

MANDATORY**MEL-57-01****TITLE**

WINGS - FORWARD LOWER SPAR CAP INSPECTION

EFFECTIVITY

This service letter applies to the models and serials that have 15,000 or more flight hours as follows

MODEL	SERIAL NUMBERS
401	401-0001 thru 401-0322
401A	401A0001 thru 401A0132
401B	401B0001 thru 401B0221
402	402-0001 thru 402-0322
402A	402A0001 thru 402A0129
402B	402B0001 thru 402B1384
402C	689, 402C0001 thru 402C1020
411	411-0001 thru 411-0250
411A	411-0251 thru 411-0300
414	414-0001 thru 414-0965
414A	414A0001 thru 414A1212
421	421-0001 thru 421-0200
421A	421A0001 thru 421A0158

This service letter applies to the models and serials that have 12,000 or more flight hours as follows

MODEL	SERIAL NUMBERS
421B	421B0001 thru 421B0970
421C	421C0001 thru 421C1807

REASON

Cracks have been found in the forward lower carry through spar cap. An undetected crack can cause the spar cap to break which could result in flight instability and potential loss of control.

DESCRIPTION

This service document provides instructions to complete an initial and recurring detailed visual inspection of the forward spar, lower carry through spar cap. The detailed visual inspection is of the bottom surface of the carry through spar cap in the area around the fasteners located just inboard, of the left and right, forward lower wing fitting. A surface eddy current inspection will be necessary if a crack is suspected.

WARNING: Further flight with a cracked carry through spar cap is prohibited. The carry through spar cap must be replaced before further flight.

NOTE: In order to reduce possible damage to the structure, it is recommended that the access panels be installed with MEB-57-01, MEB-57-02, SK402-49 or SK421-152.

December 18, 2017

MEL-57-01
Page 1 of 9

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

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MANDATORY**MEL-57-01****COMPLIANCE**

MANDATORY. This service document must be accomplished as follows:

Model	With Flight Hours Of	Flight Hours To Comply With Initial Inspection	Flight Hours For Recurring Inspection Interval
All Airplanes	25,000 or more	25 Flight Hours	Every 50 Flight Hours
421B, 421C	12,000 thru 24,999	50 Flight Hours	Every 50 Flight Hours
401, 401A, 401B, 402, 402A, 402B, 402C, 411, 411A, 414, 414A, 421, 421A	15,000 thru 24,999	50 Flight Hours	Every 50 Flight Hours

NOTE: Airplanes that have less than the minimum required number of flight hours upon receipt of this service letter must comply with this inspection within 50 flight hours of reaching the minimum flight hours listed in the above table.

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

You must use the consumable materials that follow, or their equivalent, to complete this service document.

NAME	NUMBER	MANUFACTURER	USE
Rivet	MS20426AD4	Commercially Available	For skin panel installation, various lengths determined at time of installation.
Rivet	MS20470AD4	Commercially Available	For skin panel installation, various lengths determined at time of installation.

MANDATORY**MEL-57-01****TOOLING**

NAME	NUMBER	MANUFACTURER	USE
10X Magnifying Lens		Commercially Available	For detailed visual inspection of forward spar cap

REFERENCES

Cessna Model 401 and 402 (1967-1978) Service Manual

Cessna Model 402C (1979-1985) Maintenance Manual

Cessna Model 411/411A (1965-1968) Service Manual

Cessna Model 414/414A (1970-1985) Service Manual

Cessna Model 421, 421A, 421B Series (1968-1975) Service Manual

Cessna Model 421C (1976-1985) Service Manual

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

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 access panels as follows:

NOTE: Forward spar access panels were installed with service bulletins MEB-57-01 or MEB-57-02 - Access Panel Installation for Forward Spar or service kits SK402-49, and SK421-152 - Access Panel Installation and Stub Wing Fitting Removal/Installation. These panels are directly below the forward spar wing fitting.

- Model 401 and 402 series airplanes remove panels 32 and 94. (Refer to the Model 401 and 402 (1967-1978) Service Manual.)
- Model 402C airplanes remove panels 511AB, 511AT, 512BT, 611AB, 611AT and 612BT. (Refer to the Model 402C (1979-1985) Maintenance Manual.)
- Model 411 airplanes remove panels 35 and 57. (Refer to the Model 411/411A (1965-1968) Service Manual.)
- Model 414 airplanes remove panels 34, 35 and 41. (Refer to the Model 414/414A (1970-1985) Service Manual.)
- Model 414A airplanes remove panels 511AB, 511AT, 512AT, 611AB, 611AT and 612AT. (Refer to the Model 414/414A (1970-1985) Service Manual.)
- Model 421, 421A, and 421B airplanes remove panels 35, 57 and 93. (Refer to the Model 421, 421A, 421B Series (1968-1975) Service Manual.)

MANDATORY

MEL-57-01

- Model 421C airplanes remove panels 511AB, 511AT, 512AT, 611AB, 611AT and 612AT. (Refer to the Model 421C (1976-1985) Service Manual.)
- A. (Airplanes with the forward spar access panels. Refer to Figure 1, Detail A.) Remove the 5292032-4 or 5292031-10 Forward Spar Access Panel if installed with MEB-57-01, MEB-57-02 or SK425-49.

NOTE: Forward spar access panels were installed with either service bulletins MEB-57-01 or MEB-57-02 - Access Panel Installation for Forward Spar or service kits SK402-49, or SK421-152 - Access Panel Installation and Stub Wing Fitting Removal/Installation. These panels are directly below the forward spar wing fitting.

- B. (Airplanes without the forward spar access panels. Refer to Figure 1, Detail B.) Remove rivets as necessary from the left and right lower stub wing skin sufficient to get access to the bottom surface of the lower carry through spar cap for the visual inspection.

CAUTION: Use caution when removing fasteners along the two lateral rows of rivets just forward and aft of the fitting. These two rows are common to the lower carry through spar web flanges.

CAUTION: To prevent cracking dimples or damaging understructure, when removing rivets from dimpled holes, drill a hole into the rivet shank before driving it out.

- (1) Remove all rivet butts, drill shavings, and foreign object debris.

- 3. Clean the lower surface of the left and right side of the carry through spar cap as follows:
 - A. Use a suitable solvent to remove all grease and dirt from the lower spar cap area.
 - B. Wash the remaining solvent off with soap and water and let air dry.
- 4. (Refer to Figure 1, Detail C.) Do a detailed visual inspection of the left and right side of the carry through spar cap as follows:

NOTE: A detailed inspection is described as an intensive visual examination of a specific structural area, system, installation or assembly to detect damage, failure, or irregularity. Available lighting is normally supplemented with a direct source of good lighting at an intensity deemed appropriate by the inspector. Inspection aids such as mirrors, magnifying lenses, etc. may be used. Surface cleaning and elaborate access procedures may be required.

 - A. Use a suitable light source and a 10X Magnifying Lens to inspect the bottom surface of the left and right side of the carry through spar cap inboard of the lower fittings in the area extending 1-inch inboard to 1-inch outboard of the two rows of fasteners and around all 10 fasteners.

WARNING: Further flight with a cracked carry through spar cap is prohibited. The carry through spar cap must be replaced before further flight.

- B. If a crack is found, no further flight is permitted. Contact Cessna Structures at: csstructures@txtav.com, or phone: 316-517-6061.
- C. If an area is questionable, do a surface eddy current examination, go to Step 5.
- D. If no cracks or questionable areas are found, go to Step 6.
- 5. Do a surface eddy current examination of the suspect area on the carry through spar cap. (For surface eddy current instructions refer to inspection documents listed below.)
 - Model 401 and 402 series airplanes refer to the Model 401 and 402 (1967-1978) Service Manual, Supplemental Inspection Number 57-10-10 - Lower Carry-Thru Main Spar Cap
 - Model 402C airplanes refer to the Model 402C (1979-1985) Maintenance Manual, Supplemental Inspection Number 57-10-14 - Wing Lower Carry-Thru Front Spar Cap
 - Model 411 airplanes refer to the Model 411/411A (1965-1968) Service Manual, Supplement Inspection Number 57-10-10 - Lower Carry-Thru Main Spar Cap
 - Model 414 airplanes, refer to the Model 414/414A (1970-1985) Service Manual, Supplement Inspection Number 57-10-10 - Lower Carry-Thru Main Spar Cap
 - Model 414A airplanes, refer to the Model 414/414A (1970-1985) Service Manual, Supplement Inspection Number 57-10-14 - Lower Carry-Thru Front Spar Cap

MANDATORY**MEL-57-01**

- Model 421, 421A, 421B airplanes, refer to the Model 421, 421A, 421B Series (1968-1975) Service Manual, Supplement Inspection Number 57-10-10 - Lower Carry-Thru Main Spar Cap
- Model 421C airplanes, refer to the Model 421C (1976-1985) Service Manual, Supplement Inspection Number 57-10-14 - Lower Carry-Thru Front Spar Cap

NOTE: The eddy current technician must be qualified and certified to Level 2 or 3 per the requirements of NAS 410 or equivalent.

A. If a crack is found. Contact Cessna Structures at: csstructures@txtav.com, or phone: 316-517-6061.

6. Complete the attached INSPECTION RESULTS FORM and return to Cessna Structures at csstructures@txtav.com. (Refer to the attached INSPECTION RESULTS FORM.)

NOTE: Return the INSPECTION RESULTS FORM to Cessna Structures even if no crack is found.

7. (Airplanes without forward spar access panels.) Install MS20426AD4-X and MS20470AD4-X Rivets to secure the stub wing skin.

NOTE: Rivet length can vary, determine correct length at time of install.

8. Install all removed access panels.

9. Remove the maintenance warning tags and connect the airplane battery.

10. Make a logbook entry that states the recurring inspection is due at the specified flight hour interval as listed in the COMPLIANCE section of this service letter.

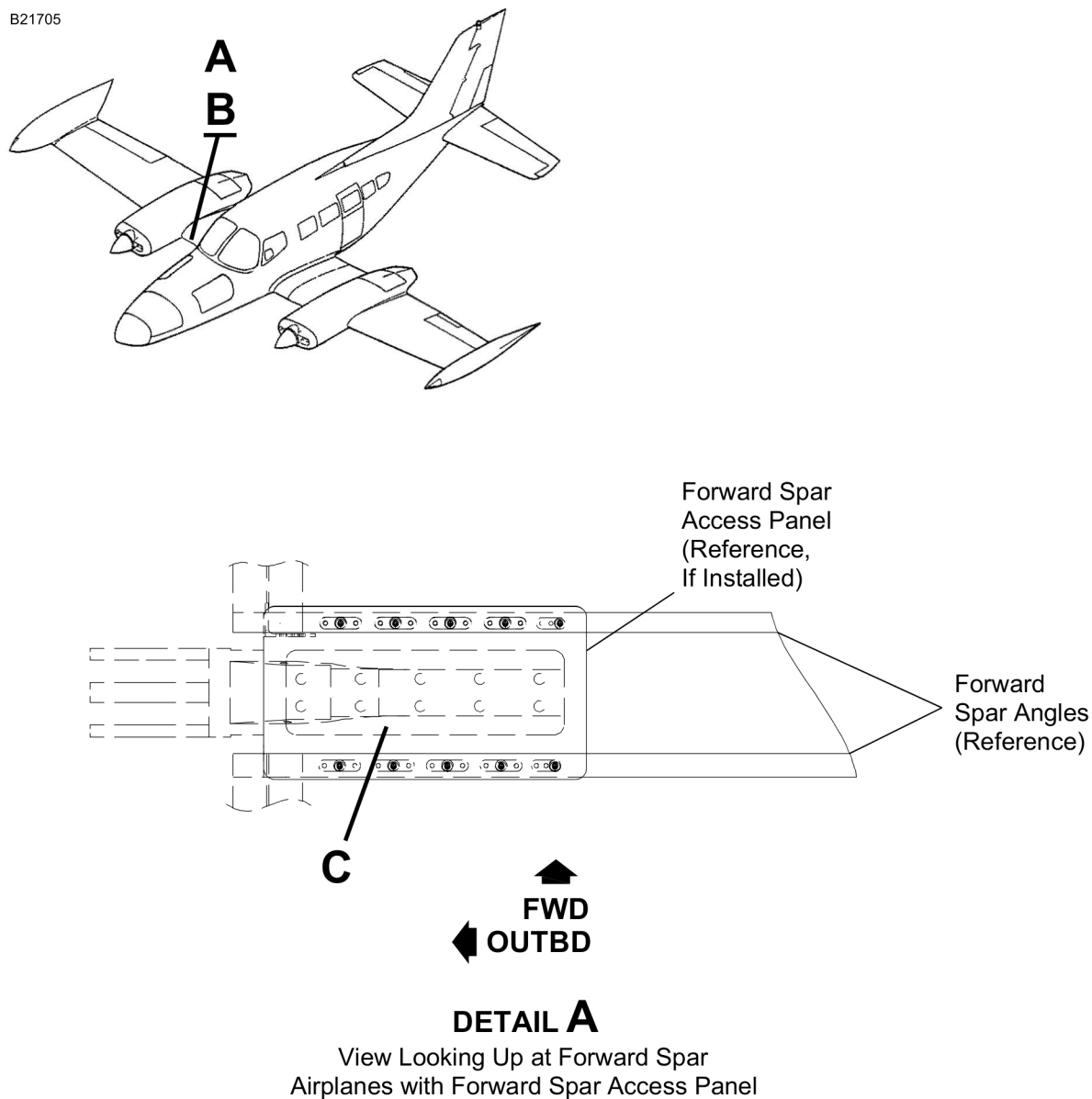
NOTE: An example of a log book entry on an airplane that currently has 25,500 flight hours, the next inspection is due at 25,550 flight hours.

MEL-57-01 Forward Lower Spar Cap Inspection must be accomplished at or before 25,550 flight hours.

11. Make an entry in the airplane logbook that states compliance and method of compliance with this service document.

MANDATORY**MEL-57-01**

B21705



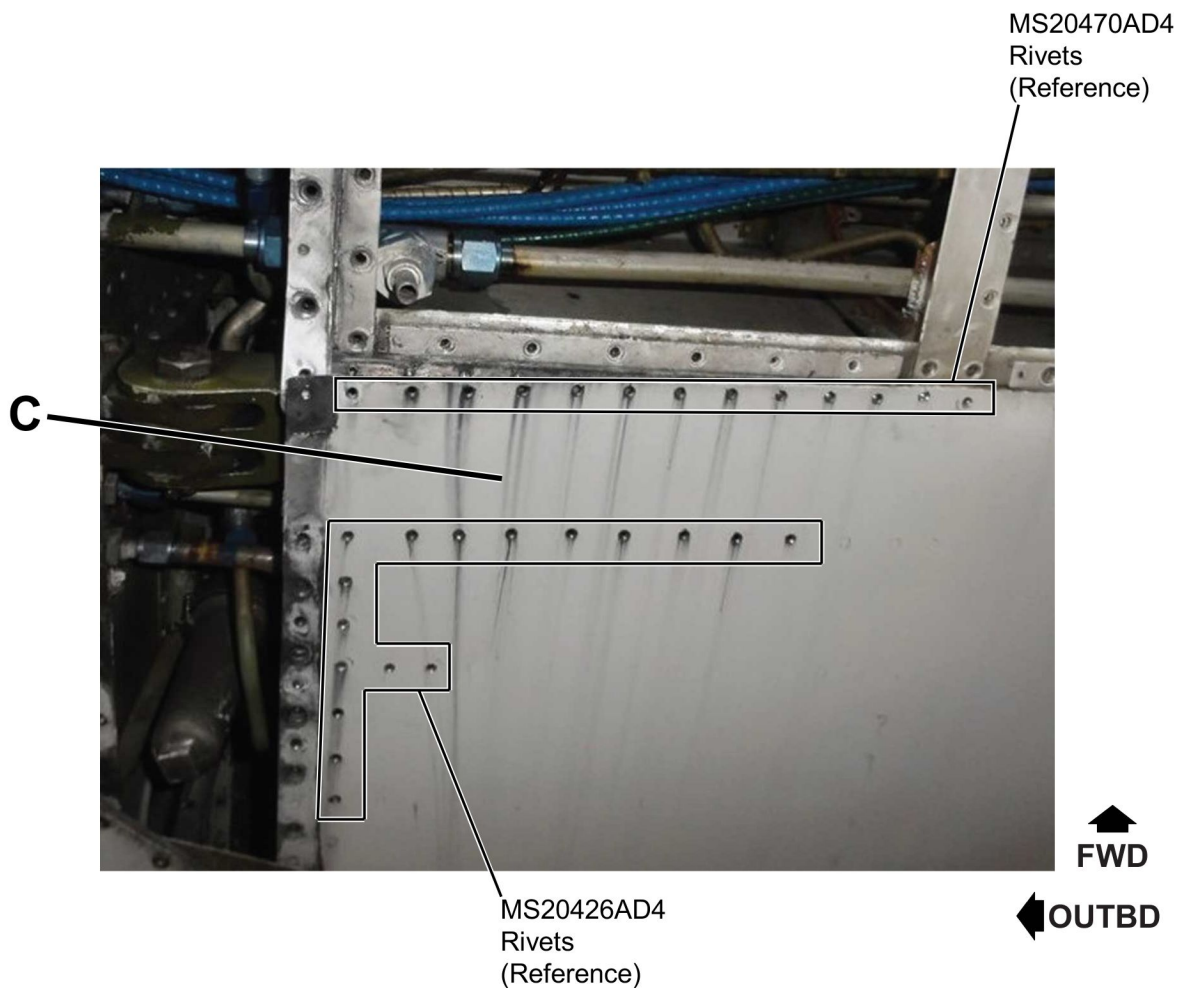
NOTE: Model 402 shown for illustrative purposes.
Other models the inspection is in similar location.

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Figure 1. Carry Through Spar Cap Inspection (Sheet 1)

MANDATORY**MEL-57-01**

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**DETAIL B**

Airplanes Without Forward Spar Access Panel

NOTE: For airplanes that do not have access panel installed.
The rivet length determined at time of installation.

Figure 1. Carry Through Spar Cap Inspection (Sheet 2)

MANDATORY**MEL-57-01**

B21712

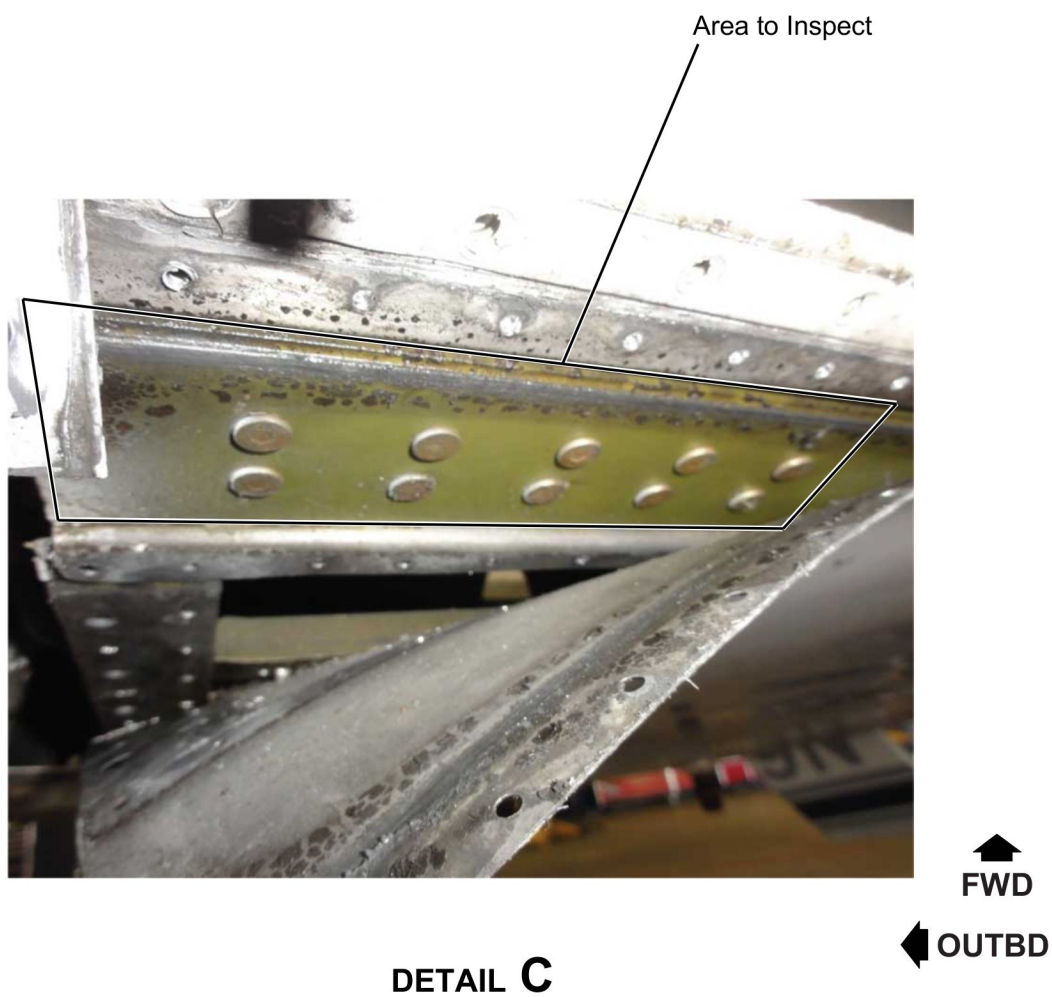


Figure 1. Carry Through Spar Cap Inspection (Sheet 3)

MANDATORY

MEL-57-01

MATERIAL INFORMATION

No parts are required to complete this service document.

SPAR CAP INSPECTION RESULTS FORM

Airplane Model Number		Airplane Serial Number	
Total Airframe Hours		Left Engine Hours	
Forward Lower Spar Cap Hours		Right Engine Hours	
Owner's Name		Inspection Facility Name	
Owner's address		Inspection Facility Address	
List all STC installed on the airplane			

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

SPAR CAP INSPECTION RESULTS FORM CONTINUED

Was a crack found: Yes/No?

Detailed description: (Attach pictures and additional details as necessary, if a crack was found with visual inspection or with a surface eddy current inspection?)

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

TITLE

WINGS - FORWARD LOWER SPAR CAP INSPECTION

TO:

Cessna Model 401, 401A, 401B, 402, 402A, 402B, 402C, 411, 411A, 414, 414A, 421, 421A, 421B, 421C Aircraft Owner

REASON

Cracks have been found in the forward lower carry through spar cap. An undetected crack can cause the spar cap to break which could result in flight instability and potential loss of control.

COMPLIANCE

MANDATORY. This service document must be accomplished as follows:

Model	With Flight Hours Of	Flight Hours To Comply With Initial Inspection	Flight Hours For Recurring Inspection Interval
All Airplanes	25,000 or more	25 Flight Hours	Every 50 Flight Hours
421, 421A, 421B, 421C	12,000 thru 24,999	50 Flight Hours	Every 50 Flight Hours
401, 401A, 401B, 402, 402A, 402B, 402C, 411, 411A, 414, 414A	15,000 thru 24,999	50 Flight Hours	Every 50 Flight Hours

NOTE: Airplanes that have less than the minimum required number of flight hours upon receipt of this service letter must comply with this inspection within 50 flight hours of reaching the minimum flight hours listed in the above table.

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.

December 18, 2017

MEL-57-01
Page 1 of 1

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