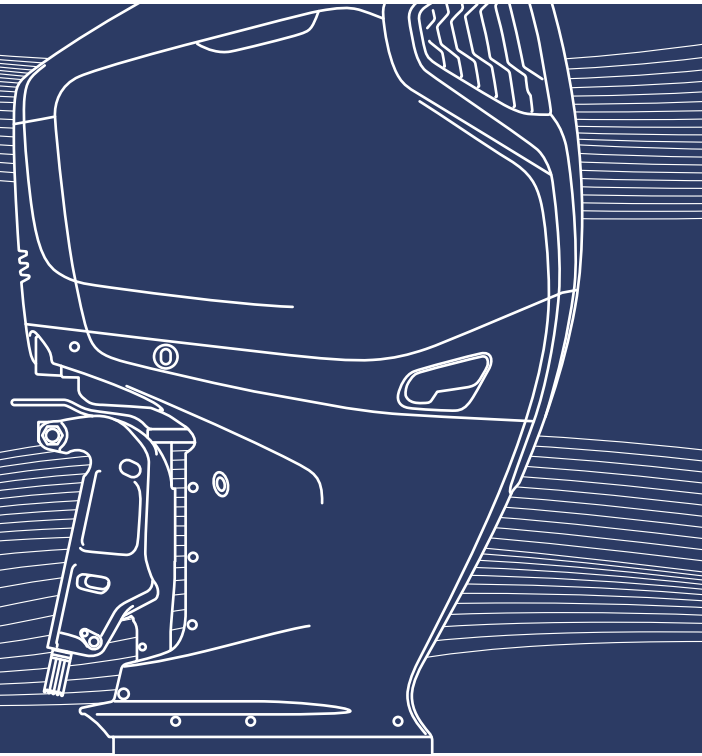
HONDA MARINE

Owner`s Manual

BF350A



Original instructions

Thank you for purchasing a Honda Outboard Motor.

This manual covers operation and maintenance of the Honda BF350A 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.

For information regarding the optional equipment, refer to the owner's manual that came with it.

Throughout this manual, you will see safety messages proceeded 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.

Control and Feature Identification Codes

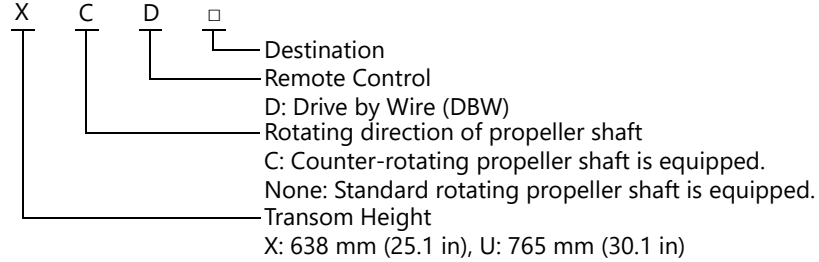
Model		BF350A			
Type		XD□	UD□	XCD□	UCD□
Transom Height	638 mm (25.1 in)	●		●	
	765 mm (30.1 in)		●		●
Standard Rotating Propeller Shaft		●	●		
Counter-Rotating Propeller Shaft				●	●

NOTE:

Note that the types of the outboard motor differ according to the countries where they are sold.
BF350A is provided with the following types according to the shaft length and the rotating direction of the propeller shaft.

TYPE CODE

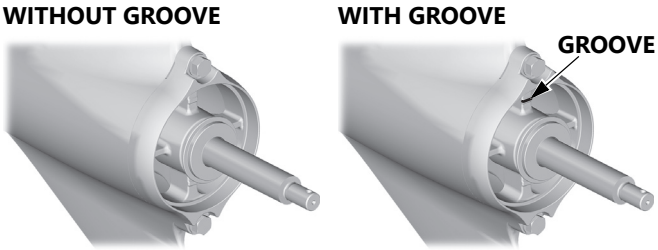
Example



How to Determine Which Direction the Propeller Shaft Rotates

The direction the propeller shaft rotates can be determined based on whether or not the propeller shaft holder has a groove.

- With groove: Counter-rotating
- Without groove: Standard rotating



Remote Control Types

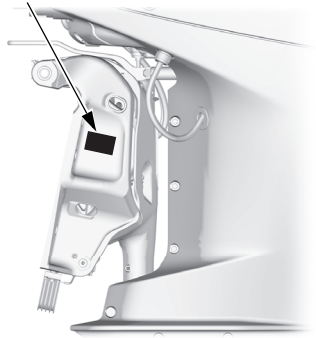
The remote control type is classified into the following two categories according to the control box position.

- Flush-mount type (DBW type): D1 type
- Top-mount type (DBW type): D2 type

Check the type of your outboard motor and read this Owner's Manual thoroughly before operation. Texts with no type indication are the information and/or procedures common to all types.

Serial Number Locations

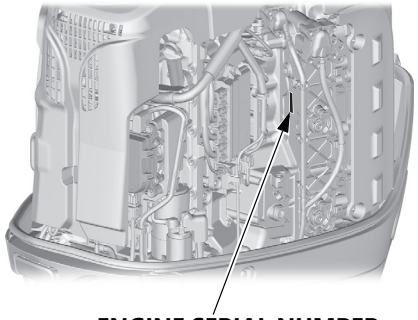
FRAME SERIAL NUMBER



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 a plate attached to the left side of the stern bracket.

Frame serial number:



ENGINE SERIAL NUMBER

The engine serial number is stamped on the left side of the engine.

Engine serial 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.

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.

- Gasoline is harmful or fatal if swallowed. Keep the fuel tank out of reach of children.
- Gasoline is extremely flammable and is explosive under certain conditions. Refuel in a well-ventilated area with the engine stopped.
- Do not smoke or allow flames or sparks where the engine is refueled or where gasoline is stored.
- Do not overfill the fuel tank. After refueling make sure that the fuel tank cap is closed properly and securely.
- Be careful not to spill any fuel while refueling. Spilled fuel or fuel vapor may ignite. If any fuel is spilled make sure that the area is dry before starting the engine.
- Know how to stop the engine quickly in case of emergency. Understand the use of all controls.
- Do not exceed the boat manufacturer's power recommendation, and be sure that the outboard motor is properly mounted.
- Never permit anyone to operate the outboard motor without proper instruction.
- Stop the engine immediately if anyone falls overboard.

- Do not run the engine while the boat is near anyone in the water.
- Attach the emergency stop switch lanyard securely to the operator.
- Before operating the outboard motor, familiarize yourself with all laws and regulations relating to boating and the use of outboard motors.
- Do not attempt to modify the outboard motor.
- Always wear a life-jacket when on board.
- 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.

Burn Hazards

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 it.

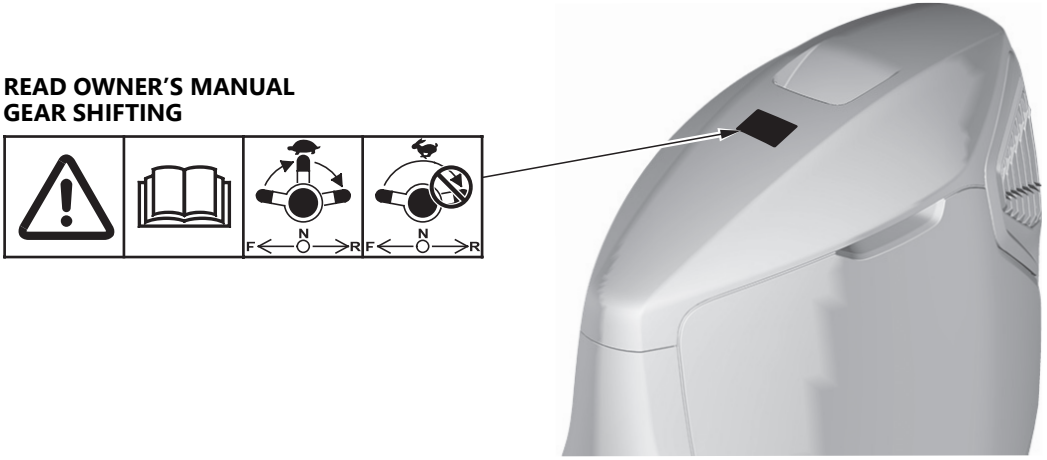
Carbon Monoxide Poisoning Hazard

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.

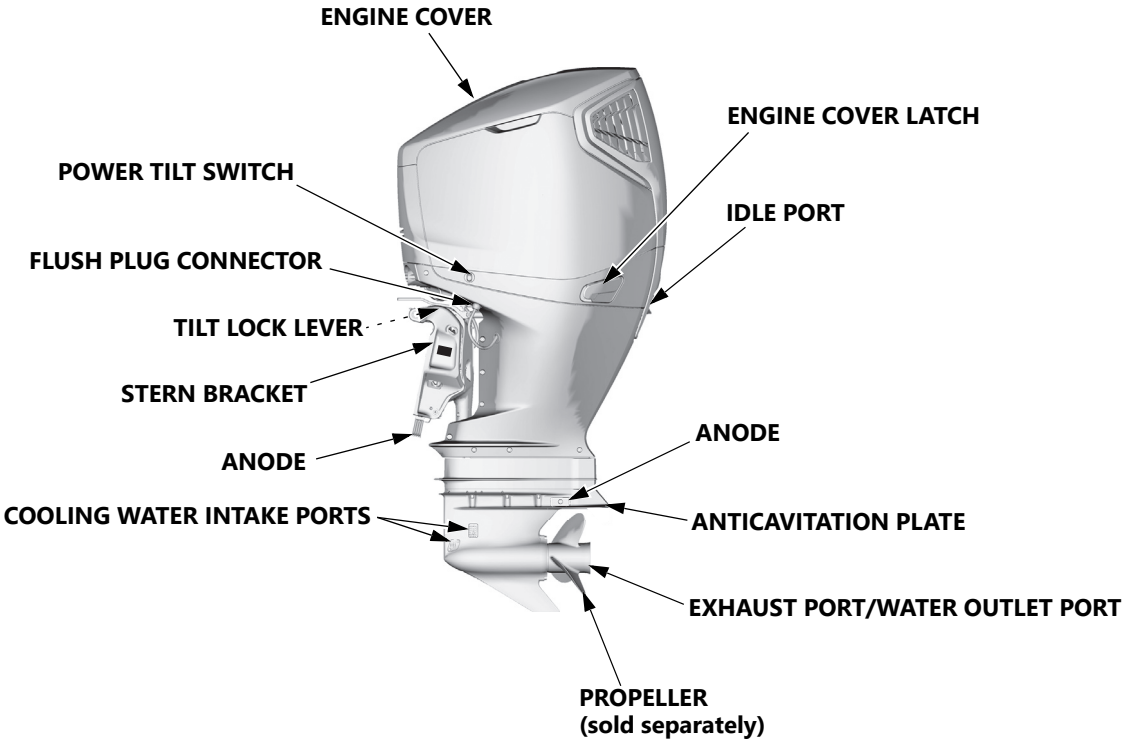
2. SAFETY LABEL LOCATIONS

These labels are in the locations shown.
They warn you of potential hazards that can cause serious injury.
The labels are considered permanent parts of your outboard motor.
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 Honda outboard motor dealer for a replacement.

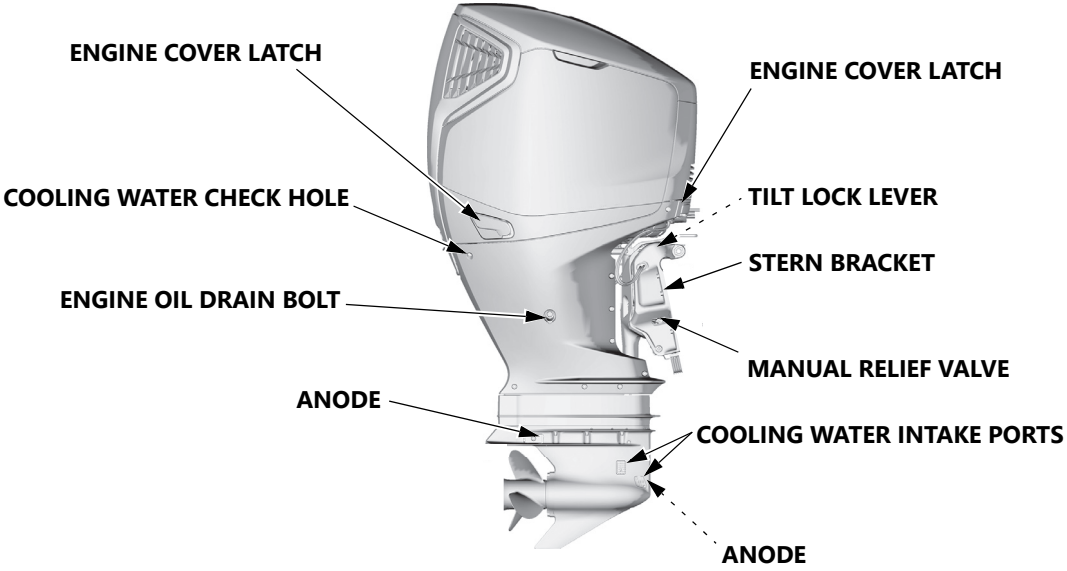


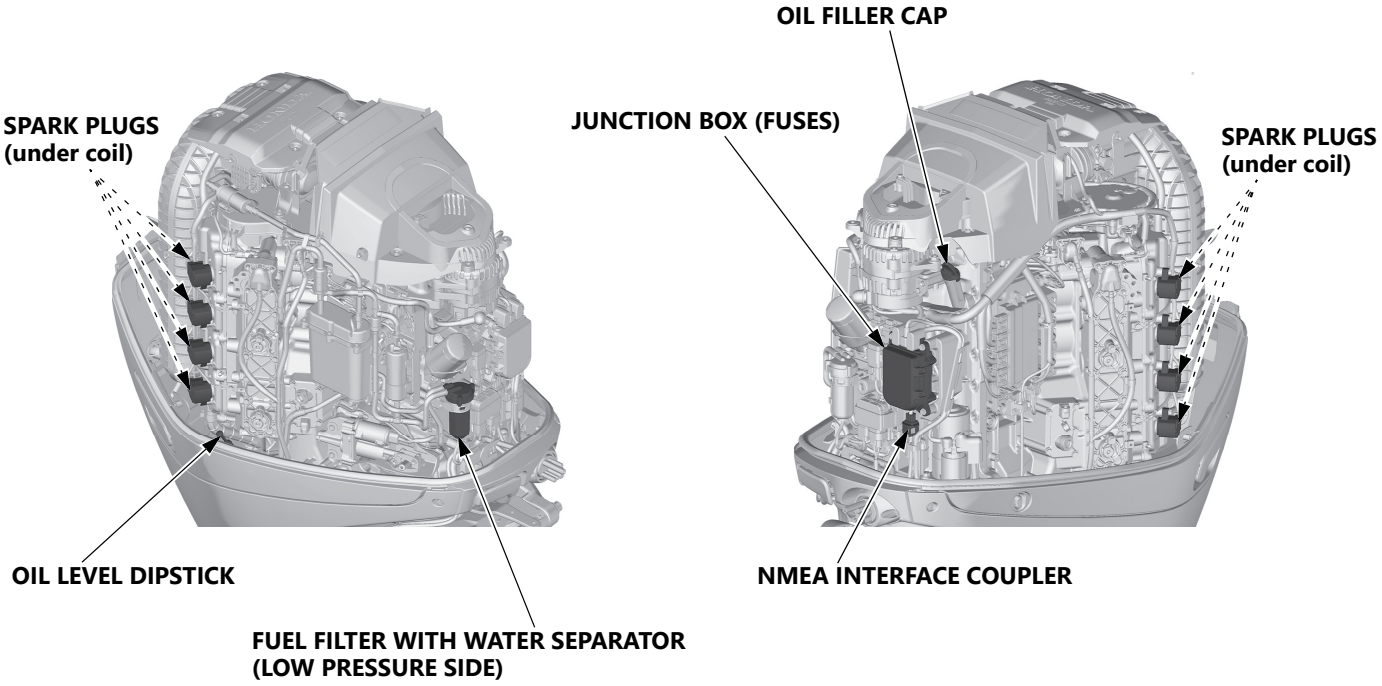
3. COMPONENT IDENTIFICATION

OUTBOARD MOTOR



3. COMPONENT IDENTIFICATION

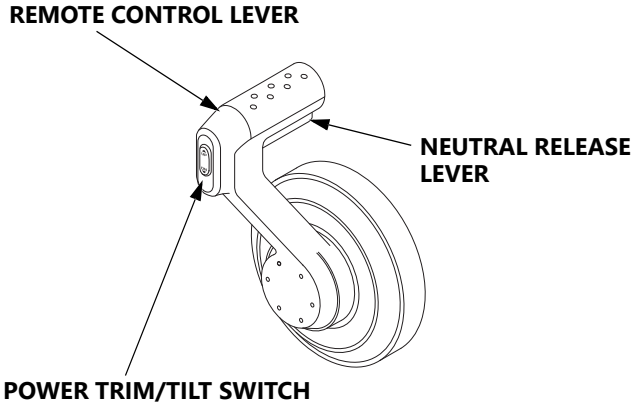




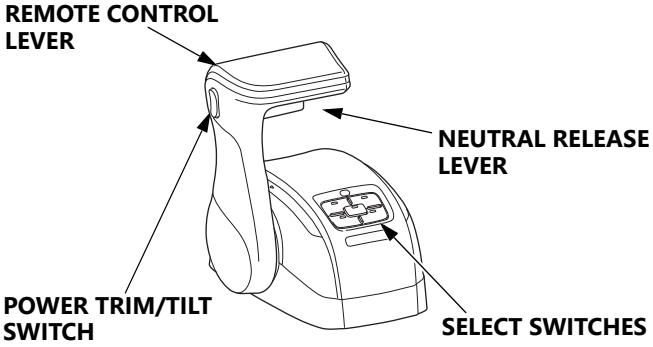
*** The figure above shows the engine with the front striker cover and the rear striker cover removed.**

REMOTE CONTROL BOX (optional equipment)

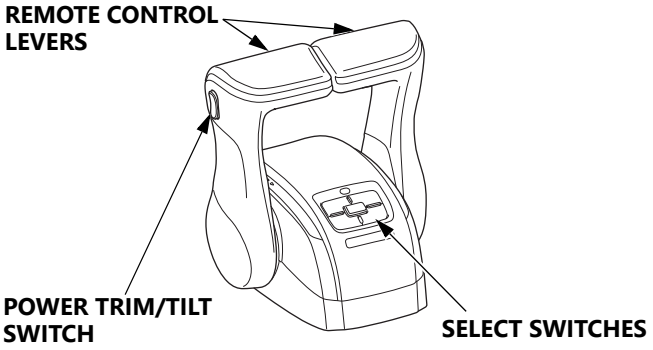
FLUSH-MOUNT TYPE (D1 type)



TOP-MOUNT TYPE (D2 type) (SINGLE OUTBOARD MOTOR TYPE)

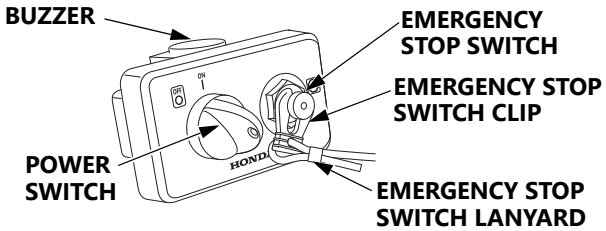


(DUAL OUTBOARD MOTOR TYPE)

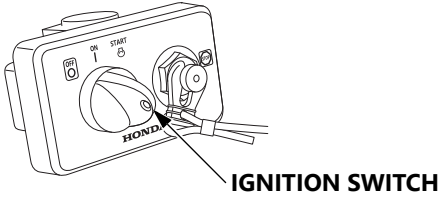


KEY SWITCH PANEL (optional equipment)

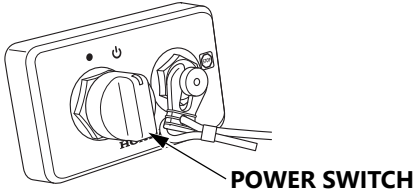
(Normal Key with START/STOP switch type) (Horizontal type)



(Normal Key without START/STOP switch type) (Horizontal type)



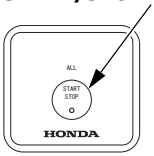
(Honda Smart Key type) (Horizontal type)



3. COMPONENT IDENTIFICATION

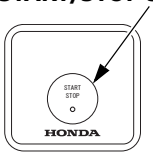
START/STOP SWITCH PANEL (optional equipment)

START/STOP SWITCH



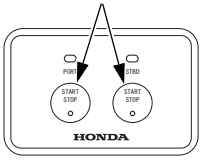
ALL ENGINE START FOR MULTIPLE OUTBOARD MOTORS

START/STOP SWITCH



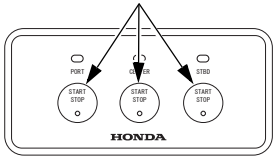
SINGLE TYPE OUTBOARD MOTOR

START/STOP SWITCH



DUAL TYPE OUTBOARD MOTOR

START/STOP SWITCH

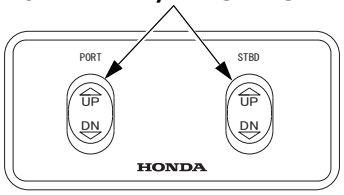


TRIPLE TYPE OUTBOARD MOTOR

PORT: Port side engine
CENTER: Center engine
STBD: Starboard side engine

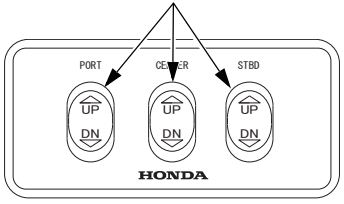
PTT SWITCH PANEL (optional equipment)

POWER TRIM/TILT SWITCH



DUAL TYPE

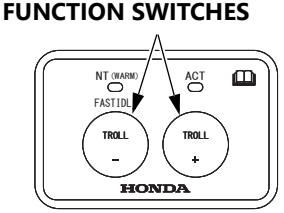
POWER TRIM/TILT SWITCH



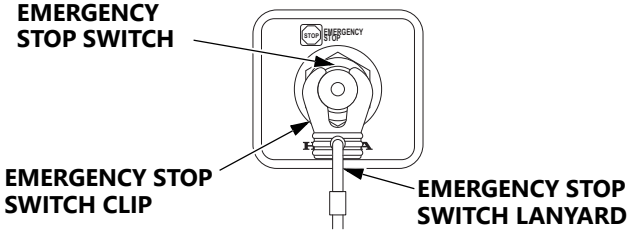
TRIPLE TYPE

PORT: Port side engine
CENTER: Center engine
STBD: Starboard side engine

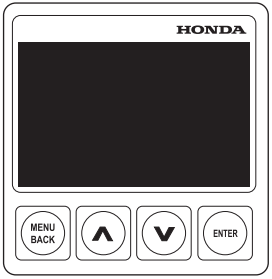
FUNCTION SWITCH PANEL (optional equipment) (for FLUSH-MOUNT type)



EMERGENCY STOP SWITCH PANEL (optional equipment)

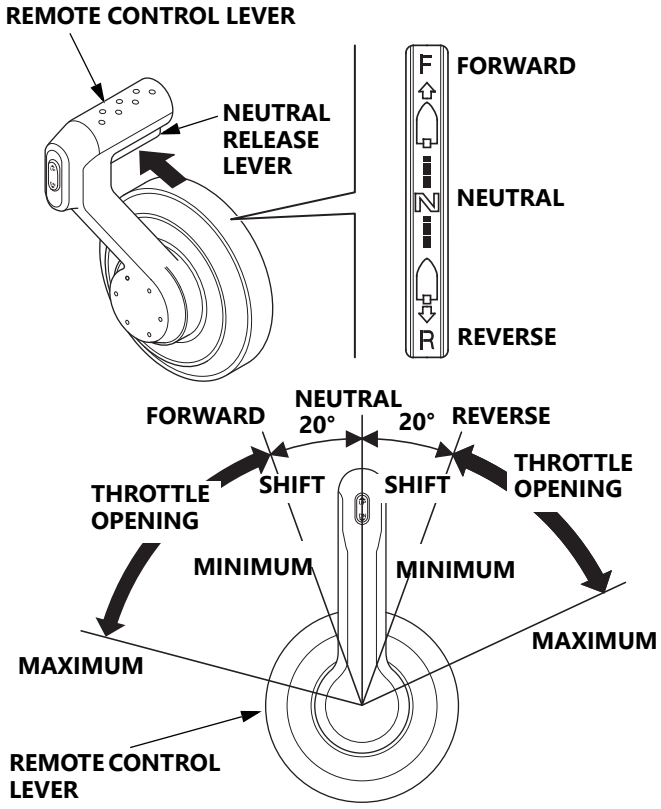


MULTI-FUNCTION DISPLAY (optional equipment)



4. CONTROLS AND FEATURES

REMOTE CONTROL LEVER (D1 type)



Shifting gear into forward, reverse, or neutral and 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.

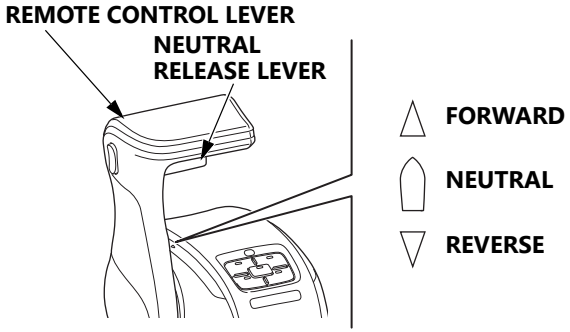
FORWARD:
Moving the lever to the FORWARD position (approximately 20° from the NEUTRAL position) engages the gear into forward. Moving the lever further from the FORWARD position will increase the throttle opening and the boat's forward speed.

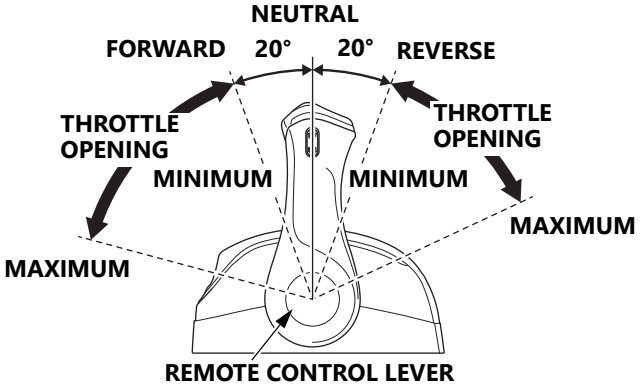
NEUTRAL:
Engine power is cut off from the propeller.

REVERSE:
Moving the lever to the REVERSE position (approximately 20° 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's reverse speed.

REMOTE CONTROL LEVER (D2 type)

SINGLE TYPE





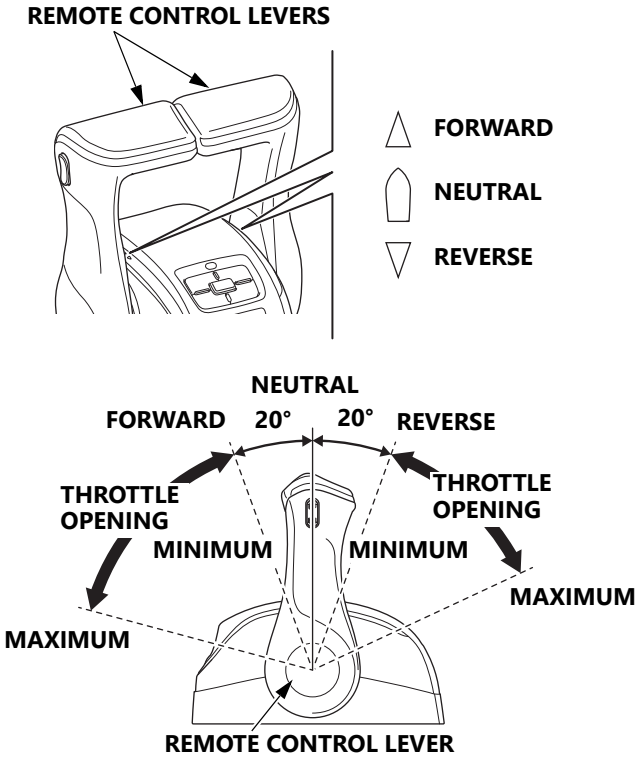
Shifting gear into forward, reverse, or neutral and engine speed adjustment can be performed with the remote control lever.
It is necessary to pull up the neutral release lever to operate the remote control lever.

FORWARD:
Moving the lever to the FORWARD position (approximately 20° 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's forward speed.

NEUTRAL:
Engine power is cut off from the propeller.

REVERSE:
Moving the lever to the REVERSE position (approximately 20° 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's reverse speed.

DUAL TYPE



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

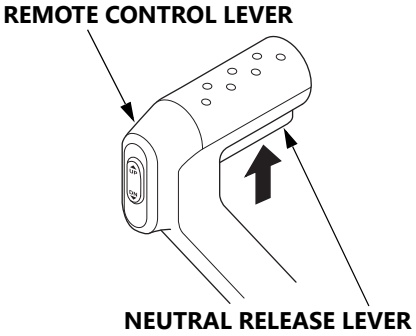
FORWARD:
Moving the lever to the FORWARD position (approximately 20° from the NEUTRAL position) engages the gear into forward. Moving the lever further from the FORWARD position will increase the throttle opening and the boat's forward speed.

NEUTRAL:
Engine power is cut off from the propeller.

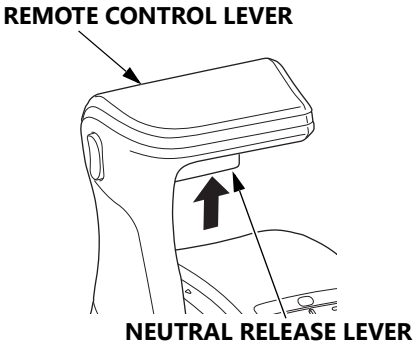
REVERSE:
Moving the lever to the REVERSE position (approximately 20° from the NEUTRAL position) engages the gear into reverse. Moving the lever further from the REVERSE position will increase the throttle opening and the boat's reverse speed.

NEUTRAL RELEASE LEVER

(D1 type)



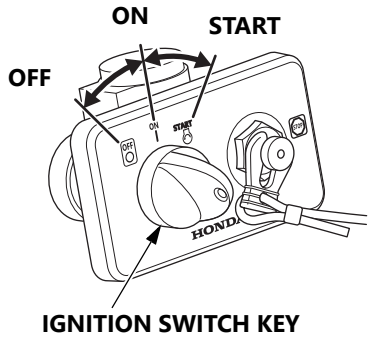
(D2 type)



The neutral release lever on the remote control lever is to prevent 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.

IGNITION SWITCH

(D1, D2 without START/STOP Switch types)



This control is equipped with an automotive type ignition switch. On the flush-mount type (D1 type), the top-mount type (D2 type), the ignition switch is located on the key switch panel.

Key positions:

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

NOTICE

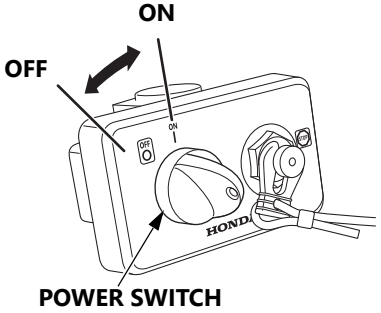
- **Do not leave the ignition switch ON (key in ON position) when the engine is not running as the battery will discharge.**

NOTE:

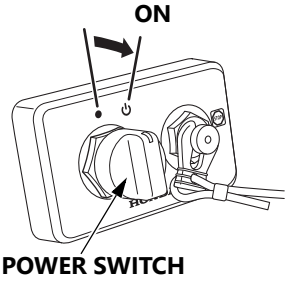
The starter motor will not work unless the remote control lever is in the NEUTRAL position, and the clip is in the emergency stop switch.

POWER SWITCH

(Normal Key type)



(Honda Smart Key type)



This control is equipped with a start/stop switch.

Normal Key Type
- ON: This position allows the engine to start and run.
- OFF: This position stops the engine (Ignition OFF).

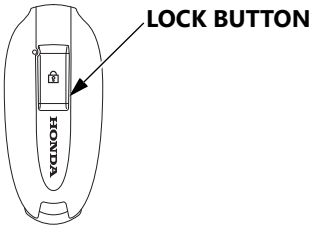
Honda Smart Key Type
Turn the power switch clockwise and then release to turn the power ON. Turn and release the power switch again to turn the power OFF.

NOTICE

- **Turn the power off after the engine is stopped. If the power is not turned off after the engine is stopped, the battery will continue to drain until it is depleted.**

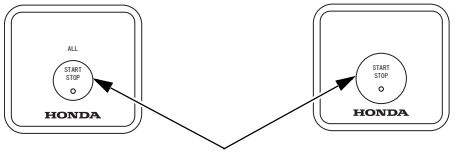
NOTE:
For the Honda Smart Key type, electric power cannot be supplied to the engine unless the Smart Key and remote control are properly paired (authenticated).

HONDA SMART KEY (optional equipment)



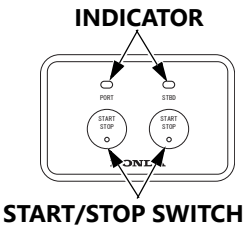
The Honda Smart Key has an immobilizer system. The immobilizer system helps to protect against boat theft. Refer to the Honda Smart Key Owner's Manual for complete information on the Smart Key system.
The Honda Smart Key is available in certain areas.

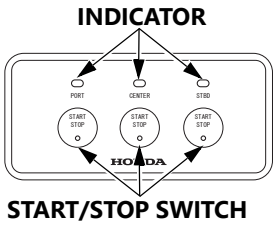
START/STOP SWITCH



ALL ENGINE START FOR MULTIPLE OUTBOARD MOTORS

SINGLE TYPE OUTBOARD MOTOR





DUAL TYPE OUTBOARD MOTORS

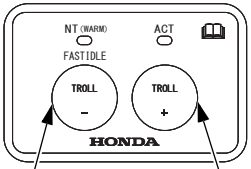
TRIPLE TYPE OUTBOARD MOTORS

To start the engine, be sure the power switch is in the ON position, and then press the start/stop switch button.

For boats with multiple outboard motors and equipped with the ALL ENGINE START/STOP switch, all motors can be started at the same time at the press of one button.
For boats equipped with multiple outboard motors and either the dual type or triple type start/stop switches, each outboard on the boat may be started individually and the corresponding indicator light will turn on after the engine has started.

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.

FUNCTION SWITCHES (D1 type)



Function switches are used for operations in the fast idle mode and trolling mode.

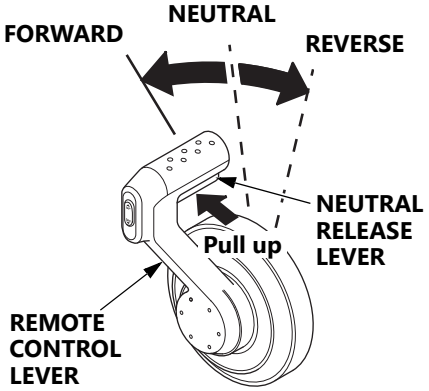
NT (WARM)
Lights: The shift is in neutral.
Blinks: It is in the fast idle mode.

ACT
Lights: The shift and throttle operations are possible.
Off: The shift and throttle operations are not possible.

Fast Idle Mode

The BF350A model uses programmed fuel injection, so this mode will not be needed for starting.

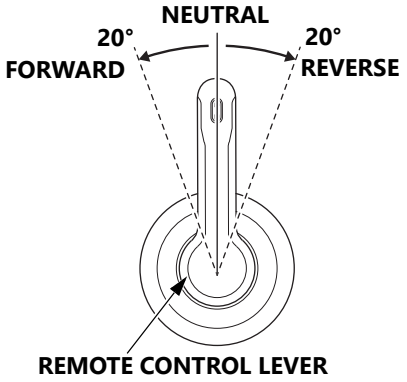
After the engine starts and if the outside temperature is below 5°C (41°F), the fast idle mode can be used to accelerate engine warm-up.



Use the [-] switch and the remote control lever to adjust the engine speed without gearshift when warming up the engine.
Keeping the [-] switch pressed when the remote control lever is in the NEUTRAL position, turn the lever forward. Keep turning the lever forward. The throttle opens and the engine speed increases after the lever passes the shift point.
Note that the gearshift mechanism does not function when the [-] switch 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.
To release the fast idle mode, press and hold the [-] switch with the remote control lever in the NEUTRAL position.

Trolling Mode

After the engine warms up, when the remote control lever is tilted from the NEUTRAL position to the FORWARD or REVERSE side by about 20° and the [+] switch is pressed and held, the mode changes to trolling mode.



Engine speed adjusting range:
650 min^{-1} (rpm) – 1,000 min^{-1} (rpm) (every 50 min^{-1} (rpm))

When in trolling mode, trolling mode is not released even if you put the remote control lever in the NEUTRAL position. By shifting from NEUTRAL to FORWARD or REVERSE again, the boat will cruise at the set engine speed.

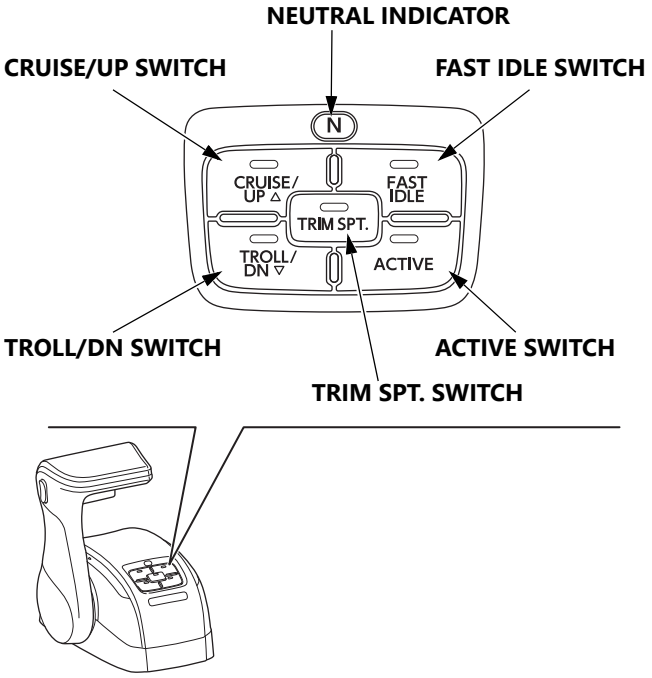
⚠ CAUTION

While in trolling mode, be careful when shifting the remote control lever from the NEUTRAL position to the FORWARD or REVERSE position. Operating the remote control lever while trolling mode is ON creates a risk of collision or injury due to an unexpected sudden start, which is caused by the engine starting to cruise at the speed set for trolling mode, not by how far the throttle is opened.

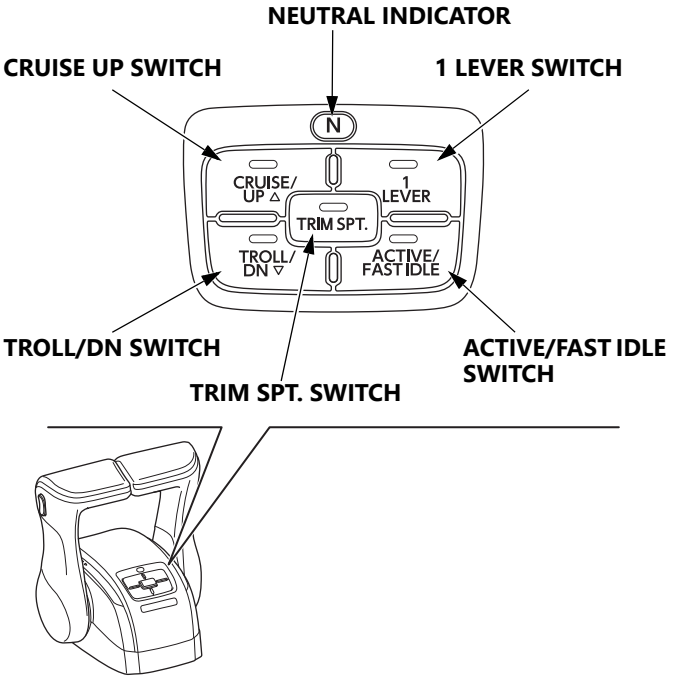
- If the engine is not finished warming up, it cannot go into trolling mode. So, warm up the engine (see page 76).
- You can force the release of trolling mode by using the remote control lever to increase the engine speed to 3,000 min^{-1} (rpm) or higher.
- To release the trolling mode, press and hold the [+] switch.

SELECT SWITCHES (D2 type)

SINGLE TYPE



DUAL TYPE



Select switches are used for operations in the fast idle mode, trolling control mode, one-lever mode, active mode, cruise control mode and trim support mode.

Indicators on select switches

Indicator	On	Flashing	Off
NEUTRAL	The remote control lever is in the NEUTRAL position	-	The remote control lever is in the FORWARD or REVERSE position
CRUISE/UP	Cruise control mode is on	Cruise control mode is paused	Cruise control mode is off
TROLL/DN	Trolling control mode is on	Trolling control mode is paused	Trolling control mode is off
TRIM SPT.	Trim support mode is on	Trim support mode is paused	Trim support mode is off
FAST IDLE	-	Fast idle mode is on	Fast idle mode is off
ACTIVE	Active mode is on	-	Active mode is off
1 LEVER	One-lever mode is on	-	One-lever mode is off
ACTIVE/FAST IDLE	Active mode is on And Fast idle mode is off	Active mode is on And Fast idle mode is on	Active mode is off And Fast idle mode is off

ACTIVE Switch, ACTIVE/FAST IDLE Switch

For multiple station type, use the ACTIVE switch or ACTIVE/FAST IDLE switch to change the operating remote control (active mode).

If you press the ACTIVE switch or ACTIVE/FAST IDLE switch on the remote control you want to operate the outboard motors when all remote control levers are in the NEUTRAL position, the mode changes to active mode.

FAST IDLE Switch, ACTIVE/FAST IDLE Switch

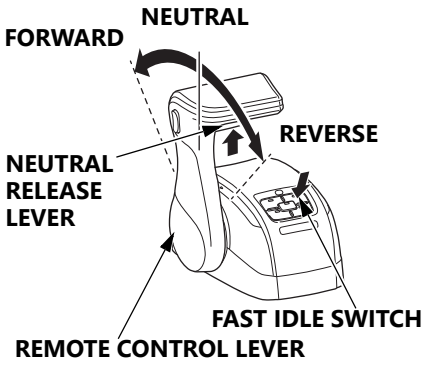
If you press the FAST IDLE switch or ACTIVE/FAST IDLE switch on the remote control in active mode when the remote control lever is in the NEUTRAL position, the mode changes to the fast idle mode.

You can adjust the engine speed by lowering the remote control lever to the FORWARD or REVERSE side. In the case of dual top-mount remote control, the mode changes to the fast idle mode only for an engine whose remote control lever is in the NEUTRAL position.

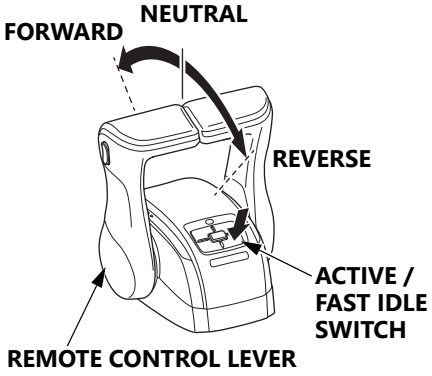
The BF350A model uses programmed fuel injection, so this mode will not be needed for starting. After the engine starts and if the outside temperature is below 5°C (41°F), the fast idle mode can be used to accelerate engine warm-up.

- You cannot turn on the fast idle mode without putting the remote control lever in the NEUTRAL position.
- If remote controls are mounted at two places, changing of fast idle mode can be done only with the remote control that is in active mode (see page 31).
- To release the fast idle mode, press the FAST IDLE switch or ACTIVE/FAST IDLE switch with all the remote control levers put in the NEUTRAL position.
- When fast idle mode is released, a short buzz sounds twice.

SINGLE TYPE

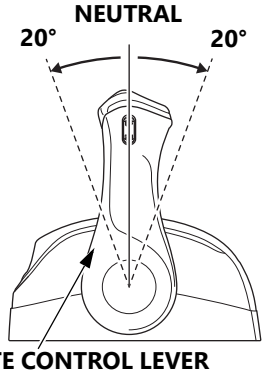


DUAL TYPE



TROLL/DN Switch

After the engine warms up, when the remote control levers are tilted from the NEUTRAL position to the FORWARD or REVERSE side by about 20° and the TROLL/DN switch of the remote control is pressed, the mode changes to trolling control mode.



The engine speed can be adjusted with the CRUISE/UP switch and TROLL/DN switch when in trolling control mode.

After the mode changes to the trolling control mode, the engine speed is 650 min^{-1} (rpm).

Engine speed adjusting range:
650 min^{-1} (rpm) to 1,000 min^{-1} (rpm) (in steps of 50 min^{-1} (rpm))

When in trolling control mode, trolling control mode is not released even if you put the remote control lever in the NEUTRAL position. By shifting from NEUTRAL to FORWARD or REVERSE again, the boat will cruise at the set engine speed.

⚠ CAUTION

While in trolling control mode, check whether the mode indicator is ON/OFF before shifting the remote control lever from the NEUTRAL position to the FORWARD or REVERSE position. Operating the remote control lever while trolling control mode is ON creates a risk of collision or injury due to an unexpected sudden start, which is caused by the engine starting to cruise at the speed set for trolling control mode, not by how far the throttle is opened.

- If the engine is not finished warming up, it cannot go into trolling mode. So, warm up the engine (see page 76).
- If remote controls are mounted at two places, the changing of trolling control mode can be done only with the remote control that is in active mode (see page 31).
- You can force the release of trolling control mode by using the remote control lever to increase the engine speed to 3,000 min^{-1} (rpm) or higher.
- To release the trolling control mode, press and hold the TROLL/DN switch.
- When the trolling control mode is released, a short buzz sounds twice.

1 LEVER Switch (For multiple outboard motors type)

Shifting gear and the engine speed adjustment of all the outboard motors can be performed with one remote control lever when in one-lever mode.

If you press the 1 LEVER switch on the remote control in active mode when all remote control levers are in the NEUTRAL position, the mode changes to one-lever mode.

- If remote controls are mounted at two places, the changing of one-lever mode can be done only with the remote control that is in active mode (see page 31).
- To release one-lever mode, press and hold the 1 LEVER switch with the remote control lever in the NEUTRAL position.

- When one-lever mode is released, a short buzz sounds twice.
- To use one-lever mode the next time you are boating, turn the engine switch or the power switch off while in one-lever mode so that the next time you go boating the one-lever mode will be on.

CRUISE/UP Switch

If you press the CRUISE/UP switch during cruising with all the remote control levers in the FORWARD position, the mode changes to the cruise control mode, which lets the boat cruise at a constant engine speed or velocity.

- Speed can only be adjusted in cruise control mode when equipped with GPS.

NOTICE

- **Operations may be inconsistent, depending on the GPS that you are using. Consult your dealer for more information about GPS.**

In the cruise control mode, pressing the CRUISE/UP switch increases the engine speed or velocity and pressing the TROLL/DN switch decreases it.

Engine speed adjusting range:
Engine speed at mode change ±500 min^{-1} (rpm) (in steps of 50 min^{-1} (rpm))

Velocity adjusting range:
– Velocity at mode change ±10 km/h (in steps of 1.0 km/h)
– Velocity at mode change ±5 miles/h (in steps of 0.5 miles/h)
– Velocity at mode change ±5 knots (in steps of 0.5 knots)

- To select whether to adjust the engine speed or velocity in the cruise control mode, use a multi-function display.
- If remote controls are mounted at two places, the changing of cruise control mode can be done only with the remote control that is in active mode (see page 31).

- The mode does not change to the cruise control mode in the following cases.
  - GPS has not been started (Velocity adjustment is selected in the multi-function display)
  - The trolling control mode is on
  - In the case of multiple outboard engines, when even one of the outboard engines has stopped
- The cruise control mode is stopped temporarily if you make a turn or turn the boat continuously.
- To release the cruise control mode, press and hold the CRUISE/UP switch.
- When the cruise control mode is released, a short buzz sounds twice.

- The cruise control mode is released forcibly in the following cases.
  - GPS error or disconnection (Velocity adjustment is selected in the multi-function display)
  - Engine stops or engine is abnormal (overheating, low oil pressure, etc.)
  - If the engine RPM or speed is unstable
  - Operate the remote control lever a certain amount from the position for changing modes.*

*: Operation of a certain amount
- If you put the engine speed at 3,000 min^{-1} (rpm), switch to cruise control mode, and use the CRUISE/UP switch to adjust to 3,500 min^{-1} (rpm)
  - The mode is forcibly released by operating the remote control lever to the FORWARD side to increase the engine speed to 3,500 min^{-1} (rpm) or more.
  - The mode is forcibly released immediately if the remote control lever is operated to the REVERSE side.

- If you put the engine speed at 3,000 min^{-1} (rpm), switch to cruise control mode, and use the TROLL/DN switch to adjust to 2,500 min^{-1} (rpm)
  - When the remote control lever is operated to the REVERSE side and the engine speed exceeds 2,500 min^{-1} (rpm), the mode is forcibly released.
  - The mode is forcibly released immediately if the remote control lever is operated to the FORWARD side.
- The mode is forcibly released immediately by putting the remote control lever in NEUTRAL.

TRIM SPT. Switch

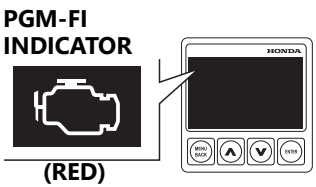
Pressing the TRIM SPT. switch changes the mode to the trim support mode, which automatically does trim operations according to the speed or engine RPM.
The conditions that control the trim operation (engine RPM and speed) and the trim angle pattern are set in the multi-function display.

For information about how to use the power trim/tilt switch, see page 39.

- If remote controls are mounted at two places, the changing of trim support mode can be done only with the remote control that is in active mode (see page 31).
- To release the trim support mode, press the TRIM SPT. switch.
- When trim support mode is released, a short buzz sounds twice.

PGM-FI INDICATOR/BUZZER (optional equipment)

Multi-function Display

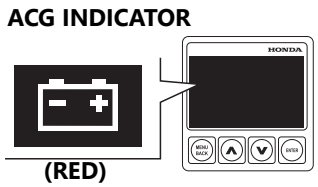


The PGM-FI indicator turns on and the buzzer sounds when the engine control system is faulty.
When the PGM-FI indicator lights, the buzzer sounds continuously with an intermittent long sound.
If the buzzer does not stop sounding, return to port immediately.
If the buzzer sounds for 10 seconds and stops, there is a minor malfunction, but navigation is limited. Return to port as soon as possible.

Check the indicators displayed on the multi-function display.
For information about NMEA2000-compatible device displays, refer to the display device's manual.

ACG INDICATOR/BUZZER (optional equipment)

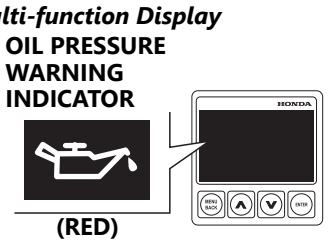
Multi-function Display



The ACG indicator turns on and the buzzer sounds when the charging system is faulty.
Check the indicators displayed on the multi-function display.
For information about NMEA2000-compatible device displays, refer to the display device's manual.

OIL PRESSURE WARNING INDICATOR/BUZZER (optional equipment)

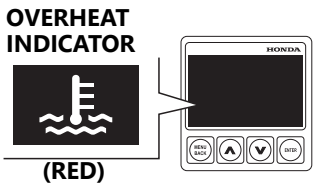
Multi-function Display



The oil pressure warning indicator comes on and the buzzer sounds when the oil level is low and/or the engine lubrication system is faulty.
The engine speed slows down gradually at this time.
Check the indicators displayed on the multi-function display.
For information about NMEA2000-compatible device displays, refer to the display device's manual.

OVERHEAT INDICATOR/ BUZZER (optional equipment)

Multi-function Display



The overheat indicator turns on and the buzzer sounds when the engine cooling circuit is faulty. The engine speed slows down at this time.
Check the indicators displayed on the multi-function display.
For information about NMEA2000-compatible device displays, refer to the display device's manual.

WATER SEPARATOR BUZZER

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

POWER TRIM/TILT SWITCH

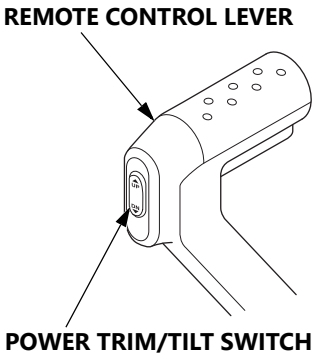
Power Trim

Press the power trim/tilt switch on the remote control lever to adjust the outboard motor trim angle 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.

NOTICE

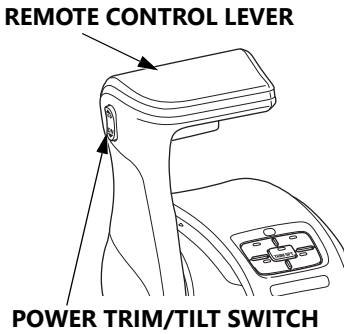
- **Excessive trim/tilt angle during operation can cause the propeller to raise out of the water and cause propeller ventilation and engine over-revving. Excessive trim/tilt angle can also damage the water pump.**

(D1 type)

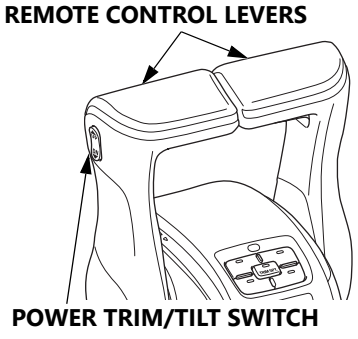


(D2 type)

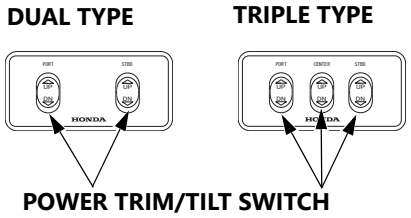
SINGLE TYPE



DUAL TYPE

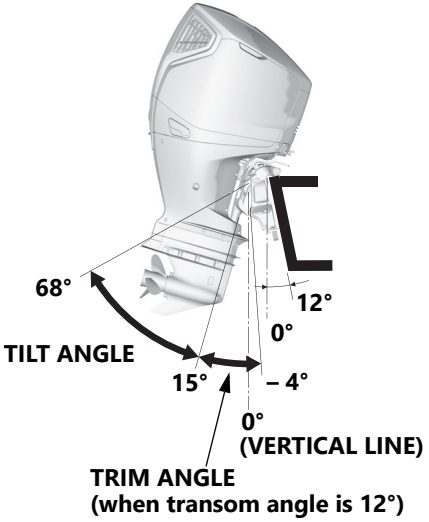


PTT SWITCH PANEL



NOTE:
For multiple outboard motors, the trim/tilt angle of all outboard motors is adjusted at the same time by using the power trim/tilt switch on the remote control lever and the trim/tilt angle of each outboard motor is adjusted by using each power trim/tilt switch on the panel.

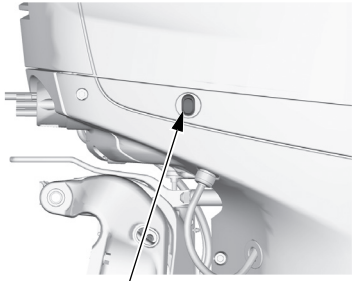
Power Tilt



Press the power trim/tilt switch to adjust the outboard motor tilt angle of 15° 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.
When dual type outboard motors are mounted, tilt them up simultaneously.

POWER TILT SWITCH (outboard motor pan)



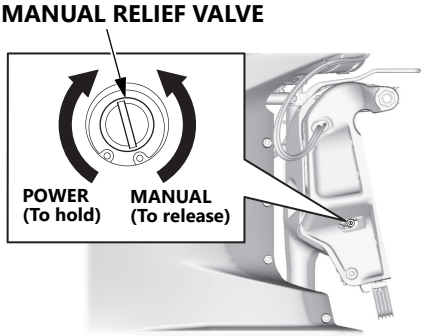
POWER TILT SWITCH

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 when the boat is stopped and the engine is off.

⚠ CAUTION

Do not operate the power tilt switch on the outboard motor while cruising. You can lose control of your balance, fall, and be injured by the moving outboard, propeller, or boat. Always use the power trim/tilt switch while under way.

MANUAL RELIEF VALVE



If the power trim/tilt switch does 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.

⚠ DANGER

Check that nobody is under the outboard motor before carrying out this position because if the manual relief valve is loosened (turned counterclockwise) when the outboard motor is tilted up, the outboard motor will suddenly tilt down.

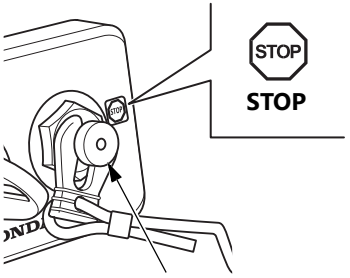
⚠ CAUTION

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

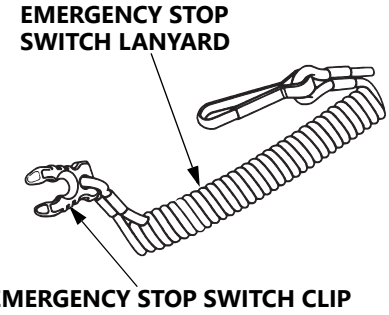
EMERGENCY STOP SWITCH

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.
When using the switch panel without indicators type, pull the emergency stop switch clip out of the emergency stop switch (see page 104).

(D1, D2 types)



Emergency Stop Switch Lanyard/Clip



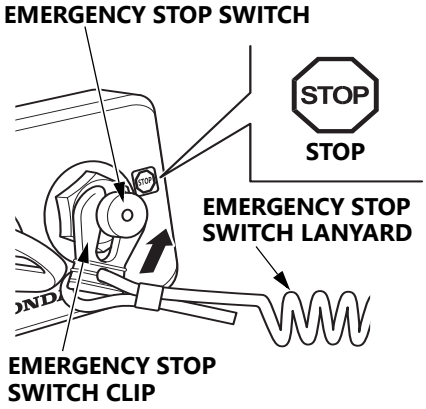
The emergency stop switch clip must be engaged with the engine stop switch or the engine will not start. When the emergency stop switch clip becomes disengaged with the emergency stop switch the engine will stop immediately.

⚠ 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.

(D1, D2 types)



Spare Emergency Stop Switch Clip (optional equipment)

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

A spare emergency stop switch clip can be stored in the tool bag (see page 112).

TILT LOCK LEVER

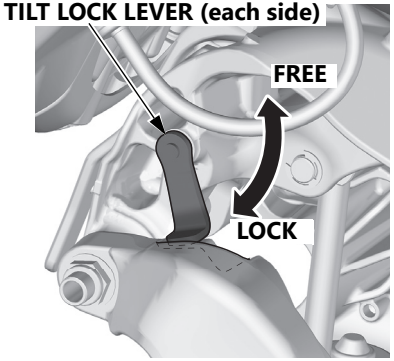
Use the tilt lock levers to raise the outboard motor and lock it in the position when the boat is moored or anchored for a long time (see page 92).

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

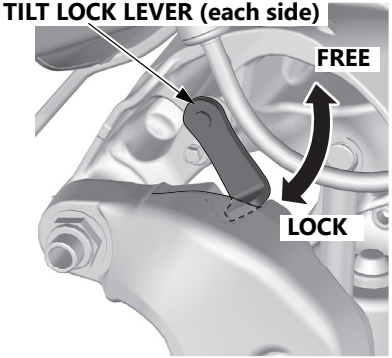
NOTICE

- **Before tilting it up, leave the outboard motor in the running position for one minute after stopping the engine to drain the water from inside the engine.**
- **Be careful that while the outboard motor is tilted up that it does not collide with the pier or other boats.**

When tilted up to 65°



When tilted up to 55°

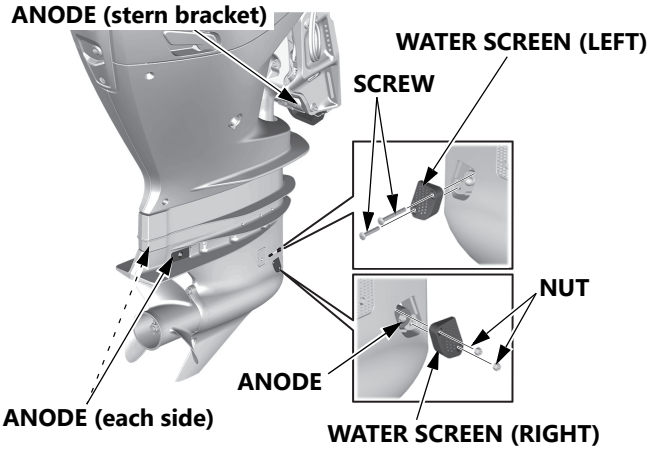


The tilt lock levers of the BF350A can lock the outboard motor at two tilt angles of 65° or 55°.
If it is not possible to tilt up to 65°, due to the hull, lock the outboard motor at 55°.

⚠ CAUTION

If you do not secure the outboard motor with the tilt lock levers after you tilt up the outboard motor by 55° or 65° or more, then the hydraulic pressure of the power trim/tilt may drop and cause the outboard motor to tilt down.

ANODES



The anodes are a sacrificial material which helps to protect the outboard motor from corrosion.

Water Screen Removal/Installation

1. Loosen the screws and remove the nuts.
2. Remove the water screen (right).
3. Remove the water screen (left).
   - If the water inlet is clogged with waterweed or mud, remove it.
4. Install the nuts and water screen (right) to the gear case by holding the nuts.
5. Install the screws and water screen (left).
6. Be carefull not to drop the nuts and tighten the screws.

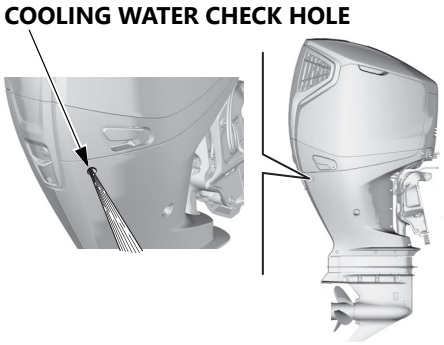
TIGHTENING TORQUE:

10. N·m (0.1 kgf·m , 0.7 lbf·ft)

NOTICE

- **Do not paint the anode. Doing so reduces the function of the anode metal, which can lead to rust and corrosion damage to the outboard motor.**

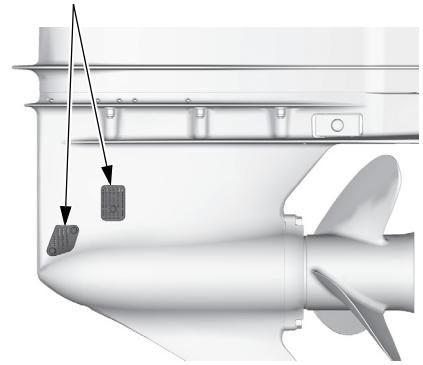
COOLING WATER CHECK HOLE



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

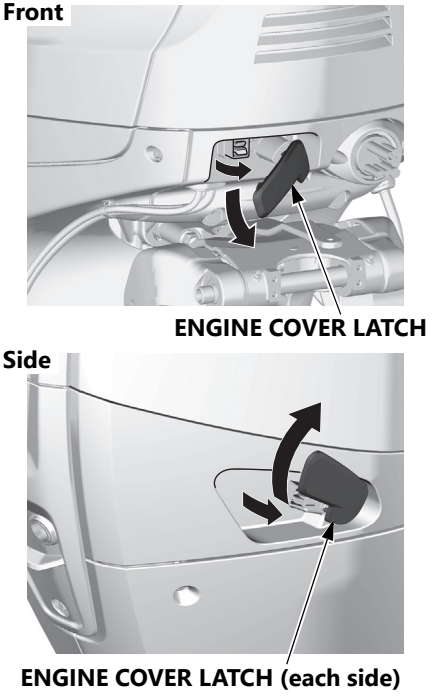
After starting the engine, check at the cooling water check hole whether the cooling water is circulating through the engine.

COOLING WATER INTAKE PORT



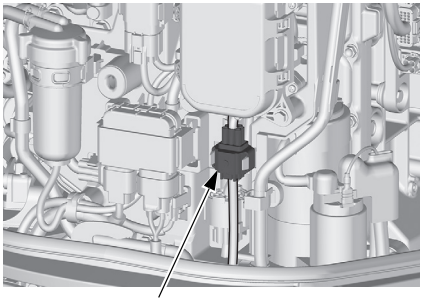
The engine cooling water is drawn into the engine through these ports.

ENGINE COVER LATCHES



Pull the engine cover latches to remove the engine cover.

NMEA INTERFACE COUPLER



NMEA INTERFACE COUPLER

The NMEA2000® interface coupler connects the outboard motor to the boat's NMEA2000® network through an interface cable and transmits information such as engine information and warnings to the control panel and gauges. 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.

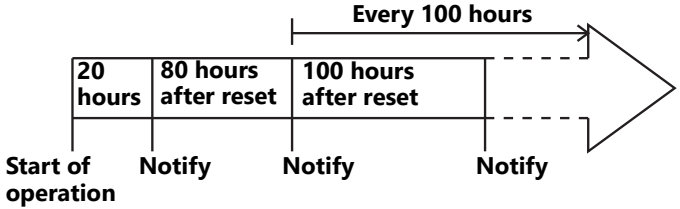
After periodic maintenance is performed, reset the hour counter by:

1. Turn ON the power switch or ignition switch. (The buzzer will sound twice.)
2. Wait at least 1 second and then shift to the FORWARD or REVERSE gear with the remote control lever of the outboard motor.
3. Turn OFF the power switch or ignition switch.
4. Turn ON the power switch or ignition switch. (The buzzer will sound twice.)
5. Insert and remove the emergency stop switch clip five times within 20 seconds.
   - When reset, the buzzer will sound once.
6. Set the remote control lever in the NEUTRAL position.
7. Turn OFF the power switch or ignition switch.

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 113).

Reset the hour counter whenever maintenance is performed, whether based on the time interval or the number of operating hours.

Operating hour notification timing



Periodic maintenance display

- Notification about periodic maintenance is displayed on the multi-function display when the power switch or the engine switch is turned on.
- The notification for periodic maintenance remains displayed after the engine is started.
- The display disappears when the remote control lever is put in the FORWARD or REVERSE position.

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.

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.

BATTERY SWITCH OFF NOTIFICATION

This function alerts the operator that the battery switch is OFF and must be turned to the ON position. If the battery switch is OFF, a buzzer will sound three times during the following situations.

- When starting the engine
- When using the power trim/tilt switch
- When turning the battery switch OFF while the ignition switch or power switch is ON

5. INSTALLATION

NOTICE

- **Improperly installed outboard motor can result in the outboard motor dropping into the water, boat not being able to cruise straight ahead, engine speed not increasing, and extreme 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)/equipment installation and operation.

Applicable Boat
Select a boat suitable for the engine power.

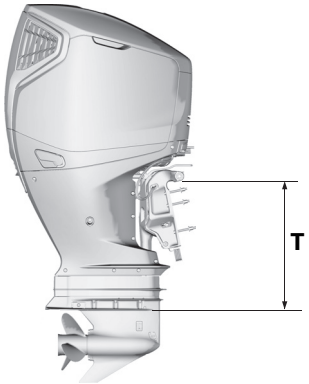
Engine power:
BF350A: 257.4 kW (350 PS)

Power recommendation is indicated on most of the boats.

⚠ WARNING

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

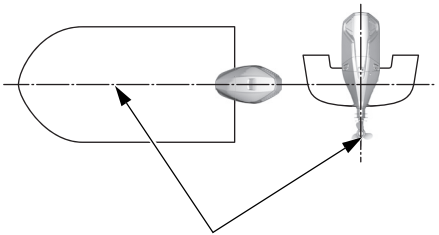
TRANSOM HEIGHT



Type:	T (Outboard Motor Transom Height) <when transom angle is 12°>
X:	638 mm (25.1 in)
U:	765 mm (30.1 in)

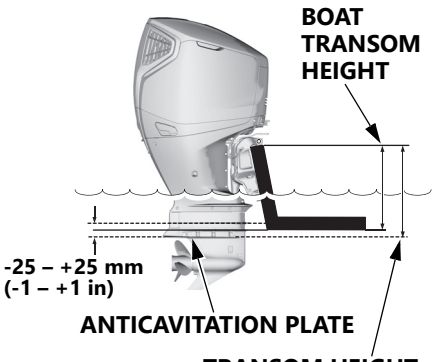
Select an outboard motor which is correct for the boat transom height of your boat.

LOCATION



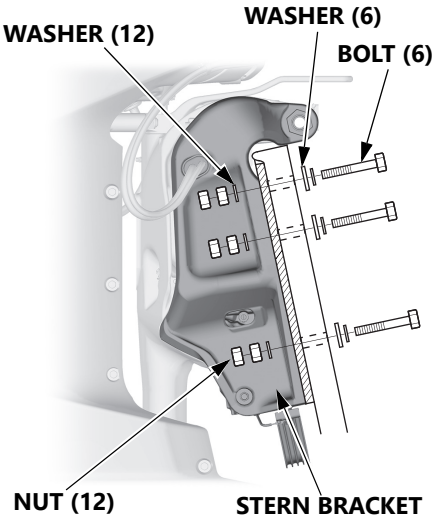
Install the outboard motor at the stern, at the center line of the boat.

INSTALLATION HEIGHT



The anticavitation plate of the outboard motor should be within -25 – +25 mm (-1 – +1 in) from the bottom of the boat.
The correct dimensions differ according to the type of boat and the configuration of the bottom of the boat. Follow the manufacturer's recommended installation height.

OUTBOARD MOTOR INSTALLATION



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 lock nuts.

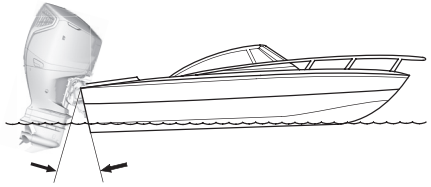
NOTE:
Standard torque:
54 N·m (5.5 kgf·m, 40 lbf·ft)

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.

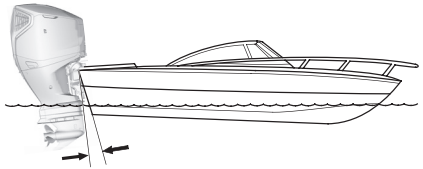
⚠ CAUTION

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.

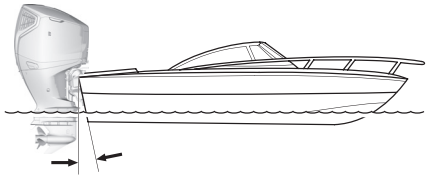
OUTBOARD MOTOR ANGLE INSPECTION (cruising)



INCORRECT
CAUSES BOAT TO "SQUAT"



INCORRECT
CAUSES BOAT TO "PLOW"



CORRECT
GIVES MAXIMUM PERFORMANCE

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

Trim angle too large: Incorrect causes boat to "squat."

Trim angle too small: Incorrect causes boat to "plow."

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).

BATTERY CONNECTIONS

Use a battery which has CCA (COLD CRANKING AMPERES) 800 at – 18°C (0°F) and a reserve capacity 229 minutes (12 V - 110 Ah/20 HR) or more specifications. The battery is an optional part (i.e. part to be purchased separately from the outboard motor).

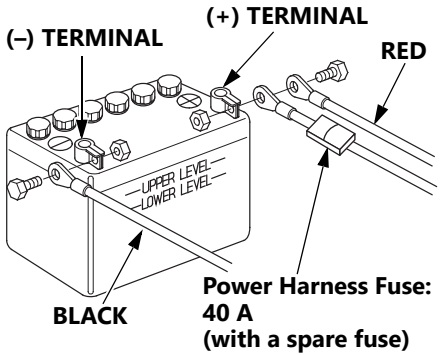
⚠ WARNING

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.



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 motor.

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.**

Battery posts, terminals, and related accessories contain lead and lead compounds.
Wash your hands after handling them.

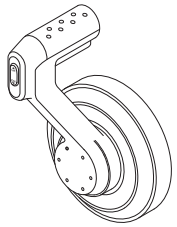
REMOTE CONTROL INSTALLATION (optional equipment)

NOTICE

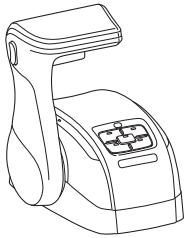
- **Improperly installed steering system, remote control box, or remote control cable, or installing those of different types could cause an unpredictable accident.**
  Consult an authorized Honda outboard motor dealer for proper installation.

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

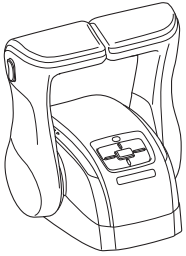
Remote Control Box



FLUSH-MOUNT TYPE CONTROL BOX



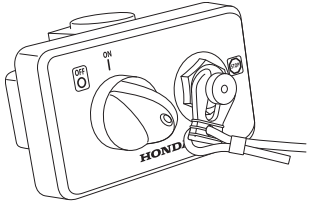
TOP-MOUNT TYPE CONTROL BOX (FOR SINGLE OUTBOARD MOTOR TYPE)



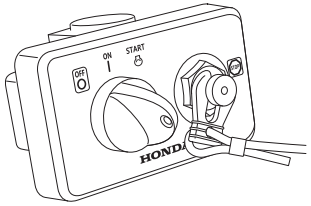
TOP-MOUNT TYPE CONTROL BOX (FOR DUAL OUTBOARD MOTOR TYPE)

5. INSTALLATION

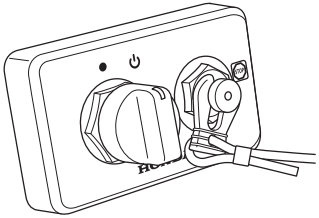
Key Switch Panel



NORMAL KEY WITH START/STOP SWITCH TYPE

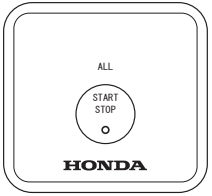


NORMAL KEY WITHOUT START/STOP SWITCH TYPE

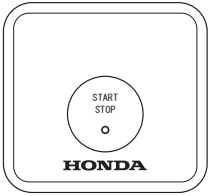


HONDA SMART KEY TYPE

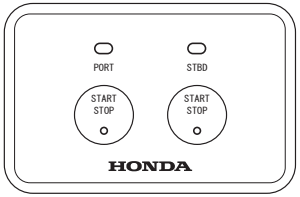
START/STOP Switch Panel



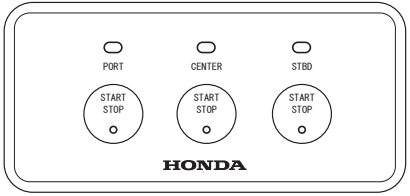
ALL ENGINE START FOR MULTIPLE OUTBOARD MOTORS



SINGLE TYPE/ OUTBOARD MOTOR

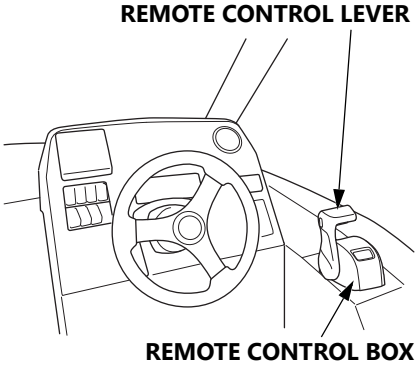


DUAL TYPE OUTBOARD MOTOR



TRIPLE TYPE OUTBOARD MOTOR

Remote Control Box Location



Install the remote control box in a position where it is easy to operate the remote control lever and switches.

The control box position of the D2 type should be determined in the same manner.

PROPELLER SELECTION

Select an adequate propeller so that the engine speed at full throttle is BF350A: 5,000 min^{-1} (rpm) to 6,000 min^{-1} (rpm) when the boat is loaded.
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 problems. Use of the correct propeller assures powerful acceleration, top speed, excellence 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.

FUEL LINE CONNECTION

Connect the fuel line to the tank and the outboard motor. Follow the boat manufacturer's instructions.

⚠ 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 the engine.
- Keep heat, sparks, and flame away.

6. PRE-OPERATION CHECKS

BF350A is 4-stroke, water cooled outboard motor which uses unleaded regular gasoline for fuel. It also requires engine oil. Check the following before operating the outboard motor.

⚠ CAUTION

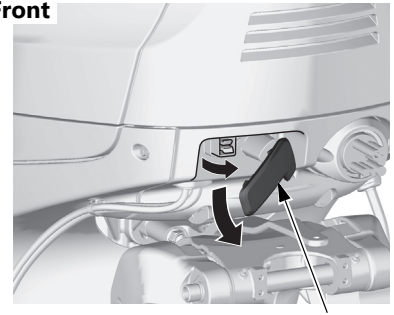
Perform the following pre-operation checks with the engine stopped.

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

ENGINE COVER REMOVAL/ INSTALLATION

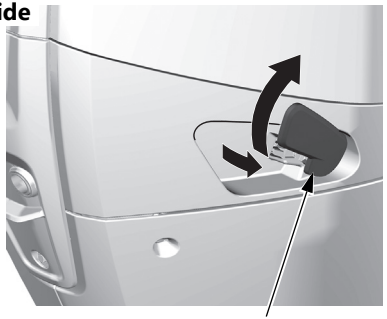
Removal

Front



ENGINE COVER LATCH

Side

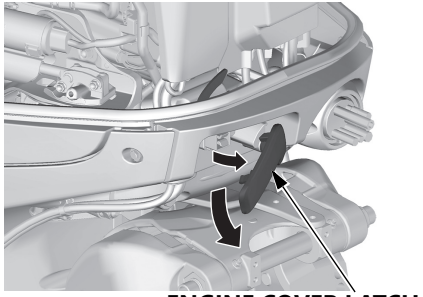


ENGINE COVER LATCH (each side)

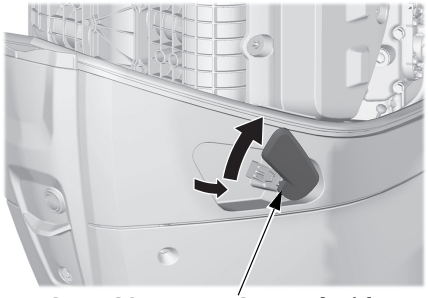
1. Pull all the engine cover latches.
2. Remove the engine cover by lifting it straight up from the outboard motor.

Installation

Front

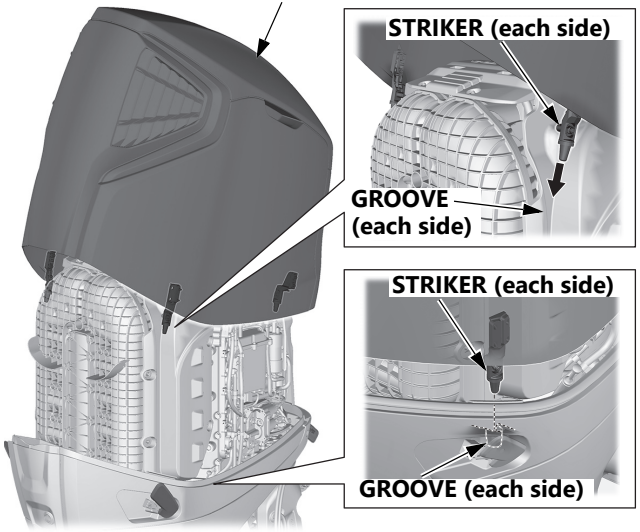


Side



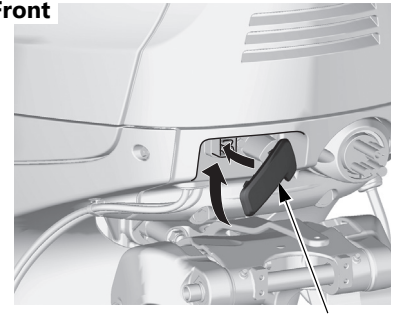
1. Rotate and hold the latches as shown.

Side



2. Slide the strikers of the engine cover to the grooves of the rear striker cover.
   Align the strikers of the engine cover with the grooves of the main body and install the engine cover.

Front



ENGINE COVER LATCH

Side

ENGINE COVER LATCH (each side)

3. Push the engine cover until it is fully seated.
4. Rotate the latches as shown. Push all the latches to lock them.

Lubricate the tip of the striker with silicone spray to make installation easier.

The cover should be tight at the fully seated position. If the cover is loose or difficult to secure, an adjustment may be necessary. Please see the shop manual or your Marine dealer for adjustment.

⚠ WARNING

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

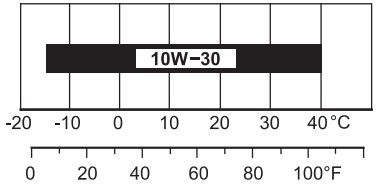
ENGINE OIL

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.**

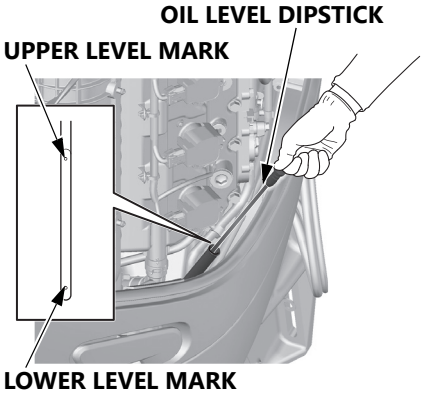
Recommended oil

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.
SAE 10W-30 is recommended for general use.



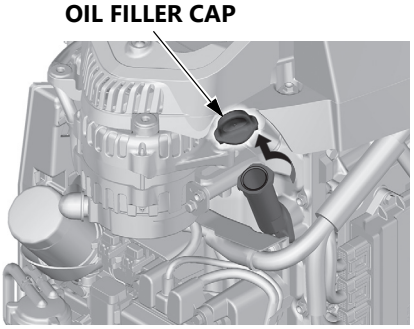
AMBIENT TEMPERATURE

Inspection and Refilling



Check the engine oil level with the engine stopped and the outboard motor in the vertical position.

1. Unlock and remove the engine cover (see page 58).
2. Remove the oil level dipstick by pulling it. Wipe the oil level dipstick clean.
3. Insert the dipstick all the way in, then remove it and check the oil level shown on the dipstick.



4. If the oil level is near or below the lower level mark on the dipstick, remove the front striker guide cover (see page 124).
5. Remove the oil filler cap, and add oil so that it reaches the upper level mark shown on the dipstick. Use the oil recommended on p. 61.
6. Insert the dipstick all the way in. Install the oil filler cap and tighten it securely. Do not overtighten.

When the engine oil is contaminated or discolored, replace with the fresh engine oil (see page 115 for replacement interval and procedure).

7. Install the front striker guide cover in the reverse order of removal.
8. 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 insufficient oil could cause damage to the engine.

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 min^{-1} (rpm) for more than 30% of the time so the engine does not warm-up.	• Water condenses in the engine and mixes with the oil, resulting in a milky appearance. • Unburned fuel mixes with the oil, increasing the volume of oil.	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.		

FUEL

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 a Research Octane Number of 91 or higher (a Pump Octane Number of 86 or higher). Use of leaded gasoline may cause damage to the engine.
Never use gasoline that is stale, contaminated, or mixed with oil. Avoid getting dirt, dust or water in the fuel tank.

⚠ WARNING

Gasoline is extremely flammable and is explosive under certain conditions.

- Refuel in a well-ventilated area with the engine stopped.
- Do not smoke or allow flames or sparks 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 fuel filler 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.

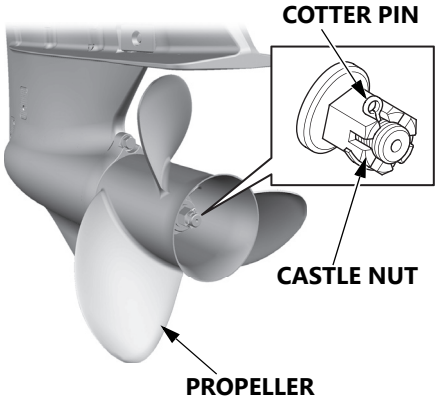
PROPELLER AND COTTER PIN INSPECTION

⚠ 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 it (see page 134).
Consult an authorized Honda outboard motor dealer for propeller selection.
Keep the spare washer, castle nut and cotter pin with you on your boat.



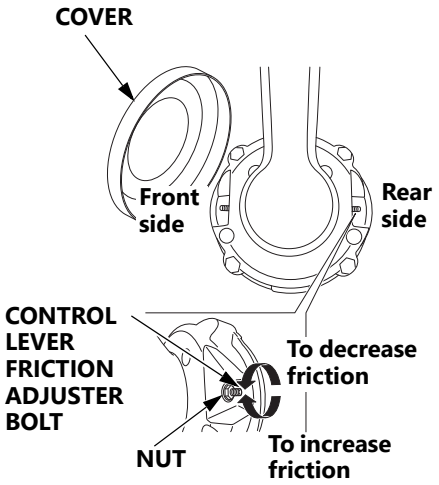
Engine speed varies according to the propeller size and the boat condition. Use of the outboard motor outside the full throttle speed range will adversely affect the engine and cause a serious problem. Use of the correct propeller assures powerful acceleration, top speed, excellence in terms of economy 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 (see page 134).
2. Check whether the propeller is installed properly.
3. Check the cotter pin for damage.

REMOTE CONTROL LEVER FRICTION

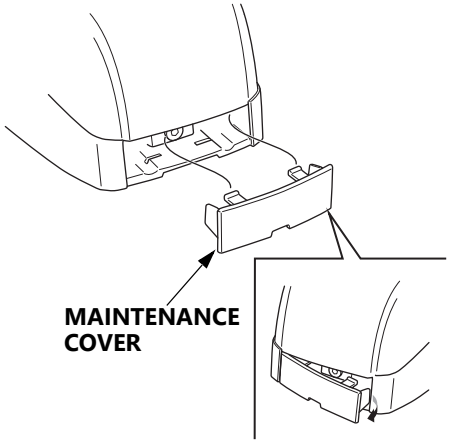
(D1 type)



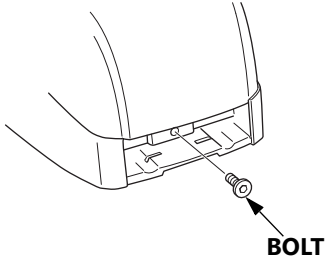
Check whether the remote control lever moves smoothly.

1. Remove the cover of the remote control lever.
2. Loosen the nut.
3. Adjust the lever friction when increasing throttle opening and boat speed by turning the control lever friction adjuster bolt right or left.
4. Tighten the nut to lock the lever friction.
5. Reinstall the cover of the remote control lever.

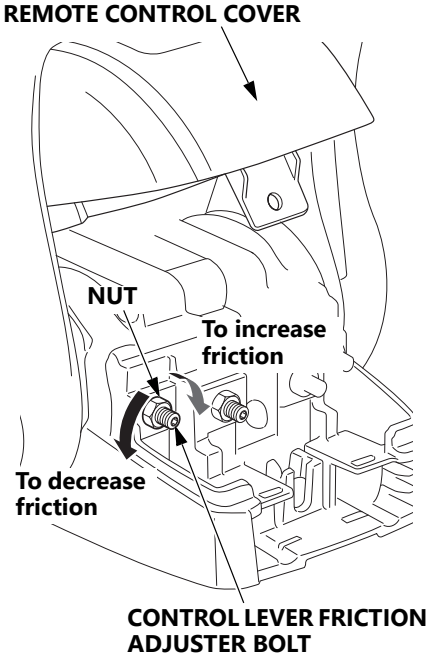
(D2 type)



1. Remove the maintenance cover.

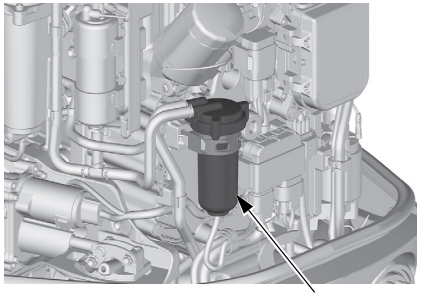


2. Remove the bolt.



3. Open the remote control cover.
4. Loosen the nut.
5. Adjust the lever friction when increasing throttle opening and boat speed by turning the control lever friction adjuster bolt right or left.
6. Tighten the nut to lock the lever friction.
7. Reinstall the remote control cover.
8. Install and tighten the bolt.
9. Reinstall the maintenance cover.

FUEL FILTER WITH WATER SEPARATOR (LOW PRESSURE SIDE)



FUEL FILTER with WATER SEPARATOR (LOW PRESSURE SIDE)

The fuel filter with water separator is located below the intake manifold. Check the fuel filter with water separator for water accumulation. If water has accumulated, drain it (see page 124).

To check the water separator, you need to remove the front striker guide cover (see page 124).

BATTERY

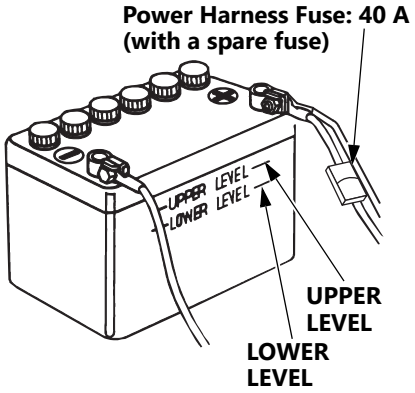
NOTICE

- **Battery handling differs according to the type of the battery so 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 128).

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 129).



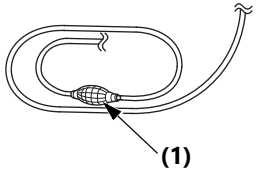
⚠ WARNING

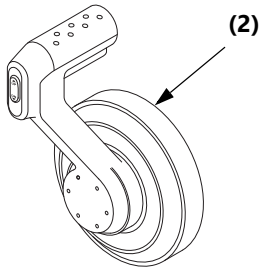
Batteries produce explosive gases: If ignited, an explosion can cause serious injury or blindness. Provide adequate ventilation when charging.

- 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 posts, terminals, and related accessories contain lead and lead compounds.
Wash your hands after handling them.

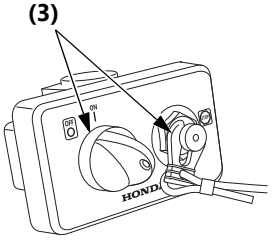
OTHER CHECKS

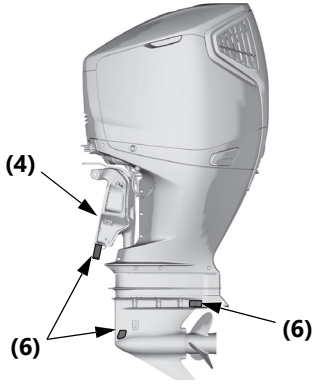




Check the following items:

1. The fuel hose for kinking, collapsing or a loose connection.
2. The remote control lever for smooth operation.





(5) TOOL KIT (page 112)

3. The switches for correct operation.
4. The stern bracket for damage.
5. The tool kit for missing spare parts and tools (page 112).
6. The anode metal for damage, looseness or excessive corrosion.

The anode (sacrificial 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:

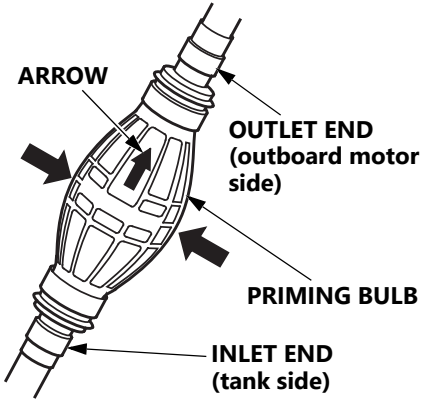
- Owner's Manual
- Tool kit
- Engine Hangers
- Spare parts: spark plugs, engine oil, spare propeller, castle nut, washer and cotter pin.
- Spare emergency stop switch clip.
- Other parts/materials required by laws/regulations.

7. STARTING THE ENGINE

NOTICE

- **Make sure the battery switch is ON before turning ON the ignition switch or power switch. If the battery switch is OFF while attempting to start the engine, the buzzer will sound three times.**

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.

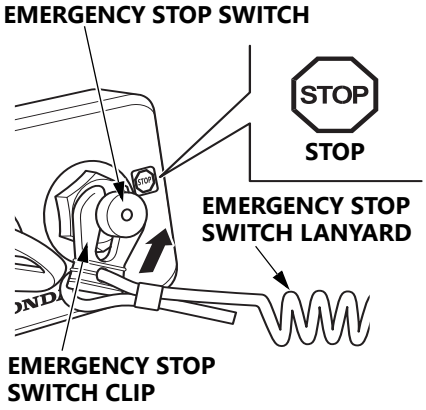
⚠ WARNING

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



⚠ WARNING

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

NOTICE

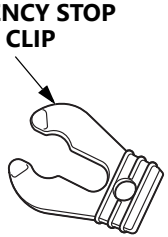
- **To prevent damage to the outboard from overheating, never run the engine with the propeller out of water.**

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

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.

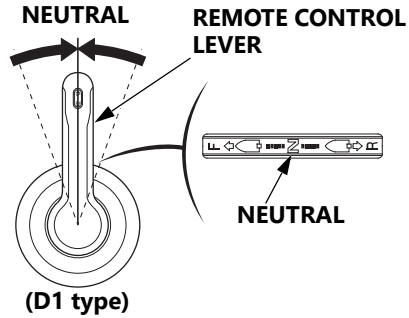
⚠ WARNING

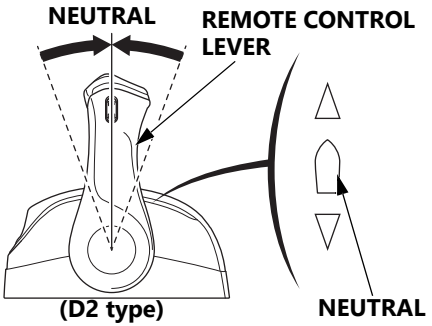
If the operator does not attach the emergency stop switch lanyard, and is thrown from the seat or out of the boat, the out-of-control boat can seriously injure the operator, passengers, or bystanders. Always properly attach the lanyard before starting the engine.



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

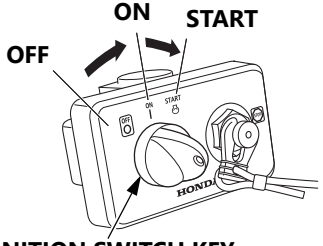
A spare emergency stop switch clip can be stored in the tool bag (see page 112).





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

(Normal Key without START/ STOP switch type)

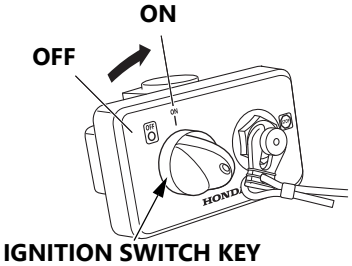


3. Turn the ignition switch key to the START position until the engine starts.
   When the engine starts, release the key, allowing it to return to the ON position.
   Go to step 5.

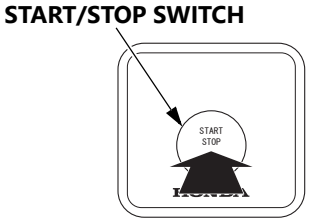
NOTICE

- **Do not turn the ignition switch key to the START position while the engine is running.**

(Normal Key with START/STOP switch type)

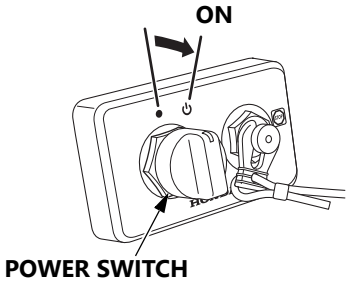


3. Insert the key into the power switch and turn it to the ON position.



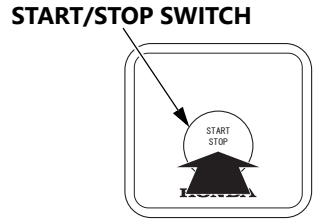
4. Push the start/stop switch.

(Honda Smart Key type)



3. Turn the power switch to the right.

NOTE:
The power will not be turned ON unless the Honda Smart Key is authenticated.



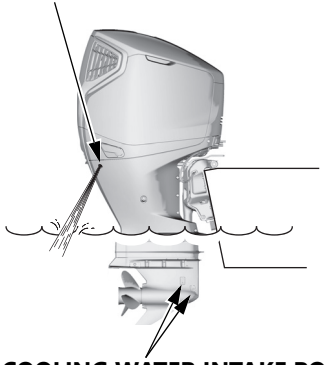
4. Push the start/stop switch.

NOTE:
When the boat is equipped with two outboard motors, push the all engine start switch.

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.**

COOLING WATER CHECK HOLE



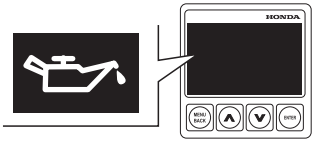
COOLING WATER INTAKE PORT (each side)

5. After starting, check whether the cooling water is flowing out of the cooling water check hole. The 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 an authorized outboard motor dealer. Do not operate the engine until the problem has been corrected.**

ENGINE OIL PRESSURE WARNING INDICATOR



NORMAL: OFF
ABNORMAL: ON

6. Check to see if the oil pressure warning indicator turns OFF. If it comes on, stop the engine and perform the following inspections.
   1. Check the oil level (see page 61).
   2. If the oil level is normal and the oil pressure warning indicator comes 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 2 or 3 minutes.
   Below 5°C (41°F) – run the engine for at least 5 minutes at 2,000 min^{-1} (rpm).
   Failure to completely warm up the engine will result in poor engine performance.

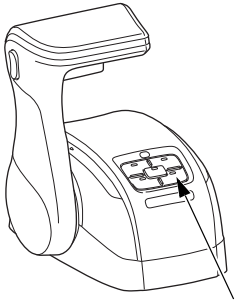
NOTICE

- **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.

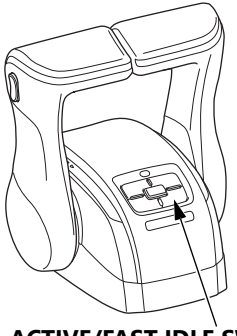
ACTIVE MODE (D2 type)

SINGLE TYPE



ACTIVE SWITCH

DUAL TYPE



ACTIVE/FAST IDLE SWITCH

For multiple station type, use the ACTIVE switch or ACTIVE/FAST IDLE switch to change the operating station (see page 31). If you press the ACTIVE switch or ACTIVE/FAST IDLE switch of the inactive station when all remote control levers are in the NEUTRAL position, you can operate the outboard motors using this station.

- To release the station selection, press the ACTIVE switch or ACTIVE/FAST IDLE switch of the remote control of the inactive station, with all the remote control levers put in the NEUTRAL position.

8. OPERATION

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.

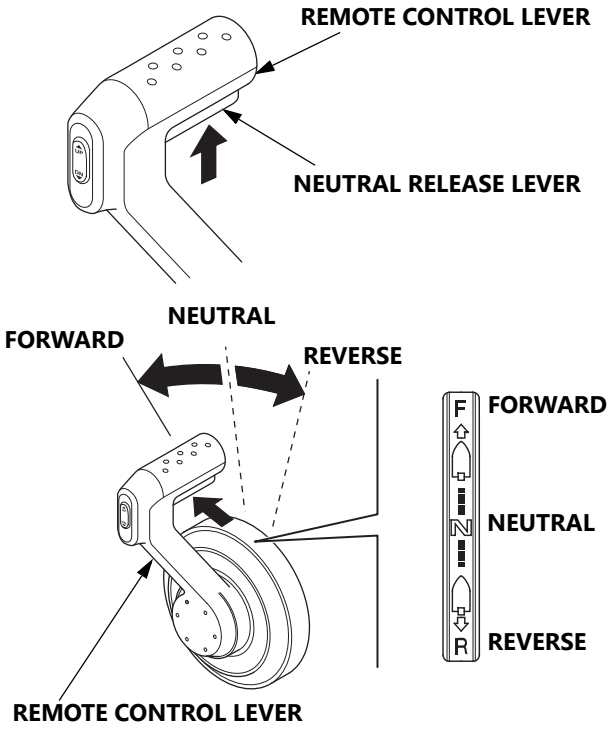
Next 45 minutes:
Run the outboard motor up to a maximum of 2,000 to 3,000 min^{-1} (rpm) or 10% to 30% throttle opening.

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 described above.

GEAR SHIFTING (D1 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.

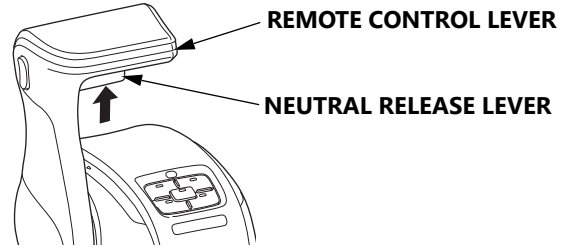
While pulling the neutral release lever, move the control lever approximately 20° toward the FORWARD or REVERSE position to engage the desired gear.

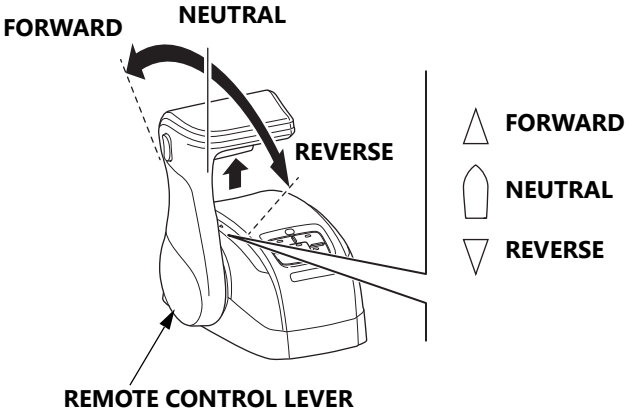
Moving the control lever further from approximately 20° will increase throttle opening and boat speed.

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

GEAR SHIFTING (D2 type)

SINGLE TYPE





⚠ CAUTION

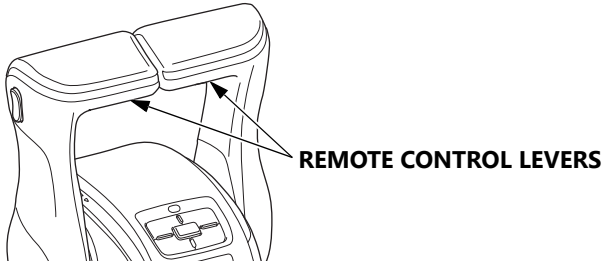
Avoid sharp and abrupt operation of the control lever. Operate it moderately. Operate the control lever and raise the engine speed after making sure that the gear was shifted securely.

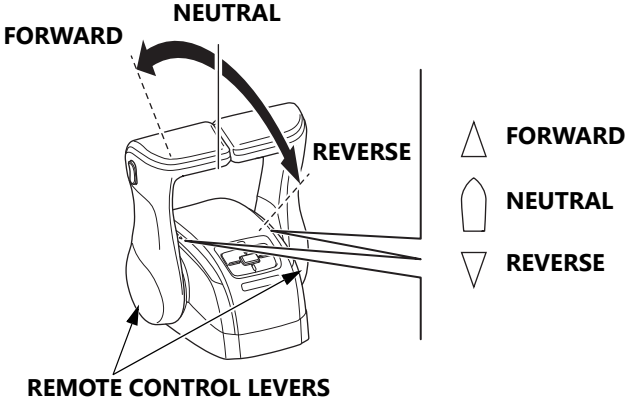
While pulling the neutral release lever, move the control lever approximately 20° toward the FORWARD or REVERSE position to engage the desired gear.

Moving the control lever further from approximately 20° will increase throttle opening and boat speed.

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

DUAL TYPE





⚠ CAUTION

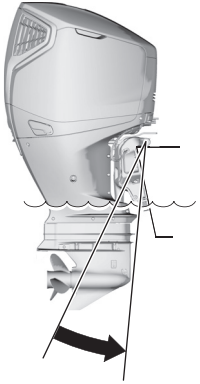
Avoid sharp and abrupt operation of the control lever. Operate it moderately. Operate the control lever and raise the engine speed after making sure that the gear was shifted securely.

Move the control lever(s) approximately 20° toward the FORWARD or REVERSE position to engage the desired gear.

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

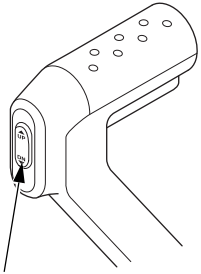
Moving the control lever(s) further from approximately 20° will increase throttle opening and boat speed.

CRUISING



LOWERMOST POSITION

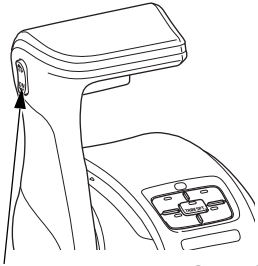
(D1 type)



POWER TRIM/TILT SWITCH

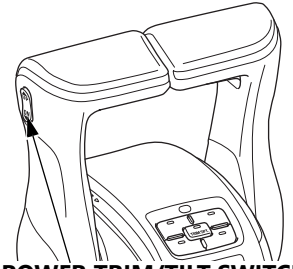
(D2 type)

SINGLE TYPE



POWER TRIM/TILT SWITCH

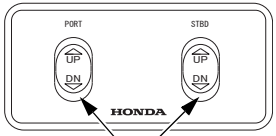
DUAL TYPE



POWER TRIM/TILT SWITCH

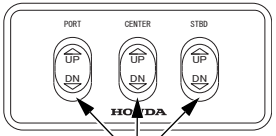
PTT SWITCH PANEL

DUAL TYPE



POWER TRIM/TILT SWITCH

TRIPLE TYPE

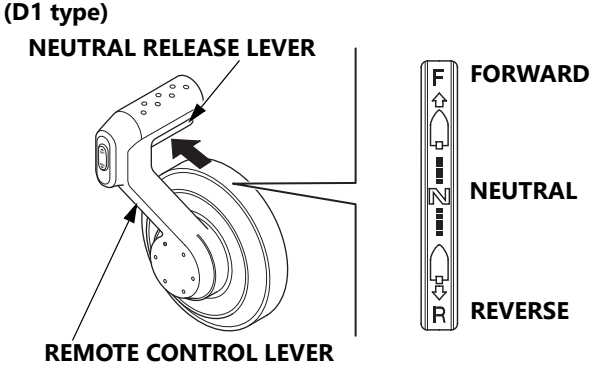


POWER TRIM/TILT SWITCH

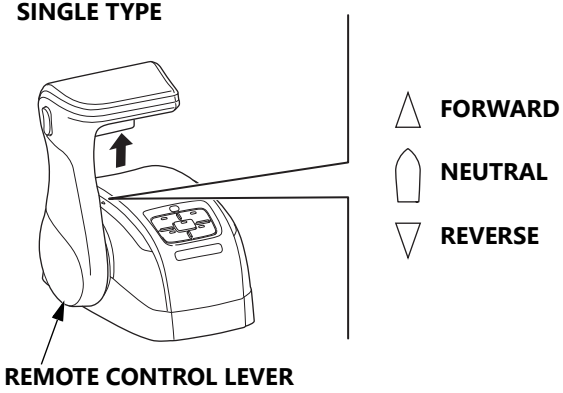
1. Press on the DN (down) of the power trim/tilt switch and trim the outboard motor to the lowermost position.

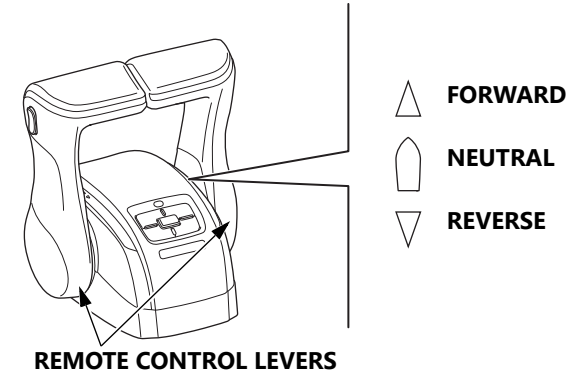
   D2 type:
   When two or more outboard motors are mounted:
   1.Press on the DN (down) of the power trim/tilt switch on the remote control lever and trim the outboard motors to the lowermost position.
   2.With the outboard motors trimmed to the lowermost position, adjust the trim angle of each outboard motor using the switch on the panel.

(D1 type)



(D2 type)





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

   D1, D2 types:
   Moving about 20° engages the gear. Moving the control lever further opens the throttle and increases the boat speed.

NOTE:

- When cruising at full throttle, note that the engine speed must be in the range between 5,000 min^{-1} (rpm) and 6,000 min^{-1} (rpm).
- 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 57) for a relation between the propeller and the engine speed.

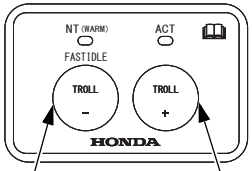
⚠ CAUTION

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.

TROLLING MODE



[-] SWITCH **[+] SWITCH**

(ELECTRICAL REMOTE CONTROL BOX and FLUSH-MOUNT type)

[-] Switch: Reduce engine speed
[+] Switch: Increase engine speed

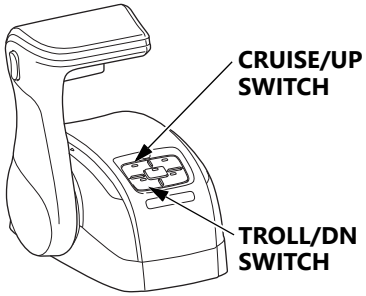
After the engine warms up, when the remote control lever is tilted from the NEUTRAL position to the FORWARD or REVERSE side by about 20° and the [+] switch is pressed and held, the mode changes to trolling mode.

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 – 900 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 (900 min^{-1} (rpm)) limit.
If you try to do this, a short buzz sounds twice.
The throttle may be operated while in trolling mode.

TROLLING CONTROL MODE

(D2 type)



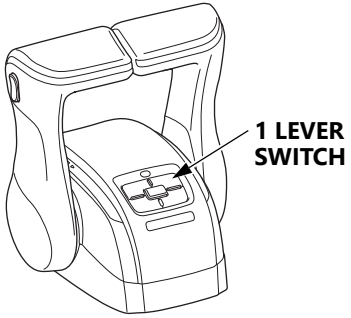
TROLL/DN Switch:
Reduce engine speed
CRUISE/UP Switch:
Increase engine speed

After the engine warms up, when the remote control levers are tilted from the NEUTRAL position to the FORWARD or REVERSE side by about 20° and the TROLL/DN switch of the remote control is pressed, the mode changes to trolling control 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 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 min^{-1} (rpm)) limit.
If you try to do this, a short buzz sounds twice.
The throttle may be operated while in trolling control mode.

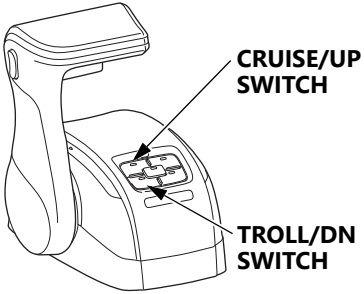
ONE-LEVER MODE (for multiple outboard motors type)



Shifting gear and the engine speed adjustment of all the outboard motors can be performed with one remote control lever when in one-lever mode.

If you press the 1 LEVER switch when all remote control levers are in the NEUTRAL position, the mode changes to one-lever mode. A long buzz sounds once.

CRUISE CONTROL MODE



TROLL/DN Switch:
Reduce engine speed or velocity
CRUISE/UP Switch:
Increase engine speed or velocity

If you press the CRUISE/UP switch during cruising with all the remote control levers in the FORWARD position, the mode changes to the cruise control mode, which lets the boat cruise at a constant engine speed or velocity.

A long buzz sounds once.
- Speed can only be adjusted in cruise control mode when equipped with GPS.

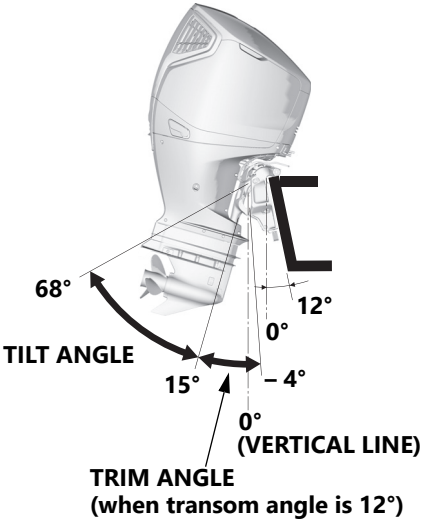
You can adjust the engine speed or velocity by every time you press the switch once. You will hear a short buzz.
Continuing to press the switch will not decrease or increase the engine speed beyond the lower or higher limit.
If you try to do this, a short buzz sounds twice.

Engine speed adjusting range:
Engine speed at mode change ±500 min^{-1} (rpm) (in steps of 50 min^{-1} (rpm))

Velocity adjusting range:
– Velocity at mode change ±10 km/h (in steps of 1.0 km/h)
– Velocity at mode change ±5 miles/h (in steps of 0.5 miles/h)
– Velocity at mode change ±5 knots (in steps of 0.5 knots)

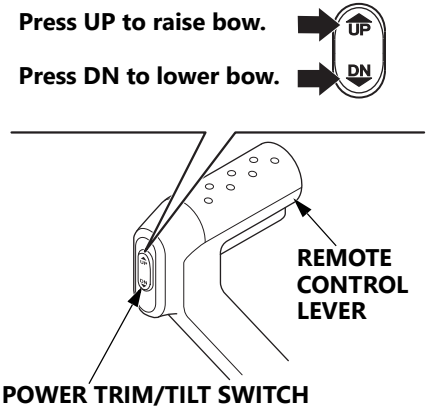
The cruise control mode is released forcibly in the following cases.
- GPS error or disconnection (Velocity adjustment is selected in the multifunction display)
- Operate the remote control lever a certain amount from the position for changing modes
- Engine stops or engine is abnormal (overheating, low oil pressure, etc.)
- If the engine RPM or speed is unstable

TRIMMING THE OUTBOARD MOTOR



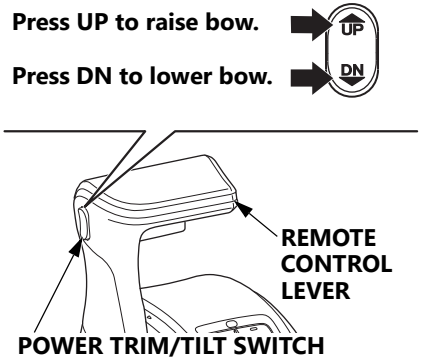
NOTE:
For multiple outboard motors, the trim/tilt angle of all outboard motors is adjusted at the same time by using the power trim/tilt switch on the remote control lever and the trim/tilt angle of each outboard motor is adjusted by using each power trim/tilt switch on the panel.

(D1 type)

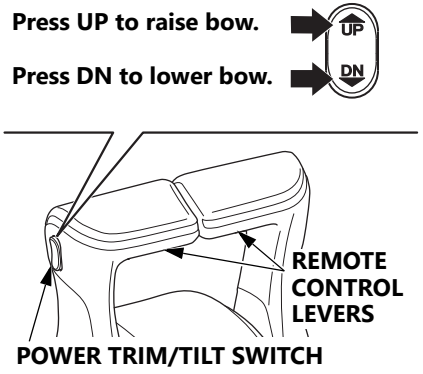


(D2 type)

SINGLE TYPE



DUAL TYPE

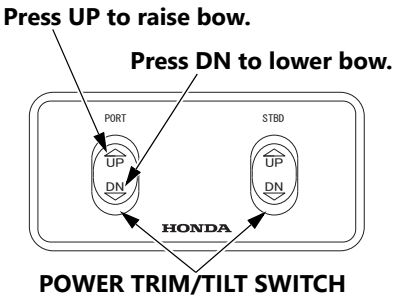


Consult an authorized Honda Outboard Motor dealer for the method to adjust the tilt limit switch.
Press either UP or DN (down) of the power trim/tilt switch and tilt the outboard motor to the best position according to the cruising conditions.

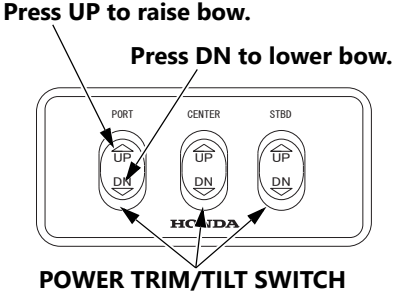
The power trim/tilt system operates when the switch is pressed, and it stops when the switch is released.
To trim up slightly, press on UP momentarily but firmly.
To trim down slightly, press on DN (down) in the same manner.

PTT Switch Panel

DUAL TYPE



TRIPLE TYPE



NOTE:
For multiple outboard motors, the trim/tilt angle of all outboard motors is adjusted at the same time by using the power trim/tilt switch on the remote control lever and the trim/tilt angle of each outboard motor is adjusted by using each power trim/tilt switch on the panel.

⚠ WARNING

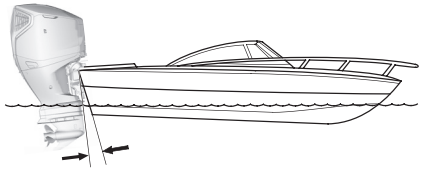
When the boat is equipped with two outboard motors, adjust with the switch on the control lever side. Adjustment with the switch on the console side will impair the balance between the right and left outboard motors, which adversely affects operability and stability of the outboard motors.

⚠ CAUTION

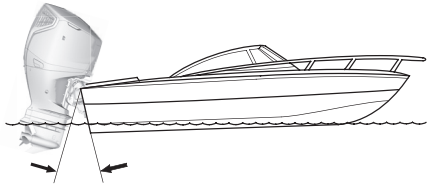
Improper trim angle results in unstable steering condition.

- 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 water pump.

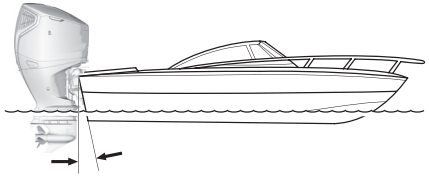
OUTBOARD MOTOR TRIMMED TOO LOW



OUTBOARD MOTOR TRIMMED TOO HIGH



OUTBOARD MOTOR TRIMMED CORRECTLY



NOTE:

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

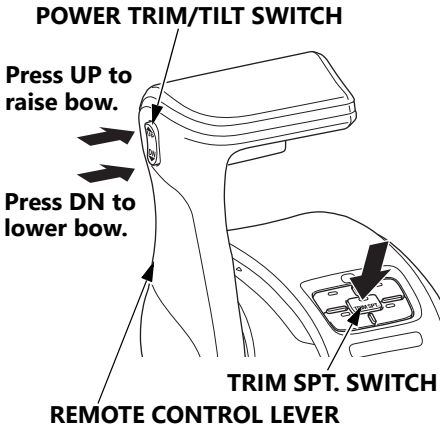
When cruising:

(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 Support Mode



Pressing the TRIM SPT. switch changes the mode to the trim support mode, which automatically does trim operations according to the speed or engine RPM.

Adjusting the trim angle to an optimum position automatically during acceleration or cruising improves acceleration performance, top speed, steering stability, fuel efficiency, etc.

The conditions that control the trim angle pattern is set in the multi-function display.

The trim support switch (TRIM SPT. switch) can be used regardless of whether the boat is stopped or cruising.

You can finely adjust the trim angle manually while in trim support mode.
In the case of a single outboard motor, if you press the power trim/tilt switch of the remote control while in trim support mode, you can fine-tune the trim angle.

In the case of multiple outboard motors, if you press the power trim/tilt switch of the remote control in the trim support mode, you can fine-tune the trim angles of all the outboard motors simultaneously.
The finely adjusted angle is temporarily overwritten with the preset pattern, and returns to the pattern before overwriting when the engine switch or power switch is turned off.

If you use the cruise control mode while in the trim support mode, the trim support mode is temporarily stopped.

The trim support mode is forcibly canceled in the following cases.

- Trim angle is adjusted beyond the trim area by the power trim/tilt switch
- GPS error or disconnection
- Engine malfunction (overheating, low oil pressure, etc.)
- Trim operation abnormality
- Accelerating or decelerating so quickly as to put a load on trim

TILTING THE OUTBOARD MOTOR

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.

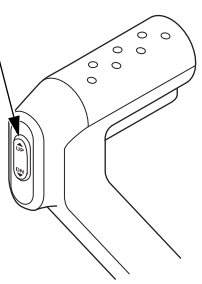
When dual type outboard motors are mounted on your boat, tilt them up at the same time.

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

Pressing UP of the power trim/tilt switch of the remote control lever or PTT switch panel twice in succession tilts the outboard motor up to the set tilt angle automatically.

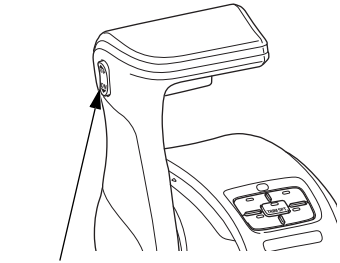
D1 type

POWER TRIM/TILT SWITCH



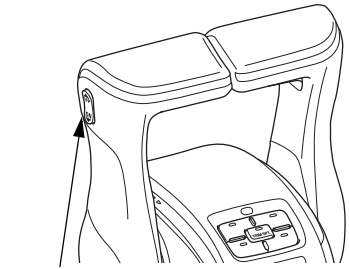
D2 type

SINGLE TYPE



POWER TRIM/TILT SWITCH

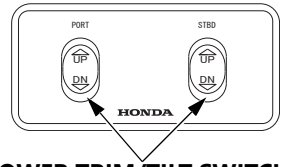
DUAL TYPE



POWER TRIM/TILT SWITCH

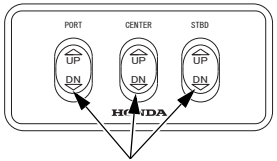
PTT Switch Panel

DUAL TYPE



POWER TRIM/TILT SWITCH

TRIPLE TYPE



POWER TRIM/TILT SWITCH

NOTE:
For multiple outboard motors, the trim/tilt angle of all outboard motors is adjusted at the same time by using the power trim/tilt switch on the remote control lever and the trim/tilt angle of each outboard motor is adjusted by using each power trim/tilt switch on the panel.

Mooring

TILT LOCK LEVER (each side)

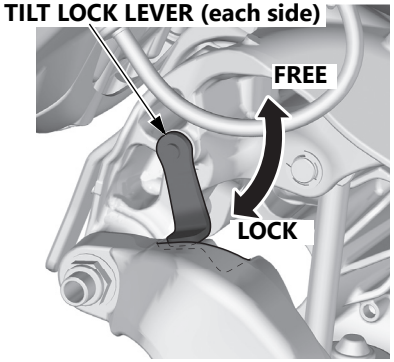
Tilt up the outboard motor and use the tilt lock levers when mooring the boat. Shift the remote control lever into the NEUTRAL position and stop the engine before tilting up the outboard motor.

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

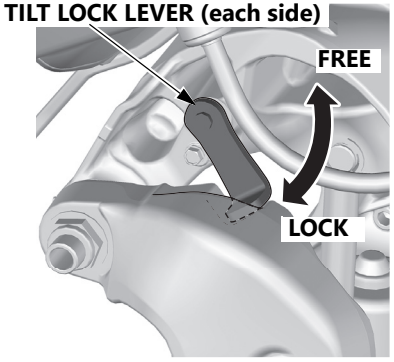
Stop the engine before tilting the outboard motor.

1. Tilt the outboard motor up to its highest position using the power trim/tilt switch (see page 39).
2. Move the tilt lock levers to the LOCK position and lower the outboard motor until the lock levers contact the stern bracket.

When tilted up to 65°



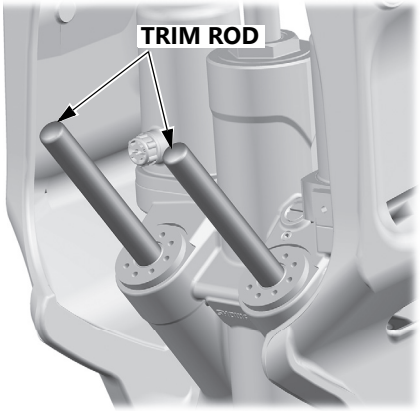
When tilted up to 55°



NOTE:
If it is not possible to tilt up to 65°, due to the hull, lock the outboard motor at 55°.

⚠ CAUTION

If you do not secure the outboard motor with the tilt lock levers after you tilt up the outboard motor by 55° or 65° or more, then the hydraulic pressure of the power trim/tilt may drop and cause the outboard motor to tilt down.



3. Press 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 levers to the FREE position, and lower the outboard motor to the designated position.

NOTICE

- **Do not start the engine while the tilt lock lever is locked. There is a risk of damaging the engine.**

Pressing DN of the power trim/tilt switch of the remote control lever or PTT switch panel twice in succession tilts the outboard motor down to the set tilt angle automatically (see page 36).

Automatic Tilt Mode

If you press the power trim/tilt switch twice in succession while the boat is stopped, the automatic tilt mode is turned on, automatically tilting up or down the outboard motor.

When the “UP” side of the power trim/tilt switch is pressed twice in succession, the buzzer sounds once at a long interval, and the tilt is automatically raised to the preset tilt limit position. The buzzer continues to sound at short intervals while the outboard motor is tilted up.

When you press "DN" on the power trim/tilt switch twice in succession, the buzzer sounds once at a long interval, and the outboard motor is automatically tilted down to the preset tilt limit position. The buzzer continues to sound at short intervals while the outboard motor is tilted down.

Even during automatic tilting, automatic tilt will be forcibly canceled and the outboard motor will stop being tilted in the following cases.

- The power trim/tilt switch is pressed during automatic tilt operations
- The power tilt switch (outboard motor pan) is pressed and held in the opposite direction of the tilt direction during automatic tilt operations
- Any of the engines are started
- Any of the engines are abnormal (overheating, low oil pressure, etc.)

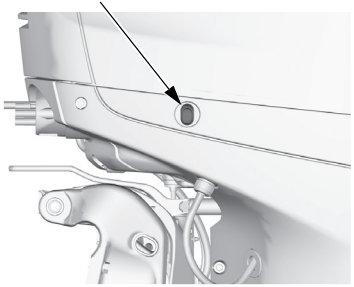
Before you can use the automatic tilt function, you need to set it in the multi-function display.

For multiple outboard motors, the power trim/tilt switch on the remote control lever side can turn on the automatic tilt mode for all the outboard motors and the power trim/tilt switch on the PTT switch panel can turn on the automatic tilt mode for each individual outboard motor.

The power trim/tilt switch on the remote control lever side turns on the automatic tilt mode even if the power switch or engine switch is off.

Power Tilt Switch (outboard motor pan)

POWER TILT SWITCH

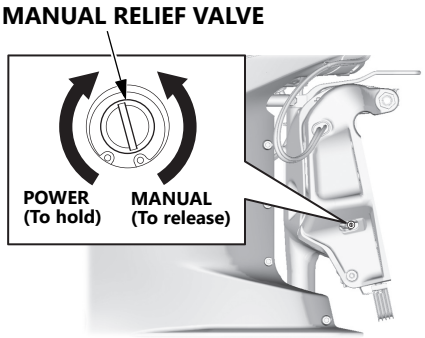


When you are away from the power trim/tilt switch on the control lever side, you can operate the power tilt switch on the outboard motor side. The switch operation is the same as that of the power trim/tilt switch on the remote control lever side.

⚠ CAUTION

Do not operate this power tilt switch on the outboard motor while cruising. You can lose control of your balance, fall, and be injured by the moving outboard, propeller, or boat. Always use the power trim/tilt switch while under way.

Manual Relief Valve



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

⚠ DANGER

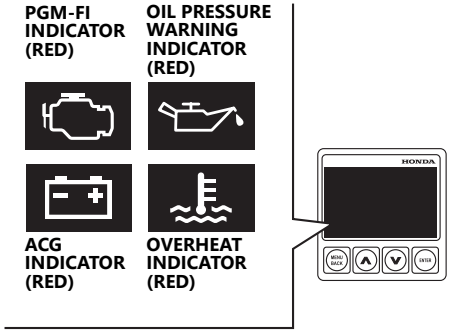
Check that nobody is under the outboard motor before carrying out this operation because if the manual relief valve is loosened (turned counterclockwise) when the outboard motor is tilted up, the outboard motor will suddenly tilt down.

⚠ CAUTION

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

ENGINE PROTECTION SYSTEM

Engine Oil Pressure, Overheat, Water Contamination, PGM-FI and ACG Warning Systems



(Optional equipment: Multi-function Display)

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 warning indicator will turn ON and the overheat indicator will turn ON. A continuous buzzer will sound on the remote control 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 limits engine speed.

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

Check the indicators displayed on the multi-function display.

Display type

System / Symptom	INDICATOR				BUZZER	WARNING LEVEL*1	Power Reduction*2
	Oil pressure warning (Red)	Overheat (Red)	ACG (Red)	PGM-FI (Red)	CORRESPONDING SYSTEM		
During operation	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Low oil pressure	ON	OFF	OFF	OFF	ON (continuously)		ON
Overheat	OFF	ON	OFF	OFF	ON (continuously)		ON
ACG warning	OFF	OFF	ON	OFF	Alternating ON and OFF (at long intervals)		OFF
PGM-FI warning	OFF	OFF	OFF	ON	Alternating ON and OFF (at long intervals)*3		OFF
Water contamination	OFF	OFF	OFF	OFF	Alternating ON and OFF (at short intervals)		OFF

Some indicators and/or buzzers may be activated at the same time due to the occurrence of a malfunction.

*1: Warning level 1 is displayed for errors that require special attention. Warning level 2 is displayed for other errors. For details, refer to the Multi-function Display manual.

*2: Refer to page 102 about power reduction.

*3: There are the following two types of buzzer sounds (intermittent long sound) caused by a PGM-FI error.

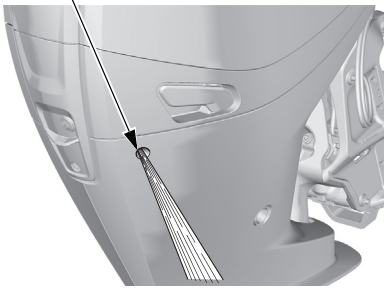
- If the PGM-FI warning indicator lights and the buzzer does not stop sounding: Return to port immediately without continuing your voyage. There is a risk of shift operation failure (see page 145), alert detection failure, or engine start failure.
- If the PGM-FI warning indicator lights and the buzzer sounds for only 10 seconds: Return to port as soon as possible because engine speed control and other functions will be limited.

When the oil pressure warning system is activated:
1. Stop the engine immediately and check the engine oil level (see page 60).
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.

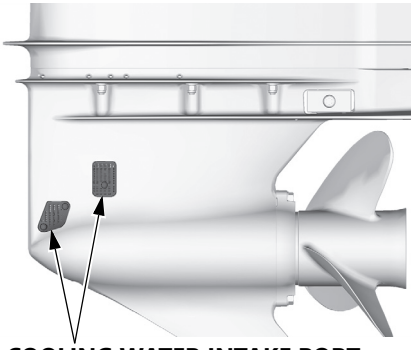
3. If the oil pressure warning system stays activated after 30 seconds, return to the closest boat landing and contact your closest authorized Honda outboard motor dealer.

COOLING WATER CHECK HOLE



When the overheat warning system is activated:
1. Return the remote control lever to the 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)

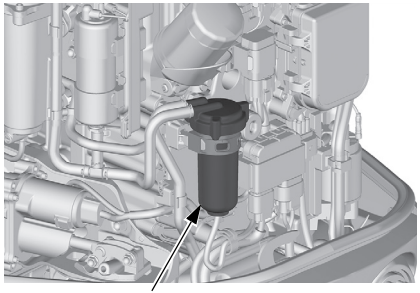
3. If the overheat warning system stays activated, stop the engine. Tilt up the outboard motor and check the water intakes for obstructions. If there are no obstructions at the water intakes, return to the closest boat landing and contact your closest authorized Honda outboard motor dealer.

When the PGM-FI is activated:

1. Consult with an authorized Honda outboard motor dealer.

When the ACG warning system is activated.

1. Check the battery (see page 68). If the battery is OK, consult with an authorized Honda outboard motor dealer.



WATER SEPARATOR

When the water separator buzzer sounds:

1. Check the water separator for water contamination. If water has accumulated, clean it out (see page 124).

Over-rev Limiter

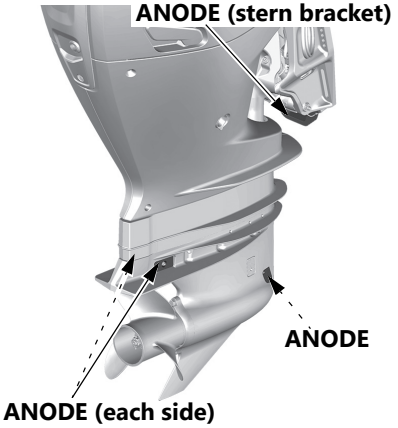
This outboard motor is equipped with an engine over-rev limiter which activates when the engine speed increases excessively. The over-rev limiter can be activated while cruising, tilting up the outboard motor, or when ventilation occurs during a sharp turn.

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.

Anodes



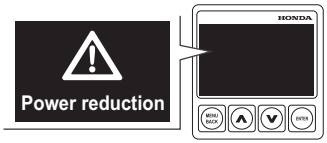
The anodes are a sacrificial material which helps to protect the outboard motor from corrosion.

NOTICE

- **Painting or coating the anodes 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.

Power Reduction



This outboard motor is equipped with the power reduction system which activates when the outboard motor has a serious problem.
The power reduction system decreases the engine speed to protect the engine until the malfunction is corrected.
When one of the two systems of the remote control sensor is faulty, the power reduction system does not decrease the engine speed.

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 (see page 91). 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.

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 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. Reverse flow can cause an engine malfunction.

NOTICE

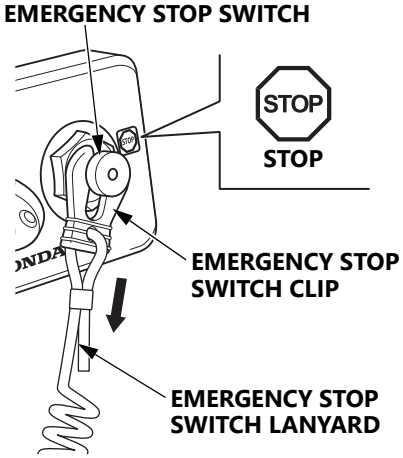
- **If one outboard is down and another outboard is tilted all the way up, it may cause extreme steering angles that can cause the outboard cowlings to touch and damage each other.**
- **Never use the tilt lock lever if a stopped motor is tilted up. There is a risk of damaging the motor if you use the tilt lock lever while cruising.**

9. STOPPING THE ENGINE

NOTICE

- **After stopping the engine, be sure to turn OFF the ignition switch or power switch before turning OFF the battery switch. If the battery switch is turned OFF while the ignition switch or power switch is ON, the buzzer will sound three times briefly.**

EMERGENCY ENGINE STOP (D1, D2 types)



Pull the curl cord of the emergency stop switch to remove the lock plate from the switch; this will stop the engine.

If the emergency stop switch is activated while the engine is running, the engine will shut down abruptly and the boat will quickly decelerate, potentially causing occupants and objects to be thrown forward and/or overboard.
If the emergency stop switch is activated, the emergency stop switch clip must be reinserted before the engine can be restarted.

NOTICE

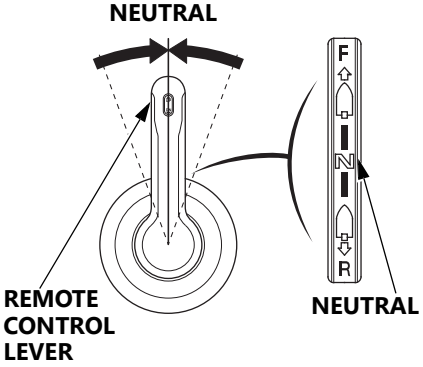
- **When you have stopped the engine with the emergency stop switch, be sure to turn off the ignition switch key or the power switch. Leaving the ignition switch key or power switch ON will drain the battery.**

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.

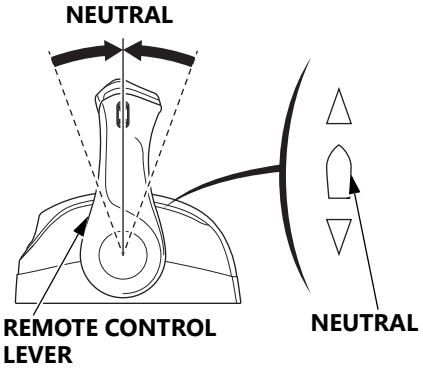
NORMAL ENGINE STOP

Normal Key with START/ STOP switch type

D1 type

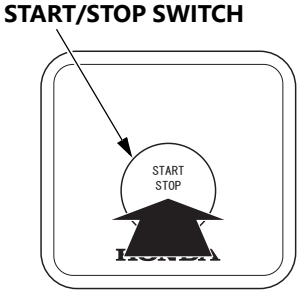


D2 type



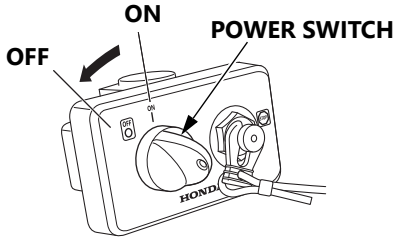
1. Move the remote control lever to the NEUTRAL position.

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



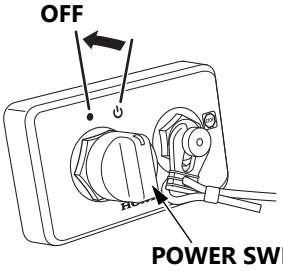
2. Push the start/stop switch to stop the engine.

Normal Key with START/STOP switch type



3. Turn the power switch to the OFF position, and then remove and store it.

Honda Smart Key type



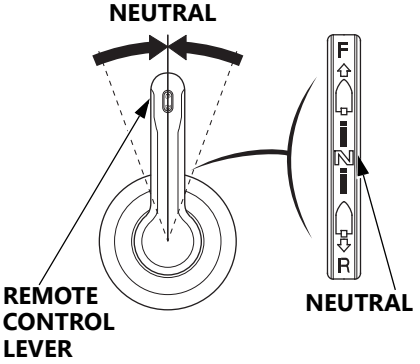
3. Turn the power switch to the right or press the lock button on the Honda Smart Key to turn the power OFF.

NOTE:
In the event that the engine does not stop when the power switch is turned to the OFF, pull the emergency stop switch clip out of the emergency stop switch by pulling the emergency stop switch lanyard (see page 104).

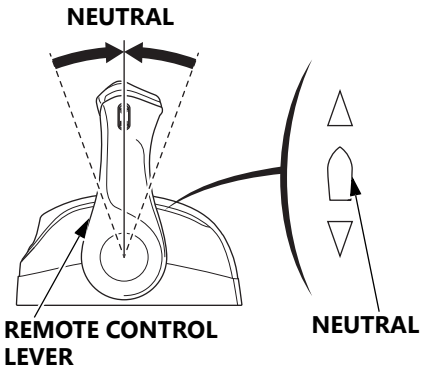
4. When the boat is not being used, remove and store the emergency stop switch clip and lanyard.

Normal Key without START/STOP switch type

D1 type

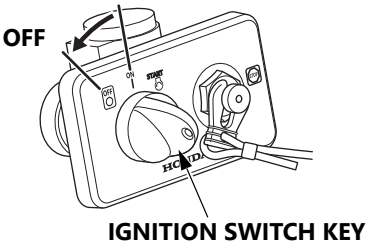


D2 type



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

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



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

NOTE:
In the event that the engine does not stop when the ignition switch key is turned to the OFF, pull the emergency stop switch clip out of the emergency stop switch by pulling the emergency stop switch lanyard (see page 104).

3. When the boat is not being used, remove and store the ignition switch key and the emergency stop switch clip and lanyard.

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 the outboard motor is started.
- Keep heat, sparks, and flame away.

TRANSPORTING

Consult an authorized Honda outboard motor dealer when removing the outboard motor from the hull.

TRAILERING

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.

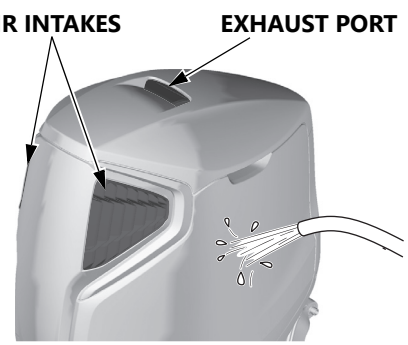
11. CLEANING AND FLUSHING

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 AC generator, O_2 sensor, or the AC generator belt. If water or corrosion inhibitor penetrates these components, they may be damaged. Before applying a corrosion inhibitor, cover the AC generator, belt and O_2 sensor with a protective material to prevent damage.**

Shut off the engine before performing the cleaning and flushing.

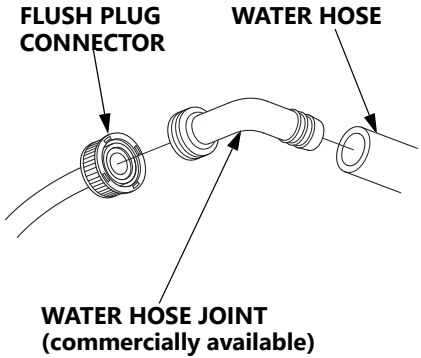


1. Tilt down the outboard motor.
2. Clean and wash the outside of the outboard motor with fresh water.
   Cleaning of the outside of the outboard motor should be performed with the engine cover installed.

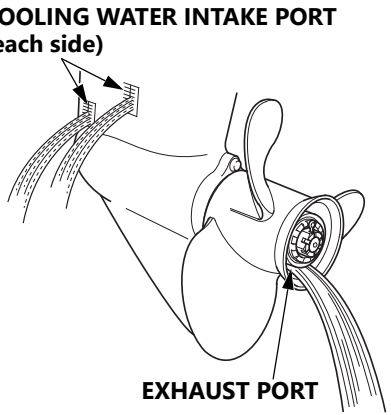
NOTICE

- **Be careful not to spray water into the air intakes and the exhaust port. If water penetrates inside the engine cover from the air intakes and the exhaust port, it may cause malfunction.**

3. Remove the flush plug connector from the outboard motor.
4. Install the water hose joint (commercially available).



5. Connect a fresh water hose to the water hose joint.



6. Turn on the fresh water supply and flush the outboard motor for at least 10 minutes.
   Check that water is draining from the cooling water check hole, the cooling water intake port and the exhaust port.

NOTICE

- **Do not start the engine while flushing.**

7. After flushing, remove the water hose and water hose joint and reinstall the flush plug connector.
8. Tilt up the outboard motor and move the tilt lock levers to the LOCK position (see page 43).

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.

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 OWNER'S MANUAL

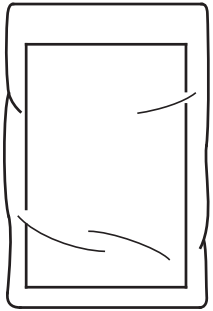
(Tool kit does not come with Counter Rotation Types)

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

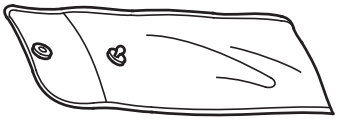
Spare Emergency Stop Switch Clip (optional equipment)

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.



OWNER'S MANUAL

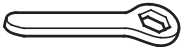


TOOL BAG

10 mm BOX WRENCH

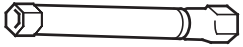
6 mm HEX. WRENCH

PHILLIPS SCREWDRIVER



EYE WRENCH

GRIP



SPARK PLUG WRENCH

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.	Every 6 years or 1,200 hrs.	Refer to page
Engine oil	Check level	o							60
	Change			o	o				115
Engine oil filter	Replace					o (2)			—
Gear case oil	Change			o (2)	o (2)				—
Timing belt	Check-adjust					o (2)			—
ACG belt	Check-adjust					o (2)			—
Valve clearance	Check-adjust						o (2)		—
Spark plug (iridium)	Check					o (9)			117 – 120
Spark plug (nickel) (Optional part)	Check-adjust/Replace				o				120
Propeller and cotter pin	Check	o				o			64
Anode metal (Outside engine) (6) Stern bracket, Gear case	Check	o				o			45
Water front screen	Check						o		
Anode metal (Inside engine) (6)	Check						o (2)		—
	Replace							o (2)	—
Idle speed	Check-adjust			o (2)	o (2)				—
Lubrication	Grease			o (1)	o (1)				121
Fuel filter with water separator (Low pressure side)	Check	o			o				124
	Replace						o		125

(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) When there is 1/3 or more consumption, consult your servicing dealer.
(9) Do not clean the spark plugs. If an electrode is contaminated with accumulated objects or dirt, replace the spark plug with a new one. Do not adjust the spark plug gap. If the gap is out of specification, replace the spark plug with a new one.

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.	Every 6 years or 1,200 hrs.	Refer to page
Fuel filter (High pressure side)	Replace					o (2)			—
Thermostat and thermostat cover	Check/Replace					o (2)			—
Fuel line	Check	o (7)							69
	Replace	Every 2 years (if necessary) (2) (8)							—
Battery and cable connection	Check level-tightness	o							68, 128
Bolts and nuts	Check-tightness			o (2)	o (2)				—
Crankcase breather tube	Check					o (2)			—
Cooling water passages	Clean		o (4)		o (4)				109
Coolant leak	Check	o							
Water pump, Woodruff key	Check					o (2)			—
Impeller housing	Check					o (2)			—
Emergency stop switch	Check	o							104
Engine oil leak	Check	o							—
Each operation part	Check	o							—
Engine condition (5)	Check	o							—
Power Trim/Tilt	Check				o (2)				—

(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) 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.
(8) Check the fuel line for leaks, cracks, or damage. Replace the fuel line if there are signs of leaks, cracks, or damage.

ENGINE OIL

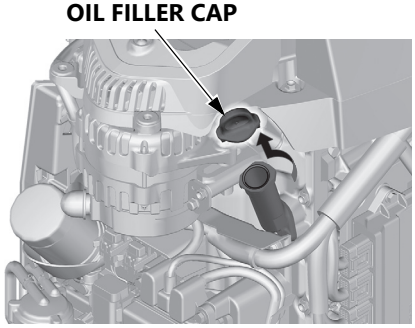
Insufficient or contaminated engine oil adversely affects the service life of the sliding and moving parts.

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:
10.2 L (10.8 US qt, 9.0 Imp qt)
...when oil filter is not replaced
10.4 L (11.0 US qt, 9.2 Imp qt)
...when oil filter is replaced

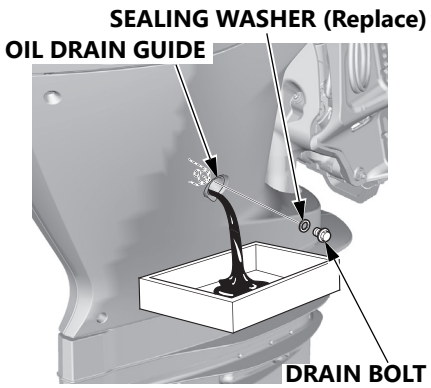
Recommended Oil:
SAE 10W-30 engine oil or equivalent, API Service category SG, SH, SJ or SL.

Engine Oil Replacement



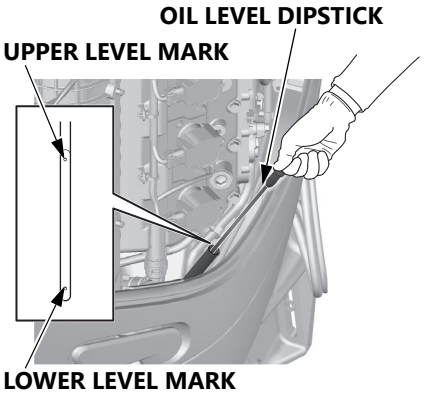
Drain the oil while the engine is still warm to assure rapid and complete draining.

1. Position the outboard motor vertically, and remove the engine cover (see page 58).
2. Remove the front striker guide cover (see page 124).
3. Remove the oil filler cap.



4. Place a suitable container under the guide.
5. Remove the engine oil drain bolt and sealing washer using the 12 mm wrench and drain the engine oil.
6. Install a new sealing washer and drain bolt, and tighten bolt securely.

TIGHTENING TORQUE:
23 N·m (2.3 kgf·m , 17 lbf·ft)



7. Refill to the upper level mark on the oil level dipstick with the recommended oil.
8. Insert the dipstick all the way in.
9. Reinstall the oil filler cap securely. Do not overtighten.
10. Install the front striker guide cover in the reverse order of removal.
11. Install the engine cover and lock it 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.

SPARK PLUGS

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

⚠ CAUTION

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

See page 120 for instructions on handling the Iridium spark plugs (optional parts).

Standard Spark Plug (Iridium)

Check interval:
Every 200 operating hours or every year.

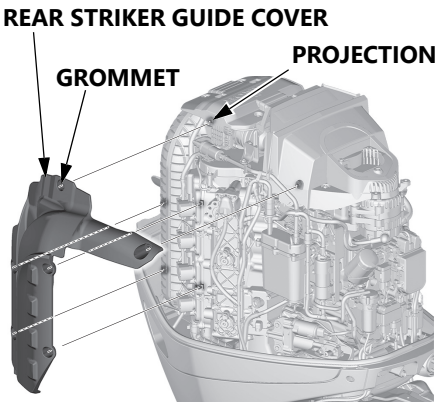
Recommended spark plug:
ILZKAR7S11E (NGK)

NOTICE

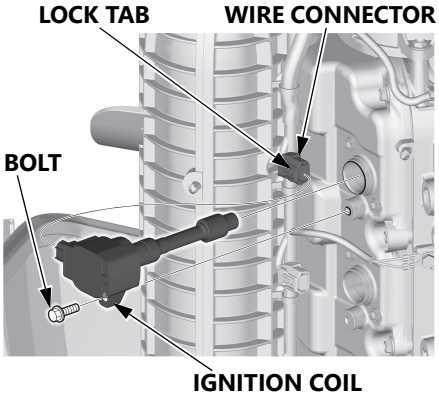
- **Use only the recommended spark plugs or equivalent. Spark plugs which have an improper heat range may cause engine damage.**

Inspection

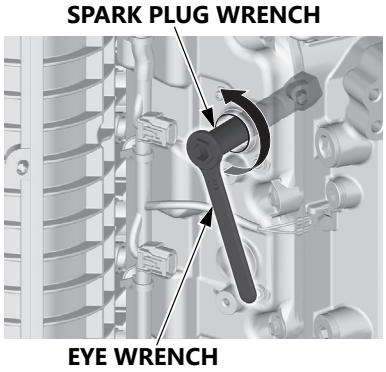
1. Disconnect the battery negative (–) terminal.
2. Unlock and remove the engine cover (see page 58).



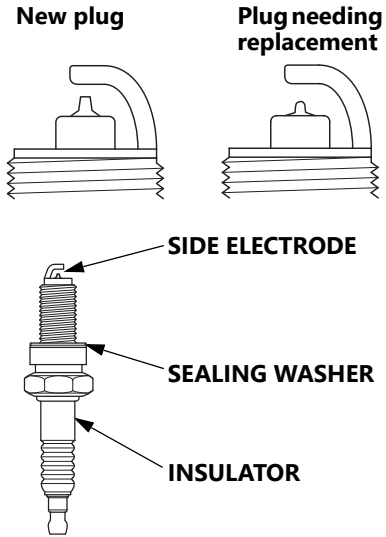
3. Release the grommet of the rear striker guide cover from the projections and remove the rear striker guide cover.
4. Remove the bolt from the ignition coil. Move the ignition coil to a position that allows you to remove the wire connector easily.



5. Disconnect the wire connector from the ignition coil by pushing on the lock tab and pulling on the connector. Pull on the plastic connector, not the wires.
6. Remove the ignition coil by pulling it up slightly. Take care not to bump or drop the ignition coil. Replace the ignition coil if it is dropped.

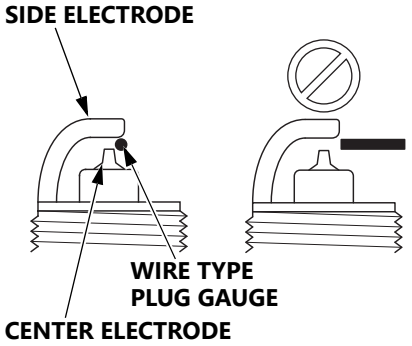


7. Use the spark plug wrench and eye wrench to remove the spark plugs.



8. Inspect the spark plugs.
   1. If the electrodes are heavily corroded or carbon-soiled, replace the spark plug with a new one.

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.



Use a wire type plug gauge to measure the gap (spark gap) between the center electrode and the side electrode.

- Use a wire-type plug gauge to prevent damage to the iridium center electrode.

Check that the Φ1.3 mm plug gauge does not fit into the gap. The gap should be 1.0 – 1.3 mm (0.039 – 0.051 inches).

9. 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.
   - 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."
   - Do not adjust the spark plug gap. If the gap is out of specification, replace the spark plug with a new one.
10. Thread the plugs in by hand to prevent cross threading.

11. After the spark plugs are seated, tighten them with a spark plug wrench to compress the washers.
    SPARK PLUG TORQUE:
    22 N·m (2.2 kgf·m, 16 lbf·ft)

NOTE:
If installing new spark plugs, tighten them 1/2 turn after the spark plugs are seated to compress the washers.
If reinstalling used spark plugs, tighten them 1/8 – 1/4 turn after the spark plugs are seated to compress the washers.

NOTICE

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

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

Optional Spark Plug (Nickel)

Check-clean/Replace interval:
Every 100 operating hours or 6 months.

Recommended spark plug:
LZKAR7F11E (NGK)

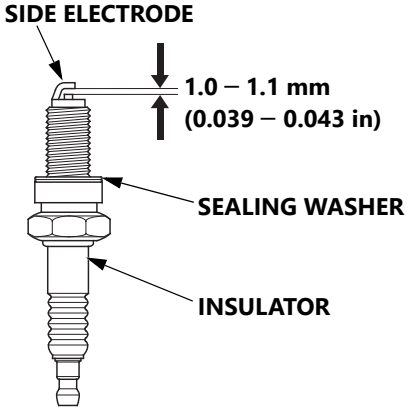
NOTICE

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

Replacement

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

Inspection and Cleaning



Inspect the spark plugs. If the electrodes are heavily corroded or carbon-soiled, clean with a wire brush.

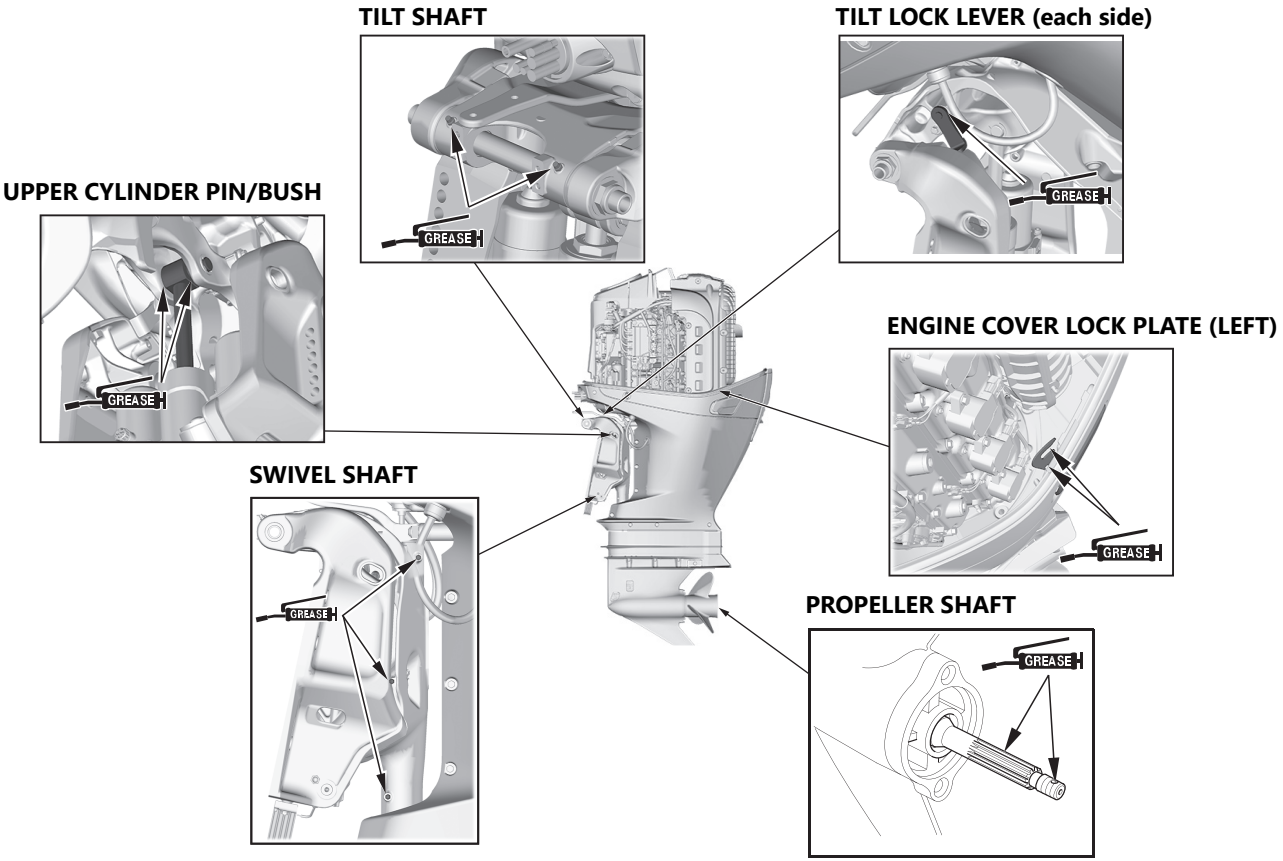
Measure the plug gaps with a wire-type feeler gauge. The gaps should be 1.0 – 1.1 mm (0.039 – 0.043 in). Correct as necessary by carefully bending the side electrode.

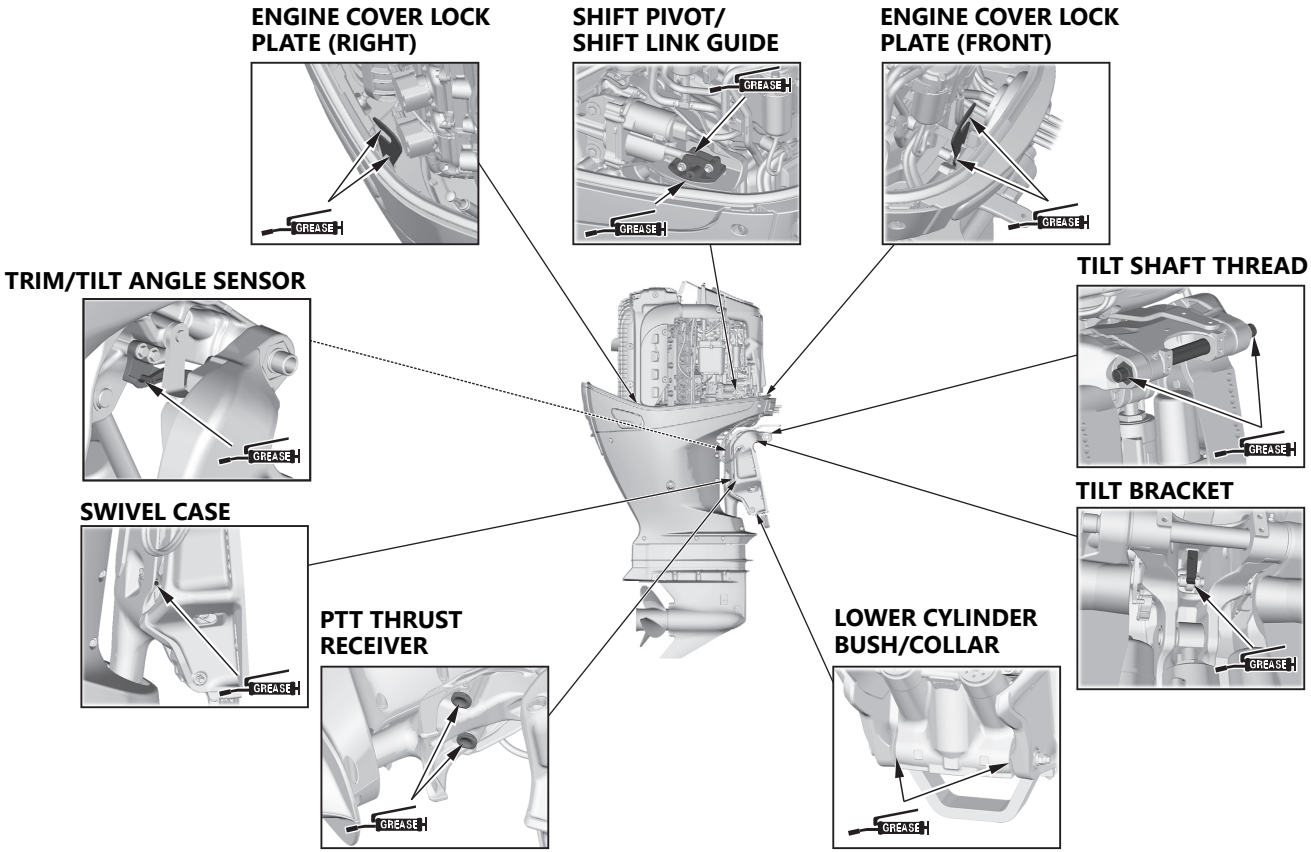
LUBRICATION

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

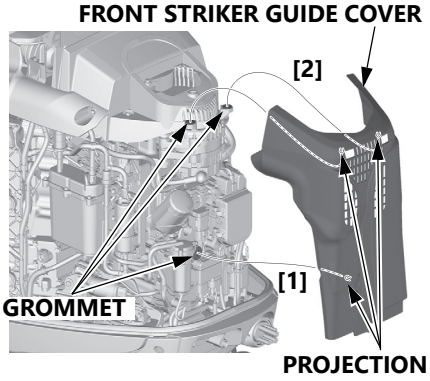
Lubrication interval:
20 hours or a month after the date of purchase for initial lubrication, then every 100 hours or 6 months.

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

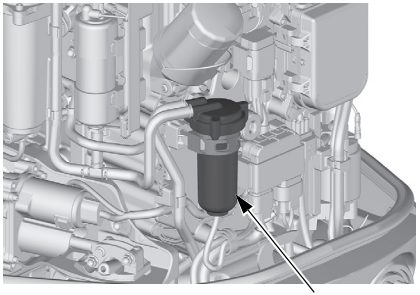

TILT SHAFT
GREASE
TILT LOCK LEVER (each side)
GREASE
UPPER CYLINDER PIN/BUSH
GREASE
ENGINE COVER LOCK PLATE (LEFT)
GREASE
SWIVEL SHAFT
GREASE
PROPELLER SHAFT
GREASE


ENGINE COVER LOCK PLATE (RIGHT)
SHIFT PIVOT/ SHIFT LINK GUIDE
ENGINE COVER LOCK PLATE (FRONT)
TRIM/TILT ANGLE SENSOR
TILT SHAFT THREAD
SWIVEL CASE
TILT BRACKET
PTT THRUST RECEIVER
LOWER CYLINDER BUSH/COLLAR
GREASE

FUEL FILTER WITH WATER SEPARATOR (LOW PRESSURE SIDE)



Release the projection of the front striker guide cover lower side from the grommet, and then release the projections of the front striker guide cover upper side from the grommets.
Remove the front striker guide cover.



FUEL FILTER with WATER SEPARATOR (LOW PRESSURE SIDE)

Water or sediment accumulated in the fuel filter with water separator can cause loss of power or hard starting. Check and replace the fuel filter with water separator periodically.
Clean it or consult with an authorized Honda outboard motor dealer for cleaning.

Inspection interval:
Every 100 operating hours or 6 months.

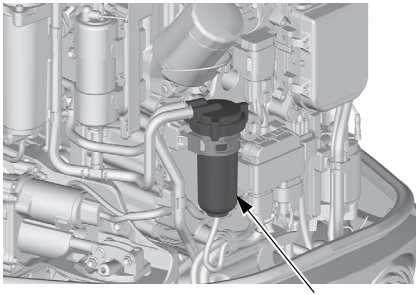
Replacement interval:
Every 400 operating hours or 2 years

⚠ 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.

- 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.
- KEEP OUT OF REACH OF CHILDREN.

Inspection

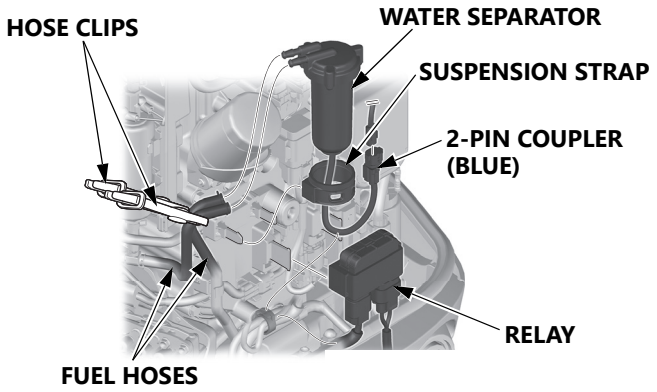


FUEL FILTER with WATER SEPARATOR (LOW PRESSURE SIDE)

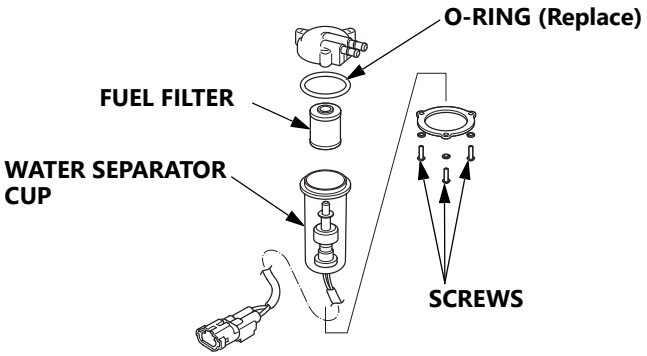
1. Remove the engine cover (see page 58).
2. Remove the front striker guide cover (see page 124).
3. Looking through the translucent strainer cup, check the fuel filter with water separator for water accumulation and clogging. If the fuel filter with water separator is clogged, refer to page 126 to remove the filter and clean it.

If water has collected in the fuel filter with water separator, refer to page 126 to remove the strainer cup and empty the water that is inside the cup.

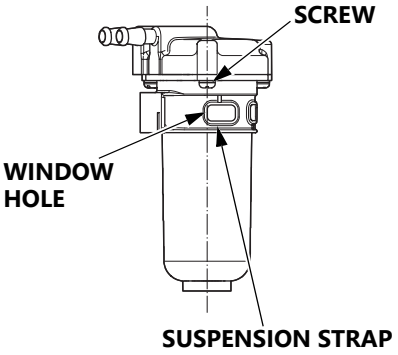
Replacement



1. Remove the engine cover (see page 58).
2. Remove the front striker guide cover (see page 124).
3. Remove the relay.
4. Disconnect the 2-pin coupler (blue).
5. Remove the suspension strap from the fuel filter with water separator bracket, then remove the suspension strap from the fuel filter with water separator.
6. Bind the two fuel tubes with the tube clips to prevent fuel leakage, disconnect the fuel tubes.



7. Remove the three screws holding the fuel filter with water separator, remove the water or deposit from the inside of the cup.
8. Thoroughly clean the cup. If the fuel filter is clogged, or has reached the end of its replacement period, replace it with a new one.
9. Reassemble the water separator in the reverse order of removal. Use a new O-ring.
   TIGHTENING TORQUE:
   3.4 N·m (0.34 kgf·m, 2.5 lbs·ft)



10. When installing the suspension strap to the fuel filter with water separator, align the left end of the suspension strap window hole with the screw as shown in the figure.
11. Prime the engine using the priming bulb (see page 71). 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 fuel filter. Inspect the fuel tank and clean it if necessary.

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

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 motor. Refer to the battery manufacturer's instructions.**

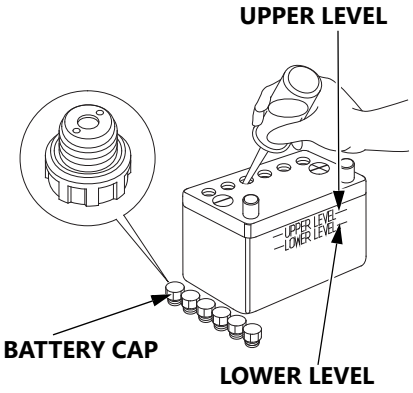
⚠ WARNING

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.

Battery posts, terminals, and related accessories contain lead and lead compounds.
Wash your hands after handling them.

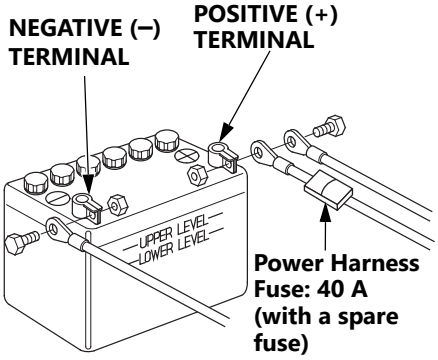
Battery Fluid Level



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 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.

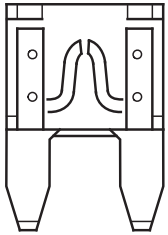


3. Connect the battery positive (**+**) cable to the battery positive (**+**) terminal, then the battery negative (**–**) cable to the battery negative (**–**) terminal. Tighten the bolts and nuts securely. Coat the battery terminals with grease.

⚠ 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 or connect the battery cables in the opposite order, doing so could result in a short circuit if a tool contacts the terminals.

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.

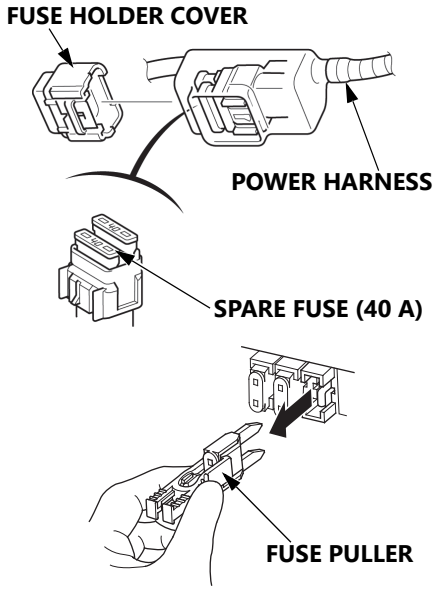
⚠ WARNING

- 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.

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.**

Power Harness



1. Stop the engine.
2. Disconnect the battery cable and the power harness.
3. Open the fuse holder cover.
4. Pull the old fuse out of the clip with the fuse puller supplied in the fuse box (see page 132).
5. Push a new fuse (40 A) into the clip.
6. Close the fuse cover.

Main Fuse

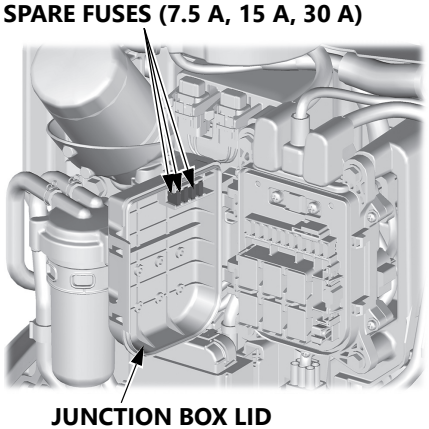
Replacement

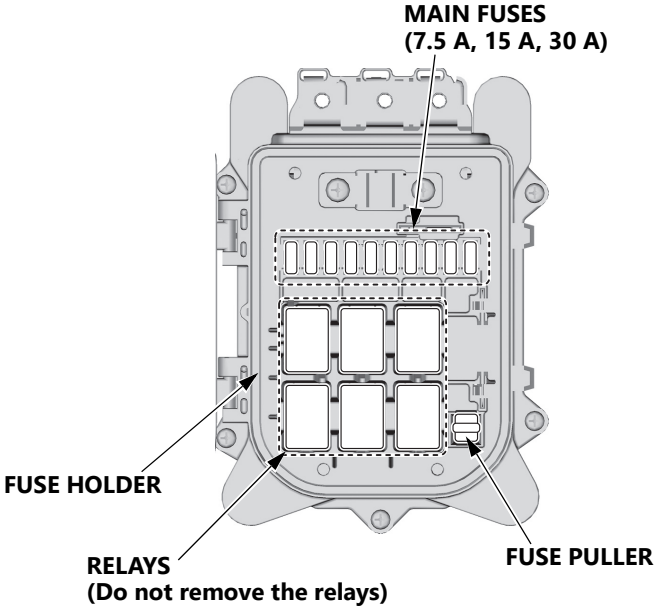
A spare fuse is located on the reverse side of the junction box lid.

1. Stop the engine.
2. Remove the engine cover.
3. Remove the front striker guide cover (see page 124).
4. Open the junction box lid and pull the old fuse out of the clip with the fuse puller supplied in the fuse holder (see page 132).
5. Push a new fuse into the clips.
6. Close the junction box lid, and install the front striker guide cover and engine cover.
7. Reconnect the battery.

DESIGNATED FUSE:

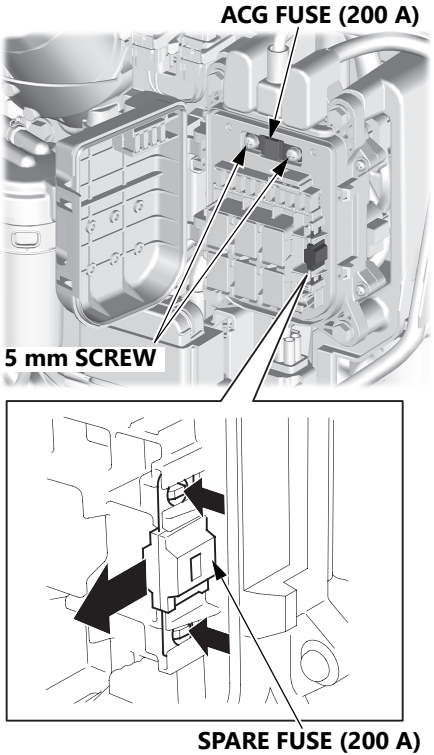
7.5 A, 15 A, 30 A





Fuse No.	Rating	Component(s) or Circuit(s) Protected
1	200 A	ACG, Battery
2	15 A	GROUND
3	15 A	Right throttle body
4	30 A	Main relay, Starter relay
5	7.5 A	Remote control box
6	30 A	Shift actuator
7	15 A	Left throttle body
8	15 A	Fuel pump (High pressure side)
9	15 A	Fuel pump (Low pressure side), sensors, ECU
10	15 A	Left side Injectors, Left side Ignition coils
11	15 A	Right side Injectors, Right side Ignition coils
	3 A	Battery switch OFF notification
	7.5 A	Accessory relay

ACG Fuse



NOTICE

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

Replacement

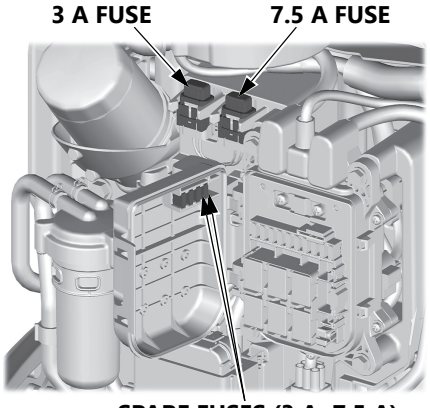
A spare fuse is located in the fuse holder.

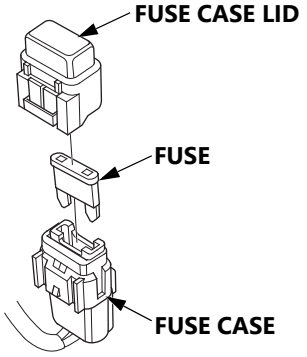
1. Stop the engine.
2. Remove the engine cover.
3. Remove the front striker guide cover (see page 124).
4. Open the junction box lid.
5. Remove the old fuse by removing two 5 mm screws.
6. Install a new fuse by tightening two 5 mm screws.
7. Close the junction box lid, and install the front striker guide cover and engine cover.
8. Reconnect the battery.

DESIGNATED FUSE:

200 A

3 A Fuse, 7.5 A Fuse





Replacement

A spare fuse is located on the reverse side of the junction box lid.

1. Stop the engine.
2. Remove the engine cover.
3. Remove the front striker guide cover (see page 124).
4. Open the junction box lid.
5. Remove the fuse case lid.
6. Pull the old fuse out of the fuse case with the fuse puller supplied in the fuse holder (see page 132).
7. Install a new fuse.
8. Be sure to check that the fuse case lid is securely locked.
9. Close the junction box lid, and install the front striker guide cover and engine cover.
10. Reconnect the battery.

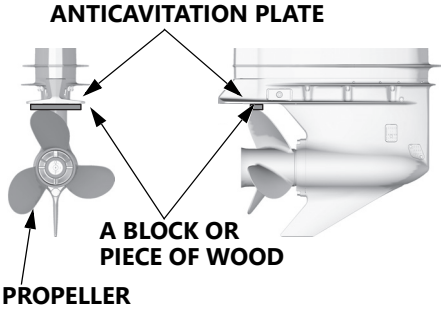
DESIGNATED FUSE:

3 A, 7.5 A

PROPELLER REPLACEMENT

Before replacing the propeller, remove the emergency stop switch clip from the emergency stop switch to prevent any possibility of the engine being started while you are working with the propeller.

The propeller blades may have sharp edges, so wear heavy gloves to protect your hands.



When replacing the propeller, put a suitable block or piece of wood between the propeller and the anticavitation plate to prevent the propeller from rotating.

Operating the outboard motor at higher altitudes will reduce available power. This may require decreasing the propeller pitch to maintain correct engine RPM.

Removal

1. Remove the cotter pin, unscrew the castle nut, remove the washer, and then remove the propeller and thrust washer.
2. Inspect the propeller shaft for any fishing line or debris.

Installation

Some propeller brands require specific mounting hardware. Refer to your specific propeller manufacturer's instructions for proper installation.

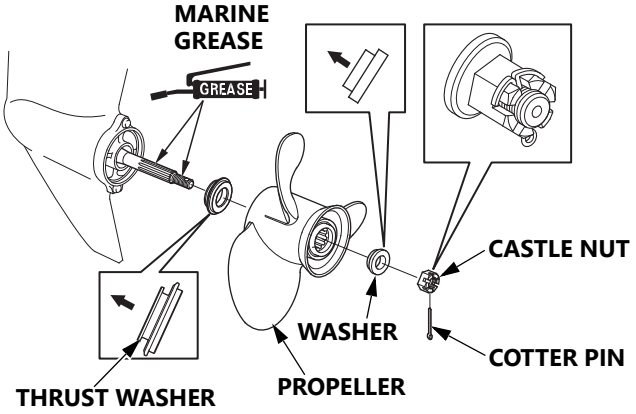
1. Apply marine grade grease to the propeller shaft.
2. Install the thrust washer with the grooved side toward the gear case.
3. Install the propeller.
4. Install the washer as shown on the next page.
5. Lightly tighten the castle nut by hand or wrench until the propeller has no free play.
6. Tighten the castle nut using a torque wrench.
   TIGHTENING TORQUE:
   56 N·m (5.7 kgf·m, 41 lbf·ft)
7. Then, using a torque wrench, tighten the castle nut until the first available groove in the castle nut aligns with the cotter pin hole. Do not tighten past the first alignment of the castle nut groove and the cotter pin hole.

NOTICE

- **TIGHTENING TORQUE LIMIT: 128 N·m (13 kgf·m, 94 lbf·ft) Do not tighten the castle nut above the TIGHTENING TORQUE LIMIT, doing so can damage the propeller and shaft.**

8. Be sure to replace the cotter pin with a new one.
   - Use a Honda Genuine stainless steel cotter pin or equivalent cotter pin and bend the pin ends.

Note that the castle nut wrench is not included with the tool set that comes with the outboard motor. Contact your Honda outboard motor dealer for additional tool information.



SUBMERGED OUTBOARD MOTOR

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

As soon as possible, take the outboard motor to a Honda outboard motor dealer for inspection and service.

13. STORAGE

For longer service life of the outboard motor, have your outboard motor serviced by an authorized Honda 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 (clog the fuel system, cause sticking valves). Such damage caused by spoiled fuel is not covered by the warranty.
To avoid this please strictly follow these recommendations:

- Only use specified gasoline (see page 63).
- 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 Procedure

⚠ 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.

- 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.
- KEEP OUT OF REACH OF CHILDREN.

1. Remove the engine cover (see page 58).
2. Inspect the fuel filter with water separator (low-pressure side). If water has collected inside it or there is a clog, such as sediment in the cup, then remove the water or replace the filter (see page 126).
3. Drain the gasoline from the drain screw of the vapor separator (see page 139).
4. Confirm that there is no water or dirt mixed in with the gasoline that you remove.
5. Do the following operation if you find water or dirt mixed in with the gasoline that you remove.
   1) Confirm that the drain screw has been tightened.
   2) Keep the motor level as you connect a gas tank that has fresh gasoline.
   3) Use the primer bulb to supply fresh gasoline to the vapor separator.

⚠ CAUTION

Always operate the primer bulb while the drain screw is tight. If the drain screw is loose, then gas will leak.

   4) Start the engine and run it at idle for 1 minute.

NOTICE

- **Always start the engine under normal operating conditions (while the propeller is in the water). Never start it while the propeller is out of the water. Doing so will damage the engine.**

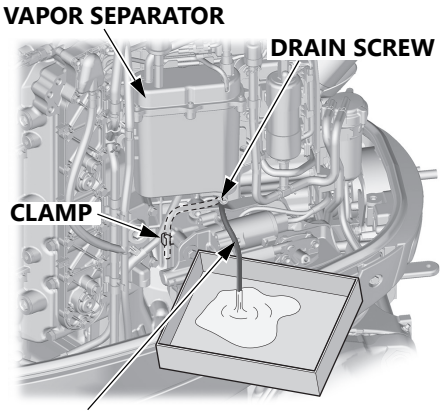
   5) Drain the gasoline from the drain screw of the vapor separator (see page 139).
   6) Confirm that there is no water or dirt mixed in with the gasoline that you remove.
   7) If you find water or dirt in the gasoline that you remove, then repeat steps 1) to 6) until you can confirm there is no water or dirt.

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.

- 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.
- KEEP OUT OF REACH OF CHILDREN.



(Draining the fuel becomes easier when the front end of the drain hose is as low as possible)

1. Remove the engine cover (see page 58).
2. Disconnect the drain hose of the vapor separator, which is anchored by the clamp on the lower right, and put its end out of the undercase.
3. Place an approved gasoline container below the fuel drain outlet.
4. Loosen the drain screw on the vapor separator.
5. After draining thoroughly, tighten the drain screw securely.
   TIGHTENING TORQUE:
   2.3 N·m (0.23 kgf·m, 1.7 lbf·ft)
6. Clamp the drain tube on the clamp.

ENGINE OIL

1. Change the engine oil (see page 115).
2. Remove the emergency stop switch clip from the emergency stop switch, and remove the spark plugs (see page 117).
3. Pour 1 – 2 teaspoons (5 – 10 cm^3) of clean engine oil into the cylinders.
4. Rotate the engine a few revolutions to distribute the oil in the cylinders.
5. Reinstall the spark plugs (see page 118).

BATTERY STORAGE

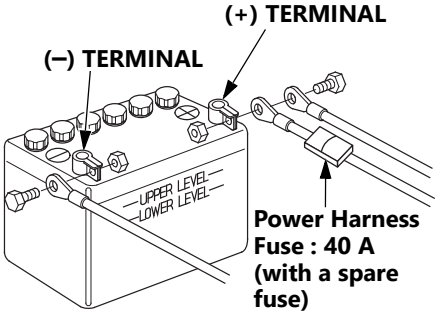
NOTICE

- **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.**

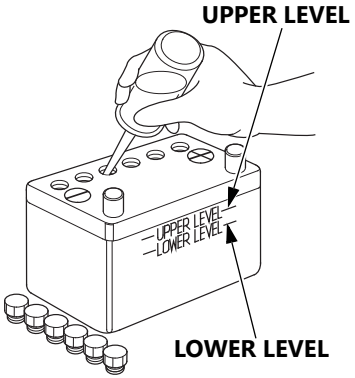
⚠ WARNING

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.



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

Transport and store the outboard motor vertically as shown above. Attach the stern bracket to a 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.

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
Overheat warning system comes on: • 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 plug has improper heat range.	Replace the spark plug (see page 117 – 120).
	• Faulty water pump. • Thermostat clogged. • Faulty thermostat. • Cooling water passage clogged. • Exhaust gas enters cooling system.	Consult with an authorized Honda outboard motor dealer.
Oil pressure warning system comes on: • Oil pressure warning indicator comes 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 60).
	Improper engine oil is used.	Change the engine oil (see page 115).

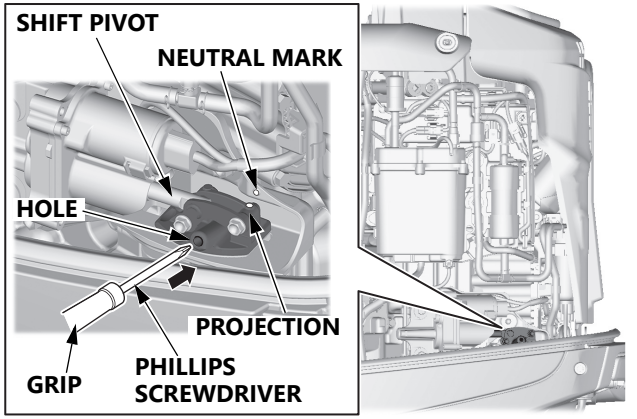
SYMPTOM	POSSIBLE CAUSE	REMEDY
Water separator warning system comes on: • Water separator warning buzzer sounds.	Water has accumulated in the water separator.	Clean the water separator (see page 124). Check the fuel tank and fuel line for water accumulation. If the buzzer sounds again, consult with an 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 68, 128).
	Faulty ACG.	Consult with an authorized Honda outboard motor dealer.

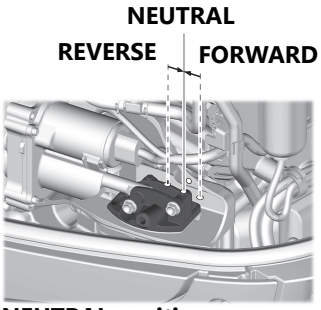
EMERGENCY GEAR SHIFTING

If the gear cannot be shifted, perform shift operation manually according to the following procedures and return to port at possible engine speed.

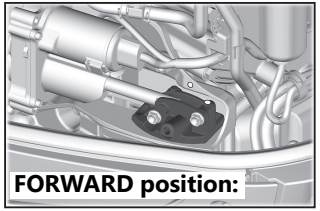
1. Set the remote control lever in the NEUTRAL position (see page 20-21).
2. Stop the engine (see page 104).
3. Remove the engine cover (see page 58).
4. Insert the Phillips screwdriver with the grip from the tool kit (see page 112) into the hole of the shift pivot to move the shaft. Shift gear into neutral by aligning the neutral mark and projection of the shift pivot.
   Grasp the shaft of the inserted Phillips screwdriver close to the shift pivot.
   Operate in a stable posture that makes it easy to apply force.
5. Start the engine (see page 71).
6. Shift gear into FORWARD or REVERSE by moving the shift pivot with the Phillips screwdriver with the grip from the tool kit.

After returning to port, stop the engine and anchor the boat.

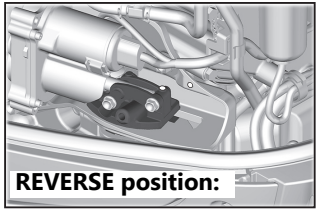




NEUTRAL position:



FORWARD position:



REVERSE position:

16. SPECIFICATIONS

MODEL	BF350A			
Description Code	BBYJ			
Type	XD	XCD	UD	UCD
Overall length	1,120 mm (44.1 in)			
Overall width	650 mm (25.6 in)			
Overall height	2,145 mm (84.4 in)		2,272 mm (89.4 in)	
Transom height (when transom angle at 12°)	638 mm (25.1 in)		765 mm (30.1 in)	
Dry mass (weight)*	355 kg (783 lbs)		360 kg (794 lbs)	
Rated power	257.4 kW (350 PS)			
Full throttle range	5,000 – 6,000 min^{-1} (rpm)			
Engine type	4 stroke OHC VTEC 8-cylinder (V8)			
Displacement	4,952 cm^3 (302.1 cu-in)			
Spark plug gap	1.0 – 1.1 mm (0.039 – 0.043 in)			
Remote control steering system	Motor-mounted			
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			

Oil capacity	Engine: Without oil filter replacement: 10.2 L (10.8 US qt, 9.0 Imp qt) With oil filter replacement: 10.4 L (11.0 US qt, 9.2 Imp qt) Gear case: 1.72 L (1.82 US qt, 1.51 Imp qt)
D.C. output	12V – 70A
Cooling system	Water cooling with thermostat
Exhaust system	Water exhaust
Spark plugs	ILZKAR7S11E (NGK)
Fuel pump	Electromagnetic type
Fuel	Unleaded gasoline (91 research octane, 86 pump octane, or higher)
Gear shift	Dog type (Forward – Neutral – Reverse)
Steering angle	30° right and left
Tilt angle (transom angle at 12°)	Stageless (68°)
Trim angle (transom angle at 12°)	– 4° to 15°

* Without battery cable, with propeller
Honda outboards are power rated in accordance with ISO8665 (propeller shaft output).

INDEX

MEMO

MEMO

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