34, P. Block 401.
- (2) Standard Practices

None

### B. MODIFICATION

- (1) Modify the Zone Controller 8HK
  - (a) Remove and retain the Zone Controller 8Hk P/N 775C0000-03 from the Electronics Rack 93VU in the avionics compartment (Ref. AMM 21-63-34, P. Block 401).
  - NOTE: Operators who have no Zone Controller repair facilities should send the removed unit to LIEBHERR Customer Service for modification.
  - (b) Install the Zone Controller 8HK P/N 775C0000-04 modified as per LIEBHERR Service Bulletin No. 775C-21-02 in the Electronics Rack 93VU in the avionics compartment (Ref. AMM 21-63-34, P. Block 401).

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### C. TESTS

- (1) Remove the safety tags and close the circuit breakers that you opened in para. 2.A.(1)(c).
- (2) Do an operation test of the cockpit and cabin temperature control (Ref. AMM 21-63-00, P. Block 501).

#### D. CLOSE-UP

- (1) Make sure that the working area is clean and clear of tools and other items of equipment.
- (2) Close the access door 811.

### E. DOCUMENTATION

Write in the applicable aircraft records that you have done all the work given in this Service Bulletin.

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### SERVICE BULLETIN

### 3. MATERIAL INFORMATION

### A. LIST OF COMPONENTS

ITEM NEW PART NO. QTY KEYWORD ITEM OLD PART NO. INT INST DISP

775C0000-04 1 Zone Controller 775C0000-03

NOTE :

No Airbus Industrie kit is required for this Service

Bulletin.

Details of procurement are to be negotiated directly with:

LIEBHERR-AERO-TECHNIK GmbH

Customer Service Postfach 1363 D-88163 Lindenberg

Germany

B. SPECIAL TOOLS

None

C. LIST OF MATERIAL - OPERATOR SUPPLIED

None

D. PARTS TO BE RE-IDENTIFIED BY OPERATOR

ITEM	NEW PART NO.	KEYWORD	ITEM	OLD PART NO. INT
	775c0000-04	Zone Controller		775c0000-03

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AIRBUS INDUSTRIE
CUSTOMER SERVICES DIRECTORATE
1 Rond Point Maurice BELLONTE
31707 BLAGNAC CEDEX FRANCE
Tel: (33) 61933333

Telex: AIRBU 530526F

TITLE : AIR CONDITIONING - COCKPIT AND CABIN TEMPERATURE CONTROL - INTRODUCE

ZONE TEMPERATURE CONTROLLER 775C0000-04

MODIFICATION No.: 25639K4404 ATA SYSTEM: 21

IS BEING HEREWITH SUBMITTED TO YOU FOR REVIEW

Please fill:

... REJECTED

... WILL BE EMBODIED

... EFFECTIVITY

This SB can only be incorporated in your "customized" documentation within the agreed time schedule if this sheet is returned to us on the purchase date and signed by a duly authorized and empowered officer or representative.

FROM :
AIRLINE :
NAME :
DATE :
19

Please return to :

AIRBUS INDUSTRIE CUSTOMER SERVICES DIRECTORATE 1 Rond Point Maurice BELLONTE 31707 BLAGNAC CEDEX FRANCE

Att.: AI/SP - Technical Publications
Department

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