It is designed for maximum performance. Please seek advice if one is not familiar with this kind of electric powered precision model. Operating this model without prior preparation may cause injuries. Remember, safety is the most important thing. Always keep this instruction manual at hand for quick reference.

**Warning!** This model is not a toy.

It is designed for maximum performance. Please seek advice if one is not familiar with this kind of electric powered precision model. Operating this model without prior preparation may cause injuries. Remember, safety is the most important thing. Always keep this instruction manual at hand for quick reference.

* Specifications are subject to change without notice.*

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**Specifications**

- **Wing Span:** 41 in / 1040 mm
- **Wing Area:** 527 sq in / 34 sq dm
- **Flying Weight:** 68 oz / 1920 g
- **Fuselage Length:** 57 in / 1450 mm
- **Requires:** 6-channel w/ 10 micro servos, 2x40A (burst 45A) Brushless ESC and 2x4 cells 14.8V 20C 2100 mAh battery and charger

---

**THE WINGS MAKER**  
FACTORY PRE-FABRICATED  
ALMOST-READY-TO-FLY (ARF) SERIES  
MADE IN CHINA  
www.thewingsmaker.com

GM046PO256341104
BEFORE YOU BEGIN

1. Read through the manual before you begin, so you will have an overall idea of what to do.

2. Check all parts. If you find any defective or missing parts contact your local dealer. Please DRY FIT and check for defects for all parts that will require CA or Epoxy for final assembly. Any parts you find to be defective after the gluing process may be difficult to remove for warranty replacement. The manufacturer will replace any defective parts, but will not extend to the parts that are good before gluing to defective parts during assembly. Warranty will not cover any parts modified by customer.

3. Symbols used throughout this instruction manual comprise of the following:

- **AB**: Apply epoxy glue.
- **C.A**: Apply instant glue (C.A. glue, super glue.)
- **L/R**: Assemble left and right sides the same way.
- **N.I.**: Must be purchased separately!
- **3mm**: Drill holes with the specified diameter (here: 3mm).
- **Peel off shaded portion covering film.**
- **Cut off shaded portion.**
- **Pierce the shaded portion covering film.**
- **Pay close attention here!**
- **Warning!** Do not overlook this symbol!
Parts List

1. MAIN WING -- 1 pair
   SCREW PA1.7x8mm -- 8 pcs
   SCREW PB2x16mm -- 4 pcs
   SERVO MOUNTING PANEL PL5310020 -- 1 pair
   STRAPER PL4112106 -- 2 pcs
   CLEVIS PL4112105 -- 2 pcs
   FUEL TUBE d2xD4x4mm -- 4 pcs
   HORN PL4113102 -- 2 sets
   PUSHROD Ø1.4x101mm w/ Threads (For Aileron) -- 2 pcs
   FIBRE TAPE 17x210mm -- 2 pcs
   PLYWOOD 36.5x36.5x2mm -- 2 pcs

2. VERTICAL FIN & RUDDER -- 1 pair
   SCREW PA1.7x8mm -- 8 pcs
   SCREW PB2x18mm -- 4 pcs
   SERVO MOUNTING PANEL PL5310020 -- 1 pair
   STRAPER PL4112106 -- 2 pcs
   CLEVIS PL4112105 -- 2 pcs
   FUEL TUBE d2xD4x4mm -- 4 pcs
   HORN PL4113102 -- 2 sets
   PUSHROD Ø1.4x58mm w/ Threads (For Aileron) -- 2 pcs
   FIBRE TAPE 17x190mm -- 2 pcs
   PLYWOOD 36.5x36.5x2mm -- 2 pcs

3. STABILIZER & ELEVATOR -- 1 pair
   SCREW PB2x20mm -- 4 pcs
   STRAPER PL4112106 -- 2 pcs
   CLEVIS PL4112105 -- 2 pcs
   FUEL TUBE d2xD4x4mm -- 4 pcs
   HORN PL4113102 -- 2 sets
   PUSHROD Ø1.4x35mm w/ Threads (For Aileron) -- 2 pcs
   FIBRE TAPE 17x190mm -- 2 pcs
   PLYWOOD 12x6x2mm -- 4 pcs

4. FUSELAGE -- 1 set
   MECHANICAL NOSE RETRACT -- 1 set
   PUSHROD Ø1.4x90mm w/ Threads -- 1 pc.
   PUSHROD Ø1.4x40mm w/ Threads -- 1 pc.
   COLLAR Ø2.6mm w/ Set Screw -- 3 sets
   LINKAGE CONNECTOR 2.1mm HW7111050 -- 4 sets
   RUBBER TAIL WHEELS Ø30mm PL3410020 -- 1 pc.
   RETRACTABLE LANDING GEAR--1 pair
   RUBBER TAIL WHEELS Ø40mm PL3117040 -- 2 pcs
   PUSHROD Ø1.4x40mm w/ Threads -- 2 pcs
   PLYWOOD 20x6x4mm -- 4 pcs
   PLYWOOD 12x6x2mm -- 4 pcs

5. SCREW PM2.5x8mm -- 8 pcs
   WASHER d2.5xD6x0.5mm -- 8 pcs
   DUCTED FAN COVER -- 1 pair

6. CANOPY -- 1 pc.
   PILOT PC101042B -- 1 pc.
   NOSE CONE -- 1 pc.
   DRAG PARACHUTE -- 1 pc.

7. MISSILE -- 2 pcs

8. BATTERY COVER -- 1 pc.
   RECEIVER COVER -- 1 pc.
   SPONGE 10x50x150mm (For Radio Equipment & Battery) -- 3 pcs
   DOUBLE-SIDED TAPE 30x35mm -- 2 pcs
   BATTERY TIE 200mm -- 2 pcs
   FOAM 22x22x60mm (For Brushless ESC) -- 2 pcs

9. DECALS GM046DEC -- 1 set

GM046PO256341104 P.2
Please choose either (02L & 02R) or (03L & 03R) or (04L & 04R) that suits your servo.

- Please do not overtighten PB2x16mm screw. Once the screw brings the horn and backplate in contact with the foam, add 1/2 turn will do. Overtightening will damage the foam.

- Ø1mm pilot holes for The Wings Maker horn are pre-drilled. Please look for pin-hole marks at under side of control surfaces.
2 Rudder Servo

- Ø1mm pilot holes for The Wings Maker horn are pre-drilled. Please look for pin-hole marks at under side of control surfaces.

- Please do not overtighten PB2x18mm screw. Once the screw brings the horn and backplate in contact with the foam, add 1/2 turn will do. Overtightening will damage the foam.

- Please choose either (02L & 02R) or (03L & 03R) or (04L & 04R) that suits your servo.
Please choose either (02L & 02R) or (03L & 03R) or (04L & 04R) that suits your servo.

Please do not overtighten PB2x20mm screw. Once the screw brings the horn and backplate in contact with the foam, add 1/2 turn will do. Overtightening will damage the foam.

Ø1mm pilot holes for The Wings Maker horn are pre-drilled. Please look for pin-hole marks at under side of control surfaces.

Please choose either (02L & 02R) or (03L & 03R) or (04L & 04R) that suits your servo.
4 Retract Servo

- Nose Wheel
  - Pushrod Ø1.4x40mm
  - Nose Retract Servo
  - Steering Servo
  - Pushrod Ø1.4x90mm (For Steering Servo)

- Bottom View
  - Plywood 12x6x2mm
  - Nose Retract Servo PUSHROD TRAVEL
  - GE
  - GE-1
  - GE-2
  - GE-3

- Main Wheel
  - Retract Servo Lead
  - Plywood 20x6x4mm
  - Pushrod TRAVEL
  - Wheel Down
  - Wheel Up

- Bottom View
  - Plywood 20x6x4mm
  - Retract Servo Lead
  - Right
  - Left
  - PUSHROD TRAVEL
  - Wheel Down
  - Wheel Up
  - 16mm Travel
5 Ducted Fan Propulsion Unit with Turbo Outrunner

- Make sure rotating motor casing is not in contact with wirings or anything.

1. N.I.
2. N.I.
3. N.I.
4. N.I.
5. N.I.
6. N.I.
7. N.I.
8. N.I.

Optional Parts

- Ducted Fan Propulsion Unit PL6800010
- & Outrunner 28 / 31 KM0283120

Apply a drop of CA to each notch will hold the intake cone in place, pry the notch with screw driver to remove the cone for impeller or motor replacement.

- Make sure TWM logo on ducted fan stay on up of fusealge.

Bottom View

- Motor wire lead
- Ducted Fan Cover
- Electric Wire
- Center Line
- d3xD7mm Washer
- PM2.5x8mm Screw
- M3x6mm
- PM2x4mm
- PM2.5x8mm
- d2.5xD6x0.5mm Washer
- HEAT SHRINK TUBE D5x30mm
- Insulation
- Completed
6 Fuselage

Pilot Canopy

Nose Cone

Drag Parachute

Completed

Completed
Joining surfaces should be clean and dry. Slightly roughen surfaces with sandpaper for best results.
8 Vertical Fin & Rudder

*Bottom View*

RU
- RU-3
- RU-2
- RU-1

Rudder Servo Lead

**Completed**
9 Raido Equipment

- Install and arrange the equipment as shown in the picture.

![Diagram showing the arrangement of equipment]

Please check with your ESC manufacturer if you can simply connect your ESCs in parallel by Y-cord. Normally if you are using two identical ESCs, you can simply connect them in parallel with Y-cord. If you are not sure, you can disable the BEC in one of the ESCs, before you connect them with Y-cord. You can do this by pulling the red wire (the center one) from the 3-pin plug that goes to the receiver.

Make sure the heat dissipating surface of ESC is flush with intake air duct and expose to air flow.

![Bottom View with labels]

- Battery Cover
- Receiver Cover

Completed
Decals

Control Throws

Adjust the control throws as shown in the diagram. These throws are good for general flying. You can adjust according to your personal preference.

- Elevator: 25mm
- Rudder: 25mm
- Aileron: 15mm
The ideal C.G. position is 165mm (6.5 in.) behind the leading edge measured at where the wing meets the fuselage. In order to obtain the C.G. specified, add weight to the fuselage or move the battery position. Check the C.G. before flying.

- Measure C.G. with the wheels in retracted position.

Important Safety Precautions

- First time flyer should never fly by himself / herself. Assistance from experienced flyer is absolutely necessary.

- Pre-flight adjustment must be done before flying, it is very dangerous to fly a badly pre-adjusted aircraft.

- J-11B FIGHTER is specially designed to be powered by 2xKM0283120 Outrunner Motor.

- Make sure the air field is spacious, never fly the plane too close to people and never get too close to a running propeller.

- Check and re-tighten up all factory assembled screws, use thread locker if necessary.
Optional Parts

(D ACCESSORIES)

Ducted Fan Propulsion Unit without Motor

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Size</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>PL6800010</td>
<td>180mm</td>
<td>1 set</td>
</tr>
</tbody>
</table>

-Operating Voltage / Current: 12V / 30A (35A Burst)
-Thrust: Approx. 560A
-Weight: 60g (without motor)
-Rotor diameter: 67 mm
-Outer casing diameter: 74 mm
-Color: Black

Turbo Outrunner for ducted fan

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Size</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>KM0283120</td>
<td>40A Max. Current</td>
<td>1 set</td>
</tr>
</tbody>
</table>

-Kv (rpm / V): 3030
-Operating Voltage: 6 - 15V
-Operating Current: 45A
-Peak Current: 60A (max. 15 sec.)
-Internal Resistance: 28 m ohms
-Diameter: 28 mm
-Length: 31 mm
-Weight: 60 g
-Shaft Diameter: 3 mm
-Shaft Length: 14.8 mm
-Mounting Screw: M3 (Front) & M2 (Back)
-Distance of Mounting Holes: 16 mm and 19 mm (Front)

40A Brushless ESC

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Size</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>KC2040A02</td>
<td>55 x 28 x12mm</td>
<td>1 pc</td>
</tr>
</tbody>
</table>

-Current: 40A continuous
-Burst current (< 10 seconds): 55A
-Weight: 33g (with wires)
-BEC output: 3A
-Input:
-Li - ion / Li - poly 2 - 5 cells;
-Nimh / Nicd 5 - 15 cells

Clevis Wrench

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Size</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>PL8210010</td>
<td>Small Clevis</td>
<td>1 set</td>
</tr>
</tbody>
</table>

-Special tool for clevis installation.
-Suitable for standard and small (EP) clevis.

2 - Pin EZ Connector

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Size</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>KP0011210</td>
<td>40A Max. Current</td>
<td>1 set</td>
</tr>
</tbody>
</table>

-Ideal for electric models

Turbo Outrunner for ducted fan

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Size</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>KM0283120</td>
<td>40A Max. Current</td>
<td>1 set</td>
</tr>
</tbody>
</table>

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-Operating Voltage: 6 - 15V
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-Diameter: 28 mm
-Length: 31 mm
-Weight: 60 g
-Shaft Diameter: 3 mm
-Shaft Length: 14.8 mm
-Mounting Screw: M3 (Front) & M2 (Back)
-Distance of Mounting Holes: 16 mm and 19 mm (Front)

3 - Pin EZ Connector

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Size</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>KP0011310</td>
<td>40A Max. Current</td>
<td>1 set</td>
</tr>
</tbody>
</table>

-Ideal for electric models

180mm Extension For Park Flyer

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Size</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>KW0011800</td>
<td>180mm</td>
<td>1 set</td>
</tr>
</tbody>
</table>

-Speed: 0.1 sec / 60° @4.8V
-Torque: 16kg.cm / 22.2 oz - in @4.8V
-Size: 22.4 x 11.4 x 20.0mm / 0.88x0.45 x 0.79in
-Weight: 7.8 g / 0.28 oz

Heat Shrink Tube

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Size</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>PT1115050</td>
<td>D5mm x 10cm</td>
<td>2 pcs x 3 colors</td>
</tr>
</tbody>
</table>

-Three colors (Black, Red, Yellow)

Micro Servo

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Size</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>SV2031</td>
<td>1 set</td>
<td></td>
</tr>
</tbody>
</table>

-Speed: 0.1 sec / 60° @4.8V
-Torque: 16kg.cm / 22.2 oz - in @4.8V
-Size: 22.4 x 11.4 x 20.0mm / 0.88x0.45 x 0.79in
-Weight: 7.8 g / 0.28 oz