

**DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION**

4A19
Revision 10
VARGA
(Morrisey)
2150
2150A
2180

August 28, 2008

TYPE CERTIFICATE DATA SHEET NO. 4A19

This data sheet which is a part of Type Certificate No. 4A19 prescribes conditions and limitations under which the product for which the Type Certificate was issued meets the airworthiness requirements of the Civil Air Regulations.

Type Certificate Holder: Augustair, Inc.
 1789 15th Street
 Augusta, GA 30901

I. Model 2150 (Normal and Utility Categories), approved June 24, 1958

Engine	Lycoming O-320-A2A
Fuel	80/87 min. grade aviation gasoline
Engine limits	For all operations, 2700 r.p.m. (150 HP)
Propeller and propeller limits	Sensenich M74DM Static r.p.m.: Not over 2400, not under 2200. No additional tolerance permitted. Diameter: Not over 74 in., not under 72 in.
Airspeed limits	<u>Normal and Utility Categories</u>
	Never exceed 170 m.p.h. (147 knots) CAS
	Max. structural cruise 35 m.p.h. (117 knots) CAS
	Maneuvering 117 m.p.h. (102 knots) CAS
	Flaps extended 86 m.p.h. (75 knots) CAS
C.G. range	(+10.4) to (+17.5) (Normal and Utility Categories)
Empty weight C.G.	None
Maximum weight	1817 lb. (Normal Category) 1570 lb. (Utility Category)
No. seats	2. 1 (+16.8) and 1 (+45.4)
Maximum baggage	50 lb. (+68.8)

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Model 2150 (cont'd)

Fuel capacity See NOTE 1 for data on unusable fuel.

Oil capacity 8 qt. (-33.8)

Serial Nos. eligible MS-1-P, FP-1 and up

II. Model 2150A (Normal and Utility Categories), approved July 31, 1961.

Same as for the Model 2150 except for engine installation, minor changes to nose gear, wheels and brakes, and interior arrangement.

Engine Lycoming O-320-A2C

Fuel 80/87 min. grade aviation gasoline

Engine limits For all operations, 2700 r.p.m. (150 HP)

Propeller and
propeller limits Sensenich M74DM
Static r.p.m: Not over 2400, not under 2200.
No additional tolerance permitted.
Diameter: Not over 74 in., not under 72 in.

Airspeed limits Normal and Utility Categories
Never exceed 170 m.p.h. (147 knots) CAS
Max. structural cruise 135 m.p.h. (117 knots) CAS
Maneuvering 117 m.p.h. (102 knots) CAS
Flaps extended 86 m.p.h. (75 knots) CAS

C.G. range (+10.4) to (+17.5) (Normal and Utility Categories)

Empty weight C.G. None

Maximum weight 1817 lb. (Normal Category)
1570 lb. (Utility Category)

No. seats 2. 1 (+16.8) and 1 (+45.5)

Maximum baggage 50 lb. (+68.8)

Fuel capacity Two 17.5 gal. tanks (+19.6)
See NOTE 1 for data on unusable fuel.

Oil capacity 8 qt. (-33.8)

Serial Nos. eligible SFP-11 and SP-12 through SP-45. These aircraft were produced by Shinn Engineering Company, Santa Ana, California, under licensing agreement with Morrisey Aviation Inc.

VAC-50 and up. These aircraft were produced by Varga Aircraft Corporation, Chandler, Arizona. See NOTE 4.

III. Model 2180 (Normal and Utility Categories), approved February 12, 1981

Engine	Lycoming O-360-A2D Lycoming O-360-A4D
Fuel	91/96, 100/130 or 100 LL min. grade aviation gasoline
Engine limits	For all operations, 2700 r.p.m. (180 HP) - avoid continuous operation between 2150 and 2350 r.p.m.
Propeller and propeller limits	Sensenich 76EM8-0-60 Static r.p.m: 2700 r.p.m. Diameter: Minimum 76 in., Maximum 76 in. (No reduction for repair permitted)
Airspeed limits	<u>Normal and Utility Categories</u> Never exceed 170 m.p.h. (147 knots) CAS Max. structural cruise 135 m.p.h. (117 knots) CAS Maneuvering 117 m.p.h. (102 knots) CAS Flaps extended 86 m.p.h. (75 knots) CAS
C.G. range	Utility - (+10.4) to (+17.5) at 1570 lb. Normal - (+12.0) to (+17.5) at 1817 lb. - (+10.4) to (+17.5) at 1570 lb.
Empty weight C.G.	None
Maximum weight	1817 lb. (Normal Category) 1570 lb. (Utility Category)
No. seats	2. 1 (+16.8) and 1 (+45.5)
Maximum baggage	50 lb. (+68.8)
Fuel capacity	Two 17.5 gal. tanks (+19.6) See NOTE 1 for data on unusable fuel.
Oil capacity	8 qt. (-33.8)
Serial Nos. eligible	VAC-68-77, VAC-160 and up. These aircraft were produced by Varga Aircraft Corporation, Chandler, Arizona. See NOTE 4.

DATA PERTINENT TO ALL MODELS

Datum	Wing leading edge
Leveling means	Top longitudinal longeron member in cockpit
Control surface movements	Elevator Up $16^{\circ} \pm 1^{\circ}$ Down $18^{\circ} \pm 1^{\circ}$ Aileron Up $12^{\circ} \pm 1^{\circ}$ Down $11^{\circ} \pm 1^{\circ}$ Rudder Right $29^{\circ} \pm 1^{\circ}$ Left $29^{\circ} \pm 1^{\circ}$ Flap Down $22^{\circ} \pm 1^{\circ}$

Certification basis	CAR 3 of May 15, 1956, with Amendments 3-1 and 3-2 (See NOTE 3.) Type Certificate No. 4A19 issued June 24, 1958. Application for Type Certificate dated February 12, 1958.
Production basis	None. Prior to original certification of each aircraft, a 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, the following items of equipment are required: <ul style="list-style-type: none"> (a) Stall warning indicator, Safe Flight No. 164 0.5 lb. (-2) (b) FAA Approved Airplane Flight Manual dated: <ul style="list-style-type: none"> (1) June 24, 1958 for Model 2150 (Morrisey) (2) July 28, 1961 for Model 2150A (Morrisey) (3) March 17, 1975 for Model 2150A (Varga), or later FAA approved revision (4) February 12, 1981 for Model 2180 (Varga) or later FAA approved revision

NOTE 1. Current weight and balance report including list of equipment in certificated empty weight, and loading instructions when necessary, must be provided for each aircraft at the time of original certification.

The unusable fuel has been determined to be of negligible value and may be neglected in the computation of the empty weight of the airplane.

NOTE 2. The following placard must be displayed on the instrument panel in full view of the pilot:

"OPERATE IN NORMAL OR UTILITY CATEGORY IN COMPLIANCE
WITH THE APPROVED AIRPLANE FLIGHT MANUAL."

NOTE 3. Models 2150 and 2150A will comply with CAR 3.705 when anti-collision lights are installed in accordance with Drawing MO-51000.

NOTE 4. Serial numbers for airplanes produced by Varga Aircraft Corporation show "VAC" followed by a number and then the year of manufacture. Serial Number example:

VAC-58-76



Serial number in Fiscal year of manufacturing
consecutive order November 1 - October 31

Exceptions to this numbering for airplanes built by Varga Aircraft Corporation are VAC-50, VAC-51, and VAC-52.

Serial number VAC-68-77 was converted from a Model 2150A into a Model 2180 by Varga Aircraft Corporation.

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