

FMS

T-28

Perfect Appearance Excellent Performance

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OPERATING MANUAL




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www.fmsmodel.com

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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 enquires some basic mechanical ability. Failure to operate this Product in a safe and responsible manner 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 manual, prior to assembly, setup or use, in order to operate correctly 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 the street or in populated areas for any reason.
- Carefully follow the directions and warnings for this and any optional support equipment (chargers, rechargeable battery packs, etc.) you use.
- 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 portion of your model in your mouth as it could cause serious injury or even death.



step 1

Control horn Installation

1. The plastic control surface horns for the rudder and elevator are stapled to the bags containing the rudder and elevator, do not to accidentally discard them.



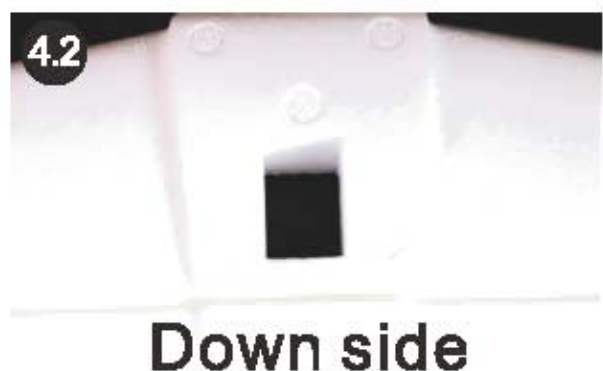
2. Make sure the control surface horn is facing the proper direction before installing for the most deflection.



3. Always make sure that the screws are seated into the back plates of the control horns. It is very important that these are tight during flight.

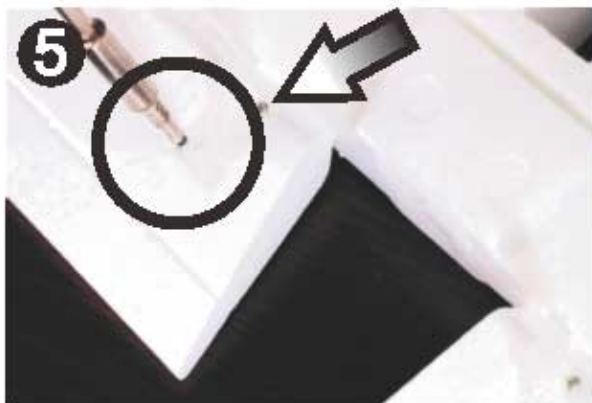


4. Before the installation of the elevator control horn we need the way to help us not install the horn in wrong side of the control surface. After a while observation we found out the swelling width on the horizon stabilizer on both side are different. The narrower side is the top side. The wider side is the under side that the horn to be attached.

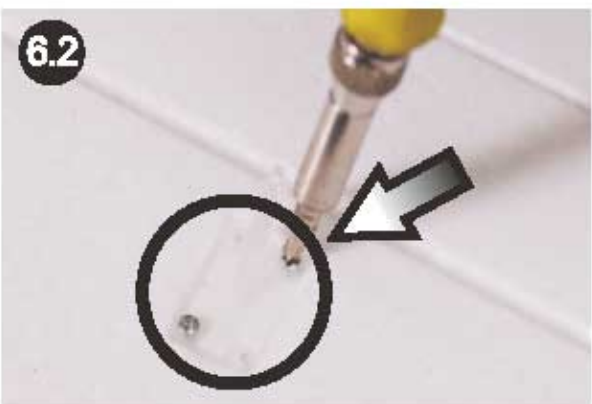


Control horn Installation

5. Install the elevator control surface horns with the screws provided in the small plastic bag on the bottom of the elevator surface.



6. Next attach the aileron and flap control surface horns, you will need to hold the horn into place to install the back plate.



7. Put the Z bend end of the linkage in the desired surface control horn hole.



8. Snap the plastic clevis end of the linkage into the surface control horn.



9. The provided piece of fuel tubing keeps the clevis closed during flight. Do all the linkages the same way.

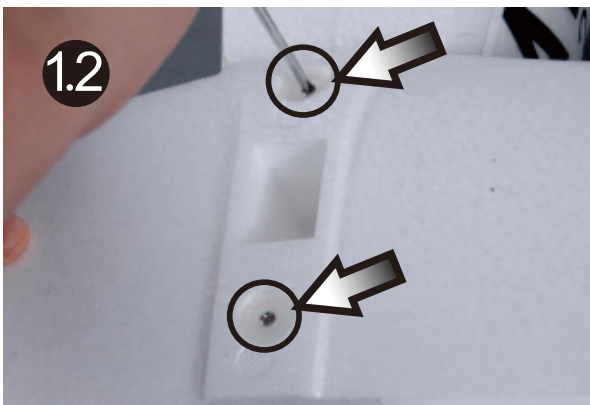


step2

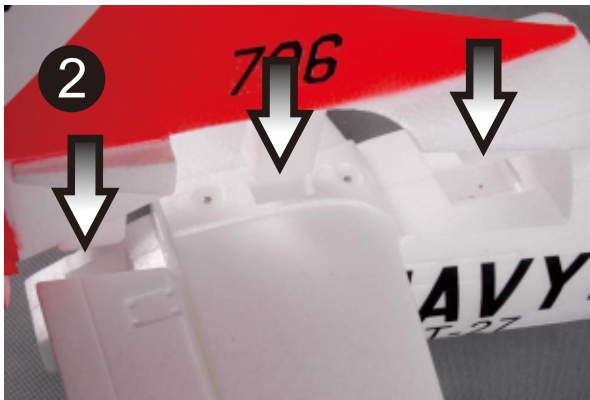
Install the stabilizer

1. Fix the horizontal stabilizer into place with the washer side face up, secure it into place using the provided self tapping screws, Make sure it fully seated into place. **(PA2.6*50 2PCS)**

Note: Do not over tighten the screw, but make sure it's tight enough.



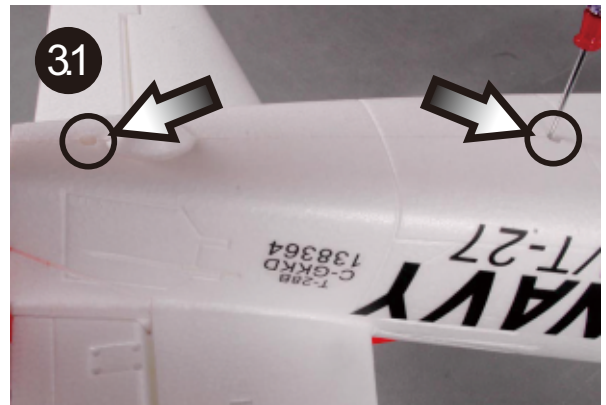
2. Insert the foamy nose in front of the vertical stabilizer into the slot as the picture shows. make sure to insert the foam nose on bottom of the vertical stabilizer into the hole on top of the horizontal stabilizer.



3. Turn over the plane so the bottom of the plane face up, secure the stabilizer into place using the provided self tapping screws.

(PA2.6*50 1PC) (PA2.6*30 1PC)

Note: Make sure the vertical stabilizer fully fitted into place.



Joint the main wing half

6. Apply glue on the combined side of the plastic part(spoiler).



7. Install the plastic part(spoiler).



1. Apply glue on the main wing where the two wing halves fit together and well-distributed it.



2. Slide the tubes into the wing panel until the white line signal on the tubes. It should slide in easily, so do not force it farther than it will slide.



3. Make sure the leads of all the wires are running through the pre-notched slot on the root of the wing panel.



step3

Joint the main wing half

Main wing Installation



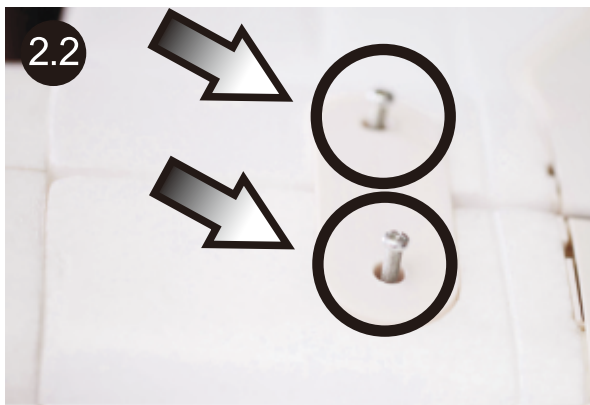
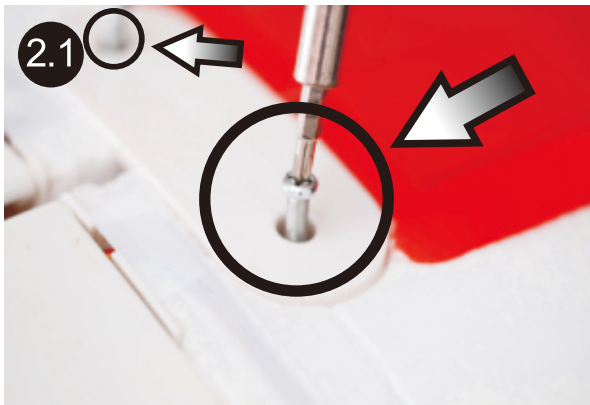
4. Use a small amount of epoxy to secure the wing bolt plates.



1. Position the wing so the main wing assemble fit into the fuselage slot. Guide the leads from the aileron, flap, retract and LED through the hole in the bottom of the fuselage.
Note: Pull the wire leads from the other cockpit end when the wing assembly mount is processing to prevent the wires from any binding till the assembly is totally fit in place.

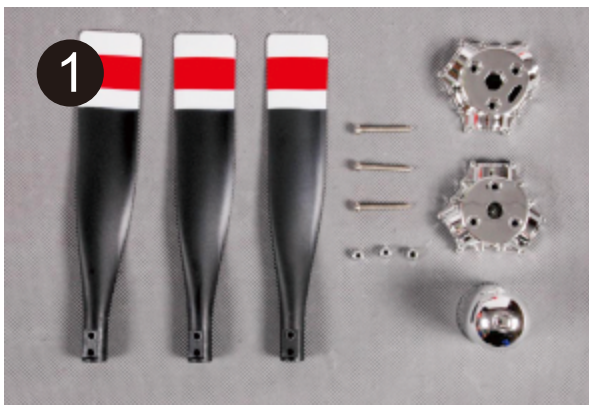


- Use the screw draiver to tighten the four machine screws to secure the wing. Two screws are used in front wing bolt plate and two screws in rear bolt plate. (PM4.0*85 4PCS)

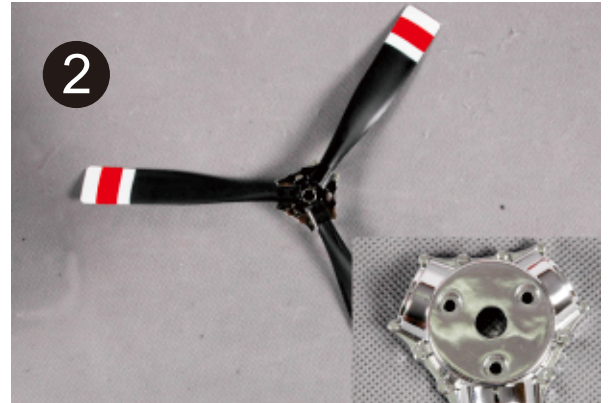


Install the propeller blade

- The propeller and the spinner kit.



- Fit the propeller blades to the backplate of the hub with the decal side face up. **Note:** The hub center of the backplate contain a hex notch.



- Place the front plate of the hub into place.



- Snap the hub to make sure the hub halves fully hold into place.



Install the propeller assembly

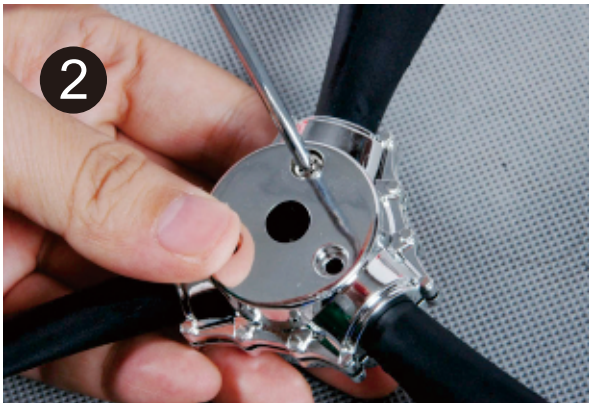
CAUTION: Before testing the propeller, make sure the tail of the plane is firmly on the ground and ensure there are no people or objects in the range of the propeller. Make sure the throttle stick and the trim on the lowest position before plug in the battery.

1. Place two Nylon Insert Lock Nuts rightly into the hex notch on bottom of the spinner back plate.

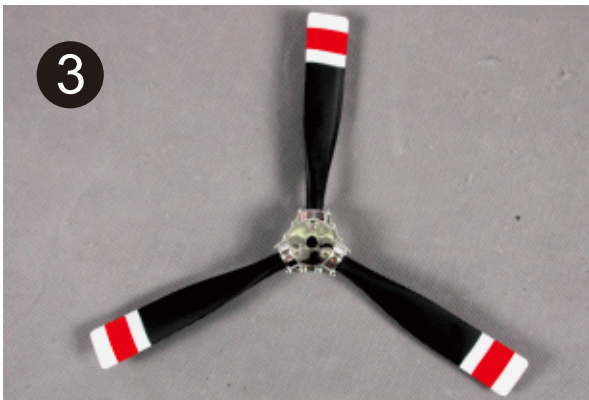
Note: Always hold the nuts into place in the process of the blades mounting.



2. Secure the hub using the machine screws in stored with hub.



3. Verify the completed propeller set installation.



4. Keyed the propeller assembly to the motor shaft, make sure to fit the assembly into the hex nut on the shaft, it will help to hold the assembly in fixed position when the engine contacted.



5. Hand tighten the spinner and make sure it is tight enough.

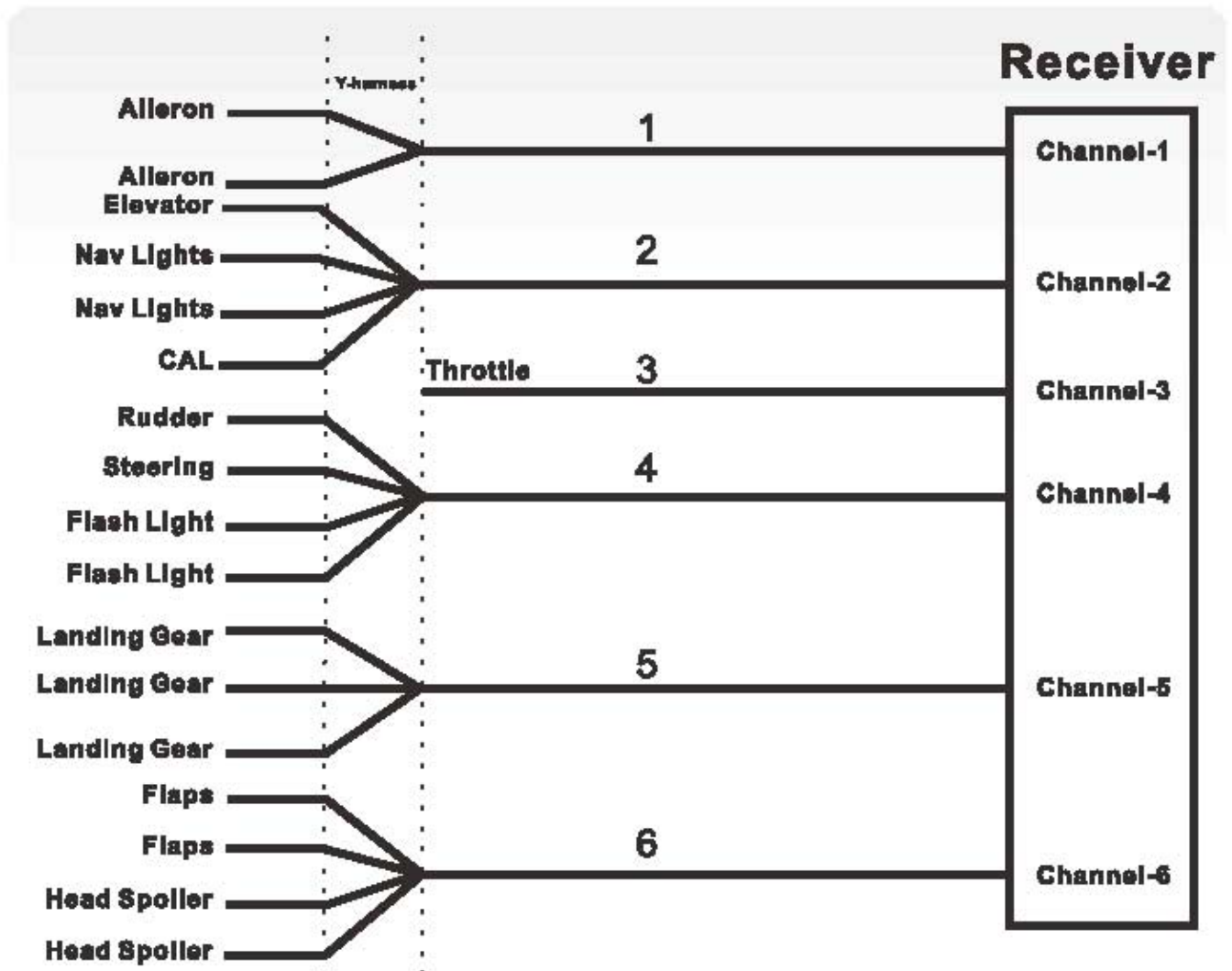


1. Battery position. Secure the battery use velcro strlp, slide the battery back and forth to make sure the recommended CG position.

2. Snap in the canopy by push the rear part of the canopy.



Receiver connection diagram



Main specification

Specification

| | |
|-------------|--|
| Wingspan | : 1400mm /55.1 in |
| Length | : 1185mm /46.7 in |
| Weight | : 2450g /86.4 oz |
| CG Position | : 80~85mm |
| Battery | : 14.8V 2600mAh Li-Po Battery |
| ESC | : 70A |
| Motor | : 4250-KV580 |
| Wing Area | : 33.4dm ² |
| Wing Load | : 73.3g/dm ² |
| RC System | : 6 Channel, 9 Servos And 1 Brushless ESC |

Center Of Gravity(C.G.)



Center of Gravity

When balance your model, adjust the motor battery as necessary so the model is level or slightly nose down.

This 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 (**80~85mm**) back 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 inverted at the marks made on the top 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.
Note: Always balance the plane with the retracts down.

Control throw setting

1. Turn on the transmitter and receiver of your model. Check the movement of the rudder using the transmitter. When the stick is moved right, the rudder should also move right. Reverse the direction of the servo at the transmitter if necessary.
2. Check the movement of the elevator with the radio system. Moving the elevator stick toward the bottom of the transmitter makes the airplane elevator move up.
3. Check the movement of the ailerons with the radio system, moving the aileron stick right makes the right aileron move up and left aileron move down.
4. Use a ruler to adjust the throw of the elevator, aileron and rudder. Adjust the position of the pushrod at the control horn and the transmitter to achieve the following measurements when moving the sticks to the end point.
Note: Always disassemble the propeller set when binding the transmitter and testing the control surface.

Spare Parts List

The suggested throws for the FMS T-28 are as follows:

| Low rate | High rate |
|--------------------------------------|----------------------------------|
| Elevator - 5/16 or 8 mm up and down | 7/16 or 11 mm up and down |
| Rudder - 3/4 or 19 mm left and right | 1" or 25.4 mm/1in left and right |
| Ailerons - 3/8 or 10 mm up and down | 1/2 or 13 mm up and down |
| Flaps - 1" or 25.4 mm full down | |

Spare Parts List for Red Scheme

| Item# | Description |
|-------------|--|
| MI101-Red | Fuselage |
| MI102-Red | Main Wing Set |
| MI103-Red | Elevator |
| MI104-Red | Rudder |
| MI-105 | Spinner |
| MI106-Red | Spoiler |
| MI107-Red | Propeller (3 PCS blade) |
| MI108-Red | Canopy (one foam canopy) |
| MI108-1-Red | Canopy (one plastic canopy) |
| MI-109 | Linkage Rod |
| MI-201 | Brushless motor (4250-KV580) |
| MI-202 | Servo (9g Digital Servo For Flap) |
| MI-203 | 17g Servo |
| MI-204 | 9g Servo (metal) |
| MI-206 | ESC (70A ESC with 5A SBEC) |
| MI-207 | Battery (14.8v,2600mAh,25C) |
| MI-301 | Screws Set |
| MI302-Red | Stickers (a set of stickers) |
| MI-303 | Motor Amout |
| MI304-Red | Cowl |
| MI-305 | Motor Board |
| MI-306 | Motor Shaft |
| MI-307 | E-retract System (For Front Landing Gear) |
| MI308-Red | E-retract System (For Main Landing Gear) |
| MI-309 | Electronic Retract |
| MI310-Red | Front Landing Gear Cover Set |
| MI311-Red | Main Landing Gear Cover Set |
| MI312-Red | Landing Gear (front landing gear+rear landing gear) (without the retract and landing gear mounts) |

Spare Parts List

Spare Parts List for Gray Scheme

| Item# | Description |
|--------------|--|
| MI101-Gray | Fuselage |
| MI102-Gray | Main Wing Set |
| MI103-Gray | Elevator |
| MI104-Gray | Rudder |
| MI106-Gray | Spoiler |
| MI107-Gray | Propeller (3 PCS blade) |
| MI108-Gray | Canopy (one foam canopy) |
| MI108-1-Gray | Canopy (one plastic canopy) |
| MI302-Gray | Stickers (a set of stickers) |
| MI304-Gray | Cowl |
| MI308-Gray | E-retract System (For Main Landing Gear) |
| MI310-Gray | Front Landing Gear Cover Set |
| MI311-Gray | Main Landing Gear Cover Set |
| MI312-Gray | Landing Gear (front landing gear+rear landing gear) (without the retract and landing gear mounts) |

Spare Parts List for Silver Scheme

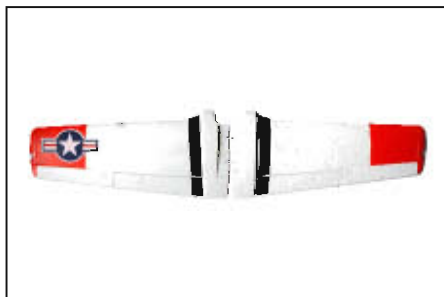
| Item# | Description |
|----------------|--|
| MI101-Silver | Fuselage |
| MI102-Silver | Main Wing Set |
| MI103-Silver | Elevator |
| MI104-Silver | Rudder |
| MI106-Silver | Spoiler |
| MI107-Silver | Propeller (3 PCS blade) |
| MI108-Silver | Canopy (one foam canopy) |
| MI108-1-Silver | Canopy (one plastic canopy) |
| MI302-Silver | Stickers (a set of stickers) |
| MI304-Silver | Cowl |
| MI308-Silver | E-retract System (For Main Landing Gear) |
| MI310-Silver | Front Landing Gear Cover Set |
| MI311-Silver | Main Landing Gear Cover Set |
| MI312-Silver | Landing Gear (front landing gear+rear landing gear) (without the retract and landing gear mounts) |

Note: 1. All spare parts without decals.
2. The Item# without color marking could be applied universally for both color scheme.

Spare Parts List for Red Scheme



MI101-Red



MI102-Red



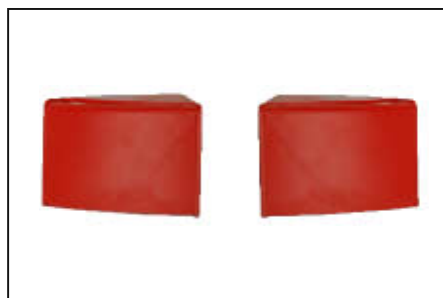
MI103-Red



MI104-Red



MI-105



MI106-Red



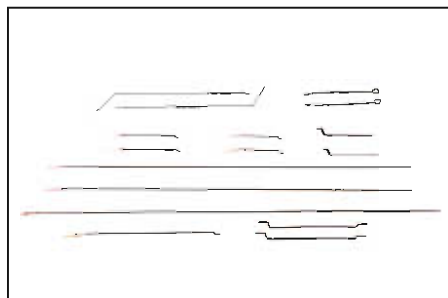
MI107-Red



MI108-Red



MI108-1-Red



MI-109



MI-201



MI-202

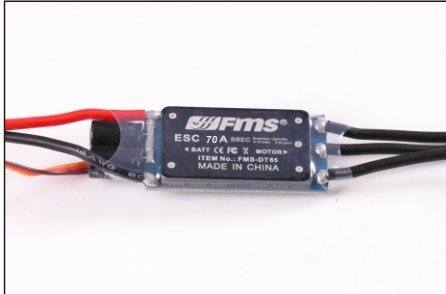


MI-203



MI-204

Spare Parts List for Red Scheme



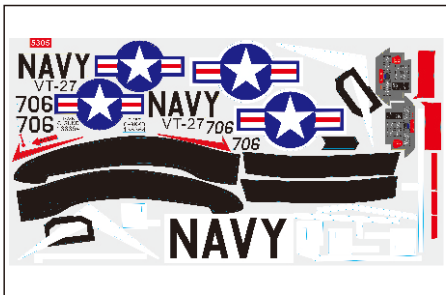
MI-206



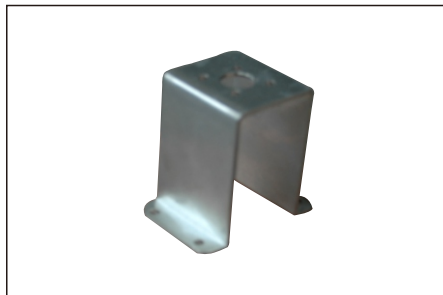
MI-207



MI-301



MI302-Red



MI-303



MI304-Red



MI-305



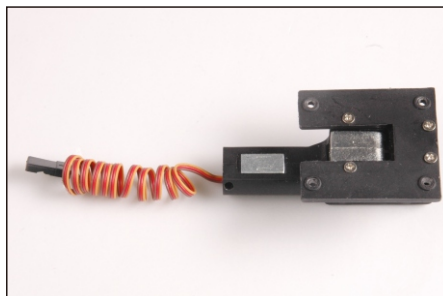
MI-306



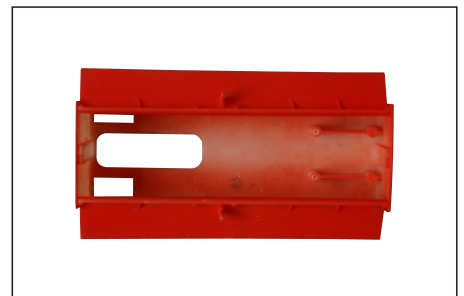
MI-307



MI308-Red



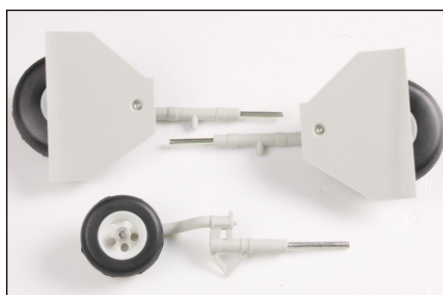
MI-309



MI310-Red



MI311-Red



MI312-Red

Trouble shooting

| 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. |
| Extra propeller noise or extra Vibration. | Damaged spinner, propeller, motor or motor mount. Loose propeller and spinner parts. Propeller installed backwards. | Replaced damaged parts. Tighten parts for propeller adapter, propeller and spinner. |
| Reduced flight time or aircraft underpowered. | Flight battery charge is low. Propeller installed backward. Flight battery damaged. | Remove and install propeller correctly. Completely recharge Flight battery. Remove and install propeller correctly. Replace flight battery and obey flight battery instructions. |
| Control surface does not move, or is slow to respond to control inputs. | 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. |
| Control reversed. | Channels need be 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 to motor, or battery. Lose 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 lose to receiver. | Check connection from ESC to receiver. Check servos for damage. Check linkages for binding. |

Battery Selection and Installation.

1. We recommend the 14.8V 2600mAh 25C Li-Po battery.
2. If using another battery, the battery must be at least a 14.8V 2600mAh 25C battery.
3. Your battery should be approximately the same capacity, dimension and weight as the 14.8V 2600mAh 25C Li-Po battery to fit in the fuselage without changing the center of gravity a large amount.

Range Check Your Radio System

After final assembly, range check the radio system with the **FMS T-28**. Refer to your specific transmitter instruction manual for range test information .

Take off and landing tips

1. Take off using full power, as soon as you have taken off retract the landing gear.
2. Use the flaps to give a steeper landing approach, increase throttle slightly to offset the increased drag.
3. Ensure that you set a timer and land with plenty of battery power in reserve.
4. It's difficult to landing the plane perfect from the speedy flying state when the flaps keep in the contour.
5. Never exceed 3 minutes to fly with the maximum power others.
6. Never exceed the limited flying weight.

First Flight Preparation

1. Remove and inspect contents.
2. Charge flight battery.
3. Read this instruction manual thoroughly.
4. Fully assemble model.
5. Install the flight battery in the aircraft (once it has been fully charged).
6. Bind aircraft to your transmitter.
7. Make sure linkages move freely.
8. Make sure the rubber ring has been properly slide on the clevis.
9. Perform the Control Direction Test with the transmitter.
10. Adjust light controls and transmitter.
11. Perform a radio system Range Check.
12. Find a safe and open area.

Please read the following instructions and fully understand it.

1. Do not fly in strong wind or bad weather.
2. Never fly the model in crowded areas, where there are lots of people, automobiles on the road or power lines overhead . Also do not to fly around the airport. Please make yourself enough room for the flying and operating, as the plane can travel at high speed. Remember you are responsible for the safety of others.
3. Children under the age of 12 should have an adult guide. Never recommend for the children under the age of 14.
4. Never leave the charger in wet conditions.
5. The **T-28** is made from PA and polythene which are tinder. When it meets the heat, transfiguration can easily happen, so you must keep it away from heat.
6. Do not attempt to catch the T-28 while flying, please do not touch the propeller.
7. Never leave this system unattended around children with battery in the unit, as injury may be caused due to children's turning on the transmitter or the plane.
8. During the preparation for the flight, please remember to turn on the transmitter before connecting the battery pack.
9. Close the throttle on the transmitter before connecting battery otherwise the motor may operate.

AMA

If you are not already a member of the AMA, please join, The AMA is the governing body of model aviation and membership provided liability insurance coverage, protects modelers' rights and interests and is required to fly at most R/C sites.

Academy of Model Aeronautics

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Academy of Model Aeronautics National Model Aircraft Safety Code Effective January 1, 2011

- A. GENERAL:** A model aircraft is a non-human-carrying aircraft capable of sustained flight in the atmosphere. It may not exceed limitations of this code and is intended exclusively for sport, recreation and/or competition.
All model flights must be conducted in accordance with this safety code and any additional rules specific to the flying site.
1. Model aircraft will not be flown:
 - (a) In a careless or reckless manner.
 - (b) At a location where model aircraft activities are prohibited.
 2. Model aircraft pilots will:
 - (a) Yield the right of way to all man carrying aircraft.
 - (b) See and avoid all aircraft and a spotter must be used when appropriate. (AMA Document #540-D-See and Avoid Guidance.)
 - (c) Not fly higher than approximately 400 feet above ground level within three (3) miles of an airport, without notifying the airport operator.
 - (d) Not interfere with operations and traffic patterns at any airport, heliport or seaplane base except where there is a mixed use agreement.
 - (e) Ensure the aircraft is identified with the name and address or AMA number of the owner on the inside or affixed to the outside of the model aircraft. (This does not apply to model aircraft flown indoors).
 - (f) Not operate aircraft with metal-blade propellers or with gaseous boosts except for helicopters operated under the provisions of AMA Document #555.
 - (g) Not operate model aircraft while under the influence of alcohol or while using any drug which could adversely affect the pilot's ability to safely control the model.
 - (h) Not operate model aircraft carrying pyrotechnic devices which explode or burn, or any device which propels a projectile or drops any object that creates a hazard to persons or property.

AMA

Exceptions:

- ◆ Free Flight fuses or devices that burn producing smoke and are securely attached to the model aircraft during flight.
 - ◆ Officially designated AMA Air Show Teams (AST) are authorized to use devices and practices as defined within the Team AMA Program Document (AMA Document #718).
3. Model aircraft will not be flown in AMA sanctioned events, air shows or model demonstrations unless:
 - (a) The aircraft, control system and pilot skills have successfully demonstrated all maneuvers intended or anticipated prior to the specific event.
 - (b) An inexperienced pilot is assisted by an experienced pilot.
 4. When and where required by rule, helmets must be properly worn and fastened. They must be OSHA, DOT, ANSI, SNELL or NOCSAE approved or comply with comparable standards.

B. RADIO CONTROL (RC)

1. All pilots shall avoid flying directly over unprotected people, vessels, vehicles or structures and shall avoid endangerment of life and property of others.
2. A successful radio equipment ground-range check in accordance with manufacturer's recommendations will be completed before the first flight of a new or repaired model aircraft.
3. RC model aircraft must use the radio-control frequencies currently allowed by the Federal Communications Commission (FCC). Only individuals properly licensed by the FCC are authorized to operate equipment on Amateur Band frequencies.
4. RC model aircraft will not operate within three (3) miles of any pre-existing flying site without a frequency-management agreement (AMA Documents #922-Testing for RF Interference; #923- Frequency Management Agreement)
5. With the exception of events flown under official AMA Competition Regulations, excluding takeoff and landing, no powered model may be flown outdoors closer than 25 feet to any individual, except for the pilot and the pilot's helper(s) located at the flight line.
6. Under no circumstances may a pilot or other person touch a model aircraft in flight while it is still under power, except to divert it from striking an individual. This does not apply to model aircraft flown indoors.
7. RC night flying requires a lighting system providing the pilot with a clear view of the model's attitude and orientation at all times.
8. The pilot of a RC model aircraft shall:
 - (a) Maintain control during the entire flight, maintaining visual contact without enhancement other than by corrective lenses prescribed for the pilot.
 - (b) Fly using the assistance of a camera or First-Person View (FPV) only in accordance with the procedures outlined in AMA Document #550.

C. FREE FLIGHT

1. Must be at least 100 feet downwind of spectators and automobile parking when the model aircraft is launched.
2. Launch area must be clear of all individuals except mechanics, officials, and other fliers.
3. An effective device will be used to extinguish any fuse on the model aircraft after the fuse has completed its function.



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Http: // www.fmsmodel.com

MADE IN CHINA