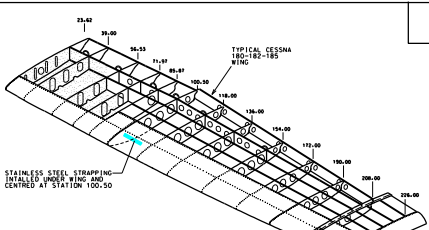


SB-1-96
SPAR REINFORCEMENT AT STATION 100.50* for C-180-182-185 SERIES AIRCRAFT



PART B - Strap Instruction

- 1) Installation may only be carried out in an approved sheet metal shop using recognised procedures and techniques. Manufacturer must comply with AC43-13-18.
- 2) On the underside of the wing, along the spar identify and mark the centre of rib at Wing Station 100.50 using a felt marker.
- 3) Drill out and spot remove all existing rivets approximately 8" inboard and 8" outboard of Wing Station 100.50.

- NOTE: Wing Station 100.50 is established by the outboard web of the centre rib at Wing Station 100.50.
- 4) Tape the 16" stainless steel strap 0.031" and precisely mark the centre using a felt marker.
 - 5) Slide the "s/s strap" under the leading edge wing skins and up against the underwing skin along the spar channel and centre the "s/s strap" of wing station 100.50 to determine exact position. See detail "A".
 - 6) The "s/s strap" when centre on wing station 100.50 at the spar channel splice will be exactly completely hidden because it is covered by the leading edge wing skins when the correct position is established accurately mark the drill hole positions on the "s/s strap". The existing L/E wing skin holes can be used as a guide from remove the "s/s strap".

IMPORTANT NOTE
 At the number of holes to be drilled may vary with different aircraft however 173 rivets on both side of the spar defined in Wing Station 100.50 is the minimum required in order to maintain the desired strength in the spar splice.

- 8) The hole positions as marked may not align perfectly down the centre of your "s/s strap". This is normal however a rivet edge distance of .315" must be maintained on the "s/s strap".

CAUTION
 Care must be taken while drilling in order to avoid contact with the strut attach fitting inside the wing.
 Do not substitute stainless steel of a different grade and temper. If a stainless steel strap is damaged during installation obtain a new strap from the manufacturer.

- 9) Using a drill press and 3/8" diameter drill cut the holes as required, re-fit as necessary along the lower spar cap in order to assure an accurate fit.
- 10) Drill the drill holes in the "s/s strap" to ±.010" while verifying that the holes align precisely along the spar.
- 11) Remove the stainless steel strap and position it over the leading edge wing skins and up against the upper wing skin along the spar channel and centre the strap at wing station 100.50 on the spar.

- 12) Run the entire thickness of the spar channel including all the skin using (2) clecos of the "s/s strap".
- 13) When all the holes have been drilled to the correct size remove and deburr the strap but do not shorten the "s/s strap". Clean out all the metal filings in and around the spar for installation.
- 14) Prime the strap with two coats of epoxy primer and allow to dry then install using CR3213-6 Universal Head CherryMax Rivets.

NOTE: At Wing Station 100.50 the "leading edge lap joint" install 173 rivets CR3213-6-7 Universal Head CherryMax Rivets. This longer rivet will allow for the additional thickness of the centre rib at this position.

- 15) Repeat instruction steps 1 thru 13 for both wings.
- 16) Complete a reference release and make log entry stating "ART Services Bulletin SB-1-96 and AD W8-16-04" Part A - Inspection and Part B - Modification complied with in both wings and

APPLICABILITY

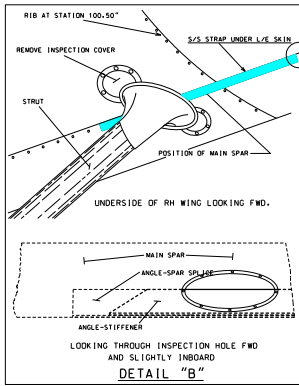
- * All Cessna 180 and 182 series aircraft with authorized gross weights in excess of 3,000 lbs. equipped with "A.R.T." Wing Extensions approved under STC 5483-136 or STC 5400276MT.
- * All Cessna 185 series aircraft equipped with A.R.T. 2wing Extensions approved under STC 5483-136 or STC 5400276MT.

DESCRIPTION
 This Bulletin consists of two separate concepts of an inspection of the area along the lower main spar cap from wing station 90 outboard to wing station 100 in order to determine if the "angle stiffener" is present on the subject wing. If the "angle stiffener" is installed no further action is required.
 Part B consists of installation of a reinforcing strap. If the "angle stiffener" is not present Part B must be accomplished.

INSTRUCTIONS

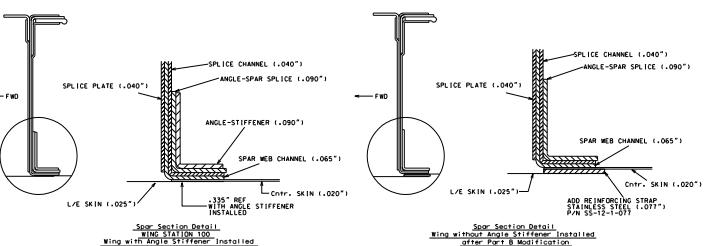
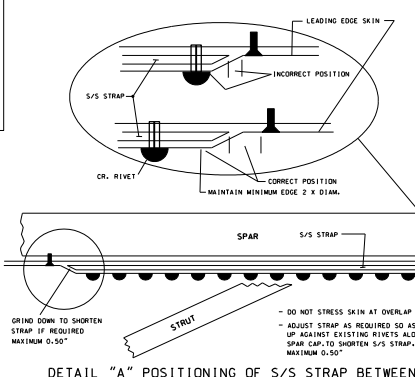
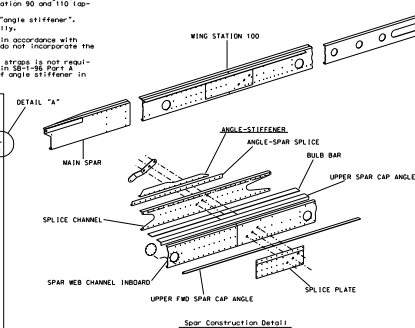
- Part A-Inspection**
- 1) Draw the inspection hole situated on the underside of the wing off of the spar near to where the strut connects to the wing using a flashlight and if necessary visual inspection to determine if the subject wing has the "angle stiffener" installed along the lower spar cap between wing station 90 and 110 as per detail "A".
 - 2) Both wings left and right must be inspected individually.
 - 3) The installation of the Stainless Steel Strap 0.031" in accordance with Part B of this modification is MANDATORY on wings which do not incorporate the "angle stiffener".
 - 4) If the "angle stiffener" is installed installation of straps is not required. Make a log entry indicating that "ART Service Bulletin SB-1-96 Part A complied with" Part B is not applicable due to presence of angle stiffener in both wings.

Refer to Figure 1 and 2 to assist identification of the "angle stiffener".

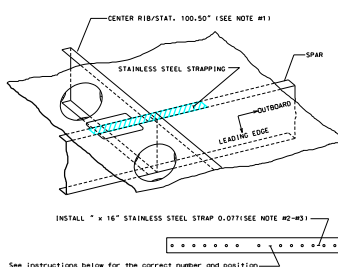


| Item # | Description | Usage |
|--------|---|-------|
| 18 | Channel front Spar/Inboard L/R or R/L | 0.065 |
| 8 | Channel front Spar Splice L/R or R/L | 0.040 |
| 10 | Angle front Spar Splice | 0.090 |
| 12 * | angle Stiffener L/R or R/L | 0.090 |
| skin | Underwing skin | 0.025 |
| skin | Leading Edge skin | 0.025 |
| | Combined thickness required at foot of spar channel | 0.335 |

- * Item 12 is not installed on all aircraft and when missing it must be replaced with the installation of the stainless steel 0.031" strap.



UNDERSIDE OF WING AT STATION 100.50



- NOTES**
- #1 Station 100.50* is at the outboard vertical portion of the centre rib and should coincide with the spar joint (see detail "A").
 - #2 In order to maintain the desired strength in the spar splice a minimum of 173 rivets inboard and 173 rivets outboard of station 100.50 are required.
 - #3 The actual hole positions marked may not align perfectly down the centre and your template this is normal and may vary slightly with each aircraft.

Parts Required Per Aircraft (INDIVIDUALLY SUPPLIED IN KIT)

1. Service Bulletin Kit SB-1-96 consisting of:

| Part Number | Qty. | Description |
|-------------|------|-----------------------|
| 55-12-1-031 | 2 | Stainless Steel Strap |
2. The following materials are required for the completion of this service bulletin.

| Part Number | Min. Qty. | Description |
|-------------|-----------|---|
| CR-3213-6-6 | 218 | Universal Head CherryMax Rivet |
| CR-3213-6-7 | 2 | Universal Head CherryMax Rivet Epoxy Primer |

CAUTION

- * Modification is MANDATORY on some aircraft only. Refer to instructions and sheet to determine applicability.
- * The modification when carried out must be completed on both wings.
- * The 123 stainless steel straps provided in kit have defined standard specifications and must be installed as per instructions.
- * Use only materials supplies if another strap is required contact the manufacturer.
- * Installation may be carried out in approved sheet metal shops using recognised procedures and techniques.

| MATERIAL REQUIRED FOR BOTH WINGS | | QUANTITY |
|--|-----------------------------------|---------------------------------|
| FOR A COMPLETE LIST OF MATERIALS SUPPLIED IN THIS KIT REFER TO THE ATTACHED SHIPPING CHECK LIST FORM #SCL425 | | |
| TITLE: SB-1-96 | INSTALLATION INSTRUCTIONS FOR | |
| A.R.T. SERVICE BULLETIN | SPAR REINFORCEMENT | |
| AT WING STATION 100.50* | | |
| SCALE: | WEIGHT: | DATE: JAN-16-1996 |
| NO SCALE | 0.55LBS 35.30 | REVISION: #3 06-18-01 |
| DWG. NUMBER: SB1-96 | SPAR REINFORCEMENT FOR BOTH WINGS | .55 lbs. AT WING STATION 100.50 |
| DRAWN BY: G. J. | DESIGNED BY: | |
| | ATM RESEARCH TECHNOLOGY INC. | |
| | P.F.F. CABAN | |

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