

United States Of America
Department of Transportation - Federal Aviation Administration
Supplemental Type Certificate

Number SA4850NM

This Certificate issued to Coulson Aviation (USA) Inc.
655 South Rock Blvd.
Reno, NV 89502

certifies that the change in the type design for the following product with the limitations and conditions therefor as specified hereon meets the airworthiness requirements of Part 25 of the Federal Aviation Regulations.

Original Product Type Certificate Number: See AML No. SA4850NM

Make: See AML No. SA4850NM

Model: See AML No. SA4850NM

Description of Type Design Change: Installation of Retardant Tanks for the special purpose of Forest and Wildlife Conservation on C-130A and EC-130Q models in accordance with the Master Data Lists noted in AML SA4850NM. The FAA approved Airplane Flight Manual Supplements listed in AML SA4850NM are also required as part of this approval.

Limitations and Conditions: The approval of this change applies to the models listed on FAA approved AML SA4850NM only. This installation should not be incorporated in any aircraft unless it is determined that the interrelationship between this change and any previously approved configuration will not introduce any adverse effect upon the airworthiness of the aircraft. If the holder agrees to permit another person to use this certificate to alter the product, the holder shall give the other person written evidence of that permission. (See Continuation Sheet)

This certificate and the supporting data which is the basis for approval shall remain in effect until surrendered, suspended, revoked or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.

Date of application: October 4, 1989

Date reissued: May 29, 2012

Date of issuance: March 28, 1990

Date amended: April 25, 1991; August 23, 2013;
August 14, 2014



By direction of the Administrator

(Signature)

Manager, Airframe Branch
Los Angeles Aircraft Certification Office

(Title)

Any alteration of this certificate is punishable by a fine of not exceeding \$1,000, or imprisonment not exceeding 3 years, or both.

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Limitations and Conditions continued

Limitations specific to C-130A model

Max takeoff gross weight not to exceed 120,000 lbs.

Max zero fuel weight shall be 97,000 lbs.

Max retardant weight shall be limited to 27,000 lbs.

If operations in severe turbulence cannot be avoided, then do not exceed 65 kts above power off stall speed. Power off stall speed to be determined by the instantaneous operating weight using Figure 6-1 of USAF T.O. 1C-130A-1. Turbulent penetration speed not to exceed 180 kts.

The eleven vertical cable tie-downs per side and the nine off-vertical cable tie-downs per side for the retardant tanks shall have minimum breaking strength of 7,000 lbs. each. Cable tie-down angles and preload are critical and installation must follow the Installation Drawing 11648-001.

Carriage of cargo follows limitations and conditions contained in USAF T.O. 1-130A-9 cargo loading and handling manual and weight and balance requirements contained in USAF T.O. 1-130A-5 and 1-1B-40 manuals.

Material may be carried by removal of the retardant tanks and installation of the cargo floor as defined by the FAA approved Aero Union Report: Aircraft Inspection and Maintenance Manual for the Retardant Aerial Delivery System dated April 8, 1991. The above report defines both the installation and removal of the cargo floor and installation and removal of the retardant tank.

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Limitations and Conditions continued

Limitations specific to EC-130Q model

Max takeoff gross weight not to exceed 150,718 lbs. without external tanks

Max takeoff gross weight not to exceed 155,000 lbs. when external tanks are installed

Max zero fuel weight shall be 115,000 lbs.

Max retardant weight shall be limited to 31,500 lbs.

If operations in severe turbulence cannot be avoided, then do not exceed 65 kts above power off stall speed. Power off stall speed to be determined by the instantaneous operating weight using CAG109, section 2, page 3. Turbulent penetration speed not to exceed 180 kts.

Carriage of cargo follows limitations and conditions contained in Coulson AFM, Chapter 6, pages 19 and 20, cargo loading and handling manual and weight and balance requirements contained in Coulson AFM, Chapter 6.

Material may be carried by removal of the retardant tank and installation of the cargo floor as defined by the Instructions for Continued Airworthiness, Coulson document CAG1126, Revision NC or later FAA accepted revision. The above report defines both the installation and removal of the cargo floor and installation and removal of the retardant tank.

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Limitations and Conditions continued

Limitations for all models

Retardant drop shall be limited to speeds less than 150 knots and greater than 1.25 Vs and greater than Vmc.

Max vertical acceleration at the C. G. shall be limited to 2.5 G flight load factor, flaps retracted.

Outboard wing fuel must exceed inboard wing fuel by 617 lbs. per side or more.

If a cross wind landing with full retardant tanks results in severe misalignment at touchdown, a special inspection is necessary before further flight for main landing gear structural components and supporting structure, the fuselage structure between the main gears, and the nose landing gear structures.

The airplane operation is limited to wind conditions in the drop zone of 40 kts over the ridges.

The fuselage pressure relief valve setting must not exceed 5.14 psi. (10.46 in Hg)

This STC installs retardant tanks for the special purpose of Forest and Wildlife Conservation in Restricted Category in accordance with CFR 21.25(b)(2). Persons may be carried provided they perform an essential function necessary for the accomplishment of the special purpose of forest and wildlife conservation.

Carriage of cargo also follows limitations and conditions contained in CFR 91.313: No operations for other than the special purpose of forest and wildlife conservation; carriage of persons or cargo for compensation or hire is prohibited. A special purpose operation for forest and wildlife conservation involving the carriage of persons or material is not considered the carriage of persons or property for compensation or hire.

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Any alteration of this certificate is punishable by a fine of not exceeding \$1,000, or imprisonment not exceeding 3 years, or both.