

Prop Shop

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Unfamiliar territory



When navigating an unfamiliar waterway it's important to use extra caution. After all, you want to get the most enjoyable experience out of discovering those new places. Here are a few quick tips to help you ensure that your boat and crew make it back unscathed:

- Always check your safety gear before you go. Anything that is expired or no longer functional should be replaced.
- Do some leg work. Review charts, satellite images, tide tables and make a float plan. Let someone know where you're going and when you'll be back.
- If you're running outside of marked waterways, slow down and see the sights. Besides, you never know what might be lurking just below the surface.
- Make sure to carry a spare prop and hardware onboard, and the simple tools needed to change it. You'll be glad you have it when (not "if") you need it (see **Why should I have two props? Prop Shop Vol 2, Ed. 1., February 2012**)
- Be respectful of your surroundings at all times, including local boaters. Locals take particular pride in their waterways, so don't be "that guy."

Following these simple steps will help to ensure that you get the most out of your next exploration on the water.

Four blades and skinny water



One of the fastest-growing segments of fishing these days is flats fishing. Whether your quarry is Redfish, Seatrout, Bonefish, Tarpon, or any of the other fun-to-catch skinny water dwellers, the first (and sometimes biggest) challenge is getting to them. That's where today's modern flats boats come in.

Over the last decade advances in hull construction and materials, including Carbon Kevlar® and vacuum-molded hulls, have greatly reduced weight while simultaneously increasing strength. The lighter the boat, the less horsepower is needed for outstanding performance; therefore smaller and even lighter outboards are now used. So how do you help these boats quickly pop on plane and lift the entire boat for sustained operation in skinny waters? Oftentimes (but not always) a four-bladed propeller is the ticket.



Four-bladed props have more surface area than most of their three bladed counterparts, so they grip the water better, allowing for more positive acceleration with less stern drag at hole shot.

The added down force they generate also helps lift the stern of the boat, and thus the entire boat, which helps keep the boat drafting as little water as possible while at speed.

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Yamaha's Prop Shop

➤ Four blades and skinny water | continued

Additionally, since there are more blades contacting the water, four-bladed props usually allow for higher engine mounting heights. When you're in super-shallow water (sometimes as little as 5"-6"), these attributes speak volumes.

Turbo's FX4 propellers are excellent for these smaller flats boats powered by mid-range horsepower outboards. They help quickly plane off these craft with minimal bow rise, helping to keep you up and out of fragile seagrass beds. They also provide excellent acceleration, bow and stern lift, and stay hooked up in turns when navigating winding marsh or mangrove channels. The FX4 works well in high engine mounting height applications – which makes this prop a great choice for tunnel hull and jack plate combinations – and since it uses universal type hubs, it can be used with virtually any brand of outboard.

Together, smaller flats boats with mid-range horsepower and Turbo's FX4 propeller make a formidable fishing platform for the skinniest of waters. So if you're going super light and super skinny, give one a try!

The Turbo FX4 is available for 4.25" gearcases (Yamaha K series) in 13¼" diameter x 14", 16", 18", 20", 22", 23", 24", and 25" pitches. All require a Guardian SQ-Lok Hub or similar.



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

Our continuing series, aimed at 'demystifying' the world of propellers.

Q. I just took delivery of a new four-cylinder Yamaha F200. What prop should I use?

A. Yamaha's Reliance propeller was specifically designed for large-displacement, in-line 4 cylinder engines. They are the go-to propellers for Yamaha's new F200 (2.8L) in most applications, as well as applications using Yamaha's F150. They're available in 15", 17", 18", 19", and 21" pitches, in both right- and left-hand rotation, so finding the one just right for your particular application is a snap.



Reliance propellers now feature the addition of Yamaha's exclusive Shift Dampener System (SDS™). This proprietary system virtually eliminates the clunk associated with shifting an outboard into gear, and helps provide smooth and quiet operation throughout the rpm range.

The combination of Reliance propellers and Yamaha's Shift Dampener System is the ideal companion to your 2.8L F200 (and the 2.7L F150, too) in the vast majority of applications.



2.8L F200 and current F150 models both come factory-standard with the special aft spacer on the propeller shaft required to make the SDS system work. Just check Yamaha's Performance Bulletins for your boat or one similar to it, and start with that pitch. If your typical situation is drastically different than the test conditions listed on the bulletin, you can "pitch up" (if your boat's lighter) or "pitch down" (if your boat's heavier) according to your need.

For more information on Reliance SDS propellers, check out the on-line video at: <http://www.youtube.com/watch?v=vqJz4-ij9XQ&feature=youtu.be>

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Are you ready for some new wheels?



So you've gone a few seasons now on your original set-up and you're starting to notice that maybe your boat just doesn't have the get-up-and-go she used to. It might not be your engine. There's a good chance it could be your propeller.

If your propeller is worn you can expect symptoms such as:

1. Poor hole shot
2. Loss of top speed
3. Poor fuel economy
4. Loss of horsepower and torque
5. Vibration

Propellers, like most other mechanical devices, wear out over time. There are many factors that contribute to propeller wear and a host of performance issues that it can result. Let's break down some of these factors:

1 The environment. This is arguably the biggest factor in propeller wear. If you are boating in coastal areas that are shallow and have a lot of sediment combined with large fluctuations in tidal movement, the sediment in the water can act as an abrasive (much like sandpaper). The propeller constantly spinning through this abrasive mixture wears away at the blade edges, dulling them. This leads to diminished performance over time.



2 Impacts. Obviously, any form of impact is going to be detrimental to your propeller's performance. Even small knicks or dings in a blade can lead to poor performance and even catastrophic cavitation. If you have impacted something to the point that you have bent or broken a blade or blade tip, you'll realize poor performance coupled with potentially damaging vibration. This condition can lead to expensive prop shaft, bearing, or gear damage, and that's time you're off the water.

3 Temperature. While this is not so much a cause for concern for the propeller itself, it is a concern for the propeller hub. The temperature of the exhaust gases passing through the hub are very hot. These high temperature gases can deteriorate the friction-based bond between the cushion rubber hub and the hub bore, which can lead to a rubber hub "slipping." If your outboard has a propeller hub cooling tube, make sure to check that this tube is not clogged with debris, which prevents proper cooling of the propeller hub. If you do have a hub slip, have it repaired by a reputable propeller shop. The inner hub bore must be thoroughly cleaned before a new hub is pressed in, and always insist on OEM propeller hubs, for maximum performance and effectiveness.



So if you notice that your boat is missing that little something or that fuel gauge is moving a little too fast, it just might be time for some new wheels. If that's the case, it's time to see your Authorized Yamaha Marine Dealer. You can find your closest one at yamahaoutboards.com.

Yamaha's Prop Shop

Don't forget the pin!

The cotter pin that secures your prop is one of the most-important, yet overlooked items when it comes to propeller maintenance.

Removing your propeller to inspect it periodically is probably one of the easiest things a DIYer can do. It's a good idea to make this part of your regular maintenance to reduce the possibility fishing line or seagrass and other weeds can get wrapped around the prop shaft and damage the prop shaft seals.



Make it a habit to grease the prop shaft with a high-quality marine grease while you have the prop off, and *replace* the cotter pin instead of reusing it. That \$1.50 you saved by reusing the pin instead of replacing it won't come close to getting you home if that old pin breaks, and it very well might allow your nice, shiny prop to slip off into the depths!

So...next time you have your prop off for service, "Don't forget the pin!"

A tale of two props

Recently at Yamaha we did a comparison on one of our company boats with the exact same F150 using two different Reliance Series propellers, one worn over a few summers of use (relatively minor wear and tear) and one new out-of-the-box. Other than that, the propellers were exactly the same (Reliance SDS 14¼" x 17"). The new propeller produced a top speed of 44.5 mph while the worn one struggled to make just 42 mph.



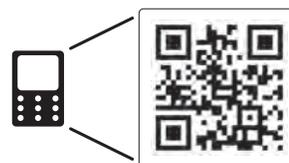
This illustrates one instance where it may be time for a new propeller, but getting a new replacement doesn't spell death for your old prop, or your wallet either. Since it's always a good idea to have a spare prop on the boat, send the worn prop off to a reputable prop shop for re-conditioning. That way your spare prop will offer similar performance to your primary prop.

So keep your eye on your propeller's condition. Your performance and fuel economy, and your overall level of satisfaction depends on it.



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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