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Introduction

Congratulations on your purchase of the Hangar 9 Piper Cherokee. This is the ideal second airplane for modelers who are capable of flying a trainer-type aircraft. In a few short evenings, this 90% pre-built beauty will be ready for its debut at the flying field.

This manual has been written to ensure that you achieve the best performance and maximum enjoyment from your Piper Cherokee. It is important to carefully read and follow the instructions in this manual prior to flying the Piper Cherokee.

Warning

An R/C aircraft is not a toy! If misused it can cause serious bodily harm and damage to property. Fly only in open areas, preferably AMA (Academy of Model Aeronautics) approved flying sites, following all instructions included with your radio and engine.

Additional Equipment Required

Radio Equipment:

4 Channels (minimum)
4 Standard Servos
Standard 450-650 mAh Receiver Battery Pack

Recommended JR Systems:

JR F400 FM
JR XF642
JR XP783
JR XP8103



Engine Recommendations:

.40 - .46 2-Cycle Engines
.45 - .56 4-Cycle Engines

Recommended 2-Cycle Engines:

MDS .40FS
MDS .46FS
MDS .48FS
Webra Speed .40 Sport



Recommended 4-Cycle Engines:

Saito .50
Saito .56GK



Tools and Supplies Required

Adhesives

Thin CA (cyanoacrylate) glue
Thick CA (cyanoacrylate) glue
6-minute epoxy
12-minute epoxy
30-minute epoxy
Blue Locktite 242
Canopy glue

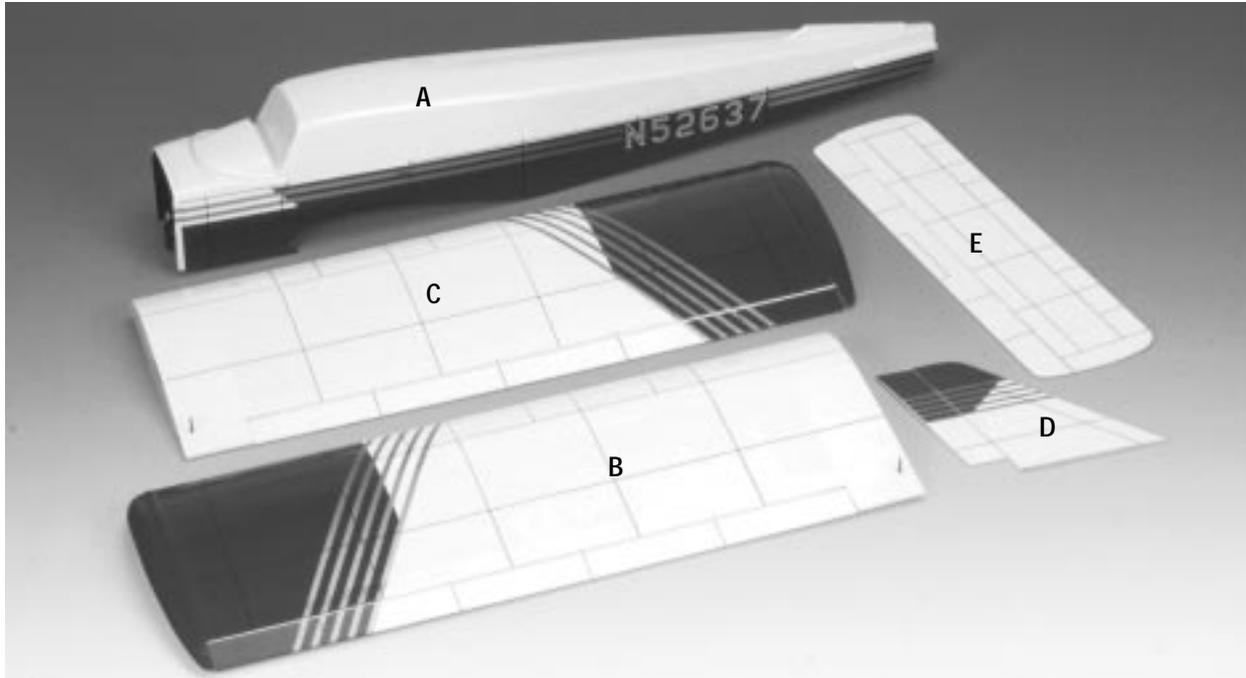
Tools

Drill
Drill bits: 1/16", 5/32"
Small Phillips screwdriver
Medium Phillips screwdriver
Z-bend pliers
Pliers
Small round file
Razor saw
Moto-Tool with sanding drum
Hobby knife with #11 blade
Mixing stick
Epoxy brush 90-degree triangle
File
Sanding stick (medium or fine)
Medium sandpaper
Masking tape
Straight edge
Measuring device (e.g., ruler, tape measure)
Scissors
Paper towels
Wax paper
Rubbing alcohol
Felt tipped pen
Fuel tubing
Clips (e.g., clothespins, binder clips)
Radio packing foam
Antenna tube

Contents of Kit

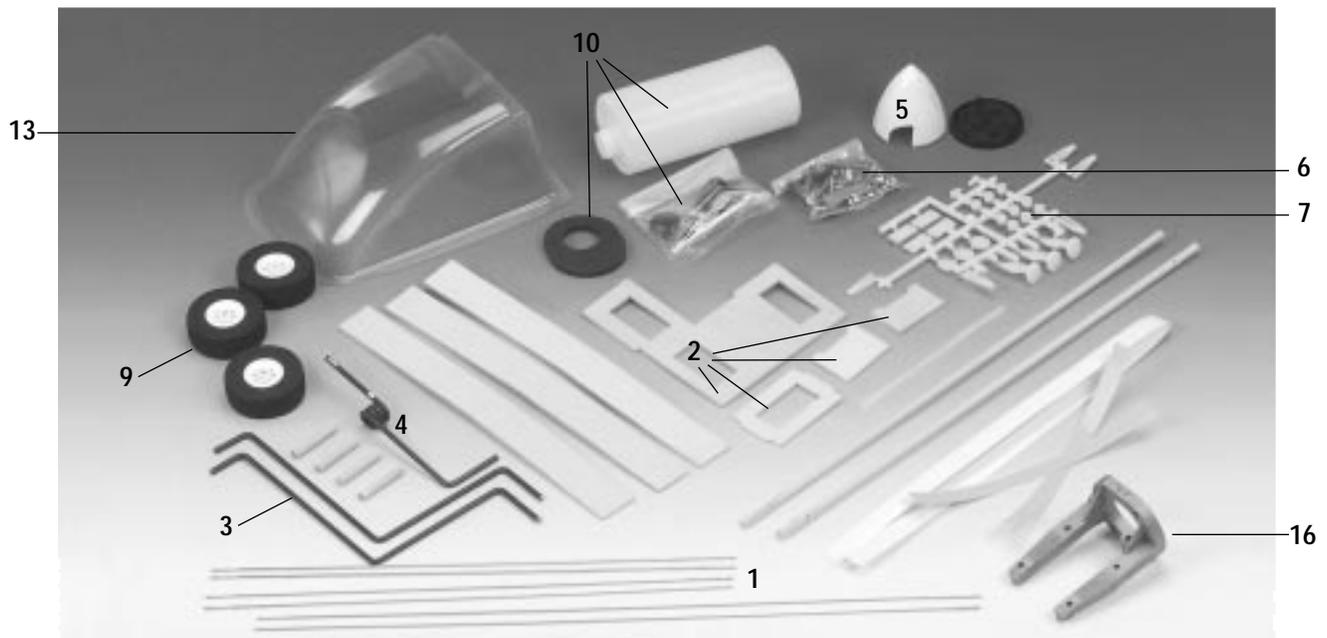
Covered Parts

- A. Fuselage
- B. Left wing half with aileron
- C. Right wing half with aileron
- D. Vertical stabilizer with rudder
- E. Horizontal stabilizer with elevator



Other

- 1. Pushrod & accessories
- 2. 1/8" plywood die-cut parts
- 3. Main landing gear
- 4. Nose landing gear
- 5. Spinner
- 6. Hardware bag
- 7. Plastic parts tree
- 8. Wheel pants (3) (not shown)
- 9. Foam wheels (3)
- 10. Fuel tank and hardware
- 11. Seats (not shown)
- 12. Cowling (not shown)
- 13. Windshield
- 14. Clear plastic for windows (not shown)
- 15. Trim sheet (not shown)
- 16. Motor mount



Field Equipment Required



Propeller



Airplane Fuel



Glow Plug Wrench



Glow Driver



Glow Plug



Manual Fuel Pump

Optional Field Equipment



4-Way Wrench



Field Box



Cleaner & Towels



Extra Glow Plugs



Misc. Tools



After-Run Fuel



Power Panel



#64 Rubber Bands



Starter



12V Sealed Battery

Section 1: Assembling the Wings

| Parts Needed | Tools and Adhesives Needed |
|--|---|
| <ul style="list-style-type: none">• Right wing panel with aileron and hinges• Left wing panel with aileron and hinges | <ul style="list-style-type: none">• 30-minute epoxy• Paper towels• Rubbing alcohol• Mixing stick/epoxy brush• Ruler• Wax paper |

Step 1. Carefully remove the aileron from the right wing panel by pulling straight out with even pressure. Note the location of the hinges and the aileron torque rod; this will be of assistance when replacing the aileron onto the wing.

Step 2. Remove all four hinges from the aileron. Flex the hinges so they move freely.

Step 3. Mix a small amount of 30-minute epoxy. Using either a mixing stick or a small piece of scrap wood, apply the epoxy sparingly inside each hinge slot on the aileron. Additionally, apply a small amount of epoxy to the top and bottom half of each hinge. Insert the hinges into the aileron until the hinge line is even with the leading edge of the aileron.

Note: Do NOT apply any epoxy into the aileron torque rod hole at this time.



Step 4. Lightly coat both ends of the aileron with epoxy; this will prevent the aileron from becoming fuel soaked.



Step 5. Wipe off any excess epoxy using a paper towel and rubbing alcohol.



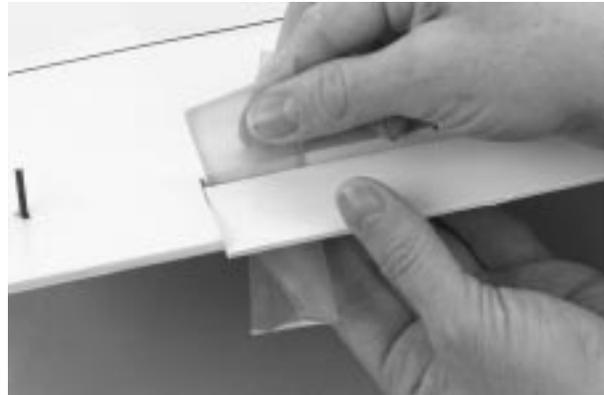
Section 1: Assembling the Wings

CONTINUED

Step 6. Mix a small amount of 30-minute epoxy to install the aileron onto the wing half. Apply epoxy to the top and bottom of the remaining half of each hinge, as well as the aileron torque rod hole. Using either a mixing stick or a piece of scrap wood, apply epoxy inside each hinge slot on the wing.



Step 7. Replace the aileron on the right wing half. Make sure the hinges are properly aligned and that the aileron torque rod presses into its respective hole in the aileron. The use of a piece of wax paper between the torque rod and wing will prevent epoxy from adhering to the wing. The gap between the aileron and the wing should remain a constant 1/16", or as tight as possible without restricting the movement of the aileron.



Step 8. Carefully wipe off any excess epoxy using a paper towel and rubbing alcohol.

Step 9. Repeat the procedures above for the left wing half.

Step 10. Allow the epoxy to cure before proceeding to the next section.

Section 2: Joining the Wing Halves

| Parts Needed | Tools and Adhesives Needed |
|---|---|
| <ul style="list-style-type: none">• Right wing panel from Section One• Left wing panel from Section One• Three plywood wing joiners | <ul style="list-style-type: none">• 6-minute epoxy• 30-minute epoxy• Clips (e.g., clothespins, binder clips)• Rubbing alcohol• Paper towels• Masking tape• Wax paper• Ruler• Pencil• Medium sandpaper• Mixing stick/epoxy brush• Felt tipped pen |

Step 1. Carefully remove the three individual wing joiners from the parts bag. If necessary, sand gently to remove any rough edges.



Step 2. Mix a small amount, approximately 1/4 oz., of 6-minute epoxy. Using either a mixing stick or epoxy brush, apply the epoxy to both sides of **one** of the wing joiners. Place the epoxied wing joiner on top of one of the two remaining wing joiners. Stack the remaining wing joiner on top of the epoxied wing joiner. Align the upper and lower edges of all three wing joiners, as well as the area which has the slight "V" shape.



Step 3. Clamp the three joiners together using clothespins or clips. Make sure the joiners remain aligned and the clamps are firmly attached.



Step 4. Wipe away the excess epoxy using a paper towel and rubbing alcohol. Be careful not to disturb the alignment of the wing joiners.



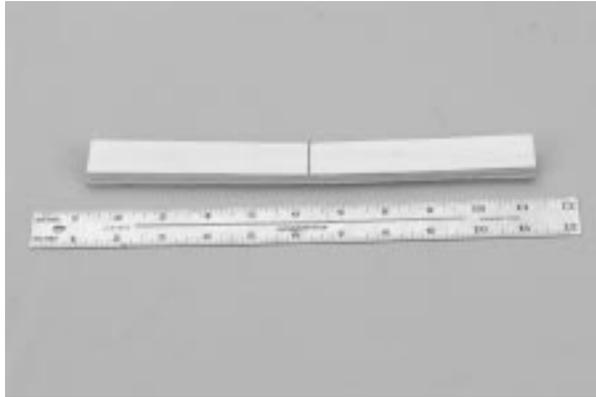
Note: Any excess epoxy should be removed before it cures.

Section 2: Joining the Wing Halves

CONTINUED

Step 5. Allow the epoxy to cure completely prior to removing the clamps.

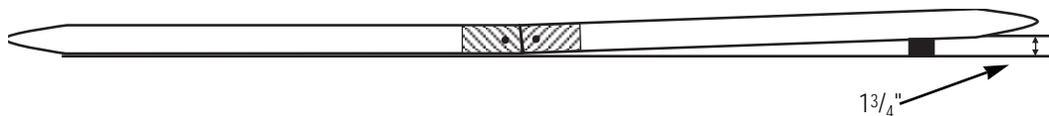
Step 6. Using a pencil and ruler, mark the "V" section of the brace. This mark will serve as the center line when joining the wing halves.



Step 7. Trial fit the dihedral brace, or wing joiner, into one of the wing panels. It should insert smoothly up to the center line marked in Step 6. Now slide the other wing half onto the dihedral brace until the wing panels meet. If the fit is overly tight, it may be necessary to lightly sand the dihedral brace.



Step 8. Check for the correct dihedral angle. Place the wing on a large, flat surface with one wing panel resting on the surface. The opposite wing tip should be exactly 1-3/4" from the surface (see illustration below). If necessary, sand the dihedral brace until this is achieved.



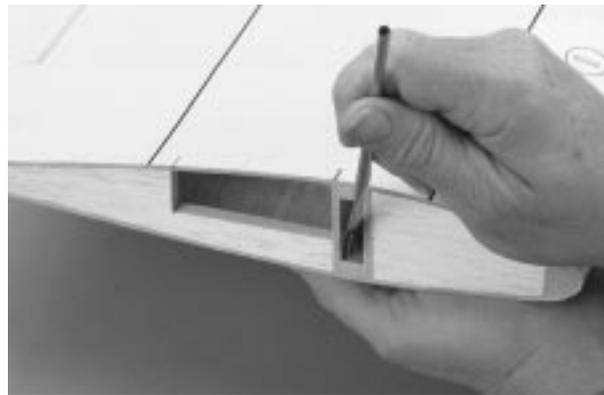
Step 9. Place the wing halves on the flat surface so the white side (bottoms) are facing downward. Using a felt tipped pen, place a mark at the leading edge and trailing edge of the servo bay on each wing half. These marks will be utilized as a guide when cutting the holes for the aileron servo and the aileron servo tray.



Step 10. Mix up approximately three ounces of 30-minute epoxy.

Note: When joining the wing halves, it is extremely important to use plenty of epoxy.

Step 11. Using a mixing stick or scrap piece of wood, apply a generous amount of epoxy into the wing joiner cavity of one wing half. Be sure that the epoxy is applied to all sides of the cavity.



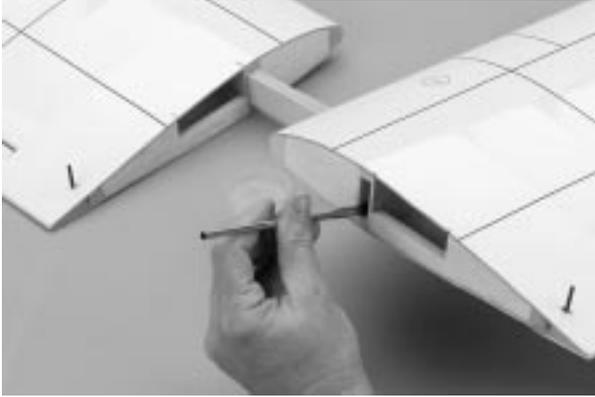
Section 2: Joining the Wing Halves

CONTINUED

Step 12. Coat one half of the dihedral brace with epoxy up to the center line drawn in Step 6. Install the epoxy-coated side of the dihedral brace into the wing joiner cavity up to the center line, making sure that the "V" of the dihedral brace is positioned correctly.



Step 13. Apply a generous amount of epoxy into the wing cavity of the other wing half.



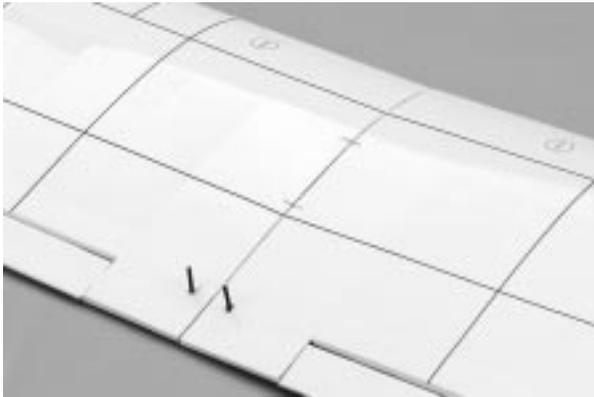
Step 14. Smear epoxy on all sides of the exposed area of the dihedral brace and uniformly coat both wing roots with epoxy.



Section 2: Joining the Wing Halves

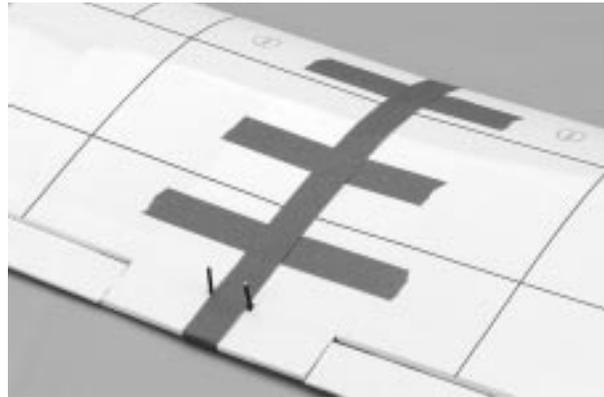
CONTINUED

Step 15. Carefully slide the two wing halves together, ensuring they are accurately aligned. Firmly press the two halves together, allowing the excess epoxy to run out. Using rubbing alcohol and a paper towel, clean off the excess epoxy. There should not be any gap between the wing halves.



Step 16. Apply masking tape to the wing joint to hold the wing together securely while the epoxy cures. Place the wing on a large, flat surface. With one wing panel lying flat on the surface, the opposite wing tip should be propped up exactly 1-3/4" from the surface. Allow the wing joint to dry overnight.

Note: It is a good idea to place a sheet of waxed paper under the center joint of the wing so that any excess epoxy doesn't adhere to the surface of the work area.



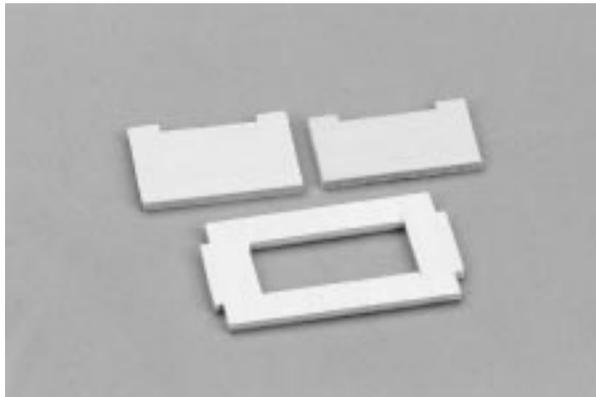
Section 3: Installing the Aileron Servo Tray

| Parts Needed | Tools and Adhesives Needed |
|---|---|
| <ul style="list-style-type: none">• Plywood aileron tray• Plywood aileron tray supports• Aileron servo• Wing center tape | <ul style="list-style-type: none">• Masking tape• Hobby knife• Felt tipped pen• 6-minute epoxy• Thick CA glue• Epoxy brush• Rubbing alcohol• Paper towels• Scissors |

Step 1. After the wing joint has completely cured, remove the masking tape.

Step 2. Remove the aileron servo tray and the two aileron tray supports from the parts bag.

Note: One of the aileron support trays is slightly shorter than the other. The shorter support will be situated toward the trailing edge of the wing.

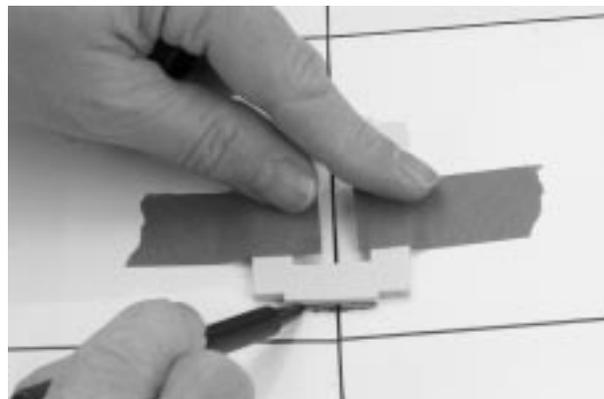


Step 3. Place the aileron servo tray between the marks that were made previously in Section 2, Step 9. Center the tray across the seam between the wing halves.

Step 4. Tape the tray in place with two pieces of masking tape, ensuring that the alignment is not disturbed.



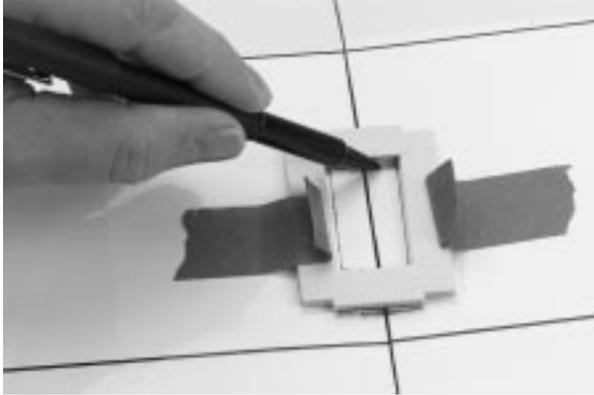
Step 5. Using a felt tipped pen, trace around the outside upper and lower parallel edges of the servo tray. These marks will serve as the guides for cutting the servo tray support slots later in this section. Additionally, place a mark along each of the outside vertical edges of the tray. These marks will be the outer edges of the servo tray support slots.



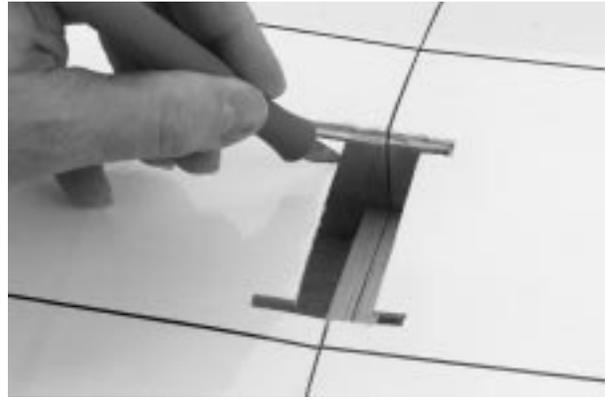
Section 3: Installing the Aileron Servo Tray

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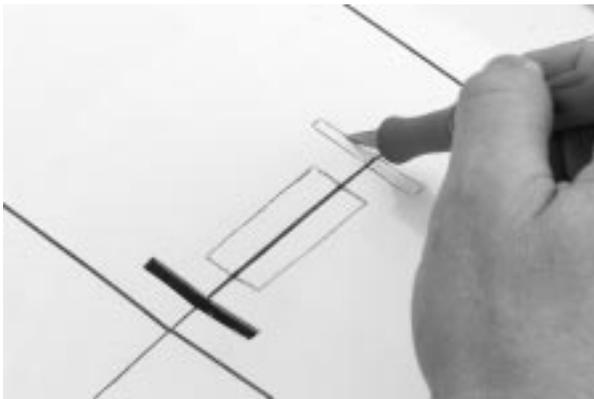
Step 6. Using a felt tipped pen, trace around the inside edge of the aileron servo tray and then remove it from the wing.



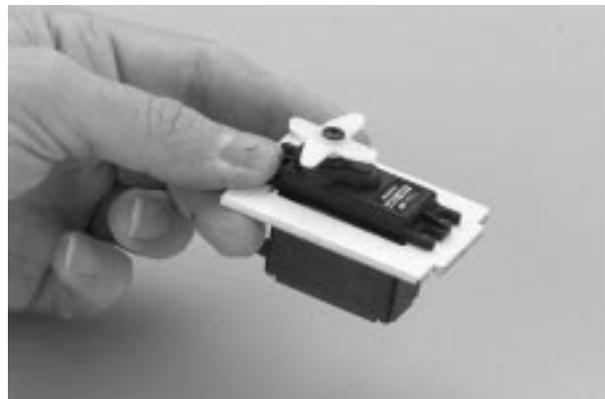
Step 9. Using the sharp hobby knife, carefully cut through the balsa wood and the covering along the lines that were drawn in Step 6 of this section. Remove the excess balsa from the hole.



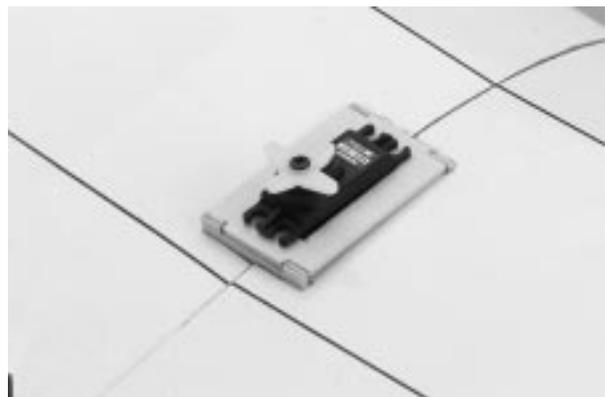
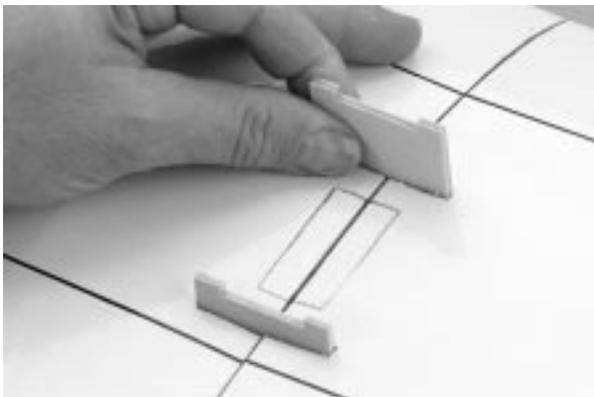
Step 7. With a sharp hobby knife, carefully cut a 1/8" wide slot which is 1-5/8" in length through both the covering and the balsa wood along the lines which were drawn in Step 5 of this section. Remove the excess balsa from the slots.



Step 10. Trial fit the aileron servo into the servo tray. Also, trial fit the servo into the hole cut in the wing in Step 9 to see if it will fit. It may be necessary to enlarge either the servo tray or the servo hole slightly, depending upon the dimensions of the aileron servo.



Step 8. Trial fit the aileron tray supports into the slots. It may be necessary to enlarge the slot slightly to accommodate the support.



Section 3: Installing the Aileron Servo Tray

CONTINUED

Step 11. Mix a small amount of 6-minute epoxy and apply it to one of the aileron servo supports between the two tabs. Position the aileron servo tray in place as shown and lightly spread epoxy along the joint between the aileron servo tray and the aileron servo support.

Note: If desired, thick CA may be used in this procedure instead of epoxy.



Step 12. Repeat this procedure for the opposite aileron servo support. Make sure the aileron servo support and the servo tray remain perpendicular to one another. Allow the epoxy or CA to dry completely before proceeding to the next step.

Step 13. Mix a small amount of 6-minute epoxy to glue the servo tray into the wing. Using an epoxy brush, apply the epoxy to the aileron servo supports. Insert the assembled unit into its receptacle in the wings. Remove any excess epoxy with a paper towel and rubbing alcohol and allow the epoxy to cure.

Important Note: The shorter aileron support must be located closest to the trailing edge of the wing.



Section 3: Installing the Aileron Servo Tray

CONTINUED

Step 14. Locate the wing center tape and remove the adhesive backing. Starting at the front of the aileron servo tray, wrap the tape completely around the wing joint seam to the rear of the servo tray. Gently pulling on the tape while pressing it down onto the wing will provide a smooth seam. Cut any excess tape with a pair of scissors.

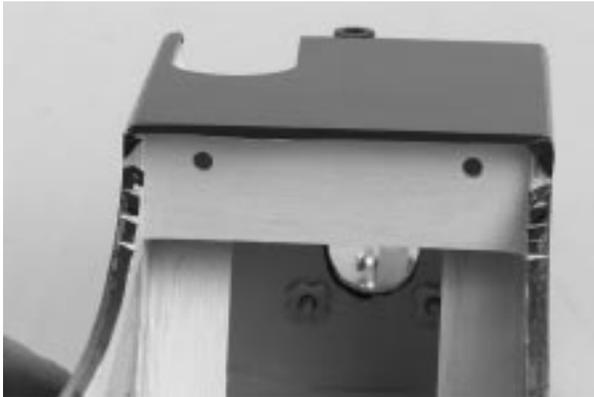


Note: You will install the aileron servo in Section 15.

Section 4: Mounting the Wing

| Parts Needed | Tools and Adhesives Needed |
|--|--|
| <ul style="list-style-type: none">• Complete wing assembly• Wing dowel rods (2)• Fuselage Wing hold-down screws/washers (2) <p>Note: Blind nuts are already mounted</p> | <ul style="list-style-type: none">• Drill 1/4" drill bit• Medium Phillips screwdriver• Small round file• Hobby knife• 12-minute epoxy• Measuring device (e.g., 36" ruler or tape measure)• Masking tape• Rubbing alcohol• Paper towels |

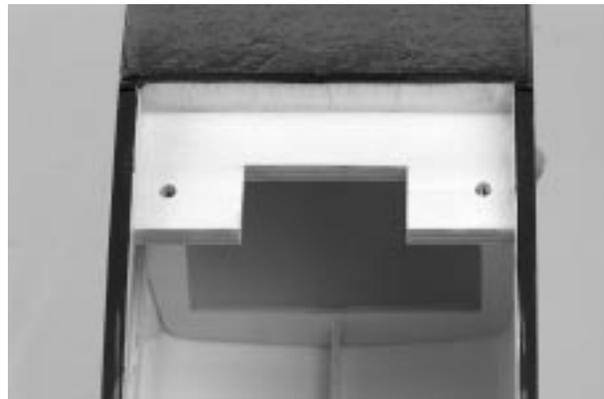
Step 1. Locate the four wing dowel holes. First, locate the two which are located inside the fuselage bottom where the leading edge of the wing rests have been pre- drilled.



Step 2. Next, locate the two holes in the leading edge of the wing. You will need to trim the covering over the holes. Mix a small amount of 12-minute epoxy and apply it to the two wooden dowels. Insert the dowels in the wing holes. Position the dowels so they protrude 1/2" out from the leading edge of the wing. Let the epoxy cure before trying to insert the wing into the fuselage.



Step 3. The fuselage wing hold-down holes are located toward the rear of the fuselage wing opening. Note that the wing blind nuts are already installed. You will not have to do anything with these holes other than note their location.



Step 4. The two wing hold-down bolt holes are located near the trailing edge of the wing. You will need to trim away the covering with your hobby knife. Using a 1/4" drill bit, drill out the two holes.



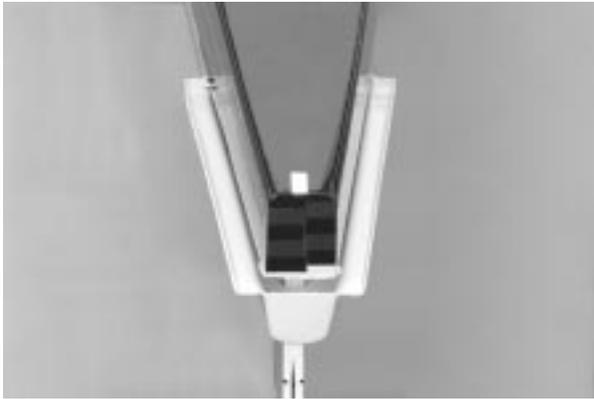
Section 4: Mounting the Wing

CONTINUED

Step 5. Once the wing dowels are dry, trial fit the wing to the fuselage by inserting the leading edge of the wing into the dowel holes in the fuselage and placing the wing trailing edge in its relative position on the fuselage.

Note: Some trimming of the bolt holes may be necessary in the following steps when the wing alignment is checked.

Step 6. For a reference point, place a small piece of masking tape centered on the bottom of the aft part of the fuselage. This point will be the reference point to determine the wing alignment in the next step.



Step 7. Bolt the wing to the fuselage. Turn the aircraft upside down and, using a ruler, hold one end of the ruler on the fuselage reference point you made, and the other end of the ruler to one of the wing panel ailerons. Measure the distance. Next, measure the distance of the other wing panel, using the reference point to the other wing aileron, just as you did before. Adjust the wing until you measure the same distance for both wing panels. To make minor adjustments, you may have to slightly enlarge the wing bolt holes with a small file.



Section 5: Assembling the Fuselage

| Parts Needed | Tools and Adhesives Needed |
|--|---|
| <ul style="list-style-type: none">• Fuselage• Plywood servo tray• Front windshield• Clear plastic sheet for side windows• Motor mount• Motor mount screws (4)• Seats | <ul style="list-style-type: none">• Canopy glue (e.g., R/C 56 or Pacer 256)• 12-minute epoxy• Masking tape• Hobby knife with #11 blade• Mixing sticks• Epoxy brush• Sanding stick (medium/fine)• Measuring device (e.g., 36" ruler or tape measure)• Scissors• Rubbing alcohol• Paper towel |

Step 1. Install the metal motor mount at this time. Trial fit the mount to the fuselage firewall, noting that it mounts on its side. The engine will have its cylinder pointing to the right as verified by the pilot's perspective when sitting in the cockpit. Once you are satisfied with the proper orientation, attach the motor mount to the firewall using the screws provided. Note there are blind nuts installed in the firewall.



Step 2. After the motor mount is installed, install the side windows. Examine the fuselage top carefully. Note the window opening scribe marks on each side of the fuselage top. Trim out the openings with a sharp hobby knife.

Caution: Use care to cut the opening. Final trim of the opening can be done with a sanding stick (medium/fine).



Section 5: Assembling the Fuselage

CONTINUED

Step 3. Trim out the opening of the front windshield. It helps to use a felt tipped marking pen to outline the opening before cutting.

Note: There are no scribe marks, so it's important you mark the opening before beginning. Again, use caution when cutting the opening with your hobby knife. We suggest the final trimming be done with a sanding stick (medium/fine).



Step 4. Using the side window openings as a guide, cut the clear plastic sheet to make the side windows. Trial fit each window to be sure they fit and can be installed from inside the fuselage.



Step 5. Apply canopy glue to the clear windows and carefully install each into the interior of the fuselage. Masking tape can be used to hold the side windows in place while the glue dries. Let the glue dry completely before proceeding to the next step.

Note: You may wish to only mount the windows on one side, leaving one side open to give you access for mounting the seats. Once the seats are installed, you can then mount the remaining windows and front windshield.

Step 6. Remove any masking tape from the windows before installing the seats. Trial fit the front and back seats in the fuselage. The front seat backs should be approximately 2" in front of the back door trim of the fuselage. The rear seats will be positioned behind the fuselage former and behind the front door trim, close to where the front seats are located. There are two balsa rails that can be used to help form a lip on which the rear seat rests. Trimming of the plastic will be required to obtain the proper fit. Once you are satisfied with the fit and location of each seat, proceed to mix approximately 1/4 ounce of 12-minute epoxy. Apply the epoxy to the rear seat rails first and mount the rails.

Once the rails are dry, proceed to mount the rear seat.



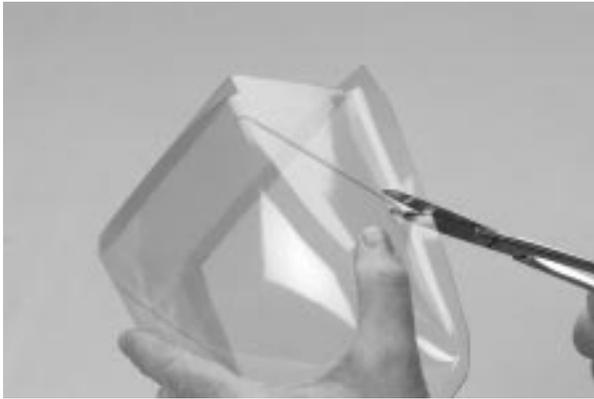
Step 7. Install the front seat next. It will be mounted on the fuselage plywood doublers and some trimming may be required to obtain a good fit. Once you are satisfied with fit and location, proceed to epoxying the fuselage.

Section 5: Assembling the Fuselage

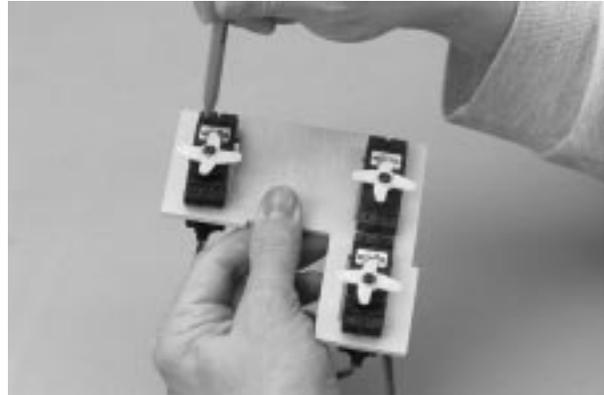
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Step 8. Trim the front windshield and trial fit it to the fuselage. Once you are satisfied with the fit, use canopy glue to install the windshield. Use masking tape to hold the windshield in place while the glue dries. Let the glue cure completely.

Note: Included in your Cherokee kit are trim lines for detailing the top of your fuselage. Align the trim lines up with the existing panel lines on the fuselage to complete the scale trim scheme.



Step 9. Before installing the servo tray, place the servos into each opening and mark the screw hole locations.



Step 10. Remove the servos and trial fit the servo tray into the fuselage. It helps if the fuselage is upside down and held in a secure manner for this procedure. Some trimming of the servo tray may be required for a good fit. Once you are satisfied with the fit, mix 1/4 ounce of 12-minute epoxy and apply it to the servo tray and fuselage where the servo tray will rest. Allow the epoxy to cure completely before proceeding

Section 6: Installing the Tail

| Parts Needed | Tools and Adhesives Needed |
|--|--|
| <ul style="list-style-type: none">• Fuselage• Horizontal stabilizer with elevator• Vertical stabilizer with rudder | <ul style="list-style-type: none">• Hobby knife• Ruler• Felt tipped pen• Masking tape• Pencil• 30-minute epoxy• Rubbing alcohol• Paper towels• Epoxy brush• Mixing stick• Sanding stick (medium/fine)• 90-degree triangle |

Step 1. Carefully examine the aft end of the fuselage on the top and sides. You will note the plastic has scribe marks and fairings for the vertical and horizontal stabilizer. The scribe marks are for the control rod exits; the fairings are to show where the vertical and horizontal stabilizers will be mounted and provide a means of support during the frame up process of the tail section controls.

Use a sharp hobby knife to cut an opening in the horizontal stabilizer fairing. Use caution during this trimming process. A sanding stick is useful to make the final shaping of the opening. Trial fit the horizontal stabilizer in the opening.



Step 2. Trim away the opening for the vertical stabilizer located on the top rear of the fuselage. Again, use caution during this process. Use a sanding stick to make the final adjustments to the opening. Trial fit the vertical stabilizer in the opening.



Step 3. Smooth any rough edges with a sanding stick or sandpaper block.



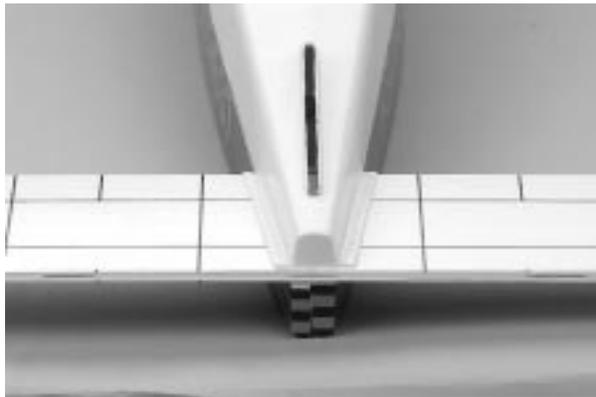
Section 6: Installing the Tail

CONTINUED

Step 4. Locate the horizontal stabilizer. Using a ruler and a felt tipped pen, mark the exact center on the top of the stabilizer.



Step 5. Insert the horizontal stabilizer into the fuselage until the center line drawn in the previous step can be seen through the center of the slot for the vertical stabilizer.

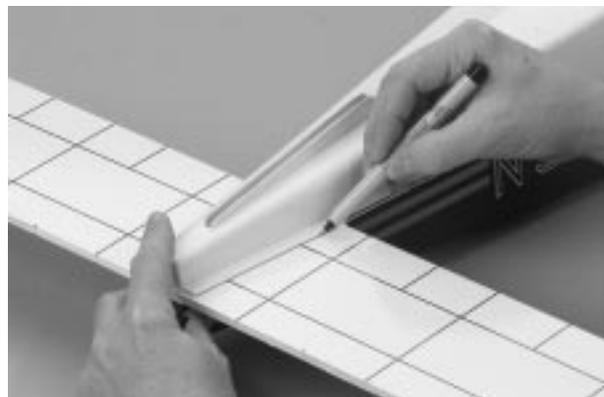


Step 6. Check the alignment of the horizontal stabilizer by measuring from a fixed point along the center line of the fuselage to the leading edge on each side of the horizontal stabilizer. A piece of masking tape positioned at the centerline of the fuselage top can be used as the reference point. The distance must be equal on both sides. If not, adjust the stabilizer accordingly until the measurements are the same.

Note: It is important to be sure the horizontal stabilizer is correctly aligned.



Step 7. When you are satisfied with the alignment, use a pencil to trace around the top and bottom of the stabilizer where it meets the fuselage. The pencil should leave a light indentation in the covering.

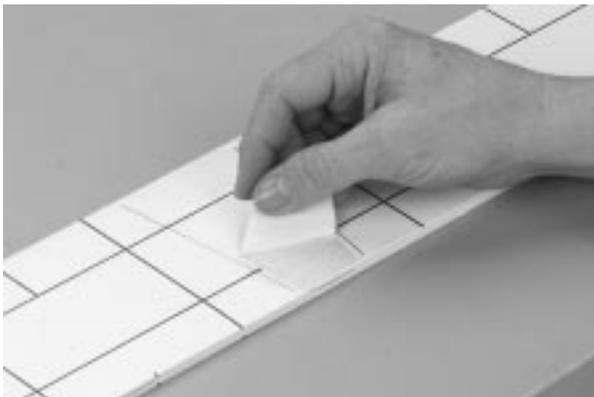


Section 6: Installing the Tail

CONTINUED

Step 8. Remove the horizontal stabilizer from the fuselage. Using a straight edge and a sharp hobby knife, carefully cut away the covering approximately 1/8" inside the lines marked in the previous step.

Caution: Be careful not to cut into the wood — this will weaken the structure.



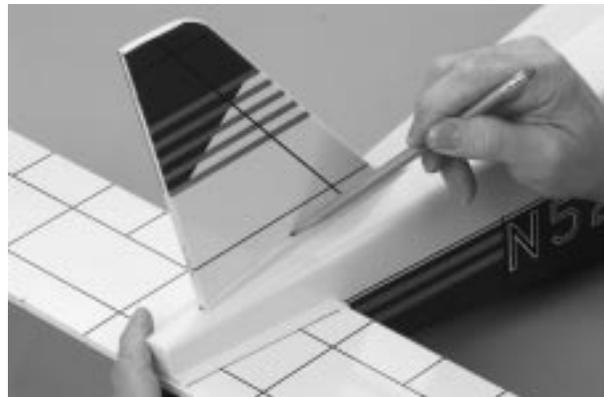
Step 9. Mix approximately 1/4 ounce of 30-minute epoxy to install the horizontal stabilizer. Using an epoxy brush or mixing stick, spread the epoxy onto the top and bottom of the horizontal stabilizer where it comes in contact with the fuselage.



Step 10. Insert the horizontal stabilizer into the fuselage and position it in the approximate location. Adjust the alignment as described in Step 6 of this section.

Step 11. Wipe off any excess epoxy using a paper towel and rubbing alcohol. Allow the epoxy to cure fully before proceeding to the next step.

Step 12. Trial fit the vertical stabilizer into position. Using a pencil, trace around the vertical stabilizer where it meets the fuselage. Again, the pencil should leave a light indentation in the covering of the vertical stabilizer.



Step 13. Remove the vertical stabilizer from the fuselage. Using a straight edge and a sharp hobby knife, carefully cut away the covering below the lines drawn in the previous step.

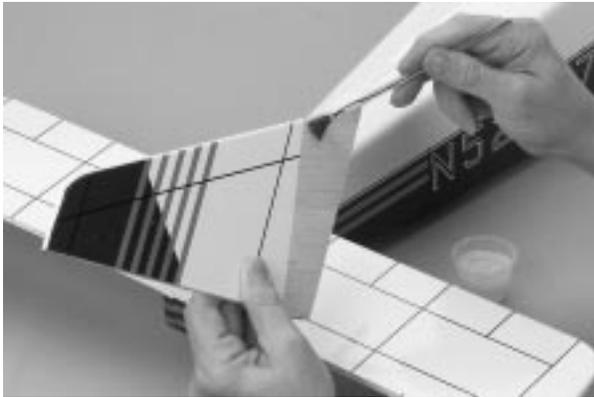
Caution: Do **not** cut into the wood as this will affect the structural integrity of the stabilizer.



Section 6: Installing the Tail

CONTINUED

Step 14. Mix approximately 1/4 ounce of 30-minute epoxy to install the vertical stabilizer. Using an epoxy brush or mixing stick, spread the epoxy on the vertical stabilizer where it contacts the fuselage and to the bottom of the stabilizer where it will seat on the horizontal stabilizer. Additionally, apply epoxy through the vertical stabilizer slot onto the horizontal stabilizer. Do **not** apply epoxy to the rudder itself.

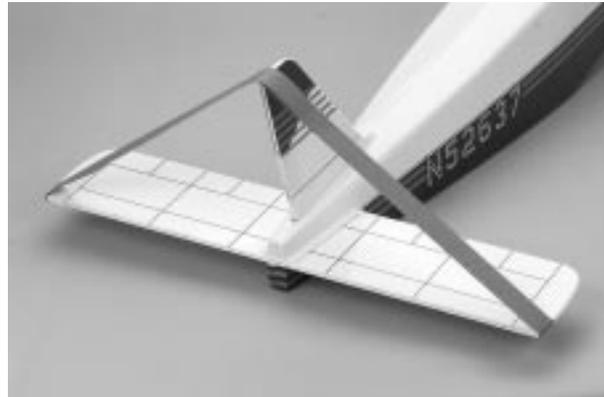


Step 15. Insert the vertical stabilizer into the fuselage, ensuring that it is seated properly on the horizontal stabilizer. Using a 90-degree triangle, check to make sure that the vertical stabilizer is perpendicular to the horizontal stabilizer.



Step 16. Wipe off any excess epoxy with a paper towel and rubbing alcohol, being careful not to disturb the alignment of the vertical stabilizer.

Step 17. Using masking tape, secure the vertical stabilizer in place and allow the epoxy to cure completely.



Section 7: Hinging the Vertical & Horizontal Stabilizers

| Parts Needed | Tools and Adhesives Needed |
|--|---|
| <ul style="list-style-type: none">• Fuselage• Horizontal stabilizer• Vertical stabilizer | <ul style="list-style-type: none">• 30-minute epoxy• Mixing stick• Paper towels• Rubbing alcohol |

Step 1. Carefully remove the rudder from the vertical stabilizer by pulling straight out with even pressure.

Step 2. Remove the two hinges from the rudder. Flex the hinges accordingly so they can move freely.

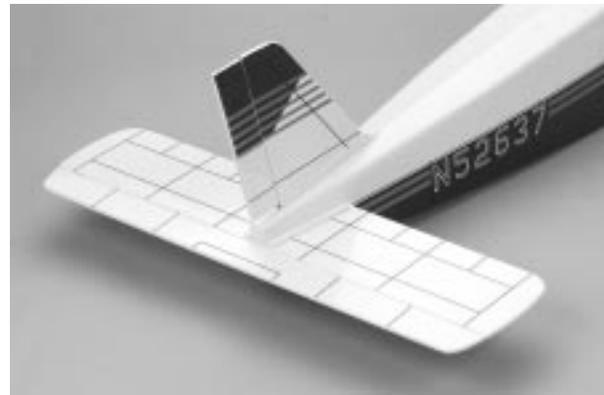
Step 3. Mix a small amount of 30-minute epoxy. Using either a mixing stick or scrap of wood, sparingly apply the epoxy inside each hinge slot on the rudder. Additionally, apply a small amount of epoxy to the top and bottom one-half of each hinge. Insert the hinges into the rudder until the hinge line is even with the leading edge of the rudder.

Note: It sometimes helps to roughen the hinge surface with a sanding stick so the epoxy will have a better grip.

Step 4. Apply epoxy to the remaining half of each hinge and into the hinge slots in the vertical stabilizer as well. Replace the rudder into the vertical stabilizer.

Step 5. Carefully wipe away the excess epoxy using a paper towel and rubbing alcohol.

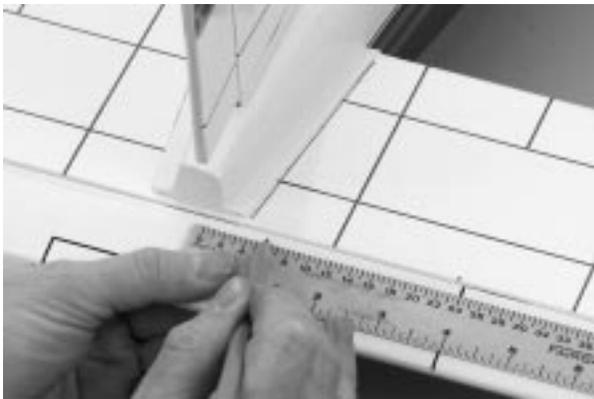
Step 6. Repeat this procedure to install the elevator to the horizontal stabilizer. Allow the epoxy to cure completely before proceeding.



Section 8: Installing the Control Horns

| Parts Needed | Tools and Adhesives Needed |
|--|---|
| <ul style="list-style-type: none">• Control horns (2)• Control horn backplate (2)• Control horn screw (4)• Fuselage | <ul style="list-style-type: none">• Drill• 1/16" drill bit• Felt tipped pen or pencil• Medium Phillips screwdriver• Ruler |

Step 1. Note that the elevator control horn will be mounted to the top of the elevator. Measure over 1-1/4" to the right of the fuselage tail section on the fuselage. Mark the elevator as shown with a felt tipped pen or pencil. This mark will be the center of the elevator control horn.



Step 2. Place the center of the control horn on the elevator at the mark made in the previous step. Using a felt tipped pen, mark the hole position of the control horn.



Step 3. Remove the control horn and drill two 1/16" holes through the elevator as marked.



Step 4. Attach the elevator control horn using the hardware provided (two screws and backplate) and fasten in place using a Phillips screwdriver.



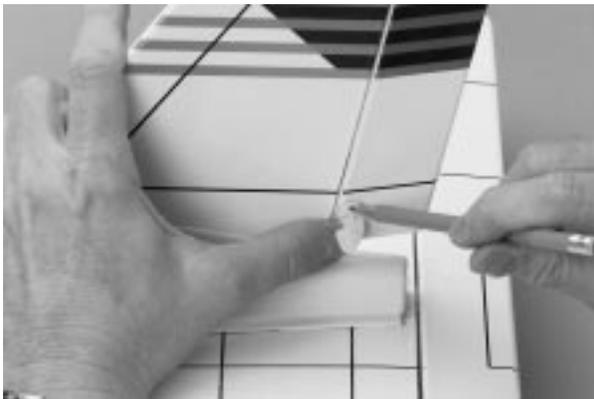
Section 8: Installing the Control Horns

CONTINUED

Step 5. To mark the rudder control horn location, measure up 1/2" from the fuselage on the left side of the rudder. Mark this location using a felt tipped pen or pencil. This mark will serve as the center for the rudder control horn.



Step 6. Center the control horn over the mark you've just made and, using a felt tipped pen or pencil, mark the mounting hole locations through both holes onto the rudder.



Step 7. Drill these holes with a 1/16" drill bit and install the rudder control horn using the two screws and backplate provided.



Section 9: Assembling & Installing the Fuel Tank

| Parts Needed | Tools and Adhesives Needed |
|---|---|
| <ul style="list-style-type: none">• Fuel tank• Fuel tubing (not supplied)• Fuel clunk• Aluminum tube, short (pickup)• Aluminum tube, short (optional fill tube)• Aluminum tube, long (vent)• Silicone tubing• Rubber stopper• 2.6mm self-tapping screw• Fuselage• Foam collar | <ul style="list-style-type: none">• Medium Phillips screwdriver• Hobby knife |

Step 1. Locate the fuel tank and the fuel tank accessory bag. You will also find the foam collar in the large parts bag.



Step 2. Insert the short aluminum tube into one of the open shoes in the black rubber stopper so that an equal amount of the tube extends from either side. This tube will be used as the fuel tank pickup tube, connecting fuel to the carburetor of the motor. A second short aluminum tube is for use as an optional "fill" tube.



Step 3. Locate the longer aluminum tube and bend it with your fingers as shown. This tube will be the fuel tank vent tube. It will be connected to the pressure fitting of your motor's muffler when the engine is plumbed in Section 17.



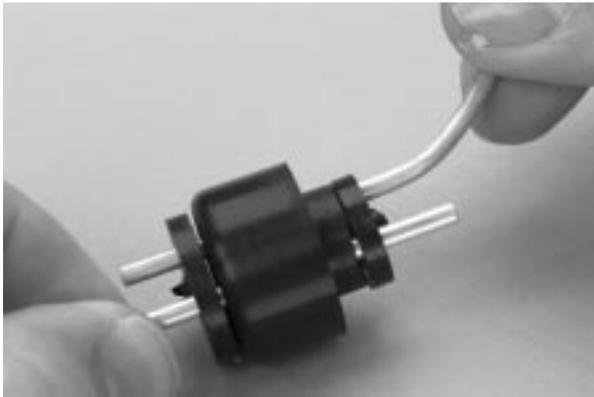
Section 9: Assembling & Installing the Fuel Tank

CONTINUED

Step 4. Slide this tube into the remaining hole in the black rubber stopper.

Note: The “fill” hole part of the rubber stopper is not open and would have to be opened if you want to add the “fill” function. After the tank is full, this tube would have to have a stopper put in to prevent fuel from leaking out.

Note: Take note of the orientation of the tubes in the fuel tank stopper. The portion of the stopper with the “bump” is the front (facing outward), the smooth surface is the rear (inside the tank) of the stopper. Also note that the stopper fits over the outside of the tank neck.



Step 5. Slide the two black plastic caps over the aluminum tubes as shown, noting the orientation of the caps. The small inside cap and the “bumps” face away from the black rubber stopper. The large outside cap and the “bump” go away from the black rubber stopper.



Step 6. Locate the silicone fuel tubing and the metal clunk. Insert the fuel clunk into one end of the fuel tubing. This assembly will be used for the fuel pickup inside the fuel tank.



Step 7. Install the open end of the fuel tubing on the shorter aluminum tubing.



Section 9: Assembling & Installing the Fuel Tank

CONTINUED

Step 8. Carefully insert the assembly into the fuel tank and, using the self-tapping screw, screw the stopper together firmly. It helps if the screw has been inserted in the assembly and started, then insert the assembly into the tank and tighten the screw so the stopper is snug in the tank. As the screw is tightened, the stopper parts come together, compressing the rubber stopper snugly inside the throat of the tank.

Note: It's important to make sure the fuel tank clunk does not touch the rear of the fuel tank. If it does, simply cut a small portion of the silicone fuel tubing until the clunk no longer reaches the rear of the tank.



Step 9. Place the foam fuel tank collar around the neck of the fuel tank and press the fuel tank firmly against the firewall until the stopper inserts into the hole in the firewall. The plastic cap will be nearly flush with the firewall.

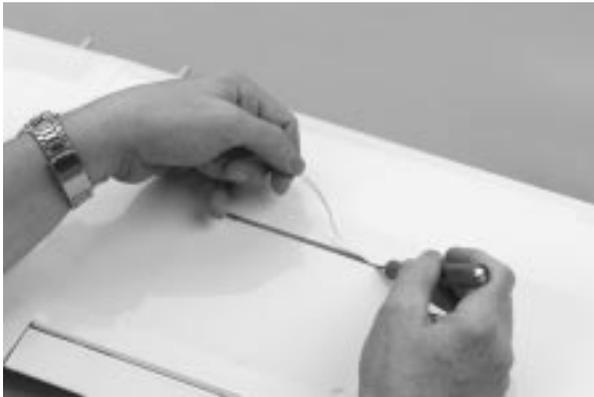


Step 10. Cut the fuel tubing (not supplied) into a 3-1/2" piece and a 4-1/2" piece. Attach the 4-1/2" section of fuel tubing to the vent tube. Attach the 3-1/2" piece to the fuel tank pickup tube.

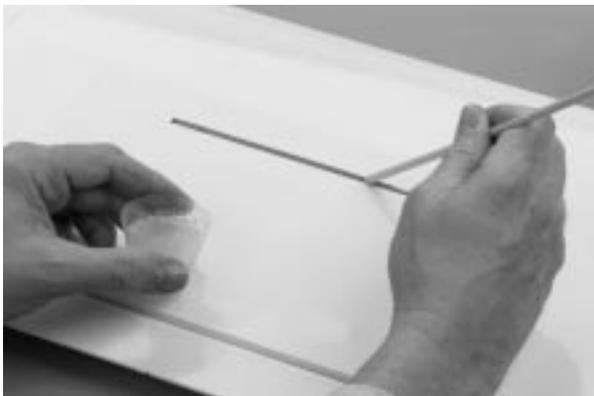
Section 10: Installing the Landing Gear

| Parts Needed | Tools and Adhesives Needed |
|---|---|
| <ul style="list-style-type: none">• Main landing gear (2)• Landing gear straps — nylon (4)• 2.6mm self-tapping screws (8) | <ul style="list-style-type: none">• Epoxy brush• Pencil• 6-minute epoxy• Hobby knife• Drill• 1/16" drill bit• Medium Phillips screwdriver |

Step 1. Locate the main landing gear slots in the bottom of the wing by running your hand along the underside of the wing. Using a sharp hobby knife, remove the covering from each of the wing landing gear slots.



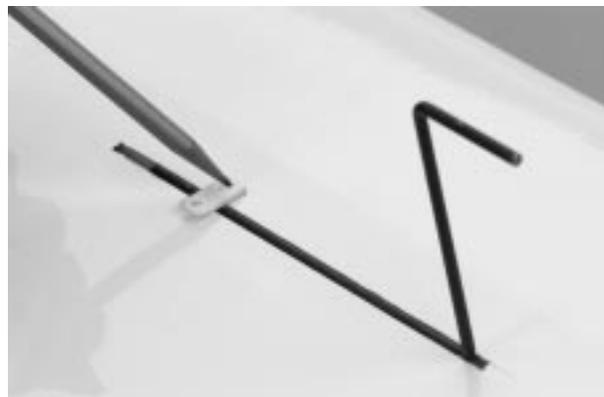
Step 2. Mix a small amount (approximately 1/8 ounce) of 6-minute epoxy. Using an epoxy brush, lightly coat the exposed wood in each of the wing landing gear slots. This will prevent the wood from becoming fuel soaked.



Step 3. After the epoxy has cured completely, place the main landing gear into the channel in one of the wing panels as shown.



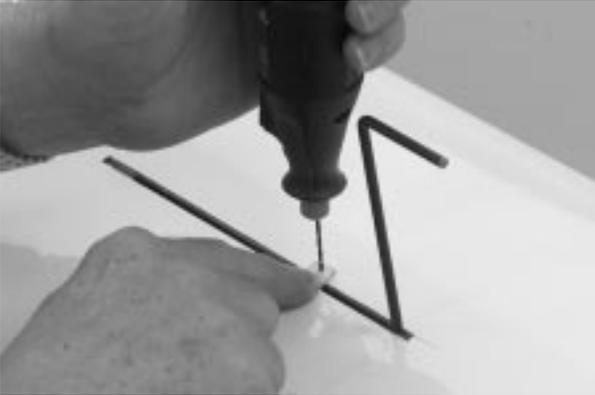
Step 4. Remove two landing gear straps from the plastic parts tree and place them across the landing gear strut. Using a pencil, mark the location of the four landing gear mounting strap holes.



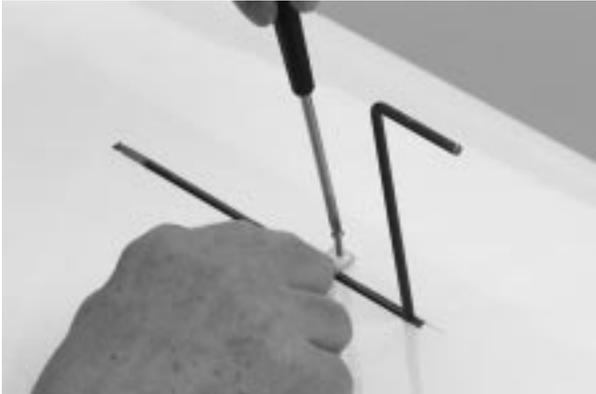
Section 10: Installing the Landing Gear

CONTINUED

Step 5. Remove the landing gear mounting straps and the landing gear from the wing. Using a 1/16" drill bit, drill the four mounting holes as marked in the previous step.



Step 6. Reposition the landing gear and straps as described previously. Using the four 2.8mm self-tapping screws located in the hardware bag, fasten the landing gear to the bottom of the wing as shown.



Step 7. Repeat the process to mount the second main landing gear in the wing.

Section 11: Installing the Nose Gear

| Parts Needed | Tools and Adhesives Needed |
|--|---|
| <ul style="list-style-type: none">• Nose gear• Nose gear control horn with 3mm screw• Wheel collar with 3mm screw (2)• Plastic spacer | <ul style="list-style-type: none">• Medium Phillips screwdriver• Blue Locktite 242 |

Step 1. Locate the nose gear, nose gear control horn, one 5/32" wheel collar and two 2.6mm screws. You may also need a plastic spacer from the plastic parts tree to set the nose gear to the proper height for ground handling.



Step 2. With the screw hole facing forward, slide the 5/32" wheel collar onto the straight end of the nose gear so the collar is situated in the flat spot on the gear next to the coil. Next, slide on the plastic spacer.



Step 3. Insert the nose gear assembly up through the nose gear mount until the coil is just below the bottom of the firewall. Slide the nose gear control horn on the nose gear. Position it so the angled parts of the horn are closest to the firewall. One of the nose gear control horns will be trimmed off later.



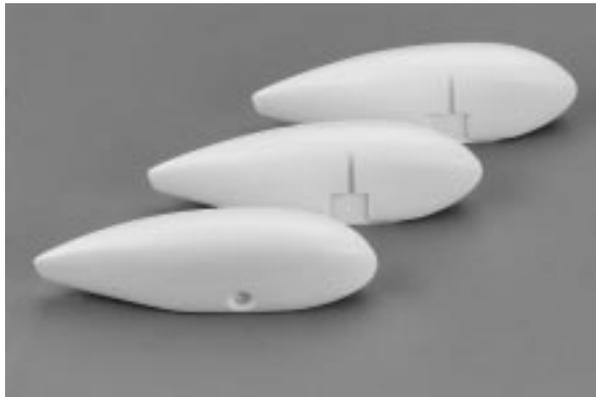
Step 4. Adjust the nose gear control horn until the arm is parallel with the firewall. Apply Blue Locktite 242 to a 3mm screw and secure the steering arm in place.



Section 12: Assembling & Mounting the Wheel Pants

| Parts Needed | Tools and Adhesives Needed |
|---|---|
| <ul style="list-style-type: none">• Wheel pants (3)• 2" foam wheels (3)• Wheel collars with screws (3)• Wheel pant decal sheet | <ul style="list-style-type: none">• Drill• 5/32" drill bit• Medium Phillips screwdriver• Blue Locktite 242 |

Step 1. Locate the three wheel pants. Note that there are two left side wheel pants and one right side wheel pant. One of the left side wheel pants will be used for the nose wheel, the other for the left main landing gear. Installation is the same for both.



Step 2. On each of the wheel pants, there is a "dimple" in each side. Use these dimples as a guide to drill a hole completely through each of the wheel pants using a 5/32" drill bit.



Step 3. Insert one of the 2" foam wheels into the left wheel pant, aligning the landing gear hole in the foam wheel with the one drilled in the previous step.



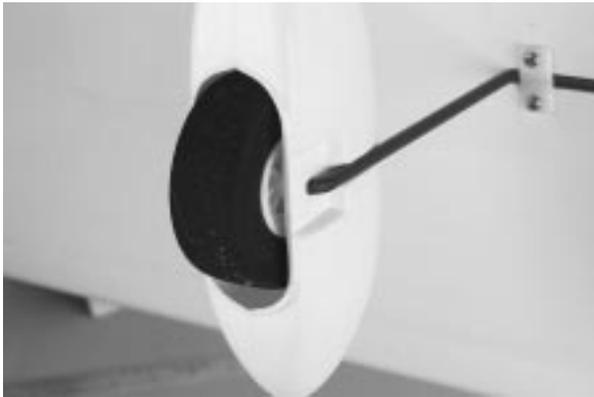
Section 12: Assembling & Mounting the Wheel Pants

CONTINUED

Step 4. Slide the wheel pant assembly onto the left landing gear strut until the strut is seated firmly against the slot in the wheel pant. Secure the wheel and wheel pant to the strut using a 5/32" wheel collar. The wheel collar should be pressed against the wheel pant so that it remains seated in the landing gear strut. Apply Blue Locktite 242 to the wheel collar screw and securely tighten. It may be necessary to gently "squeeze" the wheel pant when tightening the wheel collar screw.

Step 5. Repeat this procedure for the right side of the landing gear and for the nose gear.

Note: The wheel must rotate smoothly.



Section 13: Installing the Engine

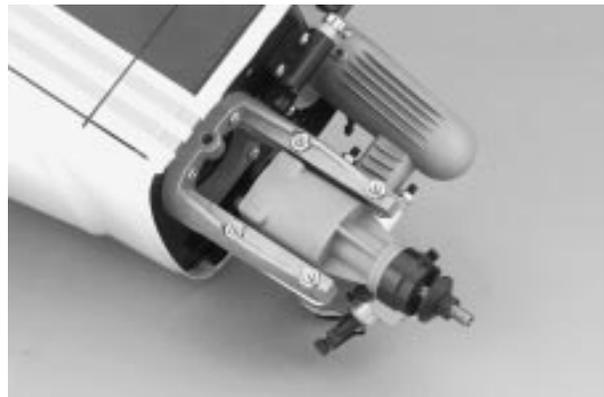
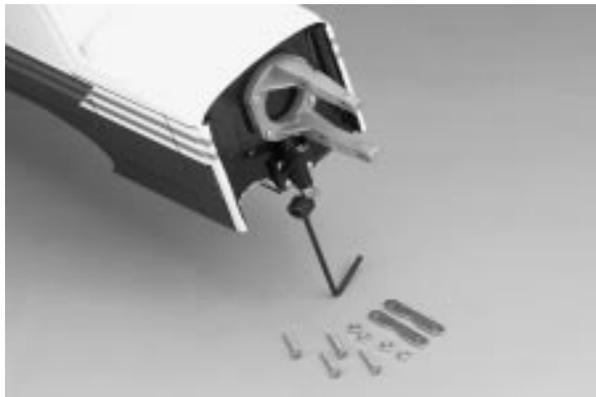
| Parts Needed | Tools and Adhesives Needed |
|--|---|
| <ul style="list-style-type: none">• Engine• Engine mounting bracket (2)• Engine mounting screws and nuts (4 each)• Fuselage | <ul style="list-style-type: none">• Medium Phillips screwdriver• Blue Locktite 242 |

Step 1. Remove the two engine mounting brackets, four 4×20mm screws and four 4mm nuts from the hardware bag.

Step 2. Position the engine on the motor mount. Then place one engine mounting bracket across each of the engine mounting beams as shown.

Note: The “dimpled” side of the engine mounting bracket is the bottom. As such, the smooth surface should face upward.

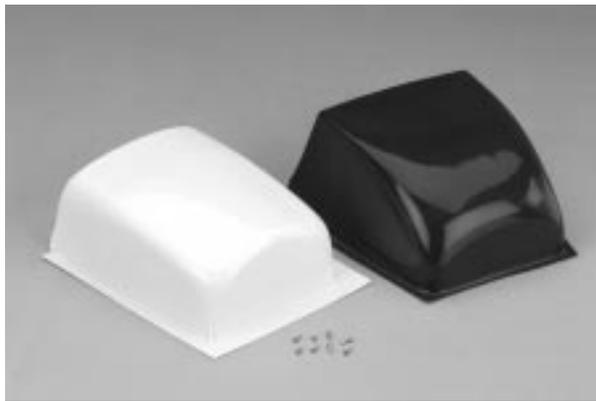
Step 3. Insert one 4×20mm screw into each of the engine mounting bracket holes. Press one of the 4mm nuts into the corresponding receptacle on the bottom of the motor mount. Do not use Blue Locktite 242 at this time as you will need to make minor adjustments to the motor position when you are measuring and mounting the cowling. It may be necessary to mount and remove the muffler as you make trial fittings of the cowl. The spinner is mounted after the cowl has been installed.



Section 14: Installing the Cowling

| Parts Needed | Tools and Adhesives Needed |
|--|--|
| <ul style="list-style-type: none">• Cowling (blue half/white half)• Sheet metal screws (8)• Fuselage• Trim film | <ul style="list-style-type: none">• Instant thin CA glue• CA remover/debonder• Scissors• Masking tape• Drill• 1/16" drill bit• Felt tipped pen• Ruler• Sanding stick (medium/fine) |

Step 1. Locate the two halves of the cowling, a blue half and a white half. Use care in trimming away excess material.



Step 2. Trim the excess material using your scissors. You may want to trial fit the portion where the cylinder head of your engine will be positioned before cutting away too much material.



Step 3. Locate the blue cowl half.

Caution: Please note there is a lip around the top of the blue cowling that allows you to fit the white cowling half onto the blue cowling. This lip will be glued later with CA. For now, trim so you have at least 1/4" of material completely around the lip portion of the blue cowl. If there is paint on the lip, sand it off so the CA will adhere.

Trial fit the cowling to your engine cylinder head to determine how much material to trim away in that portion for the engine cylinder head. Trim using your scissors. Rough edges can be smoothed with a sanding stick (medium/fine).



Section 14: Installing the Cowling

CONTINUED

Step 4. Glue the two cowl halves together using thin CA. Carefully hold the cowling halves together as you glue them. Be careful the CA does not run. It is best to apply the CA very sparingly. Do a small section at a time.



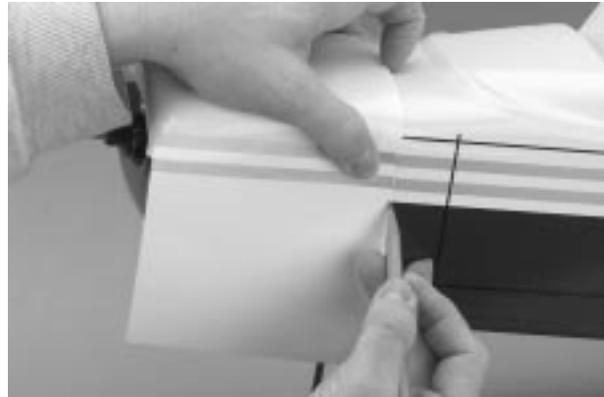
Step 5. Trial fit the cowling over the engine. Position the cowling so the edge of the cowl mating to the firewall overlaps approximately 1/4". Use masking tape to hold the cowl in position, then mark four screw hole locations on each side of the cowl. We would suggest two screws in the upper cowl half and two screws in the lower half, on both sides of the cowling.

Note: The firewall has a plywood/balsa lip to which the cowling will be attached.



Step 6. Final trim of the cowl will depend on the type of engine and the location of the spring of the nose wheel in relation to the cowl.

Step 7. After you are satisfied with the fit and final location of the cowling, apply the trim film to the cowling. Any rough edges should be trimmed with your sanding stick.

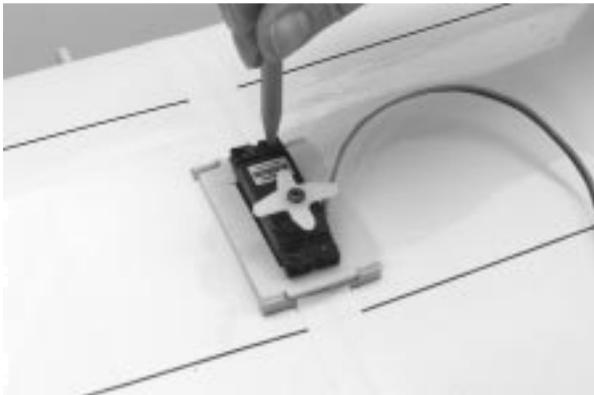


Section 15: Installing the Radio

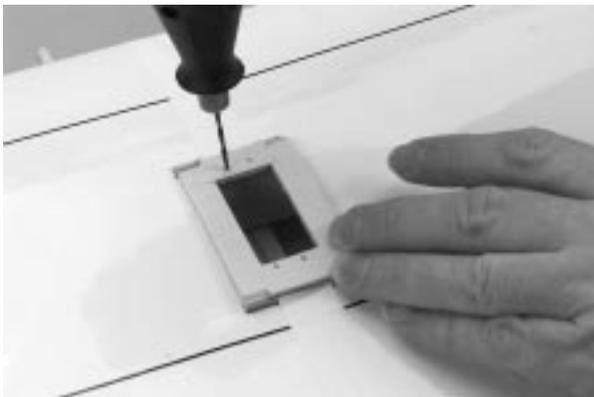
| Parts Needed | Tools and Adhesives Needed |
|--|---|
| <ul style="list-style-type: none">• 4-channel radio system with four servos and hardware (not included)• Fuselage• Radio packing foam (not included)• Antenna tube (not included) | <ul style="list-style-type: none">• Drill• 1/16" drill bit• Small Phillips screwdriver• Hobby knife• Pencil• Felt tipped pen or pencil |

Aileron Servo Installation

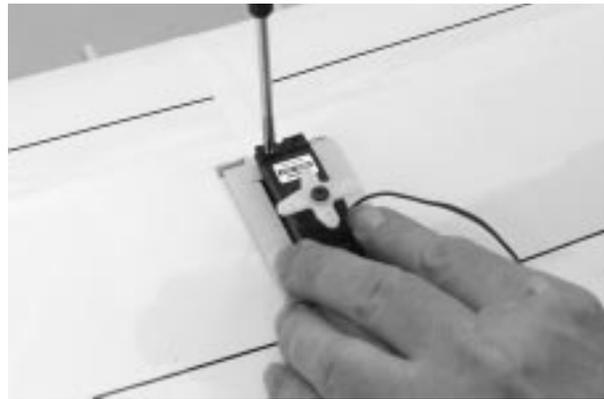
Step 1. Install the rubber servo grommets and eyelets in the aileron servo and place the servo into the aileron mount as shown. Using a pencil, mark the position of the four servo mounting holes.



Step 2. Remove the servo from the aileron tray. Using a 1/16" drill bit, drill the four mounting holes as marked in the previous step.



Step 3. Place the aileron servo back in its mount and secure it in place using the four screws included with the servo.



Rudder, Elevator, and Throttle Servo Installation

Step 4. Install the rubber grommets and eyelets in the three remaining servos. Position the servos in the fuselage servo tray as shown.

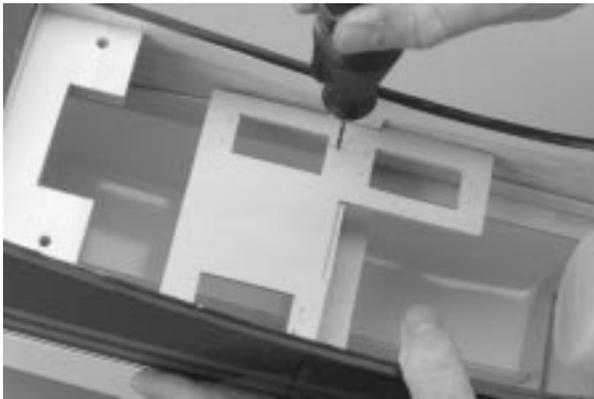
Important Note: Note the location of the output horns. Using a pencil, mark the 12 servo mounting hole positions.



Section 15: Installing the Radio

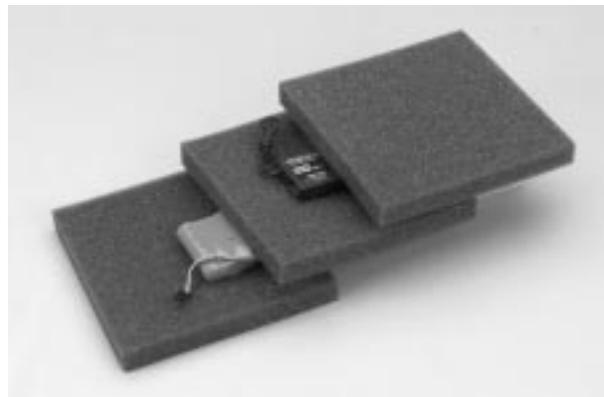
CONTINUED

Step 5. Remove the servos and, using a 1/16" drill bit, drill the 12 mounting holes as marked. Re-install the servos, again noting the position of the output horns. Screw the servos in place using the 12 servo screws, which are included with the servos.



Installing the Receiver and Battery Pack

Step 6. Use radio packing foam (available at your local hobby dealer) when installing the receiver and battery. Using a sharp hobby knife, cut a solid layer of foam the size of the compartment that is in front of the servo tray. Cut out another layer of foam that is identical in size, however, cut an opening in the center of this foam so it will accept the receiver battery pack. Place another solid layer of foam on top of this layer. Cut another layer of foam to accept the receiver. The final layer of foam should be solid.



Step 7. Place the layers of foam with the battery and receiver in their respective locations in the front compartment of the fuselage as shown. Route the antenna back through the fuselage using an antenna tube (not included), or route it outside the fuselage back to the vertical stabilizer.



Section 15: Installing the Radio

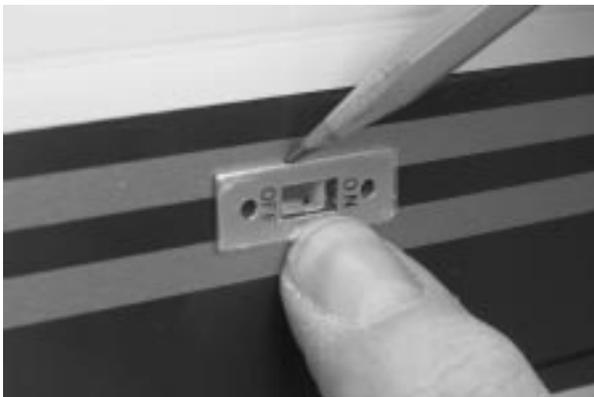
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Installing the Switch

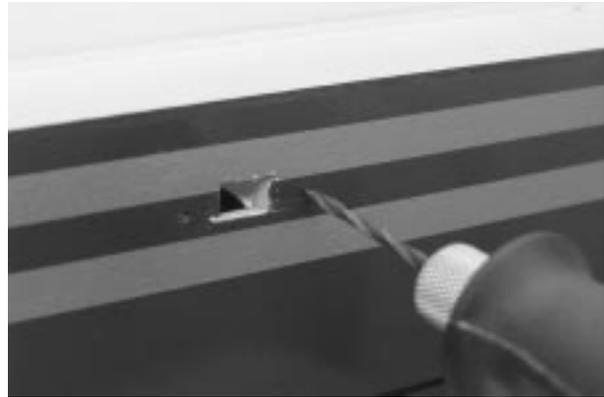
Step 8. The switch should be mounted on the left side of the fuselage away from the potentially harmful exhaust gases. Determine the best position for the switch mounting hole on the inside of the fuselage. Using a sharp hobby knife, carefully remove the balsa and covering material from the location you selected.



Step 9. Detach the switch plate from the receiver switch harness. Center the switch plate over the hole which was cut in the previous step. Using a felt tipped pen or pencil, mark the screw hole on either end of the switch plate.



Step 10. Remove the switch plate from the fuselage. Using a 1/16" drill bit, drill the two mounting holes as marked.



Step 11. Reposition the switch plate as shown and place the switch on the inside of the fuselage. Using the two screws supplied with the switch, attach the switch to the fuselage.



Section 16: Installing the Linkages

| Parts Needed | Tools and Adhesives Needed |
|---|--|
| <ul style="list-style-type: none">• Aileron horns (2)• Long (17-3/4") threaded rods (2)• Wing• Heat shrink tubing• Clevises (5)• Short (13") threaded rods (4) | <ul style="list-style-type: none">• Z-bend pliers• Ruler• Thick CA glue• Hobby knife• Heat gun• Wire cutters• Needle nose pliers |

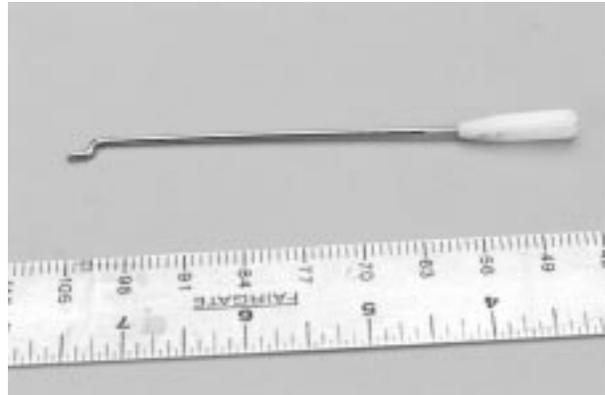
Installing the Aileron Linkage

Step 1. Remove the two aileron horns from the plastic parts tree. Thread the aileron horns onto the aileron torque rod until the rod is flush with the aileron horn.



Step 2. Locate two of the short (13") threaded rods. Using the Z-bend pliers, make a Z-bend 3-5/8" from the threaded end of both rods. Carefully, remove the extra length of rod with a wire cutter. Set the extra length of rod aside for now. It will be used in the construction of the elevator and rudder pushrods.

Step 3. Screw a clevis onto the threaded end of each rod.



Step 4. Center the servo horn and install the Z-bend into the outermost hole on either side of the servo arm.

Step 5. Attach the clevises onto their respective aileron horns.

Note: It is a good idea to place a piece of fuel tubing over the clevises. This will provide extra insurance against the clevises accidentally coming open.



Section 16: Installing the Linkages

CONTINUED

Step 6. Adjust the aileron torque rod length by screwing in or out until the aileron is exactly in the neutral position when the servo is centered and the clevis is in the aileron horn. Adjust both sides.



Step 11. Insert the 90-degree bend into the hole of the balsa dowel and saturate the balsa with thick CA glue where the rod contacts the balsa.



Step 12. Slide a piece of heat shrink tubing over the end of the balsa dowel and shrink it in place using a heat gun.



Assembling the Pushrods

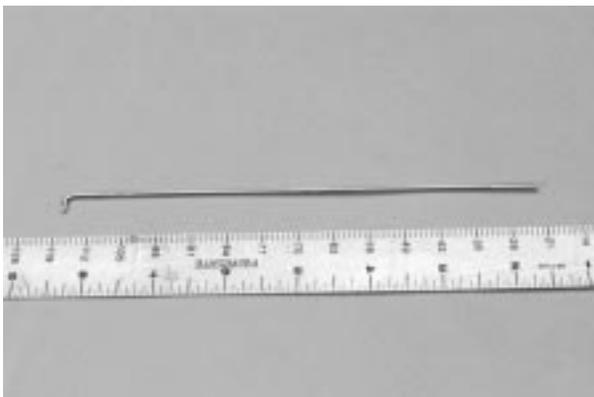
Rudder Pushrod

Step 7. Locate one of the threaded rods, one piece of the extra length of rod from Step 2 in the previous section, one piece of the yellow heat shrink tubing, one clevis and one of the balsa pushrods dowels.

Step 8. Using a sharp hobby knife or a pair of scissors, cut the heat shrink into two equal pieces.

Step 9. Cut 7" of the threaded rod measured from the threaded end. This rod will be used to attach the clevis to the rudder control horn.

Step 10. Using needle nose pliers, bend a 90 degree angle 1/4" from the unthreaded end of the threaded rod.



Step 13. Locate the extra length of rod from Step 2 in the previous section. Using a pair of needle nose pliers, make a 90-degree bend 1/4" from one end of this rod.

Step 14. Insert the 90-degree bend into the remaining hole of the balsa dowel and saturate it with thick CA glue where the rod contacts the balsa

Section 16: Installing the Linkages

CONTINUED

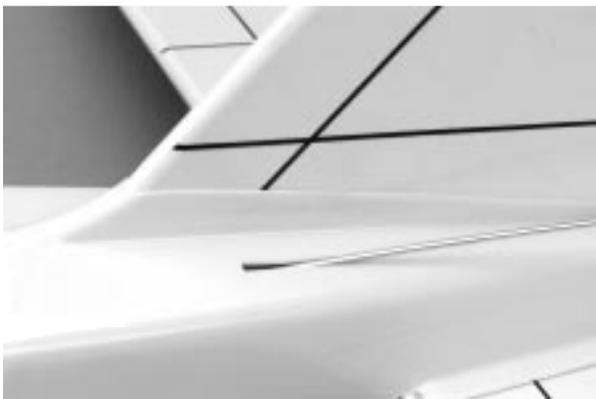
Step 15. Slide a piece of heat shrink tubing over the end of the balsa dowel and shrink it in place using a heat gun.



Step 16. Carefully cut away the plastic on the left side on the tail of the fuselage where the rudder pushrod will exit.



Step 17. Insert the pushrod assembly, threaded rod first, into the fuselage so the threaded rod exits the rudder pushrod hole.



Step 18. Screw on a clevis 12 complete turns. Fasten the clevis in the third hole from the inside of the rudder control horn.

Note: It's a good idea to place a piece of fuel tubing over the clevis as extra insurance to prevent the clevis from accidentally coming open.



Step 19. Center the rudder servo and, using a felt tipped pen, place a mark on the unthreaded end of the rudder pushrod where it passes the respective servo arm.



Step 20. Using Z-bend pliers, make a Z-bend at the marked location on the rod. Cut off the excess rod.

Section 16: Installing the Linkages

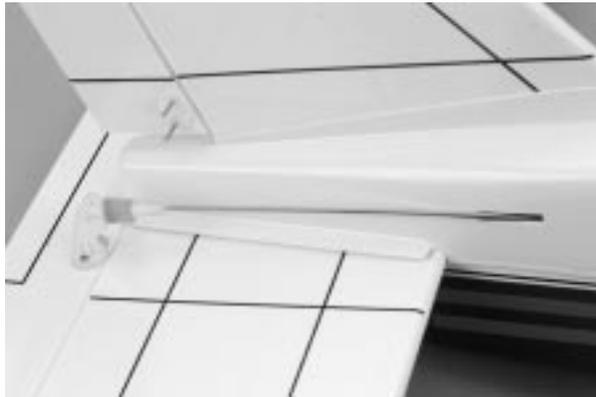
CONTINUED

Step 21. Insert the Z-bend into the servo arm. It may be necessary to enlarge the servo arm hole slightly to accept the Z-bend.



Elevator Pushrod

Step 22. Carefully cut away the plastic on the right side of the fuselage where the elevator pushrod will exit.



Step 23. Repeat Steps 7-21 in this section to assemble the elevator pushrod.

Step 24. Insert the pushrod assembly, threaded rod first, into the fuselage so the threaded rod exits the elevator pushrod slot.

Step 25. Screw on a clevis 12 complete turns. Fasten the clevis in the third hole from the inside of the elevator control horn.

Note: It's a good idea to place a piece of fuel tubing over the clevis as extra insurance to prevent the clevis from accidentally coming open.

Step 26. Center the elevator servo and, using a felt tipped pen, place a mark on the pushrod where it passes the respective servo arm.

Step 27. Using Z-bend pliers, make a Z-bend at the marked location on the rod. Cut off the excess rod.

Throttle Linkage

Step 28. Locate one of the longer (17-3/4") threaded rods and one clevis.

Step 29. Screw the clevis onto the threaded end of the rod approximately 12 turns.

Step 30. Insert the threaded rod, unthreaded end first, through the 1/16" throttle linkage hole in the firewall. The rod should exit through the radio tray compartment.

Step 31. Attach the clevis to the throttle lever of the carburetor, opening the carburetor half way.



Step 32. Center the throttle servo. Using a felt tipped pen, mark the rod where it passes the respective servo arm.

Note: It is important to be sure the carburetor remains half open when the throttle servo is centered.



Section 16: Installing the Linkages

CONTINUED

Step 33. Using Z-bend pliers, make a Z-bend at the marked spot on the rod. Remove the excess rod.

Step 34. Attach the Z-bend to throttle servo arm.

Nose Wheel Linkage

Step 35. Locate the remaining long (17-3/4") threaded rod and clevis.

Step 36. Locate the hole in the firewall near the nose wheel steering arm.

Step 37. Insert the threaded rod, threaded end first, through the nose wheel linkage slot and into its respective 1/16" guidance hole in the fuselage.



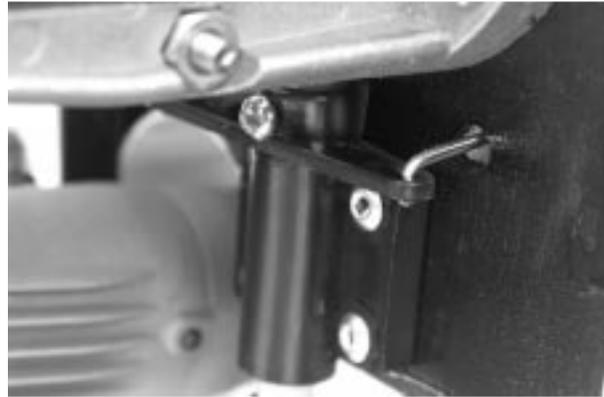
Step 38. Screw on a clevis 12 full turns. Fasten the clevis in the outermost servo arm hole opposite the rudder servo Z-bend.



Step 39. Be sure that the rudder servo is centered. Using a felt tipped pen, place a mark on the unthreaded end of the steering pushrod where it passes the nose wheel steering arm.

Step 40. Using a Z-bend pliers, make a Z-bend at the marked location on the rod. Cut off the excess rod.

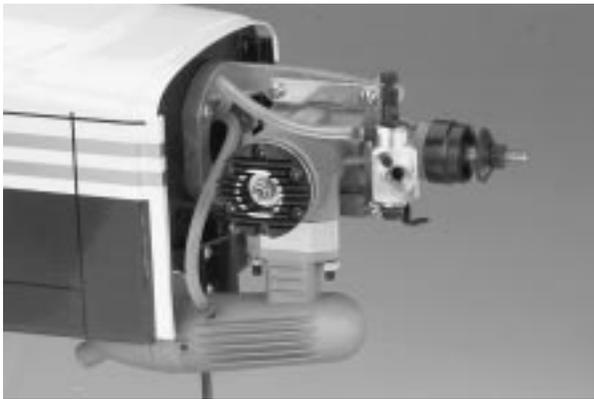
Step 41. Insert the Z-bend into the outermost hole on the nose gear control horn. It may be necessary to loosen the nose gear assembly during installation of the Z-bend.



Section 17: Plumbing the Engine

| Parts Needed | Tools and Adhesives Needed |
|---|---|
| <ul style="list-style-type: none">• Fuselage• Engine• Fuel tubing | <ul style="list-style-type: none">• Scissors or sharp hobby knife to cut tubing |

Step 1. Install the muffler per the instructions included with the engine.



Step 2. Connect the vent tube from the fuel tank to the pressure fitting, or nipple, on the muffler.

Step 3. The remaining tube should be attached to the carburetor fuel inlet nipple.

Section 18: Control Throw Recommendations

The following control throws offer the most positive response and are a good place to begin. After you've become more familiar with the flight characteristics of the Cherokee, adjust the control throws to meet your style of flying.

Aileron: $9/32''$ up, $9/32''$ down
Elevator: $3/8''$ up, $3/8''$ down
Rudder: $1''$ right, $1''$ left

Section 19: Balancing the Cherokee

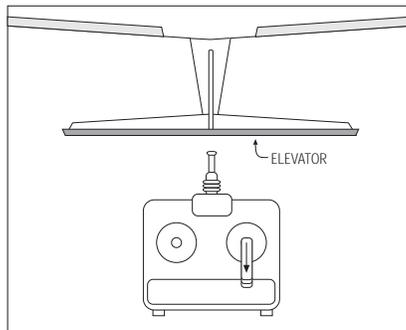
An important part of preparing the aircraft for flight is properly balancing the model. Don't inadvertently neglect this step.

The Cherokee is very stable and has a wide range of C. G. (Center of Gravity). With the various brands of radios and engine equipment available, the C. G. can be between $3-1/4''$ to $4''$ back from the the leading edge of the wing.

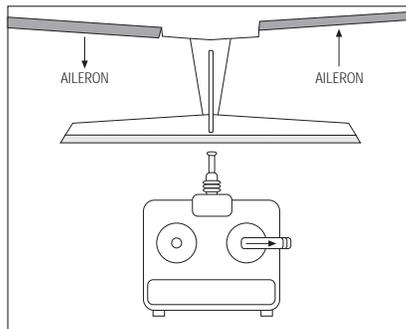
If your Cherokee does not balance within this area, add nose weight or tail weight, depending on the need. Stick-on weights are available at your local hobby shop and work well for this purpose.

Pre-Flight Check

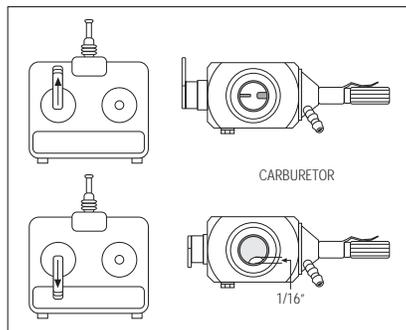
Step 1. Check that all control functions move in the correct direction. If not, use the respective reversing switch to correct the direction.



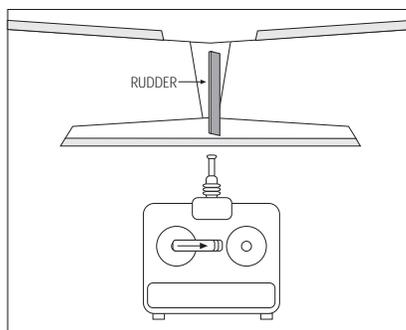
ELEVATOR



AILERON



THROTTLE



RUDDER

Note: Mode II transmitter shown in diagram.

Step 2. Check that each clevis is securely snapped into position.

Step 3. Check that all servo horn screws are tight.

Step 4. Charge the transmitter and receiver battery per the instructions included with your radio system.

Step 5. Read and follow all the instructions included with the engine and follow the recommended break-in procedure.

Pre-Flight at the Flying Field

Range Test Your Radio

Step 1. Before each flying session, be sure to range check your radio. This is accomplished by turning on your transmitter with the antenna collapsed. Turn on the radio in your airplane.(?) With your airplane on the ground, you should be able to walk 30 paces away from your airplane and still have complete control of all functions. If you don't, do NOT attempt to fly! Have your radio equipment checked out by the manufacturer.

Step 2. Double check that all controls (aileron, elevator, throttle, rudder) move in the correct direction.

Step 3. Be sure that your batteries are fully charged per the instructions included with your radio.

Adjusting the Engine

Step 1. Completely read the instructions included with your engine and follow the recommended break-in procedure. At the field, adjust the engine to a slightly rich setting at full throttle and adjust the idle and low speed needle so that a consistent idle is achieved. Before you fly, be sure your engine reliably idles, transitions and runs at all throttle settings. Only when this is achieved should any plane be considered ready for flight.

AMA Safety Code

1994 Official AMA National Model Aircraft Safety Code Effective January 1, 1994

Model flying must be in accordance with this Code in order for AMA liability protection to apply

General

1. I will not fly my model aircraft in sanctioned events, air shows, or model flying demonstrations until it has been proven to be airworthy by having been previously, successfully flight tested.
2. I will not fly my model higher than approximately 400 feet within 3 miles of an airport without notifying the airport operator. I will give right-of-way and avoid flying in the proximity of full-scale aircraft. Where necessary, an observer shall be utilized to supervise flying to avoid having models fly in the proximity of full-scale aircraft.
3. Where established, I will abide by the safety rules for the flying site I use, and I will not willfully and deliberately fly my models in a careless, reckless and/or dangerous manner.
4. At all flying sites a straight or curved line(s) must be established in front of which all flying takes place with the other side for spectators. Only those persons essential to the flight operations are to be permitted on the flying side of the line; all others must be on the spectator side. Flying over the spectator side of the line is prohibited, unless beyond the control of the pilot(s). In any case, the maximum permissible takeoff weight of the models is 55 pounds.
5. At air shows or model flying demonstrations a single straight line must be established, one side of which is for flying, with the other side for spectators. Only those persons accredited by the contest director or other appropriate official as necessary for flight operations or as having duties or functions relating to the conduct of the show or demonstration are to be permitted on the flying side of the line. The only exceptions which may be permitted to the single straight line requirements, under special circumstances involving consideration of site conditions and model size, weight, speed, and power, must be jointly approved by the AMA President and the Executive Director.
6. Under all circumstances, if my model weighs over 20 pounds, I will fly it in accordance with paragraph 5 of this section of the AMA Safety Code.
7. I will not fly my model unless it is identified with my name and address or AMA number, on or in the model. Note: This does not apply to models flown indoors.
8. I will not operate models with metal-bladed propellers or with gaseous boosts, in which gases other than air enter their internal combustion engine(s); nor will I operate models with extremely hazardous fuels such as those containing tetranitromethane or hydrazine.
9. I will not operate models with pyrotechnics (any device that explodes, burns, or propels a projectile of any kind) including, but not limited to, rockets, explosive bombs dropped from models, smoke bombs, all explosive gases (such as hydrogen-filled balloons), ground mounted devices launching a projectile. The only exceptions permitted are rockets flown in accordance with the National Model Rocketry Safety Code or those permanently attached (as per JATO use); also those items authorized for Air Show Team use as defined by AST Advisory Committee (document available from AMA HQ). In any case, models using rocket motors as primary means of propulsion are limited to a maximum weight of 3.3 pounds and a G series motor. Note: A model aircraft is defined as an aircraft with or without engine, not able to carry a human being.
10. I will not operate any turbo jet engine (axial or centrifugal flow) unless I have obtained a special waiver for such specific operations from the AMA President and Executive Director and I will abide by any restriction(s) imposed for such operation by them. (Note: This does not apply to ducted fan models using piston engines or electric motors.)
11. I will not consume alcoholic beverages prior to, nor during, participation in any model operations.

Radio Control

1. I will have completed a successful radio equipment ground range check before the first flight of a new or repaired model.
2. I will not fly my model aircraft in the presence of spectators until I become a qualified flier, unless assisted by an experienced helper.
3. I will perform my initial turn after takeoff away from the pit or spectator areas, and I will not thereafter fly over pit or spectator areas, unless beyond my control.
4. I will operate my model using only radio control frequencies currently allowed by the Federal Communications Commission. (Only properly licensed Amateurs are authorized to operate equipment on Amateur Band frequencies.) Further, any transmitters that I use at a sanctioned event must have a certified R/CMA-AMA gold sticker affixed indicating that it was manufactured or modified for operation at 20 kHz frequency separation (except 27 MHz and 53 MHz).
5. I will not knowingly operate an R/C system within 3 miles of a pre-existing model club flying site without a frequency sharing agreement with that club.

