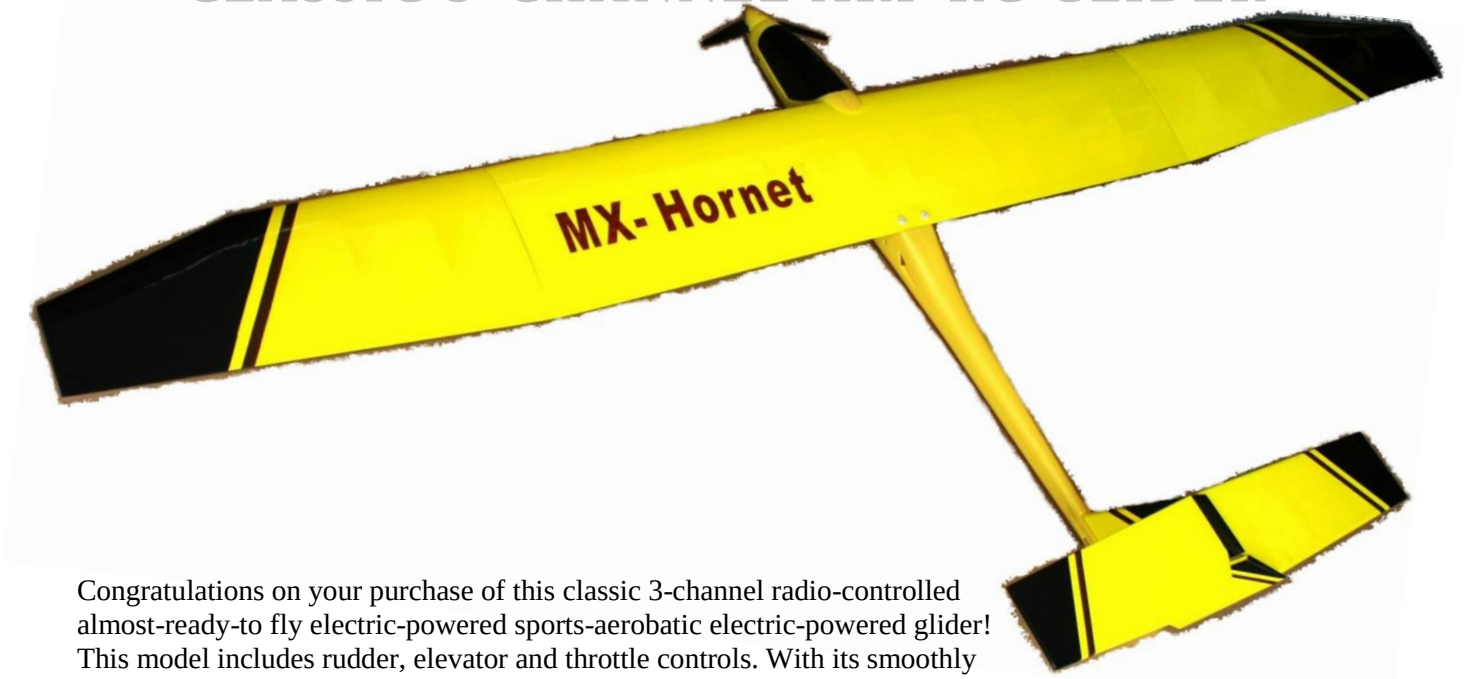
HORNET

CLASSIC 3-CHANNEL ARF RC GLIDER



Congratulations on your purchase of this classic 3-channel radio-controlled almost-ready-to fly electric-powered sports-aerobatic electric-powered glider! This model includes rudder, elevator and throttle controls. With its smoothly contoured spinner, folding propeller, rugged fuselage and built-up, Mylar covered removable 3-piece wing, it is rugged enough for use as a trainer or to be enjoyed as an everyday flyer, and it is large enough to gracefully deal with most of the effects of wind or turbulence.

We invite you to enjoy the pride of ownership and the joy of flying this graceful ARF EP Glider.

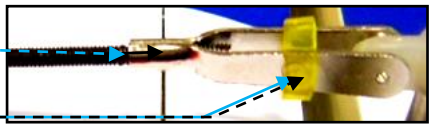
Maxford USA®

I. SAFETY PRECAUTIONS & ASSEMBLY TIPS

(IMPORTANT – PLEASE READ THIS SECTION BEFORE YOU BEGIN ASSEMBLY)

1. This product should not be considered a toy, but rather a sophisticated, working model aircraft that functions much like a full-scale airplane. Because of its performance capabilities, this product, if not assembled and operated correctly, could cause injury to you or spectators and damage to property. Maxford USA provides you with a high-quality, thoroughly tested model airplane kit with assembly instructions. However, the quality and capabilities of your finished model airplane depend on how you assemble it, and your safety depends on how you use and fly it. Any testing or flying of this model airplane is done entirely at your own risk.

2. Assemble this model airplane in accordance with these instructions. Do not alter or modify the model beyond the assembly and power-system options covered in these instructions, as doing so may result in an unsafe or unworkable model. If the instructions differ from the photos, the written instructions should be considered correct. If you have any question or concern about these instructions, before you proceed with assembly of this product, contact your dealer or speak to a Maxford USA customer service representative at 562-529-3988 (Monday through Friday, except national holidays, 9 AM to 5 PM Pacific Time).
3. Throughout the lifetime of this model, use only the Maxford USA-recommended power system and a new or well-maintained radio-control system.
4. While this kit has been flight-tested to meet or exceed our rigid performance and reliability standards in normal use, if you elect to perform extremely high-stress flying or if you install a much larger power system than specified, you (the buyer or user of this product) are solely responsible for taking any and all necessary steps to reinforce the high-stress points and/or substitute hardware that is more suitable for such increased stresses.
5. It is your responsibility to install the receiver and connect the radio control and power system components in such a way that this model airplane passes all applicable safety and range tests and that the power system and controls operate correctly and smoothly.
6. Recheck the operation of this model airplane before every flight to ensure that all equipment is still operating correctly and that the model has remained structurally sound. Also before every flight, check all electrical, control and structural connections; do not fly without replacing any that you find damaged or worn.
7. Before you begin assembly of this model airplane, read all instructions and test-fit each part to ensure you fully understand the instructions and that no parts are missing, damaged or unsatisfactory. Temperature and/or humidity differences between the factory, our warehouse and your home or workshop may dictate the need for slight adjustments to the wings, struts and/or the vertical or horizontal stabilizer's mounting surfaces to ensure proper alignment; however, we recommend you contact us before you attempt any such adjustments.
8. If you are not an experienced R/C pilot or have not flown this type of model before, we strongly urge you to get assistance from an experienced R/C pilot.
9. You may use 30-minute epoxy to attach critical parts permanently and apply a threadlock compound to secure all airframe components from vibration.
10. If you have concern about the security of any factory fabrication procedure(s), you may apply 30-minute epoxy around the perimeter of such part(s) as an extra safety precaution.
11. After adjusting each clevis, secure the clevis to its threaded rod with CA adhesive. For additional safety, hold the clevis closed by adding a small piece of tubing (not supplied) as shown at the right.



12. This model includes some plastic, fiberglass and/or carbon-fiber-reinforced parts. If you drill, grind or sand any such part, always wear safety goggles, a particle mask and rubber gloves to guard yourself from eye, skin and respiratory-tract irritation; never blow into the part as the dust may blow back into your face.
13. Minor production details (such as Mylar and/or paint colors) may vary. Check the Mylar covering material's joints and surfaces; if necessary, carefully use an iron (do NOT set the iron's temperature too high) to secure the edges and to tighten any loosened areas. Recheck and retighten from time to time.
14. Whenever you use a new electric power system, be sure to read all instructions included with your motor, ESC, battery and charger. Failure to follow all instructions could result in permanent damage to these components, their surroundings, and may cause bodily harm! If you crash this model airplane, check whether the battery is damaged. Do NOT attempt to use or recharge a damaged battery.

II. WARRANTY, LIABILITY WAIVER & RETURN POLICY

Maxford USA guarantees this kit to be free from defects in material and workmanship at the time of purchase. All our products have been inspected in our factory and are checked again when shipped from our warehouse. However, Maxford USA cannot directly control the materials you may use or your final assembly process. Therefore, Maxford USA cannot in any way guarantee the performance of your finished model airplane. Furthermore, in purchasing this product, you (the buyer or user of this product) exempt, waive, and relieve Maxford USA from all current or future liability for any personal injury, property damage, or wrongful death,

and if you (the buyer or user of this product) are involved in any claim or suit, you will not sue Maxford USA or any of its representatives.

If you do not fully accept the above liability and waiver, you may request a return-merchandise authorization number (RMA#) as explained below in item 2. If you think there is a missing, damaged or unsatisfactory part, please read our after-sales service and return policy:

1. Inspect your order upon delivery for any missing, damaged or unsatisfactory part(s). If you believe there is a problem, you must call us at 562-529-3988 (Monday through Friday except holidays, between the hours of 9 AM and 5 PM Pacific time) before you begin assembly and within 10 days from receipt of your purchase. During this telephone conversation, and with your support, we will determine how to resolve your concern.
2. To request a return-merchandise authorization number (RMA#), call 562-529-3988 (Monday through Friday except holidays, between the hours of 9 AM to 5 PM Pacific Time). If we elect to issue you an RMA#, you must clearly mark this RMA# on the outside of the package. (No return or exchange will be authorized after 10 days from the date of your receipt of the product; any package delivered to us without a Maxford USA RMA# is subject to being returned to the sender, as received, with return postage payable upon delivery.) Returned merchandise must be in its original condition as received from Maxford USA, with no assembly or modification, in the product's original packing materials, complete with all manuals and accessories. Return shipping and insurance charges must be prepaid by you, the buyer.
3. Returned merchandise that is accepted by Maxford USA for credit is subject to a 10% to 20% restocking fee (the final amount will be determined by Maxford USA upon receipt and examination of the returned merchandise).

Return address:

Maxford USA
15939 Illinois Avenue, #B-C
Paramount, CA 90723

IMPORTANT: *Print the RMA# issued by Maxford USA on your package near our address.*

III. SPECIFICATIONS*

Wingspan	2 meters (78 inches)
Wing Area	598 sq in
Length	40 inches
ARF Weight	18 ounces
Recommended power system (not included)	Maxford USA U35425 motor with 60A ESC and 3 or 4S 1,800 mAh or greater LiPo battery or equivalent
Propeller (not included)	8 or 10 inch folding propeller
Radio (not included)	Minimum of 3 channels (to control the rudder, elevator and throttle)
Servos (not included)	2 standard-sized servos for rudder & elevator
Center of gravity (CG)	2 7/8-inches behind the wing's leading edge at the fuselage

*(All dimensions and weights are approximate.)

IV. PARTS LIST

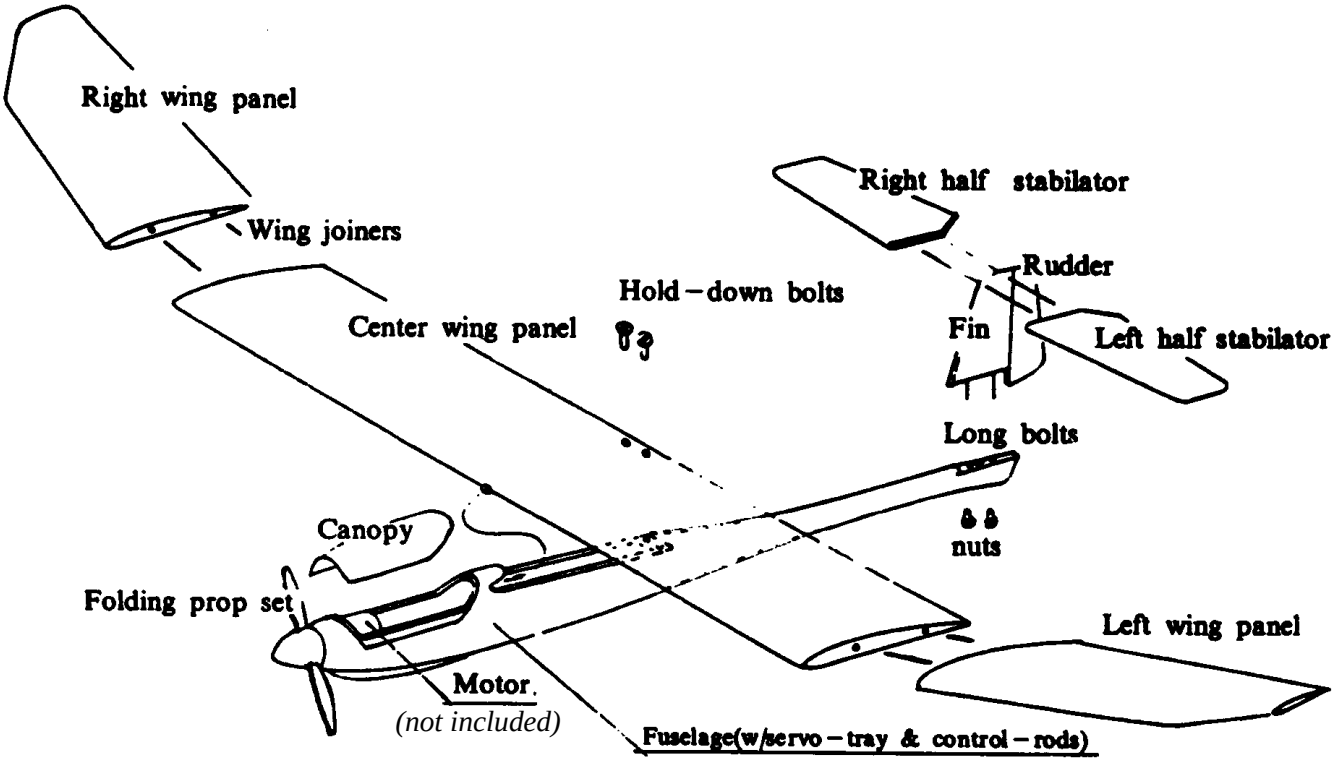
A. SUPPLIED ITEMS:

Wing joiners (4 steel rods, 2 long & 2 short)	Center, left and right wing panels
Wing hold-down bolts (plastic, with nuts in fuselage)	Vertical fin with built-in bolts and rudder
Canopy with openings for attachment over the cockpit	Plastic nuts to attach vertical fin to fuselage

Fuselage, folding prop, servo-tray, and all required control linkages

2 piece 'full-flying' horizontal 'stabilator'	2 joiner wires for horizontal 'stabilator'

Hardware except those items of hardware normally supplied with a motor and servos



B. ITEMS YOU MUST SUPPLY TO COMPLETE THIS ARF:

3-channel or more radio.

2 standard servos (rudder and elevator).

Electronic speed control (Maxford USA Uranus 60A or equivanent).

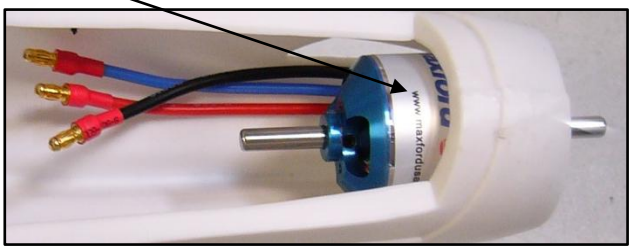
3S or 4S 1,800 mAh or greater Lipo battery.

Lipo charger (and DC power supply)

Outer rotor motor (Maxford USA Uranus 35425 or equivalent).

Double-sided tape .

A few simple hand tools for installation of your radio-control and power systems and to attach the wing.



V. SPECIAL FEATURES

One-piece fuselage (able to survive hard landings better than fiberglass – it will scratch, but it is not easily broken).

Classic balsa-wood rib and hardwood spar wing and tail-surface construction.

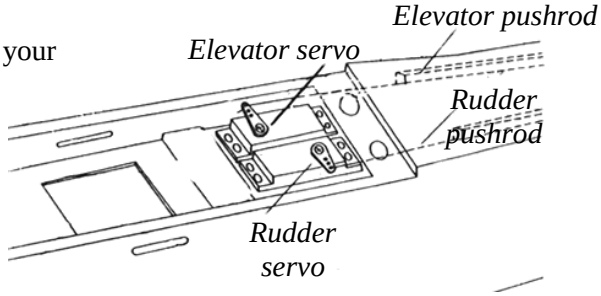
Semi-symmetric airfoil for long glides and easy rudder-and-elevator aerobatics.

Easy to disassemble for transportation and storage, and easy to reassemble at the field.

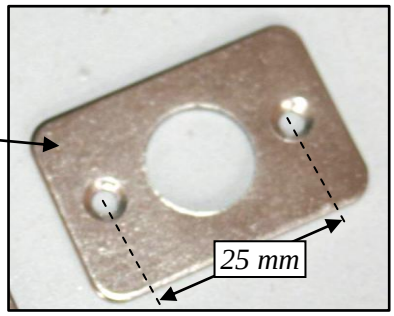
VI. ASSEMBLY INSTRUCTIONS

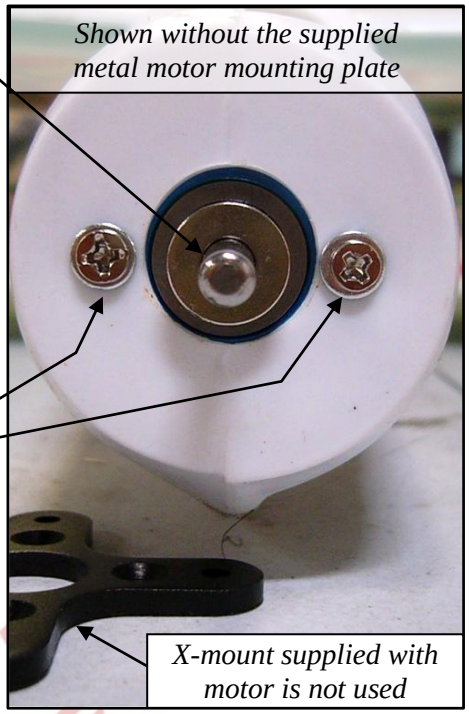
A. RADIO SYSTEM INSTALLATION:

1. Use your radio or a servo tester to center both of your servos. Use the hardware supplied with your servos to install the servos on the servo-tray (NOTE: You may be interested to learn about servo testers at http://www.maxfordusa.com/servo.aspx.)
2. Connect these 2 servos to the elevator and rudder ports on your receiver.
3. Temporarily position your receiver in the fuselage under the front edge of the servo tray. (NOTE: The fuselage pictured above in white is only for illustration. The HORNET's actual fuselage is YELLOW.)



4. Use the supplied metal mounting plate and the hardware provided with your motor to install the motor in the nose as shown. (NOTE: The X-mount supplied with a Maxford USA Uranus 35425 motor may not be necessary. Instead, we supply a motor mounting plate with holes predrilled at 25 mm on-center as shown at the right. If your motor requires different spacing, you may drill new holes in the metal mounting plate or you might elect to install your motor by substituting washers for the metal mounting plate as shown at the right.)





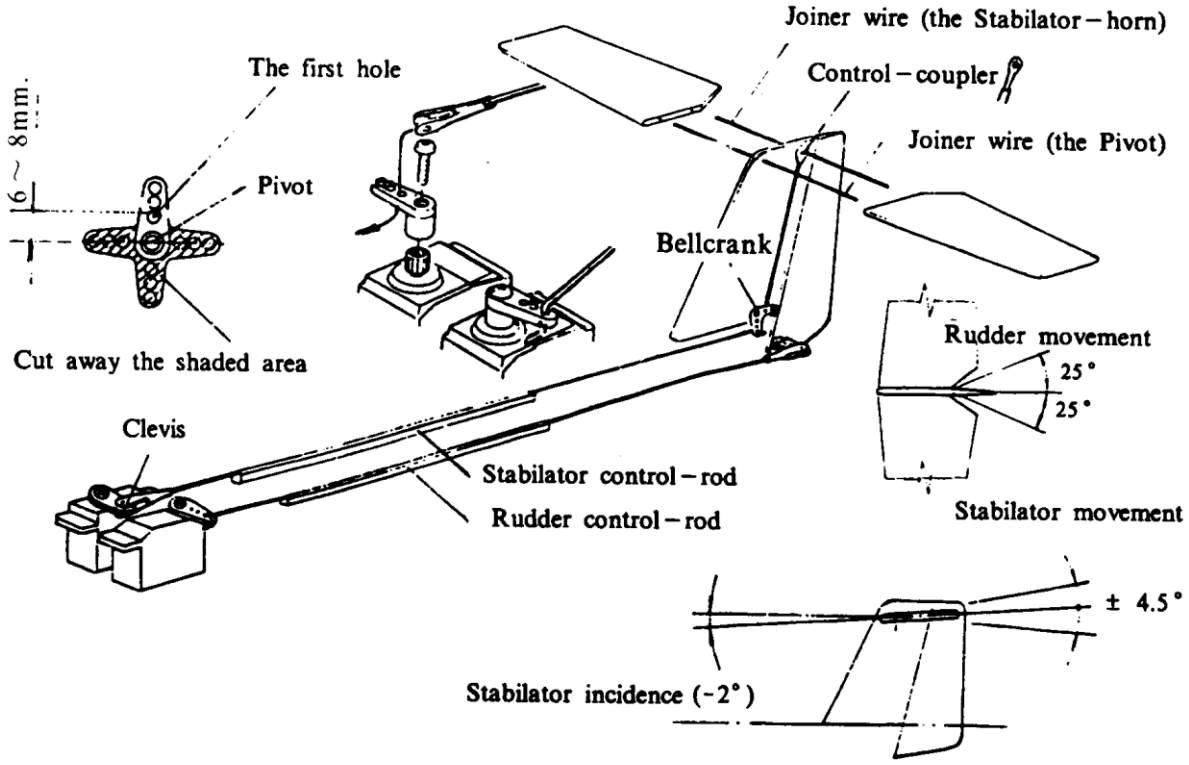
5. Connect your ESC's 3 leads to your motor. Position your ESC on either side of the motor and secure it to the inside of the fusealge with double-sided tape (not supplied).
6. Connect the ESC's servo-like lead to the throttle port on your receiver.
7. With NO propeller installed on your motor, test your motor's direction of rotation as follows:
   a. Set your transmitter's throttle and throttle-trim controls to minimum and switch ON your transmitter.
   b. Switch ON your radio's power and connect your LiPo flight battery to the ESC.
   c. After you hear a series of initialization sounds, carefully and slowly raise the transmitter's throttle to no more than 25% of maximum and observe the propeller's direction of rotation. The propeller should be rotating clockwise as viewed from the rear of the airplane.
8. If the motor powered up in the wrong direction, swap either 2 of the 3 ESC-to-motor wires and repeat the above test to ensure the motor rotates in the correct direction.

   (NOTE: You will determine the final position of your battery as you adjust the center of gravity after assembly is complete. Leave you battery disconnected from your motor until you are ready to fly.)

B. TAIL SURFACES:

Since the vertical fin, with rudder hinged to it, has already factory-assembled and mounted to the fuselage, and since the push-rods have also installed in the fuselage, you only need to mount the 'stabilator' (this is a composite of 'horizontal stabilizer' and 'elevator') to the fin and connect the control-rods to the rudder and to the stabilator.

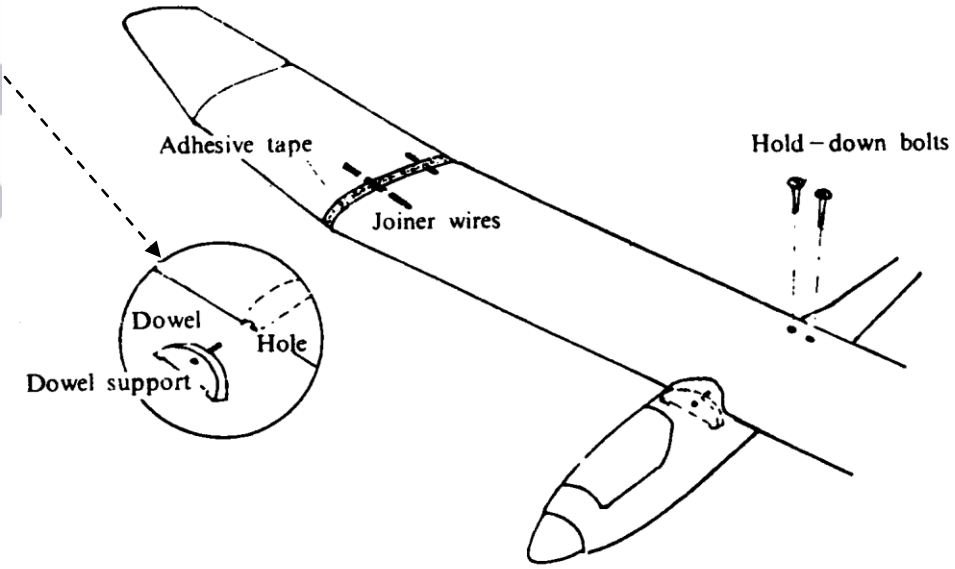
1. Connect the "Z-bend" end of the rudder pushrod to the servo horn and the clevis-end to the control-horn on the rudder. (NOTE: The push-rods are adjusted by turning the clevis clockwise or counter-clockwise. Adjust the push-rods so that when the servo arms are in a neutral position, the control-surfaces are also at neutral.)
2. Connect the clevis end of the stabiliator's push-rod to the servo horn. Use the 1st HOLE in the servo-arm (i.e. the hole nearest the servo's output shaft). Using the outer holes may cause the movement of the stabilator to be too great and the stabilator may feel 'too sensitive' to easily control. As shown in the diagrams on the following page, there is a bellcrank built-in the vertical fin which redirects the stabilator's push-rod travel upward into the vertical fin. There is also a control-coupler at the end of the control-rod built-in the fin. Insert one of the joiner wires through the hole in the control-coupler; the another joiner wire serves as the pivot for the stabilator.
3. Slide the two steel stabilator-joiner wires into the holes in the root ribs of the left and the right stabilator halves and join them snugly together to form the compete stabilator.
4. Set the stabilator servo horn in a neutral position to confirm the incidence of the stabilator is approx. negative 1 1/2 to 2 degrees with respect to the incidence of the wing. If not, adjust the stabilator's incidence by turning the clevis clockwise or couter-clockwise.



C. ASSEMBLING & MOUNTING THE WING:

The HORNET features plug-in wing panels which are easily joined and attached to the fuselage for flying and may be quickly disassembled after flight for easy transportation and storage.

1. Join the three wing panels together by inserting the dihedral joiners (the 2 sets of straight steel rods) into the holes in the root tibs of each of the 3 panels, then slide all 3 panels snugly together. Apply 3/4-inch or wider clear adhesive tape (not supplied) along the 'seams' where the 2 outer wing panels touch the wing's center section to secure all 3 panels together.
2. To mount the wing onto fuselage, observe the dowel inside the fuselage and the hole in the leading edge of the wing. Align the wing with the dowel and let the dowel slip into the hole as you allow the wing to settle into place on the fuselage as shown at the right.
3. Make sure the 2 holes in the trailing edge of the center panel are aligned over the 2 nuts built into the wing saddle.
4. Check that the center section of the wing is parallel to the stabilator. If not, put strips of paper on one side of the wing saddle under the center panel as necessary to make it parallel to the stabilator.



5. Insert the 2 plastic hold-down bolts through the holes in the trailing edge of the wing and guide the bolts into the nuts built-into the wing saddle as shown above.

6. 'Snug' (but do not overtighten) these 2 plastic bolts against the top of the wing.
7. To install the cockpit canopy, place the canopy over the cockpit and allow the magnets to hold it in position.

Congratulations. Assembly is finished!

VII. SETUP & ADJUSTMENTS

1. Center of gravity (CG): For your initial flight we recommend the aircraft should balance (neither nose up nor nose down) when lifted at a point approx. 2 7/8-inches (73 mm) behind the leading edge of the wing near the fuselage. Depending on your choice of radio, power system, setup and personal preference, you may or may not need to move the battery and/or add more weight in the nose. Once you have adjusted the CG to your taste, we recommend using hook-and-loop material to safely secure your battery during flight.
2. Check the movement and direction of rudder and stabilator. Pay special attention to the incidence of the stabilator, which should be negative 1 1/2 to 2 degrees with respect to the incidence of the wing when the servo-arm is in its neutral (centered) position.
3. Servo centering and direction: If you fly mode 2, pull the right stick toward you and the trailing edges of the stabilator should deflect upwards; push the right stick to the right and the rudder should deflect to the right as viewed from the rear of the fuselage.
4. Choose which holes in the servo arm and in the control horn to adjust the control throws. Or, if you are using a 'computer radio,' for initial flights set the elevator, rudder and aileron linkages for near-maximum-possible deflections and use your transmitter to add some 'exponential' to soften the control throws around center. Initial settings if you are using a non-computer radio:

	Recommended Deflections*
Stabilator.....	4 1/2 degrees up and down from center
Rudder	25 degrees left and right from center

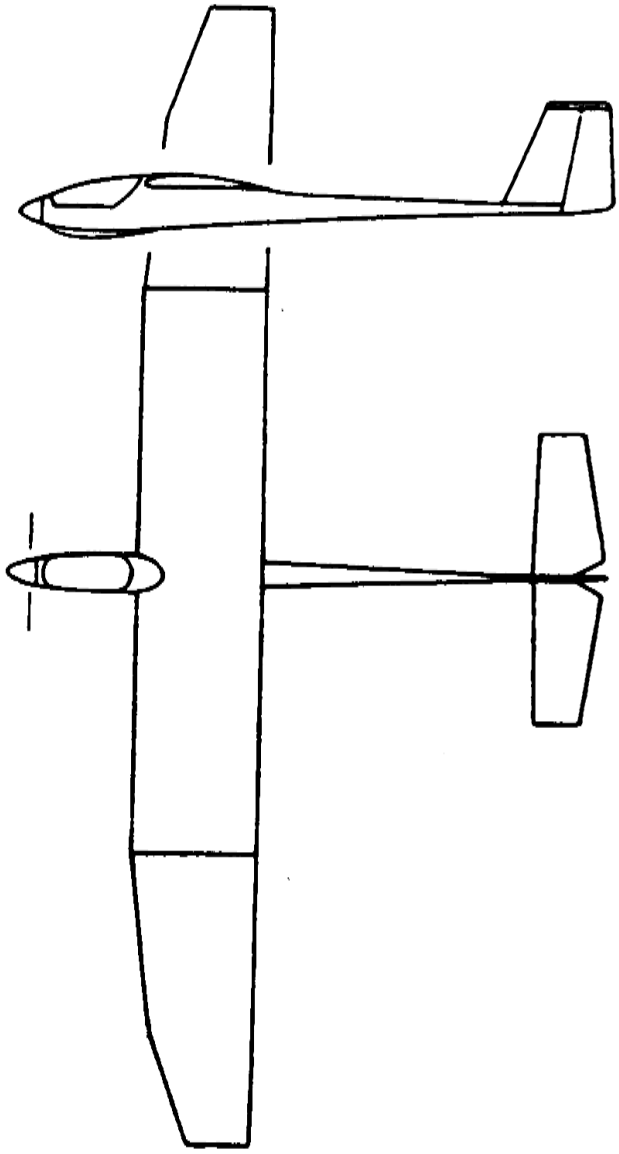
*(As pictured in the diagrams at the top of page 6.)

VIII. STORAGE, FIELD SETUP & PREFLIGHT CHECKS

1. Preparation for transport and storage: To remove the wing, unscrew and lift out the 2 plastic bolts; slide the wing back and off from the dowel at the leading edge; lift the wing away from the fuselage. If required for transport or storage, separate the outer wing panels by removing the tape and sliding them apart. Safely store the metal wing rods and plastic bolts for future use.
2. Reverse the above procedure to reattach the wings to fly. (REMINDER: use 3/4-inch or wider transparent tape to hold the outer wing panels firmly to the wing's center section.)
3. Ensure the propeller is securely attached to your motor and remains undamaged and correctly balanced.
4. Check the Mylar covering material's joints and surfaces. If necessary, carefully use an iron on medium heat to secure the edges and to tighten any loosened areas. Recheck and retighten from time to time; be careful to not apply too much heat as you secure edges or tighten the Mylar. Never apply heat to any trim, insignia, marking or plastic part.
5. As with all radio-controlled models, this airplane must pass the radio-range ground check recommended by your radio's manufacturer or you may not fly safely.

6. Although the HORNET handles winds nicely in the hands of an experienced glider pilot, we suggest you choose a day with less than a 15 mph breeze for your flights.

Congratulations on your new HORNET.
May you enjoy many Happy Landings!



Reminder …

- ***This product is NOT a toy.***
- ***The quality and capabilities of your finished model airplane depend on how you assemble it.***
- ***Your safety depends on how you use and fly it. Any testing, flying and use of this model airplane is done entirely at your own risk.***

PLEASE ENJOY YOUR HOBBY AND FLY SAFELY!

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Maxford USA RC Model Mfg, Inc.

Distributed by:

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Paramount, CA 90723

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