



LAA TYPE ACCEPTANCE DATA SHEET  
TADS 823  
CESSNA 120

Issue 1	Initial issue	Dated 24/01/18	JP
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This TADS is intended as a summary of available information about the type and should be used during the build, operation and permit revalidation phases to help owners and inspectors. Although it is hoped that this document is as complete as possible, other sources may contain more up to date information, e.g. the manufacturer's website.

Section 1 contains general information about the type.

Section 2 contains information about the type that is **MANDATORY** and must be complied with.

Section 3 contains advisory information that owners and inspectors should review to help them maintain the aircraft in an airworthy condition. If due consideration and circumstances suggest that compliance with the requirements in this section can safely be deferred, is not required or not applicable, then this is a permitted judgement call. This section also provides a useful repository for advisory information gathered through defect reports and experience.

## Section 1 - Introduction

### 1.1 UK contact

There are a number of [Cessna Authorized Service Centres](#) based in the UK although these are normally used to dealing with more contemporary Cessna models than the 120.

The [International Cessna 120-140 Association](#) provides worldwide unofficial type support and include a [Forum](#).

### 1.2 Description

The Cessna 120 is a high wing, all-metal aircraft of conventional configuration, with a single strut-braced wing and cantilever spring tailwheel type undercarriage. The wings are fabric covered on most examples although metal covered wings were available as a retro-fit. The Cessna 120 does not have wing flaps – this being the main difference between the 120 and 140, the others being equipment that was optional on the 120 and standard on the 140. The aircraft was originally certified in 1946 and a number exist in the UK. Approximately 20 operate on an LAA administered Permit to Fly.

Originally the aircraft were fitted with a Continental C-85 or C-90 engine and some of the LAA administered aircraft have been re-engined with a Continental O-200-A. The standard propellers used are a two blade McCauley or Sensenich metal, fixed pitch propeller although LAA examples also have wood Evra, Ken Fern and Lodge propellers installed.

Note that the only propeller(s) approved for an individual aircraft are those listed on the individual aircraft's Operating Limitations document or in the [PTL/1](#) (Propeller Type List) for the type.

The aircraft is classed as an SEP (previously termed a Group A).



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**Section 2 – Mandatory information for owners, operators and inspectors**

At all times, responsibility for the maintenance and airworthiness of an aircraft rests with the owner. Condition No 3 of a Permit to Fly requires that: *“the aircraft shall be maintained in an airworthy condition”*.

2.1 Fast Build Kit 51% Compliance

Not applicable

2.2 Build Manual

Not applicable as the aircraft type was factory built.

2.3 Build Inspections

Build inspection schedule: not applicable

Inspector approval codes A-A, A-M or V. An Inspector signing off final inspection also requires ‘first flight’ endorsement.

2.4 Flight Manual

Each aircraft should have a copy of the [Cessna 120 Operation Manual](#).

2.5 Mandatory Permit Directives

The following MPDs are applicable to this aircraft type:

[MPD 1995-001 R5](#) Regarding ex C of A aircraft now operating on a Permit to Fly

Also check the LAA website for MPDs that are non-type specific ([TL2.22](#)).

2.6 LAA Required Modifications (including LAA issued AILs, SBs, etc)

There are no specific LAA modifications, AILs or SBs required for the Cessna 120.

2.7 Additional engine operating limitations to be placarded or shown by instrument markings

Notes:

- Refer to the engine manufacturer’s latest documentation for the definitive parameter values and recommended instruments.
- Where an instrument is not fitted, the limit need not be displayed.



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2.8 Control surface deflections

Control	Movement	Deflection	Notes
Ailerons	Up	22° ± 1°	Aileron cable tension approximately 30 lb (control wheel fully forward)
	Down	14° ± 1°	
Elevators	Up	20° ± 1°	Elevator cable tension approximately 30 lb
	Down	20° ± 1°	
Elevator tab	Up	6° ± 1°	Elevator tab cable tension approximately 30 lb
	Down	33° ± 1°	
Rudder	Left	16° ± 1°	Cables tensioned so that brake pedal hinge line is 6" aft of the firewall when rudder neutral
	Right	16° ± 1°	

2.9 Operating Limitations and Placards

(Note that the wording on an individual aircraft's Operating Limitations document takes precedence, if different.)

1. Maximum number of occupants authorised to be carried: Two
2. The aircraft must be operated in compliance with the following operating limitations, which shall be displayed in the cockpit by means of placards or instrument markings:
  - 2.1 Aerobatic Limitations  
Aerobatic manoeuvres are prohibited.  
Intentional spinning is prohibited.
  - 2.2 Loading Limitations  
Maximum Total Weight Authorised: 1450 lbs (658 kg)  
CG Range: 13.5 inches to 17.7 inches aft of datum  
Datum Point is: leading edge of the wing
  - 2.3 Engine Limitations  
Maximum Engine RPM (C85-12): 2575  
Maximum Engine RPM (O-200-A): 2700
  - 2.4 Airspeed Limitations  
Maximum Indicated Airspeed (V<sub>NE</sub>): 140 mph (122 knots)
  - 2.5 Other Limitations  
The aircraft shall be flown by day and under Visual Flight Rules only.  
Smoking in the aircraft is prohibited.

Additional Placards:

"Occupant Warning - This Aircraft has not been Certificated to an International Requirement"

A fireproof identification plate must be fitted to fuselage, engraved or stamped with aircraft's registration letters.



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2.10 Maximum permitted empty weight

Not applicable.

**Section 3 – Advice to owners, operators and inspectors**

3.1 Maintenance Manual

The [Cessna 120 Operation Manual](#) includes some useful maintenance information.

There is also an [Illustrated Parts Catalogue](#). Parts are still available through Cessna (in the UK Cessna parts are available through [Cessna Authorized Service Centres](#) as well as some UK parts suppliers). Many PMA (pattern) parts are also produced by [McFarlane Aviation Products](#) and [Univair Aircraft Corporation](#) (UK based parts suppliers often supply PMA parts from these parts manufacturers).

3.2 Standard Options

There are no standard options for the type.

Note: Any modifications to this type of aircraft require LAA Engineering approval for that specific modification and aircraft.

3.3 Manufacturer's Information (including Service Bulletins, Service Letters, etc)

In the absence of any over-riding LAA classification, inspections and modifications published by the manufacturer should be satisfied according to the recommendation of the manufacturer. It is the owner's responsibility to be aware of and supply such information to their Inspector.

Notes on various Airworthiness Directives can be found in Para 3.4.

AD No	Information Type	Subject	Applicability
<a href="#">FAA AD 46-44-01</a>	Airworthiness Directive	Rudder stop bolts	s/n 8001 – 9619
<a href="#">FAA AD 46-44-02</a>	Airworthiness Directive	Safety belt bracket reinforcement	s/n 8001 – 9619
<a href="#">FAA AD 46-44-03</a>	Airworthiness Directive	Windshield retaining channel	s/n 8001 – 9619
<a href="#">FAA AD 46-44-04</a>	Airworthiness Directive	Carburettor hot air ducts	Up to and including s/n 9721
<a href="#">FAA AD 46-44-05</a>	Airworthiness Directive	Engine mounting bolts	s/n 8001 - 8517
<a href="#">FAA AD 47-06-10</a>	Airworthiness Directive	Aileron carry-through bar	Up to and including s/n 9669
<a href="#">FAA AD 47-06-11</a>	Airworthiness Directive	Forward doorposts cracks	s/n 8001 - 8799
<a href="#">FAA AD 47-26-02</a>	Airworthiness Directive	Wing leading edge rework	s/n 8000 - 13777
<a href="#">FAA AD 47-43-01</a>	Airworthiness Directive	Primer line relocation	Up to and including s/n 11842
<a href="#">FAA AD 47-43-02</a>	Airworthiness Directive	Fuel selector valve handle	s/n 8001 - 8480



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<a href="#">FAA AD 47-43-03</a>	Airworthiness Directive	Seaplane spreader struts	120 seaplanes operated without spreader struts
<a href="#">FAA AD 47-43-04</a>	Airworthiness Directive	Rudder control cable horns	s/n 8001 – 12349
<a href="#">FAA AD 47-43-05</a>	Airworthiness Directive	Elevator spar web reinforcement	s/n 8001 – 13780
<a href="#">FAA AD 47-43-06</a>	Airworthiness Directive	Aileron support ribs	s/n 8001 – 10209
<a href="#">FAA AD 47-43-08</a>	Airworthiness Directive	Beech R003-201 propeller blades	120 equipped with these blades and a C-85
<a href="#">FAA AD 47-50-02</a>	Airworthiness Directive	Fuselage bulkhead	Up to and including s/n 14289
<a href="#">FAA AD 48-05-04</a>	Airworthiness Directive	Operator limitations placard	All s/n
<a href="#">FAA AD 48-07-01</a>	Airworthiness Directive	Stabilizer attaching bolts	s/n 8001 - 14329
<a href="#">FAA AD 48-25-02</a>	Airworthiness Directive	Welded exhaust muffler	All 120 with Cessna welded exhaust mufflers
<a href="#">FAA AD 48-25-03</a>	Airworthiness Directive	Wing drag wire system	All s/n
<a href="#">FAA AD 50-31-01</a>	Airworthiness Directive	Fin spar reinforcement	s/n 8001 – 15035 without 0.051 reinforcing channel or 0.040 reinforcing angles
<a href="#">FAA AD 51-21-01</a>	Airworthiness Directive	Rudder rib flanges	s/n 8001 – 10650 or other s/n not having P/N 0433131 steel reinforcing channel
<a href="#">FAA AD 61-25-01</a>	Airworthiness Directive	Met-Co-Aire landing gear	All s/n modified with Met-Co-Aire tricycle undercarriage STC
<a href="#">FAA AD 62-24-03</a>	Airworthiness Directive	Cabin heat system	All s/n with McKenzie Aircraft Repair Inc Lycoming engine installation STC
<a href="#">FAA AD 79-08-03</a>	Airworthiness Directive	Electrical system	s/n 8000 - 15075 and 15200 - 15724
<a href="#">FAA AD 81-15-03</a>	Airworthiness Directive	Engine inlet air filters	All s/n with Brackett engine air filter
<a href="#">FAA AD 96-09-06</a>	Airworthiness Directive	Air filter assemblies	All s/n with Brackett engine air filter utilizing a neoprene gasket
<a href="#">FAA AD 96-12-22</a>	Airworthiness Directive	Full flow engine oil adapter	All s/n with Cessna engine oil filter adapter installed
<a href="#">FAA AD 2004-19-01</a>	Airworthiness Directive	Upper shoulder harness adjusters	s/n 8000 - 15075
<a href="#">FAA AD 2006-03-08</a>	Airworthiness Directive	Vacuum pumps	All s/n with Aero Advantage ADV211CC or ADV212CW vacuum pumps

The [FAA Airworthiness Directives](#) database should be checked for new or revised ADs.

There are numerous [service information publications](#) issued for the Cessna 120. Please contact LAA Engineering for any further information including an up to date list and copies of any of the publications.



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3.4 Special Inspection Points

There are no special inspection points beyond those already highlighted in various Airworthiness Directives. Below are some expanded notes on some of the above Airworthiness Directives.

1. FAA AD 46-44-01 Rudder stop bolts: Removal of the auxiliary rudder stops (two bolts) to eliminate the possibility of the flange of the bellcrank on the rudder bars catching on the bolt heads and locking the system.
2. FAA AD 46-44-02 Safety belt bracket reinforcement: Reinforced attachment of the safety belt brackets to fuselage skin by the addition of three AN 456AD5 rivets at the safety belt end of each bracket. Make certain that rivets pass through both bracket and fuselage skin to ensure a solid connection.
3. FAA AD 46-44-03 Windscreen retaining channel: Refers to reworking of the attachment of the windscreen upper edge by the installation of a retaining channel deeper than the original and extending the entire width of the fuselage. This modification is necessary to ensure the windscreen will not pull out at the top and alter the airflow, thereby seriously affecting the operational characteristics of the aircraft.
4. FAA AD 46-44-04 Carburettor hot air ducts. Refers to the replacement of carburettor hot air hoses installed up to 1946. Hoses should only be renewed with Cessna supplied parts. Note: there should be no induction hose as old as 1946 residing on any LAA aircraft!
5. FAA AD 47-06-10 Aileron carry-through bar: Install carry-through bar between the ends of the aileron control chain that is installed at the top of the control "T" to make a continuous loop at this chain installation so that both control wheels operate positively in the same direction. This is necessary to prevent possible locking of ailerons at full throw.
6. FAA AD 47-26-02 Wing leading edge rework: To eliminate the possibility of wing nose rib buckling and resultant failure of wing leading edge it is required that all aircraft within the above serial number range are modified by the installation of four rivets to the wing nose rib upper surfaces (rib numbers 2 to 10), reinforcing the spot welds introduced at manufacture. This AD also requires the addition of extra rivets (or Cessna fabric clips) to the top surfaces of all wing ribs.
7. FAA AD 47-43-01 Primer line relocation: To preclude the possibility of fuel coming into contact with the exhaust manifold in the event of a primer line failure the primer line must be re-routed and added protection installed forward of the engine bulkhead.
8. FAA AD 47-43-04 Rudder control cable horns: Gain access to the control cable horns on the cockpit rudder bar and inspect for signs of bending (probably caused through excessive foot pressure during parking brake operation and resulting in reduction of rudder travel). Bent parts which can be straightened without cracking should be reinforced by the installation of Cessna Pt No. 0411303. Cracked parts should be replaced with Cessna Pt No. 0310168 made of 0.080-inch steel. Note: This AD requires repetitive inspection every 100 hours, but for LAA aircraft it may be deferred to the following Permit renewal inspection or up to 150 hours, whichever is the sooner. This AD no longer applies once horns have been reinforced.
9. FAA 47-43-05 Elevator spar web reinforcement: Inspect for fatigue cracks in the elevator spar web at the hinges. It is not necessary to remove the elevator to inspect. These cracks start at the rivets or at an edge of the fitting and



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progress around the fitting until the elevator breaks loose. Cessna Service Letter No. 46 refers and specifies reinforcement repair schemes in the event of a crack being discovered. Note: This AD requires repetitive inspection every 100 hours, but for LAA aircraft it may be deferred to the following Permit renewal inspection or up to 150 hours, whichever is the sooner. This AD no longer applies once spar webs have been reinforced.

10. FAA AD 47-43-06 Aileron support ribs: Inspect the aileron support ribs for indications of buckling or cracking especially in the narrow part of the web next to the lightening hole and in the top flange just forward of the doubler plate. Damaged supports should be replaced with modified parts available from Cessna. Note: This AD requires repetitive inspection every 100 hours, but for LAA aircraft it may be deferred to the following Permit renewal inspection or up to 150 hours, whichever is the sooner. This AD no longer applies once modified parts have been fitted.
11. FAA AD 47-50-02 Fuselage bulkhead: Inspect the lower right-hand corner in the cut-out in the fuselage rear bulkhead for cracks which usually extend down to the rivet holes at the nearest anchor nut. If cracks are found repair by installation of Cessna modified bulkhead. Note: This AD requires repetitive inspection every 100 hours, but for LAA aircraft it may be deferred to the following Permit renewal inspection or up to 150 hours, whichever is the sooner. This AD no longer applies once modified parts have been fitted.
12. FAA AD 48-05-04 Operational limitations placard: Note: LAA Permit to Fly Operating Limitations take precedence over other operational limitations for aircraft operating on an LAA administered Permit to Fly.
13. FAA AD 48-07-01 Stabilizer attaching bolts: Inspect the two bolts attaching the horizontal stabilizer to the fin post for tightness and proper length. If no bolt threads extend through the fibre lock rings of the anchor nuts inside the stabilizer attachment fitting, or if the bolts show any indication of having backed off when checked with a wrench, they should be replaced with AN4-5A bolts on Serial Nos. 10091 and up, or AN3-5A bolts on earlier serial numbers. In making the tightness check use caution to avoid stripping the threads in the anchor nut. If the new bolts do not develop at least 3 inch- pounds torque in the anchor nut, AN4-H5A or AN3-H5A (drilled head) bolts should be substituted and safetied together with wire. Check the clearance of the elevator horn and horn bolts with respect to the cut-outs in the fin spar and increase it to a minimum of 1/8 inch wherever necessary. This inspection must be carried out annually.
14. FAA AD 48-25-02 Welded exhaust muffler: Remove heat muffers from the carburettor hot air and cabin hot air heat exchangers and inspect the muffler assemblies for evidence of cracks particularly adjacent to where the exhaust stacks and tailpipe are welded to the muffler. This AD requires repetitive inspection every 25 hours. Note: This AD does not apply to the more modern Cessna 150 'clamped' exhaust type found fitted to most LAA Cessna 120s and is available as a retro-fit.
15. FAA AD 48-25-03 Wing drag wire system: Inspect wing drag wire system for loose or broken drag wires and inspect ribs for damage. Inspection openings should be installed aft of the rear spar just inboard of Rib 5 and just outboard of Rib 10. Drag wires should be rerigged if loose, or replaced if broken, and drag ribs should be repaired or replaced if buckled. No. 6 drag wires in the outer wing panel found broken are to be replaced with No. 8. Buckling of the intermediate rib flanges at the spar cut-outs does not render the wing unairworthy, however, reinforcement with Cessna Pt No. 10004-58 is recommended. If the flanges are



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cracked the reinforcement should be installed. Note: This AD requires repetitive inspection every 100 hours, but for LAA aircraft it may be deferred to the following Permit renewal inspection or up to 150 hours, whichever is the sooner.

16. FAA AD 50-31-01 Fin spar reinforcement: This AD requires removal of the fin and inspection of the fin rear spar for cracks. Cracked spars must be replaced with modified Cessna fin spar Pt No. 0431129 and undamaged fin spars must be modified by installation of reinforcing angles Cessna Pt Nos. 0431145 & 1431145-1.
17. FAA AD 51-21-01 Rudder rib flanges: Inspect bottom rib of rudder for kinks or cracks in the rib flanges just aft of the rudder horn fitting. If there is any damage, the bottom rib assembly should be replaced with Cessna Pt No. 0433106, since the damage may progress until the rib breaks in two with the loss of rudder control. If no damage is detected, installation of a steel reinforcing channel, Cessna Pt No. 0433131, only is required.
18. FAA AD 79-08-03 Electrical system: To prevent an in-flight electrical system failure and/or smoke or fire in the cockpit disconnect the cigar lighter receptacle from the electrical system and either remove or stow the wire (providing suitable insulation) or reconnect the wire to the electrical bus by using an existing or newly installed circuit protection device that is properly rated to protect the wire gauge used.
19. FAA AD 2004-19-01 Shoulder harness adjusters: This AD supersedes FAA AD 86-26-04. Some Cessna supplied shoulder harness Accessory Kits (AK) are known to have been shipped between September 1984 and September 1986 with a small wire spring inadvertently installed on the belt friction pin. This condition could possibly prevent the harness from maintaining proper belt length adjustment and tension. Belts should be inspected to determine if spring is installed. If installed, the spring must be removed. Cessna Service Bulletin SEB86-8 refers and provides guidance on identification of suspect harness assemblies.

### 3.5 Special Test Flying Issues

Handling is deemed typical of a vintage aircraft of this era.

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Please report any errors or omissions to LAA Engineering: [engineering@laa.uk.com](mailto:engineering@laa.uk.com)