



Bf109E

1100MM MESSERSCHMIDT BF.109E-4

INSTRUCTION MANUAL





NOTE: The Messerschmitt Bf-109e was the backbone of the Luftwaffe fighter force during world war 2.

It was one of the most advanced fighters of its era and a very powerful instrument in the German armed forces military war machine.

The Bf-109e was a fierce adversary for allied fighters such as the Hawker Hurricane and the legendary Supermarine Spitfire.

With its lightweight design, retractable landing gear, destructive 20mm cannons, powerful Daimler-Benz liquid cooled fuel injected inverted V12 the Bf-109e would have made the Luftwaffe pilot feel nearly invincible.

Designed by Willy Messerschmitt in the mid-1930's and with over 33,000 Bf-109's made between 1939 – 1945, flown in many theatres of operation and used by many air forces the Bf-109 is a true masterpiece of Aviation.

Duraflly's 1100mm Messerschmitt Bf-109e is a fantastic scale rendition of the famous Luftwaffe fighter. The Duraflly team has worked extremely hard to bring you the Bf-109e, With its graceful lines and undoubtedly the best looking RC Bf-109e ever made.

With a wingspan of 1100mm, scale electronic retracting landing, scale flaps and a powerful brushless outrunner motor spinning a scale three-bladed propeller.

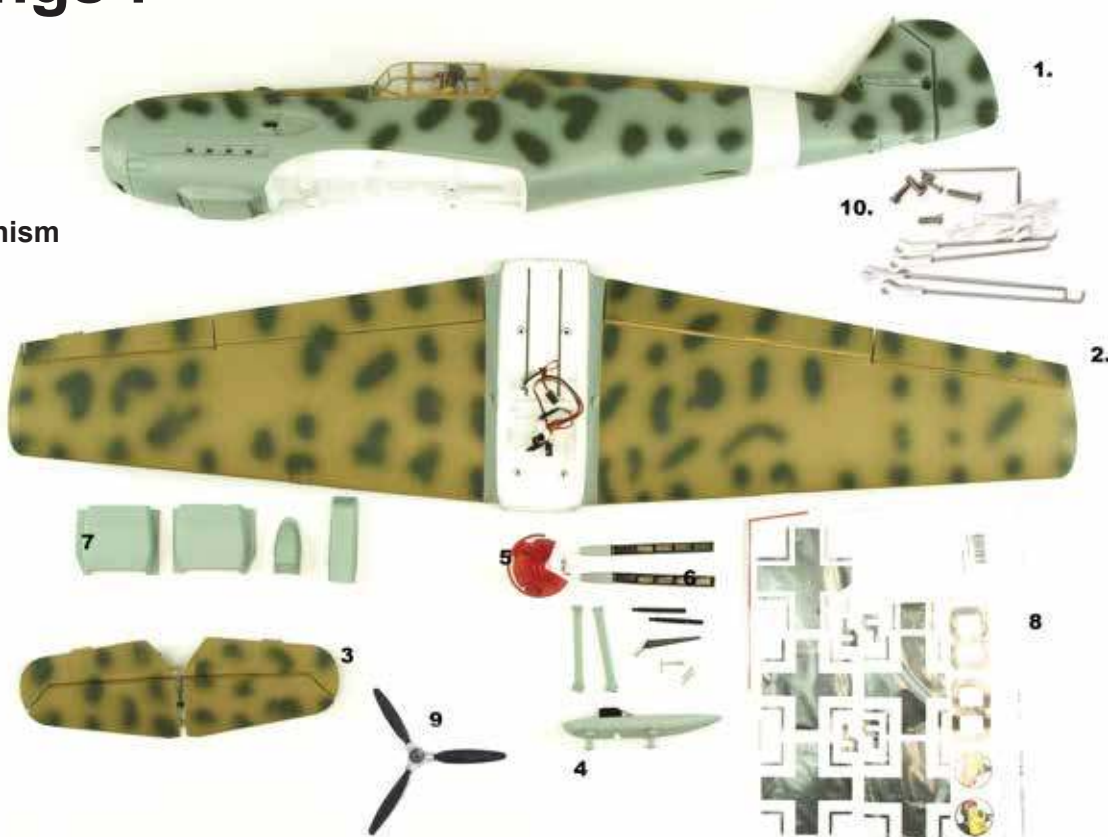
To complete this authentic scale RC warbird you can add your choice of comprehensive decals complete with squadron markings national insignias.

The Duraflly Bf-109e comes in two classic Luftwaffe schemes the yellow-nosed Battle of Britain version and the camouflaged tropical version used in the African desert.

A perfect addition to the Duraflly range and a fantastic adversary to the Duraflly Spitfires.

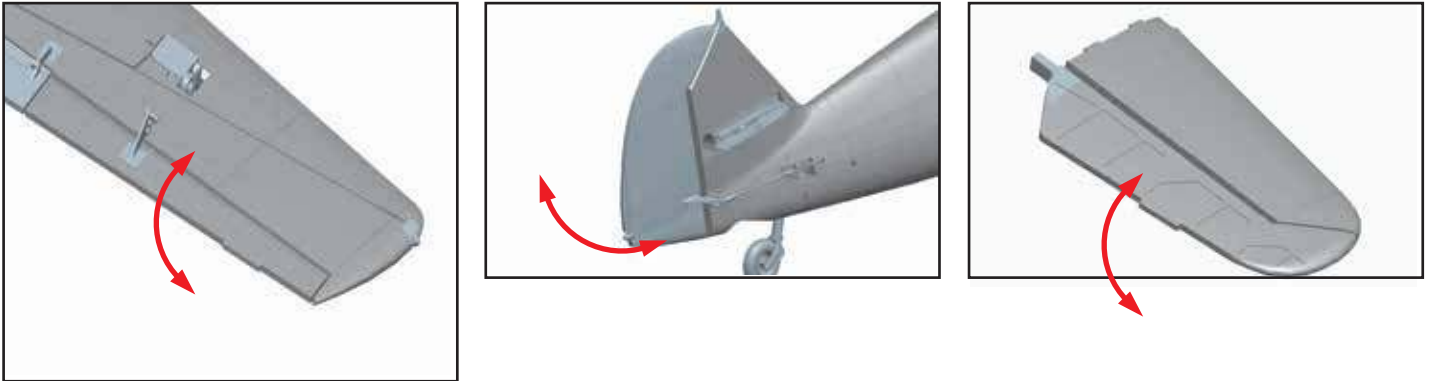
Parts Listings :

1. Fuselage
2. Main Wing
3. Horizontal Stabiliser
4. Bomb release mechanism
5. Spinner
6. Plastic scale parts
7. Radiator and air filter
8. Decals
9. Propeller
10. Hardware

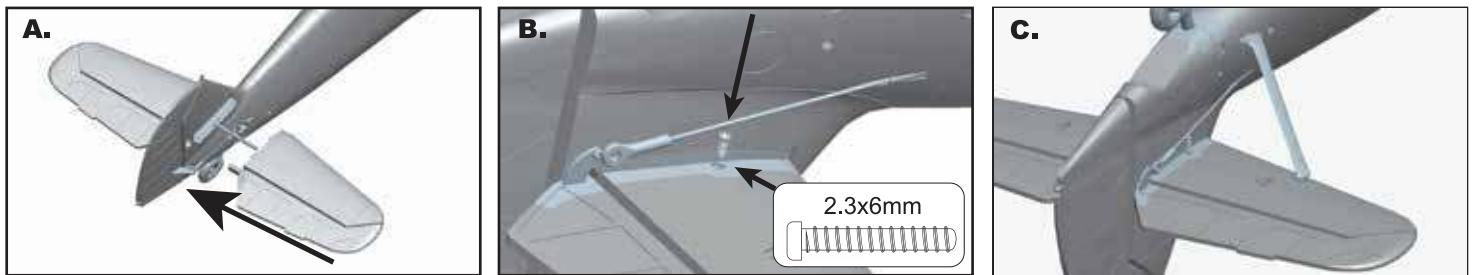


ASSEMBLY

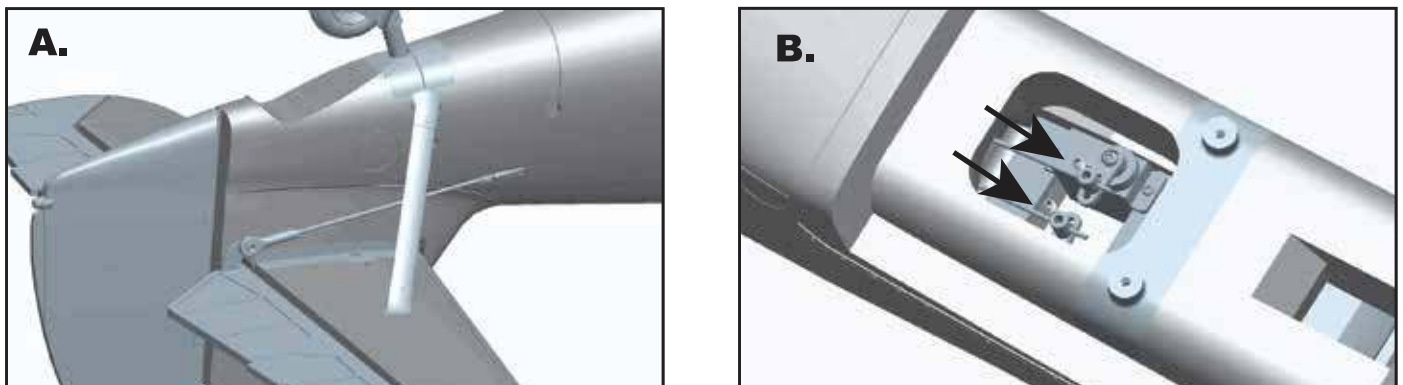
1. Out of the box your BF.109e comes with reinforced foam hinge. However before assembly can begin, each hinge line must be fixed back and forth 5-6 times to reduce tension and load on the servo. Do this for all control surface before continuing.

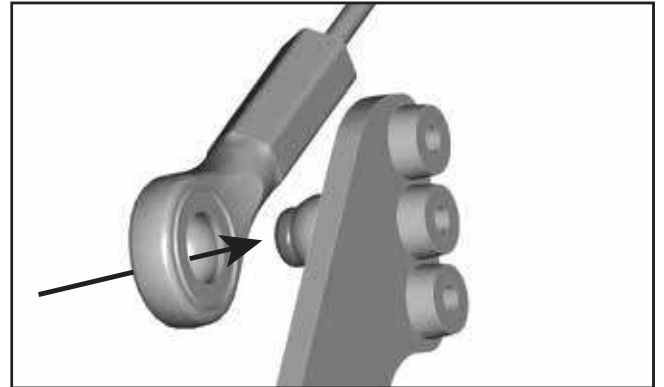


2. Insert one half of the carbon tail spar into one of the horizontal tail pieces before sliding this half into the tail slot of the fuselage. Now, install the remaining tail piece (A). Secure both halves in place with the supplied 2.3x6mm screws (B) and try install the tail brace into place with no glue, then glue the braces into place when they fit properly (C). This installation is self-aligning, but do double check to ensure a good alignment to the vertical tail and wing.



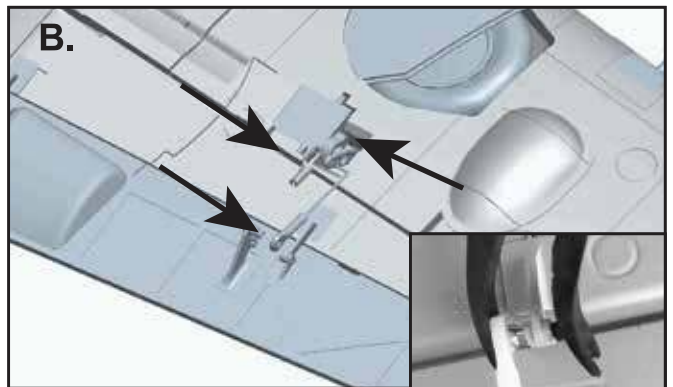
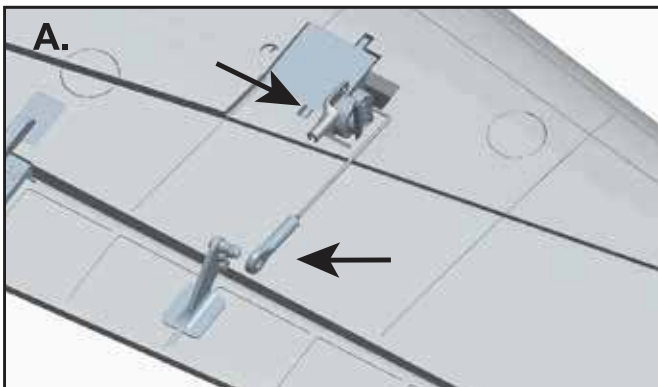
3. Using a pair of pliers (ball link pliers preferably) connect the elevator push rod to the elevator control horn (A). To ensure both the elevator and rudder are neutral (with the servos centered) loosen the grub screw of the piano wire fastener until both surfaces and slide the push rods until both are neutral if required (B). The steerable tail wheel can be adjusted the same way (C). Tighten all firmly when done.



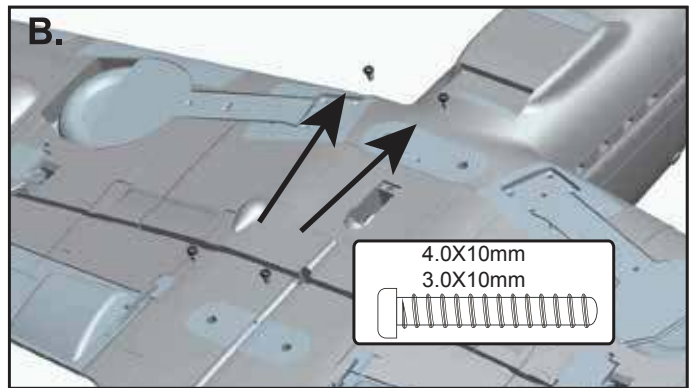
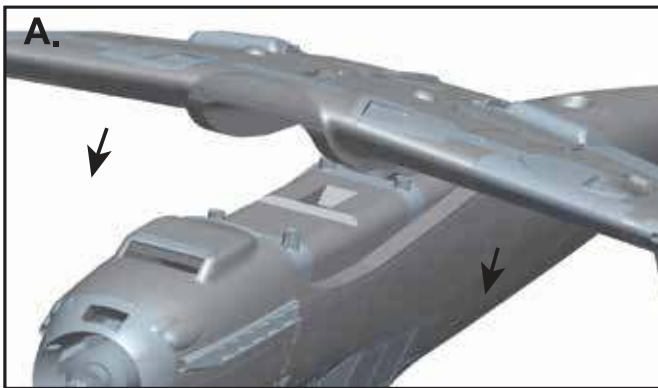


Note: Each ball link has a faint circle molded on one side. This denotes the side that should be connected to the ball joint.

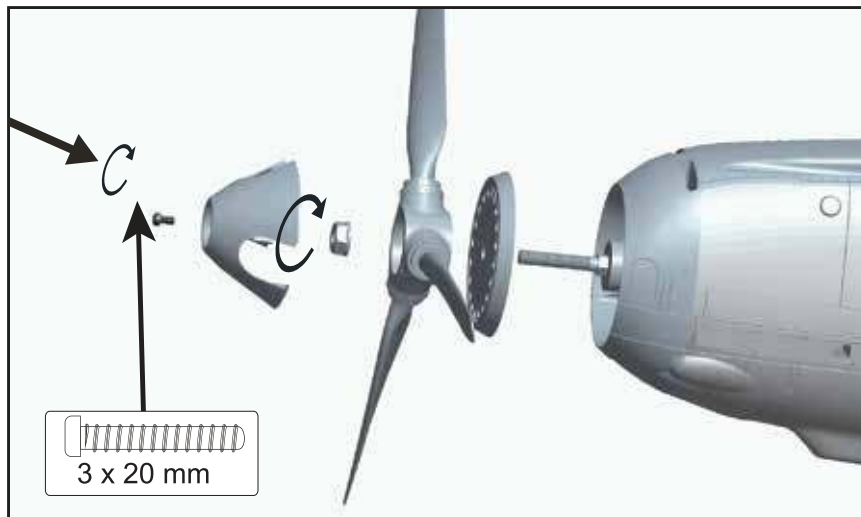
4. With the aileron control horns at 90 degrees to the wing surface (neutral) insert the aileron push rod into the top hole of the control horn. Secure in place with the plastic keeper and then connect the ball link to the ball joint using pliers (A). Repeat this same process for the flaps, the exception being that the flap servo horns must be positioned as far rearwards as possible. This will give a flap neutral position with the push rods connected (B).



5. Offer the wing up to the fuselage and ensure the servo wires pass through into the battery area of the fuselage (A). Check again that no servo wires are caught between the wing and the fuselage before securing in place using the bolts 4.0X10mm (for L/D of the wing) , 3.0X10mm (for T/E of the wing)

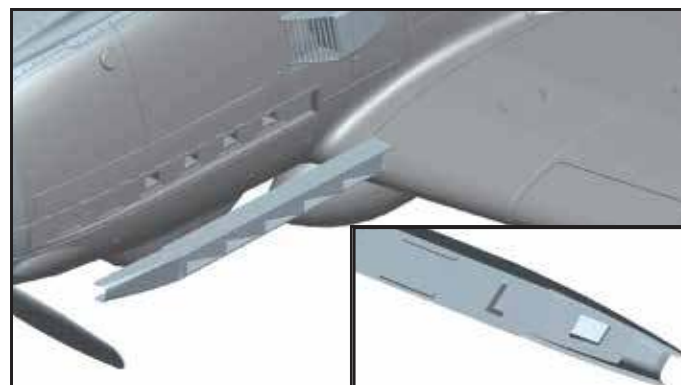
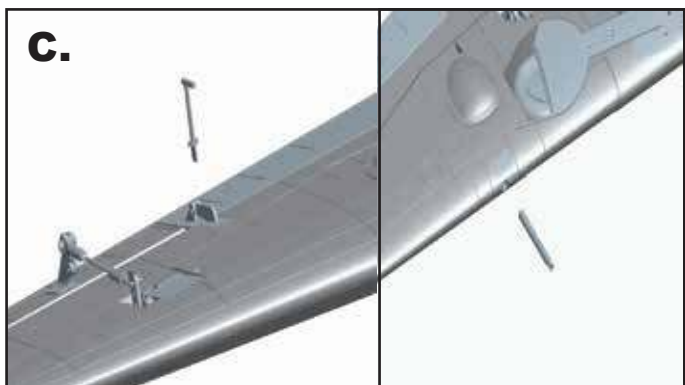
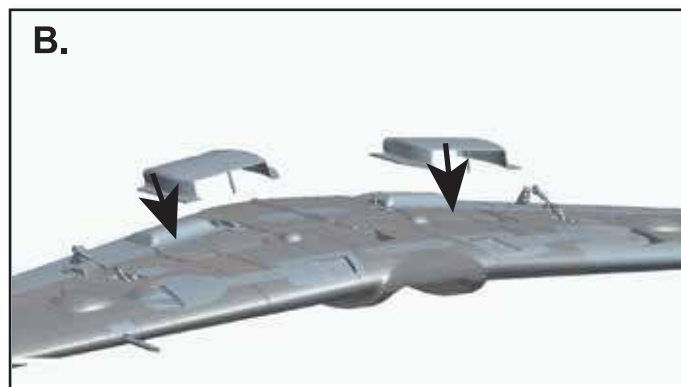
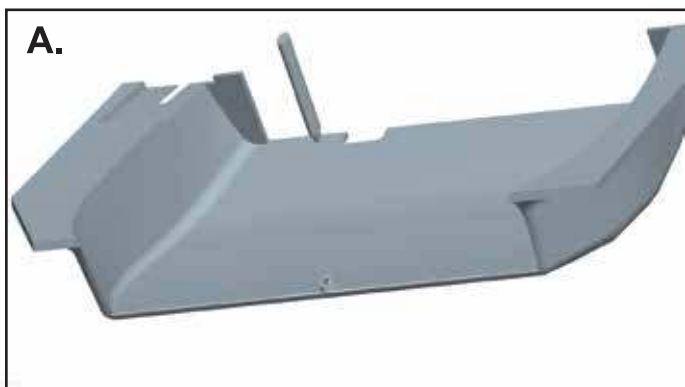


6. Slide the spinner back plate onto the motor shaft making sure the hex shape opening at the rear of the plate fits over the 'hex' on the base of the shaft. This is followed by the prop and prop nut. Tighten the prop nut firmly in place then finally screw the spinner in place.

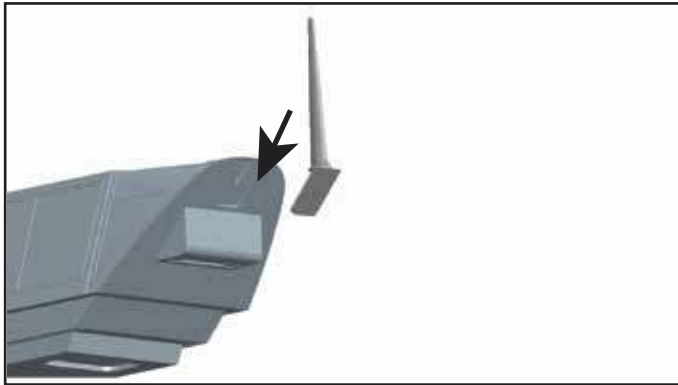


Note: It is recommended that you balance the prop and spinner before installing for optimum performance and efficiency.

7. With a small amount of the contact glue, Secure the under wing radiator opens' struts in place before securing the radiators and the pilot tube into place along with wing cannons, exhaust stacks and the fuselage aerial.



Note: Install the one with mark "L" to the port side of the fuselage.

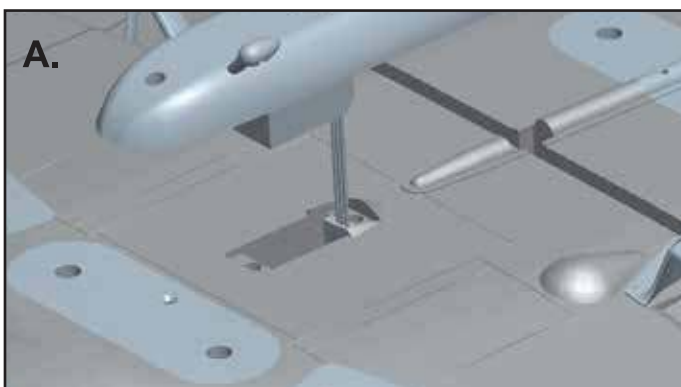


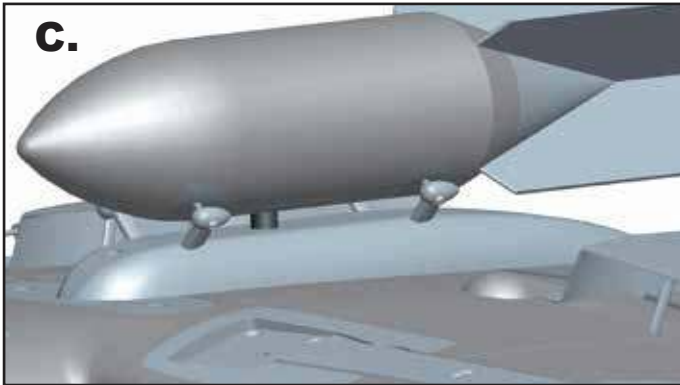
8. Glue the sand filter of the desert version into place.

9. The bomb been secured to the rack (the bomb securer's tougue perpendicular to the axle of the bomb)
Insert the servo lead into any of the two switch channel, then you can release the bomb (The tougue of the bomb will align with the axle of the bomb after the releasing).



10. Install the bomb rack by insert the release servo's lead to the receiver hatch, and be sure the lead will not caught between the servo hatch and the servo(A). Secure the rack with supplied screws 2.3X6mm(B). Then adjust the screws on the rack(C), to make sure the bomb align with the centerline of the fuselage(D).

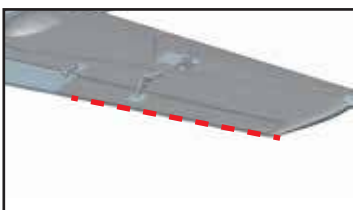




SETTING UP YOUR MODEL:

1. With your receiver installed and all servos plugged into their corresponding channels, connect the flight battery to the ESC to power up the electronics. With the model now armed, ensure all servos are centered and all control surfaces are level. If not, adjust by turning the control clevis's by hand accordingly until the control surfaces are level as shown.

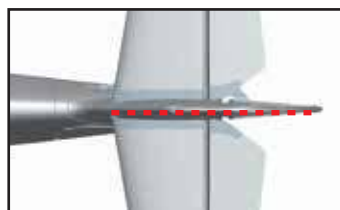
Note: For safety reasons, it is advised that this is done with the prop removed from the model.



Ailerons



Elevator



Rudder



Flap



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

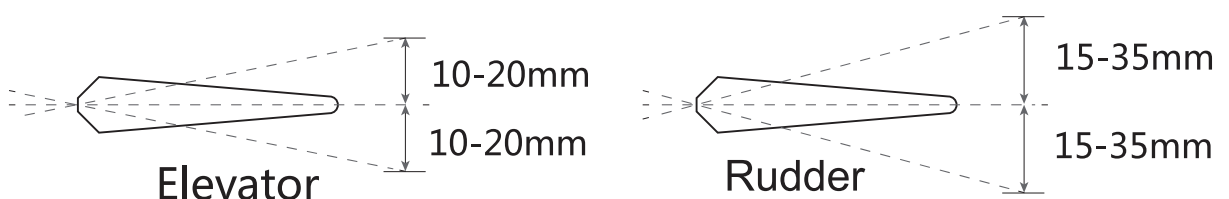
	Roll left		Aileron (Roll)
	Roll right		

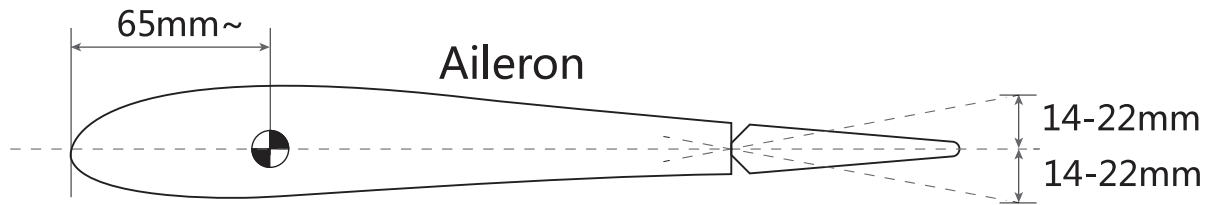
	Pitch up		Elevator (Pitch)
	Pitch down		

	Yaw left		Rudder (Yaw)
	Yaw right		

3. The Bf-109e handles very well in flight and that's not down to good design alone, but a good pre-flight set-up too. Before you fly your Bf-109e please follow the recommended settings below for optimum handling and performance.

Control throws:



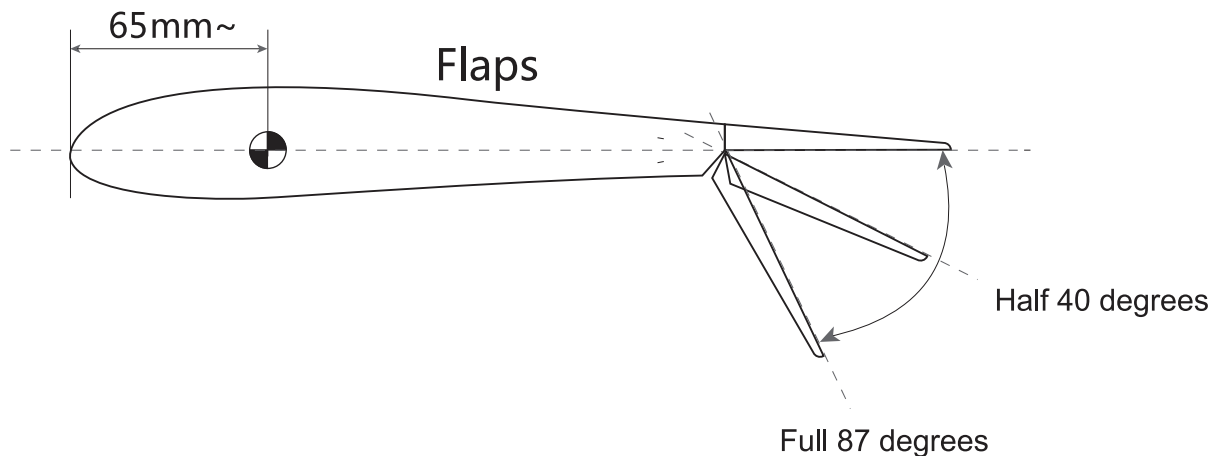


*Elevator 'low rates' 10mm 'high rates' 20mm in either direction from neutral.

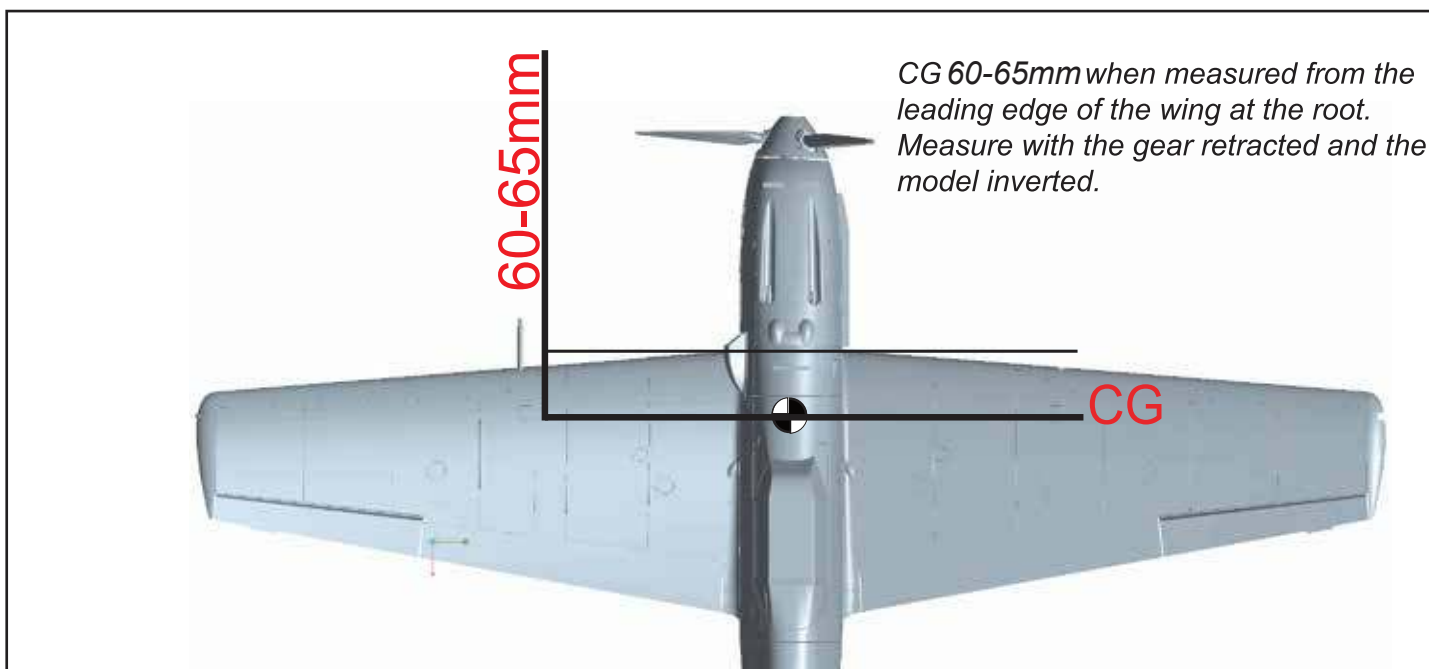
*Rudder 'low rates' 15mm 'high rates' 35mm in either direction from neutral.

*Aileron 'low rates' 14mm 'high rates' 22mm in either direction from neutral.

4. Flaps on the Durafly Bf-109e should be set for 3 stages (up/no flap, mid flap and full flap). Either via your radio or mechanically by turning the clevis's on the flap control rod (or via both in most cases), set mid flap to approximately 40°degrees and full flaps to approximately 87° degrees to the wing. In the 'up/no flap' position ensure the flaps close fully without straining either servo. Also ensure that both flaps deploy equally at every stage.



5. The Centre of Gravity (COG) for the Bf-109e is Approximately 60-65mm from the leading edge of the wing. We recommend a Turingy Graphene 2200mah 4S Lipo 65c or a larger 3S battery. The Bf-109e will fly perfectly well on both 3S and 4S Lipo batteries.



DECAL APPLICATION GUIDELINES

Applying the supplied decals will take you longer than assembling the model. This is because great care must be taken when doing so. The decals are a mix of two different types, vinyl and sticker, each needing to be applied in a certain way. Please follow carefully the guidelines below to achieve the best possible finish on your Duraflly Bf-109e.

Note:

**** All wing and fuselage roundels are made of standard sticker type decals and cut exactly to the right size and simply need lifting from the backing paper and applying in place.***

**** All other markings are of the vinyl type decal and are supported on a clear adhesives fronting film. These will need more care and attention when applying. The below guidelines apply to both decal types where noted:***

1. Study the scheme reference sheet carefully and understand fully where each decal should be applied (sticker/vinyl).
2. Both decals types have been die cut so there is no need to cut the decals out.

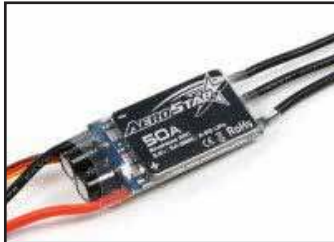
3. Vinyl decal use a clear front cover/film that is used to remove the decal from the paper backing.
4. Before lifting from the paper, rub the surface of the clear protective film to ensure all of the decal sticks to this fronting. This will ensure the marking lifts fully off the backing paper (vinyl).
5. Position the decals carefully on the model according to the decal reference sheet then gently rub (using a dry cloth) the decal in place rubbing from the center of the decal out to avoid wrinkles and air bubbles (sticker/vinyl).
6. If air bubbles are present, use the tip of a sharp blade to make a small hole in the bubble then rub over it again to push the air out (sticker/vinyl).
7. Once the decal is firmly rubbed down and any air bubbles are removed, you can slowly remove the front clear protective film. DO NOT pull this clear film upwards to remove it, instead pull the film slowly off to the side. This will ensure the decal doesn't lift up from the surface of the model when you remove the clear film. (vinyl).
8. Very gently rub the decal again with a cloth now that the clear film is removed to ensure all edges are firmly stuck down (sticker/vinyl).
9. Finally the use of a covering iron is **STRONGLY** recommended to seal the decals to the painted foam surface and prevent them from lifting at the edges over time. Set the iron to a low temperature and gently run the iron lightly over the surface of the decal as illustrated on the following page. Use of a cloth to cover the head of the iron is recommended to help prevent damage to the foam and the decal. A house hold iron can be used if no covering iron is available (sticker/vinyl).



With assembly and set-up now complete, your Duraflly BF-109e should now be ready for flight. However we recommend you read and follow the advice given in the following pages of this manual before flying your Duraflly Bf-109e.



Duraflly Bf-109e Spare Parts common to both models



AeroStar 50A
Electronic Speed
Controller
9164000037-0



AeroStar 3736
700kv Brushless
Outrunner Motor
9499000093-0



Duraflly Bf-109e
Propeller Shaft
9499000205-0



Duraflly Bf-109e
Propeller
9499000209-0



Duraflly Bf-109e Main
Landing Gear Struts
and Wheels
9499000198-0



Duraflly Bf-109e
Bomb Rack W/
Servo
9499000210-0



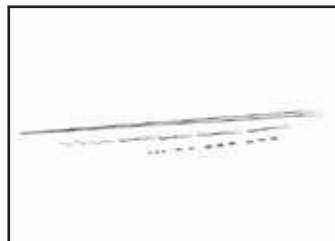
Duraflly Bf-109e
SC250 German
Bomb
9499000211-0



Duraflly Bf-109e Tail
Wheel Assembly and
Arm
9499000199-0



Duraflly Bf-109e
Scale Plastic Parts
9499000204-0



Duraflly Bf-109e
Control rods
9499000206-0



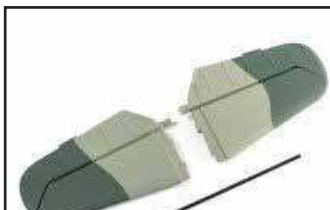
Spare Parts for the Bff-109e “Battle of Britain” Scheme



Durafly Bf-109e
Battle of Britain
Scheme-Fuselage
916400037-0



Durafly Bf-109e
Battle of Britain
Scheme – Wing
9499000192-0



Durafly Bf-109e Battle
of Britain Scheme –
Horizontal Tail
9499000194-0



Durafly Bf-109e Battle
of Britain Scheme –
Canopy Hatch
9499000196-0



Durafly Bf-109e
Battle of Britain
Scheme – Cowl
9499000202-0



Durafly Bf-109e
Battle of Britain
Scheme – Spinner
9499000200-0

Spare parts for the Bf-109e Desert Scheme



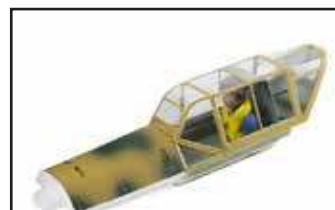
Durafly Bf-109e
Desert Scheme –
Fuselage
9499000191-0



Durafly Bf-109e
Desert Scheme –
Wing
9499000193-0



Durafly Bf-109e Desert
Scheme – Horizontal
Tail
9499000195-0



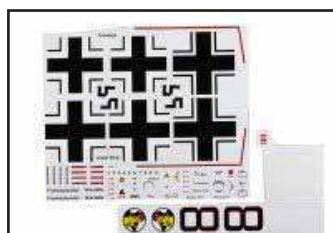
Durafly Bf-109e Desert
Scheme – Canopy
Hatch
9499000197-0



Durafly Bf-109e
Desert Scheme –
Cowl
9499000203-0



Durafly Bf-109e
Desert Scheme –
Spinner
949000201-0



Durafly Bf-109e Desert
Scheme – Decal
Sticker Set
9499000208-0



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