

# Honda BF2 Series Motor

## Break In & Operating Procedures

### **NEVER START BF2A MOTORS OUT OF WATER!**

**This results in immediate water pump failure which causes the motor to overheat. The motor will continue to operate but damage to the motor occurs.**

**A malfunctioning water pump will also cause overheating and present a potential burn hazard to operators and passengers of the boat.**

1. Open boxes and examine merchandise to make sure all equipment matches what is listed on the packing slip and was not damaged during shipment.
2. Immediately fill Honda BF2 Bumper Boat motors with oil—Honda recommends using 10w-30 Detergent Motor Oil.
3. Read the Honda BF2 Owner's Manual and Shop Manual form thoroughly.

### **WARNING**

1. Add oil.(10w-30 is recommended.)
2. DO NOT start BF2A motors out of water. (Damage and burn hazard can result.)
3. Read owner's manual and shop manual thoroughly.
4. Open fuel cap vent knob 2 to 3 turns counter clockwise.
5. Turn the fuel valve lever on.
6. Pull starter rope straight out. (Damage will occur to starter or gas tank if pulled in any other direction.)
7. Use clean unleaded gasoline. (**Never** use oil/gas mixture.)
8. Check lower gear case oil. (Marine SAE 90 Hypoid oil.)
9. Motor is now ready for installation in boat.

### **BREAK IN PROCEDURES**

1. Read owner's manual, regarding break in procedure.
2. Start all motors (see starting procedures on page 4).
3. After first 20 hours of operation:

- A. Change oil in all motors.
- B. Check handle bars for tightness.
- C. Check prop for shear pin damage.
- D. Lube cables and linkages.
- E. Check pivot for smooth operation through full range. If operation is rough, tight or sticky see manual for service instructions.

## **NEVER START BF2A MOTORS OUT OF WATER!**

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4. Adjust idle speeds (NOTE: This is a vital procedure to insure satisfactory BF2 engine performance after first 20 hours of Honda BF2 motor operation!)

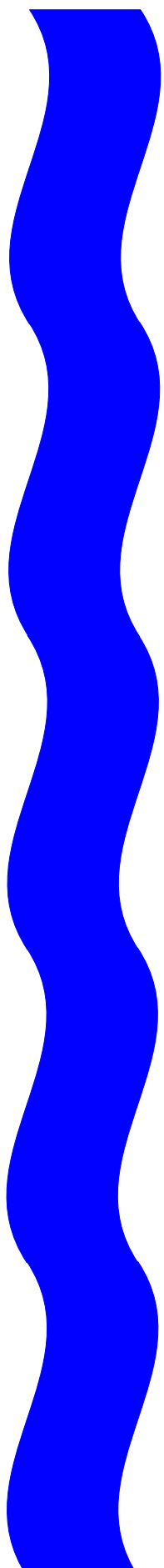
In order to adequately adjust idle speeds, you should purchase a tachometer (part #01073 is available from J&J).

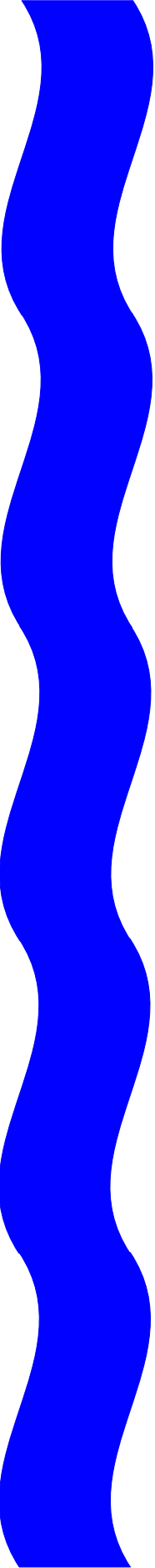
- A. Turn to page 21 in the shop manual (Note: this is the larger manual not the smaller owner's manual) and read item 6 – Carburetor. This tells how to adjust idle speed.
- B. These instructions recommend 1400 RPM plus or minus 100 RPM. This is too low for bumper boat use!! In order to meet the demands of a commercial bumper boat operation, the idle speed on the Honda BF2 should be set at 1700 RPM plus or minus 100 RPM.

**Failure to adjust idle speeds will result in difficulty starting motors and repeated stalling.**

## **TROUBLE SHOOTING**

**Problem 1—Difficulty starting Honda motors and motor won't run at full speed. (Motor dies when full throttle is applied.)**



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- Step 1 On/Off switch on side of motor is in “On” position.
- Step 2 – Check to see if there is gas in the tank.
- Step 3 – Vent on gas cap all the way open.
- Step 4 – Check to see if motor starts (Note: if motor is cold, refer to starting procedure on page 4. If motor doesn’t start easily and run properly after trying steps 1 through 4 above, move ahead to step 5.
- Step 5 – Take off tank and make sure fuel filter is clear of any particles. Even the smallest obstruction in the fuel line will prevent motor from running correctly.
- Step 6 – Make sure gas line is free of any type of obstruction or particles (note: use a 10mm wrench and unscrew float chamber bowl from carburetor – see shop manual. Once you remove float chamber, blow air through the line. If you can’t blow air easily, you have an obstruction.
- Step 7 – Now that the float chamber is removed, check main jet (see page 33) to see that it is not clogged by looking through into the light. (NOTE: To remove main jet, you must use a small screwdriver.)

(If obstructions continue to occur in fuel line, fuel filter and float needle, it might be shavings from the gas tank completely. We blow out all tanks several times but shavings still occur from time to time. Drain gas tank, let it dry and using the air line, blow out the tank.) Make sure in line 75 micron fuel filter is clean and in place.

- Step 8 – Put motor back together and it should operate correctly-

**Problem 2 – Motor starts and run properly but boat won’t move even though prop appears to be spinning.**

- Step 1 – Take motor out of boat.
- Step 2 – Use screwdriver to push prop and see that it moves freely in either direction. If it moves easily, that’s a sign that the shear pin has broken and needs to be replaced. Just follow instructions at end of this section.

**Problem 3 – Motor runs poorly – stalls, doesn’t rev and smells like it is burning. The motor is overheating.**

- Step 1 – **(BF2A Motors Only)** Check pivot for water coming out of pivot area. If water flow is sufficient the pivot area will be cool to the touch. If the pivot area is warm or hot to the touch do not operate unit until proper water flow is restored.
- Step 2 – **(BF2A Motors Only)** Check water intake screen for any obstruction (see page 5 of the owner's manual).
- Step 3 – Blow out water tube for any obstructions (BF2A only)
- Step 4 – Replace water pump (see service manual, page 51). (BF2A only)

**NOTE: How often should you change oil?**  
Every 100 hours of operation or weekly if hour meter is not used.

**NOTE: This is one of the most important maintenance procedures on any Honda motor. Failure to perform this simple task will lead to problems and down time!**

## **PROCEDURES FOR STARTING HONDA BF2 BUMPER BOAT MOTORS WHEN COLD**

Each morning:

1. Fill fuel tanks 2 inches from the top. Make certain "O" ring is inside gas cap.
2. Open gas cap screw vent by turning counter clockwise (2-3 turns out).
3. Turn the on/off lever on side of motor to the ON position.
4. Pull choke knob completely out (located directly below the pull rope.)
5. Give the motor 2-4 good straight pulls. If it fails to start, give the throttle lever half-way, pull 2-3 more times.
6. Let idle about 30 seconds with choke out. After 30 seconds push choke knob completely in. The motor should idle by itself.

**MECHANIC ONLY:** If the motor fails to start, the most likely cause is water in the gas. Place appropriate receptacle under the carburetor to prevent spillage and turn the wing nut under the carburetor float bowl 3-4 turns counter clockwise and let the water-gas mix drain out. Let it drain for 10 seconds and close. Then proceed with starting procedures (Steps 4-6). If motor still will not start, refer to Trouble Shooting on page 3.



## WARNING

**ALWAYS MAKE SURE THAT SCREW VENTS ON TOP OF GAS CAPS ARE OPEN EVERY MORNING. IF THEY ARE NOT OPEN, THE GAS EXPANDS AS TEMPERATURE RISES, AND WILL OVERFLOW CAUSING FIRE HAZARD AND TOXIC FUMES.**

## **SHEAR PIN REPLACEMENT**

### **Honda and Suzuki Motors**

A shear pin is used to protect the propeller and drive mechanism from damage when the propeller strikes an object.

NOTE: In most cases, you do not need to remove the propeller guard to replace the shear pin.

1. Place motor on work stand.
2. Remove the propeller cotter pin using a pair of needle nose pliers.
3. Pull the propeller out from the gear case until it stops against the prop guard.
4. Push out the broken shear pin and clean the entire shaft.
5. Dab a little grease on the end of the new shear pin and install it in the shaft.

NOTE: There are two extra shear pins and cotter pins that come with each new motor. These should be removed and kept for future use.

Push the propeller back on the shaft and install a new cotter pin.