Ce dossier technique comporte 25 pages, numérotées de 1/25 à 25/25.
Assurez-vous que cet exemplaire est complet.
S'il est incomplet, demandez un autre exemplaire au chef de salle.

BACCALAURÉAT PROFESSIONNEL AÉRONAUTIQUE

OPTION : AVIONIQUE

ÉPREUVE E2 (U2) – EXPLOITATION DE LA DOCUMENTATION TECHNIQUE

DOSSIER TECHNIQUE

SOMMAIRE

PRÉSENTATION DU RADAR MÉTÉOROLOGIQUE

Dès les premières années de la Seconde Guerre mondiale, le développement des magnétrons de puissance a permis de monter des radars à bord des avions.

Avec l'application des radars à la détection des précipitations, des radars météorologiques aéroportés ont rapidement vu le jour après le conflit. Ceux-ci sont maintenant largement répandus dans l'aviation commerciale et dans la plupart des avions d'affaire.

Le radar météo permet en outre d'assurer les vols en toute sécurité. Situé dans le nez, il balaye le ciel devant celui-ci. Ces radars sont basés sur l'effet Doppler et permettent de mesurer la taille des gouttes d'eau dans les nuages, renseignant ainsi les pilotes sur le type de précipitation.

Cela leur permet notamment d'éviter les orages, dangereux en aviation, non pas par la foudre, mais par les conditions givrantes et les turbulences que l'on est susceptible de rencontrer.

Les radars donnent une image des conditions atmosphériques vers lesquelles l'appareil se dirige et permettent ainsi au pilote d'éviter les zones dangereuses comme les orages. Leur portée maximale habituelle est de 180 NM mais ils peuvent être limités sur demande à des portées plus courtes, de 30 à 80 NM, pour améliorer la résolution et avoir ainsi plus de détails.

Principe de fonctionnement :

Le radar météorologique travaille dans la gamme SHF (Supra High Frequency) en bande C, S ou X suivant la technologie du radar.

Le radar météorologique émet un signal hyperfréquence sous la forme d'impulsions électromagnétiques. Ce signal est émis en direction de la cible. Une petite partie de l'énergie transmise est réfléchie par la cible dans la direction du radar. Cette énergie renvoyée par la cible jusqu'au radar est appelée ECHO.

La technologie utilisée pour fabriquer cette onde est la même que celle des fours micro-ondes qui travaillent également en SHF.

Si cette gamme de fréquence permet de détecter les molécules d'eau avec une très grande résolution, elle présente également l'inconvénient, d'être dangereuses pour l'être humain en cas d'exposition prolongée. C'est pourquoi des précautions particulières sont à prendre lorsque l'on effectue des essais, et en particulier le respect absolu des zones de sécurité.

ANNEXE 1

AB 377-400

SERVICE BULLETIN

SUMMARY

MANDATORY MANDATORY MANDATORY

ATA SYSTEM: 34

TITRE : NAVIGATION – RADAR METEOROLOGIQUE

REMPLACEMENT DE L'ANTENNE RADAR METEO ET DE SON ELECTRONIQUE ASSOCIEE PAR L'ENSEMBLE OMESSON-THOMEGA OT-008A ou OT-008B

*** CONF ALL*

A. MODIFICATIONS

CLASSIFICATION MODIFICATION	
MAJEUR	NONE
MINEUR	2017-185-14 / 2017-06-06

B. RAISON / DESCRIPTION / CONSEQUENCES OPERATIONNELLES :

Basé sur les performances des données du radar météorologique, en accord avec les analyses de l'EASA (European Aviation Safety Agency), celle-ci et la société AIRBO ont approuvé le lancement d'une campagne de retrofit en mesure préventive sur AB 377-400 actuellement équipés de l'Antenne Omesson-Thomega OT-007A ou OT-007B.

Ce Service Bulletin requiert l'installation d'une nouvelle antenne Radar Météo et de son électronique associée Omesson-Thomega Réf. OT-008A ou Réf. OT-008B suite à la modification 2017-185-14 du 06 juin 2017.

C. DESCRIPTION

Pour accomplir ce Service Bulletin, il est nécessaire d'utiliser :

TASK 34-41-11-000-801 ANTENNA ASSEMBLY – WEATHER RADAR (7SQ - 11SQ)
DEPOSE / REPOSE DE L'ANTENNE RADAR METEOROLOGIQUE

D. CONFORMITÉ

Classification MANDATORY (OBLIGATOIRE)

E. MAIN D'OEUVRE

Temps estimé d'intervention basé sur le coût direct de la main-d'œuvre.

TASK 34-41-11-000-801 ANTENNA ASSEMBLY – WXR (7SQ - 11SQ) Removal / Installation	
Ouverture des accès	0.50
SUR L'AVION	
Dépose / Repose de l'antenne et de son électronique associée	4.00
Test du Radar Météorologique	0.50
Remise en conformité	0.50
TOTAL HEURES MAIN D'OEUVRE	**5.50**

F. PROCÉDURE

TASK 34-41-11-000-801 Antenna assembly – Weather Radar (7SQ – 11SQ) Removal / Installation

Ouverture des accès : Subtask 34-41-11-010-050
Subtask 34-41-11-010-051

ZONE DE TRAVAIL ET PANNEAUX D'ACCES			
	ZONE	ACCES ET LOCALISATION	
	FR1	Accès	Radome 110
	FR7- FR10	Accès	Porte 811

RESSOURCES HUMAINES	
Heures de main d'œuvre	5.50
Nombre de Personne minimum	2
Temps estimé de la sous-tâche	2.75
Compétence	B2

Matériel nécessaire pour effectuer les travaux		
NOUVEAU PART. NUMBER	**Qté**	**DÉSIGNATION**
OMTH-008A ou OMTH-008B	1	Weather Radar Antenna Assembly

(a). Dépose (se référer à la TASK 34-41-11-000-801-A)

FIN 11SQ et 7SQ

1 Weather Radar antenna Assembly OMTH007 A ou OMTH-007B

(b). Pose (se référer à la TASK 34-41-11-400-801-A)

FIN 11SQ et 7SQ

1 Weather Radar antenna Assembly OMTH008 A ou OMTH-008B

G. TEST

(1). Subtask 34-41-00-865-052A C/B Closing

Retirer le (s) clip (s) de sécurité et la (les) flamme (s) et fermer le (s) disjoncteur (s) comme spécifié dans la dépose/repose de l'ensemble antenne du radar météorologique (11SQ et 7SQ).

(2). Subtask 34-41-00-710-050-B Testing

Effectuer les tests après l'installation de l'ensemble antenne du radar météorologique (11SQ et 7SQ).

H. FERMETURE

(a). Faire la procédure de fin comme spécifié dans l'installation de l'antenne radar météorologique.

(b). Remettre les systèmes et l'avion en état de fonctionnement normal

NEXE 2

FIG-ITEM	PART NUMBER	1234567 NOMENCLATURE	USAGE FROM TO	UNIT PER ASSY
1 - 1A	0MTH-008-A	ANTENNA INSTL-Z110 (NP)	001099 101150	RF
10	2041444-0404	.MOUNT-ANTENNA,WEATHER V27914 RADAR BUYER FURNISHED EQUIPMENT SEE 34-41-11-02 FOR DET CMM 34-41-11 RPLS 2041444-0403 (V27914)	001099 101150	1
20	2041446-0401	.ANTENNA-WEATHER RADAR V27914 BUYER FURNISHED EQUIPMENT SEE 34-41-11-01 FOR DET RPLS 2041446-0400	001099 101150	1
1 - 1B	0MTH-008-B	ANTENNA INSTL-Z110 (NP)	201299 501549 551599	RF
10	622-5136-201	.MOUNT-ANTENNA,WEATHER V4V792 RADAR BUYER FURNISHED EQUIPMENT SEE 34-41-11-02A FOR DET CMM 34-45-22 RPLS 622-5135-201 (V4V792)	201299 501549 551599	1
20	622-5137-001	.ANTENNA-WEATHER RADAR V4V792 BUYER FURNISHED EQUIPMENT SEE 34-41-11-01A FOR DET CMM 34-45-22 RPLS 622-5136-001	201299 501549 551599	1

CMM : COMPONENT MAINTENANCE MANUAL
RPLS : REPLACES

ILLUSTRATED PARTS CATALOG

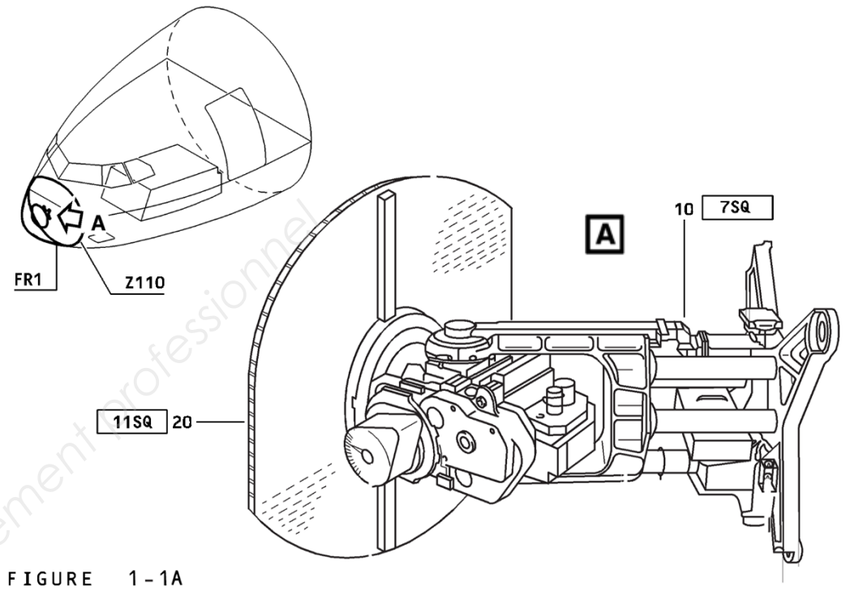


FIGURE 1-1A

ANTENNA INSTL-Z110

EFF : 001-099, 101-150,

ILLUSTRATED PARTS CATALOG

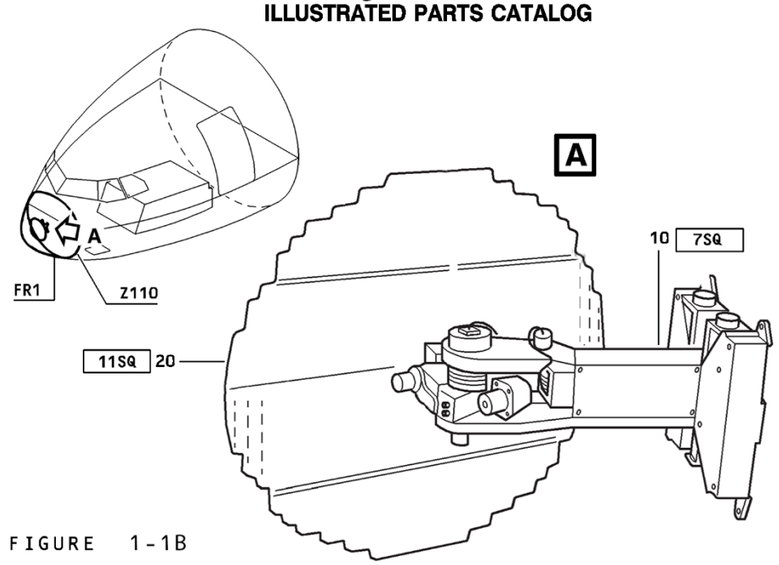


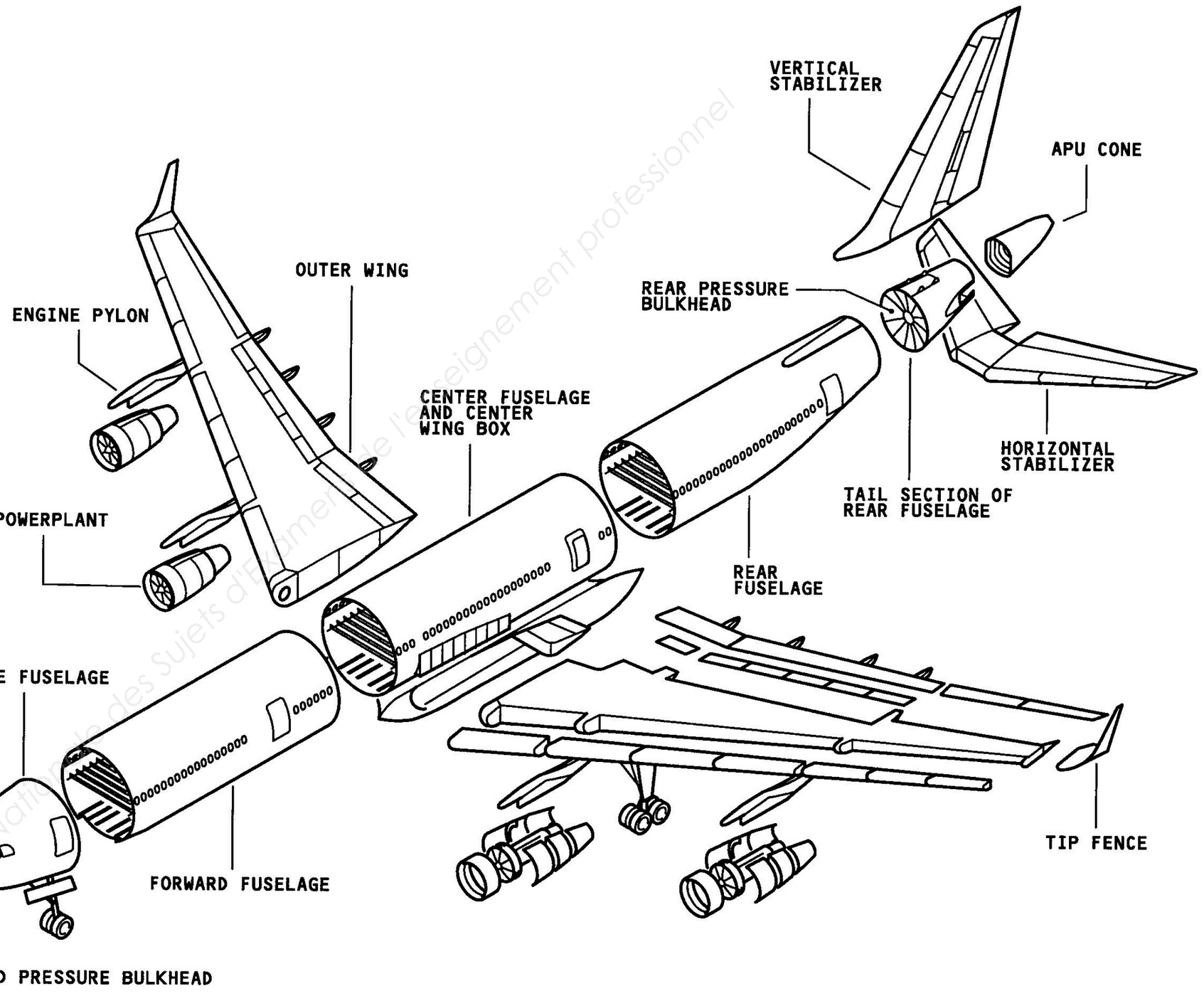
FIGURE 1-1B

ANTENNA INSTL-Z110

EFF : 201-299, 501-549, 551-599,

ANNEXE 3

Présentation de l'AirBo A377- 400 : CONSTITUTION



ANNEXE 4

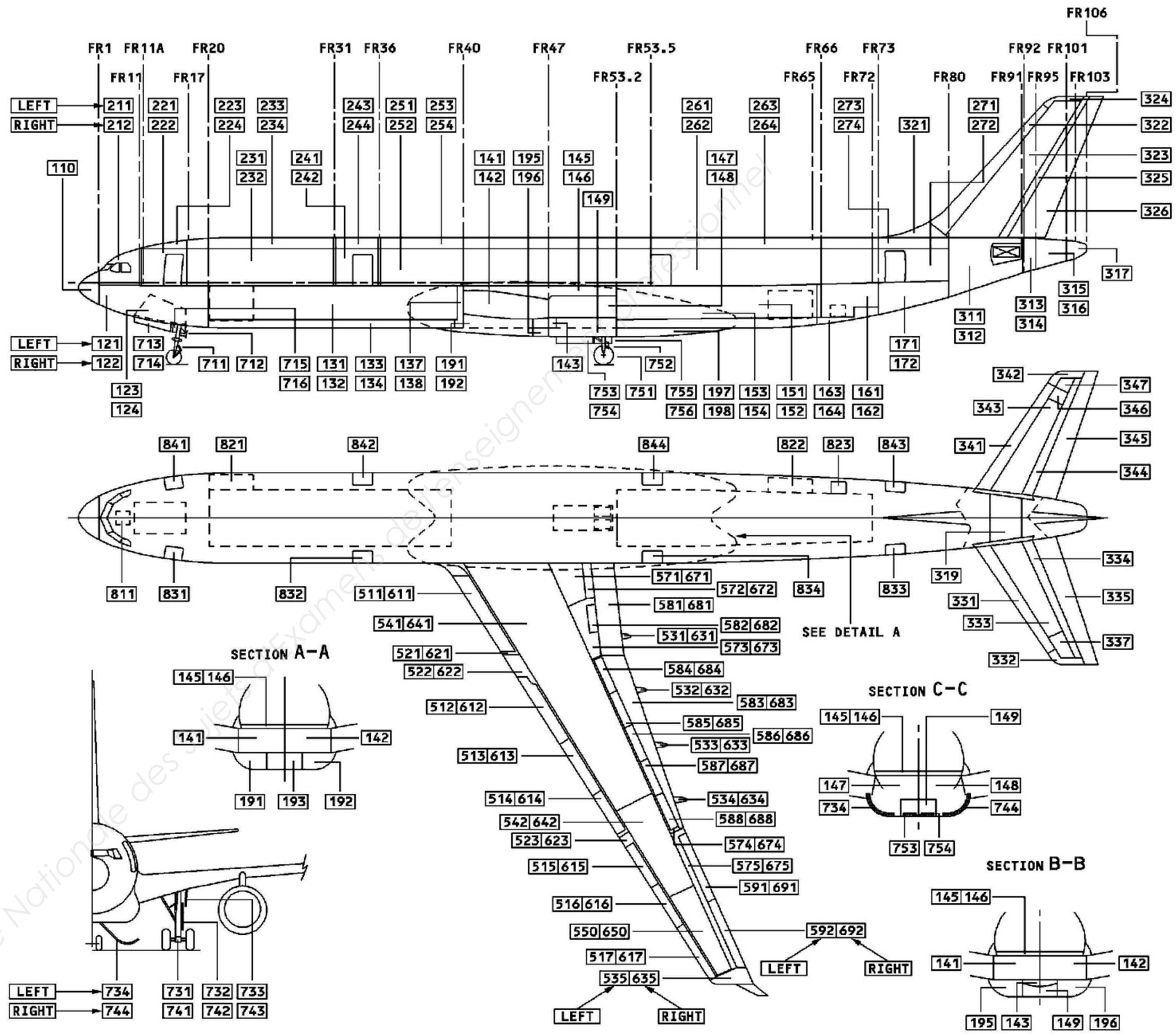
100		LOWER HALF OF FUSELAGE
	110	RADOME (NOSE TO FR1
120	121 122	AVIONICS COMPARTMENT
	123 124	NOSE GEAR WELL
130	131 132	LOWER DECK FORWARD CARGO COMPARTMENT
	133 134	UNDERFLOOR COMPARTMENT OF LOWER DECK FWD CARGO COMPT
	137 138	COMPT BETWEEN AFT PARTITION OF LOWER DECK FWD CARGO COMPT TO FWD PRESSURE BULKHEAD OF WING CENTER BOX
140	141 142	WING CENTER BOX
	143	AREA BETWEEN KEEL BEAMS
	145 146	PRESSURIZED ZONE BETWEEN WING CENTER BOX.MAIN GEAR WELL AND CABIN FLOOR
	147 148	MAIN GEAR WELL AND HYDRAULICS COMPARTMENT
	149	CENTERLINE GEAR WEEL
150	151 152	LOWER DECK AFT CARGO COMPARTMENT
	153 154	UNDERFLOOR COMPT OF LOWER DECK AFT CARGO COMPT
160	161 162	LOWER DECK BULK CARGO COMPARTMENT
	163 164	UNDERFLOOR COMPT OF LOWER DECK BULK CARGO COMPARTMENT
170	171 172	AFT CABIN UNDERFLOOR COMPARTMENT
190	191 192	AIR CONDITIONING COMPARTMENT AND FAIRINGS
	193	AIR CONDITIONING COMPARTMENT AND FAIRINGS
	195 196	HYDRAULICS COMPARTMENT AND FAIRINGS
	197 198	REAR FAIRING

300		EMPENNAGE AND FUSELAGE AND TAIL SECTION
310	311 312	REAR FUSELAGE SECTION
	313 314	TAIL CONE APU AIR INTAKE AREA
	315 316	TAIL CONE APU AND ACCESSORY COMPARTMENT
	317	TAIL CONE APU EXHAUST AREA
	319	TRIMMABLE HORIZONTAL STABILIZER CENTER SPAR BOX FUEL TANK
320	321	DORSAL FIN
	322	VERTICAL STABILITY LEADING ADGE
	323	VERTICAL STABILIZER SPAR BOX
	324	VERTICAL STABILIZER TIP
	325	VERTICAL STABILIZER TRAILING EDGE
	326	RUDDER
330	331	TRIMMABLE HORIZONTAL STABILIZER LEADING EDGE
	332	TRIMMABLE HORIZONTAL STABILIZER TIP
	333	TRIMMABLE HORIZONTAL STABILIZER SPAR BOX
	334	TRIMMABLE HORIZONTAL STABILIZER TRAILING EDGE
	335	ELEVATOR
	337	TRIMMABLE HORIZONTAL STABILIZER SPAR BOY DRY BAY
340	341	TRIMMABLE HORIZONTAL STABILIZER LEADING EDGE
	342	TRIMMABLE HORIZONTAL STABILIZER TIP
	343	TRIMMABLE HORIZONTAL STABILIZER SPAR BOX
	344	TRIMMABLE HORIZONTAL STABILIZER TRAILING EDGE
	345	ELEVATOR
	346	TRIMMABLE HORIZONTAL STABILIZER SPAR BOX VENT TANK
	347	TRIMMABLE HORIZONTAL STABILIZER SPAR BOX DRY BAY

200		UPPER HALF OF FUSELAGE
210	211 212	COCKPIT
220	221 222	FORWARD CABIN UTILITY AREAS
	223 224	FORWARD CABIN OVERHEAD COMPARTMENT
230	231 232	FORWARD CABIN
	233 234	FORWARD CABIN OVERHEAD COMPARTMENT
240	241 242	MID CABIN UTILITY AREAS
	243 244	MID CABIN UTILITY AREAS OVERHEAD COMPARTMENT
250	251 252	MID CABIN
	253 254	MID CABIN OVERHEAD COMPARTMENT
260	261 262	AFT CABIN COMPARTMENT
	263 264	AFT CABIN COMP OVERHEAD COMPARTMENT
270	271 272	AFT CABIN UTILITY AREAS
	273 274	AFT CABIN UTILITY AREAS OVERHEAD COMPARTMENT

700		LANDING GEAR AND LANDING GEAR DOORS
710	711	NOSE GEAR
	712	LEG DOOR
	713 714	MAIN DOORS
	715 716	AFT DOORS
730	731	LH MAIN GEAR
	732	CYLINDER DOOR
	733	SECONDARY DOOR
	734	MAIN DOOR
740	741	RH MAIN GEAR
	742	CYLINDER DOOR
	743	SECONDARY DOOR
	744	MAIN DOOR
750	751	CENTER LINE GEAR
	752	LEG DOOR
	753 754	MAIN DOORS
	755 756	AFT DOORS

800		PASSENGER DOORS CARGO AND EMERGENCY EXIT
810	811	FORWARD AVIONICS COMPARTMENT DOOR
820	821	LOWER DECK FORWARD COMPARTMENT DOOR
	822	LOWER DECK AFT COMPARTMENT DOOR
	823	LOWER DECK BULK CARGO COMPARTMENT DOOR
830	831 841	FORWARD PASSENGER/CREW DOOR
	832 842	MID PASSENGER/CREW DOOR
840	833 843	AFT PASSENGER/CREW DOOR
	834 844	EMERGENCY EXITS



EFF : ALL

91-00-01

ANNEXE 5

RÉFÉRENCES:

Élingues	
Référence	**Charge maximale en N**
T6321	60
T6322	260
T6323	460
T6324	660
T6325	860
T6326	1060

RECOMMANDATIONS :

- Utiliser les dispositifs d'arrimage conformément à la notice d'utilisation remise avec le matériel.

- Ne pas utiliser le système d'arrimage pour élinguer des charges.

- Les sangles ne doivent pas être nouées.

- Ne pas utiliser les sangles d'arrimage sur des surfaces rugueuses ou au contact d'arêtes vives sans l'interposition d'accessoires de protection.

- Les dispositifs d'arrimage doivent être utilisés entre -40°C et 100°C.

- Pour une utilisation du système d'arrimage en présence de produits chimiques, consulter le fabricant.

- Adapter les pièces d'extrémités aux points d'accrochage conformément aux prescriptions du fabricant.

- Ne pas utiliser de pièces autres que celles préconisées par le fabricant pour manœuvrer les tendeurs.

- Les systèmes d'arrimage doivent être stockées dans un endroit frais et sec, et doivent être protégés de la lumière et de tout risque d'endommagement mécanique.

CALCUL DU POIDS :

$$P = m \times g$$

P en N
m en kg
g = 9.81 m/s²

CONVERSION de rad/s en tr /min :

$$\omega = \frac{\pi \times N}{30}$$

ω en rad/s
N en tr/min

CALCUL DU COUPLE :

$$C = d \times F$$

C en N.m
d en m
F en N

CALCUL DE RAPPORT DE RÉDUCTION :

$$r = \frac{N_{sortie}}{N_{entrée}} = \frac{\omega_{sortie}}{\omega_{entrée}} = \frac{\text{Produit du nombre de dents des roues menantes}}{\text{Produit du nombre de dents des roues menées}}$$

r < 1 c'est une réduction : la vitesse de sortie est inférieure à la vitesse d'entrée

r > 1 c'est une multiplication : la vitesse de sortie est supérieure à la vitesse d'entrée

N_{sortie} = fréquence de sortie en tr/min

$N_{entrée}$ = fréquence d'entrée en tr/min

ω_{sortie} = vitesse de sortie en rad/s

CALCUL DE LA PUISSANCE MÉCANIQUE DE ROTATION :

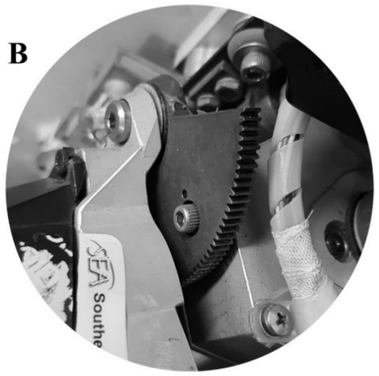
$$P_{méca} = C \times \omega$$

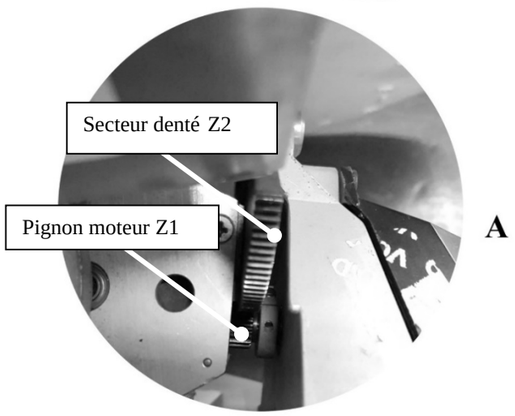
P en W
C en N.m
ω en rad/s

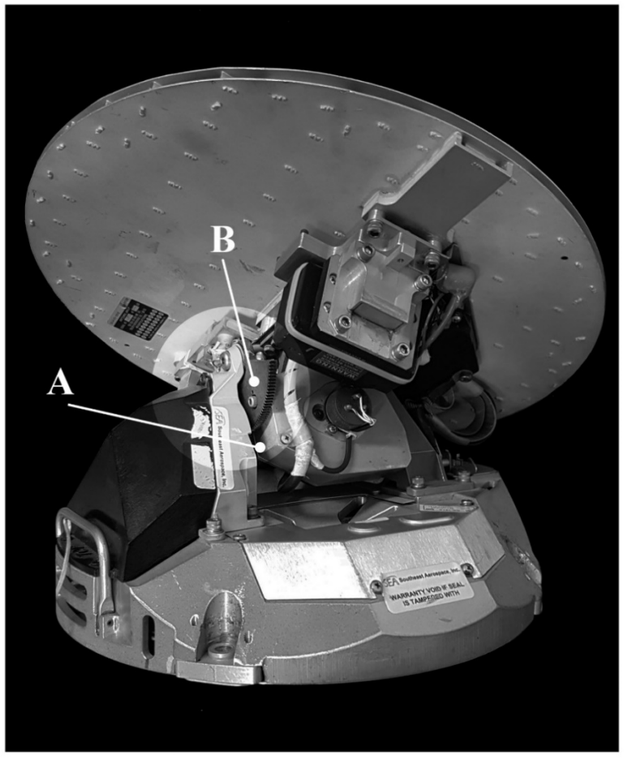
CALCUL DU RENDEMENT :

$$\eta = \frac{P_{sortie}}{P_{entrée}}$$

P_{sortie} en W
$P_{entrée}$ en W
η = rendement







ANNEXE 6 (1/4)

TASK 53-15-11-000-801 RADOME - REMOVAL/INSTALLATION

Removal of the Radome (110AL)

WARNING : MAKE SURE THAT THE CIRCUIT BREAKERS RELATED TO THE WEATHER RADAR ARE OPENED, SAFETIED AND TAGGED.

1. Reason for the Job

Self-Explanatory

2. Job Set-up Information

A. Fixtures, Tools, Test and Support Equipment

REFERENCE	QTY	DESIGNATION
No specific		circuit breaker(s) safety clip(s)
No specific		warning notice
No specific		access platform 2.5 m (8 ft. 2 in.)
No specific		access platform 4 m (13 ft. 1 in.)
98D53103013001		1 TROLLEY - RADOME
****		4 STRAPS

B. Referenced Information

REFERENCE	QTY	DESIGNATION
24-42-00-861-801		Energize the Ground Service Network
53-15-11-010-801		Opening of the Radome (110AL).
53-15-11-991-001-A		Fig. 401
R 53-15-11-991-021		Fig. 402
**ON A/C 001-099, 101-159, 201-299, 501-549, 551-552, 53-15-11-991-002-A		Fig. 403
**ON A/C 160-199, 301-349, 553-599, 53-15-11-991-002-B		Fig. 403A

**ON A/C ALL

3. Job Set-up

(Ref. Fig. 401/TASK 53-15-11-991-001-A)

Subtask 53-15-11-861-056

A. Energize the ground service network
(Ref. TASK 24-42-00-861-801).

Subtask 53-15-11-010-082

B. Get Access to the Avionics Compartment
(a) Put the access platform in position at the access door 811.
(b) Open the access door 811.

Subtask 53-15-11-865-050

C. Open, safety and tag this(these) circuit breaker(s):

PANEL	DESIGNATION	FIN	LOCATION
721VU	WXR 1	9SQ1	K03
722VU	WXR 2	9SQ2	E49

Subtask 53-15-11-941-050

D. Safety Precautions
(a) In the cockpit, put a warning notice in position on the center pedestal to tell persons not to operate the radar system.

Subtask 53-15-11-010-050-A

E. Opening of the Radome

WARNING: IN THE COCKPIT, PUT A WARNING NOTICE IN POSITION ON THE CENTER PEDESTAL TO TELL PERSONS NOT TO OPERATE THE RADAR SYSTEM.

CAUTION: DO NOT USE THE LOCALIZER ANTENNA AT THE BOTTOM OF THE RADOME ASA SUPPORT. IF YOU DO, YOU CAN CAUSE DAMAGE.

(a) Put the access platform in position at zone 110.

(b) Open the radome (Ref. TASK 53-15-11-010-801)

(c) Put the plastic bag on the radome.

Subtask 53-15-11-480-050-A

F. Installation of the Sling
(Ref. Fig. 401/TASK 53-15-11-991-001-A)

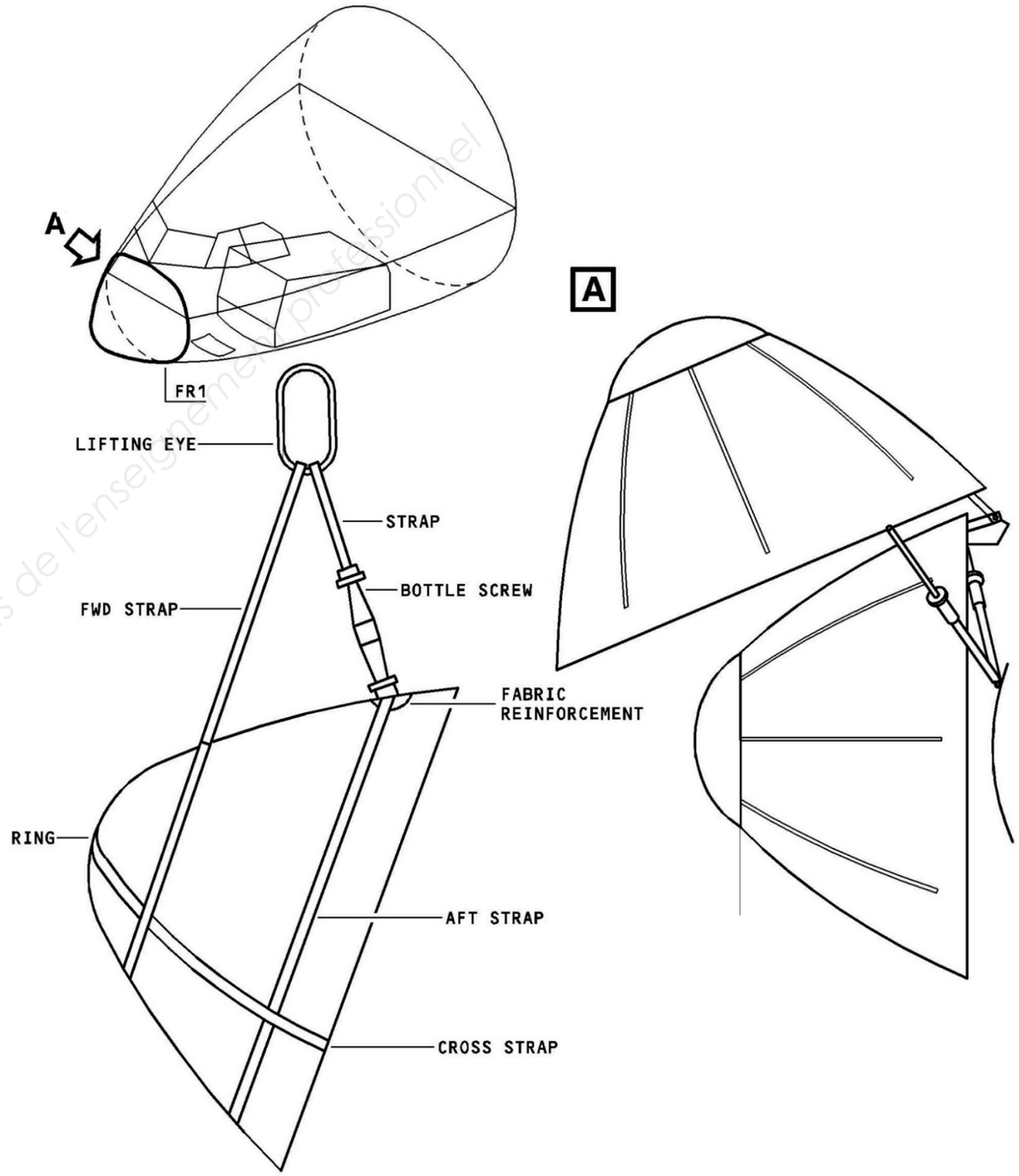
(a) Install the STRAP - RADOME (98F53101000000) or STRAP - R/I, RADOME (98A53601000000) or STRAP - RADOME (98F53103500000).

(b) Release the telescopic rods; let the radome move in the closed direction until the strap is tight.

(c) Adjust the radome-opening angle at 45° approximately.

(d) Adjust the cable length with the bottle screw until you get an equal tension on both straps.

Installation of the Sling
Figure 401/TASK 53-15-11-991-001-A



EFF : ALL

53-15-11

4 . Procedure

Subtask 53-15-11-020-050-A

A. Disconnection of the Telescopic Rods (1)

(Ref. Fig. 402/TASK 53-15-11-991-021)

CAUTION: MOVE THE TELESCOPIC ROD CAREFULLY TO PREVENT DAMAGE TO THE RADAR.

(1) For the telescopic rods (P/N 56501-1):

(a) Remove and discard the cotter pins (2).

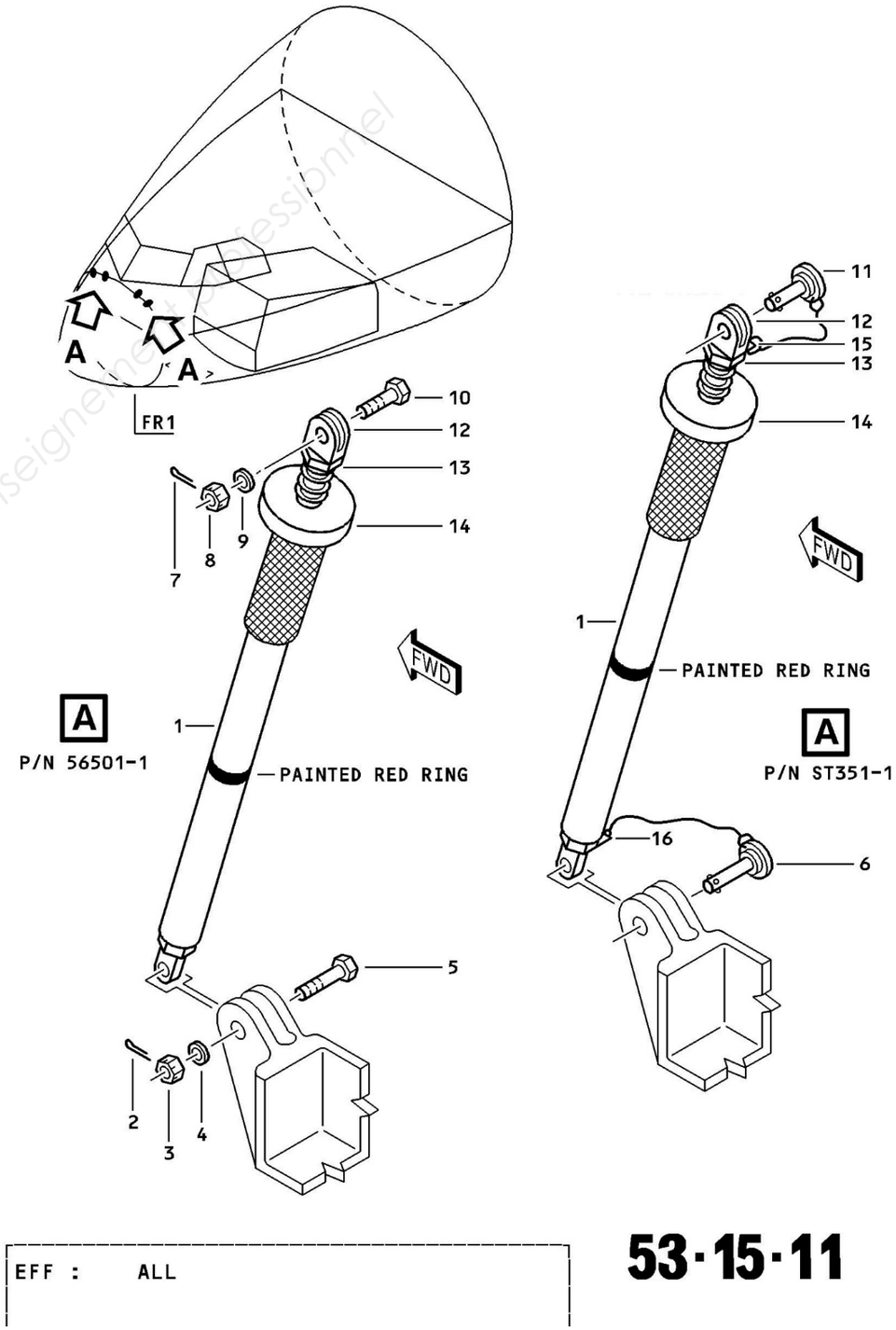
(b) Remove the nuts (3), the washers (4).

(c) Remove the screws (5).

(2) For the telescopic rods (P/N ST351-1):

(a) Remove the pins (6).

(b)Disconnection of the Telescopic Rods
(c)Figure 402/TASK 53-15-11-991-021



EFF : ALL

53-15-11

4 . Procedure (Suite)

Subtask 53-15-11-020-051

B. Removal of the Radome

CAUTION: MOVE THE RADOME CAREFULLY TO PREVENT DAMAGE TO THE RADAR.

(Ref. Fig. 403/TASK 53-15-11-991-002-A)

(a) Remove the nuts (5).

(b) Remove the screws (6).

(c) Remove the bonding strips.

(d) Remove and discard the cotter pins (1).

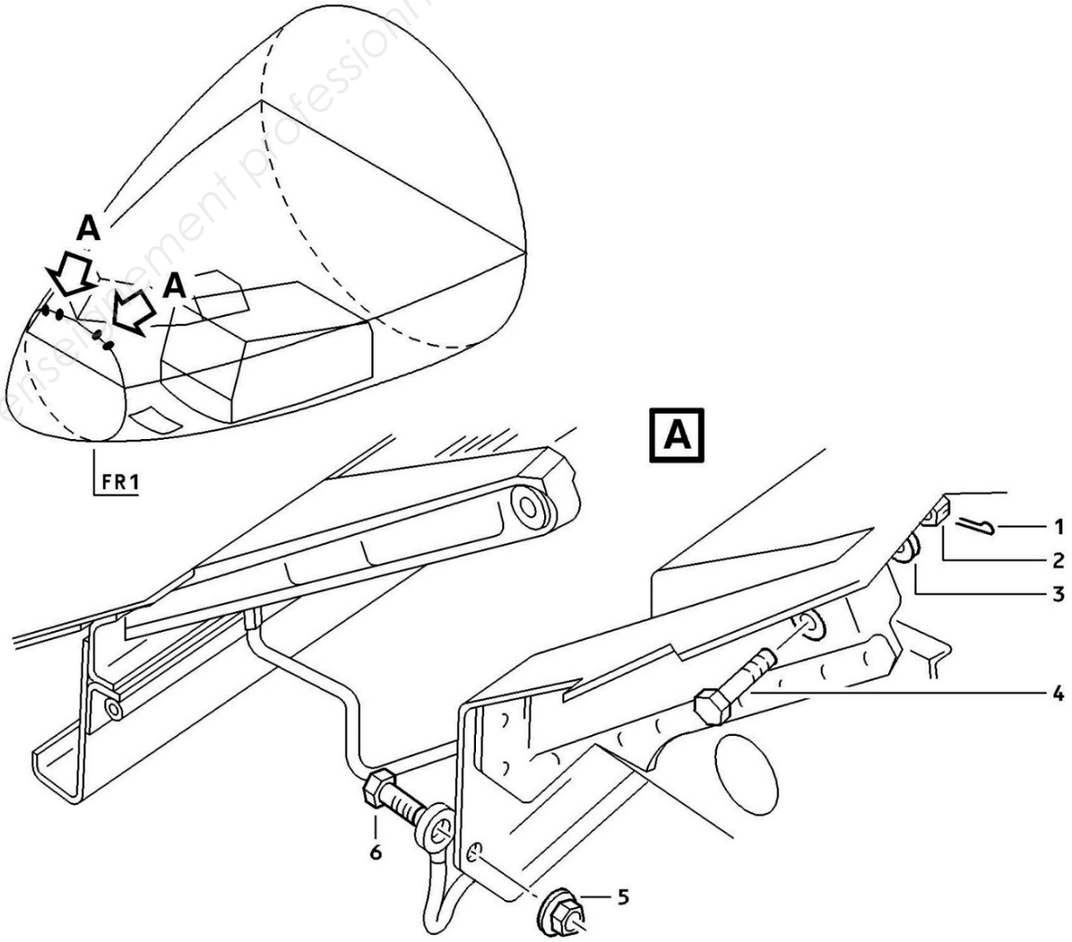
(e) Remove the nuts (2) and washers (3).

(f) Remove the upper screws (4).

(g) Remove the radome and install it in TROLLEY – RADOME (98D53103013001).

(h) Remove the straps from the radome.

Adjustment of the Radome Opening Handle
R Figure 403/TASK 53-15-11-991-002-A



Adjustment of the Radome Opening Handle
Figure 403/TASK 53-15-11-991-002-A

EFF : 001-099, 101-159, 201-299, 501-549, 551-552,

53·15·11

ANNEXE 7 (1/4)

34-41-11 *PB 401 CONF 00*
ANTENNA ASSEMBLY- WEATHER RADAR -REMOVAL/INSTALLATION

TASK 34-41-11-000-801-A
Removal of the Weather Radar Antenna Assembly
FIN: 7SQ , 11SQ

1. Reason for the Job
Self explanatory

2 Job Set-up Information

A. Fixtures, Tools, Test and Support Equipment

REFERENCE	QT	DESIGNATION
No specific	AR	ACCESS PLATFORM 3M (10 FT)- ADJUSTABLE
No specific	AR	ACCESS PLATFORM 5M (16 FT)- ADJUSTABLE
No specific	AR	CAP - BLANKING
No specific	AR	SAFETY CLIP - CIRCUIT BREAKER

B. Work Zones and Access Panels

ZONE/ACCESS	ZONE DESCRIPTION
110	RADOME
110AL, 811	

C. Referenced Information

REFERENCE	DESIGNATION
(Ref. 24-42-00-861-801-A).	Energize the Ground Service Network
(Ref. 53-15-11-010-801-A).	Opening of the Radome
Weather Radar Antenna Assembly SHEET 1	

**ON A/C 001-099, 101-150, 201-299, 301-349,
34-41-11-991-001 Fig. 401

**ON A/C 151-199, 501-549, 551-599,
34-41-11-991-001-A Fig. 401A

**ON A/C ALL

3. Job Set-up

Subtask 34-41-11-861-050-A

A. Energize the ground service network
(Ref. AMM TASK 24-42-00-861-801)

Subtask 34-41-11-010-050-A

B. Get access to the avionics compartment.
(a) Put the ACCESS PLATFORM 3M (10 FT) ADJUSTABLE in position at the access door 811.
(b) Open the access door 811.

Subtask 34-41-11-865-050-A

C. Open, safety and tag this (these) circuit breaker(s):

PANEL	DESIGNATION	FIN	LOCATION
721VU	WXR 1	9SQ1	K03
722VU	WXR 2	9SQ2	E49

Subtask 34-41-11-010-051-A

WARNING: DO NOT OPEN THE RADOME IF THE WIND SPEED IS MORE THAN 35 KNOTS. IF THE RADOME IS OPEN IN WINDS HIGHER THAN 35 KNOTS IT CAN BREAK FROM ITS HINGES AND CAUSE INJURY.

D. Get Access

NOTE: Two persons are necessary to open the radome and to remove the antenna.

(a) Put the ACCESS PLATFORM 5M (16 FT) ADJUSTABLE in position under the radome in the zone 110.

(b) Open the radome 110AL (Ref. AMM TASK 53-15-11-010-801)

WARNING: BE CAREFUL WHEN YOU REMOVE OR INSTALL THE RADAR ANTENNA ASSEMBLY TO PREVENT INJURY TO PERSONS AND/OR DAMAGE. THE RADAR ANTENNA ASSEMBLY (ANTENNA/DRIVE) IS HEAVY.

**CAUTION: DO NOT USE THE LOCALIZER ANTENNA AT THE BOTTOM OF THE RADOME AS A SUP- PORT.
IF YOU DO YOU CAN CAUSE DAMAGE.**

4. Procedure

(Ref. Fig. Weather Radar Antenna Assembly SHEET 1)

R **ON A/C 001-099, 101-150, 201-299, 301-349,

Subtask 34-41-11-020-050-A

A. Removal of the Antenna

(a) Remove the four screws (18) and the lock washers (19) which connect the flange of the waveguide (14) to the antenna (1).

NOTE: During the removal of the antenna:
- one person must hold the antenna
- one person must hold the position indicator (13) to prevent damage to the drive caused by fast movement of the counterbalance spring.

(b) Remove the eight screws (17) and the lock washers (16) which connect the ring mount (15) to the antenna (1) and remove the antenna.

(c) Slowly release the position indicator (13).

(d) Put the antenna (1) in a plastic bag and a correct container.

Subtask 34-41-11-020-051-A

B. Removal of the Antenna Drive

(a) Disconnect the electrical connectors (12).

(b) Loosen the quick disconnect clamp (5) and disconnect the waveguide (4) from the antenna drive (2).

(c) Remove and discard the O-ring (3).

(d) Put CAP - BLANKING on the disconnected electrical connectors and on the flange of the waveguide (4).

(e) Remove the two lower screws (11) and the washers (10).

(f) Loosen the two upper screws (6). Do not remove them.

(g) Lift the antenna drive (2) until the holes (8) are at the same level as the two upper screws (6).

(h) Remove the antenna drive (2) and put it in a plastic bag and a correct container.

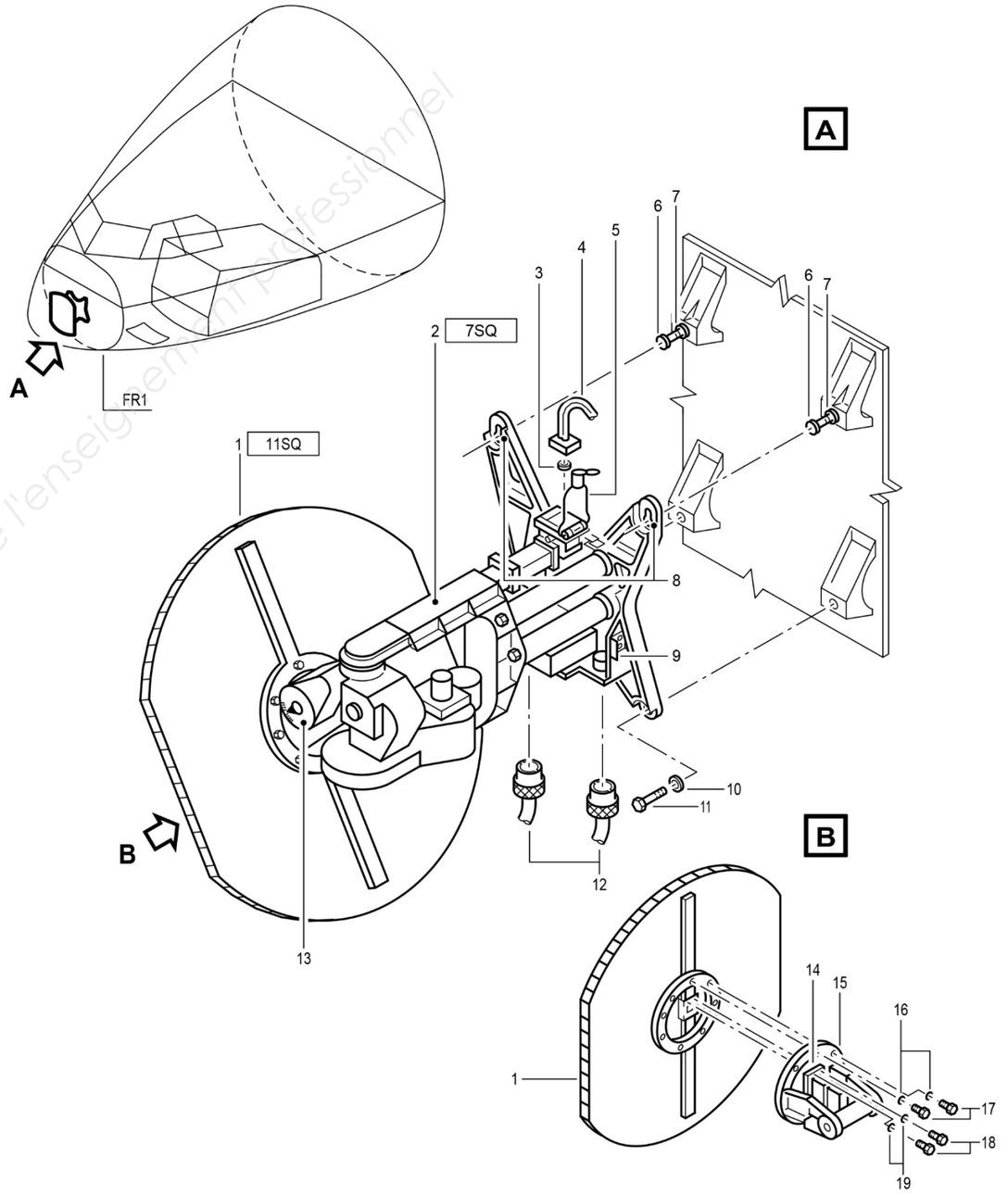


Figure 34-41-11-991-00100-00-A / SHEET 1/1 - Weather Radar Antenna Assembly
** ON A/C ALL

ANNEXE 7 (3/4)

TASK 34-41-11-400-801-A
Installation of the Weather Radar Antenna Assembly

FIN : 7SQ , 11SQ

1. Reason for the Job

Self explanatory

2 Job Set-up Information

A. Fixtures, Tools, Test and Support Equipment

REFERENCE	QTY	DESIGNATION
No specific	AR	ACCESS PLATFORM 3M (10 FT)- ADJUSTABLE
No specific	AR	ACCESS PLATFORM 5M (16 FT)- ADJUSTABLE
No specific		Torque wrench: range **to between 0.23 and 0.26 m.daN (20.35 and 23.01 lbf.in)**
No specific		Torque wrench: range **to between 2.69 and 3.22 m.daN (19.84 and 23.75 lbf.ft)**

B. Consumable Materials

REFERENCE	DESIGNATION
(Material No. 04TMB2)	Varnish-- Electrical Bonding Structure

C. Work Zones and Access Panels

ZONE/ACCESS	ZONE DESCRIPTION
110	RADOME
110AL, 811	

D. Expendable Parts

FIG.ITEM	DESIGNATION	IPC-CSN
3	O-ring	34-41-41-01-040

E. Referenced Information

REFERENCE	DESIGNATION
(Ref. 20-28-00-912-810-A).	Electrical Bonding - General Maintenance Procedure
(Ref. 24-42-00-861-801-A).	Energize the Ground Service Network
(Ref. 24-42-00-862-801-A).	De-energize the Ground Service Network
(Ref. 34-41-00-710-802-A).	Operational Test of the Weather-Radar Antenna Scanning
(Ref. 53-15-11-410-801-A).	Closing of the Radome
Weather Radar Antenna Assembly SHEET 1	

3. Job Set-up

Subtask 34-41-11-860-050-A

A. Aircraft Maintenance Configuration

(a) Make sure that the ground service network is energized

(Ref. AMM TASK 24-42-00-861-801).

(b) Make sure that the ACCESS PLATFORM 3M (10 FT)- ADJUSTABLE is in position at the access door 811.

(c) Make sure that the ACCESS PLATFORM 5M (16 FT)- ADJUSTABLE is in position under the radome in the zone 110.

WARNING: DO NOT OPEN THE RADOME IF THE WIND SPEED IS MORE THAN 35 KNOTS.
IF THE RADOME IS OPEN IN WINDS HIGHER THAN 35 KNOTS IT CAN BREAK FROM ITS HINGES AND CAUSE INJURY.

(d) Make sure that the access door 811 and the radome 110AL are open

Subtask 34-41-11-865-051-A

B. Make sure that this (these) circuit breaker(s) is(are) open, safetied and tagged:

PANEL	DESIGNATION	FIN	LOCATION
721VU	WXR 1	9SQ1	K03
722VU	WXR 2	9SQ2	E49

WARNING: BE CAREFUL WHEN YOU REMOVE OR INSTALL THE RADAR ANTENNA ASSEMBLY TO PREVENT INJURY TO PERSONS AND/OR DAMAGE. THE RADAR ANTENNA ASSEMBLY (ANTENNA/DRIVE) IS HEAVY.

CAUTION: DO NOT USE THE LOCALIZER ANTENNA AT THE BOTTOM OF THE RADOME AS A SUPPORT. IF YOU DO YOU CAN CAUSE DAMAGE.

4. Procedure

(Ref. Fig. Weather Radar Antenna Assembly SHEET 1)

Subtask 34-41-11-420-050-A

A. Installation of the Antenna

WARNING: OBEY THE MANUFACTURER'S INSTRUCTIONS WHEN YOU USE THIS/THESE MATERIAL/S.
USE PROTECTIVE CLOTHING, RUBBER GLOVES AND GOGGLES.

(a) Clean the component interfaces and the adjacent area.
(b) Do a visual inspection of the component interfaces and the adjacent area.
(c) Make sure that the two upper screws (6) are sufficiently loose.
(d) Lift the antenna drive (2) up to its support and engage it in the two upper screws (6) and washers (7).
(e) Install the two lower screws (11) and washers (10).
(f) Torque the four screws (6) and (11) **to between 2.69 and 3.22 m.daN (19.84 and 23.75 lbf.ft).**
(g) Make sure that the bonding contact resistance between the antenna drive (2) and the fuselage structure is not higher than 5 milliohms (Ref. AMM TASK 20-28-00-912-810).
(h) Apply Varnish Electrical Bonding Structure (Material No. 04TMB2) to the sealant on the head of the screws (5).

NOTE: It is not mandatory to paint the sealant around the base of the antenna and on the head of the screws.

(i) Remove the blanking caps from the electrical connectors and from the flange of the wave-guide (4).
(j) Put the new IPC -CSN (34-41-41-01-040) O-ring (3) in the correct position on the flange of the waveguide (4).
(k) Connect the wave-guide (4) to the antenna drive (2) with the quick disconnect clamp (5).
(l) Connect the electrical connectors (12).

Subtask 34-41-11-420-051-A B.

Installation of the Antenna

NOTE: Two persons are necessary to do this job.

(a) Attach the antenna (1) to the ring mount (15) with the screws (17) and the lockwashers (16).
(b) Torque the screws (17) **to between 0.23 and 0.26 m.daN (20.35 and 23.01 lbf.in)**.
(c) Connect the flange of the waveguide (14) to the antenna (1).
(d) Install the screws (18) and the washers (19).
(e) Make sure that the antenna turns correctly in azimuth (AZ) and in elevation (EL), examine the EL and AZ switches (9).

Subtask 34-41-11-865-052-A

C. Remove the safety clip(s) and the tag(s) and close this(these) circuit breaker(s):

PANEL	DESIGNATION	FIN	LOCATION
721VU	WXR 1	9SQ1	K03
722VU	WXR 2	9SQ2	E49

Subtask 34-41-11-730-050-A

F . Do the operational test of the weather radar antenna scanning (Ref. AMM TASK 34-41-00-710-802).

5. Close-up

Subtask 34-41-11-410-050-A

A. Close Access

(a) Make sure that the work area is clean and clear of tools and other items.
(b) Close the access door 811 and the radome 110AL (Ref. AMM TASK 53-15-11-410-801).
(c) Remove the access platform(s).
(d) Remove the warning notice(s).

Subtask 34-41-11-862-050-A

B. De-energize the ground service network (Ref. AMM TASK 24-42-00-862-801).

ANNEXE 8

TASK 24-41-00-861-801-A
Energize the Aircraft Electrical Circuits from the External Power A

CAUTION:
MAKE SURE THAT THE CONNECTOR OF THE GROUND POWER UNIT IS CORRECTLY CONNECTED TO THE EXTERNAL POWER RECEPTACLE BEFORE YOU START THE GROUND POWER UNIT.
THERE IS A RISK OF ARCING IF THE CONNECTOR IS NOT CORRECTLY CONNECTED.

A. Energize the Aircraft Electrical Circuits from the External Power

(1) On the ELEC control panel 235VU, make sure that:
· The GEN 1, GEN 2, GEN 3, GEN 4, APU GEN, BUS TIE, AC ESS FEED and COMMERCIAL pushbutton switches are pushed in,
· All the other pushbutton switches (PBSW) are released.

(2) On the VENTILATION section of the panel 212VU, make sure that:
· The EXTRACT and CAB FANS pushbutton switches are pushed in.

(3) Obey the instructions given with the ground power unit and start the ground power unit.

(4) If the protection circuits operate correctly:
· On the EXT PWR control panel 925VU, the EXT PWR A/NOT IN USE and EXT PWR A/AVAIL indicator lights come on
· On the ELEC control panel 235VU, the AVAIL legend of the EXT A pushbutton switch comes on.

(5) On the ELEC control panel 235VU, push the EXT A pushbutton switch:
· The AVAIL legend goes off,
· The ON legend comes on.

(6) On the ELEC control panel 235VU, these legends come on:
· The FAULT legend of the GEN 1, GEN 2, GEN 3 and GEN 4 pushbutton switches,
· The OFF legend of the BAT 1, BAT 2 and APU BAT pushbutton switches,
· The OFF legend of the GALLEY pushbutton switch.

(7) On the EXT PWR control panel 925VU:
· The EXT PWR A/NOT IN USE indicator light goes off.

(8) On the VENTILATION section of the panel 212VU:
· Make sure that the FAULT legend of the EXTRACT pushbutton switch is off (this shows that the electronics rack ventilation operates correctly).

(9) Do the EIS start procedure (EWD DU, SD DU only) (Ref. AMM TASK 31-60-00-860-801).

(10) On the ECAM control panel, push the EL/AC pushbutton switch and make sure that, on the SD:
· EXT A supplies busbars AC2-3 an AC2-4.

(11) On the ELEC control panel 235VU, push the BAT 1, BAT 2 and APU BAT pushbutton switches:
· The OFF legends go off.

B. Controls and Indications on Panels 235VU et 925VU

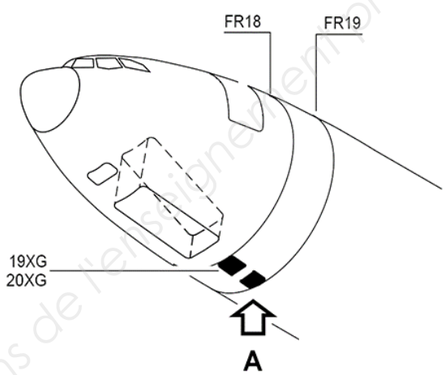
As soon as the ground power unit A (B) is connected and selected on, the GAPCU analyzes the voltage delivered to the external power receptacle.

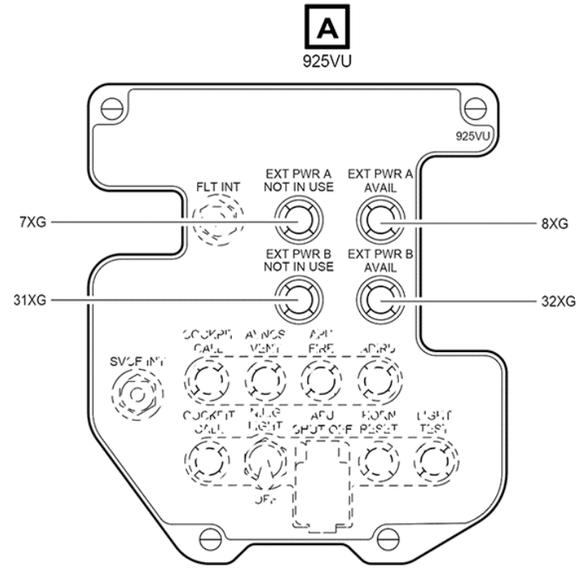
If the analyzed parameters (voltage, frequency, phase) are correct, the GAPCU controls:

· The illumination of the green AVAIL legend of the ELEC/EXT A (B) pushbutton switches 10XG (17XG) located on the overhead ELEC panel (235VU)

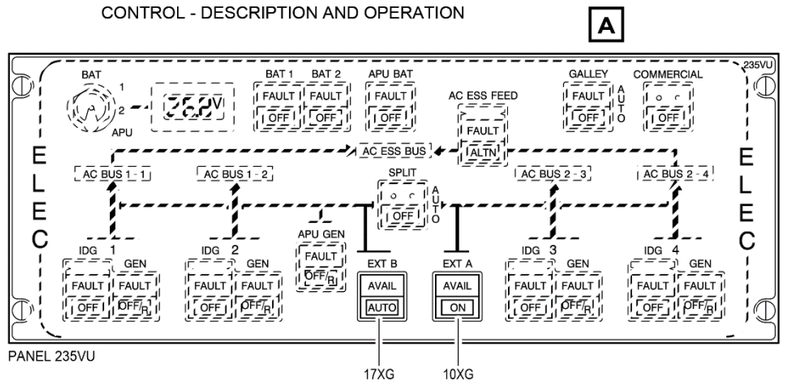
· The illumination of the amber EXT PWR A (B) AVAIL indicator lights 8XG (32XG) and the white EXT PWR A (B) NOT IN USE indicator lights 7XG (31XG) located in the external power receptacle housing.

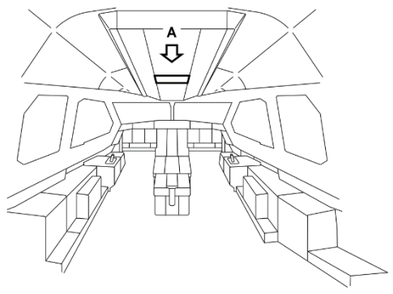
AC External Power
(Indicating Outside Panel) - Component Location



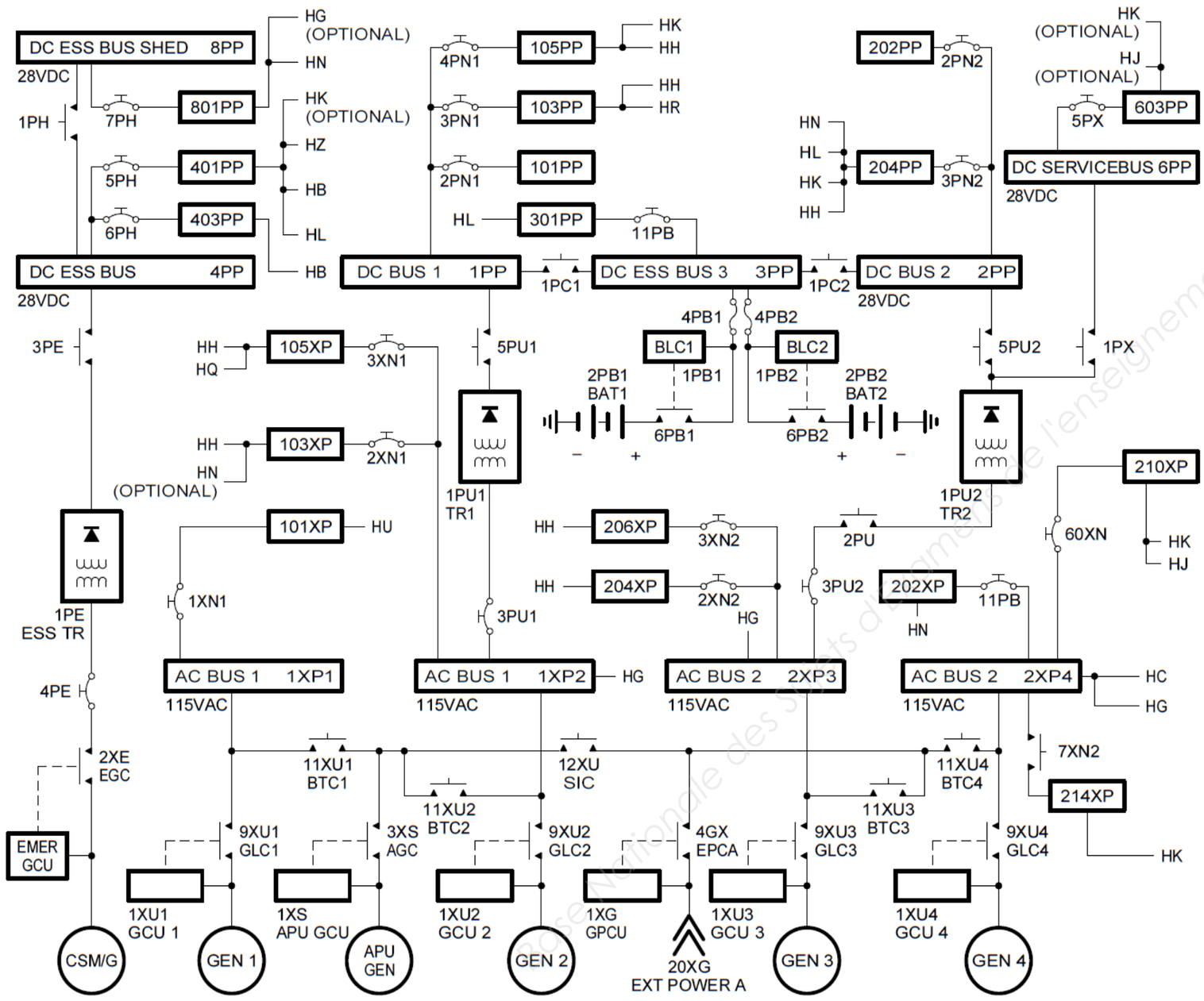


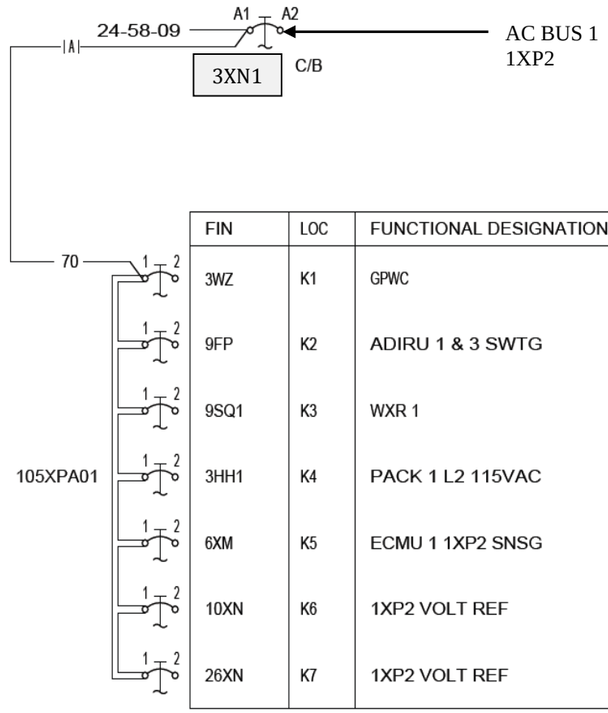
AC EXTERNAL POWER
CONTROL - DESCRIPTION AND OPERATION





ANNEXE 9





FIN	LOC	FUNCTIONAL DESIGNATION	ATA	SCH	W
3WZ	K1	GPWC	3448	01	01
9FP	K2	ADIRU 1 & 3 SWTG	3411	01	03
9SQ1	K3	WXR 1	3441	01	01
3HH1	K4	PACK 1 L2 115VAC	2153	01	01
6XM	K5	ECMU 1 1XP2 SNSG	2429	02	03
10XN	K6	1XP2 VOLT REF	2451	02	02
26XN	K7	1XP2 VOLT REF	2451	02	02

**ON A/C ALL

GÉNÉRATION ÉLECTRIQUE
ALIMENTATION DE L'E/R RADAR MÉTÉO WRX1

ANNEXE 10

TASK 34-41-00-710-802-A
Operational Test of the Weather-Radar Antenna Scanning

WARNING: OBEY THESE SAFETY PRECAUTIONS WHEN THE WEATHER RADAR IS IN OPERATION.
MAKE SURE THAT:
- NO PERSON IS IN THE AREA MADE BY AN ARC OF 135 DEG. ON EACH SIDE OF THE AIRCRAFT CENTERLINE.
- THERE IS A MINIMUM SAFETY DISTANCE OF 60 METERS (200FT) BETWEEN THE ANTENNA AND ALL REFUELING OPERATIONS.
- THERE IS A MINIMUM SAFETY DISTANCE OF 5 METERS (16.4 FT) BETWEEN THE AIRCRAFT AND ANY OBSTACLE IN THE AREA MADE BY AN ARC OF 90° ON EACH SIDE OF THE AIRCRAFT CENTERLINE.
THE AIRCRAFT MUST NOT BE IN A HANGAR OR CLOSED AREA.

1. Reason for the Job
Self-explanatory

2 Job Set-up Information

A. Work Zones and Access Panels

ZONE/ACCESS	ZONE DESCRIPTION
110	RADOME
210	CKPT FWD PRESSURE BHD TO CKPT PARTITION
811	FORWARD AVIONICS COMPARTMENT DOORS
110AL, 811	

B. Referenced Information

REFERENCE	DESIGNATION
24-41-00-861-801-A	Energize the Aircraft Electrical Circuits from the External Power A
24-41-00-861-801-A-01	Energize the Aircraft Electrical Circuits from the APU (APU Started with APU BAT)
24-41-00-861-801-A-03	Energize the Aircraft Electrical Circuits from the External Power A and B
24-41-00-861-801-A-04	Energize the Aircraft Electrical Circuits from the APU (APU started with External power A)
24-41-00-861-801-A-05	Energize the Aircraft Electrical Circuits from the External Power B
24-41-00-862-801-A	De-energize the Aircraft Electrical Circuits from the External Power A
24-41-00-862-801-A-01	De-energize the Aircraft Electrical Circuits from the APU
24-41-00-862-801-A-03	De-energize the Aircraft Electrical Circuits from the External Power A and B
24-41-00-862-801-A-04	De-energize the Aircraft Electrical Circuits from the External Power B
45-10-00-860-804-A	Procedure to get access to the SYSTEM REPORT/TEST NAV:RADIO NAV page

3. Job Set-up

Subtask 34-41-00-860-054-D

A. Aircraft Maintenance Configuration

(a) Energize the aircraft electrical circuits
(Ref. AMM TASK 24-41-00-861-801).

(b) On the center pedestal, on the weather radar control unit, set:

- The SYS1/OFF/SYS2 switch to OFF
- The GAIN potentiometer to CAL
- The TILT selector switch to 0
- The mode selector switch to WX
- The MULTISCAN MAN/AUTO switch to MAN
- The GCS OFF/AUTO switch to OFF.

B. Remove the safety clip(s) and the tag(s) and close this(these) circuit breaker(s):

PANEL	DESIGNATION	FIN	LOCATION
721VU	WXR 1	9SQ1	K03
722VU	WXR 2	9SQ2	E49

4. Procedure

Subtask 34-41-00-710-050-C

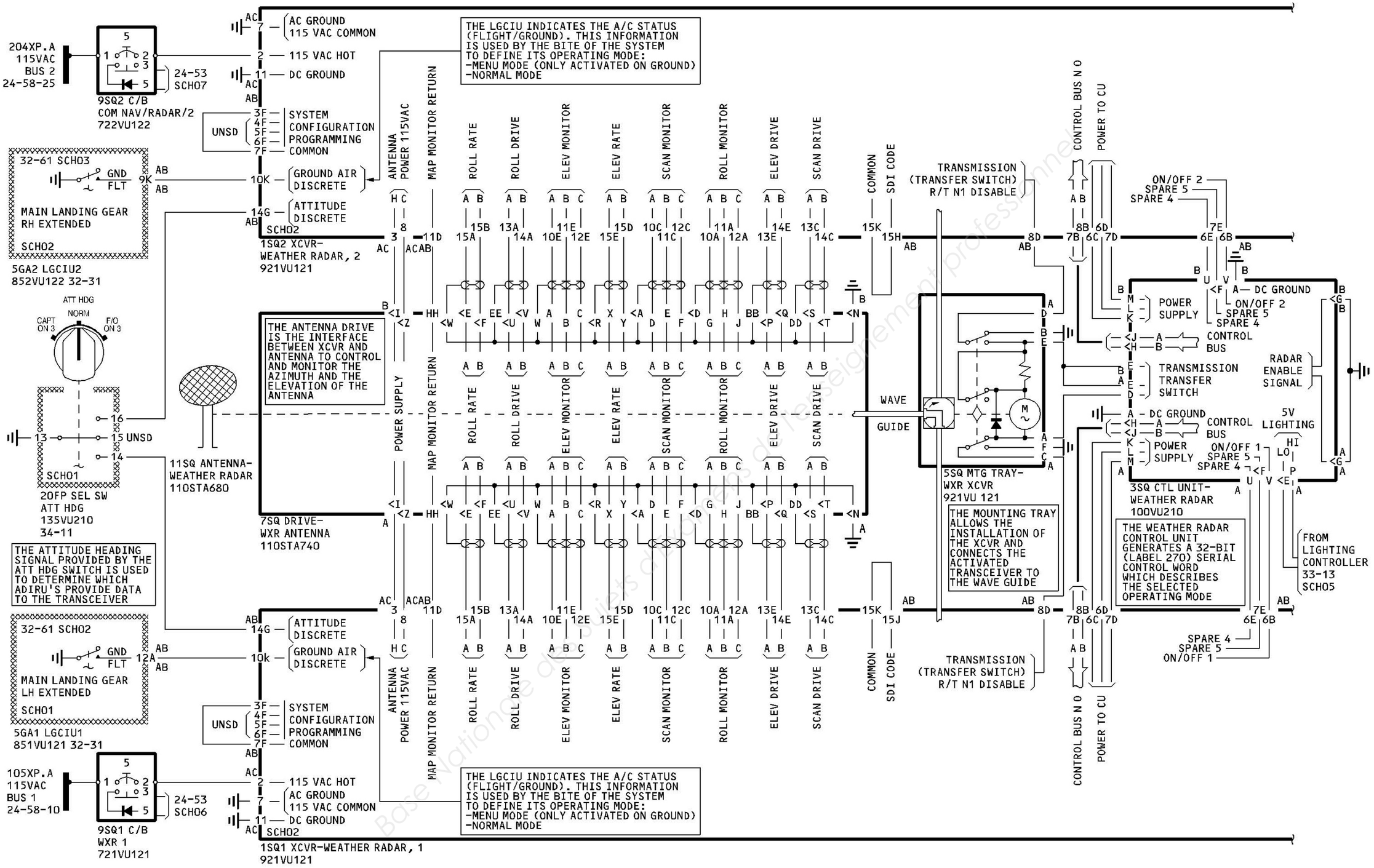
A. Operational Test of the Weather-Radar Antenna Scanning

NOTE: This test is for the weather radar 1.

ACTION	RESULT
1.On the center pedestal, on the weather-radar control unit: Set the SYS1/OFF/SYS2 switch to SYS1.	
2.On the Multipurpose Control and Display Unit (MCDU): · Push the line key adjacent to the WXR 1 Indication.	· the WXR 1 (WXR 2) page comes into view.
3.Push the line key adjacent to the TEST indication	· the TEST IN PROGRESS indication comes into view · during the test sequence, make sure that the antenna: . turns in elevation (+15°, -15°) . turns in azimuth from the right side to the left side, then becomes stable at 0° , vertical to the aircraft centerline. · at the end of the test, the TEST OK indication comes into view. NOTE: If the test is performed with WXR 2, you must energize the WXR 2 when indication IF TEST PATTERN REQUIRED-SWITCH TO SYS-TEM 2 comes into view on the MCDU.
4.Push the line key adjacent to the RETURN indication.	· the antenna scanning stops.

ANNEXE 11

WIRING DIAGRAM DE L'INSTALLATION RADAR MÉTÉOROLOGIQUE



EFFECTIVITY

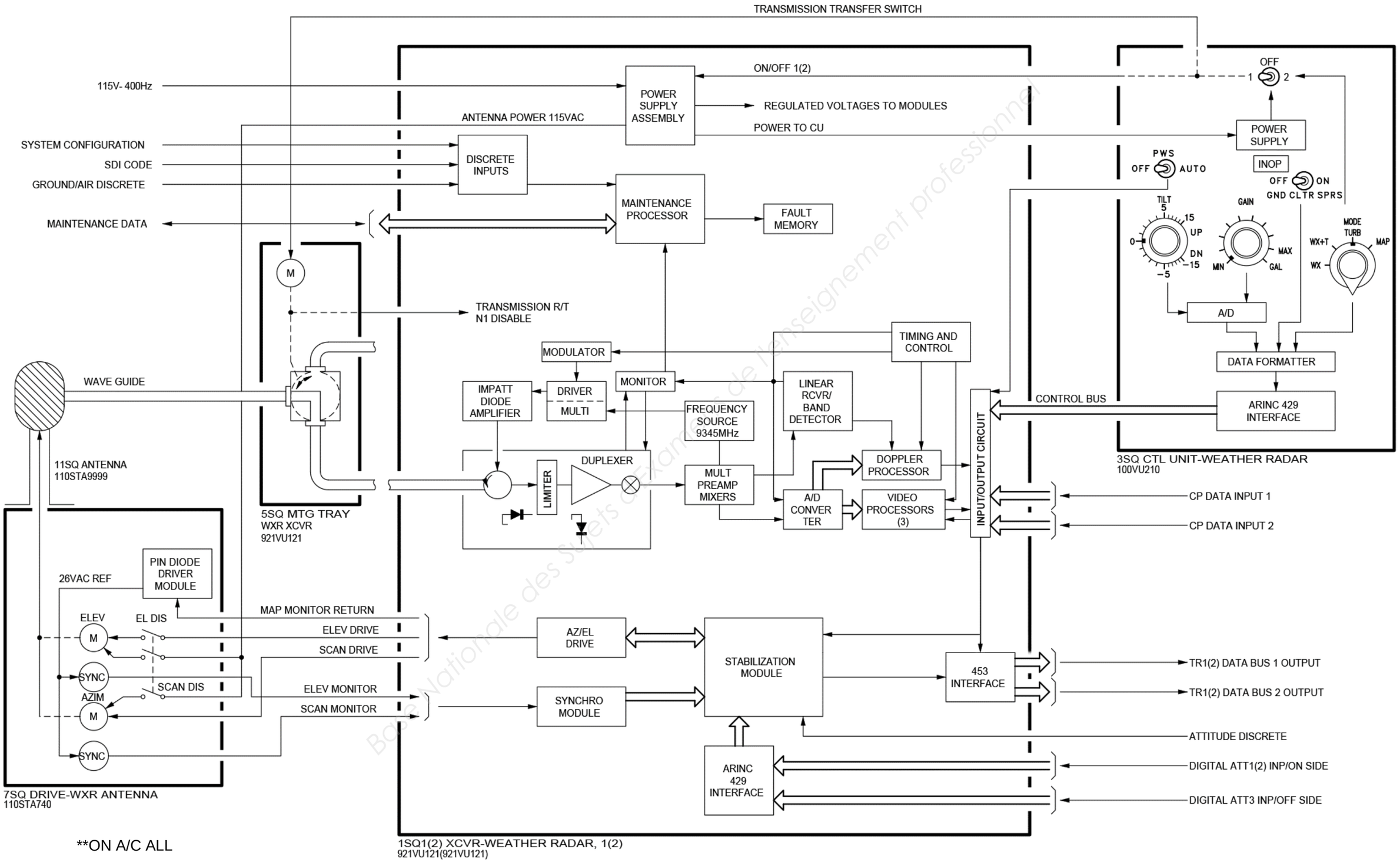
001099-101150
201299-501549

NAVIGATION
WEATHER RADAR SYSTEM

34-41-00

ANNEXE 12

SYNOPTIQUE DE L'INSTALLATION RADAR MÉTÉOROLOGIQUE



ANNEXE 13 (1/2)

***** ON A/C FSN ALL***
Technical Data related to a Wire
Wire Identification

Wire Number : 3441-0047

Color : B
Type : TT
Gauge : 24
Wire Part Number : EN2714-011B002F
Length : 274 cm
Route : 1M

Diagram Ref. : Ref. AWM 34-41-02

Feed Thru : 1VP /
Bundle : 1055VB
Bundle Diagram Ref. : Ref. AWM 91-01-55

From Termination A
FIN : 7SQ
Connector : 7SQA
Contact Number : <Q
Contact Part Number : EN3155-019F2018

To Termination B
FIN : 515VC
Connector : 515VCA
Contact Number : 18
Contact Part Number : EN3155-015F2018

***** ON A/C FSN ALL***
Technical Data related to a Wire
Wire Identification

Wire Number : 3441-0047

Color : R
Type : TT
Gauge : 24
Wire Part Number : EN2714-011B002F
Length : 274 cm
Route : 1M

Diagram Ref. : Ref. AWM 34-41-02

Feed Thru : 1VP /
Bundle : 1055VB
Bundle Diagram Ref. : Ref. AWM 91-01-55

From Termination A
FIN : 7SQ
Connector : 7SQA
Contact Number : <P
Contact Part Number : EN3155-019F2018

To Termination B
FIN : 515VC
Connector : 515VCA
Contact Number : 17
Contact Part Number : EN3155-015F2018

Norme du contact	Code article	Longueur de dénudage (mm) "A"(*)	Outil de sertissage	Positionneur	Position du sélecteur suivant la jauge du câble								Outils		
					26	24	22	20	18	16	14	12	10	Insertion	Extraction	Extraction contact non câblé
EN3155-014	M2022	4	M22520/7-01	EN4008-006	1	2	3	-	-	-	-	-	-	M81969/39-01 VERT	M81969/39-01 BLANC	M81969/30-11
			M22520/2-01	M22520/2-08	2	3	4									
EN3155-014	M2020	5	M22520/2-01	M22520/2-08	-	5	6	7	-	-	-	-	-			
			M22520/7-01	EN4008-006		4	5	6								
EN3155-014	M2018	5	M22520/2-01	M22520/2-08	-	5	6	7	7	-	-	-	-			
			M22520/7-01	DMC 86-79 EN4008-006		4	5	6	6							
EN3155-015	F2022	4	M22520/7-01	EN4008-006	1	2	3	-	-	-	-	-	-			
			M22520/2-01	M22520/2-08	2	3	4									
EN3155-015	F2020	5	M22520/2-01	M22520/2-08	-	5	6	7	-	-	-	-	-			
			M22520/7-01	EN4008-006		4	5	6								
EN3155-015	F2018	5	M22520/2-01	M22520/2-08	-	5	6	7	7	-	-	-	-			
			M22520/7-01	DMC 86-79 EN4008-006		4	5	6	6							

Norme du contact	Code article	Longueur de dénudage (mm) "A"(*)	Outil de sertissage	Positionneur	Position du sélecteur suivant la jauge du câble								Outils		
					26	24	22	20	18	16	14	12	10	Insertion	Extraction	Extraction contact non câblé
EN3155-019	F2022	4.5	M22520/2-01	M22520/2-02	2	3	4	-	-	-	-	-	-	M81969/14-11 ROUGE	M81969/14-11 BLANC	M81969/30-05
			M22520/7-01	M22520/7-02	1	2	3									
EN3155-019	F2020	4.5	M22520/1-01	M22520/1-02 RED	-	2	3	4	-	-	-	-	-	M81969/14-11 ROUGE	M81969/14-11 BLANC	M81969/30-05
			M22520/2-01	M22520/2-02		5	6	7								
			M22520/7-01	M22520/7-02		4	5	6								
EN3155-019	F2018	4.5	M22520/1-01	M22520/1-02 ROUGE	-	2	3	4	5	-	-	-	-			
			M22520/2-01	M22520/2-02		5	6	7	8							
			M22520/7-01	M22520/7-02		4	5	6	7							
EN3155-019	F1616	7	M22520/1-01	M22520/1-02 BLEU	-	-	-	4	5	6	-	-	-	M81969/14-03 BLEU	M81969/14-03 BLANC	M81969/30-06
			M22520/7-01	M22520/7-03				5	6	7						
EN3155-019	F1614	7	M22520/1-01	M22520/1-02 BLEU	-	-	-	-	5	6	6	-	-			
			M22520/7-01	M22520/7-03					6	7	7					
EN3155-019	F1618	7	M22520/1-01	M22520/1-02 BLEU	-	2	3	4	5	-	-	-	-			
			M22520/7-01	M22520/7-03		4	5	6	7							
EN3155-019	F1212	7	M22520/1-01	M22520/1-02 JAUNE	-	-	-	-	-	6	7	8	-	M81969/14-04 JAUNE	M81969/14-04 BLANC	M81969/30-07
EN3155-019	F1218	7	M22520/1-01	M22520/1-02 JAUNE	-	2	3	4	5	-	-	-	-			

OUTIL 1

OUTIL 2

OUTIL 3

ANNEXE 14

1. Power Supply

Energization of each system is through 115VAC 400 Hz buses:

- 1XP via the busbar 401 XP-A for transceiver 1
- 2XP via the busbar 204 XP-A for transceiver 2.

Energization of the Weather Radar Control Unit and the WXR antenna drive is through the selected transceiver. Consumption of each selected transceiver is 150W nominal.

The system is supplied through this (these) circuit breaker (s):

PANEL	DESIGNATION	FIN	LOCATION
721VU	WXR 1	9SQ1	K03
722VU	WXR 2	9SQ2	E49

2. Interface

The weather radar data are transmitted via ARINC 429 and 453 buses. The table below contains all the output parameters in the digital form.

PARAMETER LIST			PARAMETER CHARACTERISTICS (NUMERIC)						
EQ.SYS.LAB.SDI	PARAMETER DEFINITION (*=REMARK) (X=NOTE)	WORD RANGE OPER RANGE RESOLUTION ACCURACY	UNIT	SIG BIT	BITS	XMSN INTV	CODE	ALPHA CODE	SOURCE ORIGIN BUS No. ATA REF CONV
270	CONTROL WORD 1	16 0-15 1 0,5	deg	4	100	BNR			
271	CONTROL WORD 2			32	100	DIS			
055	WXR DATA			1600	7.82	DIS			

(1) Control Words (Label 270 and 271)

The control words are transmitted on the control buses (ARINC 429) which connect the weather radar control unit to the transceivers (one for each transceiver).

The control word 1 (label 270) provides the following data:

- TILT angle
- The SSM specifies the TILT angle sign

Selected Mode:

Bit 25	Bit 26	Mode
0	0	WX
0	1	WX + T
1	0	Mode Turb
1	1	MAP

Sign / Status Matrix (SSM) encoded BNR:

Bit 31	Bit 30	Signification
0	0	Plus, North, East, Right, To, Above
0	1	No computed data
1	0	Functionnal test
1	1	Minus, South, West, Left, From, Below

The control word 2 (label 271) provides the following data:

- Selected mode bit 11-12
- Stabilization (on/off) bit 13 / Discrete (On: 1 / off: 0)
- scan (normal/reduced) bit 14 / Discrete (Norm.:1 / Red.:0)
- Anti-clutter (on/off). bit 15 / Discrete (On: 1 / off: 0)
- Range bit 16-27
- Anti-clutter (on/off) bit 28
- WXR selected on the EFIS control panel (master/slave) bit 29

3. Data Word (Label 055)

The signal transmitted on the data bus line, which connects the WXR/PWS to the Display Management Computers (DMC), complies with data word format (label 055) as defined by the ARINC Specification 708A (Appendix 15.2).

The following table defines the label 055:

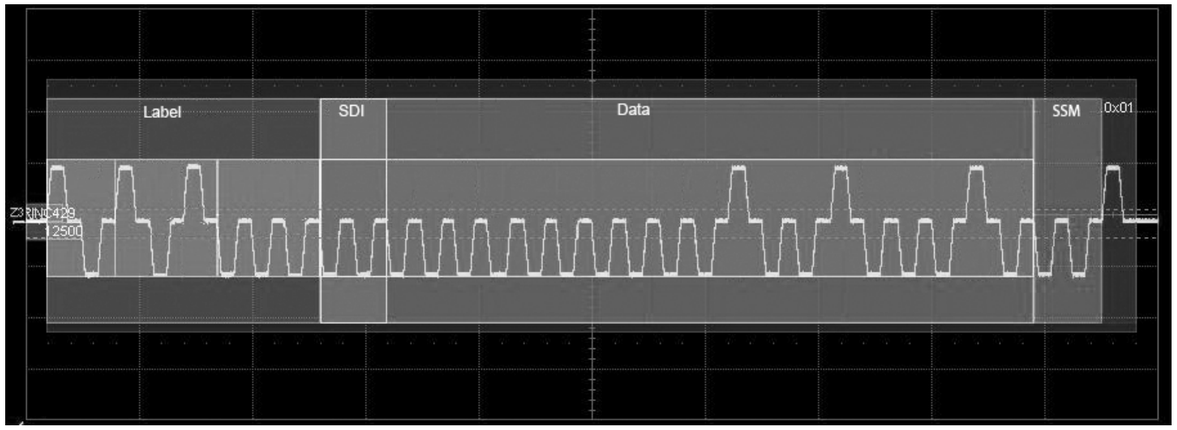
BITS	FUNCTION
1-8	Label 00101101: 055
9-10	Control Accept
11	Spare
12	Windshear Caution
13	Windshear Warning
14	Turbulence Alert (not used)
15	Tilt Selection
16	Anti-clutter (not used)
17	Sector Scan
18	Stabilization Limits
19	Cooling Transceiver
20	Display Fault (not used)
21	Calibration or Air Data Input
22	Attitude Input
23	Control or Heading Input
24	Antenna
25	R/T or Radio Altimeter
26	Stabilization
27-29	Mode
30-36	Tilt Angle
37-42	Gain
43-48	Range
49	Windshear External Input Fault
50-51	Data Accept
52-63	Scan Angle
64	Windshear Failure
65-1600	Range Bin Data

The data bus line transmits 190 data words per second; each word is made up of 1600 bits sent on 1 Megabit/s frequency (ARINC Specification 453) as per MANCHESTER II BI PHASE 2 format.

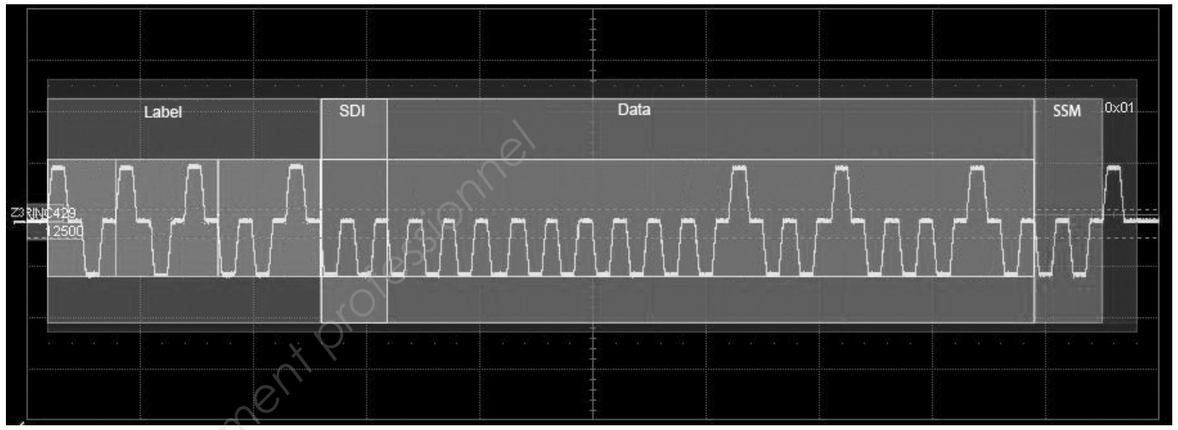
Digital Interface Special for WXR/PWS

ANNEXE 15

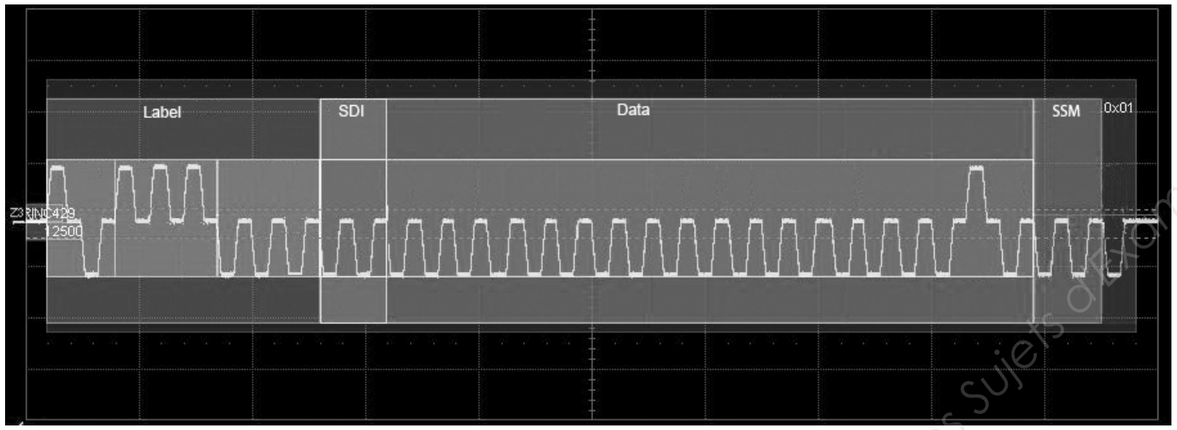
Oscillogramme 1



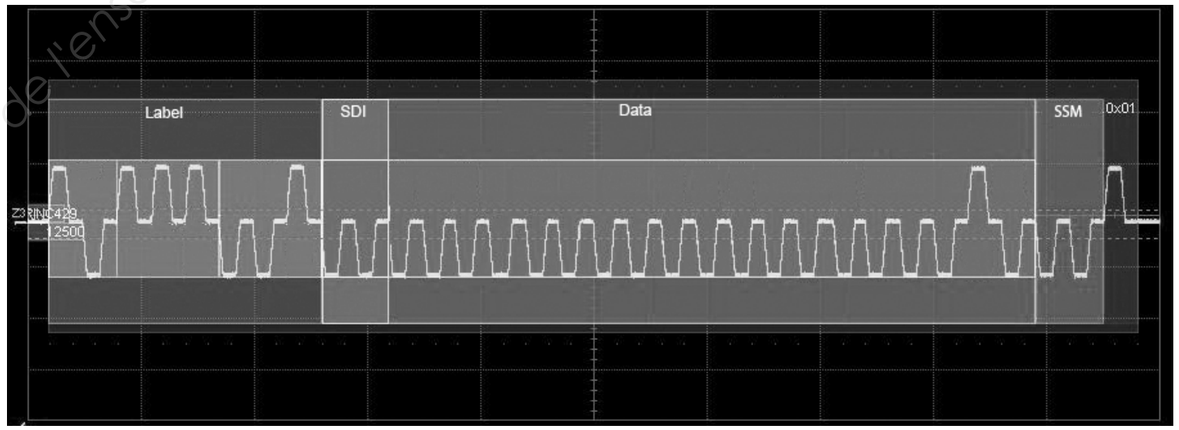
Oscillogramme 2



Oscillogramme 3



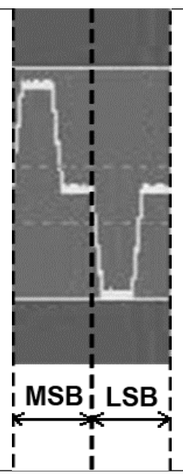
Oscillogramme 4



Exemple de lecture d'une trame ARINC 429 relevée à l'oscilloscope :

Mot binaire : $10_{(2)}$

Trame correspondante :



ANNEXE 16

TROUBLE SHOOTING MANUAL

TASK 34-41-00-810-803
Failure of the Weather Radar Antenna (Circuit 1)

1. Possible Causes

- DRIVE-WXR ANTENNA (7SQ)
- wiring from the weather radar antenna drive to the WXR transceiver 1

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	34-41-00-740-801	BITE test of the Weather Radar
AMM	34-41-11-000-801	Removal of the Weather Radar Antenna Assembly (7SQ, 11SQ)
AMM	34-41-11-400-801	Installation of the Weather Radar Antenna Assembly (7SQ, 11SQ)
AMM	34-41-33-000-801	Removal of the Weather Radar Transceiver (1SQ1, 1SQ2)
AMM	34-41-33-400-801	Installation of the Weather Radar Transceiver (1SQ1, 1SQ2)
ASM	34-41/01	

3. Fault Confirmation

A. Test
Do the BITE test of the weather radar 1 (Ref. AMM TASK 34-41-00-740-801).

4. Fault Isolation

R **ON A/C 001-099, 101-155, 201-299, 501-549, 551-599,

A. If the test gives the maintenance message RADAR 1 ANTENNA:
- set the system 2 on the WXR control unit.

(1) If the fault continues:

- Replace the DRIVE-WXR ANTENNA (7SQ) (Ref. AMM TASK 34-41-11-000-801) and (Ref. AMM TASK 34-41-11-400-801)

- set the system 1 on the WXR radar control unit.

(a) If the fault continues:

- remove the WXR transceiver 1 (Ref. AMM TASK 34-41-33-000-801)

- remove the WXR Antenna drive

- do a check and repair the wiring from the weather radar antenna drive to the WXR transceiver 1: from connector A to connectors AB and AC (Ref. ASM 34-41/01)

R **ON A/C 156-199, 301-349,

A. If the test gives the maintenance message WXR ANTENNA (11SQ):
- set the system 2 on the weather radar control unit.

(1) If the fault continues:

- Replace the DRIVE-WXR ANTENNA (7SQ) (Ref. AMM TASK 34-41-11-000-801) and (Ref. AMM TASK 34-41-11-400-801)

- set the system 1 on the weather radar control unit.

(a) If the fault continues:

- remove the weather radar transceiver 1 (Ref. AMM TASK 34-41-33-000-801)

- remove the WXR antenna drive

- do a check and repair the wiring from the WXR antenna drive to the WRX transceiver 1: from connector A to connectors AB and AC (Ref. ASM 34-41/01)

- install the WXR transceiver 1 (Ref. AMM TASK 34-41-33-400-801)

- install the WXR antenna drive.

**ON A/C ALL

B. Do the test given in Para. 3.