

BVM *RENEGADE*

GO FLY GOLD



Length: 118", Wing Span: 118"

Fuel Capacity: 6.0 Liters

Smoke Capacity 2.0 Liters

For 200 to 235 N Turbine

ASSEMBLY AND OPERATING MANUAL

Version 2

April 2024

VNE 160 MPH Limit Thrust to 200 – 235 Neutons

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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RENEGADE

Assembly & Operation Manual

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INTRODUCTION

Thank you for purchasing the Go Fly Renegade. This model represents the latest in manufacturing technology and completion for the R/C jet enthusiast. Only a small amount of work is required to complete the assembly of your Renegade.

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 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 or "LTMA" paper work when it applies 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. The BVM Renegade has been designed and flight tested around 200-235N class engines. Damage to the aircraft may result from exceeding this thrust limitation.

List of BVM supplied items

- Assembly and Operating Manual Package
- Flush Mount Vent Fitting (#PS-SP-0301)
- Central Controller Instructions

Recommended Accessories

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

- 200 to 235N engine of your choice
- BVM Go Fly Over Flow Tank (BVM# 6037)
- 14 Channel Receiver
- (2) 7.4v Batteries 5000 mAh RX
- Bavarian Demon Aero Cortex Pro Gyro (#V-DA-BD-Cortex Pro)

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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.

- 220 Class Turbine
- BVM Go Fly Over Flow Tank (BVM# 6037)
- Spektrum 20 Channel Power Safe Receiver (SPMAR20400T)
- (2) 7.4v Batteries Pulse 5000mAh RX (V-PLURX15-50002)
- Bavarian Demon Aero Cortex Pro Gyro (#V-DA-BD-Cortex Pro)

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

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 Poxy 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.

Fuselage Joining

- Start by removing all 6 of the dowel pins from the aft Fuselage. Use A 9/64th driver for this step. Apply Thread Locker to each bolt and place them back into the receptacle and tighten them up.



- We used Vibra Tite, you can use your favorite brand. Pacer Z-42 works well also.



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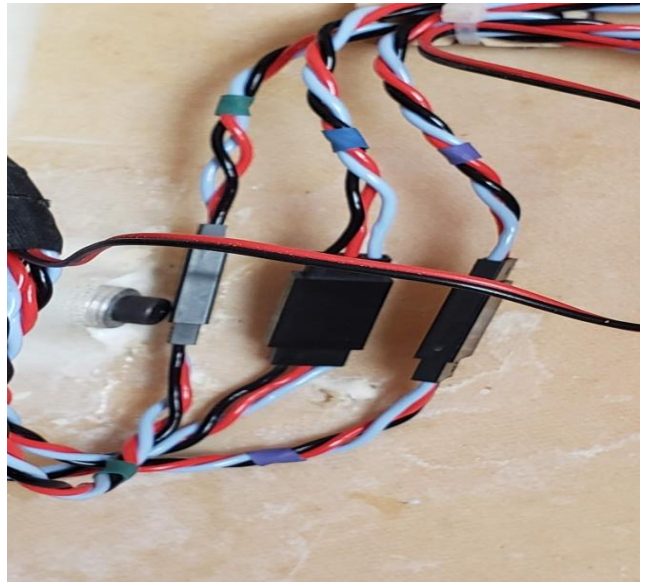
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- Once all the pins have been secured into the rear fuse section you can join the 2 halves. Repeat the same step on the front of the pins.



There are 3 Servo connections and 1 Led wire to join. Use your favorite method of securing the servo connections together.

BVM uses our Black Tape to secure these together. BVM Part # V-PNP-SP087



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Install the Stabs

- Push the Carbon rods through the fuselage. Then connect your servo connection and secure with your favorite method.

BVM use our Black Tape for this.
BVM Part # V-PNP-SP087



- The Stab is secured by a single bolt through the fuse into the Carbon tab. You will need a 2 mm driver for this step. You can use BVM # PS-TO-0014 for this step.



Install the vertical fin

- Connect the LED lead and secure with your favorite method.
- Insert the Carbon Rods into the receptacles.



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- Secure the vertical fin by tightening the receptacle bolts with a 9/64 ball wrench. There is 1 receptacle in the rear and 1 in the front. The front receptacle has 2 bolts.



WING PREPERATION AND INSTALLATION

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



- Lubricate the axles with Super Lube (BVM# 5784).



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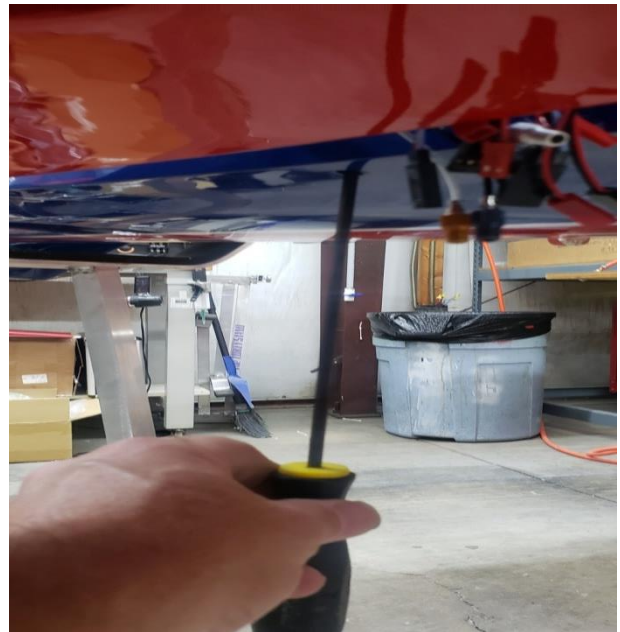
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Installing the Wings

Insert the Wing Tube and slide the wings in place. Connect your servo connections and your LED wires then secure with your favorite method.



The wings are held by a front and rear receptacle. A 9/64th driver is all you need to secure the wings.



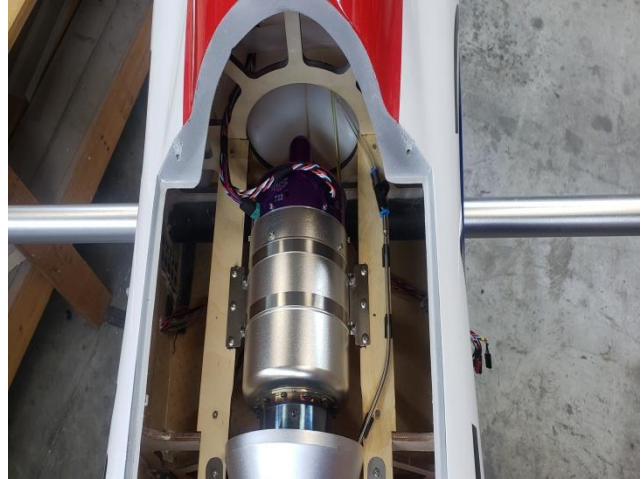
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TURBINE INSTALLATION

The factory demo Renegade uses a T-22 turbine. Center the engine in the rails as well as the pipe. Position the tailcone of the turbine 1 inch from the beginning of the tailpipe. Use your favorite mounting hardware for this step.

Note: Mount your Turbine, Pump and ECU in accordance to your manufactures recommendations.



Make sure to center your Turbine in the Pipe.

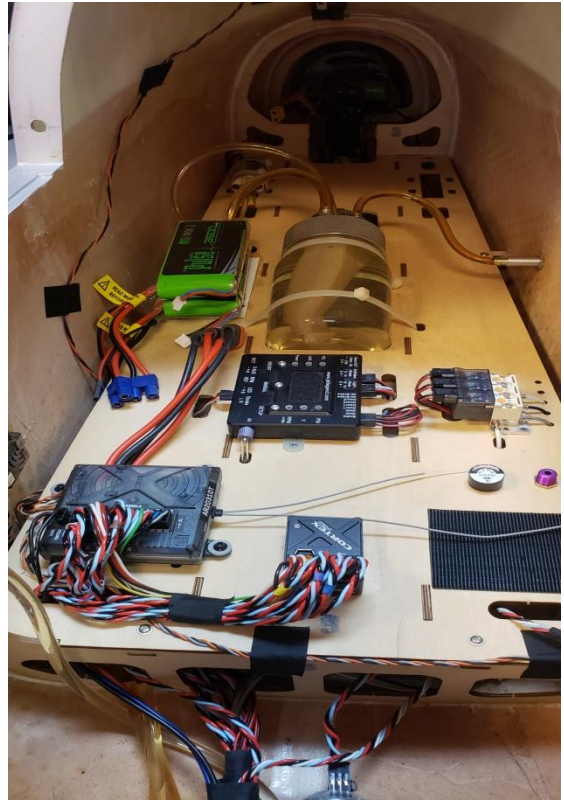


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Equipment Board Layout

- On the BVM Demo Renegade, we mounted our RX and gyro as shown. We started with our RX Batteries all the way forward, but later moved them more aft. Follow your Manufactures mounting instruction for your specific RC components.



The BVM demo Renegade uses the stock UAT the plane is shipped with. If you decide to use the supplied UAT you must hold the UAT vertical and shake the tank during the first run up to ensure all the air is out of the Filter bag inside the tank.



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Fuel system setup

The Demo Renegade uses everything as it comes from the factory. The 2 inner tanks are for fuel and the outer 2 are for smoke.

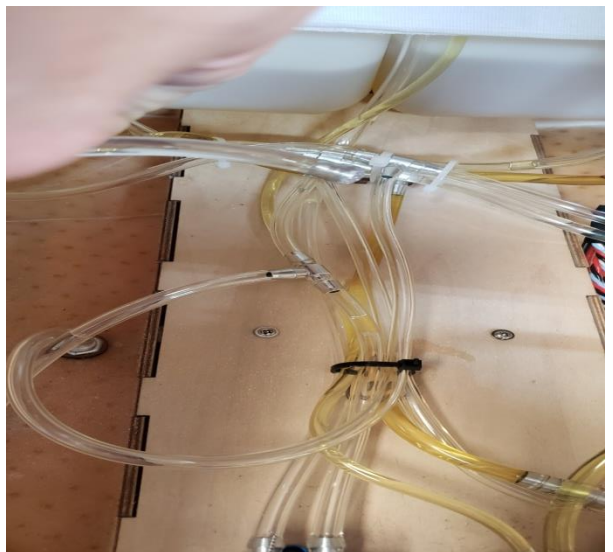


For filling the Renegade we use the supplied quick Fill Valve. BVM mounted it to the outside of the fuse to make it easy to access.



For the smoke we used a BVM Smoke Line Plug (BVM # PA-SR-0145) and a T fitting (# V-PNP-SP003) in the system.

Note: You need to use a shutoff somewhere in the system to keep from pushing smoke into the tailpipe during filling.



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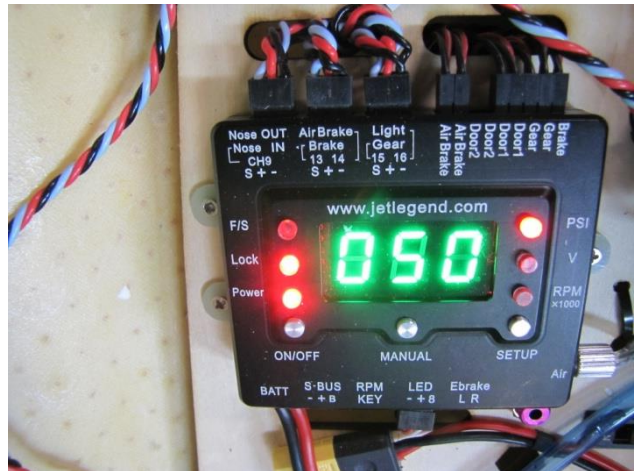
On the BVM demo model we use a 6mm ball valve (BVM # 5315) at the Smoke tube to stop the smoke from dripping into the Pipe during fill up and shutdown.

Note: Smoke Fluid when run at low Turbine power settings can Ignite and cause fire to occur.



Wire Codes

| Servo Wire Color Codes | | |
|------------------------|-------|------------|
| Throttle | | NA |
| Rudder | | Blue |
| Elevator | Left | Green |
| Elevator | Right | Purple |
| Aileron | Left | Orange |
| Aileron | Right | Yellow |
| Flap | Left | Brown |
| Flap | Right | Grey |
| Brake | | Red |
| Steering | | Black |
| Lights | | Grey White |
| Gear | | Red/ White |



Central Control Unit

Follow the instruction in the Central Control Unit Manual that was provided along with this manual.

Note: Fill Air Pressure to 75 PSI on the CCU Screen.

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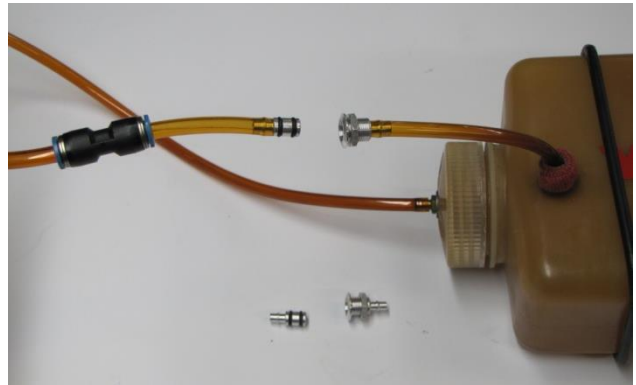
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- A flush mounted vent system is used on the fuel system. A magnetic vent plug with a Red "Remove Before Flight" tag and BVM Overflow/Taxi tank conversion fittings are provided. (Tank not included)



- Install the fittings to your overflow/taxi tank. Use an overflow tank while fueling to prevent spillage and to ensure fuel tanks are full before flight.

Use BVM Overflow tank Part # BVM6037



Below, the overflow/taxi tank is connected.



The vent plug is installed.



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Center of Gravity

- The Factory Mark on the fuse is what the Demo Renegade uses. It is not uncommon to have to add weight to the nose.

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 1.25" | 15 | 80%/10 | 50%/ 5 |
| Aileron (measured at the Flap) | 1.25" | 1.25" | 15 | 80%/10 | 50% / 5 |
| Flaps (measured at the Root) | Take Off 20-25 degrees" | Landing 60-70 degrees | | | |
| Rudder (measured at the Bot.) | L&R As much as possible" | | 15 | 80%/10 | 50%/ 5 |

Connecting RX wires

The wires are labeled from the factory. Follow the chart below to connect the servos.

| IX 20 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 | Gear | Left Elev | Brake | Nose Steering | Gyro |
| Rx Port | (13) X+1 | (14) X+2 | | | | |
| | Lights | Smoke | | | | |

IX 20 Transmitter File

The BVM Demo models are setup on Spektrum IX 20 transmitters.

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

| Switch/Lever/Trimmer | Channel | Output |
|----------------------|------------------------------|--|
| Switch A | (8)Aux 3 Gear Timer Start | Landing Gear, Down is Down |
| Switch B | Lights | 0-Off 1-Nav Lights 2-Nav and Landing Lights On |
| Switch C | Smoke | Pos 0-off, Pos 1-Mid Flow, Pos 2-Full |
| L. Trim | Steering Trim/(11)Aux 6 | Left Steering Trim Right Steering Trim |
| Switch D | Flaps / F Modes / Gyro | Up (0) is Cruise Middle (1) Takeoff (2) Landing Up (0) F Mode 1 Middle (1) F-Mode 2 (3) F-mode 3 Up (0) Gyro Low Middle (1) Gyro Mid (2) Gyro High |
| Switch E | Brakes | Pos 0- off, Pos 1- Pulse, Pos 2- high |
| Switch G | Master Gyro On | (o) Gyro Off (1) Gyro Off (2) Gyro On |
| Switch F | Dual Rates for All surfaces | (0)High Rate (1) Mid Rate (2) Low Rate |

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First Flight Profile

Make the first flight with the gyro “off”. See also BVM article “Gyro Sense”.

Flight Time

The BVM demo model’s transmitter timer is set for 6:45 min. On the first flight, land a couple 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. Be sure to shake the aircraft and push fore and aft with the engine at half power, this will remove any trapped air bubbles in the fuel system. Check the fuel line to the engine for “no bubbles”.

Takeoff

Begin the takeoff roll by slowly advancing the throttle. Maintain runway center while holding about 1/2 stick up elevator; the Renegade 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 gears come down, a few clicks of trim may be needed. This can be mixed in, or use flight modes to trim automatically.

Practice Approaches

Save a couple minutes at the end of your first flight to practice approaches and go arounds. It is beneficial to become familiar with the low speed handling of the aircraft.

Landing

The landing is like most jets, “power on” during the approach. The Renegade 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

Your flight RX battery consumption will vary depending on how active you are in flight. Make a few flights and charge your packs to get an idea of your burn rate. Use this data to calculate how many flights you can achieve from your system safely.

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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