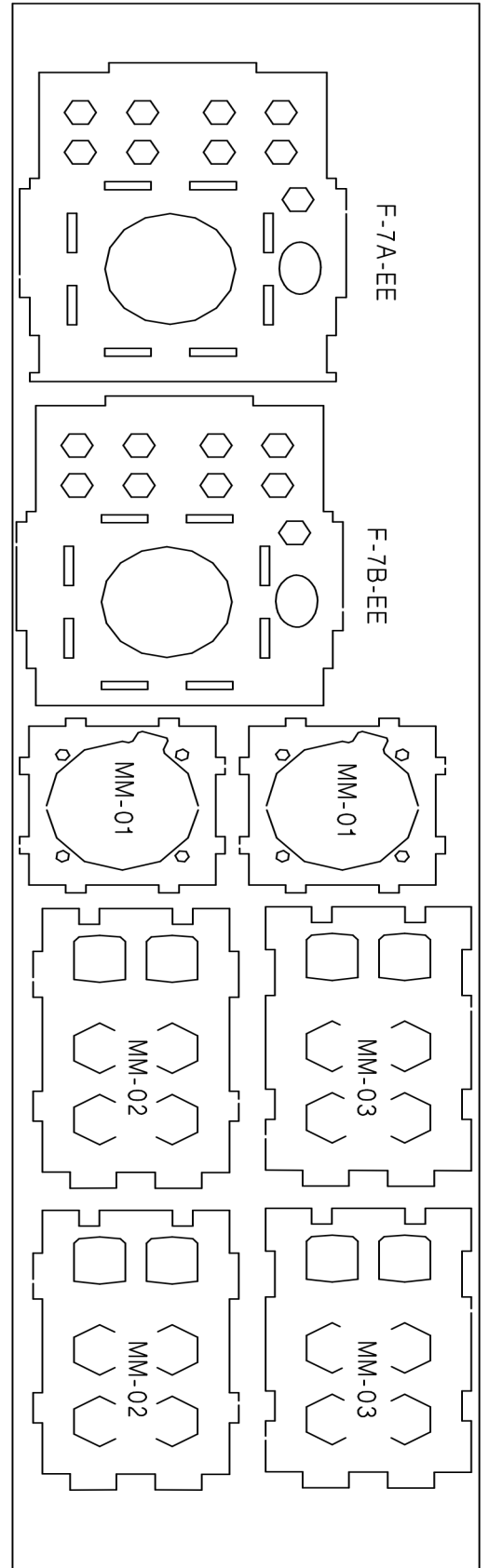
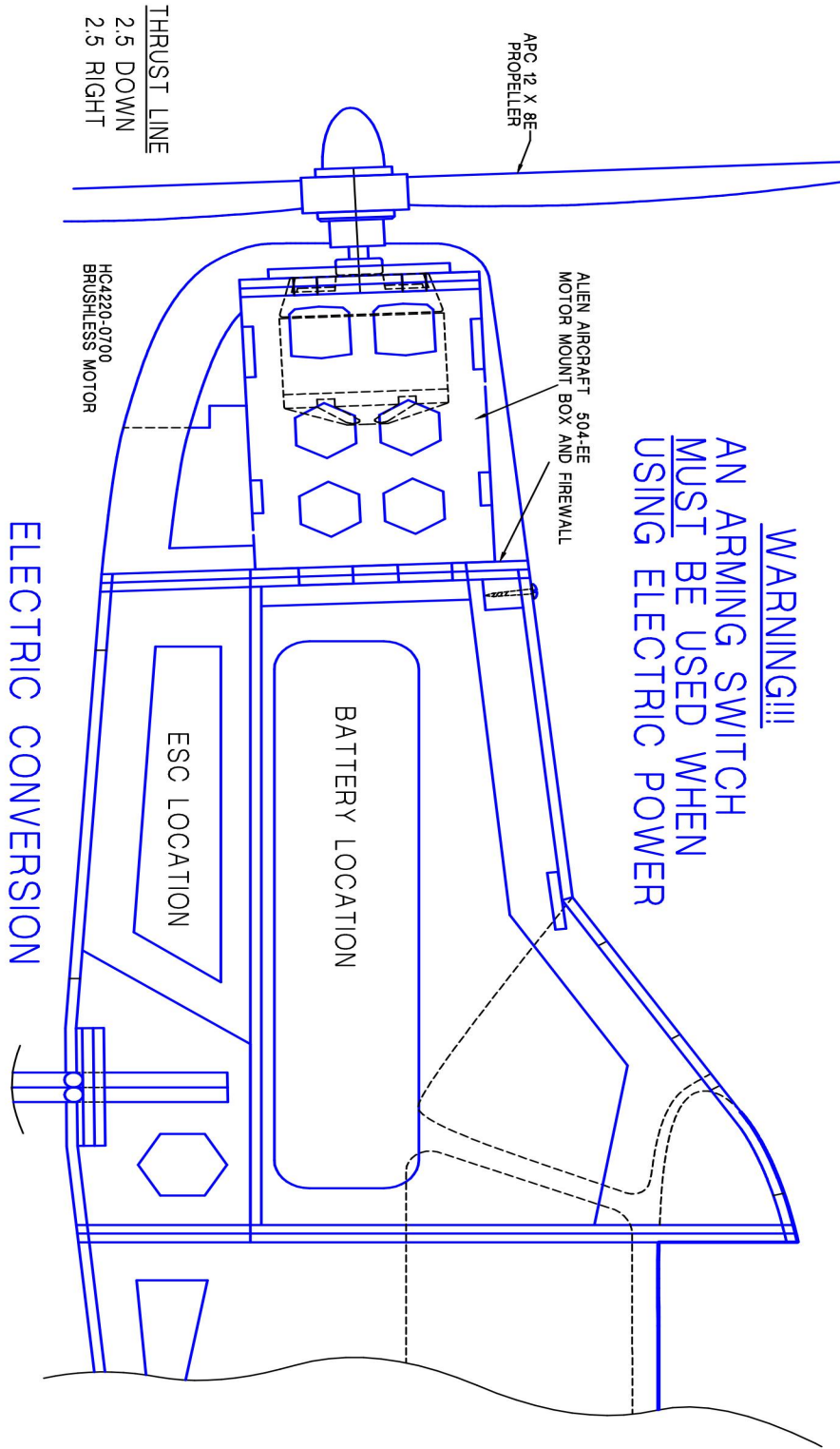


# Funmaster 72 Electric Conversion

Kit AG-504 Revision 01



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## Kit # AG-504

### Kit Contents:

#### Laser Cut Sheets

Qty.	Name	Description
1	LC-504-E-01	.3mm X 6" X 24" Laser Cut POPLAR PLY

### Additional Items Required for Electric Power (Not Included in Kit)

Qty.	Name	Description
1	Motor	Himax HC4220-0700 Brushless Motor ( Alien Aircraft P/N: AE-053)
1	Speed Control	Castle Creation Phoenix Edge 50 Electronic Speed Control ( Alien Aircraft P/N: AE-041)
1	Battery Connector	Male Deans Ultra Style connector ( Alien Aircraft P/N: AE-027)
1	Arming Switch	Arming Switch with 12 awg & Dean's Ultra Style Connectors ( Alien Aircraft P/N: AE-048)
1	Battery	4 Cell 5000Mah Lipo Battery 30C
1	Heat Shrink Tube	.3/16" Heat Shrink Tube ( Alien Aircraft P/N: AE-029)
1	Propeller	APC 12 x 8E Propeller ( Alien Aircraft P/N: AE-054)
2	Velcro	6" Velcro ( Alien Aircraft P/N: AG-012)

## **WARNING.....EXTREME DANGER:**

*Electric motors, propellers and batteries powerful enough to fly this model are extremely dangerous. These motors, propellers and batteries can cause serious property damage, serious bodily injury and death. Maximum safety precautions must be observed at all times when installing, maintaining and operating these items. Maximum safety precautions must be observed at all times when assembling, maintaining and operating this model. You must understand and follow all of the manufactures operating and safety instructions for every piece of equipment and component used with this model.*

***YOU MUST USE AN ARMING SWITCH BETWEEN THE BATTERY AND SPEED CONTROLLER.***

*If you have any doubt about the proper safety precautions, you must contact the manufactures to obtain the operating and safety instructions for every piece of equipment and component used with this model.*

**You must read and follow the important notes on page 6 of this manual.**

## Building Instructions:

Building the electric powered version of the Funmaster 72 is almost identical to building the glow powered version. The main difference between the models is the firewall/motor mount. As such, you should *follow the regular instruction manual to build the model with the following exceptions:*

Use epoxy for assembling the following parts.

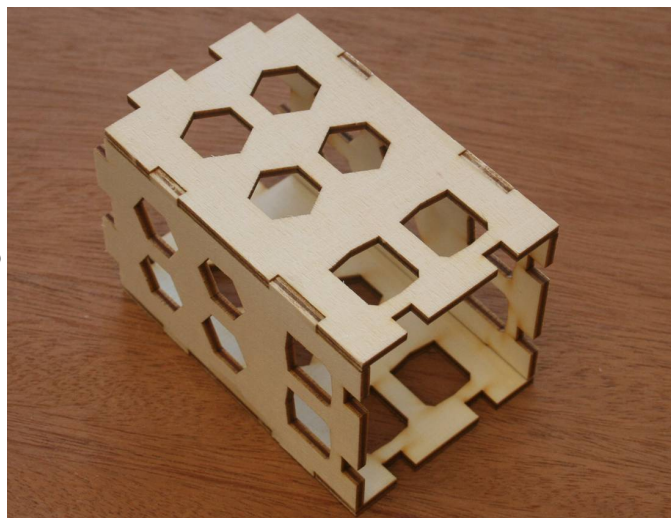
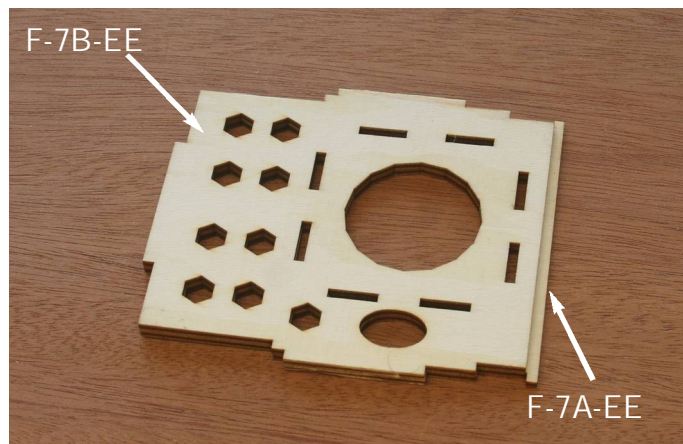
10...Do not use parts F-7A and F-7B. Instead, Glue F-7B-EE to the back of F-7A-EE. The oval shaped hole should be oriented as shown..

Do not complete steps 11 and 12 in the regular instruction manual.

Instead, complete the following steps.

11...Glue the two parts MM-01 together as shown.

12...Glue parts MM-02 and MM-03 together to make the mount support as shown. Use parts MM-01 and F-7A-EE as a guide to make sure that the assembly is square.

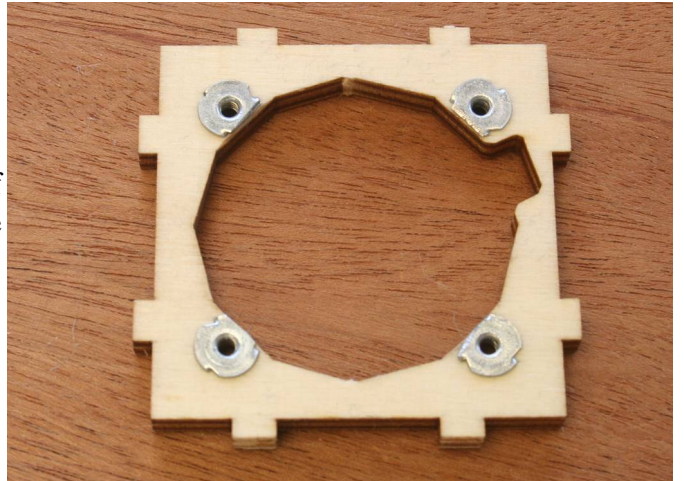


12A...Use side cutting pliers to trim off one edge on all four of the M3 blind nuts that come with the HiMax motor as shown.

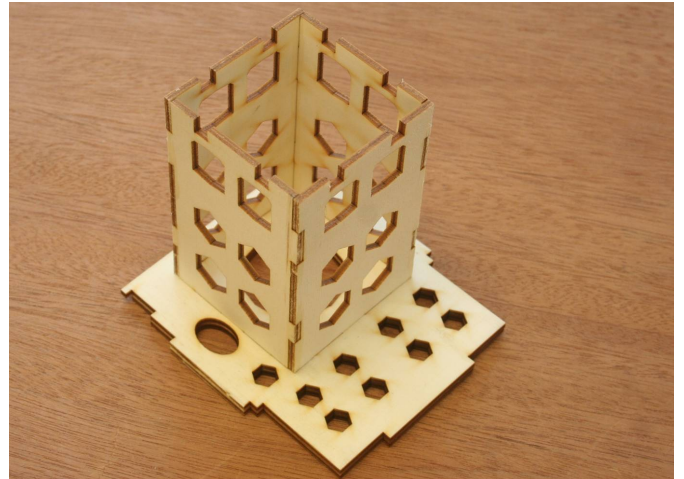
Note. Use the 3mm Blind nuts that come with your HiMax motor. The nuts supplied in the FunMaster Kit are 6-32 thread and are to be used with a gas motor.



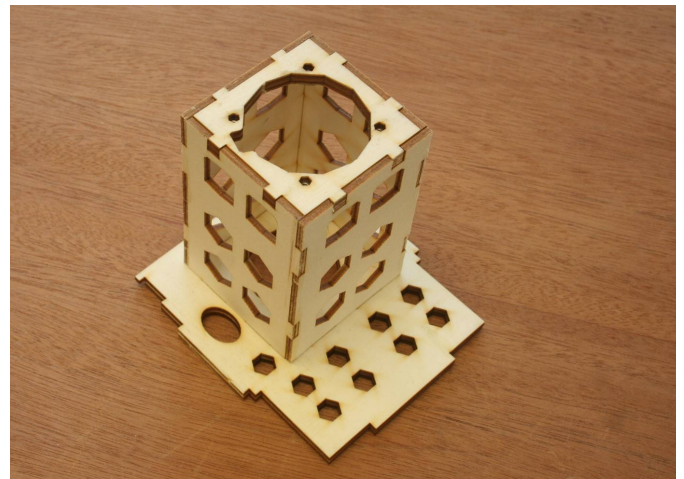
12B...Press the M3 blind nuts into the mount holes in the **back** of MM-01. Secure them in place with thin C/A Glue. If any of the blind nuts extend past the edge of the opening when the glue is dry, File flush or grind flush with a Dremel tool & sanding drum.



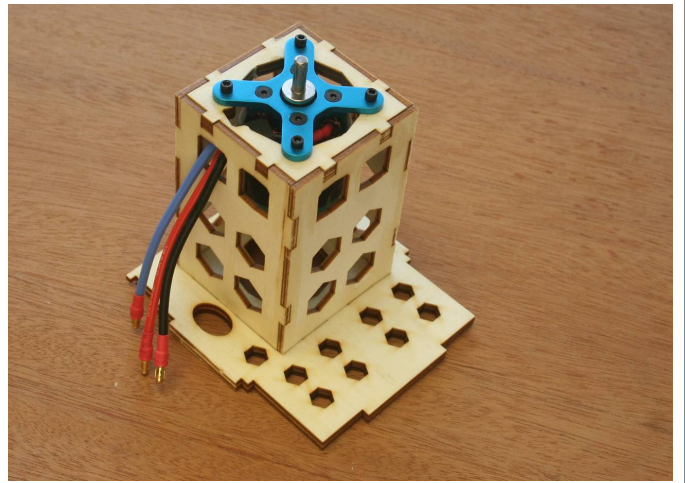
12C...Securely glue the MM-02 / MM-03 assembly to the front of F-7A-EE. Not the orientation of the oval hole in F-7A-EE.



12D...Securely glue the MM-01 assembly to the front of the MM-02 / MM-03 assembly. Not the orientation of the notch in MM-01 assembly.



12E...Test fit the motor into the motor mount assembly. Now remove the motor.



Now continue with the regular FunMaster instructions, with the following changes.

Step 23...The new electric motor mount assembly is used in place of the kit firewall.

Step 28...The fuel tank tray is now the battery tray. After assembly, glue velcro on top of F-16.

Step 145...You do not need the throttle servo.

Steps 150 through 154 are not used.

Instead,

A...Mount the motor on the motor mount.

B...Mount the Arming Switch.

C...Mount the electronic speed control. It can be placed next to the fuel tank, under the fuel tank or on the front of the firewall under the motor depending on how your model balances.

Warning!!!

Do not mount the propeller until you have completely finished the model and thoroughly tested the radio system and electric power system.

Now finish the model using the regular FunMaster instructions.

...WITH THE PROPELLER REMOVED...Turn the transmitter on. Place the throttle stick in the low position. Plug the battery into the speed controller. Check the motor for proper operation and direction of rotation. Follow the instructions with the speed controller to make any adjustments.

D...Check the servos for proper operation and direction. Adjust the control throws to the values shown on the plan. Now disconnect the battery and then turn off the transmitter.

266...Install the propeller Place the battery in the nose of the model and install the hatch.

E...Check the balance of the model. It should balance at the position shown on the plan. Move the battery forward or aft to achieve the proper balance. Use the velcro straps to secure the battery in the model in this position. Mark the location of the battery on the fuselage side. This will allow you to quickly reinstall the battery at the location that gives the proper balance. Note: If moving the battery will not achieve the proper balance, you will have to add weight to the nose or tail. Glue any weight securely to the model.

F...Your model is now ready to fly. Fully charge the transmitter and airborne battery before attempting to fly the model. Always range check and do a thorough pre-flight of the model before every flight. Always follow established safety guidelines while operating the motor, radio and flying your model.

## **NOTES ABOUT THE ARMING SWITCH:**

**\*YOU MUST USE THE ARMING SWITCH. THIS IS AN IMPORTANT SAFETY ITEM.**

**\*THE PLUG SHOULD ONLY BE INSERTED IN THE ARMING SWITCH IMMEDIATELY PRIOR TO FLIGHT.**

**\*ALWAYS REMOVE THE PLUG FROM THE ARMING SWITCH IMMEDIATELY AFTER EVERY FLIGHT.**

**\*THE PLUG SHOULD NEVER BE INSERTED IN THE ARMING SWITCH WHILE CHANGING OR INSTALLING THE BATTERY IN THE MODEL.**

**\*BE ABSOLUTELY SURE THAT THERE ARE NO OBJECTS, CLOTHING, BODY PARTS, ETC. ANYWHERE NEAR THE PROPELLER AND THAT THE MODEL IS SECURELY RESTRAINED BEFORE INSTALLING THE PLUG IN THE ARMING SWITCH.**

## **LIPO BATTERY SAFETY ALERT**

### **Lithium Battery Fires**

Lithium batteries are becoming very popular for powering the control and power systems in our models. This is true because of their very high energy density (amp-hrs/wt. ratio) compared to NiCd's or other batteries. With high energy comes increased risk in their use. The principal risk is FIRE which can result from improper charging, crash damage, or shorting the batteries. All vendors of these batteries warn their customers of this danger and recommend extreme caution in their use. In spite of this, many fires have occurred as a result of the use of Lithium Polymer batteries resulting in loss of models, automobiles, and other property. Homes and garages and workshops have also burned. A lithium battery fire is very hot (several thousand degrees) and is an excellent initiator for ancillary (resulting) fires. Fire occurs due to contact between Lithium and oxygen in the air. It does not need any other source of ignition, or fuel to start, and burns almost explosively. These batteries must be used in a manner that precludes ancillary fire. The following is recommended:

1. Store, and charge, in a fireproof container; never in your model.
2. Charge in a protected area devoid of combustibles. Always stand watch over the charging process. Never leave the charging process unattended
3. In the event of damage from crashes, etc, carefully remove to a safe place for at least a half hour to observe. Physically damaged cells could erupt into flame and after sufficient time to ensure safety, should be discarded in accordance with the instructions which came with the batteries. Never attempt to charge a cell with physical damage, regardless of how slight.
4. Always use chargers designed for the specific purpose, preferably having a fixed setting for your particular pack. Many fires occur in using selectable/adjustable chargers improperly set. Never attempt to charge Lithium cells with a charger which is not specifically designed for charging Lithium cells. Never use chargers designed for Nickel Cadmium batteries.
5. Only use charging systems that monitor and control the charge state of each cell in the pack. Unbalanced cells can lead to disaster if it permits overcharge of a single cell in the pack. If the batteries show any sign of swelling, discontinue charging and remove them to a safe place outside as they could erupt into flames.
6. Most important: NEVER PLUG IN A BATTERY AND LEAVE IT TO CHARGE UNATTENDED OVERNIGHT. Serious fires have resulted from this practice.
7. Do not attempt to make your own battery packs from individual cells.

These batteries CANNOT be handled and charged casually such as has been the practice for years with other types of batteries. The consequence of this practice can be very serious resulting in major property damage and/or personal harm.