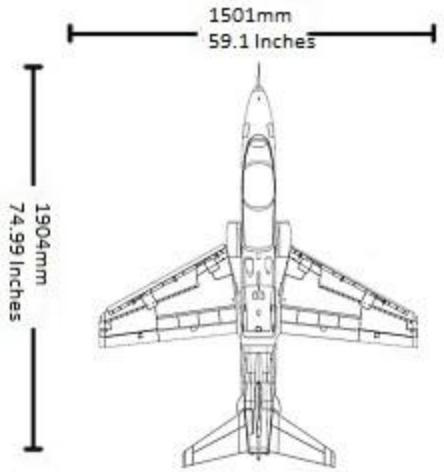
AEROFOAM T-45

1/6.26th Scale
Length 69 inches Fuselage only (1753mm) (74.99 inches 1904mm with Pitot tube)
Wing Span 59.1 inches (1501 mm)
Weight RTF minus Fuel 16lbs (with AUT full)
Suggested Engine Size: 60n ~ 80n (8kg ~10kg) Perfect for our ACEx60 to ACEx80

CG 178mm (7 inches) from leading edge at root of wing to fuselage.
Ailerons Low 10mm / .40 inch Mid 12 / .47 inch High 14mm /.55 inch.
Flaps TakeOff 24mm Landing 40mm
Elevator low rate 19mm / .75 inch Mid 23mm / .90 inch High 26mm / 1.02inch.
Rudder Low 26mm / 1 inch High 38mm / 1.5 inch
Airbrake low 50mm high 85mm (do not operate at high Speed)

Specifications

	8-10kg 80n-100n ACEx80 or Equivalent	Not Included
Digital, Metal Gear 4.8v.- 7.4v	1x 45g 5x 25g 4x 17g 6x 12g **6.0v MAX**	Installed
	MainTank 1600cc / 54oz x2 Header Tank / UAT 4oz	Installed
Battery	3S 2200 or 2x 3S 1600-1800 required for Receiver	Not Included
Kg	7.3kg / 16 lbs Ready to fly no Fuel, UAT full	PNP



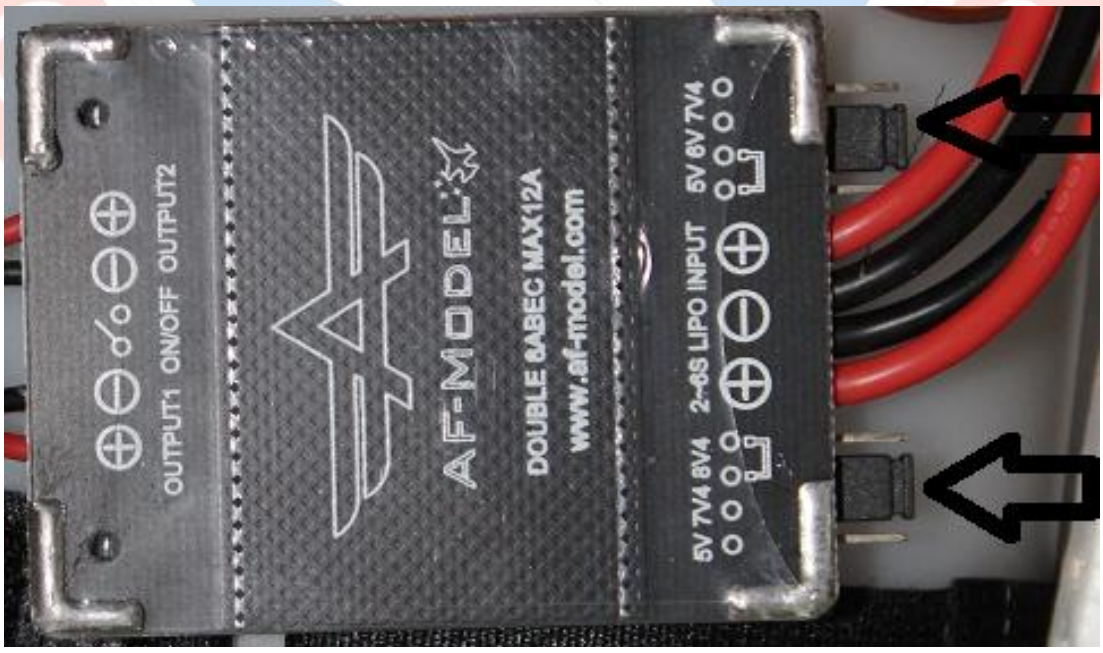
Kit Contents: Below is a basic rendition of the contents of the kit, your will have more hardware as the pushrods would Not be installed at the factory and would be installed by the customer

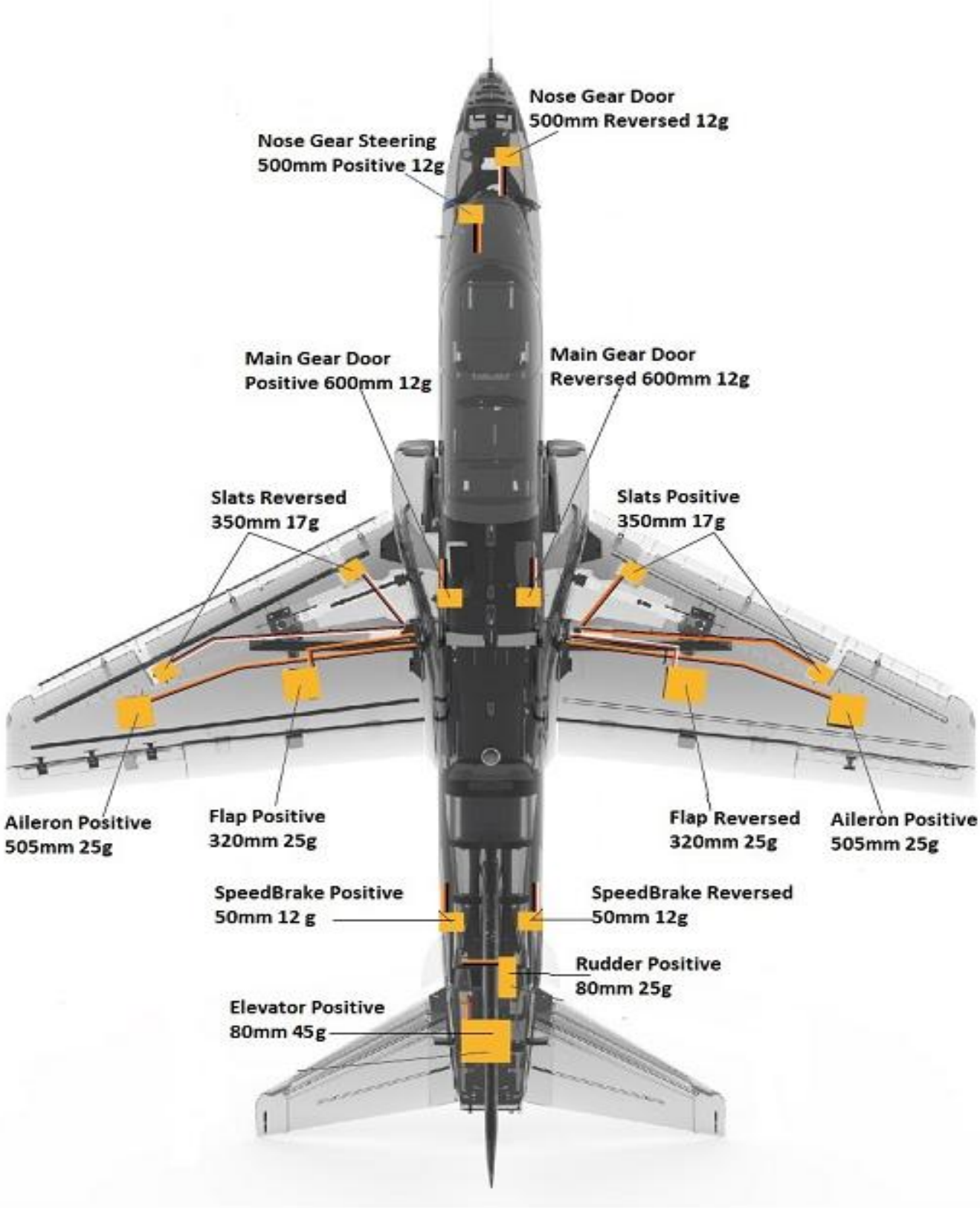
1. Nose Cone
2. Fuselage /Body
3. Wings
4. Canopy / Cockpit
5. Elevators
6. Vertical Fin
7. Main Wing Spar
8. Vertical Fin Spar
9. Pitot TUbe
10. Nose Hardware
11. Mounting Hardware
12. Fuel Tank Formers

The T-45 comes with the following servos:
1x 45g servo for Elevator
5x 25g servos for Aileron, Flaps and Rudder
4x 17g servos for Slats
6x 12g servos for Landing Gear doors, speed brakes and Steering
Use 6.0v MAX

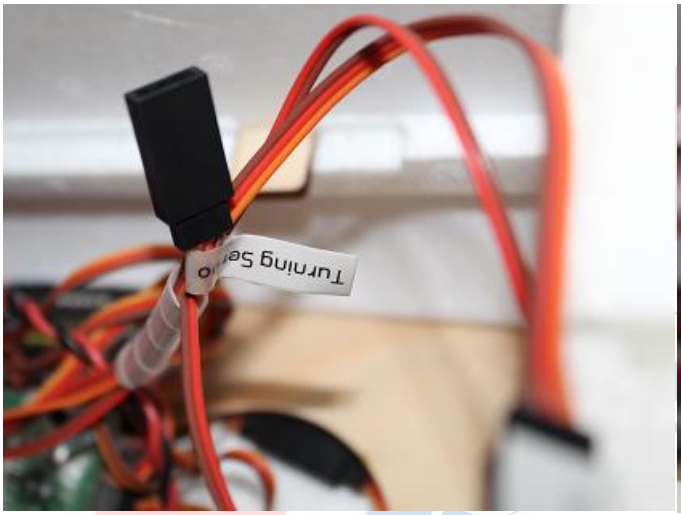
CAUTION: When setting up and connecting the servos on your T-45 for the first time, be careful not to have the Speed Brakes and the Flaps Binding or Reversed one example is to have the model resting on a table and connecting power to the servos and have the Flap or Speed Brakes in the Open position. You will burn out the servos. Be sure to check the FLAP, Leading Edge Flaps / Slats and Speed Brake servos as soon as you connect the Receiver power for the first time. AGAIN, You will BURN OUT THE FLAP, LEADING EDGE FLAP / SLAT servos if your transmitter is sending the servos in reverse direction. It is always best to have those flying surfaces HALF DEPLOYED when you apply power until you program those channels properly.

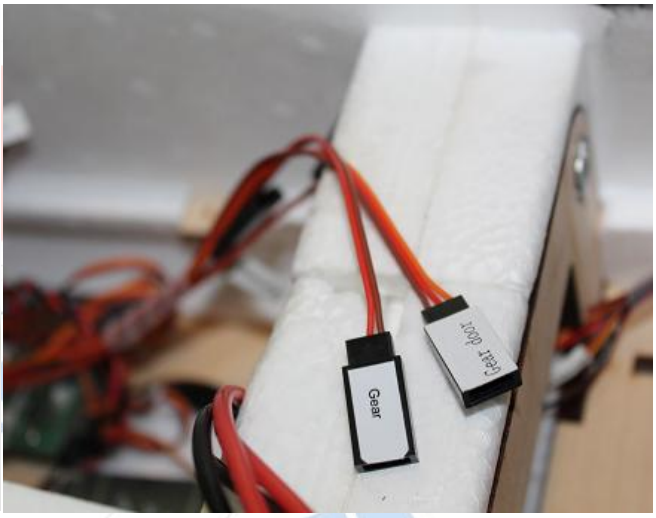
There is a EBEC already installed with two battery inputs, for 2x 3S batteries and also two outputs, one is already connected to your Brakes and provides power for them at 7.4v the other lead is for your receiver and provides 6V please see the two black selectors with the black arrows below and make sure they are as shown.




Nose Gear Door
500mm Reversed 12g
Nose Gear Steering
500mm Positive 12g
Main Gear Door
Positive 600mm 12g
Main Gear Door
Reversed 600mm 12g
Slats Reversed
350mm 17g
Slats Positive
350mm 17g
Aileron Positive
505mm 25g
Flap Positive
320mm 25g
Flap Reversed
320mm 25g
Aileron Positive
505mm 25g
SpeedBrake Positive
50mm 12 g
SpeedBrake Reversed
50mm 12g
Rudder Positive
80mm 25g
Elevator Positive
80mm 45g

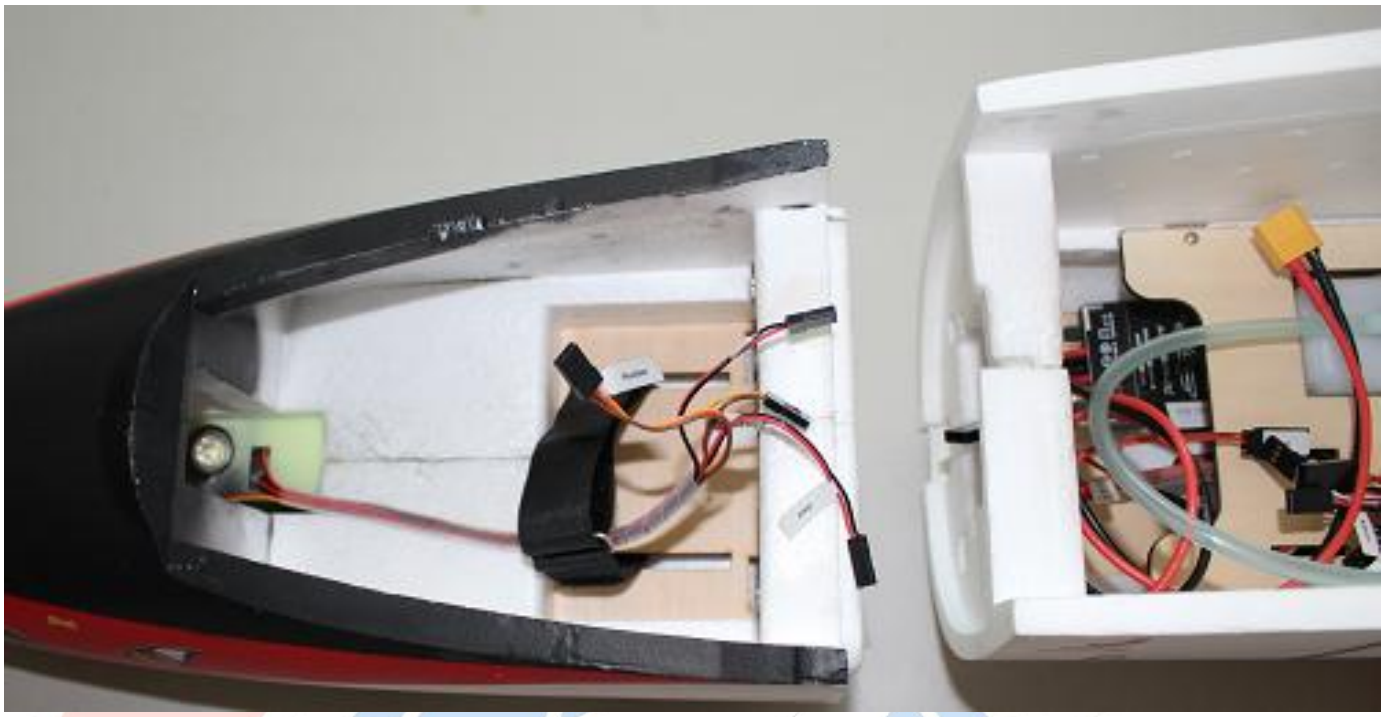
Nose section: There are four servo leads coming out of the nose section, make sure you pass them through to the fuselage. Please note that some of the cables come with two wires and some with three wires and you will have to match up the power wires when connecting them together. There is a matching set of four servo cables under the canopy in their own wire bundle, find those to connect with the cables in the nose section The four servo leads:



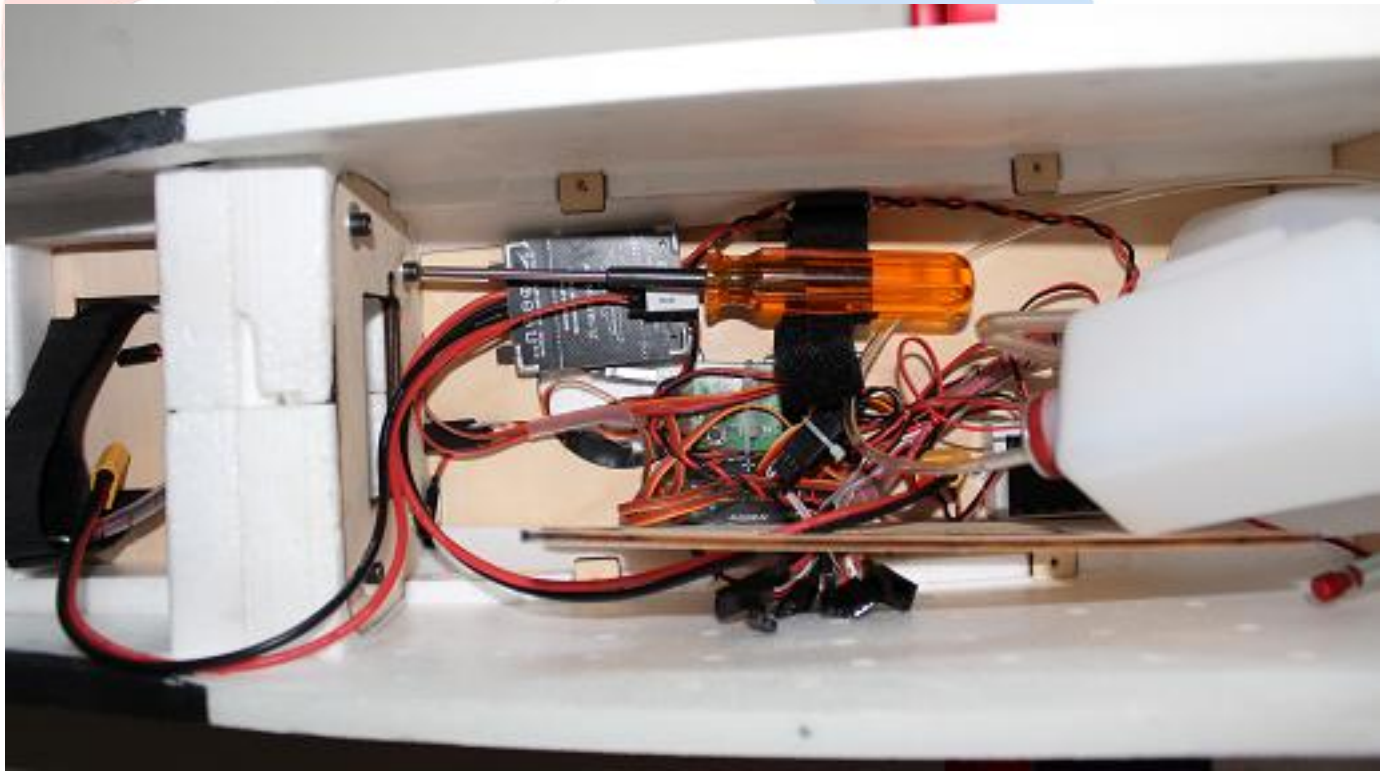


1. Gear for the nose retract
2. LED for the nose landing gear light.
3. Rudder (Nose Gear Steering servo)
4. Gear Door

Find the 4 Metric 4x50 (two inches long) screws and washers. You will need to insert those through the main fuselage into the nose section. You only need to make sure the bolts are snug enough until all the gap on the side of the fuselage is gone. Do not over tighten and crush the foam.



Bring the nose section to the fuselage and Join the two using the 4x50 bolts. Insert them from the fuselage into the nose section. You might find it easier in you remove the main receiver tray, in this example the tray is just unbolted it and turned vertical



Fuel Tanks:

The Main Fuel tank is 1600cc / 54 Ounces; two of them are include. If you have enough channels on your radio and you would also like to install a Smoke pump, the top fuel tank position can be made to fit a 1600cc tank or a combination of Fuel and Smoke as desired. On my prototype, I have a Dubro 20oz tank for fuel and a 10oz for smoke, but bigger smoke tank can be installed.

The fuel lines come installed on the tanks and for the most part, they are secured with zip ties to tighten in place. This is OK, for beginners, but if you want to get into best practices, you should install fuel barbs and safety wires all of your connections when possible. While this is Not Required, it is a best practice to avoid spills or air bubbles into your tanks. Below is how the standard tank arrives, two zip ties hold the fuel line in place.

Begin by removing the Receiver tray in the nose, there are four small screws holding the tray in, remove those to expose the UAT and all connections.

With the main tank and lines removed, it will look like the image below. This will work properly, but as stated above, this it not the best practice for better reliability.

Now with best practices for Turbine operations, barbs installed on all the fuel lines and then safety wire to hold the lines in place.

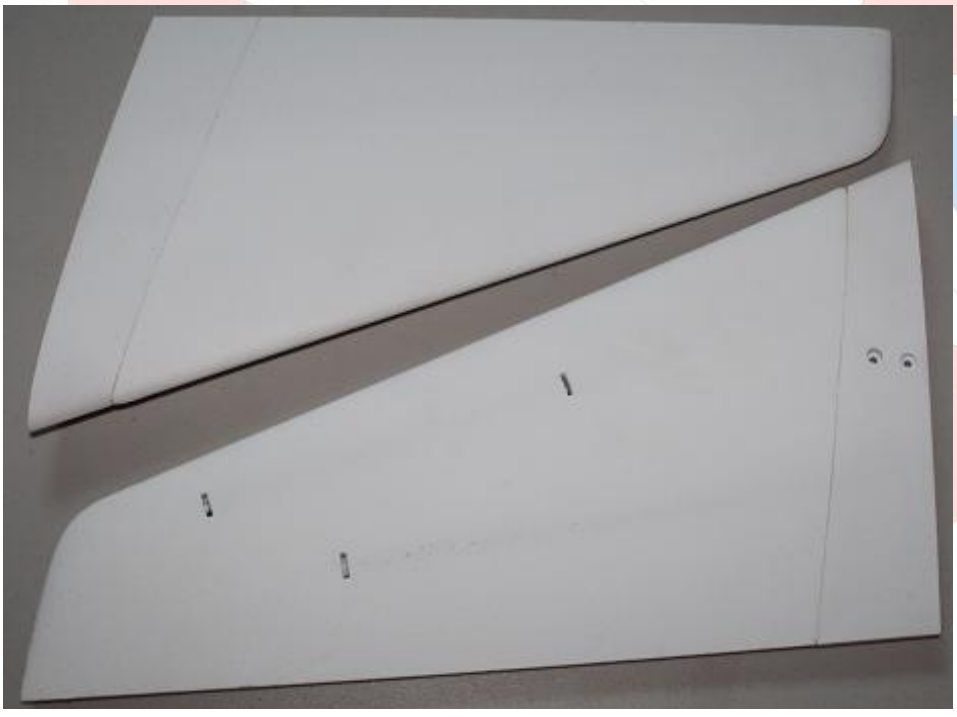
Fuel Tank Tip. If you can't see the vent line and want to see how close it is to the top of the tank, place a flashlight behind it and look though the opposite end. You can accurately see how much wasted fuel space you will have before the fuel spills over.

Below left is the picture of the stock bottom location. The picture on the right is how I was able to remove the tank through the rear where the Turbine access hatch is located, you will need to remove the mail fuel tank retainer / stopper brace.

The main tank is held in place with a wood stopper, assemble the three pieces of wood and secure them with CyA to hold your main tank in place.

ELEVATOR: The T-45 uses a Single 45g servo for elevator. The servo is located in the tail on the left side of the elevator. The actual elevator rod is a push pull, meaning it has two control arms. There are two Phillips screws on the cover to gain access to the servo. The servo cover has the Airfoil shape on the left side. This is the Elevator Neutral point. When in the Neutral position, the Servo Horn should be exactly 90 degrees facing up / down.

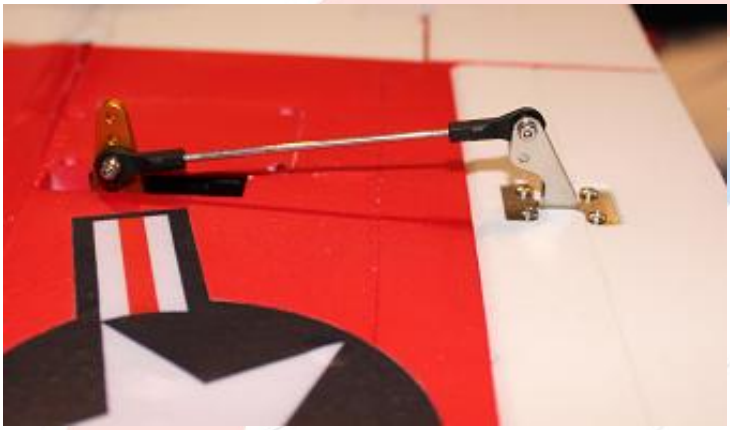
Find the left and right elevators, the threads on the elevator rods go all the way through, you mount the elevators with the two mounting screws facing down.

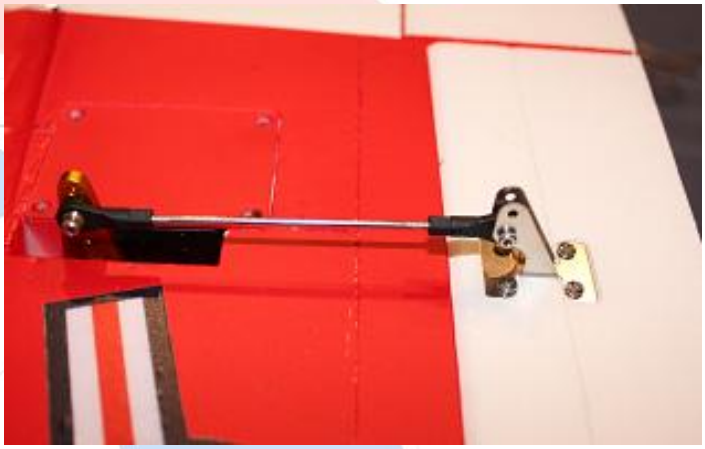


The Elevator cover on the fuselage has a marking for the elevator neutral position, it is the outline of the elevator Airfoil. Simply match the elevator to the airfoil shape and that would be your elevator Neutral Point. Ours needed about 3 clicks of up elevator **Elevator Travel Rates are as follows: low rate 19mm / .75 inch Mid 23mm / .90 inch High 26mm / 1.02inch**.

Vertical Fin / Rudder: The Vertical fin and rudder are installed on the T-45 by first inserting the carbon spar into the fuselage. The simply match slot in the rudder to the 25g servo already installed for you in the fuselage for the Rudder **Rudder Low 25mm / 1 inch. High 38mm / 1.5 inch**

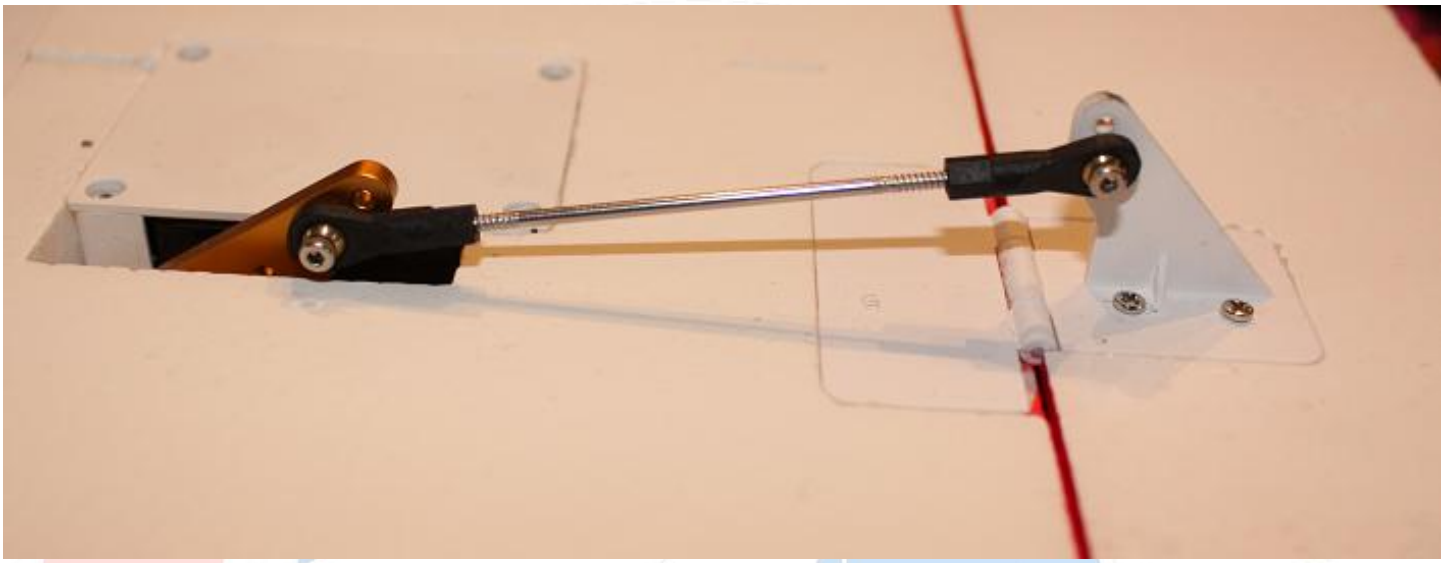
Ailerons: The Ailerons and corresponding servo are already installed on the T-45 you will have to install the control rod. You want the servo to provide the best resolution, torque and mechanical advantage. You do not want to limit the travel adjust / limit if you have to lower the travel adjust to get the required throws, you are not getting the max torque possible from each servo. In order to accomplish this, the control rod should be as low as possible to the wing without it binding or touching the Aileron servo cover The Aileron control throws are as following: **Low 10mm / .40 inch Mid 12 / .47 inch High 14mm /.55 inch.**



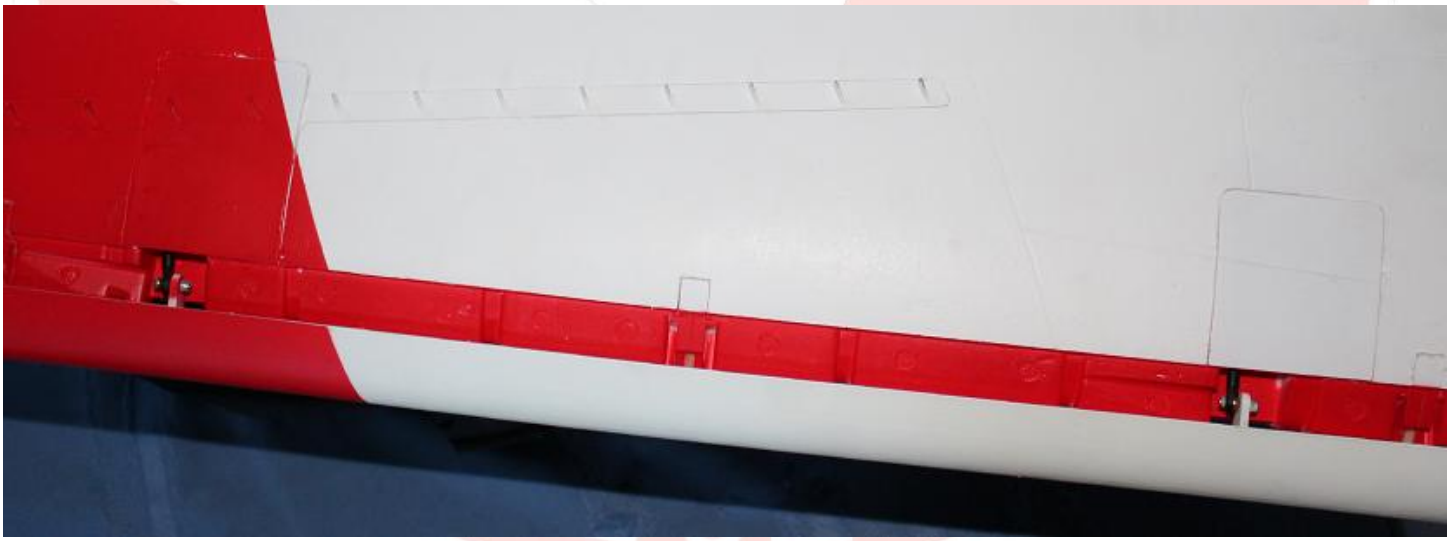


For control rod, you have two options. OPTION #1 Use the third screw from the top on the servo horn and then use the top hole in the control surface. OPTION #2 Use the second hole from the top on the servo horn and then the second hole in the control surface. This gives more of a direct line and allows you to use more of the travel to gain better mechanical advantage and better servo resolution.

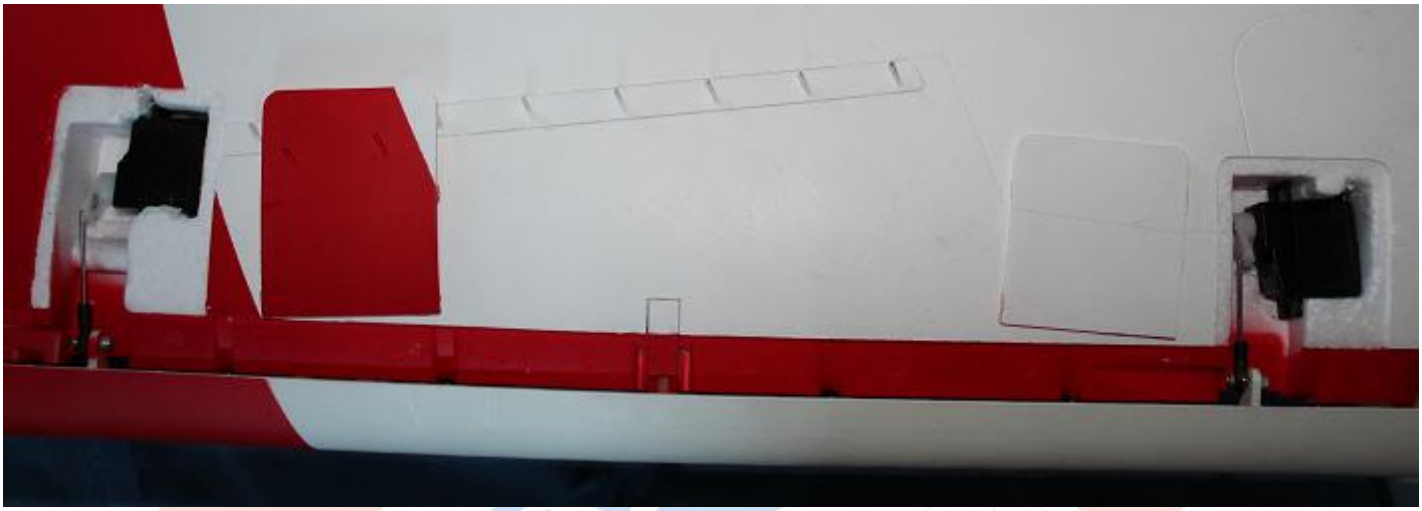
Flaps: The Flaps and corresponding servo are already installed on the T-45 you will have to install the control rod.. Install the control rod on the second hole from the top of the servo arm and also on the second hole of the control horn on the actual Flap for better mechanical leverage. The flap control throws are as following: **Low / Take Off Flaps 24mm / .95 inch Landing Flaps 40mm 1.5 inch.**



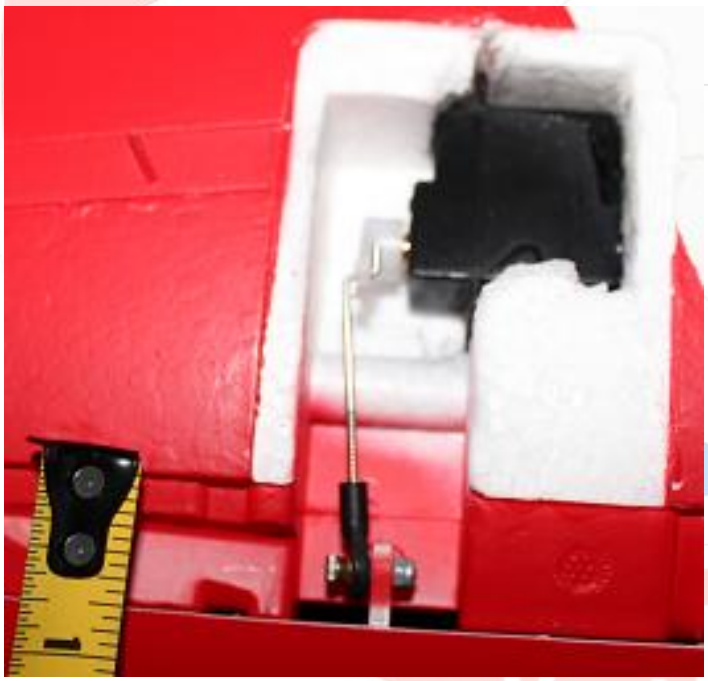
Leading Edge Flaps / Slats:: The leading edge slats / slats are already installed for you along with the servo and control rods. You need to set your travel throw for that channel so they activate at the same time as the flaps..

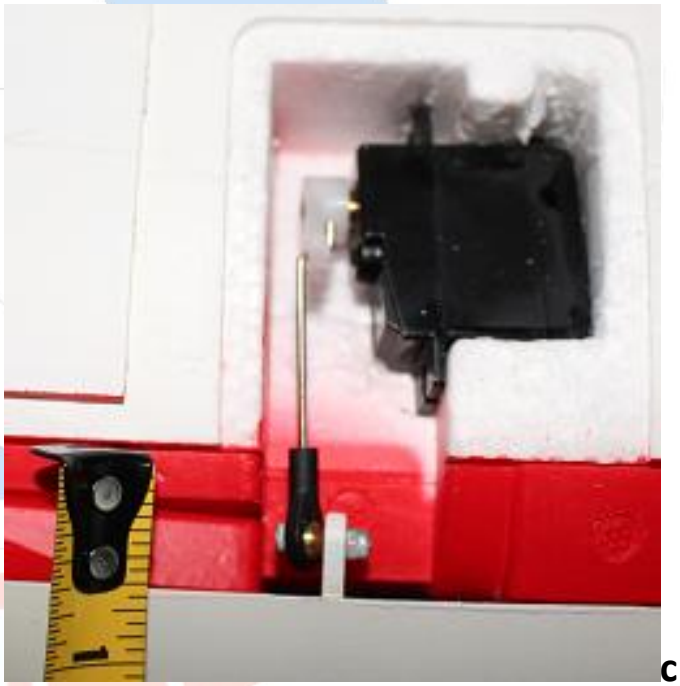


The servos are covers are glued and you would have to pry them out, I have removed them here to show you how they are installed at the factory.



The leading edge flap or slat deflection is about .75 inch or 19mm Max deployment. You want to make sure both are as close as possible to each other on both wings. For takeoff flap, we also used 9mm or .35 inch of slat deployment and 19mm or .75 inch with full flaps down.





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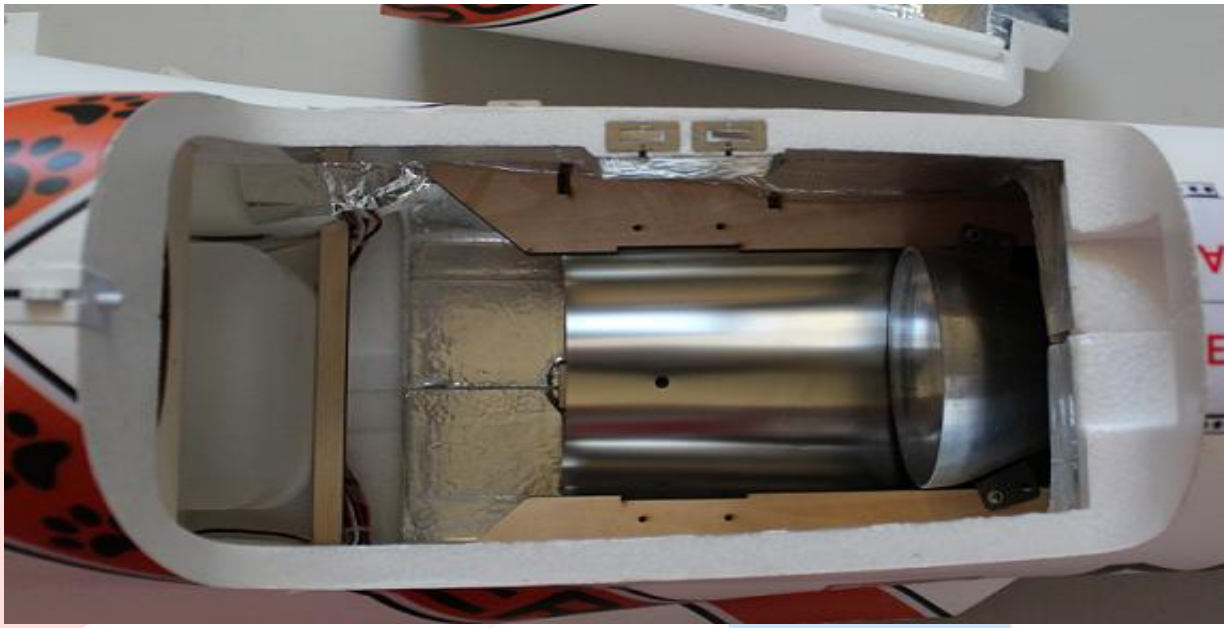
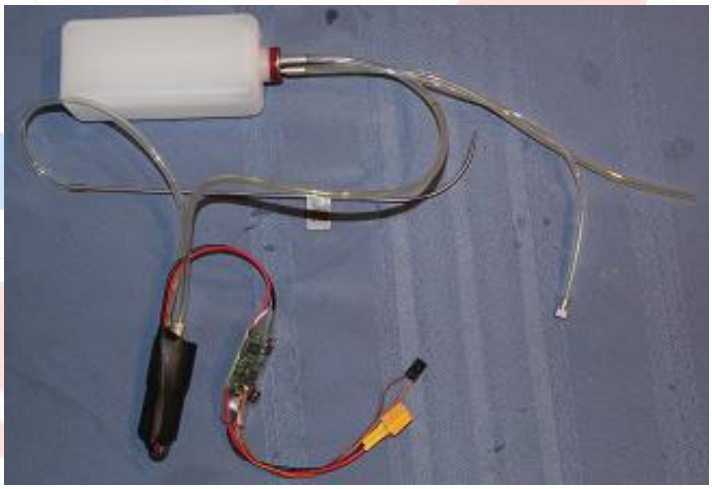
Turbine Installation: If you purchased one of our ACEx80 Turbines, then you will see that the mounting holes have already been drilled on the wood Turbine mounts and there is no other guesswork to be done. This will also insure the you have a gap of 1 inch to 1.5 inches from the rear tail cone of the Turbine to the start of the actual pipe. This gap should not be confused with the start of the aluminum bell mouth.



Make sure to check the Turbine to Pipe gap and adjust if needed.

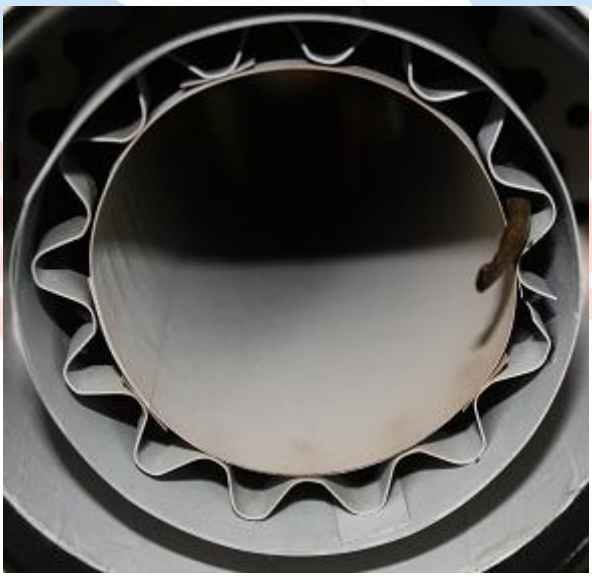
This view of the Turbine installation is to show the Turbine to Tailpipe gap is measured, we check it between the rear of the Turbine and the actual start of the tailpipe NOT the bellmouth of the tailpipe.

So, you want Smoke? Sold Separately, we also offer a couple of different kits for a Smoke system that can be purchased as a complete kit or in parts to piece your own system. We offer a brushed and a brushless smoke pump, injectors or complete kits.



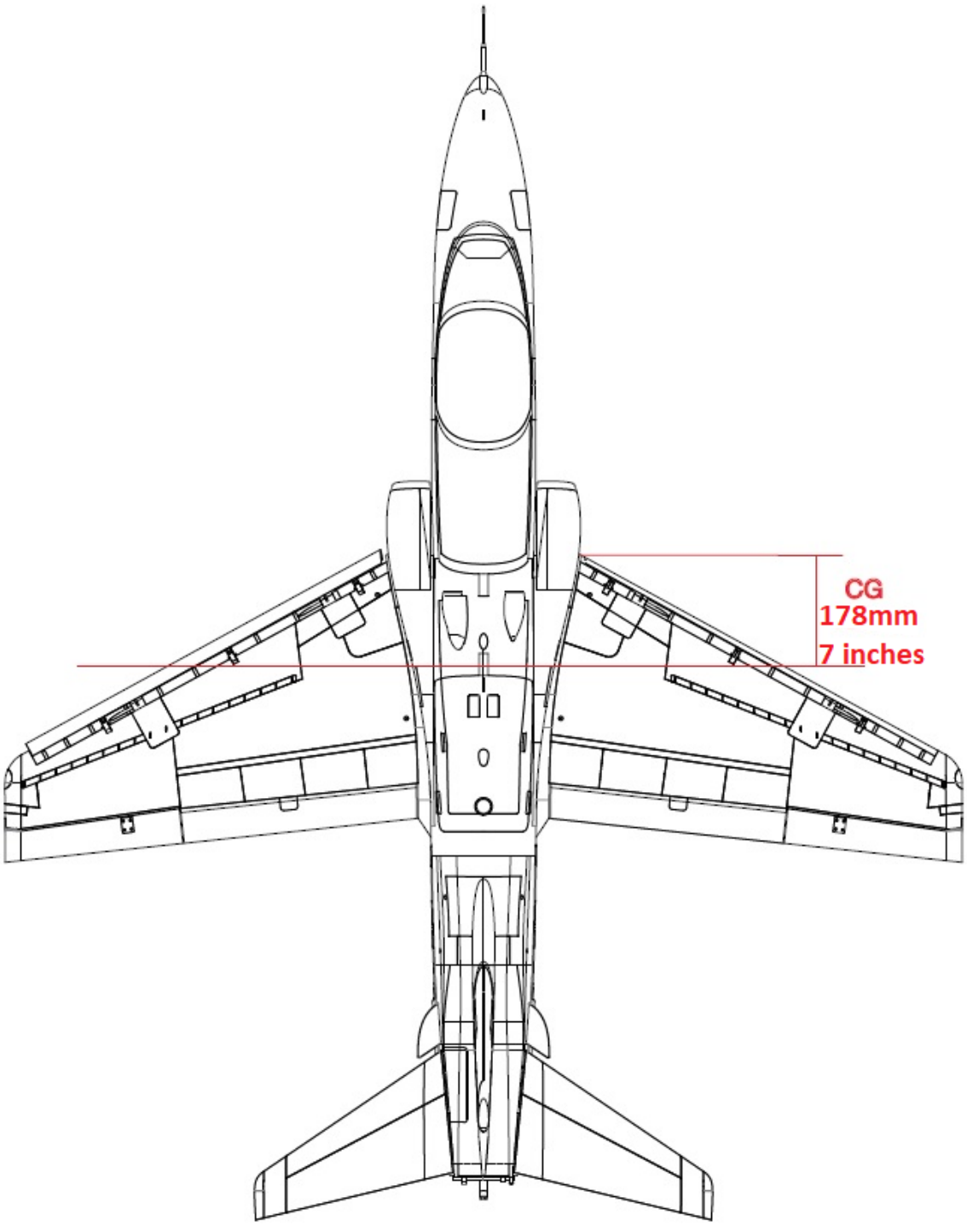
Installation of your smoke pump can be done, at your discretion / choice. My turbine fuel pump is in front of the main tank, under the receiver tray, my smoke pump is located in the engine compartment next to the Turbine as shown below. Your Smoke tube can be place right behind the turbine, or behind the exhaust pipe. I routed the tube between both layers of the tailpipe and have the tube come out in the tail.

My homemade smoke injector coming off the back of the tailpipe, the glare from the flash makes the tailpipe look as if it was painted grey. If you make your own like this one, make sure it sprays the smoke oil into the exhaust and does not try to push the smoke oil across the tailpipe causing it not to burn or turn into smoke.

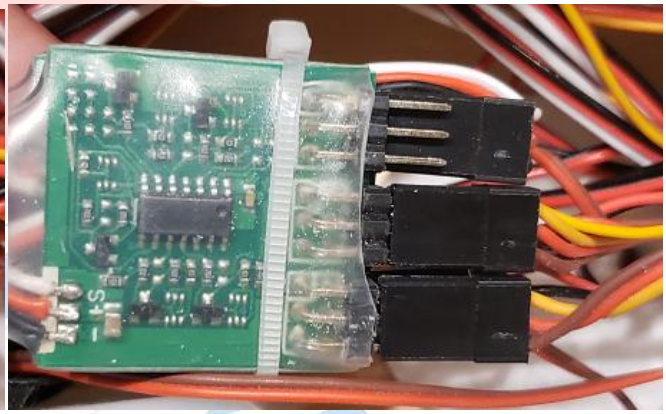


CG: The CG of your T-45 is 178 MM / 7 inches from the leading edge of the wing at the Fuselage. This is basically measured where the wing meets the fuselage. If you are checking the CG manually, the Wheels will always have to be down and you must have the AUT full of fuel, but no fuel in the main tanks. Invert the T-45 upside-down and place one thumb on top of the wing at the location listed below.

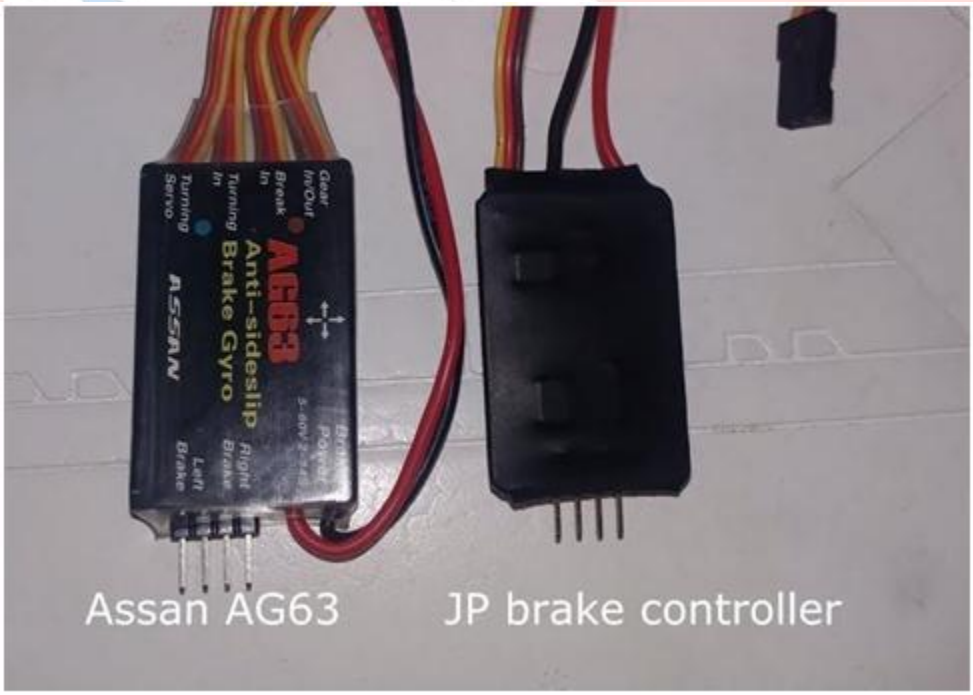
We provide the CG at the location where you should place it for your TEST flights, you can adjust to your liking after you trim your T-45



The Retract and Brake controller continue to evolve, so we are not going to spend too much time on them. They both come installed for you. IF YOU UNPLUG anything, make sure to label it, so you know where you unplugged it from. There is NO wiring diagram. One servo lead goes out to your Receiver for the retracts, the controller will do all the timing of the gear and doors. There is a button on the Retract controller, and pressing that button cycles the landing gear once.



There are two main brake controllers used, a JP basic brake controller and the AG-63 Gyro Assisted Brake controller. The AG-63 will stop your jet by applying brakes and help correct steering if the airplane is not tracking strait (if your airplane is sliding or drifting). We have been using the AG-63 Exclusively in our personal jets and highly recommend this product.



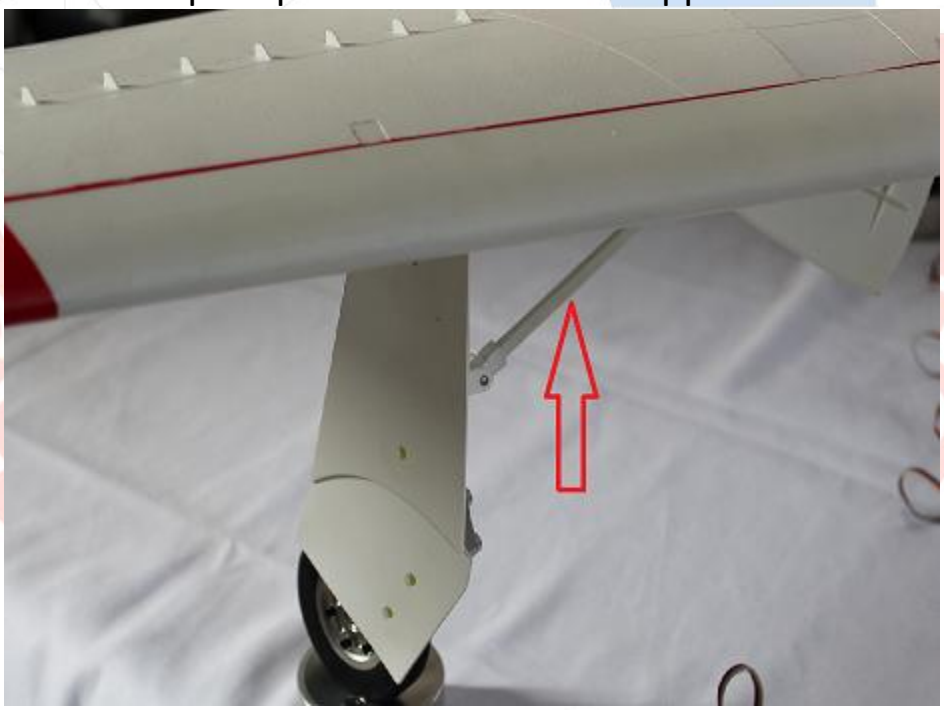
Flying Notes:

Our CG is very Neutral and you should be able to line up your elevator in the scribed marks on the side of the fuselage. Once you are comfortable with your T-45, you can experiment with the T-45 CG to suit your flying skills.

order to fly the T-45 in a scale manner, we required to use only 50% to 60% power out of the 80n Turbine.

Landings require you to come in with power, especially if using the Flaps as slats as shown. While still on the circuit deploy landing flaps and lower your landing gear, get used to the flying and then set up for a landing. You will need at least .25 or 1/4 percent throttle out of an 80n in order set up for your landing.

Landing Gear Doors and strut bars: There are 11 landing gear doors, The strut bar show below HAS to be removed in order to have functional landing gear and should only be used for static displays if needed. You must retract the landing gear at a lower speeds. The two part Tail hook will probably be one of the first things to get lost or banged up in a high alpha landing, we are asking the factory to provide us with extra spare parts for after sales support.



Make sure to add Loctite to the landing gear axle screws on the bottom of the Struts.

US DEALER:
GLOBAL JET CLUB

Contact: Mike Lin or Carrie Lau
globaljetclub@gmail.com/
carrielau.jet@gmail.com

AEROJET

AEROJET AG63 GYRO ASSISTED BRAKE MODULE

GLOBALJET.CLUB

Usage: RC JETS with front steering wheel and electromagnetic brakes. EDF or Turbine Powered.

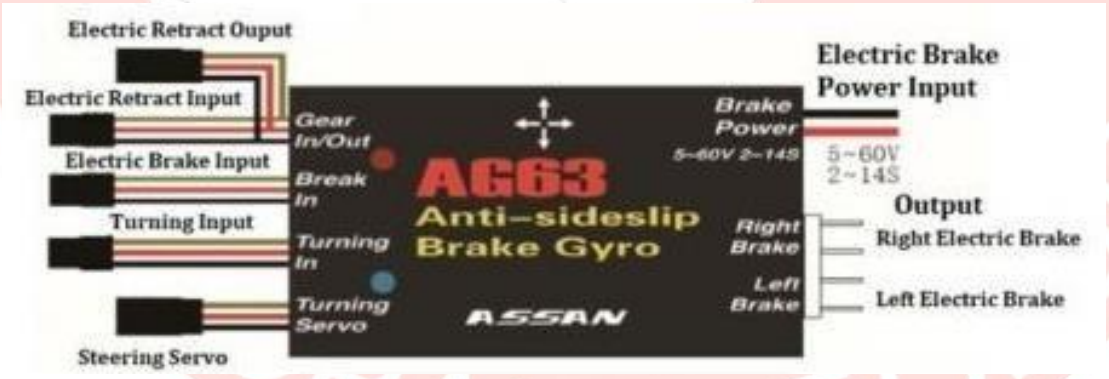
Overview:

The AG63 Gyro Brake Controller is designed for planes equipped with tricycle landing gear and electromagnetic brakes . The gyro stabilizes the steering and modulates both left and right brake controls digitally so that the plane would track straight during taxi, takeoff or landing. The antilock and slip control prevents uneven braking and keeps plane straight. The Gyro control also prevents cart wheeling caused by excessive turning angle of the plane by reducing steering input automatically. These actions reduces wear on landing gear components and tires. No more flat spots on tires, bent struts or cracked gear plates due to excessive braking and lateral loads. A must have for any jets with electric brake systems. Easy to set up and operate. Just hook it up to steering servos and two main gear brakes.

In stock and available from Global Jet Club

Specification:
Brand Name: Assan
Item Name: AG63
Usage: RC Airplane with front steering wheel and electromagnetic main wheel brakes.

Electric Retract Output = Retract control to your Receiver from the Gyro
Electric Retract Input = Retract Cable that usually goes to your Receiver
Electric Brake Input = Brake Cable that normally goes to your Receiver
Turning Input = Steering Channel on your receiver
Steering Servo = Cable from your nose wheel steering servo



LED Indicator:

Red and Blue Lights at the same time flashing quickly	**Initialization**
Blue Light Is On	**Steering wheel input signal at neutral point, no steering operation**
Blue Light Double Flash	**Steering wheel input signal is not at neutral, there is steering input detected**
Blue Light Short Flash	**The fuselage is not level lifted or turned over 40 degrees, the gyro is not Active**
Red Light Is On	**Electromagnetic brake is on**
Red Light Short Flash	**Electromagnetic brake is off**
Red Light Slow Flash	**Electromagnetic brake over current protection**
Blue and Red Lights Alternately Flashing	**The gyroscope is automatically adapting the mounting direction and steering signal direction**

Features:

- You will only need to Set-up / Configure the gyro assisted unit the first time. Once set up the it will automatically use an intelligent adaptation algorithm on its own to assist you with Steering and braking functions.

- Suitable for many types of jets like EDF and Turbine powered. The slipping and brake correction, can be used in various types of aircraft that require longer distances to take off and land as long as it is equipped with electric brakes.

- The unit helps with nose steering wheel correction and also makes correction to the main electromagnetic brakes to help avoid sliding, sharp turns and brakes locking when the brake function is applied.

How To Install:

AG63 gyro assisted brake system can be installed in many directions, Using a double-sided adhesive tape to secure it reliably on an airplane. There are four arrows on the unit for installation direction plus it can also be installed upside-down. The main take-away, is that like any other gyro, it must be in a fixed position so it does NOT move once it has been setup / configured. Do not install close to a Turbine or EDF where heat or suction might affect the gyro. After the installation is completed, it is necessary for the AG63 to perform an automatic adaptation function to enable the gyro to identify the installation direction.

Setup / Configure:

After installation is complete, when you supply power to the airplane, the gyro red and blue lights will begin to flash quickly at the same time, this means the gyroscope is being initialized, DO NOT move the airplane or any joysticks on your radio at this time. The initialization is complete, when the blue light is on or flashing. At this time, test your nose wheel steering to make sure direction of the steering wheel is correct. If it is not correct, reverse the travel for your Steering channel on your radio / remote control.

After confirming that the steering wheel direction is correct, set the aircraft level on a flat surface, move your remote control's steering joystick left full rudder, and then quickly turn the brakes switch on/off at least 3 times until the red and blue lights on your brakes start flashing alternately. This would indicate that the gyro is automatically adapting to your installation orientation and setting up steering signal direction. After 3 ~ 5 seconds, the automatic adaptation will be complete, your gyro can now use your normally.

If the red and blue lights on your gyro do not start flashing alternately, this would mean the set up has failed. 1. Please check whether the airplane is horizontal, in a flat and level surface. 2. Check that your transmitter is turn on. 3. Check that steering joystick is in neutral position. 4. Check that your receiver is correctly receiving your transmitters signal 5. Check that the gyro steering signal input line /servo cable is properly connected to the receiver.

If your gyros red and blue lights do not alternate flashing after you turned your brakes on/off at least three times, or more. the automatic adaptation did not complete. Please make sure that the travel on your steering servo is at 100% in each direction and try the setup procedure from the start. After the automatic adaptation or setup is complete, you can restore your original settings of the steering channel travel.

If the brake control function is not used on your jet, but you still want to use the wheel steering gyro function please connect the gyro's brake control signal line to any of the switch channels on the receiver to perform the gyro auto-adaptation / setup function.

Notes:

If you are not going to use the brake function, do not plug anything into the brake control input and brake power on the gyro.

You must ensure that the left and right wheel electromagnetic brake lines are connected to the correct side on the gyro if you are using the brake function.

When you lift, flip or tilt your model aircraft more than 40 degree, the gyroscope will stop working after two seconds, allowing you to observe the position of the front steering wheel.

When you apply the electromagnetic brake for more than 1 minute without turning it off, the AG63 will automatically turn off the brakes to prevent the solenoid coil from overheating.

The output of the Nose Wheel Steering channel must be exactly at neutral.

Do not use trim, subtrim or anything that offsets the channel neutral point. Once the unit has been setup, do not use any channel trim or it may not activate correctly on the next power up.

For setup, the nose wheel steering channel must be set to +/- 100% travel.

Use a control horn on the steering servo that provides exactly 90 degrees or as close to it as possible. Set the nose wheel to be straight via the linkage.

After setup the steering servo will be slower. This is normal as the steering servo is guided by the gyro. You won't need to reduce the throw. If you do reduce the throw, you will have to reset it to +/- 100% to do the initialization / setup again.

AEROFOAM

The Aerofoam T-45 is available from:

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