INNOVATION & TECHNOLOGY

Graupner

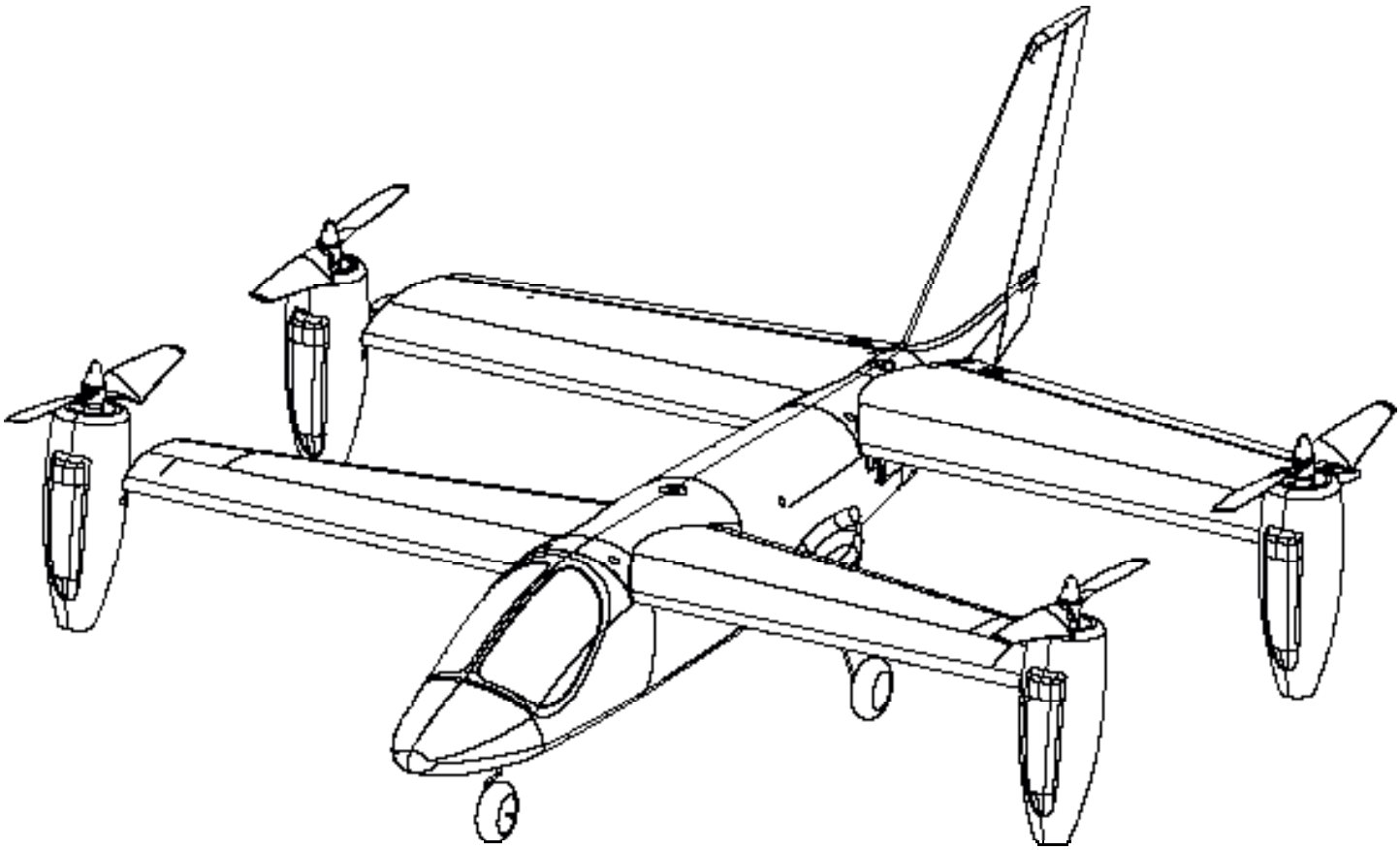
Manual

X44

VTOL electric model plane with 4 Brushless motors

9944.100

EN



CE

Content table

Introduction

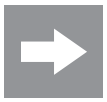
Thank you very much for choosing a ***Graupner X44***. This ***X44*** is extremely versatile.

Read this manual carefully to achieve the best results with your ***X44*** and first of all to control safely your model. If you experience any trouble during operation, take the instructions to help or ask your dealer or ***Graupner*** Service Centre.

Due to technical changes, the information may be changed in this manual without prior notice. Be always updated by checking periodically for news on our website, www.graupner.de

This product complies with national and European legal requirements.

To maintain this condition and to ensure safe operation, you must read and follow this user manual and the safety notes before using the product!



NOTE

This manual is part of that product. It contains important information concerning operation and handling. Keep these instructions for future reference! Take this into consideration when you pass it on to other future owner.

Service centre

Graupner-Zentralservice
Graupner GmbH
Henriettenstrasse 96
D-73230 Kirchheim / Teck

Servicehotline
☎ (+49) (0)7021/722-130
Mon - Thu
7:30 am - 9:00 am
9:15 am - 4:00 pm
Fri
9:00 am - 1:00 pm

Graupner in Internet

For the sevice centres outside Germany please refere to our bew site ***www.graupner.de***

Intended use

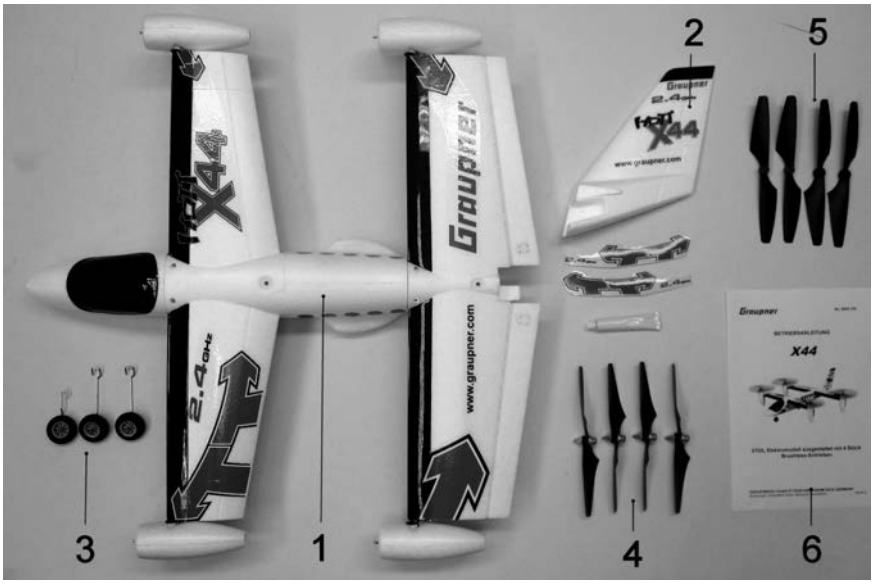
The ***X44*** is an almost ready to fly, remote-controlled airplane model. More punctual information about ***X44*** can be found in the Technical data section. The ***X44*** is designed exclusively to be used as a battery-powered, radio controlled model, any other use is not allowed. For any improper use no warranty or liability is accepted.
Read through this entire manual before you attempt to program or use the ***X44***.
Graupner constantly works on the development of all products; we reserve the right to change the item, its technology and equipment.

Target group

The model is not a toy. It is not suitable for children under 14 years. The mounting and operation of the ***X44*** must be performed by experienced modellers. If you do not have sufficient knowledge about dealing with radio-controlled models, please contact an experienced modeller or a model club.

Package content

1. X 44 Model
2. Rudder with glue contact parts
3. Landing gear
4. Propeller set with propeller adapter
5. Spare propeller set
6. Manual in English, German, French and Italian



Symbol description

Always follow the information marked with the **CAUTION** or **WARNING** symbol. The signal word **WARNING** indicates the potential for serious injury, the signal word **CAUTION** indicates potential minor injuries.

The **NOTE** indicates important information that should alert you to potential property damage.

Safety notes

General

These safety instructions are intended not only to protect the product, but also for your own and other people's safety. Therefore please read this section very carefully before using the product!

Do not leave the packaging material lying around, this could be a dangerous toy for children.

- Persons, including children, with reduced physical, sensory or mental capabilities, or lack of experience or knowledge, or not capable to use safely the receiver, must not use it without supervision or instruction by a responsible person.
- The operation of radio controlled models must be learned! If you have never driven such a model, then start extra carefully and make sure to be familiar with the reactions of the model to the remote control commands. Proceed responsibly.
- The insurance is mandatory for all kinds of model operation. If you already have one check out whether the operation of the model is covered.
- Always fly with a safe distance away from people and objects, never fly low over people or directly towards them!
- Never fly the model near power lines, industrial sites, residential areas, public roads, school yards or playgrounds etc..
- All model flyers must behave in such a way that public safety, especially other people and property, as well as orderly flying operations is not jeopardized or disrupted.
- Inform passers-by and spectators before the start of the dangers posed by your model and exhort them to keep a safe distance.
- Also observe the accompanying warnings of battery.

Controls before the start

- Before each use, check proper function. For this purpose switch on the transmitter and the receiving system. Check that all controls are in neutral position, function properly and turn down the correct side.
- When flying a model aircraft for the first time, it is advantageous if an experienced helper stands aside in the review and the first flights.
- Propellers powered by a motor represent a constant risk of injury. Do not touch them with any part of the body! A rapidly spinning propeller can e.g. cut a finger!
- Keep well out of the rotational plane of the propeller! A part of it or the entire propeller could broke and fly off at high speed, hitting you or third parties. This can cause serious injury. Make sure that no object gets in touch with a revolving propeller!
- The blockage of the propeller, for any object must be excluded.
- Check each time before the model itself and everything attached to it (e.g. propeller, tailplane etc.) is in good condition and undamaged. The model may be taken in operation only after removal of all defects.
- Radio interference caused by unknown sources can occur without warning! The model is then uncontrollable and completely unpredictable! Do not leave the radio control system unattended, to prevent operation by third parties.
- Electric motor should be activated only if there is nothing in the rotational plane of the propeller. Do not attempt to stop the spinning propeller. Power the electric motors only with the propeller installed.
- The attitude of the model must always be clearly visible throughout the flight, to ensure always a safely use and avoid problems. Familiarize yourself during the flight, if any malfunction / interference becomes noticeable, the landing must be initiated immediately for safety reasons. You always give way to other aircraft. Start and landing strips should be kept free of people and other obstacles.

Required tools and adhesives (not included)

Allen key	1,5 mm
Superglue *	No.5821
Activator for instant adhesives *	No.953.150

Phillips screwdriver *.

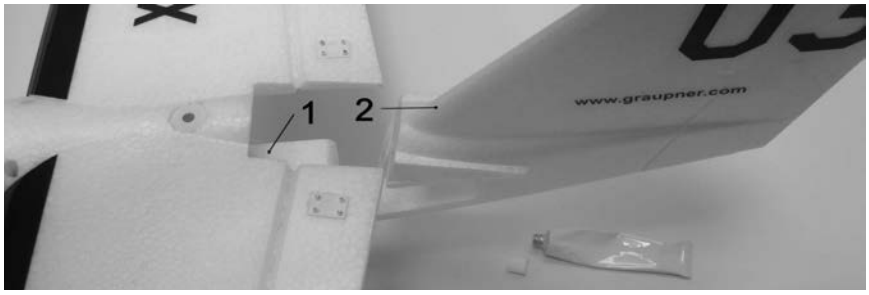
* These items are required for any repairs.

Suggested accessories (not included)

◆ mz-12 HoTT	No. S1002.DE
◆ LiPo charger ULTRAMAT 14 plus	No. 6464
◆ Charge cable XT-60	No. S8386
◆ LiPo battery 20 C 4/1300 14,8 V	No. 9944.85

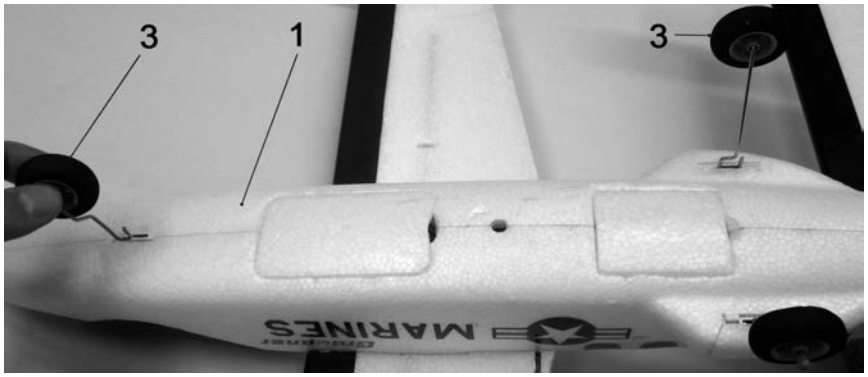
The model assembly

The model is ready to fly after a few adhesive or assembly steps, the following instructions should be observed carefully so that safe operation is ensured.



Fixing the rudder (2) to the fuselage (1)

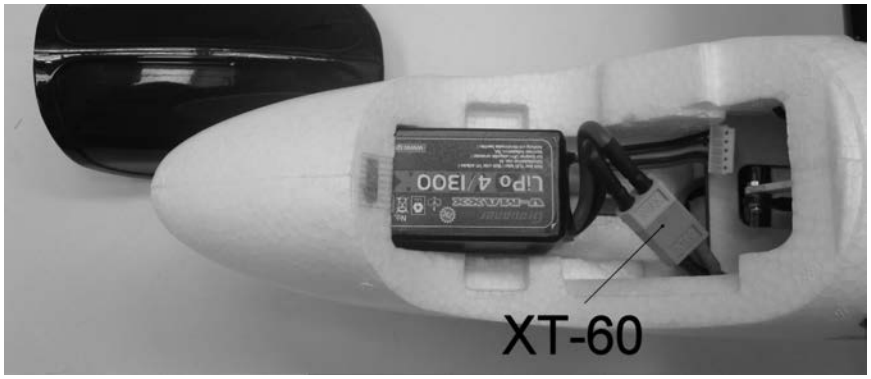
For this purpose on both sides thin the enclosed contact adhesive to the bonding surfaces, let the glue dry for about 1 minute, then put off the rudder (2) and press firmly.



Inserting the landing gear (3) in the fuselage (1)

Installing the LiPo battery

First open the canopy. Hold the side to open at the front and pull upwards

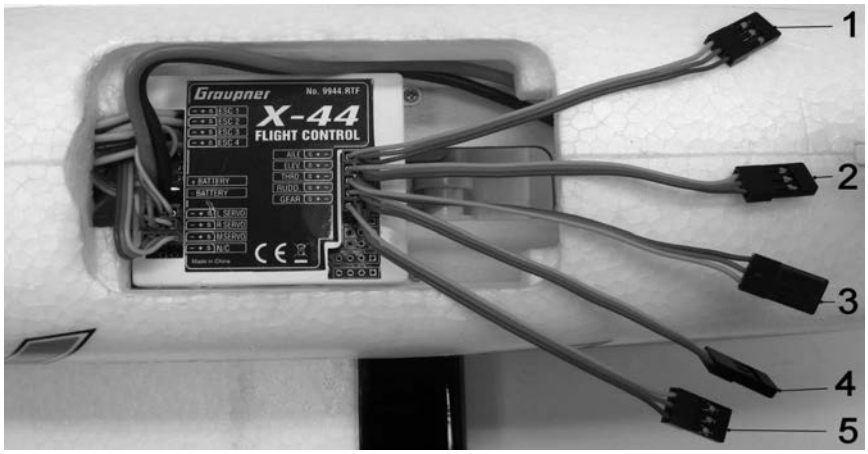


The figure shows the already installed LiPo battery.

CAUTION

Risk of injury by rotating propellers, motors can start uncontrollably when the XT-60 connector of the battery is connected. Always mount propellers only after a complete general check.

The X 44 FLIGHT CONTROL



FLIGHT CONTROL X44 connection cables (left). The optional receiver will be placed near it (right). The outputs have to be connected in the following order:

1. Aileron
2. Elevator
3. Motor speed control
4. Rudder Note: the function is obtained by the motor speed control
5. Control of the motor gondolas and flight mode, heli and aero

The Flight Control is a highly complex electronic unit, that aerodynamically stabilizes the model over several gyros. Both aileron / elevator of the rear wing and the speed control of each brushless motor are controlled by this unit.

NOTE

Note that the model has to be hold after connecting the XT-60 connector in a stable position on a flat surface until the gyros of Flight Control have initialized. This process takes a few seconds and is confirmed by several beeps of the motors. The motor gondolas run first on a 45 ° position. Only after this operation, the Flight Control is functionally ready.

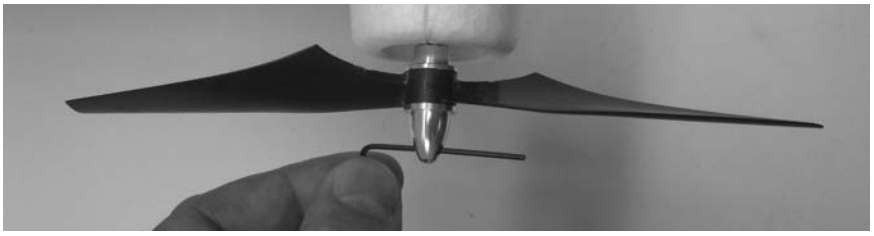
Note that the two rear motor gondolas are inclined in the vertical neutral position approximately 2 ° forward, this is not a defect but for optimal flight characteristics it is so required.

Also note that all rudder deflections are factory set correctly and the control surfaces move when LiPo battery is connected, if you tilt or rotate the model.

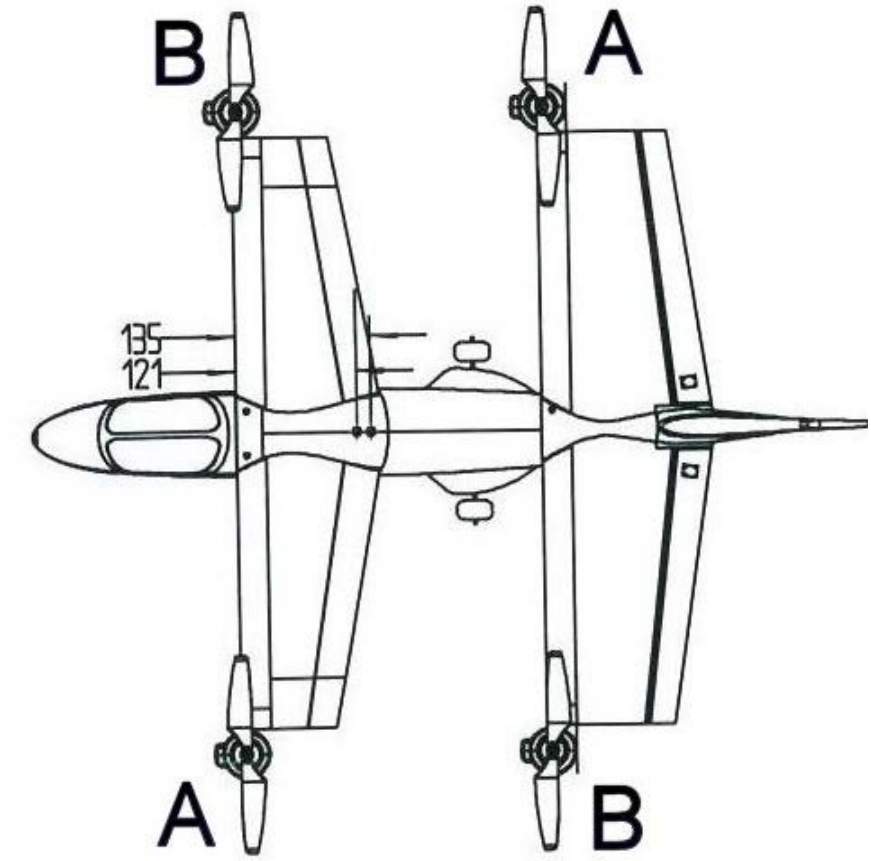
Installing the propellers

CAUTION

Risk of injury by rotating propellers when starting the motors. Always unplug the XT-60 connector to the LiPo battery before working on the propellers.



Tightening the prop adapter (4) with a 1,5 mm Allen key

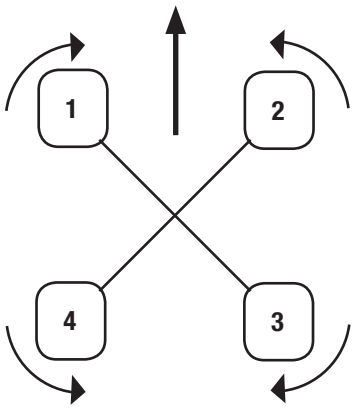


Arrangement of the propellers (A = clockwise rotation) and (B = counter-clockwise rotation)

Propellers rotation sense

1 = Clockwise motor propeller (.L)

2 = Counter-clockwise motor propeller (.R)



4 = Counter-clockwise motor propeller (.R)

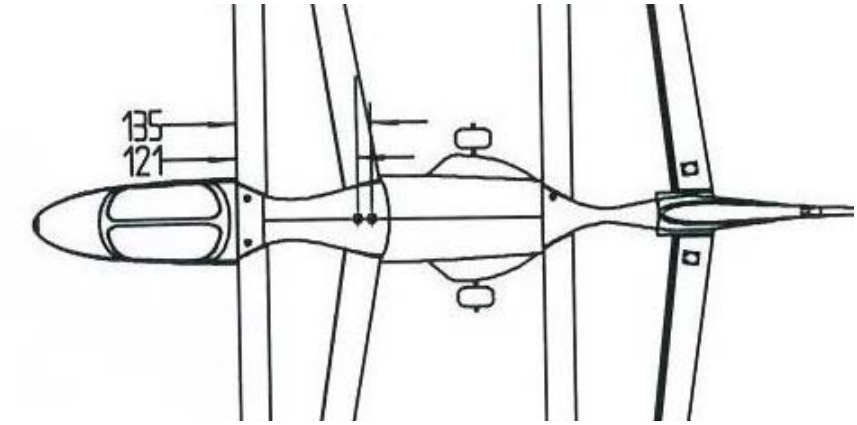
3 = Clockwise motor propeller (.L)

CAUTION

Risk of injury from flying debris. Loose mounted propellers can come loose during operation. Always check whether the propellers are mounted properly.

The centre of gravity

The centre of gravity of the X44 is located 121-131 mm from the wing leading edge.



If the recommended LiPo battery is used, the centre of gravity is automatically correctly adjusted. The centre of gravity can be tested for control by holding the model with two fingers in the centre of gravity under the wing. The model should be balanced and levelled. The sketch shows the model with vertical motors in this case is the centre of gravity at 121 mm measured from the wing leading edge.

The first flight

Start the model first vertically in heli mode and practice hovering in low altitude.

Always land against the wind direction with enough battery capacity. For take-off and landing in the airplane mode an absolutely smooth runway is needed because the X44 wheels are insufficient on a grass runway. Note that the flight time is essentially dependent on the flight mode used, on the LiPo battery quality and capacity. A flight time of 3-6 minutes is normally reached with the X44.

Attention

Note that the XT-60 connectors have to be unplugged after every use for safety reasons and to preserve the LiPo battery from deep discharge.

Technical data

- **Wing area :** **7,35 dm²**
- **Rear wing area:** **9,15 dm²**
- **Flying weight:** **855 g**
- **Total surface area:** **16,5 dm²**
- **Length:** **860 mm**
- **Wingspan:** **695 mm**
- **Wing load:** **51,8 g/dm²**

Properties

The Graupner ***X44*** is an innovative VTOL electric model, which has very particular flight characteristics . VTOL means „Vertical Take Off and Landing“. The ***X44*** is equipped with 4 brushless motors which can be rotated of about 90° by a switch on the transmitter, in this way you can convert before or during the flight from heli to plane model or vice versa. The ***X44*** flies in heli mode as an helicopter and can be flown as an acrobatic plane model in plane mode. The ***X44*** is is equipped as standard with an excellently working FLIGHT CONTROL which stabilizes the model on each axe in both, plane and heli modes. The ***X44*** is a reproduction of the marine experimental plane, the construction of the plane has been many times patented. Please read completely this manual before using the model.

Spare parts (not included)

No.	Description
◆ 9944.1	Canopy cover
◆ 9944.2	Fuselage
◆ 9944.3	Wing
◆ 9944.4	Rear wing
◆ 9944.5	Landing gear set
◆ 9944.7	Motor gondola
◆ 9944.10	Rudder
◆ 9944.12	Propeller set
◆ 9944.29	Propeller adapter
◆ 9944.81	Brushless motor KV 1000
◆ 9944.82	ESC 12A
◆ 9944.83	Servo
◆ 9944.85	LiPo battery 4/1300
◆ 9944.141	HoTT decals
◆ 9944.142	Marine decals
◆ 9944.830	FLIGHT CONTROL
◆ 9944.833	Motor gondolas servo

Notes on environmental protection

DISPOSAL NOTES

This symbol on the product, user manual or packaging indicates that this product must not be disposed of with other household waste at the end of its life. It must be handed over to the applicable collection point for the recycling of electrical and electronic equipment.
The materials are recyclable as marked. By recycling, material reusing or other forms of scrap usage you are making an important contribution to environmental protection. Batteries and accumulators must be removed from the device and disposed of at an appropriate collection point. Please inquire if necessary from the local authority for the appropriate disposal site.

Care and maintenance

Notes on care

The product does not need any maintenance, it works so as it is without any special care. In your own interest please protect the model from dust, dirty and humidity!

Clean the product only with a dry cloth (do not use detergent!) lightly rub.

Warranty certificate

The ***Graupner*** GmbH, Henriettenstrassee 96, 73230 Kirchheim/Teck grants from the date of purchase of this product for a period of 24 months. The warranty applies only to the material or operational defects already existing when you purchased the item. Damage due to wear, overloading, incorrect accessories or improper handling are excluded from the guarantee. The legal rights and claims are not affected by this guarantee. Please check exactly defects before a claim or send the product, because we have to ask you to pay shipping costs if the item is free from defects.

The present construction or user manual is for informational purposes only and may be changed without prior notice. The current version can be found on the Internet at ***www.graupner.de*** on the relevant product page. In addition, the company ***Graupner*** GmbH has no responsibility or liability for any errors or inaccuracies that may appear in construction or operation manuals.

No liability can be accepted for printing errors.

Declaration of conformity

CE

Graupner declares that the product is conform to the CE requirements

Brushless motor KV 1000

EN 61000-6-1: 2007; EN 61000-6-3: 2007/A1: 2011

ESC 12 A

EN55014-1: 2006+A1: 2009

EN55014-2: 1997+A2: 2008

Servo

EN 6100-6-3: 2007+A1: 2011

EN 6100-6-1: 2007

FLIGHT CONTROL

EN55022: 2010

EN55024: 2010