

Raytheon

AIRCRAFT COMPANY

INTERCHANGEABILITY

COMPONENT NUMBER

25-8TP509-1A

COMPONENT NAME

Tailplane

PURPOSE:

These checks are to ensure interchangeability between the Tailplane & Fin, in accordance to Chapter 20 Model 800 Aircraft Specification.

"RAC Proprietary Data"

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COMPONENT NUMBER

25-8TP509-1A

COMPONENT NAME

TAILPLANE

RAC

Supplier

Originator

ICY Engineering

Quality Assurance

Quality Assurance

Program Manager

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CONFIGURATION

<u>PART</u>		<u>COUNTERPART</u>
Tailplane Stage 1 Assembly Jig 051S10781D	Tailplane To Fin Master Reference 101S801133D	Fin Assembly Jig 051S10941D
Tailplane Stage 2 Assembly Jig 051S10782D	Lofts Drawings 25-Q-69 25-8GF175 GEOMETRY LASER TRACKER	Fin Drill-out Tool S010938
Drill out tool for Tailplane to Fin Holes 038S817693D	Tailplane To Fin Master Reference 101S801133D	***** Note:- ICY and Drawing data Qualified through MOD Audit trail— 252500 600 to 700 series 252900 700 to 800 series *****

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BROCHURE ISSUE SHEET:

COMPONENT NAME: Tailplane

Issue; 1

Amend: 2

Effective: January 2006

Amendment Number	Sections/ Pages Affected	Reason for Amendment or Reference	Date	Authorized
2	All	Hamble/Prestwick Transfer	Jan 2006	Mike Cavey

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SECTION ISSUE SHEET

SECTION	SHEET	ISSUE	DATE	NAME
1	1	B	January 2006	Mike Cavey
2	1	B	"	"
2	2	A	"	"
2	3	A	"	"
3	1	B	"	"
3	2	B	"	"
3	3	B	"	"
3	4	B	"	"
4	1	B	"	"
4	2	B	"	"
5	1	B	"	"
6	1	B	"	"
7	1	A	"	"

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PART

Tailplane

Part Number:- 25-8TP509-1A

Tooling Data

Tool No.	Issue	Description
051S010781D		Tailplane Stage 1 Assembly Jig
051S010782D		Tailplane Stage 2 Assembly Jig
101S801133D		Tailplane To Fin Master Reference
038S817693D		Drill-out for Tailplane to Mid Fin Holes
166SCD7735D		ICY Checking Pins

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Manufacturers Serial Number

PART : Tailplane General

Part Tool Descriptions

101S801133D Tailplane to Fin Joint Master Reference.

The Tailplane to Fin Joint Master Reference was manufactured to represent the following ICY Features: -

1. 10-Off Fin to Tailplane pick-ups
2. Fwd Overfin Pick-up.
3. 2-Off Aft Overfin Pick-up.
4. 2-off Overfin sheer angles on the Tailplane
5. 4-off Overfin sheer plate attachment holes
6. 6-off Overfin to Bullet Fairing Attachment Holes.
7. Bullet Fairing Spigot positions at Tailplane Rear Spar.

051S10781D Tailplane Stage 1 Assembly Jig

The Tailplane Stage 1 Assembly Jig was manufactured to control the following ICY Features: -

1. 10-Off Tailplane to Fin Attachment Holes.

The Assembly Jig was manufactured to the Tailplane to Fin Joint Master Reference Tool No 101S801133D

Continued

Indicate Tool Copy No. used.....

Ref: icy039/ppt/f

Q7B489G - ISS 1

**Section 2
Sheet 2 of 3**

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Manufacturers Serial Number

PART : Tailplane General

Part Tool Descriptions continued

051S10782D Tailplane Stage 2 Assembly Jig.

The Tailplane Stage 2 Assembly Jig was manufactured to control the following ICY Features: -

1. 10-Off Tailplane to Fin Attachment Holes.

The Assembly Jig was manufactured to the Tailplane to Fin Joint Master Reference Tool No 101S801133D.

038S817693D Drill-out Tool for Tailplane to Fin Holes.

The Drill-out Tool for Tailplane to Fin Holes was manufactured to control the following ICY Features: -

1. 10-Off Tailplane to Fin Attachment Holes to final size.

The Drill-Out Tool was manufactured to co-relate to the Tailplane to Fin Joint Master Reference Tool No 101S801133D.

NOTE! All Pins and Gauges used to check ICY features must be subject to an annual calibration check.

Pins used on ICY Features as part of an Assembly Jig must be included as part of the Jig Cycle Check.

Indicate Tool Copy No. used.....

Ref: icy039/ppt/f

Q7B489G - ISS 1

**Section 2
Sheet 3 of 3**

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AIRCRAFT COMPANY

Manufacturers Serial Number

PART : Tailplane ICY CHECKS

General

These checks are to ensure interchangeability of Tailplane to Fin Attachment points in accordance to Chapter 20 Model 800 Aircraft Specification.

STAGE 1

051S10781D Tailplane Stage 1 Assembly Jig

After completing the Tailplane and before removing from the Assembly Jig. Carry out the following ICY Checks.

1. Verify that the Ribs, Spars and Skins are located successfully into the jig features without distortion or force.
2. Remove 0.025" build slip and check outboard gap +0.015"/-0.005" at 10-off Fin Pick-ups using feelers.
3. Remove 0.480" dia pin Sheet 30 detail 15 and check through the hole with 0.005" undersize stepped pin Tool No 166SCD7735 Detail 1 for free rotation and no deflection. Replace full size jig pin (2-Off Places)
4. Remove 0.6675" dia pin Sheet 30 detail 16 and check through the hole with 0.005" undersize stepped pin Tool 166SCD7735 detail 2 for free rotation and no deflection. Replace full size jig pin (4-Off Places)
5. Remove 0.7925" dia pin Sheet 30 detail 17 and check through the hole with 0.005" undersize stepped pin Tool No 166SCD7735 detail 3 for free rotation and no deflection. Replace full size jig pin (4-Off Places)

End of Stage 1 Check

Yes	Date

Indicate Tool Copy No. used.....

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Manufacturers Serial Number

PART : Tailplane ICY CHECKS

General

These checks are to ensure interchangeability of Tailplane to Fin Attach Points in accordance with Chapter 20 Model 800 Aircraft Specification.

STAGE 2

051S10782D Tailplane Stage 2 Assembly Jig.

After completing the Tailplane and before removing from the Assembly Jig. Carry out the following ICY Checks.

1. Verify that the Ribs, Spars and Skins are located successfully into the jig features without distortion or force.
2. Remove 0.025" build slip and check outboard gap +0.015" / -0.005" at 10-off Fin Pick-ups using feelers
3. Remove 0.480" dia pin sheet 31 detail 15 and check through the hole with 0.005" undersize stepped pin Tool No 166SCD7735 detail 1 for free rotation and no deflection. Replace full size jig pin (Record best fit jig pin or undersize pin on result sheet) (2-Off Places)
4. Remove 0.6675" dia pin sheet 31 detail 16 and check through the hole with 0.005" undersize stepped pin Tool No 166SCD7735 detail 2 for free rotation and no deflection. Replace full size jig pin (Record best fit jig pin or undersize pin on result sheet) (4-Off Places)
5. Remove 0.7925" dia pin sheet 31 detail 17 and check through the hole with 0.005" undersize stepped pin Tool No 166SCD7735 detail 3 for free rotation and no deflection. Replace full size jig pin (Record best fit jig pin or undersize pin on result sheet) (4-Off Places)

End of Stage 2 Check

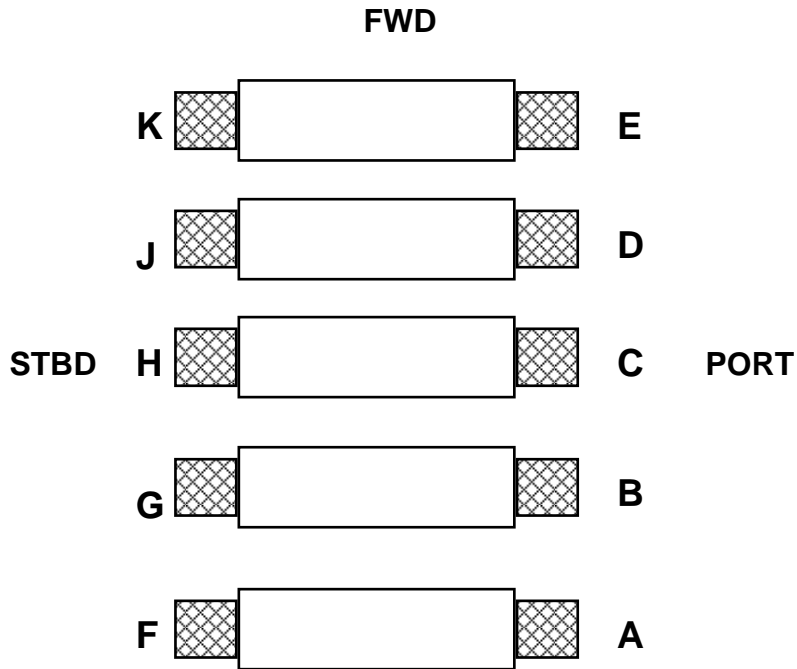
Yes	Date

Remarks :-

RAYTHEON 125 TAILPLANE FIN PICK UP JIG PINS

Stage 2 Jig Check

Manufacturers Serial No



PIN INDENT	CONDITION (Jig Pin or U/Size Pin)
A	
B	
C	
D	
E	
F	
G	
H	
J	
K	

NB. Sketch of fin pick up fittings represents Stage 2 Jig actual orientation

Ref: icy039/ppt/f

Section 3
Sheet 3 of 4

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Manufacturers Serial Number:

PART: Tailplane ICY CHECKS

Yes	Date

General

These checks are to verify the interchangeability of the Tailplane to Fin Attachment Points, in accordance to Chapter 20 Model 800 Aircraft Specification.

STAGE 3

038S817693D Drill-out Tool for Tailplane to Fin Holes.

Locate the jig drill-out tool onto the Tailplane and carry out the following operations and ICY checks.

Operations

1. Using results from the Stage 2 Check sheet, locate jig fitting pins using Sheet 3 details 2, 3 & 37 as required.
2. Drill out undersize pins to final size first. Locate with full size pins sheet 3 detail 4, 5 & 47 as required.
3. Drill the remaining location positions to final sizes one at a time. Locate with full size pins sheet 3 detail 4, 5 & 47 as required

ICY Checks

1. Remove and replace 0.500" Dia Fin to Tailplane pick-ups Sheet 3 Detail 4 and check for free rotation and no possible deflection. (2-Off Places)
2. Remove and replace 0.6875" Dia Fin to Tailplane pick-ups Sheet 3 Detail 47 and check for free rotation and no possible deflection. (4-Off Places)
3. Remove and replace 0.8125" Dia Fin to Tailplane pick-ups Sheet 3 Detail 5 and check for free rotation and no possible deflection. (4-Off Places)

End of Stage 3 Check

Remarks :-

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COUNTERPART NUMBER

25-8TF1-1A

COUNTERPART NAME

Fin

RAC

Supplier

Originator

ICY Engineering

Quality Assurance

Quality Assurance

Program Manager

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COUNTERPART

Fin

Part Number:- 25-8TF1-1A

Tooling Data

Tool No.	Issue	Description
101S801133D		Tailplane to Fin Master Reference
051S10941D		Fin Assembly Jig
S010938D		Fin Drill-out Tool

Manufacturers Serial Number

COUNTERPART : Fin General

Counterpart Tool Description (Fin)

101S801113D Tailplane to Fin Joint Master Reference.

The Tailplane to Fin Joint Master Reference was manufactured to represent the following ICY Features: -

1. 10-Off Fin to Tailplane pick-ups
2. Fwd Overfin Pick-up.
3. 2-Off Aft Overfin Pick-up.
4. 2-off Overfin sheer angles on the Tailplane
5. 4-off Overfin sheer plate attachment holes
6. 6-off Overfin to Bullet Fairing Attachment Holes.
7. Bullet Fairing Spigot positions at Tailplane Rear Spar.

051S10941D Fin Assembly Jig

The Fin Assembly was manufactured to control the following ICY Features.

1. 10-Off Fin to Tailplane attachment holes.

S10938D Fin Drill-out Tool

The Drill-out Tool for Fin to Tailplane Attachment Holes was manufactured to control the following ICY Features: -

1. 10-Off Tailplane to Fin Attachment Holes to final size.

The Drill-Out Tool was manufactured to the Tailplane to Fin Joint Master Reference Tool No 101S801113D.

Remarks : -

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Manufacturers Serial Number

COUNTERPART : Fin ICY CHECKS

General

This check is to verify interchangeability between Tailplane and Fin in accordance to Chapter 20 Model 800 Aircraft Specification.

STAGE 1

051S10941D Fin Assembly Jig

After completing the Fin and before removing from the Assembly Jig. Carry out the following ICY Checks: -

1. Check attachment holes for position and diameter to assembly jig using check gauges.

STAGE 2

S10938D Fin Drill-out Tool

1. Check 0.625" \pm 0.025" gap between Drill-out Tool and reinforcement plates.
2. Remove and replace 10-Off Fin to Tailplane pick-ups one at a time and check for free rotation and any noticeable deflection.

Remarks : -

Yes	Date

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PERIODIC RECERTIFICATION PLAN

GENERAL

To maintain all tools made from Master Models that are used to meet ICY requirements, in accordance to Chapter 20 Model 800 Aircraft Specification

PART

Verify S010781D Stage 1, S010782D Stage 2, and 038S817693D Stage 3 Assembly Fixtures to Tailplane/Fin Master Reference Models no greater than 24 months or 60 units.

ICY Checking Equipment should be subject to re-calibration annually.

COUNTERPART

1. Verify Fin Drill-out Tool S0110938 to 101S801133D and 1015807663D Master Reference no greater than 24 months or 60 units.
2. Verify .005 Downsized Inspection Pins no greater than 24 months or 60 units.

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TAILPLANE INSTALLATION CHECKS

General :

The following ICY checks are to assure the consistent interchangeability at Installation of the Tailplane to the Fin in accordance to Chapter 20 of the "Corporate 800 Aircraft Specification Manual."

TAILPLANE TO FIN	AIRCRAFT SERIAL NO :	TAILPLANE SERIAL NO:	DATE	STAMP

Remarks :