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MANDATORY MANDATORY MANDATORY

ATA SYSTEM: 22

TITLE: AUTO FLIGHT - FLIGHT MANAGEMENT AND GUIDANCE COMPUTER (FMGC) - INSTALL FM HONEYWELL H4 ASSOCIATED TO FG PC20 (NEO)

MODIFICATION No.:

167616P20606
CONF 001 002 004
163903P20602
CONF 002
25612P21896

ATA SYSTEM: 22

TITLE: AUTO FLIGHT - FLIGHT MANAGEMENT AND GUIDANCE COMPUTER (FMGC) - INSTALL FM HONEYWELL H4 ASSOCIATED TO FG PC20 (NEO)

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SUMMARY

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

A. MODIFICATIONS

CONF 001

MODIFICATION CLASSIFICATION		
MAJOR	163903P20602	167616P20606
MINOR	None	

NOTE: As per EASA IR 21, a minor change is one that has no appreciable effect on the mass, balance, structural strength, reliability, operational characteristics affecting the airworthiness of the product. All other changes are major changes.

CONF 002

MODIFICATION CLASSIFICATION		
MAJOR	163903P20602	167616P20606
MINOR	25612P21896	

NOTE: As per EASA IR 21, a minor change is one that has no appreciable effect on the mass, balance, structural strength, reliability, operational characteristics affecting the airworthiness of the product. All other changes are major changes.

NOTE: This modification is related to an airworthiness issue and has been re-classified and confirmed by EASA as minor in accordance with EU Part 21.A.91. As such, this is handled by Airbus under the Design Organisation Approval ref. EASA.21J.031.

CONF 003

MODIFICATION CLASSIFICATION	
MAJOR	167616P20606
MINOR	None

NOTE: As per EASA IR 21, a minor change is one that has no appreciable effect on the mass, balance, structural strength, reliability, operational characteristics affecting the airworthiness of the product. All other changes are major changes.

CONF 004

MODIFICATION CLASSIFICATION		
MAJOR	163903P20602	167616P20606
MINOR	None	

NOTE: As per EASA IR 21, a minor change is one that has no appreciable effect on the mass, balance, structural strength, reliability, operational characteristics affecting the airworthiness of the product. All other changes are major changes.

CONF 005

MODIFICATION CLASSIFICATION	
MAJOR	167616P20606
MINOR	None

NOTE: As per EASA IR 21, a minor change is one that has no appreciable effect on the mass, balance, structural strength, reliability, operational characteristics affecting the airworthiness of the product. All other changes are major changes.

CONF 006

MODIFICATION CLASSIFICATION	
MAJOR	167616P20606
MINOR	None

NOTE: As per EASA IR 21, a minor change is one that has no appreciable effect on the mass, balance, structural strength, reliability, operational characteristics affecting the airworthiness of the product. All other changes are major changes.

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B. REASON

(1) History

This Service Bulletin has been issued in order to introduce the FMGC 3G H4PC20 on A319/A320/A321 NEO aircraft equipped with CFM engines.

This new FMGC standard introduces some safety enhancements that are part of the AIRBUS safety beyond standard step1 project, refer to Ref. ISI 22.00.00104.

(2) Objective/Action

The modification consists in installing the new FMGC 3G STD H4PC20 in place of FMGC 3G STD H3PC19 and H3PC20 on aircraft equipped with CFM engines.

This modification is an evolution of both FG and FM software.

(3) Advantages

Accomplishment of this Service Bulletin will bring the following improvements:

(a) On FG side, in comparison to FG standard PC19, the FG standard PC20 provides the following improvements:

- For A319 NEO CFM only:
  - FG PC20 is the minimum standard for CAT2/CAT3 Automatic Landing (AUTOLAND) on A319 NEO CFM. The removal of the AUTOLAND limitation is activated through a separate Service Bulletin No. Ref. SB A320-22-1568 installing MOD No. 161765 on A319 NEO CFM
  - Tuning of FD at take-off to improve the A319 NEO CFM AFM take-off performance. A pin prog activated by separate MP P21896 is applied in order to inhibit this function as long as the FD function is not certified, the MP P22054 will remove the pin prog P21896.

- For all A320 Family NEO aircraft:
  - Improvement of Runway Overrun Prevention System (ROPS step 2+) by taking into account two new cockpit features:

- Dry/wet rotary selector to select runway condition in order to avoid "IF WET: RWY TOO SHORT" alert while landing on a dry runway
- "ROW/ROP" OFF push-button for ROPS deactivation. This function requires the MOD No. 163425P20473 and MOD No. 166357P21486 for activation

- Introduction of TCAP function capability, which allows to avoid unnecessary TCAS resolution advisories
- Introduction of SLS approach CAT 1 capability. This function is available with FMS H4 standard. This function requires the following MOD for activation: MOD 165088/MP P2119
- Improvement of AP/FD/ATHR functions availability in case of FMS and LGCIU failure
- Improvement of “LVR TOGA” message display logic by displaying the message also when thrust levers are set on maximum continuous thrust whereas neither “FLEX” nor “Derated TO” mode are selected at MCDU
- Introduction of smart exit alpha floor, when the aircraft is back into the normal flight envelope, the ATHR returns to its previous state. TOGA thrust is no longer applied after alpha floor recovery
- Introduction of ATHR auto-engagement in overspeed situation to automatically reduce the airspeed. The pilot will be alerted of the automatic ATHR engagement through a flashing amber boxing of the SPEED (or MACH) mode on the FMA as long as the aircraft is in overspeed. The ATHR returns to its previous state when the aircraft is no more in overspeed
- Improvement of “TCAS MODE FAULT” message display logic. This improvement addresses the issue described in TFU 22.00.00.209
- Correction of a possible altitude constraint capture after GA
- Introduction of vertical speed target limitation near ground and ceiling to avoid inappropriate AP/FD orders at AP/FD engagement
- Introduction of FMGC hardware pin-prog display on MCDU
  Note: This function requires the installation of FAC minimum standard CAA12.
- Introduction of FMGC1/FMGC2 mixed FG software configuration check. In case of mixed FMGC configuration, a new amber ECAM caution `AUTO FLT FMGC VERSIONS DISAGREE', is displayed in Phase 1 (pre-flight on ground)
  Note: This function requires the installation of FWC minimum standard F13.
- Improvement of ADIRU failure isolation:
  The existing PFR message "AFS:ADIRU 1/2/3 DISAGREE" is replaced by "AFS:ADIRU DISAGREE XX" message. XX corresponds to the failure code allowing to incriminate the rejected ADR or IR. This function also requires the installation of FAC minimum standard CAA13.
- Reduction of the longitudinal AP guidance authority in GA in order to avoid possible AP disconnection due to ELAC alpha protection. The modification cancels the Operations Engineering Bulletin (OEB)57 and addresses the issue described in TFU 22.10.00016.
- Correction of COM/MON discrepancy in case of GA during Flare. This modification addresses the issue described in FCOM A321N TAB DSC-22_30-110 “DUAL FMGC RESET AFTER GO-AROUND CLOSE TO THE GROUND”.

(b) On FM side, in comparison to FM standard H3, the FM standard H4 provides the following main improvements:

- SLS function (new OPC option) activated through dedicated major MOD 165088/MP P21191. SLS is a precision approach procedure based on differential GPS position whose accuracy is improved thanks to the use of geostationary satellites (linked to SBAS function)
- SBAS navigation function (new OPC option) activated through dedicated MOD opened by MP P21606, allowing aircraft to use augmented GPS position and needed to fly SLS approaches (this capability requires minimum MMR standard)
- NDB cycle swap confirmation prompt, avoiding inadvertent NDB cycle swap with the consequence of dual loss of F-PLN
- Transmission of additional data to improve synthetic runway display on HUD
- Display of GPS data on MCDU upon IR fault: on GPS MONITOR page, GPS raw data are displayed as soon as received valid from ADIRS and kept displayed regardless of GPIRS validity status
- Improvement of tropopause and cruise temperature entry formats: the FMS is now able to recognize TROPO values defined in FL and to convert them into feet for display and predictions computation. For the temperature, the improvement consists in displaying the CRZ TEMP and GND TEMP values in INIT page always with their associated sign
- Improvement of approach legs sequencing rule in HDG/TRK: leg sequencing rules have been refined in order to avoid undue automatic sequencing of destination or flight plan waypoints in approach when flying in heading or track mode
- Improvement of below path predictions in approach
- Correction of descent transition level sign
- Differentiation of FM pages related to secondary flight plan.

(4) Operational/Maintenance Consequences

The Operational/Maintenance Consequences of this Service Bulletin are covered by the update of the affected publications detailed in "PLANNING INFORMATION".

This Service Bulletin cancels Operations Engineering Bulletin No(s). 57. Operators having programmed an OEB reminder should delete the reminder(s) from their system.

This Service Bulletin has an impact on flight operations documentation; consult AirbusWorld and refer to Ref. MOI 163903 described in TFU 22.00.00102 and Ref. MOI 167616 described in TFU 22.00.00108.

C. GENERAL EVALUATION

EVALUATION TABLE			
COMPLIANCE	MANDATORY	COST SAVING	NO
A/C OPERATION AFFECTED	YES	VENDOR SB	NO
CANCELS INSPECTION SB	NO	ETOPS AFFECTED	NO
PAX COMFORT AFFECTED	NO	POTENTIAL AD	YES
RELIABILITY AFFECTED	NO	STRUCTURAL LIFE EXTENSION	NO
LIFE LIMIT	NO	LINE MAINTENANCE AFFECTED	NO

NOTE: Service Bulletin must be accomplished.

D. MAINTENANCE CONFIGURATION

CONF 001

No specific aircraft maintenance configuration required.

CONF 002

No specific aircraft maintenance configuration required.

CONF 003

No specific aircraft maintenance configuration required.

CONF 004

No specific aircraft maintenance configuration required.

CONF 005

No specific aircraft maintenance configuration required.

CONF 006

No specific aircraft maintenance configuration required.

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E. MATERIAL PRICE INFORMATION

CONF 001

(1) Modification

(a) Task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

MATERIAL PRICE INFORMATION TABLE			
MATERIAL SET	**QTY PER A/C**	**PRICE PER A/C**	**MAIN PARTS**
Equipment	See SB	See Note	CD-ROM, software, Disk

NOTE: Price information to be obtained from the given supplier.

(b) Task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

MATERIAL PRICE INFORMATION TABLE			
MATERIAL SET	**QTY PER A/C**	**PRICE PER A/C**	**MAIN PARTS**
Equipment	See SB	See Note	CD-ROM, software, Disk, FMGCs

NOTE: Price information to be obtained from the given supplier.

CONF 002

(1) Modification

(a) Task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

MATERIAL PRICE INFORMATION TABLE			
MATERIAL SET	**QTY PER A/C**	**PRICE PER A/C**	**MAIN PARTS**
Equipment	See SB	See Note	CD-ROM, software, Disk

NOTE: Price information to be obtained from the given supplier.

(b) Task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

MATERIAL PRICE INFORMATION TABLE			
MATERIAL SET	**QTY PER A/C**	**PRICE PER A/C**	**MAIN PARTS**
Equipment	See SB	See Note	CD-ROM, software, Disk, FMGCs

NOTE: Price information to be obtained from the given supplier.

CONF 003

(1) Modification

(a) Task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

MATERIAL PRICE INFORMATION TABLE			
MATERIAL SET	**QTY PER A/C**	**PRICE PER A/C**	**MAIN PARTS**
Equipment	See SB	See Note	CD-ROM, software

NOTE: Price information to be obtained from the given supplier.

(b) Task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

MATERIAL PRICE INFORMATION TABLE			
MATERIAL SET	**QTY PER A/C**	**PRICE PER A/C**	**MAIN PARTS**
Equipment	See SB	See Note	CD-ROM, software, FMGCs

NOTE: Price information to be obtained from the given supplier.

CONF 004

(1) Modification

(a) Task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

MATERIAL PRICE INFORMATION TABLE			
MATERIAL SET	**QTY PER A/C**	**PRICE PER A/C**	**MAIN PARTS**
FLS kit 221821N01R01	1	150.00 USD	Software
FLS kit 221821N02R00	1	150.00 USD	Software
TOTAL		300.00 USD	

(b) Task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

MATERIAL PRICE INFORMATION TABLE			
MATERIAL SET	**QTY PER A/C**	**PRICE PER A/C**	**MAIN PARTS**
FLS kit 221821N01R01	1	150.00 USD	Software
FLS kit 221821N02R00	1	150.00 USD	Software
TOTAL		300.00 USD	
Equipment	See SB	See Note	FMGCs

NOTE: Price information to be obtained from the given supplier.

CONF 005

(1) Modification

(a) Task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

MATERIAL PRICE INFORMATION TABLE			
MATERIAL SET	**QTY PER A/C**	**PRICE PER A/C**	**MAIN PARTS**
Equipment	See SB	See Note	CD-ROM, software

NOTE: Price information to be obtained from the given supplier.

(b) Task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

MATERIAL PRICE INFORMATION TABLE			
MATERIAL SET	**QTY PER A/C**	**PRICE PER A/C**	**MAIN PARTS**
Equipment	See SB	See Note	CD-ROM, software, FMGCs

NOTE: Price information to be obtained from the given supplier.

CONF 006

(1) Modification

(a) Task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

MATERIAL PRICE INFORMATION TABLE			
MATERIAL SET	**QTY PER A/C**	**PRICE PER A/C**	**MAIN PARTS**
FLS kit 221821N02R00	1	150.00 USD	Software

(b) Task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

MATERIAL PRICE INFORMATION TABLE			
MATERIAL SET	**QTY PER A/C**	**PRICE PER A/C**	**MAIN PARTS**
FLS kit 221821N02R00	1	150.00 USD	Software
Equipment	See SB	See Note	FMGCs

NOTE: Price information to be obtained from the given supplier.

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F. APPLICABILITY

This Service Bulletin is applicable to this (these) operator(s):

24K 36V 49K ABQ AFL AIZ APJ ASA AVA AWC AZU BAV CCM CGZ CPA CQH CTV DJT EIN EUK EZY FFT HDA IGO JJP JST KAC NVR NWS OMS OTC PGT PKZ RZO SEY SJX SKU SVR TAI TAP TBA UZB VTI VVC

G. CONCURRENT REQUIREMENTS

Accomplishment of this Service Bulletin requires the prior or simultaneous accomplishment of this/these Service Bulletin(s):

Service Bulletin(s)	Modification(s)
Ref. SB A320-22-1712	162846P20468
Ref. SB A320-22-1798	168149P21844

NOTE: Service Bulletin No. Ref. SB A320-22-1712 (AUTO FLIGHT - FLIGHT MANAGEMENT AND GUIDANCE COMPUTER (FMGC) - INTRODUCE HONEYWELL FMS RELEASE 2 STANDARD H3 ASSOCIATED TO FG PC19 (NEO)) is a concurrent requirement if MOD No. 162846P20468 has not been embodied before delivery.

NOTE: Service Bulletin No. Ref. SB A320-22-1798 (AUTO FLIGHT - FLIGHT AUGMENTATION COMPUTER (FAC) - INSTALL FAC CAA13 SUPPORTING ROPS EVOLUTION FUNCTIONS ON NEO AIRCRAFT) is a concurrent requirement if MOD No. 168149P21844 has not been embodied before delivery.

H. NATURE OF THE WORK

CONF 001

(1) Modification

(a) Task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

AIRCRAFT	NO
EQUIPMENT	YES

(b) Task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

AIRCRAFT	NO
EQUIPMENT	YES

CONF 002

(1) Modification

(a) Task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

AIRCRAFT	NO
EQUIPMENT	YES

(b) Task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

AIRCRAFT	NO
EQUIPMENT	YES

CONF 003

(1) Modification

(a) Task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

AIRCRAFT	NO
EQUIPMENT	YES

(b) Task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

AIRCRAFT	NO
EQUIPMENT	YES

CONF 004

(1) Modification

(a) Task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

AIRCRAFT	NO
EQUIPMENT	YES

(b) Task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

AIRCRAFT	NO
EQUIPMENT	YES

CONF 005

(1) Modification

(a) Task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

AIRCRAFT	NO
EQUIPMENT	YES

(b) Task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

AIRCRAFT	NO
EQUIPMENT	YES

CONF 006

(1) Modification

(a) Task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

AIRCRAFT	NO
EQUIPMENT	YES

(b) Task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

AIRCRAFT	NO
EQUIPMENT	YES

CONF ALL

I. MANPOWER

CONF 001

(1) Modification

(a) Task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

MANPOWER	
TOTAL MAN-HOURS	2.40 h
ELAPSED TIME (HOURS)	2.40 h

(b) Task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

MANPOWER	
TOTAL MAN-HOURS	3.15 h
ELAPSED TIME (HOURS)	3.15 h

CONF 002

(1) Modification

(a) Task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

MANPOWER	
TOTAL MAN-HOURS	5.15 h
ELAPSED TIME (HOURS)	5.15 h

(b) Task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

MANPOWER	
TOTAL MAN-HOURS	4.65 h

MANPOWER	
ELAPSED TIME (HOURS)	4.65 h

CONF 003

(1) Modification

(a) Task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

MANPOWER	
TOTAL MAN-HOURS	1.10 h
ELAPSED TIME (HOURS)	1.10 h

(b) Task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

MANPOWER	
TOTAL MAN-HOURS	2.90 h
ELAPSED TIME (HOURS)	2.90 h

CONF 004

(1) Modification

(a) Task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

MANPOWER	
TOTAL MAN-HOURS	2.20 h
ELAPSED TIME (HOURS)	2.20 h

(b) Task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

MANPOWER	
TOTAL MAN-HOURS	2.90 h
ELAPSED TIME (HOURS)	2.90 h

CONF 005

(1) Modification

(a) Task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

MANPOWER	
TOTAL MAN-HOURS	1.10 h
ELAPSED TIME (HOURS)	1.10 h

(b) Task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

MANPOWER	
TOTAL MAN-HOURS	2.90 h
ELAPSED TIME (HOURS)	2.90 h

CONF 006

(1) Modification

(a) Task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

MANPOWER	
TOTAL MAN-HOURS	0.90 h
ELAPSED TIME (HOURS)	0.90 h

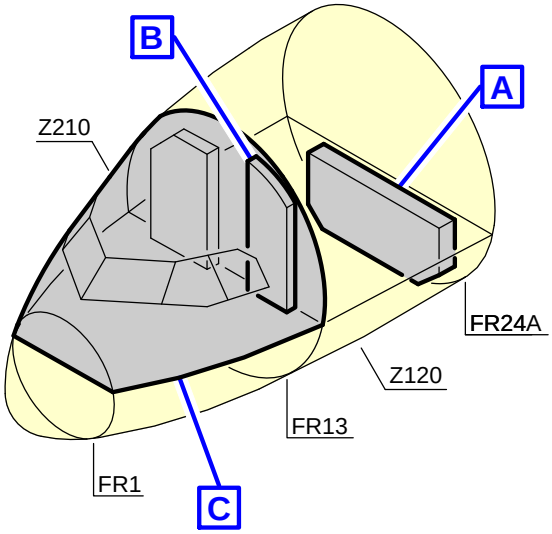
(b) Task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

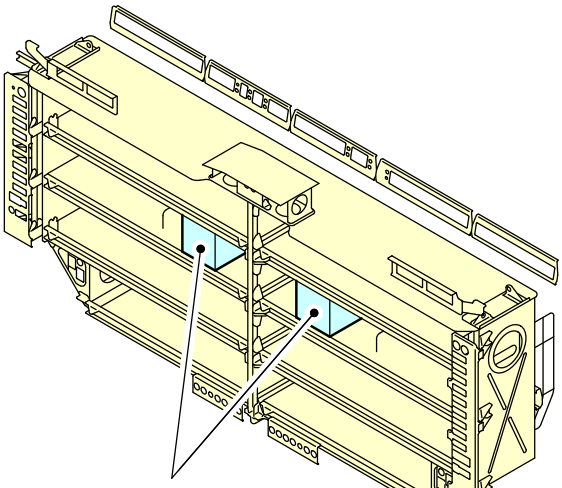
MANPOWER	
TOTAL MAN-HOURS	2.65 h
ELAPSED TIME (HOURS)	2.65 h

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J. GENERAL OVERVIEW

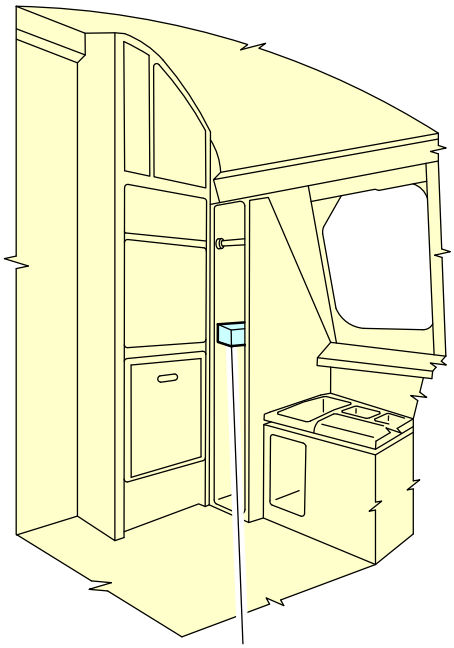
CONF 001 003





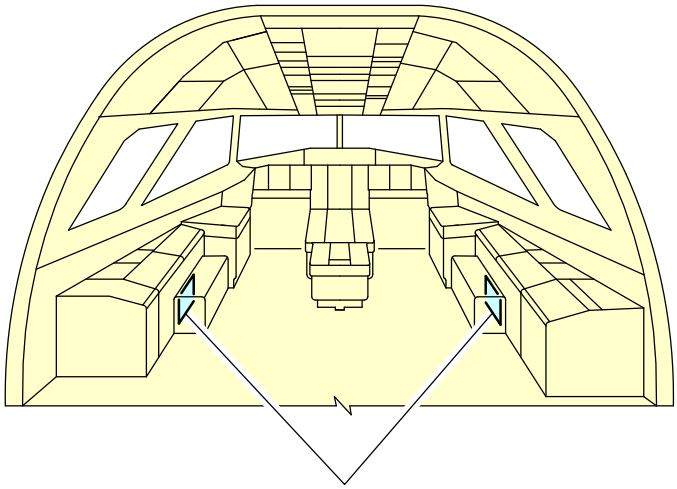
MODIFICATION OF THE SOFTWARE
AND THE WIRING FOR FMGC

FWD A
80VU



REPLACEMENT OF THE
MEDIA IN THE STOWAGE BOX

INBD B 01
FWD



REPLACEMENT OF THE
MEDIA IN THE STOWAGE BOX

C 01

VIEW LOOKING FWD

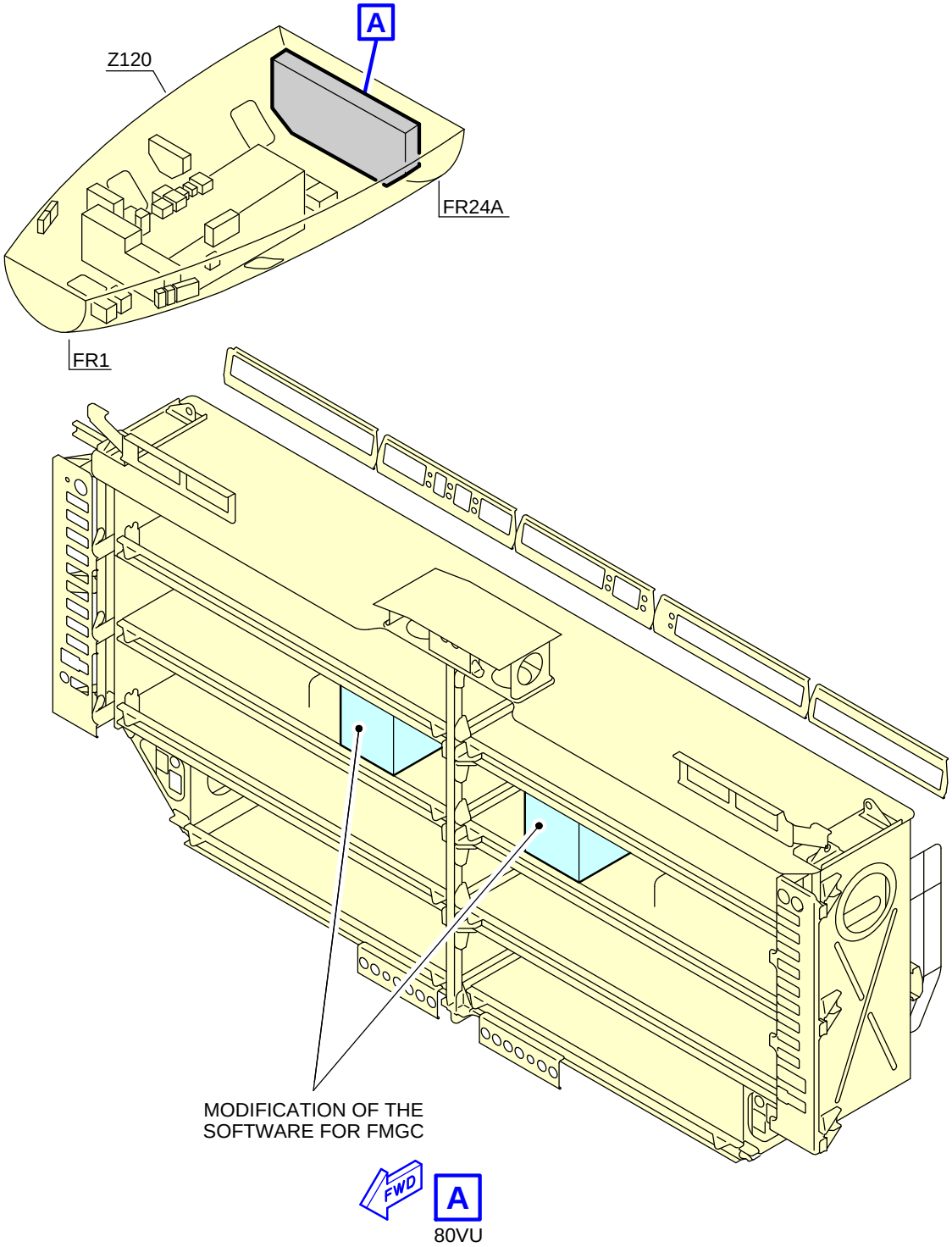
NOTE:

01 THE LOCATION OF THE STOWAGE BOX DEPENDS ON THE AIRCRAFT CONFIGURATION.

ICN-A320-A-22XX1821-A-FAPE3-02BDO-A-001-01

Figure ICN-A320-A-22XX1821-A-FAPE3-02BDO-A-001-01 Fig.SA Sol.AC SHEET 1/1

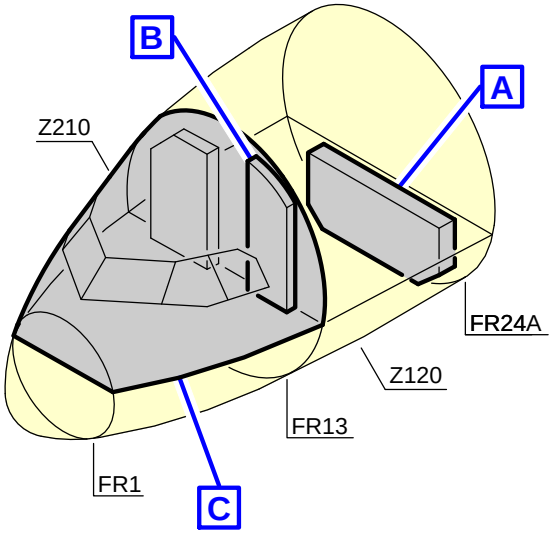
CONF 004 006

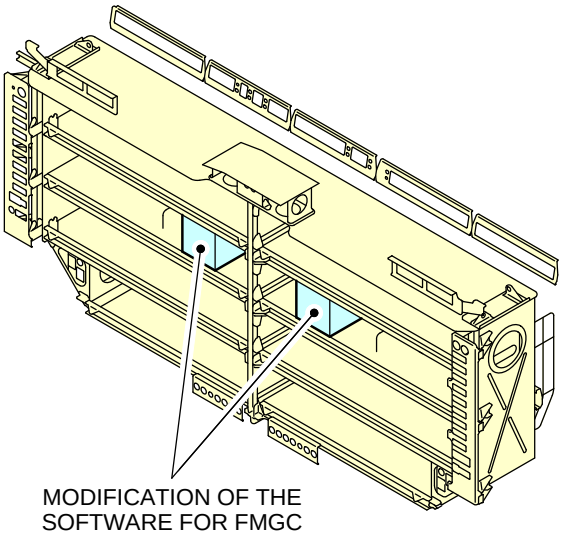


ICN-A320-A-22XX1821-A-FAPE3-029EV-A-002-01

Figure ICN-A320-A-22XX1821-A-FAPE3-029EV-A-002-01 Fig.SA Sol.AB SHEET 1/1

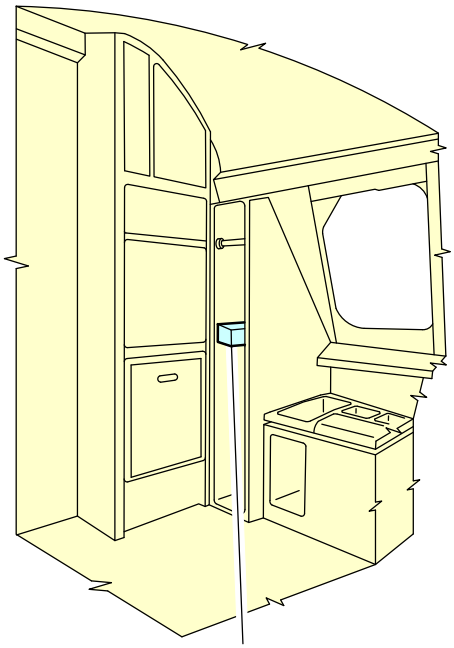
CONF 002 005





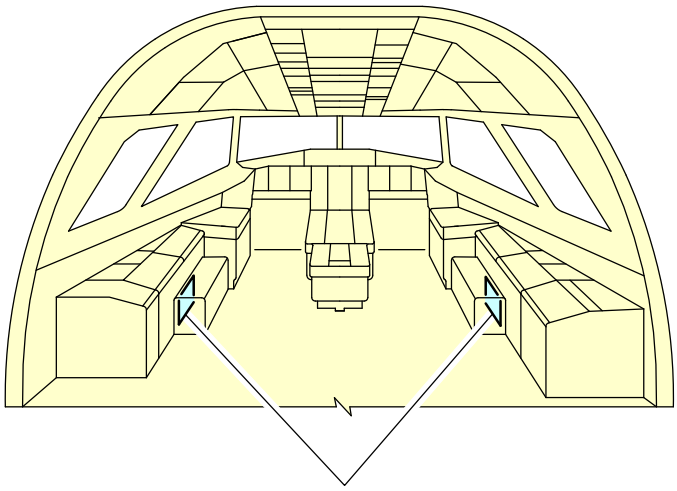
MODIFICATION OF THE
SOFTWARE FOR FMGC

FWD
A
80VU



REPLACEMENT OF THE
MEDIA IN THE STOWAGE BOX

INBD
B
01
FWD



REPLACEMENT OF THE
MEDIA IN THE STOWAGE BOX

C
01

VIEW LOOKING FWD

NOTE:

01 THE LOCATION OF THE STOWAGE BOX DEPENDS ON THE AIRCRAFT CONFIGURATION.

ICN-A320-A-22XX1821-A-FAPE3-0287Z-A-002-01

Figure ICN-A320-A-22XX1821-A-FAPE3-0287Z-A-002-01 Fig.SA Sol.AA SHEET 1/1

ATA SYSTEM: 22

TITLE: AUTO FLIGHT - FLIGHT MANAGEMENT AND GUIDANCE COMPUTER (FMGC) - INSTALL FM HONEYWELL H4 ASSOCIATED TO FG PC20 (NEO)

CONF ALL

1. PLANNING INFORMATION

A. APPLICABILITY

(1) Models

ON A/C 10339, 10607, 10673

319-153N

ON A/C 07140, 07141, 07147, 07162, 07175, 07181, 07185, 07249, 07321, 07323, 07359, 07367, 07380, 07387, 07399, 07429, 07466, 07472, 07484, 07505, 07514, 07538, 07555, 07560, 07587, 07600, 07603, 07642, 07649, 07698, 07703, 07705, 07727, 07768, 07786, 07799, 07802, 07824, 07834, 07835, 07841, 07850, 07854, 07856, 07887, 07918, 07925, 07928, 07946, 07967, 07983, 07990, 07995, 08020, 08048, 08084, 08086, 08096, 08102, 08110, 08113, 08118, 08135, 08136, 08156, 08170, 08193, 08198, 08214, 08219, 08239, 08240, 08243, 08247, 08265, 08268, 08272, 08280, 08292, 08300, 08303, 08304, 08306, 08307, 08320, 08338, 08356, 08357, 08375, 08380, 08395, 08402, 08405, 08409, 08411, 08433, 08444, 08497, 08505, 08506, 08516, 08521, 08523, 08535, 08537, 08580, 08639, 08642, 08662, 08681, 08691, 08693, 08698, 08722, 08731, 08754, 08759, 08760, 08766, 08792, 08811, 08815, 08826, 08827, 08857, 08863, 08868, 08875, 08880, 08884, 08889, 08904, 08912, 08913, 08920, 08933, 08938, 08954, 08956, 08962, 08963, 08972, 08976, 08977, 08982, 08998, 08999, 09014, 09024, 09026, 09036, 09038, 09041, 09047, 09065, 09068, 09086, 09103, 09105, 09110, 09111, 09114, 09117, 09119, 09136, 09146, 09154, 09169, 09171, 09172, 09177, 09180, 09186, 09211, 09221, 09222, 09231, 09233, 09239, 09260, 09270, 09271, 09275, 09280, 09300, 09303, 09306, 09307, 09317, 09334, 09337, 09340, 09344, 09361, 09372, 09373, 09378, 09382, 09393, 09394, 09397, 09411, 09413, 09425, 09439, 09457, 09465, 09484, 09488, 09491, 09504, 09510, 09543, 09549, 09552, 09561, 09576, 10031, 10034, 10038, 10053, 10055, 10060, 10061, 10080, 10082, 10087, 10089, 10096, 10102, 10111, 10114, 10118, 10119, 10123, 10126, 10131, 10136, 10142, 10149, 10154, 10166, 10167, 10170, 10172, 10180, 10186, 10204, 10225, 10226, 10250, 10258, 10269, 10279, 10293, 10298, 10313, 10327, 10332, 10337, 10338, 10342, 10356, 10372, 10384, 10386, 10392, 10394, 10404, 10409, 10411, 10419, 10420, 10423, 10444, 10451-10453, 10459, 10465, 10471, 10481, 10482, 10485, 10487, 10502, 10503, 10506, 10510, 10512, 10525, 10527, 10543, 10544, 10556, 10558, 10559, 10562, 10565, 10568, 10570, 10579, 10581, 10584, 10586, 10590-10592, 10596, 10602, 10610, 10612, 10615, 10621, 10622, 10625, 10630, 10642, 10646, 10656, 10664, 10668, 10671, 10677, 10689-10691, 10693, 10708, 10719, 10722, 10725, 10740, 10743, 10746, 10765, 10766, 10768, 10774, 10781, 10783, 10790, 10802, 10823, 10829, 10833, 10838, 10852, 10868, 10876, 10919, 10999

320-251N

ON A/C 09348, 09392

320-252N

ON A/C 07746, 07807, 08145, 08195, 08260, 08288, 08312, 08318

321-251N

ON A/C 08314, 08369, 08386, 08421, 08454, 08508, 08517, 08547, 08567, 08602, 08830, 08936, 08955, 08979, 09073, 09204, 09214, 09227, 09228, 09258, 09281, 09310, 09349, 09399, 09422, 09462, 09468, 09495, 09539, 09540, 09560, 10007, 10048, 10067, 10091, 10109, 10146, 10151, 10155, 10162, 10168, 10171, 10187, 10190, 10191, 10193, 10199, 10205, 10240, 10244, 10284, 10289, 10296, 10314, 10323, 10341, 10354, 10381, 10416,

10422, 10438, 10445, 10456, 10458, 10466, 10476, 10490, 10496, 10497, 10501, 10523, 10532, 10541, 10551, 10585, 10595, 10600, 10609, 10611, 10628, 10632, 10639, 10645, 10647, 10651, 10654, 10667, 10678, 10679, 10681, 10687, 10695, 10699, 10707, 10718, 10733, 10739, 10759, 10814, 10834, 10853, 10865, 10870, 10874, 10882, 10886, 10890, 10896, 10900, 10909, 10913, 10917, 10924, 10945, 10953, 10962, 11015, 11029

321-251NX

ON A/C 08866, 09131, 09147, 09208, 09314, 10077, 10270, 10271, 10426, 10432, 10599, 10620, 10912

321-252NX

ON A/C 07589, 07639, 07694, 07770, 07847, 07861, 07942, 07972, 07999, 08051, 08085, 08120, 08126, 08246, 08819, 08829

321-253N

ON A/C 08796, 08887, 08909, 08965, 09187, 09254, 09556, 10036, 10074, 10124, 10150, 10211, 10217, 10238, 10245, 10264, 10267, 10291, 10312, 10319, 10406, 10507, 10519, 10634, 10676

321-253NX

CONF ALL

(2) Applicability by MSN

07140 07141 07147 07162 07175 07181 07185 07249 07321 07323 07359 07367
07380 07387 07399 07429 07466 07472 07484 07505 07514 07538 07555 07560
07587 07589 07600 07603 07639 07642 07649 07694 07698 07703 07705 07727
07746 07768 07770 07786 07799 07802 07807 07824 07834 07835 07841 07847
07850 07854 07856 07861 07887 07918 07925 07928 07942 07946 07967 07972
07983 07990 07995 07999 08020 08048 08051 08084-08086 08096 08102 08110
08113 08118 08120 08126 08135 08136 08145 08156 08170 08193 08195 08198
08214 08219 08239 08240 08243 08246 08247 08260 08265 08268 08272 08280
08288 08292 08300 08303 08304 08306 08307 08312 08314 08318 08320 08338
08356 08357 08369 08375 08380 08386 08395 08402 08405 08409 08411 08421
08433 08444 08454 08497 08505 08506 08508 08516 08517 08521 08523 08535
08537 08547 08567 08580 08602 08639 08642 08662 08681 08691 08693 08698
08722 08731 08754 08759 08760 08766 08792 08796 08811 08815 08819 08826
08827 08829 08830 08857 08863 08866 08868 08875 08880 08884 08887 08889
08904 08909 08912 08913 08920 08933 08936 08938 08954-08956 08962 08963
08965 08972 08976 08977 08979 08982 08998 08999 09014 09024 09026 09036
09038 09041 09047 09065 09068 09073 09086 09103 09105 09110 09111 09114
09117 09119 09131 09136 09146 09147 09154 09169 09171 09172 09177 09180
09186 09187 09204 09208 09211 09214 09221 09222 09227 09228 09231 09233
09239 09254 09258 09260 09270 09271 09275 09280 09281 09300 09303 09306
09307 09310 09314 09317 09334 09337 09340 09344 09348 09349 09361 09372
09373 09378 09382 09392-09394 09397 09399 09411 09413 09422 09425 09439
09457 09462 09465 09468 09484 09488 09491 09495 09504 09510 09539 09540
09543 09549 09552 09556 09560 09561 09576 10007 10031 10034 10036 10038
10048 10053 10055 10060 10061 10067 10074 10077 10080 10082 10087 10089
10091 10096 10102 10109 10111 10114 10118 10119 10123 10124 10126 10131
10136 10142 10146 10149-10151 10154 10155 10162 10166-10168 10170-10172
10180 10186 10187 10190 10191 10193 10199 10204 10205 10211 10217 10225
10226 10238 10240 10244 10245 10250 10258 10264 10267 10269-10271 10279
10284 10289 10291 10293 10296 10298 10312-10314 10319 10323 10327 10332
10337-10339 10341 10342 10354 10356 10372 10381 10384 10386 10392 10394
10404 10406 10409 10411 10416 10419 10420 10422 10423 10426 10432 10438
10444 10445 10451-10453 10456 10458 10459 10465 10466 10471 10476 10481
10482 10485 10487 10490 10496 10497 10501-10503 10506 10507 10510 10512
10519 10523 10525 10527 10532 10541 10543 10544 10551 10556 10558 10559
10562 10565 10568 10570 10579 10581 10584-10586 10590-10592 10595 10596

10599 10600 10602 10607 10609-10612 10615 10620-10622 10625 10628 10630
10632 10634 10639 10642 10645-10647 10651 10654 10656 10664 10667 10668
10671 10673 10676-10679 10681 10687 10689-10691 10693 10695 10699 10707
10708 10718 10719 10722 10725 10733 10739 10740 10743 10746 10759 10765
10766 10768 10774 10781 10783 10790 10802 10814 10823 10829 10833 10834
10838 10852 10853 10865 10868 10870 10874 10876 10882 10886 10890 10896
10900 10909 10912 10913 10917 10919 10924 10945 10953 10962 10999 11015
11029

(3) MSN by configuration

CONF 001

MSN	CONFIGURATION
07140 07141 07147 07162 07175 07181 07185 07249 07321 07323 07359 07367 07380 07387 07399 07429 07466 07472 07484 07505 07514 07538 07555 07560 07587 07589 07600 07603 07639 07642 07649 07694 07698 07703 07705 07727 07746 07768 07770 07786 07799 07802 07807 07824 07834 07835 07841 07847 07850 07854 07856 07861 07887 07918 07925 07928 07942 07946 07967 07972 07983 07990 07995 07999 08020 08048 08051 08084 08085 08086 08096 08102 08110 08113 08118 08120 08126 08135 08136 08145 08156 08170 08193 08195 08198 08214 08219 08239 08240 08243 08246 08247 08260 08265 08268 08272 08280 08288 08292 08300 08303 08304 08306 08307 08312 08314 08318 08320 08338 08356 08357 08369 08375 08380 08386 08395 08402 08405 08409 08411 08421 08433 08444 08454 08497 08505 08506 08508 08516 08517 08521 08523 08535 08537 08547 08567 08580 08602 08639 08642 08662 08681 08691 08693 08698 08722 08731 08754 08759 08760 08766 08792 08796 08811 08815 08819 08826 08827 08829 08830 08857 08863 08866 08868 08875 08880 08884 08887 08889 08904 08909 08912 08913 08920 08933 08936 08938 08954 08955 08956 08962 08963 08965 08972 08976 08977 08979 08982 08998 08999 09014 09024 09026 09036 09038 09041 09047 09065 09068 09073 09086 09103 09105 09110 09111 09114 09117 09119 09131 09136 09146 09147 09154 09169 09171 09172 09177 09180 09186 09187 09204 09208 09211 09214 09221 09222 09227 09228 09231 09233 09239 09254 09258 09260 09270 09271 09275 09280 09281 09300 09303 09306 09307 09310 09314 09317 09334 09337 09340 09344 09348 09349 09361 09372 09373 09378 09382 09392 09393 09394 09397 09399 09411 09413 09422 09425 09439 09457 09462 09465 09468 09484 09488 09491 09495 09504 09510 09539 09543 09549 09552 09556 09560 09561 09576 10007 10031 10034 10036 10038 10053 10055 10060 10061 10067 10074 10077 10080 10082 10087 10089 10091 10096 10102 10109 10111 10114 10119 10123 10124 10126 10131 10136 10146 10149 10150 10151 10154 10155 10162 10166 10167 10168 10170 10171 10172 10180 10187 10190 10191 10193 10199 10204 10205 10211 10217 10225 10226 10238 10240 10244 10245 10250 10258 10264 10267 10269 10270 10271 10279 10284 10289 10291 10293 10296 10298 10312 10313 10314 10319 10323 10327 10332 10337 10338 10341 10342 10354 10356 10372 10381 10384 10386 10392 10394 10404 10406 10409 10411 10416 10419 10420 10422 10423 10426 10432 10438	001

MSN	CONFIGURATION
10444 10445 10451 10452 10453 10456 10458 10459 10465 10466 10471 10476 10481 10482 10487 10503 10506 10510 10512 10519 10523 10525 10527 10532 10543 10544 10551 10556 10558 10559 10562 10565 10568 10570 10579 10584 10585 10586 10590 10591 10595 10596 10599 10609 10610 10612 10620 10621 10622 10628 10651 10667 10699 10765 10852	

CONF 002

MSN	CONFIGURATION
10339	002

CONF 003

MSN	CONFIGURATION
09540 10048 10118 10142 10502 10600 10632 10645 10656 10671 10690 10722 10999	003

CONF 004

MSN	CONFIGURATION
10485 10490 10496 10497 10501 10541 10581 10592 10602 10615 10625 10630 10642 10646 10664 10707 10708 10718 10876	004

CONF 005

MSN	CONFIGURATION
10607 10673	005

CONF 006

MSN	CONFIGURATION
10186 10507 10611 10634 10639 10647 10654 10668 10676 10677 10678 10679 10681 10687 10689 10691 10693 10695 10719 10725 10733 10739 10740 10743 10746 10759 10766 10768 10774 10781 10783 10790 10802 10814 10823 10829 10833 10834 10838 10853 10865 10868 10870 10874 10882 10886 10890 10896 10900 10909 10912 10913 10917 10919 10924 10945 10953 10962 11015 11029	006

CONF ALL

(4) Configuration definition

CONF 001

Configuration 001

CONF 001 is applicable for A320 NEO and A321 NEO aircraft on which dematerialization MOD No. 168555P21225 and MOD No. 163903P20602 are not embodied.

CONF 001 retrofits following modifications: 163903P20602, 167616P20606.

CONF 002

Configuration 002

CONF 002 is applicable for A319 NEO aircraft on which dematerialization MOD No. 168555P21225 and MOD No. 163903P20602 are not embodied.

CONF 002 retrofits following modifications: 163903P20602, 167616P20606, 25612P21896.

CONF 003

Configuration 003

CONF 003 is applicable for A320 NEO and A321 NEO aircraft on which dematerialization MOD No. 168555P21225 is not embodied and MOD No. 163903P20602 is embodied.

CONF 003 retrofits following modifications: 167616P20606.

CONF 004

Configuration 004

CONF 004 is applicable for A320 NEO and A321 NEO aircraft on which dematerialization MOD No. 168555P21225 is embodied and MOD No. 163903P20602 is not embodied.

CONF 004 retrofits following modifications: 163903P20602, 167616P20606.

CONF 005

Configuration 005

CONF 005 is applicable for A319 NEO aircraft on which dematerialization MOD No. 168555P21225 is not embodied and MOD No. 163903P20602 is embodied.

CONF 005 retrofits following modifications: 167616P20606.

CONF 006

Configuration 006

CONF 006 is applicable for A320 NEO and A321 NEO aircraft on which dematerialization MOD No. 168555P21225 and MOD No. 163903P20602 are embodied.

CONF 006 retrofits following modifications: 167616P20606.

CONF ALL

B. CONCURRENT REQUIREMENTS

Accomplishment of this Service Bulletin requires the prior or simultaneous accomplishment of this/these Service Bulletin(s):

Service Bulletin(s)	Modification(s)
Ref. SB A320-22-1712	162846P20468
Ref. SB A320-22-1798	168149P21844

NOTE: Service Bulletin No. Ref. SB A320-22-1712 (AUTO FLIGHT - FLIGHT MANAGEMENT AND GUIDANCE COMPUTER (FMGC) - INTRODUCE HONEYWELL FMS RELEASE 2 STANDARD H3 ASSOCIATED TO FG PC19 (NEO)) is a concurrent requirement if MOD No. 162846P20468 has not been embodied before delivery.

NOTE: Service Bulletin No. Ref. SB A320-22-1798 (AUTO FLIGHT - FLIGHT AUGMENTATION COMPUTER (FAC) - INSTALL FAC CAA13 SUPPORTING ROPS EVOLUTION FUNCTIONS ON NEO AIRCRAFT) is a concurrent requirement if MOD No. 168149P21844 has not been embodied before delivery.

C. REASON

(1) History

This Service Bulletin has been issued in order to introduce the FMGC 3G H4PC20 on A319/A320/A321 NEO aircraft equipped with CFM engines.

This new FMGC standard introduces some safety enhancements that are part of the AIRBUS safety beyond standard step1 project, refer to Ref. ISI 22.00.00104.

(2) Objective/Action

The modification consists in installing the new FMGC 3G STD H4PC20 in place of FMGC 3G STD H3PC19 and H3PC20 on aircraft equipped with CFM engines.

This modification is an evolution of both FG and FM software.

(3) Advantages

Accomplishment of this Service Bulletin will bring the following improvements:

(a) On FG side, in comparison to FG standard PC19, the FG standard PC20 provides the following improvements:

- For A319 NEO CFM only:
  - FG PC20 is the minimum standard for CAT2/CAT3 Automatic Landing (AUTOLAND) on A319 NEO CFM. The removal of the AUTOLAND limitation is activated through a separate Service Bulletin No. Ref. SB A320-22-1568 installing MOD No. 161765 on A319 NEO CFM
  - Tuning of FD at take-off to improve the A319 NEO CFM AFM take-off performance. A pin prog activated by separate MP P21896 is applied in order to inhibit this function as long as the FD function is not certified, the MP P22054 will remove the pin prog P21896.

- For all A320 Family NEO aircraft:
  - Improvement of Runway Overrun Prevention System (ROPS step 2+) by taking into account two new cockpit features:
    - Dry/wet rotary selector to select runway condition in order to avoid "IF WET: RWY TOO SHORT" alert while landing on a dry runway
    - "ROW/ROP" OFF push-button for ROPS deactivation. This function requires the MOD No. 163425P20473 and MOD No. 166357P21486 for activation
  - Introduction of TCAP function capability, which allows to avoid unnecessary TCAS resolution advisories
  - Introduction of SLS approach CAT 1 capability. This function is available with FMS H4 standard. This function requires the following MOD for activation: MOD 165088/MP P2119
  - Improvement of AP/FD/ATHR functions availability in case of FMS and LGCIU failure
  - Improvement of “LVR TOGA” message display logic by displaying the message also when thrust levers are set on maximum continuous thrust whereas neither “FLEX” nor “Derated TO” mode are selected at MCDU
  - Introduction of smart exit alpha floor, when the aircraft is back into the normal flight envelope, the ATHR returns to its previous state. TOGA thrust is no longer applied after alpha floor recovery
  - Introduction of ATHR auto-engagement in overspeed situation to automatically reduce the airspeed. The pilot will be alerted of the automatic ATHR engagement through a flashing amber boxing of the SPEED (or MACH) mode on the FMA as long as the aircraft is in

overspeed. The ATHR returns to its previous state when the aircraft is no more in overspeed
- Improvement of “TCAS MODE FAULT” message display logic. This improvement addresses the issue described in TFU 22.00.00.209
- Correction of a possible altitude constraint capture after GA
- Introduction of vertical speed target limitation near ground and ceiling to avoid inappropriate AP/FD orders at AP/FD engagement
- Introduction of FMGC hardware pin-prog display on MCDU
  Note: This function requires the installation of FAC minimum standard CAA12.
- Introduction of FMGC1/FMGC2 mixed FG software configuration check. In case of mixed FMGC configuration, a new amber ECAM caution `AUTO FLT FMGC VERSIONS DISAGREE', is displayed in Phase 1 (pre-flight on ground)
  Note: This function requires the installation of FWC minimum standard F13.
- Improvement of ADIRU failure isolation:
  The existing PFR message "AFS:ADIRU 1/2/3 DISAGREE" is replaced by "AFS:ADIRU DISAGREE XX" message. XX corresponds to the failure code allowing to incriminate the rejected ADR or IR. This function also requires the installation of FAC minimum standard CAA13.
- Reduction of the longitudinal AP guidance authority in GA in order to avoid possible AP disconnection due to ELAC alpha protection. The modification cancels the Operations Engineering Bulletin (OEB)57 and addresses the issue described in TFU 22.10.00016.
- Correction of COM/MON discrepancy in case of GA during Flare. This modification addresses the issue described in FCOM A321N TAB DSC-22_30-110 “DUAL FMGC RESET AFTER GO-AROUND CLOSE TO THE GROUND”.

(b) On FM side, in comparison to FM standard H3, the FM standard H4 provides the following main improvements:

- SLS function (new OPC option) activated through dedicated major MOD 165088/MP P21191. SLS is a precision approach procedure based on differential GPS position whose accuracy is improved thanks to the use of geostationary satellites (linked to SBAS function)
- SBAS navigation function (new OPC option) activated through dedicated MOD opened by MP P21606, allowing aircraft to use augmented GPS position and needed to fly SLS approaches (this capability requires minimum MMR standard)
- NDB cycle swap confirmation prompt, avoiding inadvertent NDB cycle swap with the consequence of dual loss of F-PLN
- Transmission of additional data to improve synthetic runway display on HUD
- Display of GPS data on MCDU upon IR fault: on GPS MONITOR page, GPS raw data are displayed as soon as received valid from ADIRS and kept displayed regardless of GPIRS validity status
- Improvement of tropopause and cruise temperature entry formats: the FMS is now able to recognize TROPO values defined in FL and to convert them into feet for display and predictions computation. For the temperature, the improvement consists in displaying the CRZ TEMP and GND TEMP values in INIT page always with their associated sign

- Improvement of approach legs sequencing rule in HDG/TRK: leg sequencing rules have been refined in order to avoid undue automatic sequencing of destination or flight plan waypoints in approach when flying in heading or track mode
- Improvement of below path predictions in approach
- Correction of descent transition level sign
- Differentiation of FM pages related to secondary flight plan.

(4) Operational/Maintenance Consequences

The Operational/Maintenance Consequences of this Service Bulletin are covered by the update of the affected publications detailed in "PLANNING INFORMATION".

This Service Bulletin cancels Operations Engineering Bulletin No(s). 57. Operators having programmed an OEB reminder should delete the reminder(s) from their system.

This Service Bulletin has an impact on flight operations documentation; consult AirbusWorld and refer to Ref. MOI 163903 described in TFU 22.00.00102 and Ref. MOI 167616 described in TFU 22.00.00108.

D. DESCRIPTION

NOTE: To accomplish this Service Bulletin, you have two options.

To accomplish this Service Bulletin it is necessary to:

(1) Modification

(a) Task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

CONF 002

1 Remove the FMGC(s) from 80VU

2 Modify the Wiring in the Electronics Rack 80VU

3 Install the FMGC(S) in 80VU

CONF 001 002

4 Replace the Media in Cockpit Stowage Box

CONF 003 005

4 Replace the Media in Cockpit Stowage Box

CONF 001 002

5 Upload the FG Operational Software by Disk on Aircraft

CONF 004

5 Upload the FG Operational Software on Aircraft

CONF 001-003 005

6 Upload the FMS Operational Software by CD-ROM on Aircraft

CONF 004 006

6 Upload the FMS Operational Software on Aircraft

CONF ALL

(b) Task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

1 Remove the FMGC(s) from 80VU

CONF 002

2 Modify the Wiring in the Electronics Rack 80VU

CONF 001 002

3 Replace the Media in the Cockpit Stowage Box

CONF 003 005

3 Replace the Media in the Cockpit Stowage Box

CONF ALL

4 Install the FMGC(S) in 80VU

CONF 001 002

5 Do a Check of the Part Number (PN) of the FG Software Pre-loaded into the Two FMGC(s)

CONF 004

5 Do a Check of the Part Number (PN) of the FG Software Pre-loaded into the Two FMGC(s)

CONF 001-003 005

6 Do a Check of the PN of the FM Software Pre-loaded into the Two FMGC(s)

CONF 004 006

6 Do a Check of the PN of the FM Software Pre-loaded into the Two FMGC(s)

CONF ALL

E. COMPLIANCE

(1) Classification

MANDATORY: Service Bulletin must be accomplished.

(2) Accomplishment Timescale

This Service Bulletin has been classified Mandatory. It is expected that an Airworthiness Directive (AD) published by the European Union Aviation Safety Agency (EASA) will be issued to confirm this classification. The accomplishment timescale, which has not yet been defined, will be given in the AD.

F. APPROVAL

The technical content of this document is approved under the authority of the Design Organisation Approval ref. EASA.21J.031.

If an aircraft listed in the applicability has a modification or repair embodied that is not of AIRBUS origin, and which affects the content of this Service Bulletin, the operator is responsible for obtaining approval by its airworthiness authority for any adaptation necessary before incorporation of the Service Bulletin.

G. MANPOWER

CONF 001

The manpower estimates given in this Service Bulletin are based on the direct labor cost to do the work. These estimates assume that the work will be done by experienced personnel, and may need to be revised upwards to suit operator’s circumstances. The estimates do not include the time to prepare, plan or inspect the work. Manufacture and procurement of parts and tools, drying times for paints, sealants, etc., and general administration work are also not included.

(1) Modification

(a) Task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

PREPARATION

Job Set-up	0.25 h	
PROCEDURE		
Replace the Media in Cockpit Stowage Box	0.20 h	
Upload the FG Operational Software by Disk on Aircraft	1.00 h	
Upload the FMS Operational Software by CD-ROM on Aircraft	0.50 h	
PREPARATION FOR TEST		
None		
TEST		
Test	0.20 h	
CLOSE-UP		
Close-up	0.25 h	
TOTAL MAN-HOURS	2.40 h	
ELAPSED TIME (HOURS)	2.40 h	

(b) Task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

PREPARATION		
Job Set-up	0.25 h	
PROCEDURE		
Remove the FMGC(s) from 80VU	0.50 h	
Replace the Media in the Cockpit Stowage Box	0.25 h	
Install the FMGC(S) in 80VU	0.50 h	
Do a Check of the Part Number (PN) of the FG Software Pre-loaded into the Two FMGC(s)	0.25 h	
Do a Check of the PN of the FM Software Pre-loaded into the Two FMGC(s)	0.50 h	
PREPARATION FOR TEST		
Job Set-up	0.10 h	
TEST		
Test	0.30 h	
CLOSE-UP		
Close-up	0.50 h	
TOTAL MAN-HOURS	3.15 h	
ELAPSED TIME (HOURS)	3.15 h	

CONF 002

The manpower estimates given in this Service Bulletin are based on the direct labor cost to do the work. These estimates assume that the work will be done by experienced personnel, and may need to be revised upwards to suit operator’s circumstances. The estimates do not include the time to prepare, plan or inspect the work. Manufacture and procurement of parts and tools, drying times for paints, sealants, etc., and general administration work are also not included.

(1) Modification

(a) Task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

PREPARATION		
Job Set-up	0.30 h	
Parity Configuration Recording	0.50 h	
PROCEDURE		
Remove the FMGC(s) from 80VU	0.50 h	
Modify the Wiring in the Electronics Rack 80VU	1.00 h	
Install the FMGC(S) in 80VU	0.50 h	
Replace the Media in Cockpit Stowage Box	0.20 h	
Upload the FG Operational Software by Disk on Aircraft	1.00 h	
Upload the FMS Operational Software by CD-ROM on Aircraft	0.50 h	
PREPARATION FOR TEST		
Job Set-up	0.10 h	
TEST		
Test	0.25 h	
CLOSE-UP		
Close-up	0.30 h	
TOTAL MAN-HOURS	5.15 h	
ELAPSED TIME (HOURS)	5.15 h	

(b) Task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

PREPARATION		
Job Set-up	0.25 h	
Parity Configuration Recording	0.50 h	
PROCEDURE		
Remove the FMGC(s) from 80VU	0.50 h	
Modify the Wiring in the Electronics Rack 80VU	1.00 h	
Replace the Media in the Cockpit Stowage Box	0.25 h	
Install the FMGC(S) in 80VU	0.50 h	
Do a Check of the Part Number (PN) of the FG Software Pre-loaded into the Two FMGC(s)	0.25 h	
Do a Check of the PN of the FM Software Pre-loaded into the Two FMGC(s)	0.50 h	
PREPARATION FOR TEST		
Job Set-up	0.10 h	
TEST		
Test	0.30 h	
CLOSE-UP		
Close-up	0.50 h	
TOTAL MAN-HOURS	4.65 h	
ELAPSED TIME (HOURS)	4.65 h	

CONF 003

The manpower estimates given in this Service Bulletin are based on the direct labor cost to do the work. These estimates assume that the work will be done by experienced personnel, and may need to be revised upwards to suit operator’s circumstances. The estimates do not include the time to prepare, plan or inspect the work. Manufacture and procurement of parts and tools, drying times for paints, sealants, etc., and general administration work are also not included.

(1) Modification

(a) Task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

PREPARATION		
Job Set-up	0.15 h	
PROCEDURE		
Replace the Media in Cockpit Stowage Box	0.20 h	
Upload the FMS Operational Software by CD-ROM on Aircraft	0.50 h	
PREPARATION FOR TEST		
None		
TEST		
Test	0.10 h	
CLOSE-UP		
Close-up	0.15 h	
TOTAL MAN-HOURS	1.10 h	
ELAPSED TIME (HOURS)	1.10 h	

(b) Task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

PREPARATION		
Job Set-up	0.25 h	
PROCEDURE		
Remove the FMGC(s) from 80VU	0.50 h	
Replace the Media in the Cockpit Stowage Box	0.25 h	
Install the FMGC(S) in 80VU	0.50 h	
Do a Check of the PN of the FM Software Pre-loaded into the Two FMGC(s)	0.50 h	
PREPARATION FOR TEST		
Job Set-up	0.10 h	
TEST		
Test	0.30 h	
CLOSE-UP		
Close-up	0.50 h	
TOTAL MAN-HOURS	2.90 h	
ELAPSED TIME (HOURS)	2.90 h	

CONF 004

The manpower estimates given in this Service Bulletin are based on the direct labor cost to do the work. These estimates assume that the work will be done by experienced personnel, and may need to be revised upwards to suit operator's circumstances. The estimates do not include the time to prepare, plan or inspect the work. Manufacture and procurement of parts and tools, drying times for paints, sealants, etc., and general administration work are also not included.

(1) Modification

(a) Task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

PREPARATION		
Job Set-up	0.25 h	
PROCEDURE		
Upload the FG Operational Software on Aircraft	1.00 h	
Upload the FMS Operational Software on Aircraft	0.50 h	
PREPARATION FOR TEST		
None		
TEST		
Test	0.20 h	
CLOSE-UP		
Close-up	0.25 h	
TOTAL MAN-HOURS	2.20 h	
ELAPSED TIME (HOURS)	2.20 h	

(b) Task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

PREPARATION		
Job Set-up	0.25 h	
PROCEDURE		
Remove the FMGC(s) from 80VU	0.50 h	
Install the FMGC(S) in 80VU	0.50 h	
Do a Check of the Part Number (PN) of the FG Software Pre-loaded into the Two FMGC(s)	0.25 h	
Do a Check of the PN of the FM Software Pre-loaded into the Two FMGC(s)	0.50 h	
PREPARATION FOR TEST		
Job Set-up	0.10 h	
TEST		
Test	0.30 h	
CLOSE-UP		
Close-up	0.50 h	
TOTAL MAN-HOURS	2.90 h	
ELAPSED TIME (HOURS)	2.90 h	

CONF 005

The manpower estimates given in this Service Bulletin are based on the direct labor cost to do the work. These estimates assume that the work will be done by experienced personnel,

and may need to be revised upwards to suit operator’s circumstances. The estimates do not include the time to prepare, plan or inspect the work. Manufacture and procurement of parts and tools, drying times for paints, sealants, etc., and general administration work are also not included.

(1) Modification

(a) Task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

PREPARATION		
Job Set-up	0.15 h	
PROCEDURE		
Replace the Media in Cockpit Stowage Box	0.20 h	
Upload the FMS Operational Software by CD-ROM on Aircraft	0.50 h	
PREPARATION FOR TEST		
None		
TEST		
Test	0.10 h	
CLOSE-UP		
Close-up	0.15 h	
TOTAL MAN-HOURS	1.10 h	
ELAPSED TIME (HOURS)	1.10 h	

(b) Task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

PREPARATION		
Job Set-up	0.25 h	
PROCEDURE		
Remove the FMGC(s) from 80VU	0.50 h	
Replace the Media in the Cockpit Stowage Box	0.25 h	
Install the FMGC(S) in 80VU	0.50 h	
Do a Check of the PN of the FM Software Pre-loaded into the Two FMGC(s)	0.50 h	
PREPARATION FOR TEST		
Job Set-up	0.10 h	
TEST		
Test	0.30 h	
CLOSE-UP		
Close-up	0.50 h	
TOTAL MAN-HOURS	2.90 h	
ELAPSED TIME (HOURS)	2.90 h	

CONF 006

The manpower estimates given in this Service Bulletin are based on the direct labor cost to do the work. These estimates assume that the work will be done by experienced personnel, and may need to be revised upwards to suit operator’s circumstances. The estimates do not include the time to prepare, plan or inspect the work. Manufacture and procurement of parts

and tools, drying times for paints, sealants, etc., and general administration work are also not included.

(1) Modification

(a) Task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

PREPARATION		
Job Set-up	0.15 h	
PROCEDURE		
Upload the FMS Operational Software on Aircraft	0.50 h	
PREPARATION FOR TEST		
None		
TEST		
Test	0.10 h	
CLOSE-UP		
Close-up	0.15 h	
TOTAL MAN-HOURS	0.90 h	
ELAPSED TIME (HOURS)	0.90 h	

(b) Task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

PREPARATION		
Job Set-up	0.25 h	
PROCEDURE		
Remove the FMGC(s) from 80VU	0.50 h	
Install the FMGC(S) in 80VU	0.50 h	
Do a Check of the PN of the FM Software Pre-loaded into the Two FMGC(s)	0.50 h	
PREPARATION FOR TEST		
Job Set-up	0.10 h	
TEST		
Test	0.30 h	
CLOSE-UP		
Close-up	0.50 h	
TOTAL MAN-HOURS	2.65 h	
ELAPSED TIME (HOURS)	2.65 h	

CONF ALL

H. WEIGHT AND BALANCE

Not changed

I. ELECTRICAL LOAD DATA

Not changed

J. REFERENCES

CONCURRENT SERVICE BULLETIN (SB)	
A320-22-1712	A320-22-1798

CONF 001

(1) Modification

(a) Task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

AIRCRAFT MAINTENANCE MANUAL (AMM)	
06-20-00, Page Block 001	06-31-53, Page Block 001
Task 12-34-24-869-002	Task 22-70-00-610-008
Task 22-83-00-610-802	

ELECTRICAL STANDARD PRACTICES MANUAL (ESPM)
20-55-00

IN SERVICE INFORMATION (ISI)	
00.00.00135	22.00.00104

MODIFICATION OPERATIONAL IMPACT (MOI)	
163903	167616

TECHNICAL FOLLOW UP (TFU)	
22.00.00102	22.00.00108

(b) Task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

AIRCRAFT MAINTENANCE MANUAL (AMM)	
06-20-00, Page Block 001	Task 12-34-24-869-002
Task 22-70-00-610-008	Task 22-83-00-610-802
Task 22-83-34-000-001 Task 22-83-34-400-001	

ELECTRICAL STANDARD PRACTICES MANUAL (ESPM)
20-55-00

IN SERVICE INFORMATION (ISI)	
00.00.00135	22.00.00104

MODIFICATION OPERATIONAL IMPACT (MOI)	
163903	167616

TECHNICAL FOLLOW UP (TFU)	
22.00.00102	22.00.00108

CONF 002

(1) Modification

(a) Task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

AIRCRAFT MAINTENANCE MANUAL (AMM)	
06-20-00, Page Block 001	06-31-53, Page Block 001
Task 12-34-24-869-002	Task 22-70-00-610-008
Task 22-83-00-610-802	Task 22-83-34-000-001 Task 22-83-34-400-001
Task 22-96-00-740-801	

ELECTRICAL STANDARD PRACTICES MANUAL (ESPM)	
20-33-00	20-52-10
20-52-21	20-55-00

IN SERVICE INFORMATION (ISI)	
00.00.00135	22.00.00104

MODIFICATION OPERATIONAL IMPACT (MOI)	
163903	167616

TECHNICAL FOLLOW UP (TFU)	
22.00.00102	22.00.00108

(b) Task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

AIRCRAFT MAINTENANCE MANUAL (AMM)	
06-20-00, Page Block 001	Task 12-34-24-869-002
Task 22-70-00-610-008	Task 22-83-00-610-802
Task 22-83-34-000-001 Task 22-83-34-400-001	Task 22-96-00-740-801

ELECTRICAL STANDARD PRACTICES MANUAL (ESPM)	
20-33-00	20-52-10
20-52-21	20-55-00

IN SERVICE INFORMATION (ISI)	
00.00.00135	22.00.00104

MODIFICATION OPERATIONAL IMPACT (MOI)	
163903	167616

TECHNICAL FOLLOW UP (TFU)	
22.00.00102	22.00.00108

CONF 003

(1) Modification

(a) Task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

AIRCRAFT MAINTENANCE MANUAL (AMM)	
06-20-00, Page Block 001	06-31-53, Page Block 001
Task 12-34-24-869-002	Task 22-70-00-610-008

ELECTRICAL STANDARD PRACTICES MANUAL (ESPM)
20-55-00

IN SERVICE INFORMATION (ISI)	
00.00.00135	22.00.00104

MODIFICATION OPERATIONAL IMPACT (MOI)	
163903	167616

TECHNICAL FOLLOW UP (TFU)	
22.00.00102	22.00.00108

(b) Task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

AIRCRAFT MAINTENANCE MANUAL (AMM)	
06-20-00, Page Block 001	Task 12-34-24-869-002
Task 22-70-00-610-008	Task 22-83-34-000-001 Task 22-83-34-400-001

ELECTRICAL STANDARD PRACTICES MANUAL (ESPM)
20-55-00

IN SERVICE INFORMATION (ISI)	
00.00.00135	22.00.00104

MODIFICATION OPERATIONAL IMPACT (MOI)	
163903	167616

TECHNICAL FOLLOW UP (TFU)	
22.00.00102	22.00.00108

CONF 004

(1) Modification

(a) Task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

AIRCRAFT MAINTENANCE MANUAL (AMM)	
06-20-00, Page Block 001	06-31-53, Page Block 001
Task 12-34-24-869-002	Task 22-70-00-610-008
Task 22-83-00-610-802	

ELECTRICAL STANDARD PRACTICES MANUAL (ESPM)
20-55-00

IN SERVICE INFORMATION (ISI)	
00.00.00135	22.00.00104

MODIFICATION OPERATIONAL IMPACT (MOI)	
163903	167616

TECHNICAL FOLLOW UP (TFU)	
22.00.00102	22.00.00108

(b) Task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

AIRCRAFT MAINTENANCE MANUAL (AMM)	
06-20-00, Page Block 001	Task 12-34-24-869-002
Task 22-70-00-610-008	Task 22-83-00-610-802
Task 22-83-34-000-001 Task 22-83-34-400-001	

ELECTRICAL STANDARD PRACTICES MANUAL (ESPM)
20-55-00

IN SERVICE INFORMATION (ISI)	
00.00.00135	22.00.00104

MODIFICATION OPERATIONAL IMPACT (MOI)	
163903	167616

TECHNICAL FOLLOW UP (TFU)	
22.00.00102	22.00.00108

CONF 005

(1) Modification

(a) Task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

AIRCRAFT MAINTENANCE MANUAL (AMM)	
06-20-00, Page Block 001	06-31-53, Page Block 001
Task 12-34-24-869-002	Task 22-70-00-610-008

ELECTRICAL STANDARD PRACTICES MANUAL (ESPM)
20-55-00

IN SERVICE INFORMATION (ISI)	
00.00.00135	22.00.00104

MODIFICATION OPERATIONAL IMPACT (MOI)	
163903	167616

TECHNICAL FOLLOW UP (TFU)	
22.00.00102	22.00.00108

(b) Task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

AIRCRAFT MAINTENANCE MANUAL (AMM)	
06-20-00, Page Block 001	Task 12-34-24-869-002
Task 22-70-00-610-008	Task 22-83-34-000-001 Task 22-83-34-400-001

ELECTRICAL STANDARD PRACTICES MANUAL (ESPM)
20-55-00

IN SERVICE INFORMATION (ISI)	
00.00.00135	22.00.00104

MODIFICATION OPERATIONAL IMPACT (MOI)	
163903	167616

TECHNICAL FOLLOW UP (TFU)	
22.00.00102	22.00.00108

CONF 006

(1) Modification

(a) Task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

AIRCRAFT MAINTENANCE MANUAL (AMM)	
06-20-00, Page Block 001	06-31-53, Page Block 001
Task 12-34-24-869-002	Task 22-70-00-610-008

ELECTRICAL STANDARD PRACTICES MANUAL (ESPM)
20-55-00

IN SERVICE INFORMATION (ISI)	
00.00.00135	22.00.00104

MODIFICATION OPERATIONAL IMPACT (MOI)	
163903	167616

TECHNICAL FOLLOW UP (TFU)	
22.00.00102	22.00.00108

(b) Task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

AIRCRAFT MAINTENANCE MANUAL (AMM)	
06-20-00, Page Block 001	Task 12-34-24-869-002
Task 22-70-00-610-008	Task 22-83-34-000-001 Task 22-83-34-400-001

ELECTRICAL STANDARD PRACTICES MANUAL (ESPM)
20-55-00

IN SERVICE INFORMATION (ISI)	
00.00.00135	22.00.00104

MODIFICATION OPERATIONAL IMPACT (MOI)	
163903	167616

TECHNICAL FOLLOW UP (TFU)	
22.00.00102	22.00.00108

CONF ALL

K. PUBLICATION AFFECTED

AIRCRAFT MAINTENANCE MANUAL (AMM)

AIRCRAFT WIRING LIST (AWL)

FLIGHT CREW OPERATING MANUAL (FCOM)

FLIGHT MANUAL (FM)

ILLUSTRATED PART CATALOG (IPC)

MASTER MINIMUM EQUIPMENT LIST (MMEL)

OPERATION ENGINEERING BULLETIN (OEB)

QUICK REFERENCE HAND BOOK (QRH)

TROUBLE SHOOTING MANUAL (TSM)

This Service Bulletin has an impact on flight operations documentation. Refer to ISI 00.00.00135 paragraph "Flight Operations Products" for further information on the update of affected Flight Operations Products.

Technical queries should be addressed through TechRequest on AirbusWorld using "Technical Data/Support to report Service Bulletins" form.

L. INDUSTRY SUPPORT INFORMATION

This Service Bulletin is the subject of an AIRBUS monitored retrofit campaign.

For the organization of this retrofit, you are kindly requested to contact AIRBUS retrofit management department: monitored.retrofit@airbus.com.

Industry support terms for the equipment must be negotiated with the equipment supplier.

AIRBUS will share the costs of accomplishment of this Service Bulletin by providing the kits at no charge for orders placed before Oct 31/23 or within 24 months after the initial issue date of the Service Bulletin.

2. MATERIAL INFORMATION

A. MATERIAL APPLICABILITY

CONF 001

Material for task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

MATERIAL	QTY	SEE NOTES
Referenced tools	See SB	
Equipment	See SB	
Interchangeable parts	See SB	
Spare parts	See SB	

Material for task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

MATERIAL	QTY	SEE NOTES
Referenced tools	See SB	
Equipment	See SB	
Interchangeable parts	See SB	
Spare parts	See SB	

CONF 002

Material for task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

MATERIAL	QTY	SEE NOTES
Referenced tools	See SB	
Equipment	See SB	
Interchangeable parts	See SB	
Spare parts	See SB	

Material for task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

MATERIAL	QTY	SEE NOTES
Referenced tools	See SB	
Equipment	See SB	
Interchangeable parts	See SB	
Spare parts	See SB	

CONF 003

Material for task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

MATERIAL	QTY	SEE NOTES
Referenced tools	See SB	
Equipment	See SB	
Interchangeable parts	See SB	
Spare parts	See SB	

Material for task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

MATERIAL	QTY	SEE NOTES
Referenced tools	See SB	
Equipment	See SB	
Interchangeable parts	See SB	
Spare parts	See SB	

CONF 004

Material for task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

MATERIAL	QTY	SEE NOTES
Referenced tools	See SB	
FLS kit 221821N01R01	1	
FLS kit 221821N02R00	1	
Interchangeable parts	See SB	

Material for task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

MATERIAL	QTY	SEE NOTES
Referenced tools	See SB	
FLS kit 221821N01R01	1	
FLS kit 221821N02R00	1	
Equipment	See SB	
Interchangeable parts	See SB	
Spare parts	See SB	

CONF 005

Material for task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

MATERIAL	QTY	SEE NOTES
Referenced tools	See SB	
Equipment	See SB	
Interchangeable parts	See SB	
Spare parts	See SB	

Material for task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

MATERIAL	QTY	SEE NOTES
Referenced tools	See SB	
Equipment	See SB	
Interchangeable parts	See SB	
Spare parts	See SB	

CONF 006

Material for task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

MATERIAL	QTY	SEE NOTES
Referenced tools	See SB	
FLS kit 221821N02R00	1	
Interchangeable parts	See SB	

Material for task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

MATERIAL	QTY	SEE NOTES
Referenced tools	See SB	
FLS kit 221821N02R00	1	
Equipment	See SB	
Interchangeable parts	See SB	
Spare parts	See SB	

CONF ALL

B. TOOLING

CONF 001

Referenced tools for task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

To accomplish this Service Bulletin it is necessary to use the tools listed in:

Ref. AMM Task 22-70-00-610-008

Referenced tools for task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

To accomplish this Service Bulletin it is necessary to use the tools listed in:

Ref. AMM Task 22-70-00-610-008

CONF 002

Referenced tools for task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

To accomplish this Service Bulletin it is necessary to use the tools listed in:

Ref. AMM Task 22-70-00-610-008

Referenced tools for task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

To accomplish this Service Bulletin it is necessary to use the tools listed in:

Ref. AMM Task 22-70-00-610-008

CONF 003

Referenced tools for task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

To accomplish this Service Bulletin it is necessary to use the tools listed in:

Ref. AMM Task 22-70-00-610-008

Referenced tools for task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

To accomplish this Service Bulletin it is necessary to use the tools listed in:

Ref. AMM Task 22-70-00-610-008

CONF 004

Referenced tools for task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

To accomplish this Service Bulletin it is necessary to use the tools listed in:

Ref. AMM Task 22-70-00-610-008

Referenced tools for task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

To accomplish this Service Bulletin it is necessary to use the tools listed in:

Ref. AMM Task 22-70-00-610-008

CONF 005

Referenced tools for task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

To accomplish this Service Bulletin it is necessary to use the tools listed in:

Ref. AMM Task 22-70-00-610-008

Referenced tools for task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

To accomplish this Service Bulletin it is necessary to use the tools listed in:

Ref. AMM Task 22-70-00-610-008

CONF 006

Referenced tools for task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

To accomplish this Service Bulletin it is necessary to use the tools listed in:

Ref. AMM Task 22-70-00-610-008

Referenced tools for task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

To accomplish this Service Bulletin it is necessary to use the tools listed in:

Ref. AMM Task 22-70-00-610-008

CONF ALL

C. CONSUMABLES

No consumables

D. LIST OF NEW PARTS

CONF 004

FLS kit 221821N01R01

Cost	150.00 USD
Availability	007 d (calendar days from receipt of order)
NOTE(S)	
The sales terms (costs and availability) are estimated in relation to economic conditions. The latest valid price and lead time for ordering purposes shall be obtained through the AIRBUS Spares portal or through a request for quotation to fls.delivery@airbus.com. The availability given above is the standard lead time from the date of your purchase order. If items are required before this time, please include a retrofit planning schedule with your order so that we can try to comply with your requirements.	

Procurement address	FAPE3	AIRBUS 2, ROND POINT EMILE DEWOITINE 31700 BLAGNAC FRANCE E-mail: fls.delivery@airbus.com Internet: http://spares.airbus.com
NOTE(S)		
Customers with aircraft shown in the applicability of this Service Bulletin should send a purchase order to AIRBUS. Quote the number of this Service Bulletin. The address is given above.		
All software Part Numbers required for accomplishment of this Service Bulletin will be delivered through Electronic Delivery Service (EDS) and will have to be downloaded from airnavX MyLibrary application of the AirbusWorld portal.		

ITEM	PART No.	QTY (UM)	KEYWORD	DRAWING	SEE NOTES
	C13207CA09	1	SOFTWARE		

CONF 004 006

FLS kit 221821N02R00

Cost	150.00 USD
Availability	007 d (calendar days from receipt of order)
NOTE(S)	
The sales terms (costs and availability) are estimated in relation to economic conditions. The latest valid price and lead time for ordering purposes shall be obtained through the AIRBUS Spares portal or through a request for quotation to fls.delivery@airbus.com. The availability given above is the standard lead time from the date of your purchase order. If items are required before this time, please include a retrofit planning schedule with your order so that we can try to comply with your requirements.	

Procurement address	FAPE3	AIRBUS 2, ROND POINT EMILE DEWOITINE 31700 BLAGNAC FRANCE E-mail: fls.delivery@airbus.com Internet: http://spares.airbus.com
NOTE(S)		

	Customers with aircraft shown in the applicability of this Service Bulletin should send a purchase order to AIRBUS. Quote the number of this Service Bulletin. The address is given above.
	All software Part Numbers required for accomplishment of this Service Bulletin will be delivered through Electronic Delivery Service (EDS) and will have to be downloaded from airnavX MyLibrary application of the AirbusWorld portal.

ITEM	PART No.	QTY (UM)	KEYWORD	DRAWING	SEE NOTES
	PS4087600-908	1	SOFTWARE		

CONF 001

Equipment for task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

Procurement address	58960	HONEYWELL INTERNATIONAL INC 21111 N 19TH AVENUE 85027-2708 PHOENIX USA Phone: (+1) 602-436-2522 Fax: (+1) 602-822-7272
	F9111	THALES AVS FRANCE SAS 105, Avenue General Eisenhower BP 63647 31036 TOULOUSE CEDEX 1 FRANCE Phone: +33 5 61 19 76 95 Fax: +33 5 61 19 68 20 E-mail: retrofit@fr.thalesgroup.com

NOTE(S)
Vendor parts are to be procured from the address given above.
Procurement terms for the equipment must be negotiated with the equipment supplier.
Refer to THALES AVS FRANCE SAS Service Bulletin No. C13207C-22-001 for the equipment modification sales terms.

ITEM	PART No.	QTY (UM)	KEYWORD	DRAWING	SEE NOTES
	C13207CA09 (F9111)	1	SOFTWARE		(1) (2)
	F1424466 (F9111)	1	MEDIA		(1) (2)
	HNP5FXAM01X2006 (58960)	1	MEDIA		(1) (3)
	PS4087600-908 (58960)	1	SOFTWARE		(1) (3)

NOTE(S)	
(1):	The components listed above are not an AIRBUS Kit, the required parts must be ordered as necessary through the given channel.
(2):	The operator only orders the FG disk (FIN 1CAMD9) PN F1424466 which contains the FG operational software PN C13207CA09 (FIN 1CA1SW9 and FIN 1CA2SW9).
(3):	The operator only orders the FMS CD-ROM (FIN 1CAMD7) PN HNP5FXAM01X2006 which contains the FMS operational software PN PS4087600–908 (FIN 1CA1SW7 and FIN 1CA2SW7).

Equipment for task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

Procurement address	58960	HONEYWELL INTERNATIONAL INC 21111 N 19TH AVENUE 85027-2708 PHOENIX USA Phone: (+1) 602-436-2522 Fax: (+1) 602-822-7272
	F9111	THALES AVS FRANCE SAS 105, Avenue General Eisenhower BP 63647 31036 TOULOUSE CEDEX 1 FRANCE Phone: +33 5 61 19 76 95 Fax: +33 5 61 19 68 20 E-mail: retrofit@fr.thalesgroup.com
NOTE(S)		
Vendor parts are to be procured from the address given above.		
Procurement terms for the equipment must be negotiated with the equipment supplier.		
Refer to THALES AVS FRANCE SAS Service Bulletin No. C13207C-22-001 for the equipment modification sales terms.		

ITEM	PART No.	QTY (UM)	KEYWORD	DRAWING	SEE NOTES
	C13207CA00 (F9111)	2	FMGC		(1)
	F1424466 (F9111)	1	MEDIA		(1) (2)
	HNP5FXAM01X2006 (58960)	1	MEDIA		(1) (3)
NOTE(S)					
(1): The components listed above are not an AIRBUS Kit, the required parts must be ordered as necessary through the given channel.					
(2): The operator only orders the FG disk (FIN 1CAMD9) PN F1424466 which contains the FG operational software PN C13207CA09 (FIN 1CA1SW9 and FIN 1CA2SW9).					
(3): The operator only orders the FMS CD-ROM (FIN 1CAMD7) PN HNP5FXAM01X2006 which contains the FMS operational software PN PS4087600–908 (FIN 1CA1SW7 and FIN 1CA2SW7).					

CONF 002

Equipment for task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

Procurement address	58960	HONEYWELL INTERNATIONAL INC 21111 N 19TH AVENUE 85027-2708 PHOENIX USA Phone: (+1) 602-436-2522 Fax: (+1) 602-822-7272
	F9111	THALES AVS FRANCE SAS 105, Avenue General Eisenhower BP 63647 31036 TOULOUSE CEDEX 1 FRANCE

		Phone: +33 5 61 19 76 95 Fax: +33 5 61 19 68 20 E-mail: retrofit@fr.thalesgroup.com

NOTE(S)
Vendor parts are to be procured from the address given above.
Procurement terms for the equipment must be negotiated with the equipment supplier.
Refer to THALES AVS FRANCE SAS Service Bulletin No. C13207C-22-001 for the equipment modification sales terms.

ITEM	PART No.	QTY (UM)	KEYWORD	DRAWING	SEE NOTES
	C13207CA09 (F9111)	1	SOFTWARE		(1) (2)
	F1424466 (F9111)	1	MEDIA		(1) (2)
	HNP5FXAM01X2006 (58960)	1	MEDIA		(1) (3)
	PS4087600-908 (58960)	1	SOFTWARE		(1) (3)

NOTE(S)	
(1):	The components listed above are not an AIRBUS Kit, the required parts must be ordered as necessary through the given channel.
(2):	The operator only orders the FG disk (FIN 1CAMD9) PN F1424466 which contains the FG operational software PN C13207CA09 (FIN 1CA1SW9 and FIN 1CA2SW9).
(3):	The operator only orders the FMS CD-ROM (FIN 1CAMD7) PN HNP5FXAM01X2006 which contains the FMS operational software PN PS4087600–908 (FIN 1CA1SW7 and FIN 1CA2SW7).

Equipment for task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

Procurement address	58960	HONEYWELL INTERNATIONAL INC 21111 N 19TH AVENUE 85027-2708 PHOENIX USA Phone: (+1) 602-436-2522 Fax: (+1) 602-822-7272
	F9111	THALES AVS FRANCE SAS 105, Avenue General Eisenhower BP 63647 31036 TOULOUSE CEDEX 1 FRANCE Phone: +33 5 61 19 76 95 Fax: +33 5 61 19 68 20 E-mail: retrofit@fr.thalesgroup.com

NOTE(S)
Vendor parts are to be procured from the address given above.
Procurement terms for the equipment must be negotiated with the equipment supplier.
Refer to THALES AVS FRANCE SAS Service Bulletin No. C13207C-22-001 for the equipment modification sales terms.

ITEM	PART No.	QTY (UM)	KEYWORD	DRAWING	SEE NOTES
	C13207CA00 (F9111)	2	FMGC		(1)

ITEM	PART No.	QTY (UM)	KEYWORD	DRAWING	SEE NOTES
	F1424466 (F9111)	1	MEDIA		(1) (2)
	HNP5FXAM01X2006 (58960)	1	MEDIA		(1) (3)

NOTE(S)

(1): The components listed above are not an AIRBUS Kit, the required parts must be ordered as necessary through the given channel.

(2): The operator only orders the FG disk (FIN 1CAMD9) PN F1424466 which contains the FG operational software PN C13207CA09 (FIN 1CA1SW9 and FIN 1CA2SW9).

(3): The operator only orders the FMS CD-ROM (FIN 1CAMD7) PN HNP5FXAM01X2006 which contains the FMS operational software PN PS4087600–908 (FIN 1CA1SW7 and FIN 1CA2SW7).

CONF 003

Equipment for task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

Procurement address	58960	HONEYWELL INTERNATIONAL INC 21111 N 19TH AVENUE 85027-2708 PHOENIX USA Phone: (+1) 602-436-2522 Fax: (+1) 602-822-7272

NOTE(S)

Vendor parts are to be procured from the address given above.

Procurement terms for the equipment must be negotiated with the equipment supplier.

ITEM	PART No.	QTY (UM)	KEYWORD	DRAWING	SEE NOTES
	HNP5FXAM01X2006 (58960)	1	MEDIA		(1) (2)
	PS4087600-908 (58960)	1	SOFTWARE		(1) (2)

NOTE(S)

(1): The components listed above are not an AIRBUS Kit, the required parts must be ordered as necessary through the given channel.

(2): The operator only orders the FMS CD-ROM (FIN 1CAMD7) PN HNP5FXAM01X2006 which contains the FMS operational software PN PS4087600–908 (FIN 1CA1SW7 and FIN 1CA2SW7).

Equipment for task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

Procurement address	58960	HONEYWELL INTERNATIONAL INC 21111 N 19TH AVENUE 85027-2708 PHOENIX USA Phone: (+1) 602-436-2522 Fax: (+1) 602-822-7272
	F9111	THALES AVS FRANCE SAS 105, Avenue General Eisenhower BP 63647

		31036 TOULOUSE CEDEX 1 FRANCE Phone: +33 5 61 19 76 95 Fax: +33 5 61 19 68 20 E-mail: retrofit@fr.thalesgroup.com

NOTE(S)

Vendor parts are to be procured from the address given above.

Procurement terms for the equipment must be negotiated with the equipment supplier.

Refer to THALES AVS FRANCE SAS Service Bulletin No. C13207C-22-001 for the equipment modification sales terms.

ITEM	PART No.	QTY (UM)	KEYWORD	DRAWING	SEE NOTES
	C13207CA00 (F9111)	2	FMGC		(1)
	HNP5FXAM01X2006 (58960)	1	MEDIA		(1) (2)

NOTE(S)

(1): The components listed above are not an AIRBUS Kit, the required parts must be ordered as necessary through the given channel.

(2): The operator only orders the FMS CD-ROM (FIN 1CAMD7) PN HNP5FXAM01X2006 which contains the FMS operational software PN PS4087600–908 (FIN 1CA1SW7 and FIN 1CA2SW7).

CONF 004

Equipment for task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

Procurement address	F9111	THALES AVS FRANCE SAS 105, Avenue General Eisenhower BP 63647 31036 TOULOUSE CEDEX 1 FRANCE Phone: +33 5 61 19 76 95 Fax: +33 5 61 19 68 20 E-mail: retrofit@fr.thalesgroup.com

NOTE(S)

Refer to THALES AVS FRANCE SAS Service Bulletin No. C13207C-22-001 for the equipment modification sales terms.

ITEM	PART No.	QTY (UM)	KEYWORD	DRAWING	SEE NOTES
	C13207CA00 (F9111)	2	FMGC		(1)

NOTE(S)

(1): The components listed above are not an AIRBUS Kit, the required parts must be ordered as necessary through the given channel.

CONF 005

Equipment for task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

Procurement address	58960	HONEYWELL INTERNATIONAL INC 21111 N 19TH AVENUE 85027-2708 PHOENIX USA

		Phone: (+1) 602-436-2522 Fax: (+1) 602-822-7272

NOTE(S)
Vendor parts are to be procured from the address given above.
Procurement terms for the equipment must be negotiated with the equipment supplier.

ITEM	PART No.	QTY (UM)	KEYWORD	DRAWING	SEE NOTES
	HNP5FXAM01X2006 (58960)	1	MEDIA		(1) (2)
	PS4087600-908 (58960)	1	SOFTWARE		(1) (2)

NOTE(S)	
(1):	The components listed above are not an AIRBUS Kit, the required parts must be ordered as necessary through the given channel.
(2):	The operator only orders the FMS CD-ROM (FIN 1CAMD7) PN HNP5FXAM01X2006 which contains the FMS operational software PN PS4087600–908 (FIN 1CA1SW7 and FIN 1CA2SW7).

Equipment for task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

Procurement address	58960	HONEYWELL INTERNATIONAL INC 21111 N 19TH AVENUE 85027-2708 PHOENIX USA Phone: (+1) 602-436-2522 Fax: (+1) 602-822-7272
	F9111	THALES AVS FRANCE SAS 105, Avenue General Eisenhower BP 63647 31036 TOULOUSE CEDEX 1 FRANCE Phone: +33 5 61 19 76 95 Fax: +33 5 61 19 68 20 E-mail: retrofit@fr.thalesgroup.com

NOTE(S)
Vendor parts are to be procured from the address given above.
Procurement terms for the equipment must be negotiated with the equipment supplier.
Refer to THALES AVS FRANCE SAS Service Bulletin No. C13207C-22-001 for the equipment modification sales terms.

ITEM	PART No.	QTY (UM)	KEYWORD	DRAWING	SEE NOTES
	C13207CA00 (F9111)	2	FMGC		(1)
	HNP5FXAM01X2006 (58960)	1	MEDIA		(1) (2)

NOTE(S)	
(1):	The components listed above are not an AIRBUS Kit, the required parts must be ordered as necessary through the given channel.

ITEM	PART No.	QTY (UM)	KEYWORD	DRAWING	SEE NOTES
(2): The operator only orders the FMS CD-ROM (FIN 1CAMD7) PN HNP5FXAM01X2006 which contains the FMS operational software PN PS4087600–908 (FIN 1CA1SW7 and FIN 1CA2SW7).					

CONF 006

Equipment for task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

Procurement address	F9111	THALES AVS FRANCE SAS 105, Avenue General Eisenhower BP 63647 31036 TOULOUSE CEDEX 1 FRANCE Phone: +33 5 61 19 76 95 Fax: +33 5 61 19 68 20 E-mail: retrofit@fr.thalesgroup.com
NOTE(S)		
Refer to THALES AVS FRANCE SAS Service Bulletin No. C13207C-22-001 for the equipment modification sales terms.		

ITEM	PART No.	QTY (UM)	KEYWORD	DRAWING	SEE NOTES
	C13207CA00 (F9111)	2	FMGC		(1)
NOTE(S)					
(1): The components listed above are not an AIRBUS Kit, the required parts must be ordered as necessary through the given channel.					

CONF ALL

E. LIST OF EXISTING PARTS

CONF 001

Interchangeable parts for task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

DESCRIPTION	OLD PART No.	NEW PART No.	INT	SEE NOTES
MEDIA-FG OPERATIONAL PROGRAM	F1424003	F1424466	03	(1) (2)
SOFTWARE-FG OPERATIONAL PROGRAM	G2858AAA08	C13207CA09	03	(1) (2)
MEDIA-FMS OPERATIONAL PROGRAM	HNP5CXAM01X2005	HNP5FXAM01X2006	03	(1) (2)
SOFTWARE-FMGC OPERATIONAL PROGRAM	HNP5DXAL01X2005	PS4087600-908	03	(1) (2)
NOTE(S)				
For definitions of interchangeability codes in column INT. refer to ATA (CSDD Chapter 2).				
Only the mixability configuration(s) and condition(s) stated in this Service Bulletin are approved.				

DESCRIPTION	OLD PART No.	NEW PART No.	INT	SEE NOTES
(1): The interchangeability possibilities are for new or modified parts introduced by the accomplishment of this Service Bulletin.				
(2): Mixability is not authorized.				

Interchangeable parts for task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

DESCRIPTION	OLD PART No.	NEW PART No.	INT	SEE NOTES
FMGC-FLIGHT MANAGEMENT AND GUIDANCE COMPUTER	C13207CA00	C13207CA00	03	(1) (2)
MEDIA-FG OPERATIONAL PROGRAM	F1424003	F1424466	03	(3) (1)
MEDIA-FMS OPERATIONAL PROGRAM	HNP5CXAM01X2005	HNP5FXAM01X2006	03	(3) (1)
NOTE(S)				
For definitions of interchangeability codes in column INT. refer to ATA (CSDD Chapter 2).				
Only the mixability configuration(s) and condition(s) stated in this Service Bulletin are approved.				
(1): Mixability is not authorized.				
(2): The FMGCs with same PN are loaded with different software and it cannot be interchanged.				
(3): The interchangeability possibilities are for new or modified parts introduced by the accomplishment of this Service Bulletin.				

CONF 002

Interchangeable parts for task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

DESCRIPTION	OLD PART No.	NEW PART No.	INT	SEE NOTES
MEDIA-FG OPERATIONAL PROGRAM	F1424003	F1424466	03	(1) (2)
SOFTWARE-FG OPERATIONAL PROGRAM	G2858AAA08	C13207CA09	03	(1) (2)
MEDIA-FMS OPERATIONAL PROGRAM	HNP5CXAM01X2005	HNP5FXAM01X2006	03	(1) (2)
SOFTWARE-FMGC OPERATIONAL PROGRAM	HNP5DXAL01X2005	PS4087600-908	03	(1) (2)
NOTE(S)				
For definitions of interchangeability codes in column INT. refer to ATA (CSDD Chapter 2).				

DESCRIPTION	OLD PART No.	NEW PART No.	INT	SEE NOTES
Only the mixability configuration(s) and condition(s) stated in this Service Bulletin are approved.				
(1): The interchangeability possibilities are for new or modified parts introduced by the accomplishment of this Service Bulletin.				
(2): Mixability is not authorized.				

Interchangeable parts for task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

DESCRIPTION	OLD PART No.	NEW PART No.	INT	SEE NOTES
FMGC-FLIGHT MANAGEMENT AND GUIDANCE COMPUTER	C13207CA00	C13207CA00	03	(1) (2)
MEDIA-FG OPERATIONAL PROGRAM	F1424003	F1424466	03	(3) (1)
MEDIA-FMS OPERATIONAL PROGRAM	HNP5CXAM01X2005	HNP5FXAM01X2006	03	(3) (1)
NOTE(S)				
For definitions of interchangeability codes in column INT. refer to ATA (CSDD Chapter 2).				
Only the mixability configuration(s) and condition(s) stated in this Service Bulletin are approved.				
(1): Mixability is not authorized.				
(2): The FMGCs with same PN are loaded with different software and it cannot be interchanged.				
(3): The interchangeability possibilities are for new or modified parts introduced by the accomplishment of this Service Bulletin.				

CONF 003

Interchangeable parts for task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

DESCRIPTION	OLD PART No.	NEW PART No.	INT	SEE NOTES
MEDIA-FMS OPERATIONAL PROGRAM	HNP5CXAM01X2005	HNP5FXAM01X2006	03	(1) (2)
SOFTWARE-FMGC OPERATIONAL PROGRAM	HNP5DXAL01X2005	PS4087600-908	03	(1) (2)
NOTE(S)				
For definitions of interchangeability codes in column INT. refer to ATA (CSDD Chapter 2).				
Only the mixability configuration(s) and condition(s) stated in this Service Bulletin are approved.				
(1): The interchangeability possibilities are for new or modified parts introduced by the accomplishment of this Service Bulletin.				

DESCRIPTION	OLD PART No.	NEW PART No.	INT	SEE NOTES
(2): Mixability is not authorized.				

Interchangeable parts for task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

DESCRIPTION	OLD PART No.	NEW PART No.	INT	SEE NOTES
FMGC-FLIGHT MANAGEMENT AND GUIDANCE COMPUTER	C13207CA00	C13207CA00	03	(1) (2)
MEDIA-FMS OPERATIONAL PROGRAM	HNP5CXAM01X2005	HNP5FXAM01X2006	03	(3) (1)
NOTE(S)				
For definitions of interchangeability codes in column INT. refer to ATA (CSDD Chapter 2).				
Only the mixability configuration(s) and condition(s) stated in this Service Bulletin are approved.				
(1): Mixability is not authorized.				
(2): The FMGCs with same PN are loaded with different software and it cannot be interchanged.				
(3): The interchangeability possibilities are for new or modified parts introduced by the accomplishment of this Service Bulletin.				

CONF 004

Interchangeable parts for task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

DESCRIPTION	OLD PART No.	NEW PART No.	INT	SEE NOTES
SOFTWARE-FLIGHT MANAGEMENT AND GUIDANCE COMPUTER	C13207CA08	C13207CA09	03	(1) (2)
SOFTWARE-MEDIA FMS OPERATIONAL PROGRAM	PS4087600-907	PS4087600-908	03	(1) (2)
NOTE(S)				
For definitions of interchangeability codes in column INT. refer to ATA (CSDD Chapter 2).				
Only the mixability configuration(s) and condition(s) stated in this Service Bulletin are approved.				
(1): The interchangeability possibilities are for new or modified parts introduced by the accomplishment of this Service Bulletin.				
(2): Mixability is not authorized.				

Interchangeable parts for task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

DESCRIPTION	OLD PART No.	NEW PART No.	INT	SEE NOTES
FMGC-FLIGHT MANAGEMENT AND GUIDANCE COMPUTER	C13207CA00	C13207CA00	03	(1) (2)
SOFTWARE-FLIGHT MANAGEMENT AND GUIDANCE COMPUTER	C13207CA08	C13207CA09	03	(3) (1)
SOFTWARE-MEDIA FMS OPERATIONAL PROGRAM	PS4087600-907	PS4087600-908	03	(3) (1)
NOTE(S)				
	For definitions of interchangeability codes in column INT. refer to ATA (CSDD Chapter 2).			
	Only the mixability configuration(s) and condition(s) stated in this Service Bulletin are approved.			
(1):	Mixability is not authorized.			
(2):	The FMGCs with same PN are loaded with different software and it cannot be interchanged.			
(3):	The interchangeability possibilities are for new or modified parts introduced by the accomplishment of this Service Bulletin.			

CONF 005

Interchangeable parts for task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

DESCRIPTION	OLD PART No.	NEW PART No.	INT	SEE NOTES
MEDIA-FMS OPERATIONAL PROGRAM	HNP5CXAM01X2005	HNP5FXAM01X2006	03	(1) (2)
SOFTWARE-FMGC OPERATIONAL PROGRAM	HNP5DXAL01X2005	PS4087600-908	03	(1) (2)
NOTE(S)				
	For definitions of interchangeability codes in column INT. refer to ATA (CSDD Chapter 2).			
	Only the mixability configuration(s) and condition(s) stated in this Service Bulletin are approved.			
(1):	The interchangeability possibilities are for new or modified parts introduced by the accomplishment of this Service Bulletin.			
(2):	Mixability is not authorized.			

Interchangeable parts for task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

DESCRIPTION	OLD PART No.	NEW PART No.	INT	SEE NOTES
FMGC-FLIGHT MANAGEMENT	C13207CA00	C13207CA00	03	(1) (2)

DESCRIPTION	OLD PART No.	NEW PART No.	INT	SEE NOTES
AND GUIDANCE COMPUTER				
MEDIA-FMS OPERATIONAL PROGRAM	HNP5CXAM01X2005	HNP5FXAM01X2006	03	(3) (1)
NOTE(S)				
For definitions of interchangeability codes in column INT. refer to ATA (CSDD Chapter 2).				
Only the mixability configuration(s) and condition(s) stated in this Service Bulletin are approved.				
(1): Mixability is not authorized.				
(2): The FMGCs with same PN are loaded with different software and it cannot be interchanged.				
(3): The interchangeability possibilities are for new or modified parts introduced by the accomplishment of this Service Bulletin.				

CONF 006

Interchangeable parts for task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

DESCRIPTION	OLD PART No.	NEW PART No.	INT	SEE NOTES
SOFTWARE-MEDIA FMS OPERATIONAL PROGRAM	PS4087600-907	PS4087600-908	03	(1) (2)
NOTE(S)				
For definitions of interchangeability codes in column INT. refer to ATA (CSDD Chapter 2).				
Only the mixability configuration(s) and condition(s) stated in this Service Bulletin are approved.				
(1): The interchangeability possibilities are for new or modified parts introduced by the accomplishment of this Service Bulletin.				
(2): Mixability is not authorized.				

Interchangeable parts for task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

DESCRIPTION	OLD PART No.	NEW PART No.	INT	SEE NOTES
FMGC-FLIGHT MANAGEMENT AND GUIDANCE COMPUTER	C13207CA00	C13207CA00	03	(1) (2)
SOFTWARE-MEDIA FMS OPERATIONAL PROGRAM	PS4087600-907	PS4087600-908	03	(3) (1)
NOTE(S)				
For definitions of interchangeability codes in column INT. refer to ATA (CSDD Chapter 2).				
Only the mixability configuration(s) and condition(s) stated in this Service Bulletin are approved.				

DESCRIPTION	OLD PART No.	NEW PART No.	INT	SEE NOTES
(1): Mixability is not authorized.				
(2): The FMGCs with same PN are loaded with different software and it cannot be interchanged.				
(3): The interchangeability possibilities are for new or modified parts introduced by the accomplishment of this Service Bulletin.				

CONF 001

Spare parts for task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

DESCRIPTION	OLD PART No.	SEE NOTES
MEDIA-FG OPERATIONAL PROGRAM	F1424003	(1)
MEDIA-FMS OPERATIONAL PROGRAM	HNP5CXAM01X2005	(1)
NOTE(S)		
(1): The parts listed here must not be installed anymore on aircraft which have accomplished this Service Bulletin or which have the equivalent production modification embodied.		

Spare parts for task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

DESCRIPTION	OLD PART No.	SEE NOTES
FMGC-FLIGHT MANAGEMENT AND GUIDANCE COMPUTER	C13207CA00	(1)
MEDIA-FG OPERATIONAL PROGRAM	F1424003	(1)
MEDIA-FMS OPERATIONAL PROGRAM	HNP5CXAM01X2005	(1)
NOTE(S)		
(1): The parts listed here must not be installed anymore on aircraft which have accomplished this Service Bulletin or which have the equivalent production modification embodied.		

CONF 002

Spare parts for task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

DESCRIPTION	OLD PART No.	SEE NOTES
MEDIA-FG OPERATIONAL PROGRAM	F1424003	(1)
MEDIA-FMS OPERATIONAL PROGRAM	HNP5CXAM01X2005	(1)
NOTE(S)		
(1): The parts listed here must not be installed anymore on aircraft which have accomplished this Service Bulletin or which have the equivalent production modification embodied.		

Spare parts for task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

DESCRIPTION	OLD PART No.	SEE NOTES
FMGC-FLIGHT MANAGEMENT AND GUIDANCE COMPUTER	C13207CA00	(1)
MEDIA-FG OPERATIONAL PROGRAM	F1424003	(1)
MEDIA-FMS OPERATIONAL PROGRAM	HNP5CXAM01X2005	(1)
NOTE(S)		
(1): The parts listed here must not be installed anymore on aircraft which have accomplished this Service Bulletin or which have the equivalent production modification embodied.		

CONF 003

Spare parts for task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

DESCRIPTION	OLD PART No.	SEE NOTES
MEDIA-FMS OPERATIONAL PROGRAM	HNP5CXAM01X2005	(1)
NOTE(S)		
(1): The parts listed here must not be installed anymore on aircraft which have accomplished this Service Bulletin or which have the equivalent production modification embodied.		

Spare parts for task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

DESCRIPTION	OLD PART No.	SEE NOTES
FMGC-FLIGHT MANAGEMENT AND GUIDANCE COMPUTER	C13207CA00	(1)
MEDIA-FMS OPERATIONAL PROGRAM	HNP5CXAM01X2005	(1)
NOTE(S)		
(1): The parts listed here must not be installed anymore on aircraft which have accomplished this Service Bulletin or which have the equivalent production modification embodied.		

CONF 004

Spare parts for task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

DESCRIPTION	OLD PART No.	SEE NOTES
FMGC-FLIGHT MANAGEMENT AND GUIDANCE COMPUTER	C13207CA00	(1)
NOTE(S)		
(1): The parts listed here must not be installed anymore on aircraft which have accomplished this Service Bulletin or which have the equivalent production modification embodied.		

CONF 005

Spare parts for task set A320-A-22-XX-1821-01000-93AC-A OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

DESCRIPTION	OLD PART No.	SEE NOTES
MEDIA-FMS OPERATIONAL PROGRAM	HNP5CXAM01X2005	(1)
NOTE(S)		
(1): The parts listed here must not be installed anymore on aircraft which have accomplished this Service Bulletin or which have the equivalent production modification embodied.		

Spare parts for task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

DESCRIPTION	OLD PART No.	SEE NOTES
FMGC-FLIGHT MANAGEMENT AND GUIDANCE COMPUTER	C13207CA00	(1)
MEDIA-FMS OPERATIONAL PROGRAM	HNP5CXAM01X2005	(1)
NOTE(S)		
(1): The parts listed here must not be installed anymore on aircraft which have accomplished this Service Bulletin or which have the equivalent production modification embodied.		

CONF 006

Spare parts for task set A320-A-22-XX-1821-01000-93AH-A OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

DESCRIPTION	OLD PART No.	SEE NOTES
FMGC-FLIGHT MANAGEMENT AND GUIDANCE COMPUTER	C13207CA00	(1)
NOTE(S)		
(1): The parts listed here must not be installed anymore on aircraft which have accomplished this Service Bulletin or which have the equivalent production modification embodied.		

CONF ALL

3. ACCOMPLISHMENT INSTRUCTIONS

Task set A320-A-22-XX-1821-01000-93AC-A (A320-A-22-XX-1821-01ZZZ-93AZ-A)
OPTION 1 - Modification of the FMS Operational Software and FG Operational Software on Aircraft

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

CAUTION: ALWAYS OBEY THE PRECAUTIONS THAT FOLLOW TO KEEP ELECTRICAL WIRING IN A SATISFACTORY CONDITION (ELECTRICALLY AND MECHANICALLY SERVICEABLE). WHEN YOU DO A MAINTENANCE WORK, REPAIRS OR MODIFICATIONS, ALWAYS KEEP ELECTRICAL WIRING, COMPONENTS AND THE WORK AREA AS CLEAN AS POSSIBLE. TO DO THIS:
- PUT PROTECTION, SUCH AS PLASTIC SHEETING, CLOTHS, ETC., AS NECESSARY ON WIRING AND COMPONENTS.
- REGULARLY REMOVE ALL SHAVINGS, UNWANTED MATERIAL AND OTHER CONTAMINATION.
THESE PRECAUTIONS WILL DECREASE THE RISK OF CONTAMINATION AND DAMAGE TO THE ELECTRICAL WIRING INSTALLATION.
IF THERE IS CONTAMINATION, REFER TO Ref. ESPM 20-55-00.

NOTE: The accomplishment instructions of this Service Bulletin include procedures given in other documents or in other sections of the Service Bulletin. When the words “refer to” are used and the operator has a procedure accepted by the local authority he belongs to, the accepted alternative procedure can be used. When the words “in accordance with” are used then the given procedure must be followed.

NOTE: The access and close-up instructions, not comprising return to service tests, in this Service Bulletin do not constitute or affect the technical intent of the Service Bulletin. Operators can therefore, as deemed necessary, omit or add access and/or close-up steps to add flexibility to their maintenance operations as long as the technical intent of the Service Bulletin is met within the set parameters.

NOTE: Manual titles given in the accomplishment instructions are referred to by acronyms. Refer to paragraph 1.J., References, for the definition of acronyms.

NOTE: This Service Bulletin is classified mandatory or expected to be classified mandatory by an Airworthiness Directive (AD). The paragraphs 3.C. and 3.E. in these accomplishment instructions are Required for Compliance (RC) and must be done to comply with the AD. To allow more flexibility, the rule "refer to" and "in accordance with" will apply to these paragraphs 3.C. and 3.E. Other paragraphs are recommended and may be deviated from, done as part of other actions or done with accepted methods different from those given in the Service Bulletin, as long as the RC paragraphs can be done and the aircraft can be put back into a serviceable condition.

NOTE: This Service Bulletin contains the instructions for the on-aircraft maintenance necessary to ensure the continued airworthiness of the aircraft.
For any deviations to the instructions, including Required for Compliance paragraph contained herein, contact AIRBUS for further instructions and approval.

NOTE: Discarded parts must be managed at the operator's discretion.

A. TASK SET ASSOCIATED INFORMATION

Task Manpower

CONF 001

TOTAL MAN-HOURS	2.40 h

CONF 002
TOTAL MAN-HOURS 5.15 h
CONF 003
TOTAL MAN-HOURS 1.10 h
CONF 004
TOTAL MAN-HOURS 2.20 h
CONF 005
TOTAL MAN-HOURS 1.10 h
CONF 006
TOTAL MAN-HOURS 0.90 h
CONF 001
ELAPSED TIME (HOURS) 2.40 h
CONF 002
ELAPSED TIME (HOURS) 5.15 h
CONF 003
ELAPSED TIME (HOURS) 1.10 h
CONF 004
ELAPSED TIME (HOURS) 2.20 h
CONF 005
ELAPSED TIME (HOURS) 1.10 h
CONF 006
ELAPSED TIME (HOURS) 0.90 h
CONF ALL

B. PREPARATION

CONF 001 004

(1) Task A320-A-22-XX-1821-03001-540A-A (A320-A-22-XX-1821-03ZZZ-540Z-A) Job Set-up

Job Set-Up Information

Manpower/Resources/Skills

Man-hours	0.25 h
Minimum Number of person	1
Elapsed Time	0.25 h

Referenced Information

Manuals/Drawings	References/Sheets
AMM	Task 12-34-24-869-002 Task 22-70-00-610-008 Task 22-83-00-610-802

Procedure

NOTE: For the basic Aircraft configuration, refer to AMM Chapter “Introduction - Aircraft status for maintenance" in Manual Front Matter section.

(a) Make sure that the aircraft is electrically grounded, refer to Ref. AMM Task 12-34-24-869-002.

(b) Do the job set-up procedure as specified in the uploading of the FM data, refer to Ref. AMM Task 22-70-00-610-008.

(c) Do the job set-up procedure as specified in the uploading of the FG data, refer to Ref. AMM Task 22-83-00-610-802.

NOTE: If the AMM Task Ref. AMM Task 22-83-00-610-802 is not available in the latest AMM operator's issue, refer to Ref. Appendix ADVANCE COPY OF AMM TASK.

CONF 003 005 006

(1) Task A320-A-22-XX-1821-03003-540A-A (A320-A-22-XX-1821-03ZZZ-540Z-A) Job Set-up

Job Set-Up Information

Manpower/Resources/Skills

Man-hours	0.15 h
Minimum Number of person	1
Elapsed Time	0.15 h

Referenced Information

Manuals/Drawings	References/Sheets
AMM	Task 12-34-24-869-002 Task 22-70-00-610-008

Procedure

NOTE: For the basic Aircraft configuration, refer to AMM Chapter "Introduction - Aircraft status for maintenance" in Manual Front Matter section.

(a) Make sure that the aircraft is electrically grounded, refer to Ref. AMM Task 12-34-24-869-002.

(b) Do the job set-up procedure as specified in the uploading of the FM data, refer to Ref. AMM Task 22-70-00-610-008.

CONF 002

(1) Task A320-A-22-XX-1821-03004-540A-A (A320-A-22-XX-1821-03ZZZ-540Z-A) Job Set-up

Job Set-Up Information

Manpower/Resources/Skills

Man-hours	0.30 h
Minimum Number of person	1
Elapsed Time	0.30 h

Referenced Information

Manuals/Drawings	References/Sheets
AMM	Task 12-34-24-869-002 Task 22-70-00-610-008 Task 22-83-00-610-802 Task 22-83-34-000-001

Procedure

NOTE: For the basic Aircraft configuration, refer to AMM Chapter "Introduction - Aircraft status for maintenance" in Manual Front Matter section.

(a) Make sure that the aircraft is electrically grounded, refer to Ref. AMM Task 12-34-24-869-002.

(b) Do the job set up procedure as specified in the removal of the FMGCs (FIN 1CA1 and FIN 1CA2), refer to Ref. AMM Task 22-83-34-000-001.

(c) Do the job set up procedure as specified in the uploading of the FG data, refer to Ref. AMM Task 22-83-00-610-802.

(d) Do the job set up procedure as specified in the uploading of the FM data, refer to Ref. AMM Task 22-70-00-610-008.

(2) Task A320-A-22-XX-1821-02001-300A-A (A320-A-22-XX-1821-02ZZZ-300Z-A) Parity Configuration Recording

Job Set-Up Information

Manpower/Resources/Skills

Man-hours	0.50 h
Minimum Number of person	1
Elapsed Time	0.50 h

Procedure

(a) For the FMGC-1 (FIN 1CA1) parity modification, before any disconnection, record the figure number of the hook-up chart on which line 1 and line 3 agrees with the aircraft wiring configuration, refer to Ref. Fig.HC Hook-up Chart - Parity 1 for FMGC-1 (FIN 1CA1) and Ref. Fig.HD Hook-up Chart - Parity 2 for FMGC-1 (FIN 1CA1).

(b) For the FMGC-2 (FIN 1CA2) parity modification, before any disconnection, record the figure number of the hook-up chart on which line 1 and line 3 agrees with the aircraft wiring configuration, refer to Ref. Fig.HE Hook-up Chart - Parity 1 for FMGC-2 (FIN 1CA2) and Ref. Fig.HF Hook-up Chart - Parity 2 for FMGC-2 (FIN 1CA2).

CONF 002

Line	END1				LEAD						END2				Instructions
	Zone or Panel	Elec.Ident.	Term	Terminal P/N	Wire Ident.	Co	Rte	Gauge	Length mm	Length Inch	Zone or Panel	Elec.Ident.	Term	Terminal P/N	
1	83VU	1831VT	39P		2285-0433		1S	CF24			83VU	1CA1-AB	8D		M1O
2	83VU	1831VT	37P	EN3155-016M2222	2285-0433		1S	CF24			83VU	1CA1-AB	8D		M1N
3	83VU	1833VT	42L		2285-0447		1M	CF24			83VU	1CA1-AE	8K		M1O
4	83VU	1833VT	43L	EN3155-016M2222	2285-0447		1M	CF24			83VU	1CA1-AE	8K		M1N
5															
6															
7															
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22															
23															
24															
25															

M1O = OLD HOOK-UP ON END 1
M1N = NEW HOOK-UP ON END 1

Figure ICN-A320-A-22XX1821-A-FAPE3-02BCL-A-001-01 Fig.HC Sol.AA SHEET 1/1
Hook-up Chart - Parity 1 for FMGC-1 (FIN 1CA1)

CONF 002

Line	END1				LEAD						END2				Instructions
	Zone or Panel	Elec.Ident.	Term	Terminal P/N	Wire Ident.	Co	Rte	Gauge	Length mm	Length Inch	Zone or Panel	Elec.Ident.	Term	Terminal P/N	
1	83VU	1831VT	37P		2285-0433		1S	CF24			83VU	1CA1-AB	8D		M1O
2	83VU	1831VT	39P	EN3155-016M2222	2285-0433		1S	CF24			83VU	1CA1-AB	8D		M1N
3	83VU	1833VT	43L		2285-0447		1M	CF24			83VU	1CA1-AE	8K		M1O
4	83VU	1833VT	42L	EN3155-016M2222	2285-0447		1M	CF24			83VU	1CA1-AE	8K		M1N
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22															
23															
24															
25															

M1O = OLD HOOK-UP ON END 1
M1N = NEW HOOK-UP ON END 1

Figure ICN-A320-A-22XX1821-A-FAPE3-02BCM-A-001-01 Fig.HD Sol.AA SHEET 1/1
Hook-up Chart - Parity 2 for FMGC-1 (FIN 1CA1)

CONF 002

Line	END1				LEAD						END2				Instructions
	Zone or Panel	Elec.Ident.	Term	Terminal P/N	Wire Ident.	Co	Rte	Gauge	Length mm	Length Inch	Zone or Panel	Elec.Ident.	Term	Terminal P/N	
1	84VU	1840VT	39P		2285-0483		2S	CF24			84VU	1CA2-AB	8D		M1O
2	84VU	1840VT	37P	EN3155-016M2222	2285-0483		2S	CF24			84VU	1CA2-AB	8D		M1N
3	84VU	1842VT	36L		2285-0502		2M	CF24			84VU	1CA2-AE	8K		M1O
4	84VU	1842VT	31L	EN3155-016M2222	2285-0502		2M	CF24			84VU	1CA2-AE	8K		M1N
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23															
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25															

M1O = OLD HOOK-UP ON END 1
M1N = NEW HOOK-UP ON END 1

Figure ICN-A320-A-22XX1821-A-FAPE3-02BCN-A-001-01 Fig.HE Sol.AA SHEET 1/1
Hook-up Chart - Parity 1 for FMGC-2 (FIN 1CA2)

CONF 002

Line	END1				LEAD						END2				Instructions
	Zone or Panel	Elec.Ident.	Term	Terminal P/N	Wire Ident.	Co	Rte	Gauge	Length mm	Length Inch	Zone or Panel	Elec.Ident.	Term	Terminal P/N	
1	84VU	1840VT	37P		2285-0483		2S	CF24			84VU	1CA2-AB	8D		M1O
2	84VU	1840VT	39P	EN3155-016M2222	2285-0483		2S	CF24			84VU	1CA2-AB	8D		M1N
3	84VU	1842VT	31L		2285-0502		2M	CF24			84VU	1CA2-AE	8K		M1O
4	84VU	1842VT	36L	EN3155-016M2222	2285-0502		2M	CF24			84VU	1CA2-AE	8K		M1N
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M1O = OLD HOOK-UP ON END 1
M1N = NEW HOOK-UP ON END 1

Figure ICN-A320-A-22XX1821-A-FAPE3-02BCO-A-001-01 Fig.HF Sol.AA SHEET 1/1
Hook-up Chart - Parity 2 for FMGC-2 (FIN 1CA2)

CONF ALL

C. PROCEDURE

CONF 002

(1) Task A320-A-22-XX-1821-04001-520A-A (A320-A-22-XX-1821-04ZZZ-520Z-A) Remove the FMGC(s) from 80VU

Job Set-Up Information

Working Area

Impacted Zone	Access / Work Location
120	

Manpower/Resources/Skills

Man-hours	0.50 h
Minimum Number of person	1
Elapsed Time	0.50 h

Referenced Information

Manuals/Drawings	References/Sheets
AMM	06-20-00, Page Block 001 Task 22-83-34-000-001

Procedure

(a) Standard practices given in this procedure:

1 For the identification of zones, refer to Ref. AMM 06-20-00, Page Block 001.

(b) Remove the two FMGCs (FIN 1CA1 and FIN 1CA2) in the aft electronics rack 80VU, refer to Ref. AMM Task 22-83-34-000-001.

NOTE: Retained for modification.

(2) Task A320-A-22-XX-1821-05001-720A-A (A320-A-22-XX-1821-05ZZZ-720Z-A) Modify the Wiring in the Electronics Rack 80VU

Job Set-Up Information

Working Area

Impacted Zone	Access / Work Location	
120	Work location	Electrical Panel 80VU

Manpower/Resources/Skills

Man-hours	1.00 h
Minimum Number of person	1
Elapsed Time	1.00 h

Referenced Information

Manuals/Drawings	References/Sheets
AMM	06-20-00, Page Block 001
ESPM	20-33-00 20-52-10 20-52-21

Procedure

(a) Standard practices given in this procedure:

1 For the identification of zones, refer to Ref. AMM 06-20-00, Page Block 001.

2 Tag all the parts you must remove and retain to make the subsequent installation easier.

3 Put all the retained hardware in identified plastic bags and attach the bags to the related unit.

4 For the general installation of electrical wire harnesses, refer to Ref. ESPM 20-33-00.

5 Do a check of the electrical connectors before you connect them, refer to Ref. ESPM 20-52-10.

6 Do a continuity test of the new and/or modified electrical wires, refer to Ref. ESPM 20-52-21.

(b) Modify the pin programming of the FMGCs (FIN 1CA1 and FIN 1CA2), refer to Ref. ESPM 20-33-00.

1 Modify the connection of the wire(s) as show on this(these) wiring diagram(s) and the related hook-up chart(s):

- Ref. Fig.WA Modification of the Pin Programming for FMGC-1 (FIN 1CA1) and Ref. Fig.HA Hook-up Chart for FMGC-1 (FIN 1CA1)
- Ref. Fig.WB Modification of the Pin Programming for FMGC-2 (FIN 1CA2) and Ref. Fig.HB Hook-up Chart for FMGC-2 (FIN 1CA2).

(c) Modify the parity of the FMGC-1 (FIN 1CA1), refer to Ref. ESPM 20-33-00.

1 If during accomplishment of Ref. Task set A320-A-22-XX-1821-01000-93AH-A, you recorded that the existing aircraft wiring corresponds to line 1 and line 3 of Ref. Fig.HC Hook-up Chart - Parity 1 for FMGC-1 (FIN 1CA1).

a Modify the connection of the wires(s) as shown on this wiring diagram and the related hook-up chart:

- Ref. Fig.WC Modification of the Parity 1 for FMGC-1 (FIN 1CA1)
- Ref. Fig.HC Hook-up Chart - Parity 1 for FMGC-1 (FIN 1CA1).

2 If during accomplishment of Ref. Task set A320-A-22-XX-1821-01000-93AH-A, you recorded that the existing aircraft wiring corresponds to line 1 and line 3 of Ref. Fig.HD Hook-up Chart - Parity 2 for FMGC-1 (FIN 1CA1).

a Modify the connection of the wires(s) as shown on this wiring diagram and the related hook-up chart:

- Ref. Fig.WD Modification of the Parity 2 for FMGC-1 (FIN 1CA1)
- Ref. Fig.HD Hook-up Chart - Parity 2 for FMGC-1 (FIN 1CA1).

(d) Modify the parity of the FMGC-2 (FIN 1CA2), refer to Ref. ESPM 20-33-00.

1 If during accomplishment of Ref. Task set A320-A-22-XX-1821-01000-93AH-A, you recorded that the existing aircraft wiring corresponds to line 1 and line 3 of Ref. Fig.HE Hook-up Chart - Parity 1 for FMGC-2 (FIN 1CA2).

a Modify the connection of the wires(s) as shown on this wiring diagram and the related hook-up chart:

- Ref. Fig.WE Modification of the Parity 1 for FMGC-2 (FIN 1CA2)
- Ref. Fig.HE Hook-up Chart - Parity 1 for FMGC-2 (FIN 1CA2).

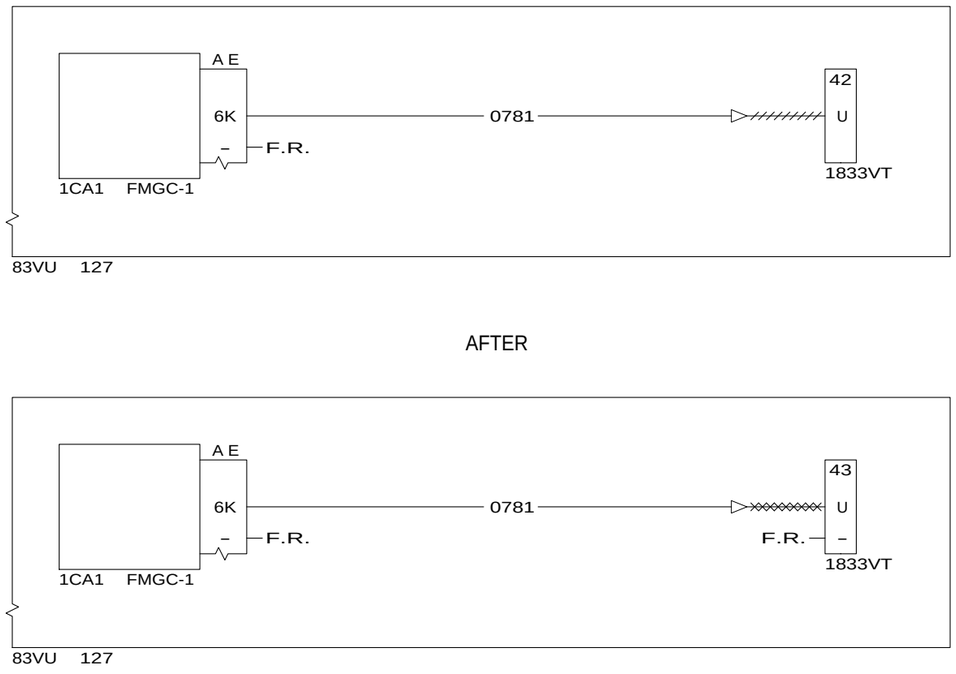
2 If during accomplishment of Ref. Task set A320-A-22-XX-1821-01000-93AH-A, you recorded that the existing aircraft wiring corresponds to line 1 and line 3 of Ref. Fig.HF Hook-up Chart - Parity 2 for FMGC-2 (FIN 1CA2).

a Modify the connection of the wires(s) as shown on this wiring diagram and the related hook-up chart:

- Ref. Fig.WF Modification of the Parity 2 for FMGC-2 (FIN 1CA2)
- Ref. Fig.HF Hook-up Chart - Parity 2 for FMGC-2 (FIN 1CA2).

CONF 002

BEFORE



AFTER

OLD HOOK-UP NEW HOOK-UP F.R. FOR REFERENCE

NOTE : UNLESS OTHERWISE SPECIFIED PREFIX ALL WIRE IDENTIFICATION WITH ATA2285
UNLESS OTHERWISE SPECIFIED ALL WIRES ARE CF24 GAUGE
UNLESS OTHERWISE SPECIFIED ALL ROUTES ARE 1M
ICN-A320-A-22XX1821-A-FAPE3-02BCD-A-001-01

Figure ICN-A320-A-22XX1821-A-FAPE3-02BCD-A-001-01 Fig.WA Sol.AA SHEET 1/1

Modification of the Pin Programming for FMGC-1 (FIN 1CA1)

CONF 002

Line	END1				LEAD						END2				Instructions
	Zone or Panel	Elec.Ident.	Term	Terminal P/N	Wire Ident.	Co	Rte	Gauge	Length mm	Length Inch	Zone or Panel	Elec.Ident.	Term	Terminal P/N	
1	83VU	1833VT	42U		2285-0781		1M	CF24			83VU	1CA1-AE	6K		M1O
2	83VU	1833VT	43U	EN3155-016M2222	2285-0781		1M	CF24			83VU	1CA1-AE	6K		M1N
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25															

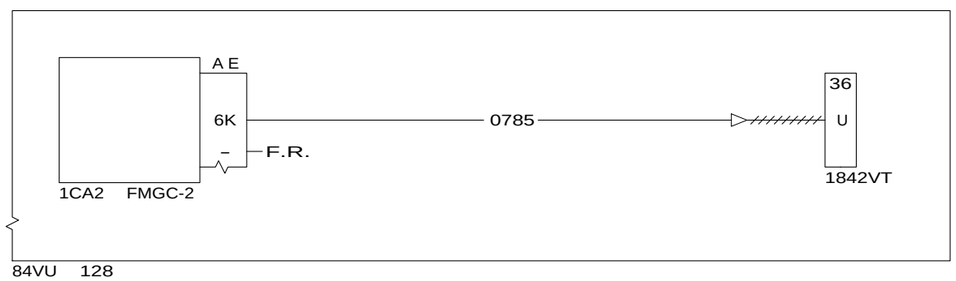
M1O = OLD HOOK-UP ON END 1
M1N = NEW HOOK-UP ON END 1

Figure ICN-A320-A-22XX1821-A-FAPE3-02BCJ-A-001-01 Fig.HA Sol.AA SHEET 1/1

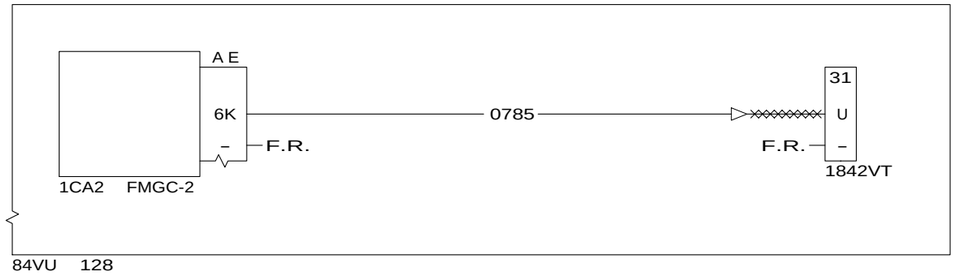
Hook-up Chart for FMGC-1 (FIN 1CA1)

CONF 002

BEFORE



AFTER



OLD HOOK-UP NEW HOOK-UP F.R. FOR REFERENCE

NOTE : UNLESS OTHERWISE SPECIFIED PREFIX ALL WIRE IDENTIFICATION WITH ATA2285
UNLESS OTHERWISE SPECIFIED ALL WIRES ARE CF24 GAUGE
UNLESS OTHERWISE SPECIFIED ALL ROUTES ARE 2M
ICN-A320-A-22XX1821-A-FAPE3-02BCE-A-001-01

Figure ICN-A320-A-22XX1821-A-FAPE3-02BCE-A-001-01 Fig.WB Sol.AA SHEET 1/1

Modification of the Pin Programming for FMGC-2 (FIN 1CA2)

CONF 002

Line	END1				LEAD						END2				Instructions
	Zone or Panel	Elec.Ident.	Term	Terminal P/N	Wire Ident.	Co	Rte	Gauge	Length mm	Length Inch	Zone or Panel	Elec.Ident.	Term	Terminal P/N	
1	84VU	1842VT	36U		2285-0785		2M	CF24			84VU	1CA2-AE	6K		M1O
2	84VU	1842VT	31U	EN3155-016M2222	2285-0785		2M	CF24			84VU	1CA2-AE	6K		M1N
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M1O = OLD HOOK-UP ON END 1
M1N = NEW HOOK-UP ON END 1

Figure ICN-A320-A-22XX1821-A-FAPE3-02BCK-A-001-01 Fig.HB Sol.AA SHEET 1/1
Hook-up Chart for FMGC-2 (FIN 1CA2)

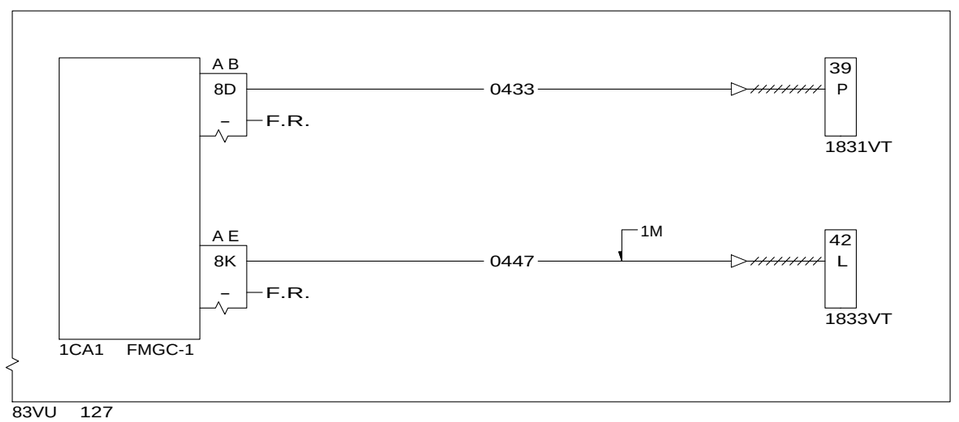
CONF 002

Line	END1				LEAD						END2				Instructions
	Zone or Panel	Elec.Ident.	Term	Terminal P/N	Wire Ident.	Co	Rte	Gauge	Length mm	Length Inch	Zone or Panel	Elec.Ident.	Term	Terminal P/N	
1	83VU	1831VT	39P		2285-0433		1S	CF24			83VU	1CA1-AB	8D		M1O
2	83VU	1831VT	37P	EN3155-016M2222	2285-0433		1S	CF24			83VU	1CA1-AB	8D		M1N
3	83VU	1833VT	42L		2285-0447		1M	CF24			83VU	1CA1-AE	8K		M1O
4	83VU	1833VT	43L	EN3155-016M2222	2285-0447		1M	CF24			83VU	1CA1-AE	8K		M1N
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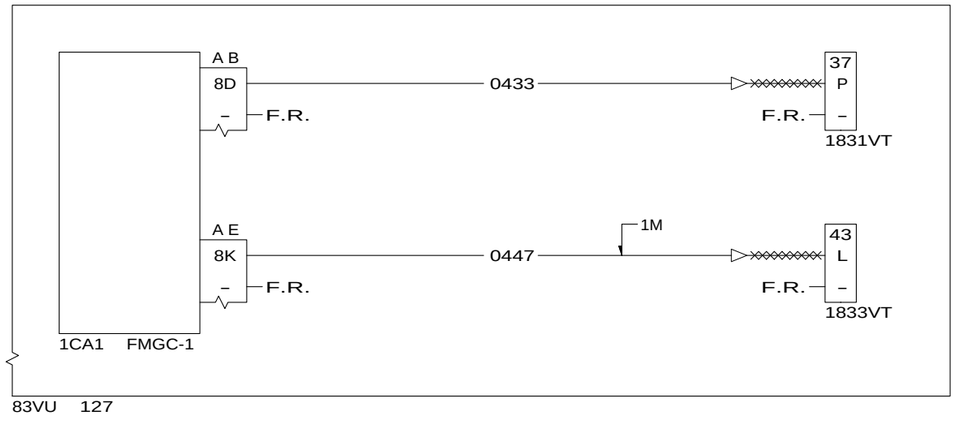
M1O = OLD HOOK-UP ON END 1
M1N = NEW HOOK-UP ON END 1

CONF 002

BEFORE



AFTER



OLD HOOK-UP NEW HOOK-UP F.R. FOR REFERENCE

NOTE : UNLESS OTHERWISE SPECIFIED PREFIX ALL WIRE IDENTIFICATION WITH ATA2285
UNLESS OTHERWISE SPECIFIED ALL WIRES ARE CF24 GAUGE
UNLESS OTHERWISE SPECIFIED ALL ROUTES ARE 1S
ICN-A320-A-22XX1821-A-FAPE3-02BCF-A-001-01

Figure ICN-A320-A-22XX1821-A-FAPE3-02BCF-A-001-01 Fig.WC Sol.AA SHEET 1/1

Modification of the Parity 1 for FMGC-1 (FIN 1CA1)

CONF 002

Line	END1				LEAD						END2				Instructions
	Zone or Panel	Elec.Ident.	Term	Terminal P/N	Wire Ident.	Co	Rte	Gauge	Length mm	Length Inch	Zone or Panel	Elec.Ident.	Term	Terminal P/N	
1	83VU	1831VT	37P		2285-0433		1S	CF24			83VU	1CA1-AB	8D		M1O
2	83VU	1831VT	39P	EN3155-016M2222	2285-0433		1S	CF24			83VU	1CA1-AB	8D		M1N
3	83VU	1833VT	43L		2285-0447		1M	CF24			83VU	1CA1-AE	8K		M1O
4	83VU	1833VT	42L	EN3155-016M2222	2285-0447		1M	CF24			83VU	1CA1-AE	8K		M1N
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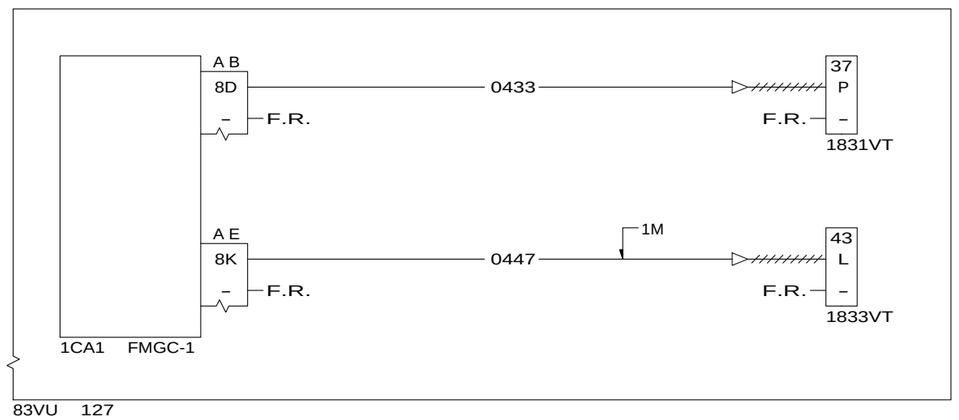
M1O = OLD HOOK-UP ON END 1
M1N = NEW HOOK-UP ON END 1

Figure ICN-A320-A-22XX1821-A-FAPE3-02BCM-A-001-01 Fig.HD Sol.AA SHEET 1/1

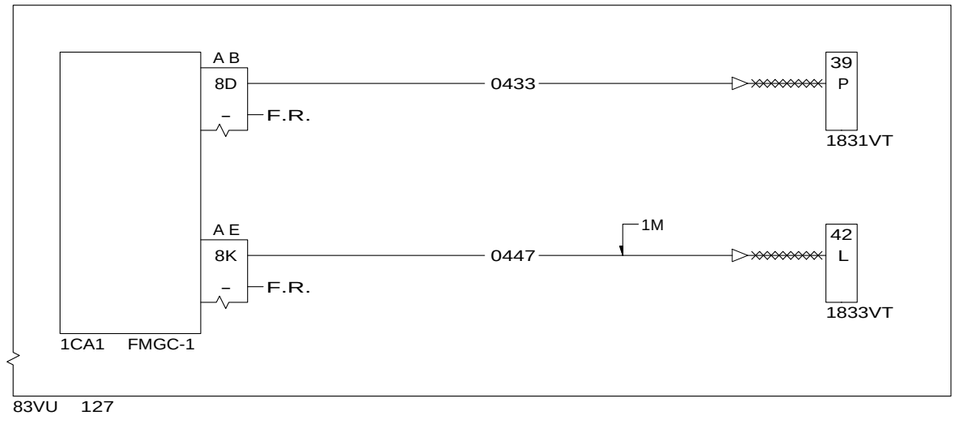
Hook-up Chart - Parity 2 for FMGC-1 (FIN 1CA1)

CONF 002

BEFORE



AFTER



OLD HOOK-UP NEW HOOK-UP F.R. FOR REFERENCE

NOTE : UNLESS OTHERWISE SPECIFIED PREFIX ALL WIRE IDENTIFICATION WITH ATA2285
UNLESS OTHERWISE SPECIFIED ALL WIRES ARE CF24 GAUGE
UNLESS OTHERWISE SPECIFIED ALL ROUTES ARE 1S
ICN-A320-A-22XX1821-A-FAPE3-02BCG-A-001-01

Figure ICN-A320-A-22XX1821-A-FAPE3-02BCG-A-001-01 Fig.WD Sol.AA SHEET 1/1

Modification of the Parity 2 for FMGC-1 (FIN 1CA1)

CONF 002

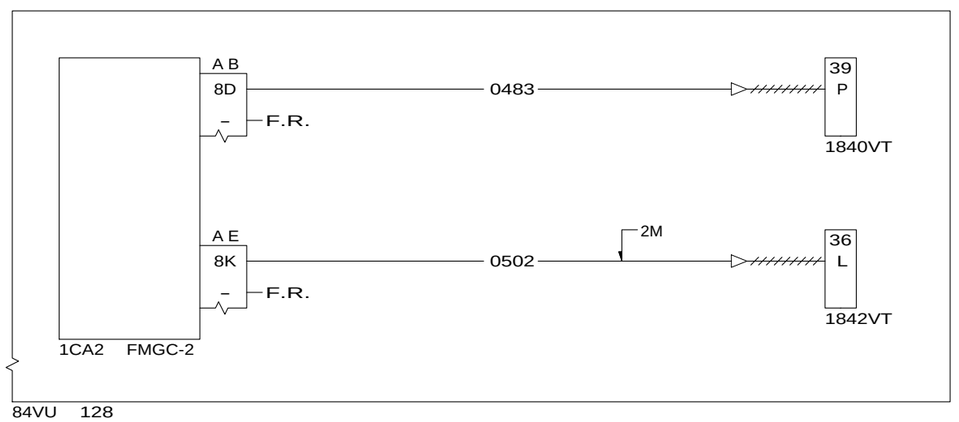
Line	END1				LEAD						END2				Instructions
	Zone or Panel	Elec.Ident.	Term	Terminal P/N	Wire Ident.	Co	Rte	Gauge	Length mm	Length Inch	Zone or Panel	Elec.Ident.	Term	Terminal P/N	
1	84VU	1840VT	39P		2285-0483		2S	CF24			84VU	1CA2-AB	8D		M1O
2	84VU	1840VT	37P	EN3155-016M2222	2285-0483		2S	CF24			84VU	1CA2-AB	8D		M1N
3	84VU	1842VT	36L		2285-0502		2M	CF24			84VU	1CA2-AE	8K		M1O
4	84VU	1842VT	31L	EN3155-016M2222	2285-0502		2M	CF24			84VU	1CA2-AE	8K		M1N
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M1O = OLD HOOK-UP ON END 1
M1N = NEW HOOK-UP ON END 1

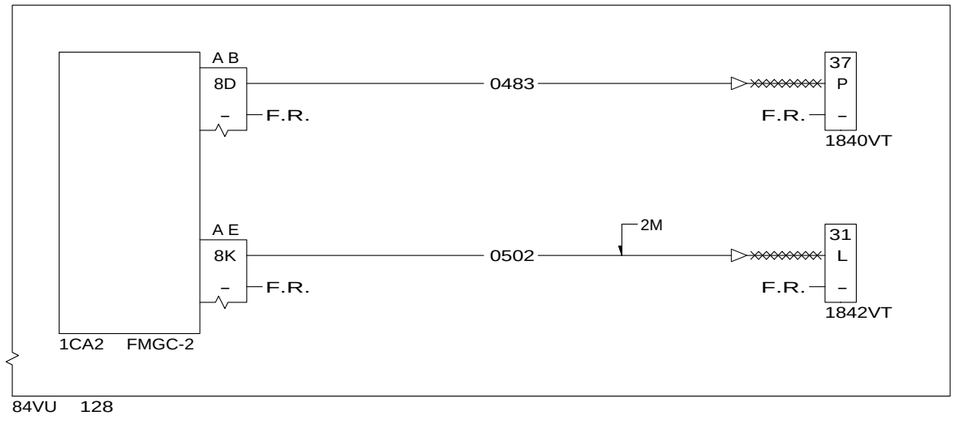
Figure ICN-A320-A-22XX1821-A-FAPE3-02BCN-A-001-01 Fig.HE Sol.AA SHEET 1/1
Hook-up Chart - Parity 1 for FMGC-2 (FIN 1CA2)

CONF 002

BEFORE



AFTER



OLD HOOK-UP NEW HOOK-UP F.R. FOR REFERENCE

NOTE : UNLESS OTHERWISE SPECIFIED PREFIX ALL WIRE IDENTIFICATION WITH ATA2285
UNLESS OTHERWISE SPECIFIED ALL WIRES ARE CF24 GAUGE
UNLESS OTHERWISE SPECIFIED ALL ROUTES ARE 2S
ICN-A320-A-22XX1821-A-FAPE3-02BCH-A-001-01

Figure ICN-A320-A-22XX1821-A-FAPE3-02BCH-A-001-01 Fig.WE Sol.AA SHEET 1/1

Modification of the Parity 1 for FMGC-2 (FIN 1CA2)

CONF 002

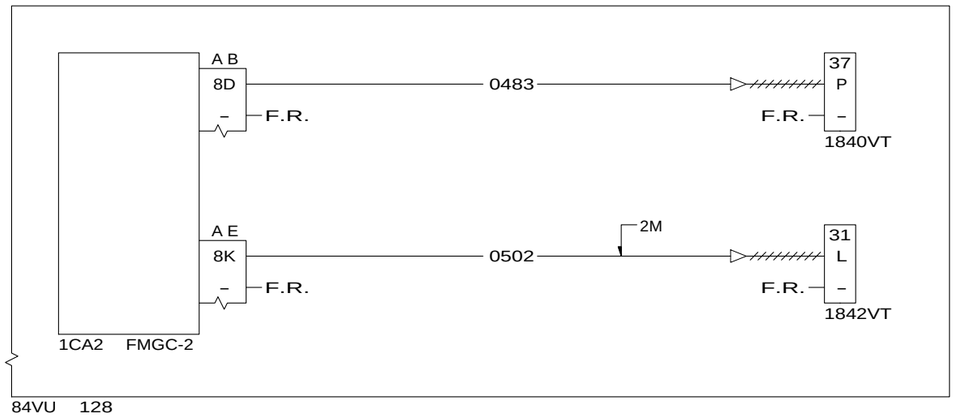
Line	END1				LEAD						END2				Instructions
	Zone or Panel	Elec.Ident.	Term	Terminal P/N	Wire Ident.	Co	Rte	Gauge	Length mm	Length Inch	Zone or Panel	Elec.Ident.	Term	Terminal P/N	
1	84VU	1840VT	37P		2285-0483		2S	CF24			84VU	1CA2-AB	8D		M1O
2	84VU	1840VT	39P	EN3155-016M2222	2285-0483		2S	CF24			84VU	1CA2-AB	8D		M1N
3	84VU	1842VT	31L		2285-0502		2M	CF24			84VU	1CA2-AE	8K		M1O
4	84VU	1842VT	36L	EN3155-016M2222	2285-0502		2M	CF24			84VU	1CA2-AE	8K		M1N
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25															

M1O = OLD HOOK-UP ON END 1
M1N = NEW HOOK-UP ON END 1

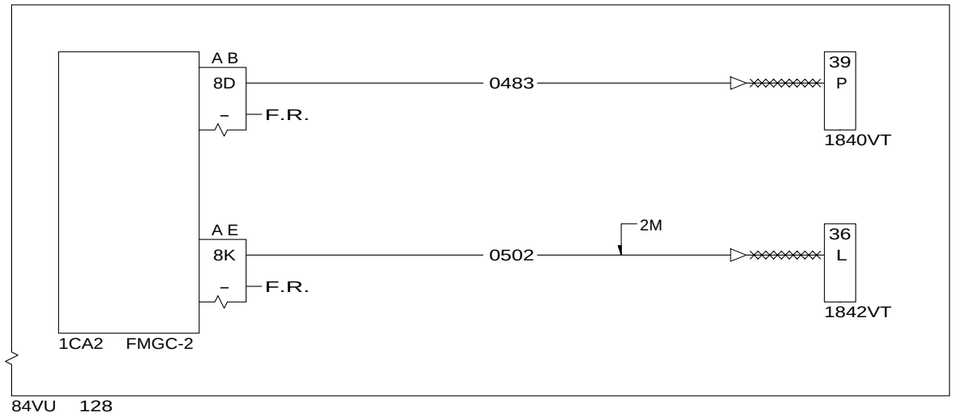
Figure ICN-A320-A-22XX1821-A-FAPE3-02BCO-A-001-01 Fig.HF Sol.AA SHEET 1/1
Hook-up Chart - Parity 2 for FMGC-2 (FIN 1CA2)

CONF 002

BEFORE



AFTER



OLD HOOK-UP NEW HOOK-UP F.R. FOR REFERENCE

NOTE : UNLESS OTHERWISE SPECIFIED PREFIX ALL WIRE IDENTIFICATION WITH ATA2285
UNLESS OTHERWISE SPECIFIED ALL WIRES ARE CF24 GAUGE
UNLESS OTHERWISE SPECIFIED ALL ROUTES ARE 2S
ICN-A320-A-22XX1821-A-FAPE3-02BCI-A-001-01

Figure ICN-A320-A-22XX1821-A-FAPE3-02BCI-A-001-01 Fig.WF Sol.AA SHEET 1/1

Modification of the Parity 2 for FMGC-2 (FIN 1CA2)

(3) Task A320-A-22-XX-1821-06001-720A-A (A320-A-22-XX-1821-06ZZZ-720Z-A) Install the FMGC(S) in 80VU

Job Set-Up Information

Working Area

Impacted Zone	Access / Work Location
120	

Manpower/Resources/Skills

Man-hours	0.50 h
Minimum Number of person	1
Elapsed Time	0.50 h

Referenced Information

Manuals/Drawings	References/Sheets
AMM	06-20-00, Page Block 001 Task 22-83-34-400-001

Procedure

(a) Standard practices given in this procedure:

1 For the identification of zones, refer to Ref. AMM 06-20-00, Page Block 001.

(b) Install the two FMGCs (FIN 1CA1 and FIN 1CA2) in the aft electronics rack 80VU, refer to Ref. AMM Task 22-83-34-400-001.

CONF 001 002

(4) Task A320-A-22-XX-1821-05001-920A-A (A320-A-22-XX-1821-05ZZZ-920Z-A) Replace the Media in Cockpit Stowage Box

Job Set-Up Information

Working Area

Impacted Zone	Access / Work Location
210	

Manpower/Resources/Skills

Man-hours	0.20 h
Minimum Number of person	1
Elapsed Time	0.20 h

Material necessary to do the job

Equipment					
ITEM	**PART No.**	**QTY (UM)**	**KEYWORD**	**DRAWING**	**SEE NOTES**
	F1424466	1	MEDIA		(1)
	HNP5FXAM01X2006	1	MEDIA		(2)

NOTE(S)

(1): The operator only orders the FG disk (FIN 1CAMD9) PN F1424466 which contains the FG operational software PN C13207CA09 (FIN 1CA1SW9 and FIN 1CA2SW9).

(2): The operator only orders the FMS CD-ROM (FIN 1CAMD7) PN HNP5FXAM01X2006 which contains the FMS operational software PN PS4087600–908 (FIN 1CA1SW7 and FIN 1CA2SW7).

Referenced Information

Manuals/Drawings	References/Sheets
AMM	06-20-00, Page Block 001 06-31-53, Page Block 001

Procedure

(a) Standard Practices given in this procedure:

1 For the identification of zones, refer to Ref. AMM 06-20-00, Page Block 001.

2 For the Frame (FR) identification, refer to Ref. AMM 06-31-53, Page Block 001.

(b) Replace the FMS operational CD-ROM (FIN 1CAMD7) in the cockpit stowage box, refer to Ref. Fig.BA Location of the Media in the Stowage Box.

1 Remove:

FIN 1CAMD7			
1	MEDIA-FMS OPERATIONAL PROGRAM	HNP5CXAM01X2005	Discard

2 Install:

FIN 1CAMD7			
1	MEDIA-FMS OPERATIONAL PROGRAM	HNP5FXAM01X2006	

NOTE: The CD-ROM FIN 1CAMD7 contains the FMS operational software FIN 1CA1SW7 and FIN 1CA2SW7.

(c) Replace the FG operational disk (FIN 1CAMD9) in the cockpit stowage box, refer to Ref. Fig.BA Location of the Media in the Stowage Box.

1 Remove:

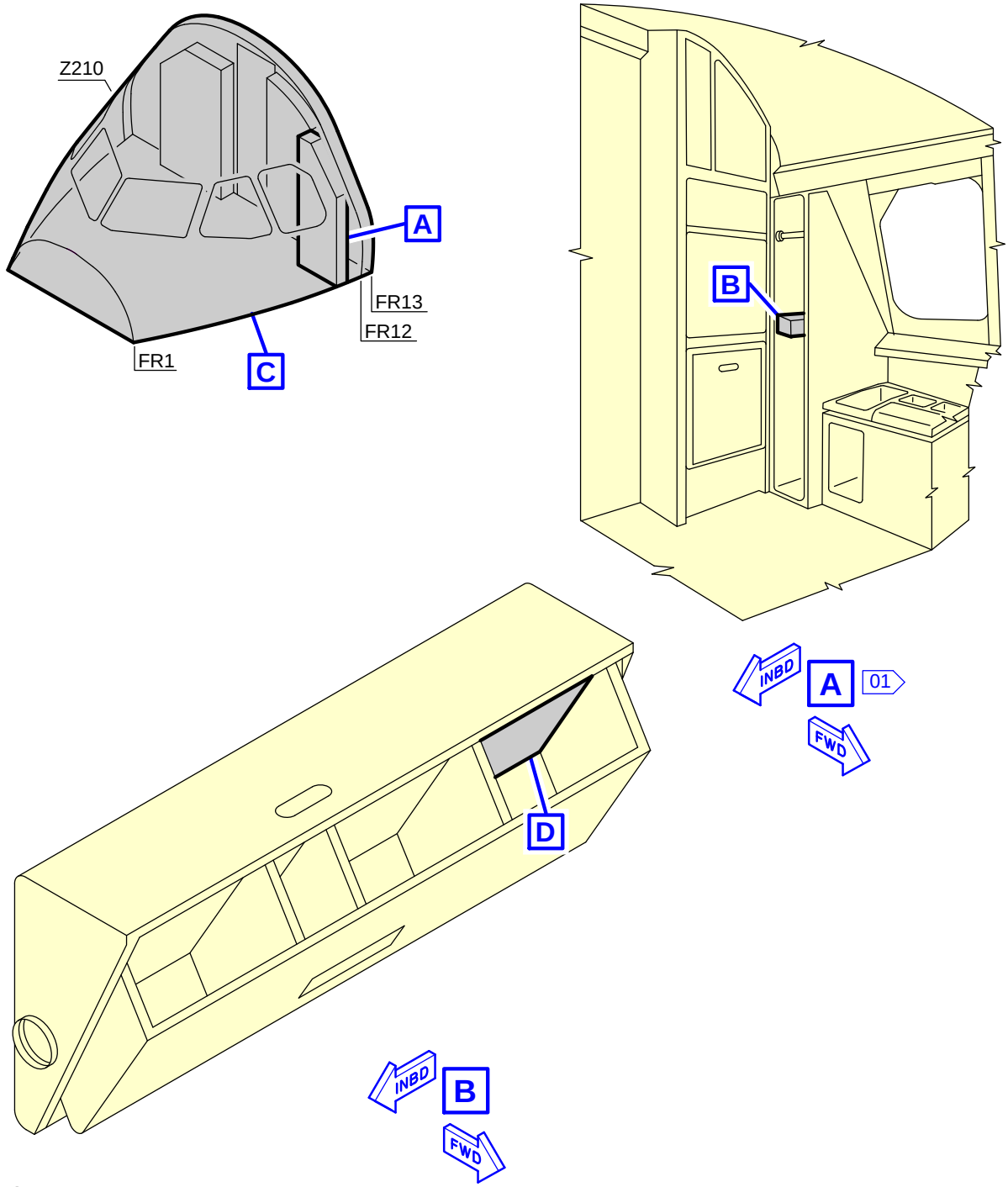
FIN 1CAMD9			
1	MEDIA-FG OPERATIONAL PROGRAM	F1424003	Discard

2 Install:

FIN 1CAMD9			
1	MEDIA-FG OPERATIONAL PROGRAM	F1424466	

NOTE: The disk FIN 1CAMD9 contains the FG operational software FIN 1CA1SW9 and FIN 1CA2SW9.

CONF 001 002



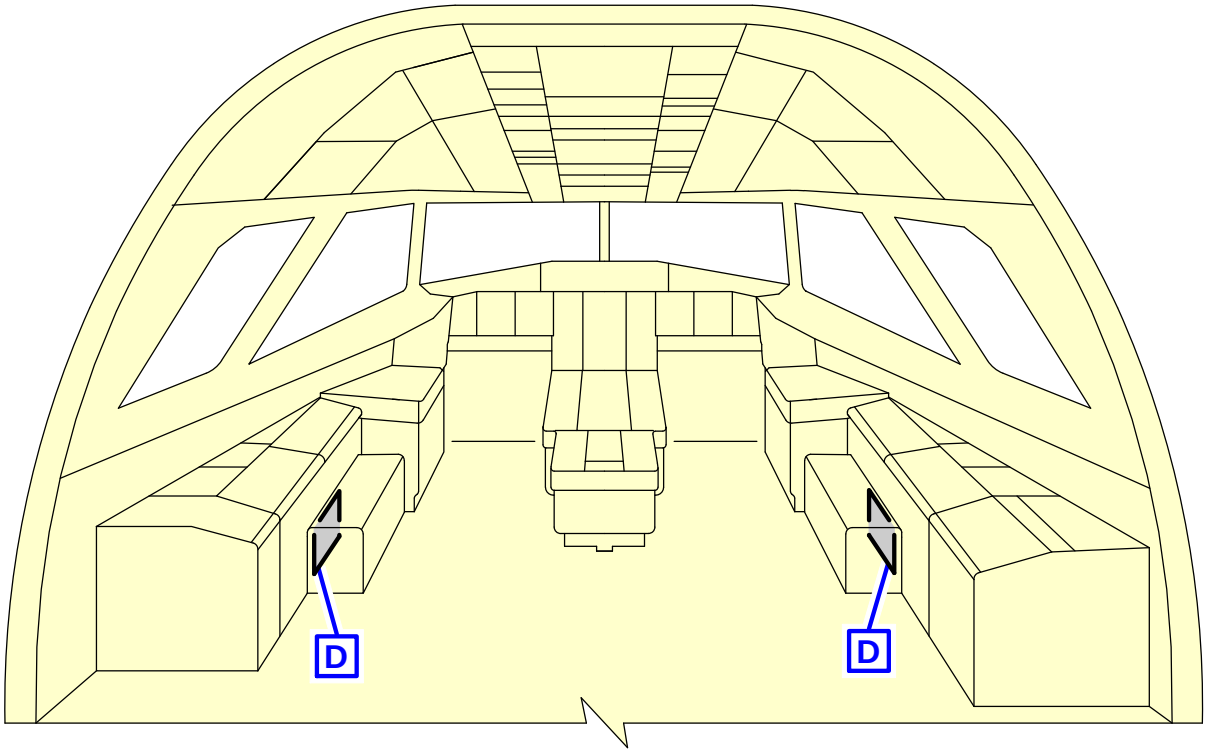
NOTE:

01 THE LOCATION OF THE STOWAGE BOX DEPENDS ON THE AIRCRAFT CONFIGURATION.

ICN-A320-A-22XX1821-A-FAPE3-02880-A-001-01

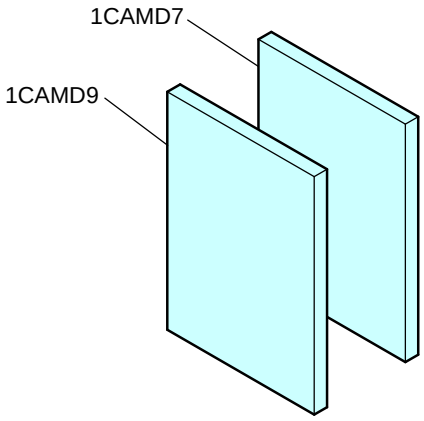
Figure ICN-A320-A-22XX1821-A-FAPE3-02880-A-001-01 Fig.BA Sol.AA SHEET 1/2

CONF 001 002



C 01

VIEW LOOKING FWD



D

TYPICAL VIEW

NOTE:

01 THE LOCATION OF THE STOWAGE BOX DEPENDS ON THE AIRCRAFT CONFIGURATION.

ICN-A320-A-22XX1821-A-FAPE3-02881-A-001-01

Figure ICN-A320-A-22XX1821-A-FAPE3-02881-A-001-01 Fig.BA Sol.AA SHEET 2/2

CONF 003 005

(4) Task A320-A-22-XX-1821-05003-920A-A (A320-A-22-XX-1821-05ZZZ-920Z-A) Replace the Media in Cockpit Stowage Box

Job Set-Up Information

Working Area

Impacted Zone	Access / Work Location
210	

Manpower/Resources/Skills

Man-hours	0.20 h
Minimum Number of person	1
Elapsed Time	0.20 h

Material necessary to do the job

Equipment					
ITEM	**PART No.**	**QTY (UM)**	**KEYWORD**	**DRAWING**	**SEE NOTES**
	HNP5FXAM01X2006	1	MEDIA		(1)
NOTE(S)					
(1): The operator only orders the FMS CD-ROM (FIN 1CAMD7) PN HNP5FXAM01X2006 which contains the FMS operational software PN PS4087600–908 (FIN 1CA1SW7 and FIN 1CA2SW7).					

Referenced Information

Manuals/Drawings	References/Sheets
AMM	06-20-00, Page Block 001 06-31-53, Page Block 001

Procedure

(a) Standard Practices given in this procedure:

1 For the identification of zones, refer to Ref. AMM 06-20-00, Page Block 001.

2 For the Frame (FR) identification, refer to Ref. AMM 06-31-53, Page Block 001.

(b) Replace the FMS operational CD-ROM (FIN 1CAMD7) in the cockpit stowage box, refer to Ref. Fig.BA Location of the Media in the Stowage Box.

1 Remove:

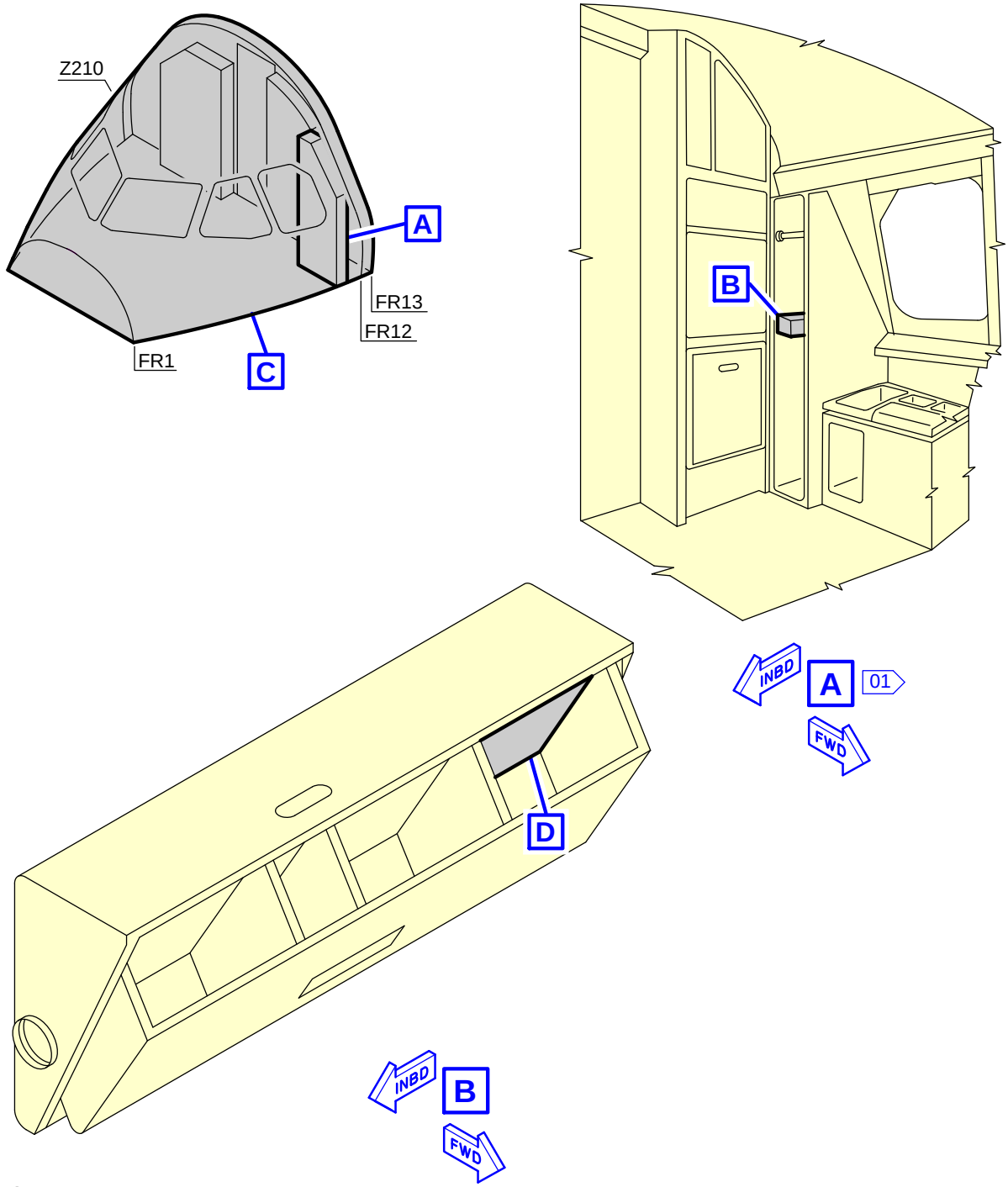
FIN 1CAMD7			
1	MEDIA-FMS OPERATIONAL PROGRAM	HNP5CXAM01X2005	Discard

2 Install:

FIN 1CAMD7		
1	MEDIA-FMS OPERATIONAL PROGRAM	HNP5FXAM01X2006

NOTE: The CD-ROM FIN 1CAMD7 contains the FMS operational software FIN 1CA1SW7 and FIN 1CA2SW7.

CONF 003 005



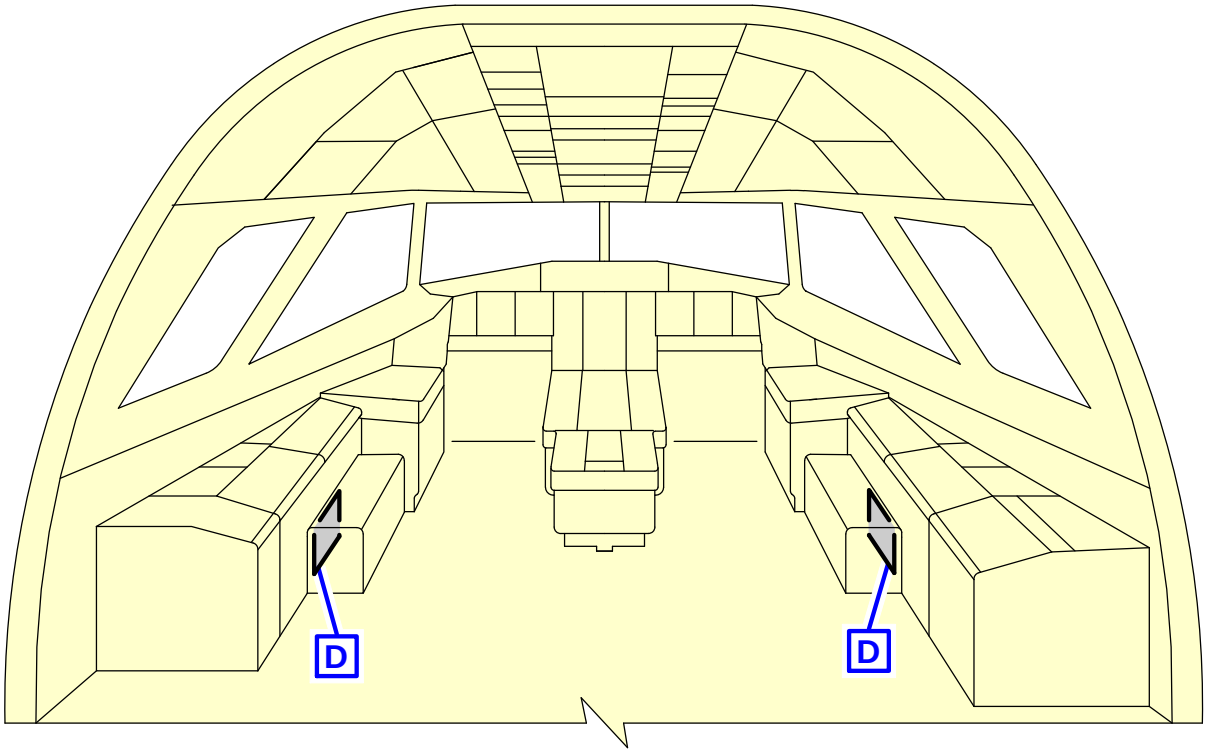
NOTE:

01 THE LOCATION OF THE STOWAGE BOX DEPENDS ON THE AIRCRAFT CONFIGURATION.

ICN-A320-A-22XX1821-A-FAPE3-02ANX-A-001-01

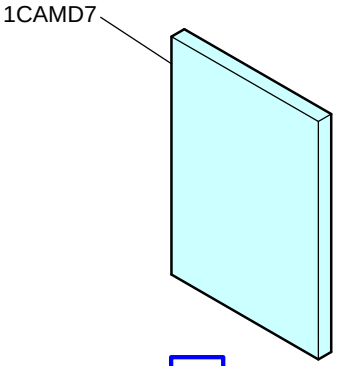
Figure ICN-A320-A-22XX1821-A-FAPE3-02ANX-A-001-01 Fig.BA Sol.AC SHEET 1/2

CONF 003 005



C 01

VIEW LOOKING FWD



D

TYPICAL VIEW

NOTE:

01 THE LOCATION OF THE STOWAGE BOX DEPENDS ON THE AIRCRAFT CONFIGURATION.

ICN-A320-A-22XX1821-A-FAPE3-02ANY-A-001-01

Figure ICN-A320-A-22XX1821-A-FAPE3-02ANY-A-001-01 Fig.BA Sol.AC SHEET 2/2

CONF 001 002

(5) Task A320-A-22-XX-1821-03001-750A-A (A320-A-22-XX-1821-03ZZZ-750Z-A) Upload the FG Operational Software by Disk on Aircraft

Job Set-Up Information

Working Area

Impacted Zone	Access / Work Location
210	

Manpower/Resources/Skills

Man-hours	1.00 h
Minimum Number of person	1
Elapsed Time	1.00 h

Material necessary to do the job

Equipment					
ITEM	**PART No.**	**QTY (UM)**	**KEYWORD**	**DRAWING**	**SEE NOTES**
	C13207CA09	1	SOFTWARE		(1)
NOTE(S)					
(1): The operator only orders the FG disk (FIN 1CAMD9) PN F1424466 which contains the FG operational software PN C13207CA09 (FIN 1CA1SW9 and FIN 1CA2SW9).					

Referenced Information

Manuals/Drawings	References/Sheets
AMM	06-20-00, Page Block 001 06-31-53, Page Block 001 Task 22-83-00-610-802

Procedure

(a) Standard Practices given in this procedure:

1 For the identification of zones, refer to Ref. AMM 06-20-00, Page Block 001.

2 For the Frame (FR) identification, refer to Ref. AMM 06-31-53, Page Block 001.

(b) Do a check of the PN reference of the software pre-loaded into the related FMGC(s) (FIN 1CA1 and FIN 1CA2), included in the uploading of FG data, refer to Ref. AMM Task 22-83-00-610-802.

1 If the PN reference is not the same as the PN reference on the disk, do the uploading of the FG data, refer to Ref. AMM Task 22-83-00-610-802.

2 If the PN reference is same as the PN reference on the disk, uploading is not necessary.

(c) Do the uploading of the FG data into the related FMGC(s) (FIN 1CA1 and FIN 1CA2) by disk (FIN 1CAMD9), refer to Ref. AMM Task 22-83-00-610-802.

NOTE: If the AMM Task Ref. AMM Task 22-83-00-610-802 is not available in the latest AMM operator’s issue, refer to Ref. Appendix ADVANCE COPY OF AMM TASK.

(d) After the uploading:

FIN 1CA1SW9

1 SOFTWARE-FG OPERATIONAL PROGRAM G2858AAA08

becomes

FIN 1CA1SW9

1 SOFTWARE-FG OPERATIONAL PROGRAM C13207CA09

and

FIN 1CA2SW9

1 SOFTWARE-FG OPERATIONAL PROGRAM G2858AAA08

becomes

FIN 1CA2SW9

1 SOFTWARE-FG OPERATIONAL PROGRAM C13207CA09

CONF 004

(5) Task A320-A-22-XX-1821-03002-750A-A (A320-A-22-XX-1821-03ZZZ-750Z-A) Upload the FG Operational Software on Aircraft

Job Set-Up Information

Working Area

Impacted Zone	Access / Work Location
210	

Manpower/Resources/Skills

Man-hours	1.00 h
Minimum Number of person	1
Elapsed Time	1.00 h

Material necessary to do the job

FLS kit 221821N01R01					
ITEM	**PART No.**	**QTY (UM)**	**KEYWORD**	**DRAWING**	**SEE NOTES**
	C13207CA09	1	SOFTWARE		

Referenced Information

Manuals/Drawings	References/Sheets
AMM	06-20-00, Page Block 001 06-31-53, Page Block 001 Task 22-83-00-610-802

Procedure

(a) Standard Practices given in this procedure:

1 For the identification of zones, refer to Ref. AMM 06-20-00, Page Block 001.

2 For the Frame (FR) identification, refer to Ref. AMM 06-31-53, Page Block 001.

(b) Do the uploading of the FG data into the related FMGC(s) (FIN 1CA1 and FIN 1CA2), refer to Ref. AMM Task 22-83-00-610-802.

NOTE: If the AMM Task Ref. AMM Task 22-83-00-610-802 is not available in the latest AMM operator's issue, refer to Ref. Appendix ADVANCE COPY OF AMM TASK.

(c) After the uploading:

FIN 1CA1SW9
1 SOFTWARE-FLIGHT MANAGEMENT AND GUIDANCE COMPUTER C13207CA08
becomes

FIN 1CA1SW9
1 SOFTWARE-FG OPERATIONAL PROGRAM C13207CA09
and

FIN 1CA2SW9
1 SOFTWARE-FLIGHT MANAGEMENT AND GUIDANCE COMPUTER C13207CA08
becomes

FIN 1CA2SW9
1 SOFTWARE-FG OPERATIONAL PROGRAM C13207CA09

CONF 001-003 005

(6) Task A320-A-22-XX-1821-04001-750A-A (A320-A-22-XX-1821-04ZZZ-750Z-A) Upload the FMS Operational Software by CD-ROM on Aircraft

Job Set-Up Information

Working Area

Impacted Zone	Access / Work Location
210	

Manpower/Resources/Skills

Man-hours	0.50 h
Minimum Number of person	1
Elapsed Time	0.50 h

Material necessary to do the job

Equipment					
ITEM	**PART No.**	**QTY (UM)**	**KEYWORD**	**DRAWING**	**SEE NOTES**
	PS4087600-908	1	SOFTWARE		(1)
NOTE(S)					
(1): The operator only orders the FMS CD-ROM (FIN 1CAMD7) PN HNP5FXAM01X2006 which contains the FMS operational software PN PS4087600–908 (FIN 1CA1SW7 and FIN 1CA2SW7).					

Referenced Information

Manuals/Drawings	References/Sheets
AMM	06-20-00, Page Block 001 06-31-53, Page Block 001 Task 22-70-00-610-008

Procedure

(a) Standard Practices given in this procedure:

1 For the identification of zones, refer to Ref. AMM 06-20-00, Page Block 001.

2 For the Frame (FR) identification, refer to Ref. AMM 06-31-53, Page Block 001.

(b) Do a check of the PN reference of the software pre-loaded into the related FMGC(s) (FIN 1CA1 and FIN 1CA2), included in the uploading of FM data, refer to Ref. AMM Task 22-70-00-610-008.

1 If the PN reference is not the same as the PN reference on the CD-ROM, do the uploading of the FM data, refer to Ref. AMM Task 22-70-00-610-008.

2 If the PN reference is same as the PN reference on the CD-ROM, uploading is not necessary.

(c) Do the uploading of the FM data into the related FMGC(s) (FIN 1CA1 and FIN 1CA2) by CD-ROM (FIN 1CAMD7), refer to Ref. AMM Task 22-70-00-610-008.

NOTE: When the FMS operational software is loaded, check the PN status page and reload all the missing software's/databases:
- MAG VAR Database
- The Navigation Data Base
- The AMI file if customized
- The OPC file
- The Performance Data Base.

(d) After the uploading:

FIN 1CA1SW7

1	SOFTWARE-FMGC OPERATIONAL PROGRAM	HNP5DXAL01X2005

becomes

FIN 1CA1SW7

1	SOFTWARE-FMS OPERATIONAL PROGRAM	PS4087600-908

and

FIN 1CA2SW7

1	SOFTWARE-FMGC OPERATIONAL PROGRAM	HNP5DXAL01X2005

becomes

FIN 1CA2SW7

1	SOFTWARE-FMS OPERATIONAL PROGRAM	PS4087600-908

CONF 004 006

(6) Task A320-A-22-XX-1821-04002-750A-A (A320-A-22-XX-1821-04ZZZ-750Z-A) Upload the FMS Operational Software on Aircraft

Job Set-Up Information

Working Area

Impacted Zone	Access / Work Location
210	

Manpower/Resources/Skills

Man-hours	0.50 h
Minimum Number of person	1
Elapsed Time	0.50 h

Material necessary to do the job

FLS kit 221821N02R00					
ITEM	**PART No.**	**QTY (UM)**	**KEYWORD**	**DRAWING**	**SEE NOTES**
	PS4087600-908	1	SOFTWARE		

Referenced Information

Manuals/Drawings	References/Sheets
AMM	06-20-00, Page Block 001 06-31-53, Page Block 001 Task 22-70-00-610-008

Procedure

(a) Standard Practices given in this procedure:

1 For the identification of zones, refer to Ref. AMM 06-20-00, Page Block 001.

2 For the Frame (FR) identification, refer to Ref. AMM 06-31-53, Page Block 001.

(b) Do the uploading of the FM data into the related FMGC(s) (FIN 1CA1 and FIN 1CA2), refer to Ref. AMM Task 22-70-00-610-008.

NOTE: When the FMS operational software is loaded, check the PN status page and reload all the missing software's/databases:
- MAG VAR Database
- The Navigation Data Base
- The AMI file if customized
- The OPC file
- The Performance Data Base.

(c) After the uploading:

FIN 1CA1SW7

1 SOFTWARE-MEDIA FMS OPERATIONAL PROGRAM PS4087600-907

becomes

FIN 1CA1SW7

1	SOFTWARE-FMS OPERATIONAL PROGRAM	PS4087600-908

and

FIN 1CA2SW7

1	SOFTWARE-MEDIA FMS OPERATIONAL PROGRAM	PS4087600-907

becomes

FIN 1CA2SW7

1	SOFTWARE-FMS OPERATIONAL PROGRAM	PS4087600-908

CONF ALL

D. PREPARATION FOR TEST

CONF 002

(1) Task A320-A-22-XX-1821-14001-540A-A (A320-A-22-XX-1821-14ZZZ-540Z-A) Job Set-up

Job Set-Up Information

Manpower/Resources/Skills

Man-hours	0.10 h
Minimum Number of person	1
Elapsed Time	0.10 h

Referenced Information

Manuals/Drawings	References/Sheets
AMM	Task 22-83-34-400-001

Procedure

(a) Remove the safety clip(s) and/or tag(s) and close/unlock the circuit breakers as specified after the installation of the FMGCs (FIN 1CA1 and FIN 1CA2), refer to Ref. AMM Task 22-83-34-400-001.

CONF 001 003-006

None

CONF ALL

E. TEST

CONF 001 004

(1) Task A320-A-22-XX-1821-03001-320A-A (A320-A-22-XX-1821-03ZZZ-320Z-A) Test

Job Set-Up Information

Manpower/Resources/Skills

Man-hours	0.20 h
Minimum Number of person	1
Elapsed Time	0.20 h

Referenced Information

Manuals/Drawings	References/Sheets
AMM	Task 22-70-00-610-008 Task 22-83-00-610-802

Procedure

(a) Only if you uploaded the software, on the MCDU, do the check of the reference of the software loaded in the FMGC as specified in the uploading of the FM data, refer to Ref. AMM Task 22-70-00-610-008.

(b) Only if you uploaded the software, on the MCDU, do the check of the reference of the software loaded in the FMGC as specified in the uploading of the FG data, refer to Ref. AMM Task 22-83-00-610-802.

NOTE: If the AMM Task Ref. AMM Task 22-83-00-610-802 is not available in the latest AMM operator's issue, refer to Ref. Appendix ADVANCE COPY OF AMM TASK.

CONF 003 005 006

(1) Task A320-A-22-XX-1821-03003-320A-A (A320-A-22-XX-1821-03ZZZ-320Z-A) Test

Job Set-Up Information

Manpower/Resources/Skills

Man-hours	0.10 h
Minimum Number of person	1
Elapsed Time	0.10 h

Referenced Information

Manuals/Drawings	References/Sheets
AMM	Task 22-70-00-610-008

Procedure

(a) Only if you uploaded the software, on the MCDU, do the check of the reference of the software loaded in the FMGC as specified in the uploading of the FM data, refer to Ref. AMM Task 22-70-00-610-008.

CONF 002

(1) Task A320-A-22-XX-1821-03004-320A-A (A320-A-22-XX-1821-03ZZZ-320Z-A) Test

Job Set-Up Information

Manpower/Resources/Skills

Man-hours	0.25 h
Minimum Number of person	1
Elapsed Time	0.25 h

Referenced Information

Manuals/Drawings	References/Sheets
AMM	Task 22-70-00-610-008 Task 22-83-00-610-802 Task 22-83-34-400-001

Manuals/Drawings	References/Sheets
	Task 22-96-00-740-801

Procedure

(a) Test of equipment (FIN 1CA1 and FIN 1CA2):

1 Do the test as specified after the installation of the FMGCs (FIN 1CA1 and FIN 1CA2), refer to Ref. AMM Task 22-83-34-400-001.

(b) Test of FIN 1833VT and FIN 1842VT:

1 Read and Decode the Hardware Pin Programming (HPP) of the Flight Augmentation Computers (FACs) and the FMGCs (FIN 1CA1 and FIN 1CA2), refer to Ref. AMM Task 22-96-00-740-801.

a Print the results of the FMGCs (FIN 1CA1 and FIN 1CA2).

b For the FMGCs (FIN 1CA1 and FIN 1CA2) COM and MON, check that the right-most bit of the fourth digit is set to 1.

(c) Only if you uploaded the software, on the MCDU, do the check of the reference of the software loaded in the FMGC as specified in the uploading of the FM data, refer to Ref. AMM Task 22-70-00-610-008.

(d) Only if you uploaded the software, on the MCDU, do the check of the reference of the software loaded in the FMGC as specified in the uploading of the FG data, refer to Ref. AMM Task 22-83-00-610-802.

NOTE: If the AMM Task Ref. AMM Task 22-83-00-610-802 is not available in the latest AMM operator's issue, refer to Ref. Appendix ADVANCE COPY OF AMM TASK.

CONF ALL

F. CLOSE-UP

CONF 001 004

(1) Task A320-A-22-XX-1821-03001-740A-A (A320-A-22-XX-1821-03ZZZ-740Z-A) Close-up

Job Set-Up Information

Manpower/Resources/Skills

Man-hours	0.25 h
Minimum Number of person	1
Elapsed Time	0.25 h

Referenced Information

Manuals/Drawings	References/Sheets
AMM	Task 22-70-00-610-008 Task 22-83-00-610-802

Procedure

(a) Make sure that the work areas are clean and clear of tools and other items of equipment.

(b) Do the close-up procedure as specified in the uploading of the FG data, refer to Ref. AMM Task 22-83-00-610-802.

NOTE: If the AMM Task Ref. AMM Task 22-83-00-610-802 is not available in the latest AMM operator's issue, refer to Ref. Appendix ADVANCE COPY OF AMM TASK.

(c) Do the close-up procedure as specified in the uploading of the FM data, refer to Ref. AMM Task 22-70-00-610-008.

(d) Put the aircraft back to its initial configuration.

CONF 003 005 006

(1) Task A320-A-22-XX-1821-03003-740A-A (A320-A-22-XX-1821-03ZZZ-740Z-A) Close-up

Job Set-Up Information

Manpower/Resources/Skills

Man-hours	0.15 h
Minimum Number of person	1
Elapsed Time	0.15 h

Referenced Information

Manuals/Drawings	References/Sheets
AMM	Task 22-70-00-610-008

Procedure

(a) Make sure that the work areas are clean and clear of tools and other items of equipment.

(b) Do the close-up procedure as specified in the uploading of the FM data, refer to Ref. AMM Task 22-70-00-610-008.

(c) Put the aircraft back to its initial configuration.

CONF 002

(1) Task A320-A-22-XX-1821-03004-740A-A (A320-A-22-XX-1821-03ZZZ-740Z-A) Close-up

Job Set-Up Information

Manpower/Resources/Skills

Man-hours	0.30 h
Minimum Number of person	1
Elapsed Time	0.30 h

Referenced Information

Manuals/Drawings	References/Sheets
AMM	Task 22-70-00-610-008 Task 22-83-00-610-802 Task 22-83-34-400-001

Procedure

(a) Make sure that the work areas are clean and clear of tools and other items of equipment.

(b) Do the close-up procedure as specified in the uploading of the FG data, refer to Ref. AMM Task 22-83-00-610-802.

NOTE: If the AMM Task Ref. AMM Task 22-83-00-610-802 is not available in the latest AMM operator's issue, refer to Ref. Appendix ADVANCE COPY OF AMM TASK.

(c) Do the close-up procedure as specified in the uploading of the FM data, refer to Ref. AMM Task 22-70-00-610-008.

(d) Do the close-up procedure as specified in the installation of the FMGCs (FIN 1CA1 and FIN 1CA2), refer to Ref. AMM Task 22-83-34-400-001.

(e) Put the aircraft back to its initial configuration.

CONF ALL

G. ADMINISTRATIVE

(1) Task A320-A-22-XX-1821-03001-90AA-A (A320-A-22-XX-1821-03ZZZ-90AZ-A) Administrative

Procedure

Confirm in the applicable aircraft records that you have completed all the work defined in this Service Bulletin task set as required.

Task set A320-A-22-XX-1821-01000-93AH-A (A320-A-22-XX-1821-01ZZZ-93AZ-A)
OPTION 2 - Modification by Replacement of the two FMGC(s) on Aircraft

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

CAUTION: ALWAYS OBEY THE PRECAUTIONS THAT FOLLOW TO KEEP ELECTRICAL WIRING IN A SATISFACTORY CONDITION (ELECTRICALLY AND MECHANICALLY SERVICEABLE). WHEN YOU DO A MAINTENANCE WORK, REPAIRS OR MODIFICATIONS, ALWAYS KEEP ELECTRICAL WIRING, COMPONENTS AND THE WORK AREA AS CLEAN AS POSSIBLE. TO DO THIS:
- **PUT PROTECTION, SUCH AS PLASTIC SHEETING, CLOTHS, ETC., AS NECESSARY ON WIRING AND COMPONENTS.**
- **REGULARLY REMOVE ALL SHAVINGS, UNWANTED MATERIAL AND OTHER CONTAMINATION.**

THESE PRECAUTIONS WILL DECREASE THE RISK OF CONTAMINATION AND DAMAGE TO THE ELECTRICAL WIRING INSTALLATION.
IF THERE IS CONTAMINATION, REFER TO Ref. ESPM 20-55-00.

NOTE: The accomplishment instructions of this Service Bulletin include procedures given in other documents or in other sections of the Service Bulletin. When the words “refer to” are used and the operator has a procedure accepted by the local authority he belongs to, the accepted alternative procedure can be used. When the words “in accordance with” are used then the given procedure must be followed.

NOTE: The access and close-up instructions, not comprising return to service tests, in this Service Bulletin do not constitute or affect the technical intent of the Service Bulletin. Operators can therefore, as deemed necessary, omit or add access and/or close-up steps to add flexibility to their maintenance operations as long as the technical intent of the Service Bulletin is met within the set parameters.

NOTE: Manual titles given in the accomplishment instructions are referred to by acronyms. Refer to paragraph 1.J., References, for the definition of acronyms.

NOTE: This Service Bulletin is classified mandatory or expected to be classified mandatory by an Airworthiness Directive (AD). The paragraphs 3.C. and 3.E. in these accomplishment instructions are Required for Compliance (RC) and must be done to comply with the AD. To allow more flexibility, the rule "refer to" and "in accordance with" will apply to these paragraphs 3.C. and 3.E. Other paragraphs are recommended and may be deviated from, done as part of other actions or done with accepted methods different from those given in the Service Bulletin, as long as the RC paragraphs can be done and the aircraft can be put back into a serviceable condition.

NOTE: This Service Bulletin contains the instructions for the on-aircraft maintenance necessary to ensure the continued airworthiness of the aircraft.
For any deviations to the instructions, including Required for Compliance paragraph contained herein, contact AIRBUS for further instructions and approval.

NOTE: Discarded parts must be managed at the operator's discretion.

A. TASK SET ASSOCIATED INFORMATION

Task Manpower

CONF 001

TOTAL MAN-HOURS	3.15 h

CONF 002

TOTAL MAN-HOURS	4.65 h

CONF 003
TOTAL MAN-HOURS 2.90 h
CONF 004
TOTAL MAN-HOURS 2.90 h
CONF 005
TOTAL MAN-HOURS 2.90 h
CONF 006
TOTAL MAN-HOURS 2.65 h
CONF 001
ELAPSED TIME (HOURS) 3.15 h
CONF 002
ELAPSED TIME (HOURS) 4.65 h
CONF 003
ELAPSED TIME (HOURS) 2.90 h
CONF 004
ELAPSED TIME (HOURS) 2.90 h
CONF 005
ELAPSED TIME (HOURS) 2.90 h
CONF 006
ELAPSED TIME (HOURS) 2.65 h
CONF ALL

B. PREPARATION

CONF 001 002 004

(1) Task A320-A-22-XX-1821-12001-540A-A (A320-A-22-XX-1821-12ZZZ-540Z-A) Job Set-up

Job Set-Up Information

Manpower/Resources/Skills

Man-hours	0.25 h
Minimum Number of person	1
Elapsed Time	0.25 h

Referenced Information

Manuals/Drawings	References/Sheets
AMM	Task 12-34-24-869-002 Task 22-70-00-610-008 Task 22-83-00-610-802 Task 22-83-34-000-001

Procedure

NOTE: For the basic Aircraft configuration, refer to AMM Chapter “Introduction - Aircraft status for maintenance" in Manual Front Matter section.

(a) Make sure that the aircraft is electrically grounded, refer to Ref. AMM Task 12-34-24-869-002.

(b) Do the job set up procedure as specified in the removal of the FMGCs (FIN 1CA1 and FIN 1CA2), refer to Ref. AMM Task 22-83-34-000-001.

(c) Do the job set up procedure as specified in the uploading of the FG data, refer to Ref. AMM Task 22-83-00-610-802.

(d) Do the job set up procedure as specified in the uploading of the FM data, refer to Ref. AMM Task 22-70-00-610-008.

CONF 003 005 006

(1) Task A320-A-22-XX-1821-12002-540A-A (A320-A-22-XX-1821-12ZZZ-540Z-A) Job Set-up

Job Set-Up Information

Manpower/Resources/Skills

Man-hours	0.25 h
Minimum Number of person	1
Elapsed Time	0.25 h

Referenced Information

Manuals/Drawings	References/Sheets
AMM	Task 12-34-24-869-002 Task 22-70-00-610-008 Task 22-83-34-000-001

Procedure

NOTE: For the basic Aircraft configuration, refer to AMM Chapter “Introduction - Aircraft status for maintenance" in Manual Front Matter section.

(a) Make sure that the aircraft is electrically grounded, refer to Ref. AMM Task 12-34-24-869-002.

(b) Do the job set up procedure as specified in the removal of the FMGCs (FIN 1CA1 and FIN 1CA2), refer to Ref. AMM Task 22-83-34-000-001.

(c) Do the job set up procedure as specified in the uploading of the FM data, refer to Ref. AMM Task 22-70-00-610-008.

CONF 002

(2) Task A320-A-22-XX-1821-01001-300A-A (A320-A-22-XX-1821-01ZZZ-300Z-A) Parity Configuration Recording

Job Set-Up Information

Manpower/Resources/Skills

Man-hours	0.50 h
Minimum Number of person	1
Elapsed Time	0.50 h

Procedure

(a) For the FMGC-1 (FIN 1CA1) parity modification, before any disconnection, record the figure number of the hook-up chart on which line 1 and line 3 agrees with the aircraft wiring configuration, refer to Ref. Fig.HC Hook-up Chart - Parity 1 for FMGC-1 (FIN 1CA1) and Ref. Fig.HD Hook-up Chart - Parity 2 for FMGC-1 (FIN 1CA1).

(b) For the FMGC-2 (FIN 1CA2) parity modification, before any disconnection, record the figure number of the hook-up chart on which line 1 and line 3 agrees with the aircraft wiring configuration, refer to Ref. Fig.HE Hook-up Chart - Parity 1 for FMGC-2 (FIN 1CA2) and Ref. Fig.HF Hook-up Chart - Parity 2 for FMGC-2 (FIN 1CA2).

CONF 002

Line	END1				LEAD						END2				Instructions
	Zone or Panel	Elec.Ident.	Term	Terminal P/N	Wire Ident.	Co	Rte	Gauge	Length mm	Length Inch	Zone or Panel	Elec.Ident.	Term	Terminal P/N	
1	83VU	1831VT	39P		2285-0433		1S	CF24			83VU	1CA1-AB	8D		M1O
2	83VU	1831VT	37P	EN3155-016M2222	2285-0433		1S	CF24			83VU	1CA1-AB	8D		M1N
3	83VU	1833VT	42L		2285-0447		1M	CF24			83VU	1CA1-AE	8K		M1O
4	83VU	1833VT	43L	EN3155-016M2222	2285-0447		1M	CF24			83VU	1CA1-AE	8K		M1N
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															
21															
22															
23															
24															
25															

M1O = OLD HOOK-UP ON END 1
M1N = NEW HOOK-UP ON END 1

Figure ICN-A320-A-22XX1821-A-FAPE3-02BCL-A-001-01 Fig.HC Sol.AA SHEET 1/1

Hook-up Chart - Parity 1 for FMGC-1 (FIN 1CA1)

CONF 002

Line	END1				LEAD						END2				Instructions
	Zone or Panel	Elec.Ident.	Term	Terminal P/N	Wire Ident.	Co	Rte	Gauge	Length mm	Length Inch	Zone or Panel	Elec.Ident.	Term	Terminal P/N	
1	83VU	1831VT	37P		2285-0433		1S	CF24			83VU	1CA1-AB	8D		M1O
2	83VU	1831VT	39P	EN3155-016M2222	2285-0433		1S	CF24			83VU	1CA1-AB	8D		M1N
3	83VU	1833VT	43L		2285-0447		1M	CF24			83VU	1CA1-AE	8K		M1O
4	83VU	1833VT	42L	EN3155-016M2222	2285-0447		1M	CF24			83VU	1CA1-AE	8K		M1N
5															
6															
7															
8															
9															
10															
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16															
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18															
19															
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21															
22															
23															
24															
25															

M1O = OLD HOOK-UP ON END 1
M1N = NEW HOOK-UP ON END 1

Figure ICN-A320-A-22XX1821-A-FAPE3-02BCM-A-001-01 Fig.HD Sol.AA SHEET 1/1
Hook-up Chart - Parity 2 for FMGC-1 (FIN 1CA1)

CONF 002

Line	END1				LEAD						END2				Instructions
	Zone or Panel	Elec.Ident.	Term	Terminal P/N	Wire Ident.	Co	Rte	Gauge	Length mm	Length Inch	Zone or Panel	Elec.Ident.	Term	Terminal P/N	
1	84VU	1840VT	39P		2285-0483		2S	CF24			84VU	1CA2-AB	8D		M1O
2	84VU	1840VT	37P	EN3155-016M2222	2285-0483		2S	CF24			84VU	1CA2-AB	8D		M1N
3	84VU	1842VT	36L		2285-0502		2M	CF24			84VU	1CA2-AE	8K		M1O
4	84VU	1842VT	31L	EN3155-016M2222	2285-0502		2M	CF24			84VU	1CA2-AE	8K		M1N
5															
6															
7															
8															
9															
10															
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15															
16															
17															
18															
19															
20															
21															
22															
23															
24															
25															

M1O = OLD HOOK-UP ON END 1
M1N = NEW HOOK-UP ON END 1

Figure ICN-A320-A-22XX1821-A-FAPE3-02BCN-A-001-01 Fig.HE Sol.AA SHEET 1/1

Hook-up Chart - Parity 1 for FMGC-2 (FIN 1CA2)

CONF 002

Line	END1				LEAD						END2				Instructions
	Zone or Panel	Elec.Ident.	Term	Terminal P/N	Wire Ident.	Co	Rte	Gauge	Length mm	Length Inch	Zone or Panel	Elec.Ident.	Term	Terminal P/N	
1	84VU	1840VT	37P		2285-0483		2S	CF24			84VU	1CA2-AB	8D		M1O
2	84VU	1840VT	39P	EN3155-016M2222	2285-0483		2S	CF24			84VU	1CA2-AB	8D		M1N
3	84VU	1842VT	31L		2285-0502		2M	CF24			84VU	1CA2-AE	8K		M1O
4	84VU	1842VT	36L	EN3155-016M2222	2285-0502		2M	CF24			84VU	1CA2-AE	8K		M1N
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															
21															
22															
23															
24															
25															

M1O = OLD HOOK-UP ON END 1
M1N = NEW HOOK-UP ON END 1

Figure ICN-A320-A-22XX1821-A-FAPE3-02BCO-A-001-01 Fig.HF Sol.AA SHEET 1/1
Hook-up Chart - Parity 2 for FMGC-2 (FIN 1CA2)

CONF ALL

C. PROCEDURE

(1) Task A320-A-22-XX-1821-03001-520A-A (A320-A-22-XX-1821-03ZZZ-520Z-A)
Remove the FMGC(s) from 80VU

Job Set-Up Information

Working Area

Impacted Zone	Access / Work Location
120	

Manpower/Resources/Skills

Man-hours	0.50 h
Minimum Number of person	1
Elapsed Time	0.50 h

Referenced Information

Manuals/Drawings	References/Sheets
AMM	06-20-00, Page Block 001 Task 22-83-34-000-001

Procedure

(a) Standard practices given in this procedure:

1 For the identification of zones, refer to Ref. AMM 06-20-00, Page Block 001.

(b) Remove the two FMGCs (FIN 1CA1 and FIN 1CA2) in the aft electronics rack 80VU, refer to Ref. AMM Task 22-83-34-000-001.

FIN 1CA1

1	FMGC-FLIGHT MANAGEMENT AND GUIDANCE COMPUTER	C13207CA00	Discard

and

FIN 1CA2

1	FMGC-FLIGHT MANAGEMENT AND GUIDANCE COMPUTER	C13207CA00	Discard

CONF 002

(2) Task A320-A-22-XX-1821-03001-720A-A (A320-A-22-XX-1821-03ZZZ-720Z-A)
Modify the Wiring in the Electronics Rack 80VU

Job Set-Up Information

Working Area

Impacted Zone	Access / Work Location	
120	Work location	Electrical Panel 80VU

Manpower/Resources/Skills

Man-hours	1.00 h
Minimum Number of person	1
Elapsed Time	1.00 h

Referenced Information

Manuals/Drawings	References/Sheets
AMM	06-20-00, Page Block 001
ESPM	20-33-00 20-52-10 20-52-21

Procedure

(a) Standard practices given in this procedure:

1 For the identification of zones, refer to Ref. AMM 06-20-00, Page Block 001.

2 Tag all the parts you must remove and retain to make the subsequent installation easier.

3 Put all the retained hardware in identified plastic bags and attach the bags to the related unit.

4 For the general installation of electrical wire harnesses, refer to Ref. ESPM 20-33-00.

5 Do a check of the electrical connectors before you connect them, refer to Ref. ESPM 20-52-10.

6 Do a continuity test of the new and/or modified electrical wires, refer to Ref. ESPM 20-52-21.

(b) Modify the pin programming of the FMGCs (FIN 1CA1 and FIN 1CA2), refer to Ref. ESPM 20-33-00.

1 Modify the connection of the wire(s) as show on this(these) wiring diagram(s) and the related hook-up chart(s):

- Ref. Fig.WA Modification of the Pin Programming for FMGC-1 (FIN 1CA1) and Ref. Fig.HA Hook-up Chart for FMGC-1 (FIN 1CA1)
- Ref. Fig.WB Modification of the Pin Programming for FMGC-2 (FIN 1CA2) and Ref. Fig.HB Hook-up Chart for FMGC-2 (FIN 1CA2).

(c) Modify the parity of the FMGC-1 (FIN 1CA1), refer to Ref. ESPM 20-33-00.

1 If during accomplishment of Ref. Task set A320-A-22-XX-1821-01000-93AH-A, you recorded that the existing aircraft wiring corresponds to line 1 and line 3 of Ref. Fig.HC Hook-up Chart - Parity 1 for FMGC-1 (FIN 1CA1).

a Modify the connection of the wires(s) as shown on this wiring diagram and the related hook-up chart:

- Ref. Fig.WC Modification of the Parity 1 for FMGC-1 (FIN 1CA1)
- Ref. Fig.HC Hook-up Chart - Parity 1 for FMGC-1 (FIN 1CA1).

2 If during accomplishment of Ref. Task set A320-A-22-XX-1821-01000-93AH-A, you recorded that the existing aircraft wiring corresponds to line 1 and line 3 of Ref. Fig.HD Hook-up Chart - Parity 2 for FMGC-1 (FIN 1CA1).

a Modify the connection of the wires(s) as shown on this wiring diagram and the related hook-up chart:

- Ref. Fig.WD Modification of the Parity 2 for FMGC-1 (FIN 1CA1)
- Ref. Fig.HD Hook-up Chart - Parity 2 for FMGC-1 (FIN 1CA1).

(d) Modify the parity of the FMGC-2 (FIN 1CA2), refer to Ref. ESPM 20-33-00.

1 If during accomplishment of Ref. Task set A320-A-22-XX-1821-01000-93AH-A, you recorded that the existing aircraft wiring corresponds to line 1 and line 3 of Ref. Fig.HE Hook-up Chart - Parity 1 for FMGC-2 (FIN 1CA2).

a Modify the connection of the wires(s) as shown on this wiring diagram and the related hook-up chart:

- Ref. Fig.WE Modification of the Parity 1 for FMGC-2 (FIN 1CA2)
- Ref. Fig.HE Hook-up Chart - Parity 1 for FMGC-2 (FIN 1CA2).

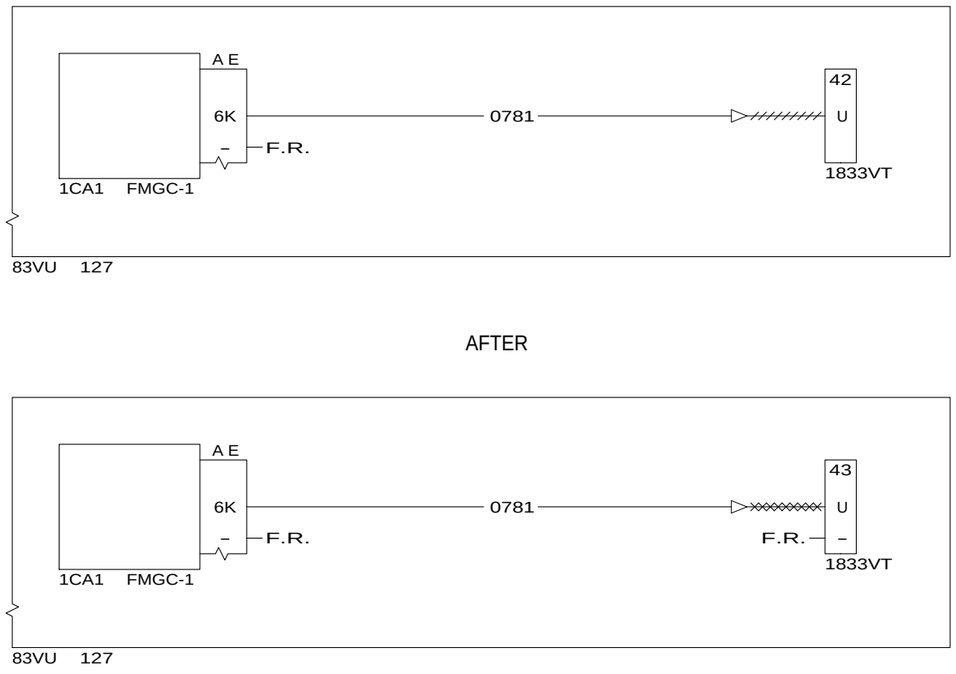
2 If during accomplishment of Ref. Task set A320-A-22-XX-1821-01000-93AH-A, you recorded that the existing aircraft wiring corresponds to line 1 and line 3 of Ref. Fig.HF Hook-up Chart - Parity 2 for FMGC-2 (FIN 1CA2).

a Modify the connection of the wires(s) as shown on this wiring diagram and the related hook-up chart:

- Ref. Fig.WF Modification of the Parity 2 for FMGC-2 (FIN 1CA2)
- Ref. Fig.HF Hook-up Chart - Parity 2 for FMGC-2 (FIN 1CA2).

CONF 002

BEFORE



AFTER

OLD HOOK-UP NEW HOOK-UP F.R. FOR REFERENCE

NOTE : UNLESS OTHERWISE SPECIFIED PREFIX ALL WIRE IDENTIFICATION WITH ATA2285
UNLESS OTHERWISE SPECIFIED ALL WIRES ARE CF24 GAUGE
UNLESS OTHERWISE SPECIFIED ALL ROUTES ARE 1M
ICN-A320-A-22XX1821-A-FAPE3-02BCD-A-001-01

Figure ICN-A320-A-22XX1821-A-FAPE3-02BCD-A-001-01 Fig.WA Sol.AA SHEET 1/1

Modification of the Pin Programming for FMGC-1 (FIN 1CA1)

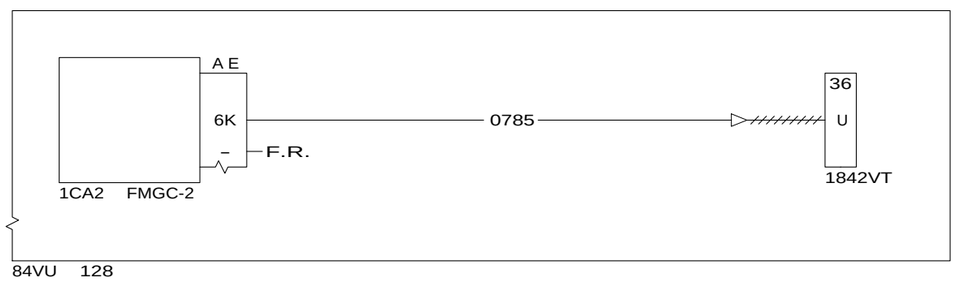
CONF 002

Line	END1				LEAD						END2				Instructions
	Zone or Panel	Elec.Ident.	Term	Terminal P/N	Wire Ident.	Co	Rte	Gauge	Length mm	Length Inch	Zone or Panel	Elec.Ident.	Term	Terminal P/N	
1	83VU	1833VT	42U		2285-0781		1M	CF24			83VU	1CA1-AE	6K		M1O
2	83VU	1833VT	43U	EN3155-016M2222	2285-0781		1M	CF24			83VU	1CA1-AE	6K		M1N
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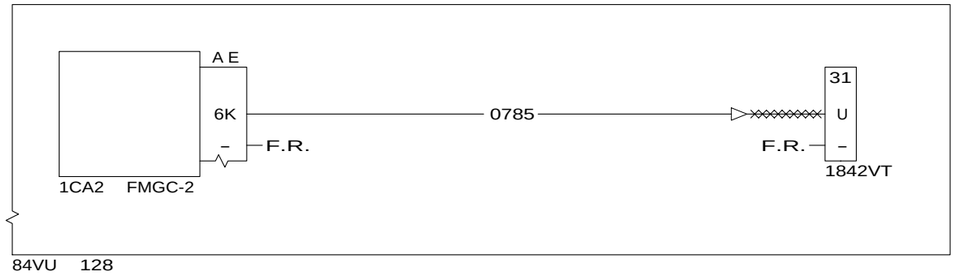
M1O = OLD HOOK-UP ON END 1
M1N = NEW HOOK-UP ON END 1

CONF 002

BEFORE



AFTER



OLD HOOK-UP NEW HOOK-UP F.R. FOR REFERENCE

NOTE : UNLESS OTHERWISE SPECIFIED PREFIX ALL WIRE IDENTIFICATION WITH ATA2285
UNLESS OTHERWISE SPECIFIED ALL WIRES ARE CF24 GAUGE
UNLESS OTHERWISE SPECIFIED ALL ROUTES ARE 2M
ICN-A320-A-22XX1821-A-FAPE3-02BCE-A-001-01

Figure ICN-A320-A-22XX1821-A-FAPE3-02BCE-A-001-01 Fig.WB Sol.AA SHEET 1/1

Modification of the Pin Programming for FMGC-2 (FIN 1CA2)

CONF 002

Line	END1				LEAD						END2				Instructions
	Zone or Panel	Elec.Ident.	Term	Terminal P/N	Wire Ident.	Co	Rte	Gauge	Length mm	Length Inch	Zone or Panel	Elec.Ident.	Term	Terminal P/N	
1	84VU	1842VT	36U		2285-0785		2M	CF24			84VU	1CA2-AE	6K		M1O
2	84VU	1842VT	31U	EN3155-016M2222	2285-0785		2M	CF24			84VU	1CA2-AE	6K		M1N
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M1O = OLD HOOK-UP ON END 1
M1N = NEW HOOK-UP ON END 1

Figure ICN-A320-A-22XX1821-A-FAPE3-02BCK-A-001-01 Fig.HB Sol.AA SHEET 1/1

Hook-up Chart for FMGC-2 (FIN 1CA2)

CONF 002

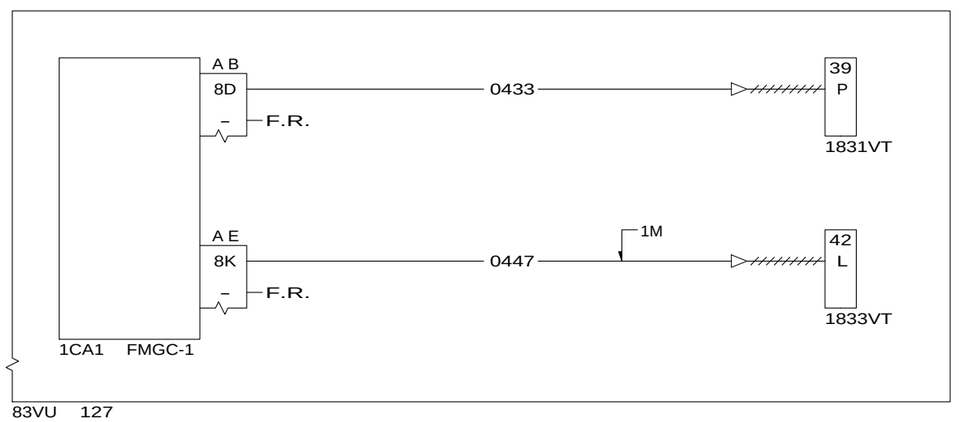
Line	END1				LEAD						END2				Instructions
	Zone or Panel	Elec.Ident.	Term	Terminal P/N	Wire Ident.	Co	Rte	Gauge	Length mm	Length Inch	Zone or Panel	Elec.Ident.	Term	Terminal P/N	
1	83VU	1831VT	39P		2285-0433		1S	CF24			83VU	1CA1-AB	8D		M1O
2	83VU	1831VT	37P	EN3155-016M2222	2285-0433		1S	CF24			83VU	1CA1-AB	8D		M1N
3	83VU	1833VT	42L		2285-0447		1M	CF24			83VU	1CA1-AE	8K		M1O
4	83VU	1833VT	43L	EN3155-016M2222	2285-0447		1M	CF24			83VU	1CA1-AE	8K		M1N
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M1O = OLD HOOK-UP ON END 1
M1N = NEW HOOK-UP ON END 1

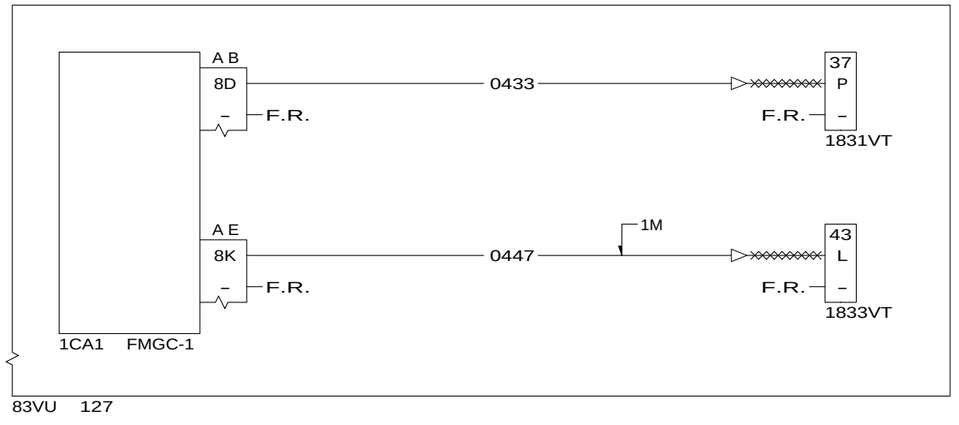
Figure ICN-A320-A-22XX1821-A-FAPE3-02BCL-A-001-01 Fig.HC Sol.AA SHEET 1/1
Hook-up Chart - Parity 1 for FMGC-1 (FIN 1CA1)

CONF 002

BEFORE



AFTER



OLD HOOK-UP NEW HOOK-UP F.R. FOR REFERENCE

NOTE : UNLESS OTHERWISE SPECIFIED PREFIX ALL WIRE IDENTIFICATION WITH ATA2285
UNLESS OTHERWISE SPECIFIED ALL WIRES ARE CF24 GAUGE
UNLESS OTHERWISE SPECIFIED ALL ROUTES ARE 1S
ICN-A320-A-22XX1821-A-FAPE3-02BCF-A-001-01

Figure ICN-A320-A-22XX1821-A-FAPE3-02BCF-A-001-01 Fig.WC Sol.AA SHEET 1/1

Modification of the Parity 1 for FMGC-1 (FIN 1CA1)

CONF 002

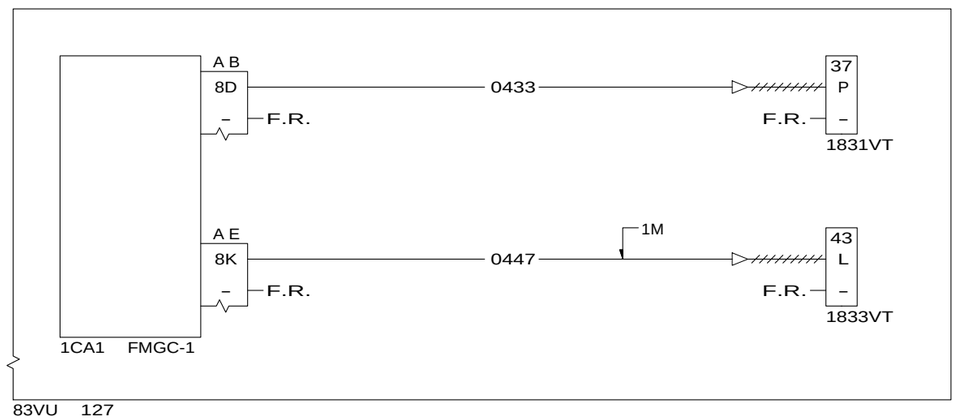
Line	END1				LEAD						END2				Instructions
	Zone or Panel	Elec.Ident.	Term	Terminal P/N	Wire Ident.	Co	Rte	Gauge	Length mm	Length Inch	Zone or Panel	Elec.Ident.	Term	Terminal P/N	
1	83VU	1831VT	37P		2285-0433		1S	CF24			83VU	1CA1-AB	8D		M1O
2	83VU	1831VT	39P	EN3155-016M2222	2285-0433		1S	CF24			83VU	1CA1-AB	8D		M1N
3	83VU	1833VT	43L		2285-0447		1M	CF24			83VU	1CA1-AE	8K		M1O
4	83VU	1833VT	42L	EN3155-016M2222	2285-0447		1M	CF24			83VU	1CA1-AE	8K		M1N
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M1O = OLD HOOK-UP ON END 1
M1N = NEW HOOK-UP ON END 1

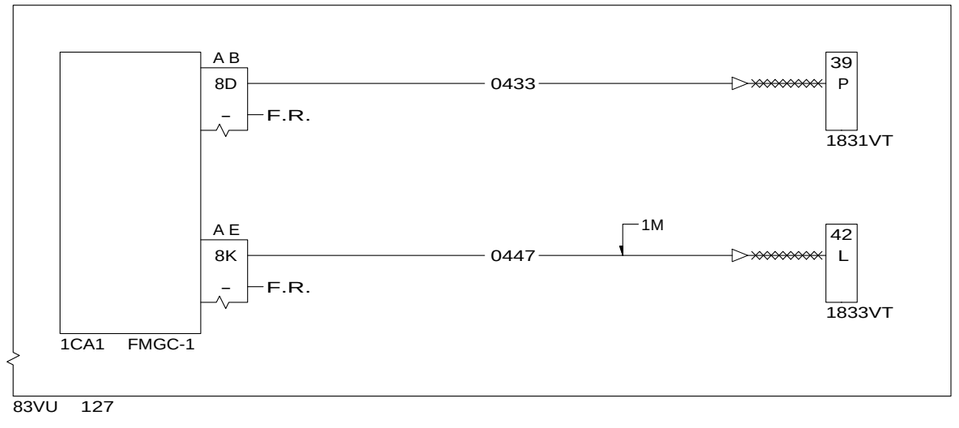
Figure ICN-A320-A-22XX1821-A-FAPE3-02BCM-A-001-01 Fig.HD Sol.AA SHEET 1/1
Hook-up Chart - Parity 2 for FMGC-1 (FIN 1CA1)

CONF 002

BEFORE



AFTER



OLD HOOK-UP NEW HOOK-UP F.R. FOR REFERENCE

NOTE : UNLESS OTHERWISE SPECIFIED PREFIX ALL WIRE IDENTIFICATION WITH ATA2285
UNLESS OTHERWISE SPECIFIED ALL WIRES ARE CF24 GAUGE
UNLESS OTHERWISE SPECIFIED ALL ROUTES ARE 1S
ICN-A320-A-22XX1821-A-FAPE3-02BCG-A-001-01

Figure ICN-A320-A-22XX1821-A-FAPE3-02BCG-A-001-01 Fig.WD Sol.AA SHEET 1/1

Modification of the Parity 2 for FMGC-1 (FIN 1CA1)

CONF 002

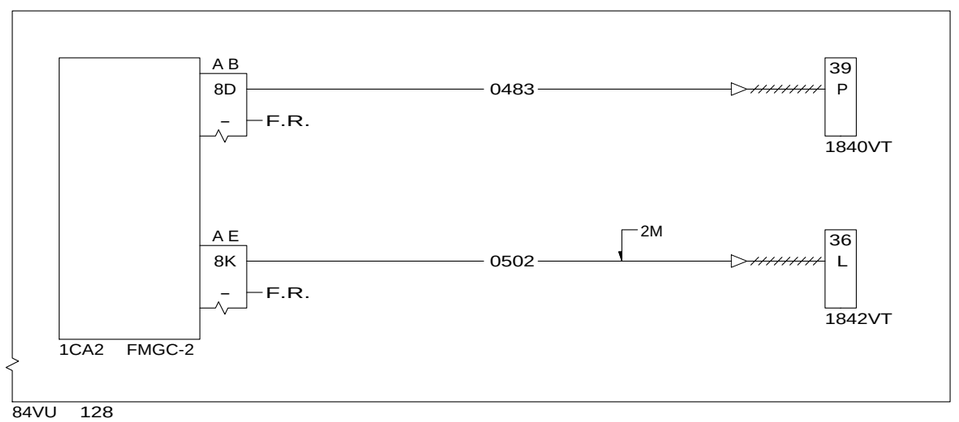
Line	END1				LEAD						END2				Instructions
	Zone or Panel	Elec.Ident.	Term	Terminal P/N	Wire Ident.	Co	Rte	Gauge	Length mm	Length Inch	Zone or Panel	Elec.Ident.	Term	Terminal P/N	
1	84VU	1840VT	39P		2285-0483		2S	CF24			84VU	1CA2-AB	8D		M1O
2	84VU	1840VT	37P	EN3155-016M2222	2285-0483		2S	CF24			84VU	1CA2-AB	8D		M1N
3	84VU	1842VT	36L		2285-0502		2M	CF24			84VU	1CA2-AE	8K		M1O
4	84VU	1842VT	31L	EN3155-016M2222	2285-0502		2M	CF24			84VU	1CA2-AE	8K		M1N
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M1O = OLD HOOK-UP ON END 1
M1N = NEW HOOK-UP ON END 1

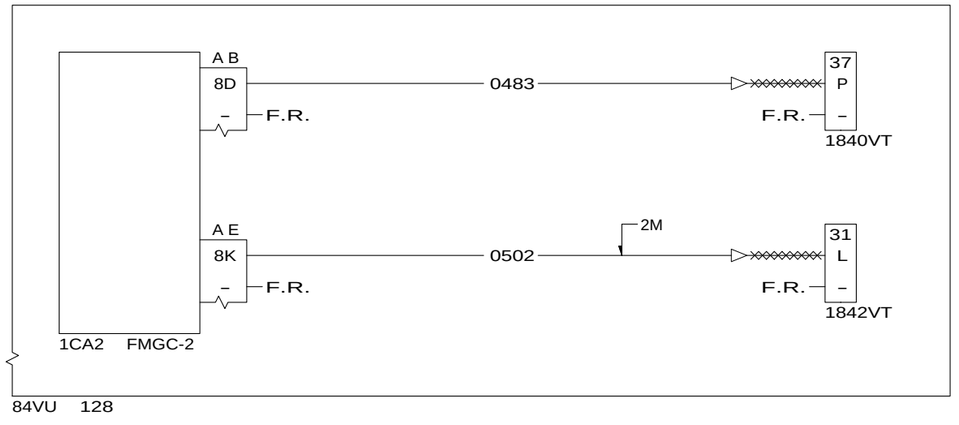
Figure ICN-A320-A-22XX1821-A-FAPE3-02BCN-A-001-01 Fig.HE Sol.AA SHEET 1/1
Hook-up Chart - Parity 1 for FMGC-2 (FIN 1CA2)

CONF 002

BEFORE



AFTER



OLD HOOK-UP NEW HOOK-UP F.R. FOR REFERENCE

NOTE : UNLESS OTHERWISE SPECIFIED PREFIX ALL WIRE IDENTIFICATION WITH ATA2285
UNLESS OTHERWISE SPECIFIED ALL WIRES ARE CF24 GAUGE
UNLESS OTHERWISE SPECIFIED ALL ROUTES ARE 2S
ICN-A320-A-22XX1821-A-FAPE3-02BCH-A-001-01

Figure ICN-A320-A-22XX1821-A-FAPE3-02BCH-A-001-01 Fig.WE Sol.AA SHEET 1/1

Modification of the Parity 1 for FMGC-2 (FIN 1CA2)

CONF 002

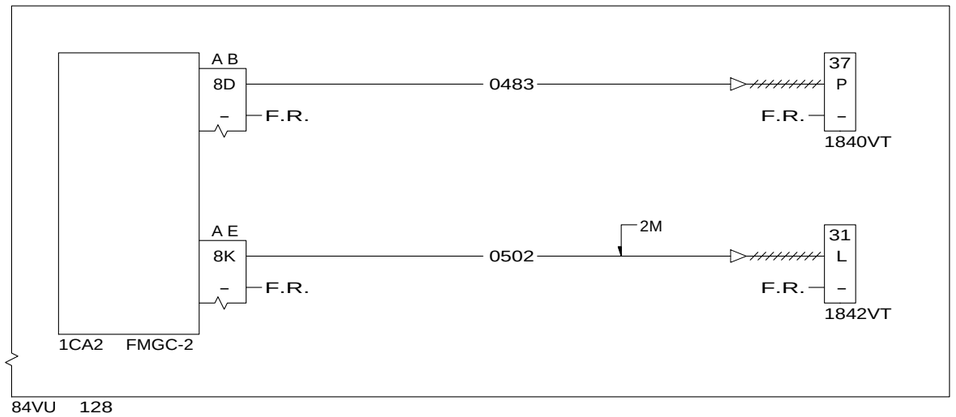
Line	END1				LEAD						END2				Instructions
	Zone or Panel	Elec.Ident.	Term	Terminal P/N	Wire Ident.	Co	Rte	Gauge	Length mm	Length Inch	Zone or Panel	Elec.Ident.	Term	Terminal P/N	
1	84VU	1840VT	37P		2285-0483		2S	CF24			84VU	1CA2-AB	8D		M1O
2	84VU	1840VT	39P	EN3155-016M2222	2285-0483		2S	CF24			84VU	1CA2-AB	8D		M1N
3	84VU	1842VT	31L		2285-0502		2M	CF24			84VU	1CA2-AE	8K		M1O
4	84VU	1842VT	36L	EN3155-016M2222	2285-0502		2M	CF24			84VU	1CA2-AE	8K		M1N
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M1O = OLD HOOK-UP ON END 1
M1N = NEW HOOK-UP ON END 1

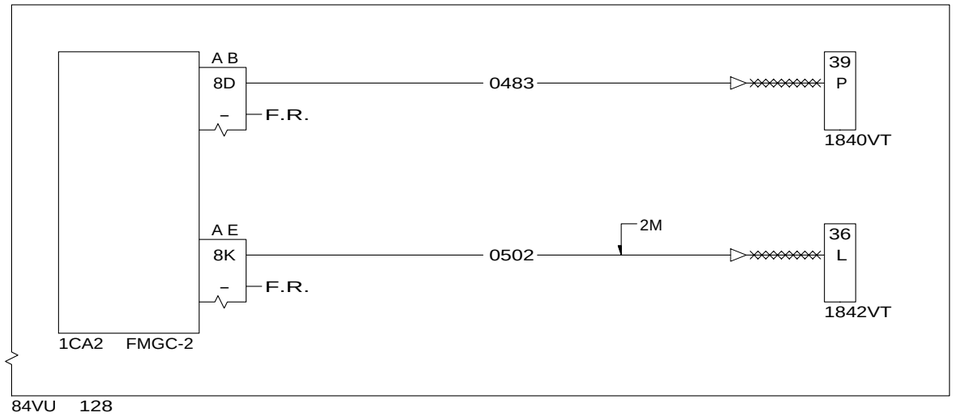
Figure ICN-A320-A-22XX1821-A-FAPE3-02BCO-A-001-01 Fig.HF Sol.AA SHEET 1/1
Hook-up Chart - Parity 2 for FMGC-2 (FIN 1CA2)

CONF 002

BEFORE



AFTER



OLD HOOK-UP NEW HOOK-UP F.R. FOR REFERENCE

NOTE : UNLESS OTHERWISE SPECIFIED PREFIX ALL WIRE IDENTIFICATION WITH ATA2285
UNLESS OTHERWISE SPECIFIED ALL WIRES ARE CF24 GAUGE
UNLESS OTHERWISE SPECIFIED ALL ROUTES ARE 2S
ICN-A320-A-22XX1821-A-FAPE3-02BCI-A-001-01

Figure ICN-A320-A-22XX1821-A-FAPE3-02BCI-A-001-01 Fig.WF Sol.AA SHEET 1/1

Modification of the Parity 2 for FMGC-2 (FIN 1CA2)

CONF 001 002

(3) Task A320-A-22-XX-1821-11001-920A-A (A320-A-22-XX-1821-11ZZZ-920Z-A) Replace the Media in the Cockpit Stowage Box

Job Set-Up Information

Working Area

Impacted Zone	Access / Work Location
210	

Manpower/Resources/Skills

Man-hours	0.25 h
Minimum Number of person	1
Elapsed Time	0.25 h

Material necessary to do the job

Equipment					
ITEM	**PART No.**	**QTY (UM)**	**KEYWORD**	**DRAWING**	**SEE NOTES**
	F1424466	1	MEDIA		(1)
	HNP5FXAM01X2006	1	MEDIA		(2)
NOTE(S)					
(1): The operator only orders the FG disk (FIN 1CAMD9) PN F1424466 which contains the FG operational software PN C13207CA09 (FIN 1CA1SW9 and FIN 1CA2SW9).					
(2): The operator only orders the FMS CD-ROM (FIN 1CAMD7) PN HNP5FXAM01X2006 which contains the FMS operational software PN PS4087600–908 (FIN 1CA1SW7 and FIN 1CA2SW7).					

Referenced Information

Manuals/Drawings	References/Sheets
AMM	06-20-00, Page Block 001

Procedure

(a) Standard practices given in this procedure:

1 For the identification of zones, refer to Ref. AMM 06-20-00, Page Block 001.

(b) Replace the FMS operational CD-ROM (FIN 1CAMD7) in the cockpit stowage box, refer to Ref. Fig.BA Location of the Media in the Stowage Box.

1 Remove:

FIN 1CAMD7			
1	MEDIA-CD-FMS OPERATIONAL PROGRAM	HNP5CXAM01X2005	Discard

2 Install:

FIN 1CAMD7		
1	MEDIA-CD-FMS OPERATIONAL PROGRAM	HNP5FXAM01X2006

NOTE: The CD-ROM FIN 1CAMD7 contains the FMS operational software FIN 1CA1SW7 and FIN 1CA2SW7.

(c) Replace the FG operational disk (FIN 1CAMD9) in the cockpit stowage box, refer to Ref. Fig.BA Location of the Media in the Stowage Box.

1 Remove:

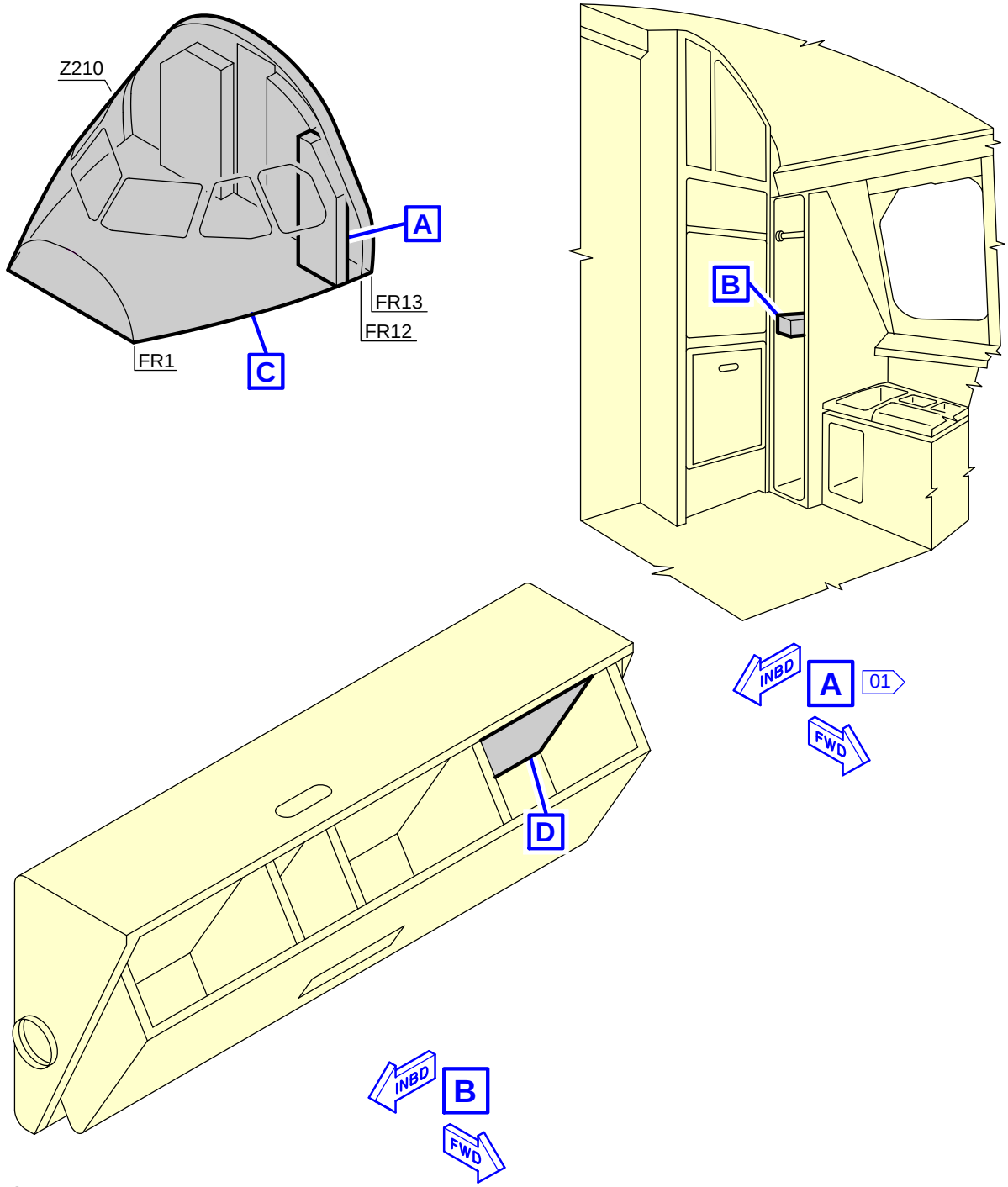
FIN 1CAMD9			
1	MEDIA-DISK,FMGC FG OPERATIONAL PROGR	F1424003	Discard

2 Install:

FIN 1CAMD9		
1	MEDIA-FG OPERATIONAL PROGRAM	F1424466

NOTE: The disk FIN 1CAMD9 contains the FG operational software FIN 1CA1SW9 and FIN 1CA2SW9.

CONF 001 002



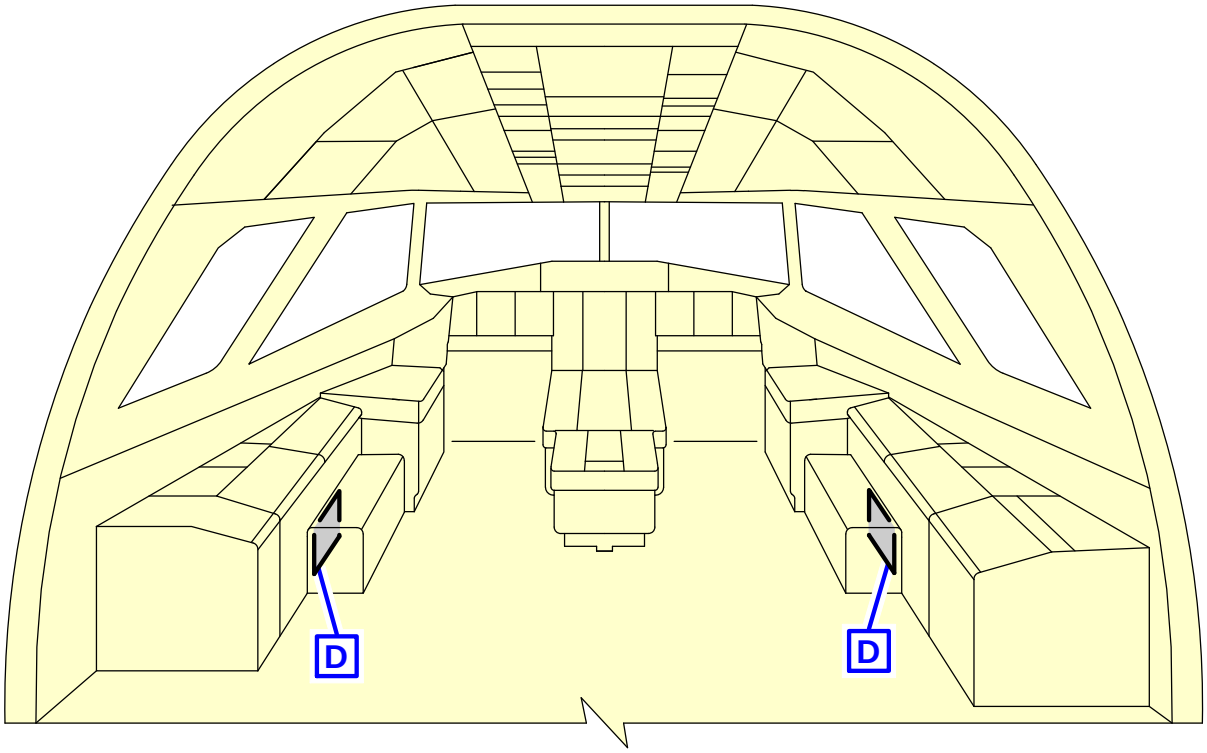
NOTE:

01 THE LOCATION OF THE STOWAGE BOX DEPENDS ON THE AIRCRAFT CONFIGURATION.

ICN-A320-A-22XX1821-A-FAPE3-02880-A-001-01

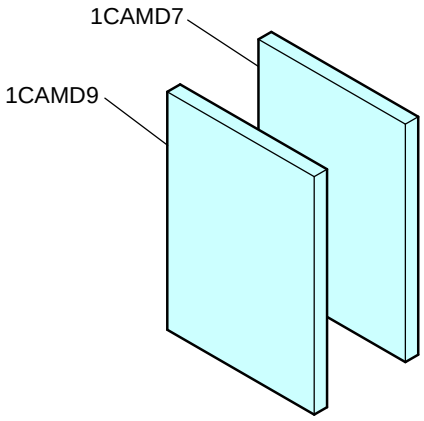
Figure ICN-A320-A-22XX1821-A-FAPE3-02880-A-001-01 Fig.BA Sol.AA SHEET 1/2

CONF 001 002



C 01

VIEW LOOKING FWD



D

TYPICAL VIEW

NOTE:

01 THE LOCATION OF THE STOWAGE BOX DEPENDS ON THE AIRCRAFT CONFIGURATION.

ICN-A320-A-22XX1821-A-FAPE3-02881-A-001-01

Figure ICN-A320-A-22XX1821-A-FAPE3-02881-A-001-01 Fig.BA Sol.AA SHEET 2/2

CONF 003 005

(3) Task A320-A-22-XX-1821-11002-920A-A (A320-A-22-XX-1821-11ZZZ-920Z-A) Replace the Media in the Cockpit Stowage Box

Job Set-Up Information

Working Area

Impacted Zone	Access / Work Location
210	

Manpower/Resources/Skills

Man-hours	0.25 h
Minimum Number of person	1
Elapsed Time	0.25 h

Material necessary to do the job

Equipment					
ITEM	**PART No.**	**QTY (UM)**	**KEYWORD**	**DRAWING**	**SEE NOTES**
	HNP5FXAM01X2006	1	MEDIA		(1)
NOTE(S)					
(1): The operator only orders the FMS CD-ROM (FIN 1CAMD7) PN HNP5FXAM01X2006 which contains the FMS operational software PN PS4087600–908 (FIN 1CA1SW7 and FIN 1CA2SW7).					

Referenced Information

Manuals/Drawings	References/Sheets
AMM	06-20-00, Page Block 001

Procedure

(a) Standard practices given in this procedure:

1 For the identification of zones, refer to Ref. AMM 06-20-00, Page Block 001.

(b) Replace the FMS operational CD-ROM (FIN 1CAMD7) in the cockpit stowage box, refer to Ref. Fig.BA Location of the Media in the Stowage Box.

1 Remove:

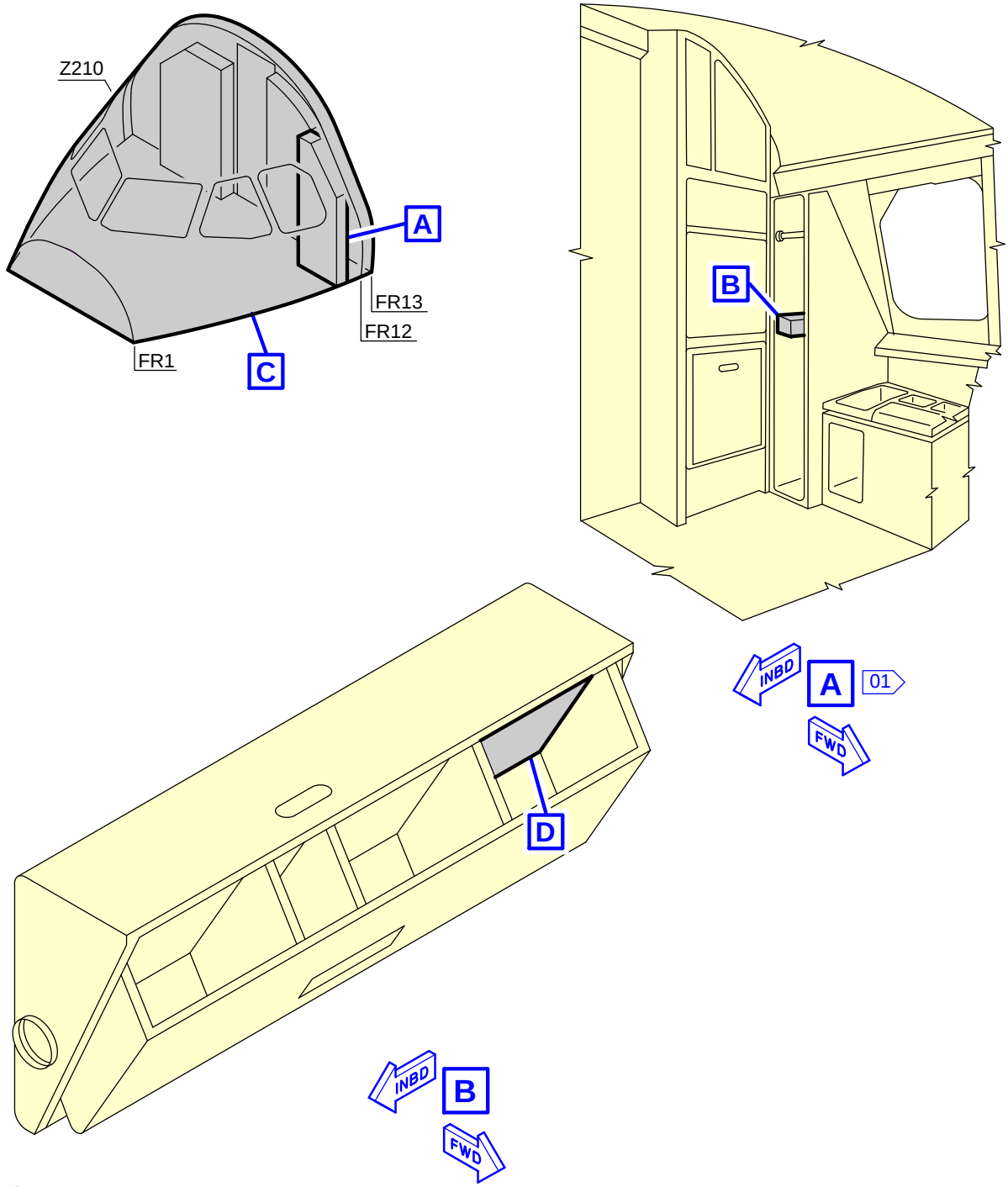
FIN 1CAMD7			
1	MEDIA-CD-FMS OPERATIONAL PROGRAM	HNP5CXAM01X2005	Discard

2 Install:

FIN 1CAMD7		
1	MEDIA-CD-FMS OPERATIONAL PROGRAM	HNP5FXAM01X2006

NOTE: The CD-ROM FIN 1CAMD7 contains the FMS operational software FIN 1CA1SW7 and FIN 1CA2SW7.

CONF 003 005



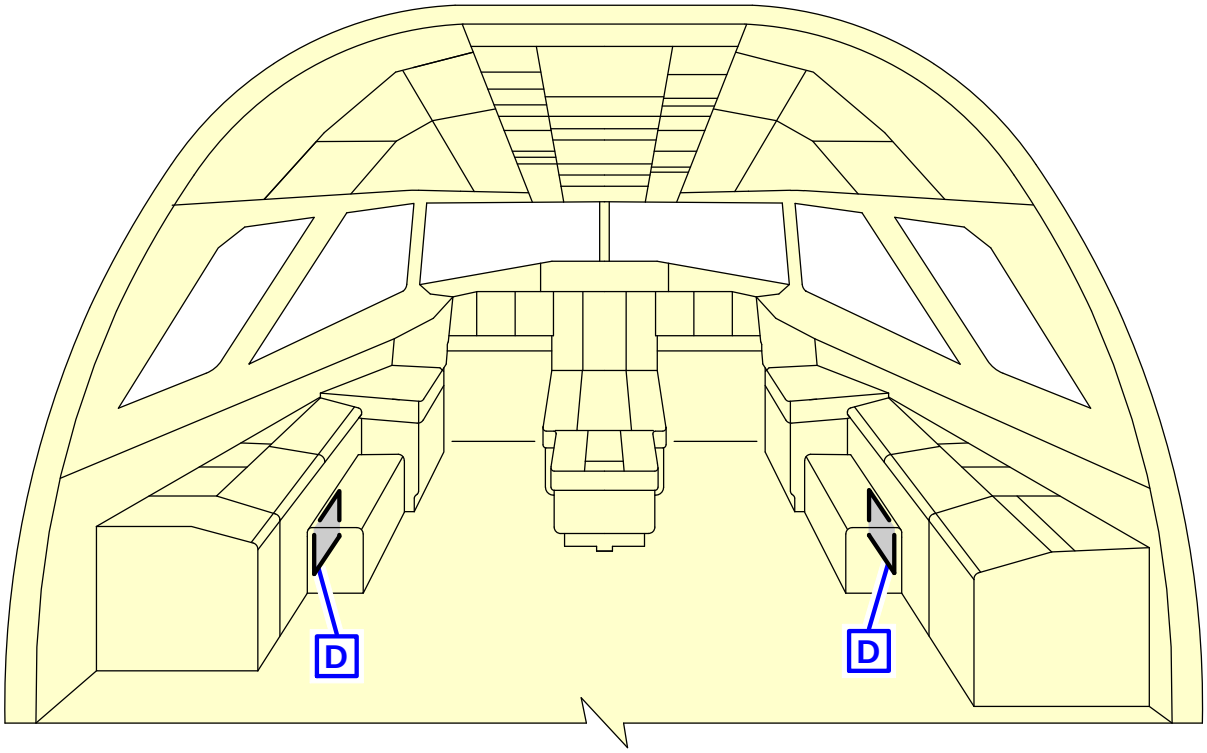
NOTE:

01 THE LOCATION OF THE STOWAGE BOX DEPENDS ON THE AIRCRAFT CONFIGURATION.

ICN-A320-A-22XX1821-A-FAPE3-02ANX-A-001-01

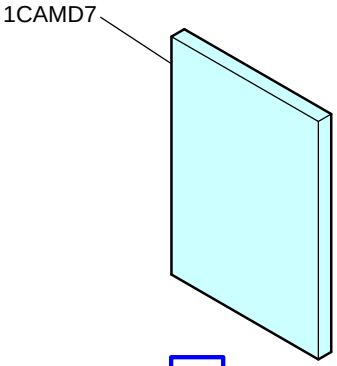
Figure ICN-A320-A-22XX1821-A-FAPE3-02ANX-A-001-01 Fig.BA Sol.AC SHEET 1/2

CONF 003 005



C 01

VIEW LOOKING FWD



D

TYPICAL VIEW

NOTE:

01 THE LOCATION OF THE STOWAGE BOX DEPENDS ON THE AIRCRAFT CONFIGURATION.

ICN-A320-A-22XX1821-A-FAPE3-02ANY-A-001-01

Figure ICN-A320-A-22XX1821-A-FAPE3-02ANY-A-001-01 Fig.BA Sol.AC SHEET 2/2

CONF ALL

(4) Task A320-A-22-XX-1821-04001-720A-A (A320-A-22-XX-1821-04ZZZ-720Z-A) Install the FMGC(S) in 80VU

Job Set-Up Information

Working Area

Impacted Zone	Access / Work Location
120	

Manpower/Resources/Skills

Man-hours	0.50 h
Minimum Number of person	1
Elapsed Time	0.50 h

Material necessary to do the job

Equipment					
ITEM	**PART No.**	**QTY (UM)**	**KEYWORD**	**DRAWING**	**SEE NOTES**
	C13207CA00	2	FMGC		

Referenced Information

Manuals/Drawings	References/Sheets
AMM	06-20-00, Page Block 001 Task 22-83-34-400-001

Procedure

(a) Standard practices given in this procedure:

1 For the identification of zones, refer to Ref. AMM 06-20-00, Page Block 001.

(b) Install the two FMGCs (FIN 1CA1 and FIN 1CA2) in the aft electronics rack 80VU, refer to Ref. AMM Task 22-83-34-400-001.

FIN 1CA1

1 FMGC-FLIGHT MANAGEMENT AND GUIDANCE COMPUTER C13207CA00

and

FIN 1CA2

1 FMGC-FLIGHT MANAGEMENT AND GUIDANCE COMPUTER C13207CA00

NOTE: FMGC PN C13207CA00 is pre-loaded with FG software PN C13207CA09, FM Software PN PS4087600–908.

CONF 001 002

(5) Task A320-A-22-XX-1821-11001-750A-A (A320-A-22-XX-1821-11ZZZ-750Z-A) Do a Check of the Part Number (PN) of the FG Software Pre-loaded into the Two FMGC(s)

Job Set-Up Information

Working Area

Impacted Zone	Access / Work Location
210	

Manpower/Resources/Skills

Man-hours	0.25 h
Minimum Number of person	1
Elapsed Time	0.25 h

Material necessary to do the job

Equipment					
ITEM	**PART No.**	**QTY (UM)**	**KEYWORD**	**DRAWING**	**SEE NOTES**
	F1424466	1	MEDIA		(1)
NOTE(S)					
(1): The operator only orders the FG disk (FIN 1CAMD9) PN F1424466 which contains the FG operational software PN C13207CA09 (FIN 1CA1SW9 and FIN 1CA2SW9).					

Referenced Information

Manuals/Drawings	References/Sheets
AMM	06-20-00, Page Block 001 Task 22-83-00-610-802

Procedure

(a) Standard practices given in this procedure:

1 For the identification of zones, refer to Ref. AMM 06-20-00, Page Block 001.

(b) Do a check of the PN reference of the software pre-loaded into the related FMGC(s), included in the “Uploading of the FG Data”, refer to Ref. AMM Task 22-83-00-610-802.

NOTE: If the PN on the LRU IDENTIFICATION page of MCDU is not the same as the PN reference of the software component that you want to upload, do the 'uploading of the FG data', refer to next step. If the P/N reference is the same, the uploading is not necessary.

(c) Upload the FG operational software (FIN 1CA1SW9 and FIN 1CA2SW9), refer to Ref. AMM Task 22-83-00-610-802.

1 Use:

FIN 1CAMD9

1 MEDIA-FG OPERATIONAL F1424466 PROGRAM

NOTE: The disk PN F1424466 (FIN 1CAMD9) contains the software PN C13207CA09 (FIN 1CA1SW9 and FIN 1CA2SW9).

CONF 004

(5) Task A320-A-22-XX-1821-11002-750A-A (A320-A-22-XX-1821-11ZZZ-750Z-A) Do a Check of the Part Number (PN) of the FG Software Pre-loaded into the Two FMGC(s)

Job Set-Up Information

Working Area

Impacted Zone	Access / Work Location
210	

Manpower/Resources/Skills

Man-hours	0.25 h
Minimum Number of person	1
Elapsed Time	0.25 h

Material necessary to do the job

FLS kit 221821N01R01					
ITEM	**PART No.**	**QTY (UM)**	**KEYWORD**	**DRAWING**	**SEE NOTES**
	C13207CA09	1	SOFTWARE		

Referenced Information

Manuals/Drawings	References/Sheets
AMM	06-20-00, Page Block 001 Task 22-83-00-610-802

Procedure

(a) Standard practices given in this procedure:

1 For the identification of zones, refer to Ref. AMM 06-20-00, Page Block 001.

(b) Do a check of the PN reference of the software pre-loaded into the related FMGC(s), included in the “Uploading of the FG Data”, refer to Ref. AMM Task 22-83-00-610-802.

NOTE: If the PN on the LRU IDENTIFICATION page of MCDU is not the same as the PN reference of the software component that you want to upload, do the 'uploading of the FG data', refer to next step. If the P/N reference is the same, the uploading is not necessary.

(c) Upload the FG operational software (FIN 1CA1SW9 and FIN 1CA2SW9), refer to Ref. AMM Task 22-83-00-610-802.

1 After the uploading:

FIN 1CA1SW9

1	SOFTWARE-FLIGHT MANAGEMENT AND GUIDANCE COMPUTER becomes	C13207CA08

FIN 1CA1SW9

1	SOFTWARE-FG OPERATIONAL PROGRAM and	C13207CA09

FIN 1CA2SW9

1	SOFTWARE-FLIGHT MANAGEMENT AND GUIDANCE COMPUTER	C13207CA08

becomes

FIN 1CA2SW9

1	SOFTWARE-FG OPERATIONAL PROGRAM	C13207CA09

CONF 001-003 005

(6) Task A320-A-22-XX-1821-12001-750A-A (A320-A-22-XX-1821-12ZZZ-750Z-A)
Do a Check of the PN of the FM Software Pre-loaded into the Two FMGC(s)

Job Set-Up Information

Working Area

Impacted Zone	Access / Work Location
210	

Manpower/Resources/Skills

Man-hours	0.50 h
Minimum Number of person	1
Elapsed Time	0.50 h

Material necessary to do the job

Equipment					
ITEM	**PART No.**	**QTY (UM)**	**KEYWORD**	**DRAWING**	**SEE NOTES**
	HNP5FXAM01X2006	1	MEDIA		(1)
NOTE(S)					
(1): The operator only orders the FMS CD-ROM (FIN 1CAMD7) PN HNP5FXAM01X2006 which contains the FMS operational software PN PS4087600–908 (FIN 1CA1SW7 and FIN 1CA2SW7).					

Referenced Information

Manuals/Drawings	References/Sheets
AMM	06-20-00, Page Block 001 Task 22-70-00-610-008

Procedure

(a) Standard practices given in this procedure:

1 For the identification of zones, refer to Ref. AMM 06-20-00, Page Block 001.

(b) Do a check of the PN reference of the software pre-loaded into the related FMGC(s), included in the “Uploading of the FM Data”, refer to Ref. AMM Task 22-70-00-610-008.

NOTE: If the PN on the PN STATUS page of MCDU is not the same as the PN reference of the software component that you want to upload, do the 'uploading of the FM data', refer to next step. If the P/N reference is the same, the uploading is not necessary.

(c) Upload the FM operational software (FIN 1CA1SW7 and FIN 1CA2SW7), refer to Ref. AMM Task 22-70-00-610-008.

1 Use:

FIN 1CAMD7

1	MEDIA-CD-FMS OPERATIONAL PROGRAM	HNP5FXAM01X2006

NOTE: The disk PN HNP5FXAM01X2006 (FIN 1CAMD7) contains the software PN PS4087600–908 (FIN 1CA1SW7 and FIN 1CA2SW7).

NOTE: Make sure to reload the following software components after the FMS operational software is loaded, refer to Ref. AMM Task 22-70-00-610-008:
- The Navigation Data Base (NDB)
- The Airline Modifiable Information (AMI) file
- The Operational Program Configuration (OPC) file
- The Performance Database (PDB)
- The Magnetic Variation (MAG VAR) database.

CONF 004 006

(6) Task A320-A-22-XX-1821-12002-750A-A (A320-A-22-XX-1821-12ZZZ-750Z-A) Do a Check of the PN of the FM Software Pre-loaded into the Two FMGC(s)

Job Set-Up Information

Working Area

Impacted Zone	Access / Work Location
210	

Manpower/Resources/Skills

Man-hours	0.50 h
Minimum Number of person	1
Elapsed Time	0.50 h

Material necessary to do the job

FLS kit 221821N02R00					
ITEM	**PART No.**	**QTY (UM)**	**KEYWORD**	**DRAWING**	**SEE NOTES**
	PS4087600-908	1	SOFTWARE		

Referenced Information

Manuals/Drawings	References/Sheets
AMM	06-20-00, Page Block 001 Task 22-70-00-610-008

Procedure

(a) Standard practices given in this procedure:

1 For the identification of zones, refer to Ref. AMM 06-20-00, Page Block 001.

(b) Do a check of the PN reference of the software pre-loaded into the related FMGC(s), included in the “Uploading of the FM Data”, refer to Ref. AMM Task 22-70-00-610-008.

NOTE: If the PN on the PN STATUS page of MCDU is not the same as the PN reference of the software component that you want to upload, do the 'uploading of the FM data', refer to next step. If the P/N reference is the same, the uploading is not necessary.

(c) Upload the FM operational software (FIN 1CA1SW7 and FIN 1CA2SW7), refer to Ref. AMM Task 22-70-00-610-008.

1 After the uploading:

FIN 1CA1SW7		
1	SOFTWARE-MEDIA FMS OPERATIONAL PROGRAM becomes	PS4087600-907
FIN 1CA1SW7		
1	SOFTWARE-FMS OPERATIONAL PROGRAM and	PS4087600-908
FIN 1CA2SW7		
1	SOFTWARE-MEDIA FMS OPERATIONAL PROGRAM becomes	PS4087600-907
FIN 1CA2SW7		
1	SOFTWARE-FMS OPERATIONAL PROGRAM	PS4087600-908

NOTE: Make sure to reload the following software components after the FMS operational software is loaded, refer to Ref. AMM Task 22-70-00-610-008:
- The Navigation Data Base (NDB)
- The Airline Modifiable Information (AMI) file
- The Operational Program Configuration (OPC) file
- The Performance Database (PDB)
- The Magnetic Variation (MAG VAR) database.

CONF ALL

D. PREPARATION FOR TEST

(1) Task A320-A-22-XX-1821-13001-540A-A (A320-A-22-XX-1821-13ZZZ-540Z-A)

Job Set-up

Job Set-Up Information

Manpower/Resources/Skills

Man-hours	0.10 h
Minimum Number of person	1
Elapsed Time	0.10 h

Referenced Information

Manuals/Drawings	References/Sheets
AMM	Task 22-83-34-400-001

Procedure

(a) Remove the safety clip(s) and/or tag(s) and close/unlock this (these) circuit breaker(s) as specified after the installation of the FMGC (FIN 1CA1 and FIN 1CA2), refer to Ref. AMM Task 22-83-34-400-001.

E. TEST

CONF 001 003-006

(1) Task A320-A-22-XX-1821-09001-320A-A (A320-A-22-XX-1821-09ZZZ-320Z-A) Test

Job Set-Up Information

Manpower/Resources/Skills

Man-hours	0.30 h
Minimum Number of person	1
Elapsed Time	0.30 h

Referenced Information

Manuals/Drawings	References/Sheets
AMM	Task 22-70-00-610-008 Task 22-83-34-400-001

Procedure

(a) Test of equipment (FIN 1CA1 and FIN 1CA2) removed for access:

1 Do the test after the installation of the FMGCs (FIN 1CA1 and FIN 1CA2), refer to Ref. AMM Task 22-83-34-400-001.

(b) Test of FIN 1CAMD7:

1 If software is uploaded, do the check after the uploading of the FM data, refer to Ref. AMM Task 22-70-00-610-008.

CONF 002

(1) Task A320-A-22-XX-1821-09002-320A-A (A320-A-22-XX-1821-09ZZZ-320Z-A) Test

Job Set-Up Information

Manpower/Resources/Skills

Man-hours	0.30 h
Minimum Number of person	1
Elapsed Time	0.30 h

Referenced Information

Manuals/Drawings	References/Sheets
AMM	Task 22-70-00-610-008 Task 22-83-34-400-001 Task 22-96-00-740-801

Procedure

(a) Test of equipment (FIN 1CA1 and FIN 1CA2) removed for access:

1 Do the test after the installation of the FMGCs (FIN 1CA1 and FIN 1CA2), refer to Ref. AMM Task 22-83-34-400-001.

(b) Test of FIN 1CAMD7:

1 If software is uploaded, do the check after the uploading of the FM data, refer to Ref. AMM Task 22-70-00-610-008.

(c) Test of FIN 1833VT and FIN 1842VT:

1 Read and Decode the Hardware Pin Programming (HPP) of the Flight Augmentation Computers (FACs) and the FMGCs (FIN 1CA1 and FIN 1CA2), refer to Ref. AMM Task 22-96-00-740-801.

a Print the results of the FMGCs (FIN 1CA1 and FIN 1CA2).

b For the FMGCs (FIN 1CA1 and FIN 1CA2) COM and MON, check that the right-most bit of the fourth digit is set to 1.

CONF ALL

F. CLOSE-UP

CONF 001 002 004

(1) Task A320-A-22-XX-1821-08001-740A-A (A320-A-22-XX-1821-08ZZZ-740Z-A) Close-up

Job Set-Up Information

Manpower/Resources/Skills

Man-hours	0.50 h
Minimum Number of person	1
Elapsed Time	0.50 h

Referenced Information

Manuals/Drawings	References/Sheets
AMM	Task 22-70-00-610-008 Task 22-83-00-610-802 Task 22-83-34-400-001

Procedure

(a) Make sure that the work areas are clean and clear of tools and other items of equipment.

(b) Do the close-up procedure as specified in the uploading of the FG data, refer to Ref. AMM Task 22-83-00-610-802.

(c) Do the close-up procedure as specified in the uploading of the FM data, refer to Ref. AMM Task 22-70-00-610-008.

(d) Do the close-up procedure as specified in the installation of the FMGCs (FIN 1CA1 and FIN 1CA2), refer to Ref. AMM Task 22-83-34-400-001.

(e) Put the aircraft back to its initial configuration.

CONF 003 005 006

(1) Task A320-A-22-XX-1821-08002-740A-A (A320-A-22-XX-1821-08ZZZ-740Z-A) Close-up

Job Set-Up Information

Manpower/Resources/Skills

Man-hours	0.50 h
Minimum Number of person	1
Elapsed Time	0.50 h

Referenced Information

Manuals/Drawings	References/Sheets
AMM	Task 22-70-00-610-008 Task 22-83-34-400-001

Procedure

(a) Make sure that the work areas are clean and clear of tools and other items of equipment.

(b) Do the close-up procedure as specified in the uploading of the FM data, refer to Ref. AMM Task 22-70-00-610-008.

(c) Do the close-up procedure as specified in the installation of the FMGCs (FIN 1CA1 and FIN 1CA2), refer to Ref. AMM Task 22-83-34-400-001.

(d) Put the aircraft back to its initial configuration.

CONF ALL

G. ADMINISTRATIVE

(1) Task A320-A-22-XX-1821-08001-90AA-A (A320-A-22-XX-1821-08ZZZ-90AZ-A) Administrative

Procedure

Confirm in the applicable aircraft records that you have completed all the work defined in this Service Bulletin task set as required.

APPENDIX

A. ADVANCE COPY OF AMM TASK

Advance copy of AMM task

For the AMM task(s) which is(are) not available in the latest operator issue, refer to the next page(s).

CONF ALL

TASK 22-83-00-610-802-A
Uploading of the Flight Guidance Data
FIN: 1CA1 1CA2

1. Reason for the Job

To upload the FG data with the FMGC FG operational program disk (1CAMD9). The disk is in the storage box.

2. Job Set-up Information

A. Fixtures, Tools, Test and Support Equipment

REFERENCE	QTY	DESIGNATION
No specific	1	LOADER - DATA, PORTABLE
ALT45200001	1	PORTABLE DATA LOADER

B. Work Zones and Access Panels

ZONE/ACCESS	ZONE DESCRIPTION
210	CKPT,FWD COMPT BHD TO FLT COMPT BULKHEAD

C. Referenced Information

REFERENCE	DESIGNATION
(Ref. 24-41-00-861-002-A).	Energize the Aircraft Electrical Circuits from the External Power
(Ref. 24-41-00-861-002-A-01).	Energize the Aircraft Electrical Circuits from the APU
(Ref. 24-41-00-861-002-A-02).	Energize the Aircraft Electrical Circuits from Engine 1(2)
(Ref. 24-41-00-862-002-A).	De-energize the Aircraft Electrical Circuits Supplied from the External Power
(Ref. 24-41-00-862-002-A-01).	De-energize the Aircraft Electrical Circuits Supplied from the APU
(Ref. 24-41-00-862-002-A-02).	De-energize the Aircraft Electrical Circuits Supplied from the Engine 1(2)
(Ref. 29-10-00-864-003-A).	Depressurize the Blue Hydraulic System
(Ref. 29-23-00-864-001-A).	Depressurize the Green and Yellow Hydraulic Systems after Operation of the PTU
(Ref. 29-24-00-864-001-A).	Depressurize the Yellow Hydraulic System
(Ref. 31-32-00-860-001-A).	Procedure to Get Access to the SYSTEM REPORT/ TEST Menu Page

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3. Job Set-up

SUBTASK 22-83-00-861-050-A

A. Energize the aircraft electrical circuits
Ref. AMM TASK 24-41-00-861-002.

SUBTASK 22-83-00-861-050-A

B. Prepare the media disk(s).
Ref. AMM TASK 24-41-00-861-002.
(1) Get the media disk(s) from the storage box in the cockpit.
(2) Make sure that the Part Number (P/N) written on the media disk(s) is(are) the same as the P/N written in the Airline Configuration Management Document.

(a) If the media disk(s) is(are) not available or not the correct one(s), contact your airline engineering department to get the correct part number(s) applicable to the aircraft.

SUBTASK 22-83-00-480-050-B

C. Installation of the Portable Data Loader (PDL)

(1) On the overhead panel, on DATA LOADING panel 52VU:

(a) Loosen the two middle quick-release fasteners of the access cover and remove the cover.

(b) Connect the cable to the PORTABLE DATA LOADER (ALT45200001) or the LOADER - DATA, PORTABLE and to the DATA LOADER connector (2TD).

SUBTASK 22-83-00-865-051-A

D. Make sure that this(these) circuit breaker(s) is(are) closed:

PANEL	DESIGNATION	FIN	LOCATION
49VU	AUTO FLT/FMGC/1	10CA1	B02
49VU	AUTO FLT/MCDU/1	11CA1	B01
49VU	L/G/LGCIU/SYS1/NORM	1GA	CO9
49VU	AUTO FLT/FMGC/1	10CA1	H08
49VU	AUTO FLT/MCDU/1	11CA1	H07
121VU	DLS&/DLRB/SPLY	5TD	J15
121VU	PDL/PWR/SPLY	14TD	K19
121VU	AUTO FLT/FMGC/2	10CA2	M17
121VU	AUTO FLT/MCDU/2	11CA2	N20
121VU	PDL/PWR/SPLY	14TD	J45
121VU	DLS&/DLRB/SPLY	5TD	J38

SUBTASK 22-83-00-860-054-B

E. Start of the PDL
(1) Start the PORTABLE DATA LOADER (ALT45200001) or the LOADER - DATA, PORTABLE.

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SUBTASK 22-83-00-860-056-A

F. Aircraft Maintenance Configuration
(1) Make sure that the aircraft is in the ground configuration:

ACTION	RESULT
1.On the ECAM control panel: - Push the BLEED key to get the Links Health Status" the status	On the lower ECAM DU: - The BLEED page comes into view. - The white GND indication comes into view in the middle area of the page.

(2) Make sure that hydraulic systems are depressurized
Ref. AMM TASK 29-10-00-864-003, Ref. AMM TASK 29-23-00-864-001 and Ref. AMM TASK 29-24-00-864-001.

SUBTASK 22-83-00-280-052-A

G. Check of the P/N reference of the related FMGC
(1) Get access to the system/report test menu page
Ref. AMM TASK 31-32-00-860-001.

ACTION	RESULT
1.Push the line key adjacent to the AFS indication.	- The AFS menu page comes into view.
2.Push the line key adjacent to the LRU IDENTIFICATION indication.	- The LRU IDENTIFICATION page come into view.
3.Make sure that the FMGC P/N on the LRU IDENTIFICATION page is of the C1320XXXXX type.	
4.Do a check of the three digits that follow "C1320" of the FMGC P/N shown on the LRU IDENTIFICATION page and shown on the LRU IDENT DISPLAYED on the media disk: - If the three digits are the same, continue the procedure. - If one digit is different, the FMGC and the media disk are not compatible, stop the procedure and contact your airline engineering department to get correct part number(s) applicable to the aircraft.	

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Figure ICN-A320-A-22XX1821-A-FAPE3-028BD-A-001-01 Fig.AA Sol.AA SHEET 3/6

ACTION	RESULT
5.Do a check of the two last digits of the FMGC P/N shown on the LRU IDENTIFICATION page and shown on the LRU IDENT DISPLAYED on the media disk: - If the two last digits are different, continue the procedure. - If the two last digits are the same, the software is already uploaded. No uploading is necessary.	

4. Procedure

SUBTASK 22-83-00-970-051-B

A. Uploading of the FG Software to the FMGC (with the PDL with ARINC 615)

NOTE: This procedure is used to upload software to the FG with the Portable Data Loader (PDL).

NOTE: If the PDL has the digital signature check, two messages can come into view:
- One, if the PDL detects that the software is not signed (refer to the PDL user guide). You can ignore this message because it has no effect on the aircraft software uploading.
- One, if the PDL detects an incorrect or corrupted signature (refer to the PDL user guide). In this condition, the software uploading is not possible and it is necessary to use different software because of a possible effect on data security. That is why Airbus recommends that you send a report of the fault to the Aircraft Security Focal Point.

NOTE: This procedure is for FMGC1. For FMGC2, which is identical, use the indications in the parentheses.

ACTION	RESULT
1.Open circuit breaker 10CA1(2).	
2.On the overhead panel, on the Data Loading Selector (DLS): - Set the ON/OFF switch to ON. - Make sure that circuit breaker 5TD and 14TD are closed. - Make sure that the PDL is ready (refer to the PDL user guide).	
3.On the overhead panel, on the DLS: - Push the PREV or NEXT key until you get the indication FG1(2) - Push the SEL CTL key.	On the display of the DLS: - FG1 (2) SELECTED indication comes into view.
4.Close circuit breaker 10CA1(2).	

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CONF ALL

ACTION	RESULT
5.Upload the FG1 software (refer to the PDL user guide). NOTE: If a transfer fault occurs the uploading and if more than during one media disk is necessary, you must do again the uploading from the media disk 1.	
6.On the overhead panel, on the DLS: - Push the SEL CTL key.	On the display of the DLS: - FG1 (2) NOT SELECTED indication comes into view.
7.On the overhead panel, on the DLS: - Set the ON/OFF switch to OFF.	
8.Open circuit breaker 10CA1(2).	

SUBTASK 22-83-00-280-053-A

B. Do two checks of the reference of the FG software loaded in the FMGC.

CAUTION: MAKE SURE THAT THE SOFTWARE INSTALLED AGREES WITH THE AIRLINE CONFIGURATION MANAGEMENT DOCUMENT. THE SYSTEM OPERATIONAL TEST OR BITE TEST DOES NOT DETECT INCORRECT SOFTWARE CONFIGURATION.

(1) Do the check of the reference of the FG software loaded in the FMGC through the LRU IDENTIFICATION:

(a) Get access to the system/report test menu page Ref. AMM TASK 31-32-00-860001.

ACTION	RESULT
1.Close the circuit breaker 10CA1(2).	Make sure that: - FMGC1 (2) is ON - No ECAM message related to FMGC1 (2) is shown - 1FD2 is shown on the Flight mode Annunciator.
2.On the MCDU: - Push the line key adjacent to the AFS indication.	On the MCDU: - The AFS menu page come into view.
3.Push the line key adjacent to the LRU IDENTIFICATION indication.	- The LRU IDENTIFICATION page comes into view.
4.On the MCDU: - Make sure that the P/N of the FMGC shown on the LRU IDENTIFICATION page is the same as the LRU IDENT P/N on the media disks.	The P/N given on this page is the FG software P/N.
5.Push the MCDU MENU mode key.	- The MCDU MENU page comes into view.

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(2) Do the check of the reference of the FG software loaded in the FMGC through the A/C Config Report:

ACTION	RESULT
1.On the MCDU: - Push the line key adjacent to the CFDS indication. - Push the NEXT key. - Push the AVIONICS CONFIG REPORT KEY. - Enter 22 (the applicable ATA number) on the scratchpad. - Select START key.	On the MCDU: - The CFDS menu page comes into view.
2.Make sure that the P/N of the FMGC shown is the same as the LRU IDENT P/N on the media disks.	The P/N given on this page the FG software P/N.

SUBTASK 22-83-00-860-055-B

C. Stop of the PDL

(1) Stop the PORTABLE DATA LOADER (ALT45200001) or the LOADER - DATA, PORTABLE (refer to the PDL user guide).

SUBTASK 22-83-00-860-055-B

D. Removal of the PDL

(1) On the overhead panel, on DATA LOADING panel 52VU:

(a) Disconnect the cable from the PORTABLE DATA LOADER (ALT45200001) or the LOADER - DATA, PORTABLE and from the DATA LOADER connector (2TD).

(b) Install the access cover and tighten the two middle quick-release fasteners.

5. Close-up

SUBTASK 22-83-00-860-053-A

A. Put the aircraft back to its initial configuration.

(1) On the MCDU, push the MCDU MENU key to get the MCDU MENU page.

(2) Fully decrease the brightness of the MCDU screen (display off).

(3) Put the media disk back into the cockpit storage-box.

SUBTASK 22-83-00-862-050-A

B. De-energize the aircraft electrical circuits
Ref. AMM TASK 24-41-00-862-002.

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B. GLOSSARY

Glossary

ACRONYM	FULL FORM
ADIRS	Air Data/Inertial Reference System
ADIRU	Air Data/Inertial Reference Unit
AP/FD	Autopilot/Flight Director
ATS	Air Traffic Service
BITE	Built-In Test
CD	Compact Disk
CRZ	Cruise
ECAM	Electronic Centralized Aircraft Monitoring
FG	Flight Guidance
FM	Flight Management
FMGC	Flight Management and Guidance Computer
FMA	Flight Mode Annunciator
FMS	Flight Management System
F-PLN	Flight Warning Computer
FWC	Flight Warning Computer
GA	Go-Around
GND	Ground
GPIRS	Global Positioning and Inertial Reference System
GPS	Global Positioning System
GS	Ground Speed
HDG	Heading
HUD	Head-Up Display
INIT	Initial
IR	Inertial Reference
LGCIU	Landing Gear Control and Interface Unit
MAG VAR	Magnetic Variation
MCDU	Multipurpose Control & Display Unit
MMR	Multi-Mode Receiver
NDB	Non-Directional Beacon
NEO	New Engine Option
OEB	Operations Engineering Bulletin
OPC	Operational Program Configuration
PDB	Performance Database
PN	Part Number
PROT	Protection
ROM	Read Only Memory
ROPS	Runway Overrun Prevention System
SBAS	Satellite Based Augmentation System

ACRONYM	FULL FORM
SLS	Satellite Landing System
STD	Standard
TA	Traffic Advisory
T2CAS	Traffic and Terrain Collision Avoidance System
TCAP	TCAS Resolution Advisory Prevention
TCAS	Traffic Alert and Collision Avoidance System
TEMP	Temperature
TFU	Technical Follow-up
TOGA	Takeoff/Go Around
TROPO	Tropopause
TRK	Track
VS	Virtual Splice
WAI	Wing Anti-Ice

C. CONFIGURATION DEFINITION TABLE

Configuration Definition Table

CONF ALL

STATUS OF AIRCRAFT BEFORE ACCOMPLISHMENT
OF SERVICE BULLETIN No A320-22-1821

CONFIG	MOD No 168555P21225	MOD No 163903P20602
001		
002		
003		X
004	X	
005		X
006	X	X

NOTE:
"X" IS USED FOR MODIFICATIONS EMBODIED BEFORE ACCOMPLISHMENT
OF THIS SERVICE BULLETIN.

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Figure ICN-A320-A-22XX1821-A-FAPE3-02BFX-A-002-01 Fig.AB Sol.AA SHEET 1/1

D. RETROFITTED MODIFICATIONS

Retrofitted Modifications

MOD No	CONF 001	CONF 002	CONF 003	CONF 004	CONF 005	CONF 006
167616P20606	X	X	X	X	X	X
163903P20602	X	X		X		
25612P21896		X				

NOTE: “X” is used for the retrofitted modifications embodied before accomplishment of this Service Bulletin.

E. REPORTING SHEET

TITLE:	AUTO FLIGHT - FLIGHT MANAGEMENT AND GUIDANCE COMPUTER (FMGC) - INSTALL FM HONEYWELL H4 ASSOCIATED TO FG PC20 (NEO)

MODIFICATION No.:	163903P20602 167616P20606 25612P21896

(1) SB Reporting status

This Service Bulletin will only be incorporated into affected customized Maintenance and Flight Operations Products if it is duly reported to Airbus.

(2) GENERAL information

The SB Reporting policy is published in ISI 00.00.00135. This document provides information regarding: the SB Reporting means and benefits, the update of customized Maintenance Products and customized Flight Operations Products.

If this Service Bulletin has an operational impact, refer to paragraph "Flight Operations Products" for further information on the update of affected Flight Operations Products.

(3) SB Reporting procedure

Standard practice to report SB is to use the online reporting application on AirbusWorld.

Refer to ISI 00.00.00179:

- For complete information on reporting means to Airbus, Question 2 "What are the standard practices for SB Reporting?"
- If this SB requires previous or simultaneous accomplishment of other SBs, Question 3 "What about the reporting of prerequisite Service Bulletins?"

NOTE: ISI 00.00.00179 covers all the frequently asked questions about SB Reporting. It is revised on a regular basis.

F. QUALITY PERCEPTION FORM

Use this form to tell us what is your perception of the quality of this Service Bulletin.

The reported data that you provide us will be used to analyse areas of difficulties and to take corrective action to further improve the quality of our Service Bulletin.

We thank you for the time you have taken in completing this form.

Quality rating of this SB	4	3	2	1
Quality rating of the Accomplishment Instructions	4	3	2	1
Quality rating of the Illustrations	4	3	2	1
Is this SB easy to understand ?	Y / N			

NOTE: Please rate on a scale of 1 to 4, with 4 being the highest score

If you have difficulties in the accomplishment of this SB please quote below the area(s) and give a short description of the issue.

	Planning		Material		Instructions
X	Applicability	X	Tooling	X	Preparation
X	Reason	X	List of Materials Operator Supplied	X	Mod/Inspection
X	Manpower	X	Kit content	X	Test
X	References	X	Re-identification	X	Close-up
X	Publication			X	Illustrations
X	Industry Support				

Comments :

Operator : Date :

Name/Title

Please return this form to :

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Or via your Resident Customer Support Office.