Le dossier technique se compose de 17 pages, numérotées de 1/17 à 17/17.
Dès que le dossier technique vous est remis, assurez-vous qu'il est complet.

DOSSIER TECHNIQUE

BACCALAURÉAT PROFESSIONNEL
AÉRONAUTIQUE
OPTION : AVIONIQUE

ÉPREUVE E2 – EXPLOITATION DE LA DOCUMENTATION TECHNIQUE

CODE :1806-AER A U2

Table des matières

1- INTRODUCTION:

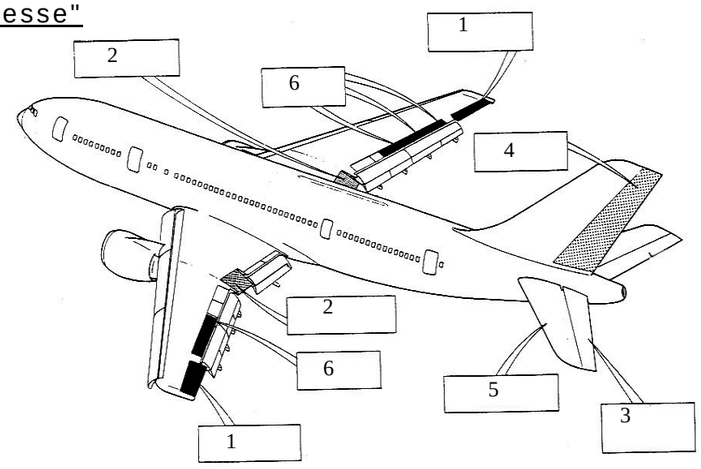
En sortie de chaîne de production, l'aéronef de type HOA2 présente un message d'erreur de type « EBHA-R SPLR 5, Y (5CL2) lors du test FCGS. L'étude portera sur le spoiler 5 EBHA.

1. Définition et surfaces de contrôle

Les commandes de vol sont l'ensemble des éléments de pilotage destinés à maitriser(ou commander) le vol de l'avion.
Ces éléments sont :
- -Les organes de pilotage,
- -La chaine de commande ou interfaces
- -Les surfaces mobiles

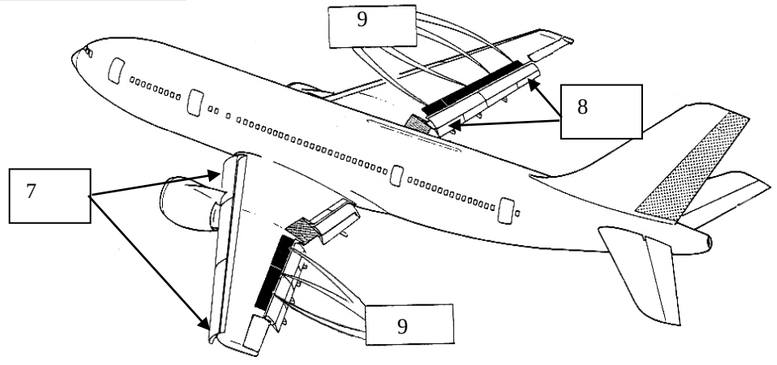
2. Commandes de vol primaires

Permettre de contrôler l'attitude, donc la trajectoire et la vitesse en vol.
Les gouvernes concernées sont :
-1:Aileron externe ou "basse vitesse"
-2:Aileron interne ou "toute vitesse"
-3:Gouverne de profondeur
-4:Gouverne de direction
-5:PHR
-6:Spoiler



3. Commandes de vol secondaires

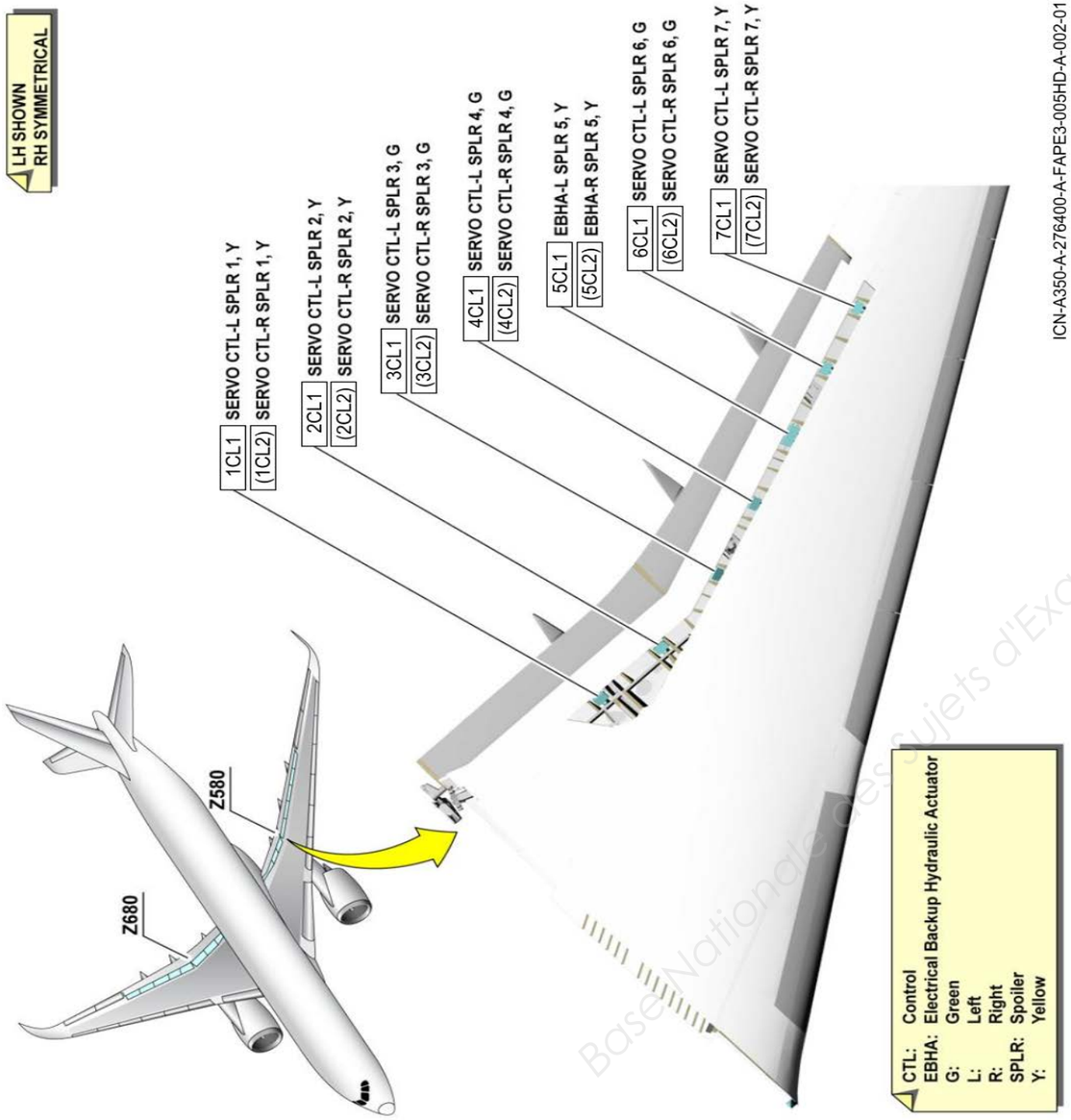
Le système de commandes de vol secondaires est l'ensemble des éléments destinés à modifier les caractéristiques aérodynamiques de l'avion.
Il s'agit de la commande des hyposustentateurs et hypersustentateurs (becs, volets et spoilers) ainsi que des aérofreins, que l'on peut retrouver aussi sur le fuselage.
-7:Becs mobiles
-8:Volets
-9:Spoilers
-10:Aérofreins



2- PRÉSENTATION – SPOILER

1. Description

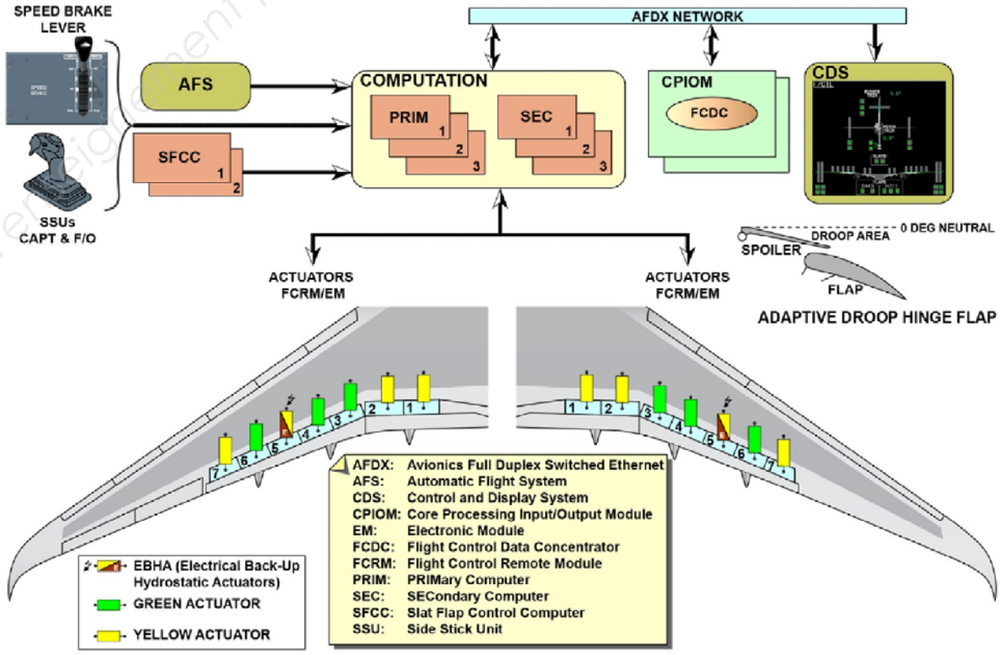
Position des spoilers 1 (1CL1/2), 2 (2CL1/2) et 7 (7CL1/2) sont commandés par le système hydraulique jaune, les spoilers 3 (3CL1/2), 4 (4CL1/2) et 6 (6CL1/2) sont commandées par le système hydraulique vert. Le spoiler 5 (5CL1/2) est commandé électriquement et actionnée par l'hydraulique jaune.



ICN-A350-A-276400-A-FAPE3-005HD-A-002-01

2. Principe/conception :

Sept spoilers sur chaque aile actionnées par des actionneurs. Chaque actionneur de spoiler est électriquement commandé/contrôle par des calculateurs (PRIM et SEC) de levier « SPEED BRACK », et du mini-manche (SSUs CAPT&F/O) ou du pilote automatique. Tous les spoilers sont à commande hydraulique par des actionneurs conventionnels de servocommande, excepté la position 5, celle-ci est déclenchée par un vérin hydraulique de secours électrique (EBHA). Chaque actuator/EBHA est commandé et surveillé par les calculateurs PRIM et SEC. La surface et le déclencheur placent la rétroaction envoyée aux PRIM et SEC pour le calcul de position de la servocommande.

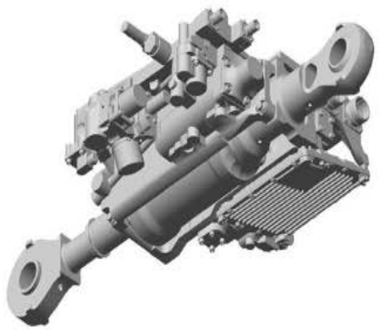


3. Actionneurs :

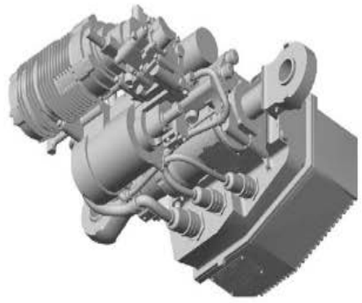
L'aéronef emploie différents types d'actionneurs :

	CONVENTIONAL SERVOCONTROL	EHA	EBHA
AILERONS	X	X	
SPOILERS	X		X
ELEVATORS	X	X	
RUDDER	X	X	

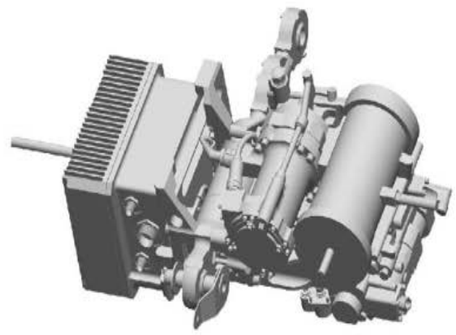
ACCU: Accumulator
EM: Electronic Module
FCRM: Flight Control Remote Module
HYD: Hydraulic



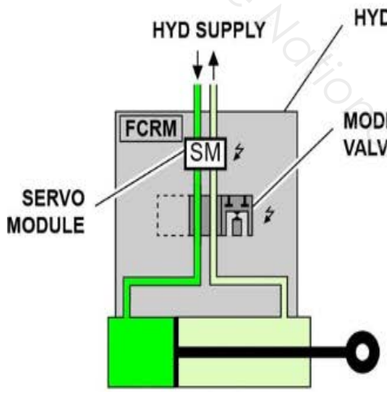
CONVENTIONAL SERVO CONTROL

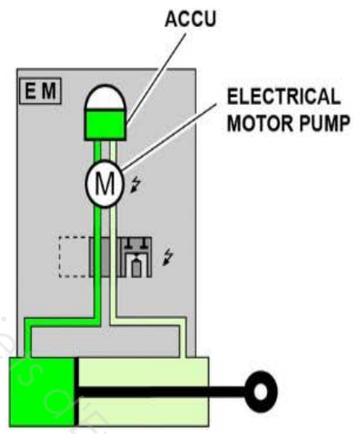


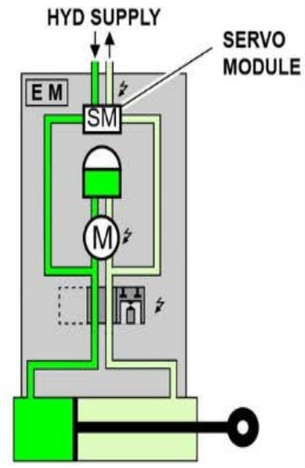
Electro-Hydrostatic Actuator (EHA)

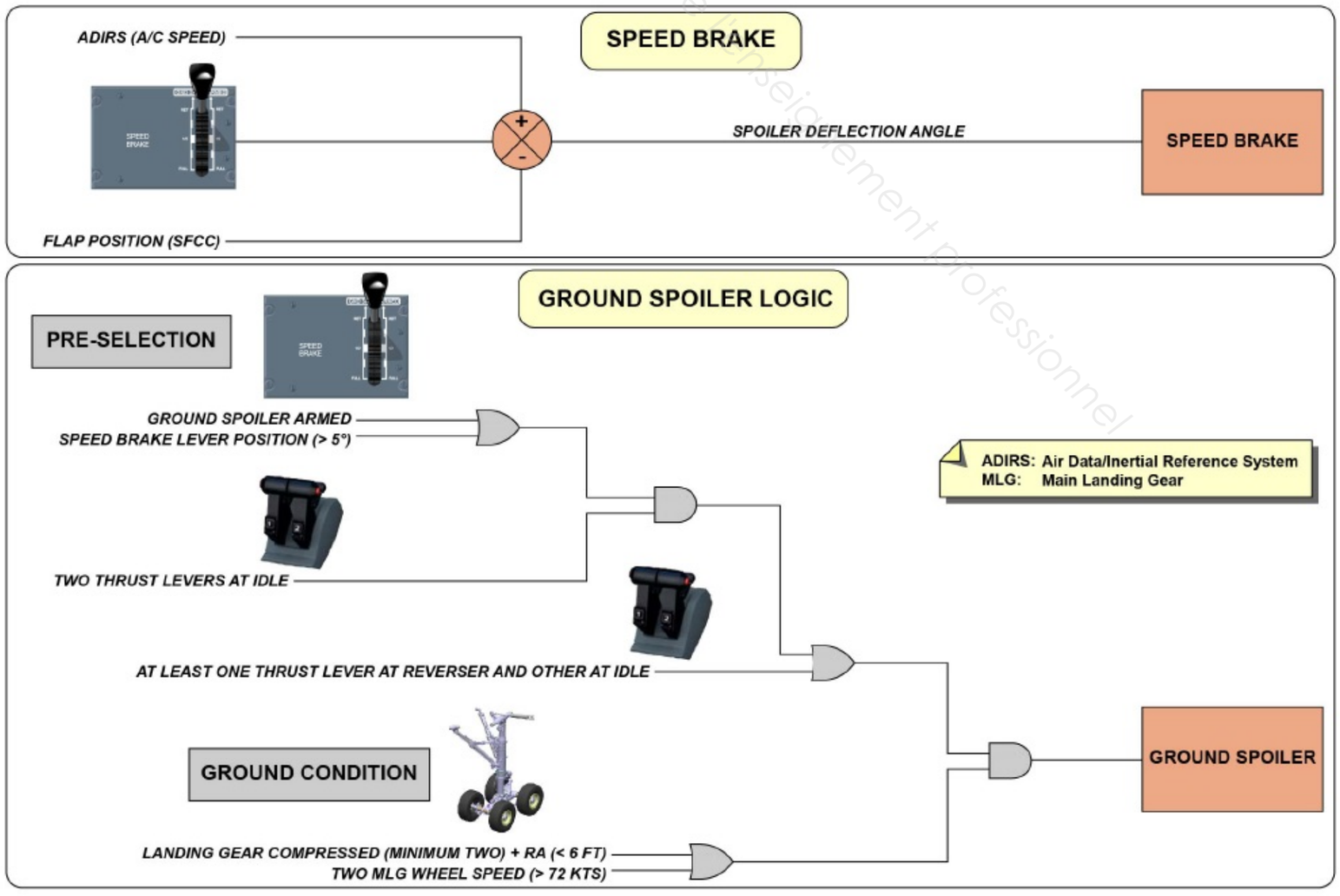


Electrical Back-Up
Hydraulic Actuator (EBHA)

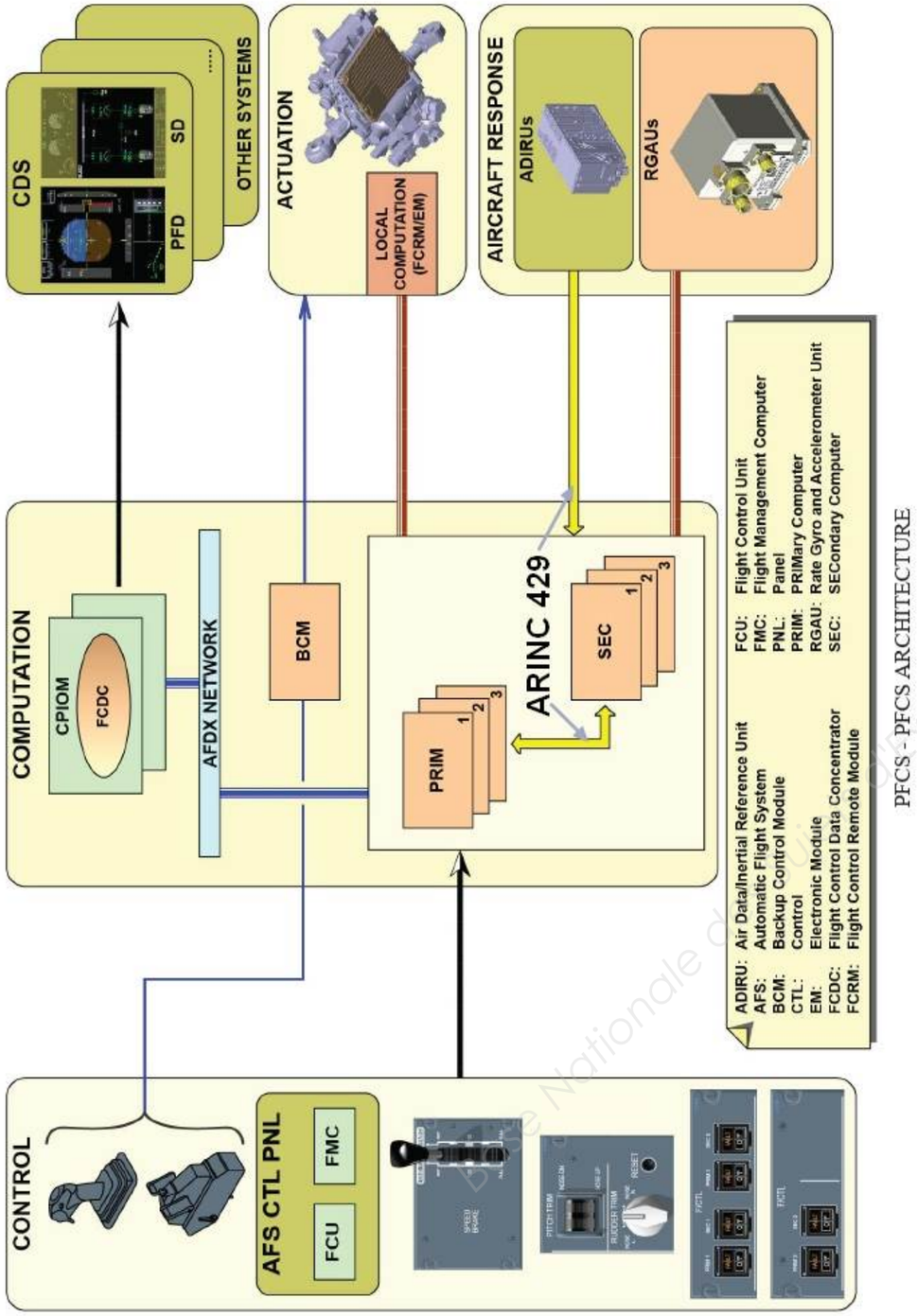








GROUND SPOILER ACTUATION



PFCS - PFCS ARCHITECTURE

3- TROUBLESHOOTING PRINCIPLE (TSM).

TASK HOA2-A-27-64-XX-5R001-421A-A
Fault of the Right Spoiler 5 EBHA: code panne " EBHA-R SPLR 5, Y (5CL2)"

1) Fault Confirmation
2) Go to the Fault Isolation.

A. Check the value of the data of label 167 of ARINC data bus 429 between the PRIM and SEC
Note: Value of the data must lie between 80 and 100° deg.
B. Check the discrete state of SPOILER 5CL2 to 28V => "Ground Actuation Spoiler"

DIGITAL OUTPUTS: Aéronef de type HOA2

PARAMETER LIST		PARAMETER CHARACTERISTICS (NUMERIC)							
EQ.SYS.LAB.SDI	PARAMETER DEFINITION (*=REMARK) (X=NOTE)	WORD RANGE OPEN RANGE RESOLUTION ACCURACY	UNIT	SIG BIT	BITS	XMSN INTV	CODE	ALPHA CODE	SOURCE ORIGIN BUS No. ATA REF CONV
167.00	RUD TRV CMD	W +/- 180 R 0.088	Deg	29	11	175	BNR		
171.00	DELTA R YD	W +/- 180 R 0.088	Deg	29	11	35	BNR		
172.00	DELTA R YD VOTED	W +/- 180 R 0.088	Deg	29	11	35	BNR		

DIGITAL OUTPUTS: Aéronef de type HOAN2

PARAMETER LIST		PARAMETER CHARACTERISTICS (NUMERIC)							
EQ.SYS.LAB.SDI	PARAMETER DEFINITION (*=REMARK) (X=NOTE)	WORD RANGE OPEN RANGE RESOLUTION ACCURACY	UNIT	SIG BIT	BITS	XMSN INTV	CODE	ALPHA CODE	SOURCE ORIGIN BUS No. ATA REF CONV
167.00	RUD TRV CMD	W +/- 180 R 0.078	Deg	29	11	175	BNR		
171.00	DELTA R YD	W +/- 180 R 0.078	Deg	29	11	35	BNR		
172.00	DELTA R YD VOTED	W +/- 180 R 0.078	Deg	29	11	35	BNR		

Go to the Fault Confirmation.
Does the fault continue? YES (Go to Step C.) / NO (Go to Step F.)

C. Remove PRIM1.*(Ref:annexe 1)*
Disconnect electrical connector E41 from EPDC1 (1XZ).
Do a check and repair the wiring of the FCGS_DIS_R_SPLR5_EBHA_CMD_M signal

From		To	
Connector	**Pin**	**Connector**	**Pin**
1CE1A	AD-6E	1XZE41	31

Value of continuity: between 15Ω and 25Ω.

Do a check and repair the wiring of the FCGS_DIS_R_SPLR5_EBHA_CMD_C signal
ASD HOA2-A-27-64-XX-03ZZZ-054Z-A

From		To	
Connector	**Pin**	**Connector**	**Pin**
1CE1A	AA-11F	1XZE41	11

Value of continuity: between 30Ω and 40Ω.

Connect electrical connector E41 to EPDC1 (1XZ).
Install PRIM1.
Go to the Fault Confirmation .
Does the fault continue? YES (Go to Step D.) / NO (Go to Step F.)

D. Remove SEC1.
Disconnect electrical connector E41 from EPDC1 (1XZ).
Do a check and repair the wiring of the FCGS_DIS_R_SPLR5_EBHA_CMD_M signal

From		To	
Connector	**Pin**	**Connector**	**Pin**
2CE1A	AE-13E	1XZE41	31

Value of continuity: between 15Ω and 25Ω.

Do a check and repair the wiring of the FCGS_DIS_R_SPLR5_EBHA_CMD_C signal Ref.
ASD HOA2- A-27-64-XX-03ZZZ-054Z-A:

From		To	
Connector	**Pin**	**Connector**	**Pin**
2CE1A	AB-13G	1XZE41	11

Value of continuity: between 20Ω and 30Ω.

Connect electrical connector E41 to EPDC1 (1XZ).
Install SEC1.
Go to the Fault Confirmation .
Does the fault continue? YES (Go to Step E.) / NO (Go to Step F.)

E. Disconnect electrical connector X65 from EPDC1 (1XZ).
Disconnect electrical connector P from the right spoiler 5 EBHA (5CL2).
Do a check and repair the wiring of the EPDC_1_PSY_R_SPLR5_EBHA signal.

From		To	
Connector	**Pin**	**Connector**	**Pin**
1XZX65	1	5CL2P	4
1XZX65	3	5CL2P	1
1XZX65	5	5CL2P	2

Value of continuity: between 25Ω and 35Ω.

Connect electrical connector P to the right spoiler 5 EBHA (5CL2).
Connect electrical connector X65 to EPDC1 (1XZ).
Go to Step F.

F. Go to the Close-up.

Go to Step G.

G. Replace the RCCB-EBHA SPLR5 R (2043CL)
Go to the Fault Confirmation
Does the fault continue? YES (Go to Step H.) / NO (Go to Step 3.)

H. Replace the ELEK MODULE-EBHA ,R SPLR 5 Y (405CL2) Ref.
I. Go to the Fault Confirmation .
Does the fault continue? YES (Go to Step J.) / NO (Go to Step 3.)

J. Replace the EBHA-R SPLR 5,Y (5CL2)
K. Go to the Fault Confirmation
. Does the fault continue? YES (Go to Step A.) / NO (Go to Step 3.)

3) <u>Close-Up</u>

Put the aircraft back to its initial configuration.
Make sure that the work area is clean and clear of tools and other items.

<u>TASK HOA2-A-27-64-XX-1U002-429A-A</u>
<u>Fault of the Left Spoiler 1 FCRM Detected by the SEC 1 Monitoring</u>

1) Fault Confirmation
Go to the Fault Isolation

A Replace the SERVO MODULE-SERVO CTL,L SPLR1 Y (201CL1)
Go to the Fault Confirmation
Does the fault continue? YES (Go to Step B.) / NO (Go to Step L.)

B Replace the SERVO CTL-L SPLR 1,
Go to the Fault Confirmation
Does the fault continue? YES (Go to Step C.) / NO (Go to Step L.)

C Replace SEC-1 (2CE1)

Go to the Fault Confirmation .
Does the fault continue? YES (Go to Step D.) / NO (Go to Step L.)

D Remove PRIM1.
Do a check and repair the wiring of the FCGS_ANA_SRVCTL_L_SPLR1_Y signal

From		To	
Connector	Pin	Connector	Pin
1CE1A	AA-1E	First terminal block	
1CE1A	AA-2E	First terminal block	

Install PRIM1.
Go to the Fault Confirmation
Does the fault continue? YES (Go to Step E.) / NO (Go to Step L.)

E. Replace the COUPLER-LW COM 1 (105CE1)
Go to the Fault Confirmation
Does the fault continue? YES (Go to Step F.) / NO (Go to Step L.)

F. Replace the COUPLER-LW MON 1 (105CE2).
Go to the Fault Confirmation
Does the fault continue? YES (Go to Step G.) / NO (Go to Step L.)

G. Disconnect electrical connector B from the coupler of the 1553 bus (105CE1)
Disconnect electrical connector A from the Yellow left spoiler-servocontrol (1CL1).
Do a check and repair the wiring of the FCGS_1553_1_L_WG_SVCTRL_P1S1C signal

From		To	
Connector	Pin	Connector	Pin
105CE1B	03C	1CL1A	0VC
105CE1B	03I	1CL1A	0VI

Connect electrical connector A to the Yellow left spoiler-servocontrol (1CL1). Connect electrical connector B to the coupler of the 1553 bus (105CE1). Go to the Fault Confirmation
Does the fault continue? YES (Go to Step H.) / NO
(Go to Step L.)

H. Disconnect electrical connector B from the coupler of the 1553 bus (105CE2). Disconnect electrical connector B from the Yellow left spoiler-servocontrol (1CL1).
Do a check and repair the wiring of the FCGS_1553_2_L_WG_SVCTRL_P1S1M signal

From		To	
Connector	Pin	Connector	Pin
105CE2B	03C	1CL1A	0VC
105CE2B	03I	1CL1A	0VI

Connect electrical connector B to the Yellow left spoiler-servocontrol (1CL1).
Connect electrical connector B to the coupler of the 1553 bus (105CE2).
Go to the Fault Confirmation
Go to Step L.

L. Go to the Close- up.
Go to Step 2.

2. Close-Up

Put the aircraft back to its initial configuration.
Make sure that the work area is clean and clear of tools and other items.

4- REMOVE AND INSTALL

TASK HOA2-A-27-93-34-00001-520A-A

Removal of the PRIMary Computer (PRIM)
FIN: 1CE1 1CE2 1CE3

1. General

A. Reason for the
Job Self
Explanatory

B. Component Weight
The weight of the component is approximately 12 kg (26.5 lb).

2. Job Set-Up Information

A. Work Zones.

ZONE	ZONE DESCRIPTION
120	AVIONICS COMPARTMENT; NOSE LANDING GEAR BAY.

REFERENCE	QTY	DESIGNATION
No Specific	AR	CAP-BLANKING

3. Job Set-Up

SUBTASK 279334-10100010001

A. Aircraft Maintenance Configuration

(1) Energize the aircraft electrical circuits
Ref. MP HOA2-A-24-41-XX-00ZZZ-761Z-A .

(2) On a maintenance terminal, get access to the “MAINTENANCE HOME PAGE” Ref. MP HOA2-A-45-XX-XX-00ZZZ-132Z-A .

(3) On the “MAINTENANCE HOME PAGE”, select “C/B Management” Ref. MP HOA2-A-24-71-XX-00ZZZ-170Z-A

SUBTASK 279334-86500010001

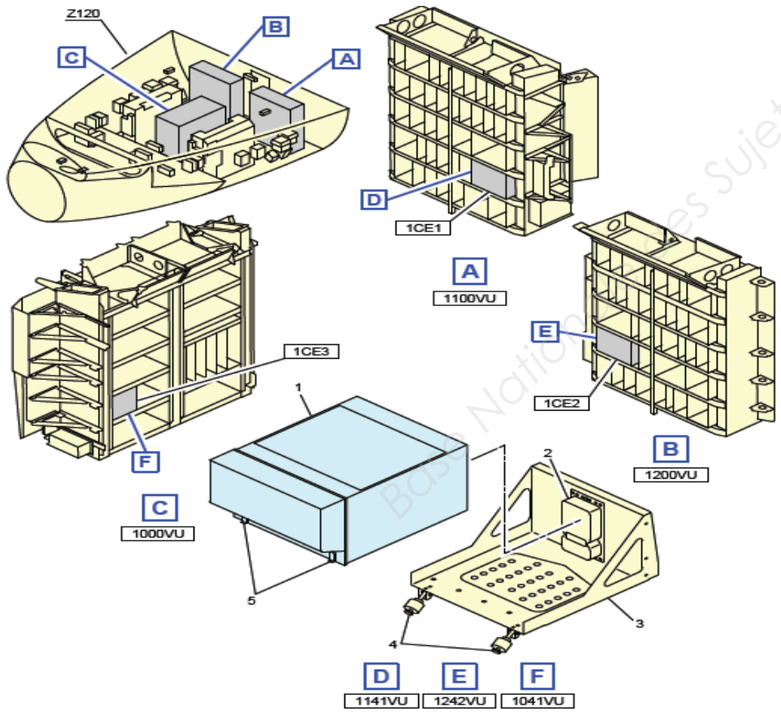
B. Open, safety/lock and tag this(these) circuit breaker(s):

PANEL	DESIGNATION	FIN	LOCATION
FOR FIN 1CE1 (PRIM-1)			
EPDC1	C/B-PRIM 1	2001CE	3HZ11
FOR FIN 1CE2 (PRIM-2)			
EPDC2	C/B-PRIM 2	2002CE	4HZ10
FOR FIN 1CE3 (PRIM-3)			
EPDC1	C/B-PRIM 3	1005CE	1KZ10

SUBTASK 279334-10100020001

C. Get access to the avionics compartment
Ref. MP HOA2-A-12-XX-XX-00ZZZ-170Z-A

4. Procedure



SUBTASK 279334-40100010001

A. Removal of the PRIM

(1) Loosen and lower the nuts (4).

WARNING: BE CAREFUL WHEN YOU REMOVE OR INSTALL THIS EQUIPMENT. THIS EQUIP-MENT IS HEAVY (MORE THAN 12 KG (26.5 LB)) AND CAN CAUSE INJURY AND/ OR DAMAGE.

(2) Carefully pull the PRIM (1) on its rack (3) to disconnect the electrical connectors (2) and remove it.

(3) Put a cap-blanking on all the disconnected electrical connector(s) and receptacle(s). CAP - BLANKING.

TASK HOA2-A-27-94-34-00001-520A-A

Removal of the SECondary Computer (SEC)

FIN: 2CE1 2CE2 2CE3

3. General

A. Reason for the Job Self Explanatory

B. Component Weight
The weight of the component is approximately 12 kg (26.5 lb).

4. Job Set-Up Information

ZONE	ZONE DESCRIPTION
120	AVIONICS COMPARTMENT; NOSE LANDING GEAR BAY.

REFERENCE	QTY	DESIGNATION
No Specific	AR	CAP-BLANKING

HOA2-A-12-XX-XX-00ZZZ-170Z-A: MP - Get Access / Close Access to the Avionics Compartment

MP - Energize the Aircraft Electrical Circuits from External Power Re- ceptacle 1
HOA2-A-24-41-XX-00ZZZ-761Z-A

HOA2-A-24-71-XX-00ZZZ-170Z-A: MP - Get Access to "C/B Management"

MP - Get Access to the "MAINTENANCE HOME PAGE" and to the
HOA2-A-45-XX-XX-00ZZZ-132Z-A : Maintenance Applications

5. Job Set-Up

SUBTASK 279434-10100010001

C. Aircraft Maintenance Configuration

(1) Energize the aircraft electrical circuits
Ref. MP HOA2-A-24-41-XX-00ZZZ-761Z-A .

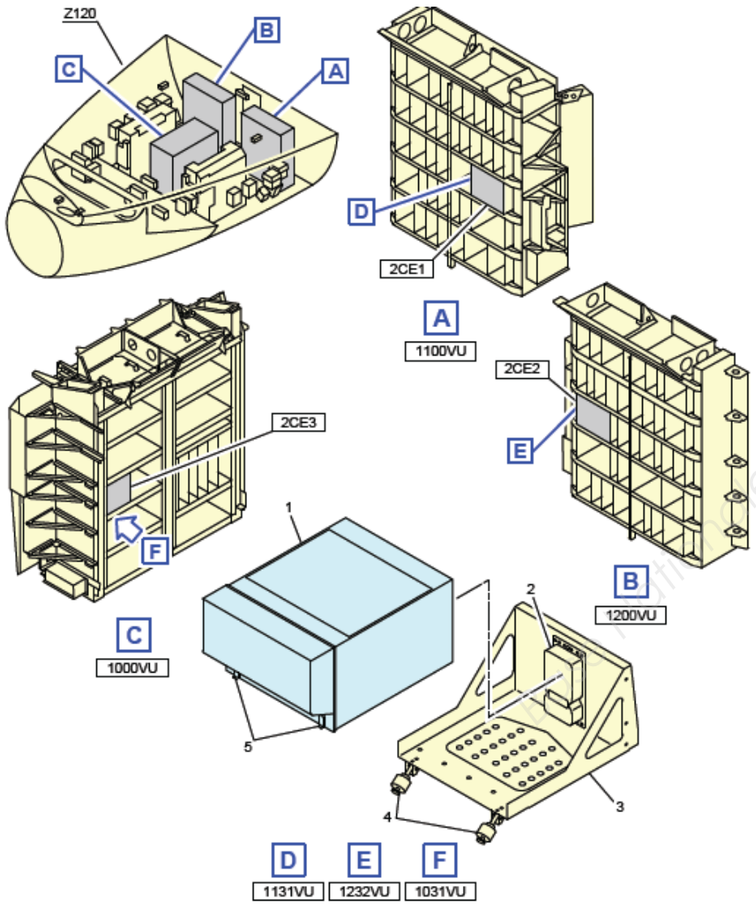
(2) On a maintenance terminal, get access to the “MAINTENANCE HOME PAGE” Ref. MP HOA2-A-45-XX-XX-00ZZZ-132Z-A .

(3) On the “MAINTENANCE HOME PAGE”, select “C/B Management” Ref. MP HOA2-A-24-71-XX-00ZZZ-170Z-A .

SUBTASK 279434-86500010001
B. Open, safety/lock and tag this(these) circuit breaker(s):

SUBTASK 279434-10100020001
D. Get access to the avionics compartment
Ref. MP HOA2-A-12-XX-XX-00ZZZ-170Z-A .

4. Procedure
Ref. Fig. SEC



SUBTASK 279434-40100010001
B. Removal of the SEC

(1) Loosen and lower the nuts (4).

WARNING: BE CAREFUL WHEN YOU REMOVE OR INSTALL THIS EQUIPMENT. THIS EQUIP-MENT IS HEAVY (MORE THAN 12 KG (26.5 LB)) AND CAN CAUSE INJURY AND/ OR DAMAGE.

(4) Pull the SEC (1) on its rack (3) to disconnect the electrical connectors (2) and remove it.

(5) Put a cap-blanking on all the disconnected electrical connector(s) and receptacle(s). CAP - BLANKING.

TASK HOA2-A-27-64-55-A2001-520A-A
Removal of the Electronic Module of the Spoiler Electrical Backup Hydraulic Actuator (EBHA)
FIN: 405CL1 405CL2

1. General
A. Reason for the Job Self Explanatory

B. Additional information
Two persons are necessary to do this procedure (one person to hold the electronic module and one per-son to loose the captive screws).

C. Component Weight
The weight of the electronic module is approximately 12 kg (26 lb).

2. Job Set-Up Information

ZONE	ZONE DESCRIPTION
572	MID FIXED TRAILING EDGE STRUCTURE
586	SPOILER 5

Access/Panel.
A.
ON A/C 0088
FOR FIN 405CL1 (ELEK MODULE-EBHA,L SPLR 5 Y)
572DB (Panel)
ON A/C 0088
FOR FIN 405CL2 (ELEK MODULE-EBHA ,R SPLR 5 Y)
672DB (Panel)
ON A/C 0088

Fixtures, Tools, Test and Support Equipment.

REFERENCE	QTY	DESIGNATION
98L27901001000	2	PIN,LOCKING-SIDE STICK
98V27801000000	1	CONTROL LEVER FLAP SLAT
98V27004004000	AR	FLAP DRIVE SHAFT PROTECTOR
98V27103004000	1	SPOILER MAINTENANCE KEY
No Specific	AR	WARNING NOTICE(S)
No Specific	AR	SAFETY BARRIER(S)
No Specific	1	ACCESS PLATFORM 6M (20 FT) - ADJUSTABLE
No Specific	1	ELECTRICALLY GROUNDED WRIST STRAP
No Specific	1	SCRAPER - NON METALLIC
No Specific	AR	CAP - BLANKING
No Specific	AR	PLUG - BLANKING

Referenced Information.

REFERENCE	DESIGNATION
HOA2-A-24-41-XX-00ZZZ-761Z-A	MP - Energize the Aircraft Electrical Circuits from External Power Re-ceptacle 1
HOA2-A-24-71-XX-00ZZZ-170Z-A	MP - Get Access to "C/B Management"
HOA2-A-27-5X-XX-00ZZZ-170Z-A	MP - Manual Extension of the Flaps
HOA2-A-27-5X-XX-04ZZZ-170Z-A	MP - Extension of the Flaps, the Slats and the Droop Nose System
HOA2-A-27-5X-XX-06ZZZ-170Z-A	MP - Extension of the Flaps with the Aircraft on the Ground and without Movement of the Slats and the Droop Noses
HOA2-A-27-64-XX-00ZZZ-170Z-A	MP - Extension of the Spoilers for Maintenance

6. Job Set-Up

SUBTASK 276455-10100280001

D. Aircraft Maintenance Configuration

(1) Energize the aircraft electrical circuits
Ref. MP HOA2-A-24-41-XX-00ZZZ-761Z-A .

(2) Extend the flaps Ref. MP HOA2-A-27-5X-XX-00ZZZ-170Z-A or Ref. MP HOA2-A-27-5X-XX-04ZZZ-170Z-A or Ref. MP HOA2-A-27-5X-XX-06ZZZ-170Z-A .

(3) Put the hydraulic systems in the depressurized-for-maintenance configuration Ref. MP HOA2-A-29-XX-XX-05ZZZ-562Z-A .

(4) On a maintenance terminal, get access to the “MAINTENANCE HOME PAGE” Ref. MP HOA2-A-45-XX-XX-00ZZZ-132Z-A .

(5) On the “MAINTENANCE HOME PAGE”, select “C/B Management” Ref. MP HOA2A-24-71-XX-00ZZZ-170Z-A .

SUBTASK 276455-86500100001

E. Open, safety/lock and tag this(these) circuit breaker(s):

PANEL	DESIGNATION	FIN	LOCATION
EPDC1	C/B-PRIM 3	1005CE	1KZ10
EPDC1	C/B-SEC 3	1007CE	1KZ12
EPDC1	C/B-PRIM 1	2001CE	3HZ11
EPDC2	C/B-PRIM 2	2002CE	4HZ10
EPDC1	C/B-SEC 1	2003CE	3HB05
EPDC2	C/B-SEC 2	2004CE	4HB01
EPDC1	C/B-SFCC1 FLAP	3101CV	1KK03
EPDC1	C/B-SFCC1 FLAP WTB	3103CV	1KS01
CBP2	C/B-SFCC2 FLAP	3202CV	6AK05
CBP2	C/B-SFCC2 FLAP WTB	3204CV	6AK07
EPDC2	C/B-SFCC2 SLAT	3102CW	2KD06
CBP1	C/B-SFCC1 SLAT	3201CW	5AH13

SUBTASK 276455-10100460001

5. Aircraft Maintenance Configuration

On the EPDC1 inner face:
On location 1CF04, open reset switch 1663XZ.
On the “C/B Management” page, make sure that RCCB 2041CL is opened.
On location 1CG03, open reset switch 1657XZ.
On the “C/B Management” page, make sure that RCCB 2043CL is opened.

SUBTASK 276455-10100290001

C. Safety Precautions

(1) On the CAPT and F/O side-stick consoles, on each SSU:
Install the PIN,LOCKING-SIDE STICK (98L27901001000).
Put a WARNING NOTICE(S) in position to tell persons not to operate the CAPT and F/O SSUs.

(2) On the center pedestal, on the FLAPS control panel:
Install the CONTROL LEVER FLAP SLAT (98V27801000000) on the SLATS/FLAPS control lever.
Put a WARNING NOTICE(S) in position to tell persons not to operate the SLATS/FLAPS control lever.

(3) On the overhead panel, on the F/CTL sections of panels 211VM and 212VM, put the WARNING NOTICE(S) in position to tell persons not to operate the flight controls.

(4) On the overhead panel, make sure that the WARNING NOTICE(S)WARNING NOTICE(S) is(are) in position to tell persons not to pressurize the Green and Yellow hydraulic systems, on:
The GND HYD section of panel 222VM
The HYD section of panel 235VM.

(5) Make sure that the WARNING NOTICE(S) is(are) in position on the Green and Yellow ground service-panels (access doors 194KB and 197LB) to tell persons not to operate the hydraulic systems WARNING NOTICE(S).

(6) As necessary, use the applicable SAFETY BARRIER(S)specified by the operator instructions and your local regulations.

SUBTASK 276455-10100300001
(6) Get Access

Put the ACCESS PLATFORM 6M (20 FT) - ADJUSTABLE in position:
FOR FIN 405CL1 (ELEK MODULE-EBHA,L SPLR 5 Y)

(a) Below access panel 572DB.
FOR FIN 405CL2 (ELEK MODULE-EBHA ,R SPLR 5 Y)

B. Below access panel 672DB.
ON A/C 0088

WARNING: BEFORE YOU START WORK, YOU MUST PUT ON A SAFETY HARNESS AND AT-TACH IT TO THE ACCESS PLATFORM. WITHOUT A SAFETY HARNESS, YOU CAN FALL. THIS CAN KILL YOU OR CAUSE YOU INJURY.

C. Put on and attach a SAFETY HARNESS before you start work in the work area.

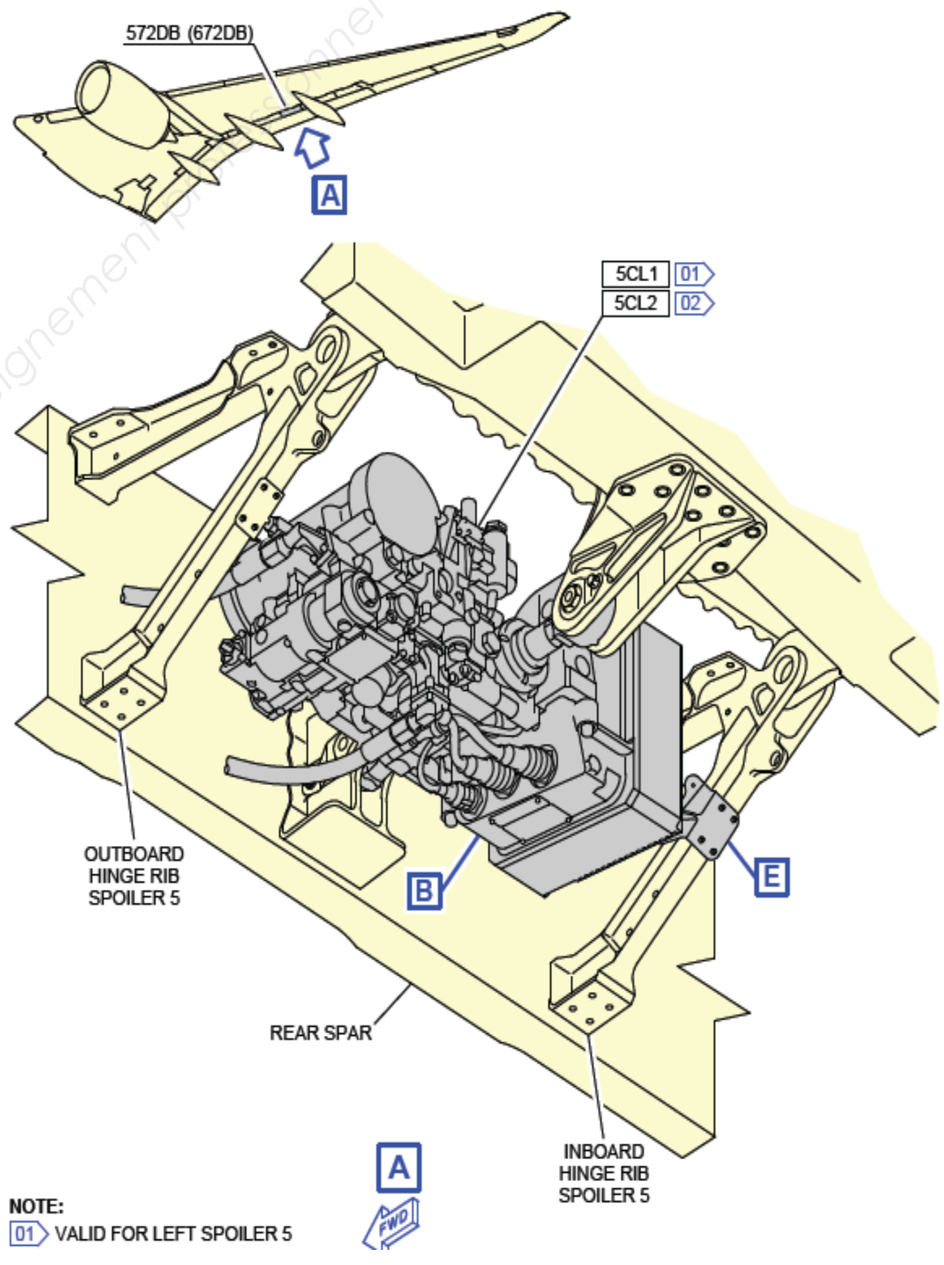
D. Removal for access:
FOR FIN 405CL1 (ELEK MODULE-EBHA,L SPLR 5 Y)

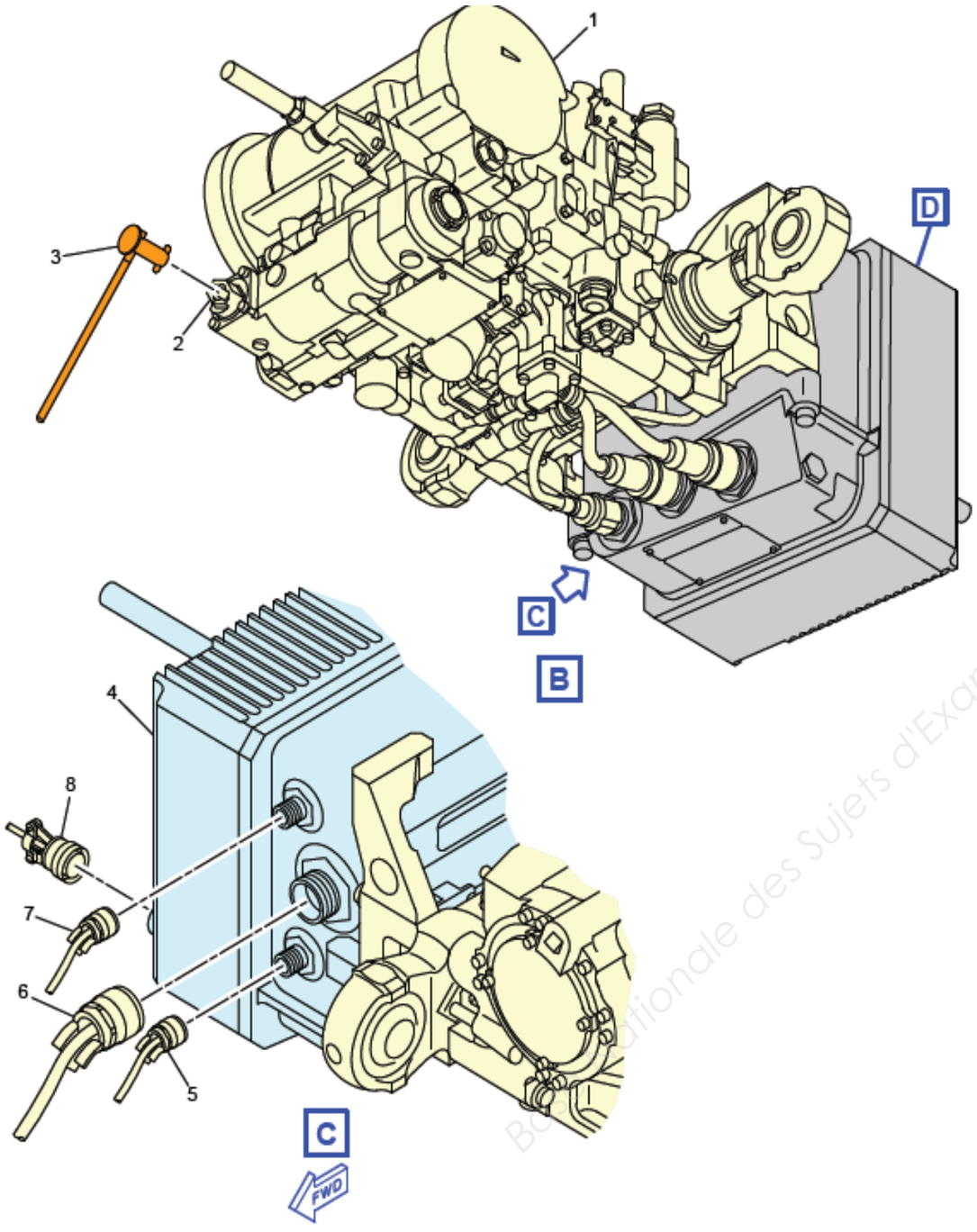
Remove access panel 572DB Ref. MP HOA2-A-57-52-71-01ZZZ-520Z-A .
FOR FIN 405CL2 (ELEK MODULE-EBHA ,R SPLR 5 Y)

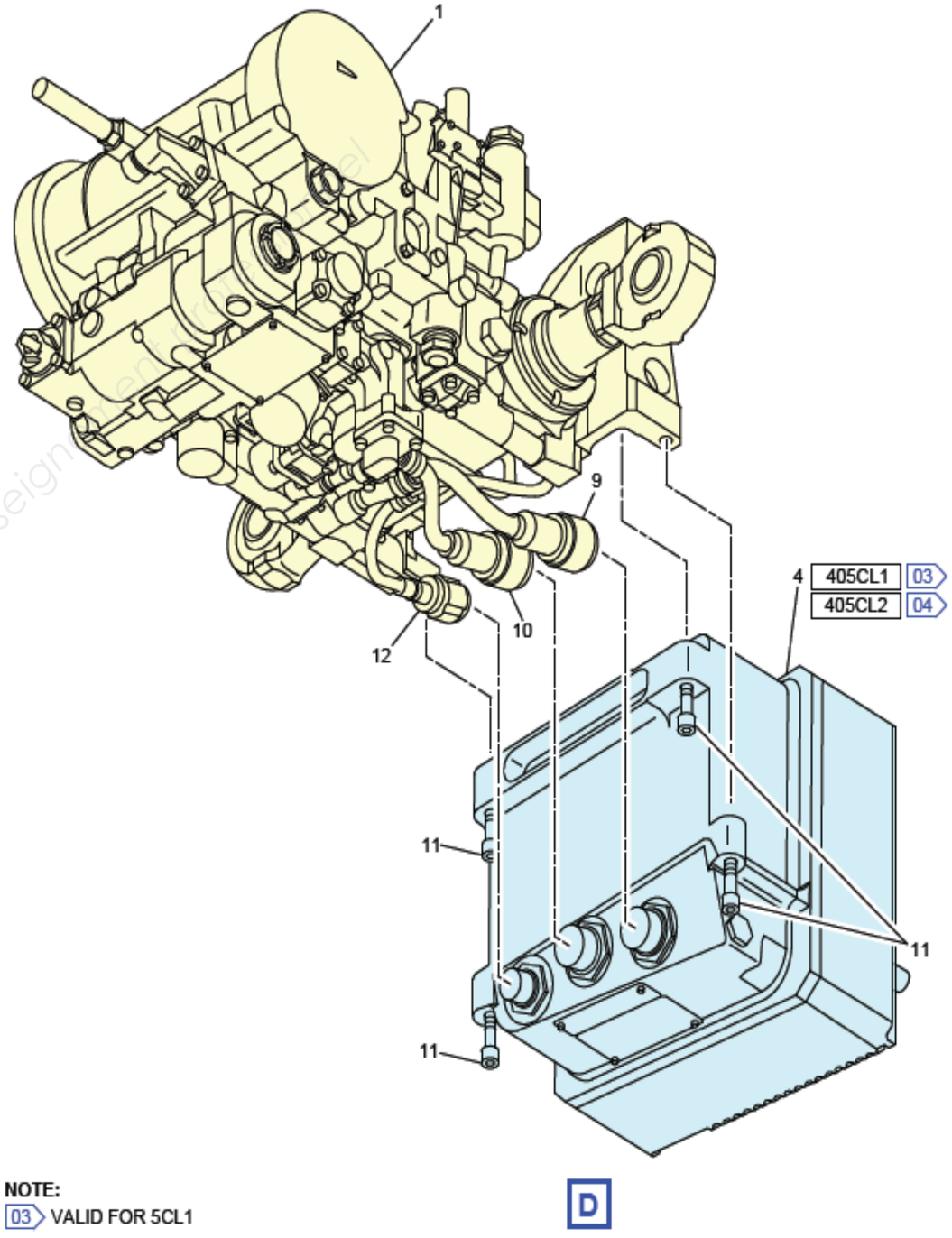
Remove access panel 672DB Ref. MP HOA2-A-57-52-71-01ZZZ-520Z-A .

ON A/C 0088

H. Procedure
Ref. Fig. Electronic Module of the Spoiler







NOTE:
03 VALID FOR 5CL1

SUBTASK 276455-40100070001

I. Removal of the Electronic Module of the Spoiler EBHA

Put on the ELECTRICALLY GROUNDED WRIST STRAP and connect its cable to a bonding point.

Install the FLAP DRIVE SHAFT PROTECTOR (98V27004004000) around the flap drive shaft.

WARNING: BEFORE YOU INSTALL/REMOVE THE GSE TOOL, READ THE MANUFACTURER'S INSTRUCTIONS, AND, WHILE YOU OPERATE THIS TOOL, CAREFULLY OBEY THEM. IF YOU DO NOT DO THIS, INJURY TO PERSONS AND/ OR DAMAGE TO EQUIPMENT CAN OCCUR.

J. Install the SPOILER MAINTENANCE KEY (98V27103004000) (3) on the maintenance device of the spoiler EBHA (1).

K. Set the maintenance device (2) as follows:

With the spoiler maintenance key (3) , push and turn the maintenance device (2) of the spoiler EBHA (1) to the “M” (maintenance) position.

Make sure that the maintenance device (2) is against the “M” stop.

NOTE: The spoiler EBHA is in maintenance mode.

K. Extend the spoiler for maintenance Ref. MP HOA2-A-27-64-XX-00ZZZ-170Z-A .

L. Removal of the catcher assembly (16) :

Remove the sealant with the SCRAPER - NON METALLIC from the catcher assembly (16).

Loosen the nuts (17) from the catcher assembly (16).

Remove the nuts (17) , the bolts (13) and the washers (14) from the catcher assembly (16).

Remove the catcher assembly (16) from the structure (15).

CAUTION: MAKE SURE THAT ELECTRICAL CONNECTORS ARE CLEAN WHEN YOU DIS-CONNECT THEM. THE CONTAMINATION OF ELECTRICAL CONNECTORS CAN CAUSE DAMAGE TO THE EQUIPMENT.

L. Disconnection of the electrical connectors:

Put a mark on the electrical connectors (5) , (6) , (7) , (8) , (9) , (10) and (12) and dis-connect them.

M. Put a cap-blanking on all the disconnected electrical connector(s) and receptacle(s). CAP - BLANKING.

N. Put the PLUG - BLANKING on each electrical port of the electronic module (4).

O. Removal of the electronic module (4) :

Hold the electronic module (4) and loosen the captive bolts (11)

WARNING: BE CAREFUL WHEN YOU REMOVE OR INSTALL THIS EQUIPMENT.

THIS EQUIPMENT IS HEAVY (MORE THAN 12 KG (26.5 LB)) AND CAN CAUSE INJURY AND/OR DAMAGE.

2 Carefully remove the electronic module (4) from the spoiler EBHA (1).

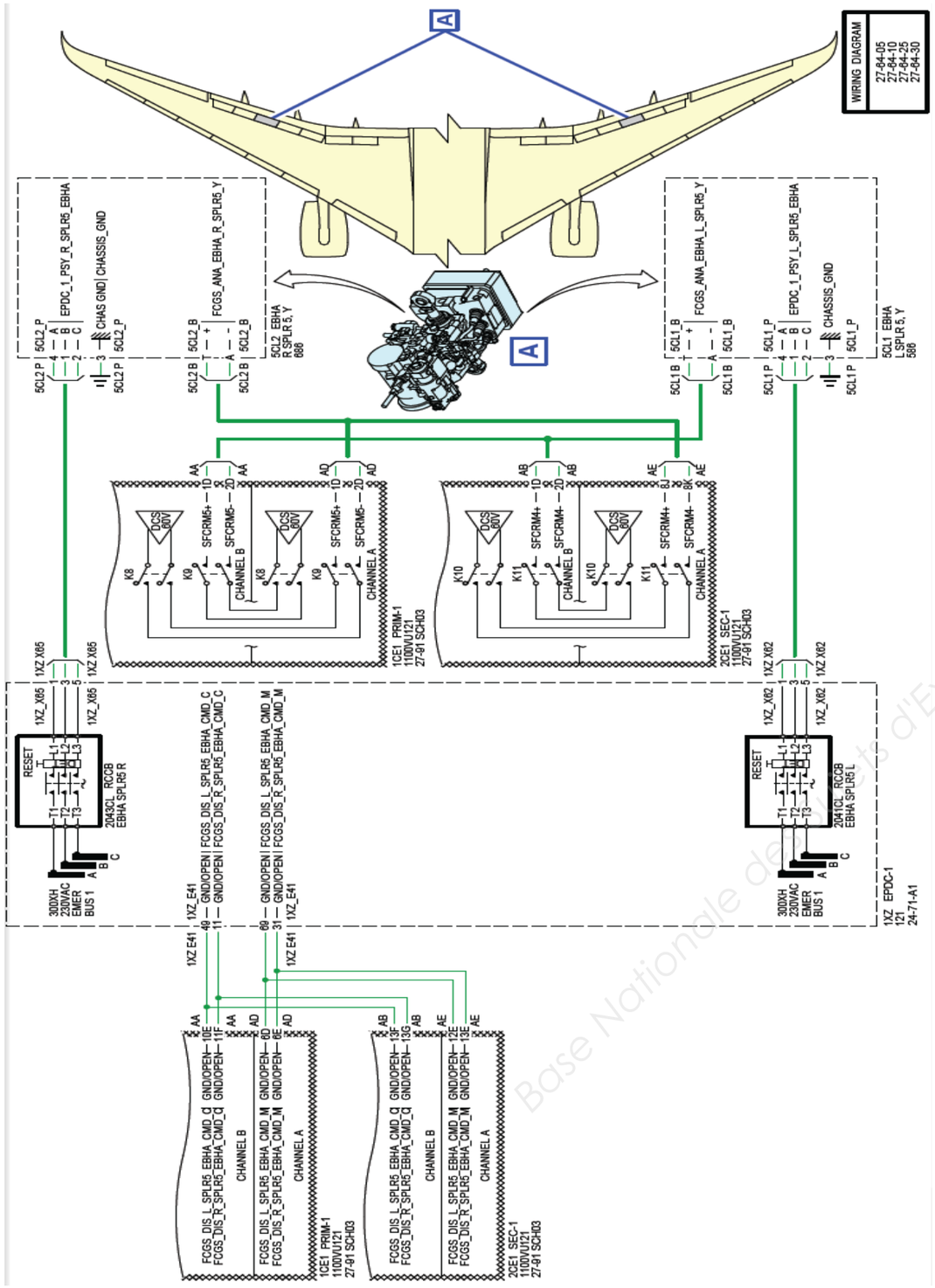
5- CARACTERISTIQUES EBHA:

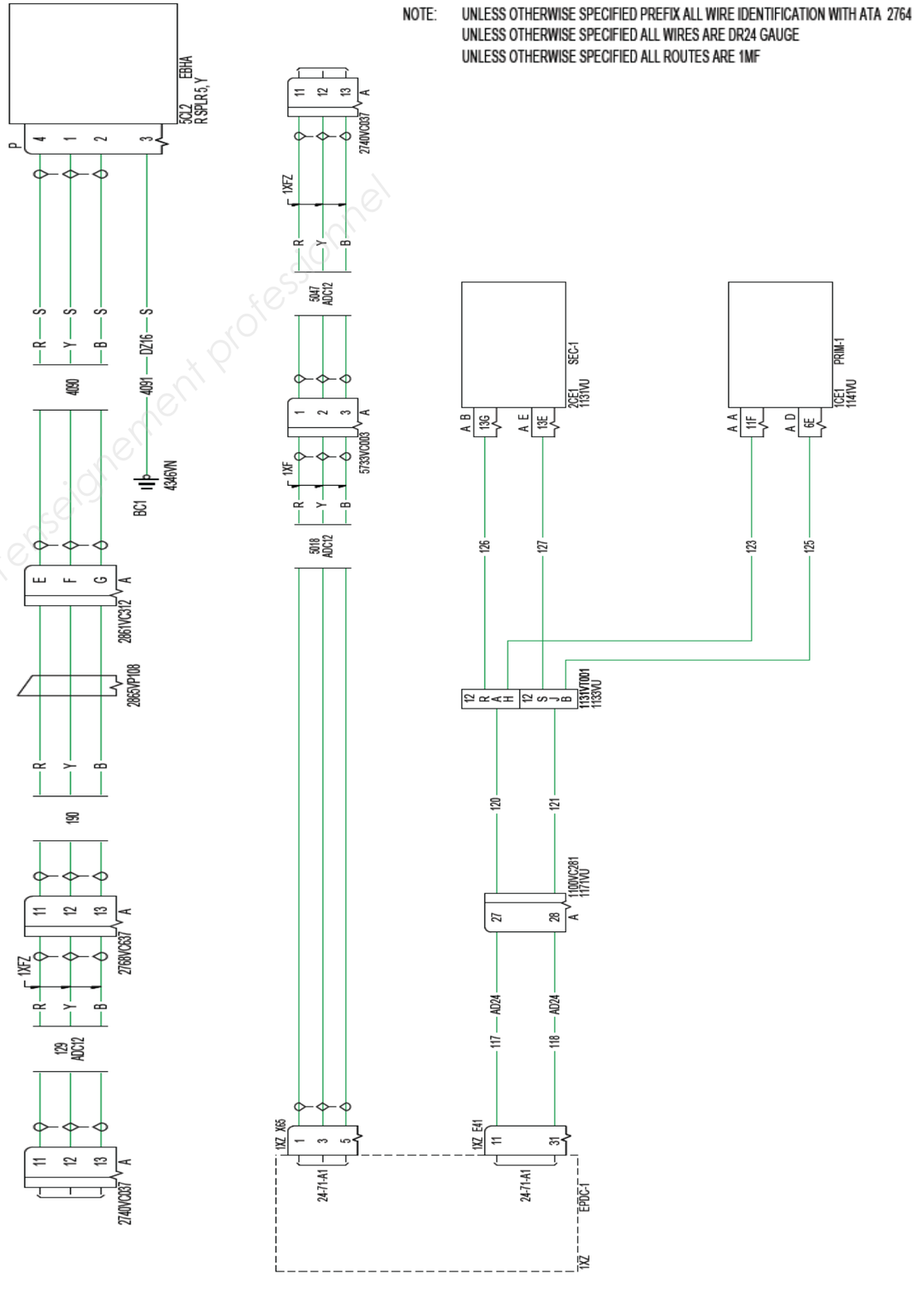
	EBHA		
	CA67002-001	CA67002-010	CA67002-017
Masse (kg)	12	12	12
Pression (PSI)	5000	5000	5000
Diamètre piston (mm)	58	62	64
Course (mm)	115	118	120
Voltage	230VAC/60VDC	230VAC/60VDC	230VAC/60VDC

6- CARACTERISTIQUES SERVO-CONVENTIONELLE:

	Conventional servocommande		
	CA67003-020	CA67003-020	CA67003-020
Masse (kg)	25	25	25
Pression (PSI)	5000	5000	5000
Diamètre piston (mm)	58	62	64
Course (mm)	115	118	120

7- ANNEXE 1





8- ANNEXE 2

Système de référence / Part numbering system — FDBA

Type de boîtier
50 : Embase collerette carrée
53 : Embase collerette à souder, uniquement hermétique
54 : Embase collerette ronde
56 : Fiche
57 : Fiche avec couronne de masse
58 : Embase collerette carrée large, uniquement hermétique
* : Version inox, nous consulter
Shell type
50 : Square flange receptacle
53 : Solder receptacle, hermetic only
54 : Single hole mounting receptacle
56 : Plug
57 : Plug with RFI fingers
58 : Large square flange, hermetic only
** : stainless steel, consult us*

Taille du boîtier
Shell size
8-10-12-14-16-18-20-22-24

Modifications spéciales
Cadmié vert olive : 023
Serre-câble droit : 059
Serre-câble coudé : 081
Connecteur livré sans contact : 090
Contact taille 20 conforme à la norme ASNE : A246
Arrangements hybrides gauge 20 plus 16, conformes à la norme ASNE : B246
Connecteur livré avec écrou arrière : A 285
Ecrou arrière allégé : A 451
Connecteur version nickelé : A 499
Embase hermétique collerette carrée avec contacts à picot : A 276 A
Special Modifications
Olive drab cadmium : 023
Straight cable clamp : 059
Elbowed cable clamp : 081
Delivery without contact : 090
Size 20 contact in accordance with ASNE : A246
Hybrid arrangement gage 20 and 16, in accordance with ASNE : B246
Supplied with backshell : A 285
Lightened backshell : A 451
Nickel version connector : A 499
Hermetical square flange receptable with special contacts for printed circuit : A 276 A

Genre du contact
Contact mâle : P
Contact femelle : S
Contact type
Male contact : P
Female contact : S

FDBA	50	H	14	19	P	N	K	***

Type de connecteur
Connector type

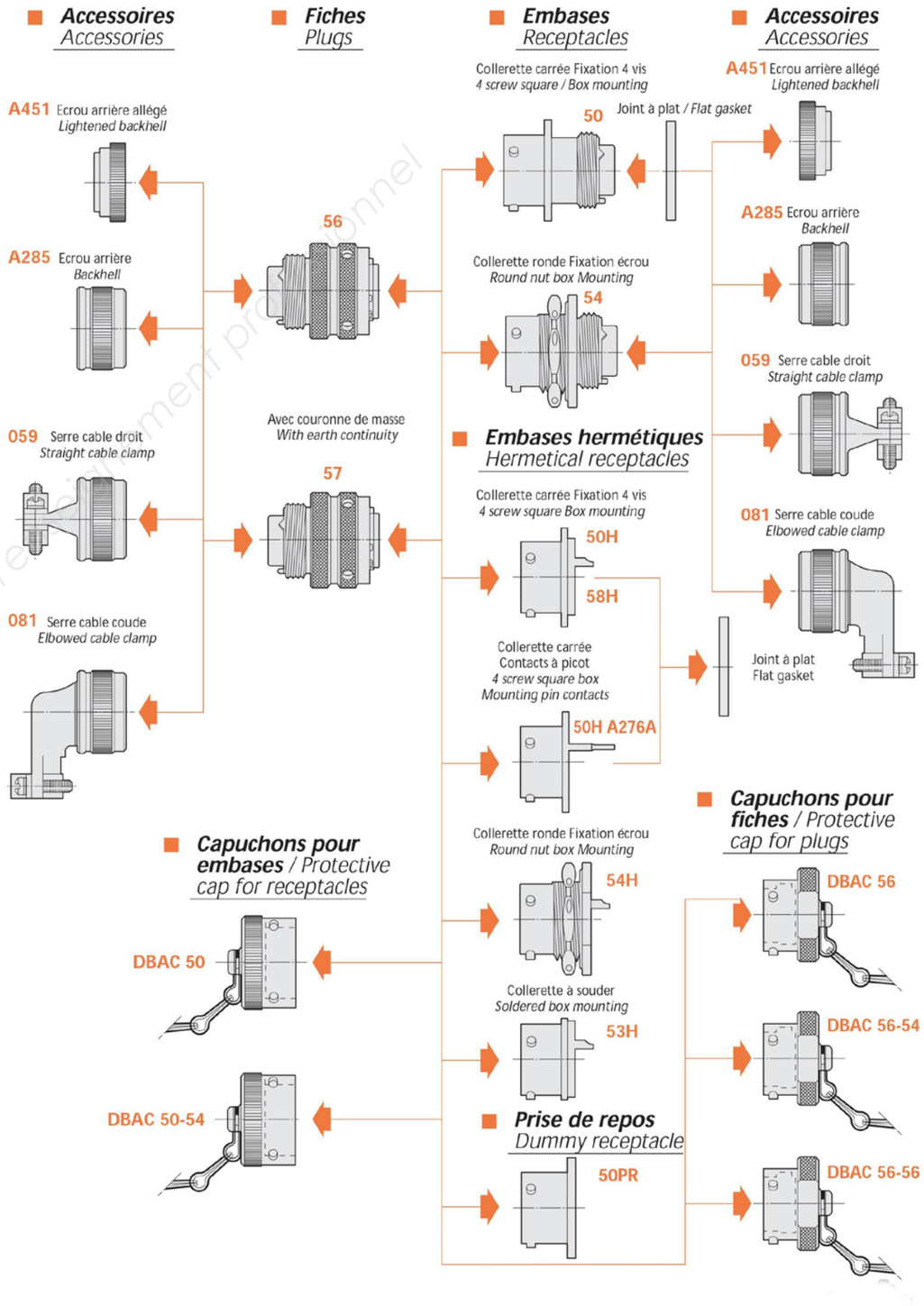
Version
H : Hermetique
Sans indice : Etanche
Version
H : Hermetic
Without index : Sealing

Arrangement de l'isolant
Insert arrangement
(voir page/*See page 7*)

Positionnement de l'isolant
Normal : N
Autres : W-X-Y-Z
Insert clocking position
Normal : N
Others : W-X-Y-Z

Indice
Evolution du connecteur
Index
Connecteur evolution

Synoptique / Synoptic — FDBA



Arrangements / Arrangements — FDBA

Vu face avant isolant mâle / Male insert viewed from front face.


Disposition 08-3A/08-98 *
3 contacts taille/size 20


Disposition 08-33 *
3 contacts taille/size 20


Disposition 10-06 *
6 contacts taille/size 20


Disposition 12-03 *
3 contacts taille/size 16


Disposition 12-08
8 contacts taille/size 20


Disposition 12-10 *
10 contacts taille/size 20


Disposition 14-4
4 contacts taille/size 12


Disposition 14-5
5 contacts taille/size 16


Disposition 14-12 *
8 contacts taille/size 20
4 contacts taille/size 16


Disposition 14-15 *
14 contacts taille/size 20
1 contacts taille/size 16


Disposition 14-19 *
19 contacts taille/size 20


Disposition 16-08
8 contacts taille/size 16


Disposition 16-21
16 contacts taille/size 20
5 contacts taille/size 16


Disposition 16-26 *
26 contacts taille/size 20


Disposition 18-11
11 contacts taille/size 16


Disposition 18-32 *
32 contacts taille/size 20


Disposition 20-16
16 contacts taille/size 16


Disposition 20-39
37 contacts taille/size 20
2 contacts taille/size 16


Disposition 20-41 *
41 contacts taille/size 20


Disposition 22-12
12 contacts taille/size 12


Disposition 22-21
21 contacts taille/size 16

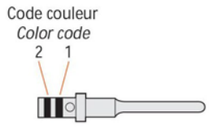

Disposition 22-41 *
27 contacts taille/size 20
14 contacts taille/size 16


Disposition 22-55 *
55 contacts taille/size 20

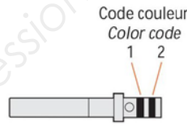

Disposition 24-61
61 contacts taille/size 20

* *Disponibles en hermétique. Available in hermetic version.*

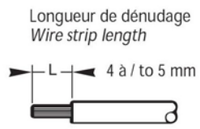
Contacts et outillages / Contacts and tools — FDBA



Contact mâle / *Male contact*



Contact femelle / *Female contact*

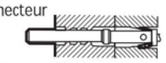


Contacts / *Contacts*						Câbles / *Cables*		
Référence commerciale / *Commercial Ref*	Genre / *Type*	Taille AWG / *wire*	Observations / *Remarks*	Code couleur / *Color code* 1	2	Section en mm² / *Section in mm²*	Gauge AWG / *wire*	Ø sur gaine / *Ø over sheath*
006-0937-20 A*	P	20	–	rouge *red*	rouge *red*	0,21 à / *to* 0,60	20 à / *to* 24	0,85 à / *to* 2,10
006-0912-20 A*	S							
006-0972-20 A	P	20	contact à fût réduit *reduced bucket contact*	rouge *red*	blanc *white*	0,055 à / *to* 0,15	26 à/to 30	0,85 à / *to* 2,10
006-0973-20 A	S							
006-0044-20 A**	P	20	contact à fût agrandi *enlarged bucket contact*	rouge *red*	violet *purple*	0,21 à / *to* 0,93	18 à / *to* 22	0,85 à / *to* 2,10
006-0055-20 A**	S							
006-0982-20	P	20	contact chromel *chromel contact*	repère Ch *mark Ch*		0,21 à / *to* 0,60	20 à / *to* 24	0,71 à / *to* 2,10
006-0985-20	S							
025-0404-20	P	20	contact chromel *chromel contact*	repère Ch *mark Ch*		0,38 à / *to* 0,93	18 à / *to* 22	0,71 à / *to* 2,10
025-0405-20	S							
006-0983-20	P	20	contact alumel *alumel contact*	repère Al *mark Al*		0,21 à / *to* 0,60	20 à / *to* 24	0,71 à / *to* 2,10
006-0984-20	S							
025-0402-20	P	20	contact alumel *alumel contact*	repère Al *mark Al*		0,38 à / *to* 0,93	18 à / *to* 22	0,71 à / *to* 2,10
025-0403-20	S							
006-1060-20	P	20	contact constantan *constantan contact*	repère Co *mark Co*		0,21 à / *to* 0,60	20 à / *to* 24	0,71 à / *to* 2,10
006-1062-20	S							
025-0406-20	P	20	contact constantan *constantan contact*	repère Co *mark Co*		0,38 à / *to* 0,93	18 à / *to* 22	0,71 à / *to* 2,10
025-0407-20	S							
006-0937-16 A*	P	16	–	bleu *blue*	bleu *blue*	0,60 à / *to* 1,34	16 à / *to* 20	1,28 à / *to* 2,62
006-0912-16 A*	S							
006-1102-16 A	P	16	contact à fût agrandi *enlarged bucket contact*	bleu *blue*	orange *orange*	0,93 à / *to* 1,91	14 à / *to* 18	1,28 à / *to* 2,62
006-1104-16 A	S							
025-0870-16 A	P	16	contact à fût réduit *reduced bucket contact*	bleu *blue*	noir *black*	0,055 à / *to* 0,15	26 à / *to* 30	1,28 à / *to* 2,62
025-0871-16 A	S							
006-1168-16 A	P	16	contact à fût réduit *reduced bucket contact*	bleu *blue*	rouge *red*	–	20 à / *to* 24	1,28 à / *to* 2,62
006-1169-16 A	S							
006-0937-12 A*	P	12	-	jaune *yellow*	jaune *yellow*	1,91 à / *to* 3,18	12 à / *to* 14	1,93 à / *to* 4,01
006-0912-12 A*	S							
006-1157-12 A	P	12	contact à fût réduit *reduced bucket contact*	jaune *yellow*	bleu *blue*	0,60 à / *to* 1,34	16 à / *to* 20	1,93 à / *to* 4,01
006-1159-12 A	S							

* *Contacts standards livrés avec le connecteur*
Standard contacts supplied with connector

** *Contacts livrés avec les mods A246 et B246 (conformes à la norme ASNE 052/053/054)*
contacts supplied with mod A246 and B246 (in accordance with ASNE 052/053/054)

Face arrière du connecteur



Connector rear face

Obturateur *Sealing plug*		Pince à sertir *Crimping tool*		Outil de montage et de démontage *Insertion and extraction tool*	Outil de démontage des contacts non câblés *Extraction tool non wired contacts*	
Référence *Reference*	**Couleur** *Color*	**Référence** *Reference*	**Référence de la tourelle** *Turret reference*	**Contacts câblés** *Wired contacts*	**Référence** *Reference*	**Embout de rechange** *Alternate end*
006-0893-20	rouge *red*	**057-0461-11**	057-0462-21	**M 15570-20**	**057-0481-60**	057-0502-60
006-0893-20	rouge *red*	**057-0463-11**	057-0464-21	**M 15570-20**	**057-0481-60**	057-0502-60
006-0893-20	rouge *red*	**057-0461-11**	057-0462-21	**M 155570-20**	**057-0481-60**	057-0502-60
006-0893-20	rouge *red*	**057-0461-11**	057-0462-21	**M 15570-20**	**057-0481-60**	057-0502-60
006-0893-20	rouge *red*	**057-0461-11**	057-0462-21	**M 15570-20**	**057-0481-60**	057-0502-60
006-0893-20	rouge *red*	**057-0461-11**	057-0462-21	**M 15570-20**	**057-0481-60**	057-0502-60
006-0893-20	rouge *red*	**057-0461-11**	057-0462-21	**M 15570-20**	**057-0481-60**	057-0502-060
006-0893-20	rouge *red*	**057-0461-11**	057-0462-21	**M 15570-20**	**057-0481-60**	057-0502-60
006-0893-16	bleu *blue*	**057-0461-11**	057-0462-21	**M 15570-16**	**057-0481-60**	057-0499-60
006-0893-16	bleu *blue*	**057-0461-11**	057-0462-21	**M 15570-16**	**057-0481-60**	057-0499-60
006-0893-16	bleu *blue*	**057-0463-12**	057-0464-32	**M 15570-16**	**057-0481-60**	057-0499-60
006-0893-16	bleu *blue*	**057-0461-11**	057-0462-21	**M 15570-16**	**057-0481-60**	057-0499-60
006-0892-12	jaune yellow	**057-0461-11**	057-0462-21	**M 15570-12**	**057-0481-60**	057-0500-60
006-0892-12	jaune *yellow*	**057-0461-11**	057-0462-21	**M 15570-12**	**057-0481-60**	057-0500-60

Contacts câblés : M15570 – 20

référence constructeur - taille du contact

Wired contacts : M15570 – 20

Manufacturer reference - Wire