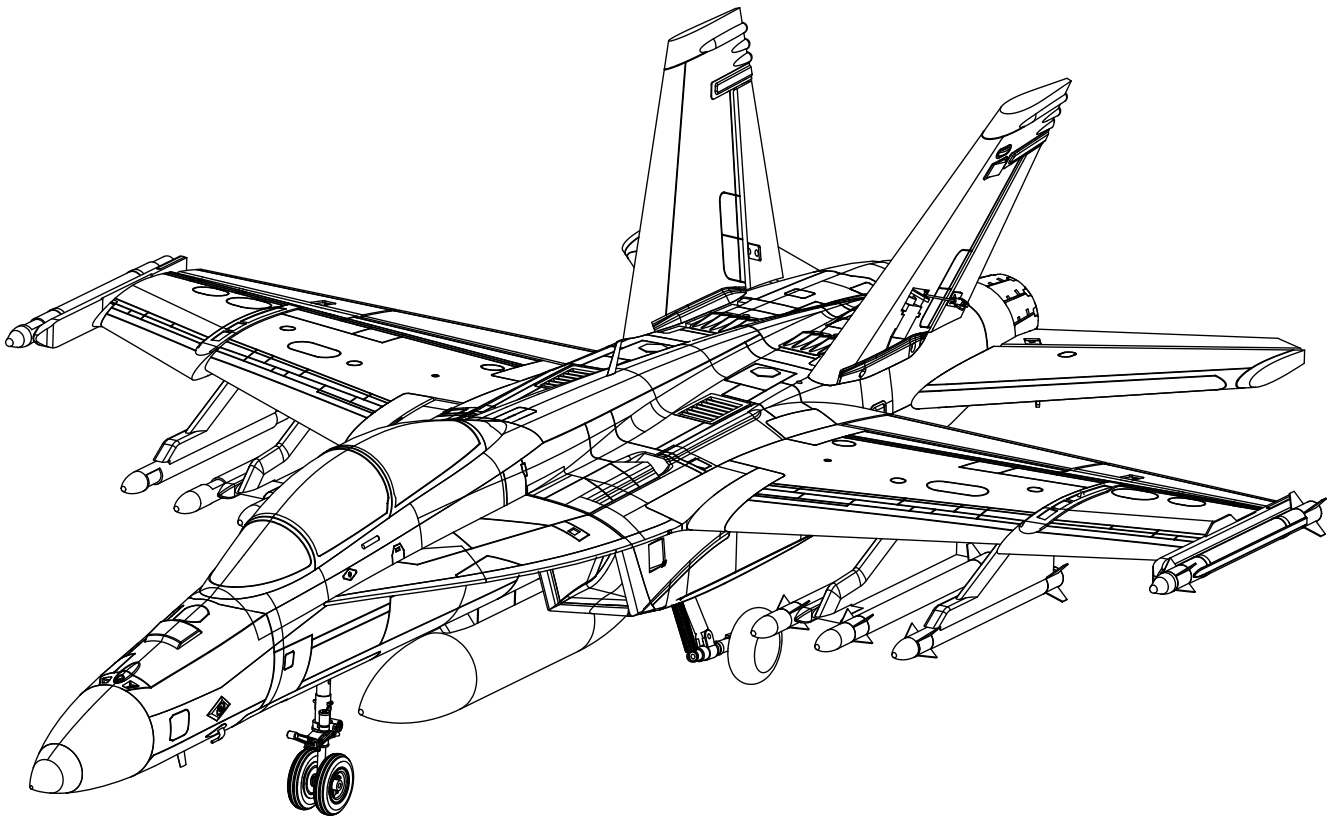




70mm F/A-18F



Instruction Manual
Bedienungsanleitung
Manuel d'utilisation
操作手册

REALISTIC

- Retracts and flaps installed

RIGID

- Durable EPO material

STABLE

- Smooth flying performance

FMSMODEL.COM

WARNING



WARNING: Read the ENTIRE instruction manual to become familiar with the features of the product before operating. Failure to operate the product correctly can result in damage to the product, personal property and cause serious injury. This is a sophisticated hobby product and NOT a toy. It must be operated with caution and common sense and failure to do so could result in injury or damage to the product or other property. This product is not intended for use by children without direct adult supervision. This manual contains instructions for safety operation and maintenance. It is essential to read and follow all the instructions and warnings in the manual prior to assembly, setup or use, in order to operate and avoid damage or serious injury.

Safety Precautions and Warnings

As the user of this product, you are solely responsible for operating in a manner that does not endanger yourself and others or result in damage to the product or the property of others. This model is controlled by a radio signal subject to interference from many sources outside your control. This interference can cause momentary loss of control so it is advisable to always keep a safe distance in all directions around your model, as this margin will help avoid collisions or injury.

Age Recommendation: Not for children under 14 years. This is not a toy.

- Never operate your model with low transmitter batteries.
- Always operate your model in an open area away from cars, traffic or people.
- Avoid operating your model in the street where injury or damage can occur.
- Never operate the model in populated areas for any reason.
- Carefully follow the directions and warnings for this and any optional support equipment you use (chargers, rechargeable battery packs, etc.)
- Keep all chemicals, small parts and anything electrical out of the reach of children.
- Moisture causes damage to electronics. Avoid water exposure to all equipment not specifically designed and protected for this purpose.
- Never lick or place any part of your model in your mouth as it could cause serious injury or even death.

Safety

Lithium Polymer (Li-Po) Battery Warning

CAUTION: Always follow the manufacturer’s instructions for safe use and disposal of batteries. Fire, property damage, or serious injury can result from the mishandling of Li-Po batteries.

- By handling, charging or using a Li-Po Battery you assume all risks associated with lithium batteries. If at any time the batteries begin to swell or balloon, discontinue use immediately!
- Always store the batteries at room temperature in a dry area to extend the life of the battery. Always transport or temporarily store the battery at a temperature range of 40-120F. Do not store the battery or model in a car or in direct sunlight. If stored e the battery or model in a car or in direct sunlight. If stored
- Never use a Ni-Mh Charger to charge Li-Po Batteries. Failure to charge the battery with a Li-Po compatible charger may cause fire resulting in personal injury and property damage.
- Never discharge Li-Po Cells below 3V.
- Never leave charging batteries unattended.
- Never charge damaged batteries.
- Use a battery charger that is designed to safely charge the Li-Po Battery. Read the charger instructions carefully before use. When charging the battery, make certain the battery is on a heat resistant surface. It is also highly recommended to place the Li-Po Battery inside a fire resistant charging bag readily available at hobby shops or online.

Introduction

The F/A-18F Super Hornet is a tandem-seat, carrier-capable, multirole fighter and attack aircraft based on the McDonnell Douglas F/A-18 Hornet. Designed and initially produced by McDonnell Douglas, the Super Hornet first flew in 1995. The Super Hornet entered service with the United States Navy in 1999, replacing the Grumman F-14 Tomcat, which was retired in 2006; the Super Hornet serves alongside the original Hornet.

FMS is proud to present the 70mm F/A-18F with an unprecedented amount of innovative features and attention to scale detail. Incorporating new and advanced construction and assembly innovations such as the optimized screw-together assembly (reducing glued components), pre-installed ball links and a heavy-duty wing spar, the Super Hornet is easily assembled and disassembled. Based on the successful 64mm F/A-18 hornet, the 70mm F/A18F Super Hornet features amazing details, clean lines, a latch-type canopy hatch and CNC-machined landing gears with integrated shock absorbers, just to name a few. Included with the model are four decal sets, allowing your F/A-18F to turn more than a few heads at the local field.

Powering the F/A-18F is FMS' brand new V2 70mm 12-bladed EDF with an 1850KV inrunner motor; when paired with a 6S battery, unleashes a powerhouse of thrust along with a turbine-like engine note.

Built with a durable EPO foam material, your F/A-18F is durable enough to withstand hangar-rash and less-than-perfect landings. An environmentally-friendly water-based paint ensures that the aircraft looks vibrant in any trim scheme.

Dominate the skies with your FMS 70mm F/A-18F!

Key Features:

- High quality Predator 70A ESC, 1850 KV in-runner motor powering FMS' latest 70mm 12-bladed EDF unit.
- Optimized screw-together construction, reducing glued components.
- CNC-machined landing gears with integrated shock absorbers.
- Pre-adjusted ball-link control horns for smoother surface movement.
- Includes 4 different decal sets for trim scheme customization.

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Contents of Kit

Before assembly, please inspect the contents of the kit. The photo below details the contents of the kit and labels.

If any parts are missing or defective, please identify the name or part number (refer to the spare parts list near the end of the manual) then contact your local shop or email us: support@fmsmodel.com

Specifications

Wingspan: 875 (34.45in)

Overall length: 1186mm (46.69in)

Flying weight: Around 2100g (74.08oz)

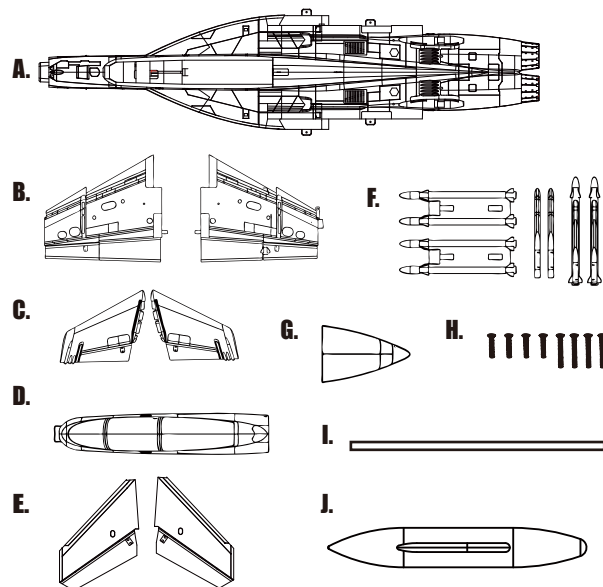
Motor size: Brushless 2860-KV1850

Wing load: 108 g/dm² (0.24oz/in²)

Wing area: 19.3 dm² (299 sq.in)

ESC: 70A

Servo: 9g Servo x 9



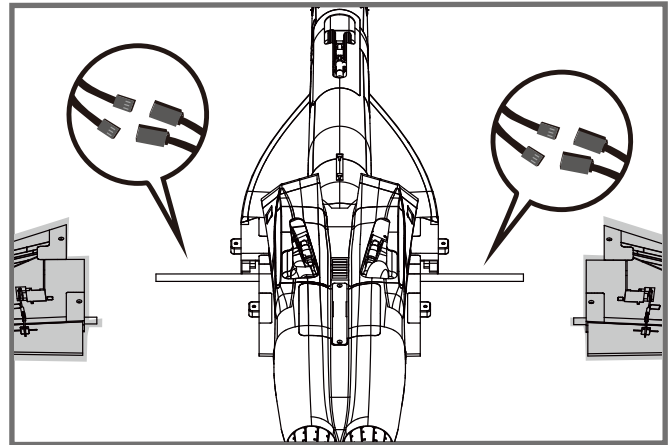
- | | |
|--------------------------|------------------------------------|
| A: Fuselage | F: Missile set |
| B: Main wing set | G: Nose cone |
| C: Vertical stabilizer | H: Screws (HKM 4-3*16, HKM 4-3*26) |
| D: Cockpit | I: Wing spar |
| E: Horizontal stabilizer | J: Auxiliary fuel tank |

Model assembly

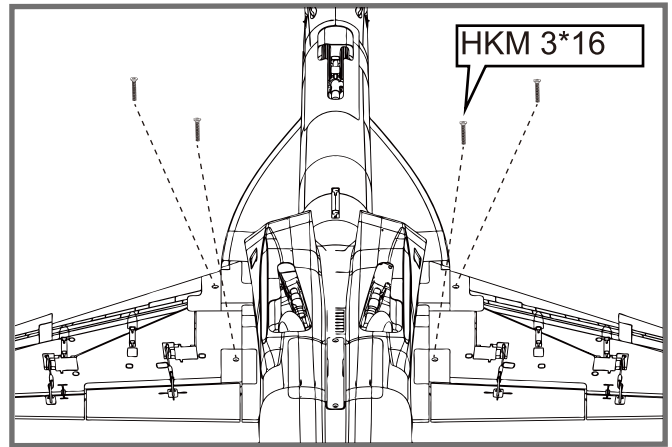
Main Wing Installation

1.Align and insert the wing spar into the wing tubes, then slide the wing spar into the fuselage.

Note: The connectors on both sides should be attached precisely and firmly.



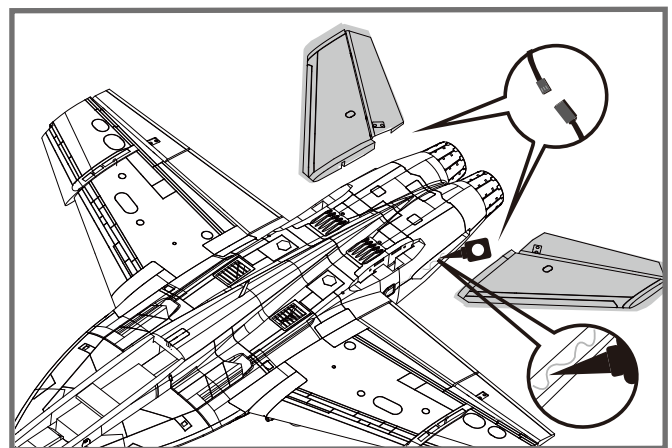
2.Secure both wings to the fuselage using the included screws.



Horizontal stabilizer installation

1.Connect the elevator servo connectors to the servo extensions in the fuselage.

2.Carefully apply foam-safe CA to the base and side of the horizontal stabilizer slot. Insert the horizontal stabilizers until they are properly in place.



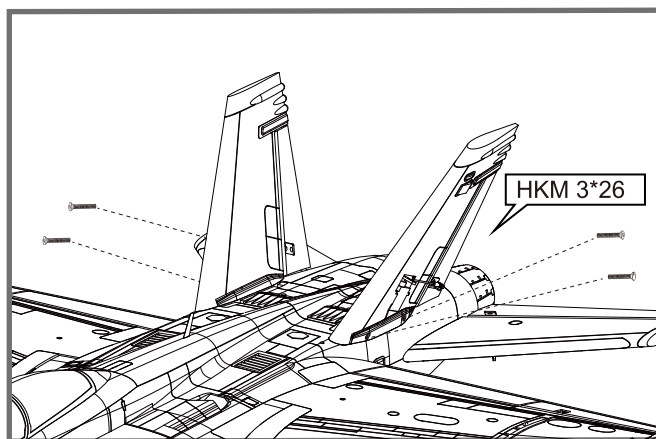
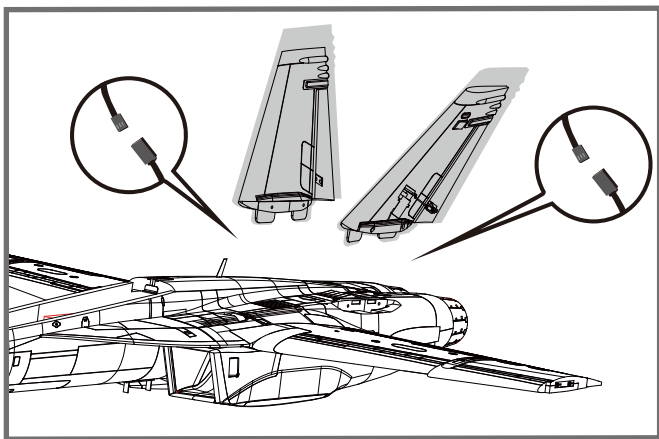
Model assembly

Vertical Stabilizer Installation

1. Slide the vertical tail into the slot in the fuselage.

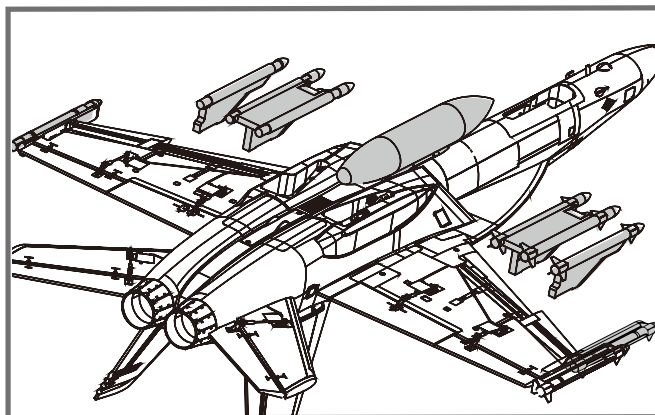
2. Secure the vertical tail in place using the included screws.

Note: Connect the rudder servo connectors to the servo extensions in the fuselage.



Missiles and Oil Tank Installation

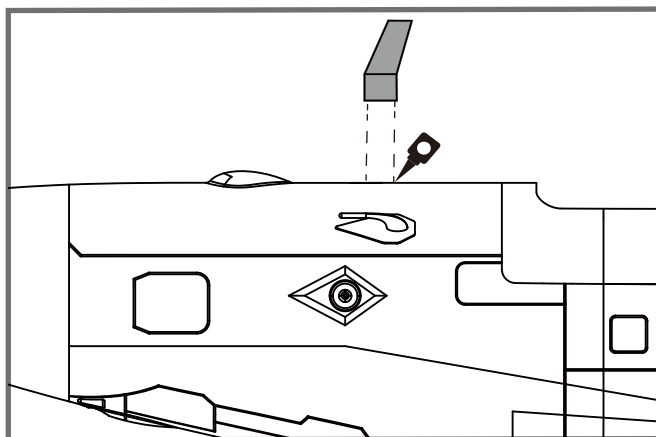
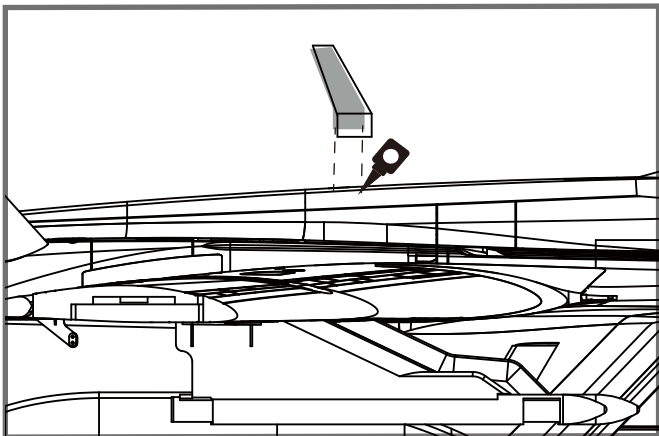
1. Slide the missiles and oil tank into the rails.



Scale Part Installation

1. Carefully apply CA to the base and side of the pocket as shown.

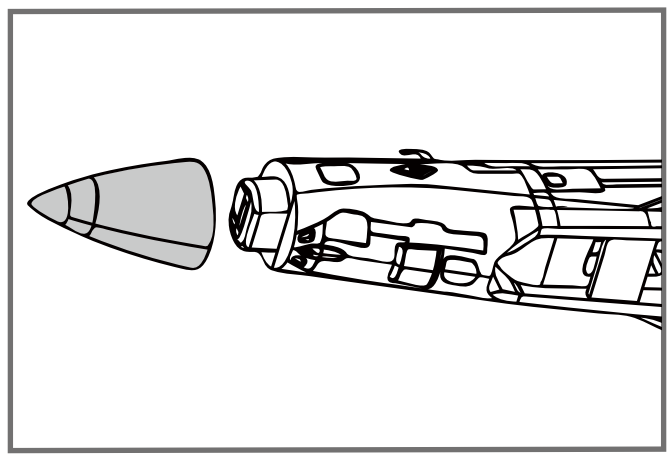
2. Carefully place the plastic part into the pocket.



Model assembly

Nose cone installation

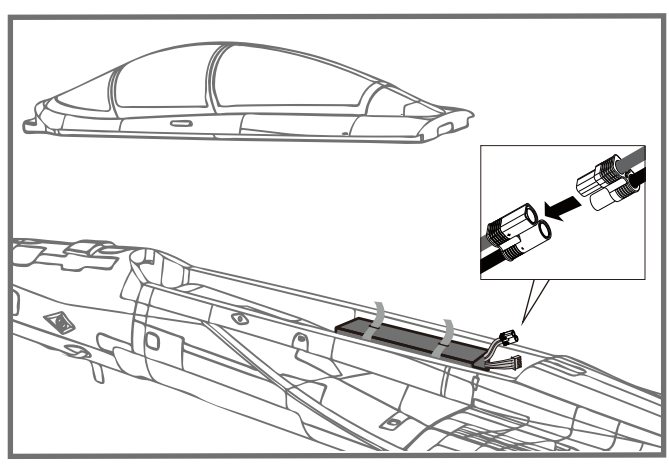
1. Attach the nose cone to the front of the fuselage; the nose cone is held in place with a magnet. Please note that the orientation of the nose cone is correct.



Battery installation

1. Pull back on the latch, releasing the canopy.
2. Remove the canopy, revealing the battery compartment.
3. Apply hook and loop tape to the battery.
4. Install a fully charged battery into the battery compartment, with the battery cables facing aft.

Note: The center of gravity can be adjusted by moving the battery forward or aft. Having the correct center of gravity is critical to achieving proper flight characteristics.



Receiver wiring diagram

The cables from the servo connector board should be connected to your receiver in the order shown. Note that the rudder channel controls both the steering servo and the rudder surface. The LEDs can be powered by any spare channel on the receiver. Tuck the wire leads into the recessed cavity towards the rear of the battery hatch.

		Receiver
Aileron	1	Channel-1 —Aile
Elevator	2	Channel-2 —Elev
Throttle	3	Channel-3 —Thro
Rudder	4	Channel-4 —Rudd
Gear	5	Channel-5 —Gear
Flap	6	Channel-6 —Flap

Get your model ready to fly

Important ESC and model information

1. The ESC included with the model has a safe start. If the motor battery is connected to the ESC and the throttle stick is not in the low throttle or off position, the motor will not start until the throttle stick is moved to the low throttle or off position. Once the throttle stick is moved to the low throttle or off position, the motor will emit a series of beeps. Several beeps with the same tune means the ESC has detected the cells of the battery. The count of the beeps equals the cells of the battery. The motor is now armed and will start when the throttle is moved.
2. The motor and ESC come pre-connected and the motor rotation should be correct. If for any reason the motor is rotating in the wrong direction, simply reverse two of the three motor wires to change the direction of rotation.
3. The motor has an optional brake setting. The ESC comes with the brake switched off and we recommend that the model be flown with the brake off. However, the brake could be accidentally switched on if the motor battery is connected to the ESC while the throttle stick is set at full throttle. To switch the brake off, move the throttle stick to full throttle and plug in the motor battery. The motor will beep one time. Move the throttle stick to low throttle or the off position. The motor is ready to run and the brake will be switched off.
4. Battery selection and installation. We recommend the 22.2V 3300mAh 35C Li-Po battery. If using another battery, the battery must be at least a 22.2V 3300mAh 35C battery. Your battery should be approximately the same capacity, dimension and weight as the 22.2V 3300mAh 35C Li-Po battery to fit the fuselage without changing the center of gravity significantly.

Transmitter and model setup

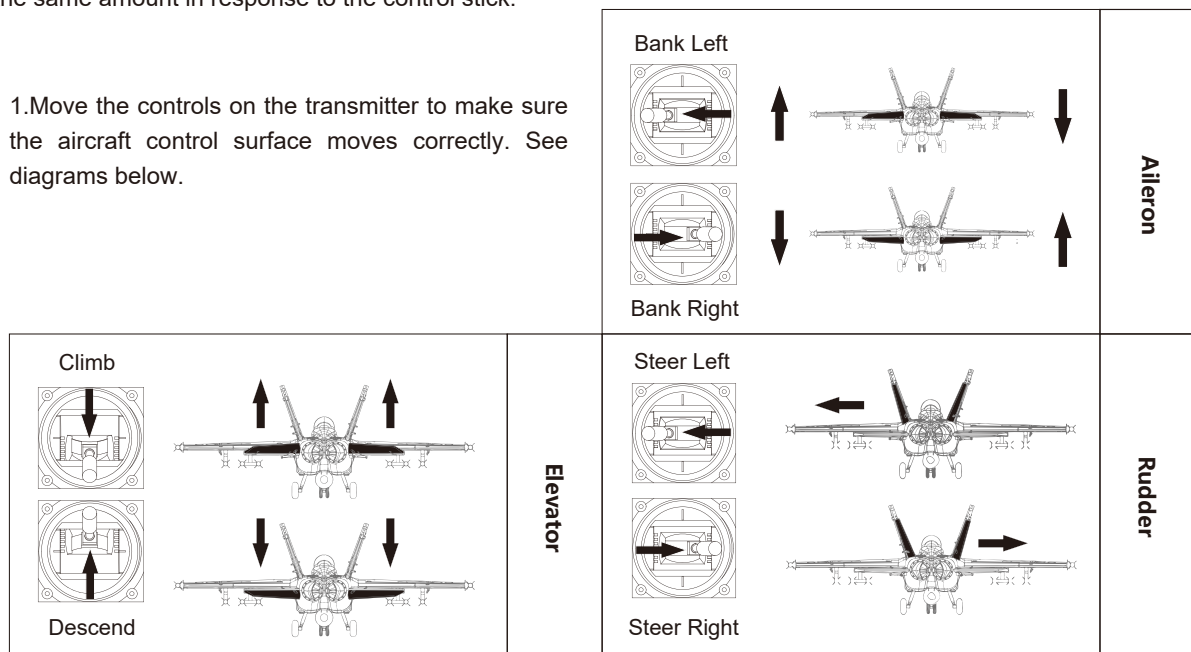
Before getting started, bind your receiver to your transmitter. Please refer to your transmitter manual for tips on the proper operation of your particular system.

CAUTION: To prevent personal injury, ensure that your aircraft is properly held down or anchored, prior to powering on the aircraft. DO NOT arm the ESC or turn on your transmitter until you are instructed to do so by the transmitter manual.

TIPS: Make sure all control sticks on your radio are in the neutral position (rudder, elevator, ailerons) and the throttle is in the OFF position.

Make sure both ailerons move up and down (travel) the same amount. This model tracks well when the left and right ailerons travel the same amount in response to the control stick.

1. Move the controls on the transmitter to make sure the aircraft control surface moves correctly. See diagrams below.



Get your model ready to fly

Check the control throws

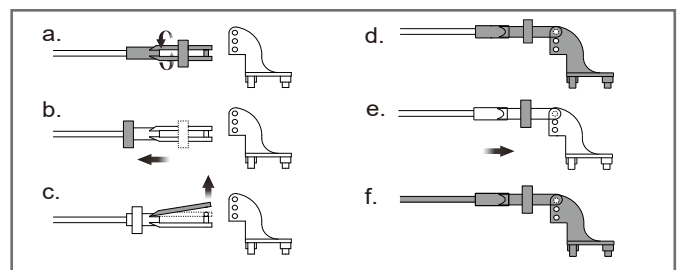
The suggested control throw setting for the F/A-18F are as follows (dual rate setting):

Tips: On first flight, fly the model in low rate. The first time you use high rates, be sure to fly at low to medium speeds. High rate, as listed, is only for EXTREME maneuvering.

	High Rate	Low Rate
Elevator	16mm up/down	12mm up/down
Aileron	14mm up/down	10mm up/down
Rudder	16mm left/right	12mm left/right

Clevis installation

1. Pull the tube from the clevis to the linkage.
2. Carefully spread the clevis, then insert the clevis pin into the desired hole in the control horn.
3. Move the tube to hold the clevis on the control horn.



Control horn and servo arm settings

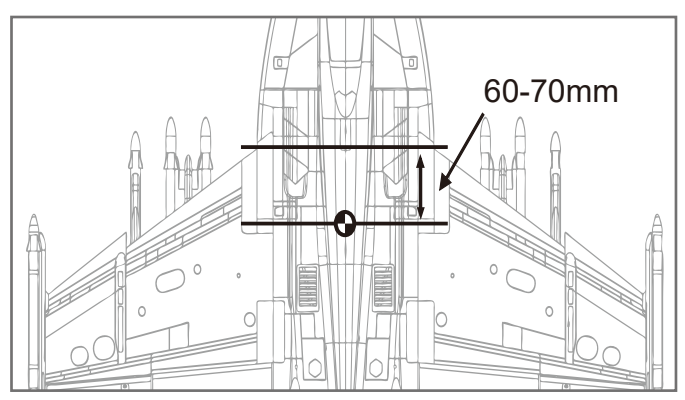
1. The table shows the factory settings for the control horns and servo arms. Fly the aircraft at the factory settings before making changes.
2. After flying, you may choose to adjust the linkage positions for the desired control response. See the table to the below.

	Horns	Arms	
Elevator			More control throw Less control throw
Rudder			
Ailerons			

Check the C.G. (Center of gravity)

When balancing your model, adjust the battery as necessary so the model is level or slightly nose down. This is the correct balance point for your model. After the first flights, the CG position can be adjusted for your personal preference.

1. The recommended Center of Gravity (CG) location for your model is (60-70mm) from the leading edge of the main wing (as shown) with the battery pack installed. Mark the location of the CG on top of the wing.
2. When balancing your model, support the plane at the marks made on the bottom of the main wing with your fingers or a commercially available balancing stand. This is the correct balance point for your model. Make sure the model is assembled and ready for flight before balancing.



Before flying the model

Find a suitable flying site

Find a flying site clear of buildings, trees, power lines and other obstructions. Until you know how much area will be required and have mastered flying your plane in confined spaces, choose a site which is at least the size of two to three football fields - a flying field specifically for R/C planes is best. Never fly near people - especially children, who can wander unpredictably.

Perform the range check for your plane

As a precaution, an operational ground range test should be performed before the first flight each time you go out. Performing a range test is a good way to detect problems that could cause loss of control such as low batteries, defective or damaged radio components, or radio interference. This usually requires an assistant and should be done at the actual flying site you will be using.

First turn on the transmitter, then install a fully-charged battery into the fuselage. Connect the battery and install the hatch.

Remember, use care not to bump the throttle stick. Otherwise, the propeller/fan will turn and possibly cause damage or injury.

Note: Please refer to your Transmitter Manual that came with your radio control system to perform a ground range check. If the controls are not working correctly or if anything seems wrong, do not fly the model until you correct the problem. Make certain all the servo wires are securely connected to the receiver and the transmitter batteries have a good connection.

Monitor your flight time

Monitor and limit your flight time using a timer (such as on a wristwatch or in your transmitter if available). When the batteries are getting low you will usually notice a performance drop before the ESC cuts off motor power, so when the plane starts flying slower you should land. Often (but not always) power can be briefly restored after the motor cuts off by holding the throttle stick all the way down for a few seconds.

To avoid an unexpected dead-stick landing on your first flight, set your timer to a conservative 4 minutes. When your alarm sounds you should land right away.

Flying your model

Take off

While applying power, slowly steer to keep the model straight. The model should accelerate quickly. As the model gains flight speed you will want to climb at a steady and even rate. It will climb out at a nice angle of attack (AOA).

Flying

Always choose a wide-open space for flying your plane. It is ideal for you to fly at a sanctioned flying field. If you are not flying at an approved site always avoid flying near houses, trees, wires and buildings. You should also be careful to avoid flying in areas where there are many people, such as busy parks, schoolyards, or soccer fields. Consult laws and ordinances before choosing a location to fly your aircraft. After takeoff, gain some altitude. Climb to a safe height before trying technical manoeuvres, including high speed passes, inverted flight, loops, and point rolls.

Landing

Land the model when you hear the motor pulsing (LVC) or if you notice a reduction in power. If using a transmitter with a timer, set the timer so you have enough flight time to make several landing approaches.

The model's three point landing gear allows the model to land on hard surfaces. Align model directly into the wind and fly down to the ground. Fly the airplane down to the ground using 1/4-1/3 throttle to keep enough energy for proper flare. Before the model touches down, always fully decrease the throttle to avoid damaging the propeller or other components. The key to a great landing is to manage the power and elevator all the way to the ground and set down lightly on the main landing gear. After a few flights you will find the model can be set down lightly on the mains and you can hold the nose wheel off balancing the model on the mains until it slows and gently settles the nose.

Maintenance

Repairs to the foam should be made with foam safe adhesives such as hot glue, foam safe CA, and 5min epoxy. When parts are not repairable, see the Spare Parts List for ordering by item number.

Always check to make sure all screws on the aircraft are tightened. Pay special attention to make sure the spinner is firmly in place before every flight.

Troubleshooting

Problem	Possible Cause	Solution
Aircraft will not respond to the throttle but responds to other controls	- ESC is not armed - Throttle channel is reversed	- Lower throttle stick and throttle trim to lowest settings - Reverse throttle channel on transmitter
Excessive vibration or noise from the fan unit	- Damaged blades - loose motor mount - Reversed polarity	- Replace damaged fan unit - Inspect and tighten bolts for the motor or fan assembly - Reverse motor polarity (only if confirmed)
Reduced flight time or aircraft underpowered	- Flight battery charge is low - Flight battery damaged	- Completely recharge flight battery - Replace flight battery and follow flight battery instructions
Control surface does not move, or is slow to respond to control	- Control surface, control horn, linkage or servo damage - Wire damaged or connections loose	- Replace or repair damaged parts and adjust controls - Do a check of connections for loose wiring
Controls reversed	Channels are reversed in the transmitter	Do the Control Direction Test and adjust controls for aircraft and transmitter
- Motor loses power - Motor power pulses then motor loses power	- Damage motor, or battery - Loss of power to aircraft - ESC uses default soft Low Voltage Cutoff(LVC)	- Do a check of batteries, transmitter, receiver, ESC, motor and wiring for damage (replace as needed) - Land aircraft immediately and recharge flight battery
LED on receiver flashes slowly	Power loss to receiver	- Check connection from ESC to receiver - Check servos for damage - Check linkages for binding

Spare parts list content

FMSRF101	Fuselage	FMSRF115	Landing gear cover
FMSRF102	Main wing set	FMSRF116	Linkage rod
FMSRF103	Vertical stabilizer	FMSRF117	Pipe
FMSRF104	Horizontal stabilizer	FMSRF118	Screw set
FMSRF105	Missile-1	FMSRF119	Decal sheet
FMSRF106	Missile-2	FMSRE007	EI retract (plastic)
FMSRF107	Missile-3	FMSRE035	EI retract
FMSRF108	Auxiliary fuel tank	FMSDF12B70	70mm ducted fan
FMSRF109	Cockpit	PRKV1850	2860-kv1850
FMSRF110	Cowl	PRESC013	70a esc
FMSRF111	Front landing gear set		(With 300mm length input cable)
FMSRF112	Main landing gear set	FMSSER9MGDP	9g digital metal gear servo positive
FMSRF113	Front landing gear system	FMSSER9MGDR	9g digital metal gear servo reverse
FMSRF114	Main landing gear system		

Visit our website to see photos of this product: www.fmsmodel.com

Decal instruction

Please choose one set of decals to apply to your aircraft according to your personal preference.



Water decal instructions.

The included decals are water decals, they do not have adhesive backings thus are not applied like usual stickers. Do not force them off the backing paper. Please follow these instructions.

1. Make sure your hands are dry. Cut the desired decal off the sheet using scissors.
2. Put the decal in water and leave it there for two minutes to allow the backing paper to fully absorb water.
3. Carefully slide the decal off of the backing paper and apply it to the airframe. (Optional- to help the decal adhere to the fuselage better, apply a small amount of water to the part of the airframe where the decal is to be adhered).
4. Remove excess water by pat-drying with tissue paper, let the decal air dry fully prior to flight.