



# SERVICE INSTRUCTION SK-SI003 Rev NC Page 1 of 6

**EFFECTIVE DATE:** This Service Instruction is effective **10-21-2021**

**SUBJECT:** MIXTURE CABLE REPLACEMENT

**MODELS AFFECTED:** CCK-2000-0001 AND ON  
CCX-2000-0001 AND ON

**COMPLIANCE TIME:** THIS CABLE REPLACEMENT IS RECOMMENDED BY CUBCRAFTERS TO ENSURE SMOOTH MIXTURE OPERATION. COMPLIANCE WITH THIS SERVICE INSTRUCTION IS AT THE DISCRETION OF THE OWNER/OPERATOR.

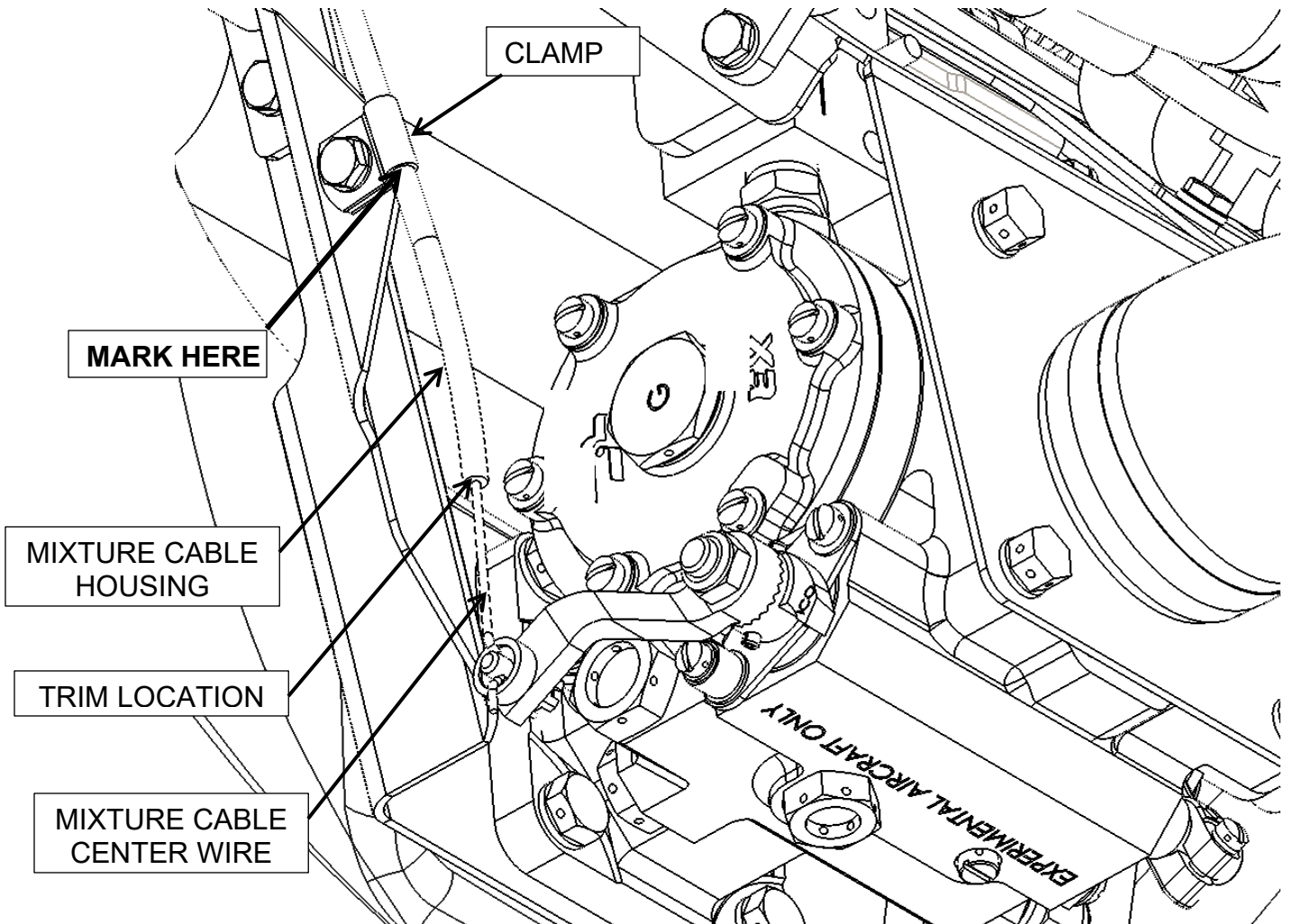
**PURPOSE:** This document provides instructions for replacing the mixture cable with a version assembled with a polyethylene liner. A few installations have experienced mixture cable operational stiffness. The addition of a liner provides long-term lubrication of the internal solid wire.

**WARRANTY:** If the aircraft is under warranty, contact a Cub Crafters authorized service center to complete work. Parts and up to 3hrs of labor will be provided, if necessary. Please contact Cub Crafters Customer support for assistance.

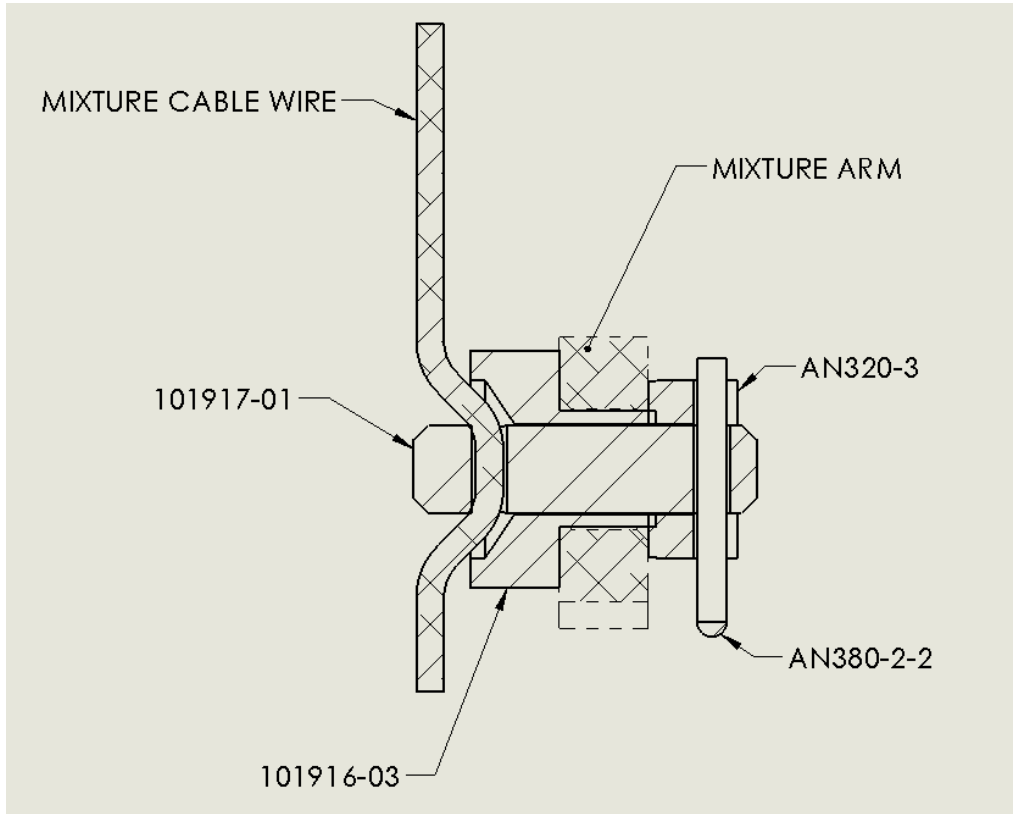
**PARTS LIST:**

| <u>PART</u> | <u>DESCRIPTION</u>                 | <u>QTY</u> |
|-------------|------------------------------------|------------|
| SP71223-003 | PUSH-PULL CABLE, DETENTED          | 1          |
| AN380-2-2   | COTTER PIN, 1/16" DIA, .50 L       | 5          |
| RM0013-001  | SILICONE, 27C RTV HIGH TEMP ORANGE | AR         |
| MS35489-9   | GROMMET                            | 1          |

- INSTRUCTIONS:**
1. Read all instructions before beginning any work.
  2. Turn the fuel selector to off.
  3. Remove the upper and lower cowling.
  4. Using a permanent marker, mark the location where the cable clamp secures the engine-end of the mixture cable on the servo/plenum mounting bracket. See Figure 1. This will approximate the final length of the new cable trim location.
  5. Disconnect mixture control cable from mixture control arm on engine servo. See Figure 1 and Figure 2
    - Remove and discard cotter pin
    - Remove and retain castellated nut from swivel stud
    - Remove and retain swivel and swivel stud from mixture arm and slip off existing mixture cable wire
    - Loosen or remove all cable clamp nuts (AN363-1032 and AN310-3) and remove cable from clamps forward of the firewall (MS21919WDG3, TC5011-001), take note of specific routing.

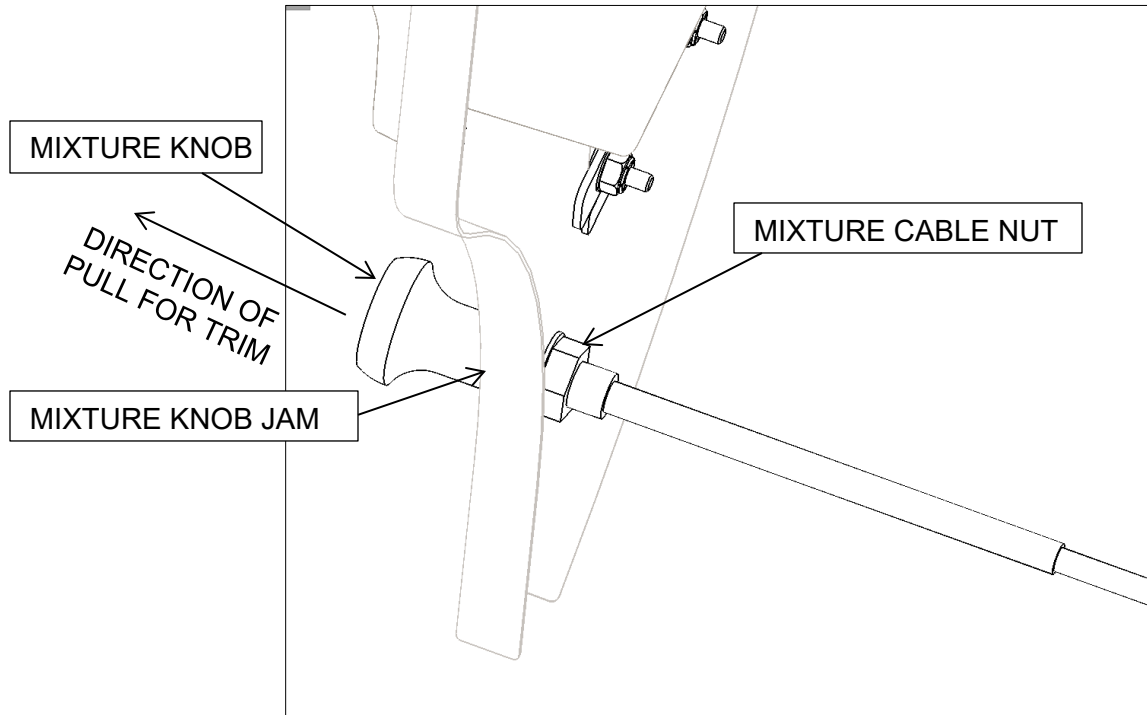


**Figure 1 - Mixture Cable Attachment**



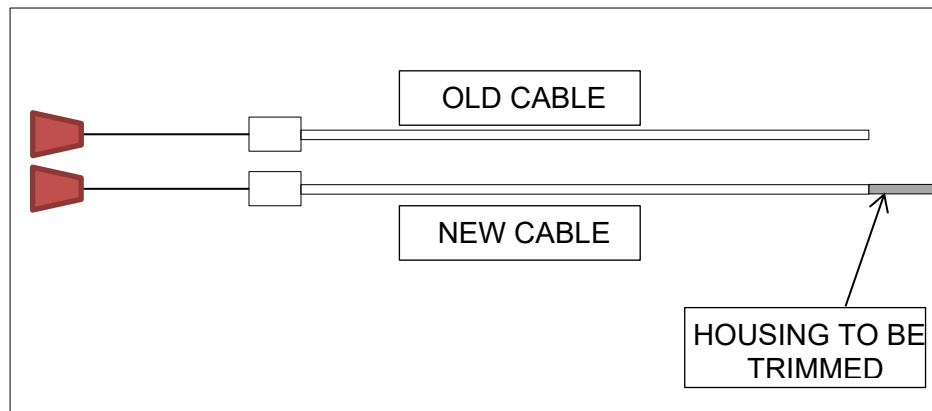
**Figure 2 – Mixture Arm Attachment**

6. Gently loosen silicone sealant around mixture cable and firewall passthrough, attempting to preserve grommet.
7. Disconnect mixture cable at instrument panel by loosening nut on back side, then loosening jam nut and removing mixture knob.



**Figure 3 - Instrument Panel Connection**

8. Remove any spiral wrap from old cable and re-use on new in the same locations.
9. Gently pull old SP71223-005 mixture cable from aircraft through firewall grommet and instrument panel.
10. Lay old SP71223-005 cable alongside new SP71223-003 on suitable flat surface and transfer cable mark from old to new. Also, transfer the approx. trim location of the old cable housing to new cable with a marker. See Figure 4.



**Figure 4 - Cable Trim**

11. Carefully route new SP71223-003 through instrument panel, firewall grommet, and clamps to servo mixture arm.



## SERVICE INSTRUCTION SK-SI003 Rev NC Page 5 of 6

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12. Tighten mixture cable nut at instrument panel.
13. Align servo end with mark from the old cable and tighten this clamp first, **ensuring smooth bend from clamp to mixture arm.**
14. Tighten remaining clamps, **ensuring that all bends are as even and smooth as possible.**
15. Install mixture knob so that the letters are horizontal, then tighten re-used jam nut.
16. Pull detent end of new cable out until center wire is well short of end mark on the cable housing
17. Cut cable housing and liner at end mark or as required to ensure smooth routing and full travel of mixture arm on servo. Mixture arm must retract to Idle Cut Off (ICO) stop without binding and reach to full rich without binding or bending excessively. File smooth any sharp edges or points.
18. Push detent end of cable fully into mount and housing
19. Push mixture cable in until approximately 1/8" from "bottoming out" at instrument panel.
20. Set the position of the mixture lever to the Full Rich stop. Route center wire through mixture arm swivel and tighten AN320-3 nut.
21. Ensure mixture control travel covers full stop-to-stop range of motion. Mixture knob should have a small cushion between jam nut and the panel at the Full Rich position (approx.. 1/8") and reach Idle Cut-Off (ICO) stop without contacting fuselage A-pillar or fuel line bundle in cabin. Make any fine adjustment necessary at mixture arm swivel position relative to cable center wire and servo end cable clamp. Control travel should be smooth, with no evident binding throughout range of motion
22. Secure and safety mixture arm swivel as in Figure 2.
23. Trim mixture cable center wire approximately 1/4-1/2" beyond swivel and bend wire end 90° toward engine center. Bend should be as close around swivel as possible to maximize clearance with lower cowl. Ensure bend end will not catch on mixture arm through full travel.
24. Apply a generous layer of silicone RTV (RM0013-001) around new mixture cable housing at firewall pass through.
25. Turn on fuel at selector valve.
26. Turn on master and activate boost pump.
27. Cycle mixture control a few times, ensuring that ICO is achievable (0 GPH indicated fuel flow)
28. Turn off fuel pump and master. Leave mixture in ICO position.
29. Perform engine run-up and shut-off with mixture control to ICO.
30. Make any tuning adjustments required at servo end of mixture control
31. Reinstall the cowl, ensuring mixture control clears cowl across full range of motion, especially in the full rich position. Clearance must be sufficient to allow for engine vibration during start-up, running, and shutdown
32. If any adjustments are required for cowl clearance, repeat Steps 20-28.
33. Make a logbook entry stating that SK-SI003 Rev NC was complied with. This modification does not create any notable change to weight and balance of the aircraft.



# SERVICE INSTRUCTION SK-SI003 Rev NC Page 6 of 6

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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. 16<sup>th</sup> Avenue  
Yakima, WA 98903.  
1-877-484-7865 or 1-509-248-9491  
[support@cubcrafters.com](mailto:support@cubcrafters.com)

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