

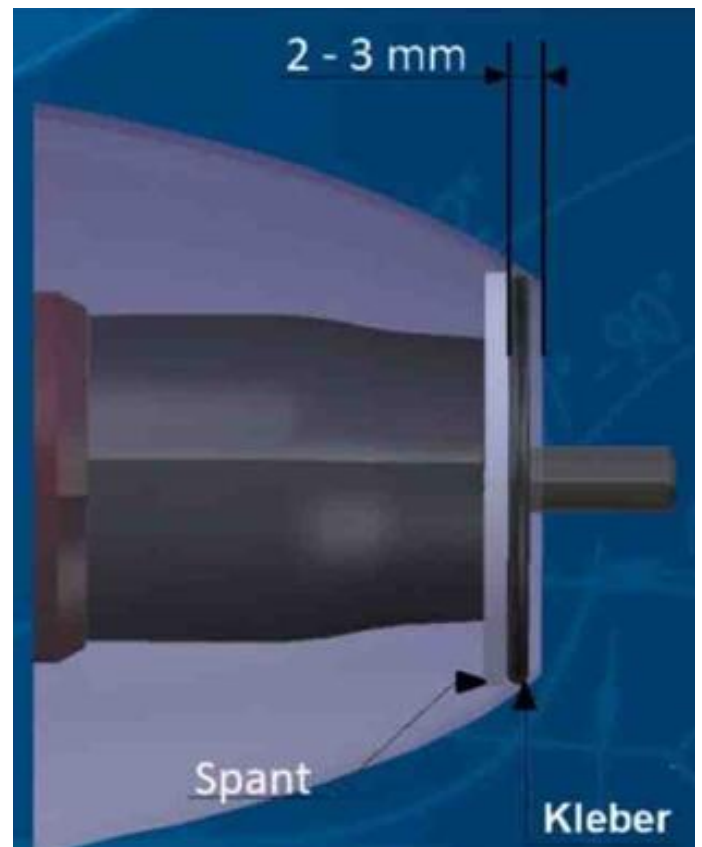
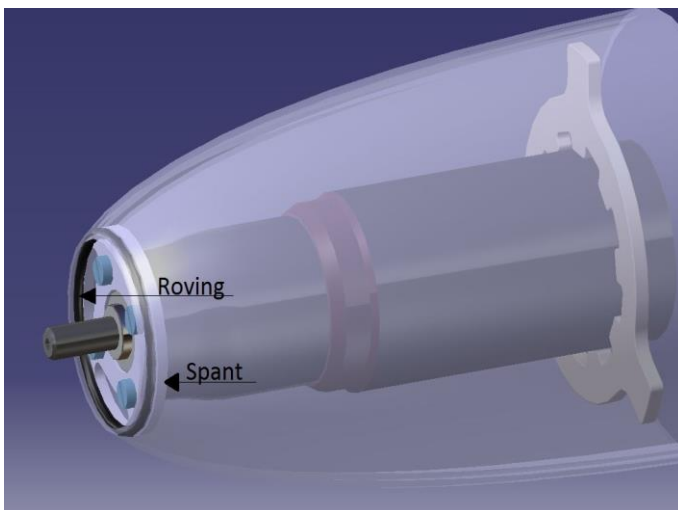
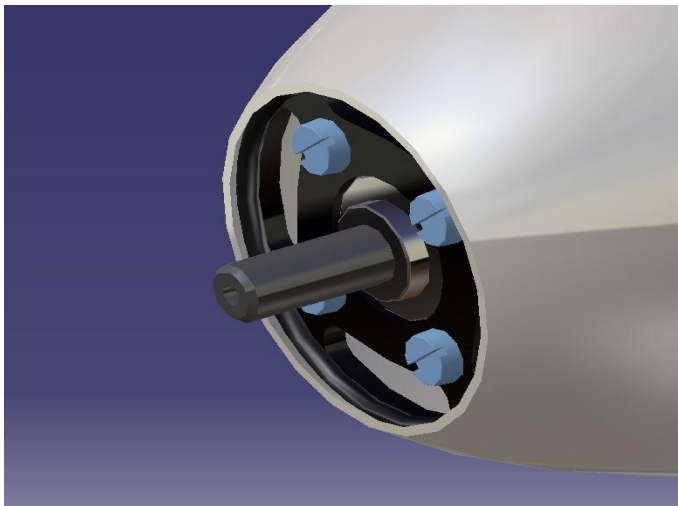
Instruction manual: Powerline

1. Attachment in the Fuselage:

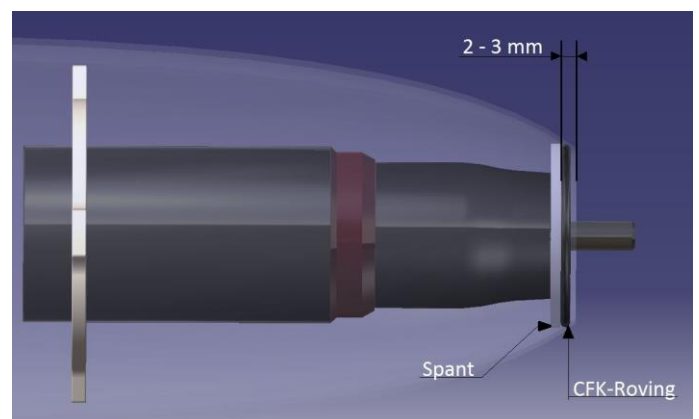
To attach the motor-gear unit in the fuselage, we offer matching motor frames made of fiber-reinforced plastic.

If you produce a motor frame yourself, please ensure sufficient cooling air openings.

The motor frame should be placed about 2-3mm inside the fuselage. The hull must be roughened well at the adhesive spot. Glueing in the motor frame has to be done with thickened „UHU Plus Endfest“.



In the case of particularly large engines, a support motor frame must be installed for additional mounting



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2. Propeller Attachment

Step 1:

Insert the propellers in the middle part and compensate for any axial play. The propeller blade must not move left or right along the locking screw. Compensation is to be made by thickening the material with superglue or epoxy resin (coat 3mm steel wire with release agent and insert it into the attachment hole of the propeller, then apply superglue or epoxy resin on one side of the blade and finish with a file after drying).

Step 2:

Check whether the propeller fastening screws can be easily screwed all the way into the center piece. If not, re-drill with a 2.3 mm drill. Coat the fastening screws for the propeller on the thread with blue threadlocker and then wipe them again with paper. The screw thread must be screwed completely into the threaded hole in the middle piece. Finally, the screw head is unscrewed half a turn, coated with a thin layer of threadlocker and then tightened again.

Step 3:

When tightening the mounting screws, it is important that the propeller blades can be easily folded back and forth.

Annotation:

The spinner fork must not be pulled together!

The stop nuts may only be used once!

3. Spinner Attachment:

Step 1:

The spinner cap should be scooped out with a file or a milling cutter so far that the propeller blades can move freely. The propeller blades should be able to fold up to about 10mm in front of the axis of rotation.

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4. Mounting at the engine

Step 1:

Info: Our gear shafts have no debilitating groove for a circlip. This results in a much greater robustness compared to conventional drive shafts. For design reasons, it is possible that the shaft can be pushed into the gear with a shock from the front, and thus possibly the driving gear gets damaged.

To prevent this, the free space between the gear circlip and the propeller driver must be filled up with the enclosed washers.



Please select the number of washers so that the spinner does not drag on the fuselage. There should be at least 0.5-1mm distance between spinner and fuselage.

If this setup is finished, please fasten the set screws.

Step 2:

The propeller driver needs to be pushed and held with some pressure from the front by hand on the gear shaft (the washers need to be on top of each other). Now, the set screw which is located at the flat of the gear shaft, must be tightened little that the wheel flat is centering. Afterwards the second set screw needs to be fastened. Finally tighten the first set screw too.

The flat must not be ground out further because the gear shaft and the flat are surface-hardened.

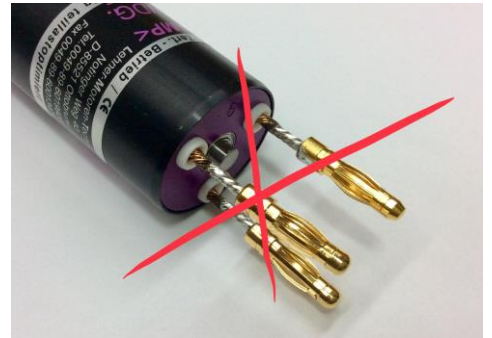
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Motor connections:

The cables on the motor may be shortened to a maximum of 25mm. These have to remain flexible to a certain extent.

No plugs may be soldered on directly.

If the direction of rotation is wrong, simply swap two of the three motor connections.



Setting for Powerline Micro:

Pole quantity 2

Timing: 15-18° (autotiming at YGE)

Frequency 8kHz

Gear ratio 1:6,75

Break/Acceleration > 0,5sec.

Motor Controller in General:

To protect the drive, the motor brake and the acceleration must be at least set to 0.5sec.

To secure that the drive does not tear that strong, experience has shown that a delay of 1 sec. is a good average.

The timing should be set to approx. 15-18 °.

When using YGE-Controllers please choose „auto-Timing“

YGE Motor Controller:

Our YGE controllers are by default set to auto-timing and break with 1.1 sec. With the USB adapter it is possible to connect the controller to a PC and adjust telemetry-settings and BEC-voltage.

Important for YGE Controllers:

First of all the deflection has to be set with the used transmitter (without USB-adapter). See mode setup for basic programming in the YGE manual.

Operating Instructions:

The battery used to drive the powerline must not exceed the specified cell count and maximum capacity.

The reason is that the small motors are designed to work with small batteries.

Those small batteries loose a lot of voltage during full thrust. If you use a larger battery than allowed this has a significantly higher voltage under load. Thus, the engine can be overpowered.

The respective values can be found in the technical data at www.klapptriebwerk.de or www.schambeck-luftsporttechnik.de

Motor Runtime:

For Powerline micro 10:

The maximum switch-on time is 30 seconds. After that the engine has to cool down for at least 5 minutes.

At a switch-on time of e.g. 10 seconds, a cooling time of one minute is sufficient

For Powerline 15-22:

The maximum switch-on time is normally 2 minutes. After that the engine has to cool down some minutes, until it can be switched on again.

Shorter switch-on times also require less cooling time. There must always be a circulation or air exchange in the fuselage of the aircraft.

The switch-on time may differ for special designs. In this case, please check with us.

If this information is not followed, the engine will overheat and become defective.

Safety instructions

The commissioning of a drive is dangerous. Improper handling with a drive that transmits up to 10 kW to the propeller may cause considerable damage. Our engines are very powerful. Therefore expertise, discipline, regular service and periodic maintenance is required. Errors and defects in the mounting or operation of a model with such a strong engine may cause property damage or physical injury.

Attention! Before you take a model airplane with this engine in operation, you must find out about the legal regulations in your country.

Legally, a model aircraft is an aircraft subject to relevant laws that must be observed at all times. Please notice rules like start-permissions or insurance obligations. In addition legal requirements that relate to the radio control system need to be considered. The regulations of the respective country must be observed accordingly.

Warning!

It is your responsibility to protect others from injuries.

The minimum distance from residential areas to ensure the safety of people, animals and buildings must be at least 1.5 km.

Keep distance from power supply lines.

Do not fly the model in bad weather with low clouds or fog.

Never fly against direct sunlight because you may lose the eye contact with the model.

To avoid collisions with manned or unmanned aircraft, please land immediately when approached by such aircraft.

Attention!

People or animals must observe the following minimum safety distances from the aircraft engine:

- * Before engine 5 m
- * On the side of the engine 10 m
- * Behind the engine 2 m

Warning!

Commissioning and operation of the Model and / or the engine under the influence of alcohol, drugs, medicines, etc. is absolutely forbidden. The operator must be in the best physical and mental condition and also well concentrated. This applies both to the operator and any assistants.

Warning!

This engine was designed exclusively for the radio controlled airplanes and is not suitable for any other purpose. Any other uses may result in property damage or personal injury!

Warning!

Note on the propeller: From time to time, you should clean the propeller with a damp cloth. If the propeller is damaged or unbalanced, stop operation immediately! In addition, the general safety instructions for propellers apply.

Warning!

Any deviation from the instructions in this manual, the use of other parts or materials and changes in construction, may impact adversely the functionality of the engine and must therefore be avoided under all circumstances.

Warning!

The operation of the engine may only occur if the instructions in the manual are attended strictly. Please pay also regard to the CG and steering information for your airplane. The prescribed settings are to be observed. Before starting a model with this engine, all the features and all the controls/steerings and the remote control range with activated remote control equipment has to be checked. This operational check must be repeated with the engine running, and the model must be fixed to the ground so long. Furthermore the references of the remote control system must be observed.

General Information:

The maximum lifetime of the drive assuming good care is 5 years from date of purchase.

The gear grease should be replaced once a year.

The screws of the motor and propeller must be checked regularly for tightness.

Exclusion of liability and damage

Compliance with the installation and operating instructions in conjunction with the model and the engine, as well as the installation, operation, use and maintenance of associated components can not be monitored by Luftsporttechnik Schambeck. Therefore, Luftsporttechnik Schambeck assumes no responsibility for any loss, damage or costs arising from the erroneous operation, erratic behavior or anything connected with the foregoing. Unless otherwise prescribed by law, the responsibility of the company Luftsporttechnik Schambeck (resulting from the use of the model and the engine) to pay damages for any reason is excluded (including personal injury, death, damage to buildings, as well as damage caused by revenue or loss of business, interruption of business or other indirect or direct damages). The total liability under any circumstances and in any case is limited to the amount that the buyer has actually paid for the airplane or the engine. Commissioning and operation of the model and the engine is done solely at the risk of the operator. The buyer agrees that Luftsporttechnik Schambeck is not able to monitor or control whether this manual - regarding the installation, operation, use of aircraft, engine and use of the remote control – is followed appropriately. From Luftsporttechnik Schambeck neither promise, contract agreements, guarantees or other arrangements to any person or entity with respect to the functionality and commissioning of the model and the engine were made. At acquisition of the model or the engine, the customer has to rely on his own expertise and judgement and take on responsibility for it.

Terms of guarantee

The guarantee consists of free repair or replacement of any parts that have proven manufacturing or material defects during the warranty period from the date of purchase. Further claims are excluded. Transport, packaging and travel costs are at the expense of the buyer. We accept no liability for damage in transit. When returning to Luftsporttechnik Schambeck or to the approved service center for the country, a description of the fault and the invoice with the purchase date is needed. The warranty is void if failure of the component or model is caused by an accident, improper handling or incorrect usage.