HONDA

Power Equipment

# Owner's Manual Outboard Motor BF9.9A/15A



, . .

Thank you for purchasing a Honda Outboard Motor.

This manual covers operation and maintenance of the Honda BF9.9A/15A Outboard Motor. All information in this publication is based on the latest product information available at the time of approval for printing. Honda Motor Co., Ltd. reserves the right to make changes at any time without notice and without incurring any obligation.

No part of this publication may be reproduced without written permission.

This manual should be considered a permanent part of the Outboard Motor and should remain with it if it is resold.

Pay special attention to statements preceded by the following words:

 $\triangle$  DANGER: Indicates severe personal injury or death will result if instructions are not followed.

WWARNING Indicates a strong possibility of severe personal injury or death if instructions are not followed.

CAUTION: Indicates a possibility of personal injury or equipment damage if instructions are not followed.

NOTE: Gives helpful information.

If a problem should arise, or if you have any questions about the Outboard Motor, consult an authorized Honda Outboard Motor dealer.

Illustrations are mainly based on BF15A LAS type.

# CONTENTS

1. SAFETY	
2. COMPONENT IDENTIFICATION	
3. INSTALLATION	7
4. PRE-OPERATION CHECK	11
5. STARTING THE ENGINE	15
6. OPERATION	21
High altitude operation	26
7. STOPPING THE ENGINE	27
8. MAINTENANCE	28
9. TRANSPORTING/STORAGE	42
10. TROUBLESHOOTING	46
11. SPECIFICATIONS	47
12. WIRING DIAGRAM	
13. OPTIONAL PARTS	51
14. WARRANTY SERVICE	52

ï

#### SAFETY LABEL LOCATIONS

Read all safety instructions before using the Outboard Motor.



#### SAFETY INSTRUCTIONS

WARNING Honda Outboard motors are designed to give safe dependable service if operated according to instructions. Read and understand the Owner's Manual before operating the Outboard Motor. Failure to do so could result in personal injury or equipment damage.

To avoid severe personal injury or equipment damage, observe the following precautions:

- Understand the operation of all controls, and know how to stop the engine quickly—READ THIS OWNER'S MANUAL CAREFULLY.
- Do not exceed the boat manufacturer's power recommendation, and be sure the outboard motor is properly mounted.
- Never permit anyone to operate the outboard motor without proper instruction.
- Stop the engine immediately if anyone falls overboard.
- Do not run the motor while the boat is near anyone in the water.
- Exhaust contains poisonous carbon monoxide which can cause unconsciousness and may lead to death. Never run the outboard in a closed garage or confined area.
- Gasoline is extremely flammable and is explosive under certain conditions. Refuel in a well ventilated area with the engine stopped. Do not smoke or allow flames or sparks where the engine is refueled or where gasoline is stored.
- Do not overfill the fuel tank. After refueling make sure that the fuel tank cap is closed properly and securely.
- Be careful not to spill any fuel while refueling. Spilled fuel or fuel vapor may ignite. If any fuel is spilled make sure that the area is dry before starting the engine.
- Do not remove any guards, labels, shields, covers or safety devices; they are installed for your safety.

4

## 2. COMPONENT IDENTIFICATION



5



**3. INSTALLATION** 

It is your responsibility to choose a boat suitable for the engine (9.9 horsepower BF9.9A, 15 horsepower BF15A).

**WWARNING** Do not exceed the boat manufacturer's power recommendation. Damage and injury may result.

Two shaft lengths are available for the BF9.9A/15A, either long or short, to match the transom height of the boat.

Model	Transom length
S (Short)	440 mm (17.3 in.)
L (Long)	570 mm (22.4 in.)

STERN CENTER

#### 1. Installation Position

Install at the stern, at the center line of the boat.

#### 2. Installation Height

For proper propeller depth and engine cooling, the boat's transom height must match the motor's shaft length. The short shaft motor requires a transom height of about 15 in. The long shaft motor requires a transom of about 20 in. Once the boat is in the water and loaded, check proper motor depth by looking at the anticavitation plate: with the motor not running, the plate should be about 100 mm (4 in.) below the surface of the wear.



During operation, check to be sure the anti-cavitation plate remains under water at all times and that water flows from the water check hole. Excessive or imbalanced loading will affect the motor's water depth. Loading too far forward will raise the motor out of the water reducing

Loading too far forward will raise the motor out of the water, reducing engine cooling. Loading too much or too far rearward will push the motor deeper, reducing performance.

CAUTION: Insufficient water supply (anti-cavitation plate out of the water) may cause overheating that will damage the outboard motor.

#### 3. Motor Attachment

Attach the stern bracket to the transom and tighten the clamp screws.

#### CAUTION:

- While operating the boat, check the tightness of the clamp screws occasionally.
- Tie a rope through the hole in the stern bracket and secure the other end of the rope to the boat. This will prevent accidental loss of the motor.

NOTE: To prevent the outboard motor from falling accidentally, you may further secure the stern bracket to the transom board with commercially available bolts, nuts and washers. After attaching the stern bracket to the transom board, be sure to apply sealant (THREEBOND 1216 or equivalent) to the bolt holes. This modification should be made by your authorized Honda dealer.



#### 4. Motor Angle (Cruising)

Adjust the motor so the axis of the propeller is parallel with the water surface.



INCORRECT CAUSES BOAT TO "SOUAT"



INCORRECT CAUSES BOAT TO "PLOW"



CORRECT GIVES MAXIMUM PERFORMANCE

#### 5. Motor Angle Adjustment

If the propeller axis is not parallel with the water surface, adjust by changing the adjusting rod position. There are five adjusting stages.

- 1. Push in (A) the adjusting rod, twist upwards (B) and pull out to remove.
- 2. Inserting the rod in the proper hole, twist it down to lock.

CAUTION: To prevent damage to the motor or boat, make sure the adjusting rod is locked.



TO LOCK

LOCKED POSITION

#### 6. Battery Connections (for electric starter)

Use a 12V40AH battery. Place the battery in a corrosion-resistant battery box and fix the battery box securely to the hull. Install the battery box in a location such that remains level while the boat is cruising and is not exposed to spray or direct sunlight.

#### Connecting the battery cord

- 1. Connect the cable with the red terminal cover to the (+) side of the battery.
- Connect the cable with the black terminal cover to the (-) side of the battery.



#### CAUTION:

- Be sure to connect the (+) side battery cable first. When disconnecting the cables, disconnect the (-) side first then the (+) side.
- Unless the cables are properly connected to the terminals, the starter motor may fail to operate normally.
- If you connect the (+) and (-) battery cables incorrectly or disconnect the cables while the engine is running, the charging system of the outboard motor will break down.
- · Do not place the fuel tank near the battery.

#### 1. Engine Oil Level

#### CAUTION:

- Engine oil is a major factor affecting engine performance and service life.
  Nondetergent and low quality oils are not recommended, because they have inadequate lubricating properties.
- Running the engine with insufficient oil can cause serious engine damage.

Use Honda 4-stroke oil or an equivalent high detergent, premium quality motor oil certified to meet or exceed U.S. automobile manufacturer's requirements for Service Classification SF. Motor oils classified SF will show this designation on the container.

Select the appropriate viscosity for the average temperature in your area. SAE 10W-30 is recommended for general, all-temperature use.



- 1. Position the outboard motor vertically, and remove the engine cover by pushing down the engine cover lock lever.
- 2. Remove the oil level dipstick and wipe with a clean rag.
- 3. Reinsert the dipstick all the way in, then pull it out and read the level. If near or below the lower level mark, remove the oil filler cap and fill to the upper level mark with the recommended oil. Tighten the oil filler cap securely.
- 4. Install the engine cover and lock it securely by pulling up lock lever.

#### OIL CAPACITY: 1.1 ℓ (1.2 US qt)



### 2. Fuel Level

Check the fuel gauge and refill the tank if the fuel level is low.

NOTE: Open the vent knob before removing the fuel filler cap. When the vent knob is firmly closed, the cap will be difficult to remove.

Your engine is designed to use any gasoline that has a pump octane number  $\left(\frac{R + M}{2}\right)$  of 86 or higher, or that has a research octane number of 91 or higher. Gasoline pumps at service station normally display the pump octane number.

We recommend that you use unleaded fuel because it produces fewer engine and spark plug deposits and extends the life of exhaust system components.

Never use stale or contaminated gasoline or an oil/gasoline mixture. Avoid getting dirt, dust or water in the fuel tank. Use of a lower octane gasoline can cause persistent "pinging" or heavy "spark knock" (a metallic rapping noise) which, if severe, can lead to engine damage.

CAUTION: If "spark knock" or "pinging" occurs at a steady engine speed under normal load, change brands of gasoline. If spark knock or pinging persists, consult your authorized Honda dealer. Failure to do so is considered misuse, and damage caused by misuse is not covered by Honda's Limited Warranty.

Occasionally you may experience light spark knock while operating under heavy loads. This is no cause for concern, it simply means your engine is operating efficiently.

#### Fuel tank capacity: 13 ℓ (3.4 US gal)



CLOSE VENT KNOB OPEN FUEL FILLER CAP

After refueling, be sure to tighten the fuel tank cap firmly.

#### WARNING

- Gasoline is extremely flammable and is explosive under certain conditions.
- Refuel in a well-ventilated area with the engine stopped. Do not smoke or allow flames or sparks in the area where the engine is refueled or where gasoline is stored.
- Do not overfill the tank (there should be no fuel in the filler neck). After refueling, make sure the tank cap is closed properly and securely.
- Be careful not to spill fuel when refueling. Spilled fuel or fuel vapor may ignite. If any fuel is spilled, make sure the area is dry before starting the engine.
- Avoid repeated or prolonged contact with skin or breathing of vapor. KEEP OUT OF REACH OF CHILDREN.

#### GASOLINES CONTAINING ALCOHOL

If you decide to use a gasoline containing alcohol (gasohol), be sure it's octane rating is at least as high as that recommended by Honda. There are two types of ''gasohol'': one containing ethanol, and the other containing methanol. Do not use gasohol that contains more than 10% ethanol. Do not use gasoline containing methanol (methyl or wood alcohol) that does not also contain cosolvents and corrosion inhibitors for methanol. Never use gasoline containing more than 5% methanol, even if it has cosolvents and corrosion inhibitors.

NOTE:

- Fuel system damage or engine performance problems resulting from the use of fuels that contain alcohol is not covered under the warranty. Honda cannot endorse the use of fuels containing methanol since evidence of their suitability is as yet incomplete.
- Before buying fuel from an unfamiliar station, try to find out the fuel contains alcohol, if it does, confirm the type and percentage of alcohol used. If you notice any undesirable operating symptoms while using a gasoline that contains alcohol, or one that you think contains alcohol, switch to a gasoline that you know does not contain alcohol.

#### 3. Other Checks

#### Check the following items.

(1) The propeller and cotter pin for damage or looseness.

(2) The fuel hose for kinking, collapsing or a loose connection.

(3) The steering handle for impaired operation.

(4) The stern bracket for damage.

(5) The tool kit for missing spare parts and tools.

(6) The anode metal for damage, looseness or corrosion.

CAUTION: The anode metal must remain exposed (unpainted) and in good condition. It protects the rest of the outboard motor from rust and corrosion by attracting the electro-chemical reaction caused when metal is under water.





#### 1. Preparation Before Starting

CAUTION: To prevent damage to the outboard from overheating, never run the engine with the propeller out of the water.

1. Connect the fuel line to the tank and outboard motor, as shown. Be sure the connectors are securely latched.

WARNING Be careful not to spill any fuel when refueling. Spilled fuel or fuel vapor may ignite. If any fuel is spilled, make sure the area is dry before starting the engine.

NOTE:

- Position the fuel tank so the tank fuel line connector is no more than 1 meter (3.3 ft) below the motor fuel line connector.
- Do not place the fuel tank more than 2 meters (6.6 ft) away from the motor.
- · Be sure that the fuel line is not kinked.





FEMALE FUEL LINE CONNECTOR - TO MOTOR

- 2. Open the fuel cap vent knob 2 to 3 turns.
- Squeeze and release the primer bulb until it feels firm, indicating that fuel has reached the motor. Check for leaks.

CAUTION: Do not use the primer bulb while the engine is running or you may flood the engine by forcing too much fuel into the carburetor.



#### 2. Starting

**WWARNING** Exhaust contains poisonous carbon monoxide gas; exposure can cause loss of consciousness and may lead to death. Never run the engine in an enclosed area. Be sure to provide adequate ventilation.

CAUTION: Damage to the water pump, engine components and exhaust system may occur if the motor is operated while the propeller is out of the water.

1. Put the shift lever in NEUTRAL.



2. Align the throttle grip **START** position with the mark on the steering handle.



3. If the engine is "cold", pull out the choke knob for starting and then push it in gradually as the engine warm up.



4. Pull the starter rope slowly until a resistance is felt, then pull briskly.

#### CAUTION:

- Do not allow the starter grip to snap back against the engine. Return it gently to prevent damage to the starter.
- Do not pull the starter grip while the engine is running, as that may damage the starter.



 Electric starter (Electric starter model only)
 Put the outboard motor in NEUTRAL, then press the electric starter and start the engine.



#### CAUTION:

- Do not use the starter motor for more than 5 seconds. If the engine fails to start, release the key, and wait at least 10 seconds before operating the starter motor again.
- Do not press the electric starter while the engine is running. This may damage the starting unit.
- 6. The oil pressure indicator light should be on while the engine is running. If the light goes off, stop the engine immediately, check the engine oil level and inspect engine for oil leaks.



7. After starting, be sure water is flowing out of the water check hole.

CAUTION: If water does not flow out, or if steam comes out, stop the engine. Check to see if the screen in the cooling water inlet is obstructed. Do not operate the engine until the problem has been corrected.



#### **3. Emergency Starting**

If the recoil starter is not working properly, the engine can be started with the spare starter rope in the tool kit.

- 1. Remove the engine cover.
- 2. Remove the recoil starter by removing the three 6 mm bolts.



3. Disconnect the neutral starter cable.



NEUTRAL

STARTER CABLE

 Wind the spare rope clockwise around the pulley to start the engine.

CAUTION: Keep clear of moving parts.



5. Reinstall the engine cover.

CAUTION: Do not operate without the engine cover. Exposed moving parts could cause injury and water may damage the engine. For the first 10 hours of operation, run the outboard motor at low speed, and avoid abrupt operation of the throttle.

#### 1. Gear Shifting

The gearshift lever has 3 positions: FORWARD, NEUTRAL, and REVERSE. An indicator at the base of the gear shift lever aligns with letters F, N, or R on the engine case to show the gear that has been selected. Turn the throttle grip to SHIFT to decrease engine speed before moving the gear shift lever.

#### CAUTION: When operating in reverse, proceed with caution to avoid hitting any underwater obstruction with the propeller.

NOTE: The throttle mechanism is designed to limit throttle opening in REVERSE and NEUTRAL. The throttle can be opened to FAST only in FOR-WARD gear.









#### 2. Steering

To turn to the right, swing the steering handle to the left. To turn to the left, swing the handle to the right. Boats equipped with a remote control steering wheel are controlled in the same way as a car.



For smooth steering, adjust the steering friction bolt so that a slight drag is felt when turning.



#### 3. Cruising

With the shift lever in the forward position F, turn the throttle grip toward **FAST** to increase speed. For normal cruising, open the throttle about 3/4.

To hold the throttle at a steady setting, turn the throttle friction knob clockwise. To free the throttle grip for manual speed control, turn the friction knob counterclockwise.

NOTE: This Outboard Motor is equipped with an over-rev limiter which prevents breakdown caused by excessive engine speed. If the engine speed becomes unstable when operating with the throttle grip near the "fully open" position, return the grip to the "low speed" position until the speed becomes stable.

#### CAUTION:

- Do not operate without the engine cover. Exposed moving parts could cause injury; water may damage the engine.
- Confirm that the tilt lever is in the "RUN" position (page 24).

NOTE: For best performance, passengers and equipment should be distributed to balance the boat evenly from side to side and parallel to the water from front to back.



THROTTLE FRICTION KNOB

TO INCREASE

RICTION

TO DECREASE FRICTION

#### 4. Tilting the Motor

Tilt the motor to prevent the propeller and gear case from hitting bottom when the boat is beached or stopped in shallow water.

- 1. Stop the engine and put the shift lever into NEUTRAL.
- 2. Pull the tilt lever toward you, set the lever in the TILT position, and raise the engine to either the 30°, 45° and 70° tilt position.

CAUTION: Do not use the throttle grip to tilt the outboard motor.



70° (when mooring)

45°

30° (when cruising in shallow water)

3. To return the engine to the normal **RUN** position, move the tilt lever away from you until it stops, tilt the engine slightly, then lower the engine slowly.

#### CAUTION:

- Make sure water comes out from the cooling water check hole.
- When the outboard motor is tilted up, cruise at low speed.
- Never operate in reverse when the outboard motor is tilted up. The outboard motor will rise and may cause damage or injury.



CAUTION: To avoid damaging the motor, use the utmost care when mooring the boat, especially when its motor it tilted up. Don't allow the motor to strike a pier or other boats.



#### 5. High altitude operation

At high altitude, the standard carburetor air-fuel mixture will be excessively rich. Performance will decrease, and fuel consumption will increase.

High altitude performance can be improved by installing a smaller diameter main fuel jet in the carburetor and readjusting the pilot screw. If you always operate the outboard motor at altitudes higher than 6,000 feet above sea level, have your authorized Honda Outboard Motor dealer perform these carburetor modifications.

Even with suitable carburetor jetting, engine horsepower will decrease approximately 3.5% for each 1,000 foot increase in altitude. The affect of altitude on horsepower will be greater than this if no carburetor modification is made.

CAUTION: Operation of the outboard motor at an altitude lower than the carburetor is jetted for may result in reduced performance, overheating, and serious engine damage caused by an excessively lean air/fuel mixture.

1. Turn the throttle grip to "SLOW" position and move the shift lever to **NEUTRAL**.



2. Push and hold the stop button depressed until the engine stops running.

CAUTION: In the event that the engine does not stop when you hold the stop button, disconnect the fuel pipe connector then pull the choke knob to stop the engine.



Periodic maintenance and adjustment are important to keep the motor in the best operating condition. Inspect or service as scheduled below.

**WARNING** Shut off the engine before performing any maintenance. If the engine must be run, make sure the area is well ventilated. Never run the engine in an enclosed or confined area. Exhaust contains poisonous carbon monoxide gas; exposure can cause loss of consciousness and may lead to death.

CAUTION:

28

- If the engine must be run, make sure there is water at least 4 inches above the cavitation plate, otherwise the water pump may not receive sufficient cooling water, and the engine will overheat.
- To maintain cooling system efficiency, flush the outboard motor with fresh water after each use in salt water.
- Use only genuine HONDA parts or their equivalent for maintenance or repair. Replacement parts which are not of equivalent quality may damage the motor.

REGULAR SERVICE PERIOD Performed at every indicated month or operating hour intervals, whichever comes first. ITEM		EACH USE	FIRST MONTH OR 20 HRS (3)	EVERY 6 MONTHS OR 100 HRS (3)	EVERY YEAR OR 200 HRS (3)
Engine oil	Check level	0			
	Change		0	0	
Gear case oil	Check level	Ö			
	Change		0		0
	Check for water contamination			0	
Starter rope		I.		0	
Carburetor linkage	Check		0(2)	0(2)	
Valve clearance	Check-Readjust		0(2)		0(2)
Spark plug	Clean-Readjust			0	
Propeller (cotter pin)	Check			0	
Lubrication	Grease			0(1)	]
Fuel tank	Clean			•	0
Fuel filter	Replace				O(2)
Thermostat	Check ·				0(2)
Fuel line	Check (Replace if necessary)	Every 3 years			

NOTE: (1) Lubricate more frequently when used in salt water.

(2) These items should be serviced by an authorized Honda dealer, unless the owner has the proper tools and is mechanically proficient. See the Honda Shop Manual.

(3) For professinal commercial use, log hours of operation to determine proper maintenance intervals. 3

ţ.

1

ž

#### Tool kit and spare parts

Ì,

The following tools and spare parts are supplied with the outboard motor for maintenance, adjustment, and emergency repairs.

The tool kit and oil bottle are located in a compartment on the fuel tank.



#### **Engine Oil Change**

Drain the oil while the engine is still warm to assure rapid and complete draining.

1. Remove the engine cover. Remove the drain screw and filler cap, and drain the oil. Reinstall the drain screw.





÷.

7

3

2. Refill to the upper level mark on the oil level dipstick with the recommended oil (see p. 11).

OIL CAPACITY: 1.1 ℓ (1.2 US qt)



3. Reinstall the oil filler cap.

CAUTION: Used motor oil may cause skin cancer if repeatedly left in contact with the skin for prolonged periods. Although this is unlikely unless you handle used oil on a daily basis, it is still advisable to thoroughly wash your hands with soap and water as soon as possible after handling used oil.

NOTE: Please dispose of used motor oil in a manner that is compatible with the environment. We suggest you take it in a sealed container to your local service station for reclamation. Do not throw it in the trash or pour it on the ground.

#### Gear Oil Check/Change

#### Oil Level Check

Check the oil level when the engine is in the vertical position. Remove the level screw and see if oil flows out. If no oil comes out, fill through the drain scerw hole until the oil starts to flow out through the level screw hole. If there is water in the oil, the water will flow out first when the drain screw is removed, or the oil will be a milky color.

#### Oil Change

Remove the level screw and drain screw to drain the oil. Inject oil through the drain screw hole until it starts flowing out through the level screw hole. Reinstall and tighten the level screw and drain screw securely.

CAUTION: If water is detected in the oil, the unit should be inspected by an authorized Honda Outboard Motor dealer.

Recommended Oil: API standard (GL-4 or GL-5) SAE 90 outboard motor gear oil

OIL CAPACITY: 0.24 ℓ (0.51 US pt)





#### **Starter Rope Check**

Check the starter rope every 6 months or after every 100 hours of outboard motor operation. Replace the rope if it becomes frayed.



#### Spark Plug Service

#### Recommended spark plug: BF9.9A: DR5HS (NGK), X16FSR-U (ND) BF15A: DR6HS (NGK), X20FSR-U (ND)

To ensure proper engine operation, the spark plugs must be properly gapped and free of deposits.

- 1. Remove the engine cover.
- 2. Remove the spark plug caps.
- 3. Use the wrench supplied in the tool kit to remove the spark plugs.



SPARK PLUG WRENCH

- 4. Visually inspect the spark plugs. Discard the spark plugs if there is apparent wear, or if the insulators are cracked or chipped. Clean the spark plugs with a wire brush if they are to be reused.
- 5. Measure the plug gaps with a feeler gauge. The gaps should be 0.6-0.7 mm (0.024-0.028 in). Correct as necessary by carefully bending the side electrode.



£

- 6. Thread the plugs in by hand to prevent cross threading.
- 7. After the spark plugs are seated, tighten with a spark plug wrench to compress the washers.

NOTE: If installing new spark plugs, tighten 1/2 turn after the spark plugs seat to compress the washers. If reinstalling used spark plugs, tighten 1/8 - 1/4 turn after the spark plugs seat to compress the washers.

#### CAUTION:

ŝ

- The spark plugs must be securely tightened. Improperly tightened plug can become very hot and may cause engine damage.
- Use only the recommended spark plugs or equivalent. Spark plugs which have an improper heat range may cause engine damage.

# Replacing the fuse (electric starter model)

If the fuse blows, running the engine will not charge the battery. Before replacing the fuse, check the current ratings of the connecting devices and ensure that there are no abnormalities.

<How to replace the fuse>

- 1. Stop the engine.
- 2. Remove the engine cover.
- 3. Withdraw the fuse holder from the fuse bracket.
- 4. Remove the fuse from the fuse holder.
- <Designated fuse> 15A

WWARNING Never use a fuse with a different rating from that specified. Serious damage to the electrical system or a fire may result.

CAUTION: If the fuse is blown, check the cause, then replace the fuse with a spare fuse of the same rated capacity. Unless the cause is solved, the fuse may blow again.



FUSE HOLDER


#### **Cleaning and Flushing**

After each use in salt water or dirty water, thoroughly clean and flush the outboard motor.

# (With Water Hose Joint-Optional Part)

- 1. Wash the outside of the outboard motor with clean, fresh water.
- 2. Remove the flush bolt.
- Flush the cooling system, using the water hose joint (optional).
  - Attach a hose from a fresh water faucet to the water hose joint.
  - b. Remove the propeller.
  - c. Turn on the fresh water supply to the hose.
  - d. Start the engine and run in neutral for at least 5 minutes.



WATER HOSE JOINT

#### (Without Water Hose Joint)

- Wash the outside of the outboard motor with clean, fresh water.
- 2. Remove the propeller.
- 3. Stand the motor in a suitable container of water. The water level must be at least 4 inches above the anti-cavitation plate.
- 4. Start the engine and run slowly for at least 5 minutes.

#### **WWARNING**

- For safety, the propeller must be removed.
- Be sure the outboard motor is securely mounted, and do not leave it unattended while running.
- Keep children and pets away from the area, and stay clear of moving parts during this procedure.

CAUTION: Running the engine without water can cause serious engine damage due to overheating. Be sure that water flows from the water check hole while the engine is running. If not, stop the engine and determine the cause of the problem.



ANTI-CAVITATION PLATE

#### Lubrication

Wipe the outside of the engine with a cloth dipped in oil. Apply marine anticorrosion grease to the following parts:



NOTE: Apply anti-corrosion oil to pivot surfaces where grease cannot penetrate.

#### **Propeller Change**

If the propeller is damaged by striking a rock, or other obstacle, replace the propeller as follows.

- 1. Remove the cotter pin, then remove the 14 mm castle nut, plain washer, and the propeller.
- 2. Install the new propeller in the reverse sequence to removal. Be sure to replace the cotter pin with a new one.





ł

÷

ŝ.

#### Fuel filter replacement

The fuel filter is located between the fuel pump and the fuel tank. Water or sediment accumulated in the fuel filter can cause loss of power or hard starting. To prevent engine malfuction, replace the fuel filter regulary.

((SERVICE PERIOD)) Every 200 operating hours or every one year.

#### **WARNING**

- Gasoline is flammable and explosive under certain conditions. Do not smoke or allow flames or sparks near the outboard motor while draining fuel.
- Always work in a well-ventilated area.
- Be sure that any fuel drained from the outboard motor is stored in a safe container.
- Be careful not to spill fuel when replacing the filter. Spilled fuel or fuel vapor may ignite. If any fuel is spilled, make sure the area is dry before starting the engine.
- 1. Disconnect the fuel tank line from the motor.
- 2. Remove the engine cover, and remove the fuel filter .

NOTE: Before removing the filter, place clamps on the fuel tubes on each side of the filter to prevent fuel leakage.

- 3. Install the new fuel filter, so that the arrow on the fuel filter is on the fuel pump side.
- NOTE: Fuel flow will be impeded if the filter is installed backward.



4. Remove the clamps used to close the fuel tubes. Connect the fuel tank line to the motor. Turn the fuel tank vent knob to the ON position, pump the primer bulb, and check for leaks.

NOTE: If loss of power or hard starting is found to be caused by excessive water or sediment accumulated in the fuel filter, inspect the fuel tank. Clean the fuel tank if necessary.

#### Servicing a Submerged Motor

A submerged motor must be serviced immediately after it is recovered from the water in order to minimize corrosion.

If there is a Honda outboard motor dealership nearby, take the motor immediately to the dealer. If you are far from a dealership, proceed as follows:

- 1. Remove the engine cover, and rinse the motor with fresh water to remove salt water, sand, mud, etc.
- 2. Loosen the carburetor drain screw (p. 42), drain the contents of the carburetor into a suitable container, then retighten the drain screw.
- 3. Change the engine oil (p. 30). If there was water in the engine crankcase, or the used engine oil showed signs of water contamination, then a second engine oil change should be performed after running the engine for 1/2 hour.
- 4. Remove the spark plugs. While pressing the engine stop button, pull the recoil starter several times to completely expel water from the cylinders.

CAUTION:

- When cranking the engine with an open ignition circuit (spark plugs removed from the ignition circuit), keep the engine stop button depressed to prevent electrical damage to the ignition system.
- If the motor was running when it submerged, there may be mechanical damage, such as bent connecting rods. If the engine binds when cranked, do not attempt to run the motor until it has been repaired.
- 5. Pour a teaspoon of engine oil into each spark plug hole, then pull the recoil starter several times to lubricate the inside of the cylinders. Reinstall the spark plugs.
- 6. Attempt to start the engine.
  - If the engine fails to start, remove the spark plugs, clean and dry the electrodes, then reinstall the spark plugs and attempt to start the engine again.
  - If the engine starts, and no mechanical damage is evident, continue to run the engine for 1/2 hour or longer (be sure the water level is at least 4 inches above the cavitation plate).
- 7. As soon as possible, take the motor to a Honda outboard motor dealer for inspection and service.





41

# 9. TRANSPORTING/STORAGE

1. Disconnect the fuel line and install the cap on the engine fuel inlet. Firmly close the fuel cap vent knob.



2. Loosen the carburetor drain screw, and drain the gasoline into a suitable container. After draining, retighten the drain screw.

#### **WWARNING**

- Be careful not to spill fuel. Spilled fuel or fuel vapor may ignite. If any fuel is spilled, make sure the area is dry before storing or transporting the motor.
- Do not smoke or allow flames or sparks where fuel is drained or stored.

CAUTION: In cold weather, to prevent ice from forming inside the water pump, pull the recoil starter several times to flush the water out.



3. To carry, hold the motor by the carrying handle, or hold by the carrying handle and engine cover lock lever as shown here. Do not carry by the engine cover.





CAUTION: To avoid damaging the motor, never use it as a handle for lifting or moving the boat.



4. Transport and store the motor either vertically or horizontally, as shown here, with the steering handle raised.
Vertical transport or storage: Attach the stern bracket to a stand.



Horizontal transport or storage: Rest the motor on the case protector (steering handle side of the motor).



7

ŝ

CAUTION: Any other transport or storage position may cause damage or oil leakage.



5. Tilt up the outboard motor, remove the plug cap, pull the recoil starter several times, and completely drain off the cooling water.

CAUTION: If the outboard motor is put on its side without completely draining off the cooling water immediately after stopping it, water may enter the engine from the exhaust port. Be sure, therefore, to drain off the cooling water before putting the outboard motor on its side. When pulling the starting grip, be careful not to touch the spark plug wire.

- 6. Pull the starting grip until resistance is felt (i.e. until the engine valve closes, preventing dust from entering the combustion chamber).
- 7. Store the outboard motor in a clean, dry area.

NOTE: Before storing, clean, flush, and lubricate the outboard motor as described on pages 35 and 37.

#### Engine Will Not Start:

- 1. Is the shift lever in neutral?
- 2. Is there fuel in the fuel tank?
- 3. Is the fuel cap knob turned to ON?
- 4. Is the fuel system primed by squeezing the primer bulb?
- 5. Is fuel reaching the carburetor?

Loosen the carburetor drain screw to see if there is fuel in the carburetor float bowl.

# WWARNING If any fuel is spilled, make sure the area is dry before testing the spark plug or starting the engine. Spilled fuel or fuel vapor may ignite.

6. Are the spark plugs firing?

#### Method of detecting spark

- (1) Remove the spark plugs from the engine, then install each plug in the plug cap and hold the threaded portion against the engine to ground it.
- (2) Recoil starter type Put the gear lever in the "NEUTRAL" position, pull the starter grip hard; and check to see whether or not a spark appears across the gap of the spark plug.

#### Starter motor type

Put the gear lever in the "NEUTRAL" position, rotate the starter motor, and check to see whether or not a spark appears across the gap of the spark plug.

ć.

5

If the spark plugs are OK, reinstall them, and try to start the engine.

If a spark does not appear, either replace the spark plug or contact your authorized Honda outboard motor dealer.

#### **Engine Overheats:**

- 1. Is the water intake screen clogged?
- 2. Is the thermostat faulty?

MODEL	BF9.9A		
Description Code	S Model BABS	L Model BABL	
Output	9.9 hosepower (Maximum)	· · · · · ·	
Recommended full throttle range	4,500–5,500 rpm		
Engine type	4 stroke OHC in-line twin cy	ylinder	
` Displacement	280 cc (17.1 cu in)		
Valve tappet clearance	IN: 0.10-0.14 mm (0.004-0.006 in) EX: 0.18-0.22 mm (0.007-0.009 in)		
Spark plug gap	0.6-0.7 mm (0.024-0.028 in)		
Starter system	With recoil starter (without electric starter)		
	Recoil starter & electric star	ter (with electric starter)	
Ignition system	C.D.I.		
Lubrication system	Trochoid pump pressure lubrication		
Specified oil	Engine: API standard (SE) SAE 10W 30 Gear case: API standard (GL-4/5) SAE 90 outboard motor gear oil		
Oil capacity	Engine 1.1 ℓ (1.2 US qt) Gear case: 0.24 ℓ (0.51 US pt)		
D.C. output	12V-6A/6,000 min <sup>-1</sup> (rpm)		
Cooling system	Water cooling with thermostat (volumetric pump)		
Exhaust system	Underwater exhaust		
Spark plugs	DR-5HS (NGK), X16FSR-U (ND)		
Fuel pump	Diaphragm type fuel pump		
Fuel -	Automotive gasoline (91 research octane, 86 pump octane)		
Tank capacity	13 ℓ (3.4 US gal, 2.9 Imp gal)		
Steering equipment	Bar handle		
Tilt angle	3-stage adjustment (30°, 45°, and 70°)		
Angle of rotation	40° (both sides)		
Overall length x height x width	550 x 1,050 x 320 mm (21.7 x 41.3 x 12.6 in)	550 x 1,180 x 320 mm (21.7 x 46.5 x 12.6 in)	
Height from stern bracket to anti-cavitation	440 mm (17.3 in)	570 mm (22.4 in)	
Standard Propeller (No. of blades - diameter x pitch)	3-240 x 240 mm (9-1/2 x 9-1/2 in)	3-240 x 220 mm (9-1/2 x 8-5/8 in)	
Gear change	Forward-Neutral-Reverse (dog type)		
Dry weight	42 kg (92.6 lb) without electric starter	43 kg (94.8 lb) without electric starter	
	46 kg (101.4 lb) with electric starter	47 kg (103.6 lb) with electric starter	

: `

MODEL	BF15A		
Description Code	S Model BAAS	L Model BAAL	
Output			
Recommended full throttle range	15 hosepower (Maximum) 5,000—6,200 rpm		
Engine type	4-stroke OHC in-line twin cylinder		
Displacement	280 cc (17.1 cu in)		
Valve tappet clearance	IN: 0.10-0.14 mm (0.004-0.006 in) EX: 0.18-0.22 mm (0.007-0.009 in)		
Spark plug gap	0.6-0.7 mm (0.024-0.028 in)		
Starter system	With recoil starter (without electric starter)		
	Recoil starter & electric starter (with electric starter)		
Ignition system	Ç.D.I.		
Lubrication system	Trochoid pump pressure lubrication		
Specified oil	Engine: API standard (SE) SAE 10W-30 Gear case: API standard (GL-4/5) SAE 90 outboard motor gear oil		
Oil capacity	Engine 1.1 ℓ (1.2 US qt) Gear case: 0.24 ℓ (0.51 US pt)		
D.C. output	12V-6A/6,000 min <sup>-1</sup> (rpm)		
Cooling system	Water cooling with thermostat (volumetric pump)		
Exhaust system	Underwater exhaust		
Spark plugs	DR-6HS (NGK), X20FSR-U (ND)		
Fuel pump	Diaphragm type fuel pump		
Fuel	Automotive gasoline (91 research octane, 86 pump octane)		
Tank capacity	13 ℓ (3.4 US gal, 2.9 Imp gal)		
Steering equipment	Bar handle		
Tilt angle	3-stage adjustment (30°, 45°, and 70°)		
Angle of rotation	40° (both sides)		
Overall length x height x width	550 x 1,050 x 320 mm (21.7 x 41.3 x 12.6 in)	550 x 1,180 x 320 mm (21.7 x 46.5 x 12.6 in)	
Height from stern bracket to anti-cavitation	440 mm (17.3 in)	570 mm (22.4 in)	
Standard Propeller (No. of blades - diameter x pitch)	3—240 x 240 mm (9-1/2 x 9-1/2 in)	3-240 x 220 mm (9-1/2 x 8-5/8 in)	
Gear change	Forward-Neutral-Reverse (dog type)		
Dry weight	42 kg (92.6 lb) without electric starter	43 kg (94.8 lb) without electric starter	
	46 kg (101.4 lb) with electric starter	47 kg (103.6 lb) with electric starter	



MINIMUM OPTIONAL PART

0030Z-ZV4-0000

2. WIRING DIAGRAM

(without Electric Starter)

49



ार्व का

50

**T** ~

# **13. OPTIONAL PARTS**



İ

ŕ

#### **Owner Satisfaction**

Your satisfaction and goodwill are important to your dealer and to us. All Honda warranty details are explained in the Distributor's Limited Warranty. Normally, any problems concerning the product will be handled by your dealer's service department. If you have a warranty problem that has not been handled to your satisfaction, we suggest you take the following action:

- Discuss your problem with a member of dealership management. Often complaints can be quickly resolved at that level. If the problem has already been reviewed with the Service Manager, contact the owner of the dealership or the General Manager.
- If your problem still has not been resolved to your satisfaction, contact the Power Equipment Customer Relations Department of American Honda Motor Co., Inc.

American Honda Motor Co., Inc. Power Equipment Customer Relations Department P.O. Box 50 Gardena, California 90247-0805 Telephone: (213) 604-2400

We will need the following information in order to assist you:

- Your name, address, and telephone number
- Product model and serial number
- Date of purchase
- Dealer name and address
- Nature of the problem

After reviewing all the facts involved, you will be advised of what action can be taken. Please bear in mind that your problem will likely be resolved at the dealership, using the dealer's facilities, equipment, and personnel, so it is very important that your initial contact be with the dealer.

Your purchase of a Honda product is greatly appreciated by both your dealer and American Honda Motor Co., Inc. We want to assist you in every way possible to assure your complete satisfaction with your purchase.

## **Current customer service contact information:**

Your owner's manual was written to cover most of the questions you might ask about your Honda. Any questions not answered in the owner's manual can be answered by your Honda dealer. If your dealer doesn't have an immediate answer, they should be able to get it for you.

If you have a difference of opinion with your dealer, please remember that each dealership is independently owned and operated. That's why it's important to work to resolve any differences at the dealership level. If the service personnel are unable to assist you, please discuss your concerns with the dealer management such as the Service Manager or the dealership's owner.

If you need to contact American Honda regarding your experiences with your Honda product or with your dealer, please send your comments to the following address:

American Honda Motor Co., Inc. Marine Division Customer Relations Office 4900 Marconi Drive Alpharetta, GA 30005-8847

Or telephone: (770) 497-6400 M-F, 8:30 am - 7:00 pm EST

When you write or call, please provide the following information:

- Your name, address and telephone number (complete with area code)
- Model and complete serial number
- Date of purchase
- Name and location of the selling dealer
- Name and location of the servicing dealer (if different)
- A detailed description of your concerns

F .

.



# Owner's Manual Outboard Motor BF9.9A/15A



Thank you for purchasing a Honda Outboard Motor.

This owner's manual supplement covers specific information about the Honda remote control equipped BF9.9A and BF15A outboard motors. Refer to the BF9.9A/15A owner's manual for all other information.

The owner's manual and this supplement contain information on how to operate your new outboard motor safely. Please read them carefully.

Keep the owner's manual and this supplement handy, so you can refer to them at any time, and be sure they accompany the outboard motor if you sell it.

We recommend that you read the warranty policy to fully understand your rights and responsibilities. The warranty policy is a separate document provided by your dealer.

The information in this publication was in effect at the time of approval for printing. American Honda Motor Co., Inc. reserves the right to discontinue or change specifications or design at any time without notice and without incurring any obligation whatever. No part of this publication may be reproduced without written permission.

# CONTENTS

#### 1. SAFETY

2. COMPONENT IDENTIFICATION	. З
3. INSTALLATION (see remote control installation instructions)	
4. PRE-OPERATION CHECKS	. 4
5. STARTING THE ENGINE	. 5
6. OPERATION	. 17
7. STOPPING THE ENGINE	. 18
8. MAINTENANCE	
9. TRANSPORTING/STORAGE	
10. TROUBLESHOOTING	
11. SPECIFICATIONS	
12. WIRING DIAGRAM	. 19
13. OPTIONAL PARTS	. 20
14. WARRANTY SERVICE	

The **HIGHLIGHTED** sections required no changes from the BF9.9A/15A owner's manual. These sections are not covered in this supplement.

The NON-HIGHLIGHTED sections contain only **new** information about a Remote Control Equipped BF9.9A/15A.

Refer to the BF9.9A/15A owner's manual for all other information.

## 2. COMPONENT IDENTIFICATION



## Steering friction bolt

Operate the steering wheel right and left and check for the amount of drag felt.

Adjust the steering friction bolt so that a slight amount of drag is felt. The steering should move smoothly and freely.



### **Remote control friction adjustment**

Operate the remote control lever into forward and reverse gears and check for the amount of drag felt.

Adjust the remote control friction adjuster so that a slight amount of drag is felt. The remote control lever should move smoothly and freely.



In addition to the above items review the pre-operation check list shown in the BF9.9A/15A owner's manual page 14.

### Controls

#### **Remote control lever**

The remote control lever controls gear selection and throttle opening positions. It is necessary to pull up the neutral release lever to operate the remote control lever.





F (forward):

Moving the lever to the F position (approximately 30° from the N position) will engage the forward gear. Moving the lever farther from the F position will increase the throttle opening and the boat forward speed.

N (neutral):

The engine idles and the transmission gears are disengaged.

R (reverse):

Moving the lever to the R position (approximately 30° from the N position) will engage the reverse gear. Moving the lever farther from the R position will increase the throttle opening and the boat reverse speed.

#### Neutral release lever

The neutral release lever is on the remote control lever to prevent an accidental gear engagement.

The remote control lever will not engage forward or reverse gear unless the neutral release lever is pulled up.



#### **Ignition switch**

The remote control box is equipped with a key type ignition switch.

Key positions:

#### START

To activate the starter motor and start the engine. The remote control lever must be in the neutral position.

#### ON

To run the engine after starting. The battery will discharge if the key is left in this position with the engine not running.

#### OFF

To stop the engine (IGNITION OFF).



#### Emergency stop switch lanyard

The emergency stop switch lanyard is provided to stop the engine immediately in the event the operator should fall overboard or away from the controls.

The emergency stop switch clip must be engaged with the emergency engine stop switch or the engine will not start. When the emergency stop switch clip becomes disengaged from the emergency engine stop switch the engine will stop immediately.

The emergency engine stop switch should not be used to normally stop the engine. Use the ignition switch to normally stop the engine.

Attach the emergency stop switch lanyard securely to the operator when operating the outboard motor.



A spare emergency stop switch clip is provided on the remote control box.



SPARE EMERGENCY STOP SWITCH CLIP

# **5. STARTING THE ENGINE**

#### Choke/Fast idle lever

The choke/fast idle lever provides two functions:

- 1. Electric choke solenoid activation for easy engine start up.
- 2. Engine fast idle.

The choke/fast idle lever will not move unless the remote control lever is in the N (neutral) position. Conversely, the remote control lever will not move unless the choke/fast idle lever in the lowest position.

Lift and hold the choke/fast idle lever up fully, this will provide a rich fuel mixture and the correct fast idle. Do not run the engine while holding the lever in the choke position.

Gradually lower the choke/fast idle lever to the lowest position to decrease the choke and fast idle.



#### Manual choke knob

A manual choke knob is provided on the left side of the motor which can be used in the event the battery is discharged. When recoil starting, pull the choke knob and a rich fuel mixture will be provided to the engine. After the engine starts, be sure to push in the choke knob.



#### **Oil pressure indicator light**

The green oil pressure indicator light turns OFF when the oil level is low and/or the engine lubrication system is faulty.



### **Fuel line connection**

Refer to the BF9.9A/15A owner's manual page 15.

### Electric starting (ignition key)

#### NOTICE

The anti-ventilation plate must be lowered into the water and be at least 2 inches below the surface. Running the outboard motor out of the water will damage the water pump and overheat the engine.

 Engage the emergency stop switch clip located at one end of the emergency stop switch lanyard with the emergency engine stop switch 1. Attach the other end of the emergency engine stop switch lanyard securely to the operator.

The engine will not start unless the emergency stop switch clip is engaged with the emergency engine stop switch.



#### **AWARNING**

If the operator does not attach the emergency stop switch lanyard, and is thrown from his seat or out of the boat, the out-of-control boat can seriously injure the operator, passengers, or bystanders. Always properly attach the lanyard before starting the motor.

A spare emergency stop switch clip is provided on the remote control box.



Move the control lever to the N (neutral) position.

The engine will not start unless the control lever is in the N (neutral) position.

3. When the engine is cold and/or the ambient temperature is low, lift and hold the choke/fast idle lever up fully. This will provide a rich fuel mixture and the correct fast idle.

When the engine is warm, it may be necessary to raise the choke/fast idle lever slightly. Hold it in this position.

The choke/fast idle lever will not move unless the control lever is in the N (neutral) position.

4. While holding the choke/fast idle lever in the up position, turn the ignition key to the START position and release the key when the engine starts. The starter motor consumes a large amount of current. Do not run it continuously for more than 5 seconds at a time. If the engine does not start within 5 seconds wait at least 10 seconds before using the starter motor again.

# N (neutral) CONTROL LEVER CHOKE MAXIMUM FAST DIF FAST IDLE RANGE CHOKE/FAST IDLE LEVER ON START OF

#### NOTICE

Do not turn the ignition key to the start position while the engine is running. This can damage the starter motor and flywheel.

IGNITION

KEY

# 5. STARTING THE ENGINE

5. After starting the engine, return the lever slowly to the position where the engine does not stall. Hold the lever in position.

The control lever will not move unless the choke/fast idle lever is returned to the lowest position.



6. After the engine starts, verify water is flowing through the water check hole. The amount of water coming out of the water check hole will vary due to thermostat operation. Stop the engine if water does not come out the water check hole or if you see steam. Check the water intake screens and the water check hole port and if necessary remove any obstructions. If the problem continues, contact your closest authorized Honda Marine or Honda Outboard Motor dealer.



#### NOTICE

Running the outboard motor with an obstruction in the cooling system can damage the water pump and overheat the engine.

7. With the engine running, check to see if the green engine oil pressure indicator light turns ON.

Stop the engine if the oil pressure indicator light does not turn ON. Check the engine oil level. If the oil level is normal and the oil pressure indicator light does not turn ON, contact your closest authorized Honda Marine or Honda Outboard Motor dealer.



### **Recoil starting**

If the electric starting system will not start the engine. The engine can be started using the recoil starter.  $$\tt N$$ 

1. Move the control lever to the N (neutral) position.

2. Turn the ignition key to the ON position. Engage the emergency stop switch clip, located at one end of the emergency stop switch lanyard, with emergency engine stop switch 1.

3. Engage an emergency stop switch clip with emergency engine stop switch 2.



# **5. STARTING THE ENGINE**

4. If the engine is cold and/or the ambient temperature is low, pull and hold the manual choke knob out. The choke knob is located on the front of the outboard motor.

If the fuel system is working properly, it should only be necessary to pull the recoil starter 1 or 2 times with the choke knob out.

5. Lift the choke/fast idle lever. The choke/fast idle lever will stay up in the fast idle position.

- 6. Pull the recoil starter rope slowly until resistance is felt, then pull briskly.
- 7. If it was necessary to use the manual choke knob to start the engine, slowly return it to its initial position.
- 8. Slowly return the choke/fast idle lever to the lowest position to where the engine does not stall.
- 9. After the engine starts, monitor the water discharge and the oil pressure indicator light.



CHOKE KNOB



# **5. STARTING THE ENGINE**

## Electric starting (starter button)

If the choke solenoid kit is not installed or not working, the engine can be started using the starter button on the side of the engine.

- 1. Perform steps 1 ~ 5 in this supplement (pages 14,15).
- 2. Press the electric starter button and start the engine.



3. Perform steps 7 ~ 9 in this supplement (page 15).

### **Emergency starting**

If the electric starting system and/or the recoil starter will not start the engine. The engine can be started using the spare starter rope from the tool kit.

- 1. Perform steps 1 ~ 5 in this supplement (pages 14,15).
- 2. Perform steps 1 ~ 4 in the BF9.9A/15A owner's manual (page 20).
- 3. Perform steps 7 ~ 9 in this supplement (page 15).
- 4. Perform step 5 in the BF9.9A/15A owner's manual (page 20).

#### Gear shifting

While pulling up the neutral release lever, move the control lever 30° toward F (forward) or 30° toward R (reverse) to engage the desired gear.



Moving the control lever farther from 30° will increase throttle opening and boat speed.



The control lever will not move unless the neutral release lever is pulled up and the choke/fast idle lever is in the lowest position.

For optimum fuel economy, limit throttle opening to 3/3.

# 7. STOPPING THE ENGINE

### **Emergency engine stop**

Disengage the emergency stop switch clip from either emergency engine stop switch 1 or 2 by pulling the emergency stop switch lanyard.

It is a good idea to stop the engine with the emergency stop switch lanyard from time to time to be sure that the switch is operating properly.



EMERGENCY STOP SWITCH CLIP

### Normal engine stop

1. Move the control lever to the N (neutral) position.



2. Turn the ignition key to the OFF position.

When the boat is not in use, remove and store the ignition key.



3.



Steering Tube Seal (Anodized Aluminum or Stainless Steel)

There are additional optional parts available. See your authorized Honda Marine or Honda Outboard Motor dealer for a complete list.



