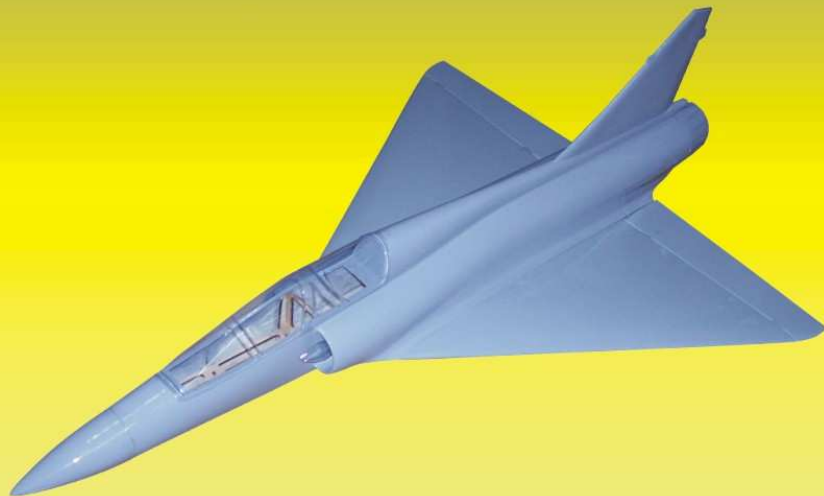


VELOCITY-RC
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MIRAGE 2000



1/14 SCALE RC HIGH PERFORMANCE DUCTED FAN JET



Technical Specifications:

Fuselage length : 1088mm

Wing span : 686 mm

Wing area : 24 dm

Weight : 1.35 kg to 1.6kg (Depend on the number of Lipo set up)

Bungee launch or run on ground (fixed gears)

Retracts possible

**Features:**

- Balsa sheeted foam wings with top Quality covering film
- Laser Cut woods formers
- Fiberglass fuselage
- All hardware are included.
- WM 400 edf impeller system

Requires :

Min 3 channels radio controller

1 x 2 HS 81 metal gears servos

1 x 60 - 80 amp esc controller

Recommended motor :

Medusa motor 2500 kv for 4 s Lipo power set up or 2800 (56 mm motor length) 2800kv for 5s to 6 s Lipo set up .

Parts contents -





Part List :


- 1) Fuselage - 1 pcs
- 2) Main wing - 1 pair
- 3) Fiberglass fan cover - 1 pcs
- 4) Control surface 1 pair
- 5) Canopy - 1 pcs
- 6) Push rod - 1 x 2 Purchase
- 7) Servo horns 1 x 2 sets
- 8) Round metal allen nut connector for push rod and servo horn - 1 x 4 sets
- 9) Hinges 1 x 8 Purchase
- 10) Vac. formed intake 1 x 2 pcs
- 11) Wooden parts : -
 - Wooden dowel 1 x 4 pcs
 - Plywood wing spar 1 x 2 pcs
 - Plywood fan mount 1 x 3 purchase


AB Apply epoxy glue.

CA Apply instant glue.

 Ensure smooth non-binding movement after assembling.

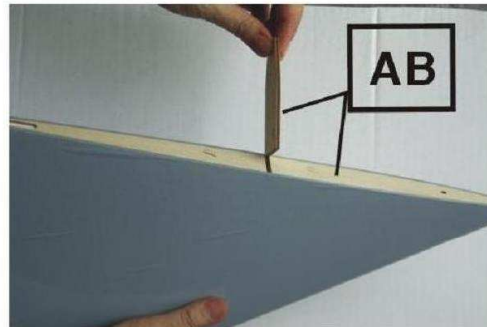
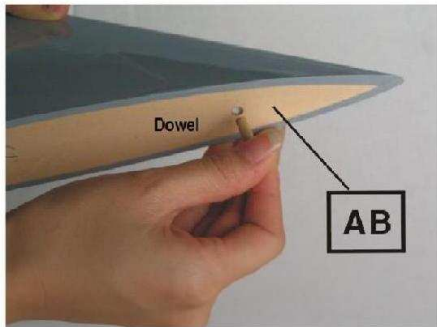
 Cut off shaded portion.

 Drill holes with the specified diameter (here : 3mm)

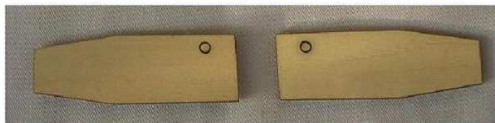
 Assemble left and right sides the same way.

Getting started with the installation:

Prepare the fuselage for the dowels to be inserted between fuselage and wings, by marking a point for two holes to be drilled on the both sides of the fuselage where both wings are to be glued



Sand both fuselage and wing former surface with light grit sand paper and clean it with light coat of alcohol to ensure epoxy glue is well bonded firmly in between.

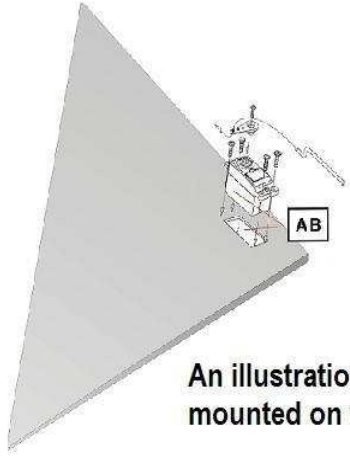


Make sure to check the wing spar position when getting it insert between the wing and fuelage. The hole on the wooden spar should face upwards as shown in the instruction.

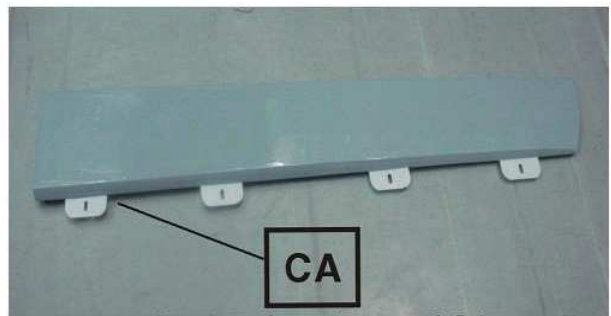
As shown in the pix, the slots at both sides of the fuselage are designed to allow servo wire to run from the wing former and run into the fuselage.



Before epoxy wings to the fuselage ,cut an opening (same size as servo) at the upper surface of both wings to install servos .Servo wire are to be drawn out from the main wing former and run inside of the fuelage .Take note of the opening in the pix.



An illustration of servo is mounted on wing.



Apply drops of CA to all both sides of the hinges attached wing and control surface.Make sure both sides are fully inserted leaving 1mm gap for hinge to move freely.

Installation of servo horn and control rod



Servos installed to wing with control rods connected.

Installation of motor to fan housing



Step 1 - Mounting motor in the fan housing .The motor mounting holes on the stator tube are specially designed with 2.8 mm hole diameter. The purpose is to create a self locking feel for the 3mm motor nut when it is being tighten to the motor inside the stator tube .This is to ensure the motor sits at thru centre inside the fan housing .



Step 2 -

To ensure the motor sits at true centre inside the stator tube, place 3 tooth picks in a triangular position between the motor and stator tube wall .

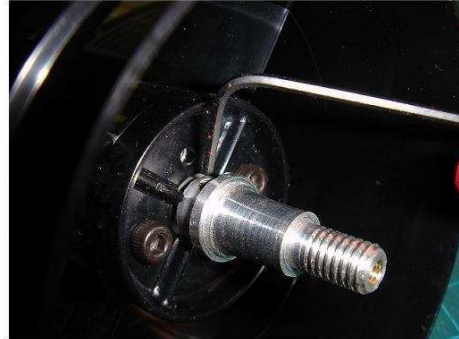
Insert all 3 tooth picks at same depth inside the stator tube (about 20 mm depth).Secure it with silicon glue that enable it to remove after motor well tighten to the housing .

This trick helps to align the motor holes well centre to fan housing when the two 3mm screws are fully tighten to it .

Installation of WM 400 rotor



Step 3 - Installation of rotor
 Before the rotor is installed to the housing, insert adaptor to the motor shaft. Be sure not to allow the adaptor end and the motor face come in contact or it will cause rubbing against each other resulting damage to the motor!



Leave a gap of 2.5mm distance between the motor end and adaptor face. Tighten the two lock nuts with even tightness before rotor is being pressed fully right into the adaptor shaft. Apply a few drops of loctite 603 or similar glue between the rotor and adaptor to ensure it sits tightly to the shaft while the fan is running at very high load.



Step 4 -
 Once rotor is fully sit inside the fan housing, use a size 10 spanner to tighten the adaptor shaft lock nut. Spin the rotor with your hand freely to ensure there is not rubbing against anything inside the housing before getting the fan running.



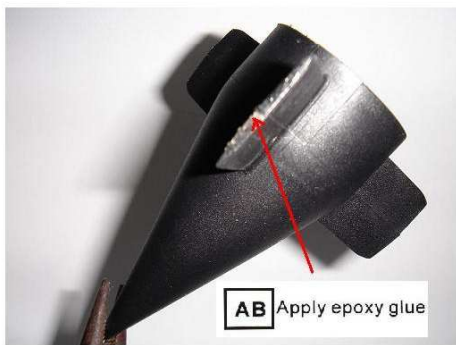
Once the fan is running at it optimum level, install the thrust cone and exit nozzle to back of the fan. (read instruction of how to assemble exit nozzle and thrust cone together)

Installation of exit nozzle and thrust cone



The wm 400 exit nozzle and thrust cone come in two parts , the nozzle is assembled inside the thrust cone with epoxy glue.

Take note - WM400 exit nozzle is specially designed to sit at a certain depth inside the thrust cone .Do not over insert inside as it will cause the thrust cone to deform in shape .



To attach nozzle to the thrust cone firmly, apply a light sanding process with light grit sand paper on the 3 bladed tips around the nozzle and the area inside the thrust cone where both parts are to be jointed together .This would allow epoxy glue to bond to the it firmly .

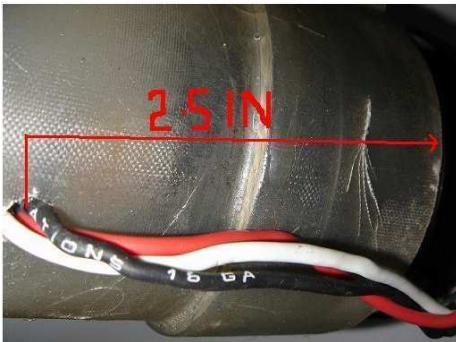


Front and back view of the fully assembled WM 400 thrust cone .

Installing WM 400 onboard -



Fan is mounted directly to the fiberglass by placing two supplied plywoods at the under side of the duct to allow the 2.5mm self tapping screws to secure the fan unit onto the duct ears.



Drill a hole at the bottom of the duct about 2.5inch distance measure from the fan mounting lip to speed controller wires to pass through and position it at opening hatch area to obtain max. air cooling .

Installing hatch and tailcone



Secure motor hatch with 4 self tapping screws to the main fuse before installing the tailcone.

CG location



The C.G. position is 80 mm behind the leading edge measured at where the wing meets the fuselage.

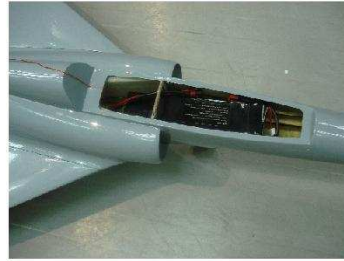


Bungee hook is placed at 80 mm distance from C.G so that when the plane is launched from bungee stand, it would lift off with a nose up position.

Installing electronics



Place receiver near the turtle deck area and run its wire on top the turtle deck by drilling a small hole to allow it to go through .The far end of the receiver wire should be attached near the tip of the rudder .



Battery compartment is designed to allow 4-6s Lipo set up depending on the desired flight performance one would opt for .

Installing nose cone



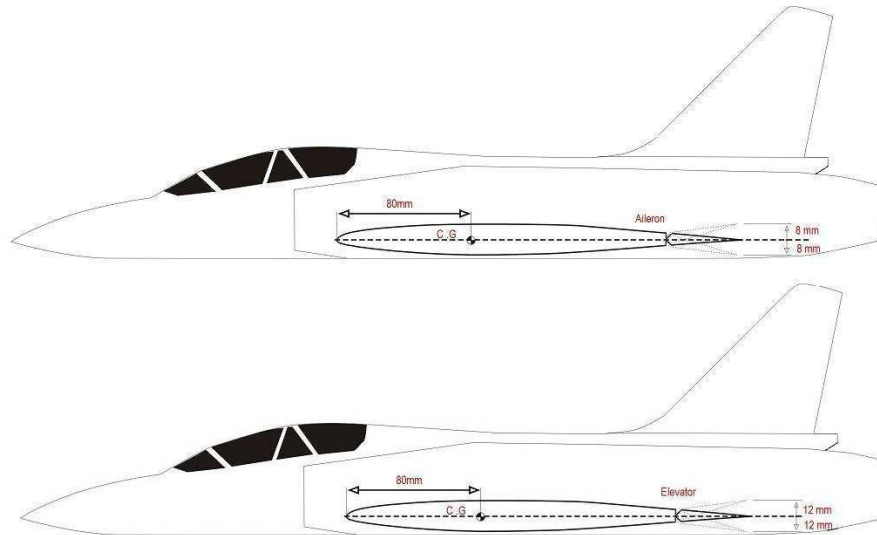
Apply light sanding at the marked area before epoxy nosecone to fuslage.



Control Throws

Adjust the throws as shown in the diagram, This is the recommended throws for general flying, however, you can adjust according to your personal preference.

Taileron movements are set at 12mm and 8mm with 30% on the exponential.



Warning !

This is high speed performance RC model that requires skilled pilot to fly .