

Me-163

Instruction Manual



950mm

Messerschmitt Me-163 Komet

DURAFLY[®]



WARNING:

Read this instruction manual fully so as to become completely familiar with the features of this product before operating. Failure to operate this product correctly could result in damage to the product, personal property and cause serious injury. This is a sophisticated hobby product and is NOT a toy. It must always be operated with caution, common sense and some basic mechanical ability. This manual provides instructions as the the assembly, safe operation and maintenance of this hobby product. It is highly recommended that you follow and read fully the instructions and warnings stated in this manual including safety, assembly, set-up and flying guidelines in order to operate this product correctly and avoid damage or serious injury.

SAFETY PRECAUTIONS:

As the user of this product you and you alone are responsible for operating it in a manner that does not endanger yourself and others around you or result in damage to the product or property of others. This product is operated via a radio controlled system that in some cases can be subject to interference from sources outside of your control. Interference may result in a momentary loss of control so it is always recommended that this product be used in a suitably open outdoors space.

- This is a radio controlled flying model and as such must always be flown with caution and care. This is not a toy.
- The Me-163 is designed for intermediate to advanced pilots.
- Always exercise great caution when using the recommended battery to power this product. For full safety notes and operating procedures, please see information provided by your battery supplier.
- Take great care when connecting/disconnecting the battery. See battery supplier for full safety procedures.
- Never power up the model in confined spaces and always keep the props clear of obstructions.
- This product is not a toy. Children must be accompanied by an adult at all times if operating this product.
- Only fly this model in an open area away from crowds, people, buildings, trees, power lines and obstructions.
- Always put safety first when operating this model and consider the warnings stated above.
- The supplier/ manufacturer accepts no responsibility for damage or injury caused through the use of the product. Not suitable for children under the age of 14. THIS IS NOT A TOY.

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INTRODUCTION:

The Durafly Me-163 is truly a ground breaking model. Not only does this Komet feature a fully working scale 'dolly' style undercarriage and blistering performance, it can also carry a model rocket engine! As a 'PnF' model, all electronics come pre-installed and ready to hook up to your choice of 6ch receiver. Its molded EPO construction has a highly detailed surface finish externally, and carbon reinforcement internally and features a color matched hard plastic belly skid, good access to all electronics via the battery/canopy hatch and has excellent cooling through out.

Designed for pilots with some experience, the Me-163 benefits from incredible flight performance and stability. Full power climb outs, virtually unlimited vertical, aero-batics, huge loops and very fast passes are easily had at full throttle. Yet slow the Me-163 down and she's just as stable and has no hint of a stall. Using the recommended 2200mah 30-65C 3S lipo and supplied 6x4 prop, you can expect flight times well beyond 6 minutes and with excellent power. Combine this with the working scale dolly system, an airframe designed to take a model rocket engine and an extreme level of scale detail, and you've got the most authentic R/C Me-163 on the market today.



SPECIFICATIONS:

Wingspan: 950mm (37.4")

Length: 585mm (23")

Flying weight: 850g (29oz)

Controls: 5 channel: 'Elevons' (Ailerons/Elevator), Throttle, Rudder, Landing gear)

ESC: Durafly 40amp (pre-installed)

Motor: Durafly 2836 2200kv Brushless outrunner (pre-installed)

Prop: 6x4

Battery recommended: 1300-2200mah 11.1v 3S lipo (30C min)

Radio System: Min 6 channel Rx and Tx. Elevons/delta setting on Tx required.

CONTENTS OF BOX:



- | | |
|--------------------------------|---------------------------|
| 1. Fuselage/Wing/Canopy Hatch. | 2. Vertical Stab/Rudder |
| 3. Dolly (Undercarriage) | 4. Propeller (2pc) |
| 5. Control Accessories/Velcro | 6. Scale Aerial/Wing Tube |
| 7. Spinner | 8. Manual |

REQUIRED TO COMPLETE MODEL:

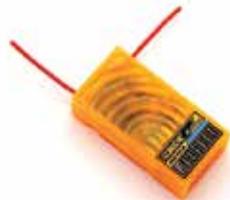
In its 'Plug n Fly' format the Durafly Me-163 requires some additional electronic components to get it flight ready. Durafly recommends the products below for optimum performance and great value. Available at **hobbyking.com**



OrangeRx T-SIX 2.4GHz 6CH
Programmable Tx:
Part No. 940300001 Mode 1
940300002 Mode 2



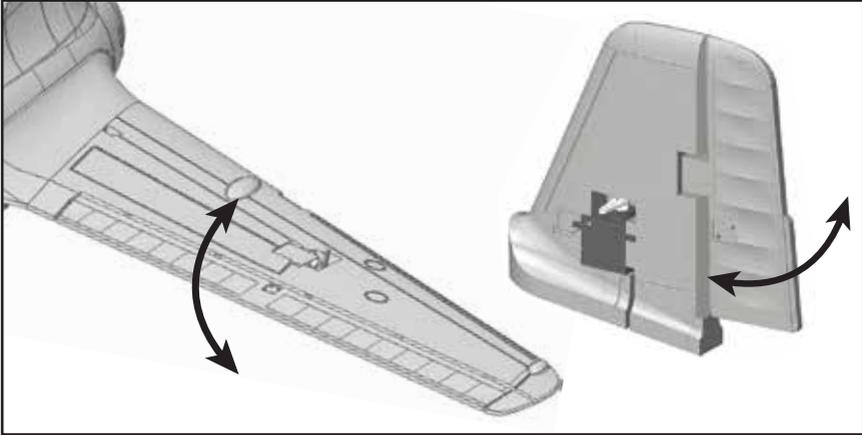
Turnigy A-SPEC 2200mAh
3S 65C Lipo:
Part No. 9472000003-0



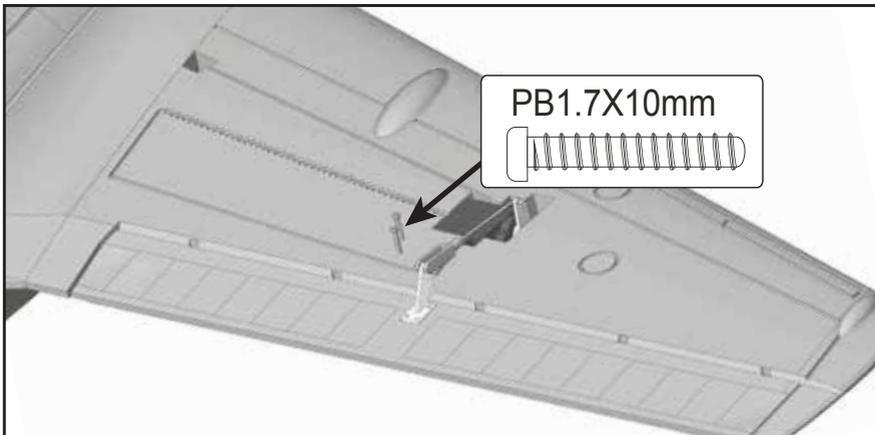
OrangeRx R615X 6ch 2.4Ghz
Receiver
Part No. 91710003000-0

ASSEMBLY:

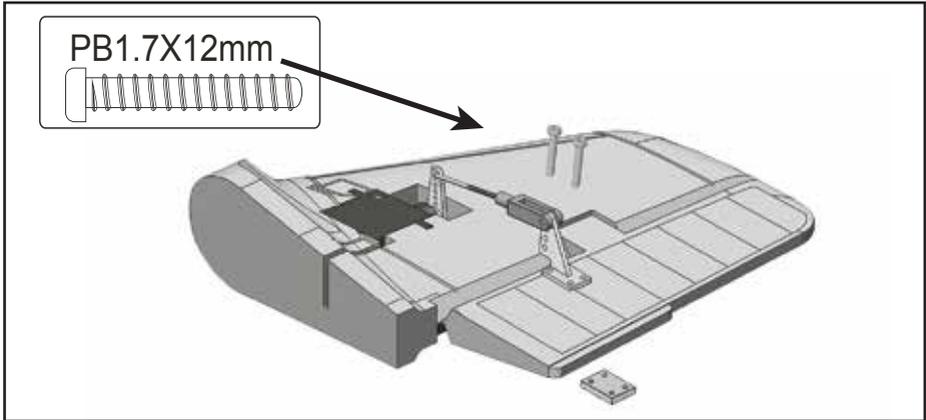
1. Out of the box your Me-163 comes with reinforced foam hinges. However before assembly can begin, each hinge line must be flexed back and forth 6-8 times to reduce tension, and load on the servo. Do this for all control surfaces before continuing.



2. Locate the bag marked 'Aileron' and install aileron control horns and rods for each side of the wing as shown. Ensure the servo horn is at 90 degrees to the wing when installing the control rod and connect to the outer hole on the servo arm. Click each clevis shut on the horn once the rod is installed.

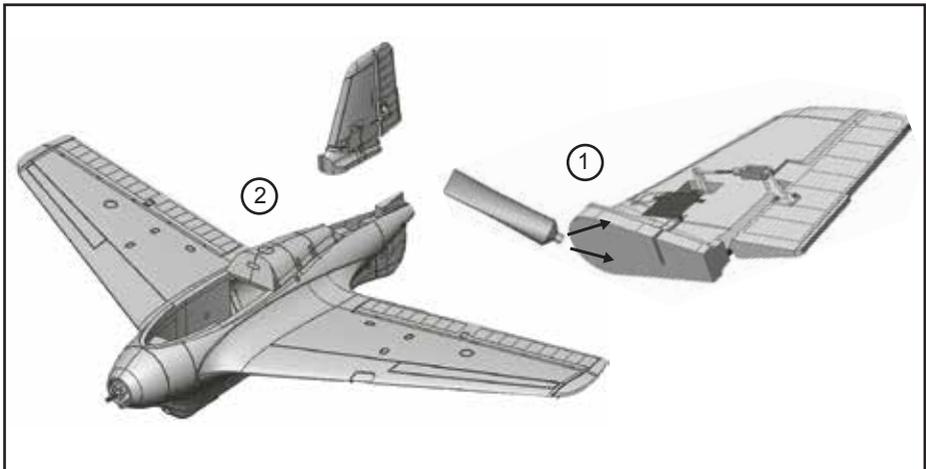


3. Following the illustration below, screw the remaining control horn to the rudder control surface. Again, with the servo at 90 degree's (neutral), connect the push rod to the servo arm (outer hole) then to the control horn and clip the clevis in place.

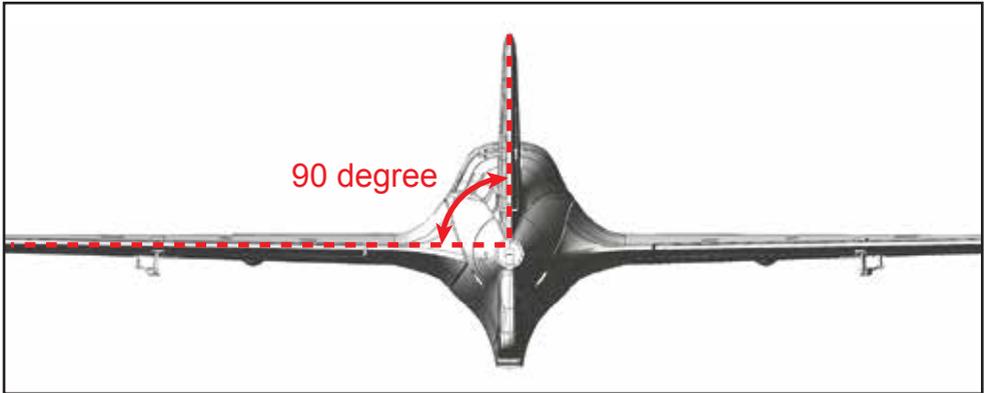


Note: Your Me-163 comes supplied with two optional Swastikas (each in two parts). You may apply to both sides of the vertical tail now if you wish.

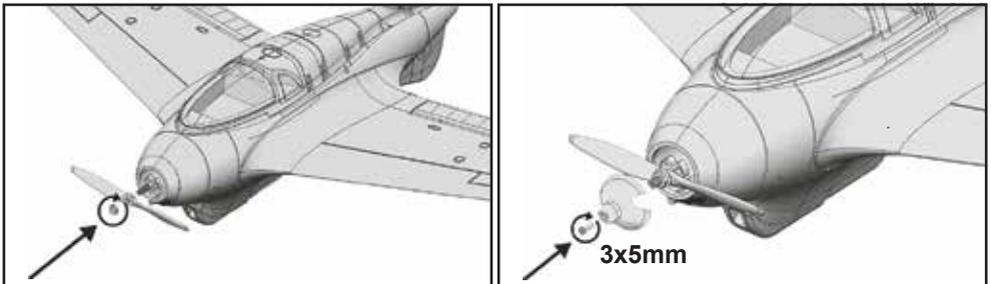
4. Using the supplied and recommended glue, apply a reasonable amount of glue to the base of the vertical tail and then just a small amount to the lower side edges (1). Hold for 30 seconds to allow the glue to become a little tacky then install the tail in place as shown (2). Wipe any excess glue with a wet cloth if need be.



5. With the glue still fresh you will need to check the alignment of the vertical tail to the wing to ensure it is straight and true. Looking from the rear of the fuselage, check that the vertical tail is at 90 degree's fuselage center section. If not, adjust the vertical tail accordingly and if necessary temporarily secure in place until the glue begins to take hold.



6. Slide one of the supplied propellers onto the motor shaft and tighten down firmly the washer and nut. You may need to hold the base plate of the motor shaft to ensure a firm fit. Once secured, screw the spinner in place as shown using the supplied 3x5mm bolt.

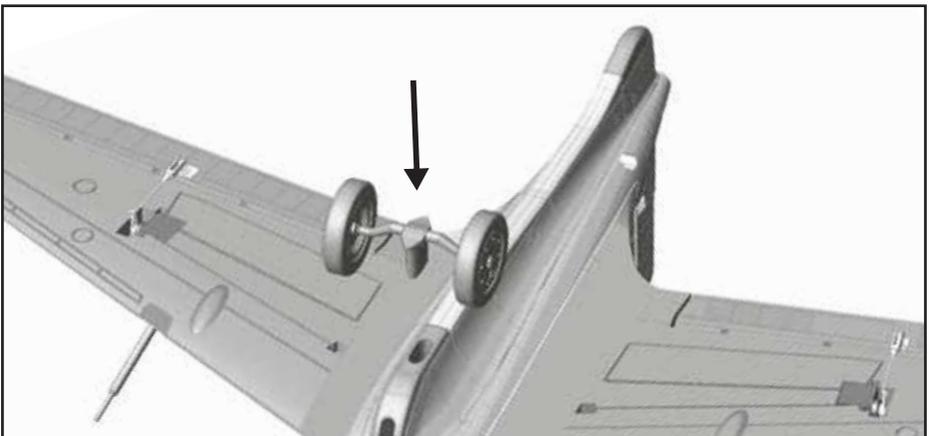


Note: Your propeller should already be balanced, but it is strongly suggested that you check to confirm and if not, that you balance before installing the prop.

7. Locate the scale plastic aerial mast and wing pitot tube and glue each in place on the model one at a time as shown below. Do NOT use an excessive amount of glue but DO allow the glue to become tacky before gluing these parts in place.



8. The final stage of assembly is to test fit the Me-163 droppable dolly (landing gear) to the fuselage. Simply drop the dolly into the slot on the underside of the fuselage and you are done, the magnets will take care of the rest! The scale release system is covered in the next steps of this manual.



**Assembly of your Durafly Me-163 is now complete.
Before you move onto the final set-up of the model, we suggest
you perform a quick check on all screws, bolts and components to
ensure all are secure and firmly in place.**



RECEIVER AND BATTERY INSTALLATION.

1. Use the below image as a guide to install your receiver and flight battery. When using the recommended 2200mah 3S battery, these positions should make your model balance at the approximate CG mark covered in the next stage of this manual.

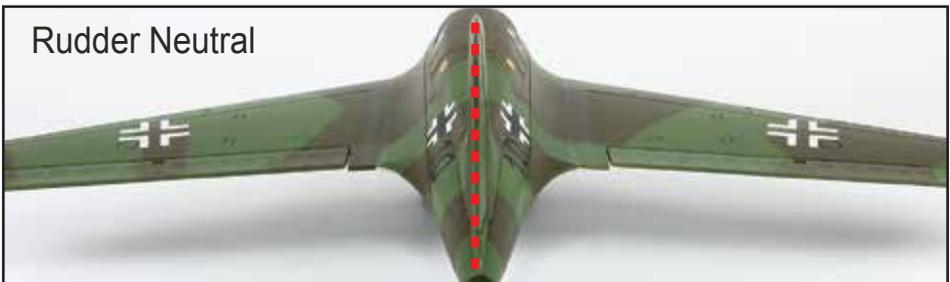
Note: If you are using a lower capacity (and therefore lighter) battery, you will have to install this pack further forward of the point shown in order to attain the same approximate CG position.



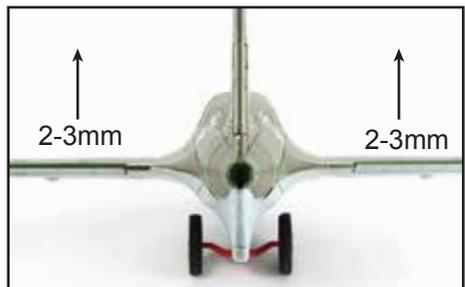
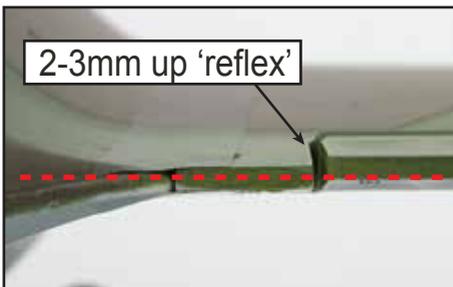
SETTING UP YOUR MODEL:

1. With your receiver installed and all servos plugged into their corresponding channels (see instructions provided by your receiver manufacturer for 'Delta' or 'Elevons' set-up procedures), connect the flight battery to the ESC to power up the electronics. With the model now armed, ensure all servo's are centered and the rudder control surface is neutral as shown. If not, adjust by turning the control clevis's by hand accordingly.

Note: For safety reason, please remove the prop before arming your model during the set-up stage.



2. Owing to the design of the Me-163, a small amount of up 'reflex' is required in the ailerons to improve all round flight handling. To add reflex, simply adjust the aileron clevises until each surface has approximately 2-3mm of 'up' (when measured from the neutral trailing edge of the wing) just as shown below.



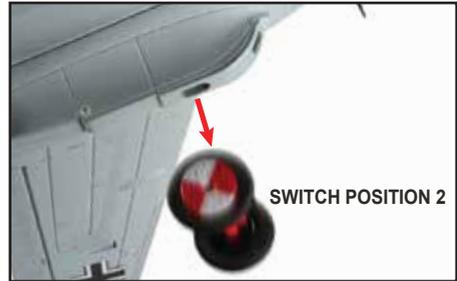
2. Check all control surfaces are moving in the correct direction with the applicable stick input (see below).

| | | | |
|--|------------|--|---------------------------|
| | Roll left | | Aileron (Roll) |
| | Roll right | | |

| | | | |
|--|------------|--|-----------------------------|
| | Pitch up | | Elevator (Pitch) |
| | Pitch down | | |

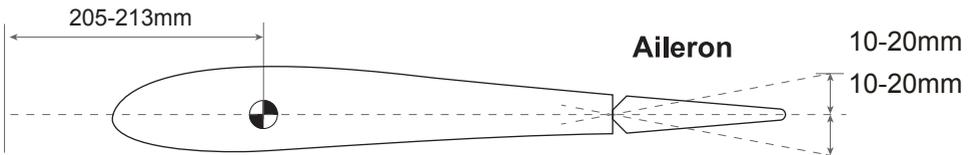
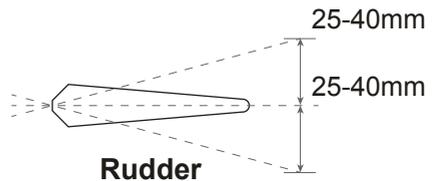
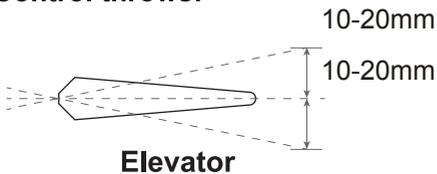
| | | | |
|--|-----------|--|-------------------------|
| | Yaw left | | Rudder (Yaw) |
| | Yaw right | | |

3. Your Komet's scale dolly operates via a 2 position gear/aux switch on your radio. With the dolly servo connected to the corresponding channel on your receiver, ensure that the dolly drops freely and that its held firm again once the switch is flicked back.



4. The Durafly Me-163 handles very well in flight but requires setting up beforehand. Please follow the recommended settings below for good all round flight performance.

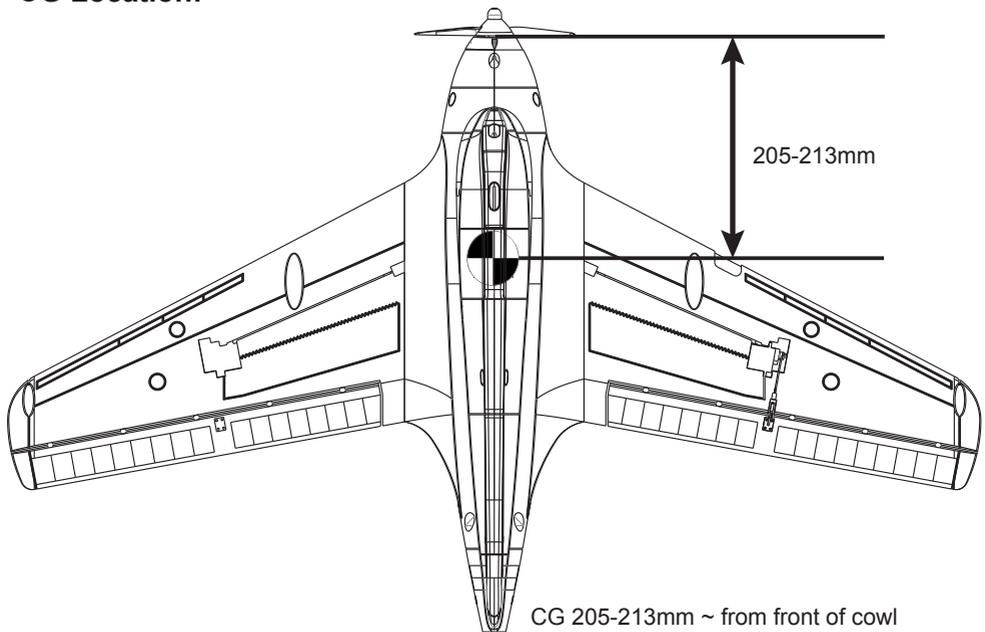
Control throws:



- * Elevator 'low rates' 10mm 'high rates' 20mm in either direction from neutral.
- * Aileron 'low rates' 10mm 'high rates' 20mm in either direction from neutral.
- * Rudder 'low rates' 25mm 'high rates' 40mm in either direction from neutral
- * Gear/Aux switch must not be greater than 100% in both positions/directions.

5. Suggested center of gravity (CG) for the Me-163 is approximately 205-213mm from the front of the fuselage/plastic cowl. With the recommended Turnigy A-SPEC 2200mah 65C 3S lipo installed at the position shown previously, the Me-163 should balance at this point. The C/G can be adjusted to suit your own flying style by moving the battery fore or aft of location shown. If you are using a lower capacity (and therefore lighter) battery, you will have to install this pack further forward of the point shown in order to attain the same approximate CG position.

CG Location:



With assembly and set-up now complete, your Durafly Me-163 should now be ready for flight. However we highly recommend you read and follow the advice given in the following stages of this manual before flying your model.

MODEL FLYING PRECAUTIONS:

- Select your flight area carefully. Always choose an open space that is unobstructed from trees and buildings and away from crowded areas. Avoid flying in areas with roads, electric/telephone poles/wires and water near by or within close proximity to full size air traffic.
- Do not fly this model in poor weather. High winds, low visibility, inclement temperatures, rain and storms are to be avoided.
- Never attempt to catch this model whilst in flight. Even a slow moving model can cause harm to yourself and/others and risks damage to the model.
- This model is recommended for children no younger than 14 years old. All children, no matter what age, should always be supervised by a capable and responsible adult when operating this model.
- Always unplug your model battery when not in use. Never leave the battery installed in the model.
- Remember to keep clear of the propeller at all times when your flight battery is connected.
- Before flying, always turn on your transmitter first then plug your flight battery into the model.
- After flying, always unplug your flight battery first then turn off your radio transmitter.
- Exercise caution when charging your batteries and follow in full your battery manufacturers safety guideline when doing so.

PRE-FLIGHT CHECKS:

1. Always range check your model before any flight (especially when flying a new model for the first time). Follow your radio manufacturers guidelines for performing this check.
2. Check all screw/ bolts and mounting points are firmly secured, including control horns and clevises.
3. Only fly with fully charged batteries (both in your radio and model). Failure to do so could result in loss of control, damage to the model and/ or persons/ property around you. Check your batteries are fully charged.
4. With the model powered up (Transmitter on first, then receiver/ model) check that all surface are free from damage/ obstructions, moving in the correct directions and freely with stick input.
5. Inspect the model and prop for any damage that may have occurred during transit and listen for any unusual sounds from the electronics when powered up. If in doubt, do not fly.
6. With the model held securely and the prop free of obstructions, increase the throttle just slightly to confirm the rotations of the prop is correct. The model should want to pull straight forward with throttle.
7. If this is your first flight with the model double check the C/ G is at the correct position. If not adjust battery position inside model accordingly.
8. If you are an inexperienced model pilot seek the help and assistance of an experienced pilot to perform these final checks and to test fly the model for you.

FLYING THE Me-163:

The Duraflly Messerschmitt Me-163 is an exciting and enjoyable model to fly with blistering performance, incredible handling and many scale features.

Due to the unique 'dolly' configuration of the Me-163, care must be taken when beginning each flight . Take off /launching is the only challenging part of flying your Me-163. It is recommended that you follow the guidelines under the '*dolly Take-Off*' and '*Hand Launching*' section of this manual on the following page to ensure a smooth and enjoyable start to your flight.

Once in the air the Duraflly Me-163 is an exceptionally well behaved model and will amaze you with its performance and agility. At full throttle you'll enjoy almost unlimited vertical performance and always with full and precise responsiveness and control. Big aerobatic maneuvers are easy to perform, hold well and always impress. Fast passes not only look and sound incredible, but feel rock solid and can be performed with confidence and ease. With the throttle reduced, the Komet is just as confidence inspiring, enjoy good slow speed handling and maneuverability along with an impeccable glide rate.

When using the recommended Turnigy 2200mah 3S 65 ASPEC lipo battery, flight times of 7-8 minutes of mixed throttle flying are easily achieved. Once you are ready to land, the natural glide rate of the Me-163 allows for a stable descent and use of a low throttle setting will help reduce the length of your approach. Landing itself is very easy as the Me-163 enjoys a very low stall speed so can be eased into a smooth landing with a minimum amount of effort and maximum amount of satisfaction.

Fancy adding a model rocket to your Duraflly Me-163 for the ultimate touch of scale realism? See 'Model Rocket use' on the followings pages for more details.

Enjoy flying the Me-163 and thank you for choosing Duraflly.



DOLLY TAKE OFF GUIDELINES:

**Always follow these guidelines when using the scale dolly to take off.*

- 1. Ensure that the CG is in the correct location before you attach the dolly. The correct CG is critical for a smooth take-off run. Too far forwards and the Me-163 will bounce hard along the grass before jumping into the air. Too far back and it will rotate off the ground too soon.*
- 2. Allow for a relatively long take-off run from a flat short grassed surface (only grassed surfaces are recommended when using the dolly). 15-20m will be adequate.*
- 3. Start your take-off run with some 'up' elevator held in and apply initial power slowly until the model starts to move forwards. Reduce elevator 'up' input as you increase the throttle (to stop the model from tipping over).*
- 4. Use rudder to keep the Me-163 on a straight tracking line as it picks up speed with the application of throttle.*
- 5. With the model now tracking straight, increase power until almost at full throttle, then apply a small amount of 'up' elevator again and you will see the model lift off the ground.*
- 6. Drop the dolly when at least 1 meter from the ground and pull up into your climb out with full power applied.*

HAND LAUNCHING GUIDELINES:

**Always follow these guidelines when hand launching.*

- 1. Do not launch by yourself for the maiden flight if at all possible. Ask a friend to assist as the fuselage of the Me-163 can be awkward to hold firmly with one hand.*
- 2. Get a comfortable, firm and balanced hand grip on the fuselage, supporting the wing tip with the other if necessary.*
- 3. Ensure the nose of the model is pointed slightly above the horizon and the wing is straight.*
- 4. Launch the model from standing with a firm throw and with not more than 3/4 throttle. Hold in a small amount of right aileron when the model is launched (to counter the rotational force of the prop).*
- 5. Be ready to quickly correct the direction of the Me-163 initially after launch until it gets 'on step' and apply full power once it is tracking straight to climb away.*

ROCKET MOTOR USE:

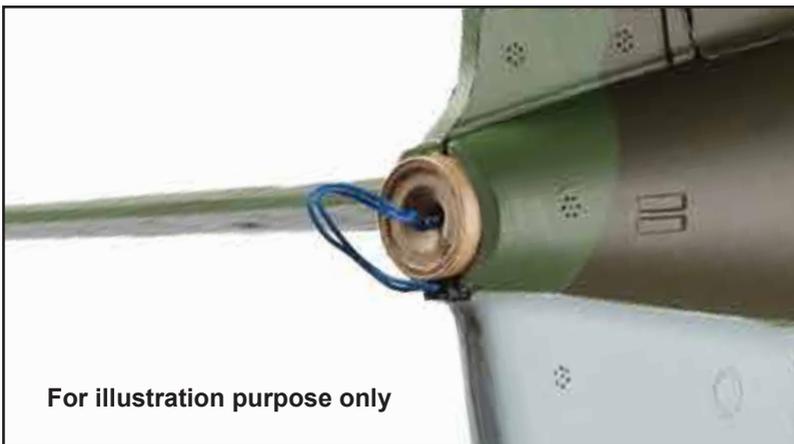
Your Duraflly Me-163 can supports the use of a standard '18mm class' model rocket engine if you wish. Sufficient space at the rear fuselage allows for both the mounting of the engine and the running of the switch wires internally beneath it.

To prevent damage to the model, use only 'capped' type 'single stage' rocket engines and an RC switch that is rated to the required amount of voltage/ampage needed to ignite the fuse. R/C switches are available from hobbyking.com, see 'Optional Parts' of this manual.

Model rocket engines and their use can be extremely dangerous, especially in RC. So it is suggested that only those who have previous experience in this area attempt to use a model rocket engine in the Me-163 and do so within the guidelines stipulated by your governing body or national government.

Duraflly and Hobbyking/hobbyking.com accept no responsibility for damage or injury cause by the use of model rocket engines in the Duraflly Me-163 or any of their products.

Please be safe and have fun.



Me-163 GENERAL TIPS:

* Correct CG is essential for a smooth take-off when using the dolly. If the CG is too far forwards, the Me-163 will bounce up and down before leaping into the air. If the CG is too far back, it will jump up into the air too soon. So please check!

* Make sure you have read the 'dolly take-off' and 'Hand Launching' guidelines given on the previous pages of this manual.

* For optimum flight performance and model longevity, it is highly recommend that you always fly with a balanced prop. The supplied prop should be balanced, but it is always good to check first.

* 3S Flight packs of 30C discharge rate or above are recommended for use in the Me-163 to ensure optimal flight and power system performance.

* Keep all leads within the fuselage area as tidy as possible. Tidy wires look better, allow for easier access to all internal components, better battery installation, increased airflow around electronics and a reduction in potential electronic signal interference (noise).

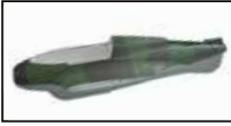
*. Inspect the propeller frequently, especially if you have suffered a hard landing or the prop has been knocked. If the prop is in any way damaged it must be replaced and any loose fixings must be tightened.



Thank you again for purchasing the Durafly Me-163. We hope you'll have many happy days of flying and look forward to bringing you more Durafly models in the future.

Don't forget, spare parts are available for this model, please see the next page for details.

SPARE PARTS LISTING:



Fuselage
9306000110-0



Canopy
9306000111-0



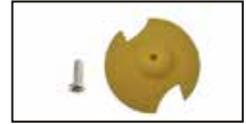
Wing set
9306000112-0



Plastic Cowl
9306000113-0



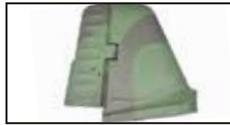
Dolly/Undercarriage
9306000114-0



Spinner
9306000115-0



Sticker Set
9306000116-0



Vertical Tail
9306000117-0



Control Accessories
9306000185-0



2200Kv Motor
9306000186-0



6x4 Props
9306000187-0



Scale Aerial/Wing tube
9306000184-0

OPTIONAL PARTS:



Durafly ESC programing card
9164000024-0



Turnigy Receiver Controlled Switch
9107000266-0

TROUBLE SHOOTING:

| Problem | Cause | Solution |
|---|--|---|
| Motor does not turn | <ol style="list-style-type: none"> 1. Battery is not fully charged. 2. Transmitter battery low. 3. Motors not connected. 4. The motor is damaged. 5. Receiver is not bound to Tx. 6. ESC in set-up mode. | <ol style="list-style-type: none"> 1. Charge the batteries. 2. Install a full charged battery. 3. Check for connection between the ESC and motor. 4. Replace motor. 5. Consult Radio manual and go through bind procedure again. 6. Hold model and move throttle to full position then back down to idle. |
| <u>Model moves backwards</u> <u>Control surfaces not moving with stick input</u> | <ol style="list-style-type: none"> 1. Prop installed backwards 2. Motor direction reversed 1. The servo lead is connected to Rx incorrectly. 2. The servo is damaged. | <ol style="list-style-type: none"> 1. Turn the prop around . 2. Disconnect any two motor wires from ESC, swap around and reconnect. 1. Make sure the servo leads are connect properly. 2. Replace servo. |
| <u>Model does not fly straight</u> | <ol style="list-style-type: none"> 1. Control surfaces not centered. 2. CoG is not in the correct position. | <ol style="list-style-type: none"> 1. Adjust the trims on the transmitter. 2. Re-position lipo as suggested. |
| <u>Model does not climb</u> | <ol style="list-style-type: none"> 1. The battery is not fully charged. 2. Elevator servo is reversed. 3. CG too far backwards. | <ol style="list-style-type: none"> 1. Charge the battery. 2. Change servo direction via Tx. 3. Move battery forwards. |
| <u>Limited Radio Range</u> | <ol style="list-style-type: none"> 1. Transmitter/ Receiver batteries are flat. | <ol style="list-style-type: none"> 1. charge/replace batteries. |

CONTACT:

For more information on this model and the entire range from Duraflly please visit us at:

- duraflly.com

Or see our Facebook page at:

- facebook.com/duraflly

And don't forget you can see the product video for this model and the entire Duraflly range at:

- youtube.com/hobbykinglive

For your next Duraflly purchase be sure to visit:

- hobbyking.com



MADE IN CHINA