

MANDATORY**SEL-55-01****TITLE**

STABILIZERS - TAILCONE AND HORIZONTAL STABILIZER INSPECTION

EFFECTIVITY

This service document applies to all models and serial numbers listed that have more than 3000 total hours or 10 years in service.

MODEL	SERIAL NUMBERS
180	604, 614, 30000 thru 32639
180A	32662 thru 32999, 50001 thru 50355
180B	50356 thru 50661
180C	624, 50662 thru 50911
180D	18050912 thru 18051063
180E	18051064 thru 18051183
180F	18051184 thru 18051312
180G	18051313 thru 18051445
180H	645, 18051446 thru 18051875, 18051879 thru 18052284
180J	18052285 thru 18052489, 18052491 thru 18052770
180K	18052490, 18052771 thru 18053203
182	613, 33000 thru 33842
182A	33843 thru 34753, 34755 thru 34999, 51001 thru 51556
182B	34754, 51557 thru 51622, 51624 thru 52358
182C	631, 52359 thru 53007
182D	51623, 18253008 thru 18253598
185	632, 185-0001 thru 185-0237
185A	185-0238 thru 185-0512
185B	185-0513 thru 185-0653
185C	185-0654 thru 185-0776
185D	185-0777 thru 185-0967
A185E	185-0968 thru 18502090
A185F	652, 18502091 thru 18502301, 18502311 thru 18504448

December 7, 2017

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Textron Aviation Customer Service, P.O. Box 7706, Wichita, KS 67277, U.S.A. 1-316-517-5800

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MANDATORY**SEL-55-01****REASON**

Reports have been received of cracks in the tailcone reinforcement angle, stabilizer hinge bracket and stabilizer. Noncompliance with this service letter may allow crack(s) to go undetected. Undetected cracks may cause structural failure of the horizontal stabilizer and could result in the loss of control in flight.

DESCRIPTION

This service document provides instructions to inspect the tailcone and horizontal stabilizer.

COMPLIANCE

MANDATORY. This service document must be accomplished at the next 100-hour or 12-month (annual-type) inspection, whichever occurs later.

NOTE: After the initial inspection, this service letter inspection must be completed every 500 hours or 5 years, whichever occurs first.

A service document published by Textron Aviation may be recorded as *completed* in an aircraft log only when the following requirements are satisfied:

- 1) The mechanic must complete all of the instructions in the service document, including the intent therein.
- 2) The mechanic must correctly use and install all applicable parts supplied with the service document kit. Only with written authorization from Textron Aviation can substitute parts or rebuilt parts be used to replace new parts.
- 3) The mechanic or airplane owner must use the technical data in the service document only as approved and published.
- 4) The mechanic or airplane owner must apply the information in the service document only to aircraft serial numbers identified in the *Effectivity* section of the document.
- 5) The mechanic or airplane owner must use maintenance practices that are identified as acceptable standard practices in the aviation industry and governmental regulations.

No individual or corporate organization other than Textron Aviation is authorized to make or apply any changes to a Textron Aviation-issued service document or flight manual supplement without prior written consent from Textron Aviation.

Textron Aviation is not responsible for the quality of maintenance performed to comply with this document, unless the maintenance is accomplished at a Textron Aviation-owned Service Center.

CONSUMABLE MATERIAL

No specialized consumable materials are required to complete this service document.

TOOLING

NAME	NUMBER	MANUFACTURER	USE
10X Magnifying Glass		Commercially Available	To perform visual inspection.
Boroscope		Commercially Available	To perform visual inspection.

REFERENCES

Model 100 Series (1953-1962) Maintenance Manual

Model 100 Series (1963-1968) Maintenance Manual

Model 180/185 Series (1969-1980) Service Manual

Model 180/185 Series (1981-1985) Service Manual

NOTE: To make sure all publications used are complete and current. Refer to www.txtavsupport.com.

MANDATORY**SEL-55-01****PUBLICATIONS AFFECTED**

None

ACCOMPLISHMENT INSTRUCTIONS

1. Prepare the airplane for maintenance.
 - A. Make sure that the airplane is electrically grounded.
 - B. Make sure that all switches are in the OFF/NORM position.
 - C. Disconnect electrical power from the airplane.
 - (1) Disconnect the airplane battery.
 - (2) Disconnect external electrical power.
 - D. Attach maintenance warning tags to the battery and external power receptacle that have **"DO NOT CONNECT ELECTRICAL POWER - MAINTENANCE IN PROGRESS"** written on them.
2. Remove all fin and horizontal stabilizer tail fairings as needed.
3. (Airplanes with tailwheel steering.) Disconnect the tailwheel steering cables from the tailwheel bellcrank.
 - For Models 180 and 185 (1953-1968) refer to Section 5, Landing Gear - Tail Gear.
 - For Models 180 and 185 (1969-1985) refer to Section 9, Rudder and Rudder Trim Control Systems - Cables and Pulleys - Removal and Installation - Tailwheel Steering Cables.
4. Remove the stinger from the tail section.
5. Disconnect the rudder control cables at the rudder bellcrank.
 - For Model 180, 182 and 185 (1953-1962) refer to Section 10, Rudder Control System - Removal of Rudder Cables.
 - For Models 180 and 185 (1963-1968) refer to Section 10, Rudder and Rudder Trim Control Systems - Removal and Installation of Rudder Cables.
 - For Models 180/185 (1969-1985) refer to Section 9, Rudder and Rudder Trim Control Systems - Cables and Pulleys - Removal and Installation - Aft Cables.
6. Disconnect the bellcrank tube from the elevator pylon.
 - For Model 180, 182 and 185 (1953-1962) refer to Section 8, Elevator Control System - Aft Bellcrank.
 - For Models 180 and 185 (1963-1968) refer to Section 8, Elevator Control System - Rear Bellcrank.
 - For Models 180/185 (1969-1985) refer to Section 8, Elevator Control System - Bellcranks.
7. (Refer to Figure 1 Detail A and Figure 2 Detail B.) Remove attaching hardware at the stabilizer hinge assemblies and stabilizer hinge brackets.
 - For Models 180, 182 and 185 (1953-1968) refer to Section 4, Airframe - Horizontal Stabilizer.
 - For Models 180/185 (1969-1985) refer to Section 10, Stabilizer Trim Control System - Stabilizer.
8. Lift the horizontal stabilizer from the empennage and place a wooden or padded support between the two pieces.
9. (Refer to Figures 1 and 2.) Clean the following areas to be inspected (Refer to Section 2, *Ground Handling, Servicing, Cleaning, Lubrication and Inspection - Cleaning* in the applicable model maintenance manual.):
 - Stabilizer hinge brackets
 - Tailcone reinforcement angles
 - Corner reinforcements
 - Stabilizer hinge reinforcement channel
 - Stabilizer hinge assemblies
 - Stabilizer aft spar reinforcement

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- Lower half of the stabilizer aft spar from STA 16 on the left side of the stabilizer aft spar to STA 16 on the right side

NOTE: If the inspection area cannot be cleaned adequately, removal of the horizontal stabilizer and the fin may be necessary.

- For Models 180, 182 and 185 (1953-1968) refer to Section 4, Airframe - Horizontal Stabilizer and Section 4, Airframe - Fin.
- For Models 180/185 (1969-1985) refer to Section 10, Stabilizer Trim Control System - Stabilizer and Section 4, Wings and Empennage - Fin.

10. If any corrosion is found, it must be removed before refinishing. (Refer to Section 2A, *Supplemental Inspection Documents - Corrosion* (for corrosion removal) and Section 2A, *Supplemental Inspection Documents - Nondestructive Inspection Methods and Requirements* (for measurement of part thickness) in the applicable model maintenance manual.)

11. (Refer to Figures 1 and 2.) Do a detailed inspection of the following areas (Refer to Section 2A, *Supplemental Inspection Documents - Nondestructive Inspection Methods and Requirements - Visual Inspections* in the applicable model maintenance manual.):

- Stabilizer hinge brackets
- Tailcone reinforcement angles
- Corner reinforcements
- Stabilizer hinge reinforcement channel
- Stabilizer hinge assemblies
- Stabilizer aft spar reinforcement
- Lower half of the stabilizer aft spar from STA 16 on the left side of the stabilizer aft spar to STA 16 on the right side

WARNING: If any cracks are found, no further flight is permitted. The part must be replaced before further flight.

NOTE: If the inspection area cannot be viewed adequately, removal of the horizontal stabilizer and the fin may be necessary.

- For Models 180, 182 and 185 (1953-1968) refer to Section 4, Airframe - Horizontal Stabilizer and Section 4, Airframe - Fin.
- For Models 180/185 (1969-1985) refer to Section 10, Stabilizer Trim Control System - Stabilizer and Section 4, Wings and Empennage - Fin.

12. Record the inspection findings on the attached *Visual Inspection Results Form*.

13. If any cracks are found during the inspection, the part must be replaced before further flight.

14. Remove the wooden support between the horizontal stabilizer and the empennage.

15. (Refer to Figure 1 Detail A and Figure 2 Detail B.) Install attaching hardware at the stabilizer hinge assemblies and stabilizer hinge brackets.

- For Models 180, 182 and 185 (1953-1968) refer to Section 4, Airframe - Horizontal Stabilizer.
- For Models 180/185 (1969-1985) refer to Section 10, Stabilizer Trim Control System - Stabilizer.

16. Connect the bellcrank tube to the elevator pylon.

- For Models 180, 182 and 185 (1953-1962) refer to Section 8, Elevator Control System - Aft Bellcrank.
- For Models 180 and 185 (1963-1968) refer to Section 8, Elevator Control System - Rear Bellcrank.
- For Models 180/185 (1969-1985) refer to Section 8, Elevator Control System - Bellcranks.

17. Connect the rudder control cables at the rudder bellcrank.

- For Model 180, 182 and 185 (1953-1962) refer to Section 10, Rudder Control System - Installation of Rudder Cables.
- For Models 180 and 185 (1963-1968) refer to Section 10, Rudder and Rudder Trim Control Systems - Removal and Installation of Rudder Cables.
- For Models 180/185 (1969-1985) refer to Section 9, Rudder and Rudder Trim Control Systems - Cables and Pulleys - Removal and Installation - Aft Cables.

18. (Airplanes with tailwheel steering.) Connect the tailwheel steering cables to the tailwheel bellcrank.

- For Models 180 and 185 (1953-1968) refer to Section 5, Landing Gear - Tail Gear.

MANDATORY

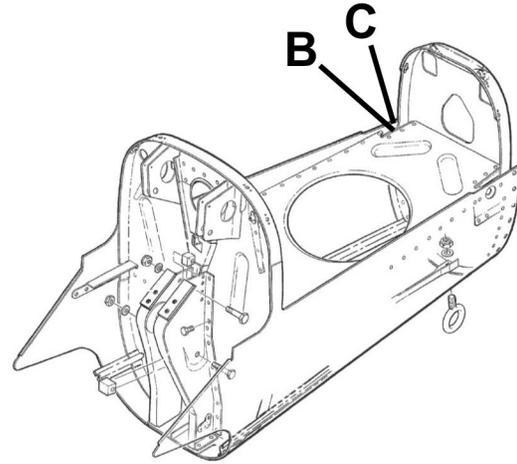
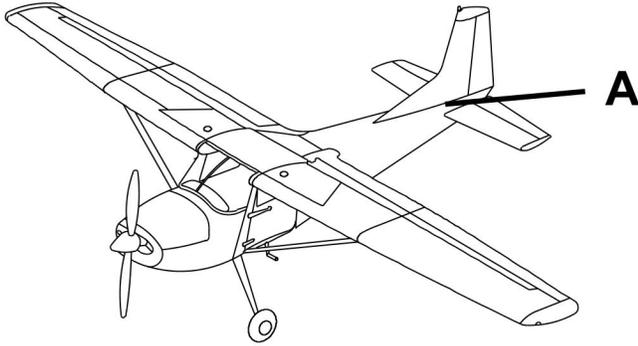
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- For Models 180 and 185 (1969-1985) refer to Section 9, Rudder and Rudder Trim Control Systems - Cables and Pulleys - Removal and Installation - Tailwheel Steering Cables.
19. Install the stinger onto the tail section.
 20. Install all fin and horizontal stabilizer tail fairings.
 21. Remove the maintenance warning tags and connect the airplane battery.
 22. Send completed form/attachments to Cessna Structures at csstructures@txtav.com
 23. Make an entry in the airplane logbook that states compliance and method of compliance with this service document.

MANDATORY

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DETAIL A



DETAIL B
Looking Down, Inboard
Right Side Shown,
Left Side Opposite

DETAIL C

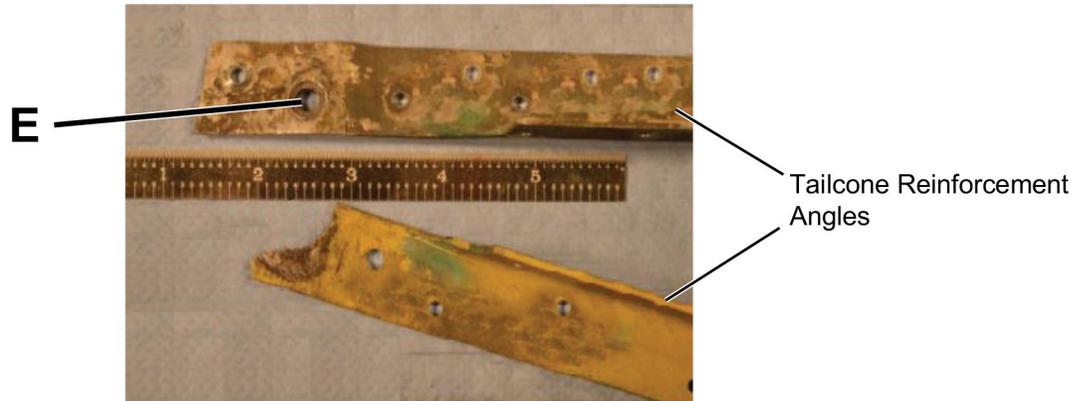
Looking Down, Outboard
Right Side Shown, Left Side Opposite

Figure 1. Tailcone Inspection (Sheet 1)

MANDATORY

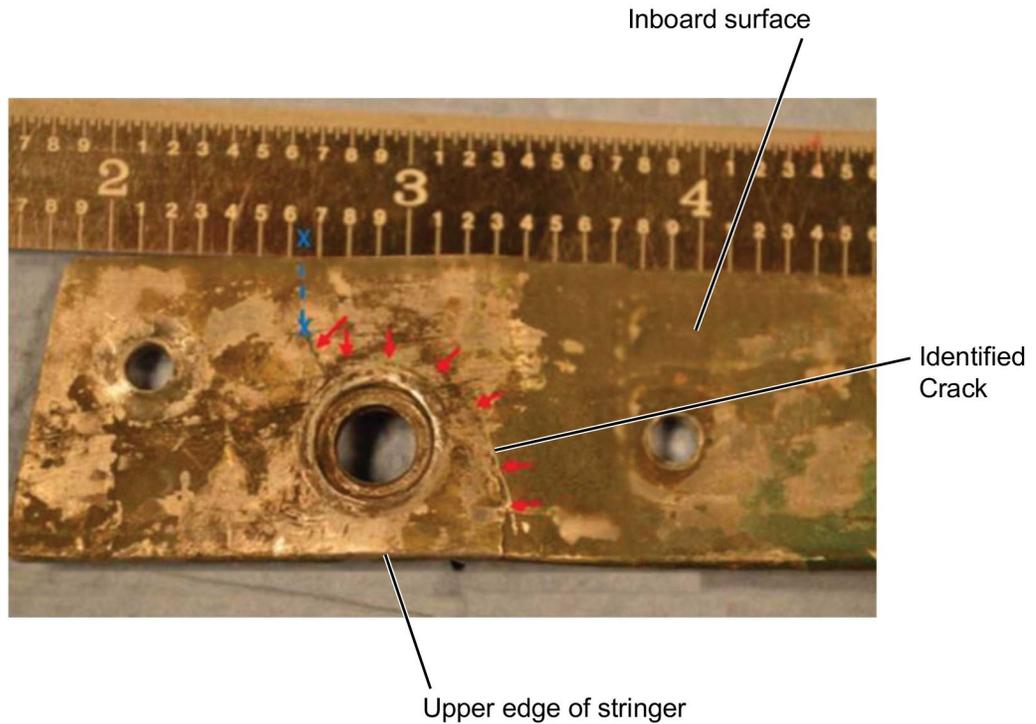
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DETAIL D

Parts Shown Removed From Tailcone



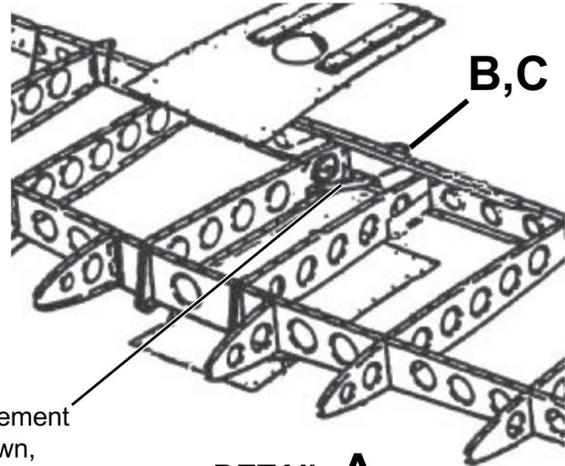
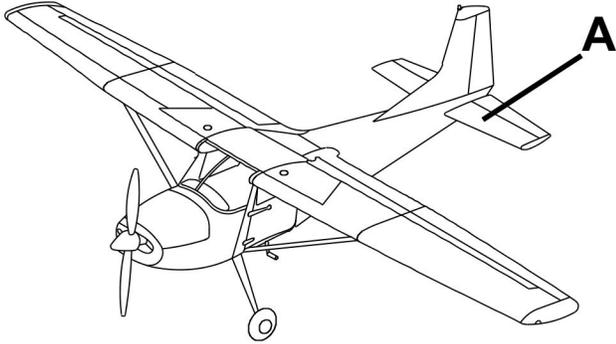
DETAIL E

Figure 1. Tailcone Inspection (Sheet 2)

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Corner Reinforcement
(Right Side Shown,
Left Side Opposite)

DETAIL A

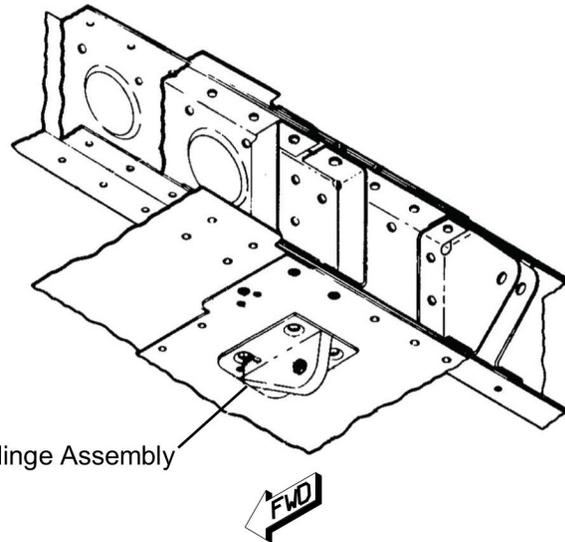
Looking Aft Skin Has Been
Removed For Clarity

Stabilizer Hinge
Reinforcement
Channel



DETAIL C

Looking Forward
Right Side Shown,
Left Side Opposite



DETAIL B

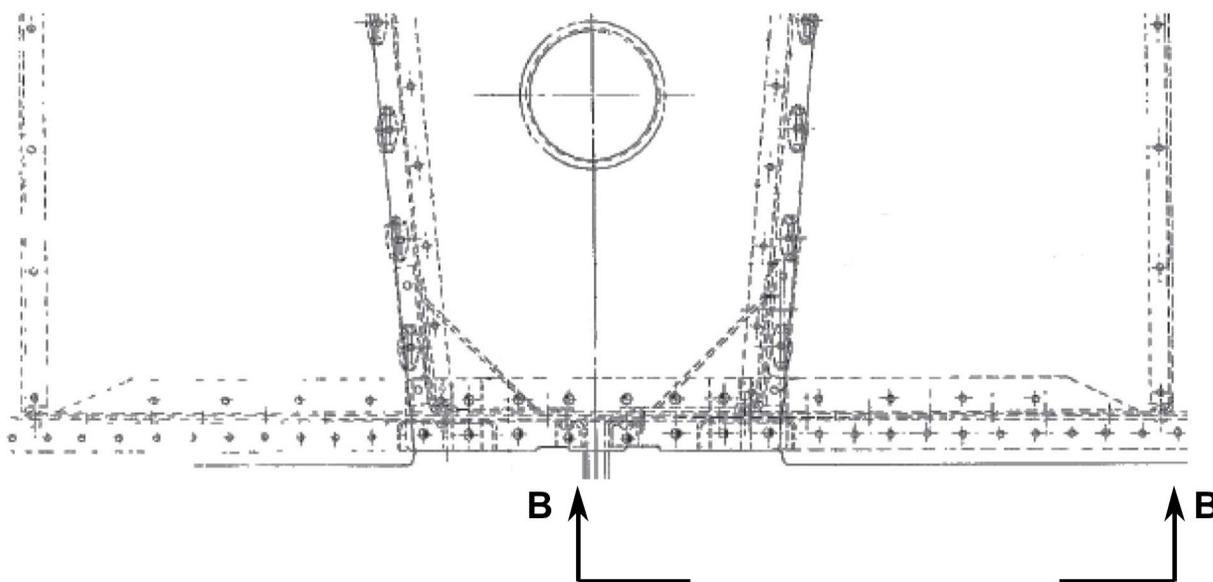
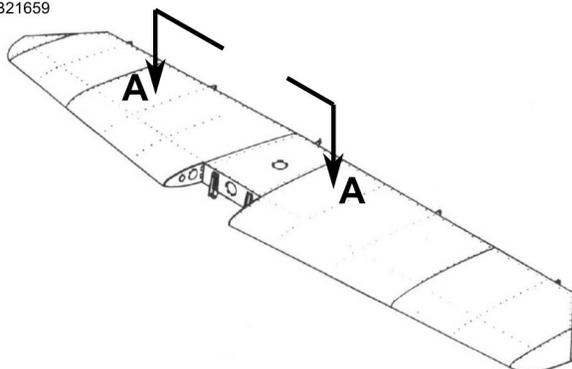
Looking Up and Forward
Left Side Shown,
Right Side Opposite

Figure 2. Horizontal Stabilizer Inspection (Sheet 1)

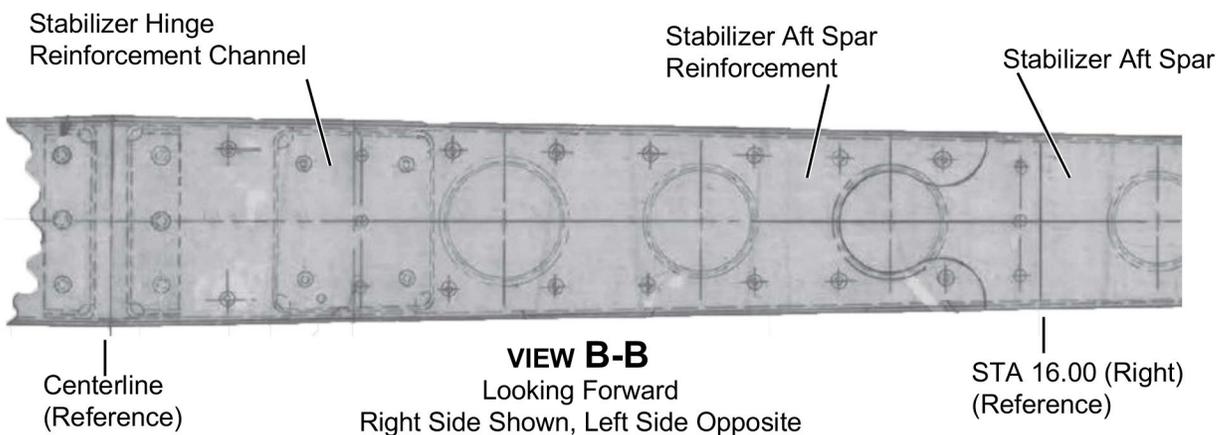
MANDATORY

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VIEW A-A
Horizontal Stabilizer
Looking down



VIEW B-B
Looking Forward
Right Side Shown, Left Side Opposite

Figure 2. Horizontal Stabilizer Inspection (Sheet 2)

MANDATORY

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VISUAL INSPECTION RESULTS FORM

In the table that follows please provide detailed and dimensioned descriptions of any crack(s) or other deterioration found. Attach pictures to this form as necessary.

Airplane Serial Number			
Total Airframe Hours		Total Engine Hours	
Owner's Name		Inspection Facility Name	
Owner's Address		Inspection Facility Address	
Inspection Area	Inspection Results		
	Were any cracks or corrosion found? (If yes, provide details.)	Detailed description (cracks, corrosion, loose fasteners, elongated fastener holes, signs of fatigue and deterioration): (Attach pictures and additional details as necessary)	
Stabilizer Hinge Bracket (Left)			
Stabilizer Hinge Bracket (Right)			
Tailcone Reinforcement Angle (Near F. S. 228.62) (Left)			
Tailcone Reinforcement Angle (Near F. S. 228.62) (Right)			

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Corner Reinforcement (Left)		
Corner Reinforcement (Right)		
Stabilizer Hinge Reinforcement Channel (Left)		
Stabilizer Hinge Reinforcement Channel (Right)		
Lower Half of the Stabilizer Aft Spar (Between STA 16 Left and STA 16 Right)		
Stabilizer Hinge Assembly (Left)		
Stabilizer Hinge Assembly (Right)		
Stabilizer Aft Spar Reinforcement (Left of Centerline)		
Stabilizer Aft Spar Reinforcement (Right of Centerline)		

Send completed form/attachments to Cessna Structures at csstructures@txtav.com

TITLE

STABILIZERS - TAILCONE AND HORIZONTAL STABILIZER INSPECTION

TO:

Aircraft Owner

REASON

Reports have been received of cracks in the tailcone reinforcement angle, stabilizer hinge bracket and stabilizer. Noncompliance with this service letter may result in undetected crack(s) which may result in structural failure of the horizontal stabilizer.

COMPLIANCE

MANDATORY. This service document must be accomplished at the next 100-hour or 12-month (annual-type) inspection, whichever occurs later.

NOTE: After the initial inspection, this service letter inspection must be completed every 500 hours or 5 years, whichever occurs first.

LABOR HOURS

WORK PHASE

Inspection

LABOR-HOURS

As Required

MATERIAL AVAILABILITY

No parts are required to complete this service document.

WARRANTY

None

NOTE: As a convenience, service documents are now available online to all our customers through a simple, free-of-charge registration process. If you would like to sign up, please visit the Customer Access link at www.txtavsupport.com to register.

