

ARF PLUS L-39C

1/5.5 Scale Almost-Ready-To-Fly RC Jet

INSTRUCTION MANUAL



Specifications

Type : T.A.V.S
Scale : 1/5.5th
Length : 86" (2200mm)
Span : 68" (1750mm)
Weight : 23—25 Lbs (10— 11 Kg)
Engine : 17—27 Lbs (7—12 Kg) trust
Radio : 9 Channel (8-9 servo's)

The L-39 Albatros by Skymaster

Thank you very much for purchasing our Skymaster ARF L-39 , made with the revolutionary **Total Area Vacuum Sandwich (TAVS)** technology. Please note that the photos in this instruction manual show certain views from the prototypes, so please don't get confused by the different colour schemes!

Before you start building and setting-up your aircraft, please make sure you have read this instruction manual, and understood it. If you have any questions, please don't hesitate to contact us. Below are the contact details:

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Skymaster
ARF PLUS



Liability Exclusion and Damages

You have acquired a kit, which can be assembled into a fully working R/C model when fitted out with suitable accessories, as described in the instruction manual with the kit.

However, as manufacturers, we at Skymaster are not in a position to influence the way you build and operate your model, and we have no control over the methods you use to install, operate and maintain the radio control system components. For this reason we are obliged to deny all liability for loss, damage or costs which are incurred due to the incompetent or incorrect application and operation of our products, or which are connected with such operation in any way. Unless otherwise prescribed by binding law, the obligation of the Skymaster company to pay compensation is excluded, regardless of the legal argument employed. This applies to personal injury, death, damage to buildings, loss of turnover and business, interruption of business or other direct and indirect consequent damages. In all circumstances our total liability is limited to the amount which you actually paid for this model.

BY OPERATING THIS MODEL YOU ASSUME FULL RESPONSIBILITY FOR YOUR ACTIONS.

It is important to understand that Skymaster, is unable to monitor whether you follow the instructions contained in this instruction manual regarding the construction, operation and maintenance of the aircraft, nor whether you install and use the radio control system correctly. For this reason we at Skymaster are unable to guarantee, or provide, a contractual agreement with any individual or company that the model you have made will function correctly and safely. You, as operator of the model, must rely upon your own expertise and judgement in acquiring and operating this model.



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Warning !

This 'jet' aircraft is a high-end product and can create an enormous risk for both pilot and spectators, if not handled with care, and used according to the instructions. Make sure that you operate your F-16 according to the AMA rules, or those laws and regulations governing model flying in the country of use. The engine, landing gear, servos, linkages and control surfaces have to be attached properly. Please use only the recommended servos and accessories. Make sure that the 'Centre of Gravity' is located in the recommended place. Use the nose heavy end of the CG range for your first flights. A tail heavy plane can be an enormous danger for you and all spectators. Fix any weights, and heavy items like batteries, very securely into the plane. Make sure that the plane is secured properly when you start the engine. Have a helper hold your plane from the nose before you start the engine. Make sure that all spectators are far behind, or far in front, of the aircraft when running up the engine. Make sure that you range check your R/C system thoroughly before the 1st flight. It is absolutely necessary to range check your complete R/C installation first WITHOUT the engine running. Leave the transmitter antenna retracted, and check the distance you can walk before 'fail-safe' occurs. Then start the engine, run at about half throttle and repeat this range check. Make sure that there is no range reduction before 'fail-safe' occurs. If the range with engine running is less than with the engine off, please DON'T FLY at that time. Make sure that your wing spar tube is not damaged. Check that the anti-rotation dowels for the wings are not loose. Check that the wing, stab, fin and nose retaining bolts are tight. Please don't ignore our warnings, or those provided by other manufacturers. They refer to things and processes which, if ignored, could result in permanent damage or fatal injury. Secure the plane before starting engine.



General information about fully-composite aircraft structure and design

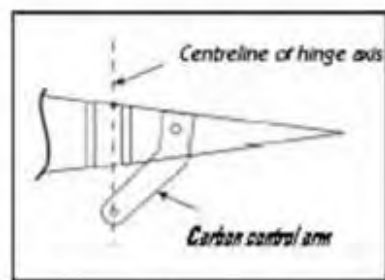
All the parts are produced in negative moulds, manufactured using vacuum-bagged sandwich construction technology. All parts are painted in the moulds, either single color or designer color schemes. A new production method, called TAVS (Total Area Vacuum Sandwich), enables us to present this aircraft with incredible built-in strength, while still being lightweight, and for a price that nobody could even consider some years ago. This production process has huge advantages, but a few disadvantages as well. These facts need to be explained in advance for your better understanding.

The Wings:

Both wing halves are made in negative moulds, and fully vacuum bagged, using only 3 layers of 80gm/2.5 oz. cloth in combination with a very hard 2 mm foam sandwich form a hard and durable outer skin. Because of this TAVS technology very few additional structural parts are needed. The ailerons are already elastic-hinged for you. They are laminated in the wing mould and are attached to the main wing with a special nylon hinge-cloth, sandwiched between the outer skin and the foam. This nylon hinge is 100% safe and durable. You will never have to worry about breaking it, or wearing it out. There is no gap at all on the top wing surface, and there is only a very narrow slot in the bottom surface, where the aileron slides under the main wing skin during down throw. This hinge setup is the cleanest you can ever obtain, but you have to take some care during assembly for proper installation and servo set up.

First, the hinge line is on the top surface of the wing, not in the centre. This is NOT a disadvantage, if you set in about 10% NEGATIVE aileron differential in your transmitter program. This means that the 'down' throw needs to be about 10% more than the up throw to give nice axial rolls. Why? Because the axis of the hinge is not at the centre line of the aileron, so it moves slightly in and out when it travels, and the aileron gets a little "bigger" in surface area when moving up, and "smaller" when moving down. This is why you have to set the negative differential in your transmitter to compensate for the size changing.

10% is a good starting point, and you will find out the exact setting during the first flights, doing fast vertical rolls and watching the fuselage rolling in a perfect axial line. You can set it perfectly, this is guaranteed. The bottom hinge slot needs some explanation, too. The cut line is exactly in the correct position so that the aileron slides under the wing skin smoothly. If the cut was a few mm forward or back, it wouldn't work properly. So, make sure that the lip is not damaged, and that the aileron slides under this lip perfectly. It will NOT lock at any time, as long as the lip is not damaged. If damage occurs to the lip, you can cut off 2-3 mm, but you should NEVER need to cut off more than this. Make sure that the carbon control horns are glued into the ailerons properly. The holes in the horns for the ball-links (or quick-links) need to be exactly perpendicular to the hinge axis line, and in this manual we show you a simple way to ensure that the horns in both control surfaces will be identical, making it easy to set up your R/C for accurate flying maneuvers.



The fuselage:

The fuselage is also made in negative moulds. All the load-bearing internal parts and bulkheads are now glued in using jigs and templates during the moulding and assembly stages in the factory, to ensure accurate location and reduce the assembly time for you. The Skymater L39 fuselage comprises of two parts. Before fuselage can be joined, tanks have to be installed first. So follow instructions for ease of operation.

Take Care:

Composite sandwich parts are extremely strong, but fragile at the same time. Always keep in mind that these airplanes are designed for minimum weight and maximum strength in flight. Please take care of it, especially when it is being transported, to make sure that none of the critical parts and linkages are damaged. Always handle your airplane with great care, especially on the ground and during transport, so you will have many hours of pleasure with it.



Tools and Adhesives

Tools etc:

This is a fairly quick and easy plane to build, for a jet model, not requiring difficult techniques or special equipment, but even the building of Skymaster aircraft requires some suitable tools! You will probably have all these tools in your workshop anyway, but if not, they are available in all good hobby shops, or hardware stores like "Home Depot" or similar.

1. Sharp knife (X-Acto or similar)
2. Allen key set (**metric**) 2.5mm, 3mm & 5mm
3. Sharp scissors, curved type for canopy
4. Pliers (various types)
5. Wrenches (**metric**)
6. Slotted and Phillips screwdrivers (various sizes)
7. Drills of various sizes
8. Battery drill and Dremel tool (or similar) with cutting discs, sanding tools and mills
9. Sandpaper (various grits), and/or Parnagrit sanding tools (high quality - recommended)
10. Carpet, bubble wrap or soft cloth to cover your work bench (most important !)
11. Car wax polish (clear)
12. Paper masking tape
13. Denaturised alcohol, Acetone, or similar (for cleaning joints before gluing)

Adhesives:

Not all types of glues are suited to working with composite parts.

Here is a selection of what we normally use, and what we can truly recommend. Please don't use inferior quality glues - you will end up with an inferior quality plane, that is not so strong or safe. Jet models require good gluing techniques, due to the higher flying speeds, and hence higher loads on many of the joints. We highly recommend that you use a slow cured epoxy for gluing highly stressed joints, like the hinges and control horns, into position and the most commonly used is 'Aeropoxy' (Bob Violett Models, USA). The self-mixing nozzles make it easy to apply exactly the required amount, in exactly the right place, and it will not run or flow onto places where you don't want it! It takes about 1 - 2 hours to start to harden so it also gives plenty of time for accurate assembly. Finally it gives a superb bond on all fibreglass and wood surfaces. Of course there are many similar glues available, and you can use your favorite type.



1. CA glue 'Thin' and 'Thick' types. We recommend ZAP, as this is a very high quality.
2. ZAP-O or Plasti-ZAP, odourless (for gluing the clear canopy)
3. 30 minute epoxy (stressed joints must be glued with 30 min and NOT 5 min epoxy).
4. Aeropoxy/Loctite Hysol 3462 or equivalent (optional, but highly recommended)
5. Epoxy laminating resin (12 - 24 hr cure) with hardener.
6. Milled glass fibre, for adding to slow epoxy for stronger joints.
7. Micro-balloons, for adding to epoxy for lightweight filling.
8. Thread-locking compound (Loctite, or equivalent)

At Skymaster we try our best to offer you a high quality kit, with outstanding value-for money, and as complete as possible. However, if you feel that some additional or different hardware should be included, please feel free to let us know.





Accessories

Here is a list of the things you may need to get your Skymaster L-39 in the air. Some of them are mandatory, and some of them are optional and can be chosen by you. What we list here are highly recommended parts, and have been thoroughly tested.

1. 2 JR9301 servo's for the Elevator. (At least 4Kg/cm digital)
2. 2 JR8411 for Ailerons
3. 1 JR8411 servo for Rudder.
4. 2 JR8411 servo's for Flaps
5. 1 JR8301 steering servo.
6. Standard JR577servos for Landing Gear, Door and Wheel Brake valves, unless electronic valves are used.
7. Computer Radio with PCM Receiver like JR9X
8. Landing gear set with wheels, struts, and brakes. (available from Skymaster as an option)
9. Pneumatic support set for landing gear (air tubing, valves, Tee's, fill valves, air tanks etc.)
10. 3 x 30mm gear door cylinders with 6 off set hinges and pneumatic support.
11. Turbine motor, with thrust range between 7kg and 12kg, with ECU, fuel pump, battery and solenoid valves, mounting strap etc. One of the common choices is the JetCat P80.
12. Fuel Tanks of capacity to suit your turbine (available from Skymaster as an option).
13. Stainless Steel tail pipe (available from Skymaster as an option)
14. Fuel tubing, Hopper tank (or BVM UAT), festo fittings, fuel filters, fuel tube clamps etc.
15. High quality heavy-duty servo extension cables, with gold connectors. High quality receiver switch, 'Y' leads, ceramic/ferrite chokes etc.
16. We recommend the use of a "powerbox". Such an installation will be shown.
17. Two 4 cell 1800 - 2400 mAH pack, or 5 cells with voltage regulator. Or 2 cell Lipo.
18. Cable ties in various lengths. Cable management parts, Aluminium tape, safety clips etc.

*Did you read the hints and warnings above and the instructions carefully?
Did you understand everything in this manual completely?
Then, and only then, let's start assembling your L-39.
If not, please read it again before you start the assembly.*



Kit Contents



Composite Parts:

- | | |
|--------------------------------------|-------------------------------------|
| 1. Rear Fuselage incl Hatch (L39001) | 2. Main Hatch (L39001-1) |
| 3. Canopy & Frame (L39002-1) | 4. Nose Cone incl Canopy (L39002) |
| 5. Main Spar (L39012) | 6. Fin (L39009) |
| 7. Rudder (L39010) | 8. Right Wing incl Aileron (L39004) |
| 9. Left Wing incl Aileron (L39003) | 10. Right Stab & Elevator (L39006) |
| 11. Left Stab & Elevator (L39005) | 12. Accessories (L39011) |
| 13. Right Tip Tank (L39007) | 14. Left Tip Tank (L39008) |
| 15. Carbon Stab Spars (2) (L39013) | |



Section 1: Assembling the Fin & Rudder

Items Required:

- | | |
|----------------------------|--------------------|
| 1. Fin | 2. Rudder |
| 3. T-Pin Hinges (3) | 4. Carbon Horn (1) |
| 5. Push rod assembly | 6. JR 8411 servo |
| 7. 1mm drill | 8. Epoxy |
| 9. Hobby knife w/#11 blade | 10. Skew driver |
| 11. Straight edge & Ruler | 12. 6mm plywood |

Before construction begins, decide if you do want to have a functional rudder or not. If no rudder required, simply glue rudder to fin with *aeropoxy*. Make sure rudder is **centered**.

For a standard rudder configuration, we recommend a servo that has 4Kg/cm of torque or greater, such as the DS8411 servo that comes with metal gears. It is *very important* that **no slop** is present in the rudder configuration. Any slop will be converted to flutter. Flutter will destroy the fin and make the model uncontrollable.



Step 1. Carefully remove the rudder from its protective plastic.

Step 2. Locate the hinges included and trial fit rudder to fin. Make sure rudder has at least **25mm** movement each way.

Step 3. Glue the 3 hinges into the rudder and make sure no epoxy spill onto the hinge pin.

Step 4. The servo mount for rudder is already installed at the base of fin. Trial fit servo and mark location for servo horn. (Note: Pushrod must travel 90 Deg across hinge line.)

Step 5. Drill 1mm pilot holes into plywood. Secure servo to plywood with 4 servo screws. (Note: Make sure plywood do not crack open when screws are inserted.)

Step 6. Mill a slot in skin for servo horn. *Make sure the*

servo moves freely!

Step 7. Mill a slot for the rudder horn. Make sure the hole for pushrod align with hinge line. Glue horn in place with epoxy.



Step 8. Glue the 3 hinges into the fin and make sure no epoxy spill onto the hinge pin.

Step 9. Cut rudder pushrod to length and attach sullivan brass clevises with locking pin to both horns. Make sure the 2 horns are perpendicular and no mechanical slop!

Step 10. Trial fit fin to fuselage. Make sure rudder moves freely.

This complete this section.

Section 2:

Assembling the Wings

Items Required:

- | | |
|-----------------------------|--------------------|
| 1. Wing L & R | 2. Carbon Horn (4) |
| 3. Push rod assembly (4) | 4. 4xJR DS8411 |
| 5. 1mm drill | 6. Epoxy |
| 7. Hobby knife w/#11 blade | 8. Skrew driver |
| 9. Straight edge & Ruler | 10. 6mm plywood |
| 11. JR Heavy Duty Horns (4) | |

For the aileron and Flaps we recommend a servo that has 8Kg/cm of torque or greater, such as the DS8411 servo with metal gears. It is *very important* that **no slop** is present in the aileron configuration. Any slop will be converted to flutter. Flutter will destroy the wing and make the model uncontrollable.

The ailerons and flaps are actively hinged to wing. This method is very strong and durable and will last the life of the model. Take advantage of this incredible technology and see how quickly you can complete wings!



Step 1. Carefully remove the wing from its protective plastic.

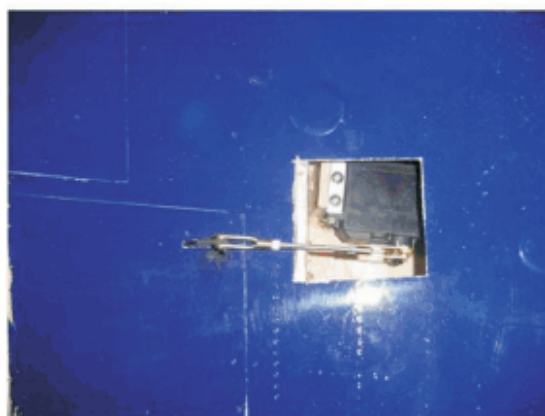
Step 2. Make sure aileron and flap move freely.

Step 3. Start by fitting the flap servo to mount. Mark location for skews and servo horn.

Step 4. Drill 1mm pilot holes into plywood. Secure servo to plywood with 4 servo screws. (Note: Make sure plywood do not crack open when screws are inserted.)

Step 5. Locate the flap horn. Drill hole to fit clevis. Roughen bottom for glue. Mill a slot for the horns at root of flap. Glue horn in place with epoxy. Make sure hole for clevis is located as close to pivot point of hing

as possible.



Step 6. Mill hole in skin of wing to fit servo horn. Secure horn to servo. Attach pushrod to servo. (Hint: Plug servo into receiver and check correct operation. This will save time during setup stage.)

Step 7. Plug aileron servo into receiver and electronically centre servo. Fit servo to mount. An extension wire will be needed. Secure joint with heat shrink or safety clip.

Step 8. Mark location for servo horn. Cut opening for servo

horn. Make sure horn travels freely from left to right! (Note: JR super horns are perfect for the job. They are thicker and have a metal ring around base. Metal horns may also be used.)

Step 9. Mill hole for aileron horns in aileron. Make sure pushrod travel 90 deg across hinge line. Glue horn in place.

Step 10. Insert pushrod and attach sullivan brass clevis with locking pin to both horns. Make sure the horn is perpendicular and no mechanical slop!

Step 11. Trial fit wing to fuselage. Make sure flap moves freely.

Repeat steps 1—11 for other wing! NB: Make sure servos are a mirror image of each other and that both pushrods are identical in length!

This complete this section.

Section 3:

Assembling the Stabilizers & Fin to the fuselage

Items Required:

- | | |
|-----------------------------|-----------------|
| 1. Fuselage | 2. Stabs L&R |
| 3. Fin assembly | 4. JR DS9301 |
| 5. 1mm drill | 6. M5 bolts |
| 7. Hobby knife w/#11 blade | 8. Skrew driver |
| 9. Straight edge & Ruler | 10. Allen key |
| 11. JR Heavy Duty Horns (2) | 12. Pushrod (2) |

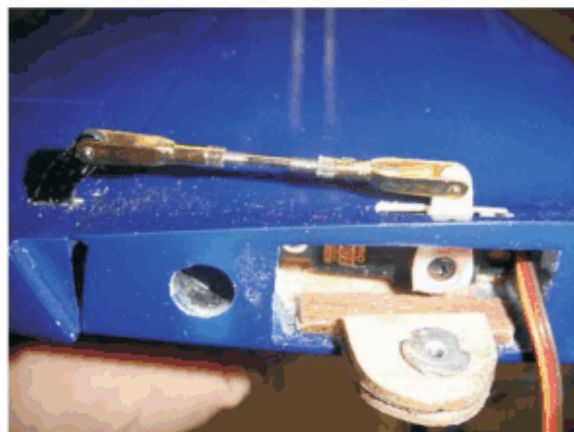
We recommend an elevator servo of at least 4Kg/cm torque such as the DS930 servo. A standard servo will not fit into stab. So a mid size servo must be used. It is *very important* that **no slop** is present on elevator. Any slop will be converted to flutter. Flutter will destroy the elevator and make the model uncontrollable.

Make sure to centre the servo before installation. JR heavy duty horns are perfect for the job. Metal horns may also be used for an even stronger fit.

Step 1. Remove both stabilizers from packaging and inspect the movement of elevators. Make sure they are moving freely in both directions.

Step 2. Trial fit servo into bracket at the root of each stab. Mark location where servo horn will penetrate trough skin of fuselage. Cut skin so horn travels freely from front to back

Step 3. Drill 1mm pilot holes for servo screws and fasten servo to mount. (Note: Horn must be furthest away from elevator)



Step 4. Assemble heavy duty pushrod. The length of each pushrod for elevators must be equal in length.

Step 5. Mill hole for carbon horn at base of elevator. Make sure pivot point is on the hinge line. The pushrod must cross the hinge line at an angle of 90 degrees.

Step 6. Glue carbon horns in place.

Step 7. Secure pushrods to horns.

Step 8. Repeat for other elevator. Make sure servo's are installed a mirror image of each other.

Step 9. Insert the two carbon stab tubes trough fuselage. Secure stabilizers to fuselage by means of 5mm cap screw. Extension leads are required and make sure the joint is secure. (use heatshrink to secure male and female plug)



NB: Make sure elevators are mechanically and electronically centered working properly before continuing to following section.

Step 10. Bolt fin to fuselage. Use locktite on bolt. Use



extension lead for rudder servo.

Step 11. Use cable ties to secure 3 servo leads away from tail pipe.

This complete this section!

Section 4:

Assembling Fuel Tanks and joining fuselage.

Items Required:

1. Fuselage rear and front
2. 4 x M5 cap screws and washers
3. Main tanks (2)
3. Tank accessories (2)
4. UAT
5. Tygon tubing
6. Festo T-fittings
7. Silicon

The fuel system is very important. Rinse tanks to get rid of all debris. All fittings must be very secure. Any leaks will cause bubbles in fuel line and subsequence flame out. The copper pipes were cut by pipe cutter. The ends will be closed slightly. Use a sharp object like a reamer to open up the diameter of pipe. Make sure all off cuts are removed. Sharp edges can cut tubing. Make sure edges are not sharp.



Step 1. Plumb tanks by means of 2 copper pipes. Make sure clunk are right at the back and move freely inside.

Step 2. Mark tanks for inlet and outlet. (Note: You will be surprised how easy we forget this.)

Step 3. Insert main tanks into fuselage. First top and then bottom. It can only go in one way. Make sure up is up and down is down. Use silicon to secure tanks.

Step 4. Secure all pipes as per diagram on next page. Use cable ties or clips to secure tygon pipes to brass pipes.

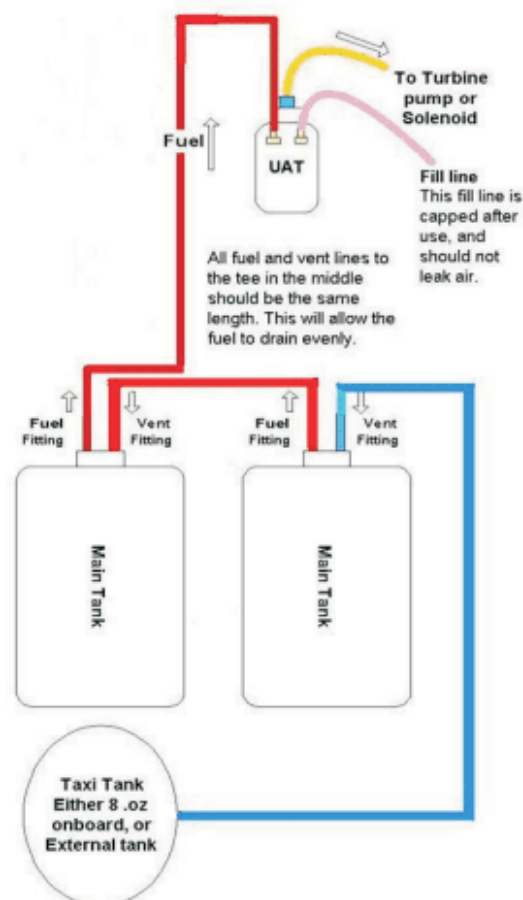
Step 5. Secure hopper feeder to UAT.

Step 6. Remove radio tray from front fuselage.

Step 7. Use 4 M5 cap screws to fasten front fuselage to rear fuselage. Make sure of good fit. If bad fit the canopy hook will not work properly.



This complete this section!



Section 5: Assembling the retracts & steering

Items Required:

- | | |
|----------------------------|-------------------|
| 1. Fuselage | 6. Steel wire |
| 2. L39 L/G set | 7. JR 577 servo |
| 3. Drill set | 8. brass tube 2mm |
| 4. Self tapper screws (12) | 9. Marker |
| 5. Skrew driver | |

Skymaster L/G set includes air up and down retracts. The nose unit is 90 degrees. The mains are reversed. The oleos are damped for superior performance. The tyres are air inflated. New brake system is supplied with L/G set.

Caution

There are three size of Skymaster air filled tires (57_{min}-63_{max} mm, 76_{min}-84_{max} mm, 95_{min}-108_{max} mm). They are designed to withstand 140 km/h landing and take-off speed. Never over pressurize tires to exceed their max diameter. As you fill gas in tires, the diameter of them will be enlarged. If the tire pressure is too high, the tire will spin off in high-speed take-off or landing possibly!

It is ideally to pressurize tire with a hand-operate air pump and use a caliper to check O.D of tire. Cause the pressure and flow rate of electronic compressor is too high, if an electronic compressor is used, be careful, do not over pressure the tire! Once the air is pumped into tire, the only way to release air out of tire is disassembly wheel rim.

Step 1. Insert nose oleo into retract unit. Secure cap skrew.

Step 2. Fit unit onto front rail and mark locations for skrews.

Step 3. Drill pilot 2mm holes and secure unit with 4 self tappers.

Step 4. Fit mains oleos to reverse units. Make sure hubs of wheels face inwards.

Step 5. Mark locations on rails and drill 2mm holes.

Step 6. Insert air line to units. Use 2 different colors for up and down position.

Step 7. Secure units in place with 4 self tappers.



Step 8. Fit air line to nose unit. Remember to reverse the color of tubing on nose unit. (mains are reversed)

Step 9. Fit air

line to brakes. Use cable ties to fasten tubing to oleos.

Step 10. Secure JR577 servo for nose wheel steering with 4 servo skrews.

Step 11. Cut 2 lengths of steel wire (fishing trace) and crimp wires with 2mm copper/brass tube to servo arm.

Step 12. Centre servo arm and nose wheel. Secure other end of wire to steering arm on nose leg. Make sure no play is present in steering. Make sure steering wire does not tangle with nose oleo when retracted. Use elastic bands to pull cable to side.



Step 13. Check operation of units for complete retraction. Sand glass fiber if any binding occurs.



This complete this section!

Section 6:

Assembling the Turbine and tail pipe.

Items Required:

1. Fuselage
2. Turbine (Jetcat P-80)
3. Turbine electronics
4. Tail Pipe
5. Clamps
6. Straight edge & Ruler
7. Pins

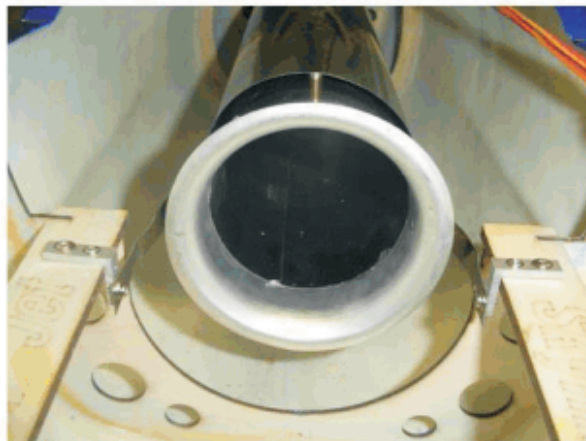
Use the instruction manual of your favorite turbine to guide you through the installation. The L39 is ideal for a P-80 (8Kg) turbine. If installing larger turbines, care must be taken to use stronger servo's and links.

Some turbines use off set mounts. Please use ply spacers to make sure turbine is in centre of intake. Mount the turbine as far forward as possible.

Step 1. Trial fit tail pipe into fuselage.

Step 2. Mark location for mounting straps.

Step 3. Silicon or rivet bell mouth to pipe.



Step 4. Secure pipe to formers. Make sure no movement is possible. I added an extra strap for better strength.

Step 5. Slide turbine into position. Make sure gap between pipe and tail cone is per manufactures specifications. Mark and drill holes for securing turbine.

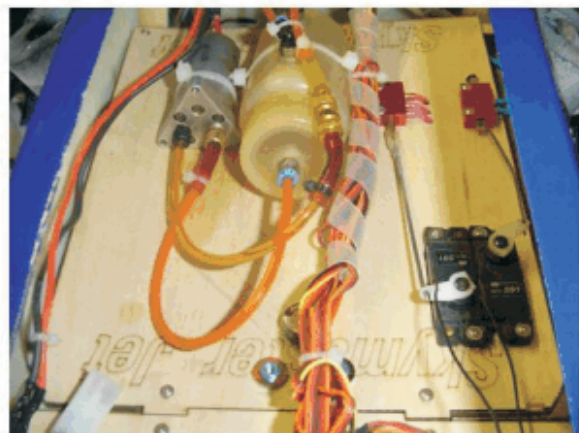
Step 6. Insert all wires and festo tubing to turbine. Follow instructions of manufactures.

Step 7. When happy with fit, fasten turbine with bolts.

Step 8. Complete plumbing to pump and UAT.



This complete this section!





Section 7: **Assembling tip tanks & wing**

Items Required:

- | | |
|---------------------------|-----------------|
| 1. Fuselage | 7. Masking tape |
| 2. Wing L&R | 8. Ruler |
| 3. Tip Tanks (2) | 9. Drill |
| 4. Wing Spar | 10. CA Glue |
| 5. M4x25mm Cap Screws (4) | |
| 6. Epoxy | |

The prototype L39 did not have landing lights installed in tip tanks. In future this may be included. Please wire lights before glueing tip tanks.



Step 7. Repeat for other wing.



This complete this section!

Step 1. Trial fit tanks to tip of wings. Make sure aluminium pegs fit wing.

Step 2. If happy with fit glue with 30 minute epoxy.

Step 3. Slide main spar trough fuselage.

Step 4. Slide both wings over tube. Check fit to fuselage. Fasten wing with M4 cap screws.

Step 5. Check fit of main wheels into fuselage. Sand if needed.

Step 6. Secure all pipes and servo leads with cable ties or clips. Make sure it will not tangle with main landing gear unit. Use quick disconnects to T-off air tubing.





Section 8:

Accessory tray installation

Items Required:

- | | |
|----------------------|---|
| 1. Fuselage | 9. Powerbox 40/24 & 2 Switches |
| 2. Retract valve | 10. 9Ch PCM Receiver |
| 3. Brake valve | 11. Whip antenna |
| 4. Door valve | 12. Ext leads 1M (3) |
| 5. JR 577 servo (3) | 13. Ext Leads 60cm (4) |
| 6. Filler valves (2) | 14. Cable ties |
| 7. Air tanks (2) | 15. Pushrod wires |
| 8. JR Matchbox | 16. Batteries (5 cell Nicad or 2 cell Lipo) |

The installation of the accessory tray is a personal thing. Many have vast experience and for them it will not be a problem. This section is for those with limited experience.

The lay out depends on what accessories you will be using. Some will use electronic valves and other will use 1 way and 2 way valves with servo's.

We recommend the use of a battery back up system like the powerbox range. This unit utilizes 2 battery packs and monitor the state of batteries. It will show status of batteries under load condition after each flight. Because the L39 comes out a bit tail heavy it is recommended to use 2 x 5cell Nicad packs to power the powerbox. The use of powerbox switches is also recommended for high current application.

Such an installation is shown in picture.

The following 12 channels are used in L39:

Rudder (1) Steering (1) Elevator (2) Ailerons (2) Flaps (2)
Brake (1) Retracts (1) Doors (1) Throttle (1)

The use of electronic sequencer between retracts and doors is important.

A matchbox can be used for Flaps or Elevator and the rudder and steering servo can be plugged into ch4 on powerbox

This will reduce the 12 channels to 9 channels.

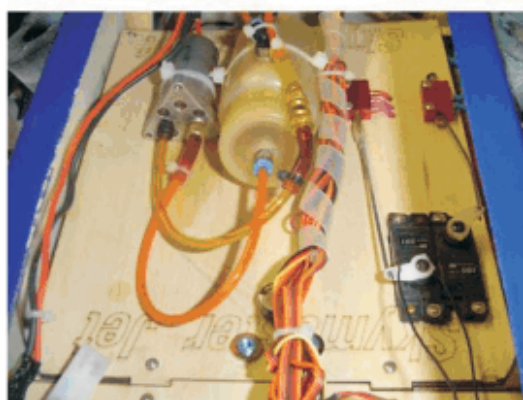
The 9X have a dual elevator function and no matchbox or y-lead is needed for elevator. Use the manual supplied with radio to program your personal data.

Use manual for powerbox to setup installation.

Make sure good quality extension leads are used. Secure male and female plugs with safety clips or cable ties.

Run all servo wires well away from turbine wires. A neat installation will always help with fault finding.

RX antenna wire must be run as far away from electronics as possible. Use a whip antenna on the nose of L39



Section 9: Throws and CG



Elevator : 30mm up and 30mm down 30% expo.
 Aileron: 25mm up and 25mm down 30% expo. The ailerons are very active even in slow speed.
 Rudder: 25mm left 25mm right expo 30%.
 Flaps : 15 mm for take off and 50 mm for landing
 CG : 125 mm from wing L/E at fuselage
 I have used the mode setup for JR radio. Mode 1 : take-off. Model 2 : Flying. Mode 3: Landing.



Rudder 25mm



This complete this section! We wish you a pleasant flight and many happy landings with your Skymaster L39!