

Mud Buddy

HD Models

Owner's Manual

Updated January 30, 2006

**Thank you for purchasing the most advanced
mud motor in the world.**

**Assembly - Read the quick-start guide and the instructions
inside before installing and operating your motor. Check the crate
and engine for damage. Call Mud Buddy and the shipping
company immediately if you find any damage or missing items.**

**Notice: Engine is shipped without oil. Fill before starting.
*Check the oil with the engine in a level position. Some oil may be
left in the engine when shipped. Check while filling. Do not overfill.*
Use a good grade of SAE 10W-30 oil. You may also use a synthetic oil.**

For Engines

Vanguard 29, 31, and 35 takes - up to 80 oz.

14 -29 horse - up to 2 qt.

Kawasaki Notice

Your engine is equipped with a mercury safety switch which prevents the engine from being started unless the propeller is raised and out of the water.

Kawasaki 29 EFI Notice: Fuel injection system. When new or when in storage for an extended period, bleed the fuel line of air. Remove the fuel line above the fuel filter, turn the key on and pump out 1/4 cup of fuel into a suitable container. Reassemble. The fuel filter may have a little air inside, this is okay. If you run out of fuel the above procedure must be repeated.

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Warranty

For Vanguard 14, 29, 31 & 35; Kohler 25 & 27 and Kawasaki 27 & 29 *Does not include Vanguard 42 and 45 engines, which have no manufacture engine warranty.*

Two Years: (The engine manufacturer provides a warranty on the engine, as stipulated in the engine manufacture owner's manual. If you need service, locate an engine manufacture service center in your community, or go to the Mud Buddy website customer page and click on service centers. Your user name is "outdoor" and your password is "fun", all lower case.)

Mud Buddy warrants that the frame and drive is free from defects in material and workmanship, assuming normal use, for a period of one year from the date of purchase. Warranty does not cover lack of lubrication, normal wear, collision, abuse or mistreatment.

If a defect occurs during this period, contact your nearest dealer or Mud Buddy with a dated proof of purchase. You will be directed where and when to take your equipment for inspection and/or service. It is the customer's responsibility to present the equipment to the repair center for repair. Repair sequence and completion dates are set by the service center. If frame or drive parts are required to complete authorized warranty work, Mud Buddy will ship them via ground UPS at no charge. Expedited shipping is the responsibility of the customer. If warranty work is denied due to lack of lubrication, collision, abuse or mistreatment, the customer may appeal to Mud Buddy for review. We will do everything reasonable to assist the customer.

Except for the express warranty of Mud Buddy set forth above, Mud Buddy grants no other warranties, express or implied, by statute or otherwise, regarding the Mud Buddy backwater motor, its fitness for any particular purpose, its quality, its merchantability, or otherwise. The liability of Mud Buddy under the warranty set forth above shall be limited to the fair market value of the product at time of warranty claim. In no event shall Mud Buddy Manufacturing be liable for any special, consequential, or other damages for breach of warranty. Mud Buddy has the right to change the product design at any time without any obligation under this warranty.

**Mud Buddy
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801.352.8011 - service@mudbuddy.com**

Warranty Service

Your Mud Buddy is designed to last you many years with proper care and use. Warranty items are repaired by authorized Honda, Vanguard, Kohler, or Kawasaki engine repair centers and the drive/frame by Mud Buddy service centers. Parts and tools are available from Mud Buddy. Specialty tools are available, free for your use, to complete service work during the warranty period, and may be rented thereafter. You are important to us, so call whenever you have questions or need assistance. Many owners prefer to repair their own mud motors and we will promptly send parts by regular UPS when needed. Express shipping is also available, but this expense must be provided by the owner. The Mud Buddy factory is a Vanguard repair center for minor engine work and we can provide some repair parts. Contact us, then return broken engine parts to Mud Buddy, and we will process the Briggs warranty claim for you.

Thank you for purchasing a Mud Buddy product.

This owner's manual contains the necessary information you will need to unpack, install, operate and maintain your Mud Buddy backwater motor. Safety is key to operating any motorized equipment. **Read the warnings in this owner's manual, the caution labels on the engine and its manual, and the caution labels on the frame before running your Mud Buddy.**

The Mud Buddy is designed for use in shallow water conditions, and with simple care, it should last you many enjoyable years.

Service Updates: We highly suggest you visit the Mud Buddy website often to receive important product information, product updates, service tips and special advisories. www.mudbuddy.com

Safety

- Read these safety precautions before operating your Mud Buddy.
- Always attach the safety lanyard to yourself while operating the Mud Buddy. Unclip the safety lanyard from the switch or depress the red button each time you run the engine to ensure it is working properly. The engine should stop immediately when the red button is depressed, or the safety clip is removed from the switch.
- Start the engine with the propeller clear of the water for non-clutch models. Do not leave a running engine unattended.
- The Mud Buddy can be operated from the siting position. If you stand, use a stand-up bar or some other steady-hold to maintain your balance. Protect the safety of passengers.
- Always wear a Coast Guard approved flotation device.
- Keep body parts and clothing clear of all moving engine components, the drive shaft, and propeller.
- Do not operate your Mud Buddy while others are standing near the outdrive.

- Use extreme caution while operating your Mud Buddy, particularly when it is out of the water and on the boat or on a storage stand. Never clean the engine or frame while the engine is running.
- The engine and muffler can become extremely hot and cause severe burns. Do not operate the engine in an enclosed area. Exhaust gases can cause severe injury and death.
- Our video DVD shows professionals running mud motors. Do not attempt to run your mud motor in this manner without the proper training and experience.

Operation and Break-In

- Prepare the engine for starting: *Note: Read your engine owner's manual. Observe break-in precautions. Do not over-rev the engine during the first couple hours. Do not break-in the engine on the trailer. The drive bearings and seals should be run in the water for the first couple hours. However, you can start the engine and let it warm up a few minutes out of the water during the break-in period.*

- Starting the engine: Read the safety precautions in this owner's manual before starting.

- First, pull out the choke. (The 29 Kawi is fuel injected and has no choke) Put the clutch switch in the center position for starting if equipped with an electric clutch. Ensure everyone is clear of the engine and propeller. **And ensure the prop is out of the water and engine is in the level position for non clutch models. Do not leave a running engine unattended.**

- On the water: This is where your fun begins. Even though the Mud Buddy is built tough, it is the owner's responsibility to know its limits and protect the drive from severe impacts. Also, we want you to enjoy yourself, but ask that you be safe, courteous to others, and environmentally sensitive. Some waterways are protected by environmental laws, so know these before you go. The Mud Buddy will go places other boats can't, so make sure you let others know your destination, and when you will return. Carry a mobile phone and travel with others whenever possible.

- If your motor is equipped with a centrifugal auto clutch, do not run the motor in the 1800 to 2000 rpm range for more than a few seconds. If you have to run very slow for no-wake zones in timber, etc., trim the drive up and run the prop on the surface to refrain from slipping the clutch. If you suspect clutch overheating, continue to run the engine above 2200 rpm for five minutes or longer to cool the clutch, and prevent premature belt failure.

Caution; never place the propeller in the water at high engine speeds with clutch engaged, particularly when the drive shaft is off to the side of the boat. This is true of any outboard motor. The boat can lurch forward, or spin and expel the operator and passengers.

- Our website and DVDs show mud motors running in different conditions. The operators in our videos are professionals. Do not operate your mud motor in this manner without the proper training and experience - be careful and protect your passengers.

- With the engine set at idle, either engage the clutch, or lift the handle and/or use the power assist tilt and trim to lower the propeller in the water directly behind the boat. You will now be moving forward.

- Start off slowly and soon you will learn new ways of using the Mud Buddy to propel your boat in and out of places you never dreamed possible.

- Steering the boat is made easy by pushing or pulling the handle. You can also lift and place the propeller in and out of the water as needed to maneuver through vegetation and mud.

- The power tilt and trim is used to set the optimum drive angle when running. Through experience, you will find the best trim angle for your boat, motor and load. Normally, the propeller blade is about 1' to 2' out of the water when running full speed for best performance. A small rooster tail will be present when running near the surface. This is usually the best position for running full throttle. Be careful when trimming up so that the propeller does not come too far out of the water which can cause the propeller to run across the water surface and cause excessive pull on the handle. Regarding propeller walk, which is caused when the prop hits the surface. If the handle pushes into you while running full throttle, you can reduce prop torque by moving the engine 1 inch away from you. If this does not remedy the prop torque, bend the lower end of the skeg in the direction it is bent. Do this with a rubber hammer or wood block and hammer. Do not overbend or bend back and forth which can cause weld failure. Bend 1/4" at a time for best results. After adjustment, use the bolts provided to bolt the motor to the transom.

- When operated at high speeds, the normal operating RPM is 3500 to 3900 RPM.

Service

Our website customer service page has additional tips and recommendations to operate, maintain, adjust and service your Mud Buddy. Lubrication performed on a regular schedule as described below will add years to the life of your Mud Buddy.

You will need a hand held grease gun filled with a good quality marine-grade wheel bearing grease. You can find the grease at any major automotive store.

First 10 hours - Check belt tension. Grease the frame swivel points. Grease both ends of throttle cable. Tighten prop nut.

First 50 hours - Grease the outdrive assembly.

Every 100 hours - Grease the drive assembly and swivel points.

The drive tube is filled with grease from the factory. In addition to the above lubrication schedule, every two years or 200 hours, remove the propeller and lower bearing cap. (Note: the bearing cap is left-hand threaded. Turn clockwise to loosen.) Locate a grease filler set screw on the aluminum outdrive near the drive tube. Remove the set screw and insert a grease fitting (1/4" X 28 pitch thread). The grease fitting is available from Mud Buddy or any parts store. Newer models are equipped with the grease fitting. Grease the drive with a good grade of marine wheel bearing grease until clean grease comes out of the lower bearing assembly. Run the engine one minute allowing some of the grease to come out. Wipe excess grease off the drive. If water is present in the drive, change the drive cap seals. Seal threads with Permatex or thread sealer. Place a liberal amount of grease on the seals and shaft race so the seals easily pass over the shaft race without damage or rolling. Install the cap. Do not overtighten.

Throttle: Lubricate the throttle cable with WD-40 or non-freeze silicone available at most Napa stores. Coat the throttle cable with grease near the engine and throttle ends twice per season. This helps keep water out of the throttle cable and deters freezing. Elevate the throttle cable near the throttle by securing with two wire ties. The elevated cable will keep water from entering. This is very important.

Engine oil and filter should be replaced according to the engine manufacturer's instructions. Change the oil and filter at the end of the season. Acids accumulate in the oil and if not drained, can cause internal pitting if left in the crankcase for extended periods.

Cover the engine when in storage. This keeps the engine, wiring and mechanical parts dry, and prevents oxidation and corrosion.

If you operate in salt water; wash down the drive and engine after every trip.

The frame is coated with a marine grade powder coating and easily cleaned with soap and water. If you use a high-pressure washer, do not direct the spray at any area containing a seal such as the propeller, upper drive between engine and outdrive, throttle or switches. The pressure will drive dirt and grime into the seals and parts and cause premature failure.

Storage: At the end of the season, and for extended periods of storage beyond one month, the fuel should be run out of the carburetor, and treated with a gas stabilizer. The most common carburetor problems occur because this simple procedure isn't followed. Note. All engine manufacturers do not warranty fuel related problems. Use a good grade of fuel, 87 octane or better. The 45 mod engine must use octane 91 or higher.

Ensure the vent screw located on the fuel gas cap is open. If closed, pressure can build which causes fuel to be pushed through the carburetor into the crankcase. Over time, this dilutes the oil and can cause engine failure. Do not add a fuel tank quick disconnect, which can restrict fuel and cause poor top end performance. You may add a primer bulb, but turn the ignition switch on before pumping to avoid damaging the carburetor electronic shut off valve.

Propeller Inspection and Removal

Caution - Propeller Condition: The most common reason for drive failure is a damaged propeller. Worn or bent props will decrease performance, and can also damage the drive unit. Your prop is 11" new. If 10 1/2" or smaller, replace the propeller for best performance. Replace and/or repair the propeller when it shows signs of damage or excessive wear. Lack of power or reduced thrust in mud is an indication of prop wear. We do not straighten or rebuild props. Some shops do, but we suggest you use factory fresh new propellers.

- Check the prop by warming, then revving the engine to full speed out of water and observe the skeg. Be safe and careful. If it vibrates excessively, or turns into a blur, replace the prop immediately to prevent drive and frame damage. If the problem persists with a new propeller, you may have a bent drive shaft. Do not run without further service. Check the shaft when you remove the propeller. Again, be careful. Run the engine at an idle checking the shaft for straightness. Notice the small gap between the bearing cap and drive shaft. Watch the shaft as it rotates. If the shaft is bent, it will wobble from side to side. If bent, have the drive inspected by a service center and replaced immediately if needed. **Note: Bent drive shafts are caused by severe impacts and not covered by our warranty.**

- The Sport models have a 25mm drive shaft with 3/4" hex prop shaft. Propeller removal is very easy. The Hyper model has a 7/8" screw on prop. Sport Models - remove the 3/4" nut. Tap the prop on each side lightly. Do not use a screwdriver to pry, or use excessive force to remove the prop. This will damage the drive. Do not heat the propeller beyond 200 degrees to remove the prop, or seal damage will occur. Call us for prop removal assistance. For Hyper Models - Remove the nut and hold the forward propeller nut with a pipe wrench with a 2' to 3' extension tube (1" metal conduit will work). Using a Mud Buddy propeller wrench, or 3' piece of flat bar with 7/8" bore hole, place it over the shaft and between the blades. The extended handles of the prop tools will quickly remove the most stubborn prop. Do not hit the prop with a hammer to remove.

- Be careful when removing a worn prop, the edges can be very sharp.

- Clean the hex shaft or threads with a wire brush and coat with marine grease or never seize prior to installing a new prop. If the Sport hex prop or threaded Hyper prop are too tight to install, lightly sand the shaft or run a threading tool over the threads.

- Install the nut carefully to 240 inch pounds.

Belt Tension or Belt Replacement

You can check the belt tension without removing the clutch cover. Simply remove the side access plug on the right side of the casting as shown below. Set the tension O-ring nearest your hand against the gauge tube as shown. With the tool inserted into the access hole, and tension tool in your palm, observe the scale alongside the tension gauge and pick a point on the casting for reference. The objective is to depress the belt in its center 1/4" (not along the edge of belt because this will twist the belt rather than push the center) and then note how many pounds, as indicated by how far the O-ring moved, it took to move the belt the 1/4". New belts are tensioned at 20 to 21 pounds. Used belts should measure 12 to 16 pounds. If less than 12 pounds, tension the belt.



Belt Tension:

A belt tension kit can be purchased from Mud Buddy. It contains the instructions, silicone sealer, tension tool and casting bolt hex wrench. 801.352.8011

Belt Replacement Procedure: (additional information and more photos are available on the Mud Buddy website, customer page also. www.mudbuddy.com)

Note: For all large block Vanguard engines sold prior to January 2006, contact us for upgraded engine face bolts. Severe impacts can cause the stock bolts to shear. They are free of charge.

The Goodyear Eagle PD belt and Gates belt is tensioned by moving the outdrive down on the engine mount and engine face. The belt tension adjustment bolt is located on the rear, bottom inside of the aluminum outdrive as shown below. We highly recommend you place thread penetrating oil on the adjustment bolt threads 24 hours prior to adjusting the belt. A corroded bolt (especially if run in salt water) can jam and even break off. **Notice: We do not warranty bolts that are corroded and break off. This is a customer maintenance item.**

- Remove the face bolts from the upper drive's clutch cover.



- Loosen the four engine face bolts located behind the clutch, and the four casting bolts located above the adjuster bolt. **Note: We Loctite the engine face bolts and they may be very difficult to loosen. You can apply a moderate amount of heat to the bolts, less than 250 degrees.** Do not remove the bolts, just loosen them a turn or two to allow the aluminum outdrive to slide in the bolt slots.

- Prior to February 2006 only. Slightly (one turn) loosen the five lower drive face bolts which fasten the propeller outdrive to the drive casting. Do not loosen more than one turn. Tap on the skag with a block of wood or rubber hammer near the outdrive casting. This will ensure the lower drive is all the way up in the bolt holes. Tighten these five bolts to 240 inch pounds.

- Now, tighten the belt by turning the adjustment bolt. Check tension each time you turn the bolt one turn. It does not take much to tension the belt.

- Tighten the engine face bolts, rear casting bolts and adjustment bolt jam nut.

- Run the engine a couple minutes and recheck the belt tension. Tension again if needed.

Belt Replacement:

Note: For all large block Vanguard engines sold prior to January 2006, contact us for upgraded engine face bolts. Severe impacts can cause the stock bolts to shear. They are free of charge. 801.352.8011

- Remove the lower drive bolts with a 5/16" hex wrench.

- Loosen the rear adjustment bolt.

- Squeeze the belt to raise the drive casting. Tighten any one of the four rear slide bolts to hold the casting upward which provides clearance and helps when you install the new belt.

- Clean the silicone sealer off the casting face or each part. Do not scrape. It is not necessary to remove all the silicone, just the large and thicker pieces. New sealer will fill gaps.

- Place a thin bead of silicone on the casting halves. Place sealer around each of the bolt holes.

- Place a new belt on the lower sprocket and set the outdrive on the engine outdrive casting, being careful so you don't wipe the silicone sealer from the casting. Slip the belt up and over the top sprocket. If replacing the Goodyear V tooth belt, ensure the belt is facing the correct direction so the teeth and belt mesh.

- Insert bolts and tighten snugly, not all the way yet. Now tension the belt lightly which will cause the propeller outdrive to rise to the top of the bolt holes. Now tighten the propeller outdrive to 240 inch pounds.

- Tension the belt as described on page 4. Turn the propeller to ensure the belt and sprockets are engaged.

- The drive should be waterproof. We recommend you now remove each of the lower rear four slide adjustment bolts, one-by-one, and place Permatex or thread sealer on the threads. Replace and tighten snugly. Remember, one-by-one so the drive is kept intact.

We here at Mud Buddy thank you for being a valued customer. If you have any questions or need assistance, please contact us.

Winter Driving Tips

It is not uncommon for the Kohler and large block Vanguard motors to experience carb icing when below 30 degrees. Also, throttles can freeze and water/ice can get into your fuel causing all sorts of frustrations and breakdowns. Go to our website at WWW.MUDBUDDY.COM and see winter driving tips.

Tuned Exhaust

We are currently working on a tuned exhaust for most our engine models, such as the large and small block Vanguards, Kohlers and Kawasaki. Check the website occasionally for availability and pricing.

Warranty Card

Make sure and send in your warranty card so we can activate your warranty and notify you of any future updates and service information.

Web Customer Service Page

Check out our web CUSTOMER PAGE for more information, updates, service tips, adjustments and performance advice. Your user name is outdoor and your password is fun (all lower case). WWW.MUDBUDDY.COM

**Mud Buddy Manufacturing
West Jordan, Utah 84088**

Sales and Service 801.351.8011 Fax 801.561.3799

Your Propeller Size Tiger 11 X 10