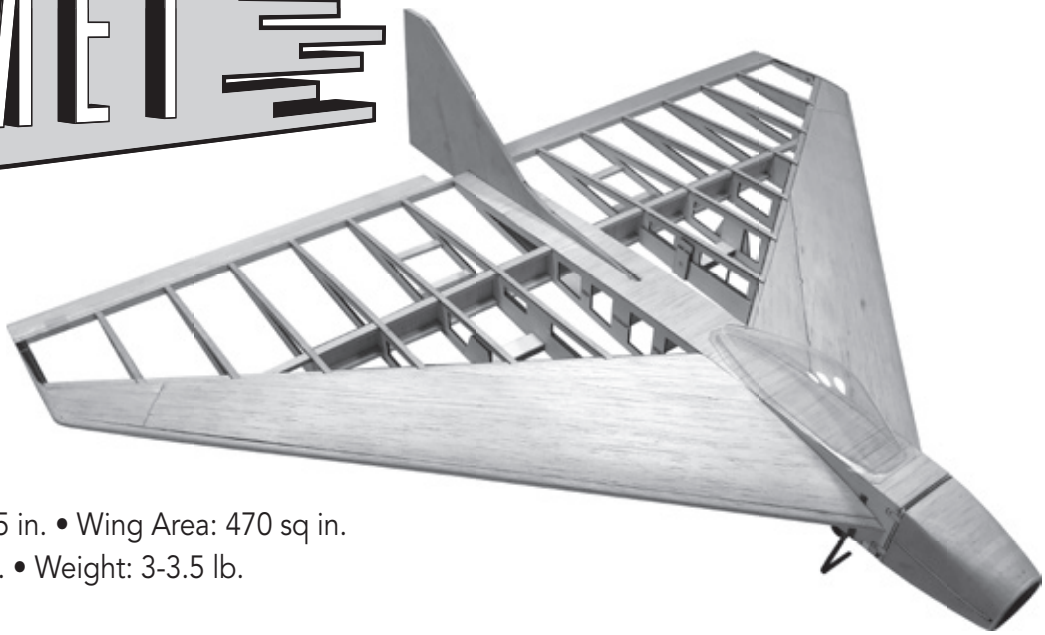
COMET



Specifications: Wingspan: 39.5 in. • Wing Area: 470 sq in.
Airframe Length: 32 in. • Weight: 3-3.5 lb.

CONSTRUCTION MANUAL

Using the Manual

Be sure to read each step thoroughly before you start the step. Test-fit the parts together to make sure they fit properly. If necessary trim to fit.

Beside each step you will notice a check box (or two). These are so you can keep track of your progress while building your kit. For steps that have two boxes, as in the construction of the left and right wing halves, these steps must be performed two times.

- Your **Old School Model Works** aircraft should not be considered a toy, but rather a sophisticated, working model that functions very much like a full-size airplane. Because of its performance capabilities, this model, if not assembled and operated correctly, could possibly cause injury to yourself or spectators, and damage to property.
- You must assemble this model according to the instructions. Do not alter or modify this model, as doing so may result in an unsafe or un-flyable model. In a few cases the instructions may differ slightly from the photos. In those instances the written instructions should be considered as correct.
- You must take time to build straight, true and strong.
- You must use a R/C radio system that is in first-class condition, a correctly sized power system and components (electronics, batteries, wheels, etc.) throughout the building process.
- You must correctly install all R/C and other components so that the model operates correctly on the ground and in the air. (Installation shown in the manual is a suggestion. You may have to adjust the mounting steps to accommodate the size of your radio equipment.)
- You must check the operation of the model before every flight to insure that all equipment is operating and that the model has remained structurally sound. Be sure to check clevises or other connectors often and replace them if they show any signs of wear or fatigue.
- If you are not an experienced pilot or have not flown this type of model before, we recommend that you get the assistance of an experienced pilot in your R/C club for your first flights. If you're not a member of a club, your local hobby shop has information about clubs in your area whose membership includes experienced pilots.
- While this kit has been flight tested to exceed normal use, if this model will be used for extremely high stress flying, such as racing, or if a power system larger than one in the recommended range is used, the modeler is responsible for taking steps to reinforce the high stress points and/or substituting hardware more suitable for the increased stress.

Remember: Take your time and follow the instructions to end up with a well-built model that is straight and true.

Old School MODEL WORKS

www.oldschoolmodels.com

WARNING

READ THROUGH THIS MANUAL BEFORE STARTING CONSTRUCTION. IT CONTAINS IMPORTANT WARNINGS AND INSTRUCTIONS CONCERNING THE CONSTRUCTION AND USE OF THIS MODEL.

A Radio-Controlled aircraft is not a toy! If misused, it can cause serious bodily harm and damage to property. Fly only in open areas, preferably at AMA (Academy of Model Aeronautics) approved flying sites, following all instructions included with your radio, powerplant, electronics and batteries.

WARNING: This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

INCLUDED ITEMS

Wood parts included in this kit:

- 2 - LP1 - Laser Cut 1/8" x 5 x 24 sheet
- 2 - LP2 - Laser Cut 1/8" x 5 x 24 sheet
- 1 - LP3 - Laser Cut 1/8" x 5 x 24 sheet
- 1 - LP4 - Laser Cut 1/16" x 3 x 19 sheet
- 2 - BP1 - Laser Cut 1/8" x 4 x 24 sheet
- 2 - BP2 - Laser Cut 1/8" x 4 x 24 sheet
- 1 - BP3 - Laser Cut 1/8" x 4 x 13 sheet
- 1 - BP4 - Laser Cut 1/4" x 4 x 24 sheet
- 1 - BP5 - Laser Cut 1/4" x 4 x 24 sheet
- 2 - BP6 - Laser Cut 1/16" x 4 x 24 sheet
- 4 - BP7 - Laser Cut 1/16" x 4 x 24 sheet
- 2 - BP8 - Laser Cut 1/16" x 4 x 24 sheet
- 1 - CAP - Laser Cut 1/16" x 4 x 24 sheet
- 5/16" x 5/16" x 36" balsa strips (2 pieces)
- 5/16" x 1/2" x 36" balsa strips (2 pieces)
- 5/16" x 1-1/4" x 36" tapered balsa strips (2 pieces)
- 3/16" x 3/8" x 36" basswood strips (6 pieces)

Hardware parts included in this kit:

- 1 - steerable nose gear gear
- 2 - pre-bent main gear
- 10 - C/A type hinges for control surfaces
- 3 - control horns
- 4 - wheel collars 1/8" I.D.
- 4 - 1/8" plastic landing gear straps
- 6 - 2-56 x 1/2" machine screws
- 25 - 2-56 x 3/4" self tapping screws
- 1 - 10-32 x 1/2" thumb screw
- 1 - 7" canopy

Other items included in this kit:

- Rolled plan
- 1 - Construction Manual

- Inspect your model before every flight to ensure it is airworthy.
- Be aware of any other radio frequency user who may present an interference problem.
- Always be courteous and respectful of other users in your selected flight area.
- Choose an area clear of obstacles and large enough to safely accommodate your flying activity.
- Make sure this area is clear of friends and spectators prior to launching your aircraft.
- Be aware of other activities in the vicinity of your flight path that could cause potential conflict.
- Carefully plan your flight path prior to launch.
- Abide by any and all established AMA National Model Aircraft Safety Codes.

IMPORTANT!!! Two of the most important things you can do to preserve the radio controlled aircraft hobby are to avoid flying near full-scale aircraft and avoid flying near or over groups of people.

ITEMS NEEDED

Hardware needed (not included in the kit)

For some of these items there is more than one option which will require a bit of decision making ahead of time. There isn't a right or a wrong choice, so choose the items that work best for you.
Our engine size recommendation range is a .25 two-stroke or an electric motor with similar power output, such as the E-Flite 25. Remember that the Comet is sport that is intended to fly at average speeds, not rocket speeds, so prudent throttle management should be practiced.

Here is a list of additional parts needed to complete and fly this kit, all of which must be purchased separately. Again, we would recommended supporting your local hobby shop.

- Powerplant:
  if Electric (.25-sized brushless motor, 60amp ESC, 3S LiPo)
  if Glow (.19-.30 engine, 4 ounce tank, fuel tubing)
- Propeller
- Engine/Motor mount and mounting hardware
- Receiver - (4 channel minimum)
- Servos with 40-70 in./oz. of torque. 1 for each elevon, 1 for rudder; 1 for throttle (if using a glow engine)
- Pushrods (two 5" for elevons, one 18" for rudder, two 12" (one for the nose gear and one for throttle if glow powered)
- Clevises for the pushrods (6 if electric, 8 if glow).
- 3 - wheels (2.75" - 3.25" diameter)
- Covering

Additional Required Building Tools and Adhesives

- Drill & assorted drill bits
- Hobby knife and new, sharp blades
- Sandpaper: coarse (80 or 100 grit) & medium (150-200 grit)
- Pencil or pen
- Ruler
- T-Pins
- Waxed paper
- Building board
- Adhesives of your choice. We recommend thin and medium CA (cyanoacrylate) viscosities

- 6 and 30 minute epoxy
- Epoxy brushes and mixing sticks
- Threadlocking compound
- Canopy glue

Before Starting Assembly

The Comet should only be built by an experienced builder. If you've never built a kit before it's quite possible you will have a great deal of difficulty building this kit successfully.

Closely inspect the supplied laser cut parts for damage. If you find any damaged or missing parts, contact us within 60 days of purchase.

When removing the laser cut parts from their sheets, you'll notice the parts are held in place by several very small "tabs". These tabs are uncut pieces of wood and can sometimes make it difficult to remove a part. Rather than breaking and/or splintering the wood by forcing out the part, we recommend removing any laser cut parts from their sheets by using a hobby knife with a new, sharp blade. A quick cut of the tab will allow the piece to be removed with no damage. Sand any remainders flush with the part so there will be no problem aligning them later.

THE COMET USES RIBS THAT HAVE LARGER ALIGNMENT TABS. IT IS IMPORTANT THAT THESE TABS REMAIN ON THE PIECES TO AID IN BUILDING A STRAIGHT AND TRUE MODEL. IF YOU DO BREAK OFF A TAB, IMMEDIATELY TACK-GLUE IT BACK TO THE PIECE.

It's best to not remove parts from their sheets until they are needed. Refer to Appendix A of this manual as a reference to what all the laser cut parts look like and are called.

For each step, we highly recommend that you dry fit the parts in each step first. Lightly sand as needed to ensure a good fit. Once you're satisfied with the fit, then and only then, glue the parts in position.

IT IS VERY IMPORTANT THAT YOU ASSEMBLE THIS KIT IN THE ORDER DESCRIBED. SKIPPING FORWARD IN THE STEPS COULD LEAVE YOU WITHOUT THE PROPER LENGTHS OF WOOD TO FINISH THE KIT.
WE'VE INCLUDED ENOUGH WOOD TO EASILY COMPLETE THIS KIT, BUT YOU MUST TAKE CARE TO PROPERLY MEASURE AND NOT WASTE WOOD WHEN CUTTING.

All photos shown in this manual were of the prototype Comet. Several pieces have changed slightly with improvements we've made so they might look a little different in some steps.

Online Supplementary Photos

We realize that the smaller black-and-white photos in this manual might not show some of the steps as clearly as you might want. So we've anticipated this and made these photos available on our website. You can either scan the QR code or type this address into your browser:

www.oldschoolmodels.com/mpics/comet

Let's begin construction by working on the center section of the Comet.

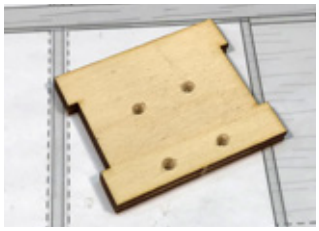
☐ **Prepare your work area**

You'll need a flat building surface that is a minimum of 40" wide as the Comet is built as a one-piece airframe.
Cut out the nose section of the plans along the dotted line, then tape this section in place on the plans to form a 1-piece plan with the nose section attached.
Position plan over your building surface and tape into position. Tear off a few lengths of waxed paper to cover plan, then tape them into position, covering the plan.

☐ **Step 1 - Alignment triangle**

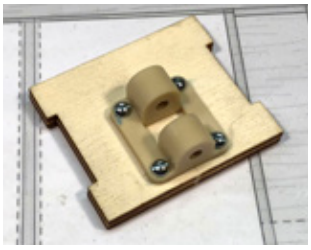
Pre-cut into LP3 is a triangle, that can be used to vertically align any of the parts in the construction of your Comet. LP3 also includes a foot piece that can be used with the triangle, holding the triangle vertical hands-free.

☐ **Step 2 - Center Section (nose gear mount)**



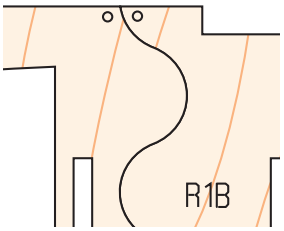
Locate both F5 pieces from the LP2 sheets. Glue both of these pieces together to form a thicker F5. This will be the mount for the nose gear. Note that the shape of this piece has changed from what's shown here to include a cutout to allow air and tubing to pass through.

☐ **Step 3 - Center Section (mount nose gear block)**



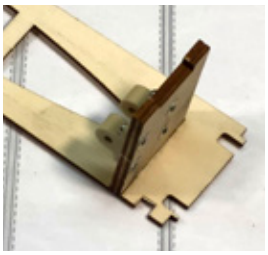
In your Comet kit, there is a separate hardware bag which contains all the pieces to assemble the nose gear. From this bag, locate the nose gear mounting block, the 4 mounting screws and the 4 t-nuts from this package. Use these pieces to mount the nose gear block to the assembled F5 as shown here.
You may need to use a cutoff wheel to trim the screws length after they are installed.

☐ **Step 4 - Center Section (R1As)**



Locate both R1A and R1B pieces from the LP1 sheets. Align the curvy cuts in R1A and R1B to create a finished R1. Pay attention when joining so you align the engraved circles next to each other. Make two finished R1 pieces.

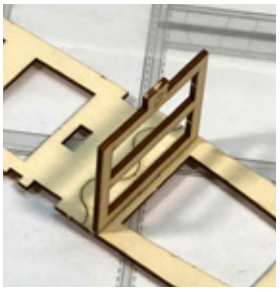
☐ **Step 5 - Center Section (attach nose gear block)**



Take one of the completed R1 pieces and glue the F5 assembly to it. Make sure it is 90° from the side and the nose gear block is positioned as shown here.

☐ **Step 6 - Center Section (F6)**

Locate F6 from LP3 Glue it in position making sure it is 90° from R1.

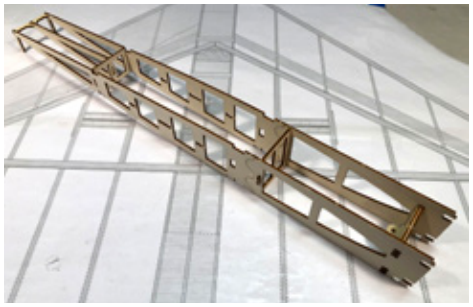


☐ **Step 7 - Center Section (F6)**

Locate F8, F9 and R0 from LP3 Glue F8 in position making sure it is 90° from R1. Once the glue has cured, position R0 and F9 in position as shown, making sure that R0 fits in the center notch of F9. Once they are aligned properly, glue them in position.

☐ **Step 8 - Center Section (attach the other R1)**

Locate the remaining R1 assembly. Glue it in place as shown, making sure all of the tabs from F5, F6, F8 and F9 fit into the slots on R1. Make sure both sides are straight and parallel.



☐ **Step 9 - Center Section (F7)**

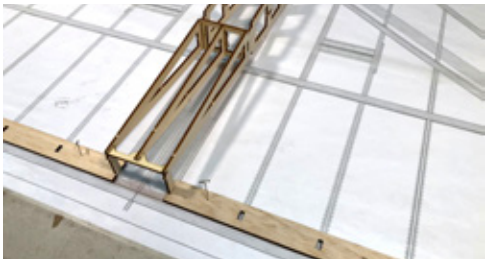
Locate F7 from LP3. This fits on the underside of the center section and the rounded side points towards the firewall. Once satisfied with the fit, glue in position.

☐ **Step 10 - Center Section (attach R1Ds)**

Locate the two R1D pieces from BP3. These are glued to the outside of the R1s and will act as a shelf when attaching the forward sheeting later on in the build. Use the lightening cutouts and the extended tabs on F6 to properly align these pieces.

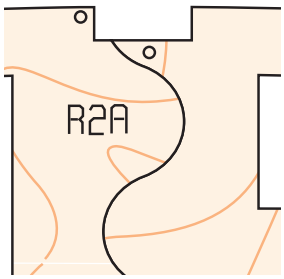
☐ **Step 11 - Center Section (affix to building surface.)**

With the main work on the center section finished, it is time to attach it in place over the plans. Carefully pin it in position making sure it's straight and true. When in position, locate the 2 TEJ pieces from BP2. These are jigs used to properly space the ribs. These pieces are symmetrical so no worries about placing them in the wrong direction. Pin these in place as shown on the plans, over the trailing edge. Use a long straight edge to assure that both edges line up. The inner notch will fit around the extended tab on the back of the R1 pieces.



☐ **Step 12 - Wing Assembly (R2s)**

Locate both R2A pieces from LP1 and both R2B pieces from the LP2. Align the curvy cuts in R2A and R2B to create a finished R2. Pay attention when joining so you align the engraved circles next to each other. Make two finished R2 pieces.



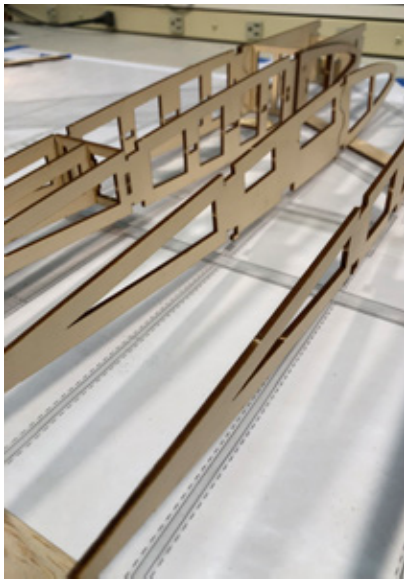
All of the following steps to build the wing should be performed to construct both the left and right wing at the same time.

☐ **Step 13 - Wing Assembly (LEJ)**

Locate both LEJ pieces from BP2. These are also jig pieces and will be used to locate the forward tabs on each of the ribs. The un-notched end will fit up against the center section and will angle rearwards towards the outer rib. Do not pin in place yet.

☐ **Step 14 - Wing Assembly (R2s)**

Locate both completed R2 ribs. Carefully place these in position, one on each side of the center section. The rear tab will fit into the REJ jig and the front tab will fit into the LEJ jig.

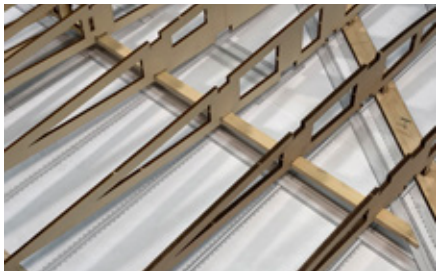


☐ **Step 15 - Wing Assembly (ribs R3-R5)**

Locate both R3 ribs from LP2 and both the R4 and R5 ribs from the BP1 sheets. Carefully place these in position. The rear tabs will fit into the REJ jig and the front tab will fit into the LEJ jig. Make sure the tabs are pushed all the way into the jigs, so they are resting on the plans.

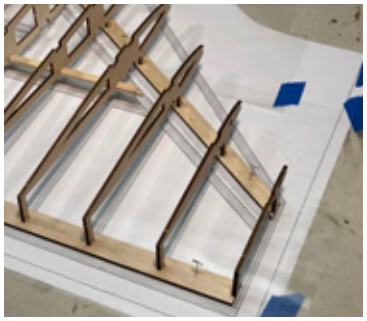
When satisfied of the alignment, pin both LEG jigs into place on to your building board.

☐ **Step 16 - Wing Assembly (rear lower spar)**



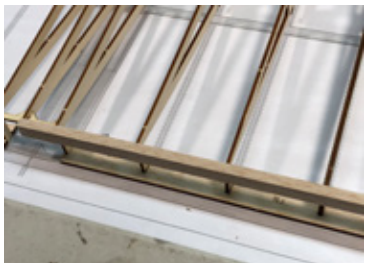
Measure and cut both rear lower spars from a single piece of 3/8" x 3/16" basswood.
These pieces run from the middle of the center section to the point where it meets the front spar as noted on the plans. Take time to measure correctly before cutting. Starting with the outside rib (R5), slide each spar in position into the pre-cut pocket on the bottom of each rib. Be careful that you do not break off the tabs as they are used to hold these spars in position.
Do not glue in place yet.

☐ **Step 17 - Wing Assembly (ribs R6-R8)**



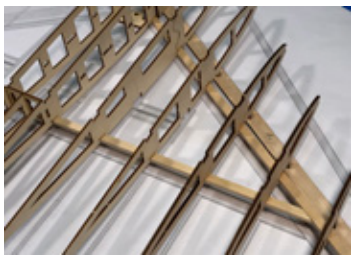
Locate both R6 and R7 ribs from BP1 and both R8 ribs from BP2. Carefully place these in position. The rear tabs will fit into the REJ jig and the front tab will fit into the LEG jig. Make sure the tabs are pushed all the way into the jigs, so they are resting on the plans.
Now take the time to make sure all of the ribs are aligned to the plans and standing straight (90° to the building board). Tack glue the tabs of each rib to the LEJ and REJ jigs so they'll stay in place.

☐ **Step 18 - Wing Assembly (trailing edge)**



Measure and cut each of the 5/16" x 1/2" balsa strips to create the trailing edges for each side of the Comet. Glue to all the ribs with the 1/2" side up against the ribs.

☐ **Step 19 - Wing Assembly (front lower spar)**



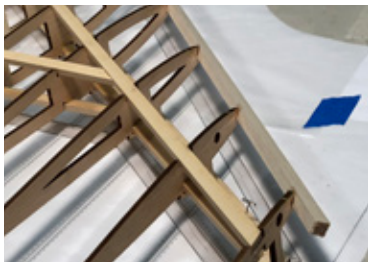
Measure and cut both front lower spars from 3/8" x 3/16" basswood.
Take time to measure correctly before cutting. Slide these spars in position in the same manner as you did with the rear spars, making sure not to break off any of the tabs.
When satisfied with the alignment, glue the front and rear spars in place, making sure they are attached to all of the ribs and to each other.

☐ **Step 20 - Wing Assembly (cut upper spar)**

Now it's time to measure and cut the upper spars (both front and rear). Measure and cut one of the 3/16" x 3/8" basswood strips to use as the upper spar. Apply glue to the top of the ribs where they will contact the upper spar.

Take time to measure correctly before cutting and then place the spars in position, making sure they are fully seated into the cutouts of each rib.
When satisfied with the alignment, glue the front and rear spars in place, making sure they are attached to all of the ribs and to each other.

☐ **Step 21 - Wing Assembly (leading edge)**



Locate the 5/16" square balsa sticks as these are used for the leading edge. Carefully measure, cut and sand them so they fit properly. When satisfied, glue in position. We recommend a thicker, gap-filling C/A glue for this step. Start at R1 and slowly work your way to the tip. Also make sure the ribs are straight as you go work your way across the wing.

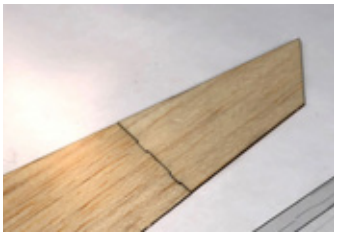
☐ **Step 22 - Wing Assembly (rear sheer webs)**

Locate sheer webs WR1-WR4 from BP6. These are glued in place on the back edge of the upper and lower rear spars.
Test fit each of these before gluing in place, sanding as necessary for a good fit.

☐ **Step 23 - Wing Assembly (front sheer webs)**

Locate sheer webs WF1-WF5 from BP6. With the exception of WF5, these are glued in place on the back edge of the upper and lower front spars. WF5 is glued to the front of the spars.
The left and right edges of these sheer webs might have to be beveled (angled) slightly to allow them to fit correctly.
Test fit each of these before gluing in place, sanding as necessary for a good fit.

☐ **Step 24 - Wing Assembly (leading edge sheeting)**



Locate the 4 SH1s from BP7 and the 4 SH3's from BP8. SH1 and SH3 mate up with each other as shown here. Glue these together to make 4 SH1 sheets.

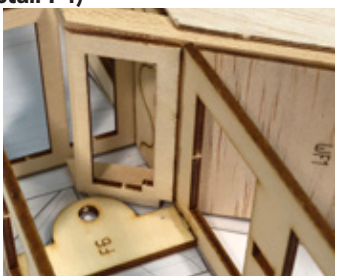
☐ **Step 25 - Wing Assembly (leading edge sheeting)**

Locate the 4 SH2s from BP8. These mate up with the SH1 assemblies as shown. Glue these together to make 4 completed leading edge sheets.

☐ **Step 26 - Wing Assembly (attach sheeting)**

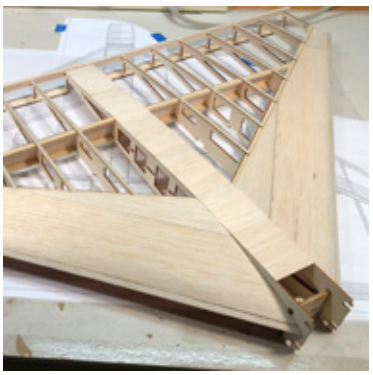
Take two of the completed leading edge sheets from the previous step as they will be glued in position on the top of the wing, as shown here.
We find it best to lay a bead of glue along the edge of the sheeting where it butts up against the leading edge . Make sure it is also contacting each of the ribs. As a general rule, don't use super-fast curing C/A's for the step as you will need a bit of time to make sure everything is in place.
Glue one sheet on the left and the right wings.

☐ **Step 27 - Center Section (install F4)**



Locate both F4s from the LP2 sheets. These are glued in place as shown here, adding structural strength by tying both the upper and lower front spars to the center section.
Don't go overboard, but do use a good amount of glue to make sure these pieces are properly secured to the spars and to the center section sidewalls (R1).

☐ **Step 28 - Center Section (top sheeting)**



Using a bit of the leftover 1/16" sheeting from the BP6 and BP8 sheets, measure, cut and glue together the sheeting to cover the top of the center section.
When measuring, make sure that the grain is crosswise (flowing from R1 to R1).
When edge gluing the sheeting pieces together, first make sure the edges are flat (give a quick, swipe or two with a sanding block).
Work from the rear of the center section, forward. You'll need to cut and join a few pieces together but be sure to stop an inch or two behind the F5 (nose gear mount). You'll need this open to aid in mounting your powerplant.

☐ **Step 29 - Wing Assembly (cap strips)**

Cut several 1/16th x 1/4" x 24" balsa strips from the cap-strip sheeting. Carefully measure and cut cap strips to cover the top of each R2-R8 rib. These strips should be centered on each rib and extend from the trailing edge stock up to the back of the leading edge sheeting.

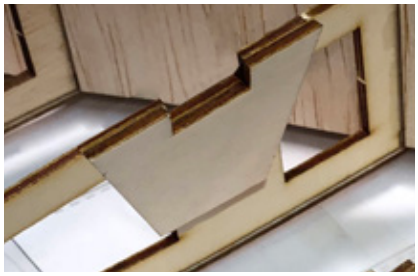
☐ **Step 30 - Wing Assembly (tab removal)**

Once all the glue has cured, remove the Comet assembly from the building surface and flip it over.
Now it's time to remove all the tabs from the ribs. All ribs will have a rear and forward tab, as well as the smaller tabs that held the lower spars in place. All of them need to be carefully cut away and the ribs lightly sanded to maintain their airfoil shapes. There's a number of ways to do this but we find a Japanese saw is the perfect tool. These saws are small, have flexible blades and the lack of off-set teeth makes a smooth, straight cut.

☐ **Step 31 - Center Section (servo rails)**

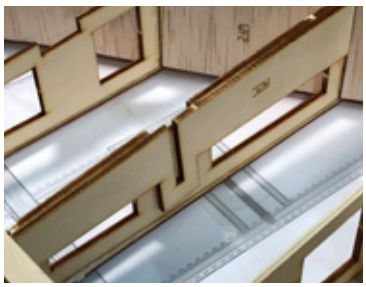
You should have several leftover lengths of the 3/16" x 3/8" basswood from trimming the spars. These pieces will be used to create the servo rails in the center section. You'll need two of them - one rear, one front, and two which are back-to-back in the middle slot.
Glue these in position.

☐ **Step 32 - Wing Assembly (R3C)**



Locate both R3Cs from LP2. These are doublers for the main gear. They are attached to the inside edge of each R3. The groove should line up with the matching groove in R3, and the edges of R3C and R3 should be flush with each other.

☐ **Step 33 - Wing Assembly (R2C)**



Locate both R2Cs from LP1. These are also doublers for the main gear. They are attached to the inside edge of each R2. The long slot should be aligned in the middle of the slot in R2. Also, the edges of R2C and R2 should be flush with each other.

☐ **Step 34 - Wing Assembly (G1 & G2)**

Locate the G1s and G2s from LP3. 2 G2s will be stacked on top of each other, then a G1 will be added, as shown here. The position of the G1 is critical as the center cut in it should line up with the slot in the R2C installed in the previous step.

We recommend dry-fitting these first, then gluing together. Try to keep glue out of the slot in G1 as this is where the main landing gear will be mounted.

☐ **Step 35 - Wing Assembly (G4)**

Locate the G4s from LP3. One G4 will be glued over the slot in R2C. This will form a pocket where part of the main gear will slide into. Be sure to keep glue out of this pocket.

☐ **Step 36 - Wing Assembly (leading edge sheeting)**

Using the 2 leftover leading edge sheets you assembled back on step 29, use the same techniques to attach the leading edge sheeting on the bottom surface of the wings.

☐ **Step 37 - Wing Assembly (elevon rails)**

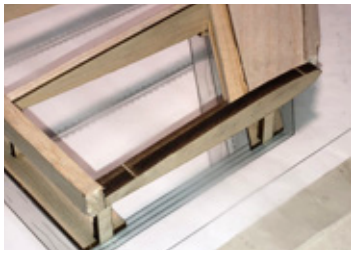
Using more of the leftover lengths of the 3/16" x 3/8" basswood measure and cut 4 elevon mounts. These will span the distance from R3 to R4 and fit into the cutouts towards the rear of these ribs, on the bottom of the wings.

When measuring, cut these mounts to leave an extra 1/16" or so past the outside edges of the ribs.

Make they are fully seated in the cutouts, then glue in place.

☐ **Step 38 - Wing Assembly (TIP install)**

Locate both TIP pieces from BP4. One is glued to the outside of each R8 rib as shown here.



☐ **Step 39 - Wing Assembly (cap strips)**

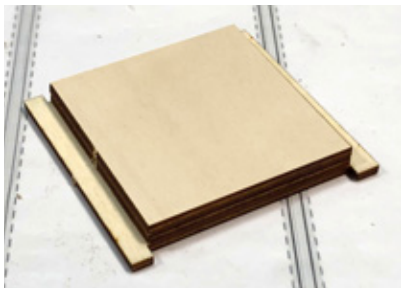
Just as you did back on step 29, cut several 1/16th x 1/4" x 36" balsa strips from BP9. Carefully measure and cut cap strips to cover the bottom of each R2-R8 rib. These strips should be centered on each rib (with the exception of R3 and R4). For those two ribs, the strips will be glued to the outer edges, using the servo hatch as a guide. These strips extend from the trailing edge stock up to the back of the leading edge sheeting.

Also cut smaller strips to frame the front and back edges of the servo hatch as shown here. Be careful with the glue so you don't accidentally glue the hatches to the wing.

The next steps involve assembling and attaching the firewall. There are two versions - one for glow and one for electric. For glow power, continue with step 40. For electric, skip to step 42.

☐ **Step 40 - Center Section (glow firewall)**

Locate F1 from LP3 and 2 F3s from LP1. These are glued together to form the firewall. Note that the F3s are slightly taller than they are wide. An easy way to make sure they're aligned properly is to place F1 on your board so the engraved "F1" is right-reading. When attaching the F3s, also make sure the engraved "F3"s are right-reading.



Both F3's should be perfectly centered on F1 and we recommend using epoxy for this step. Clamp the pieces together and allow them to cure.

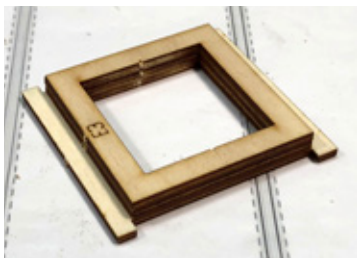
☐ **Step 41 - Center Section (glow mount)**

Locate the engine mount, mounting screws and t-nuts you'll be using for the Comet (not included). We recommend that the engine be mounted so the crankshaft will be centered on the firewall. When properly located, use the appropriate sized bit and drill the mounting holes. Lightly tap the blind nuts into place on the back of the firewall and secure them with a bit of glue.

When finished, skip to step 43.

☐ **Step 42 - Center Section (electric firewall)**

Locate F1E from LP3 and 2 E3 from LP1. Note that the F3s are slightly taller than they are wide. An easy way to make sure they're aligned properly is to place F1 on your board so the engraved "F1" is right-reading. When attaching the F3s, also make sure the engraved "F3"s are right-reading.

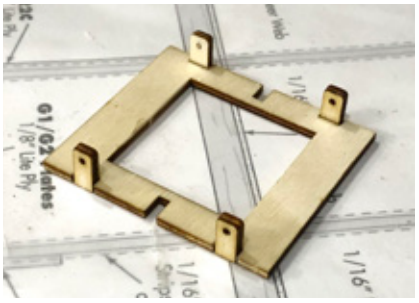


Both F3's should be perfectly centered on F1 and we recommend using epoxy for this step. Clamp the pieces together and allow them to cure.

☐ **Step 43 - Center Section (firewall)**

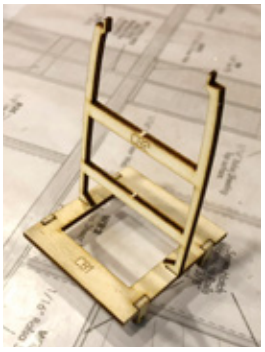
Dry fit the firewall into place on the front of the center section. Lightly sand as necessary to obtain a good, firm fit. Now remove the firewall, mix up a bit of epoxy and glue the firewall to the center section.
Be sure to form a bit of fillet between the side walls (R1s) and the firewall to add additional strength.
This photo shows mounting of the electric firewall.

☐ **Step 44 - Cowl Assembly (frame)**



Set the Comet assembly aside for these next few steps as we'll assemble the cowling.
Locate CB1 and the four CTs from LP3. Place CB1 on your work surface then glue each CT into the side slots on CB1. Each CT needs to be at a perfect right angle and seated firmly into the slots.

☐ **Step 45 - Cowl Assembly (frame)**



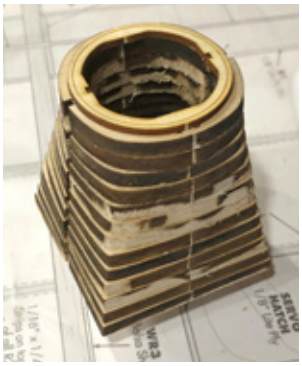
Locate CB2 from LP3. Place the CB1 on your work surface, with the tabs resting on the work surface (like a little table). Press CB2 in place making sure it's held at a perfect 90° to CB1 (perpendicular). Glue the 2 pieces together to form the frame of the cowl.

☐ **Step 46 - Cowl Assembly (forming)**

This step will require a lot of pieces, glued in place to the cowling frame in pairs. These are the C1-C13 pieces located on BP5 and BP4. It is recommended to only cut a pair of these pieces out at one time, starting with C1.
Position both C1's as shown here without glue first. They should butt up against the vertical spine (CB2) and be centered on the base (CB1). When you see how they should line up, remove them, apply glue and attach them to the cowl framework.

☐ **Step 47 - Cowl Assembly (frame)**

Now using the same technique as you did in the last step, slowly work your way up the framework by attaching the C2 pieces, then the C3 pieces, etc. Make sure that everything remains straight as you don't want to inadvertently put a bend in the spine (CB2).



Once the C13s are in place, locate CR from LP3. This will be glued to the top of the C13's and the CR's precut slots will fit into the tabs extending from the spine (CB2). Note that there is an etched ring on CR that designates the front face of the cowl. This circle should be visible when it is glued in place as it's used as a reference when sanding the cowl to shape.

☐ **Step 48 - Cowl Assembly (mounting)**

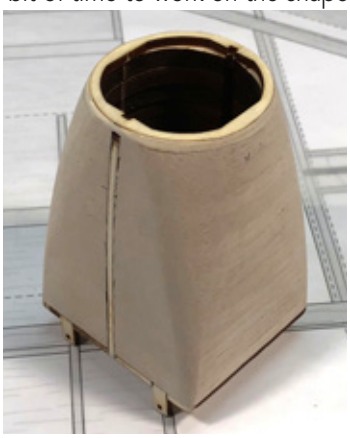
Once the glue has cured on the cowl, it's time to shape it. The center section of the Comet and the cowl's plywood frame will be your guide in sanding. Slip the cowl onto the front of the Comet with the tabs sliding into the slots on the side of the center section. Make sure that the cowl rests firmly against the firewall. Lightly sand as necessary to get a good fit.
Now, to hold the cowl in position, drill into the holes in each cowl mounting tab using a 1/16" bit. Make the holes about a 1/2" deep. Using 4 of the supplied 2-56 x 3/4" self tapping screws, attach the cowl to the Comet.

☐ **Step 49 - Cowl Assembly (sanding)**

Sanding starts with the rear part of the cowl, the rectangular section. Use a sanding block with 80 grit paper to sand the oversized sides of the cowl so they're flush with the fuselage (left and right). The top and bottom should be sanded so they're 1/16" oversized so they will be flush with sheeting that will be installed later. Tape a small piece of leftover 1/16th sheet to the top and bottom of the firewall to give you a visual reference when sanding.
When finished, the rear of the cowl should have 4 flat sections that line up with the sides of the center section.

☐ **Step 50 - Cowl Assembly (sanding)**

Now the cowl can be removed from the Comet as it will make it easier to form the front of the cowl. As you may recall, we referenced a circle etched into the CR (front face) of the cowl. Using your sanding block, take a bit of time to work on the shape of the cowl, sanding down to the circle.



☐ **Step 51 - Cowl Assembly (sanding)**

With the rear and front surfaces shaped, now finish the cowl by gently sanding the center section to blend the round front into the square rear. When the rough shape has been reached, switch to 150 grit paper to sand the cowl to it's final shape.

☐ **Step 52 - Center Section Assembly (F2)**

Flip the Comet so the bottom is facing up, with the firewall facing you.
Locate both F2s from LP2. These will be glued together, to form a thicker F2. Then this assembly is epoxied in place in the gap behind the firewall. Make sure it is fully seated, making it flush.

☐ **Step 53 - Center Section Assembly (U2)**

Locate U2 from LP4. Glue in place as shown, making sure it is flush with the firewall and both sides of the center section.

☐ **Step 54 - Center Section Assembly (U1 & U3)**

Locate U1 and U3 from LP4. U3 will be the battery/fuel hatch and has a pre-cut circle that designates the rear of the hatch.
U1 is glued to the front of U3 so it forms a lip that will catch under U2. An easy way to see where it should mount is to slip U1 into the battery/fuel compartment, under the U2 piece you just installed. Using a pencil, trace a line on to U1 where it overlaps U2. Now use this as your guide when gluing it to U3.
Also make sure that U1 is centered left/right on U3.

☐ **Step 55 - Center Section Assembly (U3)**

Position the finished U3 battery/fuel hatch in place as shown. Using a pencil, transfer where the circle on the rear of the hatch lines up with F7 (already installed).

Remove the hatch, then drill and tap F7 for a 10-32 thread. This is where the included 10-32 x 1/2 nylon thumb screw is used to hold the hatch in place.

☐ **Step 56 - Center Section Assembly (U4)**

Locate U4 from LP4. U4 is the radio hatch and is held in place with 4 of the supplied 2-56 x 3/4" self tapping screws. Position U4 on the center section as shown, then using a 1/16" bit, drill the 4 mounting holes, using the pre-cut holes in U4 as a guide.

☐ **Step 57 - Center Section Assembly (rear sheeting)**

Hopefully you have been careful with your cutting and have saved the scrap pieces of 1/16h sheeting from BP6 and the BP8 sheets. Using the leftover 1/16th sheeting, sheet the remaining portion of the bottom center section, similar to the way you sheeted the top back in step 28.

Note that if you are using an electric powerplant, you need to make a couple of cutouts in this bottom sheeting to allow the exhaust air to escape.

☐ **Step 58 - Center Section Assembly (cowl)**

Cut the two, thin internal braces from inside the cowl. They're not needed anymore as the cowl is now a rigid structure. Also, they will interfere with installing the powerplant.

☐ **Step 59 - Center Section Assembly (powerplant install)**

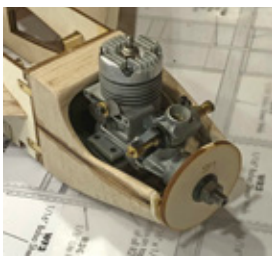
Measure your cowl from the back of base (part that mounts against the firewall, not the tabs) to the front edge. It should measure close to 3-5/8" in length. Add an extra 1/8" for clearance and that gives a measurement of 3-3/4". This is the recommended distance from the firewall to the front of your powerplant's drive washer (back of the spinner).
To help aid in the mounting of your powerplant, we've included two parts cut into LP3 - SP1 and SP2. Locate these parts and glue SP1 to SP2, carefully lining it up. The hole in SP1 is meant to fit over the prop shaft of your powerplant (you may have to enlarge is slightly depending on your setup). The SP2 ring acts as a spacer between the cowl and the back of your spinner. When using this SP assembly, make sure that the SP2 ring always faces the cowl.

It is strongly recommended that glow engines be side mounted, with the cylinder is on the starboard side of the fuselage. Photos shown were of the prototype and we had a very hard time getting the fuel to flow properly when the engine was mounted upright.

The next steps involve attaching the powerplant. The steps you follow depend on your choice of glow or electric.
For glow power, continue with step 60.
For electric, skip to step 61.

☐ **Step 60 - Center Section Assembly (glow install)**

If you've removed the engine mount from the firewall, now is the time to re-install it.
Using our recommended 3-3/4" distance, drill and tap your mount for your engine. Now, comes a bit of fun, trial, and hopefully no error. You'll need to make the cut out so the engine can be mounted. There is no quick way to do this, but it all starts with mounting the cowl, then slowly cutting away the cowl as needed until there's just enough cut away to clear the engine so it can be mounted. Also make sure the muffler won't touch and you have access to all of the mounting screws. Lastly, make sure that cowl doesn't interfere the motion of the throttle arm.



When finished, it should look something like we've shown here.
Skip to step 65.

☐ **Step 61 - Center Section Assembly (electric power - E3)**

Locate E3 from LP3. Position your motor's mounting plate so it's centered on E3. Typically, these plates are in an "X" pattern, so line it up as shown, then drill the four mounting holes and attach the t-nuts to the back of E3.

☐ **Step 62 - Center Section Assembly (electric power - box)**

Locate both E1s and both E2s from LP1. These 4 pieces, along with EP3 make the electric motor box as shown here. There are small relief cutouts in the tops of E1 and E2 to allow the blind nuts on the back of E3 to clear. Depending on your hardware, you may have to adjust these gaps to fit.

When satisfied with the fit, use epoxy to glue the pieces together making the finished motor box.

☐ **Step 63 - Center Section Assembly (electric power - box)**

When the glue has cured, lightly sand the sides of the box smooth to make sure it will snugly slide into the square cutout on the electric firewall. (This firewall was installed on the center section back on step 43.)

Do not sand too much as this should be snug fit, not a loose fit.

☐ **Step 64 - Center Section Assembly (electric power - box)**

Attach the mounting plate to the motor, then the motor to the box. it is now time to attach the box to the firewall. 30 minute epoxy is recommended for this step, but please dry-fit everything in position first before using glue.

A. - Slide the motor/box assembly into the cowl so the prop shaft protrudes out the front.

B. - Attach the SP assembly to the prop shaft, making sure it is up against the drive washer and the SP2 ring is facing the cowl.

C. - Now push this assembly on to the center section, with the motor box sliding into the firewall until the 4 mounting tabs of the cowl are properly located. Attach the cowl to the center section.

D. - Make sure the SP assembly is perfectly centered around the front face of the cowl.

E. - With everything in position, you should be able to tack-glue the motor box to the firewall in a few spots.

F. - Wait until the glue cures, then remove the SP assembly and the cowl. You should now be left with a perfectly placed motor box that can now be permanently glued into position using epoxy.

☐ **Step 65 - Center Section Assembly (wire/tubing)**

With the powerplant in place, now you can take the time to complete the engine installation.

• For electric, run the motor's wires through a couple of the air cooling openings in the motor box all the way through into the battery compartment.

• For glow, drill holes as necessary to run the fuel lines and throttle pushrod through the firewall.

☐ **Step 66 - Center Section Assembly (top sheeting)**

Now you can finally measure, cut and glue on the remaining 1/16th sheeting on top of the fuselage, next to the firewall.

☐ **Step 67 - Servo installation (steering and rudder)**

Locate 1 or 2 of your servos and mount them to the previously installed rails in the center section of the airframe. One will be used if electric for the rudder and nose steering. Two will be used if glow as you'll need the second one for the throttle.

Every radio setup will be different. In the electric prototype shown here, we mounted the rudder servo in center of the rails.

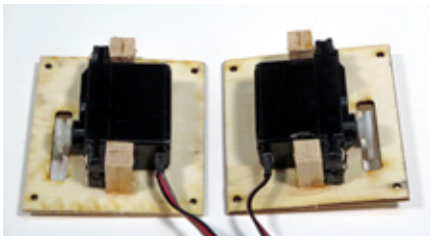
☐ **Step 68 - Servo installation (elevons)**

From leftover 3/16" x 3/8" x 36" basswood strip, cut eight 3/4" pieces. Make a mounting post by laminating two pieces, gluing the 3/8" sides together to make a 3/8 x 3/8" square post. Make 3 similar posts from the remaining pieces, sanding the ends flat.

Position the aileron servo on the bottom of the aileron servo cover so the servo arm output shaft is centered in the opening.

On the bottom of each aileron hatch, glue one post on each side of the servo as shown in the photo.

Note that the left hatch is a mirror image of the right hatch.



Now fit the servo hatches into position on the bottom of the wing. Using the pre-cut holes as a guide, drill four 1/16" mounting holes into the 3/16" x 3/8"basswood mounting strips installed earlier. Harden the wood with a bit of thin CA and you can use the attach the supplied 2-56 x 3/4" self tapping screws to secure them in place.

☐ **Step 69 - Vertical Fin (assembly)**

Locate VF1, VF2, VF3 and VF4 from BP4. These 1/4" thick parts will make up the vertical fin. Lightly sand the edges to make sure they all mate up properly, then glue together to make the complete vertical fin as shown here.

The piece shown separated from the fin is the rudder (VF5). We have flown the Comet with and without rudder and you can choose

to do the same. If you do not want to use the rudder, then glue VF5 to the vertical fin. After flying the Comet, you can always change your mind by slitting along the join line, shaping and hinging the rudder, and running a rudder pushrod.

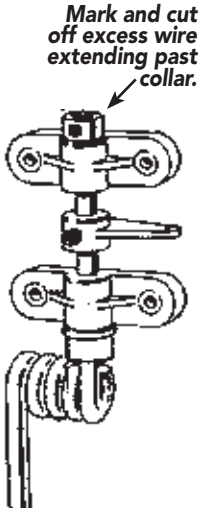
☐ **Step 70 - Vertical Fin (attachment)**

Permanently attach the vertical fin to the Comet airframe. Make sure it's the proper way up, it's exactly centered along it's entire length and a perfect 90° to the wings.

☐ **Step 71 - Nose Gear.**

Everything you need to assemble the nose gear is in one package. Push the nose gear wire partially up through the block. Slip the steering arm in place, then push the nose gear wire all the way through the block and the arm. With the nose gear positioned so the coil is towards the rear of the plane, position the steering arm at a 25-30° angle, then tighten the set-screw in the steering arm just tight enough so it should make a mark on the nose gear wire. Also, mark where the wire should be trimmed off, above the top collar.

Loosen the screw and remove the wire. Grind a small flat on the nose gear where the screw made a mark, and trim the excess top wire, then re-attach. Use a touch of thread-locking compound on the screw to make sure it doesn't vibrate loose later on down the road (or more to the point - down the runway).



☐ **Step 72 - Main Gear assembly.**

The main gear slips into the mounting blocks installed back in step 34-35. Locate the 1/8" plastic landing gear straps and 8 of the 2-56 x 3/4" self tapping screws. Place each strap across the wire, roughly a 1/4" in from the bends. Using a 1/16th bit, drill the two holes using the straps as your guide. Fasten in place using the screws. Repeat this for the other side.

☐ **Step 73 - Covering**

Now it is time to cover the Comet. Remove the powerplant, cowl gear, pushrods, and any other components that would get in the way of applying the covering.

Double check that all surfaces are smooth and ready to cover. Sand as necessary, then cover the entire airframe with the covering/finish of your choice.

Note that if you're powering with an electric motor, we strongly suggest you make a "cheater hole" in the bottom of the cowl, similar to this, so cooling air can enter the fuselage.

When the covering is complete, re-attach all the components you removed earlier in this step.

Logos, numbers, etc.

If you want to use graphics similar to the ones we used, Old School Model Works has teamed up with Callie Graphics as a supplier for pre-cut vinyl. They are a very well known provider of custom graphics for R/C models.

We have supplied them with the artwork needed to cut the correct size logos. You can order straight from them, choosing the colors that work for you.

Contact Callie Graphics at this link: https://callie-graphics.com or scan the QR code on the previous page.

Note that Callie Graphics is not affiliated with Old School Model Works, nor does Old School Model Works generate any income from this partnership.

☐ **Step 74 - Cut and hinge the elevons**

Locate the two 5/16" x 1-1/4" x 36" tapered balsa strips. Measure and cut them to the correct length to make the elevons. When finished, make the necessary slots/holes needed to hinge the elevons to each side of the wing. We recommend 3 hinges per elevon and glue them in using thin C/A.

☐ **Step 75 - Hinge the rudder**

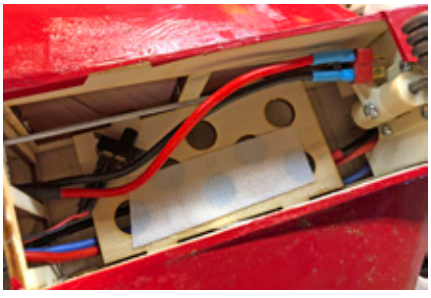
If using the rudder, locate VF5 and shape the leading edge. When finished, make the necessary slots/holes needed to hinge the rudder to vertical fin. We recommend 3 hinges spaced evenly along this joint, again, attached using thin C/A.

☐ **Step 76 - Radio and Pushrod Installation**

Now it's time to fit all of the pushrods, control horns and connect everything so the radio will control the Comet properly. Make sure that when installing the control horns, they are placed in-line with the pushrods, and that the line of holes where the clevises attach are positioned over the hinge line.

For the average pilot, we recommend that clevises are attached to the outermost hole on each control horn.

Finish the installation of your radio gear by adding the receiver, flight pack battery and the switch. We mounted the receiver to the fuselage side using a bit of self-adhesive hook-and-loop (not included).



For electric power, locate TF from LP3. This can be glued in place and used as the "floor" to mount the flight battery to using a bit of hook-and-loop (not included).

This tray can slide a bit fore and aft, so position it where you want then lock in place with a bit of glue.

Using TF with glow power typically doesn't work, but it will depend on your tank. We've found that it takes away just enough space to keep the tank from being able to properly fit.

☐ **Step 77 - Attach wheels.** Use the included 1/8" i.d. wheel collars to hold each wheel (not included) on the axles (one on each side of the wheel). For a maintenance free installation, file a small flat on the axle where the set screw of the wheel collar touches. Also use a touch of thread-locking compound to keep the screw from loosening over time.

☐ **Step 78 - Canopy.** Finishing the assembly of the Comet is the canopy. Trim the edges as needed so it is flush with sides of the fuselage. Also, very lightly sand the bottom surface of the canopy where it will contact the covering to allow the glue to grip better. When satisfied with the fit, wash the canopy with warm, soapy water. When dry attach the canopy to the fuselage with canopy glue. Use some long strips of low-tack tape to hold the canopy to the center section while the glue is curing.

This completes the assembly of the Comet. Now you'll need to adjust the control throws and check for balance.

☐ **Step 79 Recommended C.G. setting:**

An important part of preparing the aircraft for flight is properly balancing the model. This is especially important because of the various motor/battery combinations that can be used.

CAUTION! DO NOT SKIP THIS STEP!

The recommended Center of Gravity (CG) location for the Comet is measured back 9.625" from the firewall, and you'll see this marked on the plan with this symbol.

If necessary, move the battery, receiver, and/or add weight to either the nose or the tail until the correct balance is achieved. Stick-on weights are available at your local hobby store and work well for this purpose.

C.G. BALANCE POINT

Recommended Control Throws:

The amount of control throw should be adjusted as closely as possible using mechanical means, rather than making large changes electronically at the radio.

By moving the position of the clevis at the control horn toward the outermost hole, you will decrease the amount of control throw of the control surface. Moving it toward the control surface will increase the amount of throw. Moving the pushrod wire at the servo arm will have the opposite effect: Moving it closer to center will decrease throw, and away from center will increase throw. Work with a combination of the two to achieve the closest or exact control throws listed.

Elevons 1/2" up/down **Rudder 3/4" left/right**

(Expert tip: Once the control throws have been set, cut a few pieces of medium silicone fuel tubing (or heat shrink tubing) to go around each of the clevises. This will keep them from opening during flight.)

Preflight:

Charge both the transmitter and receiver pack for your airplane. Use the recommended charger supplied with your particular radio system, following the instructions provided with the radio. In most cases, the radio should be charged the night before going out flying.

Check the radio installation and make sure all the control surfaces are moving correctly (i.e. the correct direction and with the recommended throws). Test run the engine and make sure it transitions smoothly from idle to full throttle and back. Also ensure the engine is tuned according to the manufacturer's instructions, and it will run consistently and constantly at full throttle when adjusted.

Check all the control horns, servo horns and clevises to make sure they are secure and in good condition. Replace any items that would be considered questionable. Failure of any of these components in flight would mean the loss of your aircraft.

Range check your radio before flying

Before each flying session, range check your radio. This is accomplished by turning on your transmitter with the antenna collapsed. Turn on the radio in your airplane, but do not attach the arming switch.

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 not, don't attempt to fly! Have your radio equipment checked out by the manufacturer.

AMA Safety Code.

Old School Model Works highly recommends that before flying this, or any other model aircraft, please read through and adhere to the guidelines spelled out the Academy of Model Aeronautics Safety Code.

A copy of this can be downloaded from their website:

https://www.modelaircraft.org/sites/default/files/105.pdf

Warranty Information

Old School Model Works guarantees this kit to be free from defects in both material and workmanship at the date of purchase. This warranty does not cover any parts damage by use or modification. In no case shall **Old School Model Works'** liability exceed the original cost of the purchased kit. If you find any damaged or missing parts, contact us within 60 days from purchase to receive replacement(s).

Further, **Old School Model Works** reserves the right to change or modify this warranty without notice.

In that **Old School Model Works** has no control over the final assembly or material used for the final assembly, no liability shall be assumed nor accepted for any damage of the final user-assembled product. By the act of using the product, the user accepts all resulting liability.

Limit of Liability

In the use of this product, our only obligation shall be to replace such quantity of the product proven to be defective. The user shall determine the suitability of the product for his or her intended use and shall assume all risk and liability in connection therewith.

If the buyer is not prepared to accept the liability associated with

the use of this product, the buyer is advised to return this kit immediately in new and un-opened condition.

As of this printing, you are required to register with the FAA if you own this product.
For up-to-date information on how to register with the FAA, visit
https://registermyuas.faa.gov .
For additional assistance on regulations and guidance of UAS usage, visit
http://www.knowbeforeyoufly.org .

For more information on all of our other products, as well as the latest news from Old School Model Works:

Please check out out website: www.oldschoolmodels.com

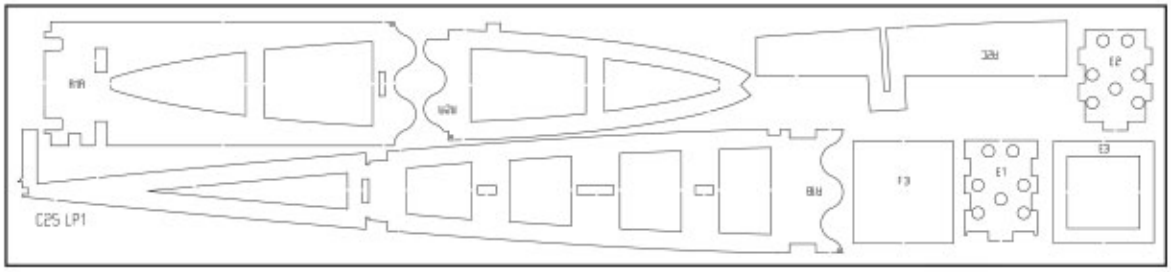
You can reach us on Facebook:
www.facebook.com/oldschoolmodelworks

Instagram: www.instagram.com/oldschoolmodelworks/

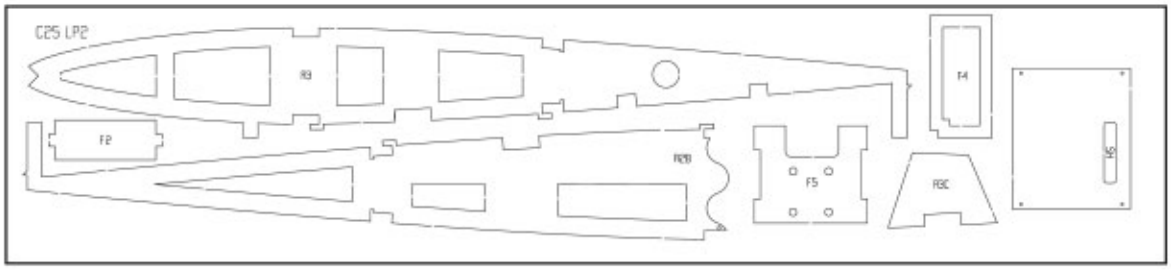
Twitter: www.twitter.com/oldschoolmodels

See photos of our kits and customer builds on Flickr:
https://www.flickr.com/photos/oldschoolmodelworks/

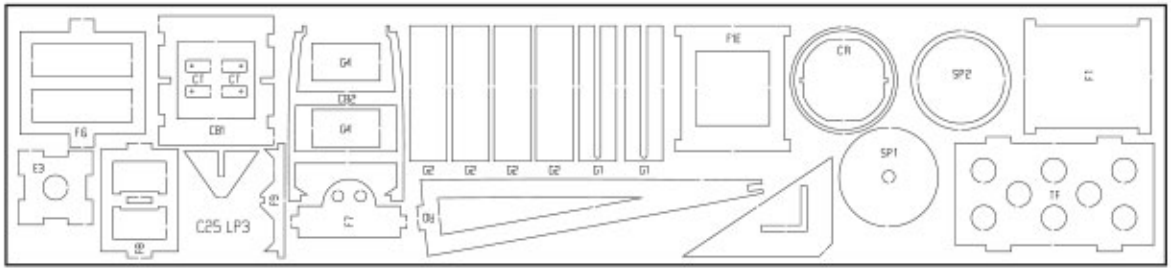
LP1
1/8" Lite Ply



LP2
1/8" Lite Ply

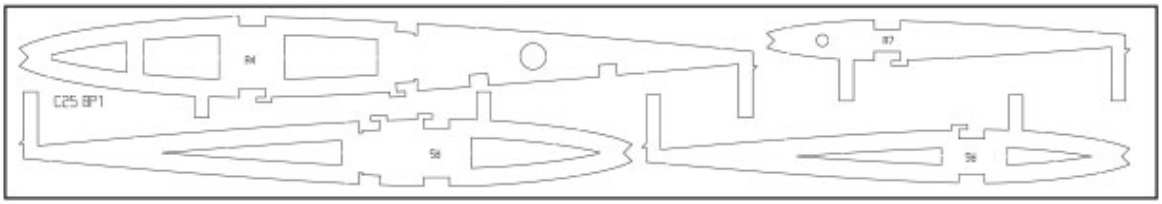


LP3
1/8" Lite Ply

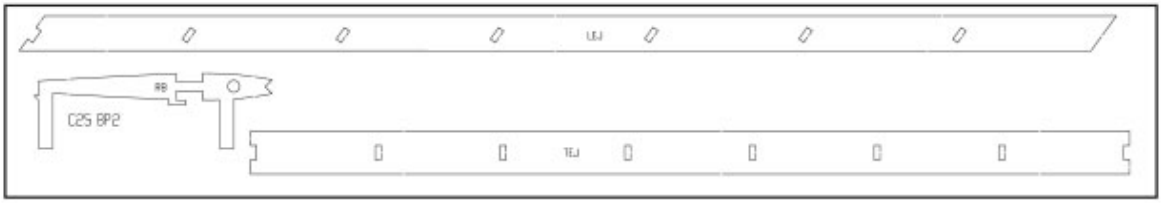


LP4
1/16" Ply

BP1 1/8" Balsa



BP2 1/8" Balsa



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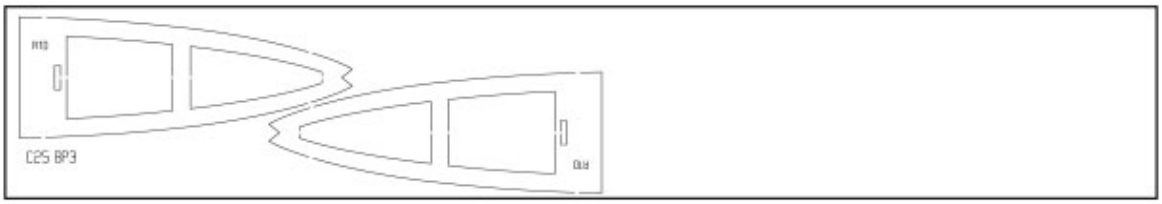
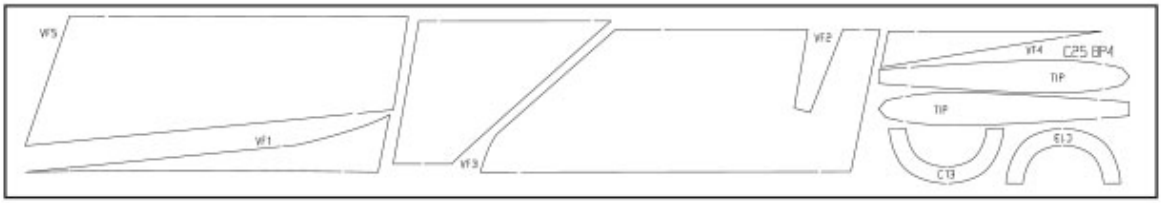
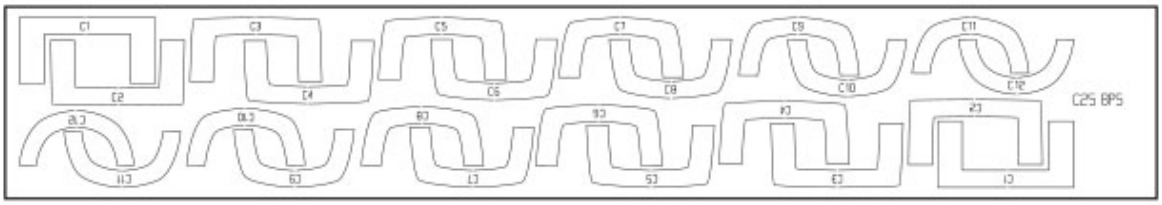


BP4 1/4" Balsa



BP5 1/4" Balsa



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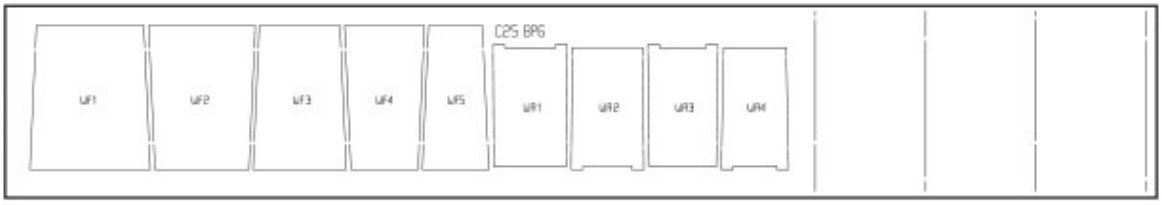
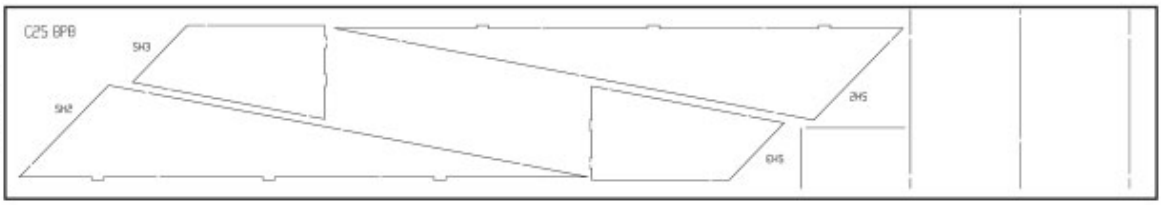


BP7 1/16" Balsa



BP8 1/16" Balsa

BP9 1/16" Balsa