



vorgesehen für den MULTIPLEX  
Brushless-Antrieb # 33 2639  
oder Tuning # 33 2643

# BLIZZARD

BK / KIT Blizzard # 21 4233

## **MULTIPLEX**<sup>®</sup>

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## **D** Sicherheitshinweise

- ☺ Prüfen Sie vor jedem Start den festen Sitz des Motors und der Luftschraube - insbesondere nach dem Transport, härteren Landungen sowie Abstürzen. Prüfen Sie ebenfalls vor jedem Start den festen Sitz und die richtige Position der Tragflächen auf dem Rumpf.
- ☺ Akku erst einstecken, wenn Ihr Sender eingeschaltet ist und Sie sicher sind, daß das Bedienelement für die Motorsteuerung auf "AUS" steht.
- ☺ Im startbereiten Zustand nicht in den Bereich der Luftschraube greifen. Vorsicht in der Luftschraubendrehebene - auch Zuschauer zur Seite bitten!
- ☺ Zwischen den Flügeln die Motortemperatur durch vorsichtige Fingerprobe prüfen und vor einem Neustart den Motor ausreichend abkühlen lassen. Die Temperatur ist richtig, wenn Sie den Motor problemlos berühren können. Insbesondere bei hohen Außentemperaturen kann dieses bis zu 15 Minuten dauern.
- ☺ Denken Sie immer daran: Niemals auf Personen und Tiere zufliegen.

## **F** Conseils de sécurité

- ☺ Avant chaque décollage, vérifiez la fixation du moteur et de l'hélice, notamment après le transport, après les atterrissages violents et après un "Crash". Vérifiez également, avant chaque décollage la fixation ainsi que le positionnement de l'aile par rapport au fuselage.
- ☺ Ne branchez l'accu de propulsion que si vous êtes sûr que votre émetteur est allumé et que l'élément de commande moteur est en position "ARRET".
- ☺ Ne mettez pas vos doigts dans l'hélice! Attention à la mise en marche, demandez également aux spectateurs de reculer.
- ☺ Entre deux vols, vérifiez en posant un doigt dessus, la température du moteur, laissezle refroidir suffisamment avant le prochain décollage. La température est correcte si vous pouvez maintenir votre doigt ou votre main sur le moteur. Le temps de refroidissement peut varier jusqu'à 15 minutes s'il fait particulièrement chaud.
- ☺ Pensez-y toujours: ne volez jamais vers ou au-dessus des personnes ou des animaux.

## **GB** Safety notes

- ☺ Before every flight check that the motor and propeller are in place and secure - especially after transporting the model, and after hard landings and crashes. Check also that the wing is correctly located and firmly secured on the fuselage before each flight.
- ☺ Don't plug in the battery until you have switched on the transmitter, and you are sure that the motor control on the transmitter is set to "OFF".
- ☺ When the model is switched on, ready to fly, take care not to touch the propeller. Keep well clear of the propeller disc too, and ask spectators to stay back.
- ☺ Allow the motor to cool down after each flight. You can check this by carefully touching the motor case with your finger. The temperature is correct when you can hold your finger on the case without any problem. On hot days this may take up to 15 minutes.
- ☺ Please keep in mind at all times: don't fly towards people or animals.

## **I** Note di sicurezza

- ☺ Prima di ogni decollo controllare che il motore e la eliche siano fissati stabilmente - specialmente dopo il trasporto, atterraggi duri e se il modello è precipitato. Controllare prima del decollo anche il fissaggio e la posizione corretta delle ali sulla fusoliera.
- ☺ Collegare la batteria solo quando la radio è inserita ed il comando del motore è sicuramente in posizione "SPENTO".
- ☺ Prima del decollo non avvicinarsi al campo di rotazione della eliche. Attenzione alla eliche in movimento - pregare che eventuali spettatori si portino alla dovuta distanza di sicurezza!
- ☺ Tra un volo e l'altro controllare cautamente con le dita la temperatura del motore e farli raffreddare sufficientemente prima di ogni nuovo decollo. La temperatura è giusta se si possono toccare senza problemi. Specialmente con una temperatura esterna alta questo può durare fino a 15 minuti.
- ☺ Fare attenzione: Non volare mai nella direzione di persone ed animali.

## **E** Advertencias de seguridad

- ☺ Compruebe antes de cada despegue que el motor y la hélice estén fuertemente sujetos, sobretodo después de haberlo transportado, de aterrizajes más fuertes así como después de una caída. Compruebe igualmente antes de cada despegue que las alas estén bien sujetas y bien colocadas en el fuselaje.
- ☺ Conectar la batería, cuando la emisora esté encendida y Usted esté seguro que el elemento de mando para el motor esté en "OFF".
- ☺ No meter la mano en la zona inmediata a la hélice cuando el avión esté a punto de despegar. ¡Cuidado con la zona de la hélice! ¡Pedir a los espectadores que se aparten!
- ☺ Entre los vuelos hay que comprobar cuidadosamente la temperatura del motor con el dedo y dejar que el motor se enfríe antes de volver a despegar. La temperatura es correcta, si puede tocar el motor sin problemas. Sobretodo en el caso de temperaturas del ambiente muy altas, esto puede tardar unos 15 minutos.
- ☺ Recuerde: No volar nunca hacia personas o animales.

### Examine your kit carefully!

MULTIPLEX model kits are subject to constant quality checks throughout the production process, and we sincerely hope that you are completely satisfied with the contents of your kit. However, we would ask you to check all the parts **before** you start construction, referring to the Parts List, as **we cannot exchange components which you have already modified**. If you find any part is not acceptable for any reason, we will readily correct or exchange it once we have examined the faulty component. Just send the offending part to our Model Department. Please be **sure** to include the purchase receipt and the enclosed **complaint form, duly completed**.

We are constantly working on improving our models, and for this reason we must reserve the right to change the kit contents in terms of shape or dimensions of parts, technology, materials and fittings, without prior notification. Please understand that we cannot entertain claims against us if the kit contents do not agree in every respect with the instructions and the illustrations.

### Caution!

**Radio-controlled models, and especially model aircraft, are by no means playthings in the usual sense of the term. Building and operating them safely requires a certain level of technical competence and manual skill, together with discipline and a responsible attitude at the flying field. Errors and carelessness in building and flying the model can result in serious personal injury and damage to property. Since we, as manufacturers, have no control over the construction, maintenance and operation of our products, we are obliged to take this opportunity to point out these hazards and to emphasise your personal responsibility.**

### Additional items required for the "Blizzard":

#### MULTIPLEX receiving system components for the Blizzard

	<i>RX-7-Synth IPD</i> receiver	35 MHz A-band	Order No. 5 5880
or	<i>RX-7-Synth IPD</i> receiver	35 MHz B-band	Order No. 5 5881
	alternatively:	40 / 41 MHz band	Order No. 5 5882

	<i>Nano-Karbonite servo</i>	2 x required (ailerons)	Order No. 6 5118
	<i>Nano-S servo</i>	1 - 2 required (elevator (rudder))	Order No. 6 5120

Optional separation filter lead, 200 mm UNI (for speed controller)

	4 x 200 mm UNI servo lead (2 x central connector, 2 x elevator servos)	Order No. 8 5133
	1 x High-current plug (green)	Order No. 8 5213
	1 x High-current socket (green)	Order No. 8 5214

#### Battery charger:

	<b>MULTIcharger LN-3008 EQU</b>	Order No. 9 2540
	for LiPo, Lilo and LiFe batteries (2S / 3S) and NiMH and NiCd batteries (four to eight cells)	

#### Blizzard power set:

	Contents:	Order No. 33 2639
	Himax 3510-1100 motor, BL-37 II speed controller, 9 x 7" folding propeller, taper collet, driver and 39 mm Ø spinner	

#### Blizzard TUNING power set:

	Contents:	Order No. 33 2643
	Himax 3516-1350 motor, BL-54 speed controller, 9 x 6" folding propeller, taper collet, driver and 39 mm Ø spinner	

<b>Flight battery:</b>	Li-Batt BX 3/1-2100	Order No. 15 7131
or	Li-Batt BX 3/1-2500	Order No. 15 7191

<b>Receiver battery for glider version</b>	4/2100-AA-W	Order No. 15 6052
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#### Tools:

Scissors, balsa knife, combination pliers, screwdriver.

**Note:** please remove the illustration pages from the centre of the instructions.

#### Specification:

Wingspan:	1380 mm
Overall length:	910 mm
All-up weight, glider:	approx. 735 g
All-up weight, electric:	approx. 820 / 925 g / Standard / Tuning
Total surface area:	19.4 dm <sup>2</sup>
Wing loading min.:	38 g/dm <sup>2</sup> glider, 42 g/dm <sup>2</sup> electric, 47 g/dm <sup>2</sup> electric (Tuning)
RC functions:	Aileron, elevator, (rudder), motor

*Like any other aircraft, this model has static limits! Steep dives and silly, imprudent manoeuvres may cause structural failure and the loss of the model. Please note: damage caused by incompetent flying is obvious to us, and we are not prepared to replace components damaged in this way. It is always best to fly gently at first, and to work gradually towards the model's limits. The aircraft is designed to cope with our 'Tuning' (upgrade) power system, but is only capable of withstanding the flight loads if it is built exactly as specified, and is in perfect structural order (i.e. not damaged). Further upgrade measures are possible, but should only be attempted if you have plenty of experience in this field, as additional structural reinforcements will be required.*

**Important note**

***This model is not made of styrofoam™, and it is not possible to glue the material using white glue, polyurethane or epoxy; these adhesives only produce a superficial bond which gives way when stressed. Use medium-viscosity cyano-acrylate glue exclusively, preferably our Zacki-ELAPOR®, # 59 2727 - the cyano glue optimised specifically for ELAPOR® particle foam.***

***If you use Zacki-ELAPOR® you will find that you do not need cyano 'kicker' or activator for most joints. However, if you wish to use a different adhesive, and are therefore obliged to use kicker / activator spray, we recommend that you apply the material in the open air as it can be injurious to health.***

**1. Before assembling the model**

Please check the contents of your kit before you start working on it.

You will find **Figs. 1 + 2** and the Parts List helpful here.

**Note:** the GRP spar caps and fuselage longerons **11.1 - 11.9** are supplied in the kit in the form of a continuous strip **11** (8.5 m long), which has to be cut to length: take the dimensions of each strip directly from the component, and cut them to length using side-cutters immediately before gluing them in place. The approximate lengths are stated in the Parts List.

**2. Preparing the fuselage**

Lay the right-hand fuselage shell **4** down flat on the workbench (table). Cut the longeron **11.5** to length and glue it in place as shown, applying cyano along its whole length. Wipe off excess adhesive immediately using a cloth.

**Fig. 03**

Repeat this procedure with the left-hand fuselage shell **3**.

**Caution:**

**It is absolutely essential that the fuselage shells are straight when you install the GRP longerons. If you make a mistake at this point, it will be impossible to correct it later!**

**3. Preparing the wing retainer plate 40**

The first step here is to solder two servo leads, # 8 5133, to the M6 MULTIPLEX high-current plug, # 8 5213, as shown in **Fig. 04**. Carefully separate the servo ribbon cable into its individual colours using a pair of side-cutters. Strip a little insulation from the wire ends, and tin (apply solder to) the bare conductors. Tin the individual contacts of the M6 plug. Slip a piece of heat-shrink sleeve over each wire, and solder the wire ends to the contacts in the arrangement shown in **Fig. 4**. Slip the sleeves over the soldered joints and shrink them in place using a heat-gun or similar.

Note that the M6 plug and socket should be fitted together before you carry out the soldering - this ensures that the contacts take up their optimum position.

Tin the contacts of the plug, solder the wires to the contacts, and shrink the sleeves over the soldered joints. Position the plug carefully and glue it in place. Push the nuts **32** into the wing retainer plate **40** until they snap into place.

The standard wire colours of UNI servo leads:

red	red	+
black	brown	-
yellow	orange	⊥

**4. Fitting out the fuselage**

Now we turn to the right-hand fuselage shell **4**. First cut the inner fuselage longeron **11.8** to length, and glue it in place using cyano. The next step is to glue the canopy latches **22** in place, taking care to position them accurately. Glue the prepared wing retainer plate **40** in place with the projecting spigots flush at the top. Deploy the leads as shown, and tape them to the fuselage sides. Repeat this procedure with the left-hand fuselage shell **3** - with the exception of the wing retainer plate **40**. **Fig. 05**

**5. Preparing the servo installation in the fuselage**

The Blizzard features a V-tail which can be actuated using a single servo ('elevator' function only; no rudder) or two servos. In the former case there is no need to cut away additional material, as shown in **Fig. 06**. If you wish to use both functions of the V-tail (rudder and elevator), a second servo is required. In this case you have to open up the additional servo well using a balsa knife.

**Fig. 06**

The servo cases can now be sealed with adhesive tape, and glued in their recesses as shown in **Fig. 07**. Before you do this, use side-cutters to remove the superfluous arms from the servo output levers, and snip off the servo leads close to the plugs. Lengthen the cables by soldering 300 mm extension leads to them; insulate each soldered joint with a separate heat-shrink sleeve.

**6. Completing the fuselage**

Check that the fuselage shells fit together accurately, then glue them together using cyano.

**Fig. 08**

**7. Installing the nose fairing / motor bulkhead**

Sand off the moulding pimples from the area of the fuselage where the nose fairing / motor bulkhead **13** will fit. Apply cyano to the mating surfaces, and glue the fairing / motor bulkhead **13** in place, taking care to position it accurately. Press the fuselage against the fairing **13** from the inside while the glue is setting. **Fig. 09**

**8. Installing the rear fuselage fairing**

Here again sand off the pimples at the joint areas. Apply cyano to the mating surfaces, position the fuselage fairing **14** carefully, and hold it firmly in place until the adhesive hardens.

**Fig. 10**

**9. Preparing the V-tail panels 7 + 8**

Cut a slot about 1 mm wide at the end of each V-tail panel to release the control surfaces, but take great care not to cut right

through the integral hinge! Move the panels to and fro repeatedly to ease the hinge. Glue the top spar caps **11.2** in both tail panels. **Fig. 11**

#### 10. Installing the control surface horns

Assemble the swivel horns as shown in **Fig. 12**, and glue them in the appropriate recesses in the tail control surfaces. Note that the horn holes should face the servo, so that they line up correctly with the hinge pivot axis.

#### 11. Installing the tail panels

The tail panels **7 + 8** have to be glued to each other in the centre and to the fuselage tail fairing **14**. Take care here: all the joints should be neat, accurate and without gaps. The bottom spar caps **11.1** can now be fitted, as shown in **Fig. 14**.

#### 12. The ballast chamber

"Adequately powered" electric gliders often require tail ballast. We have a neat solution in our resealable ballast chamber cover **41**, which is secured using the screw **34**.

#### 13. Additional fuselage reinforcements

Glue the bottom fuselage longeron **11.6** to the underside of the fuselage.

#### Fig. 16

Glue the top fuselage longeron **11.7** to the top of the fuselage.

#### Fig. 17

#### 14. V-tail control surface linkages

If you have installed a pair of servos for elevator and rudder control, you will need to use the two pre-formed pushrods **30**. Set the servos to centre from the transmitter, and connect the pre-formed end of the pushrods to the output arms. Shorten the wire pushrods if necessary, slip the ends through the swivel connector barrels, and fit the grub screws to secure them.

#### Fig. 18

2<sup>nd</sup> variant - elevator only. In this case the wire pushrods **29** are required: they are installed as shown in **Fig. 19**.

#### 15. Preparing the wings

The first step here is to glue the wing panels **5 + 6** together in the centre as shown. Ensure that they line up exactly. Any error at this point will seriously affect the model's flying characteristics.

#### Fig. 20

The following preparatory work is necessary before you install the rectangular carbon fibre wing spars **9 + 10**:

Lay out all the parts where you can reach them easily - the wing, the spars, adhesive, a cloth - and clear away everything else which could get in the way.

Since the spars are a very close fit in the wings, they displace most of the adhesive when pressed into the recess; this causes the glue to set very quickly. If you make a mistake at this point, you may not be able to press the spars into position before the glue sets.

**Caution: the spars lie below the wing surface over part of their length (dihedral). The exposed slots are covered later by the stickers 16.**

**This procedure is crucial, and that is why we describe it very carefully below. Please note that we will not replace spoiled parts which result from using the wrong procedure!**

- Trial-fit the spars, i.e. press them into their slots 'dry' (without glue).
- Apply the adhesive (e.g. Elapor cyano) only to the bottom of the spar slot in the wing.
- Lay the wing down flat.
- In one swift process, press the spar into the spar slot as far as it will go.

e. Immediately wipe off excess glue where it is squeezed out of the channel.

f. If necessary, flex the wing away from the spar slightly, across the chord, and apply more glue.

#### Fig. 21

#### 16. Additional wing reinforcements

The bottom spar cap **11.3** can now be glued to the underside of the wing: lay the wing down flat with the curved tips extending over the ends of the workbench before installing it. **Fig. 22**

Now turn the wing over and glue the top spar cap **11.4** in the spar slot. It is a good idea to curve the spars beforehand where they fit in the wingtip area. **Fig. 23**

Twenty diagonal braces **11.9** have to be glued to the top and bottom of the wing in a 'herringbone' pattern; this is a special measure designed to increase the torsional rigidity of the wing. Please take great care over this procedure, and in particular glue each brace to the top and bottom wing spars **11.4 + 11.3**. The diagonal braces are easier to install if you curve them to the approximate shape beforehand.

#### Figs. 24 + 25

#### Completing the wing

#### 17. Wing centre section doubler

Sand off the pimples on the central area of the wing where the centre section doubler **15** fits, and glue the doubler in place using cyano.

#### Fig. 26

#### 18. Installing the aileron servos and the M6 socket

Temporarily place the servos in their recesses. Cut the servo leads to the correct length and position them in the wing together with the green M6 socket, as shown in **Fig. 27**.

**Caution: check the wire assignment carefully; the insulation colours on the plug and socket must match up correctly.**

Back to the soldering iron!

Carefully separate the servo ribbon cable into its individual colours using a pair of side-cutters. Strip a little insulation from the wire ends, and tin (apply solder to) the bare conductors. Tin the individual contacts of the M6 socket. Slip a piece of heat-shrink sleeve over each wire, and solder the wire ends to the contacts in the arrangement shown in **Fig. 27**.

Slip the sleeves over the soldered joints and shrink them in place using a heat-gun or similar.

Press the servos into their wells, and secure them with a drop of cyano at each mounting lug. Deploy the servo leads in the servo lead ducts, pressing them into place with a blunt, flat instrument. Place the connector in the holder and glue it in place as shown.

**Ensure in particular that not the tiniest trace of adhesive gets onto the surfaces which later come into contact with the mating half of the connector, i.e. apply the glue to the socket holder only.**

#### 19. Concealing the wing spars

Part of the main spar lies below the surface of the underside of the wing; these channels can be covered by applying the stickers **16**. The stickers improve the look of the model, and compensate for the stepped height of the surface.

#### Fig. 28

#### 20. Aileron linkages

Assemble the aileron horns from parts **24, 25** and **26**, as shown in **Fig. 29**, and carefully glue them in the appropriate recesses in

the ailerons. Connect the pre-formed aileron pushrods **28** to the outermost hole in the servo output arms. At the other end slip the wire pushrod **28** through the barrel **25** of the swivel connector. Set the servos and the ailerons to centre, and tighten the grub screws **26** in the barrels to secure the pushrods.

#### Fig. 29

### 21. Concealing the aileron servos

Since the wings are extremely thin, the servos are installed flush with the top surface of the airfoil. For aerodynamic reasons (and to improve appearance) they should be covered using the thin, rigid, self-adhesive stickers **26**.

#### Fig. 30

### 22. Aileron pushrod fairings

The servo fairings **44 + 45** can now be fitted; they further improve aerodynamic efficiency as well as protecting the aileron pushrods (actually it is the servo gears which need protection).

#### Fig. 31

### 23. Fitting out the glider version

If you intend to fly your Blizzard at the slope, the simple option is just to launch the model with the motor switched off; this provides you with an emergency 'get-you-home' aid if the lift drops dead. However, if you wish to make good use of weak lift, or if you are simply a dedicated glider fan, the installation of a motor will be unacceptable to you.

In this case attach the glider nose-cone **42** to the fuselage by fitting the two screws **33** from the inside. The receiver battery (e.g. # 16 6052) should be installed in the motor compartment. The completed model will weigh about 200 g less than the electric version.

### 24. Motor installation

Two power sets are available for the Blizzard: the standard system, # 33 2639, offers an input power of 280 W, and is quite powerful enough for a brisk style of flying. However, things really start moving with the Tuning power system, # 33 2643, with an input power of 470 W. In the latter case the pilot should certainly have prior experience with fast 'full-house' models. The power systems are installed as shown in **Figs. 33 + 34**.

Please note:

For the Tuning power system you must use the spacer ring **43**.

**If you wish to use a different motor, you should stay within the power range 250 - 500 Watts. We strongly recommend that you use the MPX spinner and driver as it looks good and promotes efficient cooling.**

**Spinner and driver for 4 mm Ø shaft # 73 3501**

**Spinner and driver for 5 mm Ø shaft # 73 3502**

### 25. The canopy

Apply cyano to the canopy latch tongues **23** and push them into the sockets in the canopy **12** as far as they will go. **Fig. 35**

### 26. Assembling the model

Connect the green M6 socket in the wing to the matching plug in the fuselage, then fix the wing to the fuselage using the two countersunk plastic screws **31**. Check that everything fits and lines up correctly. **Fig. 36**

### 27. Installing the receiving system components

The system components are installed as shown in **Fig. 37**. Note that the receiver is positioned aft of the wing. This means that the leads must be long enough to enable the servos to be connected outside the fuselage.

### 28. Centre of Gravity

Set the correct Centre of Gravity by adjusting the position of the

flight battery and the trim ballast in the ballast chamber.

The correct CG position is around **70 mm** aft of the wing root leading edge. **Fig. 38**

### 29. Initial test-run

We assume that all the radio control system components are installed as shown in **Fig. 37**, and connected correctly. Use Velcro tape **20 + 21** to secure the components.

Check the neutral position of the control surfaces and the direction of rotation of the servos. All the control systems must operate freely, without binding. Check the direction of rotation of the motor shaft, and reverse it if necessary.

### 30. Settings (guideline only!):

Centre of Gravity:	70 mm aft of the wing root leading edge
Longitudinal dihedral:	1°
Motor downthrust:	6°
Motor sidethrust:	0°

Control surface travels:

Measured at the broadest chord of the control surfaces

Ailerons:	14 / 6 mm +/-
Elevator:	5 / 5 mm +/-
Rudder:	7 / 5 mm +/-

Flaps:	2 mm down
Spoilers:	12 mm up
Snap-flap:	2 mm up

Elevator compensation	
Spoilers	0.5 mm 'down'
Flap	max. 1 mm 'up'
Power	0.5 mm 'down'

Expo, elevator:	30%
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### 31. Test-flying:

**Wait for a day with little or no wind.**

**Carry out all the basic adjustments in the peace and quiet of your workshop!**

**The basic rules:**

**Snap-flaps negative and max. 2 mm**

**No speed flying with flaps deployed (i.e. neutral only)**

Longitudinal dihedral = 1°; this is pre-set by the model's construction

### Centre of Gravity:

Start by balancing the model within the stated range. Once you have completed the test-flying schedule, you can fine-tune the setting as follows: fly straight and level at half-throttle, and roll the model inverted. If you now have to apply a great deal of 'down' to hold level flight, the model is nose-heavy; the CG must be shifted further aft. If the machine climbs whilst inverted, without requiring elevator correction, the CG is too far aft. When balanced correctly, the model will require slight down-elevator for level inverted flight.

### Correcting straight and level flight:

First the static balance: hold the model inverted, and support it by the spinner and the tail end of the fuselage: with the fuselage level, the wings should remain horizontal. If not, add ballast to the lighter wingtip.

On the next flight, fly the aeroplane at minimum throttle (just

enough power to keep the model in the air), keep it straight and level, and adjust the trims for straight flight. Now switch to inverted and check the straight flying characteristics. If necessary, adjust the wingtip ballast after landing the model.

#### **Sidethrust:**

The sidethrust is built-in, and is suitable for all propellers around the stated size.

#### **Downthrust:**

Apply full throttle, and fly the model straight and level until it comes to the point where you are standing, so that you have a clear view of the model from one side. Pull the aircraft up into a vertical climb: it should continue to climb vertically, and not fall away forward or back. If this is not the case, adjust the motor downthrust to correct the fault.

An easy method of checking the approximate setting (adequate when using the standard power system) is to trim the model for a flat glide, then apply full-throttle: the aeroplane should now climb away in a steady, shallow climb.

#### **Aileron differential:**

Fly three or four rolls to the right at half-throttle; if the Blizzard veers to the right during this manoeuvre, you need to increase the aileron differential. If it veers to the left, i.e. against the direction of rolling, you should reduce the aileron differential.

#### **32. Gilding the lily - applying the decals**

The kit is supplied with a multi-colour decal sheet **2**. Cut out the individual name placards and emblems and apply them to the model in the positions shown in the kit box illustration, or in an arrangement which you find pleasing.

#### **33. Safety**

Safety is the First Commandment when flying any model aircraft. Third party insurance should be considered a basic essential. If you join a model club suitable cover will usually be available

through the organisation. It is your personal responsibility to ensure that your insurance is adequate (powered model aircraft).

Make it your job to keep your models and your radio control system in perfect order at all times. Check the correct charging procedure for the batteries you are using. Make use of all sensible safety systems and precautions which are advised for your system. An excellent source of practical accessories is the MULTIPLEX main catalogue, as our products are designed and manufactured exclusively by practising modellers for other practising modellers.

Always fly with a responsible attitude. You may think that flying low over other people's heads is proof of your piloting skill; others know better. The real expert does not need to prove himself in such childish ways. Let other pilots know that this is what you think too. Always fly in such a way that you do not endanger yourself or others. Bear in mind that even the best RC system in the world is subject to outside interference. No matter how many years of accident-free flying you have under your belt, you have no idea what will happen in the next minute.

All of us in the MULTIPLEX team hope you have many hours of pleasure building and flying your new model.

MULTIPLEX Modellsport GmbH & Co. KG  
Product development and maintenance

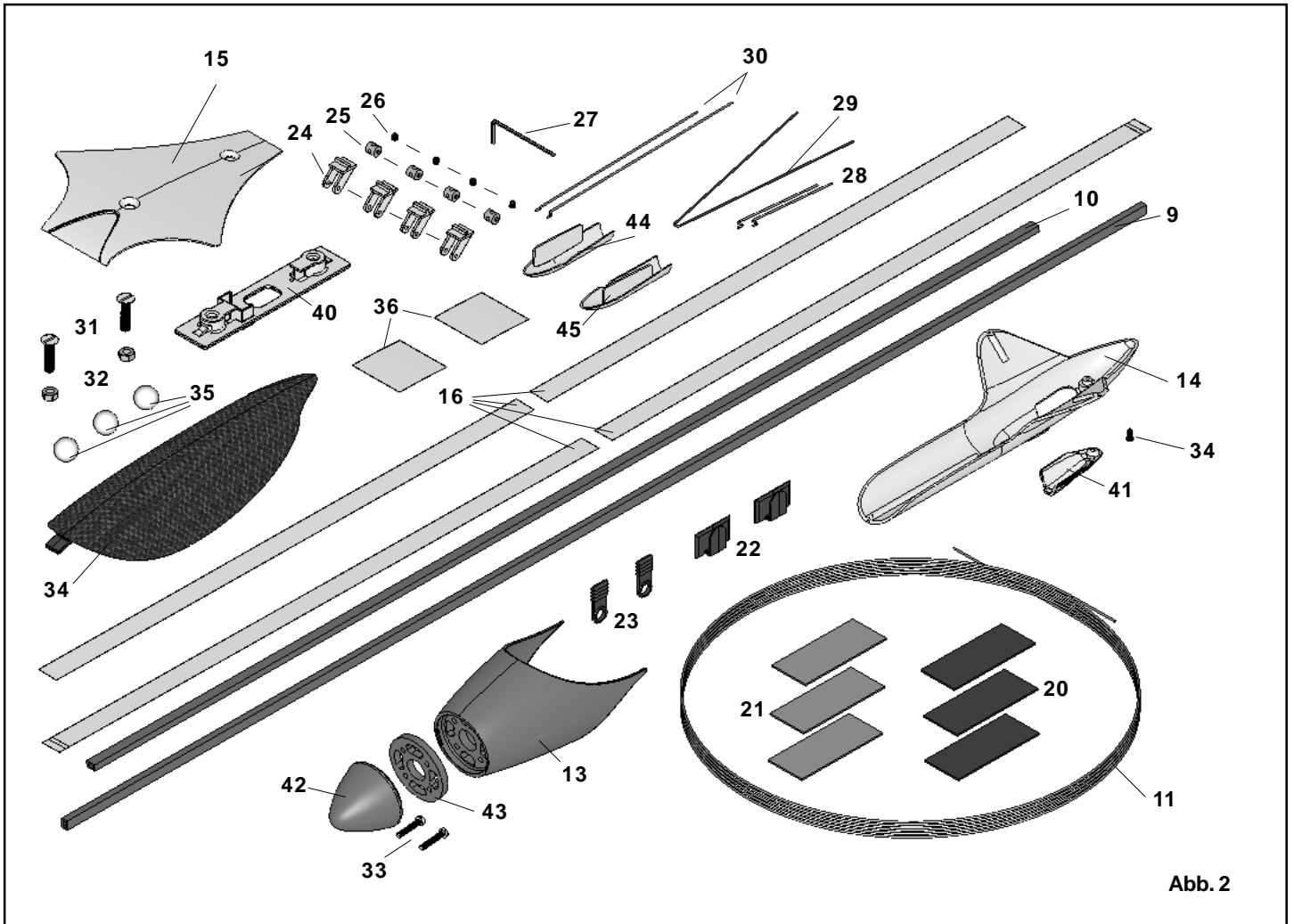
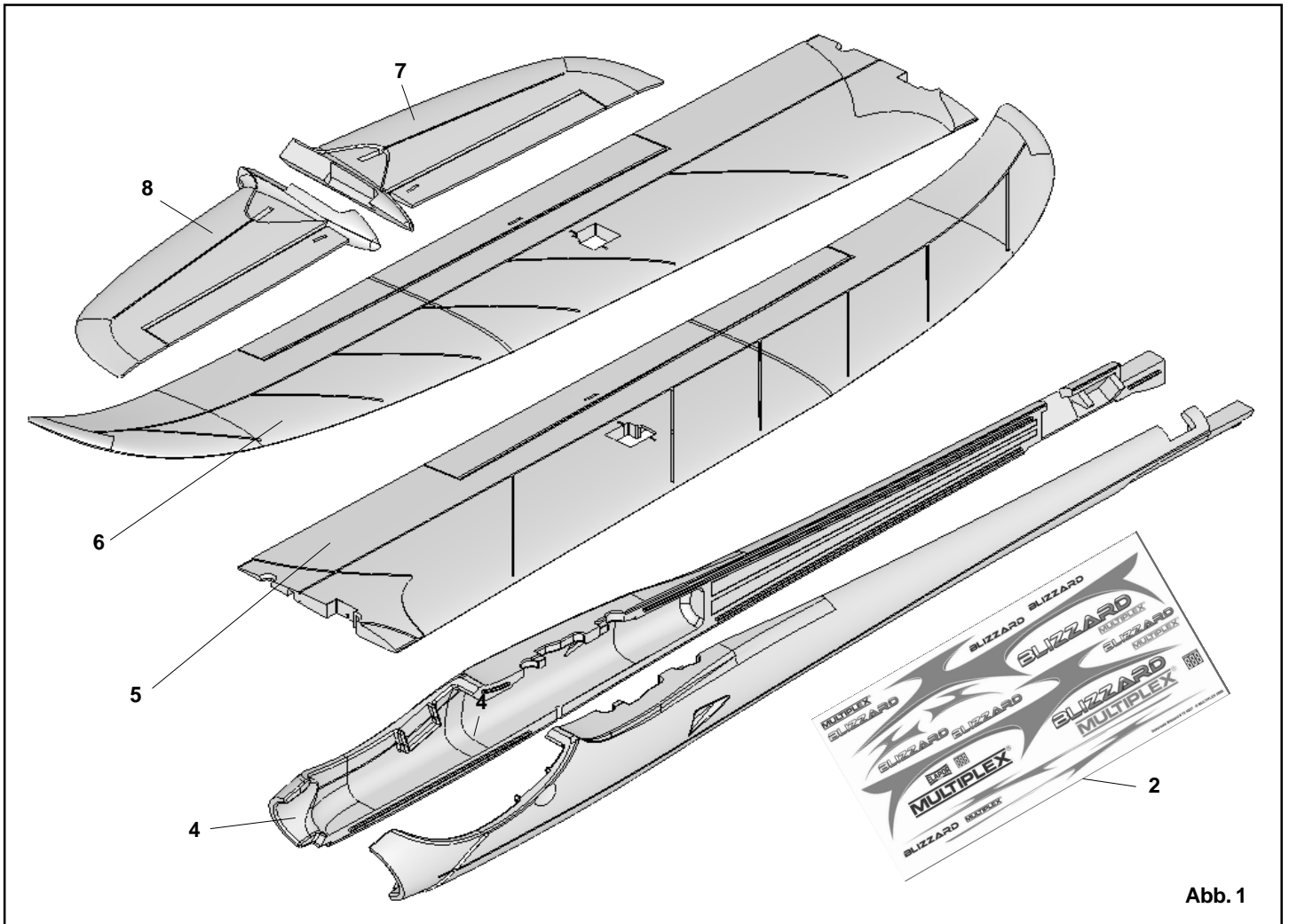


Klaus Michler

## Blizzard KIT

Part No.	No. off	Description	Material	Dimensions
1	1	KIT building instructions	Paper, 80 g/m <sup>2</sup>	A4
2	1	Decal set	Printed adhesive film	330 x 700 mm
3	1	L.H. fuselage shell	Moulded Elapor foam	Ready made
4	1	R.H. fuselage shell	Moulded Elapor foam	Ready made
5	1	L.H. wing panel	Moulded Elapor foam	Ready made
6	1	R.H. wing panel	Moulded Elapor foam	Ready made
7	1	L.H. V-tail panel	Moulded Elapor foam	Ready made
8	1	R.H. V-tail panel	Moulded Elapor foam	Ready made
9	1	Front wing spar	Rectangular CFRP tube	6 x 4 x 800 mm
10	1	Rear wing spar	Rectangular CFRP tube	6 x 4 x 700 mm
11	1	GRP longeron (coil)	GRP	1.3 Ø x 8500 mm
12	1	Canopy	Inj. moulded plastic	Ready made
13	1	Front fuselage fairing / motor bulkhead	Inj. moulded plastic	Ready made
14	2	Rear fuselage fairing	Inj. moulded plastic	Ready made
15	1	Wing centre section doubler	Inj. moulded plastic	Ready made
16	4	Spar cover sticker	Self-adhesive plastic	13 x 400 mm
<b>Small items set</b>				
20	3	Velcro tape, "mushroom"	Plastic	25 x 60 mm
21	3	Velcro tape, "felt"	Plastic	25 x 60 mm
22	2	Canopy latch	Inj. moulded plastic	Ready made
23	2	Canopy latch tongue	Inj. moulded plastic	Ready made
24	4	Glue-fitting 'Twin' control surface horn	Inj. moulded plastic	Ready made
25	4	Swivel pushrod connector barrel	Metal	Ready made, 6 mm Ø
26	4	Socket-head grub screw	Metal	M3 x 3 mm
27	1	Allen key	Metal	1.5 mm A/F
28	2	Aileron pushrod, one Z-bend	Metal	1 Ø x 60 mm
29	2	V-tail pushrod	Metal	1 Ø x 115 mm
30	2	Elevator pushrod, one Z-bend	Metal	1 Ø x 145 mm
31	2	Countersunk wing retainer screw	Plastic	M5 x 20 mm
32	2	Nut (wing retainer plate)	Metal	M5
33	2	Screw (glider nose-cone)	Metal	M3 x 16 mm
34	1	Screw (trim compartment cover)	Metal	2.2 x 6.5 mm
35	3	Trim ballast, electric version	Steel ball, 9 g	13 mm Ø
36	2	Servo compartment cover, top	Plastic	35 x 35 mm
<b>Plastic parts set</b>				
40	1	Wing retainer plate	Inj. moulded plastic	Ready made
41	1	Trim ballast chamber cover	Inj. moulded plastic	Ready made
42	1	Glider nose-cone	Inj. moulded plastic	Ready made
43	1	Spacer ring, 39 Ø x 4 mm	Inj. moulded plastic	Ready made
44	1	L.H. servo fairing	Inj. moulded plastic	Ready made
45	1	R.H. servo fairing	Inj. moulded plastic	Ready made
<b>Spars and longerons</b>				
11	1	Spar caps and fuselage longerons (roll, 1.3 Ø x 8500 mm)		
11.1	2	Bottom tailplane spar cap	GRP rod	1.3 Ø x 160 mm
11.2	2	Top tailplane spar cap	GRP rod	1.3 Ø x 171 mm
11.3	1	Bottom wing spar cap	GRP rod	1.3 Ø x 1345 mm
11.4	1	Top wing spar cap	GRP rod	1.3 Ø x 1345 mm
11.5	2	L.H. / R.H. fuselage longeron	GRP rod	1.3 Ø x 700 mm
11.6	1	Bottom fuselage longeron	GRP rod	1.3 Ø x 723 mm
11.7	1	Top fuselage longeron	GRP rod	1.3 Ø x 495 mm
11.8	2	L.H. / R.H. inner fuselage longeron	GRP rod	1.3 Ø x 126 mm
11.9	20	Diagonal wing brace	GRP rod	1.3 Ø x various
16	4	Spar cover sticker	Plastic	13 x 400 mm





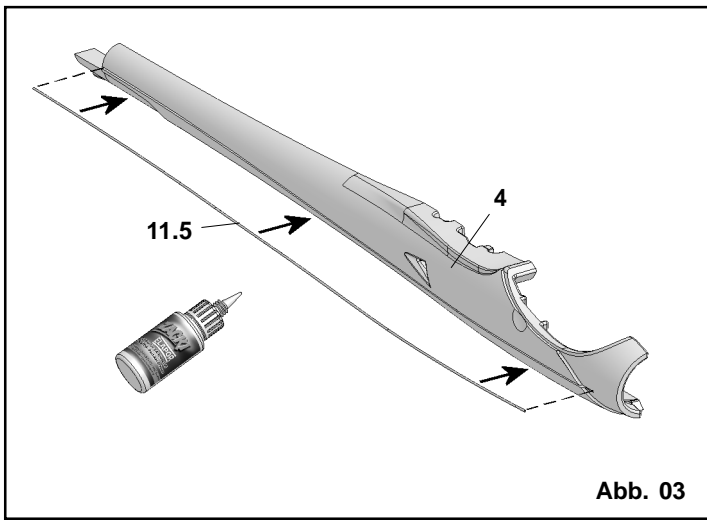


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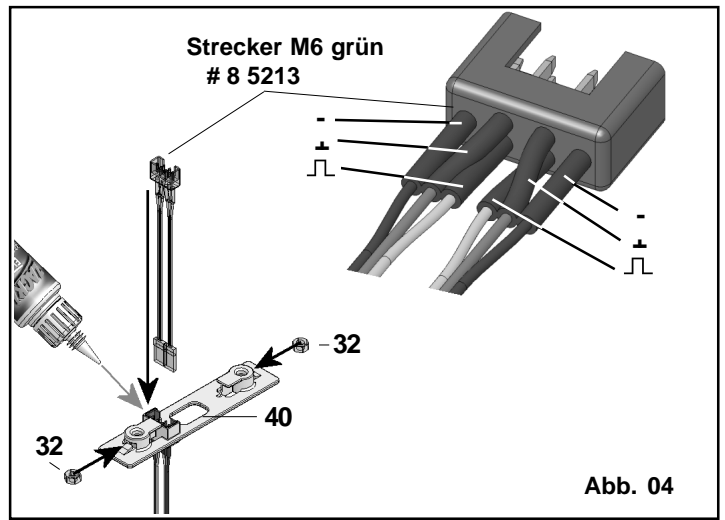


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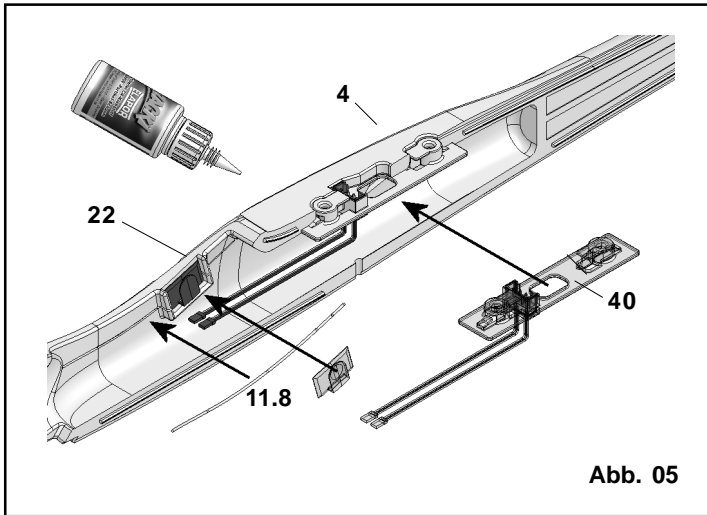


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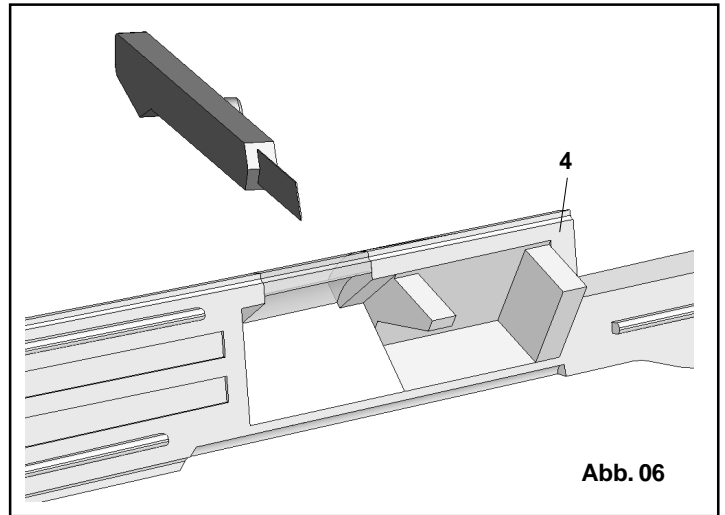


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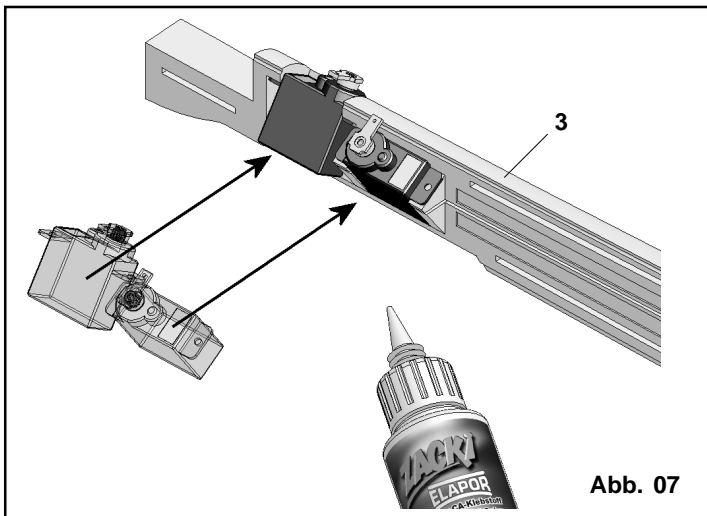


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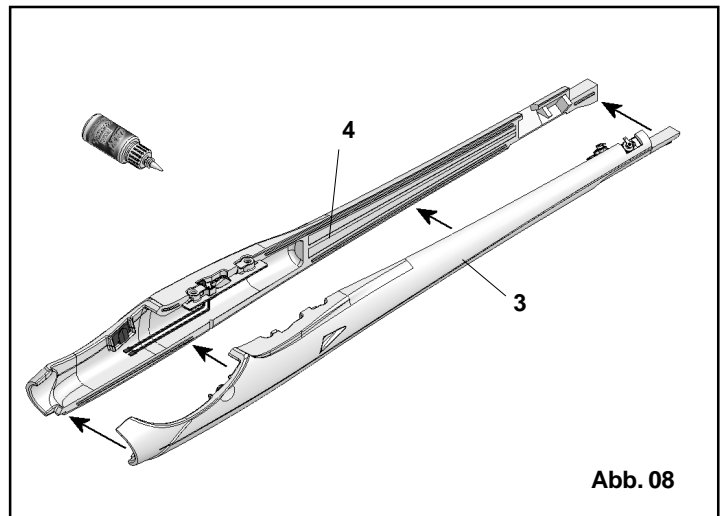


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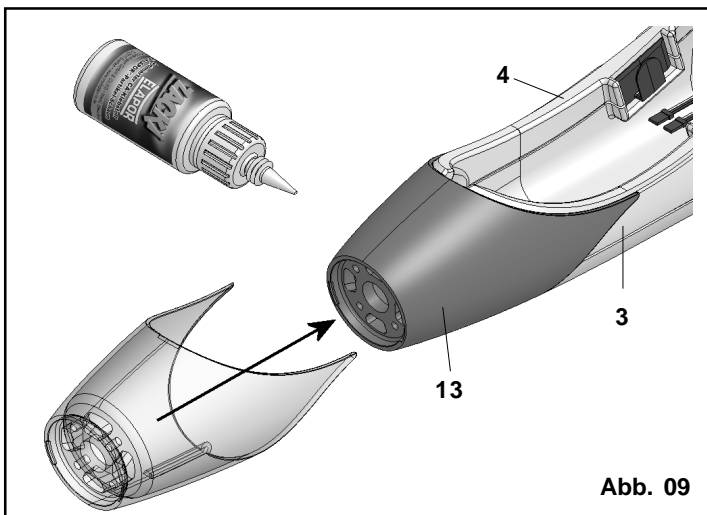


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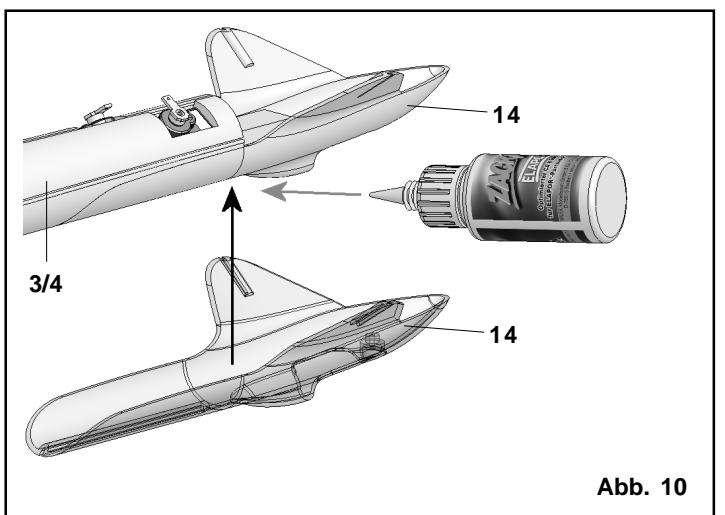


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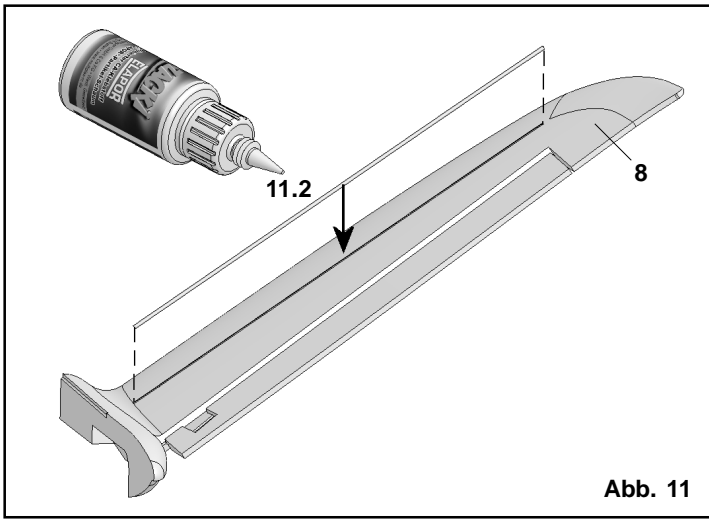


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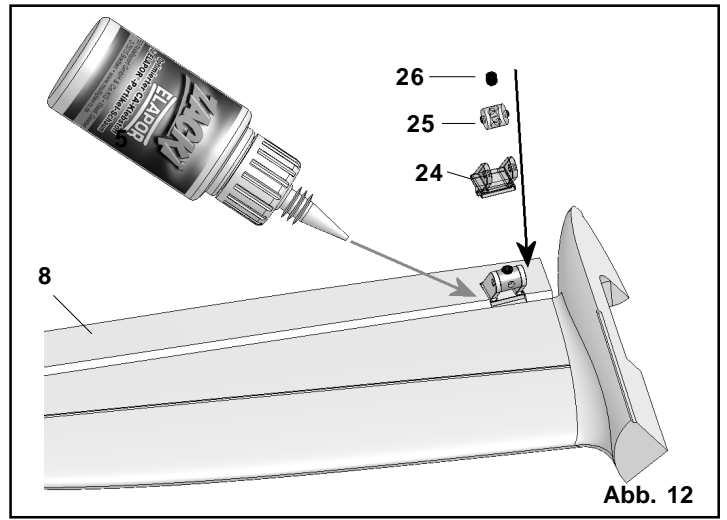


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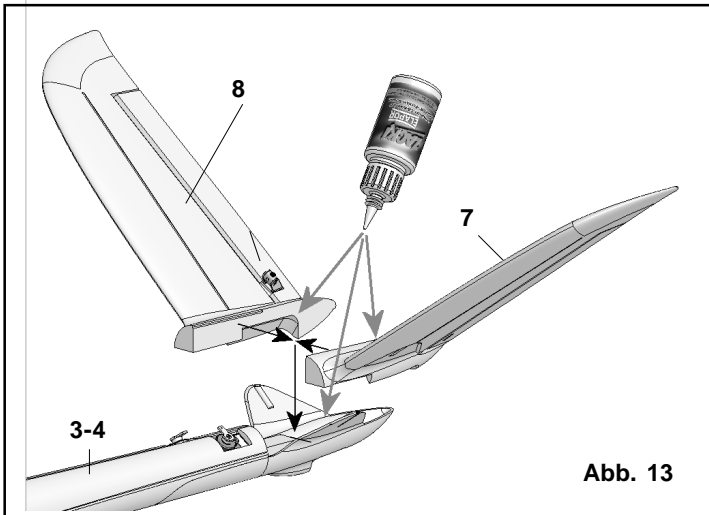


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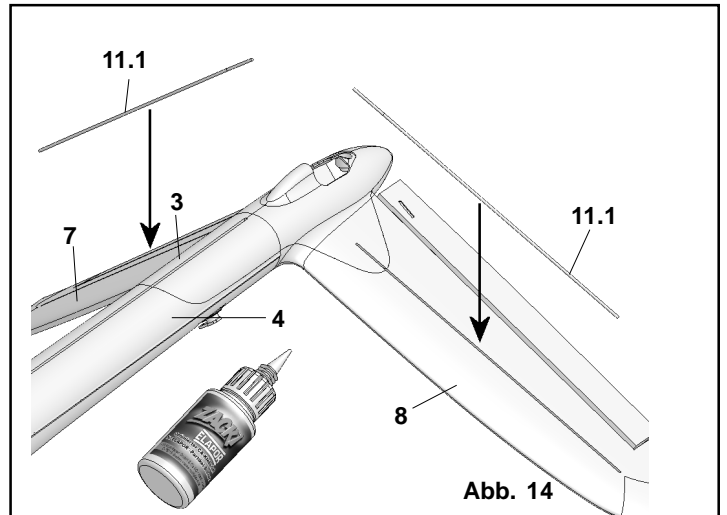


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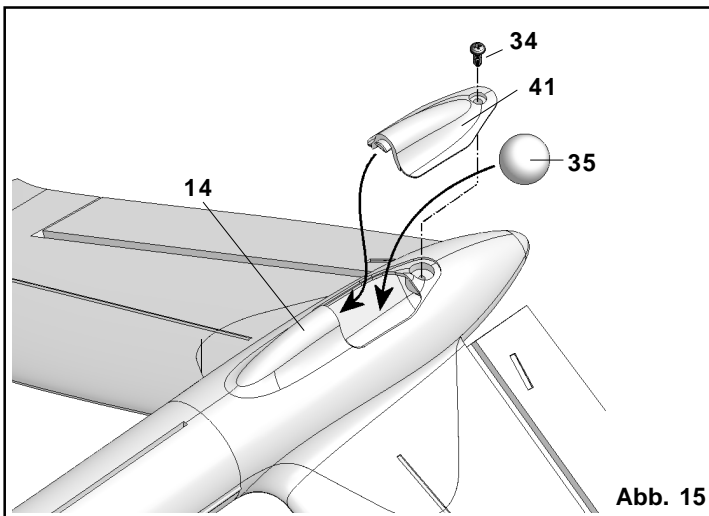


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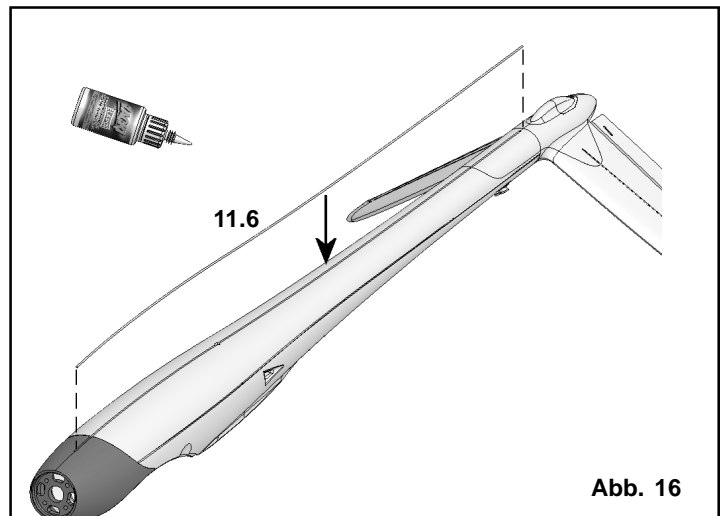


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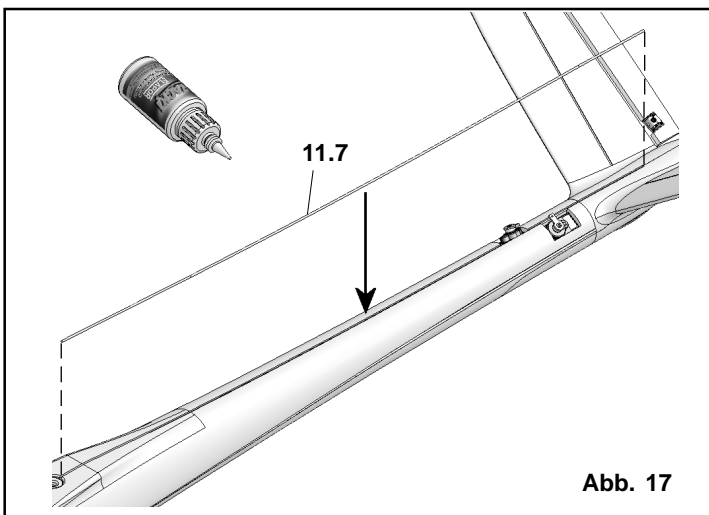


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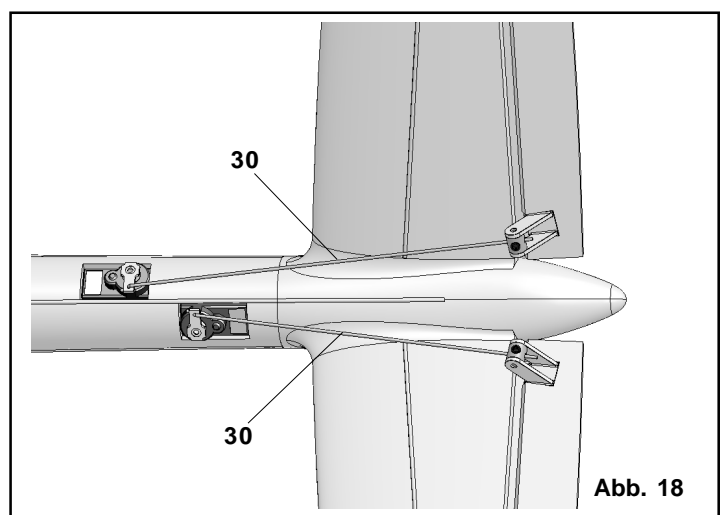


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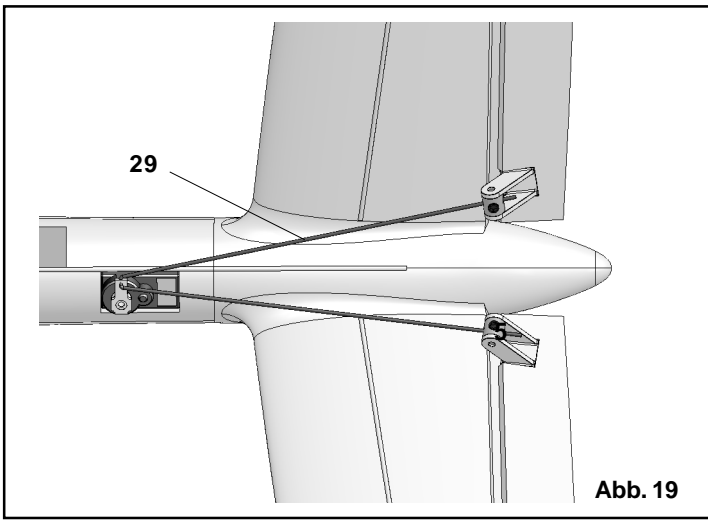


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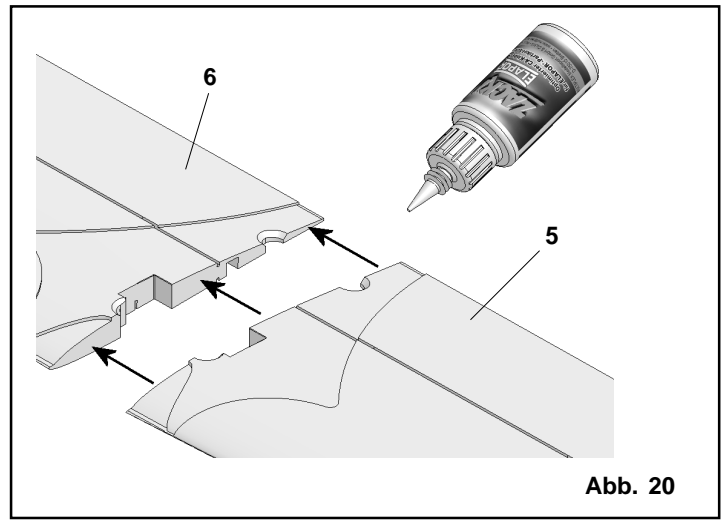


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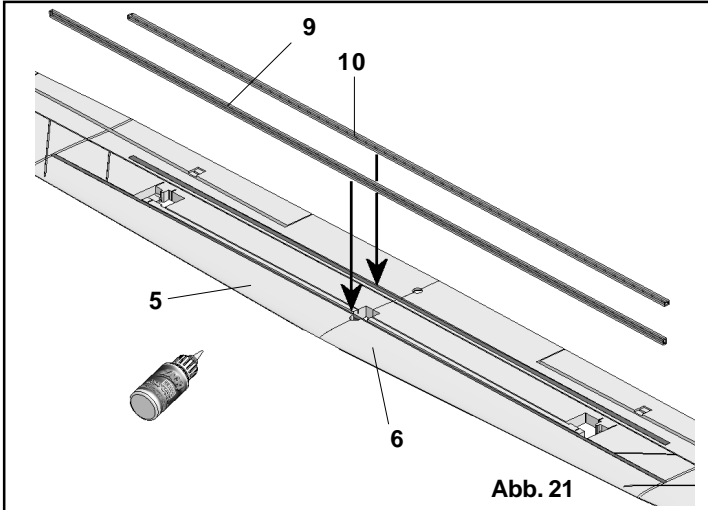


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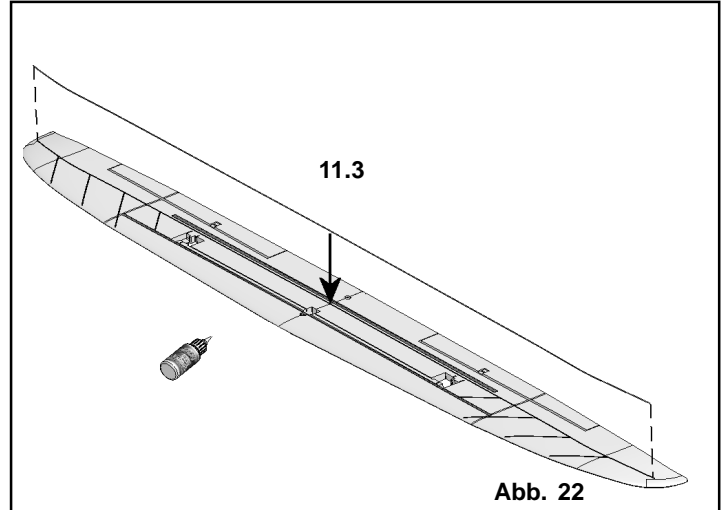


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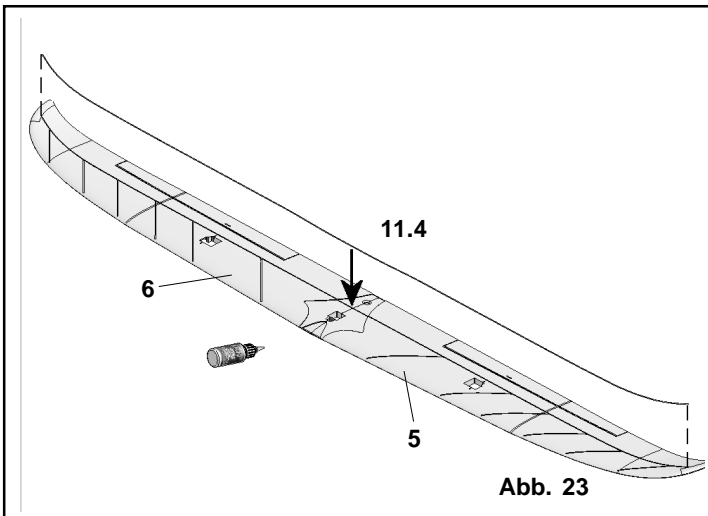


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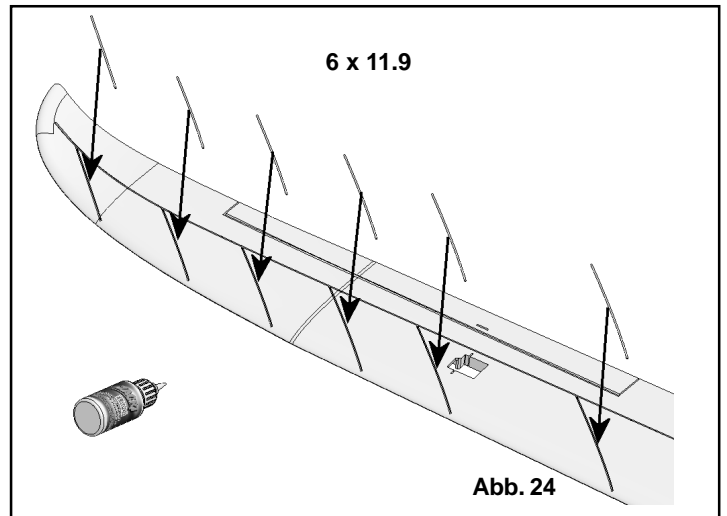


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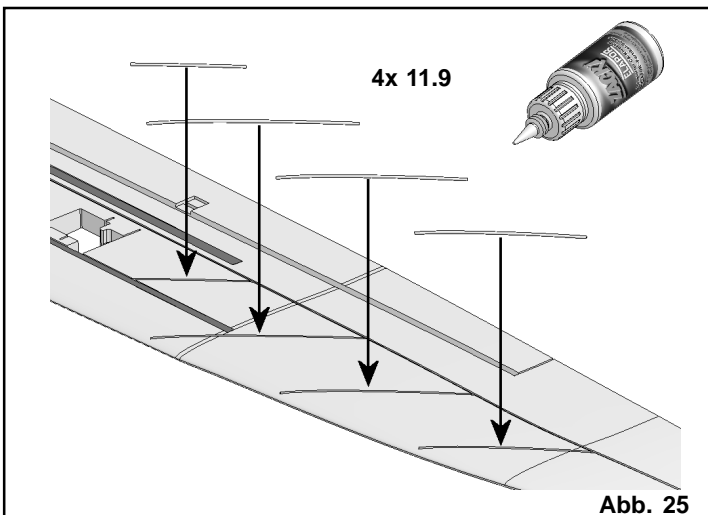


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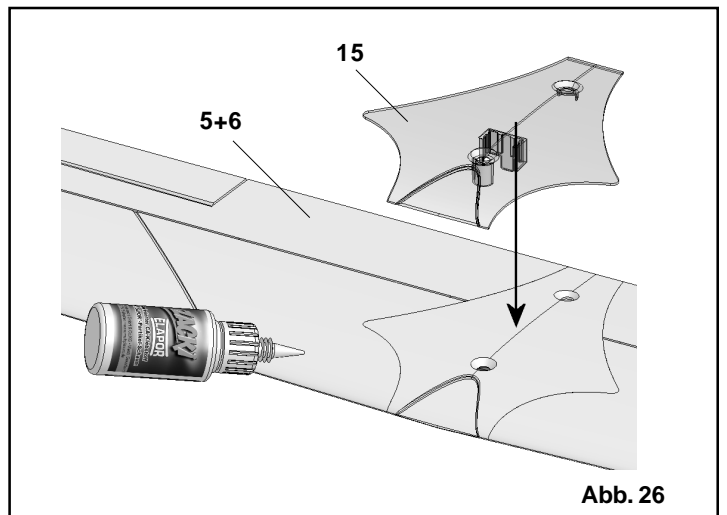
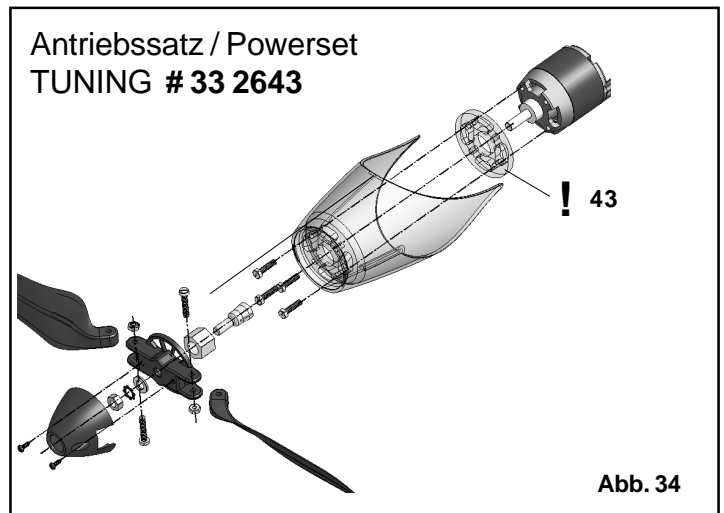
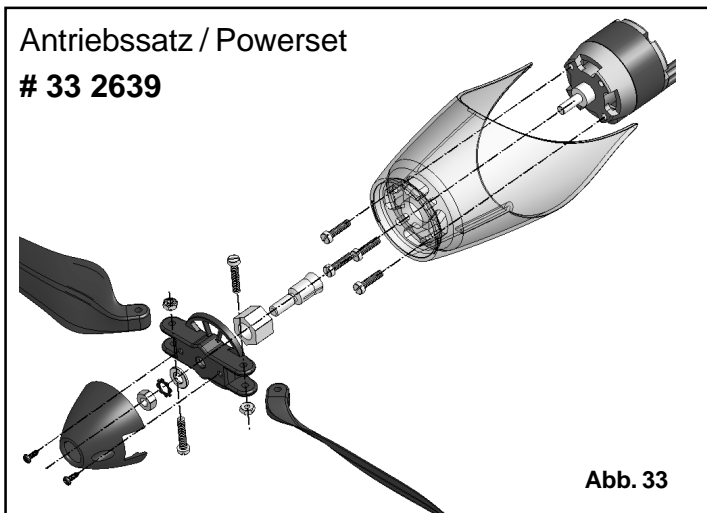
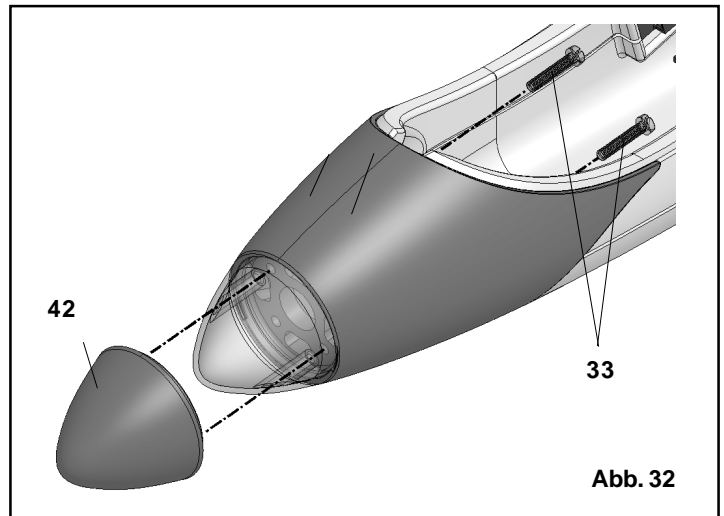
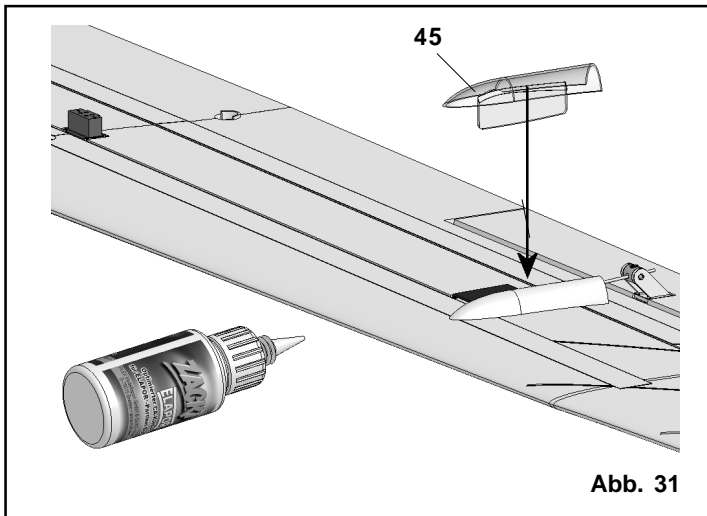
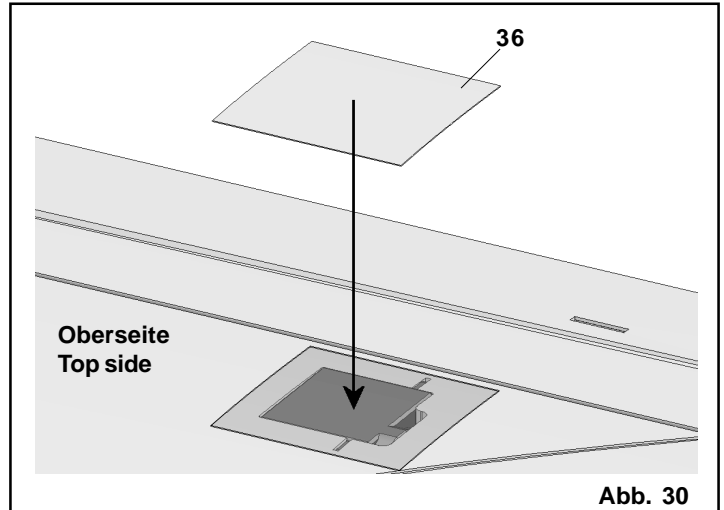
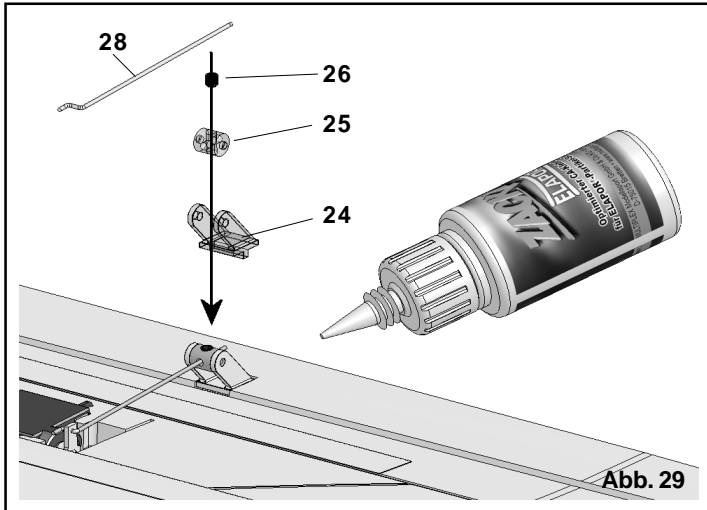
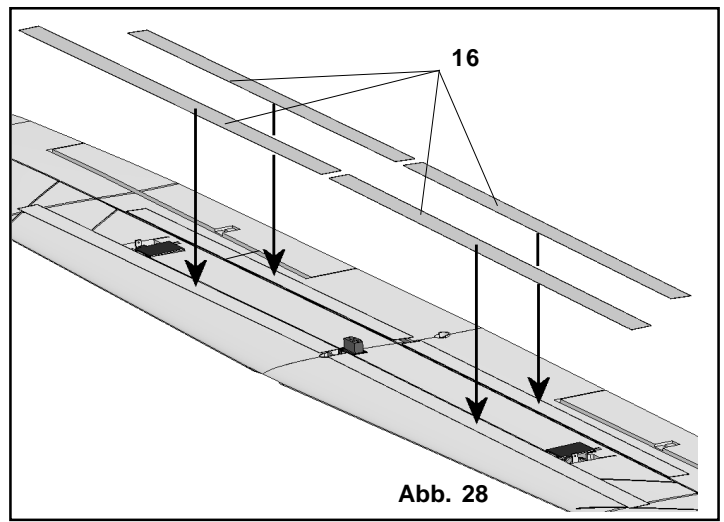
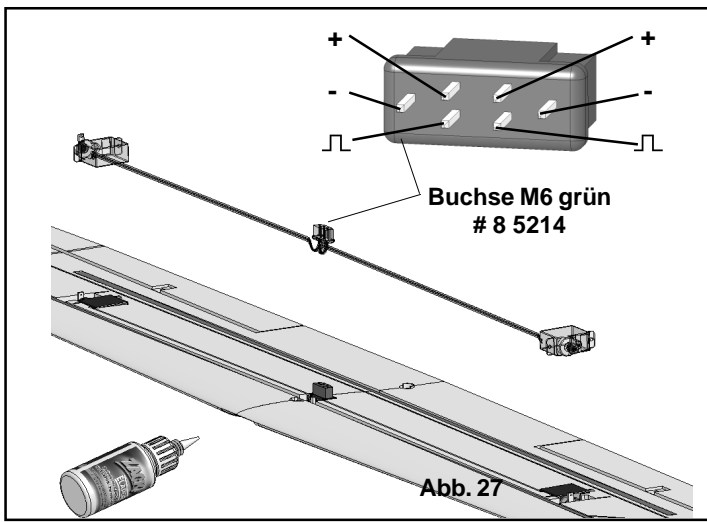
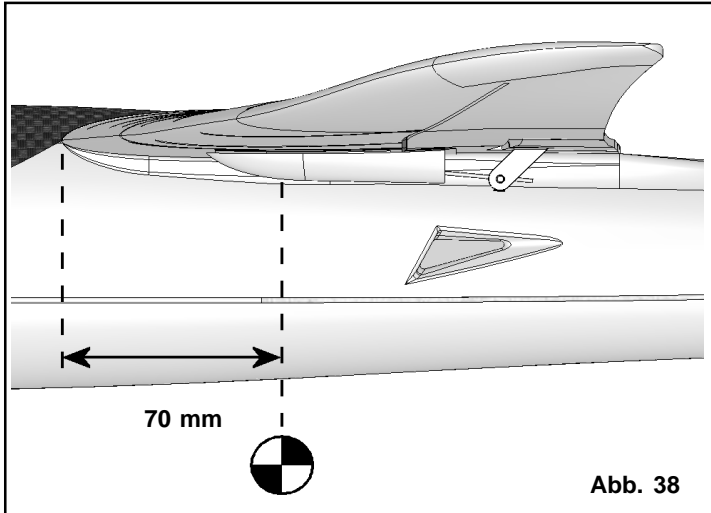
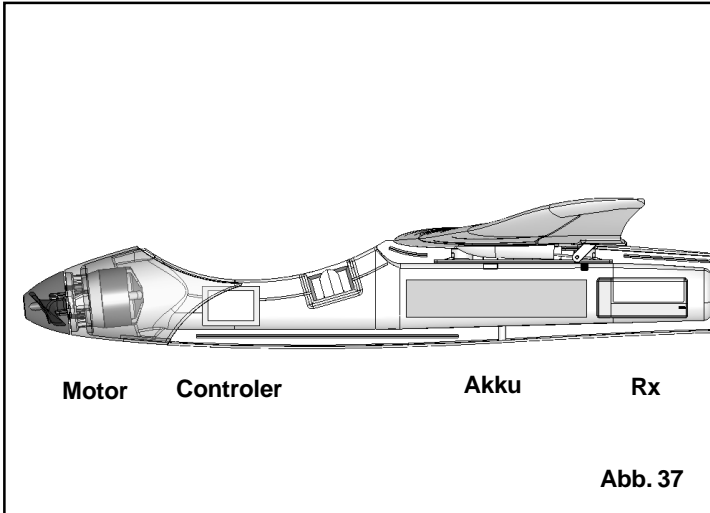
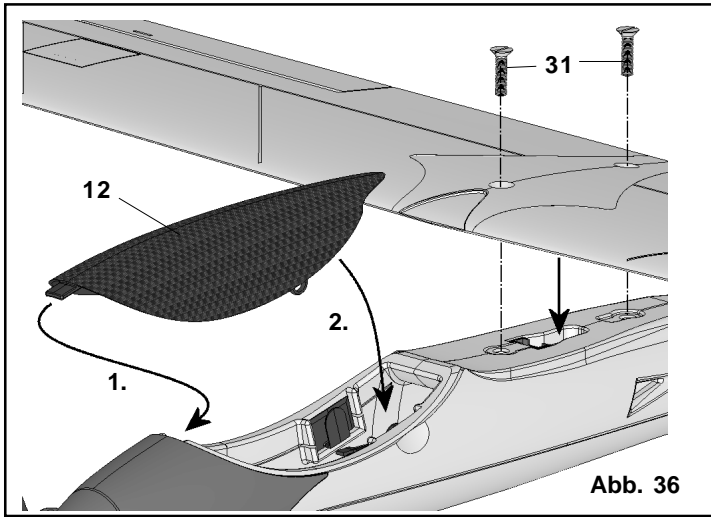
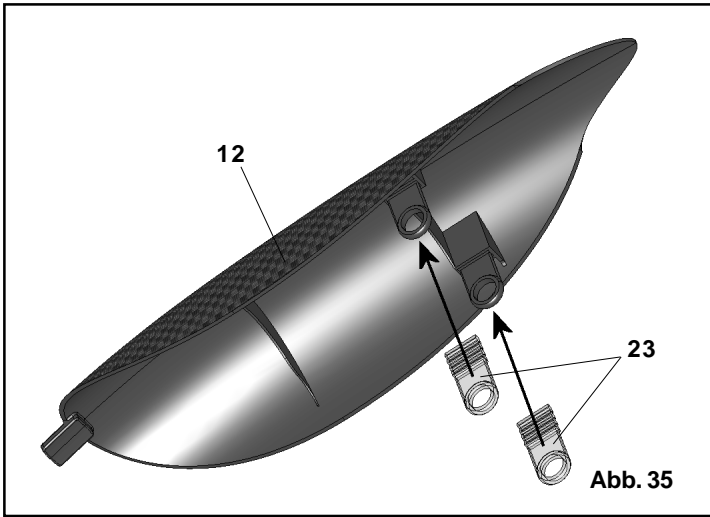


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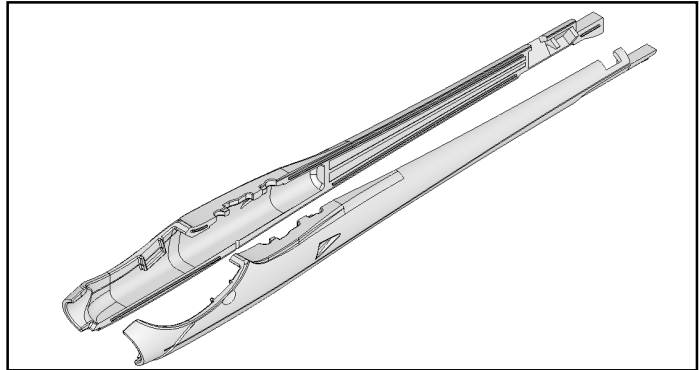
Ersatzteile  
Replacement parts  
Pièces de rechanges  
Parti di ricambio  
Repuestos

**BLIZZARD**

(bitte bei Ihrem Fachhändler bestellen)  
(please order from your model shop)  
(S.V.P. à ne commander que chez votre revendeur)  
(da ordinare presso il rivenditore)  
(por favor, dirijase a su distribuidor)

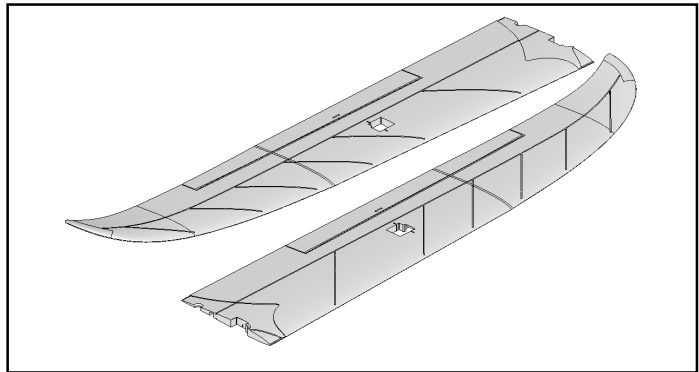
**# 22 4143**

Rumpf  
Fuselage  
Fuselage  
Fusoliera  
Fuselaje



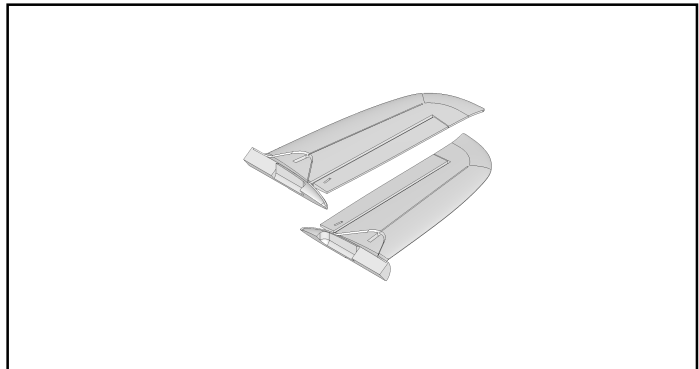
**# 22 4144**

Tragflächen  
Wing panels  
Aile principale  
Semiali  
Alas



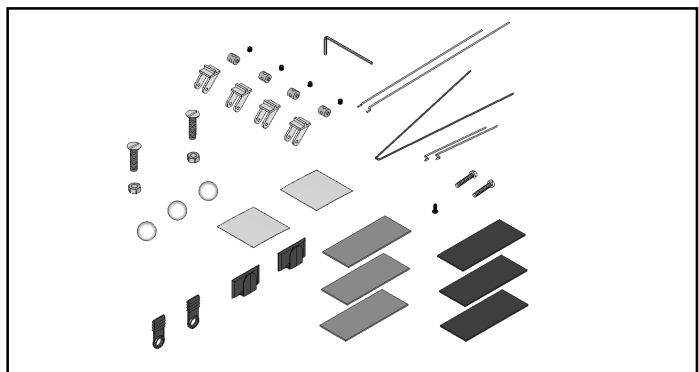
**# 22 4145**

Leitwerkssatz  
Tail set  
Kit de stabilisateurs  
Piani di coda  
Kit de empenajes



**# 22 4146**

Kleinteile  
Small parts set  
Petites pièces  
Minuteria  
Piezas pequeñas



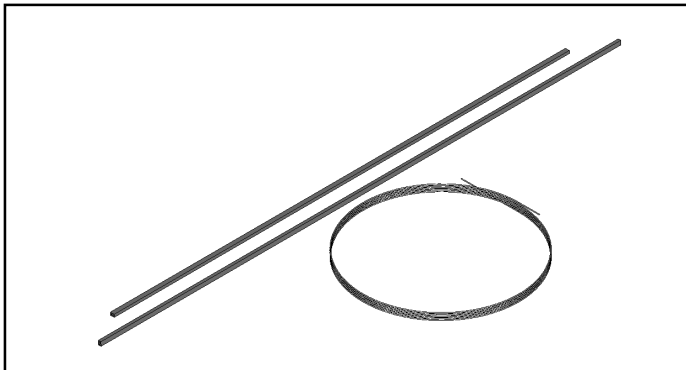
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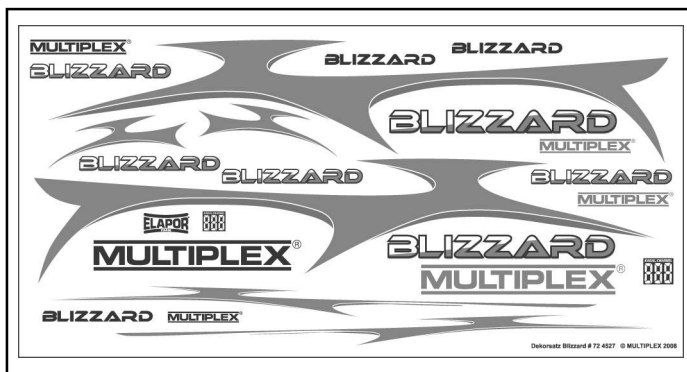
## # 72 3131

Draht- und Holmsatz  
Wire and spar set  
Kit de clé d'aile et de renfort  
Rinforzil  
Juego de alambres y largueros



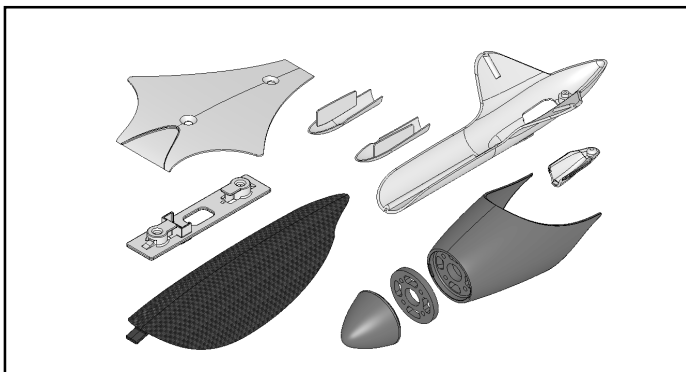
## # 72 4527

Dekorbogen  
Decal sheet  
Planche de décoration  
Decals  
Pliego de adhesivos



## # 22 4147

Kunststoffteilesatz mit Kabinenhaube  
pièces plastiques avec verrière  
Plastic parts set incl. canopy  
Parti in materiale plastico con capottina  
piezas de plástico con cabina



**Kleber Empfehlung!**  
**Recommended adhesive!**  
**Colle conseillée!**  
**Colla consigliata!**  
**cola recomendada !**

## # 59 2727

Zacki ELAPOR

