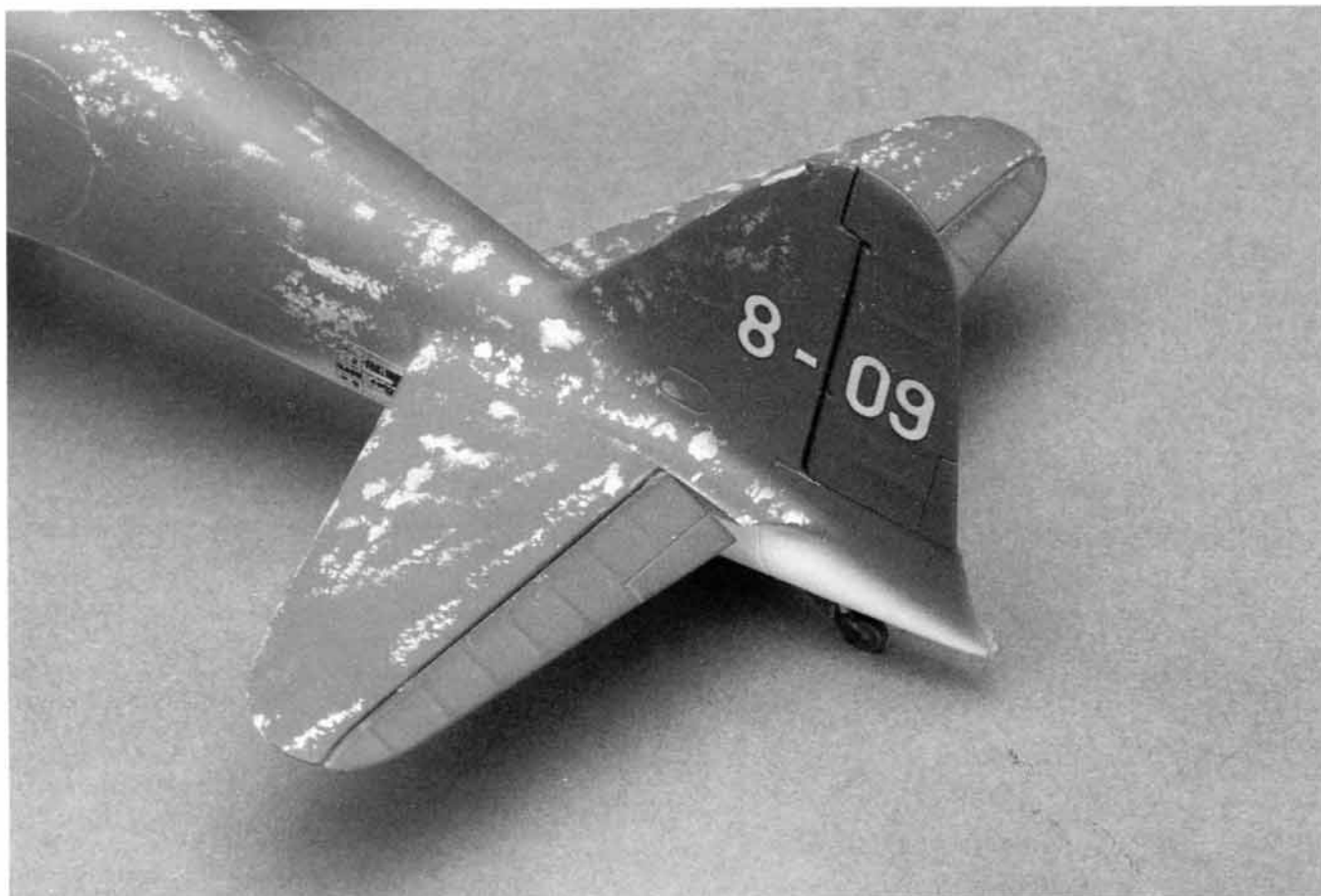


REMOVING & REATTACHING PARTS



Removing and reattaching control surfaces adds realism to Hasegawa's 1/48 scale Zero.
(Model by Major Billy Crisler, USAF.)

The overall appearance of model aircraft can be greatly enhanced by removing and reattaching control surfaces, flaps, hatches, and access panels. Real aircraft—especially military aircraft—are in constant use and are continually being cleaned, serviced, and repaired. They are seldom found with all control surfaces in the neutral position, flaps retracted, all hatches closed, and access panels attached.

Removing parts, especially the control surfaces, is time-consuming. It takes a lot of finishing work to get them just right. Filling in voids created by cutting out the parts, adding interior detail, replacing hinges, and

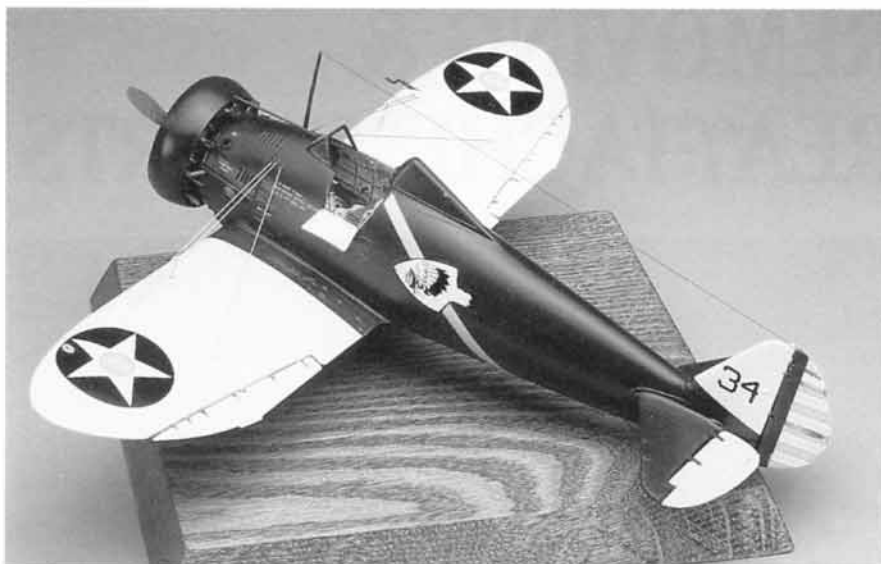
fixing spacing problems all take time, but if you follow the techniques presented here and build on them as you gain experience, you will soon find yourself cutting out parts on almost every model you build.

CONTROL SURFACES

The difficulty of removing and reattaching ailerons, rudders, and elevators depends on the scale of the model, how it's constructed, and whether you will cut through or around the hinges. Before you try to remove control surfaces, review documentation to see how much spacing there is between the control surfaces

and wings. Also note their positioning and how much movement they have. Typically, elevators and rudders have pronounced movement on most aircraft, while the design of ailerons varies greatly.

Plan how you are going to remove parts. On most aircraft the spacing between control surfaces and wing attachment locations is small, so remove as little plastic as possible. Control surfaces on large scale aircraft usually require much more work than smaller scale kits, because on large scale kits hinges are large enough to be noticed if they are missing. On kits 1/72 scale and smaller



(Left) Reproducing the hinge detail on Hasegawa's 1/32 scale Peashooter was easy, thanks to Evergreen's selection of various sizes of plastic strips.

(Center) The elevator control surfaces on Monogram's B-25 were cut out with a scribe and thin razor saw. Large hinges are best left alone, while smaller ones can be easily replaced.



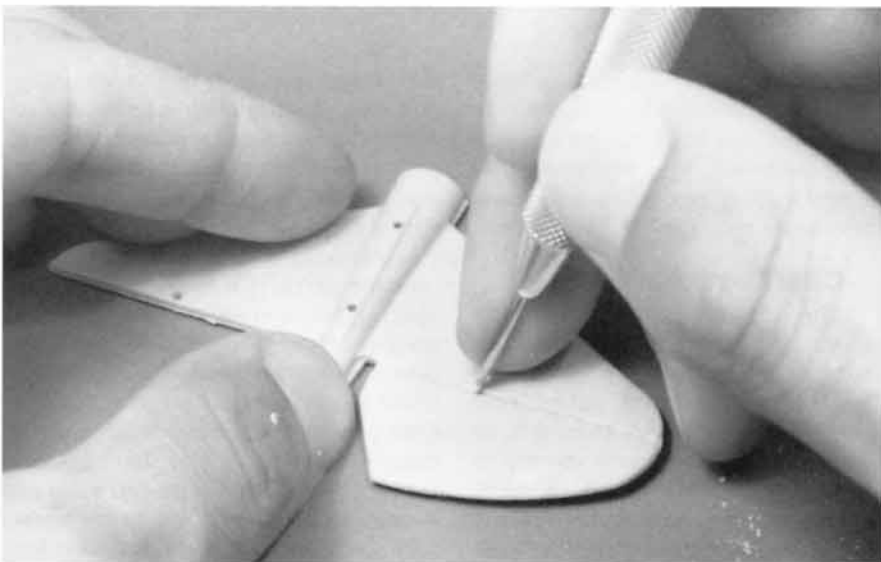
they are so small that replacing them may not be necessary.

Start by removing the rudder, then the elevators, and finally the ailerons. Don't remove them all at once, as the amount of work required to refinish all the parts may seem overwhelming. If you mark the control surfaces as you remove them you will know which aileron or elevator goes with what wing. When removing control surfaces, glue the halves together first to ensure that wings, fuselage areas, and control surfaces have the correct contours.

Control surfaces are almost always engraved, which makes them easy to cut out—the channels formed by engraving makes scribing and cutting easy. The tools of choice are a scribe, scribing needle, razor saw, and a jeweler's saw. Before cutting, protect the surrounding plastic with one or two layers of masking tape.

For control surfaces, check the hinges to see if it will be easier to cut through or around them. If they are thin and short and don't protrude into the control surface very far, cut through them. This makes scribing easier because you are not cutting around small details. If you cut through the hinges, use a straightedge as a guide for the first few runs. Once you match the engraving depth you can cut along the entire length.

If the hinges are long, like those on the rudder of a 1/48 scale B-29, you may want to cut around them. If you cut through them and glue on a new hinge, you must treat it carefully, especially if you have to sand, scrape, or file it. A long piece of plastic with a small area for gluing tends to snap off.



Even a simple scribing needle can remove control surfaces. To achieve clean cuts, be sure the tip is sharp.

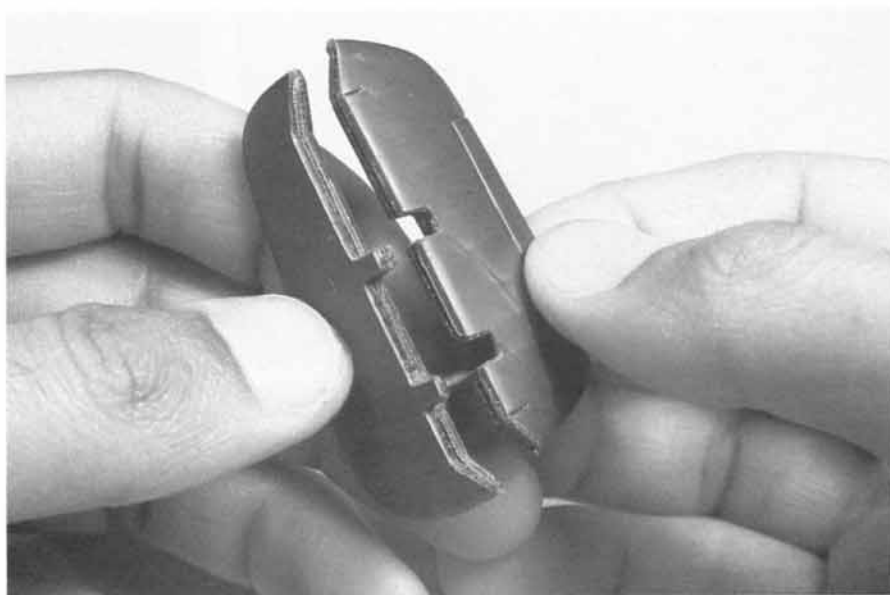
Hold the scriber firmly and maintain positive control. It's easy to run past the engraved channel and gouge the surrounding plastic. You may have to vary the angle between the scriber and the surface of the plastic to prevent it from binding. If you are using a scribing needle, make sure it's sharp, hold the tool at approximately 45 degrees to the surface of the plastic, and move it in one direction along the engraved channel. If you are going to cut through hinges, use a scriber. If you're cutting around hinges, stick with a scribing needle. The scribing needle takes longer to cut through plastic and requires more cleanup, but it works better around sharp corners.

During the first few passes, the scribing tool may stop and start until it cuts into the plastic. Run it along channels in one direction. When the channels are deep enough (a matter of judgment) work the corners and deepen them until the tool runs smoothly as it changes direction. As you get closer to cutting through the plastic, it will turn white along the scribing line.

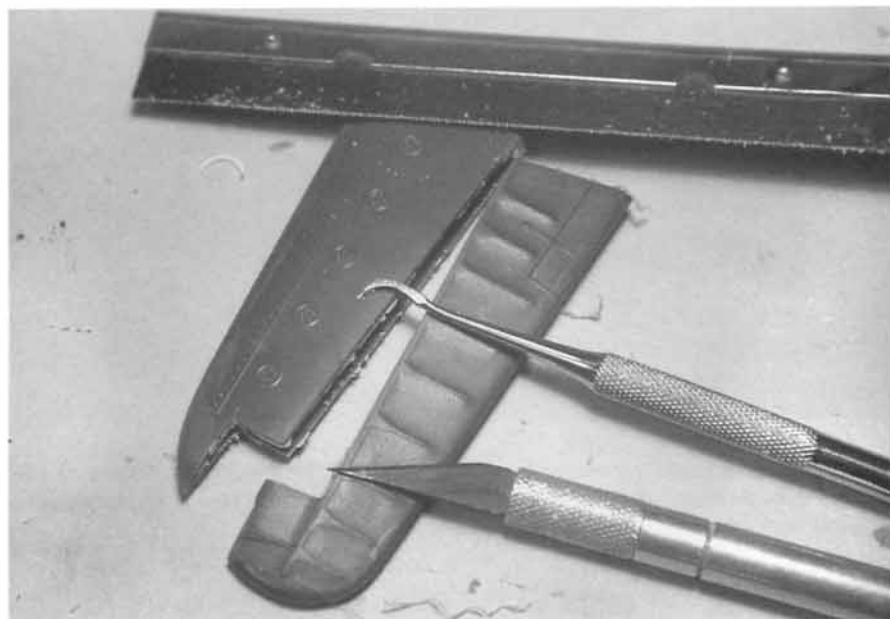
The depth of the scribing line won't be uniform, and the tip may completely cut through sections, causing the scribing tool to bind. When this happens, reduce the pressure and decrease the angle between the tool and the surface. Cut through the plastic on one side only, then turn it over and repeat the process on the opposite side.

While you would probably do this as a matter of course with 1/32 and 1/48 scale kits, there is a temptation to cut all the way through from one side with 1/72 scale kits. Avoid doing so, because the engravings for control surfaces are sometimes not lined up exactly on the upper and lower wings. While this can easily be corrected with strip stock after you complete the cuts, it is difficult if some of the control surface as well as the engraved channel is still attached to one side of the wing area, which is what might happen if you cut all the way through from one side.

Don't try to snap the plastic on control surfaces because the plastic around hinges won't give as easily as a straight line would. Snapping the part may break the hinges. It can also



Cutting all the way through the thick rudder as well as around the hinges on this 1/48 scale part wasn't difficult, but it did take some time.



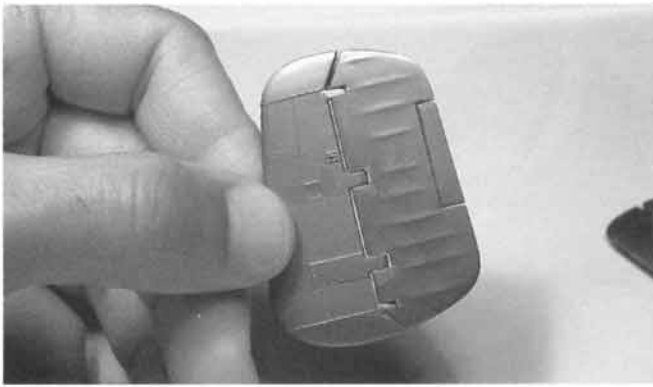
A razor saw cut through the end of this control surface while the scriber did the rest. Once the parts were separated, an X-acto knife was used to clean the excess plastic from the newly cut edges.

cause edges to be angled, which means additional work when parts don't fit back into their locations.

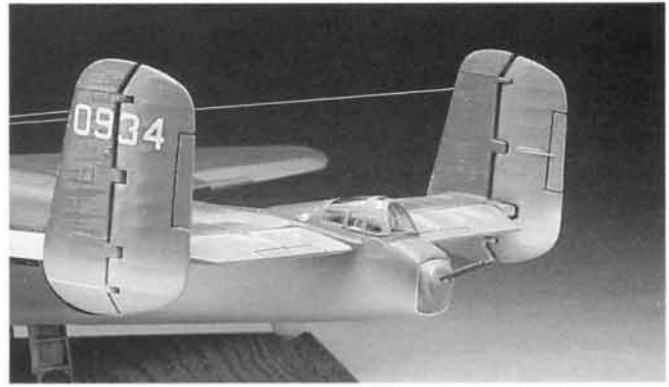
Razor saws or jeweler's saws can be used for cutting short lengths such as the ends of control surfaces or the sides of control tabs. To ensure that the saw blade does not migrate away from the intended cut line, scribe a

deep channel for it to follow. I have had some bad experiences using a jeweler's saw to cut long lengths, so I recommend confining it to small jobs.

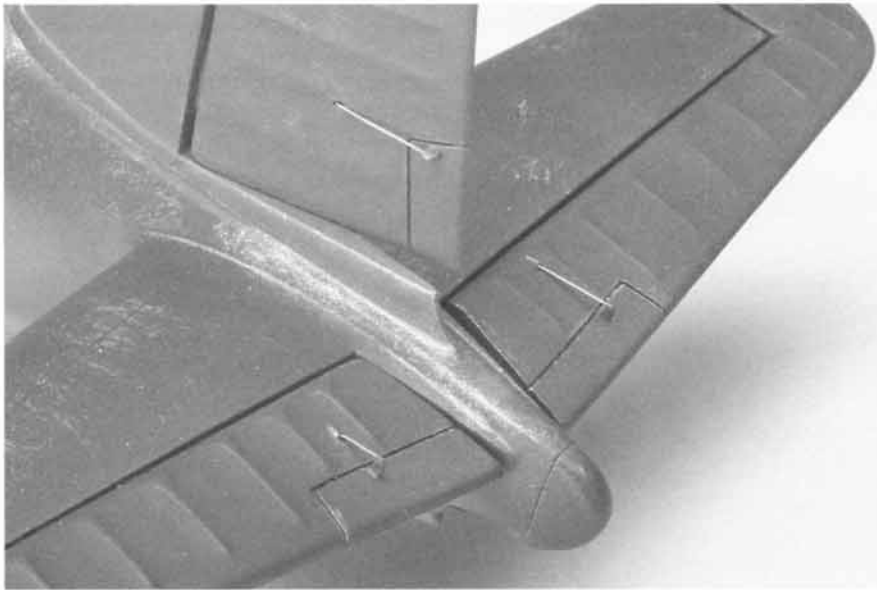
Trim tabs, which are really small control surfaces attached to larger control surfaces, usually need outlines engraved deeper to stand out more. Cut through the sides of trim



The top and bottom areas of this trim tab were cut with a jeweler's saw. The scribed detail was deepened, so the tab could be bent.



The finished tail surface on this Monogram's 1/48 scale B-25J clearly shows how repositioning control tabs adds another level of realism to a model.

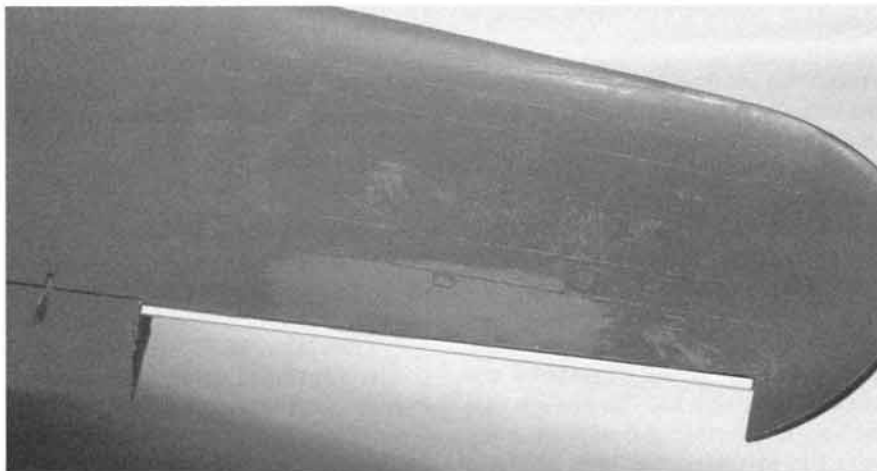


I deepened the control tab engravings on Revell's 1/32 scale Corsair instead of cutting the ends through. With the addition of control horns and cables, the control tabs look like they are ready to move at any moment.

tabs with a razor saw or a jeweler's saw, but don't remove them; the trim tab can be easily bent into a more realistic up/down or left/right position after the engraving along the length of the control tab is deepened. Be sure to deepen the engraving on both sides. Many manufacturers mold control surface cables for the control tabs onto the wing. To add realism, remove the molded-on detail, drill a hole into the wing where the cable emerges, and add a small stub on the control horn made from strip stock. Slip thin electronics wire into the hole in the wing and attach it to the stub with Elmer's glue.

SPACING PROBLEMS WITH CONTROL SURFACES

After cutting out the control surfaces, clean up the cut lines and remove excess plastic. Check the fit between the wing and control surface and especially between hinges and hinge openings. You will find spacing at these locations that must be filled, particularly at hinges. The spaces resulted when plastic was removed by scribing and cutting. If the engraving lines on the upper and lower wing



If the aileron control surface on Monogram's 1/48 scale B-25 had been completely cut through from the top of the wing, a section of the lower control surface would still be attached to the wing and would make repairs difficult. The solution on this wing was easy because the aileron was cut through from both sides.

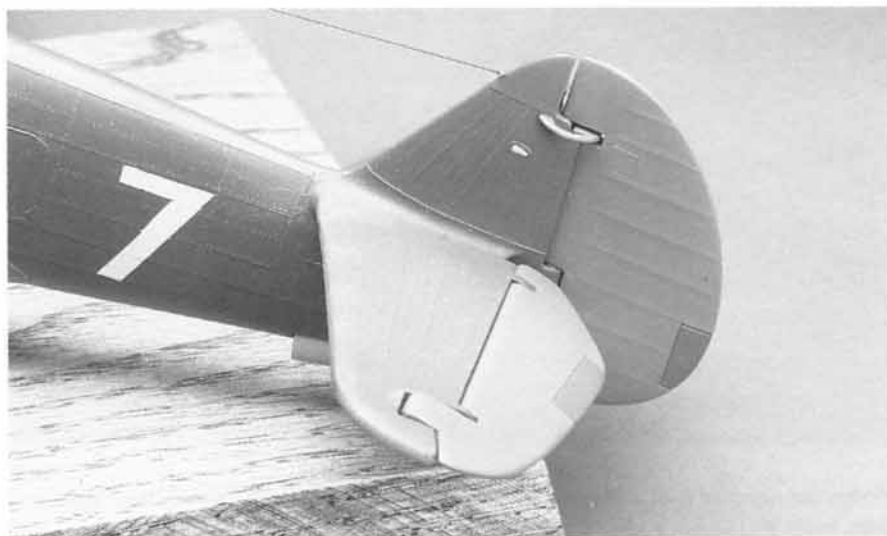
surfaces were not lined up, add strip stock to even out the opening on one side while removing plastic on the other. I usually add the strip stock to the wing and then run the control surface across sandpaper to even up the edges.

Spacing problems between control surfaces and wings can also be a problem with kits that supply separate control surfaces. Kits such as Revell's 1/32 scale Spitfire and P-40 Warhawk and Matchbox's 1/32 scale Bf 109 have such problems; they can be easily fixed the same way.

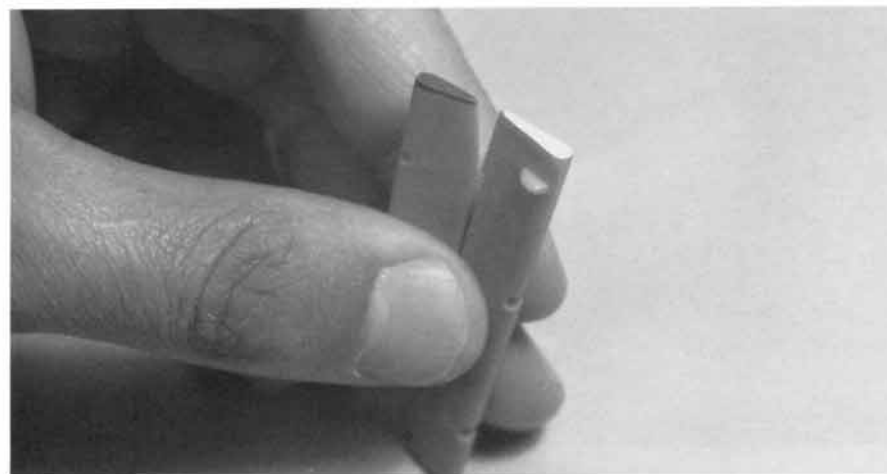
Control surfaces should fit snugly. There should be no space between hinges and hinge openings, little spacing along the leading edge of the control surface and the wing, and no space on the ends. In most cases the spacing can be easily filled. Use strip stock if the spacing is along the length of the control surface, and sheeting if it is along a hinge or at the ends of the control panel.

To determine what size plastic strip or sheeting you need, position the control surface and secure it with tape. Start adding pieces of plastic where a space must be filled. Normally you can find strip stock or sheeting close to the size you need. It is always easier to use a larger size and sand it down than to build up the area. It may be necessary to stack several thicknesses to get the correct size, and sometimes you will have to sand it down after you attach it.

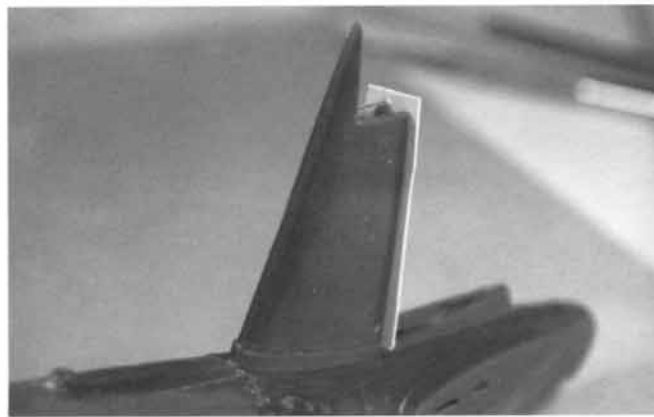
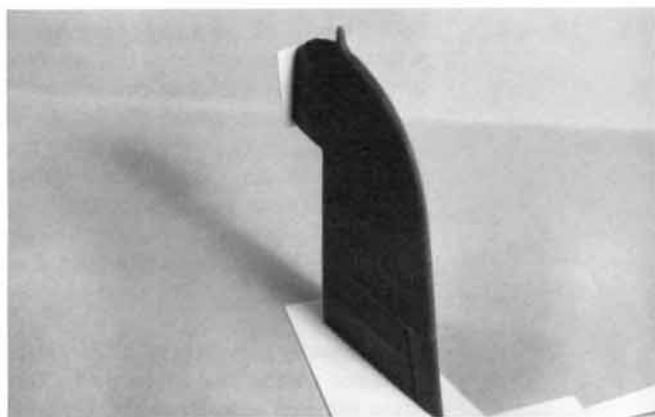
Don't try to get all the spacing resolved at once. It's too easy to mix things up. Start by getting the positioning of the control surface correct



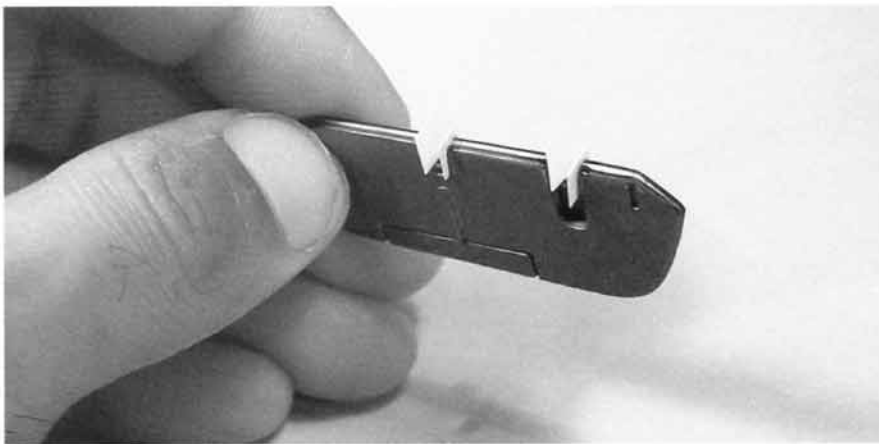
Revell's 1/32 scale P-40 is a good kit, but there are spacing problems on the already detached control surfaces. They can easily be fixed with some Evergreen sheet stock and super glue.



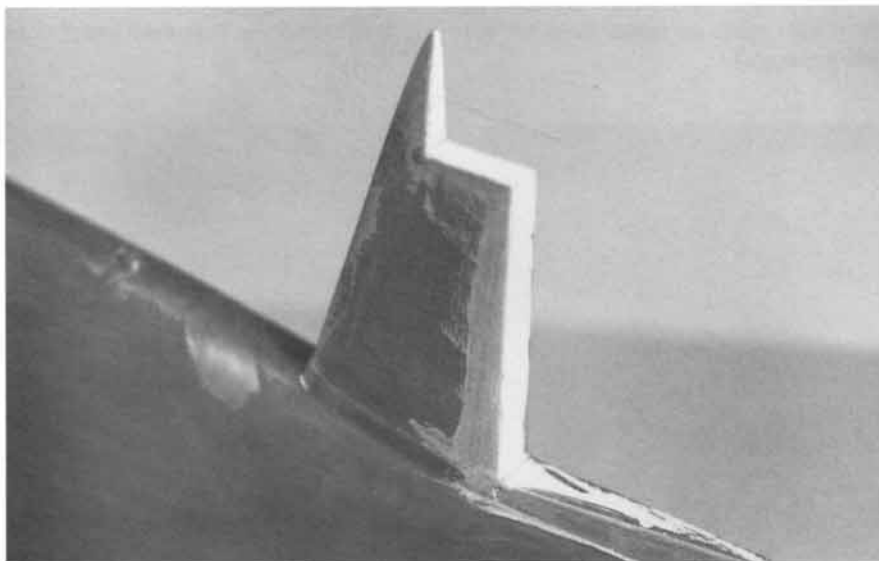
Sheet stock was added to the ends of the ailerons on Monogram's 1/32 scale F3F for a tight fit.



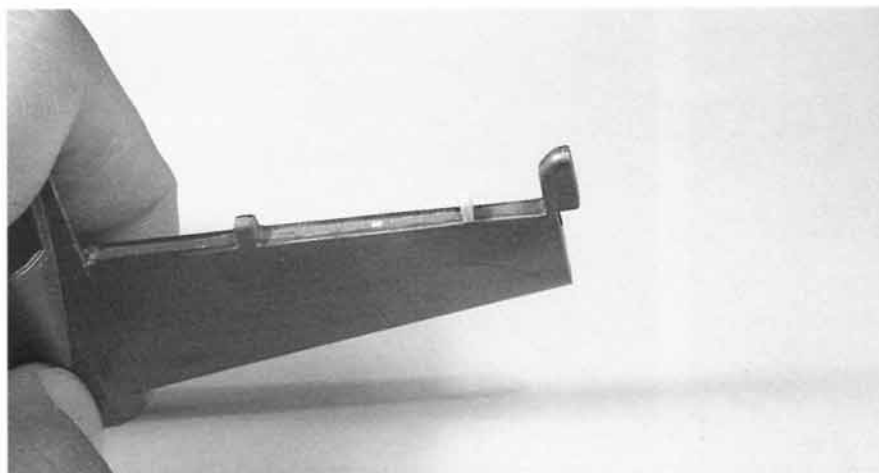
It's easier to work with oversized sheet stock than to try to measure and cut an exact size.



Fixing the spacing problems on small parts with hinges might seem overwhelming at first, but if you take it a step at a time, it's no big deal.



The vertical stabilizer on this Corsair has been completed and silver paint was used to detect cracks or flaws. Super glue will be added to any problem areas and after sanding the paint will be removed with Polly-S paint and decal remover.



by adding plastic sheeting to the ends. Then you can set the control surface into place without having to tape each time. For a rudder, do the bottom and uppermost hinge contact surface area so it will stay in place.

Once the ends are complete and positioning is correct, add strip stock to the edge of the wing to reduce spacing, then start on hinges or hinge openings. If the openings are uniform it really doesn't matter where you add sheeting. The sheets for the hinges will be small, which makes applying them a tedious process, especially if you must add plastic to the front of the hinge.

In most cases it's easier to glue a piece of oversized sheeting to its location and form-fit it. Attach all sheeting with white tube super glue applied with the thin wire applicator. After the glue dries and you have cut and sanded the plastic sheet to shape, run a bead of glue around the edge. Although you will have to sand again, applying the second coat will ensure that the sheeting is completely blended in with the plastic and that no cracks remain. Attaching the sheeting becomes almost intuitive as you gain experience. You will soon be able to judge a part and determine the best and easiest location for placement of the plastic and be able to control the appearance of hinges and hinge openings. After you have fixed all the spacing problems, apply silver paint to detect flaws. If you find problems, simply add super glue and refinish.

FILLING VOIDS

Whenever you remove a control surface you will have a void in the wing and the control surface that must be filled or covered. Areas where hinges are located should already be covered, but you still need to do something along the length of the opening on the wing and along the control surface. When you remove control surfaces you weaken the wing and the plastic may sag along the center of the area where the part was

If you have to use putty as a filler, place a plastic wedge inside the part. This gives the part extra strength, prevents the surface from flexing, and preserves the shape.

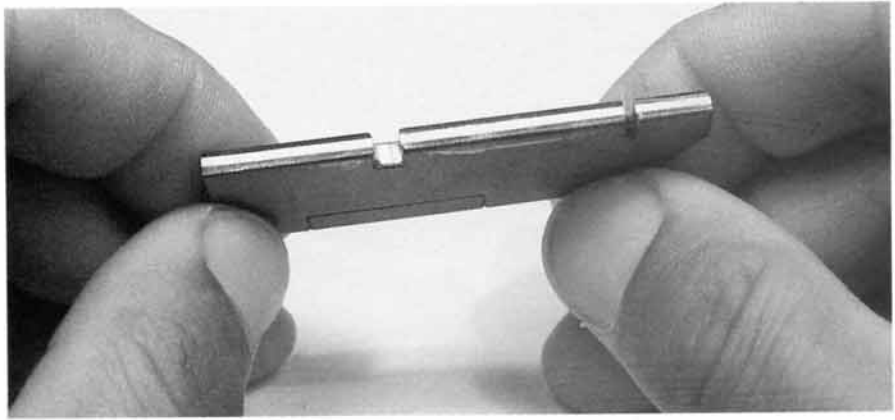
removed. Filling these voids adds strength and prevents sagging. There are several options for filling voids, including using plastic strip stock, plastic sheeting, thick gel super glue, or two-part resin. The type of filler will depend on the scale of the model and the depth and size of the opening.

If you are working with a 1/72 scale kit you can cover the voids on the wing and control surface with small strip stock or thin sheeting. If you use strip stock you will have to form-fit the lengths into place. If you are using sheeting you can cut an approximate length, glue it in place, and cut and sand to the correct shape. Be careful not to ruin the shape of the hinge on the wing or the hinge opening on the control surface. Always use super glue to attach the plastic and fill in any cracks.

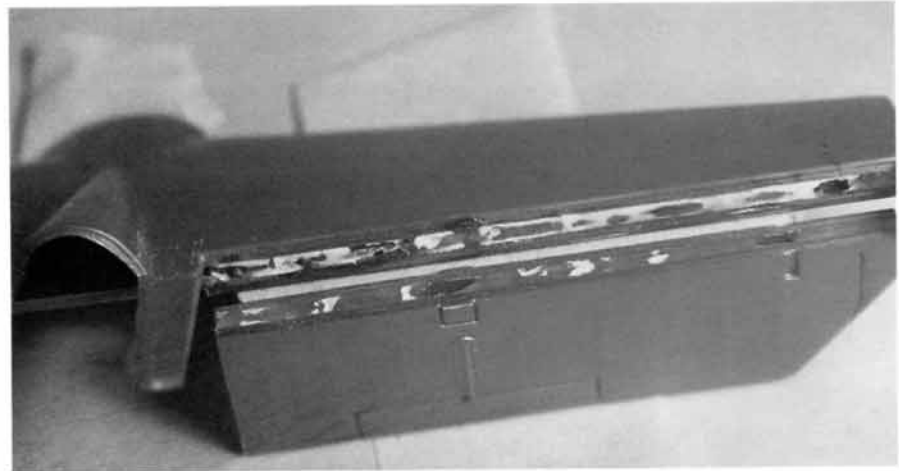
To fill in the interior area of the wing or control surface to give the area some extra strength, squeeze thick gel super glue into the void and add accelerator. The quick gel will appear to defy gravity. I have had good success applying it over an opening as large as 1/8 inch (31.8 mm). Use a flat-tipped X-Acto blade to smooth out the glue before adding the accelerator.

If you are working with 1/32 scale kits, fill the control surface voids and tail surfaces with two-part resin. Two-part resin fills voids completely and easily and adds strength. With 1/32 scale parts the seams on control and tail surfaces will crack as you sand, scrape, and shape them because the parts are big and the contact surfaces that hold them together are small. Resin prevents this from happening.

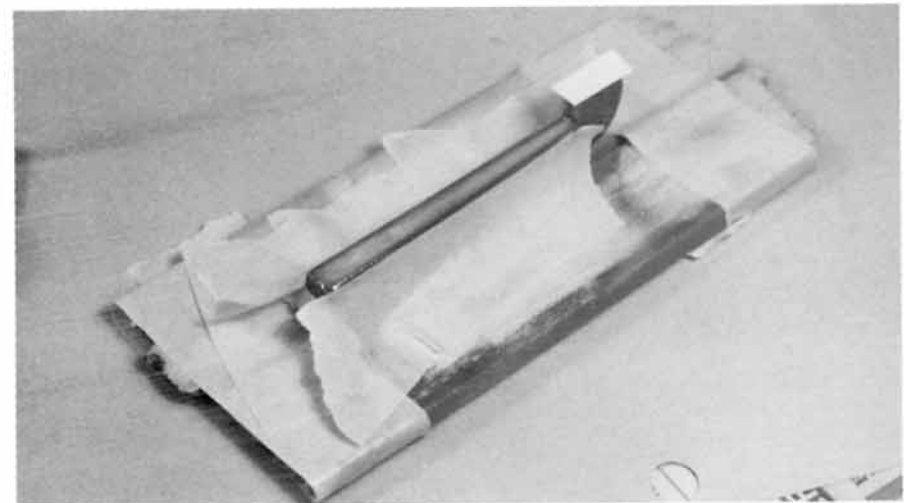
To apply it, be sure the seams are sealed and mask along the edge of the opening, covering the entire surface of the part. This will prevent overflow resin from sticking to the surface. Mask the part between two pieces of balsa wood. Be sure it is level so resin will not flow out one side. The wood will act as the stand while you pour the resin. The plastic will get hot as the resin cures; you can reduce the heat by applying a small ice pack to the sides of the plastic. The resin will not stick to the plastic well, and if you were to break the control surface in two you would have a perfect casting of its interior. If the



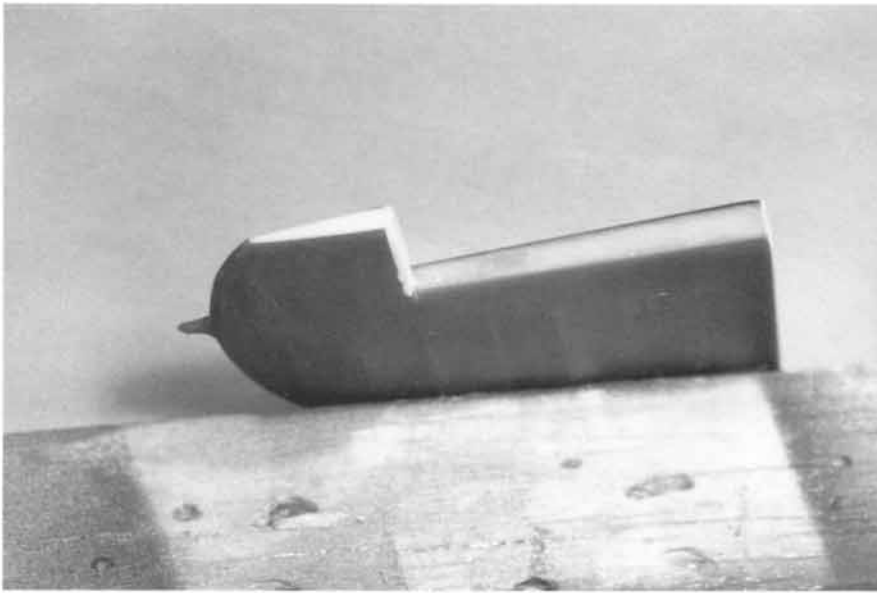
Plastic strip stock makes an excellent filler in areas where there are no protrusions like hinges.



Duro's Quick Gel super glue makes an excellent filler and the glue can be sanded and shaped. The white coloring on the glue is caused by the accelerator.

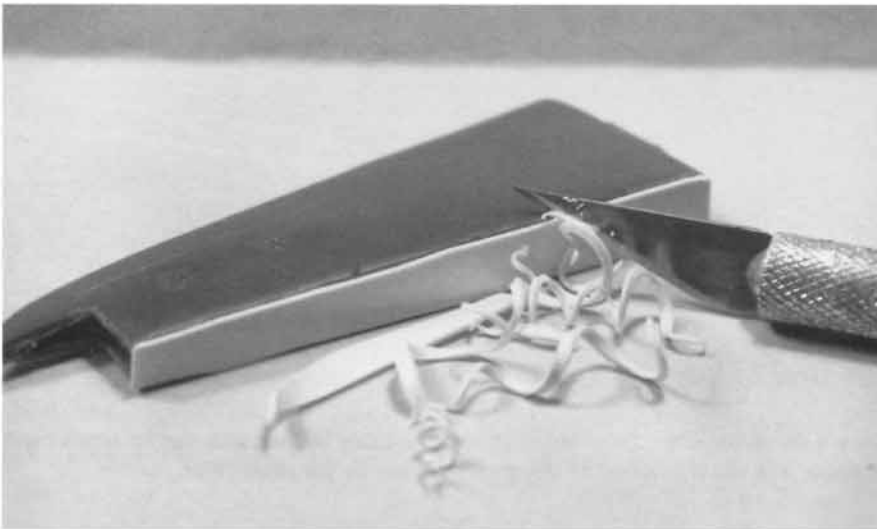


This control surface was filled with two-part casting resin. Masking tape prevents spillover resin from attaching to the plastic. Resin is the best filler because it adds weight and increases strength in hollow parts, especially on 1/24 and 1/32 scale kits.



(Left) The resin on this part has been sanded and shaped by running it across a stationary piece of sandpaper. To protect the surface detail on the part, cover it with masking tape.

(Center) Oversized sheet stock can be trimmed down to its approximate size with a #11 X-Acto blade and then sanded and shaped.



opening is large I sometimes insert a piece of strip stock in the center of the void and glue it in place. After the glue has dried I pour the resin into the void. The strip stock prevents the hardened resin from moving or separating from the interior surface.

Once the resin has dried you can sand and shape it any way you want. You can use resin in combination with both strip stock and sheeting. Reserve the plastic for covering small areas, but use thick enough stock to sand and shape it.

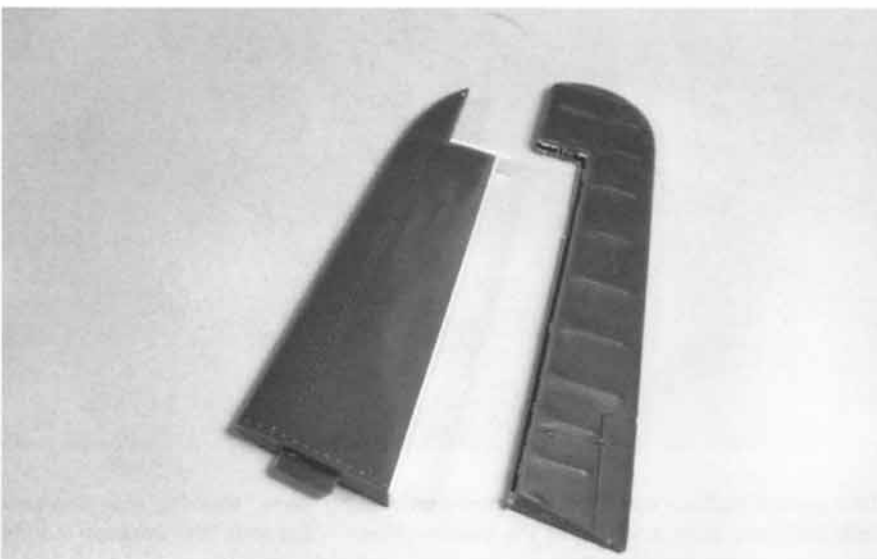
For wing openings, form-fit sections of sheet stock into place and glue them. Once the glue is dry, sand and shape the sheeting so it's flush with the wing. If the wing flexes and you want to add strength, pile some quick gel super glue inside until it touches both inner surfaces and add accelerator. Another method is to insert some wedges into the interior of the wing and glue them into place. As you fill in the voids, check your work frequently by fitting the control surface into its location.

As a final step, round off the leading edges so they are contoured correctly by running them along sandpaper while you rotate the part. A few passes on both sides will do it.

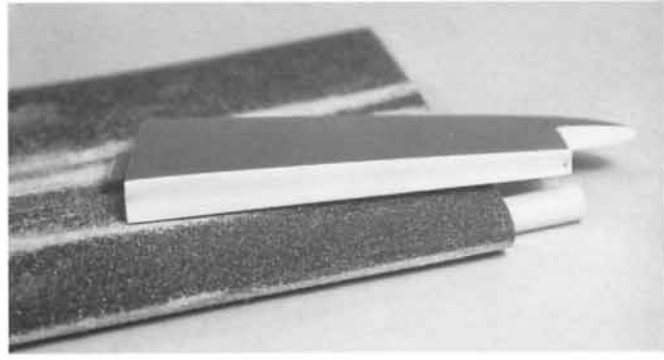
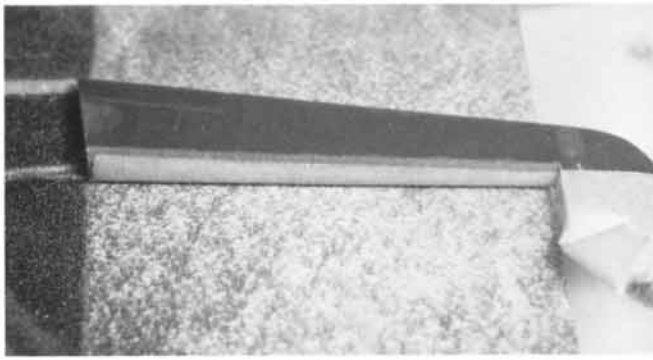
REPLACING HINGES

Even if you can cut around the engraved hinges of control surfaces you may still find yourself replacing them. Sometimes no matter how careful you are when cutting, hinges get ruined or snap off.

When you are ready to start



As you add sheet stock, check the fit on the wing and control surface. Be sure to duplicate the placement and positioning of sheet stock on elevators and ailerons so the parts will match.



On a Corsair the elevators have rounded leading edges and the tail surface has an indented semicircular shape. To duplicate these surface arrangements, run the tail across a dowel covered with sandpaper.

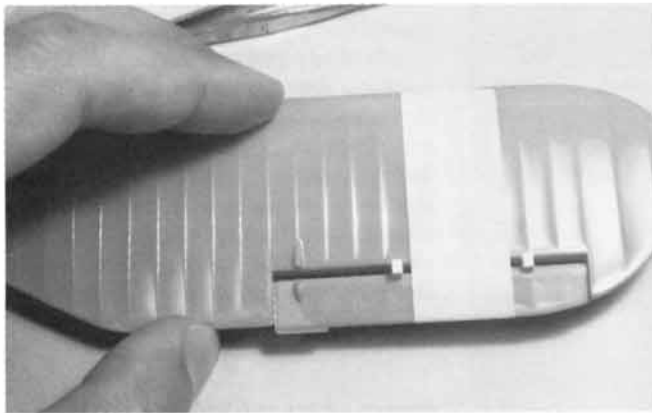
replacing hinges, position the control surface and select the plastic stock that most closely approximates the hinge opening size. Don't try to shape the size of the plastic stock until after you attach it. Start with a slightly larger size and sand it down. This is a repetitive process; it is important to do hinges one at a time to ensure a proper fit. Sometimes the plastic stock is an almost-perfect fit. In these cases, remove the necessary plastic and slide the stock into the hinge opening to check the fit.

Carefully apply a small drop of white tube super glue where the hinges contact the wing surface. Remove the control surface after the glue dries. Next run a bead of super glue along the perimeter of each hinge.

When all the hinges associated with a control surface are in place, be sure they line up and cut them to

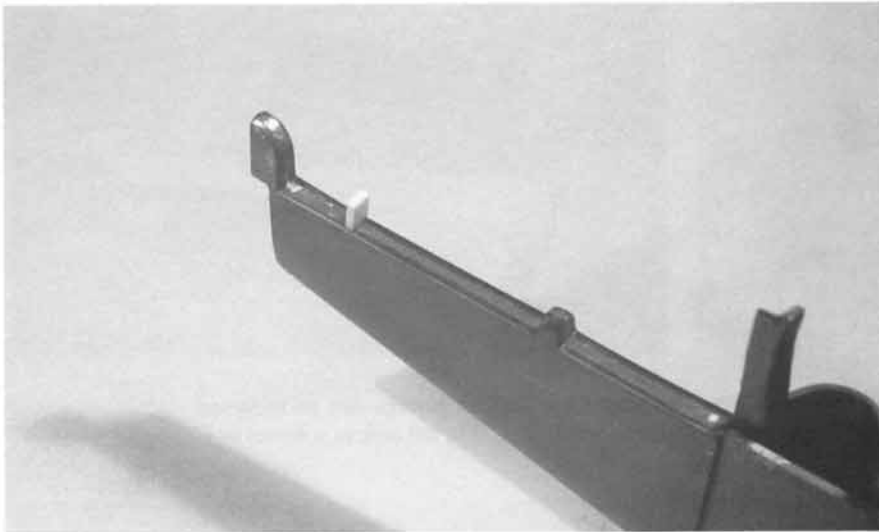


The completed tail surface on Revell's 1/32 scale Corsair has all resin filled parts. The control surfaces fit snugly against their wing surfaces—thanks to careful sanding and form-fitting.

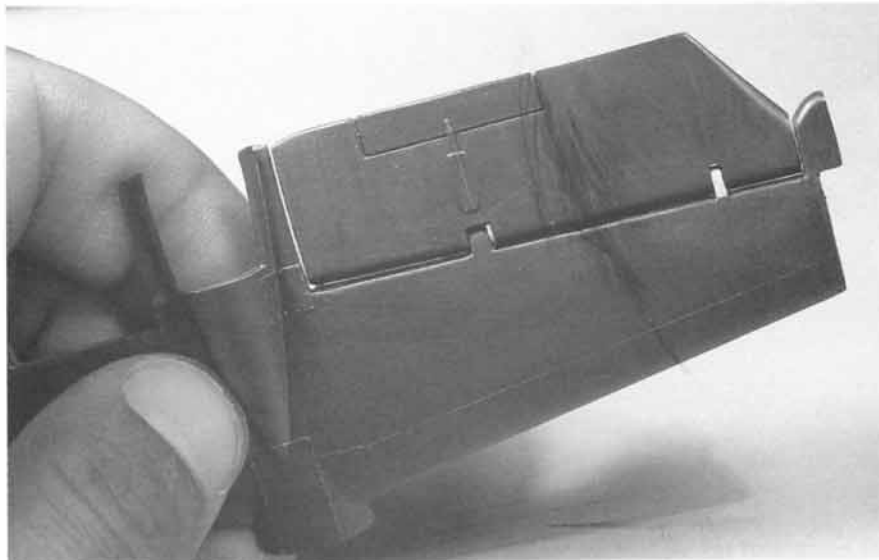


Micro files were used to cut and shape the hinge locations on this F3F aileron. The size of the opening on the aileron matches the strip stock size that will be used as a hinge.

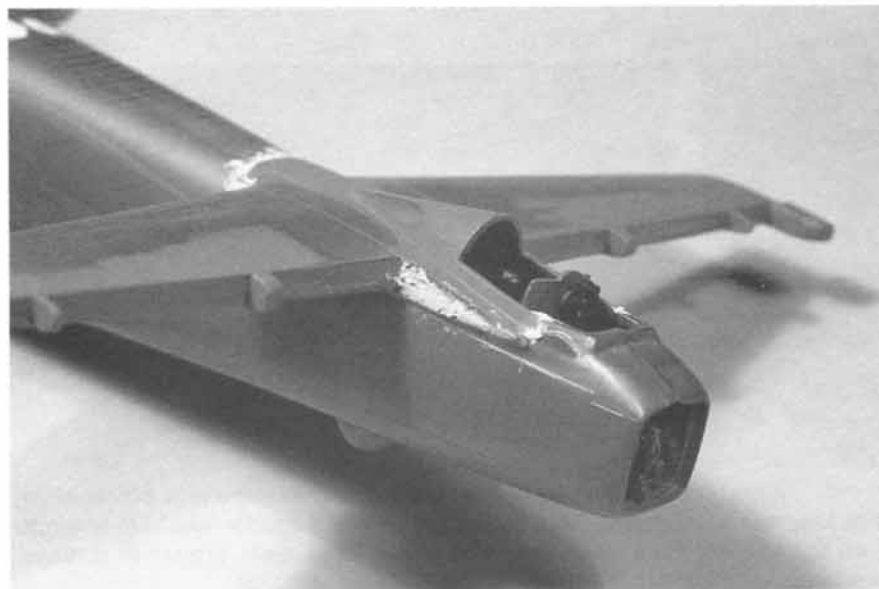
Always run a bead of super glue around the edge of each piece of strip stock before you cut and shape for maximum strength, and fill all cracks or voids. Once again, protect all surfaces before you start cutting.



(Left) Long hinges on small scale kits need to be handled carefully due to the small gluing contact surface.



(Center) As you add hinges and plastic sheeting to fill voids, check and recheck your work. Then you won't end up having to reposition a hinge.



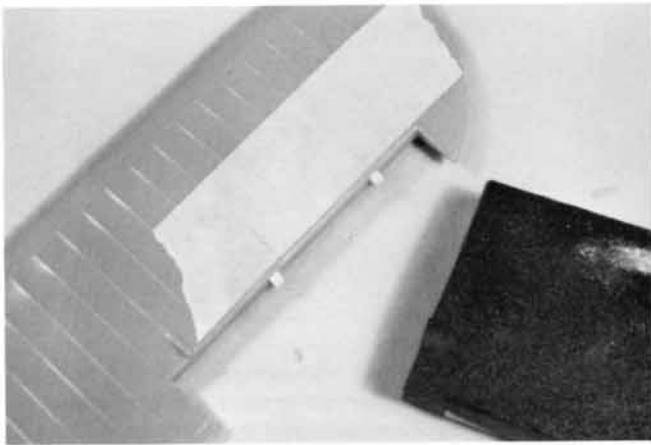
their proper lengths by masking the surrounding wing surface and cutting the plastic that protrudes above with a razor saw. If the plastic strip is small, position the wing or fuselage onto a small hard block of wood so the hinge will be in contact with the wood base. This is where these small hardwood sanding blocks come in handy. Cut the excess plastic with a #11 X-Acto blade by placing the knife blade on the backside of the plastic and cutting toward the wood block. This will keep you from putting stress on the glue joint. After you have finished cutting, apply a drop of super glue where the hinge contacts the wing to seal it and provide a good surface for sanding and shaping.

When you are ready to shape the hinges, mask the wing area to protect surrounding surface detail. Sand the hinges flush with the wing using a small sanding block wrapped in sandpaper. To ensure that no seams remain between the hinge and the attachment area, apply silver paint. If you find flaws, apply more super glue and sand smooth.

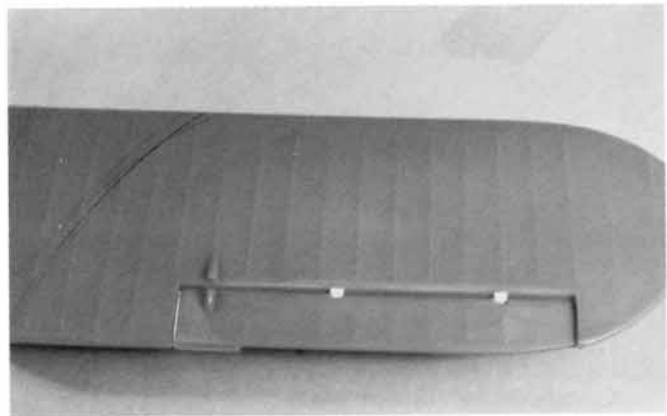
Hinges have round edges, and this shape is easy to achieve with a sanding block. The trick is to give all the hinges the same contoured appearance.

It does not take much contact between the sandpaper and the plastic to round off edges, so go slowly and check your work as you progress. Sanding with a rotating motion, it usually takes no more than two or three strokes to round off the edge. When you are finished, run an X-Acto blade along the edges to remove any residual plastic.

Always check for flaws as a last step prior to painting. Silver paint or gray primer can be used as a flaw detector, but be sure to remove it before the final painting.



Edges on hinges can be rounded with sandpaper wrapped around a small sanding block. Rotate the sanding block as you move it across the hinge.

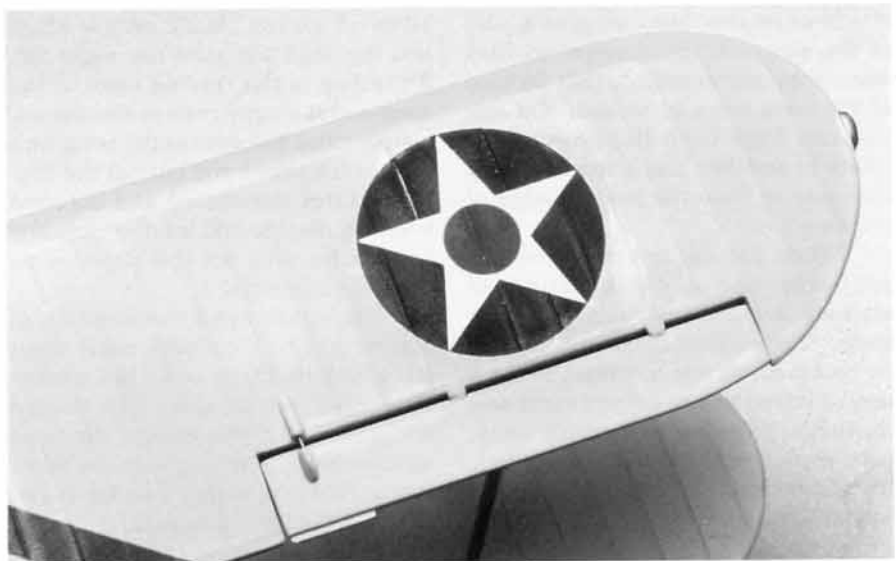


The aileron on Monogram's 1/32 scale F3F is finally ready for painting. Note that sheet plastic has been added to both sides of the aileron and the rounded edges of the hinges are no higher than the aileron's surface.

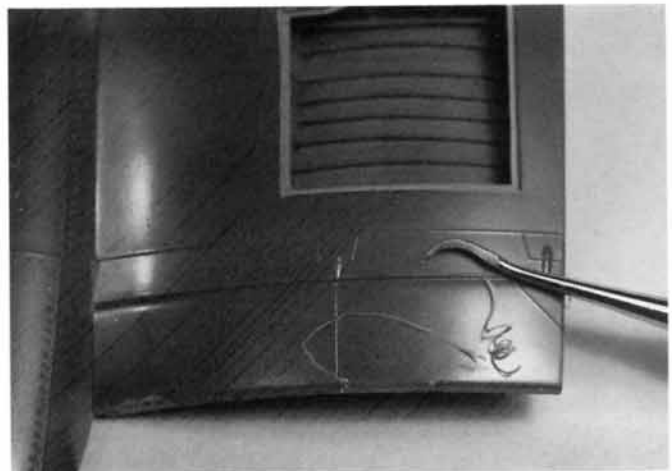
The aileron on this F3F looks as though it is about to move thanks to some extra plastic and a little elbow grease. Note the added control cable. These small details greatly enhance realism.

FLAPS

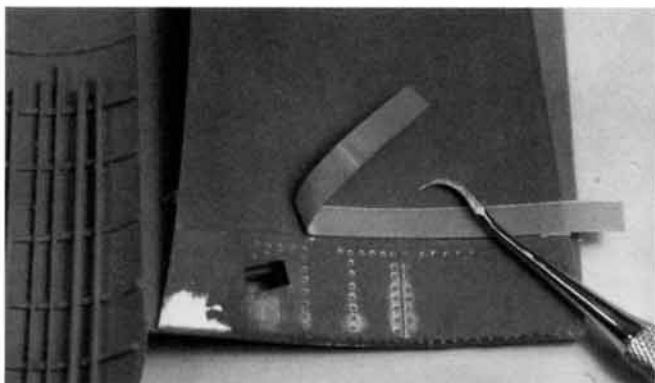
There is a fundamental difference between removing control surfaces and removing flaps. Control surfaces are removed after the wing halves are glued together, while flaps can be removed either before or after the halves are glued. In either case, use the same techniques for removing flaps as you used for removing control surfaces. On large aircraft, such



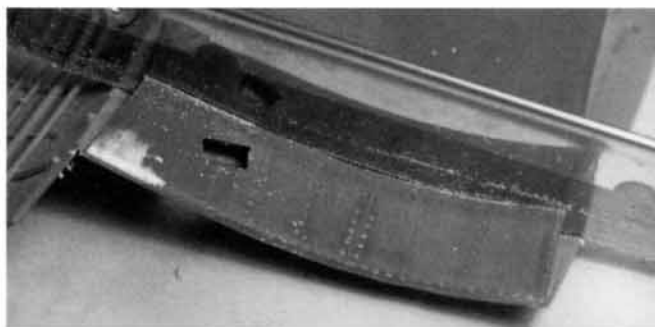
The repositioned flaps and slats on Monogram's 1/48 scale Prowler makes a world of difference in the kit's appearance. Adding these types of details is what modeling is all about—taking a good kit and making it better. (Model by Scott Weller.)



If the flap has an engraved channel, the easiest way to cut through the plastic is to use a scribe.



If the flap has no engraved channel, like the upper flap detail on Revell's Corsair, use labeling tape to guide the scribe.



Sometimes you can get away with using a razor saw to speed up your work, but it is important to have a cutting guide. In this case the scribe cut a channel and the job was finished with the saw.

as two-and four-engine bombers, flaps are usually on the lower wing. On propeller-driven fighters flaps can be either on the lower wing or a part of the entire trailing edge, so that when they are actuated, that section of the wing actually moves. On jets you can have both flaps and slats. (Slats is another name for the flaps that extend from the leading edge of the wing.)

When you cut out flaps you will probably use a combination of scribes, a razor saw, and an X-Acto knife. The surface detail will usually be recessed, so use a scribe to get a deep channel before using a razor saw to finish. When a saw won't work, take your time and use the scribe. On some kits the flaps are outlined with raised detail. In these instances,

use labeling tape as a guide and cut along the raised line with a scribe.

Once the parts are removed, clean off excess plastic on the wings and the flaps and sand the edges flat. If the flap is the trailing edge of the wing and it simply rotates downward, simply close the void in the wing with strip stock where you cut out the flap. If it rotates downward and outward you may need to add interior detailing such as framing, but this depends on how far you extend it.

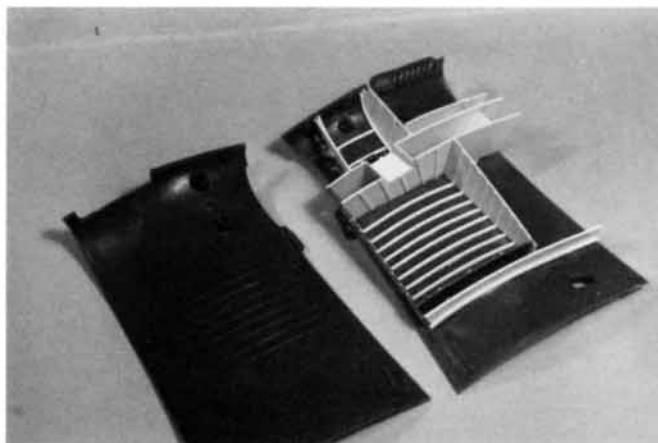
Flaps also need the addition of plastic stock. The sides need sheet stock and the front will need thicker strip stock, which should be sanded and shaped. If you extend the flaps far enough, you will expose the flap's rod actuators, which can be easily duplicated with plastic rod.

If the flaps are part of the lower wing, you may have to add interior framing using the same techniques as framing the inside of a cockpit. Framing can be duplicated with plastic strips placed at equal intervals along the length of the underside of the flap and the inside of the wing. The size of the strips should appear to be in scale. When you are ready to add framing, cut the number you will need and add about an inch to each strip to make them easy to position. After the strips are applied, cut them flush with the edges and contour the trailing edges of the framing by running the edge of a sanding block across each frame edge.

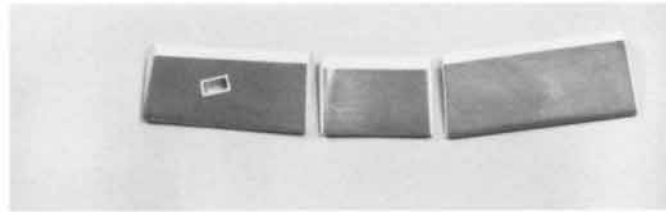
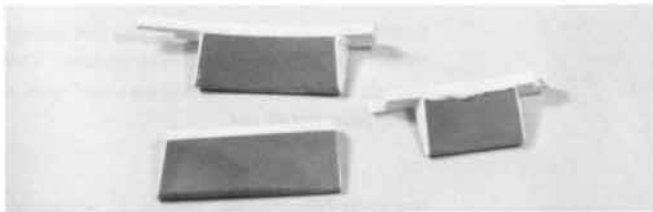
If you don't have photographs of interior detailing at the flap locations, take a guess. At a minimum you will



The repositioned flaps on Revell's 1/32 scale Corsair look a lot better than the kit's engraved flap detail. Note the actuator rod between the two outer flaps.



Adding detail to the interior of the wing can be as simple as adding a piece of sheet plastic. Adding interior framing in areas of the wing exposed by an extended flap would be a more complicated endeavor.

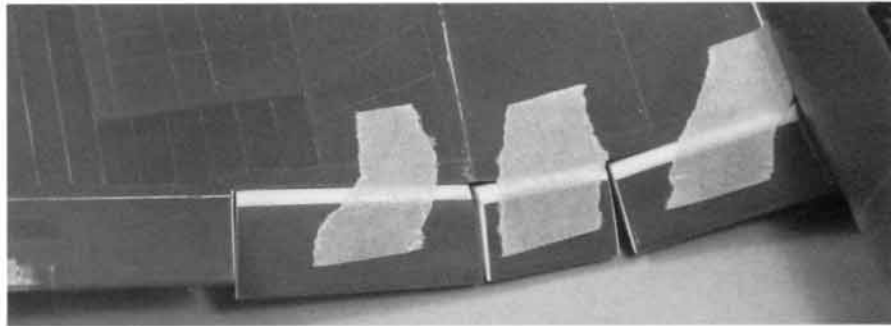


Removing the flaps on a Corsair is one of the more difficult flap repositioning projects because the flaps are curved. The leading edges of all flaps need additional plastic.

The completed right side flaps for a Corsair. To get them to fit correctly, sheet stock was also added to the sides.

Always check your work, especially on complicated flap or slat arrangements.

find rows of framing on both the inside area of the flaps and the interior of the wing. When you have added the framing, paint the inside areas. Finally, add a faint dusting of black pastel with a flat brush to dirty up the interior.

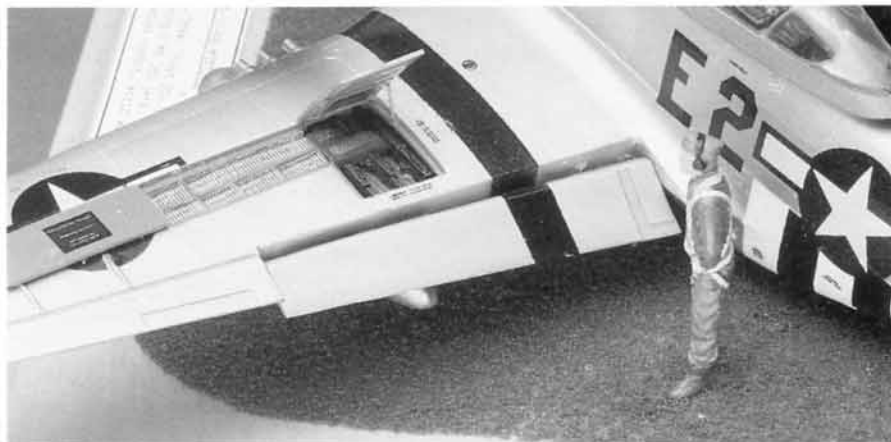


REMOVING & DETAILING HATCHES & ACCESS PANELS

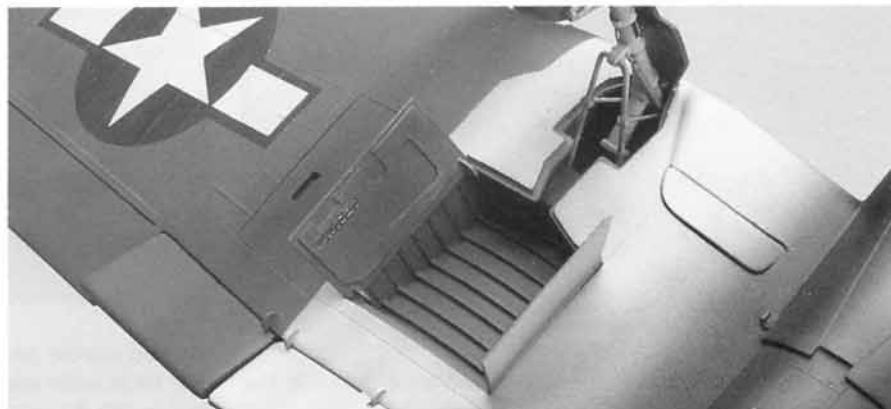
If you are cutting out access panels or hatches and the parts are engraved, use the same techniques as you used for control surfaces. If the parts have raised plastic outlines as many models have, scribe them out using labeling tape as a guide. Use a needle scribe on the initial channel; its thin sharp tip will more easily follow the outline defined by the tiny plastic ridge. Don't use a lot of pressure—let the tip guide itself along the ridge and run it along the ridge side closest to the part to be cut out. This is a matter of feel, so go slowly and stop frequently to rest your hand. Once you have a shallow channel you can add more pressure or switch to a scribe that removes plastic.

Now clean up the edges of the hatches and the locations they were cut from. Carefully sand the surfaces after masking surrounding areas to protect detail, especially hinge detail along the edge of a hatch.

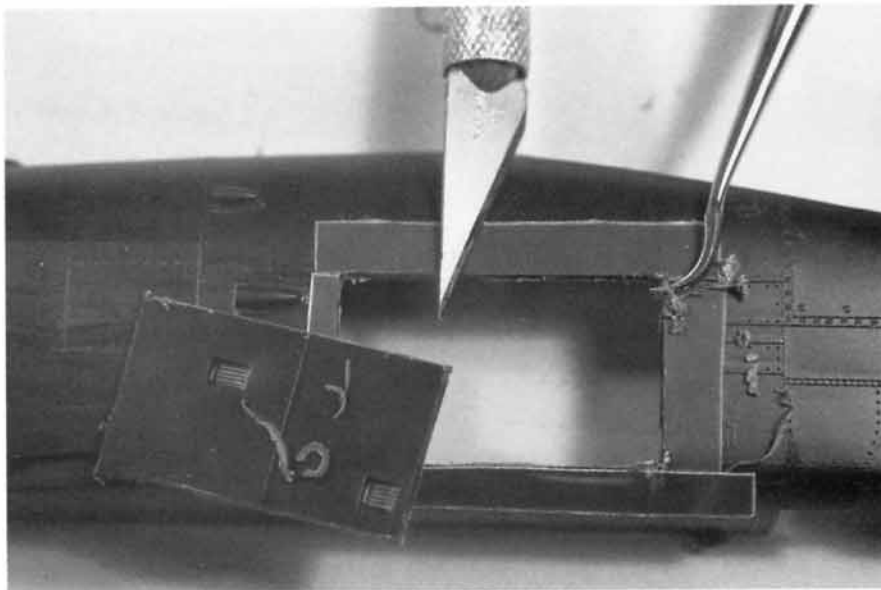
Access panels are usually much thinner than hatches, as they are usually part of the aircraft's outer skin. Thin the parts the way you thin land-



The simple flap rotation on a P-51 Mustang makes it an ideal kit for trying your hand at cutting out flaps. This Monogram kit looks a lot better with repositioned flaps. (Model by Richard Boutin, Sr.)



Sometimes flaps had external hinges. Check your documentation.



Labeling tape is a must if you are going to cut out hatches or access panels. The panels from this A-10 will be used with a Verlinden detail set.

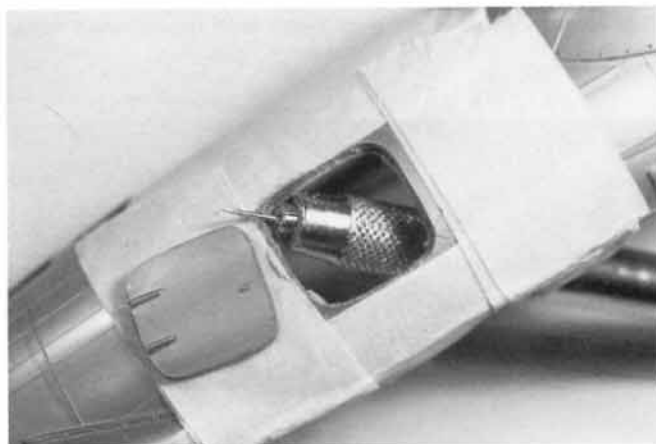
ing gear bay doors. Select a curved or rounded surface with the same contour as the part, wrap sandpaper around it, and run the part across the sandpaper.

Wooden dowels will provide the approximate diameters you need to thin parts. If they are not the right size, try paint bottles or other containers. Use rough-grade paper to get the plastic to the thickness you want and higher grades to smooth it out. Since it doesn't take long to thin plastic, check your progress often. Rotate the part every few strokes for even thinning. If the part is flat, run it across stationary sandpaper. Reverse every few strokes or sand with a figure eight motion.

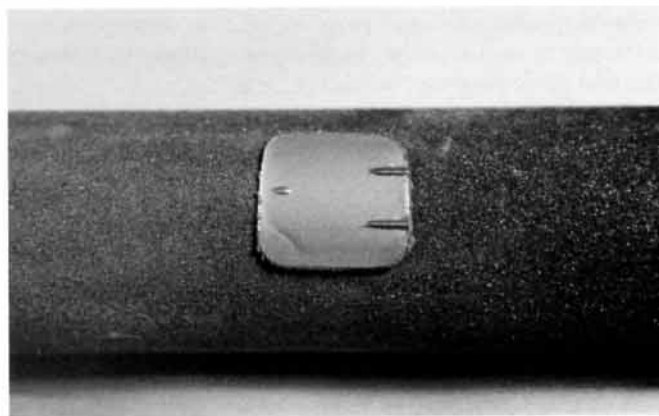
If your documentation shows backside framing or plating, adding it will enhance the part's appearance. Framing is easy to install, as long as you are using plastic strips of the correct thickness cut to their proper lengths. Use the same techniques as framing cockpits and landing gear.



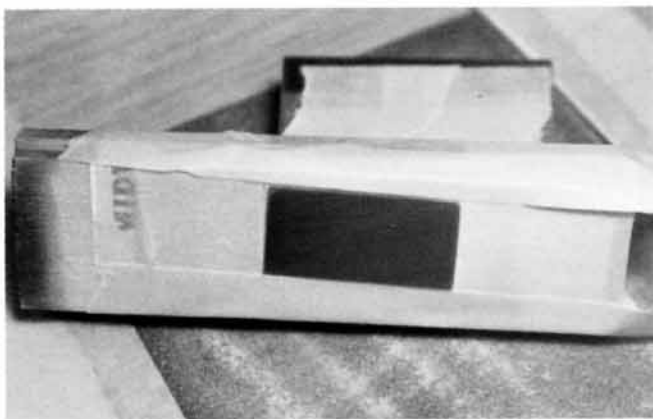
(Left) A Verlinden detail set was used to detail the exposed electronics bays on Monogram's 1/48 scale A-10. New doors were also supplied by Verlinden, but the kit's cut out parts were used instead. (Model by Scott Weller.)



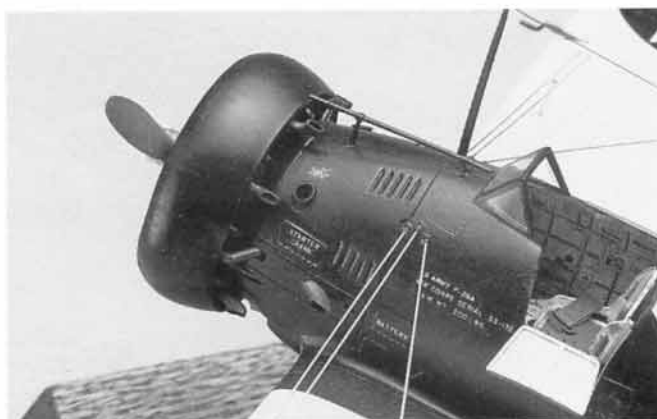
Needle scribers work best for cutting out small hatches that have rounded corners.



Curved cut-out parts need to be thinned on a curved surface. For large scale parts you can usually find a jar or plastic container with the correct diameter.



Flat surfaces can be thinned by taping them to balsa wood and running the part across stationary sandpaper. If you choose to use your hands, stand by to lose some skin on your fingertips!

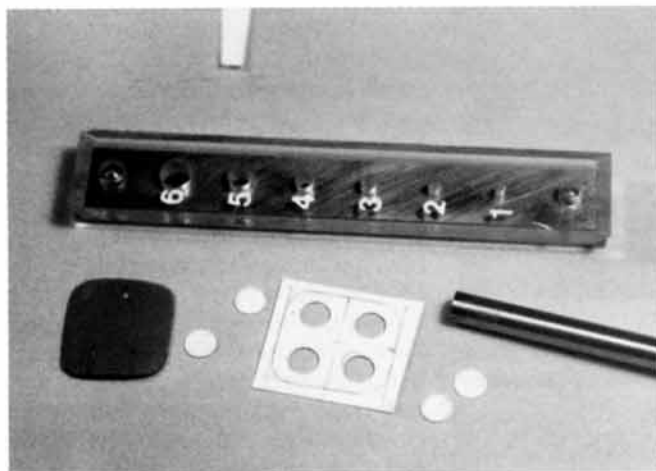
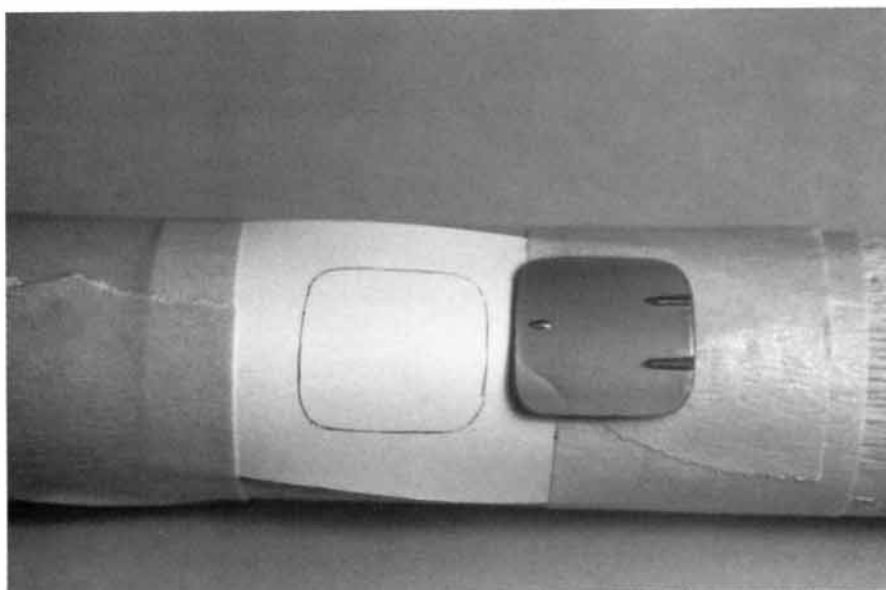


The access hatch on this 1/32 scale Peashooter by Hasegawa was repositioned, and framing was also added to the inside of the hatch.

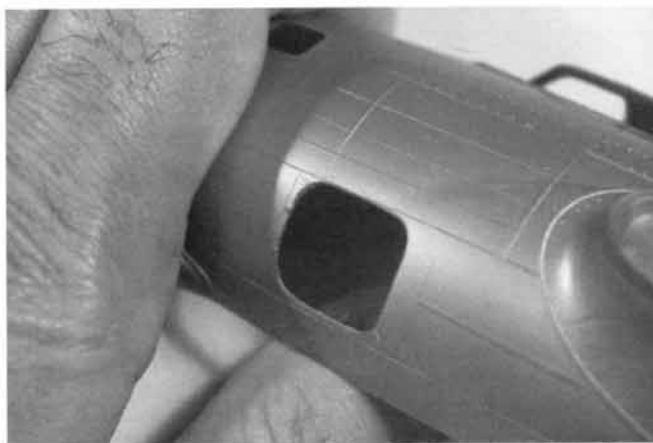
To trace a curved part onto sheet stock, use the same dowel or container size that you used for thinning the part.

If the part has no noticeable framing on the backside but has an inner surface similar to the insides of some landing gear doors, reproduce it in the same way. Trace a new part on sheet stock using the cut-out part as a guide, and add hole locations, if any. Cut out the new part, punch out the holes using Waldron's punch tool, and glue it to the kit's part using super glue and a thin wire applicator.

If the hatch you are removing has a window, modify the clear plastic part by cutting off the positioning tabs and filling in the corresponding



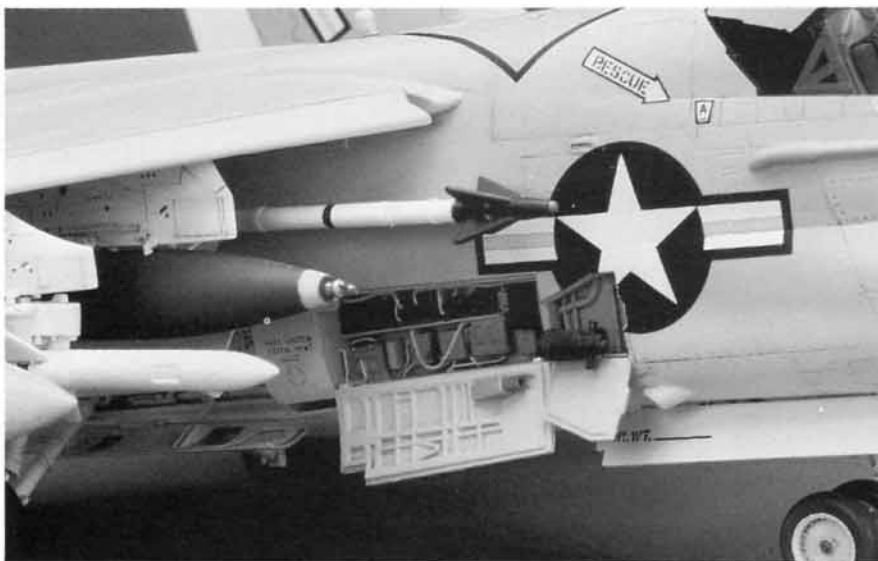
Waldron's punch tool has hundreds of uses and makes cutting out holes a snap.



After you cut out access panels or hatches, don't forget to thin the area the part was cut from. Otherwise the hatch opening will look strange.



Aside from removing hatches and access panels, don't forget that naval aircraft look good with folded wings. Every collection of aircraft should have at least one. (Model by Major Billy Crisler, USAF.)



Although this Hasegawa 1/48 scale Corsair II already has open access panels, attention to painting details can make or break the appearance of a model. (Model by Major Billy Crisler, USAF.)

holes on the back. This requires careful cutting and gluing. Be patient when modifying clear parts, and make sure the plastic will seat properly.

Another detail that must be added is the framing around the opening of the access panel or hatch within the fuselage. This is the framing that the door, hatch, or access panel will seat against when closed. It should protrude from around the part's opening for accuracy. Add this and any other detail to the interior before you glue the halves together, whether they are fuselage or wing halves. In some cases, as in the 1/48 scale bomber series by Monogram, the interior detail is there, and all you have to add is small strips of framing around the opening. There is no trick to this. All the techniques presented in this chapter can be applied to this last step. Just remember that each situation is different and may require variations on the basic techniques.