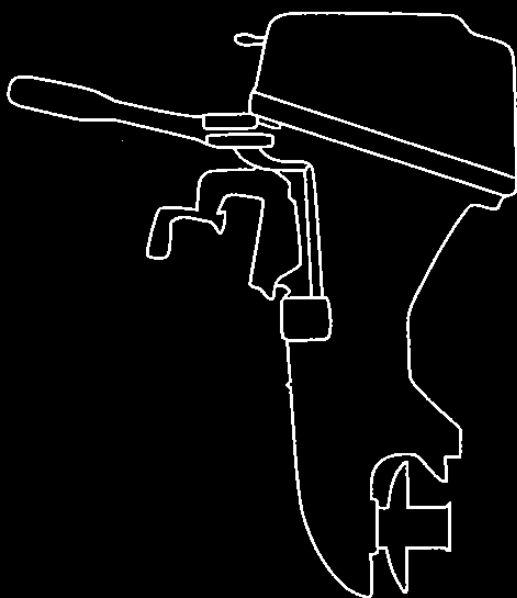


HONDA
MARINE

BF8A/BF6B



ECOLOGY CONSCIOUS TECHNOLOGY

OWNER'S MANUAL
MANUEL DE L'UTILISATEUR
BEDIENUNGSANLEITUNG
MANUAL DE EXPLICACIONES

Honda BF8A•BF6B

OWNER'S MANUAL

MANUEL DE L'UTILISATEUR

BEDIENUNGSANLEITUNG

MANUAL DE EXPLICACIONES

Honda BF8A•BF6B

OWNER'S MANUAL



ECOLOGY CONSCIOUS TECHNOLOGY

"e-SPEC" was originally created with our wish to "preserve nature for generations to come".

Now it also symbolizes environmentally responsible technologies applied to Honda engines, power equipment, outboard engines, etc., and is to be used to identify those products which adopt the highest levels of environmental technologies developed by Honda.

Thank you for purchasing a Honda Outboard Motor.

This manual describes the operation and maintenance of the Honda Outboard Motor: BF8A•BF6B

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.

READ THIS OWNER'S MANUAL CAREFULLY. Pay special attention to these symbols and any instructions that follow.

▲WARNING 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.

Honda Outboard Motors are designed to give safe and dependable service if operated according to instructions. Operating this Outboard Motor requires special effort on your part to ensure your safety and the safety of others.

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

- The illustration may vary according to the type.

BF6B ... Outboard motor which meet all the requirements of the emission control regulations established for Bodensee (Lake Constance).

CONTENTS

1. SAFETY INSTRUCTIONS	3
2. SAFETY LABEL LOCATIONS	5
CE mark locations	6
3. COMPONENT IDENTIFICATION	7
4. INSTALLATION	9
5. PRE-OPERATION CHECK	11
6. STARTING THE ENGINE	15
7. OPERATION	22
8. STOPPING THE ENGINE	29
9. MAINTENANCE	30
10. TRANSPORTING/STORAGE	44
11. TROUBLESHOOTING	47
12. SPECIFICATIONS	49
13. WIRING DIAGRAM	51
14. OPTIONAL PARTS	52
15. MAJOR Honda DISTRIBUTOR ADDRESSES IN EUROPE	53

1. SAFETY INSTRUCTIONS

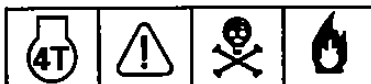
SAFETY INFORMATION

▲WARNING

For your safety and the safety of others, pay special attention to these precautions.



- Honda outboard motor is designed to give safe and 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.



- Gasoline is harmful or fatal if swallowed. Keep the fuel tank out of reach of children.
 - 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.
-
- Know how to stop the engine quickly in case of emergency. Understand the use of all controls.
 - Do not exceed the boat manufacturer's power recommendation, and be sure that 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.

SAFETY INFORMATION

▲WARNING

- Do not run the motor while the boat is near anyone in the water.
- Attach the emergency stop switch lanyard securely to the operator.
- Before operating the outboard motor, familiarize yourself with all laws and regulations relating to boating and the use of outboard motors.
- Do not attempt to modify the outboard motor.
- Always wear a life-jacket when on board.
- Exhaust contains poisonous carbon monoxide which can cause unconsciousness and may lead to death. Never run the outboard motor in a closed garage or confined area.
- Do not operate the outboard motor without the engine cover. Exposed moving parts can cause injury.
- Do not remove any guards, labels, shields, covers or safety devices; they are installed for your safety.

2. SAFETY LABEL LOCATIONS

[Equipped type only]

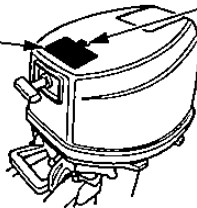
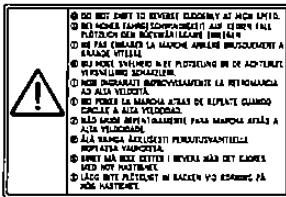
These labels and indications warn you of potential hazards that can cause serious injury. Read the labels, indications and safety notes and precautions described in this manual carefully.

If a label comes off or becomes hard to read, contact your Honda dealer for a replacement.

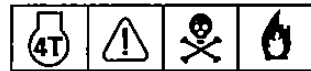
READ OWNER'S MANUAL



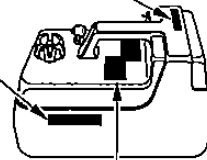
READ OWNER'S MANUAL



FUEL CAUTION



GASOLINE FLAMMABLE DANGER
GAZOLINE INFLAMMABLE DANGEREUX

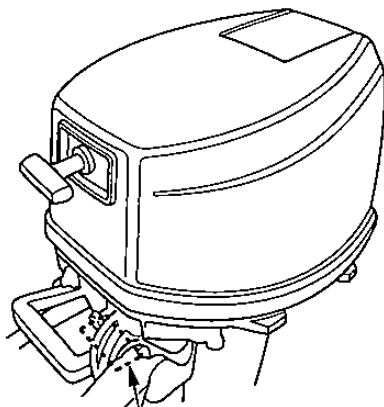


CAUTION
KEEP TOTALLY CLOSED WHEN NOT IN USE. KEEP AWAY FROM HEAT, SPARKS, AND OPEN FLAME. "SECURE ABOVE DECK IN WELL VENTILATED AREA." "DO NOT USE FOR LONG TERM FUEL STORARE."

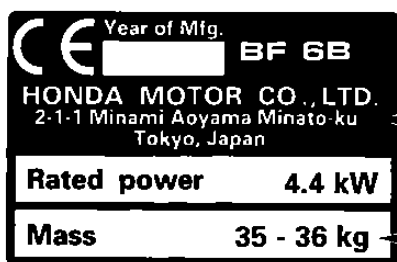
DANGER
HARMFUL OR FATAL IF SWALLOWED. KEEP OUT OF REACH OF CHILDREN. IF SWALLOWED, DO NOT INDUCE VOMITING. CALL A PHYSICIAN IMMEDIATELY.

CE mark location

[BF6B only]



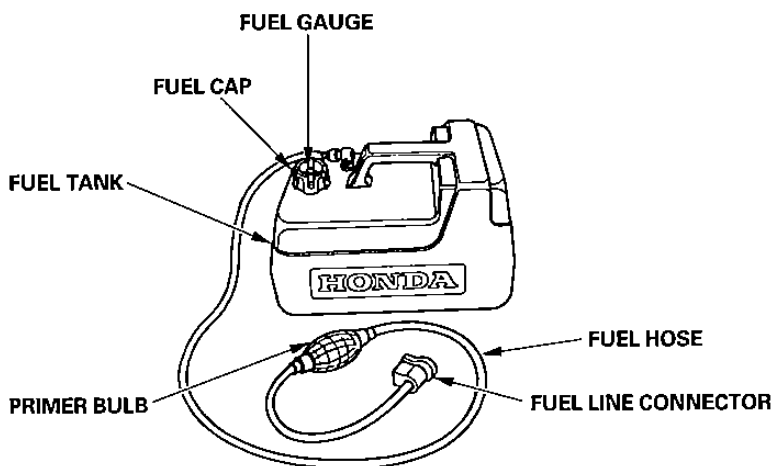
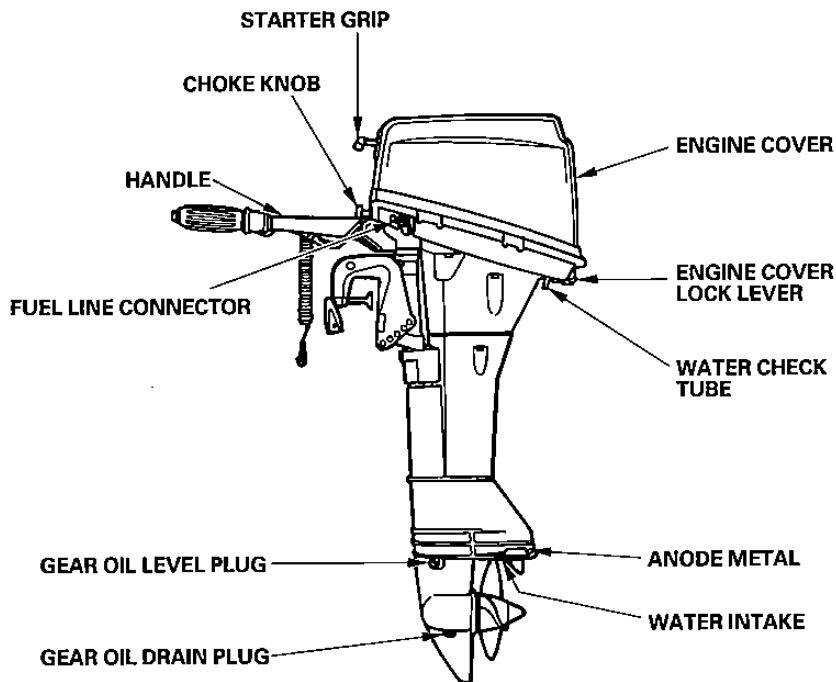
CE MARK

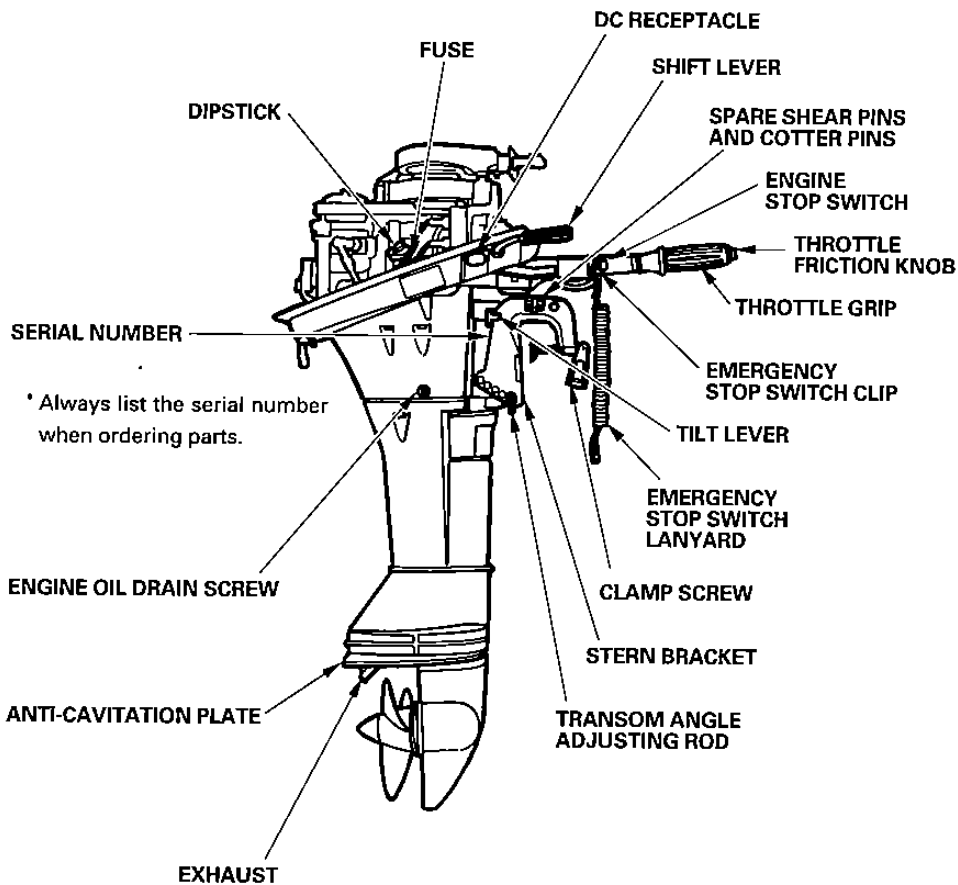


Manufacturer
and address

Dry weight

3. COMPONENT IDENTIFICATION





4. INSTALLATION

We recommend that the outboard motor be installed by an authorized Honda outboard motor dealer.

Consult the authorized Honda dealer in your area for the Y-OP (User Optional Parts)/equipments installation and operation.

It is your responsibility to choose a boat suitable for the engine.

BF8A: 5.9 kW (8.0 PS)

BF6B: 4.4 kW (6.0 PS)

⚠ WARNING

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

1. Installation position

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

2. Installation height

Transom length

Select the outboard motor which is correct for the transom height of your boat.

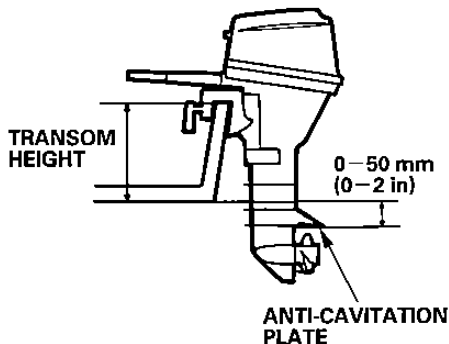
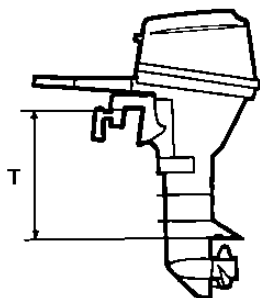
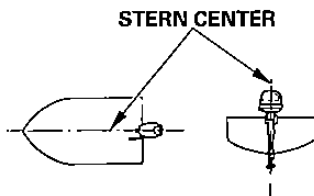
Type:	T (Transom length)
S:	420 mm (16.5 in)
L:	572 mm (22.5 in)

Make sure that the transom height is correct for the motor. Incorrect installation height will reduce performance.

The motor should be installed so that the anti-cavitation plate 0–50 mm (0–2 in) below the bottom of the boat.

CAUTION:

The water level must be at least 100 mm (3.9 in) above the anti-cavitation plate otherwise the water pump may not receive sufficient cooling water, and the engine will overheat.

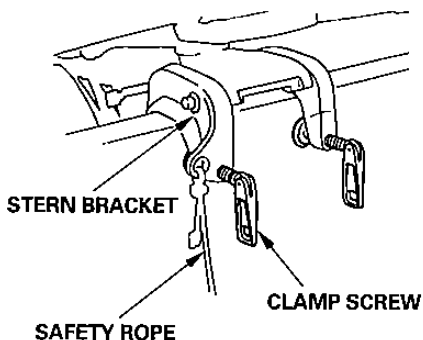


3. Motor attachment

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.



4. Motor angle (cruising)

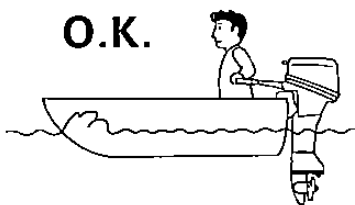
Adjust the motor so the axis of the propeller is parallel with the water surface.



INCORRECT
CAUSES BOAT TO
"SQUAT"



INCORRECT
CAUSES BOAT TO
"PLOW"



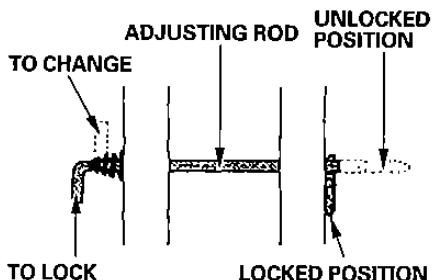
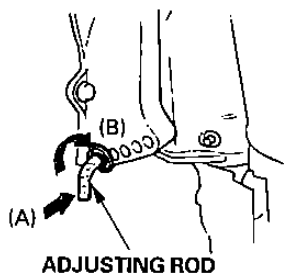
O.K.
CORRECT
GIVES MAXIMUM PERFORMANCE

5. Motor angle adjustment

If the propeller axis is not parallel with the water surface, adjust by changing the transom angle adjusting rod position.

There are four 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 transom angle adjusting rod is locked.

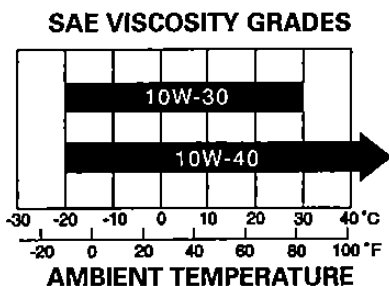
5. PRE-OPERATION CHECK

1. Engine oil

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, SG. Motor oils classified SF, SG will show this designation on the container. Select the appropriate viscosity for the average temperature in your area.

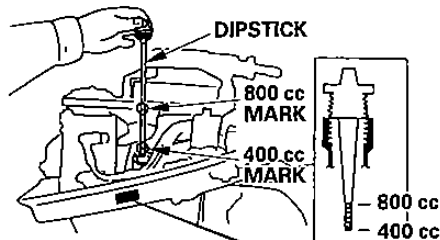
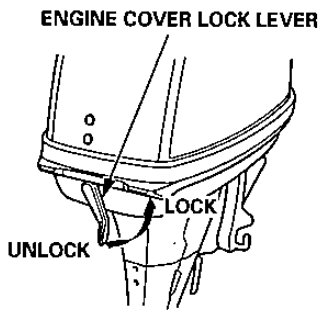


SAE 10W-30 is recommended for general, all-temperature use. Other viscosities shown in the chart may be used when the average temperature in your area is within the indicated range.

1. Position the outboard motor vertically, then push down the engine cover lock lever and remove the engine cover.
2. Remove the oil level dipstick and wipe with a clean rag.
3. Reinsert the dipstick, and check the oil level with the dipstick resting on the filler opening (do not screw in).

If the oil level is down toward the lower level mark, fill to the upper level mark.

Oil capacity: 0.80 ℓ (0.85 US qt , 0.70 Imp 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.

Use automotive unleaded gasoline with a Research Octane Number of 91 or higher (a Pump Octane Number of 86 or higher). Use of leaded gasoline may cause damage to the engine.

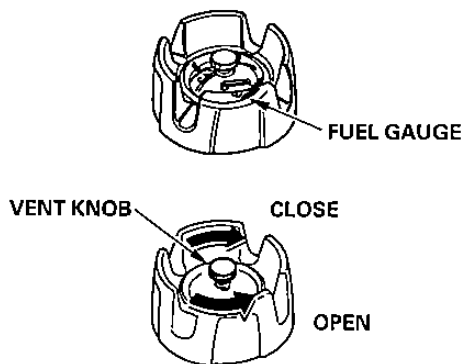
Never use an oil/gasoline mixture or dirty gasoline. Avoid getting dirt, dust or water in the fuel tank.

▲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 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 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.**
- **Avoid repeated or prolonged contact with skin or breathing of vapor. KEEP OUT OF REACH OF CHILDREN.**

Fuel tank capacity:

12 ℓ (3.2 US gal , 2.6 Imp gal)



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

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. Check the following items.

- ① Check the propeller, the shear pin, and the cotter pin to be sure they are secure and undamaged.
- ② Check the stern bracket to be sure the motor is securely installed.
- ③ Check steering handle operation.
- ④ Make sure you have the tool kit and spare parts with you (P. 32).
- ⑤ Check the fuel line for kinking, collapsing and a loose connections.
- ⑥ The anode metal for damage, looseness or excessive corrosion.

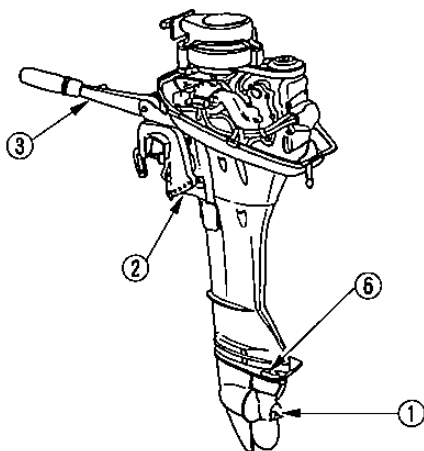
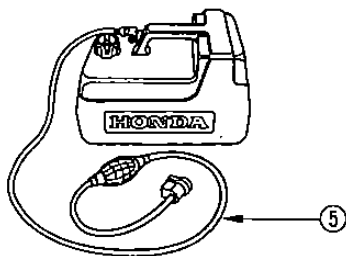
The anode metal helps to protect the outboard motor from corrosion damage; it must be exposed directly to the water whenever the motor is in use. Replace the anode metal when it has been reduced to approximately one half of its original size.

CAUTION:

If you paint the surface of the anode metal it will fail to function as a sacrificial metal, causing the outboard motor to rust and corrode.

The following materials should be kept with the boat:

1. Owner's Manual.
2. Tool Kit.
3. Spare engine oil, spark plugs, propeller and propeller cotter pins.
4. Required information regarding boating laws and regulations.



6. STARTING THE ENGINE

Fuel line connection

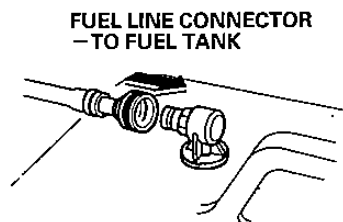
CAUTION:

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.

NOTE:

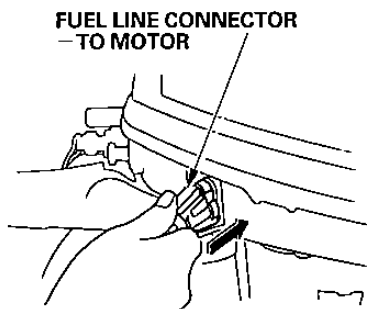
- Position the fuel tank so the tank fuel line connector is no more than 1 meter (3.3 ft) below the motor fuel line connector.
- Do not place the fuel tank more than 2 meters (6.6 ft) away from the motor.
- Be sure that the fuel line is not kinked.



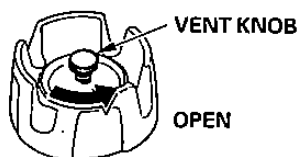
Be sure to insert the engine side coupler in the direction shown below (i.e., the lever should be at the right side).

CAUTION:

The sealing material will be damaged if the lever is inserted with force in the opposite direction, resulting in fuel leaks.



2. Open the fuel cap vent knob 2 to 3 turns.



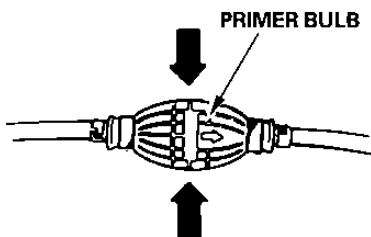
3. Hold the primer bulb so that the outlet end is higher than the inlet, and squeeze it until it feels firm, indicating that fuel has reached the motor. Check for leaks.

⚠ WARNING

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.

NOTE:

Do not use the primer bulb while the engine is running.



Starting

▲WARNING

Exhaust contains poisonous carbon monoxide which can cause unconsciousness and may lead to death. Never run the outboard motor in a closed garage or confined area.

CAUTION:

The propeller must be lowered into the water, running the outboard motor out of the water will damage the water pump and overheat the engine.

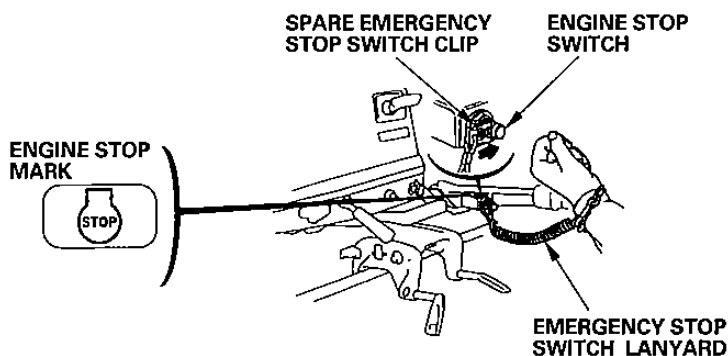
1. Engage the emergency stop switch clip located at one end of the emergency stop switch lanyard with the engine stop switch. Attach the other end of the emergency stop switch lanyard securely to the operator.

▲WARNING

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.

NOTE:

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



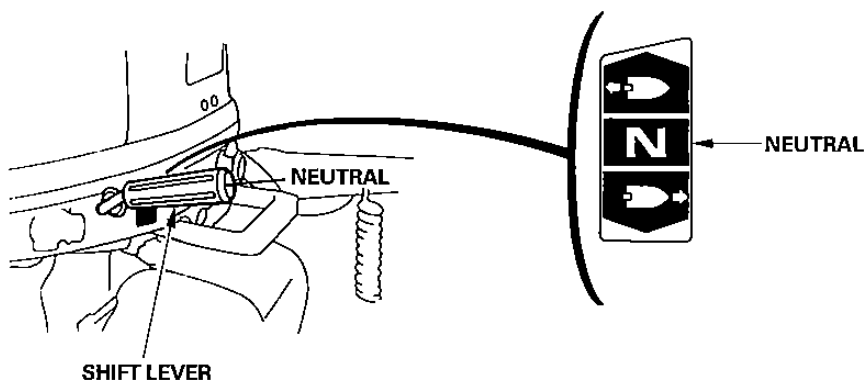
NOTE:

A spare emergency stop switch clip is provided in the tool bag.

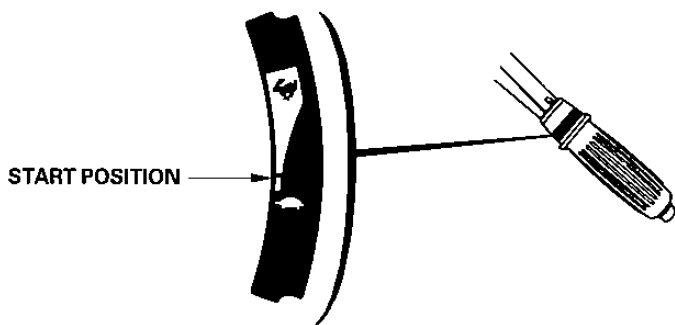


SPARE EMERGENCY STOP SWITCH CLIP

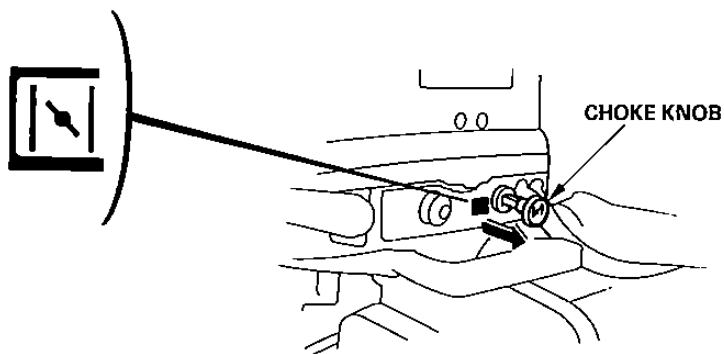
2. Put the shift lever in NEUTRAL.



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



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



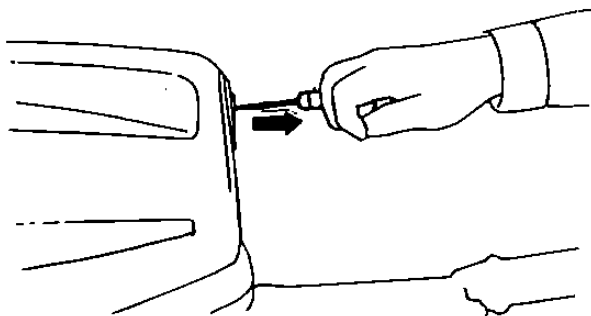
5. Pull the starter rope slowly until a resistance is felt, then pull briskly.

CAUTION:

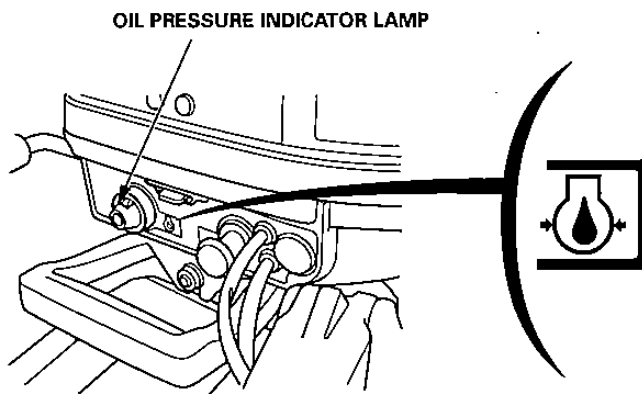
- Do not allow the starter grip to snap back against the engine. Return it gently to prevent damage to the starter.
- Do not pull the starter grip while the engine is running, as that may damage the starter.

NOTE:

The "Neutral Starting System" prevents the engine from being started unless the shift lever is set in NEUTRAL even though the starter rope can be operated.



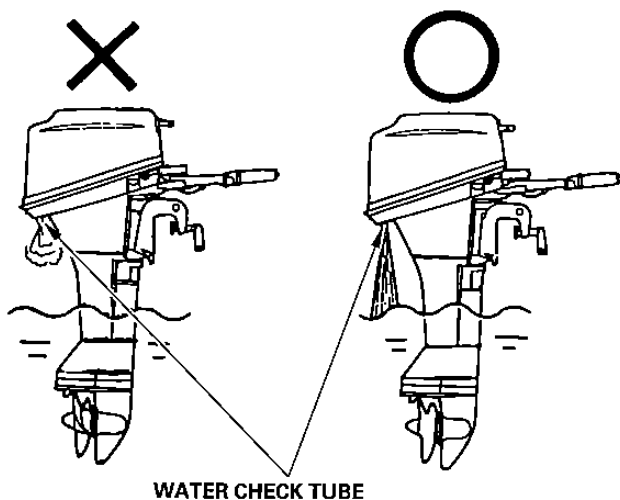
6. After the engine starts, confirm that the engine oil circulation indicator lamp is lit. In the event that the indicator is not lit, stop the engine and perform the following checks.



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.



8. If the choke was used, push it in gradually as the engine warms up.

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. Put the shift lever in NEUTRAL.

▲WARNING

The "Neutral Starting System" will not work in emergency starting. Be sure to set the shift lever into NEUTRAL to prevent start-in-gear when starting the engine in emergency. Sudden unexpected acceleration could result in serious injury or death.

2. Remove the engine cover.

3. Remove the recoil starter by removing the three 6 mm nuts.

4. Wrap the emergency rope clockwise around the starter pulley and pull it out completely, to start the engine.

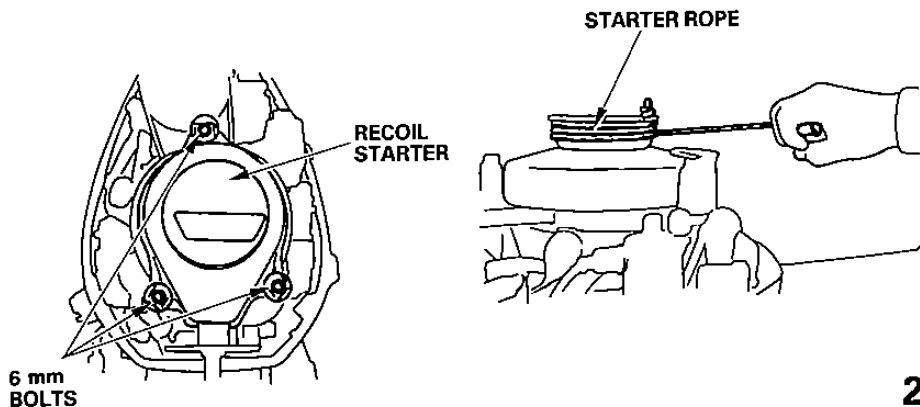
Make sure that the end of the rope should not be tied to the pulley when wrap round.

CAUTION: Keep clear of moving parts.

5. Leave the recoil starter off and reinstall engine cover.

▲WARNING

Exposed moving parts can cause injury. Use extreme care when installing the engine cover. Do not operate the outboard motor without the engine cover.

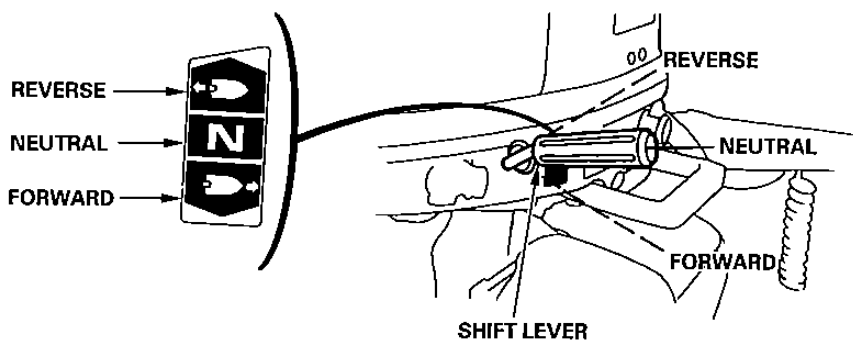


7. OPERATION

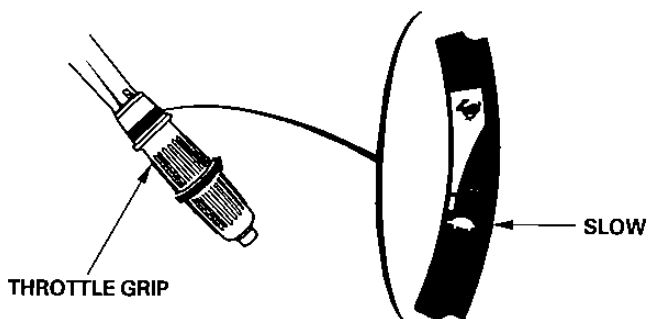
For the first 10 hours of operation, run the outboard motor at low speed, and avoid abrupt operation of the throttle.

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. Or, align the gearshift lever with the icon attached at the base of the gear shift lever.



Turn the throttle grip to SLOW 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.

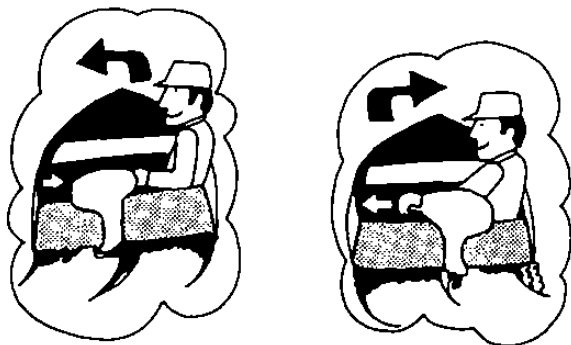
NOTE:

The throttle mechanism is designed to limit throttle opening in REVERSE and NEUTRAL. The throttle can be opened to FAST only in FORWARD gear.

2. Steering

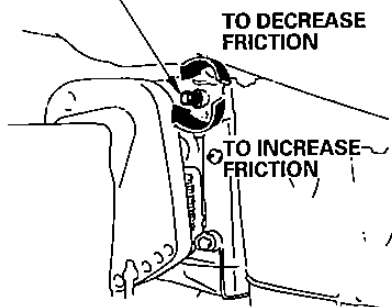
To turn to the right, swing the steering handle to the left. To turn to the left, swing the handle to the right.

Boats equipped with a remote control steering wheel are controlled in the same way as a car.



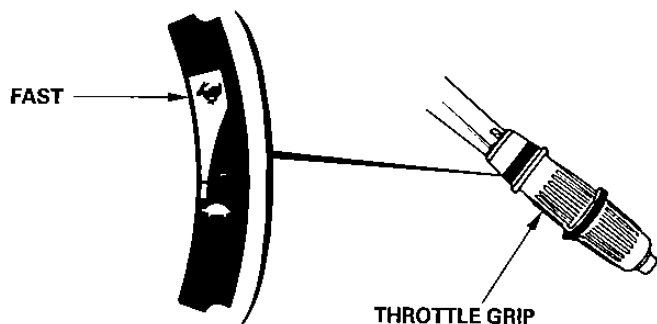
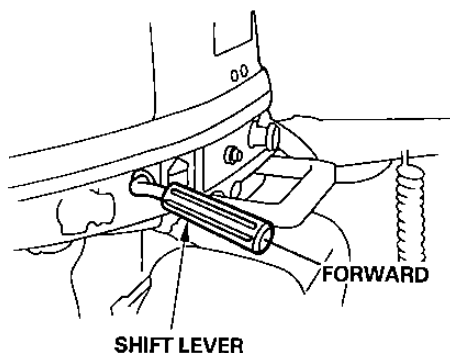
For smooth steering, adjust the steering friction bolt so that a slight drag is felt when turning.

STEERING FRICTION BOLT



3. Cruising

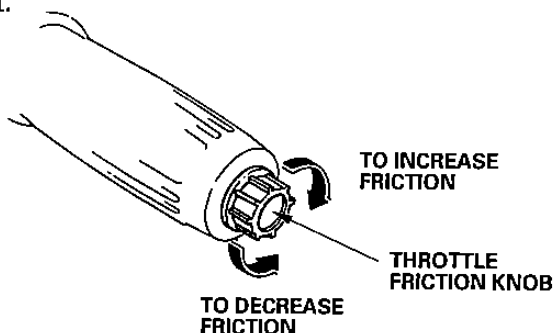
With the shift lever in the forward position F (FORWARD), turn the throttle grip toward FAST to increase speed. For normal cruising, open the throttle about 3/4.



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:

For best performance, passengers and equipment should be distributed evenly to balance the boat.



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.

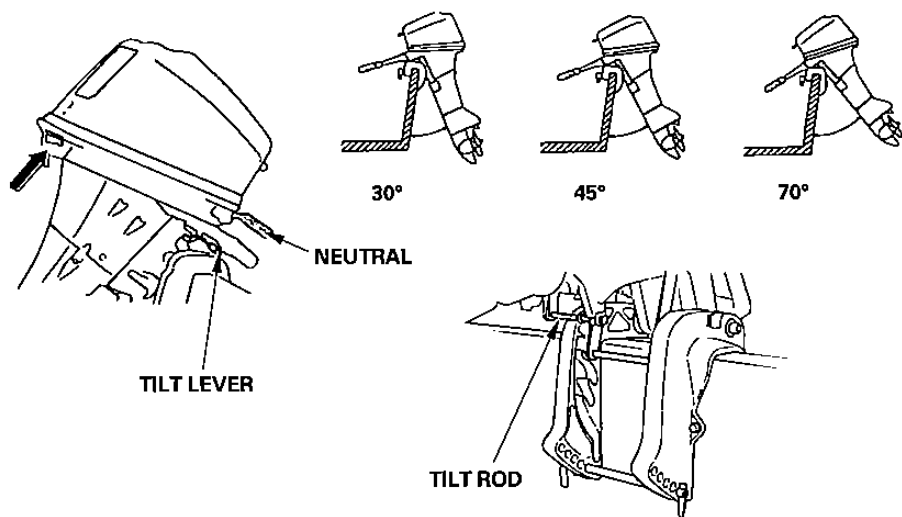
CAUTION:

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

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.

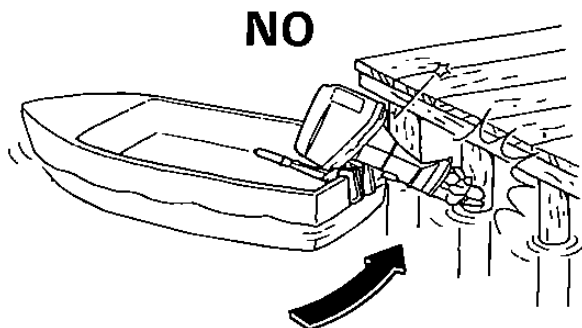
CAUTION:

Do not transport the motor in the tilted position; it may drop suddenly causing damage to the boat or the motor.



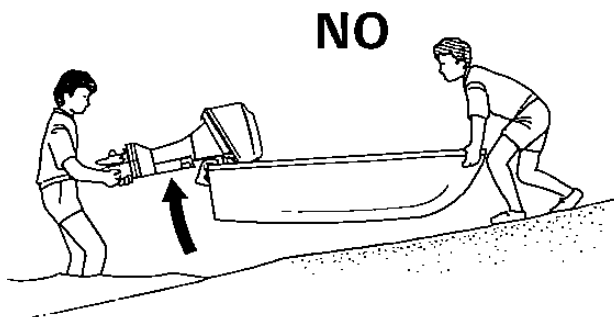
CAUTION:

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



CAUTION:

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



Trailing

When trailing or transporting the boat with the motor attached, it is recommended that the motor remain in normal running position with the steering friction bolt tightened securely.

CAUTION:

Do not trailer or transport the boat with the motor in the tilted position. The boat or motor could be severely damaged if the motor drops.

The motor should be trailed in the normal running position. If there is insufficient road clearance in this position, then trailer the motor in the tilted position using a motor support device such as a transom saver bar, or remove the motor from the boat.

5. Battery charging

The DC receptacle provides a 12 V, 5 A current for 12 V battery charging. The circuit is protected by a 5 A fuse that is accessible by removing the engine cover.

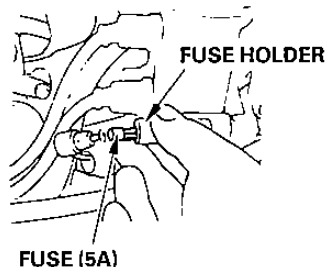
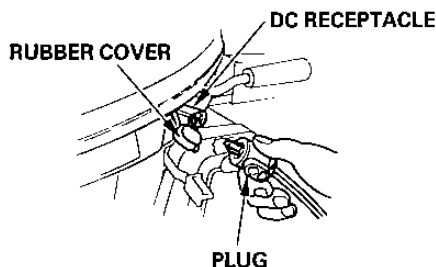
An electrical plug for the DC receptacle is supplied with your motor. Wire your charging cord to this plug.

▲WARNING

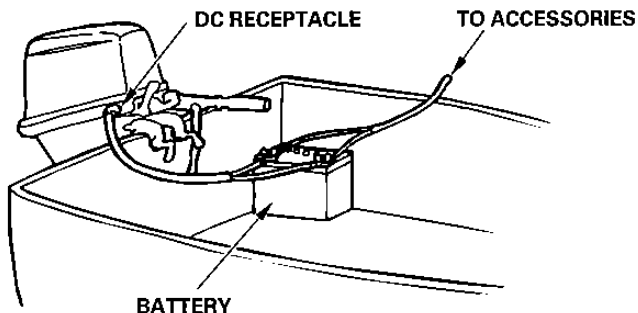
Batteries produce explosive gases. Keep sparks, flames, and cigarettes away. To prevent the possibility of creating a spark near the battery, connect the charging cord first to the battery and then to the outboard motor; when disconnecting the charging cord remove it from the outboard first.

CAUTION:

- Connect the positive battery terminal to the positive charging cord. Do not reverse the charging cords, or serious damage to the outboard motor's charging circuit and/or battery may occur.
- When it is not in use, keep the DC receptacle dry and clean by covering it with the rubber cap provided.



The outboard motor's 12 volt output is intended for battery charging only. Electrical accessories should be connected to the battery as shown.



● High altitude operation

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

High altitude performance can be improved by specific modifications to the carburetors. If you always operate your outboard motor at altitudes above 1,500 meters (5,000 feet) have an authorized Honda Outboard Motor dealer perform this carburetor modification.

Even with carburetor modification, engine horsepower will decrease about 3.5 % for each 300-meter (1,000-foot) increase in altitude. The effect 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.

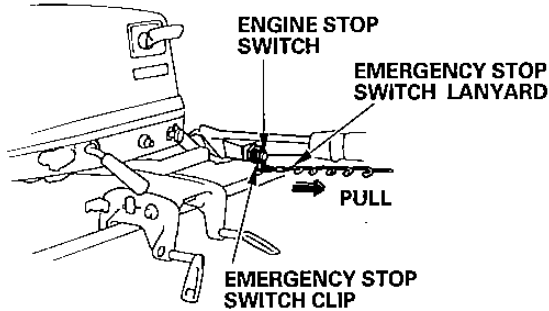
8. STOPPING THE ENGINE

• In an emergency

Disengage the emergency stop switch clip from the engine stop switch by pulling the emergency stop switch lanyard.

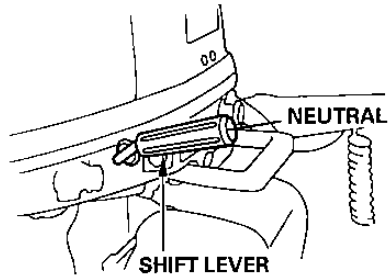
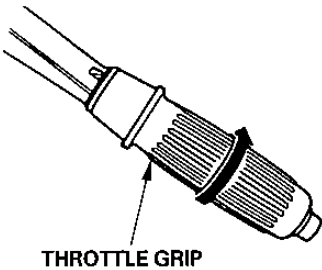
NOTE:

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.

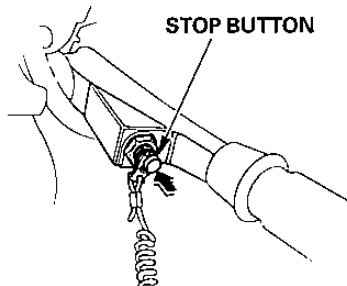


• In normal use

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



2. Push the engine stop switch until the engine stops.



CAUTION:

In the event that the engine does not stop when you depressed the stop button, pull the emergency stop switch cord. If the engine continues to run, pull the choke knob to stop the engine.

9. MAINTENANCE

Periodic maintenance, and adjustment are important to keep the motor in the best operating condition. Service and inspect according to the Maintenance Schedule.

⚠ 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:

- **If the engine must be run, make sure there is water at least 100 mm (3.9 in) above the anti-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 or dirty water.**
- **Use only genuine Honda parts or their equivalent. The use of replacement parts which are not of equivalent quality may damage the motor.**

Maintenance Schedule

REGULAR SERVICE PERIOD (3)			Each use	After use	First month or 20 hrs.	Every 6 months or 100 hrs.	Every year or 200 hrs.
Item	Perform at every indicated month or operating hour interval, whichever comes first.						
*	Engine oil	Check level	○				
		Change			○	○	
	Gear case oil	Change			○	○	
	Starter rope	Check				○	
*	Carburetor linkage	Check-adjust			○(2)	○(2)	
*	Valve clearance	Check-adjust					○(2)
*	Spark plug	Check-adjust				○	
		Replace					○
	Propeller and Cotter pin	Check	○				
	Anode	Check	○				
	Idling speed	Check-adjust			○(2)	○(2)	
	Lubrication	Grease			○(1)	○(1)	
*	Fuel tank and tank filter	Clean					○
*	Thermostat	Check					○(2)
*	Fuel filter	Check				○	
		Replace					○
*	Fuel line	Check	○				
		Replace		Every 2 years (If necessary) (2)			
	Bolts and Nuts	Check-tightness			○(2)	○(2)	
*	Crankcase breather tube	Check					○(2)
	Cooling water passages	Clean		○(4)			
	Water pump	Check					○(2)

* Emission-related items

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

(2) These items should be serviced by an authorized Honda marine dealer, unless you have the proper tools and are mechanically proficient.

Refer to Honda Shop Manual for service procedures.

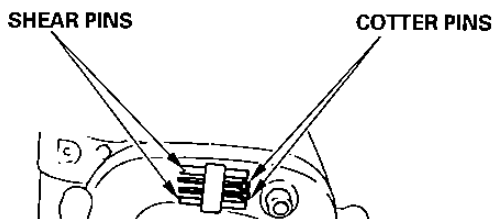
(3) For professional commercial use, log hours of operation to determine proper maintenance intervals.

(4) When operating in salt water, turbid or muddy water, the engine should be flushed with clean water after each use.

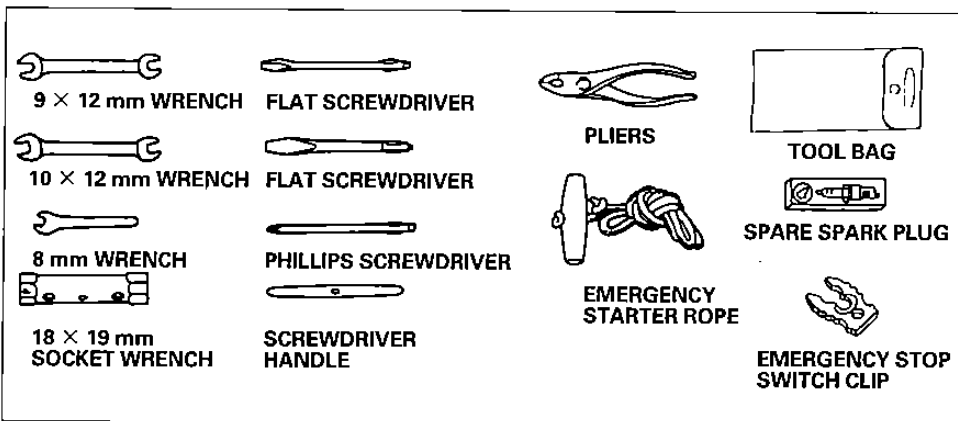
Tool kit and spare parts

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. Spare shear pins and cotter pins are located inside the engine compartment above the stern bracket.



Tool kit

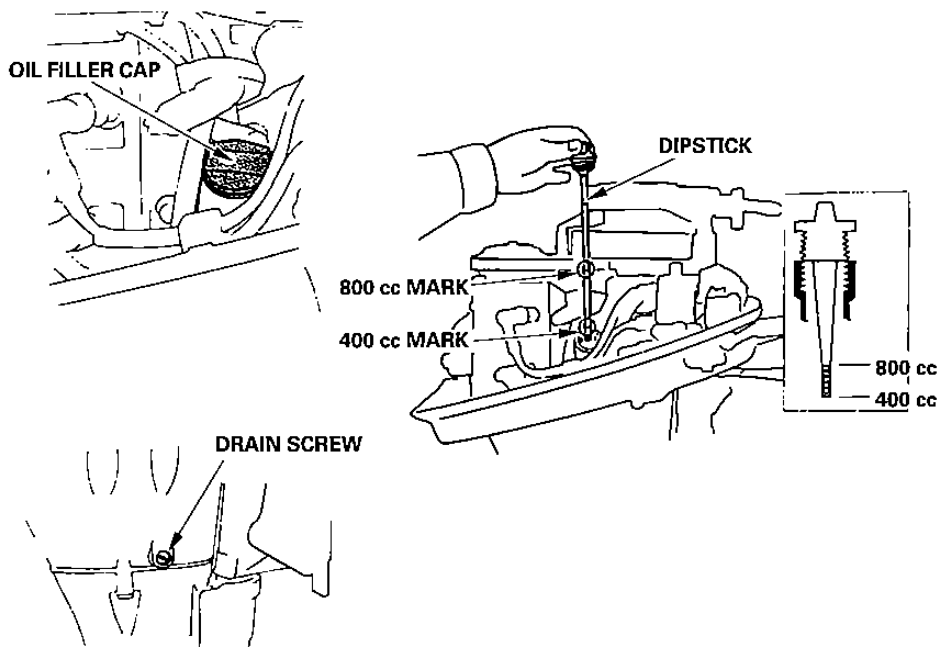


Engine oil change

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.
2. Fill the crankcase with the recommended oil (see page 11) and check the oil level with the dipstick resting on the filler opening (do not screw in). Fill to the upper level mark.

Oil capacity: 0.80 ℓ (0.85 US qt, 0.70 Imp qt)



Wash your hands with soap and water 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 screw 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 of 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.

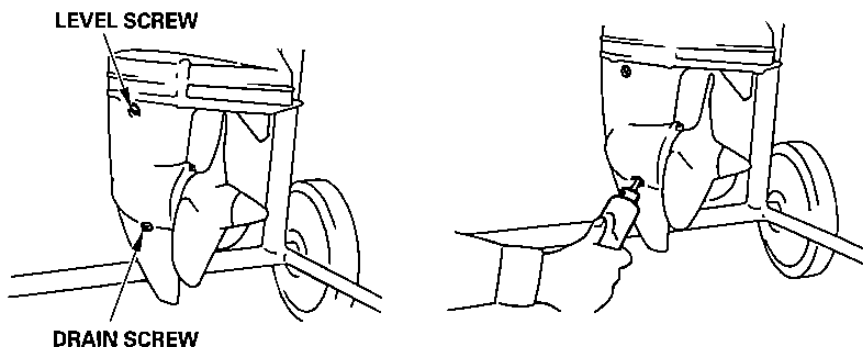
Reinstall and tighten the level bolt first and then the drain bolt securely.

CAUTION:

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

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

Oil Capacity: 0.23 ℓ (0.24 US qt , 0.20 Imp qt)



Starter rope check

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

Spark plug service

Recommended spark plug:

BF8A; DR-5HS (NGK)

BF6B; DR-4HS (NGK)

1. Remove the engine cover.
2. Remove the spark plug cap.
3. Use the wrench supplied in the tool kit to remove the spark plug.
4. Visually inspect the spark plug. Discard the spark plug if there is apparent wear, or if the insulator is cracked or chipped. Clean the spark plug with a wire brush if it is to be reused.
5. Measure the plug gaps with a feeler gauge.
Correct as necessary by carefully bending the side electrode.
The gaps should be:
0.60–0.70 mm (0.024–0.028 in)
6. Check that the spark plug washers are in good condition, and thread the spark 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.

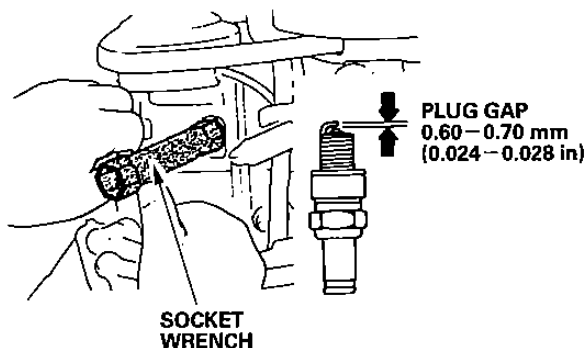
NOTE:

If installing a new spark plug, tighten 1/2 turn after the spark plug seats to compress the washer. If reinstalling a used spark plug, tighten 1/8–1/4 turn after the spark plug seats to compress the washer.

8. Reinstall the engine cover.

CAUTION:

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



Cleaning and flushing

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

▲WARNING

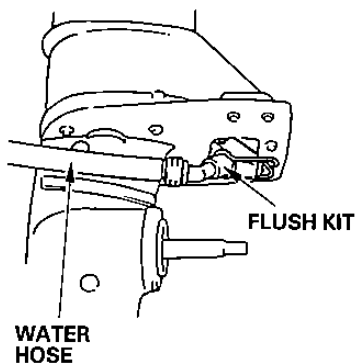
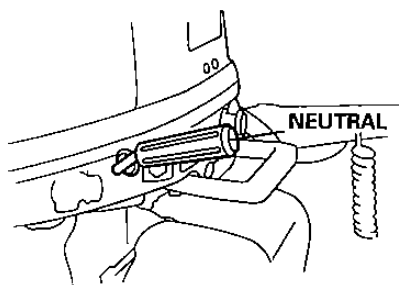
- For safety, the propeller must be removed.
- Be sure the outboard motor is securely mounted, and do not leave it unattended while running.
- Keep children and pets away from the area, and stay clear of moving parts during this procedure.

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.

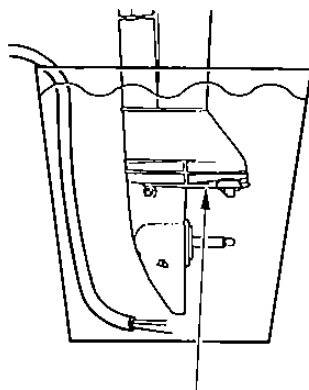
(With Honda flush kit)

1. Wash the outside of the outboard motor with clean, fresh water.
2. Flush the cooling system, using the Honda flush kit (optional).
 - a. Attach a hose from a fresh water faucet to the flush kit hose coupler.
 - b. Remove the propeller, and clip the flush kit rubber fitting over the water intake as shown.
 - c. Turn on the fresh water supply to the hose.
 - d. Start the engine and run in neutral for 10 minutes.



(Without Honda flush kit)

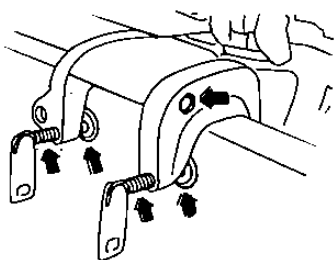
1. Wash the outside of the outboard motor with clean, fresh water.
2. Remove the propeller.
3. Stand the motor in a suitable container of water. The water level must be at least 100 mm (3.9 in) above the anti-cavitation plate.
4. Start the engine and run slowly for at least 5 minutes.



ANTI-CAVITATION PLATE

Lubrication

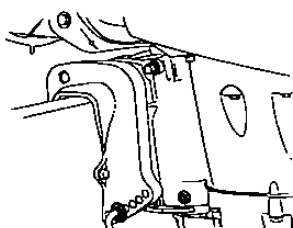
Wipe the outside of the engine with a cloth dipped in clean oil. Apply marine anti-corrosion grease to the following parts:



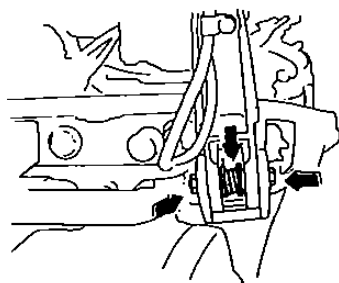
CLAMP SCREWS



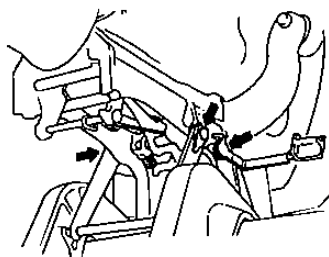
**THROTTLE CABLE AND PIVOT
SHIFT SHAFT AND PIVOT**



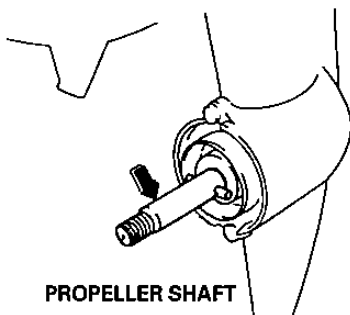
SWIVEL CASE



HANDLE PIVOT



TILT LINKAGE



PROPELLER SHAFT

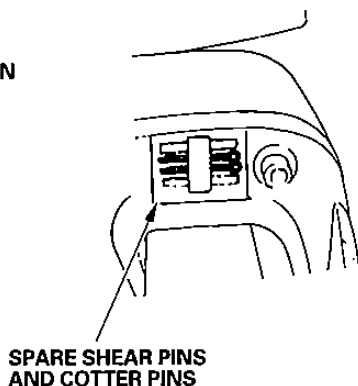
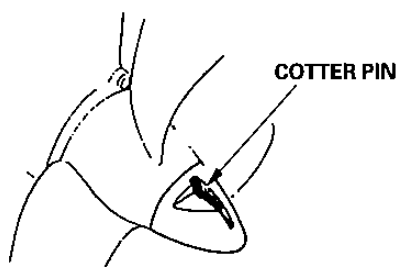
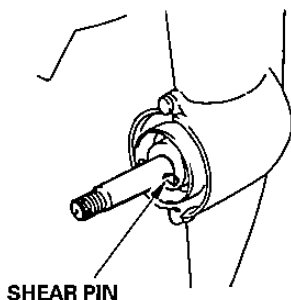
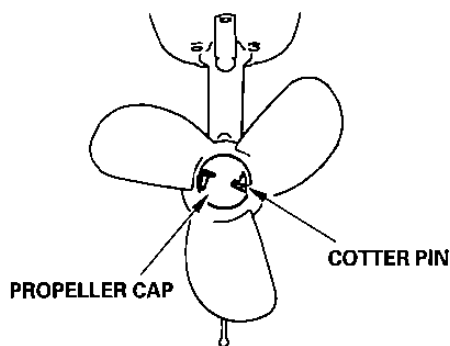
NOTE:

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

Shear pin change

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

1. Remove the cotter pin, the propeller cap, and the propeller.
2. Remove the broken shear pin and replace it with a new one.
3. Install the propeller, then install the propeller cap finger tight.
4. Install a new cotter pin, and spread the ends as shown in the illustration.



Fuel filter replacement

The fuel filter is located between the fuel pump and the carburetor. Water or sediment accumulated in the fuel strainer can cause loss of power or hard starting. To prevent engine malfunction, replace the fuel filter regularly.

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

▲WARNING

- **Gasoline is extremely 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.
3. Install the new fuel filter with the arrow mark pointing toward the carburetor.

NOTE:

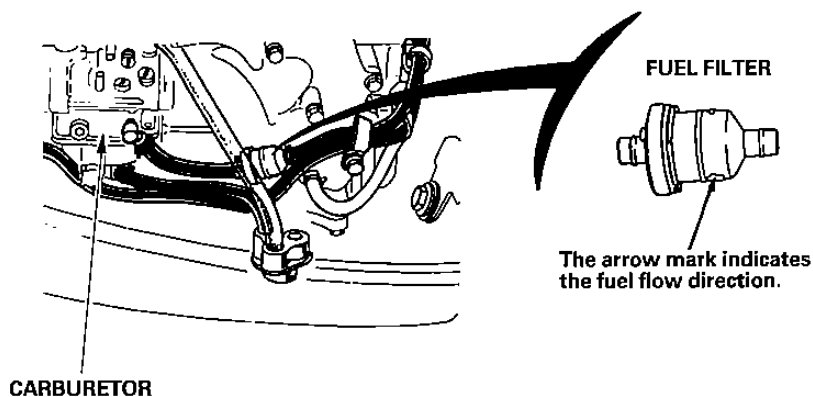
- Before removing the filter, place clamps on the fuel tubes on each side of the filter to prevent fuel leakage.
- Fuel flow will be impeded if the strainer is installed backward.

-
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.

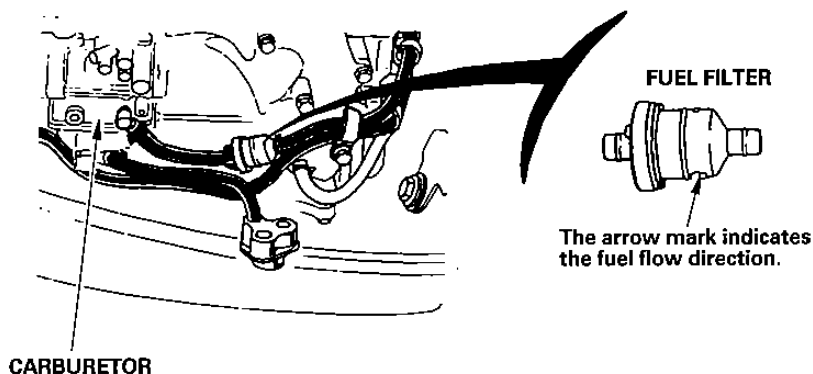
NOTE:

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.

(BF8A)



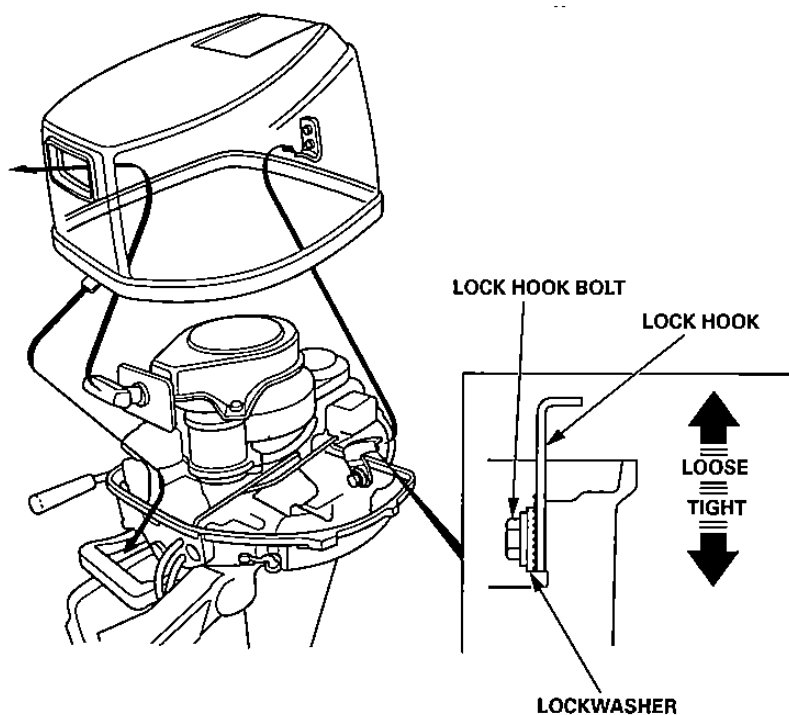
(BF6B)



Engine cover lock adjustment

The engine cover should fit tightly to keep the engine compartment dry. If adjustment is needed, reposition the lock hook.

1. Remove the engine cover, and loosen the lock hook bolt with a 10 mm wrench.
2. Reposition the lock hook, and retighten the bolt. Be sure the lockwasher serrations align with the hook serrations when tightening the bolt.
3. Install and lock the engine cover. Check whether the engine cover fits tightly. If necessary, repeat steps 1 and 2 to achieve a tight fit.



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. 45), drain the contents of the carburetor into a suitable container, then retighten the drain screw.
3. Change the engine oil (p. 33). 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. Disengage the emergency stop switch clip from the engine stop switch and pull the recoil starter several times to completely expel water from the cylinders.

▲WARNING

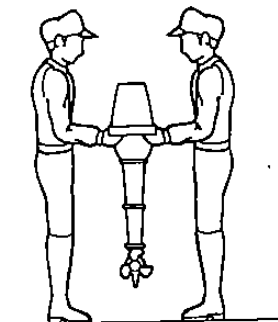
Exposed moving parts can cause injury. Use extreme care when installing the engine cover. Do not operate the outboard motor without the engine cover.

CAUTION:

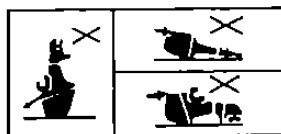
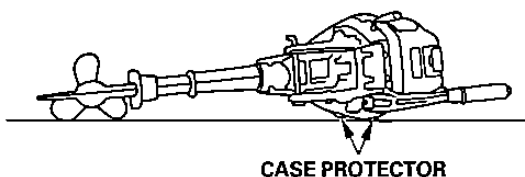
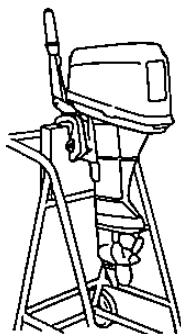
- **When cranking the engine with an open ignition circuit (spark plugs removed from the ignition circuit), disengage the emergency stop switch clip to prevent electrical damage to the ignition system.**
 - **If the motor was running when it submerged, there may be mechanical damage, such as bent connecting 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 anti-cavitation plate).
 7. As soon as possible, take the motor to a Honda outboard motor dealer for inspection and service.

10. TRANSPORTING/STORAGE

1. Carry the outboard with more than two people. 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.



2. Transport and store the motor either vertically or horizontally, as shown below, with the steering handle raised.



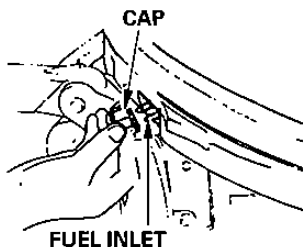
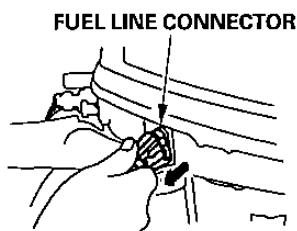
Vertical transport or storage: Attach the stern bracket to a stand.

CAUTION:

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

Preparation for storage

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



Vertical transport or storage: Attach the stern bracket to a stand.

CAUTION:

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

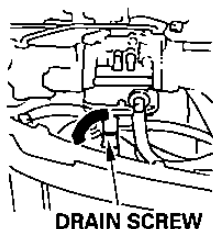
2. Loosen the carburetor drain screw, and drain the gasoline into a suitable container. After draining, retighten the drain screw.

▲WARNING

- 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, raise the motor out of the water, and pull the recoil starter several times to flush out the water.



-
3. Tilt the outboard motor, remove the plug caps, pull the recoil starter several times and completely drain 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.
4. Change the engine oil.
 5. Remove the spark plug, and pour about a tablespoon of clean engine oil into the cylinder. Crank the engine several revolutions to distribute the oil, then reinstall the spark plug.
 6. Store the outboard motor in a clean, dry area.

NOTE:

Before storing, clean, flush, and lubricate the outboard motor as described on pages 36 and 38 .

Engine will not start:

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

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

▲WARNING

If there is gasoline on the engine, there is a danger of it igniting. Before performing this check, therefore, wipe away all traces of gasoline.

7. Is the spark plug in good condition?

Remove and inspect the spark plug. Clean, readjust gap and dry the spark plug. Replace it if necessary.

Engine overheats:

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

EMISSION CONTROL SYSTEM INFORMATION

Source of Emissions

The combustion process produces carbon monoxide, oxides of nitrogen, and hydrocarbons. Control of hydrocarbons and oxides of nitrogen is very important because, under certain conditions, they react to form photochemical smog when subjected to sunlight.

Honda utilizes lean carburetor settings and other systems to reduce the emissions of oxides of nitrogen and hydrocarbons.

The U.S. Clean Air Act

EPA regulations require all manufactures to furnish written instructions describing the operation and maintenance of emission control systems. The following instructions and procedures must be followed in order to keep the emissions from your Honda engine within the emission standards.

Tampering and Altering

Tampering with or altering the emission control system may increase emissions beyond the legal limit.

Among those acts that constitute tampering are:

- Removal or alteration of any part of the intake, fuel, or exhaust systems.
- Alterations that would cause the engine to operate outside its design parameters.

Problems That May Affect Emissions

If you are aware of any of the following symptoms, have your engine inspected and repaired by your servicing dealer.

- Hard starting or stalling after starting.
- Rough idle.
- Misfiring or backfiring under load.
- Afterburning (backfiring).
- Black exhaust smoke or high fuel consumption.

Replacement Parts

The emission control systems on your Honda engine were designed, built, and certified to conform with EPA emission regulations. We recommend the use of genuine Honda parts whenever you have maintenance done. These original-design replacement parts are manufactured to the same standards as the original parts, so you can be confident of their performance. The use of replacement parts that are not of the original design and quality may impair the effectiveness of your emission control system.

A manufacturer of an aftermarket part assumes the responsibility that the part will not adversely affect emission performance. The manufacturer or rebuilder of the part must certify that use of the part will not result in a failure of the engine to comply with emission regulations.

Maintenance

Follow the maintenance schedule on page 31. Remember that this schedule is based on the assumption that your machine will be used for its designed purpose. Sustained high-load or high-temperature operation, will require more frequent service.

12. SPECIFICATIONS

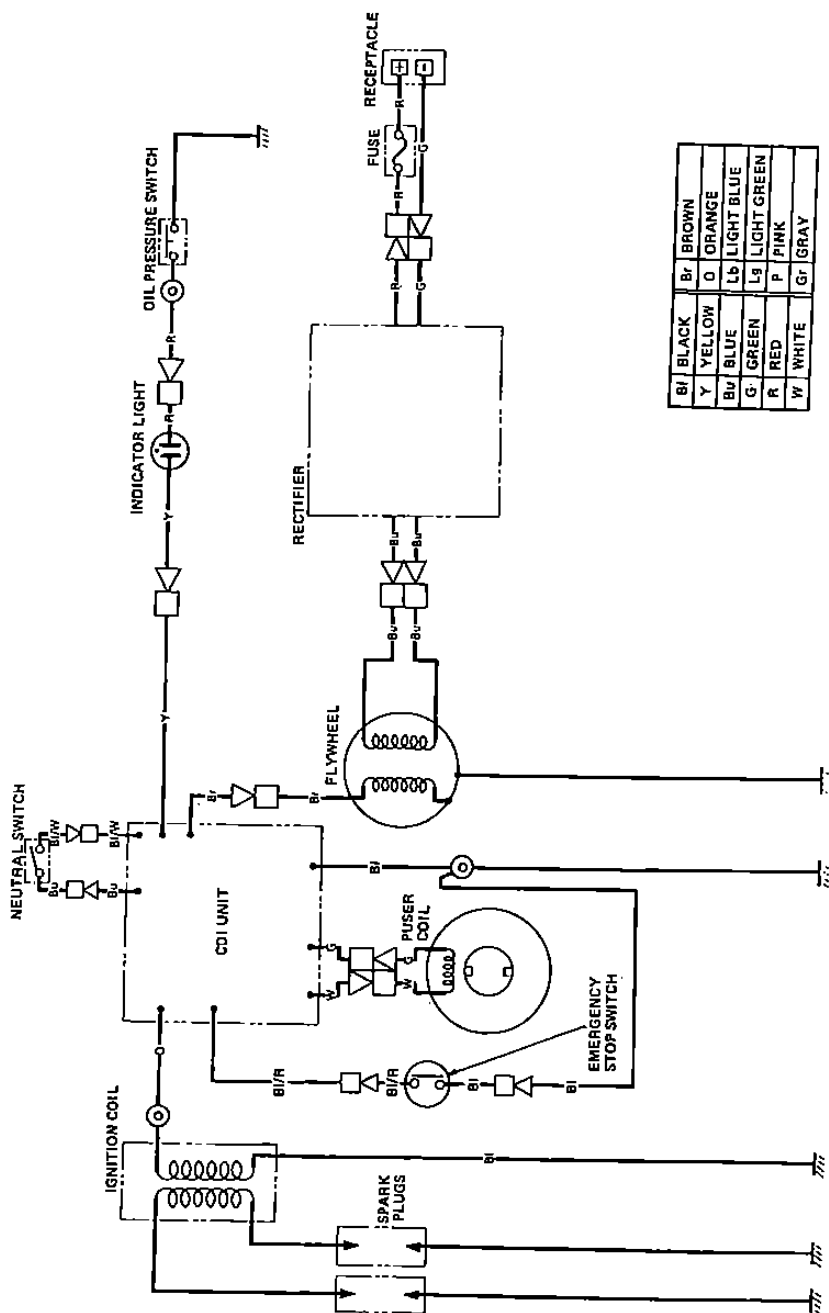
Model	BF8A		
Description code	S Model BACS L Model BACL		
Rated power	5.9 kW (8.0 PS)		
Full throttle range	4,950 – 5,500 rpm		
Engine type	4-stroke OHC in-line twin cylinder		
Displacement	197 cm ³ (12.0 cu-in)		
Spark plug gap	0.60 – 0.70 mm (0.024 – 0.028 in)		
Starter system	Recoil starter		
Ignition system	C.D.I		
Lubrication system	Trochoid pump pressure lubrication		
Specified oil	Engine: API standard (SF/SG) SAE 10W-30 Gear case: API standard (GL-4 or GL-5) SAE 90 outboard motor gear oil		
Oil capacity	Engine: 0.80 ℓ (0.85 US qt, 0.70 Imp qt) Gear case: 0.23 ℓ (0.24 US qt, 0.20 Imp qt)		
D.C.output	12V – 60W		
Cooling system	Water cooling with thermostat (volumetric pump)		
Exhaust system	Underwater exhaust		
Spark plug	DR-5HS (NGK)		
Fuel pump	Diaphragm type fuel pump		
Fuel	Automotive unleaded gasoline (91 research octane, 86 pump octane, or higher)		
Tank capacity	12 ℓ (3.2 US gal, 2.6 Imp gal)		
Steering equipment	Bar handle		
Tilt angle	3-stage adjustment (30°, 45° and 70°)		
Angle of rotation	40° (both sides)		
Dimensions	S Model	L Model	
	Length	525 mm (20.7 in)	525 mm (20.7 in)
	Height	1,010 mm (39.8 in)	1,160 mm (45.7 in)
	Width	315 mm (12.4 in)	315 mm (12.4 in)
Transom length	S Model	L Model	
	420 mm (16.5 in)	572 mm (22.5 in)	
Standard propeller (No. of blades-diameter x pitch)	3-240 x 220 mm (9-1/2 x 8-5/8 in)		
Gear change	Forward-Neutral-Reverse (dog type)		
Dry weight	S Model	L Model	
	35.0 kg (77.2 lbs)	36.0 kg (79.4 lbs)	

Honda outboards are power rated in accordance with NMMA procedures and using the ICOMIA standard 28/23.

Model	BF6B		
Description code	S Model BALS L Model BALL		
Rated power	4.4 kW (6.0 PS)		
Full throttle range	4,500 – 5,500 rpm		
Engine type	4-stroke OHC in-line twin cylinder		
Displacement	197 cm ³ (12.0 cu-in)		
Spark plug gap	0.60 – 0.70 mm (0.024 – 0.028 in)		
Starter system	Recoil starter		
Ignition system	C.D.I		
Lubrication system	Trochoid pump pressure lubrication		
Specified oil	Engine: API standard (SF/SG) SAE 10W-30 Gear case: API standard (GL-4 or GL-5) SAE 90 outboard motor gear oil		
Oil capacity	Engine: 0.80 ℓ (0.85 US qt, 0.70 Imp qt) Gear case: 0.23 ℓ (0.24 US qt, 0.20 Imp qt)		
D.C.output	12V – 60W		
Cooling system	Water cooling with thermostat (volumetric pump)		
Exhaust system	Underwater exhaust		
Spark plug	DR-4HS (NGK)		
Fuel pump	Diaphragm type fuel pump		
Fuel	Automotive unleaded gasoline (91 research octane, 86 pump octane, or higher)		
Tank capacity	12 ℓ (3.2 US gal, 2.6 Imp gal)		
Steering equipment	Bar handle		
Tilt angle	3-stage adjustment (30°, 45° and 70°)		
Angle of rotation	40° (both sides)		
Dimensions	S Model	L Model	
	Length	525 mm (20.7 in)	525 mm (20.7 in)
	Height	1,010 mm (39.8 in)	1,160 mm (45.7 in)
	Width	315 mm (12.4 in)	315 mm (12.4 in)
Transom length	S Model	L Model	
	420 mm (16.5 in)	572 mm (22.5 in)	
Standard propeller (No. of blades-diameter x pitch)	3-240 x 220 mm (9-1/2 x 8-5/8 in)		
Gear change	Forward-Neutral-Reverse (dog type)		
Dry weight	S Model	L Model	
	35.0 kg (77.2 lbs)	36.0 kg (79.4 lbs)	

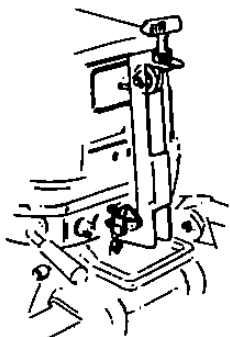
Honda outboards are power rated in accordance with NMMA procedures and using the ICOMIA standard 28/23.

13. WIRING DIAGRAM

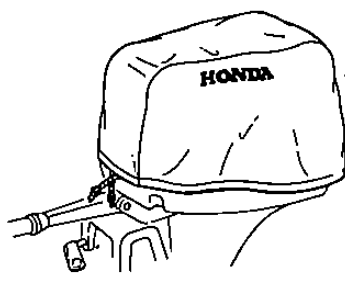


Bl	BLACK	Br	BROWN
Y	YELLOW	O	ORANGE
Bu	BLUE	Lb	LIGHT BLUE
G	GREEN	Lg	LIGHT GREEN
R	RED	P	PINK
W	WHITE	Gr	GRAY

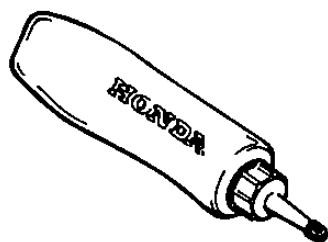
14. OPTIONAL PARTS



VERTICAL STARTER



ENGINE COVER



GEAR OIL

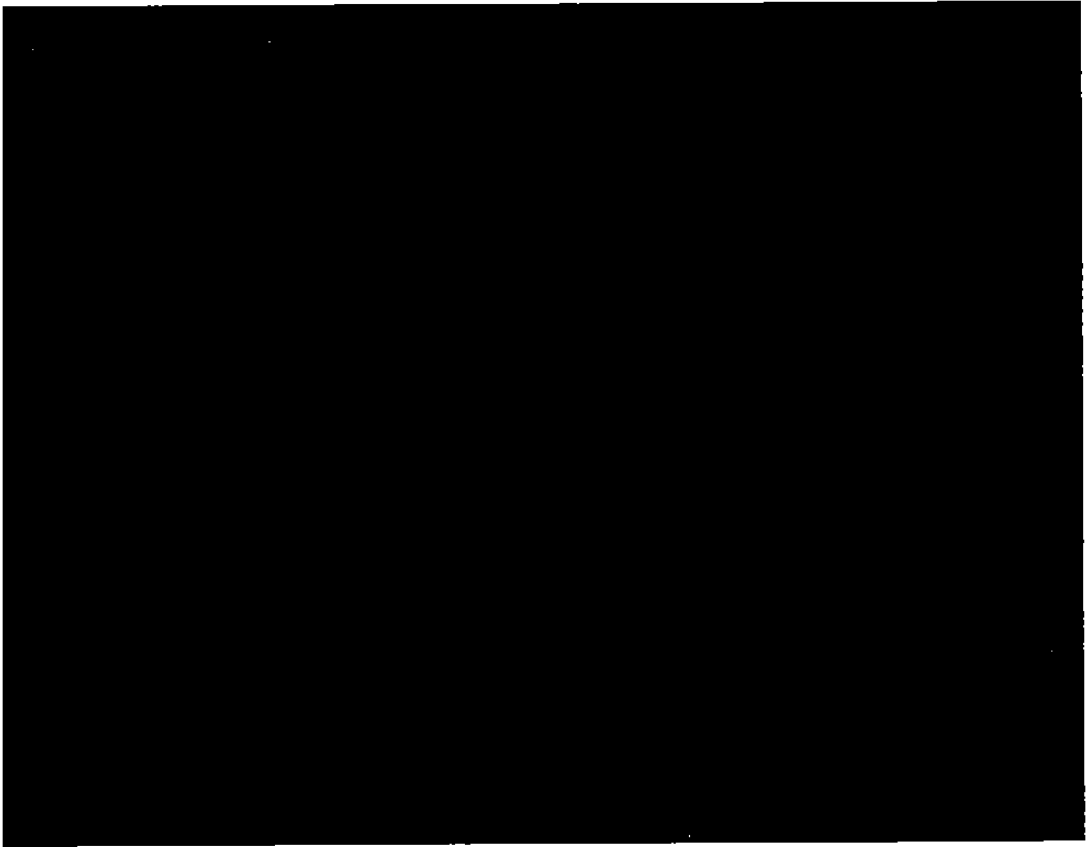
15. MAJOR Honda DISTRIBUTOR ADDRESSES IN EUROPE

NAME OF FIRM (COMPANY)	ADDRESS	TEL: FAX:
Honda (U.K.) Limited	470 London Road, Slough, Berkshire, SL38QY, United Kingdom	Tel: 01753-590-590 Fax: 01753-590-000
Honda Europe Power Equipment S.A.	Pole 45 Rue des Chataigniers 45140 Ormes France	Tel: 1-38-65-06-00 Fax: 1-38-65-06-05
Honda Deutschland GmbH.	Sprendlinger, Landstraße 166 D-63069 Offenbach/Main Germany	Tel: 069-83-09-0 Fax: 069-83-09-519
Honda Belgium H.V.	Wijngaardveld 1, 9300 Aalst Belgium	Tel: 053-725-111 Fax: 053-725-100
Honda Italia Industriale S.P.A.	Via della Cecchignola, 5/7 00143 ROMA	Tel: 06-54928-1 Fax: 06-54928-400
Honda (Suisse) S.A.	Route des Moulières 10 Case Postale Ch 1214 Vernier-Geneve, Switzerland	Tel: 022-341-22-00 Fax: 022-341-09-72
Honda Nederland B.V.	Nikkelstraat 17 2984 Ridderkerk Netherlands	Tel: 018-04-57-333 Fax: 018-04-29-075
Honda Austria G.M.B.H.	Honda Strasse 1 A-2351 Wiener Neudorf Austria	Tel: 223-66-900 Fax: 223-66-4130
Honda Power Equipment Sweden A.B.	Ostmästargränd 8 Stockholm-Årsta Sweden	Tel: 08-602-24-60 Fax: 08-722-36-27
Honda Produtos De Força, Portugal, S.A.	Lugar da Abrunheira S. Pedro de Penaferrim 2710 Sintra, Portugal	Tel: 351-1-9150374 Fax: 351-1-9111021

NAME OF FIRM (COMPANY)	ADDRESS	TEL: FAX:
Kellox A/S	Nygårdsveien 67 Box 188, 1401 Ski Norway	Tel: 64-94-50-00 Fax: 64-94-69-78
OY Brandt AB	Tuupakantie 4 SF-01740, Vantaa Finland	Tel: 90-895-501 Fax: 90-878-5276
TIMA PRODUCTS A/S	Tårnfalkevej 16, Postboks 511 DK 2650 Hvidovre Denmark	Tel: 31-49-17-00 Fax: 36-77-16-30
Greens	Polig. Industrial Congost 08530, La Garriga (Barcelona), Spain	Tel: 93-871-84-50 Fax: 93-871-81-80
Automocion Canarias S.A. (AUCASA)	Apartado, de Correos, num 206 Santa Cruz de Tenerife Canary Island	Tel: 922-61-13-50 Fax: 922-61-13-44
The Associated Motors Company Ltd.	148, Rue D'Argens, Msida Malta	Tel: 356-333001 Fax: 356-340473
Two Wheels Ltd.	Crosslands Business Park, Ballymount Road, Dublin 12, Ireland	Tel: 4602111 Fax: 4566539
General Automotive Co., S.A.	P.O. Box 1200, 101 73 Athens Greece	Tel: 346-5321 Fax: 346-7329
BG Technik s.r.o.	Radlická 117/520 158 01 Praha 5 Czech Republic	Tel: 2-5694 573 Fax: 2-5694 571
Aries Power Equipment Ltd.	01-493 Warszawa, ul Wroclawska 25a Poland	Tel: 22-685 17 06 Fax: 22-685 16 03
MO.TOR.PEDO Ltd.	1134 Budapest, Dózsa Gy.út 61-63. Hungary	Tel: 1-4652080 Fax: 1-4652081

HONDA

The Power of Dreams



36881734
00X36-881-7340

© Honda Motor Co., Ltd. 2003
EU 英 仏 独 西 日 700.2004.04
Printed in Japan