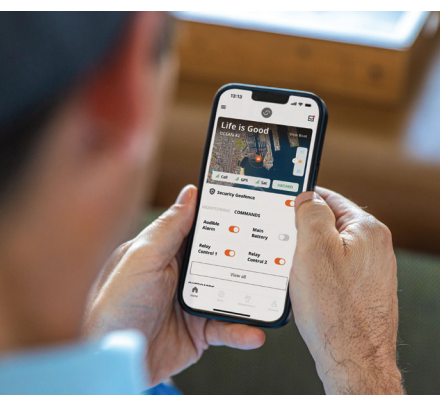




MAINTENANCE MATTERS[®]

A SIMPLE GUIDE FOR THE LONGEVITY OF YOUR OUTBOARD



Reliability Starts Here.[®]



Protection and Peace of Mind

WHY MAINTENANCE?



Yamaha wants you to have an outstanding ownership experience. Maintenance plays a big part in that. We've learned a lot about caring for outboards, so here's some knowledge and simple tips on the subject.



Yamaha outboards are manufactured to provide you with years of enjoyment. However, they live in one of the harshest environments imaginable. High load, high-RPM operation, extreme temperatures and humidity, saltwater, sun, even long periods of non-use can all exact a heavy toll. Regular maintenance is important in helping your outboard meet the demands of these challenging environments. Only you can make sure it happens, but our network of Yamaha dealers is here to help with service and guidance.

SPENDING A SMALL AMOUNT OF TIME ON MAINTENANCE BRINGS SEVERAL ADVANTAGES:

- You'll have more hours of trouble-free enjoyment on the water.
- You'll preserve your investment with a higher resale value.
- Your boat will be ready when you are.
- It's easier and costs less to maintain than repair.

WHAT ARE THE BASICS?

- Changing engine and lower unit oils every 100 hours
- Flushing regularly
- Replacing fuel filters periodically
- Helping to prevent corrosion
- Taking care of your fuel

Outboard maintenance doesn't need to be difficult or expensive. We're committed to helping you maintain your outboard in a way that's easy to do and easy to understand. It's also easy to keep track of with our Siren Connected Boat™ app. Let's get started.



CONTENTS

Let's Get Started	4	Engine Oil & Lube	21
Corrosion Prevention	6	Lower Unit	24
Fuel & Fuel System	10	Other Key Items	26
Electrical System	14	Extended Storage	28
Power Trim & Tilt	17	Things to Remember	30
Propeller Solutions	18	Why Yamaha?	32
External Appearance	19	Capacities & Specs	34
Interval Maintenance	20		

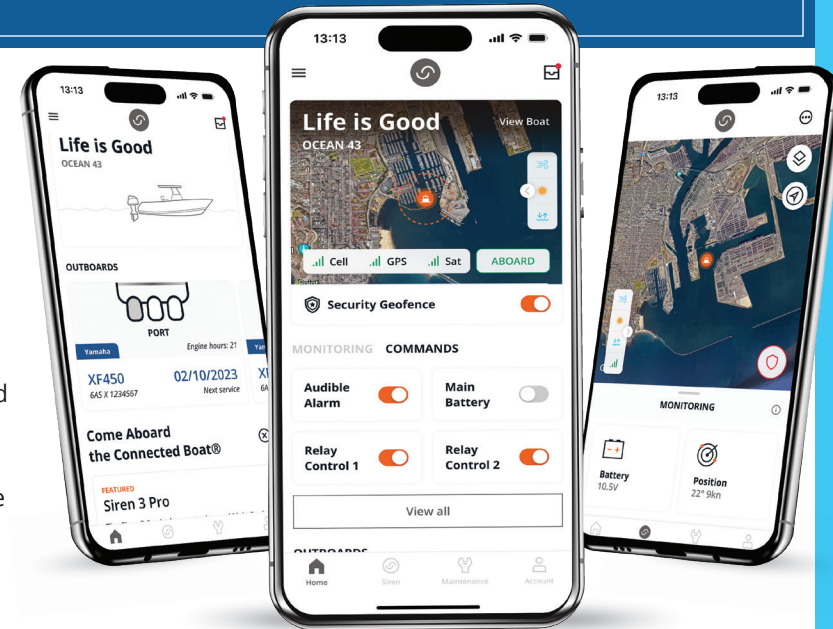


The Siren Connected Boat™ App

Track DIY and dealer-completed maintenance, and receive outboard maintenance reminders on your smartphone or desktop. Current Yamaha owners, download the free app and create an account today.



Scan here to learn more about the Siren Connected Boat app or visit your app store to download. Message and data rates may apply. May not be available on all devices.



Yamaha is the only outboard manufacturer to receive the coveted CSI award for customer satisfaction from the National Marine Manufacturers Association® (NMMA®) every year since its inception (2002).

First Things First LET'S GET STARTED



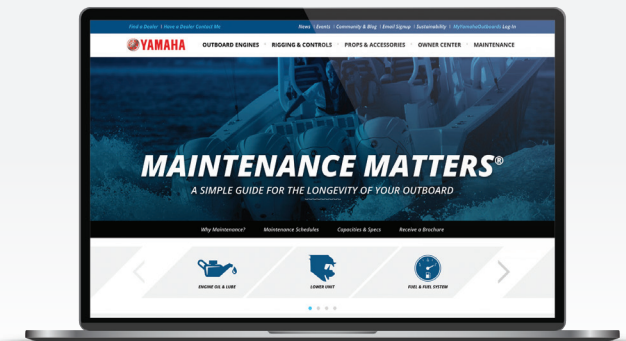
Perform a simple walkaround of your craft before each use. Taking a few short minutes to do this every time is the key to safety and enjoyment.

In the pre-launch checklist below, you'll find information to help you fully enjoy your day on the water. Regular attention to these basic items will help make boating the safe and enjoyable experience it's meant to be.



KEEP IN MIND YOU'RE NEVER ALONE.

- **Yamaha dealers stand ready to help.** With approximately 2,000 authorized Yamaha Marine dealers nationwide, one can assist you with proper maintenance of your Yamaha outboard.
- **Yamaha website.** For additional information on why "Maintenance Matters," including helpful "how to" information and a complete list of Genuine Yamaha and Yamalube® maintenance and care products and accessories, please visit YamahaOutboards.com/Maintenance-Matters.



Pre-Launch CHECKLIST

1. Inspect dock and heaving lines
2. Check navigation lights
3. Check anchor and tackle
4. Inspect trailer winch
5. Care for rear wheels of your tow vehicle the same as trailer wheels (see #9)
6. Ensure registration numbers are properly displayed, plus current registration and other necessary documentation is onboard
7. Ensure trailer hitch and safety chains are secure, and inspect trailer wires and connections
8. Check hull for damage, soft spots or blistering
9. Grease bearings, ensure lug nuts are tight and not rusting, check tire tread and pressure
10. Test bilge pump
11. Check gauges



12. Test marine radio
13. Check magnetic compass, charts and navigation tools
14. Check engine oil for level and color
15. Check fuel system for leaks (visual and "sniff test"). Check fuel level for trip (1/3 out, 1/3 return, 1/3 spare)
16. Ensure battery connections are clean and tight
17. Replace anodes if over half gone
18. Check propeller for damage, shaft for debris, prop nut torque
19. Test trim, tilt supports and inspect rams. Ensure proper trailering support is used
20. Ensure scuppers are clear, bilge clean and drain plug installed
21. Check transom for cracks
22. Inspect trailer bunks for damaged boards or torn carpet
23. Ensure trailer lights are sealed and working

Additional Tasks

- Check and/or prepare fire extinguisher, first aid kit, visual and audible distress signals
- Check for throwable type IV PFD and ensure all passengers have properly fitted PFDs
- Check the weather and file a float plan with a friend
- Check load of vessel and secure gear from shifting
- Prepare tool kit with extra wire, spare fuses, spark plugs, prop and nut, hoses and clamps, etc.
- Verify your vessel is in compliance with all applicable boating laws

Defend Against the Elements

CORROSION PREVENTION



While your Yamaha Marine dealer can help or do most of your general and preventative maintenance, corrosion mitigation is something only you can do.



Corrosion attacks both the inside and the outside of your outboard—every day, all the time. Even those boating in freshwater have corrosion-mitigation duties to attend to. It's vital to be diligent in your anti-corrosion defense.

Your dealer can provide the right products to help prevent some forms of corrosion, but their regular and diligent use is strictly up to you.

WHERE DO I NEED TO CONCENTRATE MY FIGHT AGAINST CORROSION?

Corrosion can happen pretty much anywhere on or in your outboard: inside, in your fuel system or in the internal cooling water passages, and on the outside, in various electrical connections and exposed metal components.



WHAT'S SO IMPORTANT ABOUT FLUSHING MY OUTBOARD?

I BOAT EXCLUSIVELY IN FRESHWATER, DO I STILL NEED TO?

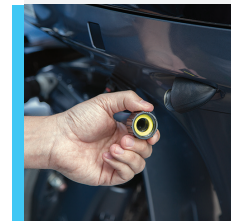
Your Yamaha outboard is raw-water cooled, meaning it uses the water it's operating on as cooling water. All water, fresh or salt, contains contaminants that will eventually build up in the cooling passages over time. Saltwater is naturally corrosive and any remaining inside after use is left there to do its worst. Saltwater can also crystallize when exposed to heat above 170 degrees, which causes deposits to form, potentially restricting cooling water passages. It's a must that you flush your engine thoroughly with fresh, clean water after every use.

Scan here to learn more about **outboard flushing**. Message and data rates may apply. May not be available on all devices.



HOW DO I GO ABOUT FLUSHING MY OUTBOARD?

Use one of these three basic methods to flush after each trip.



- **Use the built-in flush attachment.** This is a great procedure to follow if you can't remove your boat from the water, or if your outboard has dual water inlets and you don't have the special adapter. Connect a garden hose to the inlet side of your non-running outboard's flush attachment, turn the spigot on full blast, and let the hose's water pressure do the work. Let the water run for 15 minutes to ensure it fully circulates through the entire cooling system several times. If your boat's out of the water, the fresh water will trickle down and clean the water pump and the lower unit's cooling water passages.



- **The flush muff method.** This is the most common fresh water flushing method if your Owner's Manual recommends the technique. After removing the top cowling and propeller, connect a garden hose to clean fresh water on one end and a "flush muff" attachment, which slides around the lower unit to provide water to both sides of the raw water inlet, to the other end. Turn on the hose until you see water squirting out the sides of the muff, then start your outboard in neutral. Set the outboard to no more than a fast idle (900-RPM max) and allow to run for 15 minutes. Increase hose water pressure enough to maintain a bit of squirting out from under the flush muffs at all times. This helps ensure it gets fed enough cooling water.

NOTE: Outboards utilizing two cooling water inlets require a special adapter to use this method. Check with your outboard's manufacturer.

NOTE: Increasing engine speed may cause water demand to exceed supply. If you notice the hose becoming flat while the outboard is running, increase the water flow and/or decrease the engine RPM.

WARNING! For safety, remove the propeller before you begin. Accidental engagement of the outboard into gear with the outboard running will cause an exposed propeller to spin rapidly, possibly resulting in serious injury or death.



- **The flush bag method.** This method can be used for a boat on a trailer or when moored. A flush bag, when filled with water, simulates the outboard idling in its normal state but immerses the lower unit in fresh, clean tap water. Place the bag around the outboard, attach the hose, and fill the bag. Ensure the water level reaches the height of the outboard's water pump (about 1" above the lower unit separation seam). Start the engine, and run for 15 minutes in neutral. Leave the hose running during this entire procedure. When complete, stop the outboard, then the hose, and then drain the bag.

NOTE: Thoroughly dry the bag before storage.

WHAT IS DRY CORROSION? WHAT CAUSES IT AND WHAT CAN I DO ABOUT IT?

Dry corrosion occurs in areas not in direct contact with water—exhaust systems, for example. The outsides of most exhaust systems are cooled by raw water to prevent overheating. When today's ethanol-enhanced fuel is burned, it creates by-products known as sulfate salts. These salts are highly corrosive, especially when exposed to very hot temperatures. If the outboard's cooling water passages are not kept clean by regular flushing, hot spots can form on the interior of the exhaust components, concentrating the sulfate salts' corrosive effects. Flushing your engine with fresh, clean water for 15 minutes after each trip is a vital part of preventing even dry corrosion.

HOW CAN I FIGHT CORROSION ON THE OUTSIDE OF MY OUTBOARD?

Set up a regular schedule and stick to it. There are quick and simple things you should do after every use if you boat in saltwater, and periodically if freshwater is your game.



1

RINSE IT. When returning from a trip, rinse the entire outside of the outboard with clean water. Give it a once over with some mild soap like Yamaclean® Pro-Wash Spray and a soft cloth (do not use liquid dish detergent). Wash the whole boat and trailer, wiping it down with a quality chamois afterward.



NOTE: If salt build-up has become a problem, or your outboard's powerhead has been directly in contact with saltwater, it's okay to gently rinse portions of the powerhead with clean, fresh water to remove salt, etc. Use a hose on low pressure—not a spray attachment—and don't rinse around the air intake area. Rinse out the inside of the cowling, too. Make sure both the powerhead and the cowling are completely air-dry before reinstalling the cowling.

2

SPRAY IT. Yamashield™ is a lubricant, a water displacement agent and a corrosion preventative all rolled into one. Spray all external powerhead surfaces and the electrical connections to help keep them corrosion-free.

3

CHECK IT. Do a visual inspection of your boat and Yamaha outboard(s) every time you use them. Look for anything out of the ordinary and investigate. **Keep a special eye on:**



Anodes: Anodes intentionally corrode before your outboard does, to help protect it. Better known as “sacrificial anodes,” they are typically dull gray in color. On Yamaha outboards, they're usually located on the lower unit just above the prop and on the bottom of the engine bracket. As corrosion occurs over time, they begin to “dissolve.” Replace them when they are about 50% gone with only high-quality, factory-recommended replacements. Yamaha sacrificial anodes are made of a blend of high-quality alloys specifically designed to help protect your outboard.

NOTICE: Never paint or cover anodes, as they must be in direct contact with the water in order to perform correctly. When exposed to the water (especially freshwater), they can become covered with a layer of organic growth (often referred to as “scum”). This is often so thin you won't even notice it, but it can prevent an anode from doing its job. During your regular washdown procedure, take a brush and some soap to the anodes to keep them clean and in direct contact with the water.

Propellers: Even stainless steel propellers can get corrosion on them. If your props do get surface discoloration on them (which often appears as a flat gray or light rusty color), there are simple methods by which to clean and protect them.



Scan here to see a video about cleaning and caring for propellers. Message and data rates may apply. May not be available on all devices.

Electrical systems: Look under the console and in the bilge areas for electrical connection blocks. Also, check the battery terminals. If corrosion appears, using a battery cleaner and protectant spray will do the trick. Spray it on to clean the affected areas (heavily corroded connections will first need to be disconnected and thoroughly cleaned). Depending on the product used, it may leave a protective waxy film that helps keep corrosion from re-forming.

Download our Siren Connected Boat™ app to keep track of your DIY corrosion protection maintenance.



Keeping Your Machine Clean **FUEL & FUEL SYSTEM**



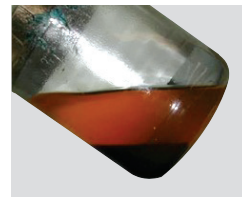
The largest source of trouble with marine engines lies with the fuel and fuel system. Paying regular attention to both—from their hoses and connections to proper filtration and fuel additives—will help keep your outboard motor performing at its best.



WHAT IS ETHANOL AND WHY IS IT SO BAD FOR MARINE ENGINES?

Ethanol has been added to the majority of today's fuel supply as an oxygenate to help reduce emissions. It's also used to extend domestic fuel supplies.

Ethanol is alcohol. Being hygroscopic, it attracts water molecules, which means water will collect in your fuel. When the concentration of water molecules in your fuel tank reaches just ½ of 1%, the water molecules will bond with the alcohol and sink to the bottom, where your fuel pick up is. Depending on the amount of water ingested into your outboard, this can result in everything from running problems to catastrophic damage.



Ethanol is also a powerful solvent that can loosen debris in your fuel tank as well as all the tanks and lines it was in before it got to you. Once in your outboard, this debris can cause everything from running issues to a no-start, no-run condition.



Scan here to learn more about ethanol and how to combat it. Message and data rates may apply. May not be available on all devices.



WHAT CAN I DO TO PROTECT AGAINST THE POTENTIALLY DAMAGING EFFECTS OF ETHANOL?

1

INSTALL A 10-MICRON FUEL/WATER SEPARATING FILTER in the fuel line between your fuel tank and your outboard. It filters the gas and allows any water to safely sink to the bottom of the filter and out of the fuel. Yamaha's spin-on 10-micron filter traps impurities to keep your fuel clean, and has an extra-large water-retention area. Since it's a spin-on, it's very easy to replace.

TIP: Carefully filling a new replacement filter about ¾ full with fresh, stabilized fuel before installation will make priming the fuel system quicker and easier.

TIP: Apply a thin film of clean engine oil to the gasket when installing the filter. That will make it much easier to remove when it's time.

Scan to learn more about the importance of fuel/water separating filters. Message and data rates may apply. May not be available on all devices.



2

ADD FUEL STABILIZER AND CONDITIONER TO EVERY TANK OF FUEL. Yamalube Fuel Stabilizer & Conditioner PLUS or, if unavailable, another quality, marine-specific, non-alcohol-based formula, is designed to work in the moisture-rich environments common to boats. No additive will restore stale fuel, remove water, or cure ethanol-related issues.

TIP: Today's gasoline can begin to break down in a matter of weeks, not months. Make sure to treat every tank of fuel, not just for extended storage.



3

ADD RING FREE PLUS ADDITIVE TO EVERY TANK OF FUEL. The cleansing additives in the majority of today's gas are a great start, but they're formulated for cars, not outboards. The proprietary blend in Yamalube Ring Free PLUS features corrosion inhibitor additives to protect silver solder, copper, brass, aluminum, and steel in the fuel system from the corrosive effects of ethanol-blended fuel as well as water in the harsh marine environment, including saltwater. This powerful formula also provides superior deposit control, cleaning fuel injectors, carburetors, intake valves, intake ports and combustion chambers from deposits that can cause knocking/pinging, power loss, hesitation, shortened spark plug life, piston ring sticking, and more.



Scan to learn more about the power of Ring Free PLUS. Message and data rates may apply. May not be available on all devices.

4

BUY YOUR GAS WHERE THEY SELL A LOT OF IT. The goal is to keep your boat's fuel fresh and potent at all times. Buy the freshest fuel you can find and, at fill up, treat each tank with Yamalube Fuel Stabilizer & Conditioner PLUS and Ring Free PLUS. Add these before filling up so they mix.



ARE THERE ANY OTHER FUEL FILTERS, AND WHERE ARE THEY LOCATED?

Your Yamaha outboard has a system of fuel filters on the engine. It's important to know the location of these filters and to clean or replace them at recommended intervals. You can find this information in your service manual or through your authorized Yamaha Marine dealer. As an example, here's a general guide using a modern Yamaha fuel-injected four stroke.

1 PRIMARY ON-ENGINE FILTER. This is typically on the front, side, or rear of the powerhead, and is usually see-through. It filters fuel coming into the outboard, and usually features a small water trap at the bottom of the cup. If there's water in here, it's time to change your 10-micron filter. On Yamaha outboards, there may be a red ring visible inside this filter. Don't ever remove it. If it's floating, you've got water in this filter's trap.

2 VAPOR SEPARATOR TANK (VST) FILTER. Attached to the electric fuel pump in the Vapor Separator Tank (VST), this filters gas again just before it's pressurized into the fuel injection rail(s). The VST is a prime spot in your fuel system where deposits and gum can form, is the most difficult to access and is usually the most expensive to replace. Protect it by regularly inspecting and servicing the first two filters in the fuel line.

3 IN-LINE FILTER. Some models have an in-line filter between the primary fuel pump and the VST (vapor separator tank) and/or in the fuel line between the VST and the fuel rail, located along the top of the outboard.

4 FUEL INJECTOR SCREEN. These fine-mesh screens are built into each fuel injector. If debris makes it here, the fuel injectors must be professionally removed and cleaned or replaced.



HOW OFTEN SHOULD I CHANGE MY FUEL FILTERS?

- **10-micron filters** should be replaced every fifty hours of engine operation. Always carry a spare on board, just in case you get a load of bad gas and the filter gets overwhelmed.

TIP: Do not simply remove the filter, dump the fuel and reinstall it. Captured debris and water could enter the "clean" side of the filter and be released into your fuel system.

- **Primary and in-line filters** should be replaced after every 100 hours of engine operation. These are easy to get to and simple to replace.

- **VST filters** should be inspected and/or replaced after every 300 hours of engine operation, provided that the 10-micron external and initial on-engine filters have been serviced and maintained properly. Properly treated fuel will also extend the life of these filters.

Can't remember when the last time your filters were changed? You can always look it up in our Siren Connected Boat™ app. If you have an account, you'll find your full DIY and dealer-completed maintenance history there.

WHAT ARE SOME OTHER TIPS I NEED TO KNOW ABOUT MY FUEL SYSTEM?

- **Check fuel system components before each trip.** Visually and physically check the fuel hoses and connections for any signs of leaks or cracking each time you use your boat. Give everything the "sniff test." You should also check your primer bulb. If the bulb does not become firm when squeezed prior to starting the engine, check for a possible fuel system leak. If none, replace the primer bulb.



- **Get rid of carbon and keep it out.** Yamaha Internal Engine Cleaner is a dealer-only applied product that is the strongest and most effective way to clean out carbon and other build-up inside your outboard. Once done, be sure to use Ring Free PLUS regularly to help keep it that way.

- **Carburetors need love, too.** Late-model carburetors run very lean, with very small passages that can clog with gum and varnish. Contact your dealer about having a carburetor service completed to ensure proper running condition.

- **Gas containers.** Be sure to add Fuel Stabilizer & Conditioner PLUS and Ring Free PLUS before filling gas cans, and keep them in a cool, dark place if possible.

All the Yamaha Genuine and Yamalube products in this booklet are available through your local authorized Yamaha Marine dealer. More information can be found at YamahaOutboards.com/Yamalube.

Fuel Filter COMPARISON

YAMAHA FUEL/WATER SEPARATING FILTER



10-micron filtration at 95% nominal efficiency

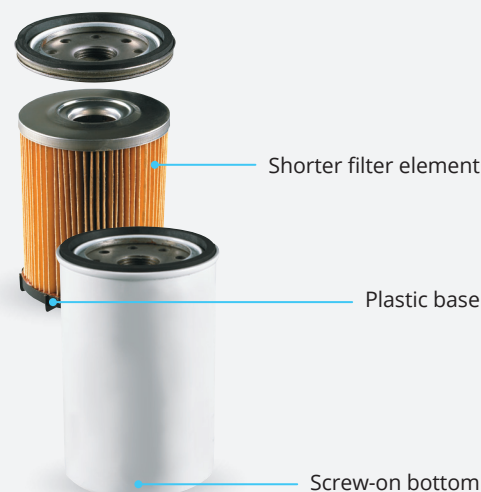
Tall filter element cleans 90 gallons per hour

Sealed metal bottom

Large water reservoir

Sealed can

AFTERMARKET FUEL FILTER



Shorter filter element

Plastic base

Screw-on bottom

Take Charge of Your **ELECTRICAL SYSTEM**



Because boats constantly operate on or are near water, electrical system care is even more important, especially in highly corrosive saltwater environments. Make sure your boat and outboard are always ready to perform with these simple checks and procedures.

CHECK THE WIRING AND CONNECTIONS.

The electrical system's job is to carry voltage from one place to another. Corrosion impedes electricity's ability to travel, which can cause significant voltage loss or intermittent voltage. Either can wreck the good times, but with simple visual inspections and physical actions these scenarios can usually be avoided.



Some electrical corrosion can be easy to see, such as corrosion on battery posts or electrical panel connections. But some can be more difficult to see, such as internal corrosion that has rotted some or all of the individual strands inside a wire's cover. You can use an ohmmeter to check electrical connections and wires for excessive resistance. There should be no more than 0.1-0.2 ohm resistance between electrical connectors on each end of a wire.

Our Siren Connected Boat™ app allows you to record your DIY electrical inspection. You can even monitor your system and battery voltage remotely when properly equipped.



DON'T FORGET THE BATTERIES.

Make sure to use the size and type in your owner's or service manual. If there's any question about a battery's performance, have it load tested. Any auto parts store can do this, or you can do it yourself with the right equipment.

WARNING! Make sure that there are no fuel fumes present when making, breaking, or checking battery connections and condition. Give the area the "sniff test" to check for fumes. If in an enclosed area, run the blower, thoroughly air out the space, or take the battery outside to test it.

All battery cable connections must be clean, tight and use hex nuts and lock washers (not old-fashioned wing nuts). Loose connections can cause frustrating intermittent issues or a full-time "no run" condition. A dirty or corroded connection can impede electricity's ability to travel, and a battery terminal connection may be corroded, yet appear clean. To avoid any doubt, always remove the terminal connection and clean both sides of the connecting materials down to bare, shiny metal, then reinstall and tighten the connection properly.

REMEMBER THE HOUSE BATTERIES AS WELL.

Most larger boats that have multiple electrical demands also have house batteries. They ensure that a boat with high electrical loads won't drain the starting battery when in use and leave a boater stranded. Many large Yamaha outboards (150hp and up) have a separate battery isolator/charging leads specifically for charging these batteries. The charging system will be able to charge the starting battery/batteries first to help keep the voltage up. Once fully charged, it will automatically "switch" the charge to the house battery/batteries.



CHECK THE ELECTRICAL CONNECTIONS.

Corrosion often occurs where wires meet. Visually check electrical blocks under the dash and/or in the bilge. Also, check any connections on gauges or add-on electrical equipment like battery switches, plotters, or fish-finders. Wiggle wires and connections to check for looseness. If either is found, disconnect and clean the connection with emery cloth or fine-grit sand paper, then reinstall and tighten. Finally, spray all electrical connections with a product like Yamashield which puts down an anti-corrosive layer and leaves behind a protective film that helps prevent corrosion.



DON'T SPARE THE SPRAY.

Remove the outboard cowling and liberally spray the entire powerhead with Yamashield or Yamalube Silicone Protectant & Lubricant. It will help prevent corrosion and keep rubber parts (like your cowling seal) supple and effective.

NOTE: Do not spray silicone on any oxygen (O2) sensors that your outboard may have.



Scan to see a video on proper battery and electrical system care. Message and data rates may apply. May not be available on all devices.



Stay at Peak Performance

POWER TRIM & TILT



A Power Trim and Tilt (PT&T) unit changes the outboard's thrust angle during operation for maximum performance. When activated by the captain, its electric pump moves hydraulic fluid, tilting the thrust angle out or in. This unit is inside the engine bracket, meaning almost constant contact with water. Under normal conditions, it needs only minimal care to function properly.

Remember to rinse. Include the PT&T unit in your post-trip flushing and wash down procedure. First, run over it gently with a sponge or soft cloth soaped up with mild detergent like Yamaclean. Then, spray the whole unit down with fresh, clean water.

Look and listen. Periodically grease the top of the trim rams on your PT&T unit to help keep them safe from corrosion and to eliminate squeaking and popping noises. Be sure to use a high-quality marine-formula grease, like Yamalube Marine Grease.

Act and retract. Keep the trim rams fully retracted when not in use to prevent corrosion build-up. Engage the tilt lock mechanism built into the outboard's bracket, or install a Yamaha engine support to hold the engine in the tilt-up position. Then, withdraw the tilt rams into the unit by pressing the PT&T down button until they are fully retracted. This keeps all but the very tip of the ram immersed in a bath of PT&T fluid and safe from corrosion. Liberally apply Marine Grease to the ram tips to help keep them corrosion free, too.

TIP: The built-in tilt lock mechanism is for maintaining tilt for storage or periods of non-use only, such as when mooring. Do not trailer using only this mechanism to support the tilted outboard.

Fill it up with the good stuff. Your PT&T system is under extreme pressure that can cause molecular shear, resulting in loss of lubricity. Never substitute oils like motor oil or power steering fluid. Yamalube Performance Power Trim & Tilt Fluid is specially formulated to tolerate water ingestion and withstand extreme pressures to maintain proper operation. It also contains special anti-foaming agents the others don't.

Check the valves and seals. If you see fluid on the outside of the PT&T unit, or if your outboard won't stay tilted up (or stay tilted out when running), the seals or internal valves might need inspection. Have the unit inspected by an authorized Yamaha Marine dealer.

Scan to see a video about power trim and tilt maintenance. Message and data rates may apply. May not be available on all devices.



Note: All the Yamaha Genuine or Yamalube products in this booklet are available through your local authorized Yamaha Marine dealer. More information can be found at [YamahaOutboards.com/Maintenance-Matters](https://www.yamahaoutboards.com/maintenance-matters).

Proper Performance Needs

PROPELLER SOLUTIONS



Your propeller is a key factor in your boat's performance, and your satisfaction. Maintain it for peak power, performance and efficiency.

It's all in the eyes. Give your prop a good look, pre-launch. Are there any bends, nicks, cuts or cracks? Any of these will rob performance and potentially cause damaging vibration to your outboard. If found, get the prop examined and repaired at your local Yamaha Marine dealer.

Something missing? If you've noticed a decrease in your boat's performance, but your outboard checks out fine, inspect your prop. Grit, sand and silt in the water slowly eat away at your propeller's edges. Your prop may look perfect, but the worn edges can degrade performance.

Beware corrosion. It's easy to clean and protect most props. **Try these simple tips:**

- **Rough Cast Mag Wheel Cleaner.** Spray on (don't let dry or sit for more than 30 seconds) and agitate with dish sponge. Rinse thoroughly, dry, apply paste wax.
- **Toilet Bowl Cleaner, Hydrogen Peroxide, or Calcium Lime & Rust Remover.** For spot cleaning, spray on or put on a rag and wipe over stained area (don't let dry). Rinse thoroughly, dry, and follow up with paste wax.
- **Mild Rubbing Compound or Metal Polishing Paste.** For difficult stains: apply to pad and rub in a circular motion until stain is diminished. Buff with a clean cloth, apply paste wax.

NOTICE: When using any of these methods, be sure to read the product label and follow all precautions provided.

PROTECT THE PROP SHAFT.

Periodically remove your propeller(s) to check for fishing line wrapped around the prop shaft. Then grease the prop shaft with a high-quality, high-pressure marine-formula grease like Yamalube Marine Grease or molybdenum grease. This should make it easier to get the prop off next time, especially in saltwater. When reinstalling, make sure to torque the prop nut to the manufacturer's specification, and always use a new cotter pin rather than reusing the old one.

BE PREPARED.

Just like a spare tire, it's always good to have more than one prop. It allows you to adjust performance and is handy for emergencies.

Scan to see a video about propeller care.
Message and data rates may apply. May not be available on all devices.



Baby Your Baby

EXTERNAL APPEARANCE



Nothing matches the pride you feel in your clean, well-maintained boat. Not to mention the longevity benefits. Here are some tips and easy procedures to perform regularly.

Make it easy on yourself. After each trip, thoroughly spray down your boat and the outside of your outboard with fresh, clean water. Use a soft cloth and a mild cleaning agent like Yamaclean Pro Wash Spray and then rinse it again.

NOTICE: Don't use liquid dish soap or ordinary household detergents when washing your boat. They remove waxes and other protective coatings your boat needs.

Scan here to see a video about helpful boat cleaning tips. Message and data rates may apply. May not be available on all devices.

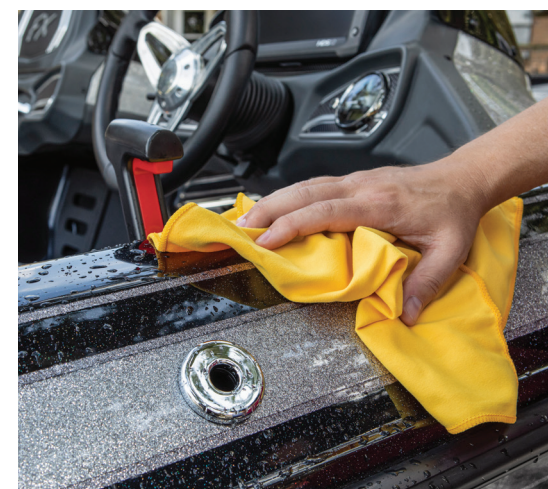


To protect and preserve. Don't be afraid to spray the entire powerhead liberally with Yamalube Yamashield. It gives your powerhead that just-detailed look, and helps prevent the effects of corrosion. While you're at it, treat the rubber seal between the cowling and the engine pan with a high-quality silicone spray, like Yamalube Silicone Protectant & Lubricant. This helps keep it supple and effective.

Look out below. Keep things protected below deck. Use a marine-grade cleaner for both your bilge and battery terminals. You'll find commercially available anti-fouling paints, coatings and materials to help keep your hull free of marine growth, but be sure to check local regulations before use.

Keep it covered. Protect your outboard from the elements when not in use or when trailering by using a custom-fit Yamaha engine cover. If your boat sits outside, a custom-fit boat cover is a worthwhile investment.

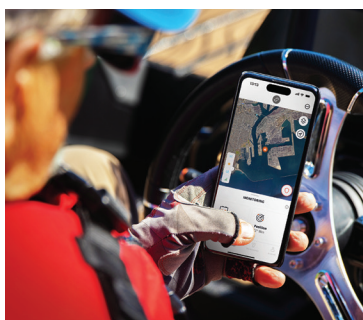
Scan to see a video about external care.
Message and data rates may apply. May not be available on all devices.



Timing Is Everything INTERVAL MAINTENANCE



Some maintenance steps, like visual inspections, are best done every day, while others, such as oil changes, are set up at certain intervals.



TRACKING INTERVAL MAINTENANCE.

1. Watch your hour meter. The hour meter can be a separate gauge or its function can be built into one of your other Yamaha gauges. Both would allow you to set maintenance reminders for various intervals.
2. Start a **Siren Connected Boat™** account by downloading the app onto your digital device. It will help you track maintenance and send reminders when your outboard is due for interval service.



Download the Siren Connected Boat app and start tracking your maintenance today.

Replacement Schedule	Replacement Schedule				
	Two Stroke	Four Stroke	Continuous Use	Annually or 100 Hours	Winterization/Lay-up
Yamalube® 4M FC-W®					•
Yamalube® 2M Tc-W3®					
Yamaha 10-Micron Fuel/Water Separating Filter					•
Yamaha On-Engine Fuel Filters***					•
Yamalube® Ring Free PLUS Fuel Additive					
Yamalube® Fuel Stabilizer & Conditioner PLUS					
NGK® Spark Plugs***					•
Yamalube® Gearcase Lube					•
Yamaha Oil Filter					•
Yamaha Impeller/Water Pump Assembly					•
Yamalube® Power Trim & Tilt Fluid					
Yamalube® Yamashield™					
Yamalube® Stor-Rite Engine Fogging Oil					
Yamalube® EFI Engine Storage Fogging Oil					
Engine Flush Procedure			••		

Interval outboard maintenance is done at specific times, like off-season storage or after a certain number of hours of use. The most accurate interval maintenance information for your outboard model will be found in your owner's manual (YamahaOutboards.com/OwnersManuals).

■ = Yes

+++ Clean (if applicable) or replace

• Please refer to your owner's manual or consult with your authorized Yamaha Marine dealer for specific requirements of your engine.

•• After each use, especially in salt or brackish water

Let's Begin with Choosing the Oil ENGINE OIL & LUBE



Using the correct oil and filter at the recommended intervals is the single most important thing you can do for your outboard.

CHECKING YOUR OIL LEVEL.

It's easy to get an accurate reading if you follow this procedure:

- Start and warm the outboard to normal operating temperature, then shut it off.
- Tilt engine up halfway and allow to rest for 5 minutes to thoroughly drain the oil back into your outboard's crankcase.
- Trim the outboard back down to level.

TIP: You can place a small level on top of the anti-ventilation plate to help you determine when to stop.

- Pull the dipstick, wipe the oil from it, and reinsert it into the crankcase. Then pull the stick again and check the oil level. This helps ensure proper venting for accurate indication.
- At the proper oil level, the oil should be halfway up the crosshatch pattern on the dipstick.

NOTE: The top and bottom of the crosshatch pattern on the dipstick do not represent "high" and "low." The correct oil level indication is at the mid-point of the pattern. Use caution when filling or adding oil. Yamaha four-stroke outboards have a tapered oil sump design, so the closer the oil level is to full, the faster it fills. Add oil slowly and in small amounts, and do not attempt to "top off." Do not allow the oil level to surpass the upper portion of the crosshatch pattern. Doing so may aerate the oil, reduce lubricity and oil pressure, and cause engine damage.

Want to see how it's done? Access maintenance how-to videos through our Siren Connected Boat app or at YamahaOutboards.com/Maintenance-Matters.



WHAT OIL SHOULD I USE?

Your Yamaha outboard is vastly different from your car's engine. Use a marine-formulated oil specifically made for the rigors of the marine environment, like Yamalube 4M for four-stroke outboards, and Yamalube 2M for two-stroke outboards.



A few reasons why:

1

ENGINE LOAD. The typical loads placed on your outboard are much heavier than on your car. This means your outboard is working much harder than your car's engine. Yamalube 4M and 2M marine engine oils contain specific anti-wear additives to account for this.

2

ENGINE SPEED. Your outboard operates at a much higher RPM than your car's engine. It must rev higher to create higher speeds, rather than just changing gears like your car. That's tough on your oil, and can literally shear (or split) the molecules in ordinary automotive oil. Yamalube 4M and 2M have special shear-stable polymers to combat this and provide constant lubrication.

3

OPERATING TEMPERATURE. Outboards are cooled using raw water, which is often cool to very cold. On the other hand, saltwater will begin to crystallize if its temperature is raised above 170° F, potentially causing blockage in the cooling passages and leading to engine overheat and possible damage. Because of these two factors, your outboard operates full-time at a temperature much different than your car and requires very different qualities in its lubricating oil.

4

OPERATING ENVIRONMENT. Your outboard is constantly ingesting humid air directly off the water's surface in order to operate. This air also gets inside combustion chambers through open valves when it's not in use. And in a saltwater environment, that air is even more corrosive. Yamalube 4M and 2M are formulated with special anti-corrosion agents to help combat and prevent the corrosive effects of this environment.

Yamalube outboard engine oils use a proprietary blend of marine-specific anti-wear additives, shear-stable polymers, corrosion inhibitors, detergents, dispersants and viscosity index improvers.

They're superior to automotive oils in their protection, durability and corrosion resistance.



Scan to see a video about choosing engine oil.
Message and data rates may apply. May not be available on all devices.

WANT PROOF?

Marine engine oils are so different in their requirements that special levels of certification exist: FC-W® (four stroke) and TC-W3® (two stroke). These represent the minimum standards of the National Marine Manufacturer's Association® (NMMA®) for marine engines. Yamalube 4M and 2M oils meet or surpass all of these requirements. Whatever oil you choose, make sure it is the correct type and viscosity and that it carries either the NMMA® FC-W® or TC-W3® label.



AREN'T ALL OIL FILTERS PRETTY MUCH THE SAME?

Yamaha oil filters are manufactured specifically to protect Yamaha engines, using only the finest components and construction methods available. This includes a special filter media and metal filter media bases (instead of cardboard), to help them achieve a superior level of durability and filtration. They simply outperform and out-protect most aftermarket alternatives.

WHAT YAMALUBE OILS ARE RIGHT FOR MY OUTBOARD?

Yamalube 4M FC-W® Reformulated to better protect from the effects of cold starts, hours of trolling and high-load and high-speed operation, its special anti-corrosive additives are particularly suited for the marine environment.

- **5W-30 Full-Synthetic** — great for high-performance outboards like our V MAX SHO® models
- **10W-30 Mineral Base** (conventional) — ideal for all Yamaha outboards and environments
- **20W-40 Mineral Base** (conventional) — suited for large outboards in consistently warm climates

NOTE: 20W-40 is not for use in 4.2L V MAX SHO models.

TIP: Your Owner's Manual is the best place to look for your recommended viscosity.



Yamalube 2M TC-W3® Yamaha-formulated and NMMA®-approved, it provides outstanding protection for two-stroke, water-cooled outboards. Its special blend of additives helps combat ring stick, corrosion, varnish and wear.

CAN I CHANGE MY OWN OIL?

Absolutely. However, if you'd rather leave it to your Yamaha Marine dealer, they do it in their specially trained and properly equipped service department and dispose of the oil for you. If you prefer to do it yourself, we offer Genuine Yamalube Oil Change Kits, specific to your Yamaha outboard. They include the right type and amount of Yamalube marine oil, a Genuine Yamaha oil filter and a drain gasket. Kits are available in Yamalube 4M 5W-30, 10W-30 and 20W-40 weights. Whether you DIY or rely on your dealer for maintenance, you can track it all in our Siren Connected Boat™ app.

Keep the Gears in Motion

LOWER UNIT



The lower unit converts the power of your outboard's engine to rotation of the prop shaft, which moves the propeller, which moves your boat. This hardworking device needs simple, regular maintenance.



LUBRICATE IT RIGHT.

The gears inside your lower unit are constantly turning, and the only protection they have is the lower unit lubricant you use. Proper lubrication requires extreme resistance to pressure, foaming and molecular shear. Since the lower unit operates underwater, its lubricant also has to be capable of maintaining lubricity should water leak inside. Always avoid automotive or tractor gear oils. Use a quality, marine-based formula, like Yamalube Marine Gearcase Lube. It protects and lubricates, even with a full 10% of water present.



Scan here to see a video about lower unit care. Message and data rates may apply. May not be available on all devices.

CHECK IT OUT.

Visually inspect the exterior of your lower unit for any signs of damage every time before you go out. If you fish, remove the propeller and check for any fishing line or other debris. Anything wrapped around the propeller shaft can cut into prop shaft seals and allow water to enter the gearcase. If found, inspect the prop shaft seals for damage or leakage. Then check the color of your lower unit lubricant by cracking the "drain screw" on the bottom of the bullet and the "vent screw" on the side of the lower unit. Allow a small amount of lubricant to drain into a clean container. If it's milky in color, you've got water in the lubricant. Have the lower unit seals inspected by your Yamaha Marine dealer through a pressure test, and if necessary, have the seals replaced.



NOTE: It's best not to run the outboard right before checking the lower unit lubricant, as this will agitate the oil with whatever air is trapped inside. The resulting fine bubbles might be confused with the milky appearance that occurs with water ingestion.

CHANGE IT OUT.

Yamaha recommends replacing your lower unit lubricant after the first 20 hours for a new outboard, then every 100 hours after that. If it's milky in color or smells or looks burnt when you're checking it, it's time for a change. Place a pan under the bottom drain screw, remove the screw, and then remove the upper vent screw on the side of the lower unit. Allow all of the lubricant to drain into the pan. While you're waiting, check the magnetic drain screw. Finding fine metallic dust is normal, but if you find larger chips of metal on the screw or in the drain pan, have your dealer check for possible internal damage. Also, replace the small crush washer present on each screw (commonly known as "drain plug gaskets"). If you don't see one, it may still be adhering to the outboard. Use a pick to pull it free, as these must be located, discarded, and replaced each time these screws are removed.

NOTE: These drain screw crush washers are not reusable. They are a main source of protection against water intrusion into the lower unit, which can cause dilution of the lubricant. Do NOT try to save a few pennies here. Lower units are very expensive. It's best to always have some extra drain plug gaskets on hand.

Once the lube has drained, refill the lower unit by threading the appropriate fitting into the lower unit drain screw opening and slowly pumping in fresh Yamalube Marine Gearcase Lube or Lubricant HD. Once you see this new fluid seeping out of the upper vent screw hole, stop and wait 5 minutes, then very slowly continue pumping until it seeps from the vent screw again. At this point, replace the vent screw with a new crush washer installed, and tighten according to manufacturer specifications. Remove the fitting attached to the drain screw opening, and quickly reinstall the drain screw with the new crush washer installed. Tighten to factory specifications.

You may choose to do these procedures yourself, or you can have your authorized Yamaha Marine dealer do them for you. Either way, performing them is important for proper continued operation and your continued satisfaction and enjoyment.

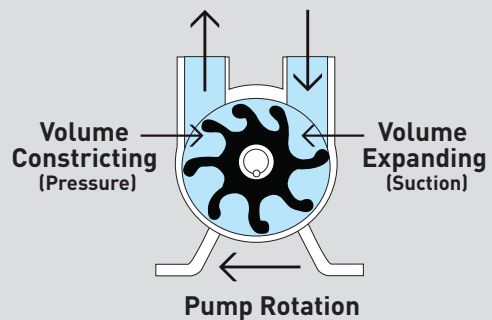


NOTE: All the Yamaha Genuine or Yamalube products in this booklet are available through your local authorized Yamaha Marine dealer. More information can be found at YamahaOutboards.com/Maintenance-Matters.

OTHER KEY ITEMS



Check your owner's manual for your particular outboard's maintenance schedule. Keep note of when to check on them by watching your hour meter, or by using our Siren Connected Boat™ app on your smartphone.



WATER PUMP.

Your water pump is responsible for keeping your engine cool. Cooling water is drawn in through the intake grates on your lower unit, up to and through a rubber impeller keyed to the drive shaft and pumped up into the powerhead of your outboard. There it circulates and exits back down through the propeller to help keep it cool from the outboard's exhaust. A telltale hole emits a small, visible stream of water to indicate cooling water is flowing.

TIP: If water stops flowing from the hole on your outboard, or if the stream becomes weak, carefully check the outlet tubing for obstructions. Mud daubers and other insects love to call these places home.

TIP: Not all outboards will emit waterflow from the hole at idle speed, even when operating normally. Once RPM increases a bit, you should see it. If you don't, keep a close watch on your temperature gauge and listen for a warning horn. Most outboards have an RPM reduction mode that will limit engine RPM if an overheat condition is detected.

TIP: The rubber impeller is located inside a stainless-steel cup and uses the water for lubrication. If water is not present, the friction of the rubber on stainless steel will rapidly overheat and destroy the impeller. It's imperative NOT to operate or turn over your outboard without there being a proper supply of water beforehand.

Time without use can lead to the impeller "taking a set," or becoming permanently deformed, due to its off-center positioning inside the cup. Additionally, periods of non-use can cause the rubber to become brittle, perhaps even breaking pieces off and sending them into the cooling system. It's best to replace your water pump impeller or the entire water pump assembly when servicing these items, and never rotate your outboard's crankshaft or driveshaft in a counterclockwise direction.



As a general rule, inspect the impeller and water pump assembly every year if operating in salt, brackish or turbid water, and replace if necessary. If operating in freshwater that is clear and clean, this interval may likely stretch to two seasons, provided no dry operation has occurred. Be sure to check your owner's manual for your outboard's specific service interval.

NOTE: If you're uneasy about performing impeller/water pump inspection and replacement, have your local Yamaha Marine dealer do the work.

BELTS AND HOSES.

Belts and hoses operate in a harsh marine environment. Inspect them once in a while and heed the manufacturer's schedule for their replacement. If you find cracking or fraying, be safe and replace. Do not attempt to "flip" a belt in order to extend its life or handle the belt with lubricant of any kind on your fingers. Keep these safe from spray-on lubricants, too.

TIP: Yamaha four-stroke outboard timing belts and HPDI® two-stroke outboard high-pressure fuel pump belts are cogged and Kevlar®-impregnated, making them super-tough and non-stretchable. Still, Yamaha recommends they be changed every five years or 1000 hours.

SPARK PLUGS.

Pull four-stroke outboard spark plugs every two hundred hours or every other season and check for proper color and wear. They should be a light brownish color and have relatively sharp edges. When necessary, replace with the exact manufacturer and part number Yamaha stipulates. The brand type and style of spark plugs used in your outboard are by design. Don't second-guess or try to cross-reference here.



THERMOSTATS AND POP-OFF VALVES.

These are responsible for regulating the operating temperature of your outboard. They're best observed through any signs of change in the engine's operating temperature. Operating in saltwater can cause deposits to build up, causing the valves to stick open, which can over-cool the outboard and prevent it from reaching proper operating temperature. Small bits of debris in the cooling water can get lodged between mating surfaces and cause the same condition. If this happens, removal and cleaning is most often the fix. Check your owner's manual for replacement recommendations.

AIR INTAKE PASSAGES.

Be sure to check the air intake passages for any obstructions such as bird nests and other debris. Look under your cowling, too. It doesn't take long for your outboard or boat to become home to local birds and bugs. A Yamaha engine cover will assist in keeping these passage ways clear of any obstructions.

Now's the Time to Think About **EXTENDED STORAGE**



Preparing for extended storage efficiently and effectively means you'll have a worry- and hassle-free experience when you return to using your Yamaha outboard.

Look it over. Start at the top of the cowling and work your way down to the skeg. Be sure to pull the cowling and propeller off, too. Look for anything that appears damaged, missing or out of place, and repair or replace.

Replace it now. Your outboard's engine oil has been working hard to suspend and carry away debris and potential corrosives. Get rid of this oil and the oil filter before you lay up for storage. Change your onboard 10-micron fuel filter, too. You don't want either left sitting there waiting for you next spring, and any water may freeze inside the canister.

TIP: Be sure to lube all grease zerks with the correct grease stipulated in your owner's manual to help force out any water that may be residing there.

TIP: Charge batteries fully before storage and have them load tested to make sure they're going to be up to the task come spring. It's best to check the charge monthly and keep them topped off if you can. If your outboard's stored outside during the cold winter months, don't risk them freezing. Bring your batteries indoors to a cool, dry place.

Fog it down. Fogging oil helps protect vital internal engine components during periods of inactivity by coating them with a thick petroleum-based lubricant. This helps prevent rust and corrosion from forming and protects during start-up. For most modern fuel-injected four strokes, use Yamalube EFI Fogging Oil. For two-stroke EFI and conventionally carbureted outboards, an excellent choice is Yamalube Stor-Rite Engine Fogging Oil.

NOTE: As always, be sure to read and heed all product instructions for proper application procedures.

Scan to see a video about fogging your outboard.

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



Keep it dry. Water can form in the fuel system during extended storage periods, due to natural condensation. In addition, ethanol fuels can draw water directly from the atmosphere through the tank's vent. Run the proper storage amount of Yamalube Fuel Stabilizer & Conditioner PLUS in your fuel, and thoroughly course it through the entire system prior to shut down. Always store with the tank $\frac{7}{8}$ full of fuel to help prevent over-accumulation of condensation. Never plug or cap the fuel tank vent, as the vent allows for natural expansion and contraction within the fuel system. Plugging the vent may potentially cause damage to fuel tanks and fittings.

TIP: If your outboard's stored outside during the cold winter months, make sure to trim it to a full-in, negative trim angle or place a tightly sealed plastic bag over the lower unit once it's thoroughly dry inside. This will help keep moisture from collecting in the lower unit, which could potentially freeze and crack it.

Clean it up. Give your boat and outboard a thorough cleaning before storage. Always make sure that your boat is bone-dry before closing it up or sealing it off. Where applicable, a coat of sealant or wax will serve as a well-worth-it protectant.

TIP: This may be the best time to pull the boat out of the water and clean the hull as necessary. Remove any marine growth or barnacles with a thorough washing or sanding. If appropriate, now might be an excellent time for a new coat of bottom paint, too. Adhere to local legal and environmental requirements and appropriate safety precautions during these procedures.



Get it ready. Just prior to extended lay-up is an excellent time to perform routine annual maintenance, and take care of any outstanding service issues. Check the anchor, chains, dock lines and fenders too. Replace any worn or damaged items and check the boat for any loose items that need repair. If needed, one of our exclusive Yamalube Yamabond® formulas will hold things tight.

Trailers, lifts, and lights. This is a great time to check your trailer or your boat house. Any loose, sagging or rotted bunks, lift straps or rollers should be replaced. Check trailer wheel bearings for signs of water intrusion. Grease trailer bearings and lift roller assemblies using Yamalube Marine Grease. Yamalube Yamashield is an excellent choice for lubricating winch cables, and Yamalube Brake & Contact Cleaner will help clean and restore proper taillight and dock light connections, while helping keep your trailer's brakes clean and in good working order, too.

Wrap it up. Many Yamaha Marine dealers offer shrink-wrapping services. This encapsulates your boat and helps protect it from the elements until you're ready to resume the good times. It also keeps your boat looking as good as it did when you wrapped it.

Make it fun. Make it easy. Try dividing the chores up among members of your crew. Got kids? Give them each a few appropriate tasks to perform. This will help create a sense of pride and belonging when they're out on the boat next season. Still too much? Just contact your local Yamaha Marine dealer. They'll be glad to take care of all this for you.

Don't Forget

THINGS TO REMEMBER



Over the years, Yamaha has learned a thing or two about keeping boating fun and enjoyable—not to mention safe. Here are a few related thoughts to carry with you when preparing for good times out on the water.

KEEP IT SIMPLE.

Remember to carry these simple items onboard at all times.

- A **small tool kit** with basic hand tools.
- An **electrical repair kit**, with electrical tape, fuses, and electrical repair items like connectors, crimping pliers and extra wire.
- An **extra 10-micron fuel/water separating filter**.
- A **spare propeller and a floating propeller wrench**. A spare prop nut and cotter pin are also good choices.



TRAILERS NEED LOVE, TOO.

- **Lug nuts and a jack.** Check the torque on your trailer's lug nuts regularly. Carry the appropriate tools in your tow vehicle, and make sure you always have the correct jack should a flat trailer tire occur.
- **Carry a spare.** If your trailer doesn't have a spare tire, get one and mount it to the frame. Make sure to air it up and check it regularly for the proper pressure.
- **Bunks and rollers.** Anything loose should be tightened, and anything sagging or rotted should be replaced. Make sure all bunks or rollers maintain proper contact with the bottom of the boat to prevent development of hooks or rockers in the hull's surface over time.
- **Hubs and wheels.** Check trailer wheel bearings for signs of water intrusion. Periodically grease trailer bearings using a high-quality, corrosion- and water-resistant formula like Yamalube Marine Grease and a Yamalube Marine Grease Gun.
- **Cables and winches.** Monitor the condition of your trailer's winch cable, particularly if it's made of metal. Replace the cable if there are any signs of cuts, abrasion or chaffing to prevent possible injury if it were to break under load. Make sure the winch handle is free of bends or cracks and is tightened down properly, too. Yamalube Yamashield is an excellent choice for lubricating and helping protect winch cables and assemblies.
- **Lights.** Help prevent frustrating trailer light issues with simple care and maintenance. Yamalube Brake & Contact Cleaner will help clean, dry and restore proper taillight connections. It's great for dock lights, too.
- **Brakes.** Whether your trailer's brakes are electrically operated or surge, proper periodic attention is required, particularly in saltwater environments. Rinse your wheels and brakes thoroughly with fresh, clean water after every dunking. Yamalube Brake & Contact Cleaner is great for helping keep your trailer's brakes clean, too.



Scan here to see a video about proper trailer care.
Message and data rates may apply. May not be available on all devices.



YOU CAN'T TAKE IT WITH YOU. SERIOUSLY.

Many areas of the country are experiencing the rampant spread of invasive species like zebra mussels and hydrilla. These "hitchhikers" can easily be transported from waterway to waterway by unsuspecting boaters through trailering. To help prevent their spread, visually inspect your trailer every time you pull out of the water and remove any you find. The waterway you're headed to next will thank you for it!



Confidence You Can Count On **WHY YAMAHA?**



No one knows your Yamaha outboard better than Yamaha. The engineers that designed and built your outboard are some of the same engineers that assist in the formulation of specific products designed to help you care for it.



WE HAVE THE PRODUCTS.

Yamalube. It's the brand behind our reliable motors, and for good reason. They're the only products built around the unique demands, operating characteristics, and applications of Yamaha outboards. Yamalube products are all designed and manufactured to help maintain the performance and value of your outboard for many years to come.

WHY IS USING GENUINE YAMAHA MAINTENANCE AND CARE PRODUCTS IMPORTANT?

- **Factory-approved products versus generic.** The same engineers who designed your outboard test and approve Yamalube products; so you know they're right for the job.
- **Engineered to work better.** Yamaha formulates its products to meet the specific needs of your outboard. Aftermarket product manufacturers use a one-size-fits-all approach that may not fully protect your outboard.
- **Helps protect your investment.** Ultimately, you are responsible for the proper maintenance of your outboard; so do it right. Insist on Genuine Yamaha and Yamalube maintenance and care products in order to maximize your performance and best maintain the value of your outboard.

WE HAVE THE INFORMATION.

From easy-to-understand maintenance charts to instructional how-to videos, to on-site seminars with some of our professional staff, Yamaha makes it easy to know what procedures need to be done, and when. This Maintenance Matters booklet is just the start.



WE HAVE THE DEALERS.

With a nationwide network of approximately 2,000 authorized Yamaha Marine dealers, there's sure to be one nearby that can help. If you choose to do the maintenance yourself, your local dealer has the Genuine Yamaha and Yamalube products, parts and materials you'll need. Or they can do much of your maintenance for you. They have access to all of the maintenance schedules and proper materials for Yamaha outboards, and the experience and the tools to do the job right. Either way, Yamaha has you covered.

NOTE: All the Yamaha Genuine or Yamalube products in this booklet are available through your local authorized Yamaha Marine dealer. More information can be found at [YamahaOutboards.com/Maintenance-Matters](https://www.yamaha.com/outboards/maintenance-matters).



CAPACITIES & SPECIFICATIONS

Four-Stroke and V MAX SHO® Four-Stroke Outboards

(Current Engines Only)



V MAX SHO



FOUR STROKE



JET DRIVE

OUTBOARD	Displacement	Yamalube® 4M FC-W**	Oil Capacity w/ Filter	Oil Filter Part #	Primary On-Engine Fuel Filter Element†	Fuel / Water Separating Filter	External Spark Plug NGK®	Lower Unit Capacity Right-Hand Rotation	Lower Unit Capacity Left-Hand Rotation
VF250/VF250X	4.2L	YES***	7.1 qt	N26-13440-03-00	6P3-WS24A-01-00	Yamaha 10-Micron	LFR6A-11	36 oz/35.1 oz	NA
VF225/VF200	4.2L	YES***	7.1 qt	N26-13440-03-00	6P3-WS24A-01-00	Yamaha 10-Micron	LFR6A-11	36 oz	NA
VF175	2.8L	YES	4.8 qt	69J-13440-03-00	6P3-WS24A-02-00	Yamaha 10-Micron	LFR6A-11	33.1 oz	NA
VF150/VF150X	2.8L	YES	4.8 qt	69J-13440-03-00	6P3-WS24A-01-00	Yamaha 10-Micron	LFR6A-11	33.1 oz/33.1 oz	NA
VF115/VF90	1.8L	YES	3.4 qt	5GH-13440-71-00	6D8-WS24A-00-00	Yamaha 10-Micron†	LKR-6E	25.7 oz	NA
XF450/XF425	5.6L	YES	8.2 qt	N26-13440-02-00	6P3-WS24A-02-00	Yamaha 10-Micron	LMAR7E-9	65.9 oz HD only	61.9 oz HD only
F350	5.3L	YES	6.9 qt	N26-13440-02-00	6P3-WS24A-02-00	Yamaha 10-Micron	LFR6A-11	51.4 oz HD only	44.3 oz HD only
F350	4.3L	YES	8.5 qt	N26-13440-02-00	6P3-WS24A-02-00	Yamaha 10-Micron	LFR6A-11	31.3 oz HD only	30 oz HD only
F300/F250/F225	4.2L	YES	6.7 qt	N26-13440-02-00	6P3-WS24A-02-00	Yamaha 10-Micron	LFR6A-11	35.1 oz HD only	35.1 oz HD only
F250/F225/F200	3.3L	YES	5.0 qt	69J-13440-03-00	6P3-WS24A-02-00	Yamaha 10-Micron	LFR6A-11	39 oz	33.8 oz
F200/F150	2.8L/2.7L	YES	4.8 qt	69J-13440-03-00	6P3-WS24A-02-00	Yamaha 10-Micron	LFR6A-11	33.1 oz	33.1 oz (F200)/29.4 oz
F115	1.8L	YES	3.4 qt	5GH-13440-71-00	6D8-WS24A-00-00	Yamaha 10-Micron†	LKR-6E	25.7 oz	24.2 oz
F75/F90	1.8L	YES	3.4 qt	5GH-13440-71-00	6D8-WS24A-00-00	Yamaha 10-Micron†	LFR5A-11	22.7 oz	NA
F70	1.0L	YES	2.2 qt	5GH-13440-60-00	6D8-WS24A-00-00	Yamaha 10-Micron†	LKR-7E	22.7 oz	NA
F50/F60	1.0L	YES	2.2 qt	5GH-13440-60-00	6D8-WS24A-00-00	Yamaha 10-Micron†	DPR6EB-9	14.5 oz	NA
F30/F40	747cc	YES	1.8 qt	5GH-13440-60-00	6D8-WS24A-00-00	Yamaha mini-10™†	DPR6EB-9	15 oz	NA
F25	432cc	YES	1.7 qt	5GH-13440-60-00	61N-24563-10-00	Yamaha mini-10†	DPR6EB-9	11 oz	NA
F15/F20	362cc	YES	1.9 qt	5GH-13440-60-00	61N-24563-10-00	Yamaha mini-10	DPR6EB-9	8.5 oz	NA
F8/F9.9	212cc	YES	27 fl oz	NA	68T-24251-01-00	Yamaha mini-10	BR6HS-10	5.1 oz	NA
F4/F6	139cc	YES	20.3 fl oz	NA	68T-24251-01-00	NA	CR6HSB	4 oz	NA
F2.5	72cc	YES	11.8 fl oz	NA	NA	NA	BR6HS	2.5 oz	NA
T50/T60	1.0L	YES	2.2 qt	5GH-13440-60-00	6D8-WS24A-00-00	Yamaha 10-Micron†	DPR6EB-9	22.7 oz	NA
T25	432cc	YES	1.7 qt	5GH-13440-60-00	61N-24563-10-00	Yamaha mini-10	DPR6EB-9	11 oz	NA
T9.9	212cc	YES	27 fl oz	NA	68T-24251-01-00	Yamaha mini-10	BR6HS-10	12.5 oz	NA
F150 (105)	2.7L	YES	4.8 qt	69J-13440-03-00	6P3-WS24A-01-00	Yamaha 10-Micron	LFR5A-11	NA	NA
F115 (80)	1.8L	YES	3.4 qt	5GH-13440-71-00	6D8-WS24A-00-00	Yamaha 10-Micron†	LKR6E	NA	NA
F90 (65)	1.8L	YES	3.4 qt	5GH-13440-71-00	6D8-WS24A-00-00	Yamaha 10-Micron†	LFR5A-11	NA	NA
F60 (40)	1.0L	YES	2.2 qt	5GH-13440-60-00	6D8-WS24A-00-00	Yamaha 10-Micron†	DPR6EB-9	NA	NA
F40 (30)	747cc	YES	1.8 qt	5GH-13440-60-00	6D8-WS24A-00-00	Yamaha mini-10	DPR6EB-9	NA	NA

** 5W-30 and 10W-30 are correct for all climates. 20W-40 is for consistently warm climates.

*** 10W-30 weight oil maximum

† These motors can use either Yamaha mini-10 or Yamaha 10 Micron.

‡ Other fuel filters may be present on this engine. For complete details, consult your authorized Yamaha Marine dealer or go to <https://yamahayoutboards.com/yamalube>.

Note: All numbers listed are subject to change without notice. Please verify all listings with your owners manual or check with your local Yamaha Marine Dealer. NA references the non-applicability of the specific engine to the specification referenced in the column. NGK is a registered trademark of NGK Spark Plug Co., Ltd.



When it comes to boats and outboards, you get out of them what you put into them. That's why proper maintenance and care is so very important. It helps maintain the value of your investment and provide years of trouble-free fun on the water.

Proper maintenance isn't expensive or overly difficult. Yamaha's Maintenance Matters contains easy-to-understand information about maintenance procedures, supplies and timing. Additional information is as close as [YamahaOutboards.com/Maintenance-Matters](https://www.yamahaoutboards.com/maintenance-matters) and your local authorized Yamaha Marine dealer. Do it yourself or enlist your Yamaha dealer to help—and track it all through our Siren Connected Boat™ app.

Insisting on Genuine Yamaha maintenance and care products and following Yamaha-recommended guidelines, your outboard will reward you with year after year of relaxation and enjoyment.

Insist on Yamaha, and only Yamaha.

For the name of your Yamaha Marine dealer or for more information on our complete line of Yamaha Outboards, call 1-800-894-1626 or visit us at [YamahaOutboards.com](https://www.YamahaOutboards.com).

REMEMBER to always observe all applicable boating laws. Never drink and drive. Dress properly with a USCG-approved personal flotation device and protective gear.

This document contains many of Yamaha's valuable trademarks. It may also contain trademarks belonging to other companies. Any references to other companies or their products are for identification purposes only, and are not intended to be an endorsement.

© 2024 Yamaha Motor Corporation, U.S.A. All rights reserved.

