

BVM PNP F-86

1/7 Scale

GO FLY GOLD



Length: 60", Wing Span: 63"

Weight: 17lbs

Fuel Capacity: 2.2L

CONSTRUCTION AND OPERATING MANUAL

Version 2.3 April 2024

Vne 175 MPH Limit Thrust to 16 lbs.

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

CCU Pressure should be 75 PSI MAX

BVM

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INTRODUCTION	3
DISASSEMBLY OF ANY COMPONENT	3
DISCLAIMER.....	3
WING PREPERATION	5
Aileron Control Option	6
MAIN WHEELS, AXLES AND BRAKES	6
WING SPAR AND CONNECTORS	8
FUSELAGE/WING MATING SURFACES	8
STABS AND ELEVATORS.....	9
Turbine Mounting and Fuel System.....	10
FUSELAGE AND COMPONENTS	11
STEERING SERVO ACCESS	12
RX MOUNTING AND GYRO	13

INTRODUCTION

Thank you for purchasing the BVM PNP F-86. 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.

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 final preparations for flight.

DISASSEMBLY OF ANY COMPONENT

It is good practice to photo each stage of removing a component so that the reassembly process is easier.

DISCLAIMER

BVM 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 and a "Turbine Waiver" for operation in the U.S.A.

This is a sophisticated jet 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 has been designed and flight tested around 13 – 17 lb engine. Damage to the aircraft may result from exceeding this thrust limitation.

Required Tools

- Metric Allen wrench set
- Needle nose Pliers
- 3/32 Ball Driver
- 1.5mm Hex Driver
- 2mm Hex Driver
- 6" long 1/16th drill
- BVM Collar Tool # PA-SR-0095



List of Adhesives/Lubricants

- Pacer Z-42 # PT-42
- ZAP ZAP GOO # PT-12
- Super O-Lube BVM # 5779
- BVM DRY LUBE BVM # 1947
- Axle Super Lube BVM # 5784
- BVM QT Poxy BVM # 9580



ITEMS NEEDED

- 10s EVF fan unit # E1300-95
- 12 channel RX
- 10s flight batteries
- Rx Battery(s) 3000 MAH
- Power Plug 2 # E1000-22

AVIALABLE OPTIONS

MGA Pilot - bust painted BVM5732



Demon Cortex V-DA-BD-CCORTEX PRO



WING PREPERATION

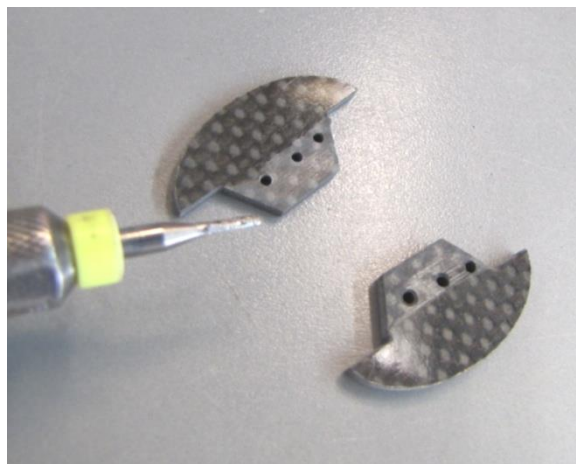
TIP SKIDZ

If you fly off a grass field there is no need to install these. If you fly from a paved runway and don't always make perfect landings, especially in a crosswind you can add the BVM#2197 Carbon Fiber Skidz for extra protection. Follow the instructions that come with the Skidz plus the work shown below.

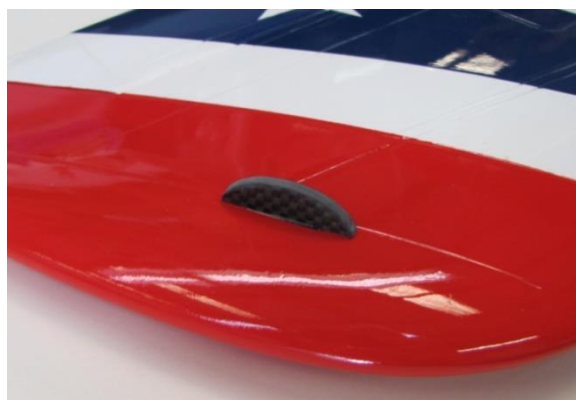
- Make the required notch in the bottom skin as shown. Note the location relative to the panel lines.



- Use a 1/16" Carbide Cutter to add some glue holes as shown.



- Use ZAP-RT or similar rubberized glue to attach the Skidz as shown. Wipe away excess before it cures.



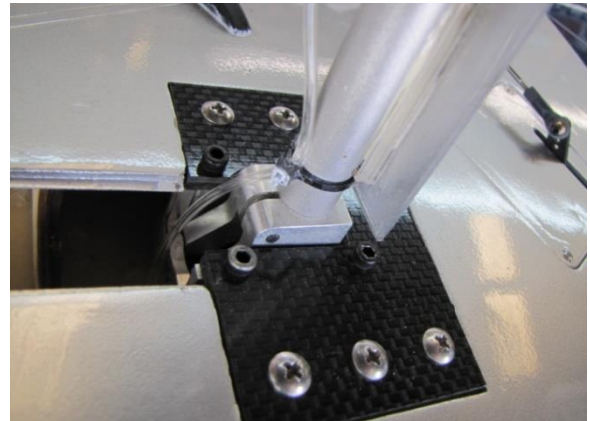
Aileron Control Option

Moving the ball link down one hole will give you better resolution on the ailerons.



MAIN WHEELS, AXLES AND BRAKES

- Before disassembly, note (photograph) the routing of the brake tubing on the strut.



- Use a 1.5mm hex wrench to loosen the set screw that retains the axle. Check to see if there is a flat spot ground in the axle. If not, use a Dremel cutting disc to make one as shown. A matching cutter mark on the end of the axle helps to properly orient it.



- Apply Parker Super "O"Lube to the brake "O"Ring and on wheel inner drum.



- Apply super axle lube to the axle from inside and outside access. Note the nylon spacer.



- Reassemble the wheel, brake, and axle. Use a small drop of thread locker on the set screw. Check for free spin of wheel and brake application.

Accomplish for both mains and the nose wheel. Of course, the nose wheel does not have a brake.



WING SPAR AND CONNECTORS

To ease the wing attachment, slightly bevel the ends of the carbon rods with sandpaper (320 grit) then apply BVM Dry Lube (#1947) to the rods.



FUSELAGE/WING MATING SURFACES

Be sure that they have a small tie wrap on each set as shown. This will keep them from getting lost in the fuse. Small forceps can be used to retrieve them if necessary.

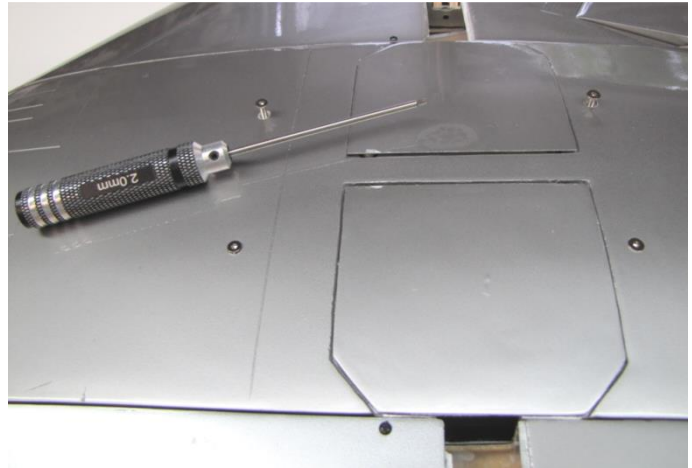


The electrical and pneumatic connectors exit the fuse as shown.

It is also good to apply the Dry Lube to all control linkages that are metal to metal or plastic to metal. It is greaseless, yet a very good lubricant.



The wings are retained to the fuse with (2) 3mm X 25mm front and (2) 3mm X 16mm screws at the rear. Use a 2.5mm hex wrench.



STABS AND ELEVATORS

NOTE: Stab retaining bolts should be packaged with the wing retaining bolts. They are 2mm X 16mm socket head machine screws that require a 1.5mm hex wrench to install.

- Chamfer the ends of the (2) carbon rods and lube with BVM Dry Lube as done with the wing tubes. Make the electrical connection as shown and insert the carbon rods.



- Use a 1.5mm hex wrench to insert and snug tight the 2mm bolts.



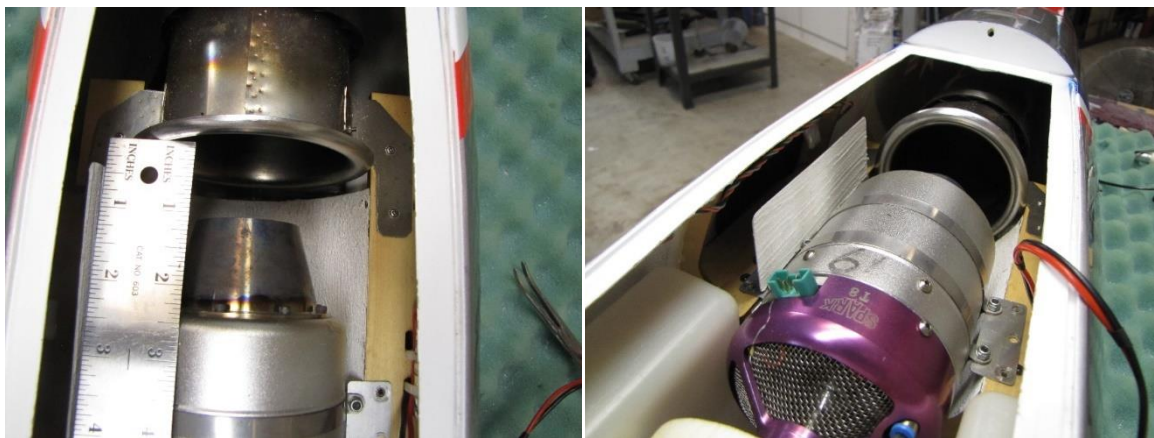
NOTE: The elevator neutral position is located at this point.

See controls Set-Up page later in the manual for proper Elevator, Aileron, Rudder, and Flap Travels.

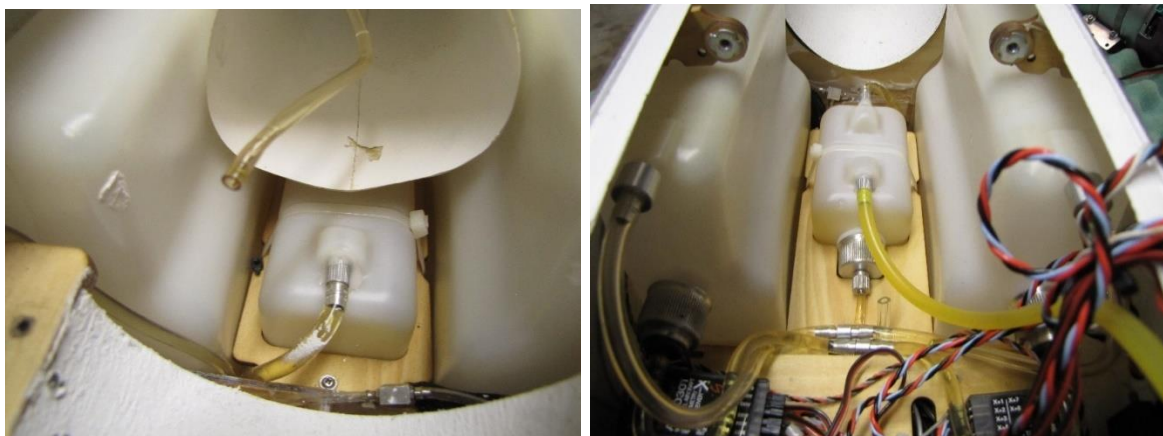


Turbine Mounting and Fuel System

Turbine spacing should be around 1 inch follow your manufactures recommended spacing for this. Our ECU battery sat next to the turbine for proper CG. We added a small divider for heat shielding.



The stock fuel system comes with a UAT installed. The total capacity is 2.2 liters.



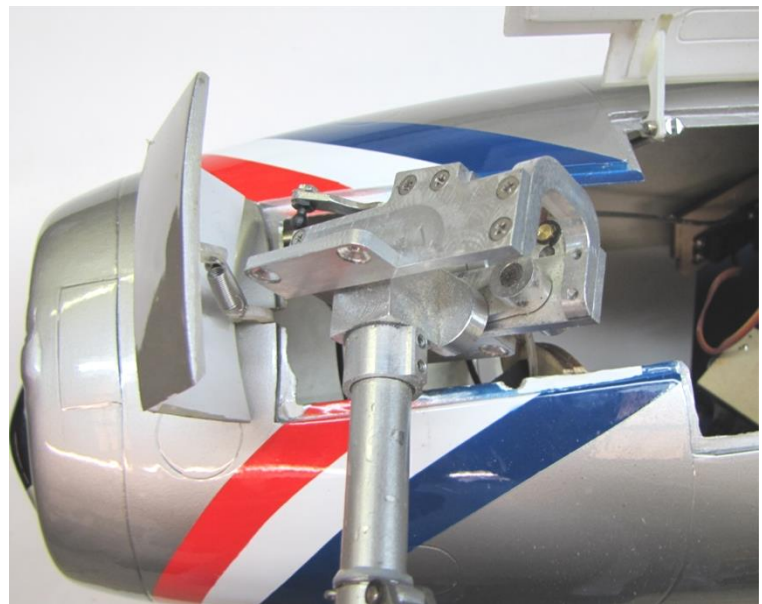
FUSELAGE AND COMPONENTS

NOSE GEAR SYSTEM

The nose gear, strut, and its flex arm mounting system comes installed and ready to use. The following instructions will help you remove and replace the system should that become necessary.

NOTE: Inlet duct must be removed.

- Disconnect the forward folding door spring from the strut.
- The nose gear flex arms are as shown here. Use a 2.5mm hex wrench to remove the bolts.
- Disconnect the nose gear steering linkage from the tiller arm.
- Remove the (4) flat head machine screws that mount the retract unit to the flex arms.
- Remove the flex arms from the model one at a time. They must slide outboard and aft to disengage the slot in the most forward bulkhead.
- Maneuver the retract unit to get it out of the model. Use a BVM Collar Tool to disconnect the pneumatic lines from the nipples on the cylinder.



NOTE: The steering arm linkage may differ from that shown here. Disconnect the steering linkage from the steering arm.

STEERING SERVO ACCESS

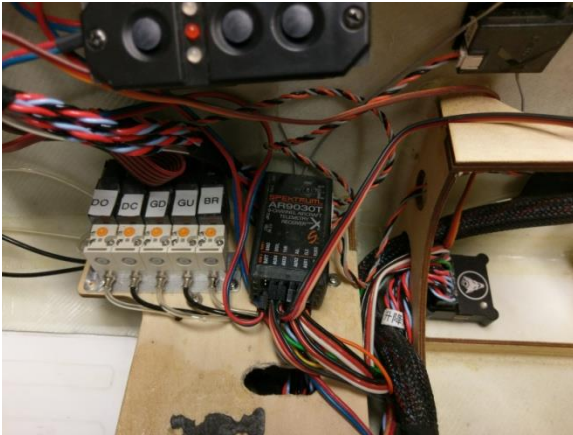
- Remove the plywood plate above the nose gear steering servo.



- Lift the servo mount up as shown. The wire linkage should slide out of the slot in the #3 bulkhead. The servo could be changed with this access.



RX MOUNTING AND GYRO



This example on a BVM plane used a regular Spektrum 9030 Rx and an X-plus expander. You can find the Rx channel mapping under Connecting Rx wires later in this manual.

NOTE: These components are constantly changing, adapt as necessary.

We Used the Demon cortex gyro on the demo model. Located on the right side of the model, under the fan mount. The cortex gyro will come with its own wire harness to hook up to the Rx. Follow mounting and wire diagram from Demon.

NOTE: Gyro technology is also changing constantly, adapt as needed.



Control Surface Deflections and Expo Settings

Control	High Rate	Expo	Medium Rate	Expo	Low Rate	Expo
Elevator (measured at the Root)	Up .75" Down .5"	Up 20% Down 20%	Up .5" Down .5"	Up 15% Down 15%		Up 10% Down 10%
Aileron (measured at the Ail/Flap Junction)	Up .80" Down .80"	20% / 20%	Up .60" Down .60"	15% / 15%	Up .50" Down .50"	10% / 10%
Rudder (measured at the Bottom of the top rudder)	Left 1.0" Right 1.0"	20% / 20%	Left .75" Right .75"	15% / 15%	Left .5" Right .5"	10% / 10%
Control	Take-Off Position	Landing Position				
Flaps	.70"	1.8"	measured at the Ail/Flap Junction			
Elevator Mix with flaps	.20" Up	.25" Up	measured at the Root			

Note: The BVM Demo plane is setup using the above Expo percentages. Positive values are used on Spektrum and JR radios, Futaba uses negative.

Connecting RX wires

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

DX18 Connection Chart								
RX Port	Throttle	Aileron	Elevator	Rudder	Gear	Aux1	Aux2	Aux3
Surface	Throt	R Ail	R Elev	Rudd	L Flap	L Ail	R Flap	Gyro
RX Port	Aux4	Aux5	X+1	X+2	X+3	X+4	X+5	X+6
Surface	L Elev			Gear	Brake	NG Steering Mixed with Rudder		
RX Port	X+7	X+8						
Surface		Batt 2 PowerBox Switch 2 Batts						

