Jeff Troy's TAMEcat DF Trainer

Requires: 4-channel radio w/ 4 micro servos, Ducted Fan Propulsion Unit PL6800010 and Outrunner Motor KM0283110, Ducted Fan Booster Cone PL6800011, 30A (burst 35A) brushless ESC, 3 cells 11.1V 15C 2100mAh Li-Po battery and charger.

Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wing Span</td>
<td>39.5 in / 1000 mm</td>
</tr>
<tr>
<td>Wing Area</td>
<td>273 sq in / 17.6 sq dm</td>
</tr>
<tr>
<td>Flying Weight</td>
<td>28 oz / 790 g</td>
</tr>
<tr>
<td>Fuselage Length</td>
<td>29.0 in / 730 mm</td>
</tr>
</tbody>
</table>

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.
Jeff Troy's TAMEcat DF Trainer

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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 :-

- **Apply epoxy glue.**
- **Apply instant glue** (C.A.glue, super glue.)
- **Apply thread locker**
- **Must be purchased separately !**
- **Assemble left and right sides the same way.**
- **Ensure smooth non-binding movement while assembling.**
- **Peel off shaded portion covering film.**
- **Cut off shaded portion.**
- **Drill holes with the specified diameter (here: 3mm).**
- **Pierce the shaded portion covering film.**
- **Pay close attention here!**
- **Warning!** Do not overlook this symbol !
**Parts List**

<table>
<thead>
<tr>
<th>1. MAIN WING</th>
<th>1 set</th>
</tr>
</thead>
<tbody>
<tr>
<td>SFCREW PB2x8mm</td>
<td>4 pcs</td>
</tr>
<tr>
<td>SCREW PA1.7x8mm</td>
<td>8 pcs</td>
</tr>
<tr>
<td>STRAPER</td>
<td>2 pcs</td>
</tr>
<tr>
<td>FUEL TUBE d2xD4x4mm</td>
<td>4 pcs</td>
</tr>
<tr>
<td>CLEVIS</td>
<td>2 pcs</td>
</tr>
<tr>
<td>HORN</td>
<td>2 sets</td>
</tr>
<tr>
<td>PUSHROD Ø1.4x78mm w/ Threads (For Aileron)</td>
<td>2 pcs</td>
</tr>
<tr>
<td>SERVO MOUNTING PANEL</td>
<td>1 pair</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. STABILIZER &amp; ELEVATOR</th>
<th>1 set</th>
</tr>
</thead>
<tbody>
<tr>
<td>FUSELAGE</td>
<td>1 pc.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3. VERTICAL FIN &amp; RUDDER</th>
<th>1 set</th>
</tr>
</thead>
<tbody>
<tr>
<td>BALSA (Tail Skid) 2x15.1x98.4mm</td>
<td>2 pcs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4. FRONT LANDING GEAR</th>
<th>1 set</th>
</tr>
</thead>
<tbody>
<tr>
<td>COLLAR Ø2.8mm w/ set screw</td>
<td>4 sets</td>
</tr>
<tr>
<td>WHEEL Ø40mm PL3116040</td>
<td>1 pc.</td>
</tr>
<tr>
<td>PUSHROD Ø1.2x189mm (For Front Landing Gear)</td>
<td>1 pc.</td>
</tr>
<tr>
<td>STEERING ARM PL4112215 mm w/ Set Screw</td>
<td>1 set</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5. MAIN LANDING GEAR</th>
<th>1 set</th>
</tr>
</thead>
<tbody>
<tr>
<td>COLLAR Ø2.8mm w/ set screw</td>
<td>4 sets</td>
</tr>
<tr>
<td>WHEEL Ø40mm PL3116040</td>
<td>2 pcs</td>
</tr>
<tr>
<td>LANDING WIRE STRAPS PL4114030</td>
<td>3 pcs</td>
</tr>
<tr>
<td>SCREW PWA2.3x8mm</td>
<td>6 pcs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6. SCREW PB2x8mm</th>
<th>2 pcs</th>
</tr>
</thead>
<tbody>
<tr>
<td>FUEL TUBE d2xD4x4mm</td>
<td>1 pc.</td>
</tr>
<tr>
<td>CLEVIS</td>
<td>1 pc.</td>
</tr>
<tr>
<td>HORN</td>
<td>1 set</td>
</tr>
<tr>
<td>PUSHROD Ø1.4x312mm w/ Threads (For Elevator)</td>
<td>1 pc.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>7. SCREW PB2x8mm</th>
<th>2 pcs</th>
</tr>
</thead>
<tbody>
<tr>
<td>FUEL TUBE d2xD4x4mm</td>
<td>1 pc.</td>
</tr>
<tr>
<td>CLEVIS</td>
<td>1 pc.</td>
</tr>
<tr>
<td>HORN</td>
<td>1 set</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>8. SCREW PB2x8mm</th>
<th>4 pcs</th>
</tr>
</thead>
<tbody>
<tr>
<td>FUEL TUBE d2xD4x4mm</td>
<td>2 pcs</td>
</tr>
<tr>
<td>CLEVIS</td>
<td>2 pcs</td>
</tr>
<tr>
<td>HORN</td>
<td>2 sets</td>
</tr>
<tr>
<td>PUSHROD Ø1.4x287mm w/ Threads (For Rudder)</td>
<td>1 pair</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>9. SCREW PM2.5x12mm</th>
<th>4 pcs</th>
</tr>
</thead>
<tbody>
<tr>
<td>WASHER d3xØ7mm</td>
<td>4 pcs</td>
</tr>
<tr>
<td>DOUBLE-SIDED TAPE 30x35mm</td>
<td>1 pc.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>10. SPONGE 10x50x150mm (For Radio Equipment &amp; Battery)</th>
<th>2 pcs</th>
</tr>
</thead>
<tbody>
<tr>
<td>BATTERY TIE 180mm</td>
<td>1 pc.</td>
</tr>
<tr>
<td>SILICON WIRE HW2110101 D4.0x230mm</td>
<td>2 pcs</td>
</tr>
<tr>
<td>STRAPER</td>
<td>4 pcs</td>
</tr>
<tr>
<td>FUEL TUBE d2xD4x4mm</td>
<td>4 pcs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>11. COWLING</th>
<th>1 pc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCREW PWA2x8mm</td>
<td>4 pcs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>12. SCREW PM2.5x25mm</th>
<th>2 pcs</th>
</tr>
</thead>
<tbody>
<tr>
<td>WASHER d2.5xØ8mm</td>
<td>2 pcs</td>
</tr>
<tr>
<td>PVC PLATE 1x17x64mm (Wing Protection)</td>
<td>1 pc.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>13. COCKPIT</th>
<th>1 pc.</th>
</tr>
</thead>
</table>

| 14. DECALS: E245SXMDEC | 1 set   |

**COVERING:**

- LIGHTEX SGX245000
- LIGHTEX SGX245001
- LIGHTEX SGX100
- LIGHTEX SGX201
- LIGHTEX SGX311
1 Main Wing

- Apply instant type CA glue to both sides of each hinge.

2 Aileron Servos

- Ø1mm pilot holes for World Models 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.
3 Stabilizer & Elevator

- Apply instant type CA glue to both sides of each hinge.

Temporary install the main wing, adjust leveling of the stabilizer to make is as parallel to the main wing as possible.

*Also refer to step 13 Wing Setting

4 Vertical Fin & Rudder

- Apply instant type CA glue to both sides of each hinge.

Completed

Completed

Bottom View

Bottom View

Completed
5 Front Landing Gear

1. 3mm Set Screw
2. 2.6mm Collar
3. 2.6mm Collar
4. 2.6mm Collar
5. 3mm Set Screw
6. Wheel Ø40mm PL3116040
7. 2.6mm Collar
8. 3mm Set Screw
9. 2.6mm Collar
10. Wheel Ø40mm PL3116040
11. 3mm Set Screw
12. 3mm Set Screw
13. 3mm Set Screw
14. 3mm Set Screw
15. Steering Arm PL4112215 w/ Set Screw
16. PUSHROD Ø1.2x189mm (For Front Landing Gear)

Bottom View

Completed
6 Main Landing Gear

- Ø1mm pilot holes for World Models Landing Wire Straps are pre-drilled. Please look for pin-hole marks at under side of control surfaces.

![Diagram of Main Landing Gear]

7 Elevator Pushrod

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

![Diagram of Elevator Pushrod]

8 Rudder Pushrod

- Ø1mm pilot holes for World Models horn are pre-drilled. Please look for pin-hole marks at side of control surfaces.

![Diagram of Rudder Pushrod]
**Ducted Fan Propulsion Unit with 28/31 Motor**

**PM2.5x12mm Screw**
- 4

**d3xD7mm Washer**
- 4

### N.I. Optional Parts

**Ducted Fan Propulsion Unit**
- PL6800010

**Outrunner Motor 28 / 31**
- KM0283110

**Ducted Fan Booster Cone**
- PL6800011

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

**30A Brushless ESC**

**Double-sided Tape 30x35mm**

**Make sure TWM logo on ducted fan stay on up side of fuselage.**

**Motor Lead Exit**

3-pin EZ Connector
- KP0011310

-E245SXMPO23901006-
10 Radio Equipment

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

Front

- Pushrod Ø1.4x312mm w/ Threads (For Elevator)
- Fuel Tube
- Sponge
- Pushrod Ø1.2x189mm (For Front Landing Gear)
- N.I. Elevator Servo
- N.I. Receiver
- Battery Tie 180mm
- Silicon Wire
- N.I. Battery
- Sponge
- Straper
- Pushrod Ø1.4x287mm w/ Threads (For Rudder)
- N.I. Rudder Servo

11 Cowling

- PWA2x8mm Screw
- Cowling
- Completed
- PWA2x8mm
**12 Main Wing**

- **PM2.5x25mm Screw**
- **d2.5xD8mm Washer**

![Diagram of Main Wing components](image)

- PVC Plate 1x17x64mm (Wing Protection)
- PM2.5x25mm
- d2.5xD8mm Washer

**Completed**

---

**13 Cockpit**

- **on ↔ off**

![Diagram of Cockpit components](image)

**Completed**

---

**L/R**
14 Wing Setting

Adjust the wing and fuselage configuration as shown in the diagrams.

15 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.

- **Rudder**
  - HIGH RATE: 8mm
  - LOW RATE: 5mm

- **Elevator**
  - HIGH RATE: 10mm
  - LOW RATE: 6mm

- **Aileron**
  - HIGH RATE: 7mm
  - LOW RATE: 5mm
The ideal C.G. position is 50mm (2 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.

**Warning!**

**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.

# *Jeff Troy’s TAMEcat DF Trainer* 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. Extreme caution should be exercised when working with electric powered models. Make sure the propeller is cleared of all objects, especially your hands before connecting the battery to the model. Make sure you understand the operation of the ESC (Electronic Speed Control) by studying the ESC manual. Once you plug in the battery for electric powered model, always treat the propeller as a rotating one, as accidental movement of the throttle stick will spin the propeller and could cause injuries.

# If you find wrinkles on the covering as a result of weather changes, you can use hot iron to remove the wrinkles. Please begin with lower temperature setting and gradually raise the temperature until the wrinkles are gone. Too hot an iron may damage the covering. Don't use hot iron near the seams or edges, hot iron will melt the glue and shrink the covering at the same time, causing the seams to pull away.

# Check and re-tighten up all factory assembled screws, use thread locker if necessary.
Product Registration Form (US Customers)

We would like to share with you any relevant information regarding your model, including product news and free upgrade parts when applicable. Please fill in the following and send to AirBorne Models, 4749-K, Bennett Drive, Livermore, CA 94551 USA.

1. Name:______________________________________________

2. Address:____________________________________________

3. Phone #:____________________ E-mail:__________________

4. Model:______________________________________________

Wing QC#__________ Fuselage QC# _______________________
(QC numbers are stamped on wing and fuselage)

5. Date of Purchase:_____________________________________

6. Store Name:__________________________________________

Please call AirBorne Models at 925 371 0922 for any assistance in filling this form. Thank you very much for purchasing our product.
### Optional Parts

**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>1 set</td>
<td></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

**Outrunner 28 / 31 (3 cells Li-Po)**

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Size</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>KM0283110</td>
<td>D28 x 31 mm</td>
<td>1 set</td>
</tr>
</tbody>
</table>

- Kv (rpm / V): 3600
- Operating Power: 375W
- Operating Voltage: 6 - 15V
- Operating Current: 45A
- Peak Current: 60A (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

**30A Brushless ESC (3 cells Li-Po)**

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Size</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>KC2030A02</td>
<td>24 x 45 x 11mm</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

**Micro Servo**

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

- Speed : 0.1 sec / 60° @4.8V
- Torque : 16kg.cm / 22.2 oz - in @4.8V
- Diameter: 28 mm
- Length: 31 mm
- Weight: 60 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

**Turbo Outrunner for ducted fan (4 cells Li-Po)**

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Size</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>KM0283120</td>
<td>D28 x 31 mm</td>
<td>1 set</td>
</tr>
</tbody>
</table>

- Kv (rpm / V): 3030
- Operating Power: 800W
- 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) and M2 (Back)
- Distance of Mounting Holes: 16 mm and 19 mm (Front)

**40A Brushless ESC (4 cells Li-Po)**

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Size</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>KC2040A02</td>
<td>55 x 28 x 12mm</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

**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

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

**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 2 pcs</td>
<td>3 colors</td>
</tr>
</tbody>
</table>

- Three colors (Black, Red, Yellow)

**Silicon Wire**

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Size</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>HW2110101</td>
<td>D4.0mm</td>
<td>1 set</td>
</tr>
</tbody>
</table>

- 1 M black & 1 M red / pkg

**Clevis Wrench**

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

- Small Clevis
- Large Clevis

Special tool for clevis installation. Suitable for standard and small (EP) clevis.
There are only two kinds of airplanes — Fighters and Targets. Hello, Fighter Ace!

Thank you for purchasing my F-14 TAMEcat EP ARF from The World Models.

The original F-14 TAMEcat was a .40-size, nitro-powered model. The design was originally published as a plan set in Model Aviation magazine as a primary trainer with very gentle flight characteristics. Despite its jet-like appearance, the original F-14 TAMEcat is an ideal airplane for beginners to radio control flying. The .40-size F-14 TAMEcat Trainer ARF is also available from The World Models.

There are a few significant differences between that airplane and the EP version you have before you. Most important is that the F-14 TAMEcat EP ARF is not intended for use as a primary trainer, although it does have reasonably gentle flying characteristics when operated at lower motor speeds.

The EP model is much smaller than the original design, there is a lower dihedral angle in the wing, and its extreme lightness and high-power TWM brushless outrunner motor will allow the model to fly faster than I would recommend for basic flight training. If a true, primary training version of the TAMEcat is desired, please purchase the F-14 TAMEcat Trainer ARF from The World Models.

Now that you understand the differences between the electric-powered F-14 TAMEcat EP ARF and the larger, .40-size F-14 TAMEcat Trainer ARF for nitro (glow engine) power, here are a few suggestions for getting the best performance from your F-14 TAMEcat EP ARF.

1. The nose gear is not steerable, so the model’s nose should be pointed directly into the wind when attempting an ROG (Rise Off Ground) takeoff. Landings should also be made directly into the wind.

2. If flying from a grass field, try removing the main landing gear and the nose gear. This will save weight and reduce aerodynamic drag, thus improving the model’s overall flight performance.

3. Please use the recommended 3S lithium-polymer battery. Several flights were made using a less powerful 2S battery, and we found the power output of 2S batteries to be sub-standard for this model in wind conditions above dead calm.

4. Finally, your F-14 TAMEcat EP ARF can be used satisfactorily as a flight trainer if flown with a qualified RC flight instructor. At two-thirds to three-quarters power, the F-14 TAMEcat EP ARF is gentle and easily managed, and will satisfactorily fulfill a flight training role.

For flight training, the model should be equipped with a radio control system with a “buddy box” feature for the instructor, and the student pilot should use the buddy box controller. The correct connecting cable should be used between the transmitter and the extra controller.

When the student is competent, s/he should be able to handle the F-14 TAMEcat EP ARF unassisted. Please enjoy assembling and flying your F-14 TAMEcat EP ARF, and please follow all the model’s directions for many happy landings.

Once again, thank you for choosing the F-14 TAMEcat EP ARF.

Warmest regards,

Jeff Troy
Ducted Fan

Pattern

Warbirds

Funfly

Scale

Electric

Sports

Glider

Trainer

Boat

Accessories

Covering

(Lightex / Toughlon)