SKYBOLT AEROMOTIVE CORPORATION
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Information: 352-326-0001/www.skybolt.com

B35-Instructions.doc

Bonanza® Cowling Replacement and Conversion Kits

Rev 010 August 12, 2011 STC FAA-PMA

Upper Cowling Kits

B35UC530 – Stainless ZLoc® – Dzus Replacement – Section 1
B35UC40P – Stainless CLoc® Phillips – Camloc Conversion – Section 2
(D1 thru D9068, CD2 thru CD1234, CE1 thru CE289)

Lower (Gill) Panel Kits

B35LC2090 – Stainless ALoc® – Airloc Replacement – Section 3
(D1 thru D6567 and CD2 thru CD350)
B35LC5080 – Stainless ALoc® – Airloc Replacement – Section 3
(D6568 thru D9068, CD351 thru CD1304, CE1 On, CJ1 thru CJ30, E1 thru E424)
B35LC5100 – Stainless ALoc® – Airloc Replacement – Section 3
(D9069 On, E425 On, EA1 On, G36 All)

B35LC28P – SK2800 – Slotted Stainless CLoc®– Camloc Conversion–Section 4
(D1 thru D6567 and CD2 thru CD350)
B35LC40P - Stainless SK40S5 CLoc® Phillips – Camloc Conversion – Section 5
(D6568 On, CD351 thru CD1304, CE1 On, CJ1 thru CJ30, E1 On, EA1 On, G36 All)

Stainless Skyloc® Bonanza Kits

WARRANTY - SKYBOLT will replace any part that is defective in material or workmanship upon return and inspection. This warranty does not cover damage to any other components, labor, personal injury or any other damage or injury. This warranty is expressly in lieu of any other expressed or implied warranties and of any other obligation on the part of SKYBOLT. ¼ Turn Fasteners are not designed for excessive torque. If excessive torque is required to lock a fastener, a problem exists with the installation (usually the fastener is too short for the application). Forcing the fastener will only weaken the locking pin (CLoc® Fastener) and cause the pin to loosen and fail. Excessive torque is evident from gall marks in the head slot. **Skybolt does not warranty fasteners with signs of over-torque conditions.**

WARNING - Buyer takes full responsibility for the proper use and installation of the parts in this kit by a qualified A&P mechanic and that proper logbook entries are made

Section 1

Installation of Upper Cowling Fasteners – Replacement of Dzus Studs to ZLoc® Studs (Requires 2 Hours for installation)


Figure 1

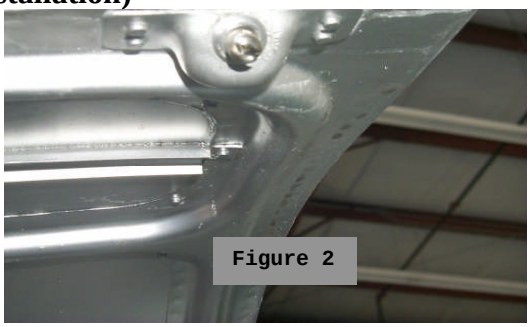
Figure 2

The existing Dzus® Fastener is removed by lifting the aluminum grommet so the grommet and stud may be removed from the cowling. Use long-billed, angled pliers or nail cutter to work the grommet from the backside.


Figure 3

To install the new *ZLoc*® Fastener in the Bonanza cowling, the Skybolt SK-A5 or SK-A5C tool is required. Follow the instructions supplied with the tool set to seat the grommet and fastener assembly. Note: Standard Dzus® tooling will not install the assembly without removing the support bracket from the airframe.

Some adjustment to the spring is possible to loosen or tighten the locking torque of the stud.

Section 2

Installation of Upper Cowling Fasteners
Converting Dzus to *CLoc® SK40S5 Series Fasteners*

(D1 thru D9068, CD2 thru CD1234, CE1 thru CE289)

(Requires 2.5 Hours for installation)

Converting Bonanza Dzus® Fasteners to *CLoc® SK4002 Series Fasteners* provides an improved cowling fastener and is easy to install without removing cowling mounting brackets. Skybolt kits now include easy mount SK215-435 Adjustable Receptacles that considerably cut installation time.

1) Remove the old fasteners by prying the aluminum grommet enough that the grommet and stud can be removed from the cowling. An extended angled nose pliers or nail cutter works quite well.

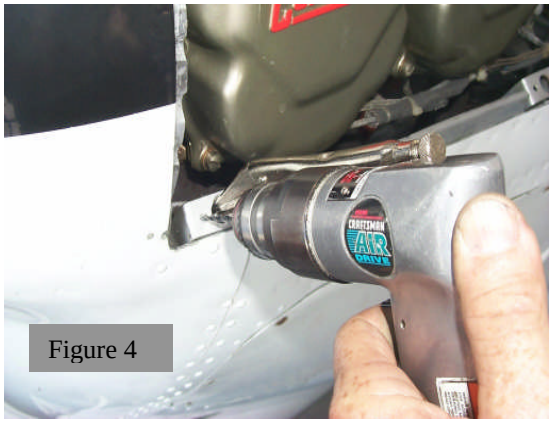

Figure 4

2) Drill out and remove old locking springs from mounting brackets. Clamp the spring or simply loop a TyWrap around the spring to prevent it from falling.

3) Clamp the Template-245 using 2ea 1/8 rivets to align holes and clamp centered with two small ViseGrip pliers. With a Unibit-3 or -4 drill, expand the center hole to 5/8" (That is just about the limit to the bracket width).

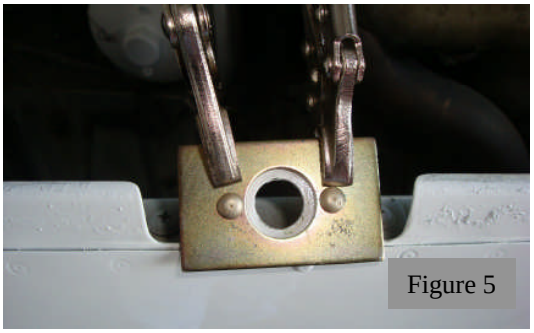

Figure 5

4) Mount the SK215-435 receptacles with enclosed AN507-440 screws with an application of Loctite271 thread locker. **Important: Orient the anti-lock pins upward to provide access to the locking clip tab for adjustment after the initial installation.** A curved pick tool can easily lift and unlock the receptacle from the inside except for the left front receptacle. To access this receptacle, note where the locking tab is engaged into the receptacle insert locking groove. Push a pick tool into this groove to lift the tab and unlock the insert.

5) Drill the cowling mounting bracket holes to 15/32 with a Unibit-1.

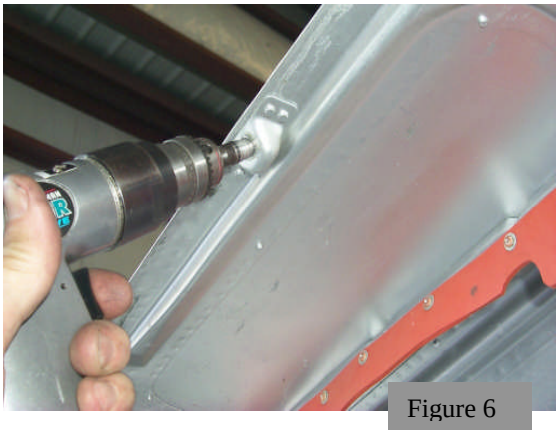

Figure 6

Figure 7

6) Install the SK-OS grommet and R4G retainer with T26 Tool.

6) Install the studs with 4P3 pliers. Note: Removing the studs is tricky but can be done by gripping ½ of the cup (due to the confines of the cowling recessed opening). Aim the pin at right angles in order to retrieve the stud. Note: Any stud length less than –2 is not recommended due to this constraint.

7) Finally, close the cowling and engage the studs into the receptacles. Continue to turn the studs just until they bottom out, then back off (counter-clockwise) 2 turns or until the stud head is flush with the grommet face. This is the proper locked and adjusted position.

8) With a sharp push-turn to unlock motion, attempt to unlock each stud without disturbing the insert. Open the cowling. Turn each insert clockwise so that the insert is a few degrees past being aligned with the mounting rivets. Pull the anti-lock pins and check that the inserts are properly locked.

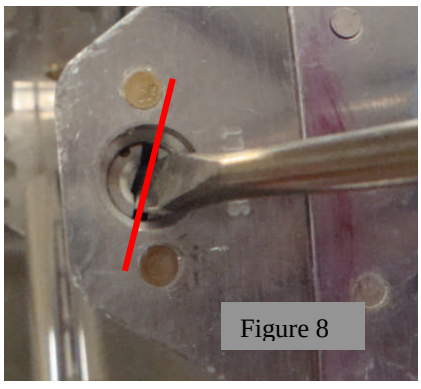

Figure 8

9) Close cowling and lock all fasteners. Check for proper locking torque and proper alignment. Adjust any receptacle for alignment and adjust the receptacle insert for proper depth by inserting a thin pick to raise the locking collar.

Section 3

Replacement of Lower (Gill) Panel Airloc Fasteners
B35LC2090, 5080, and 5100 ALoc® Kits

(D1 thru D6567 and CD2 thru CD350)
(D6568 thru D9068, CD351 thru CD1304, CE1 On, CJ1 thru CJ30, E1 thru E424)
(D9069 On, E425 On, EA1 On, G36 All)

(Requires 3 Hours for installation)

Note: Do not remove the panel grommets. The studs are removed by eliminating the pin. Be certain that the studs enclosed in this kit are the same size and length of the studs removed. Requires very careful measurement for proper length determined at the pin center, not the total length.

1) Remove old Airloc studs by removing pins. Use Skybolt ALOC-6000 tool to remove and install pins.

2) Install new studs. With the ALOC-6000 pliers properly set, press the pins so that they are centered in the stud.


ALOC-6000

Section 4

Installation of Lower (Gill) Panel Fasteners
B35LC2600/2700/2800 Kits

(D1 thru D6567 and CD2 thru CD350)

(Requires 4 Hours for installation)

Figure 9

Like the upper cowling, replacement of fastener receptacles is simple because of the exact same rivet size and spacing (.750"). If the receptacles used on your aircraft have 1.000" rivet spacing, this kit will not work. Use B35LC40 Kits for the larger fasteners.

1) Drill out old Airloc® receptacles.

   Note the orientation of the anti-lock pin in the receptacle. Plan to install all SK213 receptacles so that the pins are all mounted for easy access. In other words, face all the locking clip tabs where you can see them for future adjustments with a pick tool.

   Install the *CLoc® SK*213-2D receptacle with the enclosed rivets.

2) Remove old Airloc studs by removing pins. Use Skybolt ALOC-6000 tool to remove and install pins.

3) Remove the grommet. A small handle countersink tool is good for this job.

4) Drill the panel holes to 11/32 with a Unibit-1 drill. This will allow some float for the stud.

5) Install studs and retainers. Use SK-T26 Tool (reverse end) to press the stud retainers onto the stud. Note: Press the retainer so as to allow some movement of the stud. In other words, do not press the retainer tight against the panel.

6) Install the panel and lock the studs. Continue to turn until the studs are drawn to the proper locked tension (flush with the grommet).

7) With a sharp push-turn motion, unlock the studs and remove the panel. With a flat blade screwdriver, turn all inserts to align the slot with the mounting rivets (actually just clockwise past alignment). Reach behind the receptacle and pull all unlocking pins and discard. Check that each insert is properly locked.

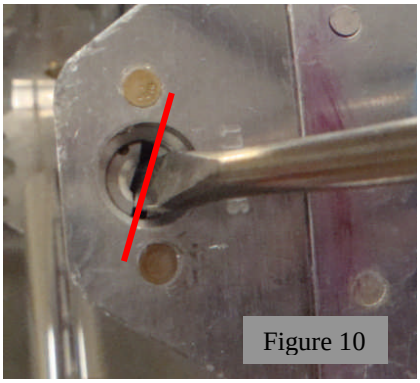

Figure 10

8) Reinstall the panel and lock all fasteners. Check for proper locking torque and proper alignment. Adjust the receptacle insert for proper depth by inserting a thin pick to raise the locking collar. See Figure 13 on page 9.

If studs won't engage - Do not force. Readjust receptacles and check for center alignment of panel holes and receptacles

Make a logbook entry by a qualified A&P mechanic when any conversion kit is installed.

Section 5

Installation of Lower (Gill) Panel Fasteners – B35LC40 Kits

(D6568 On, CD351 thru CD1304, CE1 On, CJ1 thru CJ30, E1 On, EA1 On, G36 All)

(Requires 4 Hours for installation)

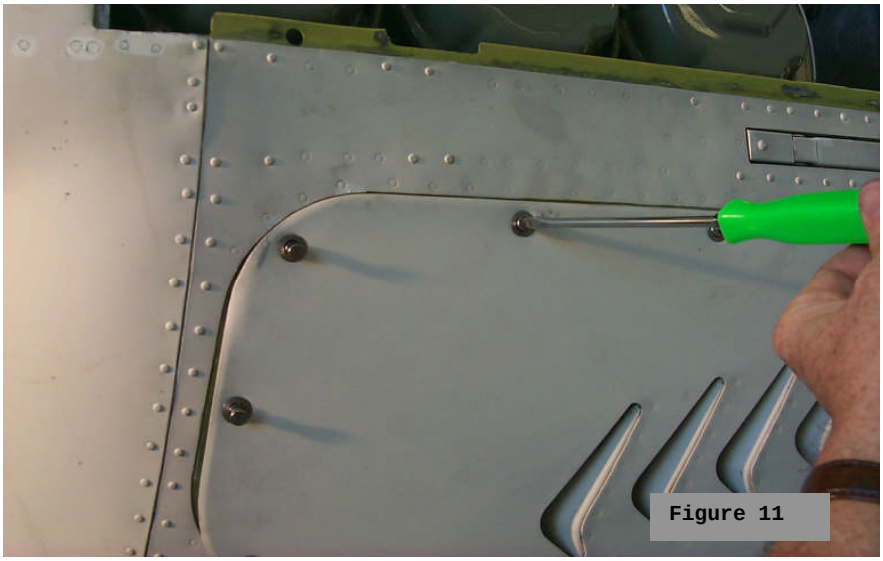

Figure 11

First, insure that your aircraft used the large #5 Airlocs® in the Gill Panel. The simplest way to tell is to measure the rivet spacing on the receptacle. This should be 1.000". If it is .750", this kit will not work. (Use kit B35LC2700/2800 Series Kits if #2 Airlocs are on your aircraft - .750" rivet spacing)

1) Drill out old Airloc® receptacles.

2) Install CLoc SK215-4D Receptacles.

   Note the orientation of the anti-lock pin in the receptacle. Plan to install all SK215 receptacles so that the pins are all mounted for easy access. In other words, face all the locking clip tabs where you can see them for future adjustments with a pick tool.

2) Remove old Airloc studs by removing pins. Use Skybolt **ALOC-6000** tool to remove and install pins.

3) Remove the grommet. A small handle countersink tool is good for this job.

4) Drill the panel holes to 15/32 with a Unibit-1 drill.

5) Install the SK-NS Grommets and R4G retainers with the SK-T26 Tool.

6) Install the fastener studs with the 4P3 pliers.

7) Install the panel and lock the studs. Continue to turn until the studs are drawn to the proper locked tension (flush with the grommet).

8) With a sharp push-turn motion, unlock the studs and remove the panel. With a flat blade screwdriver, turn all inserts to align the slot with the mounting rivets (actually just clockwise past alignment). Reach behind the receptacle and pull all unlocking pins and discard. Check that each insert is properly locked.

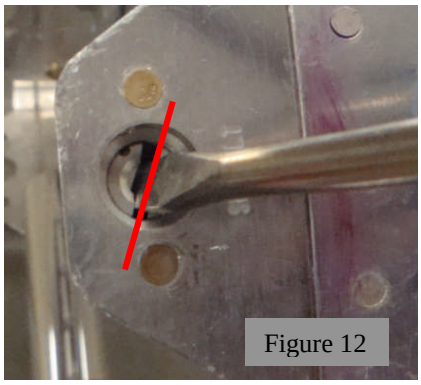
Figure 12

9) Reinstall the panel and lock all fasteners. Check for proper locking torque and proper alignment. Adjust the receptacle insert for proper depth by inserting a thin pick to raise the locking collar. See Figure 13 on page 9.

If studs won't engage - Do not force. Readjust receptacles and check for center alignment of panel holes and receptacles

Make a logbook entry by a qualified A&P mechanic when any conversion kit is installed.

Re-adjustment of Receptacles – After the initial adjustment and the anti-lock pins have been removed, for further adjustment, locate the locking clip tab. With a curved pick tool, insert into the adjoining groove and lift the tab to unlock the insert and adjust.

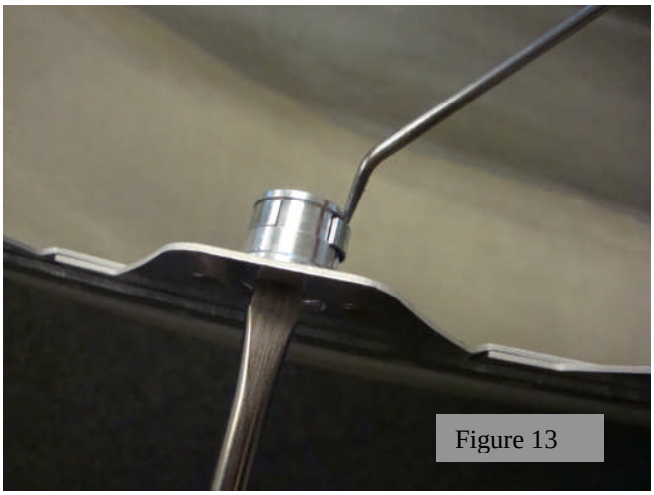
Figure 13

Type Certificate A-777			Upper	Lower
Model	Years	SN	Cowl	Cowl
35	47-48	D1-D1210	Dzus	#2-90
A35	49	D1501-D2200	Dzus	#2-90
B35	50	D2201-D2680	Dzus	#2-90
C35	51-52	D2681-D3400	Dzus	#2-90
D35	53	D3401-D3698	Dzus	#2-90
E35	54	D3699-D3998	Dzus	#2-90
F35	55	D3999-D4391	Dzus	#2-90
G35	56	D4392-D4865	Dzus	#2-90
35R	All	All	Dzus	#2-90

Type Certificate 3A15			Upper	Lower
Model	Years	SN	Cowl	Cowl
H35	57	D4866-D5330	Dzus	#2-90
J35	58	D5331-D5725	Dzus	#2-90
K35	59	D5726-D6161	Dzus	#2-90
M35	60	D6162-D6567	Dzus	#2-90
N35	61	D6568-D6841	Dzus	#5-80
P35	62	D6842-D7066	Dzus	#5-80
S35	63-65	D7067-D7976	Dzus	#5-80
V35	66-67	D7977-D8598	Dzus	#5-80
V35A	68-69	D8599-D9068	Dzus	#5-80
V35B	70-82	D9069-On	Latch	#5-100
35-33	60	CD2-250	Dzus	#2-90
35-A33	61	CD251-350	Dzus	#2-90
35-A33	61	CD351-CD387	Dzus	#5-80
35-B33	62-64	CD388-CD813	Dzus	#5-80
35-C33	65-67	CD814-CD1118	Dzus	#5-80
35-C33A	66-67	CE1-CECE179	Dzus	#5-80
E33	68-69	CD1119-CD1234	Dzus	#5-80
E33A	68-69	CE180-CE289	Dzus	#5-80
E33C	68-69	CJ1-CJ25	Latch	#5-80
F33	70	CD1235-CD1254	Latch	#5-80
F33A	70-On	CE290-On	Latch	#5-80
F33C	70	CJ26-CJ30	Latch	#5-80
G33	72	CD1255-CD1304	Latch	#5-80
36	68-69	E1-E184	Latch	#5-80
A36	70-73	E185-E424	Latch	#5-80
A36	73-On	E425-On	Latch	#5-100
A36TC	79-81	EA1-EA272	Latch	#5-100
B36TC	82-On	EA273-On	Latch	#5-100
G36	All	All	Latch	#5-100

AUTHORIZATION FOR USE
Skybolt STC# SA02660AT

_____may hereby use Skybolt STC'd components to

modify aircraft:

Model 33,35,36 , Serial Number_____

Ned C. Bowers **Date**: May 9, 2003

Signature: Ned C. Bowers
President, Skybolt Aeromotive Corp.

Return Policy - Skybolt SK Conversion Kits

All SK Conversion Kits must obtain a return authorization prior to return to Skybolt. Only unopened, complete kits will be accepted. All returns must be approved within 30 days of initial invoice. All returns will be charged 15% restocking fee.

Loss of Use, Loss of Market, Diminution in Value – Skybolt will not be responsible for any liabilities associated with aircraft loss of use, loss of market value, diminution in value, inconveniences, or any costs beyond replacement of materials invoiced to the customer by Skybolt.

SKB35AUTH.DOC

United States of America
Department of Transportation — Federal Aviation Administration

Supplemental Type Certificate

Number **SA02660AT**

This certificate issued to Skybolt Aeromotive Corporation
9000 Airport Boulevard
Leesburg Municipal Airport
Leesburg, FL 34788

certifies that the change in the type design for the following product with the limitations and conditions therefore as specified hereon meets the airworthiness requirements of Part 3 *of the* Civil Air *Regulations.*

Original Product--Type Certificate Number: 3A15, A777

Make: Raytheon (Beech)

Model: 35-33, 35-A33, 35-B33, 35-C33, 35-C33A, E33, E33A, E33C, F33, F33A, F33C, G33, H35, J35, K35, M35, N35, P35, S35, V35, V35A, V35B, 36, A36, A36TC, B36TC, G36, 35, A35, B35, C35, D35, E35, F35, G35, 35R

Description of Type Design Change: Manufacture of Engine Cowling Replacement Fastener Kits in accordance with Skybolt Master Drawing List – B33, B35, B36 Series, SKMDL35.XLS, Revision C, dated November 20, 2002, and installation in accordance with Skybolt Bonanza Cowling Replacement and Conversion Kits, B35-Instructions.doc, Revision 005, dated November 8, 2002, or later FAA approved revisions.

Limitations and Conditions: This approval should not be extended to other aircraft of this model on which other previously approved modifications are incorporated, unless it is determined by the installer that the interrelationship between this change and any other previously approved modifications will produce no adverse effect upon the airworthiness of that airplane. If the holder agrees to permit another person to use this certificate to alter the product, the holder shall give the other person written evidence of that permission.

This certificate and the supporting data which is the basis for approval shall remain in effect until surrendered, suspended, revoked or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.

Date of application: March 01, 2002

Date of issuance: May 09, 2003

Date reissued:

Date amended: September 15, 2010

By direction of the Administrator

(*Signature*)
Melvin D. Taylor, Manager
Atlanta Aircraft Certification Office

(*Title*)

Any alteration of this certificate is punishable by a fine of not exceeding $1,000, or imprisonment not exceeding 3 years, or both.

FAA FORM 8110-2(10-68) PAGE 1 of 2 PAGES *This certificate may be transferred in accordance with FAR 21.47.*