
SERVICE BULLETIN**N° 189-185****DATE:** April 9, 2019**REV. :** F - October 25, 2021

TITLE**ATA 46 - INSTALLATION OF AVIONIC FLIGHT SOFTWARE RELEASE PHASE 5.0****REVISION LOG**

Helicopters already compliant with previous issues of this Service Bulletin do not need any additional action.

Revision A has been issued to add retromod P/N 8G4600P00611 to modify the electrical connection between DTD and WOW switch. It has the purpose to improve WOW functionality on AW189 helicopters.

This retromod is required only when replacing DTD P/N 4F4620V00551 with the new P/N 8G4620V00451.

Revision B has been issued to add an applicability note for ECDU configuration file and REPU configuration table. These two software must be updated only for helicopters equipped with FIPS kit P/N 8G3000F00111 (Extended Range cabin), FIPS kit P/N 8G3000F00311 (Standard Cabin), LIPS kit P/N 8G3000F00211 or 8G3000F00212 or ice detector installation kit P/N 8G3080F00111 and Software Phase 3.0.

Revision C has been issued to replace the existing ADFX configuration switch software P/N 8G4640AO0004 with a new one P/N 8G4640AO0007. The new software has been introduced to correct a bug identified in the previous issue. Moreover, the "Special Tools" table has been removed. The required tools are already present in the applicable AMP Data Modules.

An appropriate entry should be made in the aircraft log book upon accomplishment.
If ownership of aircraft has changed, please, forward to new owner.

Revision D has been issued to provide the necessary instruction on how to perform the setup procedure of AHRU1 and AHRU2 calibration PROM.

Revision E has been issued to introduce the installation of TB150-5 on helicopters S/N 49007 and 49008, required to perform the WOW DTD retromod P/N 8G4600P00611.

Required Materials, Accomplishment Instructions and Figures sections have been modified accordingly to add the TB150-5 P/N A593A-L02 and the related electrical connections.

Revision F has been issued to introduce the updated Cabin PC application software release 1.6.3 P/N 8G4620FS0106. "Materials Information" and "Accomplishment Instructions" sections have been updated accordingly.

1. PLANNING INFORMATION

A. EFFECTIVITY

All AW189 helicopters equipped with avionic flight software release Phase 3.0 or Phase 4.0.

B. COMPLIANCE

At Customer's option.

C. CONCURRENT REQUIREMENTS

- For AW189 helicopters equipped with avionic flight software release Phase 3.0, AW189 Electronic Engine Control Unit Software (EECU) Version 5.00 (refer to GE SB 74-0003 R00) must be installed together with avionic flight software release phase 5.0.
- In accordance with EASA Rules, this change affects the Flight Crew Operational Suitability Data (OSD); therefore the flight crew to operate helicopter equipped with avionic software phase 5.0 shall be trained i.a.w. OSD-FCD. The latest issue of the OSD-FCD publication is available at "MyPublication" section of Leonardo AW Customer Portal.

D. REASON

This Service Bulletin is issued in order to provide the necessary instruction on how to perform the Software release Phase 5.0 installation.

E. DESCRIPTION

This Service Bulletin provides instructions to install release Phase 5.0 installation software certified by Leonardo Helicopter.

The avionic flight software phase 5.0 introduces change and new functions respect to the approved configuration software 4.0.

The following new functionalities will be introduced:

- AFCS changes:
 - Ground Speed Mode (GSPD)
 - Deceleration Mode (DCL)
 - Lateral Ground Speed Control or Wings Level Control in Transition Up mode (TU-WLVL)
 - Autonomous Ground Speed Mode (NGSPD)
 - Autonomous Localizer Mode (NLOC)

- Autonomous Glideslope Mode (NGS)
- Flight Management System (FMS) in AMMS changes:
 - OIL RIG APPROACH (optional, upon request)
 - RNP APCH with LPV/LP Minima
 - RNP AR APCH approach with RNP 0.3 Minima
 - RNP 0.3 Rotorcraft Operation (RNP 0.3 "All Phases of Flight")
 - SAR Patterns Feasibility
 - SAR Patterns in NGSPD (FMS Ground Speed) mode
- Vehicle Monitoring System (VMS) in AMMS changes:
 - VMS Problem Report Fixes
- Cockpit Display System (CDS) changes:
 - Digital Clock presentation
 - Integration with FMS for the LPV function
 - DMAP upgrade
 - HTAWS upgrade
 - TCAS/XPDR management
- SSEPMS (Solid State System) changes:
 - Minor Modification to ECDU pages
 - Problem Report Fixes

For helicopters already equipped with avionic flight software phase 4.0 or phase 3.0, the new software release phase 5.0 will affect only software changes to the following components:

- AMMS application software (includes VMS and FMS)
- CDS application software
- AFCS application software
- SSEPMS (Solid State System)

For helicopters equipped with software phase 3 and FIPS kit, moreover to the previously listed software changes, new cable assemblies are required to activate the Modification of ECDU Ice protection Page.

F. APPROVAL

The technical content of this Service Bulletin is approved under the authority of DOA nr. EASA.21.J.005. For helicopters registered under other Aviation Authorities, before applying the Service Bulletin, applicable Aviation Authority approval must be checked within Leonardo Helicopters customer portal.

EASA states mandatory compliance with inspections, modifications or technical directives and related time of compliance by means of relevant Airworthiness Directives.

If an aircraft listed in the effectivity embodies a modification or repair not LHD certified and affecting the content of this Service Bulletin, it is responsibility of the Owner/Operator to obtain a formal approval by Aviation Authority having jurisdiction on the aircraft, for any adaptation necessary before incorporation of the present Service Bulletin.

G. MANPOWER

To comply with this Service Bulletin the following Maintenance-Man-Hours (MMH) are deemed necessary:

- eight (8) MMH for helicopters not equipped with FIPS kit or equipped with kit FIPS and avionic flight software release Phase 4.0
- sixteen (16) MMH for helicopters equipped with DTD P/N 4F4620V00551 and not equipped with FIPS kit or equipped with kit FIPS and avionic flight software release Phase 4.0.
- seventy (70) MMH for helicopters equipped with FIPS kit and avionic flight software release Phase 3.0

Maintenance-Man-Hours are based on hands-on time and can change with personnel and facilities available.

H. WEIGHT AND BALANCE

N.A.

I. REFERENCES

1) PUBLICATIONS

- AW189 Software Handbook P/N 189G0000X007

<u>DATA MODULE</u>	<u>DESCRIPTION</u>	<u>PART</u>
DM01 89-A-00-20-00-00A-120A-A	Helicopter on ground for a safe maintenance.	-
DM02 89-A-22-11-08-00A-752A-A	Flight control computer – Data loading.	-
DM03 89-A-24-81-00-00A-752A-A	SSEPMS - Remote electric power units (REPU) - Data loading	-
DM04 89-A-24-81-00-00B-752A-A	SSEPMS - Electrical control display units (ECDUs) - Data	-

<u>DATA MODULE</u>	<u>DESCRIPTION</u>	<u>PART</u>
	loading	
DM05	89-A-34-61-00-00A-752A-A Digital map system kit - Navigation maps - Data loading	-
DM06	89-A-46-21-00-00A-750A-A Aircraft mission management system - Load software procedure	-
DM07	89-A-46-21-00-00A-752A-A Aircraft mission management system - Data loading	-
DM08	89-A-46-21-05-00A-750A-A Data transfer device (DTD) - Load software procedure	-
DM09	89-A-46-21-05-00A-752A-A Data transfer device (DTD) - Data loading	-
DM10	89-A-46-31-00-00A-750A-A Cockpit display system - Load software procedure	-
DM11	89-A-46-21-05-00A-520A-A Data transfer device (DTD) - Remove procedure	-
DM12	89-A-46-21-05-00A-720A-A Data transfer device (DTD) - Install procedure	-
DM13	89-A-46-32-03-00A-750A-B Cabin PC - Load software procedure	-
DM14	89-B-46-22-06-00A-750A-A Cabin PC - Load software procedure	-
DM15	89-A-34-22-03-00A-75BA-A AHRU1 calibrated PROM - Setup procedure	-
DM16	89-A-34-22-07-00A-75BA-A AHRU2 calibrated PROM - Setup procedure	-
DM17	89-A-20-10-17-00A-622A-A Electrical contacts – Crimp	
DM18	89-A-20-10-06-04A-720A-A Sleeve marker – Install procedure	

2) ACRONYMS

ADI	Attitude Director Indicator
AFCS	Aircraft Flight Control System
AFDX	Avionic Full Duplex Ethernet
AHRU	Attitude Heading and Reference Unit
AMMC	Aircraft Mission Management Computer
AMMS	Aircraft & Mission Management System
AMP	Aircraft Maintenance Publication
CDS	Cockpit Display System
CRC	Cyclic Redundancy Check
DCL	Deceleration Mode
DMAP	Digital Map
DM	Data Module
DMG	Digital Map Generator

DMGSW	Digital Map Generator Software
DOA	Design Organization Approval
DTD	Data Transfer Device
ECDU	Electrical Control and Display Unit
FCD	Flight Crew Data
FIPS	Full Ice Protection System
FMS	Flight Management System
GA	Go-Around
GSPD	Ground Speed Mode
HUMS	Health and Usage Monitoring System
HTAWS	Helicopter Terrain Awareness and Warning System
ICS	Intercommunication system.
IPD	Illustrated Part Data
IPS	Ice Protection System
LHD	Leonardo Helicopter
MCDU	Multifunction Control Display Unit
MMH	Maintenance Man Hour
NGS	Autonomous Glideslope Mode
NGSPD	Autonomous Ground Speed Mode
NLOC	Autonomous Localizer Mode
OPSW	Operational Software
OSD	Operational Suitability Data
P/N	Part Number
REPU	Remote Electrical Power Unit
RFM	Rotorcraft Flight Manual
SAR	Search and Rescue
SB	Service Bulletin
STBY	Stand-By
SW	Software
SSEPMS	Solid State Electrical Power Management System
TB	Terminal Board
TCAS	Traffic Alert and Collision Avoidance System
TU-WLVL	Lateral Ground Speed Control or Wings Level Control in Transition Up mode.
VMS	Vehicle Monitoring System
XPDR	Transponder

3) ANNEX

N.A.

J. PUBLICATIONS AFFECTED

AW189 Rotorcraft Flight Manual (RFM)

AW189 Illustrated Part Data (IPD)

K. SOFTWARE ACCOMPLISHMENT SUMMARY

Software to be updated (for Software applicability refer to notes paragraph in Required Materials Section):

DMG SW P/N 4F4620VM0201

AFCS operational software P/N 8G2210AS0500

AMMC operational software 5.5.5 P/N 8G4620AA0500

DTD software P/N 8G4620VS0200

CDS operational software P/N 8G4630AS0500

AFDX configuration switch P/N 8G4640AO0007

ECDU Configuration File P/N 8G462AC06XX

Option file for AMMC P/N 8G4620AO10XX

Option file for CDS P/N 8G4630AO10XX

REPU Configuration File P/N 8G2460AS0400

DMAP P/N TA00AWHL-XXXXXXXXXX

Cabin PC application software release 1.6.3 P/N 8G4620FS0106

Part numbers of Option files, ECDU configuration files and digital maps are depending upon helicopter configuration that can be different from the one reported in relevant helicopter "Commissa di Vendita". Customer must contact AW189 Product Support Engineering (engineering.support.lhd@leonardocompany.com) to request the correct files at least three months in advance from the scheduled embodiment of this Service Bulletin. In order to define the correct files to be installed on the helicopter, the following table has to be compiled by the customer with configuration file P/N.

<u>SW DESCRIPTION</u>	<u>S/N HELICOPTER</u>	
	<u>P/N SW INSTALLED</u> <u>(COMPILED BY CUSTOMER)</u>	<u>P/N SW TO BE ORDERED</u> <u>(COMPILED BY LEONARDO COMPANY)</u>
AFCS OPERATIONAL SW		
AFDX CONFIG SWITCH		
AMMC DMG SW (if installed)		
AMMC OPSW		
AMMC OPTION FILE		
AMMC VAM SW		
CDS OPTION FILE		
CDS OPERATIONAL SW		
ECDU CONFIGURATION FILE		
DIMMER CONFIG FILE		
ECDU OP SW		
REPU CONFIG TABLE		
ICS SETTING FILE		
DMAP SOFTWARE		
DTD SOFTWARE		

2. MATERIAL INFORMATION

A. REQUIRED MATERIALS

1) PARTS

#	P/N	ALTERNATIVE P/N	DESCRIPTION	Q.TY	LVL	NOTE	LOG P/N
1	8G4600A00116		SOFTWARE INSTALLATION PHASE 5.0	REF	.		-
2	8G4640A00116		AVIONICS FLIGHT SOFTWARE INSTALLATION	REF	..		-
3	4F4620VM0201		DMGSW	1	...	(1)	-
4	8G2210AS0500		AFCS operational software	1	...	(1)	-
5	8G4620AA0500		AMMC operational software 5.5.5	1	...	(1)	-
6	8G4620VS0200		DTD software	1	...	(1)	-
7	8G4630AS0500		CDS operational software	1	...	(1)	-
8	8G4640AO0007		AFDX configuration switch	1	...	(1)	-
9	8G4620AO10XX		Option File for AMMC	1	...	(1)	-
10	8G4630AO10XX		Option File for CDS	1	...	(1)	-
11	TA00AWHL-XXXXXXXXXX	DMG6845XXXXXXXXXXXX	Digital Map	1	.		-
12	8G4600A00316		SSEPMS SOFTWARE INSTALLATION	REF	..		-
13	8G4620AC06XX		ECDU Configuration file	1	...	(1)	-
14	8G2460AS0400		REPU configuration file	1	...	(1)	-
15	8G1130A40611		SOFTWARE INSTALLATION PHASE 5.0 PLACARD		..		-
16	AW002DBHS077E11D		Placard	1	...		-
17	8G2420A01511		IPS GEN CURRENT INSTL STD-CABIN	REF	.		-
18	8G9A21B35401	8G9A21B35401A1R	IPS GEN MONITORING C/A (A1B354)	1	..		189-149L2
19	8G9B21B43201	8G9B21B43201A1R	IPS GEN MONITORING C/A (B1B432)	1	..		189-149L2
20	8G2420A01611		IPS GEN CURRENT INSTL U/B	REF	.		-
21	8G9A21B35401	8G9A21B35401A1R	IPS GEN MONITORING C/A (A1B354)	1	..		189-149L3
22	8G9B21B43202		IPS GEN MONITORING C/A (B1B432)	1	..		189-149L3
23	8G4620FS0106		Cabin PC application software release 1.6.3	1	.	(1)	-
24	8G4600P00611		WOW DTD RETROMOD	REF	.		-
25	A523A-A02		Contact	4	..		189-103L2
26	M81824/1-1		Splice	2	..		189-103L2
27	A556A-T22		Wire	4 m	.		189-103L2
28	A579A02-002		Marker sleeve	4	.		189-103L2
29	8G4620V00451		Data transfer device	1	.		189-103L2
30	A556A-T22		Wire	2.5 m	.	(11)	189-185L1

#	P/N	ALTERNATIVE P/N	DESCRIPTION	Q.TY	LVL	NOTE	LOG P/N
31	A522A08A		Modules Terminal Block Guide	1	.	(11)	189-185L1
32	A523A-A02		Electrical Contact	1	.	(11)	189-185L1
33	A523A-A05		Electrical Contact	1	.	(11)	189-185L1
34	A593A-L02		Terminal Board	1	.	(11)	189-185L1
35	NAS1802-06-6		Screw	2	.	(11)	189-185L1
36	NAS1149DN616J		Washer	2	.	(11)	189-185L1

2) CONSUMABLES

N.A.

3) LOGISTIC MATRIX

In order to apply this Service Bulletin, the following Logistic P/N can be ordered in accordance with the applicable notes:

LOGISTIC P/N	Q.TY (PER HELO)	NOTE	PART
AW002DBHS077E11D	1	(2)	-
189-149L2	1	(4)	-
189-149L3	1	(5)	-
4F4620VM0201	1	(1)(2)	-
8G2210AS0500	1	(1)(2)	-
8G4620AA0500	1	(1)(2)	-
8G4620VS0200	1	(1)(2)	-
8G4630AS0500	1	(1)(2)	-
8G4640AO0007	1	(1)(2)	-
8G2460AS0400	1	(1)(6)	-
8G4620FS0106	1	(1)(7)	-
8G4620AC06XX	1	(1)(3)(9)	-
8G4620AO10XX	1	(1)(3)(8)	-
8G4630AO10XX	1	(1)(3)(8)	-
189-103L2	1	(10)	-
TA00AWHL-XXXXXXXXXX	1	(3)	-
189-185L1	1	(11)	-

NOTE

- (1) This software will not be supplied; it will be available, along with relevant certification document, in "My Software" sub-section of Leonardo AW Customer Portal website <https://leonardo.agustawestland.com>.
- (2) Applicable to all AW189 helicopters.
- (3) Refer to Software Accomplishment Summary section.
- (4) Applicable only to Standard Cabin helicopters (S/N 49xxx) equipped with FIPS kit P/N 8G3000F00311 and avionic flight software release Phase 3.0. Same Logistic P/N of SB189-149 Avionic flight software Phase 4.0.
- (5) Applicable only to Extended Range helicopters (S/N 89xxx or S/N 92xxx) equipped with FIPS kit P/N 8G3000F00111 and avionic flight software release Phase 3.0. Same Logistic P/N of SB189-149 Avionic flight software Phase 4.0.

- (6) REPU configuration table is required only to helicopters equipped with FIPS kit P/N 8G3000F00111 (Extended Range cabin), FIPS kit P/N 8G3000F00311 (Standard Cabin), LIPS kit P/N 8G3000F00211 or 8G3000F00212 or ice detector installation kit P/N 8G3080F00111 and Software Phase 3.0.
- (7) Applicable only to helicopters equipped with mission console system kit P/N 8G4620F00211 or P/N 8G4620F00411.
- (8) Applicable only to helicopters that will install the OIL RIG APPROACH functionality.
- (9) ECDU configuration file is required only to helicopters equipped with FIPS kit P/N 8G3000F00111 (Extended Range cabin), FIPS kit P/N 8G3000F00311 (Standard Cabin), LIPS kit P/N 8G3000F00211 or 8G3000F00212 or ice detector installation kit P/N 8G3080F00111 and Software Phase 3.0.
- (10) Applicable only to helicopters equipped with DTD P/N 4F4620V00551.
- (11) Applicable only to helicopters S/N 49007 and 49008.

B. SPECIAL TOOLS

Refer to ITEP for the special tools required to comply with the AMP DM referenced in the accomplishment instructions.

C. INDUSTRY SUPPORT INFORMATION

Product Enhancement.

3. ACCOMPLISHMENT INSTRUCTIONS

GENERAL NOTES

- a) Place an identification tag on all components that are re-usable, including the attaching hardware that has been removed to gain access to the modification area and adequately protect them until their later re-use.
 - b) Shape the cables in order to prevent interference with the structure and the other existing installations, using where necessary suitable lacing cords.
1. In accordance with AMP DM 89-A-00-20-00-00A-120A-A, prepare the helicopter on ground for a safe maintenance. Disconnect the battery, all electrical power sources and/or the external power supply.

NOTE

Perform the following step 2 only if the helicopter is equipped with avionic flight software release Phase 3.0 and kit FIPS P/N 8G3000F00111 or P/N 8G3000F00311.

2. Perform the IPS GEN CURRENT INSTL (std-cabin) P/N 8G2420A01511 or IPS GEN CURRENT INSTL U/B (Extended Range Cabin) P/N 8G2420A01611 as described in the following procedure:
 - 2.1 With reference to Figures 1 to 3 route the following cables following the existing routes unless otherwise indicated on the figures:
 - 8G9A21B35401 IPS GEN MONITORING C/A (A1B354)
 - 8G9B21B43201 IPS GEN MONITORING C/A (B1B432) (only std-cabin helicopters).
 - 8G9B21B43202 IPS GEN MONITORING C/A (B1B432) (only Extended Range helicopters).
 - 2.2 With reference to Figure 4 wiring diagram, perform electrical connection of the cable assy A1B354 to connector A2P4 and to connector P114.
 - 2.3 With reference to Figure 4 wiring diagram, perform electrical connection of the cable assy B2B432 to connector J114 and to connector A333P1.

NOTE

Make sure that on the Computer you have the following file:

- Aircraft Flight Control System (AFCS) software;
- Aircraft Mission Management Computer (AMMC) software;
- CDS Operational Software;
- AMMC option file (if required)
- CDS option file (if required)
- DMG Software;
- DTD Software;
- AFDX Configuration switch;
- Helo Perf Database;
- ECDU Configuration File;
- Navigation (Jeppesen) database

3. Download all the HUMS data from AMMC to DTD.
4. Upload the HUMS data to Heliwise.
5. Require to change the Heliwise software alignment to the HUMS Support Group opening a Technical Query via Heliwise Query Management function.
6. Check the P/N of the installed DTD. If the DTD is P/N 4F4620V00551, perform the following procedure to replace the existing DTD with the new one:
 - 6.1 For Helicopters S/N 49007 and 49008 only, perform the following procedure:
 - 6.1.1 With reference to Figure 8 View A, get access to the RH aft side of the instrument panel and temporarily remove the terminal boards from the modules terminal block guide.
 - 6.1.2 With reference to Figure 8 View A, remove and discard the existing modules terminal block guide.
 - 6.1.3 With reference to Figure 8 View B, install the modules terminal block guide P/N A522A08A by means of n°2 screws P/N NAS1802-06-6 and n°2 washers P/N NAS1149DN616J.
 - 6.1.4 With reference to Figure 9 wiring diagram (BECOMES), cut n°1 wire P/N A556A-T22 of adequate length to allow the installation from the TB1026 to the TB150-5 P/N A593A-L02.
 - 6.1.5 With reference to Figure 9 wiring diagram (BECOMES), install the electrical contact P/N A523A-A05 on TB1026 and the electrical contact P/N A523A-A02 on TB150-5.

- 6.1.6 In accordance with AMP DM 89-A-20-10-17-00A-622A-A and with reference to Figure 9 wiring diagram (BECOMES), perform the electrical connections from the TB1026 to TB150-5.
- 6.1.7 In accordance with AMP DM 89-A-20-10-06-04A-720A-A and with reference to Figure 9 wiring diagram (BECOMES), mark the cable so obtained as 105 by means of marker sleeve.
- 6.1.8 With reference to Figure 8 View A, install the terminal board TB150-5 P/N A593A-L02 on the modules terminal block guide P/N A522A08A.
- 6.1.9 With reference to Figure 8 View A, re-install the existing terminal boards previously removed.
- 6.1.10 Perform a pin-to-pin continuity check of the electrical connections made.
- 6.2 In accordance with AMP DM 89-A-46-21-05-00A-520A-A, remove existing DTD P/N 4F4620V00551 from the helicopter.
- 6.3 With reference to Figure 7 wiring diagram, perform the DTD upgrade retromod P/N 8G4600P00611 as described in the following procedure:
 - 6.3.1 From the TB1014, disconnect the pin 1A and the pin 2A; connect together the wire 4600-101-22G and 4600-300-22G by means of n°1 splice P/N M81824/1-1. Mark the splice as SP4600-001.
 - 6.3.2 Cut a piece of wire P/N A556A-T22 at adequate length between TB1014 and TB150-5, following existing cable routing; crimp on each wire end a contact P/N A523A-A02 and connect the pin 1A of TB1014 with pin J of TB150-5. Install n°2 marker sleeve A579A02-002, one near each TB, and mark the wire as 4600-005.
 - 6.3.3 From the TB1015, disconnect the pin 1B and the pin 2B; connect together the wire 4600-294-22G and 4600-299-22G by means of n°1 splice P/N M81824/1-1. Mark the splice as SP4600-002.
 - 6.3.4 Cut a piece of wire P/N A556A-T22 at adequate length between TB1015 and TB137-5, following existing cable routing; crimp on each wire end a contact P/N A523A-A02 and connect the pin 2B of TB1015 with pin H of TB137-5. Install n°2 marker sleeve A579A02-002, one near each TB, and mark the wire as 4600-006.
- 6.4 In accordance with AMP DM 89-A-46-21-05-00A-720A-A, install the new DTD P/N 8G4620V00451 to the helicopter.
7. In accordance with applicable steps of the AMP DM 89-A-46-21-05-00A-750A-A, perform the upload of the DTD SW P/N 8G4620VS0200.
8. In accordance with AMP DM 89-A-22-11-08-00A-752A-A, perform the upload of the

Aircraft Flight Control System (AFCS) software P/N 8G2210AS0500 and verify the CRC is 0xAE6788C9.

9. In accordance with applicable steps of the AMP DM 89-A-46-21-00-00A-750A-A, perform the upload of the following software:
 - 9.1 Install Aircraft Mission Management Computer (AMMC) OPWS 5.5.5 software P/N 8G4620AA0500. Verify that the CRC is 0x4710aa16 for AMMC software. Verify that helicopter tail number on MCDU and helicopter serial number on DTD are correct.
 - 9.2 If helicopter is equipped with OIL RIG APPROACH functionality, install relevant AMMC option file.
 - 9.3 Install DMGSW P/N 4F4620VM0201. Verify that the CRC is 0x2f4af052.
10. In accordance with applicable steps of the AMP DM 89-A-46-31-00-00A-750A-A, perform the upload of the following software:
 - 10.1 Install CDS Operational Software P/N 8G4630AS0500. Verify that the CRC is 5E01 for CDS software.
 - 10.2 If helicopter is equipped with OIL RIG APPROACH functionality, install relevant CDS option file.
 - 10.3 Install AFDX Configuration Switch P/N 8G4640AO0007.
11. In accordance with applicable steps of the AMP DM 89-A-46-21-00-00A-752A-A perform the upload of the HELO PERF database P/N HELO_PERF_021 available on Leonardo website: <https://leonardo.agustawestland.com>. Verify that the CRC is 0x35C48DE3.

NOTE

Perform the following Steps 12 and 13 only if helicopter is equipped with FIPS kit P/N 8G3000F00111 or 8G3000F00311, LIPS kit P/N 8G3000F00211 or 8G3000F00212 or ice detector installation kit P/N 8G3080F00111 and Software Phase 3.0.

12. In accordance with applicable steps of AMP DM 89-A-24-81-00-00B-752A-A perform the ECDU configuration file (PM) - Load procedure.
13. In accordance with applicable steps of AMP DM 89-A-24-81-00-00A-752A-A, perform the upload of the REPU Configuration Table P/N 8G2460AS0400. Verify that the CRC is D6689BE5.

CAUTION

To install the Navigation (Jeppesen) Database download from Leonardo website <http://leonardo.agustawestland.com> the updated version of the Navigation Database.
STDDB.0305.xxxx.xxxxxxxxxxxxxxxxxxxx applicable to Software release Phase 5.0 only.

14. In accordance with Maintenance Publication DM 89-A-46-21-05-00A-752A-A, perform the upload of the Navigation Jeppesen database.

NOTE

Perform the following step only if the helicopter is equipped with Digital Map kit P/N 8G3460F00111.

15. In accordance with applicable steps of AMP DM 89-A-34-61-00-00A-752A-A, perform the upload of the applicable DMAP.

NOTE

Perform the following step only if the helicopter is equipped with mission console system kit P/N 8G4620F00211 or P/N 8G4620F00411.

16. In accordance with applicable steps of AMP DM 89-A-46-32-03-00A-750A-B or DM 89-B-46-22-06-00A-750A-A, perform the Cabin PC application software P/N 8G4620FS0106 installation.
17. With reference to Figure 5, replace existing decal with decal P/N AW002DBHS076E11D "SOFTWARE PHASE 5.0 INSTALLED".
18. In accordance with AMP DM 89-A-34-22-03-00A-75BA-A perform the setup procedure of AHRU1 calibration PROM.
19. In accordance with AMP DM 89-A-34-22-07-00A-75BA-A perform the setup procedure of AHRU2 calibration PROM.
20. Remove all the tools and other items from the work area.
21. Return the helicopter to flight configuration and record for compliance with this Service Bulletin on the helicopter logbook.
22. Send the attached compliance form to the following mail box:

engineering.support.lhd@leonardocompany.com

As an alternative, gain access to My Communications section on Leonardo WebPortal and compile the "Service Bulletin Application Communication".

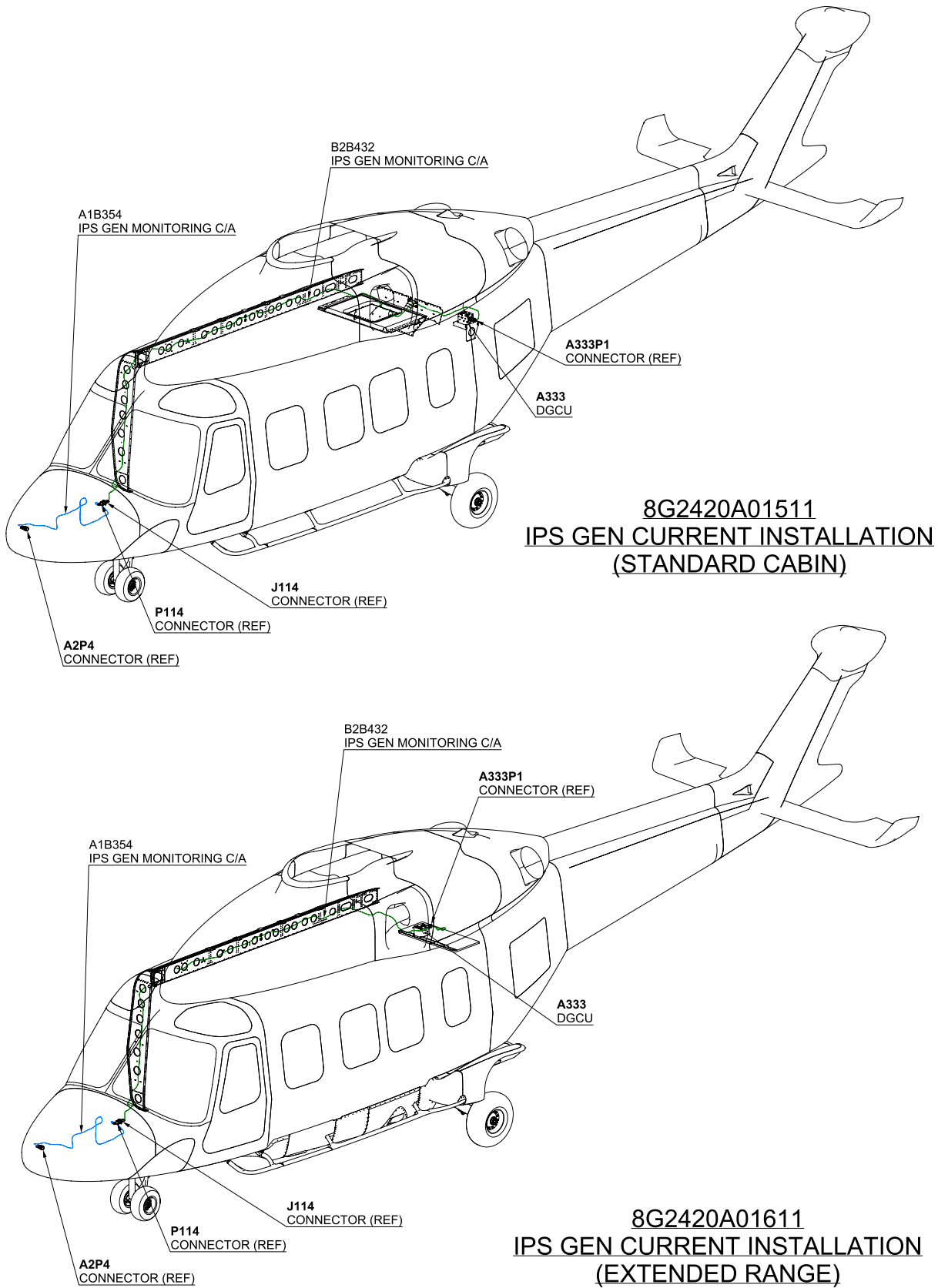


Figure 1

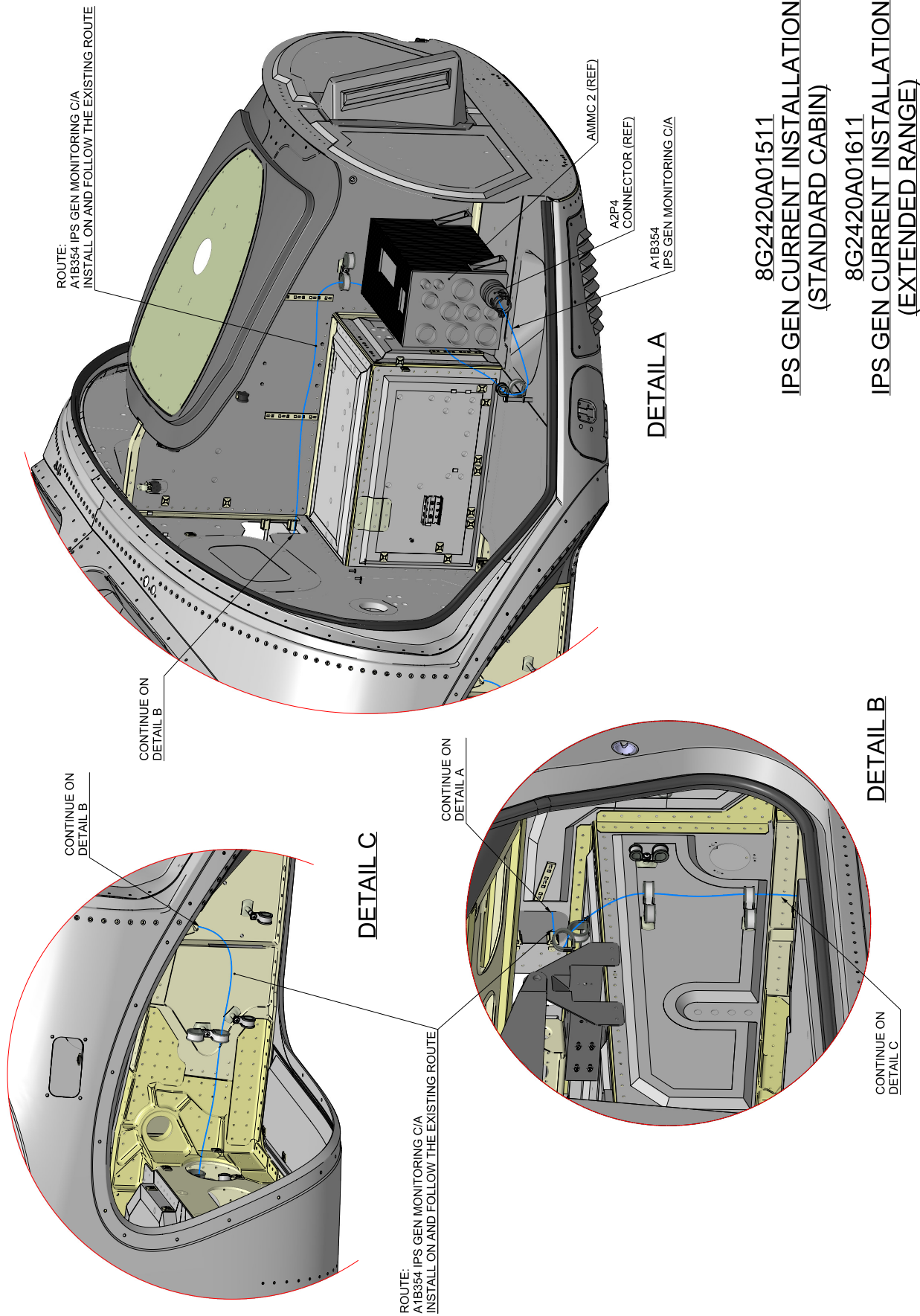


Figure 2

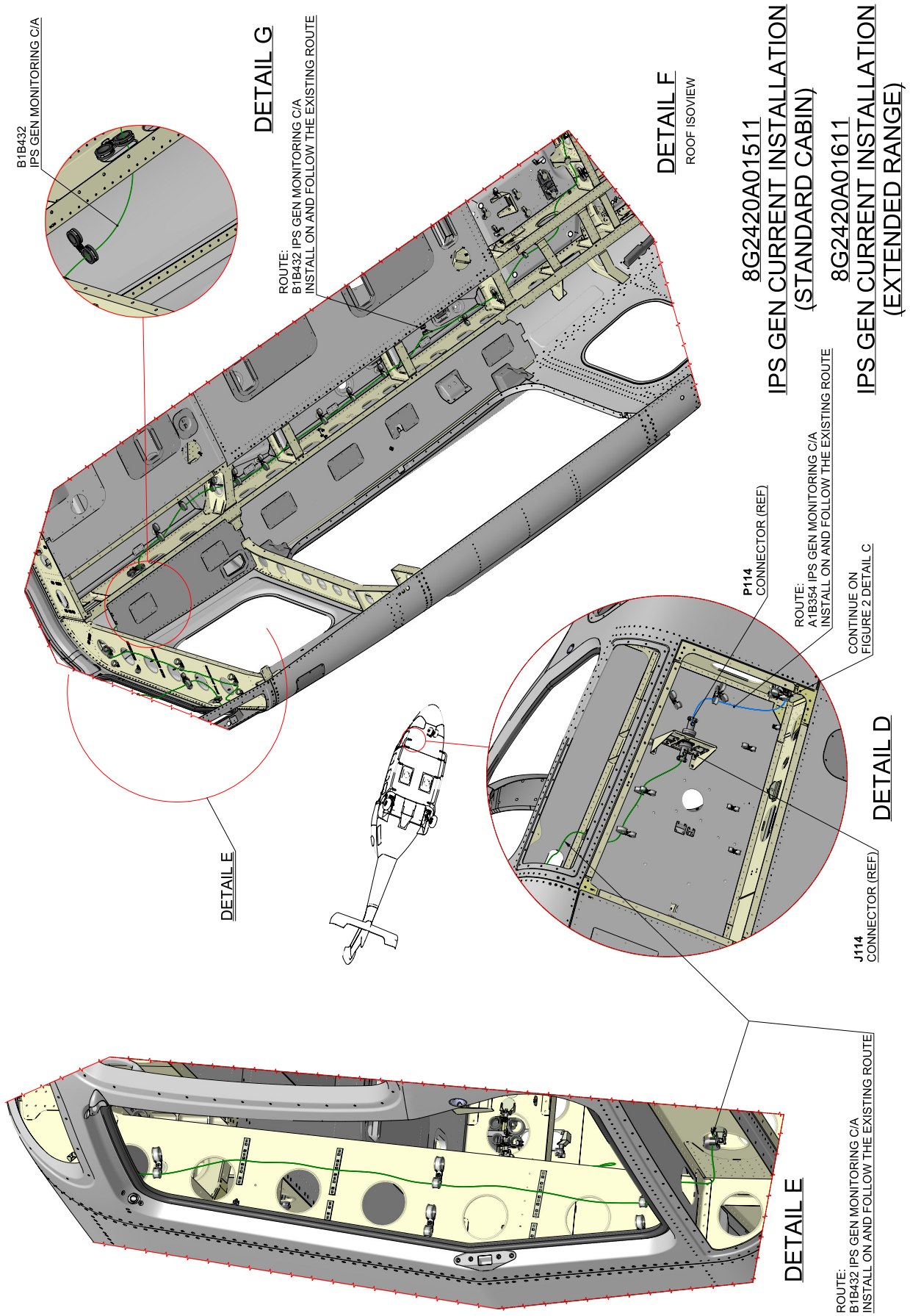


Figure 3

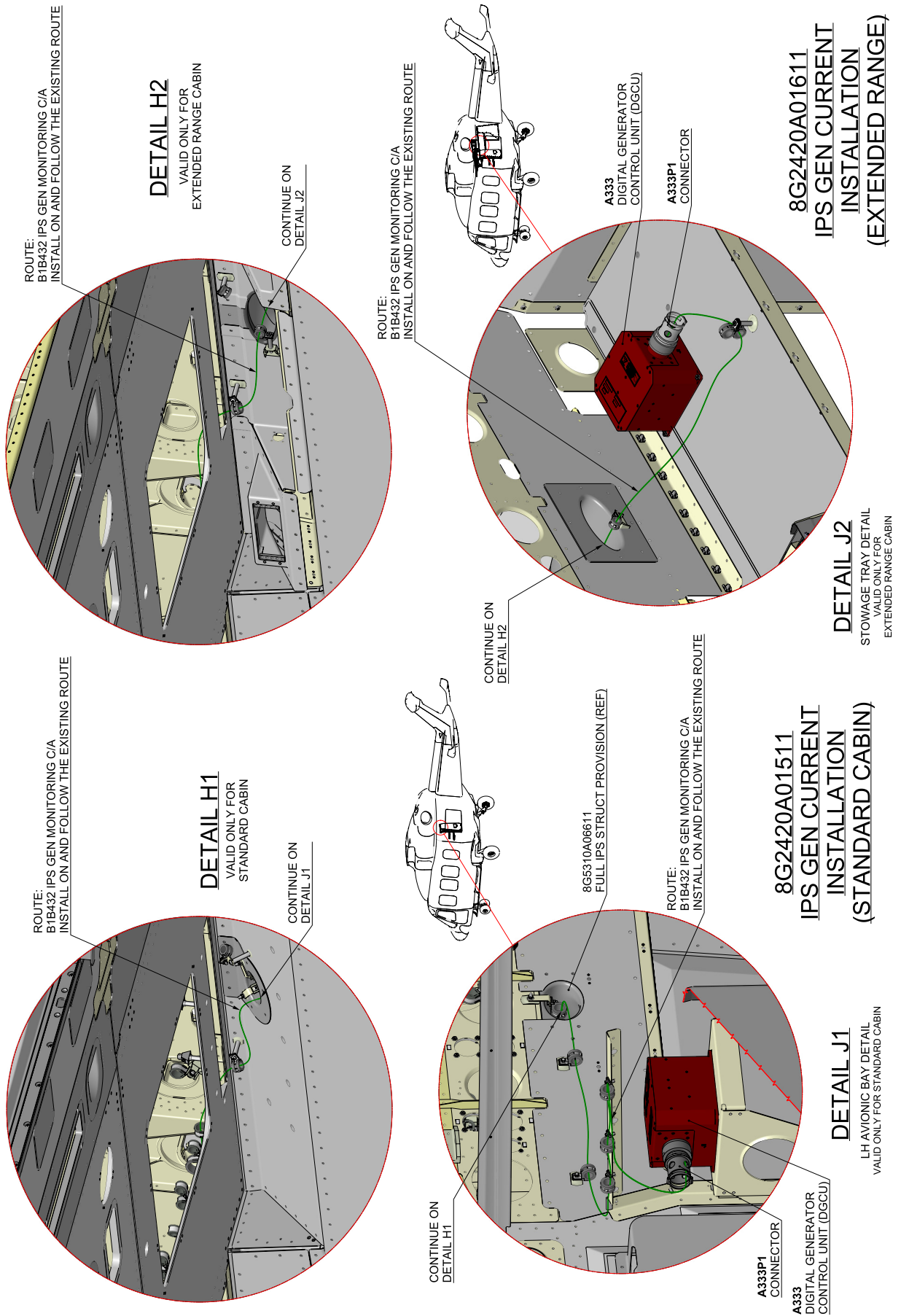
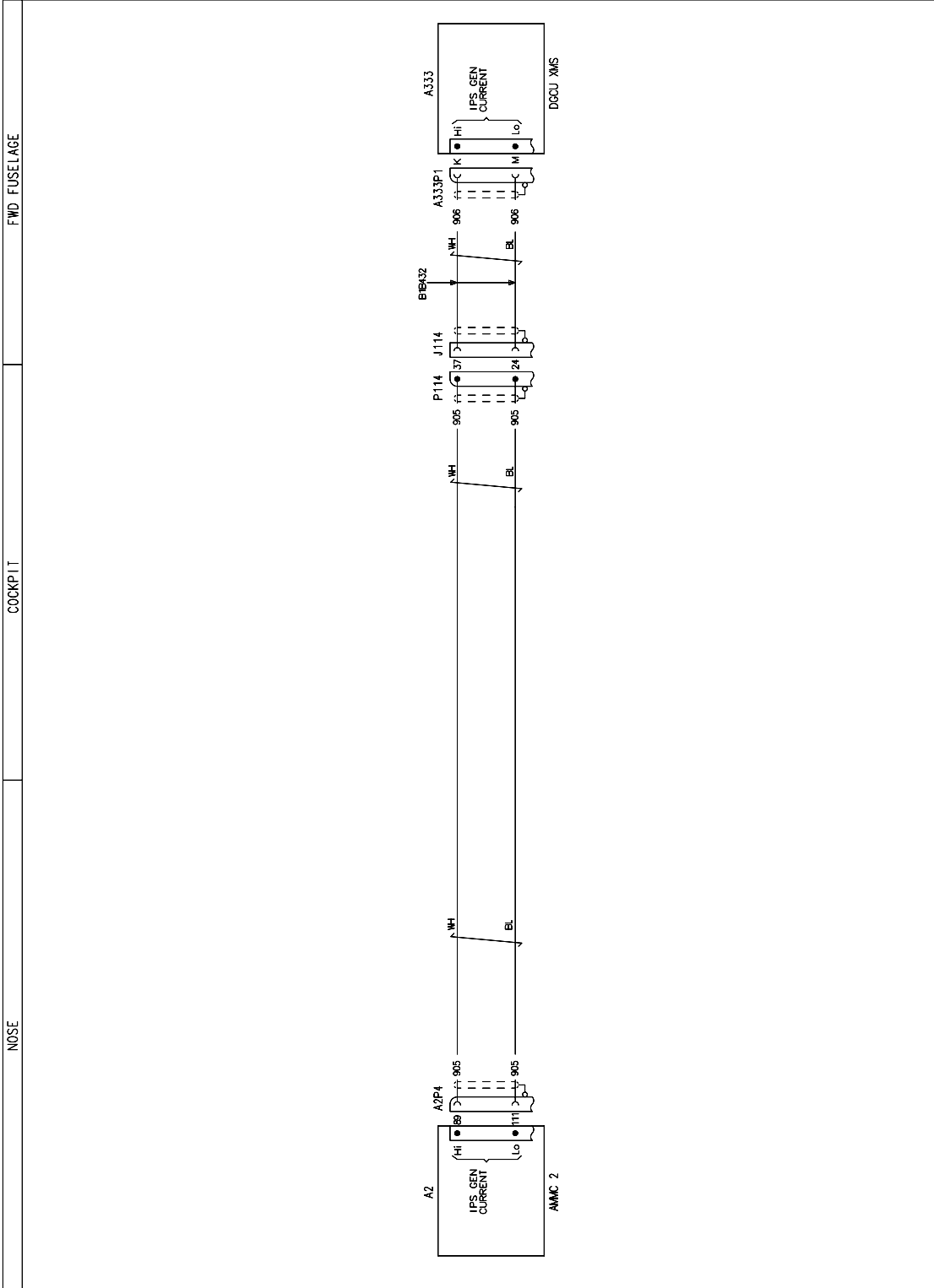


Figure 4



DRAWING REF. KEY

8G2420A01511 - 8G2420A01611
IPS GEN CURRENT INSTALLATION
(SHEET 1)

FUNCTIONAL NOTES

ALL CABLES ARE IN LOOM A1B354, UNLESS SPECIFIED.
ALL CABLES ARE OF TYPE ADR1AT2 22 UNLESS SPECIFIED.

Figure 5

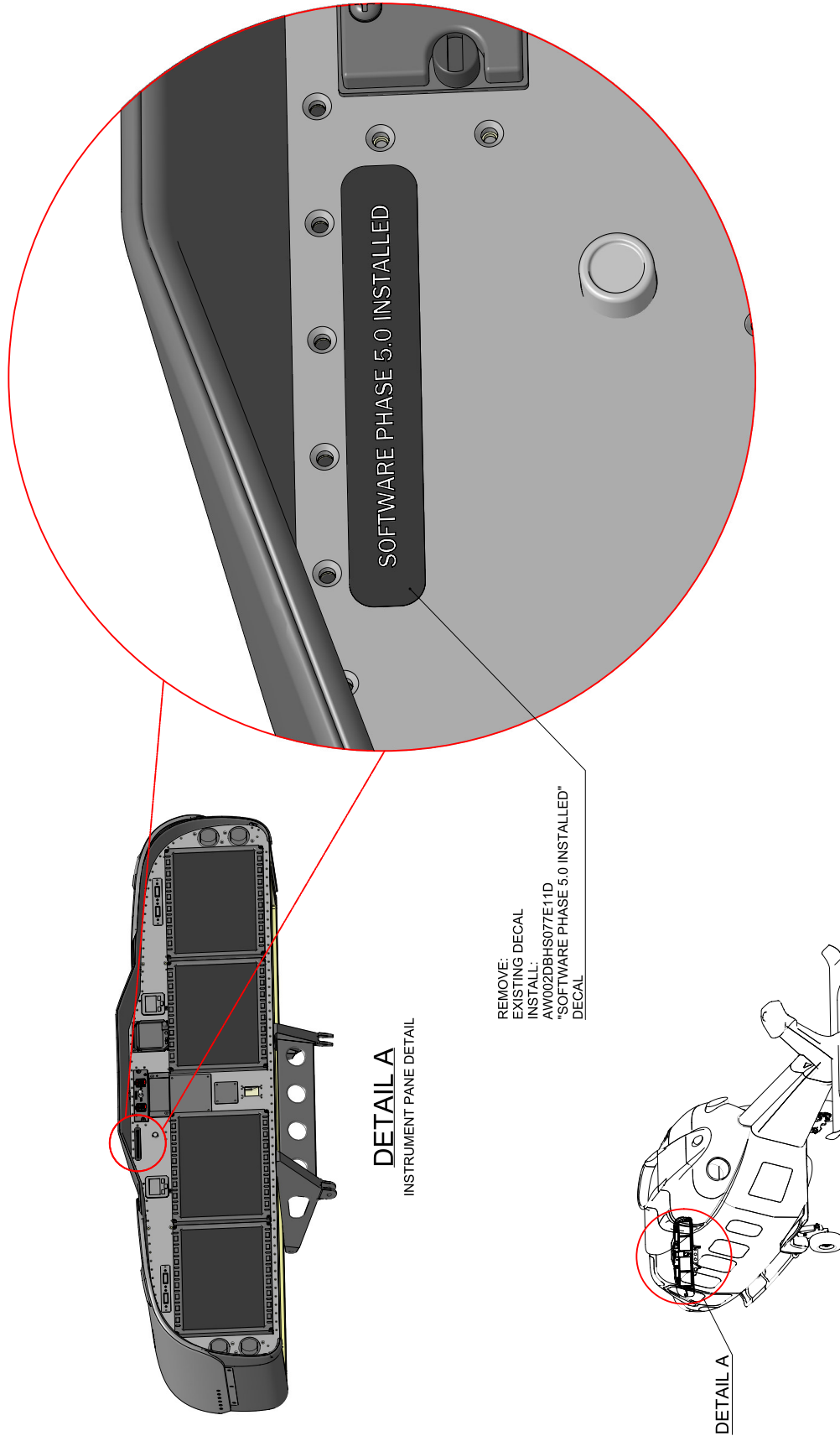


Figure 6

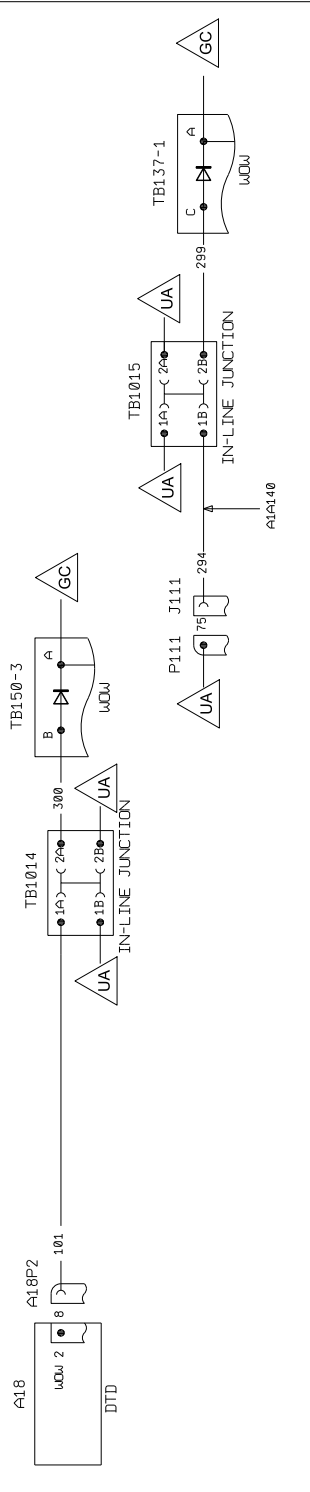
INTERSEAT CONSOLE

COCKPIT

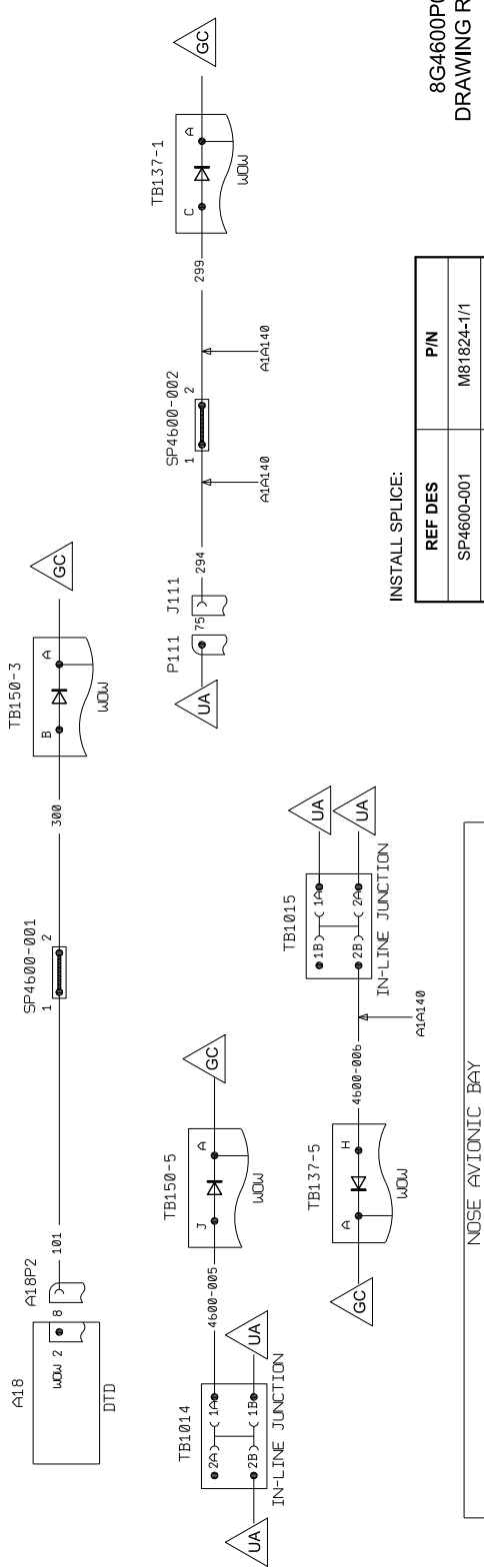
WAS

REF. 4F4600W00202

EQUIPMENT, WIRES AND CABLES SHOWN ON THIS PART OF THE WIRING DIAGRAM (WAS) SHALL BE REMOVED, REUSED OR STOWED



BECOME



INSTALL SPLICE:

REF DES	P/N
SP4600-001	M81824-1/1
SP4600-002	M81824-1/1

8G4600P00611
DRAWING REF. KEY



FUNCTIONAL NOTES

ALL CABLES ARE IN LOOM A1B146 UNLESS SPECIFIED.
 ALL CABLES ARE OF TYPE A556AT 22 UNLESS SPECIFIED.
 CABLE IDENT: EVERY WIRE NUMBER IS PRECEDED BY THE ATA 100 DESCRIPTION 3000 AND FOLLOWED BY WIRE SIZE AND EMC CODE.

Figure 7

S.B. N°189-185

DATE: April 9, 2019

REVISION: F - October 25, 2021

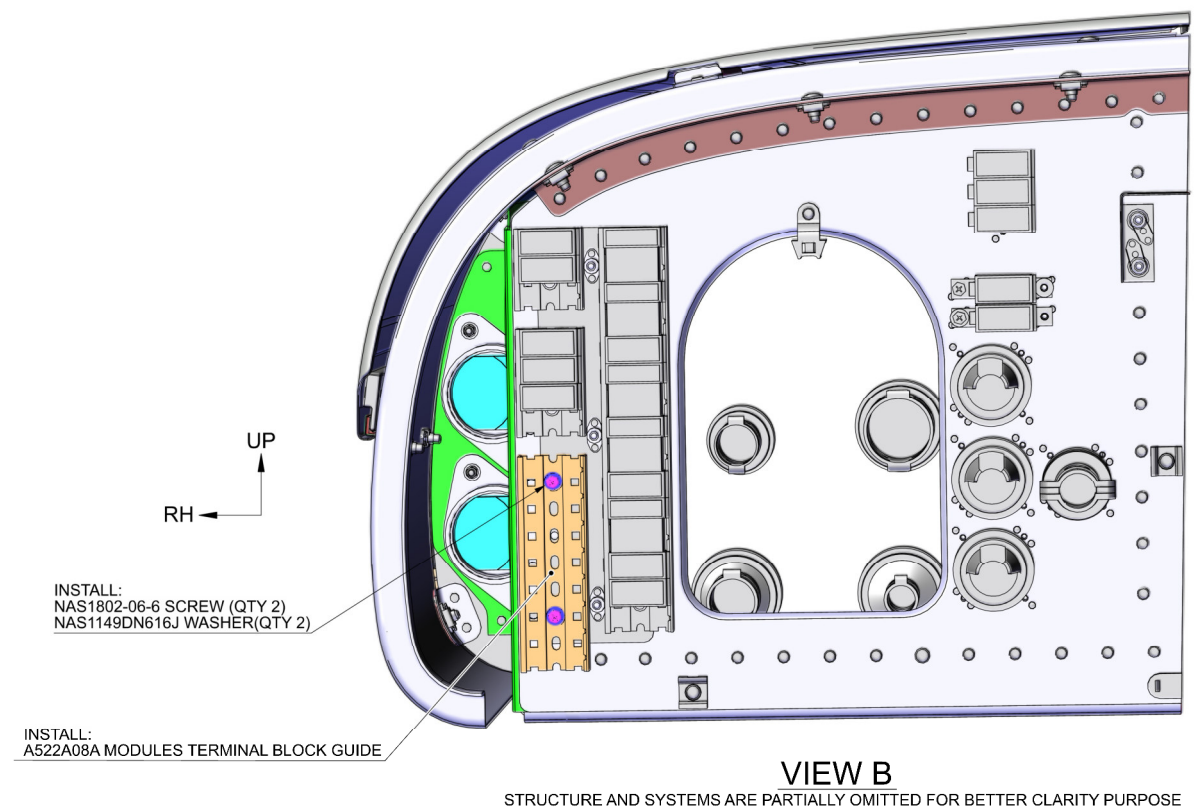
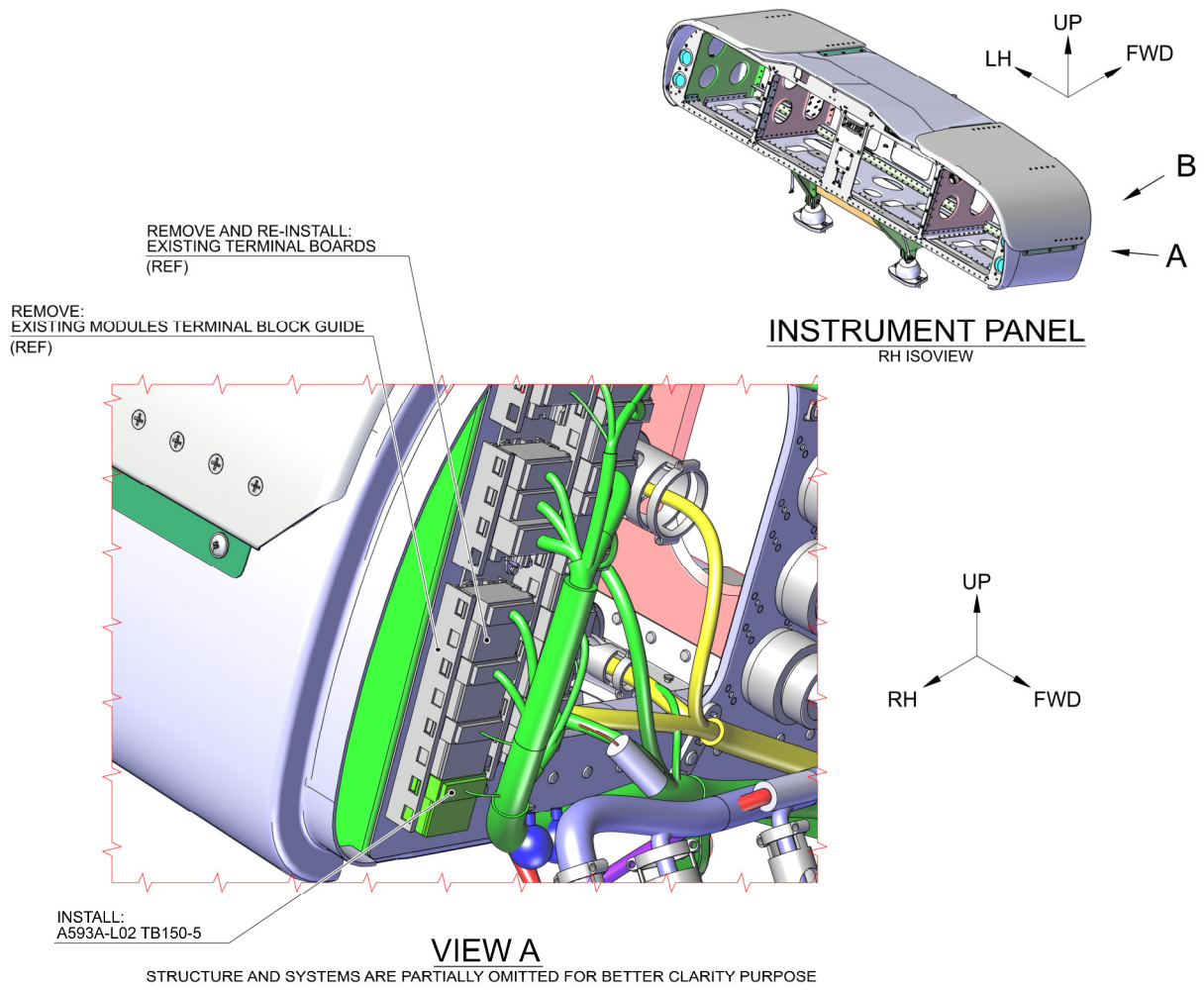
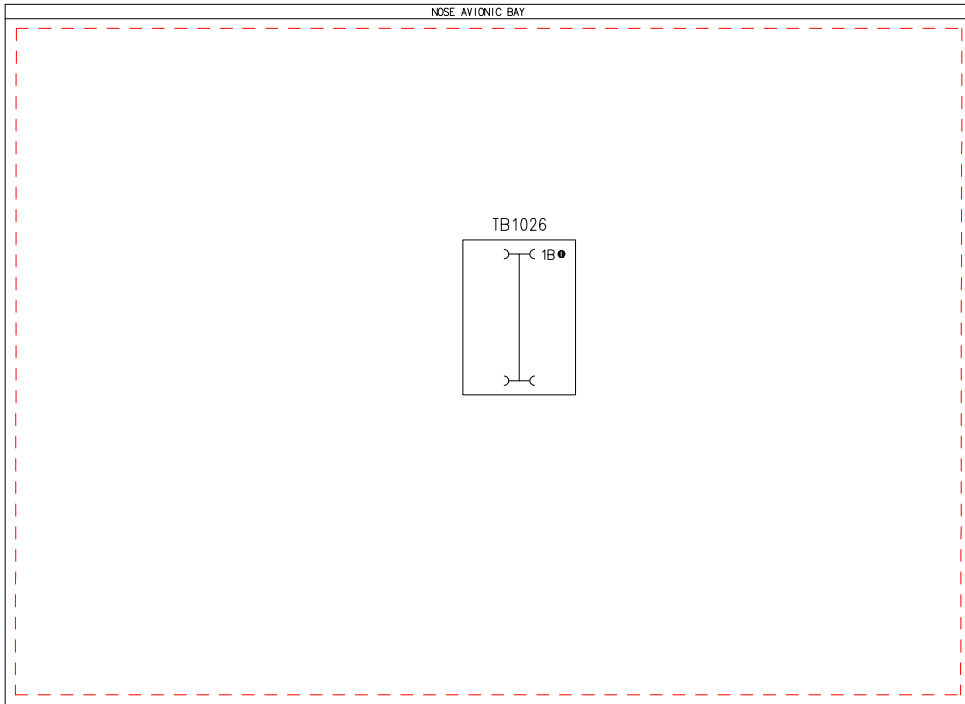
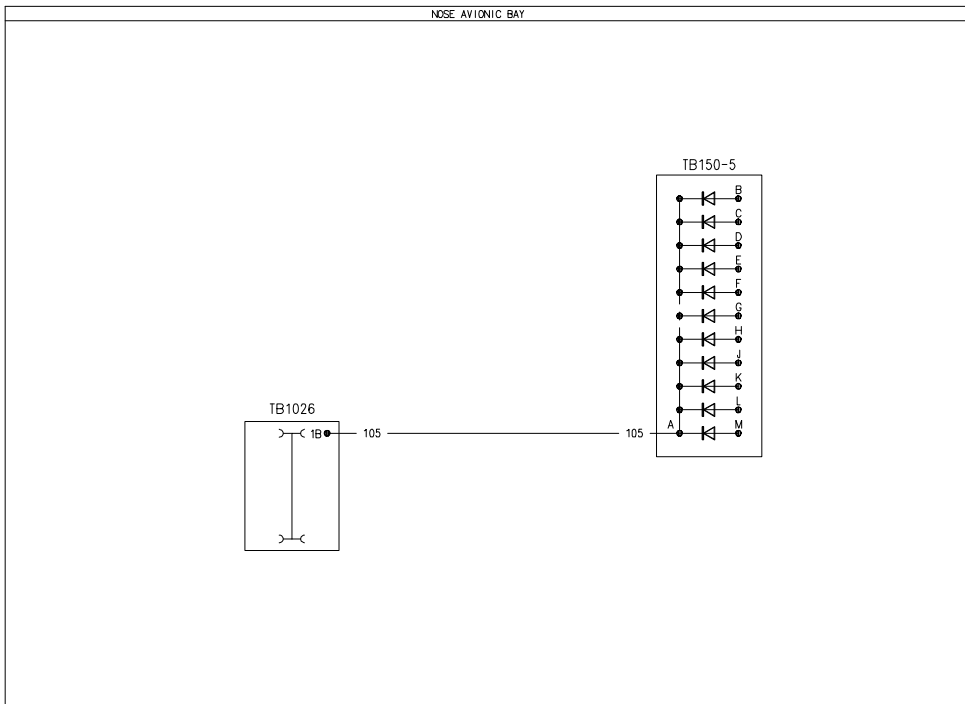


Figure 8

WAS



BECOMES



FUNCTIONAL NOTES

ALL CABLES ARE IN LOOM A1B1B7 UNLESS SPECIFIED
ALL CABLES ARE OF TYPE A556AT 22 UNLESS SPECIFIED
CABLE IDENT: EVERY WIRE NUMBER IS PRECEDED BY THE ATA 100 DESCRIPTION 3280 AND FOLLOWED BY WIRE SIZE AND GMC CODE.

4F3260W00101
WIRING DIAGRAM W.O.W.
SHEET 1

Figure 9

