



300 Old Pretoria Road Albany, GA 310721
Phone: 229-883-1440 Fax: 229-317-8225
www.thrushaircraft.com

SERVICE BULLETIN

No. SB-AG-56

Revision B: 12/10/2020

S2R-H80 AFT LOWER COWL MODIFICATION

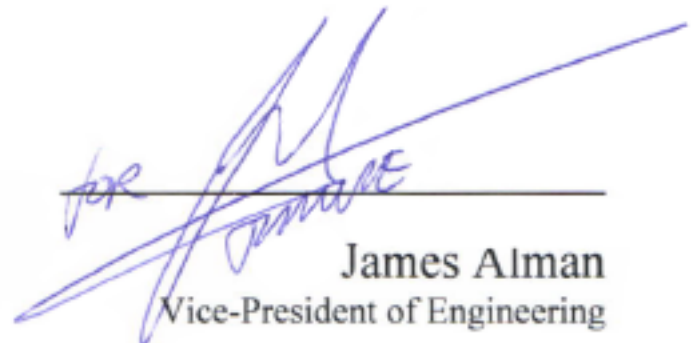
AIRPLANES AFFECTED:

MODEL

S2R-H80

SERIAL NUMBERS

101-201



James Alman
Vice-President of Engineering

LOG OF REVISIONS

NOTE: Reformatting and correction of typographical errors is not considered revision. True revisions are indicated by a dark vertical line at the right margin of the lines revised.

Rev.	Page	Description of Revision	By:
IR	All	New Document Initial Release.	K. Sheppard 12/22/2017
A	Cover Pg. 1	“Airplanes Affected:” Effectivity has changed from H80-180 to H80-190.	K. Sheppard 06/05/2018
B	Cover Pg. 1	Incorporated new company logo Thrush Inc. changed to Thrush LLC. “Airplanes Affected:” Effectivity has changed from H80-190 to H80-201.	M. Lim 12/10/2020

CONTENTS

1. PURPOSE/REASON FOR PUBLICATION:	1
2. SCOPE/COMPLIANCE:.....	1
3. BY WHOM WORK WILL BE ACCOMPLISHED:	1
4. APPROVAL:	1
5. MAN HOURS:	1
6. SPECIAL TOOLS:	1
7. PARTS LIST:	2
8. REPAIR	3
9. RECORD OF COMPLIANCE:.....	15
10. RESPONSE CARD:	15

1. PURPOSE/REASON FOR PUBLICATION:

It was found that the aerodynamic loads on the cowl skins were creating deflections. The repeated deflections could lead to cracking over time.

2. SCOPE/COMPLIANCE:

This Service Bulletin is recommended for S2R-H80 airplanes with serial numbers 101-201.

3. BY WHOM WORK WILL BE ACCOMPLISHED:

The work is to be accomplished by an FAA licensed A&P mechanic, or foreign equivalent. The action must be recorded in the airplane log book and signed off by the A&P mechanic.

4. APPROVAL:

This Service Bulletin is approved by the Vice President of Engineering at Thrush Aircraft, LLC. Proper execution of this Service Bulletin assures that the cracking will be prevented and that the lower aft cowl skin complies with FAA approved Type Design Data.

5. MAN HOURS:

36 hours will be required.

6. SPECIAL TOOLS:

- 12mm Hole Cutter
- .625” Hole Finder

7. PARTS LIST:

Parts are available through your local Approved Thrush Repair Center

QUANTITY	PART NUMBER	DESCRIPTION
31	40S5-4S	STUD (Alternate: 1142012 4)
4	21295-3	SPACER FUEL PUMP PLATE
31	4002-HS	MOUNTING GROMMET
31	40G26-1	RETAINING RING
2	711020065-001	FORMED CLIP – BTTM COWL
1	711020070-001	SPLIT SKIN, AFT LOWER COWL
1	711020070-003	SPLIT SKIN, AFT LOWER COWL
1	711010069-003	CHANNEL ASSEMBLY
2	AN4-25A	BOLT
2	AN4-33A	BOLT
4	AN365-832	NUT
4	AN960-8L	WASHER (Alternate: NAS1149FN816P)
4	AN960-416	WASHER (Alternate: NAS1149F0463P)
46	AN960C10L	WASHER (Alternate: NAS1149C0332R)
6	MS20426AD4-4	RIVET
4	NASM525-8R8	SCREW (Alternate: AN525832R7)
46	NASM525C10R8	MACHINE SCREW (Alternate: AN526C1032R8)
4	MS21044N08	NUT
1	711020066-002	COWL SUPPORT ANGLE R/H
1	711020066-001	COWL SUPPORT ANGLE L/H
1	711020067-002	CHANNEL SUPPORT BRACKET R/H
1	711020067-001	CHANNEL SUPPORT BRACKET L/H
1	711020071-001	DOUBLER
4	711020068-001	BRACKET STRAP
8	MS20470AD4-5	RIVET
12	CR3213-4-03	CHERRYMAX RIVET
16	MS20470AD4-4	RIVET
16	MS20470AD3-3	RIVET
24	244-16D	CAMLOC
48	MS20426AD4-5	RIVET

8. REPAIR

NOTES:

- Corrosion protection finish shall be restored for all drilled and trimmed areas.
- Aircraft can have dimension variations based on age/use/condition of aircraft.
- Parts provided per this Service Bulletin shall be pre-fit using temporary fasteners and or clamps to ensure proper fit prior to final assembly. Use standard sheet metal practices per Aircraft Maintenance Manual Section 12.1 in case there is a need to deviate the assembly procedures. Obtain approvals from the FAA or Civil Aviation Authorities for all deviations.

A. Remove AFT lower cowl 711020017-001 per Aircraft Maintenance Manual. See Figure 8-1.



*Figure 8-1
Cowl Location*

- B. Remove and discard (2) AN4-24A and (2) AN4-30A bolts and associated (4) AN960-416 washers and (4) MS21033N4 nuts at engine mount weld lugs that attach to the baggage compartment and battery plate located 11.12 inches from FWD firewall. See Figure 8-2.

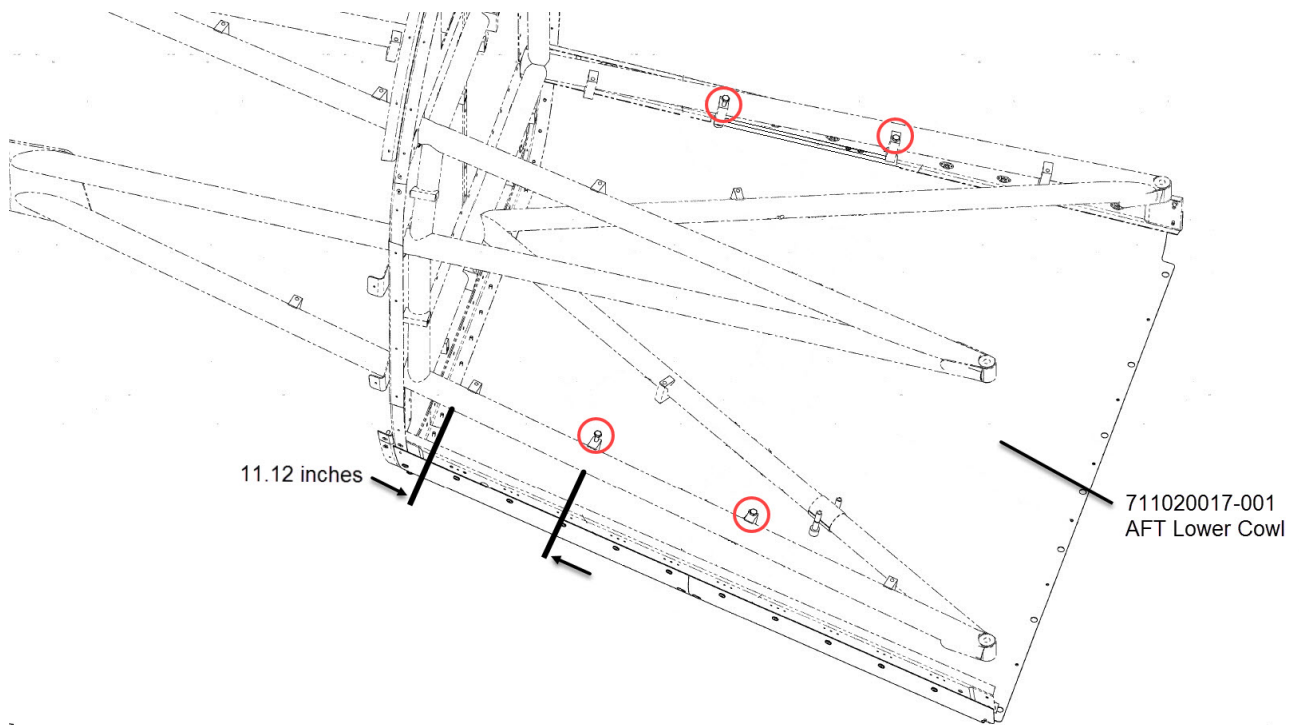


Figure 8-2
Engine Mount Weld Lug
Locations

- C. Layout Camloc pilot hole locations in Channel Assembly 711020069 using dimensions as shown in Fig. 8-3. Drill (20) .128" dia. for Camloc pilot hole. Drill & countersink (32) .128" dia. into channel to match Camloc fastening holes. Install with MS20426AD4 rivets.

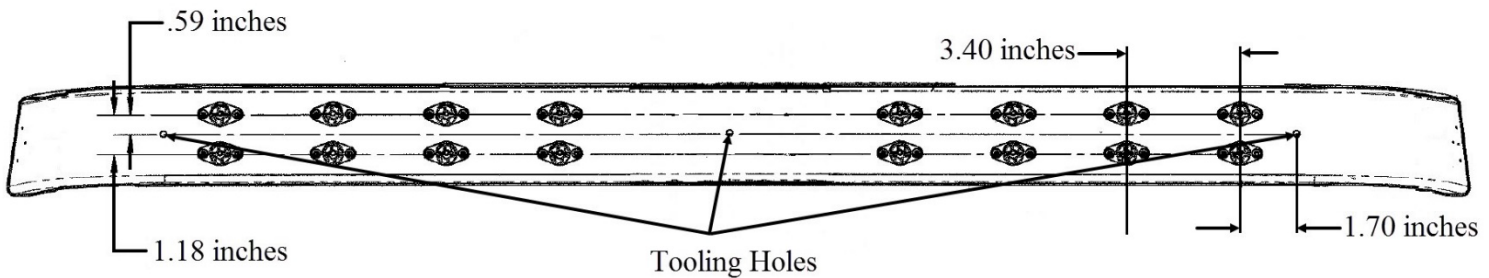


Figure 8-3
Channel Assembly

- D. Drill (6) .098" dia. pilot holes for Formed Clip and (4) .128" dia. pilot holes for (4) Camlocs as shown in Figures 8-4 & 8-5.

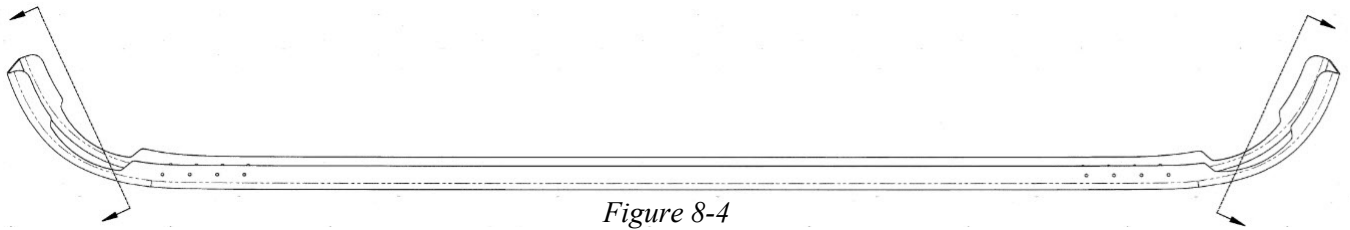


Figure 8-4
Location for Drill

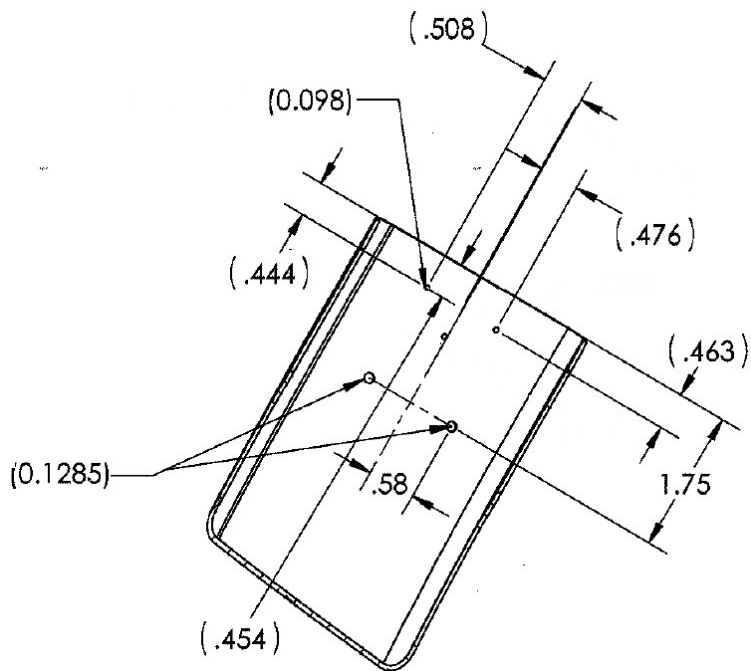


Figure 8-5
Drill Dimensions

- E. Assemble (2) Cowl Support Angle, (2) Channel Support Bracket, and (4) Bracket Straps by stepping up all pilot holes to .128" dia. Assemble using hardware in Figure 8-6.

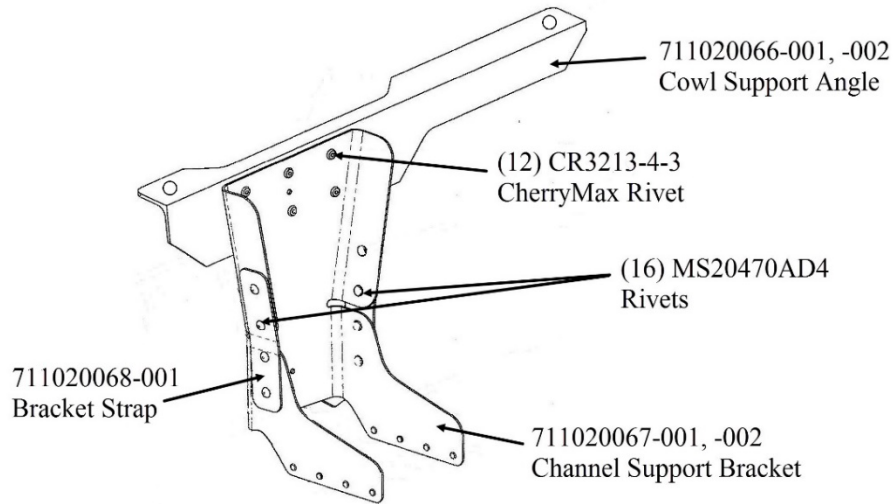


Figure 8-6
Cowl Support Angle & Channel Support Bracket
Assembly

- F. Use engine mount weld lug thru holes to match drill (4) Cowl Support Angles 711020066-001, -002 using an .266" bit. Same four holes may be enlarged to .295" for optimal alignment.

- G. Install (2) AN4-25A AFT bolts and (2) AN4-33A FWD bolts. Assemble (4) 21295-3 spacers (one each side of FWD bolt and nut) as shown between weld lug and cowl support angle 711020066. Hand tighten all bolts using (4) AN960-416 washers and (4) MS21044N4 nuts. See Figures 8-7 & 8-8.

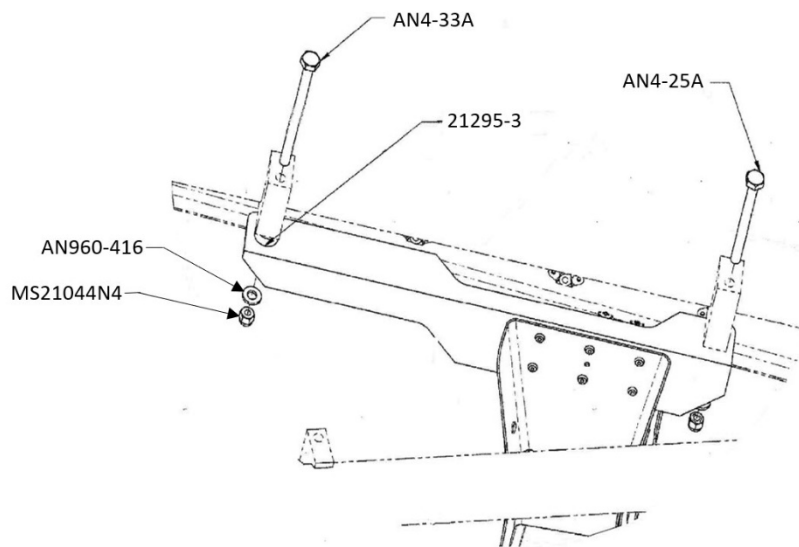


Figure 8-7
Cowl Support Assembly Installation

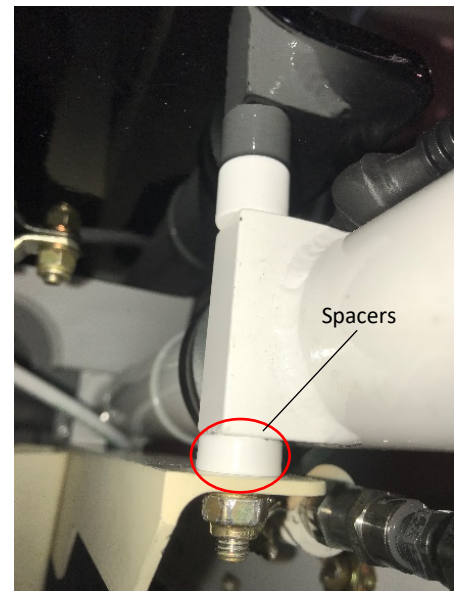
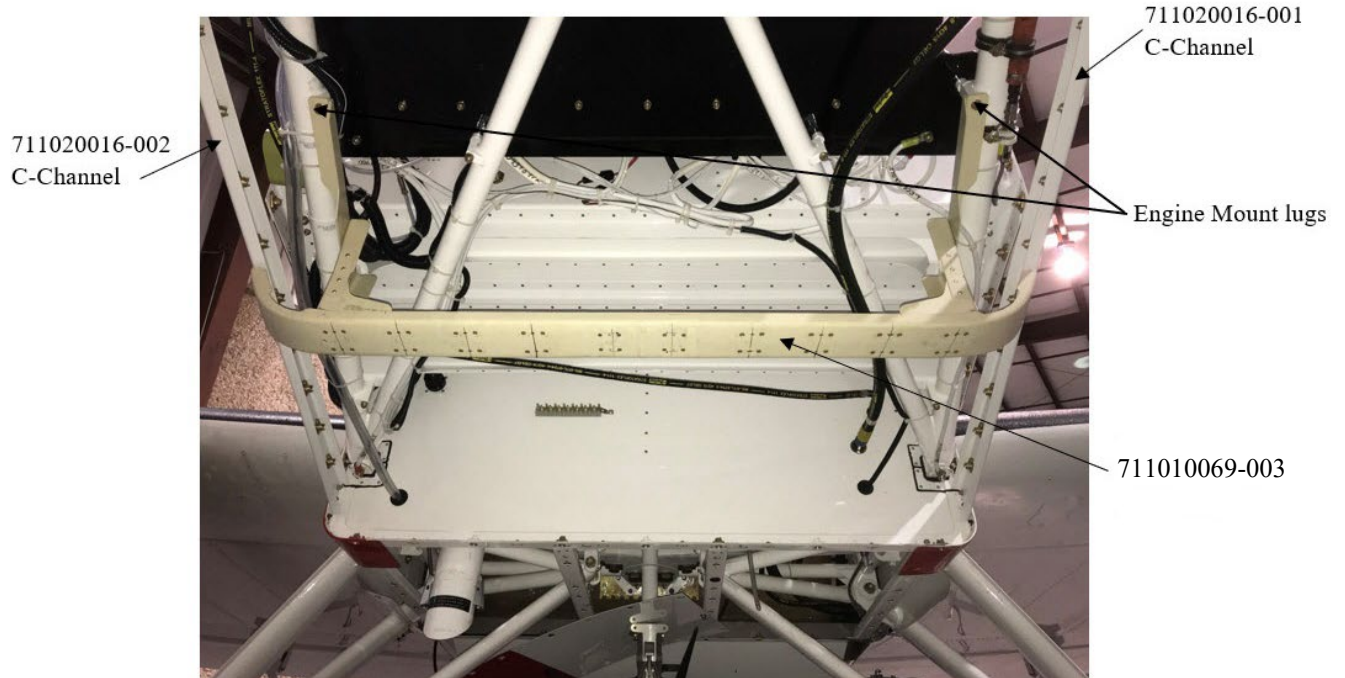


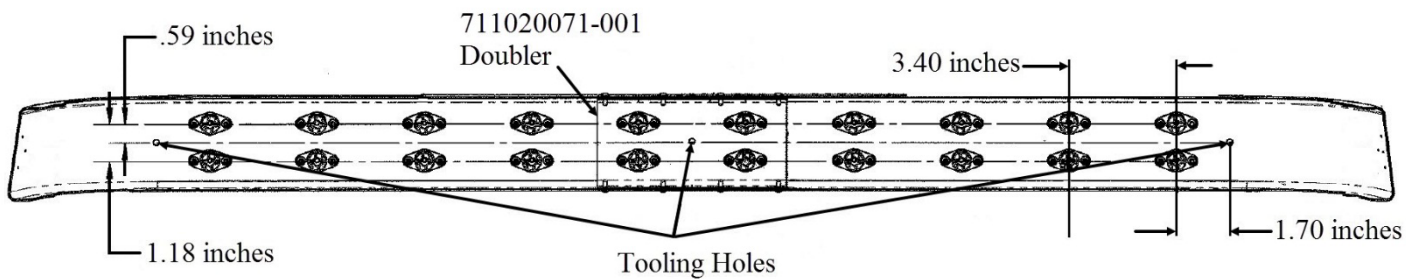
Figure 8-8
Looking AFT, view of engine mount lugs

H. Locate and center Channel Assembly 711010069 in relation to C- Channels and Channel Support Bracket. See Figure 8-9.



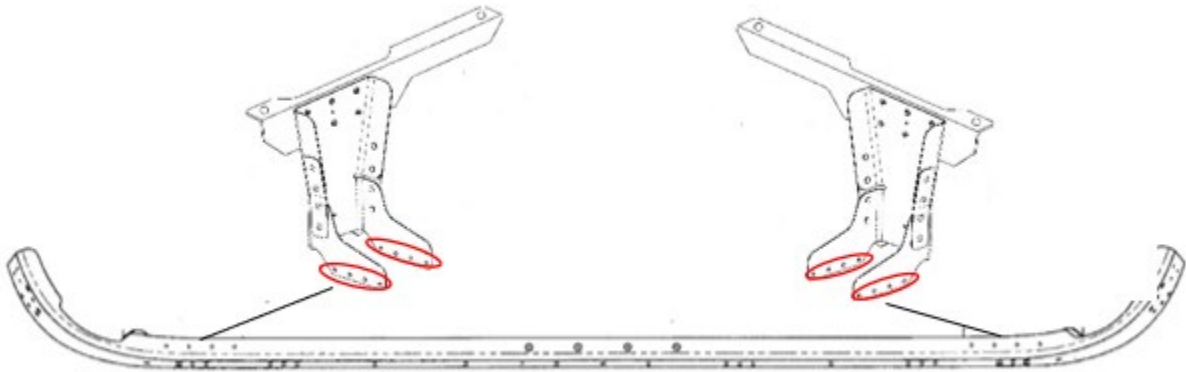
*Figure 8-9
Aligned Channel Assembly
*Clamped in place for Reference**

I. Install Doubler 711020071 to Channel Assembly as shown in Figure 8-10.



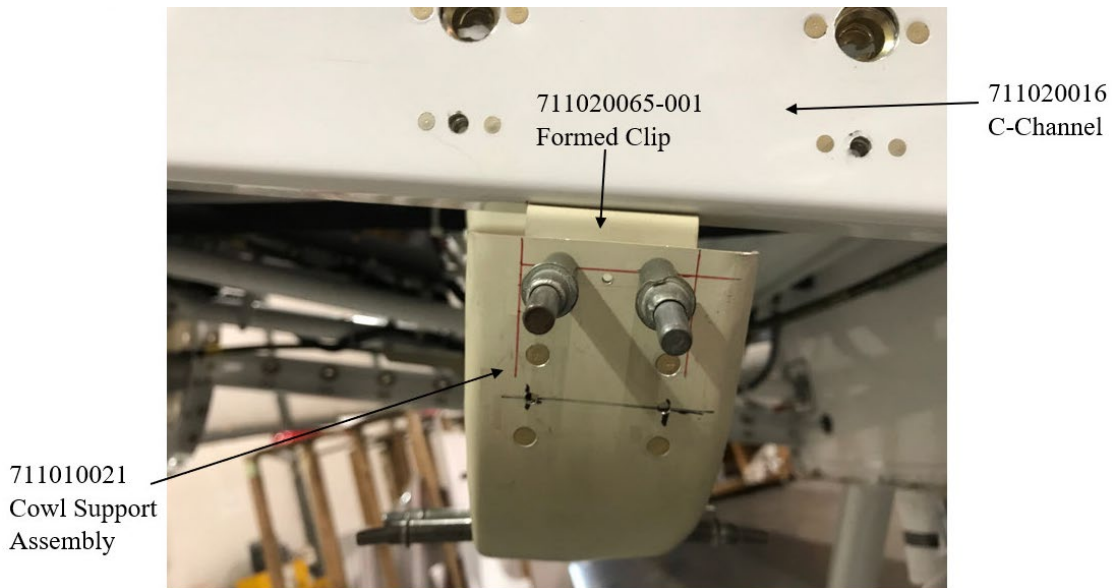
*Figure 8-10
Doubler Installation in Channel
Assembly*

- J. Clamp Channel Assembly to Channel Support Bracket. Drill (16) .128" dia. through support bracket pilot holes into channel assy. Temporarily fasten in place. See Figure 8-11.



*Figure 8-11
Pilot Hole Location*

- K. Clamp Formed Clip 711020065-001 with Channel Assembly and C-Channel. Use pilot holes in Channel Assembly to drill (6) .098" dia. holes through Formed Clip. Temporarily fasten. See Figure 8-12.



*Figure 8-12
Outboard side of Cowl Support
Assembly installed in aircraft*

- L. Temporarily fasten Formed Clip into C-Channel. Drill (4) .166" dia. holes through Formed Clip pilot holes into C-Channel. See Figure 8-13.

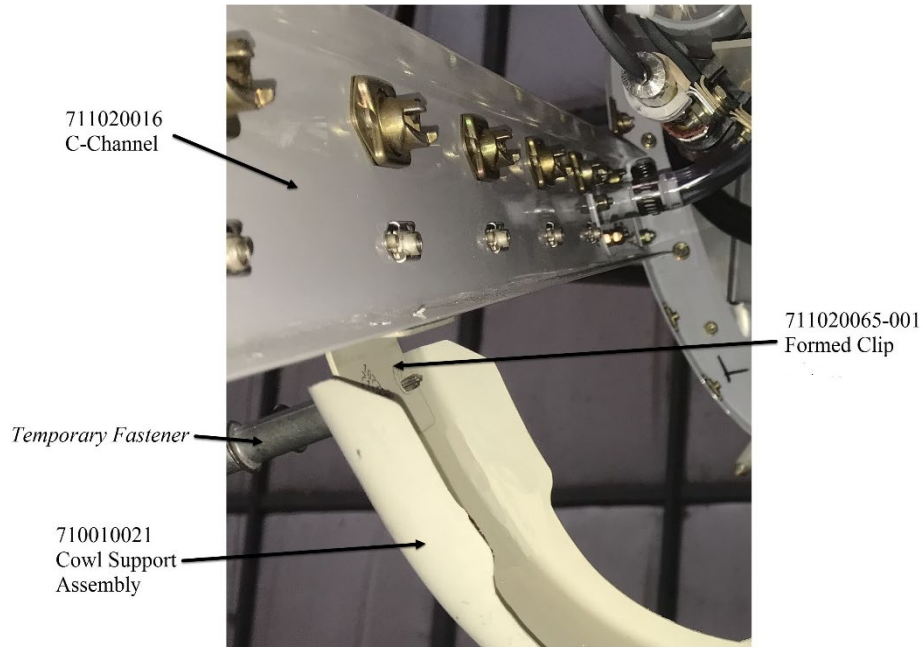


Figure 8-13
Within aircraft frame looking FWD

- M. Remove Cowl Support Assembly by removing (4) bolts attaching to Engine Mounts. See Figure 8-14.



Figure 8-14
Cowl Support Assembly removed from aircraft

N. Trim Formed Clip to a min of 2D edge distance of rivet. See Figure 8-15.



*Figure 8-15
Inboard Side of Cowl Support Assembly
*Formed Clip & Camloc already installed for Edge Distance
Reference**

O. Step up (6) holes to .128" dia. on Formed Clip to Channel Assembly. Countersink on outboard side of channel and install Formed Clip to Channel Assembly using MS20426AD4-4 rivets. See Figure 8-16.



*Figure 8-16
Outboard Side of Cowl Support
Assembly*

P. Install (4) Camlocs to Channel Assembly as shown in Figure 8-17.

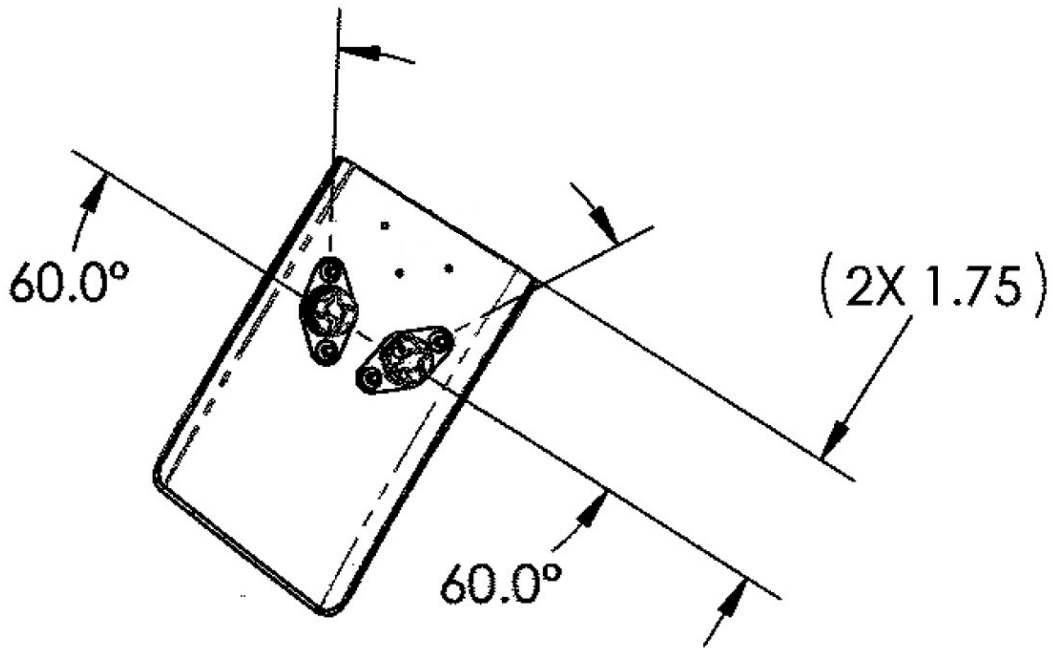


Figure 8-17
Camloc Installation

Q. Install Channel Support Brackets to Channel Assembly using MS20470AD4 rivets.
See Figure 8-18.

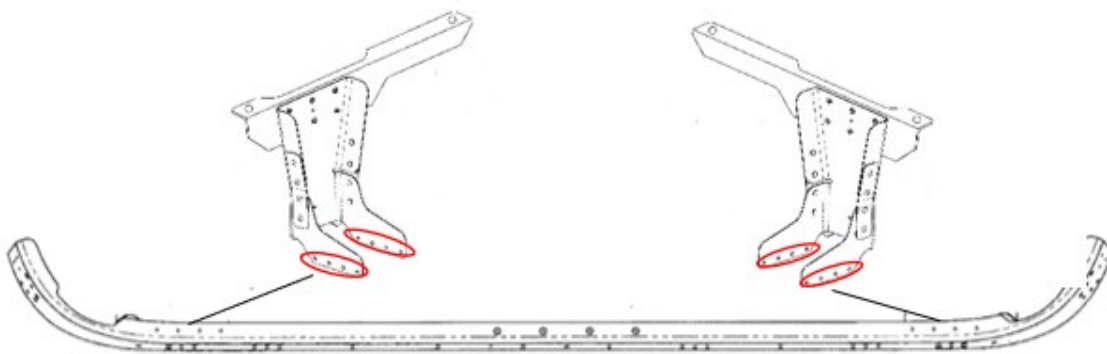
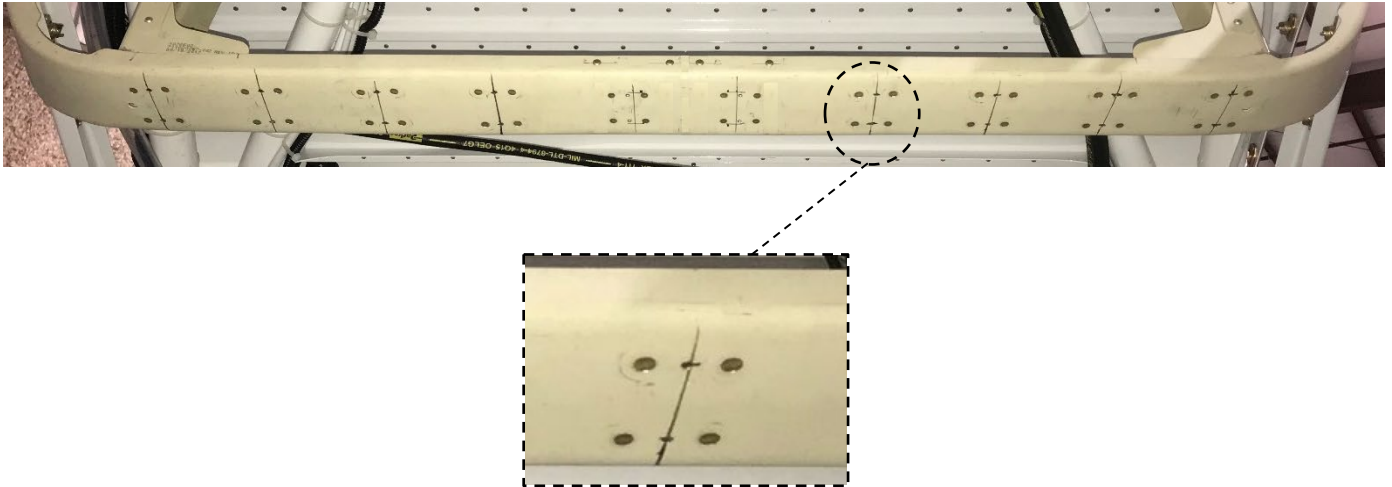


Figure 8-18
Channel Assembly to Channel Support
Bracket Installation

- R. Use a .625" hole cutter and cut through (24) Camloc pilot holes in Cowl Support Assembly.
See Figure 8-19.

DO NOT CUT INTO CAMLOC WHILE ENLARGING PILOT HOLES



*Figure 8-19
Pilot hole location on Cowl Support Assembly
View from under aircraft*

- S. Reinstall Cowl Support Assembly into aircraft. Torque bolts 50-70 in. lbs. Install (4) NASM525-832R8 screw, AN960-8L washer, and AN365-832 locknut through Formed Clip and C-Channel holes. See Figure 8-20.



*Figure 8-20
Formed Clip to C-Channel Installation*

- T. Prepare FWD Cowl Skin 711020070-001 for installation. See Figure 8-21.
- Match drill (28) .1935" dia. holes at FWD firewall lower frame existing holes and C-Channel nutplate locations.
 - Match drill (12) (12mm) .471" dia. holes at Cowl Support Assembly Camloc locations.

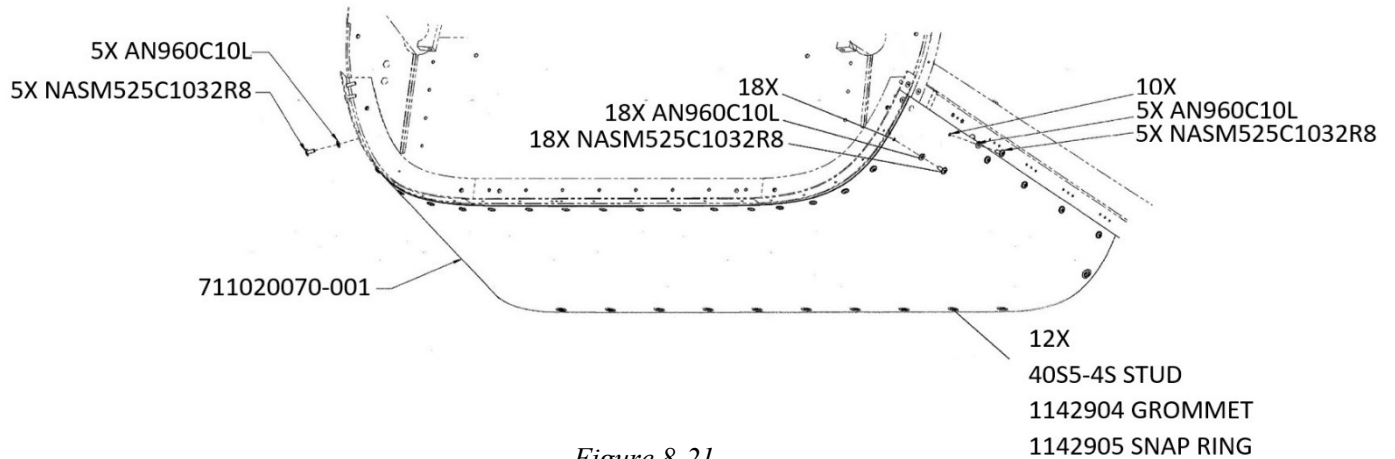


Figure 8-21
Forward Cowl Skin Assembly

- U. Prepare AFT Cowl Skin 711020070-003 for installation. See Figure 8-22.
- Match drill (18) .1935" dia. holes at AFT firewall and C-Channel nutplate locations.
 - Match drill (19) (12mm) .471" dia. holes at Cowl Support Assembly Camloc locations and AFT Firewall locations.

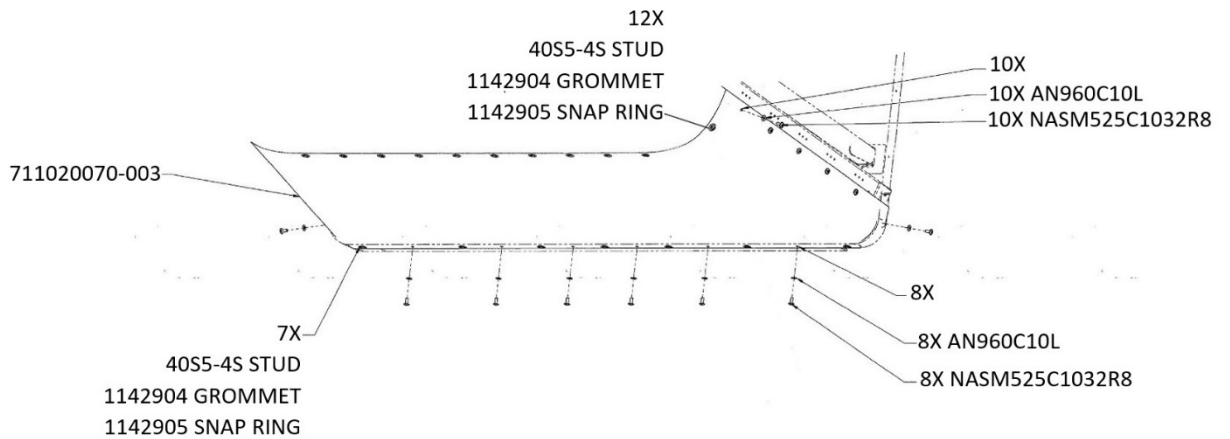


Figure 8-22
AFT Cowl Skin Assembly

V. Paint all prepared parts to match aircraft paint scheme.

W. Install using hardware in Figures 8-21 & 8-22.

9. RECORD OF COMPLIANCE:

Make appropriate entry in airplane maintenance records as follows:

“Thrush Service Bulletin SB-AG-56 Rev. B complied with at _____ total hours on aircraft.” Modification accomplished by:

Name & Certificate #	Date
----------------------	------

10. RESPONSE CARD:

The final step in compliance with this Service Bulletin is to complete and return the compliance card on the next page. It may be mailed, Faxed, or scanned and e-mailed.

FAX to: Ed Rusk 229-317-8225

E-mail to: Ed Rusk ed.rusk@thrushaircraft.com

Service Bulletin SB-AG-56 Rev. B Compliance Report

<u>Aircraft S/N:</u>	<u>Aircraft Owner:</u>
<u>Aircraft Registration #:</u>	<u>Address of Owner:</u>
<u>Airframe total time:</u>	<u>City & State:</u>
<u>Engine total time:</u>	<u>Physical location:</u>
<u>Complied with by:</u>	<u>Date of Compliance:</u>
<u>Signature:</u>	<u>Certificate #:</u>

PLEASE RETURN THIS REPORT ONLY AFTER MODIFICATION IS MADE

This response card may be mailed, faxed to (229) 317-8225, or emailed to ed.rusk@thrushaircraft.com.

Fold, Tape & Mail (Do Not Staple)

Return Address

Thrush Aircraft LLC.
Attn: Ed Rusk
300 Old Pretoria Road
Albany, Ga 31721