Sub-Technical Repercussion Sheet

Sheet 0 - E-Authorization Data

A350-XWB	L90032	STATUS: OFFICIAL(Full TRS)
XW CEF		ISSUE: 6
		OFFICIAL DATE: 12-Apr-2018

TITLE: Air Conditioning - Temperature Control And Monitoring - Move Cabin Temperature Sensor From Basic To Alternative Position In Zone 5	**ATA:** 2161	**SUB-TRS MAIN IMPACTED ATA:** 2123
	COORDINATOR: FACCA Kelly	
REASON: Request for Product Customization - Customization Administrative Issue - SY-Other Systematic Action ;		

	DESIGN OFFICE (As required)	AIR WORTHINESS (As required)	CM CHECKER (As required)	HEAD OF ENGINEERING OR REPRESENTATIVE	HEAD OF CONFIGURATION MANAGEMENT OR REPRESENTATIVE
NAME			AUBAN OLIVIER - TO37692 (Approver)		QUINQUET BAPTISTE - TO50142 (Authorizer)
DATE			11-Apr-2018 (Approver)		12-Apr-2018 (Authorizer)

Sub-Technical Repercussion Sheet

Sheet 0 - History

A350-XWB	L90032	STATUS: OFFICIAL (Ready for Full TRS)
XW CEF		ISSUE: 6
		LAST UPDATE: 30-Mar-2018

TITLE: Air Conditioning - Temperature Control And Monitoring - Move Cabin Temperature Sensor From Basic To Alternative Position In Zone 5	**ATA:** 2161	**SUB-TRS MAIN IMPACTED ATA :** 2123
	COORDINATOR: FACCA Kelly	
REASON: Request for Product Customization - Customization Administrative Issue - SY-Other Systematic Action ;		

ISSUE	DATED	AUTHOR	COMMENT / REASON	SIGNATURE LOOP
6	30-Mar-2018	FACCA KELLY	CEF ready for MOD closure	Simplified
5	16-Aug-2016	FACCA KELLY	CEF ready for Full TRS	Simplified
4	13-Jul-2016	FACCA KELLY	CEF ready for MOD closure	Simplified
3	04-Apr-2016	CHAVAROCHE BENEDICTE	sub-TRS ready for full TRS for mod closure	Simplified
2	07-Jul-2015	FACCA KELLY	CEF ready for Full TRS for MOD closure	Normal
1	11-Apr-2013	MILAN Romain	Check in for sign loop	Normal

Sub-Technical Repercussion Sheet

Sheet 1

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	COORDINATOR: FACCA Kelly	

REASON: Request for Product Customization - Customization Administrative Issue - SY-Other Systematic Action ;

ORIGIN DOCUMENTS: RFC-AAR25V005P-Door zones layout definition
RFC-AZU25V001A-Door zones layout definition
RFC-CAL25V003G-Door zones layout definition
RFC-CPA25V016R-Door zones layout definition
RFC-FWI25V007C-Door zones layout definition
RFC-QTR25V001JP-Door zones layout definition
RFC-SIA25V001K-Door zones layout definition
RFC-SIA25V004L-Door zones layout definition
RFC-TAM25V015J-Door zones layout definition
RFC-THA25V007N-Door zones layout definition

EXPECTED APPLICABILITY:
customer version

CLASSIFICATION: W - NO FURTHER SHOWING OF COMPLIANCE

A/C CATEGORY: CIVIL

MODEL(S): 350-941 ;

IMPLEMENTATION CONDITION: SERIE SOLUTION ONLY

ENGINEERING DEADLINE: POWER ON

TO BE EMBODIED BEFORE: None

RESTRICTIONS CANCELLED BY THIS MODIFICATION: None

GENERAL DESCRIPTION:

This modification consists in defining the alternative (secondary) position of the Cabin Temperature Sensor (CTS) for the Cabin Temperature Zone 5.

The alternative CTS's position depends on the cabin layout and the hat rack position of the specific A/C and will replace the CTS default installation position.

General Description of the Cabin Temperature Sensor

The A350-900 Cabin is divided in seven temperature zones.
For each cabin temperature zone one CTS is located above the Lateral Air Outlet (LAO) in the lateral hat rack. To allow customization of the cabin layout, a secondary location is defined to provide an alternative installation position in case the default location is unavailable, e.g. occupied by the positioning of a monument. The default and alternative temperature CTS position is selected in a way to allow correct measurement of the representative and average zone temperature. The temperature sensor is located in a housing that is opened towards the cabin. A connection to the CAX system provides a continuous ventilation of the housing with cabin air. A CAX connection provides the CTS with actively

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extracted cabin air to ensure correct temperature measurements, as the CTS itself is located in the back of the hat rack with a lower ambient temperature than in the open cabin.

The CTS are located and installed in specific (1- or 2-frame) hat racks on their positions. Their electrical connections are provided with a specific connector plug. The connection between CTS and this plug is a vendor supplied specific wire/harness. Its characteristics (wire length, wire number) depend on the CTS's position, interface and plug details. The wiring differs for 2-frame and 1-frame hat racks (called "Adaption" in the following).

Abbreviations:

CAX	-	Cabin Air Extraction (system)
CTS	-	Cabin Temperature Sensor
LAO	-	Lateral Air Outlet

LINKED MODIFICATIONS: Demands 100101 ;

COMMENT: 100101 AIR CONDITIONING - AIR COOLING - DEFINEBASIC AIR COOLING/CONDITIONING AND COMPTEMP CONTROL SYSTEM

Sub-Technical Repercussion Sheet

Sheet 2

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REGULATIONS INVOLVED AND JUSTIFICATION:

Certification Basis :

TCDS EASA.A.151 / TCDS FAA T00063IB

Certif.Basis	FIC	ATA	A/W & Environmental Requirement	MoC

Comment :

No additional work to show compliance with the applicable certification basis for XW CEF Sub-TRS.

IMPACTS ON EQUIPMENTS

Equipments sorted by: Family

IMPACTS ON APPROVED DOCUMENTATION AND INSTRUCTIONS FOR CONTINUED AIRWORTHINESS (ICA):

DOCUMENT TYPE	STATEMENT	DESCRIPTION
SRM ADL/REPAIR	NO	
WBM Chapter 1.10 limitations	NO	
MMEL	NO	
FM - Flight Manual	NO	
MRB - Maintenance Review Board	NO	
ALS Part 1	NO	
ALS Part 2	NO	
ALS Part 3	NO	
ALS Part 4	NO	
ALS Part 5	NO	
Security HandBook	NO	
EWIS ICA	NO	
Other ICA	YES	
Flight Crew Data		
Cabin Crew Data		

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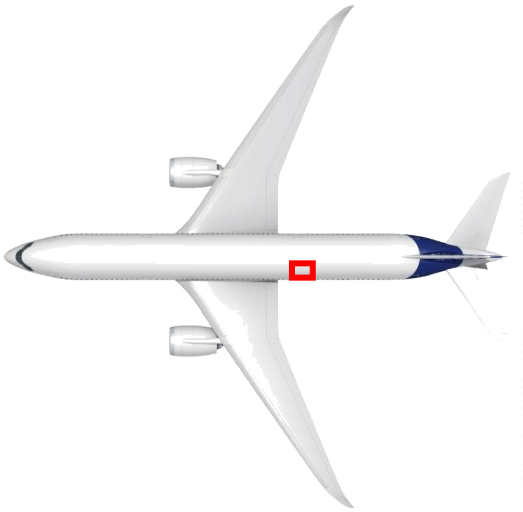
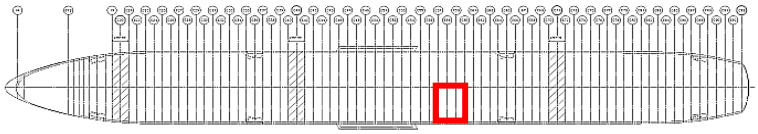
SECTION 15/21 SKETCHES:

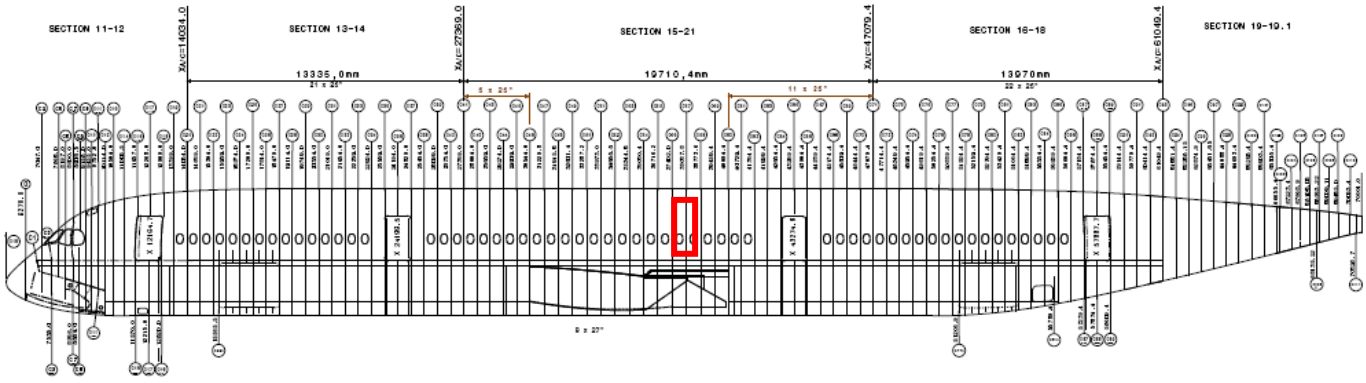
A/C GENERAL LOCATION

TOP VIEW





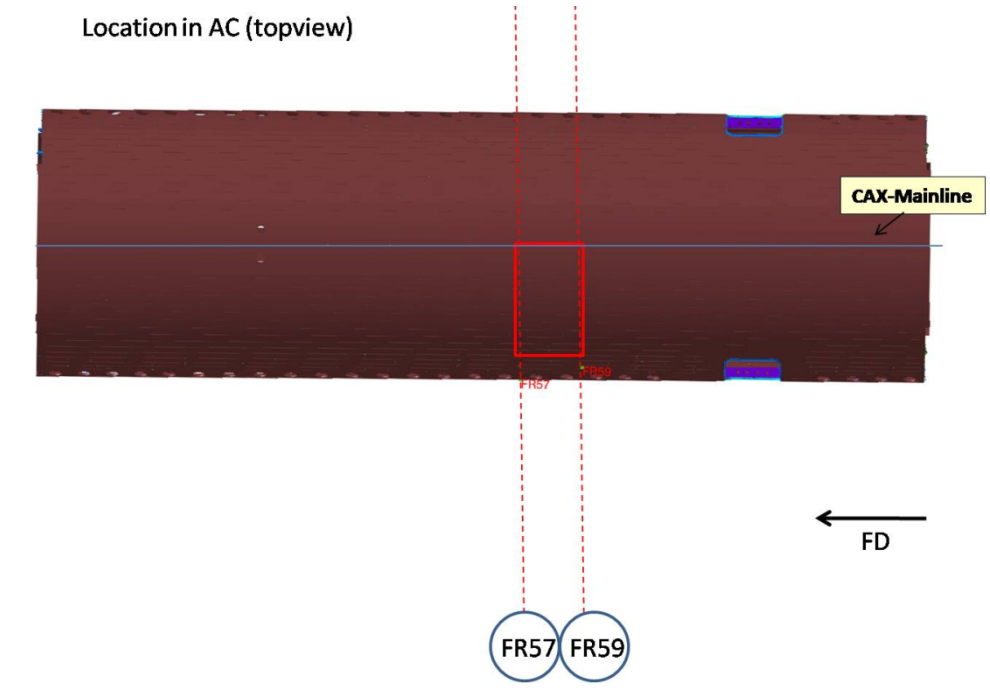
SIDE VIEW

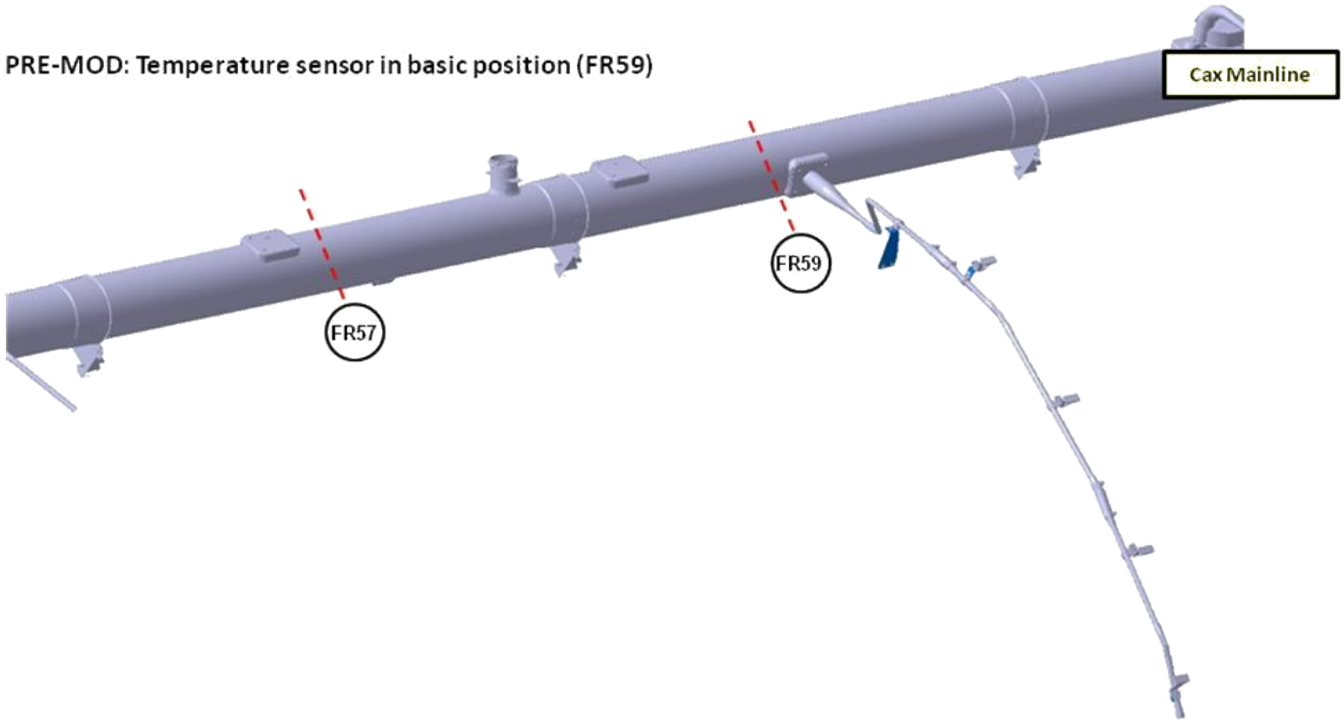


CAX Overview

in detail:
Details of sensor fixation below LAO within Lateral Air Outlet-panel:
(Plug EN4165 12-20; 1S routing)

ATA21-23 Air Conditioning – Compartment Air Extraction, Control and Monitoring





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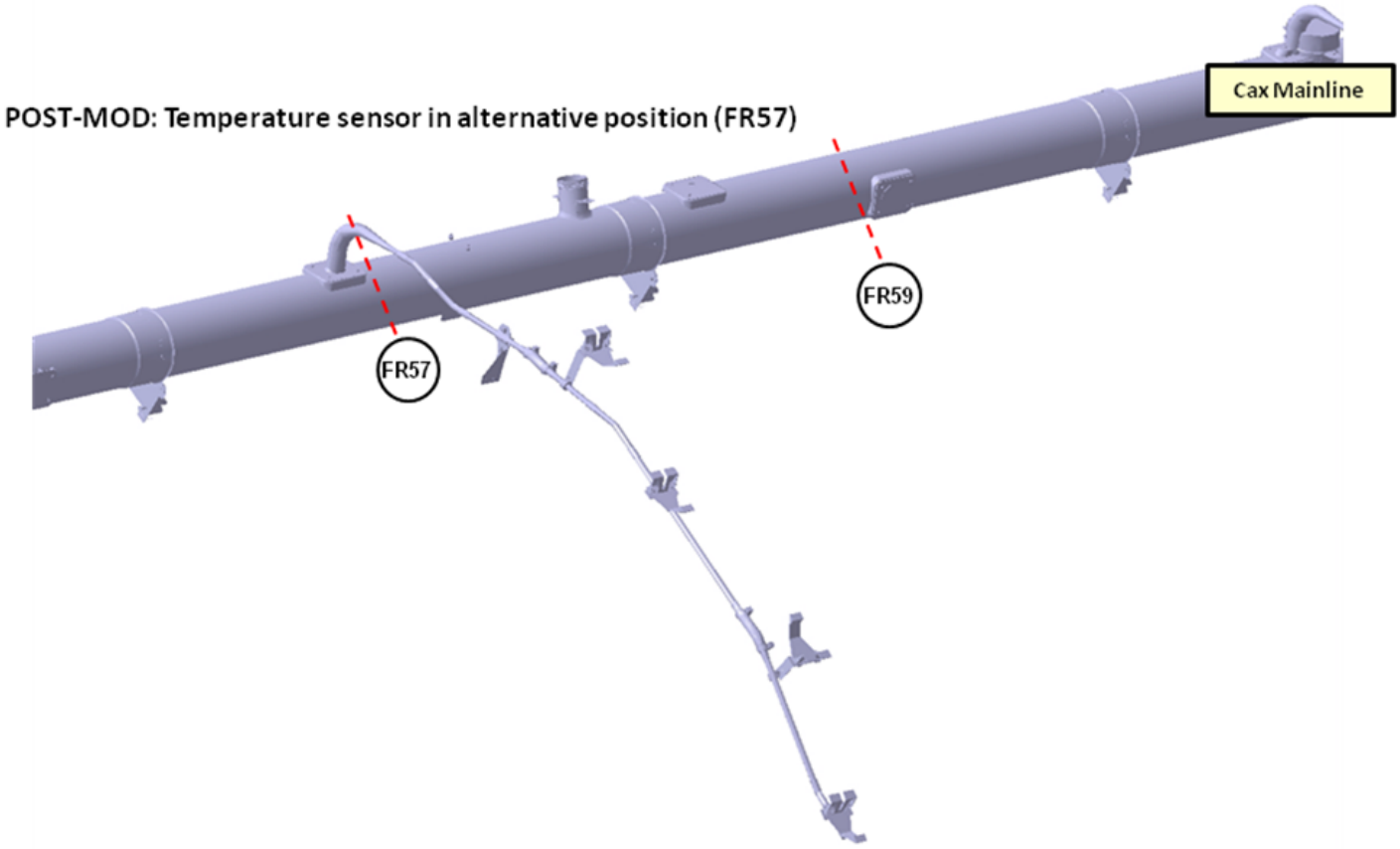


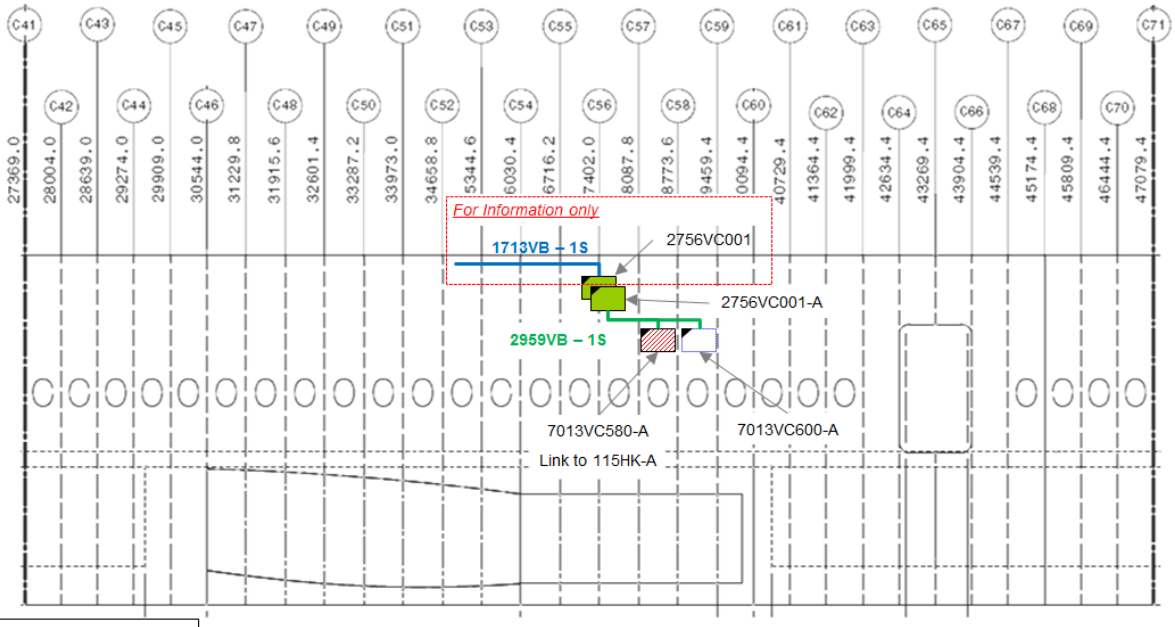
ATA92-00 Electrical and Electronic Common Installation – General

SYNOPTIC:

Pre-MOD sketch :

None

Post-MOD sketch:



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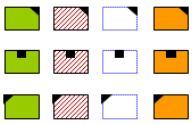


xxxxVB/yZ

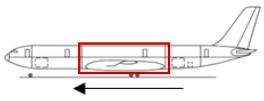
xxxxYYzzzz

Legend

Extremity position :	Delta : Extremity	Status
RHS		Existing (929/DMU not involved)
Center		Added/modified (929/DMU involved)
LHS		Removed (929/DMU involved)
		CILAT involved

Source documents:

FD / MP



Flight Direction

Sub-Technical Repercussion Sheet

Sheet 3 (Sketches)

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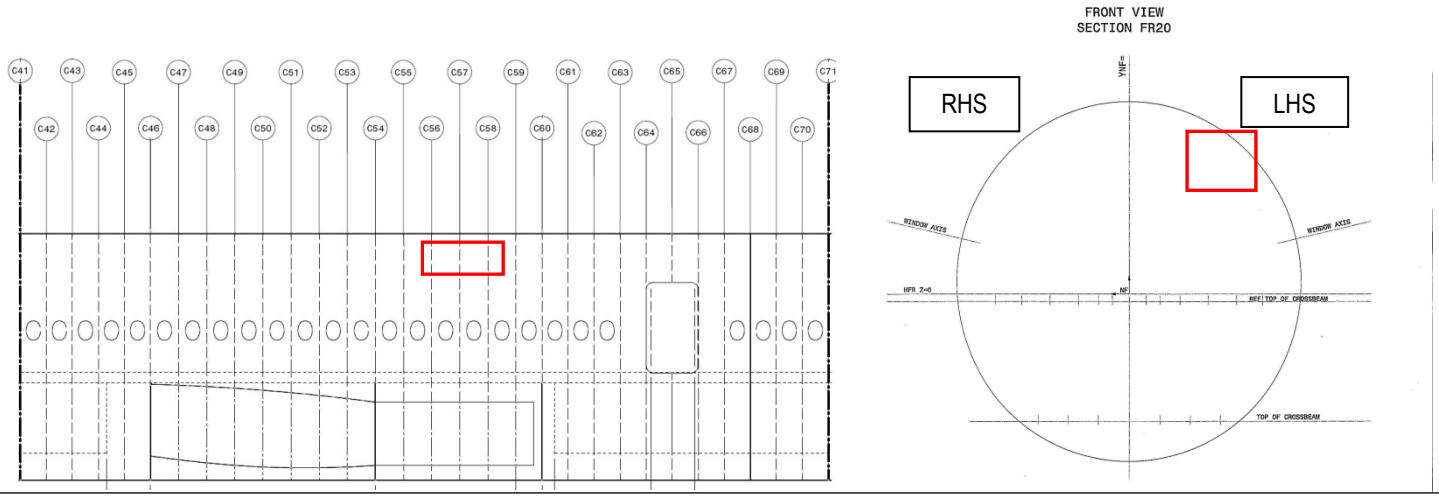
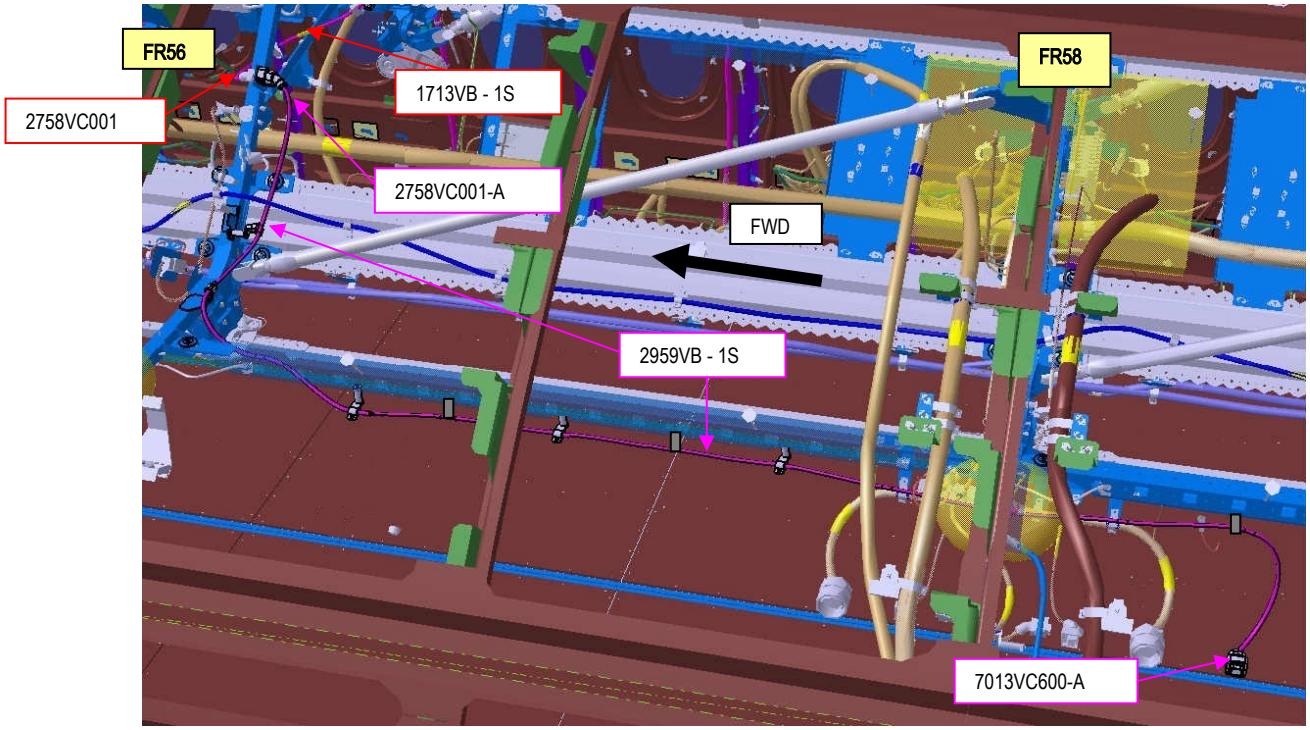
Sketch CEF_ESI_HAR_EQT_1



PRE MOD

2959VB / 1S
Temperature Sensor in basic position



Sub-Technical Repercussion Sheet

Sheet 3 (Sketches)

A350-XWB	L90032	STATUS: OFFICIAL (Ready for Full TRS)
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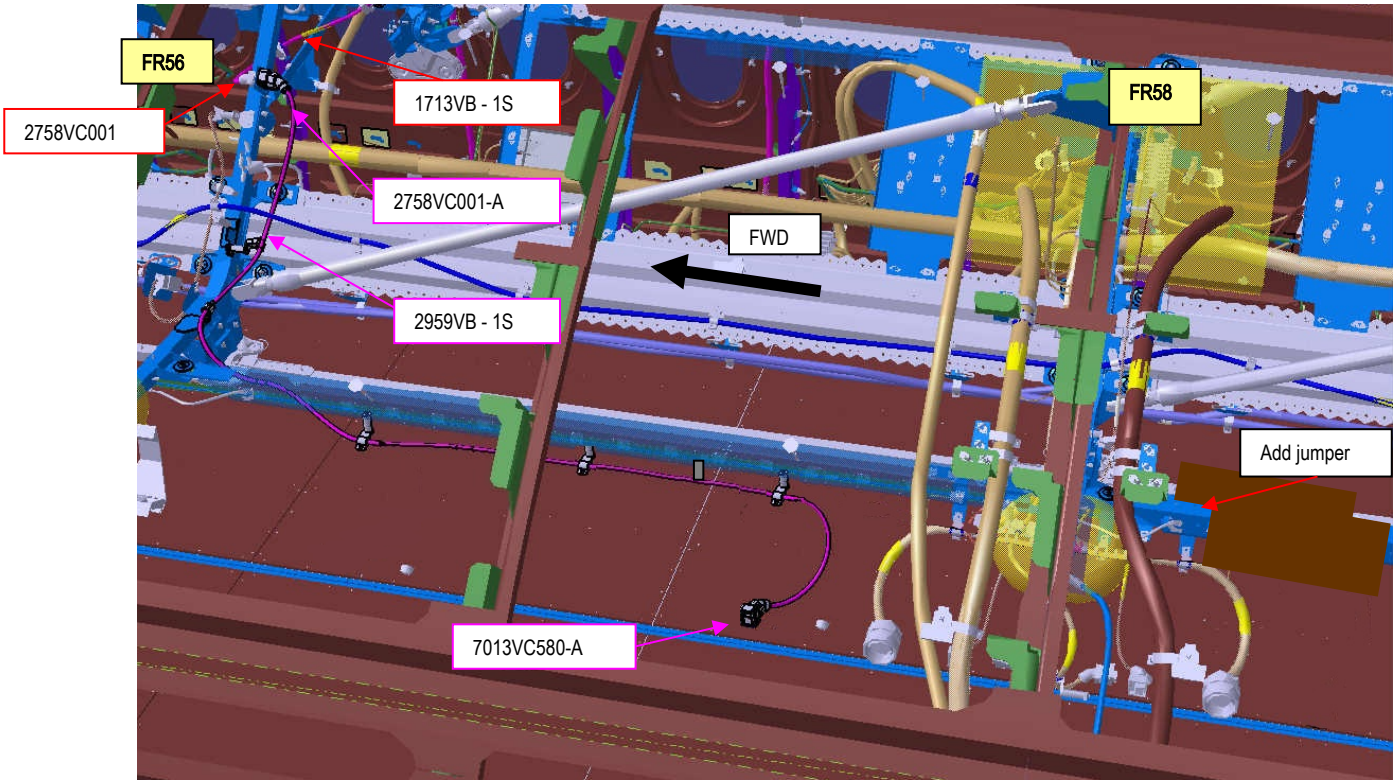
POST MOD

2959VB / 1S
Temperature Sensor in alternative position



Sub-Technical Repercussion Sheet

Sheet 4

A350-XWB	L90032	STATUS: OFFICIAL (Ready for Full TRS)
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		LAST UPDATE: 30-Mar-2018

ADDITIONAL ATA: 2123 ; 9200 ; 9240 ; 9280 ; 9290 ;

IMPACT ON VERIFICATION / VALIDATION MEANS:

MOCK UP	FATIGUE TESTS	GROUND TESTS	LABORATORY TESTS
NO	NO	NO	NO
PARTIAL BENCH	IRON BIRD	FLIGHT TESTS	
NO	NO	NO	

COMMENT:

IMPACTS ON WEIGHT:

SERIE	DELTA ON MWE WEIGHT (kg)	CG OF THE DELTA MWE (m)
350-900	-0.37	0.0

COMMENT: CG not calculated

ELECTRICAL LOADS IMPACTED: NO

COMMENT:

IMPACTED DOCUMENTATION:

Impacted airlines documentations identified by customer service are available in CM reporting

COMMENT:

IMPACTED STANDARD SPECIFICATION

REFERENCE	ISSUE	REVISION	TEMP.REVISION	ISSUE DATE

PROPOSED UPDATE:

MSCN:NO **CLASSIFICATION NEGOTIABLE:**NO

MSCN JUSTIFICATION:

A350-XWB	L90032	STATUS: OFFICIAL (Ready for Full TRS)
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DETAILED DESCRIPTION:

SECTION 15/21 REPERCUSSIONS:

Mechanical Systems Impacts

ATA21-23 Air Conditioning – Compartment Air Extraction, Control and Monitoring **NZ**

Temperature Sensor is moved from basic position (FR59) to alternative position (FR57)

Delta weight = +0.052 kg

Electrical Systems Impacts

ATA92-00 Electrical and Electronic Common Installation – General

Standard statement
The design requirements and principles as referenced in the TDD92A001V, SIDP92A001V, TDD20A001V, SIDP20A001V are maintained.

Electrical Functional Design Repercussions
Involved in Design and Production
Update of WD drawings for impacted ATA chapter listed below

ATA21-61 Air Conditioning – Temperature Control and Monitoring

Impact on wires:

ATA/ SubATA	VB/VU	Action	Wire Qty	Type Gauge	Route	From	To	Comment
2161	2959VB	REMOVE	2	DRB24	1S	2756VC001 A	7013VC600 A	
2161	2959VB	ADD	2	DRB24	1S	2756VC001 A	7013VC580 A	

Impact on standard items:

ATA/ SubATA	VB/VU	Action	FIN	Designation	route	P/N	Comment
2161	2959VB	REMOVE	7013VC600 A	PLUG	1S	EN4165*61*D	Remove VC
2161	1513VB	REMOVE	7013VC600 A	PLUG	1S	EN4165*61*D	(before msn021)
2161	2959VB	ADD	7013VC580 A	PLUG	1S	EN4165*61*D	Add VC link to 115HK

Electrical Systems Installation Repercussions

ATA92-40 Electrical and Electronic Common Installation – Installation Drawings of Removable Supports

To remove1 ramp BB/OD and 1 bracket routing hatrack installed on ramp between FR58 and FR60.
To add 1 jumper ramp between FR58 and FR60.

Weight impact ATA92-40: - 0,388 Kg

ATA92-80 Electrical and Electronic Common Installation – Cable Loom Installation Drawings

Harness 2959VB (1S):

For new routing Temperature Sensor in alternative position remove 3 clamps and 3 spacers between FR59 and FR56. **NZ**
(See sketch 1)

Harness 1809VB-1719VB (11M-1MD):

To relocate clamps and spacer for secure routing harnesses on jumper ramp between FR58 and FR60. **NZ**

Weight impact ATA92-80: - 0,018 Kg

ATA92-90 Electrical and Electronic Common Installation – Cable Loom Drawings

Harness 2959VB (1S):

Repercussions on harness morphology with impact on harness manufacturing. Modify routing.

Harness 1809VB-1719VB (11M-1MD):

Repercussions on harness morphology with impact on harness manufacturing.
Secure harnesses routing

Detailed weight impact	
Harness	**Weight impact (kg)**
2959VB 1S	- 0.016 Kg

Weight impact ATA92-90: - 0,016 Kg

Total XW CEF ESI HAR and EQT weight impact (924 + 928 + 929):	**- 0,422 Kg**

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Sheet 5

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IMPACTS ON CIRCUIT - ATA's:

CIRCUIT	ATA	BREAKDOWN CODE
HK	2161	F

LEAD-TIME (WEEKS):

IMPACTS ON CASCADE COMPONENTS:

TYPE	CODE	TITLE	ATA	BREAKDOWN CODE	LEAD-TIME (WEEKS)
CEL	WM001	CCE General Wiring Diagram A-F			

IMPACTS ON HARNESSES AND PANELS:

TYPE	CODE	TITLE	ASSOCIATED TO CA
HARNESS	1513VB	HARNESS 1513VB 1SC	WD212
HARNESS	1719VB	HARNESS 1719VB 1MD	WD352
HARNESS	2949VB	HARNESS 2949VB	WD444
HARNESS	2959VB	HARNESS 2959VB	WD494

IMPACTS ON ADAP-CI / RF's:

ADAP-CI CODE	LEGACY CODE	TITLE	CA	LEAD-TIME (WEEKS)
W21C33009000	NA	CAX TEMP SENSOR ABOVE LAT MODULE	WD000	
W21C33010000	NA	CAX TEMP SENSOR CTR MODULE	WD018	
W92C11587000	NA	HARNESS 1587VB 7T	WD235	
W92C11719000	NA	HARNESS 1719VB 1MD	WD352	
W92C11809000	NA	HARNESS 1809VB 11M	WD354	
W92C22949000	NA	HARNESS 2949VB	WD444	
W92C22959000	NA	HARNESS 2959VB	WD494	
W92C34309000	NA	CEF UD ML ASS DMD RTG	WD019	
W92C34421000	NA	CEF UD MLH MD/M CTFWD	WD019	
W92C34423000	NA	CEF UD MLH MD/M CTAFT	WD019	
W92C34431000	NA	CEF UD Z3-4 MLH HAT	WD019	
W92C34433000	NA	CEF UD Z5-6 MLH HAT	WD019	
W92C34481000	NA	CEF UD MLH INSTL 7T	WD019	

IMPACTS ON ESD-CI's:

TYPE	CODE	DESIGNATION	ASSOCIATED TO CA/CC
WD	HKV21621008	CABIN AREA5 TEMP CTL	WM001

OTHER IMPACTS:

PROPULSION SYSTEM	SERIE GTR IMPACTED	SPECIAL SUPPLY	PARTS INTERCHANGEABILITY	RIGGING / TOOLING
NO	NO	NO	NO	NO

COMMENT:

Sub-Technical Repercussion Sheet

Sheet 6

A350-XWB	L90032	STATUS: OFFICIAL (Ready for Full TRS)
XW CEF		ISSUE: 6
		LAST UPDATE: 30-Mar-2018

TRS COORDINATOR: XW EASP

DESIGN INVOLVEMENT:

NATCO / OBS	NATCO	STANDARD
XW CEF	A-F	

DESIGN RESPONSIBLE:SANTOLALLA Jean-pierre

ACTIVITIES:

COST CHAPTER	ACTIVITY TYPE	ACTIVITY	RESP.
01. Design	I.B. Specific Design Work		XW CEF
08. Production	Manufacturing & installation of parts		XW CEF

COMMENT: