



LAA TYPE ACCEPTANCE DATA SHEET
TADS P04
ARPLAST (ECOPROP)

Issue 1	Initial issue	Dated 16/02/21	JP
Revision A	Minor editorial changes to sections 2.6 & 2.7	Dated 23/02/21	JP

This TADS is intended as a summary of available information about the propeller type and should be used during the overhaul, operation and permit revalidation phases to help owners and inspectors. Although it is hoped that this document is as complete a summary as possible, other sources contain more complete information, e.g. the manufacturer's website.

Section 1 contains general information about the propeller type and its variants.

Section 2 contains information about the propeller type that the LAA considers **mandatory** and must be complied with.

Section 3 contains advisory information that owners and inspectors should review to help them maintain the propeller 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 Contact Information

UK Contact: Refer to note in para 1.2

Address: n/a

Tel: n/a

Email: n/a

Website: n/a

Manufacturer contact information:

Address: Refer to note in para 1.2

Tel: n/a

Email: n/a

Website: n/a

1.2 Description

This French manufacturer produced propellers using aluminium alloy machined or cast hubs and composite blades but stopped trading around 2015.

The original design of Arplast blades were cellular foam-cores with woven E-glass/epoxy skinning, with carbon ribbon reinforcement. The later Arplast 'Ecoprop' blades omitted the cellular foam core, being solid epoxy/glass/carbon composite. Round cross-section aluminium alloy shanks are incorporated at the root ends which locate into the hub.

The majority of Arplast propellers are ground-adjustable in pitch but a later development was the Arplast 'PV50' in which the blade roots are mounted in ball races and an electric motor and gearbox situated in the propeller spinner provide in-flight adjustable pitch, controlled via a switch in the cockpit.



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Note: [DUC Hélices](#) announced in the [News](#) section of their website that following the closure of Arplast, DUC Hélices had taken over the Arplast tools and can provide after-sales service and repairs.

UK based suppliers of DUC Hélice propellers are [EuroFOX Aviation](#) and [Metal Seagulls](#) who may be able to assist with enquiries.

Section 2 Mandatory information for owners, operators and inspectors

At all times, responsibility for the maintenance and airworthiness of an aircraft (including the propeller) rests with the owner. A condition stated on a Permit to Fly requires that: "*the aircraft shall be maintained in an airworthy condition*".

2.1 Lifed Items

Refer to specific manufacturer's information wherever possible.

2.2 Operator's Manuals

Where possible, the manuals describing setup, operation and maintenance procedures for the propeller should be obtained from the manufacturer or importer and retained with the aircraft's records.

<i>Reference ID</i>	<i>Dated</i>	<i>Description</i>
Arplast PV-50 Manual	26 Oct 18	Arplast PV-50 Manual (Lyndhurst Touchdown Services)

2.3 Maintenance Schedule

Refer to [Arplast PV-50 Manual](#).

Propellers fitted to LAA administered aircraft that are maintained either in accordance with the manufacturer's maintenance schedule, the CAA Light Aircraft Maintenance Schedule (LAMS) [CAP411](#) or the LAA Generic Maintenance Schedule, further details of which can be found in LAA Technical Leaflet [TL 2.19: The LAA Generic Maintenance Schedule](#). Note: The CAA and LAA produced maintenance schedules were originally written around the maintenance requirements of aircraft fitted with traditional aircraft engines and propellers.

Some aircraft may have mandated maintenance requirements and/or schedules which are stated on the aircraft's Operating Limitations document and these must be followed.

More information on maintenance schedules can be found in the [Aircraft Maintenance](#) section of the LAA website.

Variable pitch propellers require a dedicated log book. Log books can be purchased from the [LAA Online Shop](#).

2.4 Airworthiness Directives

Non-certified type so no type-specific applicable Airworthiness Directives.



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2.5 Mandatory Permit Directives

No type-specific MPDs at this time.

Check CAA [CAP 661](#) which lists MPDs issued before 31 January 2012 and is no longer being updated.

The CAA now provides links to MPDs issued after 31 January 2012 on the [CAA MPD Listing](#) page of their website.

The LAA website should be checked for MPDs that are non-type specific in LAA Technical Leaflet [TL 2.22: Non-Type Specific MPDs](#).

2.6 CAA Mandatory Requirements for Airworthiness CAP747 and Civil Aircraft Airworthiness Information and Procedures (CAAIP) CAP562

No type specific requirements or information at this time.

Refer also to CAA publications [CAP747](#) and [CAP562](#) that contain information that may be relevant to LAA administered aircraft and should be checked for applicability.

In particular, refer to [CAP747](#) Generic Requirement GR No. 17 which concerns the maintenance requirements for variable pitch propellers installed on aircraft holding a UK Certificate of Airworthiness but may also be pertinent to LAA administered aircraft.

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

Airworthiness Alert

<i>Reference ID</i>	<i>Dated</i>	<i>Description</i>
LAA/AWA/20/10	29 Apr 20	PV-50: Establishment of Correct Mechanical Fine Pitch Stop Setting

Airworthiness Information Leaflet

<i>Reference ID</i>	<i>Dated</i>	<i>Description</i>
MOD/PROP/08-007 Iss 2	29 Apr 20	PV-50: Establishment of Correct Mechanical Fine Pitch Stop Setting

2.8 Operating Limitations to be Placarded or Shown by Instrument Markings

The Operating Limitations document for the aircraft will specify aircraft and powerplant limitations for that particular aircraft. Where a propeller is being fitted in accordance with a Propeller Type List ([PTL/1](#)), any limitations proscribed by the relevant [PTL/1](#) document must be adhered to.

Notes:

- Refer to the propeller manufacturer's latest documentation for the definitive parameter values and recommended placards.
- Data stated on the aircraft's Operating Limitations document must be displayed by means of cockpit placards or instrument markings.



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Section 3 Advice to owners, operators and inspectors

3.1 General

Where possible, the manuals describing setup, operation and maintenance procedures for the propeller should be obtained from the manufacturer or importer and retained with the aircraft's records.

The [Arplast PV-50 Manual](#) may include useful information for that model of propeller.

3.2 Standard Options

There are no Standard Options for any propellers.

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

In the absence of any over-riding LAA classification, inspections and modifications published in the manufacturer's continuing airworthiness data should be satisfied according to the recommendations therein. It is the owner's responsibility to be aware of and supply such information to their inspector.

3.4 Special Inspection Points

1. Care is required to ensure that the two halves of the hub are correctly orientated during assembly – some but not all hubs are stamped to assist with correct assembly. If there are no stamped marks, use a felt tip pen to mark the hub halves before dismantling to ensure that the halves go back together in exactly the same way, when reassembled.
2. A propeller pitch setting tool was available to help set the pitch. It is particularly important that the pitch on each blade is identical. Tracking error up to 10mm has been noted on some examples but this doesn't appear to cause adverse vibration.
3. Replacement blades were supplied individually balanced from the factory but it is still good practise to balance the complete propeller assembly using a suitable balancing tool and ideally get the propeller dynamically balanced after installation.
4. The composite blades are designed to be flexible and inspectors should check that there is adequate clearance between the blade tips and any fixed part of the airframe, bearing in mind the amount of contributing flexibility of the engine mounting. Inspectors should check the blade roots (first 4–6 inches), in particular, for signs of cracking during routine maintenance.
5. Minor blade leading edge damage/erosion can be repaired using slow-setting epoxy (e.g. 24 hour Araldite) but in the case of major damage, the propeller should be returned to the factory for repair (see note above regarding the reported ability of DUC Hélices to conduct repairs).
6. An electronic digital pitch angle indicator is also provided. Inspectors should check that the switch and indicator are suitably placed ergonomically and switches will not be confused with other similar or adjacent switches.



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Propeller pitch stops must be checked to ensure that the pitch range available does not exceed that which allows safe flight. A special [LAA/FT-EIFA PROP](#) flight test schedule details the requirements for the in-flight adjustable pitch propellers

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