

**1. DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION**

T00019LA Revision 1 Coulson Aviation (USA) Inc.  EC-130Q  March 19, 2014
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TYPE CERTIFICATE DATA SHEET NO. T00019LA

This data sheet, which is a part of Type Certificate No. T00019LA, prescribes the conditions and limitations under which the product for which the Type Certificate was issued meets the airworthiness requirements of the 14 Code of Federal Aviation Regulations (14 CFR).

Type Certificate Holder:   Coulson Aviation (USA) Inc.  
                                       5825 Price Avenue  
                                       McClellan, CA 95652

I. Model EC-130Q (Restricted Category) Approved August 23, 2013

Engines                                 4 - Allison T-56A-16, T-56A-16A, T-56A-423, or T-56A-423A

Fuel   Commercial aviation turbine fuels conforming to ASTM Specification No. D 1655-62T (Jet A), -66T (Jet A-1), Jet B types, or commercial equivalents of MIL-T-5624, grade JP-4 or JP-5.

Engine Limits                         Static, Standard Day, Sea Level:

	<u>Turbine Inlet Temp.</u>	<u>Torque</u>	<u>Oil Temp</u>	<u>RPM Limit</u>
Takeoff (5 min.)				
1083° C		19,600 in-lbs	100° C Max	102%
Military Power (30 min.)				
1049° C		19,600 in-lbs	85° C Max	102%
Maximum Continuous				
1010° C		19,600 in-lbs	85° C Max	102%

Propeller and Propeller Limits                 Propeller TC: None  
 4 - Hamilton Standard 4 blade electrohydromatic propellers  
 Hub 54H60-111, Blade 7111D2  
 Diameter: 13 ft. 6 in.  
 2% reduction allowable for repair, no further tolerance permitted  
 Constant speed propeller, full feathering and reverse pitch.  
 Single rotation, four blade assembly with governing speed setting 1020 RPM  
 Propeller assembly is complete with spinner, feathering and reversing provisions,  
 constant speed control, negative torque control and synchrophaser.

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<u>Propeller Limits</u> (continued)	Blade Angles (degrees)		<u>See Note 7</u>
	Feather	+92.5 ± 0.20	(a)
	Low-pitch stop (min. flt idle)	+23.25 ± 0.50	(b)
	Reverse	-7.3 to -9.7 ± 0.5	(c)
<u>Airspeed Limits</u>	(Knots IAS at 100% RPM)		
	VMO (Maximum operating)	*	
	VA (Maneuvering)	*	
	VB (Turbulent air penetration)	*	
	VFE (50% ext Takeoff and Approach)	180K	
	VFE (100% extension for Landing)	145K	
	VLE (Landing gear extended)	165K	
	VLL (Landing Light extended)	165K	
	* See figure 2-6 of FAA Approved AFM, CAG109		
<u>Maximum Weights</u>	Max Ramp Weight:	155,800 lbs.	
	Max Takeoff Weight:	155,000 lbs. w/ Ext Tanks; 150,718 lbs. w/o Ext Tanks	
	Max Landing Weight:	155,000 lbs. w/ Ext Tanks; 150,718 lbs. w/o Ext Tanks	
	Max Zero Fuel Weight:	115,000 lbs.	
	Use FAA Approved Airplane Flight Manual for proper weight restrictions		
<u>Center of Gravity</u> <u>(C.G.) Range</u>	Refer to Coulson AFM Figure 2-8: C.G. Limitations Straight line variation between points given		
<u>Empty Weight</u> <u>C.G. Range</u>	None		
<u>Datum</u>	573.7 inches forward of jig points (white circled screws) located .75 inches outboard of wing station 65 joint, 2.5 inches aft of leading edge joint.		
<u>Leveling Means</u>	Plumb bob leveling suspension fitting is located left side fuselage, station 637. Leveling grid is directly below the plumb bob fitting on the sidewall lighting shroud.		
<u>Minimum Crew</u>	Three (3): Pilot, Co-pilot, Flight Engineer		
<u>Number of Seats</u>	None, limited to the flight crew and persons essential to operations.		
<u>Fuel Capacity</u>	Tanks 1 & 4:	1350 US Gallons each, Fully Serviced (1340 US Gallons Usable)	
	Tanks 2 & 3:	1240 US Gallons each, Fully Serviced (1230 US Gallons Usable)	
	External Tanks:	1400 US Gallons each, Fully Serviced (1400 US Gallons Usable)	
	Auxiliary Tanks:	910 US Gallons each, Fully Serviced (910 US Gallons Usable)	
	Total fuel:	9800 US Gallons, Fully Serviced (9680 US Gallons Usable)	
<u>Oil Capacity</u>	Four nacelle tanks. Capacity each tank = 12US Gallons, 7.5 US Gallon expansion space		
<u>Cargo Compartment</u>	Length - 624 inches (612" usable) Width - 123 inches Height - 108 inches From Fuselage Station 257-869 (main cargo floor and aft ramp)		
<u>Cargo Loading</u>	Maximum axle weights: 6000 lbs per axle Aircraft Ramp (Station 737-869): Maximum weight: 5,000 lbs. EC-130Q does not contain provisions for palletized cargo.		
<u>Maximum Operating</u>	29,000 ft. (limitation due to RVSM constraints)		

AltitudeControl Surface Travel**Aileron** (Measurements at inboard end of aileron at trailing edge)UpBoost On: 25Deg (+1, -1.2) or 17.13" (+.52, -.72)  
Trim Tab: 2.41" ( $\pm .15$ ")Down15Deg (+.7, -.5) or 10.33" (+.72, -.52)  
2.41" ( $\pm .15$ ")**Elevator** (Measure elevator travel from top inboard edge above force link tab hinge)UpBoost On: 40 Deg ( $\pm .75$ ) or 40.91" ( $\pm .79$ )  
Trim Tab: 6 Deg ( $\pm 5/6$ ) or 1.15" ( $\pm .06$ )Down15Deg ( $\pm .75$ ) or 15.61" ( $\pm .79$ )  
25Deg ( $\pm 5/6$ ) or 4.77" ( $\pm .06$ ")**Rudder** (Measure from trailing edge of vertical stabilizer to lower end of rudder trailing edge)LeftBoost On: 37.55" (+1.25, -.82)  
Trim Tab: 4.38" ( $\pm .15$ )Right37.55" (+1.25, -.82)  
4.38" ( $\pm .15$ )Serial Numbers Approved

See Coulson Serial Numbers Approved Report, CAG110

Certification Basis

Certification basis is 14 CFR 21.25(a)(2) for the special purpose of:

(1) Carriage of Cargo Operations under 14 CFR 21.25(b)(7)

Aircraft certified under this type certificate are not eligible for multiple airworthiness certifications under 14 CFR 21.187.

Production Basis

None. No airplane may be produced under this approval.

Equipment

The basic required equipment as prescribed in the applicable Airworthiness Regulations (see Certification Basis), must be installed in the aircraft for certification.

Aircraft must be modified in accordance with Coulson Aviation Group Documents: CAG1001, Revision NC, dated 07/05/13 or later FAA approved revision and CAG1003, Revision NC, dated 08/08/13 or later FAA approved revision.

NOTES

- Note 1. Current weight and balance report including list of equipment included in certificated empty weight and loading instructions when necessary, must be in the aircraft at the time of original certification and at all times thereafter.
- Note 2. Aircraft Center of Balance, determined from NAVAIR 01-1B-40, Technical Manual, Weight and Balance Data, must fall within the percent of the Mean Aerodynamic Chord (MAC) shown on the Coulson AFM Figure 2-8, Center of Gravity limitations.
- Note 3. The weight of the system (unusable) fuel and oil as defined in NAVAIR 01-1B-40, Chart E, must be included in the airplane empty weight.
- Note 4. FAA approved Coulson AFM CAG109 must be available in the C-130 series aircraft for all flight operations.

- Note 5. Fuel Loading and Usage:
1. Fuel must be loaded and used to provide compliance with the "Fuel Unbalance" limitation contained in Coulson AFM for normal fuel management procedures.
  2. Phillips fuel additive PFA-55MB may be used in concentrations not to exceed 0.15 percent by volume. No fuel system anti-icing credit is allowed.
- Note 6. The Aircraft must be serviced and maintained in accordance with Coulson Instructions for Continued Airworthiness Document CAU-2013001 Revision A, dated August 21, 2013 or later accepted revision. An Inspection program must be prepared in accordance with guidelines in Part 91.409. A depot level inspection and maintenance procedure must be developed from the Department of the Navy's Phase Depot Maintenance Program (PDM) which contains three phased inspections and must be performed at 54 month intervals.
- Note 7.
- (a) Propeller blade angles are measured at the 42 inch stations in accordance with Navair 03-20CBBJ-2 Technical Manual.
  - (b) Established under the conditions in the Navair 03-20CBBJ-2 Technical manual section 4-14.
  - (c) The reverse angle is equal to the feather angle minus the range of the stop ring ( $101 \pm 1.0$  deg) per Navair 03-20CBBJ-2 Technical manual section 4-16.
- Note 8. Prior to original certification of each aircraft:
- (a) The basic required equipment necessary for the particular special purpose operation must be installed and an FAA representative must perform a detailed inspection for workmanship, materials, and conformity with the approved technical data, and a check of the flight characteristics.
  - (b) Each airplane is required to incorporate modifications as specified in CAG1001, Revision NC, dated 07/05/13 or later FAA approved revision and CAG1003, Revision NC, dated 08/08/13 or later FAA approved revision.
  - (c) The maintenance, overhaul and modification records of each airplane must be reviewed for military changes that may affect the airworthiness of the aircraft.
  - (d) Compliance must be shown for each airworthiness directive listed in Coulson document CAG1005, Revision NC, dated August 2, 2013 or later approved document.