



AJ 103" Extra 330sx Assembly Instructions



Up Your Game! Fly AJ Aircraft

From all of us at AJ Aircraft, we thank you for your business. Our custom designs, combined with top grade materials, are assembled with precision and care to provide you with one of the best airframes in the industry. We have gone the extra mile to make the final assembly of your airplane as simple and painless as possible.

Once your airplane is complete, we know it will provide you with countless hours of thrilling flight. Prepare yourself for a new experience in R/C flight as you *Up Your Game with AJ Aircraft!!*



Safety Precautions and Warnings

All of AJ Aircraft's airframes have gone through many stages of extensive testing to ensure a high-quality kit which results in a safe and reliable airframe when assembled properly. Poor assembly practices along with substandard equipment will lead to an unsafe model.

The safe operation of this model is your responsibility and yours alone. If you are a beginner or have never flown a model of this caliber, you should solicit the help of an experienced pilot until you have become comfortable with it. This product should not be considered a toy, but rather a sophisticated, working model that functions much like a full-scale airplane. Because of its performance capabilities, this product, if not assembled and operated correctly, could cause injury to you or spectators and damage to property.



This aircraft should be flown in accordance to the [AMA Safety Code](#). It is highly recommended that you join the Academy of Model Aeronautics in order to be properly insured and to operate your model at AMA sanctioned flying fields. If you are not willing to accept all liability for the use of this product please return it to the place of purchase immediately.

AJ Aircraft does not accept responsibility or liability for damages resulting from use of this product.

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Before starting, read through the entire set of instructions to familiarize yourself with the process.
If there's ever a question, [Contact AJ Aircraft](mailto:info@aj-aircraft.com). 734-244-4015



Description

Whether you're looking to go out and do some 3d huckin' or lay down a smooth-as-butter precision flight, this airplane is for you! The wings have been thoroughly refined to allow precision flying, while not sacrificing any 3d characteristics. With a generous fuselage height, the model flies as well on its side as it does upright. Generously sized control surfaces give you excellent authority at all speeds. This airplane features an awesomely light but strong airframe and a light wing loading that will handle anything you want it to.

Building the airplane is very straight forward. The rudder cables are pre-installed, hinges are pre-glued and sealed. AJ Aircraft goes the extra step to make it easy to get this bird in the air in no time flat. Mounting options designed right into the airframe make it a snap to setup with pull-pull or push-pull rudder configurations. Stand-offs perfect for the DA-120 or GP-123 and extra hardware are included. High quality parts including dual G10 fiberglass control horns, carbon fiber wing tubes and heavy duty ball-links and turnbuckles ensure you won't need to spend more money replacing cheap hardware.

This 35% airframe was designed around the DA-120 or equivalent, with lots of room for this beast of an engine without having to cut holes in the side of your cowl. A full length pipe tunnel and 3 different pipe mounts gives you the ability to easily add pipes or canisters to tame your DB levels. Trust us when we say once you go full throttle with this baby, you won't want to slow down! As with its siblings, you'll see this is designed with next-gen building techniques to handle the punishment of today's 3D and extreme aerobatics with confidence.



Specs

- Wing Span - 103"
- Length - 101" (including spinner, 96" without)
- Height - 25"
- Wing Area – 1844 sq. in.
- AUW (dry) - 26-27 lbs.
- Gas Power - 100cc to 120cc
- Radio - 9 channel with 8 high torque servos (400 oz./in minimum) & 1 throttle servo
- IMAC Legal!

What's in the box

- NEW - Quick-release attach for Wings, Stabilizers, and Canopy
- NEW - Carbon-Kevlar plywood construction!
- NEW - Carbon-Kevlar reinforced landing gear mount!
- NEW - Carbon-Kevlar reinforced firewall!
- NEW - Durable, lightweight one-piece cowl design!
- NEW - Canopy complete with cockpit!
- Pre-hinged, glued and sealed ailerons & elevators
- Carbon fiber main landing gear
- Carbon fiber main wing tube
- Dual carbon fiber stab tubes
- Removable horizontal stabs & rudder
- G10 fiberglass control horns
- Aluminum standoffs for gas engines
- Enclosed canister tunnel
- Foam wheels with aluminum hubs
- Updated heavy duty steel axles
- Heavy duty pre-drilled wheel pants
- Pre-drilled & rubber lined landing gear cuffs
- Pre-drilled firewall for easy mounting
- Pre-run rudder pull-pull wires
- High quality ball links & turnbuckles for all connections
- Extra hardware bag for spares
- Velcro for fuel tank or battery restraint

Recommended Items for Completion

- Desert Aircraft 100cc to 120cc gas engine
 - (2) KS3086 canister mufflers with 90mm flexible drop header.
 - DA 120 Compact Muffler Set by Slimline
- AJ Aircraft Magnetic Fuel Dot
- Falcon 5" Carbon Spinner - 2 Blade
- Falcon Carbon Fiber Propeller – 27x11, 28x10, or 29x9
- 103" AJ Extra 330sx Engine Baffle for DA 100cc/120cc
- (8) x 400+in. oz. high torque digital metal gear servos for all surfaces
- (1) x standard size servo for throttle
- Aluminum Servo Arms:
 - (6) x 2.0" for ailerons & elevators
 - (2) x 3.5" for pull/pull rudder or
 - (2) x 2.0" for push/pull
- 9+ Channel Full Range Receiver
- Ignition Spark Switch or Optical Kill Switch
 - or AJ Aircraft IBEC HV
- Gas Tank - (1) x AJ Aircraft single 34oz (1000ml)
- Servo extensions:
 - (4) x 6" for receiver to wing
 - (2) x 6" for inner ailerons
 - (2) x 24" for outer ailerons
 - Optional MPX Dual Wire Servo Connector
 - If using MPX - (2) x 18" for outer ailerons
 - If using MPX – no extension needed for inner ailerons
 - (2) x 60" for elevators
 - (2) x 24" for throttle & ignition
 - (2) x 36" for push/pull rudder (none for pull/pull)

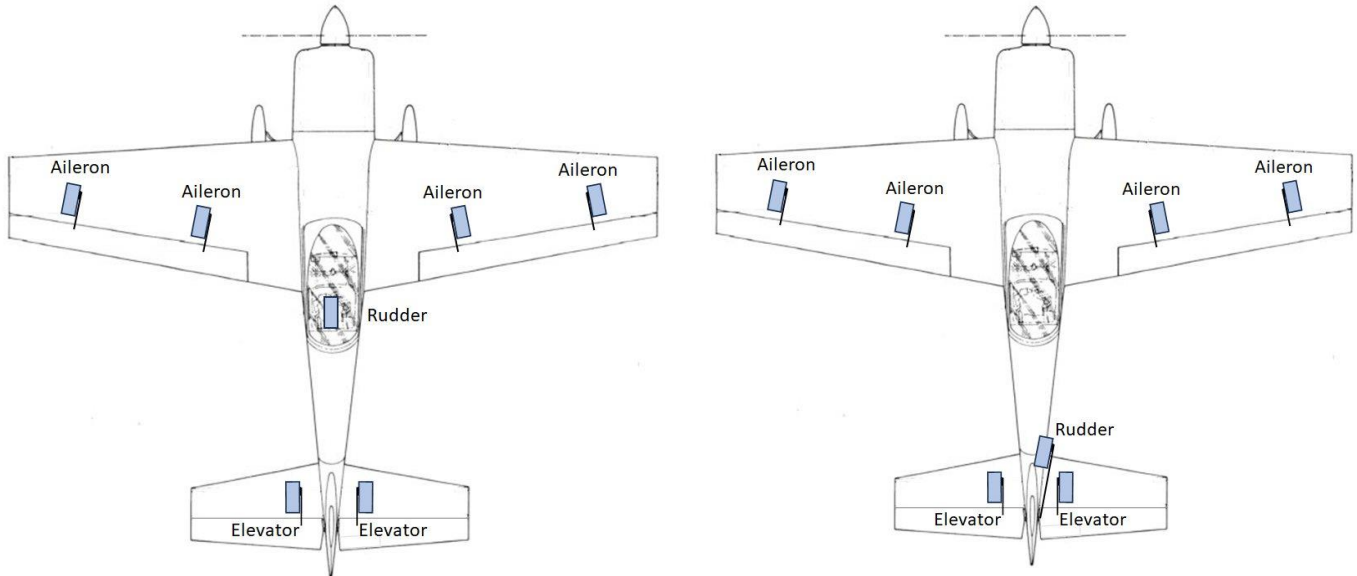
Tools Needed

- Blue Painters Tape
- Denatured Alcohol & Paper Towels
- Blue Loctite
- Metric & Standard Allen Wrenches
- Hobby Knife & Fresh Blades
- 15 – 30 Minute Epoxy (or Gorilla Glue)
- Thin C/A
- Electric Drill with Assorted Small Bits
- Small Flat Head & Phillips Screwdrivers
- Sanding Block & Sandpaper
- Needle Nose Pliers
- Adjustable Wrench or Socket Set
- Measuring Tape & Ruler
- Fine-tip Sharpie Marker



Optional Configurations

You have the option of using a pull-pull rudder servo or a push-pull rudder servo setup. Fasteners, control horns and servo connecting rods are provided for optional rudder setups.



Inspection

We believe we offer the highest quality kits available. However you may find some minor blemishes, fractures or joint separations in the construction of our models. Many of these can be easily repaired by backing up the joint with balsa sheet or hard balsa sticks without affecting the performance or appearance of the aircraft.

Take the time to inspect the components of the aircraft. Inspect the fuselage for any interior joints that may have loosened as a result of shipping & handling. Apply thin CA glue around the joints of the fuselage core, firewall, fuselage formers, and rudder servo tray to strengthen. Allow glue to wick down into joints but be careful to not allow CA glue to drip or puddle on covering material. Periodically inspect joints as you fly your airplane. Vibration and repetitive extreme maneuvers may cause joints to loosen over time.



Covering

The covering on your Extra 330sx may have developed loose areas through temperature and humidity changes between manufacturing and shipping. This may also occur during the summer heat. The covering may require retightening a few times during your first summer of flying.

Take a few minutes to go over all of the seams making sure all edges are secure. Then proceed to shrinking any area that may need tightening. (Use an iron on all seams. Use a heat gun on open areas and sheeted areas. An iron can be used in open and sheeted areas but hold the iron slightly above the surface. You don't want press the covering into the wood. Using an iron sock will reduce scratches.

Teal & Blue Scheme:

- | | |
|---|------------|
| • AJ Aircraft Covering (White) | AJAC 2M W |
| • AJ Aircraft Covering (Dark Blue) | AJAC 2M DB |
| • AJ Aircraft Covering (Teal) | AJAC 2M |
| • AJ Aircraft Covering (Charcoal Pearl) | AJAC 2M CP |

Red & Black Scheme:

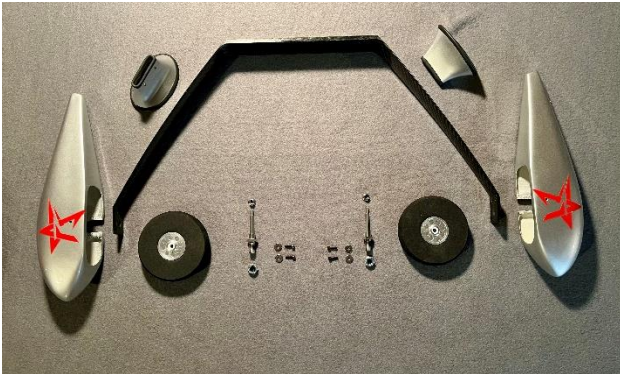
- | | |
|---|------------|
| • AJ Aircraft Covering (TRU Red) | AJAC 2M TR |
| • AJ Aircraft Covering (Charcoal Pearl) | AJAC 2M CP |
| • AJ Aircraft Covering (White) | AJAC 2M W |
| • AJ Aircraft Covering (Silver) | AJAC 2M S |



- At 200-220°F (93-104°C) the adhesive on the covering becomes active allowing the covering to be attached to the model. While 220° will fully bond the covering to the model it is well below the temperature that causes the covering to shrink.
- At 300°F (149°C) the initial shrinking of the covering begins.
- At 350°F (176°C) the covering reaches its maximum shrinking point. Raising the temperature above this point will not cause further shrinkage.
- **Use as little heat as needed. Using too much heat may cause reshinking issues later.**

Landing Gear

Landing gear parts contents are shown below.



Install the landing gear with the thicker portion of the airfoil to the front. Use a socket head screw and washer through the outside and a nylon lock nut on the inside of the fuselage.



Fit the filler block to the bottom of the landing gear. You may need to sand a cove down the center of the block to fit without rocking.



The filler block can be held in position with strips of covering material, packing tape, or it can be glued in place.



Slide the cuffs over the landing gear and secure with screws. Be careful to not break the screws. If the screw seems to be difficult to insert use a drill to open up the hole. (Some people have found they prefer a dab of silicone inside the cuff hold them secure.)





Install a wheel on the axel using a Nylock nut to retain the wheel.



Install the wheel and axle onto the landing gear using Nylock nut.



Test fit the wheel and wheel pants. Make sure the wheel pant has ample clearance around the tire. Trim the inside edge of the wheel pant as needed.

Mount the wheel pants to the landing gear with a washer and socket head screw. We recommend using a thread locker on these screws.



Install the tail wheel assembly on the fuselage using washers and socket head screws. We recommend using a thread locker on these screws.



Control Horn Installation

If not already opened --

Carefully locate the servo pockets and aileron control horn mounting slots in the wings. Use a covering iron to secure the covering around these areas before cutting into the covering. Use a new hobby knife blade to cut through the covering. Cut from the corners of the pocket towards the center of the pocket so the covering can be folded in and sealed around the edges. Locate the aileron control horn mounting slots and trim away the covering.



If not already opened - Carefully locate the elevator servo arm openings and elevator control horn mounting slots. Use a covering iron to secure the covering around these areas before trimming away the covering.



Use sandpaper to roughen the lower portion of the control horns on both sides. Roughen one side of the base plate. This will help the epoxy bond to the control horn parts.



Test fit the control horn in the slot. Trim or file the slot as needed to achieve a snug fit. Make sure the shoulder of the control horn is fully seated down against the control surface.



Notice that the control horn base is not symmetrical. The thinner edge should be positioned towards the hinge line.



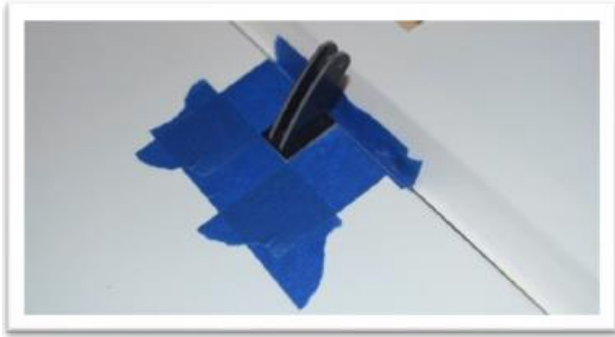
Assemble a ball link (without a flange) to the control horns using a socket head screw, washer and nylon lock nut. Assembling the ball link to the control horn at this step will help keep the control horn halves aligned during installation. Insert the control horn assembly into the surface again testing the fit.



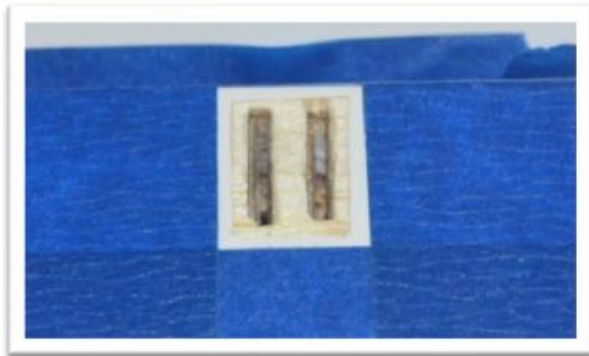
Check the alignment of the control horn to the hinge center line. The linkage hole in the control horn should be aligned with the hinge centerline.



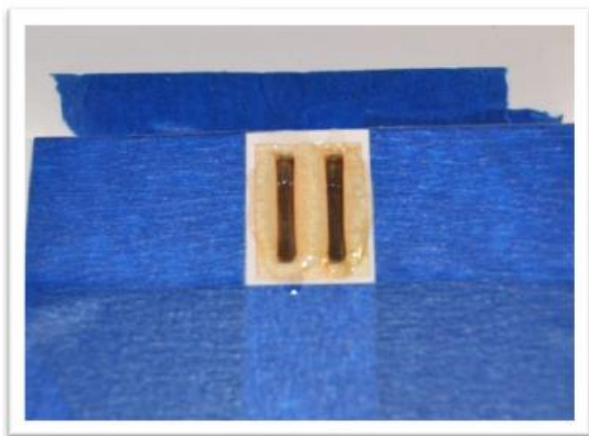
With the control horn in position apply painter's masking tape around the control horn base. Put the tape up to the base edge. Not under or over it.



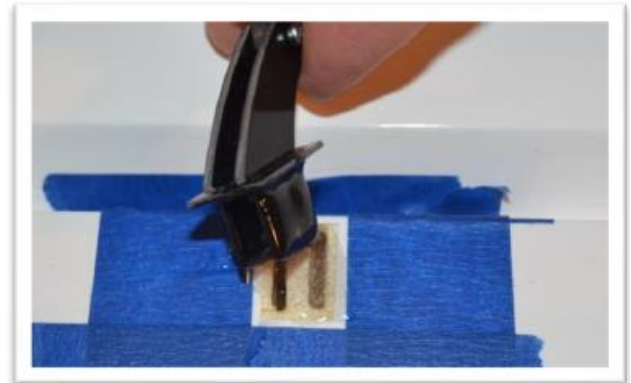
Remove the control horn leaving the tape in position. Using a new hobby knife blade lightly cut through the covering but not into the balsa sheeting. Cut inside the tape edge about 1/16".



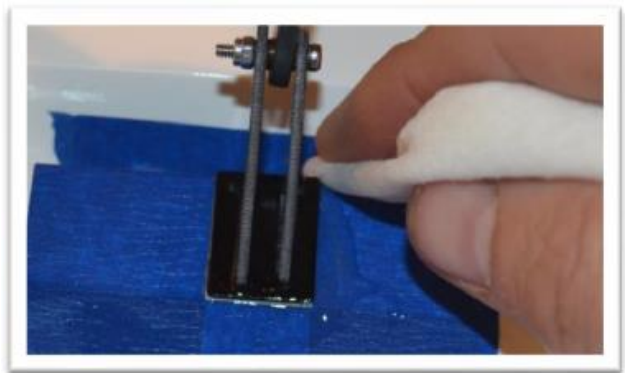
Prepare all control surface and control horns before gluing. Using 30-minute epoxy will provide plenty of working time to glue in all control horns at one time. Apply epoxy to the slots in the aileron. Use a pin to help push epoxy down into the slot.



Apply epoxy to the control horn assembly and insert it into the aileron slots.



Wipe away excess epoxy using a paper towel soaked with denatured alcohol. Use an upward rolling motion as you wipe the excess epoxy to lift it from the surface. This helps reduce smearing the epoxy.



Check the alignment along the hinge line as you did when you test fit the control horn. Reposition as needed.



Allow the epoxy to partially cure. Peel away the masking tape after the epoxy is securely holding the control horn in place and still soft enough to easily remove the tape. Set the wing aside and let the epoxy fully cure.

Aileron Servo Installation

Connect the servo to a receiver and power supply. Turn on your transmitter. Set trim and sub trim to zero. Install a servo arm on the servo about perpendicular to the servo's side. Use the transmitter's sub trim to make it exactly perpendicular to the side of the servo.

As there are two aileron servos per wing, be sure to setup two servos with the arms to the left and two servos with the arms to the right.

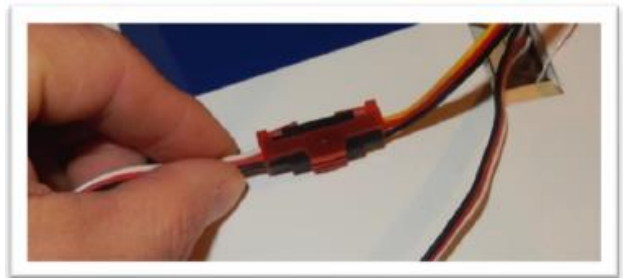


Note – the servo arms will point toward the tip of the wings



Connect a servo extension wire to the servo lead - 24" extension for the outer servo, 6" extension for the inner servo.

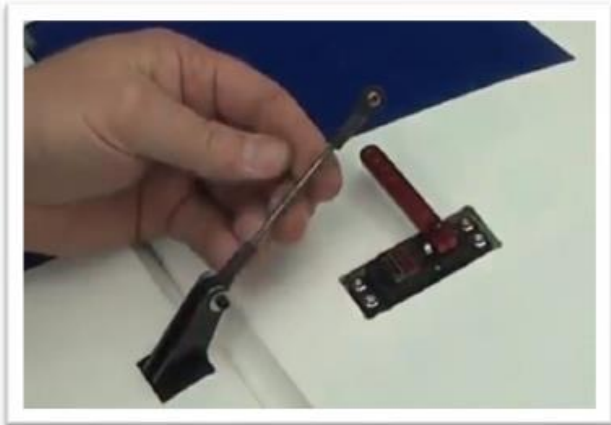
Use a safety clip to secure the connection. Attach the servo extension wire to the installation string and gently pull the wire through the wing as you insert the servo into the wing.



Insert the servo into the pocket with the drive spline towards the front of the wing. Run your servo screws down into the pre-drilled mounting holes to cut threads into the wood. Remove the servo and apply a drop of thin CA glue into each mounting screw hole. This will harden the wood around the screws and provide a more secure installation. Allow the CA glue to dry before reinstalling the servo.



Assemble the connection rod to a servo ball link with the flange. Then connect the connection rod to the control rod ball link. Make note that one end is a left-hand thread and the other is a right hand thread. Screw the connection rod into each ball link equally.



NOTE – Due to the tapering thickness of the wing, for the INNER aileron horn use the MIDDLE hole on the horn.



For the OUTER aileron horn use the OUTER hole on the horn.



This will make the measurement from the hinge line to the linkage connection on the aileron horns as equal as possible.

At this point the aileron may not be aligned with the wing.



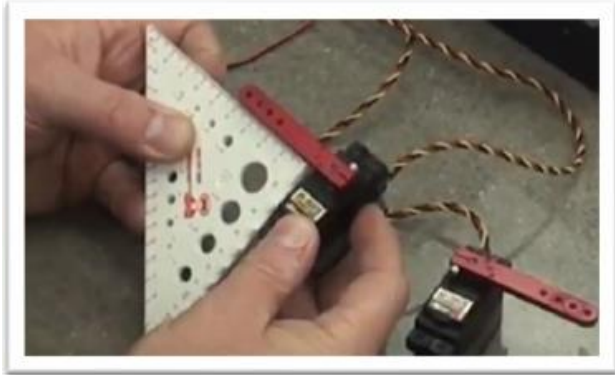
With one aileron servo linkage connected at a time, Adjust the connecting rod length to align the aileron and the wing. Because of the left and right threads on the connecting rod the length of the rod can be adjusted without disconnecting it from the servo or the control horn.



Note – final tuning / balancing of the dual aileron servos will be done with transmitter programming settings.

Elevator Assembly

Connect the elevator servos to a receiver and power supply. Turn on your transmitter and set trim and sub trim to zero. Install a servo arm on the servo about perpendicular to the servo's side. Use the transmitter's sub trim to make it exactly perpendicular to the side of the servo. Be sure to setup one arm to the left and one arm to the right. Do not tighten the servo arm screw.



The servo will be mounted inside the horizontal stabilizer with the wire towards the front of the stabilizer. The servo mounting screw holes have already been predrilled.



Fold the servo wire towards the top of the servo. Insert the servo into the pocket. (It's typically easier to get the wire end of the servo in first.) Once the servo is fully seated into the pocket insert servo

mounting screws. (Socket head screws or a magnet attached to your screw driver may make inserting screws a little easier.)



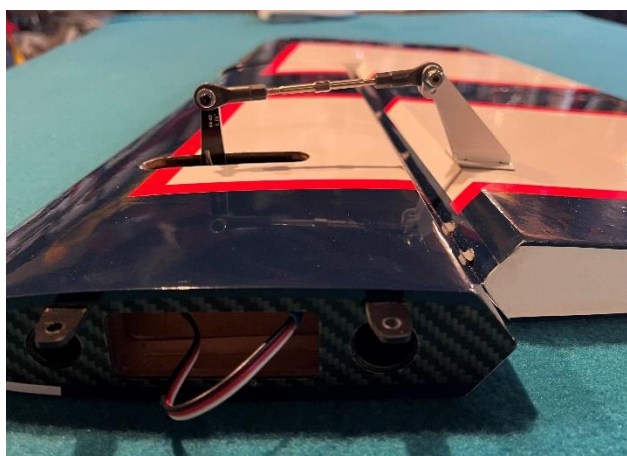
Connect the servo to your receiver and battery. Turn on your transmitter to center the servo. Attach the servo arm square to the side of the servo. Don't forget to tighten the servo arm screw and the pinch bolt if your servo arm has one.



Assemble the connection rod to a servo ball link with the flange. Then connect the connection rod to the control rod ball link. Make note that one end is a left-hand thread and the other is a right hand thread. Screw the connection rod into each ball link equally.



Check the length of the assembly with the servo to estimate the length. When you get close to the correct length connect the flanged ball link to the servo arm with a washer and socket head screw. (Always adjust the connecting rod length with the servo powered up and centered.)



Adjust the connecting rod to align the elevator and the stabilizer. Because of the left and right threads on the connecting rod the length of the rod can be adjusted without disconnecting it from the servo or the control horn.



Rudder Assembly

You have the option of using a pull-pull rudder servo or a push-pull rudder servo setup.

Note that the AJ 103" Extra 330sx uses the SAME Rudder horn location for either setup.

Use sandpaper to roughen up the center of the control horns on both sides and one side of the bases so the epoxy will adhere better. File a radius on the corners so the control horn can be rotated through the rudder slot.



Carefully locate the rudder control horn mounting slots. Use a covering iron to secure the covering around these areas before trimming away the covering. Cut the rudder covering to expose the control horn slots on both sides of the rudder.



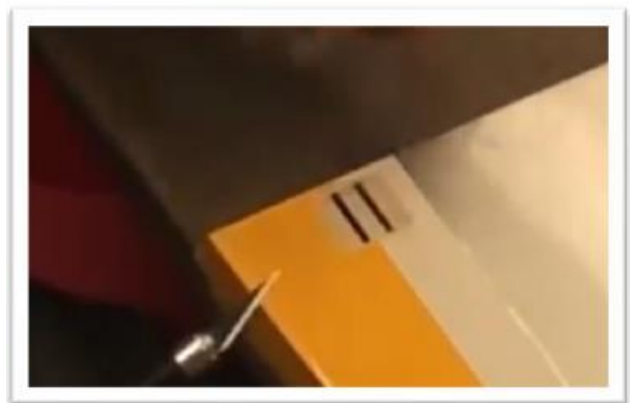
Test fit the control horns in the slots. The slots may need minor cleaning as glue sometimes seeps into the slots during the building process. Do not remove too much material. The control horns should fit snug.



Slide the control horn base on. Then lightly score the covering around the base. Be careful not to cut into the balsa.



Remove the control horn and base. Then remove the covering from under the base.

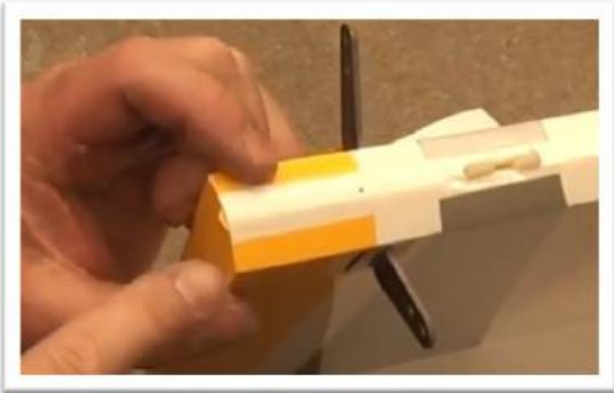


To help locate the control horn in the rudder you will need to measure finding a centered position. Measure between holes on the control horn then divide by 2. ($90\text{mm}/2 = 45\text{mm}$)

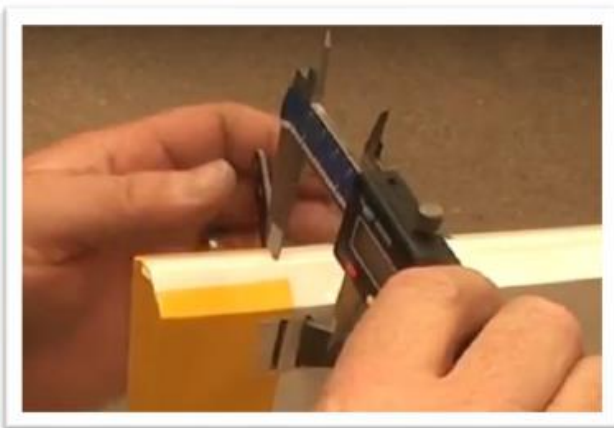




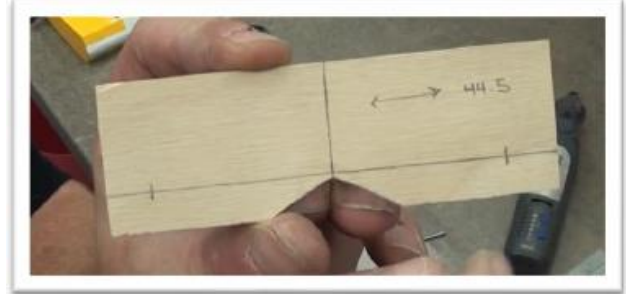
Mark the center of the rudder along the hinge line.



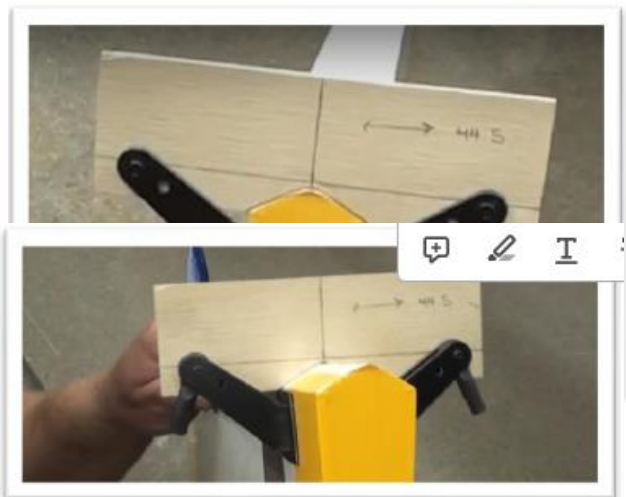
Locate the control horn position by measuring from the center point to the control horn holes.



An alternative method of locating the control horn makes use of an alignment fixture. This helps center the control horn as well as keeping it square to the rudder. Draw two lines perpendicular to one another. Cut a notch for the rudder on center and symmetrical on a centerline. Measure from the



centerline to locate two holes to connect the control horn.



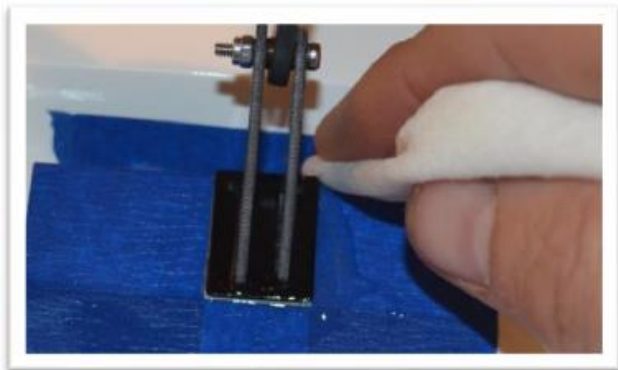
Test fit to the rudder making sure the control horn is centered and square to the rudder.

Use 30-minute epoxy to secure the control horn in the rudder. Get the control horns started in the slots then apply epoxy to the center portion of the control horns.

Slide the control horns into position and apply epoxy to the opposite site to adhere the other base in position. Assemble the alignment fixture with the control horn and rudder making sure the control horns are square to the rudder centerline.



Wipe away excess epoxy using a paper towel soaked with denatured alcohol. Use an upward rolling motion as you wipe the excess epoxy to lift it from the surface. This helps reduce smearing the epoxy.



After the epoxy has fully cured install the rudder onto the fuselage. Slide the tail wheel assembly tiller rod through the rod end mounted to the bottom of the rudder. Align the hinges and thread the hinge wire through all the hinges.



Pull-Pull Rudder Control

Thread the brass cable eyes about half way into the ball links. The ball links with the flange will be connected to the servo arm. The ball link without the flange will be connected to the control horn.



Start the cable assembly at the servo end inside the fuselage. Thread on 2 crush sleeves and the brass cable eye.



Loop around the crush sleeve and back through the sleeve again. Slide the second sleeve over the tail.



Adjust the loops and crimp the sleeves with the non-serrated surface of standard plyers.

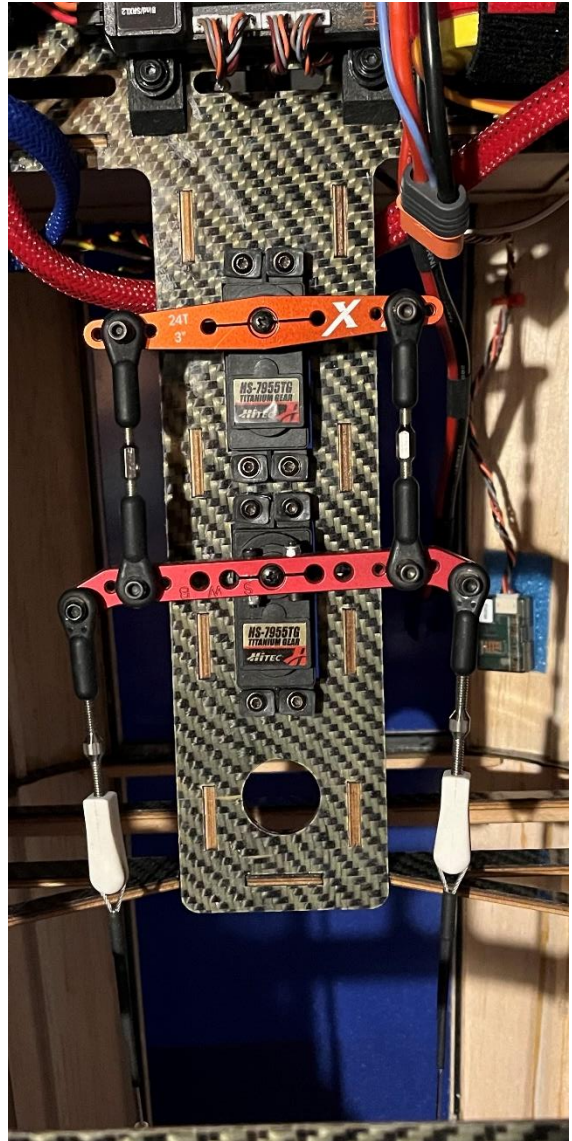


Connect your rudder servo to your receiver and a battery. Power up the radio system and center your transmitter settings. Install a servo arm perpendicular to the side of the servo. Use a square and the transmitter's sub trim to set the arm as accurate as possible as you did with the elevator and aileron servos.

Insert the rudder servo(s) into the fuselage pocket with the drive spline towards the front of the fuselage. Predrill for the servo mounting screws using a 1/16" drill. Remove the servo and apply a drop of thin CA glue into each mounting screw hole. This will harden the wood around the screws and provide a more secure installation. Allow the CA glue to dry before reinstalling the servo and mounting screws.



Connect the ball links to the rudder servo control horn using a screw, nylon lock nut and a washer. Pull the slack out of the cables and make sure the cables cross once inside the fuselage.



Center the rudder and position it aligned to the vertical stabilizer. Tape the rudder to the vertical stabilizer to hold it centered.



Repeat the cable eye installation process on the rudder end of the cables with the servo powered up and centered. Pull the cable snug. You don't need to make the cable guitar string tight.

Remove the tape from the rudder/vertical stabilizer. Adjust the brass cable eyes to center the rudder and achieve the desired cable tension.

Push-Pull Rudder Control

Push-pull rudder control can be done with either a single or dual rudder servos, depending on the power of the servos chosen.

Two servo openings are provided - one on each side of the fuselage giving you multiple options of your choice for servo installation.

You can choose one servo per-side of the fuselage if using dual servos. Or you can choose which side you prefer the installation if using a single servo.

You will need to cut open the covering from the servo pocket(s) depending on your choice of installation. Only remove the covering from the necessary pockets based on your choice of servo installation.

Mount the servo with the output shaft towards the nose of the airplane. Install the rudder control horn

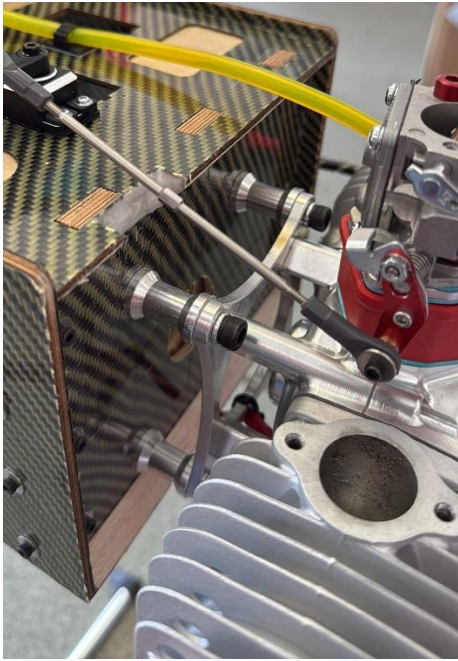
as shown above for the rudder pull-pull setup. Use the supplied turnbuckle and rod end hardware to connect the servo to the rudder using the same centering process used on the elevators and ailerons.



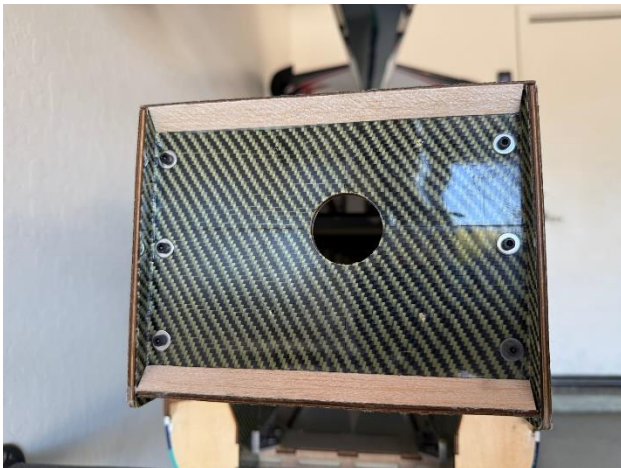
The pull-pull cables can be removed and the covering will need to be patched.

Gas Engine Installation

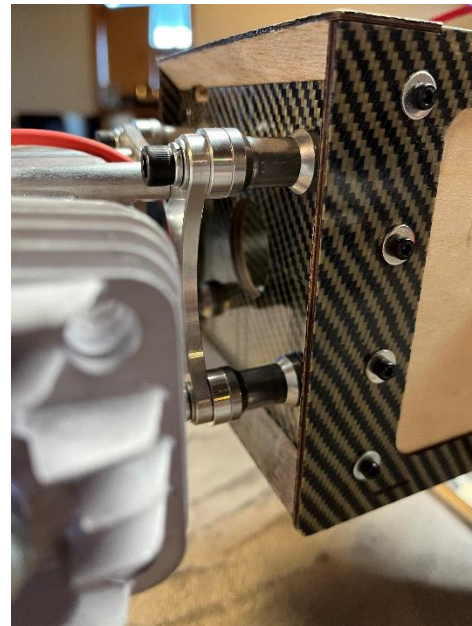
Plan your engine mounting by determining the length of the engine, standoff, spacers or washers needed. This dimension can be added to or subtracted from depending on how tight of a spinner-gap you prefer. The kit does contain engine standoffs, but these may not be suitable for every engine.

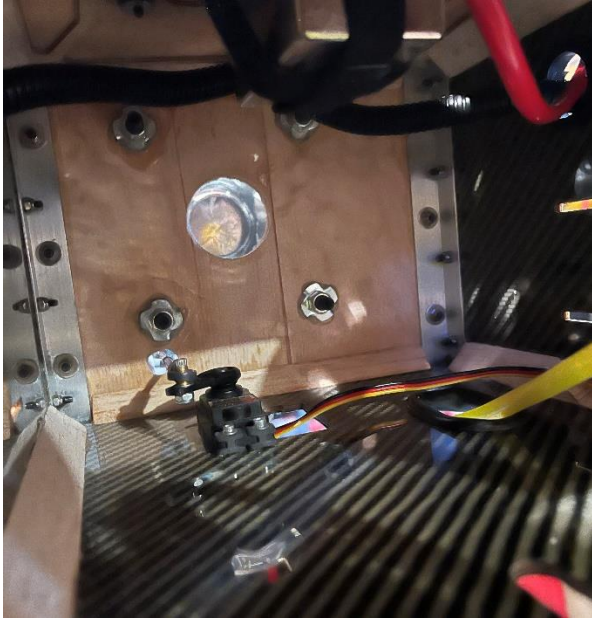


The firewall comes pre-pilot-drilled for a DA-120 or GP-123. If running other engines you may have to 'fill & re-drill' the holes to suit.



The engine should be mounted with bolts through the engine mounting plate, spacer(s), the fire wall, through another flat washer, then a nylon lock nut.

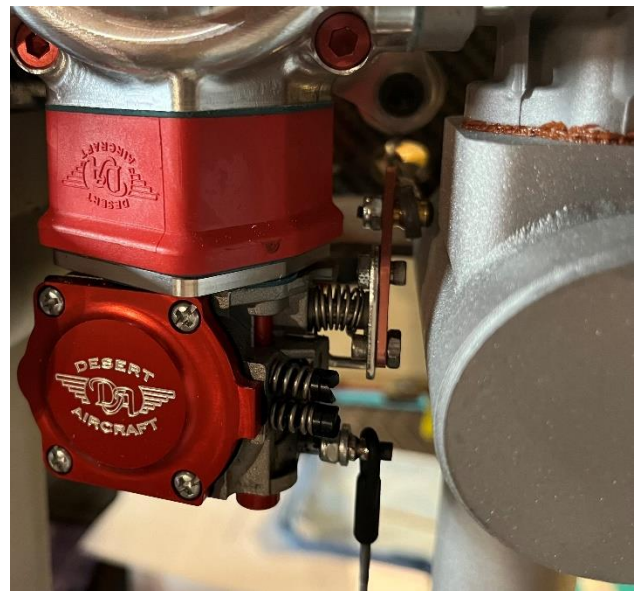




Or you may have to mount the servo inside the fuselage and drill a pass-thru hole in the firewall to connect to the throttle arm.



Depending on the orientation of the engine's throttle arm, you may have to either use the throttle servo pocket on the bottom side of the engine box for twin cylinder engines. (Fuselage shown upside down.)

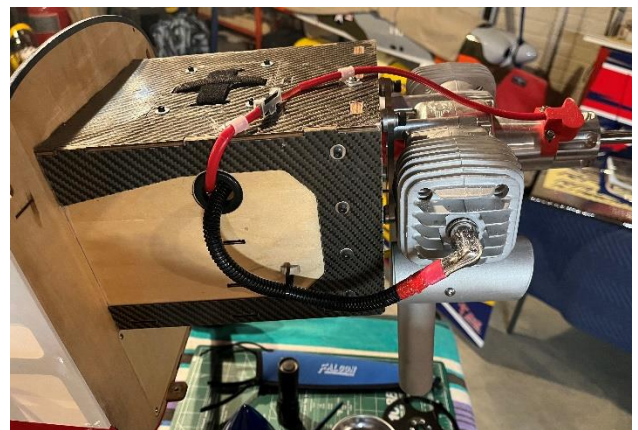
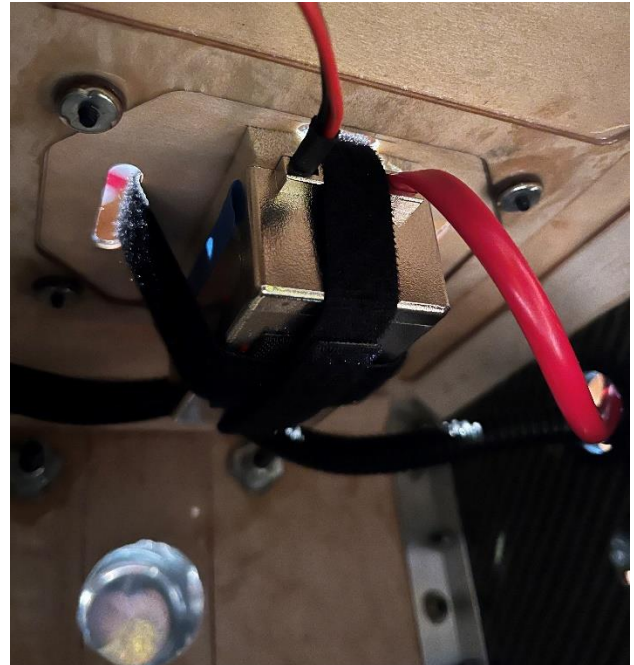


Ignition Module

It's typically convenient to mount the engines ignition to the side or top of the engine box. Be sure to secure the spark plug wires so they don't move around during flight. Excess movement can cause connector issues in time.



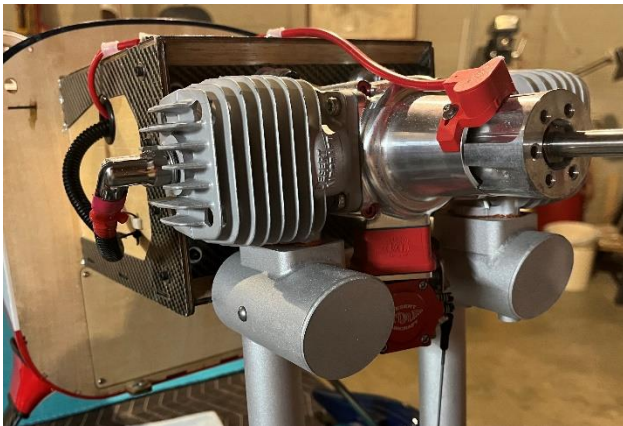
Can also be mounted inside the engine box and pass the spark plug and sensor wiring through the pre-installed rubber grommets on the sides of the engine box.



Standard In-Cowl Muffler installation

Standard mufflers can be installed using the bolts and gaskets supplied with the engine or muffler. Be mindful of the offset in the muffler mounting flanges as there is a left and right muffler. When properly installed the fronts of the muffler will line up evenly.

There are many opinions on how to make a maintain exhaust connections at the engine. We find that using an exhaust gasket Permatex Ultra Copper High Temperature RTV Silicone Gasket Maker works well. Apply a thin coat of silicone to both sides of the gasket. Let the silicone set up before tightening down the exhaust. This prevents the silicone from being squeezed out. A dab of silicone can also be applied to the exhaust bolt to prevent them from backing out.



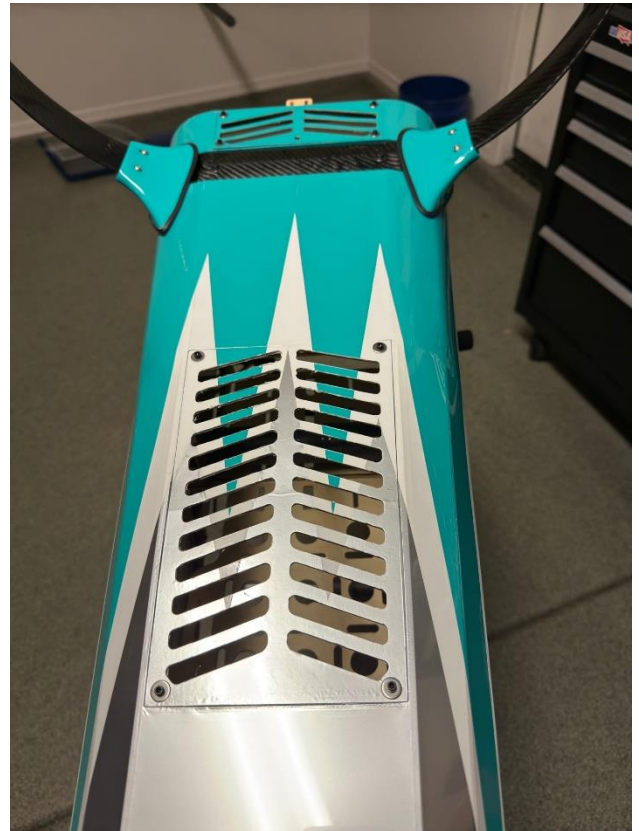
Canister Muffler installation

Cut the covering away from the cannister 'vent area' on the underside of the fuselage.

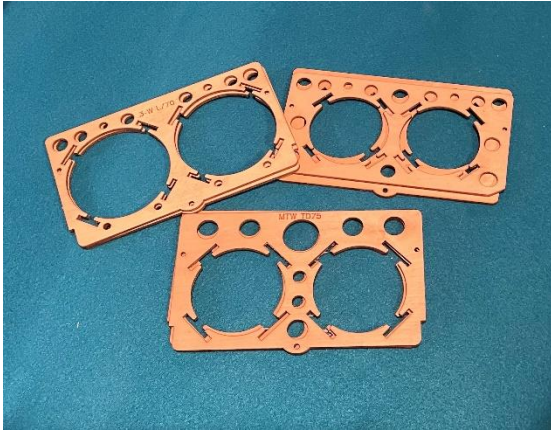


Seal the edges down with a covering iron.

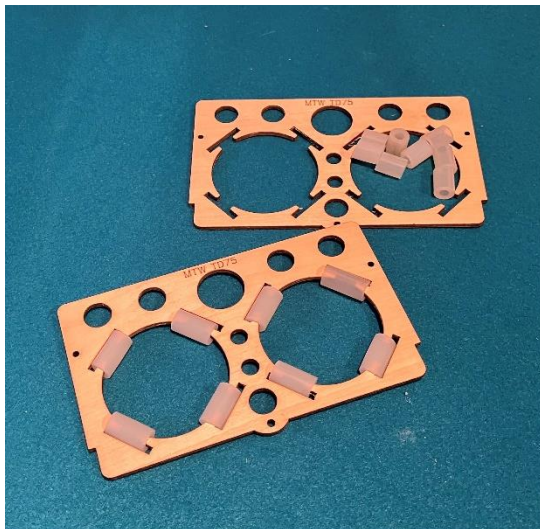
Remove the covering from the vents on the cover plate(s). These will be screwed into the vent area opening once the cannisters are installed.



The kit comes with mounting brackets for different sizes of exhaust canisters. Select the appropriate bracket for your equipment.

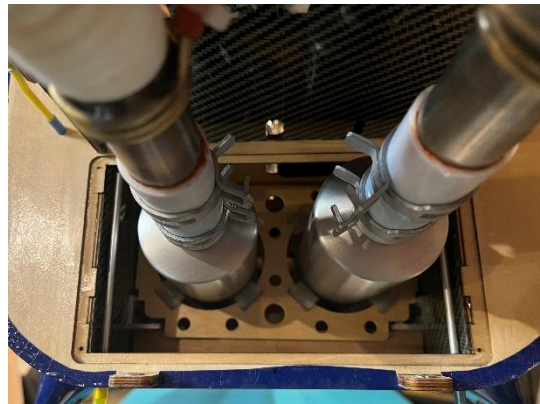


Slip the silicon tube cushions onto the mounting brackets.



Test fit the bracket(s) into the cannister tunnel of the fuselage.

When test fitting all of the components together you may find it necessary to modify the bracket and its location to accommodate the header and muffler height.



Adjust the height of the rear bracket to align the muffler to the header as straight as possible.

Assemble the exhaust canister with header using the coupling and clamps. Be sure to leave a gap between the header and canister inside the coupling to reduce vibrations. Test fit in the fuselage.

Drill through the coupling and manifold and install flanged screws to secure the connections. Install the coupling clamps over the screw flange.



There are many opinions on how to make a maintain exhaust connections at the engine. We find that using an exhaust gasket Permatex Ultra Copper High Temperature RTV Silicone Gasket Maker works well. Apply a thin coat of silicone to both sides of the gasket. Let the silicone set up before tightening down the exhaust. This prevents the silicone from being squeezed out. A dab of silicone can also be applied to the exhaust bold to prevent them from backing out.

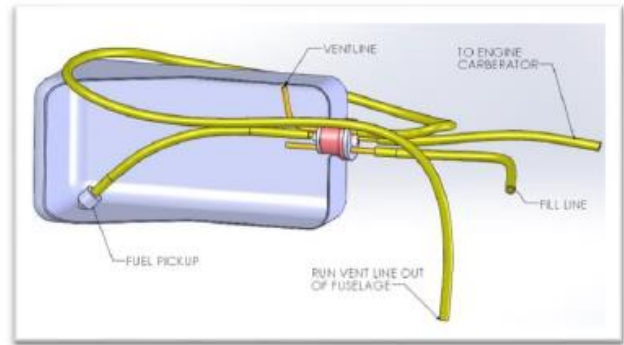


Fuel Tank

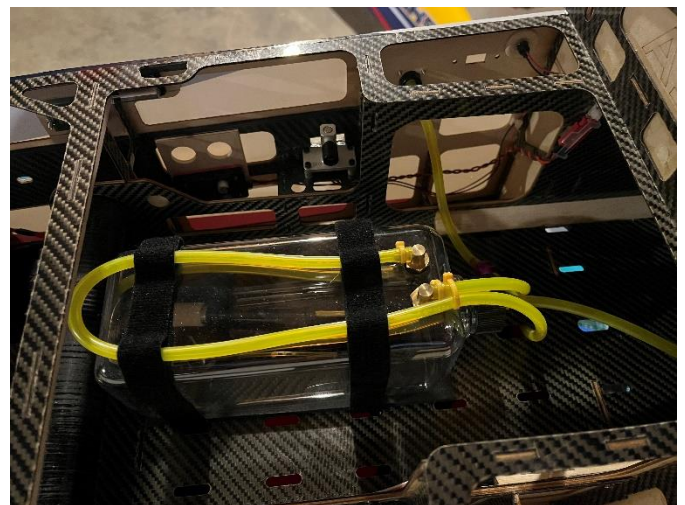
We suggest using a quality 32 oz (1000cc) fuel tank and fuel line suited for gasoline such as **AJ Aircraft**, Fourtitude, Dubro, or Sullivan.

The fuel tank vent line should loop up over the tank then exit through the bottom of the airplane. The fill line should be capped by a fuel dot. The carburetor supply line should run through the firewall to the carburetor.

When assembling the fuel tank make sure the clunk moves around freely. Rotate the tank side to side and upside down to ensure the clunk does not get stuck.

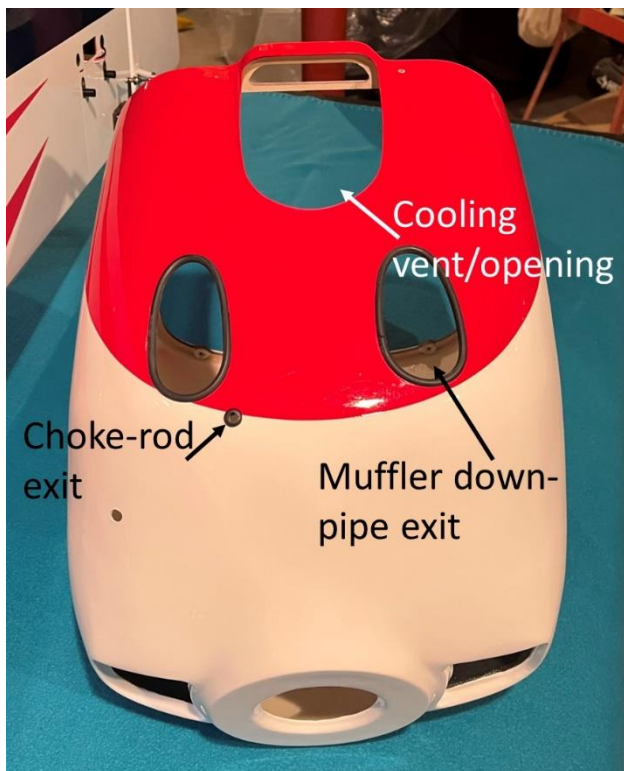


Position the fuel tank in front of the wing tube. Placing a piece of foam under the tank will prevent fuel foaming from vibration. Secure the tank using the hook and loop straps running through the slots on the plywood tray. We recommend using at least a 1" strap if you intend to do high G, 3D maneuvers.



Cowl Mounting

Cut air vents as desired for your engine cooling needs. The vents can be trimmed with small scissors and a motor tool with a sanding drum attached. Use masking tape to reduce chipping on the outside of the cowl while cutting. Please use a vacuum and mask while sanding to reduce dust inhalation.



For in-cowl mufflers you will need to cut exit holes in the bottom of the cowls (as seen in the photo above)

To locate the holes, start with a piece of heavy paper or manila folder with holes just large enough for the muffler down-tubes to pass thru.



Tape the pattern onto the underside of the fuselage.

With the mufflers removed, fold the pattern down, install the cowl, fold the pattern back up to contact the bottom of the cowl and trace the hole patterns onto the cowl.

Remove the cowl and cut out the exhaust tube holes.

Re-install the mufflers and try to install the cowl, noting where the holes will need to be enlarged.

Work slowly and patiently to enlarge the holes until the cowl can be installed. The holes will typically end up elongated as seen in the photo.

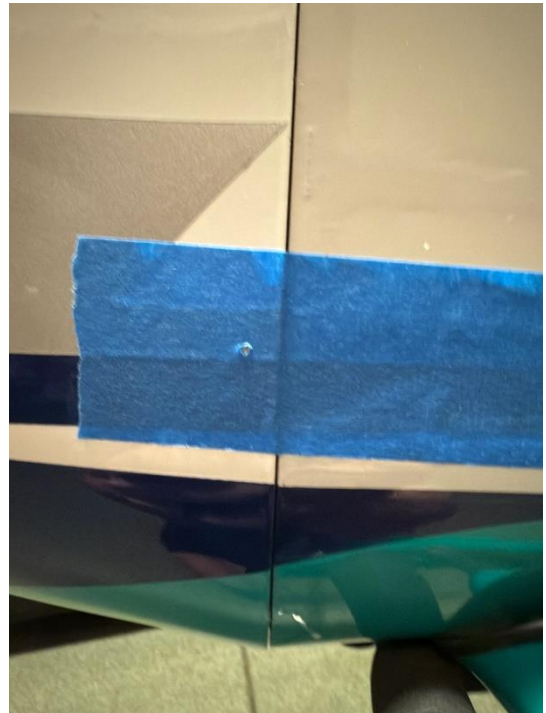
Install a choke linkage to manually operate the choke. Or you can make the choke servo-operated if you choose.



Install the cowl, remember to pass the choke linkage through the cowl.



Install the 3mm button head cowl bolts to attach the cowl.



Locate and drill the holes for the cowl side mounting screws

Wings and Horizontal Stabilizer mounting

The wings and stabilizer/elevators are held in place with Quick Release slides.

Wings –

The Quick Release slides lock in the 'Down' position. To move them upward pull on the thumbscrew and to disengage the lock, and then slide the release upward.



NOTE – if the slides are difficult to move you may need to ‘tune’ them a little. While holding the thumbscrew, us a 2.5mm driver to slightly loosen the screw located in the center of the thumbscrew.



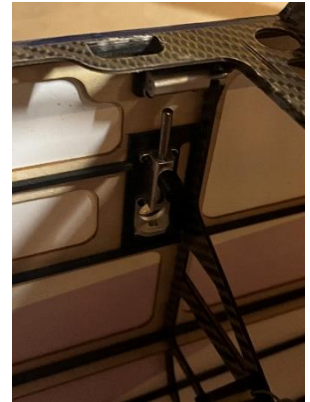
Slide the wing tube through the fuselage.

With the Quick Release slides in the ‘Up’ position, slide a wing onto the wing tube. Plug in the aileron extensions per your installation.

Position the wing up against the fuselage side, and then move the Quick Release slides downward to engage the retaining tab/peg on the wing root.

Stabilizer –

The Quick Release slides lock in the ‘Up’ position. To move them downward pull on the thumbscrew and to disengage the lock, and then slide the release downward.



NOTE – if the slides are difficult to move you may need to ‘tune’ them a little. While holding the thumbscrew, us a 2.5mm driver to slightly loosen the screw located in the center of the thumbscrew.

With the Quick Release slides in the ‘Down’ position, slide the horizontal stabilizer tube through the fuselage. Slide the stabilizer and elevator on to the tube.

Position the stabilizer up against the fuselage side, and then move the Quick Release slides upward to engage the retaining pegs on the stabilizer root.

CG & Setup

Take the time to properly balance and trim your aircraft.

While the final setup is of personal preference, these are some general guidelines to make your first flight a success.

Use the suggested throws below as your starting point then fine tune to your flying preferences after your first few flights.

Control Throws

Low Rates:

Elevator	15 degrees	30% Expo
Aileron	15 degrees	30% Expo
Rudder	15 degrees	30% Expo

Medium Rates:

Elevator	35 degrees	40% Expo
Aileron	35 degrees	40% Expo
Rudder	35 degrees	40% Expo

High Rates:

Elevator	45 degrees	50% Expo
Aileron	45 degrees	50% Expo
Rudder	Max Throw	50% Expo

Center of Gravity

The center of gravity (CG) range for the 103" AJ Extra 330sx is located 1-1/2" in front of the wing tube (+/- 1/2")

You can adjust your CG depending on your flying style. If you fly aggressive 3D aerobatics you'll want to find a more of a tail heavy or neutral CG. When flown level inverted it requires little to no elevator input to maintain altitude.

If you enjoy sport & precision aerobatics you'll want a slightly nose heavy CG.

To test the CG, fly left or right at about 3/4 to full throttle and pull to a 45 degree up-line. Roll inverted and let go of the elevator stick. A correct nose heavy CG will slowly arc to the level. A neutral CG should nearly hold the up-line. And a tail heavy CG will steepen the up-line.

Enjoy your new plane!

We at AJ Aircraft sincerely hope you enjoy flying the 103" Extra 330 SX.

Feel free to create a support ticket at aj-aircraft.com if you have any problems, questions, or suggestions.

Once you get a few flights in, we would greatly appreciate your review submitted to our web site! See you at the field!



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