

FEDERAL AVIATION ADMINISTRATION

A1SW  
Revision 3  
HOWARD  
500

July 17, 1967

TYPE CERTIFICATE DATA SHEET NO. A1SW

This data sheet which is a part of type certificate No. A1SW prescribes conditions and limitations under which the product for which the certificate was issued meets the airworthiness requirements of the Civil Air Regulations.

Type Certificate Holder                      The Dee Howard Company  
International Airport  
San Antonio, Texas

I - Model 500 (Transport Category), Approved February 20, 1963

Engine    2 Pratt and Whitney Double Wasp CB17 or  
R-2800-52WD or R-2800-83AM7D or  
R-2800-103WD Engines  
Carburetor Setting No. 391433-17

Fuel    115/145 minimum grade aviation gasoline  
Water/Methanol Mixture Ratio 50/50

Engine limits				M.P.
	<u>HP.</u>	<u>R.P.M.</u>	<u>in Hg.</u>	<u>Alt. (Ft.)</u>
Takeoff Wet (2 min.)	2500	2800	62.0	S.L.
	2500	2800	61.5	3700
Maximum Continuous Power				
Low Blower (7.29 to 1)	1900	2600	51.5	S.L.
	1900	2600	50.0	7200
High Blower (8.58 to 1)	1750	2600	51.5	10,000
	1750	2600	49.5	15,000

Propeller and                                      2 Hamilton Standard 24E60-41 hubs with four 7037A-50S blades each.  
propeller limits                                  Diameter: Maximum 10' 11-7/8", Minimum 10' 9-1/4".  
No further reduction permitted.  
Settings at 42 inch station:  
    Low Pitch        33°  
    Feathered       88°  
Avoid Ground Operation 1950-2250 r.p.m.  
Avoid In-flight Operation 1900-2175 r.p.m.

Airspeed limits (CAS)	Vne (Never exceed) 11,000 ft. and below	350 m.p.h. (304 K)
	Vc (Max. structural cruising)	310 m.p.h. (269 K)
	Mne (Never exceed mach)	0.56
	Mmo (Normal operating)	0.50
	Va (Maneuvering)	199 m.p.h. (173 K)
	Vfe (Flaps down 14°)	232 m.p.h. (202 K)
	Vfe (Flaps down 35°)	169 m.p.h. (147 K)
	Vlo (Landing gear operation)	220 m.p.h. (191 K)
	Vle (Landing gear extended)	220 m.p.h. (191 K)
	Vll (Landing light extension and operation)	220 m.p.h. (191 K)

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C.G. range (gear down)	Weight	Forward		Aft	
	lb.	Sta. (in.)	% MAC	STA. (in.)	% MAC
	Up to				
	32,000	186.6	25.84	191.0	29.58
	34,000	188.2	27.19	191.0	29.58
	Straight line variation between points given.				
	Retraction moment +44,123 in.-lb. (Moves C.G. aft)				
M.A.C.	117.19 inches				
	Leading edge of M.A.C. Sta. +156.333 in.				
Datum	Fuselage Station 0 (188.12 in. fwd. of Lower Main Wing Beam Centerline at jack points)				
Leveling means	Longitudinal: Lugs on right side of fuselage aft wing trailing edge.				
Maximum weight	Takeoff	34,000 lb.			
	Landing	34,000 lb.			
	Max. Zero Fuel	27,000 lb.			
Minimum crew	2 (Pilot and copilot)				
Maximum passengers	19				
Maximum baggage				Floor	
	<u>Station</u>	<u>Capacity</u>	<u>Loading (lb./ft.<sup>2</sup>)</u>	<u>C.G.(in.)</u>	
	142.5 to 268.75	1500	59	197.5	
Fuel capacity	1546 gal. total usable				
	<u>Tank Location</u>	<u>Capacity (gal.)</u>	<u>Arm (in.)</u>		
	Right and Left Front	191	171.5		
	Right and Left Rear	217	212.0		
	Right and Left Outer Wing	365	182.0		
	<i>See Note 1 for data on unusable fuel</i>				
ADI Fluid	17				
Oil capacity	60 gal. (Total 2 center wing tanks of 30 gal. each which includes 2.25 gal. per tank reserved for feathering.) Arm 212. <i>See Note 1 for data on unusable oil.</i>				
Maximum operating altitude	25,000 ft.				
Other operating limitations	Aircraft shall be operated in compliance with the operating limitations specified in the FAA approved Airplane Flight Manual.				
Control surface movements	Elevator	Up	20°	Down	15°
	Elevator Trim Tab	Up	20°	Down	30°
	Elevator Spring Tab	Up	20°	Down	30°
	Rudder	Left	30°	Right	30°
	Rudder Trim Tab	Left	25°	Right	25°
	Aileron	Up	25°	Down	8°
	Aileron Trim Tab	Up	25°	Down	25°
	Flaps	---		Down	35°
Serial Nos. eligible	500-101 and up.				

Certification basis	CAR 4b dated 12/31/53 through Amendments 4b-1, 4b-2, 4b-3 for gust and landing loads, 4b-7 and exemption 347.
Production basis	None. Prior to original certification of each aircraft, 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.
Equipment	The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification. In addition, Howard Report No. 356, "Howard 500 Equipment List," contains a list of all required equipment plus optional equipment installations approved by FAA.

NOTE 1. Current weight and balance report, including list of equipment included in certificated empty weight and loading instructions when necessary, must be in each aircraft at the time of original certification and at all times thereafter (except in the case of operators having an approved weight control system).

The certificated empty weight and corresponding center of gravity locations must include system oil of 74.5 lb. at +212.0 and unusable fuel of 16 lb. at +171.5, 36 lb. at +212.0, and 60 lb. at +182.0.

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