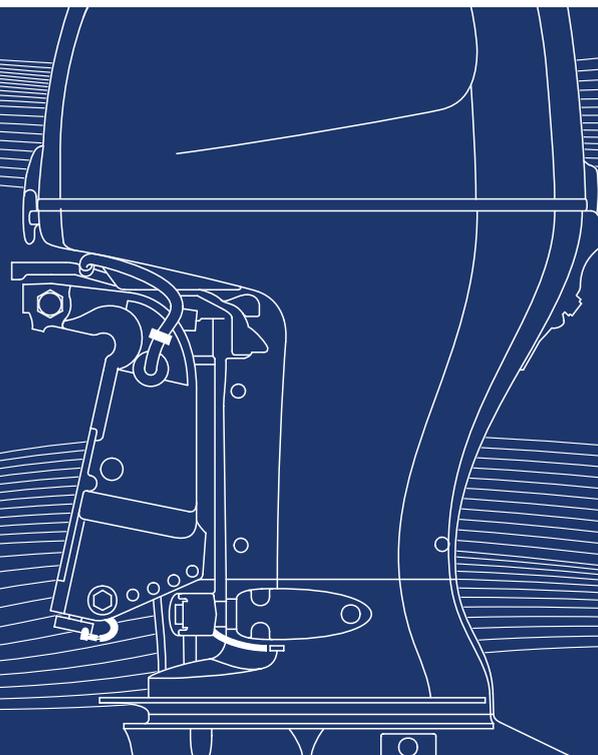




Owner`s Manual
BF75D • BF80A
BF90D • BF100A



Original instructions

Thank you for purchasing a Honda Outboard Motor.

This manual covers operation and maintenance of the Honda BF75D/80A/90D/100A 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.

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

Throughout this manual, you will see safety messages preceded by the following words and symbols. Here's what they mean:

▲ DANGER

Indicates serious injury or death WILL result if instructions are not followed.

▲ WARNING

Indicates a strong possibility that serious personal injury or death may result if instructions are not followed.

▲ CAUTION

Indicates a possibility that personal injury or equipment damage could result if instructions are not followed.

NOTICE

Indicates that equipment or property damage could result 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.

▲ WARNING

Honda Outboard Motors are 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.

- Have your dealer install the tiller handle.
- The illustration may vary according to the type.

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Model		BF75D		BF80A		
Type		LHG□	LRT□	LHT□	LRT□	XRT□
Shaft Length (Transom Height)	537 mm (21.1 in)	●	●	●	●	
	664 mm (26.1 in)					●
Tiller Handle (H1 type)		●		●		
Tiller Handle (H2 type)			*		*	*
Remote Control	(SIDE-MOUNT REMOTE CONTROL)		●		●/*	*
	(PANEL-MOUNT/TOP-MOUNT REMOTE CONTROL)	*	*	*	*	*
Gas-assisted Tilt		●				
Power Trim/Tilt			●	●	●	●
Trim meter		*	●	*	●/*	*
Tachometer		*	●	*	●/*	*
TRL (Trolling) Control Switch		*	*	*	*	*

NOTE: Note that the types of the outboard motor differ according to the countries where they are sold.

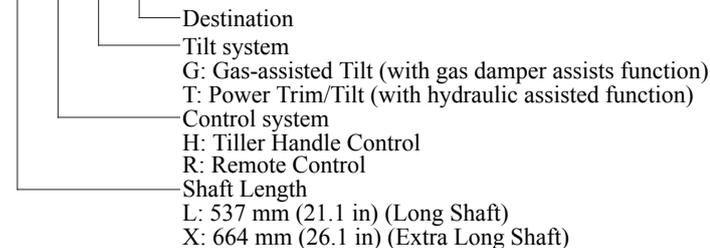
BF75D/80A/90D/100A is provided with the following types according to the shaft length, control system, and tilt system.

*: Optional Equipment

●/*: Optional Equipment depends on destination

TYPE CODE Example

L R T □



Model		BF90D				BF100A		
Type		LHG□	LHT□	LRT□	XRT□	LHT□	LRT□	XRT□
Shaft Length	537 mm (21.1 in)	●	●	●		●	●	
(Transom Height)	664 mm (26.1 in)				●			●
Tiller Handle (H1 type)		●	●			●		
Tiller Handle (H2 type)				*	*		*	*
Remote Control	(SIDE-MOUNT REMOTE CONTROL)			●/*	●/*		●/*	●/*
	(PANEL-MOUNT/ TOP-MOUNT REMOTE CONTROL)	*	*	*	*	*	*	*
Gas-assisted Tilt		●						
Power Trim/Tilt			●	●	●	●	●	●
Trim meter		*	*	●/*	●/*	*	●/*	●/*
Tachometer		*	*	●/*	●/*	*	●/*	●/*
TRL (Trolling) Control Switch		*	*	*	*	*	*	*

NOTE: Note that the types of the outboard motor differ according to the countries where they are sold.

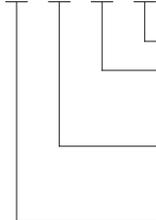
BF75D/80A/90D/100A is provided with the following types according to the shaft length, control system, and tilt system.

*: Optional Equipment

●/*: Optional Equipment depends on destination

TYPE CODE Example

L R T □



Destination

Tilt system

G: Gas-assisted Tilt (with gas damper assists function)

T: Power Trim/Tilt (with hydraulic assisted function)

Control system

H: Tiller Handle Control

R: Remote Control

Shaft Length

L: 537 mm (21.1 in) (Long Shaft)

X: 664 mm (26.1 in) (Extra Long Shaft)

This Owner's Manual is using the following type names when it describes the operations special to a type.

Tiller handle type: H type
Remote control type: R type
Gas-assisted tilt type: G type
Power trim/tilt type: T type

The tiller handle type is classified into the following two categories.

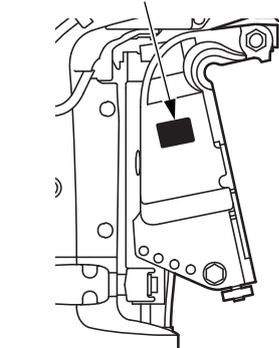
Tiller handle type: H1 type
Multi-Function Tiller handle (optional equipment) type: H2 type

The remote control type is classified into the following three categories according to the control box position.

Side-mount type: R1 type
Panel-mount type: R2 type
Top-mount type: R3 type

Check the type of your outboard motor and read this Owner's Manual thoroughly before operation.

FRAME SERIAL NUMBER



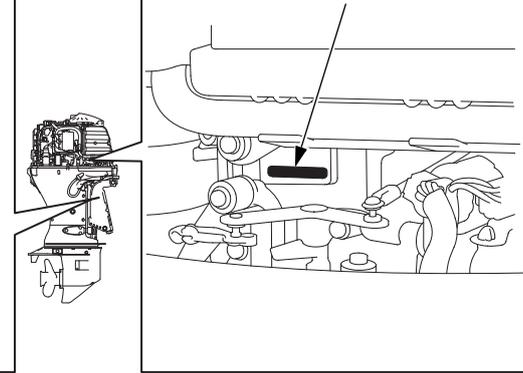
Texts with no type indication are the information and/or procedures common to all types.

Record the frame and engine serial numbers for your reference. Refer to the serial numbers when ordering parts and when making technical or warranty inquiries.

The frame serial number is stamped on the right side of the stern bracket.

Frame serial number:

ENGINE SERIAL NUMBER



The engine serial number is stamped on the upper right side of the engine.

Engine number:

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1. SAFETY

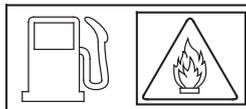
SAFETY INFORMATION

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

Operator Responsibility

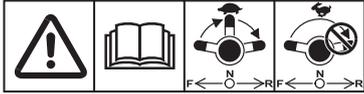


- **Honda outboard motor is designed to give safe and dependable service if operated according to instructions. Read and understand the Owner's Manual before operating the outboard motor. Failure to do so could result in personal injury or equipment damage.**



- **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.**



- **Shift to the neutral position and then shift to the reverse position at low engine speed. Do not shift to the reverse position suddenly at high engine speed.**



- **Moving parts can injure you. Install the engine cover after emergency starting the engine. Do not operate the outboard motor without the engine cover.**

- 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.
- 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.
- 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.
- Stop the engine immediately if anyone falls overboard.
- Do not run the engine while the boat is near anyone in the water.
- Attach the emergency stop switch lanyard securely to the operator.

SAFETY

Fire and Burn Hazards

Gasoline is extremely flammable, and gasoline vapor can explode. Use extreme care when handling gasoline. KEEP OUT OF REACH OF CHILDREN.

- Remove the fuel tank from the boat for refueling.
- Refuel in a well-ventilated area with the engine stopped. Keep flames and sparks away, and do not smoke in the area.
- Refuel carefully to avoid spilling fuel. Avoid overfilling the fuel tank (there should be no fuel in the filler neck). After refueling, tighten the fuel filler cap securely. If any fuel is spilled, make sure the area is dry before starting the engine.

The engine and exhaust system become very hot during operation and remain hot for a while after stopping. Contact with hot engine components can cause burns and may ignite some materials.

- Avoid touching a hot engine or exhaust system.
- Allow the engine to cool before performing maintenance or transporting.

Carbon Monoxide Poisoning Hazard

Exhaust contains poisonous carbon monoxide, a colorless and odorless gas. Breathing exhaust can cause loss of consciousness and may lead to death.

- If you run the engine in an area that is confined, or even partially enclosed, the air can become contaminated with a dangerous amount of exhaust gas. To keep exhaust gas from building up, provide adequate ventilation.

2. SAFETY LABEL LOCATIONS

[Equipped type]

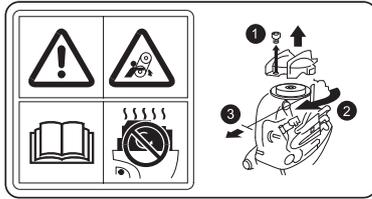
These labels are in the locations shown.

They warn you of potential hazards that can cause serious injury.

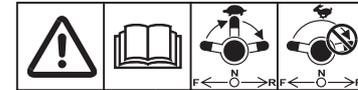
Read the labels and safety notes and precautions described in this manual carefully.

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

READ OWNER'S MANUAL EMERGENCY ENGINE STARTING

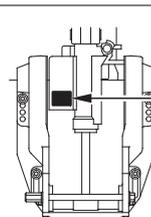
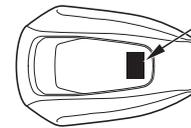
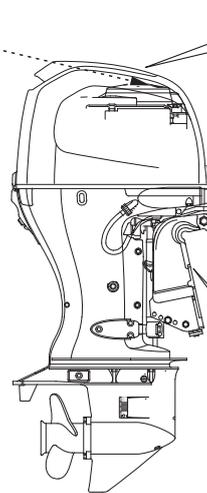


READ OWNER'S MANUAL GEAR SHIFTING



TILLER HANDLE (H2 type) (optional equipment)

READ OWNER'S MANUAL

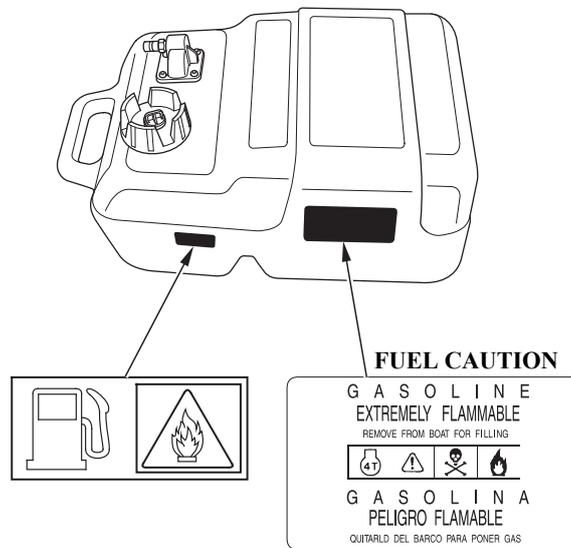
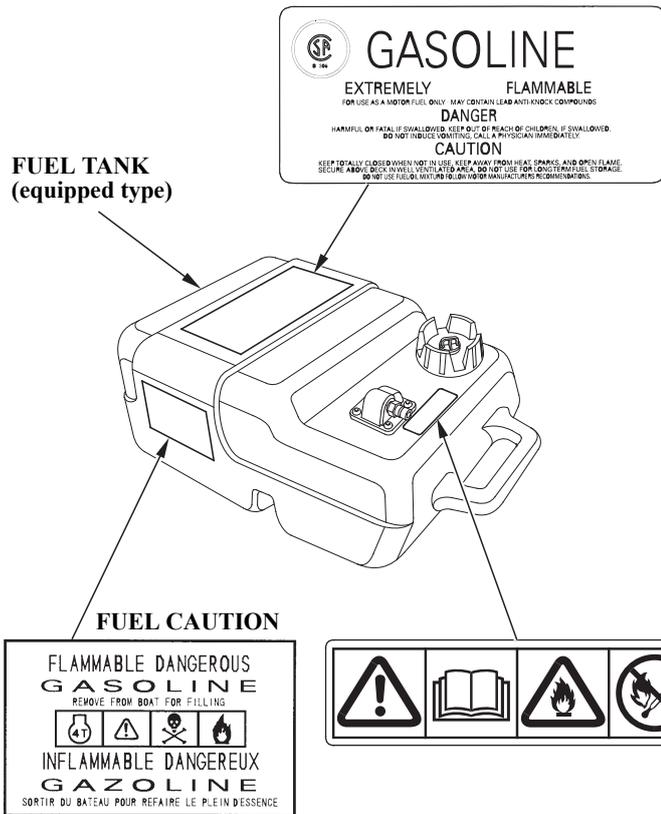


AT CAUTION



[G type]

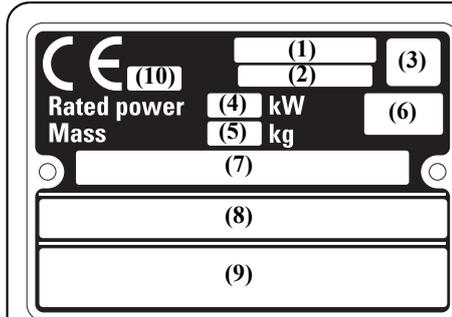
SAFETY LABEL LOCATIONS



SAFETY LABEL LOCATIONS

CE mark location [European Types]

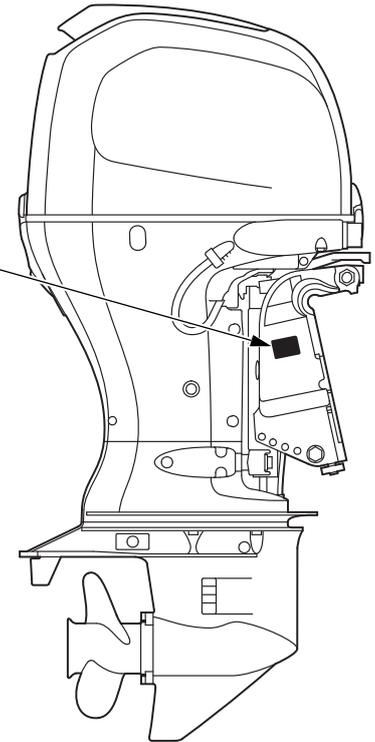
CE MARK



- (1) Model name
- (2) Engine family name
- (3) Year code
- (4) Rated power
- (5) Dry mass (weight) (with propeller, without battery cable)
- (6) Country of manufacture
- (7) Frame number
- (8) Manufacturer and address
- (9) Name and address of authorized representative
- (10) The identification number of the notified body

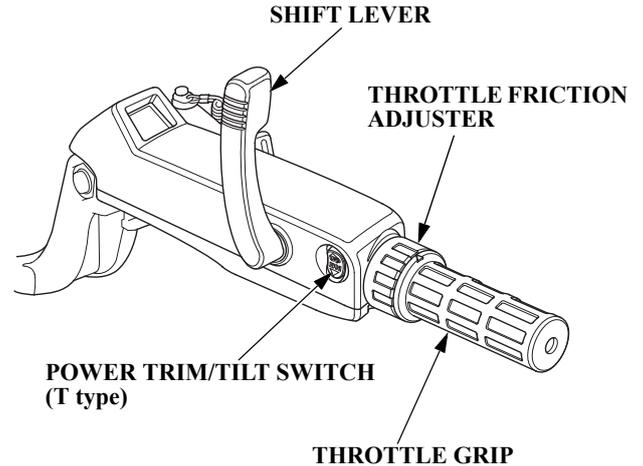
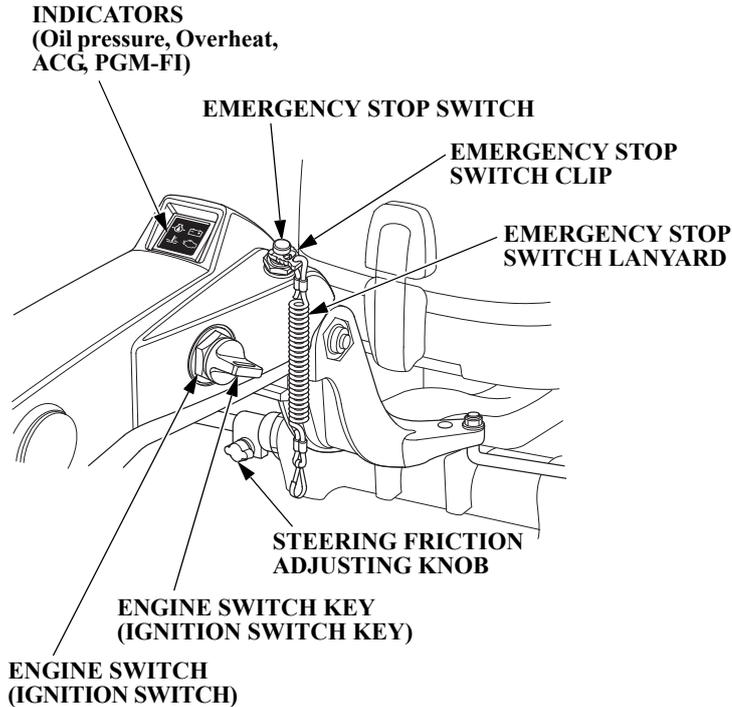
Year code	J	K	L	M	N	P
Year of manufacture	2018	2019	2020	2021	2022	2023

Name and address of manufacturer and authorized representative are written in the “EC Declaration of Conformity” CONTENT OUTLINE in this Owner’s Manual.



COMPONENT IDENTIFICATION

TILLER HANDLE (H1 type)



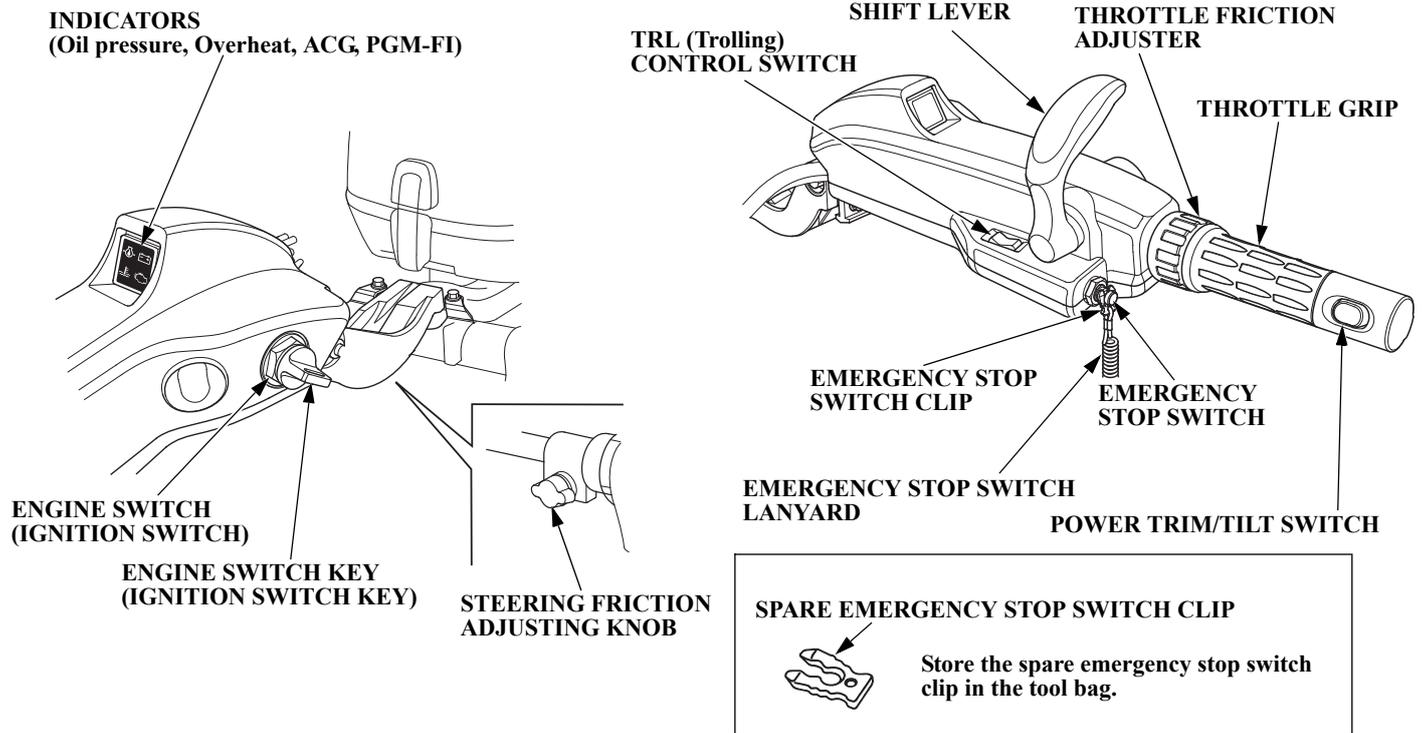
SPARE EMERGENCY STOP SWITCH CLIP



Store the spare emergency stop switch clip in the tool bag.

COMPONENT IDENTIFICATION

TILLER HANDLE (H2 type) (optional equipment)

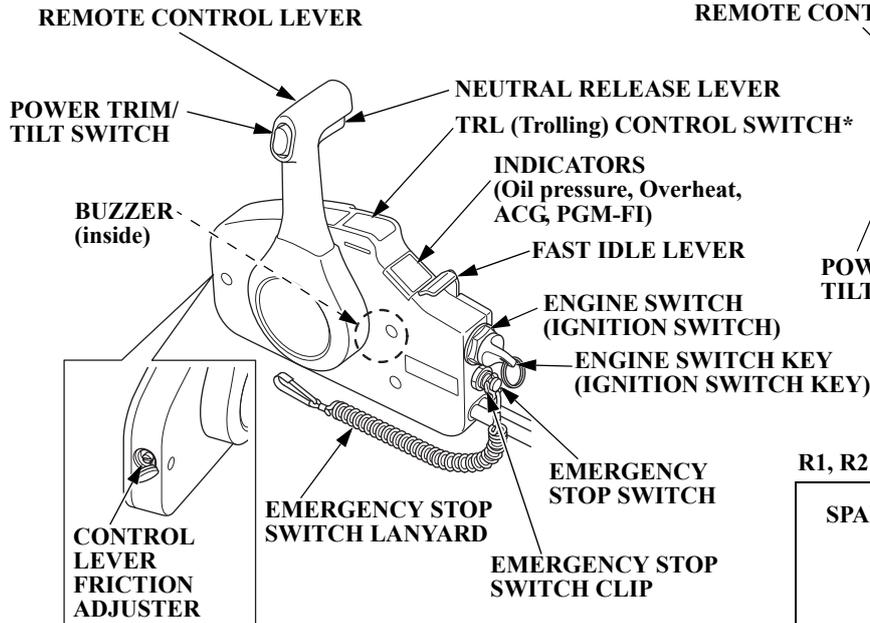


COMPONENT IDENTIFICATION

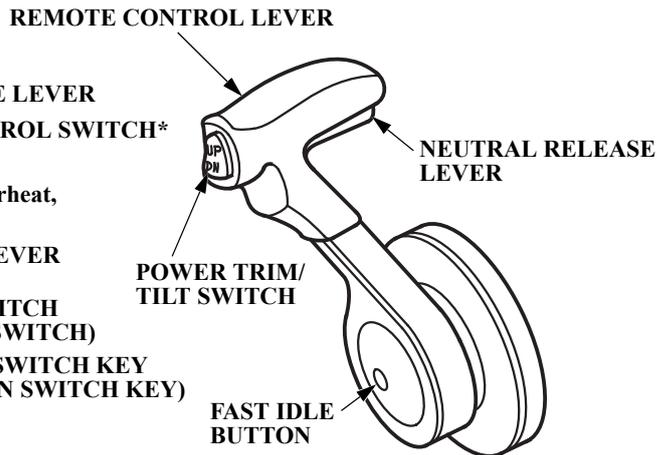
REMOTE CONTROL BOX

(equipped type or optional equipment)

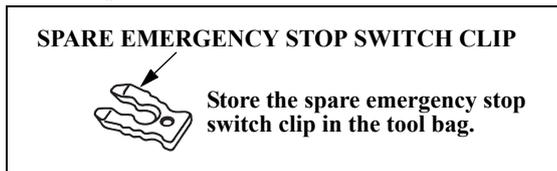
SIDE-MOUNTTYPE (R1 type)



PANEL-MOUNTTYPE (R2 type)



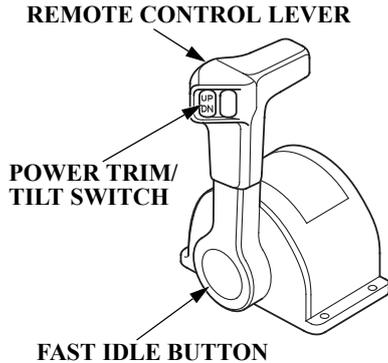
R1, R2 types:



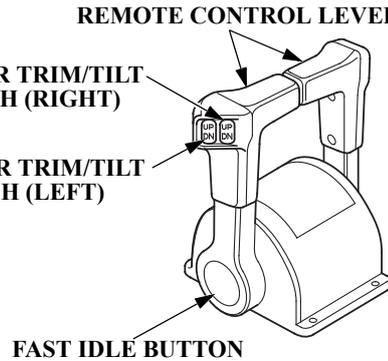
* For TRL (Trolling) control switch equipped type.

COMPONENT IDENTIFICATION

TOP-MOUNT TYPE (R3 type) (SINGLE OUTBOARD MOTOR TYPE)



(DUAL OUTBOARD MOTOR TYPE)

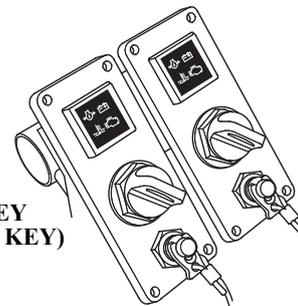
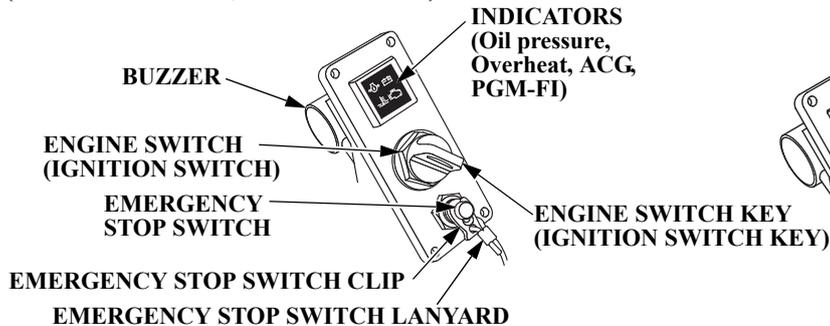


R3 type:



SWITCH PANEL (optional equipment) (PANEL-MOUNT, TOP-MOUNT)

(for TOP-MOUNT DUAL type)

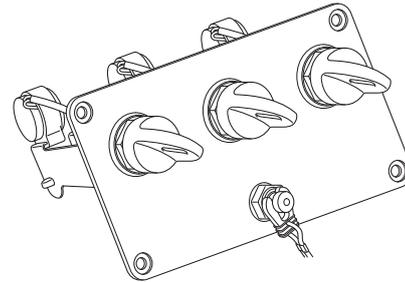
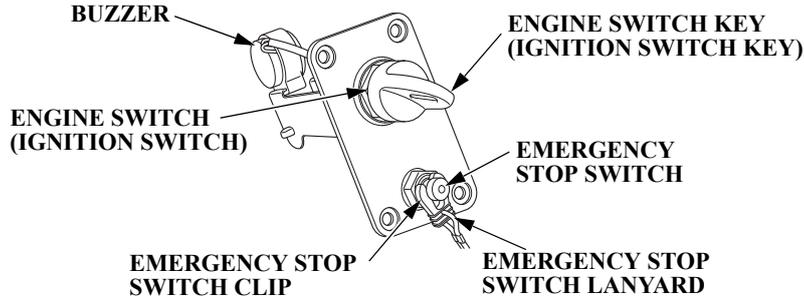


COMPONENT IDENTIFICATION

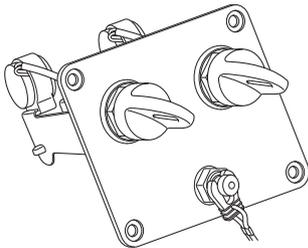
**SWITCH PANEL without indicators type
(optional equipment)**

(PANEL-MOUNT, TOP-MOUNT SINGLE)

(for THREE OUTBOARD MOTORS type)



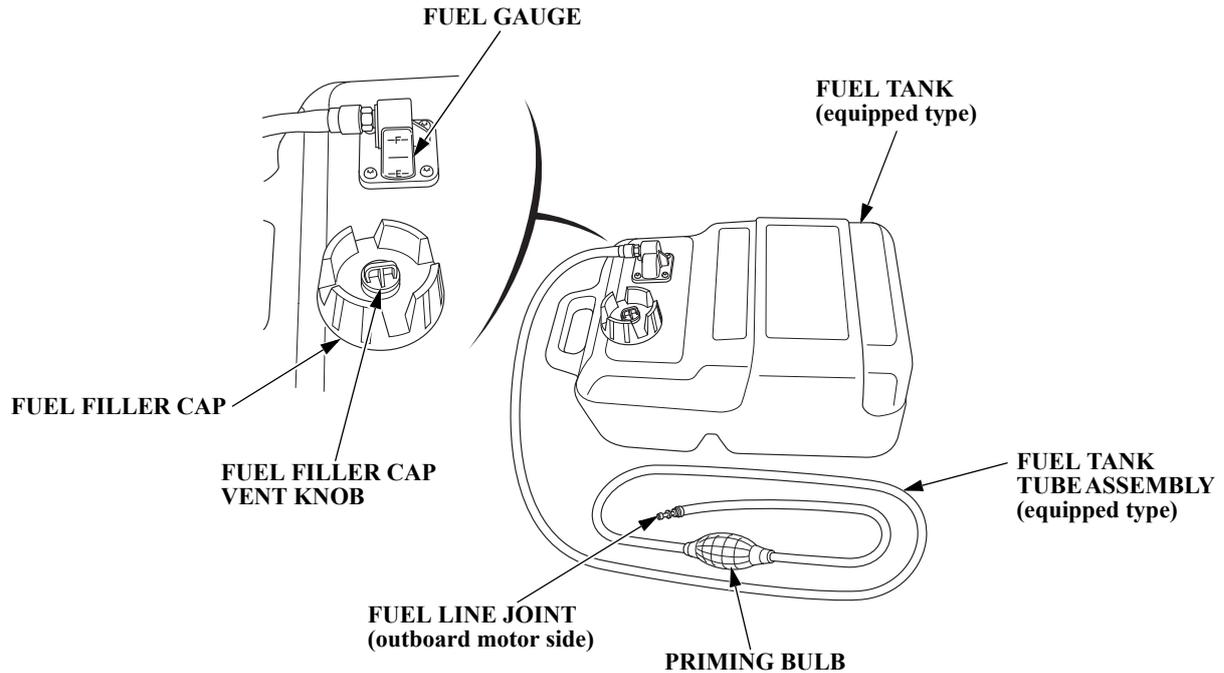
(for TWO OUTBOARD MOTORS type)



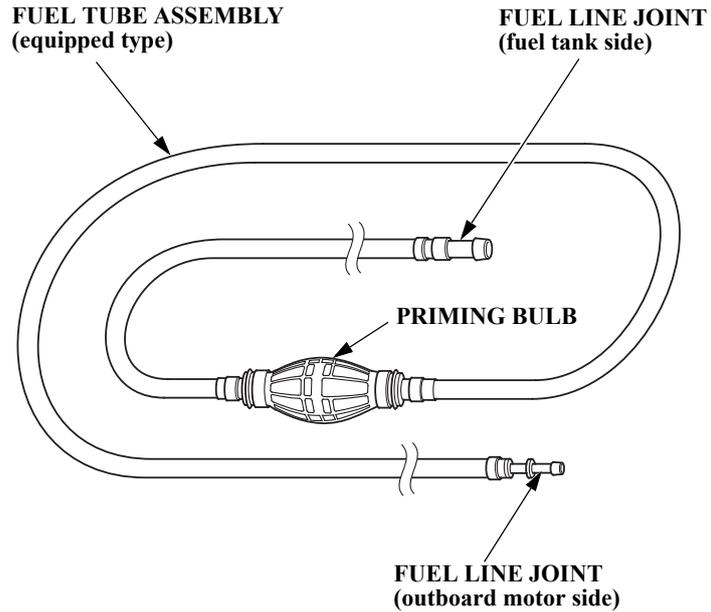
**For the switch panel without indicators type, use it
along with the NMEA2000-compatible device.**

COMPONENT IDENTIFICATION

[Common]

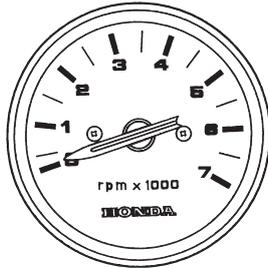


COMPONENT IDENTIFICATION

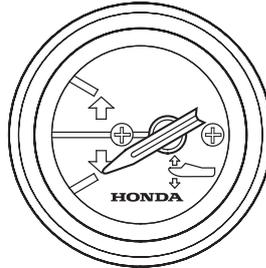


COMPONENT IDENTIFICATION

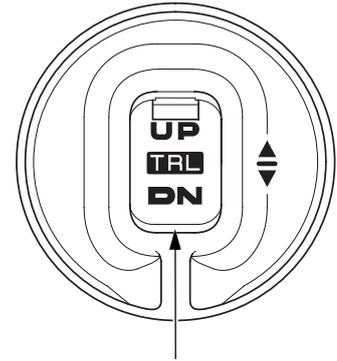
TACHOMETER (Optional equipment)



TRIMMETER (Optional equipment)



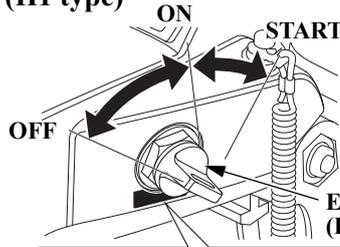
TRL (Trolling) CONTROL SWITCH PANEL (Optional equipment)



TRL (Trolling) CONTROL SWITCH

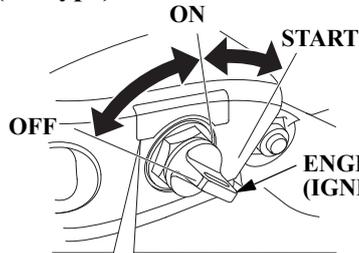
4. CONTROLS AND FEATURES (H type)

Engine Switch (Ignition Switch) (H1 type)

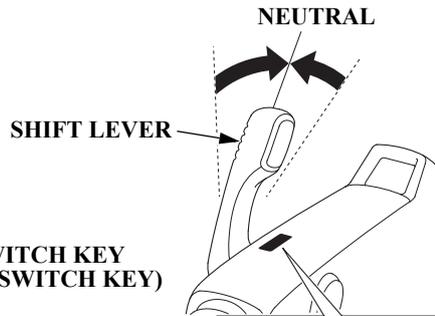


START ON OFF

(H2 type)



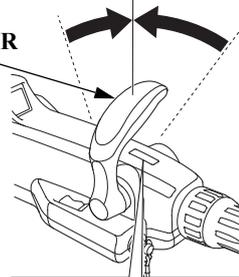
OFF ON START



NEUTRAL

NEUTRAL

SHIFT LEVER



NEUTRAL

This tiller handle is equipped with an automotive type ignition switch.

Key positions:

- START: to start the engine.
- ON: to run the engine after starting.
- OFF: to stop the engine (IGNITION OFF).

NOTICE

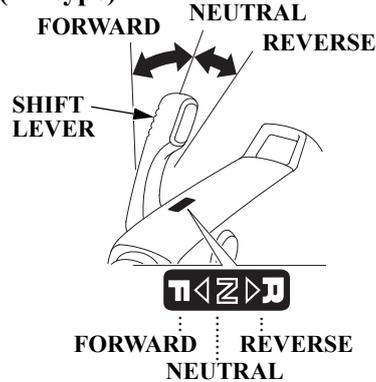
Do not leave the engine switch (ignition switch) ON (key in ON position) when the engine is not running as the battery will discharge.

NOTE:

The starter motor will not work unless the shift lever is in the NEUTRAL position.

CONTROLS AND FEATURES (H type)

Shift Lever (H1 type)



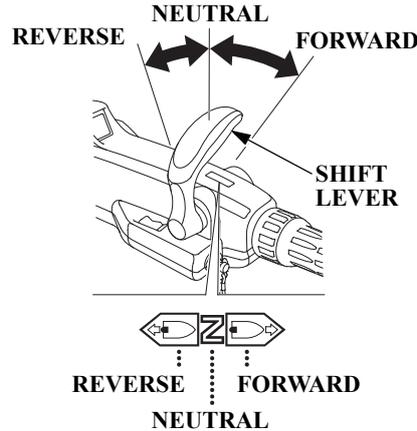
Use the shift lever to run the boat in forward or reverse gear, or to cut off the engine power from the propeller. There are three positions for the shift lever.

FORWARD: The boat moves ahead.

NEUTRAL: The engine power is cut off from the propeller. The boat does not move.

REVERSE: The boat reverses.

(H2 type)

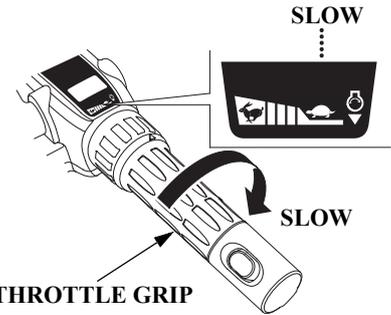


Use the shift lever to run the boat in forward or reverse gear, or to cut off the engine power from the propeller. There are three positions for the shift lever.

FORWARD: The boat moves ahead.

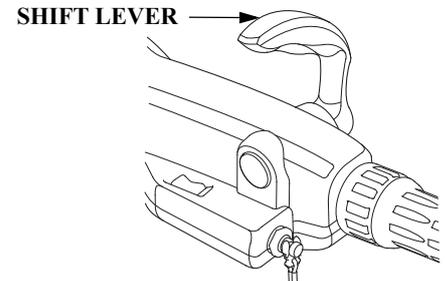
NEUTRAL: The engine power is cut off from the propeller. The boat does not move.

REVERSE: The boat reverses.



NOTE:

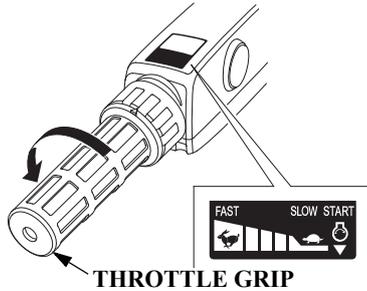
The shift lever will not move unless the throttle grip is in the fully closed position.



You can choose which side to have the shift lever installed. Consult your authorized Honda outboard motor dealer.

CONTROLS AND FEATURES (H type)

Throttle Grip (H1 type)

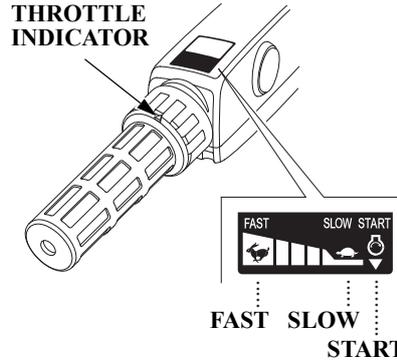


(H2 type)

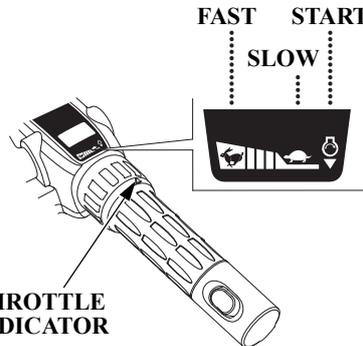


Turn the grip clockwise or counterclockwise to adjust the engine speed. Turning the grip in the direction shown by arrow increases the engine speed.

(H1 type)



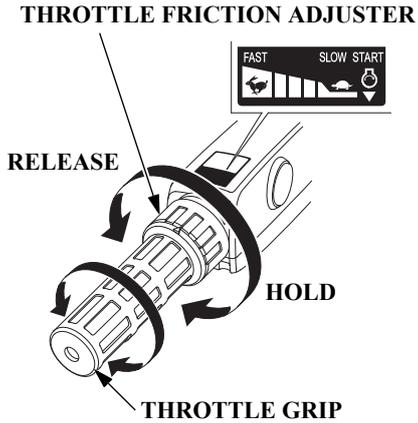
(H2 type)



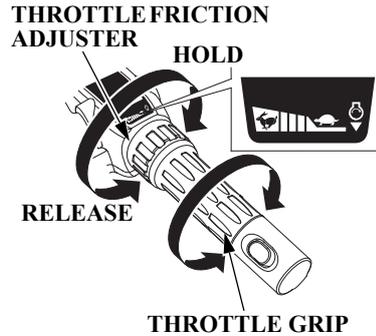
The curve on the grip indicates the engine speed.

CONTROLS AND FEATURES (H type)

Throttle Friction Adjuster (H1 type)



(H2 type)

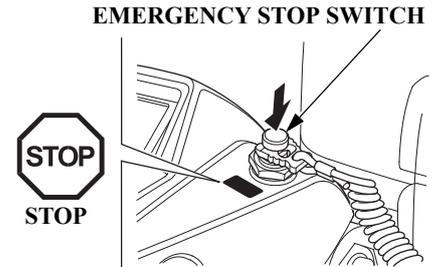


The throttle friction adjuster adjusts resistance to throttle grip rotation.

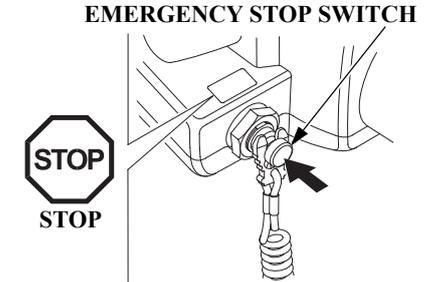
Turn the adjuster clockwise to increase friction for holding a throttle setting while cruising.

Turn the adjuster counterclockwise to decrease friction for easy throttle grip rotation.

Emergency Stop Switch (H1 type)



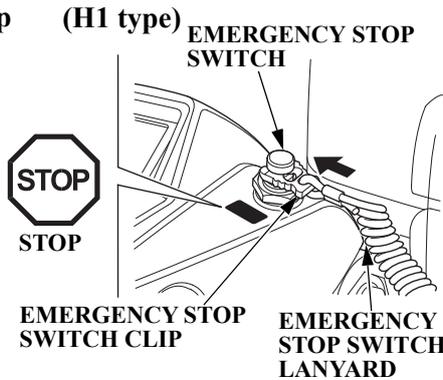
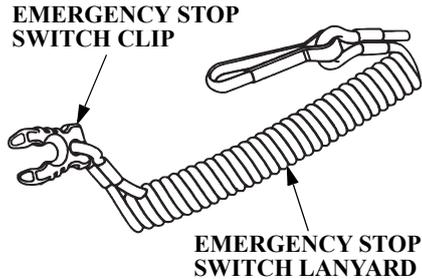
(H2 type)



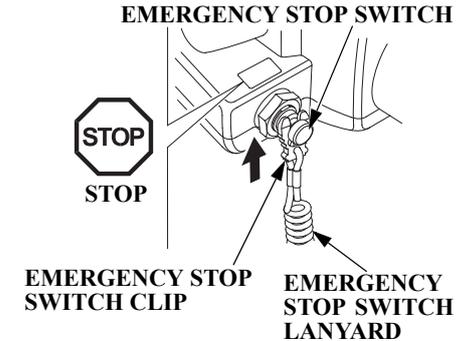
Press the emergency stop switch to stop the engine.

CONTROLS AND FEATURES (H type)

Emergency Stop Switch Lanyard/Clip



(H2 type)



The emergency stop switch lanyard is provided to stop the engine immediately when the operator falls overboard or away from the outboard motor.

The engine stops when the clip at the end of the emergency stop switch lanyard is pulled out of the emergency stop switch.

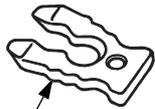
When operating the outboard motor, be sure to attach one end of the emergency stop switch lanyard securely to the operator.

▲WARNING

If the emergency stop switch lanyard is not set, the boat might run out of control when the operator, for example, falls overboard and is not able to operate the outboard motor.

For the sake of the operator's and the passengers' safety, be sure to set the emergency stop switch clip located at one end of the emergency stop switch lanyard with the emergency stop switch. Attach the other end of the emergency stop switch lanyard securely to the operator.

CONTROLS AND FEATURES (H type)



SPARE EMERGENCY STOP SWITCH CLIP

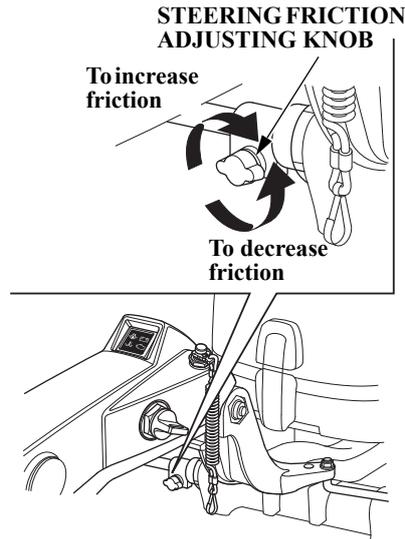
NOTE:

The engine does not start unless the emergency stop switch clip is set on the emergency stop switch.

Store the spare emergency stop switch clip in the tool bag.

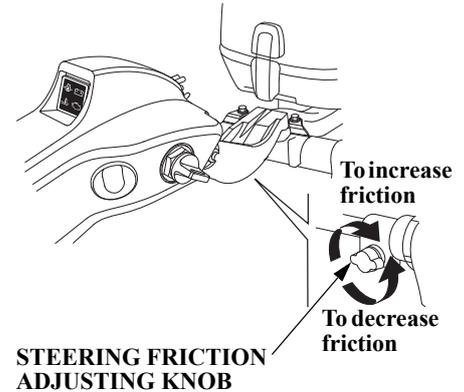
Use the spare emergency stop switch clip to make the disabled engine start when the emergency stop switch lanyard is not available as, for example, when the operator falls overboard.

Steering Friction Adjusting Knob (H1 type)



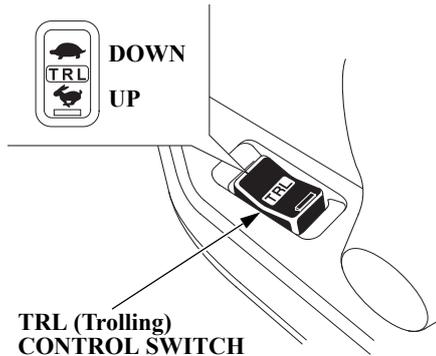
Use the steering friction adjusting knob to adjust the tiller handle friction. Turning it clockwise increases friction and turning it counterclockwise decreases friction.

(H2 type)



CONTROLS AND FEATURES (H type)

TRL (Trolling) Control Switch (H2 type)



The engine speed can be adjusted with the trolling control switch when in trolling mode.

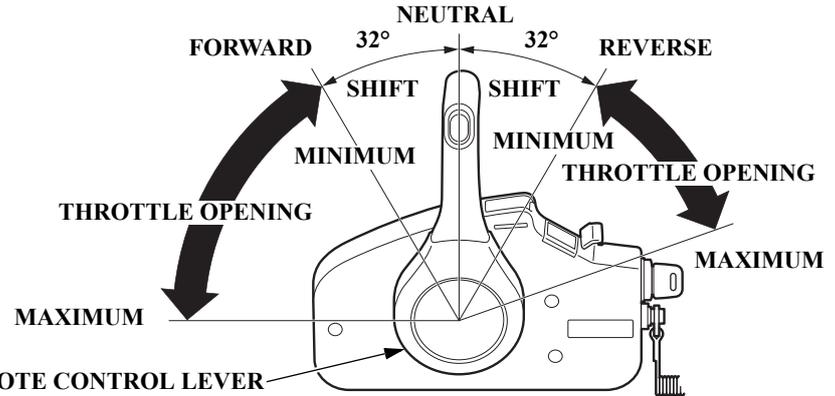
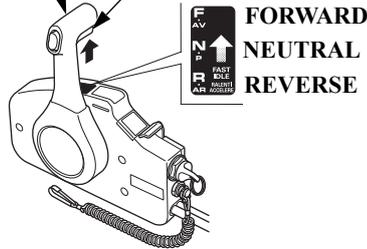
If you press and hold the TRL control switch while cruising with the throttle closed, the mode changes to trolling mode.

CONTROLS AND FEATURES (R type)

Remote Control Lever (R1 type)

REMOTE CONTROL LEVER

NEUTRAL RELEASE LEVER



Shifting gear into forward, reverse, or neutral and the engine speed adjustment can be performed with the remote control lever.

It is necessary to pull up the neutral release lever to operate the remote control lever.

FORWARD:

Moving the lever to the FORWARD position (i.e. approximately 32° from the NEUTRAL position) engages the gear into forward. Moving the lever further from the FORWARD position will increase the throttle opening and the boat forward speed.

NEUTRAL:

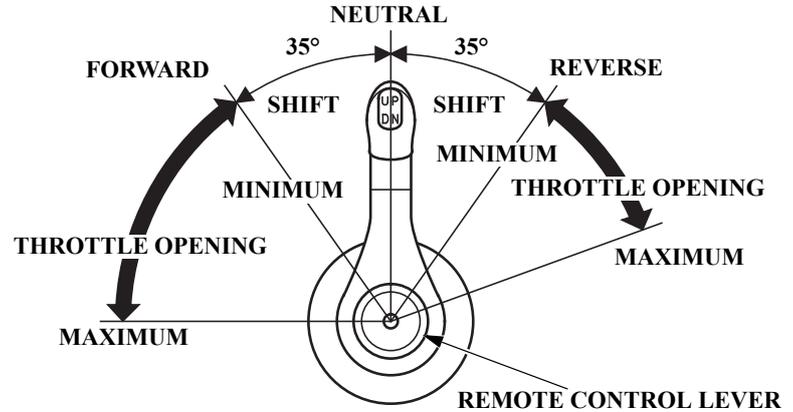
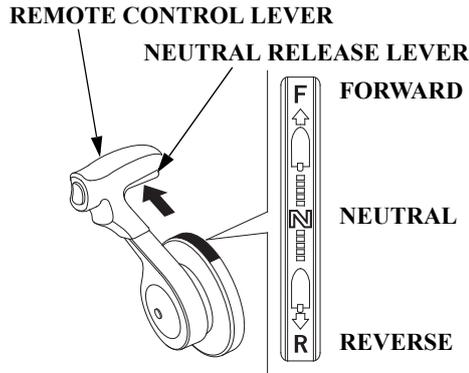
Engine power is cut off from the propeller.

REVERSE:

Moving the lever to the REVERSE position (i.e. approximately 32° from the NEUTRAL position) engages the gear into reverse. Moving the lever further from the REVERSE position will increase the throttle opening and the boat reverse speed.

CONTROLS AND FEATURES (R type)

(R2 type)



Shifting gear into forward, reverse, or neutral and the engine speed adjustment can be performed with the remote control lever.

It is necessary to pull up the neutral release lever to operate the remote control lever.

FORWARD:

Moving the lever to the FORWARD position (i.e. approximately 35° from the NEUTRAL position) engages the gear into forward. Moving the lever further from the FORWARD position will increase the throttle opening and the boat forward speed.

NEUTRAL:

Engine power is cut off from the propeller.

REVERSE:

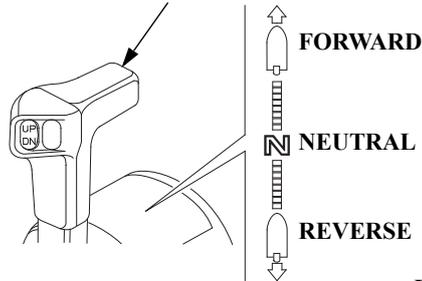
Moving the lever to the REVERSE position (i.e. approximately 35° from the NEUTRAL position) engages the gear into reverse. Moving the lever further from the REVERSE position will increase the throttle opening and the boat reverse speed.

CONTROLS AND FEATURES (R type)

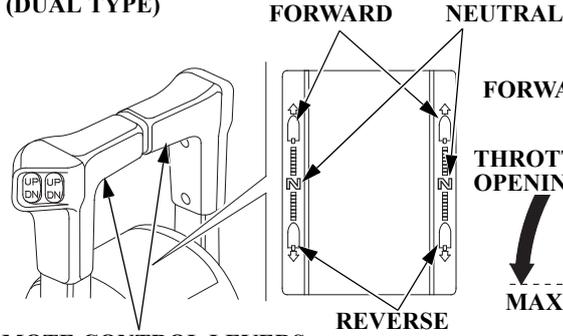
(R3 type)

(SINGLE TYPE)

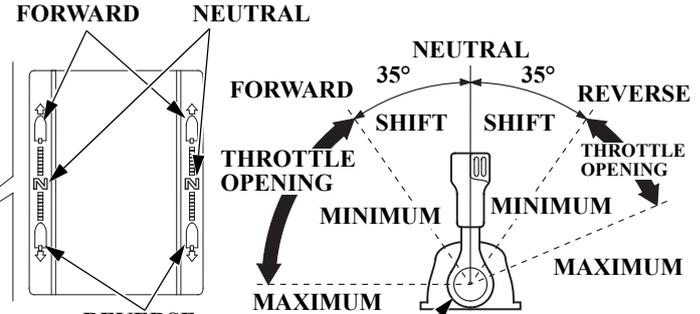
REMOTE CONTROL LEVER



(DUAL TYPE)



REMOTE CONTROL LEVERS



REMOTE CONTROL LEVER

Shifting gear into forward, reverse, or neutral and the engine speed adjustment can be performed with the remote control lever.

FORWARD:

Moving the lever to the FORWARD position (i.e. approximately 35° from the NEUTRAL position) engages the gear into forward. Moving the lever further from the FORWARD position will increase the throttle opening and the boat forward speed.

NEUTRAL:

Engine power is cut off from the propeller.

REVERSE:

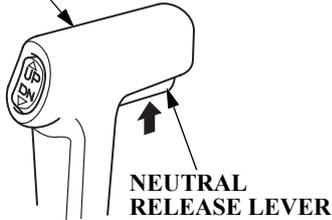
Moving the lever to the REVERSE position (i.e. approximately 35° from the NEUTRAL position) engages the gear into reverse. Moving the lever further from the REVERSE position will increase the throttle opening and the boat reverse speed.

CONTROLS AND FEATURES (R type)

Neutral Release Lever

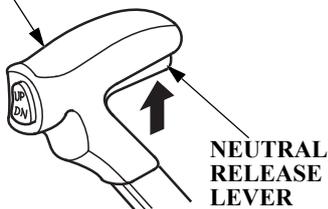
(R1 type)

REMOTE CONTROL LEVER



(R2 type)

REMOTE CONTROL LEVER

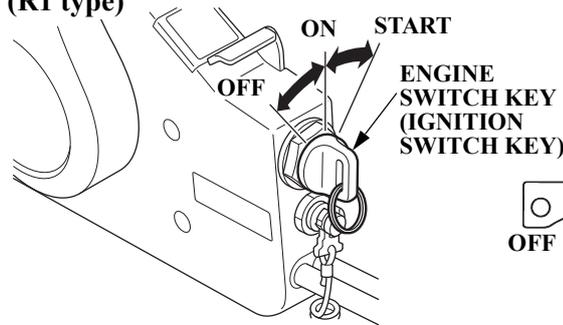


The neutral release lever is set on the remote control lever to prevent an accidental operation of the remote control lever.

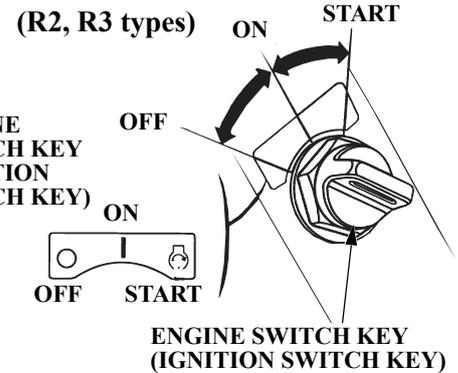
The remote control lever does not operate unless it is moved while pulling the neutral release lever up.

Engine Switch (Ignition Switch)

(R1 type)



(R2, R3 types)



This remote control is equipped with an automotive type ignition switch. On the side-mount type (R1 type), the engine switch locates on your side near the remote control box.

On the panel-mount type (R2 type) and the top-mount type (R3 type), the engine switch locates at the center of the switch panel.

Key positions:

- START: to start the engine.
ON: to run the engine after starting.
OFF: to stop the engine (IGNITION OFF).

NOTICE

Do not leave the engine switch (ignition switch) ON (key in ON position) when the engine is not running as the battery will discharge.

NOTE:

The starter motor will not work unless the remote control lever is in the NEUTRAL position, and the clip is in the emergency stop switch.

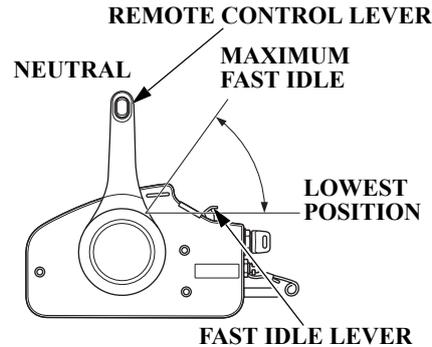
CONTROLS AND FEATURES (R type)

Fast Idle Lever (R1 type)/Fast Idle Button (R2, R3 types)

The fast idle lever/fast idle button is only needed for starting carbureted outboard models. The BF75D, BF80A, BF90D and BF100A models use programmed fuel injection so, this lever will not be needed for starting.

After the engine starts and if the outside temperature is below 5°C (41°F), the fast idle lever/fast idle button can be used to accelerate engine warm up.

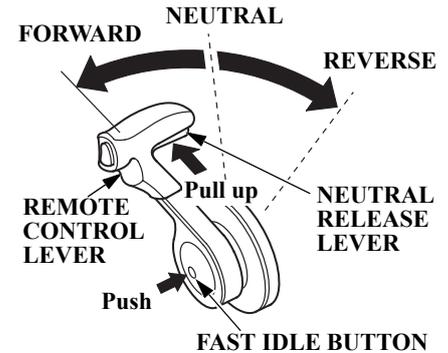
< Fast Idle Lever > (R1 type)



The fast idle lever will not move unless the remote control lever is in the NEUTRAL position. Conversely, the remote control lever will not move unless the fast idle lever is in the lowest position.

Lower the fast idle lever to the lowest position to decrease the fast idle.

<Fast Idle Button > (R2 type)

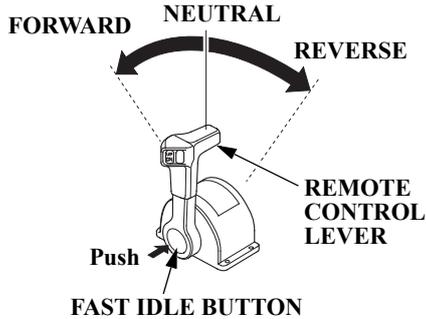


Pushing the fast idle button, turn the remote control lever forward. Keep turning the lever forward. The throttle opens and the engine speed increases after the lever passed the shift point. Note that the gearshift mechanism does not function when the fast idle button is pushed once and then released after the remote control lever is moved.

The control lever does not operate unless the neutral release lever is pulled.

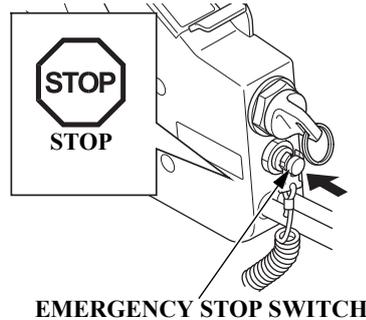
CONTROLS AND FEATURES (R type)

<Fast Idle Button> (R3 type)

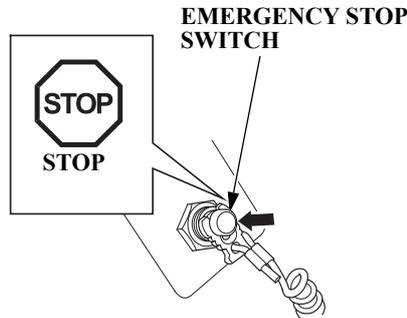


Use the fast idle button and the remote control lever to adjust the engine speed without gearshift when warming up the engine. Pushing the fast idle button, turn the remote control lever forward. Keep turning the lever forward. The throttle opens and the engine speed increases after the lever passed the shift point. Note that the gearshift mechanism does not function when the fast idle button is pushed once and then released after the remote control lever is moved.

Emergency Stop Switch (R1 type)



(R2, R3 types)

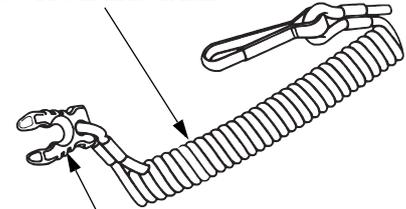


Press the emergency stop switch to stop the engine.

When using the switch panel without indicators type, pull the emergency stop switch clip out of the emergency stop switch (see page 130).

Emergency Stop Switch Lanyard/ Clip

EMERGENCY STOP SWITCH LANYARD



EMERGENCY STOP SWITCH CLIP

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.

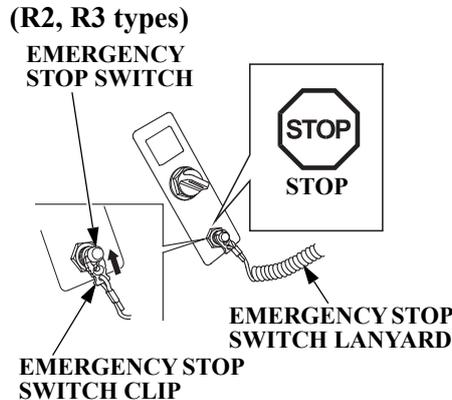
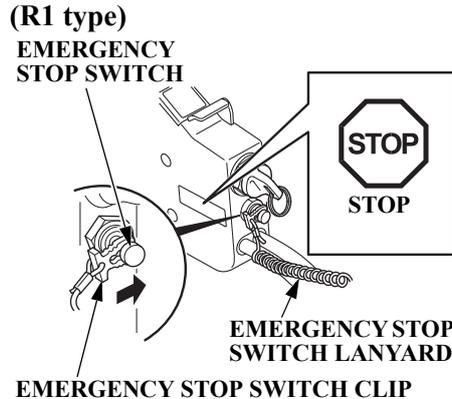
CONTROLS AND FEATURES (R type)

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

▲WARNING

If the emergency stop switch lanyard is not set, the boat might run out of control when the operator, for example, falls overboard and is not able to operate the outboard motor.

For the sake of the operator's and the passenger's safety, be sure to set the emergency stop switch clip located at one end of the emergency stop switch lanyard with the emergency stop switch. Attach the other end of the emergency stop switch lanyard securely to the operator.



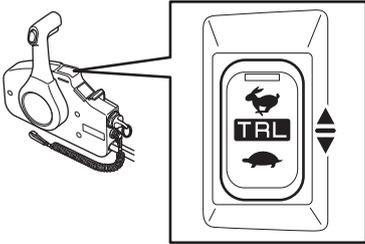
Spare Emergency Stop Switch Clip (optional equipment)



Store the spare emergency stop switch clip in the tool bag.

CONTROLS AND FEATURES (R type)

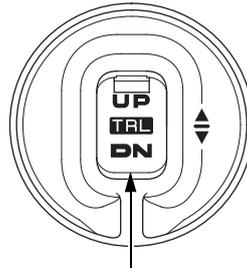
TRL (Trolling) Control Switch



TRL (Trolling) CONTROL SWITCH

Remote Control Box (Side-mount type)

For TRL (Trolling) control switch equipped type.



TRL (Trolling) CONTROL SWITCH

TRL (Trolling) Control Switch Panel (optional equipment)

The engine speed can be adjusted with the trolling control switch when in trolling mode.

If you press and hold the TRL control switch while cruising with the throttle closed, the mode changes to trolling mode.

CONTROLS AND FEATURES (T type)

Power Trim/Tilt Switch

Power Trim

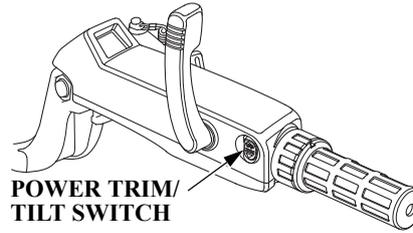
Press the power trim/tilt switch on the tiller handle or on the remote control lever to adjust the outboard motor trim angle of -4° to 16° to maintain proper boat trim. The power trim/tilt switch can be operated while the boat is under way or while stopped.

By using the power trim/tilt switch the operator can change the trim angle of the outboard motor to achieve maximum boat acceleration, speed, stability and maintain optimum fuel consumption.

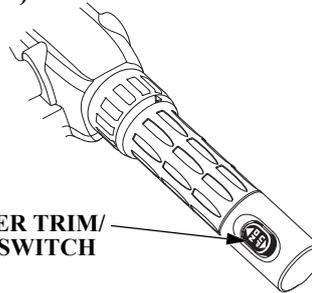
NOTE:

The outboard motor trim angle of -4° to 16° is the angle when the outboard motor is installed on the boat at 12° .

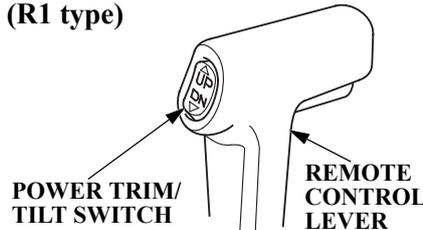
(H1 type)



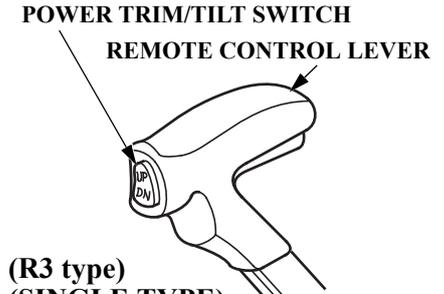
(H2 type)



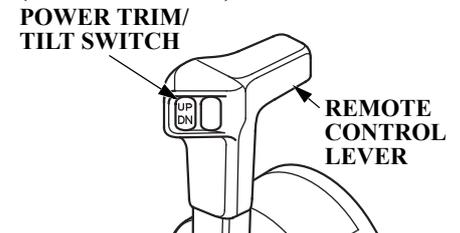
(R1 type)



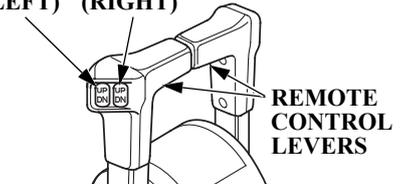
(R2 type)



(R3 type)
(SINGLE TYPE)



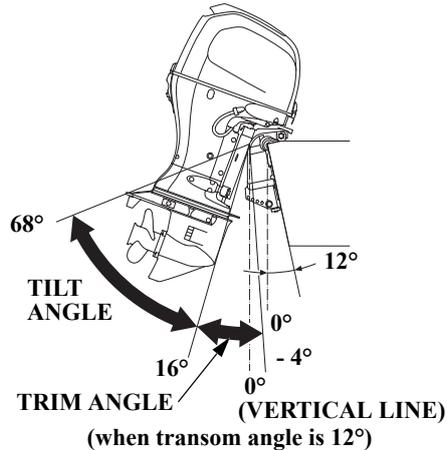
(DUAL TYPE)
POWER TRIM/TILT SWITCH
(LEFT) (RIGHT)



CONTROLS AND FEATURES (T type)

NOTICE

Excessive trim/tilt angle during operation can cause the propeller to raise out of the water and cause propeller ventilation and engine over-revving. Excessive trim/tilt angle can also damage the water pump.

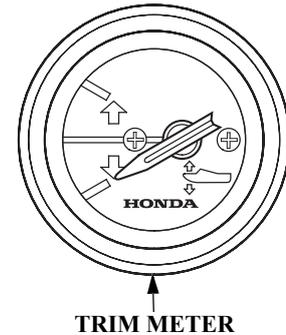


Power Tilt

Press the power trim/tilt switch to adjust the outboard motor tilt angle of 16° to 68°.

By using the power trim/tilt switch the operator can change the tilt angle of the outboard motor for shallow water operation, beaching, launching from a trailer, or mooring. Please tilt up simultaneously, when you mount the dual type outboard motor.

Trim Meter (equipped type or optional equipment)



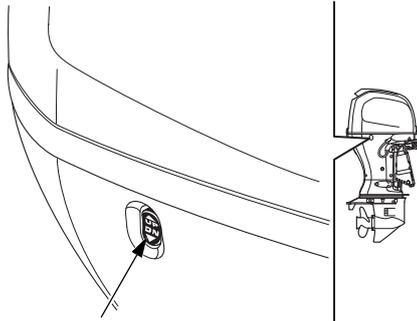
The trim meter has a range of -4° to 16° and indicates the trim angle of the outboard motor. Refer to the trim meter when using the power trim/tilt switch to achieve proper boat performance.

NOTE:

The outboard motor trim angle of -4° to 16° is the angle when the outboard motor is installed on the boat at 12°.

CONTROLS AND FEATURES (T type)

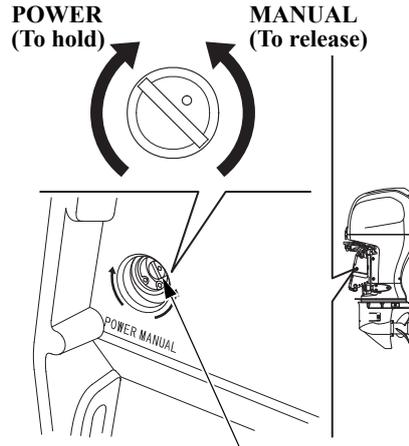
Power Tilt Switch (outboard motor pan)



POWER TILT SWITCH

The power tilt switch located on the outboard motor pan is a convenience switch for tilting the outboard motor for trailering, or performing outboard maintenance. This power tilt switch should only be operated with the boat being stopped and engine off.

Manual Relief Valve



MANUAL RELIEF VALVE

If the power trim/tilt switch will not tilt the outboard motor, the outboard motor can be manually tilted up or down by opening the manual relief valve. To tilt the outboard motor manually, turn the manual relief valve under the left stern bracket no more than 1 or 2 turns counterclockwise using a screwdriver.

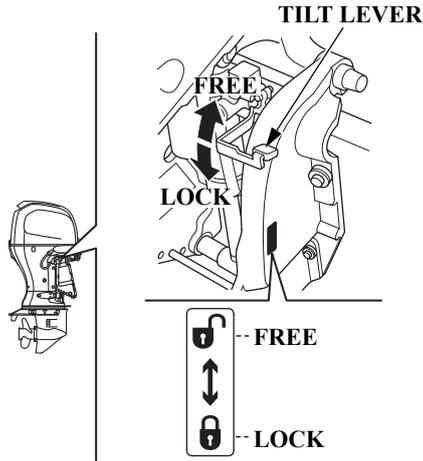
After tilting the outboard motor, turn the manual relief valve clockwise securely.

Check that no person is under the outboard motor before carrying out this operation because if the manual relief valve is loosened (turned counterclockwise) when the outboard motor is tilted up, the outboard motor will suddenly tilt down.

The manual relief valve must be tightened securely before operating the outboard motor or the outboard motor could tilt up when operating in reverse.

CONTROLS AND FEATURES (G type)

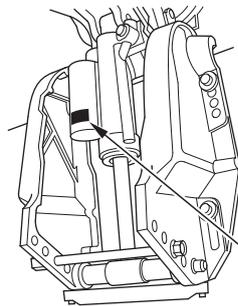
Tilt Lever



Use the tilt lever to temporarily raise the outboard motor when the boat is sailing in the shallows, or mooring or anchoring in the shallows. Raising the tilt lever unlocks the outboard motor and the outboard motor can be tilted. Lowering the tilt lever locks the outboard motor.

▲WARNING

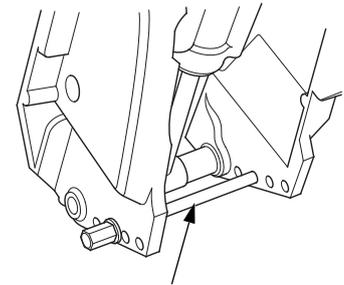
Be sure to lower the tilt lever and lock the outboard motor before sailing. The outboard motor could rise when sailing in the reverse gear, resulting in an accidental injury to the passenger(s).



▲WARNING

Do not disassemble the gas assisted damper assembly as it is filled with the high pressure gas.

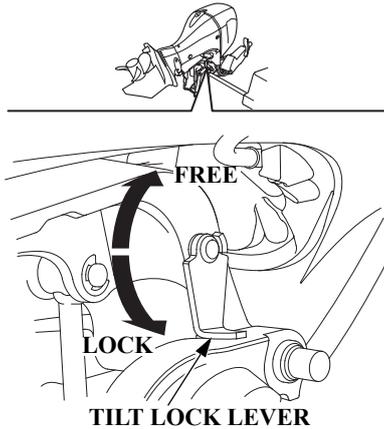
Transom Angle Adjusting Rod



TRANSOM ANGLE ADJUSTING ROD

Use the transom angle adjusting rod to adjust the outboard motor angle properly. The outboard motor angle can be adjusted to the five angles by removing the adjusting rod or changing the adjusting rod position.

Tilt Lock Lever



Use the tilt lock lever to raise the outboard motor and lock it in the position when the boat is moored or anchored for a long time.

Tilt the outboard motor as far as it goes and move the lock lever in the locking direction.

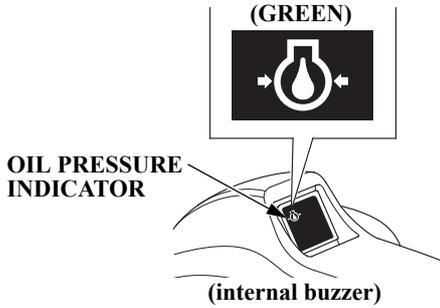
CONTROLS AND FEATURES (Common)

Oil Pressure Indicator/Buzzer

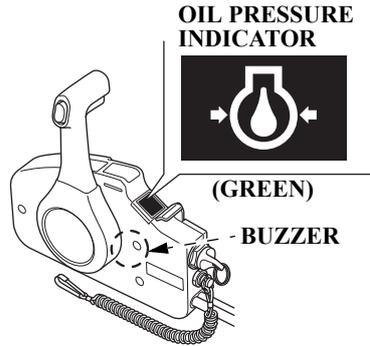
The oil pressure indicator turns off and the buzzer sounds when the oil level is low and/or the engine lubrication system is faulty. The engine speed slows down gradually this time.

If using a panel-mount or top-mount switch panel without indicators, check the indicators displayed on an NMEA2000-compatible device. For information about NMEA2000-compatible device displays, refer to the display device's manual.

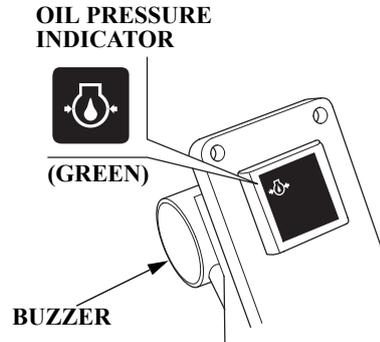
(H type)



(R1 type)

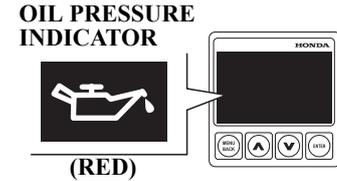


(R2, R3 types)



(optional equipment)

Display assy



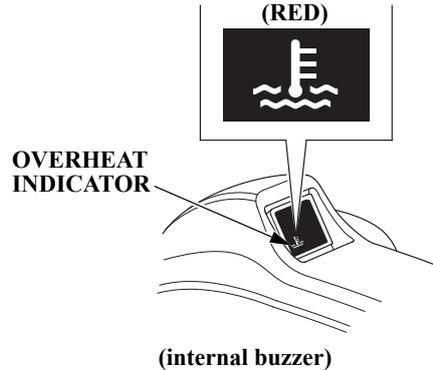
CONTROLS AND FEATURES (Common)

Overheat Indicator/Buzzer

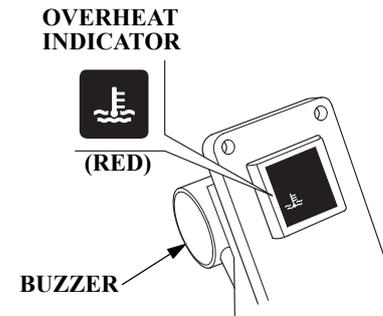
The overheat indicator turns on and the buzzer sounds when the engine cooling circuit is faulty. The engine speed slows down this time.

If using a panel-mount or top-mount switch panel without indicators, check the indicators displayed on an NMEA2000-compatible device. For information about NMEA2000-compatible device displays, refer to the display device's manual.

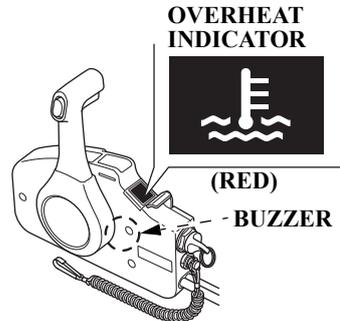
(H type)



(R2, R3 types)

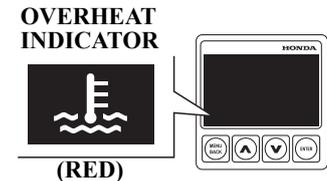


(R1 type)



(optional equipment)

Display assy



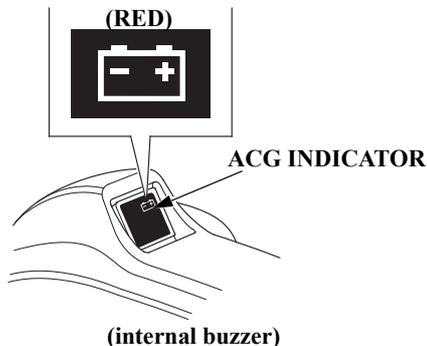
CONTROLS AND FEATURES (Common)

ACG Indicator/Buzzer

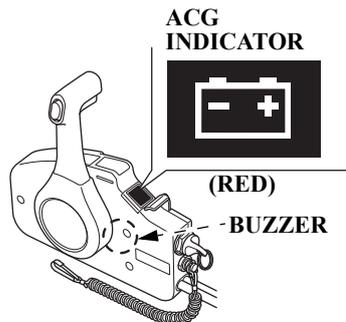
The ACG indicator turns on and the buzzer sounds when the charging system is faulty.

If using a panel-mount or top-mount switch panel without indicators, check the indicators displayed on an NMEA2000-compatible device. For information about NMEA2000-compatible device displays, refer to the display device's manual.

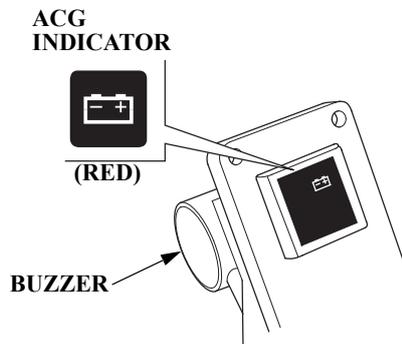
(H type)



(R1 type)

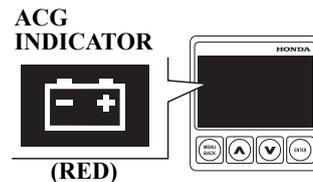


(R2, R3 types)



(optional equipment)

Display assy



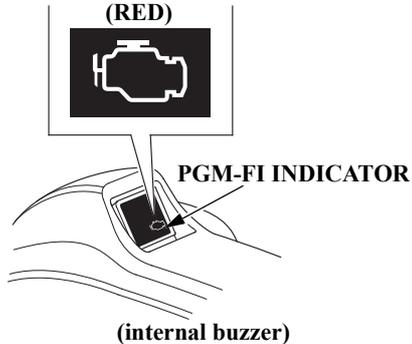
CONTROLS AND FEATURES (Common)

PGM-FI Indicator/Buzzer

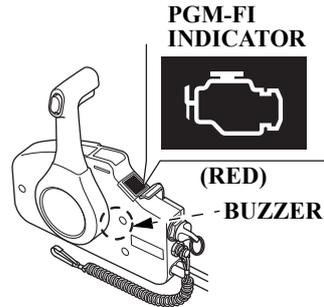
The PGM-FI indicator turns on and the buzzer sounds when the engine control system is faulty.

If using a panel-mount or top-mount switch panel without indicators, check the indicators displayed on an NMEA2000-compatible device. For information about NMEA2000-compatible device displays, refer to the display device's manual.

(H type)

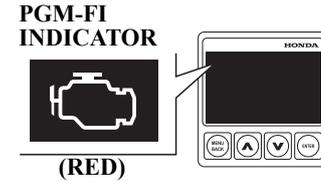


(R1 type)

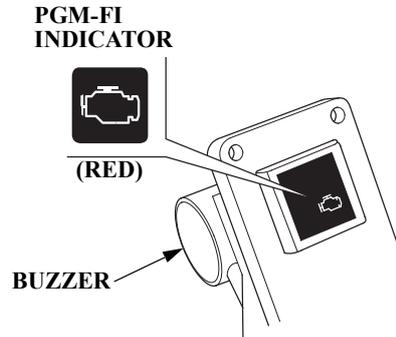


(optional equipment)

Display assy



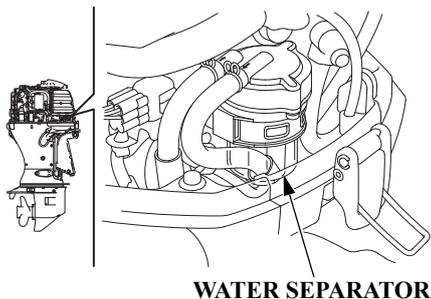
(R2, R3 types)



CONTROLS AND FEATURES (Common)

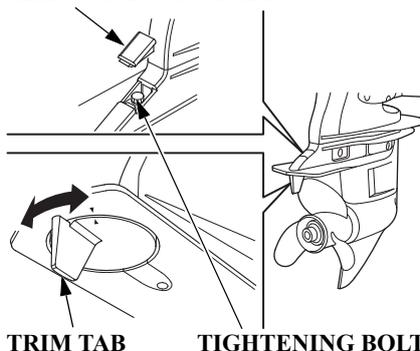
Water Separator Buzzer

The water separator buzzer sounds when water has accumulated in the water separator.



Trim Tab

GEAR CASE GROMMET

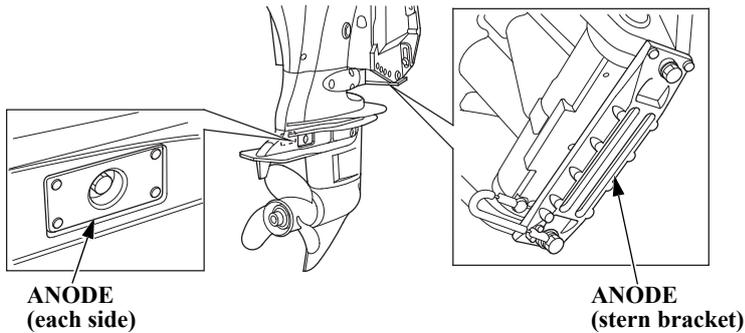


If the steering wheel/handle is pulled to the side while running at full speed, adjust the trim tab so that the boat runs straight ahead.

Remove the gear case grommet. Loosen the tightening bolt and turn the trim tab right or left to adjust (see page 122).

CONTROLS AND FEATURES (Common)

Anode



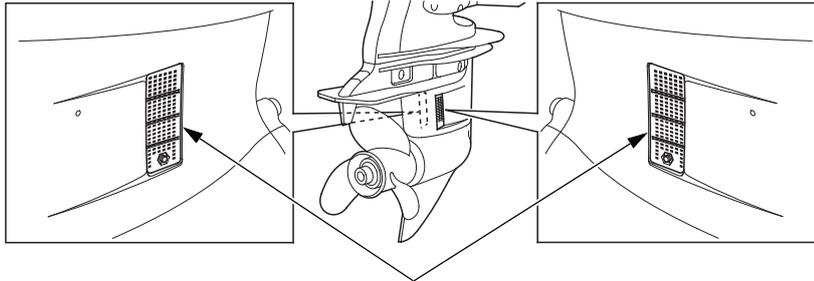
The anode metal is a sacrificed metal which protects the outboard motor from corrosion.

NOTICE

Do not paint the anode. It deteriorates the function of the anode metal, which can lead to rust and corrosion damage to the outboard motor.

CONTROLS AND FEATURES (Common)

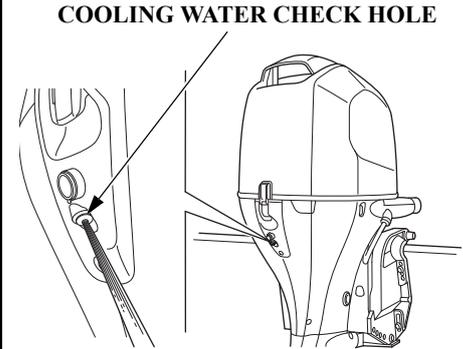
Cooling Water Intake Port



COOLING WATER INTAKE PORT
(each side)

The engine cooling water is drawn into the engine through this port.

Cooling Water Check Hole



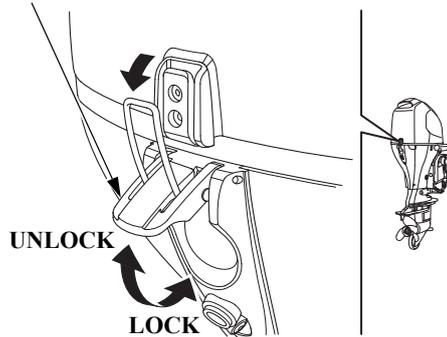
The cooling water is checked here to see whether it is circulating inside the engine properly.

After starting the engine, check at the cooling water check hole whether the cooling water is circulating through the engine.

CONTROLS AND FEATURES (Common)

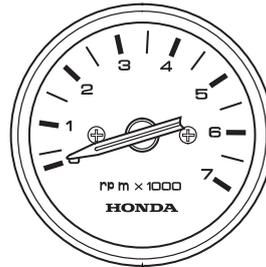
Engine Cover Fixing Lever (Front/Rear)

ENGINE COVER
FIXING LEVER
(front/rear)



Latch/unlatch the engine cover fixing lever to install or remove the engine cover.

Tachometer (equipped type or optional equipment)

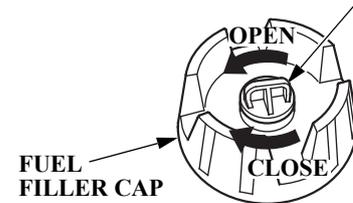


TACHOMETER

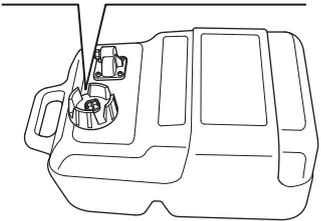
The tachometer shows the engine speed in revolutions per minute.

Fuel Filler Cap (equipped type) (with vent knob)

FUEL FILLER CAP VENT KNOB



FUEL FILLER CAP

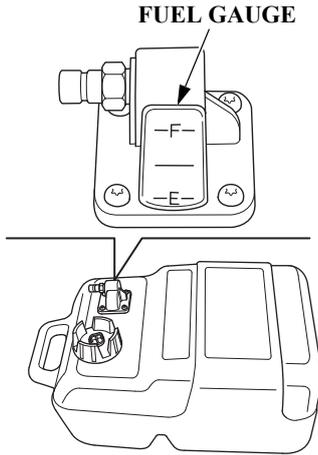


The fuel filler cap vent knob controls air entering and leaving the fuel tank.

When refilling the fuel tank, turn the vent knob counterclockwise to open and remove the fuel filler cap. Turn the vent knob clockwise and close it securely before transporting or storing the fuel tank.

CONTROLS AND FEATURES (Common)

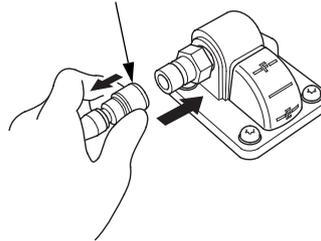
Fuel Gauge



The fuel gauge indicates the fuel level in the tank.

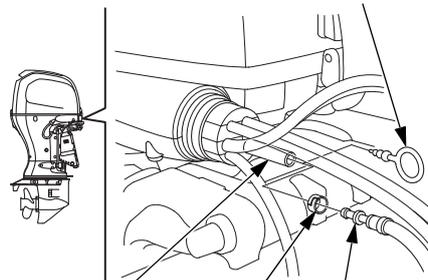
Fuel Line Connector And Joint (equipped type)

FUEL LINE CONNECTOR



(fuel tank side)

HOSE PLUG



FUEL HOSE

HOSE CLAMP

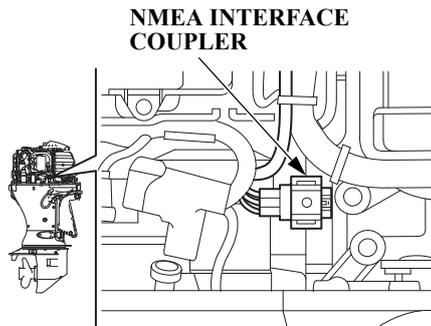
FUEL LINE JOINT

(outboard motor side)

The fuel line connector and joint are used to connect the fuel line between the fuel tank and the separate outboard motor.

CONTROLS AND FEATURES (Common)

NMEA Interface Coupler



The NMEA2000 interface coupler can provide information regarding engine speed, fuel consumption, and various warnings to an existing NMEA2000 network via an optional interface cable. Contact your dealer for more information.

Operating Hour Notification System

This outboard motor engine counts the number of operating hours since the last periodic maintenance. When the next periodic maintenance is due, the engine notifies the NMEA2000 network, and a maintenance indication is displayed on an NMEA2000-compatible device.

After periodic maintenance is performed, reset the hour counter by:

1. Stopping the engine.
2. Setting the gearshift at F or R.
3. Turning the ignition switch ON.
The buzzer will sound once.
4. Pressing the emergency stop switch 5 times within 20 seconds.

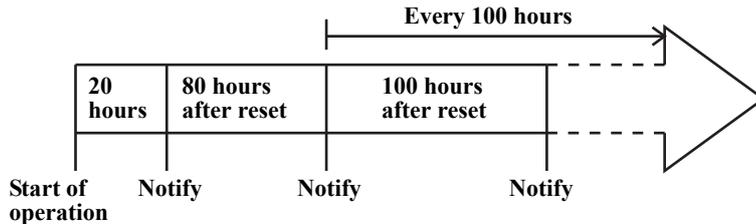
When using the switch panel without indicators type, within 20 seconds, pull and insert the emergency stop switch clip, or remove the clip and pull the emergency stop switch 5 times.

The buzzer will sound once when the hour counter is reset.

Periodic maintenance is required when either the operating hours or the time since last maintenance reaches the prescribed limit. Therefore, periodic maintenance may be required based on the number of months since the last maintenance before the alert based on engine operating hours displays (see Maintenance Schedule on page 140). Reset the hour counter whenever maintenance is performed, whether based on the time interval or the number of operating hours.

CONTROLS AND FEATURES (Common)

<Operating hour notification timing>



NMEA2000-compatible display:

- Follow instructions for the display.
- If the display allows selection of notification to be preset, select “Notify” (or equivalent).
- Turn on the power supply to the display before turning on the ignition switch of the outboard motor.
- The indication may differ, depending on the type of display.

<Display>

Steps	1	2	3	4
Outboard motor	—	Ignition switch ON	Start engine	Gear at F or R
Display	Switch ON	—	—	—
Maintenance indication on display	Not shown Maintenance indication	Shown Maintenance indication	Shown Maintenance indication	Not shown Maintenance indication

CONTROLS AND FEATURES (Common)

When “Periodic Maintenance” is indicated:

1. Have the periodic maintenance performed without delay after returning to port.
2. Reset the hour counter.

If not reset, the maintenance indication will remain in the display, and the hour count until the next maintenance will be in error.

When the periodic maintenance is conducted before “Periodic Maintenance” is indicated, reset the hour counter.

If not reset, the hour count until the next maintenance will be in error.

How to reset the Hour Counter

1. Be sure to turn OFF the engine before beginning the reset procedure. Pull the emergency stop switch clip out of the emergency stop switch by pulling the emergency stop switch lanyard.
2. Put the shift lever in “F” (Forward) or “R” (Reverse).
3. Turn the ignition switch ON. Do not start the engine. The buzzer will sound once.
4. Press the emergency stop switch 5 times within 20 seconds.
When using the switch panel without indicators type, within 20 seconds, pull and insert the emergency stop switch clip, or remove the clip and pull the emergency stop switch 5 times. The buzzer will sound once indicating the hour counter is reset.

5. INSTALLATION

NOTICE

Improperly installed outboard motor can result in the outboard motor dropped into the water, boat not able to cruise straight ahead, engine speed not increase, and much fuel consumption.

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.

Applicable Boat

Select the boat suitable for the engine power.

Engine power:

BF75D : 55.2 kW (75 PS)

BF80A : 58.8 kW (80 PS)

BF90D : 66.2 kW (90 PS)

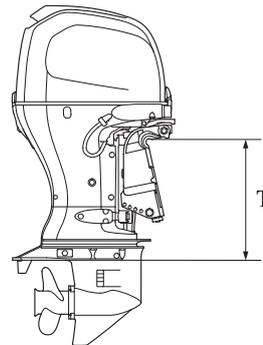
BF100A: 73.6 kW (100 PS)

Power recommendation is indicated on most of the boats.

▲WARNING

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

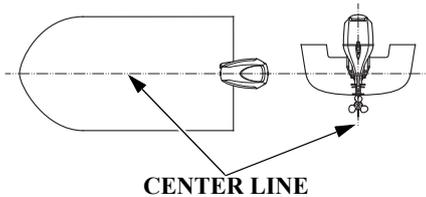
Transom Height



Type:	T (Outboard Motor Transom Height) <when transom angle is 12°>
L:	537 mm (21.1 in)
X:	664 mm (26.1 in)

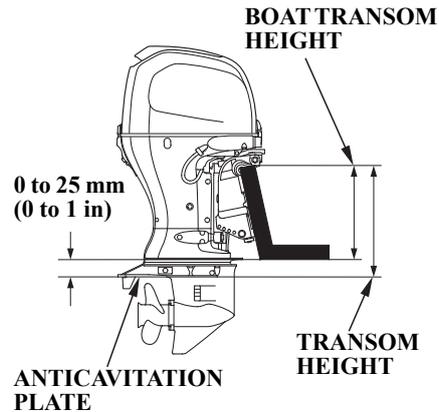
Select the outboard motor which is correct for the boat transom height of your boat.

Location



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

Installation Height



The anticavitation plate of the outboard motor should be 0 to 25 mm (0 to 1 in) below the bottom of the boat.

The correct dimensions differ according to the type of the boats and the configuration of the bottom of the boats. Follow the manufacture's recommended installation height.

NOTICE

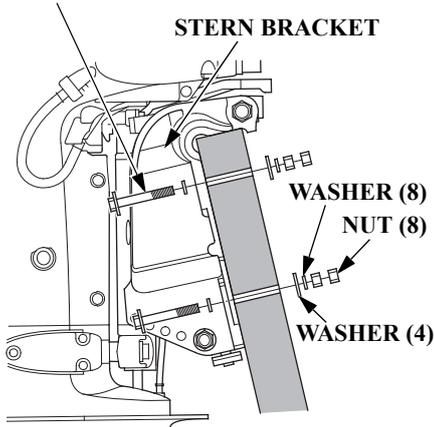
- The water level must be at least 100 mm (4 in) above the anticavitation plate, otherwise the water pump may not receive sufficient cooling water, and the engine will overheat.

INSTALLATION

Outboard Motor Installation

BOLT (12 × 119 mm) (4)

STERN BRACKET



1. Apply the silicone sealant (Three Bond 1216 or equivalent) to the outboard motor mounting holes.
2. Set the outboard motor on the boat and secure with the bolts, washers, and nuts.

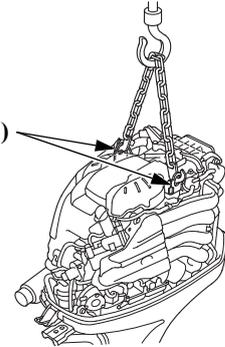
NOTE:

Standard torque:

55 N·m (5.6 kgf·m, 41 lbf·ft)

The standard torque is given just as a guideline. Torque of the nut can be different according to the material of the boat. Consult with an authorized Honda outboard motor dealer.

ENGINE HANGER (2)



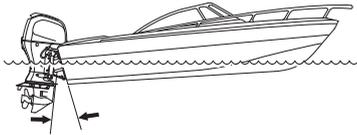
CAUTION

Install the outboard motor securely. Loosely mounted outboard motor can result in accidental loss of the outboard motor and damage and injury to the equipment and personnel.

Before installing the outboard motor on the boat, hang the outboard motor with the hoist or equivalent device by attaching the two engine hangers to the outboard.

Use the hoist which allowable load is 250 kg (551 lbs) or above.

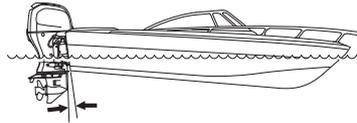
Outboard Motor Angle Inspection (Cruising)



**INCORRECT
CAUSES BOAT TO “SQUAT”**

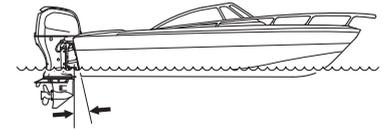
Install the outboard motor at the best trim angle for stable cruising and maximum power.

Trim angle too large: Incorrect causes boat to “squat.”



**INCORRECT
CAUSES BOAT TO “PLOW”**

Trim angle too small: Incorrect causes boat to “plow.”



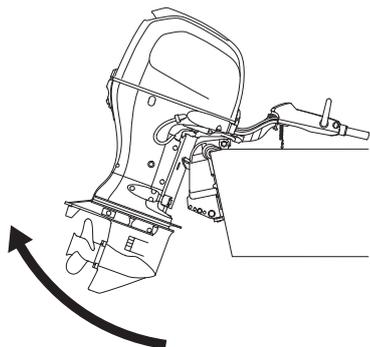
**CORRECT
GIVES MAXIMUM PERFORMANCE**

The trim angle differs according to the combination of the boat, outboard motor, and propeller, and the operating conditions.

Adjust the outboard motor so that it is perpendicular to the water surface (i.e. axis of the propeller is parallel with the water surface).

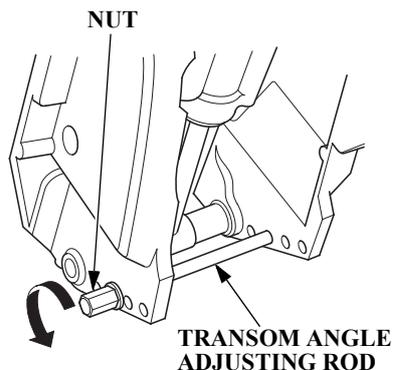
INSTALLATION

<Outboard Motor Angle Adjustment> (G type)

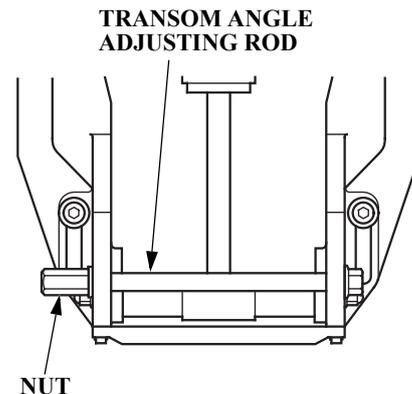


There are five adjusting stages.

1. Tilt the outboard motor to the designated tilt angle.



2. Remove the transom angle adjusting rod by turning it counterclockwise.



3. Inserting the transom angle adjusting rod in the proper hole, tighten it securely by turning it clockwise. After installing the adjusting rod, pull it and be sure it is not withdrawn.

NOTICE

To prevent damage to the motor or boat, make sure the adjusting rod is installed securely.

Battery Connections

Use a battery which has CCA (COLD CRANKING AMPERES) 582 A at -18°C (0°F) and a reserve capacity 229 minutes (12V 55Ah/5HR or 12V 65Ah/20HR) or more specifications.

The battery is an optional part (i.e. part to be purchased separately from the outboard motor).

▲WARNING

Batteries produce explosive gases: If ignited, an explosion can cause serious injury or blindness. Provide adequate ventilation when charging.

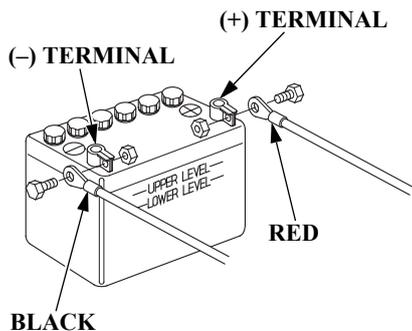
- **CHEMICAL HAZARD: Battery electrolyte contains sulfuric acid. Contact with eyes or skin, even through clothing, may cause severe burns. Wear a faceshield and protective clothing.**
- **Keep flames and sparks away, and do not smoke in the area. ANTIDOTE: If electrolyte gets into your eyes, flush thoroughly with warm water for at least 15 minutes and call a physician immediately.**

- **POISON: Electrolyte is poison. ANTIDOTE:**
 - **External: Flush thoroughly with water.**
 - **Internal: Drink large quantities of water or milk. Follow with milk of magnesia or vegetable oil, and call a physician immediately.**
- **KEEP OUT OF REACH OF CHILDREN.**

To protect the battery from mechanical damage and to prevent the battery from falling or tipping over, the battery must be:

- Installed in the correct size corrosion-resistant battery box.
- Properly secured in the boat.
- Secured in a location free from direct sunlight and water spray.
- Secured away from the fuel tank to avoid potential sparks near the fuel tank.

INSTALLATION



Connect the battery cables:

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

NOTE:

When more than one outboard motor is mounted on a boat, connect a battery to each respective outboard motors.

NOTICE

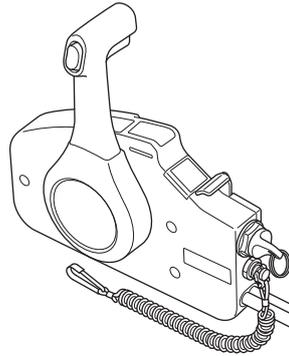
- Be sure to connect the (+) side battery cable first. When disconnecting the cables, disconnect the (-) side first then the (+) side.
 - Unless the cables are properly connected to the terminals, the starter motor may fail to operate normally.
 - Be careful to avoid connecting the battery in reverse polarity, as this will damage the battery-charging system in the outboard motor.
 - Do not disconnect the battery cables while the engine is running. Disconnecting the cables while the engine is running, will damage the outboard motor's electrical system.
 - Do not place the fuel tank near the battery.
- **Battery cable extension:** Extending the original battery cable will cause the battery voltage to drop due to the increased length of the cable and number of connections. This voltage drop may cause the buzzer to sound momentarily when engaging the starter motor and may prevent the outboard from starting. If the outboard starts and the buzzer sounds momentarily, there may be barely sufficient voltage reaching the engine.

Remote Control Installation (equipped type or optional equipment)

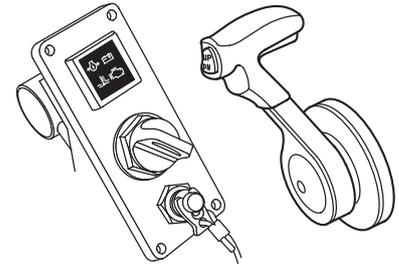
NOTICE

Improperly installed steering system, remote control box, and remote control cable, or installing those of the different types could cause unpredictable accident. Consult an authorized Honda outboard motor dealer for proper installation.

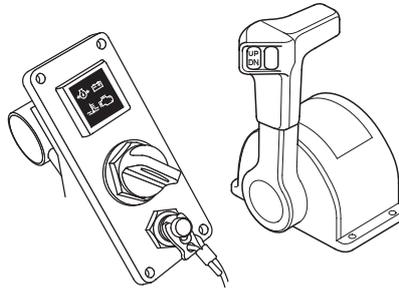
The control box is available in three types as shown. Select the most suitable control box for your outboard motor considering the installation position, operationability, etc. of the control box. See your outboard motor dealer for further information.



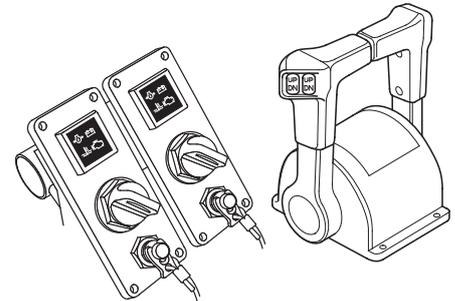
SIDE-MOUNT TYPE CONTROL BOX



**TOP-MOUNT TYPE CONTROL BOX AND SWITCH PANEL
(FOR SINGLE OUTBOARD MOTOR TYPE)**



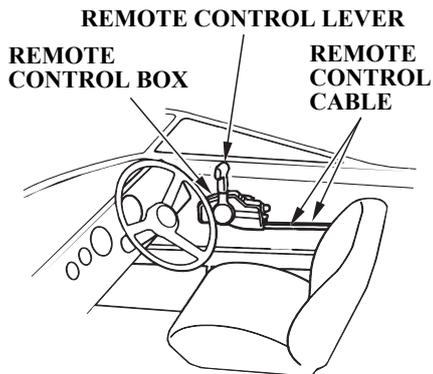
PANEL-MOUNT TYPE CONTROL BOX AND SWITCH PANEL



**TOP-MOUNT TYPE CONTROL BOX AND SWITCH PANEL
(FOR DUAL OUTBOARD MOTOR TYPE)**

INSTALLATION

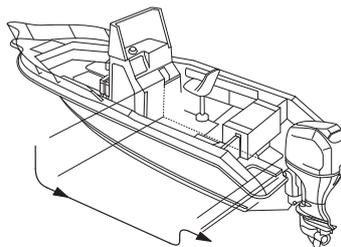
<Remote Control Box Location>



Install the remote control box in the position where is easy to operate the remote control lever and switches. Be sure that there are no obstacles on the route of the control cable.

The control box position of the R2 type and the R3 type should be determined in the same manner.

<Remote Control Cable Length>



Measure the distance from the control box to the outboard motor along the cable routing.

Recommended cable length is 300 – 450 mm (11.8 – 17.7 in) longer than the measured distance.

Set the cable along the predetermined route and be sure that it is long enough to the route.

Connect the cable to the engine and be sure it is not kinked, bent sharp, pulled taut, or interfered while steering.

NOTICE

Do not bend the remote control cable as sharp as its route diameter is 300 mm (11.8 in) or less, or it affects the service life of the cable and the remote control lever operation.

Propeller Selection

Select the adequate propeller so that the engine speed at full throttle is as follows when the boat is loaded.

Model	Engine speed (min^{-1} (rpm))
BF75D	5,000 to 6,000
BF80A	5,000 to 6,000
BF90D	5,300 to 6,300
BF100A	5,500 to 6,300

Engine speed varies according to the propeller size and the boat condition. Use of the outboard motor outside the full throttle speed range will adversely affect the engine and cause serious problem. Use of the correct propeller assures powerful acceleration, top speed, excellency in terms of economy and cruising comfort, and it assures longer engine life as well.

Consult with your authorized Honda outboard motor dealer for proper propeller selection.

6. PRE-OPERATION CHECKS

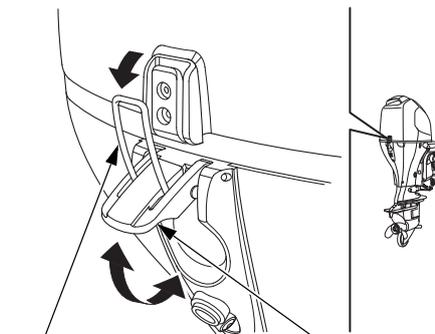
BF75D/80A/90D/100A is 4-stroke, water cooled outboard motor which uses unleaded gasoline for fuel (see page 69). It also requires the engine oil. Check the following before operating the outboard motor.

▲ CAUTION

Perform the following pre-operation checks with the engine stopped.

Before each use, look around and underneath the engine for signs of oil or gasoline leaks.

Engine Cover Removal/Installation



LATCH
(front/rear)

ENGINE COVER
FIXING LEVER
(front/rear)

- To remove, raise the front and rear engine cover fixing levers and remove the engine cover.
- To install, set the engine cover, hook the front and rear latches, and push down the front and rear engine cover fixing levers.

▲ WARNING

Do not operate the outboard motor without the engine cover. Exposed moving parts can cause injury.

Engine Oil

NOTICE

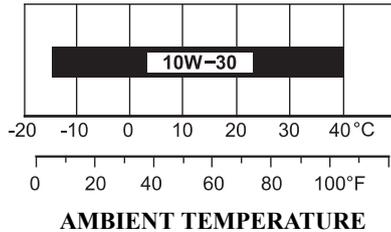
- Engine oil is a major factor affecting engine performance and service life. Nondetergent and low quality oils are not recommended, because they have inadequate lubricating properties.
- Running the engine with insufficient oil can cause serious engine damage.

<Recommended oil>

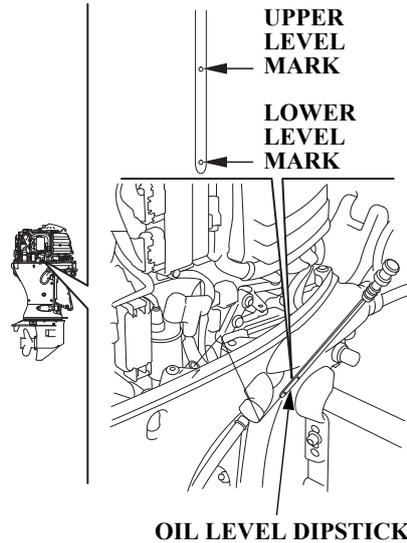
Use Honda 4-stroke oil or an equivalent high detergent, premium quality motor oil certified to meet or exceed U.S. automobile manufacturer's requirements for API Service category SG, SH, SJ or SL. Motor oils classified SG, SH, SJ or SL will show this designation on the container.

PRE-OPERATION CHECKS

SAE 10W-30 is recommended for general use.



<Inspection and Refilling>



1. Position the outboard motor vertically, and remove the engine cover.
2. Remove the oil level dipstick and wipe with a clean rag.
3. Reinsert the dipstick all the way in, and 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 and install the dipstick securely. Do not overtighten.

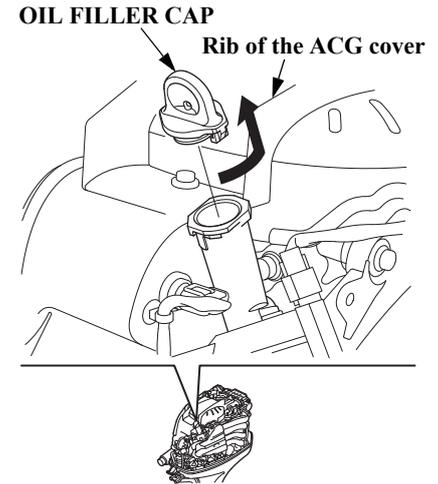
When the engine oil is contaminated or discolored, replace with the fresh engine oil (see page 142 for replacement interval and procedure).

PRE-OPERATION CHECKS

When you check the oil level with the dipstick, you might notice the engine oil appears milky or the oil level has increased. If you notice either condition, change the engine oil. See the following table for an explanation of these conditions.

Operating Method	Result	Effect
Running the engine below 3,000 rpm for more than 30% of the time so the engine does not warm up.	<ul style="list-style-type: none">Water condenses in the engine and mixes with the oil, resulting in a milky appearance.	The engine oil deteriorates, becomes less efficient as a lubricant, and causes an engine malfunction.
Frequent starting and stopping without allowing the engine to warm up.	<ul style="list-style-type: none">Unburned fuel mixes with the oil, increasing the volume of oil.	

Oil filler cap removal (Unlock):



- 1) Turn the oil filler cap 90° counterclockwise so the lug of the cap sets horizontally.
- 2) Pull the cap to remove it.

PRE-OPERATION CHECKS

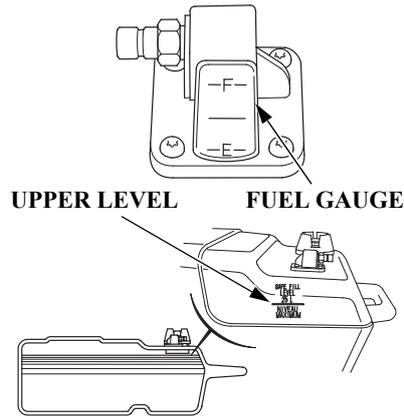
Oil filler cap installation (Lock):

- 1) Insert the oil filler cap into the oil filler port with the lug being set horizontally.
 - 2) Turn the oil filler cap 90° clockwise so the lug of the cap is in line with the rib of the ACG cover. (It should click.)
4. Install the engine cover and lock it securely.

NOTICE

**Do not overfill the engine oil.
Check the engine oil after refilling.
Excessive engine oil as well as the
insufficient oil could cause damage
to the engine.**

Fuel (Fuel Tank equipped type)



Check the fuel gauge and refill the tank to the upper level mark if necessary. Do not fill the fuel tank above the UPPER level mark.

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.

Fuel tank capacity (separate tank):
25 L (6.6 US gal, 5.5 Imp gal)

(Using the fuel tank mounted on the boat)

Check the fuel level and refill if necessary. Do not fill the fuel tank above the UPPER LIMIT. Refer to the boat manufacturer's instructions.

Use unleaded gasoline with the following octane numbers.

BF75D, 80A, 90D:
Research Octane Number of 91 or higher (Pump Octane Number of 86 or higher)

BF100A:
Research Octane Number of 95 or higher (Pump Octane Number of 91 or higher)

Use of leaded gasoline may cause damage to the engine.

Never use gasoline that is stale, contaminated, or mixed with oil. Avoid getting dirt, dust or water in the fuel tank.

PRE-OPERATION CHECKS

▲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 fuel 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.

GASOLINE CONTAINING ALCOHOL

If you decide to use a gasoline containing alcohol (gasohol), be sure its 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 more than 5% methanol (methyl or wood alcohol) and that does not also contain co-solvents and corrosion inhibitors for methanol.

NOTE:

- Fuel system damage or engine performance problems resulting from the use of gasoline that contains more alcohol than recommended is not covered under the warranty.
- Before buying gasoline from an unfamiliar station, first determine if the gasoline contains alcohol, if it does, find out the type and percentage of alcohol used. If you notice any undesirable operating symptoms while using a particular gasoline. Switch to a gasoline that you know contains less than the recommended amount of alcohol.

Propeller and Cotter Pin Inspection

▲WARNING

The propeller blades are thin and sharp. Careless handling of the propeller can result in injury.

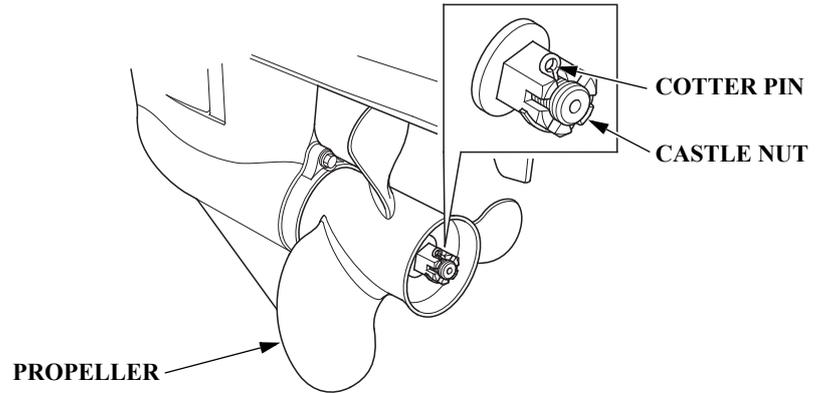
When checking the propeller:

- Remove the emergency stop switch clip to prevent an accidental start of the engine.
- Wear heavy gloves.

Propeller rotates rapidly while cruising. Before starting the engine, check the propeller blades for damage and deformation and replace if necessary.

Obtain a spare propeller for the event of an unpredictable accident while cruising. If no spare propeller is available, return to the pier at low speed and replace (see page 161). Consult an authorized Honda outboard motor dealer for propeller selection.

Keep the spare washer, castle nut and cotter pin with you on your boat.



Engine speed varies according to the propeller size and the boat condition. Use of the outboard motor outside the full throttle speed range will adversely affect the engine and cause a serious problem. Use of the correct propeller assures powerful acceleration, top speed, excellency in terms of economy and cruising comfort, and it assures longer engine life as well.

Consult with your authorized Honda outboard motor dealer for proper propeller selection.

1. Check the propeller for damage, wear, or deformation. Replace whenever the propeller is faulty.
2. Check whether the propeller is installed properly.
3. Check the cotter pin for damage.

PRE-OPERATION CHECKS

Tiller Handle Height/Angle Adjustment (H type)

The tiller handle height and angle can be adjusted to three positions by changing the installation direction of the height adjustment block. Select a suitable height and angle for the operator and secure the block.

<Height/Angle Adjustment Procedure>

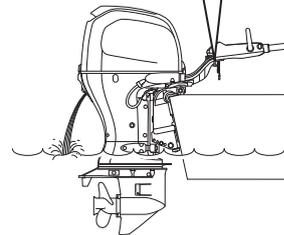
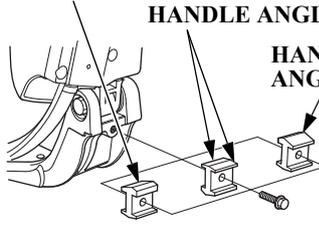
1. Raise the tiller handle and remove the 8 × 28 mm flange bolt and the height adjustment block.
2. Pull down the tiller handle. Determine the height adjustment block installation direction and secure the block with the 8 × 28 mm flange bolt.

(H1 type)

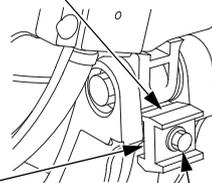
HANDLE ANGLE: 13°

HANDLE ANGLE: 7°

HANDLE ANGLE: 21°

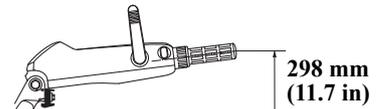


Install the height adjustment block so that the selected angle of the tiller handle is in this position.

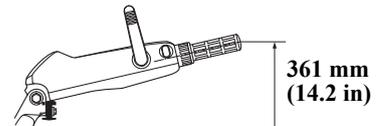


HEIGHT
ADJUSTMENT
BLOCK

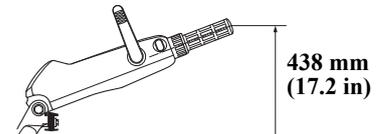
8 × 28 mm
FLANGE BOLT



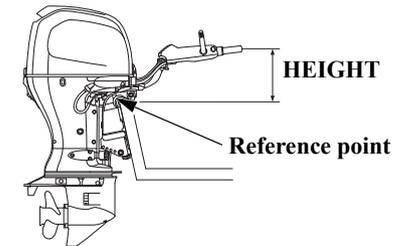
HANDLE ANGLE: 7°



HANDLE ANGLE: 13°



HANDLE ANGLE: 21°

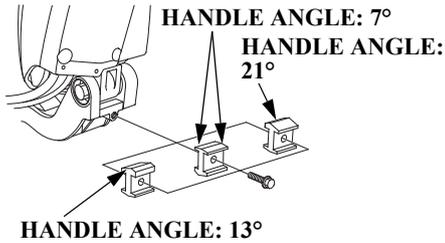


HEIGHT

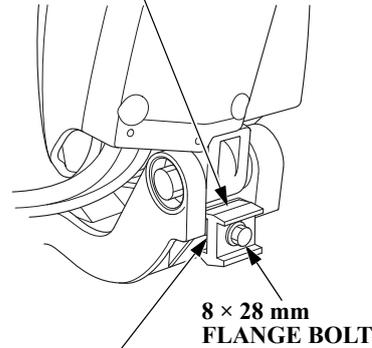
Reference point

PRE-OPERATION CHECKS

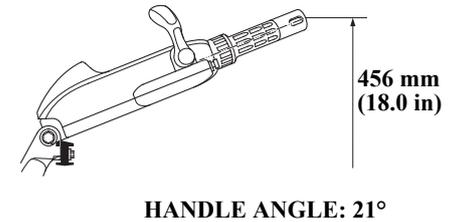
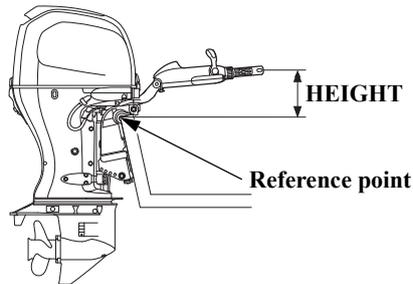
(H2 type)



Install the height adjustment block so that the selected angle of the tiller handle is in this position.

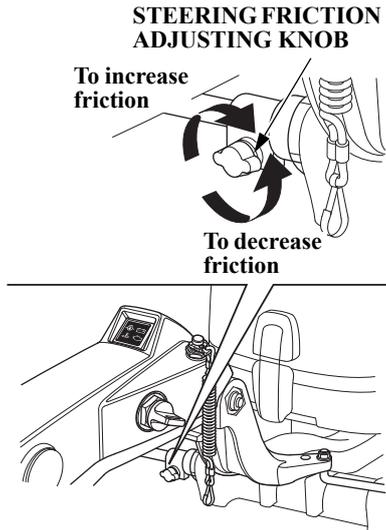


HEIGHT ADJUSTMENT
BLOCK



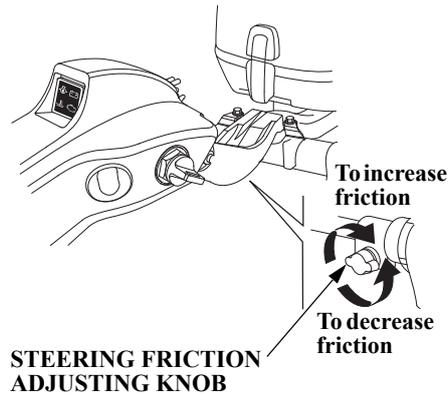
PRE-OPERATION CHECKS

Steering Handle Friction (H type) (H1 type)



Check whether the handle moves smoothly.
For smooth steering, adjust the steering friction adjusting knob so that a slight drag is felt when turning.

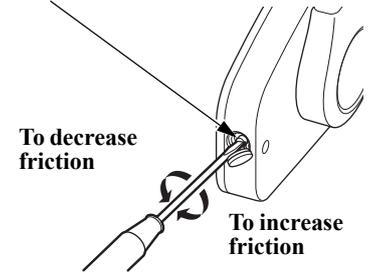
(H2 type)



Remote Control Lever Friction (R type)

(R1 type)

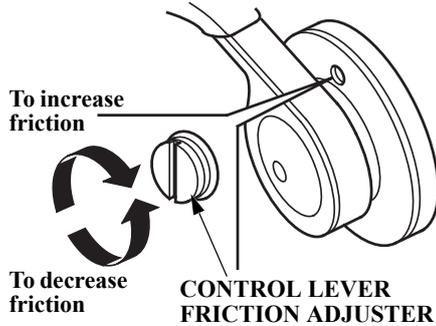
CONTROL LEVER FRICTION ADJUSTER



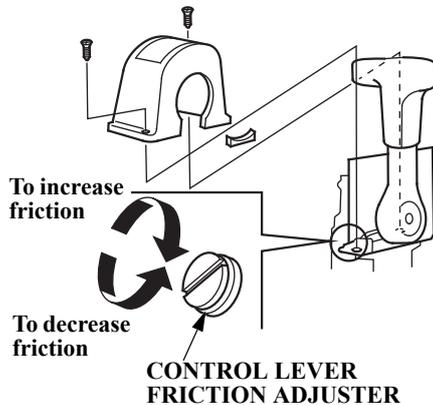
Check whether the remote control lever moves smoothly.
Friction of the control lever can be adjusted by turning the control lever friction adjuster right or left.

PRE-OPERATION CHECKS

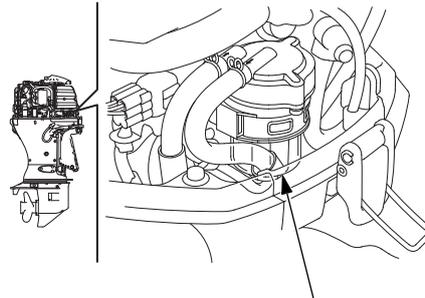
(R2 type)



(R3 type)



Water Separator



WATER SEPARATOR

Water separator is located near by the engine cover fixing lever of the boat side. Check the water separator for water accumulation. Clean it or consult with an authorized Honda outboard motor dealer for cleaning (see page 152).

Battery

NOTICE

Battery handling differs according to the type of the battery and the instructions described below might not be applicable to the battery of your outboard. Refer to the battery manufacturer's instructions.

Battery Inspection

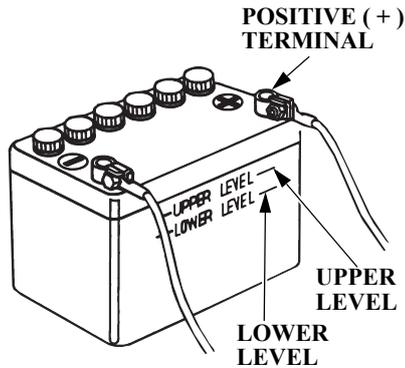
Check whether the battery fluid is between the upper and lower levels, and check the vent hole in the battery caps for clogging.

If the battery fluid is near or below the lower level, add the distilled water to the upper level (see page 148).

Check that the battery cables are connected securely.

If the battery terminals are contaminated or corroded, remove the battery and clean the terminals (see page 149).

PRE-OPERATION CHECKS



▲WARNING

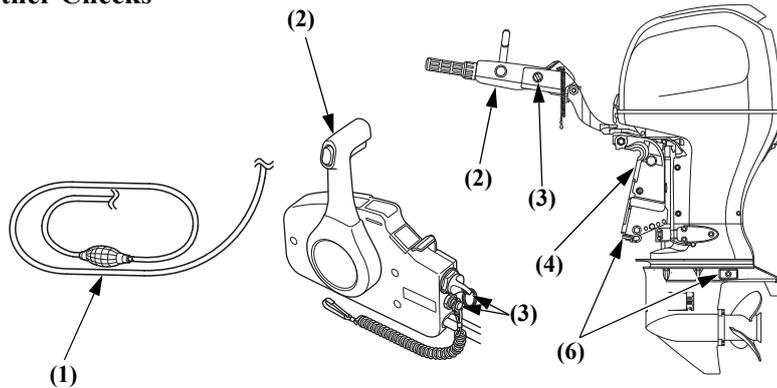
Batteries produce explosive gases: If ignited, an explosion can cause serious injury or blindness. Provide adequate ventilation when charging.

- **CHEMICAL HAZARD:** Battery electrolyte contains sulfuric acid. Contact with eyes or skin, even through clothing, may cause severe burns. Wear a faceshield and protective clothing.

- **Keep flames and sparks away, and do not smoke in the area.**
ANTIDOTE: If electrolyte gets into your eyes, flush thoroughly with warm water for at least 15 minutes and call a physician immediately.
- **POISON:** Electrolyte is poison.
ANTIDOTE:
 - **External:** Flush thoroughly with water.
 - **Internal:** Drink large quantities of water or milk. Follow with milk of magnesia or vegetable oil, and call a physician immediately.
- **KEEP OUT OF REACH OF CHILDREN.**

PRE-OPERATION CHECKS

Other Checks



(5) TOOL KIT (see page 139)

Check the following items:

- (1) The fuel hose for kinking, collapsing or a loose connection.
- (2) The tiller handle for loose installation, wobble or smooth operation (H type).
The remote control lever for smooth operation (R type).
- (3) The switch for correct operation.
- (4) The stern bracket for damage.
- (5) The tool kit for missing spare parts and tools (see page 139).
- (6) The anode metal for damage, looseness or excessive corrosion.

The anode (sacrificed metal) helps to protect the outboard motor from corrosion damage; it must be exposed directly to the water whenever the outboard motor is in use. Replace the anodes when they have been reduced to about two-thirds of their original size, or if they are crumbling.

NOTICE

The possibility of corrosion damage is increased if the anode is painted over or allowed to deteriorate.

Parts/materials which should be installed on board:

- Owner's Manual
- Tool kit
- Spare parts: spark plugs, engine oil, spare propeller, castle nut, washer and cotter pin.
- Spare emergency stop switch clip
- Other parts/materials required by laws/regulations.

7. STARTING THE ENGINE

Fuel Line Connection

▲WARNING

Gasoline is extremely flammable, and gasoline vapor can explode, causing serious injury or death.

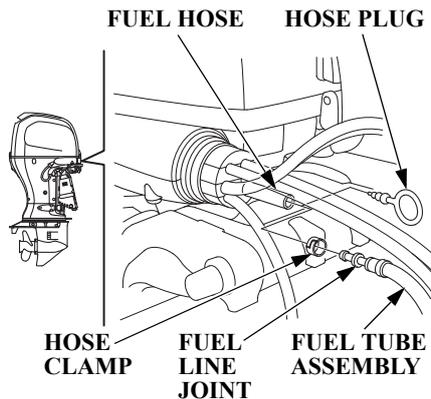
- Be careful not to spill fuel. Spilled fuel or fuel vapor may ignite. If any fuel is spilled, make sure the area is dry before starting, storing or transporting the engine.
- Do not smoke or allow flames or sparks where fuel is refueled or stored.

NOTE:

- Set the fuel tank securely so that it does not move or fall down while cruising.
- Position the fuel tank so the tank fuel line connector is no more than 1 m (3.3 feet) below the outboard motor fuel line connector.
- Do not place the fuel tank more than 2 m (6.6 feet) away from the outboard motor.

- Be sure that the fuel line is not kinked.

(Fuel Tank equipped type)



FUEL HOSE
(outboard
motor side)

BARB

HOSE CLAMP
(stainless steel)

ARROW

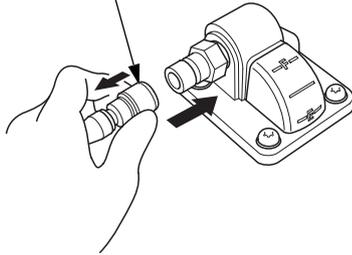
PRIMING BULB

(outboard motor side)

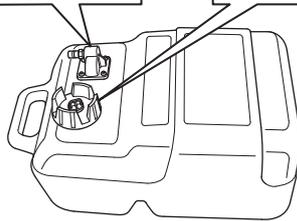
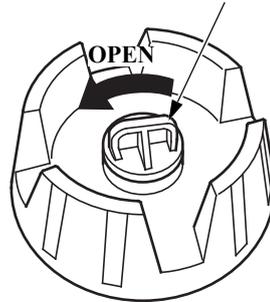
1. Remove the hose plug from the engine side fuel hose. Insert the fuel line joint in the engine side fuel hose and secure it with the hose clamp. Make sure the arrow mark on the priming bulb points toward the engine side.
 - Store the hose plug in a secure place.

STARTING THE ENGINE

**FUEL LINE CONNECTOR
(to fuel tank)**



**FUEL FILLER CAP
VENT KNOB**



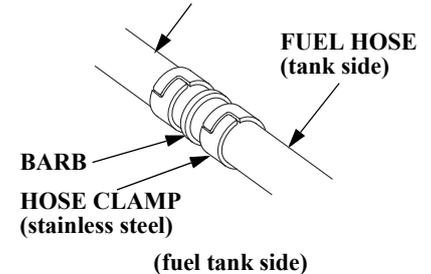
2. Connect the fuel line to the tank. Be sure the connector is securely latched.

Always disconnect the fuel line when storing or transporting the outboard motor.

3. Turn the fuel filler cap vent knob counterclockwise all the way to open the vent.

(Using the fuel tank mounted on the boat)

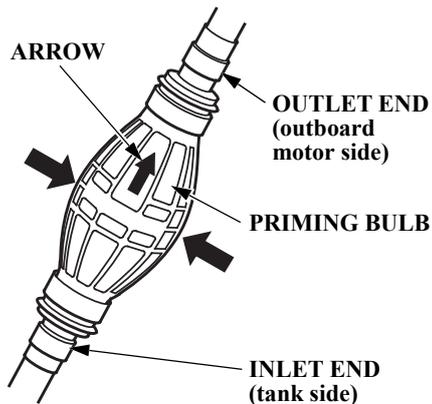
**FUEL TUBE ASSEMBLY
(equipped type) (outboard motor side)**



1. Remove the hose plug from the engine side fuel hose. Insert the fuel line joint into the engine side fuel hose and secure it with the hose clamp. (The procedure is the same as in the case of using a fuel tank equipped type. Refer to the previous page.)
2. Insert another fuel line joint up to the barb of the joint in the fuel tank side and secure it with the hose clamp (stainless steel type). Refer to the owner's manual for the boat.

STARTING THE ENGINE

Fuel Priming



Hold the priming bulb so that the outlet end is higher than the inlet (so that the arrow on the priming bulb points up), and squeeze it until it feels firm, indicating that fuel has reached the outboard motor. Check for leaks.

▲WARNING

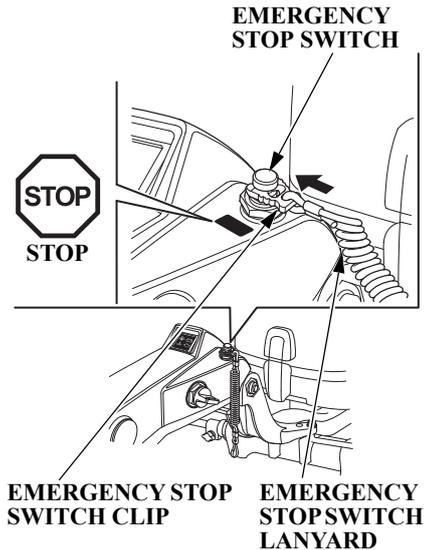
Be careful not to spill any fuel. Spilled fuel vapor may ignite. If any fuel is spilled, make sure the area is dry before starting the engine.

NOTICE

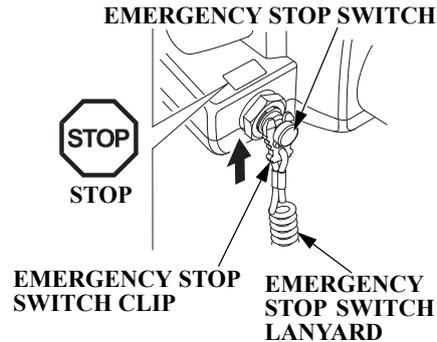
Do not touch the priming bulb with the engine running or when tilting up the outboard motor. The vapor separator could overflow.

STARTING THE ENGINE

Starting the Engine (H type) (H1 type)



(H2 type)



▲WARNING

The exhaust contains poisonous carbon monoxide. Do not start the engine in a poor ventilation area such as in a boat house.

NOTICE

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

1. Insert the emergency stop switch clip at one end of the emergency stop switch lanyard into the emergency stop switch. Attach the other end of the lanyard securely to the operator.

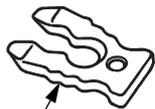
▲WARNING

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 engine.

NOTE:

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

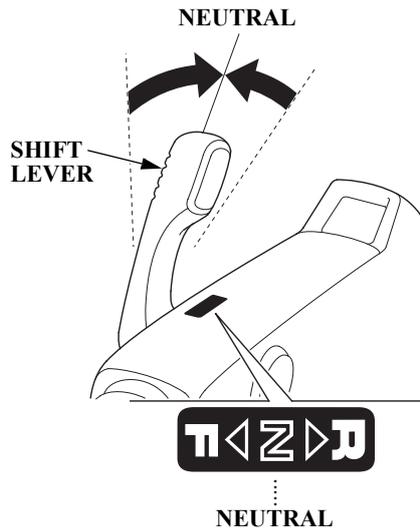
STARTING THE ENGINE



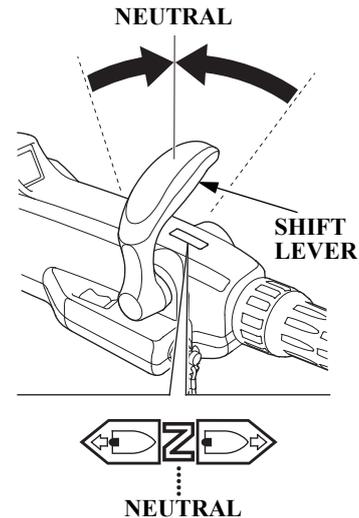
**SPARE EMERGENCY
STOP SWITCH CLIP**

Store the spare emergency stop switch clip in the tool bag. Use the spare emergency stop switch clip to make the disabled engine start when the emergency stop switch lanyard is not available as, for example, when the operator falls overboard.

(H1 type)



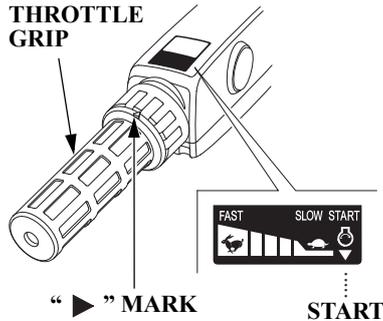
(H2 type)



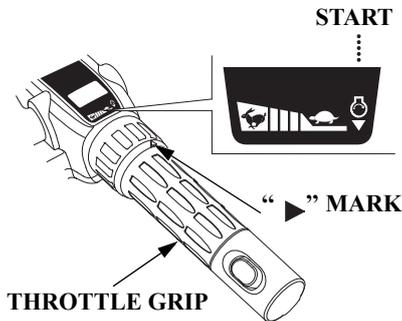
2. Move the shift lever to the NEUTRAL position. The engine does not start unless the shift lever is set in the NEUTRAL position.

STARTING THE ENGINE

(H1 type)

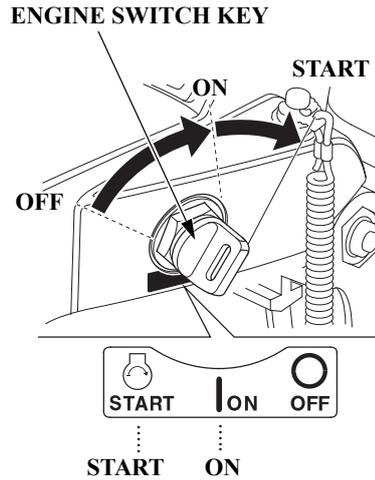


(H2 type)

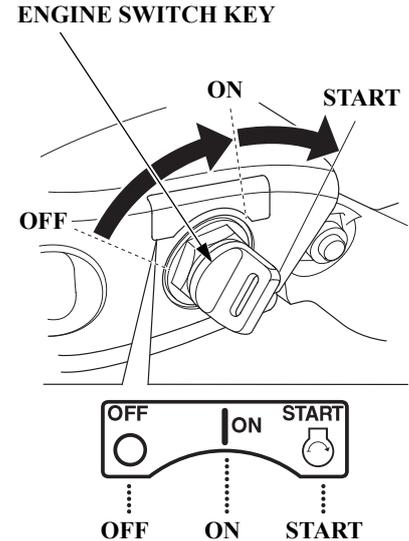


3. Align the “⊗” mark on the throttle grip with the projected end of the “▶” mark on the handle.

(H1 type)



(H2 type)



4. Turn the engine switch key to the START position and hold it there until the engine starts. When the engine starts, release the key, allowing it to return to the ON position.

STARTING THE ENGINE

NOTICE

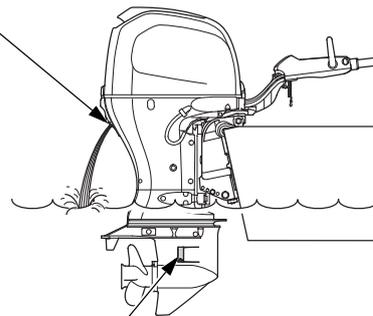
- The starter motor consumes a large amount of current. Do not therefore run it continuously for more than 5 seconds at a time. If the engine does not start within 5 seconds, wait at least 10 seconds before running the starter motor again.
- Do not turn the engine switch key to the START position while the engine is running.

NOTE:

The “Neutral Starting System” prevents the engine from being started unless the control lever is set in the N (neutral) position even though the engine is cranked by the starting engine.

(H1, H2 types)

COOLING WATER
CHECK HOLE



COOLING WATER
INTAKE PORT (each side)

5. After starting, check whether the cooling water is flowing out of the cooling water check hole. Amount of water flowing out of the check hole might vary due to the thermostat operation, but this is normal.

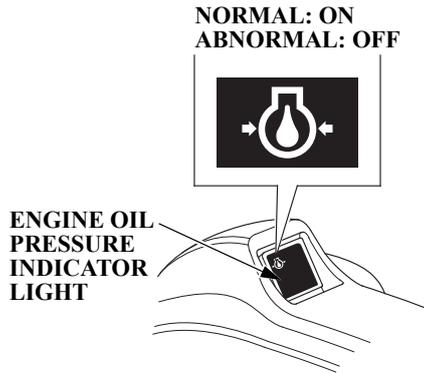
NOTICE

If water does not flow out, or if steam comes out, stop the engine. Check to see if the screen in the

cooling water intake port is obstructed and remove foreign materials if necessary. Check the cooling water check hole for clogging. If water still does not flow out, have your outboard motor checked by your outboard motor dealer. Do not operate the engine until the problem has been corrected.

STARTING THE ENGINE

(H1, H2 types)



6. Check to see if the oil pressure indicator light turns ON. If it does not turn on, stop the engine and perform the following inspections.
- 1) Check the oil level (see page 67).
 - 2) If the oil level is normal and the oil pressure indicator light does not turn ON, consult with an authorized Honda outboard motor dealer.

7. Warm up the engine as follows:
Above 5°C (41°F) – run the engine for at least 3 minutes.
Below 5°C (41°F) – run the engine for at least 5 minutes at approx. 2,000 min⁻¹ (rpm).
Failure to completely warm up the engine will result in poor engine performance.

NOTICE

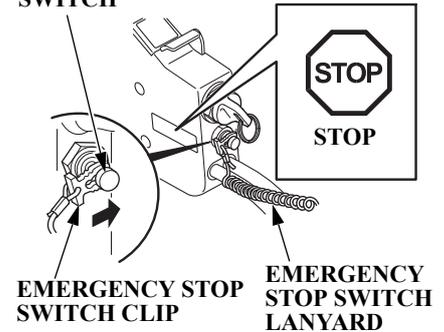
- If the engine is not properly warmed-up before raising the engine speed, the warning buzzer and overheat indicator may activate and the engine speed will be automatically reduced.
- The cooling system may freeze in areas where the temperature reaches 0°C (32°F) or below. Cruising at high speed without warming the engine up may cause engine damage.

NOTE:

Before leaving the dock, check the operation of the emergency stop switch.

Starting the Engine (R type) (R1 type)

EMERGENCY STOP SWITCH



▲WARNING

The exhaust contains poisonous carbon monoxide. Do not start the engine in a poor ventilation area such as in a boat house.

NOTICE

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

STARTING THE ENGINE

1. Insert the emergency stop switch clip at one end of the emergency stop switch lanyard into the emergency stop switch. Attach the other end of the emergency stop switch lanyard securely to the operator.

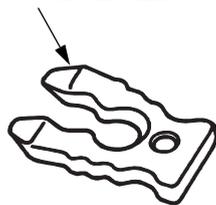
▲WARNING

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 engine.

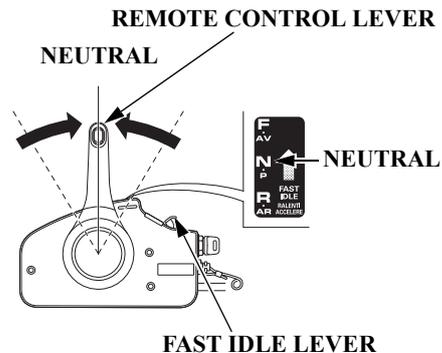
NOTE:

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

SPARE EMERGENCY
STOP SWITCH CLIP

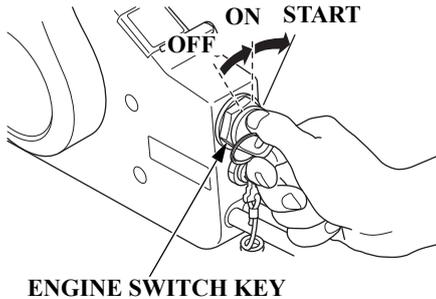


Store the spare emergency stop switch clip in the tool bag.



2. Set the control lever in the NEUTRAL position.
The engine does not start unless the control lever is set in the NEUTRAL position.
3. Leave the fast idle lever in the START (fully lowered) position.

STARTING THE ENGINE



4. Turn the engine switch key to the START position and hold it there until the engine starts. When the engine starts, release the key, allowing it to return to the ON position.

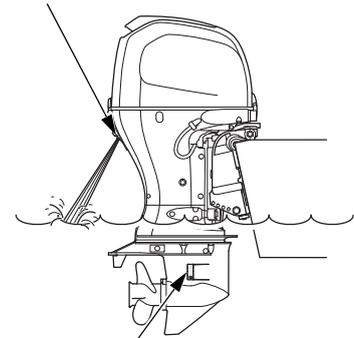
NOTICE

- The starter motor consumes a large amount of current. Do not therefore 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 running the starter motor again.
- Do not turn the engine switch key to the START position while the engine is running.

NOTE:

The “Neutral Starting System” prevents the engine from being started unless the control lever is set in the N (neutral) position even though the engine is cranked by the starting engine.

COOLING WATER CHECK HOLE



COOLING WATER INTAKE PORT (each side)

5. After starting, check whether the cooling water is flowing out of the cooling water check hole. Amount of water flowing out of the check hole might vary due to the thermostat operation, but this is normal.

STARTING THE ENGINE

NOTICE

If water does not flow out, or if steam comes out, stop the engine. Check to see if the screen in the cooling water intake port is obstructed and remove foreign materials if necessary. Check the cooling water check hole for clogging. If water still does not flow out, have your outboard motor checked by your outboard motor dealer. Do not operate the engine until the problem has been corrected.

6. Check to see if the oil pressure indicator turns ON.

If it does not turn on, stop the engine and perform the following inspections.

- 1) Check the oil level (see page 67).
- 2) If the oil level is normal and the oil pressure indicator light does not turn ON, consult with an authorized Honda outboard motor dealer.

OIL PRESSURE INDICATOR LIGHT



7. Warm up the engine as follows:
Above 5°C (41°F) – run the engine for at least 3 minutes.
Below 5°C (41°F) – run the engine for at least 5 minutes at approx. 2,000 min⁻¹ (rpm).
Failure to completely warm up the engine will result in poor engine performance.

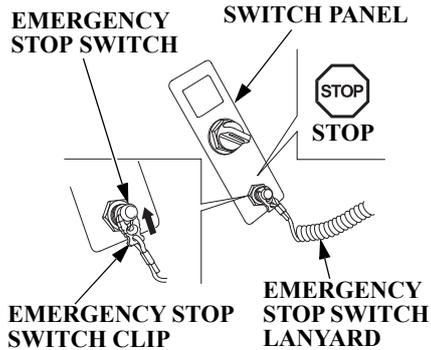
NOTICE

If the engine is not properly warmed-up before raising the engine speed, the warning buzzer and overheat indicator may activate and the engine speed will be automatically reduced.

NOTE:

Before leaving the dock, check the operation of the emergency stop switch.

Starting the Engine (R2, R3 types)



▲WARNING

The exhaust contains poisonous carbon monoxide. Do not start the engine in a poor ventilation area such as in a boat house.

NOTICE

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

NOTE:

When the boat is mounted with two outboard motors, perform the following on the right and left engines respectively.

1. Insert the clip at one end of the emergency stop switch lanyard into the emergency stop switch. Attach the other end of the emergency stop switch lanyard securely to the operator. Be sure to install the emergency stop switch clip to the emergency stop switch on the remote control box as well as on the switch panel.

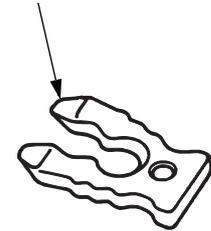
▲WARNING

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 engine.

NOTE:

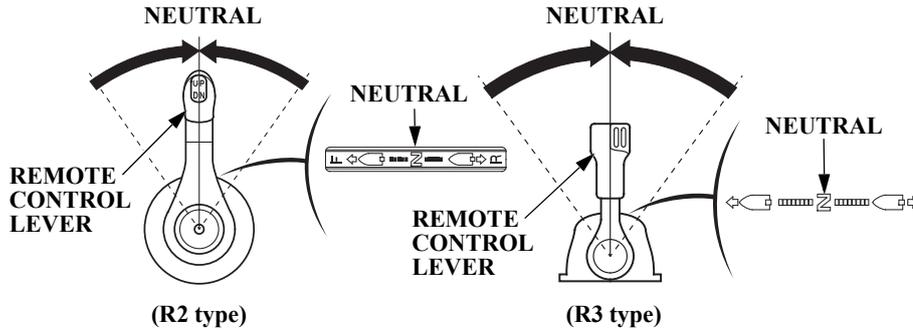
The engine does not start unless the clip is set on the emergency stop switch.

SPARE EMERGENCY STOP SWITCH CLIP

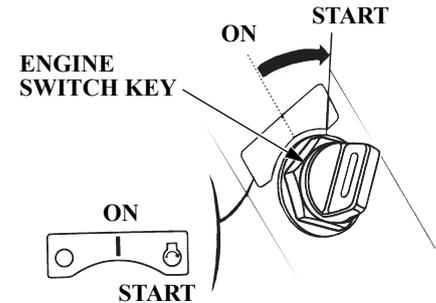


Store the spare emergency stop switch clip in the tool bag.

STARTING THE ENGINE



2. Set the control lever in the NEUTRAL position.
The engine does not start unless the control lever is set in the NEUTRAL position.



3. Turn the engine switch key to the START position and hold it there until the engine starts.
When the engine starts, release the key, allowing it to return to the ON position.

STARTING THE ENGINE

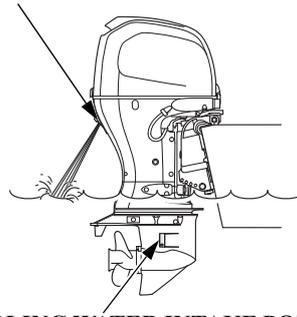
NOTICE

- The starter motor consumes a large amount of current. Do not therefore 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 running the starter motor again.
- Do not turn the engine switch key to the START position while the engine is running.

NOTE:

- The “Neutral Starting System” prevents the engine from being started unless the control lever is set in the N (neutral) position even though the engine is cranked by the starting engine.
- When the boat is mounted with two outboard motors, perform the above procedure on the right and left outboard motors respectively.

COOLING WATER
CHECK HOLE



COOLING WATER INTAKE PORT
(each side)

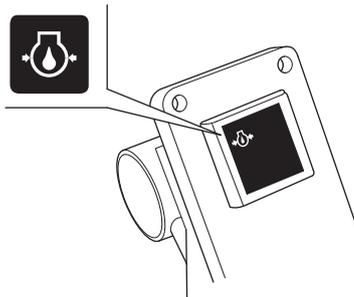
4. After starting, check whether the cooling water is flowing out of the cooling water check hole. Amount of water flowing out of the check hole might vary due to the thermostat operation, but this is normal.

NOTICE

If water does not flow out, or if steam comes out, stop the engine. Check to see if the screen in the cooling water intake port is obstructed and remove foreign materials if necessary. Check the cooling water check hole for clogging. If water still does not flow out, have your outboard motor checked by your outboard motor dealer. Do not operate the engine until the problem has been corrected.

STARTING THE ENGINE

OIL PRESSURE INDICATOR LIGHT



NORMAL: ON
ABNORMAL: OFF

5. Check to see if the oil pressure indicator turns ON.

If it does not turn ON, stop the engine and perform the following inspections.

- 1) Check the oil level (see page 67).
- 2) If the oil level is normal and the oil pressure indicator light does not turn ON, consult with an authorized Honda outboard motor dealer.

If using a panel-mount or top-mount switch panel without indicators, check the indicators displayed on an NMEA2000-compatible device.

6. Warm up the engine as follows:
Above 5°C (41°F) – run the engine for at least 3 minutes.
Below 5°C (41°F) – run the engine for at least 5 minutes at approx. 2,000 min⁻¹ (rpm).
Failure to completely warm up the engine will result in poor engine performance.

NOTICE

If the engine is not properly warmed-up before raising the engine speed, the warning buzzer and overheat indicator may activate and the engine speed will be automatically reduced.

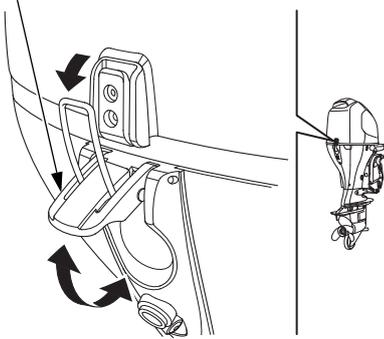
NOTE:

Before leaving the dock, check the operation of the emergency stop switch.

STARTING THE ENGINE

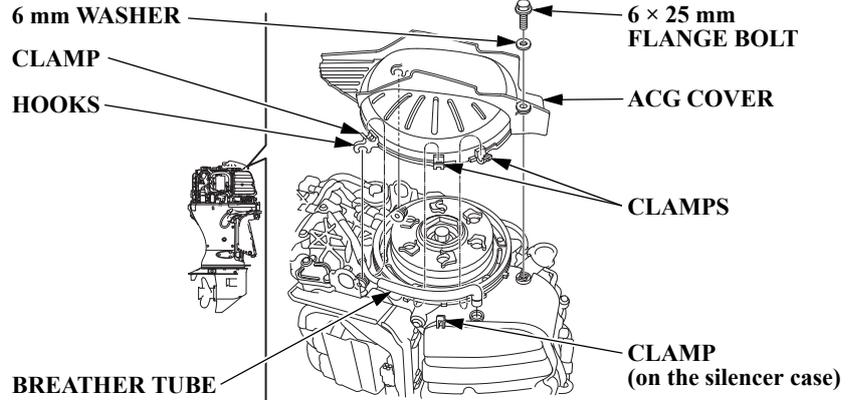
Emergency Starting

ENGINE COVER FIXING LEVER (front/rear)



If the starting system does not operate properly for some reasons, the engine can be started using the emergency starter rope in the tool kit.

1. Turn the engine switch key to the OFF position.
2. Raise the front and rear fixing levers, and remove the engine cover.



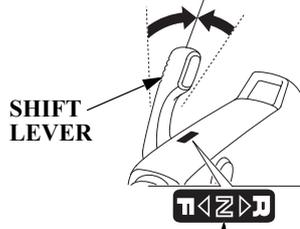
3. Release the breather tube from the four clamps.
4. Remove 6 x 25 mm flange bolt and washer, then remove the ACG cover.
5. Secure the breather tube to the clamp of the silencer case.

NOTE:

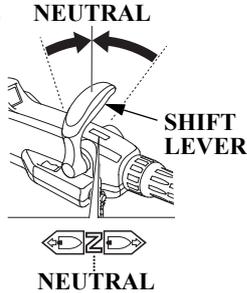
Take care not to lose the bolt and washer.

STARTING THE ENGINE

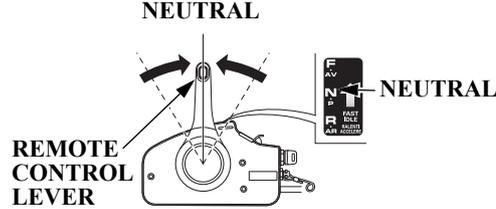
(H1 type) NEUTRAL



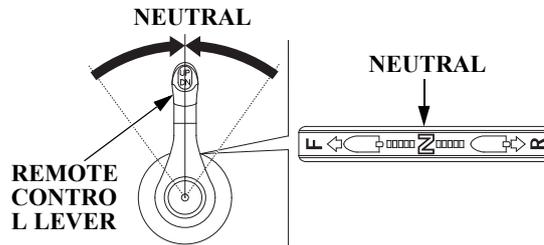
(H2 type) NEUTRAL



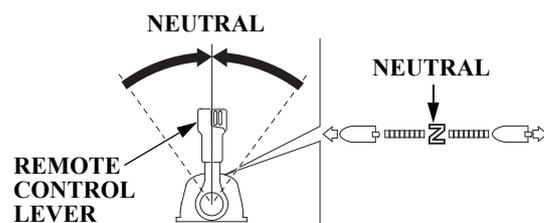
(R1 type) NEUTRAL



(R2 type) NEUTRAL



(R3 type) NEUTRAL



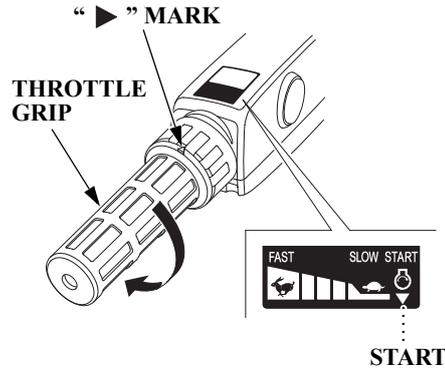
6. Set the shift lever or remote control lever is in the NEUTRAL position.

▲WARNING

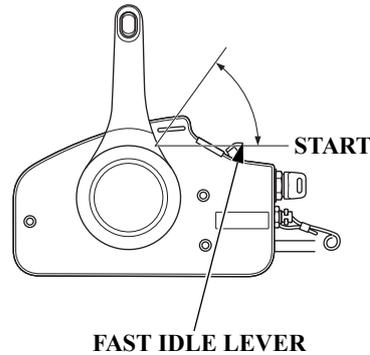
The "Neutral Starting System" will not work in emergency starting. Be sure to set the shift lever/control lever into the NEUTRAL position to prevent start-in-gear when starting the engine in emergency. Sudden unexpected acceleration could result in serious injury or death.

STARTING THE ENGINE

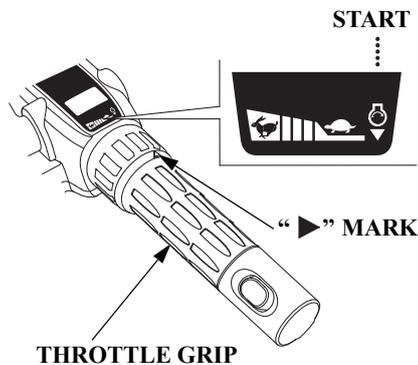
(H1 type)



(R1 type)



(H2 type)

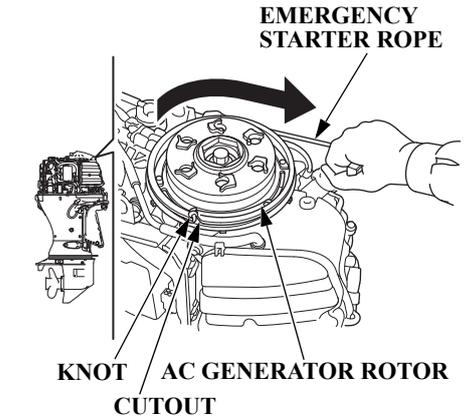


7. H type:

Align the "⊕" (start mark) on the throttle grip with the projected end of the "▶" mark on the tiller handle.

R1 type:

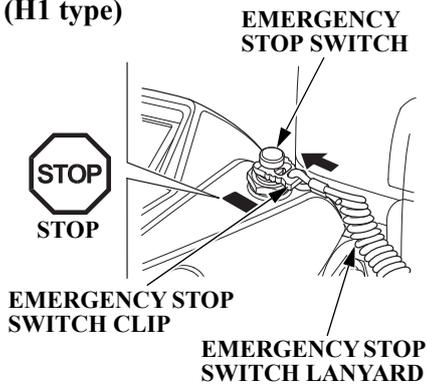
Leave the fast idle lever in the START (fully lowered) position.



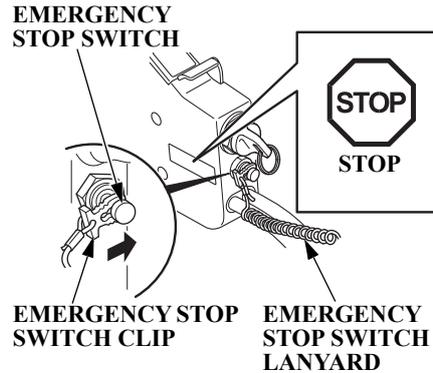
8. Set the AC generator rotor so the cutouts are on the right and left sides of the AC generator rotor as shown. Hook the knot at the end of the starter rope (accessory) against a cutout in the AC generator rotor and wind the starter rope one and half turns clockwise along the groove in the AC generator rotor.

STARTING THE ENGINE

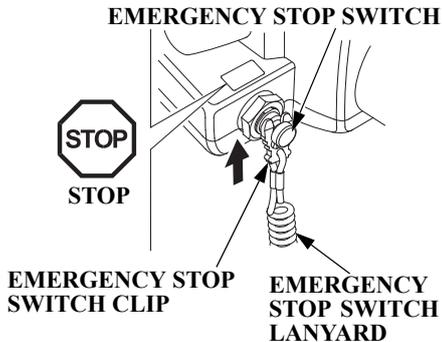
(H1 type)



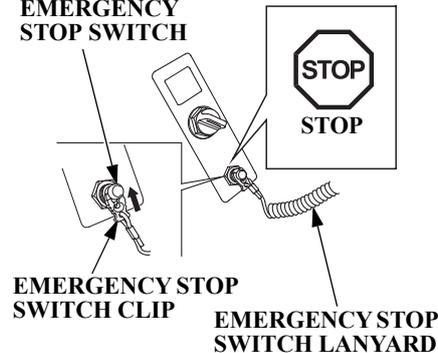
(R1 type)



(H2 type)



(R2, R3 types)



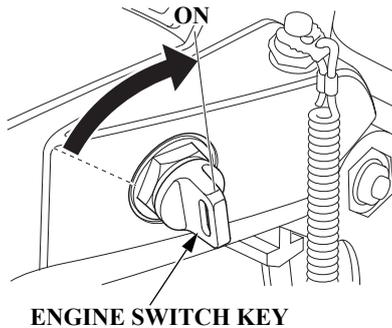
9. Insert the clip at the end of the emergency stop switch lanyard into the emergency stop switch. Attach the other end of the emergency stop switch lanyard securely to the operator.

NOTE:

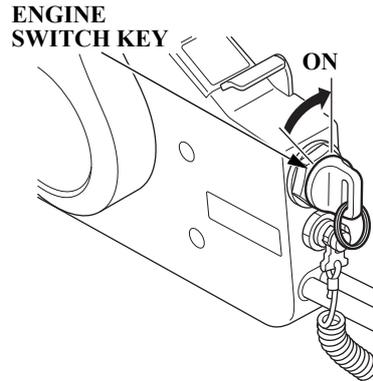
The engine does not start unless the clip is set on the emergency stop switch.

STARTING THE ENGINE

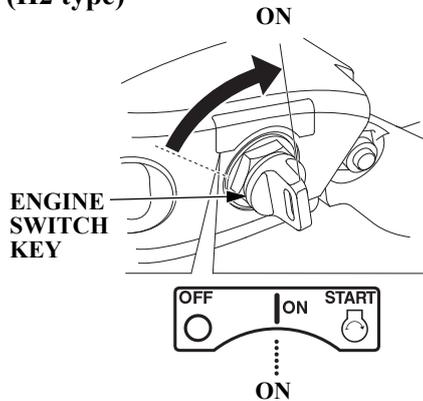
(H1 type)



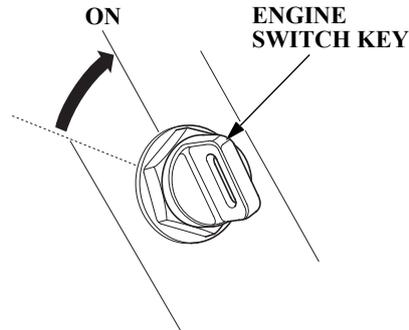
(R1 type)



(H2 type)



(R2, R3 types)



10. Turn the engine switch key to the ON position.

NOTICE

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.

11. Pull the emergency starter rope lightly until resistance is felt, then pull briskly.

If the engine fails to start refer to Troubleshooting page 168.

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.

STARTING THE ENGINE

12. Leave the AC generator cover off and install the engine cover. Lock the engine cover fixing levers.
13. Attach the emergency stop switch lanyard securely to the operator and return to the closest boat landing.
14. After returning to the closest boat landing, contact your closest outboard motor dealer and perform the following.
 - Have the electrical system checked.
 - Have your dealer reassemble the parts removed in the emergency starting procedure.

Break-in Procedure

Break-in period: 10 hours

Break-in operation allows the mating surfaces of the moving parts to wear evenly and thus ensures proper performance and longer outboard motor life.

Break-in your new outboard motor as follows.

First 15 minutes:

Run the outboard motor at trolling speed. Use the minimum amount of throttle opening necessary to operate the boat at a safe trolling speed.

Next 45 minutes:

Run the outboard motor up to a maximum of 2,000 to 3,000 min^{-1} (rpm) or 10% to 30% throttle opening.

Next 60 minutes:

Run the outboard motor up to maximum of 4,000 to 5,000 min^{-1} (rpm) or 50% to 80% throttle opening. Short bursts of full throttle are acceptable but do not operate the outboard motor continuously at full throttle.

Next 8 hours:

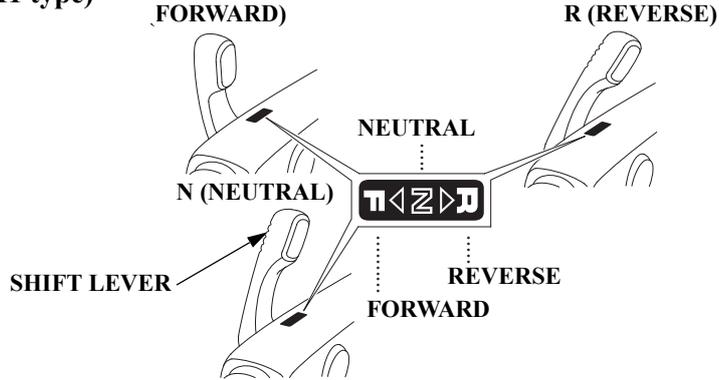
Avoid continuous full throttle operation (100% throttle opening). Do not run the outboard motor at full throttle for more than 5 minutes at a time.

For boats that plane easily, bring the boat up on plane then reduce the throttle opening to the specified break-in settings called out above.

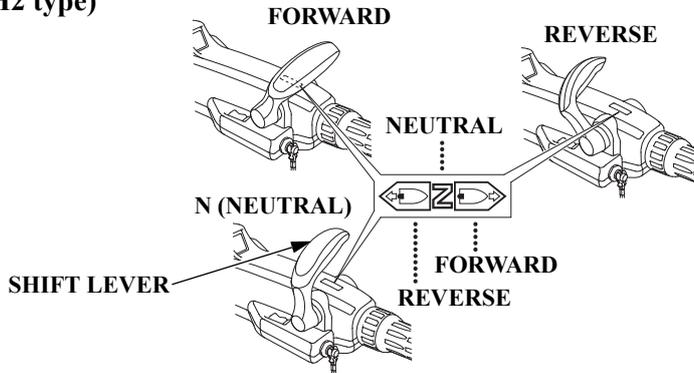
OPERATION

Gear Shifting (H type)

(H1 type)



(H2 type)



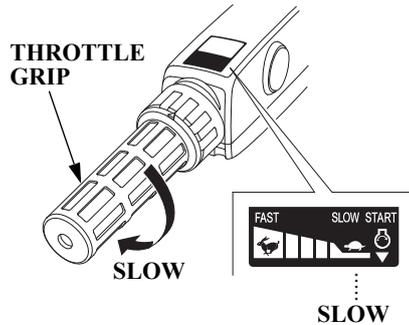
The shift lever has 3 positions: FORWARD, NEUTRAL, and REVERSE.

An indicator at the base of the shift lever aligns with the icon attached at the tiller handle.

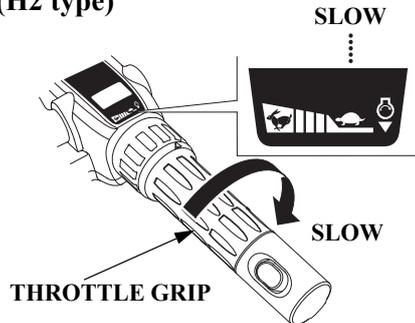
CAUTION

Be sure to perform the gearshift operation at a low engine speed. Shifting the gear at a high engine speed will damage the drive system. Be sure that the gear was shifted securely, then operate the throttle grip to raise the engine speed.

(H1 type)



(H2 type)



1. Align the pointer on the tiller handle with the SLOW position on the throttle grip to decrease engine speed.

NOTE:

The throttle mechanism is designed to limit throttle opening in REVERSE and NEUTRAL. Do not turn the throttle grip with force in the FAST direction. The throttle can be opened to FAST only in FORWARD gear.

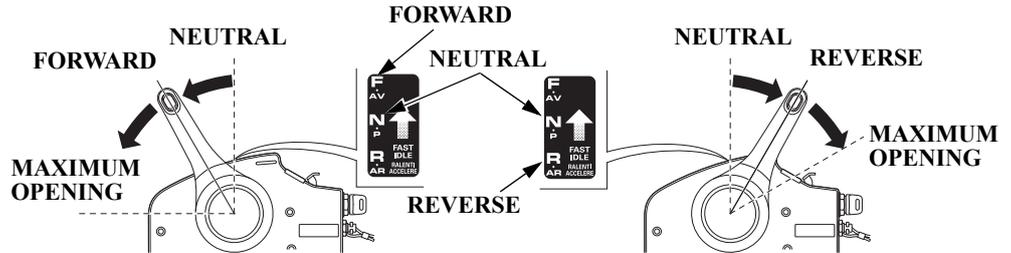
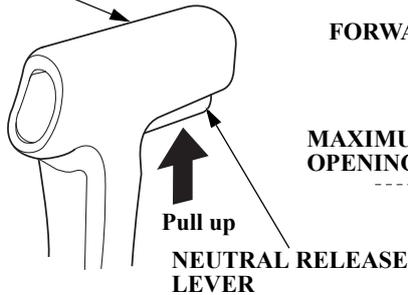
Be sure that the tilt lever is in the LOCK position. (G type)

2. Move the shift lever to engage the desired gear.

OPERATION

Gear Shifting (R1 type)

REMOTE CONTROL LEVER



⚠ CAUTION

Avoid sharp and abrupt operation of the control lever. Operate it moderately. Operate the control lever and raise the engine speed after making sure that the gear was shifted securely.

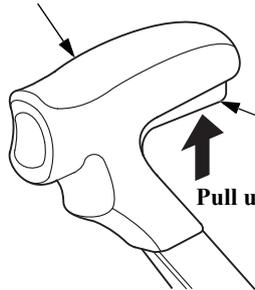
While pulling the neutral release lever, move the control lever approximately 32° toward the FORWARD or REVERSE position to engage the desired gear.

Moving the control lever further from approximately 32° will increase throttle opening and boat speed.

The control lever will not move unless the neutral release lever is pulled up.

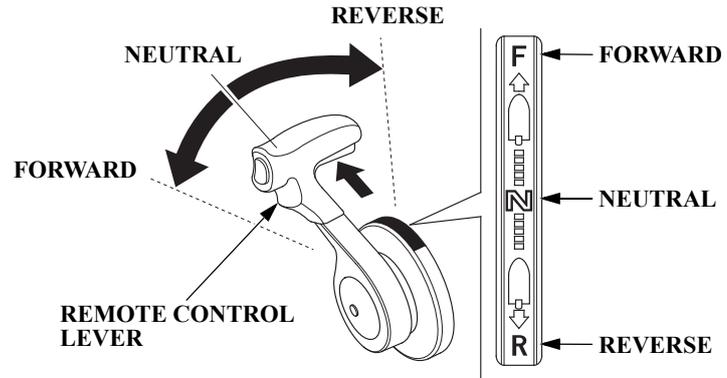
Gear Shifting (R2 type)

REMOTE CONTROL LEVER



NEUTRAL RELEASE LEVER

Pull up



⚠ CAUTION

Avoid sharp and abrupt operation of the control lever. Operate it moderately. Operate the control lever and raise the engine speed after making sure that the gear was shifted securely.

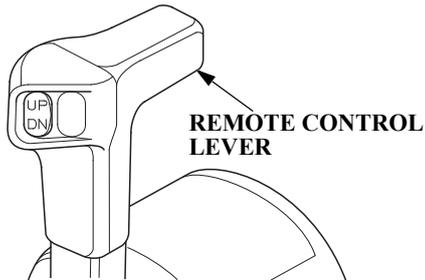
While pulling the neutral release lever, move the control lever approximately 35° toward the FORWARD or REVERSE position to engage the desired gear.

Moving the control lever further from approximately 35° will increase throttle opening and boat speed.

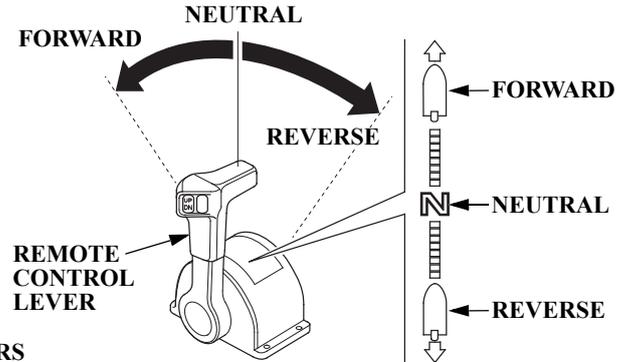
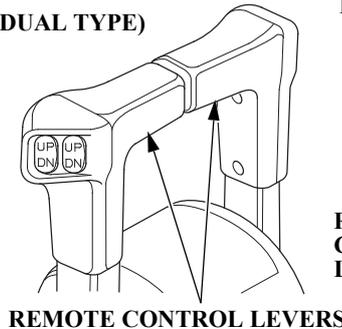
The control lever will not move unless the neutral release lever is pulled up.

OPERATION

Gear Shifting (R3 type) (SINGLE TYPE)



(DUAL TYPE)



⚠ CAUTION

Avoid sharp and abrupt operation of the control lever. Operate it moderately. Operate the control lever and raise the engine speed after making sure that the gear was shifted securely.

Move the control lever(s) approximately 35° toward the FORWARD or REVERSE position to engage the desired gear.

When the boat is mounted with the two outboard motors, hold the control lever in the center as shown, and operate the right and left levers simultaneously.

Moving the control lever(s) further from approximately 35° will increase throttle opening and boat speed.

Steering (H type)

RIGHT TURN



Move the tiller handle to the left.

LEFT TURN



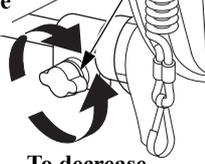
Move the tiller handle to the right.

Steer by moving the tiller handle opposite the direction you want the boat to turn.

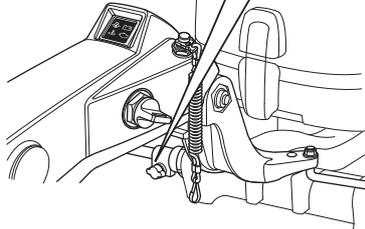
(H1 type)

STEERING FRICTION ADJUSTING KNOB

To increase friction



To decrease friction

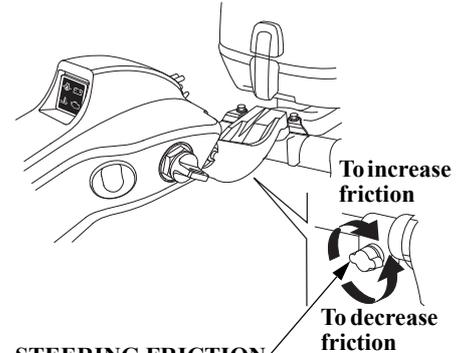


Use the steering friction adjusting knob to help hold a steady course while cruising.

Turn the knob clockwise to increase steering friction for holding a steady course.

Turn the knob counterclockwise to decrease friction for easy turning.

(H2 type)



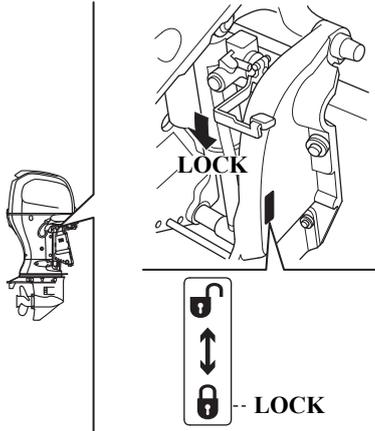
STEERING FRICTION ADJUSTING KNOB

Steering (R type)

Steer the boat in the same manner as an automobile.

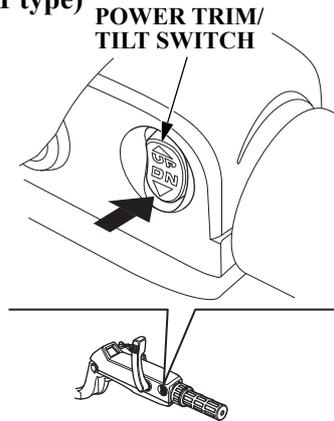
OPERATION

Cruising (H type)

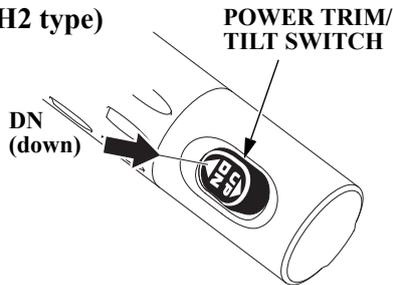


Make sure that the tilt lever is in the LOCK position. (G type)

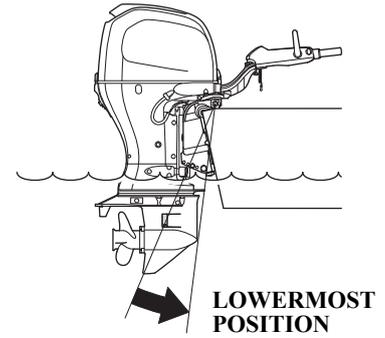
(H1 type)



(H2 type)

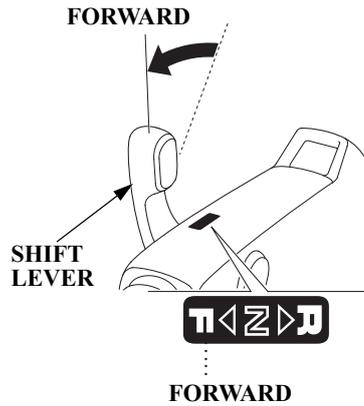


(H1, H2 types)



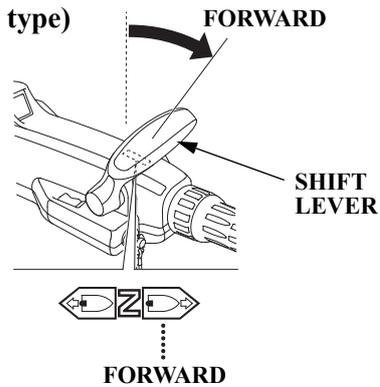
Press the DN (down) of the power trim/tilt switch and tilt the outboard motor to the lowermost position. (T type)

(H1 type)



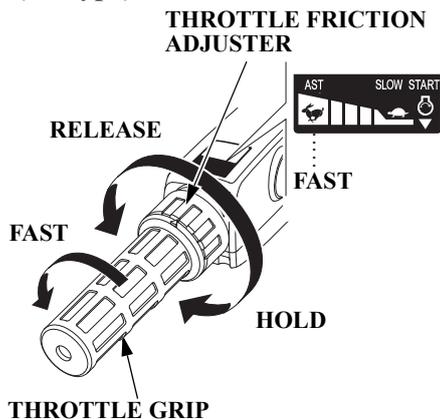
1. With the shift lever in the FORWARD position.

(H2 type)



OPERATION

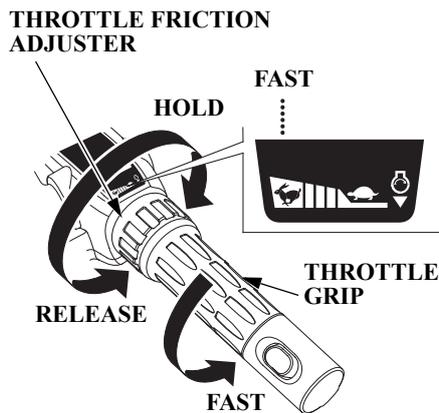
(H1 type)



2. Turn the throttle grip in the FAST direction to increase the speed.
For the sake of fuel economy, open the throttle about 80%.

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

(H2 type)



NOTE:

- When cruising at full throttle, note that the engine speed must be in the range.
- If you feel that the engine speed jumped up when the hull jumped or at ventilation, cruise the boat by returning the throttle to the slow speed side.
- See “Propeller Selection” (see page 65) for a relation between the propeller and the engine speed.

▲CAUTION

Do not operate without the engine cover. Exposed moving parts could cause injury; water may damage the engine.

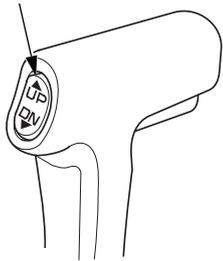
NOTE:

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

Cruising (R type)

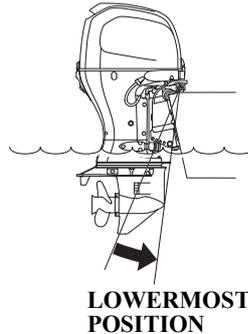
(R1 type)

POWER TRIM/
TILT SWITCH



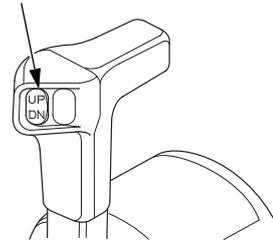
(R2 type)

POWER TRIM/
TILT SWITCH



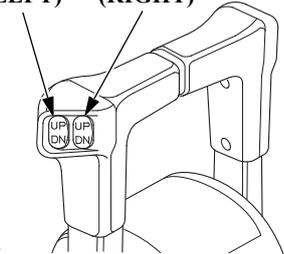
(R3 type) (single type)

POWER TRIM/
TILT SWITCH



(dual type)

POWER TRIM/TILT SWITCH
(LEFT) (RIGHT)



1. Press the DN (down) of the power trim/tilt switch and trim the outboard motor at the lowermost position.

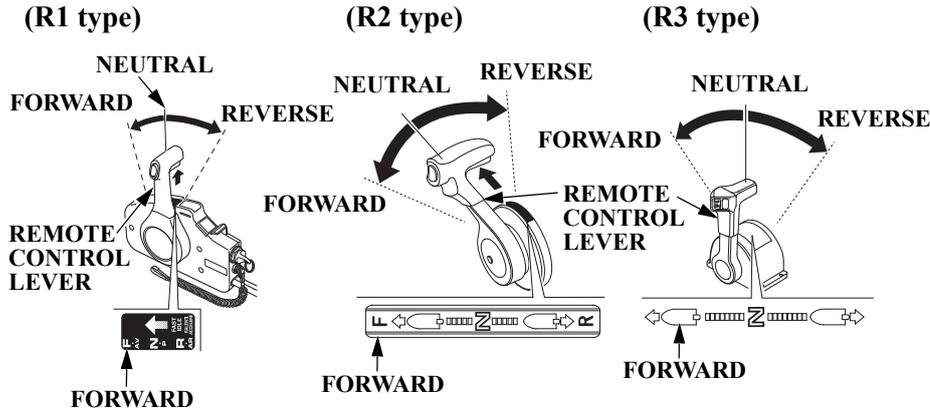
R3 type:

When the two outboard motors are mounted:

1) Press the DN (down) of the power trim/tilt switch on the control lever and trim the outboard motors at the lowermost position.

2) With the outboard motors trimmed at the lowermost position, adjust the trim angle of the right and left outboard motors using the switch on the control lever simultaneously.

OPERATION



2. Move the control lever from NEUTRAL toward FORWARD position.

R1 type:
Moving about 32° engages the gear. Moving the control lever further opens the throttle and increases the engine speed.

R2, R3 types:
Moving about 35° engages the gear. Moving the control lever further opens the throttle and increase the engine speed.

For the sake of fuel economy, open the throttle about 80%.

NOTE:

- When cruising at full throttle, note that the engine speed must be in the range.
- If you feel that the engine speed jumped up when the hull jumped or at ventilation, cruise the boat by returning the throttle to the slow speed side.
- See “Propeller Selection” (see page 65) for a relation between the propeller and the engine speed.

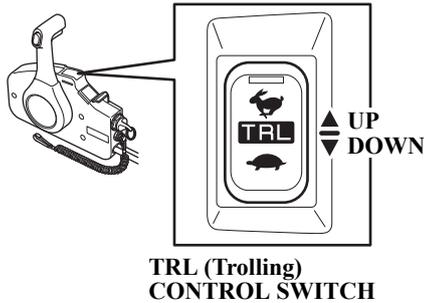
▲CAUTION

Do not operate without the engine cover. Exposed moving parts could cause injury; water may damage the engine.

NOTE:

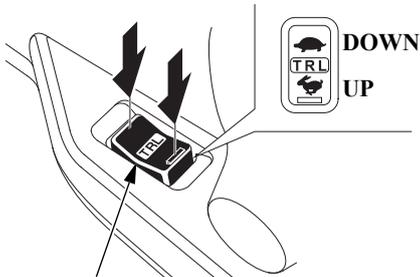
For best performance, passengers and equipment should be distributed evenly to balance the boat.

TRL (Trolling) Control Switch

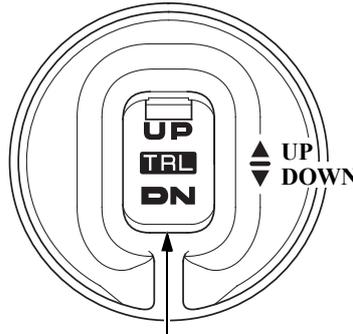


Remote Control Box (Side-mount type)

For TRL (Trolling) control switch equipped type.



TRL (Trolling) CONTROL SWITCH
Tiller Handle (H2 type)



TRL (Trolling) CONTROL SWITCH

TRL (Trolling) Control Switch Panel (optional equipment)

DN: Reduce engine speed
UP: Increase engine speed

After the engine has warmed up, keeping the UP or DN button pushed when cruising with the throttle fully closed, changes the mode to trolling mode.

A long buzz sounds once. When the mode is changed to trolling mode, the engine speed is 650 min^{-1} (rpm).

You can adjust the engine speed by 50 min^{-1} (rpm) every time you press the switch once. You will hear a short buzz.

The engine speed can be adjusted within the range of $650 - 1,000 \text{ min}^{-1}$ (rpm).

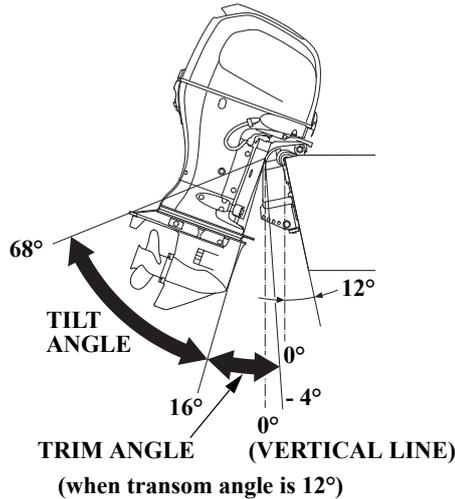
Continuing to press the switch will not decrease or increase the engine speed beyond the lower (650 min^{-1} (rpm)) or higher ($1,000 \text{ min}^{-1}$ (rpm)) limit.

If you try to do this, a short buzz sounds twice.

The throttle may be operated while in trolling mode. The trolling mode is cancelled when you reach $3,000 \text{ min}^{-1}$ (rpm).

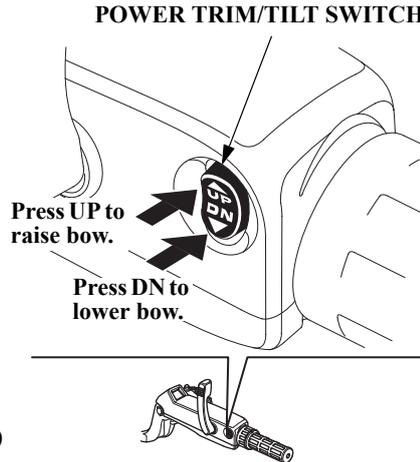
OPERATION

Trimming the Outboard Motor



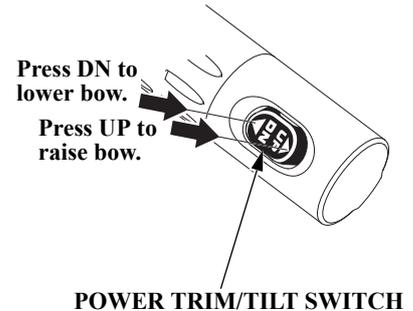
The BF75D/80A/90D/100A T types are equipped with the power trim/tilt system which can adjust the outboard motor angle (trim/tilt angle) while cruising and mooring. The outboard motor angle can also be adjusted while cruising and accelerating to obtain the maximum speed and optimum driveability and fuel economy.

(H1 type)



Press either UP or DN (down) of the power trim/tilt switch and tilt the outboard motor to the best position in compliance with the cruising conditions.

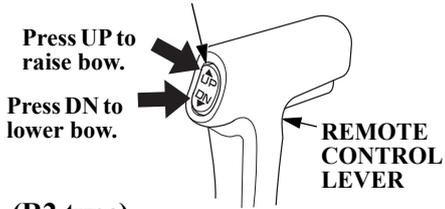
(H2 type)



The power trim/tilt system operates when the switch is pressed, and it stops when the switch is released. To trim up slightly, press on UP momentarily but securely. To trim down slightly, press on DN (down) in the same manner.

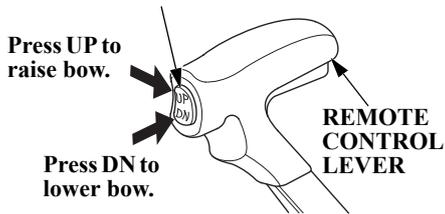
(R1 type)

POWER TRIM/TILT SWITCH



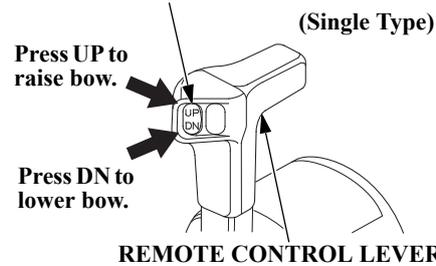
(R2 type)

POWER TRIM/TILT SWITCH

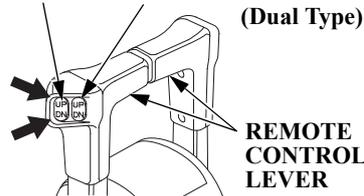


(R3 type)

POWER TRIM/TILT SWITCH



POWER TRIM/TILT SWITCH (LEFT) (RIGHT)



⚠ CAUTION

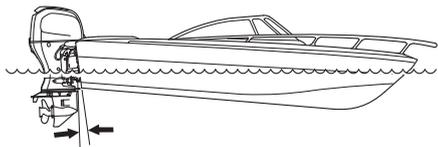
- Improper trim angle results in unstable steering condition.
- Do not trim excessively while cruising through rough waves, or it may cause an accident.
- Excessive trim angle can result in cavitation and racing of the propeller, and trimming up the outboard motor excessively can cause damage to the impeller pump.

NOTE:

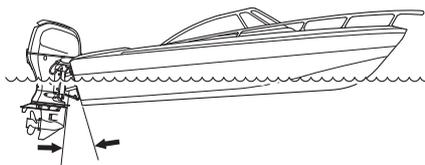
- Decrease the trim angle on high speed turns to reduce the possibility of propeller ventilation.
- Improper outboard motor trim angle can result in an unstable steering condition.

OPERATION

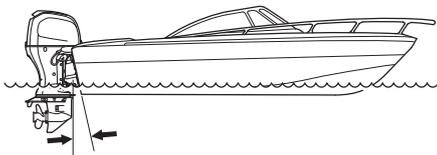
**OUTBOARD MOTOR
TRIMMED TOO LOW**



**OUTBOARD MOTOR
TRIMMED TOO HIGH**



**OUTBOARD MOTOR
TRIMMED CORRECTLY**



When cruising:

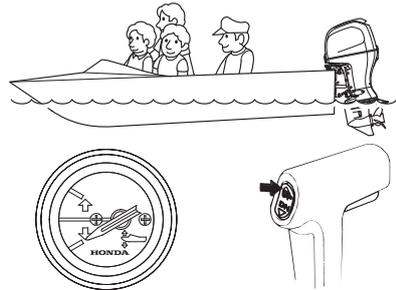
- (A) Into a high wind, trim the outboard motor down slightly to lower the bow and improve boat stability.
- (B) With a tail wind, trim the outboard motor up slightly to raise the bow and improve boat stability.
- (C) Through rough waves, do not trim the outboard motor too low or too high to avoid an unstable steering condition.

Trim Meter (equipped type or optional equipment)

The trim meter indicates the trim angle of the outboard motor. Refer to the trim meter, and press the UP or DN (down) portion of the power trim/tilt switch to adjust the outboard motor trim angle to achieve boat performance and stability.

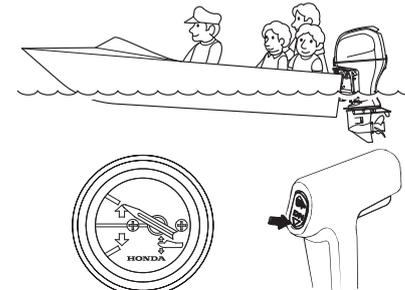
The illustration represents R1 type. Perform the same procedure for the other types.

- BOW TOO LOW DUE TO**
1. LOAD IN THE FRONT
2. OUTBOARD MOTOR TRIMMED
TOO LOW



With the outboard motor trimmed low the trim meter will read as shown. To raise the bow increase the outboard motor trim angle by pressing the UP portion of the power trim/tilt switch.

- BOW TOO HIGH DUE TO**
1. LOAD IN THE REAR
2. OUTBOARD MOTOR TRIMMED
TOO HIGH



With the outboard motor trimmed high the trim meter will read as shown. To lower the bow decrease the outboard motor trim angle by pressing the DN (down) portion of the power trim/tilt switch.

OPERATION

Tilting the Outboard Motor (G type)

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

1. Move the shift lever to the NEUTRAL position and stop the engine.
2. Move the tilt lever to the FREE position. Hold the engine cover grip and raise the outboard motor. (The outboard motor can be tilted stagelessly.)

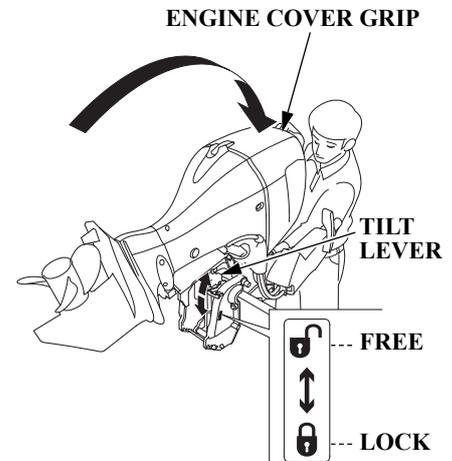
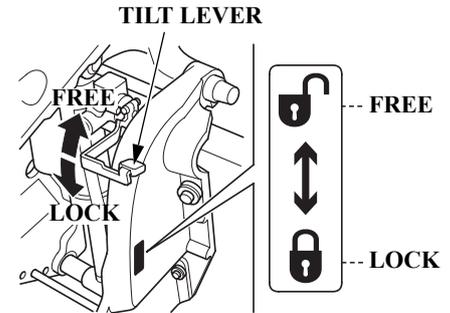
NOTICE

Do not tilt up the outboard motor using the tiller handle.

3. With the outboard motor tilted up at the designated position, move the tilt lever to the LOCK position to lock the outboard motor in the position.
4. To return the outboard motor, move the tilt lever to the FREE position, tilt up the outboard motor slightly by holding the engine cover grip, and lower the engine gently to the designated position.

CAUTION

Set the tilt lever in the FREE/LOCK positions securely.

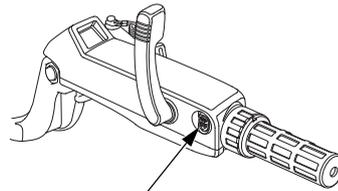


Tilting the Outboard Motor (T type)

Tilt the outboard motor to prevent the propeller and gear case from hitting the bottom when the boat is beached or stopped in shallow water. Please tilt up simultaneously, when you mount the dual type outboard motor.

1. Move the shift lever or the remote control lever to the NEUTRAL position and stop the engine.
2. Press the UP of the power trim/tilt switch and tilt the outboard motor to the best position in compliance.

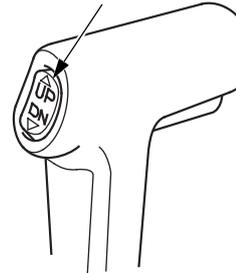
(H1 type)



POWER TRIM/TILT SWITCH

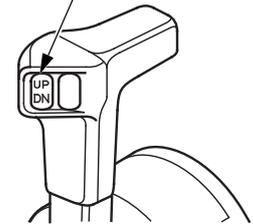
(R1 type)

POWER TRIM/
TILT SWITCH

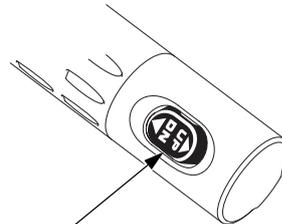


(R3 type)
(single type)

POWER TRIM/
TILT SWITCH



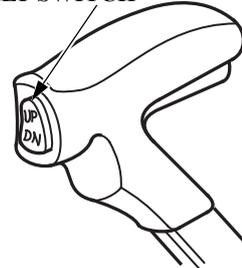
(H2 type)



POWER TRIM/TILT
SWITCH

(R2 type)

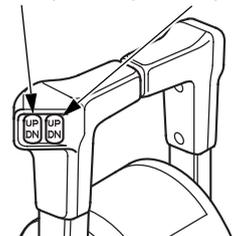
POWER TRIM/
TILT SWITCH



(R3 type)
(dual type)

POWER TRIM/
TILT SWITCH

(LEFT) (RIGHT)



OPERATION

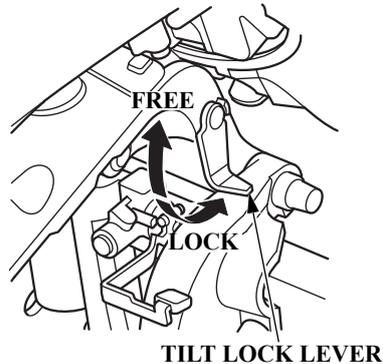
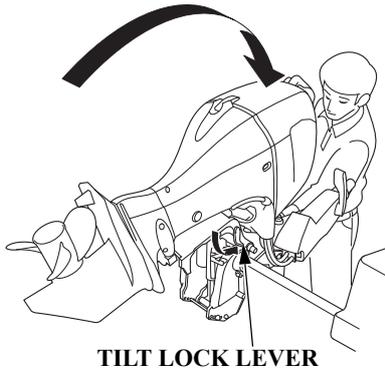
Moorage (G type)

Tilt up the outboard motor using the tilt lock lever when mooring the boat. Move the shift lever to the NEUTRAL position and stop the engine before tilting up the outboard motor.

NOTE:

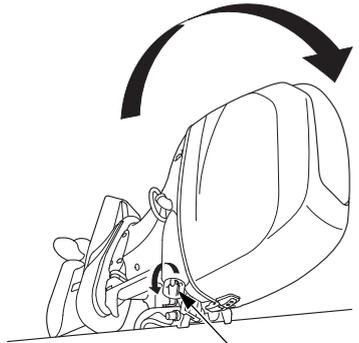
Before tilting up, leave the outboard motor in the running position for one minute after stopping the engine to drain the water from inside the engine.

Stop the engine and disconnect the fuel line from the outboard motor before tilting the outboard motor.



1. Move the tilt lever to the FREE position and raise the outboard motor as far as it goes by holding it by the grip of the engine cover (see page 42).
2. Move the tilt lock lever to the LOCK position and lower the outboard motor slowly.
3. Move the tilt lever to the LOCK position.
4. To tilt down, move the tilt lever to the FREE position, and move the tilt lock lever to the FREE position while lifting the outboard motor to the designated position and move the tilt lever to the LOCK position.

Moorage (T type)

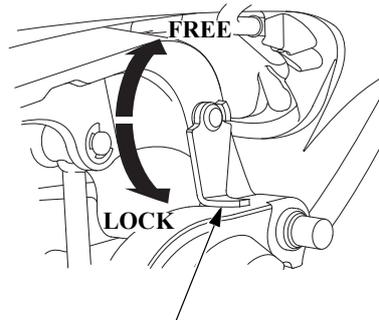


TILT LOCK LEVER

Tilt up the outboard motor using the tilt lock lever when mooring the boat. Move the shift lever or the remote control lever to the **NEUTRAL** position and stop the engine before tilting up the outboard motor.

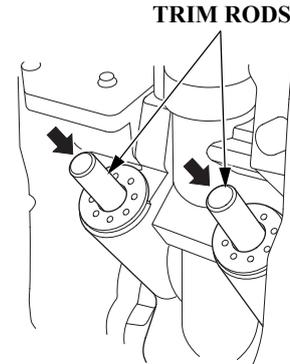
NOTE:

Before tilting up, leave the outboard motor in the running position for one minute after stopping the engine to drain the water from inside the engine.



TILT LOCK LEVER

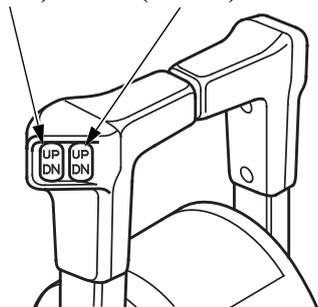
1. Raise the outboard motor as full as it goes using the power trim/tilt switch.
2. Move the tilt lock lever to the **LOCK** position and lower the outboard motor until the lock lever contacts the stern bracket.
3. Press the **DN** (down) of the power trim/tilt switch and fully shorten the trim rods.
4. To tilt down, raise the outboard motor as far as it goes using the power trim/tilt switch, move the tilt lock lever to the **FREE** position.



OPERATION

(R3 type) (DUAL TYPE)

POWER TRIM/TILT SWITCH
(LEFT) (RIGHT)

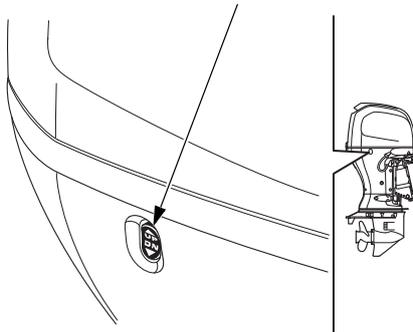


NOTE:

After tilting down the outboard motors, adjust the trim angle of the right and left outboard motors.

Power Tilt Switch (T type)

POWER TILT SWITCH



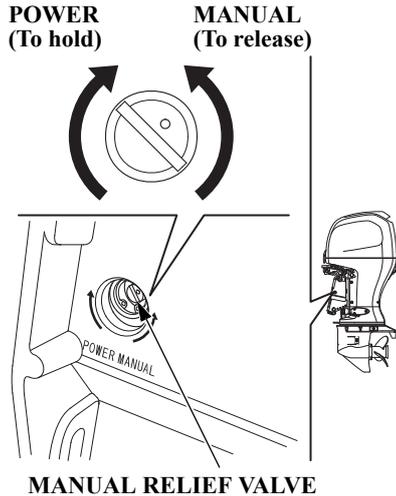
When you are away from the power trim/tilt switch on the control lever side or the tiller handle side, you can operate the power tilt switch on the outboard motor side.

The switch operation is the same as that of the power trim/tilt switch.

⚠ CAUTION

Do not operate this power tilt switch on the outboard motor while sailing.

Manual Relief Valve (T type)



MANUAL RELIEF VALVE

When power trim/tilt system does not operate because of dead battery or faulty power trim/tilt motor, the outboard motor can be manually tilted up or down by operating the manual relief valve.

Check that no person is under the outboard motor before carrying out this operation because if the manual relief valve is loosened (turned counterclockwise) when the outboard motor is tilted up, the outboard motor will suddenly tilt down.

To tilt the outboard motor manually, turn the manual relief valve under the stern bracket 1 or 2 turns counterclockwise using a screwdriver.

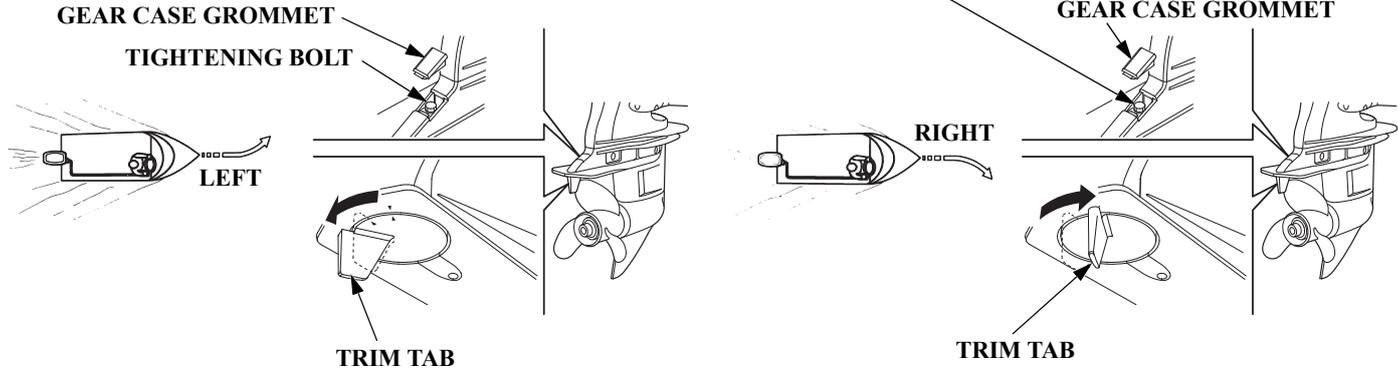
After tilting up/down manually, close the manual relief valve to lock the outboard motor in the position.

⚠ CAUTION

The manual relief valve must be tightened securely before operating the outboard motor or the outboard motor could tilt when operating in reverse.

OPERATION

Trim Tab Adjustment



The trim tab is provided to adjust for “torque steer” which is a reaction of the propeller rotation or propeller torque. If during a high speed turn an unequal amount of effort is required to turn the boat right or left, adjust the trim tab so that an equal amount of effort is required.

Distribute the load evenly in the boat and run the boat in a straight course at full throttle. Slightly turn the steering wheel for both right and left turns to determine the amount of effort required.

Remove the gear case grommet and loosen the tightening bolt to adjust the trim tab. After adjustment, reinstall the grommet securely. If less effort is required to make left turns:

Loosen the trim tab tightening bolt and turn the rear end of the trim tab toward the left. Tighten the bolt securely.

If less effort is required to make right turns:

Loosen the trim tab tightening bolt and turn the rear end of the trim tab toward the right. Tighten the bolt securely.

Make small adjustments at a time and retest. Incorrect trim tab adjustment can cause adverse steering.

Engine Protection System <Engine Oil Pressure, Overheat, Water Contamination, PGM-FI and ACG Warning Systems>

If the engine oil pressure drops and/or the engine overheats, either or both warning systems could be activated. When activated the engine speed will decrease gradually and the oil pressure indicator will turn OFF and the overheat indicator will turn ON. A continuous buzzer will sound on all type.

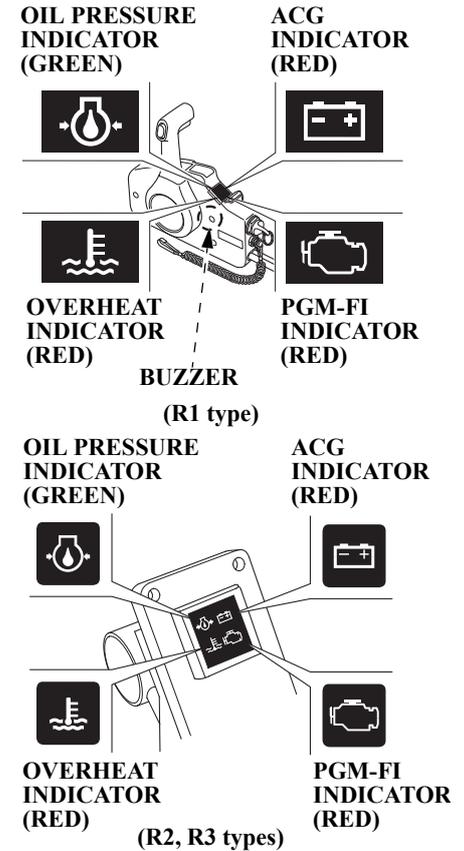
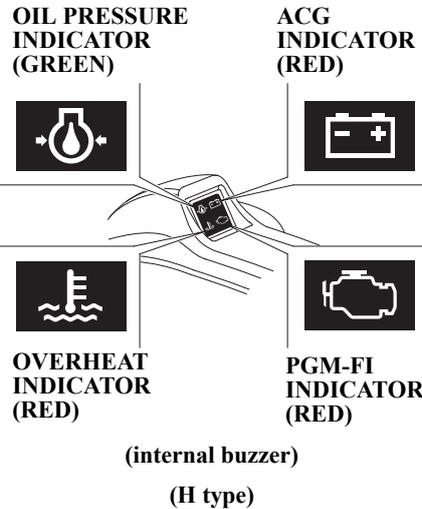
The engine speed cannot be increased with a larger throttle opening until the malfunction is corrected.

When the malfunction is corrected the engine speed will increase gradually.

If the engine overheats, the engine will stop in 20 seconds after the engine protection system will limit engine speed.

Each warning system of PGM-FI, ACG, oil pressure, overheat, and water contamination is activated as described in the following table.

If using a panel-mount or top-mount switch panel without indicators, check the indicators displayed on an NMEA2000-compatible device.



OPERATION

PGM-FI
INDICATOR
(RED)



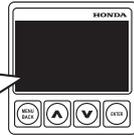
OIL PRESSURE
INDICATOR
(RED)



ACG
INDICATOR
(RED)



OVERHEAT
INDICATOR
(RED)



(optional equipment: **Display assy**)

OPERATION

Symptom \ System	INDICATOR LIGHTS				BUZZER
	Oil pressure (Green or Red)	Overheat (Red)	ACG (Red)	PGM-FI (Red)	CORRESPONDING SYSTEM
At starting	ON (2 sec)	ON (2 sec)	ON	ON (2 sec)	With the engine key turned on: ON (2 times)
During operation	ON	OFF	OFF	OFF	OFF
Low oil pressure	OFF	OFF	OFF	OFF	ON (continuously)
Overheat	ON	ON	OFF	OFF	ON (continuously)
ACG warning	ON	OFF	ON	OFF	alternating ON and OFF (at long intervals)
PGM-FI warning	ON*	OFF*	OFF	ON	alternating ON and OFF (at long intervals)
Water contamination	ON	OFF	OFF	OFF	alternating ON and OFF (at short intervals)

NOTE:

- Some indicator and/or buzzer will be activated at the same time due to the occurrence of a malfunction.
- The buzzer will also sound when the hour counter is reset (see page 55).
- For information about NMEA2000-compatible device displays, refer to the display device's manual.

*: Occasionally may blink due to the occurrence of a malfunction.

OPERATION

When the oil pressure warning system is activated:

1. Stop the engine immediately and check the engine oil level (see page 67).
2. If the oil is up to the recommended level, restart the engine. If the oil pressure warning system stops after 30 seconds, the system is normal.

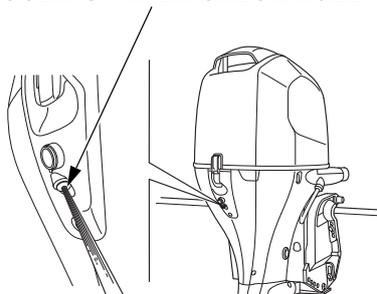
NOTE:

If the throttle was closed suddenly after cruising at full throttle, the engine speed may drop below the specified idle speed. This could cause the oil pressure warning system to activate momentarily.

3. If the oil pressure warning system stays activated after 30 seconds, return to the closest boat landing and contact your closest authorized Honda outboard motor dealer.

When the overheat warning system is activated:

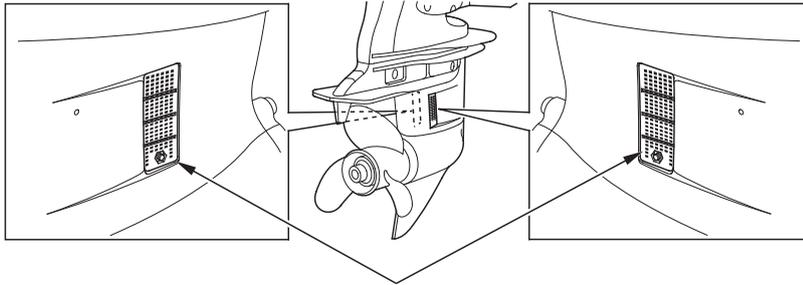
COOLING WATER CHECK HOLE



1. Return the shift lever or remote control lever to the N (neutral) position immediately. Check to see if water is flowing out of the cooling water check hole.
2. If water is flowing out of the cooling water check hole, continue idling for 30 seconds. If the overheat warning system stops after 30 seconds the system is normal.

NOTE:

If the engine is turned off after running at full throttle, the engine temperature may rise above normal. If the engine is restarted, shortly after being turned off, the overheat warning system could be activated momentarily.



**COOLING WATER INTAKE PORT
(each side)**

3. If the overheat warning system stays activated, stop the engine. Tilt up the outboard motor and check the water intakes for obstructions. If there are no obstructions at the water intakes, return to the closest boat landing and contact your closest outboard motor dealer.

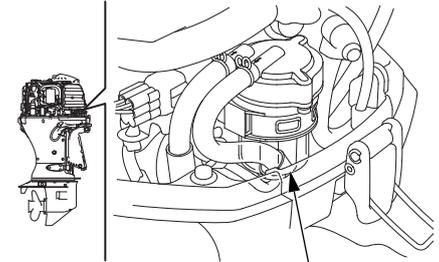
When the PGM-FI activated:

1. Consult with an authorized Honda outboard motor dealer.

When the ACG warning system is activated:

1. Check the battery (see page 148).
If the battery is OK, consult with an authorized Honda outboard motor dealer.

When the water separator buzzer sounds:



WATER SEPARATOR

1. Check the water separator for water contamination. If water is accumulated, clean them (see page 152).

OPERATION

<Over-rev Limiter>

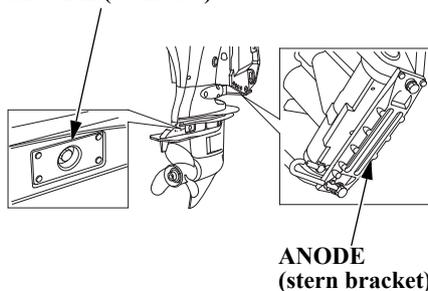
This outboard motor is equipped with an engine over-rev limiter which activates when the engine speed increases excessively. The over-rev limiter can be activated while cruising, tilting up the outboard motor, or when ventilation occurs during a sharp turn.

When the over-rev limiter is activated:

1. Reduce the throttle opening immediately and check the trim angle.
2. If the trim angle is correct but the over-rev limiter stays activated, stop the engine, check the condition of the outboard motor, check to see if the correct propeller is installed and check it for damage.
Correct or service as necessary, by contacting your authorized Honda outboard motor dealer.

<Anode>

ANODE (each side)



The anode is a sacrificial material which helps to protect the outboard motor from corrosion.

NOTICE

Painting or coating the anode will lead to rust and corrosion damage to the outboard motor.

There are also 2 small sacrificial anodes in the water passages of the engine block.

Shallow Water Operation

NOTICE

Excessive trim/tilt angle during operation can cause the propeller to raise out of the water and cause propeller ventilation and engine over-revving. Excessive trim/tilt angle can also damage the water pump and overheat the engine.

When operating in shallow water, tilt the outboard motor up to prevent the propeller and gear case from hitting the bottom (refer to pages 116 and 117). With the outboard motor tilted up, operate the outboard motor at low speed.

Monitor the cooling water check hole for water discharge. Be sure that the outboard motor is not tilted so high that the water intakes are out of the water.

If an excessive amount of throttle is used when operating in forward gear, the outboard motor will return to the transom angle adjusting rod. (G type)

Multiple Outboard Motors

On boats equipped with more than one outboard motor, all motors normally operate at the same time.

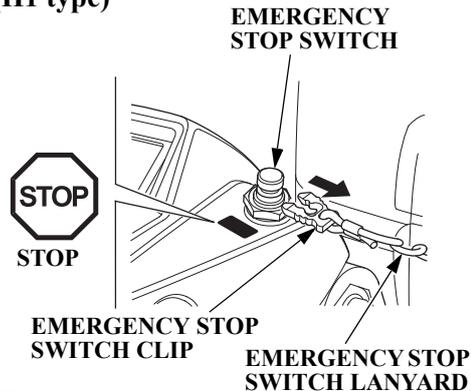
If one or more motor(s) is stopped while the other(s) is running, put the stopped motor in “N” (neutral) and tilt it up so its propeller is above the water's surface.

If the propeller of the stopped motor is left in the water, it may turn as the boat moves through the water, causing a reverse flow of water from the exhaust side. This reverse flow will happen if the stopped engine's propeller is in the water, its gearshift is in “R” (reverse), and the boat is moving forward. Reverse flow can cause an engine malfunction.

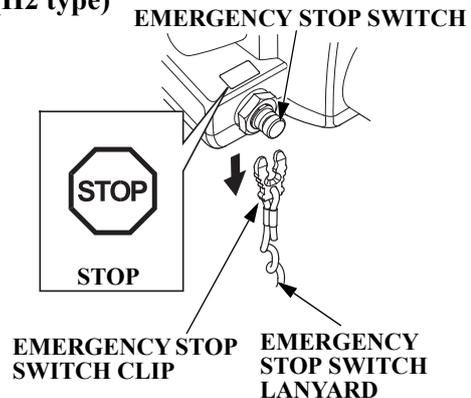
9. STOPPING THE ENGINE

Emergency Engine Stop

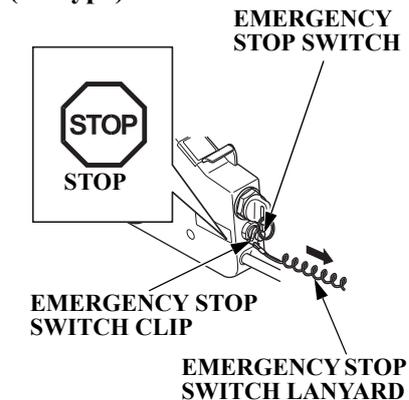
(H1 type)



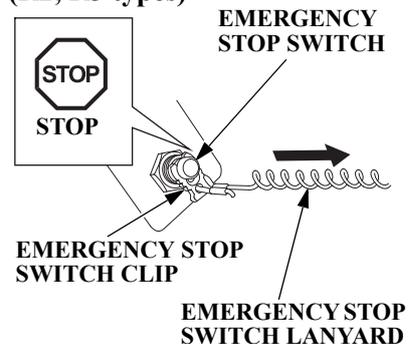
(H2 type)



(R1 type)



(R2, R3 types)



Pull the lanyard of the emergency stop switch and remove the emergency stop switch clip from the switch; this will stop the engine.

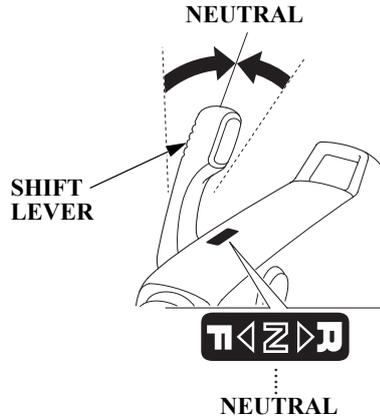
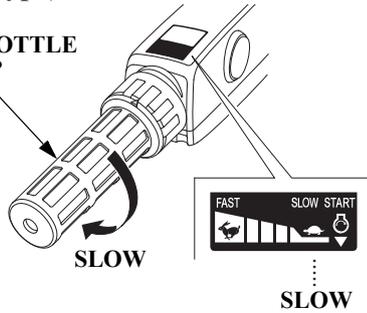
NOTE:

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

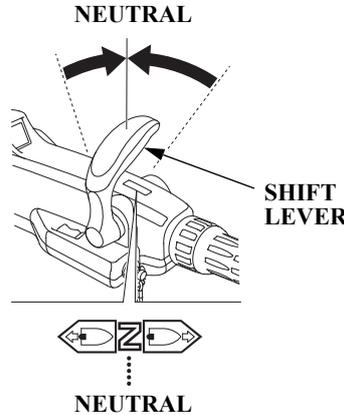
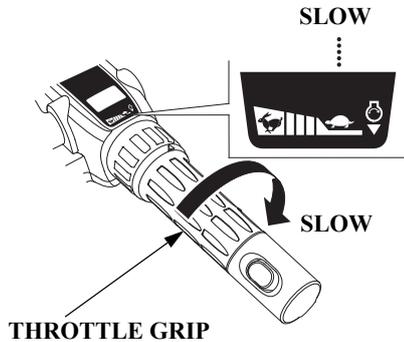
STOPPING THE ENGINE

Normal Engine Stop (H type) (H1 type)

THROTTLE GRIP



(H2 type)

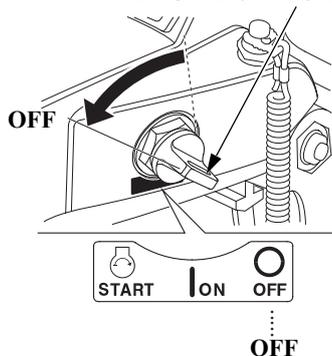


1. Turn the throttle grip to SLOW position and move the shift lever to NEUTRAL.

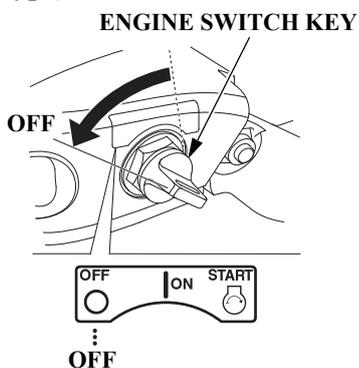
NOTE:
After sailing with the throttle fully open, cool down the engine by running it at the idle speed for a few minutes.

STOPPING THE ENGINE

(H1 type) ENGINE SWITCH KEY



(H2 type) ENGINE SWITCH KEY



2. Turn the engine switch key to the OFF position to stop the engine.

NOTE:

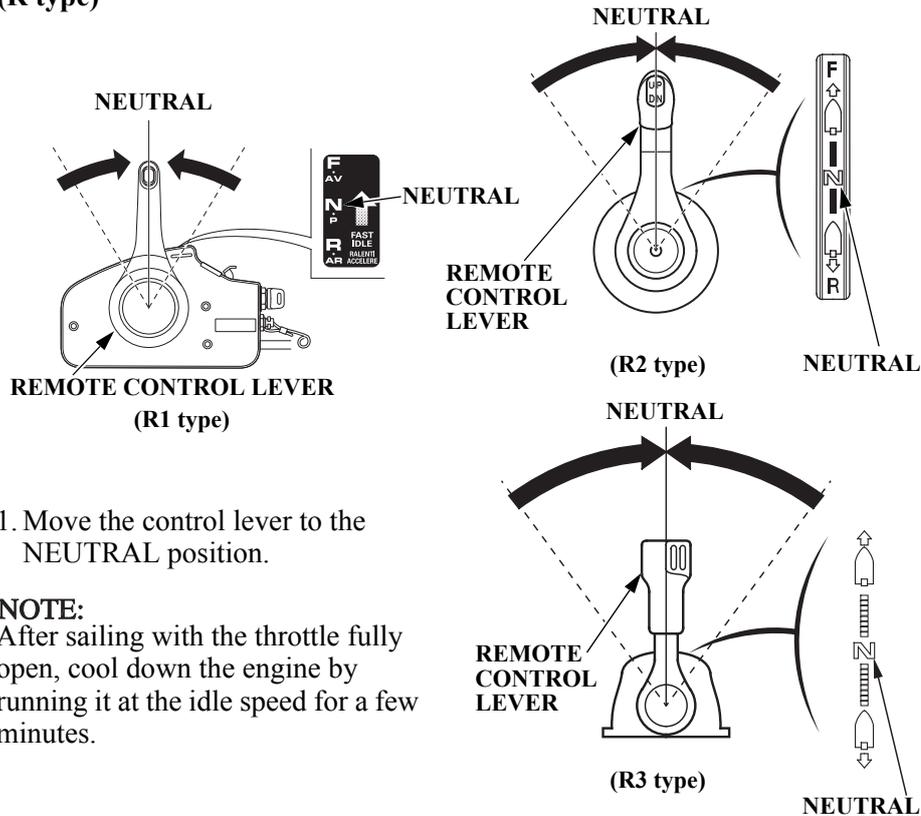
In the event that the engine does not stop when the engine switch is turned to OFF, push the emergency stop switch to stop the engine.

3. Remove the engine switch key and store it.

If you are using a portable fuel tank, disconnect the fuel line if you will be storing or transporting the outboard motor.

STOPPING THE ENGINE

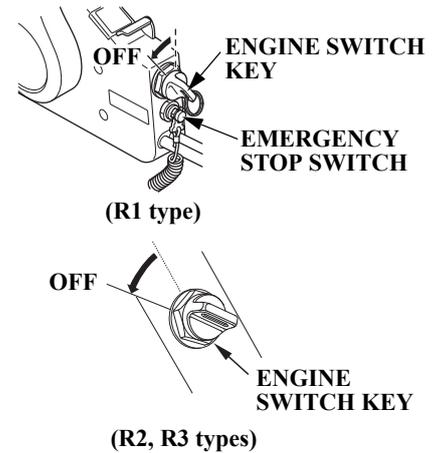
(R type)



1. Move the control lever to the **NEUTRAL** position.

NOTE:

After sailing with the throttle fully open, cool down the engine by running it at the idle speed for a few minutes.



2. Turn the engine switch key to the **OFF** position to stop the engine.

NOTE:

In the event that the engine does not stop when the engine switch is turned to **OFF**, push the emergency stop switch to stop the engine.

3. Remove the engine switch key and store it.

If you are using a portable fuel tank, disconnect the fuel line if you will be storing or transporting the outboard motor.

10. TRANSPORTING

Fuel Line Disconnection

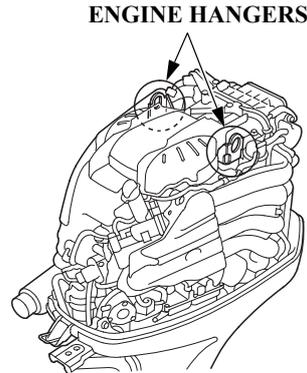
Before transporting the outboard motor, disconnect and remove the fuel line.

▲WARNING

Gasoline is extremely flammable, and gasoline vapor can explode, causing serious injury or death.

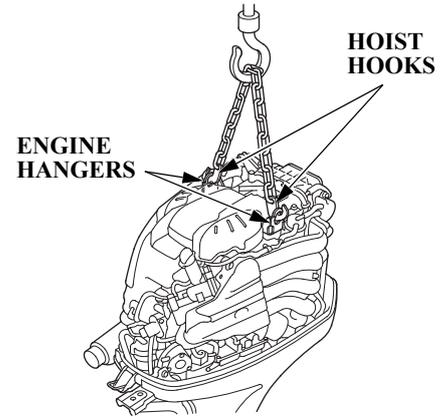
- **Be careful not to spill fuel.**
Spilled fuel or fuel vapor may ignite. If any fuel is spilled, make sure the area is dry before storing or transporting the outboard motor.
- **Do not smoke or allow flames or sparks where fuel is drained or stored.**

Transporting



When transporting the outboard motor on a vehicle, perform the following.

1. Remove the engine cover.



2. Set the hoist hooks against the two engine hangers and hang the outboard motor to remove it from the boat.

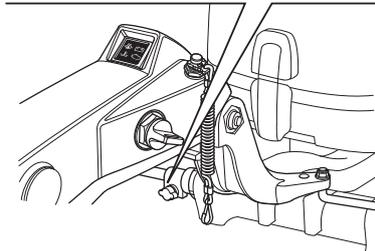
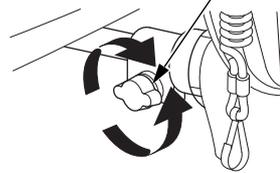


OUTBOARD MOTOR STAND

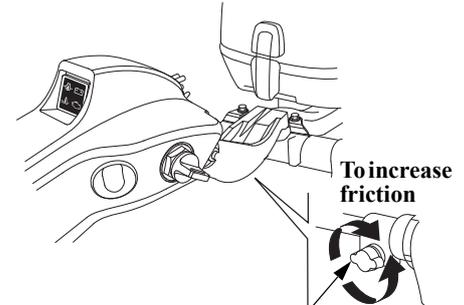
3. Secure the outboard motor on an outboard motor stand with the mounting bolts and nuts.
4. Remove the hoist hook and reinstall the engine cover.

Trailing (H1 type)

**STEERING FRICTION
ADJUSTING KNOB**



(H2 type)



**STEERING FRICTION
ADJUSTING KNOB**

When trailering or transporting the boat with the outboard motor attached always disconnect the fuel line from the portable fuel tank and tighten the steering friction adjusting knob securely (see page 74).

TRANSPORTING

(R type)

When trailering or transporting the boat with the outboard motor attached, it is recommended that the outboard motor remain in normal running position.

NOTICE

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

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

11. CLEANING AND FLUSHING

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

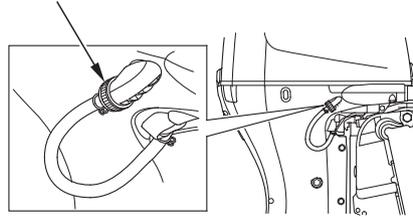
NOTICE

Do not apply water or corrosion inhibitor directly to the electrical components under the engine cover, such as the O2 sensor. If water or corrosion inhibitor penetrates this component, it may be damaged. Before applying a corrosion inhibitor, cover the O2 sensor with a protective material to prevent damage.

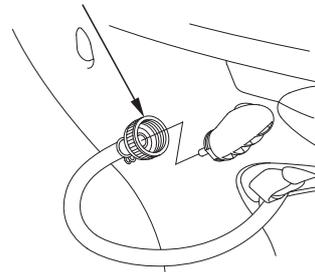
Shut off the engine before performing the cleaning and flushing.

1. Disconnect the fuel line from the outboard motor.
2. Tilt down the outboard motor.
3. Clean and wash the outside of the outboard motor with fresh water.

FLUSH PORT CONNECTOR



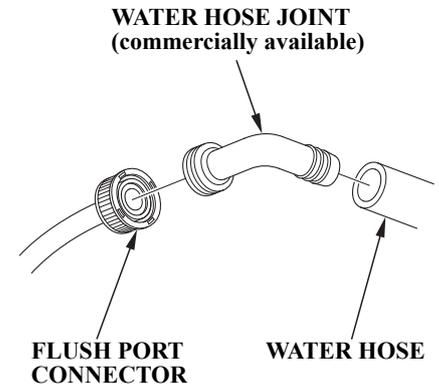
FLUSH PORT CONNECTOR



4. Disconnect the flush port connector.
5. Screw the flush port connector onto the garden hose.

6. Turn on the fresh water supply and flush the outboard motor for at least 10 minutes.
7. After flushing, disconnect the garden hose and reconnect the flush port connector.
8. Tilt up the outboard motor and move the tilt lock lever to the LOCK position.

- When using the water hose joint:



12. MAINTENANCE

Periodic maintenance and adjustment are important to keep the outboard 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.

Be sure to reinstall the engine cover, if it was removed, before starting the engine. Lock the engine cover fixing lever securely (see page 66).

NOTICE

- **If the engine must be run, make sure there is water at least 100 mm (4 in) above the anticavitation plate, otherwise the water pump may not receive sufficient cooling water, and the engine will overheat.**
- **Use only Honda Genuine parts or their equivalents for maintenance or repair. The use of replacement parts which are not of equivalent quality may damage the outboard motor.**

Tool Kit and Emergency Parts

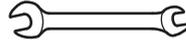
The following tools and owner's manual are supplied with the outboard motor for maintenance, adjustment, and emergency repairs.

<Spare Emergency Stop Switch Clip>

A spare emergency stop switch clip is available from your outboard motor dealer.

Always carry a spare emergency stop switch clip onboard. The spare clip may either be stored in the tool bag or in an easily accessible location on the boat.

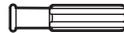
8 × 10 mm WRENCH



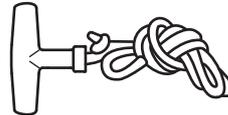
**PHILLIPS
SCREWDRIVER**



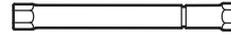
GRIP



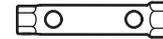
EMERGENCY STARTER ROPE



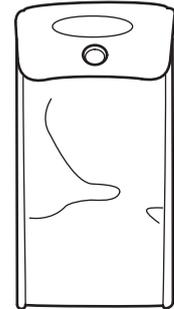
SPARK PLUG WRENCH



18 × 19 mm WRENCH



FUSE PULLER



TOOL BAG

MAINTENANCE

MAINTENANCE SCHEDULE

ITEM	REGULAR SERVICE PERIOD (3) Perform at every indicated month or operating hour interval, whichever comes first.	Each use	After use	First month or 20 hrs.	Every 6 months or 100 hrs.	Every year or 200 hrs.	Every 2 years or 400 hrs.	Refer to page
Engine oil	Check level	o						67
	Change			o	o			142
Engine oil filter	Replace					o (2)		—
Gear case oil	Change			o (2)	o (2)			—
Throttle linkage	Check-adjust			o (2)	o (2)			—
Valve clearance	Check-adjust					o (2)		—
Spark plug (Standard plug)	Check-adjust/Replace				o			144—146
Spark plug (Optional iridium plug)	Check					o		146—147
	Clean					o (2)		—
	Replace						o	146—147
Propeller and cotter pin	Check	o						71
Anode (Outside engine)	Check	o						77
Anode (Inside engine)	Check						o (2) (6)	—
Idling speed	Check-adjust			o (2)	o (2)			—
Lubrication	Grease			o (1)	o (1)			150, 151
Water separator	Check	o						152

NOTE:

- (1) Lubricate more frequently when used in salt water.
- (2) These items should be serviced by your servicing dealer, unless you have the proper tools and are mechanically proficient. Refer to the Honda Shop Manual for service procedures.
- (3) For professional commercial use, log hours of operation to determine proper maintenance intervals.
- (6) Replace the anodes when they have been reduced to about two-thirds of their original size, or if they are crumbling.

MAINTENANCE

ITEM	REGULAR SERVICE PERIOD (3) Perform at every indicated month or operating hour interval, whichever comes first.	Each use	After use	First month or 20 hrs.	Every 6 months or 100 hrs.	Every year or 200 hrs.	Every 2 years or 400 hrs.	Refer to page
Fuel filter (Low pressure side)	Check Replace				o			155, 156 156, 157
Fuel filter (High pressure side)	Check Replace				o (2)		o (2)	— —
Fuel tank and tank filter	Clean					o		157, 158
Fuel line	Check Replace	o (8)						78 —
Thermostat	Check					o (2)		—
Battery and cable connection	Check level-tightness	o						75, 148
Bolts and Nuts	Check-tightness			o (2)	o (2)			—
Breather tube	Check					o (2)		—
Cooling water passages	Clean		o (4)		o (4)			—
Coolant leak	Check		o					162
Water pump	Check					o (2)		—
Emergency stop switch	Check	o						—
Engine oil leak	Check	o						—
Each operation part	Check	o						—
Engine condition (5)	Check	o						—
Power Trim/Tilt	Check				o (2)			—
Shift Cable	Check-adjust				o (2) (7)			—

NOTE:

- (2) These items should be serviced by your servicing dealer, unless you have the proper tools and are mechanically proficient. Refer to the 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.
- (5) Upon starting, check for unusual engine sounds and cooling water flowing freely from the check hole.
- (7) The user who performs shift operation frequently will recommend you exchange of a shift cable around three years.
- (8) Check the fuel line for leaks, cracks, or damage. If it is leaking, cracked, or damaged, take it to your servicing dealer for replacement before using your outboard.
- (9) Replace the fuel line if there are signs of leaks, cracks, or damage.

MAINTENANCE

Engine Oil

Insufficient or contaminated engine oil adversely affects the service life of the sliding and moving parts.

Oil change interval:

20 operating hours after the date of purchase or first month for initial replacement, then every 100 operating hours or 6 months.

Oil capacity:

4.2 L (4.4 US qt, 3.7 Imp qt)

...when oil filter is not replaced

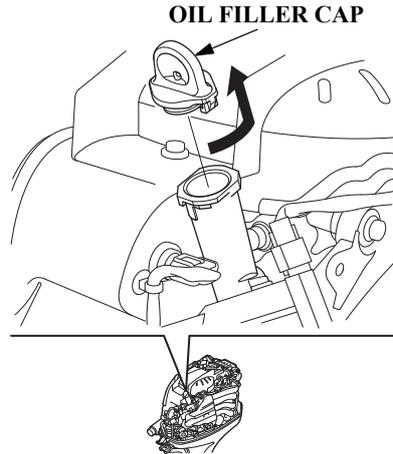
4.4 L (4.6 US qt, 3.9 Imp qt)

...when oil filter is replaced

Recommended Oil:

SAE 10W-30 engine oil or equivalent, API Service category SG, SH, SJ or SL.

<Engine Oil Replacement>

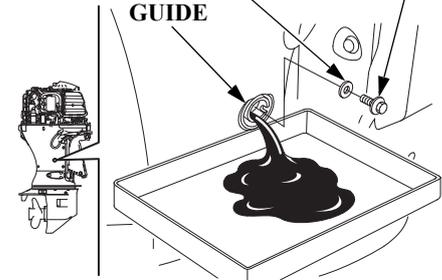


Drain the oil while the engine is still warm to assure rapid and complete draining.

1. Position the outboard motor vertically, and remove the engine cover. Remove the oil filler cap (see page 68).

SEALING WASHER
(Replace)

DRAIN BOLT

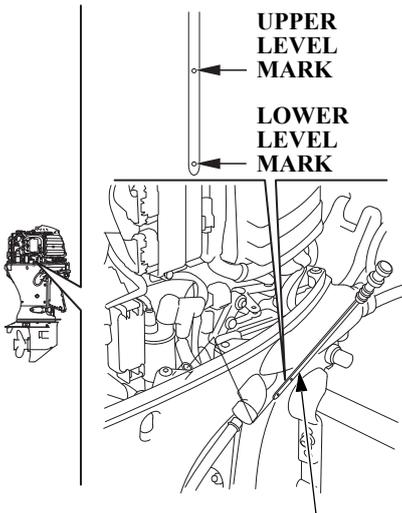


2. Place a suitable container under the guide.
3. Remove the engine oil drain bolt and sealing washer using the wrench and drain the engine oil.

Install a new sealing washer and drain bolt, and tighten bolt securely.

DRAIN BOLT TIGHTENING TORQUE:

23 N·m (2.3 kgf·m , 17 lbf·ft)



OIL LEVEL DIPSTICK

4. Refill to the upper level mark on the oil level dipstick with the recommended oil.
5. Install the dipstick securely.

6. Reinstall the oil filler cap securely. Do not overtighten (see page 69).
7. Install and lock the engine cover securely.

NOTE:

Please dispose of used outboard 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.

Wash your hands with soap and water after handling used oil.

MAINTENANCE

Spark Plugs

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

⚠ CAUTION

The spark plug becomes very hot during operation and will remain hot for a while after stopping the engine. Allow the engine to cool before servicing the spark plug.

See page 146 for instructions of handling the iridium spark plugs (optional parts).

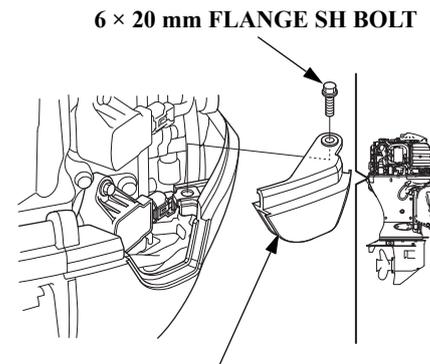
<Standard Spark Plug>
Recommended spark plug:
ZFR6K-9E (NGK)

NOTICE

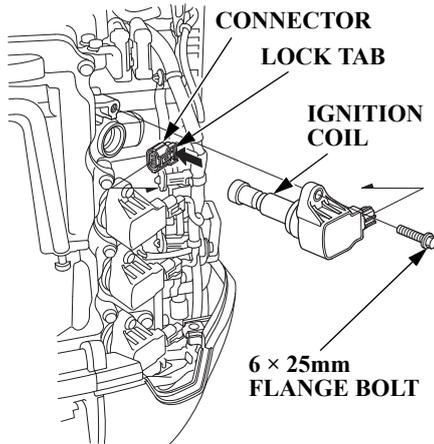
Use only the recommended spark plugs or equivalent. Spark plugs which have an improper heat range may cause engine damage.

<Inspection and Replacement>

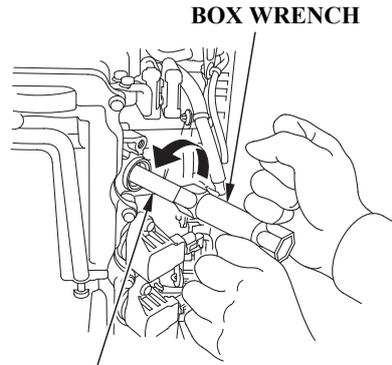
1. Disconnect the battery negative (-) terminal.
2. Unlock and remove the engine cover (see page 66).



3. Remove the 6 × 20 mm flange SH bolt and remove the plug maintenance cover.

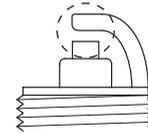


4. Remove the 6 × 25 mm flange bolt. Disconnect the connector by pushing the lock tab and remove the ignition coil.

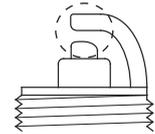


5. Remove the spark plug using the plug wrench, box wrench and the screwdriver (accessories).

New plug

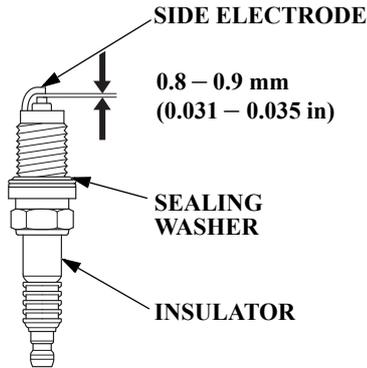


Plug needing replacement



6. Inspect the spark plugs.
- (1) If the electrodes are heavily corroded or carbon-soiled, clean with a wire brush.
 - (2) Replace a spark plug if the central electrode is worn. The spark plug can wear out in different ways. If the sealing washer shows signs of wear, or if the insulators are cracked or chipped, replace the spark plugs.

MAINTENANCE



7. Measure the plug gaps with a wire-type feeler gauge. The gaps should be 0.8 – 0.9 mm (0.031 – 0.035 in). Correct as necessary by carefully bending the side electrode.
8. Thread the plugs in by hand to prevent cross threading.
9. After the spark plugs are seated, tighten with a spark plug wrench to compress the washers.

SPARK PLUG TORQUE:

18 N·m (1.8 kgf·m , 13 lbf·ft)

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.

NOTICE

The spark plugs must be securely tightened. An improperly tightened plug can become very hot and may cause engine damage.

10. Push the wire connector onto the ignition coil. Make sure it locks in place.
11. Install the ignition coil. Reinstall the bolt.
12. Repeat this procedure for the other three spark plugs.
13. Reinstall the plug maintenance cover and engine cover. When reinstalling the covers, make sure not to jam the wire harnesses in between the covers and engine case.

<Optional Parts: Iridium Spark Plug>

Recommended spark plug:
IZFR6K-11E (NGK)

NOTICE

Use only the recommended spark plugs or equivalent. Spark plugs which have an improper heat range may cause engine damage.

Installation and removal procedure of the iridium spark plugs are the same as the standard spark plugs.

These spark plugs have an iridium coated center electrode. Be sure to observe the following when servicing iridium spark plugs.

- Do not clean the spark plugs. If an electrode is contaminated with accumulated objects or dirt, replace the spark plug with a new one. The cleaning of the iridium spark plugs consult with an authorized Honda outboard motor dealer, unless the owner has the proper tools and is mechanically proficient.
- Use only a “wire-type feeler gauge” to check the spark plug gap if necessary. To prevent damaging the iridium coating of the center electrode, never use a “leaf-type feeler gauge.” The gaps should be 1.0 – 1.3 mm (0.039 – 0.051 in).
- Do not adjust the spark plug gap. If the gap is out of specification, replace the spark plug with a new one.

MAINTENANCE

Battery

NOTICE

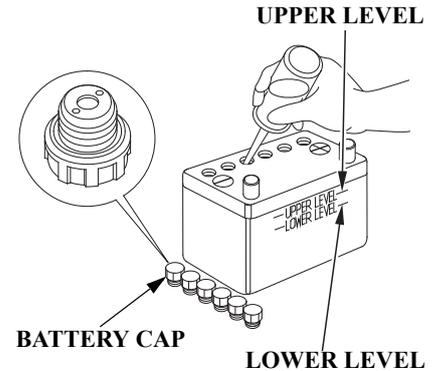
Battery handling differs according to the type of the battery and the instructions described below might not be applicable to the battery of your outboard. Refer to the battery manufacturer's instructions.

▲WARNING

Batteries produce explosive gases: If ignited, an explosion can cause serious injury or blindness. Provide adequate ventilation when charging.

- **CHEMICAL HAZARD:** Battery electrolyte contains sulfuric acid. Contact with eyes or skin, even through clothing, may cause severe burns. Wear a faceshield and protective clothing.

- Keep flames and sparks away, and do not smoke in the area.
ANTIDOTE: If electrolyte gets into your eyes, flush thoroughly with warm water for at least 15 minutes and call a physician immediately.
- **POISON:** Electrolyte is poison.
ANTIDOTE:
 - External: Flush thoroughly with water.
 - Internal: Drink large quantities of water or milk. Follow with milk of magnesia or vegetable oil, and call a physician immediately.
- **KEEP OUT OF REACH OF CHILDREN.**



<Battery Fluid Level>

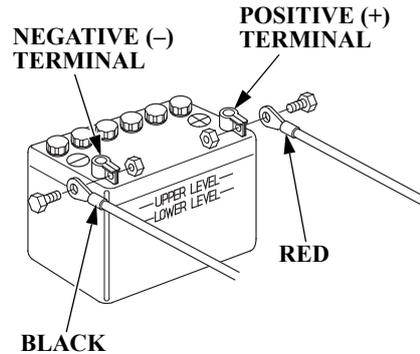
Check whether the battery fluid is between the upper and lower levels, and check the vent hole in the battery caps for clogging.

If the battery fluid is near or below the lower level, add the distilled water to the upper level.

<Battery Cleaning>

1. Disconnect the battery cable at the battery negative (–) terminal, then at the battery positive (+) terminal.
2. Remove the battery and clean the battery terminals and battery cable terminals with a wire brush or sand paper.

Clean the battery with a solution of baking soda and warm water, taking care not to get the solution or water in the battery cells. Dry the battery thoroughly.



3. Connect the battery positive (+) cable to the battery positive (+) terminal, then the battery negative (–) cable to the battery negative (–) terminal. Tighten the bolts and nuts securely. Coat the battery terminals with grease.

⚠ CAUTION

When disconnecting the battery cable, be sure to disconnect at the battery negative (–) terminal first. To connect, connect at the positive (+) terminal first, then at the negative (–) terminal. Never disconnect the battery cable in the reverse order, or it causes a short circuit when a tool contacts the terminals.

MAINTENANCE

Lubrication

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

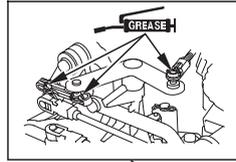
Lubrication interval:

20 hours or a month after the date of purchase for initial lubrication, then every 100 hours or 6 months.

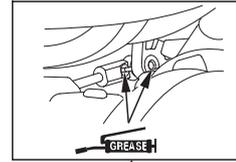
NOTE:

- Apply anticorrosion oil to pivot surfaces where grease cannot penetrate.
- Lubricate more frequently when used in salt water.

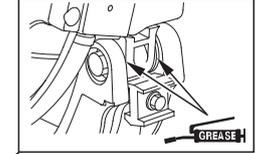
**THROTTLE ARM/
LINK/PIVOT/PLATE**



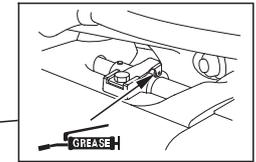
THROTTLE ROD/LINK



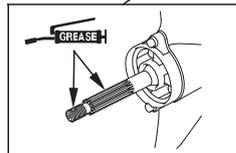
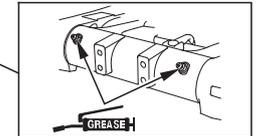
**TILLER HANDLE
(H type)**



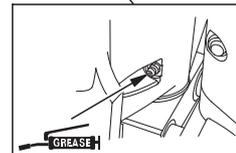
TILT BRACKET



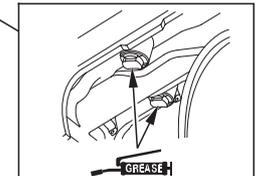
TILT SHAFT



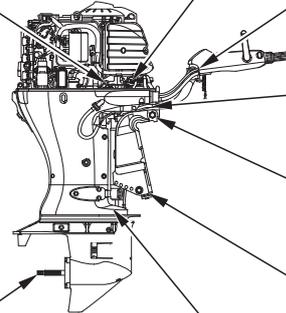
PROPELLER SHAFT



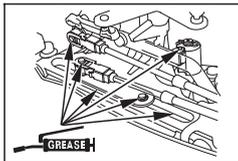
SWIVEL CASE



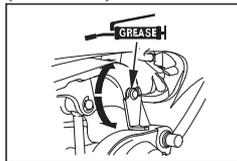
THRUST RECEIVER



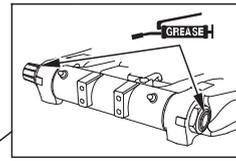
**SHIFT LINK BRACKET/
SHIFT PIVOT/SHIFT ARM/
LINK PIN/PIVOT PLATE/
SLIDE PIVOT/
CLICK SPRING ROLLER**



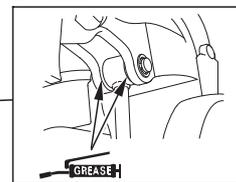
**TILT LOCK LEVER
(each side)**



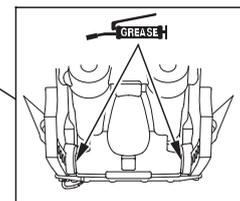
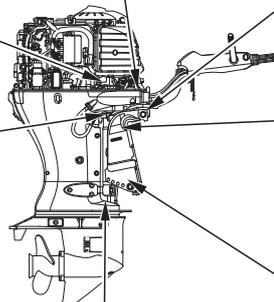
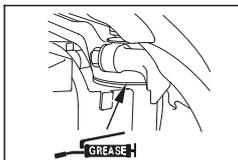
TILT SHAFT THREAD



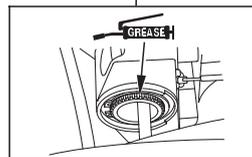
**UPPER CYLINDER PIN/
BUSHING**



MOUNT FRAME



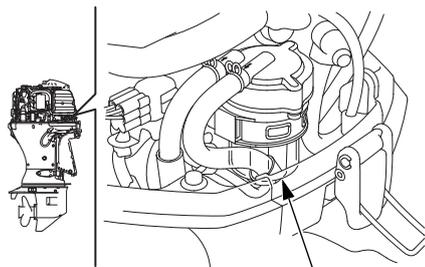
**LOWER CYLINDER BUSHING/
COLLAR**



SWIVEL SHAFT

MAINTENANCE

Water Separator



WATER SEPARATOR

Water separator is located near by the engine cover fixing lever of the boat side. Water accumulation in the water separator can cause loss of power or hard starting. Check the water separator periodically. Clean it or consult with an authorized Honda outboard motor dealer for cleaning.

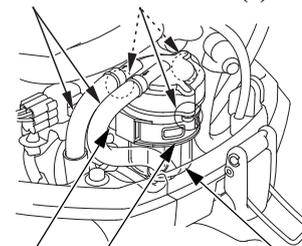
▲WARNING

Gasoline is extremely flammable, and gasoline vapor can explode, causing serious injury or death. Do not smoke or allow flames or sparks in your working area. **KEEP OUT OF REACH OF CHILDREN.**

- 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 cleaning the water separator. Spilled fuel or fuel vapor may ignite. If any fuel is spilled, make sure the area is dry before starting the engine.

<Cleaning>

FUEL TUBES SCREWS (3)



SUSPENSION STRAP

WATER SEPARATOR

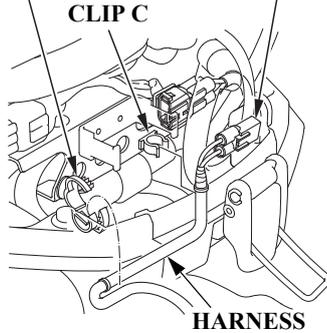
WATER SEPARATOR BRACKET

1. Remove the engine cover (see page 66).
2. Remove the suspension strap from the water separator bracket, then remove the strap from the separator assembly.

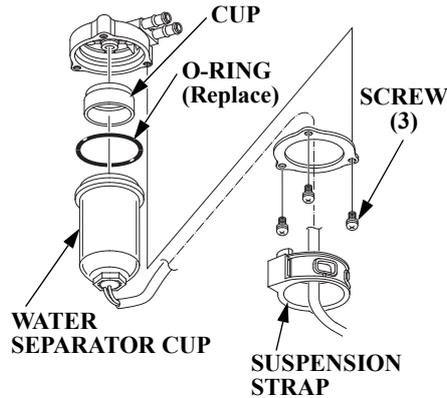
NOTICE

During removal of the water separator assembly, take care not to damage the wire harness with the water separator bracket.

HARNESS CLIP **WATER LEVEL SENSOR 2 PIN CONNECTOR**



3. Open the harness clip and remove the harness from the clip C, then disconnect the water level sensor 2 pin connector.
4. Pinch the fuel tubes with tube clips to prevent fuel leakage.
5. Disconnect the fuel tubes from the water separator.

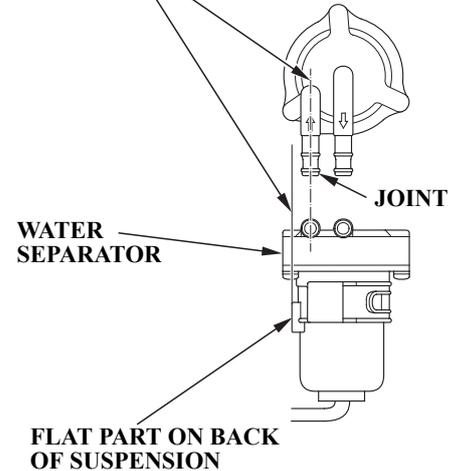


6. Remove the three screws and separate the water separator cup from the body.
7. Thoroughly clean the water separator cup.
8. Reassemble the water separator body and the cup using a new O-ring.

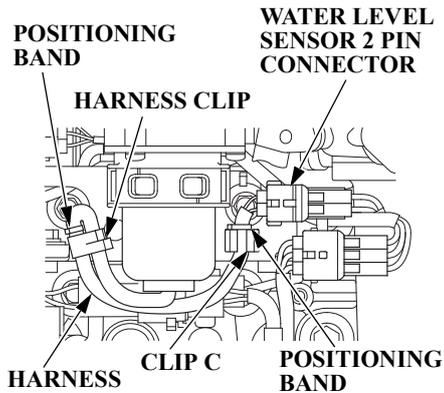
TIGHTENING TORQUE:
4.2 N·m (0.43 kgf·m, 3.1 lbf·ft)

- Assemble so the flat part on the back of the suspension is parallel to the water separator joint as shown below.

Assemble so the flat part of the suspension and the water separator joint are parallel to each other.



MAINTENANCE



9. Connect the water level sensor 2 pin connector. Install the harness to the clip C and harness clip. Align the positioning bands on the harness with the end of the clip C and harness clip as shown above.

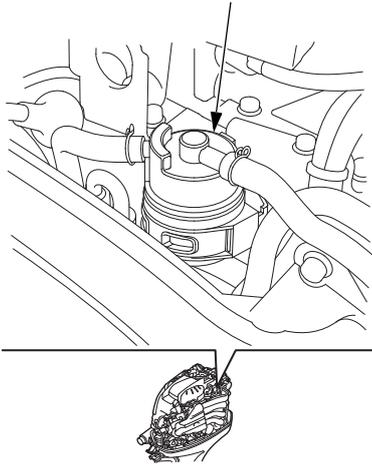
10. Reinstall the water separator in the reverse order of removal.
11. Prime the engine using the priming bulb (p.80). Check for fuel leaks.
Repair any fuel leaks if necessary.

NOTE:

If the buzzer sounds, water or sediment accumulation is found to be caused by excessive water or sediment accumulated in the water separator cup, inspect the fuel tank. Clean the fuel tank if necessary.

Fuel Filter

FUEL FILTER
(inside strainer cup)



The fuel filter (inside the strainer cup) is located between the fuel pump and the water separator.

Water or sediment accumulated in the fuel filter can cause loss of power or hard starting. Check and replace the fuel filter periodically.

Inspection interval:

Every 100 operating hours or 6 months.

Replacement interval:

Every 400 operating hours or 2 years.

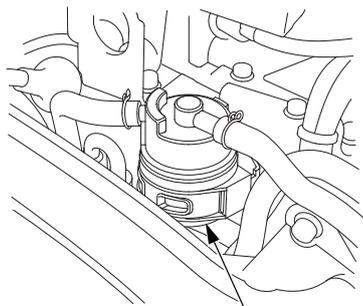
▲WARNING

Gasoline is extremely flammable, and gasoline vapor can explode, causing serious injury or death. Do not smoke or allow flames or sparks in your working area. KEEP OUT OF REACH OF CHILDREN.

- 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.

MAINTENANCE

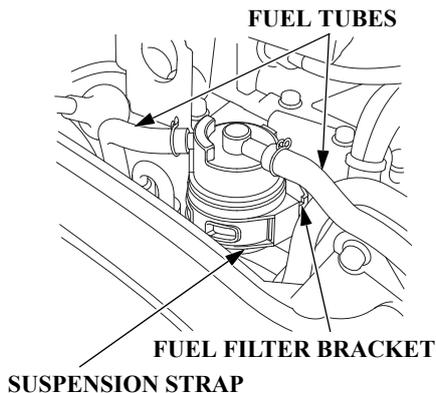
<Inspection>



**FUEL FILTER
(inside strainer cup)**

1. Remove the engine cover (see page 66).
2. Looking through the translucent strainer cup, check the fuel filter for water accumulation and clogging.
If necessary, replace the fuel filter with a new one.

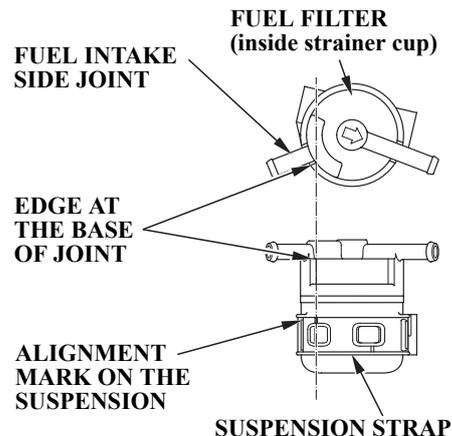
<Replacement>



1. Remove the suspension strap from the fuel filter bracket, then remove the strap from the fuel filter assembly.

NOTE:
Before removing the filter, pinch the fuel tubes on each side of filter using tube clips to prevent fuel leakage.

2. Disconnect the fuel tubes from the fuel filter.



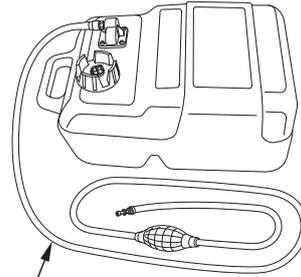
3. Install a new fuel filter in the reverse order of removal.
Assemble the fuel filter with the strainer cup by aligning the edge at the base of the fuel intake side joint of the fuel filter with the alignment mark on the suspension as shown above.

4. Prime the engine using the priming bulb (see page 80). Check for fuel leaks. Repair any fuel leaks if necessary.

NOTE:

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

Fuel Tank and Tank Filter (equipped type)



FUEL LINE

Cleaning interval:

Every year or after every 200 hours of outboard motor operation.

<Fuel Tank Cleaning>

▲WARNING

Gasoline is extremely flammable, and gasoline vapor can explode, causing serious injury or death. Do not smoke or allow flames or sparks in your working area. KEEP OUT OF REACH OF CHILDREN.

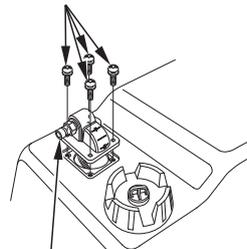
- Always work in a well-ventilated area.
- Be sure that any fuel drained from the fuel tank is stored in a safe container.
- Be careful not to spill fuel when cleaning the tank and filter. Spilled fuel or fuel vapor may ignite. If any fuel is spilled, make sure the area is dry before starting the engine.

MAINTENANCE

1. Disconnect the fuel line from fuel tank.
2. Empty the tank, pour in a small quantity of gasoline, and clean the tank thoroughly by shaking it. Drain and dispose of the gasoline properly.

<Tank Filter Cleaning>

5 mm SCREWS



FUEL TANK
FILTER JOINT
(Fuel Hose Connector)

CONNECTOR
GASKET



FUEL TANK
FILTER

1. Remove the four 5 mm screws using a flat screwdriver, and then remove the fuel hose connector and fuel tank filter from the tank.
2. Clean the filter in nonflammable solvent. Inspect the fuel tank filter and the connector gasket. Replace them if damaged.
3. Reinstall the filter and hose connector in the fuel tank. Tighten the four 5 mm screws securely.

EMISSION CONTROL SYSTEM

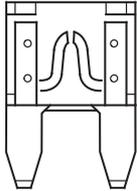
The combustion process produces carbon monoxide and hydrocarbons. Control of hydrocarbons is very important because under certain conditions, they react to form photochemical smog when subjected to sunlight. Carbon monoxide does not react in the same way, but it is toxic.

Problems that May Affect Outboard Motor Emissions

If you are aware of any of the following symptoms, have the outboard motor inspected and repaired by your authorized Honda dealer:

1. Hard starting or stalling after starting
2. Rough idle
3. Misfiring or backfiring during acceleration
4. Poor performance (driveability) and poor fuel economy

Fuse

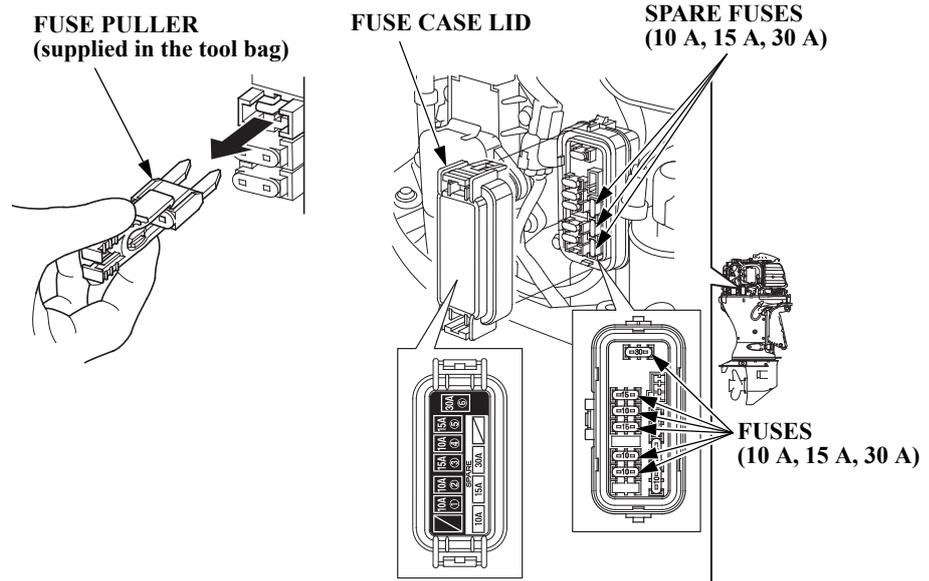


BLOWN FUSE

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

▲WARNING

- **Never use a fuse with a different rating from that specified. Serious damage to the electrical system or a fire may result.**
- **Disconnect the battery cable at the battery negative (-) terminal before replacing the fuse. Failure to do so may cause a short circuit.**



MAINTENANCE

NOTICE

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 found, the fuse may blow again.

<Replacement>

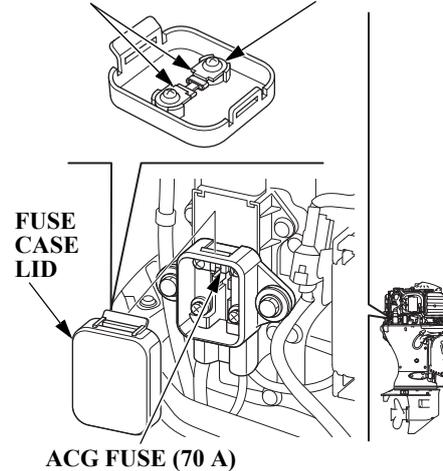
1. Stop the engine.
2. Remove the engine cover.
3. Remove the fuse case lid and pull the old fuse out of the clip with the fuse puller supplied in the tool bag.
4. Push a new fuse into the clips.

DESIGNATED FUSE:

10 A, 15 A, 30 A

ACG Fuse

"70 A" MARK SPARE FUSE (70 A)



NOTICE

Disconnect the battery cable at the battery terminal before checking or replacing the ACG fuse.

<Replacement>

A spare fuse is located in the reverse side of the fuse case lid and tightened with two 3 mm screws.

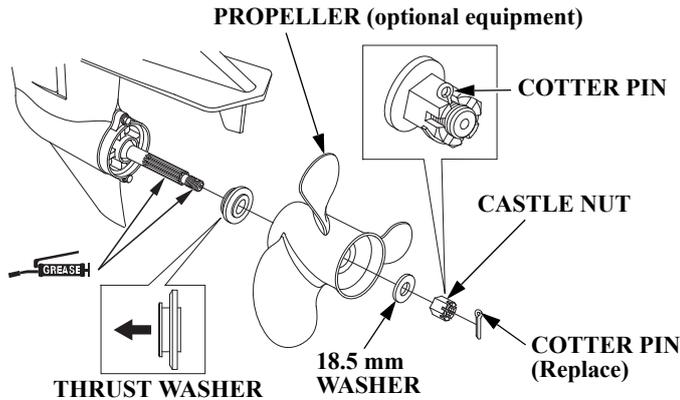
When the new fuse is set as a spare fuse on the reverse side of the fuse case lid, set the fuse so that you can see the "70 A" mark on it.

1. Stop the engine.
2. Remove the engine cover.
3. Remove the fuse case lid.
4. Remove the old fuse by removing two 5 mm screws.
5. Install a new fuse with "70 A" mark downward.
6. After finishing replacement, install the fuse case lid with its hook toward the engine side.
7. Be sure to check the fuse case lid is securely locked.

DESIGNATED FUSE:

70 A

Propeller



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

▲WARNING

- **When replacing, remove the emergency stop switch clip to prevent an accidental startup of the engine.**
- **The propeller is thin and sharp. To protect your hands, wear the heavy gloves during replacement.**

Replacement

1. Remove the coter pin then remove the 18 mm castle nut, washer, propeller and thrust washer.
2. Install the new propeller in the reverse sequence to removal.

3. Tighten the castle nut with your hand first until the propeller has no play. Then, tighten the castle nut again with a tool until the groove in the castle nut aligns with the coter pin hole. (Note that this tool is not included in the tools that come together with the outboard motor.)

CASTLE NUT TIGHTENING TORQUE:

1 N·m (0.1 kgf·m, 0.7 lbf·ft)

UPPER LIMIT OF TORQUE:

44.1 N·m (4.5 kgf·m, 33 lbf·ft)

4. Be sure to replace the coter pin with a new one.

NOTE:

- Install the thrust washer with the grooved side toward the gear case.
- Use a genuine Honda coter pin and bend the pin ends as shown.

MAINTENANCE

Inspect After Operating

1. Stop the engine and remove the engine cover (see page 66).
2. Confirm the cooling water leakage from the engine.

Submerged Outboard Motor

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

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

1. Remove the engine cover, and rinse the outboard motor with fresh water to remove salt water, sand, mud, etc.

NOTICE

If the outboard 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 outboard motor until it has been repaired.

2. Drain the vapor separator as described on page 164.
3. Change the engine oil (see page 142).
4. Remove the spark plugs (see pages 144–147). Operate the starter to expel water from the engine's cylinders.
5. Pour a teaspoon of engine oil into each spark plug hole, then pull the emergency starter rope several times to lubricate the inside of the cylinders.
Reinstall the spark plugs.
6. Install the engine cover and lock the fixing lever securely (see page 66).

7. 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 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.
 - 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 100 mm (4 in) above the anticavitation plate).
8. As soon as possible, take the outboard motor to your outboard motor dealer for inspection and service.

For longer service life of the outboard motor, have your outboard motor serviced by your outboard motor dealer before storage. However, the following procedures can be performed by you, the owner, with a minimum of tools.

Fuel

NOTE:

Gasoline spoils very quickly depending on factors such as light exposure, temperature and time.

In worst cases, gasoline can be contaminated within 30 days.

Using contaminated gasoline can seriously damage the engine (fuel system clogged, valve stuck).

Such damage due to spoiled fuel is disallowed from coverage by the warranty.

To avoid this please strictly follow these recommendations:

- Only use specified gasoline (see page 69).
- Use fresh and clean gasoline.

- To slow deterioration, keep gasoline in a certified fuel container.
- If long storage (more than 30 days) is foreseen, drain fuel tank and vapor separator.

STORAGE

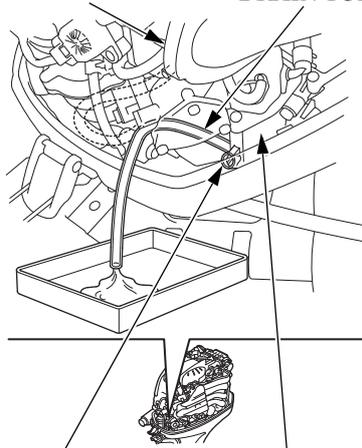
Vapor Separator Draining

▲WARNING

Gasoline is extremely flammable, and gasoline vapor can explode, causing serious injury or death. Do not smoke or allow flames or sparks in your working area. KEEP OUT OF REACH OF CHILDREN.

- 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 outboard motor.
- Do not smoke or allow flames or sparks where fuel is drained or stored.

INTAKE MANIFOLD DRAIN TUBE



DRAIN SCREW VAPOR SEPARATOR

1. Remove the engine cover.
2. Release the drain tube from the projection of the intake manifold and bring the end of the drain tube out of the under cover.
3. Loosen the vapor separator drain screw.
4. Tilt up the outboard motor.
5. When the gasoline starts to flow out of the drain tube, tilt up the outboard motor and hold it in the position until the gasoline stops flowing. After draining the gasoline completely, return the outboard motor to the horizontal position. Catch the draining gasoline in a suitable container.
6. After draining, tighten the drain screw and secure the drain tube to the projection of the intake manifold.

Battery Storage

NOTICE

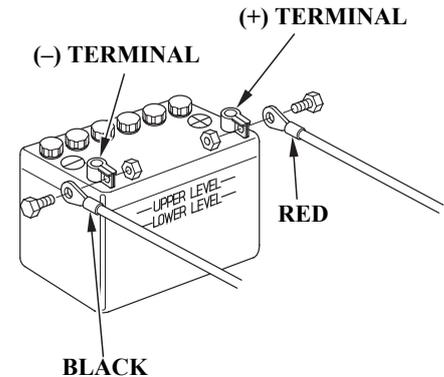
Battery handling differs according to the type of the battery and the instructions described below might not be applicable to the battery of your outboard motor. Refer to the battery manufacturer's instructions.

▲WARNING

Batteries produce explosive gases: If ignited, an explosion can cause serious injury or blindness. Provide adequate ventilation when charging.

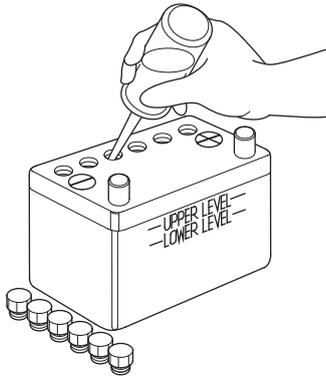
- **CHEMICAL HAZARD:** Battery electrolyte contains sulfuric acid. Contact with eyes or skin, even through clothing, may cause severe burns. Wear a faceshield and protective clothing.

- Keep flames and sparks away, and do not smoke in the area.
ANTIDOTE: If electrolyte gets into your eyes, flush thoroughly with warm water for at least 15 minutes and call a physician immediately.
- **POISON:** Electrolyte is poison.
ANTIDOTE
 - External: Flush thoroughly with water.
 - Internal: Drink large quantities of water or milk. Follow with milk of magnesia or vegetable oil, and call a physician immediately.
- **KEEP OUT OF REACH OF CHILDREN.**



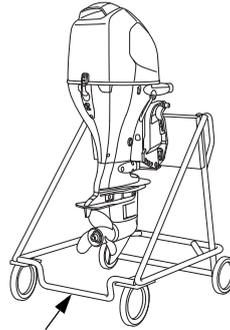
1. Disconnect the battery cable at the battery negative (-) terminal, then at the battery positive (+) terminal.
2. Remove the battery and clean the battery terminals and battery cable terminals with a wire brush or sand paper. Clean the battery with a solution of baking soda and warm water, taking care not to get the solution of water in the battery cells. Dry the battery thoroughly.

STORAGE



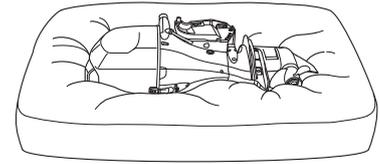
3. Fill the battery with distilled water to the upper level line. Never overfill the battery.
4. Store the battery on a level surface in a cool, dry, well ventilated place out of direct sunlight.
5. Once a month, check the specific gravity of the electrolyte and recharge as required to prolong battery life.

Outboard Motor Position



OUTBOARD MOTOR STAND

Transport and store the outboard motor either vertically, as shown above. Attach the stern bracket to stand and secure the outboard motor with bolts and nuts. Store the outboard motor in a well-ventilated area free from direct sunlight and humidity.



(Port side turned down as shown.)

▲WARNING

Do not place the outboard motor on its side during a prolonged period of storage. If you are obliged to place the outboard motor on its side, drain the engine oil, protect the outboard motor by wrapping it with the urethane material or the blanket as shown.

14. DISPOSAL

To protect the environment, do not dispose of this product, battery, engine oil, etc. carelessly by leaving them in the waste. Observe the local laws and regulations or consult your dealer for disposal.

15. TROUBLESHOOTING

WARNING SYSTEM COMES ON

SYMPTOM	POSSIBLE CAUSE	REMEDY
<p>Overheat warning system comes on:</p> <ul style="list-style-type: none">• Overheat indicator comes on.• Overheat warning buzzer sounds.• Engine speed decreases and stops at last.• Engine speed cannot be increased by opening the throttle.• Engine will stop in 20 seconds after engine speed is limited.	Cooling water intake port clogged.	Clean the cooling water intake port.
	Spark plugs have improper heat range.	Replace the spark plugs (see pages 144 – 147).
	<ul style="list-style-type: none">• Faulty water pump.• Thermostat clogged.• Faulty thermostat.• Cooling water passage clogged.• Exhaust gas invades cooling system.	Consult with an authorized Honda outboard motor dealer.
<p>Oil pressure warning system comes on:</p> <ul style="list-style-type: none">• Oil pressure indicator does not come on.• Oil pressure warning buzzer sounds.• Engine speed decreases.• Engine speed cannot be increased by opening the throttle.	Shortage of engine oil	Add engine oil to the specified level (see page 67).
	Improper engine oil is used.	Change the engine oil (see page 142).

TROUBLESHOOTING

SYMPTOM	POSSIBLE CAUSE	REMEDY
Water separator warning system comes on: • Water separator warning buzzer sounds.	Water is accumulated in the water separator.	Clean the water separator (see page 152). Check the fuel tank and fuel line for water accumulation. If the buzzer sounds again, consult with an authorized Honda outboard motor dealer.
PGM-FI warning system comes on: • PGM-FI indicator comes on. • PGM-FI warning buzzer sounds intermittently.	PGM-FI warning system is faulty.	Consult with an authorized Honda outboard motor dealer.
ACG warning system comes on: • ACG indicator comes on. • ACG warning buzzer sounds intermittently.	Battery voltage is too high or low.	Check the battery (see page 148).
	Faulty ACG.	Consult with an authorized Honda outboard motor dealer.

16. SPECIFICATIONS

MODEL	BF75D K4	
Description code	BBAJ	
Type	LHG	LRT
Overall length	900 mm (35.4 in)	742mm (29.2 in)
Overall width	646 mm (25.4 in)	459 mm (18.1 in)
Overall height	1,576 mm (62.0 in)	
Transom height (when Transom angle is 12°)	537 mm (21.1 in)	
Dry mass (weight)*	167 kg (368 lbs)	165 kg (364 lbs)
Rated power	55.2 kW (75 PS)	
Full throttle range	5,000 – 6,000 min ⁻¹ (rpm)	
Engine type	4 stroke OHC in-line 4-cylinder	
Displacement	1,496 cm ³ (91.3 cu-in)	
Spark plug gap	0.8 – 0.9 mm (0.031 – 0.035 in)	
Remote control steering system	—	Motor-mounted, remote control
Starter system	Electric starter	
Ignition system	Full transistor battery	
Lubrication system	Trochoid pump pressure lubrication	

Specified oil	Engine: API standard (SG, SH, SJ, SL) SAE 10W-30 Gear case: API standard (GL-4) SAE 90 Hypoid gear oil
Engine oil capacity	Engine: Without oil filter replacement: 4.2 L (4.4 US qt, 3.7 Imp qt) With oil filter replacement: 4.4 L (4.6 US qt, 3.9 Imp qt) Gear case: 0.95 L (1.00 US qt, 0.84 Imp qt)
D.C. output	12 V – 35 A
Cooling system	Water cooling with thermostat
Exhaust system	Water exhaust
Spark plug	ZFR6K-9E (NGK)
Fuel pump	Low pressure side: mechanical type High pressure side: electrical type
Fuel	Automotive unleaded gasoline (91 research octane, 86 pump octane, or higher)
Gear shift	Dog type: Forward – Neutral – Reverse
Steering angle	30° right and left
Trim angle	– 4° to 16° (when Transom angle is 12°)
Tilt up angle	68° (when Transom angle is 12°)
Transom angle	8°, 12°, 16°, 20°, 24°

* Without battery cable, with propeller

Honda outboards are power rated in accordance with ISO8665 (propeller shaft output).

SPECIFICATIONS

MODEL	BF80A K1		
Description code	BBLJ		
Type	LHT	LRT	XRT
Overall length	900 mm (35.4 in)	742mm (29.2 in)	
Overall width	646 mm (25.4 in)	459 mm (18.1 in)	
Overall height	1,576 mm (62.0 in)		1,703 mm (67.0 in)
Transom height (when Transom angle is 12°)	537 mm (21.1 in)		664 mm (26.1 in)
Dry mass (weight)*	171 kg (377 lbs)	165 kg (364 lbs)	171 kg (377 lbs)
Rated power	58.8 kW (80 PS)		
Full throttle range	5,000 – 6,000 min ⁻¹ (rpm)		
Engine type	4 stroke OHC in-line 4-cylinder		
Displacement	1,496 cm ³ (91.3 cu-in)		
Spark plug gap	0.8–0.9 mm (0.031 – 0.035 in)		
Remote control steering system	—	Motor-mounted, remote control	
Starter system	Electric starter		
Ignition system	Full transistor battery		
Lubrication system	Trochoid pump pressure lubrication		

Specified oil	Engine: API standard (SG, SH, SJ, SL) SAE 10W-30 Gear case: API standard (GL-4) SAE 90 Hypoid gear oil
Engine oil capacity	Engine: Without oil filter replacement: 4.2 L (4.4 US qt, 3.7 Imp qt) With oil filter replacement: 4.4 L (4.6 US qt, 3.9 Imp qt) Gear case: 0.95 L (1.00 US qt, 0.84 Imp qt)
D.C. output	12 V – 35 A
Cooling system	Water cooling with thermostat
Exhaust system	Water exhaust
Spark plug	ZFR6K-9E (NGK)
Fuel pump	Low pressure side: mechanical type High pressure side: electrical type
Fuel	Automotive unleaded gasoline (91 research octane, 86 pump octane, or higher)
Gear shift	Dog type: Forward – Neutral – Reverse
Steering angle	30° right and left
Trim angle	– 4° to 16° (when Transom angle is 12°)
Tilt up angle	68° (when Transom angle is 12°)
Transom angle	8°, 12°, 16°, 20°, 24°

* Without battery cable, with propeller

Honda outboards are power rated in accordance with ISO8665 (propeller shaft output).

SPECIFICATIONS

MODEL	BF90D K5			
Description code	BBCJ			
Type	LHG	LHT	LRT	XRT
Overall length	900 mm (35.4 in)		742mm (29.2 in)	
Overall width	646 mm (25.4 in)		459 mm (18.1 in)	
Overall height	1,576 mm (62.0 in)			1,703 mm (67.0 in)
Transom height (when Transom angle is 12°)	537 mm (21.1 in)			664 mm (26.1 in)
Dry mass (weight)*	168 kg (370 lbs)	172 kg (379 lbs)	166 kg (366 lbs)	172 kg (379 lbs)
Rated power	66.2 kW (90 PS)			
Full throttle range	5,300 – 6,300 min ⁻¹ (rpm)			
Engine type	4 stroke OHC VTEC in-line 4-cylinder			
Displacement	1,496 cm ³ (91.3 cu-in)			
Spark plug gap	0.8– 0.9 mm (0.031 – 0.035 in)			
Remote control steering system	—		Motor-mounted, remote control	
Starter system	Electric starter			
Ignition system	Full transistor battery			
Lubrication system	Trochoid pump pressure lubrication			

Specified oil	Engine: API standard (SG, SH, SJ, SL) SAE 10W-30 Gear case: API standard (GL-4) SAE 90 Hypoid gear oil
Engine oil capacity	Engine: Without oil filter replacement: 4.2 L (4.4 US qt, 3.7 Imp qt) With oil filter replacement: 4.4 L (4.6 US qt, 3.9 Imp qt) Gear case: 0.95 L (1.00 US qt, 0.84 Imp qt)
D.C. output	12 V – 35 A
Cooling system	Water cooling with thermostat
Exhaust system	Water exhaust
Spark plug	ZFR6K-9E (NGK)
Fuel pump	Low pressure side: mechanical type High pressure side: electrical type
Fuel	Automotive unleaded gasoline (91 research octane, 86 pump octane, or higher)
Gear shift	Dog type: Forward – Neutral – Reverse
Steering angle	30° right and left
Trim angle	– 4° to 16° (when Transom angle is 12°)
Tilt up angle	68° (when Transom angle is 12°)
Transom angle	8°, 12°, 16°, 20°, 24°

* Without battery cable, with propeller

Honda outboards are power rated in accordance with ISO8665 (propeller shaft output).

SPECIFICATIONS

MODEL	BF100A K1		
Description code	BBMJ		
Type	LHT	LRT	XRT
Overall length	900 mm (35.4 in)	742mm (29.2 in)	
Overall width	646 mm (25.4 in)	459 mm (18.1 in)	
Overall height	1,576 mm (62.0 in)		1,703 mm (67.0 in)
Transom height (when Transom angle is 12°)	537 mm (21.1 in)		664 mm (26.1 in)
Dry mass (weight)*	172 kg (379 lbs)	166 kg (366 lbs)	172 kg (379 lbs)
Rated power	73.6 kW (100 PS)		
Full throttle range	5,500 – 6,300 min ⁻¹ (rpm)		
Engine type	4 stroke OHC VTEC in-line 4-cylinder		
Displacement	1,496 cm ³ (91.3 cu-in)		
Spark plug gap	0.8 – 0.9 mm (0.031 – 0.035 in)		
Remote control steering system	—	Motor-mounted, remote control	
Starter system	Electric starter		
Ignition system	Full transistor battery		
Lubrication system	Trochoid pump pressure lubrication		

Specified oil	Engine: API standard (SG, SH, SJ, SL) SAE 10W-30 Gear case: API standard (GL-4) SAE 90 Hypoid gear oil
Engine oil capacity	Engine: Without oil filter replacement: 4.2 L (4.4 US qt, 3.7 Imp qt) With oil filter replacement: 4.4 L (4.6 US qt, 3.9 Imp qt) Gear case: 0.95 L (1.00 US qt, 0.84 Imp qt)
D.C. output	12 V – 35 A
Cooling system	Water cooling with thermostat
Exhaust system	Water exhaust
Spark plug	ZFR6K-9E (NGK)
Fuel pump	Low pressure side: mechanical type High pressure side: electrical type
Fuel	Automotive unleaded gasoline (95 research octane, 91 pump octane, or higher)
Gear shift	Dog type: Forward – Neutral – Reverse
Steering angle	30° right and left
Trim angle	– 4° to 16° (when Transom angle is 12°)
Tilt up angle	68° (when Transom angle is 12°)
Transom angle	8°, 12°, 16°, 20°, 24°

* Without battery cable, with propeller

Honda outboards are power rated in accordance with ISO8665 (propeller shaft output).

SPECIFICATIONS

Noise and Vibration

MODEL	BF75D K4		BF80A K1	
CONTROL SYSTEM	T (Tiller handle)	R (Remote control)	T (Tiller handle)	R (Remote control)
Sound pressure level at operator's ears (2006/42/EC, ICOMIA 39-94)	82 dB (A)	76 dB (A)	83 dB (A)	81 dB (A)
----- Uncertainty	2 dB (A)	2 dB (A)	2 dB (A)	1 dB (A)
Measured sound power level (Reference to EN ISO3744)	91 dB (A)	—	90 dB (A)	91 dB (A)
----- Uncertainty	2 dB (A)	—	2 dB (A)	1 dB (A)
Vibration level at hand arm (2006/42/EC, ICOMIA 38-94)	Not exceed 2.5 m/s ²	—	Not exceed 2.5 m/s ²	—
----- Uncertainty	—	—	—	—

MODEL	BF90D K5		BF100A K1	
CONTROL SYSTEM	T (Tiller handle)	R (Remote control)	T (Tiller handle)	R (Remote control)
Sound pressure level at operator's ears (2006/42/EC, ICOMIA 39-94)	86 dB (A)	81 dB (A)	85 dB (A)	81 dB (A)
----- Uncertainty	2 dB (A)	2 dB (A)	2 dB (A)	2 dB (A)
Measured sound power level (Reference to EN ISO3744)	95 dB (A)	95 dB (A)	92 dB (A)	91 dB (A)
----- Uncertainty	2 dB (A)	2 dB (A)	2 dB (A)	2 dB (A)
Vibration level at hand arm (2006/42/EC, ICOMIA 38-94)	Not exceed 2.5 m/s ²	—	Not exceed 2.5 m/s ²	—
----- Uncertainty	—	—	—	—

Reference to: ICOMIA Standard: as it specifies the engine operating conditions and measurement conditions.

17. MAJOR Honda DISTRIBUTOR ADDRESSES

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18. “EC DECLARATION OF CONFORMITY” CONTENT OUTLINE

1) EC-DECLARATION OF CONFORMITY		
2) THE UNDERSIGNED, (13), REPRESENTING THE MANUFACTURER, HEREWITH DECLARES THAT THE PRODUCT IS IN CONFORMITY WITH THE PROVISIONS OF THE FOLLOWING EC-DIRECTIVES		
2006/42/EC, 2014/30/EU		
3) REFERENCE TO HARMONIZED STANDARDS:		
EN 61000-6-1: 2007, EN 55012:2007+A1:2009		
4) DESCRIPTION OF THE MACHINERY		
5) Generic denomination: Outboard engine	6) Function: Propulsion system	7) MAKE: Honda/Tohatsu
8) TYPE: <input type="text"/>	9) SERIAL NUMBER: <input type="text"/>	
10) Manufacturer: Honda Motor Co., Ltd. 2-1-1 Minamiaoyama Minato-ku Tokyo 107-8556 Japan		
11) Authorized representative and able to compile the technical documentation: Honda Motor Europe Ltd – Aalst Office Wijngaardveld 1 (Noord V) 9300 Aalst - Belgium		
12) SIGNATURE: <input type="text"/>		
13) NAME: <input type="text"/>	16) DATE: <input type="text"/>	
14) TITLE: <input type="text"/>	17) PLACE: <input type="text"/>	

“EC DECLARATION OF CONFORMITY” CONTENT OUTLINE

<p>1) DECLARATION CE DE CONFORMITE 2) LE SOUSSIGNÉ, (13), REPRÉSENTANT DU CONSTRUCTEUR, DÉCLARE PAR LA PRÉSENTE QUE LE PRODUIT EST CONFORME AUX DISPOSITIONS DES DIRECTIVES CE SUIVANTES 3) RÉFÉRENCE AUX NORMES HARMONISÉES 4) DESCRIPTION DE MACHINE 5) Denomination générique: moteur hors-bord 6) Fonction : Système de propulsion 7) MARQUE 8) TYPE 9) NUMÉRO DI SERIE 10) CONSTRUCTEUR 11) Représentant autorisé et en charge des éditions de documentation techniques 12) SIGNATURE 13) NOM 14) TITRE 15) Directeur Qualité 16) DATE 17) LIEU</p>	français (FRENCH)
<p>1) DICHIARAZIONE DI CONFORMITA' CE 2) IL SOTTOSCRITTO, (13), RAPPRESENTANTE DEL COSTRUTTORE, DICHIARA QUI DI SEGUITO CHE IL PRODOTTO E' CONFORME A QUANTO PREVISTO DALLE SEGUENTI DIRETTIVE COMUNITARIE 3) RIFERIMENTO ALLE NORME ARMONIZZATE 4) DESCRIZIONE DELLA MACCHINA 5) Denominazione generica: MOTORE FUORIBORDO 6) Funzione : Sistema di propulsione 7) MARCA 8) TIPO 9) NUMERO DI SERIE 10) FABBRICANTE 11) Rappresentante autorizzato e competente per la compilazione della documentazione tecnica 12) FIRMA 13) NOME 14) TITOLO 15) DIRETTORE DELLA QUALITA' 16) ADDI 17) LUOGO</p>	italiano (ITALIAN)
<p>1) EG-KONFORMITÄT SERKLÄUNG 2) DER UNTERZEICHNER, (13), DER DEN HERSTELLER VERTRITT, ERKLÄRT HIERMIT, DAß DAS PRODUKT IN ÜBEREINSTIMMUNG MIT DEN BESTIMMUNGEN DER NACHSTEHENDEN EG-RICHTLINIEN IST 3) VERWEIS AUF HARMONISIERTE NORMEN 4) BESCHREIBUNG DER MASCHINE 5) Allgemeine Bezeichnung : Außenbordmotor 6) Funktion : Antriebsart 7) FABRIKAT 8) TYP 9) SERIEN NUMMER 10) HERSTELLER 11) Bevollmächtigter und in der Position, die technische Dokumentation zu erstellen 12) UNTERSCHIFT 13) NAME 14) TITEL 15) Qualitätssi Cherung 16) DATUM 17) ORT</p>	deutsch (GERMAN)
<p>1) EG-VERKLARING VAN OVEREENSTEMMING 2) ONDERGETEKENDE, (13), VERTEGENWOORDIGER VAN DE FABRIKANT, VERKLAART HIERMEE DAT HET PRODUCT VOLDOET AAN DE BEPALINGEN VAN DE VOLGENDE EG-RICHTLIJNEN 3) REFERENTIE NAAR GEHARMONISERDE NORMEN 4) BESCHRIJVING VAN DE MACHINE 5) Algemene benaming : buitenboordmotor 6) Functie : Aandrijfsysteem 7) FABRIKAT 8) TYPE 9) SERIEN UMMER 10) FABRIKANT 11) Gemachtigde van de fabrikant en in staat om de technische documentatie samen te stellen 12) HANDTEKENING 13) NAAM 14) TITEL 15) Directeur Kwaliteitszorg 16) DATUM 17) PLAATS</p>	nederlands (DUTCH)
<p>1) ΕΚ-ΔΗΛΩΣΗ ΕΝΑΡΜΟΝΙΣΗΣ 2) Ο ΥΠΟΓΡΑΦΩΝ, (13), ΕΚΠΡΟΣΩΠΟΝΤΑΣ ΤΟΝ ΚΑΤΑΣΚΕΥΑΣΤΗ, ΔΙΑ ΤΟΥ ΠΑΡΟΝΤΟΣ ΔΗΛΩΝΕΙ ΟΤΙ ΤΟ ΠΡΟΪΟΝ ΒΡΙΣΚΕΤΑΙ ΣΕ ΕΝΑΡΜΟΝΙΣΗ ΜΕ ΤΙΣ ΠΡΟΒΛ ΕΨΕΙΣ ΤΩΝ ΚΑΤΩΘΙ ΟΔΗΓΙΩΝ ΤΗΣ ΕΕ 3) ΠΑΡΑΠΟΜΠΗ ΣΤΑ ΕΝΑΡΜΟΝΙΣΜΕΝΑ ΠΡΟΤΥΠΑ 4) ΠΕΡΙΓΡΑΦΗ ΜΗΧΑΝΗΜΑΤΟΣ 5) Γενική ονομασία : Εξωλέμβια μηχανή 6) Λειτουργία : Σύστημα Πρόωσης 7) ΕΡΓΟΣΤΑΣΙΟ ΚΑΤΑΣΚΕΥΗΣ 8) ΤΥΠΟΣ 9) ΑΡΙΘΜΟΣ ΣΕΙΡΑΣ 10) ΚΑΤΑΣΚΕΥΑΣΤΗΣ 11) Εξουσιοδοτημένος αντιπρόσωπος και είναι σε θέση να καταρτίσει τον τεχνικό φάκελο 12) ΥΠΟΓΡΑΦΗ 13) ΟΝΟΜΑ 14) ΤΙΤΛΟΣ 15) Υπεύθυνος Ποιότητας 16) ΗΜΕΡΟΜΗΝΙΑ 17) ΤΟΠΟΣ</p>	Ελληνικά (GREEK)
<p>1) EF ÖVERENSSTEMMELSE SERKLÆRING 2) UNDERTEGNEDE, (13), DER REPRÆSENTERER FABRIKANTEN, ERKLÆRER HERMED AT PRODUKTET ER I ÖVERENSSTEMMELSE MED BESTEMMELSERNE I FØLGE EF DIREKTIVERNE 3) REFERENCE TIL HARMONISERED E STANDARDER 4) BESKRIVELSE AF MASKINEN 5) FÆLLESBETEGNELSE : Utenbordsmotor 6) ANVENDELSE : Fremdrivningssystem 7) FABRIKANT 8) TYPE 9) SERIEN UMNER 10) FABRIKANT 11) AUTORISERET REPRÆSENTANT OG I STAND TIL AT UDARBEJDE DEN TEKNISKE DOKUMENTATION 12) SIGNATURE 13) NAVN 14) TITEL 15) Kvalitets Leder 16) DATO 17) STED</p>	dansk (DANISH)

“EC DECLARATION OF CONFORMITY” CONTENT OUTLINE

<p>1) DECLARACIÓN DE CONFORMIDAD 2) EL ABAJO FIRMANTE, (13), EN REPRESENTACIÓN DE FABRICANTE, DECLARA QUE EL PRODUCTO ES CONFORME CON LAS DISPOSICIONES DE LAS SIGUIENTES DIRECTIVAS CE 3) REFERENCIA A ESTÁNDARES ARMONIZADOS 4) DESCRIPCIÓN DE LA MAQUINARIA 5) Denominación genérica : Motor fueraborda 6) Función : Sistema de propulsión 7) MARCA 8) TIPO 9) NUMERO DE SERIE 10) FABRICANTE 11) Representante autorizado que puede compilar el expediente técnico 12) FIRMA 13) NOMBRE 14) CARGO 15) Director de calidad 16) FECHA 17) LUGAR</p>	español (SPANISH)
<p>1)DECLARAÇÃO CE DE CONFORMIDADE 2) O ABAIXO ASSINADO, (13), EM REPRESENTAÇÃO DO FABRICANTE, PELA PRESENTE DECLARA QUE O PRODUTO ESTÁ EM CONFORMIDADE COM O ESTABELECIDO NAS SEGUINTE DIRECTIVAS COMUNITÁRIAS 3) REFERÊNCIA AS NORMAS HARMONIZADAS 4) DESCRIÇÃO DA MÁQUINA 5) Denominação genérica : Motor fora de borda 6) Função : Sistema propulsor 7) MARCA 8) TIPO 9) NÚMERO DE SÉRIE 10) FABRICANTE 11) Mandatário com capacidade para compilar documentação técnica 12) ASSINATURA 13) NOME 14) TÍTULO 15) Director de Qualidade 16) DATA 17) LOCAL</p>	português (PORTUGUESE)
<p>1) EY-VAATIMUSTENMUKAISUUSVAKUUTUS 2) ALLEKIRJOITANUT, (13), JOKA EDUSTAA VALMISTAJAA, VAKUUTTAA TÄTEN, ETTÄ TUOTE ON SEURAAVIEN EU-DIREKTIIVIEN VAATIMUSTEN MUKAINEN 3) VITTAUS YHTEISIIN STANDARDEIHIN 4) KUNNAN LAITTEESTA 5) Yleisarvomäärä : Peramoottori 6) Toiminto : Työntöjärjestelmä 7) MERKKI 8) MALLI 9) SARJANUMERO 10) VALMISTAJA 11) Valmistajan edustaja ja teknisten dokumenttien laatia 12) ALLEKIRJOITUS 13) NIMI 14) TITTELI 15) Laatupäällikkö 16) PÄIVÄMÄÄRÄ 17) PAIKKA</p>	suomi / suomen kieli (FINNISH)
<p>1) ЕО-ДЕКЛАРАЦИЯ ЗА СЪОТВЕТСТВИЕ 2) ДОЛУ ПОДПИСАЛИЯТ СЕ (13), ПРЕДСТАВЛЯВАЩ ДИСТРИБУТОРА, ДЕКЛАРИРА, ЧЕ ПРОДУКТА СЪОТВЕТСТВА НА ИЗСКВАНИЯТА НА СЛЕДНИТЕ ЕВРОПЕЙСКИ ДИРЕКТИВИ 3) СЪОТВЕТСТВИЕ С ХАРМОНИЗИРАНИТЕ СТАНДАРТИ 4) ОПИСАНИЕ НА АРТИКУЛА 5) Общо наименование : ИЗВЪН БОРДОВИ ДВИГАТЕЛ 6) Функция : Задвижваща система 7) МАРКА 8) ТИП 9) СЕРИЕН НОМЕР 10) ПРОИЗВОДИТЕЛ 11) Упълномощен представител и отговорник за съставяне на техническа документация 12) ПОДПИС 13) ИМЕ 14) ТИТЛА 15) МЕНИДЖЪР НА КАЧЕСТВОТО 16) ДАТА 17) МЯСТО</p>	български (BULGARIAN)
<p>1) EG-FÖRSÄKRAN OM ÖVERENSSTÄMMELSE 2) UNDERTECKNAD, (13), REPRÉSENTERANDE TILLVERKARE, FÖRSÄKRAR HÄRMEÐ ATT PRODUKTEN ÖVERENSSTÄMMER MED BESTÄMMELSERNA I FÖLJANDE EG-DIREKTIVE 3) REFERERANDE TILL HARMONISERADE STANDARDER 4) BESKRIVNING AV UTRUSTNINGEN 5) Allmän benämning : Utomborotsmotor 6) Funktion : Framdrivningssystem 7) MERKKI 8) TYPBETECKNING 9) SERIENUMER 10) TILLVERKARE 11) Auktoriserad representant och ska kunna sammanställa teknisk dokumentation. 12) SIGNATUR 13) NAMN 14) TITEL 15) Kvalitetschef 16) DATUM 17) ORT</p>	svenska (SWEDISH)
<p>1) DEKLARACJA ZGODNOŚCI WE 2) NIŻEJ PODPISANY (13), REPREZENTUJĄCY PRODUCENTA, DEKLARUJE Z CAŁĄ ODPOWIEDZIALNOŚCIĄ, ŻE PRODUKT SPEŁNIA WYMAGANIA ZAWARTE W NASTĘPUJĄCYCH DYREKTYWACH UNIJNYCH 3) ZASTOSOWANE NORMY ZHARMONIZOWANE 4) OPIS URZĄDZENIA 5) Ogólne określenie : Silnik zaburtowy 6) Funkcja : Układ napędowy 7) MARKA 8) TYP 9) NUMERY SERYJNE 10) PRODUCENT 11) Upoważniony Przedstawiciel oraz osoba upoważniona do przygotowania dokumentacji technicznej 12) PODPIS 13) NAZWISKO 14) TYTUŁ 15) Menadżer Jakości 16) DATA 17) MIEJSCE</p>	polski (POLISH)

“EC DECLARATION OF CONFORMITY” CONTENT OUTLINE

<p>1)MEGFELELŐSEGI NYILATKOZAT 2)ALULÍROTT (13), MINT A GYÁRTÓ KÉPVISELŐJE NYILATKOZIK, HOGY AZ ALÁBBI TERMÉK MINDENBEN MEGFELEL A KÖVETKEZŐ EC ELŐÍRÁSOK RENDELKEZÉSEINEK: 98/37/EC, 89/336/EEC-93/68/EC; 3)ÖSSZHANGBAN A KÖV. SZABVÁNYOKKAL 4)A GÉP LEÍRÁSA 5) Általános megnevezés : KÜLSŐ CSÓNAKMOTOR 6) Funkció : Hajtás rendszer 7) GYÁRTÓTTA 8) TÍPUS 9) SORSZÁM 10) GYÁRTÓ 11) Meghatalmazott képviselője és képes összeállítani a műszaki dokumentációt. 12) ALÁÍRÁS 13) NÉV 14) BEOSZTÁS 15) MINŐSÉGI IGAZGATÓ 16) KELTEZÉS DÁTUMA 17) KELTEZÉS HELYE</p>	magyar (HUNGARIAN)
<p>1)Prohlášení o shodě 2) ZÁSTUPCE VÝROBCE, (13), SVÝM PODPÍSEM POTVRZUJE, ŽE DANÝ VÝROBEK JE V SOULADU S NÁSLEDUJÍCÍMI SMĚRNICEMI A NORMAMI EVROPSKÉHO SPOLEČENSTVÍ: 3) ODKAZ NA HARMONIZOVANÉ NORMY: 4) POPIS VÝROBKU 5) Všeobecné označení : ZÁVĚSNÝ LODNÍ MOTOR 6) Funkce : Pohonný systém 7) ZNAČKA: 8) TYP: 9) VÝROBNÍ ČÍSLO: 10) VÝROBCE: 11) Zplnomocněný zástupce a osoba pověřená kompletací technické dokumentace 12) PODPIS: 13) JMÉNO: 14) POZICE 15) Manažer kvality 16) DATUM: 17) MÍSTO:</p>	čeština (CZECH)
<p>1) ES VYHLÁSENIE O ZHODE 2) DOLUPODPÍSANÝ, (13), ZASTUPUJÚCI VÝROBCU, TÝMTO DEKLARUJE, ŽE PRODUKT JE V SÚLADE S USTANOVENIAMÍ NASLEDOVNÝCH SMERNÍC ES 3) REFERENCIA K HARMONIZOVANÝM ŠTANDARDOM 4) IDENTIFIKÁCIA STROJOV 5) Druhové označenie : ZÁVESNÝ LODNÝ MOTOR 6) Funkcia : Systém pohonu 7) VÝROBCA/ZNAČKA 8) TYP 9) SÉRIOVÉ ČÍSLO 10) VÝROBCA 11) Autorizovaný zástupca schopný zostaviť technickú dokumentáciu 12) PODPIS 13) MENO 14) POZÍCIA 15) MANAŽÉR KVALITY 16) DÁTUM 17) MIESTO</p>	slovenčina (SLOVAK)
<p>1) EF SAMSVARSÆRKLERING 2) UNDERTEGNEDE, (13), SOM REPRESENTERER FABRIKANTEN, ERKLÆRER HERVED AT PRODUKTET ER I OVERENSSTEMMELSE MED BESTEMMELSENE I FØLGENDE EU DIREKTIV 3) REFERANSER TIL HARMONISEREDE STANDARDER 4) BESKRIVELSE AV MASKINEN 5) Felles benevnelse : Utenbordsmotor 6) Funksjon : Fremdrifts system 7) FABRIKANT 8) TYPE 9) SERIE NUMMER 10) FABRIKANT 11) Autorisert representant og i stand til å utarbeide den tekniske dokumentasjonen 12) SIGNATUR 13) NAVN 14) TITTEL 15) Kvalitetssjef 16) DATO 17) STED</p>	norsk (NORWEGIAN)
<p>1) DECLARATIE DE CONFORMITATE. 2) SUBSEMNATUL, (13), REPREZENTAND PE PRODUCATOR, DECLAR PRIN PREZE NTA CA PRODUSUL ESTE IN CONFORMITATE CU PREVEDERILE URMATOARELOR DIRECTIVE CE 3) REFERIRE LA STANDARDELE ARMONIZATE: 4) DESCRIEREA ECHIPAMENTULUI 5) Denumire generica : MOTOR IN AFARA BORDULUI (EXTERN) 6) Domeniu de utilizare : Sistem de propulsie 7) MARCA 8) TIPUL 9) NUMAR DE SERIE 10) PRODUCATOR 11) Reprezentant autorizat și abilitat să realizeze documentație tehnică 12) SEMNATURA 13) NUME 14) TITLUL 15) DIRECTOR DE CALITATE 16) DATA 17) LOCATIE</p>	română (ROMANIAN)
<p>1)EÜ VASTAVUSDEKLARATSIOON 2)ALLAKIRJUTANU, (13), ESINDADES TOOTJAT, DEKLAREERIB SIINKOHAL, ET TOODE ON VASTAVUSES JÄRGMISTE EC DIREKTIIVIDE SÄTETEGA 3)VIDE ÜHTLUSTATUD STANDARDIDETELE: 4)MEHHANISMI KIRJELDUS 5)Üldnimetus : Pardaväliline mootor 6) Funktsioon : Tõukursüsteem 7)VALMISTAJA: 8)TÜÜP: 9)SERIANUMBER: 10)TOOTJA: 11) Volitatud esindaja, kes on pädev täitma tehnilist dokumentatsiooni 12)ALLKIRI: 13)NIMI: 14)AMET 15)Kvaliteedijuht 16)KUUPÄEV: 17)KOHT:</p>	eeesti (ESTONIAN)

“EC DECLARATION OF CONFORMITY” CONTENT OUTLINE

<p>1) EK ATBILSTĪBAS DEKLARĀCIJA 2) ZEMĀK MINĒTAIS, (13), KĀ RAŽOTĀJA PĀRSTĀVIS AR ŠO APSTIPRINA, KA ŠIS PRODUKTS PILNĪBA ATBILST VISIEM STANDARTIEM, KAŠ ATRUNĀTI SEKOJOŠAJĀS EC-DIREKTĪVĀS 3) Atsaucoties uz saskaņotajiem standartiem 4) Iekārtas apraksts 5) Vispārējais nosaukums : Piekarināmais laivas dzinējs 6) Funkcija : Virzošā spēka sistēma 7) Preču zīme 8) Tips 9) Sērijas numurs 10) Izgatavotājs 11) Autorizētais pārstāvis, kas spēj sastādīt tehnisko dokumentāciju 12) Paraksts 13) Vārds, Uzvārds 14) Tituls 15) Kvalitātes vadītājs 16) Datums 17) Vieta</p>	latviešu (LATVIAN)
<p>1) EB ATITIKTIYES DEKLARACIJA 2) ŽEMIAUI PASIRAŠES, (13), ATSTOVAUJANTIS GAMINTOJĀ DEKLARUOJA KAD PRODUKTAS ATITINKA REIKALAVĪMUS PAGAL ŠĪAS EB DIREKTĪVĀS. 3) NUORODA Į HARMONIZUOTUS STANDARTUS. 4) MAŠINOS APRAŠYMAS. 5) Bendras pavadinimas : PAKABINAMAS VARIKLIS 6) Funkcija : Varomasis būdas 7) MARKĖ. 8) TIPAS 9) SERIJINIS NUMERIS. 10) GAMINTOJAS. 11) Įgaliotasis atstovas ir galintis sudaryti techninę dokumentaciją 12) PARASAS. 13) V. PAVARDĖ 14) PAREIGOS 15) KOKYBĖS VADYBININKAS. 16) DATA. 17) VIETA</p>	lietuvių kalba (LITHUANIAN)
<p>1) ES-DEKLARACIJA O USTREZNOSTI 2) PODPISANI (13), PREDSTAVNIK PROIZVAJALCA, IZJAVLJAM DA IZDELKI USTREZAJO NASLEDNJIM DEKLARACIJAM 3) SKLADNOST Z NASLEDNJIMI STANDARDI 4) OPIS IZDELKOV 5) Vrsta stroja : Izvenkrmni motorji 6) Funkcija : Pogonski sistem 7) PROIZVAJA 8) TIP 9) SERIJSKA ŠTEVILKA 10) PROIZVAJALEC 11) Pooblaščeni predstavnik ki lahko predloži tehnično dokumentacijo 12) PODPIS 13) IME 14) FUNKCIJA 15) Direktor presoje 16) DATUM 17) KRAJ</p>	slovenščina (SLOVENIAN)
<p>1) EB-YFIRLYSING 2) UNDIRRITADUR HR. (13) LYSI YFIR FYRIR HÖND FRAMLEIÐANDA AÐ VARAN UPPFYLLIR EFTIRFARANDI EC-TILSKIPANIR 3) TILVÍSUN UM HEILDARSTAÐAL 4) LÝSING Á VÉLBÚNAÐI 5) Flokkur : Utanborðsmótorar 6) Virkni : knúningsáfl kerfi 7) FRAMLEIÐSLA 8) GERÐ 9) SÉRIÁL NÚMER 10) FRAMLEIÐANDI 11) Löggildir aðilar og fær um að taka saman tækniskjölin 12) UNDIRSKRIFT 13) NAFN 14) TITILL 15) Skráningarstjóri 16) DAGSETNING 17) STAÐUR</p>	Íslenska (ICELANDIC)
<p>1) AT UYGUNLUK BEYANI 2) AŞAĖIDA İMZASI BULUNAN VE İMALATÇININ YETKİLİ TEMSİLCİSİ OLAN (13) ÜRÜNÜN ŞU AT YÖNETMELİKLERİNİN HÜKÜMLERİNE UYGUN OLDUĖUNU BEYAN EDER. 3) UYUMLAŞTIRILMIŞ STANDARTLARA ATIF 4) MAKİNANIN TARIFI 5) Flokkur : Distan takma motor 6) Virkni : tahrik sistemi 7) MARKA 8) TIP 9) SERİ NUMARASI 10) İMALATÇI 11) Teknik dosyası hazırlamakla yetkili olan Toplulukta yerleşik yetkili temsilci 12) İMZA 13) ADI 14) ÜNVANI 15) Homologasyon Yöneticisi 16) TARİH 17) YER</p>	Türk (TURKISH)
<p>1) EK -IZJAVA O SUKLADNOSTI 2) POTPIŠANI (13), PREDSTAVNIK PROIZVOĐAČA, IZJAVLUJE DA JE PROIZVOD U SUKLADNOSTI S ODREDBAMA SLJEDEĆEG EK PROPISA 3) REFERENCA NA USKLAĐENE NORME 4) OPIS STROJA 5) Opća vrijednost : Vanbrodski motor 6) Funkcionalnost : Pogonski sustav 7) IZRADIO 8) TIP 9) SERIJSKI BROJ 10) PROIZVOĐAČ 11) Ovlašteni predstavnik i osoba za sastavljanje tehničke dokumentacije 12) POTPIS 13) IME 14) TITULA 15) Upravitelj homologacije 16) DATUM 17) MJESTO</p>	hrvatski (CROATIAN)

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