

**DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION**

A1WI Revision 8 Cessna 525 February 15, 2000
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**TYPE CERTIFICATE DATA SHEET NO. A1WI**

This data sheet which is part of Type Certificate No. A1WI prescribes conditions and limitations under which the product for which the type certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder            The Cessna Aircraft Company  
    P.O. Box 7704  
    Wichita, Kansas 67277

**1 - Model 525, (Normal Category), Approved October 15, 1992**

Engines                                    Two Williams International, L.L.C. FJ44-1A turbofans

Fuel                                        Commercial kerosene Jet A, Jet A-1, Jet B, JP-4, JP-5, or JP-8. MIL-I-27686 or MIL-I-85470 anti-icing additive must be blended into the aircraft fuel in concentrations not less than 0.10 percent or more than 0.15 percent by volume.

Engine Limits Static thrust standard day, sea level

Takeoff	1900 lb.
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Max. permissible engine rotor operating speeds:

N1 (fan) 104.4 percent	100% = 17,245 r.p.m.
N2 (Gas Gen.) 99.3 percent	100% = 41,200 r.p.m.

Max. permissible interturbine gas temperatures:

Takeoff	820 Degrees C
Max. continuous	796 Degrees C
Transient (starting 5 sec.)	1000 Degrees C

Airspeed limitations

V <sub>mo</sub> (maximum operating)	
Sea level to 30,500 ft.	263 KIAS (260 KCAS)
M <sub>mo</sub> above 30,500 ft.	0.71 M <sub>I</sub> (0.70 Mach

calibrated)

V <sub>a</sub> (maneuvering sea level)	
10,400 lb. (525-0001 through 525-0359)	187 KIAS (185 KCAS)
10,600 lb. (525-0360 and On)	184 KIAS (182 KCAS)

*See AFM for variations with weight and altitude.*

V <sub>b</sub> (speed for max. gust intensity)	217 KIAS (215 KCAS)
Fe (Flaps extended)	
15 degrees (takeoff & approach)	200 KIAS (198 KCAS)
35 degrees (landing)	161 KIAS (160 KCAS)
60 degrees (ground flaps)	prohibited in flight

Page No.	1	2	3	4	5
Rev. No.	8	8	8	8	8

**1 - Model 525, (Normal Category), Approved October 15, 1992, continued**

## Airspeed limitations (cont'd)

V <sub>mca</sub> (Minimum control speed) Air	92 KIAS (91 KCAS)
V <sub>mcg</sub> (Minimum control speed) Ground	
525-0001 through 525-0359	95 KIAS (93 KCAS)
525-0360 and On	93 KIAS (93 KCAS)
V <sub>LO</sub> (landing gear operating)	186 KIAS (185 KCAS)
V <sub>LE</sub> (landing gear extended)	186 KIAS (185 KCAS)
V <sub>SB</sub> (speed brakes extended)	Any speed with or without flaps
Maximum autopilot operating speed	
Sea level to 30,500 ft.	263 KIAS (260 KCAS)
Above 30,500 ft.	0.71 M <sub>I</sub> (0.70 MACH calibrated)
Maximum tire ground speed	165 knots

## C.G. Range (Landing Gear Extended) Design C.G. Limits

Applicable to airplanes S/N 525-0001 through 525-0359:

Forward Limits: Linear variation from 243.94 in. aft of datum (22.00% MAC) at 10,400 lb. to 242.43 in. aft of datum (19.81% MAC) at 8,800 lb.; Linear variation from 242.43 in. aft of datum (19.81% MAC) at 8,800 lb. to 240.14 in. aft of datum (16.50% MAC) at 7,700 lb.; 240.14 in. aft of datum (16.50% MAC) at 7,700 lb. or less.

Aft Limits: 248.78 in. aft of datum (29.00 % MAC) at 10,400 lb. or less.

Applicable to airplanes S/N 525-0360 and On:

Forward Limits: Linear variation from 244.13 in. aft of datum (22.27% MAC) at 10,600 lb. to 242.43 in. aft of datum (19.81% MAC) at 8,800 lb.; Linear variation from 242.43 in. aft of datum (19.81% MAC) at 8,800 lb. to 240.14 in. aft of datum (16.50% MAC) at 7,700 lb.; 240.14 in. aft of datum (16.50% MAC) at 7,700 lb. or less.

Aft Limits: 248.78 in. aft of datum (29.00 % MAC) at 10,600 lb. or less.

Landing Gear retracting moment (+157.9) in-lb.

Empty Wt. C.G. Range None

MAC 69.078 in. (L.E. of MAC at +228.745 in. aft of datum)

Maximum Weight	S/N 525-0001 through 525-0359	S/N 525-0360 and On
Takeoff	10,400 lb.	10,600 lb.
Landing	9,700 lb.	9,800 lb.
Zero Fuel	8,400 lb.	8,400 lb.
Ramp	10,500 lb.	10,700 lb.

**1 - Model 525, (Normal Category), Approved October 15, 1992, continued**

Minimum Crew for all Flights (see note 5 for cockpit equipment/arrangement restrictions)	One pilot (in the left pilot seat) plus additional equipment as specified in the Kinds of Operations Equipment List (KOEL) contained in the Limitations Section of the FAA Approved Airplane Flight Manual	
	OR	
	one pilot and one copilot	
No. of Seats	Maximum eight (two crew plus six passenger seats)	
Maximum Baggage	Nose compartment	425 lbs. ( + 74.0 in. aft of datum)
	Aft cabin	100 lbs. ( +265.0 in. aft of datum)
	Tailcone	325 lbs. ( +350.0 in. aft of datum)
Fuel Capacity	Two wing tanks: Total usable 1,610 lbs. (238.5 gal) each; ARM = +254.05 in.	
Oil Capacity (Gal.)	Two engine mounted tanks: Total 1.2 each; usable .62 each; ARM = +312.3 in.	
Maximum Operating Altitude	41,000 ft.	
Control Surface Movements	Elevator	Up 20 +0/-1 degrees Down 15 +/-1 degrees
	Elevator Trim Tab	Up 12 +/-1 degrees Down 20 +/-1 degrees
	Rudder	Right 30 +/-1 degrees Left 30 +/-1 degrees
	Rudder Trim Tab	Right 20 +/-1 degrees Left 20 +/-1 degrees
	Aileron	Up 23.5 +/-1 degrees Down 20.5 +/-1 degrees
	Aileron Trim Tab	Up 20 +/-1 degrees Down 18 +/-1 degrees
	Wing Flap	Up 0 +/-1 degrees T.O./Appr. 15 +1/-1 degrees Land 35 +/-1 degrees Ground 60 +/-1 degrees
	Speed Brakes - Upper	Up 0 to 49 +/-2 degrees
	Speed Brakes - Lower	Down 0 to 68 +/-2 degrees
	Thrust Attenuators (Ref to Engine Long. axis)	Stow -6 +/-1 degrees
	Thrust Attenuators (Ref to Engine Long. axis)	Deploy 54 +/-1 degrees
	See Airplane Maintenance Manual for rigging instructions.	
Serial Nos. Eligible	525-0001 and up	
Datum	94.0 in. forward of the front face of the forward pressure bulkhead which is +94.0 in. aft of datum.	

**1 - Model 525, (Normal Category), Approved October 15, 1992, continued**

## Leveling Means

Longitudinal - Left hand upper floorboard aft of FS 151.00.

Lateral - Left hand and right hand upper floorboard aft of FS 152.00.

## Certification Basis - Model 525:

- (1) Federal Aviation Regulation Part 23, as amended by 23-1 through 23-38, and 23-40;
- (2) Part 36 of the Federal Aviation Regulation effective December 1, 1969, as amended by 36-1 through 36-18;
- (3) Part 34 of the Federal Aviation Regulations effective September 10, 1990;
- (4) Compliance with the Noise Control Act of 1972;
- (5) Special Conditions as follows:
  - (a) 23-ACE-55, additional requirements for engine location, performance, characteristics, and protection of electronic systems from lightning and high intensity radiated electromagnetic fields (HIRF).
- (6) Exemption as follows:
  - (a) Exemption No. 5759 granted to use a relaxed "Dutch Roll" damping criteria above 18,000 feet in lieu of damping criteria of FAR § 23.181(b).
- (7) Compliance with ice protection has been demonstrated in accordance with FAR §§ 23.1416 and 23.1419.

Application for type certificate dated February 14, 1990. Type Certificate A1WI issued October 15, 1992, obtained by the Cessna Aircraft Company under Delegation Option Authorization DOA-230428-CE (CE-3) provisions of Part 21 of the Federal Aviation Regulations. The Model 525 is defined by Cessna Airplane Assembly Drawing Number 6300000.

## Production Basis

Production Certificate No. 4 issued and Delegation Option Authorization DOA-230428-CE (CE-3) manufacturer is authorized to issue Airworthiness Certificates under Delegation Option Authorization provisions of Part 21 of the Federal Aviation Regulations.

The Basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification.

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:

Unusable fuel	39.8 lb. at +257.9 in.
Full oil	18.0 lb. at +312.3 in.
Hydraulic Fluid	27.5 lb. at +265.0 in.
Anti-ice Fluid	3.4 lb. at + 91.5 in.

**1 - Model 525, (Normal Category), Approved October 15, 1992, continued**

- NOTE 2. The airplane must be operated according to the FAA Approved Airplane Flight Manual and associated checklist. Required placards are listed on Cessna Drawing 6300000 and are also included in Chapter XI of the Airplane Maintenance Manual.
- NOTE 3. See Maintenance Manual, Chapter 4, "Airworthiness Limitations" for mandatory component retirement life information.
- NOTE 4. All replacement seats (crew and passenger), although they may comply with TSO C39, must also be demonstrated to comply with FAR 23.321, 23.395, 23.561, 23.562, and 23.785.

The foam cushion buildup of all seats (crew and passenger) may not be altered. Any deviations in the foam construction or stiffness must be demonstrated by test to comply with the listed FAR 23 paragraphs.

The RH side facing seat lap belt shall have a buckle which opens from right to left and the LH side facing belted toilet lap belt shall have a buckle which opens from left to right, thereby preventing the buckle's own inertia from causing it to open. Any other configuration must be verified by dynamic test.

- NOTE 5. Approval for operation with a minimum crew of one pilot is based upon the cockpit equipment installation and arrangement evaluated during FAA certification testing. No significant changes may be made to the installed cockpit equipment or arrangement (EFIS, autopilot, avionics, etc.), except as permitted by the approved MMEL, without prior concurrence from the responsible Aircraft Certification Office.
- NOTE 6. Airplanes being exported to France must conform to Cessna Drawings 6390300 and 4711113 or 4711114. Airplanes being exported to Germany must conform to Cessna Drawings 6390350 and 4711113 or 4711114. Configurations approved by the French DGAC and the German LBA are considered to be identical except for items provided in compliance with national operating rules.

- NOTE 7. Certain airplane Serial Numbers meet the initial airworthiness requirements for operation in Reduced Vertical Separation Minimum (RVSM) airspace.

S/N 525-0001 through 525- 0358	Airplanes that have accomplished Cessna Service Bulletin SB525-34-41.
S/N 525-0359	Received factory installation of Dual Ametek AM-250 altimeters.
S/N 525-0360 and On	Airplanes that have received factory installation* of optional Ametek AM-250 copilot's altimeter; and Airplanes that have received factory installation* of optional Collins Pro Line 21 copilot's altimeter; and Airplanes that have accomplished Cessna Service Bulletin SB525-34-40.

\* Equipment installed by the Cessna factory will be identified in the individual airplane equipment list.

Each operator must obtain RVSM operating approval directly from the FAA.

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