Before commencing assembly, please read these instructions thoroughly.

**X FIGHTER**

**Specifications**

- **Wing Span:** 29 in / 740 mm
- **Wing Area:** 310 sq in / 20 sq dm
- **Flying Weight:** 29 oz / 820 g
- **Fuselage Length:** 40.5 in / 1030 mm
- Requires: 5-channel “mixing radio” (elevator) w/ 5 micro servos, 30A (burst 35A) Brushless ESC and 3 cells 11.1V 20C 2100 mAh battery and charger

**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.*

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

GM041PO22240910
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 glueing to defective parts during assembly. Warranty will not cover any parts modified by customer. For pre-assembled kits, please check proper functions of all servos on the ground before flying. Servo gears could be damaged when control surfaces are hit during transportation of models. The manufacturer will replace any servos due to manufacturer’s defect, but will not cover plane crashes due to damaged servos not detected before flying.
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.)
- **N.I.** Must be purchased separately!
- **L/R** Assemble left and right sides the same way.
- **Peel off shaded portion covering film.**
- **Drill holes with the specified diameter (here: 3mm).**
- **Pay close attention here!**
- **Cut off shaded portion.**
- **Pierce the shaded portion covering film.**
- **Ensure smooth non-binding movement while assembling.**

**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
   PLYWOOD 2x36.5x36.5mm (For Aileron Servo) -- 2 pcs
   PLYWOOD 2x13x15mm (For Aileron Horn) -- 2 pcs
   STRAPER PL4112106 -- 2 pcs
   CLEVIS PL4112105 -- 2 pcs
   FUEL TUBE d2xD4x4mm -- 4 pcs
   HORN PL4113102 -- 2 sets
   PUSHROD Ø1.4x118mm w/ Threads (For Aileron) -- 2 pcs
   TRANSPARENT TAPE 30x200mm -- 2 pcs

2. FUSELAGE -- 1 set
   PLYWOOD 4x9x47mm (For Ducted Fan) -- 1 pair
   SCREW PM2.5x8mm -- 4 pcs
   WASHER d3xD7mm -- 4 pcs
   WASHER Ø12x0.9mm -- 2 pcs
   MAGNET Ø6x2mm -- 2 pcs
   DUCTED FAN COVER -- 1 pc.

3. PLYWOOD 2x6x11mm -- 4 pcs

4. CANOPY -- 1 pc.
   PILOT PC101042B -- 1 pc.

5. FRONT LANDING GEAR Ø1.8x71mm -- 1 set
   PLASTIC TUBE d2xD3x12mm -- 1 pc.
   PLYWOOD Ø16x2mm -- 2 pcs
   PLYWOOD Ø24x2mm -- 2 pcs
   FRONT WHEEL Ø23mm -- 1 pc.
   COLLAR Ø2.1mm w/ Set Screw -- 2 sets
   STEERING ARM PL4112215 -- 1 set
   WRENCH M1.3 -- 1 pc.
   PUSHROD Ø1.2x158mm (For Front Wheel) -- 1 PC.

6. STABILIZER & ELEVATOR -- 1 set
   BATTERY COVER -- 1 pc.
   CARBON FIBER TUBE Ø4x480mm -- 1 pc.
   FIBER TAPE 17x60mm -- 2 pcs
   TRANSPARENT TAPE 30x60mm -- 2 pcs
   PLYWOOD 2x12.5x15mm (For Elevator Horn) -- 2 pcs
   PLYWOOD 3x22x38mm -- 2 pcs
   WASHER Ø12x0.9mm -- 2 pcs
   MAGNET Ø6x2mm -- 2 pcs

7. PUSHROD Ø1.4x118mm w/ Treads (For Elevator) -- 2 pcs
   HORN PL4113102 -- 2 sets
   STRAPER PL4112106 -- 2 pcs
   CLEVIS PL4112105 -- 2 pcs
   FUEL TUBE Ø2xD4xD4mm -- 4 pcs
   SCREW PB2x20mm -- 4 pcs

8. MAIN LANDING GEAR Ø2.5x77mm -- 1 pair
   LANDING WIRE STRAPS PL4114030 -- 4 pcs
   MAIN WHEEL Ø40mm PL3116040 -- 2 pcs
   COLLAR Ø2.6mm w/ Set Screw -- 2 sets
   SCREW PA2.3x8mm -- 8 pcs

9. VERTICAL FIN & RUDDER -- 1 set

10. SPONGE 10x50x150mm (For Radio Equipment) -- 1 pc.
    DOUBLE-SIDED TAPE 30x35mm -- 1 pc.
    BATTERY TIE 160mm -- 1 pc.

11. DECALS:GE041DEC -- 1 set
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.
Ducted Fan Propulsion Unit with 28/31 Motor

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

1. PM2.5x8mm Screw (4 x 4)
d3xD7mm Washer (4 x 4)

2. Magnet Ø6x2mm

3. Bottom View

4. PM2x4mm

5. Bottom View

6. Optional Parts

7. HEAT SHRINK TUBE Ø5x30mm

8. Insulation

9. Completed

- Make sure TWM logo on ducted fan stay on bottom of fusealge.
3 Elevator

Plywood 2x6x11mm

Elevator Servo Lead

N.I.

Bottom View

4 Canopy

Canopy

Pilot

AB

Completed

Completed

GM041PO22240910
Joining surfaces should be clean and dry. Slightly roughen surfaces with sandpaper for best results.
7 Elevator Pushrod

- 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 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.

8 Main Landing Gear

- Completed
9 Vertical Fin

Install and arrange the equipment as shown in the picture.

10 Radio Equipment

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

- Completed
Adjust the control throws as shown in the diagram. These throws are good for general flying. You can adjust according to your personal preference.
The ideal C.G. position is 45mm (1.77 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.

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.

# X FIGHTER is specially designed to be powered by KM0283110 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

#### (PMW ACCESSORIES)

<table>
<thead>
<tr>
<th>Optional Parts</th>
<th>Code No.</th>
<th>Size</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>30A Brushless ESC</strong></td>
<td>KC2030A02</td>
<td>24 x 45 x11mm</td>
<td>1 pc</td>
</tr>
</tbody>
</table>
| - Current : 30A continuous  
- Burst current (< 10 seconds) : 40A  
- Weight : 25g (with wires)  
- BEC output : 2A  
- Input :  
  - Li - ion / Li - poly 2 - 4 cells;  
  - Nimh / Nicd 5 - 12 cells | |
| **Ducted Fan Propulsion Unit without Motor** | PL6800010 | | 1 set |
| - 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 | |
| **Outrunner 28 / 31 (for ducted fan)** | KM0283110 | D28 x 31 mm | 1 set |
| - Kv (rpm / V) : 3600  
- Operating Power: 375W  
- Operating Voltage: 6 - 15V  
- Operating Current: 30A  
- Peak Current: 35A (max. 15 sec.)  
- Internal Resistance: 25 m ohms  
- Diameter: 28 mm  
- Length: 31 mm  
- Weight: 58 g  
- Shaft Diameter: 3 mm  
- Shaft Length: 14.8 mm  
- Mounting Screw:  
  - M3 (Front) and M2 (Back)  
- Distance of Mounting Holes:  
  - 16 mm and 19 mm | |
| **Clevis Wrench** | PL8210010 | | 1 set |
| - Small Clevis  
- Large Clevis  
- Special tool for clevis installation. Suitable for standard and small (EP) clevis. | |
| **2 - Pin EZ Connector** | KP0011210 | 40A Max. Current | 1 set |
| - Ideal for electric models | |
| **3 - Pin EZ Connector** | KP0011310 | 40A Max. Current | 1 set |
| - Ideal for electric models | |
| **180mm Extension For Park Flyer** | KW0011800 | 180mm | 1 set |
| **Heat Shrink Tube** | PT1115050 | D5mm x 10cm | 2 pcs x 3 colors |
| - Three colors (Black, Red, Yellow) | |
| **Micro Servo** | SV2031 | | |
| - 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 | |
| **Silicon Wire** | HW2110101 | D4.0mm | 1 set |
| - 1 M black & 1 M red / pkg | |
| **Clevis Wrench** | PL8210010 | | 1 set |
| - Small Clevis  
- Large Clevis  
- Special tool for clevis installation. Suitable for standard and small (EP) clevis. | |
| **2 - Pin EZ Connector** | KP0011210 | 40A Max. Current | 1 set |
| - Ideal for electric models | |
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