EFFECTIVE DATE: This Service Instruction is effective ***09-21-2020***

SUBJECT: *BRIDLE CABLE CLAMP REPLACEMENT*
(FOR GARMIN G3X AUTOPILOT PITCH SERVO)

MODELS AFFECTED: *CCK-2000-0001 THROUGH -0072*
CCX-2000-0001 THROUGH -0105
CCK-1865-0001 THROUGH -1061
CCX-1865-0001 THROUGH -0030
(IF TWO AXIS GARMIN G3X AUTOPILOT IS INSTALLED)

COMPLIANCE: *This cable clamp replacement is recommended by Cub Crafters to prevent pitch bridle cable slippage and ensure proper Garmin G3X Autopilot operation. Compliance with this Service Instruction is suggested and is at the sole discretion of the owner/operator/builder of the Experimental Amateur-Built aircraft.*

PURPOSE: *This document provides instructions for replacing the non-metallic bridle cable clamp assemblies with aluminum bridle cable clamp assemblies. A few installations of the non-metallic assemblies have experienced the bridle cable slipping with high torque settings on the Pitch Servo. The aluminum clamps with bolts torqued (as specified below) improve cable grip.*

WARRANTY: *If the aircraft is under warranty, contact a Cub Crafters authorized service center to complete work. Parts will be provided, if necessary. Please contact Cub Crafters Customer support for assistance.*

REFERENCES: Garmin G3X Installation Manual #190-01115-01 Rev AM, §35.4.5.4 “Autopilot Setup”

PARTS LIST:

PART	DESCRIPTION	QTY
SC71366-001*	Clamp Half, Bridle Cable	4
AN365-1032A	Nut, Nylon Lock	4
CK71930-001**	G3X Elevator Control System Bridle Cable	AR

*Note: CCK kits were supplied with both non-metallic and aluminum clamp assemblies
**Note: Elevator Control Bridle Cable is only needed if existing cable is damaged

INSTRUCTIONS:

1. Read all instructions before beginning any work.
2. Gain access to the pitch servo by removing the triangular-shaped Transponder Antenna Belly Panel, located on the underside of the fuselage between the main landing gear attachments. Remove all Machine and PK screws around the perimeter of the Belly Panel.
3. As the Belly Panel comes free from the aircraft, disconnect the antenna cable. Set Belly Panel aside.

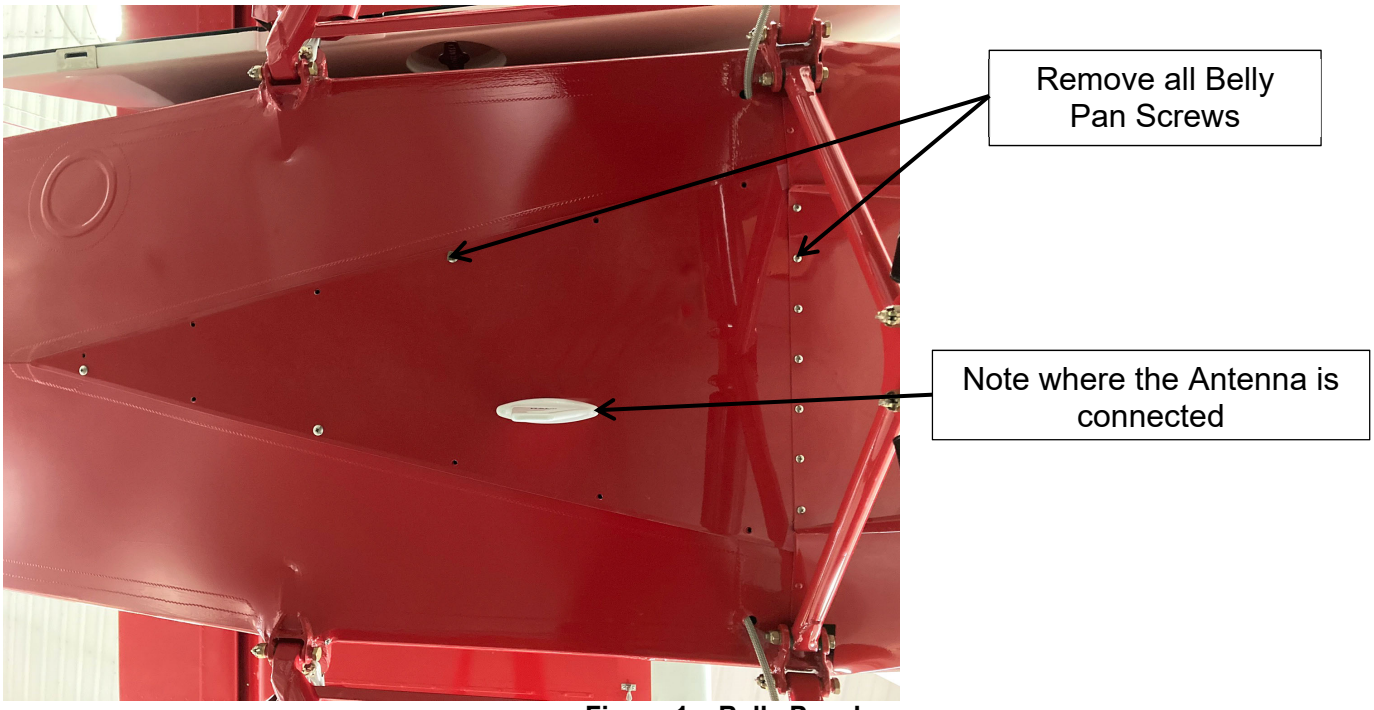


Figure 1 – Belly Panel

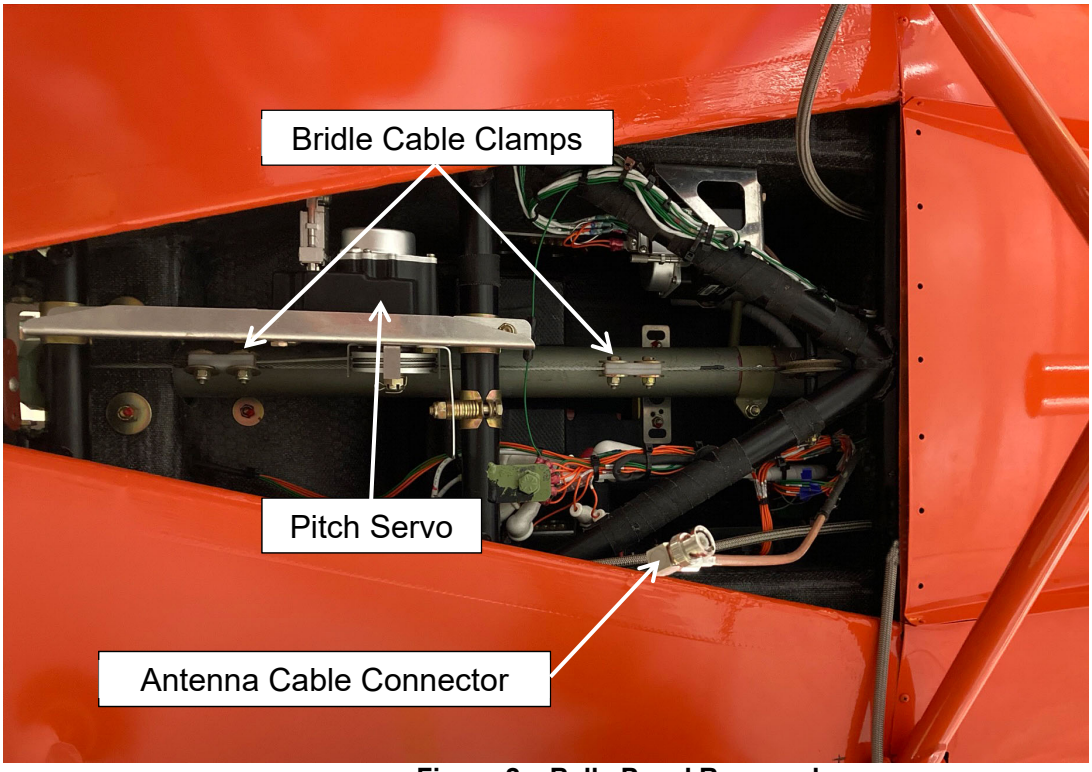


Figure 2 – Belly Panel Removed

4. Using a fine point Sharpie marker (or similar) carefully mark both cables at the front and back of each of the two clamp assemblies. You will use these marks to ensure an identical positioning of the new aluminum clamp assemblies. Note the rotation orientation of the clamp assemblies on the elevator cable so it can be replicated in Step 7 with the new clamp assemblies.

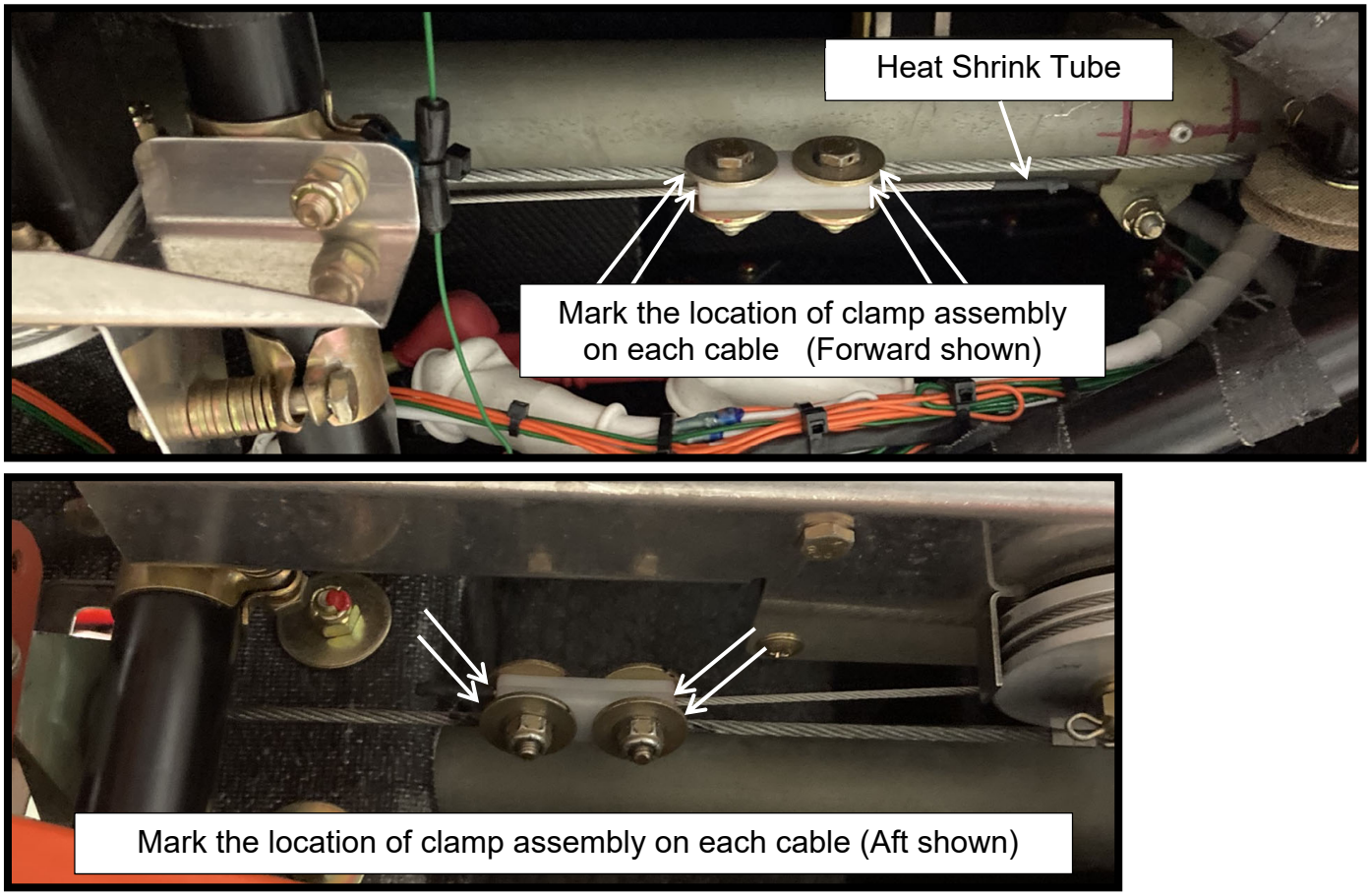
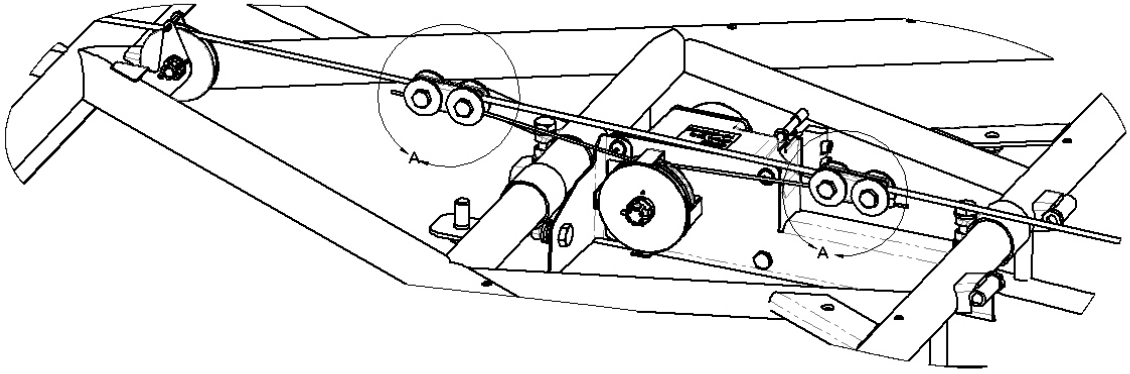
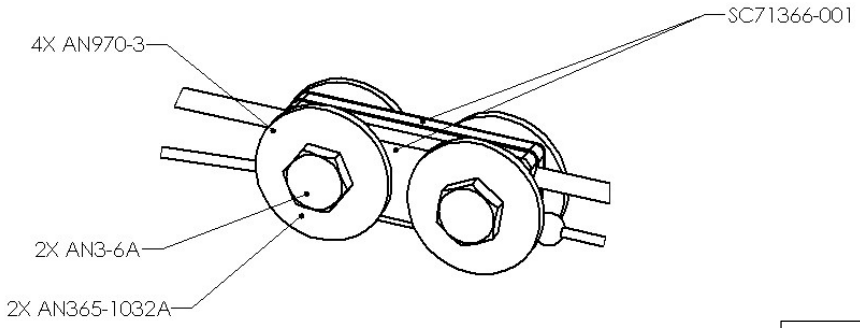


Figure 3 – Mark Locations for Bridle Cable Clamp

NOTE: CLAMP ASSEMBLIES ARE TO BE REMOVED AND REPLACED ONE AT A TIME.

5. Remove the front or rear clamp assembly. Loosen the nuts and remove the non-metallic clamp halves from the cables. Keep the bolts and washers, but discard the nuts.
6. Line up two of the new metal clamp halves (SC71366-001) using the same bolt and washer hardware, but install new nylon nuts (supplied). Ensure the cables are seated and centered in each slot of the clamp assembly, with the larger elevator cable in the larger slot. Before the bolts are tightened, the cables should slide relatively easily through the slots in the clamp assembly when aligned correctly.
7. Clock the new clamp assembly in the same orientation as the original, and ensure it is clear of all components throughout the entire range of the cable travel.





DETAIL A 2X
FUSELAGE TUBES HIDDEN FOR CLARITY

Torque nuts to 50 inch-lbs

Figure 4 – Hardware Detail

NOTE: CABLE ENDS WITH EITHER BALL ENDS OR HEAT SHRINK ARE ACCEPTABLE.

8. Using a pair of vice grips, pull the tail of the bridal cable so that the clamp assembly lines up with the marks you made showing the position of the original clamp assembly (it can be helpful to have a second person for this). **Torque the nuts to 50 inch-lbs**.
9. Now repeat the same process on the other clamp.
10. Confirm that the bridle cable is pulled taut with no slack on either side of the servo.
11. If the cable had heat shrink and it was removed during this operation, add new heat shrink tube using pieces that are 1.5 times the length of the tail of the bridal cable; place them so that the ends of the cable are securely covered to prevent any fraying.

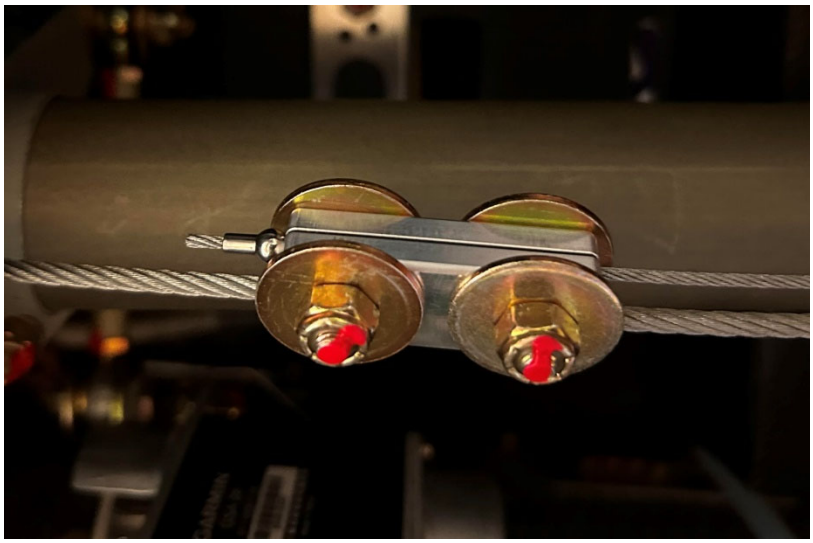


Figure 5 – New Aluminum Clamp Assembly Installed

12. Verify the Garmin G3X autopilot setup procedures (reference G3X Install Manual #190-01115-01 Rev AH, §35.4.8.4). Be aware of the center position of the controls to prevent the autopilot servo from attempting to pull past the Elevator stop. It can be helpful to have one person watching the activation of the servo and the movement of the cable while another person is operating the G3X in the cockpit.
13. Double check that the bridal cable is still taut on each side of the servo and that the bridle cable has not slipped through the clamp assemblies (reference the sharpie marks made previously in step 4).
14. Apply torque stripe to each of the four nuts on the bridle cable clamp assemblies.
15. Re-connect the antenna connector on the Belly Panel.
16. Re-install the Belly Panel under the fuselage.
17. Make a logbook entry stating that SK-SI004 Rev B was complied with. This modification does not create any notable change to weight and balance of the aircraft.

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.
1-877-484-7865 or 1-509-248-9491
support@cubcrafters.com

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