SERVICE INSTRUCTION SK-SI006 Rev NC

EFFECTIVE DATE: This Service Instruction is effective ***August 23, 2021***

SUBJECT: *IGNITION COIL BRACKET REPLACEMENT*

MODELS AFFECTED: *CCK-2000 AND CCX-2000 S/N 0001 THRU 0114*

COMPLIANCE TIME: *This bracket replacement is optional and is left to the sole discretion of the owner / operator / builder of the Experimental Amateur-Built aircraft, unless replacement is called for as part of other service document(s). The shape and mounting pattern of the ignition coils on CC363i engines was revised due to Lightspeed Engineering supplier changes following the S/N range above. Should it be necessary, this document is provided to guide retrofit installation of the revised mounting bracket which is compatible with either style ignition coil.*

PURPOSE: *To replace the original ignition coil bracket with a revised bracket that is compatible with both original and newer style ignition coils.*

WARRANTY: *This change is optional, and is not considered a warranty item.*

PARTS LIST :

PART	DESCRIPTION	QTY (original coils)	QTY (new coils)
SK50369-001	Weldment, Intake Hanger	1	1
SK51368-003	Bushing	8	-
SK51368-001	Bushing	-	8
AN960-416	Washer	-	8
AN960-10	Washer	8	-
AN936-A416	Lock Washer	4	4
AN380-2-2	Cotter Pin	1	1
AN363-1032	Nut	4	-
AN363-428	Nut	-	4
AN4-30A	Bolt	-	4
AN3-24A	Bolt	4	-
SP55020-117	Straight Spade Connectors	-	1 (pack of 8)

INSTRUCTIONS:

1. Read all instructions before beginning any work.
2. Turn the fuel selector and ignition key to OFF positions.
3. Pull the AUX FUEL PUMP and START circuit breakers located in the panel, and pull the IGN L and IGN R circuit breakers located in the seat base.
4. Remove the engine cowling, including the intake SCAT per the Aircraft Maintenance Manual (CK10000AMM).
5. Drain the oil to eliminate leakage during later removal of 4 adjacent oil sump fasteners.
6. Disconnect the throttle control cable from the control arm on the throttle servo and retain hardware.
7. Remove the ball end from the throttle cable and remove the cable from the support bracketry, retaining all hardware. Loosening the cable clamp at the pushrod tube on the top of the engine will allow the throttle cable to be fed upwards more easily.
8. Label each spark plug wire and corresponding ignition wire (the spade connection opposite each spark-plug stud) as shown in Figure 1. Then remove the spark plug wires and ignition wires from the ignition coils.

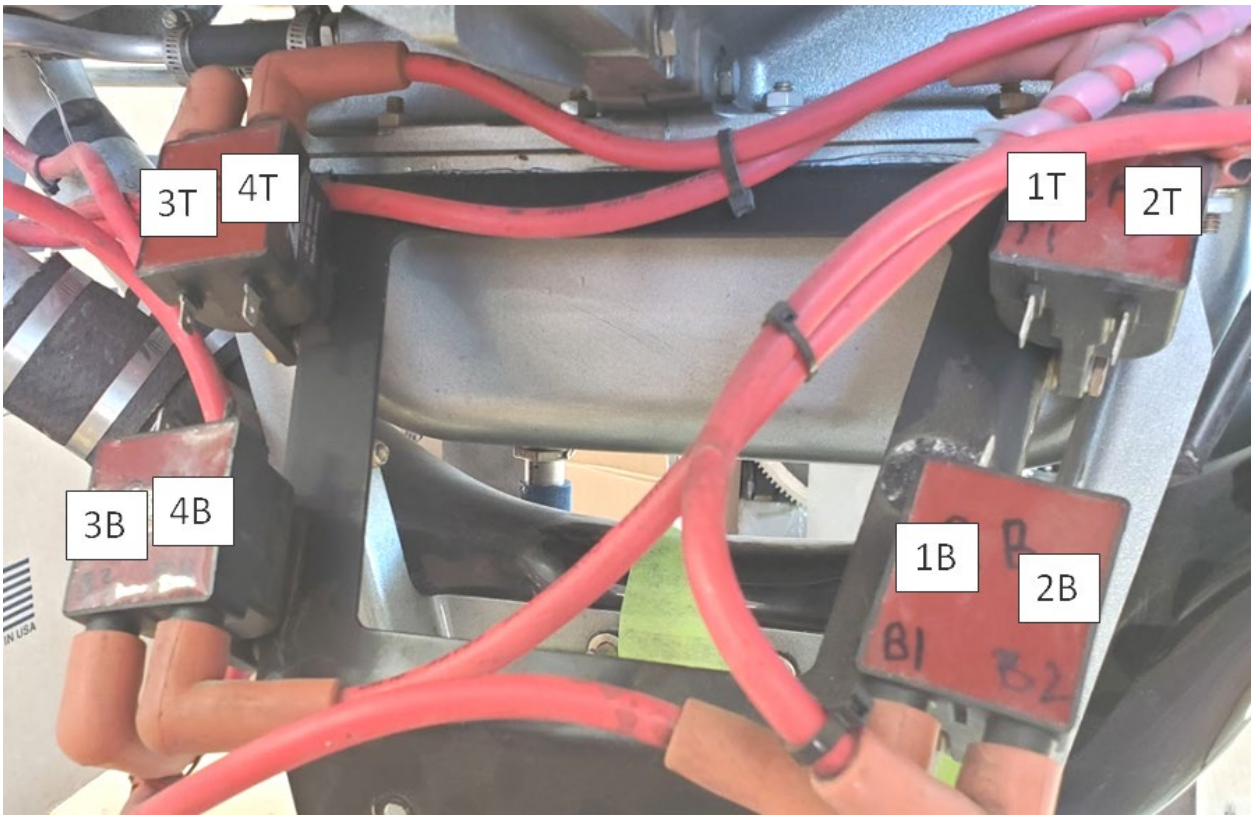

FIGURE 1 – SPARK PLUG AND IGNITION WIRE LABELING

9. If the original coils are to be re-installed, remove and retain the ignition coils from the bracket, discarding fasteners.

10. Open the Gascolator Drain. Crack loose the fitting on the fuel line from the fuel flow transducer (see Figure 2) to allow fuel to drain from the gascolator. Then close the gascolator drain and remove the fuel line from the fuel flow transducer. Cap the line and fitting.

11. Remove and retain the four oil sump fasteners in the center of the forward edge of the oil sump as shown in Figure 2.

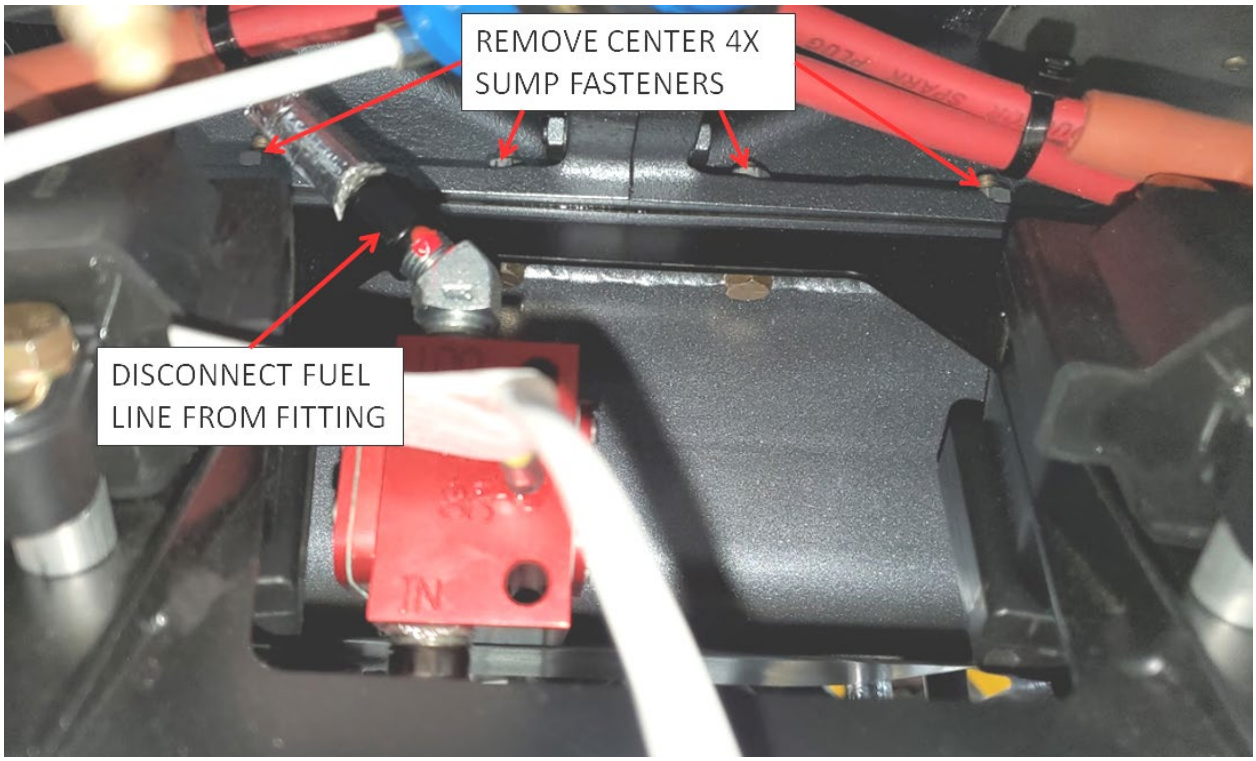

FIGURE 2 – DISCONNECT FUEL LINE / REMOVE 4X SUMP FASTENERS

12. Remove and retain the four fasteners through the front of the original ignition coil support bracket which mount it to the throttle body.

13. Remove the original ignition coil support bracket, carefully pulling it forward, out from in between the oil sump flange and the adjacent bracket below it. (The fastener immediately outboard of the bracket on each side may need to be loosened to aid in bracket removal).

14. If new style coils are to be installed, replace the angled spade connectors on each ignition wire (8 total) with straight spade connectors. CubCrafters PN: SP55020-117 is a package of 4 yellow connectors and 4 red connectors. Yellow connectors go on the shield, and red on the center conductor.

15. Insert the new ignition coil support bracket (SK50369-001) into the same gap between the sump flange and the adjacent bracket.

16. Re-install the four original sump flange fasteners (heads down) with new lock washers and torque to 95-100 in-lb. Ensure that any additional fasteners loosened in step 13 are also torqued.

17. Re-install the original fasteners mounting the bracket to the front of the throttle servo, torque to 40-50 in-lb., and install safety wire.

18. Install the coils onto the bracket as shown in Figure 3.

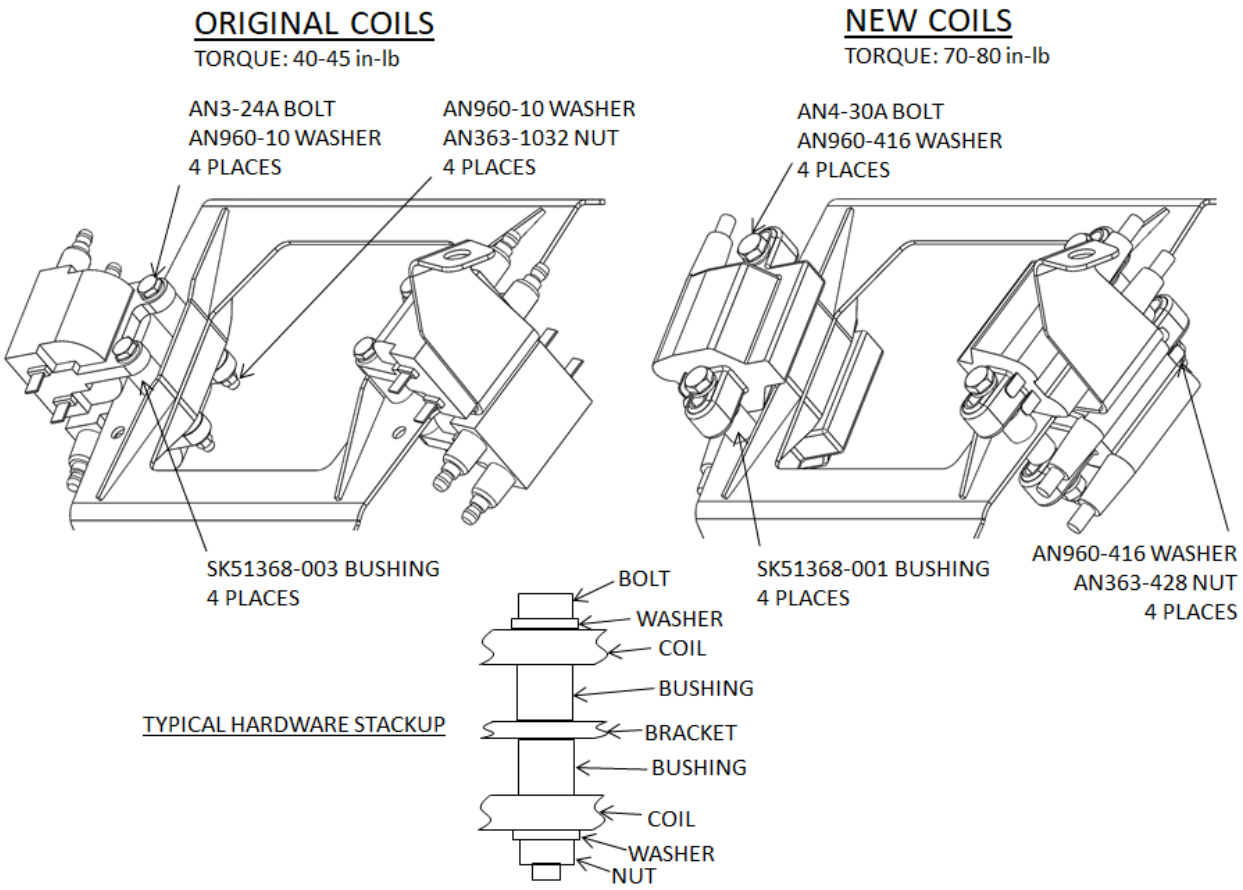

FIGURE 3 – COIL INSTALLATION

19. Install the spark plug wires and corresponding ignition wires as shown in Figure 4. Note: This figure depicts the newer coils, but the connection layout for the original coils is identical. Ensure plug wires click and seat fully onto studs. Ensure spade connectors fit tightly onto the coil, and ignition wires have proper slack, referring to SK-SL002 for more detail.

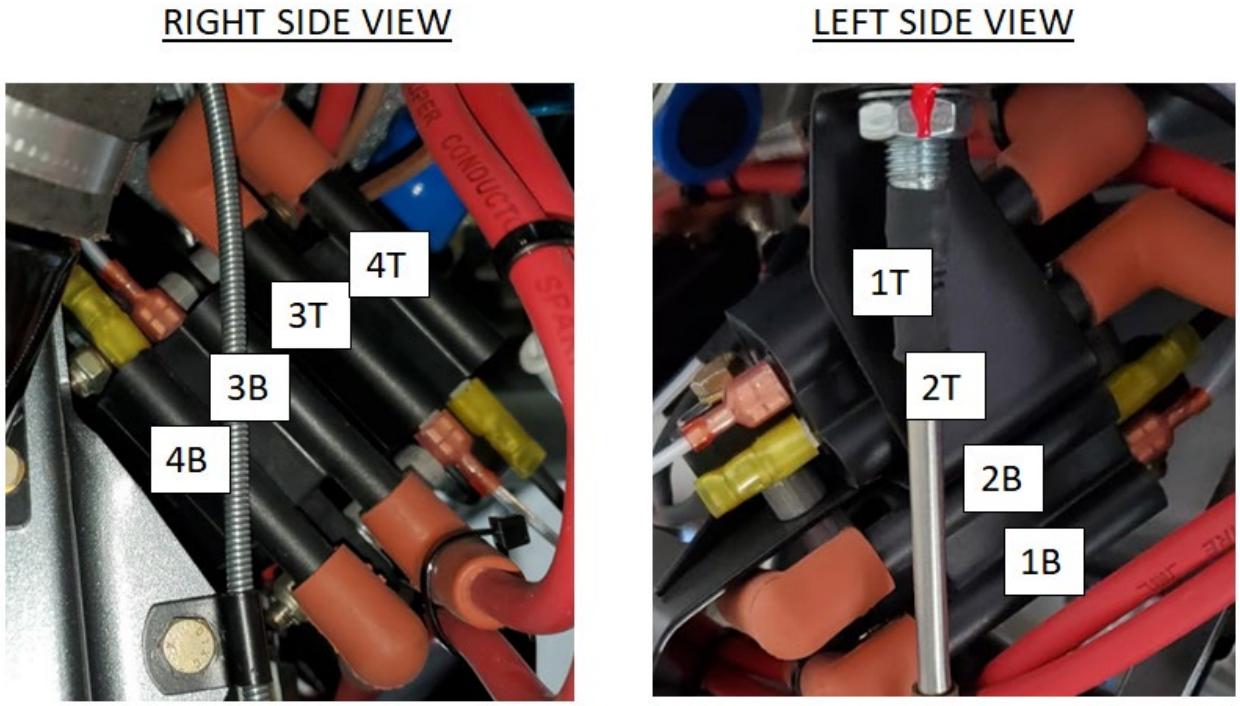

FIGURE 4 – IGNITION COIL CONNECTIONS

20. Bundle and support spark plug and ignition wires, adjusting routing to avoid tension on connectors and abrasion on wires. Ignition coax and spark plug wires may be routed together but a minimum of ½" separation should be maintained between these and sensor wires such as the fuel flow transducer wire and crank position sensor wire (see Figure 5). Use standoffs as necessary.

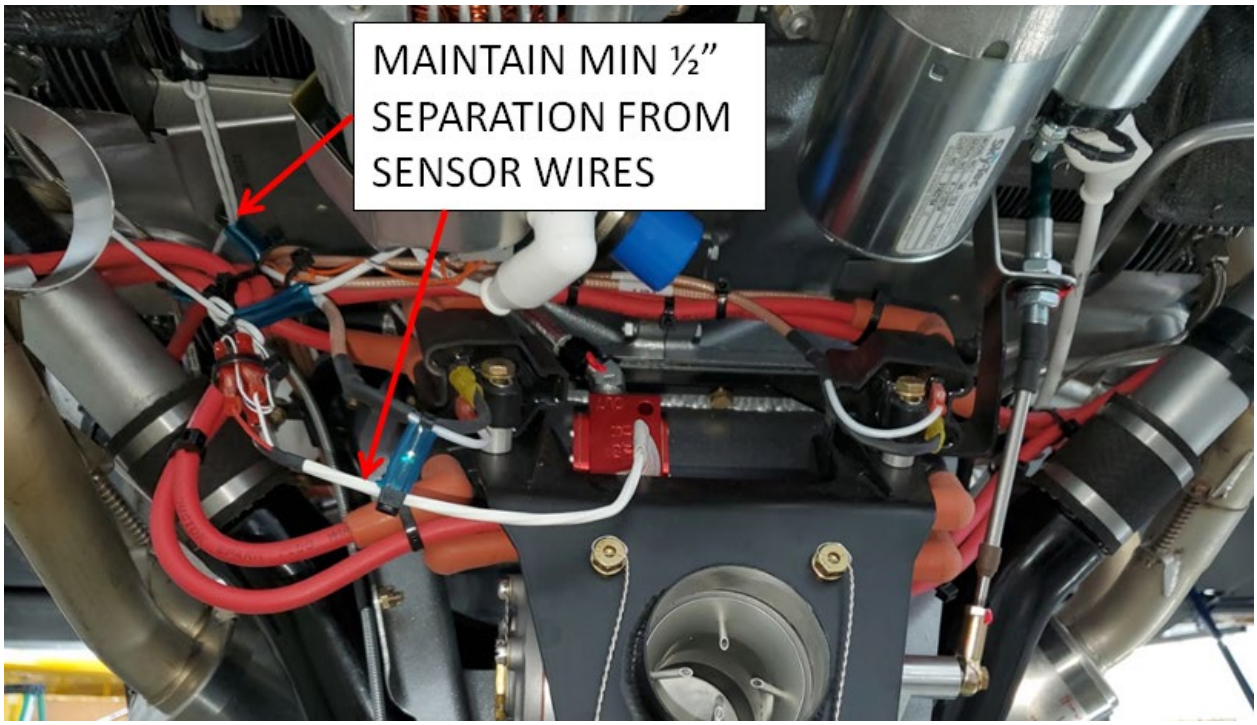

FIGURE 5 – IGNITION / SPARK PLUG WIRE ROUTING

21. Re-connect fuel line to fuel flow transducer, torqueing to 50-65 in-lb. Apply torque stripe.

22. Feed the throttle cable down through aligned holes in upper and lower brackets and install original washers and nut.

23. Adjust the ball end and the cable mounting position in the support bracket as necessary so that throttle servo arm travel limits are reached by operation of the throttle control lever before the travel limits of the cable or throttle control lever are reached. After adjustment and tightening hardware, apply torque stripe and install a new AN380-2-2 cotter pin on the nut retaining the ball end to the throttle arm. Re-tighten the cable clamp if loosened in step 8.

24. Service the engine oil per the Aircraft Maintenance Manual.

25. Perform a leak check

- **a.** Turn the fuel selector to both and check for leaks. Re-torque fuel line connection as described in Step 21 if necessary.
- **b.** Turn the master and fuel pump on; check for leaks. Re-torque if necessary. Listen for a change in pump tone, indicating that it has been primed with fuel. It may be necessary to push in the mixture knob for 10 seconds to bleed air from the system. Ensure that dry running of the pump is kept to a minimum and that total zero-flow run time on the pump is limited to approximately 30 seconds.

26. After performing a final leak check and general inspection, reinstall the engine cowling.

27. Perform an engine-run on the ground, checking for correct ignition operation per POH/AFM "Before Takeoff" procedures. If problems are found, verify connections per Figure 4 and re-check operation.

28. Make logbook entry stating that ignition coils were replaced (if applicable) and SK-SI006 Rev NC was complied with. Change to weight and balance is as follows:

a. When original coils are reinstalled: Weight and balance is not significantly affected.

b. When new style coils are installed: Weight and balance is affected: +1.1 lb at an arm of 15".

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:

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