

SERVICE INSTRUCTION SI0038

Rev NC

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EFFECTIVE DATE: This Service Instruction is effective December 8, 2021

SUBJECT: *IGNITION COIL BRACKET RETROFIT*

MODELS AFFECTED: CC11-160 S/N 00093-00435

COMPLIANCE TIME: *This retrofit is optional and is left to the sole discretion of the owner / operator of the LSA aircraft unless retrofit is called for as part of other service document(s), or becomes necessary due to coil replacement. The shape and mounting pattern of the ignition coils on CC340 engines was revised due to Lightspeed Engineering supplier changes following the S/N range above.*

PURPOSE: *Should it be necessary to change to the new style ignition coils, this document is provided to guide installation of the additional mounting brackets required to support newer style coils.*

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

PARTS LIST :

<u>PART</u>	<u>DESCRIPTION</u>	<u>QTY</u>
SC55024-001	Stay Bracket, Ignition Coil	1
SC55022-003	Lower Ignition Coil Bracket	2
SC55022-001	Lower Ignition Coil Bracket	1*
AN960-416	Washer	16
AN960-416L	Washer	6*
AN960-10	Washer	12
AN936-A516	Lock Washer	2
AN936-A416	Lock Washer	3*
MS51967-3	Nut	3*
AN363-1032	Nut	6
AN363-428	Nut	8
HDW-1/4-20X1.25	Bolt	3*
AN4-12A	Bolt	8
AN3-5A	Bolt	6
SP55020-217	Spade Connector (18-22 AWG, RED)	4
SP55020-218	Spade Connector (10-12 AWG, YLW)	4

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(SP55020-114)	(Ignition Coil)	REF
SP55020-112	Ignition Coil Wires	4*
VP7109-002	Heat shrink for wire shield	2ft*
SP55020-136	Spark plug wire, Top #1	1*
SP55020-135	Spark plug wire, Top #3	1*
SP55020-134	Spark plug wire, Top #4	1*
SP55020-133	Spark plug wire, Bottom #4	1*
SP55020-132	Spark plug wire, Bottom #2	1*
SP55020-108	Spark plug wire, Top #2	1*
SP55020-107	Spark plug wire, Bottom #1	1*
SP55020-102	Spark plug wire, Bottom #3	1*

* Generally needed for retrofit on early serial number aircraft (-00093 through -00154).
See Step 3 to verify.

INSTRUCTIONS:

1. Read all instructions before beginning any work.
2. Remove the engine cowling per the Aircraft Maintenance Manual (SSC10000AMM).
3. This retrofit places all four coils below the engine if they are not already in this location. If the engine has two coils mounted on the top of the crankcase, remove all four coils, ignition coil brackets, spark plug wires, and ignition wires. If all four coils are mounted below the engine already, proceed to Step 5.
4. Remove three bolts from the forward flange of the oil sump; one just to the left hand side of the engine centerline, and two to the right hand side of the centerline. Install the SC55022-001 bracket on these three holes, on the bottom side of the oil sump flange, using hardware shown in Figure 1. Proceed to Step 7

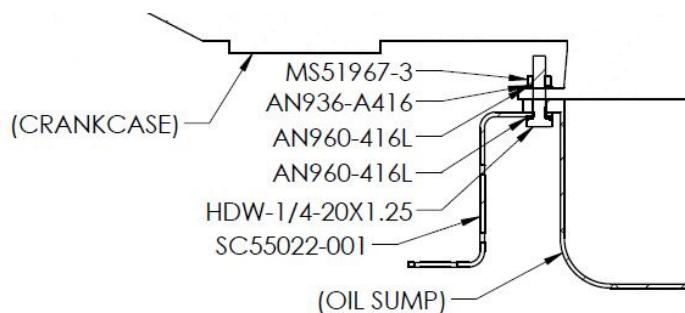


FIGURE 1 – COIL BRACKET INSTALLATION (EARLY SNs)

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- Label each spark plug wire and corresponding ignition wire (the spade connection opposite each spark-plug wire stud) as shown in Figure 2. Then remove the spark plug wires and ignition wires from the ignition coils.

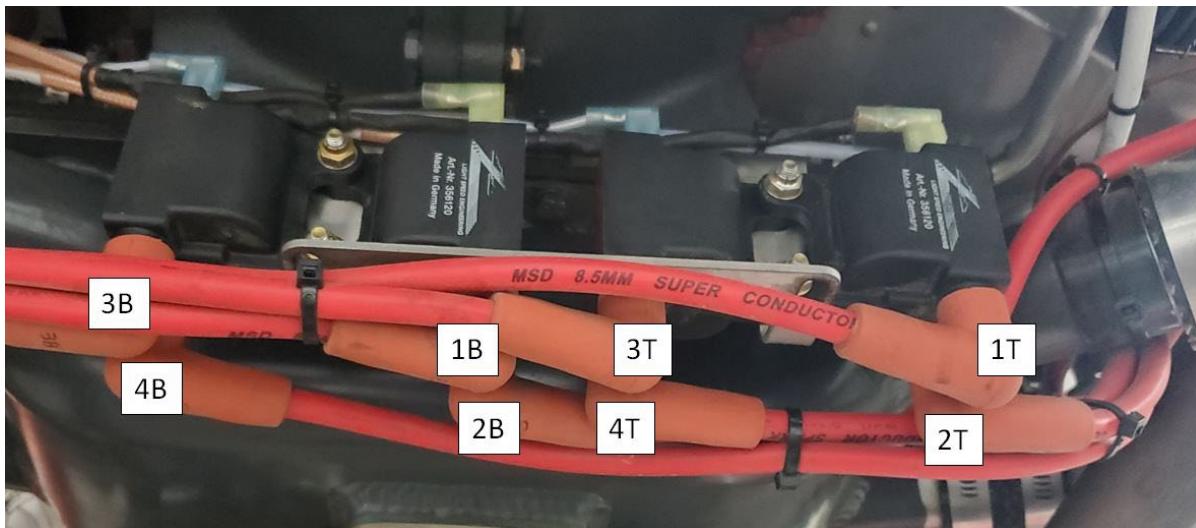


FIGURE 2 – SPARK PLUG AND IGNITION WIRE LABELING

- Remove the ignition coils from the mounting bracket.
- Remove and retain the nuts from the forward two carburetor mounting studs. Discard the washers from under these nuts.
- Replace the angled spade connectors on each ignition wire (8 total) with straight spade connectors. Red connectors (SP55020-217) go on the center conductor, and yellow connectors (SP55020-218) go on the shield.
- Install SC55022-003 brackets on each of the two vertical portions of the existing bracket as shown in Figure 3. Note that the longer coil mounting tabs on SC55022-003 brackets should be positioned outboard of the existing bracket. (This will position the outer two coils slightly forward of the center two coils).

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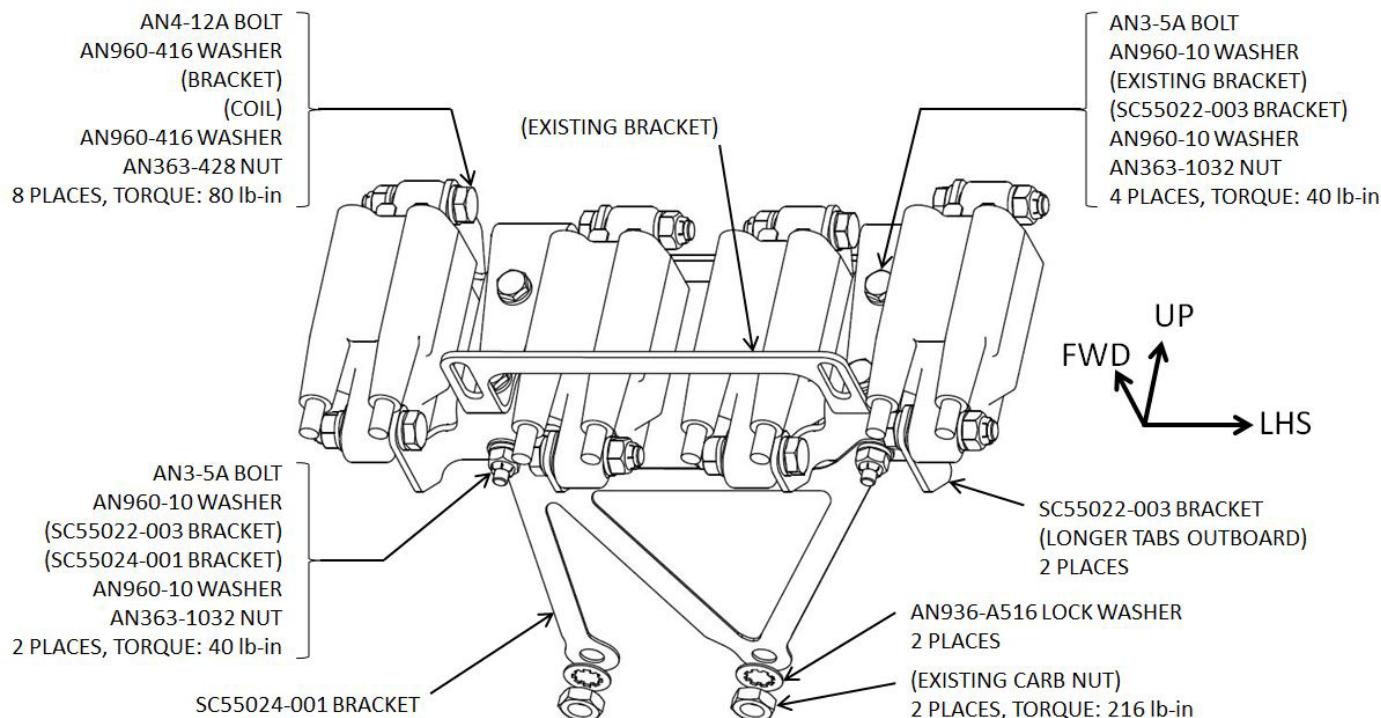


FIGURE 3 – COIL INSTALLATION

10. Install the new style ignition coils on the SC55024-001 brackets as shown in Figure 3. Note that hardware is easiest to access if the center two coils are mounted on their respective brackets before mounting the brackets in Step 9. The outer two coils should be installed after the brackets are mounted.
11. Install the SC55024-001 stay bracket between the SC55022-003 brackets and the two forward carburetor mounting studs as shown in Figure 3. Use the two original carburetor nuts removed in step 7, each with a new AN936-A516 washer. Apply torque stripe after torqueing.
12. If ignition wires and spark plug wires were removed per Step 3, install new ignition wires. Part numbers are provided in the parts list. Install spark plug wires per Figure 4. If ignition and spark plug wires were not removed, proceed to Step 13.

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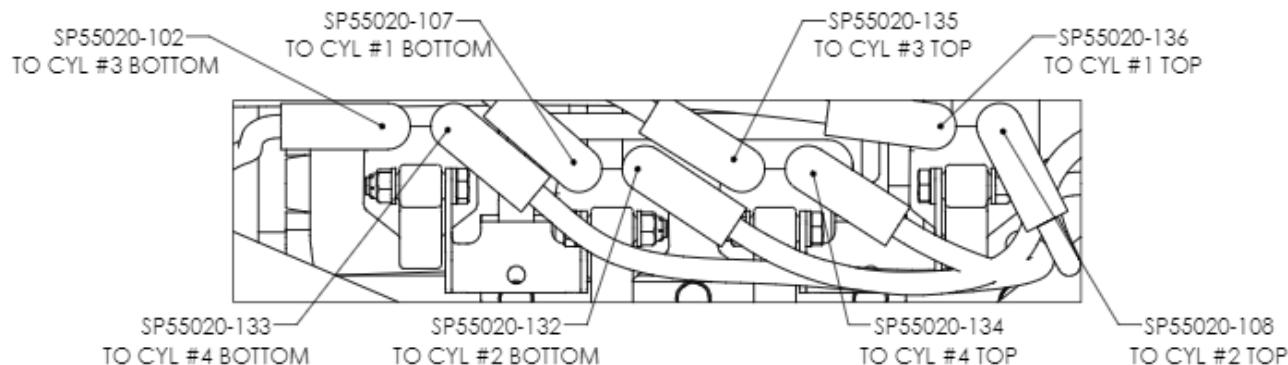


FIGURE 4 – SPARK PLUG WIRE IDENTIFICATION

13. Install the spark plug wires and corresponding ignition wires onto coils as shown in Figure 5. Note that the two ignition wires and the two spark plug wires connected to each coil are not polarity-sensitive. 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-SB010 for more detail. Should it be necessary to replace the ignition wires to achieve proper slack, wire and heat shrink part numbers are shown in the parts list. Spark plug wire part numbers are also provided in the parts list.

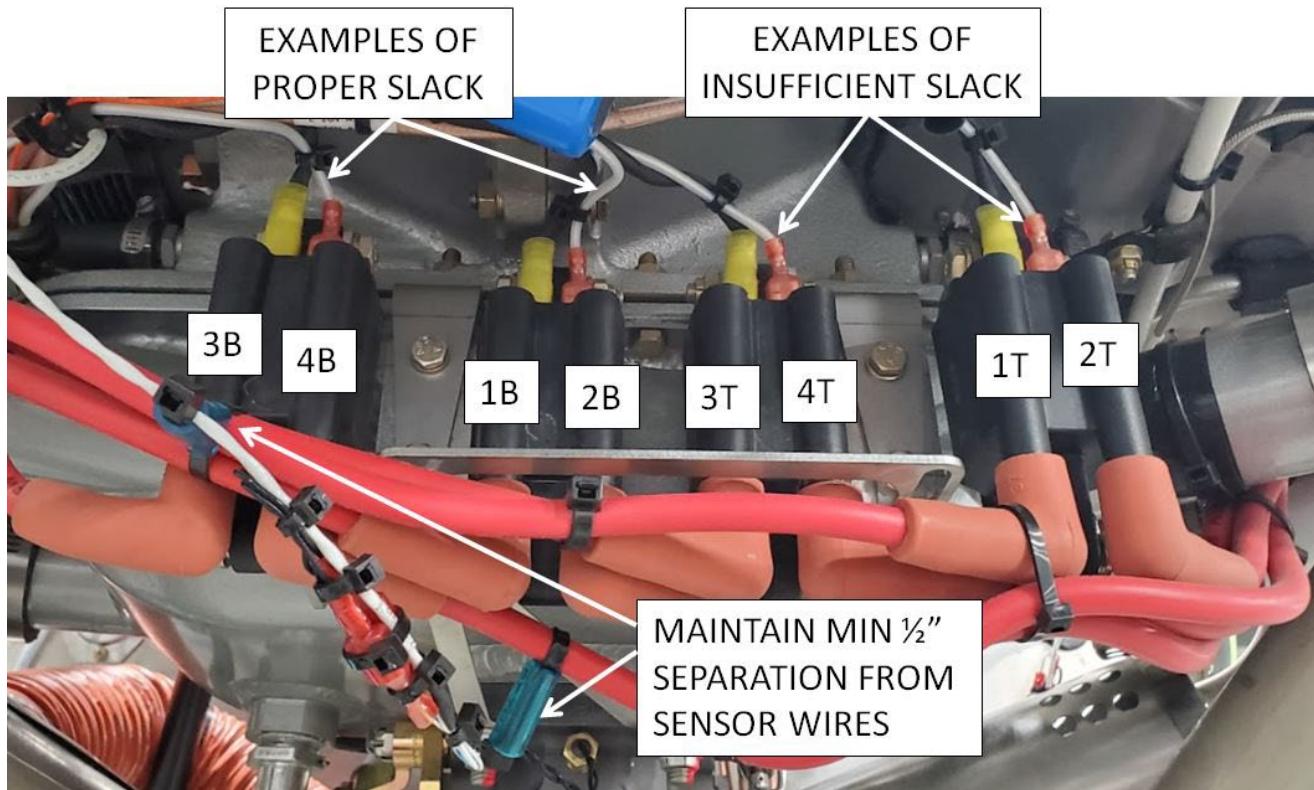


FIGURE 5 – IGNITION COIL CONNECTIONS



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14. 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 $\frac{1}{2}$ " separation should be maintained between these and sensor wires such as carb temp sensor (if equipped) and crank position sensor wires. Use standoffs as necessary.
15. Perform a final check and general inspection, and reinstall the engine cowling.
16. 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 Figures 4 / 5 and re-check operation.
17. Make logbook entry stating that ignition coils were replaced and SI0038 Rev NC was complied with. Change to weight and balance is +1.5 lb at an arm of 18".

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.