

F-86 Sabre

1/5.8 Scale

GO FLY GOLD



Length: 78", Wing Span: 82.5"

Turbine 100-130 class

Fuel Capacity 2.8L

Weight 30 lbs Dry

ASSEMBLY AND OPERATING MANUAL

Version 1.2 December 2023

Equipped with HV Servos and should not be operated below 7.2 volts

BVM

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F-86 Sabre
Assembly & Operation Manual

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INTRODUCTION

Thank you for purchasing theGo FlyF-86 Sabre. This model represents the latest in manufacturing technology and completion for the R/C jet enthusiast. The factory has expertly crafted and thoroughly inspected all aspects of the model. Only a small amount of work is required to complete the assembly of your F-86 Sabre.

This manual contains instructions for safety, operation and maintenance. It is essential to read and follow all of the instructions and warnings in the manual.

Please read the entire manual to become familiar with the processes and procedures before you begin to assemble your aircraft.

Disclaimer

Bob Violett Models Inc. assumes no liability for the operation and use of these products. The owner and operator of these products should have the necessary experience and exercise common sense. Said owner and operator must have a valid Academy of Model Aeronautics license for operation in the U.S.A.

This is a sophisticated model aircraft. It must be operated with caution and common sense and requires some basic mechanical ability. Failure to operate this product in a safe and responsible manner could result in injury or damage to the product or other property.

Notice: Do not use with incompatible components or alter this product in any way outside of the instructions provided by BVM, Inc. The BVM F-86 Sabre has been designed and flight tested with 100 – 130 class turbines.

List of BVM supplied items

- ☐ Assembly and Operating Manual Package
- ☐ Central Controller Instructions
- ☐ Fuel System Check List
- ☐ 6 inch Balsa Stick 1x1/2 inch
- ☐ Black Filler Plastic
- ☐ Black Fiber Tape

Recommended Accessories

You may have some of these products in your shop, but if not, refer to this list.

- ☐ 100 - 130 class turbine
- ☐ BVM UAT (#6044)
- ☐ 20 Channel Power Safe Receiver (SPMAR20310T)
- ☐ (2) 7.4v Batteries 3600mAh RX (V-PLURX15-36002)
- ☐ Bavarian Demon Aero Cortex Pro Gyro (#V-DA-BD-Cortex Pro)
- ☐ General Purpose Jet Foam Cradle (#PA-SR-0080)

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BVM Accessories Used in Demo Model

You may have some of these products in your shop, but if not, refer to this list.

- ☐ Jet Central Lynx 130
- ☐ Spektrum 20 Channel Power Safe (SPMAR20310T)
- ☐ Bavarian Demon Aero Cortex Pro Gyro (#V-DA-BD-Cortex Pro)
- ☐ (1) 9.9v ECU Battery
- ☐ (2) 7.4v Batteries Pulse 3600mAh RX (V-PLURX15-36002)
- ☐ BVM Ultimate Air Trap (#6044)
- ☐ 12 inch Warbird Pilot
- ☐ E-Flite 6 inch EC3 Extensions (EFLAEC306)

Required Tools

A combination of Metric and SAE hex socket and drivers along with a small standard and Phillips head drivers will be necessary.

- ☐ 9/64" Long Ball Driver
- ☐ Metric Allen Wrench (PS-TO-0014)
- ☐ SAE Allen Wrench (PS-TO-0015)



List of Adhesives/Lubricants needed Available at BVMJets.com

- ☐ Super O-Lube BVM #5779
- ☐ Axle Super Lube BVM #5784
- ☐ Dry Lube BVM# 1947
- ☐ Pacer Z-42 # PT42

List of Adhesives/Lubricants not necessarily needed Available at BVMJets.com

- ☐ BVM Aeropoxy # 9566
- ☐ BVM Qt Plus # 9580
- ☐ Zap-A-Goo # PT12
- ☐ BVM Thin Lube for "O" Rings # 1945



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UNPACKING

Carefully remove items from the box. Open each package and inspect for shipping damage. After reading this entire manual, get familiar with the major kit components.

NOTE: Damaged parts must be reported to BVM within 7 days of receiving your kit. Become familiar with the work completed at the factory. It is important that you inspect and approve this work now.

Using a stand, such as the BVM General Purpose Jet Foam Cradle (PA-SR-0080) will aid in the assembly of the F-86 Sabre.



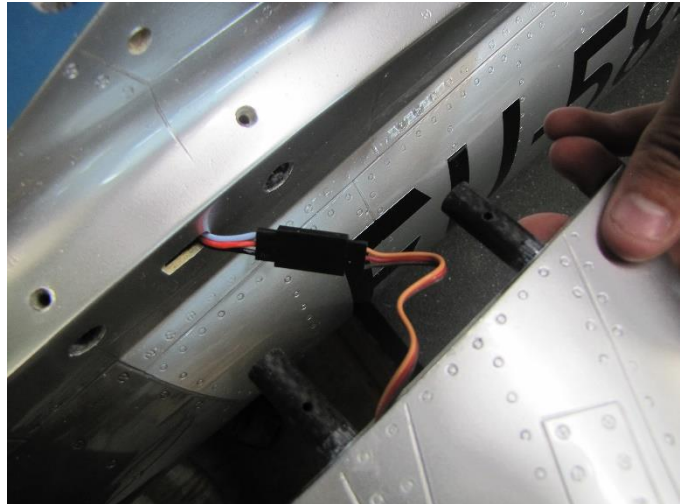
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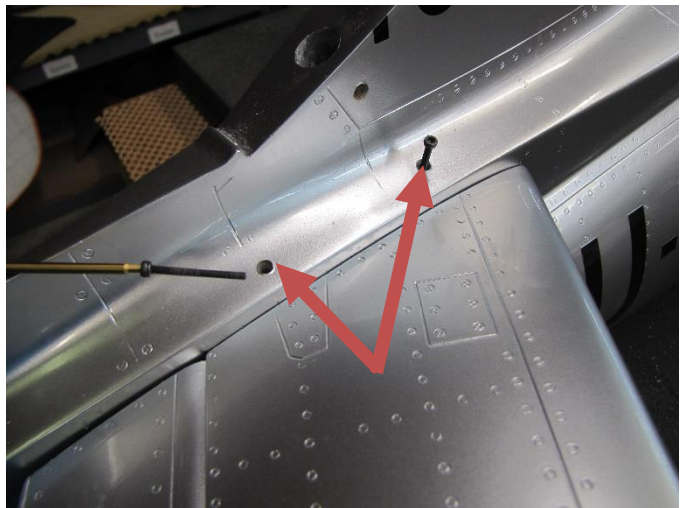
INSTALLING TAIL SURFACES

Install the Stabs

- ☐ Connect the servo leads and secure with servo clips or tape.
- ☐ Insert the Carbon Rods fully into the fuselage sockets.



- ☐ Secure each stab by inserting the 2.5 mm bolts with a 2 mm wrench.



Install the vertical fin

- ☐ Connect the servo leads and secure with servo clips or tape.
- ☐ Insert the Carbon Rods into the receivers and install the 2.5 mm bolts using a 2mm Allen wrench.



WING PREPERATION AND INSTALLATION

Wheel Brake Removal

- Remove the (2) Set Screws from the bottom of the strut using a 2mm Allen Wrench. Now you can slide the Wheel Hub Assembly off.



- Remove the (3) Philips head screws. This will allow you to remove the plastic wheel cover and remove the Axle.



- Lubricate the O'Rings with Super O-Lube (BVM# 5779).



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- ☐ Lubricate the Axles with Super Lube (BVM 5784)

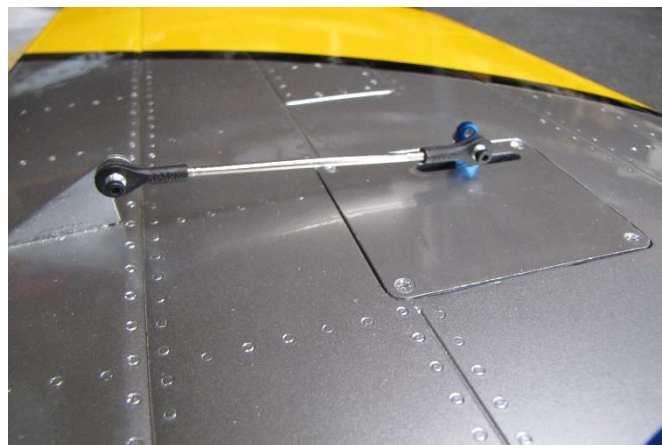


- ☐ Once all parts have been Lubed and Greased. You can reassemble using the above steps. A small amount of Pacer Z-42 Loctite is used on the Axle Set Screws.



Wing Linkage

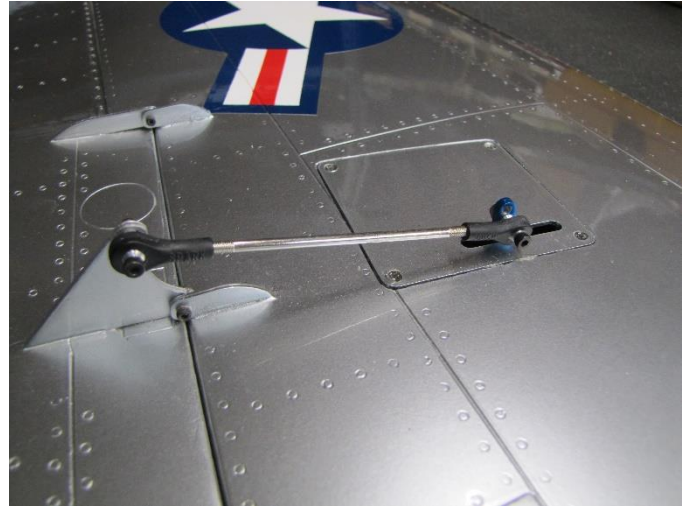
- ☐ We moved the Aileron Ball Link to the lower hole on the servo Arm. This will improve resolution.



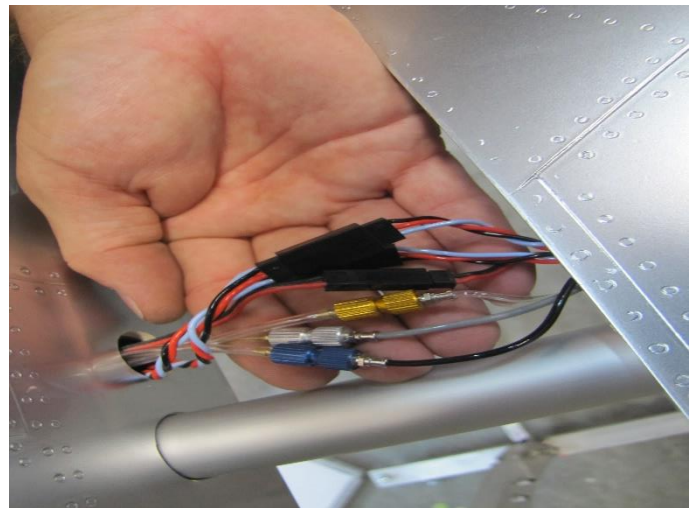
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- Move the Flap Ball Link to the lowest hole on the servo horn. This will provide great holding power and plenty of movement.



- Insert wing tube through the fuselage.
- Connect the color coded Air Lines.
- Connect and secure your servo and Nav Light connections



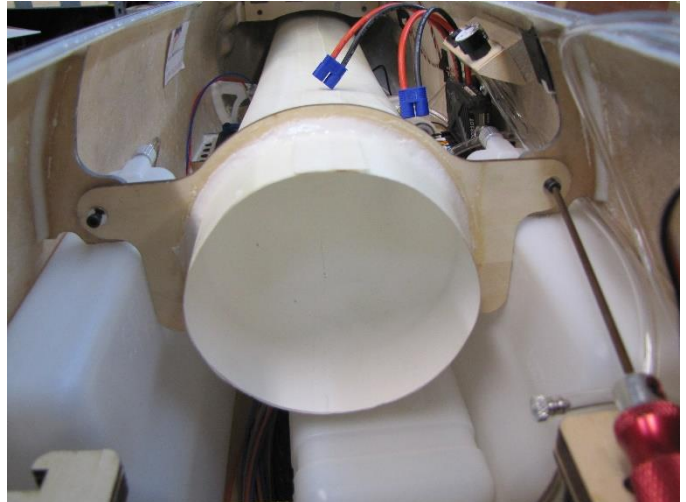
- Secure each wing by tightening the (2) leading edge clamping bolts with a 9/64 ball wrench.



Fuselage Layout and Installation

Inlet Removal

- The inlet is held in place in (3) spots. The front lip and the (2) 3mm bolts in the rear. A 2.5mm Allen Wrench will allow you to remove the inlet from the aircraft. Once removed you will have access you need for the next steps.



Mounting the UAT

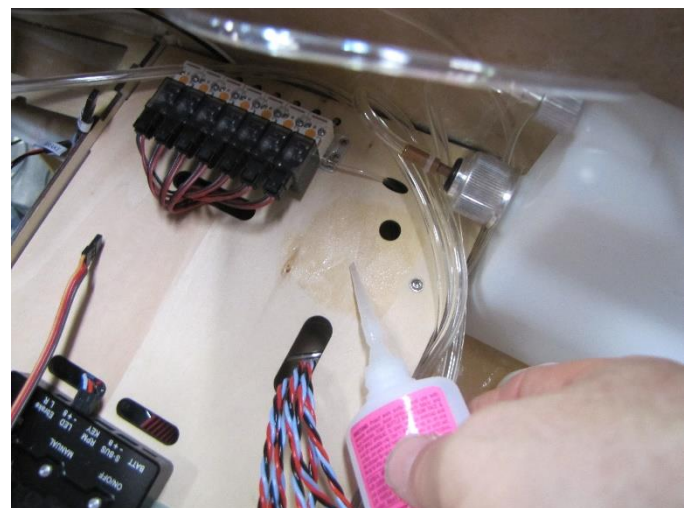
- The BVM UAT (BVM 6044) is mounted on the right side of the fuselage facing aft. It may be required for you to open the mounting tray slightly to fit. The BVM UAT is secured in place with a zip tie.



Mounting the Gyro

- Use thin CA to seal the wood in preparation of Gyro mounting.

Note: Mount your Gyro using the Gyro manufactures recommended guidelines.

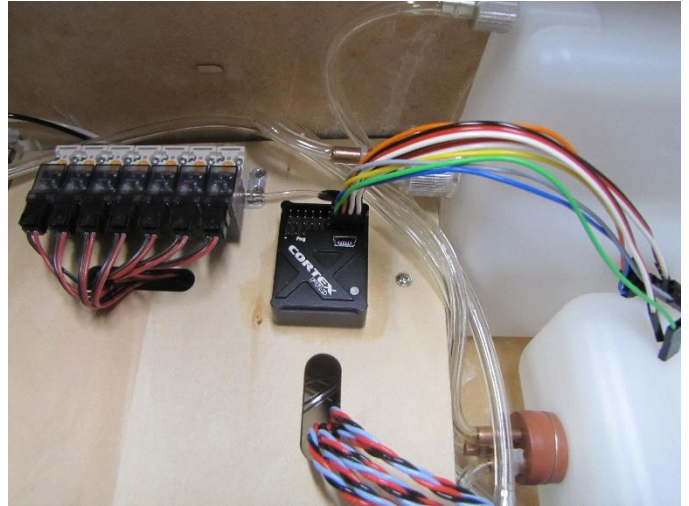


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- The BVM Demo Sabre utilizes the Cortex Pro. We mounted the Cortex on the right side of the aircraft.

Note: In this configuration the orientation of the Gyro will have to be changed in the software.

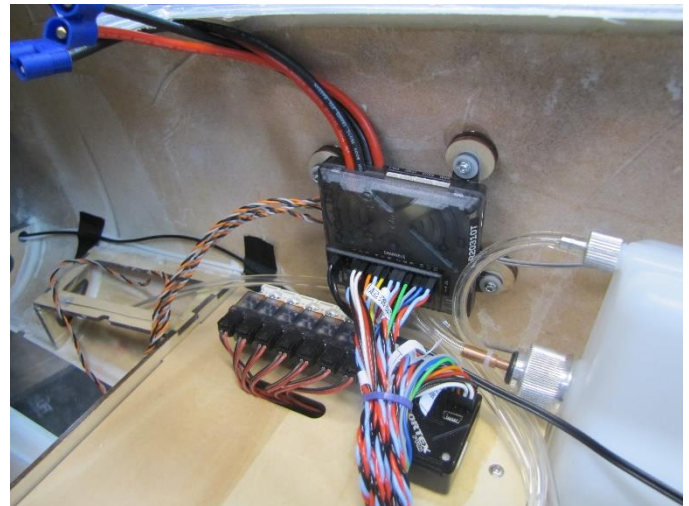


Mounting the RX

- In the BVM demo Sabre we used a Spektrum 20ch Power Safe RX (SPMAR20310T)

Mounting of the Rx was done with (4) small Ply discs and (4) Servo Screws. The Ply discs were glued to the fuse using BVM QTPlus. This is also mounted on the right side of the fuselage.

Note: If you mount anything in the middle of the tray, check your clearance since the inlet sits there.



Mounting the Switch and Fill Valve

The BVM Demo F-86 uses a side mounted Switch Mount that holds the RX Switch, Air Fill Valve and Gauge.

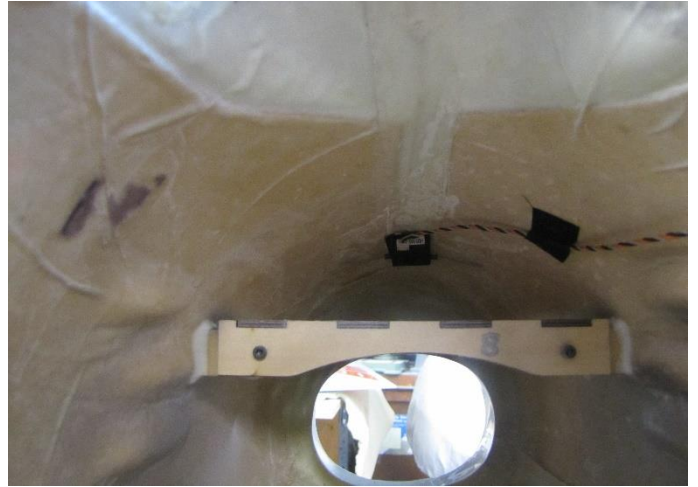


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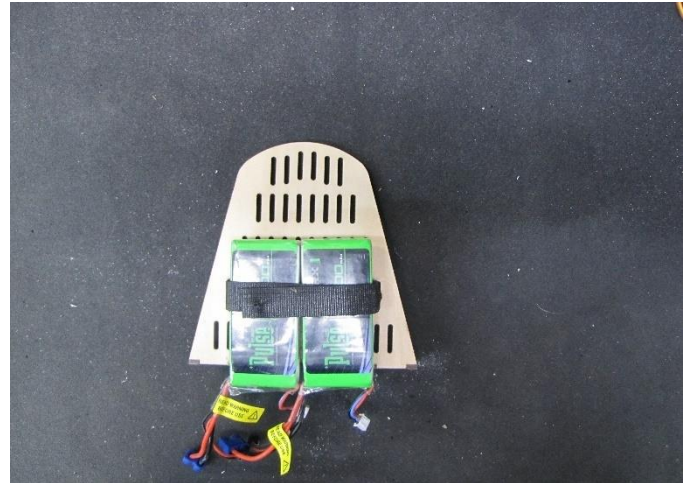
Mounting the RX Batteries

- Remove the (2) 3mm bolts that holds the Battery Tray in the nose. A 2.5mm Allen Wrench is needed.



- The BVM Demo F-86 utilizes (2) Pulse 3600 Mah RX Packs (V-PLURX15-36002)

Note: The packs cannot go all the way forward on the tray,



RX Wire Connections

The wires are labeled from the factory. If you are using the DX18, DX 20 or IX20 the program is available from BVM. Follow the chart below to connect the servos.

DX20 Connection Chart						
RX Port	(1)Throttle	(2)Aileron	(3)Elevator	(4)Rudder	(5)Gear	(6)Aux1
Surface	Throttle	Right Ail	Right Elev	Rudder	Left Flap	Left Ail
RX Port	(7)Aux2	(8)Aux3	(9)Aux4	(10)Aux5	(11)Aux6	(12)Aux7
Surface	Right Flap	Brakes	Left Elev	Gyro	Speed Brakes	Gear
RX Port	(13) X + 1					
Surface	N Steering					

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Turbine Installation

☐ Fuel Pump Mount

The F-86 has (1) mounting spot for the pump on either side of the engine for mounting your fuel pump.

Note: Follow all of your Manufactures recommended mounting instructions for their components.

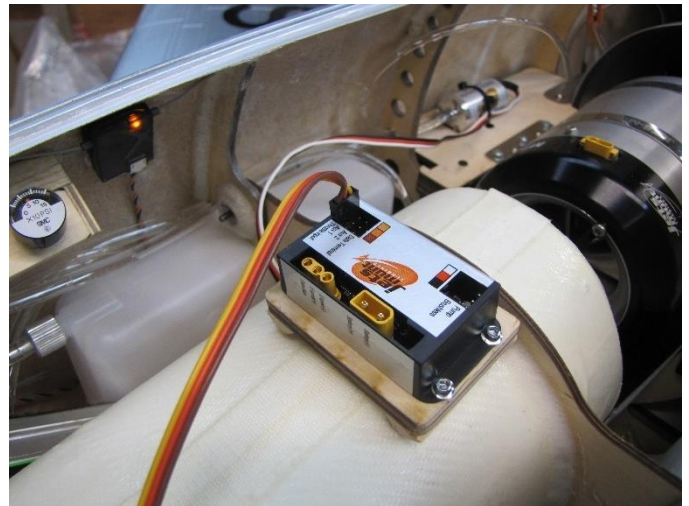
Also make sure to safety wire all fuel pump connections.



ECU Mounting

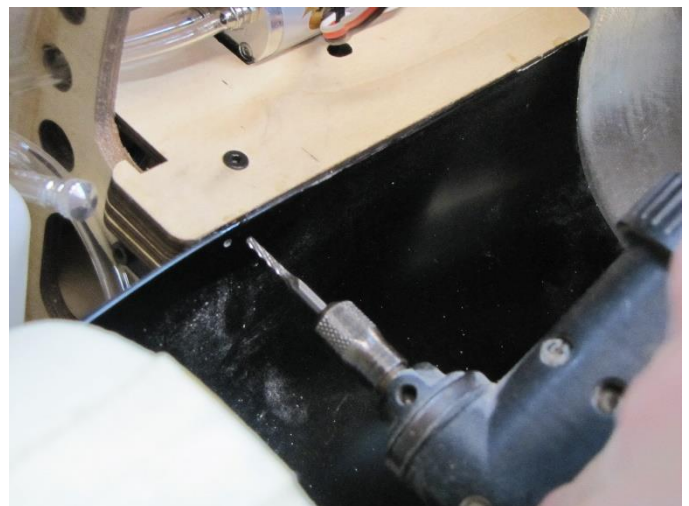
- ☐ On this particular Sabre we mounted the ECU behind the Cockpit Tub. We used a simple Ply Plate with some Tri Stock and glued it to the inlet using BVM QT Poxy.

Note: All connections where made per Turbine Manufactures instructions.



Heat Shield Mounting

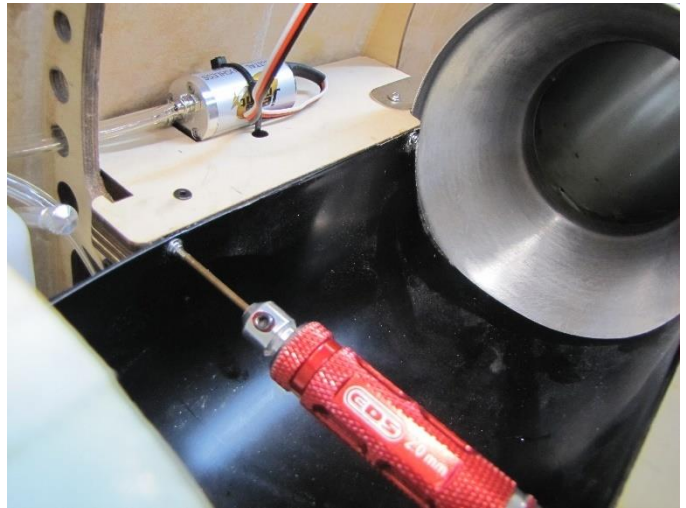
- ☐ The heat shield is centered in the opening between the Bell Mouth and inlet. It is also level to the top of the Turbine Rails. Drill (4) 1/16th holes through the Heat Shield into the Turbine Rails (2) holes on each side.



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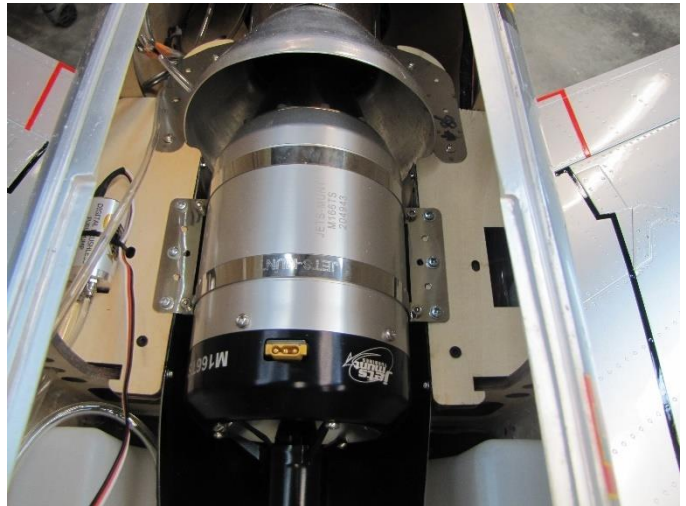
- Use (4) #2 socket head Servo Screws to hold the heat shield in place. (2) on either side. You will need a 2mm or 5/64th Allen wrench or this.



Turbine Installation

- Center the Turbine between the Turbine Rails and down the middle of the Tail Pipe. We used (6) # 6 self tapping screws with washers to hold the engine in place on this particular Sabre.

Note: Please use the Turbine Manufactures instructions for mounting the Turbine.



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Cockpit and Pilot Mounting

- The Pilot is a Warbirds Korean War 12inch Figure. (V-WBKOREANPILO)

The figure is held in place with a Velcro strap around his waist.



Canopy Filler

The Canopy Filler is a Flat sheet of Black Plastic. It is taped into place just behind the Cockpit Tub, Use the supplied tape and Plastic for this step.



The Canopy Filler closes the space behind the Cockpit Tub.

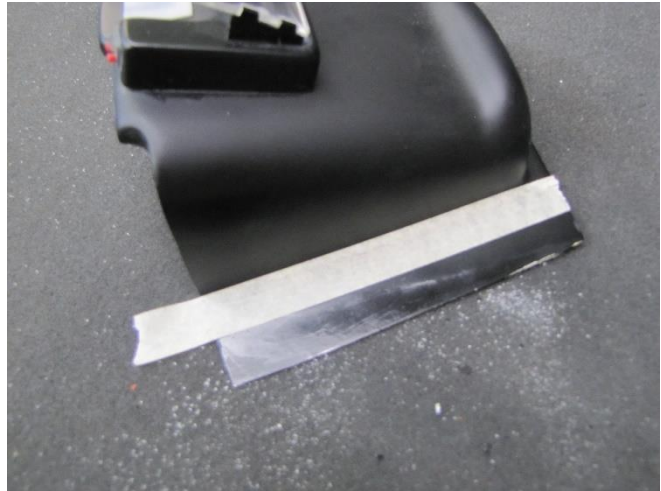


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Removable Anti Glare Shield

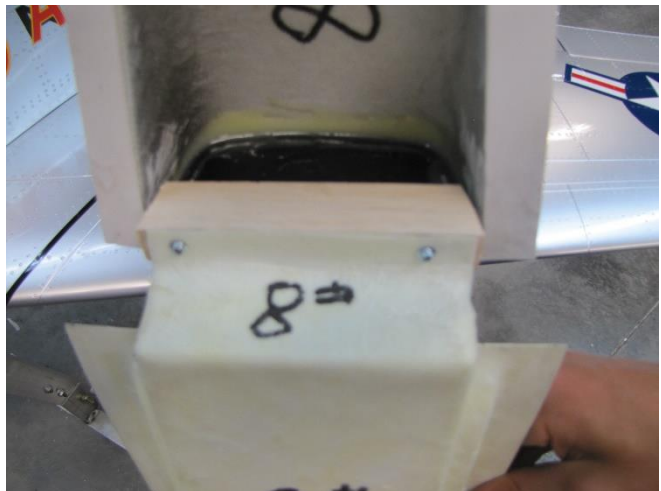
- This is an option, but it does make it easier to get to your RX batteries in the nose.
- Using a ½ wide piece of Masking Tape. Lay the tape against the side of the Glare Shield and cut off the remaining portion exposed. This will help to get it past the flange of the fuselage.



- Once trimmed it will look like this in the photo.



- Using the supplied 6 inchhard Balsa cut a piece to span across the inside opening of the Anti Glare Shield.
- Next use (2) Servo Screws to hold the balsa block to the Cockpit Tub.
- Next leave a ½ space between the Top of the Cockpit Deck and the Bottom of the Anti Glare Shield. And tack the glare shield to the Balsa Block. Use QT Poxxy to glue the block.



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Control Surface Deflections and Expo Settings

NOTE: The BVM Demo plane is set up using the following Expo percentages. Positive values are used on Spektrum and JR radios, Futaba uses negative.

Control	High Rate Travels		Expo	D/R M	D/R L
Stab (measured at the fuse side.)	Up 1.25"	Down 1.0"	20	80%/15	60%/10
Aileron (measured at the tip)	UP .70"	Down .70"	20	80%/15	60%/10
Flaps (measured at the Aileron)	Take Off 1.6"	Landing 3"			
Rudder (measured at the Bot.)	L&R 1.5"		20	80%/15	60%/10

DX20, DX18, and DX18QQ Transmitter File

The BVM Demo models are setup on Spektrum DX20 transmitters. The file, if requested, has all the mixes, rates, expos, and settings done for you. Setting the sub trim, switches, and travel adjustment must be accomplished by the modeler for the specific aircraft.

Important!!! Check the directions of all flight controls before each flight.

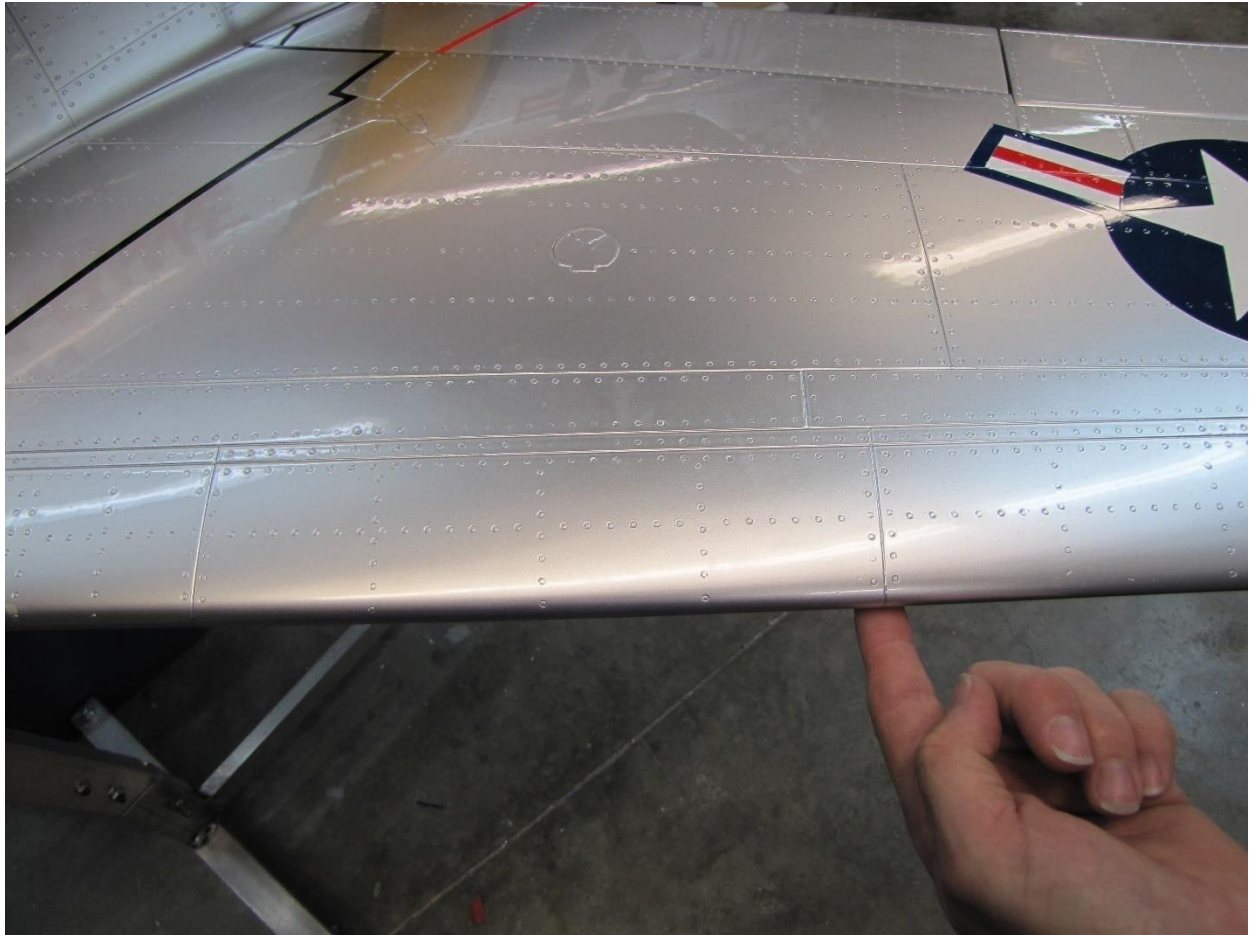
Switch/Lever/Trimmer	Channel	Output
Switch A	(12) Aux 7 Gear	Landing Gear, Down is Down
Switch D (Flight Modes)	Flaps	Up is Normal flight Mid Take Off Down is Landing
Switch E	Brakes (8) Aux 3	Pos 0-off, Pos 1-pulse, Pos 2-stop
L. Trim	Steering Trim (13) X+1	Up for Right Steering Trim Down for Left Steering Trim
Switch F	Aileron/ Elevator, Rudder Rates	Up (0) is High
Switch G	Gyro (10)	Pos 0- off, Pos 1- low, Pos 2- high
Switch C	Speed Brakes (11) Aux 6	

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Center of Gravity

- Measure down the LE of the wing 22.7 inches then aft 1 inch of the LE. CG is checked with Gear Down, UAT and Header Tank Full.



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First Flight Profile

Make the first takeoff with the gyro "off". See also BVM article "Gyro Sense".

Flight Time

The BVM demo model's transmitter timer is set for 6 minutes. On the first flight, land a couple of minutes early to check fuel consumption. Adjust the flight timer accordingly.

Taxi Test/Engine Run Up

A taxi test should include a radio range check with the engine running at various power levels. Check that the wheel brakes are adequate and the stopping action is without skidding or pulling left or right.

Takeoff

Begin the takeoff roll by slowly advancing the throttle. Maintain runway center while holding about 1/2 stick up elevator; the Sabre will rotate when it is ready. If there is a cross wind, hold a small amount of aileron into the wind, be prepared with opposite rudder.

Trim

Once in the air, find a medium cruise speed to set the trims. The aircraft should fly straight and level "hands off". When the landing gear comes down, a few clicks of trim may be needed. This can be mixed in, or use flight modes to trim automatically.

Landing

The landing is like most jets, "power on" during the approach. The Sabre does not stall easily, it is best to land nose high, touching on the main wheels first.

The majority of the first flight should be spent trimming and practicing for the first landing. Save the aerobatics and air show stuff for later flights.

RX Battery Consumption

The average flight consumes 300 mAh. We recommend two flights and recharge until you are familiar with your battery consumption. Use this data to calculate how many flights you can achieve from your system.

BVM is synonymous with "Success Jets." It is very important to us that you are successful with our products. This extensive manual reflects our sincerity. As always, your comments and suggestions on BVM products are appreciated.

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