

FITI ECO COMPETITION-2

OPERATING INSTRUCTIONS AND TECHNICAL DESCRIPTION

On-ground adjustable two and three-blade propeller
for sports flying crafts.

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1. TECHNICAL DESCRIPTION

About the product

Fiti Eco Competition are two-blade and three-blade on-ground adjustable propellers, with blades made of composite material.

The propeller spinner is split into two parts, and it clamps the propeller steel shanks in the blade roots with M6 bolts.

The propeller can be supplied with a hub cone containing a propeller shaft and spinner, and fastening bolts (not part of a standard package).

2. WARRANTY TERMS

The manufacturer provides or the propeller a 24-month function warranty from the date of purchase. The warranty is subject to the propeller undergoing regular service inspections carried out by the customer in accordance with these Instructions.

In addition to the standard warranty, Fiti Design undertakes to replace any propeller in which a manufacturing defect is identified within one month after the purchase, with an identical or equivalent propeller. This warranty covers only manufacturing defects, not defects caused by incorrect use (e.g. by incorrect manipulation, installation, damage caused by hitting other objects, over-revving, etc.). If the customer identifies a manufacturing defect within one month after having bought the propeller, he must send the defective product to the manufacturer who will send him an identical new propeller, or one which has identical parameters. The manufacturer disclaims liability for any damage or loss, which occurs during transportation.

The manufacturer does not provide any other warranties. **The user uses these propellers at his sole and full responsibility, and is aware that it is an uncertified product, which is intended exclusively for Sports Flying Crafts, subject to adherence with all applicable regulations, procedures and product instructions.**

3. TECHNICAL SPECIFICATION

3.1 Engine types

The propellers are designed for the following engines:

ROTAX 912 80/100 HP - UL, ULS, iS SPORT

ROTAX 447

ROTAX 532

ROTAX 582

ROTAX 618

Composite propellers, on-ground adjustable, brand type designation
FITI ECO COMPETITION

Diameter 1580 mm, max. permissible revolutions 2900 rpm

Diameter 1600 mm, max. permissible revolutions 2900 rpm

Diameter 1680 mm, max. permissible revolutions 3000 rpm

Diameter 1700 mm, max. permissible revolutions 2900 rpm

The product type certificates registered with the Light Aircraft Association of the Czech Republic (LAA ČR) under reference number:

ULL—03/99

3.2 Flight limits

- Altitude 0 to 5000 m
- Operating temperature range +35°C to -25°C
- Air humidity 30 to 98%
- Max. flight acceleration multipliers +5.3 to -2.65
- Flying with ice stuck on the propeller not permitted

The propeller is part of sports flying craft, which the operator uses at his sole responsibility.

4. ASSEMBLY AND FITTING INSTRUCTIONS

Description

The propeller is supplied unassembled. Insert each blade into the propeller head as indicated, and lightly fasten them with the six M6 bolts provided. The number on the propeller centre must always match the number on the blade. Place the propeller on a straight flat surface and set the blade pitch angle using a protractor.

Before starting the pitch setting operation, check and make sure that the shank of each blade is fully inserted in the head lock by pulling on the blade. On the borderline between the red and the white, set the blade to the required pitch. The maximum discrepancy between the set pitch of the blades must be less than 0.3° . When the pitch has been set, **tighten the M6 bolts by applying an 11 Nm torque**. Now the propeller can be fitted to the engine.

Fit the propeller on a 75 mm diameter pitch circle.

Tighten the M8 bolts gradually by applying a 25 Nm torque

Secure the bolt heads by wiring them together.

The blade numbers must match the numbers on the propeller centre. The two halves of the centre are provided with marks, which must point towards each other. The centre parts must not be rotated relative to each other, and the blades must not be interchanged. The propeller has been factory-balanced assembled!

After having tightened the M8 bolts, tighten again the M6 bolts by applying an 11 Nm torque.

When installing the hub cone, insert between the engine flange and the propeller spinner the rear disc of the cone cover.

After the first flight hour following the propeller being fitted to the engine, check and if required tighten the bolts with a torque spanner!

5. REMOVING THE PROPELLER

Remove the hub cone and the bolt securing wire.

Untighten the six M8 bolts.

Do not remove the blades from the propeller spinner unless absolutely necessary.

When fitting the propeller back to the engine, use a new bolt securing wire.

6. CHECKS AND MAINTENANCE

6.1 Description

When using the craft, check regularly whether the propeller is fastened correctly. Uninstall the hub cone and remove the bolt securing wire.

Check and if necessary tighten all bolts – **ALWAYS USE A TORQUE SPANNER!**

Secure the bolt heads with a new wire and install back the hub cone.

Record the inspection in "INSTALLATION AND REGULAR INSPECTION RECORDS" (see below).

Carry out the first inspection after 5, and subsequently after 25 flight hours.

Service inspections are performed by the owner (operator) himself, after every 50 flight hours.

Service inspections at the manufacturer's factory are performed if the propeller is damaged, cracks have been found, metal parts show signs of oxidation and after 2,000 flight hours or 6 years when a complete repair of the propeller must be performed.

The blade pitch must not exceed during flight the angle of 25°!

6.2 Daily checks

Before the start and after the completion of every flight day, you must check:

- Whether the blades are correctly fastened in the spinner.
- The leading and the trailing edge of the blades for damage (cracks, delamination).
- Cleanliness of each blade (insects stuck to the blades) and an overall condition of the blade surface.

**The craft can be manipulated by pulling it by the propeller root.
Manipulating the craft by pulling on the propeller blade tips is prohibited!**

7. REPAIRS

General

The owner (operator) may repair only minor damages on the propeller blades, which are not more than 0.4 mm deep.

The area of the spot to be repaired must not be greater than 1 cm².

Any other repairs must be carried out exclusively by the manufacturer, who will also balance the propeller after it has been repaired.

7.1 Making minor repairs

1. Roughen the area around the place of damage with sandpaper.
2. Degrease the place of damage with pure acetone.
3. Using a putty knife, fill in the damaged place with a two-component polyester car body putty. The ambient temperature must be within the range 20 – 25 °C.
4. Let the putty harden.
5. Sandpaper the putty into the required profile.
6. Protect the repaired spot by spraying it with a car body putty spray.

The owner (operator) must record all repairs made in the propeller's "SERVICING AND KEEPING REPAIR RECORDS" (see below).

8. MAINTENANCE AND REPAIR RECORDS

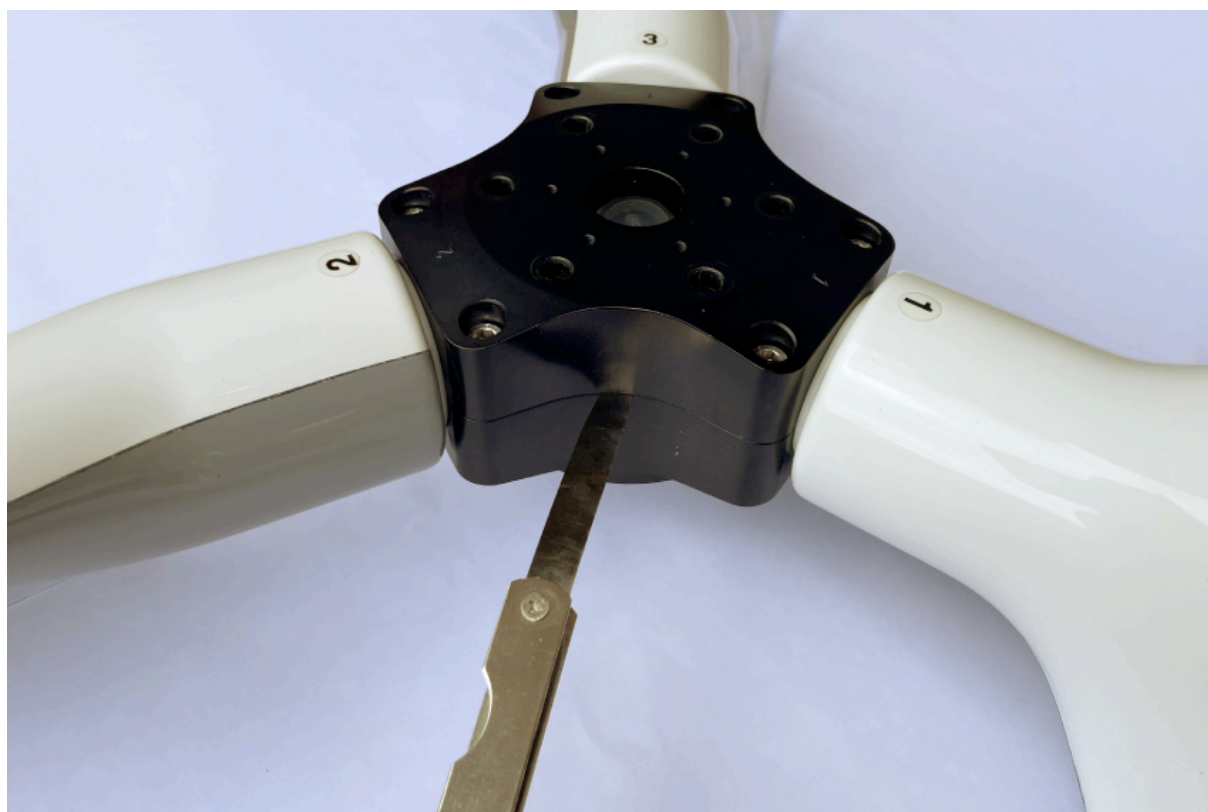
General

The propeller requires minimum maintenance, as this comprises of the regular inspections and checks described above.

Inspections after 50 flight hours are carried out by the owner himself by removing the hub cone and checking and tightening all bolts to the specified torque as described in chapter 6 (installation).

Once a year the propeller owner must remove and disassemble the propeller hub, remove the blades, clean all metal parts and apply carnauba wax on them (do not use silicon products!). If the metal parts show signs of oxidation or mechanical surface damage, the propeller must be sent to the manufacturer for inspection.

After the propeller has been fitted back to the engine and **fastened by applying the prescribed torque as instructed in chapter 4** (Installation), the gap between the two halves of the hub must be measured with a gauge, to ensure correct distribution of the clamping force acting upon the blade shanks. The gap must not be less than 0.05 mm:



Clean the propeller surface with lukewarm water with non-corrosive detergent added.

9. INSTALLATION AND REGULAR CHECK RECORDS

Date	Description	Signature

10. SERVICING AND REPAIR RECORDS

Date	Description	Signature