

Prop Shop

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PROPELLER MAINTENANCE ISSUE

Shine It Up!

Ordinarily, your shiny stainless steel propeller stays looking just like that for years and years. In some harsh environments, however, surface discoloration (what many folks call "rust") can appear on the surface of a prop. So what's causing this and what can be done to prevent it?



First off, remember that propellers are "stain-less," not stain-proof. There is a measure of iron contained in any stainless steel propeller in order to maintain the necessary hardness in metallurgy. Therefore, depending on how you use and care for your propeller, surface discoloration can appear over time. It doesn't affect performance, just appearance.

Prevention, rather than removal, is best. Thoroughly rinse the props with fresh water (and perhaps mild liquid soap) after each use. For stubborn stains, try a soft rag and spray-on household bathroom cleaner, hydrogen peroxide, or a mild rubbing compound. Some commercially-available polishes also produce good results. Always remember to rinse the prop thoroughly with fresh, clean water immediately afterward.



NOTE: Since surface discoloration is not a defect in materials or workmanship, and the environment in which a prop is used and how it's maintained is beyond our control, this condition is not covered under either the Yamaha or PPI (Turbo®) Limited Warranty.

Propeller Polish

Stainless steel props are one of the most common additions boaters make to their rigs. Excellent performance, durability and great looks are the main reasons boaters choose stainless steel propellers. A prop's loss of luster, however, often gets boaters flustered, so here are some tips to keep that prop shining!



We are going to tackle several methods of propeller polishing for various levels of staining or discoloration. We will start with the easy ones and work our way up to the ones requiring a little more elbow grease.

Rough Cast Mag Wheel Cleaner – <http://youtu.be/aXhRijoZK7o>

- Simple spray on, spray off method
- Rinse thoroughly and follow up with a quality automotive type wax
- Use caution near painted surfaces

Toilet Bowl Cleaner, Hydrogen Peroxide, or Calcium Lime & Rust Remover – <http://youtu.be/k4D-2CILteA>

- Great for spot cleaning
- Removes rust stains
- Spray on or put on a rag and wipe over stained area
- Rinse with water, dry, and follow up with wax

Mild Rubbing Compound or Metal Polishing Paste <http://youtu.be/QR3boFDbKYQ>

- Requires some elbow grease but works well for difficult stains
- Apply to a pad and rub in a circular motion until stain is diminished
- Buff with a clean cloth and apply wax

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When trying any of these methods be sure to follow all the manufacturer's directions to avoid any possible damage to the finish of the propeller and any surrounding areas. Depending on the severity of your particular staining or discoloration, in most cases any of these methods will work to bring back the luster of a stainless steel propeller. All of these products are readily available at most local grocery, auto parts or hardware stores.

➤ Propeller Care & Maintenance

Proper care and maintenance of your propeller is crucial to keeping your propeller looking and performing its best. Whether you have an aluminum or stainless steel propeller, a little propeller maintenance can save you big.

Before you launch your boat, take a minute and do a quick visual inspection to ensure that you didn't miss any potential issues last time you put the boat away. Look for things like fishing line or debris wrapped around the prop shaft, and make sure the nut appears tight and the cotter pin is still in place.

When you return from that great day on the water, you should repeat your visual inspection. Once you give it the old once over, rinse the propeller thoroughly with clean fresh water. When it's time to start scrubbing the boat, don't forget about the prop. Using mild soap, scrub up those props to remove any remaining dirt, grime or exhaust residue and rinse again. Now that the prop is clean, you may want to use an automotive wax to protect the finish. There are many different products available, but one that works well is Yamalube Spray Polish and Instant Detailer. You can get it through your local Yamaha Marine Dealer.

These methods are great for when the boat is in regular use, but what can be done during the down time? At least once annually some deeper maintenance should be done. For this type of maintenance you will need to be able to access the propeller for removal. With the boat on the trailer or dry dock, you should begin by doing the same type of visual inspection as discussed earlier.

If no visible issues are found, proceed with removal of the propeller. Remove the old cotter pin and throw it out since you are going to replace it with a new one (see "Don't forget the pin" Vol. 3 Ed. 2 Sept. 2013). Loosen and remove the propeller nut and aft spacer and set them aside for reuse. Now remove the propeller (if it's been properly maintained it should slide right off) and the forward thrust washer. If the thrust washer doesn't come off easily, you may need to tap it with a drift to get it loose.



With the propeller off look over the propeller shaft and gearcase seals. If any fishing line or debris is wrapped around the shaft or even stuck in the seals, this would be a good time to contact your local Yamaha dealer to have the gearcase pressure tested. If no debris was found then you should proceed with cleaning the old grease from the shaft. Use a light solvent and a rag to wipe down any old grease.

Place the propeller on a suitable workbench and inspect the hub first. If it's a pressed-in rubber hub you will be looking for any signs of hub spinning. When a hub has spun you will see rubber pieces rolled up around the edges of the hub, which will sometimes appear melted. If your propeller has spun, replace it or have a new hub installed by a reputable propeller repair facility.

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Yamaha's Prop Shop

➤ Propeller Care & Maintenance | continued



For propellers with universal hubs you will need to look for any signs of cracking or splitting in the hub. These hubs are usually made of a hard plastic or Nylon type material molded around a brass spline. To limit any excess wear on the hub, do not remove it unless you see signs of damage.

Inspect the propeller blades for any nicks, dings or cracks. Small issues can be cleaned up with a file and some fine sand paper or emory cloth,

but larger ones will need to be repaired by a professional propeller facility. Look for bent or distorted blades which could leave the propeller out of balance. Feel out the cupping on the trailing edge of the blade and blade tip; years of use in areas of high sediment will steadily wear the edges and cupping out of the propeller, slowly diminishing performance over time.



Now that we have inspected everything, it's time to put it back together. Grease the propeller shaft with the manufacturer's recommended waterproof marine grease. Install the forward thrust washer with the tapered side in. Next, slide on the propeller, aft spacer, washer and nut and be sure to tighten the nut to factory torque specifications. Last, install a new cotter pin. If the specified torque leaves the pin where it won't cleanly pass through the castle nut, be sure to tighten it a bit more. Never back off the torque to accomplish this.

If any of these issues above are found, you should consider having your current propeller refurbished and kept for a spare and install a new propeller to ensure maximum performance out of your boat. Following these simple maintenance tips will ensure your propeller's best performance and those all-important looks.

You've got propeller questions? We've got answers.

Our continuing series aims at 'demystifying' the world of propellers.

Q. My boat sits on a boat lift above the water and I notice that the the propeller gets a white or grayish film or buildup on it. What is this buildup and how can I prevent it?

A. This occurs mostly in saltwater environments but can sometimes occur in freshwater. The buildup you are experiencing is most likely Calcium or Lime deposits left on the propeller after the water evaporates away. In most cases these deposits can be rubbed off easily sometimes even just with your fingernail. If you experience this, try one of the cleaning methods we discussed earlier and remember to rinse the propeller thoroughly with soap and water after each use and keep a protective wax on the propeller to prevent further calcium buildup.



Yamaha's Prop Shop

Grease and Go!

Rubber parts such as fuel lines, diaphragms and even propeller hubs can be very sensitive to harsh chemicals. Using the wrong chemical on a rubber part can cause the part to swell, deteriorate or crack, leaving the part unusable.



For this reason it's always important to follow the manufacturer's recommendation for lubricants. For example, with Yamaha's Talon propeller with SDS, it's important to use only Yamaha WR No. 2 grease to avoid possible damage to the dampers. Be sure to check the appropriate Owner's Manual if you have any questions.



YES!

NO!



▶ Talon SDS hub maintenance

<http://youtu.be/RcHujXNaeFw>

Unlike all other Yamaha propeller hubs, Yamaha's Talon propeller with SDS features a rubber damper that is replaceable by the consumer. Should you need to replace the dampers with this hub type, following a few basic steps will simplify the process. First, using an acceptable driver, drive out the

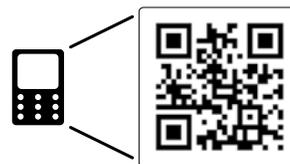


brass-splined hub and remove the dampers. Wipe the inside of the hub clean and prepare the new dampers. Using Yamaha WR No. 2 grease, apply a liberal coating to the new dampers. Place one damper over each outer spline on the brass hub (There are 3 outer splines). Gently push the hub and dampers into the propeller using the aft spacer to fully seat the hub. Now just grease the propshaft and you are ready to reinstall your Talon propeller.



If you'd like more information about which Yamaha propeller is right for your needs, contact your local authorized Yamaha Marine Dealer at yamaha-motor.com/outboard/dealers/dealerhome/home.aspx.

For short videos on Yamaha propellers, including proper installation, maintenance, and more, scan this symbol using your smart phone or tablet.



Message and data rates may apply. May not be available on all devices.

Also, please join us on Facebook at facebook.com/yamahaoutboards. We'll be happy to help you get pointed in the right direction.

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