DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

A30NM
Revision 1
Hawkins & Powers
HP-C-130A
February 18, 1993

TYPE CERTIFICATE DATA SHEET A30NM

This data sheet, which is part of Type Certificate No. A30NM, prescribes the conditions and limitations which the Type Certificated product meets to comply with the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder — Hawkins & Powers Aviation, Inc.
P.O. Box 391
Greybull, Wyoming 82426

I. Model HP-C-130A (Restricted Category) Approved July 20, 1989

Engines — 4 - Allison turbo prop T-56-A9 (Series)

Fuel — Commercial aviation turbine fuels conforming to ASTM Specification No. D 1655-59T, types Jet B, Jet A-1, Jet A, or commercial equivalents of MIL-T- 5624, grade JP-4 or JP-5.

Lubricating Oil — Synthetic oil conforming to Allison Specification EMS-35 or MIL-L-7808.

Engine Limits — Static, Standard Day Sea Level

Turbine Inlet Temp	Torques	Oil Temp
Take-off (5 minutes) 977 ° C	19,400 in. lb.	100 ° C Max.
Maximum Continuous 927 ° C	16,100 in. lb.	85° C Max.

Propeller and Propeller Limits — 4 - Hamilton standard hydromatic propellers Hub 54H60-91

Hub and Blade Assembly P/N 6506600

Diameter 13’ 6”
2% reduction allowable for repair

Constant speed propeller, full feathering and reverse pitch

Single rotation, four blade assembly with governing speed setting 1020 prpm (13820 erpm). Propeller assembly is complete with spinner, feathering and reversing provision, constant speed control, negative torque control, syncrophaser, and electrical ice control.

Blade Angles (degrees)

Feather	92.5 ± .20 (a) (b)
Low-pitch stop (min. flt. idle)	23.3 ± .50 (a)
Ground idle, beta	4.0 to 5.5 (c)
Reverse	-7.0 ± 1.0 (b) (d)

(a) Propeller blade angles are measured at the blade 42.875 inch station with the propeller on a test post under conditions established by the applicable Hamilton Standard Maintenance Manual.

Propeller and Propeller Limits (cont'd)	(b) Propeller blade angles are indicated on the back-up valve housing under conditions established in the USAF T.O. 1C-130A-2-11 and USAF T.O. 3-1-1. (c) 5.0 to 6.0 with valve housing P/N 714325-2 or later installed. (d) -5.5 to -7.5 with valve housing P/N 714325-2 or later installed.
Propeller Oil	MIL-H-5606B
Airspeed Limits	V_{NO} (Maximum Operating) — See T.O. 1C-130A-1, Section 5 V_A (Maneuvering) — See T.O. 1C-130A-1, Section 5 V_B (Turbulent Air Penetration) — 65 knots above power off stall speed but not to exceed 180 knots IAS. Figure 6-1, T.O. 1C-130A-1 shows stall speeds measured as a function of gross weight. V_{FE} (Take-off and Approach 50%) — 180 knots V_{FE} (Landing 100%) — 145 knots V_{LO} (Landing Gear Operation) — 170 knots V_{LE} (Landing Gear Extended) — 170 knots V_{LL} (Landing Light Extended) — 170 knots.
Heated Windshield	If electric windshield heat is operative, it must be used for all flight operations. Operations without windshield heat on any or all portions of the windshield is permissible provided: (1) The airplane is not flown in known icing conditions, and (2) The maximum speed below 10,000 feet is limited to 187 KCAS.
C.G. Range	See Figure 5-6 of USAF T.O. 1C-130A-1 and NOTE 2.
Datum	Fuselage Station 94.0, W.L. 142.98, B.L. 0.0 (NAS 221 screw head on bottom of forward fuselage, 71.0" forward of center line of nose gear strut.)
MAC	164.5", leading edge F.S. 487.4
Maximum Takeoff Weight	124,200 lbs.
Maximum Landing Weight	96,000 lbs. up to 124,200 lbs. See page 5-20 of T.O. 1C-130A-1.
Maximum Zero Fuel Weight	97,000 lbs.
Leveling Means	Provisions for leveling by plumb line are installed in the cargo compartment on the left side at approximately F.S. 637. A plumb line support bracket is located on the fuselage side panel at approximately W.L. 252.0, and a leveling plate is located on the top of the cargo floor curb at approximately W.L. 150.0.
Minimum Crew	Three (3) - Pilot, co-pilot, and flight engineer
Passengers	None. Limited to the flight crew and the persons essential to operations.
Fuel Capacity	See page 1-49 of T.O. 1C-130A-1 for fuel capacity and usable fuel. See NOTE 2 for unusable fuel.
Oil Capacity	4 nacelle tanks (Arm 442.0). Capacity for each tank: 8 gallons usable, 12 gallons total. See NOTE 2 for system oil.
Cargo Capacity	See USAF T.O. 1C-130A-1, Section 5
Maximum Operating Altitude	32,600 ft.

Control Surface Movements (deg) See USAF T.O. 1C-130A-2-9	Aileron	Up 25	Down 15
	Aileron Trim Tab	Up 20	Down 20
	Elevator	Up 40	Down 15
	Elevator Trim Tab	Up 6	Down 25
	Rudder	Left 35	Right 35
	Rudder Trim Tab	Left 25	Right 25
	Wing Flap	Down 36 (100%)	

Serial Numbers Eligible

56-0500, 56-534, 56-538, 57-459, 57-482, 57-511

Certificate Basis

The certificate basis is FAR 21.25 (a) (2)

Production Basis

None - Prior to original certification of each aircraft, an FAA representative must perform an inspection for workmanship, materials, and conformity with the approved technical data. All applicable Technical Orders affecting airworthiness must be accomplished.

Equipment

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

NOTE 1

This approval applies to

A. Basic United States Air Force C-130A airplane with no major modification except as required by Drawing List HPA-130-DL-102 dated April 21, 1989, or later FAA approved revision.

B. Airplane certified for the special purpose of agriculture, forest/wildlife conservation, aerial spraying and carrying cargo with the following limitations:

1. The following placard is to be installed in clear view of the pilot:

"RESTRICTED CATEGORY"

"This airplane must be operated as a restricted category airplane and in compliance with the operating limitations stated in USAF T.O. 1C-130A-1, Section V, and in the form of placards, markings, and manuals.

2. Carriage of hazardous materials is prohibited unless compliance is shown with FAR 21.25, FAR 91, and the applicable regulations in the Code of Federal Regulations 49, Part 175.

NOTE 2

A. A current weight and balance report including a list of the equipment included in the certificated empty weight, and loading instructions when necessary, must be in each aircraft at the time of original certification and at all times thereafter.

B. The location of the center of gravity for any gross weight configuration, as determined from T.O. 1-1B-40, Handbook of Weight and Balance Data, must fall within the percent of the mean aerodynamic chord (MAC) shown on the Center of Gravity Limitations Chart (Figure 5-6). For information and method of calculating the airplane center of gravity, refer to T.O. 1C-130A-9, Cargo Loading Handbook and T.O. 1-1B-40, Handbook of Weight and Balance Data.

C. The weight of the system fuel and oil as defined below and hydraulic fluid must be included in the airplane empty weight.
System Fuel: The weight of all fuel required to fill all lines and tanks up to the zero fuel point on the fuel gages in the level flight attitude.

Unusable (includes drainable and trapped fuel):

	Tank	Lbs	Arm
	1	65	555.3
	2	65	565.4
	3	65	565.4
	4	65	555.3
Left Aux.		0	
Right Aux.		0	
Total		260	
Trapped or Line Fuel		149	563.5

* This column includes 41 lbs. of fuel (trapped in lines) distributed to each tank at 5 lbs. per tank.

System Oil: The weight of oil remaining in the engine, lines, and tanks after subtracting the usable oil from the total capacity.

Total: 221 lbs., Arm 442.0

D. Fuel Loading and Usage
   1. Fuel must be loaded and used to provide compliance with the "Fuel Unbalance" limitation contained in USAF T.O. 1C-130A-1. Refer to USAF T.O. 1C-130A-1 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 3

Latest revisions of the following documents are required:

A. USAF T.O. 1C-130A-1, "Flight Manual", Change 3, dated October 21. 1982, or later revision, and USAF T.O. 1C-130A-1-1 must be available in the C-130A aircraft for all flight operations.
B. USAF T.O. 1C-130A-9, "Cargo Loading Handbook", and Supplement No. 1, dated April 28, 1967, must be used to load and restrain cargo.
C. USAF T.O. 1-1B-40, "Handbook of Weight and Balance Data".

NOTE 4

The aircraft must be serviced and maintained in accordance with USAF T.O. 1C-130A-2-1 through 1C-130A-2-13.

FAA Airworthiness Directives for all L-382 series aircraft and Hamilton Standard 54H60 series propellers must be reviewed for applicability and complied with accordingly. Compliance with applicable Time Compliance Technical Orders for the aircraft and engines must be shown.

NOTE 5

C-130A aircraft with Aeroproducts propellers are not approved for restricted category operation. Eligible aircraft shall be modified and the installation accomplished per T.O. 1C-130-936.

NOTE 6

Prior to civil airworthiness certification, Hawkins & Powers Aviation, Inc., must show that the following have been accomplished.

A. All USAF Technical Orders which affect airworthiness must be complied with.
B. All fuel tanks must be inspected for sealant deterioration and repaired as necessary.

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