

How to Spray Paint a Fiberglass or ABS Plastic, Fast Electric, Radio Controlled Boat

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SECTION 1: INTRODUCTION

Many Fast Electric (FE) boat builders and racers create terrific race boats, but shy away from painting the finished hulls. Often racers and builders are uncertain about the best way to achieve a good “paint job” with a nice smooth finish, good depth of colour, and a hard coat that withstands scratches and bumps during racing. This article will explain, in a step-by-step manner, the basics of painting fiberglass or ABS plastic hulls using conventional aerosol spray paint cans. All of the boats in Photo 1 were painted using these simple techniques, and it is easy to achieve the same results by preparing the hulls correctly and following a few basic painting steps.



Photo 1: Plastic, wood and fiberglass, Fast Electric boats that were painted using the techniques described in this article.

SECTION 2: MATERIALS AND PAINTING AREA

2.1 Required Materials:

The following materials are required to prepare and paint the hull and deck. If the hull to be painted is made of plastic, care must be taken to select a paint that will not harm plastics. Krylon brand paint is an excellent paint that is safe for all plastics and fiberglass, dries quickly, and is readily available at hardware and building supply stores. For this reason, it is the recommended paint of choice.

Preparation Materials

Plastic drop sheets
400, 600, 800 and 1,000 grit sandpaper
Autobody glazing putty
Plastic modellers putty
Tack Cloth
Dual Respirator Filter mask

Painting and Finishing Materials

Krylon Sandable Primer (white or grey)
Krylon Colour Paint
Krylon Gloss Clear Coat
Great Planes Kwik Stripe Model Striping Tape
Automotive paste wax

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When applying the spray paint, always try to ventilate the area to the outside through a fan or window. As well, always wear a respirator mask and make sure it fits properly - follow the manufacturer's instructions for fitting and wearing. Lastly, even modest sized hulls will require a lot of spraying. This creates a huge amount of paint mist that can seep under doors and through cracks. Taking the time to prepare your painting area and protect the surroundings will save a lot of clean up after the painting is done.

SECTION 3: HULL AND DECK PREPARATION

The following hull preparation steps are the same for both a fiberglass and plastic hulls.

3.1 Before Painting:

Prior to painting, it is recommended to test the boat to ensure the boat operates as expected and that there are no hull leaks. It is unwise to paint a hull prior to running and testing. There is nothing more frustrating than having a perfect paint job ruined due to hardware changes needed to get the boat running properly or hull repairs for leaks. Test the boat in racing or sport running conditions and test for leaks using "bath tub tests".

3.2 Hull Preparation:

Once the boat has been tested and no major faults found, it is ready for painting. The first step, as shown in Photo 3, is to remove all of the external running hardware and RC components. Make sure to remove the motor, speed control, receiver, servo and batteries. They could be damaged by inadvertent overspray during the painting process. Then wash the hull in warm water and hand dishwashing soap to remove fingerprints, oils, grease other chemical agents used in the manufacturing process. Next sand the hull, **only in the areas to be painted**, with 400 grit sandpaper if it is a fibreglass hull, and 600 grit if it is an ABS plastic hull. The fiberglass hull needs a coarser grit of sandpaper since it is necessary to remove the shine off the gelcoat to ensure the paint will stick well to the hull. The softer ABS plastic is easier to sand and requires a finer sandpaper. After the sanding is completed, use "tack cloth" (a sticky rag specially made to pick up dust and dirt) to remove the sanding dust from the hull and hatch.

SECTION 4: MASKING AND APPLYING PRIMER

The first coat of paint to be applied is a "primer". The primer is specially formulated to bond to the unpainted surface much better than colour paint. Proper application of primer to a well prepared hull ensures that the paint will not flake or chip easily.

4.1 Masking:

Once the hull has been prepared, it will be necessary to mask off the areas that are to remain unpainted. In this example, the hydroplane hull will have a green painted upper surface and the bottom of the hull remains yellow gelcoat. Photo 4 shows the hull masked to cover the lower portion, which will remain yellow.

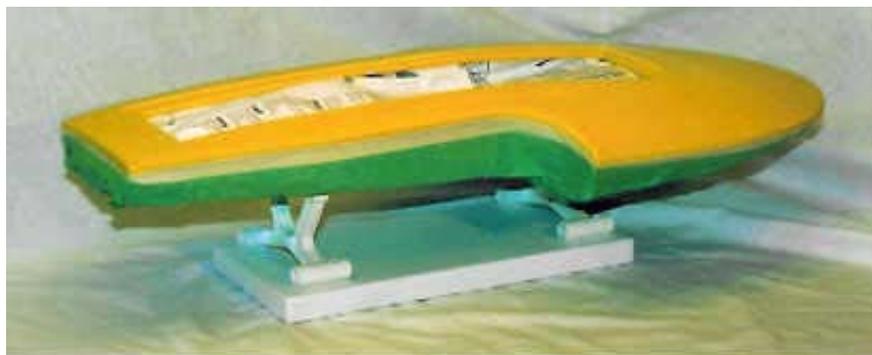


Photo 4: Hull Masked and Ready for Primer Coat

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Mask the desired areas by using a high quality and flexible masking material. Good quality masking tape can be used for this. Another tip is to use ½” automotive striping at the edges since it is very thin and contours well to the hull, thus resulting in a very clean painted edge. Once the edge has been masked, regular “low tack” masking tape (sometimes called “green painters tape”) can be used to mask the remainder of the hull and hatch. Make sure the tape is well sealed to avoid overspray from getting under the tape layers. Be sure to seal the interior of the hull to avoid paint being sprayed on the components inside the hull. The hull can be sealed by carefully packing newspaper into the hull as shown in Photo 4.

4.2 Applying the Primer:

The hull is now ready for the first coat of paint – a primer. Spray on the sandable primer and let this coat dry fully (usually 24 hours). Since Krylon primer dries very quickly and does not easily run or cause drips, it is usually possible to get good coverage with one “wet” coat of paint on the hull or deck. A “wet” coat means that the paint should be applied uniformly on the surface so that it is thick enough to look shiny and wet when it is applied. See section 5.2 for spray painting tips.

Once the primer has dried thoroughly (after 24 hours), sand the primer coat with fine sandpaper, such as 400 grit, to remove any imperfections and obtain a smooth surface. Often, the primer coat will have a rough finish due to the rapid drying and overspray of the primer. Taking extra care to sand the primer and get a good smooth surface will ensure a smooth colour coat. After sanding, carefully wipe the entire surface with a tack cloth to remove the dust and debris.

The primer coat will also highlight any hull imperfections. If necessary, surface imperfections can be filled using common fillers or putty, sanded smooth, and re-primed. For fiberglass hulls, autobody glazing or spot putty is recommended. For ABS plastic hulls, common modelling putty such as Squadron White Putty can be used. Make sure to reapply the primer paint to the filled in areas.

SECTION 5: APPLYING THE COLOUR COATS

Applying the colour coats is the critical part of the paint job. Be patient and don’t rush the work or drying times. It is also recommended to use the same brand of primer and colour paints to ensure paint compatibility.

5.1 Selecting a Colour Scheme:

The colour scheme can be based on actual boats, historical or researched photos, or the builder’s whims. In all cases it is recommended to give due consideration to the visibility of the boat, especially for racing. The boat must be clearly visible to avoid disastrous racing collisions if the boat flips or becomes disabled during a race. It is recommended that the bottom of the hull always have a bright colour, such as white or yellow, and that the upper surface at least have portions of bright colours. As shown in Photo 1, all of the boats have white hull bottoms, except the yellow on the bottom of the Bardahl boat, and multi-colour upper surfaces.

Given the high quality finish of many white ABS or white gelcoat fiberglass hulls, it is recommended to leave the portions of the hull that are to remain white as unpainted, and to simply paint the desired colours on the other parts of the hull. This is a simple way to obtain a two-tone finish on a model boat. Care must be taken when selecting the paint for an ABS hull since many common aerosol paints will harm the plastic. It is recommended to use KRYLON brand paint since it is safe for all plastics.

5.2 Applying the Colour Coats:

In order to get a smoother finish coat, it is recommended to warm the aerosol can in hot tap water prior to application. This warms the paint and results in better paint flow from the can. In order to avoid drips, “orange peel” and “patchy” paint, it is recommended to use a 2 coat coverage approach, with the first coat being a mist coat.

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Spray a light “mist coat” of the desired colour over the primer coat. Do not try to fully cover the hull - just try to get a uniform “mist” of paint on the hull. Use of the mist coat prevents the paint from dripping and forming runs in the finish. The mist coat is the foundation for the next “wet” coat, which will cover the hull. After the first mist coat is dry, a second coat of paint will be applied to get the solid coverage required on the painted area. Spray on this second coat such that the surface is evenly covered and looks “wet”. After the wet coat is dry, inspect the finish of the hull – a second wet coat may be required to obtain the desired depth of colour. Always sand the paint with 600 grit sandpaper between coats. In most cases, the mist coat plus one wet coat is all that is required to provide excellent paint coverage.

The following spray painting tips will help ensure a good finish to the colour coats:

- Shake the paint thoroughly to ensure proper mix
- Spray the hull using long, even, strokes (do not stop painting in the middle of the hull)
- Hold the spray can 12”- 18” away from the surface to be painted.

In order to obtain a smooth finish, it is critical to plan the sequence of painting such that overspray is avoided on the wet paint. It is recommended to paint the bottom of the hull first – any overspray will land on the hull sides. Then paint the sides, being careful to spray slightly upwards to avoid any overspray on the bottom – any overspray should only be on the hull top. Lastly, paint the top, working from the centre outwards, and being careful not to get overspray on the sides. In this way, the overspray is simply like another mist coat and it gets covered by the wet coat, thereby resulting in a smooth finish on all surfaces.



Photo 5: Finished Colour Coats (Prior to Clear Coating)

SECTION 6: APPLYING A SECOND COLOUR COAT FOR DETAILS OR PATTERNS

Once the base colour has been applied and thoroughly dried, additional colours or patterns can be painted onto the hull.

6.1 Applying a Second Colour :

Once the base colour coats of paint are fully dried (this should be at least 72 hours, but the longer the better), additional different colour coats can be applied. In this example, shown in Photo 5, black paint was used to outline the engine and cockpit areas on the hull, and yellow paint was used on the deck tail fin. The techniques to apply the additional colours on top of the base coat are identical to those described in previous sections. Care must be taken to use low tack masking tape on the base colour coats to avoid marring the recently dried base colour paint. Also, make sure that the area to be painted has been lightly sanded to roughen the surface for better paint adhesion.

6.2 Masking for Complex Patterns:

It is possible to paint complex patterns on the boat hull by masking the shape to be painted and then applying the desired colour onto the base coat. Of course the key to success with this is to accurately mask the desired shape. In this example, the unique black “batwing” shape is to be painted on the bow of the replica Miss

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Bardahl shovelnose hydro. This “batwing” pattern and other complex shapes can be painted by following the steps described below:

1. Carefully apply strips of wide, low tack, masking tape across the bow section of the hull. Be sure to slightly overlap the tape strips so that a large taped surface is formed.
2. Using an ordinary lead pencil, draw the desired batwing pattern onto the tape on the bow section. Be patient and make sure to get the shape correct. If necessary, erase and redraw the shape on the masking tape until it is correct.
3. Once the hand drawn pattern is satisfactory, carefully remove the tape as a single sheet – do not remove the tape strips individually – and place the tape sheet with the pattern on a clean, dry, cutting surface such as a sheet of glass.
4. Now carefully cut out the hand drawn “batwing” pattern, using a fresh exacto knife blade, from the tape sheet thereby producing the desired batwing mask.
5. Return the batwing mask portion of the tape sheet back onto its original location on the bow portion of the hull. Carefully smooth out the tape sheet onto the bow, particularly at the edges of the mask.
6. Finally, mask the lower edge of the bow to prevent paint overspray from marring the bottom of the hull. The finished batwing mask is shown installed on the bow of the boat in Photo 6.
7. Once the mask is complete, spray paint the exposed area black using Krylon Black paint.

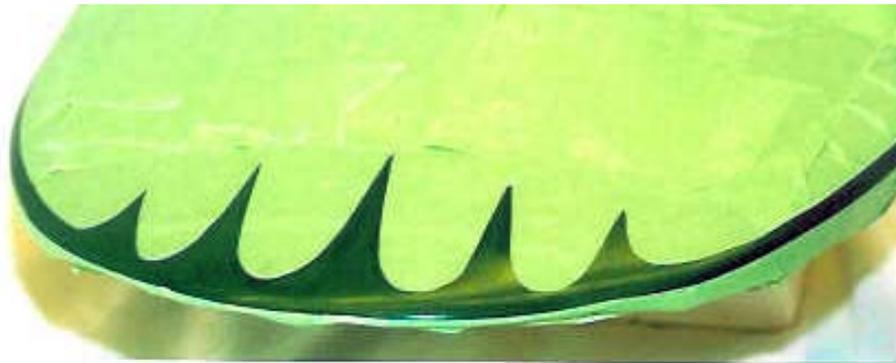


Photo 6: Masked Pattern on Bow

SECTION 7: DECALS AND PIN STRIPING

It is quite easy to apply decals and pinstripping to add interesting graphics to the boat, once the base colours have been applied.

7.1 Applying Pin Striping:

The first step in decaling is to apply pin stripes if desired. It is recommended to use high quality, flexible, vinyl, pinstripping since it will bend and flex to fit the curved contours. As shown in Photo 1 and Photo 7, the Miss Bardahl hydroplane model has 1/16” white striping applied around the green/yellow paint edge and the black batwing. The Great Planes brand of “Kwik Stripe” is available in a variety of widths and works well for this application. Simply apply the striping by starting at one end of the hull and gently unrolling the stripe and applying it to the hull as it is unrolled. The same technique is used to apply the pin stripe around the batwing shape. It may be helpful to warm the pin stripe roll with a hairdryer to make it softer and more flexible when applying it to the complex batwing contour.

Wider pinstripping, such as 1/8” can also be used to outline the windshield on offshore cockpit monohulls as shown in Photos 1 and 8. It should be noted that the metallic stripes such as silver are not as flexible as the black pinstripping. For this reason it is recommended to use back striping with a silver windshield. Of course, it is possible to reverse these colours, but the silver pinstripping will be more difficult to apply around complex curves.

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7.2 Applying Decals:

The FE boats shown in Photo 1 have various types of vinyl decals, such as Auto Graphics, Axxent Signs, and FDM, applied to them. The decals are simply trimmed to shape and then carefully applied to the hull. If it is anticipated that it will be necessary to slide or re-position the decals to obtain the right fit and location, simply spray on WINDEX window cleaner on the hull at the decal location prior to applying the decal. Then apply the decal on the WINDEX solution and move the decal to the desired position. When the decal is in the right place, gently squeeze out the WINDEX solution from underneath the decal using a soft cloth. Once all of the WINDEX has been squeezed out from under the decal, the decal will adhere in place.

SECTION 8: CLEAR COATS

In order to protect the decals, stripes and paint, and to provide a glossy shine to the finished boat, a final layer of “clear coat” paint should be applied to the entire hull surface - even the unpainted areas. Care should be taken to use the same brand of glossy clear coat as the colour coat of paint to ensure that the clear coat will properly adhere to the paint. The same mist coat and wet coat painting techniques that were used for the colour coat should be used for the clear coat. Typically, only one wet coat is required for good coverage of the clear coat.



Photo: 7: The finished FE, radio-controlled boat with multiple colours, decals, and clear coat

SECTION 9: MAINTAINING YOUR FINISH

It is possible to maintain the “factory fresh” paint job that has been applied to the RC boat hull by regularly doing a small amount of maintenance to protect the finish.

9.1 Waxing the Painted Surfaces:

Most large ponds used for FE racing and sport running, are typically contaminated with organic and man-made pollutants. These pollutants can affect the paint finish over time. In order to keep the finish “like new”, periodically rinse the hull with clean water, wipe dry, and hand apply a coat of automotive paste or liquid wax to the hull. Carefully apply the wax using a damp, soft cloth. When the wax is dry, carefully hand buff the wax to a bright shine. Wax can be applied to both painted and unpainted surfaces.

9.2 Touch Ups:

Normal FE boat use, and particularly racing, will result in occasional dings and scratches in the paint finish. The easiest way to fix scratches is to “touch up” the scratches by hand painting the original spray paint onto the marks. To minimize the touch up areas and reduce the visibility of the scratches, do not sand or try to blend the scratches – just carefully dab the paint onto the scratches using a fine tipped brush. The easiest way to do this is to simply spray a small puddle of the original colour paint into a small jar and then dab the paint from the jar onto the hull.

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These techniques are very effective in keeping you FE boat looking like new. The proof is the two monohulls, shown in Photo 8, that have been regularly used for club racing for 3 seasons.



Photo 8: Mono Mania – Some FE Boats That Have Been Racing for Several Seasons

By patiently and carefully following these techniques, it is possible to easily develop exciting and eye-catching paint schemes for RC boats. Enjoy your painted FE boat!