

AI206-57-01

# Right Wing Front Spar Cap Inspection/Replacement

## KIT PROOF COPY

FAA APPROVED UNDER FAR 21 SUBPART J  
The Cessna Aircraft Co.  
Delegation Option Authorization DOA-100129-CE

*Michael D. Hickey* Executive Engineer

03-13-00

*KDMC*

FAX

A kit proof is required to validate the accuracy of the accomplishment instructions and material information for AI206-57-01. Please contact Scott K. McNay 831-3405 for technical assistance.

If a time survey is required by Marketing to determine the allowable man-hours for warranty claims, please contact Steve Joyce at 688-4675 prior to working these accomplishment instructions.

Your assistance is required to kit proof accomplishment instructions for AI206-57-01.

Please read the accomplishment instructions and review the illustrations before starting this procedure, (this assures an understanding of the procedure to be accomplished).

Please inventory parts against the material information section to verify a complete kit. If any parts are missing, notify Scott K. McNay 831-3405 for assistance.

### AIRPLANE INFORMATION

MODEL/SERIAL NUMBER	_____	REGISTRATION NUMBER	_____
DATE STARTED	_____	DATE COMPLETED	_____
MECHANIC	_____	SUPERVISOR	_____
LOCATION	_____		

### MODIFICATION KIT INFORMATION

Were the accomplishment instructions clearly written and easy to understand? \_\_\_\_\_

\_\_\_\_\_

Did the accomplishment instructions follow a logical flow of the procedure (ie. disassembly, modification, reassembly in proper order)? \_\_\_\_\_

\_\_\_\_\_

Were the accomplishment instruction references to illustrations accurate? \_\_\_\_\_

\_\_\_\_\_

Were the illustrations accurate and easy to understand? \_\_\_\_\_

\_\_\_\_\_

Were the material information part numbers and quantities accurate? \_\_\_\_\_

\_\_\_\_\_

Additional comments \_\_\_\_\_

Please complete this form and return to:  
Technical Publications  
Dept. 417  
Attn. Scott K. McNay

# Service Bulletin

SBai206-57-01

**TITLE**

Right Wing Front Spar Inspection/Replacement

FAA APPROVED UNDER FAR 21 SUBPART J  
The Cessna Aircraft Co.  
Delegation Option Authorization DOA-100129-CE  
*Michael D. Halley*  
03-13-00  
Executive Engineer  
*MCHAC*

**EFFECTIVITY**

Model	Serial Numbers
206H	206008060 thru 206008091
T206H	T206008101 thru T20600815

**DESCRIPTION**

This inspection/modification kit provides instructions for inspection of the 1222005-12 stiffener. Any stiffener not meeting the dimension requirements must be replaced.

**APPROVAL**

FAA approval has been obtained on technical data in this publication that affects airplane type design.

**REFERENCES**

Model 206H/T206H Series 1998 And On Maintenance Manual.  
Single Engine Structural Repair Manual.

**OTHER PUBLICATIONS AFFECTED**

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**MATERIAL PRICE AND AVAILABILITY**

**CREDIT INFORMATION**

Domestic	.....	TBD
International	.....	TBD

To obtain satisfactory results, procedures specified in this publication must be accomplished in accordance with accepted methods and prevailing government regulations. The Cessna Aircraft Company cannot be responsible for the quality of work performed in accomplishing the requirements of this publication.

## ACCOMPLISHMENT INSTRUCTIONS

### Weight And Balance Information

#### Material Information

The following parts will be required to complete the stiffener replacement for airplanes Model 206H/T206H not meeting the stiffener dimension requirements:

PART NUMBER	QUANTITY	DESCRIPTION
0523541-52	1	Stringer
1220084-1	1	Angle
1220084-3	1	Angle
1220803-9	1	Wing Skin Assembly
1222005-15	1	Strap
1222038-4	1	Reinforcement
1222039-2	1	Spacer
1222005-12	1	Stiffener
1222116-6	1	Plate
AN320-1	1	Nut-Aileron Attach
CM3835-1	6	Gusset
MS20426AD4-3	30	Rivet
MS20426AD4-4.5	100	Rivet
MS20426AD4-5	5	Rivet
MS20426AD4-5.5	20	Rivet
MS20426AD4-8	10	Rivet
MS20426AD4-9	10	Rivet
MS20426AD5-10	10	Rivet
MS20426AD5-11	15	Rivet
MS20426AD5-7	5	Rivet
MS20470AD3-3.5	30	Rivet
MS20470AD3-4	5	Rivet
MS20470AD4-3	120	Rivet
MS20470AD4-3.5	100	Rivet
MS20470AD4-4	35	Rivet
MS20470AD4-4.5	30	Rivet

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PART NUMBER	QUANTITY	DESCRIPTION
MS20470AD4-5	35	Rivet
MS20470AD4-5.5	60	Rivet
MS20470AD4-6	15	Rivet
MS20470AD4-7	10	Rivet
MS20470AD4-8	10	Rivet
MS20470AD4-9	10	Rivet
MS20470AD5-10	10	Rivet
MS20470AD5-11	10	Rivet
MS20470AD5-8	10	Rivet
MS20470AD5-9	10	Rivet
MS21044N3	2	Nut-Flap Attach
MS21044N7	1	Nut- Wing Attach
MS21044N8	2	Nut-Strut Attach
MS24665-5	1	Cotter Pin-Aileron Attach

MS3367-1-9	10	Tie Straps
NAS1032A8	1	Nut (Wing Attach)
NAS1054-6-10	8	Rivnut
NAS1054-8-10	2	Rivnut
NAS1379-5-8	6	Rivet
NAS1738B5-3	60	Rivet
NAS1738B5-4	7	Rivet
NAS1738B5-5	7	Rivet
NAS1738B5-7	60	Rivet
NAS528A6	8	Collar
NAS528A8	2	Collar
S2456-4-4	10	Rivet
S2457-4-3	3	Rivet

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In addition to the above parts the following tools must be available

PART NUMBER	QUANTITY	DESCRIPTION
0523080-0907	1	Holding Fixture

1220803-900	1	Support Tool
G27	1	Hand Riveter Cherry Lock
G700	1	Power Riveter ( with H681 Head) Cherry Lock
SK180-15	1	SE269 Wing Repair Jig Complete
SK206-7	1	Modification of SE269 Wing Repair Jig
None	1	Rivnut Gun
None	1	Rivet Squeeze

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**ADDITIONAL MATERIALS:**

PART NUMBER	QUANTITY	DESCRIPTION
Obtain locally	1 Quart	Paint (To Match Exterior Surface)
Obtain locally	1 Pint	Primer
CMNP021TY1CLBR	1 Tube	PR1440B4 Sealant (Seal around Light)
Obtain locally	1 Applicator	Alodine 1200
Obtain locally	As Required	150 Grit sand paper

**Instructions**

1. Ensure that all switches are in the OFF position and disconnect electrical power from the airplane by disconnecting the battery and external electrical power. Attach maintenance warning tags to the battery and external power receptacle stating: **DO NOT CONNECT ELECTRICAL POWER - MAINTENANCE IN PROGRESS.**
2. (Refer to Figure 1, Sheets 1, 2, 3 and 4.) Inspect the right wing spar cap to determine the thickness of the 1222005-12 Stiffener.
  - A. Remove the right wing 1227005 Upper Strut Cuff Fairing and retain fasteners.
  - B. Remove the access plate directly aft of right wing strut. Remove the 610FB access plate further aft of the strut. (Refer to Cessna Model 206H/T206H Maintenance Manual, Chapter 6, Dimensions and Areas.)
  - C. Locate the 1222005-12 Stiffener by viewing up through the forward access plate.
  - D. Using a flashlight, measure the thickness of the stiffener by holding a scale up through the forward open access plate and viewing through the aft open access plate.
  - E. (Refer to Figure 1, Sheet 4, Detail D and View A-A.) Measure 1222005-12 Stiffener.
    - (1) If the stiffener meets the minimum dimension shown, no further work is required. Refer to Step 3.AJ.
    - (2) If stiffener does not meet the minimum dimension, Refer to Step 3.
3. Wing modification procedures:

**WARNING:** DEFUEL AIRCRAFT AND PROPERLY SUPPORT ~~THE~~ <sup>LEFT</sup> WING TO PREVENT THE POSSIBILITY OF AIRCRAFT TIPPING.

- A. Remove aileron assembly from right wing. (Refer to Model 206H/T206H 1998 Edition and On Maintenance Manual, Chapter 27, Elevator Control System Maintenance Practices.)
- B. Remove flap assembly from right wing. (Refer to Model 206H/T206H 1998 Edition and On Maintenance Manual, Chapter 27, Flap Control System Maintenance Practices.)

- C. (Refer to Figure 2.) Remove right wing tip assembly and then position on wing support tool. (Refer to Model 206H/T206H 1998 Edition and On Maintenance Manual, Chapter 57, Wings and Wing Struts Maintenance Practices.)

**NOTE:** It may be necessary to remove the aileron and flap operating components (Pulleys, push rods, brackets, cables, etc.) from the wing assembly to prevent damage and foreign objects from contaminating the components during wing disassembly and assembly.

**CAUTION:** COVER ALL OPEN LINES AND FITTINGS WITH COVERS OR CAPS TO PREVENT FOREIGN MATERIAL CONTAMINATION AND THREAD DAMAGE.

**CAUTION:** USE EXTREME CARE WHEN REMOVING PAINT TO GAIN ACCESS TO RIVET HEADS, DO NOT SAND INTO THE WING SURFACE.

- (1) (Refer to Figures 2 and 3.) Using 150 grit sand paper, remove paint to gain access to rivet heads on upper and lower surfaces of the wing.

**CAUTION:** ALWAYS USE DRILL STOPS WHEN REMOVING RIVETS TO PREVENT DAMAGE TO COMPONENTS AND STRUCTURE WITHIN THE WING ASSEMBLY.

- D. (Refer to Figure 2 and 3.) Remove rivets securing the upper wing skin assembly and leading edge (both upper and lower) to gain access to 1222005-12 Stiffener (part of front spar assembly).
- E. (Refer to Figure 2.) Remove rivets securing the 0523541-52, 54, and -56 Stringers to the upper fuel bay skin assembly.
- F. (Refer to Figure 3.) Remove rivets along leading edge that secure the forward spar channel to the wing ribs.
- G. (Refer to Figure 4.) Using access gained with the removal of the upper wing skin assembly, remove rivets securing the leading edge to the upper wing. These rivets are located at wing stations 100.0, 118.0, 136.0, 154.0, 172.0, 190.0, and 208.0.
- H. (Refer to Figure 5.) Working through access holes 610XB, 610RB and 610MB carefully sand head from Cherry Lock rivets securing the leading edge to the fuel spar assembly. These rivets secure the leading edge to the stiffeners on the fuel spar.
- I. (Refer to Figure 6.) Remove rivets at WS 23.62 and WS 208.00 that secure the forward spar assembly to the root rib and disconnect the tie straps and pull wiring from the leading assembly to allow for leading edge removal.
- J. (Refer to Figure 2.) Remove rivets and stiffeners from closeout at trailing edge of wing.

**CAUTION:** CAUTION: THE WING ASSEMBLY IS VERY WEAK AT THIS POINT, USE ADEQUATE PERSONNEL WHEN REMOVING THE WING ASSEMBLY FROM THE LEADING EDGE ASSEMBLY.

**NOTE:** Removal of the closeout rivets is required to facilitate the installation of the upper wing skin assembly.

**NOTE:** Depending on the wing holding fixture, it may be necessary to remove the rivets securing the wing tip support fairing at wing station 208.00 to allow for installation of the wing assembly in the jig.

- K. Remove the wing assembly from the leading edge and place on padded supports.
- L. (Refer to Figure 7.) Remove the forward spar assembly from the wing and secure in a suitable devise to allow for removal of rivets and rivnuts that secure the 1222005-12 Stiffener 1222039-2 Spacer, 1222038-4 Reinforcement and 1222116-6 Plate from the channel assembly.
- NOTE:** Grinding off the collars will facilitate rivnut removal
- M. (Refer to Figure 7.) Locate the new 1222005-12 Stiffener, 1222039-2 Spacer, 1222038-4 Reinforcement and 1222116-6 Plate to the existing forward spar U-channel.
- N. (Refer to Figure 7.) Using the replaced 1222005-12 Stiffener as a guide, locate the position of the rivets used to hold the 1222116-6 Plate to the new 1222005-12 Stiffener.

**WARNING: DO NOT ATTEMPT TO DRILL WING FORWARD SPAR TO AIRPLANE ATTACH HOLE AT THIS TIME.**

**CAUTION:** MEASURE SIZE OF EXISTING HOLES AND DRILL EQUIVALENT SIZE IN NEW PARTS.

**CAUTION:** USE CLECOS AS HOLES ARE DRILLED TO HOLD PARTS IN POSITION.

- O. (Refer to Figure 7.) Using existing holes in the existing forward spar channel, back drill the attach holes through the 1222005-12 Angle, 1222038-4 Reinforcement, 1222039-2 Spacer and 1222116-6 Plate.

**CAUTION:** DO NOT INSTALL RIVETS IN THE TOP OF THE FORWARD SPAR ASSEMBLY, THIS WILL BE ACCOMPLISHED WHEN THE LEADING EDGE IS REINSTALLED ON THE WING.

- P. (Refer to Figure 7.) Assemble the forward spar assembly using MS20426AD5 and MS20470AD5 Rivets and NAS1054-6-10 and NAS1054-8-10 Rivnuts.

**WARNING: THE WING FORWARD SPAR TO AIRPLANE ATTACH HOLE IS A CLOSE TOLERANCE HOLE.**

- Q. Step drill the wing forward spar attach hole as follows:

- (1) Using a drill guide 0.500 inch OD x 3/16 (0.1875 inch) ID and position in existing hole in existing 1222109 Plate and forward spar U-channel.
- (2) Holding the drill guide perpendicular, drill a 0.187 inch diameter hole through the 1222039-2 Spacer and 1222038-4 Reinforcement.
- (3) Using drill guides, continue to increase the size of the wing attach hole to 5/16 (0.3125 inch diameter), then 7/16 (0.4375 inch diameter), with the final hole size being completed using a 0.500 inch diameter (+0.001/-0.000) reamer.

- R. (Refer to Figure 3.) Position forward spar assembly on leading edge assembly and secure the spar to the leading edge assembly ribs using applicable rivets.

- S. (Refer to Figure 8.) Position wing leading edge assembly in wing jig.

**CAUTION:** THE WING IS VERY WEAK AT THIS POINT, USE ADEQUATE PERSONNEL AND LOCATE THE WING ASSEMBLY TO THE WING JIG.

- T. (Refer to Figure 8.) Position the wing assembly to the wing leading edge and secure in position on the wing jig.

- U. (Refer to Figure 2 and 3.) Cleco the wing assembly to the wing leading edge. Cleco every fifth hole.

- V. Secure the wing assembly to the leading edge with MS20470AD4, MS20426AD4, S2456-4-3, NAS1738B5-3, NAS1738B5-4, NAS1738B5-5 and NAS1739B5-7 Rivets. Unless the holes are bad, use the same size rivets as removed. If the holes have been damaged, one size larger can be substituted.

- W. (Refer to Figure 2.) Position new 0523541-52 Stringer and using holes in skin, back drill new holes in stringer. Temporarily cleco the stringer to the skin when drilling holes.

- X. Pull wiring through leading edge and secure with tie straps.

- Y. Install 1220084-1 Angle (Wing Station 136.00) and 1220084-3 Angle (Wing Station 118.00).

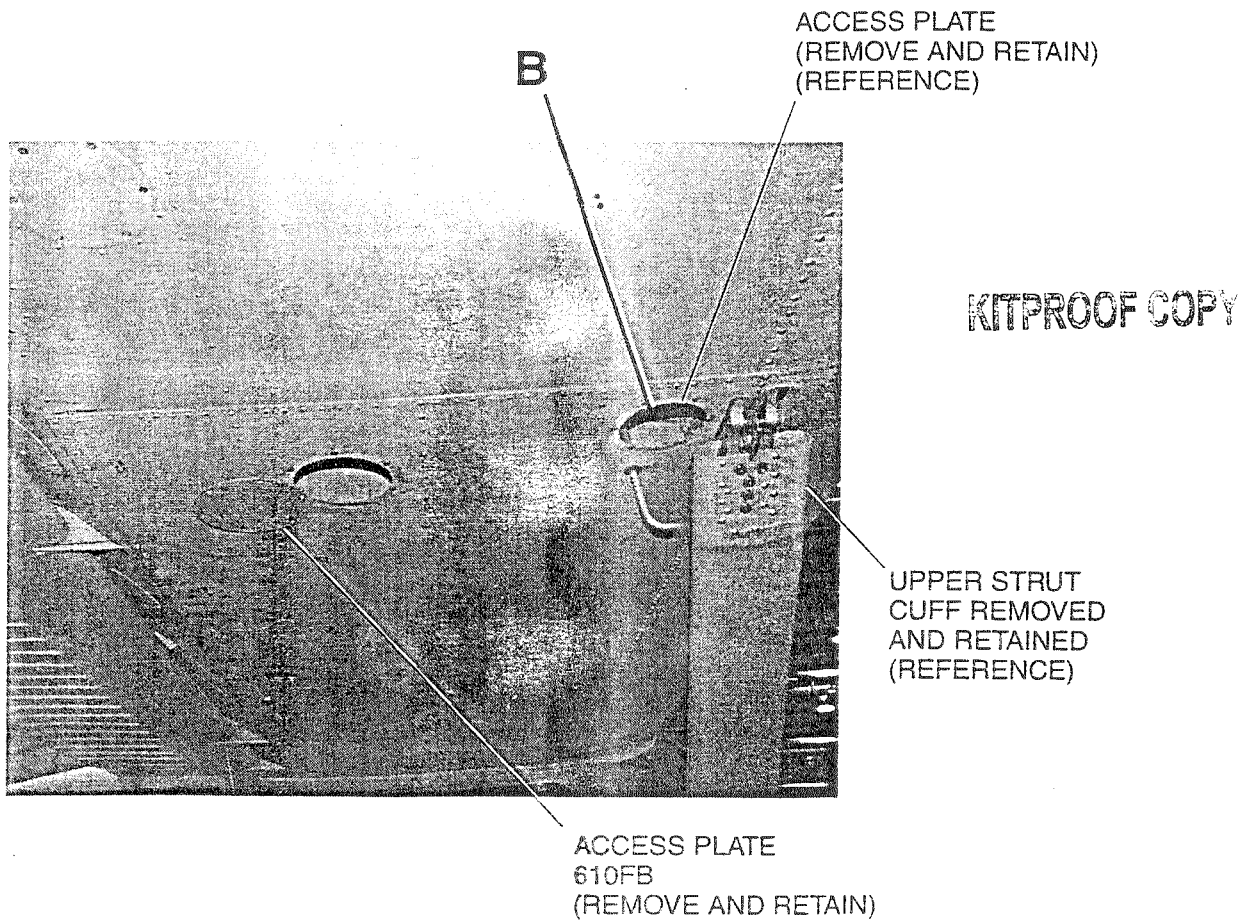
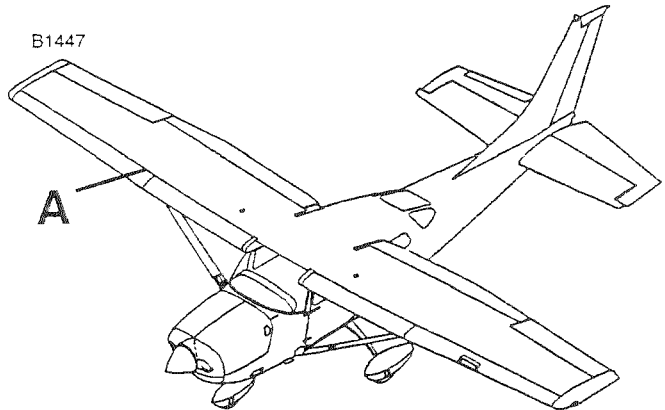
- Z. It is recommended that the existing skin assembly be reinstalled, however, in the event it has been damaged beyond use, a new one has been provided. If the new skin assembly is used the existing pulley bracket must be removed from the existing skin. The location of this bracket is critical and must be located in the same location as on the original skin.

**NOTE:** When installing a new upper wing skin assembly. It is recommended that the existing wing skin assembly be used as a guide to locate the pulley bracket installation.

- AA. (Refer to Figure 2.) Install the upper wing skin using MS20426AD4 and MS20426AD5 Rivets.
- NOTE:** The most inboard rivet on the wing stringers that secure the 1220803-9 skin assembly to the wing must be dipped in wet sealer prior to installation.
- AB. (Refer to Figure 2.) Install the trailing edge stiffeners and closure rivets.
- AC. (Refer to Figure 5.) Working through access holes 610XB, 610RB and 610MB of the leading edge, install nine S2456-4-4 rivets to secure the leading edge to the stiffeners on the wing fuel tank spar assembly.
- AD. Install the wing assembly to the airplane. (Refer to Model 206H/T206H 1998 Edition and On Maintenance Manual, Chapter 57, Wings and Wing Struts Maintenance practices.)
- AE. Check right wing for twist. (Refer to single Engine Structural Repair Manual Chapter 57, Measuring Wing Twist-Inspection/Check.)
- AF. Install right aileron assembly (Refer to Model 206H/T206H 1998 Edition and On Maintenance Manual, Chapter 27, Wings and Wing Struts Maintenance practices.)
- AG. Install right flap assembly (Refer to Model 206H/T206H 1998 Edition and On Maintenance Manual, Chapter 27, Wings and Wing Struts Maintenance practices.)
- AH. Install wing tip assembly. (Refer to Model 206H/T206H 1998 Edition and On Maintenance Manual, Chapter 57, Wings and Struts Maintenance Practices.)
- AI. Rig the aileron and flap control systems. (Refer to Model 206H/T206H 1998 Edition and On Maintenance Manual, Chapter 27, Elevator Control System Maintenance Practices.)
- AJ. Install the upper strut cuff fairing and access plate 610FB.
- AK. Reconnect the airplane battery and remove the maintenance warning tags.
- AL. Perform a airplane flight to check airplane flight characteristics have not been changed.
- NOTE:** Step 3.AK. is not required if the modification has not been accomplished.
- AM. Paint wing assembly to match airplane.
- AN. Make an entry in the airplane logbook stating this service bulletin has been installed and method of incorporation.

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**DETAIL A**  
VIEW LOOKING INBOARD

Figure 1. Wing Spar Cap Inspection (Sheet 1)

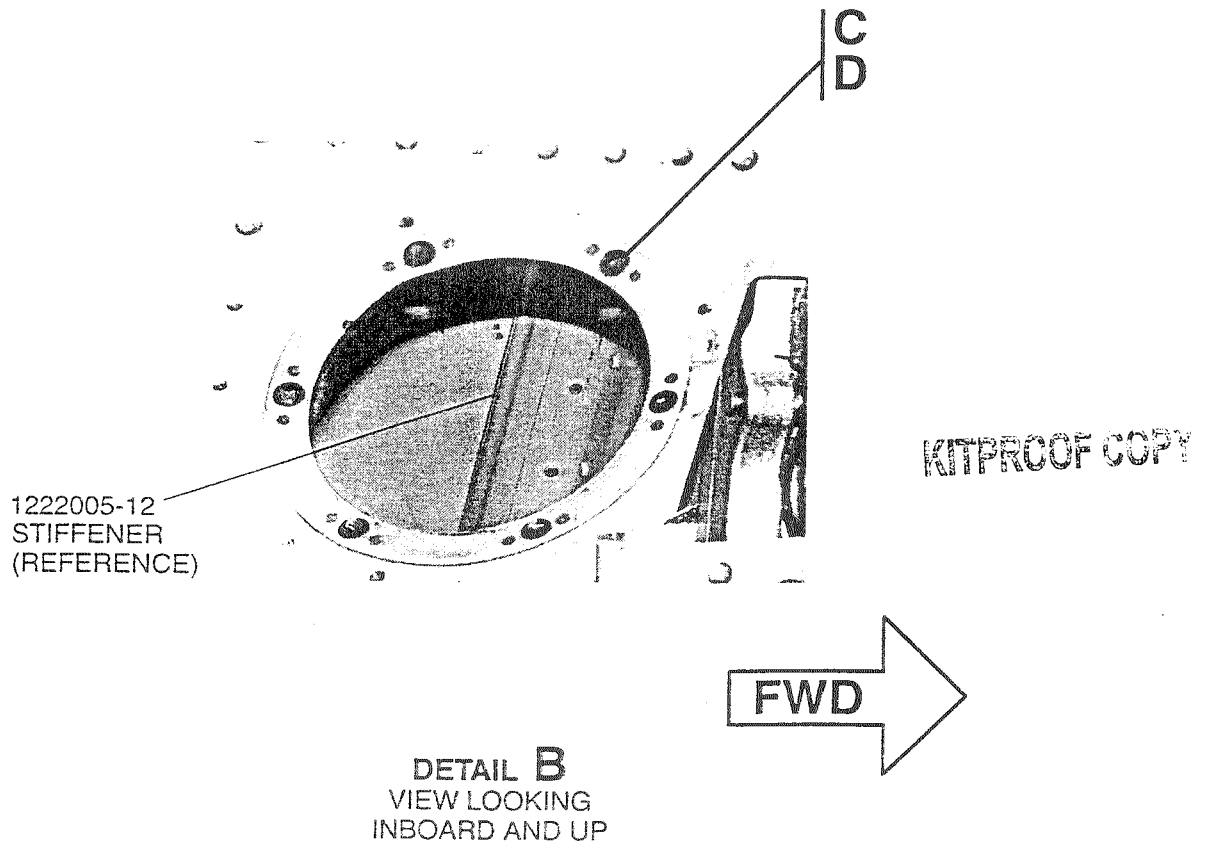


Figure 1. Wing Spar Cap Inspection (Sheet 2)

