PIPISTREL

FP03-60E Propeller

Operator's manual

REV. A00

26th January 2018

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Should third-party translations to other languages contain any inconsistencies, Pipistrel denies all responsibility.

WARNING!

This leaflet MUST be present inside the cockpit at all times when required by law.
If the aircraft ownership changes, this manual must be handed over to the new owner.

Index of revisions

Enter and sign the list of revised pages in the manual into the spaces provided below. All revised pages should be clearly designated in the upper right corner of the page, also, any changes in page content should be clearly visible (e.g. marked with a bold vertical line)

Name of revision	Rev.no., date:	Signature, date:	Description:
A00	26th January 2018	A. B. Horvat	Initial

List of valid pages

This manual contains original and revised pages listed below.

	Pages	State:
Cover		**Original**
Page numbering		**Original**
Index of revised pages	2	**Original**
List of valid pages	3	**Original**
Table of contents	5	**Original**
General	7 - 10	**Original**
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Caution:

This manual is valid only if it contains all of the original and revised pages listed above.

Each page to be revised must be removed, shredded and later replaced with the new, revised page in the exact same place in the manual.

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Table of contents

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General

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Introduction

This manual contains all information needed for appropriate and safe use of Pipistrel FP03-60E propeller.

In case of aircraft damage or people injury resulting form disobeying instructions in the manual PIPISTREL d.o.o. denies any responsibility.

IT IS MANDATORY TO CAREFULLY STUDY THIS MANUAL PRIOR TO USE OF PROPELLER

Notes and remarks

Safety definitions used in the manual:

WARNING! Disregarding the following instructions leads to severe deterioration of flight safety and hazardous situations, including such resulting in injury and loss of life.

CAUTION! Disregarding the following instructions leads to serious deterioration of flight safety.

Propeller markings

Every Pipistrel FP03-60E propeller is marked during manufacture for easier recognition. The marking is engraved on the aluminium hub in the following form:

“ASD3K-XXX”

where the last three digits indicate the production serial number of the propeller, and the first part of the marking indicate the propeller model. The propeller’s part number is found on a sticker applied to the packaging, when the propeller is delivered as a spare part.

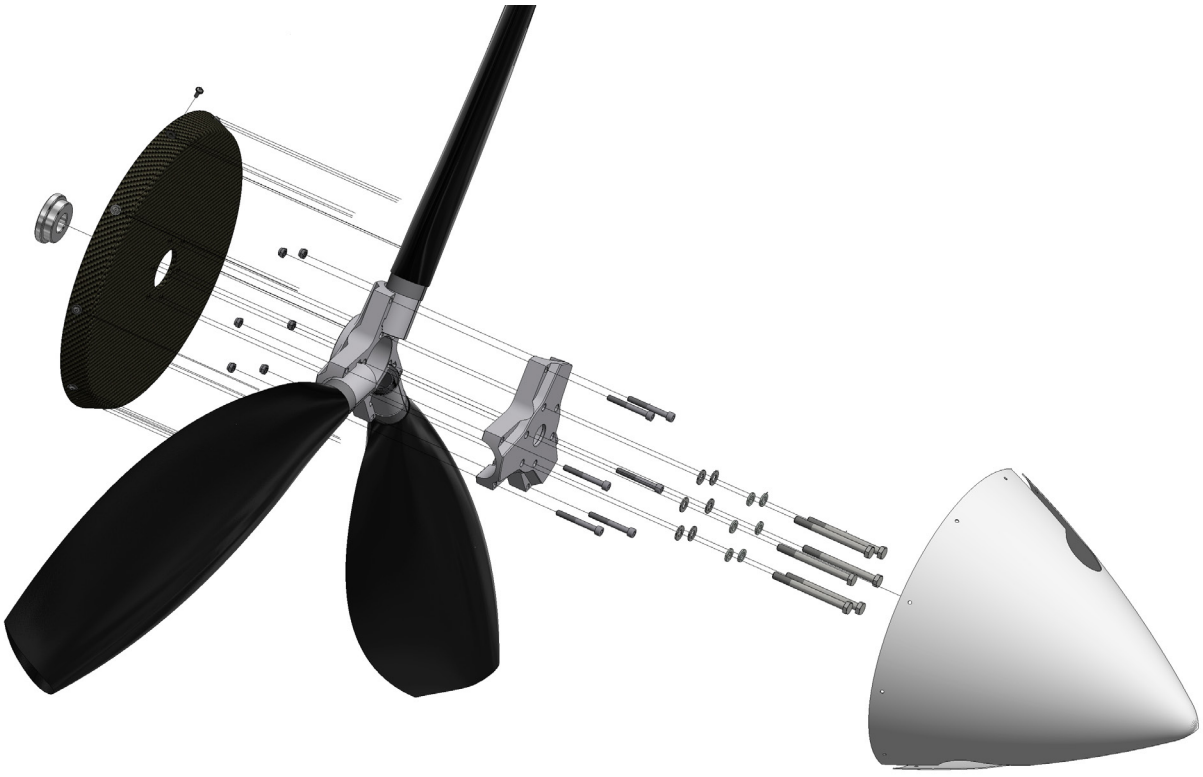
Shipping list

Standard propeller (p/n 1253076) assembly, includes:
Propeller hub and bolts (6x M6)
Propeller blades (3)
Blade protection cloth (bag type)
Spinner, spinner backplate and screws

Installation material (p/n 1153194), includes:
Propeller plate adapter
Mounting bolts (6x M8) and washers

Propeller description

Pipistrel FP03-60E propeller is a fixed pitch propeller for ultralight and experimental aircraft in pull configuration.



Propeller and spinner assembly

WARNING! Pipistrel FP03-60E propeller does not comply with ICAO rules and regulations and is therefore used at one's own responsibility.

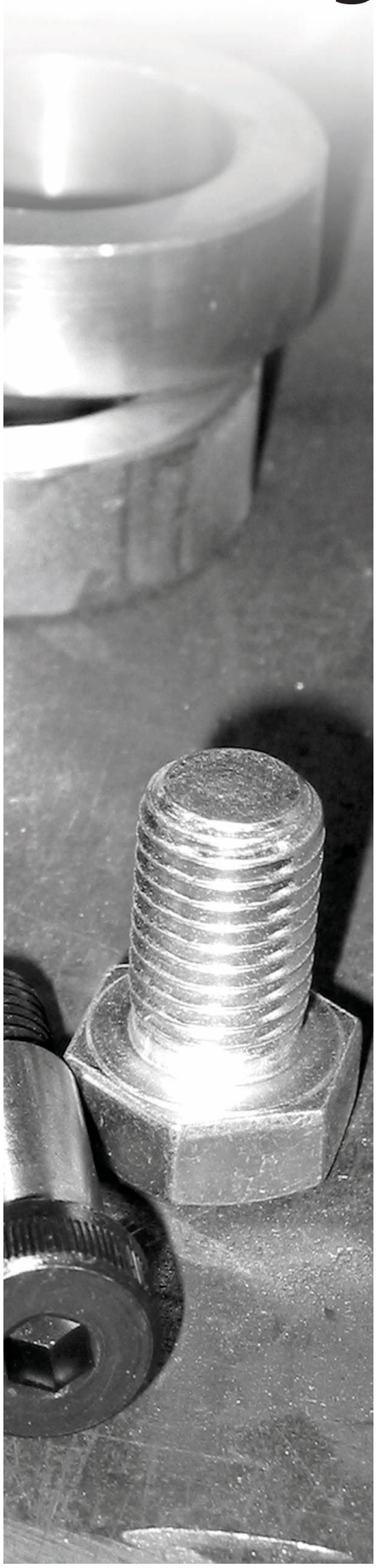
Manufacturing method

The FP03-60E propeller's outer skin and inside parts are made of composite materials, namely fibre reinforced plastic. The blade's base is made of aluminium and stainless steel tube, which lies within to ensure the blade's safe attachment to the propeller base (hub).

Technical data and operational limitations

Propeller Designation	**FP03-60E**
Number of blades	3
Propeller diameter	1640 mm
Spinner diameter	350 mm
Max. safe propeller RPM	2575 RPM
Max. safe engine power (permanent load)	60kW/80HP
Propeller weight (and spinner)	~4.5 kg
Rotation direction (seen from behind)	Clockwise
Fastening bolts torque (6x M8)	24 Nm

Handling and maintenance



Introduction

This chapter provides information on handling and maintenance of Pipistrel FP03-60E propeller.

CAUTION! Prior to servicing the propeller the area around the aircraft must be cleared and barricade tape put up, to warn passers by of the possible hazard.

WARNING! Make sure that engine/motor can not be started during servicing operations.

Upon delivery

Upon delivery please verify all parts inside the package for eventual damage which could occur during transportation.

WARNING! The self-locking nuts that come with the propeller may only be used once. Any self-locking nuts that are removed MUST be replaced with new ones.

Propeller installation

- Place the propeller plate adapter and the spinner backplate on the center of motor front side.
- Fit the M8 hex-head bolts with a washer and apply some Loctite 243 to their thread.
- Place the propeller on the spinner backplate.
- Fasten the propeller to the motor using the six M8 hex-head bolt. Cross-tighten them first to 10 Nm and then torque them to 24 Nm.
- Install the spinner. Make sure that the notch on the spinner matches the one on the backplate.
- Fasten the spinner to the backplate using the nine M4 hexagon socket button head screws.

WARNING! Do not attempt, under no circumstances, to torque the bolts more than 24 Nm.

Should you ever desire to replace the bolts and nuts, make sure you use bolts and nuts that comply with the durability class of at least 8.8.

Propeller removal

- Unscrew the nine M4 Hexagon socket button head screws connecting the spinner to the backplate.
- Remove the spinner by bending it slightly, sliding it off the back plate and around the propeller.
- Unscrew the six M8 hex-head bolts and washers.
- Mark the respective angular positioning of propeller and spinner backplate using tape or a pen marker. These markings must be respected during the re-installation of the propeller on the aircraft.
- Remove the propeller, the backplate and the plate adapter from the motor.
- Separate the backplate and the propeller and collect the fastening material.

Scheduled maintenance

Every 100 flight hours perform a check to the following components:

- Spinner and spinner backplate
- Blades
- Hub

The check has to be performed as follows:

- Visual inspection to the spinner: no cracks, no paint and/or edge separations
- Remove the spinner
- Visual inspection of the blades and blade's base: clean, no cracks, no paint and/or edge separations
- Hub: No cracks or deformation
- Inspect paint marker on bolt heads for signs of loosening.

The following pictures show an example of possible blade damage

Daily check-up

Verify the following:

blades - firmly attached to the propeller hub, no free play
blades' surface: clean, no cracks, no paint and/or edge separations
spinner - clean, no cracks, no paint and/or edge separations

WARNING! Should the propeller's status determined during daily check-up not comply with the stated above, flying may result in further damage and/or injury, including loss of life.

Overhauls

Overhauls must be done by the manufacturer once every 1000 flight hours.

Maximum life span of the propeller

Until present time, no boundaries of FP03-60E propeller's life span are known. Several Pipistrel FP03-

60E propellers have been in operations without showing any structural abnormalities.

Overspeed

In case of propeller overspeed (propeller rpm exceeds the value given in "Technical data and operational limitation", contact the manufacturer for further instructions.

Repairs

Small damage (cracks) in the paint layer of the blades may be repaired by the owner him/herself using dabbing lacquer. Should the blades be damaged during transportation and/or hangaring, the individual blades can be replaced, however, this requires a special tool/template. Contact the manufacturer for further guidance.

All damage which occurs during engine operation requires for the entire power plant and propeller to be verified for structural damage by authorised service personnel. Consult with the manufacturer.

WARNING! After every repair job, the propeller must be re-balanced to prevent potentially lethal vibrations.

WARNING! For all repair jobs conducted by owners themselves, manufacturer denies any responsibility.

Paint jobs

Should you desire to repaint your propeller, please consult with the manufacturer prior to painting.

Ground handling

Use pure water and a soft piece of cloth to clean the blades. If you are unable to remove certain spots, consider using mild detergents. Afterwards, rinse the entire surface thoroughly.
To protect the surfaces from the environmental contaminants, use best affordable car wax.

CAUTION! Do not, under any circumstances, attempt to use rough cloth to remove durable stains. This results in scratching the surface and by that degrades propulsion performance greatly.

Storing the aircraft inside closed space, make sure there is not any dust accumulating on the blades. Clean your propeller regularly, preferably before and after each flight to maintain best propulsion performance.

Avoiding damage

On ground, keep your propeller intact by putting the protection cloth onto the blades. Also, try to keep your propeller off the sun if possible, for eventual damage caused by UV radiation.

When starting-up the motor/engine, always make sure the space around the propeller is clear.
Do not ever attempt to land on a runway covered by deep water patches for that can result in under-carriage and propeller damage.

Do not ever attempt to taxi through dense high grass for this causes propeller damage.
Be extremely careful when putting the aircraft into or out of the hangar not to damage the blades.
Do not ever attempt to move around your ultralight aircraft by pushing or pulling it by the propeller.

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