

CESSNA 150 / 152 FLAP GAP SEALS

APPLICABLE MODELS

CESSNA 150 AND 152

ISSUE DATE: 01/04/2000

KNOTS 2U, LTD.

*709 Airport Drive
Burlington, WI 53105
262 763-5100
www.knots2u.com*

REV #	DATE	EFFECT
A	08/22/00	Replaced Fiber-Lok nuts with Rivnuts. Added leading edge attachment. Made outboard seal removable.

TABLE OF CONTENTS

Section	1.0	Locating and Attaching Flap Gap Seal Kit on Left Wing	1
	1.1	Locating and trimming Inboard Flap Seal P/N C-IFS	1
	1.2	Locating and trimming Outboard Flap Seal P/N C150-OFS	1
	1.3	Checking proper fit of Seals P/N C-IFS and C150-OFS	1
	1.4	Locating Attach Brackets P/N C-BRACK	1
	1.5	Riveting Attach Brackets P/N C-BRACK to flap well	2
	1.6	Attaching Gap Seal P/N C-IFS	2
	1.7	Attaching Gap Seal P/N C150-OFS	2
Section	2.0	Locating and Attaching Flap Gap Seal Kit on Right Wing	2
Section	3.0	Paperwork	2
Section	4.0	Parts List	2
Section	5.0	Figure #1	3
Section	6.0	Maintenance Manual	4
Section	7.0	Supplemental Type Certificate	5,6,7,8

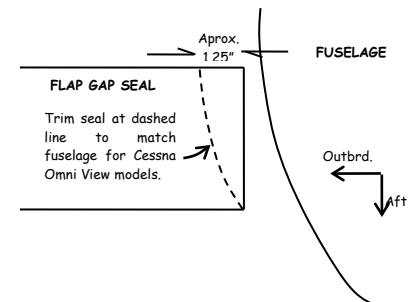
This manual describes the installation of Flap Gap Seals on Cessna 150 & 152 series aircraft. All aluminum parts are treated with a Zinc Chromate primer and ready to paint. To finish simply scuff the surface lightly, clean, and paint with desired color. The parts may be painted before or after installation. For optimum performance of this modification it is desirable to check the flap rigging per the appropriate Cessna Manual before the installation of the gap seals.

Section 1.0 Locating and Attaching Flap Gap Seal Kit on Left Wing.

1.1 Locating and trimming Inboard Flap Seal P/N C-IFS

The inboard Flap Gap Seal P/N C-IFS must be trimmed for the particular model aircraft. For models with the curved rear windows ("Omni-Vision") the seal must be trimmed to match the curvature of the fuselage per the Sketch A at the right. For early models without the "Omni-Vision" windows, the seal needs to be shortened 1 ¼" parallel to the fuselage. Per Figure 1 Page 3, place inboard end of P/N C-IFS no closer than 1/8" to fuselage. Mark the location of the two screws holding the existing fairing around wing to fuselage junction. Seal P/N C-IFS should be notched so it can be slid between fairings and around screws. Also Notch flange on the trailing edge of the seal where it interferes with the flap tracks (see Sketch B). Notch should be large enough so flange is no closer than ½" to flap track on either side. Make sure to radius all corners of notches to prevent cracking. *On some models the flap access panels may need to be trimmed slightly at the bottom to prevent interference with the gap seals. On models with a screw at the bottom of the access panel, the bottom screw may be removed.*

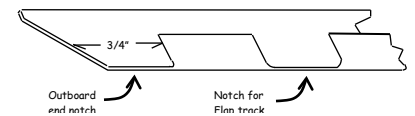
SKETCH-A CESSNA "OMNI-VISION" MODELS



1.2 Locating and trimming Outboard Flap Seal P/N C150-OFS

With Inboard Flap Seal P/N C-IFS properly located, mark a line on the bottom of the wing at the most outboard point of the seal. This line will represent the location for the inboard edge of Seal P/N C150-OFS. With Outboard Seal P/N C150-OFS properly located mark location of flap track. Notch flange on the trailing edge of the seal where it interferes with the flap tracks. Notch should be large enough so flange is no closer than ½" to flap track on either side. Make sure to radius all corners of notches to prevent cracking. The outboard end of seal should overlap the outboard end of flap well by ¾". If seal is longer it must be trimmed. Trim ¾" from outboard end of flange so that seal can slide between skins outboard of flap well. See sketch B

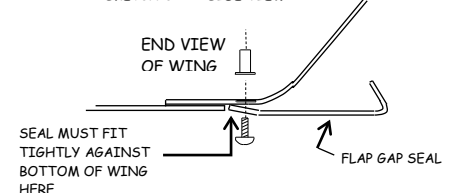
SKETCH-B NOTCHING DETAIL



1.3 Checking proper fit of Seals P/N C-IFS and C150-OFS

Hold P/N C-IFS in place. With leading edge of seal tight to bottom of lower wing skin and flaps in full up position confirm the seal does not touch the flap. If flap is touching seal, trim leading edge of seal to prevent any contact with flap. Seal may have to be re-bent on leading edge in trimmed areas. Repeat the above procedure with seal P/N C150-OFS.

SKETCH C SIDE VIEW



1.4 Locating Attach Brackets P/N C-BRACK

(To aid in the placement of attach brackets 2 sided tape may be used to temporarily hold them in position.) Referring to Figure 1 page 3, mark Attach Bracket locations on wing. These marks represent the center of each Bracket. They may be moved slightly if interference is found with existing rivet heads or flap tracks. Using a straight edge as a guide the proper height of the Brackets can be determined. Due to variations in airframes shims P/N C-SHIM may be used to achieve correct angle along bottom of Brackets. **Note: The 3rd Bracket is used as a splice for the two seals. Check seal lengths to determine proper location!** With all Brackets temporarily held in place check for proper fit of gap seals.

1.5 Riveting Attach Brackets P/N C-BRACK to flap well.

With Attach Brackets properly located, mark all hole locations in flap well. Drill all holes in Flap Well, Attach Brackets, and required Shims to a #27 hole size. Deburr holes, and corrosion proof with Alodine or equivalent. Secure Brackets with P/N CR3243-4-2 Cherry Max Rivets, (4) per Bracket.

1.6 Attaching Gap Seal P/N C-IFS.

Slide Inboard Flap Seal under the wing to fuselage fairing and tighten the two screws. At the first attach bracket drill (2) holes per Figure 1 Detail 2 through Bracket to a # 12 hole size. De-burr and corrosion proof holes with Alodine or equivalent. Repeat procedure on 2nd and 3rd Brackets. Enlarge holes in seal to a #20 hole size. Attach seal P/N C-IFS using AN526C-632R8 screws, AN960C-6L washers, and A6K-75 rivnuts. Along the leading edge of the seal 5 ea. AN526C-632R8 screws, AN960C-6L washers, and A6K-75 rivnuts should be used to secure leading edge of the seal to wing. Screws should be located with one at each end of the seal and three or four evenly spaced in the center. Locations may vary and should be chosen in best locations to prevent air from going above the leading edge of the flap seal during flight.

1.7 Attaching Gap Seal P/N C150-OFS.

Remove (2) rivets outboard of flap well per Figure 1. Slide Outboard Flap Seal P/N C150-OFS between skins. With seal properly located, drill holes in 3rd and 4th Attach Bracket per Figure 1 Detail 2, to a #12 hole size. Enlarge holes in seal to a #20 hole size. De-burr all holes and corrosion proof with Alodine or equivalent. Attach seal P/N C150-OFS using AN526C-632R8 screws, AN960C-6L washers, and A6K-75 rivnuts. Use 2 or 3 sheet 8 X3/4 sheet metal screws at outboard end of seal in place of removed rivets. Along the leading edge of the seal 5 ea. AN526C-632R8 screws, AN960C-6L washers, and A6K-75 rivnuts should be used to secure leading edge of the seal to wing. Screws should be located with one at each end of the seal and one evenly spaced in the center. Locations may vary and should be chosen in best locations to prevent air from going above the leading edge of the flap seal during flight.

Section 2.0 Locating and Attaching Flap Gap Seal Kit on Right Wing.

Repeat Steps 1.1 thru 1.7 on right wing.

Section 3.0 Paperwork

Complete form 337, logbook entry, and weight & balance. Place copy of Supplemental Type Certificate and Maintenance Manual with aircraft logs.

Flap Seals with Hardware 2.1 lbs.

Arm..... Per appropriate Service Manual

Section 4.0 Parts List

<u>Part No.</u>	<u>Qty.</u>	<u>Description</u>
C-IFS	2	Inboard Flap Gap Seal
C150-OFS	2	Outboard Flap Gap Seal
C-BRACK	4	Attach Bracket
C-SHIM	4	Shim
CR3243-4-2	32	Roundhead Cherry-max Rivet
8 X ¾ SS	6	Roundhead Stainless Sheet Metal Screw
AN526C-632R8	36	Stainless Steel # 6 Screw
AN960C-6L	36	Stainless Steel # 6 Washer (Thin Profile)
MS21044N06	36	Fiber-Lock # 6 Nut

CESSNA 150/152 FLAP GAP SEAL INSTALLATION

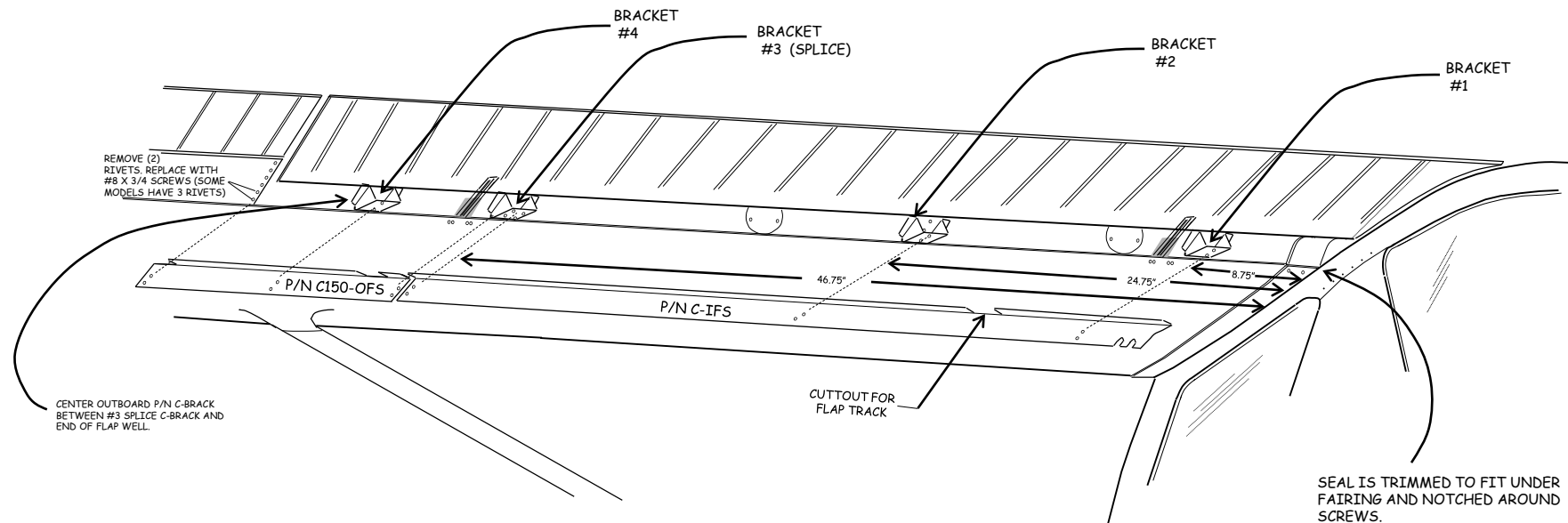
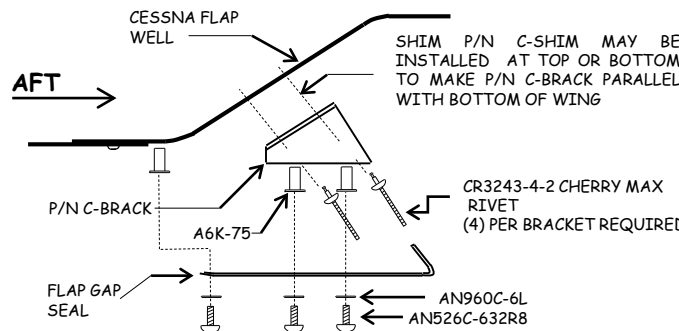


FIGURE #1 PAGE 3

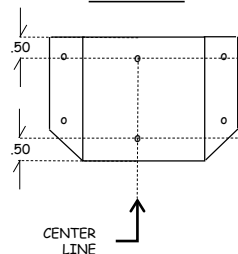
FLAP INSTALLATION DETAIL #1

SIDE VIEW

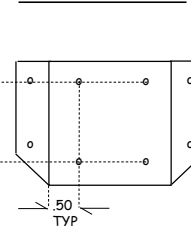


C-BRACK HOLE PATTERN DETAIL #2

INBOARD AND CENTER BRACKETS



SPLICE BRACKETS



REV #	DATE	EFFECT
A	08/22/00	Replaced fiberlock nut with rivnuts. Added attachment to leading edge of flap seal. (Detail 1)

KNOTS 2U, LTD.
703 AIRPORT DRIVE, BURLINGTON, WI 53105

DRAWING # **C150-FGS**

CESSNA 150 & 152 MODELS

01/04/2000 NOT TO SCALE DRAWN BY: JMB

KNOTS 2U, LTD.
Maintenance Manual
Cessna 150 / 152 Models

Section 6.0 Maintenance Manual

PART A. INSPECTION

1. Daily inspection at preflight to ensure there is no bent or broken seals and that all attachment hardware is tight.
2. When aircraft has been stored outside during snow or freezing conditions, a careful inspection should be made of the areas between the seals and flaps for ice accumulations. If ice is found, which cannot be removed by careful brushing, the aircraft should be de-iced.
3. 100 hour inspections are suggested to check for any bent or cracked seals and that all Attachment Hardware, and Seals are in good condition.

PART B. CRACKING, DEFECTS, LOOSE RIVETS.

1. If cracks are found in a Gap Seal, stop drill the crack. If there are more than 3 cracks in a Gap Seal, the seal must be replaced.
3. If there are excessive bends or kinks in a seal, and the airflow over the control surface is disturbed, the seal must be replaced.
4. If seal rivets become loose, you may drill the rivets and replace with the next size rivet.