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SERVICE BULLETIN

TBM AIRCRAFT

SB 70–104	55
AMENDMENT 2	ATA No.

MANDATORY

The technical content of this document is approved
under the authority of DOA No. EASA.21J.013
is the subject of an AD

NOTE **:** ***The content of this SB will be incorporated in next revision of Chapter 05 of the Maintenance Manual which date will be later than MAR 06. Its application will then be cancelled when revised Chapter 05 is published.***

SUBJECT : INSPECTION OF THE VERTICAL STABILIZER ATTACHMENT FITTINGS

EFFECTIVITY : TBM 700 aircraft S/N 1 to 308, plus S/N 310.

NOTE :
From aircraft S/N 297, the modification No. MOD70–127–55 is applied at the factory.
From aircraft S/N 311, plus S/N 309, the modification No. MOD70–129–53 is applied at the factory.

REASON :

A. PROBLEM

Cracks on a vertical stabilizer attachment fitting.

B. REASON

Corrosion on the vertical stabilizer attachment fittings.

C. SOLUTION

Inspection of the fittings and bolts and protection reinforcement.

REASON OF AMENDMENT 1 :
Closing of effectivity and addition of Note.

REASON OF AMENDMENT 2 :
Addition of new Part Numbers for expandable bolts and of associated procedure related to Modification No. MOD 70–0205–55.
Addition of the possibility to use an equivalent process for crack detection.

SUMMARY :

A. INSPECTION OF THE FITTINGS AND BOLTS

B. PROTECTION REINFORCEMENT

COMPLIANCE : During the next 600–hrs scheduled inspection, then every 1200 hrs or every 2 annual inspections.

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PROCURABLE MATERIAL :

– Parts to be ordered, if necessary from your TBM spare parts distributor.

Item	Part number	Description	Qty/aircraft
1	Pre–MOD 70–0205–55 Z00.N7018814671 After stock depletion, replaced by Post–MOD 70–0205–55 Z00.N7022810298	Expandable bolt assy (rear)	2
6	Pre–MOD 70–0205–55 Z00.N7018814661 After stock depletion, replaced by Post–MOD 70–0205–55 Z00.N7022810299 After stock depletion, replaced by	Expandable bolt assy (front)	2
2	All Z00.N5787461153	Cotter pin	2
10	Z00.N5787461151	Cotter pin	2

NOTE :
The difference between Pre–MOD 70–0205–55 and Post–MOD 70–0205–55 bolts is identified on details A and B of Figure 1.

CONSUMABLE MATERIAL (Local purchase) :

– Stepladder 5 ft (1.50 m)

– Mastinox 6856KD (MIL–P–8116 D)

– WADIS 24 (MIL–C–16173 D grade 3) or LPS 3 (DA–4–653–40) or ARDROX 3140 (MIL–C–16173 D grade 2)

TOOLING :

– Standard aeronautical maintenance station tools

– Torque wrench 0 – 90 lbf.in (0 – 10 N.m)

MANPOWER :

– 1 aeronautical mechanic : 3.50 hrs

TECHNICAL INCIDENCES :

– None

ACCOMPLISHMENT INSTRUCTIONS :

NOTE :
Operations required in this Service Bulletin must be accomplished by persons authorized by their Airworthiness Authorities and according to the procedure described hereafter.

A. INSPECTION OF THE FITTINGS AND BOLTS – see Figures 1, 2 and 3

1) Position the stepladder at the front of the vertical stabilizer.

2) Open access panel 311 and remove the dorsal fin – refer to Chapter 55–30–00 of the Maintenance Manual.

3) Remove and discard cotter pins (2) and (10). Loosen nuts (3) and (9), but do not remove them.

4) On the L.H. side then on the R.H. side of the front fitting, perform the following operations :

Pre–MOD 70–0205–55 – see Figure 1, Detail A

a) Remove nut (9), washer (8) and spring washers (7).

b) Remove expandable bolt (6).

Post–MOD 70–0205–55 – see Figure 1, Detail B

a) Remove nut (9), washer (8).

b) Remove expandable bolt (6).

All

CAUTION

MIXING BETWEEN BOLTS INSTALLED ON L.H. OR R.H. SIDE IS PROHIBITED. MIXING BETWEEN BOLTS INSTALLED AT THE FRONT OR AT THE REAR IS PERMITTED

c) Inspect the removed parts. The parts which do not meet the criteria as below will be replaced and returned to SOCATA for analysis :

– bolt body, no corrosion mark,

– bolt head, nut, washer and spring washers (if installed), light pittings accepted.

d) Check for corrosion on the fitting.

e) Apply a thin coat of Mastinox 6856KD (MIL–P–8116 D) on expandable bolt (6).

Pre–MOD 70–0205–55 – see Figure 1, Detail A

f) In compliance with Figure 2, install expandable bolt (6), spring washers (7), washer (8) and nut (9). Do not tighten.

Post–MOD 70–0205–55 – see Figure 1, Detail B

f) In compliance with Figure 3, install expandable bolt (6), washer (8) and nut (9). Do not tighten.

5) On the L.H. side then on the R.H. side of the rear fitting, perform the following operations :

Pre–MOD 70–0205–55 – see Figure 1, Detail A

a) Remove nut (3), washer (4) and spring washers (5).

b) Remove expandable bolt (1).

Post–MOD 70–0205–55 – see Figure 1, Detail B

a) Remove nut (3) and washer (4).

b) Remove expandable bolt (1).

All

c) Inspect the removed parts. The parts which do not meet the criteria as below will be replaced and returned to SOCATA for analysis :

- bolt body, no corrosion mark,
- bolt head, nut, washer and spring washers (if installed), light pittings accepted.

d) Check for corrosion on the fitting.

e) Perform a crack detection by penetrant inspection – refer to Chapter 20–50–01 of the Maintenance Manual, or any other equivalent process (Eddy current...) on the bores of the vertical stabilizer fitting and attachments.

f) Apply a thin coat of Mastinox 6856KD (MIL–P–8116 D) on expandable bolt (1).

Pre–MOD 70–0205–55 – see Figure 1, Detail A

g) In compliance with Figure 2, install expandable bolt (1), spring washers (5), washer (4) and nut (3). Do not tighten.

NOTE :
It is possible to reinstall the bolt with head directed to the exterior in order to torque the bolt easier.

Post–MOD 70–0205–55 – see Figure 1, Detail B

g) In compliance with Figure 3, install expandable bolt (1), washer (4) and nut (3). Do not tighten.

NOTE :
It is possible to reinstall the bolt with head directed to the exterior in order to torque the bolt easier.

6) If exfoliation corrosion is detected, transmit a report with photos or drawings to SOCATA so that a repair solution is worked out.

7) If pitting corrosion is detected, refer to Chapter 20–40–01 of the Maintenance Manual.

8) Using a torque wrench, torque nuts (3) to 62 – 71 lbf.in (7 – 8 N.m).

9) If necessary, screw to align the notches of nuts (3) with the first pin hole.

With bolt replacement

10) Safety with new cotter pin (2) supplied with bolt.

Without bolt replacement

10) Safety with new cotter pin (2), P/N Z00.N5787461153.

All

11) Using a torque wrench, torque nuts (9) to 53 lbf.in (6 N.m).

12) If necessary, screw to align the notches of nuts (9) with the first pin hole.

With bolt replacement

13) Safety with new cotter pin (10) supplied with bolt.

Without bolt replacement

13) Safety with new cotter pin (10), P/N Z00.N5787461151.

All

14) Perform protection reinforcement – refer to Paragraph B.

B. PROTECTION REINFORCEMENT

1) Apply a coat of WADIS 24 (MIL–C–16173 D grade 3) or LPS 3 (DA–4–653–40) or ARDROX 3140 (MIL–C–16173 D grade 2) on the front and rear fitting parts and on the bolts and washers.

2) After application of this SB, please return the enclosed form to SOCATA at the indicated address.

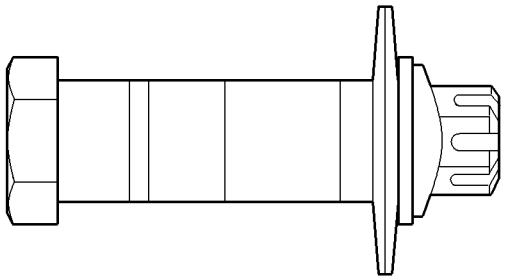
UPDATING OF THE AIRCRAFT DOCUMENTATION :

Upon completion of Service Bulletin No. SB 70–104–55, Amendment 2 "INSPECTION OF THE VERTICAL STABILIZER ATTACHMENT FITTINGS", make an appropriate maintenance record entry.

WARNING : SOCATA considers that it is MANDATORY for operators to comply with the instructions of this SB.

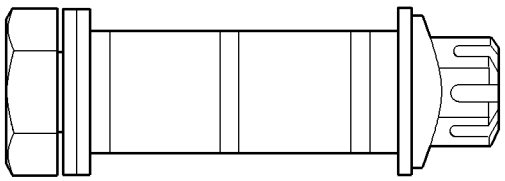
Operators who arbitrarily ignore the compliance statement indicated in this SB do so at their own risk.

A



Avant MOD 70 - 0205 - 55
Pre - MOD 70 - 0205 - 55

B



Après MOD 70 - 0205 - 55
Post - MOD 70 - 0205 - 55

I4553000AABMA24600

Figure 1 – Identification of bolts

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1 – Expandable bolt
2 – Cotter pin
3 – Nut
4 – Washer
5 – Spring washer
6 – Expandable bolt
7 – Spring washer
8 – Washer
9 – Nut
10 – Cotter pin

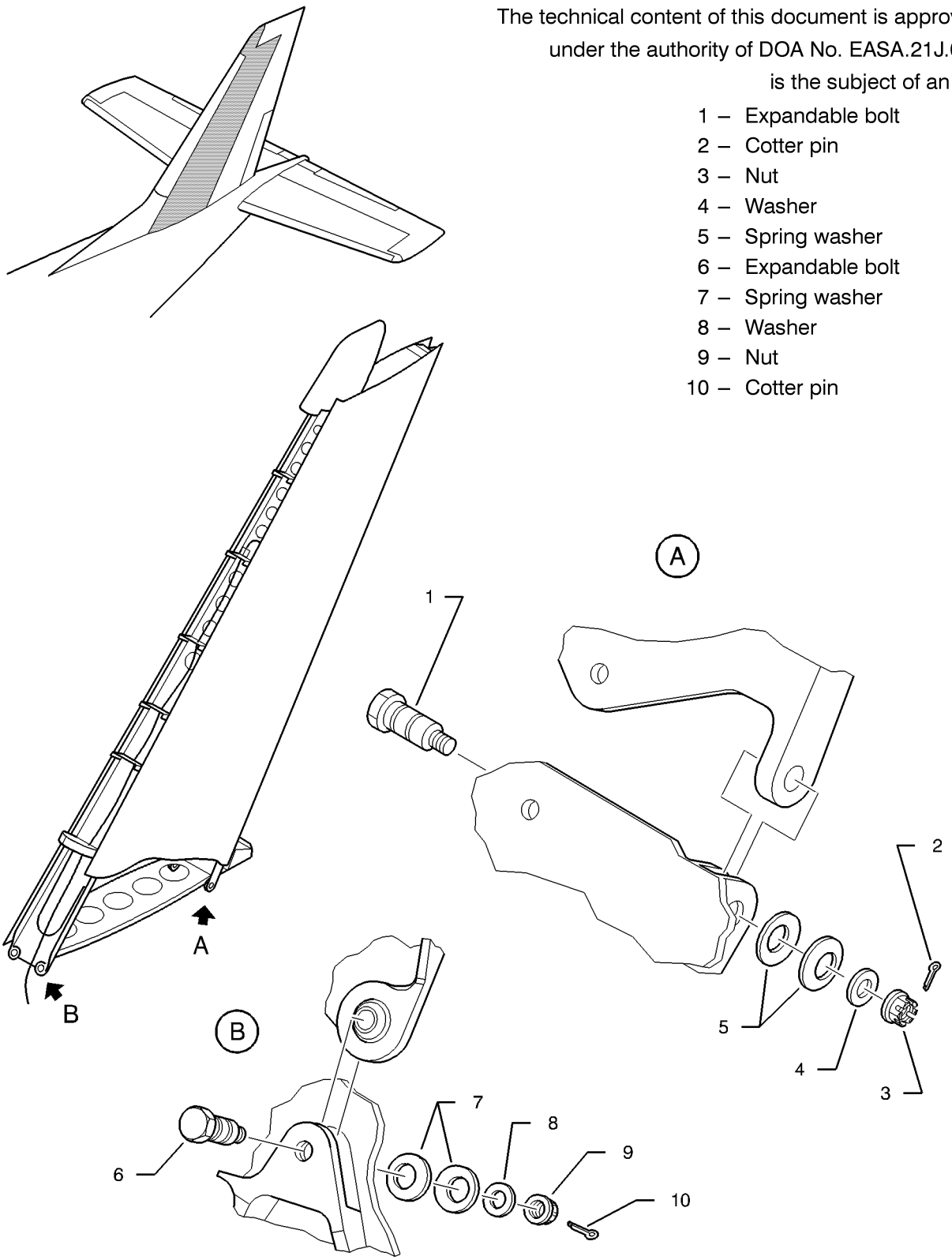


Figure 2 – Inspection of fittings and bolts
Pre–MOD 70–0205–55

1 – Expandable bolt
2 – Cotter pin
3 – Nut
4 – Washer
6 – Expandable bolt
8 – Washer
9 – Nut
10 – Cotter pin

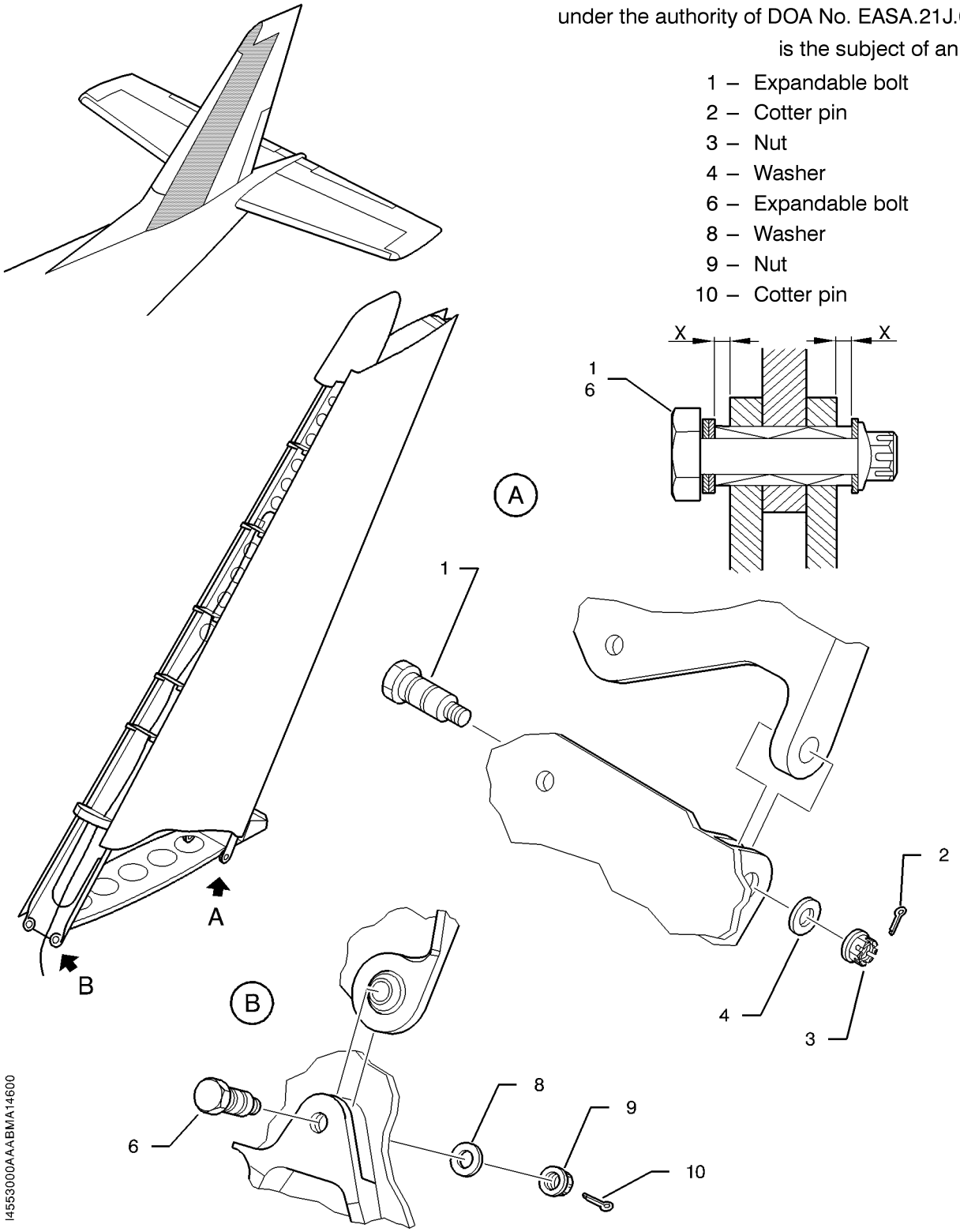


Figure 3 – Inspection of fittings and bolts
Post–MOD 70–0205–55

EADS SOCATA

FORM TO BE FILLED AFTER COMPLIANCE WITH SERVICE BULLETIN

SERVICE BULLETIN

TBM AIRCRAFT

SB 70–104 AMENDMENT 2	55 ATA No.

INSPECTION OF THE VERTICAL STABILIZER ATTACHMENT FITTINGS

I, the undersigned, ... certify

that service bulletin No. SB 70–104–55 Amendment 2 has been complied with on aircraft.

	Front fitting		Rear fitting	
Corrosion on fitting	L.H. ☐	R.H. ☐	L.H. ☐	R.H. ☐
Bolt and/or washer corrosion	L.H. ☐	R.H. ☐	L.H. ☐	R.H. ☐
Crack on fitting	L.H. ☐	R.H. ☐	L.H. ☐	R.H. ☐

1. Aircraft

   Type : ..... Serial No. : ..... Registered : .....

   Flight hours : ..... Number of landings : .....

2. Owner

   Name : ..... Phone : ..... Fax : .....

   Address : .....

   E–mail : .....

3. User (if different from owner)

   Name : ..... Phone : ..... Fax : .....

   Address : .....

   E–mail : .....

4. Service center

   Name : ..... Phone : ..... Fax : .....

   Address : .....

   E–mail : .....

   Approval No. : .....

5. Remarks

   .....

   .....

   .....

DATE : ..... SIGNED :

To be returned to SOCATA at the following address :

EADS SOCATA
Direction des Services
65921 TARBES CEDEX 9
FRANCE

Fax : 33 (0)5 62 41 76 54
Telex : 532 835 F