Yamaha's

"The latest news about Yamaha propellers"

Prop Shop

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Make sure your prop is ready for action

Regardless of where you live and how often you boat, always remember to periodically evaluate your propeller and its maintenance.

Examine your propeller for any bends, nicks, or cracks, especially on or near the blades. If you find any, contact a Yamaha Marine dealer **(yamahaoutboards.com)** While you're at it, remove the prop, check for and remove any fishing line from the prop shaft, then lubricate the splines with a good quality marine grease and re-install the prop, making sure the propeller nut is torqued to specifications.

No one wants, or needs, to be left out of the action by a failed propeller. It's not likely, and simple inspection and maintenance can help keep it that way. For more propeller maintenance tips, view our short video at **youtube.com/watch?v=4g0c-unL9uM**

Is your prop the *right* prop?

The propeller is a critical component in making sure your boat performs correctly. It must be right for your particular boat's set up and the way in which you use it. It must also take into account things like variations in load and weight, average operating speed, captain's ability, and even typical sea conditions. All of these things affect boat performance.

But what if the prop you're concerned about is the prop that came with the boat? These are many times mistakenly thought of as the standard prop. Truth is, there is no such thing as a standard prop, and there's a chance that the prop that came with your boat is not the ideal propeller for your specific needs.

So since no standard propeller exists, and there are so many propeller choices, how does one even begin to find the correct prop, and how do you properly evaluate the performance of the prop you have?

Answer...in the water at wide-open throttle (WOT) rpm. The trick is to not over-complicate things. Here are the basics:

First, make sure your boat's hull is clean and structurally sound and that the engine(s) runs correctly. Then, in your normal boating environment, run your boat wide-open with your average load and in average conditions, trimmed for

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What's news?

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maximum speed. The engine rpm should max out in the upper 30% to 50% of the manufacturer's specified WOT rpm range (as measured by a tachometer). In fact, the closer to the top rpm number specified the better. If it's not in this range and no other performance-limiting conditions are present, a different prop will most likely be needed. But which one?

True...Yamaha offers over 30 families of propellers. But you're simply looking for the propeller solution that you need, for what boat you have and how you use it. To help make the selection process easier, Yamaha has devised an easy-to-use method based on your boat type, and it's an integral part of Yamaha's "Endless Propeller Solutions". It's application-based, not product-based, so you don't have to look through all 30-plus families of Yamaha props to find the one that's right for you.

Start by selecting the type of boat you have from one of the four major categories below. You'll notice we've listed the props that typically provide the majority of solutions for your category of boat, so this process immediately slims down the pool of typically eligible props you need be concerned with (we say typically because there are always unusual applications...see page 4 for an example).

Next, use Yamaha's propeller selection procedure to help whittle down this short list of possible propeller solutions to just a few. You'll find this information, and the rest of this simple procedure, on our website at **yamahaoutboards.com/propellers/picking-a-propeller**. Give it a try. It's easier than you might think.

LARGE BOATS

Applications
- Express Cruisers
- Large Center Console (CC) Open
- Walkarounds
- Approx. 10,000 lbs. & up

Solutions
- Saltwater Series II - SDS*
- SWS XL 3-blade - SDS* (F350)
- Performance XL4 (F350)
- Performance XL4–HP (F350)
- Offshore II
- Offshore 1 (4-blade)
- Saltwater Series HS4™-SDS*
- Fusion 4

*SDS = Yamaha's patent-pending Shift Dampener System

MEDIUM AND SMALL BOATS

Applications
- Small twins
- Deep V hulls
- Tiller handles / jon boats
- Dinghies

Solutions
- Reliance
- Performance 3 / Turbo 1
- Quest (3- or 4-blade)
- Pontoon Performance/ Pontoon 1
- Painted Stainless Steel
- FX4 / Ultima 4
- Hot Shot
- Deep V Aluminum
- Aluminum

FAMILY AND WATERSPORTS

Applications
- Deck boats
- Pontoons
- Fish & Ski

Solutions
- Reliance
- Pontoon Performance/ Pontoon 1
- Dual Thrust
- Painted Stainless Steel
- Performance 3 / Turbo 1
- Saltwater Series II - SDS*
- Vector
- Quest (3- or 4-blade)
- Aluminum

BASS / BAY / FLATS

Applications
- Bass boats
- Bay boats
- Flats boats

Solutions
- V MAX (ventless/vented)
- TXP / FXP / TXP OT4
- Performance XL / Lightning
- Pro
- Offshore 1
- Performance 4/Turbo 2+2
- FX4/Ultima 4
- Fusion 4

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

Our continuing series, aimed at 'demystifying' the world of propellers. Portions are reprinted with permission from Yamaha's *The Boater's Log,* Vol. 3, No. 14.

Q. Running a three-blade propeller, my boat has good top end speed, and the engine's rpm is where it should be at full throttle. I'd like the boat to get on plane quicker, but I don't want to give up any top speed. Do you think a four-blade wheel would help?

A. Choosing a propeller is usually a compromise between many factors. A gain in performance in one area usually means somewhat of a sacrifice in another. Seldom do we find a prop that pops a boat on plane and delivers blistering top speeds – but there are exceptions, and it doesn't hurt to try. Bolt on a four-blade propeller an inch less pitch than your three-blade (to keep the outboard's rpm up). Your boat's planing time ought to be better; however, in most applications, a four-blade prop may not be quite as fast on top as a three-blade propeller.

Number of blades

Three-bladed propellers are the most common, offering good overall performance, top speed, and efficiency for the vast majority of applications. Four-bladed props characteristically provide increased acceleration, enhanced bow- and stern-lift, and reduced ventilation. However, four blades typically mean more drag on the engine, resulting in lower top speeds and different handling characteristics.

Three-blade

Four-blade

For more information, consult the *"The Boater's Log"* at yamahaoutboards.com

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Why should I have two props?

As mentioned before, there's no one prop that's right for all boating conditions. That's one big reason why there are so many different kinds, and why you should strongly consider keeping two propellers on hand. Here are a few others:

- The likely eventuality of needing a spare. Having a prop issue with a boatload of eager family members or with your fishing-fanatic buddies 70 miles out in the Gulf Stream is not the type of relaxed atmosphere you go boating for. You carry a spare tire in your car, don't you? Why not a spare prop in your boat?
- You need different performance from the same boat – like top speed for fishing in the morning and pulling power for skiing in the afternoon.
- Let's say you're all about top speed. Did you know that temperature swings on a single summer day can rob you of as much as 5mph? Even more between seasons, like spring and summer.

Being a prepared boater means many times having two propellers at your disposal, regardless of your reason. To find two that work best for your particular situation, talk with your local Yamaha Marine dealer **(yamaha-motor.com/outboard/dealers/dealerhome/home.aspx)** or check out our new website at **yamahaoutboards.com**

Unusual application of the month

Bigger bay boats

Bay boats have become a very fast-growing segment of the industry, and for good reason. Spacious, stable, and quick, they offer the type of fishability and features that inshore anglers demand. They're available with a wide range of outboard power and can, at times, find themselves in relatively skinny water. They've also grown to as much as 24' in length. This makes propping them correctly all the more important.

One particular outboard/propeller combination we've found that works well on these larger bay boats is Yamaha's big bore 4.2L V6 Offshore four stroke outboard mated to a Turbo Offshore I propeller. The large diameter, four-blade design of the Offshore I creates both stern and bow lift. This allows it to move large loads quickly, and keep the boat on plane at slower engine speeds, making it both effective and economical. It can also help minimize the draft of the boat while on plane.

For more information, visit the Performance Bulletins section of our website **yamaha-motor.com/outboard/products/perfbull.aspx**

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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