

# SHUSUI

DURAFLY J8M SHUSUI 950MM

## INSTRUCTION MANUAL





## 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 maintainence of this hobby product. It is highly reccommended 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, tree's, 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 Duraflly J8M 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! In its kit form, the J8M makes the perfect blank canvas for making your Duraflly Komet your own, but with all hard work done for you. Just install your own choice of electronics and assembly the few components there are and your ready to go to work with personalizing your Duraflly J8M.

Designed for pilots with some experience, the J8M 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 J8M down and she's just as stable and has no hint of a stall. Using the recommended 2200mah 30-65C 4S 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 J8M 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: 40-50amp required (Duraflly 40 - 50amp brushless ESC recommended)

Motor: Duraflly 2836 2200kv Brushless outrunner(recommended)

Prop: 6x4

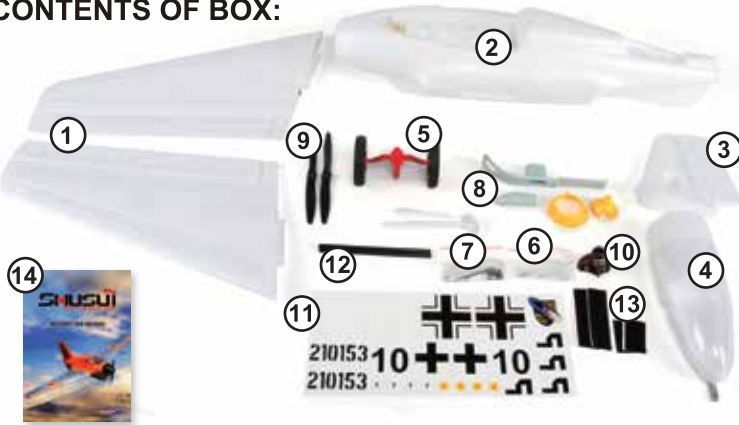
Battery recommended: 1300-2200mah 11.1v 3S lipo (30C min)

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

Servo's: 3 x 9g required (Turnigy TGY-50090M recommended)

Skill level: intermediate/advanced

## CONTENTS OF BOX:



- |                          |                         |
|--------------------------|-------------------------|
| 1. Main wings            | 2. Fuselage             |
| 3. Vertical stabilizer   | 4. Cockpit hatch/Canopy |
| 5. Dolly (undercarriage) | 6. Control accessories  |
| 7. Screw/fasteners       | 8. Plastic parts        |
| 9. Propellers            | 10. Pilot figure        |
| 11. Markings stickers    | 12. Carbon wing rods    |
| 13. Velcro               | 14. Manual              |

## REQUIRED TO COMPLETE MODEL:

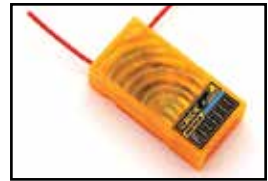
In its kit format, the Durafly J8M requires electronic parts to complete. Durafly recommend the products below for optimum performance and great value. Available at [hobbyking.com](http://hobbyking.com)



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



Durafly 50amp ESC  
Part No: 9164000017-0



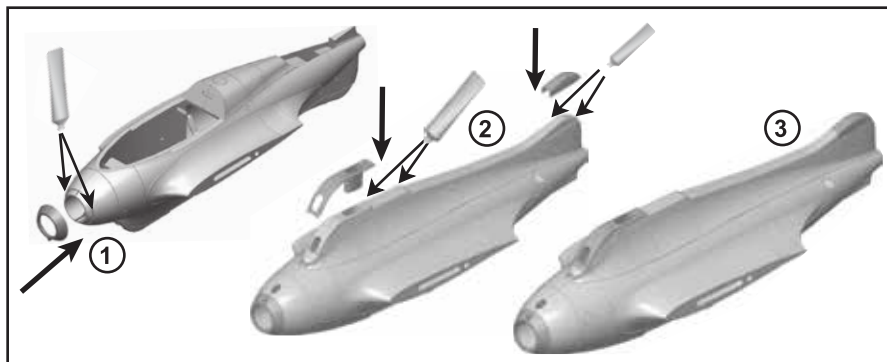
Durafly 2836 2200Kv outrunner  
Part No: 9306000186-0



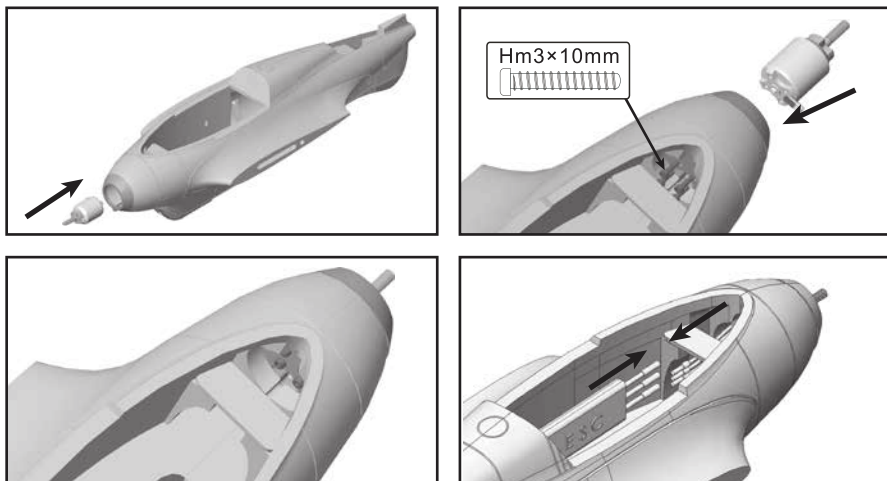
Turnigy TGY-50090M servo x 3  
Part No: 9468000001-0

## ASSEMBLY:

1. Locate the plastic cowl and front and rear bottom plates and apply glue to all parts and individually glue in place on the fuselage as shown. Allow a minute or so for the glue to become 'tacky' before gluing each part in place. This will ensure a firm and complete join once the glue has cured.

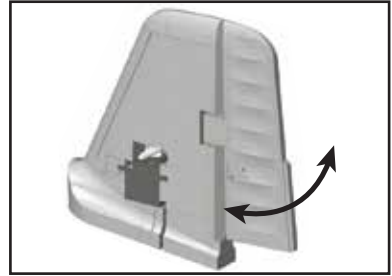
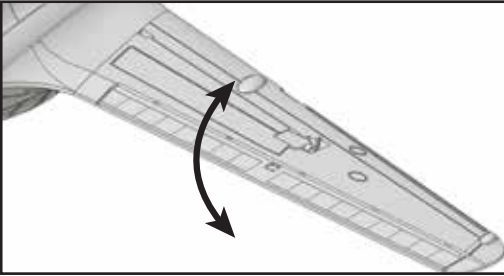


2. With its 'X' style mount attached, install your choice of 2836 sized outrunner using the 3x10mm bolts provided. It is strongly suggested that thread lock be used to ensure the bolts can not come loose. For the optimal performance and easy installation, DuraFly recommend our 2836 2200Kv outrunner motor. See 'Required to complete model' on the previous page for details.

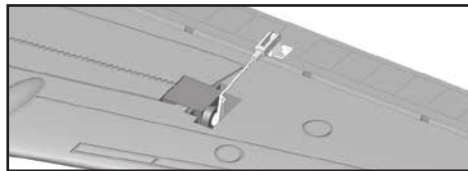
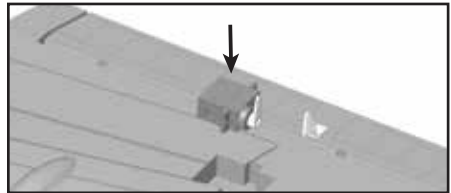
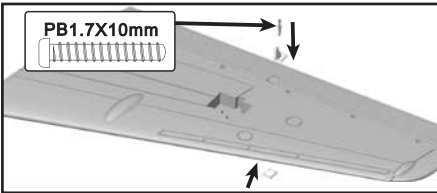


3. With your motor now installed, connect and install your choice of 40-50amp ESC. DuraFly recommend our 40-50amp ESC, see 'Required to complete model' for details. Install your ESC in the approximate location shown above.

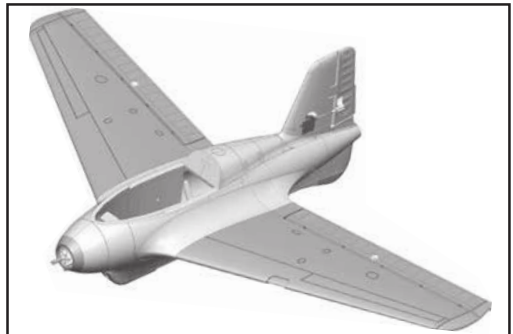
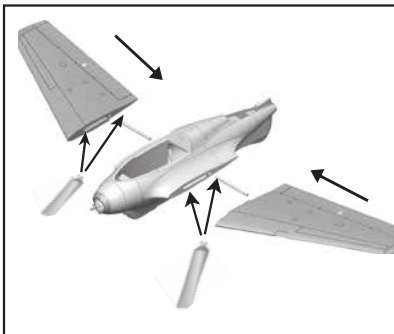
4. Before moving on with the build it is nesaary to flex each control surface back and forth 6-8 times to release the tension of the reinforced hinge line.



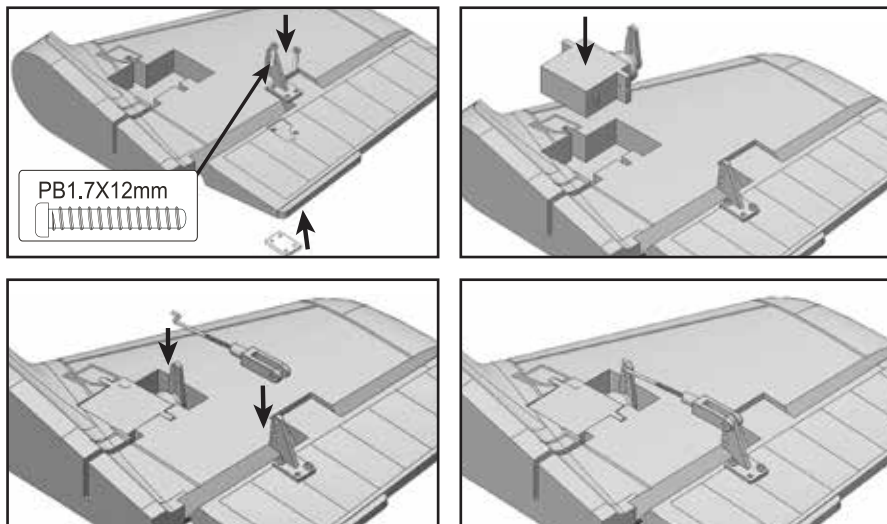
5. Your 9 gram servo's of choice can now be glued into each wing panel as shown below. It is recommended that a higher powered metal gear 9g class servo be used for all control surfaces, given the high performance of the J8M. Duraflly recommend the Turnigy TGY-50090M. For details see 'Required to complete model' on page 2. Ensure each servo horn is at 90 degree's to the control surface (neutral) before gluing in place. Allow the glue to dry before then installing and connecting the push rods, control horns and clevises as supplied and detailed below.



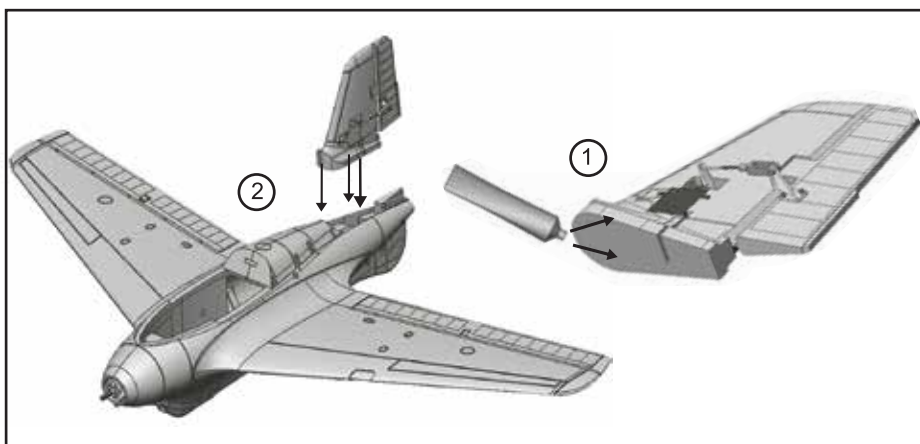
6. Dry fit the main wing spar through the fuselage, then the wing panels onto the spar to ensure a good fit. Once satisfied apply glue to the spar, spar tubes, wing root and fuselage to glue the wings to the fuselage. You can glue one panel at a time if you prefer. Be sure to feed through the servo wires into the fuselage beforehand.



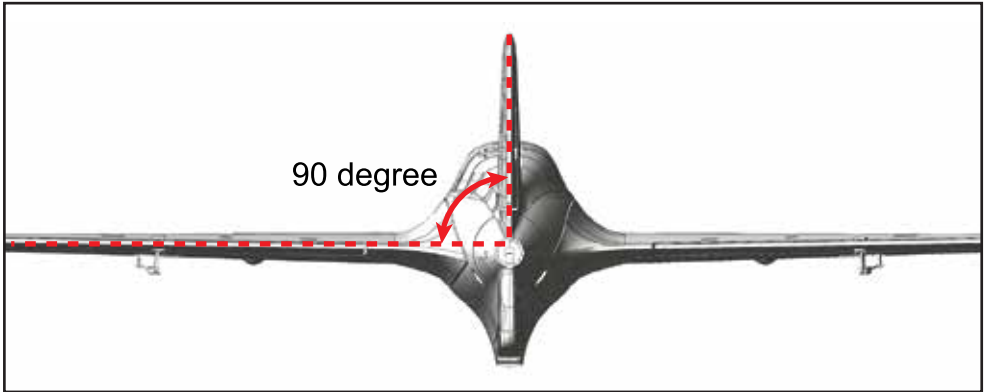
7. Install your 9g rudder servo (Turnigy TGY-50090M recommended) into the vertical tail using the supplied glue as shown below. Again, allow the glue to become tacky before gluing in place. Attach the supplied control horn and push rod as detailed below once the glue has dried. Ensure your servo horn is at 90 degree's to the control surface (neutral) BEFORE the servo is glued in place.



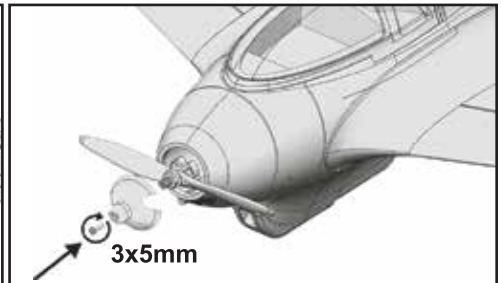
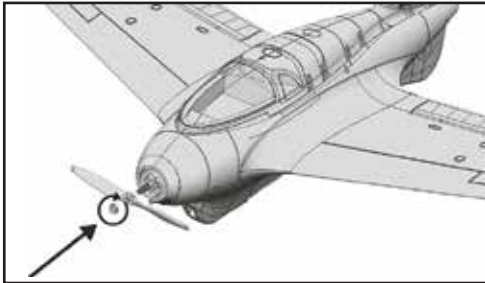
8. Using the supplied glue, now apply a reasonable amount of glue to the base of the vertical tail and also just a small amount to the lower side edges (1). Hold for 30 seconds to all the glue to become a little tacky then install the tail in place as shown (2). Wipe any excess glue with a wet cloth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



9. 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.



10. 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.

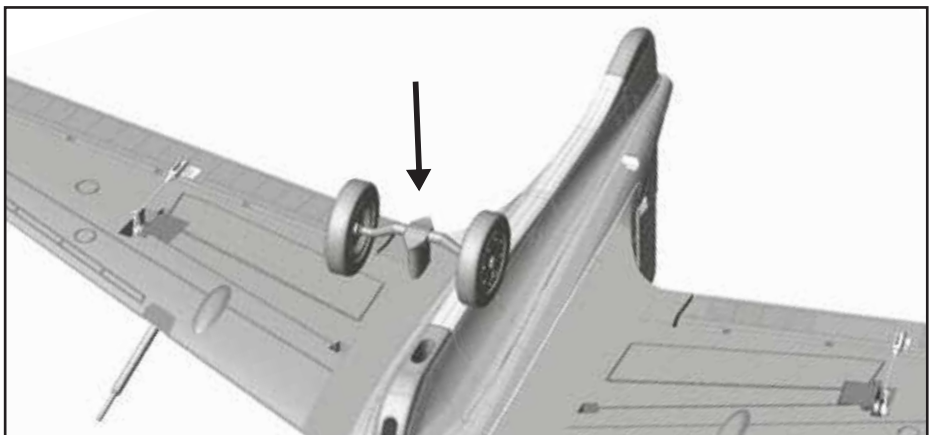


**Note: Your propeller should already be balanced, but it is strongly suggested that you check to confirm and if not, that you balance before installing the prop.**

11. 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.



12. The final stage of assembly is to test fit the J8M 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.



**The basic assembly of your J8M kit is now complete. You may now paint and finish your model as you wish. However do ensure that your paint of choice not harmful or will weaken the EPO foam of this model.**



## **RECEIVER AND BATTERY INSTALLATION.**

1. Use the below image as a guide to install your receiver and flight battery. When using the recommended 2200mah 4S battery, these positions should make your model balance at the approximate CG mark covered in the next stage of this manual.

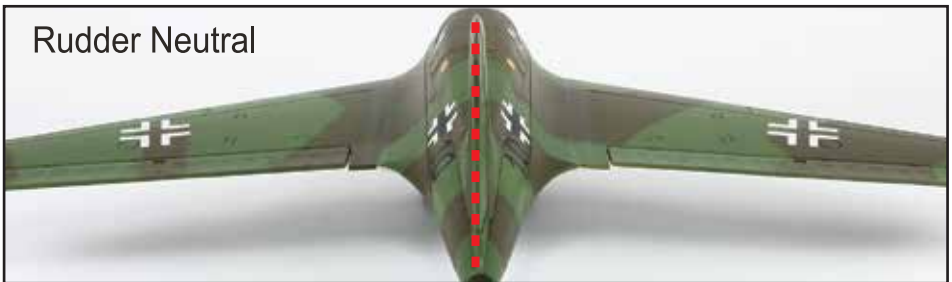
Note: If you are using a lower capacity (and therefore lighter) battery, you will have to install this pack further forward of the point shown in order to attain the same approximate CG position.



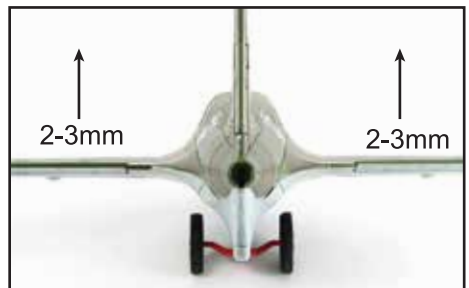
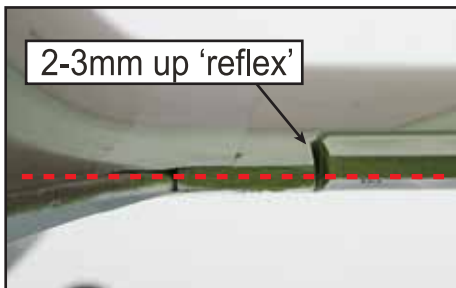
## SETTING UP YOUR MODEL:

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.

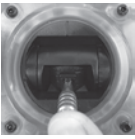


2. Owing to the design of the J8M, a small amount of up 'reflex' is required in the ailerons to improve all round flight handling. To add reflex, simply adjust the aileron clevises until each surface has approximately 2-3mm of 'up' (when measured from the neutral trailing edge of the wing) just as shown below.



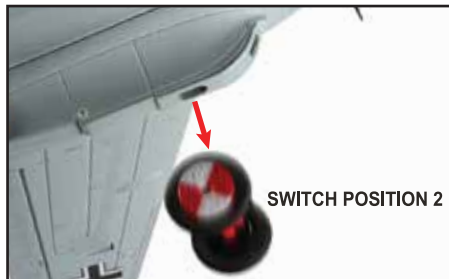
2. Check all control surfaces are moving in the correct direction with the applicable stick input (see below).

|                                                                                  |            |                                                                                   |                           |
|----------------------------------------------------------------------------------|------------|-----------------------------------------------------------------------------------|---------------------------|
|  | Roll left  |  | <b>Aileron<br/>(Roll)</b> |
|                                                                                  | Roll right |  |                           |

|                                                                                  |            |                                                                                    |                             |
|----------------------------------------------------------------------------------|------------|------------------------------------------------------------------------------------|-----------------------------|
|  | Pitch up   |   | <b>Elevator<br/>(Pitch)</b> |
|                                                                                  | Pitch down |  |                             |

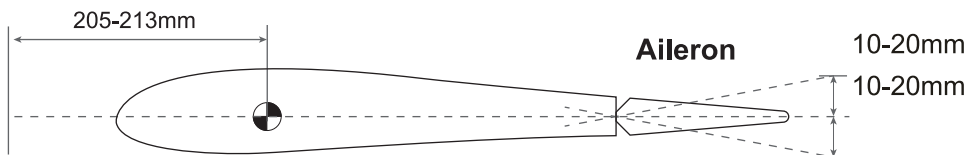
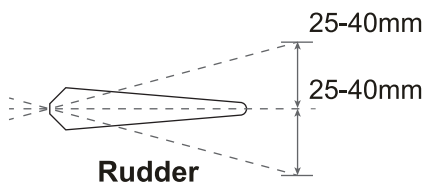
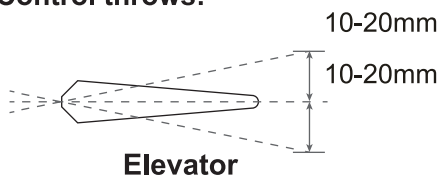
|                                                                                    |           |                                                                                     |                         |
|------------------------------------------------------------------------------------|-----------|-------------------------------------------------------------------------------------|-------------------------|
|  | Yaw left  |  | <b>Rudder<br/>(Yaw)</b> |
|                                                                                    | 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 J8M handles very well in flight but requires setting up beforehand. Please follow the recommended settings below for good all round flight performance.

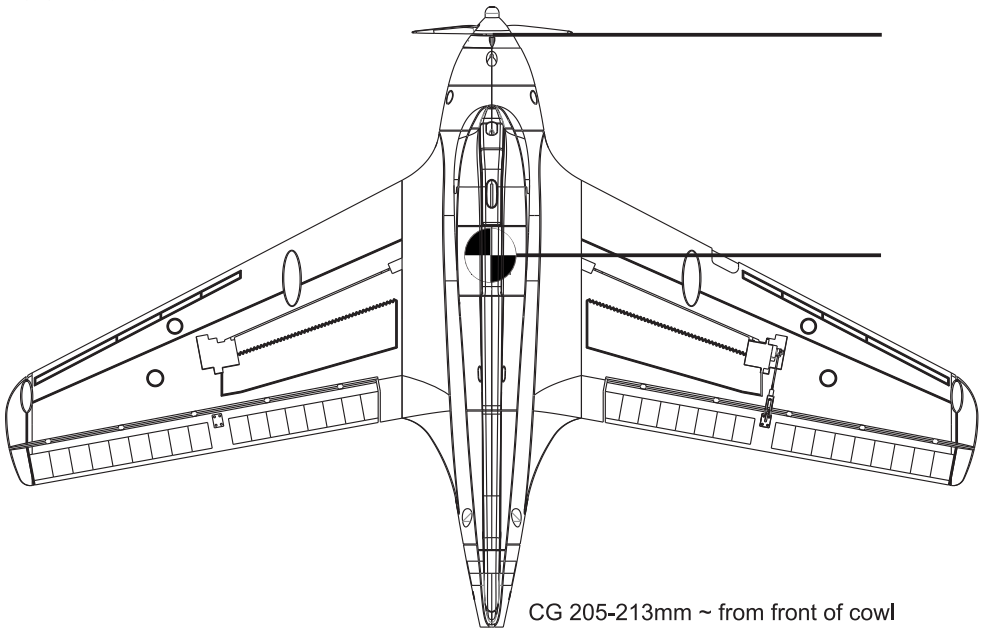
### Control throws:



- \* 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 J8M is approximately 205-213mm from the front of the fuselage/plastic cowl. With the recommended Turnigy A-SPEC 2200mah 65C 4S lipo installed at the position shown previously, the J8M 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 J8M 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 J8M

The Durafly J8M 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 J8M, care must be taken when beginning each flight. Take off /launching is the only challenging part of flying your J8M. 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 Durafly J8M is an exceptionally well behaved model and will amaze you with its performance and agility. At full throttle you'll enjoy virtually 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 4S 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 J8M 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 J8M 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 Durafly J8M for the ultimate touch of scale realism? See 'Model Rocket use' on the followings pages for more details.

Enjoy flying the J8M and thank you for choosing Durafly.



## **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 J8M 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 J8M 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 J8M 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 J8M initially after launch until it gets 'on step' and apply full power once it is tracking straight to climb away.*

## ROCKET MOTOR USE:

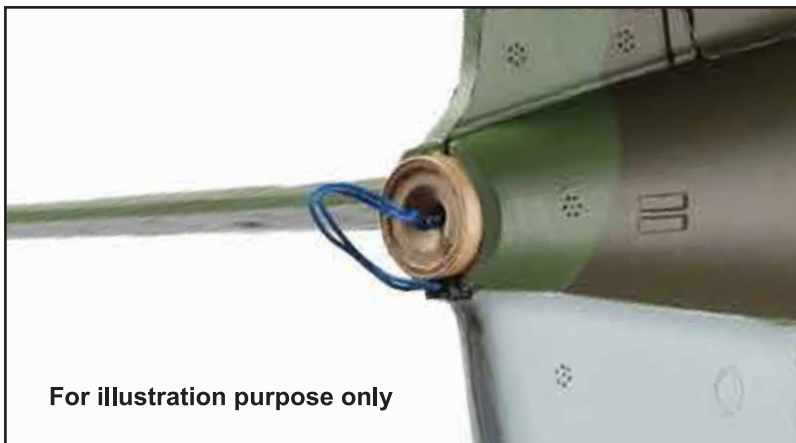
Your Duraflly J8M can support the use of a standard '18mm class' model rocket engine if you wish. Sufficient space at the rear fuselage allows for both the mounting of the engine and the running of the switch wires internally beneath it.

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](http://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 J8M 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 caused by the use of model rocket engines in the Duraflly J8M or any of their products.

Please be safe and have fun.



## J8M GENERAL TIPS:

- \* Correct CG is essential for a smooth take-off when using the dolly. If the CG is too far forwards, the J8M 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 J8M 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 Duraflly J8M. We hope you'll have many happy days of flying and look forward to bringing you more Duraflly 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**  
9306000394-0



**Canopy**  
9306000396-0



**Wing set**  
9306000396-0



**Landing Gear**  
9306000333-0



**Vertical Tail**  
9306000397-0



**Control Accessories**  
9306000185-0



**2200Kv Motor**  
9306000186 0



**6x4 Props**  
9306000187 0

## TROUBLE SHOOTING:

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

## CONTACT:

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

- [duraflly.com](http://duraflly.com)

Or see our Facebook page at:

- [facebook.com/duraflly](https://facebook.com/duraflly)

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

- [youtube.com/hobbykinglive](https://youtube.com/hobbykinglive)

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