

**DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION**

A12SW
Revision 10
Twin Commander
700

January 1, 1990

AIRCRAFT SPECIFICATION NO. A12SW

This data sheet which is part of type certificate No. A12SW prescribes conditions and limitations under which the product for which the type certificate was issued meet the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder Twin Commander Aircraft Corporation
19003 - 59th Drive N.E.
Arlington, Washington 98223

I. Model 700 (Normal Category), Approved October 28, 1977

Engine Two Lycoming TIO-540-R2AD

Fuel 100/130 Minimum grade and 100 low lead aviation gasoline

Engine limits For all operations, 2,500 r.p.m. (340 hp) 44.0 in. Hg. MP up to 16,800 feet altitude in standard atmosphere. Above 16,800 feet the following maximum MP applies for maximum r.p.m.

<u>Altitude (FT)</u>	<u>Max. Allowable MP (in Hg.)</u>
16,800	44.0
17,000	43.6
18,000	41.8
19,000	40.1
20,000	38.5
21,000	36.9
22,000	35.4
23,000	33.9
24,000	32.6
25,000	31.4

Propeller and Propeller limits Two Hartzell HC-E3YR-2ATF/FC 8468-5R or HC-E3YR-24FT/FC-8468-5R 3-blade full feathering
Pitch settings at 30 in Station:
Low 13.8° min. to 15.8° max.
High 84° ± 0.5° (feathered)
Diameter: 81 in. to 79 in.

Airport limits Never exceed: 243 KCAS (280 MPH)
S. L. to 18,000 Ft.
M = 0.51
Above 18,000 Ft.

Maximum structural cruising 208 KCAS (240 MPH)
SL to 18,000 Ft.
M = 0.44
Above 18,000 Ft.

Design maneuvering 161 KCAS (185 MPH)
Minimum control 78 KCAS (90 MPH)
Flap extended

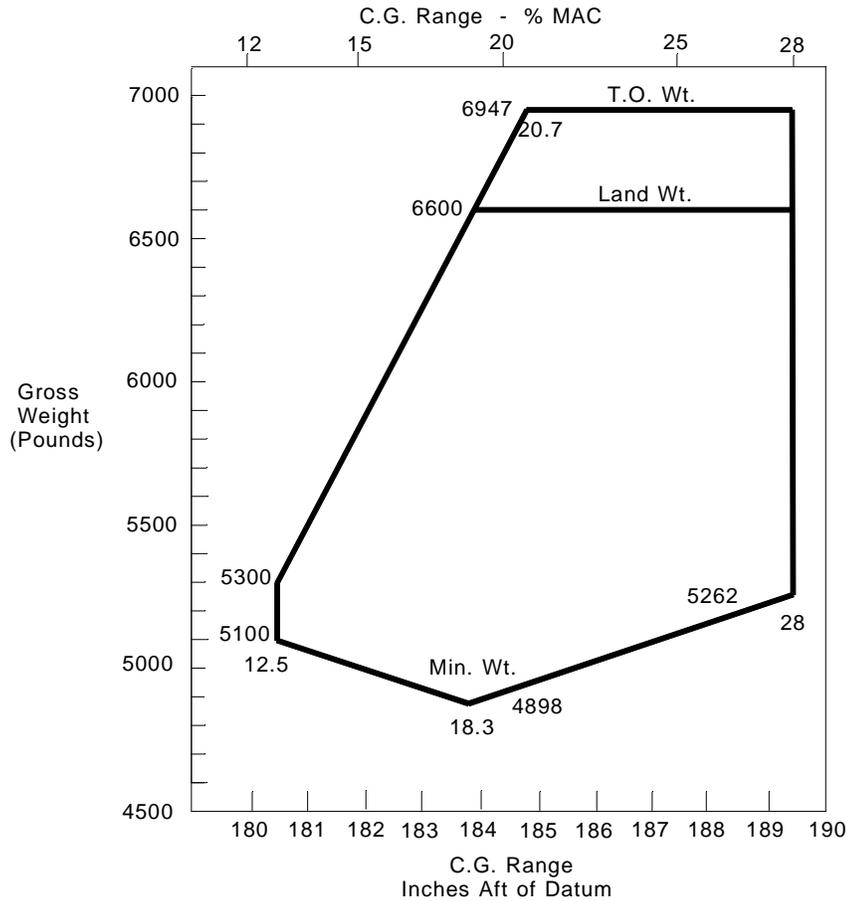
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- Takeoff - 12° 156 KCAS (180 MPH)
 - Landing & Approach-35° 130 KCAS (160 MPH)
 Maximum gear extended 156 KCAS (180 MPH)
 Maximum gear retraction 139 KCAS (160 MPH)
 Maximum gear extension 156 KCAS (180 MPH)

C.G. Range (landing gear extended)

Max. Aft. 28% (Sta. 189.5) 6947 lbs. and 5262 lbs.
 Max. Fwd 20.7% MAC (Sta. 185.2) 6947 lbs.
 12.5% MAC (Sta. 180.3) 5300 lbs. and 5100 lbs.
 Min. Wt. 18.3% MAC (Sta. 183.8) 4898 lbs.

Straight line variation between points given:
 Landing gear retracted moment change:
 -3425 in.-lb.



Empty Weight C.G. range

None

Datum

121.26 in. forward of the forward face of front pressure bulkhead.

Weight limits

Maximum
 Ramp 6987 lbs.
 Takeoff 6947 lbs.
 Landing 6600 lbs.
 Minimum 4898 lbs.

Leveling means

Across and along floor seat tracks.
 (Use bubble scale)

Number of seats	Maximum 8 (Pilot at +158.0) See FAA approved Pilot Operating Handbook for loading instruction.		
Maximum baggage	700 lbs. (300 lbs. at +82.7, 400 lbs. at +303.1)		
Fuel capacity	210 gal. (2 wing tanks, 105 gal. ea., 104 gal. usable at +200.0) See Note 1 for weight of unusable fuel.		
Oil capacity	24 Qts. (12 Qt. per Engine) at +134.0 See Note 1 for weight of undrainable oil.		
Minimum operating altitude	25,000 ft.		
Control surface movements	Wing flaps	Down 35° ± 1°	
	Main surfaces		
	Aileron	Up 22.5° ± .5	Down 17.5° ± .5°
	Rudder	Right 27.85° to 29.13°	Left 21.31° to 23.50°
	Elevator	Up 19° ± 5°	Down 15° ± 1°
	Trim tabs		
	Aileron	Up 16° ± 1° (Aileron in neutral) Down 16° ± 1° (Aileron in neutral)	
	Rudder	Left 36° ± 1° (Rudder full right) Right 20° + 0° (Rudder full left) -1°	
	Elevator	Up 2.0° ± 5° (Elevator full up) Down 28.5° + 1.0° (Elevator -3.5° full down)	
	Serial Numbers Eligible	70002 through 70032	

Specifications Pertinent to All Models

Certifications Basis	FAR 23 effective February 1, 1965, including Amendment 23-14 effective December 20, 1973, and Special Conditions No. 23-75-SW-6 dated May 9, 1977 (Docket No. 16772). FAR 36 effective December 1, 1969, including Amendment 36-2 effective December 1, 1973. Application for Type Certificate April 4, 1974. Compliance with Ice Protection has been certified in accordance with FAR 25, Appendix "C", when ice protection equipment is installed per drawing 300-970001 and the appropriate supplements as listed on the Log of Supplements are included in the Pilot's Operating Handbook.
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 regulation must be installed in the aircraft for certification. Rockwell Report W80-2789 contains a list of required equipment as well as optional equipment installations. This equipment must include a current Airplane Flight Manual.

NOTE 1:

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

The certificated empty weight and corresponding center of gravity location must include undrainable oil and unusable fuel as follows:

Undrainable oil: 1.35 Qt. at +140.2
Unusable fuel: 2 Gal. at +200.0

NOTE 2:

The engine tachometer must be calibrated annually after aircraft has been placed in service to avoid inadvertent operation above 2,500 rpm.

NOTE 3:

- (a) An airframe service life of 10,000 hours has been established.
- (b) Service life of flap actuators is 5,500 hours.

NOTE 4:

Deleted

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