

MIKE ASHEY PUBLISHING COMPREHENSIVE SERIES SCALE MODEL AIRCRAFT MANUAL NUMBER 5 BUILDING AND DETAILING THE MONOGRAM/REVELL 1/48 SCALE B-26 MARAUDER

The Monogram/Revell Marauder was first issued in the mid 1980's by Monogram. Although most Monogram aircraft kits have a good fit, this kit has some challenges. The kit has photoetch and resin detail sets that are readily available including replacement engines, cowlings and wheels. Eduard offers several different photoetch sets to help improve the interior and the exterior, the most notable of which are the pre-painted cockpit parts and the seatbelt set. The Masters two part 50 caliber brass barrels can also be used and these gems improve the overall exterior appearance of the model.

The Monogram and AMT kits have slightly different overall dimensions. The AMT engines, nacelles and landing gear are larger so these parts are not interchangeable with the Monogram kit. Two Monogram kits were used for this build, an original issue in green plastic and a later version in gray plastic which was produced in China. The plastic on the original version is hard and can be easily scribed while the gray plastic is softer and does not respond well to scribing. Since the gray plastic version was used for the fuselage, wings and engine nacelles, the butt and lap joint surface detail (panel lines) were not re-scribed. All the Eduard photoetch detail sets, the Loon Models replacement cowling,

Quickboost resin engines, Cutting Edge Model Works clear, red, green and blue lights, and the Masters brass barrels were all used for this build.

The model was painted with Testors enamels and the decals are from Microscale. Interior weathering was accomplished with pencil pastel dust applied with a stiff flat brush. The exterior weathering and decal fading was accomplished with pencil pastel dust applied with a wedge shaped makeup sponge and stiff flat brushes. Dry brushing techniques with silver paint were also used throughout the build.

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The fit check of all major parts is always the first step in building an aircraft model.



The elevator attachment to the fuselage is going to require some filling and sanding to get it contoured to the fuselage area.



The upper attachment areas of the main wings to the fuselage have large gaps.



The engine nacelles also have gaps on both sides that will require filling, sanding, and shaping.



The underside attachment area between the wings and the fuselage are also going to be a challenge.



The leading edge lights on both wings have gaps, and the sides are misaligned.



The forward engine nacelle areas have fit issues and gaps that will require careful filling, sanding, and shaping.



These small pins on the inside areas of the upper engine nacelle parts help level these parts against the upper aft nacelle areas.





The wings are going to carry a lot of the weight required to balance the aircraft on its tricycle landing gear so they need to be reinforced to make them strong. Almost all of the laminated strips are .06 inches thick.

The Eduard landing gear bay photoetch details should be reinforced to add strength to these fragile assemblies. Strips of plastic were also added to increase the gluing surface area of each part.



The landing gear bay photoetch assemblies do not fit tightly into their locations. Closing up the wing halves prior to gluing the photoetch details into place helps position them correctly.



With the wings halves closed up, the photoetch framing greatly increases the level of detail to the openings in the wings.



To remove the mold punch outs on the inside areas of the engine nacelles, wrap sandpaper around a length of balsa wood and wet sand them.



The engine exhausts were drilled deeper using progressively larger drill bit sizes. The four exhaust port openings were completed with a .086 inch bit (#44).



Strips of .1 x .156 inch plastic were added to the engine exhaust backings so the drill bits could go deeper. Note the plastic strips to strengthen the seams and the strips added for the addition of lead weight.



The edges of the nacelles were not square so after gluing the halves together, $.01 \times .02$ inch strips were glued into place to fill these tiny gaps.



The seams on the nacelles were scraped and sanded smooth with a variety of tools.



The seams on the nacelles were checked for flaws with Testors silver paint. With the addition of plastic strips to the inside seam areas these assemblies are now very strong.



The engine air vents were carefully drilled out with .035 to .039 inch drill bits. Cutting them out and using the Eduard supplied photoetch vents would have weakened the nacelle assemblies.



The plastic between the openings was then carefully cut out with the tip of a number 11 X-Acto blade.



The openings were then carefully cleaned up and shaped with micro files.



The edges of the air vents were then scribed to accent their attachments to the nacelles.



The aft interior area of each nacelle had noticeable framing that needed to be added. The framing shapes were made with a contour gauge, which was then traced onto .020 inch plastic and cut out.



The rough shapes were carefully form fitted into place. The framing was then marked for openings, the excess plastic removed and the then holes were drilled out.



These scratchbuilt frames will add an additional level of detail to the landing gear bays.



The framing was super glued into place and sanded smooth. silver paint was used to check for any surface flaws, voids or excess super glue.



The Eduard photoetch landing gear bay bulkheads are very flexible so they were laminated to .015 inch thick sheet plastic to strengthen them. Be careful not to mix up these parts as they are designed for each side.



The photoetch box details for the bulkheads had strips of plastic added to increase the gluing surfaces and add strength to these delicate assemblies.



The bulkheads were carefully positioned and then tiny drops of super glue were added to set them into place. Additional glue was then added to the inside areas.



The engine nacelles were positioned onto the wings and then the remaining detail parts added. This ensures that these parts will not interfere with the nacelles.



Note how the Eduard photoetch parts are positioned and the additional plastic strips that were added to increase the width of the gluing surfaces.



The engine nacelles are now ready for priming.



The Eduard photoetch parts really enhance the appearance of the landing gear bays.



Once the inside areas of the nacelles were primed, white glue was added to fill the gaps between the photoetch bulkheads and the inside areas of the nacelles. Each layer of white glue was primed and additional glue added where necessary.



The nacelles were then airbrushed with zinc chromate green, which was slightly lightened with a few drops of flat white.



The surfaces of each wing assembly were also airbrushed with the same lightened zinc chromate green color. Note how the masking tape prevents overspray.



Mashed lead weight was inserted into the box areas of each nacelle and white glue added to secure the weights into place.



The wings were taped tightly together with masking tape and a bead of super glue was applied along the seam line between the tape locations with a .018 inch diameter rod.



After the glue has dried, the tape is removed and super glue applied on the remaining seams. The capillary action of super glue pulls it in between the wing halves.



Prior to gluing the engine nacelles onto the wings, the paint was carefully scraped off the gluing surfaces.



The nacelles have gaps on both sides that will need to be filled and sanded smooth.



To fix the gaps between the upper and lower forward engine nacelles, they were pressed together and super glued.



The super glue holds the gap closed, but scraping and sanding can weaken the seam.



All four of the nacelle seams were reinforced from the inside with lengths of .030 inch thick plastic strips. These added interior lengths were all super glued into place.



The leading edges of the wings were carefully scraped and wet sanded smooth.



The trailing edge was scraped and wet sanded smooth with a sanding stick.



The trailing edge formation lights were badly misaligned between the upper and lower wings so they were sanded off.



The trailing edge section of the engine nacelles have positioning tabs that need to be removed in order for these parts to sit correctly.



Small lengths of plastic of various thicknesses were slipped into the voids in the forward wing areas and then super glued into place.



Beads of super glue were applied around the entire perimeters of these added strips using a .018 inch diameter wire as an applicator.



Various thicknesses of plastic were inserted into the voids between the engine nacelles and the wing areas.



The inboard sides of each nacelle also needed strips of plastic as void fillers. Be careful not to insert plastic where the flaps edges are located.



The wing light locations were boxed in with .02 x .188 inch strips super glued into place. Be sure that you apply a bead of super glue around the outer perimeter of each box.



The excess plastic was trimmed with a pair of plastic cutters.



The plastic was then sanded smooth and checked with silver paint to be sure there were no flaws.



Several iterations of super glue and silver paint were needed to get the wing light boxes to look good.



The wing light boxes are much improved and the clear inserts will need to be form fitted into place.



The pitot tube locations on the wings were filled in with .040 inch rod super glued into place, because the openings were to big. The openings were re-drilled with a .041 inch drill bit.



Sandpaper wrapped around balsa wood strips was used to smooth out the areas between the engine nacelles and the wings.



A Flex-A-File was used to smooth out the plastic around the contoured areas between the nacelles and the leading edges of the wings.



The silver paint identified some small areas that needed additional super glue.



One last application of silver paint was completed as a final check of the surfaces. This paint was removed with 0000 steel wool pads and the plastic was polished to remove any scratches.



The contoured areas at the wing to nacelle connection points look good thanks to careful wet sanding with a Flex-A-File.



The trailing edge parts for the nacelles need to sit flush with the upper wing surfaces.



Several applications of super glue were needed to fill the tiny gaps between the wings and these added parts.



The proper positioning of these parts leaves a large gap on the lower surface. Small lengths of plastic were super glued into place to add strength to the assembly before filling the voids with plastic strips.



Various thicknesses of plastic strips were super glued into place to fill the voids. Additional super glue was applied around the perimeter to seal any tiny voids between the plastic strips.



The strips were trimmed with a plastic cutter and then carefully wet sanded smooth.



It took several iterations of super glue and silver paint to fill and sand smooth all the tiny voids around the plastic strips.



One final coat of silver paint was applied and then the surface was polished with a 0000 steel wool pad.



The upper surfaces also required several applications of silver paint and super glue to ensure that all the flaws were fixed.



The two indentations on the right wing were filled with plastic disks punched out with a Waldron Punch tool. These will be replaced with decals punched out with the Waldron punch tool.



Careful sanding, shaping and form fitting of the wing light clear covers resulted in a tight fit on both wings.



I found these Cutting Edge Model Works resin colored navigation lights and lenses on Ebay and they are perfect for detailing the wing lights and adding the wing tip navigation lights.



The elevator assembly was easy to assemble and the seam line just needed some light scraping and sanding. Here again silver paint was applied to check for flaws.



Loon Models makes replacement cowlings for the Monogram Marauder. They need to be tweaked for a good fit and the engines are better than the Monogram parts.



The Quickboost engines can be made to fit into the Loon Models cowlings by just tracing the outline of the Loon Models backing onto the Quickboost engine backing and then form fitting the engine into the cowling.



I chose to use the Monogram cowlings for my build and the first step is to fill in the openings where the engine air scoops will be with strips of plastic.



The center filler piece needs to be bent a little to get it to fit correctly and have it contoured around the inside edge.



Micro files were used to carefully and slowly trim down the plastic fillers that were added so that the air scoop parts will sit correctly.



Micro sanding sticks were also used to help shape the added plastic.



The air scoop parts were glued into place and the voids were filled with plastic strips super glued into place.



To ensure that the noticeable step around the front of the cowling is maintained, use two separate lengths of plastic strips to fill the void.



To add strength to the cowling assembly insert small strips of plastic into the voids on the back sides.



On this cowling assembly there were tiny voids in the front that were filled with .01 x .02 inch plastic strips.



This cowling is now ready to be polished.



The second cowling was shaped slightly differently with a wider void between the air scoop parts.



The voids on the inside areas were also deeper and required wider lengths of plastic.



Tiny lengths were added to the left and right side to completely fill the voids. This plastic was then carefully and slowly shaped and sanded down using micro sanding sticks.



The second cowling required more plastic strip fillers to get it to look good.



Each cowling had some final shaping needed using micro sanding stick.



Silver paint really came in handy on the cowling assemblies and it took several iterations of silver paint and drops of super glue to finally get all the tiny voids filled.



The engine cowling openings were reshaped using a 3/4 inch wood dowel with a 320 grit length of sandpaper wrapped around it.



The pour plugs on the Quickboost resin engines were wet sanded off. To prevent interference between these parts and the engine nacelles, also remove some of the backing.



Each Quickboost engine has three parts to install. Since there are no positioning pins for these small parts use slow set super glue, which will allow you some working time for proper positioning.



The propeller shafts were glued to the propellers and then cut off at the base of each propeller.



New propeller shafts were made using .060 inch rod. This required enlarging the holes in the engines. The propellers were drilled out slightly larger than .060 inches so that they had some play in them for proper positioning.



The engines were fit checked inside the cowlings and then taped to the nacelles to be sure there were no fit issues.



With the propellers in place the engines will add a greatly increased level of detail to the overall appearance of the model.



The fuselage halves had some alignment issues that needed to be corrected starting with the turret opening. To correct this problem, use a 3/4 inch wood dowel with sandpaper wrapped around it.



The gluing surfaces of the fuselage halves have raised areas which will need to be removed.



The forward landing gear bay also has a misalignment that needs to be fixed. Careful sanding, cutting and shaping will fix this issue.



There is also an alignment issue where the canopy is located.



The opening for the tail guns needs to be slightly reshaped. Here again use a wood dowel with a length of sandpaper wrapped around it to reshape the opening.



The fuselage halves were going to require a lot of sanding which will destroy much of the surface detail so the panel lines were sanded off.



This mystery hole on the right fuselage has no clear part so it was filled and sanded smooth.



The aft gun hatches do not fit very well. The tiny voids around the perimeter can be filled with white glue once the surface has been primed.



The aft clear part does not fit well. To get a better fit, angle the two sides noted by the arrow.



The clear nose part fit fairly well after the opening was lightly sanded smooth.



The fuselage misalignment has been corrected, but there is now a noticeable gap on the top of the canopy.



This gap can be filled with plastic strips.



Each fuselage half had a length of .015 inch thick plastic super glued into place, trimmed and sanded smooth.



The canopy was form fitted into place by slowly sanding down the added plastic.



The added plastic has been thinned down and the canopy fits better. However, white glue will still be required to fill in any tiny gaps once the canopy is glued into place.



The clear parts for these openings are round, but the openings are not. Reshaping them was accomplished with a sanding rod.



The small window openings on the front fuselage area also needed some slight reshaping so the clear parts would have a better fit.



The Marauders had canopy hatches on both sides. The hatch outlines were drawn with a sharp pencil.



Labeling tape was carefully positioned on the pencil lines and the plastic scribed with a needle scriber. The plastic did not respond well to either a needle scriber or a panel line scriber, because the plastic was somewhat soft.



The Eduard forward landing gear photoetch details were fit checked before gluing them into place.



The photoetch sides have been reinforced and additional lengths of plastic added to fill in any gaps.



The forward landing gear doors had mold punch outs that could not be sanded out. They were hidden with lengths of .010 inch thick plastic strips form fitted into place and cut with a Northwest Shortline Chopper.



The Eduard forward landing gear scissor supports were glued onto the plastic ones. Tiny lengths of .020 inch rod were glued to the ends to cover the gaps. Removing the plastic scissors would have weakened the landing gear.



There were also mold punch outs on the main landing gear doors. Most of these were sanded out with sandpaper wrapped around length of balsa wood.



The positioning taps for the wheels were removed to get a better fit. A tiny bead of super glue was applied along the seam lines and then carefully scraped and sanded smooth.



The rivet detail on the main landing gear doors was redrawn and a plastic strip was then used as a guide for the pin vise to make slight indentations in the plastic.



The fit of the main wheels to the landing gear was loose so tiny lengths of plastic (.01 x .02 inch) were glued to the axles to get a tight fit.



The main landing gear braces only needed to have the mold lines scraped off.



The base of the forward landing gear needed a little bit of scraping to get it to fit snugly into its positioning hole.



The main landing gear were once again test fitted to be sure that they could be inserted into the landing gear bays without damaging them.



The landing gear doors will need some tweaking to get them to fit correctly.



The bomb bay doors were cut instead of folding them. The Eduard photoetch details were added to the lower doors while the upper doors had sections of .025 inch Evergreen "V" grove sheet laminated to them.



The doors were then carefully super glued back together. White glue will be added to the void between the doors after they are primed.



The Eduard detail parts for the forward bomb bay bulkhead were attached with tiny drops of slow setting super glue so that they could be positioned correctly.



The aft bomb bay bulkhead only had two photoetch parts to be added.



The bomb half locating pins were removed for a better fit and a bead of super glue was applied around the perimeter of each bomb.



The bombs seam lines were carefully scraped, wet sanded smooth with a Flex-A File and then polished with a 0000 steel wool pad.



The back sides of the bomb racks had deep dimples. They were covered with .015 inch tick lengths of plastic.



This large injection mark at the top of the cockpit bulkhead was remove with a length of sandpaper wrapped around a length of balsa wood.



The molded on seat belts were carefully scraped off with the tip of a number 11 X-Acto blade. The seat cushions were then sanded smooth with a micro sanding stick.



The back side of the pilot's seat had deep mold punch outs. They were filled with round stock, super glued into place, and then sanded smooth.



The Eduard forward cockpit bulkhead was laminated to a .015 inch thick plastic sheet to make it stronger.



All the instrument and engine control detail was carefully scraped off and the surfaces sanded smooth in preparation for the Eduard pre-painted parts.



The Eduard pre-painted engine control parts were carefully bent into shape with various diameters of drill bits.



The console and the control column were taped onto the cockpit floor and then glued together so that they would be positioned correctly.



The console assembly was removed and the Eduard photoetch side parts were super glued into place.



It is easier to attach multilayer pre-painted photoetch parts while the bottom parts are still attached to their trees.



These Eduard cockpit photoetch parts have been carefully folded and they are ready for priming and painting.



The mold punch outs on the inside areas of the cockpit walls were removed by wet sanding with a length of sandpaper wrapped around balsa wood.



The Eduard side photoetch parts created a void line on both sides of the console. The top was covered with a .015 inch thick piece of plastic form fitted into place to hide the tiny voids.



The Eduard photoetch forward bulkhead needs some minor tweaking to get it to fit into place.



The tabs were removed from the forward bulkhead and it was then glued to the floor with tiny drops of super glue while the cockpit floor was taped inside the fuselage. Reinforcing strips were then added to the backside.



Note the markings on the left cockpit wall to help position these photoetch parts correctly.



The Eduard cockpit photoetch detail parts were added to the right side of the fuselage. Be sure the large part is positioned high enough so that it will not interfere with the side of the cockpit floor.



To increase the gluing surface of the overhead cockpit console, small strips of plastic were form fitted and glued into place. The angle on the smaller piece prevents interference with the downward angle of the canopy.



The first step in modifying the kit's guns for the Masters two part brass barrels is to carefully snip off the plastic barrel and flatten the surface.



The hole for the brass barrel is progressively enlarged so that the plastic side walls will not collapse. Create a pilot hole and start with a .021 inch bit (#75) and work up to a .040 inch bit (#60).



The gun cooling jackets needed to be reamed out with a .028 inch drill bit and then a .0292 inch drill bit to remove the tiny inside brass burrs. A tiny drop of super glue was applied to the base of each barrel to glue the two parts together.



The Masters two part brass barrels add a realistic appearance to the kit supplied guns.



Note the flat surfaces and the pilot hole on the twin tail gun, which was created with a pin vise. It is important to get the pilot hole centered so that the drilling will not be skewed to one side.



Note how thin the plastic walls are. If the hole starts to get off centered as you drill, carefully peel off some plastic from the thicker side with the tip of a sharp number 11 X-Acto blade and then skip a drill bit size.



The barrel base is .039 inches in diameter and the .040 inch holes will provide a little bit of play for positioning the barrels. Applying a tiny drop of white glue to the inside of each hole will hold the barrels in place.



Once the second barrel was set and both barrels were straight, tiny drops of super glue were applied to the base of each barrel where they meet the plastic.



The twin tail gun looks much more realistic. Note how straight the barrels are to each other and to the base.



In order to be able to insert the turret into place after the fuselage halves are closed up, glue the parts together, remove the ring that allows the turret to turn, and then fix the seams.



The Eduard photoetch ring for the turret is too wide, so a new positioning plate was made and the hole for the turret was traced onto the new plate.



Holes were drilled all around the circle and the remaining plastic was cut out.



The circle was sanded smooth using various sizes of wood dowels with sandpaper wrapped around them.



The hole should have some play in it so that the turret will just slide down into it. Note the reinforcing strips on the sides of the turret's positioned plate.



Positioning the new plate using the tabs located on the inside of the fuselage makes the turret sit too high.



The tabs were removed and a new shelf was added slightly lower than the location of the tabs.



The turret now sits lower.



The new plate was glued into place with Testors red tube glue on one side. The fuselage was quickly closed up with tape so that the plate could be properly positioned while the glue was still sticky.



The bases of the turret guns need to be slightly wider to accept the two part brass barrels. The .015 x .125 inch strips were super glued into place and then carefully trimmed and sanded smooth to blend then into the sides.



The two part brass barrels were attached using the same techniques as the other guns.



The turret looks much more realistic with the brass barrels added to enhance its appearance.



The Eduard photoetch parts have been added to the tail gun and the mold punch outs on the control arm were hidden with tiny .015 inch disks made from a Waldron Punch Tool.



The lower nose canopy gun was replaced with a spare gun so the two part brass barrels could be a added.



The kit's Norden bombsight is large and it interferes with the placement of the kit supplied center nose gun. It was also replaced with a spare gun, but it will still result in the gun being set at an angle.



The guns for the gun packs were cut off and the fronts slightly reshaped. Holes were drilled for the two part brass barrels (.042 inches), and small lengths of .060 inch diameter rod were added to set the depth of the each barrel.



The positioning holes in the fuselage were enlarged to .065 inches to allow for some play so the gun packs could be properly positioned.



The get the correct amount of weight, the model was taped together and all the parts added. Weights were then carefully added until the fuselage was sitting firmly on its landing gear.



The antennas were removed from the fuselage, cleaned up and positioning pins added with .025 inch diameter rod. A .0145 (#79) inch hole was also drilled through the upper antenna for the wire, which goes from the rudder to this part.



A box was made on the backside of the cockpit bulkhead and filled with lead weight. Additional weight was super glued into place on both sides of the fuselage between the cockpit bulkhead and the forward bomb bay bulkhead.



All the cockpit interior parts are now ready for priming, painting, weathering, and assembly.



The engine cowling, propellers, and engines are ready for priming, painting, and adding additional detail.



All the parts for the bomb bay are ready for priming, painting, and weathering.



The landing gear parts were inspected one last time to be sure that no mold punch outs were left on the insides of the doors.



Using round toothpicks allows for the airbrushing of both sides of these parts.



Use balsa strips with masking tape folded over itself to attach parts for airbrushing. When one side is completed, remove the parts, apply new masking tape, flip the parts, and continue airbrushing.



A base coat of flat white should always be used for a flat yellow color.



Minor imperfections were found on the bombs so they were fixed and the areas repainted.



Note how crisp the flat yellow looks with a flat white undercoat.



A large strip of masking tape was set onto each bomb to ensure that the masking tape for the yellow strips were straight and in the same location on each bomb.



The bombs were then airbrushed olive drab.



With the masking tape removed, the flat yellow lines are straight with sharp demarcation lines between the colors.



The propeller tips were airbrushed flat white first, and the inside areas of the cowling and the backsides of the engines were airbrushed zinc chromate green.



The propellers were then airbrushed flat yellow.



The propellers had tiny raised lines for the yellow tips, and masking tape was set along these lines.