



LAA TYPE ACCEPTANCE DATA SHEET
TADS 054
JODEL D9

Issue 1	Initial Issue	26/01/2021	MR
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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 and operate the aircraft in an airworthy and safe 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

Spares are available from Sandalwood Services, www.sandalwoodservices.com

1.2 Description

The Jodel D9 Bebe is a single-seat, all-wood aircraft that was first introduced in France in the late 1940s as an amateur-built aircraft. The design was the first aircraft offering by Jodel with later models all sharing similar construction methods and easily recognisable polyhedral wing.

The construction of the D9 Bebe is all-wood with a built-up spruce fuselage and a thin ply covering. The wings utilise built-up stick type ribs that slide along an all-wood box type spar that, once assembled, has a ply covered leading edge D-box. The tail feathers follow similar methods of construction as the wing. The aircraft is fabric covered. The landing gear is a telescopic type that is mounted outboard on each wing giving a large track. The tail wheel is typical of many tail draggers in being a bent spring steel type with castoring tail wheel. Some D9 Bebe aircraft have adopted a Sonerai type bent aluminium undercarriage mounted to the fuselage though no such examples exist on the UK register. The Jodel D9 is classified as an SEP aircraft within the UK.

The Jodel D9 almost exclusively uses a VW conversion with a capacity of 1600cc.

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.



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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. A Condition 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 on plans built aircraft.

2.2 Build Manual

The Jodel D9 Bebe is constructed from traditional plan sets detailing each major assembly and its sub components. These plans provide all necessary detail to complete the aircraft, no manual is provided.

2.3 Build Inspections

Build inspection schedule 1 (Wooden Aircraft).
Inspector approval codes A-A or A-W. Inspector signing off final inspection also requires 'first flight' endorsement.

2.4 Flight Manual

None.

2.5 Mandatory Permit Directives

None specifically applicable to this aircraft type.

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

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

None.

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.

With VW: Maximum CHT: 225°C
 Maximum EGT: 800°C
 Maximum oil temperature: 90°C
 Minimum oil pressure: 2.5 kg/cm² @ 3000 rpm



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2.8 Control surface deflections

Ailerons	Up: 10.5 – 12.5° Down: 10.5 – 12.5°
Elevators	Up: 27 - 32° Down: 25 - 30°
Elevator tab	Up: 30° Down: 30°
Rudder	Left: 20 - 22° Right: 20 - 22°
Flap	Down: 23 - 24° (<i>Not 29-31 as shown on plans</i>)

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: One
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: 320 kg
CG Range: 10.4 inches to 15.32 inches aft of the datum
Datum Point is: leading edge of rectangular portion of wing
 - 2.3 Engine Limitations
Maximum Engine RPM: 3300
 - 2.4 Airspeed Limitations
Maximum Indicated Airspeed (V_{NE}): 124 mph
 - 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

A customised version of the LAA Generic Maintenance Schedule may be used. Further information on maintenance schedules can be found in the [Aircraft Maintenance](#) section of the LAA website.

3.2 Manufacturer's/Standard Options

None.

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.

The following ADs apply to the type (note that it is LAA policy that these be applied), copies of ADs available from LAA Engineering if required:

<i>AD reference</i>	<i>Summary</i>
59.7.2	<p><i>Inspection of rear bearing supporting torsion bar, joystick and aileron control</i></p> <p>Remove the central under-fuselage inspection panel and after slacking off a quarter turn the two wood screws holding the rear bearing, check that there is no play between the bearing and the bore in the spar boom. If play exists, one of the following actions will apply:</p> <ol style="list-style-type: none">If play is less than 0.5mm, re-tighten screws and return to service.If play is between 0.5mm and 1.5mm then the aircraft should not be flown until the play between the bearing and its seating has been adjusted.If the play is in excess of 1.5mm then further flight must not be undertaken. Contact LAA for advice. <p>This AD requires repetitive inspection every 50 hours but for LAA aircraft may be deferred to the following Permit renewal inspection or up to 75 hours, whichever is the sooner.</p>
59.22.4	<p><i>Installation of leading edge attachments to give stall warning</i></p> <p>All examples of these aircraft are required to have stall warning strips attached to the leading edges of the wings in accordance with the size and position defined in Jodel drawing D.9-01.</p>
63.22.21	<p><i>Aileron control torsion tube – testing</i></p> <p>Following a known breakage that could have had catastrophic consequences, all D9 aircraft were required to have their aileron</p>

control torque tube (tube passing through the spar at the bottom of the control column) removed and returned to the factory for 'testing'. Parts tested satisfactory were returned with a "V" stamped on the front part of the tube or replaced with a modified tube stamped with a "W" on the front part of the tube. This was to be accomplished no later than 1 May 1964. Owners of D9 aircraft which were built prior to May 1964 and which do not exhibit a "V" or "W" as described, and for which there is no logbook confirmation that the AD is already complied with, should contact LAA for advice.

66.6.26 *Aileron double pulley assembly – inspection and/or modification*

There have been several failures of the brazing on the pins that retain the aileron pulley supports (four pins per aircraft), situated roughly mid-point on each wing. By 1966 all affected model Jodels were manufactured with welded rather than brazed pins and all previously manufactured aircraft had to be modified accordingly. Using a torch and mirror, inspectors should check that all D9 aircraft have welded pins rather than brazed.

3.4 Special Inspection Points

- Wing trailing edge attachment bolts: Jodel wing trailing edge attachment bolts (x2) are known to be particularly subject to corrosion. It is considered wise to remove these bolt every couple of years and renew as necessary. Replacement bolts are available from Jodel parts suppliers.
- Brake jam: an LAA Jodel D120 was damaged on landing when the starboard wheel brake jammed on. Subsequently, when the wheel was spun with the aircraft jacked up, it was again found to lock up. Investigation showed that grooves had been worn in the aluminium brake shoes at the points where the brake adjustment snail cams impinged on them and with the changed contact angle between the cams and shoes, the return springs could tend to push the shoes into contact with the brake drum. Because the fleet of LAA Jodels is not going to get any younger this might be an indication of a problem that is set to increase. Early inspection of brake units is recommended.
- Wooden structure – damage and deterioration: Jodels are well known for their tendency to ground loop if mishandled on landing. The undercarriage is designed to collapse sideways in such a way that there is a good chance the wing spar will remain undamaged. However, instances of spar damage are known to have occurred even after apparently benign ground loop incidents. Very thorough inspection will be required after all such events. Other parts of the wooden structure particularly prone to damage are the engine firewall area behind the metal bulkhead, where moisture and oil soakage can lead to early deterioration, and in the aft fuselage tail-post area where these contaminants are also likely to collect. These areas are always worth examining closely and special attention should be given to keeping drain holes clear.
- Bozec fuel cock failure – inspection: in 1987 there was a double fatality accident occurring to an LAA Jodel D112. The aircraft appears to have stalled and spun in from low altitude just after a normal touch-and-go manoeuvre. The reason was never positively identified but AAIB investigation did discover that the fuel cock had become disrupted. The following is copied directly from their report: "Investigation centred on the fuel cock, originally manufactured by Le Bozec in

France, which is located immediately under the fuel tank and is operated by reaching forward under the instrument panel. The operation is that a plunger is moved downwards, within the barrel, to allow fuel to flow to the carburettor: the travel of the plunger is restricted only by a grub screw located within a slot on the plunger. On G-BHIM, however, the plunger was found separated from its barrel and it was apparent that the top of the slot had been worn away, allowing the plunger to extend further, and the grub screw to wear a groove along the cork plug. It could not be demonstrated conclusively that the plunger had been displaced from the barrel in flight, rather than in the impact, but the physical evidence suggests that even a light disturbance could have been sufficient to provoke a leakage of fuel". As a direct result of this accident the CAA published Airworthiness Directive 002.08.87 requiring repeat three-yearly dismantling and inspection of Bozec fuel cocks. Due to the influence of EASA, the CAA cancelled the AD on 28th September 2003. However, because of the useful safety information it provides we have continued to present the AD here, though it now provides no mandatory action. The information is presented here because these fuel cocks are known to be fitted to Jodel D112 aircraft and are probably fitted to many other Jodel models as well as other non-Jodel aircraft. The AD follows:

002.08.87 - Inspection of Le Bozec fuel cock. Remove and dismantle fuel cock. Inspect for correct functioning and in particular that the cork end of the grub screw slot is sound and not in danger of being worn through. Replace any defective parts. This AD requires repetitive inspection every three years.

- Gilcouss electric fuel pump – replacement: due to ageing of the neoprene diaphragms fitted to Gilcouss electric fuel pumps, reference 22657, and non-availability of spare parts, these pumps are no longer to be used. They are known to be fitted to Jodel DR1050 and 1051 but are likely to be found on other Jodel models as well as other non-Jodel aircraft. In 1989 the French DGAC published AD 89.105 prohibiting the use of these pumps and the LAA considers this AD to be mandatory for all LAA aircraft, including homebuilts. The AD follows:

89.105 - Gilcouss Equipment Electric Fuel Pump – Replacement. Remove all affected pumps (reference 22657) from service and replace with alternative part. (A replacement kit is available for Jodel aircraft.)

- Fuel tank floats: the cork floats fitted to the electric gauge senders of many Jodels are difficult to inspect without removal. However, several cases of breakdown and splitting of the corks (originals will be upwards of 40 years old!) have been experienced.
- Cowling fasteners: the frequent removal of the two piece fibreglass cowlings fitted to many variants results in wear to the Dzus fasteners. This can result in partial cowling detachment in flight - including quite frequently opening of the oil filler door where fitted. Replacement fasteners are the cure. Common practise in France is also to drill the rear cowling locator pegs to take quick release pins for positive cowling retention.
- Tailwheel steering: Directional control problems (aggravating the Jodel's ground loop tendencies) are exacerbated by incorrectly tensioned tailwheel leaf springs, by worn or incorrectly adjusted steering springs, and worn castoring/steering mechanisms. Replacement of worn-out wheel assemblies and steering springs by new Maule items has been found to give excellent results. In particular the Maule anti-shimmy steering springs are very effective. The advice of a reliable supplier should be sought in determining which equipment is most suitable in a given case.



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3.5 Operational Issues

None.

3.6 Standard Modifications

None.

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Please report any errors or omissions to LAA Engineering: engineering@laa.uk.com