# TECHNOLOGY INSTRUCTION FOR

# KW-3(X) PROPELLER INSPECTIONS ON ROTORCRAFT WITH ROTAX 915/916 ENGINE

# TN – 75

| | Position | Name | Signature |
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| **Created by** | **QM** | **Vilém Pompe** |  |
| **Approved by** | **AM/HoDO** | **Aleš Křemen** |  |

**Valid since: 16.02.2026**

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# A. GENERAL

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## 4. Purpose of the document

This document expands the prescribed inspections and maintenance instructions for KW-3(x) propellers when operating on rotorcraft with Rotax 915/916 engines in the following configurations:

- KW-30-A-H-3-0-0-J / LP-172-031 (hydraulic model)
- KW-31-A-E-3-0-0-K / LP-171-031 (electric model)

The obligation to follow it results from the Service Bulletin SB 12, which is available for download on the propeller manufacturer's website at https://www.woodcomp.cz/easa-bulletins/

## B. Medium repair and overhaul dates

The dates of overhaul and medium repairs are defined in the Service Bulletin SB 01 as amended, which is available on the propeller manufacturer's website at https://www.woodcomp.cz/easa-bulletins/

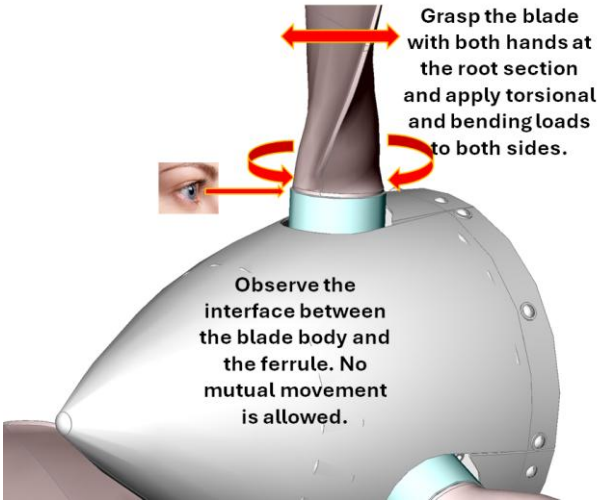
In the case of operation of the KW-3(x) propeller models listed here, the maintenance schedule with intermediate repairs in SB 01 marked as "OPTION 2" is mandatory when operating on rotorcraft with Rotax 915/916 engines.

## C. Pre-flight inspection

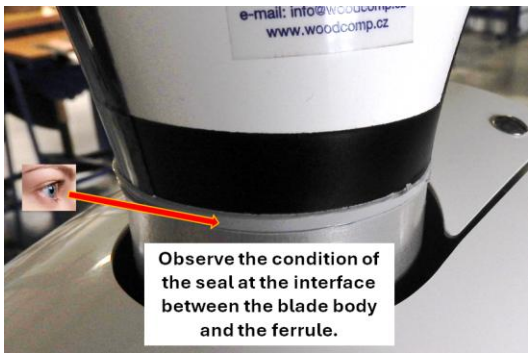
The scope of the pre-flight inspection is given in Chapter 16.1 of the User Manual UM-06 for the KW-30 model and UM-05 for the KW-31 model. During this inspection, special attention should be paid to the connection between the wooden body of the propeller blade and the aluminum alloy ferrule. The aim is to detect beginning of any possible play between the blade body and the ferrule.

Perform the check as follows:

1) Grasp the first blade with both hands near the hub and apply torsional and bending load.




2) Cracks in the sealant between the blade body and the ferrule, changing their size during the test, indicate the formation of clearances.



3) If you notice any signs of play between the blade body and the ferrule, immediately remove the propeller from service and have it repaired by the manufacturer or an authorized service center.
4) Perform the same check for the other two blades.

## D. Inspection after 100 hours of operation or after 1 year

The inspection is performed after every 100 hours of operation or after one year, whichever comes first. It is referred to in Chapter 16.3 of the User Manuals UM-06 for the KW-30 model and UM-05 for the KW-31 model. The standard scope of the inspection is described in the technological manual TN-30 for the KW-30 model and TN-31 for the KW-31 model.

Before starting work on the 100-hour inspection, check the clearances of the blade body in the hub using the same procedure as described in this document, in Chapter C. Pre-flight inspection.

***Caution! Do not confuse the clearance between the blade body and the ferrule with the clearance in the blade-pitch change system, which is described in Chapter 4 of the 100-hour inspection manual.***

## E. Inspection after 350 hours of operation

This inspection is not listed in the UM-06 and UM-05 User Manuals and is a newly included periodic inspection carried out only in the case of operation on a gyroplane:

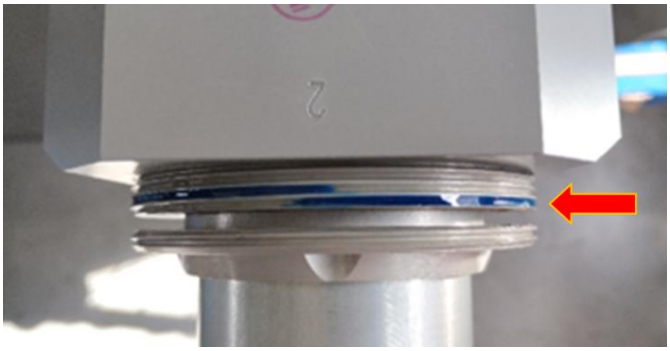
- after the first 350 hours of operation of a new propeller,
- or after 350 hours of operation since the last medium repair or since the last overhaul.

The aim of the inspection is to check and restore the nominal preload of the bolted connections of the blade body with the ferrule. This inspection may be carried out by an authorized service organization of the gyroplane on which the propeller is mounted.

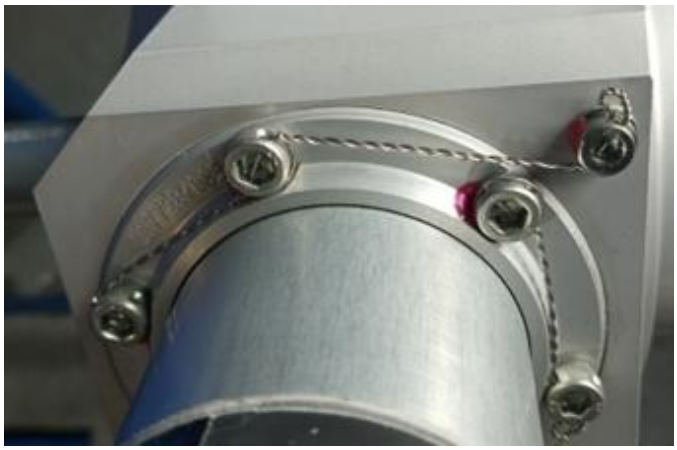
### 1. Hydraulic propeller KW-30-A-H-3-0-0-J / LP-172-031

1) Install the propeller on the P-54 mounting fixture and secure it with at least three nuts.
2) Unscrew the nine mounting screws **pos.42** with washers **pos.43** on the circumference of the propeller cone using a flat screwdriver. Remove the propeller cone by sliding it out along the propeller axis.
3) Remove the covers **pos.73** which are secured with screws **pos.74** and nuts **pos.76**.
4) Gradually loosen the screws **pos.28** of propeller blade retention nut and unscrew them.
5) Use the P-303 wrench to loosen the blade retention nut **pos.27** and unscrew the nut from the propeller head. Pull the propeller blade out of the propeller head. Leave the parts of the lower axial bearing in the propeller head.
6) Make sure that the slider **pos.26** on the blade pin remains rotated in the correct position and mark this position together with the blade number with a black permanent marker on the slider.
7) Using the circlip pliers, remove the circlip **pos.25** and the slider **pos.26** from the pin.
8) Remove the rings **pos.18** from the groove of the blade retention nut **pos.81**.
9) Dismantle propeller blades 2 and 3 in the same way.
10) Fix the P-294 fixture in a vice on the workbench. Firmly clamp the propeller blade in the fixture. Use a 12mm socket wrench to restore the tightening torques of the screws **pos.37** in the blade root on the ferrule face **pos.32** to the nominal value of 50 Nm. Restore the tightening torques for all three blades.
11) Prepare the reassembly of the first blade. Apply AeroShell Grease5 to the circumference of the unfolded rings **pos.18**. Roll them up and insert them into the groove in the blade retention nut **pos.81**.
12) Lubricate the slider **pos.26** and the pin **pos.31** with AeroShell 5 Grease.
13) Fit the relevant slider **pos.26** onto the pin and use the circlip pliers to fit the new circlip **pos.25** onto the pin.
14) Prepare the other two blades in the same way.
15) Reassemble the propeller blades one by one into the propeller head. The numbers 1, 2 and 3 stamped on the front of the head are the blade numbers. First install blade 1 in position 1. Make sure that the sliders **pos.26** are in the correct position.

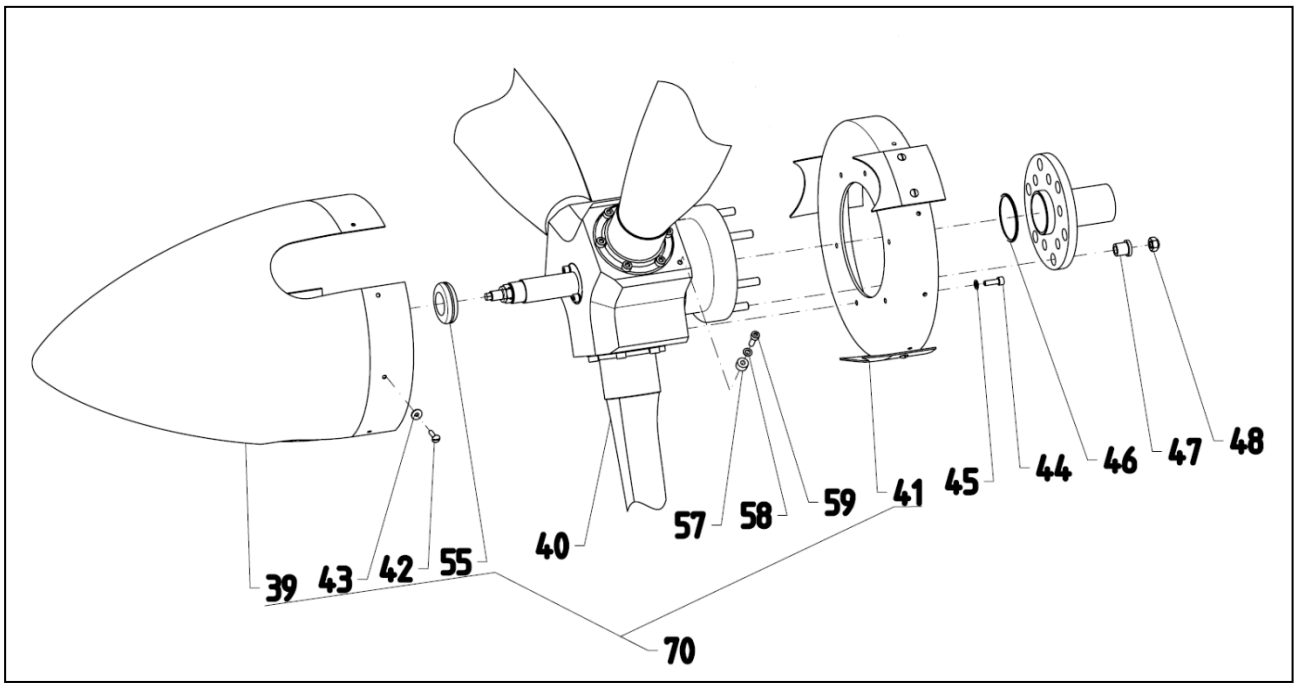
16) Lubricate the space for the slider in the yoke with AeroShell 5 Grease.
17) Insert the blade retention nut into the head. Tighten slightly and then loosen the nut using the P-303 wrench. Repeat 3 times - the nut and thrust bearings must be seated. Apply Loctite 243 to the last thread before tightening the nut. Tighten the nut with a torque wrench mounted on the P-303 wrench. Set the torque wrench to 14 Nm.



18) Install the remaining two blades back into the head in the same way.
19) Screw the six screws **pos.28** into each blade retention nut and tighten them using a torque wrench to 10 Nm with a 5 mm Allen bit.
20) Secure the screws **pos.28** and **pos.59** in pairs using stainless steel locking wire Ø0.6 mm.



21) Apply a drop of TORQUE SEAL marking paint to the self-locking nut **pos.28**.
22) Reinstall all three covers **pos.74** onto the back-plate **pos.75**. Insert the screws **pos.73** into the covers **pos.74** and into the back-plate **pos.75**. Tighten the nuts **pos.76**.
23) Turn the propeller with the front side up. Insert the grommet **pos.55** into the hole in the front carrier of the propeller cone. Apply a thin layer of AeroShell 5 Grease into the hole in the grommet. Slide the cone onto the spring housing **pos.5** using the inserted grommet **pos.55**. Rotate the blade cutouts in the cone so that the cutout for blade 1 is above blade 1. Carefully slide the cone onto the back-plate **pos.41**. Align the mounting holes in the cone with the holes in the back-plate. Tighten the cone to the back-plate using nine screws **pos.42** with washers **pos.43.**
24) Record the inspection in the propeller logbook.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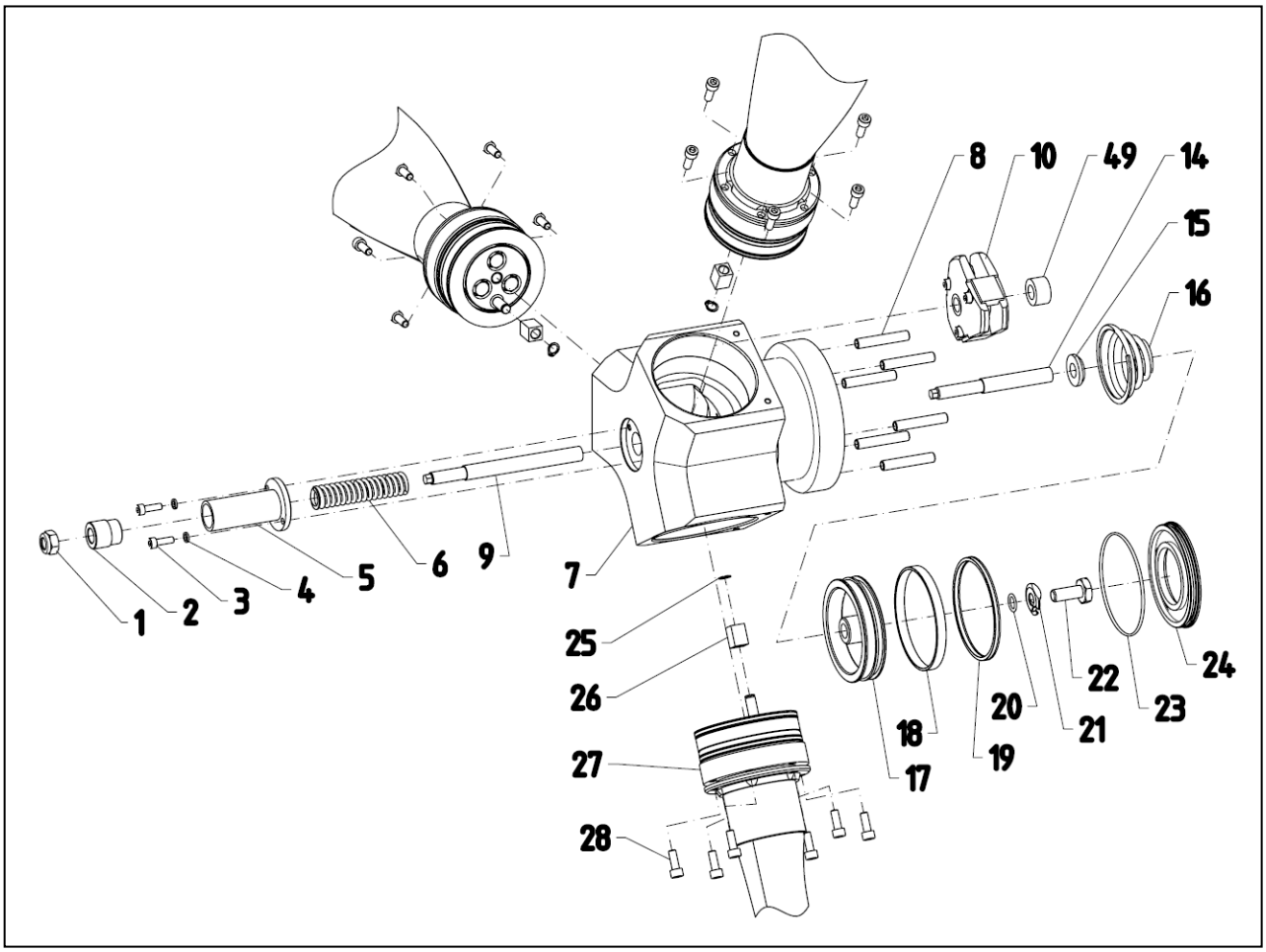
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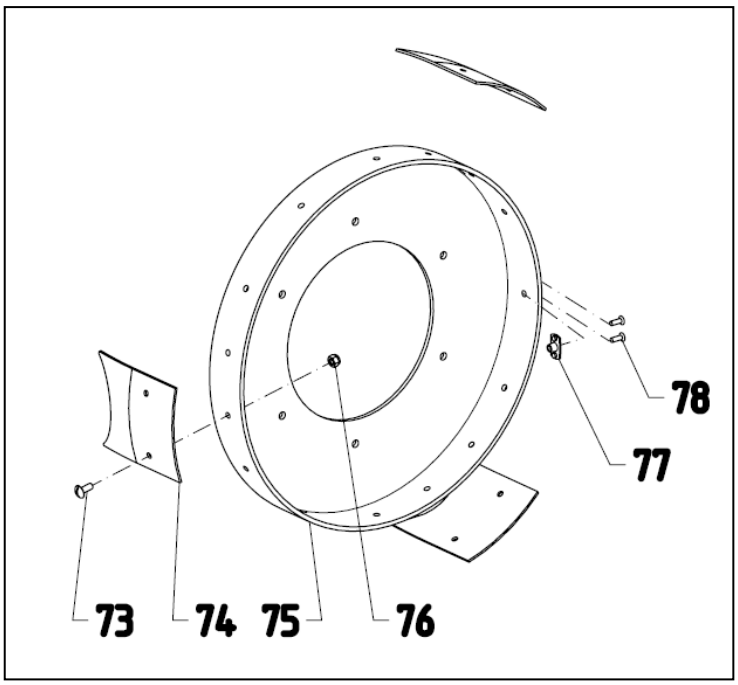
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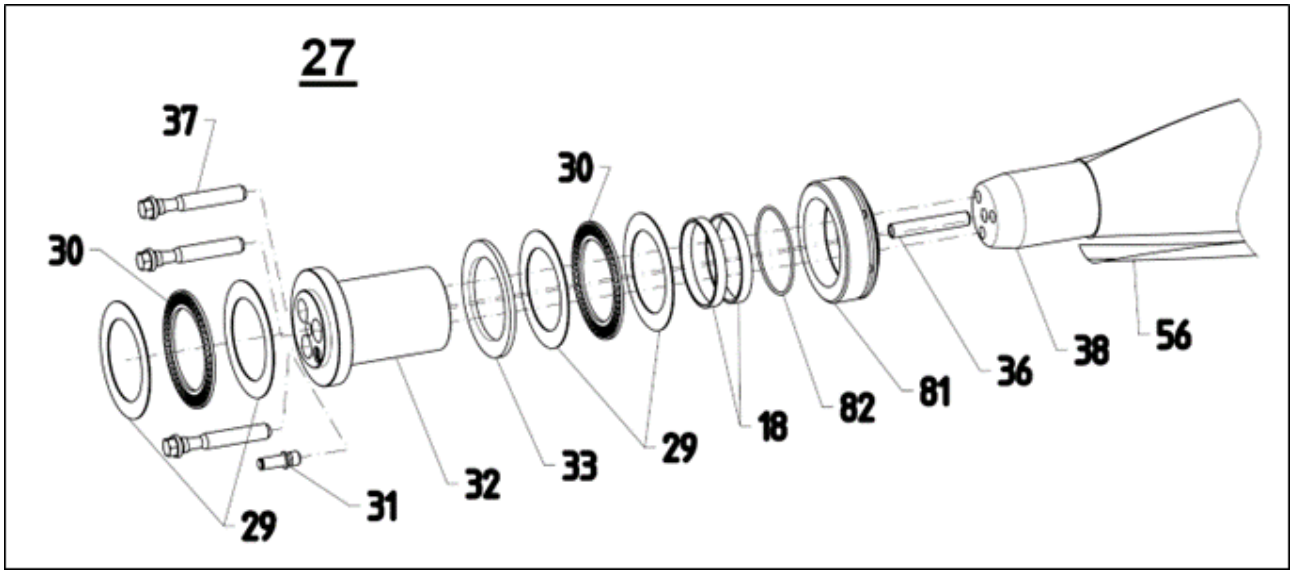
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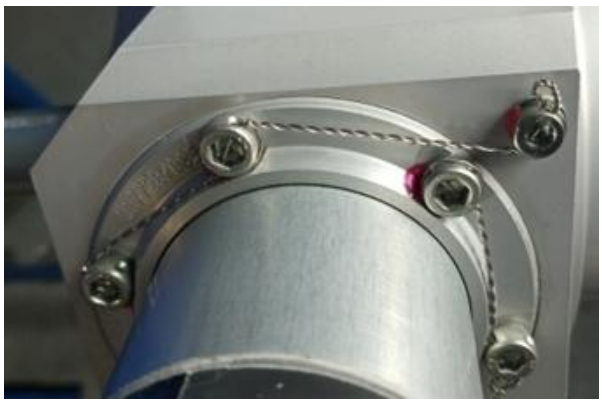
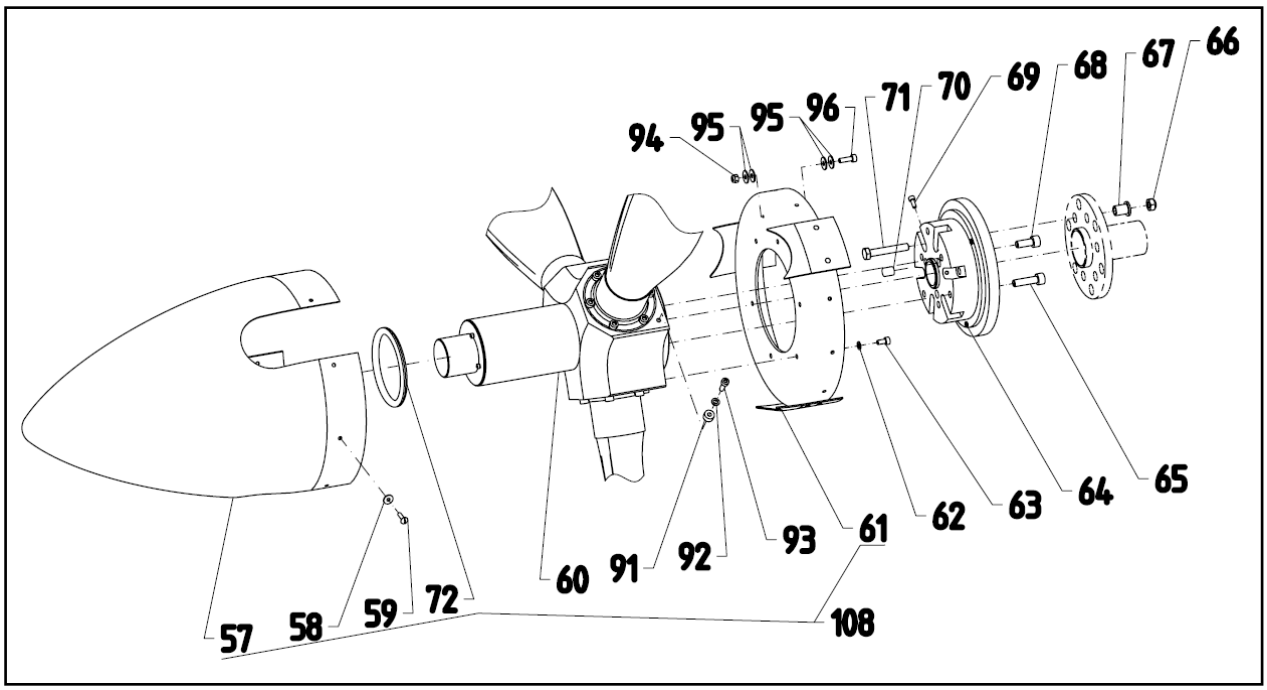
## 2. Electric propeller KW-31-A-E-3-0-0-K / LP-172-031

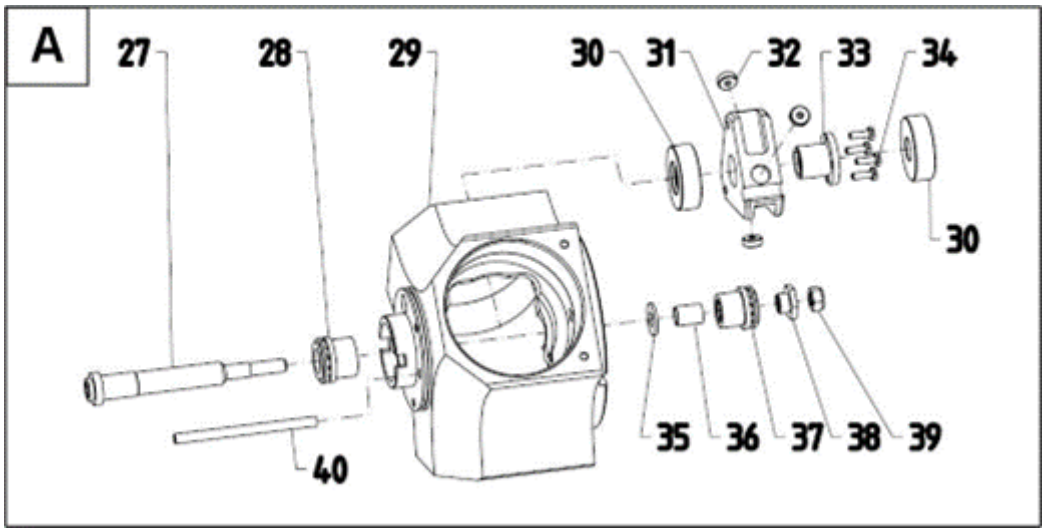
1) Install the propeller on the P-54 mounting fixture and secure it with at least three nuts.
2) Unscrew the nine mounting screws **pos.59** with washers **pos.58** on the circumference of the propeller cone using a flat screwdriver. Remove the propeller cone by sliding it out along the propeller axis.
3) Remove the covers **pos.73** which are secured with screws **pos.74** and nuts **pos.76**.
4) Gradually loosen the screws of the propeller blade retention nut **pos.11**. and unscrew them.
5) Use the P-303 wrench to loosen the blade retention nut **pos.12** and unscrew the nut from the propeller head. Pull the propeller blade out of the propeller head.
6) Leave the parts of the lower thrust bearing (two rings and a cage) in the head. Make sure that the slider **pos.13** on the blade pin remains turned in the correct position and mark the position together with the blade number with a black permanent marker. After marking, remove the slider from the pin.
7) Remove the guide rings **pos.50** from the groove of the blade retention nut **pos.116**.
8) Dismantle propeller blades 2 and 3 in the same way.
9) Remove the slider **pos.13** and the support **pos.56**.
10) Clamp the P-294 fixture in a bench vise. Clamp the propeller blade firmly in the fixture. Use a 12mm torque wrench to restore the tightening torques of all screws **pos.46**.
11) Use the same procedure for all three blades.
12) Apply AeroShell Grease5 grease to the circumference of the unfolded guide ring **pos.50**. Roll up the greased guide ring and insert it into the groove in the blade retention nut **pos.116**. Apply grease also to the slider **pos.13**, into the groove in the yoke **pos.31** and to the blade pin **pos.47**.
13) Insert the stone **pos.13** of the relevant blade into the yoke **pos.31**. The slider must be correctly oriented in accordance with the previous marking.
14) Carefully insert the blade pin into the hole in the stone and screw the blade retention nut **pos.116** into the propeller head. Tighten slightly and then loosen the nut using the P-303 wrench. Repeat 3 times - the nut and the thrust bearings must fit. Before final tightening, apply Loctite 243 to the nut threads. Tighten the nut with a torque wrench mounted on the P-303 wrench. Set the torque wrench to 14 Nm.

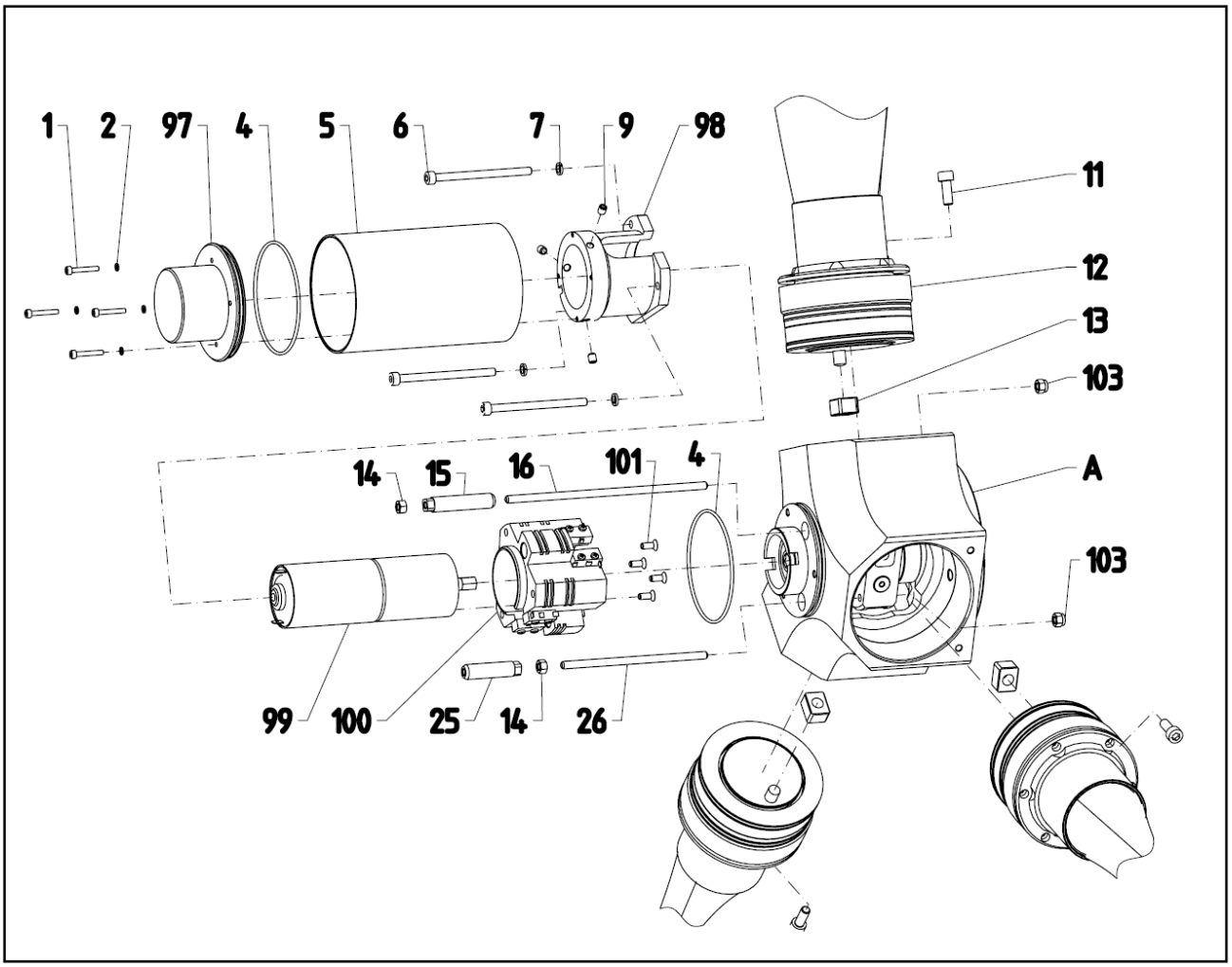
15) Install the other two blades in the same way.
16) Screw the 6 screws **pos.11** into the blade retention nut and tighten them to a torque of 10 Nm using a torque wrench with a 5mm Allen bit. Secure the screws together in pairs using a stainless steel wire with a diameter of 0.6 mm.



17) Apply a drop of TORQUE SEAL marking paint to the heads of the screws **pos.11** and **pos.93**.
18) Install all three covers **pos.74** onto the back-plate **pos.75**. Observe the markings on the covers to ensure correct position in the subassembly. Insert the screws **pos.73** into the covers **pos.74** and into the back-plate **pos.75**. Tighten the nuts **pos.76**.
19) Insert the rubber profile **pos.72** into the hole in the front cone carrier. Lightly lubricate the rubber profile with AeroShell G5 grease. Fit the cone onto the cap **pos.5**. Turn the cutouts in the cone for the blades so that the cutout for propeller blade 1 is above blade 1. Carefully slide the cone onto the edge of the back-plate. Align the cone with the 9 holes for the mounting screws **pos.59**. Thread the screws **pos.59** through the polyamide washers **pos.58**. Screw the screws into the rivet nuts and tighten slightly with a flat screwdriver.
20) Record the inspection in the propeller logbook.

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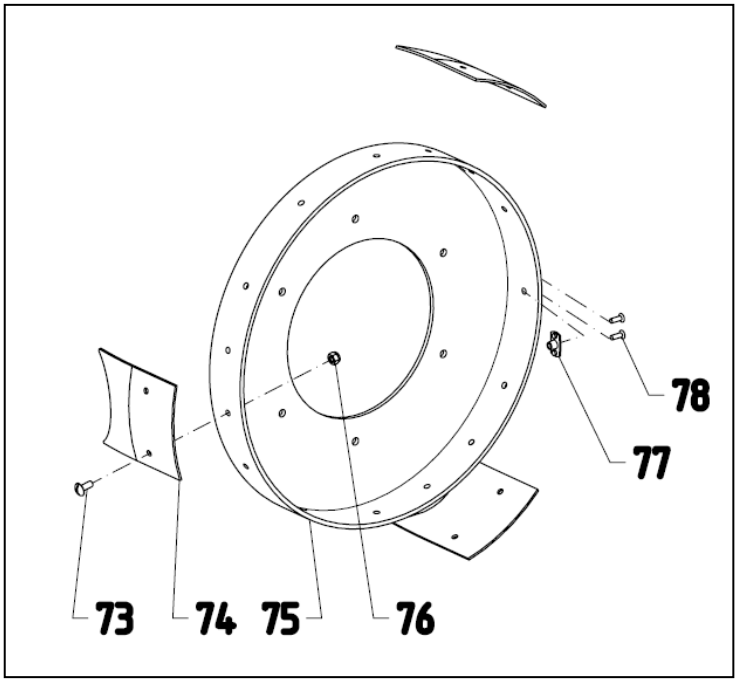
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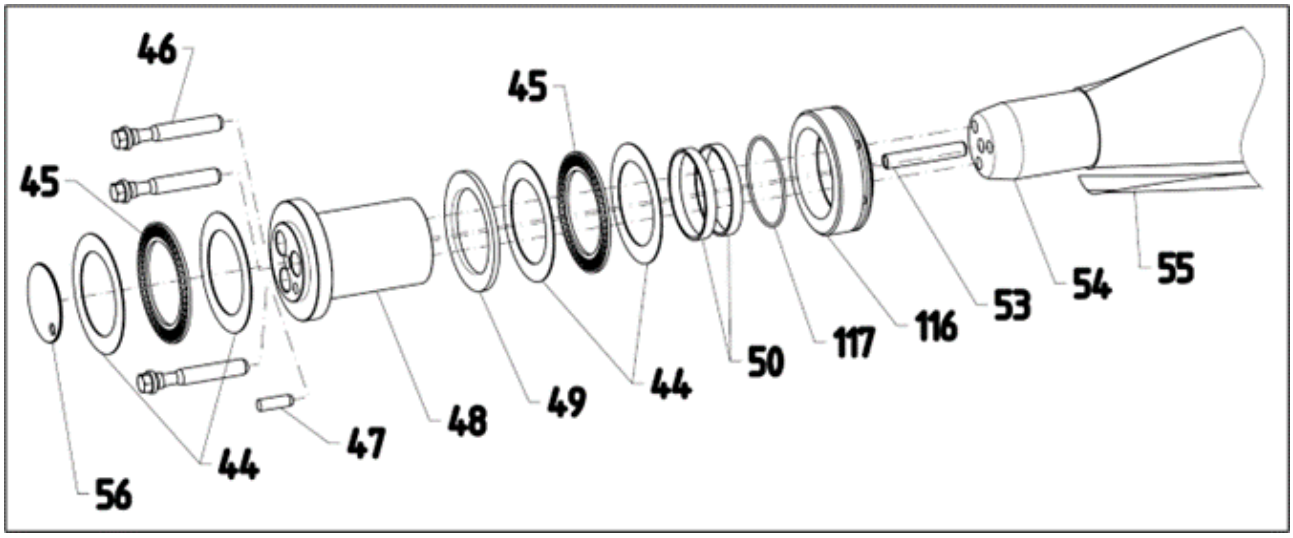


## F. Medium repair

The repair is carried out in the middle of the calendar time or operation hours interval until the overhaul according to the Service Bulletin SB 01 as amended. The scope of the medium repair is given by the technological instructions TN-21 for the KW-30 propeller and TN-22 for the KW-31 propeller. The scope remains unchanged with the exception of the introduction of the obligation to replace the screws connecting the blade body to the ferrule, **pos.37** in the case of KW-30 and **pos.46** for KW-31.

The procedure for replacing the screws is identical to the procedure valid for partial disassembly of the blades during overhaul and their reassembly, see chap. 3.3 and 8.1 in TN-21 for KW-30 and similarly in TN-22 for KW-31.

## G. Overhaul

The time until overhaul is specified in Service Bulletin SB 01, and for the propeller configurations listed here, the maintenance schedule specified in SB 01 as “OPTION 2” is mandatory.

The scope of work prescribed for overhaul remains unchanged.