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April 22, 1949 (Revised Feb. 1, 1956 to include Supplement #1)
 (Revised Jan. 20, 1960)

SUBJECT: Conversion of a Model 7AC to Model 7CCM Airplane using a carburetor type engine.

GENERAL: Before starting to convert a Model 7AC to a Model 7CCM airplane, it is very important that you refer to a copy of the latest revision of Aircraft Specification No. A-759. A copy is on file at the General Safety District Office for reference.

DESCRIPTION OF CHANGES:

1. Engine Changes

- (a) The Continental A-65-8F or A-65-8 engine is replaced with a Continental C-90-8F or C-90-8 carburetor engine.

NEW PARTS REQUIRED

1-2696	Connector - Flex Control	1
1-1776	Spring - Cylinder Head Baffle	1
1-3677	Nipple Assembly	1
2-958	Plate - Carburetor Restricted Air Filter	1
2" x 12"	Flexible Alum Tube	1
1-2755	Baffle - Side Crankcase	2
1-2913	Clamp	1
2-898	Elbow	1
3-629	Baffle Assembly - Engine Left Side	1
3-630	Baffle Ass'y - Engine Right Side	1
3-631	Baffle - Cylinder Right Side	1
4-673	Baffle Ass'y - Engine Right Side	1
4-674	Baffle Ass'y - Engine Left Rear	1
4-684	Baffle Ass'y - Engine Left Front	1
4-739	Baffle Ass'y - Engine Right Front	1
4-740	Baffle - Crankcase Upper	1
4-741	Baffle - Crankcase Lower Left	1
4-742	Baffle - Crankcase Lower Right	1
7-1006	Blueprint	1
2-957	Blueprint	1
7-572	Blueprint	1

(It is recommended that the #1-520-3B gascolator bowl be replaced with a #1-2991 quick-drain gascolator bowl which incorporates a 1/8" N.P.T. #CAA 1550 drain valve.)

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PARTS TO BE DISCARDED

AN840-4	Adapter - Hose	1
7-469	Baffle - Left Crankcase	1
7-470	Baffle - Right Crankcase	1
7-471	Baffle - Upper Crankcase	1
7-475	Baffle - Right Rear Cylinder	1
7-476	Baffle - Left Rear Cylinder	1
7-477	Baffle - Right Front Cylinder	1
7-478	Baffle - Left Front Cylinder	1

(b) Hanlon-Wilson mufflers are required on the converted airplane. (If the airplane is equipped with these mufflers before converting, it is not necessary to obtain the following parts.)

NEW PARTS REQUIRED

Kit 129	Muffler & Heater Kit w/prints	1
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PARTS TO BE DISCARDED

	2" I.D. x 9 $\frac{1}{4}$ " Flex Alum Tube	1
1-2437	Heater Baffle	2
2-738	Elbow	3
3-478	Muff - Intake	2
3-479	Muff - Outlet	2
7-485	Manifold - Exhaust	1
7-486	Manifold - Exhaust	1

2. FUEL SYSTEM CHANGE

The original fuel system change required the replacement of the original fuselage tank by a modernized 7-778 tank with a sump together with the addition of a 5 $\frac{1}{2}$ gallon auxiliary tank in the right wing. As the 5 $\frac{1}{2}$ gallon auxiliary tank kit is no longer offered, we now have made a 26 gallon wing tank fuel system available for installation, replacing the aforementioned tank and auxiliary kit.

NEW PARTS REQUIRED

Kit 192	26 Gallon Fuel System	1
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PARTS TO BE DISCARDED

Main Fuel Tank and Lines to Gascolator Bowl

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3. Cowling Identification

Rework nose bowl and cowling in accordance with Service Helps and Hints #26, Alteration #1.

NEW PARTS REQUIRED

4-732	Lower Firewall Baffle	1
	Service Helps & Hints #26	1

4. Fuselage Frame Modification

- (a) The addition of one "Clamp-on Dorsal Fin Tube" is required. After installation, the fin assembly should be covered and doped in accordance with FAA Manual No.18.

NEW PARTS REQUIRED

Kit 178	Dorsal Fin-Clamp-on Type w/print	1
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- (b) The addition of two reinforcement tubes to the front fuselage frame is required.

NEW PARTS REQUIRED

Kit 164	Tube Assembly - Reinforcement	1
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5. General Changes

- (a) Surface travel of the various control surfaces changes when the conversion is made. The new angular travel may be obtained from Aircraft Specification #A-759. (Angular travel is shown in degrees, for all surfaces, and is the angle that the chord line of the control surface makes with the chord line of the particular fixed surface to which the control surface is attached.)
- (1) The elevator can be adjusted by means of the two elevator stops on the elevator horn.
 - (2) The proper elevator trim tab rigging can be accomplished by adjusting the turnbuckles on the trim tab control cables. Those turnbuckles are found just forward of the trim tab.
 - (3) The ailerons are adjusted by means of the aileron push rod, which is located on the inboard end of each aileron.
 - (4) The correct rudder travel is obtained by filing the rudder stops located on vertical fuselage rudder post.

- (b) The name plate in the airplane must be re-stamped with the proper model designation and the letters "CONV" indicating it has been converted.

Example: Model 7CCM "CONV"

Note: Do not change airplane serial number

- (c) Any of the following propellers may be used on Model 7CCM airplanes.

Sensenich Model 72GX46
 Sensenich Model 72GX48
 Sensenich Model 72GX50

McCauley Model CM7343
 McCauley Model CM7347

If the above listed or other make or pitch wood propellers are used, the propeller installed must meet the diameter and static RPM limits listed for the Model 7CCM Under "Propeller Limits" in the Specification (A-759) (See also Item 1(c) Aircraft Specification A-759).

- (d) The baggage allowance is to be changed from 40 to 50 lbs. (Add Part No. 1-854-4 baggage Placard.)

- (e) Operating limits of the flight instruments are changed and should be remarked as follows:

Tachometer Red Line @ 2475 RPM
 Airspeed Indicator Yellow Line @ 100 MPH
 Red Line @ 135 MPH

- (f) The following placards must be installed in front of and within clear view of the pilot:

1-2956	Throttle Operation Placard	1
1-1786	Solo Flying Placard	1
1-2954	Maximum Airspeed Placard	1

NOTE: (1) We wish to call your attention to the fact that the gross weight allowance of the Model 7CCM is 1300 lbs. or 80 lbs. greater than the Model 7AC or Model 7BCM.

Note also that the C. G. range for the converted airplane is (+16.8) to (+20.0) at 1300 lbs; (+10) to (+20) at 1087 lbs or less, with a straight line variation between these points. The C. G. values are given in inches aft of the wing leading edge.

- (2) All Model 7CCM airplanes are approved for operation at a gross weight of 1350 lbs. when 'no-Bounce' Landing Gear Oleos part number 3-665 are installed and a placard 1-2929 reading 'Intentional Spinning Prohibited when Baggage is Carried' is installed on the instrument panel.

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The C.G. range for the converted airplane at 1350 lbs gross is:

(+16.8) to (+20.4) at 1350 lbs
(+10.0) to (+20.4) at 1087 lbs or less with
a straight line variation between points

All Champion parts and blueprints, required to make the above conversion, are now available and may be purchased from our Parts Department.

Sincerely,

CHAMPION AIRCRAFT CORPORATION

BD:dmk