



Cub Crafters, Inc. Considers Compliance Mandatory

EFFECTIVE DATE: This Service Bulletin is effective **October 12, 2021.**

SUBJECT: *CARBURETOR AIRBOX INSPECTION*

MODELS AFFECTED: *CC11-00093 THROUGH CC11-00403
CCK-1865-0001 THROUGH CCK-1865-1001
CCX-1865-0001 THROUGH CCX-1865-0015*

COMPLIANCE TIME: *FOR CC11-160 MODEL AIRCRAFT, REQUIRED AT NEXT ANNUAL or CONDITION INSPECTION.
Compliance with this service bulletin on experimental aircraft is at the sole discretion of the owner/operator of the experimental amateur-built aircraft.*

PURPOSE: *To inspect the condition of the carburetor airbox condition for signs of loose valve components and wear. Some aircraft have displayed excess freedom of movement within the carburetor airbox, which has caused the butterfly valve edge and axle to wear into the intake tube and axle bushings.*

WARRANTY: *Aircraft under warranty will be provided parts at no cost and receive up to 2 hours of labor, if work is performed at a Cub Crafters Authorized Service Center. Please contact Cub Crafters Customer Support for assistance.*

PARTS LIST:

<u>PART</u>	<u>DESCRIPTION</u>	<u>QTY</u>	<u>SOURCE</u>
AN380-2-2	COTTER PIN	1*	Commercially available
MS20995C32	SS SAFETY WIRE .032	AR*	Commercially available
SP54300-001	CARB GASKET (BOTTOM)	1*	CCI
PC54400-005	HIGH HP CARBURETOR BOX ASSEMBLY. CC340 LT WT SUMP	1*	CCI

*REPLACEMENT PARTS REQUIRED ONLY IF INSPECTION RESULTS DICTATE

INSTRUCTIONS:

1. Read all instructions before beginning any work.
2. Chock and safety aircraft, then follow engine cowl removal steps per the appropriate AMM:
 - a. SSC10000AMM, Section 6.3.14 b.SSC10020AMM, Section 6.3.14 b.CK10000AMM, Section 71.3.B
3. Loosen hose clamp and remove SCAT duct that connects the air filter box to the carburetor airbox.
4. Partially open carburetor heat by pulling the "CARB HEAT" knob on the instrument panel so that the butterfly valve is approximately parallel to the tube axis.
5. Visually inspect for any sign of fretting between the carburetor heat butterfly valve and the aluminum intake tube. See Figure 1 and sample image below.

Cub Crafters, Inc. Considers Compliance Mandatory

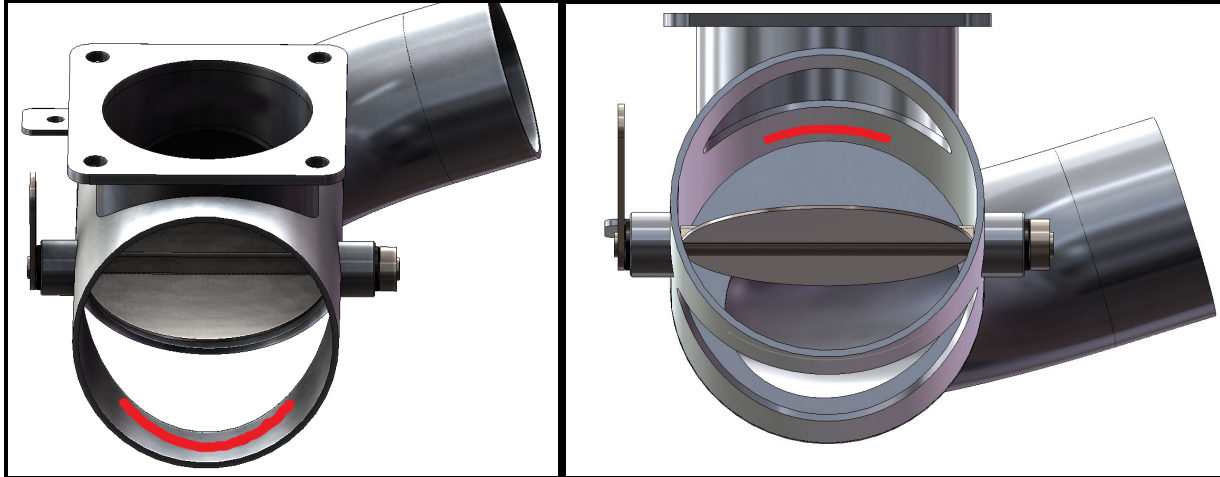


Figure 1 - Butterfly Valve Possible Fretting Locations

- 6. If a groove has been worn into the aluminum intake tube sufficient to catch a finger nail at upper or lower contact point from butterfly valve, proceed to Step 8. See Figure 2 below for an example of excess wear.

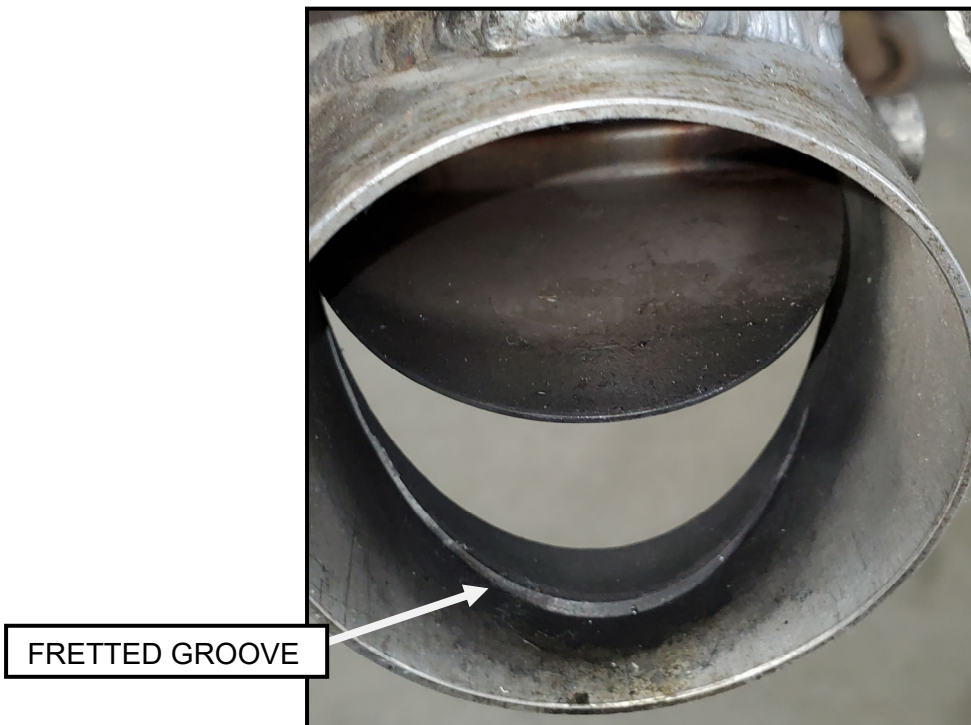


Figure 2 Butterfly Valve Groove Example

Cub Crafters, Inc. Considers Compliance Mandatory

7. Manually check for annular or axial play in the butterfly valve axle. See Figure 3. If there is tangible play between butterfly valve axle and the axle bushings, CubCrafters recommends proceeding to Step 8. If no apparent play is observed in the butterfly valve axle, proceed to Step 17.

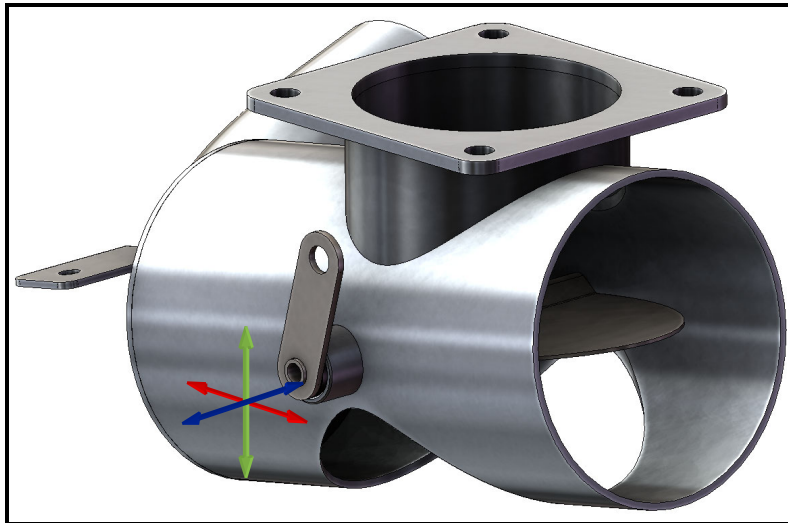


Figure 3 - Possible Butterfly Valve Play

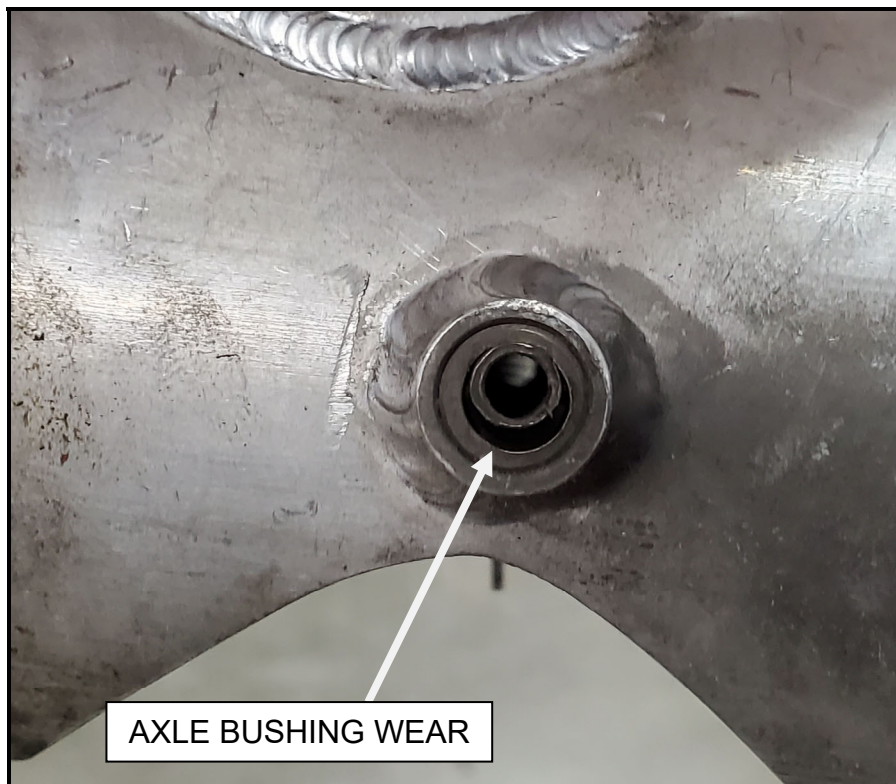


Figure 4 - Butterfly Valve Axle Bushing Wear Example



Cub Crafters, Inc. Considers Compliance Mandatory

8. PC54400-005 has been developed to incorporate new elastomeric axle bushing designs that prevent butterfly valve motion relative the airbox tube. Replacement carburetor airboxes P/N PC54400-005 and carburetor inlet gasket P/N SP54300-001 are available. Contact CubCrafters (support@cubcrafters.com) for further details.
9. Disconnect carb heat cable by:
 - a. Remove and discard the cotter pin in the castellated nut that secures the cable wire to the valve arm, then remove the nut. Once disconnected from the valve arm, loosely reassemble nut, swivel, and stud for reuse.
 - b. Remove and retain lock nut, washers and bolt securing control cable housing clamp on aft tab of carburetor heat airbox.
10. Disconnect carburetor heat inlet SCAT on aft elbow of the carburetor air box by loosening the hose clamp and pulling free.
11. Cut and remove safety wire securing carburetor airbox to carburetor.
12. Remove and retain bolts and washers. Discard control arm spring if installed.
13. Remove carburetor airbox and discard gasket.
14. Install new PC54400-005 and with new SP54300-001 gasket.
15. Torque retained bolts to 60 in-lbs and re-safety with MS20995C32.
16. Reconnect carburetor heat control cable:
 - a. Insert carburetor heat cable end through swivel fitting stud. Align stud in existing wire bend.
 - b. Insert swivel into new carburetor airbox valve control arm.
 - c. Insert swivel stud through swivel with retained washer(s).
 - d. Tighten castle nut one-half turn past finger tight, ensuring that the wire is pulled tight into and against swivel internal cone. See Figure 5.

Cub Crafters, Inc. Considers Compliance Mandatory

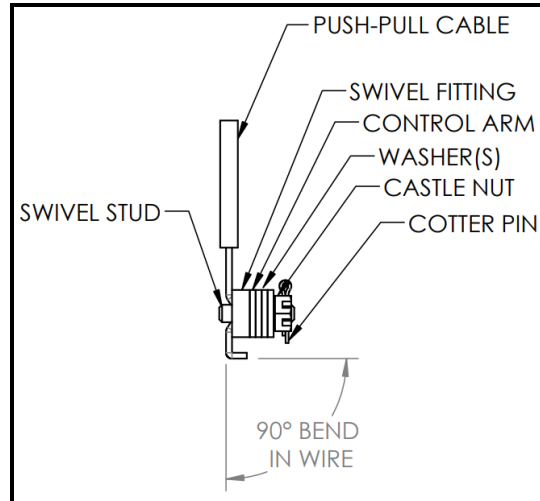


Figure 5 - Carburetor Heat Control Cable Attachment

- e. Reinstall control cable housing clamp onto new carburetor heat box aft tab. Snug, but do not fully torque lock nut at this time. See Figure 6.

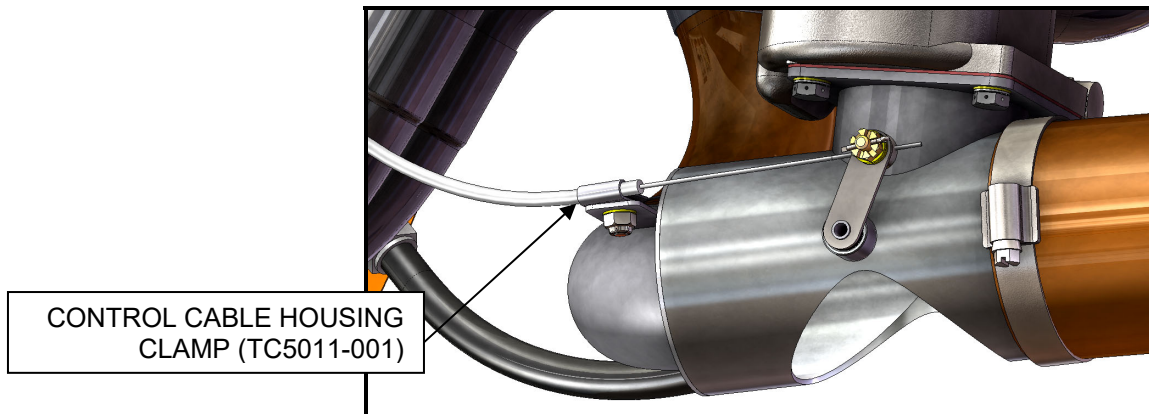


Figure 6 – Control Cable Housing Clamp

- f. Verify that the control travel is appropriate by actuating the cable from the control panel knob.
 - i. In the fully closed position with the butterfly valve contacting the tube top and bottom, the knob should not bottom against the panel mount, but have a small (1/8") gap.
 - ii. The cable must be able to rotate the butterfly valve until it stops against the opposite side of the intake tube. See Figure 7.

Cub Crafters, Inc. Considers Compliance Mandatory

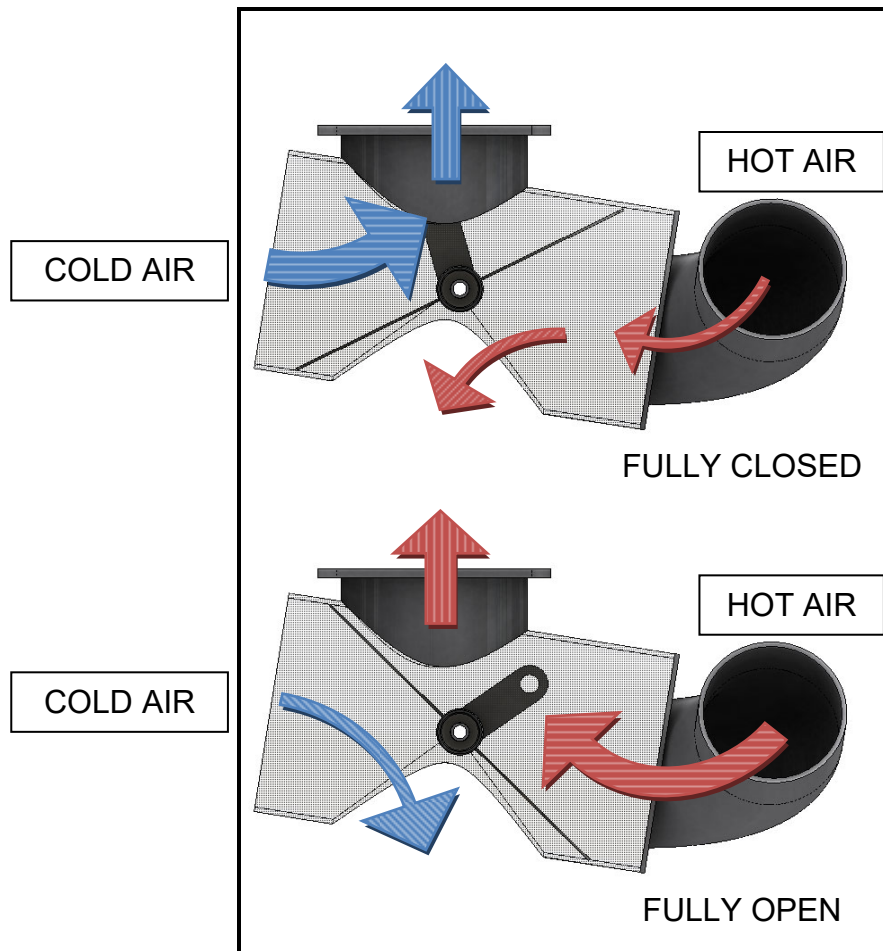


Figure 7 - Carburetor Heat Valve Range Of Motion

- g. If the control cable is unable to rotate the butterfly valve from stop to stop, it may be necessary to adjust the position of the control cable housing within the support clamp fastened the aft tab on the carburetor heat box.
- h. When control travel is set, turn castle nut to align with swivel stud and safety with cotter pin. Torque control cable clamp nut to 20-25 in-lbs. See Figure 5 & Figure 6.



Cub Crafters, Inc. Considers Compliance Mandatory

17. Reconnect SCAT ducting and secure with retained hose clamps torqued to 10-14 in-lbs.
18. Reinstall engine cowling per the appropriate AMM as listed in Step 2.
19. Make logbook entry stating that SB00036 Rev NC was complied with. There is no change to weight & balance.
20. If the inspections in Steps 6 & 7 revealed no signs of wear or fretting, repeat inspections at each annual or condition inspections and refer to this Service Bulletin for repairs if required.

If you are no longer in possession of this aircraft, please forward this information to the present owner/operator and notify Cub Crafters, Inc. Contact the customer service department at:

Cub Crafters, Inc.
1918 S. 16th Avenue
Yakima, WA 98903.
1-509-248-9491 or 1-877-484-7865
support@cubcrafters.com

Please include the aircraft registration number, serial number, current name, and address of the owner and/or operator.