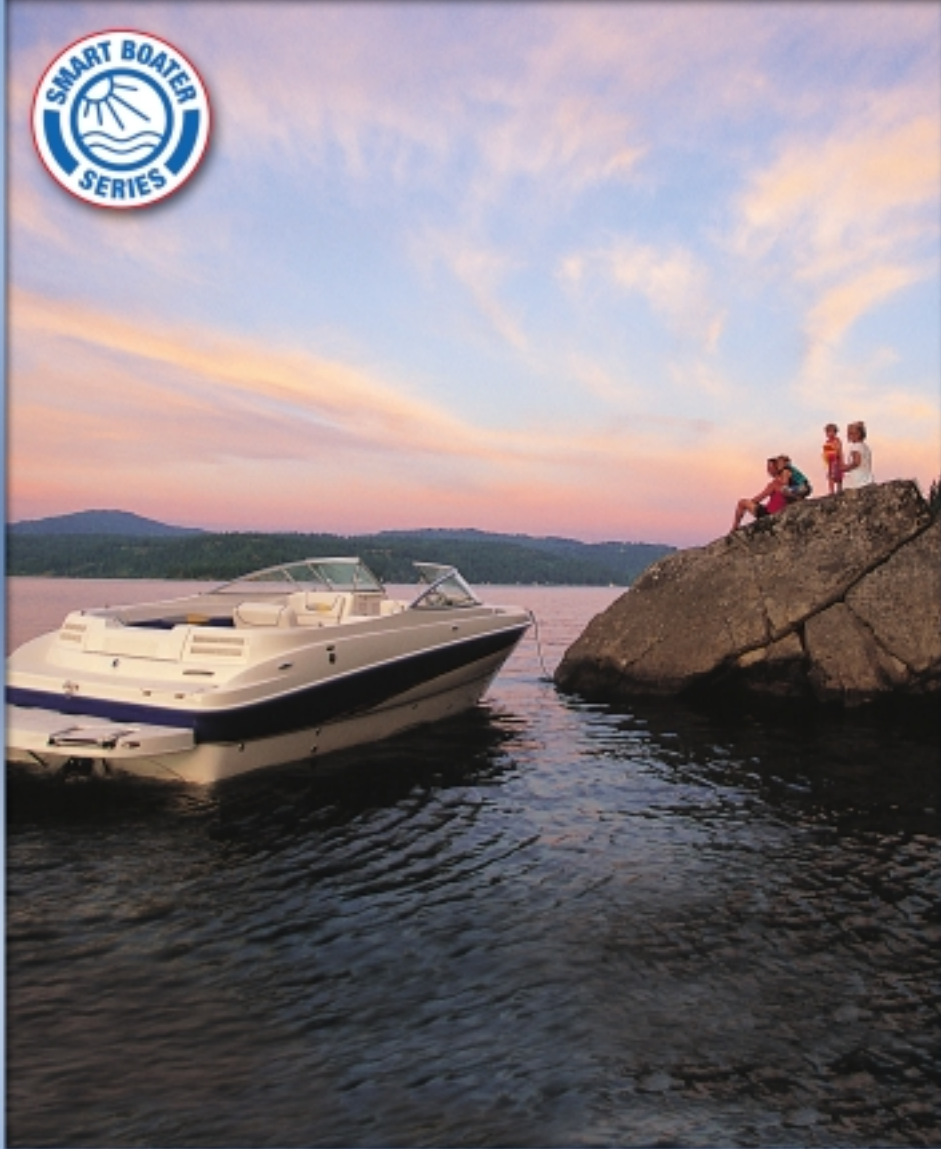


# Maintenance Guide



From the editors of  
Boating World magazine

Sponsored by  
**3M** MARINE  
Fast. Professional. Results.

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Properly maintaining your boat protects your investment and helps keep it looking new longer. There are many reasons for performing your own boat maintenance, but the best reasons are the time and money that you'll save.

Cleaning and repairing are not all that difficult, and by using the right tools and supplies for the job, boat maintenance can be accomplished relatively quickly — and with professional results — allowing you to spend more time enjoying your boat with family and friends.

Maintaining the outside of your boat is probably among the most rewarding tasks because when your boat looks good, you feel good. Bringing your boat back to peak condition is best accomplished by breaking tasks into manageable pieces and using quality products.

3M offers a complete line of marine products that work in harmony with each other and are specifically formulated for the demanding marine environment. 3M marine prod-



ucts provide professional results that will save you time — and money — in the long run.

## CLEANING

Before sprucing up your boat's appearance, make sure it's clean— and not just soap-and-water clean. You can apply all the best waxes and protectors, but if the fiberglass, gelcoat, paint or aluminum surfaces aren't squeaky clean to begin with, your boat will never look its best.

Your boat's surface also must be clean before you perform gelcoat work, fix cracks or even add or replace hardware, because most of the time you'll probably be matching gelcoat colors or applying a sealant. A surface clean of

all wax and dirt results in a truer color that will better match paint or gelcoat.

There's also a good chance you'll be adding or replacing some hardware, and the sealant won't adhere properly to a dirty surface. You'll need to use some effective cleaning agents for these tasks.

## Washing The Boat's Surface

Begin the cleaning process by using soap and water — but not just any soap. Household detergent can harm many boat surfaces as well as the environment. And while household soaps may appear to do an adequate job, your boat's finish eventually will suffer. In fact, using household cleaners can lead to gelcoat oxidation in a matter of weeks.



Start your washing with 3M™ Marine Multi-Purpose Boat Soap. This versatile product features a concentrated formula that quickly cleans the hull, decks, carpet, canvas— even the engines. Just mix with water to achieve the desired cleaning strength.

## Removing Black Streaks

It is especially difficult to remove black streaks because water— mixed with sea spray and dirt — is constantly channeled down the same place on the boat. Regardless of whether the water is from a rainstorm or overnight condensation, dirt and grime

are usually concentrated in one or two areas, causing the streaks.

Multi-purpose boat soap does a good job removing many of those



unsightly black streaks running down the sides of your boat. However, it takes an extra-strong cleaner to remove really stubborn streaks.

Don't waste time endlessly scrubbing those unsightly streaks. Use 3M™ Marine Black Streak Remover. This product is

specifically formulated to quickly clean tough streaks without harming your boat's surface. Black streak remover is strong, yet safe to use on fiberglass, metal and painted surfaces. It attacks the streak without leaving a residue or making it obvious where you wiped the streak away.

## Cleaning The Hull And Deck

Once you've done a full wash, there may still be work to do on the hull. 3M™ Marine Heavy Duty Hull and Deck Cleaner, a new player among 3M's



long list of cleaning products, is an excellent choice to use on the tough stuff — algae, grime, oil, fish blood and dirt — and also is ideal for cleaning fiberglass, metal and painted surfaces. This cleaner can be used at the waterline to remove slime and stains that other cleaners can't remove.

### Choosing The Right Cloth

The 3M™ Marine High Performance Cleaning Cloth costs a little more than using an old T-shirt for a cleaning rag, but it's much more effective, and it can be reused hundreds of times. Its unique bi-component microfibers and knit construction provide



excellent dust, water and oil pickup. The cloth may be used dry or damp, with or without cleaning chemicals.

The high-performance cloth also is terrific for

### WASHING A NON-SKID DECK

One of the toughest places to clean on a boat is the non-skid surface area. Most newer boats incorporate a liberal amount of non-skid surfaces for one very good reason: They help prevent family, guests and crew from slipping and falling into the water.

Cleaning these areas is another job for a heavy-duty cleaner.

Non-skid surfaces feature high-friction textured material that traps dirt and grime that can be difficult to remove.

And if the non-skid material is in a high-traffic zone, the dirt will be ground-in, which reduces the effectiveness of the non-skid surface.

removing solvents, dust and abrasive residues, waxes and fingerprints. When the cloth is dirty, just throw it in the washing machine. Now your boat's surface is truly clean.

Don't use household cleaners on non-skid surfaces because they may contain wax that will make the non-skid surface slippery. Household cleaners also can damage the gelcoat.

3M™ Marine Non-Skid Cleaner is a tough, effective cleaner that features a unique chemical formula for fast results. It cleans hard-to-reach ground-in dirt and stains on non-skid decks. Yet it's safe to use

on fiberglass, metal and painted surfaces. Just pour it on, brush it in, and rinse thoroughly with clean water, and you're ready to go.



### RESTORING

Time, weather, sun and salt all take their toll on a boat's surface. Despite your best efforts, your boat's showroom-new look will eventually fade, even if you've diligently maintained it over the years. Fortunately, there are a variety of 3M products available to restore a boat's finish, depending on the amount of oxidation that has occurred.

The best way to remove oxidation and restore that shine is to "buff-out" your boat. Buffing the surface will bring back the shine, even on boats that look hopeless. Done correctly with the right compounds, glazes and waxes, you'll bring the life back to your boat's appearance. If it's done incorrectly, however, your boat may need a new paint job.

### Removing Heavy Oxidation

3M™ Marine Super Duty Rubbing Compound is extremely aggressive and will cut through the worst oxidation. Apply with a 3M™ Marine Superbuff™ Pad for professional



results. Don't leave the buffing pad in one spot for too long, or you may damage or remove the paint or gelcoat.

Super duty marine rubbing compound clings to paint and gelcoat surfaces so the buffing action can do its job. The unique com-



pound remains wet on the surface, yet there's little or no mess. Before beginning, practice with a buffer to avoid burning the paint or gelcoat, or leaving deep swirl marks that will require additional buffer to remove.

Remember that every time you buff your boat, you remove a little more material. Eventually, you'll take the paint off or seriously thin the gelcoat.

### Removing Minor Scratches And Returning The Boat's Shine

Apply 3M™ Marine Finesse-It™ II Finishing



Material after using 3M™ Marine Super Duty Rubbing Compound. It's formulated to remove some of the swirl marks and scratches in the finish, as well as bring the finish up to a high-gloss "wet" look. And if you got a little carried away with the buffer in the previous step, just apply finesse-it finishing material to smooth things out.

As a final step, apply 3M™ Marine Ultra Performance Paste Wax or 3M™ Liquid Wax to provide UV protection from the sun's damaging rays.

### One-Step Process (Heavy Oxidation)

3M™ Marine Fiberglass Restorer and Wax is designed to remove heavy oxidation, chalking, fading, minor scratches, rust and exhaust stains. Simultaneously, it leaves behind a hard coat of wax that protects the finish from further oxidation.

Using this 3M product combines two steps and helps you finish the job faster so you can do more important things in your free time, like taking your



boat out on the water for a long, leisurely cruise.

### One-Step Process (Light Oxidation)

3M™ Marine Fiberglass Cleaner and Wax removes light oxidation and also provides a waxed finish. It works well for newer boats that don't have heavy oxidation, and also is effective on small rust spots or stains when you don't want to use a heavy-duty cleaner that could remove the wax.

Simply put a little fiberglass cleaner on a rag, and buff out the spot. Then, wipe it off with a dry cloth. The spot is gone, but the wax finish remains.



### Restoring And Polishing Metals

By now your boat is buffed and sparkling. However, a



quick glance reveals that the metal needs some attention. Time to use 3M™ Marine Metal Restorer and Polish. It restores and polishes stainless steel, brass, bronze, copper and chrome. It also removes rust, oxidation and tarnish.

When you use marine metal restorer and polish to wipe down the cleats on your boat, they look good, and handling lines on the cleats is much easier when the surface is clean.

Mariners who own aluminum boats can use 3M™ Marine Aluminum Restorer and Polish to restore bare aluminum's shine and patina. Aluminum is difficult to keep looking good, especially in a harsh salt environment. However,



aluminum restorer and polish will keep it looking good longer. Do not use this product on any

### RESTORING DULL VINYL

Once you've gotten the outside of the boat looking good, the seating and cushions could use some extra care. A quick wipe with 3M™ Marine Vinyl Cleaner and Restorer, and you'll think you just got a new interior. It really

cleans well, plus it has a fresh lemon scent. Follow up with 3M™ Marine Outdoor Vinyl Cleaner, Conditioner and Protector. This product protects vinyl, rubber and plastic surfaces from the harsh marine environment.



anodized aluminum surfaces, or the abrasive material will remove the anodized coating.

## PROTECTION

Your boat is now looking smart and ready for another year on the water. You've put in a lot of hard work — and it shows. Now it's time to consider how you're going to keep it looking good.

While it may be tempting to simply grab a can of wax at the auto parts store, resist that temptation. These waxes are good for what they were designed for — your car or truck — but they're not formulated to work like marine protectors. Once again, using the right product for the job delivers professional-looking results and speeds those maintenance tasks.

Marine products tend to be a little more expensive, but consider what you paid for your boat. Then remember that your boat is an investment and deserves the appropriate products. You'll also want the best products available when it comes to protecting the work you just put into your boat, otherwise you may have to repeat that maintenance work sooner than you'd like. 3M products will protect your hard work so you don't have to worry about how long the finish will last.

### Fiberglass/Gelcoat Protection

3M™ Marine Protective Liquid Wax is easy to apply and is designed to give your boat's fiberglass/gelcoat, painted surfaces/painted aluminum and metal parts, a high-gloss shine. It also



leaves a good protective coating. This wax has a unique formula that chemically bonds to your boat's surface and retards UV damage.

Traditional paste wax is difficult to apply and wipe off, but the coat it leaves behind is worth the extra work. 3M™ Marine Ultra Performance Paste Wax contains easy-to-apply wax poly-



mers that provide immediate and long-lasting water repellency. The result is a high-gloss protective finish that retards oxidation and sun-light damage.

To give your boat that just-waxed look and feel, use 3M™ Marine Clean and Shine Wax Enhancer on your boat. To save time, this product can even be sprayed on your boat while it's still wet so you can get back to having fun, faster.



### Surface Protection

Mold and mildew grow quickly in a marine environment and do more than just smell terrible; they can actually deteriorate fabric surfaces and cause allergic reactions. 3M™ Marine Mildew Block is designed to prevent mildew growth. The pat-



ented nontoxic formula forms an invisible barrier that prevents mildew growth.

The handy spray-on applicator makes it easy to protect most marine surfaces and keep them looking cleaner and newer longer. This versatile product also is perfect to use on boat covers, sails, bathroom surfaces, deck furniture and more.

## REPAIRS

When you need to add some equipment or hardware, or repair damage, you'll need to clean the area where you'll be making the repair, and then seal it with a good grade of sealant. It's very important to use the right sealant in order to protect your boat from water intrusion.

If you use the wrong sealant or the surface has not been properly prepared, moisture can enter into and under the item you're installing. This will eventually rot the material underneath and result in expensive repairs.

3M has long been recognized for its world-class adhesive technologies and expertise, and has several marine-grade adhesives for different applications. It's a good idea to always have a couple of these adhesives on your boat (see sidebar on page 18).

### Installing Through-Hull Fittings

3M™ Marine Adhesive Sealant 5200 is the industry benchmark and one of the toughest sealants available. This high-strength, perma-



nent adhesive should be used in those applications where you don't plan to remove the item you're adhering, because you'll have a difficult time removing it.

Marine Adhesive Sealant 5200 is a high-performance polyurethane adhesive/sealant that becomes tack-free in 48 hours and completely cures in five to seven days. This adhesive stays flexible, holds its strength above or below the waterline, and resists salt water and weathering. However, don't use this adhesive product on hatches or other items that might be removed in the future.

Because of the strength of Adhesive Sealant 5200, use a thin film of it behind hinge plates that have marginal screw strength. This product has high strength, shock and vibration values, so it helps prevent the screws from elongating and also keeps the hinge plate in place.

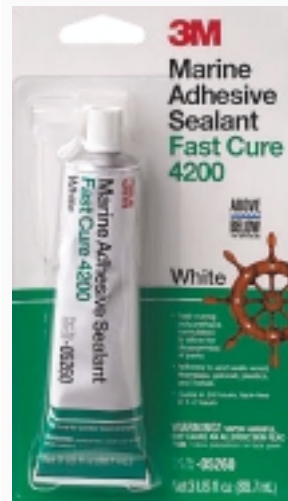
When time is critical and you need a fast, long-term seal above or below the waterline, use 3M™ Marine Adhesive Sealant Fast Cure 5200. It becomes tack-free in one hour and completely cures within 24 hours. This adhesive is ideal for applications that need a little flexibility.

### Installing Hardware

For some hardware installation projects, you'll want to select a product that is strong but allows for future disassembly. 3M has several products that fit this description. If you're looking to seal hatches, hinges, portholes, navigation lights or deck hardware, 3M™ Marine Sealant Fast Cure 4000 UV is a great choice.



Marine Sealant Fast Cure 4000 UV is an outstanding cosmetic sealant that's good for topside application because it's UV-resistant and won't yellow with time. Its flexibility allows for the dissipation of stress caused by shock, vibration, swelling



or shrinking. It's exceptional at bonding to metal and can be used above or below the waterline.

3M™ Marine Adhesive Sealant Fast Cure 4200 is an excellent choice for projects such as sealing access plates and stern joints. It forms a watertight, weather-resistant seal

on joints and boat hardware. Approximately half the strength of 3M™ Adhesive Sealant 5200, it allows for future disassembly of parts and can be used above and below the waterline. It's a good all-around adhesive/sealant product to have in your boat repair kit.

### Semi-Structural Repairs

For semi-structural repairs above and below the waterline, use 3M™ Marine High Strength Repair Filler. It has a



unique formulation that features short strand fiberglass. This high-perform-



ance reinforced filler can be used to repair fiberglass hulls, decks and other parts. Just fill holes to slightly below the surface of the surrounding area. Then use 3M™ Marine Premium Filler to finish the repair work before sanding.

### CABIN AND TRIM SEALING

3M™ Marine Grade Silicone Sealant is among the most widely used sealants on the market today.

It's ideal for sealing trim, hatches, drip rails, sinks, heads and more. Marine grade silicone sealant is mildew-resistant and remains flexible after curing. It'll adhere to almost any surface except those that have an oily film. To get a good seal from this product, make absolutely sure you



have a clean surface with no oil present before applying.

## PAINTING

For the most part, painting the bottom of your boat isn't difficult; however, it is a dirty job. And if you don't protect your body and the immediate environment, it's also hazardous. You need the proper equipment, supplies and paint to perform a good bottom paint job that will last.



### Surface Prep

Like other boat-maintenance tasks, it's important to make sure the surface you're working on is clean. The first step in cleaning and prepping is to use 3M™ Marine Heavy Duty Hull and Deck Cleaner or pressure-wash the hull as soon as it's out of the water to remove the sea grass, barnacles and anything else hanging onto it.

Thorough surface preparation is the key to success with all paint jobs. Before starting to remove the old paint, mask off the boot stripes to prevent your sander from wandering into a boot stripe, otherwise you'll have to repaint it as well. One of the best products for this task is 3M™ Marine Heavy Duty Protection Tape #346.

Another good option is to use multiple layers of Scotch® Blue Painter's Tape #2090. Both options will protect the surface and remove easily without leaving any adhesive residue.

### Sanding The Bottom Paint

Now you're ready for the messy work — sanding off the old bottom paint. 3M recommends using a 24- or 36-grit sanding disc. The sanding process will take some time, depending on the size of your boat and the amount of paint build-up.

The importance of wearing the proper gear when sanding the bottom paint can't be overstated. The chemicals you must use are toxic, and, if inhaled, may cause severe health prob-

lems. Use a government-approved respirator. 3M sells a wide range of respirators for various applications. Make sure the respirator you select is appropriate for the work you intend to do and that it fits your face correctly to provide a tight seal.

In addition, wear eye and ear protection, and a full body suit — you don't even



want to let your skin breathe in the dust. In fact, in some areas, you may need to tent or bag the entire boat before starting. You can use Visqueen™ or heavy plastic, and secure it with 3M™ Preservation Tape #481.

## MASKING

Mask off areas where you don't want to paint. You may want to get creative and paint some new stripes with the tape. With so many different masking tape types and sizes, you can create just about any design you want.

When you take on a project like this, you're effectively performing a complete detail of your boat. It's time consuming, but having all the supplies on hand before getting started makes the job that much easier and faster. As you go through the list of tasks, simply choose the products that do the best job.

Because the effects of sunlight on adhesive varies between different tapes, for overall masking select the tape depending on how long you plan to leave it on the surface, and whether you plan to use it indoors or outdoors. Other considerations include the type of paint you plan to apply.

For example, Scotch® Blue Painter's Tape #2090 is a masking tape that is UV-resistant and can be left on a surface indoors or outdoors for up to 14 days, yet removes cleanly. Scotch® Blue Painter's Tape #2080 removes cleanly for up to 60

days and leaves sharp, crisp lines.

Scotch® Masking Tape #256 can be left on a surface indoors for up to five days, yet it removes cleanly; and Scotch® Performance Masking Tape #233+ can be left on an indoor surface for up to 24 hours.

These time limits help determine how easy the masking tape will be to remove. If you leave any masking tape on a surface too long — especially in sunlight — the adhesive may be difficult to remove. Remember that typically the longer the recommended duration of use, the more expensive the tape is. Resist the temptation to use the less expensive tapes for long periods, or you'll pay a price in time spent trying to remove it without damaging the surface.





### Applying Paint

Except for the type of paint being applied, topside painting is similar to painting the bottom. The same principals apply to the preparation, masking and priming. For optimal results, always follow the paint manufacturer's recommendations.

Generally, apply the primer, and let it dry. Then, sand the surface with a 3M™ Imperial™ Hookit™ II Dust-Free Film Disc (P220-P400). Because any paint can be hazardous, use the same types of protective gear and precautions you used when you painted the bottom of your boat.

### Conclusion

Congratulations on a job well done. You've been persistent, and hopefully you've used the right products for the job at each step. Your boat is now sparkling clean, freshly repaired and as ready as ever for the water.

As you can see by the descriptions of these progressive boat-maintenance tasks — along with the optimal products for each — 3M manufactures a product series that works perfectly

## "MUST HAVE" 3M PRODUCTS

Here's a short list of 3M products that every boat owner should consider keeping on hand for quick cleaning and repair situations. You'll be surprised how often you can use these products — and how much easier they'll make your life.

- 3M™ Marine Multi-Purpose Boat Soap
- 3M™ Marine Fiberglass Cleaner and Wax
- 3M™ Marine Outdoor Vinyl Cleaner, Conditioner and Protector
- 3M™ Marine Adhesive Sealant 5200
- 3M™ Marine Adhesive Sealant 4000 UV
- 3M™ Marine Protective Liquid Wax
- 3M™ Marine Mildew Block
- 3M™ Marine High Performance Cleaning Cloth
- 3M™ Marine Grade Silicone Sealant
- 3M™ Marine Black Streak Remover
- 3M™ Marine Non-Skid Cleaner
- 3M™ Marine Heavy Duty Hull and Deck Cleaner
- 3M™ Marine Metal Restorer and Polish
- Scotch® Blue Painter's Tape #2090

in the marine environment and provides professional results. And while the whole process has taken some time, using high-quality 3M products has minimized the amount of time spent on cleaning and maintenance tasks.

The beauty of finding a company that offers a series of maintenance and repair

products is that each product helps individual tasks smoothly segue into the next, until the entire project is done. Now it's time to get out on the water, relax and enjoy your boat with family and friends. Bon voyage!



ASHMAR LIMITED

**ASHMAR LTD**  
UNIT K/1 Henry Rose PI  
Albany, Auckland, New Zealand

Phone : +64 9 415 2260  
Fax : +64 9 415 2261

**[www.ashmar.co.nz](http://www.ashmar.co.nz)**