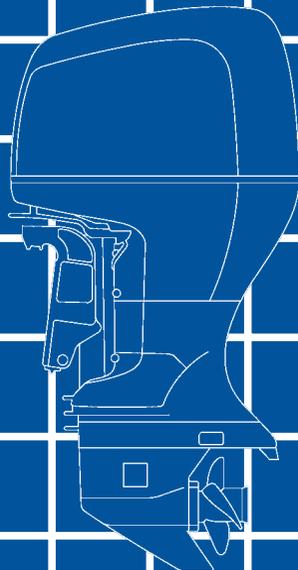


HONDA
MARINE

BF175A•BF200A•BF225A

OWNER'S MANUAL



ECOLOGY CONSCIOUS TECHNOLOGY

Thank you for purchasing a Honda Outboard Motor.

This manual covers operation and maintenance of the Honda BF175A/200A/225A Outboard Motor. All information in this publication is based on the latest product information available at the time of approval for printing. Honda Motor Co., Ltd. reserves the right to make changes at any time without notice and without incurring any obligation.

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

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

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

▲ DANGER

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

▲ WARNING

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

▲ CAUTION

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

NOTICE

Indicates that equipment or property damage could result if instructions are not followed.

NOTE: Gives helpful information.

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

▲ WARNING

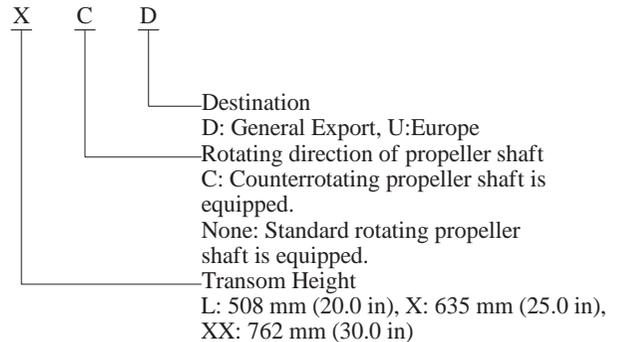
Honda Outboard Motors are designed to give safe and dependable service if operated according to instructions. Read and understand the Owner's Manual before operating the Outboard Motor. Failure to do so could result in personal injury or equipment damage.

Honda Motor Co., Ltd. 2009, All Rights Reserved

Model	BF175A			BF200A				BF225A				
Type	XD XU	XCU	XXD	LU	XD XU	XCD XCU	XXD XXU	LD LU	XD XU	XCD XCU	XXD XXU	XXCD XXCU
Transom Height	508 mm (20.0 in)			●				●				
	635 mm (25.0 in)	●	●		●	●			●	●		
	762 mm (30.0 in)			●			●				●	●
Standard Rotating Propeller Shaft	●		●	●	●		●	●	●		●	
Counterrotating Propeller Shaft		●				●				●		●

BF175A/200A/225A is provided with the following types according to the shaft length and the rotating direction of the propeller shaft.

TYPE CODE
Example



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

Side-mount type: R1 type

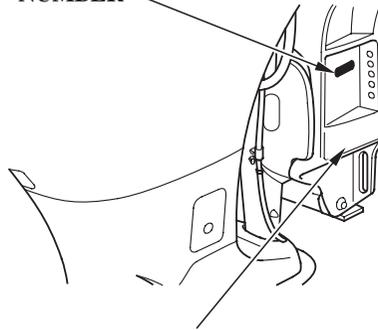
Panel-mount type: R2 type

Top-mount type: R3 type

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

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

FRAME SERIAL NUMBER

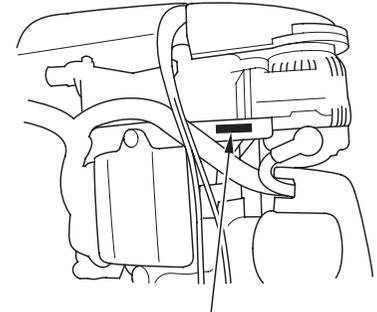


STERN BRACKET

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

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

Frame serial number:



ENGINE SERIAL NUMBER

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

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.

- 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.
- Before operating the outboard motor, familiarize yourself with all laws and regulations relating to boating and the use of outboard motors.
- Do not attempt to modify the outboard motor.
- Always wear a life-jacket when on board.
- Do not operate the outboard motor without the engine cover. Exposed moving parts can cause injury.
- Do not remove any guards, labels, shields, covers or safety devices; they are installed for your safety.

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

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

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

Carbon Monoxide Poisoning Hazard

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

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

2. SAFETY LABEL LOCATIONS

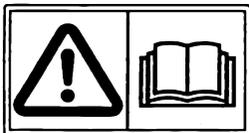
These labels are in the locations shown.

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

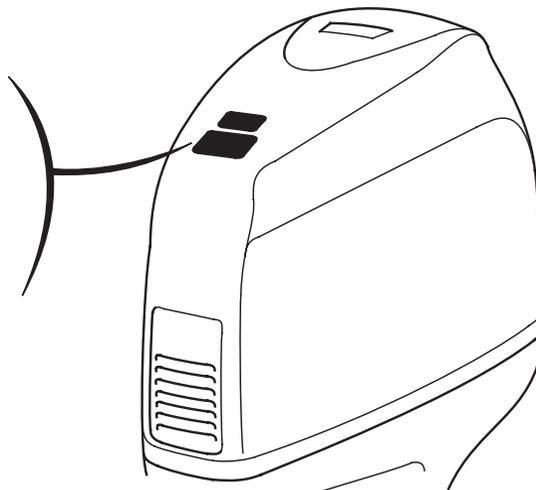
Read the labels and safety notes and precautions described in this manual carefully.

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

READ OWNER'S MANUAL



	Ⓢ DO NOT SHIFT TO REVERSE SUDDENLY AT HIGH SPEED.
	Ⓢ BEI HOHER FAHRGESCHWINDIGKEIT AUF KEINEN FALL PLOTZLICH DEN RÜCKWÄRTSGANG EINLEGEN.
	Ⓢ NE PAS ENGAGER LA MARCHÉ ARRIÈRE BRUSQUEMENT À GRANDE VITESSE.
	Ⓢ BIJ HOGHE SNELHEID NIET PLOTSELING IN DE ACHTERUIT-VERSLELLING SCHAKELEN!
	Ⓢ NON INGRANARE IMPROVVISAMENTE LA RETROMARCIA AD ALTA VELOCITÀ.
	Ⓢ NO PONER LA MARCHA ATRÁS DE REPENTE CUANDO CIRCULE A ALTA VELOCIDAD.
	Ⓢ NÃO MUDAR REPENTINAMENTE PARA MARCHA ATRÁS A ALTA VELOCIDADE.
	Ⓢ ÄLÄ VAHDA ÄKILLISESTI PERUUTUSVAHTEELLE NOPEASSA VAUHDISSA.
	Ⓢ QIET NÄ IKKE SETTES I REVERS NÄR DET KJÖRES MED HÖY HASTIGHET.
	Ⓢ LÄGG INTE PLÖTSLIGT IN BACKEN VID KÖRNING PÅ HÖG HASTIGHET.
Ⓢ 고속에서 갑자기 후진으로 전환하지 마십시오.	



SAFETY LABEL LOCATIONS

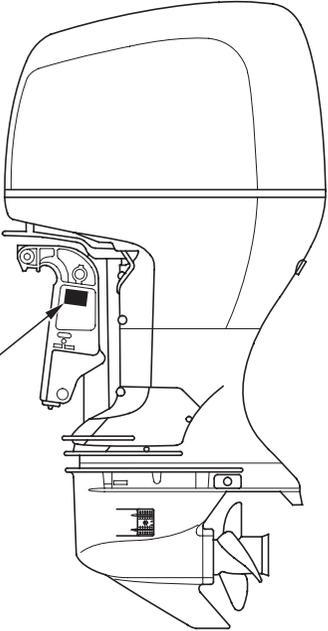
CE mark location
[U type only]

CE MARK

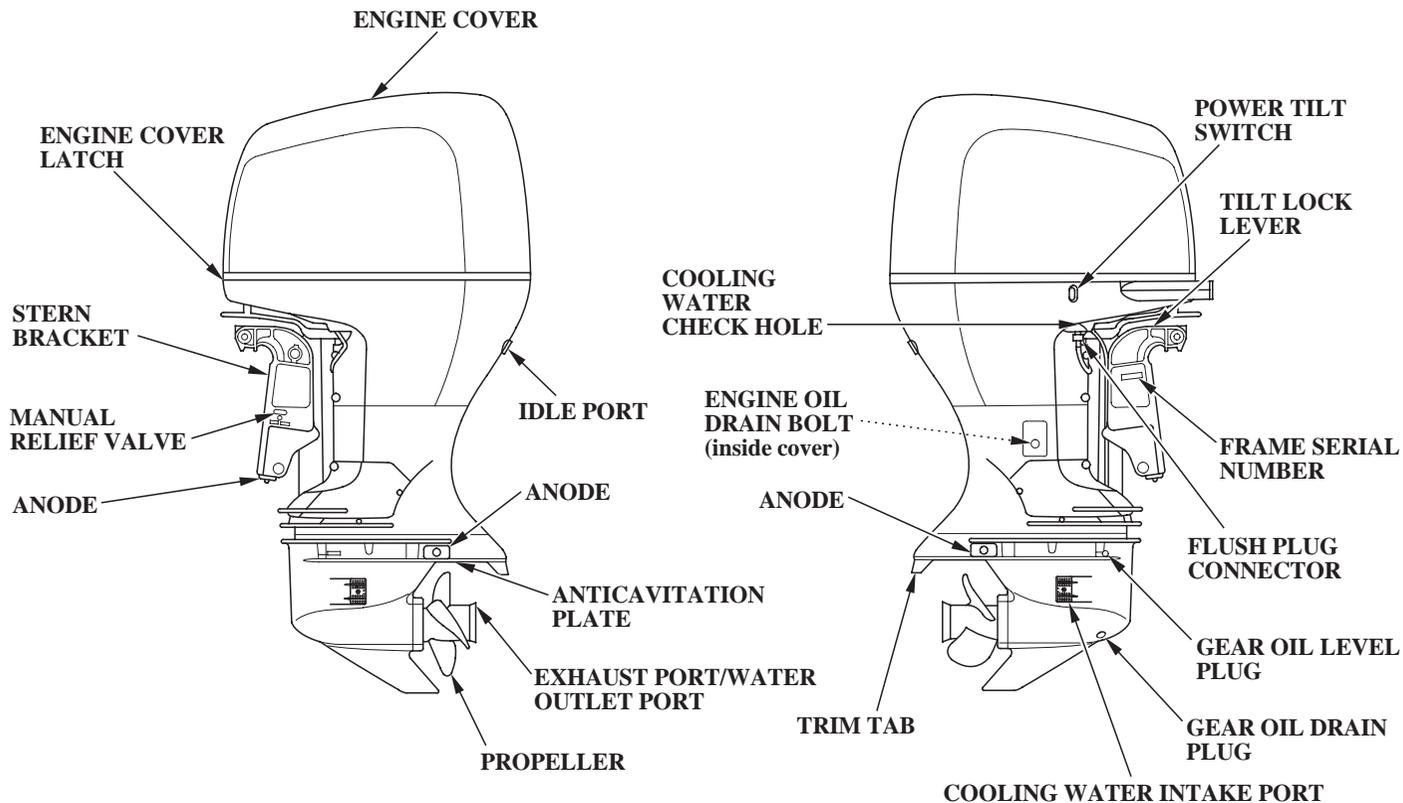
Manufacturer and address

Dry weight (with propeller, without battery cable)

[Example: BF175A]

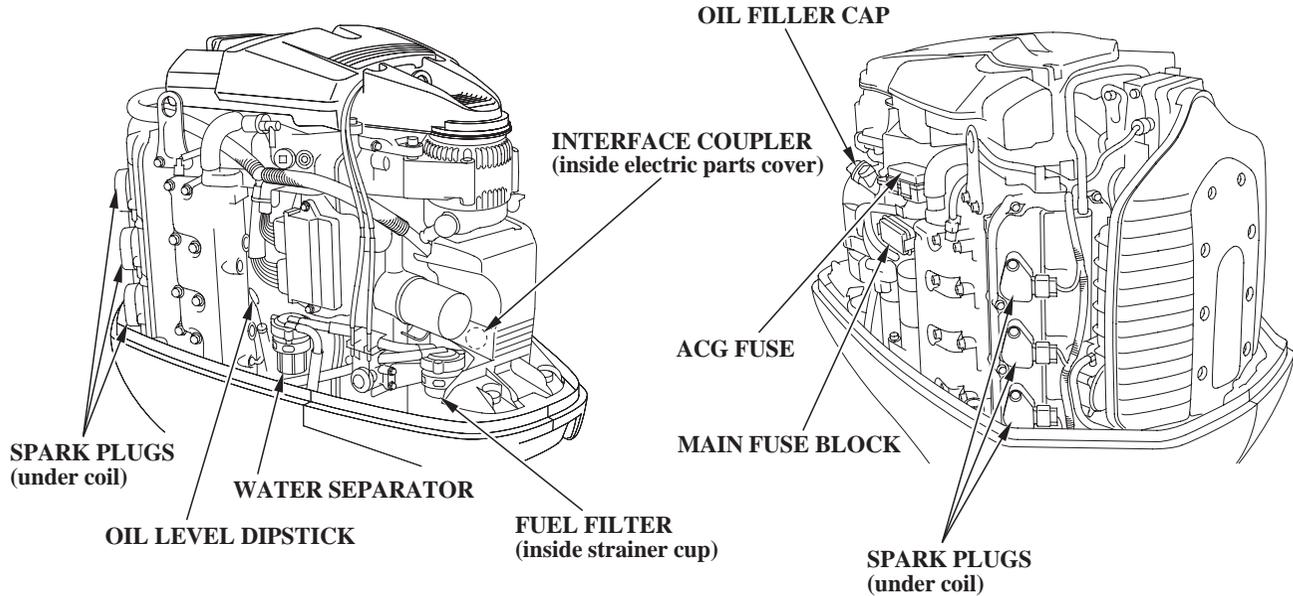


3. COMPONENT IDENTIFICATION



* Illustrations are based on BF225A X type

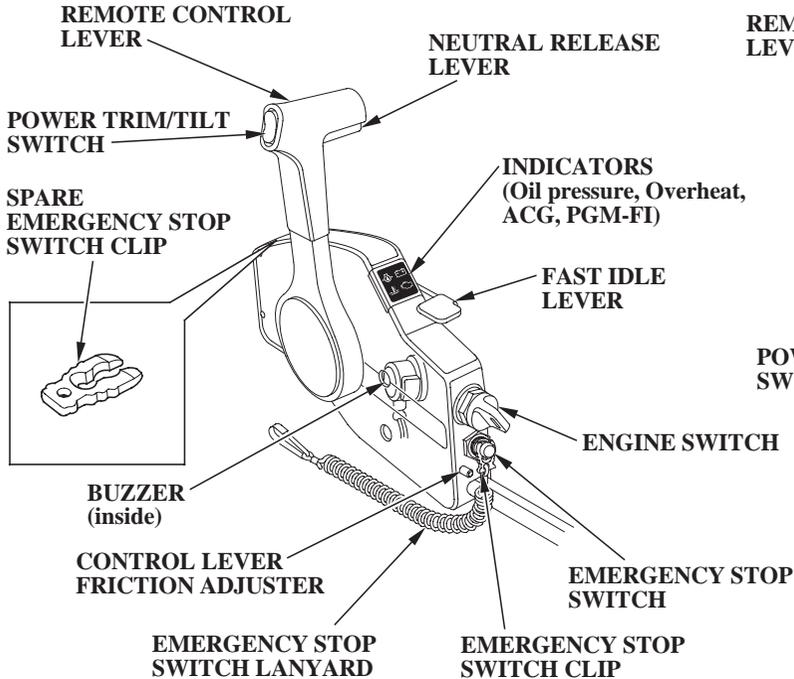
COMPONENT IDENTIFICATION



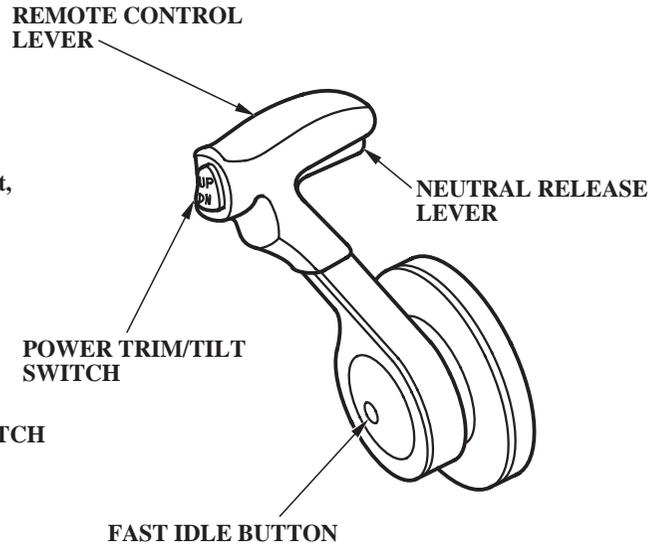
COMPONENT IDENTIFICATION

REMOTE CONTROL BOX (optional equipment)

SIDE-MOUNT TYPE (R1 type)

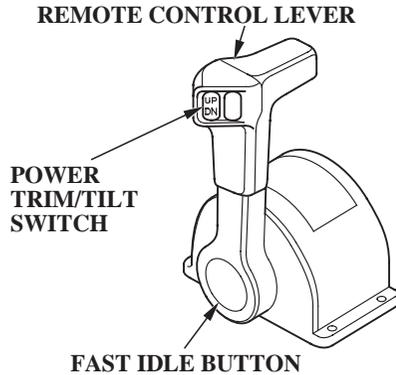


PANEL-MOUNT TYPE (R2 type)

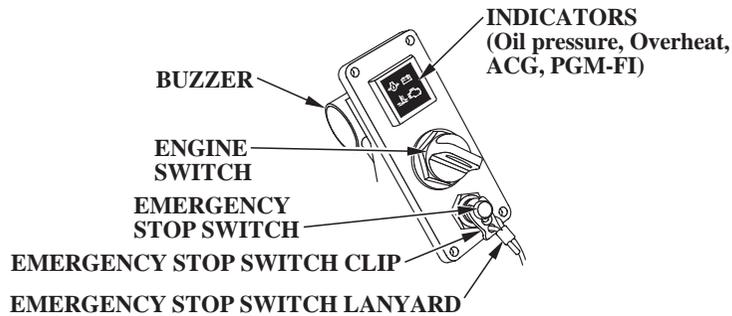


COMPONENT IDENTIFICATION

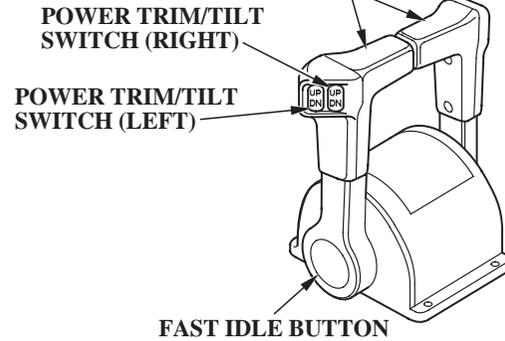
TOP-MOUNT TYPE (R3 type) (SINGLE MOTOR TYPE)



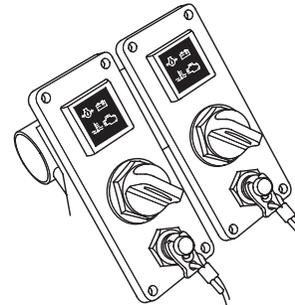
SWITCH PANEL (optional equipment) (PANEL-MOUNT, TOP-MOUNT)



(DUAL MOTOR TYPE) REMOTE CONTROL LEVERS



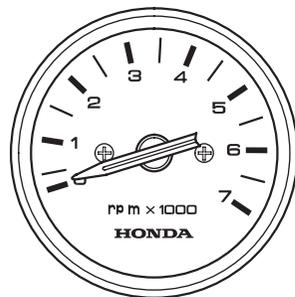
(for TOP-MOUNT DUAL type)



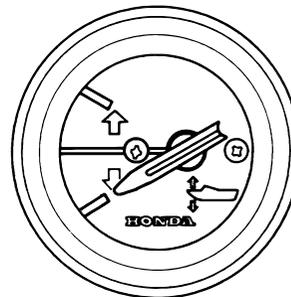
COMPONENT IDENTIFICATION

(Common)

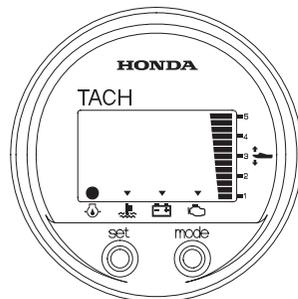
TACHOMETER (Optional equipment)



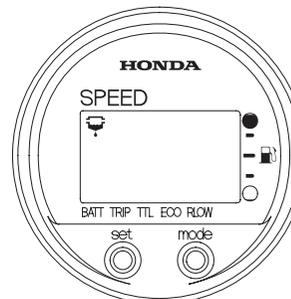
TRIMMETER (Optional equipment)



DIGITAL TACHOMETER (Optional equipment)

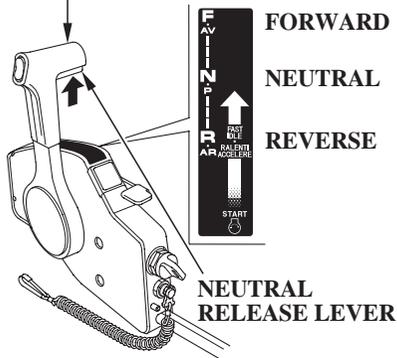


DIGITAL SPEEDOMETER (Optional equipment)

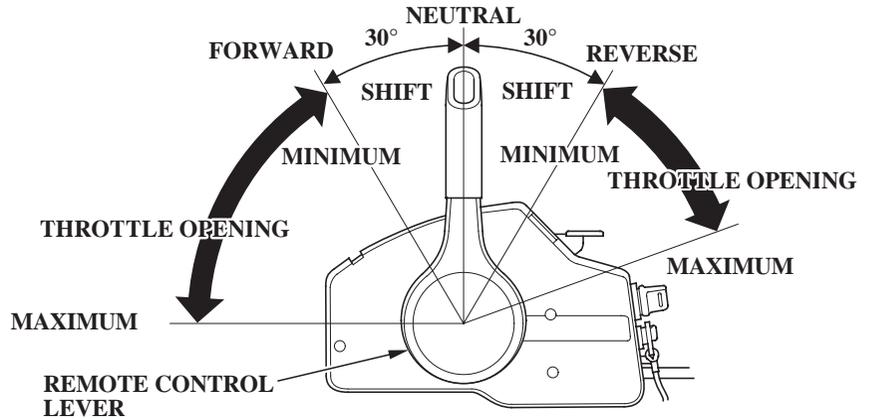


4. CONTROLS AND FEATURES

Remote Control Lever (R1 type) REMOTE CONTROL LEVER



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



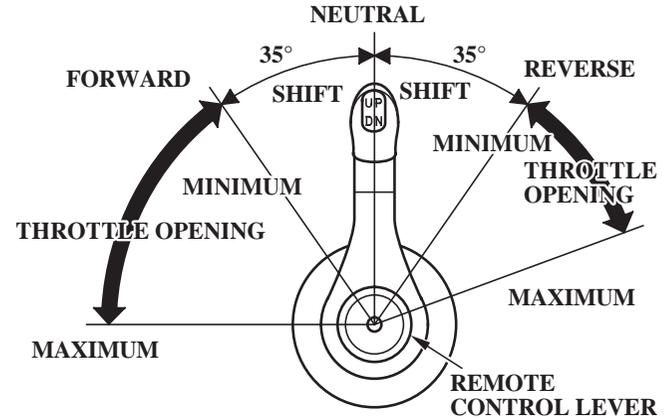
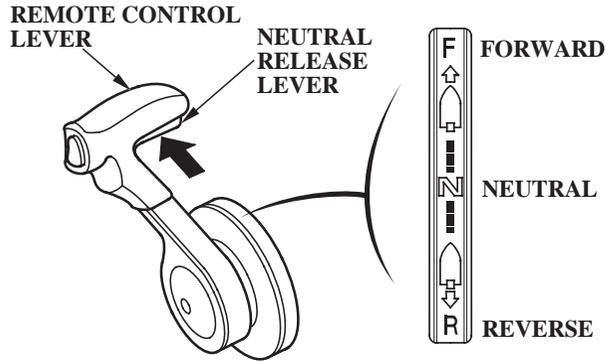
FORWARD:
Moving the lever to the FORWARD position (i.e. approximately 30° from the NEUTRAL position) engages the gear into forward. Moving the lever further from the FORWARD position will increase the throttle opening and the boat forward speed.

NEUTRAL:
Engine power is cut off from the propeller.

REVERSE:
Moving the lever to the REVERSE position (i.e. approximately 30° from the NEUTRAL position) engages the gear into reverse. Moving the lever further from the REVERSE position will increase the throttle opening and the boat reverse speed.

CONTROLS AND FEATURES

Remote Control Lever (R2 type)



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

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

FORWARD:

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

NEUTRAL:

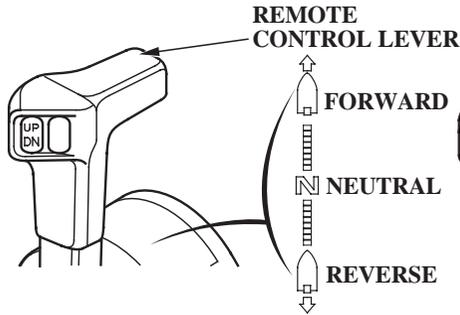
Engine power is cut off from the propeller.

REVERSE:

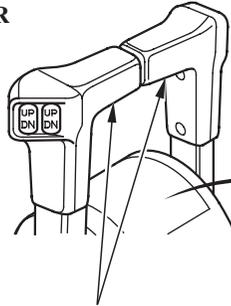
Moving the lever to the REVERSE position (i.e. approximately 35° from the NEUTRAL position) engages the gear into reverse. Moving the lever further from the REVERSE position will increase the throttle opening and the boat reverse speed.

CONTROLS AND FEATURES

Remote Control Lever (R3 type) SINGLE TYPE



DUAL TYPE



REMOTE CONTROL LEVERS

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

FORWARD:

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

NEUTRAL:

Engine power is cut off from the propeller.

FORWARD

NEUTRAL

NEUTRAL

FORWARD

REVERSE

THROTTLE OPENING

SHIFT

SHIFT

THROTTLE OPENING

MINIMUM

MINIMUM

MAXIMUM

MAXIMUM

REMOTE CONTROL LEVER

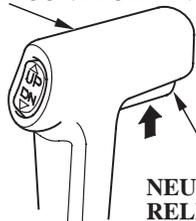
REVERSE

CONTROLS AND FEATURES

Neutral Release Lever

(R1 type)

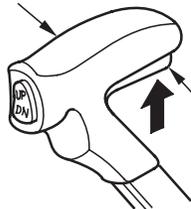
REMOTE CONTROL LEVER



NEUTRAL
RELEASE LEVER

(R2 type)

REMOTE CONTROL LEVER



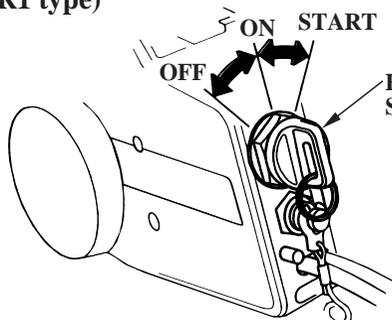
NEUTRAL
RELEASE LEVER

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

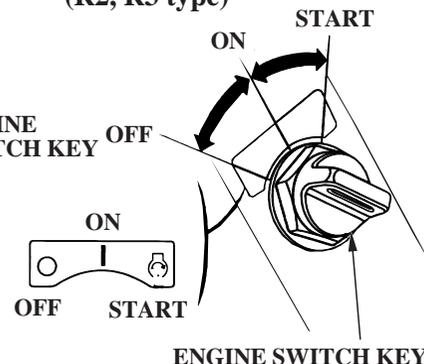
The remote control lever does not operate unless it is moved while pulling the neutral release lever up.

Engine Switch

(R1 type)



(R2, R3 type)



This remote control is equipped with an automotive type ignition switch. On the side-mount type (R1 type), the engine switch locates on your side near the remote control box. On the panel-mount type (R2 type) and the top-mount type (R3 type), the engine switch locates at the center of the control panel.

Key positions:

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

NOTICE

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

NOTE:

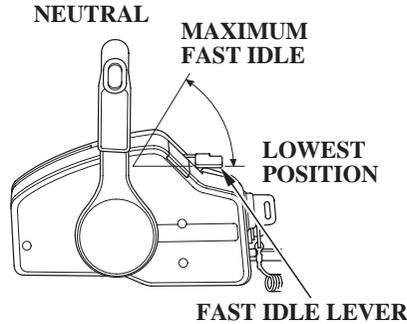
The starter motor will not work unless the remote control lever is in the NEUTRAL position, and the clip is in the emergency stop switch.

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

The fast idle lever/fast idle button is only needed for starting carbureted outboard models. The BF175A, BF200A and BF225A models use programmed fuel injection so, this lever will not be needed for starting.

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

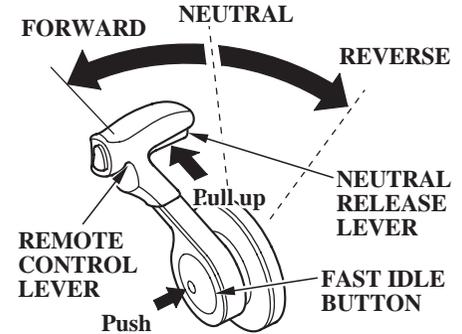
< Fast Idle Lever > (R1 type)



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

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

< Fast Idle Button > (R2 type)

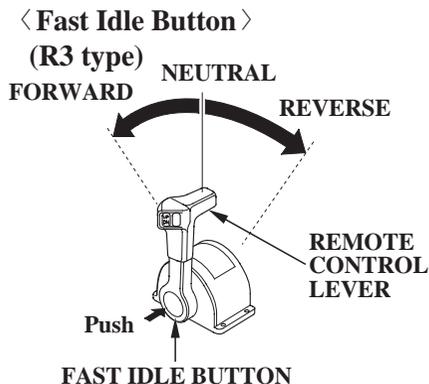


Pushing the fast idle button, turn the remote control lever forward. Keep turning the lever forward. The throttle opens and the engine speed increases after the lever passed the shift point.

Note that the gearshift mechanism does not function when the fast idle button is pushed once and then released after the remote control lever is moved.

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

CONTROLS AND FEATURES

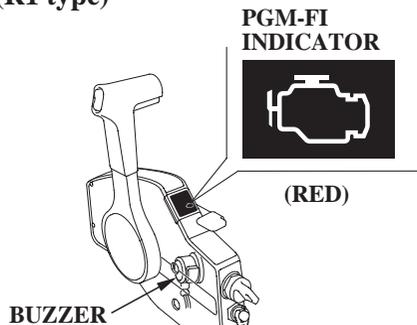


Use the fast idle button and the remote control lever to adjust the engine speed without gearshift when warming up the engine.

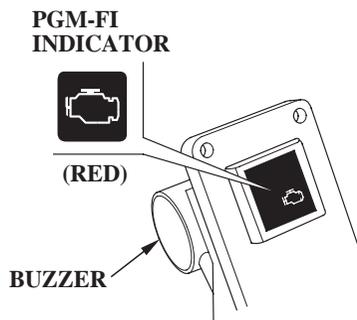
Pushing the fast idle button, turn the remote control lever forward. Keep turning the lever forward. The throttle opens and the engine speed increases after the lever passed the shift point.

Note that the gearshift mechanism does not function when the fast idle button is pushed once and then released after the remote control lever is moved.

PGM-FI Indicator/Buzzer (R1 type)

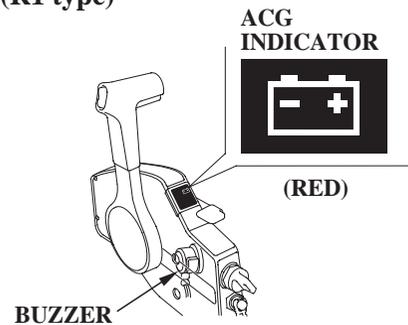


(R2, R3 type)

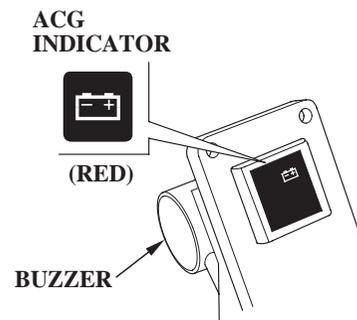


The PGM-FI indicator turns on and the buzzer sounds when the engine control system is faulty.

ACG Indicator/Buzzer (R1 type)



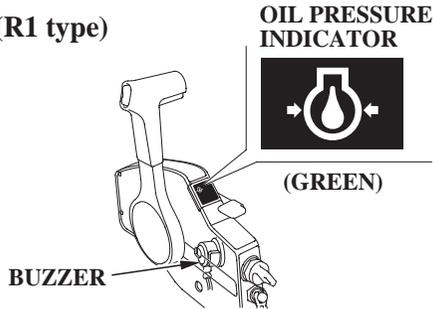
(R2, R3 type)



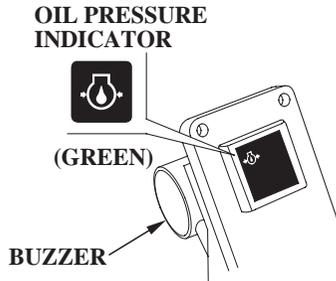
The ACG indicator turns on and the buzzer sounds when the charging system is faulty.

Oil Pressure Indicator/Buzzer

(R1 type)



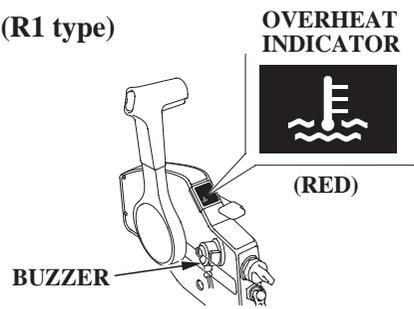
(R2, R3 type)



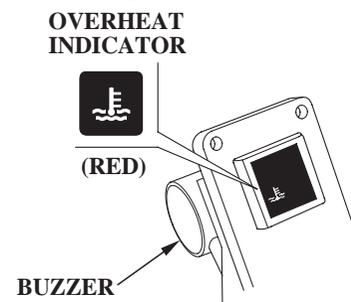
The oil pressure indicator turns off and the buzzer sounds when the oil level is low and/or the engine lubrication system is faulty. The engine speed slows down gradually this time.

Overheat Indicator/Buzzer

(R1 type)



(R2, R3 type)



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

Water Separator Buzzer

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

CONTROLS AND FEATURES

Power Trim/Tilt Switch

Power Trim

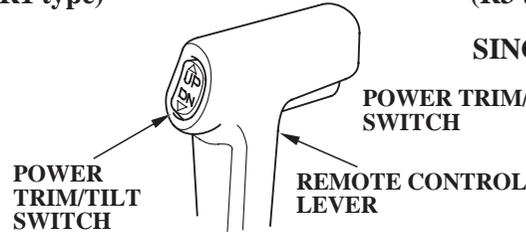
Press the power trim/tilt switch on the remote control lever to adjust the motor trim angle of -4° to 16° to maintain proper boat trim. The power trim/tilt switch can be operated while the boat is under way or while stopped.

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

NOTE:

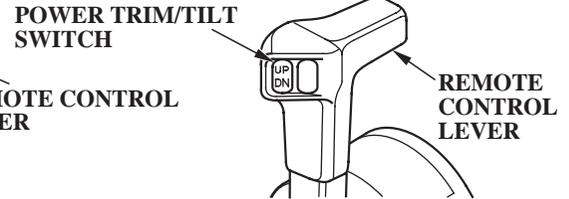
The motor trim angle of -4° to 16° is the angle when the outboard motor is installed on the boat at 12° .

(R1 type)

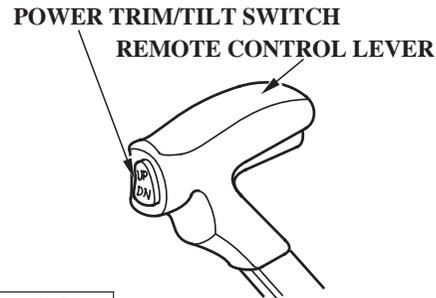


(R3 type)

SINGLE TYPE

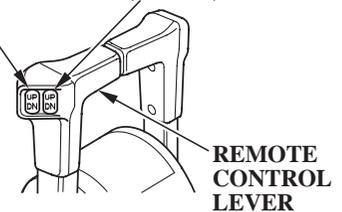


(R2 type)



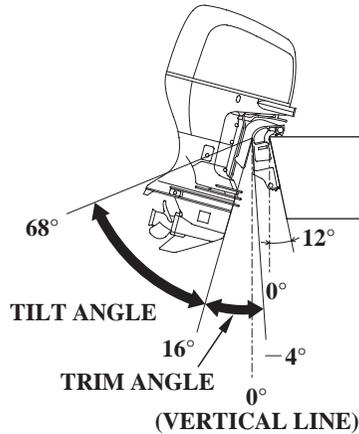
DUAL TYPE

POWER TRIM/TILT SWITCH
(LEFT) (RIGHT)



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.



(when transom angle is 12°)

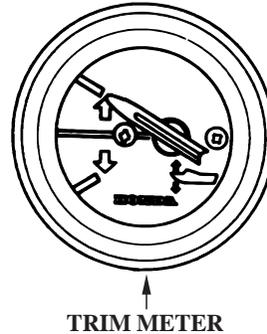
Power Tilt

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

By using the power trim/tilt switch the operator can change the tilt angle of the motor for shallow water operation, beaching, launching from a trailer, or mooring.

Please tilt up simultaneously, when you mount the dual type outboard motor.

Trim Meter (optional equipment)

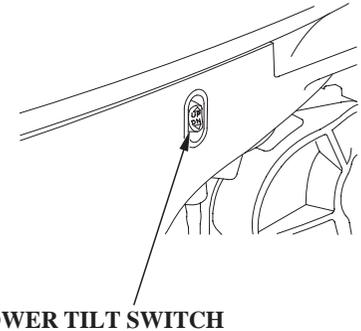


The trim meter has a range of -4° to 16° and indicates the trim angle of the outboard motor. Refer to the trim meter when using the power trim/tilt switch to achieve proper boat performance.

NOTE:

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

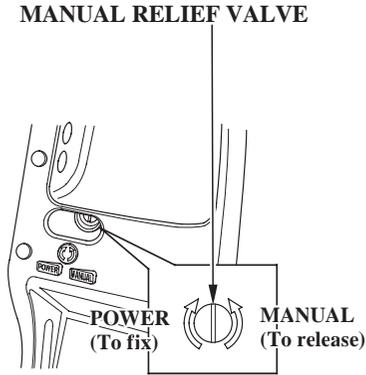
Power Tilt Switch (motor pan)



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

CONTROLS AND FEATURES

Manual Relief Valve



If the power trim/tilt switch will not tilt the outboard motor, the 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.

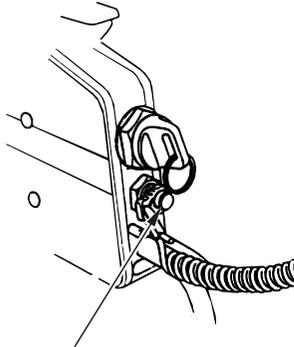
After tilting the motor, turn the manual relief valve clockwise securely.

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

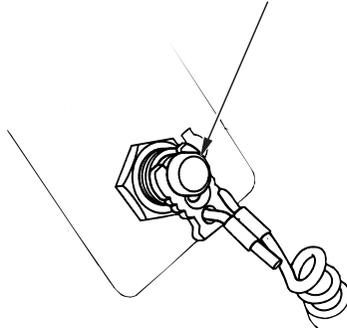
(R1 type)



EMERGENCY STOP SWITCH

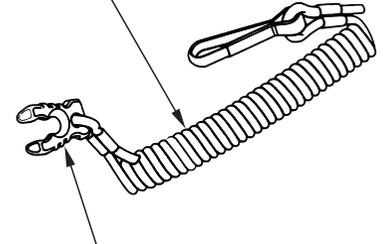
(R2, R3 type)

EMERGENCY STOP SWITCH



Emergency Stop Switch Lanyard/Clip

EMERGENCY STOP SWITCH LANYARD



EMERGENCY STOP SWITCH CLIP

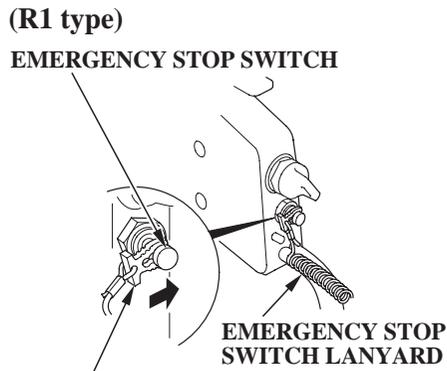
The emergency stop switch clip must be engaged with the emergency stop switch or the engine will not start. When the emergency stop switch clip becomes disengaged with the emergency stop switch the engine will stop immediately.

CONTROLS AND FEATURES

▲WARNING

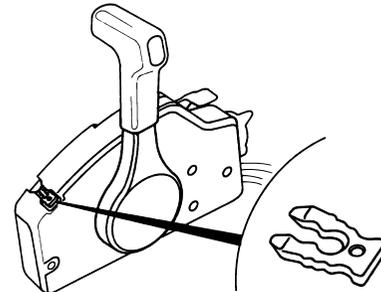
If the emergency stop switch lanyard is not set, the boat might run out of control when the operator, for example, falls overboard and is not able to operate the outboard motor.

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



Spare Emergency Stop Switch Clip

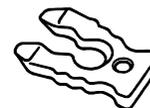
(R1 type)



SPARE EMERGENCY STOP SWITCH CLIP

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

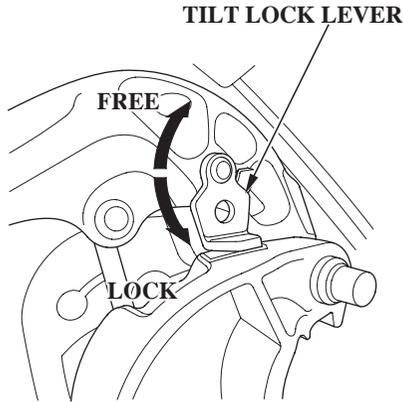
(R2, R3 type)



SPARE EMERGENCY STOP SWITCH CLIP

A spare emergency stop switch clip is provided in the tool bag (see page 81).

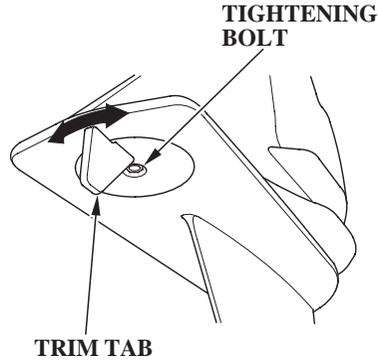
Tilt Lock Lever



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

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

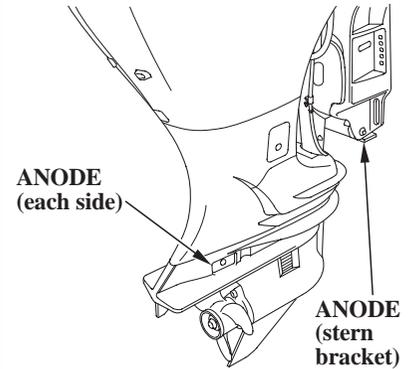
Trim Tab



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

Loosen the tightening bolt and turn the trim tab right or left to adjust.

Anode



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

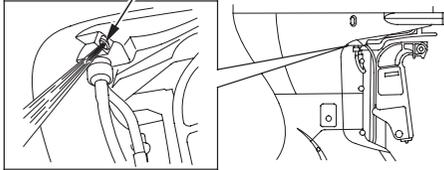
NOTICE

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

CONTROLS AND FEATURES

Cooling Water Check Hole

COOLING WATER CHECK HOLE

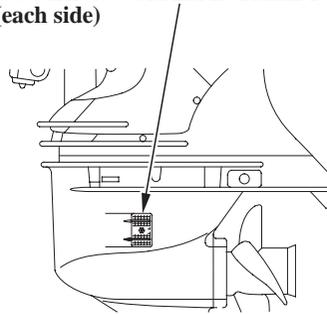


The cooling water is checked here to see whether it is circulating inside the engine properly.

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

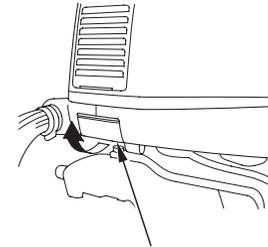
Cooling Water Intake Port

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



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

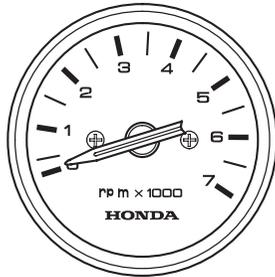
Engine Cover Latch



ENGINE COVER LATCH

Pull the engine cover latch to remove the engine cover.

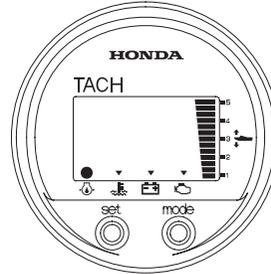
Tachometer (optional equipment)



TACHOMETER

The tachometer shows the engine speed in revolutions per minute.

Digital Tachometer (optional equipment)

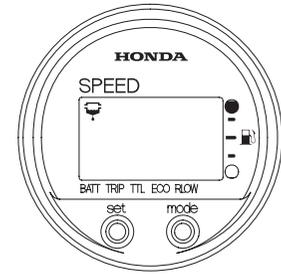


Digital Tachometer includes the following functions.

- Tachometer
- Hour Meter
- Trim Meter
- Oil Pressure Indicator
- Overheat Indicator
- ACG Indicator
- PGM-FI Indicator

Refer to the Operation Guide included with each Digital Tachometer for operation information.

Digital Speedometer (optional equipment)



Digital Speedometer includes the following functions.

- Speedometer
- Fuel Level Meter
- Volt Meter
- Tripmeter
- Fuel Integration Meter
- Fuel Economy Meter
- Fuel Flow Meter
- Water Separator Indicator

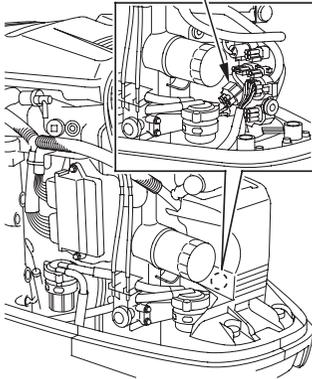
Refer to the Operation Guide included with each Digital Speedometer for operation information.

CONTROLS AND FEATURES

Interface Coupler

NMEA2000 based information on engine speed, fuel consumption, and various warnings can be read by connecting to the motor with the interface cable (sold separately). Contact your dealer for more information.

**INTERFACE COUPLER
(6 pin black)**



5. INSTALLATION

NOTICE

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

We recommend that the outboard motor be installed by an authorized Honda outboard motor dealer. Consult the authorized Honda dealer in your area for the Y-OP (User Optional Parts)/equipments installation and operation.

Applicable Boat

Select the boat suitable for the engine power.

Engine power:

BF175A: 128.7 kW (175 PS)

BF200A: 147.1 kW (200 PS)

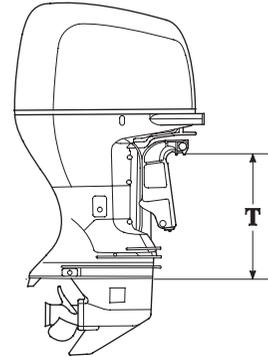
BF225A: 165.5 kW (225 PS)

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

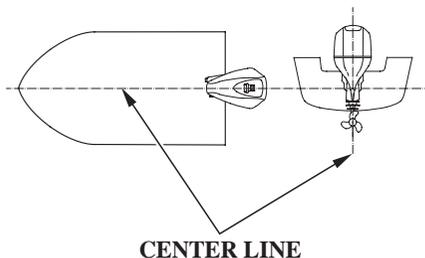


Type:	T (Transom Height) (when transom angle is 12°)
L:	508 mm (20.0 in)
X:	635 mm (25.0 in)
XX:	762 mm (30.0 in)

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

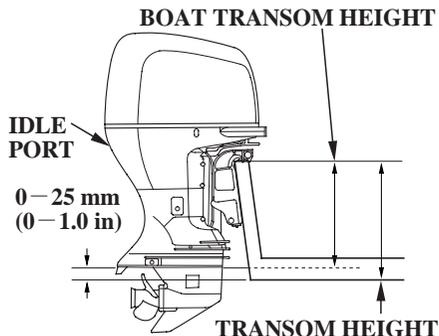
INSTALLATION

Location

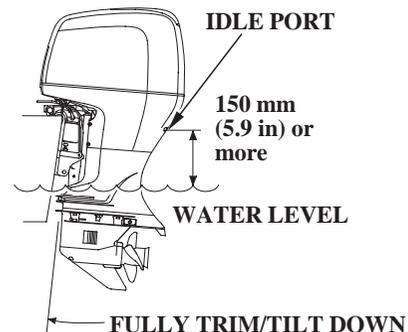


Install the outboard motor at the stern, at the center line of the boat.

Installation Height



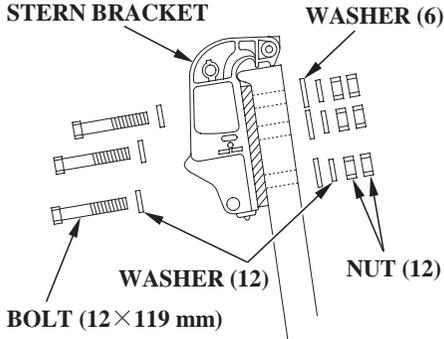
Make sure that the boat transom height is correct for the motor. Incorrect installation height will reduce performance. The motor should be installed so that the anticavitation plate is 0 - 25 mm (0 - 1.0 in) upper the bottom of the boat. The correct dimensions differ according to the type of the boats and the figuration of the bottom of the boats. Follow the manufacture's recommended installation height.



NOTICE

- **The water level must be at least 100 mm (4 in) above the anticavitation plate, otherwise the water pump may not receive sufficient cooling water, and the engine will overheat.**
- **Adverse effect to the engine can occur if the installation position of the outboard motor is too low. Trim/tilt down the outboard motor with the boat fully loaded and stop the engine. Check that the idle port is 150 mm (5.9 in) or more above the water level.**

Outboard Motor Installation



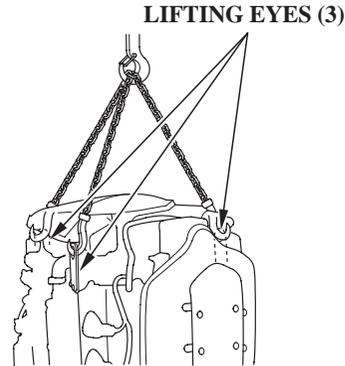
1. Apply the silicone sealant (Three Bond 1216 or equivalent) to the outboard motor mounting holes.
2. Set the outboard motor on the boat and secure with the bolts, washers, and lock nuts.

NOTE:

Standard torque:

55 N·m (5.6 kgf·m , 41 lbf·ft)

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



▲ CAUTION

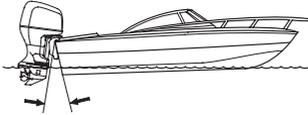
Install the outboard motor securely. Loosely mounted outboard motor can result in accidental loss of the motor and damage and injury to the equipment and personnel.

Before installing the outboard motor on the boat, hang the outboard motor with the hoist or equivalent device by attaching the three lifting eyes to the outboard.

Use the hoist which allowable load is 300 kg (661 lbs) or above.

INSTALLATION

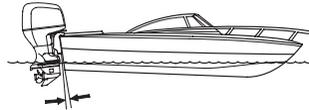
Motor Angle Inspection (Cruising)



**INCORRECT
CAUSES BOAT TO “SQUAT”**

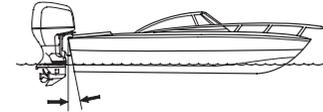
Install the outboard motor at the best trim angle for stable cruising and maximum power.

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



**INCORRECT
CAUSES BOAT TO “PLOW”**

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



**CORRECT
GIVES MAXIMUM PERFORMANCE**

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

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

Battery Connections

Use a battery which has CCA (COLD CRANKING AMPERES) 799A at -18°C (0°F) and a reserve capacity 229 minutes (12V-110AH) or more specifications. The battery is an optional part (i.e. part to be purchased separately from the outboard motor).

▲WARNING

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

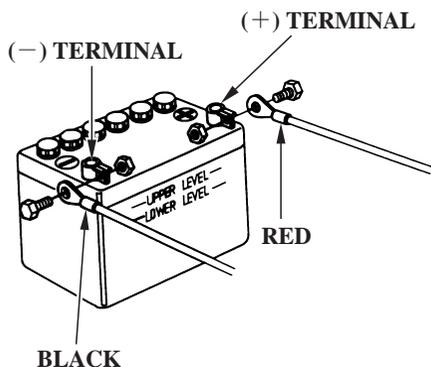
- **CHEMICAL HAZARD: Battery electrolyte contains sulfuric acid. Contact with eyes or skin, even through clothing, may cause severe burns. Wear a faceshield and protective clothing.**
- **Keep flames and sparks away, and do not smoke in the area. ANTIDOTE: If electrolyte gets into your eyes, flush thoroughly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

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

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

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

INSTALLATION



Connect the battery cables:

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

NOTE:

When the two outboard motors are mounted on a boat, connect a battery to the respective right and left outboard motors.

NOTICE

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

Remote Control Installation (optional equipment)

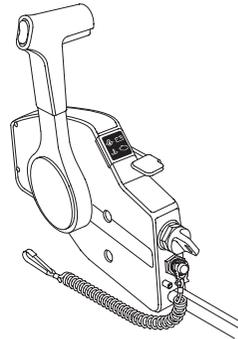
NOTICE

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

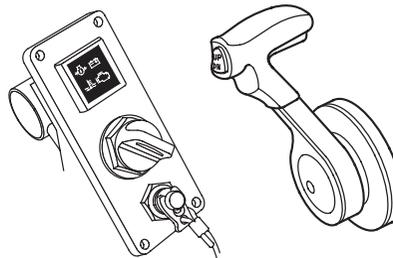
The control box is available in three types as shown.

Select the most suitable control box for your outboard motor considering the installation position, operationability, etc. of the control box.

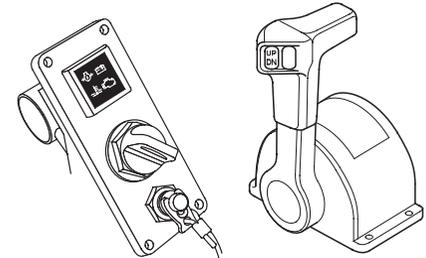
See an authorized Honda outboard motor dealer for further information.



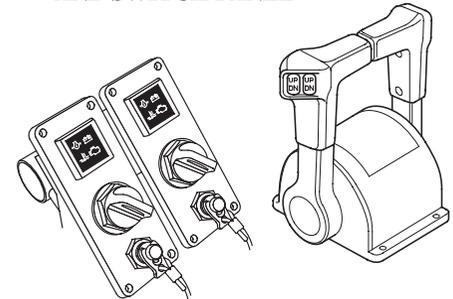
**SIDE-MOUNT
TYPE CONTROL BOX**



**PANEL-MOUNT TYPE CONTROL
BOX AND SWITCH PANEL**



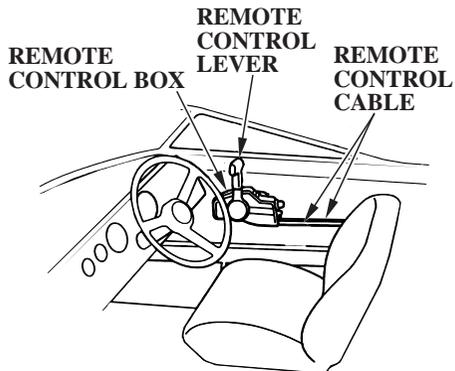
**TOP-MOUNT TYPE CONTROL BOX
(FOR SINGLE MOTOR TYPE)
AND SWITCH PANEL**



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

INSTALLATION

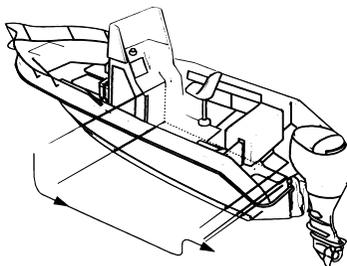
〈 Remote Control Box Location 〉



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

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

〈 Remote Control Cable Length 〉



Measure the distance from the control box to the outboard motor along the cable routing. Recommended cable length is 300—450 mm (11.8—17.7 in.) longer than the measured distance. Set the cable along the pre-determined route and be sure that it is long enough to the route. Connect the cable to the engine and be sure it is not kinked, bent sharp, pulled taut, or interfered while steering.

NOTICE

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

Propeller Selection

Select the adequate propeller so that the engine speed at full throttle is $5,000 \text{ min}^{-1}$ (rpm) to $6,000 \text{ min}^{-1}$ (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 problem. Use of the correct propeller assures powerful acceleration, top speed, excellency in terms of economy and cruising comfort, and it assures longer engine life as well.

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

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 storing or transporting the motor.**
- **Do not smoke or allow flames or sparks where fuel is drained or stored.**

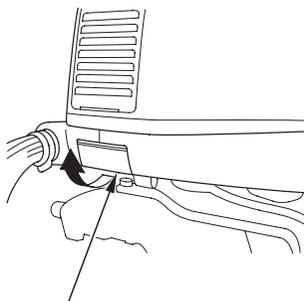
6. PRE-OPERATION CHECKS

BF175A/200A/225A is 4-stroke, water cooled outboard motor which uses unleaded regular gasoline for fuel. It also requires the engine oil. Check the following before operating the outboard motor.

▲ CAUTION

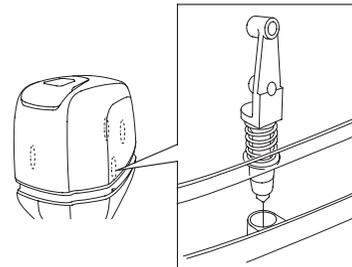
Perform the following pre-operation checks with the engine stopped.

Engine Cover Removal/Installation



ENGINE COVER LATCH

- To remove, pull the engine cover latch and lift the engine cover straight up.
- To install, place the engine cover on the outboard motor, and push down evenly.



▲ WARNING

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

Engine Oil

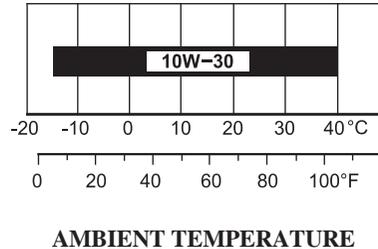
NOTICE

- **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.**

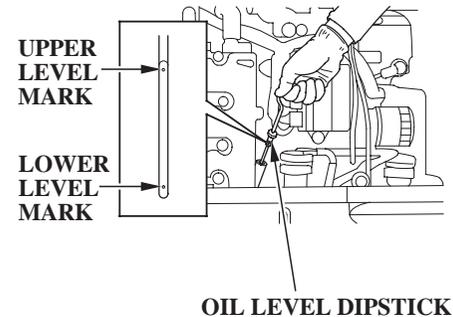
〈 Recommended oil 〉

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 Service category SG, SH or SJ. Motor oils category SG, SH or SJ will show this designation on the container.

SAE 10W-30 is recommended for general use.

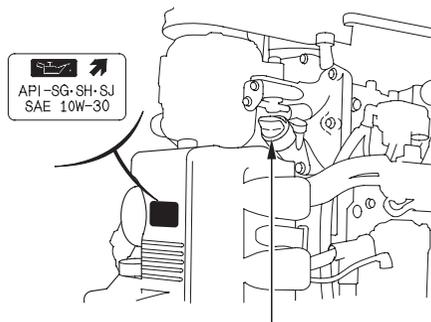


〈 Inspection and Refilling 〉



1. Position the outboard motor vertically, and remove the engine cover.
2. Remove the oil level dipstick and wipe with a clean rag.
3. Reinsert the dipstick all the way in, then pull it out and read the level. If near or below the lower level mark, remove the oil filler cap and fill to the upper level mark with the recommended oil. Tighten the oil filler cap securely. Do not overtighten.

PRE-OPERATION CHECKS



OIL FILLER CAP

When the engine oil is contaminated or discolored, replace with the fresh engine oil (see page 84 for replacement interval and procedure).

4. Install the engine cover and lock it securely.

NOTICE

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

Fuel

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 an oil/gasoline mixture or dirty gasoline. Avoid getting dirt, dust or water in the fuel tank.

▲WARNING

Gasoline is extremely flammable and is explosive under certain conditions.

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

GASOLINE CONTAINING ALCOHOL

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

NOTE:

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

PRE-OPERATION CHECKS

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:

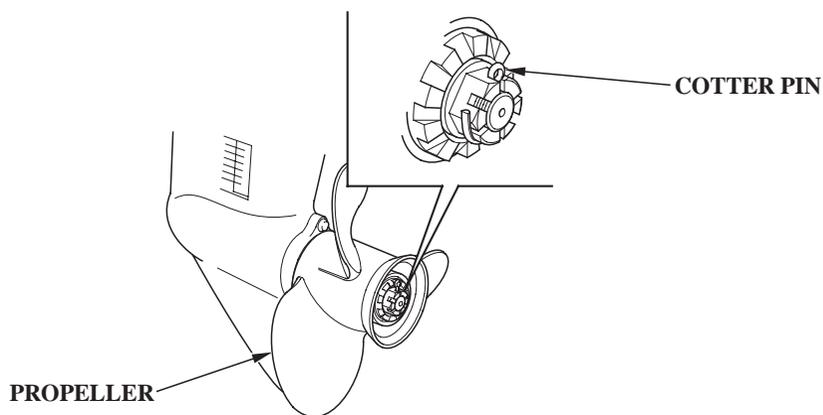
- Remove the emergency stop switch clip to prevent an accidental start of the engine.
- Wear heavy gloves.

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.

Consult an authorized Honda outboard motor dealer for propeller selection.

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



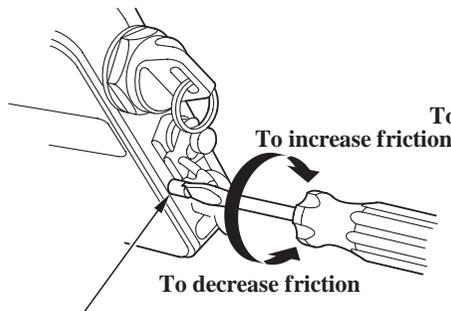
Engine speed varies according to the propeller size and the boat condition. Use of the outboard motor outside the full throttle speed range will adversely affect the engine and cause a serious problem. Use of the correct propeller assures powerful acceleration, top speed, excellency in terms of economy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

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

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

PRE-OPERATION CHECKS

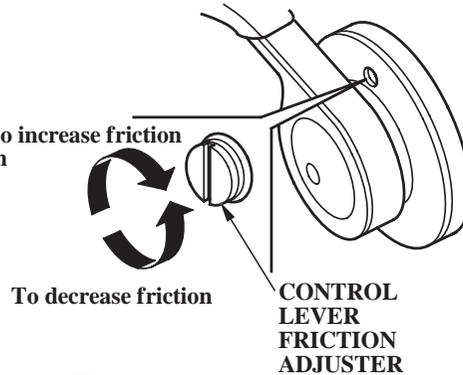
Remote Control Lever Friction (R1 type)



**CONTROL LEVER FRICTION
ADJUSTER**

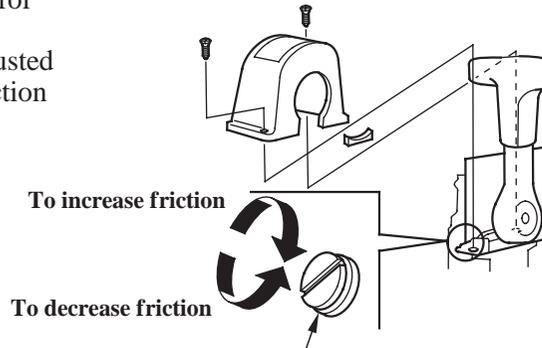
Check whether the remote control lever moves smoothly. Friction of the lever can be adjusted by turning the control lever friction screw right or left.

(R2 type)



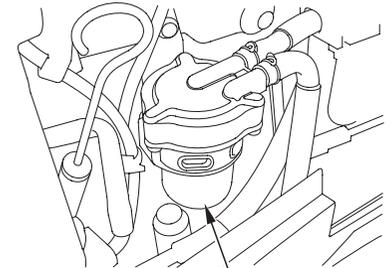
**CONTROL
LEVER
FRICTION
ADJUSTER**

(R3 type)



CONTROL LEVER FRICTION ADJUSTER

Water Separator



WATER SEPARATOR

Water separator is located beside the oil level dipstick. Check the water separator for water accumulation. Clean it or consult with an authorized Honda outboard motor dealer for clean (see page 92).

PRE-OPERATION CHECKS

Battery

NOTICE

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

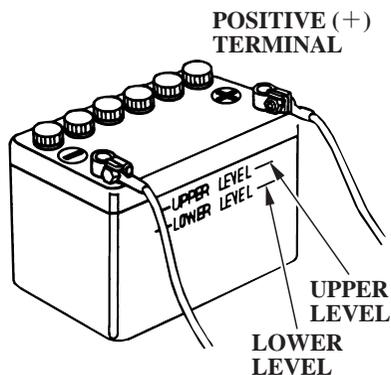
Battery Inspection

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

If the battery fluid is near or below the lower level, add the distilled water to the upper level (see page 95).

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 96).



▲WARNING

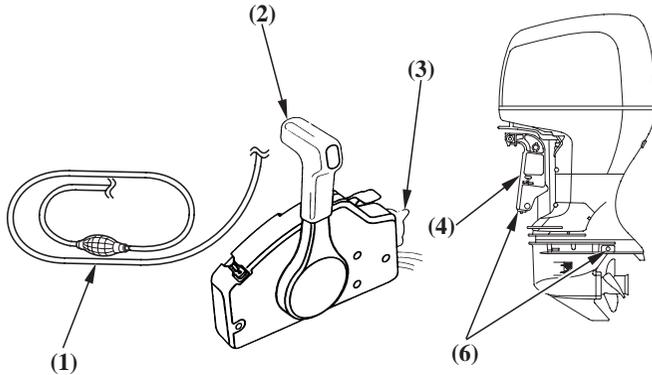
Batteries produce explosive gases: If ignited, an explosion can cause serious injury or blindness. Provide adequate ventilation when charging.

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

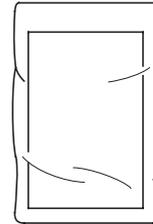
- **Keep flames and sparks away, and do not smoke in the area. ANTIDOTE: If electrolyte gets into your eyes, flush thoroughly with warm water for at least 15 minutes and call a physician immediately.**
- **POISON: Electrolyte is poison. ANTIDOTE:**
 - External: Flush thoroughly with water.
 - Internal: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

PRE-OPERATION CHECKS

Other Checks



(5) TOOL KIT



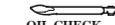
14 × 17 mm WRENCH



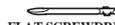
10 × 12 mm WRENCH



8 mm WRENCH



OIL CHECK SCREWDRIVER



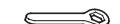
FLAT SCREWDRIVER



PHILLIPS SCREWDRIVER



SPARK PLUG WRENCH



19 mm EYE WRENCH



16 × 17 mm BOX WRENCH



FUSE PULLER



SCREWDRIVER HANDLE



TOOL BAG



PLIERS



6 mm HEX. WRENCH

Check the following items:

- (1) The fuel hose for kinking, collapsing or a loose connection.
- (2) The control lever for smooth operation.
- (3) The switch for correct operation.
- (4) The stern bracket for damage.
- (5) The tool kit for missing spare parts and tools.
- (6) The anode metal for damage, looseness or excessive corrosion.

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

NOTICE

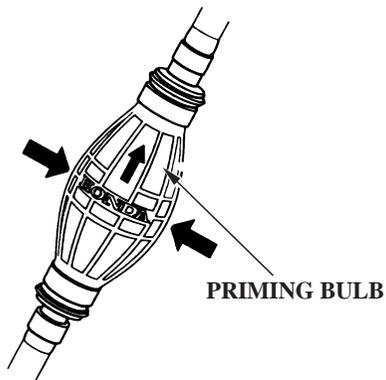
The possibility of corrosion damage is increased if the anode is painted over or allowed to deteriorate.

Parts/materials which should be installed on board:

- (1) Owner's Manual
- (2) Tool kit
- (3) Spare parts: spark plugs, engine oil, spare propeller, nut, tab washer.
- (4) Other parts/materials required by laws/regulations.

7. STARTING THE ENGINE

Fuel Priming



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

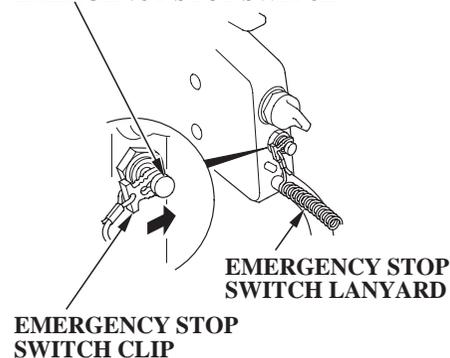
NOTICE

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

(R1 type)

EMERGENCY STOP SWITCH



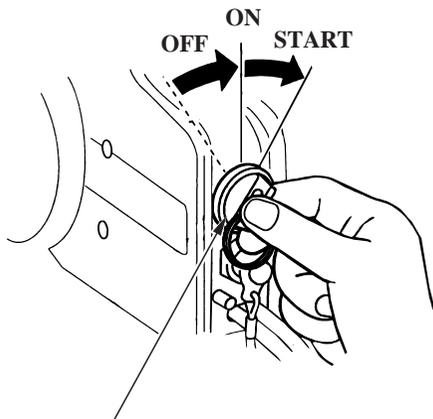
▲WARNING

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

NOTICE

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

STARTING THE ENGINE



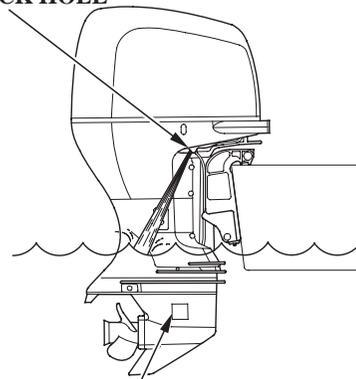
ENGINE SWITCH KEY

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

NOTICE

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

COOLING WATER CHECK HOLE



COOLING WATER INTAKE PORT (each side)

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

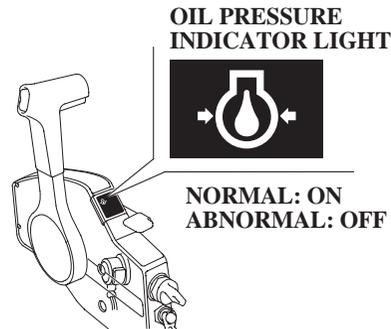
NOTICE

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

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

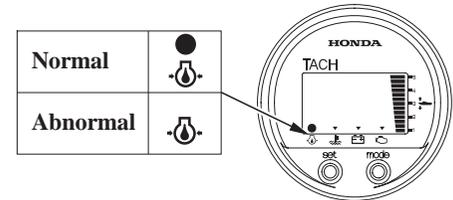
If it does not turn on, stop the engine and perform the following inspections.

- 1) Check the oil level (see page 41).
- 2) If the oil level is normal and the oil pressure indicator does not turn ON, consult with an authorized Honda outboard motor dealer.



6. 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.

Digital Tachometer



NOTICE

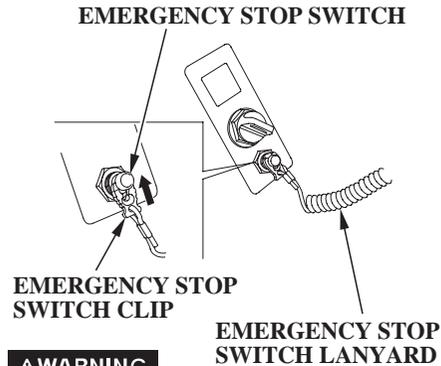
If the engine is not properly warmed-up before raising the engine speed, the warning buzzer and overheat indicator may activate and the engine speed will be automatically reduced.

NOTE:

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

STARTING THE ENGINE

(R2, R3 type)



▲WARNING

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

NOTICE

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

NOTE:

When the boat is mounted with the 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.

On the R2 type: Be sure to install the emergency stop switch clip to the emergency stop switch on the remote control box as well as on the switch panel.

▲WARNING

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

EMERGENCY STOP SWITCH CLIP

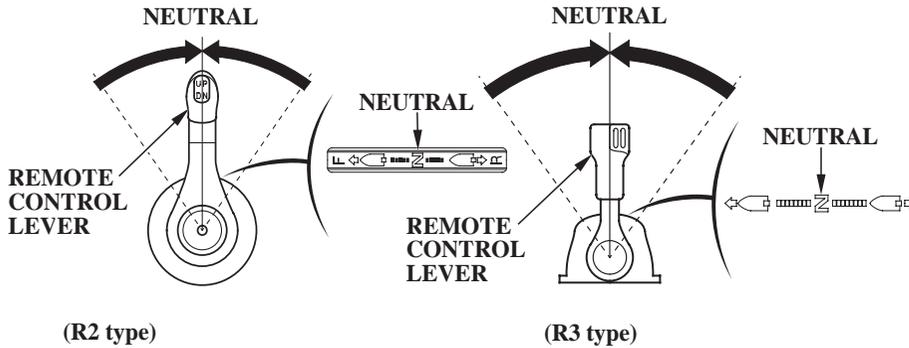


NOTE:

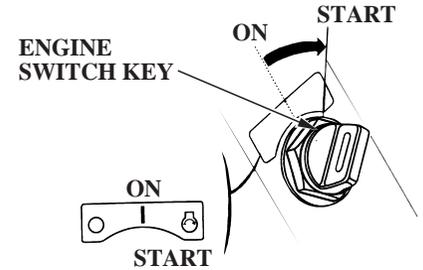
The engine does not start unless the emergency stop switch clip is set on the emergency stop switch.

A spare emergency stop switch clip is provided in the tool bag (see page 81).

STARTING THE ENGINE



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



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

NOTICE

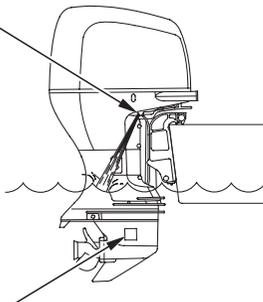
- The starter motor consumes a large amount of current. Do not therefore run it continuously for more than 5 seconds at a time. If the engine does not start within 5 seconds, wait at least 10 seconds before running the starter motor again.
- Do not turn the engine switch key to the START position while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

STARTING THE ENGINE

NOTE:

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

COOLING WATER
CHECK HOLE



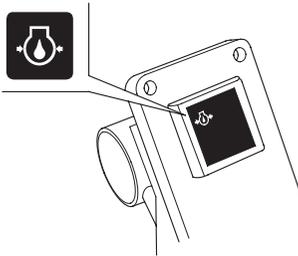
COOLING WATER
INTAKE PORT (each side)

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

NOTICE

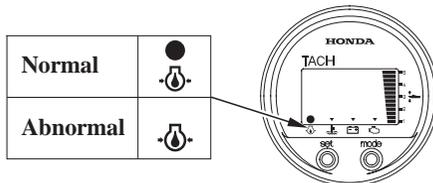
If water does not flow out, or if steam comes out, stop the engine. Check to see if the screen in the cooling water intake port is obstructed and remove foreign materials if necessary. Check the cooling water check hole for clogging. If water still does not flow out, have your outboard motor checked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

ENGINE OIL PRESSURE INDICATOR



NORMAL: ON
ABNORMAL: OFF

DIGITAL TACHOMETER



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

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

- 1) Check the oil level (see page 41).
- 2) If the oil level is normal and the oil pressure indicator does not turn ON, consult with an authorized Honda outboard motor dealer.

6. 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.

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 motor continuously at full throttle.

Next 8 hours:

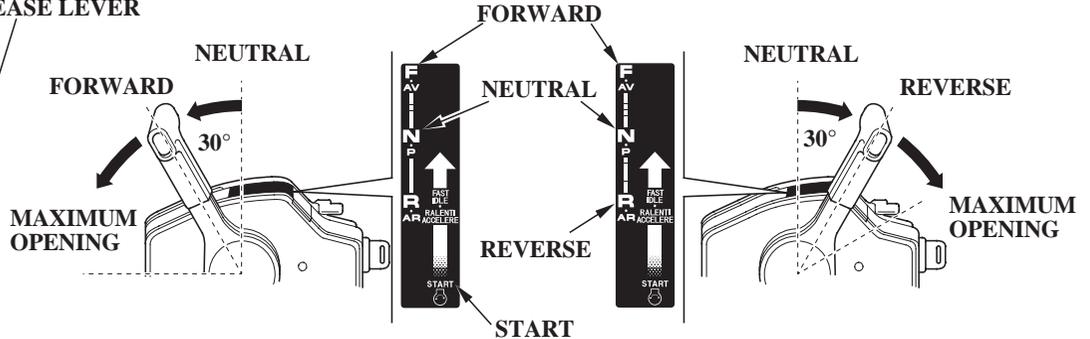
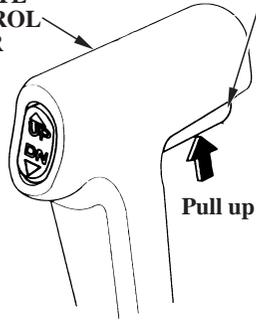
Avoid continuous full throttle operation (100% throttle opening). Do not run the outboard motor at full throttle for more than 5 minutes at a time.

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

Gear Shifting

(R1 type) NEUTRAL RELEASE LEVER

REMOTE CONTROL LEVER



▲ CAUTION

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

While pulling the neutral release lever, move the control lever approximately 30° toward the FORWARD or REVERSE position to engage the desired gear.

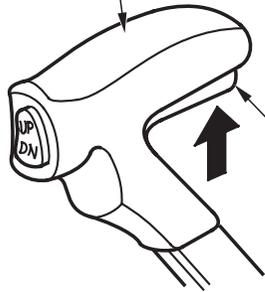
Moving the control lever further from approximately 30° will increase throttle opening and boat speed.

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

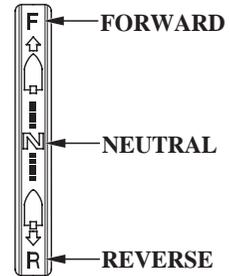
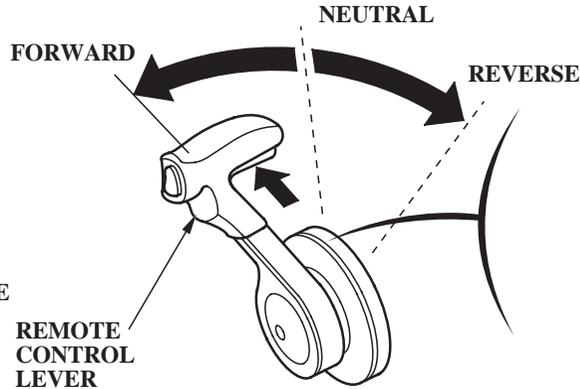
OPERATION

Gear Shifting (R2 type)

REMOTE CONTROL LEVER



NEUTRAL RELEASE
LEVER



⚠ CAUTION

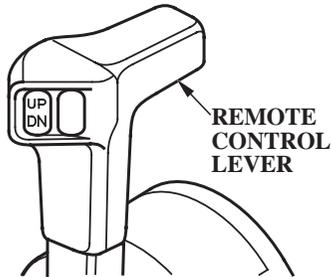
Avoid sharp and abrupt operation of the control lever. Operate it moderately. Operate the control lever and raise the engine speed after making sure that the gear was shifted securely.

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

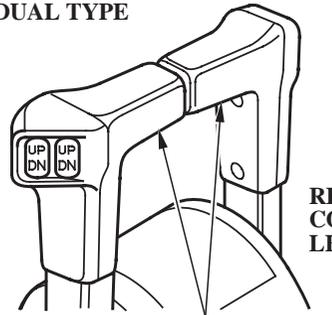
Moving the control lever further from approximately 35° will increase throttle opening and boat speed.

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

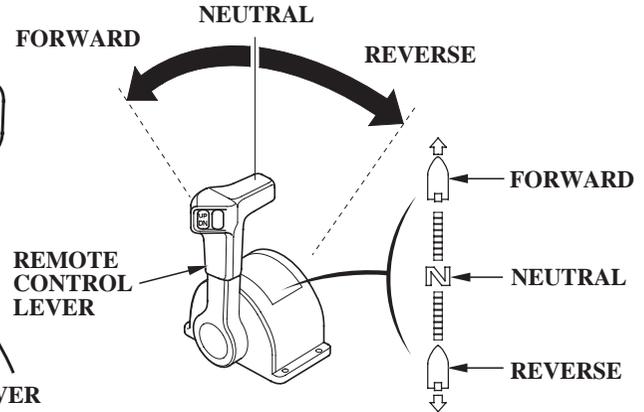
Gear Shifting (R3 type) SINGLE TYPE



DUAL TYPE



REMOTE CONTROL LEVER



▲ CAUTION

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

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

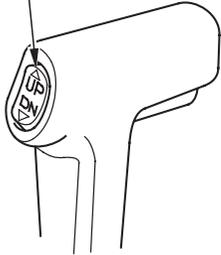
When the boat is mounted with the two outboard motors, hold the control lever in the center as shown, and operate the right and left levers simultaneously.

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

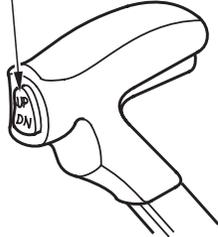
OPERATION

Cruising

POWER TRIM/TILT SWITCH

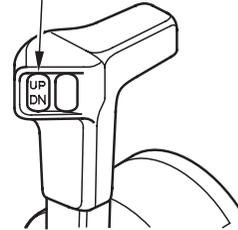


POWER TRIM/TILT SWITCH



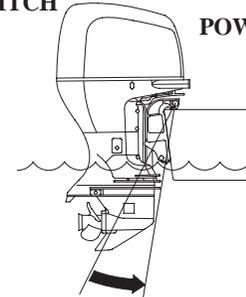
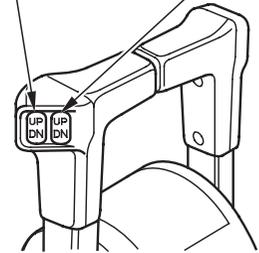
(single type)

POWER TRIM/TILT SWITCH



(dual type)

POWER TRIM/TILT SWITCH (LEFT) (RIGHT)



LOWERMOST POSITION

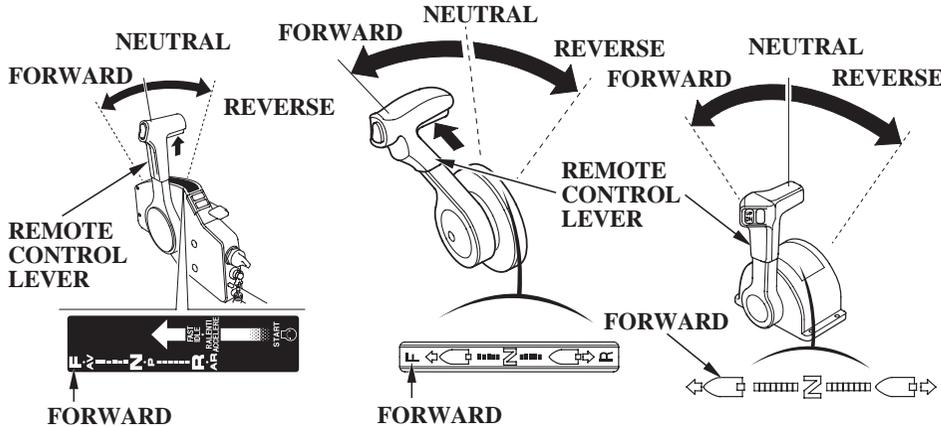
1. Press on the DN (down) of the power trim/tilt switch and trim the motor at the lowermost position.

R3 type:

When the two outboard motors are mounted:

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

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



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

R1 type:

Moving about 30° engages the gear. Moving the control lever further opens the throttle and increases the engine speed.

R2, R3 type:

Moving about 35° engages the gear. Moving the control lever further opens the throttle and increase the boat speed.

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

NOTE:

- When cruising at full throttle, note that the engine speed must be in the range 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” (page 39) for a relation between the propeller and the engine speed.

▲CAUTION

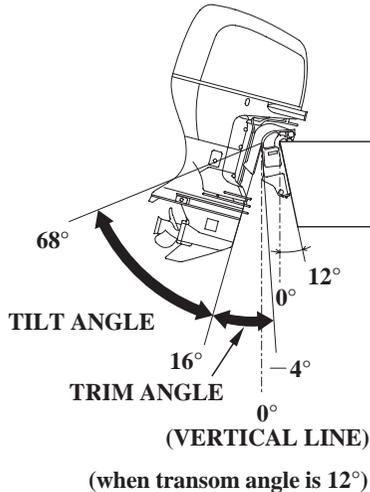
Do not operate without the engine cover. Exposed moving parts could cause injury; water may damage the engine.

NOTE:

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

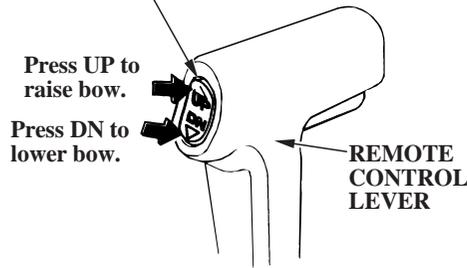
OPERATION

Trimming the Motor

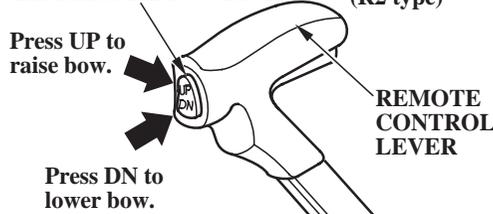


The BF175A/200A/225A is equipped with the power trim/tilt system which can adjust the motor angle (trim/tilt angle) while cruising and mooring. The motor angle can also be adjusted while cruising and accelerating to obtain the maximum speed and optimum drivability and fuel economy.

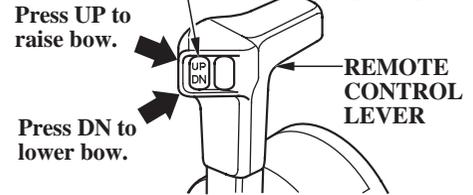
POWER TRIM/TILT SWITCH (R1 type)



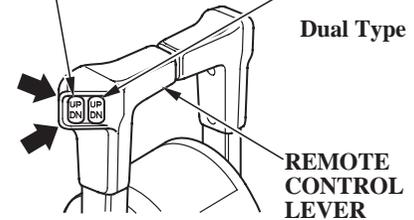
POWER TRIM/TILT SWITCH (R2 type)



POWER TRIM/TILT SWITCH (R3 type) Single Type



POWER TRIM/TILT SWITCH (LEFT) (RIGHT) Dual Type



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

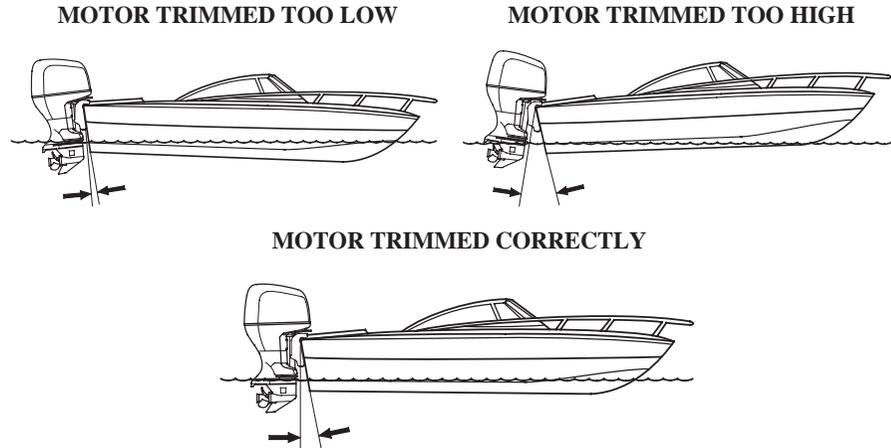
The power trim/tilt system operates when the switch is pressed, and it stops when the switch is released. To trim up slightly, press on UP momentarily but securely. To trim down slightly, press on DN (down) in the same manner.

▲ 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 motor excessively can cause damage to the impeller pump.

NOTE:

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



When cruising:

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

OPERATION

Trim Meter (optional equipment)

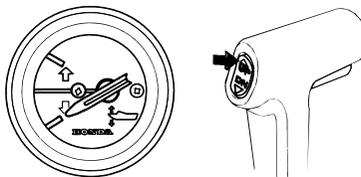
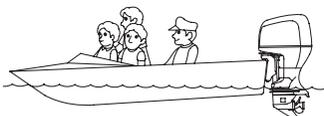
The trim meter indicates the trim angle of the motor. Refer to the trim meter, and press the UP or DN (down) portion of the power trim/tilt switch to adjust the motor trim angle to achieve boat performance and stability.

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

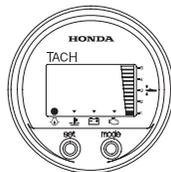
▲WARNING

When the boat is mounted with the 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 operationability and stability of the outboard motors.

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

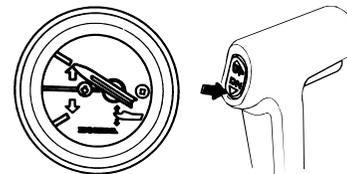
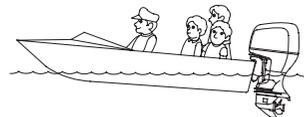


DIGITAL TACHOMETER

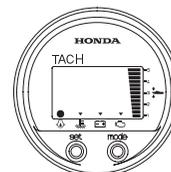


With the motor trimmed low the trim meter will read as shown. To raise the bow increase the motor trim angle by pressing the UP portion of the power trim/tilt switch.

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



DIGITAL TACHOMETER



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

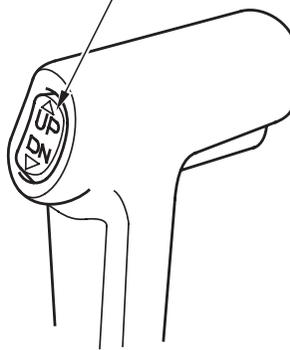
Tilting the Motor

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

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

(R1 type)

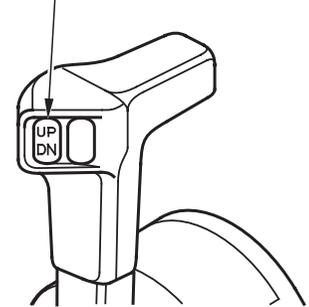
POWER TRIM/TILT SWITCH



(R3 type)

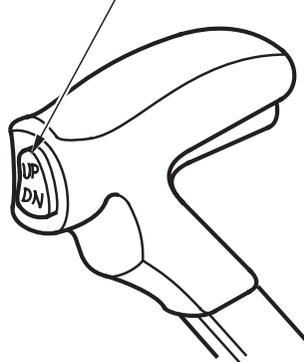
(single type)

POWER TRIM/TILT SWITCH



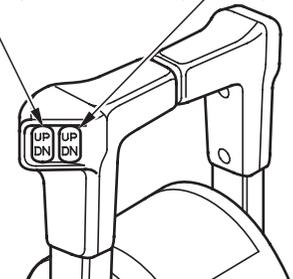
(R2 type)

POWER TRIM/TILT SWITCH



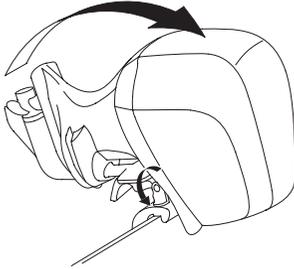
(dual type)

POWER TRIM/TILT SWITCH
(LEFT) (RIGHT)



OPERATION

Moorage

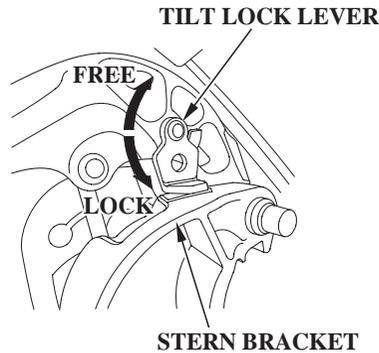


Tilt up the outboard motor using the tilt lock lever when mooring the boat. Shift the control lever into the NEUTRAL position and stop the engine before tilting up the outboard motor.

NOTE:

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

1. Raise the motor as far as it goes using the power trim/tilt switch.



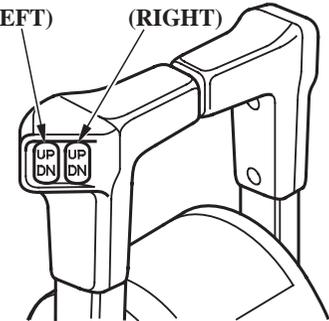
2. Move the tilt lock lever to the LOCK position and lower the outboard motor until the lock lever contacts the stern bracket.
3. Press the DN (down) of the power trim/tilt switch and fully shorten the trim rods.
4. To tilt down, raise the outboard motor slightly, move the tilt lock lever to the FREE position.

NOTE:

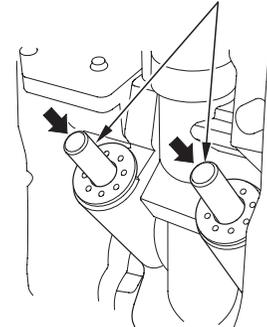
After tilting down the outboard motors, adjust the trim angle of the right and left outboard motors.

POWER TRIM/TILT SWITCH

(LEFT) (RIGHT)

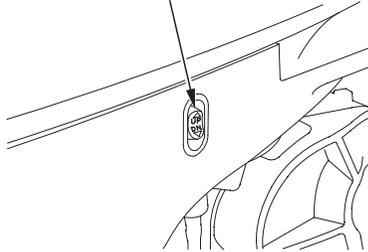


TRIM RODS



Power Tilt Switch

POWER TILT SWITCH



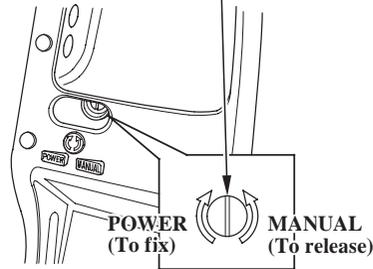
When you are away from the power trim/tilt switch on the control lever side, you can operate the power trim/tilt switch on the outboard motor side. The switch operation is the same as that of the switch on the control lever side.

▲ CAUTION

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

Manual Relief Valve

MANUAL RELIEF VALVE



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

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

NOTICE

Do not loosen the manual relief valve more than two turns, or the outboard motor cannot be tilted up when the manual relief valve is retightened.

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

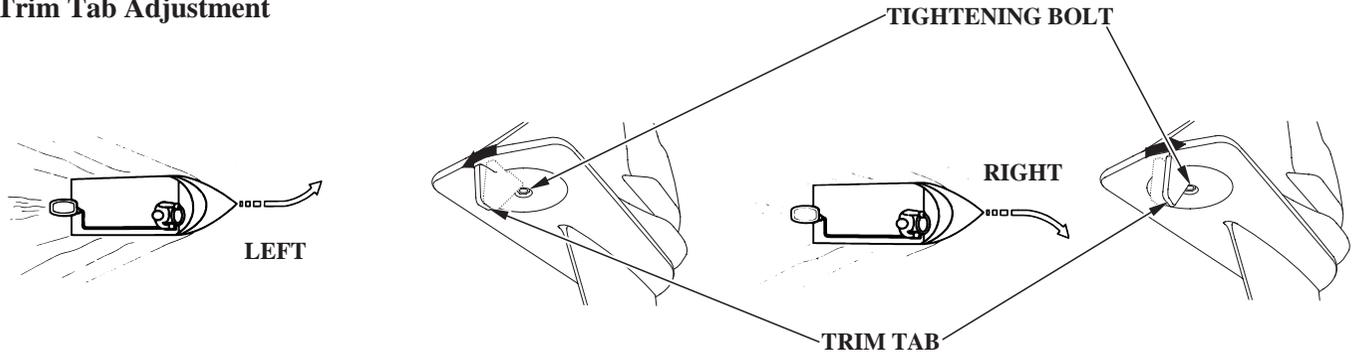
After tilting up/down manually, close the manual relief valve to lock the motor in the position.

▲ CAUTION

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

OPERATION

Trim Tab Adjustment



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

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

If less effort is required to make left turns:

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

If less effort is required to make right turns:

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

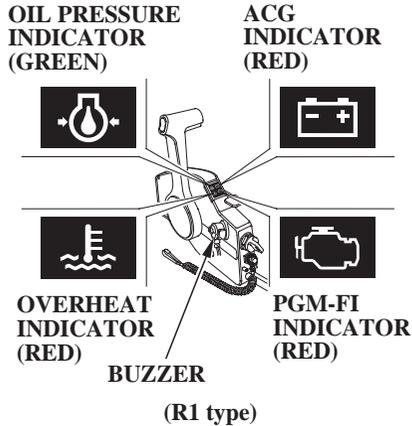
Make small adjustments at a time and retest. Incorrect trim tab adjustment can cause adverse steering.

NOTICE

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

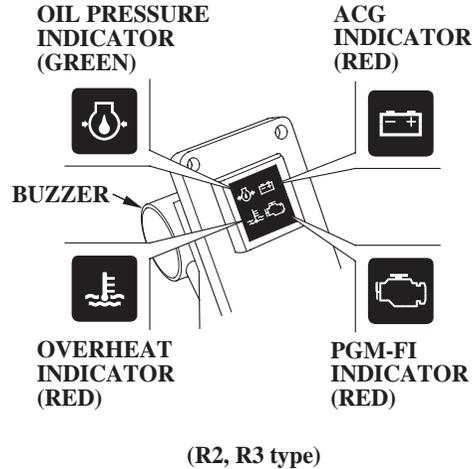
Motor Protection System

〈 Engine Oil Pressure, Overheat, Water Separator, PGM-FI and ACG Warning Systems 〉



If the engine oil pressure drops and/or the engine overheats, either or both warning systems could be activated.

When activated the engine speed will decrease gradually and the green oil pressure indicator will turn OFF and the red overheat indicator will turn ON. A continuous buzzer will sound

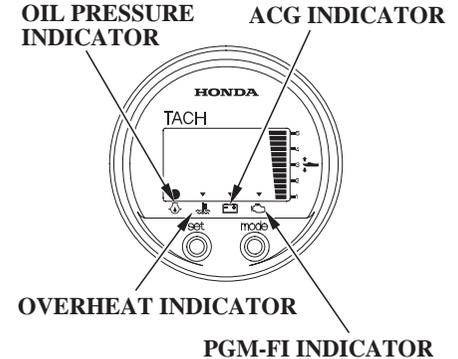


on all type.

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

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

DIGITAL TACHOMETER



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

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

OPERATION

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

NOTE:

Some indicator and/or buzzer will be activated at the same time due to the occurrence of a malfunction.

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

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

NOTE:

Some indicator and/or buzzer will be activated at the same time due to the occurrence of a malfunction.

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

- (1) The digital tachometer includes this function.
- (2) The digital speedometer includes this function.

OPERATION

When the oil pressure warning system is activated:

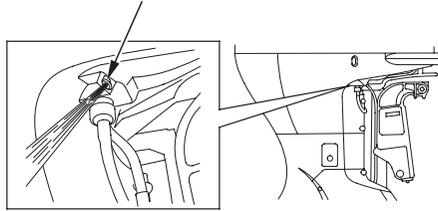
1. Stop the engine immediately and check the engine oil level (see page 41).
2. If the oil is up to the recommended level, restart the engine. If the oil pressure warning system stops after 30 seconds, the system is normal.

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

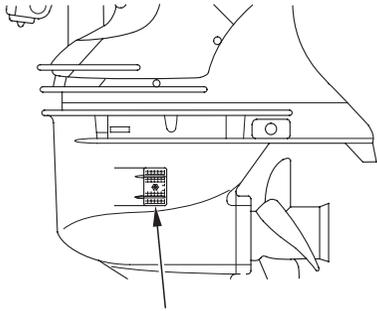


When the overheat warning system is activated:

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

NOTE:

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



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

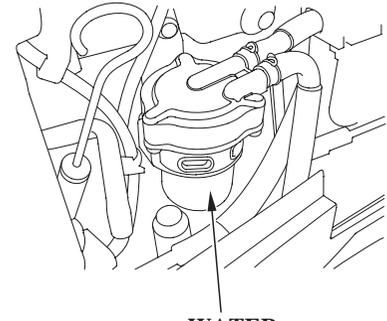
3. If the overheat warning system stays activated, stop the engine. Tilt up the motor and check the water intakes for obstructions. If there are no obstructions at the water intakes, return to the closest boat landing and contact your closest authorized Honda outboard motor dealer.

When the PGM-FI activated:

1. Consult with an authorized Honda outboard motor dealer.

When the ACG warning system is activated.

1. Check the battery (see page 95). 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 is accumulated, clean them (see page 93).

OPERATION

〈 Over-rev Limiter 〉

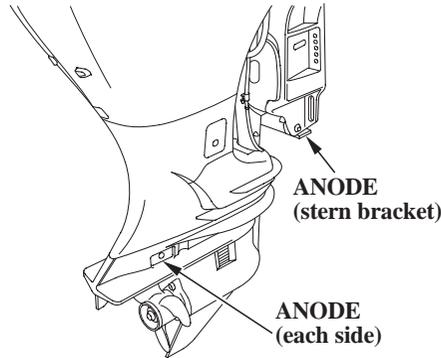
This outboard motor is equipped with an engine over-rev limiter which activates when the engine speed increases excessively. The over-rev limiter can be activated while cruising, tilting up the motor, or when ventilation occurs during a sharp turn.

When the over-rev limiter is activated:

1. Reduce the throttle opening immediately and check the trim angle.
2. If the trim angle is correct but the over-rev limiter stays activated, stop the engine, check the condition of the outboard motor, check to see if the correct propeller is installed and check it for damage.

Correct or service as necessary, by contacting your authorized Honda outboard motor dealer.

〈 Anode 〉



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

NOTICE

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

There are also 4 small sacrificial anodes in the water passages of the engine block.

Shallow Water Operation

NOTICE

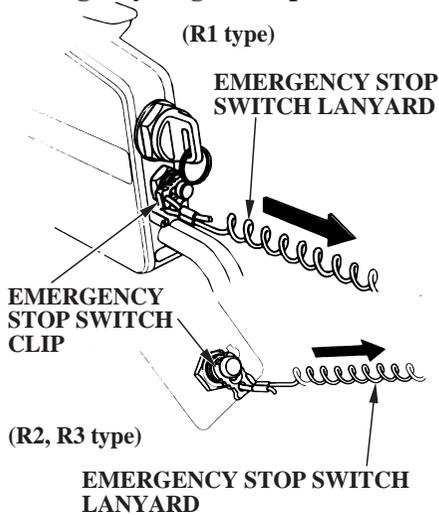
Excessive trim/tilt angle during operation can cause the propeller to raise out of the water and cause propeller ventilation and engine over-revving. Excessive trim/tilt angle can also damage the water pump and overheat the engine.

When operating in shallow water, tilt the motor up to prevent the propeller and gear case from hitting the bottom (refer to pages 62 and 66). With the motor tilted up, operate the motor at low speed.

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

9. STOPPING THE ENGINE

Emergency Engine Stop

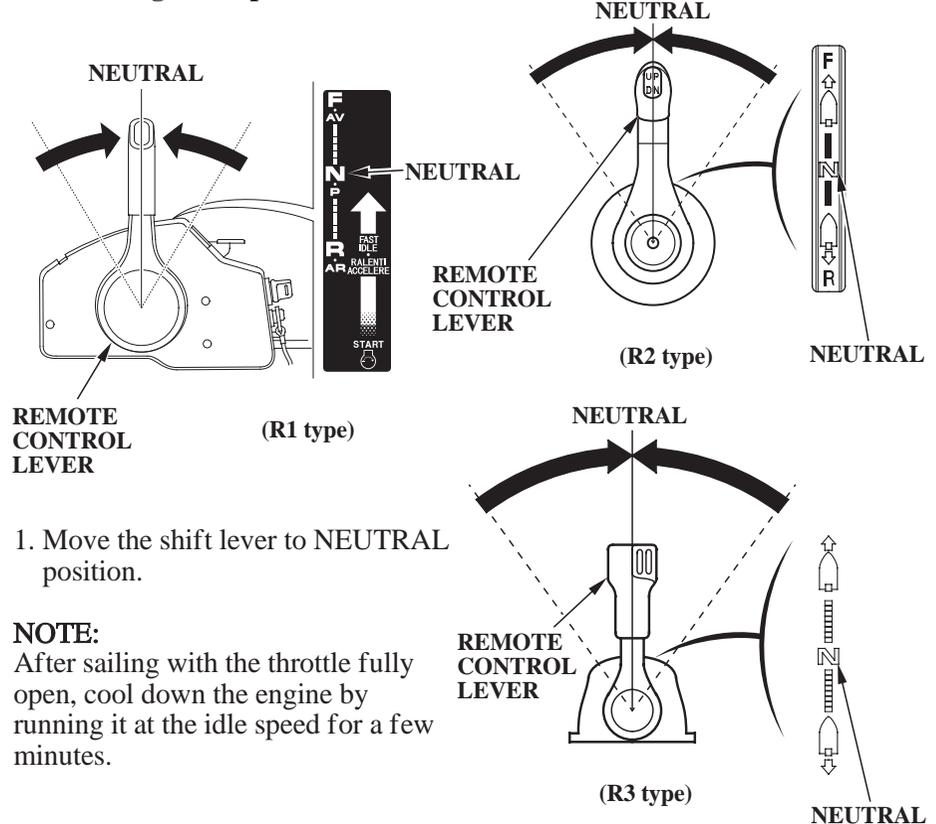


Pull the curl cord of the emergency stop switch and remove the lock plate from the switch; this will stop the engine.

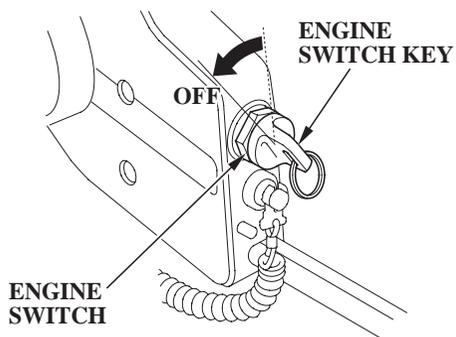
NOTE:

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

Normal Engine Stop

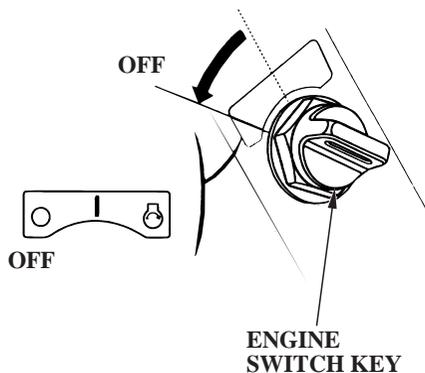


STOPPING THE ENGINE



(R1 type)

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



(R2, R3 type)

NOTE:

In the event that the engine does not stop when the engine switch is turned to OFF, disconnect the fuel line connector from the outboard motor.

3. Remove the engine switch key and store it.

10. TRANSPORTING

Fuel Line Disconnection

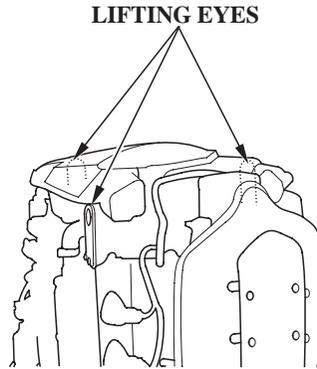
Before transporting the motor, disconnect and remove the fuel line.

▲WARNING

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

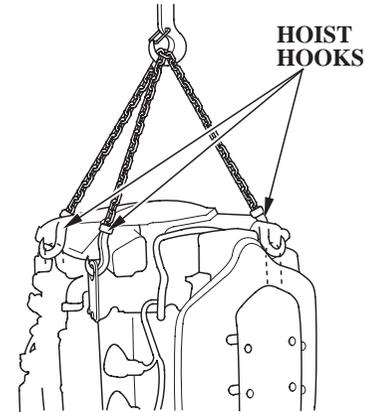
- **Be careful not to spill fuel. Spilled fuel or fuel vapor may ignite. If any fuel is spilled, make sure the area is dry before storing or transporting the motor.**
- **Do not smoke or allow flames or sparks where fuel is drained or stored.**

Transporting



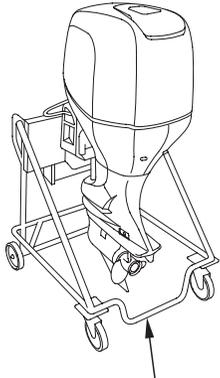
When transporting the outboard motor on a vehicle, perform the following.

1. Remove the engine cover.



2. Set the hoist hooks against the lifting eyes and hang the outboard motor to remove it from the boat.

TRANSPORTING



OUTBOARD MOTOR STAND

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

Trailing

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

NOTICE

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

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

11. CLEANING AND FLUSHING

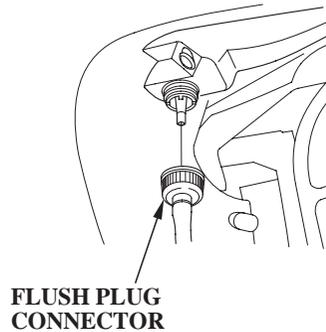
Thoroughly clean and flush the outboard motor with fresh water after operating in dirty water or salt water.

NOTICE

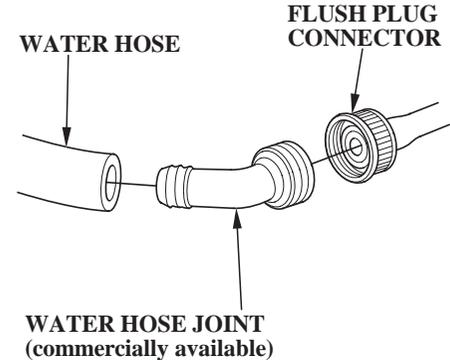
Do not apply water or corrosion inhibitor directly to the electrical components under the engine cover, such as the AC generator, O₂ sensor, or the AC generator belt, timing belt. If water or corrosion inhibitor penetrates these components, they may be damaged. Before applying a corrosion inhibitor, cover the AC generator, belts and O₂ 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. Wash the outside of the outboard motor with clean, fresh water.



3. Remove the flush plug connector from the 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 to the hose and flush the motor for 5 – 10 minutes.
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 lever to the LOCK position.

12. MAINTENANCE

Periodic maintenance and adjustment are important to keep the motor in the best operating condition. Service and inspect according to the MAINTENANCE SCHEDULE.

▲WARNING

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

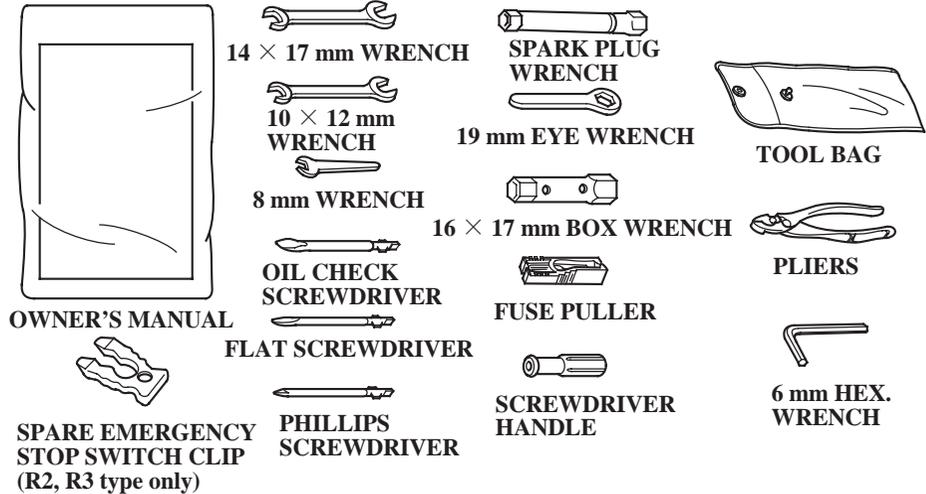
Be sure to reinstall the engine cover, if it was removed, before starting the engine. Lock it securely by pulling up the lock lever.

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 motor.**

Tool Kit and Spare Parts

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



MAINTENANCE

MAINTENANCE SCHEDULE

ITEM	REGULAR SERVICE PERIOD (3) Perform at every indicated month or operating hour interval, whichever comes first.		Each use	After use	First month or 20 hrs.	Every 6 months or 100 hrs.	Every year or 200 hrs.	Every 2 years or 400 hrs.	Every 6 years or 1200 hrs.	Refer to page
Engine oil	Check level		○							41
	Change				○	○				84
Gear case oil	Change				○ (2)	○ (2)				—
Engine oil filter	Replace						○ (2)			—
Timing belt	Check-adjust						○ (2)			—
ACG belt	Check-adjust						○ (2)			—
Throttle linkage	Check-adjust				○ (2)	○ (2)				—
Idling speed	Check-adjust				○ (2)	○ (2)				—
Valve clearance	Check-adjust						○ (2)			—
Spark plug	Check						○			86
	Clean						○ (2)			—
	Replace							○		86
Propeller and cotter pin	Check		○							44
Anode metal (Outside engine)	Check		○							47
(6) Anode metal (Inside engine)	Sleeve	Check						○ (2)		—
	Exhaust manifold	Check						○ (2)		—
	V bank bottom	Replace							○ (2)	—
Lubrication	Grease				○ (1)	○ (1)				89
Water separator	Check		○							45

NOTE:

- (1) Lubricate more frequently when used in salt water.
- (2) These items should be serviced by an authorized Honda outboard motor 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.
- (6) When there is 1/3 or more consumption, please exchange.

MAINTENANCE

ITEM	REGULAR SERVICE PERIOD (3) Perform at every indicated month or operating hour interval, whichever comes first.	Each use	After use	First month or 20 hrs.	Every 6 months or 100 hrs.	Every year or 200 hrs.	Every 2 years or 400 hrs.	Every 6 years or 1200 hrs.	Refer to page
Fuel filter	Check Replace				○				90
Fuel filter (High pressure type)	Check Replace				○ (2)			○	91
Thermostat and thermostat cover	Check					○ (2)		○ (2)	—
Fuel line	Check Replace	○							47
Battery and cable connection	Check level-tightness	○			Every 2 years (if necessary) (2)				—
Bolts and nuts	Check-tightness			○ (2)	○ (2)				46, 95
Crankcase breather tube	Check					○ (2)			—
Cooling water passages	Clean		○ (4)		○ (4)				—
Water pump	Check					○ (2)			—
Emergency stop switch	Check	○							25
Coolant leak	Check		○						99
Housing, Impeller	Check					○ (2)			—
Engine oil leak	Check	○							—
Each operation part	Check	○							—
Engine condition (5)	Check	○							—
Power Trim/Tilt	Check				○ (2)				—

NOTE:

- (1) Lubricate more frequently when used in salt water.
- (2) These items should be serviced by an authorized Honda outboard motor 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.
- (6) When there is 1/3 or more consumption, please exchange.

MAINTENANCE

Engine Oil

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

Oil change interval:

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

Oil capacity:

7.6 L (8.0 US qt, 6.7 Imp qt)

...when oil filter is not replaced

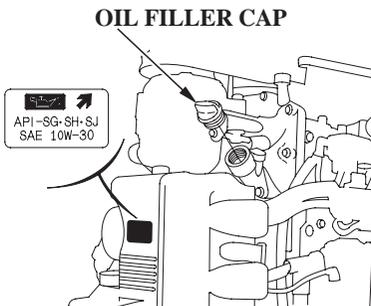
7.8 L (8.2 US qt, 6.9 Imp qt)

...when oil filter is replaced

Recommended Oil:

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

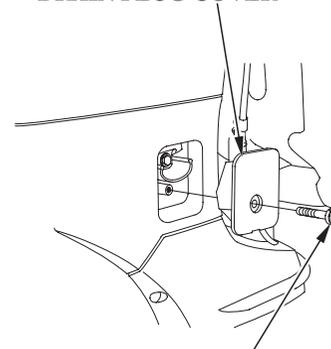
Engine Oil Replacement



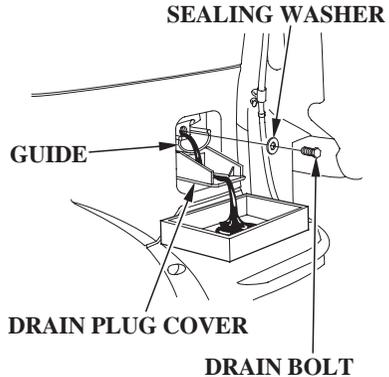
Drain the oil while the engine is still warm to assure rapid and complete draining.

1. Position the outboard motor vertically, and remove the engine cover. Remove the oil filler cap.

DRAIN PLUG COVER

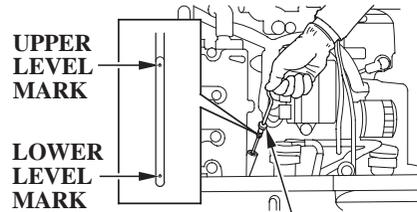


2. Loosen the drain plug cover screw using a flat screwdriver and remove the drain plug cover.



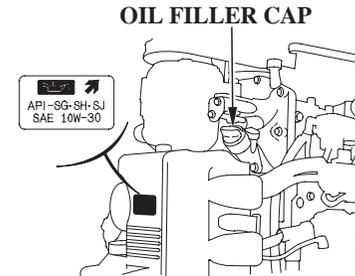
3. Set the drain plug cover under the guide.
4. Place a suitable container under the guide.
5. Remove the engine oil drain bolt and sealing washer using the 12 mm wrench and drain the engine oil.

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



OIL LEVEL DIPSTICK

6. Refill to the upper level mark on the oil level dipstick with the recommended oil.



7. Reinstall the oil filler cap securely. Do not overtighten.

NOTE:

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

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

MAINTENANCE

Spark Plugs

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

CAUTION

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

Check interval:

Every 200 operating hours or every year.

Replace interval:

Every 400 hours or 2 years

Recommended spark plug:

IZFR6F11 (NGK)
VKJ20RZ-M11 (DENSO)

NOTICE

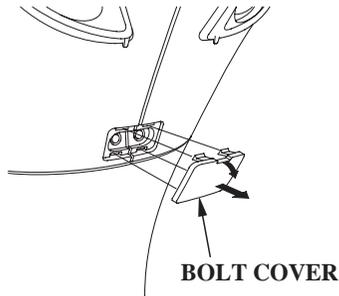
Use only the recommended spark plugs or equivalent. Spark plugs which have an improper heat range may cause engine damage.

This outboard motor uses spark plugs that have an iridium coated center electrode. Be sure to observe the following when servicing the spark plugs.

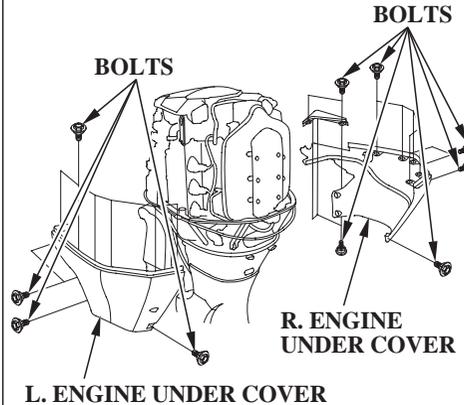
- Do not clean the spark plugs. If an electrode is contaminated with accumulated objects or dirt, replace the spark plug with a new one.

The cleaning of the iridium spark plugs consult with an authorized Honda outboard motor dealer, unless the owner has the proper tools and is mechanically proficient.

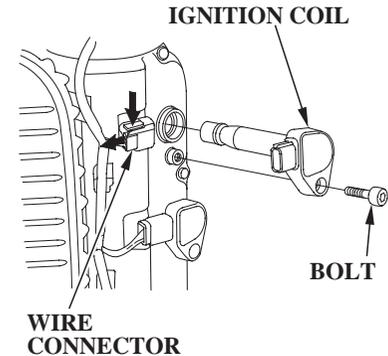
- Use only a “wire-type feeler gauge” to check the spark plug gap if necessary. To prevent damaging the iridium coating of the center electrode, never use a “leaf-type feeler gauge.”
- Do not adjust the spark plug gap. If the gap is out of specification, replace the spark plug with a new one.



1. Disconnect the battery negative (—) terminal.
2. Remove the bolt cover.

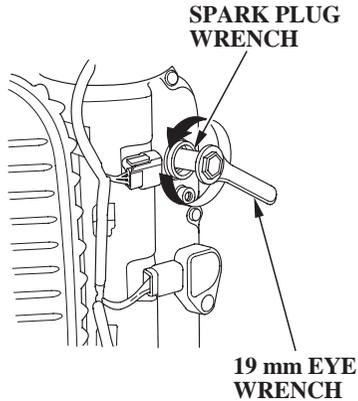


3. Unlock and remove the engine cover (see page 40).
4. Loosen the bolts, and remove the R. and L. engine under covers.



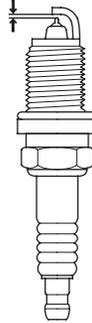
5. Disconnect the wire connector from the ignition coil by pushing on the lock tab and pulling on the connector. Pull on the plastic connector, not the wires.
6. Use a hex. wrench to remove the bolt holding the ignition coil. Remove the ignition coil by pulling it up slightly. Take care not give an impact or drop the ignition coil. Replace the ignition coil if drop it.

MAINTENANCE



7. Use the spark plug wrench and 19 mm eye wrench supplied in the tool kit to remove the spark plugs.
8. Visually inspect the spark plugs. Discard the spark plugs if there is apparent wear, or if the insulators are cracked or chipped.

1.0 – 1.3 mm
(0.039 – 0.051 in)



9. Measure the plug gaps with a wire-type feeler gauge. The gaps should be 1.0–1.3 mm (0.039–0.051 in). If the gap is out of the specification, replace the plug with a new one. Never try to readjust the gap.
10. Thread the plugs in by hand to prevent cross threading.
11. After the spark plugs are seated, tighten with a spark plug wrench to compress the washers.

NOTE:

If installing new spark plugs, tighten 1/2 turn after the spark plugs seat to compress the washers.

If reinstalling used spark plugs, tighten 1/8 – 1/4 turn after the spark plugs seat to compress the washers.

NOTICE

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

12. Install the ignition coil. Reinstall the bolt.
13. Push the wire connector onto the ignition coil. Make sure it locks in place.
14. Repeat this procedure for the other five 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.

Lubrication

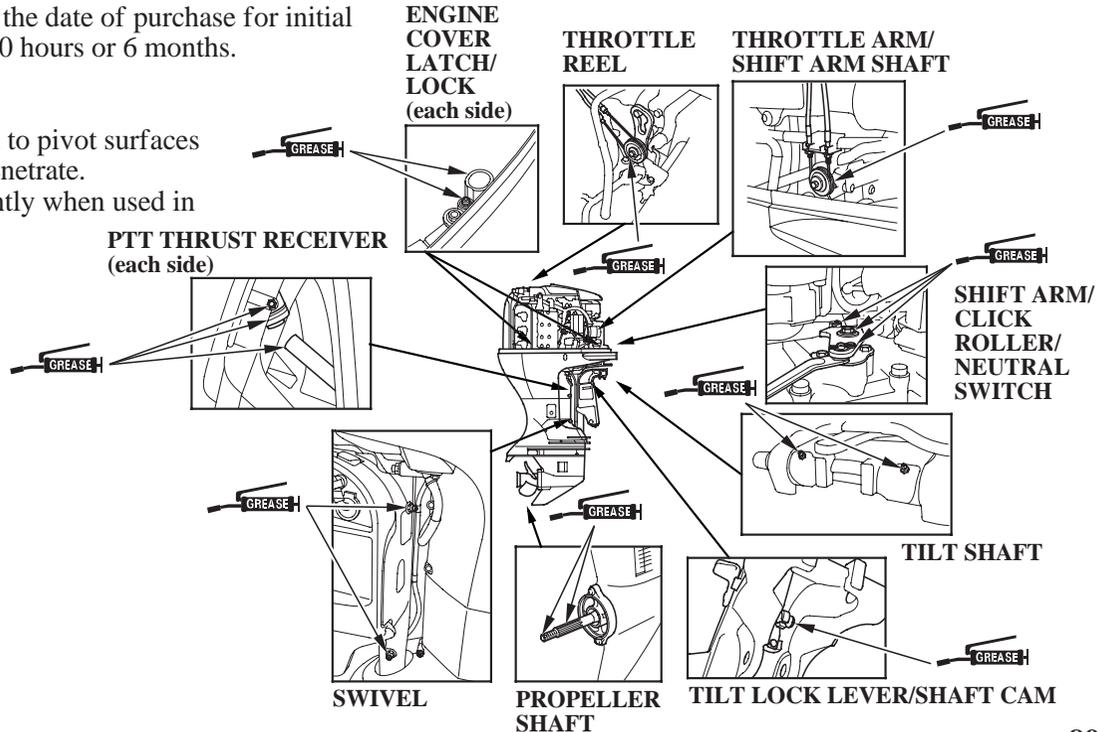
Wipe the outside of the engine with a cloth dipped in clean oil. Apply marine anticorrosion grease to the following parts:

Lubrication interval:

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

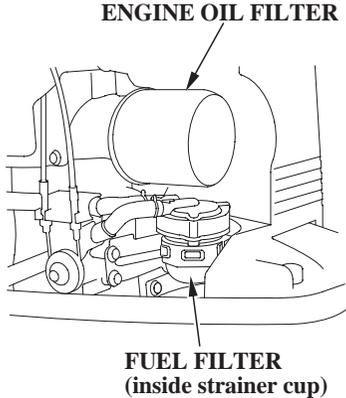
NOTE:

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



MAINTENANCE

Fuel Filter



The fuel filter (inside the strainer cup) is located below the engine oil filter.

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

Inspection interval:

Every 100 operating hours or 6 months

Replacement interval:

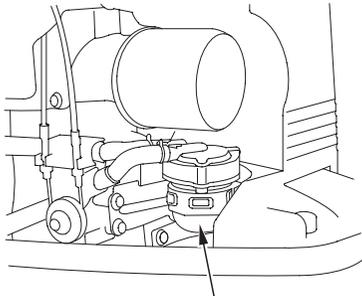
Every 400 operating hours or 2 years

▲WARNING

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

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

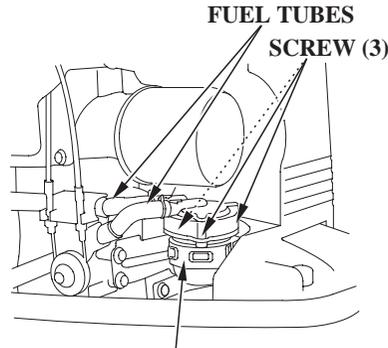
< Inspection >



FUEL FILTER
(inside strainer cup)

1. Remove the engine cover (see page 40).
2. Looking through the translucent strainer cup, check the fuel filter for water accumulation and clogging.

< Replacement >



SUSPENSION STRAP

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

NOTE:

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

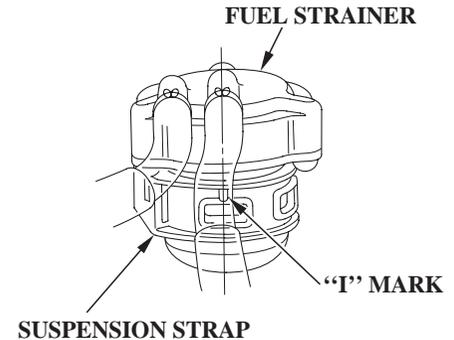
2. Remove the three screws and separate the fuel strainer cup from the strainer body.

3. Thoroughly clean the strainer cup, and replace with a new fuel filter.
4. Reassemble the strainer body and the cup.

STRAINER TIGHTENING TORQUE:

3.4 N·m (0.35 kgf·m , 2.5 lbf·ft)

5. Install the suspension strap to the fuel strainer.
6. Align the “I” mark on the suspension strap as shown below and install the fuel strainer to the bracket.



SUSPENSION STRAP

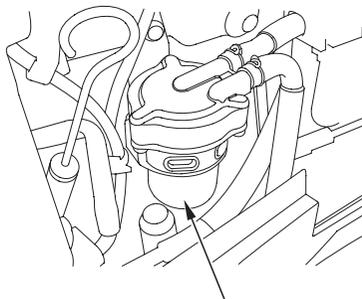
MAINTENANCE

7. Prime the engine using the priming bulb (see page 48). Check for fuel leaks. Repair any fuel leaks if necessary.

NOTE:

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

Water Separator



WATER SEPARATOR

Water separator is located beside the oil level dipstick. Water accumulation in the water separator can cause loss of power or hard starting. Check the water separator periodically. Clean it or consult with an authorized Honda outboard motor dealer for clean.

▲WARNING

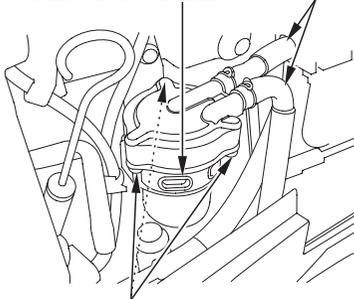
Gasoline is extremely flammable, and gasoline vapor can explode, causing serious injury or death. Do not smoke or allow flames or sparks in your working area.

KEEP OUT OF REACH OF CHILDREN.

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

< Cleaning >

SUSPENSION STRAP **FUEL TUBES**

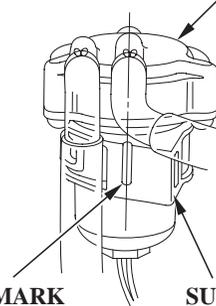


SCREW (3)

1. Remove the engine cover (see page 40).
2. Remove the suspension strap from the water separator bracket.
3. Pinch the fuel tubes with tube clips to prevent fuel leakage.

4. Remove the three screws and separate the water separator cup from the body.
5. Thoroughly clean the water separator cup.
6. Reassemble the water separator body and the cup.
TIGHTENING TORQUE:
3.4 N·m (0.35 kgf·m , 2.5 lbf·ft)
7. Align the “I” mark on the suspension strap as shown below and install the water separator to the bracket.

WATER SEPARATOR



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. Clean the fuel tank if necessary.

MAINTENANCE

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

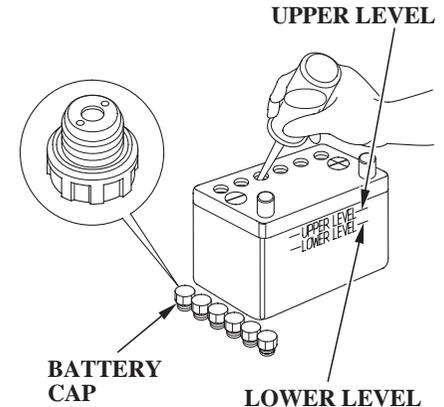
Battery handling differs according to the type of the battery and the instructions described below might not be applicable to the battery of your outboard. Refer to the battery manufacturer's instructions.

▲WARNING

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

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

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



< Battery Fluid Level >

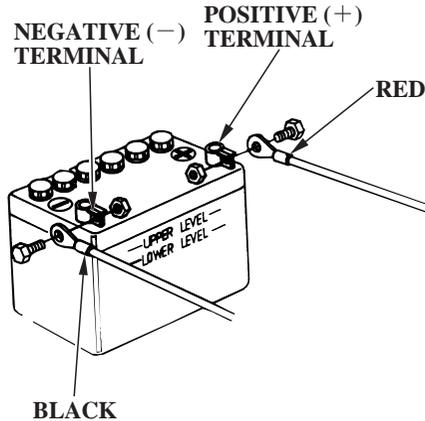
Check whether the battery fluid is between the upper and lower levels, and check the vent hole in the battery caps for clogging. If the battery fluid is near or below the lower level, add the distilled water to the upper level.

MAINTENANCE

〈 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 dis/connect the battery cable in the reverse order, or it causes a short circuit when a tool contacts the terminals.

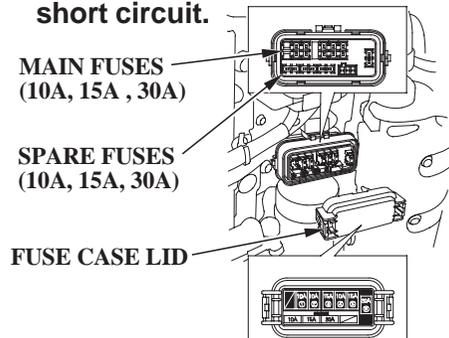
Fuse

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.

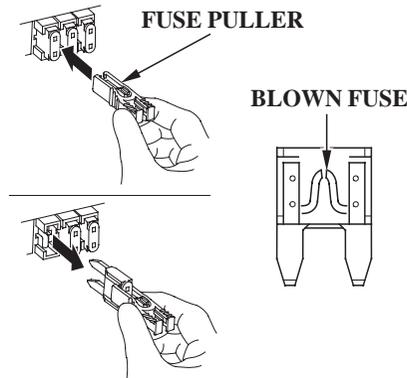


NOTICE

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.

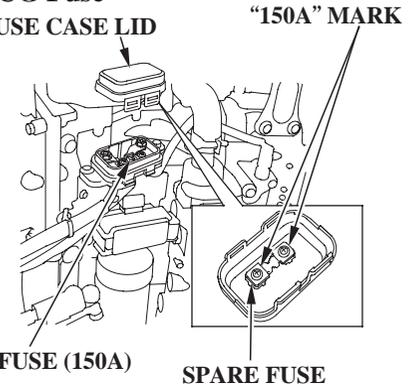
< Replacement >

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



ACG Fuse

FUSE CASE LID



< Replacement >

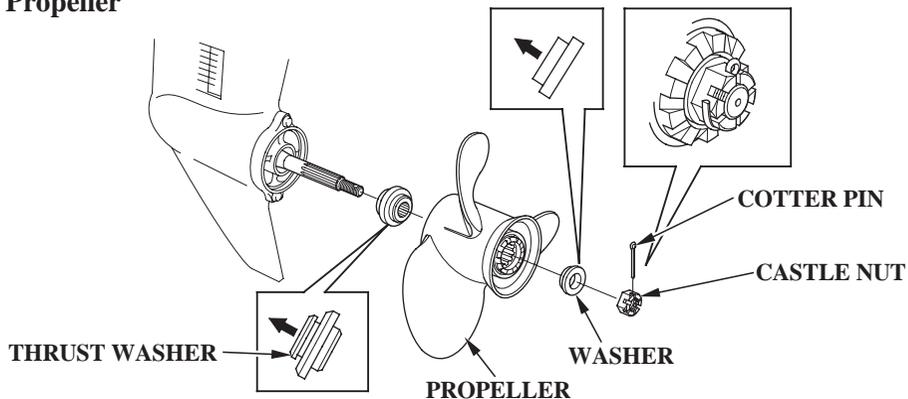
A spare fuse is located on the reverse side of the fuse case lid and tightened with two 3 mm screws.

When the new fuse is set as a spare fuse on the reverse side of the fuse case lid, set the fuse so that you can see the "150A" mark on it.

MAINTENANCE

1. Stop the engine.
2. Remove the engine cover.
3. Remove the fuse case lid.
4. Remove the old fuse by removing two 5 mm screws.
5. Install a new fuse with “150A” mark downward.
6. After finishing replacement, install the fuse case lid with its hook toward the engine side.
7. Be sure to check the fuse case lid is securely locked.

Propeller



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

▲ WARNING

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

Replacement

1. Remove the cotter pin then remove the 18.5 mm castle nut, washer, propeller and thrust washer.
2. Install the new propeller in the reverse sequence to removal.

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

CASTLE NUT

TIGHTENING TORQUE:

1 N·m (0.1 kgf·m, 0.7 lbf·ft)

UPPER LIMIT OF TORQUE:

44.1 N·m (4.5 kgf·m, 33 lbf·ft)

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

NOTE:

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

Inspect After Operating

1. Stop the engine and remove the engine cover (see page 40).
2. Confirm the cooling water leakage from the engine.

Submerged Motor

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

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

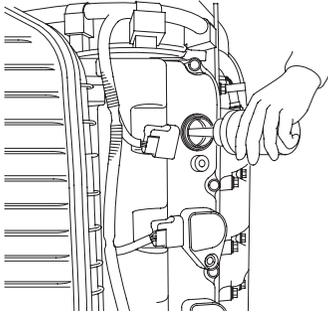
1. Remove the engine cover, and rinse the motor with fresh water to remove salt water, sand, mud, etc.

NOTICE

If the motor was running when it submerged, there may be mechanical damage, such as bent connecting rods. If the engine binds when cranked, do not attempt to run the motor until it has been repaired.

MAINTENANCE

2. Change the engine oil (see page 84).
3. Remove the spark plugs (see page 86). Operate the starter to expel water from the engine's cylinder.



4. Put a teaspoon of engine oil into each spark plug hole to lubricate the inside of the cylinders. Reinstall the spark plugs.
5. Install the engine cover and lock the latch securely (see page 40).

6. Attempt to start the engine.
 - If the engine fails to start, remove the spark plugs, clean and dry the electrodes, then reinstall the spark plugs and attempt to start the engine again.
 - If there was water in the engine crankcase, or the used engine oil showed signs of water contamination, then a second engine oil change should be performed after running the engine for 1/2 hour.
 - If the engine starts, and no mechanical damage is evident, continue to run the engine for 1/2 hour or longer (be sure the water level is at least 4 inches above the anticavitation plate).

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

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.

NOTE:

Gasoline spoils very quickly depending on factors such as light exposure, temperature and time. In worst cases, gasoline can be contaminated within 30 days. Using contaminated gasoline can seriously damage the engine (fuel system clogged, valve stuck). Such damage due to spoiled fuel is disallowed from coverage by the warranty.

To avoid this please strictly follow these recommendations:

- Only use specified gasoline (see page 42).
- Use fresh and clean gasoline.
- To slow deterioration, keep gasoline in a certified fuel container.

- If long storage (more than 30 days) is foreseen, drain fuel tank and vapor separator.

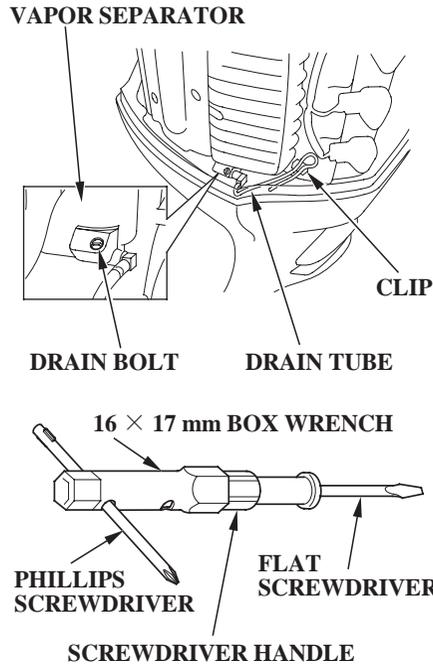
STORAGE

Vapor Separator Draining

▲WARNING

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

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



1. Unhook the drain tube from the clip on the lower left of the head cover.
2. Set the end of the tube toward the outside of the engine undercase.

3. Loosen the vapor separator drain bolt by using the tool kits as shown in the above illustration.
4. Tilt up the outboard motor.
5. Tilt down the outboard motor, and drain the vapor separator.
6. After draining thoroughly, tighten the drain bolt securely.
7. Clip the drain tube on the head cover.

Battery Storage

NOTICE

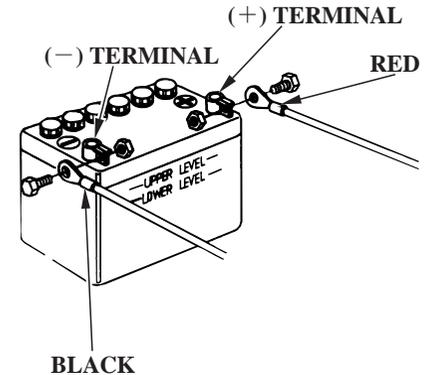
Battery handling differs according to the type of the battery and the instructions described below might not be applicable to the battery of your outboard. Refer to the battery manufacturer's instructions.

▲WARNING

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

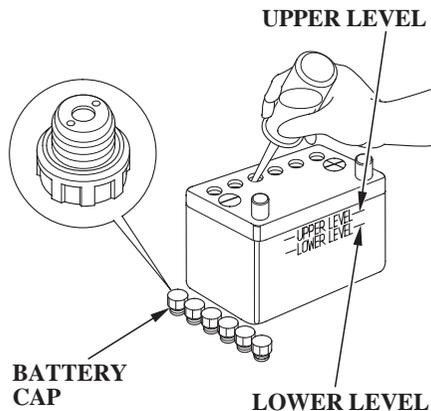
- **CHEMICAL HAZARD:** Battery electrolyte contains sulfuric acid. Contact with eyes or skin, even through clothing, may cause severe burns. Wear a faceshield and protective clothing.

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



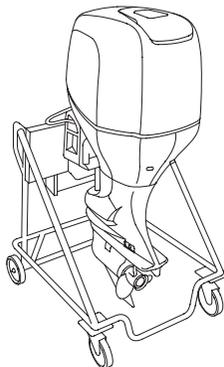
1. Disconnect the battery cable at the battery negative (-) terminal, then at the battery positive (+) terminal.
2. Remove the battery and clean the battery terminals and battery cable terminals with a wire brush or sand paper.
Clean the battery with a solution of baking soda and warm water, taking care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

STORAGE

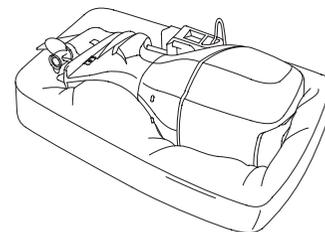


3. Fill the battery with distilled water to the upper level line. Never overfill the battery.
4. Store the battery on a level surface in a cool, dry, well ventilated place out of direct sunlight.
5. Once a month, check the specific gravity of the electrolyte and recharge as required to prolong battery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

Outboard Motor Position



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



▲CAUTION

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

14. TROUBLESHOOTING

WARNING SYSTEM COMES ON

SYMPTOM	POSSIBLE CAUSE	REMEDY
Overheat warning system comes on: <ul style="list-style-type: none"> • Overheat indicator comes on. • Overheat warning buzzer sounds. • Engine speed decreases and stops at last. • Engine speed cannot be increased by opening the throttle. • Engine will stop in 20 seconds after engine speed is limited. 	Cooling water intake port clogged.	Clean the cooling water intake port.
	Spark plugs have improper heat range.	Replace the spark plugs (see page 86).
	<ul style="list-style-type: none"> • Faulty water pump. • Thermostat clogged. • Faulty thermostat. • Cooling water passage clogged. • Exhaust gas invades cooling system. 	Consult with an authorized Honda outboard motor dealer.
Oil pressure warning system comes on: <ul style="list-style-type: none"> • Oil pressure indicator does not come on. • Oil pressure warning buzzer sounds. • Engine speed decreases. • Engine speed cannot be increased by opening the throttle. 	Shortage of engine oil	Add engine oil to the specified level (see page 41).
	Improper engine oil is used.	Change the engine oil (see page 84).

TROUBLESHOOTING

SYMPTOM	POSSIBLE CAUSE	REMEDY
Water separator warning system comes on: <ul style="list-style-type: none">• Water separator warning buzzer sounds.	Water is accumulated in the water separator.	Clean the water separator (see page 92) 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: <ul style="list-style-type: none">• 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: <ul style="list-style-type: none">• ACG indicator comes on.• ACG warning buzzer sounds intermittently.	Battery voltage is too high or low.	Check the battery (see page 95).
	Faulty ACG.	Consult with an authorized Honda outboard motor dealer.

15. SPECIFICATIONS

MODEL	BF175A		
Description Code	BAJJ	BAKJ	BAJJ
Type	XD XU	XCU	XXD
Overall length	920 mm (36.2 in)		
Overall width	625 mm (24.6 in)		
Overall height	1,800 mm (70.9 in)		1,925 mm (75.8 in)
Transom height	635 mm (25.0 in)		762 mm (30.0 in)
Dry weight *	267 kg (589 lbs)		272 kg (600 lbs)
Rated power	128.7 kW (175 PS)		
Full throttle range	5,000 – 6,000 min ⁻¹ (rpm)		
Engine type	4 stroke OHC 6-cylinder (V6)		
Displacement	3,471 cm ³ (211.7 cu-in)		
Spark plug gap	1.0 – 1.3 mm (0.039 – 0.051 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 SAE 10W-30 Gear case: API standard GL-4 SAE 90 outboard motor gear oil
Oil capacity	Engine: Without oil filter replacement: 7.6 L (8.0 US qt, 6.7 Imp qt) With oil filter replacement: 7.8 L (8.2 US qt, 6.9 Imp qt) Gear case: 1.17 L (1.24 US qt, 1.03 Imp qt)
D.C. output	12V – 60A
Cooling system	Water cooling with thermostat
Exhaust system	Water exhaust
Spark plugs	VKJ20RZ-M11 (DENSO) , IZFR6F11 (NGK)
Fuel pump	Electric powered mechanical
Fuel	Unleaded gasoline (91 research octane, 86 pump octane, or higher)
Gear shift	Dog type: Forward – Neutral – Reverse
Steering angle	30° right and left
Trim angle	– 4° to 16° (when Transom angle is 12°)

Noise and Vibration

MODEL	BF175A
CONTROL SYSTEM	R
Sound Pressure Level At Operator's Ear (98/37/EC, ICOMIA 39-94)	78 dB
Vibration (98/37/EC, ICOMIA 38-94)	Not Exceed 2.5 (m/s ²) rms

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

*Without propeller and battery cable

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

SPECIFICATIONS

MODEL	BF200A			
Description Code	BAEJ	BAEJ	BAFJ	BAEJ
Type	LU	XD XU	XCD XCU	XXD XXU
Overall length	920 mm (36.2 in)			
Overall width	625 mm (24.6 in)			
Overall height	1,670 mm (65.7 in)	1,800 mm (70.9 in)		1,925 mm (75.8 in)
Transom height	508 mm (20.0 in)	635 mm (25.0 in)		762 mm (30.0 in)
Dry weight *	262 kg (578 lbs)	267 kg (589 lbs)		272 kg (600 lbs)
Rated power	147.1 kW (200 PS)			
Full throttle range	5,000 – 6,000 min ⁻¹ (rpm)			
Engine type	4 stroke OHC 6-cylinder (V6)			
Displacement	3,471 cm ³ (211.7 cu-in)			
Spark plug gap	1.0 – 1.3 mm (0.039 – 0.051 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 SAE 10W-30 Gear case: API standard GL-4 SAE 90 outboard motor gear oil
Oil capacity	Engine: Without oil filter replacement: 7.6 L (8.0 US qt, 6.7 Imp qt) With oil filter replacement: 7.8 L (8.2 US qt, 6.9 Imp qt) Gear case: 1.17 L (1.24 US qt, 1.03 Imp qt)
D.C. output	12V – 60A
Cooling system	Water cooling with thermostat
Exhaust system	Water exhaust
Spark plugs	VKJ20RZ-M11 (DENSO) , IZFR6F11 (NGK)
Fuel pump	Electric powered mechanical
Fuel	Unleaded gasoline (91 research octane, 86 pump octane, or higher)
Gear shift	Dog type: Forward – Neutral – Reverse
Steering angle	30° right and left
Trim angle	– 4° to 16° (when Transom angle is 12°)

Noise and Vibration

MODEL	BF200A
CONTROL SYSTEM	R
Sound Pressure Level At Operator's Ear (98/37/EC, ICOMIA 39-94)	79 dB
Vibration (98/37/EC, ICOMIA 38-94)	Not Exceed 2.5 (m/s ²) rms

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

* Without propeller and battery cable

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

SPECIFICATIONS

MODEL	BF225A				
Description Code	BAGJ	BAGJ	BAHJ	BAGJ	BAHJ
Type	LD LU	XD XU	XCD XCU	XXD XXU	XXCD XXCU
Overall length	920 mm (36.2 in)				
Overall width	625 mm (24.6 in)				
Overall height	1,670 mm (65.7 in)	1,800 mm (70.9 in)		1,925 mm (75.8 in)	
Transom height	508 mm (20.0 in)	635 mm (25.0 in)		762 mm (30.0 in)	
Dry weight *	264 kg (582 lbs)	269 kg (593 lbs)		274 kg (604 lbs)	
Rated power	165.5 kW (225 PS)				
Full throttle range	5,000 – 6,000 min ⁻¹ (rpm)				
Engine type	4 stroke OHC VTEC 6-cylinder (V6)				
Displacement	3,471 cm ³ (211.7 cu-in)				
Spark plug gap	1.0 – 1.3 mm (0.039 – 0.051 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 SAE 10W-30 Gear case: API standard GL-4 SAE 90 outboard motor gear oil
Oil capacity	Engine: Without oil filter replacement: 7.6 L (8.0 US qt, 6.7 Imp qt) With oil filter replacement: 7.8 L (8.2 US qt, 6.9 Imp qt) Gear case: 1.17 L (1.24 US qt, 1.03 Imp qt)
D.C. output	12V – 60A
Cooling system	Water cooling with thermostat
Exhaust system	Water exhaust
Spark plugs	VKJ20RZ-M11 (DENSO) , IZFR6F11 (NGK)
Fuel pump	Electric powered mechanical
Fuel	Unleaded gasoline (91 research octane, 86 pump octane, or higher)
Gear shift	Dog type: Forward – Neutral – Reverse
Steering angle	30° right and left
Trim angle	– 4° to 16° (when Transom angle is 12°)

Noise and Vibration

MODEL	BF225A
CONTROL SYSTEM	R
Sound Pressure Level At Operator's Ear (98/37/EC, ICOMIA 39-94)	80 dB
Vibration (98/37/EC, ICOMIA 38-94)	Not Exceed 2.5 (m/s ²) rms

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

* Without propeller and battery cable

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

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<http://www.hondampe.com.au/>

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SIDE-MOUNT REMOTE

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PANEL/TOP-MOUNT REMOTE

CONTROL TYPE

(For Digital Meter)W-4

ABBREVIATIONS

Symbol	Part name
ALT	ALTERNATOR
ALTFu	ALTERNATOR FUSE
Bat	BATTERY
Bl (W-L)	BLACK (WHITE LINE)
Bz	BUZZER
CKPSe	CRANK SENSOR
CMPSe1	CMP SENSOR 1
CMPSe2	CMP SENSOR 2
CoPa	CONTROL PANEL
DgSpMe	DIGITAL SPEEDOMETER

DgTm	DIGITAL TACHOMETER
DLC	DATA LINK CONNECTOR
EBTSe	EBT SENSOR
ECTSe1	ECT SENSOR 1
ECTSe2	ECT SENSOR 2
EmSw	EMERGENCY STOP SWITCH
ESCC	ENGINE SPEED CHECK CONNECTOR
FCSoV	FUEL CUT SOLENOID VALVE
F In 1	No.1 FUEL INJECTOR
F In 2	No.2 FUEL INJECTOR
F In 3	No.3 FUEL INJECTOR
F In 4	No.4 FUEL INJECTOR
F In 5	No.5 FUEL INJECTOR
F In 6	No.6 FUEL INJECTOR
FP	FUEL PUMP
FRSe	FUEL RESERVE SENSOR
HO2Se	HO2 SENSOR
HrMe	HOUR METER
IACV	IAC VALVE
IATSe	IAT SENSOR
IgC 1	No.1 IGNITION COIL
IgC 2	No.2 IGNITION COIL
IgC 3	No.3 IGNITION COIL
IgC 4	No.4 IGNITION COIL
IgC 5	No.5 IGNITION COIL

IgC 6	No.6 IGNITION COIL
IgNr	IGNITER
IgSw	ENGINE SWITCH
IMASe	IMA SENSOR
IMCoV	INTAKE MANIFOLD CONTROL VALVE
KnSe	KNOCK SENSOR
MAPSe	MAP SENSOR
MRL	PGM-FI MAIN RELAY
NSw	NEUTRAL SWITCH
OP	OPTIONAL
OP Sw(H)	OIL PRESSURE SWITCH (HIGH)
OP Sw(L)	OIL PRESSURE SWITCH (LOW)
PL	INDICATOR LAMP
PT/TMo	POWER TRIM TILT MOTOR
PT/TSw	POWER TRIM TILT SWITCH
PTiRL	POWER TILT RELAY
PTiSw	POWER TILT SWITCH
RAOCV	ROCKER ARM OIL CONTROL VALVE
StMo	STARTER MOTOR
RCBx	REMOTE CONTROL BOX

WIRING DIAGRAM

Tme	TACHOMETER
ToLtSw	To LIGHT SWITCH
ToSP	To PLUG
ToSPMe	To SPEEDOMETER
TPSe	TP SENSOR
TrASe	TRIM ANGLE SENSOR
TRMe	TRIM METER
Vme	VOLTMETER
WLSe	WATER LEVEL SENSOR

WIRE COLOR CODE

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

SWITCH CONNECTIONS

IGNITION SWITCH

	E	IG	BAT	LOAD	ST
COLOR	Bl	Bl/R	W/Bl	Bl/Y	Bl/W
OFF	○—○				
ON			○—○		
START			○—○	○—○	

POWER TRIM/TILT SWITCH

	Lg	W/Bl	Lb
UP	○—○		
NORMAL			
DOWN			○—○

EMERGENCY STOP SWITCH

	Bl/R	Bl
PUSH or REMOVE SWITCH CLIP	○—○	○—○
SWITCH CLIP SET		

NEUTRAL SWITCH

	Bl/Bu	Bl
NEUTRAL	○—○	○—○
GEAR IN		

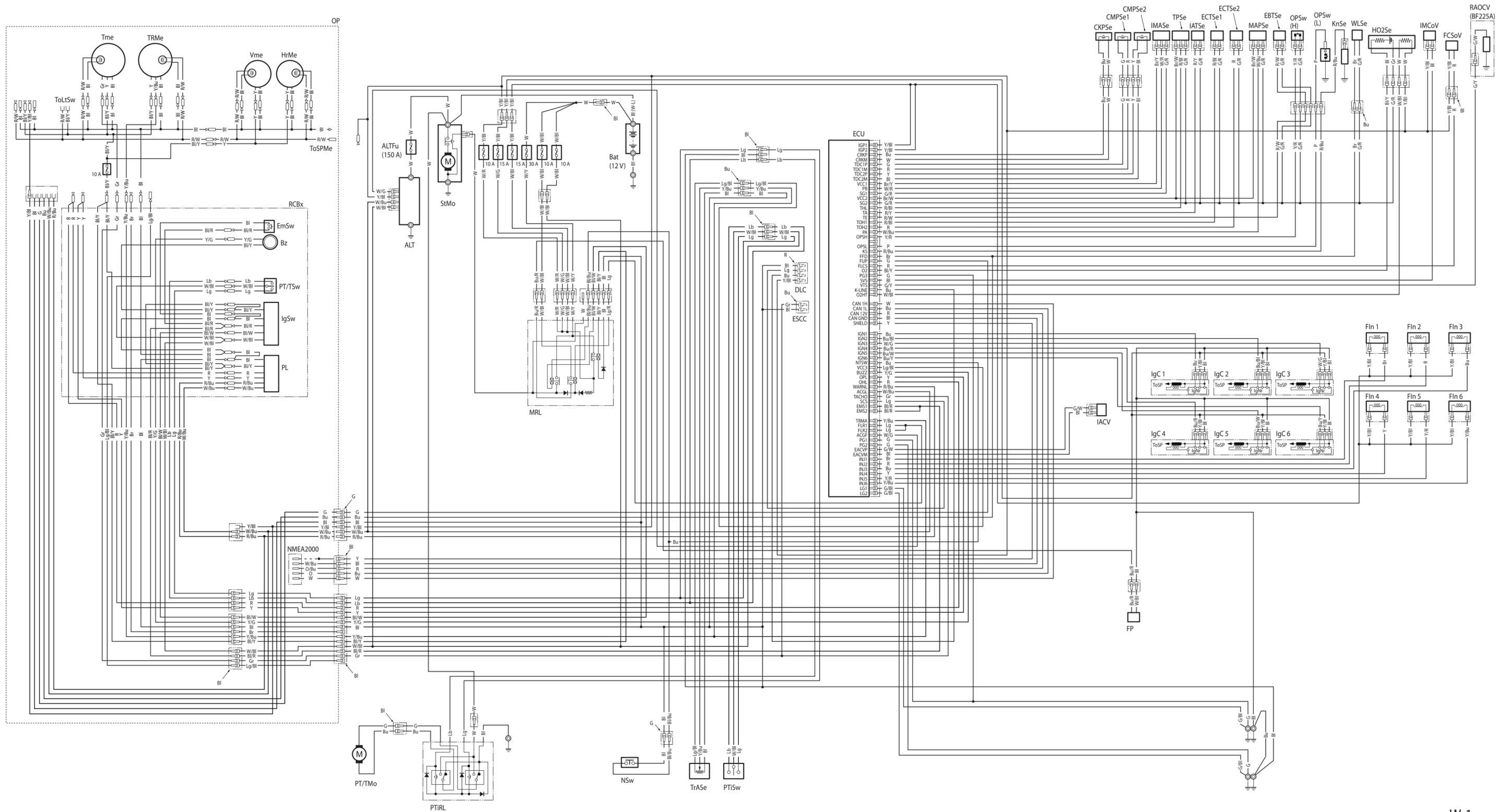
POWER TILT SWITCH

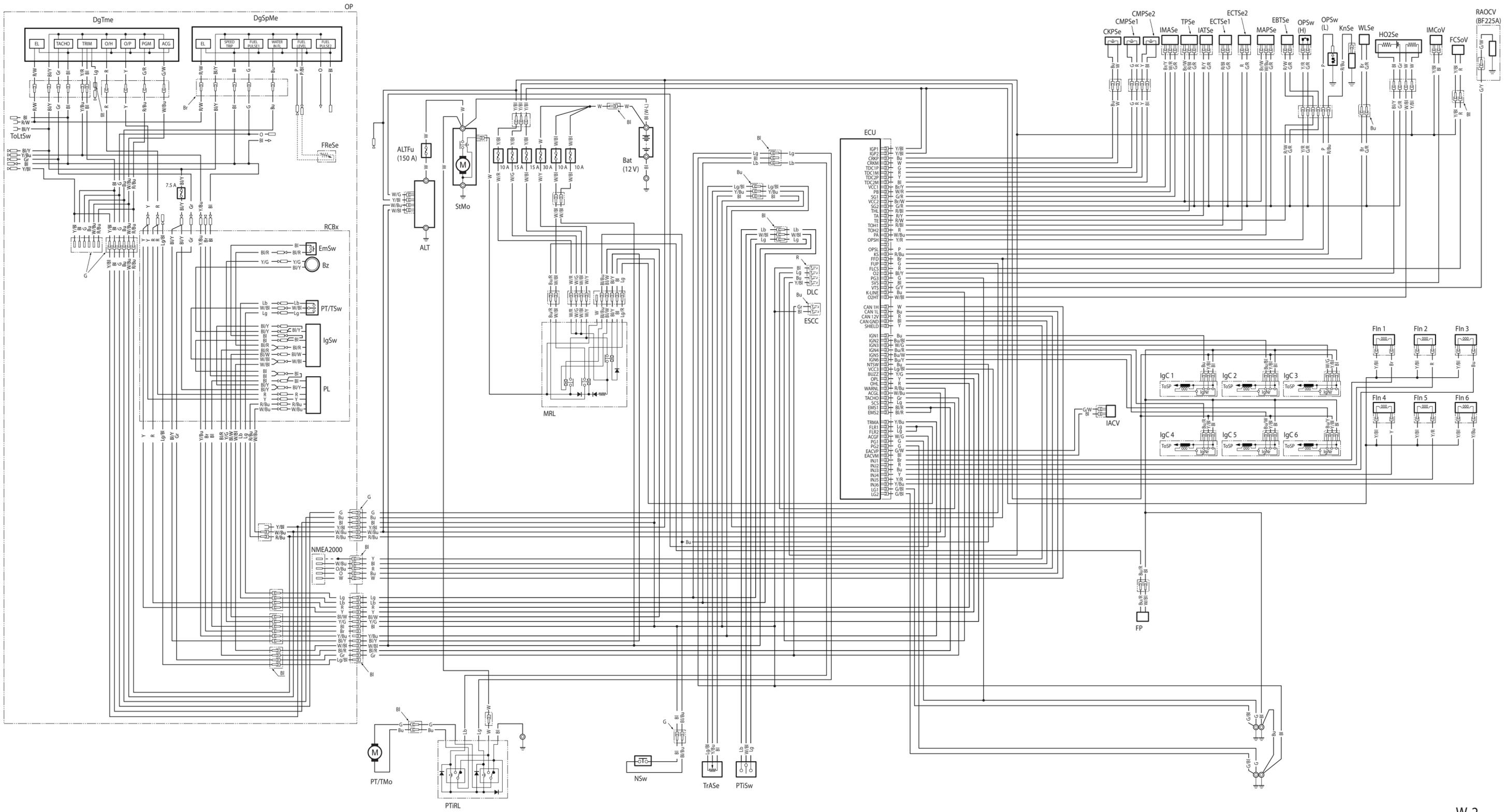
	Lg	W/Bl	Lb
UP	○—○	○—○	
NORMAL			
DOWN			○—○

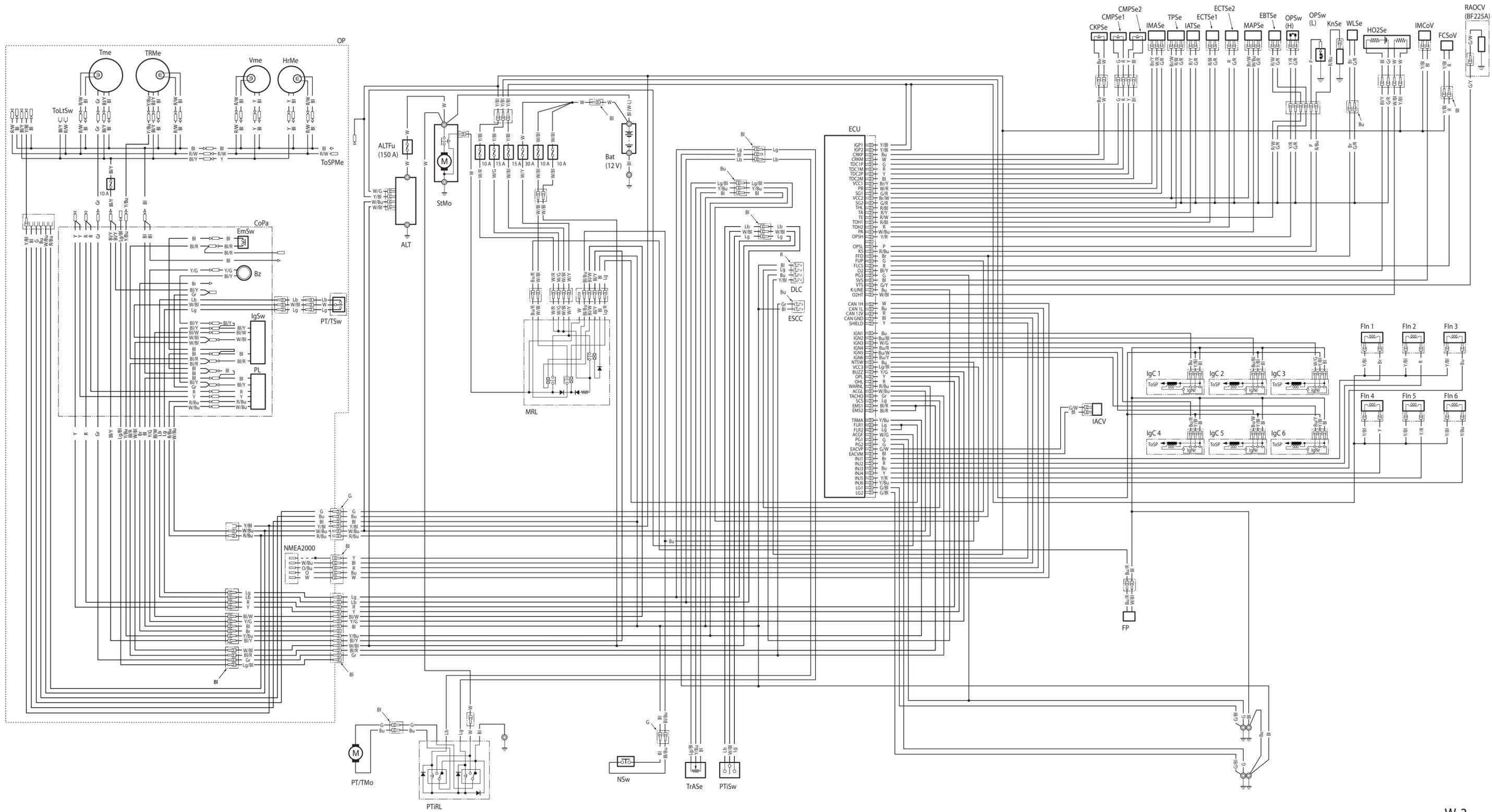
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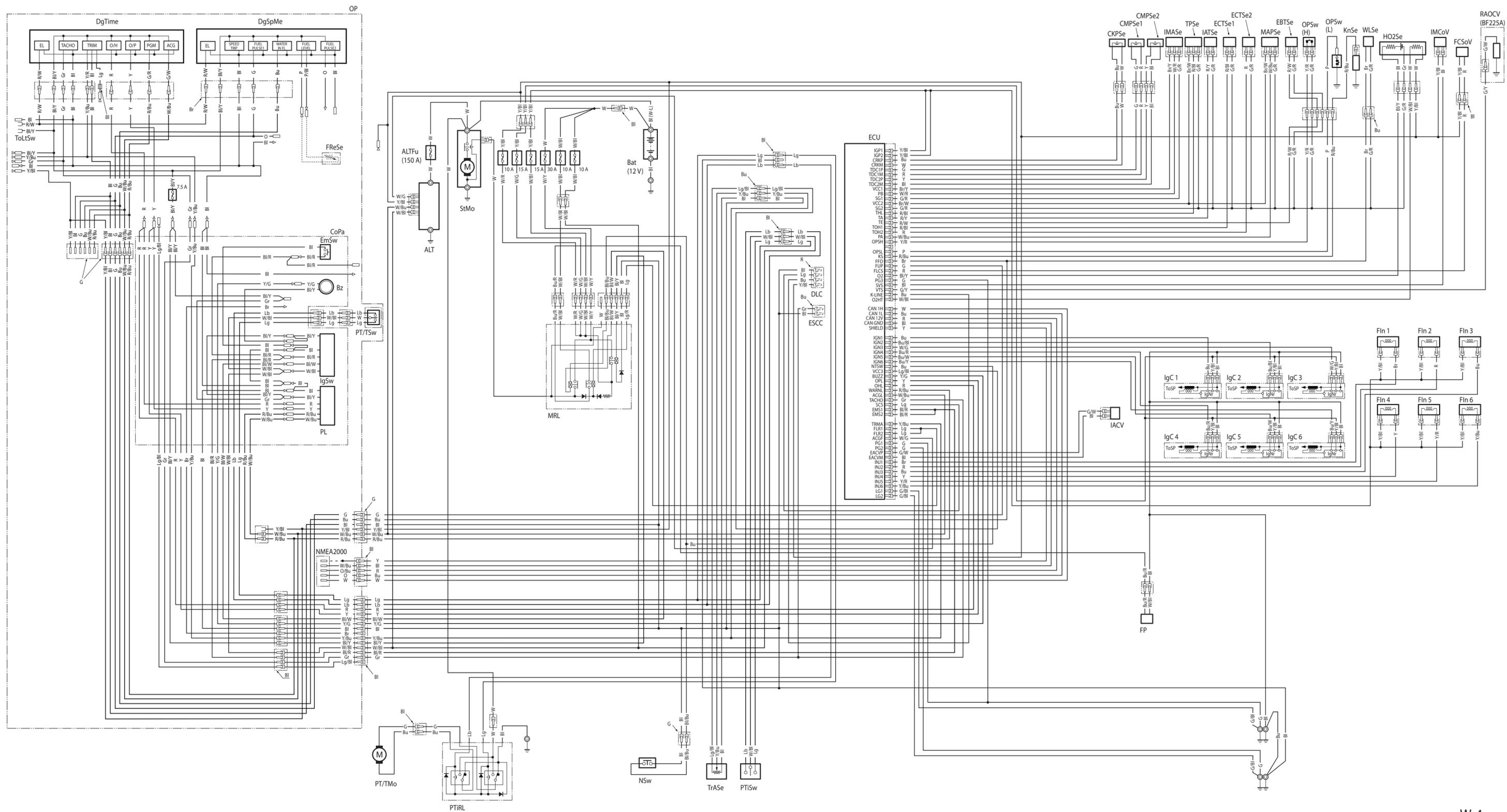
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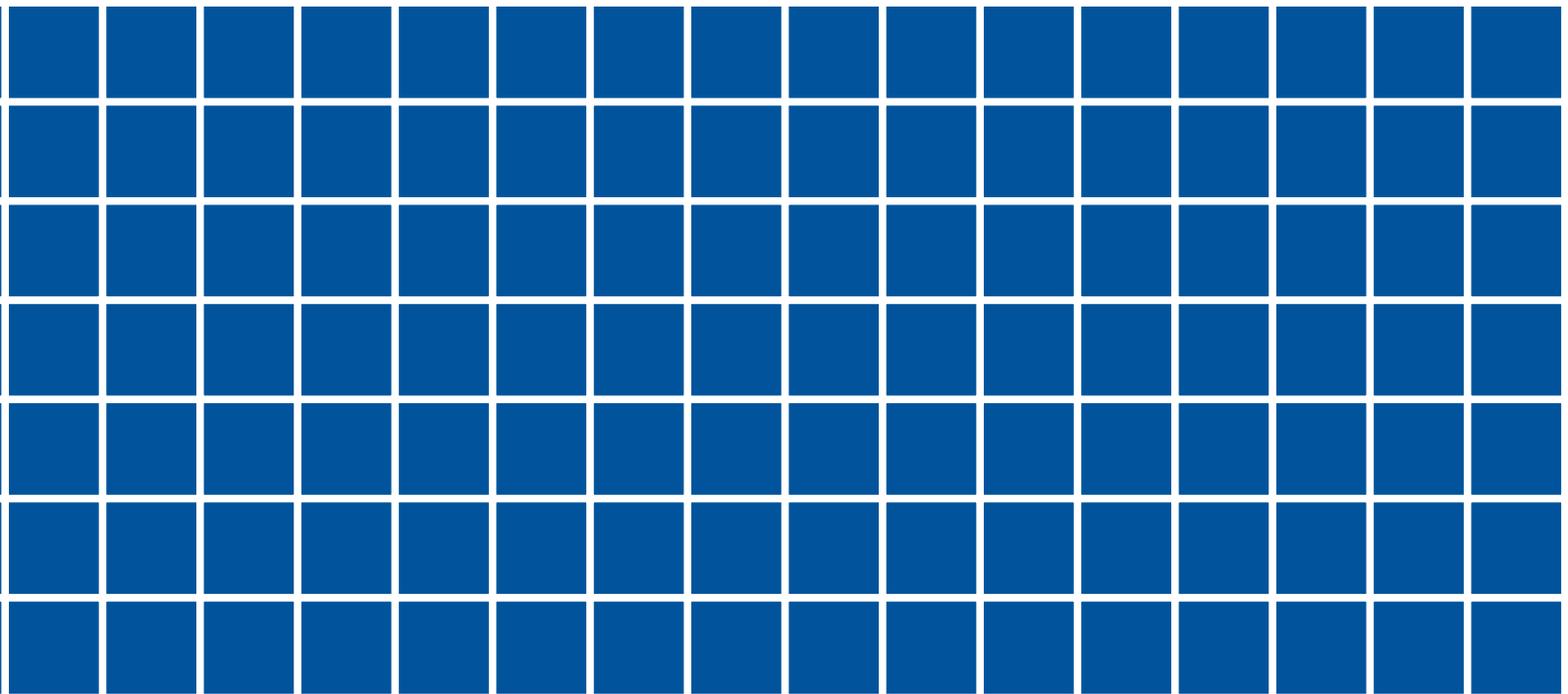






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