T-3 Build Guide

T-ONE MODELS

PACIFIC RC JETS

While many of these procedures are applicable to the T-1 and T-1 Mini jets as well, this guide is specific to the T-3 *With Electric Gear Set.*

This guide does not cover radio setup, programming or turbine operation. You will need to refer to the documentation provided with those systems for information on proper setup and operation.

T- ARF Kit:

- Fuselage; Forward, Center, AFT
- Rudder and Stab (Factory Hinged)
- Wings, Factory Hinged Ailerons with Flaps
- Landing Gear with struts and brakes (Electric Comes with Gear and Brake Controller)
- Complete Hardware Package
- Linkage and ball links
- Dual Walled Pipe
- Kevlar Fuel Tank/Smoke Tank Combo with Hysol in fittings

Tips for Success:

- Don't rush! Allow plenty of time for your build. Take your time, enjoy it, and do it right.
- Don't be afraid to ask questions! In addition to this document there are several build threads on RC Universe where you can get input and assistance with your build:
- Complete the latter part of your build on a CG stand…when you're down to the components that can relocate in order to adjust CG.
- After your build is complete, have another turbine operator/pilot review your build. A fresh set of THIS s is a good sanity check.

Specifications:

- Length: 118"
- Wing Span: 103"
- Fuel Tank 256oz
- Smoke Tank 60ozDry Weight 45-48Lbs
- Recommended Engine 180-260
- *Center of Gravity: 335mm - 345mm from leading edge of wing root.*
- *Recommended Aileron Throw: 18-20mm*
- *Recommended Elevator Throw: 20-25mm*
- *Recommended Rudder Throw: 25mm*
- *Recommended Flap Throw: Half flaps = 35mm, Full flaps = 65mm*
- *Recommended Flap Throw: Half flaps = 45mm, Full flaps = 70mm*

The kit will come very well packed. Carefully remove all the parts from the bubble wrap that they are encased in. Do not use a knife or razor as you can inadvertently cut through the packaging and damage the finish of the parts. Peel or use scissors to carefully cut and remove the tape.	
Inspect all parts for any shipping damage and test fit. Check all packaging, parts and components. It's good to organize and identify hardware and components before you start the build. You can use some of the packaging material to place your air-frame parts on to keep from damaging or scratching during your build. Sometimes the painting process results in a rough edge that might cause binding. *This is easily resolved by using a common emery board to gently smooth the underside/inside the flight surface and the top/outside on the control surface*. Use tape to protect the painted areas on control surfaces. Go slow and don't be too aggressive with the file to avoid removing too much material.	
Equipment Used (Sold Separately) • *Spektrum radio System* • *Demon Cortex Gyro* • *KingTech K210G2* • *KingTech 2X 6.6 3800 Life Packs* • *KingTech 9.9 3800 Life Pack* • *KingTech 150cc UAT with Holder* • *KingTech Smoke Pump* • *PRCJ 6mm Poly Fuel Tubing (6 Feet)* • *PRCJ XXL 36" Smoke Tube* • *PRCJ Large Vents with caps* • *PRCJ T-3 E-Gear Wire Harness (PJ-T3WHRB)* • *PRCJ T-3 (8) Pack Savox SA1230SG* • *PRCJ Advanced CG Stand*	

AFT Fuselage Zip Tie Mounts & Harness Installation.

For this process we use self-adhesive Zip Tie mounts and small Zip Ties to secure the wire harness in place. Use the photos for reference on where to install the Zip Tie mounts and harness. Note: Start wire harness installation from the AFT forward leaving at least 2” of wire out of the fuselage at the connection points for the stab and rudder.

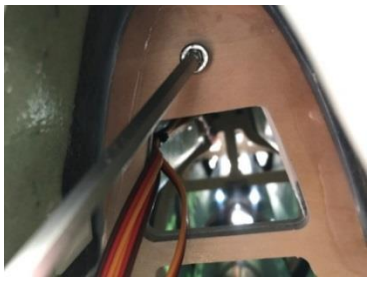
Once wires are secure use CA or Hysol on edges of Zip Tie mounts for permanent adhesion.
Make sure to have no sagging wires. You can use aluminum tape around

Midbody Fuselage Zip Tie Mount Installation.

For this process we used the self-adhesive Zip Tie mounts. Use photos for reference on where to install the Zip Tie mounts. Use CA or Hysol on edges of Zip Tie mounts for permanent adhesion.

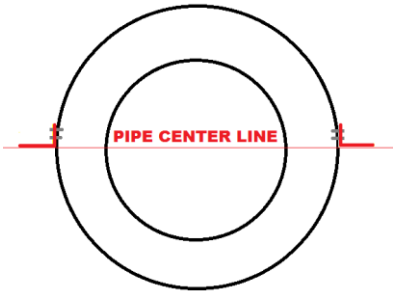
Midbody & AFT Fuselage Assembly.

Make sure the bell mouth is secure and tight to the pipe. If you plan to use the PRCJ 36” Smoke Stick, pre-install now at the top center of the pipe and ***slide pipe into AFT Fuselage***. Pull your wires through at the top access area, line up the AFT/Midbody sections, apply Blue Medium Thread Locker and install top bolt with the provided wrench, (Lightly Tighten Bolt) then loose install the remaining 5 bolts with Medium Thread Locker. During tightening, ensure proper alignment of the AFT and Midbody sections before fully tightening down the bolts



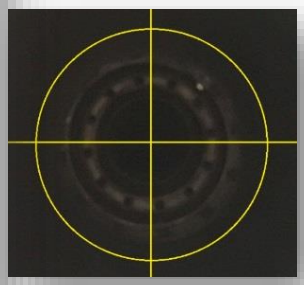
Securing Pipe and Smoke Tube.

Install the pipe mounting “L” tabs at the center line of the pipe and secure with provided hardware, see Photo for reference. Using your turbine for mock-up, set the distance and pipe alignment. The end of the pipe should be flush with the rear section of the jet as shown in photo. Once alignment is achieved secure pipe with provided screws as shown in photo. Bring smoke tube end out of the rear of the pipe about 1.5 inches and bend down to get into the hot exhaust stream. Adjust rotation of smoke tube and then bend at the bellmouth area as needed. We used Zip Ties and mounts to secure smoke tubing. Wire tie and run smoke tubing forward to tray.



Engine to Pipe Spacing and Installation.

This is a crucial part of any engine installation. Please refer to your engine documentation for proper installation and engine to pipe spacing practices. The photos show a proper reference for engine spacing and alignment.
<u>You should have 1" spacing between the end of the engine tailcone and the beginning of the pipe inlet</u>
(NOT THE BELL MOUTH)
The tailcone of the engine should be tucked inside the bellmouth. Once center alignment and distance is achieved, you can drill/mount your engine using wood style screws or bolts with blind/lock nuts.



Fuel Tank Assembly and Installation.

Pre-fit and dry install your fuel tank fittings, you will drill can vent holes where needed. *<u>NOTE: when locating the vent hole for the fuel tank, be sure to pay attention to where the split line is.</u>* You must be under the tank/smoke tank separation line; you can see inside the main tank for reference. Carefully clean and Hysol in fittings. Note fitting directions. Build tank clunk pick-up's as seen in photos. Be sure to solder collets to both ends of the brass tubing. Measure lengths of tubing as needed and pre-fit after curing of fittings. Use wire tie to secure fuel tubing. Pre-drill aluminum mounting tabs before installing into Midbody. Use provided wood screws to install tank. We recommend a bead of silicone around the front edge of the tank to the fuel tray for added security.

<u>Tank must be installed in Midbody before nose section installation!</u>

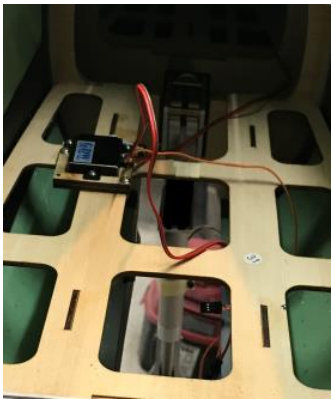
Electric Nose Gear Installation.

Locate the nose gear steering horn and install into strut using Medium Thread Locker.

Install the steering servo using the hardware that came with your servo to mount onto the steering servo plate. Use Medium Thread Locker

Center up your servo using a servo centering device, adjust and install the linkage as shown in photo.

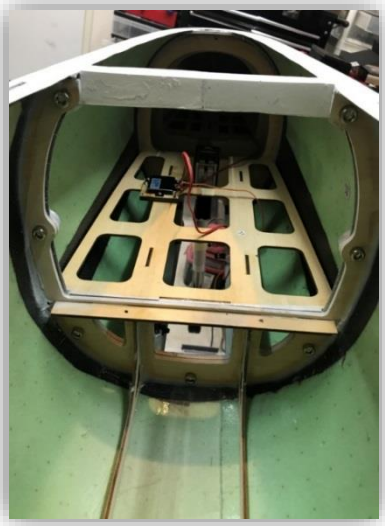
Test fit the nose gear in the nose gear bay. Verify that there is clearance between all moving parts in the area such as the gear door servo, arm, pushrod, and gear door hinges. Mark hole locations and us a small pilot drill for the holes then bolt gear into place.



Midbody & Nose Section Assembly.

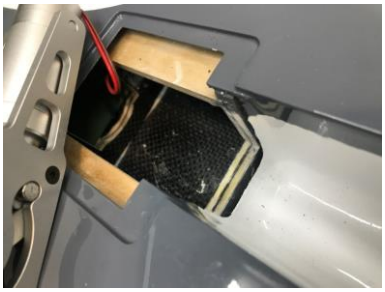
After the nose gear installation is completed, line up the Nose/Midbody sections, apply Medium Thread Locker and install top 2 bolts with the provided wrench. (Lightly Tighten Bolts) then loose install the remaining 5 bolts using Medium Thread Locker and provided wrench. Ensure proper alignment of the Nose and Midbody sections and test canopy fitment before fully tightening down the bolts. You can use a straight edge across the fuselage canopy edge surface to help with alignment as well. You can use the Zip Tie mounts to rout gear, steering and door servo wires to the main tray area on the right or left side of the nose gear depending on your install.

TANK MUST BE IN MIDBODY BEFORE PROCEEDING!



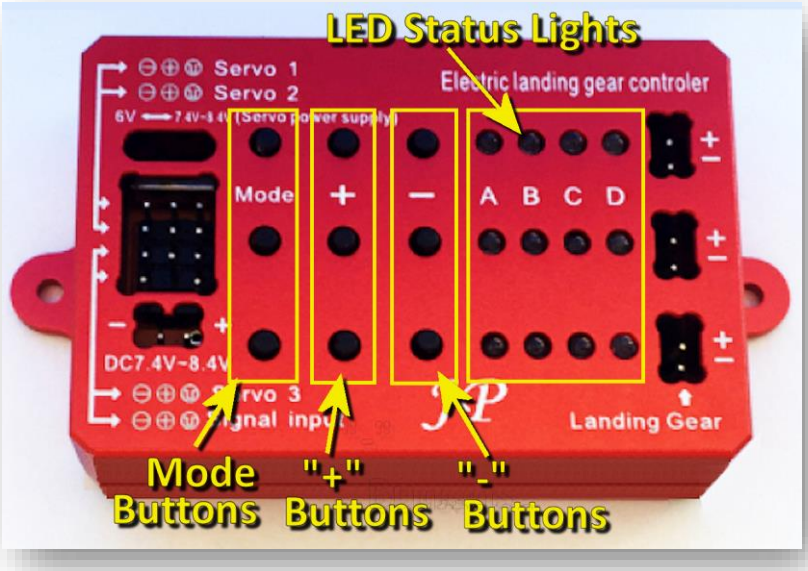
Electric Main Gear Installation.

Feed the main gear and brake wires to the access area and plug into the wing wire harness. (Always secure wire connections) Slide the retract into place and locate the strut, wheel and brake in the wheel well making sure that you have equal distances all the way around the tire and strut as seen in photo.
When proper location is achieved, mark holes and drill pilot holes, *NOTE: Use a drill stop to set drill depths as to not accidently drill through wing.* Use the (4) provided screws to mount gear in place. Install gear cover using provided hardware, slight trimming may be required for fitment. Use Aluminum tape to secure brake wires.



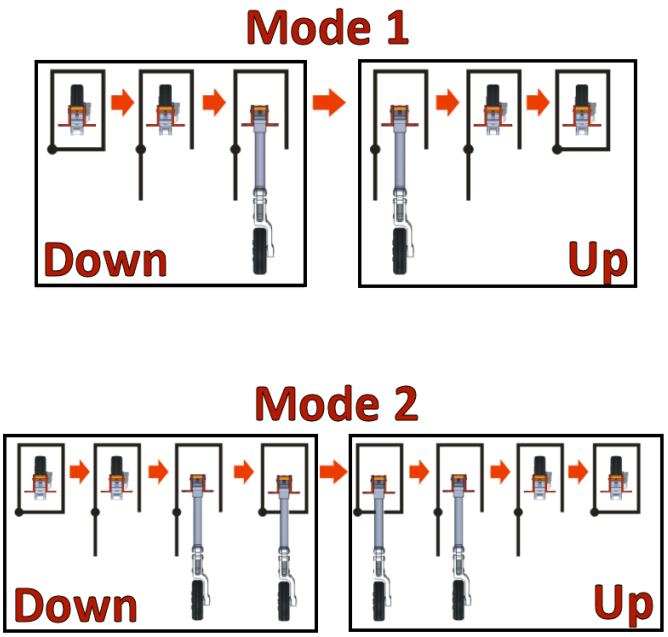
Electric Gear Controller Setup.

Each of the three gear units is independently programmable.
• Long press the mode button to enter programming mode.
• Short press the mode button to cycle through the programming options below.
• When the A or B light is blinking, you can press the + or – button to change the servo direction. This setting is used if the door is open when it should be closed or vice versa.
• When the A and B lights are alternating, pressing the + or – will increase or decrease the servo throw on one end of its movement. This setting is so that you can adjust the door to open or close all of the way without excessive binding at the extents of motion.



Electric Gear Controller Setup Continued.

- When the C and D lights are alternating, pressing the + or – will increase or decrease the servo throw on one end of its movement. This setting is so that you can adjust the door to open or close all of the way without excessive binding at the extents of motion.
- The C light blinking alone indicates Mode 1 operation for that gear unit.
- The D light blinking alone indicates Mode 2 operation for that gear unit.
- When you have completed making your programming adjustments, long press the mode button to save your changes and exit programming mode.

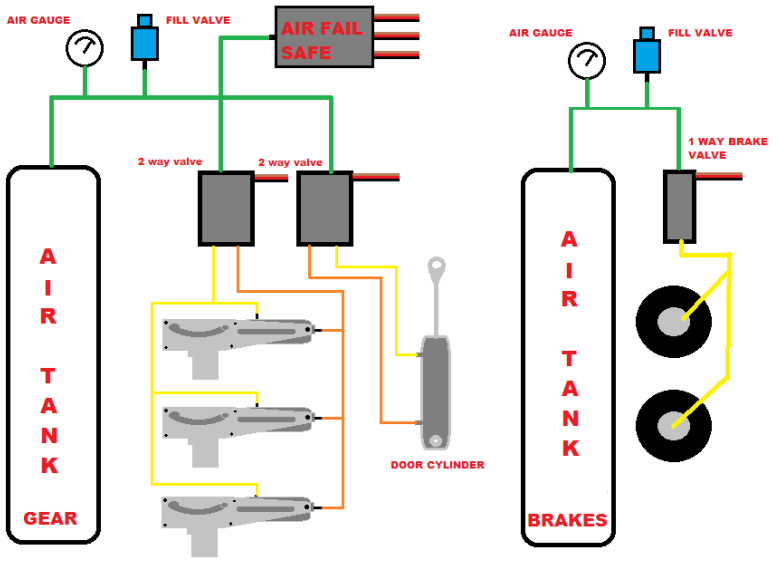


Electric Brake Controller Setup.

Connect the two-wire break leads from the main gear to the “Brake output” port on the side of the brake controller. Connect the radio lead from the brake controller to the appropriate channel that you have configured for brake operation. Lastly, connect the power lead to your power source (7.4V-25.2V). Turn the strength screw adjustments to their weakest setting (completely clockwise). You will need to execute some taxi and brake tests at your flying location to tune the brake strength and radio settings that will work best for you. Ensure that you have your brakes and landing gear tuned and working prior to any flight operations.

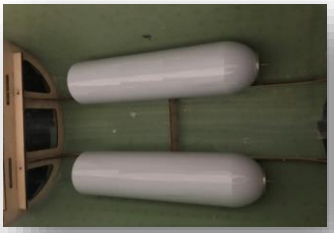
Air Gear Installation.

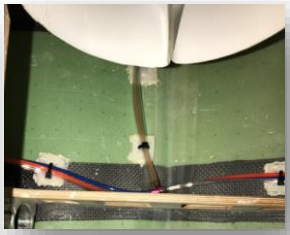
This is a basic air system setup with a gear fail safe, dual air valves for gear and door operations. Brakes system is also a basic brake control setup. All components available at www.pacificrcjets.com

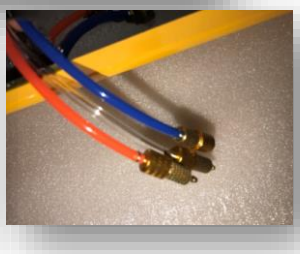


Air Gear Installation Photos.

Adhere the two air tanks under the main board in front of the bulkhead. Use the Zip Tie mounts to secure your air lines in place. T off at the center of the fuselage where the airline to wing area is, use the provided air line connections and be sure to bring air lines out minimum 2”

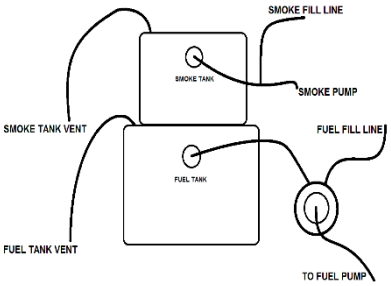






Fuel System Installation

There are different ways to rout your fuel lines and other location to mount your UAT, refer to the drawings on the right for fuel system plumbing along with your turbine manual. We recommend the PRCJ Polyurethane tubing and always wire tie for safety. We also recommend the Kingtech UAT with PRCJ UAT mount and ball valve mount.

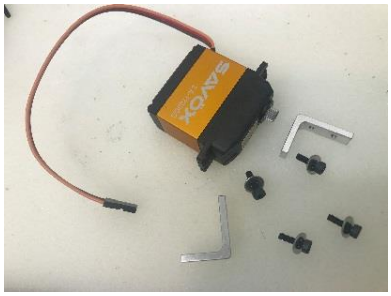


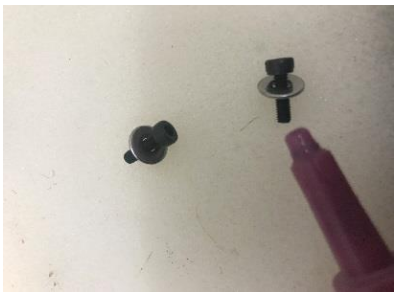
Stab servos Installation

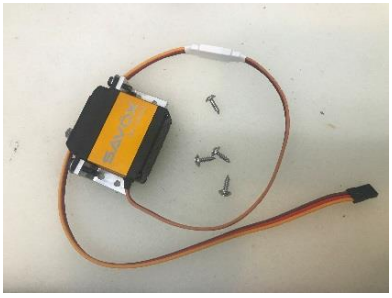
Locate the hardware and servo L brackets. Mock-up and install the L brackets on the servo as needed to archive proper direction and (Best Center) position in the servo pocket. Use medium Thread locker to secure.

Plug in your servo extension and use heat shrink or other methods to secure connection

Build your servo linkage using 1.0” servo horns. Use provided ball links and hardware with threaded control rod. Use the 35mm threaded rods for Elevators







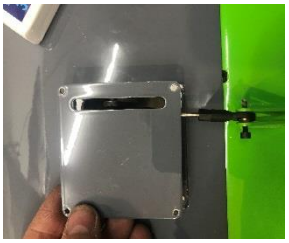
Center up your servo using a servo centering device and install servo horn

Locate and install servos using the provided (SHORT WOOD SCREWS)

Adjust and attach to elevator control horn and adjust radio as needed to achieve control throws.

After control setup is complete, remove ball link from servo horn and install servo cover using the provided wood screw

Re-attach ball link to control horn and re-test control throws

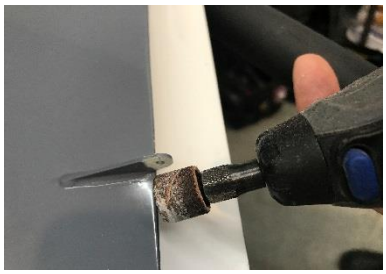


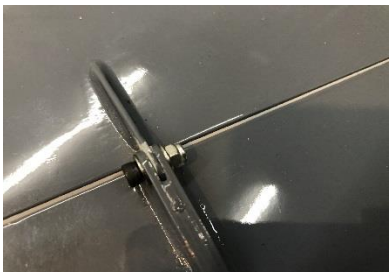
Flaps and Flap servos Installation

Carefully remove the paint from the hinge on the wing side. This will allow free smooth movement of the flaps and eliminate any binding and or sticking.

Use the supplied lock nuts, bolts and washers to install flaps.

Check for smooth movement after installation of flaps.

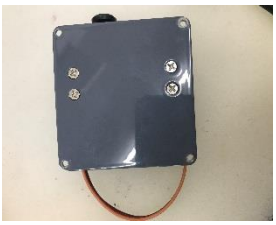


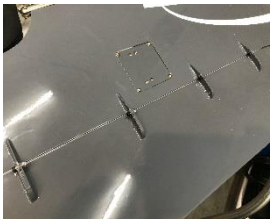


Flaps and Flap servos Installation

Locate the hardware and servo L brackets. Mock-up and install the L brackets on the servo as needed to archive proper direction and use medium Thread locker. Use the provided counter sunk machine screws to attach the servo to the flap servo cover and use medium Thread locker. Center up your servo using a servo centering device. Build linkage using a shorter ½ servo arm with the provided ball ends, hardware and <u>35mm threaded control rod for the Flaps</u> Adjust and attach to flap control horn and adjust radio as needed to achieve max travel.

Repeat process For Other Side



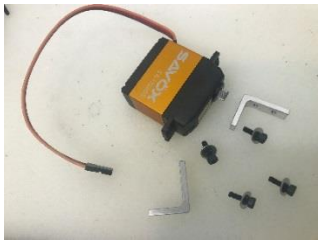


Aileron servos Installation

Locate the hardware and servo L brackets. Mock-up and install the L brackets on the servo as needed to archive proper direction and (Best Center) position in the servo pocket. Use medium Thread locker to secure.

Center up your servo using a servo centering device. Build your servo linkage using a 1.0” servo arm. Locate and install servo using the provided (SHORT WOOD SCREWS) Use provided ball links and hardware with threaded control rod. Use the <u>45mm threaded rods for Ailerons</u>

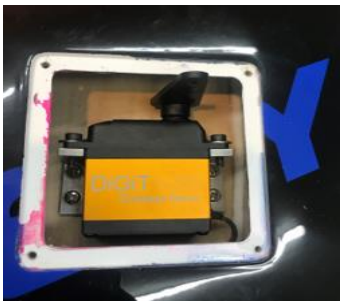
Repeat process For Other Side

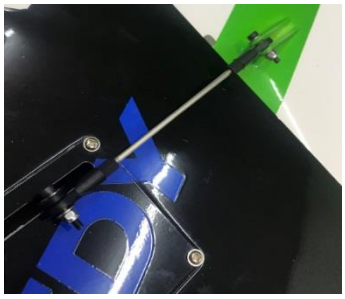


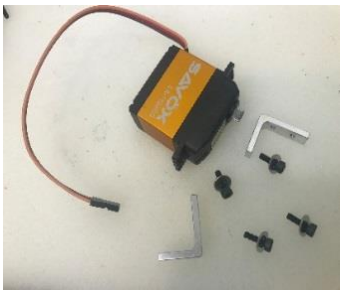
Rudder servo Installation

Locate the hardware and servo L brackets. Mock-up and install the L brackets on the servo as needed to archive proper direction and (Best Center) position in the servo pocket. Use medium Thread locker to secure.

Center up your servo using a servo centering device. Build your servo linkage using 1.0" servo horns. Locate and install servo using the provided (SHORT WOOD SCREWS) Use provided ball links and hardware with threaded control rod. Use the 85mm threaded rods for Rudder
Adjust and attach to Rudder control horn and adjust radio as needed to achieve control throws.
After control setup is complete, remove ball link from servo horn and install servo cover using the provided wood screw. Re-attach ball link to control horn and re-test control throws.







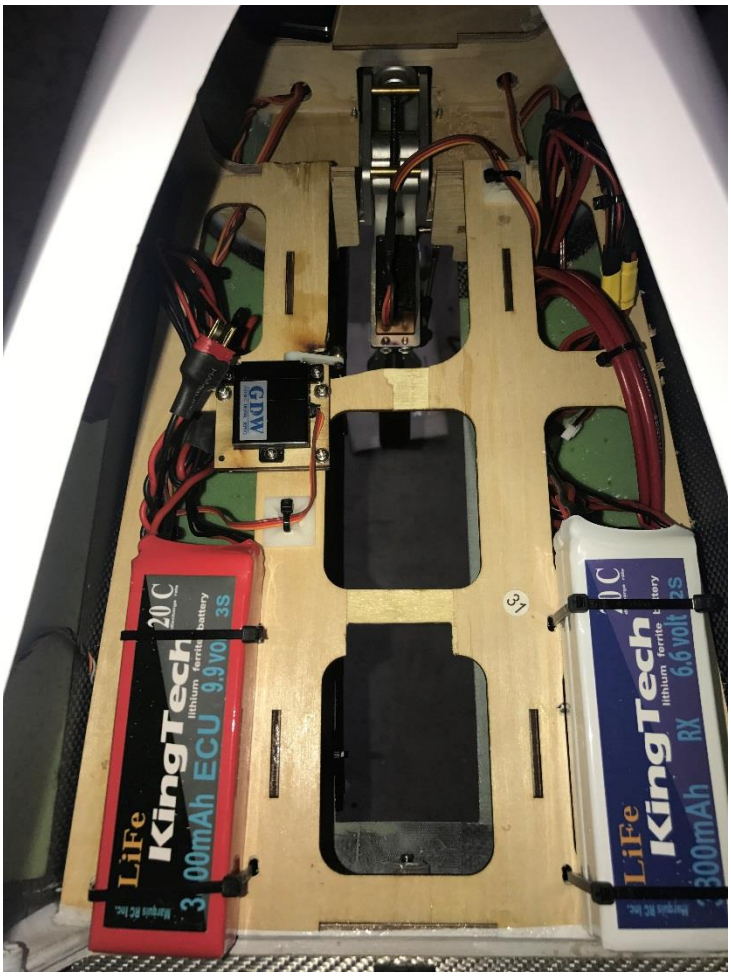
Final Component installation Photos

These photos show our basic installation of components. There are many ways to lay out and setup your T-3 electronics.

Pacific RC Jets offer many great solutions for RX, Gear/Brake controllers, Smoke pumps, Gyros, batteries, wing bags and other products.

We appreciate your business.

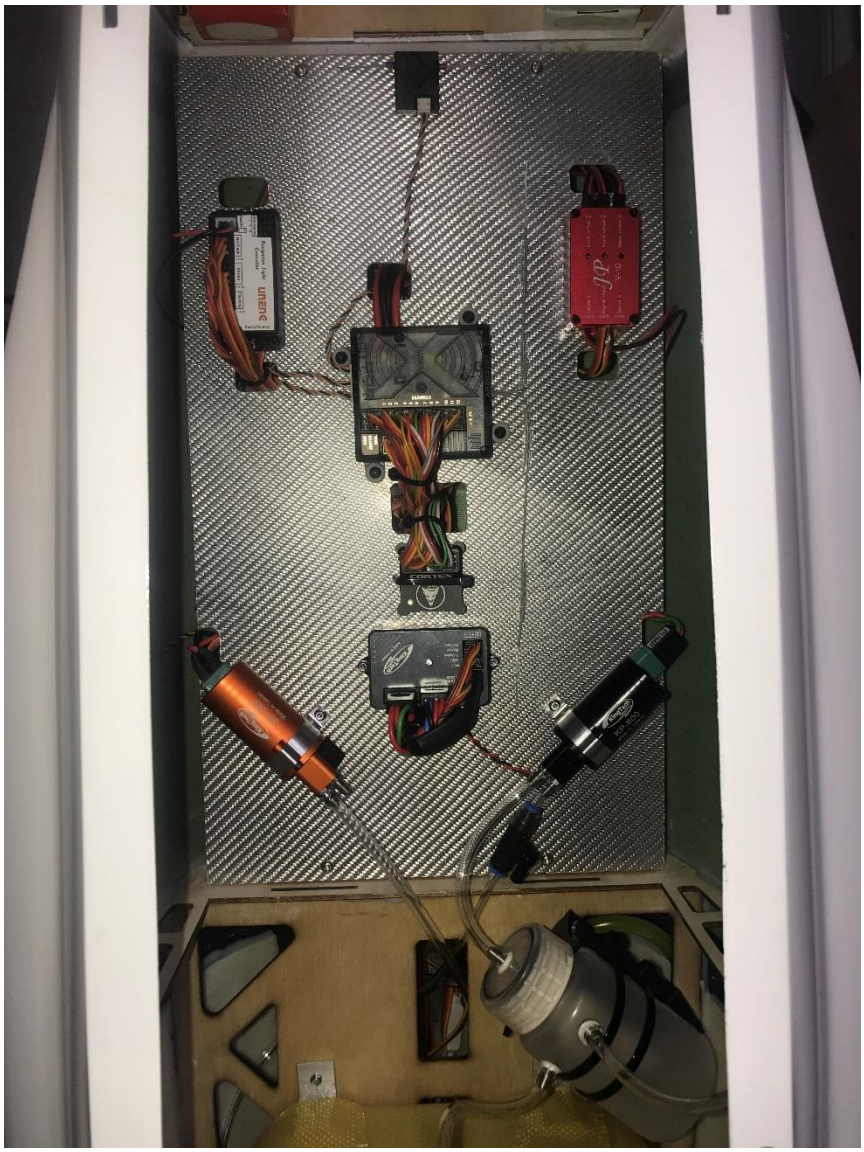
www.pacificrcjets.com



Final Component installation Photos

With Electric Retracts

With Air Retracts



Congratulations! You have completed the assembly and configuration of your T-3 turbine sport jet!

Make sure you have another set of eyes give your aircraft a good looking-over. Quite often, a problem can be spotted by a fresh, experienced pair of eyes. It's better to find and fix rather than fly and fail.

FLY SAFE AND HAVE FUN!!!

Document:

Version 1.0 – Jan 2019 – Initial composition and release.